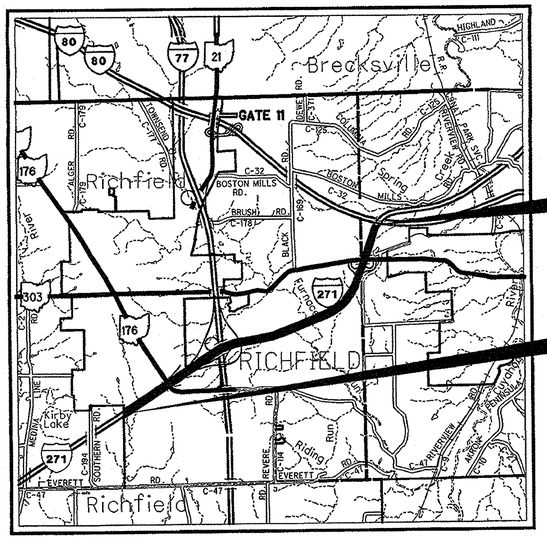
STATE OF OHIO
DEPARTMENT OF TRANSPORTATION

SUM-271-2.33

VILLAGE OF RICHFIELD
RICHFIELD TOWNSHIP
BOSTON TOWNSHIP
SUMMIT COUNTY



LOCATION MAP

LATITUDE: 41°13'52" LONGITUDE: 81°36'50"

SCALE IN MILES

0 1 2 3 4

N

PORTION TO BE IMPROVED

INTERSTATE & DIVIDED HIGHWAY

UNDIVIDED STATE & FEDERAL ROUTES

OTHER ROADS

DESIGN DESIGNATIONS
(SEE SHEETS 2-8)

DESIGN EXCEPTIONS
NONE REQUIRED

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PROJECT DESCRIPTION

THE PROJECT CONSISTS OF PAVEMENT RECONSTRUCTION AND STRUCTURE REHABILITATION FOR 4.29 MILES OF INTERSTATE ROUTE 271. THE RAMPS AT THE COUNTY ROAD 17 (BRECKSVILLE ROAD), INTERSTATE ROUTE 77, AND STATE ROUTE 303 INTERCHANGES WILL BE RECONSTRUCTED. BRIDGE WORK WILL INCLUDE MAINLINE IR 271 STRUCTURES SUM-271-0354 L&R, IR 271 OVER IR 77; SUM-271-0375 L&R, IR 271 OVER IR 77 RAMP B; SUM-271-0485 , IR 271 OVER FURNACE RUN; SUM-271-0354B, IR 271 RAMP B OVER IR 77; AND SIDEROAD STRUCTURES SUM-176-0106, SR 176 OVER IR 271; SUM-271-0294, CR 17 OVER IR 271; AND SUM-303-0502, SR 303 OVER IR 271. DRAINAGE ITEMS WILL BE NEW OR RECONSTRUCTED. NEW HIGH MAST LIGHTING WILL BE INSTALLED AT THE INTERSTATE ROUTE 77 INTERCHANGE. NEW TRAFFIC CONTROL INCLUDING SIGNING AND MARKING WILL BE INSTALLED.

PROJECT EARTH DISTURBED AREA:	217.7 ACRES
ESTIMATED CONTRACTOR EARTH DISTURBED AREA:	8.2 ACRES
NOTICE OF INTENT EARTH DISTURBED AREA:	225.9 ACRES

LIMITED ACCESS

THIS IMPROVEMENT IS ESPECIALLY DESIGNED FOR THROUGH TRAFFIC AND HAS BEEN DECLARED A LIMITED ACCESS HIGHWAY OR FREEWAY BY ACTION OF THE DIRECTOR IN ACCORDANCE WITH THE PROVISIONS OF SECTION 5511.02 OF THE OHIO REVISED CODE.

2010 SPECIFICATIONS

THE STANDARD SPECIFICATIONS OF THE STATE OF OHIO, DEPARTMENT OF TRANSPORTATION, INCLUDING CHANGES AND SUPPLEMENTAL SPECIFICATIONS LISTED IN THE PROPOSAL SHALL GOVERN THIS IMPROVEMENT.

I HEREBY APPROVE THESE PLANS AND DECLARE THAT THE MAKING OF THIS IMPROVEMENT WILL NOT REQUIRE THE CLOSING TO TRAFFIC OF MAINLINE IR 271 OR THE INTERCHANGE RAMPS EXCEPT IR 77 RAMP B AND THAT PROVISIONS FOR THE MAINTENANCE AND SAFETY OF THE TRAFFIC WILL BE AS SET FORTH ON THE PLANS AND ESTIMATES.

IMPROVEMENTS MADE AT IR 77 RAMP B, AND STATE ROUTE 176 (BROADVIEW ROAD) WILL REQUIRE CLOSING TO TRAFFIC AS NOTED ON SHEET 36-37, AND DETOURS WILL BE PROVIDED AS INDICATED ON PLANS.

UNDER AUTHORITY OF SECTION 4511.21, DIVISION (H) OF THE OHIO REVISED CODE, THE REVISED PRIMA FACIE SPEED LIMITS AS INDICATED HEREIN ARE DETERMINED TO BE REASONABLE AND SAFE, AND ARE HEREBY ESTABLISHED FOR THE DURATION OF THIS PROJECT. THE PRIMA FACIE SPEED LIMIT OR LIMITS HEREBY ESTABLISHED SHALL BECOME EFFECTIVE WHEN APPROPRIATE SIGNS GIVING NOTICE THEREOF ARE ERECTED.

APPROVED _____
DATE 6-7-2013 DISTRICT DEPUTY DIRECTOR

APPROVED _____
DATE 6-19-13 DIRECTOR, DEPARTMENT OF TRANSPORTATION

PLAN PREPARED BY:

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD OHIO 44902
PHONE: (419) 524-0074 FAX: (419) 524-1812

COLUMBUS ENGINEERING CONSULTANTS, INC.
840 MICHIGAN AVENUE, COLUMBUS, OH 43215
TEL:(614)228-3500

UNDERGROUND UTILITIES
CONTACT BOTH SERVICES
CALL TWO WORKING DAYS
BEFORE YOU DIG
CALL
1-800-362-2764
(TOLL FREE)
OHIO UTILITIES PROTECTION SERVICE
NON-MEMBERS
MUST BE CALLED DIRECTLY
OIL & GAS PRODUCERS PROTECTIVE SERVICE CALL: 1-800-925-0988

ENGINEERS SEAL:
FOR ALL SHEETS EXCEPT AS NOTED
STATE OF OHIO PATRICK SCHWAN 61571 REGISTERED PROFESSIONAL ENGINEER
SIGNED: Patrick Schwan
DATE: 11-12-2012

ENGINEERS SEAL:
FOR SHEETS 24-28,28A,35,49-50, 80-82,111-113,207-217, 231,258-260,274-276, 674-683,687-699,747-748,795,810-811,843-847,857,905-958, 1158-1195
STATE OF OHIO YEOU-SHANG JENG 58874 REGISTERED PROFESSIONAL ENGINEER
SIGNED: Yeou-Shang Jeng
DATE: 11/13/2012

STANDARD CONSTRUCTION DRAWINGS

BP-1.1	7/28/00			DM-1.1	7/20/12	HL-10.12	10/15/10	MT-95.30	7/20/12	MT-98.22	7/20/12	TC-22.20	1/18/13		
BP-2.1	7/18/08			DM-1.2	7/20/12	HL-10.31	4/17/09	MT-95.31	7/20/12	MT-98.28	7/20/12	TC-41.10	10/19/07		
BP-2.2	7/18/08			DM-1.4	7/15/11	HL-20.21	10/19/12	MT-95.32	7/20/12	MT-98.29	7/20/12	TC-41.20	1/19/01		
BP-2.3	7/16/04			DM-2.1	7/20/12	HL-30.11	1/18/13	MT-95.40	7/20/12	MT-99.20	7/20/12	TC-41.30	1/19/07		
BP-3.1	4/20/12	RM-1.1	7/15/11	DM-4.1	7/20/12	HL-30.21	10/21/11	MT-95.41	1/18/13	MT-99.30	4/15/11	TC-41.40	7/16/04		
BP-5.1	7/28/00	RM-3.1	10/15/10	DM-4.2	7/20/12	HL-30.22	1/18/13	MT-95.50	7/20/12	MT-100.00	7/20/12	TC-41.50	1/18/13		
BP-6.1	1/15/11	RM-4.1	10/20/06	DM-4.3	7/20/12	HL-30.32	4/17/09	MT-95.70	7/20/12	MT-101.60	7/20/12	TC-42.10	1/19/07		
BP-9.1	4/15/05	RM-4.2	10/15/10	DM-4.4	7/20/12	HL-40.10	1/19/07	MT-95.71	7/20/12	MT-101.70	4/15/11	TC-42.20	1/21/11		
F-2.1	7/28/00	RM-4.5	10/16/09	A-1-69	7/19/02	HL-40.20	1/19/07	MT-95.82	7/20/12	MT-101.90	10/19/12	TC-51.11	1/21/11		
F-3.1	4/16/10	RM-4.6	4/16/10	AS-1-81	1/18/13	HL-50.11	1/19/07	MT-96.11	7/20/12	MT-102.10	1/18/13	TC-52.10	1/18/13		
F-3.4	7/28/00	CB-1.1	7/20/12	BR-1	7/19/02	HL-50.21	7/20/12	MT-96.20	7/20/12	MT-102.20	1/18/13	TC-52.20	1/18/13		
		CB-2.2	7/20/12	GSD-1-96	7/19/02	HL-60.21	1/19/07	MT-96.26	1/16/09	MT-102.30	7/20/12	TC-61.10	4/20/12		
		CB-2.3	7/20/12	PCB-91	1/18/13	HL-60.31	1/18/13	MT-97.10	7/20/12	MT-105.10	7/20/12	TC-61.30	4/20/12		
		CB-3.1	7/20/12	RB-1-55	2/02/59			MT-97.12	7/20/12	TC-7.65	1/21/11	TC-65.10	4/20/12		
		CB-3.2	7/20/12	SBR-1-99	7/19/02			MT-98.10	7/20/12	TC-12.30	1/21/11	TC-65.11	4/20/12		
		HW-2.1	7/20/12	SICD-1-96	7/19/02			MT-98.11	7/20/12	TC-21.10	1/19/07	TC-71.10	10/19/12		
		HW-2.2	7/20/12	VPF-1-90	4/15/11			MT-98.20	7/20/12	TC-21.20	1/18/13	TC-72.20	7/20/12		
		MH-1.1	7/20/12	EXJ-4-87	7/19/02			MT-98.21	7/20/12	TC-22.10	1/19/01	TC-73.10	4/20/12		
		MH-1.2	7/20/12												

SUPPLEMENTAL SPECIFICATIONS	
800	4/19/13
821	4/20/12
832	5/5/09
836	1/18/13
888	10/21/11

SPECIAL PROVISIONS

SOIL BORINGS
12 / 08 / 06

WATERWAY PERMIT CONDITION
12 / 10 / 12

FEDERAL PROJECT NO.	E050 (431)
PID NO.	18710
CONSTRUCTION PROJECT NO.	
RAILROAD INVOLVEMENT	NONE

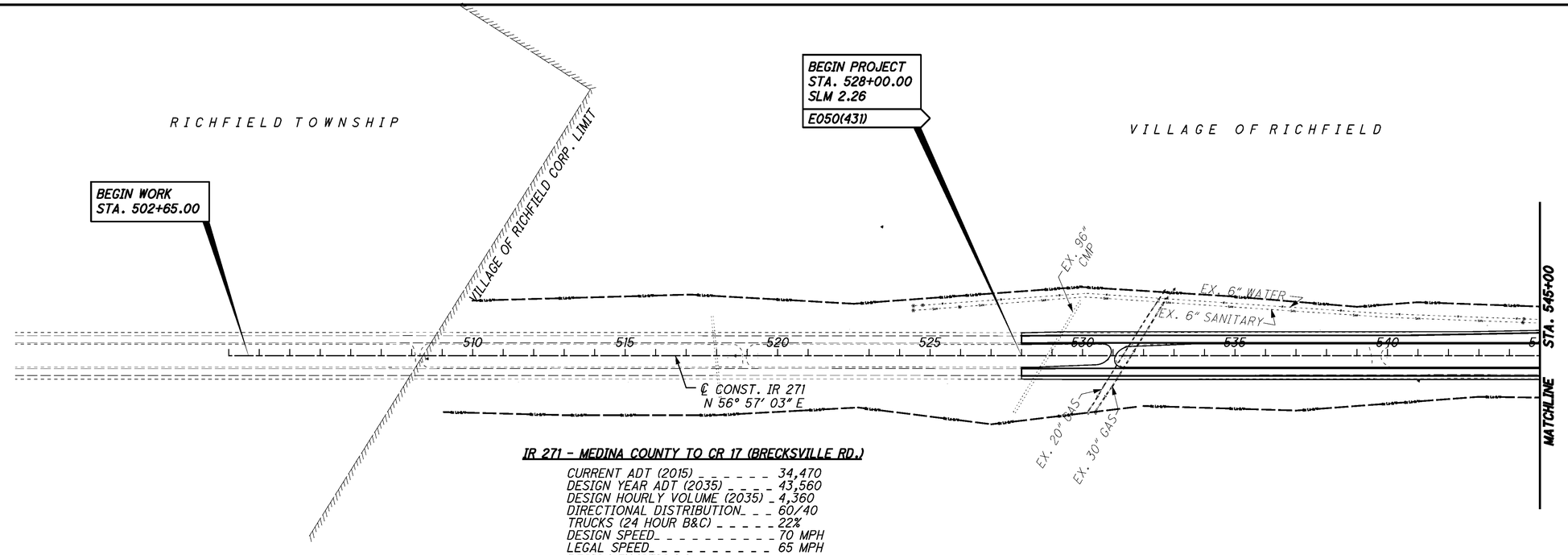
SUM-271-2.33

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SUM-IR-271-2.33
138033 PID-18710
DIST 4 8/15/2013

Contract Proposal Available @ www.contracts.dot.state.oh.us/home

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IR 271 - MEDINA COUNTY TO CR 17 (BRECKSVILLE RD.)

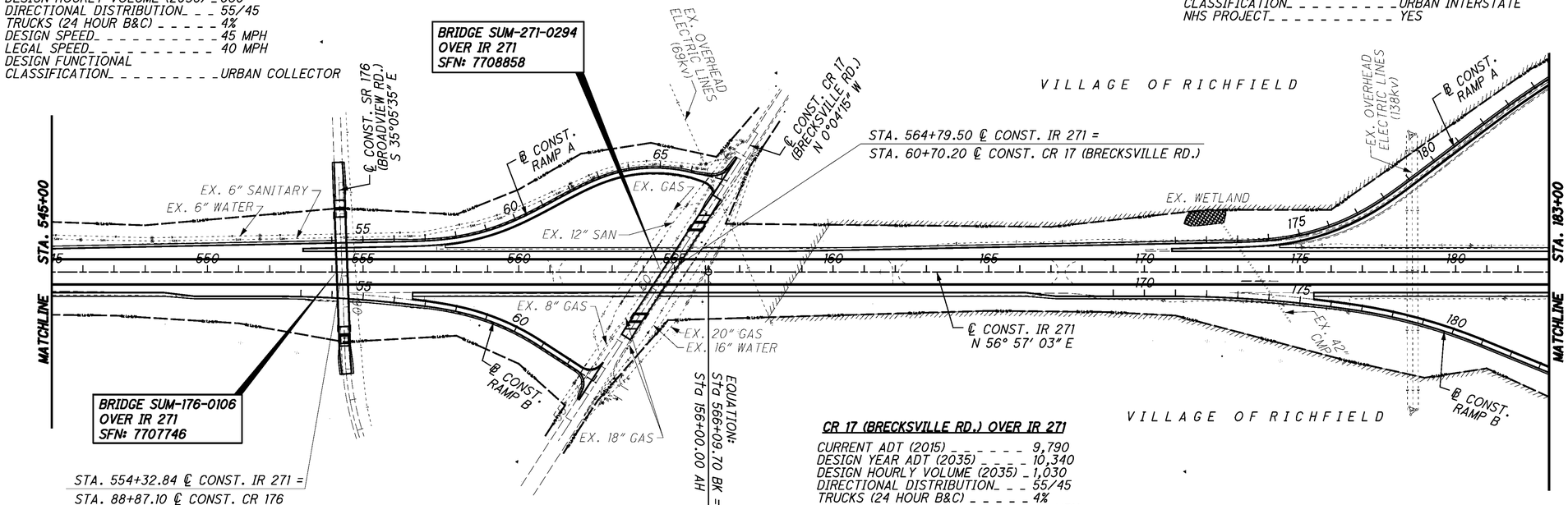
CURRENT ADT (2015) _ _ _ _ _ 34,470
DESIGN YEAR ADT (2035) _ _ _ _ 43,560
DESIGN HOURLY VOLUME (2035) _ 4,360
DIRECTIONAL DISTRIBUTION_ _ _ 60/40
TRUCKS (24 HOUR B&C) _ _ _ _ _ 22%
DESIGN SPEED_ _ _ _ _ _ _ _ _ _ 70 MPH
LEGAL SPEED_ _ _ _ _ _ _ _ _ _ 65 MPH
DESIGN FUNCTIONAL
CLASSIFICATION_ _ _ _ _ _ _ _ URBAN INTERSTATE
NHS PROJECT_ _ _ _ _ _ _ _ _ _ YES

IR 271 - CR 17 (BRECKSVILLE RD.) RAMPS TO IR 77 E RAMPS

CURRENT ADT (2015) _ _ _ _ _ 31,820
DESIGN YEAR ADT (2035) _ _ _ _ 39,460
DESIGN HOURLY VOLUME (2035) _ 3,950
DIRECTIONAL DISTRIBUTION_ _ _ 60/40
TRUCKS (24 HOUR B&C) _ _ _ _ _ 23%
DESIGN SPEED_ _ _ _ _ _ _ _ _ _ 70 MPH
LEGAL SPEED_ _ _ _ _ _ _ _ _ _ 65 MPH
DESIGN FUNCTIONAL
CLASSIFICATION_ _ _ _ _ _ _ _ URBAN INTERSTATE
NHS PROJECT_ _ _ _ _ _ _ _ _ _ YES

SR 176 (BROADVIEW RD.) OVER IR 271

CURRENT ADT (2015) _ _ _ _ _ 5,160
DESIGN YEAR ADT (2035) _ _ _ _ 5,590
DESIGN HOURLY VOLUME (2035) _ 560
DIRECTIONAL DISTRIBUTION_ _ _ 55/45
TRUCKS (24 HOUR B&C) _ _ _ _ _ 4%
DESIGN SPEED_ _ _ _ _ _ _ _ _ _ 45 MPH
LEGAL SPEED_ _ _ _ _ _ _ _ _ _ 40 MPH
DESIGN FUNCTIONAL
CLASSIFICATION_ _ _ _ _ _ _ _ URBAN COLLECTOR



CR 17 (BRECKSVILLE RD.) OVER IR 271

CURRENT ADT (2015) _ _ _ _ _ 9,790
DESIGN YEAR ADT (2035) _ _ _ _ 10,340
DESIGN HOURLY VOLUME (2035) _ 1,030
DIRECTIONAL DISTRIBUTION_ _ _ 55/45
TRUCKS (24 HOUR B&C) _ _ _ _ _ 4%
DESIGN SPEED_ _ _ _ _ _ _ _ _ _ 45 MPH
LEGAL SPEED_ _ _ _ _ _ _ _ _ _ 40 MPH
DESIGN FUNCTIONAL
CLASSIFICATION_ _ _ _ _ _ _ _ URBAN MINOR ARTERIAL

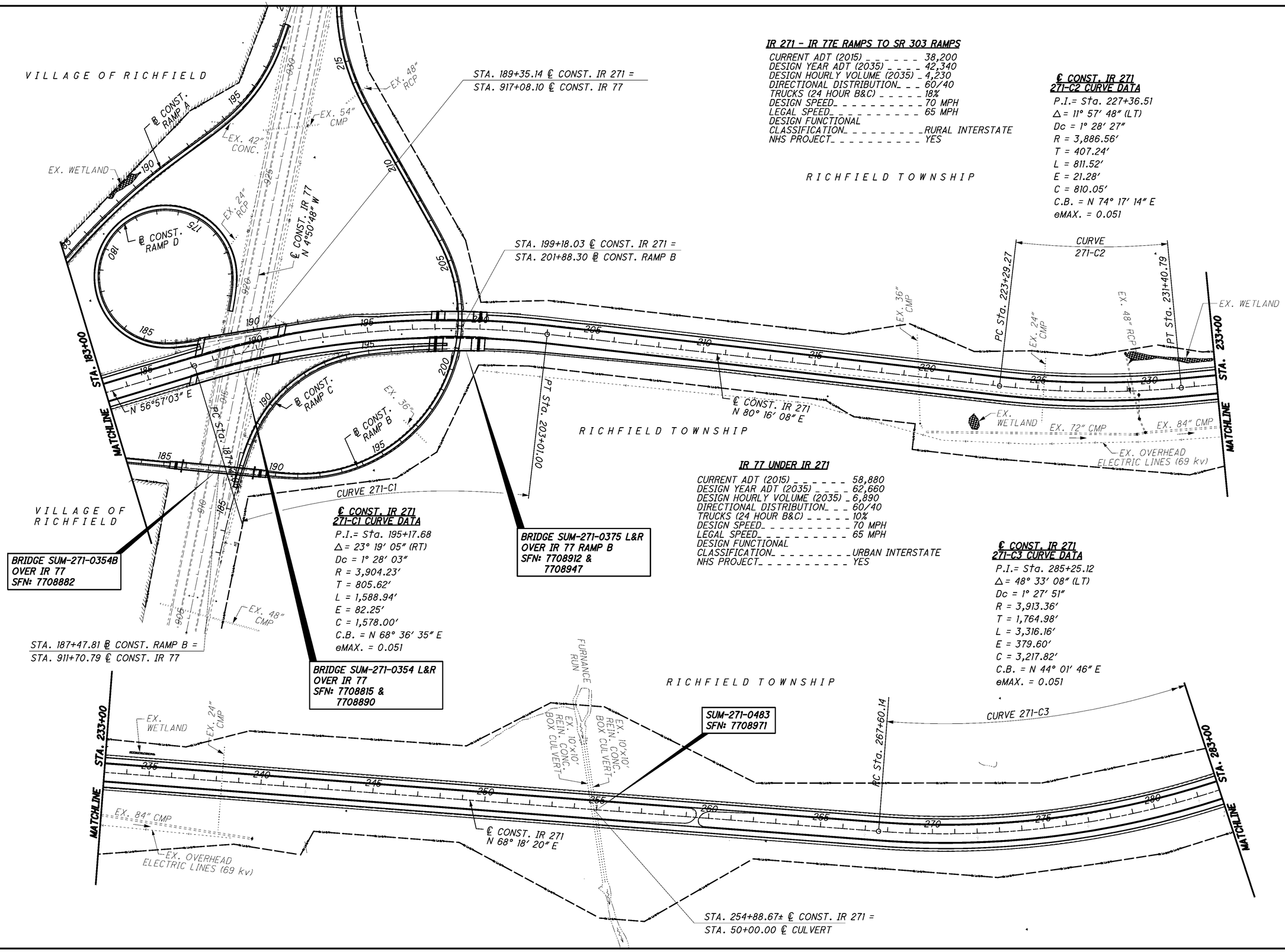
HORIZONTAL SCALE IN FEET
0 100 200 400

CALCULATED DAW
CHECKED PRS

SCHEMATIC PLAN
STA. 495+00 TO STA. 183+00

SUM-271-2.33

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IR 271 - IR 77E RAMPS TO SR 303 RAMPS

CURRENT ADT (2015)	38,200
DESIGN YEAR ADT (2035)	42,340
DESIGN HOURLY VOLUME (2035)	4,230
DIRECTIONAL DISTRIBUTION	60/40
TRUCKS (24 HOUR B&C)	18%
DESIGN SPEED	70 MPH
LEGAL SPEED	65 MPH
DESIGN FUNCTIONAL CLASSIFICATION	RURAL INTERSTATE
NHS PROJECT	YES

℄ CONST. IR 271
271-C2 CURVE DATA

P.I.= Sta. 227+36.51
△= 11° 57' 48" (LT)
Dc = 1° 28' 27"
R = 3,886.56'
T = 407.24'
L = 811.52'
E = 21.28'
C = 810.05'
C.B. = N 74° 17' 14" E
eMAX. = 0.051

IR 77 UNDER IR 271

CURRENT ADT (2015)	58,880
DESIGN YEAR ADT (2035)	62,660
DESIGN HOURLY VOLUME (2035)	6,890
DIRECTIONAL DISTRIBUTION	60/40
TRUCKS (24 HOUR B&C)	10%
DESIGN SPEED	70 MPH
LEGAL SPEED	65 MPH
DESIGN FUNCTIONAL CLASSIFICATION	URBAN INTERSTATE
NHS PROJECT	YES

℄ CONST. IR 271
271-C1 CURVE DATA

P.I.= Sta. 195+17.68
△= 23° 19' 05" (RT)
Dc = 1° 28' 03"
R = 3,904.23'
T = 805.62'
L = 1,588.94'
E = 82.25'
C = 1,578.00'
C.B. = N 68° 36' 35" E
eMAX. = 0.051

℄ CONST. IR 271
271-C3 CURVE DATA

P.I.= Sta. 285+25.12
△= 48° 33' 08" (LT)
Dc = 1° 27' 51"
R = 3,913.36'
T = 1,764.98'
L = 3,316.16'
E = 379.60'
C = 3,217.82'
C.B. = N 44° 01' 46" E
eMAX. = 0.051

HORIZONTAL SCALE IN FEET
0 100 200 400
CALCULATED DAW
CHECKED PRS

SCHEMATIC PLAN
STA. 183+00 TO STA. 283+00

SUM-271-2.33

3
1195

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℄ CONST. IR 271
271-C3 CURVE DATA

P.I.= Sta. 285+25.12
△= 48° 33′ 08″ (LT)
Dc = 1° 27′ 51″
R = 3,913.36′
T = 1,764.98′
L = 3,316.16′
E = 379.60′
C = 3,217.82′
C.B. = N 44° 01′ 46″ E
eMAX. = 0.051

SR 303 OVER IR 271

CURRENT ADT (2015) _ _ _ _ _ _ 9,230
DESIGN YEAR ADT (2035) _ _ _ _ 10,230
DESIGN HOURLY VOLUME (2035) _ 1,020
DIRECTIONAL DISTRIBUTION_ _ _ 55/45
TRUCKS (24 HOUR B&C) _ _ _ _ _ 5%
DESIGN SPEED_ _ _ _ _ _ _ _ _ _ 45 MPH
LEGAL SPEED_ _ _ _ _ _ _ _ _ _ _ 45 MPH
DESIGN FUNCTIONAL
CLASSIFICATION_ _ _ _ _ _ _ _ RURAL MAJOR COLLECTOR

RICHFIELD TOWNSHIP

STA. 316+40.26 ℄ CONST. IR 271 =
STA. 50+00.00 ℄ CONST. SR 303

BRIDGE SUM-303-0502
OVER IR 271
SFN: 7709900

BOSTON TOWNSHIP

RICHFIELD TOWNSHIP
BOSTON TOWNSHIP

MATCHLINE STA. 283+00

CURVE 271-C3

EX. WETLAND

PT Sta. 300+76.29

℄ CONST. RAMP F

℄ CONST. RAMP G

PT STA. 45+98.64

EX. 18" RCP

℄ CONST. SR 303
PC Sta. 42+65.38
N 83° 56′ 23″ E

N 89° 43′ 33″ E

EX. 12" AKRON WATER IN 24" CASING

EX. 12" SAN. IN CASING

MATCHLINE STA. 333+00

℄ CONST. IR 271
N 19° 45′ 12″ E

℄ CONST. RAMP H

EX. 68'-4" ELLIP. CONC.

EX. 54" CMP

EX. 4" GAS

℄ CONST. RAMP E

N 89° 43′ 33″ E

END PROJECT
STA. 345+91.20
SLM 6.55
E050(431)

BRIDGE IR 80
(OHIO TURNPIKE)
OVER IR 271
SFN: 7729545

EX. FIBER OPTIC IN 4" CONDUIT

IR 80 (OHIO TURNPIKE) WESTBOUND

IR 80 (OHIO TURNPIKE) EASTBOUND

BOSTON TOWNSHIP

℄ CONST. IR 271
N 19° 45′ 12″ E

EX. FIBER OPTIC IN 4" CONDUIT

MATCHLINE STA. 333+00

SC Sta. 340+98.59

TS Sta. 336+66.59

CURVE 271-C4

CS Sta. 357+83.36

ST Sta. 361+83.36

N 83° 06′ 12″ E

END WORK
STA. 373+00.00

BRIDGE SUM-271-0655 L&R
OVER IR 80 (OHIO TURNPIKE)
SFN: 7729561 &
7729596

IR 271 NORTH OF SR 303 RAMPS

CURRENT ADT (2015) _ _ _ _ _ _ 36,000
DESIGN YEAR ADT (2035) _ _ _ _ 39,470
DESIGN HOURLY VOLUME (2035) _ 3,950
DIRECTIONAL DISTRIBUTION_ _ _ 60/40
TRUCKS (24 HOUR B&C) _ _ _ _ _ 21%
DESIGN SPEED_ _ _ _ _ _ _ _ _ _ 70 MPH
LEGAL SPEED_ _ _ _ _ _ _ _ _ _ _ 65 MPH
DESIGN FUNCTIONAL
CLASSIFICATION_ _ _ _ _ _ _ _ RURAL INTERSTATE
NHS PROJECT_ _ _ _ _ _ _ _ _ _ YES

℄ CONST. IR 271
271-C4 CURVE DATA

P.I.= Sta. 350+56.69
△= 63° 21′ 00″ (RT)
Dc = 3° 00′ 56″
R = 1,900.00′
Ls1 = 432.00′
Ls2 = 400.00′
θs1 = 6° 30′ 49″
θs2 = 6° 01′ 52″
LT1 = 288.20′
LT2 = 266.82′
ST1 = 144.18′
ST2 = 133.47′
x1 = 431.44′
x2 = 399.56′
y1 = 16.36′
y2 = 14.02′
k1 = 215.91′
k2 = 199.93′
p1 = 4.09′
p2 = 3.51′
△c = 50° 48′ 19″ (RT)
Lc = 1,684.77′
Ts = 1,390.10′
Es = 337.03′
eMAX. = 0.080
C1 = 431.75′
C2 = 399.81′
C = 1,630.11′
T.S.= Sta. 336+66.59
S.C.= Sta. 340+98.59
C.S.= Sta. 357+83.36
S.T.= Sta. 361+83.36
C.B.1 = N 21° 55′ 28″ E
C.B. = N 51° 40′ 11″ E
C.B.2 = S 81° 05′ 36″ W

HORIZONTAL SCALE IN FEET
0 100 200 400
CALCULATED DAW
CHECKED PRS

SCHEMATIC PLAN
STA. 283+00 TO STA. 358+00

SUM-271-2.33

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1195

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SR 176 (BROADVIEW RD.) OVER IR 271

CURRENT ADT (2015) _ _ _ _ _ _ 5,160
DESIGN YEAR ADT (2035) _ _ _ _ 5,590
DESIGN HOURLY VOLUME (2035) _ 560
DIRECTIONAL DISTRIBUTION_ _ _ 55/45
TRUCKS (24 HOUR B&C) _ _ _ _ _ 4%
DESIGN SPEED_ _ _ _ _ _ _ _ _ _ 45 MPH
LEGAL SPEED_ _ _ _ _ _ _ _ _ _ 40 MPH
DESIGN FUNCTIONAL
CLASSIFICATION_ _ _ _ _ _ _ _ URBAN COLLECTOR

℄ CONST. RAMP A 17-A1 CURVE DATA

P.I.= Sta. 58+80.72
△= 27° 10′ 38″ (LT)
Dc = 8° 00′ 00″
R = 716.20′
Ls = 200.00′
θ s = 8° 00′ 00″ (LT)
LT = 133.47′
ST = 66.79′
x = 199.61′
y = 9.30′
k = 99.94′
p = 2.33′
△c = 11° 10′ 38″ (LT)
Lc = 139.72′
Ts = 273.61′
Es = 23.02′
eMAX. = 0.060
C = 139.49′
C1=C2 = 199.83′
C.B.1 = N 53° 05′ 27″ E
C.B. = N 42° 10′ 07″ E
C.B.2 = S 31° 14′ 46″ W

℄ CONST. RAMP A 17-A2 CURVE DATA

P.I.= Sta. 64+22.76
△= 41° 19′ 15″ (RT)
Dc = 12° 00′ 00″
R = 477.46′
Ls = 200.00′
θ s = 12° 00′ 00″ (RT)
LT = 133.64′
ST = 66.95′
x = 199.12′
y = 13.92′
k = 99.85′
p = 3.49′
△c = 29° 19′ 15″ (RT)
Lc = 244.34′
T1 = 275.93′
Es = 34.70′
T2 = 185.32′
eMAX. = 0.057
C = 199.61′
C = 241.68′
C.B.1 = N 32° 34′ 42″ E
C.B. = N 55° 14′ 25″ E

CR 17 (BRECKSVILLE RD.) OVER IR 271

CURRENT ADT (2015) _ _ _ _ _ _ 9,790
DESIGN YEAR ADT (2035) _ _ _ _ 10,340
DESIGN HOURLY VOLUME (2035) _ 1,030
DIRECTIONAL DISTRIBUTION_ _ _ 55/45
TRUCKS (24 HOUR B&C) _ _ _ _ _ 4%
DESIGN SPEED _ _ _ _ _ _ _ _ _ 45 MPH
LEGAL SPEED _ _ _ _ _ _ _ _ _ 40 MPH
DESIGN FUNCTIONAL
CLASSIFICATION_ _ _ _ _ _ _ _ URBAN MINOR ARTERIAL

BRIDGE SUM-176-0294
OVER IR 271
SFN: 7708858

VILLAGE OF RICHFIELD

POT Sta. 53+07.11 ℄ RAMP A =
STA. 553+07.11 ℄ CONST. IR 271

℄ CONST. SR 176 (BROADVIEW RD.)
S 35°05′35″ E

N 55°45′26″ E

TS Sta. 56+07.11

CURVE 17-A1

SC Sta. 58+07.11

CS Sta. 59+46.83

SRS Sta. 61+46.83

℄ CONST. RAMP A

N 69°54′03″ E

EX. OVERHEAD ELECTRIC LINES (69kV)

CURVE 17-A2

SC Sta. 63+46.83

PT Sta. 65+69.11

STA. 67+19.79 ℄ CONST. RAMP A =
STA. 64+20.34 ℄ CONST. CR 17 (BRECKSVILLE RD.)

℄ CONST. IR 271
N 56° 57′ 03″ E

EQUATION:
Sta 566+09.70 BK =
PT Sta 156+00.00 AH

℄ CONST. CR 17 (BRECKSVILLE RD.)
N 0°04′15″ W

STA. 564+79.50 ℄ CONST. IR 271 =
STA. 60+70.20 ℄ CONST. CR 17 (BRECKSVILLE RD.)

STA. 63+10.01 ℄ CONST. RAMP B =
STA. 56+45.59 ℄ CONST. CR 17 (BRECKSVILLE RD.)

PC Sta. 52+05.00 ℄ RAMP B =
STA. 552+05.00 ℄ CONST. IR 271

CURVE 17-B1

SPIRAL 17-B1/B2

CURVE 17-B2

CS Sta. 56+58.48

SC Sta. 58+58.48

PT Sta. 60+86.33

℄ CONST. RAMP B

N89°55′45″E

BRIDGE SUM-176-0106
OVER IR 271
SFN: 7707746

℄ CONST. RAMP B 17-B1/B2 SPIRAL DATA

P.I.= Sta. 57+80.93
△= 9° 01′ 36″ (RT)
D1 = 1° 30′ 00″
R1 = 3,819.72′
D2 = 7° 31′ 36″
R2 = 761.24′
Ls = 200.00′
p = 1.75′
△1 = 1° 29′ 58″
△2 = 7° 31′ 38″
T1 = 122.45′
T2 = 77.93′
eMAX.1 = 0.046
eMAX.2 = 0.059
C1 = 453.21′
C = 199.82′
C2 = 227.01′
C.B.1 = N 60° 21′ 06″ E
C.B. = N 67° 15′ 39″ E
C.B.2 = N 81° 21′ 16″ E

℄ CONST. RAMP B 17-B1 CURVE DATA

P.I.= Sta. 54+32.00
△= 6° 48′ 08″ (RT)
Dc = 1° 30′ 00″
R = 3,819.72′
T = 227.00′
L = 453.48′
E = 6.74′
C = 453.21′
C.B. = N 60° 21′ 06″ E

℄ CONST. RAMP B 17-B2 CURVE DATA

P.I.= Sta. 59+73.26
△ = 17° 08′ 59″ (RT)
Dc = 7° 31′ 36″
R = 761.24′
T = 114.79′
L = 227.85′
E = 8.61′
C = 227.01′
C.B. = N 81° 21′ 16″ E

CR 17 (BRECKSVILLE RD.) RAMP A

CURRENT ADT (2015) _ _ _ _ _ _ 1,400
DESIGN YEAR ADT (2035) _ _ _ _ 2,240
DESIGN HOURLY VOLUME (2035) _ 430
DIRECTIONAL DISTRIBUTION_ _ _ 100%
TRUCKS (24 HOUR B&C) _ _ _ _ _ 11%
DESIGN FUNCTIONAL
CLASSIFICATION_ _ _ _ _ _ _ _ URBAN RAMPS

CR 17 (BRECKSVILLE RD.) RAMP B

CURRENT ADT (2015) _ _ _ _ _ _ 1,300
DESIGN YEAR ADT (2035) _ _ _ _ 1,820
DESIGN HOURLY VOLUME (2035) _ 330
DIRECTIONAL DISTRIBUTION_ _ _ 100%
TRUCKS (24 HOUR B&C) _ _ _ _ _ 13%
DESIGN FUNCTIONAL
CLASSIFICATION_ _ _ _ _ _ _ _ URBAN RAMPS

HORIZONTAL SCALE IN FEET
0 50 100 200

CALCULATED DAW
CHECKED PRS

SCHEMATIC PLAN
CR 17 (BRECKSVILLE RD.) INTERCHANGE
SUM-271-2.33

5
1195

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RAMP A

CURRENT ADT (2015) _ _ _ _ _ _ 2,960
DESIGN YEAR ADT (2035) _ _ _ _ 3,680
DESIGN HOURLY VOLUME (2035) _ 530
DIRECTIONAL DISTRIBUTION_ _ _ 100%
TRUCKS (24 HOUR B&C) _ _ _ _ _ 15%

DESIGN FUNCTIONAL
CLASSIFICATION_ _ _ _ _ _ _ _ RURAL RAMPS

RAMP D

CURRENT ADT (2015) _ _ _ _ _ _ 6,860
DESIGN YEAR ADT (2035) _ _ _ _ 6,860
DESIGN HOURLY VOLUME (2035) _ 850
DIRECTIONAL DISTRIBUTION_ _ _ 100%
TRUCKS (24 HOUR B&C) _ _ _ _ _ 11%
DESIGN FUNCTIONAL
CLASSIFICATION_ _ _ _ _ _ _ _ RURAL RAMPS

IR 77 UNDER IR 271

CURRENT ADT (2015) _ _ _ _ _ _ 58,880
DESIGN YEAR ADT (2035) _ _ _ _ 62,660
DESIGN HOURLY VOLUME (2035) _ 6,890
DIRECTIONAL DISTRIBUTION_ _ _ 60/40
TRUCKS (24 HOUR B&C) _ _ _ _ _ 10%
DESIGN SPEED_ _ _ _ _ _ _ _ _ _ 70 MPH
LEGAL SPEED_ _ _ _ _ _ _ _ _ _ 65 MPH
DESIGN FUNCTIONAL
CLASSIFICATION_ _ _ _ _ _ _ _ URBAN INTERSTATE
NHS PROJECT_ _ _ _ _ _ _ _ _ _ YES

℄ CONST. RAMP A 77-A1 CURVE DATA

P.I.= Sta. 175+99.06
D = 35° 58′ 48″ (LT)
Dc = 7° 30′ 00″
R = 763.94′
Ls = 205.00′
f s = 7° 41′ 15″
LT = 136.80′
ST = 68.45′
x = 204.63′
y = 9.16′
k = 102.44′
p = 2.29′
D c = 20° 36′ 18″ (LT)
Lc = 274.73′
Ts = 351.26′
Es = 41.68′
C = 273.26′
C1=C2 = 204.84′
C.B.1 = N 53° 11′ 50″ E
C.B. = N 37° 46′ 09″ E
C.B.2 = S 22° 20′ 29″ W
eMAX. = 0.08

℄ CONST. RAMP D 77-D1 CURVE DATA

P.I.= Sta. 169+18.53
△= 289° 38′ 09″ (LT)
Dc = 19° 05′ 55″
R = 300.00′
Ls = 200.00′
θ s = 19° 05′ 55″ (LT)
LT = 134.12′
ST = 67.38′
x = 197.79′
y = 22.05′
k = 99.63′
p = 5.53′
△c = 251° 26′ 19″ (LT)
Lc = 1,316.53′
Ts = 115.76′
Es = 673.82′
eMAX. = 0.075
C = 487.13′
C1=C2 = 199.01′
C.B.1 = N 12° 23′ 50″ W
C.B. = S 29° 08′ 43″ W
C.B.2 = S 70° 41′ 15″ W

℄ CONST. RAMP A 77-A2 CURVE DATA

P.I.= Sta. 186+81.22
D = 17° 54′ 59″ (RT)
Dc = 2° 00′ 00″
R = 2,864.79′
Ls = 200.00′
f s = 2° 00′ 00″
LT = 133.34′
ST = 66.67′
x = 199.98′
y = 2.33′
k = 100.00′
p = 0.58′
D c = 13° 54′ 59″ (RT)
Lc = 695.81′
Ts = 551.68′
Es = 35.96′
C = 694.10′
C1=C2 = 199.99′
C.B.1 = N 20° 26′ 45″ E
C.B. = N 28° 44′ 15″ E
C.B.2 = S 37° 01′ 44″ W
eMAX. = 0.051

℄ CONST. RAMP A 77-A3 CURVE DATA

P.I.= Sta. 195+84.23
D = 34° 07′ 13″ (LT)
Dc = 7° 30′ 00″
R = 763.94′
f
D c = 24° 22′ 13″ (LT)
Lc = 324.94′
Es = 37.11′
C = 322.49′
C.B.1 = N 34° 26′ 47″ E
C.B. = N 15° 45′ 37″ E
C.B.2 = Due South
Ls1 = 260′
eMAX. = 0.08

℄ CONST. RAMP A 77-A4 CURVE DATA

P.I.= Sta. 200+91.46
D = 8° 25′ 12″ (LT)
Dc = 1° 30′ 00″
R = 3,819.72′
T = 281.17′
L = 561.33′
E = 10.33′
C = 560.83′
C.B. = N 0° 38′ 05″ W
eMAX. = 0.051±

VILLAGE OF RICHFIELD

CURVE 77-A1
CURVE 77-A2
CURVE 77-A3
CURVE 77-A4
CURVE 77-D1
POT Sta. 170+88.87 ℄ CONST. RAMP A = STA. 170+88.87 ℄ CONST. IR. 271
TS Sta. 172+47.80
SC Sta. 174+52.80
CS Sta. 177+21.53
ST Sta. 179+32.53
TS Sta. 181+29.54
SC Sta. 183+29.54
CS Sta. 185+50.82
ST Sta. 187+50.82
SC Sta. 194+85.35
PCC Sta. 198+10.29
PT Sta. 203+71.62 ℄ CONST. RAMP A = STA. 936+40.34 ℄ CONST. IR 77
SRS Sta. 192+25.35
CS Sta. 190+25.35
ST Sta. 170+34.29 ℄ CONST. RAMP D = SC Sta. 198+19.19 ℄ CONST. IR 77
SC Sta. 112+34.29
POT Sta. 192+14.84 ℄ CONST. RAMP D = STA. 192+14.95 ℄ CONST. IR 271
℄ CONST. IR 271
℄ CONST. RAMP A
℄ CONST. RAMP D
℄ IR 77
EX. WETLAND
EX. OVERHEAD ELECTRIC LINES (138kv)
EX. 42" CMP
EX. 54" CMP
EX. 24" RCP
EX. 42" CONC.
N 55° 45′ 34″ E
N 19° 46′ 45″ E
N 56° 57′ 03″ E
N 64° 19′ 38″ E
N 4° 50′ 48″ W
N 45° 39′ 15″ W

BRIDGE SUM-271-0354 L&R
OVER IR 77
SFN: 7708815 &
7708890

HORIZONTAL SCALE IN FEET
0 50 100 200
CALCULATED DAW
CHECKED PRS

SCHEMATIC PLAN
IR 77 INTERCHANGE
SUM-271-2.33

6
1195

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℄ CONST. IR 271
EX. OVERHEAD ELECTRIC LINES (138kv)
MATCHLINE STA. 180+00.00 (SEE BELOW)
N 56° 57' 03" E
℄ CONST. RAMP B
POT Sta. 168+58.71 ℄ CONST. RAMP B =
STA. 168+58.71 ℄ CONST. IR. 271
PC Sta. 170+74.45
CURVE 77-B1
PCC Sta. 176+75.28
CURVE 77-B2
MATCHLINE STA. 180+00.00 (SEE ABOVE)
MATCHLINE STA. 180+00.00 (SEE ABOVE)
PT Sta. 181+00.63 CURVE 77-B2
SEE SHEET 6 FOR RAMP D
SEE SHEET 6 FOR RAMP D
BRIDGE SUM-271-0354 L&R OVER IR 77 SFN: 7708815 & 7708890
STA. 189+35.14 ℄ CONST. IR 271 = STA. 917+08.10 ℄ IR 77
℄ CONST. IR 271 N 56° 57' 03" E
℄ CONST. IR 77 N 4° 50' 48" W
BRIDGE SUM-271-0354B OVER IR 77 SFN: 7708882
N 79° 14' 55" E
PC Sta. 187+12.06
℄ CONST. RAMP C
TS Sta. 189+46.69
SC Sta. 188+94.67
SPIRAL 77-C1/C2
SC Sta. 191+46.69
CURVE 77-C2
CS Sta. 193+76.34
SPIRAL 77-C2/C3
SC Sta. 195+76.34
CURVE 77-B3
CURVE 77-C3
PT Sta. 198+48.32 ℄ CONST. RAMP C = STA. CONST. IR 271 198+53.15
CS Sta. 186+94.67
PC Sta. 182+69.62 ℄ CONST. RAMP C = STA. 907+83.78 ℄ IR 77 CURVE 77-C1
EX. 36"
EX. 54" CMP
EX. 48" RCP
SEE SHEET 6 FOR RAMP A
℄ CONST. RAMP B N 45° 39' 15" W
SC Sta. 213+80.31
CURVE 77-B4
TS Sta. 211+80.31
PT Sta. 219+40.57 ℄ CONST. RAMP B = STA. 934+99.97 ℄ CONST. IR.
ST Sta. 207+07.97
CS Sta. 205+07.97
BRIDGE SUM-271-0375 L&R OVER IR 77 SFN: 7708912 & 7708947
RICHFIELD TOWNSHIP

RAMP B

CURRENT ADT (2015) _ _ _ _ _ 3,110
DESIGN YEAR ADT (2035) _ _ _ 4,210
DESIGN HOURLY VOLUME (2035) _ 690
DIRECTIONAL DISTRIBUTION_ _ _ 100%
TRUCKS (24 HOUR B&C) _ _ _ _ _ 14%

DESIGN FUNCTIONAL CLASSIFICATION_ _ _ _ _ _ _ _ _ RURAL RAMPS
DESIGN SPEED _ _ _ _ _ _ _ _ _ 65 MPH

RAMP C

CURRENT ADT (2015) _ _ _ _ _ 7,240
DESIGN YEAR ADT (2035) _ _ _ 7,240
DESIGN HOURLY VOLUME (2035) _ 850
DIRECTIONAL DISTRIBUTION_ _ _ 100%
TRUCKS (24 HOUR B&C) _ _ _ _ _ 9%

DESIGN FUNCTIONAL CLASSIFICATION_ _ _ _ _ _ _ _ _ RURAL RAMPS
DESIGN SPEED _ _ _ _ _ _ _ _ _ 65 MPH

℄ CONST. RAMP B 77-B1 CURVE DATA

P.I.= Sta. 173+75.71
△ = 8° 25' 13" (RT)
Dc = 1° 24' 00"
R = 4,092.56'
T = 301.26'
L = 601.44'
E = 11.07'
eMAX. = 0.048
C = 600.90'
C.B. = N 61° 09' 39" E

℄ CONST. RAMP B 77-B2 CURVE DATA

P.I.= Sta. 178+89.31
△ = 13° 52' 40" (RT)
Dc = 3° 16' 02"
R = 1,753.59'
T = 213.42'
L = 424.74'
E = 12.94'
eMAX = 0.071
C = 423.70'
C.B. = N 72° 18' 35" E

℄ CONST. RAMP C 77-C1 CURVE DATA

P.I.= Sta. 184+82.36
△ = 6° 22' 33" (RT)
Dc = 1° 30' 00"
R = 3,819.72'
T = 212.74'
L = 425.05'
E = 5.92'
eMAX. = 0.042
C = 424.83'
C.B. = N 1° 39' 23" W

℄ CONST. RAMP C 77-C1/C2 SPIRAL DATA

P.I.= Sta. 188+19.08
△ = 10° 52' 17"
D1 = 1° 30' 00"
R1 = 3,819.72'
D2 = 9° 22' 17"
R2 = 611.39'
Ls = 200.00'
p = 2.29'
△ 1 = 1° 29' 56"
△ 2 = 9° 22' 21"
T1 = 124.42'
T2 = 76.12'
eMAX.1 = 0.042
eMAX.2 = 0.008
C1 = 424.83'
C = 199.69'
C2 = 469.31'
C.B.1 = N 1° 39' 23" W
C.B. = N 5° 39' 17" E
C.B.2 = N 34° 58' 22" E

℄ CONST. RAMP C 77-C2 CURVE DATA

P.I.= Sta. 191+48.79
△ = 45° 08' 23" (RT)
Dc = 9° 22' 17"
R = 611.39'
T = 254.12'
L = 481.67'
E = 50.71'
eMAX. = 0.080
C = 469.31'
C.B. = N 34° 58' 22" E

℄ CONST. RAMP C 77-C3 CURVE DATA

P.I.= Sta. 197+12.39
△ = 4° 04' 47" (RT)
Dc = 1° 30' 00"
R = 3,819.72'
T = 136.05'
L = 271.98'
E = 2.42'
eMAX = 0.051
C = 271.92'
C.B. = N 70° 27' 14" E

℄ CONST. RAMP B 77-B4 CURVE DATA

P.I.= Sta. 216+22.11
△ = 39° 36' 56" (RT)
Dc = 6° 00' 00"
R = 954.93'
Ls = 200.00'
θ s = 6° 00' 00" (RT)
LT = 133.41'
ST = 66.74'
x = 199.78'
y = 6.98'
k = 99.96'
p = 1.74'
△ c = 33° 36' 56" (RT)
Lc = 560.26'
Ts1 = 441.80'
Ts2 = 346.68'
Es = 60.98'
eMAX. = 0.080
C = 199.90'
C = 552.26'
C.B.1 = N 43° 39' 15" W
C.B. = N 22° 50' 47" W

℄ CONST. RAMP C 77-C2/C3 SPIRAL DATA

P.I.= Sta. 188+19.08
△ = 10° 52' 17"
D2 = 9° 22' 17"
R2 = 611.39'
D3 = 1° 30' 00"
R3 = 3,819.72'
Ls = 200.00'
p = 2.29'
△ 2 = 9° 22' 21"
△ 3 = 1° 29' 56"
T2 = 76.12'
T3 = 124.42'
eMAX.2 = 0.080
eMAX.3 = 0.051
C2 = 469.31'
C = 199.69'
C3 = 271.32'
C.B.2 = N 34° 58' 22" E
C.B. = N 64° 17' 28" E
C.B.3 = N 70° 27' 14" E

℄ CONST. RAMP B 77-B3 CURVE DATA

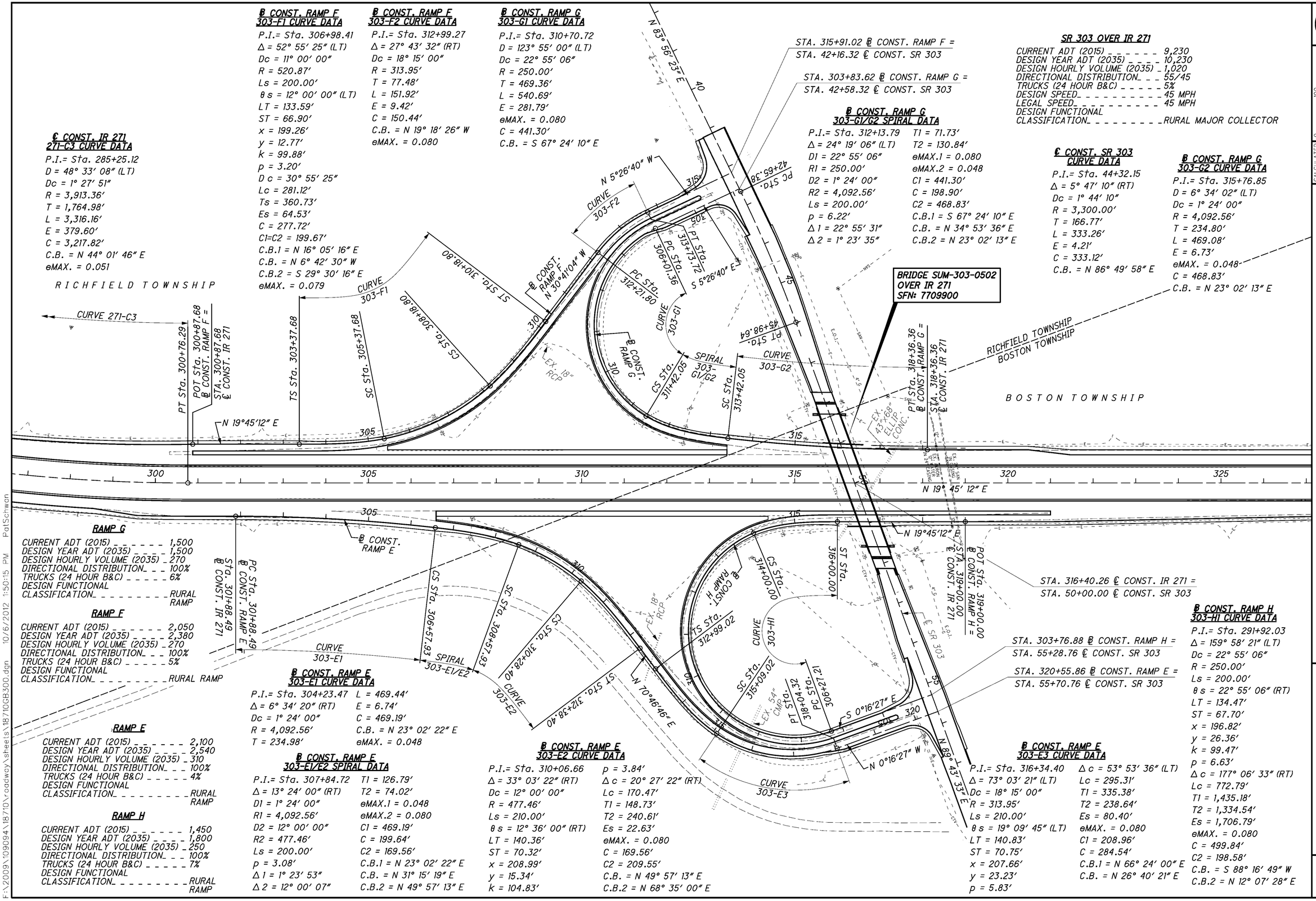
P.I.= Sta. 204+24.03
△ = 124° 54' 10" (LT)
Dc = 8° 00' 00"
R = 716.20'
Ls = 200.00'
θ s = 8° 00' 00"
LT = 133.47'
ST = 66.79'
x = 199.61'
y = 9.30'
k = 99.94'
p = 2.33'
D c = 108° 54' 10" (LT)
Lc = 1,361.28'
Ts = 1,477.35'
Es = 837.36'
eMAX = 0.078
C = 1,165.43'
C1=C2 = 199.83'
C.B.1 = N 76° 34' 57" E
C.B. = N 16° 47' 50" E
C.B.2 = N 42° 59' 16" W

HORIZONTAL SCALE IN FEET
0 50 100 200
CALCULATED DAW
CHECKED PRS

SCHEMATIC PLAN
IR 77 INTERCHANGE
SUM-271-2.33

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℄ CONST. IR 271
271-C3 CURVE DATA
P.I.= Sta. 285+25.12
D = 48° 33′ 08″ (LT)
Dc = 1° 27′ 51″
R = 3,913.36′
T = 1,764.98′
L = 3,316.16′
E = 379.60′
C = 3,217.82′
C.B. = N 44° 01′ 46″ E
eMAX. = 0.051
℄ CONST. RAMP F
303-F1 CURVE DATA
P.I.= Sta. 306+98.41
Δ = 52° 55′ 25″ (LT)
Dc = 11° 00′ 00″
R = 520.87′
Ls = 200.00′
θ s = 12° 00′ 00″ (LT)
LT = 133.59′
ST = 66.90′
x = 199.26′
y = 12.77′
k = 99.88′
p = 3.20′
D c = 30° 55′ 25″
Lc = 281.12′
Ts = 360.73′
Es = 64.53′
C = 277.72′
C1=C2 = 199.67′
C.B.1 = N 16° 05′ 16″ E
C.B. = N 6° 42′ 30″ W
C.B.2 = S 29° 30′ 16″ E
eMAX. = 0.079
℄ CONST. RAMP F
303-F2 CURVE DATA
P.I.= Sta. 312+99.27
Δ = 27° 43′ 32″ (RT)
Dc = 18° 15′ 00″
R = 313.95′
T = 77.48′
L = 151.92′
E = 9.42′
C = 150.44′
C.B. = N 19° 18′ 26″ W
eMAX. = 0.080
℄ CONST. RAMP G
303-G1 CURVE DATA
P.I.= Sta. 310+70.72
D = 123° 55′ 00″ (LT)
Dc = 22° 55′ 06″
R = 250.00′
T = 469.36′
L = 540.69′
E = 281.79′
eMAX. = 0.080
C = 441.30′
C.B. = S 67° 24′ 10″ E
STA. 315+91.02 ℄ CONST. RAMP F =
STA. 42+16.32 ℄ CONST. SR 303
STA. 303+83.62 ℄ CONST. RAMP G =
STA. 42+58.32 ℄ CONST. SR 303
℄ CONST. RAMP G
303-G1/G2 SPIRAL DATA
P.I.= Sta. 312+13.79
Δ = 24° 19′ 06″ (LT)
D1 = 22° 55′ 06″
R1 = 250.00′
D2 = 1° 24′ 00″
R2 = 4,092.56′
Ls = 200.00′
p = 6.22′
Δ 1 = 22° 55′ 31″
Δ 2 = 1° 23′ 35″
T1 = 71.73′
T2 = 130.84′
eMAX.1 = 0.080
eMAX.2 = 0.048
C1 = 441.30′
C = 198.90′
C2 = 468.83′
C.B.1 = S 67° 24′ 10″ E
C.B. = N 34° 53′ 36″ E
C.B.2 = N 23° 02′ 13″ E
SR 303 OVER IR 271
CURRENT ADT (2015) 9,230
DESIGN YEAR ADT (2035) 10,230
DESIGN HOURLY VOLUME (2035) 1,020
DIRECTIONAL DISTRIBUTION 55/45
TRUCKS (24 HOUR B&C) 5%
DESIGN SPEED 45 MPH
LEGAL SPEED 45 MPH
DESIGN FUNCTIONAL CLASSIFICATION RURAL MAJOR COLLECTOR
℄ CONST. SR 303
CURVE DATA
P.I.= Sta. 44+32.15
Δ = 5° 47′ 10″ (RT)
Dc = 1° 44′ 10″
R = 3,300.00′
T = 166.77′
L = 333.26′
E = 4.21′
C = 333.12′
C.B. = N 86° 49′ 58″ E
℄ CONST. RAMP G
303-G2 CURVE DATA
P.I.= Sta. 315+76.85
D = 6° 34′ 02″ (LT)
Dc = 1° 24′ 00″
R = 4,092.56′
T = 234.80′
L = 469.08′
E = 6.73′
eMAX. = 0.048
C = 468.83′
C.B. = N 23° 02′ 13″ E
BRIDGE SUM-303-0502
OVER IR 271
SFN: 7709900
RICHFIELD TOWNSHIP
BOSTON TOWNSHIP
RAMP G
CURRENT ADT (2015) 1,500
DESIGN YEAR ADT (2035) 1,500
DESIGN HOURLY VOLUME (2035) 270
DIRECTIONAL DISTRIBUTION 100%
TRUCKS (24 HOUR B&C) 6%
DESIGN FUNCTIONAL CLASSIFICATION RURAL RAMP
RAMP F
CURRENT ADT (2015) 2,050
DESIGN YEAR ADT (2035) 2,380
DESIGN HOURLY VOLUME (2035) 270
DIRECTIONAL DISTRIBUTION 100%
TRUCKS (24 HOUR B&C) 5%
DESIGN FUNCTIONAL CLASSIFICATION RURAL RAMP
RAMP E
CURRENT ADT (2015) 2,100
DESIGN YEAR ADT (2035) 2,540
DESIGN HOURLY VOLUME (2035) 310
DIRECTIONAL DISTRIBUTION 100%
TRUCKS (24 HOUR B&C) 4%
DESIGN FUNCTIONAL CLASSIFICATION RURAL RAMP
RAMP H
CURRENT ADT (2015) 1,450
DESIGN YEAR ADT (2035) 1,800
DESIGN HOURLY VOLUME (2035) 250
DIRECTIONAL DISTRIBUTION 100%
TRUCKS (24 HOUR B&C) 7%
DESIGN FUNCTIONAL CLASSIFICATION RURAL RAMP
℄ CONST. RAMP E
303-E1 CURVE DATA
P.I.= Sta. 304+23.47
Δ = 6° 34′ 20″ (RT)
Dc = 1° 24′ 00″
R = 4,092.56′
T = 234.98′
L = 469.44′
E = 6.74′
C = 469.19′
C.B. = N 23° 02′ 22″ E
eMAX. = 0.048
℄ CONST. RAMP E
303-E1/E2 SPIRAL DATA
P.I.= Sta. 307+84.72
Δ = 13° 24′ 00″ (RT)
D1 = 1° 24′ 00″
R1 = 4,092.56′
D2 = 12° 00′ 00″
R2 = 477.46′
Ls = 200.00′
p = 3.08′
Δ 1 = 1° 23′ 53″
Δ 2 = 12° 00′ 07″
T1 = 126.79′
T2 = 74.02′
eMAX.1 = 0.048
eMAX.2 = 0.080
C1 = 469.19′
C = 199.64′
C2 = 169.56′
C.B.1 = N 23° 02′ 22″ E
C.B. = N 31° 15′ 19″ E
C.B.2 = N 49° 57′ 13″ E
℄ CONST. RAMP E
303-E2 CURVE DATA
P.I.= Sta. 310+06.66
Δ = 33° 03′ 22″ (RT)
Dc = 12° 00′ 00″
R = 477.46′
Ls = 210.00′
θ s = 12° 36′ 00″ (RT)
LT = 140.36′
ST = 70.32′
x = 208.99′
y = 15.34′
k = 104.83′
p = 3.84′
Δ c = 20° 27′ 22″ (RT)
Lc = 170.47′
T1 = 148.73′
T2 = 240.61′
Es = 22.63′
eMAX. = 0.080
C = 169.56′
C2 = 209.55′
C.B. = N 49° 57′ 13″ E
C.B.2 = N 68° 35′ 00″ E
STA. 316+40.26 ℄ CONST. IR 271 =
STA. 50+00.00 ℄ CONST. SR 303
℄ CONST. RAMP H
303-H1 CURVE DATA
P.I.= Sta. 291+92.03
Δ = 159° 58′ 21″ (LT)
Dc = 22° 55′ 06″
R = 250.00′
Ls = 200.00′
θ s = 22° 55′ 06″ (RT)
LT = 134.47′
ST = 67.70′
x = 196.82′
y = 26.36′
k = 99.47′
p = 6.63′
Δ c = 177° 06′ 33″ (RT)
Lc = 772.79′
T1 = 1,435.18′
T2 = 1,334.54′
Es = 1,706.79′
eMAX. = 0.080
C = 499.84′
C2 = 198.58′
C.B. = S 88° 16′ 49″ W
C.B.2 = N 12° 07′ 28″ E
STA. 303+76.88 ℄ CONST. RAMP H =
STA. 55+28.76 ℄ CONST. SR 303
STA. 320+55.86 ℄ CONST. RAMP E =
STA. 55+70.76 ℄ CONST. SR 303
℄ CONST. RAMP E
303-E3 CURVE DATA
P.I.= Sta. 316+34.40
Δ = 73° 03′ 21″ (LT)
Dc = 18° 15′ 00″
R = 313.95′
Ls = 210.00′
θ s = 19° 09′ 45″ (LT)
LT = 140.83′
ST = 70.75′
x = 207.66′
y = 23.23′
p = 5.83′
Δ c = 53° 53′ 36″ (LT)
Lc = 295.31′
T1 = 335.38′
T2 = 238.64′
Es = 80.40′
eMAX. = 0.080
C1 = 208.96′
C = 284.54′
C.B.1 = N 66° 24′ 00″ E
C.B. = N 26° 40′ 21″ E
CALCULATED DAW
CHECKED PRS
HORIZONTAL SCALE IN FEET
0 50 100 200
SCHEMATIC PLAN
SR 303 INTERCHANGE
SUM-271-2.33
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1195
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EXISTING PROJECT CONTROL TABLE
ALL GRID VALUES ARE NAD 83 (86) OHIO NORTH ZONE
COMBINED SCALE FACTOR FOR PROJECT 0.99989826
PROJECT ADJUSTMENT FACTOR 1.000101750

CONTROL PT. NO.	GRID COORDINATES (ENGLISH)		GROUND COORDINATES (ENGLISH)		CENTERLINE STA.	OFFSET	SIDE	ELEV.	DESCRIPTION
	NORTH	EAST	NORTH	EAST					
SV1	569690.3897	2208665.6311	569748.3557	2208890.3628	187+20.55 ℄ CONST. IR 271	608.28	RT.	1091.85	MAGS/BM
SV2	578991.7028	2219692.4944	579050.6152	2219918.3481	343+68.27 ℄ CONST. IR 271	8.24	RT.	1023.90	CNPT
SV3	579175.4855	2219818.0674	579234.4166	2220043.9339	345+90.75 ℄ CONST. IR 271	5.41	LT.	1019.08	CNPT
SV4	570522.9293	2208500.3481	570580.9800	2208725.0630	190+19.91 ℄ CONST. IR 271	192.49	LT.	1086.12	CMON/BM
SV5	571554.5469	2208412.5240	571612.7026	2208637.2300	193+40.82 ℄ CONST. IR 271	1157.96	LT.	1076.88	CMON
SV6	572022.7112	2208454.5510	572080.9145	2208679.2613	195+03.05 ℄ CONST. IR 271	1574.04	LT.	1070.54	MSPK
SV7	576511.7985	2219537.3580	576570.4586	2219763.1959	319+74.02 ℄ CONST. IR 271	766.69	RT.	1089.80	CNPT
SV032	577665.2723	2219138.2263	577724.0497	2219364.0236	329+24.82 ℄ CONST. IR 271	1.13	RT.	1066.85	MSPK
SVM34	568385.0207	2205544.1019	568442.8539	2205768.5160	564+00.22 ℄ CONST. IR 271	0.04	RT.	1211.07	CMON/BM
SVM48	570319.6214	2208517.6948	570377.6514	2208742.4115	189+38.16 ℄ CONST. IR 271	6.43	LT.	1087.88	IPIN/BM
SVM60	569696.1959	2208483.5271	569754.1625	2208708.2403	185+69.74 ℄ CONST. IR 271	504.1	RT.	1091.80	MAG/BM
SVM65	570501.6619	2208576.3982	570559.7104	2208801.1208	190+74.64 ℄ CONST. IR 271	137.87	LT.	1084.75	MAG/BM
SVM66	570431.1068	2208406.5368	570489.1482	2208631.2422	188+98.53 ℄ CONST. IR 271	158.59	LT.	1084.25	MAG/BM
SV67	567819.9984	2204623.1950	567877.7741	2204847.5154	553+20.07 ℄ CONST. IR 271	28.59	LT.	1230.26	MSPK
SV68	567912.9079	2204852.6712	567970.6930	2205077.0150	555+63.11 ℄ CONST. IR 271	18.69	RT.	1227.37	MSPKS
SV70	567356.4167	2218640.7873	576415.0610	2218866.5340	315+24.72 ℄ CONST. IR 271	24.69	LT.	1095.09	IPINS
SV71	576636.6402	2218791.4040	576695.3130	2219017.1660	318+39.39 ℄ CONST. IR 271	22.37	RT.	1090.39	IPINS
SV73	569841.6583	2208772.9552	569899.6397	2208997.6978	189+20.34 ℄ CONST. IR 271	535.23	RT.	1104.98	IPIN
SV74	570526.1523	2209449.0445	570584.2033	2209673.8559	198+98.91 ℄ CONST. IR 271	163.45	RT.	1061.29	IPIN
SV75	570851.0100	2209375.7160	570909.0941	2209600.5200	199+15.13 ℄ CONST. IR 271	169.22	LT.	1063.11	IPIN
SVM7031	570189.8421	2208317.6028	570247.8589	2208542.2991	186+99.89 ℄ CONST. IR 271	0.21	LT.	1117.18	IPIN/BM
SVM7032	570436.2468	2208752.3057	570494.2887	2208977.0462	191+99.94 ℄ CONST. IR 271	0.12	LT.	1100.61	IPIN/BM
SV50	576421.2904	2218887.3984	576479.9413	2219113.1702	51+84.18 ℄ CONST. SR 303	36.41	RT.	1114.61	IPIN
SV51	576490.9799	2218521.3446	576549.6379	2218747.0791	48+18.43 ℄ CONST. SR 303	35.04	LT.	1117.29	IPIN
SVM40	567894.2588	2204789.6707	567952.0420	2205014.0080	88+89.46 ℄ SR 176 (BROADVIEW RD.)	67.24	LT.	1229.64	CMON
SVM41	567839.6913	2204705.8092	567897.4690	2204930.1380	88+85.89 ℄ SR 176 (BROADVIEW RD.)	32.75	RT.	1231.62	CMON
SVM31	569217.7521	2206824.1626	569275.6700	2207048.7070	169+17.76 ℄ CONST. IR 271	0.13	RT.	1164.11	CMON
SVM32	568651.3357	2205953.4032	568709.1960	2206177.8590	62+92.85 ℄ CR 17 (BRECKSVILLE RD.)	343.18	RT.	1194.13	CMON

PROJECT ADJUSTMENT FACTOR (PAF)

THE EXISTING IR 271 BEST FIT ALIGNMENT DATA WAS DETERMINED BASED ON EXISTING MONUMENTATION FOUND WITHIN THE PROJECT.

BEARINGS WERE TRANSFERRED BY GLOBAL POSITIONING TRAVERSE ORIGINATING ON SUMMIT COUNTY GEODETIC MONUMENT GS0084 AND ARE BASED ON THE OHIO STATE PLANE COORDINATE SYSTEM, NORTH ZONE, NAD 83 (86).

ALL DISTANCES AND COORDINATES ARE PROJECT GROUND, ENGLISH UNITS. THE PROJECT ADJUSTMENT FACTOR (P.A.F.) IS 1.000101750. TO OBTAIN STATE PLANE COORDINATES, DIVIDE EACH NORTHING AND EASTING BY THE P.A.F.

ELEVATION DATUM

ALL ELEVATIONS ARE BASED ON U.S.G.S. DATUM.
ORIGINAL PLAN DATUM WAS BASED ON NGVD 29
CURRENT PROJECT PLAN DATUM IS BASED ON NAVD 88
ORIGINATING ON SUMMIT COUNTY MONUMENT GS 0082.

CALCULATED DAW
CHECKED PRS

EXISTING PROJECT CONTROL

SUM-271-2.33

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PROPOSED CENTERLINE * REFERENCE MONUMENTS						604	
STA.	OFFSET	SIDE	CENTERLINE REFERENCE			REFERENCE MONUMENTS	MONUMENT ASSEMBLIES
IR 271							
522+00.42	0.09±	RIGHT	℄ CONST. IR 271			1	
539+00.00	0.00±	RIGHT	℄ CONST. IR 271			1	
546+99.92	0.02±	LEFT	℄ CONST. IR 271			1	
554+00.06	0.04±	LEFT	℄ CONST. IR 271			1	
555+00.12	0.04±	LEFT	℄ CONST. IR 271			1	
564+00.22	0.04±	RIGHT	℄ CONST. IR 271			1	
158+78.88	0.03±	RIGHT	℄ CONST. IR 271			1	
169+17.76	0.13±	RIGHT	℄ CONST. IR 271			1	
176+09.87	0.00±	RIGHT	℄ CONST. IR 271			1	
187+12.06	0.03±	RIGHT	℄ CONST. IR 271			1	
195+06.75	0.16±	RIGHT	℄ CONST. IR 271			1	
209+99.91	0.00±	RIGHT	℄ CONST. IR 271			1	
216+51.08	0.01±	RIGHT	℄ CONST. IR 271			1	
223+28.82	0.00±	RIGHT	℄ CONST. IR 271			1	
231+40.79	0.03±	RIGHT	℄ CONST. IR 271			1	
240+01.50	0.00±	RIGHT	℄ CONST. IR 271			1	
250+00.05	0.05±	LEFT	℄ CONST. IR 271			1	
256+53.19	0.02±	RIGHT	℄ CONST. IR 271			1	
260+96.34	0.06±	RIGHT	℄ CONST. IR 271			1	
267+60.13	0.00±	RIGHT	℄ CONST. IR 271			1	
274+99.94	0.02±	RIGHT	℄ CONST. IR 271			1	
284+15.97	1.41±	RIGHT	℄ CONST. IR 271			1	
292+99.39	1.09±	RIGHT	℄ CONST. IR 271			1	
300+71.77	0.00±	RIGHT	℄ CONST. IR 271			1	
318+63.47	0.08±	LEFT	℄ CONST. IR 271			1	
325+28.31	0.04±	LEFT	℄ CONST. IR 271			1	
330+99.47	0.08±	RIGHT	℄ CONST. IR 271			1	
336+76.21	0.00±	RIGHT	℄ CONST. IR 271			1	
340+76.38	0.30±	LEFT	℄ CONST. IR 271			1	
361+89.71	0.08±	LEFT	℄ CONST. IR 271			1	
TOTALS CARRIED TO GENERAL NOTES						30	

* LAYOUT FOR ALL MONUMENTS ON THE CENTERLINE OF RIGHT OF WAY SHALL BE PERFORMED BY O.D.O.T. DISTRICT FOUR SURVEY FORCES. THE MONUMENT ASSEMBLIES AND REFERENCE MONUMENTS WILL BE INSTALLED BY THE CONTRACTOR AT THE TIME OF CONSTRUCTION IN ACCORDANCE WITH O.D.O.T. STANDARD CONSTRUCTION DRAWINGS. THE IRON PIN AND CAP (WHEN REQUIRED) ARE TO BE SET BY THE CONTRACTOR'S SURVEYOR.

THE CONTRACTOR SHALL CONTACT O.D.O.T. DISTRICT FOUR SURVEY OPERATIONS MANAGER PETE TRIVELLI AT (330)-786-4842 TO PROVIDE FOUR WEEKS NOTICE TO SCHEDULE THE WORK AND PERFORM THE STAKEOUT.

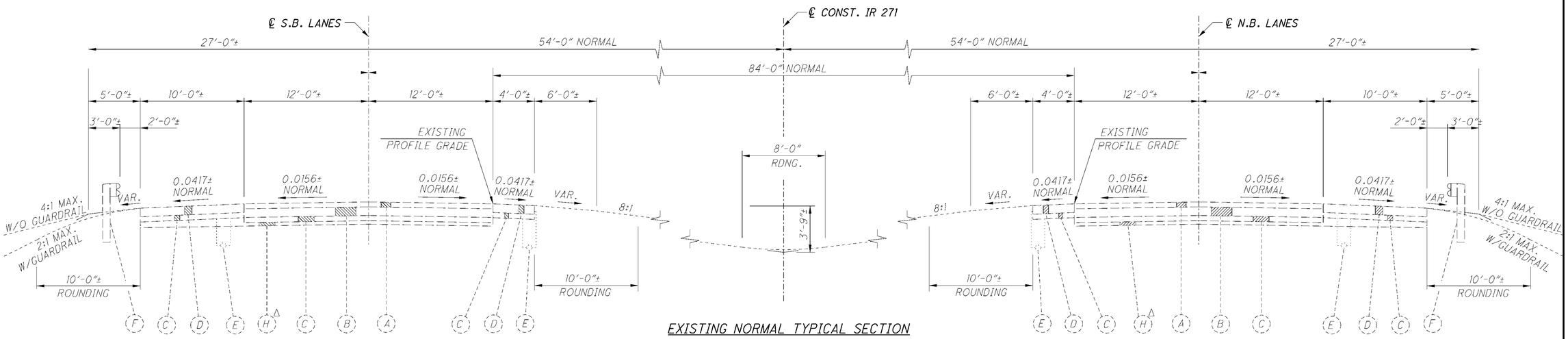
SEE GENERAL NOTES FOR ADDITIONAL INFORMATION.

CALCULATED DAW CHECKED PRS

PROPOSED CENTERLINE MONUMENTATION

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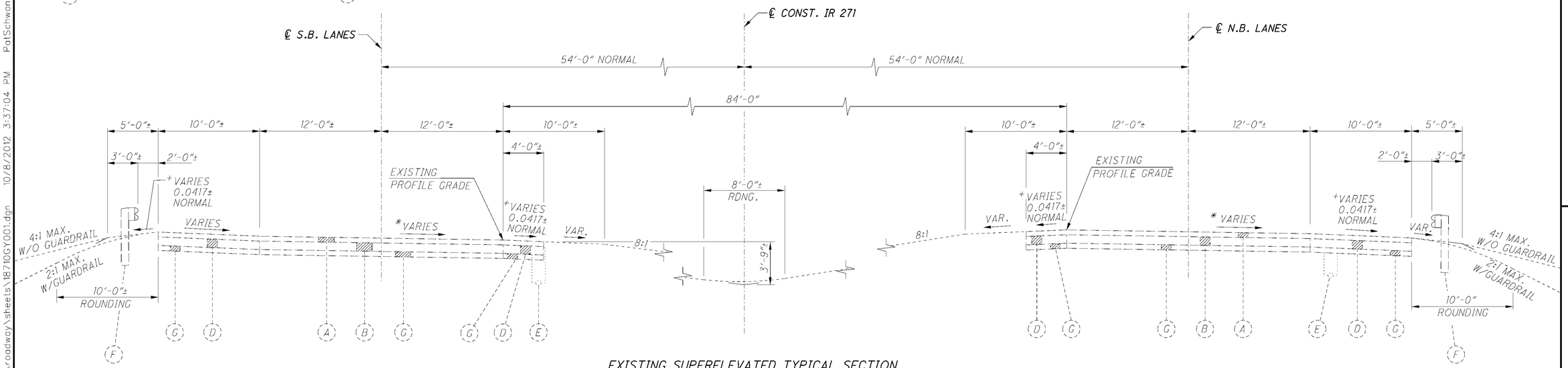
EXISTING NORMAL TYPICAL SECTION

STA. 528+00.00± TO STA. 566+09.70
STA. EQN. 566+09.70 BACK = STA. 156+00.00 AHEAD
STA. 156+00.00 TO STA. 184+83.46±
STA. 312+00.00± TO STA. 335+96.21±

EXISTING LEGEND

- (A) ASPHALT OVERLAY (5¾" AVERAGE)
- (B) REINFORCED CONCRETE PAVEMENT (10")
- (C) AGGREGATE BASE (6" AVERAGE)
- (D) ASPHALT PAVED SHOULDERS (10"♯ AVERAGE)
- (E) PIPE UNDERDRAIN
- (F) GUARDRAIL, TYPE 5
- (G) VARIABLE SUBBASE
- (H) 2"± ROCK EXCAVATION △ (STA. 550+00± TO STA. 559+50±)
- (I) CONCRETE MEDIAN
- (J) AGGREGATE DRAIN

♯ CONSISTS OF 3"± BITUMINOUS BASE AND 7"± OF ASPHALT CONCRETE



EXISTING SUPERELEVATED TYPICAL SECTION

STA. 184+83.46± TO STA. 202+00.00±
STA. 335+96.21± TO STA. 345+91.20±

+ HIGH SIDE SUPERELEVATED SECTION HAS 7% MAX GRADE BREAK AT EDGE OF PAVEMENT
5'-0"± ROUNDING WHERE EXISTING SUPERELEVATION RATE IS GREATER THAN 0.06
MATCH SUPERELEVATION RATE ON LOW SIDE OF SUPERELEVATION IF GREATER

* MAX. EXISTING SUPERELEVATION Dc = 1°30' = 0.047'/FT.±
Dc = 3°00' = 0.083'/FT.±

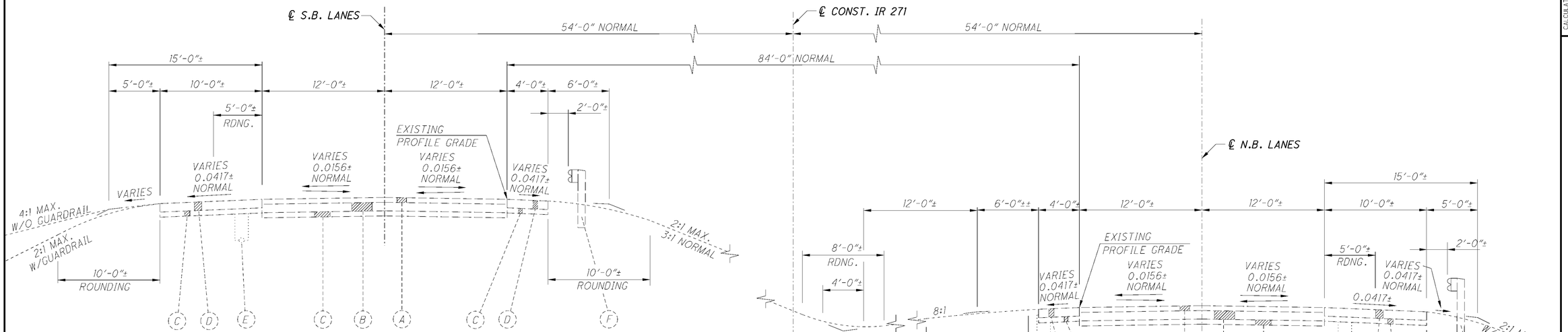
CALCULATED JDL
CHECKED PRS

EXISTING TYPICAL SECTION IR 271

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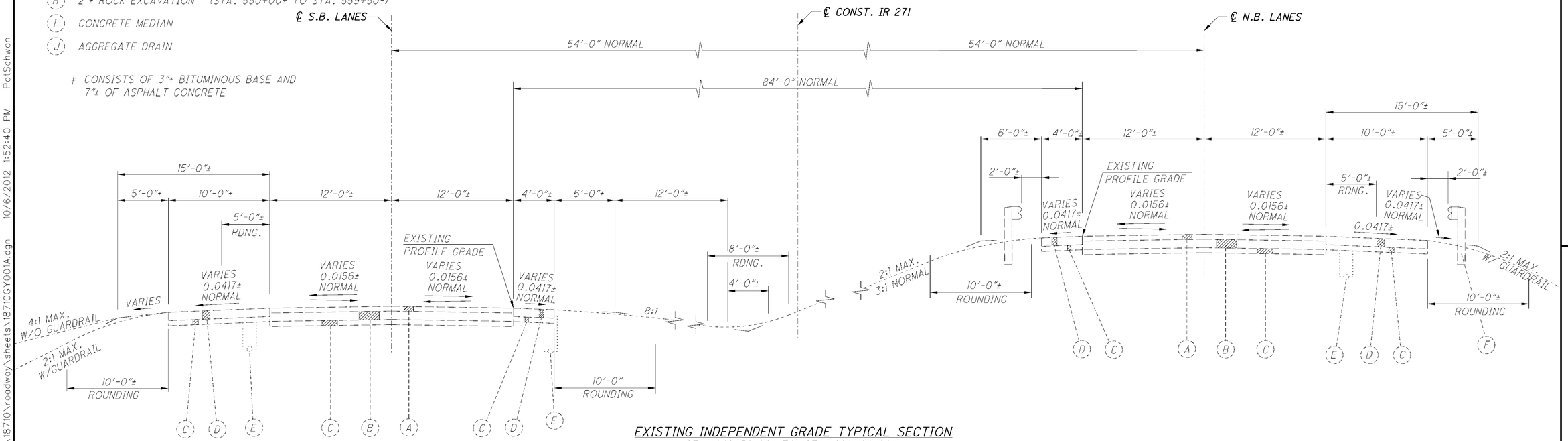
EXISTING INDEPENDENT GRADE TYPICAL SECTION

STA. 202+00.00± TO STA. 246+50.00±
STA. 260+00.00± TO STA. 312+00.00±

EXISTING LEGEND

- (A) ASPHALT OVERLAY (5¾" AVERAGE)
- (B) REINFORCED CONCRETE PAVEMENT (10")
- (C) AGGREGATE BASE (6" AVERAGE)
- (D) ASPHALT PAVED SHOULDERS (10"‡ AVERAGE)
- (E) PIPE UNDERDRAIN
- (F) GUARDRAIL, TYPE 5
- (G) VARIABLE SUBBASE
- (H) 2"± ROCK EXCAVATION △(STA. 550+00± TO STA. 559+50±)
- (I) CONCRETE MEDIAN
- (J) AGGREGATE DRAIN

‡ CONSISTS OF 3"± BITUMINOUS BASE AND 7"± OF ASPHALT CONCRETE



EXISTING INDEPENDENT GRADE TYPICAL SECTION

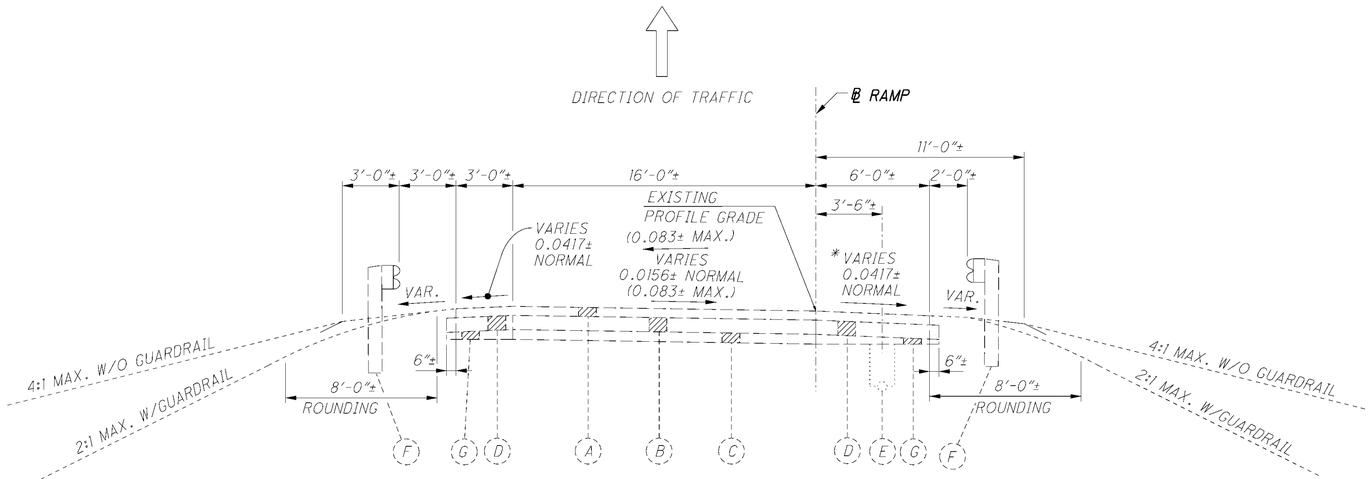
STA. 246+50.00± TO STA. 260+00.00±

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CALCULATED JDL
CHECKED PRS

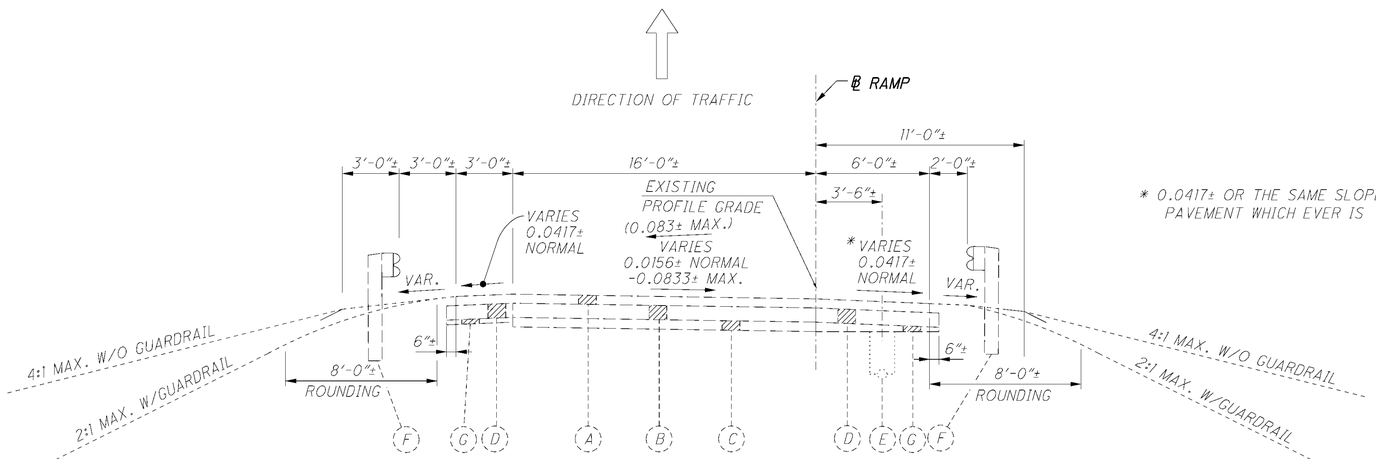
EXISTING TYPICAL SECTION IR 271

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EXISTING S.B. EXIT/ENTRANCE RAMP TYPICAL SECTION

℄ BRECKSVILLE RD. RAMP A	STA. 57+44.22± TO	STA. 67+04.89±
℄ IR 77 RAMP A	STA. 174+84.45± TO	STA. 199+15.41±
℄ IR 77 RAMP D	STA. 171+43.77± TO	STA. 187+49.93±
℄ SR 303 RAMP F	STA. 305+16.87± TO	STA. 311+85.06±
℄ SR 303 RAMP G	STA. 307+74.40± TO	STA. 313+09.06±



EXISTING N.B. EXIT/ENTRANCE RAMP TYPICAL SECTION

℄ BRECKSVILLE RD. RAMP B	STA. 56+95.50± TO	STA. 62+93.37±
℄ IR 77 RAMP B	STA. 175+90.30± TO	STA. 218+53.58±
℄ IR 77 RAMP C	STA. 187+54.58± TO	STA. 193+91.45±
℄ SR 303 RAMP E	STA. 306+85.45± TO	STA. 309+18.00±
℄ SR 303 RAMP H	STA. 313+48.94± TO	STA. 314+92.12±

* 0.0417± OR THE SAME SLOPE AS RAMP PAVEMENT WHICH EVER IS GREATER

EXISTING LEGEND

- (A) ASPHALT OVERLAY (5¾" AVERAGE)
- (B) REINFORCED CONCRETE PAVEMENT (10")
- (C) AGGREGATE BASE (6" AVERAGE)
- (D) ASPHALT PAVED SHOULDERS (10"† AVERAGE)
- (E) PIPE UNDERDRAIN
- (F) GUARDRAIL, TYPE 5
- (G) VARIABLE SUBBASE
- (H) 2"± ROCK EXCAVATION △(STA. 550+00± TO STA. 559+50±)
- (I) CONCRETE MEDIAN
- (J) AGGREGATE DRAIN

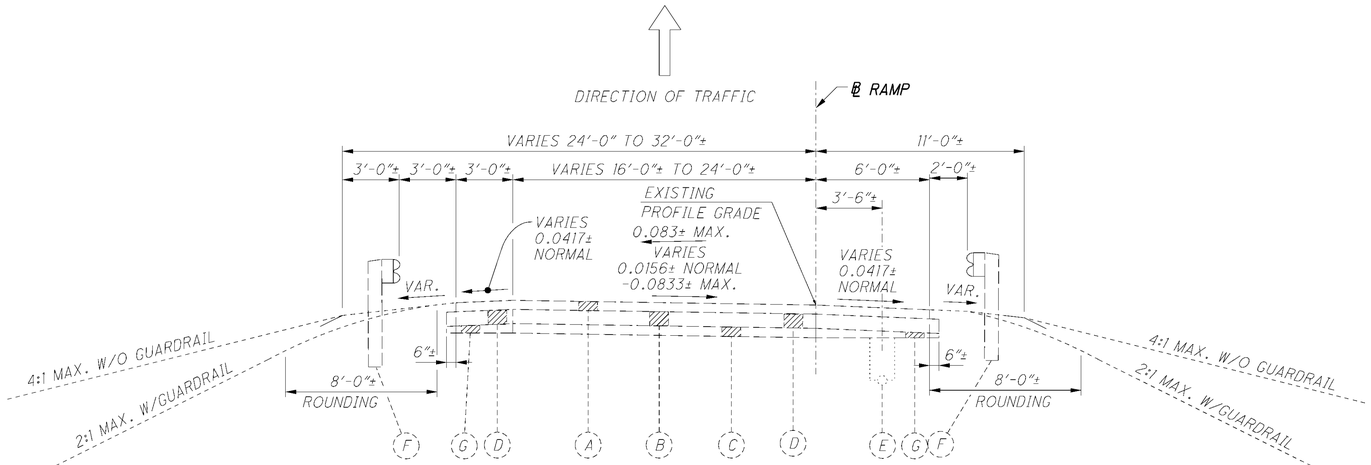
† CONSISTS OF 3"± BITUMINOUS BASE AND 7"± OF ASPHALT CONCRETE

CALCULATED JDL
CHECKED PRS

EXISTING TYPICAL SECTIONS - RAMPS

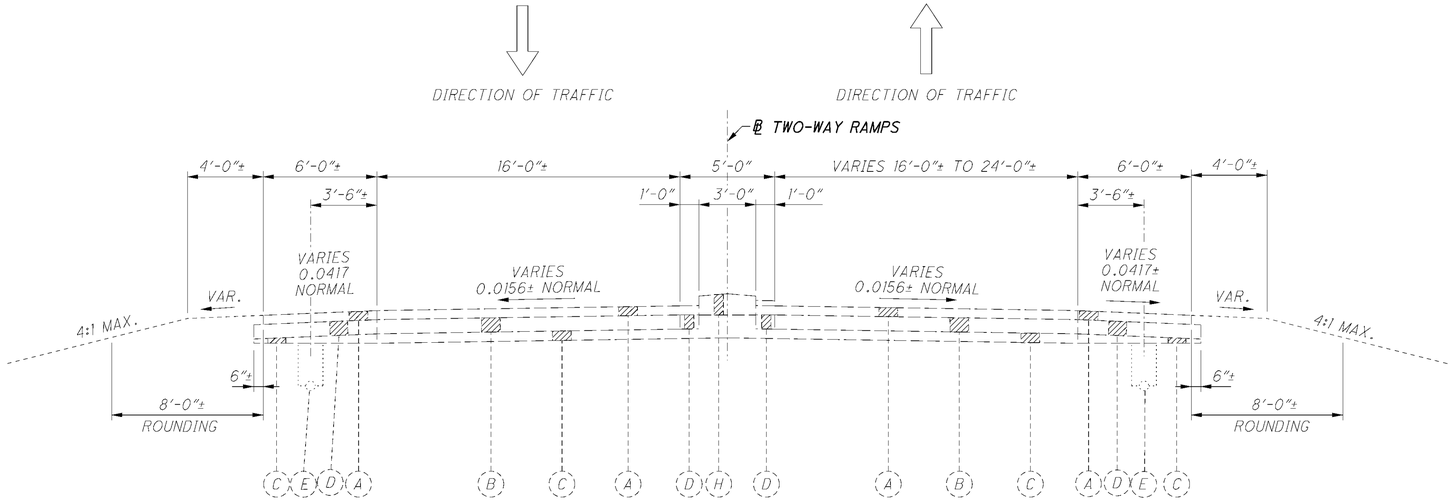
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EXISTING RAMP TYPICAL SECTION

℄ SR 303 RAMP E STA. 309+18.00± TO STA. 314+12.32±



EXISTING RAMP TYPICAL SECTION

℄ SR 303 RAMP F	STA. 311+85.06± TO	STA. 315+54.60±
℄ SR 303 RAMP G	STA. 307+17.40± TO	STA. 307+74.40±
℄ SR 303 RAMP E	STA. 314+12.32± TO	STA. 320+03.15±
℄ SR 303 RAMP H	STA. 317+90.20± TO	STA. 313+48.94±

EXISTING LEGEND

- (A) ASPHALT OVERLAY (5¾" AVERAGE)
- (B) REINFORCED CONCRETE PAVEMENT (9")
- (C) AGGREGATE BASE (6" AVERAGE)
- (D) ASPHALT PAVED SHOULDERS (9"‡ AVERAGE)
- (E) PIPE UNDERDRAIN
- (F) GUARDRAIL, TYPE 5
- (G) VARIABLE SUBBASE
- (H) 2"± ROCK EXCAVATION Δ(STA. 550+00± TO STA. 559+50±)
- (I) CONCRETE MEDIAN
- (J) AGGREGATE DRAIN

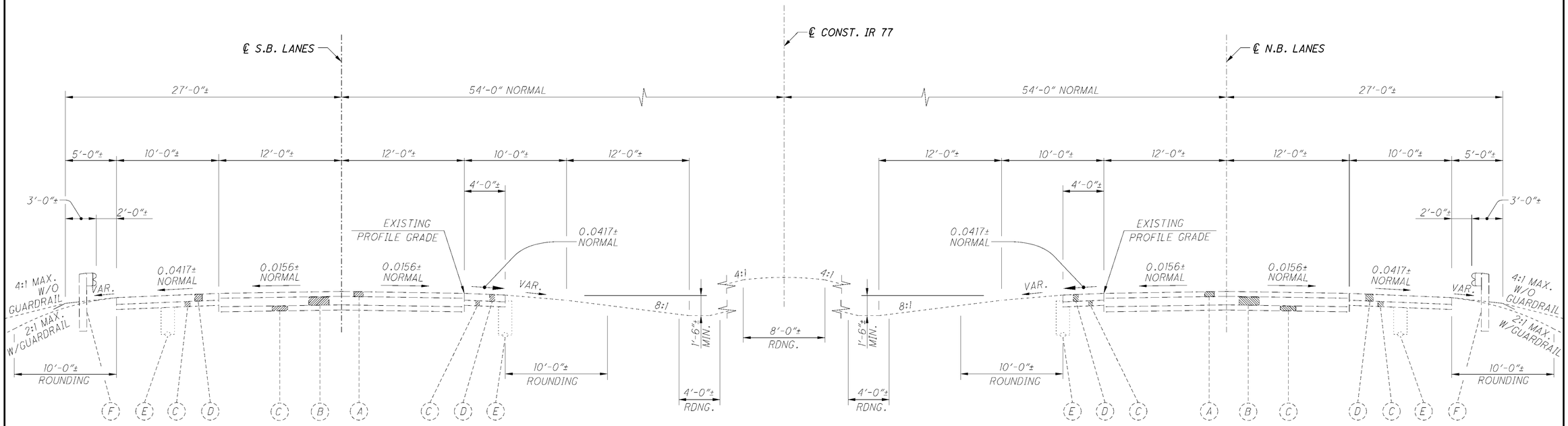
‡ CONSISTS OF 3"± BITUMINOUS BASE AND 6"± OF ASPHALT CONCRETE

CALCULATED JDL
CHECKED PRS

EXISTING TYPICAL SECTIONS - RAMPS

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EXISTING IR 77 TYPICAL SECTION

STA. 902+08.70± TO STA. 943+22.43±

EXISTING LEGEND

- (A) ASPHALT OVERLAY (5¾" AVERAGE)
- (B) REINFORCED CONCRETE PAVEMENT (10")
- (C) AGGREGATE BASE (6" AVERAGE)
- (D) ASPHALT PAVED SHOULDERS (10"‡ AVERAGE)
- (E) PIPE UNDERDRAIN
- (F) GUARDRAIL, TYPE 5
- (G) VARIABLE SUBBASE
- (H) 2"± ROCK EXCAVATION △(STA. 550+00± TO STA. 559+50±)
- (I) CONCRETE MEDIAN
- (J) AGGREGATE DRAIN

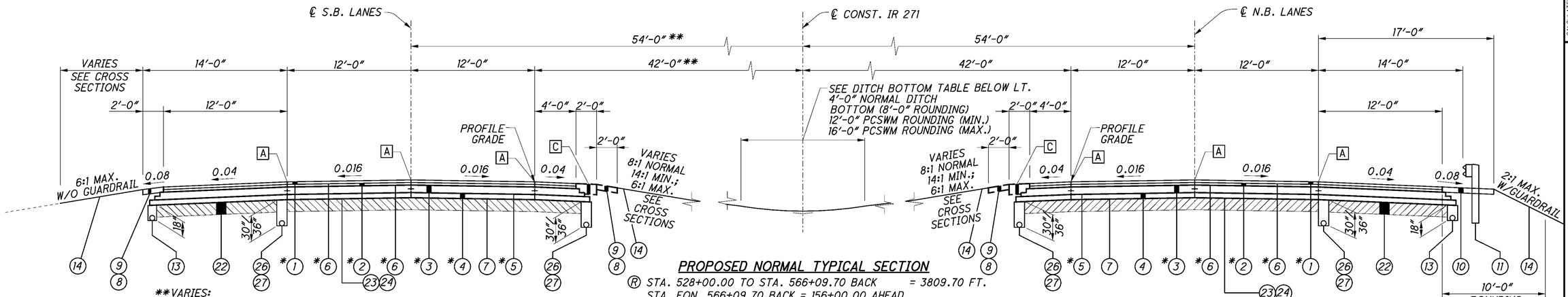
‡ CONSISTS OF 3"± BITUMINOUS BASE AND 7"± OF ASPHALT CONCRETE

CALCULATED JDL
CHECKED PRS

EXISTING TYPICAL SECTION IR 77

SUM-271-2.33

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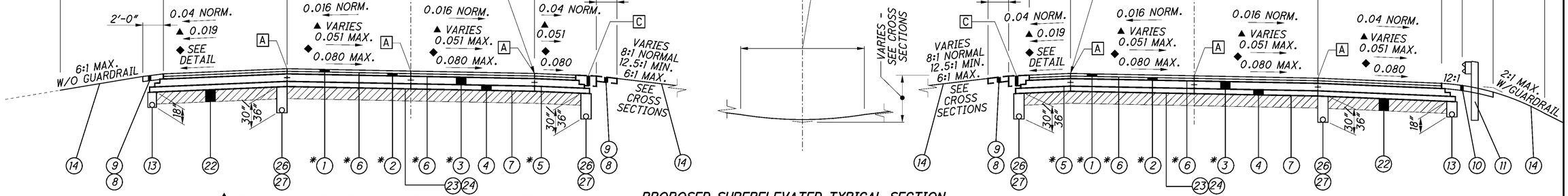


**VARIES:
42'-0" TO 40'-0" AND 54'-0" TO 52'-0"
40'-0" AND 52'-0"
40'-0" TO 42'-0" AND 52'-0" TO 54'-0"

STA. 184+50 TO STA. 186+00
STA. 186+00 TO STA. 204+00
STA. 204+00 TO STA. 205+50

PROPOSED NORMAL TYPICAL SECTION

Ⓡ STA. 528+00.00 TO STA. 566+09.70 BACK	= 3809.70 FT.
STA. EQN. 566+09.70 BACK = 156+00.00 AHEAD	
STA. 156+00.00 AHEAD TO STA. 184+83.46	= 2883.46 FT.
Ⓡ STA. 312+00.00 TO STA. 335+96.21	= 2396.21 FT.
TOTAL	= 9089.37 FT.



▲ STA. 184+83.46 TO STA. 186+83.73 NB = 200.27 FT.
STA. 184+83.46 TO STA. 187+27.41 SB = 243.95 FT.
▲ STA. 190+97.34 TO STA. 197+76.13 NB = 678.79 FT.
STA. 191+31.09 TO STA. 197+83.84 SB = 652.75 FT.
▲ STA. 200+24.94 TO STA. 202+00.00 NB = 175.06 FT.
STA. 200+27.46 TO STA. 202+00.00 SB = 172.54 FT.

PROPOSED SUPERELEVATED TYPICAL SECTION

▲ STA. 184+83.46 TO STA. 202+00.00	= 1716.54 FT.
Ⓡ ◆ STA. 335+96.21 TO STA. 345+91.200	= 994.99 FT.
TOTAL	= 2711.53 FT.

*PROPOSED REFERENCE ITEMS 1, 2, 3, 5, 6 AND 21 ON THE PROPOSED TYPICAL SECTIONS ARE SHOWN FOR INFORMATIONAL PURPOSES. THE PROPOSED ROADWAY PAVEMENT BUILD-UP UTILIZED FOR THE PROJECT SHALL CONSIST OF EITHER A RIGID PAVEMENT BUILD-UP CONSISTING OF REFERENCE ITEM 21 - NON-REINFORCED CONCRETE PAVEMENT OR A FLEXIBLE PAVEMENT BUILD-UP CONSISTING OF REFERENCE ITEMS 1, 2, 3, 5, 6 ASPHALT CONCRETE PAVEMENT.

▲ ◆ SEE UNCURBED HIGH SIDE AND NORMAL LOW SIDE OF SUPERELEVATION DETAIL ON SHEET 23

Ⓡ SEE ROCK CUT TYPICAL SECTION ON SHEET 18 FOR LOCATIONS AND DETAILS.

DITCH BOTTOM TABLE FOR POST CONSTRUCTION STORM WATER MANAGEMENT

STATION FROM	STATION TO	LENGTH (FT.)	DITCH BOTTOM WIDTH	DITCH BOTTOM ROUNDING
531+25.00	561+20.00	2995.00	8'-0"	16'-0"
561+20.00	566+09.70 BK.	489.70	6'-0"	12'-0"
156+00.00 AHD.	161+90.00	590.00	8'-0'	16'-0"
161+90.00	172+50.00	1060.00	6'-0'	12'-0"
172+50.00	210+75.00	3825.00	8'-0"	16'-0"
210+75.00	215+75.00	500.00	6'-0"	12'-0"
241+05.00	267+00.00	2595.00	8'-0"	16'-0"
267+00.00	292+00.00	2500.00	6'-0"	12'-0"
292+00.00	325+00.00	3300.00	8'-0"	16'-0"
325+00.00	345+70.00	2070.00	6'-0"	12'-0"

PROPOSED ITEM LEGEND

*(1) ITEM 442 - 1½" ASPHALT CONCRETE SURFACE COURSE, 12.5mm, TYPE B (446), AS PER PLAN
*(2) ITEM 442 - 1¾" ASPHALT CONCRETE INTERMEDIATE COURSE, 19mm, TYPE B (446)
*(3) ITEM 302 - 8¾" ASPHALT CONCRETE BASE, PG64-22
(4) ITEM 304 - 6" AGGREGATE BASE, AS PER PLAN
*(5) ITEM 408- PRIME COAT (0.4 GAL./SY. YD. APP. RATE)
*(6) ITEM 407 - TACK COAT FOR INTERMEDIATE COURSE (0.04 GAL./SQ. YD.)
(7) ITEM 204 - PROOF ROLLING
(8) ITEM 408 - PRIME COAT, AS PER PLAN (0.4 GAL./SY. YD. APP. RATE)
(9) ITEM 617 - 2" COMPACTED AGGREGATE, AS PER PLAN
(10) ITEM 448 - 3" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 1, UNDER GUARDRAIL, PG64-22, AS PER PLAN
(11) ITEM 606 - GUARDRAIL, TYPE 5 (SEE PLAN FOR LOCATIONS)
(12) ITEM 609 - CONCRETE MEDIAN, AS PER PLAN
(13) ITEM 605 - 6" BASE PIPE UNDERDRAIN WITH FABRIC WRAP, 707.31 OR 707.41 (18" NORMAL DEPTH - SEE UNDERDRAIN SUMMARY FOR LOCATIONS)
(14) ITEM 659 - SEEDING AND MULCHING
(15) ITEM 526 - REINFORCED CONCRETE APPROACH SLAB, AS PER PLAN (T = AS SHOWN)
(16) HOT LONGITUDINAL JOINT
(17) ITEM 605 - 6" ROCK CUT UNDERDRAIN WITH FABRIC WRAP 707.31 OR 707.41 (30" NORMAL DEPTH AS SHOWN)
(18) ITEM 609 - CURB, TYPE 6
(19) ITEM 451 - 12" REINFORCED CONCRETE PAVEMENT
(20) ITEM 622 - CONCRETE BARRIER, SINGLE SLOPE, TYPE A
*(21) ITEM 888 - PORTLAND CEMENT CONCRETE PAVEMENT, 12" THICK (NON-REINFORCED PER 452)
(22) ITEM 206 - CEMENT STABILIZED SUBGRADE, 14" DEEP
(23) ITEM 206 - CEMENT
(24) ITEM 206 - CURING COAT
(25) ITEM 204 - SUBGRADE COMPACTION
(26) ITEM 605 - 6" DEEP PIPE UNDERDRAIN WITH FABRIC WRAP, 707.31 OR 707.41, AS PER PLAN (36" NORMAL DEPTH - SEE UNDERDRAIN SUMMARY FOR LOCATIONS)
(27) ITEM 605 - 6" SHALLOW PIPE UNDERDRAIN WITH FABRIC WRAP, 707.31 OR 707.41, (30" NORMAL DEPTH - SEE UNDERDRAIN SUMMARY FOR LOCATIONS)

[A] LONGITUDINAL JOINT PER BP-2.1 (FOR RIGID PAVEMENT ALTERNATE)
[B] LONGITUDINAL JOINT PER BP-2.1
[C] ITEM 615 - PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A, AS PER PLAN

NOTES:
1. SHOULDER RUMBLE STRIPS SHALL BE PROVIDED THROUGHOUT THE PROJECT LIMITS. SEE STANDARD CONSTRUCTION DRAWING BP-9.1 FOR DETAILS.
2. FOR SHOULDER EDGE COURSE AND UNDERDRAIN DESIGN, SEE DETAIL ON SHEET 23
3. TOTAL TYPICAL SECTION LENGTH INCLUDES BRIDGE LIMITS, APPROACH SLABS, AND PRESSURE RELIEF JOINT CONCRETE LOCATED WITHIN THESE LIMITS.
4. UNDERDRAINS SHALL BE INSTALLED AFTER THE CEMENT STABILIZATION.

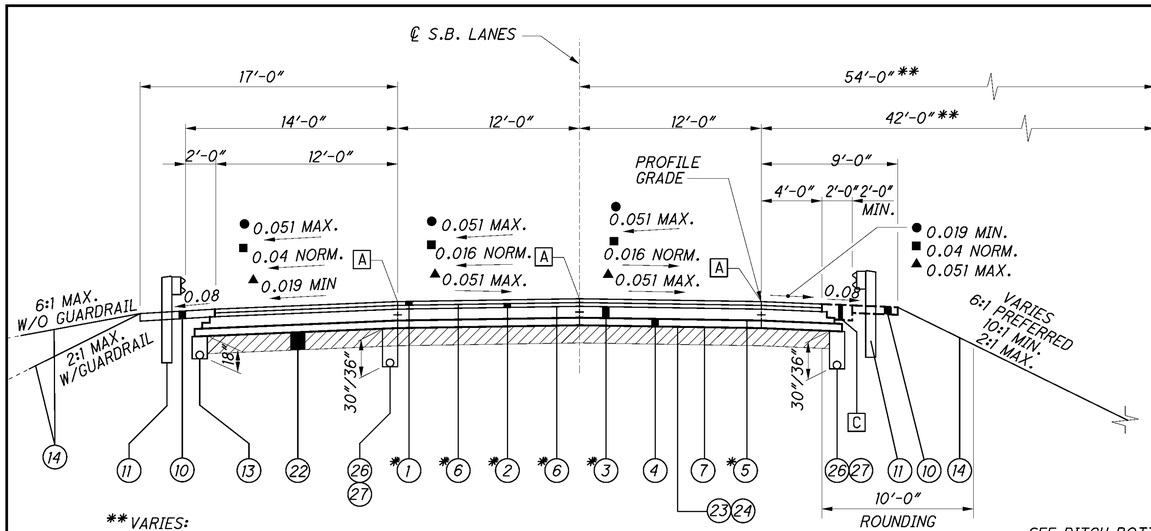
CALCULATED JDL
CHECKED PRS

PROPOSED TYPICAL SECTION IR 271

SUM-271-2.33

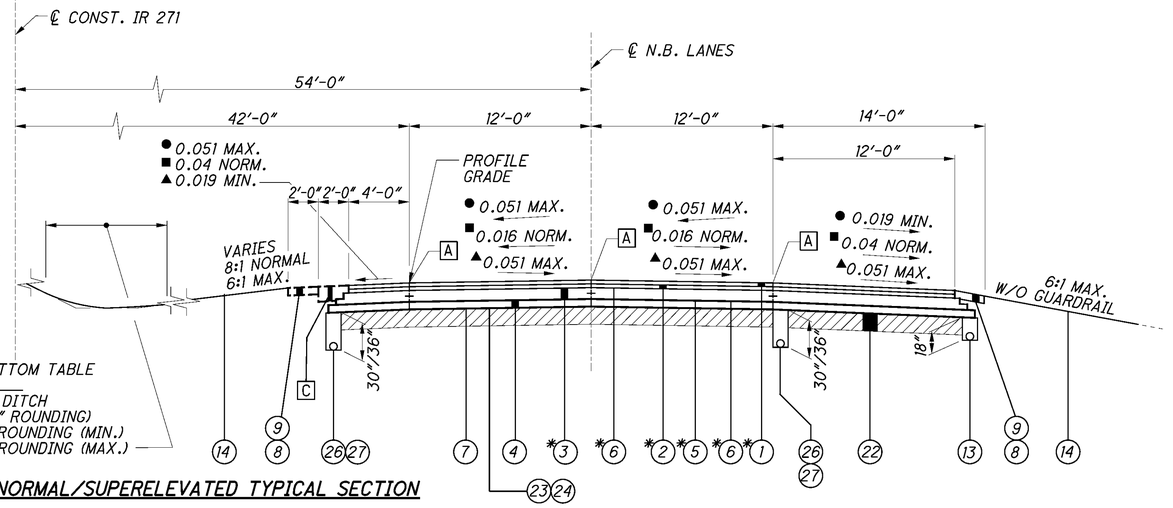
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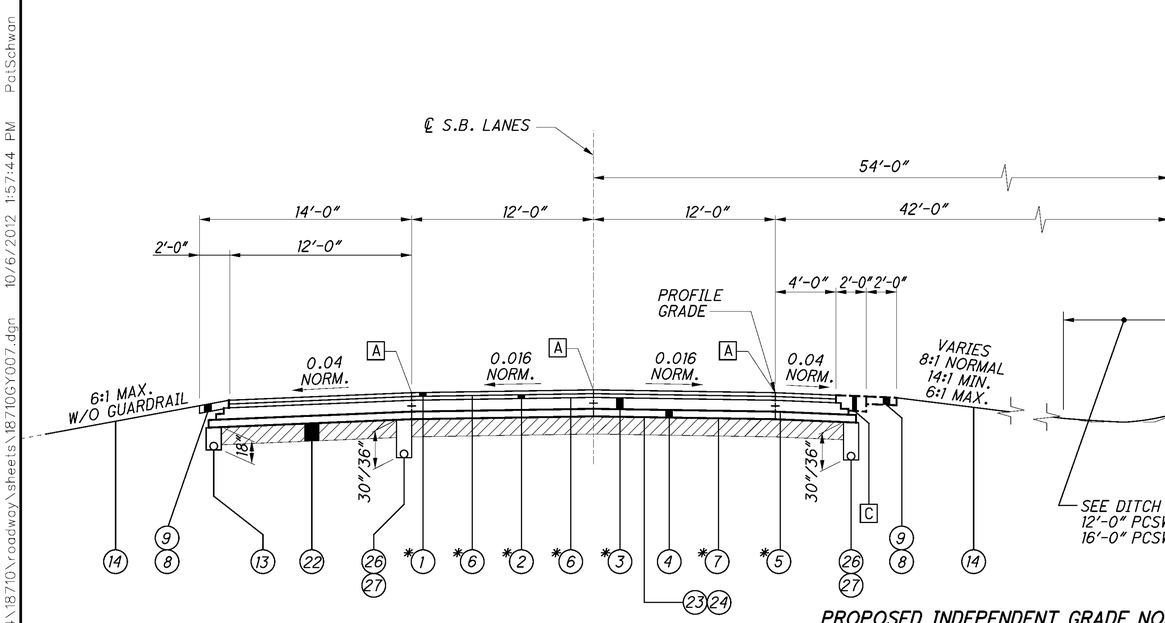
42'-0" TO 40'-0" AND 54'-0" TO 52'-0"	STA. 184+25 TO STA. 186+00
40'-0" AND 52'-0"	STA. 186+00 TO STA. 204+00
40'-0" TO 42'-0" AND 52'-0" TO 54'-0"	STA. 204+00 TO STA. 205+75



SEE DITCH BOTTOM TABLE ON SHEET 16
4'-0" NORMAL DITCH BOTTOM (8'-0" ROUNDING)
12'-0" PCSWM ROUNDING (MIN.)
16'-0" PCSWM ROUNDING (MAX.)

PROPOSED INDEPENDENT GRADE NORMAL/SUPERELEVATED TYPICAL SECTION

▲	STA. 202+00.00 TO STA. 205+29.60	=	329.60 FT.
■	STA. 205+29.60 TO STA. 221+00.67	=	1571.07 FT.
●	STA. 221+00.67 TO STA. 233+69.39	=	1268.72 FT.
■	STA. 233+69.39 TO STA. 246+50.00	=	1280.61 FT.
■	STA. 260+00.00 TO STA. 265+31.54	=	531.54 FT.
Ⓡ ●	STA. 265+31.54 TO STA. 303+04.89	=	3773.35 FT.
Ⓡ ■	STA. 303+04.89 TO STA. 312+00.00	=	895.11 FT.
	TOTAL	=	9650.00 FT.



SEE DITCH BOTTOM TABLE ON SHEET 16
12'-0" PCSWM ROUNDING (MIN.)
16'-0" PCSWM ROUNDING (MAX.)

PROPOSED INDEPENDENT GRADE NORMAL/SUPERELEVATED TYPICAL SECTION

STA. 246+50.00 TO STA. 260+00.00 = 1350.00 FT.

NOTES:

1. SOULDER RUMBLE STRIPS SHALL BE PROVIDED THROUGHOUT THE PROJECT LIMITS. SEE STANDARD CONSTRUCTION DRAWING BP-9.1 FOR DETAILS.
2. FOR SHOULDER EDGE COURSE AND UNDERDRAIN DESIGN, SEE DETAIL ON SHEET 23 .

   SEE UNCURBED HIGH SIDE AND NORMAL LOW SIDE OF SUPERELEVATION DETAIL ON SHEET 23 .

   FOR PROPOSED ITEM LEGEND SEE SHEET 16 .

   SEE ROCK CUT TYPICAL SECTION ON SHEET 18 . FOR LOCATIONS AND DETAILS.

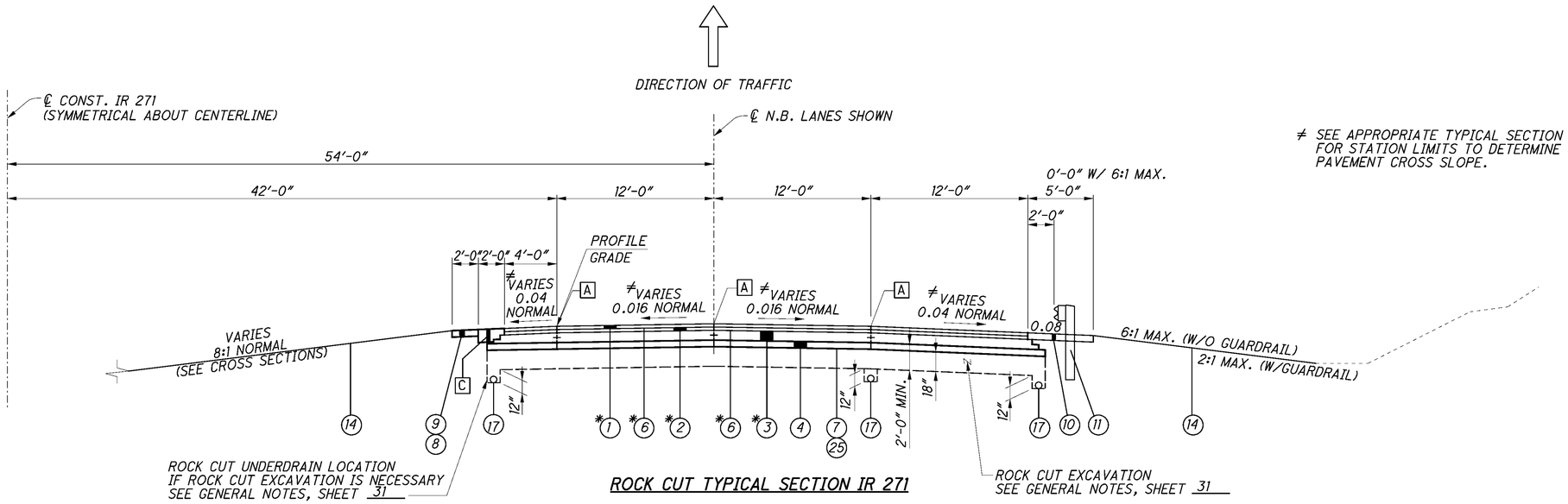
CALCULATED JDL
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PROPOSED TYPICAL SECTION IR 271

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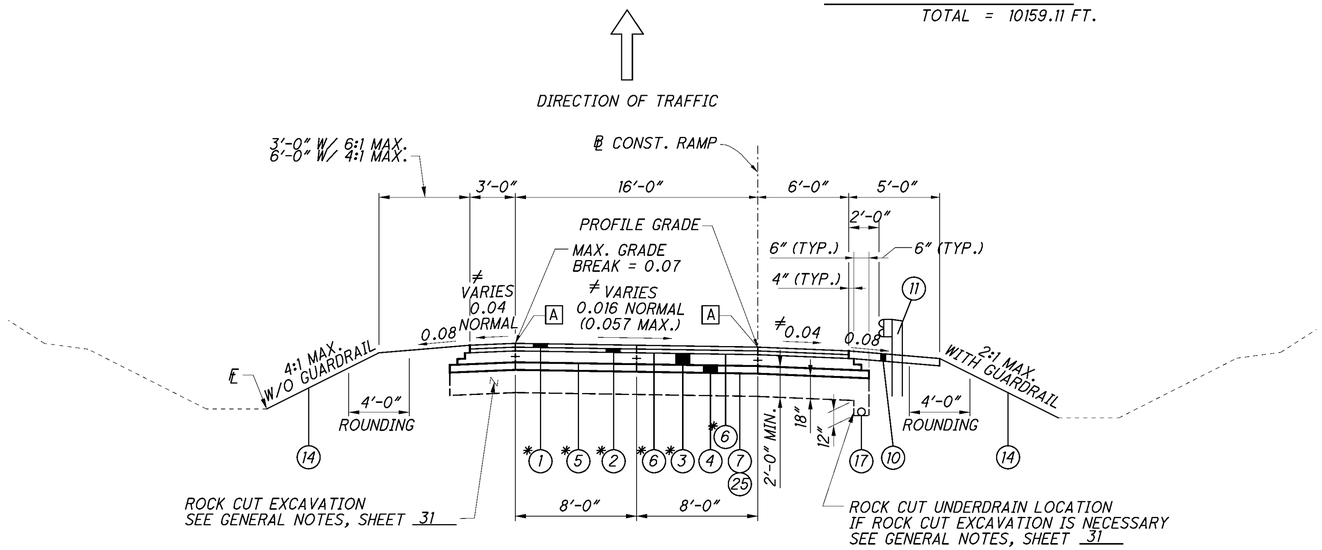


≠ SEE APPROPRIATE TYPICAL SECTION FOR STATION LIMITS TO DETERMINE PAVEMENT CROSS SLOPE.

ROCK CUT TYPICAL SECTION IR 271

(SEE ALSO PROPOSED NORMAL TYPICAL SECTIONS; PROPOSED SUPERELEVATED TYPICAL SECTIONS; AND PROPOSED INDEPENDENT GRADE NORMAL/ SUPERELEVATED TYPICAL SECTIONS FOR ADDITIONAL DETAILS)

N.B.	STA. 550+00.00	TO STA. 558+00.00 =	800.00 FT.
N.B.	STA. 270+00.00	TO STA. 290+00.00 =	2000.00 FT.
N.B.	STA. 302+00.00	TO STA. 308+00.00 =	600.00 FT.
N.B.	STA. 317+00.00	TO STA. 341+00.00 =	2400.00 FT.
S.B.	STA. 274+00.00	TO STA. 282+00.00 =	800.00 FT.
S.B.	STA. 298+00.00	TO STA. 306+00.00 =	800.00 FT.
S.B.	STA. 313+40.89	TO STA. 341+00.00 =	2759.11 FT.
		TOTAL =	10159.11 FT.



ROCK CUT RAMP TYPICAL SECTION (N.B. EXIT/ENTRANCE SHOWN)

(SEE ALSO PROPOSED NORTHBOUND EXIT/ENTRANCE RAMP TYPICAL SECTIONS; SOUTHBOUND EXIT/ENTRANCE RAMP TYPICAL SECTIONS)

℄ S.R. 303 RAMP E	STA. 306+57.93 TO STA. 315+00	=	842.07 FT.
℄ S.R. 303 RAMP F	STA. 305+42.35 TO STA. 306+00	=	57.47 FT.
℄ S.R. 303 RAMP G	STA. 311+50.00 TO STA. 313+41.69	=	191.69 FT.
		TOTAL =	1,091.23 FT.

NOTES:

1. SHOULDER RUMBLE STRIPS SHALL BE PROVIDED THROUGHOUT THE PROJECT LIMITS. SEE STANDARD CONSTRUCTION DRAWING BP-9.1 FOR DETAILS.
2. FOR SHOULDER EDGE COURSE AND UNDERDRAIN DESIGN, SEE DETAIL ON SHEET 23 .
3. CEMENT STABILIZATION SHALL NOT BE PERFORMED IN, ROCK CUT AREAS.

FOR PROPOSED ITEM LEGEND SEE SHEET 16 .

CALCULATED JDL
CHECKED PRS

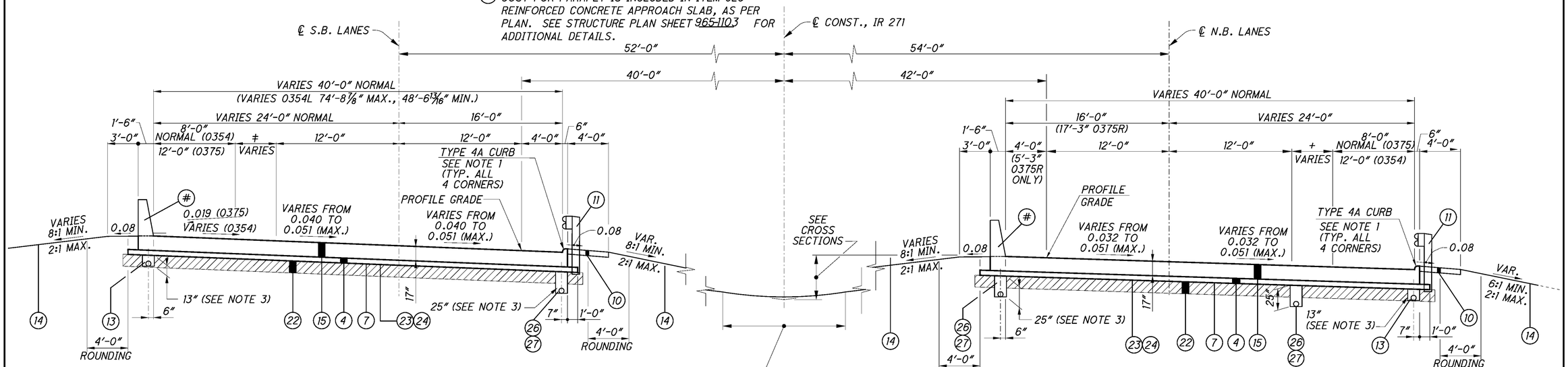
PROPOSED TYPICAL SECTION IR 271

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‡ SEE I.R. 77 RAMP EXIT TERMINAL DETAIL FOR PROPOSED CROSS SLOPE.

+ SEE I.R. 77 RAMP C ENTRANCE TERMINAL DETAIL FOR PROPOSED CROSS SLOPE.

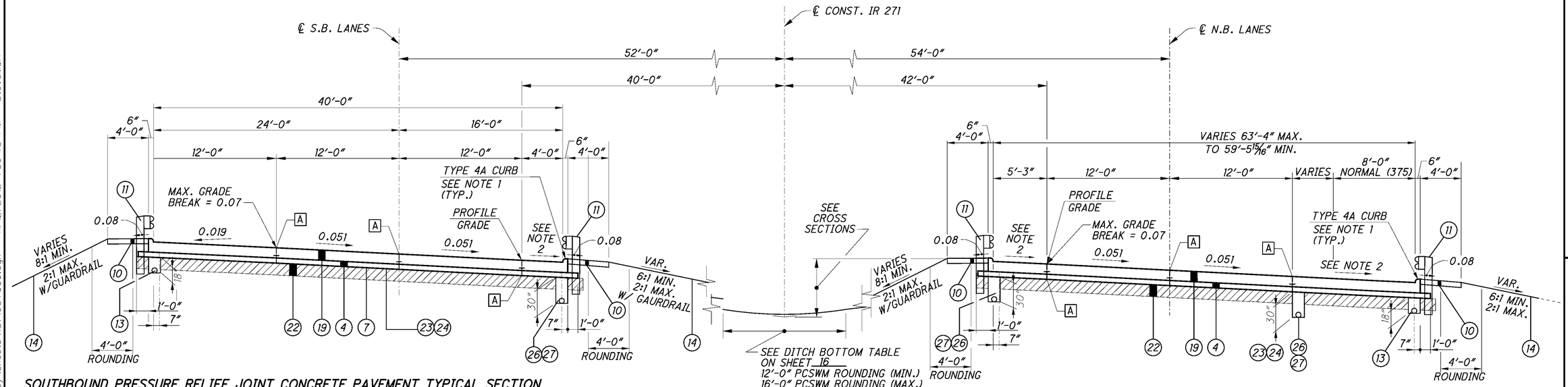


SOUTHBOUND 30' APPROACH SLAB TYPICAL SECTION

0354 LR	STA. 187+27.41	TO STA. 187+57.11	= 29.70 FT.	(MEASURED ALONG PROFILE GRADE)
0354 LF	STA. 191+01.40	TO STA. 191+31.10	= 29.70 FT.	(MEASURED ALONG PROFILE GRADE)
0375 LR	STA. 198+12.62	TO STA. 198+42.37	= 29.74 FT.	(MEASURED ALONG PROFILE GRADE)
0375 LF	STA. 199+69.11	TO STA. 199+98.78	= 29.67 FT.	(MEASURED ALONG PROFILE GRADE)
		TOTAL	= 118.81 FT.	

NORTHBOUND 30' APPROACH SLAB TYPICAL SECTION

0354 RR	STA. 186+83.73	TO STA. 187+13.75	= 30.02 FT.	(MEASURED ALONG PROFILE GRADE)
0354 RF	STA. 190+67.01	TO STA. 190+97.34	= 30.33 FT.	(MEASURED ALONG PROFILE GRADE)
0375 RR	STA. 198+05.53	TO STA. 198+35.91	= 30.38 FT.	(MEASURED ALONG PROFILE GRADE)
0375 RF	STA. 199+65.35	TO STA. 199+95.65	= 30.30 FT.	(MEASURED ALONG PROFILE GRADE)
		TOTAL	= 121.03 FT.	



SOUTHBOUND PRESSURE RELIEF JOINT CONCRETE PAVEMENT TYPICAL SECTION

0375 LR	STA. 197+83.84 TO STA. 198+12.62	= 28.78 FT.	(MEASURED ALONG PROFILE GRADE)	
	STA. 198+08.65 TO STA. 198+12.62 DEDUCT FOR TYPE A ASPHALT CONCRETE EXPANSION JOINT	= -3.97 FT.	(MEASURED ALONG PROFILE GRADE)	
0375 LF	STA. 199+98.78 TO STA. 200+27.46	= 28.68 FT.	(MEASURED ALONG PROFILE GRADE)	
	STA. 199+98.78 TO STA. 200+02.74 DEDUCT FOR TYPE A ASPHALT CONCRETE EXPANSION JOINT	= -3.96 FT.	(MEASURED ALONG PROFILE GRADE)	
	TOTAL	= 49.53 FT.		

NORTHBOUND PRESSURE RELIEF JOINT CONCRETE PAVEMENT TYPICAL SECTION

0375 RR	STA. 197+76.13 TO STA. 198+05.53	= 29.39 FT.	(MEASURED ALONG PROFILE GRADE)	
	STA. 198+01.47 TO STA. 198+05.53 DEDUCT FOR TYPE A ASPHALT CONCRETE EXPANSION JOINT	= -4.06 FT.	(MEASURED ALONG PROFILE GRADE)	
0375 RF	STA. 199+95.65 TO STA. 200+24.94	= 29.29 FT.	(MEASURED ALONG PROFILE GRADE)	
	STA. 199+95.65 TO STA. 199+99.70 DEDUCT FOR TYPE A ASPHALT CONCRETE EXPANSION JOINT	= -4.05 FT.	(MEASURED ALONG PROFILE GRADE)	
	TOTAL	= 50.57 FT.		

NOTES:

1. TRANSITION TYPE 4A CURB TO MATCH THE PARAPET ON BRIDGE. TAPER TYPE 4C OR 4A CURB FROM 0" TO 4" IN 10'-0" AT THE BEGINNING/END OF CONCRETE PRESSURE RELIEF JOINT PAVEMENT. SEE SHEET 774 FOR DETAILS.
2. TRANSITION PAVED AND GRADED SHOULDER CROSS SLOPES TO MEET APPROACH SLABS IN 70' ON HIGH END OF STRUCTURE. ON LOW END OF STRUCTURE SEE DRAINAGE DETAIL SHEET NO. 774
3. APPROACH SLAB UNDERDRAINS DIMENSIONED FOR THE SLAB DOWNHILL FROM EACH BRIDGE. UNDERDRAINS UPHILL FROM EACH BRIDGE WILL BE UNCLASSIFIED. UNDERDRAIN DEPTHS SHOWN COMPENSATE FOR APPROACH SLAB BUILDUP.

FOR PROPOSED ITEM LEGEND SEE SHEET 16 .

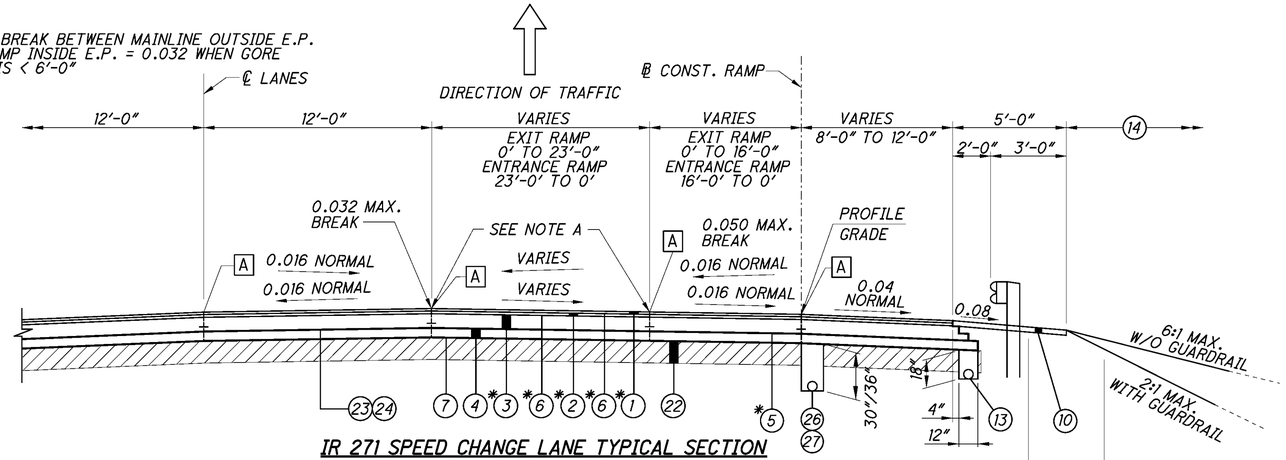
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PROPOSED TYPICAL SECTION IR 271

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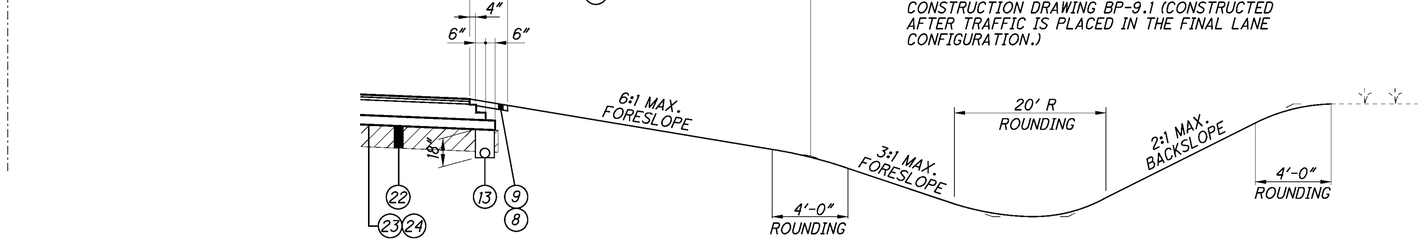
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NOTE A
TOTAL BREAK BETWEEN MAINLINE OUTSIDE E.P. AND RAMP INSIDE E.P. = 0.032 WHEN GORE WIDTH IS < 6'-0"



IR 271 SPEED CHANGE LANE TYPICAL SECTION

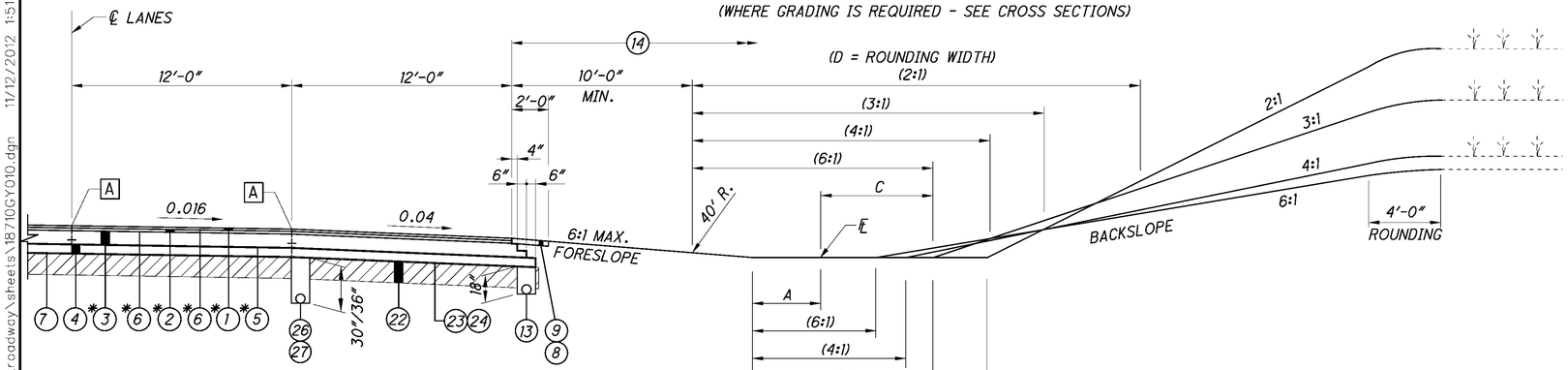
℄ BRECKSVILLE RD. RAMP A	STA. 540+57.11	TO STA. 557+64.49	= 1707.39
℄ BRECKSVILLE RD. RAMP B	STA. 548+58.07	TO STA. 556+59.31	= 801.24
℄ IR 77 RAMP A	STA. 158+38.87	TO STA. 174+34.34	= 1595.47
℄ IR 77 RAMP B	STA. 166+15.89	TO STA. 175+44.70	= 928.81
℄ IR 77 RAMP C	STA. 194+06.89	TO STA. 211+06.73	= 1699.84
℄ IR 77 RAMP D	STA. 187+60.32	TO STA. 195+50.93	= 790.61
℄ SR 303 RAMP E	STA. 298+58.60	TO STA. 306+58.74	= 800.14
℄ SR 303 RAMP F	STA. 288+12.30	TO STA. 305+44.72	= 1732.42
℄ SR 303 RAMP G	STA. 313+40.89	TO STA. 321+46.93	= 806.04
℄ SR 303 RAMP H	STA. 314+37.42	TO STA. 333+50.00	= 1912.58



MEDIUM FILL GRADING TYPICAL SECTION - OUTSIDE SHOULDER

(WHERE GRADING IS REQUIRED - SEE CROSS SECTIONS)

NOTES:
ITEM 618 SHOULDER RUMBLE STRIPS SHALL BE PROVIDED THROUGHOUT THE PROJECT LIMITS ON THE MAINLINE AS PER STANDARD CONSTRUCTION DRAWING BP-9.1 (CONSTRUCTED AFTER TRAFFIC IS PLACED IN THE FINAL LANE CONFIGURATION.)

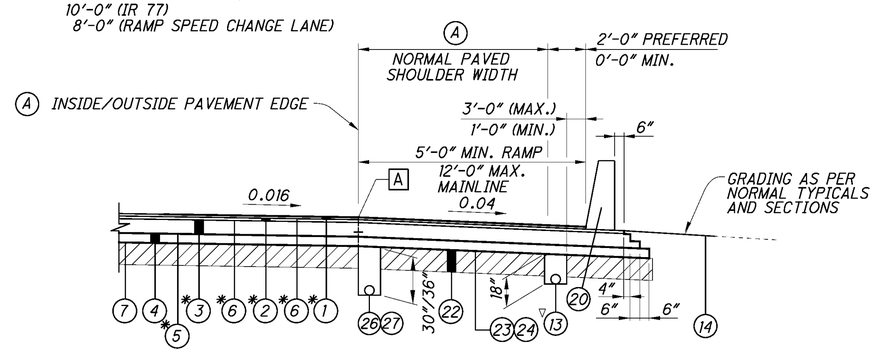


FORESLOPE			BACKSLOPE							
			6:1		4:1		3:1		2:1	
	A	C	B	D	B	D	B	D	B	D
6:1	3'-4"	6'-7"	6'-7"	13'-2"	8'-3"	16'-3"	9'-10"	19'-3"	12'-9"	24'-6"

CUT TYPICAL SECTION WITHOUT GUARDRAIL - MAINLINE OUTSIDE SHOULDER

(WHERE GRADING IS REQUIRED - SEE CROSS SECTIONS)

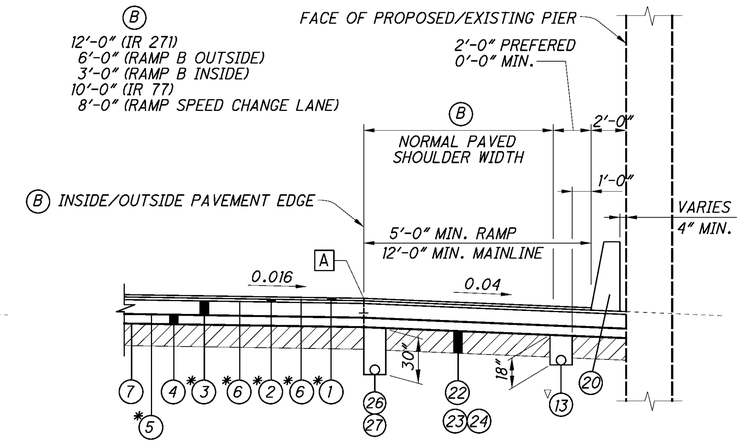
(A)
12'-0" (IR 271)
6'-0" (RAMP B OUTSIDE)
3'-0" (RAMP B INSIDE)
10'-0" (IR 77)
8'-0" (RAMP SPEED CHANGE LANE)



▽ UNDERDRAIN ON OUTSIDE EDGE OF PAVEMENT ONLY
FOR LOCATIONS SEE DETAIL SHEET 785

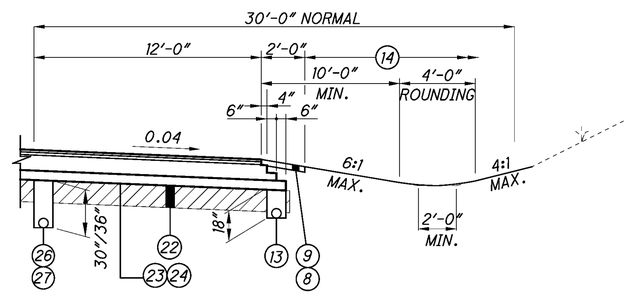
SHOULDER WITH CONCRETE BARRIER TYPICAL SECTION

(B)
12'-0" (IR 271)
6'-0" (RAMP B OUTSIDE)
3'-0" (RAMP B INSIDE)
10'-0" (IR 77)
8'-0" (RAMP SPEED CHANGE LANE)



▽ UNDERDRAIN ON OUTSIDE EDGE OF PAVEMENT ONLY
FOR LOCATIONS SEE DETAIL SHEET 785

SHOULDER WITH CONCRETE BARRIER AT PIER



SHALLOW DITCH CLEAR ZONE GRADING MAINLINE OUTSIDE SHOULDER

(WHERE GRADING IS REQUIRED - SEE CROSS SECTIONS)

FOR ITEM 622 - CONCRETE BARRIER TYPE D LOCATION TABLE SEE SHEET 23

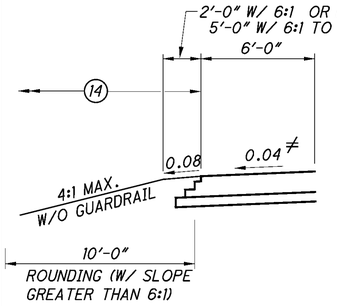
FOR PROPOSED ITEM LEGEND SEE SHEET 16

CALCULATED JDL
CHECKED PRS

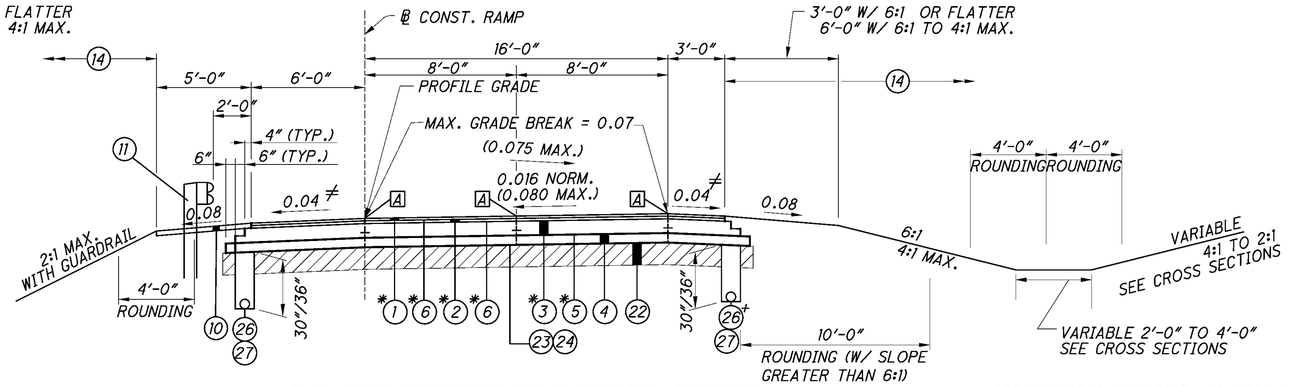
PROPOSED TYPICAL SECTION IR 271

SUM-271-2.33

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WITHOUT GUARDRAIL



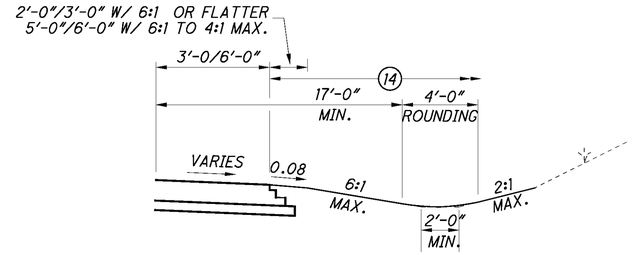
S.B. EXIT/ENTRANCE RAMP TYPICAL SECTION

℄	BRECKSVILLE ROAD RAMP A	STA.	57+63.10 TO STA.	66+03.54	= 840.44 FT.
℄	I.R. 77 RAMP A	STA.	174+32.32 TO STA.	199+11.47	= 2479.15 FT.
℄	I.R. 77 RAMP D	STA.	170+34.29 TO STA.	187+48.96	= 1714.67 FT.
Ⓡ ℄	S.R. 303 RAMP F	STA.	305+42.35 TO STA.	311+85.31	= 642.96 FT.
Ⓡ ℄	S.R. 303 RAMP G	STA.	307+65.29 TO STA.	313+42.05	= 576.76 FT.
				TOTAL	= 6253.98 FT.

≠ SEE UNCURBED HIGH SIDE AND NORMAL LOW SIDE OF SUPERELEVATION DETAILS ON SHEET 23

SEE SHEET 23 FOR ADDITIONAL SUPERELEVATION CROSS SLOPE BREAK DETAILS.

\+ LOW SIDE OF SUPERELEVATED RAMP LOCATIONS ONLY



SHALLOW DITCH CLEAR ZONE GRADING IR 77 RAMP B SHOULDER

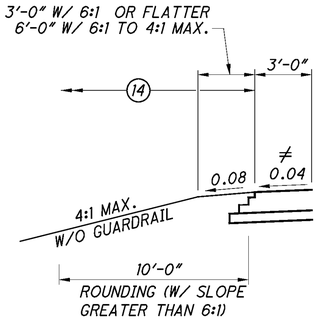
(WHERE GRADING IS REQUIRED - SEE CROSS SECTIONS)

NOTES:

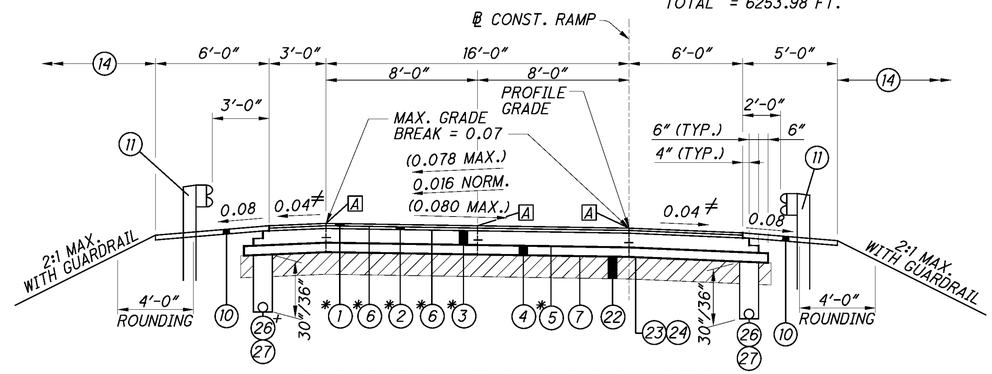
1. TRANSITION TYPE 4A CURB TO MATCH THE PARAPET ON BRIDGE. TAPER TYPE 4A CURB FROM 0" TO 4" IN 10'-0" AT THE BEGINNING/END OF CONCRETE PRESSURE RELIEF JOINT PAVEMENT. SEE SHEET 775 FOR DETAILS.
2. TRANSITION PAVED AND GRADED SHOULDER CROSS SLOPES TO MEET APPROACH SLABS IN 35' ON HIGH END OF STRUCTURE. ON LOW END OF STRUCTURE SEE DRAINAGE DETAIL SHEET NO. 775 .
3. APPROACH SLAB UNDERDRAINS DIMENSIONED FOR THE SLAB DOWNHILL FROM EACH BRIDGE. UNDERDRAINS UPHILL FROM EACH BRIDGE WILL BE UNCLASSIFIED. UNDERDRAIN DEPTHS SHOWN COMPENSATE FOR APPROACH SLAB BUILDUP.

FOR PROPOSED ITEM LEGEND SEE SHEET 16 .

Ⓡ SEE ROCK CUT TYPICAL SECTION ON SHEET 18 FOR LOCATIONS AND DETAILS.

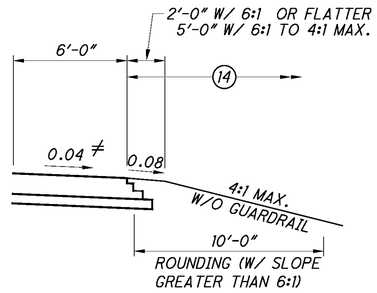


WITHOUT GUARDRAIL

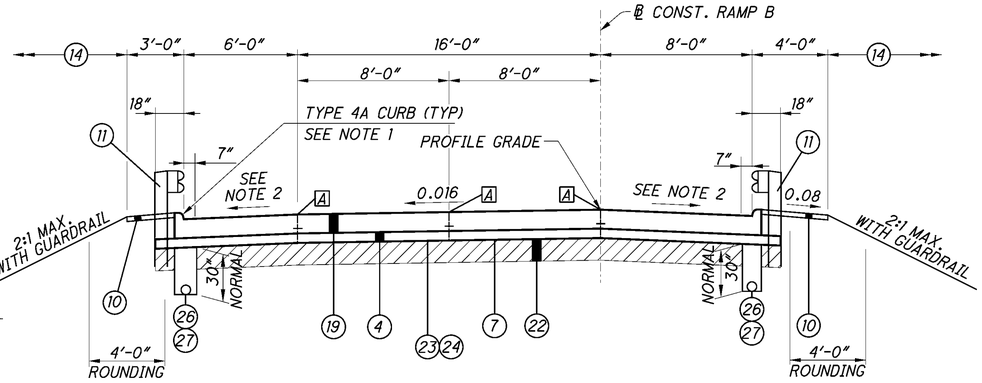


N.B. EXIT/ENTRANCE RAMP TYPICAL SECTION

℄	BRECKSVILLE ROAD RAMP B	STA.	56+58.48 TO STA.	62+36.01	= 577.53 FT.
℄	I.R. 77 RAMP B	STA.	175+43.90 TO STA.	185+27.09	= 983.19 FT.
℄	I.R. 77 RAMP B	STA.	189+57.13 TO STA.	218+56.90	= 2899.77 FT.
℄	I.R. 77 RAMP C	STA.	186+00.00 TO STA.	194+14.80	= 814.80 FT.
Ⓡ ℄	S.R. 303 RAMP E	STA.	306+57.94 TO STA.	316+01.86	= 943.92 FT.
℄	S.R. 303 RAMP H	STA.	308+01.67 TO STA.	314+40.42	= 638.75 FT.
				TOTAL	= 6857.96 FT.



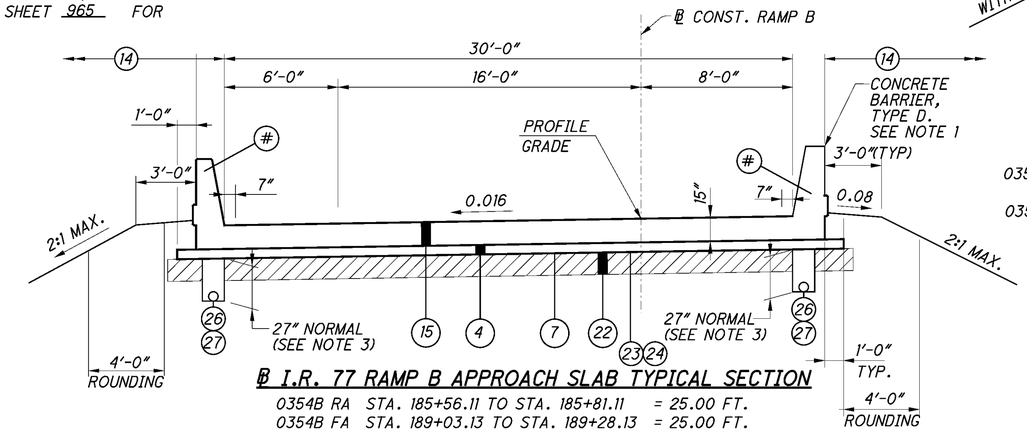
WITHOUT GUARDRAIL



℄ I.R. 77 RAMP B PRESSURE RELIEF JOINT CONCRETE PAVEMENT TYPICAL

0354B RA	STA. 185+27.09 TO STA. 185+56.11		= 29.02 FT.
	STA. 185+52.09 TO STA. 185+56.11	DEDUCT FOR TYPE A ASPHALT CONCRETE EXPANSION JOINT	= -4.02 FT.
0354B FA	STA. 189+28.13 TO STA. 189+57.15		= 29.02 FT.
	STA. 189+28.13 TO STA. 189+32.15	DEDUCT FOR TYPE A ASPHALT CONCRETE EXPANSION JOINT	= -4.02 FT.
		TOTAL	= 50.00 FT.

(#) COST FOR PARAPET IS INCLUDED IN ITEM 526 REINFORCED CONCRETE APPROACH SLAB, AS PER PLAN. SEE STRUCTURE PLAN SHEET 965 FOR ADDITIONAL DETAILS.



℄ I.R. 77 RAMP B APPROACH SLAB TYPICAL SECTION

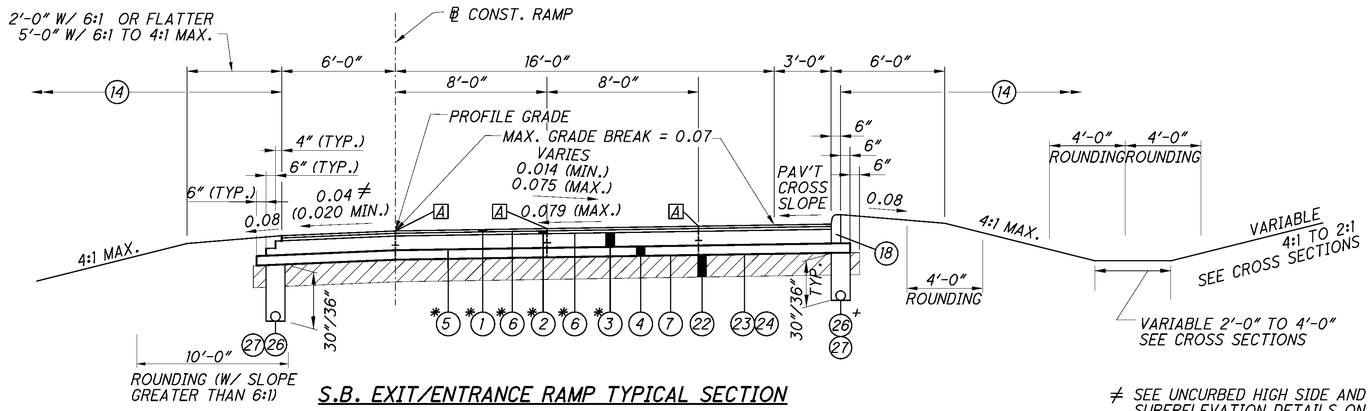
0354B RA	STA. 185+56.11 TO STA. 185+81.11	= 25.00 FT.
0354B FA	STA. 189+03.13 TO STA. 189+28.13	= 25.00 FT.
	TOTAL	= 50.00 FT.

CALCULATED JDL
CHECKED PRS

PROPOSED RAMP TYPICAL SECTIONS

SUM-271-2.33

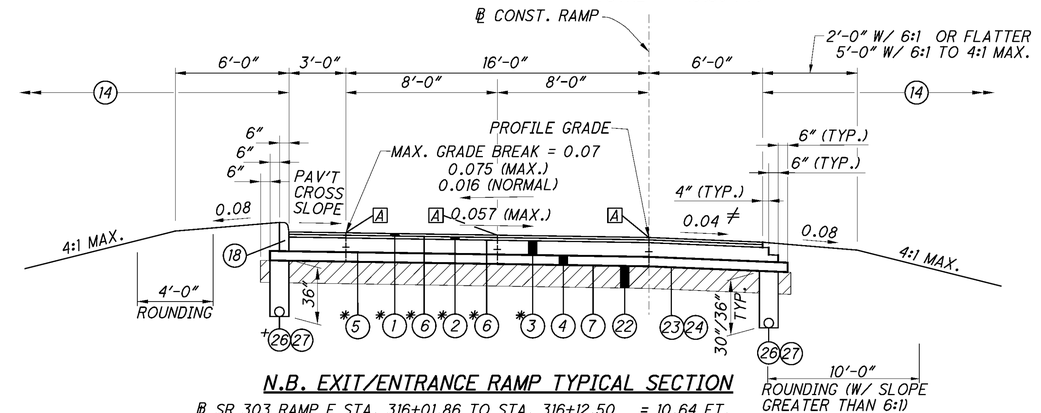
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S.B. EXIT/ENTRANCE RAMP TYPICAL SECTION

℄ SR 303 RAMP F STA. 311+85.31 TO STA. 311+95.31 = 10.00 FT.
℄ SR 303 RAMP G STA. 307+55.99 TO STA. 307+65.29 = 9.30 FT.

TOTAL = 19.30 FT.



N.B. EXIT/ENTRANCE RAMP TYPICAL SECTION

℄ SR 303 RAMP E STA. 316+01.86 TO STA. 316+12.50 = 10.64 FT.
℄ SR 303 RAMP H STA. 307+92.38 TO STA. 308+01.67 = 9.29 FT.

TOTAL = 19.93 FT.

≠ SEE UNCURBED HIGH SIDE AND NORMAL LOW SIDE OF SUPERELEVATION DETAILS ON SHEET 23 .

SEE SHEET 23 FOR ADDITIONAL SUPERELEVATION CROSS SLOPE BREAK DETAILS.

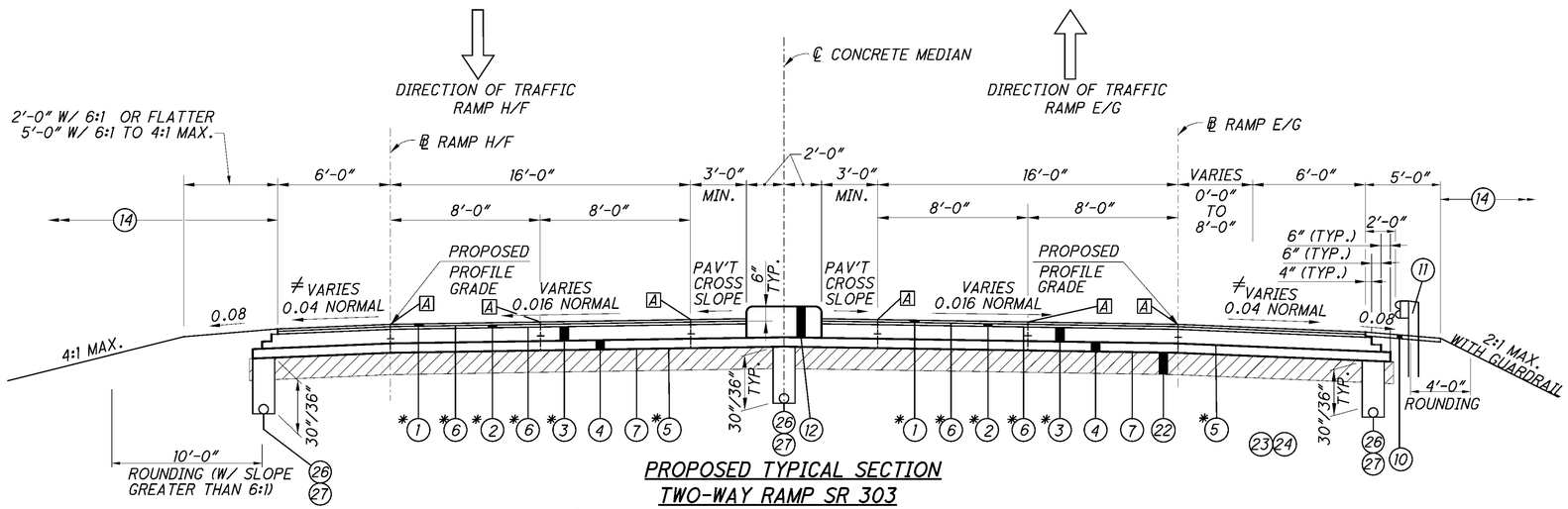
\+ ON LOW SIDE OF SUPERELEVATED RAMP LOCATION ONLY

NOTE:

1. SEE EXISTING TYPICAL SECTIONS FOR EXISTING PAVEMENT BUILD-UP.
2. NORMAL TYPICAL SECTION SHOWN. FOR SUPERELEVATED CROSS SLOPES SEE SUPERELEVATION TABLES.

FOR PROPOSED ITEM LEGEND SEE SHEET 16 .

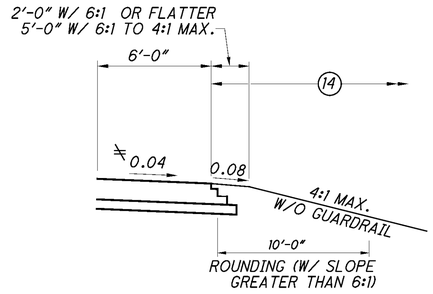
Ⓡ SEE ROCK CUT TYPICAL SECTION ON SHEET 18 FOR LOCATIONS AND DETAILS.



PROPOSED TYPICAL SECTION
TWO-WAY RAMP SR 303

℄ SR 303 RAMP F STA. 311+95.32 TO STA. 314+98.28 = 302.97 FT.
℄ SR 303 RAMP G STA. 304+76.86 TO STA. 307+55.99 = 279.17 FT.
℄ SR 303 RAMP E STA. 316+12.50 TO STA. 319+60.86 = 348.36 FT.
℄ SR 303 RAMP H STA. 304+71.89 TO STA. 307+92.38 = 320.49 FT.

TOTAL = 1250.99 FT.



WITHOUT GUARDRAIL

CALCULATED JDL
CHECKED PRS

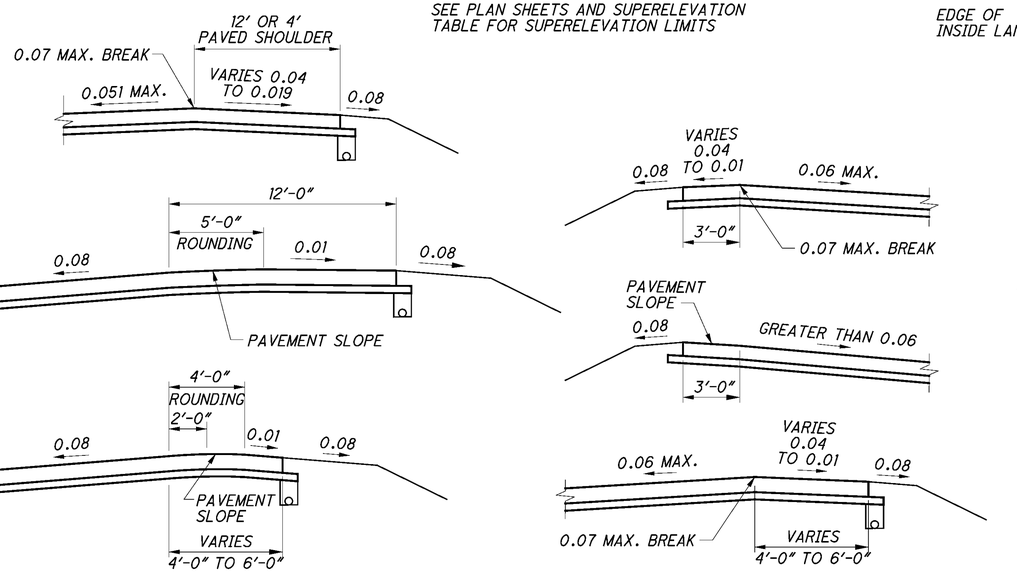
PROPOSED RAMP TYPICAL SECTIONS

SUM-271-2.33

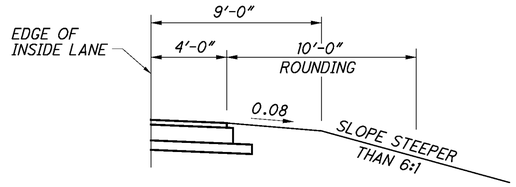
22
1195

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SEE PLAN SHEETS AND SUPERELEVATION TABLE FOR SUPERELEVATION LIMITS

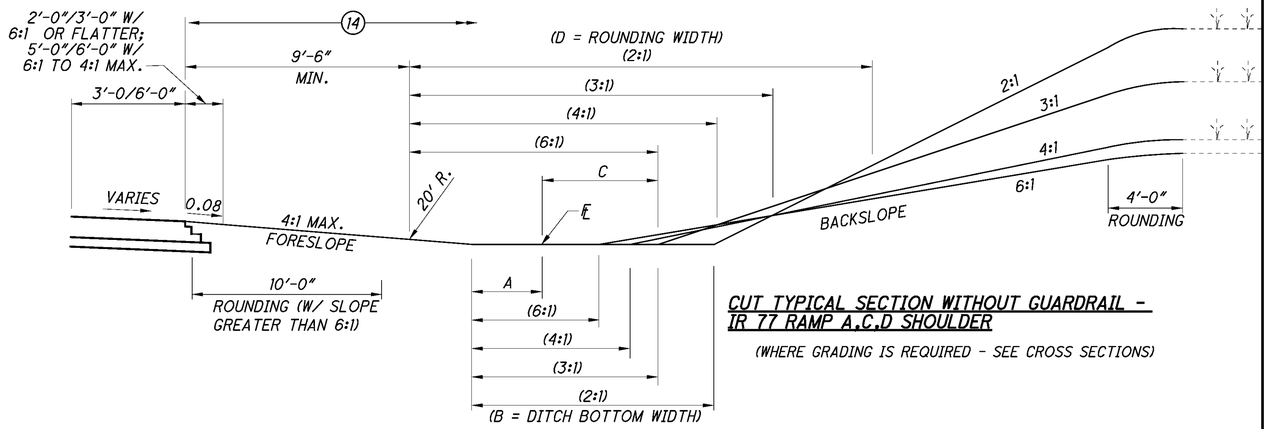


UNCURBED HIGH SIDE OF SUPERELEVATED SECTION DETAILS



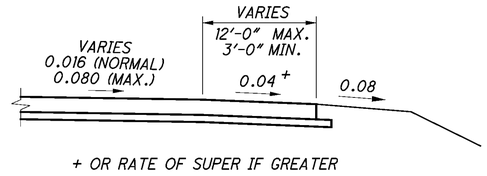
INSIDE GRADED SHOULDER

FORE-SLOPE			BACKSLOPE							
			6:1		4:1		3:1		2:1	
	A	C	B	D	B	D	B	D	B	D
20' RADIUS - SR 11 RAMPS AND ADJACENT MAINLINE AS MARKED										
8:1	1'-3"	2'-6"	2'-11"	5'-9"	3'-8"	7'-4"	4'-6"	8'-10"		
6:1	1'-8"	3'-3"	3'-4"	6'-7"	4'-1"	8'-2"	4'-11"	9'-7"		
4:1	2'-6"	4'-10"	4'-1"	8'-2"	4'-11"	9'-8"				



CUT TYPICAL SECTION WITHOUT GUARDRAIL - IR 77 RAMP A,C,D SHOULDER

(WHERE GRADING IS REQUIRED - SEE CROSS SECTIONS)

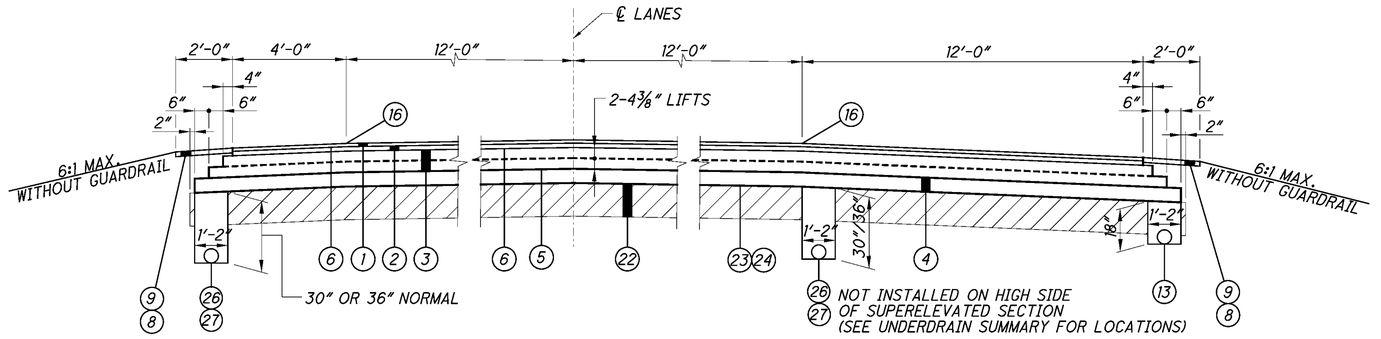


+ OR RATE OF SUPER IF GREATER

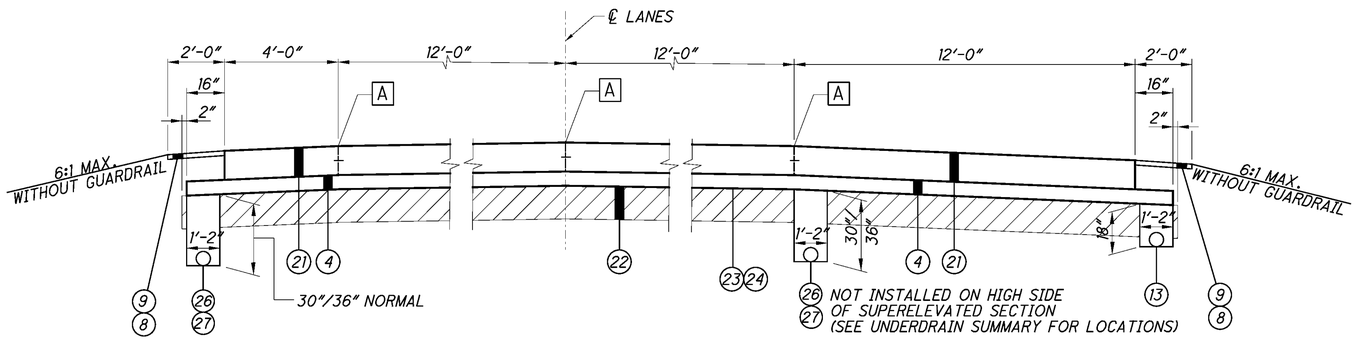
NORMAL LOW SIDE OF SUPERELEVATED SECTION DETAIL

ITEM 622 - CONCRETE BARRIER, SINGLE SLOPE, TYPE D LOCATIONS								
SHEET NO.	REFERENCE NO.	STATION		SIDE	DIRECTION	622		
						CONCRETE BARRIER, SINGLE SLOPE, TYPE D	CONCRETE BARRIER, END SECTION, TYPE D, REINFORCED	CONCRETE BARRIER, END ANCHOR, REINFORCED, TYPE D
		FROM	TO			FT.	EACH	EACH
	4-GR	53+56.00	54+55.00	RT.	NBO	70.00	1	1
	6-GR	563+88.00	564+47.00	RT.	NBO	30.00	1	1
	9-GR	565+72.00	564+47.00	LT.	SBO	30.00	1	1
	37-GR	54+61.00	564+47.00	LT.	RAMP A	20.00	1	1
	40-GR	200+70.56	564+47.00	RT.	RAMP 77B	175.00	1	1
	41-GR	200+61.64	564+47.00	LT.	RAMP 77B	175.00	1	1
	46-GR	315+65.52	564+47.00	LT.	RAMP G	65.00	1	1
	47-GR	316+24.00	564+47.00	RT.	RAMP H	60.00	1	1
	49-GR	911+37.00	564+47.00	LT.	IR 77	30.00	1	1
	50-GR	915+60.54	564+47.00	LT.	IR 77	191.15	2	
	51-GR	185+97.05	564+47.00	RT.	IR 77	75.00	1	1
	52-GR	916+48.00	564+47.00	RT.	IR 77	185.00	1	1

SEE GUARDRAIL SUBSUMMARY ON SHEET 242 FOR BARRIER QUANTITIES CARRIED TO GENERAL SUMMARY



FLEXIBLE PAVEMENT EDGE COURSE DESIGN



RIGID PAVEMENT EDGE COURSE DESIGN

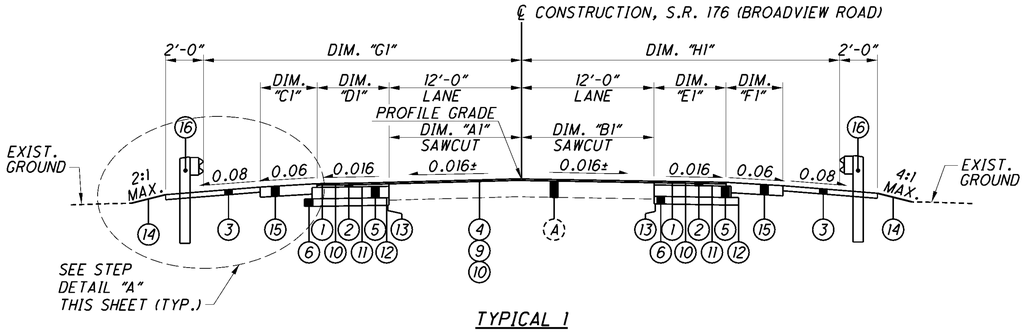
FOR PROPOSED ITEM LEGEND SEE SHEET 16

CALCULATED JDL CHECKED PRS

PROPOSED TYPICAL SECTION DETAILS

SUM-271-2.33

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TYPICAL 1
WIDENING SECTION - FULL DEPTH PAVEMENT - S.R. 176 (BROADVIEW ROAD)

STA. 85+34.43 TO STA. 86+56.35 = 121.92 FT.
STA. 91+16.85 TO STA. 92+14.98 = 98.13 FT.
220.05 FT.

DIM. "A1"
FROM 11'-0" @ STA. 85+34.43 TO 11'-0" @ STA. 86+56.35
FROM 14'-0" @ STA. 91+16.85 TO 14'-0" @ STA. 91+26.05

DIM. "B1"
FROM 11'-0" @ STA. 86+34.88 TO 11'-0" @ STA. 86+56.35
FROM 12'-0" @ STA. 91+16.85 TO 12'-0" @ STA. 92+14.98

DIM. "C1"
FROM 6'-0" @ STA. 85+34.43 TO 6'-0" @ STA. 85+99.52
FROM 6'-0" @ STA. 85+99.52 TO 5'-4" @ STA. 86+16.31
FROM 5'-4" @ STA. 86+16.31 TO 0'-1" @ STA. 86+53.62
FROM 0'-1" @ STA. 86+53.62 TO 0'-0" @ STA. 86+56.35
FROM 0'-0" @ STA. 91+16.85 TO 0'-6" @ STA. 91+19.48
FROM 0'-6" @ STA. 91+19.48 TO 2'-6" @ STA. 91+26.05
FROM 2'-6" @ STA. 91+26.05 TO 6'-0" @ STA. 91+83.57
FROM 6'-0" @ STA. 91+83.57 TO 6'-0" @ STA. 92+14.98

DIM. "D1"
FROM 2'-1" @ STA. 85+34.43 TO 7'-0" @ STA. 86+56.35
FROM 4'-0" @ STA. 91+16.85 TO 2'-2" @ STA. 91+26.05

DIM. "E1"
FROM 2'-8" @ STA. 86+34.88 TO 7'-0" @ STA. 86+56.35
FROM 6'-0" 2 STA. 91+16.85 TO 2'-1" @ STA. 92+14.98

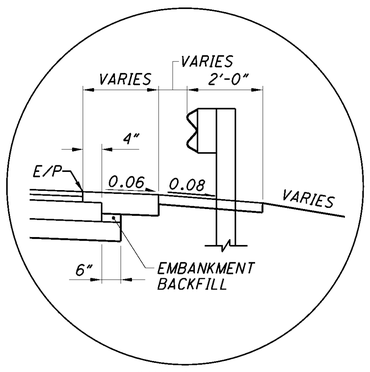
DIM. "F1"
FROM 6'-0" @ STA. 85+34.43 TO 6'-0" @ STA. 86+34.87
FROM 6'-0" @ STA. 86+34.87 TO 4'-4" @ STA. 86+41.02
FROM 4'-4" @ STA. 86+41.02 TO 0'-6" @ STA. 86+53.62
FROM 0'-6" @ STA. 86+53.62 TO 0'-0" @ STA. 86+56.35
FROM 0'-0" @ STA. 91+16.85 TO 0'-1" @ STA. 91+19.48
FROM 0'-1" @ STA. 91+19.48 TO 6'-0" @ STA. 91+61.49
FROM 6'-0" @ STA. 91+16.49 TO 6'-0" @ STA. 92+14.98

DIM. "G1"
FROM 21'-9" @ STA. 85+66.31 TO 21'-9" @ STA. 86+16.31
FROM 21'-9" @ STA. 86+16.31 TO 18'-0" @ STA. 86+53.62
FROM 18'-0" @ STA. 86+53.62 TO 18'-0" @ STA. 86+56.35
FROM 18'-0" @ STA. 91+16.85 TO 18'-0" @ STA. 91+19.48
FROM 18'-0" @ STA. 91+19.48 TO 25'-5" @ STA. 92+07.91
FROM 25'-5" @ STA. 92+07.91 TO 25'-5" @ STA. 92+59.28

DIM. "H1"
FROM 21'-9" @ STA. 85+41.31 TO 21'-9" @ STA. 86+16.31
FROM 21'-9" @ STA. 86+16.31 TO 18'-0" @ STA. 86+53.62
FROM 18'-0" @ STA. 86+53.62 TO 18'-0" @ STA. 86+56.35
FROM 18'-0" @ STA. 91+16.85 TO 18'-0" @ STA. 91+19.48
FROM 18'-0" @ STA. 91+19.48 TO 23'-1" @ STA. 91+68.96
FROM 23'-1" @ STA. 91+68.96 TO 23'-1" @ STA. 92+17.80

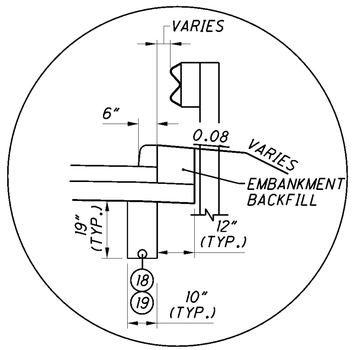
NOTE:

MILL AND OVERLAY FROM 16'-2" @ STA. 91+26.05, LT. TO 17'-6" @ STA. 92+14.98, LT.
MILL AND OVERLAY FROM 13'-1" @ STA. 85+34.43, RT. TO 13'-8" @ STA. 86+34.88, RT.



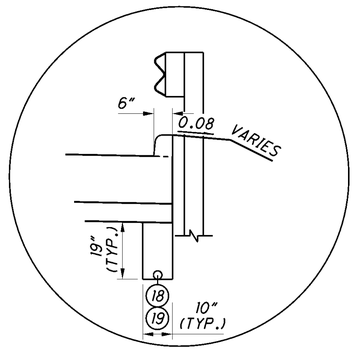
DETAIL "A"
BASE AND SUBBASE STEP DETAIL

(APPLIES AT ALL LOCATIONS WITH PAVEMENT WIDENING, AGGREGATE SHOULDER AND PAVING UNDER GUARDRAIL RIGHT SIDE SHOWN, LEFT SIMILAR)



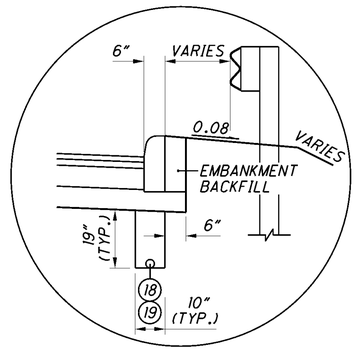
DETAIL "B"
BASE AND SUBBASE STEP DETAIL

(APPLIES AT ALL LOCATIONS WITH FULL DEPTH PAVEMENT RIGHT SIDE SHOWN, LEFT SIMILAR)



DETAIL "C"
APPROACH SLAB BASE STEP DETAIL

(APPLIES AT ALL LOCATIONS WITH APPROACH SLAB AND GUARDRAIL RIGHT SIDE SHOWN, LEFT SIMILAR)



DETAIL "D"
BASE AND SUBBASE STEP DETAIL

(APPLIES AT ALL LOCATIONS WITH PAVEMENT WIDENING AND CURB RIGHT SIDE SHOWN, LEFT SIMILAR)

SUPERELEVATION TABLE - S.R. 176 (BROADVIEW ROAD)

P.I. Station 92+91.95 Dc = 5° 59' 40"

LEFT SIDE								CENTERLINE CONTROL		RIGHT SIDE								
EDGE OF SHOULDER ELEVATION	ELEVATION CORRECTION	CROSS SLOPE	SHOULDER WIDTH	EDGE OF PAVEMENT ELEVATION	ELEVATION CORRECTION	CROSS SLOPE	PAVEMENT WIDTH	STATION	PROFILE GRADE	PAVEMENT WIDTH	CROSS SLOPE	ELEVATION CORRECTION	EDGE OF PAVEMENT ELEVATION	SHOULDER WIDTH	CROSS SLOPE	ELEVATION CORRECTION	EDGE OF SHOULDER ELEVATION	REMARKS	
1261.27	-0.10	-0.016	6.00	1261.37	-0.19	-0.016	12.00	89+50.00	1261.56	12.00	-0.016	-0.19	1261.37	6.00	-0.016	-0.06	1261.30	N.C.	(PER RECORD PLANS)
1261.40	-0.10	-0.016	6.00	1261.50	-0.19	-0.016	12.00	89+75.00	1261.69	12.00	-0.010	-0.12	1261.57	6.00	-0.010	-0.04	1261.52		
1261.48	-0.10	-0.016	6.00	1261.58	-0.19	-0.016	12.00	90+00.00	1261.77	12.00	-0.005	-0.06	1261.71	6.00	-0.005	-0.03	1261.68		
1261.51	-0.10	-0.016	6.00	1261.61	-0.19	-0.016	12.00	90+25.00	1261.80	12.00	0.000	0.00	1261.80	6.00	0.000	0.00	1261.80	½ LEVEL	
1261.50	-0.10	-0.016	6.00	1261.60	-0.19	-0.016	12.00	90+50.00	1261.79	12.00	+0.006	+0.07	1261.86	6.00	+0.006	+0.04	1261.90		
1261.49	-0.10	-0.016	6.00	1261.59	-0.19	-0.016	12.00	90+62.85	1261.78	12.00	+0.009	+0.11	1261.89	6.00	+0.009	+0.06	1261.95	BEGIN APP. SLAB	
1261.39	-0.11	-0.019	6.00	1261.51	-0.22	-0.019	12.00	90+75.00	1261.73	12.00	+0.009	+0.11	1261.84	6.00	+0.009	+0.06	1261.90		
1261.31	-0.13	-0.022	6.00	1261.44	-0.26	-0.022	12.00	90+87.85	1261.70	12.00	+0.010	+0.11	1261.81	6.00	+0.010	+0.06	1261.87	END APP. SLAB	
1261.28	-0.06	-0.009	6.00	1261.34	-0.29	-0.024	12.00	91+00.00	1261.63	12.00	+0.010	+0.12	1261.75	6.00	+0.003	+0.02	1261.77		**
1261.25	+0.05	+0.008	6.00	1261.20	-0.34	-0.028	12.00	91+16.85	1261.54	12.00	+0.010	+0.12	1261.66	6.00	-0.007	-0.04	1261.62	TIE-IN	
			* NEGATIVE CORRECTIONS MEANING BELOW PROFILE GRADE, POSITIVE CORRECTIONS MEANING ABOVE PROFILE GRADE.																
			** TRANSITION TO EXISTING GRADE, TIE-IN AT STA. 91+16.85.																

SIDEROAD LEGEND

1. *ITEM 448 1 1/4" ASPHALT CONCRETE SURFACE COURSE, TYPE 1, PG64-22, AS PER PLAN*
2. *ITEM 448 1 3/4" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, PG64-22*
3. *ITEM 448 3" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 1, UNDER GUARDRAIL, PG64-22, AS PER PLAN*
4. *ITEM 448 2" ASPHALT CONCRETE SURFACE COURSE, TYPE 1, PG64-22, AS PER PLAN*
5. *ITEM 301 9" ASPHALT CONCRETE BASE, PG64-22*
6. *ITEM 304 6" AGGREGATE BASE, AS PER PLAN*
7. *ITEM 452 9" NON-REINFORCED CONCRETE PAVEMENT*
8. *ITEM 526 REINFORCED CONCRETE APPROACH SLAB (T=15"), AS PER PLAN*
9. *ITEM 254 2" PAVEMENT PLANING*
10. *ITEM 407 TACK COAT, APPLIED @ 0.075 GAL./SQ. YD.*
11. *ITEM 407 TACK COAT FOR INTERMEDIATE COURSE, APPLIED @ 0.04 GAL./SQ. YD.*
12. *ITEM 408 PRIME COAT, APPLIED @ 0.40 GAL./SQ. YD.*
13. *ITEM 204 SUBGRADE COMPACTION & PROOF ROLLING*
14. *ITEM 659 SEEDING AND MULCHING*
15. *ITEM 617 2" COMPACTED AGGREGATE, AS PER PLAN*
16. *ITEM 606 GUARDRAIL, TYPE 5*
17. *ITEM 606 BRIDGE TERMINAL ASSEMBLY, TYPE 1*
18. *ITEM 605 6" SHALLOW PIPE UNDERDRAIN WITH FABRIC WRAP, 707.31 OR 707.41*
19. *ITEM 605 6" UNCLASSIFIED PIPE UNDERDRAIN WITH FABRIC WRAP, 707.31 OR 707.41*
20. *ITEM 609 CURB, TYPE 4A*
21. *ITEM 609 CURB, TYPE 4C*

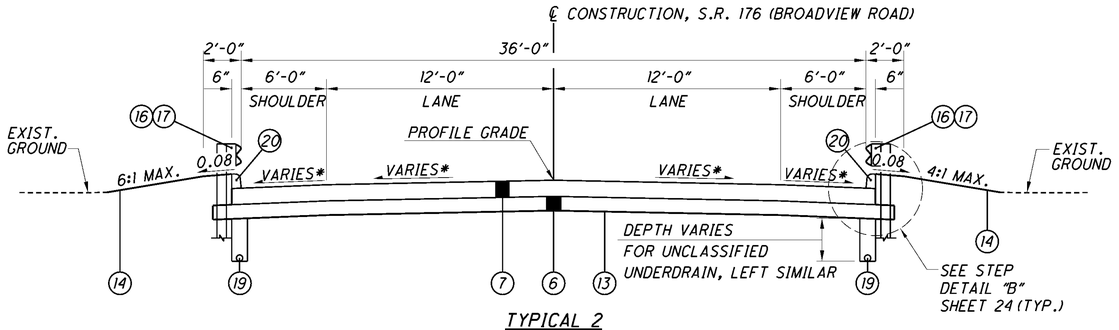
A. *EXIST. PAVEMENT, UNKNOWN BUILD-UP*
B. *EXIST. SHOULDER, VARIABLE DEPTH AGGREGATE BASE (PER RECORD PLANS)*
C. *EXIST. PAVEMENT, 2 1/4±" ASPHALT CONCRETE, 6±" BITUMINOUS AGGREGATE BASE, 6±" SUBBASE (PER RECORD PLANS)*

CALCULATED PEK CHECKED TLH

SIDEROAD TYPICAL SECTIONS - S.R. 176 (BROADVIEW ROAD)

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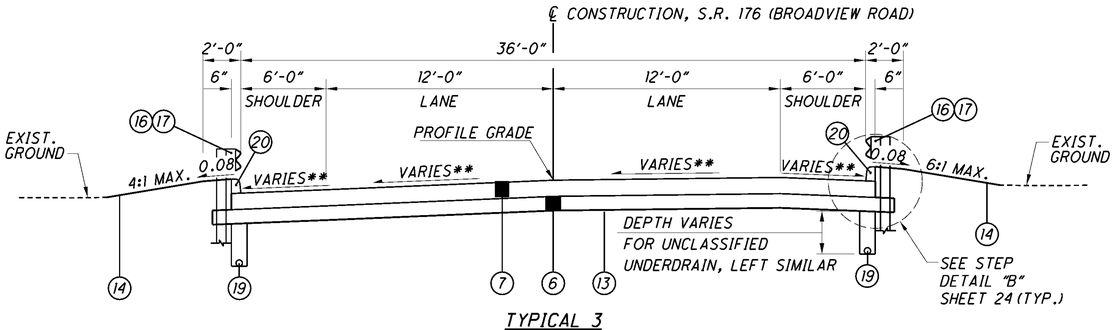


TYPICAL 2

NORMAL SECTION - FULL DEPTH PAVEMENT - S.R. 176 (BROADVIEW ROAD)

STA. 86+56.35 TO STA. 86+81.35 = 25.00 FT.

* TRANSITION FROM EXISTING @ STA. 86+56.35 TO 0.016 @ STA. 86+81.35



TYPICAL 3

SUPERELEVATED SECTION - FULL DEPTH PAVEMENT - S.R. 176 (BROADVIEW ROAD)

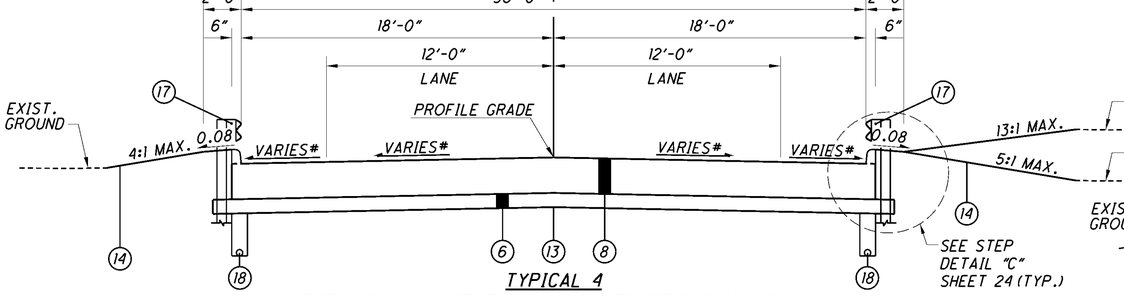
STA. 90+91.85 TO STA. 91+16.85 = 25.00 FT.

** SEE SUPERELEVATION TABLE - S.R. 176

PRESSURE RELIEF JOINT, TYPE A (SEE SCD BP-2.3)

STA. 86+81.35 TO STA. 86+85.35

STA. 90+87.85 TO STA. 90+91.85

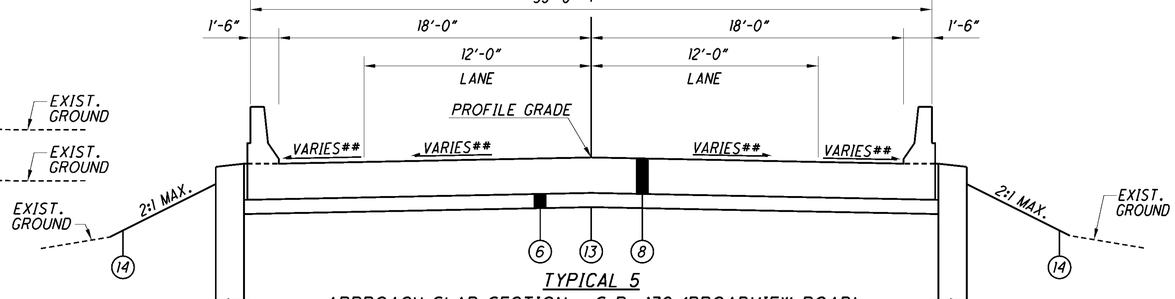


TYPICAL 4

APPROACH SLAB SECTION - S.R. 176 (BROADVIEW ROAD)

STA. 86+85.35 TO STA. 86+95.35 = 10.00 FT.
STA. 90+77.85 TO STA. 90+87.85 = 10.00 FT.
20.00 FT.

PAVEMENT AND SHOULDER CROSS SLOPE EQUALS 0.016 FROM STA. 86+85.35 TO 86+95.35
PAVEMENT AND SHOULDER CROSS SLOPE VARIES (SEE SUPERELEVATION TABLE - S.R. 176) FROM 90+77.85 TO 90+87.85



TYPICAL 5

APPROACH SLAB SECTION - S.R. 176 (BROADVIEW ROAD)

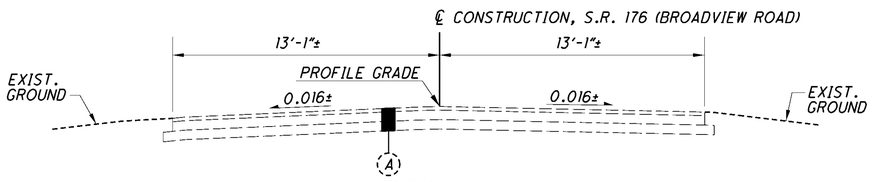
STA. 86+95.35 TO STA. 87+10.35 = 15.00 FT.
STA. 90+62.85 TO STA. 90+77.85 = 15.00 FT.
30.00 FT.

PAVEMENT AND SHOULDER CROSS SLOPE EQUALS 0.016 FROM STA. 86+95.35 TO 87+10.35
PAVEMENT AND SHOULDER CROSS SLOPE VARIES (SEE SUPERELEVATION TABLE - S.R. 176) FROM 90+62.85 TO 90+77.85

NOTE:
SEE SHEETS 750-751 FOR APPROACH SLAB DETAILS.

MEDIAN AND/OR CURBING ON APPROACH SLABS (TYPICAL)

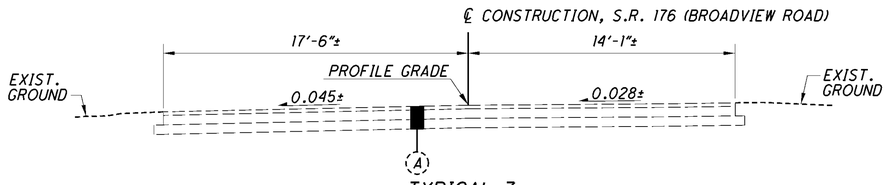
WITHIN THE LIMITS OF THE APPROACH SLAB, TRANSITION THE SHAPE OF THE MEDIAN AND/OR CURBING ON APPROACH SLABS FROM THE STANDARD SECTION ON THE APPROACHES TO THE SECTION USED ON THE BRIDGE.



TYPICAL 6

ADJOINING SECTION (WEST) - S.R. 176 (BROADVIEW ROAD)

STA. 85+34.43



TYPICAL 7

ADJOINING SECTION (EAST) - S.R. 176 (BROADVIEW ROAD)

STA. 92+14.98

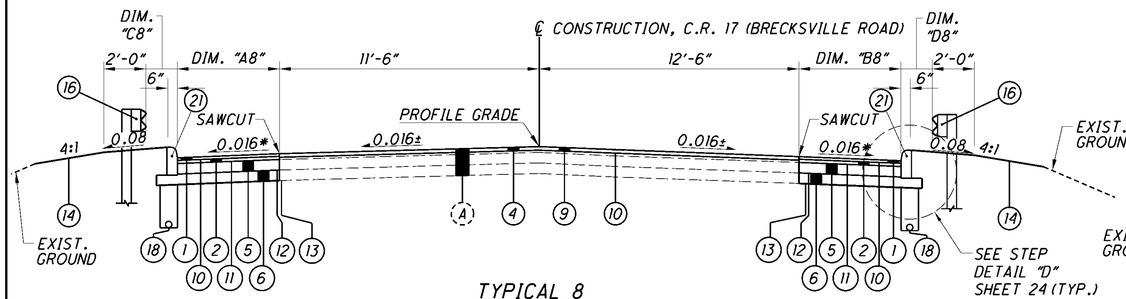
FOR LEGEND, SEE SHEET 24

CALCULATED PEK
CHECKED TLH

SIDEROAD TYPICAL SECTIONS - S.R. 176 (BROADVIEW RD.)

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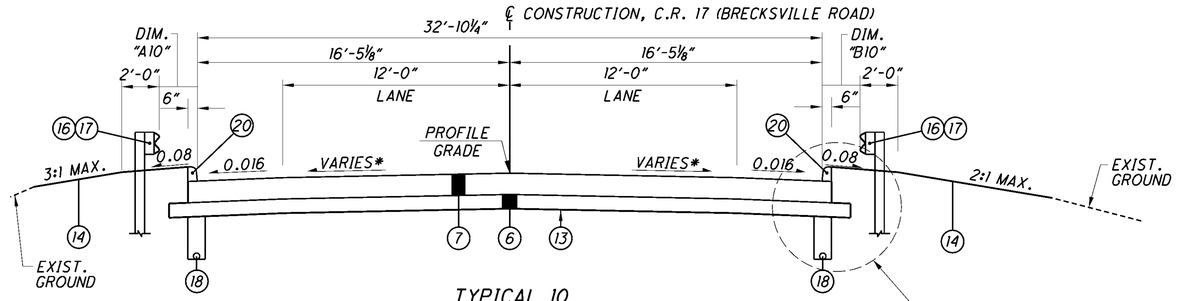


TYPICAL 8
NORMAL WIDENING SECTION - C.R. 17 (BRECKSVILLE ROAD)

STA. 58+21.40 TO STA. 58+52.63 = 31.23 FT.

* TRANSITION FROM EXISTING TO 0.016 @ STA. 58+21.40

NOTE: TIE INTO EXISTING GUARDRAIL @ STA. 58+33.92, LT AND STA. 58+36.08, RT

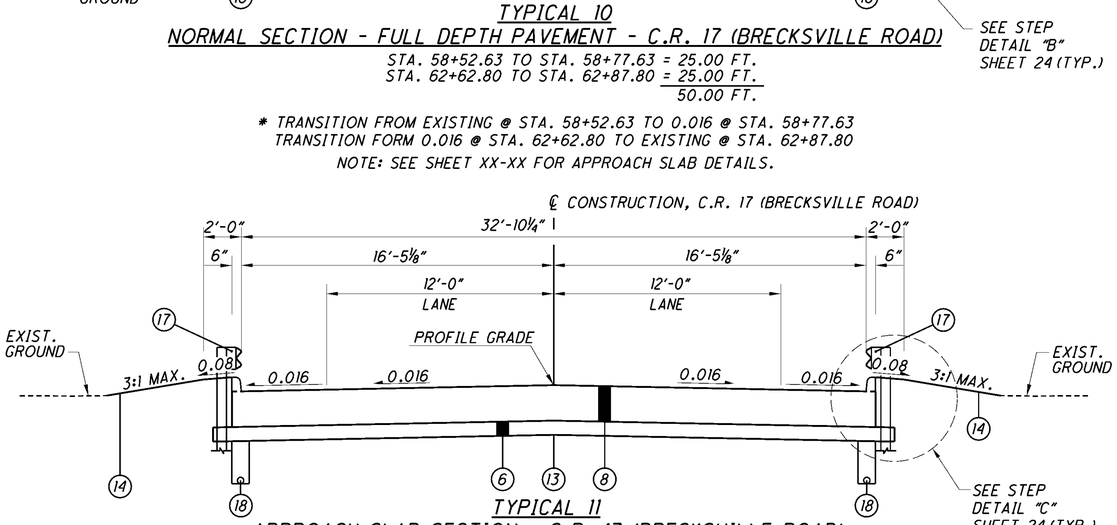


TYPICAL 10
NORMAL SECTION - FULL DEPTH PAVEMENT - C.R. 17 (BRECKSVILLE ROAD)

STA. 58+52.63 TO STA. 58+77.63 = 25.00 FT.
STA. 62+62.80 TO STA. 62+87.80 = 25.00 FT.
50.00 FT.

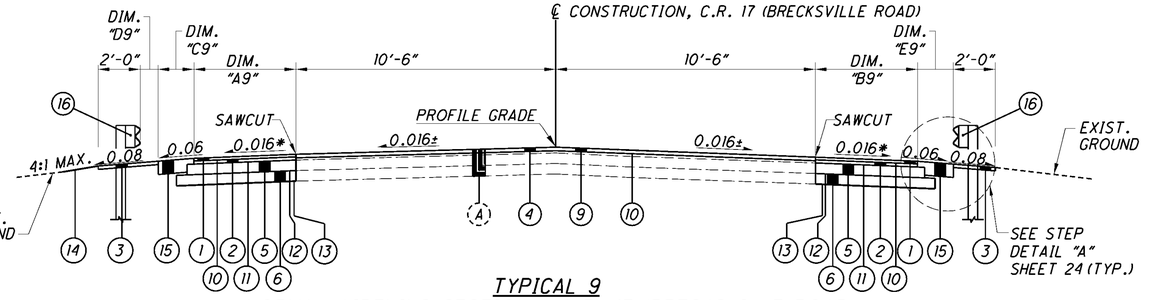
* TRANSITION FROM EXISTING @ STA. 58+52.63 TO 0.016 @ STA. 58+77.63
TRANSITION FORM 0.016 @ STA. 62+62.80 TO EXISTING @ STA. 62+87.80

NOTE: SEE SHEET XX-XX FOR APPROACH SLAB DETAILS.



TYPICAL 11
APPROACH SLAB SECTION - C.R. 17 (BRECKSVILLE ROAD)

STA. 58+82.40 TO STA. 58+92.40 = 10.00 FT.
STA. 62+48.03 TO STA. 62+58.03 = 10.00 FT.
20.00 FT.



TYPICAL 9
NORMAL WIDENING SECTION - C.R. 17 (BRECKSVILLE ROAD)

STA. 62+87.80 TO STA. 63+56.44 = 68.64 FT.

* TRANSITION FROM 0.016 TO EXISTING @ STA. 63+56.44

NOTE: END GUARDRAIL @ STA. 63+73.56, LT AND STA. 64+12.52, RT

DIM. "A8"
FROM 4'-4" @ STA. 58+21.40 TO 4'-11" @ STA. 58+41.98

DIM. "B8"
FROM 4'-3" @ STA. 58+53.38 TO 3'-11" @ STA. 58+63.28

DIM. "C8"
FROM 1'-10" @ STA. 58+33.92 TO 0'-11" @ STA. 58+41.98

DIM. "D8"
FROM 2'-8" @ STA. 58+36.08 TO 1'-0" @ STA. 58+63.28

DIM. "A9"
FROM 5'-11" @ STA. 62+77.15 TO 4'-0" @ STA. 63+56.44

DIM. "B9"
FROM 5'-11" @ STA. 62+98.44 TO 4'-3" @ STA. 63+56.44

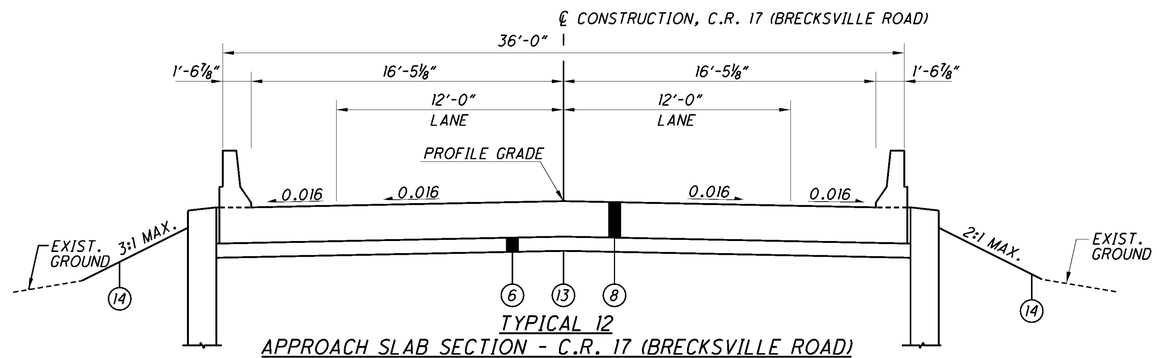
DIM. "C9"
FROM 0'-0" @ STA. 62+77.15 TO 6'-0" @ STA. 63+24.91
FROM 6'-0" @ STA. 63+24.91 TO 6'-0" @ STA. 63+56.44

DIM. "D9"
FROM 0'-0" @ STA. 63+24.91 TO 4'-4" @ STA. 63+56.44

DIM. "E9"
FROM 0'-0" @ STA. 62+98.44 TO 7'-4" @ STA. 63+56.44

DIM. "A10"
FROM 0'-11" @ STA. 58+41.98 TO 0'-0" @ STA. 58+52.60

DIM. "B10"
FROM 1'-0" @ STA. 58+63.28 TO 0'-0" @ STA. 58+73.90



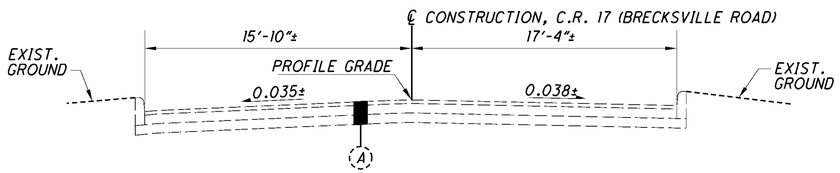
TYPICAL 12
APPROACH SLAB SECTION - C.R. 17 (BRECKSVILLE ROAD)

STA. 58+92.40 TO STA. 59+07.40 = 15.00 FT.
STA. 62+33.03 TO STA. 62+48.03 = 15.00 FT.
30.00 FT.

NOTE: SEE SHEET 755U FOR APPROACH SLAB DETAILS.

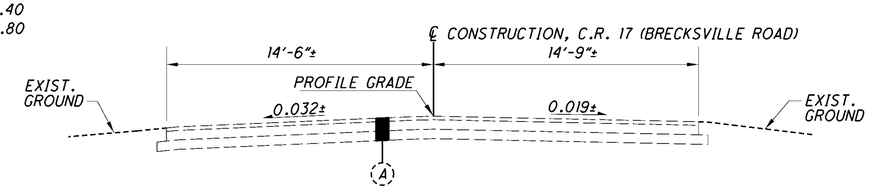
PRESSURE RELIEF JOINT, TYPE A (PER SCD BP-2.3)

STA. 58+77.63 TO STA. 58+82.40
STA. 62+58.03 TO STA. 62+62.80



TYPICAL 13
ADJOINING SECTION (SOUTH) - C.R. 17 (BRECKSVILLE ROAD)

STA. 58+21.40



TYPICAL 14
ADJOINING SECTION (NORTH) - C.R. 17 (BRECKSVILLE ROAD)

STA. 63+56.44

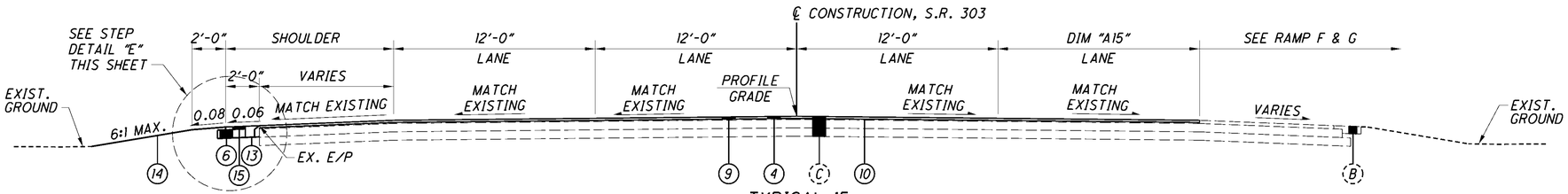
FOR LEGEND, SEE SHEET 24

CALCULATED PEK CHECKED TLH

SIDEROAD TYPICAL SECTIONS - C.R. 17 (BRECKSVILLE ROAD)

SUM-271-2.33

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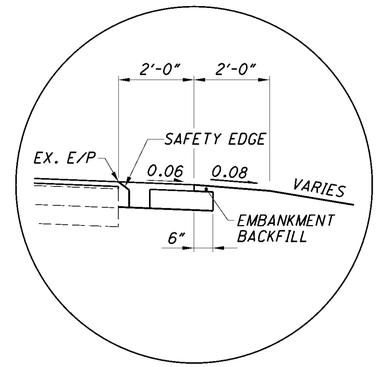


END COMPACTED AGGREGATE SHOULDER AT STA. 43+66.70, BEGIN PAVING UNDER GUARDRAIL

TYPICAL 15
NORMAL RESURFACING SECTION - S.R. 303

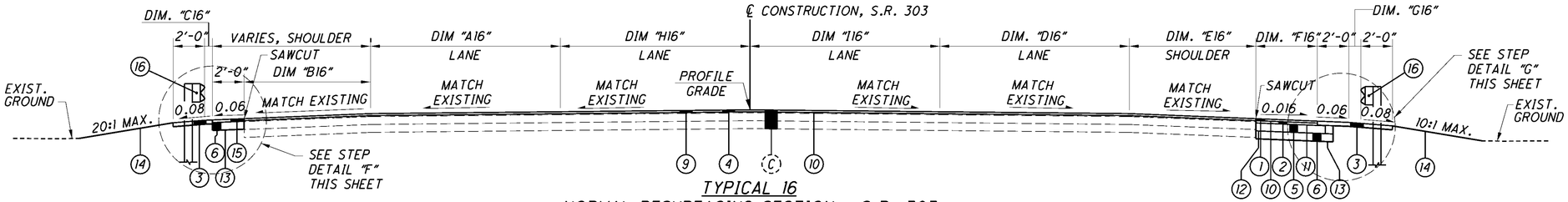
STA. 41+13.00 TO STA. 43+66.70 = 253.70 FT.

DIM. "A15"
FROM 12'-0" @ STA. 41+13.00 TO 12'-0" @ STA. 43+44.82
FROM 12'-0" @ STA. 43+44.82 TO 11'-4" @ STA. 43+66.70



DETAIL "E"
BASE AND SUBBASE STEP DETAIL

(APPLIES AT ALL LOCATIONS WITH AGGREGATE SHOULDER RIGHT SIDE SHOWN, LEFT SIMILAR)



BEGIN PAVING UNDER GUARDRAIL AT STA. 43+66.70, LT.
END PAVING UNDER GUARDRAIL AT STA. 47+81.82, LT.

TYPICAL 16
NORMAL RESURFACING SECTION - S.R. 303

STA. 43+66.70 TO STA. 47+73.64 = 406.94 FT.

BEGIN PAVING UNDER GUARDRAIL AT STA. 44+66.31, RT.
END PAVING UNDER GUARDRAIL AT STA. 47+65.46, RT.

DIM. "A16"
FROM 12'-0" @ STA. 43+66.70 TO 12'-0" @ STA. 44+66.83
FROM 12'-0" @ STA. 44+66.83 TO 0'-0" @ STA. 47+66.83

DIM. "B16"
FROM 5'-5" @ STA. 43+66.70 TO 8'-0" @ STA. 45+20.29
FROM 8'-0" @ STA. 45+20.29 TO 8'-0" @ STA. 47+78.10
FROM 8'-0" @ STA. 47+78.10 TO 0'-0" @ STA. 47+81.08

DIM. "C16"
FROM 0'-9" @ STA. 43+69.10 TO 0'-9" @ STA. 44+18.70
FROM 0'-9" @ STA. 44+18.61 TO 0'-0" @ STA. 44+30.96
FROM 0'-0" @ STA. 44+30.96 TO 0'-0" @ STA. 47+81.82

DIM. "D16"
FROM 11'-4" @ STA. 43+66.54 TO 0'-0" @ STA. 47+50.00

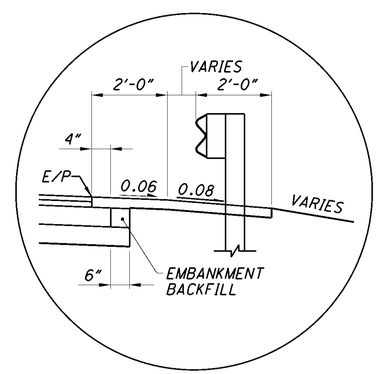
DIM. "E16"
FROM 8'-0" @ STA. 43+66.54 TO 8'-0" @ STA. 43+84.03
FROM 8'-0" @ STA. 43+84.03 TO 4'-2" @ STA. 44+17.74
FROM 4'-2" @ STA. 44+17.74 TO 8'-0" @ STA. 45+08.71
FROM 8'-0" @ STA. 45+08.71 TO 8'-0" @ STA. 47+66.19
FROM 8'-0" @ STA. 47+66.19 TO 0'-0" @ STA. 47+69.17

DIM. "F16"
FROM 0'-0" @ STA. 43+84.03 TO 3'-10" STA. 44+17.74
FROM 3'-10" @ STA. 44+17.74 TO 0'-0" STA. 45+08.71

DIM. "G16"
FROM 0'-9" @ STA. 43+73.09 TO 0'-9" @ STA. 44+23.57
FROM 0'-9" @ STA. 44+23.57 TO 0'-0" @ STA. 44+36.14
FROM 0'-0" @ STA. 44+36.14 TO 0'-0" @ STA. 47+65.46

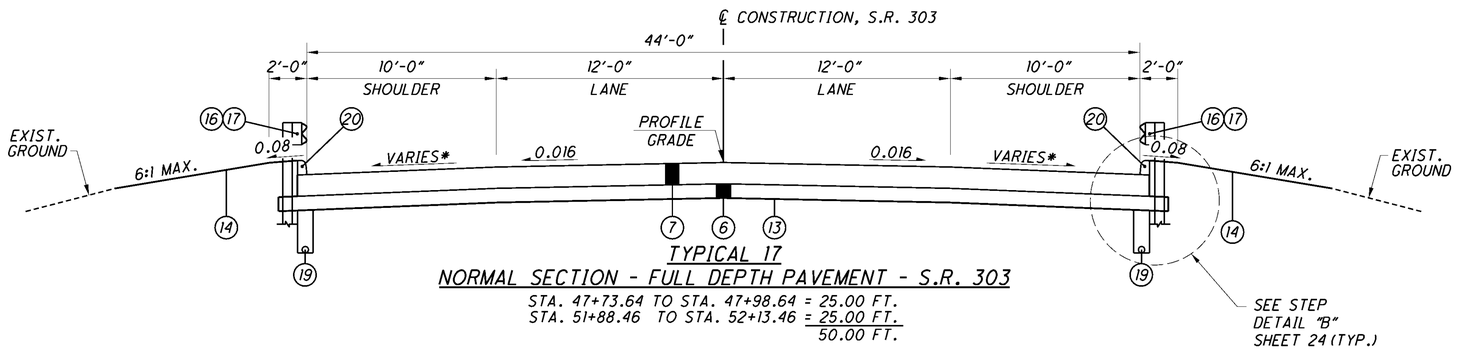
DIM. "H16"
FROM 12'-0" @ STA. 43+66.70 TO 12'-0" STA. 47+73.64
FROM 12'-0" @ STA. 47+73.64 TO 0'-0" STA. 47+78.10

DIM. "I16"
FROM 12'-0" @ STA. 43+66.70 TO 12'-0" STA. 47+69.17
FROM 12'-0" @ STA. 47+69.17 TO 0'-0" STA. 47+73.64



DETAIL "F"
BASE AND SUBBASE STEP DETAIL

(APPLIES AT ALL LOCATIONS WITH AGGREGATE SHOULDER AND PAVING UNDER GUARDRAIL RIGHT SIDE SHOWN, LEFT SIMILAR)



TYPICAL 17
NORMAL SECTION - FULL DEPTH PAVEMENT - S.R. 303

STA. 47+73.64 TO STA. 47+98.64 = 25.00 FT.
STA. 51+88.46 TO STA. 52+13.46 = 25.00 FT.
50.00 FT.

* TRANSITION FROM EXISTING @ STA. 47+73.64 TO 0.016 @ STA. 47+98.64
TRANSITION FROM 0.016 @ STA. 51+88.46 TO EXISTING @ STA. 52+13.46

** TRANSITION FROM 0.016 TO EXISTING

PRESSURE RELIEF JOINT, TYPE A (PER SCD BP-2.3)

STA. 47+98.64 TO STA. 48+02.95
STA. 51+84.22 TO STA. 51+88.46

DETAIL "G"
BASE AND SUBBASE STEP DETAIL

(APPLIES AT ALL LOCATIONS WITH PAVEMENT WIDENING/FULL DEPTH SHOULDER AND PAVING UNDER GUARDRAIL RIGHT SIDE SHOWN, LEFT SIMILAR)

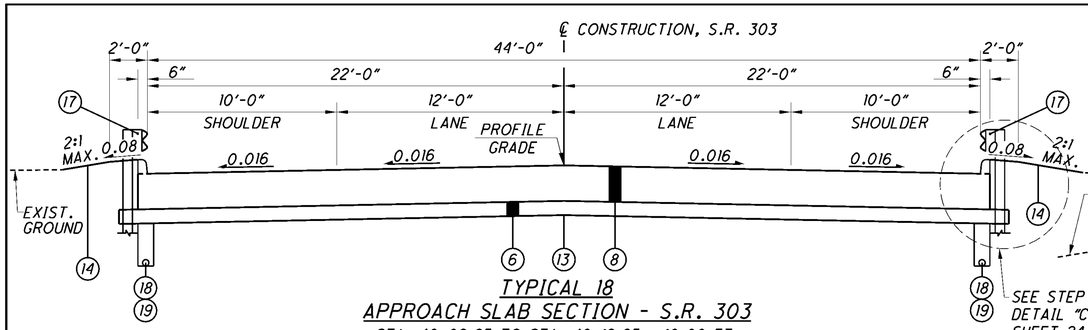
FOR LEGEND, SEE SHEET 24

CALCULATED PEK
CHECKED TLH

SIDEROAD TYPICAL SECTIONS - S.R. 303

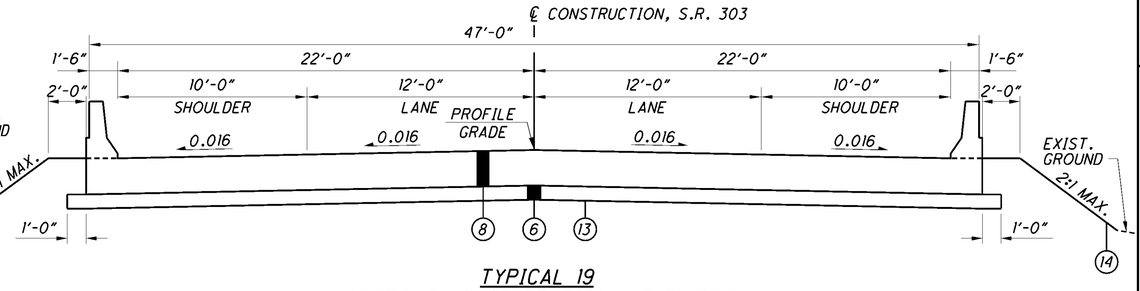
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TYPICAL 18
APPROACH SLAB SECTION - S.R. 303

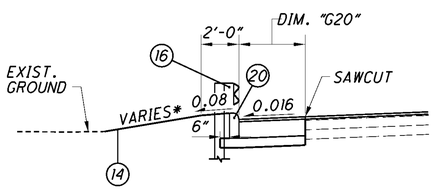
STA. 48+02.95 TO STA. 48+12.95 = 10.00 FT.
STA. 51+74.22 TO STA. 51+84.22 = 10.00 FT.
20.00 FT.



TYPICAL 19
APPROACH SLAB SECTION - S.R. 303

STA. 48+12.95 TO STA. 48+27.95 = 15.00 FT.
STA. 51+59.22 TO STA. 51+74.22 = 15.00 FT.
30.00 FT.

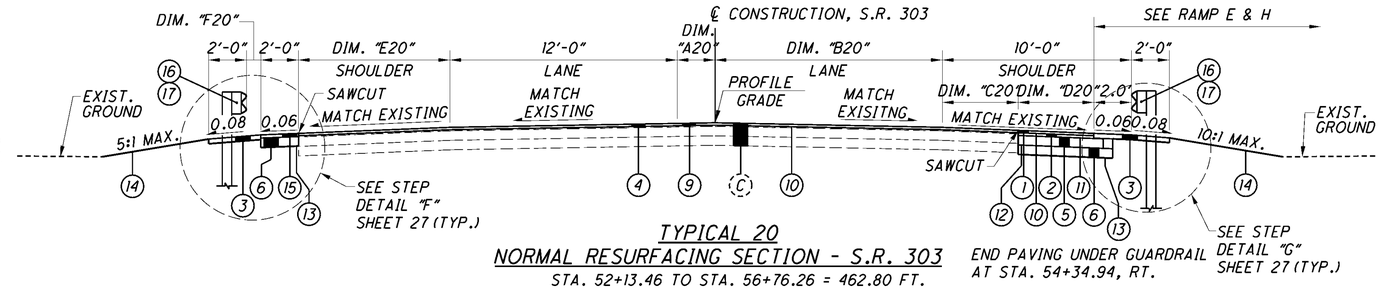
NOTE: SEE SHEET 1190 FOR APPROACH SLAB DETAILS.



PAVEMENT REPAIR DETAIL

(SEE SHEET 33 FOR PAVEMENT REPAIR BUILD-UP)

STA. 52+21.42 TO STA. 52+36.42, LT.
STA. 52+05.49 TO STA. 52+20.49. RT.



TYPICAL 20
NORMAL RESURFACING SECTION - S.R. 303

STA. 52+13.46 TO STA. 56+76.26 = 462.80 FT.

END PAVING UNDER GUARDRAIL AT STA. 54+34.94, RT.

DIM. "G20"
FROM 0'-0" @ STA. 52+19.91, LT. TO 4'-2" @ STA. 52+21.42, LT.
FROM 4'-2" @ STA. 52+21.42, LT. TO 4'-2" @ STA. 52+36.42, LT.

FROM 0'-0" @ STA. 52+05.49, RT. TO 4'-2" @ STA. 52+07.00, RT.
FROM 4'-2" @ STA. 52+07.00, RT. TO 4'-2" @ STA. 52+20.42, RT.

DIM "A20"
FROM 0'-0" @ STA. 52+36.02 TO 12'-0" @ STA. 56+40.67 (GORE AREA)
FROM 12'-0" @ STA. 56+40.67 TO 12'-0" @ STA. 56+72.26

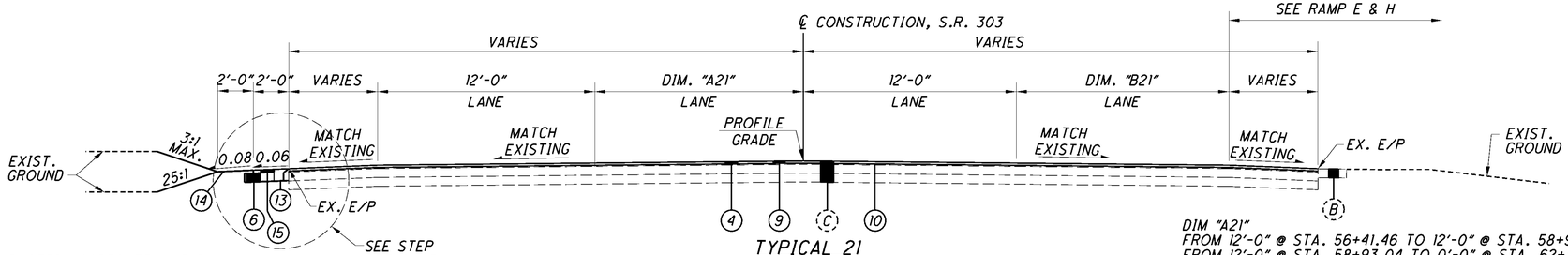
DIM "B20"
FROM 12'-0" @ STA. 52+19.63 TO 24'-0" @ STA. 53+80.00
FROM 24'-0" @ STA. 53+80.00 TO 24'-0" @ STA. 56+76.62

DIM "C20"
FROM 0'-0" @ STA. 52+07.00 TO 5'-10" @ STA. 52+09.11
FROM 5'-10" @ STA. 52+09.11 TO 5'-10"/8'-0" @ STA. 52+20.42
FROM 8'-0" @ STA. 52+20.42 TO 8'-0" @ STA. 53+13.97
FROM 8'-0" @ STA. 53+13.97 TO 3'-0" @ STA. 53+80.00
FROM 3'-0" @ STA. 53+80.79 TO 3'-0" @ STA. 54+27.75

DIM "D20"
FROM 0'-0" @ STA. 53+13.97 TO 5'-0" @ STA. 53+80.79
FROM 5'-0" @ STA. 53+80.79 TO 5'-0" @ STA. 54+27.75

DIM "E20"
FROM 0'-0" @ STA. 52+17.80 TO 5'-10" @ STA. 52.19.91
FROM 5'-10"/8'-0" @ STA. 52+19.91 TO 8'-0" @ STA. 55+35.23
FROM 8'-0" @ STA. 55+35.23 TO 4'-9" @ STA. 56+76.26

DIM "F20"
FROM 0'-0" @ STA. 52+21.42 TO 0'-0" @ STA. 56+11.33
FROM 0'-0" @ STA. 56+11.33 TO 0'-9" @ STA. 56+23.76
FROM 0'-9" @ STA. 56+23.76 TO 0'-9" @ STA. 56+73.76



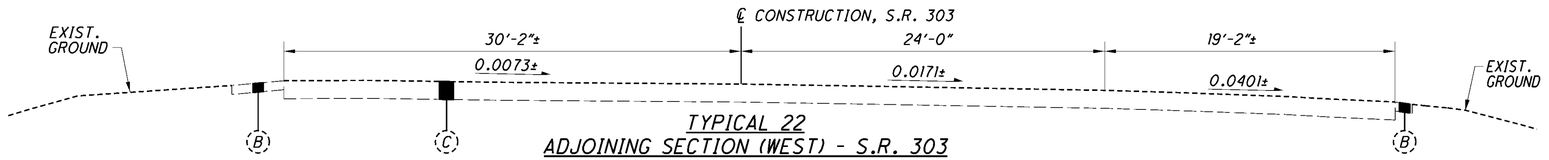
END COMPACTED AGGREGATE, A.P.P. @ STA. 58+07.52, LT.

TYPICAL 21
NORMAL RESURFACING SECTION - S.R. 303

STA. 56+76.26 TO STA. 62+30.00 = 553.74 FT.

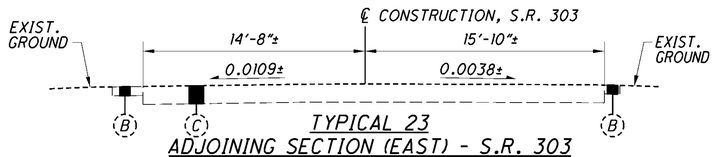
DIM "A21"
FROM 12'-0" @ STA. 56+41.46 TO 12'-0" @ STA. 58+93.04
FROM 12'-0" @ STA. 58+93.04 TO 0'-0" @ STA. 62+30.00 (GORE AREA)

DIM "B21"
FROM 12'-0" @ STA. 56+74.79 TO 12'-0" @ STA. 58+82.69
FROM 12'-0" @ STA. 57+82.69 TO 0'-0" @ STA. 62+30.00



TYPICAL 22
ADJOINING SECTION (WEST) - S.R. 303

STA. 41+13.00



TYPICAL 23
ADJOINING SECTION (EAST) - S.R. 303

STA. 62+30.00

FOR LEGEND, SEE SHEET 24

CALCULATED PEK CHECKED TLH

SIDEROAD TYPICAL SECTIONS - S.R. 303

SUM-271-2.33

28
1195

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SAFETY EDGE (ASPHALT CONCRETE)

IN ADDITION TO THE REQUIREMENTS OF 401.12, ATTACH A DEVICE TO THE SCREED OF THE PAVER THAT CONFINES THE MATERIAL AT THE END GATE AND EXTRUDES THE ASPHALT MATERIAL IN SUCH A WAY THAT RESULTS IN A COMPACTED WEDGE SHAPE PAVEMENT EDGE OF APPROXIMATELY 30 DEGREES (NOT STEEPER THAN 40 DEGREES). ENSURE THE DEVICE MAINTAINS CONTACT WITH THE EXISTING SURFACE, AND ALLOW FOR AUTOMATIC TRANSITION TO CROSS ROADS, DRIVEWAYS AND OBSTRUCTIONS. DO NOT USE CONVENTIONAL SINGLE PLATE STRIKE OFF.

CONSTRUCTION OF SAFETY EDGE CAN BE OMITTED AT LOCATIONS WHERE EXISTING WIDTH OF GRADED SHOULDER OR BERM IS LESS THAN 12". PROJECTS WITH VARYING CONDITIONS SHOULD USE SAFETY EDGE WHERE POSSIBLE. PLAN PREPARATION HAS MADE EVERY REASONABLE ATTEMPT TO IDENTIFY POSSIBLE SAFETY EDGE LOCATIONS.

USE THE TRANSTECH SHOULDER WEDGE MAKER, THE CARLSON SAFETY EDGE END GATE, THE ADVANT-EDGER, THE TROXLER SAFETY SLOPE OR A SIMILAR APPROVED-EQUAL DEVICE THAT PRODUCES THE SAME WEDGE CONSOLIDATION RESULTS. CONTACT INFORMATION FOR THESE WEDGE SHAPE COMPACTION DEVICES IS THE FOLLOWING:

TRANSTECH SYSTEMS, INC.
1594 STATE STREET
SCHENECTADY, NY 12304
1-800-724-6306
WWW.TRANSTECHSYS.COM

ADVANT-EDGE PAVING EQUIPMENT LLC
P.O. BOX 9163
NISKAYUNA, NY 12309-0163
518-280-6090
WWW.ADVANTAEDGEPAVING.COM

CARLSON SAFETY EDGE END GATE
18425 50TH AVENUE EAST
TACOMA, WA 98446
253-875-8000

TROXLER ELECTRONIC LABORATORIES, INC.
3008 E. CORNWALLIS RD.
RESEARCH TRIANGLE PARK, NC 27709
1-877-TROXLER
WWW.TROXLERLABS.COM

IF ELECTING TO USE A SIMILAR DEVICE, PROVIDE PROOF THAT THE DEVICE HAS BEEN USED ON PREVIOUS PROJECTS WITH ACCEPTABLE RESULTS OR CONSTRUCT A TEST SECTION PRIOR TO THE BEGINNING OF WORK AND DEMONSTRATE WEDGE COMPACTION TO THE SATISFACTION OF THE ENGINEER. SHORT SECTIONS OF HANDWORK WILL BE ALLOWED WHEN NECESSARY FOR TRANSITIONS AND TURNOUTS OR OTHERWISE AUTHORIZED BY THE ENGINEER.

IN ADDITION TO THE REQUIREMENTS OF 401.16, MAKE THE FIRST ROLLER PASS 8 TO 12 INCHES AWAY FROM TAPERED EDGE. DO NOT ROLL THE TAPER.

ITEM 209, PREPARING SUBGRADE FOR SHOULDER PAVING, AS PER PLAN.

PREPARE THE SHOULDER FOR PAVING A CONSISTENT SAFETY EDGE IN BOTH THICKNESS AND WIDTH.

PRIOR TO PAVING THE SAFETY EDGE, GRADE AN AREA 10 INCHES WIDE, BEGINNING AT THE EDGE OF THE PAVED ROADWAY, TO PROVIDE A LEVEL SURFACE FREE OF VEGETATION FOR CONSTRUCTION OF THE SAFETY EDGE. IF NECESSARY, EXCAVATE THE GRADED AREA TO THE DEPTH NECESSARY TO CONSTRUCT THE SAFETY EDGE. COMPACT THE GRADED SHOULDER ACCORDING TO 617.05, OR AS DIRECTED BY THE ENGINEER.

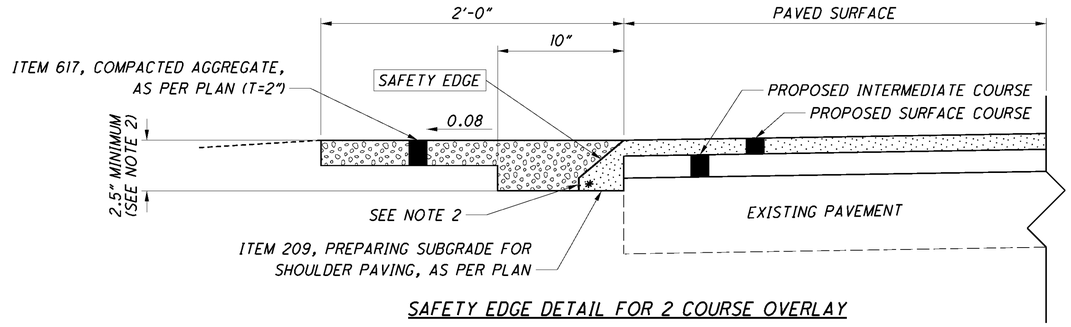
NOTES:

1.) SAFETY EDGES ARE REQUIRED AT THE OUTSIDE EDGES OF THE PAVED ROADWAY (EDGE OF TRAVEL LANE OR EDGE OF PAVED SHOULDER).

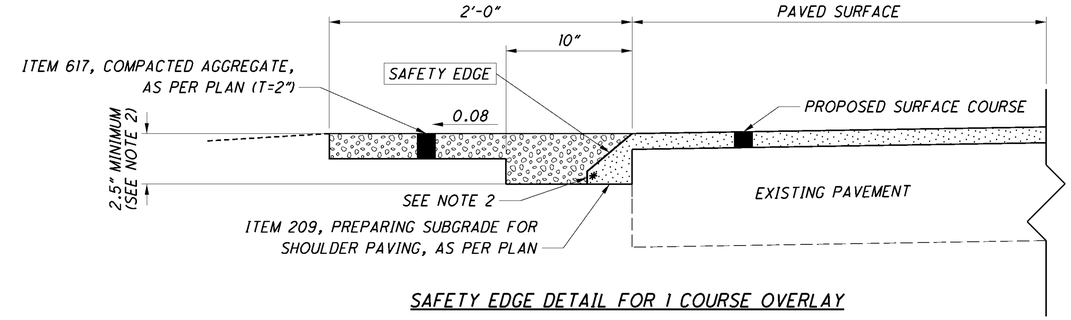
2.) CONSTRUCT THE SAFETY EDGE THE FULL ASPHALT CONCRETE OVERLAY THICKNESS OR 2.5" WHICHEVER IS GREATER, NOT TO EXCEED THE MAXIMUM SAFETY EDGE THICKNESS OF 6". CONSTRUCT A NEAR-VERTICAL FACE BELOW THE SAFETY EDGE FOR THICKNESS GREATER THAN 6".

3.) BLADE AND SHAPE EXISTING SHOULDER MATERIAL TO FORM A UNIFORM SURFACE UNDER THE SAFETY EDGE PRIOR TO PLACEMENT OF THE ASPHALT CONCRETE OVERLAY.

** 40° MAX*



SAFETY EDGE DETAIL FOR 2 COURSE OVERLAY



SAFETY EDGE DETAIL FOR 1 COURSE OVERLAY

ESTIMATED QUANTITIES

ROUTE	SAFETY EDGE THICKNESS (IN.)	S.L.M TO S.L.M.			SIDE	209 PREPARING SUBGRADE FOR SHOULDER PAVING, AS PER PLAN (STATION)	448 ASPHALT CONCRETE SURFACE COURSE, TYPE 1, PG64-22, AS PER PLAN (CU YD)
303	2.5	0.78		0.83	L	2.64	0.25
303	2.5	1.08		1.18	L	5.28	0.51
QUANTITIES CARRIED TO SIDEROAD PAVEMENT CALCULATIONS						8	1

REVISED: 6/25/12

DISTRICT 4 - PLANNING & ENGINEERING

DESIGNED MAC | REVIEWED TJP

REVISION DATE 06/25/12 | CHECKED TJP

SAFETY EDGE DETAIL (RESURFACING)

SUM-271-2.33

28A
1195

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OPTIONAL BID ITEMS:

THE ESTIMATED QUANTITIES INCLUDE SEVERAL PAY ITEMS LISTED AS OPTIONS FOR PROPOSED PAVEMENT COMPOSITION.

THE CONTRACTOR SHALL BID ONLY **ONE** OF THE OPTIONS FOR PAVEMENT COMPOSITION RELATED ROADWAY WORK. THE OPTION SHALL BE EITHER RIGID PAVEMENT CONSISTING OF ITEM 888 NON-REINFORCED CONCRETE PAVEMENT OR FLEXIBLE PAVEMENT CONSISTING OF ITEM 442 / 302 ASPHALT CONCRETE PAVEMENT.

UTILITIES

LISTED BELOW ARE ALL UTILITIES LOCATED WITHIN THE PROJECT AREA TOGETHER WITH THEIR RESPECTIVE OWNERS:

OHIO EDISON TRANSMISSION
ATTN: CARLOS MUNOZ
76 S. MAIN STREET
AKRON, OH 44308
330-384-4835

OHIO EDISON DISTRIBUTION
ATTN: DAVID L. MILLER
1910 WEST MARKET STREET
BUILDING #1
AKRON, OH 44313
330-436-4055

DOMINION EAST OHIO GAS
ATTN: MARY LONG
320 SPRINGSIDE DRIVE
SUITE 320
AKRON, OHIO 44333
330-664-2409
FAX: 888-504-0126

SUMMIT COUNTY DEPARTMENT OF ENVIRONMENTAL SERVICES
ATTN: DAVID MARQUARD P.E., P.S.
2525 STATE ROAD
CUYAHOGA FALLS, OHIO 44223
330-926-2407
FAX: 330-926-2471

WINDSTREAM
ATTN: JEFF GULYAS
100 OWEN BROWN ROAD
HUDSON, OHIO 44236
330-650-8404
FAX: 330-656-2929

TIME WARNER CABLE
ATTN: DENNIS THOMSON
8385 BAVARIA ROAD
MACEDONIA, OHIO 44056
330-963-3620 EXT. 216-555-1170

VERIZON BUSINESS/MCI
ATTN: AL GUEST
120 RAVINE STREET
AKRON, OHIO 44303
330-253-8267

QWEST COMMUNICATIONS
ATTN: CHRIS STRAYER
4650 LAKEHURST COURT
DUBLIN, OH 43016
614-215-5606
FAX: 614-659-2288

CITY OF AKRON
WATER DISTRIBUTION DIVISION
ATTN: GEORGE THOMAS
565 JOHNSTON STREET
AKRON, OH 44311
330-375-2690 EXT. 6418

CITY OF CLEVELAND WATER
ATTN: BERNARD DAVIS
1201 LAKESIDE AVENUE
SECOND FLOOR
CLEVELAND, OH 44114
216-664-2444 EXT. 5560

VILLAGE OF RICHFIELD
ATTN: MELANIE A. BAKER
4410 WEST STREETSBORO ROAD
RICHFIELD, OHIO 44286
330-659-9201 EXT. 5
FAX: 300-659-6935

O.D.O.T. DISTRICT 4
ATTN: KEN GREEN
2088 SOUTH ARLINGTON ROAD
AKRON, OH 44306
330-786-3145

THE LOCATION OF THE UNDERGROUND UTILITIES SHOWN ON THE PLANS ARE AS OBTAINED FROM THE OWNERS AS REQUIRED BY SECTION 153.64 O.R.C.

OVERHEAD ELECTRIC LINES NOT MOVED OR DE-ENERGIZED DURING CONSTRUCTION MUST HAVE PROPER CLEARANCE MAINTAINED DURING CONSTRUCTION. THE CONTRACTOR MUST TAKE MEASURES TO ENSURE THAT THE APPROPRIATE CLEARANCE IS PROVIDED AT ALL TIMES.

THE UNDERGROUND UTILITIES ON THIS PLAN HAVE BEEN LOCATED BY USING A SUBSURFACE UTILITY ENGINEERING COMPANY [SUE]. IF THERE ARE ANY DISCREPANCIES BETWEEN FIELD MARKINGS AND WHAT THE PLAN INDICATES, PLEASE CONTACT STEVE JONES, DISTRICT UTILITY COORDINATOR 330-786-4818, PRIOR TO ANY SUBSURFACE WORK BEING INITIATED.

ROUNDING

THE ROUNDING AT SLOPE BREAKPOINTS SHOWN ON THE TYPICAL SECTIONS APPLY TO ALL CROSS-SECTIONS EVEN THOUGH OTHERWISE SHOWN.

EXISTING PLANS

SUM-271-0.83
SUM-271-0.89
SUM-271-2.98
SUM-271-6.01

EXISTING PLANS MAY BE INSPECTED IN THE ODOT DISTRICT 4 OFFICE IN AKRON.

SURVEYING PARAMETERS

USE THE FOLLOWING VERTICAL POSITIONING AND HORIZONTAL POSITIONING PARAMETERS FOR ALL SURVEYING:

VERTICAL POSITIONING

ORTHOMETRIC HEIGHT DATUM: NAVD 88

GEOID: 2003

ORIGINAL PLAN DATUM WAS BASED ON NGVD 29.

HORIZONTAL POSITIONING

REFERENCE FRAME: NAD 83 (86)

ELLIPSOID: GRS 80

MAP PROJECTION: LAMBERT CONFORMAL CONIC

COORDINATE SYSTEM: OHIO STATE PLANE, NORTH ZONE

COMBINED SCALE FACTOR: 1.000101750

UNITS ARE IN U.S. SURVEY FEET. USE THE FOLLOWING CONVERSION FACTOR: 1 METER = 3.280833333 U.S. SURVEY FEET.

ITEM 201 - CLEARING AND GRUBBING

WHERE VISIBLE INDIVIDUAL TREES AND STUMPS HAVE BEEN MARKED FOR REMOVAL. IN WOODED/BRUSH AREAS INDIVIDUAL TREES AND STUMPS HAVE NOT BEEN MARKED. UNLESS SPECIFICALLY DESIGNATED AS "DO NOT DISTURB" IN THE PLANS, REMOVE ALL TREES AND STUMPS WITHIN THE CONSTRUCTION LIMITS UNDER THE LUMP SUM BID FOR ITEM 201 CLEARING AND GRUBBING.

POST CONSTRUCTION STORM WATER TREATMENT

THIS PLAN UTILIZES STRUCTURAL BEST MANAGEMENT PRACTICES (BMP'S) FOR POST CONSTRUCTION STORM WATER TREATMENT. THE FOLLOWING BMP'S HAVE BEEN DESIGNED INTO THE PLANS.

1. VEGETATED BIOFILTERS HAVE BEEN DESIGNED INTO THE MEDIAN DITCHES THROUGHOUT THE LENGTH OF THIS PROJECT. SEE SHEETS 277-286 FOR LOCATIONS.

ESTIMATED QUANTITIES

THE CONTRACTOR SHALL NOT ORDER MATERIALS OR PERFORM WORK FOR ITEMS DESIGNATED BY PLAN NOTE TO BE USED "AS DIRECTED BY THE ENGINEER" UNLESS AUTHORIZED BY THE ENGINEER. THE ACTUAL WORK LOCATIONS AND QUANTITIES USED FOR SUCH ITEMS SHALL BE INCORPORATED INTO THE FINAL CHANGE ORDER GOVERNING COMPLETION OF THIS PROJECT.

WORK LIMITS

THE WORK LIMITS SHOWN ON THESE PLANS ARE FOR PHYSICAL CONSTRUCTION ONLY. PROVIDE THE INSTALLATION AND OPERATION OF ALL WORK ZONE TRAFFIC CONTROL AND WORK ZONE TRAFFIC CONTROL DEVICES REQUIRED BY THESE PLANS WHETHER INSIDE OR OUTSIDE THESE WORK LIMITS.

PART-WIDTH CONSTRUCTION

BECAUSE OF THE NECESSITY TO BUILD PORTIONS OF THIS PROJECT UNDER TRAFFIC AND TO CONSTRUCT THE FULL PAVEMENT WIDTH IN STAGES, EXTREME CARE SHALL BE TAKEN TO PREVENT THE CONSTRUCTION OF A BUTT JOINT IN THE BASE COURSES. ASPHALT CONCRETE LONGITUDINAL JOINTS SHALL BE LAPPED AS SHOWN ON STANDARD CONSTRUCTION DRAWING BP-3.1, AND AS SHOWN ON THE MAINTENANCE OF TRAFFIC TYPICAL SECTIONS.

CONSTRUCTION LAYOUT STAKES, AS PER PLAN

FOR LOCATIONS WHERE DRAINAGE IMPROVEMENTS ARE TO BE CONSTRUCTED ADJACENT TO THE LIMITED ACCESS (L/A) RIGHT OF WAY AND LOCATIONS WHERE NEW L/A FENCE IS TO BE INSTALLED, THE EXISTING RIGHT OF WAY LINES SHALL BE LOCATED BASED ON THE REQUIREMENTS SPECIFIED IN CHAPTER 4733-37 OF THE OHIO REVISED ADMINISTRATIVE CODE (BOARD RULES) GOVERNED BY THE REGULATIONS OUTLINED IN CHAPTER 4733, OHIO REVISED CODE (REGULATION LAWS). THE CONTRACTOR SHALL RESEARCH EXISTING RIGHT OF WAY INFORMATION FROM ALL AVAILABLE SOURCES INCLUDING, BUT NOT LIMITED TO ODOT RECORDS, COUNTY ROAD RECORDS, COMMISSIONERS' JOURNALS AND RECORDS OF OTHER COUNTY OFFICES TO THE EXTENT NECESSARY TO PROVIDE AN ACCURATE BASIS FOR THE ESTABLISHMENT OF THE EXISTING RIGHT OF WAY. THE RIGHT OF WAY SHALL TIE INTO THE COORDINATE SYSTEM PROVIDED IN THE CENTERLINE REFERENCES TABLE FOUND IN THE PART ONE PLANS, SHEET NO.11 & 12. ALL COORDINATE POINTS LOCATED ALONG THE L/A SHALL BE PROVIDED TO THE PROJECT ENGINEER AND FORWARDED TO THE ATTENTION OF THE DISTRICT FOUR SURVEY OPERATIONS MANAGER. THE CONTRACTOR SHALL CONTACT THE DISTRICT FOUR SURVEY OPERATIONS MANAGER, PETE TRIVELLI AT 330-786-4842 WITH ANY APPARENT DISCREPANCIES OR IF THE EXISTING L/A FENCE IS FOUND TO BE LOCATED OUTSIDE THE L/A. THE CONTRACTOR WILL STAKE AND FLAG THE EXISTING RIGHT OF WAY IN THE FIELD PRIOR TO THE START OF CONSTRUCTION AND WILL MAINTAIN SAID STAKES AND FLAGS UNTIL CONSTRUCTION IS COMPLETED. FOR ANY RIGHT OF WAY ENCROACHMENTS WHICH ARE DISCOVERED, THE CONTRACTOR WILL NOTIFY THE PROJECT ENGINEER AND ODOT PERMITS DEPARTMENT, DENYSE CLICK, 330-786-3150; THE PERMITS DEPARTMENT WILL COORDINATE WITH THE PROPERTY OWNER OF THE ENCROACHMENT AND ITS REMOVAL ACCORDING TO STANDARD ENCROACHMENT REMOVAL ON FEDERAL-AID PROJECTS.

PROTECTION OF RIGHT-OF-WAY LANDSCAPING AREAS

PRIOR TO BEGINNING WORK, THE CONTRACTOR, THE PROJECT ENGINEER, AND A REPRESENTATIVE OF THE MAINTAINING AGENCY WILL REVIEW AND RECORD ALL LANDSCAPING ITEMS WITHIN THE RIGHT OF WAY (BOTH WITHIN AND OUTSIDE THE CONSTRUCTION LIMITS) A RECORD OF THIS REVIEW WILL BE KEPT IN THE PROJECT ENGINEER'S FILES. PRIOR TO FINAL ACCEPTANCE, A FINAL REVIEW OF LANDSCAPING ITEMS WILL BE MADE.

CONSTRICT ALL ACTIVITIES, EQUIPMENT STORAGE, AND STAGING TO WITHIN THE CONSTRUCTION LIMITS. UNLESS OTHERWISE IDENTIFIED IN THE PLANS OR PROPOSAL, THE CONSTRUCTION LIMITS ARE IDENTIFIED AS 30 FEET FROM THE EDGE OF PAVEMENT.

SUBMIT A WRITTEN REQUEST TO THE PROJECT ENGINEER TO USE ANY AREA OUTSIDE THESE LIMITS. THE DOCUMENT SUBMITTED MUST CLEARLY IDENTIFY THE AREA AND EXPLAIN THE PROPOSED USE AND RESTORATION OF THE AREA. USE OF THESE AREAS FOR DISPOSAL OF WASTE MATERIAL AND CONSTRUCTION DEBRIS, EXCAVATION OF BORROW MATERIAL AND PLACEMENT OF PORTABLE PLANTS IS PROHIBITED. THE REQUEST MUST BE APPROVED, IN WRITING, BEFORE THE CONTRACTOR HAS PERMISSION TO USE THE AREA.

ANY ITEMS DAMAGED BEYOND THE CONSTRUCTION LIMITS AS DEFINED ABOVE WILL BE REPLACED IN KIND OR AS APPROVED BY THE PROJECT ENGINEER.

ITEM 408 - PRIME COAT, AS PER PLAN

THE CONTRACTOR WILL APPLY "MC-70" AT A RATE OF 0.4 GALLONS PER SQUARE YARD, OR AS DETERMINED BY THE ENGINEER, TO THE COMPLETED COMPACTED AGGREGATE SHOULDER.

THE CONTRACTOR SHALL PROVIDE A SHIELD TO PREVENT THE SPRAYING OR DRIFTING OF LIQUID PRIME COAT MATERIAL ONTO THE EDGE OF THE PAVEMENT OR EDGELINE. CARE ALSO SHALL BE TAKEN TO AVOID SPRAYING LIQUID PRIME COAT MATERIAL ONTO DRIVEWAY APRONS, MAILBOX APPROACHES OR ANY PEDESTRIAN AREAS. THE ATTENTION OF THE CONTRACTOR IS DIRECTED TO 107.10 OF THE SPECIFICATIONS.

AN ESTIMATED QUANTITY FOR THIS ITEM HAS BEEN PROVIDED IN THE GENERAL SUMMARY.

CALCULATED JDL
CHECKED PRS

GENERAL NOTES

SUM-271-2.33

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ITEM 604 REFERENCE MONUMENT

PROPOSED REFERENCE MONUMENT LOCATIONS LISTED ON SHEET NO. 10 ARE INDICATED ON THE CENTERLINE ONLY FOR THE PURPOSE OF DEFINING A QUANTITY. THE ACTUAL LOCATIONS WILL BE STAKED BY THE ODOT SURVEY FORCES AS PER THE STANDARD DRAWING RM-1.1 PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL GIVE FOUR (4) WEEKS ADVANCE NOTICE TO THE ODOT DISTRICT FOUR SURVEY OPERATIONS MANAGER (PETE TRIVELL (330)-786-4842) PRIOR TO NEEDING THE LOCATIONS STAKES IN THE FIELD.

THE MONUMENTS WILL BE CONSTRUCTED BY THE CONTRACTOR AS ITEM 604 REFERENCE MONUMENT AND ITEM 604 MONUMENT ASSEMBLIES PER THE STANDARD CONSTRUCTION DRAWING RM-1.1.

ALL LABOR, MATERIALS, EQUIPMENT, AND INCIDENTIALS TO COORDINATE THE STAKING BY ODOT AND CONSTRUCTION OF THE MONUMENTS SHALL BE INCLUDED IN ITEM 604.

THE FOLLOWING ESTIMATED QUANTITIES HAS BEEN CARRIED TO THE GENERAL SUMMARY FOR THE COORDINATION AND CONSTRUCTION OF THE REFERENCE MONUMENTS:

ITEM 604 REFERENCE MONUMENT	30	EACH

ADDITIONAL SOIL INFORMATION

THE SOIL PROFILE AND STRUCTURE FOUNDATION INVESTIGATION SHEETS CONTAIN ALL AVAILABLE SOIL AND BEDROCK INFORMATION WHICH CAN BE CONVENIENTLY SHOWN. ADDITIONAL SUBSURFACE INVESTIGATION INFORMATION IS OBTAINED IN THE SOILS REPORTS FOR SUM-271-2.33 AND IS AVAILABLE FROM ODOT DISTRICT FOUR OFFICE IN AKRON.

ADDITIONAL SOILS INFORMATION FROM THE ORIGINAL CONSTRUCTION OF SUM-271 IS ALSO AVAILABLE FROM THE ODOT DISTRICT FOUR OFFICE IN AKRON. THE ORIGINAL SOILS INFORMATION IS CONTAINED IN TWO SEPARATE PROJECTS; SUM-271-2.98 AND SUM-271-0.83.

ITEM 209 - DITCH CLEANOUT, AS PER PLAN

THIS WORK SHALL CONSIST OF REESTABLISHING THE CROSS SECTION ON AN EXISTING DITCH. SURPLUS OR UNSUITABLE MATERIAL, AS DETERMINED BY THE ENGINEER, SHALL BE DISPOSED OF. EMBANKMENT REQUIRED FOR ERODED CONDITIONS SHALL MEET THE REQUIREMENTS OF 203.02R EXCEPT THAT THE COMPACTION REQUIREMENTS ARE WAIVED. ALSO INCLUDED IN THIS ITEM SHALL BE ALL MATERIALS, LABOR AND INCIDENTALS NECESSARY TO SEED AND MULCH THE CLEANED OUT DITCH AS PER CMS ITEM 659 SEEDING AND MULCHING UNLESS OTHER PERMANENT EROSION CONTROL MEASURES HAVE BEEN PROVIDED IN THE PLANS. THE CONTRACTOR SHALL RESTORE, TO THE SATISFACTION OF THE ENGINEER, ANY DISTURBED AREAS CAUSED BY CONSTRUCTION OF THIS ITEM AT NO ADDITIONAL COST TO THE STATE.

MEASUREMENT OF THE DITCH CLEANOUT SHALL BE THE FEET MEASURED ALONG THE CENTERLINE OF THE DITCH.

PAYMENT FOR ALL THE ABOVE SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM 209, DITCH CLEANOUT, AS PER PLAN. IN ADDITION TO THE ESTIMATED QUANTITIES IN THE DRAINAGE SUBSUMMARY, THE FOLLOWING ESTIMATED QUANTITY HAS BEEN INCLUDED IN THE GENERAL SUMMARY TO BE USED AS DIRECTED BY THE ENGINEER.

209 DITCH CLEANOUT, AS PER PLAN	500	FT.

ITEM 204 - PROOF ROLLING

AN ESTIMATED QUANTITY FOR THIS ITEM HAS BEEN PROVIDED IN THE GENERAL SUMMARY FOR USE AS DIRECTED BY THE ENGINEER.

TOPSOIL

TOPSOIL SHALL BE STRIPPED FROM AREAS TO BE EXCAVATED OR FILLED. ADDITIONAL SUITABLE MATERIAL REQUIRED TO FILL THE TOPSOIL STRIP AREA IN EMBANKMENT AREAS, TOPSOIL STRIPPING AND ANY STOCKPILING INCLUDING ALL LABOR, EQUIPMENT, AND MATERIAL SHALL BE CONSIDERED INCIDENTAL TO THE CONTRACT BID ITEM 203 - EXCAVATION OR ITEM 203 - EMBANKMENT. NO ADDITIONAL COMPENSATION WILL BE PROVIDED.

STORM WATER POLLUTION PREVENTION PLAN

THE CONDITIONS OF THE NPDES CONSTRUCTION STORM WATER GENERAL PERMIT (SEE PROPOSAL) SHALL BE MET DURING ALL STAGES OF CONSTRUCTION. THE LOCATION AND TIMING OF ALL EROSION AND SEDIMENT CONTROL ITEMS SHALL BE FIELD ADJUSTED TO PREVENT SIGNIFICANT IMPACTS ON RECEIVING WATERS. IMPLEMENTATION OF THIS STORM WATER POLLUTION PREVENTION PLAN SHALL CONTINUE THROUGHOUT THE DURATION OF THE PROJECT OR UNTIL SUCH TIME THAT THE UPSLOPE DISTURBED AREAS ARE STABILIZED.

INSTALLATION OF SEDIMENT BASINS/DAMS, PERIMETER FILTER FABRIC FENCE, AND DITCH CHECKS SHALL BE AS PER CONSTRUCTION AND MATERIAL SPECIFICATION 207.03.

ALL REASONABLE ATTEMPTS SHOULD BE MADE TO MINIMIZE THE TOTAL AREA OF DISTURBED LAND.

AREAS TO REMAIN DORMANT FOR MORE THAN 21 DAYS SHOULD BE IMMEDIATELY STABILIZED WITH CONSTRUCTION SEEDING AND MULCHING, EROSION CONTROL MATTING OF OTHER APPROPRIATE EROSION CONTROL MEASURES.

PRIOR TO CONSTRUCTION, THE CONTRACTOR IS TO PREPARE AND HAVE APPROVED A STORM WATER POLLUTION PREVENTION PLAN IN ACCORDANCE WITH SS 832. AN ELECTRONIC FILE IN MICROSTATION FORMAT OF THE PROJECT SITE PLAN WILL BE PROVIDED FOR THE CONTRACTOR'S USE.

THE FOLLOWING QUANTITIES HAVE BEEN INCLUDED IN THE GENERAL SUMMARY FOR THE WORK NOTED ABOVE:

832, STORM WATER POLLUTION PREVENTION PLAN	LUMP SUM	
832, EROSION CONTROL	2200000	EACH

SEE SHEETS NO. 277-286 FOR PROJECT SITE PLAN

ITEM 659, SEEDING AND MULCHING

SEEDING AND MULCHING SHALL BE APPLIED TO ALL AREAS OF EXPOSED SOIL BETWEEN THE RIGHT-OF-WAY LINES AND WITHIN THE CONSTRUCTION LIMITS. QUANTITY CALCULATIONS FOR ITEM 659, SEEDING AND MULCHING, ARE BASED ON THESE LIMITS AND QUANTITIES ARE CARRIED ON THE CROSS SECTIONS.

THE FOLLOWING ESTIMATED QUANTITIES ARE TO BE USED AS DIRECTED BY THE ENGINEER TO PROMOTE GROWTH AND CARE OF PERMANENT SEEDED AREAS.

659, SEEDING AND MULCHING	435557	SQ. YD.
659, SOIL ANALYSIS TEST	6	EACH
659, TOPSOIL	50960	CU. YD.
659, COMMERCIAL FERTILIZER	64.02	TON
659, LIME	94.85	ACRE
659, WATER	2541	M. GAL.
659, MOWING	1033	M. SQ. FT.
659, INTER-SEEDING	22954	SQ. YD.
659, REPAIR SEEDING AND MULCHING	22954	SQ. YD.

CALCULATIONS FOR THE ABOVE QUANTITIES SHOWN ON SHEET NO. 273

ITEM 617 - COMPACTED AGGREGATE, AS PER PLAN

IN LOW SHOULDER AREAS EXCEEDING 1", AND ADJACENT TO THE SAFETY EDGE, OR AS DIRECTED BY THE ENGINEER, RECYCLED ASPHALT PAVEMENT (RAP) SHALL BE USED IN AREAS ADJACENT TO THE PAVED BERM. THE RAP SHALL HAVE A MINIMUM PG CONTENT OF 4.5% AND MEET THE FOLLOWING GRADATION. ONCE THE STOCKPILE MEETS THE GRADATION, THE PG CONTENT OF THE RAP SHALL BE DETERMINED PER 441.03. THE RAP ANALYSIS MUST BE SUBMITTED TO THE ENGINEER FOR APPROVAL 2 WEEKS PRIOR TO USE. METHOD OF MEASUREMENT SHALL BE AS PER 617.06. PLACEMENT AND COMPACTION SHALL MEET THE REQUIREMENTS OF ITEM 617. ALL MATERIALS, LABOR, EQUIPMENT, TOOLS AND INCIDENTALS NECESSARY TO COMPLETE THE WORK SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM 617 COMPACTED AGGREGATE, AS PER PLAN.

MODIFIED GRADATION SHALL APPLY:

SIEVE	TOTAL PERCENT PASSING
1- 1/2"	100
3/4"	50-100
NO. 4	35-70
NO. 30	9-33
NO. 200	0-13

AN ESTIMATED QUANTITY HAS BEEN SHOWN IN THE PAVEMENT CALCULATIONS.

ITEM 304 - AGGREGATE BASE, AS PER PLAN

GRANULATED SLAG (GS) SHALL NOT BE PERMITTED FOR THIS ITEM. ALL OTHER REQUIREMENTS OF SECTION 304 AND 703.17 OF THE CONSTRUCTION AND MATERIAL SPECIFICATION SHALL STILL BE APPLICABLE.

ITEM SPECIAL PRESSURE RELIEF JOINT, TYPE A

THIS ITEM SHALL CONFORM TO CMS 451 AND STANDARD CONSTRUCTION DRAWING BP-2.3.

PAVING UNDER GUARDRAIL

THIS OPERATION SHALL INCLUDE PREPARATION OF THE GRADED SHOULDER USING 209, LINEAR GRADING, AS PER PLAN, AND PAVING UNDER THE GUARDRAIL USING 448 ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 1, PG 64-22, UNDER GUARDRAIL, AS PER PLAN.

ITEM 209, LINEAR GRADING, AS PER PLAN, SHALL CONSIST OF EXCAVATING TOPSOIL, AND PLACING GRANULAR MATERIAL.

ALL COLLECTED DEBRIS AND TOPSOIL, INCLUDING RHIZOMES, ROOTS AND OTHER VEGETATIVE PLANT MATERIAL SHALL BE REMOVED AND DISPOSED OF AS SPECIFIED IN 105.17.

THE REMOVED MATERIAL SHALL BE REPLACED WITH COMPACTABLE GRANULAR MATERIAL CONFORMING TO 703.16 PLACED TO GRADE AS DETAILED ON THE TYPICAL SECTION OR AS APPROVED BY THE ENGINEER.

ALL EQUIPMENT, MATERIALS AND LABOR REQUIRED TO PERFORM THE WORK OUTLINED ABOVE SHALL BE INCLUDED FOR PAYMENT UNDER ITEM 209, LINEAR GRADING, AS PER PLAN.

PAVING UNDER GUARDRAIL SHALL CONSIST OF PLACING ITEM 448 TO THE DEPTH SPECIFIED USING ONE OF THE FOLLOWING METHODS:

METHOD A:
1. SET GUARDRAIL POSTS
2. PLACE ITEM 448

METHOD B:
1. PLACE ITEM 448
2. BORE ASPHALT AT POST LOCATIONS (MAY BE OMITTED IF STEEL POSTS ARE USED)
3. SET GUARDRAIL POSTS
4. PATCH AROUND POSTS. THE MATERIALS USED FOR PATCHING SHALL BE AN ASPHALT CONCRETE APPROVED BY THE ENGINEER. PATCHED AREAS SHALL BE COMPACTED USING EITHER HAND OR MECHANICAL METHODS. FINISHED SURFACES SHALL BE SMOOTH AND SLOPED TO DRAIN AWAY FROM THE POSTS.

ALL EQUIPMENT, MATERIALS AND LABOR REQUIRED TO PERFORM THE WORK OUTLINED ABOVE, WITH THE EXCEPTION OF SETTING GUARDRAIL POSTS, SHALL BE INCLUDED FOR PAYMENT UNDER ITEM 448, ASPHALT CONCRETE, INTERMEDIATE COURSE, TYPE 1, PG 64-22, UNDER GUARDRAIL, AS PER PLAN.

ITEM 448 - ASPHALT CONCRETE SURFACE COURSE, TYPE 1, PG64-22, AS PER PLAN.

DO NOT USE ANY FINE OR COARSE AGGREGATE WITH A "SR" OR "SRH" DESIGNATION ACCORDING TO THE OFFICE OF MATERIALS MANAGEMENT (OMM) IN ANY JOB MIX FORMULA (JMF) FOR THIS ITEM.

ITEM 442 - ASPHALT CONCRETE SURFACE COURSE, 12.5mm, TYPE B (446), AS PER PLAN

THE REQUIREMENTS OF 442 AND 446 WILL APPLY; DEVIATIONS FROM THESE ARE AS FOLLOWS:

THE PERCENTAGE OF RECLAIMED MATERIAL PROPOSED FOR USE WILL BE INCLUDED IN THE MIX DESIGN PROCESS TO ESTABLISH THE JOB MIX FORMULA (JMF) IN ACCORDANCE WITH 401.04.

MATERIALS:	THE MATERIALS SHALL BE:
AGGREGATES	703.05*

*THE VIRGIN COARSE AGGREGATE PORTION OF THE MIXTURE WILL CONTAIN 50% AIR COOLED BLAST FURNACE SLAG (ACBFS) AND MEET THE REQUIREMENTS OF 703.05.

USE AN NDES OF 50, AN NMAX OF 75 AND THE COMBINATION OF NEW AGGREGATES, NEW ASPHALT BINDER, AND RECLAIMED MATERIAL SHALL BE AS REQUIRED TO PRODUCE A COMPOSITION CONTAINING A MINIMUM OF 6.0% NEW ASPHALT BINDER RESULTING IN A MINIMUM TOTAL BINDER OF 6.5%.

DO NOT USE ANY FINE OR COARSE AGGREGATE WITH A 'SR' OR 'SRH' DESIGNATION ACCORDING TO THE OFFICE OF MATERIALS MANAGEMENT (OMM) IN ANY JOB MIX FORMULA (JMF) FOR THIS ITEM.

CALCULATED JDL
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GENERAL NOTES

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BENCHING OF FOUNDATION SLOPES

ALTHOUGH CROSS-SECTIONS INDICATE SPECIFIC LOCATIONS AND DIMENSIONS FOR PROPOSED SPECIAL BENCHING OF THE FOUNDATIONS IN CERTAIN AREAS, NO WAIVER OF THE SPECIFICATIONS IS INTENDED BENCH. ALL OTHER SLOPED EMBANKMENT AREAS SHALL BE BENCHED AS SET FORTH IN 203.05. NO ADDITIONAL PAYMENT WILL BE MADE FOR BENCHING REQUIRED UNDER THE PROVISIONS OF 203.05. DURING THE CONSTRUCTION OF THE BENCHES ALONG THE OUTSIDE SHOULDERS EXISTING STORM DRAIN CONDUITS MAY BE ENCOUNTERED WHICH WILL NEED TO BE REMOVED AND REPLACED AT THE COMPLETION OF THE EMBANKMENT.

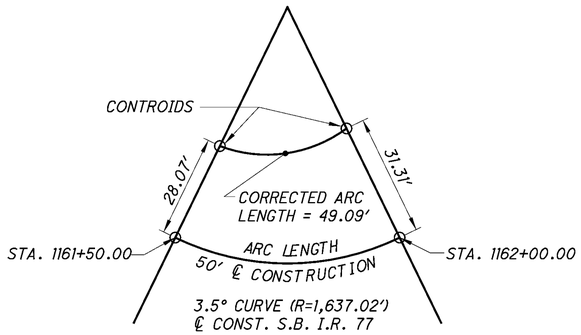
SUBGRADE STABILIZATION

ITEM 206 - CEMENT STABILIZED SUBGRADE HAS BEEN PROVIDED THROUGHOUT THE LIMITS OF THE PROJECT ON THE MAINLINE, SPEED CHANGE LANE AND RAMP PAVEMENT. BASED UPON SOILS REPORT RECOMMENDATIONS 14" DEPTHS OF CEMENT STABILIZATION IS REQUIRED TO PROVIDE A SUITABLE SUBGRADE. ITEM 605 - UNDERDRAINS SHALL BE INSTALLED AFTER ITEM 206 - CEMENT STABILIZATION IS PERFORMED.

EARTHWORK CORRECTIONS FOR CURVATURE

IN CERTAIN AREAS, THE CURVATURE OF THE ROADWAY HAS A SIGNIFICANT EFFECT ON THE VOLUMES OF CUT AND FILL. THESE AREAS EXIST WHERE THE CENTROID OF EITHER AREA IS SIGNIFICANTLY DISPLACED FROM THE CENTERLINE (SEE DIAGRAM BELOW). WHENEVER THE TRUE VOLUME OF CUT OR FILL, BASED ON THE CENTROIDAL ARC LENGTH, DIFFERED BY ONE CUBIC YARD PER YARD OF DISTANCE BETWEEN ADJACENT CROSS SECTIONS FROM THE ESTIMATED VOLUMES BASED ON THE SURVEY LENGTH, A CORRECTION HAS BEEN MADE IN THE CROSS SECTIONS. THE EARTHWORK ADJUSTMENTS ARE LOCATED AT THE FOLLOWING LOCATIONS:

RAMP G
RAMP E



ROCK EXCAVATION TABLE

DESCRIPTION	DIRECTION		STATION	WIDTH	DEPTH	END AREA		VOLUME		204		
						CUT	FILL	CUT	FILL	SUBGRADE COMPACTION	EXCAVATION OF SUBGRADE	EMBANKMENT
						SQ. FT.	SQ. FT.	SQ. FT.	SQ. FT.	SQ. YD.	CU. YD.	CU. YD.
I.R. 271												
BEGIN ROCK CUT	N.B.		550+00.00	50	1	50.00	50.00					
	N.B.		552+05.00	50	1	50.00	50.00	380	380	1139	380	380
	N.B.	BK	556+60.00	77	1.25	96.25	96.25	1233	1233	3211	1233	1233
	N.B.	AH	556+60.00	42	1.25	52.50	52.50					
END ROCK CUT	N.B.	BK	558+00.00	42	2	84.00	84.00	354	354	654	354	354
BEGIN ROCK CUT	N.B.	AH	270+00.00	42	0	0.00	0.00					
END ROCK CUT	N.B.	BK	290+00.00	50	0	0.00	0.00	0	0	10223	0	0
BEGIN ROCK CUT		AH	300+00.00	50	0	0.00	0.00					
	N.B.		302+00.00	50	1.75	87.50	87.50	325	325	1112	325	325
	N.B.		303+50.00	50	1.75	87.50	87.50	487	487	834	487	487
	N.B.	BK	306+60.00	77	2.25	173.25	173.25	1497	1497	2188	1497	1497
	N.B.	AH	306+60.00	42	2	84.00	84.00					
	N.B.		308+00.00	42	2	84.00	84.00	436	436	654	436	436
END ROCK CUT	N.B.	BK	308+50.00	42	0	0.00	0.00	78	78	234	78	78
			TABLE CONTINUED RIGHT									

ROCK EXCAVATION

THE SOIL PROFILES SHOW SEVERAL AREAS WHERE ROCK MATERIALS MAY BE ENCOUNTERED.

ROCK SHALL BE REMOVED TO 24" BELOW THE BOTTOM OF THE 302 ASPHALT BASE COURSE OR CONCRETE PAVEMENT. AFTER DEDUCTING THE 6" OF 304 BASE BELOW THE 452 AN ADDITIONAL 18" OF EXCAVATION WILL NEED TO BE PERFORMED TO REMOVE THE NECESSARY ROCK. THE TABLE BELOW CALCULATES THE 18" OF EXCAVATION BELOW THE 304 BASE COURSE. GB-1 AND 204.05 CALL FOR THE ROCK EXCAVATION TO EXTEND 12" BEYOND THE SHOULDER.

ROCK EXCAVATION TABLE

DESCRIPTION	DIRECTION		STATION	WIDTH	DEPTH	END AREA		VOLUME		204		
						CUT	FILL	CUT	FILL	SUBGRADE COMPACTION	EXCAVATION OF SUBGRADE	EMBANKMENT
						SQ. FT.	SQ. FT.	SQ. FT.	SQ. FT.	SQ. YD.	CU. YD.	CU. YD.
I.R. 271 (CONTINUED FROM LEFT)												
BEGIN ROCK CUT	N.B.	AH	316+50.00	63	0	0.00	0.00					
	N.B.		317+00.00	63	0.75	47.25	47.25	44	44	350	44	44
	N.B.		319+00.00	63	0.25	15.75	15.75	234	234	1400	234	234
	N.B.		321+00.00	63	0.5	31.50	31.50	175	175	1400	175	175
	N.B.	BK	322+50.00	60	0	0.00	0.00	88	88	1025	88	88
	N.B.	AH	329+50.00	42	0	0.00	0.00					
	N.B.		330+00.00	42	0.5	21.00	21.00	20	20	234	20	20
	N.B.		332+50.00	42	1.5	63.00	63.00	389	389	1167	389	389
	N.B.	BK	335+50.00	42	0.5	21.00	21.00	467	467	1400	467	467
	N.B.	AH	340+00.00	42	0	0.00	0.00					
END ROCK CUT	N.B.	BK	341+00.00	42	1	42.00	42.00	78	78	467	78	78
BEGIN ROCK CUT	S.B.	AH	274+00.00	42	0	0.00	0.00					
END ROCK CUT	S.B.	BK	282+00.00	42	0	0.00	0.00	0	0	3734	0	0
BEGIN ROCK CUT	S.B.	AH	298+00.00	57.12	0	0.00	0.00					
	S.B.		300+94.08	63	0.5	31.50	31.50	172	172	1963	172	172
	S.B.		303+44.08	63	1.5	94.50	94.50	584	584	1750	584	584
	S.B.	BK	305+44.08	77	1.5	115.50	115.50	778	778	1556	778	778
	S.B.	AH	305+44.08	42	1.5	63.00	63.00					
END ROCK CUT	S.B.	BK	306+00.00	42	1.75	73.50	73.50	142	142	261	142	142
BEGIN ROCK CUT	S.B.	AH	313+40.80	77	1	77.00	77.00					
	S.B.		315+00.00	64	0.5	32.00	32.00	312	312	1209	312	312
	S.B.		318+00.00	50	0	0.00	0.00	178	178	1900	178	178
	S.B.		320+46.93	50	0	0.00	0.00	0	0	1372	0	0
	S.B.		321+46.93	42	0	0.00	0.00	0	0	512	0	0
	S.B.		323+50.00	42	0.75	31.50	31.50	119	119	948	119	119
	S.B.		325+00.00	42	0	0.00	0.00	88	88	700	88	88
	S.B.		334+00.00	42	0	0.00	0.00	0	0	4200	0	0
	S.B.		335+50.00	42	1	42.00	42.00	117	117	700	117	117
	S.B.		336+50.00	42	1	42.00	42.00	156	156	467	156	156
END ROCK CUT	S.B.	BK	341+00.00	42	0	0.00	0.00	350	350	2100	350	350
RAMP E												
BEGIN ROCK CUT	N.B.	AH	306+57.93	27	1.5	40.50	40.50					
END ROCK CUT	N.B.	BK	315+00.00	27	1.5	40.50	40.50	1263	1263	2525	1263	1263
RAMP F												
BEGIN ROCK CUT	S.B.	AH	305+42.35	27	1.5	40.50	40.50					
END ROCK CUT	S.B.	BK	306+00.00	27	1.5	40.50	40.50	84	84	168	84	84
RAMP G												
BEGIN ROCK CUT	S.B.	AH	311+50.00	27	1.5	40.50	40.50					
END ROCK CUT	S.B.	BK	313+41.69	27	1.5	40.50	40.50	296	296	591	296	296
TOTALS CARRIED TO GENERAL SUMMARY										**54348**	**10924**	**10924**

CALCULATED JDL
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GENERAL NOTES

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ITEM 606 - GUARDRAIL, TYPE 5

UNDERDRAIN OUTLETS SHALL BE LOCATED ALONG EACH GUARDRAIL RUN BEFORE THE FIRST POST IS SET. POSTS LOCATED OVER AN UNDERDRAIN OUTLET SHALL NOT BE DRIVEN, BUT SHALL BE SET IN DRILLED OR DUG HOLES. POSTS LOCATED WHERE THE AVAILABLE POST EMBEDMENT DEPTH IS LESS THAN 3'-5" AND GREATER THAN 2'-6" SHALL BE ENCASED WITH 4" (MIN.) OF CONCRETE. SEE SCD GR-1.1 AND GR-2.1, (SHEETS 785A-785E) FOR ADDITIONAL DETAILS.

NOTE: FOR PLAN REFERENCES TO STANDARD CONSTRUCTION DRAWINGS GR-1.1, 2.1, 3.1, 3.2, 4.2, 5.1, 5.2, 5.3, 6.1, 6.2, SEE SHEETS 785A TO 785O

CONNECTION BETWEEN EXISTING AND PROPOSED GUARDRAIL

WHEN IT IS NECESSARY TO SPLICE PROPOSED GUARDRAIL TO EXISTING GUARDRAIL, ONLY THE EXISTING GUARDRAIL SHALL BE CUT, DRILLED, OR PUNCHED. THE CONNECTION SHALL BE MADE USING A "W-BEAM RAIL SPLICE" AS SHOWN IN AASHTO M 180. A 25 FOOT TAPER MAY BE USED BY THE CONTRACTOR TO MAKE THE CONNECTION BETWEEN THE EXISTING GUARDRAIL AT 27" INSTALLATION HEIGHT AND THE PROPOSED GUARDRAIL AT THE 29"± (±1") INSTALLATION HEIGHT PER SCD GR-1.1 (SHEETS 785A-785C ,) PAYMENT SHALL BE INCLUDED IN THE CONTRACT PRICE FOR THE RESPECTIVE GUARDRAIL ITEMS.

ITEM 606 - ANCHOR ASSEMBLY, TYPE E

THIS ITEM SHALL CONSIST OF FURNISHING AND INSTALLING ANY OF THE GUARDRAIL END TERMINALS AS LISTED ON ROADWAY ENGINEERING'S WEB PAGE UNDER ROADSIDE SAFETY DEVICES FOR APPROVED GUARDRAIL END TREATMENTS. INSTALLATION SHALL BE AT THE LOCATIONS SPECIFIED IN THE PLANS, IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS.

THE FACE OF THE TYPE E IMPACT HEAD SHALL BE COVERED WITH A SHEET OF TYPE G REFLECTIVE SHEETING, PER CMS 730.19.

REFER TO THE MANUFACTURER'S INSTRUCTIONS REGARDING THE INSTALLATION OF, AND THE GRADING AROUND THE FOUNDATION TUBES AND GROUND STRUT. THE TOP OF ANY FOUNDATION TUBE SHOULD BE LESS THAN 4 INCHES ABOVE THE GROUND. THE PLACEMENT OF THE FOUNDATION TUBES SHOULD BE AN PPROPRIATE DEPTH BELOW THE LEVEL LINE IN ORDER TO MAINTAIN THE FINISHED GUARDRAIL HEIGHT OF 27.75 INCHES FROM THE EDGE OF THE SHOULDER.

ON-SITE GRADING IS REQUIRED IF THE TOP OF THE FOUNDATION TUBES OR TOP OF THE GROUND STRUT DOES PROJECT MORE THAN 4 INCHES ABOVE THE GROUND LINE.

PAYMENT FOR THE ABOVE WORK SHALL BE MADE AT THE UNIT PRICE BID FOR ITEM 606, ANCHOR ASSEMBLY, TYPE E, EACH, AND SHALL INCLUDE ALL LABOR, TOOLS, EQUIPMENT AND MATERIALS NECESSARY TO CONSTRUCT A COMPLETE AND FUNCTIONAL ANCHOR ASSEMBLY SYSTEM, INCLUDING ALL RELATED TRANSITIONS, REFLECTIVE SHEETING, HARDWARE, GRADING, EMBANKMENT AND EXCAVATION NOT SEPARATELY SPECIFIED, AS REQUIRED BY THE MANUFACTURER.

ITEM 625 - PULL BOX, MISC. : ADJUST TO GRADE

DUE TO THE NATURE OF THE PROPOSED CONSTRUCTION, THE EXISTING PULL BOXES MAY NEED TO BE ADJUSTED TO MEET THE PROPOSED GRADING.

THIS ITEM OF WORK SHALL REQUIRE THE CAREFUL REMOVAL OF AN EXISTING CONCRETE PULL BOX THAT SHALL THEN BE REINSTALLED AT A LOCATION DESIGNATED BY THE ENGINEER. EXTREME CARE SHOULD BE EXERCISED BY THE CONTRACTOR IN THE EXCAVATION AND REMOVAL OF THE EXISTING PULL BOX SO AS NOT TO DAMAGE THE EXISITNG CONDUIT(S) AND/OR SIGNAL CABLE(S). THE CONTRACTOR SHALL INSTALL ANY EXTENSIONS TO THE EXISTING CONDUIT(S) IF NECESSARY, TO INSURE PROPER ORIENTATION IN THE NEW PULL BOX. THE EXTENSION(S) SHALL BE COMPATIBLE WITH THE EXISTING CONDUIT SIZE AND TYPE. IF THE EXISTING SIGNAL CABLE MUST BE SEVERED TO INSTALL THE CONDUIT EXTENSIONS THE CONTRACTOR SHALL ALSO FURNISH AND INSTALL CABLE SPLICE KIT(S) OR CONNECTOR(S) CONFORMING TO THE REQUIREMENTS OF 725.15. SPLICES MUST BE MADE IN THE PREVIOUS PULL BOX IN LINE. IF THE SEVERING OF THE EXISTING CABLE WILL CAUSE A DISRUPTION TO THE OPERATION EXISTING TRAFFIC SIGNAL. THE CONTRACTOR SHALL PROVIDE FLAGGERS AND SIGNS AS PER THE OMUTCD TO CONTROL TRAFFIC UNTIL THE SEVERED CABLE IS REPAIRED.

PAYMENT FOR THIS ITEM WILL INCLUDE CONDUIT, CABLE, CONNECTORS, ALL LABOR, MATERIAL, AND EQUIPMENT REQUIRED TO PERFORM THE ITEM OF WORK AS DESCRIBED ABOVE. BASIS OF PAYMENT WILL BE AT THE CONTRACT BID PRICE PER EACH.

ITEM 606 - ANCHOR ASSEMBLY, TYPE B

THIS ITEM SHALL CONSIST OF FURNISHING AND INSTALLING ANY OF THE GUARDRAIL END TERMINALS AS LISTED ON ROAD-WAY ENGINEERING'S WEB PAGE UNDER ROADSIDE SAFETY DEVICES FOR APPROVED GUARDRAIL END TREATMENTS. INSTALLATION SHALL BE AT THE LOCATIONS SPECIFIED IN THE PLANS, IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS.

REFER TO THE MANUFACTURER'S INSTRUCTIONS REGARDING THE INSTALLATION OF, AND THE GRADING AROUND, THE FOUNDATION TUBES AND GROUND STRUT. THE TOP OF ANY FOUNDATION TUBE SHOULD BE LESS THAN 4 INCHES ABOVE THE GROUND. THE PLACEMENT OF THE FOUNDATION TUBES SHOULD BE AN APPROPRIATE DEPTH BELOW THE LEVEL LINE IN ORDER TO MAINTAIN THE FINISHED GUARDRAIL HEIGHT OF 27.75 INCHES FROM THE EDGE OF THE SHOULDER.

ON-SITE GRADING IS REQUIRED IF THE TOP OF THE FOUNDATION TUBES OR TOP OF THE GROUND STRUT DOES PROJECT MORE THAN 4 INCHES ABOVE THE GROUND LINE.

THE FACE OF THE TYPE B IMPACT HEAD SHALL BE COVERED WITH TYPE G REFLECTIVE SHEETING, PER CMS 730.19.

PAYMENT FOR THE ABOVE WORK SHALL BE MADE AT THE UNIT PRICE BID FOR ITEM 606, ANCHOR ASSEMBLY, TYPE B, EACH, AND SHALL INCLUDE ALL LABOR, TOOLS, EQUIPMENT AND MATERIALS NECESSARY TO CONSTRUCT A COMPLETE AND FUNCTIONAL ANCHOR ASSEMBLY SYSTEM, INCLUDING REFLECTIVE SHEETING AND ALL RELATED HARDWARE, GRADING, EMBANKMENT AND EXCAVATION NOT SEPARATELY SPECIFIED, AS REQUIRED BY THE MANUFACTURER.

UNSUITABLE MATERIAL EXCAVATION - IR 271 RAMP B AT CR 17 (BRECKSVILLE ROAD)

DUE TO THE SHALLOW INSTALLATION OF THE EXISTING UTILITIES ON IR 271 RAMP B AT CR 17 (BRECKSVILLE RD.) BETWEEN STATION 62+00 AND THE INTERSECTION THE FOLLOWING QUANTITIES HAVE BEEN PROVIDED TO BE USED AS DIRECTED BY THE ENGINEER IN LIEU OF THE SUBGRADE CEMENT STABILIZATION PROVIDED IN THE PLANS. THE QUANTITIES ARE BASED ON AN UNDERCUTTING DEPTH OF 2 FT. AND LATERAL LIMITS OF THE UNDERCUT SHOULD BE EXTENDED 18" BEYOND THE EDGE OF THE PAVED SHOULDERS.

ITEM 204 - EXCAVATION OF SUBGRADE	326	CU. YD.
ITEM 204 - GRANULAR MATERIAL, TYPE B	326	CU. YD.
ITEM 204 - GEOTEXTILE FABRIC	488	SQ. YD.

ITEM 607 - FENCE, TYPE 47, AS PER PLAN

THIS ITEM OF WORK SHALL CONSIST OF THE REMOVAL OF EXISTING POSTS WITH EXPOSED FOUNDATIONS AT STREAM CROSSINGS WHERE THE FENCE FABRIC IS OTHERWISE IN GOOD CONDITION. THE CONTRACTOR SHALL REMOVE THE POSTS AND EXPOSED FOUNDATIONS IN SUCH A WAY AS TO AVOID DAMAGE TO THE FENCE FABRIC.

NEW POSTS SHALL BE INSTALLED AND ENCASED IN CONCRETE PER SCD F-3.4, CROSSING TYPE 2. WHEN THE CONCRETE ENCASEMENT HAS CURED, THE FENCE SHALL BE REATTACHED TO THE NEW POSTS AND BARBED WIRE SHALL BE INSTALLED PER THE ABOVE STANDARD CONSTRUCTION DRAWING.

PAYMENT FOR THE ABOVE SHALL BE MADE AT THE UNIT PRICE BID PER FOOT OF FENCE, TYPE 47, AS PER PLAN AND SHALL BE COMPLETE COMPENSATION FOR ALL MATERIAL, TOOLS, LABOR AND INCIDENTALS NECESSARY TO COMPLETE THE ABOVE WORK IN PLACE AND ACCEPTED.

SPEEDINFO PLAN NOTE

SPEEDINFO DEVICES WITHIN PROJECT LIMITS

THE CONTRACTOR SHALL TAKE MEASURES TO MAINTAIN THE PROPER OPERATION OF ANY SPEEDINFO DEVICES WITHIN THE PROJECT LIMITS. THE DEVICES ARE CYLINDRICAL TUBES WITH SOLAR PANELS ATTACHED TO THEM. ODOT WILL COORDINATE THE RELOCATION OF ANY DEVICES THAT MAY BE AFFECTED BY THE CONTRACTOR'S OPERTION. THE CONTRACTOR SHALL NOTIFY THE PROJECT ENGINEER A MINIMUM OF TEN (10) CALENDAR DAYS PRIOR TO PERFORMING ANY WORK WHICH REQUIRES DEVICE RELOCATION. THE PROJECT ENGINEER SHALL THEN NOTIFY SPEEDINFO, INC. AND ODOT OFFICE OF TRAFFIC ENGINEERING OF ANY DEVICES THAT REQUIRE RELOCATION. IF IMMEDIATE ATTENTION IS REQUIRED, THE CONTRACTOR SHALL CONTACT THE REGIONAL INSTALLER FOR SPEEDINFO, INC. FROM THE PROVIDED CONTACT INFORMATION AND ALSO NOTIFY ODOT.

SPEEDINFO CONTACT PROCEDURE

PROCEDURE: THE FOLLOWING PROCEDURE SHOULD BE USED WHEN IMMEDIATE REMOVAL OR IMPORTANT INFORMATION REGARDING MAINTENANCE OF A SPEEDINFO SENSOR NEEDS TO BE RELAYED TO THE CORRECT PERSONNEL.

THE MAINTENANCE CONTRACTOR FOR THE RELEVANT REGION SHOULD BE CONTACTED FIRST IN ORDER TO PROVIDE THE QUICKEST POSSIBLE ATTENTION TO THE SITUATION. REGIONAL CONTRACTORS ARE GIVEN BELOW. IF THE CONTRACTOR CANNOT BE REACHED, THE LIST OF STATEWIDE CONTACTS SHOULD BE USED IN THE ORDER IT IS PRESENTED. AN EMAIL INFORMING ALL PARTIES OF THE SITUATION SHOULD ALSO BE SENT AT THE EARLIEST CONVENIENCE.

1. REGIONAL CONTACTS

CLEVELAND, AKRON/CANTON, AND TOLEDO

JEFF CHASE, A+A SAFETY
WORK: (216) 283-8040
CELL: (216) 854-6531
JEFFC@AASAFETYINC.COM

2. STATEWIDE CONTACTS

CHARLIE ARMIGER, SPEEDINFO
OFFICE: (408)333-9960
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CARMIGER@SPEEDINFO.COM

GEORGE SAYLOR
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GEORGE.SAYLOR@DOT.STATE.OH.US

JASON YERAY
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BRYAN.COMER@DOT.STATE.OH.US

THE SPEEDINFO DEVICES WITHIN THE PROJECT LIMITS ARE LOCATED AT THE BELOW LOCATIONS. THE CONTRACTOR SHALL BE ADVISED THAT THESE LOCATIONS MAY HAVE CHANGED BY THE TIME OF CONSTRUCTION AND SHALL USE THE ABOVE PROCEDURE FOR ANY OTHER SPEED DETECTION DEVICES.

FENCE LENGTHS

THE LENGTHS OF FENCE SHOWN IN THE PLANS ARE HORIZONTAL DIMENSIONS MEASUREMENTS OF THE FINAL QUANTITIES SHALL BE MADE IN ACCORDANCE WITH ITEM 607. WHEN CONNECTING PROPOSED FENCE TO EXISTING FENCE, EXISTING POST HAVE NOT BEEN PRECISELY IDENTIFIED. FIELD ADJUSTMENTS MAY BE NECESSARY.

ITEM 202 - FENCE REMOVED

THE WORK SHALL INCLUDE REMOVAL OF ALL OF THE EXISTING RIGHT OF WAY FENCE AND ASSOCIATED HARDWARE AND DISPOSAL. CORNER, END AND ANCHOR POSTS AND THEIR ASSOCIATED CONCRETE ENCASEMENTS ARE TO BE COMPLETELY REMOVED. METAL POSTS SHALL BE REMOVED OR DRIVEN A MINIMUM OF 6 INCHES BELOW THE EXISTING GROUND SURFACE.

SPEEDINFO TABLE

SENSOR NAME	LOCATION ID	ROAD NAME	ROAD DIRECTION	MILE POST	DESCRIPTION
A1F3610001975	12497	I-271	N	8.4	I-271 N @ EXIT 10 I-77 N CLEVELAND 1-1/2 MILES, EXIT 9 RICHFIELD 1 MILE - TRUSS
A1F3610001975	12498	I-271	S	8.4	I-271 N @ EXIT 10 I-77 N CLEVELAND 1-1/2 MILES, EXIT 9 RICHFIELD 1 MILE - TRUSS
A1F2710001820	12450	I-271	N	9.4	I-271 N @ EXIT 10 I-77 N CLEVELAND 1/2 MILES, EXIT 9 RICHFIELD - TRUSS
A1F2710001820	12451	I-271	S	9.4	I-271 N @ EXIT 10 I-77 N CLEVELAND 1/2 MILES, EXIT 9 RICHFIELD - TRUSS
A1F2710001821	12449	I-271	N	10.45	I-271 N @ LIGHT POLE JUST NORTH OF I-271 N TO I-77 N ON RAMP OVERPASS
A1F2710001821	12448	I-271	S	10.45	I-271 N @ LIGHT POLE JUST NORTH OF I-271 N TO I-77 N ON RAMP OVERPASS
A1F3610001934	12488	I-271	S	11.6	I-271 S @ EXIT 10 I-77 AKRON CLEVELAND 1-1/2 MILES - ROAD SIGN (EXTENSION REQUIRED)
A1F2710001825	12459	I-271	N	12.3	I-271 N @ EXIT 12 OH-303 RICHFIELD PENINSULA - ROAD SIGN (EXTENSION REQUIRED)
A1F3610001936	12489	I-271	N	13.1	I-271 N @ EXIT 12 OH-303 RICHFIELD PENINSULA 1/2 MILE - ROAD SIGN (EXTENSION REQUIRED)
A1F3610001936	12490	I-271	S	13.1	I-271 N @ EXIT 12 OH-303 RICHFIELD PENINSULA 1/2 MILE - ROAD SIGN (EXTENSION REQUIRED)

CALCULATED JDL
CHECKED PRS

GENERAL NOTES

SUM-271-2.33

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FARM DRAINS

ALL FARM DRAINS, WHICH ARE ENCOUNTERED DURING CONSTRUCTION, SHALL BE PROVIDED WITH UNOBSTRUCTED OUTLETS.

EXISTING COLLECTORS WHICH ARE LOCATED BELOW THE ROADWAY DITCH ELEVATIONS, AND WHICH CROSS THE ROADWAY, SHALL BE REPLACED WITHIN THE (RIGHT OF WAY) (CONSTRUCTION) LIMITS BY ITEM 603 - CONDUIT, TYPE B, ONE COMMERCIAL SIZE LARGER THAN THE EXISTING CONDUIT.

EXISTING COLLECTORS AND ISOLATED FARM DRAINS, WHICH ARE ENCOUNTERED ABOVE THE ELEVATION OF ROADWAY DITCHES, SHALL BE OUTLETTED INTO THE ROADWAY DITCH BY 603 TYPE F CONDUIT. THE OPTIMUM OUTLET ELEVATION SHALL BE 12" ABOVE THE FLOWLINE ELEVATION OF THE DITCH.

THE LOCATION, TYPE, SIZE AND GRADE OF REPLACEMENTS SHALL BE DETERMINED BY THE ENGINEER AND PAYMENT SHALL BE MADE ON FINAL MEASUREMENTS.

EROSION CONTROL PADS AND ANIMAL GUARDS SHALL BE PROVIDED AT THE OUTLET END OF ALL FARM DRAINS AS PER STANDARD CONSTRUCTION DRAWING DM-1.1, EXCEPT WHEN THEY OUTLET INTO A DRAINAGE STRUCTURE. PAYMENT FOR THE EROSION CONTROL PADS AND ANIMAL GUARDS AND ANY NECESSARY BENDS OR BRANCHES SHALL BE INCLUDED FOR PAYMENT IN THE PERTINENT CONDUIT ITEMS.

THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN INCLUDED IN THE GENERAL SUMMARY FOR THE WORK NOTED ABOVE:

603, 8" CONDUIT, TYPE F	150	FT.
601 ROCK CHANNEL PROTECTION TYPE C WITH FABRIC FILTER	15	CU. YD.

REVIEW OF DRAINAGE FACILITIES

BEFORE ANY WORK IS STARTED ON THE PROJECT AND AGAIN BEFORE FINAL ACCEPTANCE BY THE STATE, REPRESENTATIVES OF THE STATE AND THE CONTRACTOR, ALONG WITH LOCAL REPRESENTATIVES, SHALL MAKE AN INSPECTION OF ALL EXISTING SEWERS WHICH ARE TO REMAIN IN SERVICE AND WHICH MAY BE AFFECTED BY THE WORK. THE CONDITION OF THE EXISTING CONDUITS AND THEIR APPURTENANCES SHALL BE DETERMINED FROM FIELD OBSERVATIONS. RECORDS OF THE INSPECTION SHALL BE KEPT IN WRITING BY THE STATE. ALL NEW CONDUITS, INLETS, CATCH BASINS, AND MANHOLES CONSTRUCTED AS A PART OF THE PROJECT SHALL BE FREE OF ALL FOREIGN MATTER AND IN A CLEAN CONDITION BEFORE THE PROJECT WILL BE ACCEPTED BY THE STATE.

ALL EXISTING SEWERS INSPECTED INITIALLY BY THE ABOVE MENTIONED PARTIES SHALL BE MAINTAINED AND LEFT IN A CONDITION REASONABLY COMPARABLE TO THAT DETERMINED BY THE ORIGINAL INSPECTION. ANY CHANGE IN THE CONDITION RESULTING FROM THE CONTRACTOR'S OPERATIONS SHALL BE CORRECTED BY THE CONTRACTOR TO THE SATISFACTION OF THE ENGINEER.

PAYMENT FOR ALL OPERATIONS DESCRIBED ABOVE SHALL BE INCLUDED IN THE CONTRACT PRICE FOR THE PERTINENT 603 CONDUIT ITEMS.

EXISTING AND PROPOSED DRAINAGE FOR CONSTRUCTION PHASES

DRAINAGE ITEMS MAY EXTEND THROUGH MULTIPLE CONSTRUCTION PHASES. ALL EXISTING AND PROPOSED DRAINAGE ITEMS SHALL BE PROVIDED WITH A POSITIVE OUTLET AT ALL TIMES AS APPROVED BY THE ENGINEER. ALL MATERIALS, LABOR AND INCIDENTALS NECESSARY TO PROVIDE THESE TEMPORARY OUTLETS UNTIL THE PLAN DELINEATED OUTLET CAN BE CONSTRUCTED SHALL BE INCLUDED WITH ITEM 615, ROADS FOR MAINTAINING TRAFFIC, AND NO ADDITIONAL PAYMENTS SHALL BE MADE.

ITEM SPECIAL - PIPE CLEANOUT

THIS WORK SHALL CONSIST OF REMOVING SEDIMENT AND DEBRIS FROM THE EXISTING DRAINAGE CONDUITS SPECIFIED IN THE PLANS. ALL MATERIALS REMOVED SHALL BE DISPOSED OF AS PER 105.16 AND 105.17. ALL PIPES SHALL BE CLEANED OUT TO THE SATISFACTION OF THE ENGINEER.

CLEANOUT OF THE PIPE SHALL BE PAID FOR AT THE UNIT PRICE BID FOR ITEM SPECIAL-PIPE CLEANOUT. THIS PRICE SHALL INCLUDE THE COST FOR MATERIAL, EQUIPMENT, LABOR, AND ALL INCIDENTALS REQUIRED TO COMPLETE THE CLEANOUT.

IN ADDITION TO THE QUANTITIES LISTED IN THE PLANS, THE FOLLOWING QUANTITY HAS BEEN INCLUDED IN THE GENERAL SUMMARY FOR USE BY THE ENGINEER FOR THE ABOVE NOTED WORK FOR ADDITIONAL SITUATIONS ENCOUNTER DURING CONSTRUCTION.

SPECIAL, PIPE CLEANOUT	150	FT.

EXISTING UNDERDRAINS

PROVIDE UNOBSTRUCTED OUTLETS FOR ALL EXISTING UNDER-DRAINS ENCOUNTERED DURING CONSTRUCTION.

PROVIDE AN OUTLET PER STANDARD CONSTRUCTION DRAWING DM-1.1 FOR ALL UNDERDRAINS THAT OUTLET TO A SLOPE.

UNDERDRAINS THAT CAN BE CONNECTED TO THE NEW OR EXISTING UNDERDRAINS AT THE END OF THE PROJECT LIMITS AS WELL AS ALL NECESSARY BENDS OR BRANCHES REQUIRED FOR CONNECTION ARE INCLUDED IN THE BASIS OF PAYMENT FOR UNCLASSIFIED PIPE UNDERDRAINS.

THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN INCLUDED IN THE GENERAL SUMMARY FOR THE WORK NOTED ABOVE:

601	TIED CONCRETE BLOCK MAT, TYPE 1	10	SQ. YD.
603	6" CONDUIT, TYPE F FOR UNDERDRAIN OUTLETS, 707.33 OR 707.41	350	FT.
604	PRECAST REINFORCED CONCRETE OUTLET	15	EACH
605	6" UNCLASSIFIED PIPE UNDERDRAINS WITH FABRIC WRAP, 707.31 OR 707.41, AS PER PLAN	350	FT.

ADDITIONALLY THE FOLLOWING BENDS AND BRANCHES INCIDENTAL TO ITEM 603 HAVE BEEN ANTICIPATED FOR USE IN CONNECTING THE EXISTING UNDERDRAINS.

6" x 6" x 6" TEE	10	EACH
6" x 6" x 6" 45° WYE	10	EACH

SPRING DRAINS

THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN CARRIED TO THE GENERAL SUMMARY FOR USE AS DIRECTED BY THE ENGINEER FOR DRAINING ANY SPRINGS SHOWN IN THE PLAN OR ENCOUNTERED DURING CONSTRUCTION. THE FOLLOWING TYPES OF PIPES MAY BE USED: 707.33, 707.41, 707.42 OR 707.45 PERFORATED PER 707.31.

SPRING DRAINS SHALL BE CONSTRUCTED AS SHOWN ON STANDARD CONSTRUCTION DRAWING DM-1.1 AND PAID FOR AT THE CONTRACT PRICE FOR:

604, PRECAST REINFORCED CONCRETE OUTLET	2	FT.
605, 6" UNCLASSIFIED PIPE UNDERDRAIN FOR SPRINGS	350	FT.
605, AGGREGATE DRAIN FOR SPRINGS	100	FT.

ITEM SPECIAL - FILL AND PLUG EXISTING CONDUIT

THIS ITEM SHALL CONSIST OF THE CONSTRUCTION OF BULK-HEADS IN AN EXISTING 15", 24", 36" AND 84" DIAMETER CONDUIT AND FILLING THE AREA THUS SEALED OFF WITH ITEM 613, SAND OR OTHER MATERIAL APPROVED BY THE ENGINEER.

BULKHEADS SHALL BE LOCATED AT THE LIMITS OF THE AREA TO BE FILLED AS INDICATED ON THE PLANS. THE BULKHEADS SHALL CONSIST OF BRICK OR CONCRETE MASONRY WITH A MINIMUM THICKNESS OF 12 INCHES.

THE FILL MATERIAL SHALL BE PUMPED INTO PLACE, OR PLACED BY OTHER MEANS APPROVED BY THE ENGINEER, SO THAT, AFTER SETTLEMENT, AT LEAST 90 PERCENT OF THE CROSS-SECTIONAL AREA OF THE CONDUIT, FOR ITS ENTIRE LENGTH, SHALL BE FILLED. THE LENGTH OF FILLED AND PLUGGED CONDUIT TO BE PAID FOR SHALL BE THE ACTUAL NUMBER OF FEET (MEASURED ALONG THE CENTERLINE OF EACH CONDUIT FROM OUTER FACE TO OUTER FACE OF BULKHEADS) FILLED AND PLUGGED AS DESCRIBED ABOVE.

THE LENGTH, MEASURED AS PROVIDED ABOVE, SHALL BE PAID FOR AT THE CONTRACT PRICE PER FOOT FOR, ITEM SPECIAL, FILL AND PLUG EXISTING CONDUIT.

ITEM 601 - RIPRAP USING 6" REINFORCED CONCRETE SLAB, AS PER PLAN

THE RIPRAP SHALL BE CONSTRUCTED WITH CUTOFF WALLS ON ALL SIDES AS DETAILED ON SHEET 762 AND ON S.C.D. DM-1.1. INCLUDED IN THE COST OF THE 601- RIPRAP USING 6" REINFORCED CONCRETE SLAB, AS PER PLAN SHALL BE ALL LABOR, MATERIALS, EQUIPMENT AND INCIDENTALS NECESSARY TO CONSTRUCT THIS ITEM AS SHOWN PER CMS 601.

ITEM 202- REMOVAL MISC.: PAVED GUTTER, TYPE 1-2

THIS ITEM SHALL INCLUDE THE REMOVAL AND DISPOSAL OF AN EXISTING PAVED GUTTER AS PER CMS 202.05. ALL LABOR, MATERIALS AND EQUIPMENT NECESSARY TO COMPLETE THIS ITEM OF WORK SHALL BE INCLUDED IN THE UNIT CONTRACT BID PRICE PER FOOT FOR ITEM 202 REMOVAL MISC.: PAVED GUTTER, TYPE 1-2.

ITEM 202- REMOVAL MISC.: PAVED GUTTER, TYPE 1-2

THIS ITEM SHALL INCLUDE THE REMOVAL AND DISPOSAL OF EXISTING RIPRAP USING 6" REINFORCED CONCRETE SLAB AS PER CMS 202.05. ALL LABOR, MATERIALS AND EQUIPMENT NECESSARY TO COMPLETE THIS ITEM OF WORK SHALL BE INCLUDED IN THE UNIT CONTRACT BID PRICE PER FOOT FOR ITEM 202 REMOVAL MISC.: PAVED GUTTER, TYPE 1-2.

ITEM 604 - CATCH BASIN NO. 3A, AS PER PLAN

THIS ITEM OF WORK SHALL CONSIST OF REVISING SCD CB-2.2 TO YIELD A 4" CURB HEIGHT EQUAL TO CURB, TYPE 4-C. THE ELEVATION OF THE BACK WALL AND A PORTION OF THE SIDE WALLS OF THE CATCH BASIN SHALL BE LOWERED 2". ALL COSTS SHALL BE INCLUDED IN THE UNIT PRICE BID FOR CATCH BASIN, NO. 3A, AS PER PLAN.

ITEM 202-CATCH BASIN REMOVED, AS PER PLAN

IN ADDITION TO THE CMS DESCRIPTION FOR CATCH BASIN REMOVED, THIS ITEM OF WORK SHALL INCLUDE THE REMOVAL OF ANY CONCRETE APRON, CURBS AND CUTOFF WALLS SURROUNDING OR ATTACHED TO THE CATCH BASIN TO BE REMOVED UNLESS ITEMIZED SEPARATELY.

DRAINAGE CROSSING MISCELLANEOUS

IN ADDITION TO THE QUANTITIES SPECIFIED FOR THE VARIOUS CULVERT CROSSINGS AND MEDIAN OUTLET LOCATIONS, THE FOLLOWING QUANTITIES HAVE BEEN INCLUDED IN THE GENERAL SUMMARY FOR USE BY THE ENGINEER FOR ADDITIONAL OR NEW WORK DEEMED NECESSARY AT THE STREAM CROSSINGS AT THE TIME OF CONSTRUCTION. NO MATERIALS SHALL BE ORDERED WITHOUT PRIOR AGREEMENT BY THE ENGINEER.

ITEM 202	FENCE REMOVED	50	FT.
ITEM 209	DITCH CLEANOUT	100	FT.
ITEM 601	RIPRAP, USING 6" REINFORCED CONCRETE SLAB	30	SQ.YD.
ITEM 601	RCP, TYPE B, WITH FABRIC FILTER	10	CU.YD.
ITEM 601	RCP, TYPE C, WITH FABRIC FILTER	10	CU.YD.
ITEM 607	FENCE, TYPE 47	50	FT.
ITEM 607	FENCE, TYPE 47, AS PER PLAN	50	FT.

ITEM 605 - 6" DEEP PIPE UNDERDRAIN, WITH FABRIC WRAP, AS PER PLAN
ITEM 605 - 6" UNCLASSIFIED PIPE UNDERDRAIN, WITH FABRIC WRAP, AS PER PLAN
ITEM 605 - 6" ROCK CUT UNDERDRAIN, AS PER PLAN

BASED UPON REVIEW OF THE ORIGINAL PLANS, THE EXISTING UNDERDRAIN LOCATIONS MAY BE IN CLOSE PROXIMITY TO AND INFLUENCE THE NORMAL INSTALLATION OF THE PROPOSED UNDERDRAIN INSTALLATION AT THE LOCATIONS IDENTIFIED IN THE SUMMARY.

IN ADDITION TO THE REQUIREMENTS OF CMS 605, THE COST OF THIS PAY ITEM SHALL ALSO INCLUDE THE TIE-IN OF EXISTING UNDERDRAINS WHERE ENCOUNTERED, THE REMOVAL OF EXISTING UNDERDRAINS WHERE IN CONFLICT WITH PROPOSED AND ADDITIONAL BACKFILL MATERIAL REQUIRED IF NECESSARY TO FILL IN ADJACENT EXISTING UNDERDRAIN TRENCHES.

CROSSINGS AND CONNECTIONS TO EXISTING PIPES AND UTILITIES

WHERE PLANS PROVIDE FOR A PROPOSED CONDUIT TO BE CONNECTED TO, OR CROSS OVER OR UNDER AN EXISTING SEWER OR UNDERGROUND UTILITY, THE CONTRACTOR SHALL LOCATE THE EXISTING PIPES OR UTILITIES BOTH AS TO LINE AND GRADE BEFORE STARTING TO LAY THE PROPOSED CONDUIT.

IF IT IS DETERMINED THAT THE ELEVATION OF THE EXISTING CONDUIT, OR EXISTING APPURTENANCE TO BE CONNECTED, DIFFERS FROM THE PLAN ELEVATION OR RESULTS IN A CHANGE IN THE PLAN CONDUIT SLOPE, THE ENGINEER SHALL BE NOTIFIED BEFORE STARTING CONSTRUCTION OF ANY PORTION OF THE PROPOSED CONDUIT WHICH WILL BE AFFECTED BY THE VARIANCE IN THE EXISTING ELEVATIONS.

IF IT IS DETERMINED THAT THE PROPOSED CONDUIT WILL INTERSECT AN EXISTING SEWER OR UNDERGROUND UTILITY IF CONSTRUCTED AS SHOWN ON THE PLAN, THE ENGINEER SHALL BE NOTIFIED BEFORE STARTING CONSTRUCTION OF ANY PORTION OF THE PROPOSED CONDUIT WHICH WOULD BE AFFECTED BY THE INTERFERENCE WITH AN EXISTING FACILITY.

PAYMENT FOR ALL THE OPERATIONS DESCRIBED ABOVE SHALL BE INCLUDED IN THE CONTRACT PRICE FOR THE PERTINENT 603 CONDUIT ITEM.

ITEM 603 - CONDUIT, BORED OR JACKED, BY SIZE, 748.06, AS PER PLAN

WHERE IT IS SPECIFIED THAT A CONDUIT BE INSTALLED BY THE METHOD OF BORING OR JACKING, NO TRENCH EXCAVATION SHALL BE CLOSER THAN 10 FEET TO THE EDGE OF PAVEMENT. PROVIDE A 0.50 INCH (12.7 mm) UNGALVANIZED CASING PIPE CONFORMING TO 748.06 THAT HAS JOINTS WITH A CIRCUMFERENCIAL FULLY PENETRATING B-U4B WELD THAT IS PERFORMED BY AN ODOT APPROVED FIELD WELDER. THE INSTALLED CASING PIPE IS THE STORM WATER CONVEYANCE CARRIER UNLESS OTHERWISE SPECIFIED IN THE PLANS. HYDROSTATIC TESTING IS NOT REQUIRED FOR THE CASING PIPE.

CALCULATED JDL CHECKED PRS

GENERAL NOTES

SUM-271-2.33

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ITEM 619 FIELD OFFICE, TYPE C, AS PER PLAN

619.01 DESCRIPTION
619.02 GENERAL
619.03 METHOD OF MEASUREMENT
619.04 BASIS OF PAYMENT

619.01 DESCRIPTION. THIS WORK CONSISTS OF PROVIDING, MAINTAINING, AND SUBSEQUENTLY REMOVING A FIELD OFFICE FOR THE EXCLUSIVE USE OF THE DEPARTMENT FOR THE DURATION OF THE CONTRACT AT A LOCATION APPROVED BY THE ENGINEER.

619.02 GENERAL. FURNISH A COMPLETELY FUNCTIONAL FIELD OFFICE OF THE TYPE SPECIFIED IN THE CONTRACT PRIOR TO BEGINNING WORK.

THE FIELD OFFICE WILL BE A SUITE TYPE OFFICE WITH A MINIMUM OF 2,000 SQUARE FEET AND AT GROUND LEVEL WITH A MINIMUM CEILING HEIGHT OF EIGHT (8) FEET. PROVIDE TWO (2) OUTSIDE DOORS, LOCKABLE VANDAL PROOF CYLINDER TYPE DEAD BOLTS AND LOCKABLE WINDOWS. THE FLOOR SPACE WILL BE DIVIDED INTO A RESTROOM, ONE GENERAL OFFICE AREA (MINIMUM 300 SQUARE FEET), NOT LESS THAN THREE INDIVIDUAL OFFICES (MINIMUM 120 SQUARE FEET EACH), AND ONE CONFERENCE ROOM (MINIMUM 300 SQUARE FEET), AS DEEMED NECESSARY BY THE ENGINEER.

FURNISH EACH FIELD OFFICE WITH A MEANS FOR MAINTAINING ROOM TEMPERATURE BETWEEN 68° F AND 80° F.

FURNISH ELECTRIC SERVICE FOR EACH FIELD OFFICE.

FURNISH NEAT, SANITARY, ENCLOSED TOILET ACCOMMODATIONS CONNECTED TO AN EXISTING SANITARY SEWER LINE FOR THE USE OF THE OCCUPANTS OF THE FIELD OFFICE, MEETING APPLICABLE STATE AND LOCAL CODES AND ORDINANCES. FURNISH ASSOCIATED LAVATORY AND SANITARY SUPPLIES. POTABLE HOT AND COLD RUNNING WATER WILL BE PROVIDED IN THE RESTROOM FOR SANITARY PURPOSES.

FURNISH TRASH COLLECTION SERVICE / DUMPSTER.

FURNISH PROFESSIONAL, BONDED AND INSURED JANITORIAL SERVICE WITH A WEEKLY CLEANING OF THE ENTIRE OFFICE TO INCLUDE THE RESTROOM FACILITIES FOR THE DURATION OF THE PROJECT.

FURNISH BOTTLED DRINKING WATER SERVICE WITH A HOT AND COLD DISPENSER AND ASSOCIATED SUPPLIES.

PROVIDE A LOCKABLE WOOD OR METAL STORAGE BOX OF SUFFICIENT SIZE TO STORE A NUCLEAR DENSITY GAUGE AND AN ELECTRICAL CONNECTION FOR THE GAUGE.

TELEPHONE SERVICE AND TELEPHONES, INCLUDING ALL NECESSARY WIRING, WILL BE SUPPLIED AT EACH DESK, THE CONFERENCE ROOM, AND THE GENERAL OFFICE AREA INTERCONNECTED BETWEEN TELEPHONES. ALL TELEPHONES WILL BE EQUIPPED WITH SPEAKER PHONE AND TWO (2) LINE CAPABILITIES WITH TWO (2) LINE SERVICE AT EACH LOCATION. A TOTAL OF THREE (3) OUTSIDE LINES WILL BE PROVIDED, ONE OF WHICH WILL BE DEDICATED FOR THE USE OF THE FACSIMILE MACHINE. THE TWO (2) LINES FOR THE TELEPHONE WILL HAVE THE ABILITY TO AUTOMATICALLY TRANSFER TO THE NEXT LINE IF ANOTHER LINE IS IN USE.

PROVIDE A BROADBAND INTERNET CONNECTION CAPABLE OF MINIMUM DOWNLOAD SPEEDS GREATER THAN 10 MBPS, UPLOAD SPEEDS GREATER THAN 2 MBPS, AND NETWORK LATENCY LESS THAN 50 MILLISECONDS. WHEN MULTIPLE BROADBAND SERVICES ARE AVAILABLE, THE FOLLOWING IS THE PREFERRED ORDER: CABLE, DSL, CELLULAR, AND WIRELESS RADIO. SATELLITE COMMUNICATION IS NOT COMPATIBLE WITH ODOT VPN CONNECTION AND WILL NOT BE ACCEPTED. SUPPLY ALL WIRING, ROUTERS, MODEMS (CAPABLE TO BE CONFIGURED IN BRIDGE MODE) , SOFTWARE, AND INCIDENTALS NECESSARY TO CONNECT FIVE (5) PERSONAL COMPUTERS AT SEPARATE LOCATIONS, DESIGNATED BY THE PROJECT ENGINEER, THROUGHOUT THE OFFICE TO THE SYSTEM.

PROVIDE THE FOLLOWING OFFICE FURNITURE AND EQUIPMENT:

1. SIX (6) TELEPHONES WITH SPEAKER PHONE AND TWO (2) LINE CONNECTION.
2. ONE (1) FACSIMILE MACHINE OF THE PLAIN PAPER TYPE, CAPABLE OF STORING INCOMING DOCUMENTS WHEN OUT OF INK/PAPER, TWENTY (20) PAGE AUTOMATIC DOCUMENT FEEDER. PROVIDE THE FACSIMILE MACHINE WITH ALL NECESSARY MAINTENANCE AND PAPER SUPPLIES.
3. ONE (1) DIGITAL ANSWERING MACHINE WITH TIME / DATE STAMP.
4. ONE (1) MULTI-FUNCTION COLOR PRINT/COPY/SCAN MACHINE WITH THE FOLLOWING SPECIFICATIONS:
   - A. COPY/PRINT SPEED: 30 PPM (LETTER), 15 PPM (LEGAL), 15 PPM (LEDGER)
   - B. DUPLEX PRINTING SUPPORT
   - C. AUTOMATIC DOCUMENT FEEDER WITH 50 SHEET DUPLEXING DOCUMENT FEEDER
   - D. COPIER MEMORY: 1 GB
   - E. INSTALLED HDD: 40 GB
   - F. DATA ENCRYPTION AND HDD ERASE SUPPORT INCLUDED WITH MACHINE
   - G. INTERNAL STAPLER SUPPORT
   - H. PAPER CAPACITY: 250 SHEET X 2 TRAYS, 50 SHEET BYPASS TRAY
   - I. NETWORK INTERFACE: 10/100 BASE-TX, 1000 BASE-TX
   - J. ANALOG FAX SUPPORT INCLUDED WITH MACHINE
   - K. COLOR SCANNING WITH THE FOLLOWING REQUIREMENTS:
     - I. RESOLUTION: 600 X 600 DPI
     - II. SCAN AREA UP TO 11" X 17"
     - III. SCANNING PROTOCOL SUPPORT - TCP/IP, SMTP, SMB, FTP, POP3, NCP
     - IV. FILE SCAN TYPES SUPPORTED: SINGLE PAGE TIFF, JPEG, PDF, MULTI-PAGE TIFF, PDF, AND OCR PDF
     - V. SCANNING SUPPORT FOR SCAN-TO-EMAIL, HDD, SMB (FOLDER), URL, AND TWAIN
   - L. NETWORK PROTOCOL SUPPORT FOR TCP/IP
   - M. CLIENT AND SERVER PRINT DRIVER SUPPORT FOR PCL PRINT DRIVERS
   - N. SERVER OPERATING SYSTEM SUPPORT FOR WINDOWS SERVER 2008 AND WINDOWS SERVER 2008 R2 (32 BIT/64 BIT)
   - O. CLIENT PRINT DRIVER SUPPORT FOR WINDOWS XP/WINDOWS 7 (BOTH PCL 32 BIT/64 BIT
   - P. MINIMUM PRINT/COPY RESOLUTION OF 600 X 600 DPI
   - Q. SECURE PRINTING WITH PASSWORD OR PIN FROM CLIENT TO COPIER
   - R. PROVIDE THE COPIER WITH ALL NECESSARY TONER, PAPER SUPPLIES, AND A SERVICE CONTRACT WITH A RESPONSE TIME OF 24 HOURS OR LESS FOR MAINTENANCE AND SUPPLIES OF THE COPY MACHINE.
5. ONE (1) SLIM DESIGN DIGITAL CAMERA, 12.1 MEGAPIXELS, IMAGE RESOLUTION UP TO 4000 X 2248, 20X OPTICAL ZOOM, 4X DIGITAL ZOOM, 3" LCD SCREEN, PANORAMA MODE, IMAGE STITCHING, MOVIE MODE, USB 2.0 INTERFACE AND SHALL INCLUDE THE FOLLOWING ACCESSORIES; 16 GB SECURE DIGITAL MEMORY CARD, LITHIUM ION RECHARGEABLE BATTERY, BATTERY CHARGER, AC ADAPTER, WRIST STRAP, USB INTERFACE CABLE, AUDIO/VIDEO CABLE, SOFT FORM FITTING CARRYING CASE, DIGITAL PHOTO SOFTWARE FOR PC COMPUTER. WINDOWS 7 COMPATIBLE. ONE (1) DIGITAL HD FLASH MEMORY VIDEO CAMERA, 16 GB INTERNAL MEMORY, 3" MINIMUM LCD SCREEN SIZE, 60X OPTICAL ZOOM, 2000X DIGITAL ZOOM, 470K VIDEO RESOLUTION, SUPER STEADY SHOT IMAGE STABILIZATION, SUPER NIGHT SHOT INFRARED SYSTEM FOR FULL COLOR IMAGING IN LOW LIGHT CONDITIONS, BUILT-IN MICROPHONE, RECHARGEABLE LITHIUM ION BATTERY, BATTERY CHARGER, AC ADAPTER, CARRYING CASE, UNIVERSAL TRIPOD, USB INTERFACE CABLE, DIGITAL VIDEO CAMERA SOFTWARE FOR PC COMPUTER.
6. EIGHT (8) PRINTING DESK CALCULATORS WITH TAPE.
7. EIGHT (8) DESK AND CHAIR SETS.
8. TEN (10) STACKABLE CHAIRS.
9. EIGHT (8) WORK TABLES, 30" X 72"
10. ONE (1) DRAFTING/PLAN TABLE WITH A MINIMUM 36" X 60" WORKING SURFACE WITH AN APPROPRIATE ADJUSTABLE HEIGHT DRAFTING CHAIR.
11. THREE (3), 4-DRAWER, LOCKABLE, LEGAL SIZE METAL FILING CABINETS.
12. FOUR (4), 2-DRAWER, LOCKABLE, LEGAL SIZE METAL FILING CABINETS.
13. THREE (3) PORTABLE, TYPE 2-A:10-BC, FIVE POUND SIZE FIRE EXTINGUISHERS.
14. THREE (3) PLAN RACKS, EACH CAPABLE OF HANDLING THE BREAKDOWN OF 22 X 34 INCH SIZED PLANS INTO TEN SECTIONS.
15. TWENTY (20) ALL-WEATHER PARKING SPACES.
16. EIGHT (8) 24-QUART WASTE BASKETS WITH APPROPRIATE SIZED TRASH BAGS.

EXPENSES FOR THE OPERATION OF THE FIELD OFFICE TO INCLUDE BUT NOT BE LIMITED TO ELECTRICAL SERVICE, HEATING/COOLING, RUNNING WATER SERVICE, SEWER SERVICE, TELEPHONE SERVICE, JANITORIAL SERVICE, BOTTLED WATER SERVICE, HIGH SPEED ONLINE SERVICE, ETC. WILL BE THE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR WILL ALSO PROVIDE ALL NECESSARY SUPPLIES AND MAINTENANCE FOR ALL EQUIPMENT THAT THE CONTRACTOR IS REQUIRED TO FURNISH.

THE CONTRACTOR WILL RETAIN RESPONSIBILITY FOR RISK OF LOSS OR DAMAGE TO SAID FIELD OFFICE, FURNISHINGS, AND EQUIPMENT WHILE THE OFFICE IS IN USE FOR THIS CONTRACT.

THE FIELD OFFICE WILL BE APPROVED IN ADVANCE BY THE ENGINEER AND FULLY OPERATIONAL WITHIN 30 DAYS AFTER THE SIGNING AND EXECUTION OF THE CONTRACT OR PRIOR TO THE START OF ANY CONSTRUCTION WORK, WHICHEVER COMES FIRST.

619.03 METHOD OF MEASUREMENT. THE DEPARTMENT WILL MEASURE FIELD OFFICE, TYPE C, AS PER PLAN BY THE NUMBER OF MONTHS THE OFFICE IS MAINTAINED. A PARTIAL MONTH AT THE END OF THE PROJECT WILL BE PAID AS A FULL MONTH.

619.04 BASIS OF PAYMENT. THE DEPARTMENT WILL PAY FOR ACCEPTED QUANTITIES AT THE CONTRACT PRICE AS FOLLOWS:

ITEM	UNIT	DESCRIPTION
619	MONTH	FIELD OFFICE, TYPE C, AS PER PLAN

ITEM SPECIAL - MISC.: VERTICAL CLEARANCE:

AFTER ALL CONSTRUCTION HAS BEEN COMPLETED, A REGISTERED SURVEYOR WILL TAKE VERTICAL CLEARANCE MEASUREMENTS AT LOCATIONS INDICATED ON THE APPROVED ODOT FORM (AVAILABLE IN THE DISTRICT 4 STRUCTURES AND PAVEMENT OFFICE). THE FINAL MEASUREMENTS SHALL BE RECORDED ON THE FORM AND SUBMITTED TO THE PROJECT ENGINEER AND THE DISTRICT 4 STRUCTURES AND PAVEMENT ENGINEER. THE RECORD SHALL BEAR THE SEAL OF THE LICENSED SURVEYOR WHO HAS TAKEN THE MEASUREMENTS. THIS WORK SHALL BE PERFORMED AT THE FOLLOWING STRUCTURES:

SUM-176-0106	= 2 EACH
SUM-271-0294	= 2 EACH
SUM-271-0354L	= 2 EACH
SUM-271-0354R	= 2 EACH
SUM-271-0354B	= 2 EACH
SUM-271-0375L	= 1 EACH
SUM-271-0375R	= 1 EACH
SUM-303-03502	= 2 EACH
SUM-271-0652	= 2 EACH
	TOTAL = 16 EACH

THE FOLLOWING QUANTITY HAS BEEN CARRIED TO THE GENERAL SUMMARY:

ITEM SPECIAL - MISC.: VERTICAL CLEARANCE, 16 EACH.

WETLANDS AND STREAMS

THE PLANS DEPICT DELINEATED WETLANDS AND STREAMS WITHIN THE PROJECT LIMITS (SEE PLANS FOR ADDITIONAL INFORMATION). NO WORK SHALL BE PERMITTED IN THE DESIGNATED WETLANDS AND STREAMS BEYOND THE PROJECT CONSTRUCTION LIMITS IDENTIFIED IN THE PLANS.

CALCULATED JDL
CHECKED PRS

GENERAL NOTES

SUM-271-2.33

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ITEM 604 - MONUMENT ASSEMBLY

ADJUSTABLE MONUMENT ASSEMBLIES AS SHOWN ON STANDARD CONSTRUCTION DRAWING RM-1.1 WILL BE PLACED BY THE CONTRACTOR AT THE TIME OF CONSTRUCTION AT THE LOCATIONS SHOWN ON PAGE 674-675 OR ON THE CENTERLINE SURVEY PLAT OF THE RIGHT OF WAY PLAN. MONUMENTS SHALL BE PLACED IN ACCORDANCE WITH THE REFERENCE TIES PROVIDED WITHIN THIS PLAN. THE ACTUAL PLACEMENT OF THE DATUM POINT WITHIN THE MONUMENT ASSEMBLY SHALL BE DIRECTLY AND PHYSICALLY SUPERVISED IN THE FIELD BY A LICENSED SURVEYOR IN THE STATE OF OHIO. SURVEY NOTES VERIFYING THE ACCURACY OF THE POINT SHALL BE SEALED BY THE SURVEYOR AND RETURNED TO THE DISTRICT 4 SURVEY OPERATIONS MANAGER. ANY REQUEST FOR NON PERFORMANCE SHALL BE DIRECTED IN WRITING TO THE DISTRICT 4 PRODUCTION ADMINISTRATOR OR SURVEY OPERATIONS MANAGER AND MUST INCLUDE PROPER WRITTEN JUSTIFICATION.

BARRIER REFLECTORS (BRECKSVILLE ROAD)

THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN CARRIED TO THE GENERAL SUMMARY FOR USE AT LOCATIONS DIRECTED BY THE ENGINEER FOR INSTALLING/REPLACING BARRIER REFLECTORS ON EXISTING BRECKSVILLE ROAD BARRIER RUNS WITHIN THE PROJECT LIMITS.

626, BARRIER REFLECTOR, 20 EACH

INTERSECTIONS

INTERSECTIONS WILL BE RESURFACED 2 FT. BEYOND THE EDGE LINE, UNLESS OTHERWISE DIRECTED BY THE ENGINEER OR INDICATED IN THE PLAN. INTERSECTIONS SHALL BE PAVED AFTER COMPLETION OF THE SURFACE COURSE OR WITH THE MAINLINE PAVEMENT IF THIS CAN BE ACCOMPLISHED WITHOUT CHANGING THE VELOCITY AND DIRECTION OF THE PAVER. USE THE SAME ASPHALT CONCRETE AS THE MAINLINE PAVEMENT. PROVIDE A SMOOTH TRANSITION TO THE EXISTING PAVEMENT. ANY GRADING OR PRIME NECESSARY TO ACCOMPLISH THIS WORK SHALL BE INCLUDED IN THE COST OF THE PERTINENT BID ITEM.

SIDEROAD SEEDING AND MULCHING

THE FOLLOWING QUANTITIES ARE PROVIDED TO PROMOTE GROWTH AND CARE OF PERMANENT SEEDED AREAS:

659, SEEDING AND MULCHING	2995 SO. YD.
659, REPAIR SEEDING AND MULCHING	150 SO. YD.
659, INTER-SEEDING	150 SO. YD.
659, COMMERCIAL FERTILIZER	0.67 TON
659, LIME	0.62 ACRES
659, WATER	25 M. GAL.
659, MOWING	3 M. SQ. FT.

SEEDING AND MULCHING SHALL BE APPLIED TO ALL AREAS OF EXPOSED SOIL BETWEEN THE RIGHT-OF-WAY LINES, AND WITHIN THE CONSTRUCTION LIMITS FOR AREAS OUTSIDE THE RIGHT-OF-WAY LINES COVERED BY WORK AGREEMENT OR SLOPE EASEMENT. QUANTITY CALCULATIONS FOR SEEDING AND MULCHING ARE BASED ON THESE LIMITS.

ITEM 202 - REMOVAL MISC.: EXISTING SLOPE PROTECTION (BRECKSVILLE ROAD)

A QUANTITY OF THIS ITEM HAS BEEN PROVIDED IN THE PLANS FOR THE REMOVAL OF THE EXISTING SLOPE PROTECTION FOR BRIDGE NO. SUM-271-0294 (BRECKSVILLE ROAD) AS SHOWN ON SHEETS 679 & 680.

ITEM 203 - EXCAVATION (FOR PAVEMENT REPAIR) - SIDEROADS

THIS ITEM OF WORK SHALL CONSIST OF REMOVING AND DISPOSING OF ALL UNSUITABLE MATERIAL BY EXCAVATING THE EXISTING SUBGRADE AND SUBBASE TO AN AVERAGE DEPTH OF 6 INCHES OR AS DIRECTED BY THE ENGINEER. EXACT LIMITS OF REMOVAL SHALL BE DETERMINED BY THE ENGINEER. ALL EQUIPMENT, LABOR, TOOLS, AND INCIDENTALS NECESSARY TO COMPLETE THIS ITEM SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM 203 EXCAVATION (FOR PAVEMENT REPAIR). THE FOLLOWING ESTIMATED QUANTITY HAS BEEN CARRIED TO THE GENERAL SUMMARY:

203, EXCAVATION (FOR PAVEMENT REPAIR) 5 CU YD

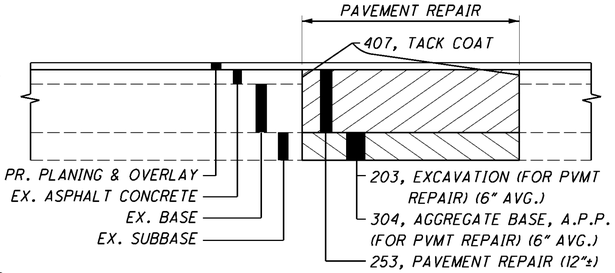
ITEM 304 - AGGREGATE BASE (FOR PAVEMENT REPAIR), AS PER PLAN - SIDEROADS

THE FOLLOWING ESTIMATED QUANTITY HAS BEEN PROVIDED AND SHALL BE USED AS DIRECTED BY THE ENGINEER TO BACKFILL AREAS WHICH WERE EXCAVATED UNDER ITEM 203 EXCAVATION (FOR PAVEMENT REPAIR). GRANULATED SLAG SHALL NOT BE PERMITTED IN CONJUNCTION WITH ITEM 304 AGGREGATE BASE. THE FOLLOWING ESTIMATED QUANTITY HAS BEEN CARRIED TO THE GENERAL SUMMARY:

304, AGGREGATE BASE (FOR PAVEMENT REPAIR), AS PER PLAN 2 CU YD

ITEM 253 - PAVEMENT REPAIR, AS PER PLAN - SIDEROADS

A QUANTITY OF THIS ITEM SHALL BE PROVIDED FOR USE AS DIRECTED BY THE ENGINEER. THIS ITEM SHALL CONSIST OF CUTTING AND REMOVING DETERIORATED PAVEMENT FULL DEPTH AND PLACING 12"± 301 ASPHALT CONCRETE BASE, PG64-22. THE MAXIMUM COMPACTED DEPTH OF ANY ONE LAYER SHALL BE 6 INCHES. UNLESS OTHERWISE DIRECTED BY THE ENGINEER, THIS ITEM SHALL BE PERFORMED AFTER THE COMPLETION OF MAINLINE PAVEMENT PLANING. ALSO, THIS ITEM SHALL COMMENCE WITHIN 7 DAYS OF THE COMPLETION OF MAINLINE PAVEMENT PLANING. IT IS NOT THE INTENT TO REPAIR EVERY DETERIORATED AREA WITHIN THE PROJECT. THE ENGINEER SHALL DETERMINE WHICH AREAS ARE TO BE REPAIRED. PAYMENT SHALL BE BASED ON THE ACTUAL NUMBER OF SQUARE YARDS OF PAVEMENT REMOVED AND REPLACED TO THE LIMITS DESIGNATED BY THE ENGINEER. GRANULATED SLAG SHALL NOT BE PERMITTED IN CONJUNCTION WITH ITEM 304 AGGREGATE BASE.



PAVEMENT REPAIR DETAIL

PAINTING AND SEALING OPERATIONS:

THE CONTRACTOR SHALL TAKE ALL PRECAUTIONS NECESSARY TO PREVENT EPOXY-URETHANE SEALER, PAINT, OR OTHER MATERIALS USED TO REPAIR, CLEAN, SEAL, OR TREAT ANY STRUCTURE FROM ENTERING ANY STREAMS, WETLANDS OR OTHER WATERS OF THE UNITED STATES AND TAKE THE APPROPRIATE ACTIONS IN THE EVENT OF A RELEASE.

STREAM CHANNEL EXCAVATION/IN STREAM WORK:

THE CONTRACTOR SHALL TAKE ALL PRECAUTIONS NECESSARY TO PREVENT ANY INCIDENTAL DISCHARGES ASSOCIATED WITH THE EXCAVATION AND HAULING OF MATERIAL FROM THE STREAM CHANNEL INDICATED ON THE PLAN. THIS PERTAINS TO ANY EXCAVATION OPERATION SUCH AS, FOUNDATION PIER OR ABUTMENT EXCAVATION, CHANNEL CLEAN OUT, EXCAVATION FOR ROCK CHANNEL PROTECTION AND REMOVAL OF ANY TEMPORARY FILL ASSOCIATED WITH CONSTRUCTION OPERATIONS.

MECHANICAL EQUIPMENT OPERATION AT STREAM CHANNEL:

THE CONTRACTOR SHALL TAKE ALL PRECAUTIONS NECESSARY TO PREVENT ANY INCIDENTAL DISCHARGES ASSOCIATED WITH THE EXCAVATION AND HAULING OF MATERIAL FROM THE STREAM CHANNEL INDICATED ON THE PLAN. THIS PERTAINS TO ANY EXCAVATION OPERATION SUCH AS, FOUNDATION PIER OR ABUTMENT EXCAVATION, CHANNEL CLEAN OUT, EXCAVATION FOR ROCK CHANNEL PROTECTION AND REMOVAL OF ANY TEMPORARY FILL ASSOCIATED WITH CONSTRUCTION OPERATIONS.

MATERIALS REMOVED FROM DITCHES, STREAMS AND/OR WETLANDS:

ALL MATERIALS REMOVED FROM DITCHES, STREAMS AND/OR WETLANDS MUST BE IMMEDIATELY REMOVED TO AN UPLAND SITE AND STABILIZED (I.E., SEEDED) TO PREVENT REDISTRIBUTION INTO ANY WATERS OF THE UNITED STATES. IMMEDIATE REMOVAL IS DEFINED BY THE UNITED STATES ARMY CORPS OF ENGINEERS AS DEPOSITING THE REMOVED MATERIALS DIRECTLY INTO A TRUCK AND REMOVING THE MATERIAL FROM THE SITE; PLACEMENT OF REMOVED MATERIALS INTO A WETLAND OR ON THE BANKS OF A STREAM EVEN TEMPORARILY IS CONSIDERED A FILL AND REQUIRES A PERMIT ACTION. ANY AREAS DISTURBED BY EQUIPMENT ACTIVITIES MUST BE SEEDED WITH NATIVE SPECIES TO PREVENT EROSION OF SEDIMENTS INTO WATERS OF THE UNITED STATES.

RIPARIAN HABITAT

EXISTING VEGETATION IN RIPARIAN HABITAT ZONES ALONG THE STREAM CHANNELS SHALL BE MAINTAINED TO THE MAXIMUM EXTENT PRACTICABLE DURING PROJECT CONSTRUCTION.

CONSTRUCTION AND DEMOLITION DEBRIS:

THE CONTRACTOR SHALL TAKE PRECAUTIONS TO AVOID AND/OR LIMIT CONSTRUCTION AND DEMOLITION DEBRIS FROM ENTERING THE STREAM(S). ANY DEBRIS THAT DOES FALL INTO THE STREAM(S) SHALL BE REMOVED AS SOON AS POSSIBLE.

WETLANDS AVOIDANCE:

NO WETLANDS ARE AUTHORIZED TO BE IMPACTED BY THIS PROJECT. PRIOR TO THE START OF ANY CONSTRUCTION ACTIVITIES WITHIN THESE LIMITS AND ADJACENT AREA, INCLUDING ANY NECESSARY CLEARING AND GRUBBING ACTIVITIES, ALL STREAMS, WETLANDS, LAKES, AND PONDS INDICATED ON THE PLAN SHALL BE DEMARCATED BY THE CONTRACTOR IN THE FIELD AS PER SUPPLEMENTAL SPECIFICATION 832. THE TEMPORARY CONSTRUCTION FENCE AND FILTER FABRIC FENCE SHALL REMAIN IN PLACE AND BE MAINTAINED THROUGHOUT PROJECT CONSTRUCTION. FOLLOWING COMPLETION OF WORK AND ESTABLISHMENT OF NATIVE VEGETATION AS ACCEPTED BY THE ENGINEER, ALL TEMPORARY CONSTRUCTION FENCE AND POSTS AND FILTER FABRIC FENCE AND POSTS SHALL BE REMOVED BY THE CONTRACTOR.

BRIDGE INSPECTION - BATS

PRIOR TO REHABILITATION OR REPAIR THE FOLLOWING BRIDGES, THE UNDERSIDE OF EACH BRIDGE SHALL BE CAREFULLY EXAMINED FOR THE PRESENCE OF BATS, ESPECIALLY FROM APRIL 1 TO SEPTEMBER 30:

- SUM-77-3.54L, SFN 7708815
- SUM-77-3.54R, SFN 7708890
- SUM-77-3.54B, SFN 7708882
- SUM-271-3.75R, SFN 7708947
- SUM-271-3.75L, SFN 7708912
- SUM-271-4.83, SFN 7708971
- SUM-271-5.02, SFN 7709900
- SUM-176-1.06, SFN 7707746
- SUM-17-2.94, SFN 7708858

IF ANY BATS ARE FOUND ROOSTING ON THE UNDERSIDE OF A BRIDGE, THE US FISH AND WILDLIFE SERVICE, ECOLOGICAL SERVICES DIVISION (614-416-8993) SHALL BE CONTACTED TO PROVIDE THIS INFORMATION.

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GENERAL NOTES

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ITEM 614 - MAINTAINING TRAFFIC

I. GENERAL

1. GENERALLY THE CONTRACTOR SHALL CONDUCT HIS OPERATIONS AS TO MAKE THE PROPOSED CONSTRUCTION WITH A MINIMUM OF HAZARD, DELAY AND INCONVENIENCE TO THE MOTORISTS USING THE HIGHWAY. FURTHERMORE, IN ADDITION TO THE CONSTRUCTION AND MATERIAL SPECIFICATIONS, THE FOLLOWING SPECIFIC PROVISIONS ARE MANDATORY.

2. A MINIMUM OF TWO 11 FOOT LANES IN EACH DIRECTION SHALL BE MAINTAINED ON THE EXISTING PAVEMENT, COMPLETED PAVEMENT, AND TEMPORARY PAVEMENT DURING CONSTRUCTION OF THE WORK, UNLESS OTHERWISE NOTED IN PLANS.

3. THE CONTRACTOR SHALL INFORM THE DISTRICT OFFICE (330) 786-2208, EIGHTEEN (18) DAYS PRIOR TO THE BEGINNING OF WORK.

4. CONES SHALL NOT BE ACCEPTABLE TRAFFIC CONTROL DEVICES FOR LANE RESTRICTIONS OR LANE REDUCTIONS THAT ARE IN OPERATION ONE-HALF HOUR AFTER SUNSET OR ONE HALF-HOUR BEFORE SUNRISE. ALL NIGHTTIME LANE RESTRICTIONS SHALL REQUIRE DRUMS OR BARRICADES AT A MAXIMUM SPACING OF FIFTY (50) FEET. WEIGHTED CHANNELIZERS MAY BE USED IN ACCORDANCE WITH THE STANDARD CONSTRUCTION DRAWINGS.

5. THE CONTRACTOR SHALL FURNISH, ERECT, MAINTAIN AND SUBSEQUENTLY REMOVE ALL FLAGS, BARRICADES, SIGNS, SIGN SUPPORTS AND FURNISH AND MAINTAIN ALL FLAGGERS, WATCHERS AND INCIDENTALS RELATED THERETO.

6. TRUCK MOUNTED ATTENUATORS [TMA'S] SHALL BE USED AS SHOWN IN THE STANDARD CONSTRUCTION DRAWINGS.

7. UNDER NO CIRCUMSTANCES SHALL THE CONTRACTOR BE PERMITTED TO HAVE SUCCESSIVE WORK ZONES UNLESS THE DISTANCE BETWEEN THE DRUMS, BARRICADES OR CONES EXCEEDS TWO (2) MILES RURAL OR ONE [1] MILE URBAN.

8. ONLY DURING OFF-PEAK PERIODS (ie ANY PERIOD OTHER THAN 6-8AM AND 3-6PM) SHALL THE CONTRACTOR INSTALL AND SUBSEQUENTLY RESET ALL TRAFFIC CONTROL NECESSARY FOR THE WORK ZONE FOR EACH CONSTRUCTION PHASE.

9. PRIOR TO OPENING TO TRAFFIC EACH LANE SHALL BE IN A SAFE, PASSABLE CONDITION. ALL TRANSVERSE JOINTS SHALL EXTEND ACROSS THE FULL LANE AND SHOULDER WIDTH AND EACH LANE SHALL BE FREE FROM UNEVEN LONGITUDINAL JOINTS. THE CONTRACTOR SHALL PROVIDE ASPHALT WEDGES FOR TRANSVERSE JOINTS WHEREVER THERE ARE PAVEMENT ELEVATION DIFFERENCES.

PAYMENT FOR THE ASPHALT WEDGES SHALL BE INCLUDED IN THE LUMP SUM PRICE BID FOR ITEM 614 - MAINTAINING TRAFFIC, UNLESS SEPARATELY ITEMIZED IN THE PLAN.

II. INTERSTATE ROUTE 271

A. NOTIFICATION

SINCE FUNCTIONAL TRAFFIC CONTROL IS A MAJOR CONCERN ON THIS PROJECT, IT IS ESSENTIAL THAT THE MOTORING PUBLIC BE ADEQUATELY FOREWARNED ON FUTURE LANE CLOSURES AND TRAFFIC CONSTRICTIONS. THE CONTRACTOR SHALL INFORM THE DISTRICT OFFICE (330) 786-2208, EIGHTEEN (18) DAYS PRIOR TO THE BEGINNING OF WORK OR CHANGING WORK ZONES OR TRAFFIC PATTERNS.

B. OHIO TURNPIKE COORDINATION

THE CONTRACTOR SHALL COORDINATE/PERFORM THE WORK REQUIRED ON BRIDGE SUM-271-0655 L & R FOR THE REMOVAL OF AND THE SUBSEQUENT RE-INSTALLATION OF THE EXISTING VANDAL FENCE ON THE BRIDGE PARAPET WITH THE OHIO TURNPIKE COMMISSION. ANY OVERHEAD WORK ON THE BRIDGE WHICH MAY AFFECT TRAFFIC ON THE TURNPIKE SHALL BE COORDINATED WITH DOUG HETRICK, OHIO TURNPIKE COMMISSION. LANE CLOSURES ON THE TURNPIKE WHICH MAY BE REQUIRED WILL BE IMPLEMENTED PER THE OHIO TURNPIKE STANDARD LANE CLOSURE PRACTICES AND AT A TIME ACCEPTABLE TO THE OHIO TURNPIKE AS APPROVED BY THE ENGINEER.

C. ITS MESSAGE BOARDS

THE EXISTING ITS MESSAGE BOARDS IN THE VICINITY OF THE PROJECT SHALL BE UTILIZED TO PROVIDE SUPPLEMENTAL INFORMATION. THE ITS BOARD IS ON THE NORTHBOUND LANES, BEFORE EVERETT ROAD OVERPASS, STA. 418+28. THE CONTRACTOR SHALL NOTIFY THE PROJECT ENGINEER 1 WEEK IN ADVANCE OF ANY PHASE CHANGE ON I-271 OR I-77. THE PROJECT ENGINEER SHALL CONTACT LISA BOSE AT 330-786-4817.

ALL LANE CLOSURES TO ONE (1) LANE TRAFFIC SHALL BE DONE AS PER PERMITTED LANE CLOSURES REQUIREMENTS BELOW.

D. PERMITTED LANE CLOSURES (PLCM):

DURATION OF LANE CLOSURES AND RESTRICTIONS SHALL BE AS PER THE PERMITTED LANE CLOSURE CHART. THE PERMITTED LANE CLOSURE CHART USED FOR THIS PROJECT SHALL BE THE MOST CURRENT CHART AVAILABLE ON THE DATE THIS PROJECT SELLS.

THE CHART CAN BE FOUND AT:
http://plcm.dot.state.oh.us

SHOULD THE CONTRACTOR FAIL TO MEET ANY OF THE REQUIREMENTS IN THE CHART, THE CONTRACTOR SHALL BE ASSESSED DISINCENTIVES IN THE AMOUNT OF $2500 PER HOUR OR PORTION THEREOF THAT THE LANE REDUCTION REMAINS BEYOND THE SPECIFIC TIME.

E. CONSTRUCTION PHASES:

THE CONSTRUCTION SHALL BE IN PHASES AS DETAILED ON SHEETS 38 & 39 AND WILL BE COMPLETED IN FOUR (4) CONSECUTIVE CONSTRUCTION SEASONS. TWO LANES OF TRAFFIC ON IR 271 IN EACH DIRECTION WILL BE MAINTAINED AT ALL TIMES EXCEPT FOR CONSTRUCTION ACTIVITIES THAT MAY REQUIRE LANE CLOSURES AS PERMITTED BY ABOVE NOTE. ALL WORK AS DESCRIBED IN THE PRE-PHASE WORK AS WELL AS PHASE 1A, 1B, 2A, AND 2B SHALL BE COMPLETED IN THE FIRST CONSTRUCTION SEASON. ALL WORK DESCRIBED IN PHASES 3A AND 3B SHALL BE COMPLETED IN THE SECOND CONSTRUCTION SEASON. ALL WORK DESCRIBED IN PHASE 4A, 4B, SHALL BE CONSTRUCTED IN THE THIRD CONSTRUCTION SEASON. ALL WORK DESCRIBED IN PHASE 5 SHALL BE CONSTRUCTED IN THE FINAL (FOURTH) CONSTRUCTION SEASON. ALL SIDEROAD WORK SHALL OCCUR INDEPENDENTLY WITHIN THE FOUR CONSECUTIVE CONSTRUCTION SEASONS; THE OVERHEAD BRIDGE WORK SHALL BE COMPLETED INDEPENDENTLY DURING THE FOUR CONSTRUCTION SEASONS, ADHERING TO THE RESTRICTIONS SET FORTH IN THE PLANS.

III. SIDE ROADS

A. STATE ROUTE 176 (OVERHEAD STRUCTURE)

STATE ROUTE 176 TRAFFIC SHALL BE MAINTAINED AT ALL TIMES, EXCEPT FOR A PERIOD NOT TO EXCEED 90 CONSECUTIVE CALENDAR DAYS WHEN THROUGH TRAFFIC MAY BE DETOURED. THE STATE ROUTE 176 DETOUR SHALL NOT COINCIDE WITH THE BRECKSVILLE ROAD DETOUR. SEE SIDE ROAD MOT GENERAL NOTES FOR ADDITIONAL DETAIL. SEE SHEET 231 FOR DETOUR SIGNING.

THE MAXIMUM LENGTH OF TIME FOR THE DETOUR ROUTE TO BE IN EFFECT SHALL BE 90 CONSECUTIVE DAYS. CONSTRUCTION WORK MAY BE PERFORMED BEFORE AND AFTER THE DETOUR LIMITATION DATES, BUT THERE SHALL BE NO RESTRICTIONS (LANE WIDTH REDUCTIONS, TEMPORARY ROADWAYS, OR ONE WAY TRAFFIC) TO THROUGH OR LOCAL TRAFFIC. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO SCHEDULE AND PERFORM THE CONSTRUCTION WORK WITHIN THE DETOUR LIMITATION TIME.

THE CONTRACTOR SHALL CONDUCT HIS CONSTRUCTION OPERATION AND SCHEDULE BETWEEN THE MAINLINE AND SIDE ROAD WORK TO PREVENT WORK ZONE /CONSTRUCTION CONFLICTS AS APPROVED BY ENGINEER. IF MAINLINE SHOULDER CLOSURES ARE REQUIRED TO CONSTRUCT SIDEROAD STRUCTURE/ROADWAY OUTSIDE OF THE PROPOSED MAINLINE PHASE CONSTRUCTION WORK ZONE, THEY SHALL BE IN ACCORDANCE WITH SCD MT-95.30 OR MT-95.40 AS APPROVED BY THE ENGINEER. ALL COSTS SHALL BE INCLUDED IN ITEM 614 MAINTAINING TRAFFIC.

SEE SIDE ROAD MAINTENANCE OF TRAFFIC NOTES FOR ADDITIONAL REQUIREMENTS.

B. C.R. 17 (BRECKSVILLE ROAD)

ONE LANE OF TRAFFIC IN EACH DIRECTION SHALL BE MAINTAINED ON C.R. 17 (BRECKSVILLE) AT ALL TIMES USING THE EXISTING BRIDGE DECK WIDTHS AND THE EXISTING PAVEMENTS.

THE CONTRACTOR SHALL CONDUCT HIS CONSTRUCTION OPERATION AND SCHEDULE BETWEEN THE MAINLINE AND SIDE ROAD WORK TO PREVENT WORK ZONE /CONSTRUCTION CONFLICTS AS APPROVED BY ENGINEER. IF MAINLINE SHOULDER CLOSURES ARE REQUIRED TO CONSTRUCT SIDEROAD STRUCTURE/ROADWAY OUTSIDE OF THE PROPOSED MAINLINE PHASE CONSTRUCTION WORK ZONE, THEY SHALL BE IN ACCORDANCE WITH SCD MT-95.30 OR MT-95.40 AS APPROVED BY THE ENGINEER. ALL COSTS SHALL BE INCLUDED IN ITEM 614 MAINTAINING TRAFFIC.

SEE SIDE ROAD MAINTENANCE OF TRAFFIC NOTES FOR ADDITIONAL REQUIREMENTS.

C. STATE ROUTE 303

ONE LANE OF TRAFFIC IN EACH DIRECTION SHALL BE MAINTAINED ON STATE ROUTE 303 AT ALL TIMES USING THE EXISTING AND THE PROPOSED BRIDGE DECK WIDTHS AND THE EXISTING AND PROPOSED PAVEMENTS.

THE CONTRACTOR SHALL CONDUCT HIS CONSTRUCTION OPERATION AND SCHEDULE BETWEEN THE MAINLINE AND SIDE ROAD WORK TO PREVENT WORK ZONE /CONSTRUCTION CONFLICTS AS APPROVED BY ENGINEER. IF MAINLINE SHOULDER CLOSURES ARE REQUIRED TO CONSTRUCT SIDEROAD STRUCTURE/ROADWAY OUTSIDE OF THE PROPOSED MAINLINE PHASE CONSTRUCTION WORK ZONE, THEY SHALL BE IN ACCORDANCE WITH SCD MT-95.30 OR MT-95.40 AS APPROVED BY THE ENGINEER. ALL COSTS SHALL BE INCLUDED IN ITEM 614 MAINTAINING TRAFFIC.

SEE SIDE ROAD MAINTENANCE OF TRAFFIC NOTES FOR ADDITIONAL REQUIREMENTS.

NOTE CONTINUED ON NEXT SHEET

MAINTENANCE OF TRAFFIC NOTES

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ITEM 614 - MAINTAINING TRAFFIC CONTINUED

IV. INTERSTATE ROUTE 271 INTERCHANGES

A. GENERAL INTERCHANGE CONSTRUCTION REQUIREMENTS

RAMP TRAFFIC SHALL BE MAINTAINED AT ALL TIMES DURING THE CONSTRUCTION OF THIS PROJECT EXCEPT AS NOTED BELOW. WORK WILL BE PERMITTED ON THE RAMPS AT TIMES OTHER THAN THOSE SPECIFICALLY DENOTED IN THE PLANS. HOWEVER RAMP TRAFFIC MUST BE MAINTAINED DURING THE CONSTRUCTION OF THE OUTSIDE LANES ON IR 271 TWO SEPARATE CONSTRUCTION ACTIVITIES WILL BE REQUIRED TO COMPLETE THE CONSTRUCTION ON THE RAMPS AND SPEED CHANGE LANES. TRAFFIC SHALL BE MAINTAINED BY PART WIDTH CONSTRUCTION UTILIZING THE EXISTING PAVEMENT, RECONSTRUCTED SHOULDERS,AND TEMPORARY PAVEMENT, UNLESS OTHERWISE NOTED.THESE ACTIVITIES ARE TO BE COORDINATED WITH ADJOINING PHASE CONSTRUCTION ACTIVITIES ALONG IR 271.

B. IR 77 INTERCHANGE

PROPOSED WORK ON THE RAMPS WILL UTILIZE PART WIDTH CONSTRUCTION, EXCEPT RAMP B. ONE LANE OF TRAFFIC SHALL BE MAINTAINED AT ALL TIMES ON RAMPS A, C, AND D USING EXISTING PAVEMENT, RECONSTRUCTED SHOULDERS AND TEMPORARY PAVEMENT EXCEPT AS NOTED. RAMP D, PHASE 4B-2 CONSTRUCTION WILL REQUIRE THE CONSTRUCTION OF TEMPORARY PAVEMENT ON A NEW ALIGNMENT TO MAINTAIN TRAFFIC. THE TEMPORARY PAVEMENT WILL BE CONSTRUCTED IN PHASE PRIOR TO PHASE 4B-2.

ITEM 614 - ASPHALT CONCRETE FOR MAINTAINING TRAFFIC WILL BE REQUIRED TO CONSTRUCT AS ASPHALT WEDGE TO TRANSITION FROM THE PROPOSED PAVEMENT SECTION ONTO THE TEMPORARY RAMP PAVEMENT. SEE SHEET 163 FOR LOCATION. THE FOLLOWING QUANTITIES ARE INCLUDED AND CARRIED TO THE GENERAL SUMMARY TO CONSTRUCT THE ASPHALT WEDGE.

ITEM 407 - TACK COAT 37 GAL.

ITEM 614 - ASPHALT CONCRETE FOR MAINTAINING TRAFFIC 5 CU. YD.

DURING WORK ON OVERHEAD BRIDGES SUM-271-0354 L&R AND SUM-271-0354B, THE OUTSIDE SHOULDER OF IR 77 AND RAMP B MAY BE CLOSED WITH PORTABLE CONCRETE BARRIER PER STANDARD CONSTRUCTION DRAWING MT-95.40. ADVANCE WARNING SIGNING SHALL BE PROVIDED ON IR 77 IN ADVANCE OF THE SHOULDER CLOSURE. SEE MOT SCHEMATIC PLAN SHEET 127 .

RAMP B - TRAFFIC SHALL BE MAINTAINED AT ALL TIMES, EXCEPT FOR A PERIOD NOT TO EXCEED 90 CONSECUTIVE DAYS WHEN TRAFFIC MAY BE DETOURED. THE BEGINNING OF THE DETOUR WILL COINCIDE WITH THE INITIATION OF PHASE 3B. SEE SHEET 228 FOR DETOUR SIGNING. THE CONTRACTOR WILL PROVIDE, INSTALL, MAINTAIN AND SUBSEQUENTLY REMOVE ALL DETOUR SIGNING. DURING THE 90 DAY CLOSURE, THE BRIDGE REPLACEMENT SUM-271-0354B, THE 36" CULVERT REPLACEMENT, AND THE NEW PAVEMENT SHALL BE COMPLETED.

THE MAXIMUM LENGTH OF TIME FOR THE DETOUR ROUTE TO BE IN EFFECT SHALL BE 90 CONSECUTIVE DAYS. CONSTRUCTION WORK MAY BE PERFORMED BEFORE AND AFTER THE DETOUR LIMITATION DATES, BUT THERE SHALL BE NO RESTRICTIONS (LANE WIDTH REDUCTIONS) TO THROUGH TRAFFIC. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO SCHEDULE AND PERFORM THE CONSTRUCTION WORK WITHIN THE DETOUR LIMITATION TIME. AT THE COMPLETION OF THE DETOUR PERIOD RAMP B WILL RE-OPEN WHILE CONTINUING WORK ON NB IR 271 IN PHASE 3B IS ON-GOING. REFER TO SCD MT-98.21 - LANE CLOSURE AT EXISTING RAMP USING PORTABLE BARRIERS FOR RAMP OPENING, TAPER REQUIREMENTS AND PORTABLE BARRIER MODIFICATIONS. THE FOLLOWING QUANTITIES HAVE BEEN PROVIDED TO MODIFY THE PHASE 3B WORK ZONE TO ALLOW FOR EXIT RAMP B TO BE OPENED.

ITEM 622 - PORTABLE CONCRETE BARRIER, 32" 600 FT.

ITEM 614 - WORK ZONE IMPACT ATTENUATOR (UNIDIRECTIONAL) 1 EACH

RAMP C - WEEKEND CLOSURE OF RAMP C WILL BE REQUIRED AT THE COMPLETION OF PHASE 3A TO PROVIDE MOT PAVEMENT FOR MAINTENANCE OF RAMP C TRAFFIC IN PHASE 3B-1. SEE SHEET 229 FOR DETOUR SIGNING.

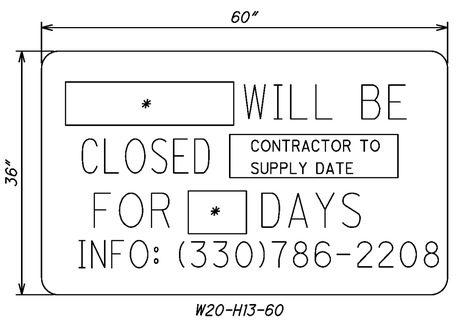
V. INTERSTATE ROUTE 77

DURING WORK ON OVERHEAD BRIDGES SUM-271-0354 L&R AND SUM-271-0354B, ONE LANE ON IR 77 MAY BE CLOSED TO TRAFFIC DURING DECK REMOVAL AND DECK REPLACEMENT OPERATIONS OVER VARIOUS TRAFFIC LANES AND FOR BRIDGE PAINTING OPERATIONS. LANE CLOSURES ON IR 77 SHALL BE IN COMPLIANCE WITH PERMITTED LANE CLOSURE REQUIREMENTS. LANE CLOSURES SHALL BE PER MT-95.30. ALSO SEE INTERCHANGE RAMP REQUIREMENTS ABOVE.

DURING WORK ON OVERHEAD BRIDGES SUM-271-0354 L&R, THE OUTSIDE SHOULDER OF IR 77 MAY BE CLOSED WITH PORTABLE CONCRETE BARRIER PER STANDARD CONSTRUCTION DRAWING MT-95.40. ADVANCE WARNING SIGNING SHALL BE PROVIDED ON IR 77 IN ADVANCE OF THE SHOULDER CLOSURE. SEE MOT SCHEMATIC PLAN SHEET 127 .

VI. NOTICE OF CLOSURE SIGN

NOTICE OF CLOSURE SIGNS, AS DETAILED IN THESE PLANS, SHALL BE ERECTED BY THE CONTRACTOR AT LEAST ONE WEEK IN ADVANCE OF THE SCHEDULED ROAD OR RAMP CLOSURE. THE SIGNS SHALL BE ERECTED ON THE RIGHT-HAND SIDE OF THE ROAD/RAMP FACING TRAFFIC. THEY SHALL BE PLACED SO AS NOT TO INTERFERE WITH THE VISIBILITY OF ANY OTHER TRAFFIC CONTROL SIGNS. ON ROADWAYS, THEY SHOULD BE ERECTED AT THE POINT OF CLOSURE. THE SIGNS MAY BE ERECTED ANYWHERE ON RAMPS AS LONG AS THEY ARE VISIBLE TO THE MOTORISTS USING THE RAMP. ON ENTRANCE RAMPS, THE SIGN SHALL BE ERECTED WELL IN ADVANCE OF THE MERGE AREA TO AVOID DISTRACTING MOTORISTS.



W20-H13-60

* LOCATION	DURATION
IR 77 INTERCHANGE	
RAMP B	90 DAYS
RAMP C (PHASE 3B-1)	WEEKEND

VIII. DETOUR NOTIFICATION

THE CONTRACTOR SHALL ADVISE THE ODOT DISTRICT OFFICE (330-786-3148) AND SUMMIT COUNTY (330)-650-1300 EIGHTEEN (18) DAYS IN ADVANCE OF WHEN THE DETOUR ROUTE SHOULD BE IN EFFECT. ALL WORK ZONE DEVICES REQUIRED SHALL BE FURNISHED, ERECTED, MAINTAINED, AND SUBSEQUENTLY REMOVED BY THE CONTRACTOR. PAYMENT FOR ALL WORK ASSOCIATED WITH THE DETOUR SHALL BE INCLUDED UNDER THE LUMP SUM BID FOR ITEM 614, DETOUR SIGNING.

IX. QUANTITIES

ALL WORK AND TRAFFIC CONTROL DEVICES SHALL BE IN ACCORDANCE WITH CMS 614 AND OTHER APPLICABLE PORTIONS OF THE SPECIFICATIONS, AS WELL AS THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES. PAYMENT FOR ALL LABOR, EQUIPMENT AND MATERIALS SHALL BE INCLUDED IN THE LUMP SUM CONTRACT PRICE FOR ITEM 614, MAINTAINING TRAFFIC, UNLESS SEPARATELY ITEMIZED IN THE PLAN.

X. ALTERNATE MAINTENANCE OF TRAFFIC PLANS

IF THE CONTRACTOR SO ELECTS, HE MAY SUBMIT ALTERNATE METHODS FOR THE MAINTENANCE OF TRAFFIC, PROVIDED THE INTENT OF THE ABOVE PROVISIONS IS FOLLOWED AND NO ADDITIONAL INCONVENIENCE TO THE TRAVELING PUBLIC RESULTS THERE FROM. NO ALTERNATE PLANS SHALL BE PLACED IN EFFECT UNTIL APPROVAL HAS BEEN GRANTED IN WRITING BY THE ODOT DISTRICT CONSTRUCTION ENGINEER.

XI. WINTER TRAFFIC LIMITATIONS

ALL EXISTING LANES SHALL BE OPEN TO TRAFFIC BETWEEN OCTOBER 15 AND APRIL 1. OCTOBER 15 SHALL BE CONSIDERED TO CONSTITUTE AN INTERIM COMPLETION DATE AND LIQUIDATED DAMAGES IN ACCORDANCE WITH CMS 108.07-1 SHALL BE ASSESSED FOR EACH CALENDAR DAY THAT THE ROADWAY/TRAVEL LANES REMAIN CLOSED TO TRAFFIC BEYOND THE SPECIFIED LIMIT. THE CONTRACTOR MAY CLOSE LANES PRIOR TO APRIL 1 WITH WRITTEN APPROVAL FROM THE DISTRICT CONSTRUCTION ENGINEER.

XII. ADVANCE NOTICE TO PAVE

THE CONTRACTOR SHALL SUBMIT FOR APPROVAL TO THE DISTRICT CONSTRUCTION ENGINEER A DETAILED SCHEDULE 15 DAYS PRIOR TO THE PLACEMENT OF THE OVERLAY COARSES, ON HOW THEY PROPOSE TO PROSECUTE THE PAVING OPERATIONS. THE DETAILS SHALL SHOW THE ORDER OF PERFORMANCE OF EACH STAGE (START TO FINISH) OF THE WORK INCLUDING THE MAINTENANCE OF TRAFFIC THAT WILL BE USED.

ALL WORK AND TRAFFIC CONTROL DEVICES SHALL BE IN ACCORDANCE WITH CMS 614 AND OTHER APPLICABLE PORTIONS OF THE SPECIFICATIONS, AS WELL AS THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES. PAYMENT FOR ALL LABOR, EQUIPMENT AND MATERIALS SHALL BE INCLUDED IN THE LUMP SUM CONTRACT PRICE FOR ITEM 614, MAINTAINING TRAFFIC, UNLESS SEPARATELY ITEMIZED IN THE PLAN.

FURTHERMORE, IN ADDITION TO THE CONSTRUCTION AND MATERIAL SPECIFICATIONS AND THE ABOVE GENERAL REQUIREMENTS, THE FOLLOWING SPECIFIC PROVISIONS ARE MANDATORY.

CALCULATED DAW CHECKED PRS

MAINTENANCE OF TRAFFIC NOTES

SUM-271-2.33

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CONSTRUCTION PHASES

INTERSTATE ROUTE 271 SHALL BE RECONSTRUCTED IN SEVERAL PART-WIDTH PHASES AS DETAILED IN THE PLAN IN FOUR (4) CONSTRUCTION SEASONS. TWO (2) LANES OF TRAFFIC SHALL BE MAINTAINED IN EACH DIRECTION ON IR 271 AT ALL TIMES EXCEPT AS NOTED BELOW.

1. ONE LANE ON IR 271 MAY BE CLOSED TO TRAFFIC DURING DECK REMOVAL AND DECK REPLACEMENT OPERATIONS OVER VARIOUS TRAFFIC LANES AND FOR BRIDGE PAINTING OPERATIONS. SEE PERMITTED LANE CLOSURE REQUIREMENTS.

2. PRE-PHASE 1 WORK (IR 271)
   REPLACE THE INSIDE AND OUTSIDE PAVED SHOULDERS OF THE SOUTHBOUND LANES AND OUTSIDE PAVED SHOULDERS OF THE NORTHBOUND LANES AS PER MOT TYPICAL SECTIONS ON SHEETS 51 . REMOVE THE VANDAL PROTECTION FENCE ALONG THE SHOULDERS OF IR 271 BRIDGE SUM-271-0655 DUE TO SIGHT DISTANCE RESTRICTION. STORE FENCE FOR RE-INSTALLATION AT COMPLETION OF THE MOT PHASE. CONSTRUCT MEDIAN CROSS OVERS REQUIRED FOR PHASE CONSTRUCTION. THE ADJACENT TRAVEL LANE MAY BE CLOSED TO TRAFFIC AS PER STD. DRWG. MT-95.30 MEETING PERMITTED LANE CLOSURE REQUIREMENTS.

   PRE-PHASE 1 WORK (RAMPS - IR 77 RAMP C)
   REPLACE THE OUTSIDE PAVED SHOULDER PART WIDTH WITH A SHORT TERM WEEKEND CONSTRUCTION DURATION UTILIZING DRUMS.

3. PHASE 1A WORK (IR 271)
   CONSTRUCT NEW PAVEMENT THRU INTERMEDIATE COURSE AND BRIDGE STRUCTURES FOR THE INSIDE NORTHBOUND LANE AND PAVED SHOULDER AS PER MOT TYPICAL SECTIONS, SHEETS 52 - 53 . TWO LANES OF NORTHBOUND TRAFFIC WILL BE MAINTAINED AT ALL TIMES AS DETAILED:

   a. ONE NORTHBOUND LANE WILL BE MAINTAINED ON THE EXISTING NORTHBOUND OUTSIDE PAVEMENT LANE AND MOT PAVED SHOULDER. THIS LANE WILL HAVE ACCESS TO EXISTING NORTHBOUND RAMPS AT ALL TIMES EXCEPT AS NOTED.

   b. ONE NORTHBOUND LANE WILL CROSS THE MEDIAN AND RUN CONTRAFLOW WITH SOUTHBOUND TRAFFIC SEPARATED BY PCB. THIS LANE WILL NOT HAVE ACCESS TO EXISTING NORTHBOUND RAMPS.

   c. TWO LANES OF SOUTHBOUND TRAFFIC WILL BE MAINTAINED AT ALL TIMES ON THE EXISTING SOUTHBOUND PAVEMENT AND MOT PAVED SHOULDER. ALL INTERCHANGE RAMP TRAFFIC SHALL BE MAINTAINED AT ALL TIMES.

   PHASE 1A WORK (RAMPS - SR 303 RAMP E AND RAMP H)
   CONSTRUCT NEW PAVEMENT THRU INTERMEDIATE COURSE FOR THE OUTSIDE HALF OF THE RAMP PAVEMENT AND PAVED SHOULDER AS PER MOT TYPICAL SECTIONS, SHEETS 79 . SEPARATE TRAFFIC FROM THE WORK ZONE WITH PCB. COORDINATE RAMP CONSTRUCTION WITH IR 271 CONSTRUCTION AND SR 303 CONSTRUCTION. THE NB MEDIAN PIER PROTECTION GUARDRAIL AT SR 303 WILL NOT BE INSTALLED UNTIL THE COMPLETION OF PHASE 2B.

4. PHASE 1B WORK (IR 271)
   CONSTRUCT NEW PAVEMENT THRU INTERMEDIATE COURSE AND BRIDGE STRUCTURES FOR THE OUTSIDE NORTHBOUND LANE AND PAVED SHOULDERS INCLUDING INTERCHANGE RAMPS, AS PER MOT TYPICAL SECTIONS, SHEETS 58 - 59 . TWO LANES OF NORTHBOUND TRAFFIC WILL BE MAINTAINED AT ALL TIMES AS DETAILED:

   a. ONE NORTHBOUND LANE WILL BE MAINTAINED ON THE NEW NORTHBOUND PAVEMENT CONSTRUCTED BY PHASE 1A. VARIOUS INTERCHANGE RAMPS WILL BE CONSTRUCTED PART WIDTH TO MAINTAIN TRAFFIC AT ALL TIMES.

   b. THE NORTHBOUND CONTRAFLOW TRAFFIC LANE ON THE SOUTHBOUND PAVEMENT WILL BE MAINTAINED AS IN PHASE 1A.

   c. THE TWO LANES OF SOUTHBOUND TRAFFIC WILL BE MAINTAINED AS IN PHASE 1A.

   PHASE 1B WORK (RAMPS - SR 303 RAMP E AND RAMP H) CONSTRUCT NEW PAVEMENT THRU INTERMEDIATE COURSE FOR THE INSIDE HALF OF THE RAMP PAVEMENT AND PAVED SHOULDER AS PER MOT TYPICAL SECTIONS, SHEETS 79 . SEPARATE TRAFFIC FROM THE WORK ZONE WITH PCB. COORDINATE RAMP CONSTRUCTION WITH IR 271 CONSTRUCTION AND SR 303 CONSTRUCTION.

5. PHASE 2A WORK (IR 271)
   CONSTRUCT NEW PAVEMENT THRU INTERMEDIATE COURSE AND BRIDGE STRUCTURES FOR THE INSIDE SOUTHBOUND LANE AND PAVED SHOULDER AS PER MOT TYPICAL SECTION, SHEETS 62 - 63 . TWO LANES OF SOUTHBOUND TRAFFIC WILL BE MAINTAINED AT ALL TIMES AS DETAILED:

   a. ONE SOUTHBOUND LANE WILL BE MAINTAINED ON THE EXISTING OUTSIDE PAVEMENT LANE AND THE TEMPORARY PAVED SHOULDER CONSTRUCTED BY PRE-PHASE 1. THIS LANE WILL HAVE ACCESS TO EXISTING SOUTHBOUND RAMPS AT ALL TIMES.

   b. ONE SOUTHBOUND LANE WILL CROSS THE MEDIAN AND RUN CONTRAFLOW WITH THE NORTHBOUND TRAFFIC SEPARATED BY PCB. THIS LANE WILL NOT HAVE ACCESS TO ANY OF THE EXISTING SOUTHBOUND RAMPS.

   c. TWO LANES OF NORTHBOUND TRAFFIC WILL BE MAINTAINED AT ALL TIMES ON THE NEW PAVEMENT CONSTRUCTED BY PHASE 1. ALL INTERCHANGE RAMP TRAFFIC SHALL BE MAINTAINED AT ALL TIMES.

   PHASE 2A WORK (RAMPS - SR 303 RAMP F AND RAMP G)
   CONSTRUCT NEW PAVEMENT THRU INTERMEDIATE COURSE FOR THE OUTSIDE HALF OF THE RAMP PAVEMENT AND PAVED SHOULDER AS PER MOT TYPICAL SECTIONS, SHEETS 79 . COORDINATE RAMP CONSTRUCTION WITH IR 271 CONSTRUCTION AND SR 303 CONSTRUCTION. MAINTAIN ALL THROUGH LANES ON IR 77.

6. PHASE 2B WORK (IR 271)
   CONSTRUCT NEW PAVEMENT THRU INTERMEDIATE COURSE AND BRIDGE STRUCTURES FOR THE OUTSIDE SOUTHBOUND LANE AND PAVED SHOULDER INCLUDING INTERCHANGE RAMPS AS PER MOT TYPICAL SECTIONS, SHEETS 70 - 71 . TWO LANE OF SOUTHBOUND TRAFFIC WILL BE MAINTAINED AT ALL TIMES AS DETAILED.

   a. ONE SOUTHBOUND LANE WILL BE MAINTAINED ON THE NEW SOUTHBOUND PAVEMENT CONSTRUCTED BY PHASE 2A. VARIOUS INTERCHANGE RAMPS WILL BE CONSTRUCTED PART-WIDTH.

   b. THE SOUTHBOUND CONTRAFLOW LANE ON THE NORTHBOUND PAVEMENT WILL BE MAINTAINED AS IN PHASE 2A.

   c. THE TWO SOUTHBOUND TRAFFIC LANES WILL BE MAINTAINED AS IN PHASE 2A.

   PHASE 2B WORK (RAMPS - SR 303 RAMP F AND RAMP G)
   CONSTRUCT NEW PAVEMENT THRU INTERMEDIATE COURSE FOR THE INSIDE HALF OF THE RAMP PAVEMENT AND PAVED SHOULDER AS PER MOT TYPICAL SECTIONS, SHEETS 79 . SEPARATE TRAFFIC FROM THE WORK ZONE WITH PCB. COORDINATE RAMP CONSTRUCTION WITH IR 271 CONSTRUCTION AND SR 303 CONSTRUCTION. AT THE COMPLETION OF PHASE 2B WHEN TRAFFIC HAS BEEN RETURNED TO ITS NORMAL TRAFFIC PATTERN, THE NB MEDIAN PIER PROTECTION GUARDRAIL AT SR 303 MAY BE INSTALLED.

   PRE-PHASE, PHASE 1 AND 2 SHALL BE COMPLETED IN CONSTRUCTION SEASON ONE BY OCTOBER 15 , 2014. THIS SHALL BE AN INTERIM COMPLETION DATE, AND ALL TRAFFIC SHALL BE SHIFTED BACK TO THE NORMAL TRAVEL LANES OVER THE WINTER. LIQUIDATED DAMAGES IN ACCORDANCE WITH CMS 108.07-1 SHALL BE ASSESSED FOR EACH CALENDER DAY THAT THE NORMAL TRAVEL LANES REMAIN CLOSED/RESTRICTED BEYOND THE SPECIFIED DATE.

7. PHASE 3A WORK (IR 271) CONSTRUCT NEW PAVEMENT THRU INTERMEDIATE COURSE AND BRIDGE STRUCTURES FOR THE INSIDE NORTHBOUND LANE AND PAVED SHOULDER AS PER MOT TYPICAL SECTIONS, SHEETS 52 & 54 - 57. TWO LANES OF NORTHBOUND TRAFFIC WILL BE MAINTAINED AT ALL TIMES AS DETAILED:

   a. ONE NORTHBOUND LANE WILL BE MAINTAINED ON THE EXISTING NORTHBOUND OUTSIDE PAVEMENT LANE AND MOT PAVED SHOULDER. THIS LANE WILL HAVE ACCESS TO EXISTING NORTHBOUND RAMPS AT ALL TIMES.

   b. ONE NORTHBOUND LANE WILL CROSS THE MEDIAN AND RUN CONTRAFLOW WITH SOUTHBOUND TRAFFIC SEPARATED BY PCB. THIS LANE WILL NOT HAVE ACCESS TO EXISTING NORTHBOUND RAMPS.

   c. TWO LANES OF SOUTHBOUND TRAFFIC WILL BE MAINTAINED AT ALL TIMES ON THE EXISTING SOUTHBOUND PAVEMENT AND MOT PAVED SHOULDER. ALL INTERCHANGE RAMP TRAFFIC SHALL BE MAINTAINED AT ALL TIMES.

   PHASE 3A WORK (RAMPS - BRECKSVILLE ROAD RAMP B AND IR 77 RAMP C)
   CONSTRUCT NEW PAVEMENT THRU INTERMEDIATE COURSE FOR THE OUTSIDE HALF OF THE RAMP PAVEMENT AND PAVED SHOULDER AS PER MOT TYPICAL SECTIONS, SHEETS 79 . SEPARATE TRAFFIC FROM THE WORK ZONE WITH PCB. COORDINATE RAMP CONSTRUCTION WITH IR 271 AND BRECKSVILLE ROAD BRIDGE CONSTRUCTION. THE NB MEDIAN PIER PROTECTION GUARDRAIL AT CR 17 WILL NOT BE INSTALLED UNTIL THE COMPLETION OF PHASE 4B. MAINTAIN ALL THROUGH LANES ON IR 77.

8. PHASE 3B WORK (IR 271)
   CONSTRUCT NEW PAVEMENT THRU INTERMEDIATE COURSE AND BRIDGE STRUCTURES FOR THE OUTSIDE NORTHBOUND LANE AND PAVED SHOULDERS INCLUDING INTERCHANGE RAMPS, AS PER MOT TYPICAL SECTIONS, SHEETS 58 & 60 - 61 . TWO LANES OF NORTHBOUND TRAFFIC WILL BE MAINTAINED AT ALL TIMES AS DETAILED:

   a. ONE NORTHBOUND LANE WILL BE MAINTAINED ON THE NEW NORTHBOUND PAVEMENT CONSTRUCTED BY PHASE 3A. VARIOUS INTERCHANGE RAMPS WILL BE CONSTRUCTED PART WIDTH TO MAINTAIN TRAFFIC AT ALL TIMES.

   b. THE NORTHBOUND CONTRAFLOW TRAFFIC LANE ON THE SOUTHBOUND PAVEMENT WILL BE MAINTAINED AS IN PHASE 3A.

   c. THE TWO LANES OF SOUTHBOUND TRAFFIC WILL BE MAINTAINED AS IN PHASE 3A.

   PHASE 3B WORK (RAMPS - BRECKSVILLE ROAD RAMP B AND IR 77 RAMP B AND C)
   CONSTRUCT NEW PAVEMENT THRU INTERMEDIATE COURSE FOR THE INSIDE HALF OF THE RAMP PAVEMENT AND PAVED SHOULDER AS PER MOT TYPICAL SECTIONS, SHEETS 79 . SEPARATE TRAFFIC FROM THE WORK ZONE WITH PCB. COORDINATE RAMP CONSTRUCTION WITH IR 271 AND BRECKSVILLE ROAD BRIDGE CONSTRUCTION. NO WORK SHALL BE UNDERWAY AND NO RESTRICTIONS SHALL BE IN PLACE ON THE BRECKSVILLE RD. EXIT RAMP B DURING THE IR 77 RAMP B 90 DAY CLOSURE. MAINTAIN TRAFFIC AT ALL TIMES EXCEPT RAMP B WHICH SHALL BE CLOSED FOR A MAXIMUM 90 DAY DURATION.

   PHASE 3 SHALL BE COMPLETED IN CONSTRUCTION SEASON TWO BY OCTOBER 15 , 2015. THIS SHALL BE AN INTERIM COMPLETION DATE, AND ALL TRAFFIC SHALL BE SHIFTED BACK TO THE NORMAL TRAVEL LANES OVER THE WINTER. LIQUIDATED DAMAGES IN ACCORDANCE WITH CMS 108.07-1 SHALL BE ASSESSED FOR EACH CALENDER DAY THAT THE NORMAL TRAVEL LANES REMAIN CLOSED/RESTRICTED BEYOND THE SPECIFIED DATE.

CALCULATED DAW CHECKED PRS

MAINTENANCE OF TRAFFIC NOTES

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CONSTRUCTION PHASES

9. PHASE 4A WORK (IR 271)
CONSTRUCT NEW PAVEMENT THRU INTERMEDIATE COURSE AND BRIDGE STRUCTURES FOR THE INSIDE SOUTHBOUND LANE AND PAVED SHOULDER AS PER MOT TYPICAL SECTION, SHEETS 62 & 64 - 69 . TWO LANES OF SOUTHBOUND TRAFFIC WILL BE MAINTAINED AT ALL TIMES AS DETAILED:

a. ONE SOUTHBOUND LANE WILL BE MAINTAINED ON THE EXISTING OUTSIDE PAVEMENT LANE AND THE TEMPORARY PAVED SHOULDER CONSTRUCTED BY PRE-PHASE 1. THIS LANE WILL HAVE ACCESS TO EXISTING SOUTHBOUND RAMPS AT ALL TIMES.

b. ONE SOUTHBOUND LANE WILL CROSS THE MEDIAN AND RUN CONTRAFLOW WITH THE NORTHBOUND TRAFFIC SEPARATED BY PCB. THIS LANE WILL NOT HAVE ACCESS TO ANY OF THE EXISTING SOUTHBOUND RAMPS.

c. TWO LANES OF NORTHBOUND TRAFFIC WILL BE MAINTAINED AT ALL TIMES ON THE NEW PAVEMENT CONSTRUCTED BY PHASE 3. ALL INTERCHANGE RAMP TRAFFIC SHALL BE MAINTAINED AT ALL TIMES

PHASE 4A WORK (RAMPS - BRECKSVILLE ROAD RAMP A, IR 77 RAMP A AND IR 77 RAMP D) CONSTRUCT NEW PAVEMENT THRU INTERMEDIATE COURSE FOR THE OUTSIDE HALF OF THE RAMP PAVEMENT AND PAVED SHOULDER AS PER MOT TYPICAL SECTIONS, SHEETS 79 . CONSTRUCT TEMPORARY RAMP D. SEPARATE TRAFFIC FROM THE WORK ZONE WITH PCB. COORDINATE RAMP CONSTRUCTION WITH IR 271 AND BRECKSVILLE ROAD BRIDGE CONSTRUCTION. MAINTAIN ALL THROUGH LANES ON IR 77.

10. PHASE 4B WORK (IR 271)
CONSTRUCT NEW PAVEMENT THRU INTERMEDIATE COURSE AND BRIDGE STRUCTURES FOR THE OUTSIDE SOUTHBOUND LANE AND PAVED SHOULDER INCLUDING INTERCHANGE RAMPS AS PER MOT TYPICAL SECTIONS, SHEETS 70 & 72 - 78 . TWO LANE OF SOUTHBOUND TRAFFIC WILL BE MAINTAINED AT ALL TIMES AS DETAILED.

a. ONE SOUTHBOUND LANE WILL BE MAINTAINED ON THE NEW SOUTHBOUND PAVEMENT CONSTRUCTED BY PHASE 4A. VARIOUS INTERCHANGE RAMPS WILL BE CONSTRUCTED PART-WIDTH.

b. THE SOUTHBOUND CONTRAFLOW LANE ON THE NORTHBOUND PAVEMENT WILL BE MAINTAINED AS IN PHASE 4A.

c. THE TWO SOUTHBOUND TRAFFIC LANES WILL BE MAINTAINED AS IN PHASE 4A.

PHASE 4B WORK (RAMPS - BRECKSVILLE ROAD RAMP A, IR 77 RAMP A AND IR 77 RAMP D) CONSTRUCT NEW PAVEMENT THRU INTERMEDIATE COURSE FOR THE INSIDE HALF OF THE RAMP PAVEMENT AND PAVED SHOULDER AS PER MOT TYPICAL SECTIONS, SHEETS 79 . SEPARATE TRAFFIC FROM THE WORK ZONE WITH PCB. RAMP D TRAFFIC WILL UTILIZE TEMPORARY RAMP PAVEMENT DURING CONSTRUCTION. COORDINATE RAMP CONSTRUCTION WITH IR 271 AND BRECKSVILLE ROAD BRIDGE CONSTRUCTION.

PHASE 4 SHALL BE COMPLETED IN CONSTRUCTION SEASON THREE (3) BY OCTOBER 15 , 2016. THIS SHALL BE AN INTERIM COMPLETION DATE, AND ALL TRAFFIC SHALL BE SHIFTED BACK TO NORMAL TRAVEL LANES OVER THE WINTER. LIQUIDATED DAMAGES IN ACCORDANCE WITH CMS 108.07-1 SHALL BE ASSESSED FOR EACH CALENDAR DAY THAT THE NORMAL TRAVEL LANES REMAIN CLOSED/RESTRICTED BEYOND THE SPECIFIED DATE.

11. PHASE 5
BRIDGE PAINTING, FINAL SURFACE COURSE, PERMANENT PAVEMENT MARKINGS, LIGHTING, MEDIAN GRADING, PIER PROTECTION GUARDRAIL INSTALLATION FINAL CLEANUP ETC. ONE TRAFFIC LANE MAY BE CLOSED IN ACCORDANCE WITH SCD MT-95.30 PER THE PERMITTED LANE CLOSURE REQUIREMENTS.

PHASE 5 SHALL BE COMPLETED IN CONSTRUCTION SEASON FOUR BY JULY 31 ,2017. THIS SHALL BE THE PROJECT COMPLETION DATE, AND ALL TRAFFIC SHALL BE SHIFTED BACK TO THE NORMAL TRAVEL LANES. LIQUIDATED DAMAGES IN ACCORDANCE WITH CMS 108.07-1 SHALL BE ASSESSED FOR EACH CALENDAR DAY THAT THE NORMAL TRAVEL LANES REMAIN CLOSED/RESTRICTED BEYOND THE SPECIFIED DATE.

MAINTENANCE OF TRAFFIC

THIS ITEM SHALL CONSIST OF MAINTENANCE OF TRAFFIC ON EXISTING LOCAL ROADWAYS IN ACCORDANCE WITH THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS, CURRENT EDITION, LATEST REVISION, THE SPECIFICATIONS AND THE FOLLOWING:

1. A MINIMUM OF ONE TEN FOOT LANE IN EACH DIRECTION SHALL BE MAINTAINED ON THE EXISTING PAVEMENT (COMPLETED PAVEMENT AND TEMPORARY PAVEMENT) DURING CONSTRUCTION OF THE WORK, UNLESS OTHERWISE NOTED ON PLANS.

2. THE CONTRACTOR SHALL INFORM THE DISTRICT OFFICE (330) 786-2208, EIGHTEEN (18) DAYS PRIOR TO THE BEGINNING OF WORK.

3. CONES SHALL NOT BE ACCEPTABLE TRAFFIC CONTROL DEVICES FOR LANE RESTRICTIONS OR LANE REDUCTIONS THAT ARE IN OPERATION ONE-HALF HOUR AFTER SUNSET OR ONE HALF-HOUR BEFORE SUNRISE. ALL NIGHTTIME LANE RESTRICTIONS SHALL REQUIRE DRUMS OR BARRICADES AT A MAXIMUM SPACING OF FIFTY (50) FEET. WEIGHTED CHANNELIZERS MAY BE USED IN ACCORDANCE WITH THE STANDARD CONSTRUCTION DRAWINGS.

4. LANE RESTRICTIONS OR LANE REDUCTIONS SHALL NOT BE PERMITTED AFTER NORMAL WORKING HOURS. NORMAL WORKING HOURS SHALL BE THOSE HOURS DURING WHICH THE CONTRACTOR HAS A FULL COMPLEMENT OF EMPLOYEES AND EQUIPMENT ACTIVELY REMOVING AND/OR PLACING PAVEMENT MATERIALS.

5. THE CONTRACTOR SHALL FURNISH, ERECT, MAINTAIN AND SUBSEQUENTLY REMOVE ALL FLAGS, BARRICADES, SIGNS, SIGN SUPPORTS AND FURNISH AND MAINTAIN ALL FLAGGERS, WATCHERS AND INCIDENTALS RELATED THERETO.

6. ALL FULL DEPTH PAVEMENT REMOVAL AND REPLACEMENT OPERATIONS SHALL BE COMPLETED THE SAME DAY THE EXCAVATION IS MADE. IF THE CONTRACTOR CANNOT COMPLETE THE WORK, THE EXCAVATION SHALL BE BACKFILLED OR PROTECTED.

7. TRUCK MOUNTED ATTENUATORS [TMA'S] SHALL BE USED AS SHOWN IN THE STANDARD CONSTRUCTION DRAWINGS.

8. UNDER NO CIRCUMSTANCES SHALL THE CONTRACTOR BE PERMITTED TO HAVE SUCCESSIVE WORK ZONES UNLESS THE DISTANCE BETWEEN THE DRUMS, BARRICADES OR CONES EXCEEDS TWO (2) MILES RURAL OR ONE [1] MILE URBAN.

9. ONLY DURING OFF-PEAK PERIODS (ie ANY PERIOD OTHER THAN 6-8AM AND 3-6PM) SHALL THE CONTRACTOR INSTALL AND SUBSEQUENTLY RESET ALL TRAFFIC CONTROL NECESSARY FOR THE WORK ZONE FOR EACH CONSTRUCTION PHASE.

10. IN ADDITION TO THE REQUIREMENTS OF 614.11 WORK ZONE PAVEMENT MARKINGS, AT THE END OF EACH DAY OF WORK, THE CONTRACTOR SHALL REPLACE (WITH WORK ZONE MARKINGS) ALL LANE, CENTER, STOP OR CHANNELIZING LINES THAT WERE REMOVED OR COVERED DURING THE PAVEMENT REMOVAL OR PLACEMENT OPERATIONS. QUANTITIES FOR SUCH PLACEMENT ARE CARRIED AS PART OF THE ITEMS LISTED UNDER 614 WORK ZONE PAVEMENT MARKINGS.

11. PRIOR TO OPENING TO TRAFFIC EACH LANE SHALL BE IN A SAFE, PASSABLE CONDITION. ALL TRANSVERSE JOINTS SHALL EXTEND ACROSS THE FULL LANE AND SHOULDER WIDTH AND EACH LANE SHALL BE FREE FROM UNEVEN LONGITUDINAL JOINTS. THE CONTRACTOR SHALL PROVIDE ASPHALT WEDGES FOR TRANSVERSE JOINTS WHEREVER THERE ARE PAVEMENT ELEVATION DIFFERENCES.

PAYMENT FOR THE ASPHALT WEDGES SHALL BE INCLUDED IN THE LUMP SUM PRICE BID FOR ITEM 614 - MAINTAINING TRAFFIC, UNLESS SEPARATELY ITEMIZED IN THE PLAN.

A QUANTITY OF ITEM 614 WORK ZONE MARKING SIGN HAS BEEN INCLUDED IN THE PLAN. THIS QUANTITY SHALL INCLUDE, BUT NOT BE LIMITED TO, THE FOLLOWING SIGNS: W8-1 [BUMP], W6-3 [TWO-WAY TRAFFIC], W8-H13 [NO EDGE LINES], R4-1 [DO NOT PASS], R4-2 [PASS WITH CARE], W8-11 [UNEVEN LANES]. THESE QUANTITIES SHALL BE AS PER 614.04.

THE FOLLOWING QUANTITIES SHALL BE USED FOR THE MAINTENANCE OF TRAFFIC ON THIS PROJECT:

614, WORK ZONE MARKING SIGN, 44 EACH

A QUANTITY OF 2,000 CU. YDS. OF 614 ASPHALT CONCRETE FOR MAINTAINING TRAFFIC SHALL BE PROVIDED FOR USE IN MAINTAINING PAVEMENT, SHOULDERS AND OTHER LOCATIONS AS DIRECTED BY THE ENGINEER.

CONTRACTOR'S EQUIPMENT - OPERATION AND STORAGE

A QUALIFIED FLAGGER SHALL BE EMPLOYED WHERE THE CONTRACTOR'S EQUIPMENT MUST MERGE WITH THE TRAFFIC STREAM. THE CONTRACTOR'S EQUIPMENT SHALL BE EQUIPPED WITH AT LEAST ONE AMBER FLASHING LIGHT. PAVERS, ROLLERS AND OTHER EQUIPMENT MAY BE PARKED IN AREAS ALONG THE HIGHWAY WHEN PAVING OPERATIONS ARE SCHEDULED TO CONTINUE WITHIN THE NEXT WORKDAY. OTHERWISE THE EQUIPMENT SHALL BE STORED AT A STORAGE AREA OUTSIDE THE R/W, THE LOCATION OF WHICH SHALL HAVE PRIOR APPROVAL OF THE ENGINEER. WHEN PARKING ALONG THE HIGHWAY THE EQUIPMENT SHALL BE PLACED AND DELINEATED AS PER 614.03. NO EQUIPMENT SHALL BE PARKED IN THE MEDIAN OF THE HIGHWAY. ADEQUATE BARRICADES AND LIGHTS SHALL BE PLACED ON THE PAVEMENT SIDE OF THE EQUIPMENT TO IDENTIFY THE LIMITS OF THE EQUIPMENT. ALL OTHER EQUIPMENT, INCLUDING PRIVATE VEHICLES, SHALL BE STORED AT THE APPROVED CONTRACTOR'S STORAGE AREA. NO EQUIPMENT SHALL BE PARKED ON PRIVATE PROPERTY UNLESS PRIOR APPROVAL OF THE OWNER AND THE PROJECT ENGINEER/ SUPERVISOR HAS BEEN GRANTED.

EXTRA ADVANCE WARNING SIGNS

AN EXTRA ADVANCE WARNING SIGN GROUP CONSISTS OF TWO W20-1 (ROAD WORK AHEAD) SIGNS, TWO W20-5 (RIGHT/LEFT LANE CLOSED AHEAD) SIGNS WITH W16-3A DISTANCE PLATES, AND TWO W3-H7 (WATCH FOR STOPPED TRAFFIC) SIGNS AND REQUIRED WARNING LIGHTS.

THE CONTRACTOR SHALL HAVE AN ADDITIONAL EXTRA ADVANCE WARNING SIGN GROUP (6 SIGNS AND 2 DISTANCE PLATES) AVAILABLE FOR USE WHEN DIRECTED BY THE ENGINEER. THE DISTANCE PLATES FOR THIS GROUP SHALL BE ABLE TO BE MODIFIED IN THE FIELD TO SHOW APPROPRIATE WHOLE MILES TO THE LANE TAPER.

PAYMENT FOR PROVIDING, ERECTING, MAINTAINING AND REMOVING EXTRA ADVANCE WARNING SIGN GROUPS SHALL BE INCLUDED IN THE LUMP SUM BID FOR ITEM 614, MAINTAINING TRAFFIC.

CALCULATED DAW
CHECKED PRS

MAINTENANCE OF TRAFFIC NOTES

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ITEM 615, PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A, AS PER PLAN

IN ADDITION TO THE REQUIREMENTS OF 615, THIS ITEM REPLACES THE 7 INCHES OF ITEM 302 BITUMINOUS AGGREGATE BASE AND THE 4 INCHES OF ITEM 304 AGGREGATE BASE WITH 9 INCHES OF ITEM 302 BITUMINOUS AGGREGATE BASE. RIGID TEMPORARY PAVEMENT SHALL BE CLASS C CONCRETE CONFORMING TO ITEM 452 IN LIEU OF CLASS F CONCRETE.

UPON COMPLETION OF THE PROJECT, THE CONTRACTOR SHALL REMOVE THE PAVEMENT FOR MAINTAINING TRAFFIC INCLUDING ANY TEMPORARY DRAINAGE FACILITIES. THE AFFECTED EXISTING EARTH MEDIAN AND PAVED SHOULDERS SHALL BE RESTORED TO THEIR ORIGINAL CONDITION AS DIRECTED BY THE ENGINEER AND AS PER 615.08.

PAVEMENT FOR MAINTAINING TRAFFIC SHALL NOT BE OPENED TO TRAFFIC UNTIL ALL WORK ZONE TRAFFIC CONTROL DEVICES, SIGNS, PAVEMENT MARKINGS, GUARDRAIL AND PORTABLE CONCRETE BARRIERS HAVE BEEN ERECTED AND APPROVED BY THE ENGINEER.

WHERE PAVEMENT FOR MAINTAINING TRAFFIC IS CONSTRUCTED ADJACENT TO THE EXISTING PAVEMENT, PERFORM PARTIAL DEPTH PAVEMENT REPAIR PER CMS 251 FOR 18" TO A DEPTH OF 3" ON THE EXISTING PAVEMENT WHERE SHOWN IN THE PLANS. PAYMENT FOR PARTIAL DEPTH REPAIR SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM 615 - PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A, AS PER PLAN. PARTIAL DEPTH REPAIR MUST BE COMPLETED PRIOR TO OPENING THE PAVEMENT TO TRAFFIC. LONGITUDINAL JOINTS WILL BE SEALED ACCORDING TO CMS 401.17 AND WILL BE CONSIDERED INCIDENTAL TO THIS ITEM OF WORK.

ALTHOUGH ESTIMATES FOR TEMPORARY EXCAVATION, EMBANKMENT AND TEMPORARY DRAINAGE FACILITIES MAY BE SHOWN ON THE PLAN DETAILS, THESE ITEMS SHALL BE CONSIDERED INCIDENTAL TO, AND INCLUDED WITH PAYMENT FOR ITEM 615 ROADS FOR MAINTAINING TRAFFIC.

WORKSITE TRAFFIC SUPERVISOR

SUBJECT TO APPROVAL OF THE ENGINEER, THE CONTRACTOR SHALL EMPLOY AND IDENTIFY (SOMEONE OTHER THAN THE SUPERINTENDENT) A CERTIFIED WORKSITE TRAFFIC SUPERVISOR (WTS) BEFORE STARTING WORK IN THE FIELD. THE WTS MAY BE CERTIFIED FROM ONE OF THE FOLLOWING ORGANIZATIONS:

1. AMERICAN TRAFFIC SAFETY SERVICE ASSOCIATION (ATSSA), PHONE NUMBER 1-800-272-8772, CERTIFIED TRAFFIC CONTROL SUPERVISOR (TCS).
2. NATIONAL HIGHWAY INSTITUTE, DESIGN AND OPERATION OF WORK ZONE TRAFFIC CONTROL, PHONE NUMBER 1-703-235-0528.
3. THE OHIO CONTRACTORS ASSOCIATION, TRAFFIC CONTROL SUPERVISOR (OCA/TCS) WORK ZONE CLASS, ONLY IF TAKEN AFTER MAY 5, 2004, PHONE NUMBER 1-800-229-1388.
4. OHIO LABORERS TRAINING, TRAFFIC CONTROL SUPERVISORS CLASS, PHONE NUMBER 1-740-599-7915.

WORKSITE TRAFFIC SUPERVISER (CONT'D.)

A COPY OF EACH WTSS CERTIFICATION AND 24-HOUR CONTACT INFORMATION SHALL BE PROVIDED TO THE ENGINEER AT THE PRECONSTRUCTION CONFERENCE. IF THE DESIGNATED WTS WILL NOT BE AVAILABLE FULL TIME (24/7) THE CONTRACTOR MAY DESIGNATE AN ALTERNATE WTS TO BE AVAILABLE WHEN THE PRIMARY IS OFF DUTY. EACH WTS SHALL HAVE A CURRENT WTS CERTIFICATION (WITH AN EXPIRATION DATE NO MORE THAN 5 YEARS FROM THE DATE OF ISSUE) FROM ANY OF THE APPROVED ORGANIZATIONS.

THE WTS POSITION HAS THE RESPONSIBILITY OF MONITORING TRAFFIC CONTROL DEFICIENCIES FOR THE ENTIRE WORK ZONE. THE DUTIES OF THE WTS ARE AS FOLLOWS:

1. BE AVAILABLE ON A 24-HOUR PER DAY BASIS, AND BE ABLE TO BE ON SITE FOR ALL EMERGENCY TRAFFIC CONTROL NEEDS WITHIN ONE HOUR OF NOTIFICATION BY POLICE OR PROJECT STAFF AND BE PREPARED TO EFFECT CORRECTIVE MEASURES IMMEDIATELY ON EXISTING WORK ZONE TRAFFIC CONTROL DEVICES.
2. ATTEND PRECONSTRUCTION MEETING AND ALL PROJECT MEETINGS WHERE TRAFFIC CONTROL MANAGEMENT IS DISCUSSED.
3. BE AVAILABLE FOR MEETINGS OR DISCUSSIONS WITH THE ENGINEER UPON REQUEST OR WITHIN 36 HOURS.
4. BE AWARE OF, AND COORDINATE IF NECESSARY, ALL TRAFFIC CONTROL OPERATIONS, INCLUDING THOSE OF SUBCONTRACTORS AND SUPPLIERS.
5. COORDINATE PROJECT ACTIVITIES WITH ALL LAW ENFORCEMENT OFFICERS (LEOS). A WTS SHALL ALSO BE THE MAIN CONTACT PERSON WITH THE LEOS WHILE THEY ARE ON THE PROJECT.
6. COORDINATE MEETINGS WITH ODOT PERSONNEL, LEOS AND OTHER APPLICABLE ENTITIES BEFORE EACH PLAN PHASE SWITCH TO DISCUSS WORK ZONE TRAFFIC CONTROL.
7. ENSURE COMPLIANCE WITH THE CONTRACT DOCUMENTS FOR SIGNS, BARRICADES, TEMPORARY CONCRETE BARRIER, PAVEMENT MARKINGS, PORTABLE MESSAGE SIGNS, AND OTHER TRAFFIC CONTROL DEVICES ON A DAILY BASIS; AND FACILITATE ANY CORRECTIVE ACTION NECESSARY.
8. NOTIFY THE CONTRACTOR OF THE NEED FOR CLEANING AND MAINTENANCE OF ALL TRAFFIC CONTROL DEVICES, INCLUDING THE COVERING AND REMOVAL OF INAPPLICABLE SIGNS.
9. INSPECT, EVALUATE, PROPOSE NECESSARY MODIFICATIONS TO, AND DOCUMENT THE EFFECTIVENESS OF, THE TRAFFIC CONTROL DEVICES AND/OR TRAFFIC OPERATIONS ON A DAILY BASIS (7 DAYS A WEEK). IN ADDITION, A WEEKLY NIGHT INSPECTION OF THE WORK ZONE SETUP FOR DAYTIME WORK OPERATIONS; AND ONE DAYTIME INSPECTION PER WEEK FOR NIGHTTIME PROJECTS. THIS SHALL INCLUDE (BUT NOT BE LIMITED TO) DOCUMENTATION ON THE FOLLOWING PROJECT EVENTS:

   A. INITIAL TRAFFIC CONTROL SETUP (DAY AND NIGHT REVIEW).

   B. DAILY TRAFFIC CONTROL SETUP AND REMOVAL.

   C. WHEN CONSTRUCTION STAGING CAUSES A CHANGE IN THE TRAFFIC CONTROL SETUP.

(CONT'D.)

   D. CRASH OCCURRENCES WITHIN THE CONSTRUCTION AREA.

   E. REMOVAL OF TRAFFIC CONTROL DEVICES AT THE END OF A PHASE OR PROJECT.

   F. ALL OTHER EMERGENCY TRAFFIC CONTROL NEEDS.

10. COMPLETE THE DEPARTMENT APPROVED LONG TERM INSPECTION FORM (CA-D-8) AFTER EACH INSPECTION AS REQUIRED IN # 9 AND SUBMIT IT TO THE ENGINEER THE FOLLOWING WORK DAY. THESE REPORTS SHALL INCLUDE A CHECKLIST OF ALL TRAFFIC CONTROL MAINTENANCE ITEMS TO BE REVIEWED. A COPY OF THE FORM WILL BE PROVIDED AT THE PRE-CONSTRUCTION MEETING. ANY DEFICIENCIES OBSERVED SHALL BE NOTED, ALONG WITH RECOMMENDED CORRECTIVE ACTIONS AND THE DATES BY WHICH SUCH CORRECTIONS WERE, OR WILL BE, COMPLETED. A COPY OF THIS DOCUMENT CAN BE FOUND IN THE DEPARTMENT OF TRANSPORTATION CONSTRUCTION INSPECTION FORMS MANUAL DATED 10/15/06 OR CURRENT REVISION.
11. VERIFY THAT ALL FLAGGING OPERATIONS ARE BEING CONDUCTED PER THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES.
12. HAVE COPIES OF THE ODOT TEMPORARY TRAFFIC CONTROL MANUAL AND APPLICABLE STANDARDS AND SPECIFICATIONS INCLUDED IN THE CONTRACT DOCUMENTS AVAILABLE AT ALL TIMES ON THE PROJECT.

THE DEPARTMENT WILL NOT PAY THE UNIT PRICE BID FOR THE WTS FOR ANY DAY ON WHICH THE CONTRACTOR FAILS TO PERFORM THE DUTIES SET FORTH ABOVE. SHOULD THE CONTRACTOR'S FAILURE TO PERFORM ANY OF THE DUTIES DESCRIBED ABOVE RESULT IN A MAINTENANCE OF TRAFFIC SAFETY ISSUE, THE DEPARTMENT WILL DEDUCT THE PRORATED DAILY AMOUNT FOR ITEM 614 MAINTENANCE OF TRAFFIC FROM THE CONTRACTOR'S NEXT SCHEDULED ESTIMATE.

IF THREE OR MORE FAILURES TO PERFORM THE DUTIES SET FORTH ABOVE OCCUR, THE WTS SHALL BE IMMEDIATELY REMOVED FROM THE WORK IN ACCORDANCE WITH C&MS 108.05.

THE FOLLOWING ESTIMATED QUANTITY HAS BEEN INCLUDED FOR THE WORKSITE TRAFFIC SUPERVISOR:

ITEM 614 WORKSITE TRAFFIC SUPERVISOR 48 MONTHS

ITEM 614, LAW ENFORCEMENT OFFICER (WITH PATROL CAR) FOR ASSISTANCE DURING CONSTRUCTION OPERATIONS

USE OF LAW ENFORCEMENT OFFICERS (LEOS) BY CONTRACTORS OTHER THAN THE USES SPECIFIED BELOW WILL NOT BE PERMITTED AT PROJECT COST. LEOS SHOULD NOT BE USED WHERE THE OMUTCD INTENDS THAT FLAGGERS BE USED.

IN ADDITION TO THE REQUIREMENTS OF CMS 614 AND THE OMUTCD, A UNIFORMED LEO WITH AN OFFICIAL PATROL CAR (CAR WITH TOP-MOUNTED EMERGENCY FLASHING LIGHTS AND COMPLETE MARKINGS OF THE APPROPRIATE LAW ENFORCEMENT AGENCY) SHALL BE PROVIDED FOR THE FOLLOWING TRAFFIC CONTROL TASKS:

DURING THE ENTIRE ADVANCE PREPARATION AND CLOSURE SEQUENCE WHERE COMPLETE BLOCKAGE OF TRAFFIC IS REQUIRED.

FOR LANE CLOSURES: DURING INITIAL SET-UP PERIODS, TEAR DOWN PERIODS, SUBSTANTIAL SHIFTS OF A CLOSURE POINT OR WHEN NEW LANE CLOSURE ARRANGEMENTS ARE INITIATED FOR LONG-TERM LANE CLOSURES/SHIFTS (FOR THE FIRST AND LAST DAY OF MAJOR CHANGES IN TRAFFIC CONTROL SETUP). IN GENERAL, LEOS SHOULD BE POSITIONED AT THE POINT OF LANE RESTRICTION OR ROAD CLOSURE AND TO MANUALLY CONTROL TRAFFIC MOVEMENTS THROUGH INTERSECTIONS IN WORK ZONES.

WHEN CONSTRUCTION VEHICLES ARE ENTERING/EXITING THE ZONE DIRECTLY FROM/INTO AN OPEN LANE OF TRAFFIC. IF A LANE HAS BEEN CLOSED TO PROVIDE AN ACCELERATION/DECELERATION LANE FOR THE VEHICLE, THE LEO WILL NOT BE REQUIRED.

LEOS SHOULD NOT FORGO THEIR TRAFFIC CONTROL RESPONSIBILITIES TO APPREHEND MOTORISTS FOR ROUTINE TRAFFIC VIOLATIONS. HOWEVER, IF A MOTORIST'S ACTIONS ARE CONSIDERED TO BE RECKLESS, THEN PURSUIT OF THE MOTORIST IS APPROPRIATE.

THE LEOS WORK AT THE DIRECTION OF THE ENGINEER. THE CONTRACTOR IS RESPONSIBLE FOR SECURING THE SERVICES OF THE LEOS WITH THE APPROPRIATE AGENCIES AND COMMUNICATING THE INTENTIONS OF THE PLANS WITH RESPECT TO DUTIES OF THE LEOS. THE ENGINEER SHALL HAVE FINAL CONTROL OVER THE LEOS' DUTIES AND PLACEMENT, AND WILL RESOLVE ANY ISSUES THAT MAY ARISE BETWEEN THE TWO PARTIES.

THE LEO SHALL REPORT IN TO THE CONTRACTOR PRIOR TO THE START OF THE SHIFT, IN ORDER TO RECEIVE INSTRUCTIONS REGARDING SPECIFIC WORK ASSIGNMENTS DURING HIS/HER SHIFT. THE LEO IS EXPECTED TO STAY AT THE PROJECT SITE FOR THE ENTIRE DURATION OF HIS/HER SHIFT. THE LEO SHALL REPORT TO THE CONTRACTOR AT THE END OF HIS/HER SHIFT. ONCE THE LEO HAS COMPLETED THE DUTIES DESCRIBED ABOVE AND STILL HAS TIME REMAINING ON HIS/HER SHIFT, THE LEO MAY BE ASKED TO PATROL THROUGH THE WORK ZONE (WITH FLASHING LIGHTS OFF) OR BE PLACED AT A LOCATION TO DETER MOTORISTS FROM SPEEDING. SHOULD IT BE NECESSARY TO LEAVE THE PROJECT SITE, THE LEO SHALL NOTIFY THE ENGINEER. THE CONTRACTOR SHALL PROVIDE THE LEO WITH A TWO-WAY COMMUNICATION DEVICE WHICH SHALL BE RETURNED TO THE CONTRACTOR AT THE END OF HIS/HER SHIFT.

LEOS (WITH PATROL CAR) REQUIRED BY THE TRAFFIC MAINTENANCE TASKS ABOVE SHALL BE PAID FOR ON A UNIT PRICE (HOURLY) BASIS UNDER ITEM 614, LAW ENFORCEMENT OFFICER (WITH PATROL CAR) FOR ASSISTANCE. THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN CARRIED TO THE GENERAL SUMMARY.

ITEM 614, LAW ENFORCEMENT OFFICER WITH PATROL CAR FOR ASSISTANCE 200 HOURS

THE HOURS PAID SHALL INCLUDE ANY MINIMUM SHOW-UP TIME REQUIRED BY THE LAW ENFORCEMENT AGENCY INVOLVED.

ANY ADDITIONAL COSTS (ADMINISTRATIVE OR OTHERWISE) INCURRED BY THE CONTRACTOR TO OBTAIN THE SERVICES OF AN LEO ARE INCLUDED WITH THE BID UNIT PRICE FOR ITEM 614, LAW ENFORCEMENT OFFICER WITH PATROL CAR FOR ASSISTANCE.

CALCULATED DAW CHECKED PRS

MAINTENANCE OF TRAFFIC NOTES

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ITEM 614, PORTABLE CHANGEABLE MESSAGE SIGN, AS PER PLAN

THE CONTRACTOR SHALL FURNISH, INSTALL, MAINTAIN AND REMOVE, WHEN NO LONGER NEEDED, PORTABLE CHANGEABLE MESSAGE SIGNS [PCMS], ON SITE, FOR THE DURATION OF TIME SPECIFIED IN THIS NOTE, EACH SIGN SHALL BE OF A TYPE SHOWN ON A LIST OF APPROVED PCMS UNITS MAINTAINED BY THE DIRECTOR. THIS LIST IS AVAILABLE ON THE ODOT WEBSITE AT http://www.dot.state.oh.us/divisions/constructionmgt/materials/pages/portable-changeable.aspx
THE CLASS A UNITS SHALL HAVE A MINIMUM LEGIBILITY DISTANCE OF 650 FEET.

EACH SIGN SHALL BE TRAILER MOUNTED AND EQUIPPED WITH A FUNCTIONAL DIMMING MECHANISM TO DIM THE SIGN DURING DARKNESS AND A TAMPER AND VANDAL PROOF ENCLOSURE. EACH SIGN SHALL BE PROVIDED WITH APPROPRIATE TRAINING AND OPERATION INSTRUCTIONS TO ENABLE ON-SITE PERSONNEL TO OPERATE AND TROUBLESHOOT THE UNIT. THE SIGN SHALL ALSO BE CAPABLE OF BEING POWERED BY AN ELECTRICAL SERVICE DROP FROM A LOCAL UTILITY COMPANY. PCMS TRAILERS SHOULD BE DELINEATED ON A PERMANENT BASIS BY AFFIXING RETROREFLECTIVE MATERIAL, IN A CONTINUOUS LINE ON THE FACE OF THE TRAILER AS SEEN BY ONCOMING ROAD USERS.

PLACEMENT, OPERATION, MAINTENANCE AND ALL ACTIVATION OF THE SIGNS BY THE CONTRACTOR SHALL BE AS DIRECTED BY THE ENGINEER. THE PCMS SHALL BE LOCATED IN A HIGHLY VISIBLE POSITION YET PROTECTED FROM TRAFFIC. THE PCMS SHOULD NOT BE LOCATED IN THE MEDIAN OF THE HIGHWAY UNLESS IT IS PROTECTED FROM BOTH DIRECTIONS OF TRAFFIC. THE PCMS SHOULD BE LOCATED BEHIND GUARDRAIL WHEREVER POSSIBLE. THE CONTRACTOR SHALL, AT THE DIRECTION OF THE ENGINEER, RELOCATE THE PCMS TO IMPROVE THE VISIBILITY OR ACCOMMODATE CHANGED CONDITIONS. WHEN NOT IN USE, THE PCMS WILL BE OFF, FACING AWAY FROM ALL TRAFFIC AND SHALL DISPLAY ONE OR MORE HIGH INTENSITY YELLOW REFLECTIVE SHEETING SURFACES OF 9-INCH BY 15-INCH MINIMUM SIZE FACING TRAFFIC.

THE ENGINEER SHALL BE PROVIDED ACCESS TO EACH SIGN UNIT AND SHALL BE PROVIDED WITH APPROPRIATE TRAINING AND OPERATION INSTRUCTIONS TO ENABLE PERSONNEL TO OPERATE AND TROUBLESHOOT THE UNIT AND TO REVISE SIGN MESSAGES, IF NECESSARY. ALL MESSAGES TO BE DISPLAYED ON THE SIGN WILL BE PROVIDED BY THE CONTRACTOR. A LIST OF ALL PROPOSED PRE-PROGRAMMED MESSAGES WILL BE GIVEN TO THE ENGINEER PRIOR TO CONSTRUCTION. THE SIGN SHALL HAVE TWO DIFFERENT MEMORIES [PROM AND RAM] AND CAPABILITY TO STORE UP TO 99 MESSAGES IN EACH MEMORY. MESSAGE MEMORY OR PRE-PROGRAMMED DISPLAYS SHALL NOT BE LOST AS A RESULT OF POWER FAILURES TO THE ON-BOARD COMPUTER. THE SIGN LEGEND SHALL BE CAPABLE OF BEING CHANGED IN THE FIELD. IN ORDER TO CONVEY A MAXIMUM OF INFORMATION AT A SINGLE GLANCE, ONLY THREE LINE PRESENTATION FORMATS WITH A MAXIMUM OF SIX MESSAGE PHASES WILL BE PERMITTED. NORMALLY, ONLY A MAXIMUM OF THREE MESSAGE PHASES SHOULD BE EMPLOYED. PCMS FORMAT SHALL PERMIT THE COMPLETE MESSAGE FOR EACH PHASE TO BE READ AT LEAST TWICE.

THE PCMS SHALL CONTAIN AN ACCURATE CLOCK AND PROGRAMMING LOGIC WHICH WILL ALLOW THE SIGN TO BE ACTIVATED, DE-ACTIVATED OR MESSAGES CHANGED AUTOMATICALLY AT DIFFERENT TIMES OF THE DAY FOR DIFFERENT DAYS OF THE WEEK.

THE PCMS SHALL CONTAIN A CELLULAR TELEPHONE DATA LINK WHICH WILL [IN ACTIVE CELLULAR AREAS] ALLOW REMOTE SIGN ACTIVATION, DEACTIVATION, MESSAGE CHANGES, MESSAGE ADDITIONS AND REVISIONS TO TIME OF DAY PROGRAMS. THE SYSTEM SHALL ALSO PERMIT VERIFICATION OF CURRENT AND PROGRAMMED MESSAGES.

THE PCMS UNIT SHALL BE MAINTAINED IN GOOD WORKING ORDER BY THE CONTRACTOR IN ACCORDANCE WITH THE PROVISIONS OF 614. THE CONTRACTOR SHALL PRIOR TO ACTIVATING THE UNIT, MAKE ARRANGEMENTS WITH AN AUTHORIZED SERVICE AGENT FOR THE PCMS TO ASSURE PROMPT SERVICE IN THE EVENT OF FAILURE. ANY FAILURE SHALL NOT RESULT IN THE SIGN BEING OUT OF SERVICE FOR MORE THAN 12 HOURS INCLUDING WEEKENDS. FAILURE TO COMPLY MAY RESULT IN AN ORDER TO STOP WORK AND OPEN ALL TRAFFIC LANES AND/OR IN THE DEPARTMENT TAKING APPROPRIATE ACTION TO SAFELY CONTROL TRAFFIC AND THE ENTIRE COST TO CONTROL TRAFFIC ACCRUED BY THE DEPARTMENT WILL BE DEDUCTED FROM MONEYS DUE, OR TO BECOME DUE THE CONTRACTOR ON HIS CONTRACT.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR 24 HOURS PER DAY OPERATION AND MAINTENANCE OF THESE SIGNS ON THE PROJECT FOR THE DURATION OF THE PHASES. THE REQUIREMENT TO FURNISH, INSTALL, MAINTAIN AND REMOVE A PCMS UNIT ON THIS PROJECT SHALL NOT IN ANY WAY RELIEVE THE CONTRACTOR OF HIS RESPONSIBILITIES AS OUTLINED IN 614.02.

PAYMENT FOR THE ABOVE DESCRIBED ITEM SHALL BE AT THE CONTRACT UNIT PRICE BID FOR EACH DAY OF ITEM 614 - PORTABLE CHANGEABLE MESSAGE SIGN, AS PER PLAN AND SHALL INCLUDE ALL LABOR, MATERIALS, EQUIPMENT, FUELS, LUBRICATING OILS, SOFTWARE, HARDWARE AND INCIDENTALS TO PERFORM THE ABOVE DESCRIBED WORK.

ITEM 614, PORTABLE CHANGEABLE MESSAGE SIGN, AS PER PLAN, 1600 DAYS

TRENCH FOR WIDENING

TRENCH EXCAVATION FOR BASE WIDENING SHALL BE ONLY ON ONE SIDE OF THE PAVEMENT AT A TIME. THE OPEN TRENCH SHALL BE ADEQUATELY MAINTAINED AND PROTECTED WITH DRUMS OR BARRICADES AT ALL TIMES. AS SHOWN ON THE STANDARD CONSTRUCTION DRAWING MT - 101.90 DROPOFFS IN WORK ZONE. PLACEMENT OF PROPOSED BASE MATERIAL SHALL FOLLOW AS CLOSELY AS POSSIBLE BEHIND THE EXCAVATION OPERATIONS. THE LENGTH OF WIDENING TRENCH WHICH IS OPEN AT ANY ONE TIME SHALL BE HELD TO A MINIMUM AND SHALL AT ALL TIMES BE SUBJECT TO THE APPROVAL OF THE ENGINEER. THE BASE WIDENING ON THIS PROJECT WILL BE COMPLETED TO A DEPTH OF 3 INCHES BELOW THE EXISTING PAVEMENT BY THE END OF THE WORK DAY. NO TRENCH WILL BE LEFT OPEN OVER-NIGHT. IN CASE WORK MUST BE SUSPENDED BECAUSE OF INCLEMENT WEATHER OR OTHER REASONS, THE TRENCH FOR THE UNCOMPLETED BASE WIDENING WILL BE BACKFILLED AT THE DIRECTION OF THE ENGINEER.

ITEM 614, WORK ZONE PAVEMENT MARKINGS, AS PER PLAN

IN ADDITION TO THE REQUIREMENTS OF 614.11, ALL CLASS 1 EDGE LINES, LANE LINES, CENTER LINES AND DOTTED LINES SHALL BE 6 INCHES WIDE AND CHANNELIZING MARKINGS SHALL BE 8 INCHES WIDE. THE APPLICATION RATES FOR THE 6 INCH LINES SHALL BE 1.5 TIMES THE RATES SPECIFIED FOR 4 INCH LINES IN TABLE 614.11-1.

FLOODLIGHTING

FLOODLIGHTING OF THE WORK SITE FOR OPERATIONS CONDUCTED DURING NIGHTTIME PERIODS SHALL BE ACCOMPLISHED SO THAT THE LIGHTS DO NOT CAUSE GLARE TO THE DRIVERS ON THE ROADWAY. TO ENSURE THE ADEQUACY OF THE FLOODLIGHT PLACEMENT, THE CONTRACTOR AND THE ENGINEER SHALL DRIVE THROUGH THE WORK SITE EACH NIGHT WHEN THE LIGHTING IS IN PLACE AND OPERATIVE PRIOR TO COMMENCING ANY WORK. IF GLARE IS DETECTED, THE LIGHT PLACEMENT AND SHIELDING SHALL BE ADJUSTED TO THE SATISFACTION OF THE ENGINEER BEFORE WORK PROCEEDS.

PAYMENT FOR ALL LABOR, EQUIPMENT AND MATERIALS SHALL BE INCLUDED IN THE LUMP SUM CONTRACT PRICE FOR ITEM 614, MAINTAINING TRAFFIC.

ITEM 622, PORTABLE CONCRETE BARRIER PLACEMENT

DURING THE PLACEMENT OF THE PORTABLE CONCRETE BARRIER, TRAFFIC WILL BE PROHIBITED FROM OCCUPYING THE TRAVEL LANE ADJACENT TO THE BARRIER. THE BARRIER WILL BE PLACED AT NIGHT PER THE WORK HOUR RESTRICTION NOTE AND IN ACCORDANCE WITH THE PERMITTED LANE CLOSURE MAP. THE CLOSURE OF THE ADJACENT LANE WILL BE PER THE STANDARD DRAWING MT-95.30.

THE CONTRACTOR WILL SUBMIT A PLAN TO THE ENGINEER FOR APPROVAL SEVEN (7) DAYS IN ADVANCE OF THE PLANNED LANE CLOSURE. WORK WILL NOT BEGIN UNTIL APPROVAL OF THE PLANS HAS BEEN GRANTED.

ALL COSTS INVOLVED IN PLACING THE PORTABLE CONCRETE BARRIER WILL BE INCLUDED IN THE CONTRACT PRICE BID FOR ITEM 622 PORTABLE CONCRETE BARRIER.

COVERING OF SIGNS

THE CONTRACTOR WILL COVER ANY EXISTING AND/OR PROPOSED SIGN INSTALLATION WHICH IS IN CONFLICT WITH THE MAINTENANCE OF TRAFFIC PLANS. THE SIGNS SHALL BE COVERED IN SUCH A MANNER AS TO AVOID DAMAGING THE SIGN WHEN THE COVER IS REMOVED. THE COVER SHALL BE TOTALLY OPAQUE AND COVERS THE ENTIRE SIGN FACE. THE USE OF ADHESIVE TAPE APPLIED DIRECTLY TO THE SIGN FACE IS STRICTLY PROHIBITED. THE CONTRACTOR WILL PROVIDE ALL OF THE "CLOSED" PLAQUES NECESSARY. THE OVERLAY MAY BE RIVETED TO THE SIGN. THE CONTRACTOR SHALL PROVIDE ALL OF THE PLAQUES, SIGNS, AND SIGN PANELS NECESSARY.

UNLESS SEPARATELY ITEMIZED IN THE PLAN, THE LUMP SUM PRICE BID FOR ITEM 614 MAINTAINING TRAFFIC SHALL INCLUDE ALL COSTS NECESSARY TO COVER AND/OR MODIFY CONFLICTING SIGN INSTALLATIONS.

ITEM 614, MAINTAINING TRAFFIC, MISC.: 3" PARTIAL DEPTH PAVEMENT REPAIR

THE FOLLOWING QUANTITY HAS BEEN PROVIDED TO REPAIR POTHOLES AND DETERIORATED JOINTS THROUGHOUT THE PROJECT LIMITS FOR THE DURATION OF THE PROJECT. THE WORK WILL BE COMPLETED IN COMPLIANCE WITH ITEM 251 PARTIAL DEPTH PAVEMENT REPAIR IN THE CONSTRUCTION AND MATERIAL SPECIFICATIONS. THE DEPTH OF THE REPAIR WILL BE 3" MINIMUM FROM THE EXISTING PAVEMENT SURFACE. PAYMENT IS FULL COMPENSATION FOR FURNISHING ALL MATERIALS, INCLUDING PAINT, TACK COAT, ASPHALT CONCRETE AND ALL LABOR, EQUIPMENT AND INCIDENTALS NECESSARY TO COMPLETE THIS WORK. PAYMENT SHALL BE PER S.F. OF ITEM 614 MAINTAINING TRAFFIC, MISC.: PARTIAL DEPTH PAVEMENT REPAIR.

THIS ITEM IS INTENDED TO BE USED ON THE EXISTING MAINLINE PAVEMENT AND SHOULDER AREAS AND ALL DETOUR ROUTES UNLESS OTHERWISE NOTED. ALL REPAIRS WILL BE PERFORMED AT THE DIRECTION OF THE PROJECT ENGINEER. BELOW IS THE LOCATION AND APPROXIMATE AMOUNT OF PARTIAL DEPTH REPAIR. THE FOLLOWING QUANTITY HAS BEEN INCLUDED IN THE GENERAL SUMMARY:

MAINLINE IR 271 AND RAMPS, 20,000 SF

THE FOLLOWING QUANTITY HAS BEEN CARRIED TO THE GENERAL SUMMARY FOR THE ABOVE REFERENCED WORK:

614, MAINTAINING TRAFFIC, MISC.: 3" PARTIAL DEPTH PAVEMENT REPAIR, 20,000 SF

CALCULATED DAW
CHECKED PRS

MAINTENANCE OF TRAFFIC NOTES

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ITEM 614, WORK ZONE SPEED LIMIT SIGN

THE CONTRACTOR SHALL FURNISH, INSTALL, MAINTAIN, COVER DURING SUSPENSION OF WORK, AND SUBSEQUENTLY REMOVE WORK ZONE SPEED LIMIT (R2-1) (55 MPH SPEED LIMIT) SIGNS AND SUPPORTS WITHIN THE WORK LIMITS IN ACCORDANCE WITH THE FOLLOWING REQUIREMENTS:

THE CONTRACTOR SHALL COVER OR REMOVE ANY EXISTING SPEED LIMIT SIGNS WITHIN THE REDUCED SPEED ZONE(S). THESE SIGNS SHALL BE RESTORED DURING SUSPENSION OR TERMINATION OF THE REDUCED SPEED LIMIT. THE EXPENSE OF COVERING OR REMOVAL AND RESTORATION OF EXISTING SPEED LIMIT OR MINIMUM SPEED LIMIT SIGNS SHALL BE INCLUDED IN THE PAY ITEM FOR THE WORK ZONE SPEED LIMIT SIGNS.

THE WORK ZONE SPEED LIMIT SIGNS MAY BE ERECTED OR UNCOVERED NO MORE THAN FOUR HOURS BEFORE THE ACTUAL START OF WORK THAT CAUSES THE WARRANTING CONDITION(S) TO OCCUR. THE SIGNS SHALL BE REMOVED OR COVERED NO LATER THAN FOUR HOURS FOLLOWING REMOVAL OF THE WARRANTING CONDITION(S), OR SOONER AS DIRECTED BY THE ENGINEER. TEMPORARY SIGN COVERING AND UNCOVERING DUE TO TEMPORARY REMOVAL OF WARRANTING CONDITION(S) SHALL BE GUIDED BY THE FOUR-HOUR LIMITATIONS STATED ABOVE.

CONSTRUCTION AND MATERIAL SPECIFICATIONS ITEM 614, PARAGRAPH 614.02(B), INDICATES THAT THE TWO DIRECTIONS OF A DIVIDED HIGHWAY ARE CONSIDERED SEPARATE HIGHWAY SECTIONS. THEREFORE, IF THE WORK ON A MULTI-LANE DIVIDED HIGHWAY IS LIMITED TO ONLY ONE DIRECTION, A SPEED REDUCTION IN THE DIRECTION OF THE WORK DOES NOT AUTOMATICALLY CONSTITUTE A SPEED REDUCTION IN THE OPPOSITE DIRECTION. A SPEED LIMIT REDUCTION IN THE OPPOSITE DIRECTION, IN SUCH CASE, IS APPROPRIATE ONLY IF CONDITIONS ARE EXPECTED TO HAVE AN IMPACT ON THE DIRECTIONAL TRAFFIC FLOW, AS DIRECTED BY THE ENGINEER.

THE CONTRACTOR SHALL ERECT A WORK ZONE SPEED LIMIT SIGN IN ADVANCE OF THE WARRANTING CONDITION, AS DETAILED IN THE PLANS OR AS DIRECTED BY THE ENGINEER. THE SIGN SHALL BE MOUNTED ON BOTH SIDES OF A DIRECTIONAL ROADWAY OF DIVIDED HIGHWAYS. THE FIRST WORK ZONE SPEED LIMIT SIGN SHALL BE PLACED APPROXIMATELY 500 FEET IN ADVANCE OF THE LANE REDUCTION, SHIFT TAPER, OR OTHER ROADWAY OR SHOULDER RESTRICTION THAT WARRANTED THE WORK ZONE SPEED ZONE. ON UNDIVIDED HIGHWAYS THE SIGN SHALL BE MOUNTED ON THE RIGHT SIDE, APPROXIMATELY 250 FEET IN ADVANCE OF SUCH RESTRICTIONS. THE SIGN SHALL BE REPEATED EVERY 1 MILE FOR 55 MPH ZONES AND EVERY ONE-HALF MILE FOR 50 MPH AND 45 MPH ZONES. THESE SIGNS SHALL ALSO BE ERECTED IMMEDIATELY AFTER EACH OPEN ENTRANCE RAMP WITHIN THE ZONE.

THE SPEED LIMIT REDUCTION SHALL BE LIMITED TO ONLY THE PORTION OF THE PROJECT AND THE WORK THAT WARRANTED THE WORK ZONE SPEED LIMIT REDUCTION.

SPEED REDUCTION (SPEED ZONE AHEAD SYMBOL) SIGNS (W3-5) SHALL BE ERECTED IN ADVANCE OF THE SPEED REDUCTION, APPROXIMATELY 1250 FEET ON MULTI-LANE HIGHWAYS AND 500 FEET ON TWO-LANE HIGHWAYS.

A SIGN(S) TO INDICATE THE RESUMPTION OF THE STATUTORY SPEED LIMIT SHALL BE ERECTED AT THE END OF ANY REDUCED SPEED ZONE. THE CONTRACTOR MAY USE SIGNS AND SUPPORTS IN USED, BUT GOOD CONDITION, PROVIDED THE SIGNS MEET CURRENT ODOT SPECIFICATIONS. SIGN FACES SHALL BE RETROREFLECTORIZED WITH TYPE G SHEETING COMPLYING WITH THE REQUIREMENTS OF CMS 730.19.

WORK ZONE SPEED LIMIT SIGNS SHALL BE MOUNTED ON TWO ITEM 630, GROUND MOUNTED SUPPORTS, NO. 3 POSTS, UNLESS MOUNTED ON A TEMPORARY SIGN SUPPORT PER SCD MT 105.10.

WORK ZONE SPEED LIMIT AND RELATED SIGN SIZES, PLACEMENT, SUPPORTS, ETC. SHALL BE PER THE OMUTCD, WITH TWO EXCEPTIONS: 1) EXPRESSWAY SIZE SPEED LIMIT SIGNS MAY BE USED ON FREEWAYS AND EXPRESSWAYS, IF NECESSARY; 2) THE HEIGHT OF SIGNS MOUNTED ON PORTABLE SUPPORTS SHOULD BE THE HEIGHT REQUIRED FOR GROUND-MOUNTED SIGNS BUT SHALL NOT BE MORE THAN 1 FOOT LOWER THAN THE HEIGHT REQUIRED BY THE OMUTCD, OR AS DIRECTED BY THE ENGINEER. PORTABLE SUPPORTS SHOULD NOT BE USED FOR A DURATION OF MORE THAN 3 DAYS.

WORK ZONE SPEED LIMIT SIGNS AND SUPPORTS WILL BE MEASURED AS THE NUMBER OF SIGN INSTALLATIONS, INCLUDING THE SIGNS AND NECESSARY SUPPORTS. IF A SIGN AND SUPPORT COMBINATION IS REMOVED AND REERECTED AT ANOTHER LOCATION WITHIN THE PROJECT DUE TO CHANGES IN THE SPEED ZONE AS DETAILED IN THE PLANS OR AS DIRECTED BY THE ENGINEER, IT SHALL BE CONSIDERED ANOTHER UNIT.

PAYMENT FOR ACCEPTED QUANTITIES, COMPLETE IN PLACE, WILL BE MADE AT THE CONTRACT UNIT PRICE. PAYMENT SHALL BE FULL COMPENSATION FOR ALL MATERIALS, LABOR, INCIDENTALS AND EQUIPMENT FOR FURNISHING, ERECTING, MAINTAINING, COVERING DURING SUSPENSION OF WORK, AND REMOVING THE SIGNS AND SUPPORTS. SPEED LIMIT SIGNING FOR THE POINT OF RESUMPTION OF THE STATUTORY SPEED LIMIT SHALL BE PAID FOR AS WORK ZONE SPEED LIMIT SIGNS. THE FOLLOWING ESTIMATED QUANTITY HAS BEEN CARRIED TO THE GENERAL SUMMARY.

ITEM 614, WORK ZONE SPEED LIMIT SIGN 46 EACH
ITEM 614, SPEED ZONE AHEAD SYMBOL SIGN 46 EACH

THE FOLLOWING TABLE PROVIDES DETAILS ON WORK ZONE SPEED ZONES APPROVED FOR USE ON THIS PROJECT:

WZSZ REVISION NUMBER	COUNTY & ROUTE	LOCATION	PHASE	DIRECTION	APPROVED SPEED LIMIT	SPECIFIC WARRANTING CONDITIONS
25865	SUM-271	0.1 MILE NORTH OF SOUTHERN ROAD UNDERPASS TO .3 MILE NORTH OF I-80 OVERPASS	PRE-PHASE 1	NB	55	#5
25865	SUM-271	0.48 MILE NORTH OF SOUTHERN ROAD UNDERPASS TO 0.64 MILE NORTH OF I-80 OVERPASS	PRE-PHASE 1	SB	55	#5
25865	SUM-271	0.94 MILE NORTH OF I-77 UNDERPASS TO 0.49 MILE NORTH OF I-80 OVERPASS	1	NB/SB	55	#3
25865	SUM-271	0.91 MILE NORTH OF I-77 UNDERPASS TO 0.38 MILE NORTH OF I-80 OVERPASS	2	NB/SB	55	#3
25865	SUM-271	0.44 MILE NORTH OF SOUTHERN ROAD UNDERPASS TO 0.88 MILE SOUTH OF SR 303 UNDERPASS	3	NB/SB	55	#3
25865	SUM-271	0.32 MILE NORTH OF SOUTHERN ROAD UNDERPASS TO 0.93 MILE SOUTH OF SR 303 UNDERPASS	4	NB/SB	55	#3

WORK ZONE MARKING FOR PHASE COORDINATION AT RAMP INTERSECTION WITH SIDEROADS

THE FOLLOWING MARKING QUANTITIES HAVE BEEN INCLUDED TO MARK THE 100 FOOT RAMP INTERSECTION APPROACHES TO CR 17 (BRECKSVILLE ROAD) AND SR 303 ON THE INTERMEDIATE COURSE AFTER COMPLETION OF THE APPROACH CONSTRUCTION AND PRIOR TO THE PLACEMENT OF THE FINAL SURFACE COURSE.

ITEM 614, WORK ZONE CENTER LINE, CLASS I, AS PER PLAN 0.06 MILE
ITEM 614, WORK ZONE EDGE LINE, CLASS I, AS PER PLAN 0.25 MILE
ITEM 614, WORK ZONE CHANNELIZING LINE, CLASS I, AS PER PLAN 150 FT.
ITEM 614, WORK ZONE STOP LINE, CLASS I 150 FT.

WORK ZONE INCREASED PENALTIES SIGN (R11-H5A)

R11-H5A-48 SIGNS SHALL BE FURNISHED, ERECTED, AND MAINTAINED IN GOOD CONDITION AND/OR REPLACED AS NECESSARY AND SUBSEQUENTLY REMOVED BY THE CONTRACTOR. SIGNS SHALL BE MOUNTED AT THE APPROPRIATE OFFSETS AND ELEVATIONS AS PRESCRIBED BY THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES. THEY SHALL BE MAINTAINED ON SUPPORTS MEETING CURRENT SAFETY CRITERIA.

THE SIGNS MAY BE ERECTED OR UNCOVERED NO MORE THAN FOUR HOURS BEFORE THE ACTUAL START OF WORK. THE SIGNS SHALL BE REMOVED OR COVERED NO LATER THAN FOUR HOURS FOLLOWING RESTORATION OF ALL LANES TO TRAFFIC WITH NO RESTRICTIONS, OR SOONER AS DIRECTED BY THE ENGINEER. TEMPORARY SIGN COVERING AND UNCOVERING DUE TO TEMPORARY LANE RESTORATIONS SHALL BE GUIDED BY THE FOURHOUR LIMITATIONS STATED ABOVE. SUCH LANE RESTORATIONS SHOULD BE EXPECTED TO REMAIN IN EFFECT FOR 30 OR MORE CONSECUTIVE CALENDAR DAYS, SUCH AS DURING WINTER SHUTDOWNS.

THE SIGNS ON THE MAINLINE SHALL BE DUAL MOUNTED UNLESS NOT PHYSICALLY POSSIBLE. THE FIRST SIGN SHALL BE PLACED BETWEEN THE ROAD WORK AHEAD (W20-1)SIGN AND THE NEXT SIGN IN THE SEQUENCE. SIGNS SHALL BE ERECTED ON EACH ENTRANCE RAMP AND EVERY 2 MILES THROUGH THE CONSTRUCTION WORK LIMITS. SIGNS ON THE MAINLINE SHALL BE R11-H5A-48. SIGNS USED ON THE RAMPS SHALL BE R11-H5A-24. R11-H5A-24 SIGNS MAY BE USED IN THE MEDIAN IN LIEU OF R11-H5A-48 SIGNS IF IT IS NOT PHYSICALLY POSSIBLE TO PROVIDE R11-H5A-48 SIGNS IN THE MEDIAN.

THE CONTRACTOR MAY USE SIGNS AND SUPPORTS IN USED, BUT GOOD, CONDITION PROVIDED THE SIGNS MEET CURRENT ODOT SPECIFICATIONS. SIGN FACES SHALL BE RETROREFLECTORIZED WITH TYPE G SHEETING COMPLYING WITH THE REQUIREMENTS OF CMS 730.19.

WORK ZONE INCREASED PENLITES SIGNS AND SUPPORTS WILL BE MEASURED AS THE NUMBER OF SIGN INSTALLATIONS, INCLUDING THE SIGN AND NECESSARY SUPPORTS. IF A SIGN AND SUPPORT COMBINATION IS REMOVED AND REERECTED AT ANOTHER LOCATION AS DIRECTED BY THE ENGINEER, IT SHALL BE CONSIDERED ANOTHER UNIT.

PAYMENT FOR ACCEPTED QUANTITIES, COMPLETE, IN PLACE WILL BE MADE AT THE CONTRACT UNIT PRICE. PAYMENT SHALL BE FULL COMPENSATION FOR ALL MATERIALS, LABOR, INCIDENTALS AND EQUIPMENT FOR FURNISHING, ERECTING, MAINTAINING, COVERING DURING SUSPENSION OF WORK, AND REMOVAL OF THE SIGN AND SUPPORT.

ITEM 614, WORK ZONE INCREASED PENALTIES SIGN 22 EACH

WORK ZONE MARKINGS ON FINAL PAVEMENT

AFTER THE FINAL SURFACE COURSE IS PLACED AND PRIOR TO THE PLACEMENT OF THE FINAL PAVEMENT MARKINGS THE CONTRACTOR SHALL PLACE 614 WORK ZONE PAVEMENT MARKINGS FOR TEMPORARY TRAFFIC CONTROL. THE QUANTITIES BELOW HAVE BEEN PROVIDED TO COMPLETE THIS WORK.

ITEM 614, WORK ZONE LANE LINE, CLASS III, 642 PAINT 11.22 MILE
ITEM 614, WORK ZONE CENTER LINE, CLASS III, 642 PAINT 1.5 MILE
ITEM 614, WORK ZONE EDGE LINE, CLASS III, 642 PAINT 29.49 MILE
ITEM 614, WORK ZONE CHANNELIZING LINE, CLASS III, 642 PAINT 8684 FT.
ITEM 614, WORK ZONE DOTTED LINE, CLASS III, 642 PAINT 8225 FT.
ITEM 614, WORK ZONE STOP LINE, CLASS III, 642 PAINT 189 FT.
ITEM 614, WORK ZONE ARROW, CLASS III, 642 PAINT 12 EACH

THE WORK ZONE MARKINGS ARE TO BE PLACED IN THE SAME LOCATION AS THE PERMANENT MARKINGS

MAINTENANCE OF TRAFFIC NOTES

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ITEM 614, WORK ZONE RAISED PAVEMENT MARKER, AS PER PLAN

WORK ZONE RAISED PAVEMENT MARKERS AND THEIR INSTALLATION ON ASPHALT PAVEMENT (PROJECT FLEXIBLE PAVEMENT OPTION) SHALL CONFORM TO CMS 614 OR CMS 621 AS SPECIFIED HEREIN.

RAISED PAVEMENT MARKERS IN USE DURING THE SNOW-PLOWING SEASON SHALL CONFORM TO 621.

RAISED PAVEMENT MARKERS IN USE DURING THE NON-SNOW-PLOW SEASON SHALL CONFORM TO EITHER 614 OR TO 621.

THE SNOW-PLOWING SEASON SHALL RUN FROM NOVEMBER 15 THROUGH APRIL 1.

IF THE PROJECT EXTENDS INTO THE SNOW-PLOWING SEASON, THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPLACING WORK ZONE RAISED PAVEMENT MARKERS (WZRPMS) CONFORMING TO CMS 614, WITH RAISED PAVEMENT MARKERS CONFORMING TO 621, AS DETERMINED BY THE ENGINEER, AT THE CONTRACTOR'S EXPENSE.

THIS ITEM SHALL INCLUDE PURCHASE, INSTALLATION AND REMOVAL OF ITEM 614 WORK ZONE RAISED PAVEMENT MARKER, AS PER PLAN, INCLUDING FILLING OF ANY DEPRESSIONS CREATED IN THE PAVEMENT AS PER CMS 621.08.

RESURFACING OF THE TRANSITION AREAS SHALL BE PERFORMED AT THE TIME THAT THE SURFACE COURSE IS BEING APPLIED TO THE ENTIRE PROJECT. PRIOR TO APPLICATION OF THE SURFACE COURSE ON THE PROJECT, THE SURFACE COURSE OF THE EXISTING PAVEMENT WITHIN THE TRANSITION AREA SHALL BE REMOVED TO A DEPTH EQUIVALENT TO THE DEPTH OF THE PROPOSED SURFACE COURSE, AS DETERMINED BY THE ENGINEER.

PAYMENT FOR RESURFACING WITHIN THE TRANSITION AREA SHALL BE PAID FOR UNDER THE APPROPRIATE BID ITEMS FOR THE WORK REQUIRED, AS PROVIDED FOR IN THE PLANS.

RAISED PAVEMENT MARKERS IN WORK ZONES, INSTALLED ON TO CONCRETE SURFACES, (PROJECT RIGID PAVEMENT OPTION) SHALL BE ITEM 614 WORK ZONE RAISED PAVEMENT MARKERS. WZRPMS ARE INTENDED FOR USE ONLY DURING THE NON-SNOW-PLOWING SEASON. WZRPMS SHALL NOT BE PROVIDED DURING THE SNOW-PLOWING SEASON.

WHERE A TEMPORARY ALIGNMENT WILL REMAIN IN USE THROUGH THE WINTER ON CONCRETE SURFACES, THE WZRPMS SHALL BE REMOVED PRIOR TO THE BEGINNING OF THE SNOW-PLOWING SEASON AND REPLACED APPROXIMATELY APRIL 1, OR AS OTHERWISE DETERMINED BY THE ENGINEER.

THIS ITEM SHALL INCLUDE PURCHASE, INSTALLATION AND REMOVAL OF ITEM 614 WORK ZONE RAISED PAVEMENT MARKERS.

DUST CONTROL

THE CONTRACTOR SHALL FURNISH AND APPLY WATER FOR DUST CONTROL AS DIRECTED BY THE ENGINEER. THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN INCLUDED FOR DUST CONTROL PURPOSES:

ITEM 616, WATER 960 M. GAL

OVERLAYING OF SIGNS

WHERE THE PLANS CALL FOR A PERMANENT SIGN TO BE OVERLAYED, THE CONTRACTOR SHALL DO SO IN SUCH A MANNER AS TO AVOID DAMAGING THE PERMANENT SIGN WHEN THE OVERLAY IS REMOVED. THE OVERLAY SHALL BE TOTALLY OPAQUE. THE USE OF ADHESIVE TAPE APPLIED DIRECTLY TO A SIGN FACE IS STRICTLY PROHIBITED. THE OVERLAYS MAY BE RIVETED TO THE PERMANENT SIGN. THE CONTRACTOR SHALL PROVIDE ALL OF THE PLAQUES, SIGNS AND SIGN PANELS NECESSARY.

BRIDGE PAINTING EQUIPMENT ON SHOULDERS

IF BRIDGE PAINTING EQUIPMENT IS TO REMAIN ON THE SHOULDERS WHEN THE CONTRACTOR IS NOT WORKING, IT SHALL BE PLACED BEHIND PORTABLE CONCRETE BARRIER (PCB) AND A WORK ZONE IMPACT ATTENUATOR (WZIA) SHALL PROTECT THE LEADING BLUNT END OF THE PCB (SEE OMUTCD, FIGURE 6H-5 "SHOULDER CLOSURE ON FREEWAY" (TYPICAL APPLICATION 5)). IF THE CONTRACTOR CHOOSES TO PROTECT PAINTING EQUIPMENT WITH PCB AND A WZIA, THE COST SHALL BE CONSIDERED INCIDENTAL TO THE LUMP SUM BID FOR MAINTAINING TRAFFIC.

TEMPORARY DRAINAGE ITEMS

TEMPORARY DRAINAGE ITEMS LABELED ON THE MAINTENANCE OF TRAFFIC PLAN ARE ITEMIZED BELOW FOR INFORMATIONAL PURPOSES ONLY. PAYMENT FOR THE TEMPORARY DRAINAGE ITEMS ARE INCLUDED IN ITEM 615 ROADS FOR MAINTAINING TRAFFIC.

TEMPORARY MOT DRAINAGE SUMMARY (FOR INFORMATIONAL PURPOSES ONLY)

STATION		LOCATION	603			604
			12" MOT CONDUIT, TYPE B	12" MOT CONDUIT, TYPE F, TYPE C, 707.05 OR 707.07	15" MOT CONDUIT, TYPE B	MOT CATCH BASIN
FROM	TO		FT	FT	FT	EACH
PHASE 2A THRU 2B-1A						
290+50.00		IR 271		60		
PHASE 1A THRU 2B INTERMEDIATE CROSSOVER						
241+99.17	247+00.00	IR 271			546	2
247+00.00	249+00.00	IR 271			200	1
NORTH CROSSOVER						
355+50.00	356+13.26	IR 271			65	1
357+50.00		IR 271			20	1
364+00.00	366+00.00	IR 271			200	1
PHASE 3A THRU 4B INTERMEDIATE CROSSOVER						
257+00.00	258+00.00	IR 271			156	2
258+00.00	260+10.00	IR 271			210	
SOUTH CROSSOVER						
519+37.58	521+00.00	IR 271	213			2
521+00.00	522+25.00	IR 271	128			1
TOTALS (FOR INFORMATIONAL PURPOSES ONLY)			341	60	1397	11

DRUM REQUIREMENTS

IN ADDITION TO THE DRUM REQUIREMENTS OF THE PLANS, SPECIFICATIONS AND PROPOSAL, DRUMS FURNISHED BY THE CONTRACTOR SHALL BE NEW AND UNUSED AT THE TIME OF ARRIVAL ON THE PROJECT. ANY DRUMS BROUGHT ON THE PROJECT, WHICH HAVE PREVIOUSLY BEEN USED ELSEWHERE, WILL NOT BE ACCEPTED.

PAYMENT FOR DRUMS SHALL BE INCLUDED IN THE LUMP SUM PRICE BID FOR MAINTAINING TRAFFIC UNLESS SEPARATELY ITEMIZED.

ITEM SPECIAL - MAINTAIN INTERCHANGE LIGHTING

EXISTING ROADWAYS WHICH ARE TO REMAIN OPEN TO TRAFFIC DURING CONSTRUCTION OF THIS PROJECT AND ARE CURRENTLY LIGHTED SHALL HAVE THE EXISTING INTERCHANGE LIGHTING MAINTAINED OR NEW TEMPORARY LIGHTING INSTALLED AS DESCRIBED HEREIN.

BEFORE ANY WORK IS STARTED IN THE IMMEDIATE VICINITY OF ANY EXISTING LIGHTING CIRCUITS, REPRESENTATIVES OF THE STATE AND THE CONTRACTOR SHALL MAKE A VISUAL INSPECTION OF THE EXISTING ROADWAY LIGHTING CIRCUITS TO BE MAINTAINED. DURING THIS INSPECTION A WRITTEN RECORD OF THE CONDITION OF THE EXISTING LIGHTING SHALL BE MADE BY THE STATE'S REPRESENTATIVE. THIS WRITTEN REPORT SHALL NOTE INDIVIDUAL LUMINAIRES WHICH ARE NOT OPERATIONAL, AND INDIVIDUAL CIRCUITS WHICH ARE NOT IN WORKING ORDER. THE COMPLETED REPORT SHALL BE SIGNED BY THE REPRESENTATIVES OF THE STATE AND THE CONTRACTOR. IF, AS A RESULT OF THIS INSPECTION, IT IS DETERMINED THAT THE CONDITION OF THE EXISTING SYSTEM IS BELOW THAT REQUIRED FOR THE SAFETY OF THE TRAVELING PUBLIC, THEN THE CONTRACTOR SHALL MAKE REPAIRS NECESSARY TO RETURN THE SYSTEM TO AN ACCEPTABLE CONDITION. FOLLOWING THESE REPAIRS, THE SYSTEM SHALL AGAIN BE INSPECTED AND A REPORT MADE AND SIGNED AS OUTLINED HEREIN.

THE MAINTAINING AGENCY SHALL GIVE THE CONTRACTOR ONE COPY OF THE EXISTING LIGHTING CIRCUITRY LAYOUT.

WHEN THE CONTRACTOR HAS TAKEN OVER THE MAINTENANCE OF THE EXISTING SYSTEM, HE SHALL PROVIDE ALL REQUIRED LAYOUT AND LOCATING OF EXISTING LIGHTING CIRCUITS WITHIN THE PROJECT. SHOULD THE CONTRACTOR DESIRE THE REMOVAL OF THE EXISTING LIGHTING BEFORE THE NEW LIGHTING IS OPERATIONAL, THE CONTRACTOR SHALL THEN BE RESPONSIBLE FOR ADEQUATE TEMPORARY LIGHTING OF THAT PORTION OF THE EXISTING ROADWAY AFFECTED BY THE REMOVAL OF THE EXISTING LIGHTING. TWO (2) WEEKS PRIOR TO INSTALLING SUCH LIGHTING, THE CONTRACTOR SHALL PREPARE AND SUBMIT FOUR (4) SETS OF THE TEMPORARY LIGHTING PLANS TO THE ENGINEER FOR REVIEW AND APPROVAL. THIS PLAN SHALL SHOW LOCATION OF POLES, LENGTH OF BRACKET ARMS, STYLE OF LUMINAIRES, MOUNTING HEIGHT, WIRING METHODS, AND OTHER PERTINENT INFORMATION. THE TEMPORARY LIGHTING SHALL PROVIDE AN AVERAGE INITIAL INTENSITY OF 1.2 FOOT CANDLES WITH AN AVERAGE TO MINIMUM UNIFORMITY RATIO NOT TO EXCEED 4:1. MOUNTING HEIGHT FOR TEMPORARY LUMINAIRES SHALL NOT BE LESS THAN 27 FEET AND MINIMUM OVERHEAD CONDUCTOR CLEARANCE SHALL BE 20 FEET. TEMPORARY OVERHEAD CONSTRUCTION SHALL NOT BE LESS THAN GRADE "A" FOR STRENGTH REQUIREMENTS AS DEFINED BY THE NATIONAL ELECTRIC SAFETY CODE. WOOD POLES WITH OVERHEAD WIRING MAY BE USED. HOWEVER, TEMPORARY LIGHTING SHALL MEET FEDERAL AND STATE SAFETY CRITERIA. IF BREAKAWAY POLES ARE USED TO MEET THIS CRITERIA, THEN UNDERGROUND WIRING WILL BE USED. RECONDITIONED OR USED MATERIALS MAY BE FURNISHED FOR TEMPORARY LIGHTING. ALL MATERIALS NECESSARY TO COMPLETE THE TEMPORARY LIGHTING SHALL BE FURNISHED AND INSTALLED BY THE CONTRACTOR. A SEPARATE POWER SERVICE WILL BE PROVIDED BY THE CONTRACTOR FOR THE TEMPORARY LIGHTING SYSTEM. THE TEMPORARY LIGHTING SHALL NOT BE SPLICED INTO EXISTING LIGHTING CIRCUITS. THE CONTRACTOR SHALL PAY ALL HOOK-UP FEES AND ELECTRICAL COSTS FOR THE TEMPORARY SYSTEM. THESE COSTS SHALL BE PAID FOR UNDER THE LUMP SUM ITEM SPECIAL MAINTAIN INTERCHANGE LIGHTING. WHEN NO LONGER NEEDED THE TEMPORARY LIGHTING INSTALLATION SHALL BE REMOVED AND PROPERLY DISPOSED OF BY THE CONTRACTOR.

THE LUMP SUM BID FOR ITEM SPECIAL - MAINTAIN INTERCHANGE LIGHTING, SHALL INCLUDE PAYMENT FOR ALL LABOR, EQUIPMENT, MATERIALS, INCIDENTALS, AND TEMPORARY POWER SERVICES NECESSARY TO MAINTAIN THE EXISTING INTERCHANGE LIGHTING OR INSTALL A NEW TEMPORARY INTERCAHNGE LIGHTING SYSTEM AS SPECIFIED HEREIN. THE FOLLOWING QUANTITY HAS BEEN INCLUDED IN THE GENERAL SUMMARY FOR USE AS DIRECTED BY THE ENGINEER.

SPECIAL, MAINTAIN EXISTING LIGHTING LUMP SUM

SPECIAL, REPLACEMENT OF EXISTING LIGHTING UNIT 2 EACH

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MAINTENANCE OF TRAFFIC NOTES

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ITEM 614 MAINTAINING TRAFFIC, MISC.: TEMPORARY SHEET PILING FOR PHASED CONSTRUCTION.

TEMPORARY SHEET PILING SHALL BE PLACED IN ACCORDANCE WITH ITEM 504 AND DRIVEN TO SUPPORT THE EXISTING ROADWAY EMBANKMENT ABOVE THE EXISTING OR NEW PAVEMENT ELEVATION DURING PHASE CONSTRUCTION. TEMPORARY SHEET PILING TO SUPPORT THE EMBANKMENT SHALL BE USED AS INDICATED BELOW. THE SHEET PILING SHALL BE DRIVEN TO A MINIMUM DEPTH OF 12 FEET BELOW THE EXISTING PAVEMENT ELEVATION. THE SHEET 3 PILING SHALL HAVE A MINIMUM SECTION MODULUS OF 10 IN PER FOOT OF WALL. ALL SHEET PILING SHALL BE REMOVED DURING THE FOLLOWING PHASE CONSTRUCTION AS THE PROPOSED ELEVATION MEETS THE DESIGNED PAVEMENT ELEVATION. THE MAXIMUM EMBANKMENT HEIGHT ABOVE THE EXISTING PAVEMENT BASE COURSE ELEVATION THAT THE SHEET PILING WILL NEED TO SUPPORT IS APPROXIMATELY 4 FEET. THE CONTRACTOR MAY CONSIDER AN ALTERNATE DESIGN FOR TEMPORARY SHEET PILING FOR PHASED CONSTRUCTION. THE TEMPORARY SHORING MUST BE DESIGNED BY A REGISTERED PROFESSIONAL ENGINEER IN THE STATE OF OHIO. THE ALTERNATE METHOD SHALL BE SUBMITTED FOR REVIEW AND APPROVAL PER CMS 501.05. THE APPROXIMATE LONGITUDINAL LIMITS OF THE SHEET PILING ARE AS FOLLOWS:

STA. 200+00 TO STA. 204+50 RT. =	450 FT.
STA. 224+00 TO STA. 228+50 LT. =	450 FT.
STA. 230+00 TO STA. 232+00 LT. =	200 FT.
STA. 244+00 TO STA. 247+50 LT. =	350 FT.
STA. 193+00 TO STA. 198+00 RAMP C =	500 FT.

ALL WORK ASSOCIATED WITH THE PLACEMENT AND REMOVAL OF THE SHEET PILING SHALL BE INCLUDED FOR PAYMENT WITH ITEM 614 MAINTAINING TRAFFIC, MISC.: TEMPORARY SHEET PILING FOR PHASED CONSTRUCTION. THE ABOVE QUANTITIES ARE CARRIED TO THE MOT SUBSUMMARY.

DRAINAGE ALONG THE TEMPORARY SHEET PILE SHALL BE MAINTAINED AT ALL TIMES. A LENGTH OF 6" CONSTRUCTION UNDERDRAINS HAS BEEN INCLUDED TO BE USED WITH EACH LENGTH OF TEMPORARY SHEET PILE. THE CONSTRUCTION UNDERDRAINS SHALL BE CONSTRUCTED PARALLEL AND AS CLOSE AS PRACTICAL TO THE SHEET PILE. OUTLETS SHALL BE PROVIDED ALONG THE TEMPORARY SHEET PILE AT EACH PROPOSED SHALLOW PIPE UNDERDRAIN OUTLET ALONG THE EDGES OF THE PAVEMENT. THE CONSTRUCTION UNDERDRAINS SHALL REMAIN OPERATIONAL AND BE USED TO MAINTAIN A USEABLE WORK AREA DURING THE CONSTRUCTION OF THE NEW PAVEMENT AND AFTER THE NEW PAVEMENT IS CONSTRUCTED TO ALLOW SURFACE DRAINAGE AN OUTLET ALONG THE SHEET PILE UNTIL SUCH TIME THAT THE SHEET PILE IS PULLED IN THE FOLLOWING PHASE. THE FOLLOWING QUANTITY OF 6" CONSTRUCTION UNDERDRAIN HAS BEEN CARRIED TO THE MOT SUBSUMMARY TO BE USED TO MAINTAIN DRAINAGE AS DETAILED ABOVE:

605 - 6" CONSTRUCTION UNDERDRAINS 2075 FT.

ITEM 614, WORK ZONE IMPACT ATTENUATOR FOR 24" WIDE HAZARDS (UNIDIRECTIONAL OR BIDIRECTIONAL)

THIS ITEM SHALL CONSIST OF FURNISHING AND INSTALLING A NON-GATING IMPACT ATTENUATOR. FURNISH AN IMPACT ATTENUATOR FROM THE OFFICE OF ROADWAY ENGINEERING APPROVED LIST FOR WORK ZONE IMPACT ATTENUATORS. THE APPROVED LIST IS AVAILABLE AT THE "ROADWAY STANDARDS: PROPRIETARY ROADSIDE SAFETY DEVICES" WEB PAGE ON THE OFFICE OF ROADWAY ENGINEERING WEBSITE.

INSTALLATION SHALL BE AT THE LOCATIONS SPECIFIED IN THE PLANS IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS.

THE CONTRACTOR SHALL REPAIR OR REPLACE A DAMAGED UNIT WITHIN 24 HOURS OF A DAMAGING IMPACT.

WHEN BIDIRECTIONAL DESIGNS ARE SPECIFIED, THE CONTRACTOR SHALL SUPPLY APPROPRIATE TRANSITIONS.

WHEN GATING IMPACT ATTENUATORS ARE DESIRED, THE CONTRACTOR SHALL SUBMIT DOCUMENTATION TO THE ENGINEER FOR ACCEPTANCE.

THE COST FOR THE ADDITIONAL BARRIER REQUIRED FOR A GATING IMPACT ATTENUATOR SHALL BE INCLUDED IN THE COST OF THE GATING IMPACT ATTENUATOR.

PAYMENT FOR THE ABOVE WORK SHALL BE MADE AT THE UNIT PRICE BID AND SHALL INCLUDE ALL LABOR, TOOLS, EQUIPMENT AND MATERIALS NECESSARY TO CONSTRUCT AND MAINTAIN A COMPLETE AND FUNCTIONAL IMPACT ATTENUATOR SYSTEM, INCLUDING ALL RELATED BACKUPS, TRANSITIONS, LEVELING PADS, HARDWARE AND GRADING, NOT SEPARATELY SPECIFIED, AS REQUIRED BY THE MANUFACTURER.

MODIFICATION OF GUARDRAIL SPLICES/GUARDRAIL REBUILT

PRIOR TO THE BEGINNING OF PHASES 1A AND 3A, THE EXISTING GUARDRAIL IN THE MEDIAN SIDE OF THE EXISTING SOUTHBOUND LANES SHALL HAVE THE LAPS OF THE GUARDRAIL SPLICES REVERSED TO PROVIDE RAIL SPLICES WHICH ARE LAPPED IN THE DIRECTION OF THE PHASES 1A AND 3A TRAFFIC AS PER STANDARD CONSTRUCTION DRAWING GR-2.1 (SHEETS 785D-785E). ANY GUARDRAIL MODIFED FOR THIS PHASE WHICH WILL NOT BE REMOVED, REPLACED, OR RESET DURING THE RECONSTRUCTION OF THE SOUTHBOUND LANES (PHASES 2B AND 4B) SHALL HAVE THE SPLICES RETURNED TO THEIR ORIGINAL ORIENTATION AT THE CONCLUSION OF PHASES 1B AND 3B, PRIOR TO REOPENING TO UNIDIRECTIONAL TRAFFIC.

PRIOR TO THE BEGINNING OF PHASES 2A AND 4A, THE EXISTING/PROPOSED GUARDRAIL IN THE MEDIAN SIDE OF THE EXISTING NORTHBOUND LANES SHALL HAVE THE LAPS OF THE GUARDRAIL SPLICES REVERSED TO PROVIDE RAIL SPLICE WHICH ARE LAPPED IN THE DIRECTION OF THE PHASES 2A AND 4A TRAFFIC AS PER STANDARD CONSTRUCTION DRAWING GR-2.1 (SHEETS 785D-785E). ANY GUARDRAIL MODIFIED FOR THIS PHASE SHALL HAVE THE SPLICES RETURNED TO THEIR ORIGINAL ORIENTATION AT THE CONCLUSION OF PHASES 2B AND 4B, PRIOR TO REOPENING TO UNIDIRECTIONAL TRAFFIC.

THE FOLLOWING TABLE INDENTIFIES THE APPROXIMATE LOCATIONS OF EXISTING/PROPOSED GUARDRAIL RUNS THAT WILL NEED MODIFICATION.

MOT MODIFICATION OF GUARDRAIL SPLICES/GUARDRAIL REBUILT (FOR INFORMATIONAL PURPOSES ONLY)

MOT PHASE AND LOCATION	STATION FROM	STATION TO	LENGTH
PHASE 1A & 1B S.B. MEDIAN	267+87.00	298+40.00	3053
	348+40.00	350+25.00	185
PHASE 2A & 2B N.B. MEDIAN	343+50.00	346+20.00	270
	350+25.00	351+05.00	80
PHASE 3A & 3B MEDIAN	191+10.00	193+35.00	225
	195+50.00	196+00.00	50
	207+90.00	242+35.00	3445
PHASE 4A & 4B MEDIAN	551+25.00	554+50.00	325
	171+40.00	173+20.00	180
	184+45.00	187+05.00	260
	195+65.00	198+25.00	260

THE COST OF ALL LABOR, MATERIALS, EQUIPMENT, TOOLS AND INCIDENTALS NECESSARY TO MODIFY THE RAIL SPLICES SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM 615 - ROADS FOR MAINTAINING TRAFFIC.

PROTECTION OF HIGH SIDE OF BIFURCATED SECTION DURING MOT

PRIOR TO THE BEGINNING OF EACH PHASE 32" PORTABLE CONCRETE BARRIER SHALL BE INSTALLED ON THE MEDIAN HIGH SIDE THROUGH THE BIFURCATED SECTION BETWEEN STATIONS 199+80 AND 307+50. THE PORTABLE CONCRETE BARRIER WILL BE STOPPED AT OR TIED INTO EXISTING GUARDRAIL RUNS THROUGH THIS SECTION. THIS MAY REQUIRE REMOVING EXISTING ANCHOR ASSEMBLIES AND REPLACING THEM WITH A BRIDGE TERMINAL ASSEMBLY, TYPE 2 OR A DIFFERENT ANCHOR ASSEMBLY. THE FOLLOWING TABLE HAS BEEN INCLUDED TO INDICATE THE ANTICIPATED LOCATIONS AND LIMITS OF BIFURCATED HIGH SIDE MEDIAN PROTECTION DURING EACH MOT PHASE OF CONSTRUCTION.

MOT GUARDRAIL MODIFICATIONS 4' MEDIAN SHOULDER (* FOR INFORMATIONAL PURPOSES ONLY)

MOT PHASE	STATION FROM	STATION TO	622 PORTABLE CONCRETE BARRIER, 32" FT	614 LINEAR DELENEATION FT	614 WORK ZONE IMPACT ATTENUATOR (UNIDIRECTIONAL) EACH	614 BARRIER REFLECTOR, TYPE B EACH	614 OBJECT MARKER, ONE WAY EACH	606 * BRIDGE TERMINAL ASSEMBLY, TYPE 2 EACH	606 * ANCHOR ASSEMBLY, TYPE T EACH
1A/ 1B SB MED	259+60	267+80	820		1	17	17	1	
1A/ 1B SB MED	297+90	307+50	960			20	20		1
1B. NB MED	248+50	259+50	1100	753		7	22		
2A/ 2B NB MED	251+30	259+50	820	302	1	11	17		
2B SB MED	259+00	265+40	640			13	13		
2B SB MED	304+00	307+50	350		1	7	7		
3A/ 3B SB MED	200+50	207+90	740		1	15	15	1	
3A/ 3B SB MED	241+80	245+50	370			8	8		1
3B. NB MED	245+00	258+00	1300	725	1	12	26		
4A/4B NB. MED.	245+00	258+00	1300	725	1	12	26		
4B SB MED	201+50	207+40	590			12	12		
4B SB MED	242+00	245+50	350		1	7	7		
TOTALS CARRIED TO GENERAL SUMMARY			9340	2505	7	141	190	*	*

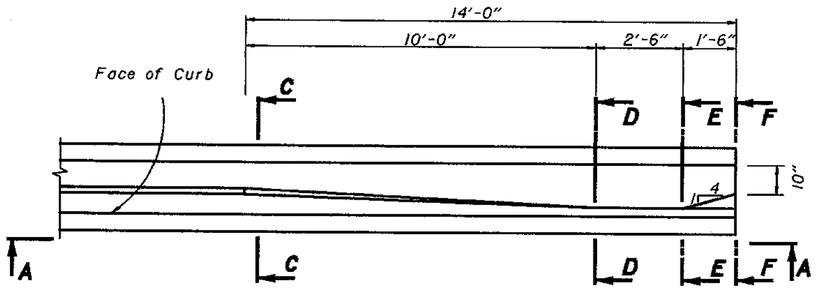
PAYMENT FOR ITEM 622-PORTABLE CONCRETE BARRIER 32", ITEM 614-LINEAR DELENEATION, ITEM 614-WORK ZONE IMPACT ATTENUATOR (UNIDIRECTIONAL), ITEM 614 - BARRIER REFLECTOR TYPE B AND ITEM 614-OBJECT MARKER ONE WAY, WILL BE MADE UNDER THEIR RESPECTIVE ITEMS AND HAVE BEEN CARRIED TO THE GENERAL SUMMARY. PAYMENT FOR ITEM 606-BRIDGE TERMINAL ASSEMBLY, TYPE 2 AND ITEM 606-ANCHOR ASSEMBLY, TYPE T WILL BE INCLUDED IN THE LUMP SUM COST FOR ITEM 615-ROADS FOR MAINTAINING TRAFFIC.

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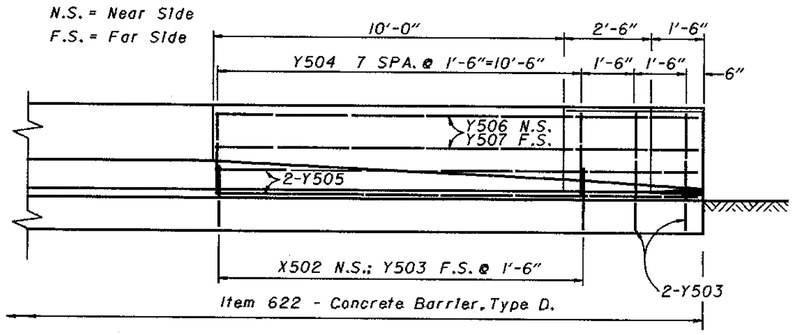
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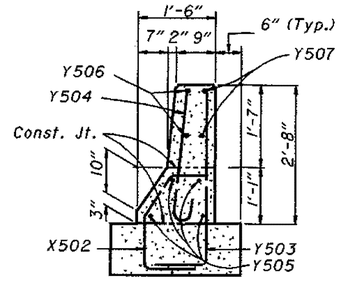
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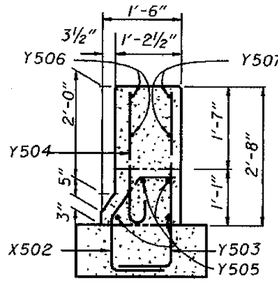
PLAN



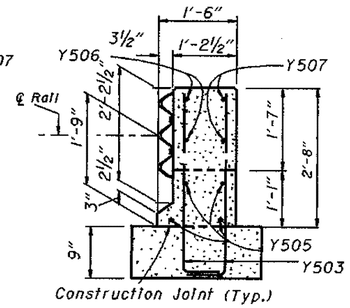
SECTION A - A



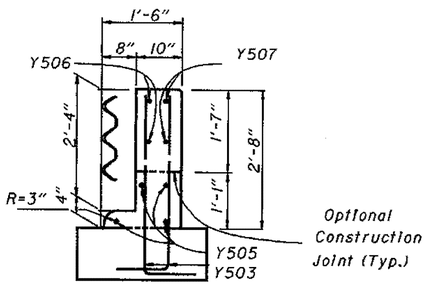
SECTION C - C



SECTION D - D



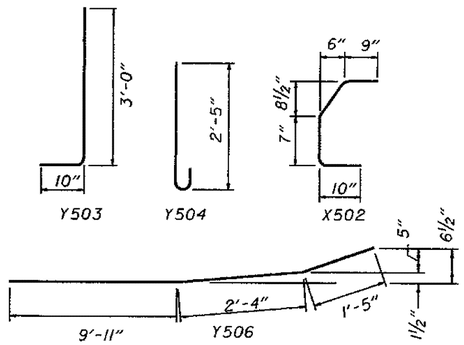
SECTION E - E



SECTION F - F

REINFORCING BAR LIST

MARK	LENGTH	SHAPE	NO.	WEIGHT
X502	2'-10"	Bent	8	23.64
Y503	3'-9"	Bent	12	46.94
Y504	3'-0"	Bent	8	25.03
Y505	13'-8"	Str.	4	57.02
Y506	13'-8"	Bent	2	28.51
Y507	13'-8"	Str.	2	28.51
TOTAL WT. (For info. only):				209.65



BENDING DIAGRAMS

REINFORCING:

ALL REINFORCING BARS SHALL BE EPOXY COATED AND INCLUDED IN THE COST OF ITEM 622.

MISCELLANEOUS:

FOR BRIDGE TERMINAL ASSEMBLY TYPE 1 DETAILS AND CONNECTIONS, SEE STD. CONST. DEG. GR-3.1 SHEET 785F .

PAYMENT:

PAYMENT FOR ITEM 622 CONCRETE BARRIER, END SECTION TYPE D, AS PER PLAN SHALL BE INCLUDED WITH THE LUMP SUM COST FOR ITEM 615 - ROADS FOR MAINTAINING TRAFFIC. FOR THE LENGTH SPECIFIED IN PLANS INCLUDING MATERIAL, LABOR AND REINFORCING STEEL REQUIRED TO CONSTRUCT THE BARRIER AS SHOWN.

MAINTAINING TRAFFIC ROADSIDE SAFETY

WORK ZONE GUARDRAIL CONSTRUCTION

PRIOR TO ESTABISHING THE CONTRA-FLOW TRAFFIC PATTERN ON IR 271, THE MEDIAN SIDE TRAILING END BRIDGE PARAPETS NEED TO BE MODIFIED TO PROVIDE PROTECTION FOR APPROACHING TRAFFIC. THE MODIFICATION SHALL BE DONE IN A PHASE PRIOR TO THE PLACEMENT OF TRAFFIC ON THE MEDIAN SHOULDER PAVEMENT. THE MODIFICATION SHALL CONSIST OF THE REMOVAL OF THE EXISTING JERSEY SHAPED BRIDGE PARAPET TRANSITION, REPLACEMENT WITH STANDARD JERSEY SHAPED BARRIER AND CONSTRUCTION OF A 14 FOOT CONCRETE BARRIER TRANSITION END SECTION AT THE END OF THE JERSEY SHAPED BRIDGE PARAPET AS DETAILED. THE REPLACEMENT OF THE EXISTING JERSEY SHAPED BRIDGE PARAPET TRANSITION WITH STANDARD HEIGHT JERSEY SHAPED PARAPET WILL BE WITH ITEM 622 - BARRIER, MISC. TYPE D JERSEY BARRIER, AND SHALL BE IN ACCORDANCE WITH STANDARD BRIDGE DRAWING BR-1. THE CONCRETE BARRIER TRANSITION END SECTION SHALL BE WITH ITEM 622, CONCRETE BARRIER END SECTION, TYPE D, AS PER PLAN. ATTACHED TO THE CONCRETE BARRIER TRANSITION END SECTION SHALL BE A BRIDGE TERMINAL ASSEMBLY, TYPE 1, A LENGTH OF GUARDRAIL, TYPE 5, AND AN ANCHOR ASSEMBLY, TYPE E.

IN ADDITION TO THE PARAPET MODIFICATIONS ANY RUN THERE ARE TWO OVERHEAD SIGN LOCATIONS THAT WILL BE CONSTRUCTED IN PHASES 3A/ 3B OVER THE NORTHBOUND LANES. GUARDRAIL RUNS WILL BE INSTALLED ON THE MEDIAN SIDE TO PROTECT THE SUPPORTS. THE TRAILING END OF THESE GUARDRAIL RUNS WILL NEED TO BE MODIFIED FOR PHASES 4A AND 4B FOR THE CONTRA-FLOW TRAFFIC PATTERN. THIS WILL INCLUDE REMOVAL OF THE ANCHOR ASSEMBLY, TYPE T AND PLACING A RUNNOUT SECTION OF GUARDRAIL, TYPE 5 AND AN ANCHOR ASSEMBLY, TYPE E. THE MODIFICATION SHALL BE DONE IN A PHASE PRIOR TO THE PLACEMENT OF TRAFFIC ON THE MEDIAN SHOULDER PAVEMENT. AT THE COMPLETION OF THE PHASES 4A AND 4B THE GUARDRAIL MODIFICATION SHALL BE REMOVED AND THE PROPOSED GUARDRAIL RUN SHALL BE RETURNED TO THEIR FINAL PROPOSED DESIGN AND ANY GRADING NECESSARY TO IMPLEMENT THE GUARDRAIL MODIFICATION SHALL BE CORRECTION. SEE TABLE RIGHT FOR ITEMS REQUIRED AT EACH LOCATION DESCRIBED ABOVE. THESE ITEMS ARE SHOWN FOR INFORMATION ONLY. ALL COSTS ASSOCIATED WITH PLACING AND REMOVING THE WORK ZONE GUARDRAIL AND PARAPET MODIFICATIONS AS DESCRIBED ABOVE AND RETURNING THE EXISTING OR PROPOSED GUARDRAIL TO THEIR FINAL CONFIGURATION SHALL BE INCLUDED IN THE LUMP SUM COST FOR ITEM 615, ROADS FOR MAINTAINING TRAFFIC.

AT THE COMPLETION OF THE MOT PHASE REQUIRING THE GUARDRAIL MODIFICATIONS, THE MODFICATIONS SHALL BE REMOVED IN ACCORDANCE WITH ITEM 615, ROADS FOR MAINTAINING TRAFFIC.

MOT GUARDRAIL MODIFICATIONS (FOR INFORMATIONAL PURPOSES ONLY)

LOCATIONS		202				606			609	622		626
		CONCRETE BARRIER REMOVED	GUARDRAIL REMOVED	ANCHOR ASSEMBLY REMOVED	BRIDGE TERMINAL ASSEMBLY REMOVED	GUARDRAIL, TYPE 5	ANCHOR ASSEMBLY, TYPE E	BRIDGE TERMINAL ASSEMBLY, TYPE 1	CURB, TYPE 4C	CONCRETE BARRIER END SECTION, TYPE D, AS PER PLAN	BARRIER, MISC. TYPE D JERSEY BARRIER	BARRIER REFLECTOR
DESCRIPTION	STATION	FT	FT	EACH	EACH	FT	EACH	EACH	FT	EACH	FT	EACH
IR 271 PHASE 1A												
OHIO TURNPIKE	346+75.00	14	425	1	1	425	1	1	14	1	14	5
IR 271 PHASE 2A												
OHIO TURNPIKE	348+00.00	14	425	1	1	425	1	1	14	1	14	5
IR 271 PHASE 3A												
SUM-271-0354 L	187+50.00	14	425	1	1	425	1	1	14	1	14	5
SUM-271-0375 L	198+00.00	14	425	1	1	425	1	1	14	1	14	5
RAMP C												
	190+90.00 - 198+15.00		725	1		725	1	1				6
IR 271 PHASE 4A												
OH SIGN @ 553+50	554+37.50			1		425	1					5
OH SIGN @ 172+96	173+04.75			1		425	1					5
TOTALS (FOR INFORMATIONAL PURPOSES ONLY)		56	2425	7	5	3275	7	5	56	4	56	36

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ITEM 614, WORK ZONE CROSSOVER LIGHTING SYSTEM

THIS WORK SHALL CONSIST OF FURNISHING, ERECTING, OPERATING, MAINTAINING AND REMOVING A WORK ZONE LIGHTING SYSTEM FOR A SINGLE CROSSOVER, OR OVERLAPPING A PAIR OF CROSSOVERS. THE SYSTEM SHALL BE AS SHOWN ON SCD MT-100.00. THE CONTRACTOR SHALL ARRANGE FOR AND PAY FOR POWER. ALL MATERIALS AND CONSTRUCTION SHALL COMPLY WITH APPLICABLE PORTIONS OF 625 AND 725 EXCEPT: THE PERFORMANCE TEST OF 625.19F, AND CERTIFIED DRAWING REQUIREMENT OF 625.04, ARE WAIVED AND USED MATERIALS IN GOOD CONDITION ARE ACCEPTABLE.

POLES WHICH ARE NOT PROTECTED BY GUARDRAIL OR PORTABLE BARRIER SHALL BE LOCATED OUTSIDE THE CLEAR ZONE, AND SHOULD BE LOCATED AT LEAST 30 FT (PREFERABLY 40 FEET) FROM THE EDGE OF PAVEMENT WHEN POSSIBLE. ADDITIONAL POLE LINES, CABLES AND APPURTENANCES NECESSARY TO FURNISH POWER TO THE LIGHTING SYSTEM SHALL BE INCLUDED IN THIS ITEM. SERVICE POLES SHALL BE POSITIONED WITH THE SAME CONSTRAINTS AS THE LIGHTING POLES AS A MINIMUM.

PAYMENT WILL BE MADE AT THE UNIT PRICE PER EACH FOR ITEM 614, WORK ZONE CROSSOVER LIGHTING SYSTEM THROUGHOUT ALL PHASES OF WORK WHEN THE CROSSOVER ROADWAYS ARE USED.

CONCRETE BARRIER DELINEATION

BARRIER REFLECTORS AND OBJECT MARKERS SHALL BE INSTALLED ON ALL PERMANENT CONCRETE BARRIER, LOCATED WITHIN 5 FEET OF THE EDGE OF THE ADJACENT TRAVEL LANE. OBJECT MARKER SPACING SHALL BE 50 FEET, AS PER MT-101.70.

PAYMENT SHALL BE FULL COMPENSATION FOR ALL MATERIAL, LABOR, INCIDENTALS AND EQUIPMENT NECESSARY FOR FURNISHING, INSTALLING, MAINTAINING AND REMOVING OBJECT MARKERS.

THE FOLLOWING QUANTITIES HAVE BEEN PROVIDED FOR USE IN CONCRETE BARRIER DELINEATION.

ITEM 614,	OBJECT MARKERS, ONE WAY	20	EACH
ITEM 614,	BARRIER REFLECTOR, TYPE B	20	EACH

QUANTITIES CARRIED TO GENERAL SUMMARY

GUARDRAIL DELINEATION

OBJECT MARKERS SHALL BE INSTALLED ON ALL GUARDRAIL LOCATED WITHIN 5 FEET OF THE EDGE OF THE ADJACENT TRAVEL LANE. GUARDRAIL-MOUNTING OF OBJECT MARKERS SHALL BE MADE BY INSTALLING THE OBJECT MARKERS ON THE EXTENSION BLOCKS RATHER THAN DIRECTLY ONTO THE GUARDRAIL ITSELF. OBJECT MARKER SPACING SHALL BE APPROXIMATELY 50 FEET.

PAYMENT SHALL BE FULL COMPENSATION FOR ALL MATERIAL, LABOR, INCIDENTALS AND EQUIPMENT NECESSARY FOR FURNISHING, INSTALLING, MAINTAINING AND REMOVING OBJECT MARKERS.

THE FOLLOWING QUANTITIES HAVE BEEN PROVIDED FOR USE IN GUARDRAIL DELINEATION.

ITEM 614,	OBJECT MARKERS, ONE WAY	950	EACH
ITEM 614,	BARRIER REFLECTOR, TYPE A	950	EACH

QUANTITIES CARRIED TO GENERAL SUMMARY

RESTRICTED WORK AREA

WORK AREAS LESS THAN 18 FEET IN WIDTH IN THE GORE LOCATIONS OF ENTERANCE AND EXIT RAMPS, LOCATED BETWEEN PORTABLE CONCRETE BARRIERS ARE CONSIDERED RESTRICTED WORK AREAS. AT THE CONTRACTORS OPTION THESE AREAS MAY BE WORKED ON DURING PERMITTED LANE CLOSURE TIMES BY CLOSING THE ADJACENT THROUGH LANE TO TRAFFIC. ALL THROUGH TRAFFIC WILL BE SIGNED IN ADVANCE OF THE CROSSOVER TO USE THE LEFT LANE OF THE FACILITY. TRAFFIC TO THE EXITS PRIOR TO THE RESTRICTED WORK AREA WILL REMAIN OPEN. ENTERANCE TRAFFIC AFTER THE RESTRICTED WORK AREA WILL BE MAINTAINED.

PROPER ADVANCE SIGNING WILL BE PROVIDED PRIOR TO THE CROSSOVER TO WARN AND ADVISE DRIVERS OF THE RESTRICTIONS. SEE RESTRICTED WORK AREA DETAIL SHEET 219 FOR DETAILS.

ITEM 622, PORTABLE CONCRETE BARRIER, 50", AS PER PLAN

THIS WORK SHALL CONSIST OF FURNISHING, MAINTAINING, AND SUBSEQUENTLY REMOVING A 50-INCH PORTABLE CONCRETE BARRIER (PCB) AT THE LOCATIONS SHOWN ON THE PLANS. FOR DETAILS SEE SCD RM-4.1. PLEASE NOTE THAT SCD RM-4.1 WAS UPDATED 10-20-06 TO PROVIDE A PCB WHICH IS COMPATIBLE WITH NCHRP 350 CRITERIA.

PORTABLE STEEL BARRIER IS AN APPROVED ALTERNATIVE TO PCB. FOR INFORMATION ON APPROVED VENDORS, SEE THE APPROVED PRODUCTS LIST MAINTAINED BY ROADWAY STANDARDS. PORTABLE CONCRETE BARRIER, 32 INCHES HIGH WITH AN 18-INCH MINIMUM HEIGHT GLARE SCREEN MAY BE USED AT THE OPTION OF THE CONTRACTOR. THE GLARE SCREEN SHALL BE CONSTRUCTED USING ONE OF THE SCREENS PROVIDED ON THE APPROVED LIST, AVAILABLE ON THE OFFICE OF MATERIAL MANAGEMENT WEB PAGE.

PADDLE OR INTERMITTENT TYPE GLARE SCREENS SHALL BE DESIGNED USING A 20 DEGREE CUT-OFF ANGLE BASED ON TANGENT ALIGNMENT. THAT SPACING SHALL BE USED THROUGHOUT THE BARRIER LENGTH WITHOUT REGARD TO BARRIER CURVATURE.

THE GLARE SCREEN SYSTEM SHALL BE SECURELY FASTENED TO THE 32-INCH PORTABLE CONCRETE BARRIER USING THE HARDWARE AND PROCEDURES SPECIFIED BY THE MANUFACTURER.

FOR DIRECTIONS ON HOW TO INSTALL THE GLARE SCREEN AND THE BARRIER, SEE THE MANUFACTURER'S INSTRUCTIONS.

PAYMENT SHALL INCLUDE ALL LABOR, MATERIAL, AND EQUIPMENT NECESSARY TO PERFORM THE WORK AND SHALL BE PAID FOR AT THE CONTRACT PRICE PER FOOT FOR ITEM 622, PORTABLE CONCRETE BARRIER, 50 INCH, AS PER PLAN.

DESIGNATED LOCAL DETOUR ROUTE

IN ADDITION TO THE OFFICIAL, SIGNED DETOUR ROUTE, A LOCAL ROUTE HAS BEEN DETERMINED TO BE THE SECONDARY, UNSIGNED DETOUR ROUTE OR "DESIGNATED LOCAL DETOUR ROUTE." THIS ROUTE IS SHOWN ON SHEET NO. 228 . DURING THE TIME THAT TRAFFIC IS DETOURED, THE CONTRACTOR SHALL MAINTAIN THIS ROUTE IN A CONDITION WHICH IS REASONABLY SMOOTH AND FREE FROM HOLES, RUTS, RIDGES, BUMPS, DUST AND STANDING WATER. ONCE THE DETOUR IS REMOVED AND TRAFFIC RETURNED TO ITS NORMAL PATTERN, THE DESIGNATED LOCAL DETOUR ROUTE SHALL BE RESTORED TO A CONDITION THAT IS EQUIVALENT TO THAT WHICH EXISTED PRIOR TO ITS USE FOR THIS PURPOSE. ALL SUCH WORK SHALL BE PERFORMED WHEN AND AS DETERMINED BY THE ENGINEER.

THE FOLLOWING ESTIMATED QUANTITIES ARE PROVIDED FOR USE AS DETERMINED BY THE ENGINEER TO MAINTAIN AND SUBSEQUENTLY RESTORE THE DESIGNATED LOCAL DETOUR ROUTE.

ITEM 301, ASPHALT CONCRETE BASE, PG 64-22	360	CU. YD.
ITEM 304, AGGREGATE BASE, AS PER PLAN	430	CU. YD.
ITEM 448, ASPHALT CONCRETE SURFACE COURSE, TYPE 1, PG 64-22, AS PER PLAN	50	CU. YD.
ITEM 407, TACK COAT	105	GAL.
ITEM 408, PRIME COAT	1035	GAL.
ITEM 614, ASPHALT CONCRETE FOR MAINTAINING TRAFFIC	720	CU. YD.
ITEM 616, WATER	55	M. GAL.
ITEM 617, COMPACTED AGGREGATE, AS PER PLAN	120	CU. YD.
ITEM 617, WATER	0.5	M. GAL.
ITEM 642, CENTER LINE	0.5	MILE

ITEM SPECIAL - RUMBLE STRIPS

THE RUMBLE STRIPS WILL BE PLACED AS SHOWN IN THE PLAN OR AS DIRECTED BY THE ENGINEER. RUMBLE STRIPS WILL BE INSTALLED EITHER ON TOP OF THE PAVEMENT USING HEAT-FUSED PREFORMED PLASTIC MATERIAL OR MILLED INTO THE PAVEMENT.

HEAT-FUSED PREFORMED PLASTIC RUMBLE STRIPS WILL BE FOUR [4] INCHES WIDE AND ONE HALF [0.5] INCH THICK IN PLACE. MILLED RUMBLE STRIPS WILL BE FOUR [4] INCHES WIDE AND ONE HALF [0.5] INCH INTO THE PAVEMENT. THE RUMBLE STRIPS WILL TRAVERSE THE TOTAL LANE WIDTH. THERE WILL BE TWO SECTIONS OF RUMBLE STRIPS. THE RUMBLE STRIPS MAY HAVE TO GO ACROSS TWO OR THREE LANES OF TRAFFIC.

THE FIRST RUMBLE STRIP SECTION SHOULD BE PLACED BEFORE THE ADVANCE WARNING DEVICES, THERE WILL BE TEN [10] TRANSVERSE STRIPS SIX [6] FEET APART. THE SECOND SECTION SHOULD BE PLACED A MINIMUM OF 250 FEET IN ADVANCE OF THE TRAFFIC CONDITION, THERE WILL BE TEN [10] TRANSVERSE STRIPS FIVE [5] FEET APART.

MATERIAL USED FOR THE RUMBLE STRIPS WILL BE 740.08 HEAT-FUSED PREFORMED PLASTIC MATERIAL, 125 MILS MINIMUM THICKNESS, ON THE ODOT APPROVED LIST. THE MANUFACTURERS RECOMMENDATIONS MUST BE FOLLOWED FOR INSTALLATION.

MILLED RUMBLE STRIPS, ALTHOUGH SELF-CLEANING TO A LIMITED EXTENT, SHOULD BE INSPECTED PERIODICALLY TO DETERMINE IF DEBRIS NEEDS TO BE REMOVED OR IF THEY NEED TO BE RE-MILLED.

RUMBLE STRIPS WILL BE REMOVED WHEN THEY ARE NO LONGER NEEDED AS DETERMINED BY THE ENGINEER. WHEN THE MILLED RUMBLE STRIPS ARE NO LONGER NEEDED, THE ENTIRE WIDTH OF THE LANE CONTAINING THE STRIPS WILL BE MILLED TO A DEPTH OF 1 1/4" AND RESURFACED WITH ITEM 448 - ASPHALT CONCRETE SURFACE COURSE TYPE 1, PG 64-22, AS PER PLAN.

A W8-H16-48 SIGN [RUMBLE STRIPS] WILL BE DUAL MOUNTED APPROXIMATELY 500 FEET IN ADVANCE OF THE RUMBLE STRIP INSTALLATION. THE PROVISION, ERECTION, MAINTENANCE AND REMOVAL OF THE SIGNS AND SUPPORTS WILL BE INCLUDED IN THE COST OF THE RUMBLE STRIPS.

THIS ITEM WILL BE PAID FOR BY THE FOOT AT ONE HALF [0.5] INCH THICKNESS FOR 740.08 HEAT-FUSED PREFORMED PLASTIC OR ONE HALF [0.5] INCHES OF MILLED THICKNESS. THIS WILL INCLUDE ALL LABOR MATERIALS AND EQUIPMENT FOR THE INSTALLATION, MAINTENANCE AND REMOVAL OF THE RUMBLE STRIPS.

SPECIAL, RUMBLE STRIPS, 1620 FOOT

BARRIER DELINEATION AS PER PLAN

INCREASED DELINEATION, AS SPECIFIED HEREIN, SHALL BE INSTALLED ON ALL PORTABLE BARRIER AND CONCRETE PERMANENT BARRIER LOCATED WITHIN 5-FEET OF THE EDGE OF THE TRAVELED LANE UNDER EITHER OF THE FOLLOWING CONDITIONS:

ALONG TAPERS AND TRANSITION AREAS

ALONG CURVES (OUTSIDE ONLY) WITH DEGREE OF CURVATURE GREATER THAN OR EQUAL TO 3 DEGREES

THE INCREASED DELINEATION SHALL CONSIST OF EITHER LINEAR DELINEATION PANELS OR THE TRIPLE STACKING OF WORK ZONE BARRIER REFLECTORS.

THE LINEAR DELINEATION PANELS SHALL CONSIST OF PANELS OF DELINEATION, APPROXIMATELY 34 INCHES LONG AND 6-INCHES WIDE AND SHALL BE "CRIMPED". PANELS SHALL BE PROVIDED AT THE RATE OF ONE PANEL EVERY 10 FEET ON PORTABLE BARRIER AND PERMANENT CONCRETE BARRIER, SPACED EVENLY ALONG THE LENGTH OF THE RUN. THE PANELS SHALL BE MOUNTED SUCH THAT THE TOPS OF THE PANELS ARE 26 INCHES ABOVE THE PAVEMENT.

TRIPLE STACKED BARRIER REFLECTORS SHALL CONSIST OF THREE BARRIER REFLECTORS STACKED VERTICALLY IN THEIR ATTACHMENT TO THE PORTABLE BARRIER. THERE SHALL BE NO OPEN SPACE BETWEEN THE ADJACENT BARRIER REFLECTORS. THE TOP OF THE MIDDLE BARRIER REFLECTOR SHALL BE LOCATED 26 IN ABOVE THE PAVEMENT.

PAYMENT SHALL BE FULL COMPENSATION FOR ALL MATERIAL, LABOR, INCIDENTALS AND EQUIPMENT NECESSARY FOR FURNISHING, INSTALLING, MAINTAINING AND REMOVING LINEAR DELINEATION.

AN ESTIMATED QUANTITY HAS BEEN INCLUDED IN THE PLANS. ALONG RUNS OF PORTABLE BARRIER WHERE THIS ITEM IS PROVIDED, THE QUANTITY SHALL BE MEASURED AS THE ENTIRE LENGTH OF THE RUN BEING DELINEATED, INCLUDING THE SPACES BETWEEN THE INDIVIDUAL PANELS OR STACKS OF BARRIER REFLECTORS.

ITEM 614, BARRIER REFLECTORS AND/OR OBJECT MARKERS

BARRIER REFLECTORS AND/OR OBJECT MARKERS SHALL BE INSTALLED ON ALL PORTABLE CONCRETE BARRIER USED FOR TRAFFIC CONTROL. BARRIER REFLECTORS, OBJECT MARKERS AND THEIR INSTALLATION SHALL CONFORM TO CMS 626, EXCEPT THAT THE SPACING SHALL BE 50 FEET. AN ESTIMATED QUANTITY OF OF ITEM 614 BARRIER REFLECTOR, TYPE B AND ITEM 614 OBJECT MARKER, ONE-WAY AND TWO-WAY HAVE BEEN PROVIDED IN THE MOT SUBSUMMARY AND CARRIED TO THE GENERAL SUMMARY.

CALCULATED DAW CHECKED PRS

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ITEM SPECIAL – PATCHING CONCRETE STRUCTURES, MISC.: VES-LMC (VERY EARLY STRENGTH LATEX MODIFIED CONCRETE)

DESCRIPTION:
THIS ITEM WILL CONSIST OF FURNISHING THE NECESSARY LABOR, MATERIALS, AND EQUIPMENT TO REPAIR CONCRETE BRIDGE DECKS, APPROACH SLABS AND TOPS OF THE BACKWALLS, INCLUDING THE REMOVAL OF LOOSE AND UNSOUND CONCRETE, BITUMINOUS PATCHES, SURFACE PREPARATION, BONDING COAT, AND THE MIXING, PLACING, FINISHING, CURING, COMPRESSIVE STRENGTH TESTING, AND SEALING OF ALL THE PATCHES AS DIRECTED BY THE ENGINEER.

RESTRICTIONS:
THE VES-LMC WILL NOT BE PLACED WHEN RAIN IS FORECAST WITHIN THE PERIOD OF TIME WHEN THE REPAIR WILL BE PERFORMED, INCLUDING PREPARATION, INSTALLATION OF THE PATCH AND CURING. IF RAIN OCCURS DURING PLACING OF THE MATERIAL, ALL OPERATIONS WILL CEASE. DURING DELAYS IN THE PATCH PLACEMENT OPERATIONS OF MORE THAN 10 MINUTES, THE WORK FACE OF THE PLACED PATCH MATERIAL AND ANY BONDING GROUTED AREAS WILL BE TEMPORARILY COVERED WITH WET BURLAP. IF AN EXCESSIVE DELAY IS ANTICIPATED, A BULKHEAD WILL BE INSTALLED AT THE WORK FACE AND THE PATCHING PLACEMENT OPERATION TERMINATED.

THE VES-LMC PATCHING MATERIAL WILL BE PLACED ONLY WHEN THE LOCAL AMBIENT TEMPERATURE IS ABOVE 45˚F AND IS FORECAST TO REMAIN ABOVE 45˚F FOR THE CURING PERIOD. THE TEMPERATURE AT THE PATCH SURFACE WILL BE MAINTAINED ABOVE 35˚F UNTIL THE CURING PERIOD IS COMPLETE.

DO NOT BEGIN OPERATIONS IF EVAPORATION RATES ARE PREDICTED TO BE MORE THAN 0.1 POUND PER SQUARE FOOT PER HOUR AS DETERMINED ACCORDING TO CMS 511.10, FIGURE 1, ACI 308, WITHIN 12 HOURS OF COMMENCEMENT.

UNLESS OTHERWISE AUTHORIZED BY THE ENGINEER, PATCHES WILL NOT BE PLACED ADJACENT TO A PREVIOUS PATCH WHICH HAS CURED FOR LESS THAN 4 HOURS.

IF PLACEMENT OF PATCHES IS TO BE MADE AT NIGHT, THE CONTRACTOR WILL SUBMIT A PLAN WHICH PROVIDES ADEQUATE LIGHTING FOR WORK AREA. THE PLAN WILL BE SUBMITTED AT LEAST 15 CALENDAR DAYS IN ADVANCE AND BE APPROVED BY THE ENGINEER BEFORE CONCRETE IS PLACED. THE LIGHTS WILL BE DIRECTED SO THAT THEY DO NOT AFFECT OR DISTRACT APPROACHING TRAFFIC.

REMOVAL OF UNSOUND CONCRETE:
THE ENGINEER WILL SOUND THE WEARING SURFACE AND BACKWALL TOPS AND OUTLINE THE AREAS TO BE REMOVED. SOUNDING MAY HAVE TO BE DELAYED UNTIL THE DECK IS SUFFICIENTLY DRY TO PERMIT DETECTION OF ALL AREAS OF DELAMINATION. BACKWALL REMOVAL DEPTH SHALL NOT EXCEED 12" AND THE EXISTING EXPANSION JOINT ASSEMBLY WILL NOT BE DAMAGED AND WILL REMAIN IN PLACE. THE PERIMETER OF ALL REMOVAL AREAS WILL BE SAWED TO A DEPTH OF 2 INCHES TO PRODUCE A VERTICAL OR SLIGHTLY UNDERCUT FACE. ADDITIONAL SAW CUTS MAY BE REQUIRED TO FACILITATE REMOVAL. SAW CUTS WILL NOT EXTEND BEYOND THE LIMITS OF THE PATCH. COOLING WATER FROM WET SAWING AND DUST FROM DRY SAWING WILL NOT BE ALLOWED TO CONTAMINATE THE EXPOSED PATCH HOLES. ALL PATCHES OTHER THAN SOUND CONCRETE AND ALL OBVIOUSLY LOOSE AND DISINTEGRATED CONCRETE WILL BE REMOVED. THE UNSOUND CONCRETE MAY BE REMOVED BY CHIPPING, AND DRESSING, OR HYRDODEMOLITION (AS PER SS848). CHIPPING HAMMERS WILL NOT BE HEAVIER THAN THE NOMINAL 35-POUND CLASS AND WILL BE OPERATED AT AN ANGLE OF LESS THAN 45 DEGREES MEASURED FROM THE SURFACE OF THE DECK.

CONCRETE WILL BE REMOVED IN A MANNER THAT PREVENTS CUTTING, ELONGATING, OR DAMAGING REINFORCING STEEL. WHERE THE BOND BETWEEN THE CONCRETE AND A PRIMARY REINFORCING BAR HAS BEEN DESTROYED, OR WHERE MORE THAN HALF OF THE PERIPHERY OF SUCH A BAR HAS BEEN EXPOSED, THE ADJACENT CONCRETE WILL BE REMOVED TO A DEPTH THAT WILL PROVIDE A MINIMUM ¾ INCH CLEARANCE AROUND THE BAR EXCEPT WHERE OTHER REINFORCING BARS MAKE THIS IMPRACTICABLE. REINFORCEMENT WHICH HAS BECOME LOOSE WILL BE ADEQUATELY SUPPORTED AND TIED BACK INTO PLACE.

SURFACE PREPARATION:
CLEANING WILL CLOSELY PRECEDE APPLICATION OF THE BONDING GROUT OR THE PATCHING MATERIAL. THE SURFACE TO BE PATCHED AND THE EXPOSED REINFORCING STEEL WILL BE THOROUGHLY CLEANED WITHIN 24 HOURS PRIOR TO PATCHING BY ABRASIVE BLASTING FOLLOWED BY AN AIR BLAST. BLASTING ABRASIVES CONTAINING MORE THAN 1% FREE SILICA WILL NOT BE ALLOWED. IT MAY BE NECESSARY TO USE HAND TOOLS TO REMOVE SCALE FROM THE REINFORCING STEEL.

CONTAMINATION OF THE AREA TO BE PATCHED BY CONSTRUCTION EQUIPMENT OR FROM ANY OTHER SOURCE WILL BE PREVENTED BY PLACEMENT OF A CLEAN 4-MIL POLYETHYLENE SHEET (OR ANY OTHER COVERING AS APPROVED BY THE ENGINEER) ON THE SURFACE OF THE DECK FOLLOWING THE AIR BLAST CLEANING. WHERE REINFORCING STEEL IS EXPOSED, THE CONTRACTOR WILL PROVIDE ADEQUATE SUPPORT FOR THE CONCRETE MIXER SO THAT REINFORCING STEEL AND ITS BOND WITH THE CONCRETE WILL NOT BE DAMAGED BY THE WEIGHT AND MOVEMENT OF THE CONCRETE MIXER, OR WILL PROVIDE MEANS TO CONVEY CONCRETE FROM THE MIXER TO THE PATCH LOCATIONS.

MATERIALS:
MATERIALS WILL CONFORM TO THE FOLLOWING REQUIREMENTS:

FINE AGGREGATE (NATURAL SAND)	703.02 (NOTE 1)
COARSE AGGREGATE (NO.8)	703.02 (NOTE 1)
RAPID HARDENING HYDRAULIC CEMENT	(NOTE 2)
WATER	499.02
LATEX EMULSION	SS953
CURING MATERIALS	705.05 OR 705.06, WHITE OPAQUE
REPLACEMENT REINFORCING STEEL	709.00

POSSOLONIC MATERIAL OR PORTLAND POZZOLAN CEMENTS WILL NOT BE USED.

ANTI-FOAM ADDITIVES AS RECOMMENDED BY THE LATEX EMULSION MANUFACTURER MAY BE REQUIRED IF THE CONCRETE MIXTURE ENTRAINED AIR IS ABOVE THE SPECIFIED AMOUNT.

AIR-ENTRAINING ADMIXTURES WILL NOT BE USED

A SET CONTROL IN ACCORDANCE WITH THE CEMENT MANUFACTURER'S RECOMMENDATION MAY BE CONSIDERED.

ADMIXTURES CONTAINING CALCIUM CHLORIDE WILL NOT BE USED.

(NOTE 1) DELETERIOUS MATERIAL WILL NOT EXCEED ONE HALF THE REQUIREMENTS FOR SUPERSTRUCTURE AGGREGATE, AND THE SODIUM SULFATE SOUNDNESS LOSS WILL NOT EXCEED THAT SPECIFIED FOR SUPERSTRUCTURE CONCRETE IN 703.02.

(NOTE 2) CEMENT WILL BE APPROXIMATELY 1/3 CALCIUM SULFOALUMINATE (C4A3S) AND 2/3 DICALCIUM SILICATE (C2S) OR OTHER HYDRAULIC CEMENT THAT WILL PROVIDE A LATEX MODIFIED CONCRETE THAT MEETS THE PHYSICAL REQUIREMENTS FOR VERY EARLY STRENGTH LATEX MODIFIED CONCRETE LISTED BELOW:

1. COMPRESSIVE STRENGTH, MINIMUM, CONCRETE ASTM C39:
   - 3 HOURS: 2500 PSI
   - 1 DAY: 3500 PSI
   - 7 DAYS: 5000 PSI
2. PRIOR TO PLACING PATCHES THE CONCRETE WILL DEMONSTRATE THAT THE CONCRETE MIXTURE WILL OBTAIN A COMPRESSIVE STRENGTH OF AT LEAST 2500 PSI WITHIN THE CURING PERIOD AND AT THE CURING TEMPERATURES IN WHICH THE PATCHES WILL BE PLACED.
3. PERMEABILITY, MAXIMUM AT 28 DAYS, AASHTO T277: 1000 COULOMBS. PERMEABILITY SAMPLES WILL BE MOIST CURED 2 DAYS IN THE MOLDS (1 DAY AT THE JOB SITE AND 1 DAY IN THE LAB). AIR CURED 5 DAYS IN THE MOLDS IN THE LABORATORY, AND 21 DAYS OUT OF THE MOLDS AT 100˚F AIR TEMP.
4. BOND STRENGTH, MINIMUM AT 7 DAYS, ASTM C1583 USING TYPE 1, SELF-ALIGNMENT ADHESION TESTER PER ASTM D4541 = 150 PSI

(NOTE 3) THE LATEX EMULSION WILL BE PROTECTED FROM FREEZING AND PROLONGED EXPOSURE TO TEMPERATURES IN EXCESS OF 85˚F. EMULSIONS IN STORAGE FACILITIES WILL BE RE-CIRCULATED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.

PROPORTIONING AND MIXING:
ALL MIXING OF MATERIALS WILL BE DONE ON SITE IN A CONTINUOUS MOBILE MIXER. PRIOR TO EACH DAY'S PLACEMENT, EACH MIXER WILL BE CHECKED TO ASSURE THAT SPECIFIED AIR CONTENT, SLUMP, AND YIELD HAVE BEEN ATTAINED. TRIAL CONCRETE WILL NOT BE INCORPORATED INTO THE WORK. PROPORTIONING AND ALL OTHER REQUIRED CHARACTERISTICS OF THE MIX WILL BE ADJUSTED OFF THE DECK BEFORE PLACEMENT OF THE PATCHES BEGIN.

THE MIXTURE WILL CONSIST OF A WORKABLE MIXTURE OF UNIFORM COMPOSITION AND CONSISTENCY WITH THE FOLLOWING QUANTITIES OF MATERIALS PER CUBIC YARD (DRY WEIGHT):

QUANTITIES OF MATERIALS PER CUBIC YARD (DRY WEIGHT):

TYPE OF COARSE AGGREGATE	FINE AGGREGATE (LB)	COARSE AGGREGATE (LB)	CEMENT (LB)	LATEX EMULSION (GAL)	MAX. NET WATER (GAL)
GRAVEL	1645	1300	658	24.5	17.5
LIMESTONE	1645	1315	658	24.5	17.5
SLAG	1645	1140	658	24.5	17.5

SLUMP: 4 TO 6 INCHES

AIR CONTENT OF PLASTIC MIX WILL NOT EXCEED 7 PERCENT

NOTE: THE SPECIFIC GRAVITY USED FOR DETERMINING THE ABOVE WEIGHTS ARE: NATURAL SAND 2.62, GRAVEL 2.62, LIMESTONE 2.65, AND SLAG 2.30.

CALCULATED DAW CHECKED PRS

MAINTENANCE OF TRAFFIC NOTES

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NOTE: THE DRY WEIGHTS ARE APPROXIMATE. THIS PROPORTION SHOULD PRODUCE GOOD WORKABLILITY, BUT DUE TO GRADATION VARIABILITY, THE FINE AGGREGATE CONTENT MAY BE INCREASED, WITH APPROVAL BY THE ENGINEER, AS MUCH AS 8 PERCENT BY WEIGHT IF THE COARSE AGGREGATE IS REDUCED AN EQUAL VOLUME.

NOTE: THE SLUMP WILL NOT BE MEASURED UNTIL AFTER THE CONCRETE HAS BEEN DISCHARGED FROM THE MIXER AND LEFT UNDISTURBED FOR 4 TO 5 MINUTES. THE WATER CONTENT MAY BE ADJUSTED TO CONTROL THE SLUMP WITHIN THE PRESCRIBED LIMITS.

CONTINUOUS MOBILE MIXER:
REQUIREMENTS FOR CONTINUOUS MOBILE MIXERS FOR LATEX MODIFIED CONCRETE ARE AS FOLLOWS: THE PROPORTIONING AND MIXING EQUIPMENT WILL BE AN INTEGRAL MOBILE UNIT HAVING A CAPACITY AND CONTINUOUS MIXING CAPABILITY TO PERMIT THE FINISHING OPERATIONS TO PROCEED AT A CONSTANT RATE SO THAT THE FINAL FINISHING CAN BE COMPLETED PRIOR TO THE FORMATION OF A PLASTIC FILM ON THE VES-LMC SURFACE. IT WILL CONSISTENTLY PRODUCE UNIFORMLY BLENDED MIXTURE WITH THE SPECIFIED AIR CONTENT AND SLUMP LIMITS.

THE MIXER WILL ALSO:

- BE CAPABLE OF PRODUCING NOT LESS THAN 6 CUBIC YARDS OF VES-LMC WITHOUT RECHARGING
- BE EQUIPPED WITH A RECODING METER WITH A TICKET PRINTOUT DEVICE TO RECORD AN INDICATION OF THE CEMENT QUANTITY BEING INTRODUCED INTO THE MIX. THE METERING DEVICE WILL BE ACCURATE WITHIN A TOLERANCE OF -1 TO +3 PERCENT.
- BE EQUIPPED WITH A LATEX METERING DEVICE TO INDICATE VOLUME DISPENSED. THE METERING DEVICE WILL BE ACCURATE TO WITHIN A TOLERANCE OF -1 TO +2 PERCENT. IN ADDITION THE LATEX TANK WILL HAVE A STAND PIPE MARKED IN GALLONS.
- BE EQUIPPED WITH A WATER FLOW INDICATOR, AND HAVE A WATER FLOW CONTROL THAT IS READILY ADJUSTABLE TO PROVIDE FOR MINOR VARIATIONS IN AGGREGATE MOISTURE CONTENT. THE FLOW INDICATOR WILL BE ACCURATE WITHIN A TOLERANCE OF +1 PERCENT IN THE RANGE OF THE EXPECTED USE.
- BE EQUIPPED WITH A CONTROL TO REGULATE THE QUANTITY F EACH OF THE VES-LMC COMPONENTS TO PERMIT THE PRODUCTION OF THE MIX HAVING THE SPECIFIED COMPOSITION. TO ENSURE THAT THE MIXER CAN ACCURATELY PROPORTION AND BLEND ALL COMPONENTS OF THE VES-LMC ON A CONTINUOUS OR INTERMITTENT BASIS. THE MIXER WILL BE CALIBRATED PRIOR TO THE PRODUCTION OF THE MATERIAL.
- THE ENGINEER MAY REQUIRE RE-CALIBRATION OF THE CEMENT, LATEX AND WATER METERING DEVICES AS HE DEEMS NECESSARY.
- BE CAPABLE OF DISCHARGING MIXED VES-LMC THROUGH A CONVENTIONAL CHUTE DIRECTLY IN FRONT OF THE FINISHING MACHINE.
- BE KEPT CLEAN, FREE OF PARTIALLY DRIED OR HARDENED MATERIALS, AND PROPERLY OPERATED AT ALL TIMES.

PLACING, CONSOLIDATING AND FINISHING:
IMMEDIATELY PRIOR TO PLACING THE PATCHES, CLEAN AND WET ALL EXPOSED CONCRETE SURFACES.

CONTINUOUSLY FOG THE VES-LMC MATERIAL FROM THE TIME OF PLACING UNTIL COVERED WITH WET BURLAP. APPLY THE FOG UNIFORMLY OVER THE ENTIRE SURFACE OF THE PATCH AREA WITHOUT PRODUCING STANDING WATER.

SCREEDING:
THE PATCHING MATERIAL WILL BE PLACED, CONSOLIDATED, AND FINISHED TO THE ADJACENT GRADE. PATCHES EXCEEDING 50 SQ FT (4.6 SQ M) WILL BE LEVELED AND CONSOLIDATED WITH A MECHANICAL VIBRATING SCREED. SMALLER PATCHES WILL BE HAND VIBRATED AND LEVELED WITH A STRAIGHTEDGE. THE SCREED WILL BE PLACED PARALLEL TO THE BRIDGE CENTERLINE SO THAT THE DECK PROFILE REMAINS CONSISTENT WITH THE WORN SURFACE.

DO NOT ADD WATER TO AID FINISHING AND AN EVAPORATION RETARDANT MAY NOT BE USED.

AFTER THE PATCHES HAVE BEEN CONSOLIDATED AND FINISHED THEY WILL BE TEXTURED IN ACCORDANCE WITH 451.09.

THE CONTRACTOR WILL TEST THE SURFACE OF THE PLASTIC CONCRETE FOR TRUENESS AND FOR BEING FLUSH WITH THE EDGES OF THE ADJACENT SURFACES BY USE OF A STRAIGHTEDGE. THE STRAIGHTEDGE WILL BE DONE BY PLACING THE STRAIGHTEDGE PARALLEL TO THE BRIDGE CENTERLINE WITH THE ENDS RESTING ON THE EXISTING WEARING SURFACE ADJACENT TO THE PATCH AND DRAWING THE STRAIGHTEDGE ACROSS THE PATCH. ANY HIGH OR LOW AREAS EXCEEDING 1/8 INCH IN 10 FEET (3 MM IN 3 M) WILL BE CORRECTED. IF ANY CORRECTIONS ARE MADE, THE SURFACE WILL BE RECHECKED.

CURING:
COVER THE FINISHED PATCHED SURFACES WITH A SINGLE LAYER OF CLEAN WET BURLAP AND COVER THE BURLAP WITH A 4-MIL WHITE OPAQUE POLYETHYLENE FILM FOR A MINIMUM OF 4 HOURS FOLLOWED BY A MEMBRANE CURE PER 511.17 METHOD (B).

ADEQUATE PRECAUTIONS WILL BE TAKEN TO PROTECT THE FRESHLY PLACED VES-LMC FROM RAIN.

THE CONTRACTOR WILL SUPPLY A PROPERLY CALIBRATED IMPACT REBOUND HAMMER TO VERIFY THAT THE PATCHES HAVE REACHED 3000 PSI COMPRESSIVE STRENGTH PRIOR TO OPENING TO TRAFFIC.

INSPECTION AND SOUNDING OF CONCRETE PATCHES:
AFTER CURING AND BEFORE FINAL ACCEPTANCE, ALL PATCHED AREAS WILL BE SOUNDED. ALL DELAMINATED AREAS WILL BE REMOVED AND REPATCHED ACCORDING TO THIS NOTE. ALL PATCHES WHICH ARE SOUND BUT SHOW SIGNS OF CRACKING WILL BE SEALED AND THE PERIMETER OF ALL PATCHES WILL ALSO BE SEALED WITH GRAVITY FED RESIN.

ALL SOUNDING AND REPLACEMENT OF REJECTED AREAS WILL BE THE RESPONSIBILITY OF THE CONTRACTOR AND INCLUDED IN THE UNIT BID PRICE FOR THIS ITEM.

METHOD OF MEASUREMENT:
PAYMENT WILL BE MADE AT THE CONTRACT PRICE PER **CUBIC YARD** FOR **ITEM SPECIAL – PATCHING CONCRETE STRUCTURES, MISC.: VES-LMC (VERY EARLY STRENGTH LATEX MODIFIED CONCRETE)** WHICH WILL INCLUDE ALL MATERIALS AND LABOR REQUIRED TO PERFORM THIS WORK INCLUDING REMOVAL AND DISPOSAL OF THE EXISTING MATERIAL.

THE FOLLOWING QUANTITIES HAVE BEEN CARRIED TO THE GENERAL SUMMARY FOR USE AS DIRECTED BY THE ENGINEER.

ITEM SPECIAL - PATCHING CONCRETE STRUCTURE, MISC.: VES-LMC (VERY EARLY STRENGTH LATEX MODIFIED CONCRETE),
(BASED ON 4" AVG. THICKNESS) 65 CU. YD.

ITEM 448 - ASPHALT CONCRETE SURFACE COURSE, TYPE 1, PG64-22, AS PER PLAN
(BASED ON 3" AVG. THICKNESS) 50 CU. YD.

ITEM SPECIAL – PATCHING CONCRETE STRUCTURES, MISC.: TRIAL BATCH FOR VES-LMC (VERY EARLY STRENGTH LATEX MODIFIED CONCRETE

MAKE ONE OR MORE, ONE CUBIC YARD, TRIAL BATCHES OF THE VES-LMC MATERIAL AT LEAST 14 DAYS PRIOR TO THE MATERIAL BEING PLACED. DEMONSTRATE THE ABILITY TO ACHIEVE THE REQUIREMENTS OF THE MATERIAL AS PER THE PLAN NOTE.

PAYMENT WILL BE MADE AT THE **LUMP SUM** CONTRACT PRICE FOR **ITEM SPECIAL – PATCHING CONCRETE STRUCTURES, MISC.: TRIAL BATCH FOR VES-LMC (VERY EARLY STRENGTH LATEX MODIFIED CONCRETE)** WHICH WILL INCLUDE ALL MATERIALS AND LABOR REQUIRED TO PERFORM THIS WORK.

CALCULATED DAW CHECKED PRS

MAINTENANCE OF TRAFFIC NOTES

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ITEM 615 TEMPORARY ROAD EARTHWORK

EARTHWORK REQUIRED FOR THE CONSTRUCTION OF 615 MOT PAVEMENT ALONG THE IR 271 PROJECT HAS BEEN SHOWN AND ESTIMATED FROM THE CROSS SECTIONS. THE EARTHWORK HAS BEEN CARRIED TO THE TABULATION.

EARTHWORK REQUIRED FOR THE CONSTRUCTION OF THE RAMPS HAS BEEN SHOWN AND ESTIMATED FROM THE RAMP CROSS SECTIONS AND INCLUDED FOR INFORMATIONAL PURPOSES ONLY.

THE MOT PAVEMENT WILL BE REMOVED WHEN NO LONGER NEEDED FOR MOT OPERATIONS. THE AFFECTED AREAS SHALL BE RETURNED TO ORIGINAL/DESIGNED CONDITIONS.

ALL MOT PAVEMENT EXCAVATION AND EMBANKMENT SHALL BE CONSTRUCTED IN ACCORDANCE WITH ITEM 615.03 OF THE CONSTRUCTION AND MATERIAL SPECIFICATIONS UNLESS OTHERWISE NOTED. QUANTITIES IN THE TABULATION ALONG WITH A SUM OF THE TOTAL EARTHWORK REQUIRED FOR THE PROJECT ARE SHOWN FOR INFORMATIONAL PURPOSES ONLY.

EARTHWORK FOR MAINTAINING TRAFFIC

THE FOLLOWING QUANTITIES HAVE BEEN INCLUDED IN THE PLAN FOR INFORMATION ONLY:

EXCAVATION FOR MAINTAINING TRAFFIC 37054 CU. YD.

EMBANKMENT FOR MAINTAINING TRAFFIC 8073 CU. YD.

STATION	END AREA CUT SQ FT	END AREA FILL SQ FT	VOLUME CUT CU YD	VOLUME FILL CU YD
IR 271 NORTHBOUND - PHASE 1A & 1B INTERMEDIATE CROSSOVER				
243+00.00	0	0		
243+50.00	0	0	0	0
244+00.00	3	1	3	1
244+50.00	2	5	5	6
245+00.00 BK	8	4	9	8
245+50.00 AH	12	6	19	9
246+00.00	18	5	28	10
246+50.00	16	4	31	8
247+00.00	35	4	47	7
247+50.00	30	4	60	7
248+00.00	28	2	54	6
248+50.00	25	1	49	3
249+00.00	13	14	35	14
249+50.00	10	6	21	19
250+00.00	8	2	17	7
250+50.00	6	2	13	4
251+00.00	5	2	10	4
251+50.00	6	0	10	2
252+00.00	6	0	11	0
252+50.00	6	0	11	0
253+00.00	6	0	11	0
253+31.05	6	0	7	0
253+50.00	6	0	4	0
253+86.05	4	0	7	0
SUBTOTAL			**462**	**115**

STATION	END AREA CUT SQ FT	END AREA FILL SQ FT	VOLUME CUT CU YD	VOLUME FILL CU YD
IR 271 NORTHBOUND - PHASE 1A & 1B NORTH CROSSOVER				
357+83.36	10	0		
358+00.00	10	0	6	0
358+50.00	10	0	19	0
359+00.00	8	0	17	0
359+50.00	9	0	16	0
360+00.00	6	0	14	0
360+50.00	8	0	13	0
361+00.00	9	1	16	1
361+50.00	16	1	23	2
362+00.00	20	0	33	1
362+50.00	31	3	47	3
363+00.00	43	19	69	20
363+50.00	52	40	88	55
364+00.00	33	63	79	95
364+50.00	0	63	31	117
365+00.00	0	46	0	101
365+50.00	3	22	3	63
366+00.00	3	14	6	33
366+50.00	5	6	7	19
367+00.00	8	3	12	8
367+50.00	11	1	18	4
367+89.73	10	0	15	1
SUBTOTAL			**532**	**523**

STATION	END AREA CUT SQ FT	END AREA FILL SQ FT	VOLUME CUT CU YD	VOLUME FILL CU YD
IR 271 NORTHBOUND - PRE-PHASE 1 SHOULDER REPLACEMENT				
512+45.00	12	0		
549+00.00 SUSPEND BK	12	0	1624	0
556+97.00 BEGIN AHD	12	0		
566+09.70 SUSPEND BK	12	0	406	0
156+00.00 BEGIN AHD	12	0		
168+58.17 SUSPEND BK	12	0	559	0
175+91.00 BEGIN AHD	12	0		
186+79.20 SUSPEND BK	12	0	484	0
190+70.00 BEGIN AHD	12	0		
193+77.67 SUSPEND BK	12	0	137	0
199+74.20 BEGIN AHD	12	0		
203+89.00	12	0	184	0
204+00.00	9	3	4	1
204+50.00	9	3	17	6
205+00.00	9	8	17	10
205+50.00	7	14	15	20
206+00.00	8	18	14	30
206+50.00	8	18	15	33
207+00.00	9	12	16	28
207+15.00	9	12	5	7
207+50.00	8	12	11	16
208+00.00	7	11	14	21
208+50.00	7	18	13	27
209+00.00	7	33	13	47
209+50.00	7	21	13	50
210+00.00	7	17	13	35
210+50.00	7	16	13	31
211+00.00	8	15	14	29
211+50.00	7	13	14	26
212+00.00	7	4	13	16
212+04.00	12	0	1	0
300+50.00 SUSPEND BK	12	0	3932	0
306+45.00 BEGIN AHD	12	0		
314+78.50 SUSPEND BK	12	0	370	0
319+00.00 BEGIN AHD	12	0		
346+37.12 SUSPEND BK	12	0	1216	0
349+15.97 BEGIN AHD	12	0		
362+15.00	12	0	577	0
SUBTOTAL			**9724**	**433**

STATION	END AREA CUT SQ FT	END AREA FILL SQ FT	VOLUME CUT CU YD	VOLUME FILL CU YD
IR 271 SOUTHBOUND - PRE-PHASE 1 SHOULDER REPLACEMENT				
515+40.00	12	0		
528+00.00 SUSPEND BK	12	0	560	0
528+00.00 RESUME AHD	18	0		
553+07.11 SUSPEND BK	18	0	1671	0
553+07.11 RESUME AHD	6	0		
557+46.00 SUSPEND BK	6	0	98	0
557+46.00 RESUME AHD	18	0		
566+09.70 SUSPEND BK	18	0	576	0
156+00.00 RESUME AHD	18	0		
170+88.87 SUSPEND BK	18	0	993	0
170+88.87 RESUME AHD	6	0		
174+81.30 SUSPEND BK	6	0	87	0
174+81.30 RESUME AHD	18	0		
187+36.32 SUSPEND BK	18	0	837	0
191+15.77 RESUME AHD	18	0		
198+30.36 SUSPEND BK	18	0	476	0
199+79.49 RESUME AHD	20	0		
207+90.00 SUSPEND BK	20	0	600	0
207+90.00 RESUME AHD	18	0		
242+34.00 SUSPEND BK	18	0	2296	0
242+34.00 RESUME AHD	20	0		
245+00.00 SUSPEND BK	20	0	197	0
245+00.00 RESUME AHD	18	0		
259+00.00 SUSPEND BK	18	0	933	0
259+00.00 RESUME AHD	20	0		
267+89.00 SUSPEND BK	20	0	659	0
267+89.00 RESUME AHD	18	0		
298+41.00 SUSPEND BK	18	0	2035	0
298+41.00 RESUME AHD	20	0		
300+87.68 SUSPEND BK	20	0	183	0
300+87.68 RESUME AHD	18	0		
305+19.43 SUSPEND BK	18	0	288	0
305+19.43 RESUME AHD	20	0		
307+50.00 SUSPEND BK	20	0	171	0
307+50.00 RESUME AHD	18	0		
313+07.06 SUSPEND BK	18	0	371	0
313+07.06 RESUME AHD	6	0		
318+11.13 SUSPEND BK	6	0	112	0
318+11.13 RESUME AHD	18	0		
345+65.70 SUSPEND BK	18	0	1836	0
348+06.08 RESUME AHD	18	0		
352+50.00 SUSPEND BK	18	0	296	0
352+50.00 RESUME AHD	6	0		
355+28.36	6	0	62	0
SUBTOTAL			**15337**	**0**

STATION	END AREA CUT SQ FT	END AREA FILL SQ FT	VOLUME CUT CU YD	VOLUME FILL CU YD
IR 271 SOUTHBOUND - PHASE 2A & 2B INTERMEDIATE CROSSOVER				
243+00.00	0	0		
243+50.00	0	0	0	0
243+77.78	0	0	0	0
244+00.00	4	1	2	0
244+50.00	4	7	7	7
245+00.00	3	9	6	15
245+50.00	2	26	5	32
246+00.00	0	62	2	81
246+50.00	0	103	0	153
247+00.00	0	115	0	202
247+50.00	0	108	0	206
248+00.00	0	83	0	177
248+50.00	4	29	4	104
249+00.00	8	14	11	40
249+50.00	9	6	16	19
250+00.00	9	4	17	9
250+50.00	7	1	15	5
251+00.00	5	2	11	3
251+50.00	6	0	10	2
252+00.00	6	0	11	0
252+50.00	6	0	11	0
253+00.00	6	0	11	0
253+31.05	6	0	7	0
253+50.00	6	0	4	0
253+86.08	4	0	7	0
SUBTOTAL			**157**	**1055**

STATION	END AREA CUT SQ FT	END AREA FILL SQ FT	VOLUME CUT CU YD	VOLUME FILL CU YD
IR 271 SOUTHBOUND - PHASE 2A & 2B NORTH CROSSOVER				
352+50.00	8	1		
353+00.00	7	1	14	2
353+50.00	7	3	13	4
354+00.00	12	7	18	9
354+50.00	11	11	21	17
355+00.00	6	24	16	32
355+50.00	2	28	7	48
356+00.00	1	37	3	60
356+50.00	0	59	1	89
357+00.00	0	81	0	130
357+50.00	0	103	0	170
358+00.00	0	94	0	182
358+50.00	0	86	0	167
359+00.00	0	62	0	137
359+50.00	1	35	1	90
360+00.00	7	13	7	44
360+50.00	8	2	14	14
361+00.00	12	1	19	3
361+50.00	8	1	19	2
362+00.00	4	1	11	2
362+50.00	4	1	7	2
362+99.65	0	0	4	1
SUBTOTAL			**175**	**1205**

STATION	END AREA CUT SQ FT	END AREA FILL SQ FT	VOLUME CUT CU YD	VOLUME FILL CU YD
RAMP C, IR 77 - PRE-PHASE 1 SHOULDER REPLACEMENT				
182+69.62	10	0		
187+00.00	10	0	159	0
187+50.00	10	2	19	2
188+00.00	9	3	18	5
188+50.00	9	4	17	6
189+00.00	9	4	17	7
189+50.00	7	9	15	12
190+00.00	7	16	13	23
190+50.00	7	36	13	48
191+00.00	7	19	13	51
191+50.00	11	23	17	39
192+00.00	9	56	19	73
192+50.00	7	94	15	139
193+00.00	14	55	19	138
193+50.00	8	180	20	218
194+00.00	8	152	15	307
194+50.00	12	210	19	335
195+00.00	13	93	23	281
195+50.00	12	91	23	170
196+00.00	13	1	23	85
198+15.63	13	0	104	4
SUBTOTAL			**581**	**1943**

STATION	END AREA CUT SQ FT	END AREA FILL SQ FT	VOLUME CUT CU YD	VOLUME FILL CU YD
RAMP A, BRECKSVILLE RD - PRE-PHASE 1 SHOULDER REPLACEMENT				
53+07.11	10	0		
57+45.00	10	0	162	0
SUBTOTAL			**162**	**0**

STATION	END AREA CUT SQ FT	END AREA FILL SQ FT	VOLUME CUT CU YD	VOLUME FILL CU YD
RAMP B, BRECKSVILLE RD - PRE-PHASE 1 SHOULDER REPLACEMENT				
549+00.00	10	0		
552+05.00 SUSPEND BK	10	0	113	0
52+05.00 RESUME AHD	10	0		
56+96.00 SUSPEND BK	10	0	182	0
60+86.33 RESUME AHD				
55+51.26 CR 17 *	2799	0	104	0
* COMPUTER CALCULATED AREA				
SUBTOTAL			**399**	**0**

STATION	END AREA CUT SQ FT	END AREA FILL SQ FT	VOLUME CUT CU YD	VOLUME FILL CU YD
RAMP E, SR 303 - PRE-PHASE 1 SHOULDER REPLACEMENT				
300+50.00	10	0		
306+60.00	10	0	226	0
SUBTOTAL			**226**	**0**

CALCULATED DAW CHECKED PRS

MAINTENANCE OF TRAFFIC NOTES & EARTHWORK

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STATION	END AREA		VOLUME	
	CUT	FILL	CUT	FILL
	SQ FT	SQ FT	CU YD	CU YD
RAMP A, IR 77 - PRE-PHASE 1 SHOULDER REPLACEMENT				
170+88.87	13	0		
174+85.00	13	0	191	0
175+00.00	17	9	8	3
175+50.00	17	4	31	12
176+00.00	33	5	46	8
176+50.00	51	3	78	7
177+00.00	62	3	105	6
177+50.00	57	3	110	6
178+00.00	50	2	99	5
178+50.00	47	2	90	4
179+00.00	46	1	86	3
179+50.00	31	1	71	2
180+00.00	31	1	57	2
180+50.00	28	1	55	2
181+00.00	23	2	47	3
181+50.00	25	2	44	4
182+00.00	22	2	44	4
182+50.00	19	3	38	5
183+00.00	19	3	35	6
183+50.00	19	3	35	6
184+00.00	17	3	33	6
184+50.00	16	4	31	6
185+00.00	17	3	31	6
185+50.00	20	1	34	4
186+00.00	17	2	34	3
186+50.00	17	1	31	3
187+00.00	16	1	31	2
187+50.00	15	1	29	2
188+00.00	14	2	27	3
188+50.00	14	1	26	3
189+00.00	14	1	26	2
189+50.00	14	1	26	2
190+00.00	12	1	24	2
190+50.00	12	1	22	2
191+00.00	10	1	20	2
191+50.00	9	1	18	2
192+00.00	8	0	16	1
192+50.00	5	0	12	0
193+00.00	3	0	7	0
193+50.00	2	0	5	0
194+00.00	3	1	5	1
194+50.00	4	1	6	2
195+00.00	5	1	8	2
195+50.00	6	1	10	2
196+00.00	7	2	12	3
196+50.00	8	2	14	4
197+00.00	8	1	15	3
202+90.00	8	1	175	22
SUBTOTAL			***1998***	***178***

STATION	END AREA		VOLUME	
	CUT	FILL	CUT	FILL
	SQ FT	SQ FT	CU YD	CU YD
RAMP E, SR 303 - PHASE 1A SHOULDER REPLACEMENT				
306+43.00	10	0		
308+57.93	13	0	92	0
310+28.40	16	0	92	0
313+00.00	3	0	96	0
314+31.00	3	0	15	0
SUBTOTAL			***295***	***0***

STATION	END AREA		VOLUME	
	CUT	FILL	CUT	FILL
	SQ FT	SQ FT	CU YD	CU YD
RAMP H, SR 303 - PHASE 1A SHOULDER REPLACEMENT				
304+30.00 RT.	10	0		
304+50.00 RT.	10	0	193	0
304+35.00 LT.	5	0		
309+00.00 LT.	5	0	86	0
309+44.00 LT.	10	0	12	0
314+80.00 LT.	20	0	298	0
SUBTOTAL			***589***	***0***

STATION	END AREA		VOLUME	
	CUT	FILL	CUT	FILL
	SQ FT	SQ FT	CU YD	CU YD
IR 271 NORTHBOUND - PHASE 1A TEMPORARY PAVEMENT				
253+50.00	4	0		
259+50.00 SUSPEND BK	4	0	89	0
259+50.00 RESUME AHD	2	0		
346+20.00	2	0	642	0
SUBTOTAL			***731***	***0***

STATION	END AREA		VOLUME	
	CUT	FILL	CUT	FILL
	SQ FT	SQ FT	CU YD	CU YD
RAMP F, SR 303 - PHASE 2A SHOULDER REPLACEMENT				
305+18.00	10	0		
311+44.00	10	0	232	0
SUBTOTAL			***232***	***0***

STATION	END AREA		VOLUME	
	CUT	FILL	CUT	FILL
	SQ FT	SQ FT	CU YD	CU YD
RAMP G, SR 303 - PHASE 2A SHOULDER REPLACEMENT				
304+44.00	3	0		
307+25.00	3	0	31	0
308+04.00	10	0	19	0
313+09.00	10	0	187	0
SUBTOTAL			***237***	***0***

STATION	END AREA		VOLUME	
	CUT	FILL	CUT	FILL
	SQ FT	SQ FT	CU YD	CU YD
IR 271 SOUTHBOUND - PHASE 2A TEMPORARY PAVEMENT				
253+50.00	2	0		
259+00.00 SUSPEND BK	2	0	41	0
259+00.00 RESUME AHD	4	0		
265+40.00 SUSPEND BK	4	0	95	0
265+40.00 RESUME AHD	2	0		
304+00.00 SUSPEND BK	2	0	286	0
304+00.00 RESUME AHD	4	0		
307+50.00 SUSPEND BK	4	0	52	0
307+50.00 RESUME AHD	2	0		
345+70.00	2	0	283	0
SUBTOTAL			***757***	***0***

STATION	END AREA		VOLUME	
	CUT	FILL	CUT	FILL
	SQ FT	SQ FT	CU YD	CU YD
IR 271 NORTHBOUND - PHASE 3A & 3B SOUTH CROSSOVER				
516+65.00	6	1		
517+00.00	3	1	6	1
517+50.00	5	1	7	2
518+00.00	10	1	14	2
518+50.00	15	1	23	2
519+00.00	17	4	30	5
519+50.00	18	21	32	23
520+00.00	1	46	18	62
520+50.00	0	72	1	109
521+00.00	0	74	0	135
521+50.00	0	60	0	124
522+00.00	2	34	2	87
522+50.00	16	15	17	45
523+00.00	12	6	26	19
523+50.00	8	5	19	10
524+00.00	7	4	14	8
524+50.00	7	1	13	5
524+96.05	6	1	11	2
526+96.05	6	1	44	7
SUBTOTAL			***277***	***648***

STATION	END AREA		VOLUME	
	CUT	FILL	CUT	FILL
	SQ FT	SQ FT	CU YD	CU YD
IR 271 SOUTHBOUND - PHASE 4A & 4B SOUTH CROSSOVER				
516+65.00	6	1		
517+00.00	3	1	6	1
517+50.00	5	1	7	2
518+00.00	10	1	14	2
518+50.00	16	1	24	2
519+00.00	20	2	33	3
519+50.00	22	17	39	18
520+00.00	2	36	22	49
520+50.00	0	65	2	94
521+00.00	0	73	0	128
521+50.00	0	64	0	127
522+00.00	2	39	2	95
522+50.00	14	21	15	56
523+00.00	11	15	23	33
523+50.00	8	9	18	22
524+00.00	7	4	14	12
524+50.00	7	1	13	5
524+96.05	6	1	11	2
526+96.05	6	1	44	7
SUBTOTAL			***287***	***658***

STATION	END AREA		VOLUME	
	CUT	FILL	CUT	FILL
	SQ FT	SQ FT	CU YD	CU YD
IR 271 NORTHBOUND - PHASE 3A & 3B INTERMEDIATE CROSSOVER				
254+68.96	3	1		
255+00.00	7	2	6	2
255+50.00	7	3	13	5
256+00.00	4	6	10	8
256+50.00	6	13	9	18
257+00.00	8	11	13	22
257+50.00	0	39	7	46
258+00.00	0	50	0	82
258+50.00	0	54	0	96
259+00.00	0	40	0	87
259+50.00	16	1	15	38
260+00.00	3	23	18	22

STATION	END AREA		VOLUME	
	CUT	FILL	CUT	FILL
	SQ FT	SQ FT	CU YD	CU YD
IR 271 NORTHBOUND - PHASE 3A & 3B INTERMEDIATE CROSSOVER (CONT'D.)				
260+50.00	6	15	8	35
261+00.00	9	7	14	20
261+50.00	7	3	15	9
262+00.00	8	1	14	4
262+50.00	0	0	7	1
263+00.00	0	0	0	0
SUBTOTAL			***149***	***495***

STATION	END AREA		VOLUME	
	CUT	FILL	CUT	FILL
	SQ FT	SQ FT	CU YD	CU YD
IR 271 SOUTHBOUND - PHASE 4A & 4B INTERMEDIATE CROSSOVER				
254+68.96	9	1		
255+00.00	8	2	10	2
255+50.00	8	1	15	3
256+00.00	6	4	13	5
256+50.00	8	9	13	12
257+00.00	6	17	13	24
257+50.00	2	30	7	44
258+00.00	0	41	2	66
258+50.00	0	29	0	65
259+00.00	0	38	0	62
259+50.00	1	10	1	44
260+00.00	6	16	6	24
260+50.00	8	7	13	21
261+00.00	12	3	19	9
261+50.00	8	2	19	5
262+00.00	9	1	16	3
262+50.00	9	0	17	1
263+00.00	0	0	8	0
SUBTOTAL			***172***	***390***

STATION	END AREA		VOLUME	
	CUT	FILL	CUT	FILL
	SQ FT	SQ FT	CU YD	CU YD
RAMP B, BRECKSVILLE RD - PHASE 3A SHOULDER REPLACEMENT				
56+96.00	10	0		
62+80.00	10	0	216	0
SUBTOTAL			***216***	***0***

STATION	END AREA		VOLUME	
	CUT	FILL	CUT	FILL
	SQ FT	SQ FT	CU YD	CU YD
RAMP C, IR 77 - PHASE 3A TEMPORARY PAVEMENT				
187+54.85	15	0		
188+00.00	2	5	14	4
188+50.00	2	10	4	14
189+00.00	2	3	4	12
189+50.00	3	2	5	5
190+00.00	2	3	5	5
190+50.00	2	3	4	6
191+00.00	2	2	4	5
191+50.00	0	5	2	6
192+00.00	0	13	0	17
192+50.00	0	14	0	25
193+00.00	0	18	0	30
193+50.00	0	11	0	27
193+92.00	0	11	0	17
SUBTOTAL			***42***	***173***

STATION	END AREA		VOLUME	
	CUT	FILL	CUT	FILL
	SQ FT	SQ FT	CU YD	CU YD
RAMP A, BRECKSVILLE RD - PHASE 4A SHOULDER REPLACEMENT				
57+45.00	10	0		
67+00.00	10	0	354	0
SUBTOTAL			***354***	***0***

STATION	END AREA		VOLUME	
	CUT	FILL	CUT	FILL
	SQ FT	SQ FT	CU YD	CU YD
IR 271 SOUTHBOUND - PHASE 4A TEMPORARY PAVEMENT				
528+00.00	2	0		
566+09.70 SUSPEND BK	2	0	282	0
156+00.00 RESUME AHD	2	0		
187+25.31 SUSPEND BK	2	0	232	0
191+29.34 RESUME AHD	2	0		
197+83.48 SUSPEND BK	2	0	48	0
201+50.00 RESUME AHD	4	0		
207+37.50 SUSPEND BK	4	0	87	0
207+37.50 RESUME AHD	2	0		
242+00.00 SUSPEND BK	2	0	256	0
242+00.00 RESUME AHD	4	0		
245+50.00 SUSPEND BK	4	0	52	0
245+50.00 RESUME AHD	2	0		
253+50.00	2	0	59	0
SUBTOTAL			***1016***	***0***

STATION	END AREA		VOLUME	
	CUT	FILL	CUT	FILL
	SQ FT	SQ FT	CU YD	CU YD
RAMP A, IR 77 - PHASE 4A TEMPORARY PAVEMENT				
176+00.00	7	3		
199+11.47	7	3	599	257
SUBTOTAL			***599***	***257***

STATION	END AREA		VOLUME	
	CUT	FILL	CUT	FILL
	SQ FT	SQ FT	CU YD	CU YD
RAMP D, IR 77 - PHASE 4A TEMPORARY PAVEMENT				
170+00.00	13	0		
181+00.00	13	0	530	0
182+00.00	0	0	24	
SUBTOTAL			***554***	***0***

STATION	END AREA		VOLUME	
	CUT	FILL	CUT	FILL
	SQ FT	SQ FT	CU YD	CU YD
RAMP A, IR 77 - PHASE 4B-1 TEMPORARY PAVEMENT				
174+83.00	7	0		
176+00.00	7	0	30	0
SUBTOTAL			***30***	***0***

STATION	END AREA		VOLUME	
	CUT	FILL	CUT	FILL
	SQ FT	SQ FT	CU YD	CU YD
RAMP D, IR 77 - PHASE 4B-1 TEMPORARY PAVEMENT				
171+50.00	8	0		
179+00.95	8	0	223	0
179+80.20	18	0	38	0
187+35.00	18	0	503	0
SUBTOTAL			***764***	***0***

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SUM-271-2.33 MAINTENANCE OF TRAFFIC NOTES & EARTHWORK

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ITEM 614 - MAINTAINING TRAFFIC

S.R. 176 (BROADVIEW ROAD)
BROADVIEW ROAD SHALL BE DETOURED AS SHOWN ON THESE PLANS. DISINCENTIVES SHALL BE ASSESSED IN THE AMOUNT OF $1000 PER DAY FOR EACH CALENDAR DAY THAT THE ROAD REMAINS CLOSED TO TRAFFIC BEYOND THE SPECIFIED LIMIT.

C.R. 17 (BRECKSVILLE ROAD)
ONE-LANE/TWO-WAY TRAFFIC SHALL BE MAINTAINED AT ALL TIME PER SCD MT-96.11 DURING WORKING AND NON-WORKING HOURS. A MINIMUM OF THE LAST 100 FEET OF RAMPS A & B SHALL NOT BE COMPLETED WHILE THE ADJACENT BRIDGE IS UNDER PHASE CONSTRUCTION. RAMPS ARE TO REMAIN OPEN. PART WIDTH CONSTRUCTION SHALL BE PERFORMED DURING RAMP INTERSECTION WORK BY FLAGGERS OR BY LAW ENFORCEMENT OFFICERS AT THE CONTRACTOR'S EXPENSE.

THE CONSTRUCTION OPERATIONS FOR S.R. 176 (BROADVIEW ROAD) AND C.R. 17 (BRECKSVILLE ROAD) SHALL NOT BE CONCURRENT WITH ONE ANOTHER.

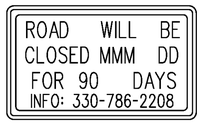
S.R. 303 (STREETSBORO ROAD)
A MINIMUM OF ONE LANE OF TRAFFIC IN EACH DIRECTION SHALL BE MAINTAIN AT ALL TIMES PER THESE DETAILED MAINTENANCE OF TRAFFIC PLANS. A MINIMUM OF THE LAST 100 FEET OF RAMPS F/G & E/H SHALL BE COMPLETED WHILE THE ADJACENT BRIDGE IS UNDER PHASE CONSTRUCTION. RAMPS ARE TO REMAIN OPEN. PART WIDTH CONSTRUCTION SHALL BE PERFORMED DURING RAMP INTERSECTION WORK BY FLAGGERS OR BY LAW ENFORCEMENT OFFICERS AT THE CONTRACTOR'S EXSPENSE.

THE CONTRACTOR SHALL COORDINATE WITH THE VILLAGE OF RICHFIELD, MELANIE A. BAKER AT (330) 659-9201 AND REVERE SCHOOL DISTRICT AND SHALL BEGIN BROADVIEW ROAD CLOSURE/CONSTRUCTION THE DAY AFTER THE REVERE SCHOOL DISTRICT IS ADJOURNED FOR SUMMER BREAK AS APPROVED BY THE ENGINEER.

BEFORE THE WORK BEGINS, THE CONTRACTOR SHALL SUBMIT TO THE ENGINEER THE NAMES AND TELEPHONE NUMBERS OF PERSON OR PERSONS WHO CAN BE CONTACTED (24) HOURS PER DAY BY THE DEPARTMENT OF TRANSPORTATION, SUMMIT COUNTY ENGINEER, AND ALL INTERESTED LAW ENFORCEMENT AGENCIES. THIS PERSON OR PERSONS SHALL BE REPSPONSIBLE FOR PLACING OR REPLACING NECESSARY TRAFFIC CONTROL DEVICES IN ACCORDANCE WITH THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES.

THE CONTRACTOR WILL ADVISE THE DISTRICT PUBLIC INFORMATION OFFICER AT (330) 786-2208 OR FAX (330) 786-2232 SEVEN (7) DAYS PRIOR TO THE START OF CONSTRUCTION ACTIVITIES. THE PROJECT ENGINEER WILL PROVIDE ASSISTANCE/CLARIFICATION FOR ANY QUESTIONS.

NOTICE OF CLOSURE SIGNS, AS DETAILED IN THESE PLANS, SHALL BE ERECTED BY THE CONTRACTOR AT LEAST ONE WEEK IN ADVANCE OF THE SCHEDULED ROAD CLOSURE. THE SIGNS SHALL BE ERECTED ON THE RIGHT HAND SIDE OF THE ROAD FACING TRAFFIC. THEY SHALL BE PLACED SO AS NOT TO INTERFERE WITH THE VISIBILTY OF ANY TRAFFIC CONTROL SIGNS. ON THE ROADWAY, THEY SHOULD BE ERECTED AT THE POINT OF CLOSURE.



W20-H14-60

MMM= MONTH (3 LTR)
DD = DATE (1 OR 2 DIGIT)

THE CONTRACTOR SHALL PROVIDE, ERECT AND MAINTAIN STANDARD 48" X 30" **"ROAD CLOSED"** SIGNS, SIGN SUPPORTS, BARRICADES, GATES, AND LIGHTS, AS DETAILED IN SCD MT-101.60 AT THE FOLLOWING LOCATIONS DURING PERIODS IN WHICH THE AFFECTED ROADS ARE CLOSED TO TRAFFIC:

DURING SUM-176-0109 BRIDGE CONSTRUCTION;
ON NORTHBOUND S.R. 176 (BROADVIEW RD.) AT THE INTERSECTION OF BROADVIEW RD./BRECKSVILLE RD.
ON SOUTHBOUND S.R. 176 (BROADVIEW RD.) AT THE INTERSECTION OF BROADVIEW RD./HAWKINS RD.

THE CONTRACTOR SHALL PROVIDE, ERECT AND MAINTAIN BROADVIEW ROAD DETOUR SIGNS AND SIGN SUPPORT AS DETAILED ON THE PLANS.

THE CONTRACTOR SHALL MAINTAIN THE INGRESS AND EGRESS FOR SIDE ROADS AND DRIVEWAYS WITHIN THE PROJECT LIMITS AT ALL TIMES BY USE OF THE EXISTING PAVEMENT, COMPLETED PAVEMENT, AND TEMPORARY SURFACES USING ITEM 410.

ITEM 614 - MAINTAINING TRAFFIC (CONTINUED)

THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN INCLUDED IN THE GENERAL SUMMARY FOR USE AS DETERMINED BY THE ENGINEER FOR THE MAINTENANCE OF TRAFFIC.

ITEM 410 TRAFFIC COMPACTED SURFACE, TYPE A OR B 20 CU. YD.

LENGTH AND DURATION OF LANE CLOSURES AND RESTRICTIONS SHALL BE AT THE APPROVAL OF THE ENGINEER. IT IS THE INTENT TO MINIMIZE THE IMPACT TO THE TRAVELING PUBLIC. LANE CLOSURE RESTRICTIONS OVER SEGMENTS OF THE PROJECT IN WHICH NO WORK IS ANTICIPATED WITHIN A REASONABLE TIME FRAME, AS DETERMINED BY THE ENGINEER, SHALL NOT BE PERMITTED. THE LEVEL OF UTILIZATION OF MAINTENANCE OF TRAFFIC DEVICES SHALL BE COMMENSURATE WITH THE WORK IN PROGRESS.

ALL WORK AND TRAFFIC CONTROL DEVICES SHALL BE IN ACCORDANCE WITH CMS 614 AND OTHER APPLICABLE PORTIONS OF THE SPECIFICATIONS, AS WELL AS THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES. PAYMENT FOR ALL LABOR, EQUIPMENT AND MATERIALS SHALL BE INCLUDED IN THE LUMP SUM CONTRACT PRICE FOR ITEM 614, MAINTAINING TRAFFIC, UNLESS SEPERATELY ITEMIZED IN THE PLANS.

ITEM 614 - MAINTAINING TRAFFIC, MISC.: BRIDGE PAINTING

TRAFFIC SHALL BE MAINTAINED ON IR 271 UNDER C.R. 17 (BRECKSVILLE ROAD) PER SCD MT-95.30 FOR WORK BEING PERFORMED ON STRUCTURE SUM-271-0294. BRIDGE PAINTING OPERATIONS AND CROSS FRAME REPLACEMENT SHALL BE CONCURRENT WITH ONE ANOTHER DURING WORKING AND NON-WORKING HOURS FOR STRUCTURE SUM-271-0294. RAMPS ADJACENT TO SAID STRUCTURE ARE TO REMAIN OPEN.

THE CONSTRUCTION OPERATIONS FOR S.R. 176 (BROADVIEW ROAD) SHALL NOT BE CONCURRENT WITH ANY WORK BEING PERFORMED ON STRUCTURE SUM-271-0294.

BEFORE THE WORK BEGINS, THE CONTRACTOR SHALL SUBMIT TO THE ENGINEER THE NAMES AND TELEPHONE NUMBERS OF PERSON OR PERSONS WHO CAN BE CONTACTED (24) HOURS PER DAY BY THE DEPARTMENT OF TRANSPORTATION, COUNTY ENGINEER, AND ALL INTERESTED LAW ENFORCEMENT AGENCIES. THIS PERSON OR PERSONS SHALL BE REPSPONSIBLE FOR PLACING OR REPLACING NECESSARY TRAFFIC CONTROL DEVICES IN ACCORDANCE WITH THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES.

THE CONTRACTOR WILL ADVISE THE DISTRICT PUBLIC INFORMATION OFFICER AT (330) 786-2208 OR FAX (330) 786-2232 SEVEN (7) DAYS PRIOR TO THE START OF CONSTRUCTION ACTIVITIES. THE PROJECT ENGINEER WILL PROVIDE ASSISTANCE/CLARIFICATION FOR ANY QUESTIONS.

LENGTH AND DURATION OF LANE CLOSURES AND RESTRICTIONS SHALL BE AT THE APPROVAL OF THE ENGINEER. IT IS THE INTENT TO MINIMIZE THE IMPACT TO THE TRAVELING PUBLIC. LANE CLOSURE RESTRICTIONS OVER SEGMENTS OF THE PROJECT IN WHICH NO WORK IS ANTICIPATED WITHIN A REASONABLE TIME FRAME, AS DETERMINED BY THE ENGINEER, SHALL NOT BE PERMITTED. THE LEVEL OF UTILIZATION OF MAINTENANCE OF TRAFFIC DEVICES SHALL BE IN ACCORDANCE WITH SCD MT-95.30 AND COMMENSURATE WITH THE WORK IN PROGRESS.

ALL WORK AND TRAFFIC CONTROL DEVICES SHALL BE IN ACCORDANCE WITH CMS 614 AND OTHER APPLICABLE PORTIONS OF THE SPECIFICATIONS, AS WELL AS THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES. PAYMENT FOR THIS ITEM SHALL BE MADE AT THE LUMP SUM CONTRACT PRICE BID FOR ITEM 614, MAINTAINING TRAFFIC, MICS.: BRIDGE PAINTING AND SHALL INCLUDE ALL EQUIPMENT, LABOR AND MATERIALS NECESSARY TO COMPLETE THIS TASK.

ITEM 614 - BARRIER REFLECTORS AND/OR OBJECT MARKERS

BARRIER REFLECTORS AND/OR OBJECT MARKERS SHALL BE INSTALLED ON ALL PORTABLE CONCRETE BARRIERS USED FOR TRAFFIC CONTROL. BARRIER REFLECTORS, OBJECT MARKERS AND THEIR INSTALLATION SHALL CONFORM TO CMS 626, EXCEPT THAT THE SPACING SHALL BE 50 FEET. AN ESTIMATED QUANTITY OF 70 EACH OF ITEM 614 BARRIER REFLECTOR, TYPE B2 AND 70 EACH OF ITEM 614 OBJECT MARKER, TWO-WAY HAVE BEEN PROVIDED AND CARRIED TO THE GENERAL SUMMARY.

CONTRACTOR'S EQUIPMENT - OPERATION AND STORAGE

A QUALIFIED FLAGGER SHALL BE EMPLOYED WHERE THE CONTRACTOR'S EQUIPMENT MUST MERGE WITH THE TRAFFIC STREAM. THE CONTRACTOR'S EQUIPMENT SHALL BE EQUIPPED WITH AT LEAST ONE AMBER FLASHING LIGHT. PAVERS, ROLLERS AND OTHER EQUIPMENT MAY BE PARKED IN AREAS ALONG THE HIGHWAY WHEN PAVING OPERATIONS ARE SCHEDULED TO CONTINUE WITHIN THE NEXT WORKDAY. OTHERWISE THE EQUIPMENT SHALL BE STORED AT A STORAGE AREA OUTSIDE THE R/W, THE LOCATION OF WHICH SHALL HAVE PRIOR APPROVAL OF THE ENGINEER. WHEN PARKING ALONG THE HIGHWAY THE EQUIPMENT SHALL BE PLACED AND DELINEATED AS PER 614.03. NO EQUIPMENT SHALL BE PARKED IN THE MEDIAN OF THE HIGHWAY. ADEQUATE BARRICADES AND LIGHTS SHALL BE PLACED ON THE PAVEMENT SIDE OF THE EQUIPMENT TO IDENTIFY THE LIMITS OF THE EQUIPMENT. ALL OTHER EQUIPMENT, INCLUDING PRIVATE VEHICLES, SHALL BE STORED AT THE APPROVED CONTRACTOR'S STORAGE AREA. NO EQUIPMENT SHALL BE PARKED ON PRIVATE PROPERTY UNLESS PRIOR APPROVAL OF THE OWNER AND THE PROJECT ENGINEER/ SUPERVISOR HAS BEEN GRANTED.

PLACEMENT OF ASPHALT CONCRETE

TWO-WAY TRAFFIC SHALL BE MAINTAINED AT ALL TIMES EXCEPT ONE-WAY TRAFFIC WILL BE PERMITTED FOR MINIMUM PERIODS OF TIME CONSISTENT WITH THE REQUIREMENTS OF THE SPECIFICATIONS FOR PROTECTION OF COMPLETED ASPHALT CONCRETE COURSES.

DETOUR NOTIFICATION

THE CONTRACTOR SHALL ADVISE THE ODOT DISTRICT OFFICE (330-786-3148) AND SUMMIT COUNTY (330-650-1300) EIGHTEEN (18) DAYS IN ADVANCE OF WHEN THE DETOUR ROUTE SHOULD BE IN EFFECT. ALL WORK ZONE DEVICES REQUIRED SHALL BE FURNISHED, ERECTED, MAINTAINED, AND SUBSEQUENTLY REMOVED BY THE CONTRACTOR. PAYMENT FOR ALL WORK ASSOCIATED WITH THE DETOUR SHALL BE INCLUDED UNDER THE LUMP SUM BID FOR ITEM 614, DETOUR SIGNING.

SIGNS AT ADJACENT ROAD INTERSECTIONS

THE CONTRACTOR SHALL, IN ADDITION TO THE GENERAL REQUIREMENTS OF ITEM 614 ON THE PROJECT PERFORM THE FOLLOWING: PROVIDE, ERECT, AND MAINTAIN STANDARD 48"X30" SIZE "ROAD CLOSED" SIGNS, SIGN SUPPORTS, BARRICADES, GATES AND LIGHTS, AS DETAILED IN SCD MT-101.60 AT THE FOLLOWING LOCATIONS DURING PERIOD(S) IN WHICH THE AFFECTED ROADS ARE CLOSED TO TRAFFIC:

HAWKINS RD./BROADVIEW RD.
BROADVIEW RD./BRECKSVILLE RD.
FRONT ST./BRECKSVILLE RD.

SIGN SUPPORTS FOR "ROAD CLOSED" SIGNS SHALL BE AS DETAILED IN THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES. PAYMENT FOR PROVIDING, ERECTING, MAINTAINING, AND REMOVING SIGNS AND SIGN SUPPORTS SHALL BE INCLUDED IN THE LUMP SUM PRICE BID FOR ITEM 614 MAINTAINING TRAFFIC.

WORK ZONE MARKINGS AND SIGNS

THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN CARRIED TO THE GENERAL SUMMARY FOR USE AT LOCATIONS IDENTIFIED BY THE ENGINEER FOR WORK ZONE PAVEMENT MARKINGS AND SIGNS PER THE REQUIREMENTS OF CMS 614.04 AND 614.11.

ITEM 614, WORK ZONE MARKING SIGN	8 EACH
ITEM 614, WORK ZONE CENTERLINE, CLASS II	0.08 MILE
ITEM 614, WORK ZONE STOP LINE, CLASS I	100 FEET

OVERLAYING OF SIGNS

WHERE THE PLANS CALL FOR A PERMANENT SIGN TO BE OVERLAYED, THE CONTRACTOR SHALL DO SO IN SUCH A MANNER AS TO AVOID DAMAGING THE PERMANENT SIGN WHEN THE OVERLAY IS REMOVED. THE OVERLAY SHALL BE TOTALLY OPAQUE. THE USE OF ADHESIVE TAPE APPLIED DIRECTLY TO A SIGN FACE IS STRICTLY PROHIBITED. THE OVERLAYS MAY BE RIVETED TO THE PERMANENT SIGN. THE CONTRACTOR SHALL PROVIDE ALL OF THE PLAQUES, SIGNS AND SIGN PANELS NECESSARY.

ADVANCED NOTICE TO PAVE

THE CONTRACTOR SHALL SUBMIT FOR APPROVAL TO THE DISTRICT CONSTRUCTION ENGINEER A DETAILED SCHEDULE 15 DAYS PRIOR TO THE PLACEMENT OF THE OVERLAY COURSES, ON HOW THEY PROPOSE TO PROSECUTE THE PAVING OPERATIONS. THE DETAILS SHALL SHOW THE ORDER OF PERFORMANCE OF EACH STAGE (START TO FINISH) OF THE WORK INCLUDING THE MAINTENANCE OF TRAFFIC THAT WILL BE USED.

614 - WORK ZONE PAVEMENT MARKINGS, AS PER PLAN

IN ADDITION TO THE REQUIREMENTS OF 614.11, ALL CLASS 1 EDGE LINES, LANE LINES, CENTER LINES AND DOTTED LINES SHALL BE 6 INCHES WIDE AND CHANNELIZING MARKINGS SHALL BE 8 INCHES WIDE. THE APPLICATION RATES FOR THE 4 INCH LINES SHALL BE 1.5 TIMES THE RATES SPECIFIED FOR 4 INCH LINES IN TABLE 614.11-1.

TRENCH FOR WIDENING (SPEED LIMIT < 45 MPH)

TRENCH EXCAVATION FOR BASE WIDENING SHALL BE ONLY ON ONE SIDE OF THE PAVEMENT AT A TIME. FROM THE TIME THE EXCAVATION BEGINS ON THE TRENCH WIDENING, THE OPEN TRENCH SHALL BE ADEQUATELY MAINTAINED AND PROTECTED WITH DRUMS PLACED AT TEN [10] FOOT INTERVALS. THE LENGTH OF WIDENING OPEN AT ANY ONE TIME SHALL NOT BE GREATER THAN WHICH CAN BE COMPLETED WITHIN 14 CALENDAR DAYS. ALL PROPOSED SUBBASE AND 302 BASE MATERIAL SHALL BE COMPLETED IN A CONTINUOUS OPERATION.

OVERNIGHT TRENCH CLOSING

THE BASE WIDENING SHALL BE COMPLETED TO A DEPTH OF NO MORE THAN 4" INCHES BELOW THE EXISTING PAVEMENT BY THE END OF EACH WORK DAY. NO TRENCH SHALL BE LEFT OPEN OVERNIGHT EXCEPT FOR A SHORT LENGTH (25 FEET OR LESS) OF A WORK SECTION AT THE END OF THE TRENCH. IN CASE WORK MUST BE SUSPENDED BECAUSE OF INCLEMENT WEATHER OR OTHER REASONS, THE TRENCH FOR THE UNCOMPLETED BASE WIDENING SHALL BE BACKFILLED AT THE DIRECTION OF THE ENGINEER.

DRUM REQUIREMENTS

IN ADDITION TO THE REQUIREMENTS OF THE PLANS, SPECIFICATION AND PROPOSAL, DRUMS FURNISHED BY THE CONTRACTOR SHALL BE NEW AND UNUSED AT THE TIME OF ARRIVAL ON THE PROJECT. ANY DRUMS BROUGHT ON THE PROJECT, WHICH HAVE PREVIOUSLY BEEN USED ELSEWHERE, WILL NOT BE ACCEPTED. PAYMENT FOR DRUMS SHALL BE INCLUDED IN THE LUMP SUM PRICE BID FOR MAINTAINING TRAFFIC UNLESS SEPERATELY ITEMIZED.

DUST CONTROL

THE CONTRACTOR SHALL FURNISH AND APPLY WATER FOR DUST CONTROL AS DIRECTED BY THE ENGINEER. THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN INCLUDED FOR DUST CONTROL PURPOSES:

ITEM 616, WATER	3 M. GAL.

SPECIAL - WORK ZONE TRAFFIC SIGNALS

THIS ITEM SHALL CONSIST OF MODIFYING OR INSTALLING AND MAINTAINING TRAFFIC SIGNAL INSTALLATIONS TO BE USED AS WORK ZONE TRAFFIC SIGNALS. THIS ITEM SHALL CONFORM TO 614.10 AND WILL INCLUDE THE TEMPORARY MODIFICATION OF THE EXISTING SIGNAL INSTALLATION AT THE INTERSECTION OF C.R. 17 (BRECKSVILLE ROAD) AND INTERSTATE ROUTE 271 RAMP B FOR USE AS PART OF THE WORK ZONE TRAFFIC SIGNAL. THIS ITEM OF WORK ALSO INCLUDES THE TEMPORARY INSTALLATION OF A SIGNAL BETWEEN THE BRIDGE AND INTERSTATE ROUTE 271 RAMP A FOR USE AS PART OF THE WORK ZONE TRAFFIC SIGNAL. THE WORK ZONE TRAFFIC SIGNALS SHALL OPERATE IN COORDINATION TO MAINTAIN ONE LANE - TWO WAY TRAFFIC OPERATION ACROSS THE C.R. 17 (BRECKSVILLE ROAD) STRUCTURE DURING CONSTRUCTION. THE PROPOSED MOT SIGNAL TIMING AND PHASING HAVE BEEN SHOWN ON SHEET 50 OF THE PLANS.

THIS ITEM SHALL INCLUDE ALL THE SIGNAL EQUIPMENT (POLES, MESSENGER WIRE, SIGNAL CABLE, VEHICULAR SIGNAL HEADS, DETECTOR LOOPS, SIGNAL CONTROLLER EQUIPMENT, ETC.) LABOR, MATERIALS NECESSARY TO MODIFY, CONSTRUCT AND MAINTAIN THE WORK ZONE SIGNAL INSTALLATIONS.

THIS ITEM SHALL ALSO INCLUDE THE REMOVAL OF THE WORK ZONE TRAFFIC SIGNAL EQUIPMENT AT THE COMPLETION OF THE PROJECT. AFTER COMPLETION OF THE PROJECT, THE EXISTING SIGNAL INSTALLATION SHALL BE RETURNED TO ITS ORIGINAL STATE AND MODE OF OPERATION. THE EXISTING SIGNAL INSTALLATION SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR FROM THE BEGINNING OF THE PROJECT THROUGH THE COMPLETION OF THE PROJECT. ANY NECESSARY MAINTENANCE AND OR REPAIRS TO THE SIGNAL INSTALLATION DURING THE PROJECT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR UNTIL FINAL ACCEPTANCE OF THE "UN-MODIFIED" SIGNAL HAS BEEN GIVEN TO THE CONTRACTOR IN WRITING FROM THE OHIO DEPARTMENT OF TRANSPORTATION DISTRICT 4.

PAYMENT FOR THIS ITEM SHALL BE MADE AT THE UNIT CONTRACT PRICE BID FOR ITEM SPECIAL - WORK ZONE TRAFFIC SIGNALS, 2 EACH AND SHALL INCLUDE ALL EQUIPMENT, LABOR AND MATERIALS NECESSARY TO PERFORM THIS ITEM OF WORK AS DETAILED IN THIS NOTE AND THE PLANS.

CALCULATED PEK
CHECKED TLH

SIDEROAD MAINTENANCE OF TRAFFIC GENERAL NOTES

SUM-271-2.33

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MAINTENANCE OF TRAFFIC SIGNAL/FLASHER INSTALLATION

THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING TRAFFIC SIGNAL/FLASHER INSTALLATIONS WITHIN THE PROJECT UNDER THE FOLLOWING CONDITIONS:

1. EXISTING SIGNAL/FLASHER INSTALLATIONS WHICH THE PLANS REQUIRE THE CONTRACTOR TO ADJUST, MODIFY, ADD ONTO OR REMOVE, OR WHICH THE CONTRACTOR ACTUALLY ADJUSTS, MODIFIES OR OTHERWISE DISTURBS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE ENTIRE INSTALLATION (AT AN INTERSECTION) FROM THE TIME HIS OPERATIONS FIRST DISTURB THE INSTALLATION UNTIL THE INSTALLATION HAS BEEN SUBSEQUENTLY REMOVED OR MODIFIED AND THE WORK ACCEPTED.

2. NEW OR REUSED SIGNAL/FLASHER INSTALLATIONS OR DEVICES, INSTALLED BY THE CONTRACTOR. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTENANCE OF THESE FROM THE TIME OF INSTALLATION UNTIL THE WORK IS ACCEPTED.

THE CONTRACTOR SHALL CORRECT AS QUICKLY AS POSSIBLE ALL OUTAGES OR MALFUNCTIONS. HE SHALL PROVIDE THE MAINTAINING AGENCY AND THE ENGINEER SUCH ADDRESSES AND PHONE NUMBERS WHERE HIS MAINTENANCE FORCES CAN BE CONTACTED. THE CONTRACTOR SHALL PROVIDE ONE OR MORE PERSONS TO RECEIVE ALL CALLS AND DISPATCH THE NECESSARY MAINTENANCE FORCES TO CORRECT OUTAGES. SUCH A PERSON OR PERSONS MAY BE USED TO PERFORM OTHER DUTIES AS LONG AS PROMPT ATTENTION IS GIVEN TO THESE CALLS AND A PERSON IS READILY AVAILABLE CONTINUOUSLY 24 HOURS A DAY, 7 DAYS A WEEK. ALL LAMP OUTAGES, CABLE OUTAGES, ELECTRICAL FAILURES, EQUIPMENT MALFUNCTIONS AND MISALIGNED SIGNAL HEADS SHALL BE CORRECTED TO THE SATISFACTION OF THE ENGINEER WITH THE SIGNAL BACK TO SERVICE WITHIN FOUR HOURS AFTER THE CONTRACTOR HAS BEEN NOTIFIED OF THE OUTAGE.

IN THE EVENT NEW SIGNALS ARE DAMAGED PRIOR TO ACCEPTANCE, ALL DAMAGED EQUIPMENT EXCEPT POLES AND CONTROL EQUIPMENT SHALL BE REPLACED BY THE CONTRACTOR TO THE SATISFACTION OF THE ENGINEER WITH THE SIGNAL BACK IN SERVICE WITHIN 8 HOURS AFTER THE CONTRACTOR'S NOTIFICATION OF THE OUTAGE. THE CONTRACTOR SHALL ARRANGE FOR FULL TRAFFIC CONTROL UNTIL THE SIGNAL IS BACK IN OPERATION.

IF POLES AND/OR CONTROL EQUIPMENT ARE DAMAGED AND MUST BE REPLACED, THE CONTRACTOR SHALL MAKE TEMPORARY REPAIRS AS NECESSARY TO BRING THE SIGNAL BACK INTO FULL OPERATION WITHIN THE ALLOWED 8-HOUR PERIOD, AND SHALL MAKE PERMANENT REPAIRS OR REPLACEMENT AS SOON THEREAFTER AS POSSIBLE.

NONE OF THE ABOVE SHALL BE CONSTRUED AS COLLECTIVE OR CONSECUTIVE OUTAGE TIME PERIODS AT ANY ONE LOCATION. THAT IS, WHERE MORE THAN ONE OUTAGE OCCURS AT ANY ONE LOCATION THEN THE ALLOTTED TIME LIMIT SHALL BE FOR THE WORST SINGLE OUTAGE.

WHERE OUTAGES ARE THE DIRECT RESULT OF A VEHICLE ACCIDENT, THE RESPONSE OF THE CONTRACTOR SHALL BE AS OUTLINED ABOVE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COLLECTION OF ANY COMPENSATION FOR THIS WORK FROM THOSE PARTIES RESPONSIBLE FOR THE DAMAGE.

WHERE THE CONTRACTOR HAS FAILED TO, OR CANNOT RESPOND TO, AN OUTAGE OR SIGNAL EQUIPMENT MALFUNCTION, AT THESE LOCATIONS WITHIN HIS RESPONSIBILITY, WITHIN PERIODS AS SPECIFIED ABOVE, THE ENGINEER MAY INVOKE THE PROVISIONS OF SECTION 105.15 AND ANY SUBSEQUENT BILLINGS TO THE STATE OR THE VILLAGE OF RICHFIELD FOR POLICE SERVICES AND MAINTENANCE SERVICES BY CITY FORCES SHALL BE DEDUCTED FROM MONIES DUE OR TO BECOME DUE THE CONTRACTOR IN ACCORDANCE WITH PROVISIONS OF SECTION 105.15.

THE CONTRACTOR SHALL PROVIDE THE MAINTENANCE SERVICE ENTIRELY WITH HIS FORCES OR HE MAY CHOOSE TO ENTER INTO A COOPERATIVE UNDERSTANDING WITH THE LOCAL MAINTAINING AGENCY TO PROVIDE THE MAINTENANCE. THE CONTRACTOR SHALL INFORM THE ENGINEER, IN WRITING, OF THE MAINTENANCE METHOD SELECTED.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE TO ANY TRAFFIC SIGNAL COMPONENTS REQUIRED TO BE HANDLED DURING THE RELOCATION OF POLES AND REVISIONS TO THE SIGNAL SYSTEM.

MAINTENANCE OF TRAFFIC SIGNAL/FLASHER INSTALLATION (CONTINUED)

WHEN A TRAFFIC SIGNAL MUST BE TAKEN OUT OF SERVICE BY THE CONTRACTOR, DUE TO CONSTRUCTION PROCEDURES, THIS OUTAGE SHALL NOT EXCEED 1 HOURS AND SHALL NOT INCLUDE THE HOURS OF 7 A.M. TO 6 P.M. ANY SIGNALIZED INTERSECTION, WHERE THE SIGNAL IS OUT OF SERVICE DUE TO CONSTRUCTION PROCEDURES, OR DUE TO AN OUTAGE OR MALFUNCTION OF EQUIPMENT AS DESCRIBED ABOVE, SHALL BE PROTECTED, BY THE CONTRACTOR, BY THE INSTALLATION OF TEMPORARY "STOP" SIGNS, EXCEPT FOR THE FOLLOWING INTERSECTIONS WHICH SHALL BE PROTECTED BY OFF-DUTY VILLAGE OF RICHFIELD POLICE, HIRED BY THE CONTRACTOR.

1. BRECKSVILLE ROAD/INTERSTATE ROUTE 271, RAMP B

ANY VEHICULAR TRAFFIC SIGNAL HEAD, EITHER NEW OR EXISTING WHICH WILL BE OUT OF OPERATION SHALL BE COVERED IN THE MANNER DESCRIBED IN 632.25.

THE CONTRACTOR SHALL MAINTAIN COMPLETE RECORDS OF MALFUNCTIONS INCLUDING:

1. TIME OF NOTIFICATION OF MALFUNCTION;
2. TIME OF WORK CREWS ARRIVAL TO CORRECT THE MALFUNCTION;
3. ACTIONS TAKEN TO CORRECT THE MALFUNCTION, INCLUDING A LIST OF PARTS REPAIRED OR REPLACED;
4. A DIAGNOSIS OF REASON FOR THE MALFUNCTION AND PROBABILITY OF REOCCURRENCE;
5. TIME OF COMPLETION OF THE REPAIR AND SYSTEM RESTORED TO FULL SERVICE.

A COPY OF THESE RECORDS SHALL BE PROVIDED TO THE ENGINEER WITHIN THREE (3) WORKING DAYS FOLLOWING COMPLETION OF EACH REPAIR.

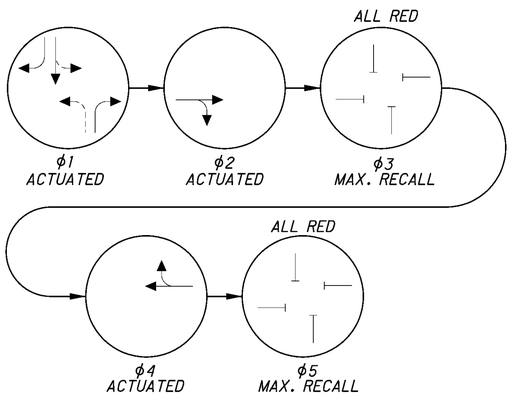
ALL COSTS RESULTING FROM THE ABOVE REQUIREMENTS SHALL BE CONSIDERED TO BE INCLUDED IN THE LUMP SUM PRICE BID FOR ITEM 614, MAINTAINING TRAFFIC.

FULLY-ACTUATED OPERATION OF WORK ZONE TRAFFIC SIGNAL

THE WORK ZONE SIGNAL CONTROL REQUIRED FOR THIS PROJECT AND SHOWN ON SHEETS 207-208 WITH REGARDS TO BRECKSVILLE ROAD (C.R. 17) AND SCD'S MT-96.11, 96.20 AND 96.26 SHALL BE FULLY TRAFFIC-ACTUATED.

THE CONTRACTOR SHALL ALSO DESIGN, FURNISH, INSTALL AND MAINTAIN A TRAFFIC DETECTOR ON EACH TRAFFIC APPROACH WHICH WILL RELIABLY DETECT ALL LEGAL TRAFFIC APPROACHING (BUT NOT LEAVING) THE SIGNAL AS IT PASSES OR WAITS IN THE DESIGNATED DETECTOR ZONE SHOWN IN THE PLANS. DETECTOR DESIGNS WHICH DO NOT PROVIDE RELIABLE DETECTION, FREE FROM FALSE CALLS, SHALL BE IMMEDIATELY REPLACED BY THE CONTRACTOR.

M.O.T. TIMING CHART	CYCLE LENGTH = 190 SEC.				
PHASE	ϕ1	ϕ2	ϕ3	ϕ4	ϕ5
MIN. (INITIAL)	10	10	-	10	-
MAX. GREEN	36	30	-	36	-
VEHICLE EXTENSION	3	3	-	3	-
YELLOW	4.0	4.0	-	4.0	-
ALL RED	2.0	2.0	35	2.0	35
RECALL	OFF	OFF	MAX	OFF	MAX



SEQUENCE OF CONSTRUCTION - S.R. 176 (BROADVIEW ROAD)

CLOSE S.R. 176 (BROADVIEW ROAD) PER THE DETOUR ROUTE DETAILED IN THESE PLANS. THE CONTRACTOR SHALL NOTIFY THE SUMMIT COUNTY ENGINEER'S OFFICE AT (330) 643-2850 PRIOR TO CLOSURE.

CONSTRUCT ALL BRIDGE WORK FOR STRUCTURE SUM-176-1.06, CONCRETE PAVEMENT, APPROACH SLABS, PAVEMENT RELIEF JOINTS, CURBS, DRAINAGE, BRIDGE TERMINAL ASSEMBLIES, GUARDRAIL, FENCE, PAVEMENT MARKINGS AND SIGNAGE.

TRAFFIC SHALL BE RE-OPENED TO PROPOSED TRAFFIC PATTERNS ONLY AFTER ANY AND ALL BRIDGE AND ROADWAY WORK FOR SUM-176-1.06 HAS BEEN COMPLETED.

THE CONTRACTOR SHALL PROVIDE A SAFETY NET OR PLATFORM OF SUITABLE STRENGTH ON THE UNDERSIDE OF THE DECK. THE DESIGN OF THE NET OR PLATFORM SHALL CONFORM WITH OSHA REQUIREMENTS AND SHALL REMAIN IN PLACE UNTIL THE WORK HAS BEEN COMPLETED AND ACCEPTED OR AS DIRECTED BY THE ENGINEER.

APPLY SCD MT-95.30 TO NORTHBOUND AND SOUTHBOUND LANES ON IR 271 UNDER S.R. 176 (BROADVIEW ROAD) FOR BRIDGE PAINTING OPERATIONS AS DETERMINED BY THE ENGINEER.

SEQUENCE OF CONSTRUCTION - C.R. 17 (BRECKSVILLE ROAD)

MODIFY EXISTING TRAFFIC SIGNAL PER SIDEROAD MAINTENANCE OF TRAFFIC NOTES: MAINTENANCE OF TRAFFIC SIGNAL/FLASHER INSTALLATION AND SPECIAL - WORK ZONE TRAFFIC SIGNALS.

PHASE 1:

1. THE CLEARING AND GRUBBING OF EXISTING ITEMS DETERMINED IN THESE PLANS SHALL BE COMPLETED AND DETAILED MAINTENANCE OF TRAFFIC FOR PHASE 1 SHALL BE PLACED. REMOVE THE EXISTING NORTHWEST AND SOUTHWEST QUADRANTS OF STRUCTURE SUM-271-0294 PER REMOVAL PLAN SHEETS 939 -941.

2. CONSTRUCT THE PROPOSED NORTHWEST AND SOUTHWEST QUADRANTS OF STRUCTURE SUM-271-0294 PER PLAN SHEETS 942 947ADDITIONAL ROADWAY WORK INCLUDES: APPROACH SLAB, PAVEMENT RELIEF JOINT, DRAINAGE, PAVEMENT WIDENING, BRIDGE TERMINAL ASSEMBLIES, ANCHOR ASSEMBLIES, GUARDRAIL, CURB, STRIPING.

PHASE 2:

1. THE CLEARING AND GRUBBING OF EXISTING ITEMS DETERMINED IN THESE PLANS SHALL BE COMPLETED AND DETAILED MAINTENANCE OF TTRAFFIC FOR PHASE 2 SHALL BE PLACED. REMOVE THE EXISTING NORTHEAST AND SOUTHEAST QUADRANTS OF STRUCTURE SUM-271-0294 PER REMOVAL PLAN SHEETS 939 -941 .

2. CONSTRUCT THE PROPOSED NORTHEAST AND SOUTHEAST QUADRANTS OF STRUCTURE SUM-271-0294 PER PLAN SHEETS 942 947ADDITIONAL ROADWAY WORK INCLUDES: APPROACH SLAB, PAVEMENT RELIEF JOINT, DRAINAGE, PAVEMENT WIDENING, BRIDGE TERMINAL ASSEMBLIES, ANCHOR ASSEMBLIES, GUARDRAIL, CURB, STRIPING.

PHASE 3:

1. PLANE/RESURFACE AND STRIPE C.R. 17 PER THE DIRECTION OF THESE DETAILED PLANS.

2. PLACE EXISTING TRAFFIC SIGNAL BACK TO ORIGINAL TIMING SEQUENCE.

A MINIMUM OF THE LAST 100 FEET OF RAMPS A & B SHALL BE COMPLETED WHILE THE ADJACENT BRIDGE IS UNDER PHASE CONSTRUCTION. RAMPS ARE TO REMAIN OPEN. PART WIDTH CONSTRUCTION SHALL BE PERFORMED DURING RAMP INTERSECTION WORK BY FLAGGERS OR BY LAW ENFORCEMENT OFFICERS.

THE CONTRACTOR SHALL PROVIDE A SAFETY NET OR PLATFORM OF SUITABLE STRENGTH ON THE UNDERSIDE OF THE DECK. THE DESIGN OF THE NET OR PLATFORM SHALL CONFORM WITH OSHA REQUIREMENTS AND SHALL REMAIN IN PLACE UNTIL THE WORK HAS BEEN COMPLETED AND ACCEPTED OR AS DIRECTED BY THE ENGINEER.

APPLY SCD MT-95.30 TO NORTHBOUND AND SOUTHBOUND LANES ON IR 271 UNDER C.R. 17 (BRECKSVILLE ROAD) FOR BRIDGE PAINTING OPERATIONS AND CROSS FRAME REPLACEMENTS AS DETERMINED BY THE ENGINEER.

SEQUENCE OF CONSTRUCTION - S.R. 303 (STREETSBORO ROAD)

PHASE 1:

PHASE 1 CONSTRUCTION CONSISTS OF:
1. THE CLEARING AND GRUBBING OF EXISTING ITEMS DETERMINED IN THESE PLANS SHALL BE COMPLETED AND DETAILED MAINTENANCE OF TRAFFIC FOR PHASE 1 SHALL THEN BE PLACED.

2. REMOVE THE SOUTHERN PORTION OF BRIDGE SUM-303-0502 (EASTBOUND LANES), ASPHALT AND CONCRETE PAVEMENT, CURB, GUARDRAIL, SIGNAGE AND TERMINAL ASSEMBLIES.

3. CONSTRUCT THE PROPOSED EASTBOUND PORTION OF BRIDGE SUM-303-0502, ADDITIONAL ROADWAY WORK INCLUDES: APPROACH SLAB, PAVEMENT RELIEF JOINT, DRAINAGE, CONCRETE PAVEMENT, BRIDGE TERMINAL ASSEMBLIES, GUARDRAIL, CURB, AND SIGNAGE.

PHASE 2:

PHASE 2 CONSTRUCTION CONSISTS OF:
1. THE CLEARING AND GRUBBING OF EXISTING ITEMS DETERMINED IN THESE PLANS SHALL BE COMPLETED AND DETAILED MAINTENANCE OF TRAFFIC FOR PHASE 2 SHALL THEN BE PLACED.

2. REMOVE THE NORTHERN PORTION OF BRIDGE SUM-303-0502 (WESTBOUND LANES), ASPHALT AND CONCRETE PAVEMENT, CURB, GUARDRAIL, SIGNAGE, TERMINAL ASSEMBLIES AND PREVIOUSLY ABANDONED GAS LINE (PER THE DIRECTION OF THE UTILITY COMPANY).

3. CONSTRUCT THE PROPOSED WESTBOUND PORTION OF BRIDGE SUM-303-0502, ADDITIONAL ROADWAY WORK INCLUDES: APPROACH SLAB, PAVEMENT RELIEF JOINT, DRAINAGE, CONCRETE PAVEMENT, BRIDGE TERMINAL ASSEMBLIES, PAVEMENT REPAIR, GUARDRAIL, CURB, AND SIGNAGE.

PHASE 3:

PHASE 3 CONSTRUCTION CONSISTS OF:
1. THE CLEARING AND GRUBBING OF EXISTING ITEMS DETERMINED IN THESE PLANS SHALL BE COMPLETED AND DETAILED MAINTENANCE OF TRAFFIC FOR PHASE 3 SHALL THEN BE PLACED.

2. REMOVE EXISTING ASPHALT PAVEMENT DETAILED, GUARDRAIL, AND SIGNAGE.

3. CONSTRUCT FULL DEPTH PAVEMENT, COMPACTED AGGREGATE SHOULDER, DRAINAGE, PAVEMENT REPAIR, GUARDRAIL, ANCHOR ASSEMBLIES, CURB, AND SIGNAGE.

4. PLANE/RESURFACE AND STRIPE S.R. 303 PER THE DIRECTION OF THESE DETAILED PLANS.

A MINIMUM OF THE LAST 100 FEET OF RAMPS F/G & E/H SHALL BE COMPLETED WHILE THE ADJACENT BRIDGE IS UNDER PHASE CONSTRUCTION. RAMPS ARE TO REMAIN OPEN. PART WIDTH CONSTRUCTION SHALL BE PERFORMED DURING RAMP INTERSECTION WORK BY FLAGGERS OR BY LAW ENFORCEMENT OFFICERS.

THE CONTRACTOR SHALL PROVIDE A SAFETY NET OR PLATFORM OF SUITABLE STRENGTH ON THE UNDERSIDE OF THE DECK. THE DESIGN OF THE NET OR PLATFORM SHALL CONFORM WITH OSHA REQUIREMENTS AND SHALL REMAIN IN PLACE UNTIL THE WORK HAS BEEN COMPLETED AND ACCEPTED OR AS DIRECTED BY THE ENGINEER.

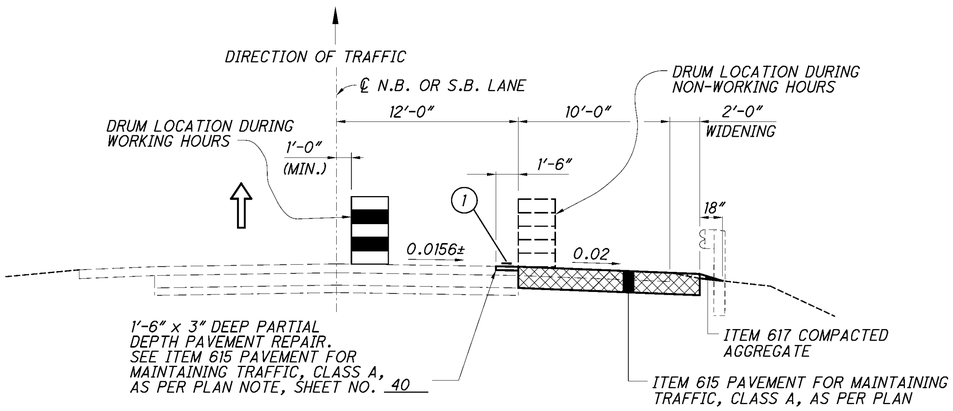
APPLY SCD MT-95.30 TO NORTHBOUND AND SOUTHBOUND LANES ON IR 271 UNDER S.R. 303 (STREETSBORO ROAD) FOR BRIDGE PAINTING OPERATIONS AS DETERMINED BY THE ENGINEER.

ALL SIDEROAD WORK SHALL OCCUR INDEPENDENTLY WITHIN THE FOUR CONSECUTIVE CONSTRUCTION SEASONS; THE OVERHEAD BRIDGE WORK SHALL BE COMPLETED INDEPENDENTLY DURING THE FOUR CONSTRUCTION SEASONS, ADHERING TO THE RESTRICTIONS SET FORTH IN THE PLANS. LIQUIDATED DAMAGES IN ACCORDANCE WITH CMS 108.07-1 SHALL BE ASSESSED FOR EACH CALENDER DAY THAT THE NORMAL TRAVEL LANES REMAIN CLOSED/RESTRICTED BEYOND THE SPECIFIED DATE.

CALCULATED PEK
CHECKED TLH

SIDEROAD MAINTENANCE OF TRAFFIC GENERAL NOTES

SUM-271-2.33

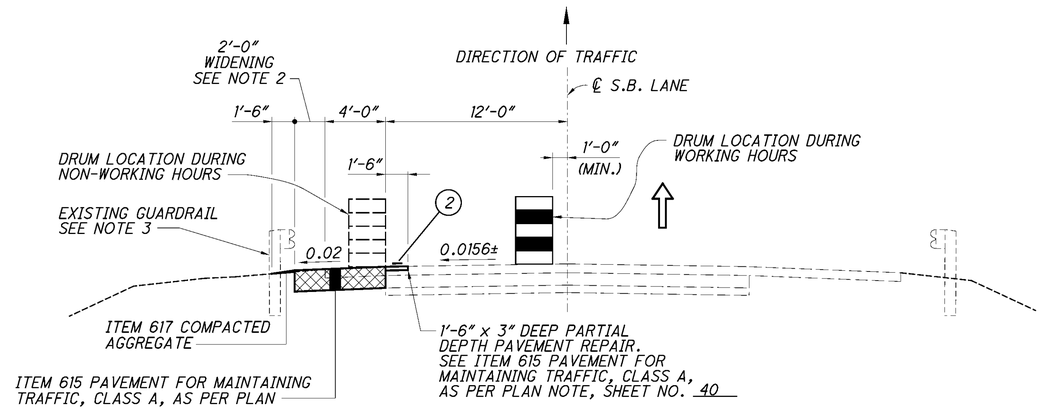


OUTSIDE PAVED SHOULDER PAVEMENT REPLACEMENT TYPICAL SECTION

PRE-PHASE 1

NOTES:

1. *MAINTAIN ONE LANE OF TRAFFIC, AS SHOWN, DURING THE PLACEMENT OF THE M.O.T. PAVEMENT AS PER STANDARD CONSTRUCTION DRAWING MT-95.30. SEE THE 614 MAINTAINING TRAFFIC NOTE AND THE PLCM FOR ADDITIONAL RESTRICTIONS.*



INSIDE PAVED SHOULDER PAVEMENT REPLACEMENT TYPICAL SECTION

PRE-PHASE 1

NOTES:

1. *MAINTAIN ONE LANE OF TRAFFIC, AS SHOWN, DURING THE PLACEMENT OF THE M.O.T. PAVEMENT AS PER STANDARD CONSTRUCTION DRAWING MT-95.30. SEE THE 614 MAINTAINING TRAFFIC NOTE AND THE PLCM FOR ADDITIONAL RESTRICTIONS.*

2. *IN BIFURCATED MEDIAN SECTIONS WHERE NO GUARDRAIL IS PRESENT ON THE HIGH SIDE OF THE MEDIAN CONSTRUCT 4'-0" WIDENING FOR THE PLACEMENT OF PCB. SEE NOTE ON SHEET 44 FOR ADDITIONAL INFORMATION ON PCB LOCATIONS IN EACH PHASE.*

   BIFURCATED MEDIAN
   STA. LIMITS - STA. 199+80± TO STA. 307+50±

3. *IN THE BIFURCATED MEDIAN SECTIONS ALONG THE SOUTHBOUND TRAVEL LANE WHERE EXISTING GUARDRAIL IS PRESENT THE EXISTING MEDIAN GUARDRAIL SHALL BE REBUILT AT THE PROPER HEIGHT PRIOR TO PLACING TRAFFIC ON THE MEDIAN SHOULDER IN PHASE 1A AND 3A. SEE MOT GENERAL NOTES MODIFICATION OF GUARDRAIL SPLICES/GUARDRAIL REBUILT NOTE SHEET 44*

MAINTENANCE OF TRAFFIC LEGEND

ITEM 615 - PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A, AS PER PLAN (CONSTRUCTED IN PRE-PHASE 1 FOR USE IN PHASE 1A)

SEE MAINTENANCE OF TRAFFIC PLAN SHEETS FOR LIMITS OF 615 PAVEMENT FOR MAINTAINING TRAFFIC.

WORK ZONE MARKING LEGEND

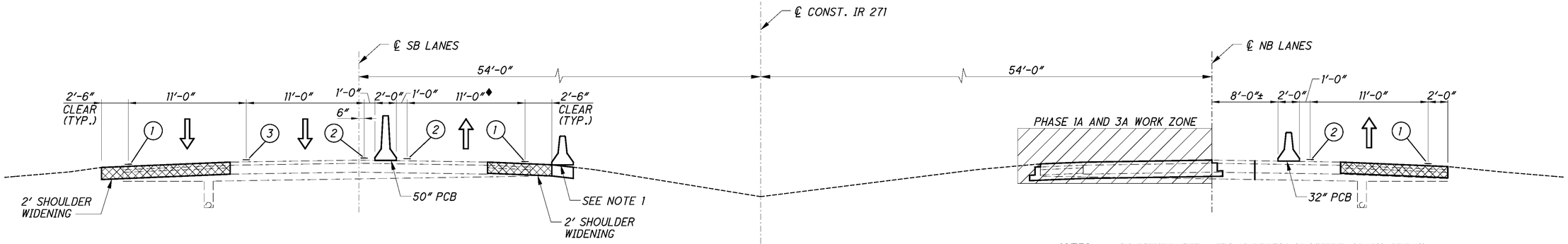
1. *WORK ZONE EDGE LINE, CLASS 1, AS PER PLAN*
2. *WORK ZONE EDGE LINE, CLASS 1, AS PER PLAN (YELLOW)*
3. *WORK ZONE DOTTED LINE, CLASS 1, AS PER PLAN*
4. *WORK ZONE CHANNELIZING LINE, CLASS 1, AS PER PLAN*
5. *WORK ZONE LANE LINE, CLASS 1, AS PER PLAN*

MAINTENANCE OF TRAFFIC
TYPICAL SECTIONS - PRE-PHASE 1

SUM-271-2.33

51
1195

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MAINTENANCE OF TRAFFIC LEGEND

ITEM 615 - PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A, AS PER PLAN (CONSTRUCTED IN PRE-PHASE 1 FOR USE IN PHASE 1A AND 3A)

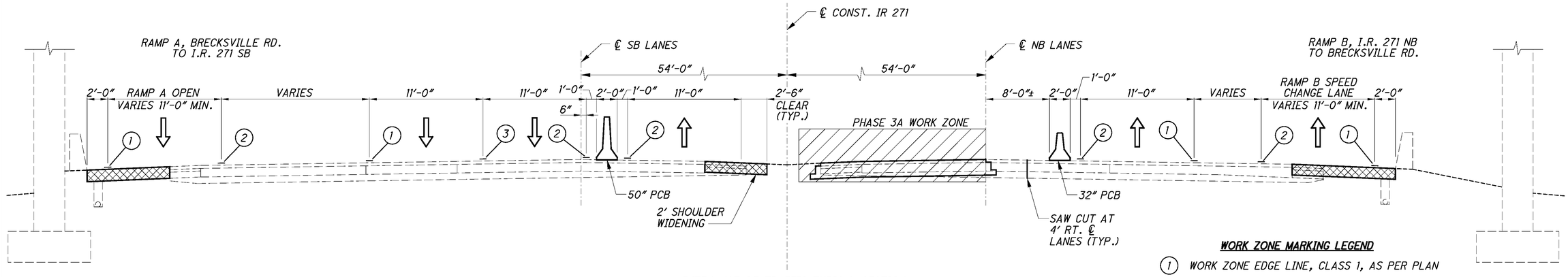
SEE MAINTENANCE OF TRAFFIC PLAN SHEETS FOR LIMITS OF 615 PAVEMENT FOR MAINTAINING TRAFFIC.

♦ SEE SHEET 222 FOR LANE TRANSITION AT MOT CROSSOVERS

MAINTENANCE OF TRAFFIC TYPICAL SECTION

(A)—(A) **PHASE 1A AND 3A**

NOTES: 1. IN BIFURCATED MEDIAN SECTIONS WHERE NO GUARDRAIL IS PRESENT PLACE 32" PCB ON THE WIDENED MEDIAN SHOULDER CONSTRUCTED IN THE PREVIOUS PHASE. SEE SHEET 44 FOR ADDITIONAL INFORMATION.

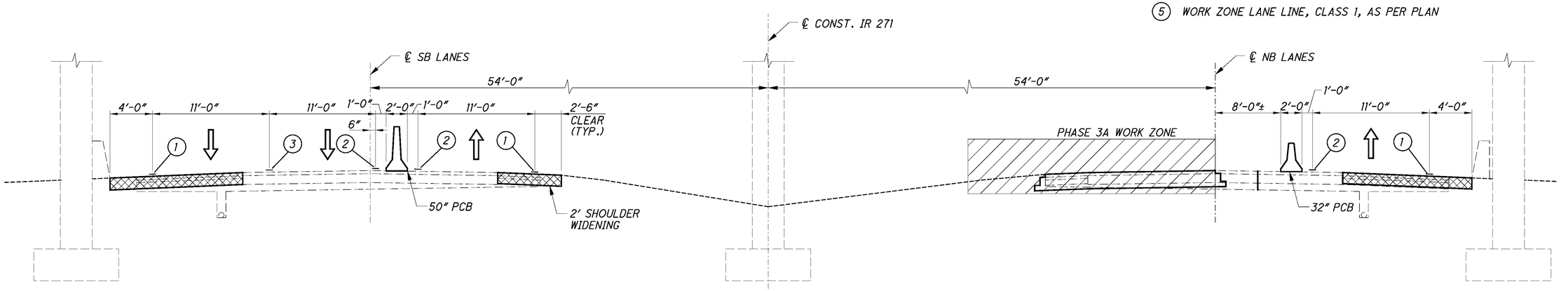


MAINTENANCE OF TRAFFIC TYPICAL SECTION

(B)—(B) **AT S.R. 176 OVERPASS PHASE 3A**

WORK ZONE MARKING LEGEND

1. WORK ZONE EDGE LINE, CLASS 1, AS PER PLAN
2. WORK ZONE EDGE LINE, CLASS 1, AS PER PLAN (YELLOW)
3. WORK ZONE DOTTED LINE, CLASS 1, AS PER PLAN
4. WORK ZONE CHANNELIZING LINE, CLASS 1, AS PER PLAN
5. WORK ZONE LANE LINE, CLASS 1, AS PER PLAN



MAINTENANCE OF TRAFFIC TYPICAL SECTION

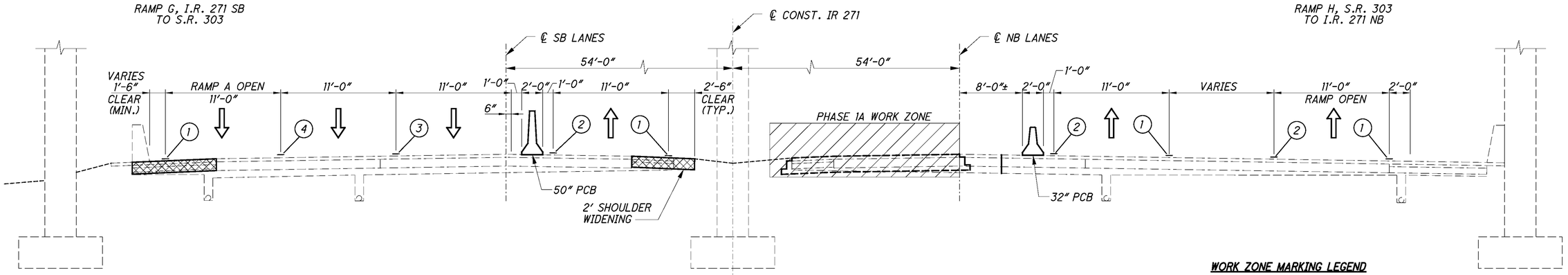
(C)—(C) **AT BRECKSVILLE ROAD OVERPASS PHASE 3A**

MAINTENANCE OF TRAFFIC TYPICAL SECTIONS - PHASE 1A AND 3A

SUM-271-2.33

52
1195

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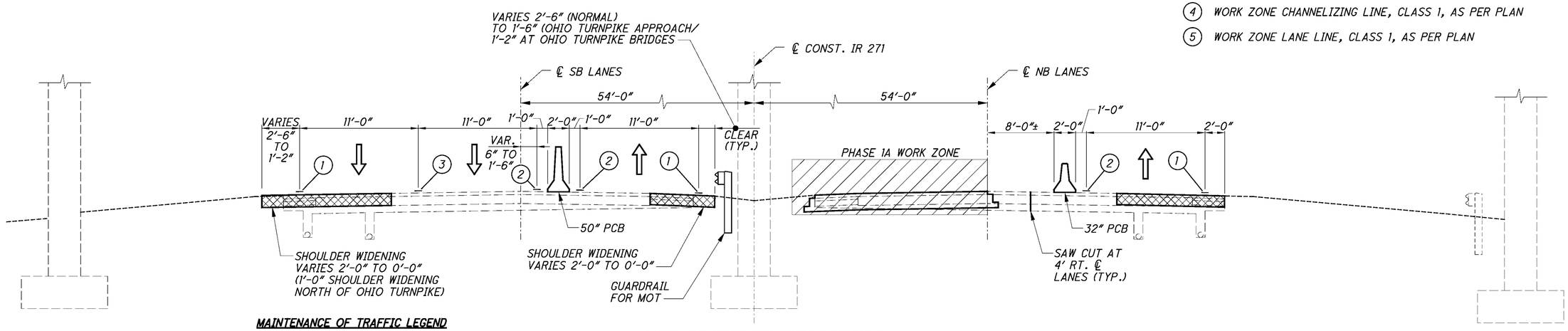


MAINTENANCE OF TRAFFIC TYPICAL SECTION

(D)—(D) AT S.R. 303 OVERPASS PHASE 1A

WORK ZONE MARKING LEGEND

1. WORK ZONE EDGE LINE, CLASS 1, AS PER PLAN
2. WORK ZONE EDGE LINE, CLASS 1, AS PER PLAN (YELLOW)
3. WORK ZONE DOTTED LINE, CLASS 1, AS PER PLAN
4. WORK ZONE CHANNELIZING LINE, CLASS 1, AS PER PLAN
5. WORK ZONE LANE LINE, CLASS 1, AS PER PLAN



MAINTENANCE OF TRAFFIC LEGEND

ITEM 615 - PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A, AS PER PLAN (CONSTRUCTED IN PRE-PHASE 1 FOR USE IN PHASE 1A)

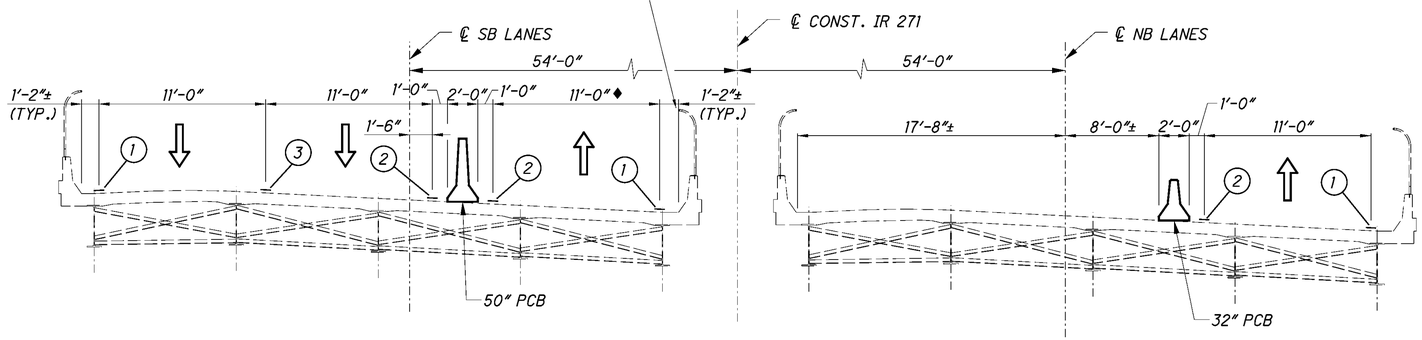
SEE MAINTENANCE OF TRAFFIC PLAN SHEETS FOR LIMITS OF 615 PAVEMENT FOR MAINTAINING TRAFFIC.

MAINTENANCE OF TRAFFIC TYPICAL SECTION

(E)—(E) AT OHIO TURNPIKE OVERPASS PHASE 1A

◆ SEE SHEET 222 FOR LANE TRANSITION AT MOT CROSSOVERS

REMOVE EXISTING FENCE PRIOR TO PHASE 1A DUE TO SIGHT DISTANCE LIMITATION. RESTORE FENCE INSTALLATION TO GOOD CONDITION SUBSEQUENT TO PHASE 1B.



STRUCTURE SUM-271-0655L OVER OHIO TURNPIKE

MAINTENANCE OF TRAFFIC TYPICAL SECTION

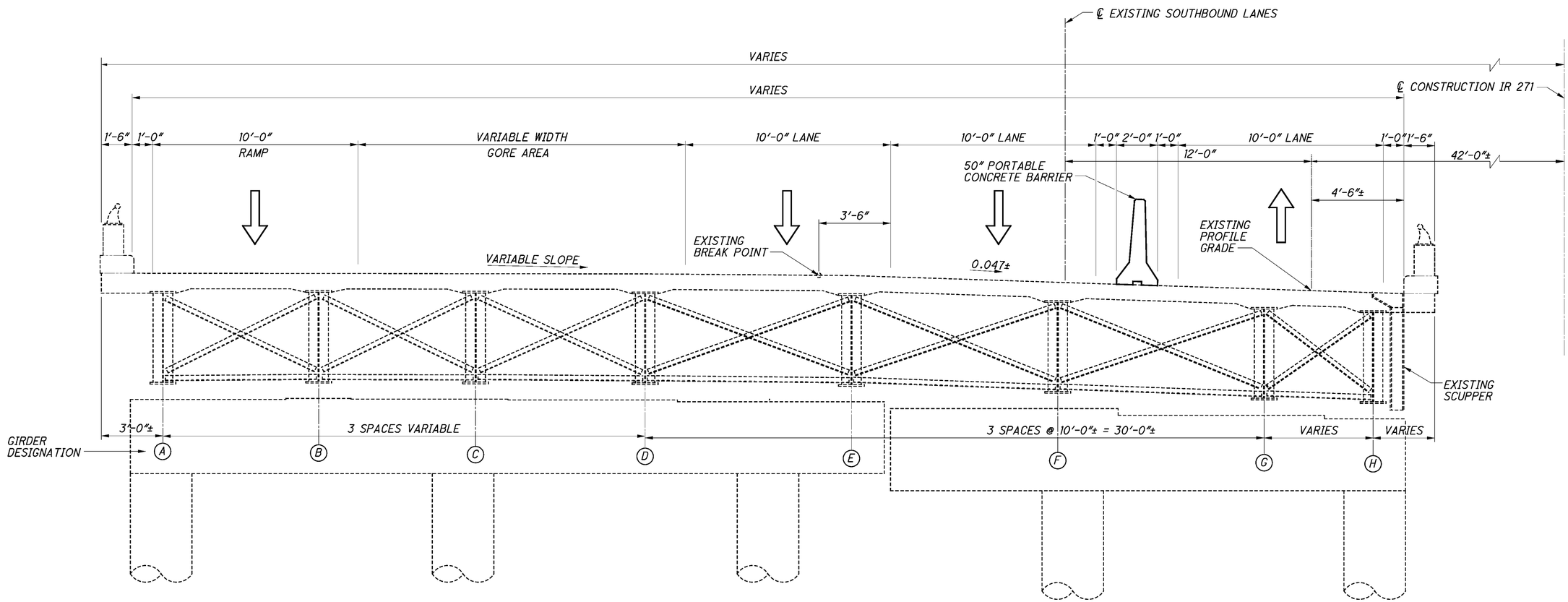
STRUCTURE SUM-271-0655R OVER OHIO TURNPIKE

(F)—(F) AT OHIO TURNPIKE BRIDGES PHASE 1A (MAINTAIN LANE CONFIGURATION NORTH OF OHIO TURNPIKE UNTIL MOT CROSSOVER)

MAINTENANCE OF TRAFFIC TYPICAL SECTIONS - PHASE 1A

SUM-271-2.33

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SUM-271-0354L
PHASE 3A AND PHASE 3B CONSTRUCTION
(PIER 1 SHOWN)

LEGEND

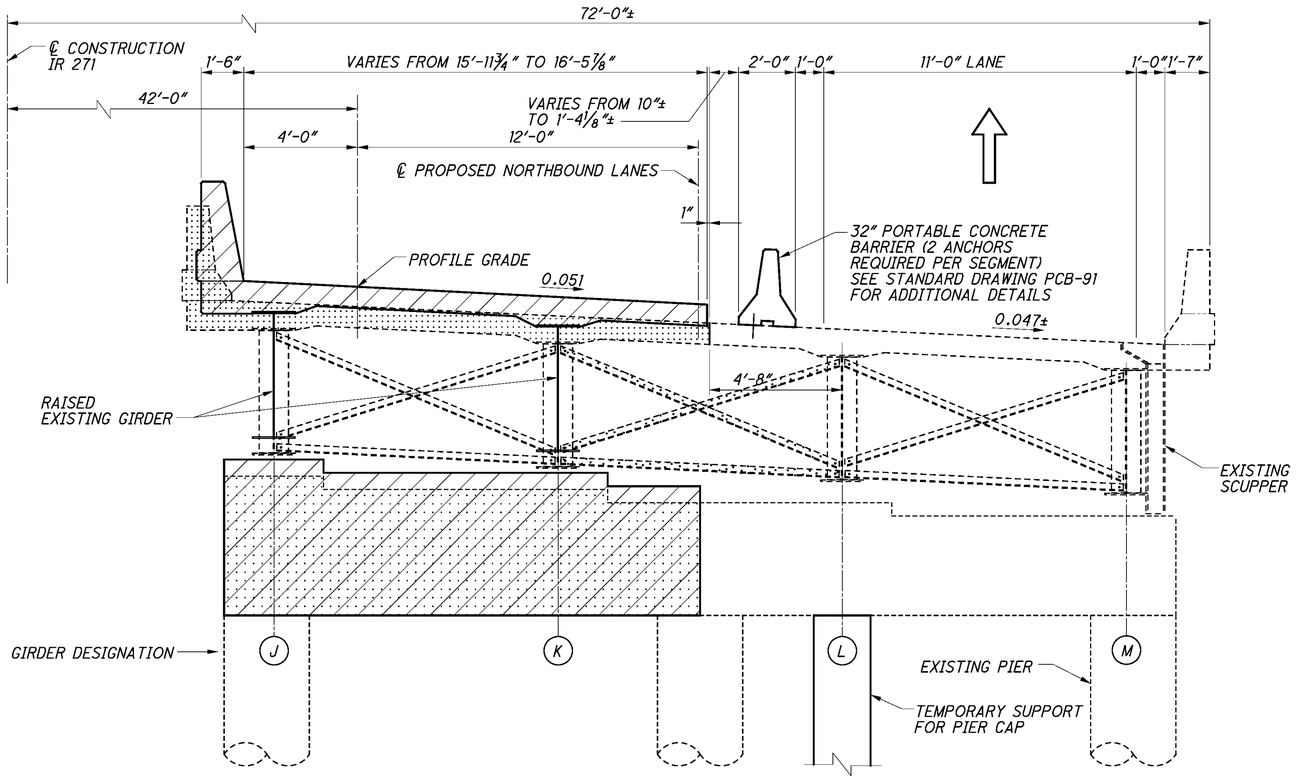
TRAFFIC DIRECTION

MAINTENANCE OF TRAFFIC TYPICAL SECTION
BRIDGE SUM-271-0354L PART-WIDTH CONSTRUCTION - PHASE 3

SUM-271-2.33

54
1195

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SUM-271-0354R
PHASE 3A CONSTRUCTION

LEGEND

TRAFFIC DIRECTION

REMOVAL

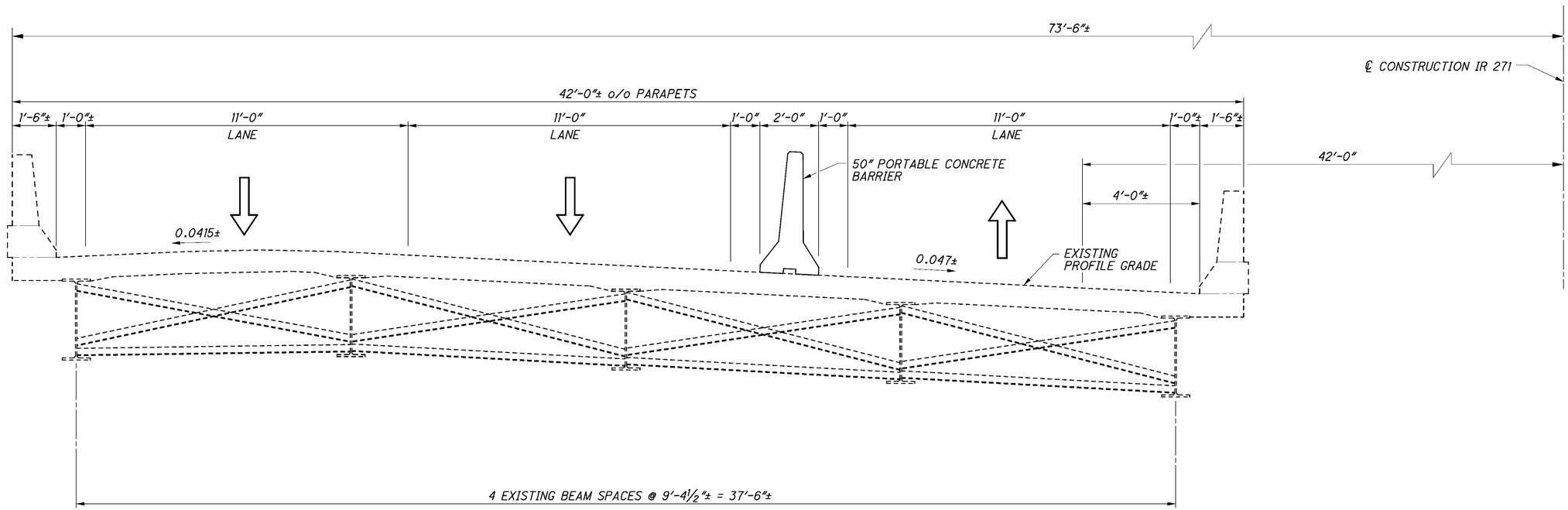
PHASE CONSTRUCTION

MAINTENANCE OF TRAFFIC TYPICAL SECTION
BRIDGE SUM-271-0354R PART-WIDTH CONSTRUCTION - PHASE 3A

SUM-271-2.33

55
1195

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SUM-271-0375L
PHASE 3A AND PHASE 3B CONSTRUCTION

LEGEND

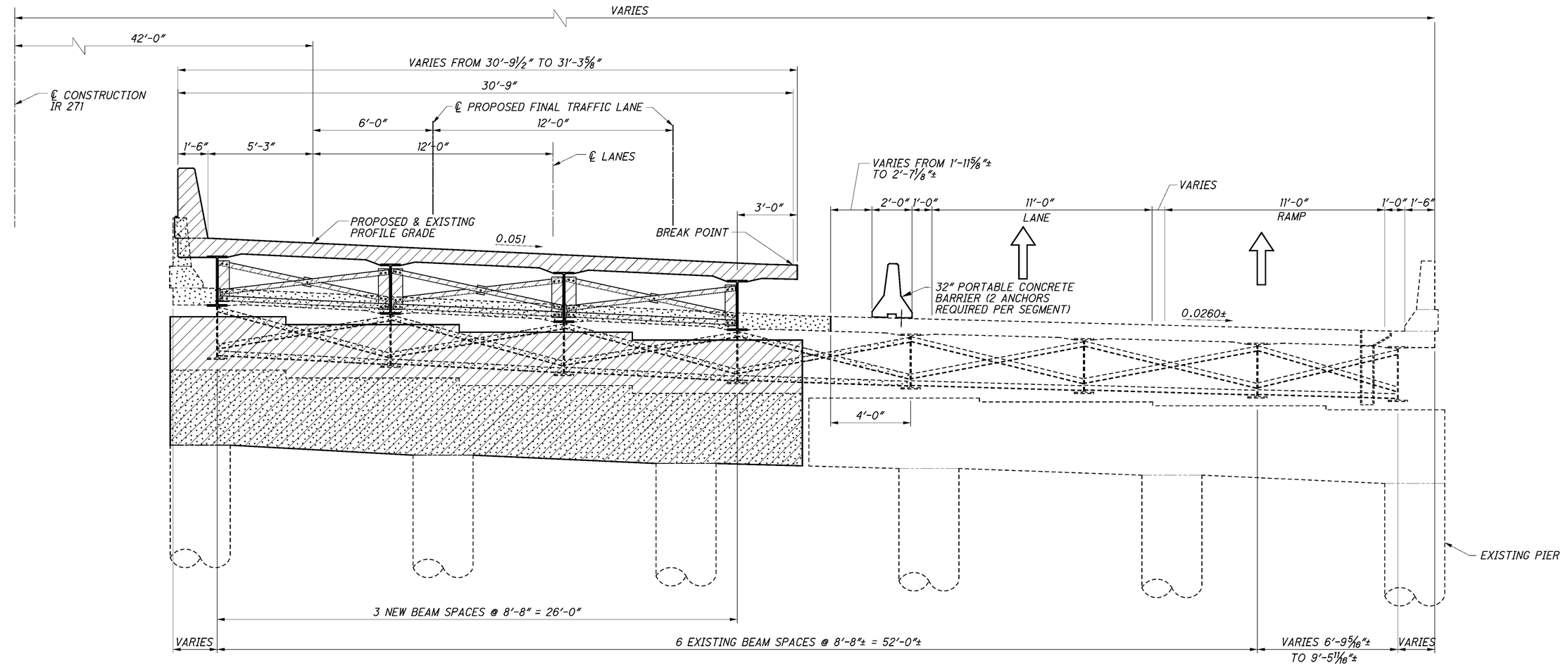
TRAFFIC DIRECTION

MAINTENANCE OF TRAFFIC TYPICAL SECTION
BRIDGE SUM-271-0375L PART-WIDTH CONSTRUCTION - PHASE 3

SUM-271-2.33

56
1195

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SUM-271-0375R
PHASE 3A CONSTRUCTION

LEGEND

REMOVAL

PHASE CONSTRUCTION

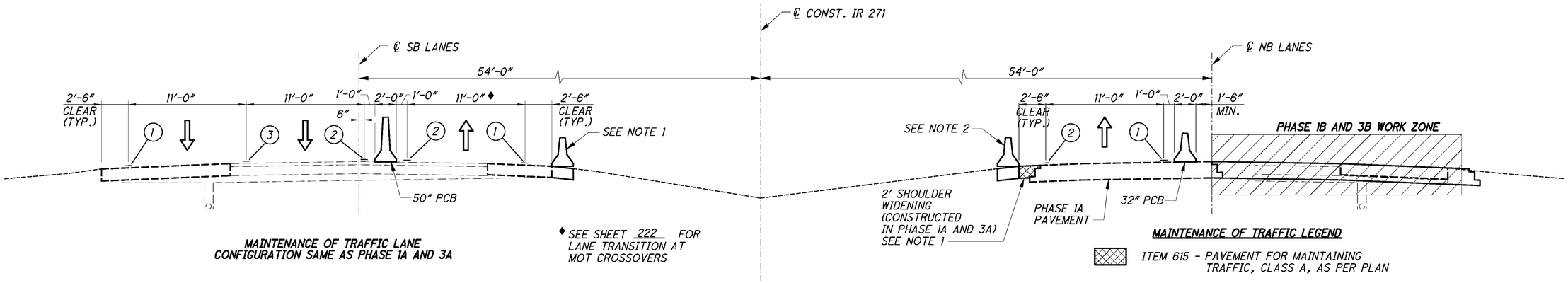
TRAFFIC DIRECTION

MAINTENANCE OF TRAFFIC TYPICAL SECTION
BRIDGE SUM-271-0375R PART-WIDTH CONSTRUCTION - PHASE 3A

SUM-271-2.33

57
1195

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MAINTENANCE OF TRAFFIC LANE CONFIGURATION SAME AS PHASE 1A AND 3A

♦ SEE SHEET 222 FOR LANE TRANSITION AT MOT CROSSOVERS

MAINTENANCE OF TRAFFIC TYPICAL SECTION

(A)—(A) **PHASE 1B AND 3B**

MAINTENANCE OF TRAFFIC LEGEND

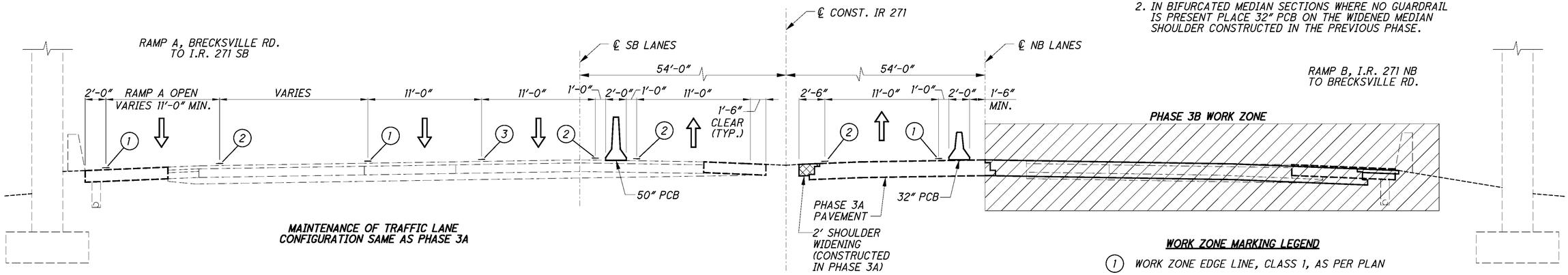
ITEM 615 - PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A, AS PER PLAN

NOTES:

1. IN BIFURCATED MEDIAN SECTIONS WHERE NO GUARDRAIL IS PRESENT ON THE HIGH SIDE OF THE MEDIAN CONSTRUCT 4′-0″ WIDENING FOR THE PLACEMENT OF PCB. SEE SHEET 44 FOR ADDITIONAL INFORMATION.

   BIFURCATED MEDIAN
   STA. LIMITS - STA. 199+80± TO STA. 307+50±

2. IN BIFURCATED MEDIAN SECTIONS WHERE NO GUARDRAIL IS PRESENT PLACE 32″ PCB ON THE WIDENED MEDIAN SHOULDER CONSTRUCTED IN THE PREVIOUS PHASE.



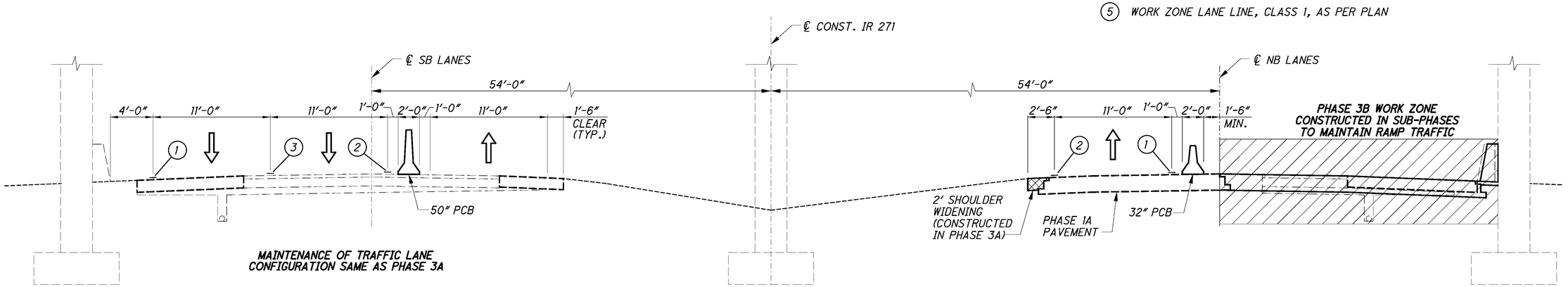
MAINTENANCE OF TRAFFIC LANE CONFIGURATION SAME AS PHASE 3A

MAINTENANCE OF TRAFFIC TYPICAL SECTION

(B)—(B) **AT S.R. 176 OVERPASS PHASE 3B**

WORK ZONE MARKING LEGEND

1. WORK ZONE EDGE LINE, CLASS 1, AS PER PLAN
2. WORK ZONE EDGE LINE, CLASS 1, AS PER PLAN (YELLOW)
3. WORK ZONE DOTTED LINE, CLASS 1, AS PER PLAN
4. WORK ZONE CHANNELIZING LINE, CLASS 1, AS PER PLAN
5. WORK ZONE LANE LINE, CLASS 1, AS PER PLAN



MAINTENANCE OF TRAFFIC LANE CONFIGURATION SAME AS PHASE 3A

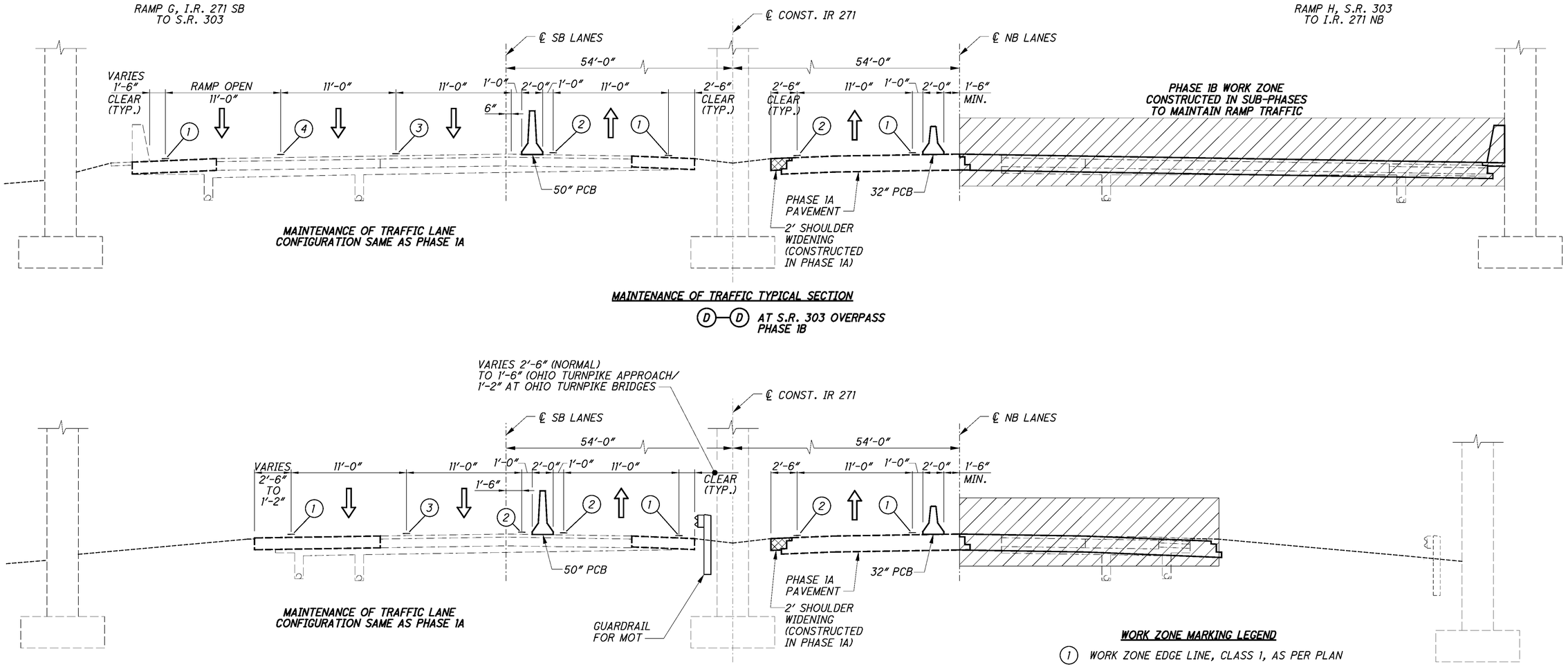
MAINTENANCE OF TRAFFIC TYPICAL SECTION

(C)—(C) **AT BRECKSVILLE ROAD OVERPASS PHASE 3B**

MAINTENANCE OF TRAFFIC TYPICAL SECTIONS - PHASE 1B AND 3B

SUM-271-2.33

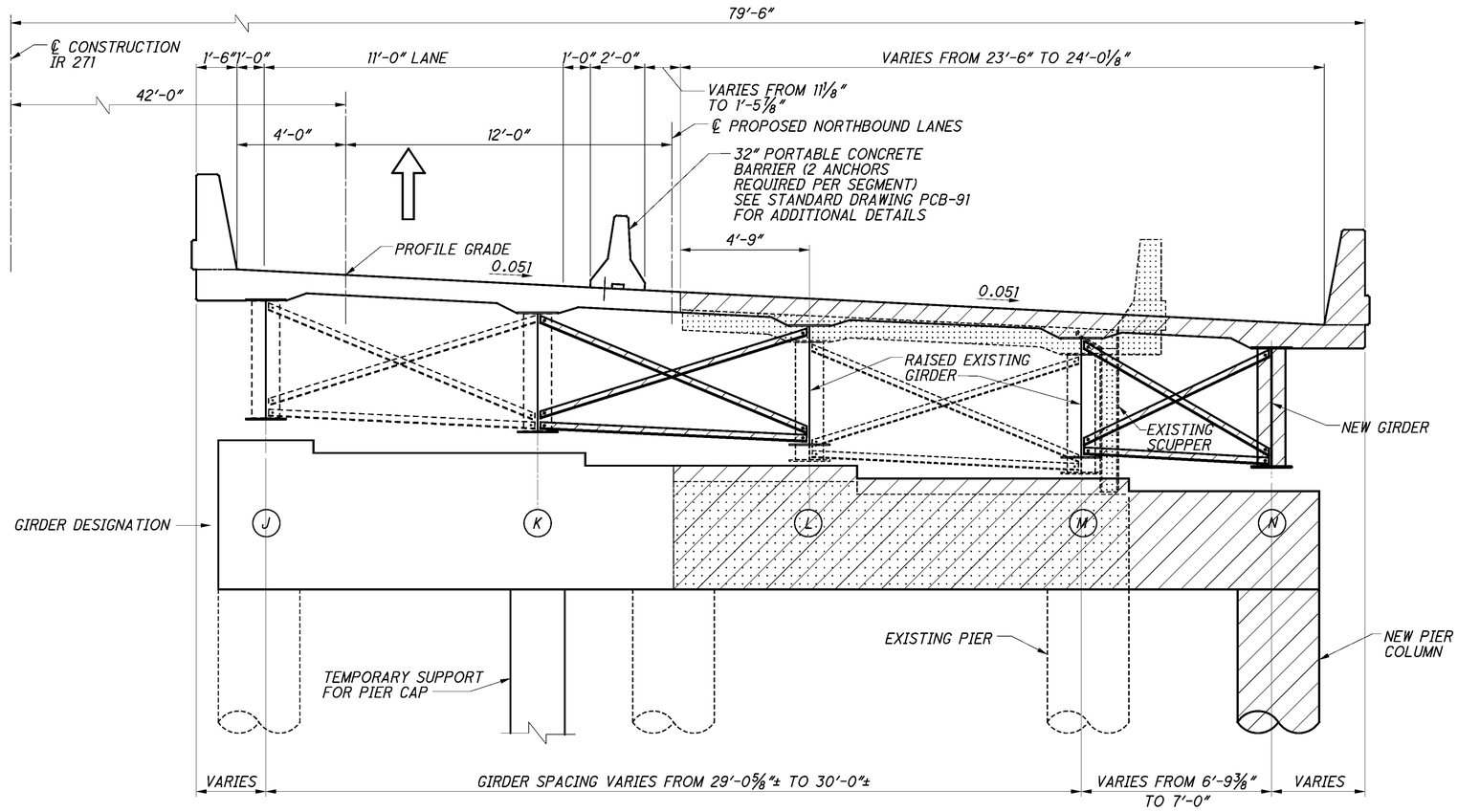
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MAINTENANCE OF TRAFFIC
TYPICAL SECTIONS - PHASE 1B

SUM-271-2.33

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SUM-271-0354R
PHASE 3B CONSTRUCTION

LEGEND

TRAFFIC DIRECTION

REMOVAL

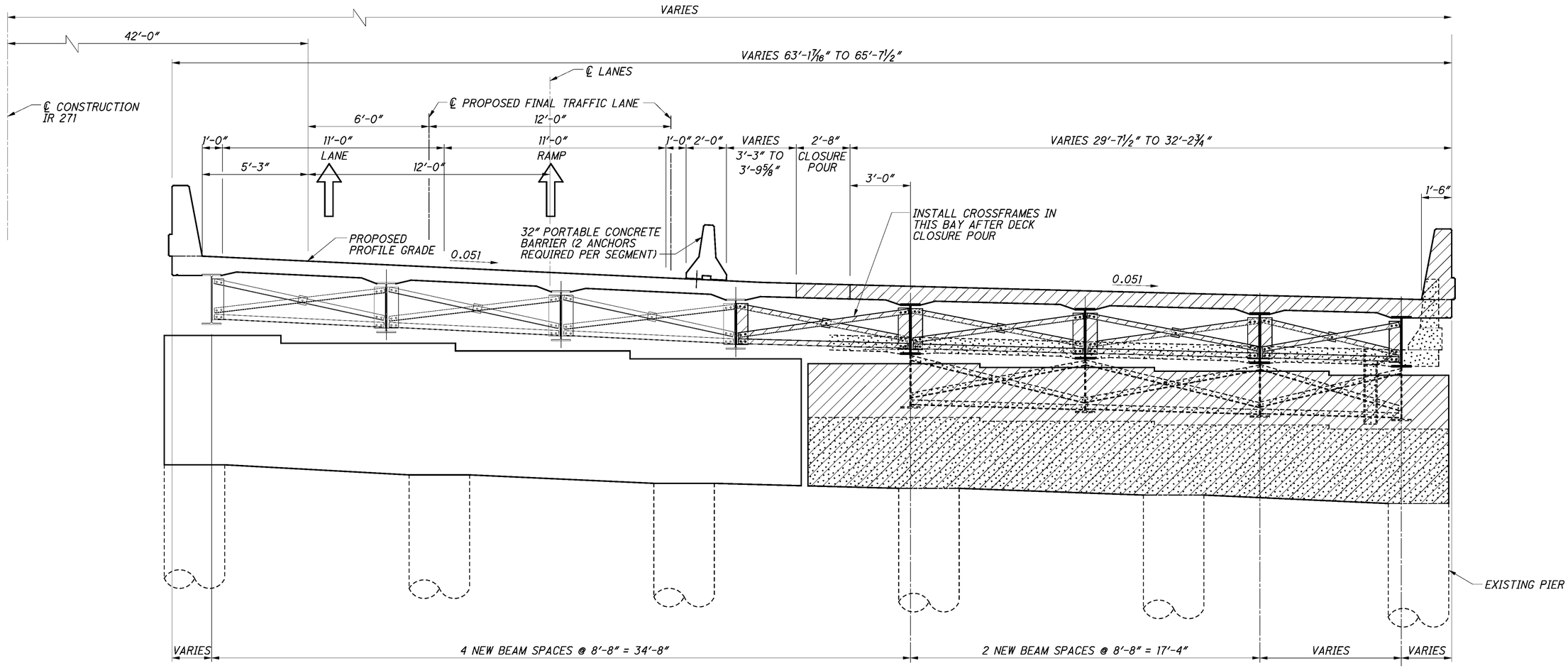
PHASE CONSTRUCTION

MAINTENANCE OF TRAFFIC TYPICAL SECTION
BRIDGE SUM-271-0354R PART-WIDTH CONSTRUCTION - PHASE 3B

SUM-271-2.33

60
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SUM-271-0375R
PHASE 3B CONSTRUCTION

NOTE: VARIABLE WIDTHS SHOWN ARE MINIMUM AND MAXIMUM DIMENSIONS. THE VARIOUS DIMENSIONS ACROSS THE BRIDGE DECK ARE NOT CONCURRENT.

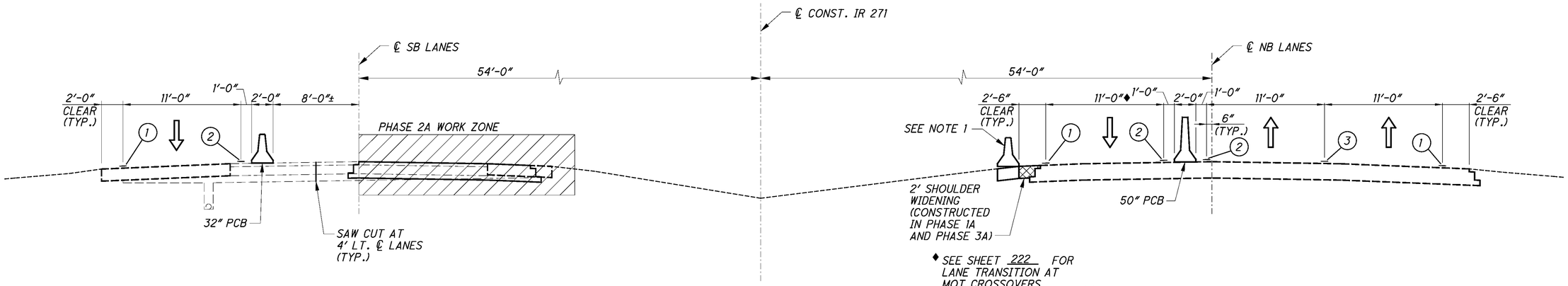
LEGEND

- REMOVAL
- PHASE CONSTRUCTION
- TRAFFIC DIRECTION

MAINTENANCE OF TRAFFIC TYPICAL SECTION
BRIDGE SUM-271-0375R PART-WIDTH CONSTRUCTION - PHASE 3B

SUM-271-2.33

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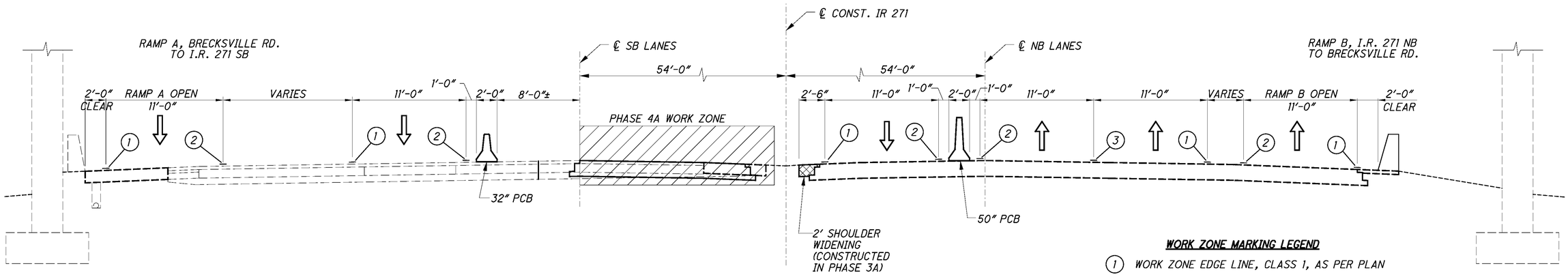


MAINTENANCE OF TRAFFIC TYPICAL SECTION

(A)—(A) PHASE 2A AND 4A

NOTES: 1. IN BIFURCATED MEDIAN SECTIONS WHERE NO GUARDRAIL IS PRESENT ON THE HIGH SIDE OF THE MEDIAN CONSTRUCT 4'-0" WIDENING FOR THE PLACEMENT OF PCB. SEE SHEET 44 FOR ADDITIONAL INFORMATION.

BIFURCATED MEDIAN
STA. LIMITS - STA. 199+80± TO STA. 307+50±

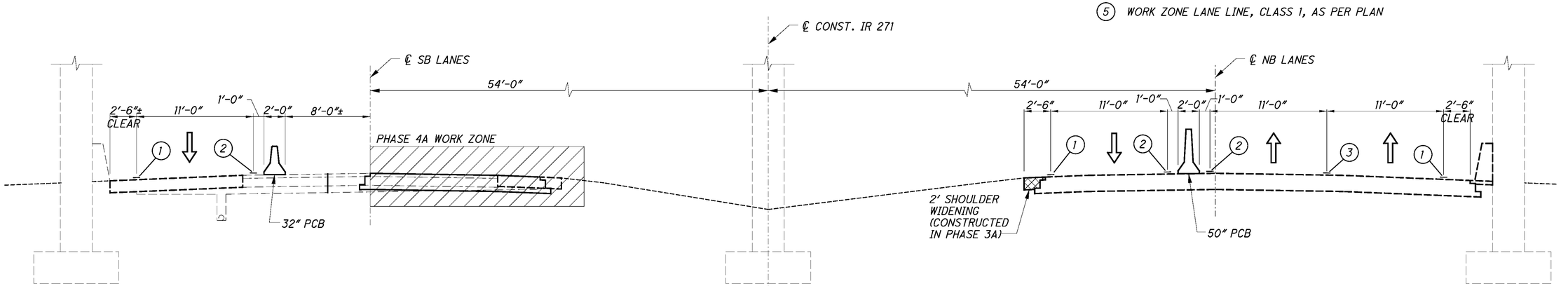


MAINTENANCE OF TRAFFIC TYPICAL SECTION

(B)—(B) AT S.R. 176 OVERPASS PHASE 4A

WORK ZONE MARKING LEGEND

1. WORK ZONE EDGE LINE, CLASS 1, AS PER PLAN
2. WORK ZONE EDGE LINE, CLASS 1, AS PER PLAN (YELLOW)
3. WORK ZONE DOTTED LINE, CLASS 1, AS PER PLAN
4. WORK ZONE CHANNELIZING LINE, CLASS 1, AS PER PLAN
5. WORK ZONE LANE LINE, CLASS 1, AS PER PLAN



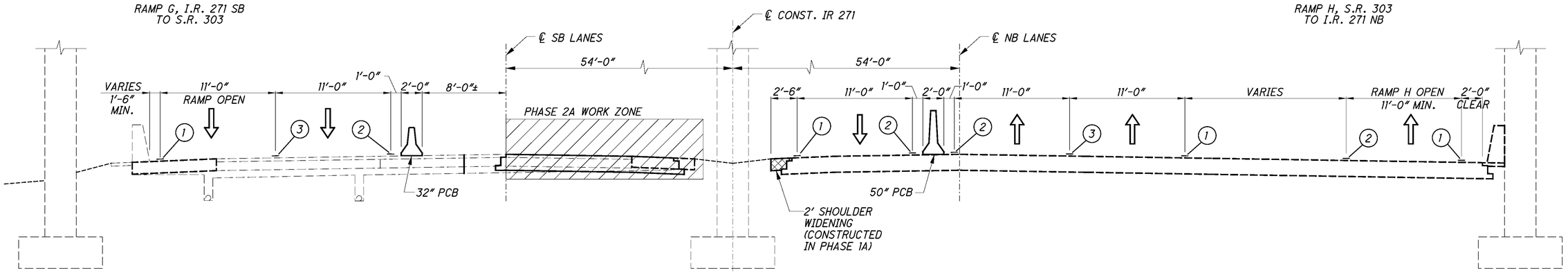
MAINTENANCE OF TRAFFIC TYPICAL SECTION

(C)—(C) AT BRECKSVILLE ROAD OVERPASS PHASE 4A

MAINTENANCE OF TRAFFIC TYPICAL SECTIONS - PHASE 2A AND 4A

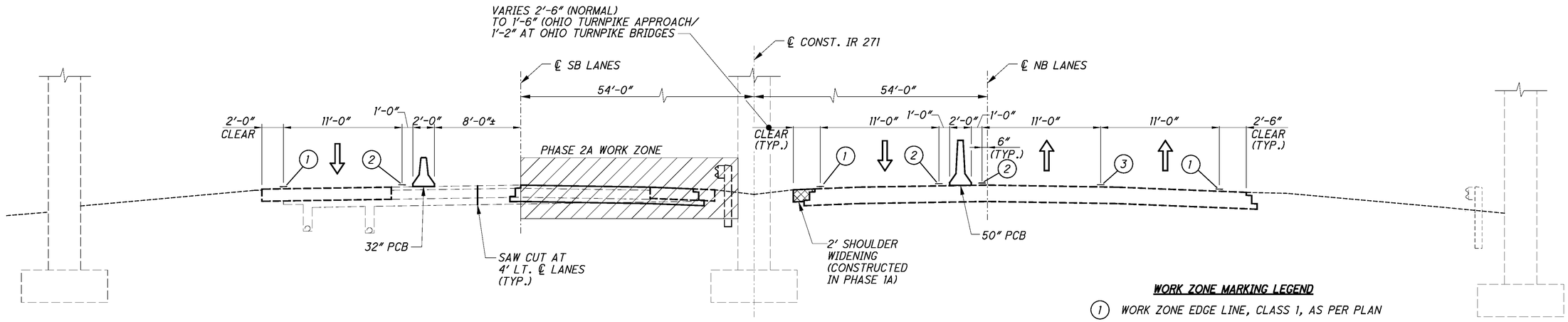
SUM-271-2.33

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MAINTENANCE OF TRAFFIC TYPICAL SECTION

(D)—(D) AT S.R. 303 OVERPASS PHASE 2A

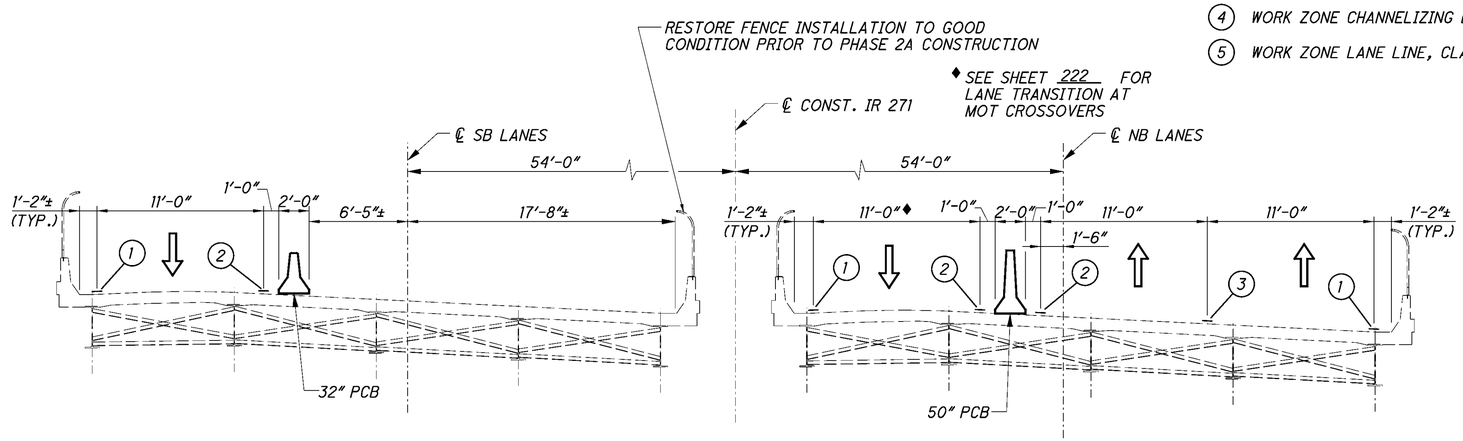


MAINTENANCE OF TRAFFIC TYPICAL SECTION

(E)—(E) AT OHIO TURNPIKE OVERPASS PHASE 2A

WORK ZONE MARKING LEGEND

1. WORK ZONE EDGE LINE, CLASS 1, AS PER PLAN
2. WORK ZONE EDGE LINE, CLASS 1, AS PER PLAN (YELLOW)
3. WORK ZONE DOTTED LINE, CLASS 1, AS PER PLAN
4. WORK ZONE CHANNELIZING LINE, CLASS 1, AS PER PLAN
5. WORK ZONE LANE LINE, CLASS 1, AS PER PLAN



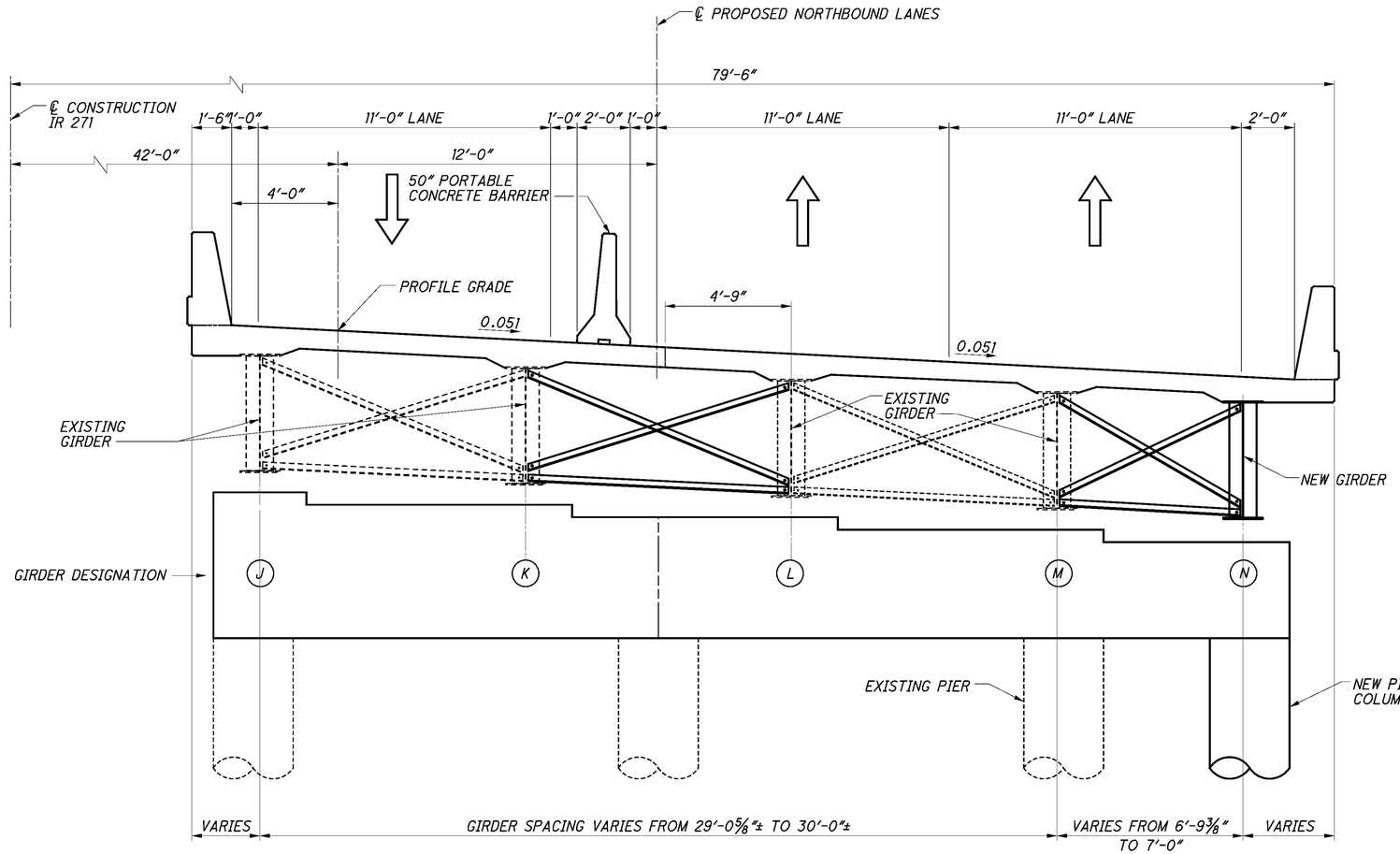
STRUCTURE SUM-271-0655L OVER OHIO TURNPIKE | **MAINTENANCE OF TRAFFIC TYPICAL SECTION** | **STRUCTURE SUM-271-0655R OVER OHIO TURNPIKE**

(F)—(F) AT OHIO TURNPIKE BRIDGES PHASE 2A (MAINTAIN LANE CONFIGURATION NORTH OF OHIO TURNPIKE UNTIL MOT CROSSOVER)

MAINTENANCE OF TRAFFIC TYPICAL SECTIONS - PHASE 2A

SUM-271-2.33

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SUM-271-0354R
PHASE 4 CONSTRUCTION

LEGEND

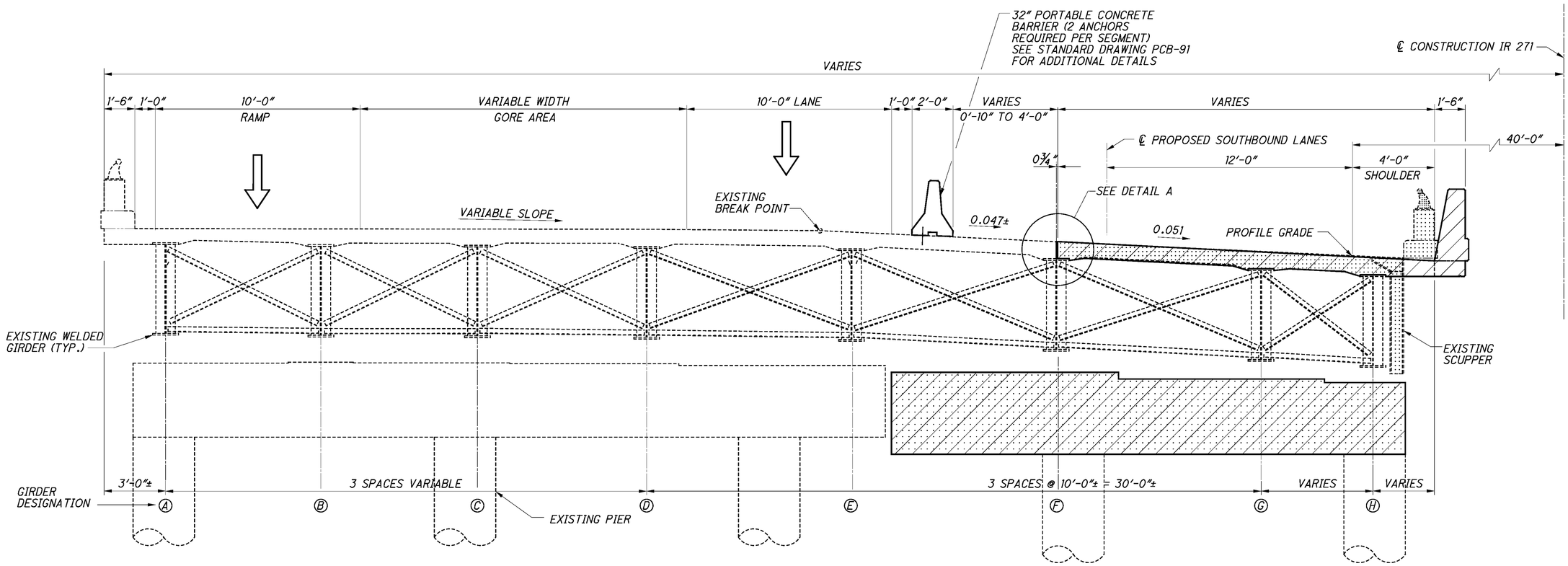
TRAFFIC DIRECTION

MAINTENANCE OF TRAFFIC TYPICAL SECTION
BRIDGE SUM-271-0354R PART-WIDTH CONSTRUCTION - PHASE 4

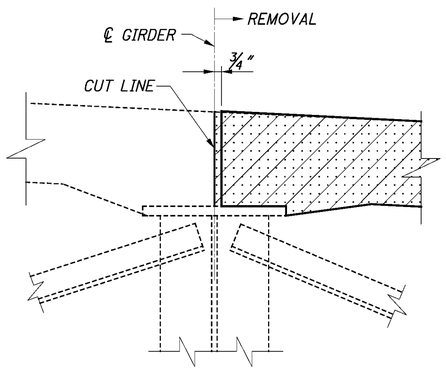
SUM-271-2.33

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1195

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SUM-271-0354L
PHASE 4A CONSTRUCTION
(PIER 1 SHOWN)



DETAIL A

LEGEND

TRAFFIC DIRECTION

REMOVAL

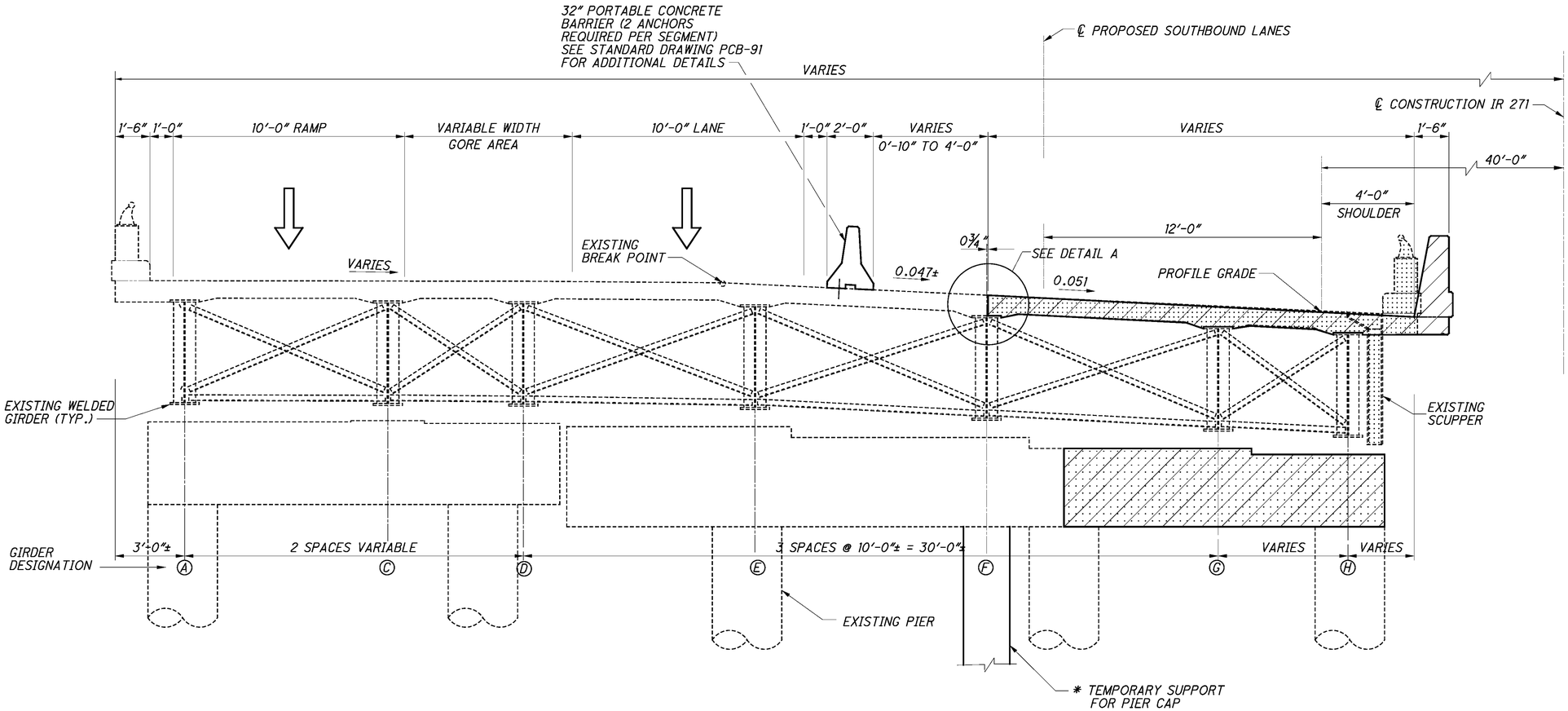
PHASE CONSTRUCTION

MAINTENANCE OF TRAFFIC TYPICAL SECTION
BRIDGE SUM-271-0354L AT PIER 1 PART-WIDTH CONSTRUCTION - PHASE 4A

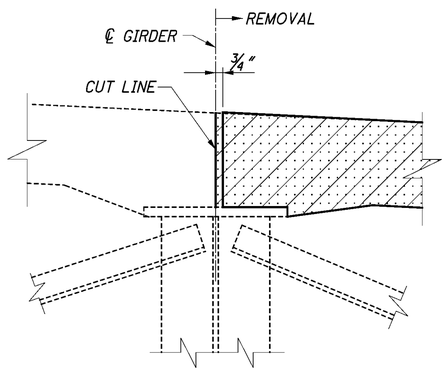
SUM-271-2.33

65
1195

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SUM-271-0354L
PHASE 4A CONSTRUCTION
(PIER 2 SHOWN)



DETAIL A

*GIRDER F MAY BE SUPPORTED AT THE GIRDER DURING PHASE 4A, IN LIEU OF SUPPORTING THE PIER CAP, WHILE THE BEARINGS ARE REFURBISHED.

LEGEND

TRAFFIC DIRECTION

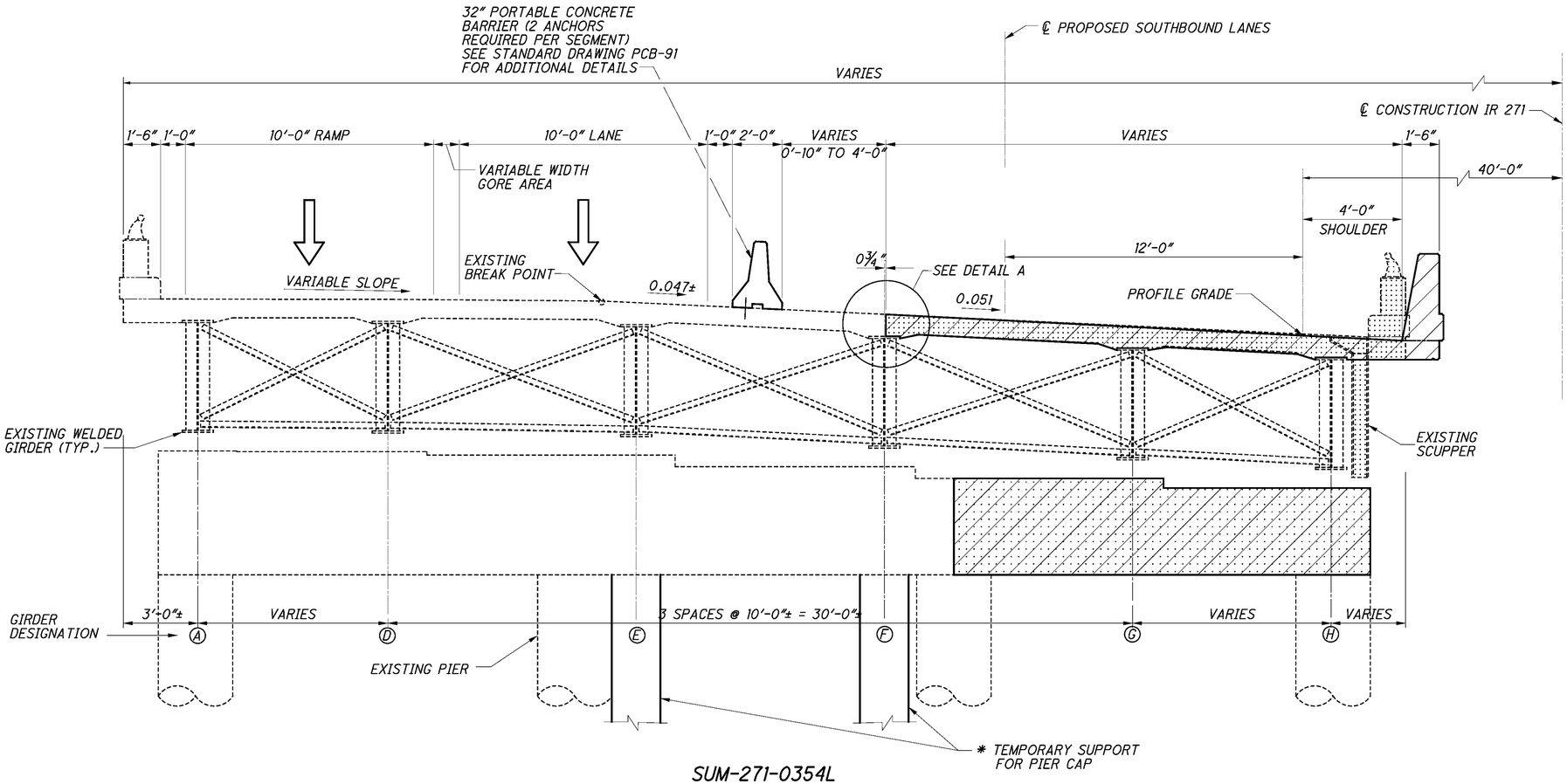
REMOVAL

PHASE CONSTRUCTION

MAINTENANCE OF TRAFFIC TYPICAL SECTION
BRIDGE SUM-271-0354L AT PIER 2 PART-WIDTH CONSTRUCTION - PHASE 4A

SUM-271-2.33

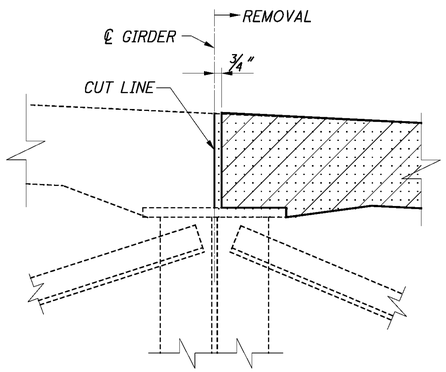
F:\2009\109094\18710\roadway\sheets\18710MY028.dgn 11/6/2012 10:08:35 AM DonHelman



SUM-271-0354L

PHASE 4A CONSTRUCTION

(PIER 3 SHOWN)



DETAIL A

* GIRDER F MAY BE SUPPORTED AT THE GIRDER DURING PHASE 4A, IN LIEU OF SUPPORTING THE PIER CAP, WHILE THE BEARINGS ARE REFURBISHED. THE TEMPORARY SUPPORT AT THE PIER CAP BENEATH GIRDER E IS REQUIRED ONLY IF THERE IS NO TEMPORARY SUPPORT AT THE PIER CAP BENEATH GIRDER F.

LEGEND

TRAFFIC DIRECTION

REMOVAL

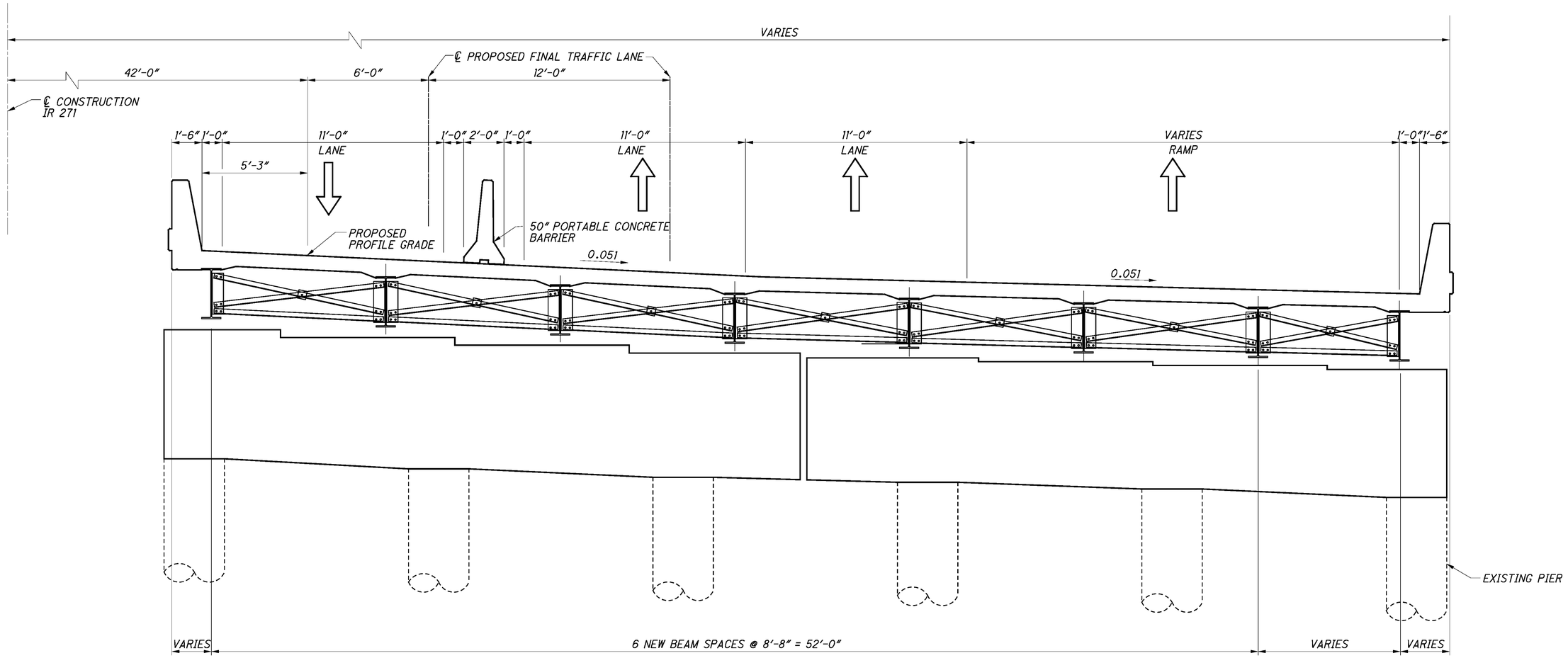
PHASE CONSTRUCTION

MAINTENANCE OF TRAFFIC TYPICAL SECTION

BRIDGE SUM-271-0354L AT PIER 3 PART-WIDTH CONSTRUCTION - PHASE 4A

SUM-271-2.33

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SUM-271-0375R
PHASE 4A AND 4B CONSTRUCTION

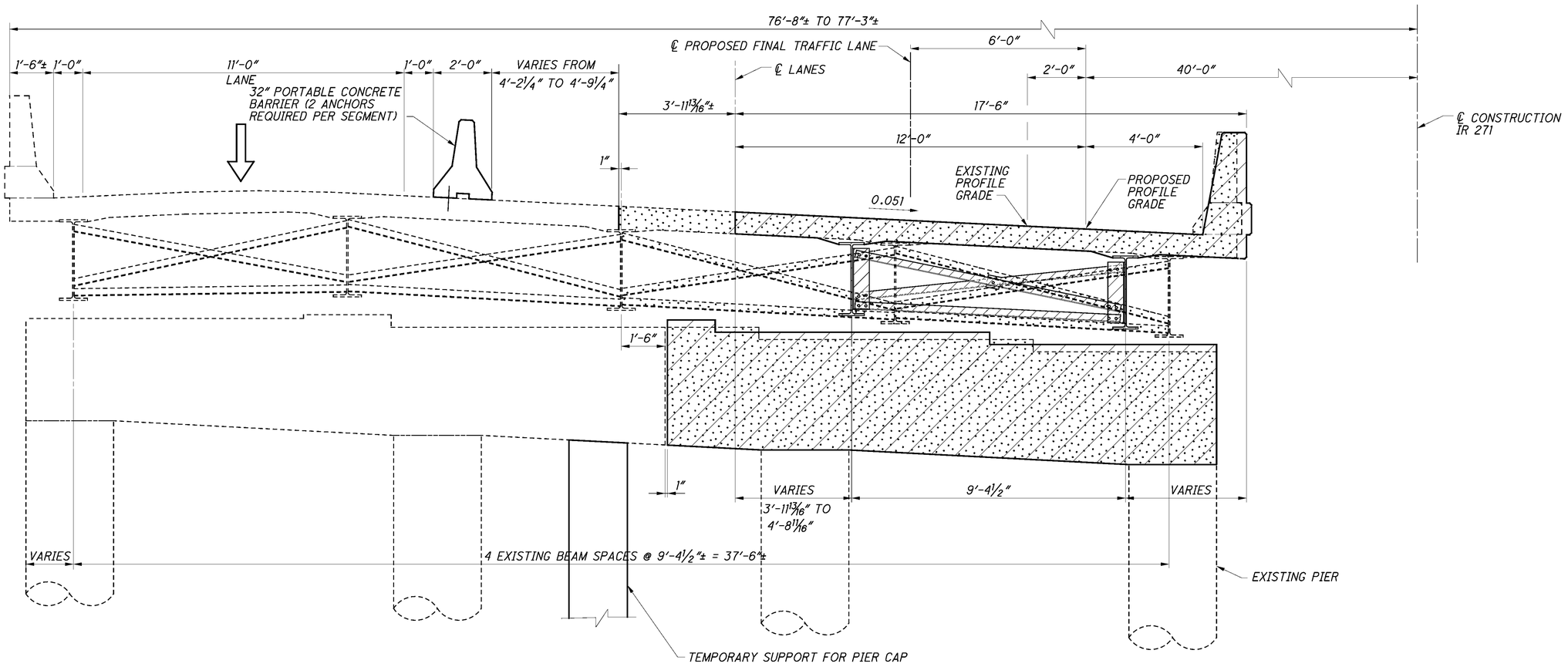
LEGEND

TRAFFIC DIRECTION

MAINTENANCE OF TRAFFIC TYPICAL SECTION
BRIDGE SUM-271-0375R PART-WIDTH CONSTRUCTION - PHASE 4

SUM-271-2.33

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SUM-271-0375L
PHASE 4A CONSTRUCTION

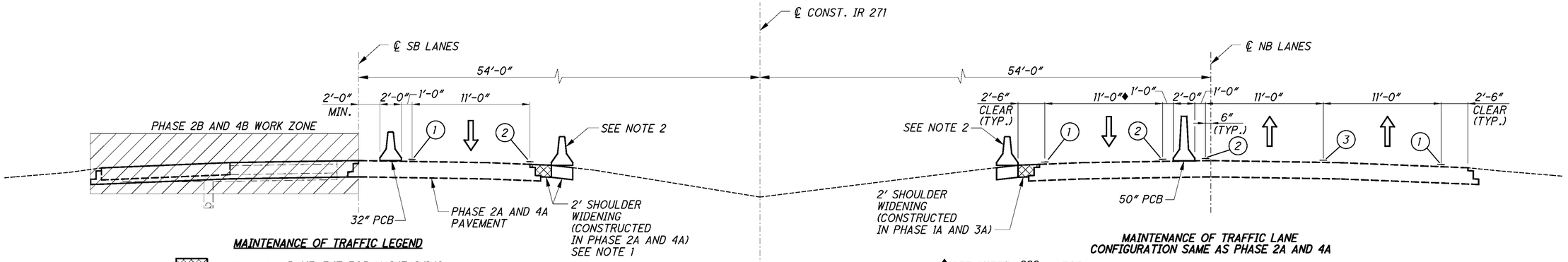
LEGEND

- TRAFFIC DIRECTION
- REMOVAL
- PHASE CONSTRUCTION

MAINTENANCE OF TRAFFIC TYPICAL SECTION
BRIDGE SUM-271-0375L PART-WIDTH CONSTRUCTION - PHASE 4A

SUM-271-2.33

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MAINTENANCE OF TRAFFIC LEGEND

ITEM 615 - PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A, AS PER PLAN

MAINTENANCE OF TRAFFIC LANE CONFIGURATION SAME AS PHASE 2A AND 4A

♦ SEE SHEET 222 FOR LANE TRANSITION AT MOT CROSSOVERS

NOTES:

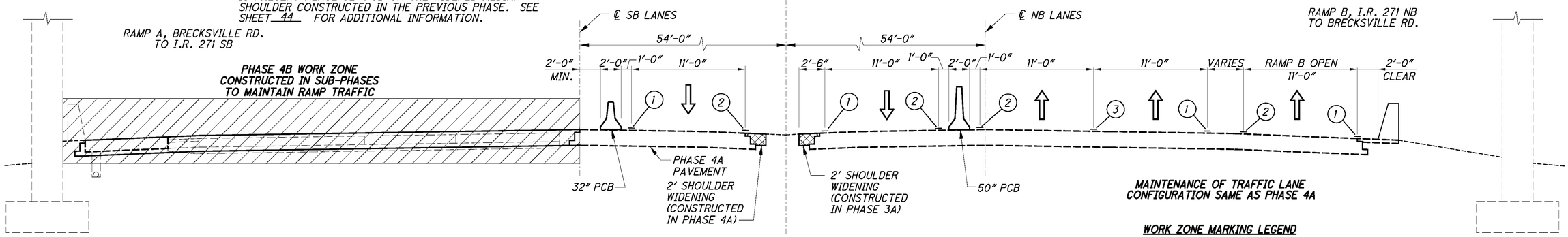
1. IN BIFURCATED MEDIAN SECTIONS WHERE NO GUARDRAIL IS PRESENT ON THE HIGH SIDE OF THE MEDIAN CONSTRUCT 4′-0″ WIDENING FOR THE PLACEMENT OF PCB IN THE FOLLOWING PHASE 1A AND 3A.

   BIFURCATED MEDIAN
   STA. LIMITS - STA. 199+80± TO STA. 307+50±

2. IN BIFURCATED MEDIAN SECTIONS WHERE NO GUARDRAIL IS PRESENT PLACE 32″ PCB ON THE WIDENED MEDIAN SHOULDER CONSTRUCTED IN THE PREVIOUS PHASE. SEE SHEET 44 FOR ADDITIONAL INFORMATION.

MAINTENANCE OF TRAFFIC TYPICAL SECTION

Ⓐ—Ⓐ **PHASE 2B AND 4B**



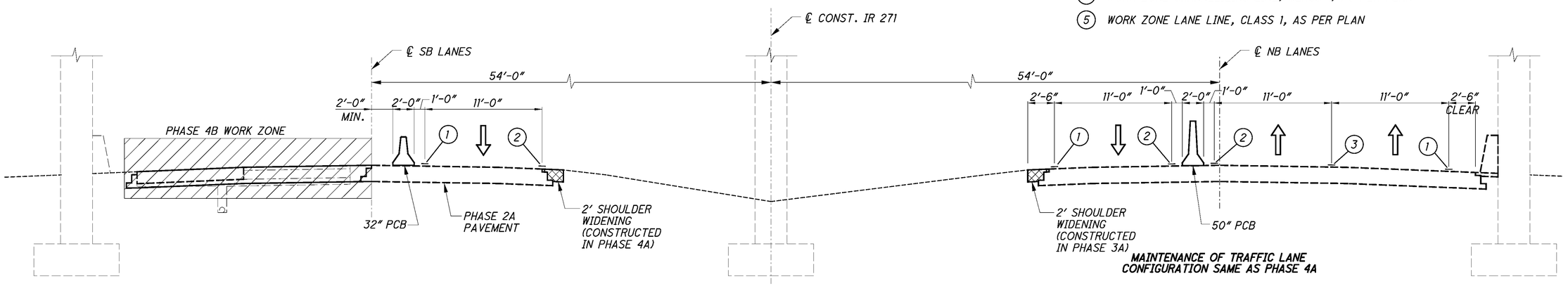
MAINTENANCE OF TRAFFIC LANE CONFIGURATION SAME AS PHASE 4A

MAINTENANCE OF TRAFFIC TYPICAL SECTION

Ⓑ—Ⓑ **AT S.R. 176 OVERPASS PHASE 4B**

WORK ZONE MARKING LEGEND

1. WORK ZONE EDGE LINE, CLASS 1, AS PER PLAN
2. WORK ZONE EDGE LINE, CLASS 1, AS PER PLAN (YELLOW)
3. WORK ZONE DOTTED LINE, CLASS 1, AS PER PLAN
4. WORK ZONE CHANNELIZING LINE, CLASS 1, AS PER PLAN
5. WORK ZONE LANE LINE, CLASS 1, AS PER PLAN



MAINTENANCE OF TRAFFIC LANE CONFIGURATION SAME AS PHASE 4A

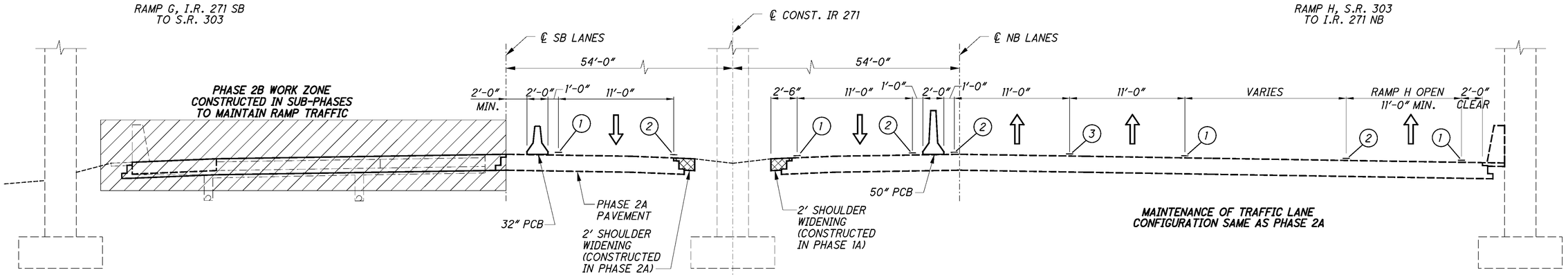
MAINTENANCE OF TRAFFIC TYPICAL SECTION

Ⓒ—Ⓒ **AT BRECKSVILLE ROAD OVERPASS PHASE 4B**

MAINTENANCE OF TRAFFIC TYPICAL SECTIONS - PHASE 2B AND 4B

SUM-271-2.33

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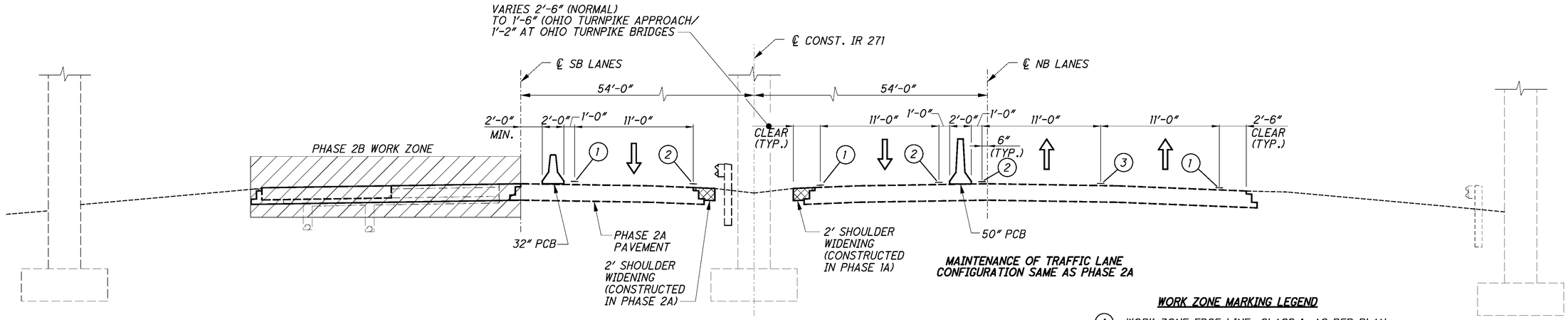


MAINTENANCE OF TRAFFIC LEGEND

ITEM 615 - PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A, AS PER PLAN

MAINTENANCE OF TRAFFIC TYPICAL SECTION

(D)—(D) AT S.R. 303 OVERPASS
PHASE 2B



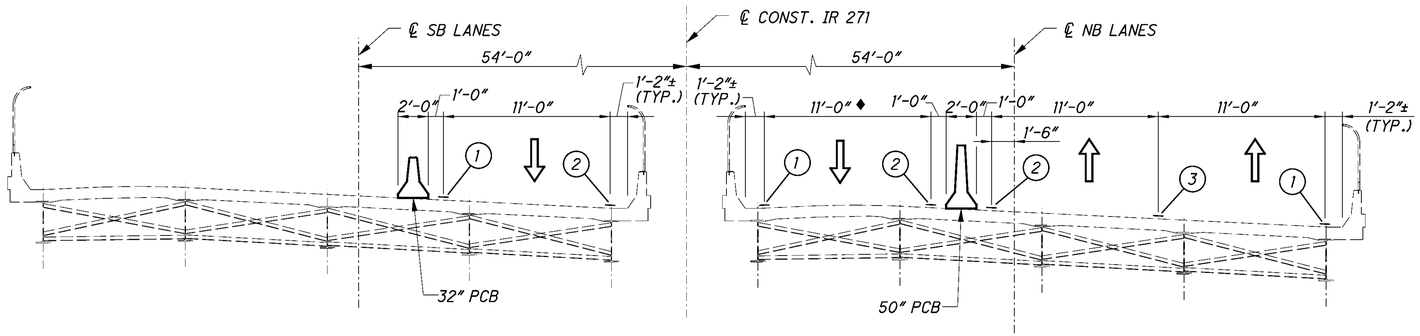
MAINTENANCE OF TRAFFIC TYPICAL SECTION

(E)—(E) AT OHIO TURNPIKE OVERPASS
PHASE 2B

♦ SEE SHEET 222 FOR LANE TRANSITION AT MOT CROSSOVERS

WORK ZONE MARKING LEGEND

1. WORK ZONE EDGE LINE, CLASS 1, AS PER PLAN
2. WORK ZONE EDGE LINE, CLASS 1, AS PER PLAN (YELLOW)
3. WORK ZONE DOTTED LINE, CLASS 1, AS PER PLAN
4. WORK ZONE CHANNELIZING LINE, CLASS 1, AS PER PLAN
5. WORK ZONE LANE LINE, CLASS 1, AS PER PLAN



STRUCTURE SUM-271-0655L OVER OHIO TURNPIKE

MAINTENANCE OF TRAFFIC TYPICAL SECTION

(F)—(F) AT OHIO TURNPIKE BRIDGES
PHASE 2B (MAINTAIN LANE CONFIGURATION NORTH OF OHIO TURNPIKE UNTIL MOT CROSSOVER)

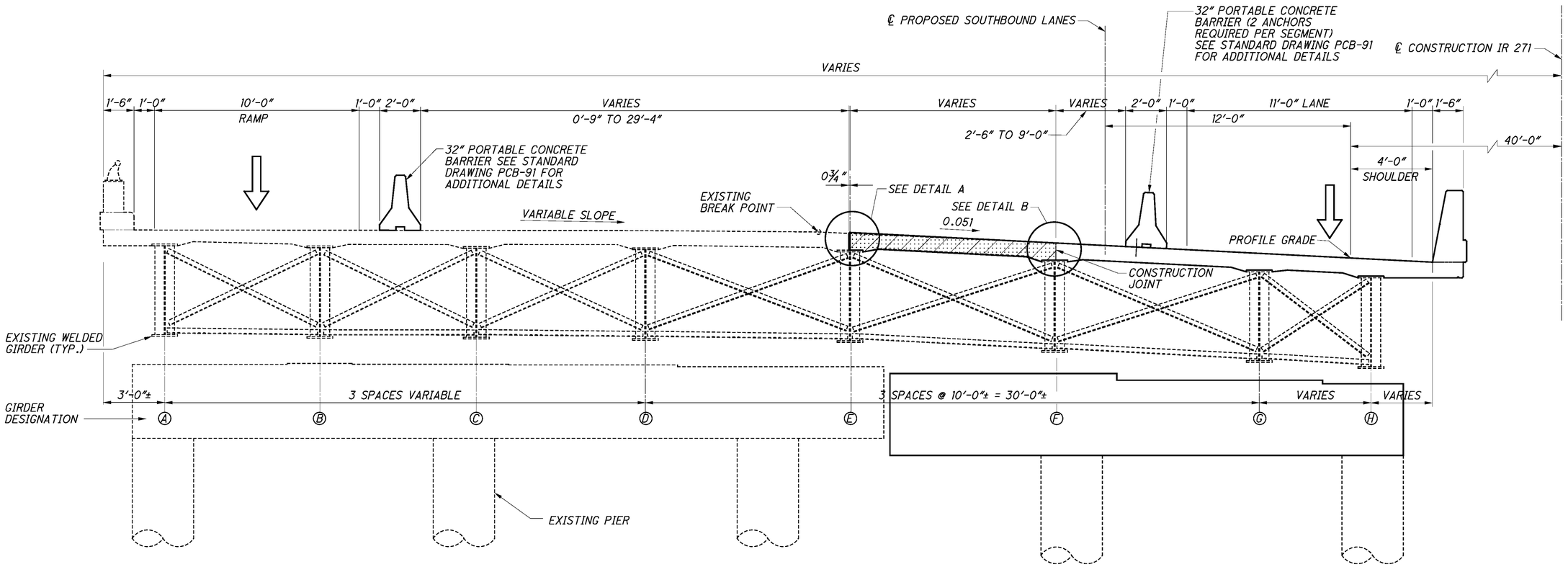
STRUCTURE SUM-271-0655R OVER OHIO TURNPIKE

MAINTENANCE OF TRAFFIC LANE CONFIGURATION SAME AS PHASE 2A

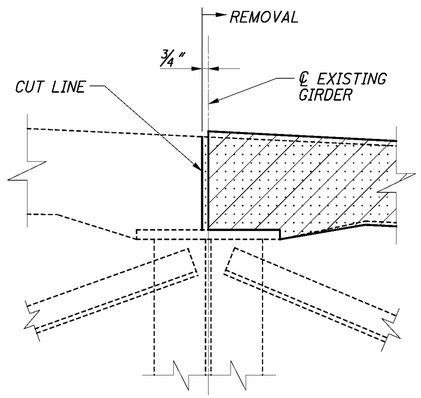
MAINTENANCE OF TRAFFIC TYPICAL SECTIONS - PHASE 2B

SUM-271-2.33

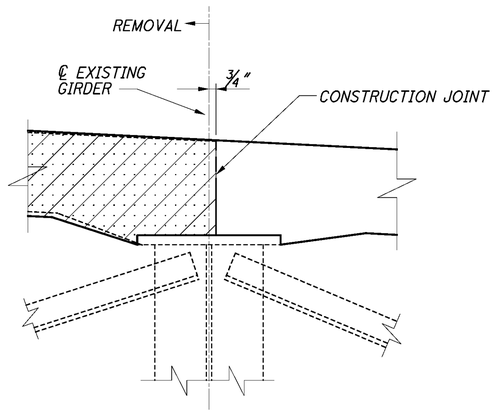
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SUM-271-0354L
PHASE 4B-1 CONSTRUCTION
(PIER 1 SHOWN)



DETAIL A



DETAIL B

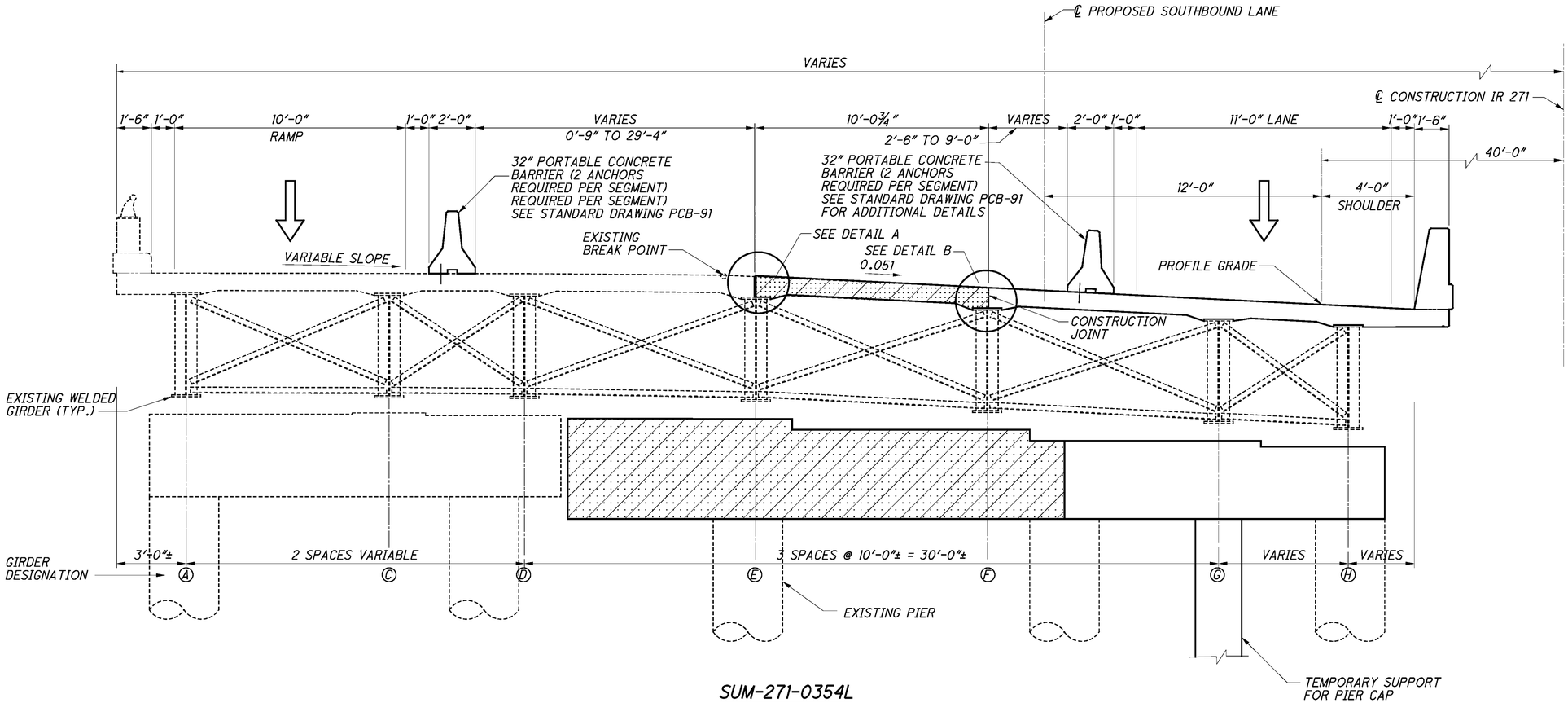
LEGEND

- TRAFFIC DIRECTION
- REMOVAL
- PHASE CONSTRUCTION

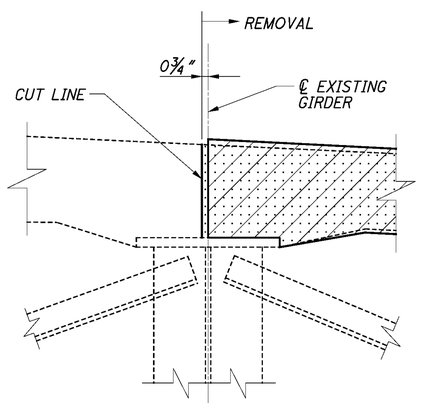
MAINTENANCE OF TRAFFIC TYPICAL SECTION - PHASE 4B-1
BRIDGE SUM-271-0354L AT PIER 1 PART-WIDTH CONSTRUCTION

SUM-271-2.33

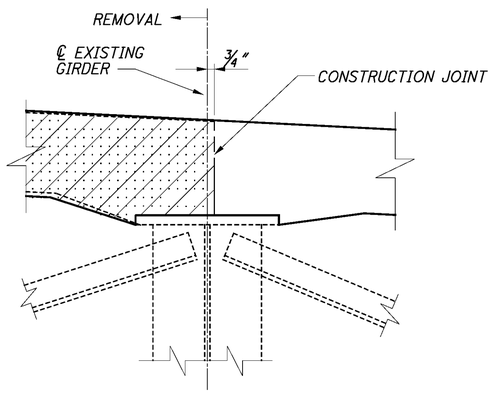
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SUM-271-0354L
PHASE 4B-1 CONSTRUCTION
(PIER 2 SHOWN)



DETAIL A



DETAIL B

LEGEND

TRAFFIC DIRECTION

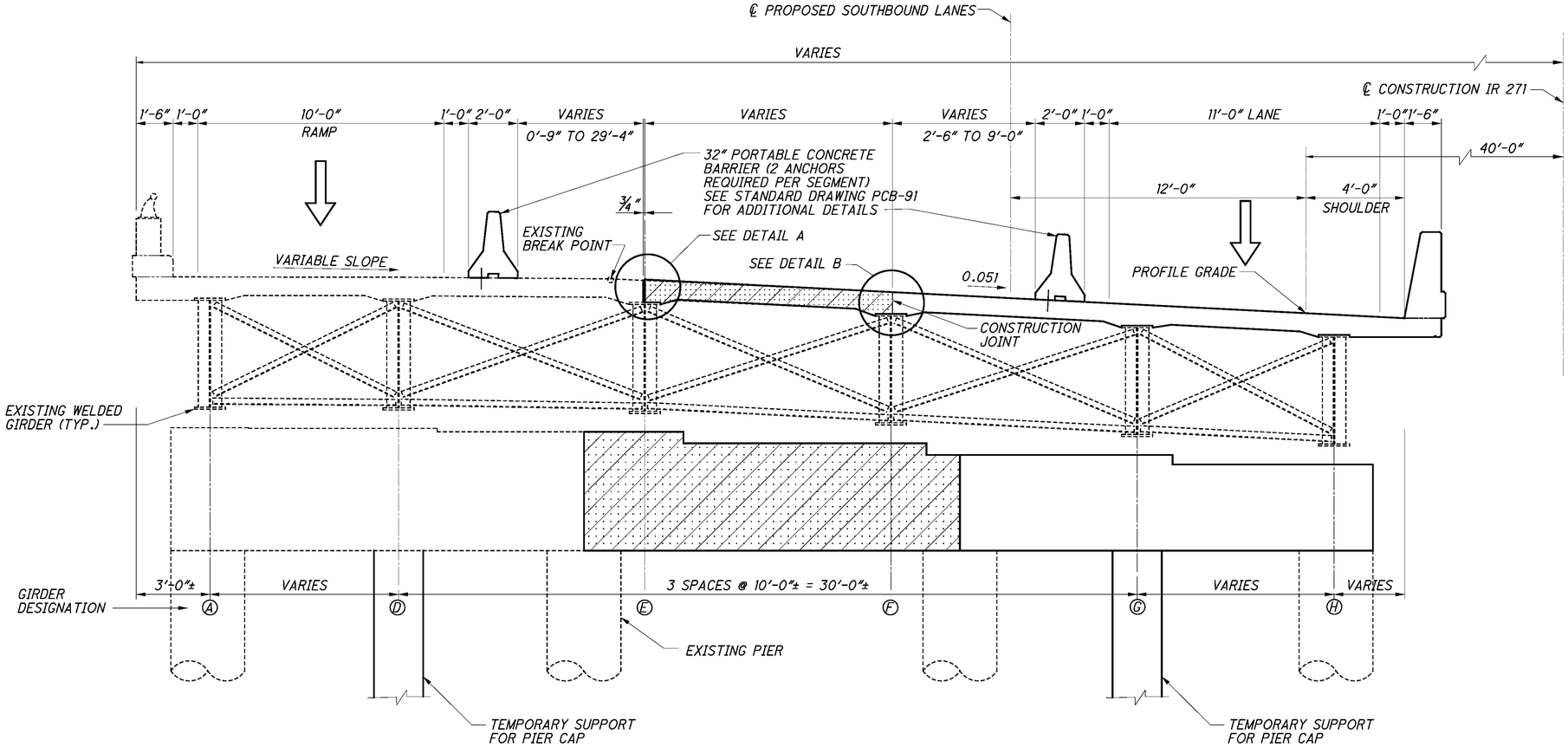
REMOVAL

PHASE CONSTRUCTION

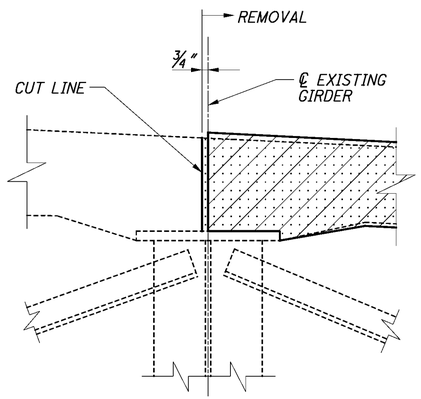
MAINTENANCE OF TRAFFIC TYPICAL SECTION
BRIDGE SUM-271-0354L AT PIER 2 PART-WIDTH CONSTRUCTION - PHASE 4B-1

SUM-271-2.33

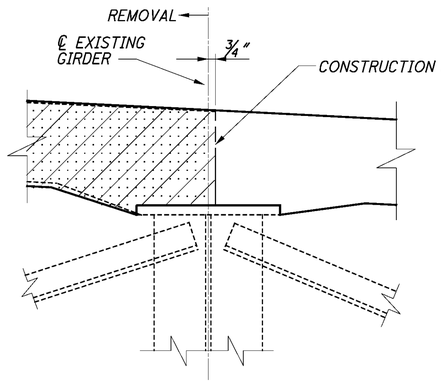
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SUM-271-0354L
PHASE 4B-1 CONSTRUCTION
(PIER 3 SHOWN)



DETAIL A



DETAIL B

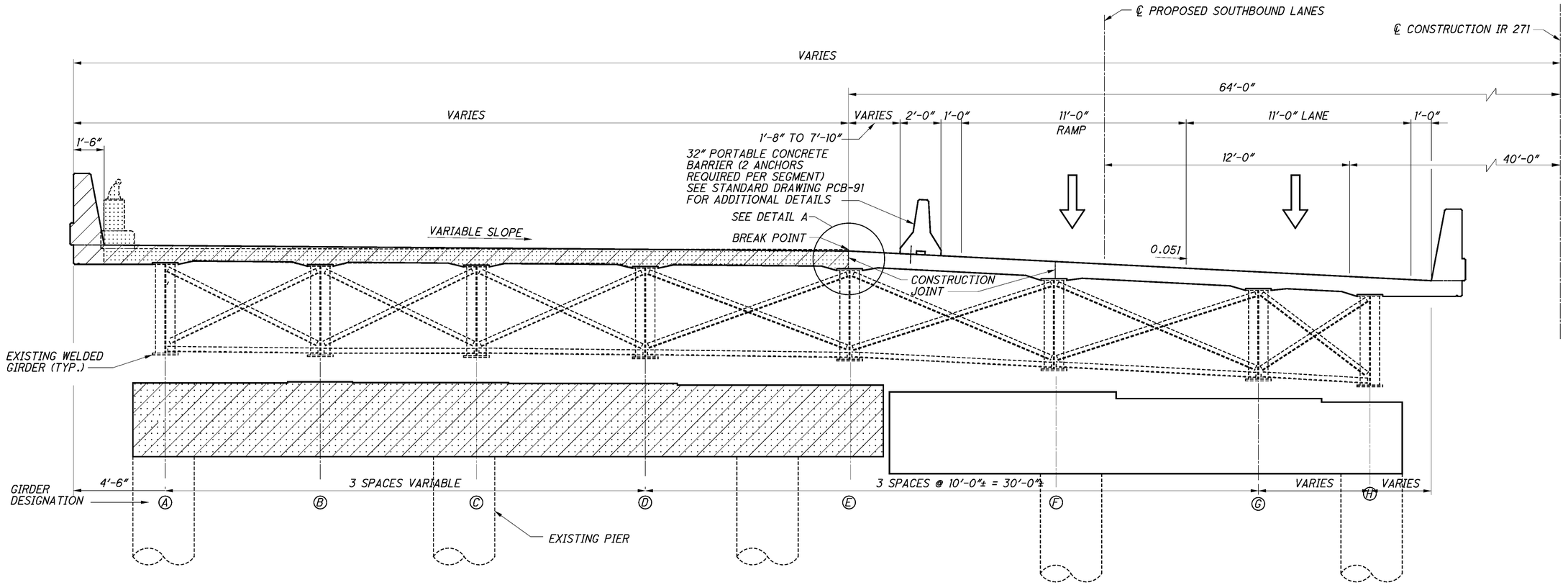
LEGEND

- TRAFFIC DIRECTION
- REMOVAL
- PHASE CONSTRUCTION

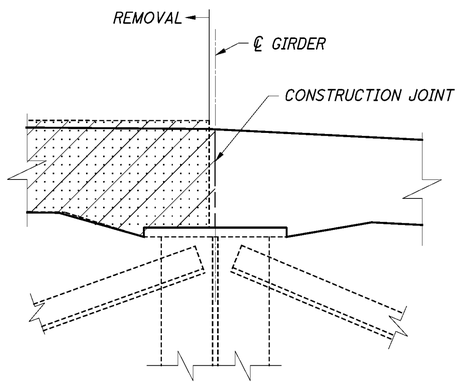
MAINTENANCE OF TRAFFIC TYPICAL SECTION
BRIDGE SUM-271-0354L AT PIER 3 PART-WIDTH CONSTRUCTION - PHASE 4B-1

SUM-271-2.33

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SUM-271-0354L
PHASE 4B-2 CONSTRUCTION
(PIER 1 SHOWN)



DETAIL A

LEGEND

TRAFFIC DIRECTION

REMOVAL

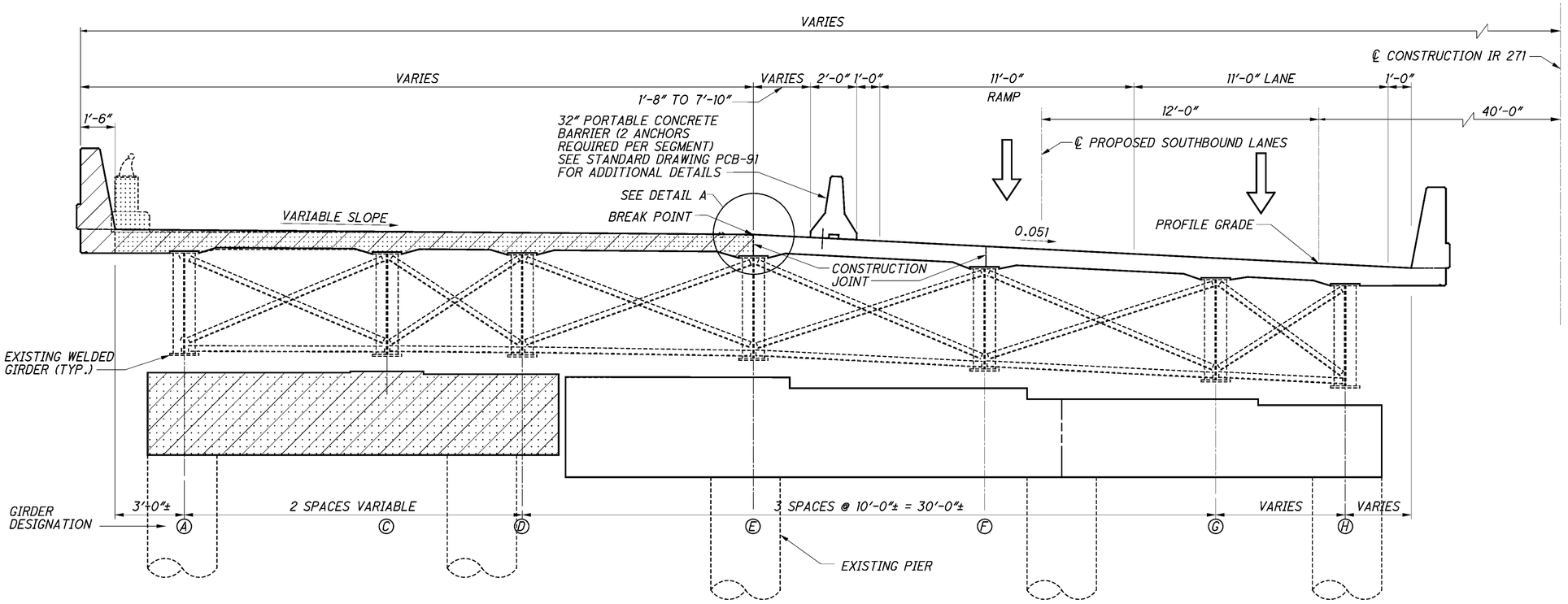
PHASE CONSTRUCTION

MAINTENANCE OF TRAFFIC TYPICAL SECTION
BRIDGE SUM-271-0354L AT PIER 1PART-WIDTH CONSTRUCTION - PHASE 4B-2

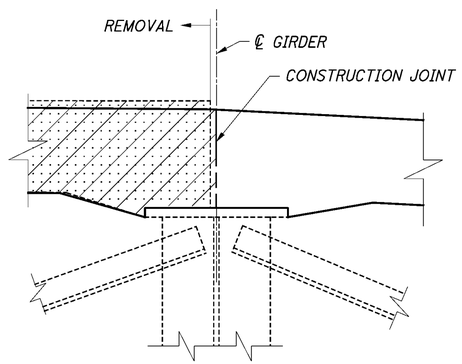
SUM-271-2.33

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1195

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SUM-271-0354L
PHASE 4B-2 CONSTRUCTION
(PIER 2 SHOWN)



DETAIL A

LEGEND

TRAFFIC DIRECTION

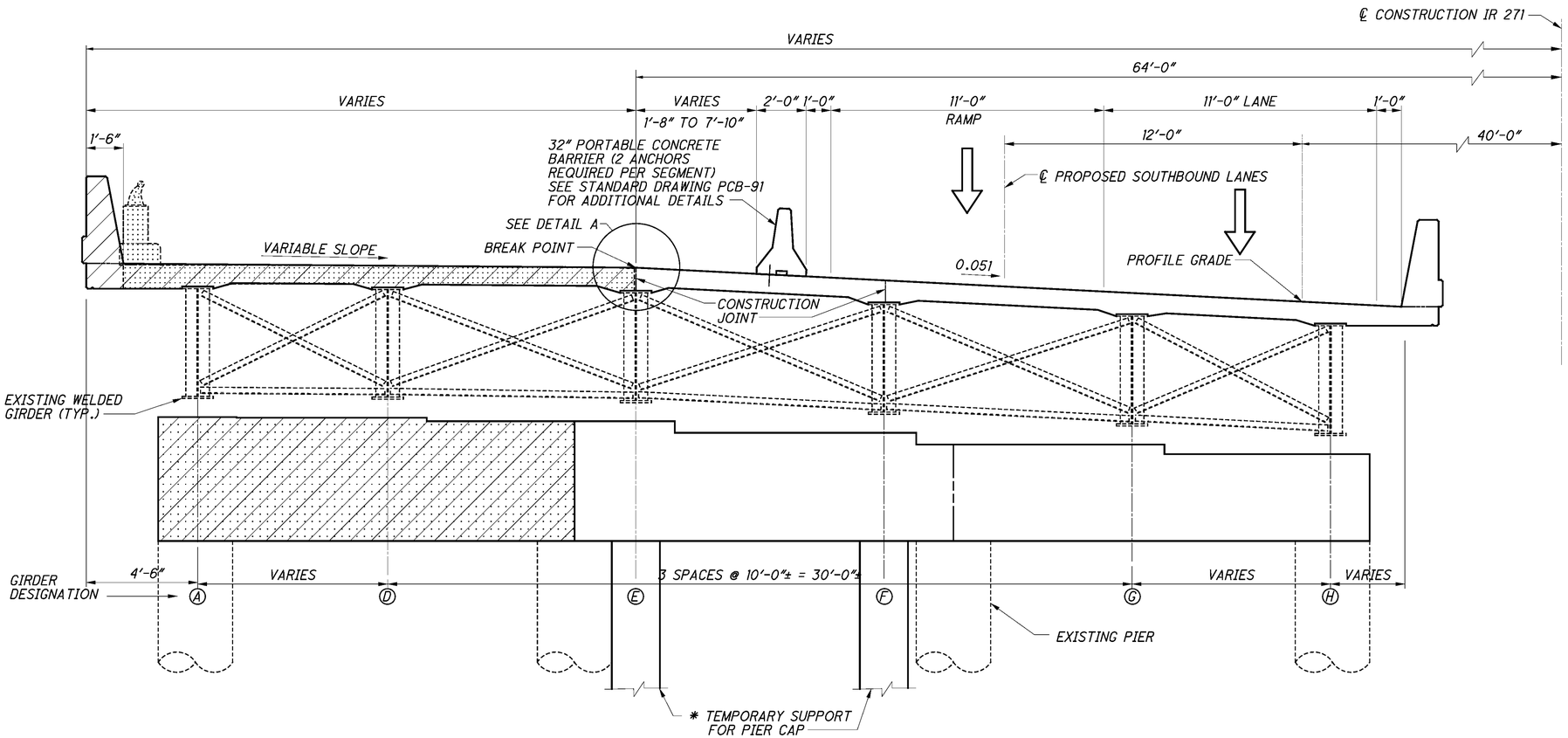
REMOVAL

PHASE CONSTRUCTION

MAINTENANCE OF TRAFFIC TYPICAL SECTION
BRIDGE SUM-271-0354L AT PIER 2 PART-WIDTH CONSTRUCTION - PHASE 4B-2

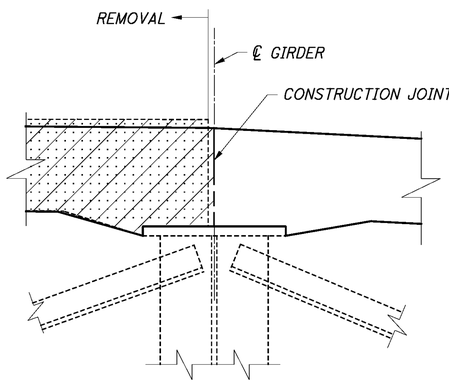
SUM-271-2.33

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SUM-271-0354L
PHASE 4B-2 CONSTRUCTION
(PIER 3 SHOWN)

* GIRDER E MAY BE SUPPORTED AT THE GIRDER DURING PHASE 4B-2 WHILE THE BEARINGS ARE REFURBISHED. THE TEMPORARY SUPPORT AT THE PIER CAP BENEATH GIRDER F IS ONLY REQUIRED IF THERE IS NO TEMPORARY SUPPORT AT THE PIER CAP BENEATH GIRDER E.



DETAIL A

LEGEND

TRAFFIC DIRECTION

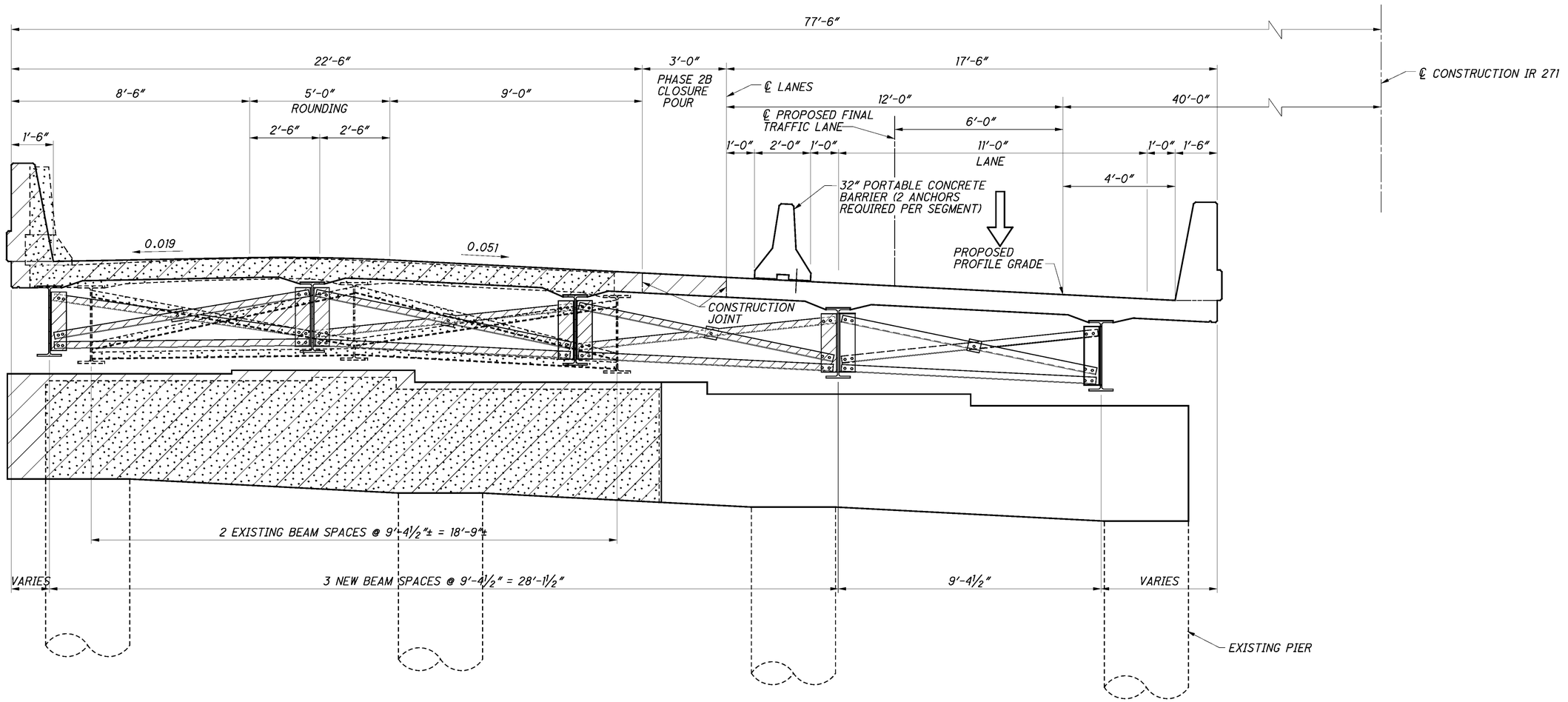
REMOVAL

PHASE CONSTRUCTION

MAINTENANCE OF TRAFFIC TYPICAL SECTION - PHASE 4B-2
BRIDGE SUM-271-0354L AT PIER 3 PART-WIDTH CONSTRUCTION

SUM-271-2.33

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SUM-271-0375L
PHASE 4B CONSTRUCTION

LEGEND

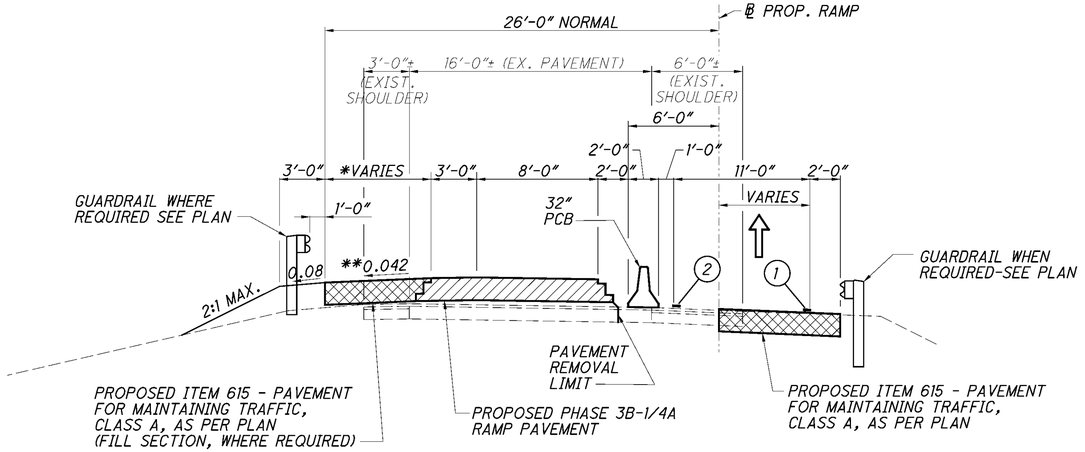
- TRAFFIC DIRECTION
- REMOVAL
- PHASE CONSTRUCTION

MAINTENANCE OF TRAFFIC TYPICAL SECTION
BRIDGE SUM-271-0375L PART-WIDTH CONSTRUCTION - PHASE 4B

SUM-271-2.33

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1195

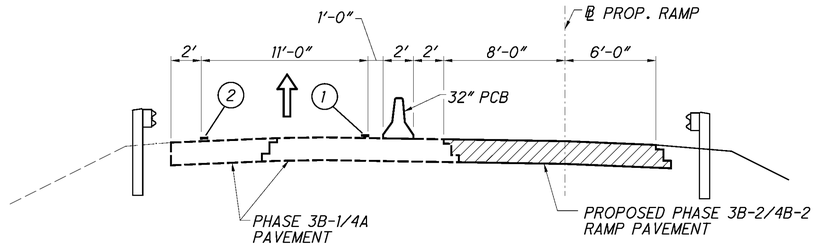
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PHASE 4A RAMP A CONSTRUCTION
PHASE 3B-1 RAMP C CONSTRUCTION

* 7'-0" NORMAL, SEE MOT CALCULATIONS FOR DIMENSIONS

** 0.042 NORMAL CROSS SLOPE. VARIES THROUGH CURVES TO MATCH HIGH SIDE SUPER SHOULDER CROSS SLOPE



PHASE 4B-2 RAMP A CONSTRUCTION
PHASE 3B-2 RAMP C CONSTRUCTION

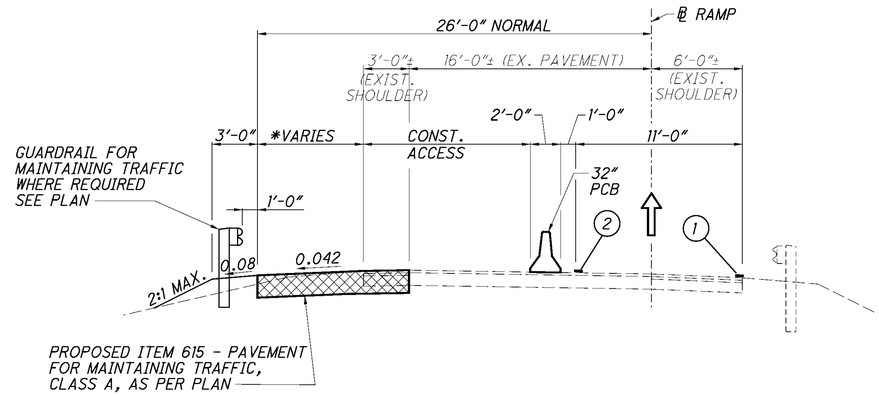
WORK ZONE MARKING LEGEND

1. WORK ZONE EDGE LINE, CLASS 1, AS PER PLAN
2. WORK ZONE EDGE LINE, CLASS 1, AS PER PLAN (YELLOW)
3. WORK ZONE DOTTED LINE, CLASS 1, AS PER PLAN
4. WORK ZONE CHANNELIZING LINE, CLASS 1, AS PER PLAN
5. WORK ZONE LANE LINE, CLASS 1, AS PER PLAN

MAINTENANCE OF TRAFFIC LEGEND

ITEM 615 - PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A, AS PER PLAN (CONSTRUCTED IN PRE-PHASE 1)

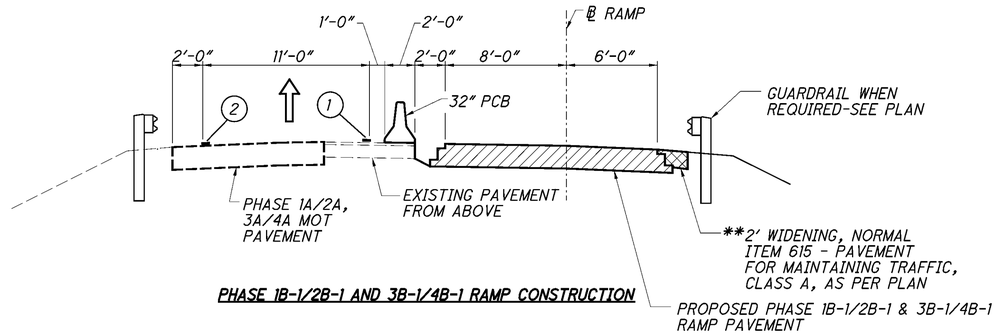
SEE MAINTENANCE OF TRAFFIC PLAN SHEETS FOR LIMITS OF 615 PAVEMENT FOR MAINTAINING TRAFFIC.



PHASE 1A/2A AND 3A/4A RAMP CONSTRUCTION

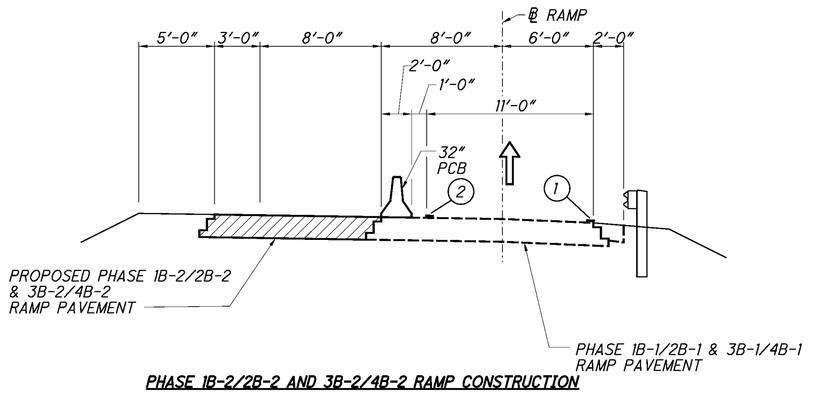
* 7'-0" NORMAL, SEE MOT CALCULATIONS FOR DIMENSIONS

*AT RAMP H - 10'-0"



PHASE 1B-1/2B-1 AND 3B-1/4B-1 RAMP CONSTRUCTION

**AT RAMP H - 5'-0"

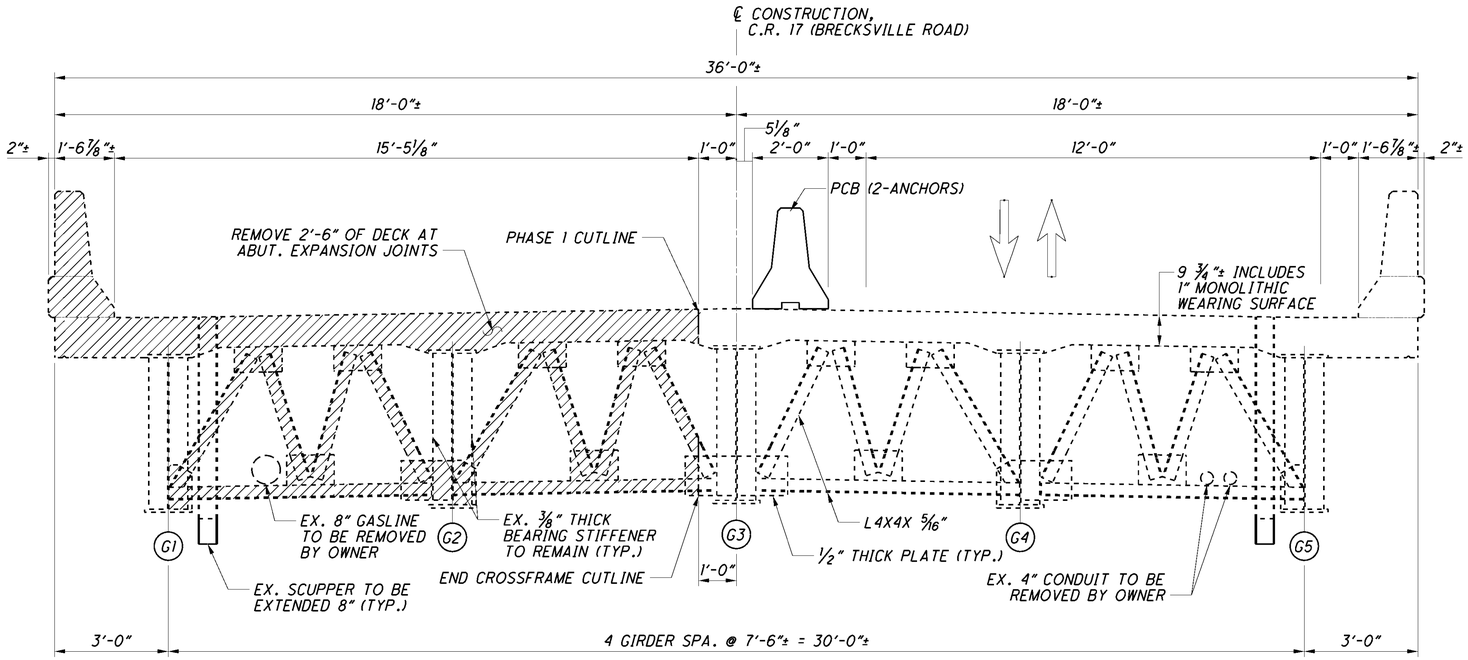


PHASE 1B-2/2B-2 AND 3B-2/4B-2 RAMP CONSTRUCTION

MAINTENANCE OF TRAFFIC
TYPICAL SECTIONS - RAMP CONSTRUCTION PHASING

SUM-271-2.33

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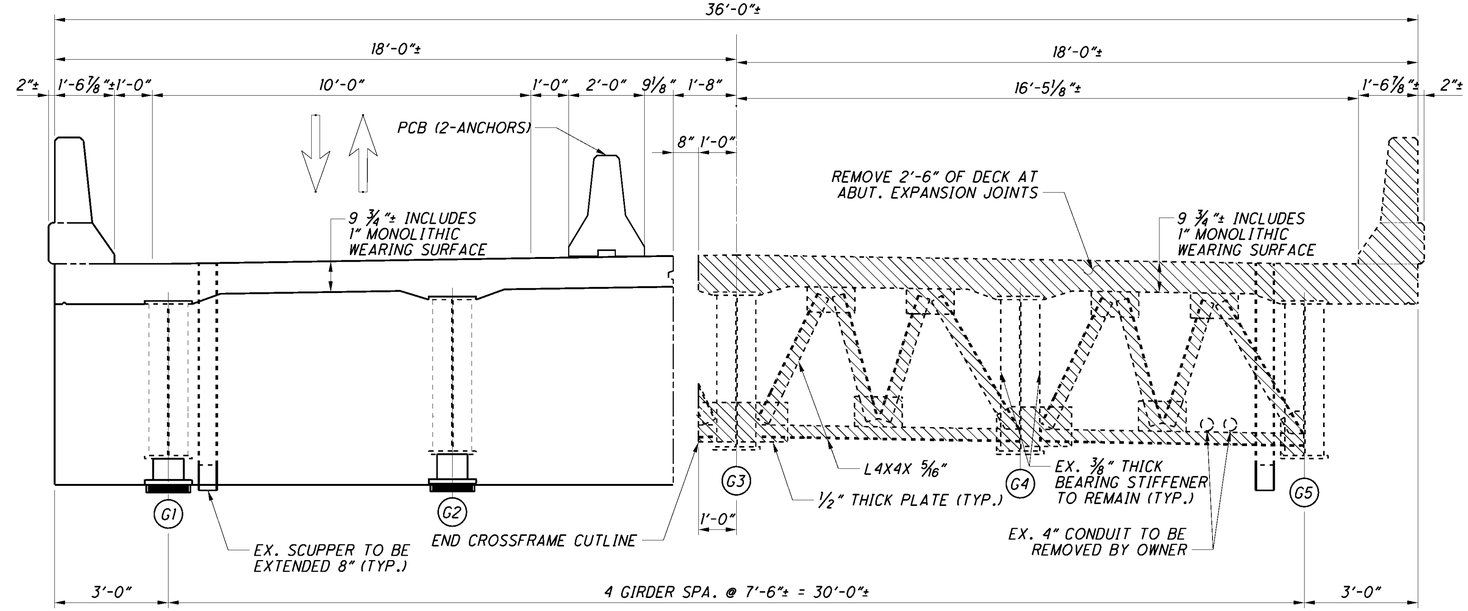
PHASE 1 REMOVAL & TRAFFIC

PHASE 1:

1. DIRECT TRAFFIC TO THE RIGHT SIDE OF THE ROADWAY.
2. REMOVE LEFT SIDE END CROSSFRAMES.
3. REMOVE LEFT SIDE OF THE DECK AT ABUTMENTS (2'-6" FROM EXPANSION JOINTS).
4. CONSTRUCT LEFT SIDE OF ABUTMENT DIAPHRAGMS.

LEGEND:

- PHASE 1 REMOVAL
- PHASE 2 REMOVAL
- NEW CONCRETE
- G3 - EXISTING GIRDER NUMBER
- TRAFFIC DIRECTION



PHASE 2 REMOVAL AND TRAFFIC

PHASE 2:

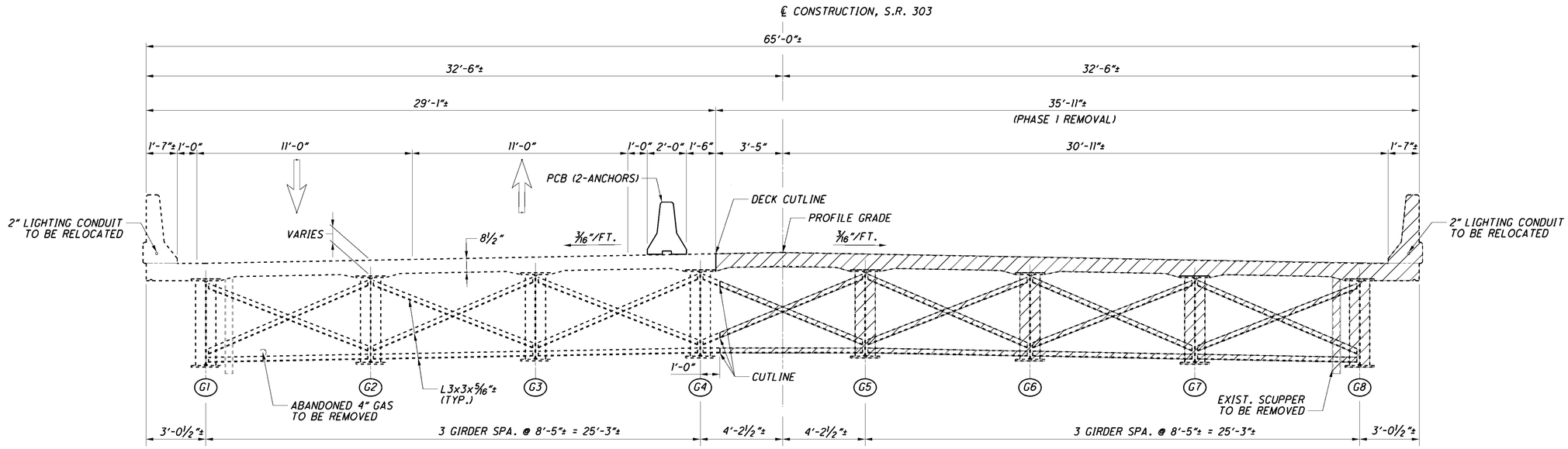
1. DIRECT TRAFFIC TO THE LEFT SIDE OF THE ROADWAY.
2. REMOVE REMAINING END CROSSFRAMES.
3. REMOVE REMAINING PART OF THE DECK AT ABUTMENTS (2'-6" FROM EXPANSION JOINTS).
4. CONSTRUCT REMAINING PART OF ABUTMENT DIAPHRAGMS.

CALCULATED PEK
CHECKED TLH

MAINTENANCE OF TRAFFIC TYPICAL SECTION
BRIDGE SUM-271-0294 PART WIDTH CONSTRUCTION - PHASE 1&2

SUM-271-2.33

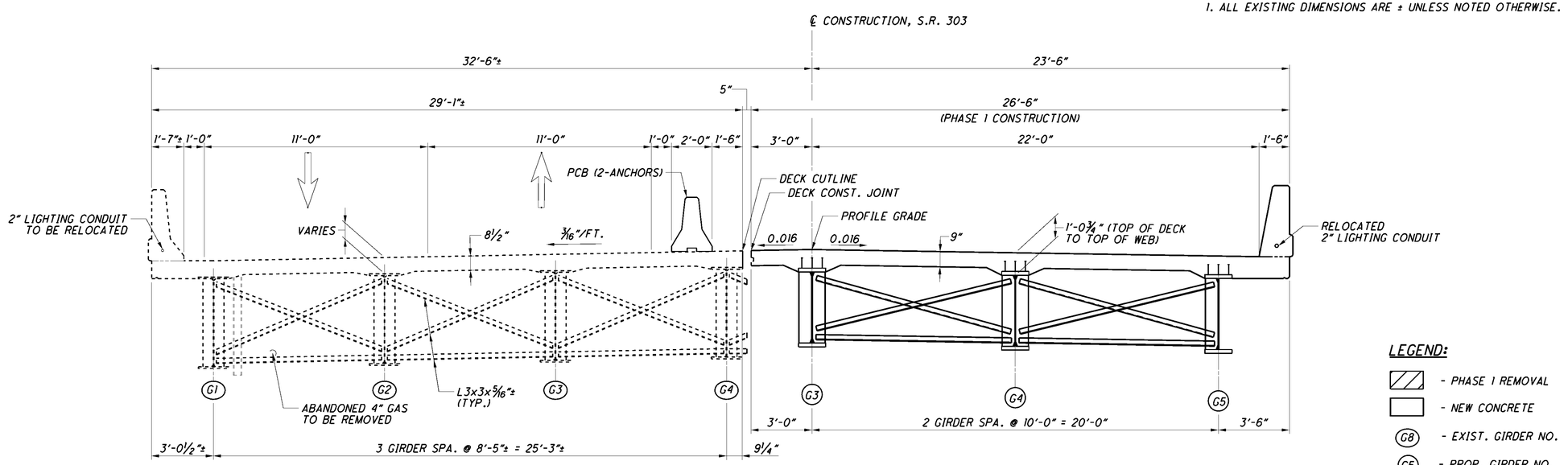
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PHASE 1 TRAFFIC & REMOVAL

NOTES:

1. ALL EXISTING DIMENSIONS ARE ± UNLESS NOTED OTHERWISE.



PHASE 1 TRAFFIC & CONSTRUCTION

LEGEND:

- PHASE 1 REMOVAL
- NEW CONCRETE
- (G8) - EXIST. GIRDER NO.
- (G5) - PROP. GIRDER NO.
- TRAFFIC DIRECTION

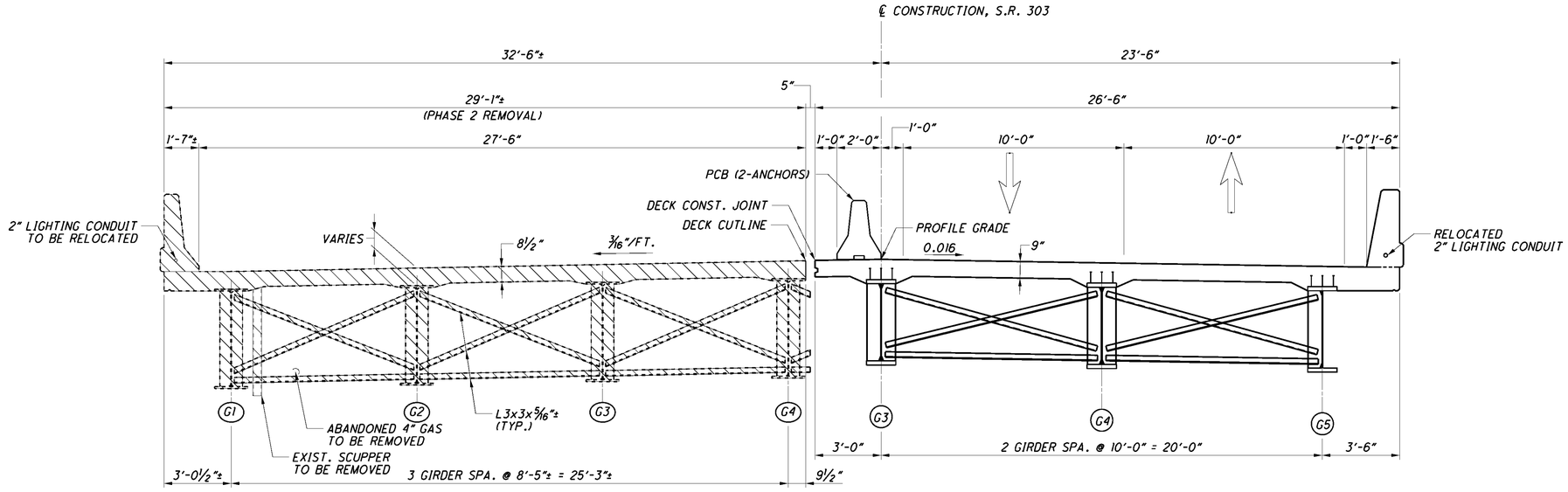
CALCULATED PEK
CHECKED TLH

TYPICAL SECTION OF TRAFFIC
MAINTENANCE OF TRAFFIC
BRIDGE SUM-303-0502 PART 2 WIDTH CONSTRUCTION - PHASE 1

SUM-271-2.33

81
1195

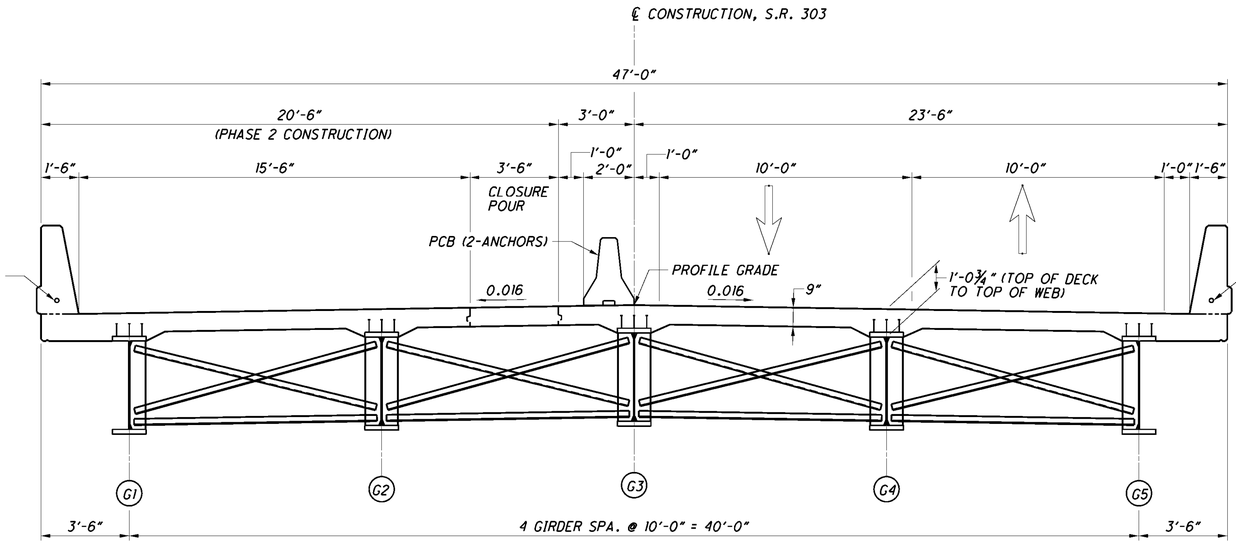
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PHASE 2 TRAFFIC & REMOVAL

NOTES:

1. ALL EXISTING DIMENSIONS ARE ± UNLESS NOTED OTHERWISE.



PHASE 2 TRAFFIC & CONSTRUCTION

LEGEND:

- PHASE 2 REMOVAL
- NEW CONCRETE
- (G8) - EXIST. GIRDER NO.
- (G5) - PROP. GIRDER NO.
- TRAFFIC DIRECTION

OFFICE OF TRAFFIC TYPICAL SECTIONS
BRIDGE SUM-303-0502 PART WIDTH CONSTRUCTION - PHASE 2

CALCULATED PEK
CHECKED TLH

SUM-271-2.33

82
1195

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MAINTENANCE OF TRAFFIC SUBSUMMARY

CALCULATED JDL
CHECKED DAW

SHEET NO.	STATION FROM	STATION TO	DIRECTION/ LANE LOCATION INSIDE LANE "IL" OUTSIDE LANE "OL"	254 PAVEMENT PLANING, ASPHALT CONCRETE SQ YD	407 TACK COAT GALLON	411 STABILIZED CRUSHED AGGREGATE CU YD	442 ASPHALT CONCRETE SURFACE COURSE, 12.5 MM, TYPE B (446), AS PER PLAN CU YD	614 LINEAR DELINEATION FT	WORK ZONE IMPACT ATTENUATOR (UNIDIRECTIONAL) EACH	WORK ZONE IMPACT ATTENUATOR (BIDIRECTIONAL) EACH	WORK ZONE CROSSOVER LIGHTING SYSTEM EACH	WORK ZONE RAISED PAVEMENT MARKER, AS PER PLAN EACH	ASPHALT CONCRETE FOR MAINTAINING TRAFFIC CU YD		BARRIER REFLECTOR, TYPE B EACH	OBJECT MARKER, ONE WAY EACH	OBJECT MARKER, TWO WAY EACH	WORK ZONE LANE LINE, CLASS I, AS PER PLAN MILE	WORK ZONE EDGE LINE, CLASS I, AS PER PLAN MILE WHITE	WORK ZONE EDGE LINE, CLASS I, AS PER PLAN MILE YELLOW	WORK ZONE CHANNELIZING LINE, CLASS I, AS PER PLAN FT	WORK ZONE DOTTED LINE, CLASS I, AS PER PLAN FT	WORK ZONE TRANSVERSE/DIAGONAL LINE, CLASS I FT	WORK ZONE STOP LINE, CLASS I FT	615 PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A, AS PER PLAN SQ YD	
	PRE-PHASE 1																										
	INTERMEDIATE CROSSOVERS																										
	RT. TO LT. (1A)										1																
169	243+00.00	245+65.56				9.84																				173.73	
169	245+65.56	248+87.11				23.82																				643.10	
169	248+87.11	251+37.75				9.28																				239.55	
169	251+31.05	253+86.05				9.44																				79.19	
	LT. TO RT. (2A)										1																
187	243+77.48	245+72.36				7.22																				156.43	
187	245+72.36	249+02.85				24.48																				660.98	
187	249+02.85	251+37.75				8.7																				221.85	
187	251+31.05	253+86.05				9.44																				105.33	
	NORTH CROSSOVERS																										
	LT. TO RT. (1A)										1																
170 -171	355+28.36	357+83.36				9.44																				229.29	
170 -171	357+83.36	362+73.83				18.17																				818.14	
170 -171	362+73.83	365+18.02				18.09																				488.38	
170 -171	365+18.02	368+00.32				10.46																				298.31	
	RT. TO LT. (2A)										1																
188 -189	349+95.00	352+50.00				9.44																				200.85	
188 -189	352+50.00	354+96.00				9.11																				407.65	
188 -189	354+96.00	359+05.32				30.32																				818.64	
188 -189	359+05.32	362+99.43				14.6																				591.10	
	SHOULDER REPLACEMENT																										
51	512+45.00	555+00.00	NB OS																4255.00							5673.33	
51	556+97.00	566+09.70	NB OS																912.70							1216.93	
51	156+00.00	168+58.17	NB OS																1258.17							1677.56	
51	175+91.00	186+79.20	NB OS																1088.20							1450.93	
51	190+70.00	193+77.67	NB OS																307.67							410.23	
51	199+74.20	203+89.00	NB OS																414.80							553.07	
51	203+89.00	207+15.00	NB OS																326.00							572.31	
51	207+15.00	212+04.00	NB OS																489.00							858.47	
51	212+04.00	300+50.00	NB OS																8846.00							11794.67	
51	306+45.00	314+78.50	NB OS																833.50							1111.33	
51	319+00.00	346+37.12	NB OS																2737.12							3649.49	
51	349+15.97	362+15.00	NB OS																1299.03							1732.04	
51	515+40.00	528+00.00	SB OS																1260.00							1680	
51	528+00.00	553+07.11	SB IS/OS																2507.11	2507.11						5014.22	
51	553+07.11	557+46.00	SB IS																	438.89						292.59	
51	557+46.00	566+09.70	SB IS/OS																863.70	863.70						1727.4	
51	156+00.00	170+88.87	SB IS/OS																1488.87	1488.87						2977.74	
51	170+88.87	174+81.30	SB IS																	392.43						261.62	
51	174+81.30	187+36.32	SB IS/OS																1255.02	1255.02						2510.04	
SUBTOTALS CARRIED TO SHEET NO. 109						222					4								30142	6947						51297	

SUM-271-2.33

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SHEET NO.	STATION FROM	STATION TO	DIRECTION/ LANE LOCATION INSIDE LANE "IL" OUTSIDE LANE "OL"	622 PORTABLE CONCRETE BARRIER, 32" FT	PORTABLE CONCRETE BARRIER, 50", AS PER PLAN FT	PORTABLE CONCRETE BARRIER, 32", BRIDGE MOUNTED FT	PORTABLE CONCRETE BARRIER, "Y", CONNECTOR FT
	PRE-PHASE 1						
	INTERMEDIATE CROSSOVERS						
	RT. TO LT. (1A)						
169	243+00.00	245+65.56					
169	245+65.56	248+87.11					
169	248+87.11	251+37.75					
169	251+31.05	253+86.05					
	LT. TO RT. (2A)						
187	243+77.48	245+72.36					
187	245+72.36	249+02.85					
187	249+02.85	251+37.75					
187	251+31.05	253+86.05					
	NORTH CROSSOVERS						
	LT. TO RT. (1A)						
170 -171	355+28.36	357+83.36					
170 -171	357+83.36	362+73.83					
170 -171	362+73.83	365+18.02					
170 -171	365+18.02	368+00.32					
	RT. TO LT. (2A)						
188 -189	349+95.00	352+50.00					
188 -189	352+50.00	354+96.00					
188 -189	354+96.00	359+05.32					
188 -189	359+05.32	362+99.43					
	SHOULDER REPLACEMENT						
51	512+45.00	555+00.00	NB OS				
51	556+97.00	566+09.70	NB OS				
51	156+00.00	168+58.17	NB OS				
51	175+91.00	186+79.20	NB OS				
51	190+70.00	193+77.67	NB OS				
51	199+74.20	203+89.00	NB OS				
51	203+89.00	207+15.00	NB OS				
51	207+15.00	212+04.00	NB OS				
51	212+04.00	300+50.00	NB OS				
51	306+45.00	314+78.50	NB OS				
51	319+00.00	346+37.12	NB OS				
51	349+15.97	362+15.00	NB OS				
51	515+40.00	528+00.00	SB OS				
51	528+00.00	553+07.11	SB IS/OS				
51	553+07.11	557+46.00	SB IS				
51	557+46.00	566+09.70	SB IS/OS				
51	156+00.00	170+88.87	SB IS/OS				
51	170+88.87	174+81.30	SB IS				
51	174+81.30	187+36.62	SB IS/OS				
SUBTOTALS CARRIED TO SHEET NO. 110							

CALCULATED JDL
CHECKED DAW

MAINTENANCE OF TRAFFIC SUBSUMMARY

SUM-271-2.33

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SHEET NO.	STATION FROM	STATION TO	DIRECTION/ LANE LOCATION INSIDE LANE "IL" OUTSIDE LANE "OL"	254 PAVEMENT PLANING, ASPHALT CONCRETE SQ YD	407 TACK COAT GALLON	411 STABILIZED CRUSHED AGGREGATE CU YD	442 ASPHALT CONCRETE SURFACE COURSE, 12.5 MM, TYPE B (446), AS PER PLAN CU YD	614 LINEAR DELINEATION FT	WORK ZONE IMPACT ATTENUATOR (UNIDIRECTIONAL) EACH	WORK ZONE IMPACT ATTENUATOR (BIDIRECTIONAL) EACH	WORK ZONE CROSSOVER LIGHTING SYSTEM EACH	WORK ZONE RAISED PAVEMENT MARKER, AS PER PLAN EACH	ASPHALT CONCRETE FOR MAINTAINING TRAFFIC CU YD		BARRIER REFLECTOR, TYPE B EACH	OBJECT MARKER, ONE WAY EACH	OBJECT MARKER, TWO WAY EACH	WORK ZONE LANE LINE, CLASS I, AS PER PLAN MILE	WORK ZONE EDGE LINE, CLASS I, AS PER PLAN MILE WHITE	WORK ZONE EDGE LINE, CLASS I, AS PER PLAN MILE YELLOW	WORK ZONE CHANNELIZING LINE, CLASS I, AS PER PLAN FT	WORK ZONE DOTTED LINE, CLASS I, AS PER PLAN FT	WORK ZONE TRANSVERSE/DIAGONAL LINE, CLASS I FT	WORK ZONE STOP LINE, CLASS I FT	615 PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A, AS PER PLAN SQ YD	
51	191+15.77	198+30.36	SB IS/OS																714.59	714.59					1429.18	
51	199+79.49	207+90.00	SB IS/OS																810.51	810.51					1801.13	
51	207+90.00	242+34.00	SB IS/OS																3444.00	3444.00					6888	
51	242+34.00	245+00.00	SB IS/OS																266.00	266.00					591.11	
51	245+00.00	259+00.00	SB IS/OS																1400.00	1400.00					2800	
51	259+00.00	267+89.00	SB IS/OS																889.00	889.00					1975.56	
51	267+89.00	298+41.00	SB IS/OS																3052.00	3052.00					6104	
51	298+41.00	300+87.68	SB IS/OS																246.68	246.68					548.18	
51	300+87.68	305+19.43	SB IS/OS																431.75	431.75					959.44	
51	305+19.43	307+50.00	SB IS/OS																230.57	230.57					512.38	
51	307+50.00	313+07.06	SB IS/OS																557.06	557.06					1114.12	
51	313+07.06	318+11.13	SB IS																	504.07					336.05	
51	318+11.13	345+65.70	SB IS/OS																2754.57	2754.57					5509.14	
51	348+06.08	352+50.00	SB IS/OS																443.92	443.92					887.84	
51	352+50.00	355+28.36	SB IS																	278.36					185.57	
51	352+50.00	368+82.50	SB OS -EXIST.	1995.28	199.53		83.14												1632.50							
79	53+07.11	57+45.00	SB RMP A SCL BRKS																437.89						486.54	
79	549+00.00	552+05.00	NB RMP B SCL BRKS																305.00						338.89	
79	52+05.00	56+96.00	NB RMP B SCL BRKS																491.00						545.56	
79	60+86.33	55+51.26 (CR17)	NB RMP B TRN LN BRKS																169.07						311.04	
79	170+88.87	174+85.00	SB RMP A SCL IR 77																396.13						440.14	
79	174+85.00	202+90.00	SB RMP A IR 77																2805.00						2493.33	
79	182+69.62	198+15.79	NB RMP C IR 77																1546.17						2110.67	
79	300+50.00	306+60.00	NB RMP E SCL SR 303																610.00						677.78	
	PHASE 1A																									
169	233+00.00	240+00.00	NB									36									700.00					
169	240+00.00	243+00.00	NB									48							300.00	300.00	300.00					
169	243+00.00	245+27.50	NB IL CROV									22								227.50	227.50					
169	245+27.50	251+37.75	NB IL CROV									62							610.25	610.25						
169	251+31.05	254+31.05	NB IL CROV									30							300.00	300.00						
169	243+00.00	246+00.00	NB OL									30							300.00		300.00					
169	246+00.00	252+05.00	NB OL SHIFT									60							605.00	605.00						
169	252+05.00	255+05.00	NB OL									30							300.00	300.00						
169	250+22.50	253+02.50	NB OL PCB					280.00	1							7										
169	253+02.50	255+05.00	NB OL PCB					210.00								5			202.50	202.50						
169 -130	255+05.00	297+71.00	NB OL												86	86			4266.00	4266.00						
130	297+71.00	302+30.00	NB OL												10	10			459.00	459.00		459.00				
130	302+30.00	306+45.00	NB OL									21			9	9				415.00	415.00					
130 -131	306+45.00	319+00.00	NB OL												26	26			1255.00	1255.00						
131	319+00.00	321+00.00	NB OL									10			5	5			200.00	200.00	200.00					
SUBTOTALS CARRIED TO SHEET NO. 109				**1996**	**200**		**84**	**490**	**1**			**349**			**136**	**148**			**32432**	**25164**	**2143**	**459**			**39046**	

CALCULATED JDL
CHECKED DAW

MAINTENANCE OF TRAFFIC SUBSUMMARY

SUM-271-2.33

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SHEET NO.	STATION FROM	STATION TO	DIRECTION/ LANE LOCATION INSIDE LANE "IL" OUTSIDE LANE "OL"	622 PORTABLE CONCRETE BARRIER, 32" FT	622 PORTABLE CONCRETE BARRIER, 50", AS PER PLAN FT	622 PORTABLE CONCRETE BARRIER, 32", BRIDGE MOUNTED FT	622 PORTABLE CONCRETE BARRIER, 4", CONNECTOR FT
51	191+15.77	198+30.36	SB IS/OS				
51	199+79.49	207+90.00	SB IS/OS				
51	207+90.00	242+34.00	SB IS/OS				
51	242+34.00	245+00.00	SB IS/OS				
51	245+00.00	259+00.00	SB IS/OS				
51	259+00.00	267+89.00	SB IS/OS				
51	267+89.00	298+41.00	SB IS/OS				
51	298+41.00	300+87.68	SB IS/OS				
51	300+87.68	305+19.43	SB IS/OS				
51	305+19.43	307+50.00	SB IS/OS				
51	307+50.00	313+07.06	SB IS/OS				
51	313+07.06	318+11.13	SB IS				
51	318+11.13	345+65.70	SB IS/OS				
51	348+06.08	352+50.00	SB IS/OS				
51	352+50.00	355+28.36	SB IS				
51	352+50.00	368+82.50	SB OS -EXIST.				
79	53+07.11	57+45.00	SB RMP A SCL BRKS				
79	549+00.00	552+05.00	NB RMP B SCL BRKS				
79	52+05.00	56+96.00	NB RMP B SCL BRKS				
79	60+86.33	55+51.26 (CR17)	NB RMP B TRN LN BRKS				
79	170+88.87	174+85.00	SB RMP A SCL IR 77				
79	174+85.00	202+90.00	SB RMP A IR 77				
79	182+69.62	198+15.79	NB RMP C IR 77				
79	300+50.00	306+60.00	NB RMP E SCL SR 303				
	PHASE 1A						
169	233+00.00	240+00.00	NB				
169	240+00.00	243+00.00	NB				
169	243+00.00	245+27.50	NB IL CROV				
169	245+27.50	251+37.75	NB IL CROV				
169	251+31.05	254+31.05	NB IL CROV				
169	243+00.00	246+00.00	NB OL				
169	246+00.00	252+05.00	NB OL SHIFT				
169	252+05.00	255+05.00	NB OL				
169	250+22.50	253+02.50	NB OL PCB	280.00			
169	253+02.50	255+05.00	NB OL PCB	210.00			
169 -130	255+05.00	297+71.00	NB OL	4270.00			
130	297+71.00	302+30.00	NB OL	460.00			
130	302+30.00	306+45.00	NB OL	420.00			
130 -131	306+45.00	319+00.00	NB OL	1260.00			
131	319+00.00	321+00.00	NB OL	200.00			
SUBTOTALS CARRIED TO SHEET NO. 110				7100			

CALCULATED JDL
CHECKED DAW

MAINTENANCE OF TRAFFIC SUBSUMMARY

SUM-271-2.33

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SHEET NO.	STATION FROM	STATION TO	DIRECTION/ LANE LOCATION INSIDE LANE "IL" OUTSIDE LANE "OL"	254 PAVEMENT PLANING, ASPHALT CONCRETE	407 TACK COAT	411 STABILIZED CRUSHED AGGREGATE	442 ASPHALT CONCRETE SURFACE COURSE, 12.5 MM, TYPE B (446), AS PER PLAN	614 LINEAR DELINEATION	614 WORK ZONE IMPACT ATTENUATOR (UNIDIRECTIONAL)	614 WORK ZONE IMPACT ATTENUATOR (BIDIRECTIONAL)	614 WORK ZONE CROSSOVER LIGHTING SYSTEM	614 WORK ZONE RAISED PAVEMENT MARKER, AS PER PLAN	614 ASPHALT CONCRETE FOR MAINTAINING TRAFFIC	614	614 BARRIER REFLECTOR, TYPE B	614 OBJECT MARKER, ONE WAY	614 OBJECT MARKER, TWO WAY	614 WORK ZONE LANE LINE, CLASS I, AS PER PLAN	614 WORK ZONE EDGE LINE, CLASS I, AS PER PLAN		614 WORK ZONE CHANNELIZING LINE, CLASS I, AS PER PLAN	614 WORK ZONE DOTTED LINE, CLASS I, AS PER PLAN	614 WORK ZONE TRANSVERSE/DIAGONAL LINE, CLASS I	614 WORK ZONE STOP LINE, CLASS I	615 PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A, AS PER PLAN	
				SQ YD	GALLON	CU YD	CU YD	FT	EACH	EACH	EACH	EACH	CU YD		EACH	EACH	EACH	MILE	MILE WHITE	MILE YELLOW	FT	FT	FT	FT	SQ YD	
131	321+00.00	323+55.00	NB OL												6	6			255.00	255.00		255.00				
131 - 170	323+55.00	343+50.00	NB OL												41	41			1995.00	1995.00						
170	343+50.00	346+50.00	NB OL					300.00				30				7			300.00	300.00						
170	346+50.00	352+55.00	NB OL SHIFT					300.00				60							605.00	605.00						
170	352+55.00	355+55.00	NB OL SHIFT									30								300.00						
170 - 171	355+55.00	365+06.00	NB OL																	951.00						
171	365+06.00	367+89.73	NB OL									15									283.73					
169 - 170	254+31.05	344+00.00	NB IL																8968.95	8968.95						
170	344+00.00	354+83.86	NB IL					1330.00											1083.36	1083.36						
170 - 171	354+83.36	357+83.36	NB IL CROV					300.00				30							300.00	300.00						
171	357+83.36	358+35.00	NB IL CROV					60.00				6							51.64	51.64						
171	358+35.00	360+75.00	NB IL CROV					480.00				24				6			240.00	240.00						
171	360+75.00	363+00.00	NB IL CROV					460.00				22			5	10	10		225.00	225.00						
171	363+00.00	365+20.00	NB IL CROV					440.00				22				10			220.00	220.00						
171	365+20.00	368+00.32	NB IL CROV					290.00				28				7				280.32	280.32					
171	367+89.73	369+00.00	NB IL					120.00				6				3					110.27					
171	369+00.00	370+89.73	NB IL									9									189.73					
169	239+17.50	242+17.50	SB IL/OL									16							300.00	300.00	300.00					
169	242+17.50	248+50.00	SB IL/OL SHIFT									96							632.50	632.50	632.50					
169	248+50.00	251+50.00	SB IL/OL SHIFT					300.00				45					7		300.00	300.00	300.00					
169 - 170	251+50.00	345+48.00	SB IL/OL									78			373		188	9398.00	9398.00	9398.00						
170	345+48.00	348+06.00	SB IL/OL					520.00				2			5		5	258.00	258.00	258.00						
170 - 171	348+06.00	359+50.00	SB IL/OL					1150.00				10			23		23	1144.00	1144.00	1144.00						
171	359+50.00	360+75.00	SB IL/OL					130.00				18			3		3		125.00	125.00	125.00					
171	360+75.00	362+50.00	SB IL/OL									27							175.00	175.00	175.00					
171	362+50.00	368+82.50	SB IL/OL SHIFT									96							632.50	632.50	632.50					
171	368+82.50	371+82.50	SB IL/OL									45							300.00	300.00	300.00					
130	302+30.00	306+20.00	NB RMP E SR 303									20							390.00		390.00					
130 - 131	306+20.00	307+00.00	NB RMP E SR 303					80.00	1							3			80.00	80.00						
131	307+00.00	320+00.00	NB RMP E SR 303						1						27	27			1300.00	1300.00				20		
131	304+61.43	314+90.00	NB RMP H SR 303						1						22	22			1028.57	1028.57						
131	314+90.00	319+00.00	NB RMP H SR 303																410.00	410.00						
	SHOULDER REPLACEMENT																									
130 - 131	306+43.00	308+57.93	NB RMP E SR 303																						274.63	
131	308+57.93	310+28.40	NB RMP E SR 303																						274.65	
131	310+28.40	313+00.00	NB RMP E SR 303																						286.69	
131	313+00.00	314+31.00	NB RMP E SR 303																						43.67	
131	304+35.00	309+00.00	NB RMP H SR 303																						232.50	
131	309+00.00	309+44.00	NB RMP H SR 303																						36.67	
131	309+44.00	314+80.00	NB RMP H SR 303																						893.33	
SUBTOTALS CARRIED TO SHEET NO. 109								6260	3			735			505	142	236	10800	30418	31559	3720	255		20	2043	

CALCULATED JDL
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MAINTENANCE OF TRAFFIC SUBSUMMARY

SUM-271-2.33

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SHEET NO.	STATION FROM	STATION TO	DIRECTION/ LANE LOCATION INSIDE LANE "IL" OUTSIDE LANE "OL"	622 PORTABLE CONCRETE BARRIER, 32" FT	PORTABLE CONCRETE BARRIER, 50", AS PER PLAN FT	PORTABLE CONCRETE BARRIER, 32", BRIDGE MOUNTED FT	PORTABLE CONCRETE BARRIER, 4", CONNECTOR FT
131	321+00.00	323+55.00	NB OL	260.00			
131 - 170	323+55.00	343+50.00	NB OL	2000.00			
170	343+50.00	346+50.00	NB OL	300.00			
170	346+50.00	352+55.00	NB OL SHIFT				
170	352+55.00	355+55.00	NB OL SHIFT				
170 - 171	355+55.00	365+06.00	NB OL				
171	365+06.00	367+89.73	NB OL				
169 - 170	254+31.05	344+00.00	NB IL				
170	344+00.00	354+83.86	NB IL				
170 - 171	354+83.36	357+83.36	NB IL CROV				
171	357+83.36	358+35.00	NB IL CROV				
171	358+35.00	360+75.00	NB IL CROV	240.00			
171	360+75.00	363+00.00	NB IL CROV	230.00	230.00		
171	363+00.00	365+20.00	NB IL CROV	440.00			
171	365+20.00	368+00.32	NB IL CROV	290.00			
171	367+89.73	369+00.00	NB IL	120.00			
171	369+00.00	370+89.73	NB IL				
169	239+17.50	242+17.50	SB IL/OL				
169	242+17.50	248+50.00	SB IL/OL SHIFT				
169	248+50.00	251+50.00	SB IL/OL SHIFT		300.00		
169 - 170	251+50.00	345+48.00	SB IL/OL		9400.00		
170	345+48.00	348+06.00	SB IL/OL		260.00		
170 - 171	348+06.00	359+50.00	SB IL/OL		1150.00		
171	359+50.00	360+75.00	SB IL/OL		130.00		
171	360+75.00	362+50.00	SB IL/OL				
171	362+50.00	368+82.50	SB IL/OL SHIFT				
171	368+82.50	371+82.50	SB IL/OL				
130	302+30.00	306+20.00	NB RMP E SR 303				
130 - 131	306+20.00	307+00.00	NB RMP E SR 303	80.00			
131	307+00.00	320+00.00	NB RMP E SR 303	1300.00			
131	304+61.43	314+90.00	NB RMP H SR 303	1030.00			
131	314+90.00	319+00.00	NB RMP H SR 303				
	SHOULDER REPLACEMENT						
130 - 131	306+43.00	308+57.93	NB RMP E SR 303				
131	308+57.93	310+28.40	NB RMP E SR 303				
131	310+28.40	313+00.00	NB RMP E SR 303				
131	313+00.00	314+31.00	NB RMP E SR 303				
131	304+35.00	309+00.00	NB RMP H SR 303				
131	309+00.00	309+44.00	NB RMP H SR 303				
131	309+44.00	314+80.00	NB RMP H SR 303				
SUBTOTALS CARRIED TO SHEET NO. 110				6290	11470		

CALCULATED JDL
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MAINTENANCE OF TRAFFIC SUBSUMMARY

SUM-271-2.33

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SHEET NO.	STATION FROM	STATION TO	DIRECTION/ LANE LOCATION INSIDE LANE "IL" OUTSIDE LANE "OL"	254	407	411	442	614														615	
				PAVEMENT PLANING, ASPHALT CONCRETE	TACK COAT	STABILIZED CRUSHED AGGREGATE	ASPHALT CONCRETE SURFACE COURSE, 12.5 MM, TYPE B (446), AS PER PLAN	LINEAR DELINEATION	WORK ZONE IMPACT ATTENUATOR (UNIDIRECTIONAL)	WORK ZONE IMPACT ATTENUATOR (BIDIRECTIONAL)	WORK ZONE CROSSOVER LIGHTING SYSTEM	WORK ZONE RAISED PAVEMENT MARKER, AS PER PLAN	ASPHALT CONCRETE FOR MAINTAINING TRAFFIC		BARRIER REFLECTOR, TYPE B	OBJECT MARKER, ONE WAY	OBJECT MARKER, TWO WAY	WORK ZONE LANE LINE, CLASS I, AS PER PLAN	WORK ZONE EDGE LINE, CLASS I, AS PER PLAN		WORK ZONE CHANNELIZING LINE, CLASS I, AS PER PLAN	WORK ZONE DOTTED LINE, CLASS I, AS PER PLAN	WORK ZONE TRANSVERSE/DIAGONAL LINE, CLASS I	WORK ZONE STOP LINE, CLASS I	PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A AS PER PLAN	
				SQ YD	GALLON	CU YD	CU YD	FT	EACH	EACH	EACH	EACH	CU YD		EACH	EACH	EACH	MILE	MILE WHITE	MILE YELLOW	FT	FT	FT	FT	SQ YD	
	TEMPORARY PAVEMENT																									
62	253+50.00	259+50.00	NB IS																					266.67		
62	259+50.00	346+20.00	NB IS																					1926.67		
	PHASE 1B																									
184	243+00.00	244+50.00	NB OL									16							150.00		150.00					
184	244+50.00	253+02.50	NB OL SHIFT									86							852.50	852.50						
184	253+02.50	256+02.50	NB OL SHIFT									30							300.00	300.00						
184	250+22.50	253+02.50	NB OL PCB					280.00	1							7										
184	253+02.50	256+02.50	NB OL PCB					300								7										
184 - 132	256+02.50	299+10.00	NB OL												87	87			4307.50	4307.50						
132	299+10.00	303+33.00	NB OL												10	10			423.00	423.00		423.00				
132	303+33.00	306+00.00	NB OL																267.00	267.00	267.00					
133	306+00.00	314+00.00	NB OL						1						17	17			800.00	800.00						
133	314+00.00	319+00.00	NB OL																500.00	500.00						
133	319+00.00	321+00.00	NB OL												5	5			200.00	200.00	200.00					
133	321+00.00	323+00.00	NB OL												5	5			200.00	200.00		200.00				
133 - 185	323+00.00	343+50.00	NB OL												42	42			2050.00	2050.00						
185	343+50.00	346+50.00	NB OL					300				32				7			300	300						
185	346+50.00	355+57.50	NB OL SHIFT					240				92							907.5	907.5						
185 - 186	355+57.50	365+06.00	NB OL																948.5	948.5						
186	365+06.00	367+89.73	NB OL																283.73	283.73						
44	248+20.00	259+50.00	NB PCB						1						24	24										
	TEMPORARY PAVEMENT																									
133	306+57.93	318+04.32	NB/OS RMP E SR 303																					254.75		
133	304+30.00	309+50.00	NB/OS RMP H SR 303																					576.11		
	REFRESH MARKINGS FROM PHASE 1A																									
	N.B. INTERMEDIATE CROSSOVER																		1210.25	1437.75	1227.50					
	N.B. IL																		10052.31	10052.31						
	N.B. NORTH CROSSOVER																		1036.64	1316.96	580.32					
	S.B. IL/OL																	10800.00	12965.00	12965.00	2465.00					
	PHASE 1B-1																									
132	303+33.00	305+83.00	NB RMP E SR 303									14			6	6			250.00		250.00					
132 - 133	305+83.00	320+00.00	NB RMP E SR 303					80	1						29	31			1417.00	1417.00			20			
133	304+07.00	310+50.00	NB RMP H SR 303							1									643.00	643.00						
133	310+50.00	312+50.00	NB RMP H SR 303																200.00	200.00						
133	312+50.00	314+00.00	NB RMP H SR 303					150	1							4			150.00	150.00						
133	314+00.00	319+00.00	NB RMP H SR 303												11	11			500.00	500.00						
SUBTOTALS CARRIED TO SHEET NO. 109								1350	5	1		270			236	263		10800	40914	40739	5157	623		20	3025	

CALCULATED JDL
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MAINTENANCE OF TRAFFIC SUBSUMMARY

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SHEET NO.	STATION FROM	STATION TO	DIRECTION/ LANE LOCATION INSIDE LANE "IL" OUTSIDE LANE "OL"	622 PORTABLE CONCRETE BARRIER, 32" FT	PORTABLE CONCRETE BARRIER, 50", AS PER PLAN FT	PORTABLE CONCRETE BARRIER, 32", BRIDGE MOUNTED FT	PORTABLE CONCRETE BARRIER, 4", CONNECTOR FT
	TEMPORARY PAVEMENT						
62	*253+50.00*	*259+50.00*	*NB IS*				
62	*259+50.00*	*346+20.00*	*NB IS*				
	PHASE 1B						
184	*243+00.00*	*244+50.00*	*NB OL*				
184	*244+50.00*	*253+02.50*	*NB OL SHIFT*				
184	*253+02.50*	*256+02.50*	*NB OL SHIFT*				
184	*250+22.50*	*253+02.50*	*NB OL PCB*	*280.00*			
184	*253+02.50*	*256+02.50*	*NB OL PCB*	*300.00*			
184 - 132	*256+02.50*	*299+10.00*	*NB OL*	*4310.00*			
132	*299+10.00*	*303+33.00*	*NB OL*	*430.00*			
132	*303+33.00*	*306+00.00*	*NB OL*				
133	*306+00.00*	*314+00.00*	*NB OL*	*800.00*			
133	*314+00.00*	*319+00.00*	*NB OL*				
133	*319+00.00*	*321+00.00*	*NB OL*	*200.00*			
133	*321+00.00*	*323+00.00*	*NB OL*	*200.00*			
133 - 185	*323+00.00*	*343+50.00*	*NB OL*	*2050.00*			
185	*343+50.00*	*346+50.00*	*NB OL*	*300.00*			
185	*346+50.00*	*355+57.50*	*NB OL SHIFT*				
185 - 186	*355+57.50*	*365+06.00*	*NB OL*				
186	*365+06.00*	*367+89.73*	*NB OL*				
44	*248+20.00*	*259+50.00*	*NB PCB*	*1130.00*			
	TEMPORARY PAVEMENT						
133	*306+57.93*	*318+04.32*	*NB/OS RMP E SR 303*				
133	*304+30.00*	*309+50.00*	*NB/OS RMP H SR 303*				
	REFRESH MARKINGS FROM PHASE 1A						
	N.B. INTERMEDIATE CROSSOVER						
	N.B. IL						
	N.B. NORTH CROSSOVER						
	S.B. IL/OL						
	PHASE 1B-1						
132	*303+33.00*	*305+83.00*	*NB RMP E SR 303*	*250.00*			
132 - 133	*305+83.00*	*320+00.00*	*NB RMP E SR 303*	*1500.00*			
133	*304+07.00*	*310+50.00*	*NB RMP H SR 303*				
133	*310+50.00*	*312+50.00*	*NB RMP H SR 303*				
133	*312+50.00*	*314+00.00*	*NB RMP H SR 303*	*150.00*			
133	*314+00.00*	*319+00.00*	*NB RMP H SR 303*	*500.00*			
SUBTOTALS CARRIED TO SHEET NO. 110				*12400*			

CALCULATED JDL
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MAINTENANCE OF TRAFFIC SUBSUMMARY

CALCULATED JDL
CHECKED DAW

SHEET NO.	STATION FROM	STATION TO	DIRECTION / LANE LOCATION / INSIDE LANE "IL" / OUTSIDE LANE "OL"	254 PAVEMENT PLANING, ASPHALT CONCRETE	407 TACK COAT	411 STABILIZED CRUSHED AGGREGATE	442 ASPHALT CONCRETE SURFACE COURSE, 12.5 MM, TYPE B (446), AS PER PLAN	614 LINEAR DELINEATION	614 WORK ZONE IMPACT ATTENUATOR (UNIDIRECTIONAL)	614 WORK ZONE IMPACT ATTENUATOR (BIDIRECTIONAL)	614 WORK ZONE CROSSOVER LIGHTING SYSTEM	614 WORK ZONE RAISED PAVEMENT MARKER, AS PER PLAN	614 ASPHALT CONCRETE FOR MAINTAINING TRAFFIC	614	614 BARRIER REFLECTOR, TYPE B	614 OBJECT MARKER, ONE WAY	614 OBJECT MARKER, TWO WAY	614 WORK ZONE LANE LINE, CLASS I, AS PER PLAN	614 WORK ZONE EDGE LINE, CLASS I, AS PER PLAN		614 WORK ZONE CHANNELIZING LINE, CLASS I, AS PER PLAN	614 WORK ZONE DOTTED LINE, CLASS I, AS PER PLAN	614 WORK ZONE TRANSVERSE/DIAGONAL LINE, CLASS I	614 WORK ZONE STOP LINE, CLASS I	615 PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A, AS PER PLAN	
				SQ YD	GALLON	CU YD	CU YD	FT	EACH	EACH	EACH	EACH	CU YD		EACH	EACH	EACH	MILE	MILE WHITE	MILE YELLOW	FT	FT	FT	FT	SQ YD	
	PHASE 1B-1A																									
135	291+20.00	295+05.00	NB OL																385.00	385.00		385.00				
135	295+05.00	298+10.00	NB OL																305.00	305.00	305.00					
135	298+10.00	306+00.00	NB OL						1						17	17			790.00	790.00						
135	295+05.00	298+10.00	NB RMP E SR 303									16							305.00		305.00					
135 -134	298+10.00	317+00.00	NB RMP E SR 303					130							36	39			1890.00	1890						
134	317+00.00	320+00.00	NB RMP E SR 303							1					7	7			300.00	300				20		
134	304+00.00	316+00.00	NB RMP H SR 303						1						25	25			1200.00	1200.00						
134	316+00.00	319+00.00	NB RMP H SR 303												7	7			300.00		600.00					
	TEMPORARY PAVEMENT																									
134	305+00.00	316+00.00	NB/OS RMP H SR 303																						244.44	
	PHASE 1B-2																									
136	314+00.00	328+10.00	NB OL												29	29			1410.00	1410.00						
136 - 137	328+10.00	334+95.00	NB OL																1370.00	1370.00						
137	334+95.00	337+50.00	NB OL																255.00	255.00	255.00					
137	337+50.00	343+00.00	NB OL																550.00	550.00		550.00				
137	343+00.00	344+70.00	NB OL					170.00								4			170.00	170.00						
136	304+00.00	328+10.00	NB RMP H SR 303						1						96	96			2410.00	2410.00						
	WINTER SEASON																									
	RETURN TO NORMAL LANES																	58080	74131.20	69379.20	8353		859	138		
	PHASE 2A																									
187	240+00.00	243+00.00	SB IL/OL									48							300.00	300.00	300.00					
187	243+00.00	245+00.00	SB IL CROV									20								200.00	200.00					
187	245+00.00	251+37.75	SB IL CROV									64							637.75	637.75						
187	251+31.05	254+31.05	SB IL CROV									30							300.00	300.00						
187	243+00.00	245+00.00	SB OL									20							200.00		200.00					
187	245+00.00	247+45.00	SB OL									24							245.00	245.00						
187	247+45.00	253+50.00	SB OL SHIFT									60							605.00	605.00						
187	253+50.00	256+50.00	SB OL					300				30				7			300.00	300.00						
187 & 138	256+50.00	296+40.00	SB OL												81	81			3990.00	3990.00						
138	296+40.00	298+95.00	SB OL												6	6			255.00	255.00		255.00				
138	298+95.00	300+95.00	SB OL												5	5			200.00	200.00	200.00					
138 - 139	300+95.00	313+07.06	SB OL												25	25			1212.06	1212.06						
139 -	313+07.06	315+87.00	SB OL									14			7	7				279.94	279.94					
139	315+87.00	319+77.00	SB OL												9	9			390.00	390.00		390.00				
139 & 188	319+77.00	345+80.00	SB OL												53	53			2603.00	2603.00						
188	345+80.00	348+80.00	SB OL									32							300.00	300.00						
188	346+00.00	348+80.00	SB PCB SHIFT					280	1							7										
188 - 189	348+80.00	354+85.00	SB OL SHIFT									62							605	605						
189	354+85.00	357+85.00	SB OL									32							300	300						
189	357+85.00	360+62.50	SB OL									30							277.50	277.50						
189	360+62.50	362+99.65	SB OL									26							237.15		237.15					
187 - 188	254+31.05	349+50.00	SB IL					240											2518.95	2518.95						
188 - 189	349+50.00	352+50.00	SB IL									30							300.00	300.00						
189	352+50.00	360+50.00	SB IL CROV									80							800.00	800.00						
189	360+50.00	362+99.43	SB IL CROV									24								249.43	249.43					
189	362+99.65	365+99.65	SB IL/OL									45							300.00	300.00	300.00					
	365+99.65	372+99.65	SB IL/OL									35									700.00					
SUBTOTALS CARRIED TO SHEET NO. 109								1120	4	1		722			403	424		58080	109648	104583	12485	1580	859	158	245	

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SHEET NO.	STATION FROM	STATION TO	DIRECTION/ LANE LOCATION INSIDE LANE "IL" OUTSIDE LANE "OL"	622 PORTABLE CONCRETE BARRIER, 32" FT	PORTABLE CONCRETE BARRIER, 50", AS PER PLAN FT	PORTABLE CONCRETE BARRIER, 32", BRIDGE MOUNTED FT	PORTABLE CONCRETE BARRIER, "Y", CONNECTOR FT
	PHASE 1B-1A						
135	291+20.00	295+05.00	NB OL				
135	295+05.00	298+10.00	NB OL				
135	298+10.00	306+00.00	NB OL	790.00			1
135	295+05.00	298+10.00	NB RMP E SR 303				
135 -134	298+10.00	317+00.00	NB RMP E SR 303	1890.00			
134	317+00.00	320+00.00	NB RMP E SR 303	300.00			
134	304+00.00	316+00.00	NB RMP H SR 303	1200.00			
134	316+00.00	319+00.00	NB RMP H SR 303	300.00			
	TEMPORARY PAVEMENT						
134	305+00.00	316+00.00	NB/OS RMP H SR 303				
	PHASE 1B-2						
136	314+00.00	328+10.00	NB OL	1410.00			
136 - 137	328+10.00	334+95.00	NB OL				
137	334+95.00	337+50.00	NB OL				
137	337+50.00	343+00.00	NB OL				
137	343+00.00	344+70.00	NB OL	170.00			
136	304+00.00	328+10.00	NB RMP H SR 303	4760.00			
	WINTER SEASON						
	RETURN TO NORMAL LANES						
	PHASE 2A						
187	240+00.00	243+00.00	SB IL/OL				
187	243+00.00	245+00.00	SB IL CROV				
187	245+00.00	251+37.75	SB IL CROV				
187	251+31.05	254+31.05	SB IL CROV				
187	243+00.00	245+00.00	SB OL				
187	245+00.00	247+45.00	SB OL				
187	247+45.00	253+50.00	SB OL SHIFT				
187	253+50.00	256+50.00	SB OL	300			
187 & 138	256+50.00	296+40.00	SB OL	3990			
138	296+40.00	298+95.00	SB OL	260			
138	298+95.00	300+95.00	SB OL	200			
138 - 139	300+95.00	313+07.06	SB OL	1220			
139 -	313+07.06	315+87.00	SB OL	280			
139	315+87.00	319+77.00	SB OL	390			
139 & 188	319+77.00	345+80.00	SB OL	2610			
188	345+80.00	348+80.00	SB OL				
188	346+00.00	348+80.00	SB PCB SHIFT	280			
188 - 189	348+80.00	354+85.00	SB OL SHIFT				
189	354+85.00	357+85.00	SB OL				
189	357+85.00	360+62.50	SB OL				
189	360+62.50	362+99.65	SB OL				
187 - 188	254+31.05	349+50.00	SB IL				
188 - 189	349+50.00	352+50.00	SB IL				
189	352+50.00	360+50.00	SB IL CROV				
189	360+50.00	362+99.43	SB IL CROV				
189	362+99.65	365+99.65	SB IL/OL				
	365+99.65	372+99.65	SB IL/OL				
SUBTOTALS CARRIED TO SHEET NO. 110				20350			1

CALCULATED JDL
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MAINTENANCE OF TRAFFIC SUBSUMMARY

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MAINTENANCE OF TRAFFIC SUBSUMMARY

CALCULATED JDL
CHECKED DAW

SUM-271-2.33

SHEET NO.	STATION FROM	STATION TO	DIRECTION/ LANE LOCATION INSIDE LANE "IL" OUTSIDE LANE "OL"	254 PAVEMENT PLANING, ASPHALT CONCRETE SQ YD	407 TACK COAT GALLON	411 STABILIZED CRUSHED AGGREGATE CU YD	442 ASPHALT CONCRETE SURFACE COURSE, 12.5 MM, TYPE B (446), AS PER PLAN CU YD	614 LINEAR DELINEATION FT	614 WORK ZONE IMPACT ATTENUATOR (UNIDIRECTIONAL) EACH	614 WORK ZONE IMPACT ATTENUATOR (BIDIRECTIONAL) EACH	614 WORK ZONE CROSSOVER LIGHTING SYSTEM EACH	614 WORK ZONE RAISED PAVEMENT MARKER, AS PER PLAN EACH	614 ASPHALT CONCRETE FOR MAINTAINING TRAFFIC CU YD		614 BARRIER REFLECTOR, TYPE B EACH	614 OBJECT MARKER, ONE WAY EACH	614 OBJECT MARKER, TWO WAY EACH	614 WORK ZONE LANE LINE, CLASS I, AS PER PLAN MILE	614 WORK ZONE EDGE LINE, CLASS I, AS PER PLAN MILE WHITE	614 WORK ZONE EDGE LINE, CLASS I, AS PER PLAN MILE YELLOW	614 WORK ZONE CHANNELIZING LINE, CLASS I, AS PER PLAN FT	614 WORK ZONE DOTTED LINE, CLASS I, AS PER PLAN FT	614 WORK ZONE TRANSVERSE/DIAGONAL LINE, CLASS I FT	614 WORK ZONE STOP LINE, CLASS I FT	615 PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A, AS PER PLAN SQ YD	
187	238+67.50	241+67.50	NB IL/OL									48							300	300	300.00						
187	241+67.50	248+00.00	NB IL/OL SHIFT									96							632.5	632.5	632.50						
187	246+08.00	248+00.00	NB PCB SHIFT					200	1							5											
187	248+00.00	251+00.00	NB IL/OL SHIFT					300				45					7		300	300	300.00						
187 - 188	251+00.00	344+00.00	NB IL/OL									78			372		187	9300	9300	9300							
188 - 189	344+00.00	353+10.00	NB IL/OL					1820				8					19	910	910	910							
189	353+10.00	356+10.00	NB IL/OL					600				45					7		300	300	300.00						
189	356+10.00	362+42.50	NB IL/OL SHIFT									96							632.5	632.5	632.50						
189	362+42.50	365+42.50	NB IL/OL									45							300	300	300.00						
138	300+95.00	305+50.00	SB RMP F SR 303																455.00	455.00							
138 - 139	305+50.00	315+15.00	SB RMP F SR 303						1						20	20			965.00	965.00							
139	304+60.00	313+87.00	SB RMP G SR 303						1						20	20			927.00	927.00							
139	313+87.00	315+87.00	SB RMP G SR 303									10							200.00		200.00						
139	313+17.00	313+87.00	SB RMP G PCB					70	1							2											
	SHOULDER REPLACEMENT																										
138 - 139	305+18.00	311+44.00	SB RMP F SR 303																							695.56	
139	304+44.00	307+25.00	SB RMP G SR 303																							93.67	
139	307+25.00	308+04.00	SB RMP G SR 303																							57.06	
139	308+04.00	313+09.00	SB RMP G SR 303																							561.11	
	TEMPORARY PAVEMENT																										
70	253+50.00	259+00.00	SB IS																							122.22	
70	259+00.00	265+40.00	SB IS																							284.44	
70	265+40.00	304+00.00	SB IS																							857.78	
70	304+00.00	307+50.00	SB IS																							155.56	
70	307+50.00	345+70.00	SB IS																							848.89	
	PHASE 2B																										
190	243+00.00	244+15.00	SB OL									12							115.00		115.00						
190	244+15.00	253+50.00	SB OL SHIFT									94							935.00	935.00							
190	253+50.00	256+50.00	SB OL SHIFT					300				30				7			300.00	300.00							
140 & 190	256+50.00	295+95.00	SB OL												80	80			3945.00	3945.00							
140	295+95.00	298+50.00	SB OL												6	6			255.00	255.00		255.00					
140	298+50.00	300+50.00	SB OL												5	5			200.00	200.00	200.00						
140	300+50.00	300+87.68	SB OL												2	2			37.68	37.68							
140 - 141	300+87.68	314+08.00	SB OL																1320.32	1320.32							
141	314+08.00	316+58.72	SB OL																	250.72	250.72						
141	316+58.72	320+50.00	SB OL					400								9			391.28	391.28		391.28					
141 & 191	320+50.00	345+80.00	SB OL												52	52			2530.00	2530.00							
191	345+80.00	348+80.00	SB OL SHIFT					257				32				1			300.00	300.00							
191	346+00.00	348+80.00	SB PCB SHIFT					280	1							7											
191 - 192	348+80.00	358+15.00	SB OL SHIFT									96							935.00	935.00							
192	358+15.00	361+15.00	SB OL SHIFT									32							300	247.5	52.5						
192	361+15.00	362+99.65	SB OL SHIFT									20							184.65		184.65						
SUBTOTALS CARRIED TO SHEET NO. 109								4227	5			787			557	216	220	10210	26971	26670	3468	647			3677		

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SHEET NO.	STATION FROM	STATION TO	DIRECTION/ LANE LOCATION INSIDE LANE "IL" OUTSIDE LANE "OL"	622 PORTABLE CONCRETE BARRIER, 32" FT	PORTABLE CONCRETE BARRIER, 50", AS PER PLAN FT	PORTABLE CONCRETE BARRIER, 32", BRIDGE MOUNTED FT	PORTABLE CONCRETE BARRIER, 4", CONNECTOR FT
187	238+67.50	241+67.50	NB IL/OL				
187	241+67.50	248+00.00	NB IL/OL SHIFT				
187	246+08.00	248+00.00	NB PCB SHIFT		200		
187	248+00.00	251+00.00	NB IL/OL SHIFT		300		
187 - 188	251+00.00	344+00.00	NB IL/OL		9300		
188 - 189	344+00.00	353+10.00	NB IL/OL		910		
189	353+10.00	356+10.00	NB IL/OL		300		
189	356+10.00	362+42.50	NB IL/OL SHIFT				
189	362+42.50	365+42.50	NB IL/OL				
138	300+95.00	305+50.00	SB RMP F SR 303				
138 - 139	305+50.00	315+15.00	SB RMP F SR 303	970			
139	304+60.00	313+87.00	SB RMP G SR 303	930			
139	313+87.00	315+87.00	SB RMP G SR 303				
139	313+17.00	313+87.00	SB RMP G PCB	70			
	SHOULDER REPLACEMENT						
138 - 139	305+18.00	311+44.00	SB RMP F SR 303				
139	304+44.00	307+25.00	SB RMP G SR 303				
139	307+25.00	308+04.00	SB RMP G SR 303				
139	308+04.00	313+09.00	SB RMP G SR 303				
	TEMPORARY PAVEMENT						
70	253+50.00	259+00.00	SB IS				
70	259+00.00	265+40.00	SB IS				
70	265+40.00	304+00.00	SB IS				
70	304+00.00	307+50.00	SB IS				
70	307+50.00	345+70.00	SB IS				
	PHASE 2B						
190	243+00.00	244+15.00	SB OL				
190	244+15.00	253+50.00	SB OL SHIFT				
190	253+50.00	256+50.00	SB OL SHIFT	300			
140 & 190	256+50.00	295+95.00	SB OL	3950			
140	295+95.00	298+50.00	SB OL	260			
140	298+50.00	300+50.00	SB OL	200			
140	300+50.00	300+87.68	SB OL	40			
140 - 141	300+87.68	314+08.00	SB OL				
141	314+08.00	316+58.72	SB OL				
141	316+58.72	320+50.00	SB OL	400			
141 & 191	320+50.00	345+80.00	SB OL	2530			
191	345+80.00	348+80.00	SB OL SHIFT	20			
191	346+00.00	348+80.00	SB PCB SHIFT	280			
191 - 192	348+80.00	358+15.00	SB OL SHIFT				
192	358+15.00	361+15.00	SB OL SHIFT				
192	361+15.00	362+99.65	SB OL SHIFT				
SUBTOTALS CARRIED TO SHEET NO. 110				9950	11010		

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SHEET NO.	STATION FROM	STATION TO	DIRECTION/ LANE LOCATION INSIDE LANE "IL" OUTSIDE LANE "OL"	254 PAVEMENT PLANING, ASPHALT CONCRETE SQ YD	407 TACK COAT GALLON	411 STABILIZED CRUSHED AGGREGATE CU YD	448 ASPHALT CONCRETE SURFACE COURSE, 12.5 MM, TYPE B (446), AS PER PLAN CU YD	614 LINEAR DELINEATION FT	614 WORK ZONE IMPACT ATTENUATOR (UNIDIRECTIONAL) EACH	614 WORK ZONE IMPACT ATTENUATOR (BIDIRECTIONAL) EACH	614 WORK ZONE CROSSOVER LIGHTING SYSTEM EACH	614 WORK ZONE RAISED PAVEMENT MARKER, AS PER PLAN EACH	614 ASPHALT CONCRETE FOR MAINTAINING TRAFFIC CU YD	614 BARRIER REFLECTOR, TYPE B EACH	614 OBJECT MARKER, ONE WAY EACH	614 OBJECT MARKER, TWO WAY EACH	614 WORK ZONE LANE LINE, CLASS I, AS PER PLAN MILE	614 WORK ZONE EDGE LINE, CLASS I, AS PER PLAN MILE WHITE	614 WORK ZONE EDGE LINE, CLASS I, AS PER PLAN MILE YELLOW	614 WORK ZONE CHANNELIZING LINE, CLASS I, AS PER PLAN FT	614 WORK ZONE DOTTED LINE, CLASS I, AS PER PLAN FT	614 WORK ZONE TRANSVERSE/DIAGONAL LINE, CLASS I FT	614 WORK ZONE STOP LINE, CLASS I FT	615 PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A, AS PER PLAN SQ YD
	REFRESH MARKINGS FROM PHASE 2A																								
	S.B. INTERMEDIATE CROSSOVER																		1237.75	1437.75	500.00				
	S.B. IL																		9518.95	9518.95					
	S.B. NORTH CROSSOVER																		1400.00	1649.43	1249.43				
	N.B. IL/OL																	10210.00	12675.00	12675.00	2465.00				
	PHASE 2B-1																								
140	300+87.68	306+50.00	SB RMP F SR 303											12	12			562.32	562.32						
140	306+50.00	308+00.00	SB RMP F SR 303					150	1						4			150.00	150						
141	308+00.00	310+52.00	SB RMP F SR 303															252.00	252						
141	310+52.00	311+00.00	SB RMP F SR 303											2	2			48.00	48						
141	311+00.00	315+50.00	SB RMP F SR 303							1				10		10		450.00	450						
141	304+05.00	314+10.00	SB RMP G SR 303						1					40	40			1005.00	1005.00				20		
141	314+10.00	316+60.00	SB RMP G SR 303					250.00							6			250.00		250					
	TEMPORARY PAVEMENT																								
141	306+00.00	314+00.00	SB/ OS RMP G SR 303																					177.78	
	PHASE 2B-1A																								
143 - 144	304+60.00	314+08.00	SB PCB											20	20										
144 & 148	314+08.00	322+00.00	SB OL						1					17	17			792.00	792.00						
148	322+00.00	325+00.00	SB OL																300.00	300					
148	325+00.00	328+90.00	SB OL															390.00	390.00		390.00				
143 - 144	306+50.00	315+50.00	SB RMP F SR 303						1					19	19			900.00	900						
144	304+25.00	308+00.00	SB RMP G SR 303							1				9		9		375.00	375.00				20		
144 & 148	308+00.00	322+00.00	SB RMP G SR 303											29	29			1400.00	1400.00						
144	322+00.00	325+00.00	SB RMP G SR 303															300.00		300					
	TEMPORARY PAVEMENT																								
143 & 144	303+37.68	314+67.00	SB/ OS RMP F SR 303																					250.96	
	PHASE 2B-2																								
145	274+00.00	276+20.00	SB PCB					220	1						5										
145	274+00.00	281+50.00	SB OL															750.00	750.00						
145 - 146	281+50.00	284+05.00	SB OL															255.00	255.00		255.00				
146	284+05.00	286+05.00	SB OL															200.00	200.00	200					
146	286+05.00	288+00.00	SB OL																195.00	195					
146	288+00.00	290+25.00	SB OL															225.00	225.00						
146	290+25.00	304+60.00	SB OL											30	30			1435.00	1435.00						
146	286+05.00	290+25.00	SB RMP F SR 303															420.00		840					
146 -147	290+25.00	315+70.00	SB RMP F SR 303						1					52	52			2545.00	2545.00						
SUBTOTALS CARRIED TO SHEET NO. 109								620	6	2				240	236	19	10210	37537	37511	6300	645		40	429	

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SHEET NO.	STATION FROM	STATION TO	DIRECTION/ LANE LOCATION INSIDE LANE "IL" OUTSIDE LANE "OL"	622 PORTABLE CONCRETE BARRIER, 32" FT	PORTABLE CONCRETE BARRIER, 50", AS PER PLAN FT	PORTABLE CONCRETE BARRIER, 32", BRIDGE MOUNTED FT	PORTABLE CONCRETE BARRIER, 4", CONNECTOR FT
	REFRESH MARKINGS FROM PHASE 2A						
	S.B. INTERMEDIATE CROSSOVER						
	S.B. IL						
	S.B. NORTH CROSSOVER						
	N.B. IL/OL						
	PHASE 2B-1						
140	300+87.68	306+50.00	SB RMP F SR 303	570			
140	306+50.00	308+00.00	SB RMP F SR 303	150			
141	308+00.00	310+52.00	SB RMP F SR 303				
141	310+52.00	311+00.00	SB RMP F SR 303	50			
141	311+00.00	315+50.00	SB RMP F SR 303	450			
141	304+05.00	314+10.00	SB RMP G SR 303	1960.00			
141	314+10.00	316+60.00	SB RMP G SR 303	250.00			
	TEMPORARY PAVEMENT						
141	306+00.00	314+00.00	SB/ OS RMP G SR 303				
	PHASE 2B-1A						
143 - 144	304+60.00	314+08.00	SB PCB	950			
144 & 148	314+08.00	322+00.00	SB OL	800		1	
148	322+00.00	325+00.00	SB OL				
148	325+00.00	328+90.00	SB OL				
143 - 144	306+50.00	315+50.00	SB RMP F SR 303	900			
144	304+25.00	308+00.00	SB RMP G SR 303	380.00			
144 & 148	308+00.00	322+00.00	SB RMP G SR 303	1400.00			
144	322+00.00	325+00.00	SB RMP G SR 303				
	TEMPORARY PAVEMENT						
143 & 144	303+37.68	314+67.00	SB/ OS RMP F SR 303				
	PHASE 2B-2						
145	274+00.00	276+20.00	SB PCB	220			
145	274+00.00	281+50.00	SB OL				
145 - 146	281+50.00	284+05.00	SB OL				
146	284+05.00	286+05.00	SB OL				
146	286+05.00	288+00.00	SB OL				
146	288+00.00	290+25.00	SB OL				
146	290+25.00	304+60.00	SB OL	1440			
146	286+05.00	290+25.00	SB RMP F SR 303				
146 -147	290+25.00	315+70.00	SB RMP F SR 303	2550			
SUBTOTALS CARRIED TO SHEET NO. 110				12070			1

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SHEET NO.	STATION FROM	STATION TO	DIRECTION / LANE LOCATION INSIDE LANE "IL" OUTSIDE LANE "OL"	254 PAVEMENT PLANING, ASPHALT CONCRETE	407 TACK COAT	411 STABILIZED CRUSHED AGGREGATE	442 ASPHALT CONCRETE SURFACE COURSE, 12.5 MM, TYPE B (446), AS PER PLAN	614 LINEAR DELINEATION	614 WORK ZONE IMPACT ATTENUATOR (UNIDIRECTIONAL)	614 WORK ZONE IMPACT ATTENUATOR (BIDIRECTIONAL)	614 WORK ZONE CROSSOVER LIGHTING SYSTEM	614 WORK ZONE RAISED PAVEMENT MARKER, AS PER PLAN	614 ASPHALT CONCRETE FOR MAINTAINING TRAFFIC	614	614 BARRIER REFLECTOR, TYPE B	614 OBJECT MARKER, ONE WAY	614 OBJECT MARKER, TWO WAY	614 WORK ZONE LANE LINE, CLASS I, AS PER PLAN	614 WORK ZONE EDGE LINE, CLASS I, AS PER PLAN		614 WORK ZONE CHANNELIZING LINE, CLASS I, AS PER PLAN	614 WORK ZONE DOTTED LINE, CLASS I, AS PER PLAN	614 WORK ZONE TRANSVERSE/DIAGONAL LINE, CLASS I	614 WORK ZONE STOP LINE, CLASS I	615 PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A, AS PER PLAN	
				SQ YD	GALLON	CU YD	CU YD	FT	EACH	EACH	EACH	EACH	CU YD		EACH	EACH	EACH	MILE	WHITE MILE	YELLOW MILE	FT	FT	FT	FT	SQ YD	
	WINTER SEASON RETURN TO NORMAL LANES																	58080	74131.20	69379.20	8353		859	138		
	PRE-PHASE 3 SOUTH CROSSOVERS																									
	RT. TO LT. (3A)										1															
194	516+65.00	519+48.24				10.49																			290.08	
194	519+48.24	522+42.97				21.83																			589.46	
194	522+42.97	525+02.75				9.62																			335.97	
194	524+96.05	526+96.05				7.41																			135.64	
	LT. TO RT. (4A)										1															
203	516+65.00	519+57.27				10.82																			292.55	
203	519+57.27	522+50.94				21.75																			587.34	
203	522+50.94	525+02.75				9.33																			365.49	
203	524+96.05	526+96.05				7.41																			186.25	
	INTERMEDIATE CROSSOVERS																									
	LT. TO RT. (3A)										1															
200	254+62.25	256+97.20				8.7																			216.79	
200	256+97.20	260+31.00				24.73																			667.6	
200	260+31.00	262+38.05				7.67																			163.06	
	RT. TO LT. (4A)										1															
204	254+62.25	256+97.20				8.7																			216.79	
204	256+97.20	260+31.00				24.73																			667.6	
204	260+31.00	262+38.05				7.67																			163.06	
	PHASE 3A																									
194	506+65.00	513+65.00	NB									36							700.00	700.00	700.00					
194	513+65.00	516+65.00	NB									48							300.00	300.00	300.00					
194	516+65.00	519+18.00	NB IL CROV									26								253	253.00					
194	519+18.00	525+02.75	NB IL CROV									58							584.75	584.75						
194	524+96.05	527+96.05	NB IL CROV									30							300.00	300.00						
194	516+65.00	519+20.00	NB OL									26							255.00		255.00					
194	519+20.00	525+25.00	NB OL SHIFT									60							605.00	605.00						
194	525+25.00	528+25.00	NB OL SHIFT									30							300.00	300.00						
194	524+70.00	527+50.00	NB PCB SHIFT					280	1							7										
194	527+50.00	528+25.00	NB PCB					80								3										
149 & 194	528+25.00	548+20.57	NB OL												41	41			1995.57	1995.57						
149	548+20.57	552+75.00	NB OL												10	10			454.43	454.43		454.43				
149	552+75.00	555+89.00	NB OL												7	7				314.00	314.00					
149	555+89.00	566+09.70	NB OL												22	22			1020.70	1020.70						
55	156+00.00	181+55.00	NB OL												52	52			2555	2555						
55	181+55.00	184+55.00	NB OL					300				30				7			300.00	300.00						
55	184+55.00	186+75.00	NB OL SHIFT					220				22				5			220	220.00						
55	186+75.00	189+75.00	NB OL					300				30				12			300.00	300.00						
150	189+75.00	190+55.00	NB OL SHIFT					80				10				4			80.00	80.00						
150	190+55.00	191+15.00	NB OL SHIFT					60				6				2			60.00	60.00						
150	191+15.00	197+75.00	NB OL SHIFT					660				66				14			660.00	660.00						
150	197+75.00	198+34.00	NB OL					60				6				2			59.00	59.00		59				
150	198+34.00	199+64.00	NB OL					130				14				6			130.00	130.00		130				
SUBTOTALS CARRIED TO SHEET NO. 109						181		2170	1		4	530			132	194		58080	85011	80571	10175	644	859	138	4878	

CALCULATED JDL
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MAINTENANCE OF TRAFFIC SUBSUMMARY

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1195

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SHEET NO.	STATION FROM	STATION TO	DIRECTION/ LANE LOCATION INSIDE LANE "IL" OUTSIDE LANE "OL"	622 PORTABLE CONCRETE BARRIER, 32" FT	PORTABLE CONCRETE BARRIER, 50", AS PER PLAN FT	PORTABLE CONCRETE BARRIER, 32", BRIDGE MOUNTED FT	PORTABLE CONCRETE BARRIER, 4", CONNECTOR FT
	WINTER SEASON						
	RETURN TO NORMAL LANES						
	PRE-PHASE 3						
	SOUTH CROSSOVERS						
	RT. TO LT. (3A)						
194	516+65.00	519+48.24					
194	519+48.24	522+42.97					
194	522+42.97	525+02.75					
194	524+96.05	527+96.05					
	LT. TO RT. (4A)						
203	516+65.00	519+57.27					
203	519+57.27	522+50.94					
203	522+50.94	525+02.75					
203	524+96.05	526+96.05					
	INTERMEDIATE CROSSOVERS						
	LT. TO RT. (3A)						
200	254+62.25	256+97.20					
200	256+97.20	260+31.00					
200	260+31.00	262+38.05					
	RT. TO LT. (4A)						
204	254+62.25	256+97.20					
204	256+97.20	260+31.00					
204	260+31.00	262+38.05					
	PHASE 3A						
194	506+65.00	513+65.00	NB				
194	513+65.00	516+65.00	NB				
194	516+65.00	519+18.00	NB IL CROV				
194	519+18.00	525+02.75	NB IL CROV				
194	524+96.05	527+96.05	NB IL CROV				
194	516+65.00	519+20.00	NB OL				
194	519+20.00	525+25.00	NB OL SHIFT				
194	525+25.00	528+25.00	NB OL SHIFT				
194	524+70.00	527+50.00	NB PCB SHIFT	280			
194	527+50.00	528+25.00	NB PCB	80			
149 & 194	528+25.00	548+20.57	NB OL	2000			
149	548+20.57	552+75.00	NB OL	460			
149	552+75.00	555+89.00	NB OL	320			
149	555+89.00	566+09.70	NB OL	1030			
55	156+00.00	181+55.00	NB OL	2560			
55	181+55.00	184+55.00	NB OL	300			
55	184+55.00	186+75.00	NB OL SHIFT	220			
55	186+75.00	189+75.00	NB OL			300	
150	189+75.00	190+55.00	NB OL SHIFT			80	
150	190+55.00	191+15.00	NB OL SHIFT	60			
150	191+15.00	197+75.00	NB OL SHIFT	660			
150	197+75.00	198+34.00	NB OL	60			
150	198+34.00	199+64.00	NB OL			130	
SUBTOTALS CARRIED TO SHEET NO. 110				8030		510	

CALCULATED JDL
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MAINTENANCE OF TRAFFIC SUBSUMMARY

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1195

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SHEET NO.	STATION FROM	STATION TO	DIRECTION/ LANE LOCATION INSIDE LANE "IL" OUTSIDE LANE "OL"	254 PAVEMENT PLANING, ASPHALT CONCRETE SQ YD	407 TACK COAT GALLON	411 STABILIZED CRUSHED AGGREGATE CU YD	442 ASPHALT CONCRETE SURFACE COURSE, 12.5 MM, TYPE B (446), AS PER PLAN CU YD	614 LINEAR DELINEATION FT	WORK ZONE IMPACT ATTENUATOR (UNIDIRECTIONAL) EACH	WORK ZONE IMPACT ATTENUATOR (BIDIRECTIONAL) EACH	WORK ZONE CROSSOVER LIGHTING SYSTEM EACH	WORK ZONE RAISED PAVEMENT MARKER, AS PER PLAN EACH	ASPHALT CONCRETE FOR MAINTAINING TRAFFIC CU YD		BARRIER REFLECTOR, TYPE B EACH	OBJECT MARKER, ONE WAY EACH	OBJECT MARKER, TWO WAY EACH	WORK ZONE LANE LINE, CLASS I, AS PER PLAN MILE	WORK ZONE EDGE LINE, CLASS I, AS PER PLAN MILE WHITE	WORK ZONE EDGE LINE, CLASS I, AS PER PLAN MILE YELLOW	WORK ZONE CHANNELIZING LINE, CLASS I, AS PER PLAN FT	WORK ZONE DOTTED LINE, CLASS I, AS PER PLAN FT	WORK ZONE TRANSVERSE/DIAGONAL LINE, CLASS I FT	WORK ZONE STOP LINE, CLASS I FT	615 PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A, AS PER PLAN SQ YD	
150	199+64.00	200+00.00	NB OL SHIFT					40				4				2			36.00	36.00		36.00					
150	200+00.00	202+75.00	NB OL SHIFT					280				28				7			275.00	275.00		275.00					
150 - 151	202+75.00	207+15.00	NB OL SHIFT					440				44				10			440.00	440.00		440.00					
151	207+15.00	212+65.00	NB OL												12	12			550.00	550.00							
151 &200	212+65.00	250+75.00	NB OL												77	77			3810.00	3810.00							
200	250+75.00	253+75.00	NB OL SHIFT					300				32				7			300	300							
200	253+75.00	259+80.00	NB OL SHIFT									62							605	605							
200	259+80.00	261+00.00	NB OL SHIFT									14							120	120							
200	261+00.00	263+00.00	NB OL SHIFT									22							200		200.00						
194	527+96.05	566+09.70	NB IL																3813.65	3813.65							
200	156+00.00	251+68.96	NB IL																9568.96	9568.96							
200	251+68.96	254+68.96	NB IL CROV									30							300.00	300.00							
200	254+62.25	261+00.00	NB IL CROV									64							637.75	637.75							
200	261+00.00	263+00.00	NB IL CROV									20								200.00	200.00						
200	263+00.00	266+00.00	NB IL/OL									48							300	300	300.00						
194	512+40.00	515+40.00	SB IL/OL									48							300	300	300.00						
194	515+40.00	521+75.00	SB IL/OL SHIFT									96							635	635	635.00						
194	521+75.00	524+75.00	SB IL/OL					600				48					7		300	300	300.00						
194	524+75.00	566+09.70	SB IL/OL									35			166		83	4134.70	4134.7	4134.7						
54	156+00.00	187+65.00	SB IL/OL									27			126		64	3165.00	3165	3165						
54	187+65.00	191+05.00	SB IL/OL									4			14	14	7	340.00	340	340						
57	191+05.00	198+45.00	SB IL/OL									7			32		16	740.00	740	740						
57	198+45.00	199+65.00	SB IL/OL									2			4	4	2	120.00	120	120						
200	199+65.00	256+58.00	SB IL/OL									48			230		115	5693.00	5693	5693						
200	256+58.00	259+58.00	SB IL/OL					200	1			45					3		300	300	300.00						
200	259+58.00	265+93.00	SB IL/OL SHIFT									96							635	635	635.00						
200	257+50.00	259+58.00	SB PCB SHIFT					420									5										
200	265+93.00	268+93.00	SB IL/OL SHIFT									45							300	300	300.00						
149	52+75.00	55+88.48	NB RMP B BRKS																313.48		313.48						
149	55+88.48	56+58.48	NB RMP B BRKS					70.00	1							2			70.00	70							
149	56+58.48	61+50.00	NB RMP B BRKS												11	11			491.52	491.52							
149	61+50.00	62+75.00	NB RMP B BRKS												4	4			125.00	125.00	100.00			20			
150	906+64.00	182+69.62	NB RMP C IR 77																120.00			120.00					
150	182+69.62	185+10.00	NB RMP C IR 77																240.38		480.76						
150	185+10.00	186+00.00	NB RMP C IR 77					90	1							3			90.00	90.00							
150	186+00.00	194+10.00	NB RMP C IR 77												17	17			810.00	810.00							
150	194+10.00	197+75.00	NB RMP C IR 77																365.00		365.00						
123	915+50.00	916+75.00	SB IR77 PCB						1						4	4											
123	911+00.00	912+00.00	SB IR77 PCB						1						3	3											
123	916+00.00	917+10.00	NB IR77 PCB						1						3	3											
150	910+45.00	913+45.00	NB IR77 PCB												7	7											
SUBTOTALS CARRIED TO SHEET NO. 109								2440	6			869			710	187	302	14193	40245	39206	4430	871		20			

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SHEET NO.	STATION FROM	STATION TO	DIRECTION/ LANE LOCATION INSIDE LANE "IL" OUTSIDE LANE "OL"	622 PORTABLE CONCRETE BARRIER, 32" FT	622 PORTABLE CONCRETE BARRIER, 50", AS PER PLAN FT	622 PORTABLE CONCRETE BARRIER, 32", BRIDGE MOUNTED FT	622 PORTABLE CONCRETE BARRIER, 4", CONNECTOR FT
150	199+64.00	200+00.00	NB OL SHIFT	40			
150	200+00.00	202+75.00	NB OL SHIFT	280			
150 - 151	202+75.00	207+15.00	NB OL SHIFT	440			
151	207+15.00	212+65.00	NB OL	550			
151 - 200	212+65.00	250+75.00	NB OL	3810			
200	250+75.00	253+75.00	NB OL SHIFT	300			
200	253+75.00	259+80.00	NB OL SHIFT				
200	259+80.00	261+00.00	NB OL SHIFT				
200	261+00.00	263+00.00	NB OL SHIFT				
194	527+96.05	566+09.70	NB IL				
200	156+00.00	251+68.96	NB IL				
200	251+68.96	254+68.96	NB IL CROV				
200	254+62.25	261+00.00	NB IL CROV				
200	261+00.00	263+00.00	NB IL CROV				
200	263+00.00	266+00.00	NB IL/OL				
194	512+40.00	515+40.00	SB IL/OL				
194	515+40.00	521+75.00	SB IL/OL SHIFT				
194	521+75.00	524+75.00	SB IL/OL		300		
194	524+75.00	566+09.70	SB IL/OL		4140		
54	156+00.00	187+65.00	SB IL/OL		3170		
54	187+65.00	191+05.00	SB IL/OL		340		
57	191+05.00	198+45.00	SB IL/OL		740		
57	198+45.00	199+65.00	SB IL/OL		120		
200	199+65.00	256+58.00	SB IL/OL		5700		
200	256+58.00	259+58.00	SB IL/OL		100		
200	259+58.00	265+93.00	SB IL/OL SHIFT				
200	257+50.00	259+58.00	SB PCB SHIFT		210		
200	265+93.00	268+93.00	SB IL/OL SHIFT				
149	52+75.00	55+88.48	NB RMP B BRKS				
149	55+88.48	56+58.48	NB RMP B BRKS	70			
149	56+58.48	61+50.00	NB RMP B BRKS	500			
149	61+50.00	62+75.00	NB RMP B BRKS	130			
150	906+64.00	182+69.62	NB RMP C IR 77				
150	182+69.62	185+10.00	NB RMP C IR 77				
150	185+10.00	186+00.00	NB RMP C IR 77	90			
150	186+00.00	194+10.00	NB RMP C IR 77	810			
150	194+10.00	197+75.00	NB RMP C IR 77				
123	915+50.00	916+75.00	SB IR77 PCB	130			
123	911+00.00	912+00.00	SB IR77 PCB	100			
123	916+00.00	917+10.00	NB IR77 PCB	110			
150	910+45.00	913+45.00	NB IR77 PCB	300			
SUBTOTALS CARRIED TO SHEET NO. 110				7660	14820		

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SHEET NO.	STATION FROM	STATION TO	DIRECTION / LANE LOCATION INSIDE LANE "IL" OUTSIDE LANE "OL"	254	407	411	442	614															615	
				PAVEMENT PLANING, ASPHALT CONCRETE	TACK COAT	STABILIZED CRUSHED AGGREGATE	ASPHALT CONCRETE SURFACE COURSE, 12.5 MM, TYPE B (446), AS PER PLAN	LINEAR DELINEATION	WORK ZONE IMPACT ATTENUATOR (UNIDIRECTIONAL)	WORK ZONE IMPACT ATTENUATOR (BIDIRECTIONAL)	WORK ZONE CROSSOVER LIGHTING SYSTEM	WORK ZONE RAISED PAVEMENT MARKER, AS PER PLAN	ASPHALT CONCRETE FOR MAINTAINING TRAFFIC		BARRIER REFLECTOR, TYPE B	OBJECT MARKER, ONE WAY	OBJECT MARKER, TWO WAY	WORK ZONE LANE LINE, CLASS I, AS PER PLAN	WORK ZONE EDGE LINE, CLASS I, AS PER PLAN		WORK ZONE CHANNELIZING LINE, CLASS I, AS PER PLAN	WORK ZONE DOTTED LINE, CLASS I, AS PER PLAN	WORK ZONE TRANSVERSE/DIAGONAL LINE, CLASS I	WORK ZONE STOP LINE, CLASS I	PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A, AS PER PLAN	
				SQ YD	GALLON	CU YD	CU YD	FT	EACH	EACH	EACH	EACH	CU YD		EACH	EACH	EACH	MILE	WHITE	YELLOW	FT	FT	FT	FT	SQ YD	
	SHOULDER REPLACEMENT																									
149	56+96.00	62+80.00	NB RMP B BRKS																						648.89	
194	526+96.05	528+00.00	NB IS IR 77																						83.89	
194 -149	528+00.00	566+09.70	NB IS IR 77																						846.6	
149 -150	156+00.00	186+86.00	NB IS IR 77																						685.78	
150	190+84.00	197+66.50	NB IS IR 77																						151.67	
150 -151	200+35.20	245+00.00	NB IS IR 77																						992.18	
151 -200	245+00.00	252+14.00	NB IS IR 77																						317.33	
200	252+14.00	252+68.95	NB IS IR 77																						30.53	
200	252+68.95	254+68.95	NB IS IR 77																						133.33	
	TEMPORARY PAVEMENT																									
150	187+54.00	193+88.00	NB RMP C																						549.90	
	RAMP C PAVEMENT TRANSITION																									
	201+85.00	213+40.00	NB RMP C										700													
	PHASE 3B																									
201	516+65.00	518+42.50	NB OL									18							177.50		177.50					
201	518+42.50	527+50.00	NB OL SHIFT									90							907.50	907.50						
201	524+70.00	527+50.00	NB PCB SHIFT					280	1						7											
201	527+50.00	530+50.00	NB OL					300				30			7				300.00	300.00						
201 &152	530+50.00	549+65.00	NB OL											39	39				1915.00	1915.00						
152	549+65.00	553+55.00	NB OL					390							9				390.00	390.00		390.00				
152	553+55.00	556+55.00	NB OL																	300.00	300.00					
152	556+55.00	558+05.00	NB OL					150	1						4				150.00	150.00						
152	558+05.00	566+09.70	NB OL											17	17				804.70	804.70						
152	156+00.00	187+05.00	NB OL											63	63				3105.00	3105.00						
152 -153	187+05.00	190+65.00	NB OL											14	14				360.00	360.00						
153	190+65.00	198+36.00	NB OL											17	17				771.00	771.00						
153	198+36.00	199+61.00	NB OL											6	6				125.00	125.00						
153	199+61.00	201+85.00	NB OL											6	6				224.00	224.00						
153 -154	201+85.00	210+50.00	NB OL																865.00	865.00						
154	210+50.00	216+00.00	NB OL											12	12				550.00	550.00						
154 &202	216+00.00	250+75.00	NB OL											71	71				3475	3475						
202	250+75.00	253+75.00	NB OL					300				30			7				300	300						
202	253+75.00	262+27.50	NB OL SHIFT									86							852.5	852.5						
202	262+27.50	263+00.00	NB OL									8							72.5		72.50					
	IR 77 RAMP B MARKINGS																									
																			4593.60	4329.60	288.84					
	REFRESH MARKINGS FROM PHASE 3A																									
	N.B. SOUTH CROSSOVER																		1884.75	2137.75	1253.00					
	N.B. IL																		13382.61	13382.61						
	N.B. INTERMEDIATE CROSSOVER																		1237.75	1437.75	500.00					
	S.B. IL/OL																	14192.70	16662.70	16662.70	2470.00					
	PHASE 3B-1																									
152	53+55.00	56+51.00	NB RMP B BRKS											7	7				296.00		296.00					
152	56+51.00	62+73.00	NB RMP B BRKS											14	14				662.00	662				20		
153	194+10.00	201+85.00	NB RMP C IR 77											17	17				775.00	775.00						
153 -154	201+85.00	207+70.00	NB RMP C IR 77																585.00	585.00						
154	207+70.00	210+50.00	NB RMP C IR 77					280.00	1						7				280.00	280.00						
	TEMPORARY PAVEMENT																									
152	56+58.48	62+50.00	NB/OS RMP B BRKS																						131.45	
	SUBTOTALS CARRIED TO SHEET NO. 109							**1700**	**3**			**277**	**700**		**283**	**324**		**14193**	**55665**	**55608**	**5358**	**390**		**20**	**4572**	

CALCULATED JDL
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SHEET NO.	STATION FROM	STATION TO	DIRECTION/ LANE LOCATION INSIDE LANE "IL" OUTSIDE LANE "OL"	622 PORTABLE CONCRETE BARRIER, 32" FT	PORTABLE CONCRETE BARRIER, 50", AS PER PLAN FT	PORTABLE CONCRETE BARRIER, 32", BRIDGE MOUNTED FT	PORTABLE CONCRETE BARRIER, "Y", CONNECTOR FT
	SHOULDER REPLACEMENT						
149	56+96.00	62+80.00	NB RMP B BRKS				
194	526+96.05	528+00.00	NB IS IR 77				
194 -149	528+00.00	566+09.70	NB IS IR 77				
149 -150	156+00.00	186+86.00	NB IS IR 77				
150	190+84.00	197+66.50	NB IS IR 77				
150 -151	200+35.20	245+00.00	NB IS IR 77				
151 -200	245+00.00	252+14.00	NB IS IR 77				
200	252+14.00	252+68.95	NB IS IR 77				
200	252+68.95	254+68.95	NB IS IR 77				
	TEMPORARY PAVEMENT						
150	187+54.00	193+88.00	NB RMP C				
	RAMP C PAVEMENT TRANSITION						
	201+85.00	213+40.00	NB RMP C				
	PHASE 3B						
201	516+65.00	518+42.50	NB OL				
201	518+42.50	527+50.00	NB OL SHIFT				
201	524+70.00	527+50.00	NB PCB SHIFT	280			
201	527+50.00	530+50.00	NB OL	300			
201 &152	530+50.00	549+65.00	NB OL	1920			
152	549+65.00	553+55.00	NB OL	390			
152	553+55.00	556+55.00	NB OL				
152	556+55.00	558+05.00	NB OL	150			
152	558+05.00	566+09.70	NB OL	810			
152	156+00.00	187+05.00	NB OL	3110			
152 -153	187+05.00	190+65.00	NB OL			360	
153	190+65.00	198+36.00	NB OL	780			
153	198+36.00	199+61.00	NB OL			130	
153	199+61.00	201+85.00	NB OL	230			
153 -154	201+85.00	210+50.00	NB OL				
154	210+50.00	216+00.00	NB OL	550			
154 &202	216+00.00	250+75.00	NB OL	3480			
202	250+75.00	253+75.00	NB OL	300			
202	253+75.00	262+27.50	NB OL SHIFT				
202	262+27.50	263+00.00	NB OL				
	IR 77 RAMP B MARKINGS						
	REFRESH MARKINGS FROM PHASE 3A						
	N.B. SOUTH CROSSOVER						
	N.B. IL						
	N.B. INTERMEDIATE CROSSOVER						
	S.B. IL/OL						
	PHASE 3B-1						
152	53+55.00	56+51.00	NB RMP B BRKS				
152	56+51.00	62+73.00	NB RMP B BRKS				
153	194+10.00	201+85.00	NB RMP C IR 77				
153 -154	201+85.00	207+70.00	NB RMP C IR 77				
154	207+70.00	210+50.00	NB RMP C IR 77				
	TEMPORARY PAVEMENT						
152	56+58.48	62+50.00	NB/OS RMP B BRKS				
SUBTOTALS CARRIED TO SHEET NO. 110				14290	0	490	0

CALCULATED JDL
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SHEET NO.	STATION FROM	STATION TO	DIRECTION/ LANE LOCATION INSIDE LANE "IL" OUTSIDE LANE "OL"	254 PAVEMENT PLANING, ASPHALT CONCRETE	407 TACK COAT	411 STABILIZED CRUSHED AGGREGATE	442 ASPHALT CONCRETE SURFACE COURSE, 12.5 MM, TYPE B (446), AS PER PLAN	614 LINEAR DELINEATION	614 WORK ZONE IMPACT ATTENUATOR (UNIDIRECTIONAL)	614 WORK ZONE IMPACT ATTENUATOR (BIDIRECTIONAL)	614 WORK ZONE CROSSOVER LIGHTING SYSTEM	614 WORK ZONE RAISED PAVEMENT MARKER, AS PER PLAN	614 ASPHALT CONCRETE FOR MAINTAINING TRAFFIC		614 BARRIER REFLECTOR, TYPE B	614 OBJECT MARKER, ONE WAY	614 OBJECT MARKER, TWO WAY	614 WORK ZONE LANE LINE, CLASS I, AS PER PLAN	614 WORK ZONE EDGE LINE, CLASS I, AS PER PLAN		614 WORK ZONE CHANNELIZING LINE, CLASS I, AS PER PLAN	614 WORK ZONE DOTTED LINE, CLASS I, AS PER PLAN	614 WORK ZONE TRANSVERSE/DIAGONAL LINE, CLASS I	614 WORK ZONE STOP LINE, CLASS I	615 PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A, AS PER PLAN		
				SQ YD	GALLON	CU YD	CU YD	FT	EACH	EACH	EACH	EACH	CU YD		EACH	EACH	EACH	MILE	MILE WHITE	MILE YELLOW	FT	FT	FT	FT	SQ YD	
	PHASE 3B-2																									
155	541+20.00	545+10.00	NB OL															390.00	390.00			390.00				
155	545+10.00	548+10.00	NB OL																300.00	300.00						
155	548+10.00	549+50.00	NB OL					140	1						4			140.00	140.00							
155	549+50.00	558+50.00	NB OL												19	19		900.00	900.00							
156	192+85.00	197+50.00	NB OL															465.00	465.00							
156	197+50.00	200+00.00	NB OL												10	10		250.00	250.00	250.00						
156	200+00.00	201+65.00	NB OL												4	4		165.00	165.00			165.00				
156	201+65.00	216+00.00	NB OL												30	30		1435	1435							
155	545+10.00	548+40.00	NB RMP B BRKS															330.00		330.00						
155	548+40.00	549+50.00	NB RMP B BRKS					110								3		110.00	110							
155	549+50.00	552+05.00	NB RMP B BRKS												6	6		255.00	255							
155	52+05.00	62+73.00	NB RMP B BRKS												22	22		1068	1068							
155																										
156	182+69.62	184+62.50	NB RMP C IR 77															175.38		175.38						
156	184+62.50	185+92.50	NB RMP C IR 77					130	1							4		130.00		130.00						
156	185+92.50	194+00.00	NB RMP C IR 77												17	17		807.50	807.50							
156	194+00.00	197+50.00	NB RMP C IR 77					350								8		350.00		350.00						
	WINTER SEASON																									
	RETURN TO NORMAL LANES																58080	74131.20	69379.20	8353		859	138			
	PHASE 4A																									
203	513+65.00	516+65.00	SB									48						300.00	300.00	300.00						
203	516+65.00	519+00.00	SB IL CROV									24							235.00	235.00						
203	519+00.00	525+02.75	SB IL CROV									60						602.75	602.75							
203	524+96.05	527+96.05	SB IL CROV									30						300.00	300.00							
203	516+65.00	519+00.00	SB OL									24						235.00		235.00						
203	519+00.00	521+75.00	SB OL									28						275.00	275.00							
203	521+75.00	527+80.00	SB OL SHIFT									60						605.00	605.00							
203	527+80.00	530+80.00	SB OL					300				30				7		300.00	300.00							
203 - 157	530+80.00	548+00.00	SB OL												35	35		1720.00	1720.00							
157	548+00.00	550+00.00	SB OL												5	5		200.00	200.00			200.00				
157	550+00.00	552+00.00	SB OL												5	5		200.00	200.00	200.00						
157	552+00.00	566+09.70	SB OL												29	29		1409.70	1409.70							
158	156+00.00	165+85.00	SB OL												21	21		985.00	985.00							
158 - 160	165+85.00	189+40.00	SB OL												48	48		2355.00	2355.00							
160	189+40.00	190+91.00	SB OL												4	4			151.00	151.00						
160	190+91.00	191+15.00	SB OL												2	2		24.00	24.00	24.00						
160	191+15.00	192+43.00	SB OL												4	4		128.00	128.00	128.00						
160	192+43.00	194+53.00	SB OL												5	5		210.00	210.00			210.00				
160	194+53.00	198+45.00	SB OL												9	9		392.00	392.00							
160	198+45.00	199+65.00	SB OL												2	4		120.00	120.00							
160 - 204	199+65.00	252+45.00	SB OL												107	107		5280.00	5280.00							
204	252+45.00	255+45.00	SB OL									32						300	300							
204	255+45.00	261+50.00	SB OL SHIFT									62						605	605							
204	254+00.00	256+80.00	SB PCB SHIFT					280	1							7										
204	261+50.00	263+00.00	SB OL									18						150		150						
203	527+96.05	566+09.70	SB IL															3813.65	3813.65							
204	156+00.00	251+68.95	SB IL															9568.95	9568.95							
	SUBTOTALS CARRIED TO SHEET NO. 109							1340	3			416			384	419		58080	111199	105745	11329	965	859	158		

CALCULATED JDL
CHECKED DAW

MAINTENANCE OF TRAFFIC SUBSUMMARY

SUM-271-2.33

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SHEET NO.	STATION FROM	STATION TO	DIRECTION/ LANE LOCATION INSIDE LANE "IL" OUTSIDE LANE "OL"	622 PORTABLE CONCRETE BARRIER, 32" FT	PORTABLE CONCRETE BARRIER, 50", AS PER PLAN FT	PORTABLE CONCRETE BARRIER, 32", BRIDGE MOUNTED FT	PORTABLE CONCRETE BARRIER, 4", CONNECTOR FT
	PHASE 3B-2						
155	541+20.00	545+10.00	NB OL				
155	545+10.00	548+10.00	NB OL				
155	548+10.00	549+50.00	NB OL	140			1
155	549+50.00	558+50.00	NB OL	900			
156	192+85.00	197+50.00	NB OL				
156	197+50.00	200+00.00	NB OL			250	
156	200+00.00	201+65.00	NB OL	170			1
156	201+65.00	216+00.00	NB OL	1440			
155	545+10.00	548+40.00	NB RMP B BRKS				
155	548+40.00	549+50.00	NB RMP B BRKS	110			
155	549+50.00	552+05.00	NB RMP B BRKS	260			
155	52+05.00	62+73.00	NB RMP B BRKS	1070			
155							
156	182+69.62	184+62.50	NB RMP C IR 77				
156	184+62.50	185+92.50	NB RMP C IR 77	130			
156	185+92.50	194+00.00	NB RMP C IR 77	810			
156	194+00.00	197+50.00	NB RMP C IR 77	350			
	WINTER SEASON						
	RETURN TO NORMAL LANES						
	PHASE 4A						
203	513+65.00	516+65.00	SB				
203	516+65.00	519+00.00	SB IL CROV				
203	519+00.00	525+02.75	SB IL CROV				
203	524+96.05	527+96.05	SB IL CROV				
203	516+65.00	519+00.00	SB OL				
203	519+00.00	521+75.00	SB OL				
203	521+75.00	527+80.00	SB OL SHIFT				
203	527+80.00	530+80.00	SB OL	300			
203 - 157	530+80.00	548+00.00	SB OL	1720			
157	548+00.00	550+00.00	SB OL	200			
157	550+00.00	552+00.00	SB OL	200			
157	552+00.00	566+09.70	SB OL	1410			
158	156+00.00	165+85.00	SB OL	990			
158 - 160	165+85.00	189+40.00	SB OL			2360	
160	189+40.00	190+91.00	SB OL			160	
160	190+91.00	191+15.00	SB OL			30	
160	191+15.00	192+43.00	SB OL	130			
160	192+43.00	194+53.00	SB OL	210			
160	194+53.00	198+45.00	SB OL	400			
160	198+45.00	199+65.00	SB OL			120	
160 - 204	199+65.00	252+45.00	SB OL	5280			
204	252+45.00	255+45.00	SB OL				
204	255+45.00	261+50.00	SB OL SHIFT				
204	254+00.00	256+80.00	SB PCB SHIFT	280			
204	261+50.00	263+00.00	SB OL				
203	527+96.05	566+09.70	SB IL				
204	156+00.00	251+68.95	SB IL				
SUBTOTALS CARRIED TO SHEET NO. 110				16500		2920	2

CALCULATED JDL
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MAINTENANCE OF TRAFFIC SUBSUMMARY

SUM-271-2.33

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SHEET NO.	STATION FROM	STATION TO	DIRECTION/ LANE LOCATION INSIDE LANE "IL" OUTSIDE LANE "OL"	254 PAVEMENT PLANING, ASPHALT CONCRETE SQ YD	407 TACK COAT GALLON	411 STABILIZED CRUSHED AGGREGATE CU YD	442 ASPHALT CONCRETE SURFACE COURSE, 12.5 MM, TYPE B (446), AS PER PLAN CU YD	614 LINEAR DELINEATION FT	614 WORK ZONE IMPACT ATTENUATOR (UNIDIRECTIONAL) EACH	614 WORK ZONE IMPACT ATTENUATOR (BIDIRECTIONAL) EACH	614 WORK ZONE CROSSOVER LIGHTING SYSTEM EACH	614 WORK ZONE RAISED PAVEMENT MARKER, AS PER PLAN EACH	614 ASPHALT CONCRETE FOR MAINTAINING TRAFFIC CU YD		614 BARRIER REFLECTOR, TYPE B EACH	614 OBJECT MARKER, ONE WAY EACH	614 OBJECT MARKER, TWO WAY EACH	614 WORK ZONE LANE LINE, CLASS I, AS PER PLAN MILE	614 WORK ZONE EDGE LINE, CLASS I, AS PER PLAN MILE WHITE	614 WORK ZONE EDGE LINE, CLASS I, AS PER PLAN MILE YELLOW	614 WORK ZONE CHANNELIZING LINE, CLASS I, AS PER PLAN FT	614 WORK ZONE DOTTED LINE, CLASS I, AS PER PLAN FT	614 WORK ZONE TRANSVERSE/DIAGONAL LINE, CLASS I FT	614 WORK ZONE STOP LINE, CLASS I FT	615 PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A, AS PER PLAN SQ YD	
204	251+68.95	254+68.95	SB IL CROV									30							300.00	300.00							
204	254+62.25	261+00.00	SB IL CROV									64							637.75	637.75							
204	261+00.00	263+00.00	SB IL CROV									20								200.00	200.00						
204	263+00.00	266+00.00	SB IL									45							300.00	300.00	300.00						
204	266+00.00	273+00.00	SB IL									35							700.00	700.00	700.00						
203	509+45.00	512+45.00	NB IL/OL									48							300	300	300.00						
203	512+45.00	518+80.00	NB IL/OL SHIFT									96							635	635	635.00						
203	518+80.00	521+00.00	SB PCB SHIFT					220	1							5											
203	521+00.00	521+80.00	SB PCB SHIFT					80								3											
203	518+80.00	521+80.00	NB IL/OL									48							300	300	300.00						
203	521+80.00	566+09.70	NB IL/OL					300				38			166		90	4429.70	4429.7	4429.7						
64	156+00.00	187+65.00	NB IL/OL									27			126		63	3165.00	3165	3165						
64	187+65.00	191+05.00	NB IL/OL									4			14	14	7	340.00	340	340						
66	191+05.00	198+45.00	NB IL/OL									7			30		15	740.00	740	740						
66	198+45.00	199+65.00	NB IL/OL									2			4	4	2	120.00	120	120						
204	199+65.00	254+50.00	NB IL/OL									47			220		110	5485.00	5485	5485						
204	254+50.00	257+50.00	NB IL/OL					600				45			6		6		300	300	300.00						
204	257+50.00	263+85.00	NB IL/OL SHIFT									96							635	635	635.00						
204	263+85.00	266+85.00	NB IL/OL									45							300	300	300.00						
157	552+00.00	553+07.11	SB RMP A BRKS																107.11	107.11							
157	53+07.11	57+40.00	SB RMP A BRKS																432.89	432.89							
157	57+40.00	66+80.00	SB RMP A BRKS						1						20	20			940.00	940							
158	165+85.00	175+50.00	SB RMP A IR 77																965.00		965.00						
158 - 159	175+50.00	199+25.00	SB RMP A IR 77												49	49			2375.00	2375.00							
159	199+25.00	199+95.00	SB RMP A IR 77					70	1							2			70.00	70.00							
159	199+95.00	202+95.00	SB RMP A IR 77																300.00		600.00						
159	199+15.00	199+95.00	SB RMP A IR 77					80								3											
160	170+34.29	183+50.00	SB RMP D																1315.71								
160	186+00.00	189+50.00	SB RMP D																350.00	350.00							
160	189+50.00	190+88.50	SB RMP D																138.50		138.50						
127	910+50.00	911+50.00	SB IR77						1						3	3											
160	915+60.00	918+34.00	SB IR77						1						7	7											
160	916+00.00	918+62.00	NB IR77						1						6	6											
	SHOULDER REPLACEMENT																										
157	57+45.00	67+00.00	SB RMP A BRKS																							1061.11	
	TEMPORARY PAVEMENT																										
62	528+00.00	556+09.70	SB IS																							624.38	
62	156+00.00	187+25.31	SB IS																							694.51	
62	191+29.34	197+83.48	SB IS																							145.36	
62	201+50.00	207+37.50	SB IS																							261.11	
62	207+37.50	242+00.00	SB IS																							769.44	
62	242+00.00	245+50.00	SB IS																							155.56	
62	245+50.00	253+50.00	SB IS																							177.78	
161	543+40.00	553+07.00	SB/ OS RMP A BRKS																							84.44	
161	56+07.11	66+41.72	SB/ OS RMP A BRKS																							229.91	
158	159+36.00	161+00.00	SB/ OS RMP A IR 77																							236.89	
158	161+00.00	162+40.00	SB/ OS RMP A IR 77																							186.67	
158	162+40.00	172+47.80	SB/ OS RMP A IR 77																							1119.78	
158	172+47.80	178+06.00	SB/ OS RMP A IR 77																							1085.39	
158 - 159	178+06.00	191+04.65	SB/ OS RMP A IR 77																							2525.15	
159	191+04.65	193+56.14	SB/ OS RMP A IR 77																							188.62	
159	193+56.14	198+10.29	SB/ OS RMP A IR 77																							340.61	
159	198+10.29	202+95.00	SB/ OS RMP A IR 77																							538.57	
158 - 159	176+00.00	199+15.00	SB/ IS RMP A IR 77																							1800.56	
160	170+00.00	181+00.00	NB RMP D	244.44	18.33	40.74	20.37																			1588.89	
160	181+00.00	182+00.00	NB RMP D	22.22	1.67	3.70	1.85																			72.22	
SUBTOTALS CARRIED TO SHEET NO. 109				**267**	**20**	**45**	**23**	**1350**	**6**			**697**			**651**	**116**	**293**	**14280**	**25682**	**23163**	**5374**					**13887**	

CALCULATED JDL
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MAINTENANCE OF TRAFFIC SUBSUMMARY

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SHEET NO.	STATION FROM	STATION TO	DIRECTION/ LANE LOCATION INSIDE LANE "IL" OUTSIDE LANE "OL"	622 PORTABLE CONCRETE BARRIER, 32" FT	PORTABLE CONCRETE BARRIER, 50", AS PER PLAN FT	PORTABLE CONCRETE BARRIER, 32", BRIDGE MOUNTED FT	PORTABLE CONCRETE BARRIER, 4", CONNECTOR FT
204	251+68.95	254+68.95	SB IL CROV				
204	254+62.25	261+00.00	SB IL CROV				
204	261+00.00	263+00.00	SB IL CROV				
204	263+00.00	266+00.00	SB IL				
204	266+00.00	273+00.00	SB IL				
203	509+45.00	512+45.00	NB IL/OL				
203	512+45.00	518+80.00	NB IL/OL SHIFT				
203	518+80.00	521+00.00	SB PCB SHIFT		220		
203	521+00.00	521+80.00	SB PCB SHIFT		80		
203	518+80.00	521+80.00	NB IL/OL				
203	521+80.00	566+09.70	NB IL/OL		4430		
64	156+00.00	187+65.00	NB IL/OL		3170		
64	187+65.00	191+05.00	NB IL/OL		340		
66	191+05.00	198+45.00	NB IL/OL		740		
66	198+45.00	199+65.00	NB IL/OL		120		
204	199+65.00	254+50.00	NB IL/OL		5490		
204	254+50.00	257+50.00	NB IL/OL		300		
204	257+50.00	263+85.00	NB IL/OL SHIFT				
204	263+85.00	266+85.00	NB IL/OL				
157	552+00.00	553+07.11	SB RMP A BRKS				
157	53+07.11	57+40.00	SB RMP A BRKS				
157	57+40.00	66+80.00	SB RMP A BRKS	940			
158	165+85.00	175+50.00	SB RMP A IR 77				
158 - 159	175+50.00	199+25.00	SB RMP A IR 77	2410			
159	199+25.00	199+95.00	SB RMP A IR 77	70			
159	199+95.00	202+95.00	SB RMP A IR 77				
159	199+15.00	199+95.00	SB RMP A IR 77	80			
160	170+34.29	183+50.00	SB RMP D				
160	186+00.00	189+50.00	SB RMP D				
160	189+50.00	190+88.50	SB RMP D				
127	910+50.00	911+50.00	SB IR77	100			
160	915+60.00	918+34.00	SB IR77	280			
160	916+00.00	918+62.00	NB IR77	270			
	SHOULDER REPLACEMENT						
157	57+45.00	67+00.00	SB RMP A BRKS				
	TEMPORARY PAVEMENT						
62	528+00.00	556+09.70	SB IS				
62	156+00.00	187+25.31	SB IS				
62	191+29.34	197+83.48	SB IS				
62	201+50.00	207+37.50	SB IS				
62	207+37.50	242+00.00	SB IS				
62	242+00.00	245+50.00	SB IS				
62	245+50.00	253+50.00	SB IS				
161	543+40.00	553+07.00	SB/ OS RMP A BRKS				
161	56+07.11	66+41.72	SB/ OS RMP A BRKS				
158	159+36.00	161+00.00	SB/ OS RMP A IR 77				
158	161+00.00	162+40.00	SB/ OS RMP A IR 77				
158	162+40.00	172+47.80	SB/ OS RMP A IR 77				
158	172+47.80	178+06.00	SB/ OS RMP A IR 77				
158 - 159	178+06.00	191+04.65	SB/ OS RMP A IR 77				
159	191+04.65	193+56.14	SB/ OS RMP A IR 77				
159	193+56.14	198+10.29	SB/ OS RMP A IR 77				
159	198+10.29	202+95.00	SB/ OS RMP A IR 77				
158 - 159	176+00.00	199+15.00	SB/ IS RMP A IR 77				
160	170+00.00	181+00.00	NB RMP D				
160	181+00.00	182+00.00	NB RMP D				
SUBTOTALS CARRIED TO SHEET NO. 110				4120	14890		

CALCULATED JDL
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MAINTENANCE OF TRAFFIC SUBSUMMARY

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SHEET NO.	STATION FROM	STATION TO	DIRECTION/ LANE LOCATION INSIDE LANE "IL" OUTSIDE LANE "OL"	254 PAVEMENT PLANING, ASPHALT CONCRETE	407 TACK COAT	411 STABILIZED CRUSHED AGGREGATE	442 ASPHALT CONCRETE SURFACE COURSE, 12.5 MM, TYPE B (446), AS PER PLAN	614 LINEAR DELINEATION	614 WORK ZONE IMPACT ATTENUATOR (UNIDIRECTIONAL)	614 WORK ZONE IMPACT ATTENUATOR (BIDIRECTIONAL)	614 WORK ZONE CROSSOVER LIGHTING SYSTEM	614 WORK ZONE RAISED PAVEMENT MARKER, AS PER PLAN	614 ASPHALT CONCRETE FOR MAINTAINING TRAFFIC		614 BARRIER REFLECTOR, TYPE B	614 OBJECT MARKER, ONE WAY	614 OBJECT MARKER, TWO WAY	614 WORK ZONE LANE LINE, CLASS I, AS PER PLAN	614 WORK ZONE EDGE LINE, CLASS I, AS PER PLAN		614 WORK ZONE CHANNELIZING LINE, CLASS I, AS PER PLAN	614 WORK ZONE DOTTED LINE, CLASS I, AS PER PLAN	614 WORK ZONE TRANSVERSE/DIAGONAL LINE, CLASS I	614 WORK ZONE STOP LINE, CLASS I	615 PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A, AS PER PLAN	
				SQ YD	GALLON	CU YD	CU YD	FT	EACH	EACH	EACH	EACH	CU YD		EACH	EACH	EACH	MILE	WHITE	YELLOW	FT	FT	FT	FT	SQ YD	
	PHASE 4B																									
205	516+65.00	518+45.00	SB OL									18							180.00		180.00					
205	518+45.00	527+80.00	SB OL SHIFT									94							935.00	935.00						
205	527+80.00	530+80.00	SB OL					300				30				7			300.00	300.00						
205&161	530+80.00	544+95.00	SB OL												29	29			1415.00	1415.00						
161	544+95.00	550+45.00	SB OL					550								12			550.00	550.00						
161	550+45.00	553+00.00	SB OL												6	6			255.00	255.00		255.00				
161	553+00.00	555+00.00	SB OL												5	5			200.00	200.00	200.00					
161	555+00.00	556+60.00	SB OL																160.00	160.00						
161	556+60.00	562+10.00	SB OL																550.00	550.00						
161	562+10.00	564+65.00	SB OL																255.00	255.00		255.00				
161	564+65.00	566+09.70	SB OL																144.70	144.70	144.70					
162	156+00.00	156+55.30	SB OL																55.30	55.30	55.30					
162	156+55.30	160+80.00	SB OL																424.70	424.70						
162 - 163	160+80.00	187+50.00	SB OL												54	54			2670.00	2670.00						
162 - 163	187+50.00	191+10.00	SB OL												8	8			360.00	360.00						
163	191+10.00	192+10.00	SB OL												3	3			100.00	100.00						
163	192+10.00	193+20.00	SB OL						1						3	3			110.00	110.00						
163 & 164	193+20.00	196+35.00	SB OL																315.00	315.00	315.00					
164	196+35.00	198+10.00	SB OL																175.00	175.00						
164	198+10.00	199+65.00	SB OL												4	4			155.00	155.00						
164 & 206	199+65.00	251+00.00	SB OL												104	104			5135.00	5135.00						
206	251+00.00	254+00.00	SB OL					300				32				7			300	300						
206	254+00.00	261+50.00	SB OL SHIFT									78							750	750						
206	254+00.00	256+80.00	SB PCB SHIFT					280	1							7										
206	261+50.00	263+00.00	SB OL SHIFT									18							150		150					
	REFRESH MARKINGS FROM PHASE 3A																									
	S.B. SOUTH CROSSOVER																		1202.75	1437.75	535.00					
																			13382.60	13382.60						
	S.B. INTERMEDIATE CROSSOVER																		1937.75	2137.75	1200.00					
	N.B. IL/OL																	14279.70	16749.70	16749.70	2470.00					
	PHASE 4B-1																									
161	55+00.00	57+25.00	SB RMP A BRKS												6	6			225.00		225.00					
161	57+25.00	67+00.00	SB RMP A BRKS						1						21	21			975.00	975						
162	156+55.30	160+80.00	SB RMP A IR 77																424.70		424.7					
162	160+80.00	174+50.00	SB RMP A IR 77												28	28			1370.00	1370						
163	915+50.00	918+50.00	SB RMP D IR 77																300.00		300					
163	918+50.00	918+79.79	SB RMP D IR 77												2	2			29.79	29.79						
163	170+34.29	173+34.29	SB RMP D IR 77												7	7			300.00	300.00						
163	173+34.29	181+70.00	SB RMP D IR 77						1						18	18			835.71	835.71						
163	181+70.00	186+00.00	SB RMP D IR 77																430.00	430.00						
163	186+00.00	192+14.84	SB RMP D IR 77												13	13			614.84	614.84						
163	192+14.95	193+20.00	SB RMP D IR 77												3	3			105.05	105.05						
163 - 164	193+20.00	196+35.00	SB RMP D IR 77																315.00		630					
	TEMPORARY PAVEMENT																									
79	174+78.00	176+00.00	SB RMP A																						94.89	
163	171+50.00	179+00.95	SB RMP D			27.81																			667.51	
163	179+00.95	179+80.20	SB RMP D			2.94																			114.47	
163	179+80.20	187+35.00	SB RMP D			55.91																			1509.6	
SUBTOTALS CARRIED TO SHEET NO. 109						**87**		**1430**	**4**			**270**			**314**	**347**		**14280**	**54843**	**53683**	**6830**	**510**			**2387**	

CALCULATED JDL
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MAINTENANCE OF TRAFFIC SUBSUMMARY

SUM-271-2.33

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SHEET NO.	STATION FROM	STATION TO	DIRECTION/ LANE LOCATION INSIDE LANE "IL" OUTSIDE LANE "OL"	622 PORTABLE CONCRETE BARRIER, 32" FT	PORTABLE CONCRETE BARRIER, 50", AS PER PLAN FT	PORTABLE CONCRETE BARRIER, 32", BRIDGE MOUNTED FT	PORTABLE CONCRETE BARRIER, 4", CONNECTOR FT
	PHASE 4B						
205	516+65.00	518+45.00	SB OL				
205	518+45.00	527+80.00	SB OL SHIFT				
205	527+80.00	530+80.00	SB OL	300			
205&161	530+80.00	544+95.00	SB OL	1420			
161	544+95.00	550+45.00	SB OL	550			
161	550+45.00	553+00.00	SB OL	260			
161	553+00.00	555+00.00	SB OL	200			
161	555+00.00	556+60.00	SB OL				
161	556+60.00	562+10.00	SB OL				
161	562+10.00	564+65.00	SB OL				
161	564+65.00	566+09.70	SB OL				
162	156+00.00	156+55.30	SB OL				
162	156+55.30	160+80.00	SB OL				
162 - 163	160+80.00	187+50.00	SB OL	2670			
162 - 163	187+50.00	191+10.00	SB OL			360	
163	191+10.00	192+10.00	SB OL	100			
163	192+10.00	193+20.00	SB OL	110			1
163 - 164	193+20.00	196+35.00	SB OL				
164	196+35.00	198+10.00	SB OL				
164	198+10.00	199+65.00	SB OL			160	
164 &206	199+65.00	251+00.00	SB OL	5140			
206	251+00.00	254+00.00	SB OL	300			
206	254+00.00	261+50.00	SB OL SHIFT				
206	254+00.00	256+80.00	SB PCB SHIFT	280			
206	261+50.00	263+00.00	SB OL SHIFT				
	REFRESH MARKINGS FROM PHASE 3A						
	S.B. SOUTH CROSSOVER						
	S.B. IL						
	S.B. INTERMEDIATE CROSSOVER						
	N.B. IL/OL						
	PHASE 4B-1						
161	55+00.00	57+25.00	SB RMP A BRKS	230			
161	57+25.00	67+00.00	SB RMP A BRKS	980			
162	156+55.30	160+80.00	SB RMP A IR 77				
162	160+80.00	174+50.00	SB RMP A IR 77	1370			
163	915+50.00	918+50.00	SB RMP D IR 77				
163	918+50.00	918+79.79	SB RMP D IR 77	30			
163	170+34.29	173+34.29	SB RMP D IR 77	300			
163	173+34.29	181+70.00	SB RMP D IR 77	840			
163	181+70.00	186+00.00	SB RMP D IR 77				
163	186+00.00	192+14.84	SB RMP D IR 77	620			
163	192+14.95	193+20.00	SB RMP D IR 77	110			
163 -164	193+20.00	196+35.00	SB RMP D IR 77				
	TEMPORARY PAVEMENT						
79	174+78.00	176+00.00	SB RMP A				
163	171+50.00	179+00.95	SB RMP D				
163	179+00.95	179+80.20	SB RMP D				
163	179+80.20	187+35.00	SB RMP D				
SUBTOTALS CARRIED TO SHEET NO. 110				15810		520	1

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SHEET NO.	STATION FROM	STATION TO	DIRECTION/ LANE LOCATION INSIDE LANE "IL" OUTSIDE LANE "OL"	254 PAVEMENT PLANING, ASPHALT CONCRETE	407 TACK COAT	411 STABILIZED CRUSHED AGGREGATE	442 ASPHALT CONCRETE SURFACE COURSE, 12.5 MM, TYPE B (446), AS PER PLAN	614 LINEAR DELINEATION	WORK ZONE IMPACT ATTENUATOR (UNIDIRECTIONAL)	WORK ZONE IMPACT ATTENUATOR (BIDIRECTIONAL)	WORK ZONE CROSSOVER LIGHTING SYSTEM	WORK ZONE RAISED PAVEMENT MARKER, AS PER PLAN	ASPHALT CONCRETE FOR MAINTAINING TRAFFIC		BARRIER REFLECTOR, TYPE B	OBJECT MARKER, ONE WAY	OBJECT MARKER, TWO WAY	WORK ZONE LANE LINE, CLASS I, AS PER PLAN	WORK ZONE EDGE LINE, CLASS I, AS PER PLAN		WORK ZONE CHANNELIZING LINE, CLASS I, AS PER PLAN	WORK ZONE DOTTED LINE, CLASS I, AS PER PLAN	WORK ZONE TRANSVERSE/DIAGONAL LINE, CLASS I	WORK ZONE STOP LINE, CLASS I	615 PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A, AS PER PLAN	
				SQ YD	GALLON	CU YD	CU YD	FT	EACH	EACH	EACH	EACH	CU YD		EACH	EACH	EACH	MILE	MILE WHITE	MILE YELLOW	FT	FT	FT	FT	SQ YD	
	PHASE 4B-2																									
165	530+50.00	536+00.00	SB OL																550.00	550						
165	536+00.00	538+00.00	SB OL																200.00			200.00				
165	538+00.00	540+00.00	SB OL																200.00	200	200					
165	540+00.00	544+90.00	SB OL																490.00	490						
165	544+90.00	566+09.70	SB OL												43	43			2119.70	2119.7						
166	156+00.00	160+95.00	SB OL												11	11			495.00	495						
166	160+95.00	166+45.00	SB OL												12	12			550.00	550						
166	166+45.00	169+00.00	SB OL												6	6			255.00	255		255.00				
166	169+00.00	174+32.00	SB OL																532.00	532	532					
166	174+32.00	176+75.00	SB OL																243.00	243						
168	183+00.00	184+00.00	SB OL						1						3	3			100.00	100						
168	184+00.00	185+00.00	SB OL																100.00	100						
168	185+00.00	186+11.50	SB OL																	111.5	111.5					
168	186+11.50	186+98.00	SB OL																86.50	86.5		86.50				
168	186+98.00	190+98.00	SB OL												9	9			400.00	400		400.00				
168	190+98.00	191+98.00	SB OL												3	3			100.00	100						
168	191+98.00	198+10.00	SB OL												13	13			612.00	612						
165	540+00.00	544+90.00	SB RMP A BRKS																490.00	490						
165	544+90.00	553+07.11	SB RMP A BRKS												34	34			817.11	817.11						
165	53+07.11	67+00.00	SB RMP A BRKS						1						57	57			1392.89	1392.89						
166	169+00.00	174+25.00	SB RMP A IR 77												12	12			525.00	525	525					
166 - 167	174+25.00	199+25.00	SB RMP A IR 77												51	51			2500.00	2500						
167	199+25.00	201+05.00	SB RMP A IR 77					180	1							5			180.00		180					
167	201+05.00	203+71.62	SB RMP A IR 77																266.62		266.62					
168	915+50.00	918+50.00	SB RMP D IR 77																300.00		600					
168	918+50.00	918+79.79	SB RMP D IR 77												2	2			29.79	29.79						
168	170+34.29	180+00.00	SB RMP D IR 77												20	20			965.71	965.71						
168	180+00.00	187+30.00	SB TRMP D IR 77																730.00	730.00						
168	187+30.00	188+24.00	SB TRMP D IR 77												5	5			94.00		94					
	WINTER SEASON																									
	RETURN TO NORMAL LANES																	58080	74131.20	69379.20	8353		859	138		
	SUBTOTAL THIS SHEET							180	3						281	286		58080	89456	83775	10563	942	859	138		
	SUBTOTAL CARRIED FROM SHEET 83					222					4								30142	6947					51297	
	SUBTOTAL CARRIED FROM SHEET 85			1996	200		84	490	1			349			136	148			32432	25164	2143	459			39046	
	SUBTOTAL CARRIED FROM SHEET 87							6260	3			735			505	142	236	10800	30418	31559	3720	255		20	2043	
	SUBTOTAL CARRIED FROM SHEET 89							1350	5	1		270			236	263		10800	40914	40739	5157	623		20	3025	
	SUBTOTAL CARRIED FROM SHEET 91							1120	4	1		722			403	424		58080	109648	104583	12485	1580	859	158	245	
	SUBTOTAL CARRIED FROM SHEET 93							4227	5			787			557	216	220	10210	26971	26670	3468	647			3677	
	SUBTOTAL CARRIED FROM SHEET 95							620	6	2					240	236	19	10210	37537	37511	6300	645		40	429	
	SUBTOTAL CARRIED FROM SHEET 97					181		2170	1		4	530			132	194		58080	85011	80571	10175	644	859	138	4878	
	SUBTOTAL CARRIED FROM SHEET 99							2440	6			869			710	187	302	14193	40245	39206	4430	871		20		
	SUBTOTAL CARRIED FROM SHEET 101							1700	3			277	700		283	324		14193	55665	55608	5358	390		20	4572	
	SUBTOTAL CARRIED FROM SHEET 103							1310	3			416			384	419		58080	111199	105745	11329	965	859	158		
	SUBTOTAL CARRIED FROM SHEET 105			267	20	45	23	1350	6			697			651	116	293	14280	25682	23163	5374				13887	
	SUBTOTAL CARRIED FROM SHEET 107					87		1430	4			270			314	347		14280	54843	53683	6830	510			2387	
	CONVERT TO MILES																	62.75	145.87	135.41						
	TOTALS CARRIED TO GENERAL SUMMARY			**2263**	**220**	**535**	**107**	**24647**	**50**	**4**	**8**	**5922**	**700**		**4832**	**3302**	**1070**	**62.75**	**281.28**		**87332**	**8531**	**3436**	**712**	**125486**	

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109
1195

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SHEET NO.	STATION FROM	STATION TO	DIRECTION/ LANE LOCATION INSIDE LANE "IL" OUTSIDE LANE "OL"	622 PORTABLE CONCRETE BARRIER, 32" FT	PORTABLE CONCRETE BARRIER, 50", AS PER PLAN FT	PORTABLE CONCRETE BARRIER, 32", BRIDGE MOUNTED FT	PORTABLE CONCRETE BARRIER, 4", CONNECTOR FT
	PHASE 4B-2						
165	530+50.00	536+00.00	SB OL				
165	536+00.00	538+00.00	SB OL				
165	538+00.00	540+00.00	SB OL				
165	540+00.00	544+90.00	SB OL				
165	544+90.00	566+09.70	SB OL	2120			
166	156+00.00	160+95.00	SB OL	500			
166	160+95.00	166+45.00	SB OL	550			
166	166+45.00	169+00.00	SB OL	260			
166	169+00.00	174+32.00	SB OL				
166	174+32.00	176+75.00	SB OL				
168	183+00.00	184+00.00	SB OL	100			
168	184+00.00	185+00.00	SB OL				
168	185+00.00	186+11.50	SB OL				
168	186+11.50	186+98.00	SB OL				
168	186+98.00	190+98.00	SB OL	400			
168	190+98.00	191+98.00	SB OL	100			
168	191+98.00	198+10.00	SB OL	620			
165	540+00.00	544+90.00	SB RMP A BRKS				
165	544+90.00	553+07.11	SB RMP A BRKS	1640.00			
165	53+07.11	67+00.00	SB RMP A BRKS	2800.00			
166	169+00.00	174+25.00	SB RMP A IR 77	530			
166 - 167	174+25.00	199+25.00	SB RMP A IR 77	2500			
167	199+25.00	201+05.00	SB RMP A IR 77	180			
167	201+05.00	203+71.62	SB RMP A IR 77				
168	915+50.00	918+50.00	SB RMP D IR 77				
168	918+50.00	918+79.79	SB RMP D IR 77	30			
168	170+34.29	180+00.00	SB RMP D IR 77	970			
168	180+00.00	187+30.00	SB TRMP D IR 77				
168	187+30.00	188+24.00	SB TRMP D IR 77	180			
	WINTER SEASON						
	RETURN TO NORMAL LANES						
	SUBTOTAL THIS SHEET						
	SUBTOTAL CARRIED FROM SHEET 84			13480			
	SUBTOTAL CARRIED FROM SHEET 86						
	SUBTOTAL CARRIED FROM SHEET 88			7100			
	SUBTOTAL CARRIED FROM SHEET 90			6290	11470		
	SUBTOTAL CARRIED FROM SHEET 92			12400			
	SUBTOTAL CARRIED FROM SHEET 94			20350			1
	SUBTOTAL CARRIED FROM SHEET 96			9950	11010		
	SUBTOTAL CARRIED FROM SHEET 98			12070			1
	SUBTOTAL CARRIED FROM SHEET 100			8030		510	
	SUBTOTAL CARRIED FROM SHEET 102			7660	14820		
	SUBTOTAL CARRIED FROM SHEET 104			14290		490	
	SUBTOTAL CARRIED FROM SHEET 106			16500		2920	2
	SUBTOTAL CARRIED FROM SHEET 108			4120	14890		
	CONVERT TO MILES			15810		520	1
	TOTALS CARRIED TO GENERAL SUMMARY			**148050**	**52190**	**4440**	**5**

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SHEET NO.	PHASE	REFERENCE NO.	STATION FROM	STATION TO	SIDE			614 WORK ZONE EDGE LINE, CLASS 1 (YELLOW) MILE	614 WORK ZONE EDGE LINE, CLASS 1 (WHITE) MILE	614 WORK ZONE CHANNELIZING LINE, CLASS 1 FT	614 WORK ZONE CENTER LINE, CLASS 1 (YELLOW) MILE	614 WORK ZONE DOTTED LINE, CLASS 1 (YELLOW) FT	614 WORK ZONE DOTTED LINE, CLASS 1 (WHITE) FT	614 WORK ZONE STOP LINE, CLASS 1 FT	614 WORK ZONE ARROW, CLASS 1 EACH	614 WORK ZONE IMPACT ATTENUATOR (BIDIRECTIONAL) EACH	615 PAVEMENT FOR MAINTAINING TRAFFIC, CLASS B SQ YD	622 PORTABLE CONCRETE BARRIER, 32" FT	622 PORTABLE CONCRETE BARRIER, 32" BRIDGE MOUNTED FT		642 REMOVAL OF PAVEMENT MARKING FT		
207	1	ELW-1	57+04	63+71	L. & R.				0.13														
207	1	ELW-2	57+96	64+97	RT.				0.13														
207	1	ELW-3	63+71	63+73	LT.				0.02														
207	1	DLW-1	63+71	64+63	L. & R.								93										
207	1	CL-1	56+79	57+04	RT.						0.01												
207	1	SL-1	64+97		LT.									12									
207	1	R-1	57+05	63+65	L. & R.																	951	
207	1	R-2	57+96	64+97	RT.																	703	
207	1	R-3	64+48	64+97	L. & R.																	49	
207	1	PCB-1	57+53	63+43	L. & R.												2		260	340			
207	1	P-1	62+67	64+25	RT.													21					
208	2	ELW-1	57+23	63+72	LT.				0.14														
208	2	ELW-2	56+84	63+39	L. & R.				0.16														
208	2	SL-1	64+97		LT.									12									
208	2	R-1	57+23	58+21	LT.																	98	
208	2	R-2	57+21	57+96	RT.																	75	
208	2	R-3	59+04	62+22	LT.																	318	
208	2	PCB-1	57+53	64+50	L. & R.												1		370	340			
208	2	P-1	62+57	63+70	LT.													17					
209	1	ELY-1	42+42	42+42	RT.			0.01															
209	1	ELW-1	33+17	42+11	RT.				0.19														
209	1	ELW-2	40+95	43+50	RT.				0.05														
209	1	ELW-3	42+66	43+50	LT.				0.03														
209	1	DLY-1	42+14	42+83	LT.							70											
209	1	DLY-2	42+21	42+42	L. & R.							31											
209	1	DLW-1	42+14	42+54	L. & R.								64										
209	1	CL-1	40+95	42+14	LT.						0.02												
209	1	CL-2	42+83	43+50	LT.						0.01												
209	1	CH-1	42+54	42+54	RT.					36													
209	1	SL-1	42+42	42+87	RT.									45									
209	1	LA-1	40+28		RT.										1								
209	1	LA-2	41+15		RT.										1								
209	1	R-1	37+39	41+84	RT.																	445	
209	1	R-2	42+42	42+75	RT.																	33	
209	1	R-3	42+96	43+50	RT.																	54	
209	1	R-4	40+95	41+84	L. & R.																	89	
209	1	R-5	40+95	41+84	LT.																	89	
209	1	R-6	40+95	43+50	LT.																	255	
209	1	R-7	42+92	43+50	LT.																	58	
209	1	R-8	42+92	43+50	L. & R.																	58	
210	1	ELW-1	43+50	54+50	LT.				0.21														
210	1	ELW-2	43+50	54+50	LT.				0.21														
210	1	CL-1	43+50	54+50	LT.						0.21												
210	1	PCB-1	46+19	53+51	L. & R.														390	340			
210	1	R-1	43+50	47+70	RT.																	420	
SHEET SUBTOTALS								0.01	1.27	36	0.25	101	157	69	2	3	38	1020	1020		3695		
SHEET TOTALS CARRIED TO SHEET 113								1.28		36	0.25	258		69	2	3	38	1020	1020		3695		

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SHEET NO.	PHASE	REFERENCE NO.	STATION FROM	STATION TO	SIDE		614 WORK ZONE LANE LINE, CLASS 1	614 WORK ZONE EDGE LINE, CLASS 1 (YELLOW)	614 WORK ZONE EDGE LINE, CLASS 1 (WHITE)	614 WORK ZONE CHANNELIZING LINE, CLASS 1	614 WORK ZONE CENTER LINE, CLASS 1 (YELLOW)	614 WORK ZONE DOTTED LINE, CLASS 1 (YELLOW)	614 WORK ZONE DOTTED LINE, CLASS 1 (WHITE)	614 WORK ZONE STOP LINE, CLASS 1				622 PORTABLE CONCRETE BARRIER, 32"	622 PORTABLE CONCRETE BARRIER, 32" BRIDGE MOUNTED		642 REMOVAL OF PAVEMENT MARKING		
			FROM	TO			MILE	MILE	MILE	FT	MILE	FT	FT	FT				FT	FT		FT		
210	1	R-2	43+50	54+50	LT.																1100		
210	1	R-3	43+50	54+50	LT.																1100		
210	1	R-4	43+50	47+74	L. & R.																424		
210	1	R-5	52+13	54+50	L. & R.																237		
210	1	R-6	52+08	54+50	RT.																242		
211	1	ELY-1	55+54	55+54	RT.			0.01															
211	1	ELW-1	54+50	56+14	LT.				0.03														
211	1	ELW-2	54+50	55+24	L. & R.				0.03														
211	1	ELW-3	55+80	58+22	RT.				0.07														
211	1	ELW-4	58+55	60+45	RT.				0.04														
211	1	DLY-1	54+91	55+81	LT.							90											
211	1	DLY-2	55+32	55+54	L. & R.							38											
211	1	DLY-3	58+02	58+79	LT.							77											
211	1	DLW-1	55+32	55+68	L. & R.								57										
211	1	CL-1	54+50	54+91	LT.						0.01												
211	1	CL-2	55+81	58+02	LT.						0.04												
211	1	CL-3	58+79	59+05	L. & R.						0.01												
211	1	CH-1	55+68	55+68	LT.					43													
211	1	SL-1	55+54	56+04	RT.									50									
211	1	R-1	54+50	54+84	RT.																34		
211	1	R-2	54+50	54+84	LT.																34		
211	1	R-3	54+50	56+14	LT.																164		
211	1	R-4	55+54	55+87	RT.																33		
211	1	R-5	55+93	58+02	RT.																209		
211	1	R-6	55+93	58+02	L. & R.																209		
211	1	R-7	55+93	58+02	LT.																209		
211	1	R-8	54+50	54+84	L. & R.																34		
212	2	ELY-1	39+60	41+92	LT.			0.04															
212	2	ELY-2	39+60	41+85	RT.			0.04															
212	2	ELY-3	42+92	43+50	RT.			0.01															
212	2	ELY-4	42+92	43+50	RT.			0.01															
212	2	ELY-5	42+46	42+46	RT.			0.01															
212	2	ELW-1	39+60	43+50	LT.				0.07														
212	2	ELW-2	41+13	42+11	RT.				0.02														
212	2	ELW-3	42+66	43+50	RT.				0.02														
212	2	DLY-1	41+85	42+92	RT.							107											
212	2	CH-1	42+58	42+58	RT.					17													
212	2	LL-1	39+60	41+92	LT.		0.04																
212	2	SL-1	42+46	42+93	RT.									47									
213	2	ELY-1	43+50	45+15	RT.			0.03															
213	2	ELY-2	43+50	45+15	RT.			0.03															
213	2	ELW-1	43+50	54+50	L. & R.				0.21														
213	2	ELW-2	43+50	52+71	RT.				0.17														
213	2	CL-1	45+15	54+50	RT.						0.18												
213	2	PCB-1	46+26	48+05	RT.													180					
213	2	PCB-2	45+47	54+50	LT.													570	340				
213	2	PCB-3	51+65	53+90	RT.													230					
SHEET SUBTOTALS							0.04	0.21	0.66	60	0.24	312	57	97				980	340		4029		
SHEET TOTALS CARRIED TO SHEET 113							0.04	0.87		60	0.24	369		97				980	340		4029		

CALCULATED PEK
CHECKED TLH

MAINTENANCE OF TRAFFIC SUBSUMMARY

SIDEROAD

SUM-271-2.33

P:\Land Development Projects\503-110 SUM-271-0233 (Richland Engineering)\roadway\sheets\18710WS002.dgn 11/9/2012 10:43:23 AM Paul Keiffer

SHEET NO.	PHASE	REFERENCE NO.	STATION FROM	STATION TO	SIDE		614 WORK ZONE LANE LINE, CLASS I	614 WORK ZONE EDGE LINE, CLASS I (YELLOW)	614 WORK ZONE EDGE LINE, CLASS I (WHITE)	614 WORK ZONE CHANNELIZING LINE, CLASS I	614 WORK ZONE CENTER LINE, CLASS I (YELLOW)	614 WORK ZONE DOTTED LINE, CLASS I (YELLOW)	614 WORK ZONE DOTTED LINE, CLASS I (WHITE)	614 WORK ZONE STOP LINE, CLASS I	614 WORK ZONE ARROW, CLASS I	614 WORK ZONE IMPACT ATTENUATOR (BIDIRECTIONAL)	615 PAVEMENT FOR MAINTAINING TRAFFIC, CLASS B	622 PORTABLE CONCRETE BARRIER, 32"	622 PORTABLE CONCRETE BARRIER, 32" BRIDGE MOUNTED		642 REMOVAL OF PAVEMENT MARKING		
			FROM	TO			MILE	MILE	MILE	FT	MILE	FT	FT	FT	EACH	EACH	SQ YD	FT	FT		FT		
213	2	R-1	43+68	47+65	RT.																397		
213	2	R-2	52+21	52+71	RT.																46		
214	2	ELY-1	55+54	55+54	RT.			0.01															
214	2	ELW-1	54+50	58+48	L. & R.				0.08														
214	2	ELW-2	58+71	59+62	LT.				0.02														
214	2	DLY-1	54+71	55+94	RT.							123											
214	2	CL-1	54+50	54+71	RT.						0.01												
214	2	CL-2	55+94	58+03	L. & R.						0.04												
214	2	CH-1	55+66	55+66	RT.					21													
214	2	LL-1	55+94	58+03	RT.		0.04																
214	2	SL-1	55+54	56+12	RT.									58									
214	2	PCB-1	54+50	55+20	LT.													70					
214	2	R-1	56+14	58+48	LT.																280		
214	2	R-2	58+71	59+62	LT.																107		
215	3	ELY-1	42+42	42+42	RT.			0.01															
215	3	ELW-1	33+17	42+11	RT.				0.18														
215	3	ELW-2	39+13	43+50	LT.				0.08														
215	3	ELW-3	42+66	43+50	RT.				0.03														
215	3	CL-1	40+13	42+29	L. & R.						0.04												
215	3	CL-2	42+88	43+50	RT.						0.01												
215	3	CH-1	42+54	42+54	RT.					30													
215	3	SL-1	42+42	42+86	RT.									44									
215	3	LA-1	40+31		RT.										1								
215	3	LA-2	41+29		RT.										1								
215	3	R-1	39+13	40+13	RT.																100		
216	3	ELW-1	43+50	54+50	LT.				0.21														
216	3	ELW-2	43+50	54+50	RT.				0.21														
216	3	CL-1	43+50	54+50	L. & R.						0.21												
216	3	R-1	43+67	44+26	RT.																59		
216	3	R-2	52+79	54+27	RT.																148		
217	3	ELY-1	55+54	55+54	RT.			0.01															
217	3	ELW-1	54+50	58+49	LT.				0.08														
217	3	ELW-2	54+50	55+38	RT.				0.02														
217	3	ELW-3	55+78	58+21	RT.				0.06														
217	3	ELW-4	58+71	62+30	LT.				0.07														
217	3	CL-1	54+50	54+88	L. & R.						0.01												
217	3	CL-2	56+04	58+03	L. & R.						0.04												
217	3	CH-1	55+66	55+66	RT.					34													
217	3	SL-1	55+54	56+06	RT.									52									
217	3	R-1	56+75	58+21	RT.																170		
217	3	R-2	59+62	62+30	LT.																268		
SHEET SUBTOTALS							0.04	0.03	1.04	85	0.36	123	0	154	2	0	0	70	0		1575		
SHEET TOTALS							0.04	1.07		85	0.36	123		154	2	0	0	70	0		1575		
SHEET TOTALS CARRIED FROM SHEET 111							0	1.28		36	0.25	258		69	2	3	38	1020	1020		3695		
SHEET TOTALS CARRIED FROM SHEET 112							0.04	0.87		60	0.24	369		97	0	0	0	980	340		4029		
GRAND TOTALS							0.08	3.22		181	0.85	750		320	4	3	38	2070	1360		9299		
TOTALS CARRIED TO GENERAL SUMMARY							0.08	3.22		181	0.85	750		320	4	3	38	2070	1360		9299		

CALCULATED PEK
CHECKED TLH

MAINTENANCE OF TRAFFIC SUBSUMMARY

SIDEROAD

SUM-271-2.33

P:\Land Development Projects\503-110 SUM-271-0233 (Richland Engineering)\roadway\sheets\18710MS003.dgn 11/9/2012 10:43:38 AM Paul Keiffer

STA. 189+35.14 ℄ CONST. IR 271 =
STA. 917+08.10 ℄ CONST. IR 77

BRIDGE SUM-271-0375 L&R
OVER RAMP B
SFN: 7708912 &
7708947

NOTE: THE CONTRACTOR SHALL ADJUST/SHIFT LOCATIONS OF ALL EXISTING TRAFFIC CONTROL SIGNS WHICH CONFLICT WITH EACH MAINTENANCE OF TRAFFIC PHASE TO THE SATISFACTION OF THE ENGINEER. COST FOR ALL LABOR, MATERIAL, EQUIPMENT, INCIDENTIALS TO PERFORM THIS WORK SHALL BE INLCUDED IN ITEM 614 - MAINTAINING TRAFFIC.

℄ CONST. RAMP A
℄ CONST. RAMP D
℄ COSNT. IR 77
℄ CONST. RAMP C
℄ CONST. RAMP B
PC Sta. 181+15.95
PT Sta. 203+01.00
℄ CONST. IR 271
PC Sta. 223+29.27
PT Sta. 231+40.79
MATCHLINE STA. 183+00
MATCHLINE STA. 233+00
MATCHLINE STA. 283+00
MOT PAVEMENT PRE-PHASE 1

BRIDGE SUM-271-0354B
OVER IR 77
SFN: 7708882

BRIDGE SUM-271-0354 L&R
OVER IR 77
SFN: 7708815 &
7708890

PRE-PHASE 1 CONSTRUCTION
PHASE 1A CONSTRUCTION

SEE MOT TYPICAL
SECTION SHEETS 52-53

CROSSOVERS FOR PHASES 3A TO 4B INTERMEDIATE PARTIALLY CONSTRUCTED IN PHASE 1A

SEE MOT INTERMEDIATE
CROSSOVER PLAN
SHEETS 169, 202 204 & 206

PHASE 3A
PHASE 1A
BIFURCATED SECTION PCB
PC Sta. 267+60.14
+60
+80
℄ CONST. IR 271

CROSSOVER FOR
PHASE 1A AND 1B INTERMEDIATE
CONSTRUCTED IN PRE-PHASE 1

SEE MOT INTERMEDIATE
CROSSOVER PLAN SHEET 169

SUM-271-0483
SFN: 7708971

HORIZONTAL SCALE IN FEET
0 100 200 400

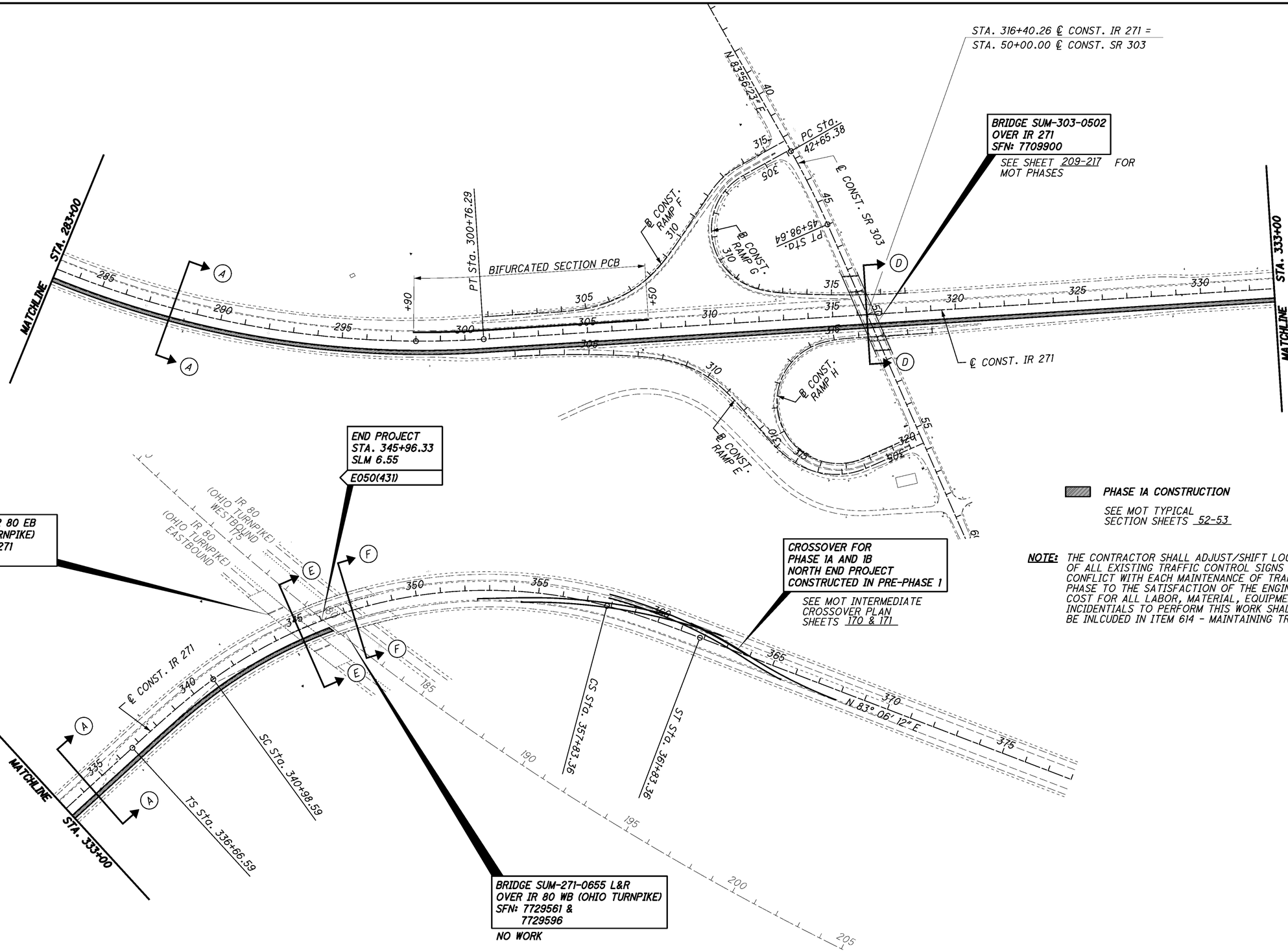
CALCULATED DAW
CHECKED PRS

MAINTENANCE OF TRAFFIC PLAN - PHASE 1A
STA. 183+00 TO STA. 283+00

SUM-271-2.33

114
1195

F:\2009\109094\18710\roadway\sheets\18710M3002.dgn 10/7/2012 9:38:10 AM JeremyLoy



NOTE: THE CONTRACTOR SHALL ADJUST/SHIFT LOCATIONS OF ALL EXISTING TRAFFIC CONTROL SIGNS WHICH CONFLICT WITH EACH MAINTENANCE OF TRAFFIC PHASE TO THE SATISFACTION OF THE ENGINEER. COST FOR ALL LABOR, MATERIAL, EQUIPMENT, INCIDENTIALS TO PERFORM THIS WORK SHALL BE INLCUDED IN ITEM 614 - MAINTAINING TRAFFIC.

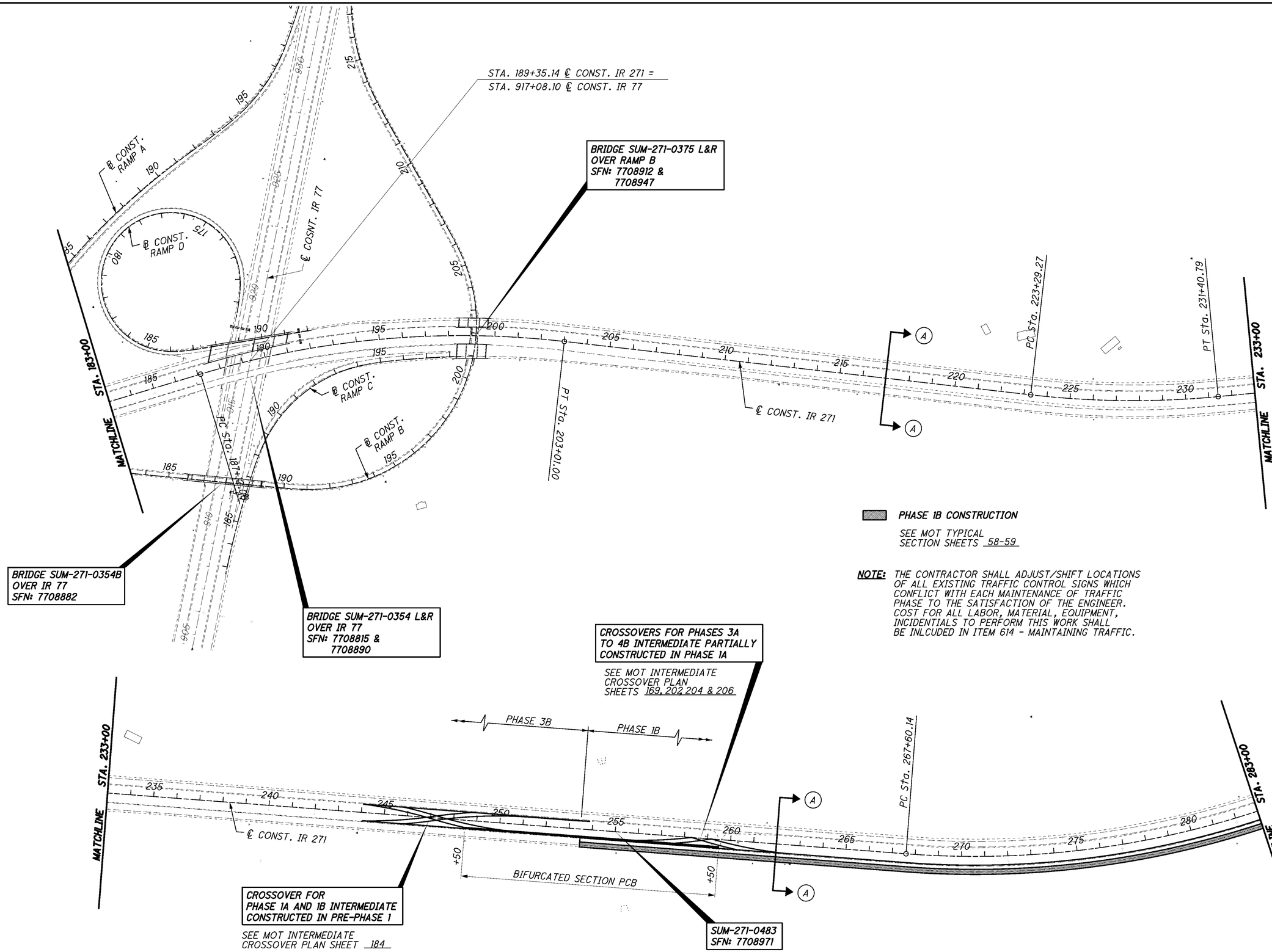
HORIZONTAL SCALE IN FEET
0 100 200 400

CALCULATED DAW
CHECKED PRS

MAINTENANCE OF TRAFFIC PLAN - PHASE 1A
STA. 283+00 TO STA. 358+00

SUM-271-2.33

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HORIZONTAL SCALE IN FEET
0 100 200 400

CALCULATED DAW
CHECKED PRS

MAINTENANCE OF TRAFFIC PLAN - PHASE 1B
STA. 183+00 TO STA. 283+00

SUM-271-2.33

F:\2009\1090941871O\roadway\sheets\18710MB005.dgn 10/7/2012 9:39:24 AM JeremyLay

MATCHLINE STA. 283+00

MATCHLINE STA. 333+00

STA. 316+40.26 ℄ CONST. IR 271 =
STA. 50+00.00 ℄ CONST. SR 303

BRIDGE SUM-303-0502
OVER IR 271
SFN: 7709900

SEE SHEETS 209-217 FOR MOT PHASING

PT Sta. 300+76.29

PC Sta. 42+65.38

PT STA. 45+98.64

℄ CONST. RAMP F

℄ CONST. RAMP G

℄ CONST. SR 303

℄ CONST. IR 271

℄ CONST. RAMP H

℄ CONST. RAMP E

N 83°56'23" E

N 83° 06' 12" E

END PROJECT
STA. 345+96.33
SLM 6.55
E050(431)

MOT PHASE 1B-1 AND 1B-2
NB IR 271 TO SR 303
EXIT RAMP E AND DECELERATION
LANE CONSTRUCTION
SEE SHEETS 132-133, 135-136

MOT PHASE 1B-1 AND 1B-2
SR 303 TO NB IR 271
ENTRANCE RAMP H AND ACCELERATION
LANE CONSTRUCTION
SEE SHEETS 133-133, 136-137

PHASE 1B CONSTRUCTION

SEE MOT TYPICAL
SECTION SHEETS 58-59

BRIDGE IR 80 EB
(OHIO TURNPIKE)
OVER IR 271
SFN:
NO WORK

IR 80
(OHIO TURNPIKE)
WESTBOUND
175

IR 80
(OHIO TURNPIKE)
EASTBOUND

CROSSOVER FOR
PHASE 1A AND 1B
NORTH END PROJECT
CONSTRUCTED IN PRE-PHASE 1

SEE MOT INTERMEDIATE
CROSSOVER PLAN
SHEETS 185 & 186

CS Sta. 357+83.36

ST Sta. 361+83.36

SC Sta. 340+98.59

TS Sta. 336+66.59

BRIDGE SUM-271-0655 L&R
OVER IR 80 WB (OHIO TURNPIKE)
SFN: 7729561 &
7729596
NO WORK

NOTE: THE CONTRACTOR SHALL ADJUST/SHIFT LOCATIONS OF ALL EXISTING TRAFFIC CONTROL SIGNS WHICH CONFLICT WITH EACH MAINTENANCE OF TRAFFIC PHASE TO THE SATISFACTION OF THE ENGINEER. COST FOR ALL LABOR, MATERIAL, EQUIPMENT, INCIDENTIALS TO PERFORM THIS WORK SHALL BE INLCUDED IN ITEM 614 - MAINTAINING TRAFFIC.

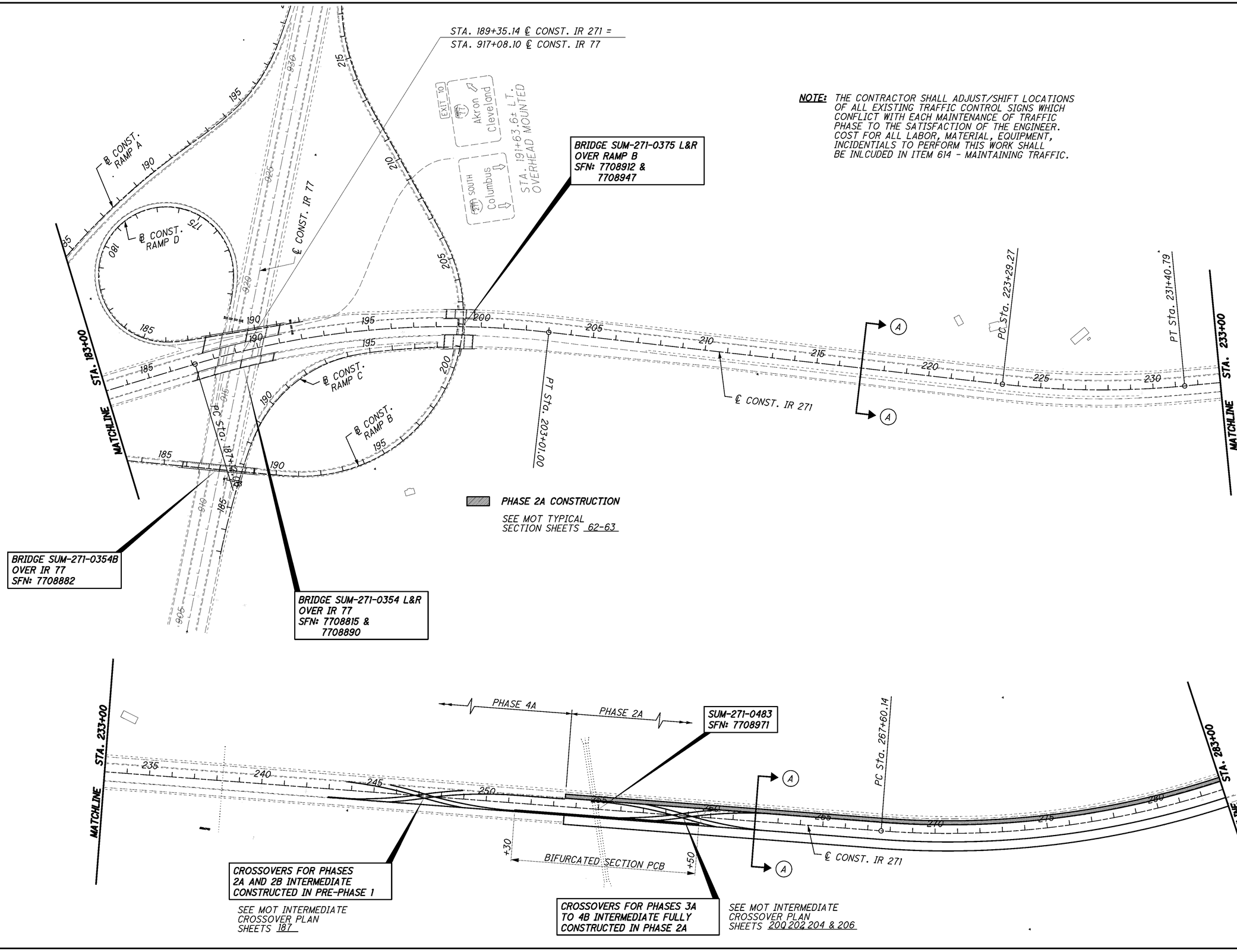
HORIZONTAL SCALE IN FEET
0 100 200 400

CALCULATED DAW
CHECKED PRS

MAINTENANCE OF TRAFFIC PLAN - PHASE 1B
STA. 283+00 TO STA. 358+00

SUM-271-2.33

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HORIZONTAL SCALE IN FEET
0 100 200 400

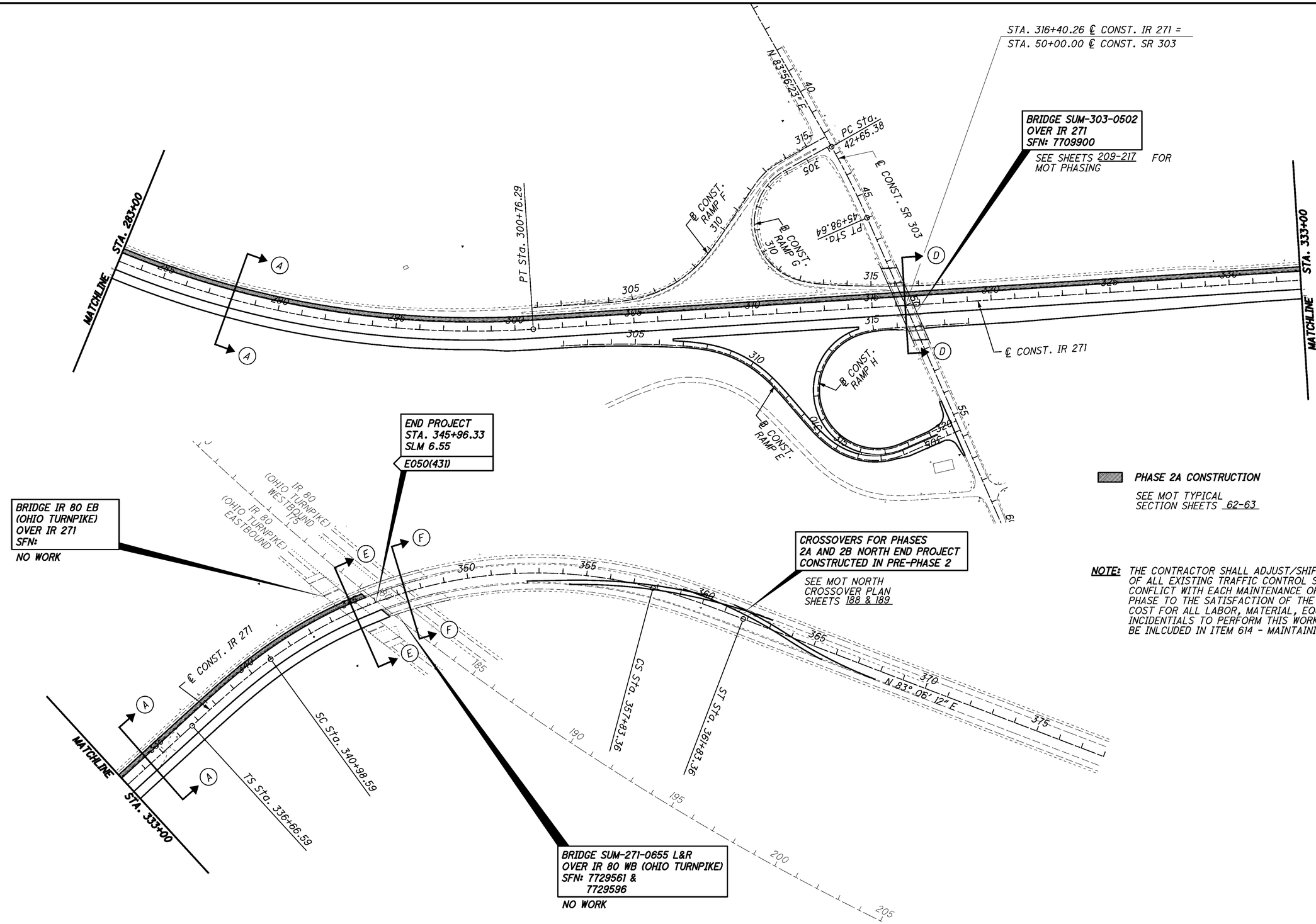
CALCULATED DAW
CHECKED PRS

MAINTENANCE OF TRAFFIC PLAN - PHASE 2A
STA. 183+00 TO STA. 283+00

SUM-271-2.33

118
1195

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NOTE: THE CONTRACTOR SHALL ADJUST/SHIFT LOCATIONS OF ALL EXISTING TRAFFIC CONTROL SIGNS WHICH CONFLICT WITH EACH MAINTENANCE OF TRAFFIC PHASE TO THE SATISFACTION OF THE ENGINEER. COST FOR ALL LABOR, MATERIAL, EQUIPMENT, INCIDENTIALS TO PERFORM THIS WORK SHALL BE INLCUDED IN ITEM 614 - MAINTAINING TRAFFIC.

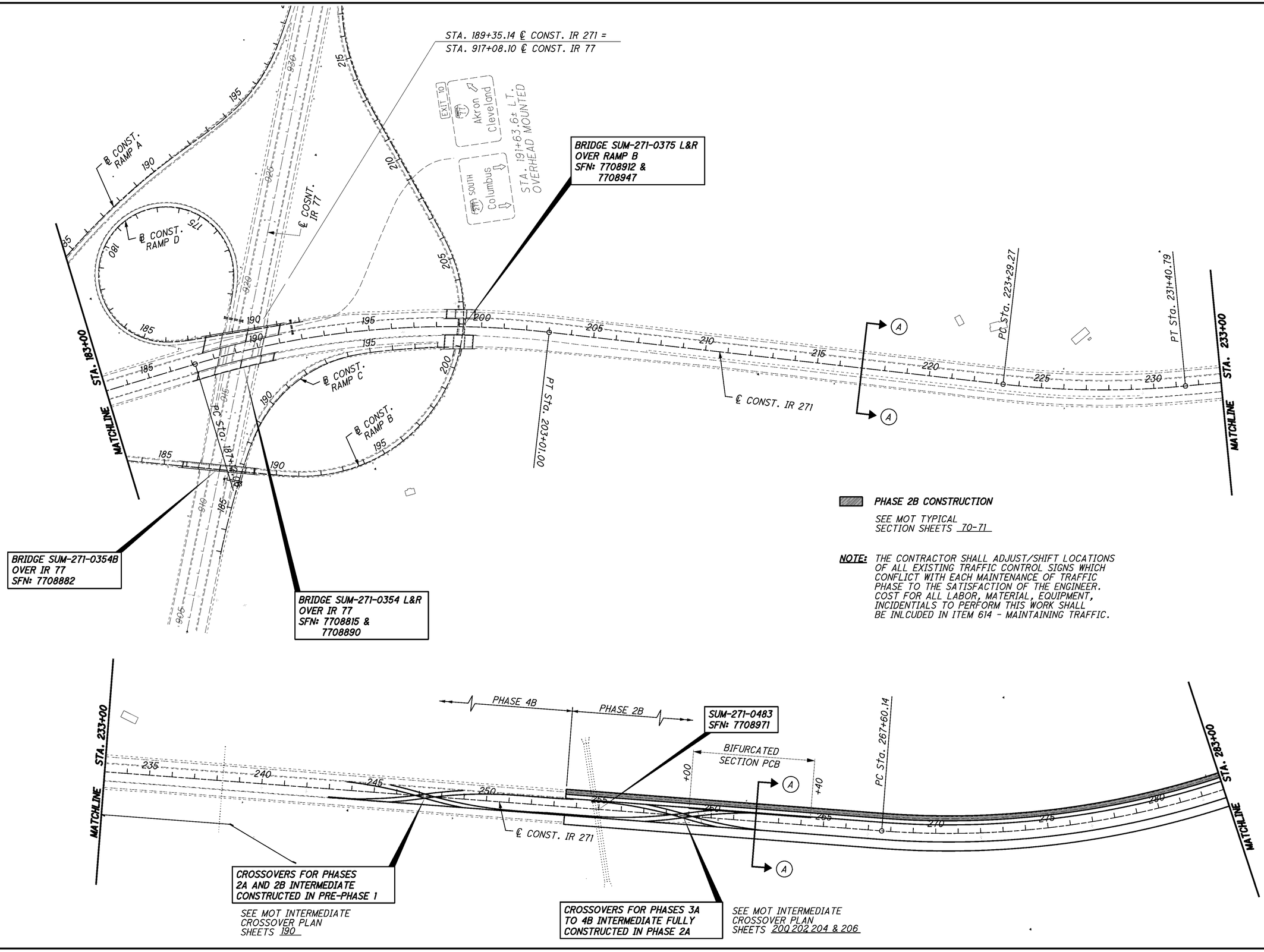
HORIZONTAL SCALE IN FEET
0 100 200 400

CALCULATED DAW
CHECKED PRS

MAINTENANCE OF TRAFFIC PLAN - PHASE 2A
STA. 283+00 TO STA. 358+00

SUM-271-2.33

F:\2009\109094\18710\roadway\sheets\18710MB009.dgn 11/6/2012 10:26:57 AM Dontkeiman



HORIZONTAL SCALE IN FEET
0 100 200 400

CALCULATED DAW
CHECKED PRS

MAINTENANCE OF TRAFFIC PLAN - PHASE 2B
STA. 183+00 TO STA. 283+00

SUM-271-2.33

120
1195

F:\2009\109094\18710\roadway\sheets\18710MB011.dgn 6/6/2013 7:35:00 AM CraigBanghart

MOT PHASE 2B-1 AND 2B-2
SB IR 271 TO SR 303
EXIT RAMP G AND DECELERATION
LANE CONSTRUCTION
SEE SHEETS 140 - 148

STA. 316+40.26 ℄ CONST. IR 271 =
STA. 50+00.00 ℄ CONST. SR 303

, 147-144

MOT PHASE 2B-1 AND 2B-2
SR 303 TO SB IR 271
ENTRANCE RAMP F AND ACCELERATION
LANE CONSTRUCTION
SEE SHEETS 140-143 , 141-144 ,145-143

BRIDGE SUM-303-0502
OVER IR 271
SFN: 7709900

SEE SHEETS 209-217 FOR
MOT CONSTRUCTION
PHASING

MATCHLINE STA. 283+00

MATCHLINE STA. 333+00

PT Sta. 300+76.29

BIFURCATED
SECTION PCB

℄ CONST. RAMP F

℄ CONST. RAMP G

℄ CONST. RAMP H

℄ CONST. RAMP E

℄ CONST. IR 271

END PROJECT
STA. 345+96.33
SLM 6.55
E050(431)

BRIDGE IR 80 EB
(OHIO TURNPIKE)
OVER IR 271
SFN:
NO WORK

IR 80
(OHIO TURNPIKE)
WESTBOUND

IR 80
(OHIO TURNPIKE)
EASTBOUND

SC Sta. 340+98.59

TS Sta. 336+66.59

CS Sta. 357+83.36

ST Sta. 361+83.36

CROSSOVERS FOR
PHASE 2A AND 2B
NORTH END PROJECT
CONSTRUCTED IN PRE-PHASE 2

SEE MOT NORTH
CROSSOVER PLAN
SHEETS 191 & 192

BRIDGE SUM-271-0655 L&R
OVER IR 80 WB (OHIO TURNPIKE)
SFN: 7729561 &
7729596
NO WORK

PHASE 2B CONSTRUCTION

SEE MOT TYPICAL
SECTION SHEETS 70-71

NOTE: THE CONTRACTOR SHALL ADJUST/SHIFT LOCATIONS OF ALL EXISTING TRAFFIC CONTROL SIGNS WHICH CONFLICT WITH EACH MAINTENANCE OF TRAFFIC PHASE TO THE SATISFACTION OF THE ENGINEER. COST FOR ALL LABOR, MATERIAL, EQUIPMENT, INCIDENTIALS TO PERFORM THIS WORK SHALL BE INLCUDED IN ITEM 614 - MAINTAINING TRAFFIC.

HORIZONTAL SCALE IN FEET
0 100 200 400

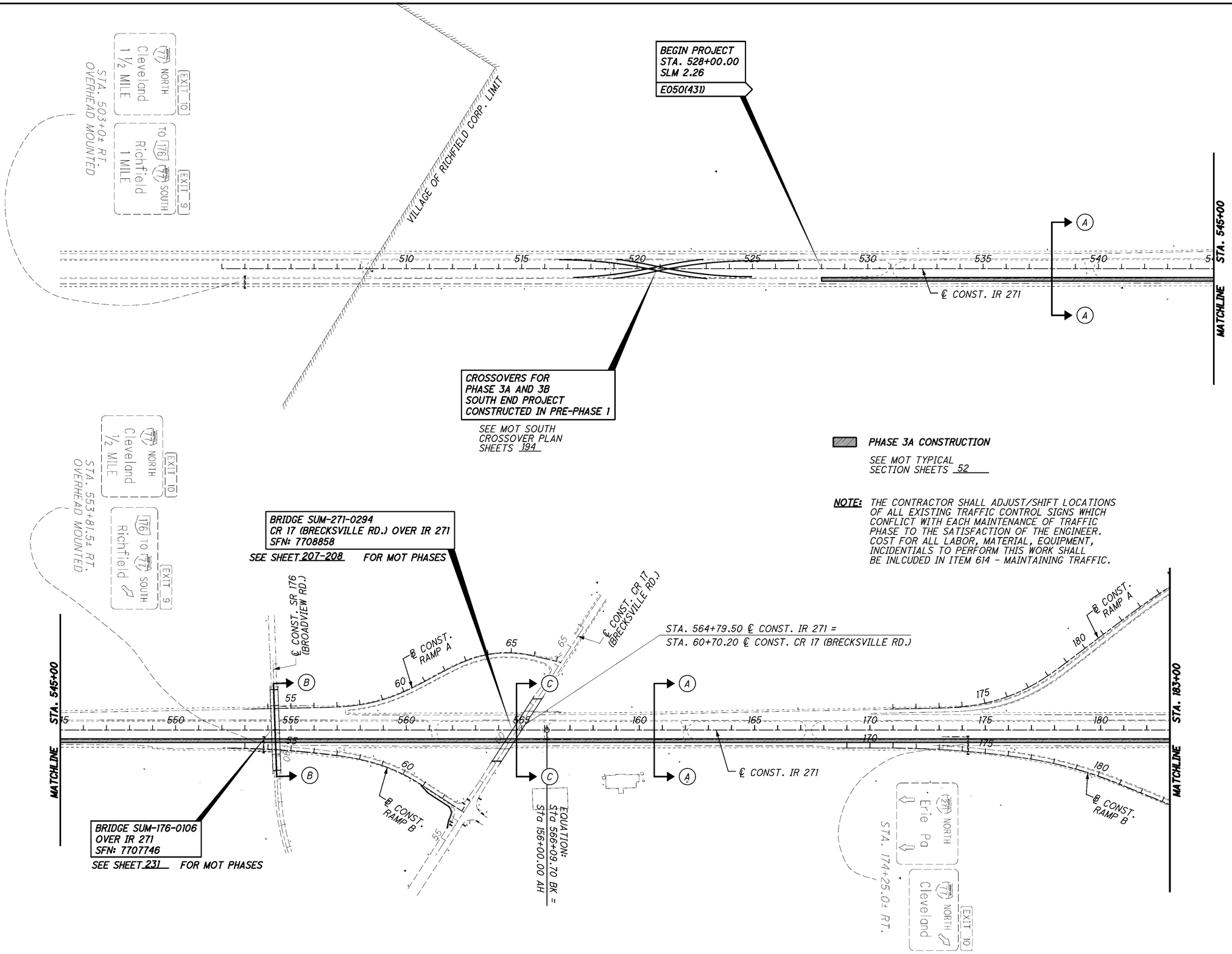
CALCULATED DAW
CHECKED PRS

MAINTENANCE OF TRAFFIC PLAN - PHASE 2B
STA. 283+00 TO STA. 358+00

SUM-271-2.33

121
1195

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MAINTENANCE OF TRAFFIC PLAN - PHASE 3A
STA. 507+00 TO STA. 183+00

SUM-271-2.33

E:\2009\109084\18710\roadway\sheets\18710MB001.dgn 10/7/2012 9:46:40 AM JeremyLay

STA. 189+35.14 ℄ CONST. IR 271 =
STA. 917+08.10 ℄ CONST. IR 77

BRIDGE SUM-271-0375 L&R OVER RAMP B SFN: 7708912 & 7708947

SEE SHEETS 56-57 FOR MOT CONSTRUCTION PHASING

NOTE: THE CONTRACTOR SHALL ADJUST/SHIFT LOCATIONS OF ALL EXISTING TRAFFIC CONTROL SIGNS WHICH CONFLICT WITH EACH MAINTENANCE OF TRAFFIC PHASE TO THE SATISFACTION OF THE ENGINEER. COST FOR ALL LABOR, MATERIAL, EQUIPMENT, INCIDENTIALS TO PERFORM THIS WORK SHALL BE INLCUDED IN ITEM 614 - MAINTAINING TRAFFIC.

℄ RAMP A CONST.

℄ RAMP D CONST.

℄ COSNT. IR 77

SEE NOTE 2

SEE NOTE 2

℄ RAMP C CONST.

SEE NOTE 1

℄ RAMP B CONST.

MOT PAVEMENT PHASE 3A-1

MOT PAVEMENT PRE-PHASE 1

BIFURCATED SECTION PCB

+50

+90

PT Sta. 203+01.00

SEE NOTE 1

℄ CONST. IR 271

PC Sta. 223+29.27

PT Sta. 231+40.79

STA. 183+00 MATCHLINE

STA. 233+00 MATCHLINE

NOTE 1. FROM STA. 191+15 TO STA. 197+75 NB THROUGH TRAFFIC MOT LANE SHIFTS 16' RT. TO MAXIMIZE THE PHASE 1A CONSTRUCTION WIDTH OF BRIDGE SUM-271-0375 R.
FROM STA. 200+00 TO STA. 206+60 NB THROUGH TRAFFIC MOT LANE SHIFTS BACK TO NORMAL LOCATION DEPICTED IN MOT TYPICAL SECTION (A)—(A)

NOTE 2. DURING CONSTRUCTION OF BRIDGE SUM-271-0354 R THE OUTSIDE SHOULDER OF IR 77 NORTHBOUND SHALL BE CLOSED WITH PORTABLE CONCRETE BARRIER PER STANDARD CONSTRUCTION DRAWING MT-95.40. ADVANCE WARNING SIGNING SHALL BE PROVIDED ON IR 77 IN ADVANCE OF THE SHOULDER CLOSURE. ALL EXISTING BARRIER PROTECTION DEVICES REMOVED FOR THE CONSTRUCTION OF BRIDGE SUM-271-0354 R SHALL BE REPLACED PRIOR TO THE REMOVAL OF THE PORTABLE CONCRETE BARRIER.

SIMILARILY THE OUTSIDE SHOULDER OF RAMP D SHALL BE CLOSED WITH PORTABLE CONCRETE BARRIER PER STANDARD CONSTRUCTION DRAWING MT-95.40. ADVANCE WARNING SIGNING SHALL BE PROVIDED ON RAMP D IN ADVANCE OF THE SHOULDER CLOSURE. ALL EXISTING BARRIER PROTECTION DEVICES REMOVED FOR THE CONSTRUCTION OF BRIDGE SUM-271-0354 R SHALL BE REPLACED PRIOR TO THE REMOVAL OF THE PORTABLE CONCRETE BARRIER.

PRE-PHASE 1 CONSTRUCTION
PHASE 3A-1 CONSTRUCTION
PHASE 3A CONSTRUCTION

SEE MOT TYPICAL SECTION SHEETS 52

BRIDGE SUM-271-0354B OVER IR 77 SFN: 7708882

BRIDGE SUM-271-0354 L&R OVER IR 77 SFN: 7708815 & 7708890

SEE SHEETS 54-55 FOR MOT CONSTRUCTION PHASING

PHASE 3A

PHASE 1A

BIFURCATED SECTION PCB

CROSSOVER FOR PHASES 3A AND 3B INTERMEDIATE FULLY CONSTRUCTED IN PHASE 2A

SEE MOT INTERMEDIATE CROSSOVER PLAN SHEETS 200

PC Sta. 267+60.14

STA. 233+00 MATCHLINE

STA. 283+00 MATCHLINE

℄ CONST. IR 271

CROSSOVER FOR PHASE 1A AND 1B INTERMEDIATE CONSTRUCTED IN PRE-PHASE 1

SEE MOT INTERMEDIATE CROSSOVER PLAN SHEETS 169 & 184

SUM-271-0483 SFN: 7708971

HORIZONTAL SCALE IN FEET
0 100 200 400

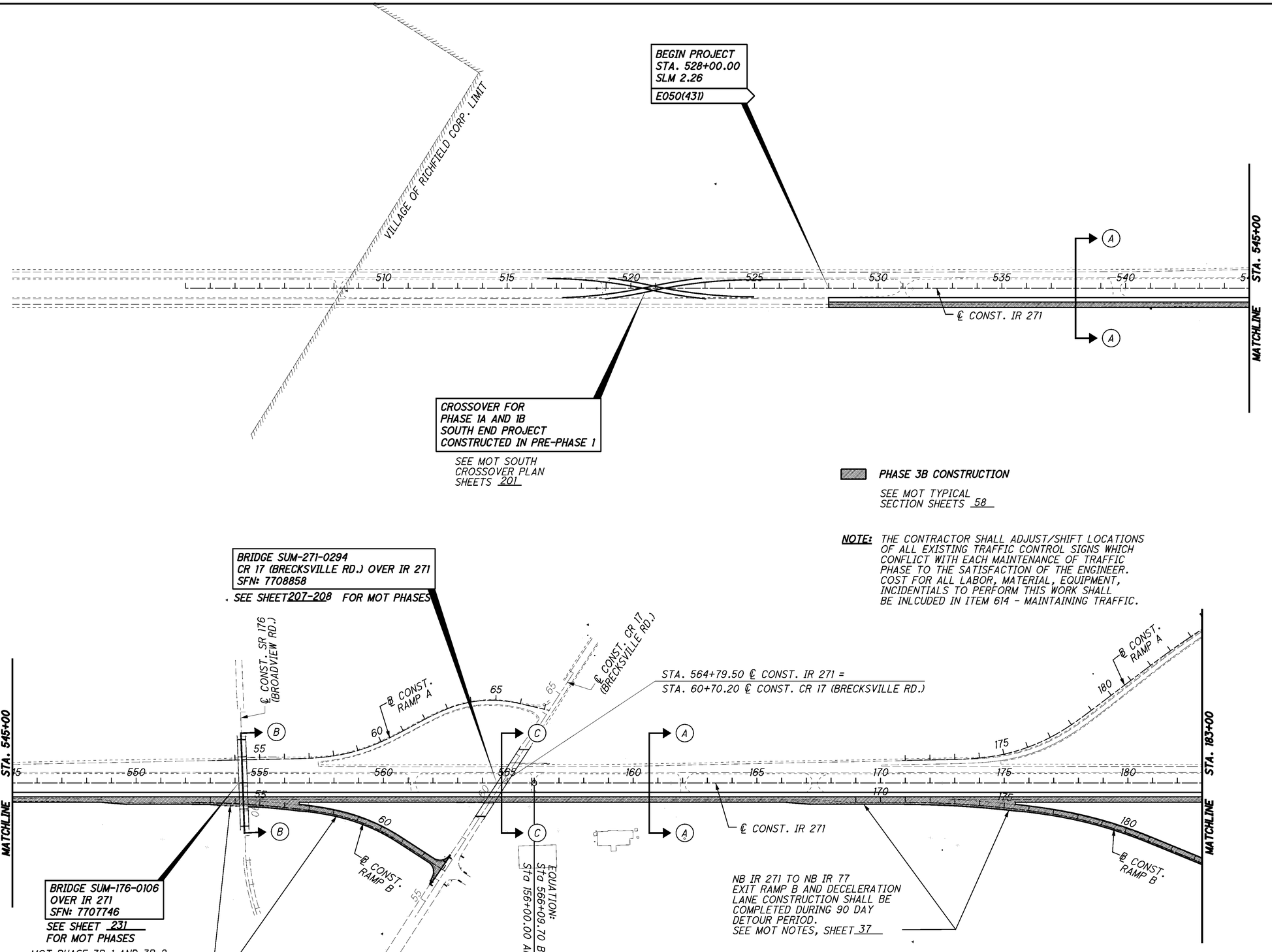
CALCULATED DAW
CHECKED PRS

MAINTENANCE OF TRAFFIC PLAN - PHASE 3A
STA. 183+00 TO STA. 283+00

SUM-271-2.33

123
1195

F:\2009\109094\18710\roadway\sheets\18710MB030.dgn 11/6/2012 10:28:28 AM DonHelman



NOTE: THE CONTRACTOR SHALL ADJUST/SHIFT LOCATIONS OF ALL EXISTING TRAFFIC CONTROL SIGNS WHICH CONFLICT WITH EACH MAINTENANCE OF TRAFFIC PHASE TO THE SATISFACTION OF THE ENGINEER. COST FOR ALL LABOR, MATERIAL, EQUIPMENT, INCIDENTIALS TO PERFORM THIS WORK SHALL BE INLCUDED IN ITEM 614 - MAINTAINING TRAFFIC.

NOTE:
1. DURING THE IR 77 RAMP B CLOSURE, THE ADVANCE TRAFFIC CONTROL SIGNS FOR THE RAMP SHALL HAVE TEMPORARY OVERLAYS INDICATING "CLOSED". SEE DETOUR PLAN, SHEET 228
2. NO WORK SHALL BE UNDERWAY AND NO RESTRICTIONS SHALL BE IN PLACE ON THE BRECKSVILLE RD. EXIT RAMP B DURING THE IR 77 RAMP B 90 DAY CLOSURE.

HORIZONTAL SCALE IN FEET
0 100 200 400

CALCULATED DAW
CHECKED PRS

MAINTENANCE OF TRAFFIC PLAN - PHASE 3B
STA. 507+00 TO STA. 183+00

SUM-271-2.33

F:\2009\109094\18710\roadway\sheets\18710MB004.dgn 10/7/2012 9:48:18 AM Jeremy.oy

STA. 189+35.14 ℄ CONST. IR 271 =
STA. 917+08.10 ℄ CONST. IR 77

BRIDGE SUM-271-0375 L&R
OVER RAMP B
SFN: 7708912 &
7708947

SEE SHEETS 61
FOR MOT CONSTRUCTION
PHASING

℄ RAMP A CONST.

℄ RAMP D CONST.

℄ COSNT. IR 77

PORTABLE CONCRETE BARRIER (FROM PHASE 3A)

PORTABLE CONCRETE BARRIER (FROM PHASE 3A)

STA. 183+00

MATCHLINE

℄ RAMP C CONST.

℄ RAMP B CONST.

PC Sta. 187+55.16

PORTABLE CONCRETE BARRIER (FROM PHASE 3A)

BRIDGE SUM-271-0354B
OVER IR 77
SFN: 7708882

BRIDGE SUM-271-0354 L&R
OVER IR 77
SFN: 7708815 &
7708890

SEE SHEETS 60
FOR MOT CONSTRUCTION
PHASING

PT Sta. 203+01.00

℄ CONST. IR 271

PC Sta. 223+29.27

PT Sta. 231+40.79

STA. 233+00

MATCHLINE

MOT PHASE 3B-1 AND 3B-2
NB IR 77 TO NB IR 271
ENTRANCE RAMP C AND ACCELERATION
LANE CONSTRUCTION
SEE SHEETS 156-154

PHASE 3B CONSTRUCTION

SEE MOT TYPICAL
SECTION SHEETS 58

NOTE: THE CONTRACTOR SHALL ADJUST/SHIFT LOCATIONS OF ALL EXISTING TRAFFIC CONTROL SIGNS WHICH CONFLICT WITH EACH MAINTENANCE OF TRAFFIC PHASE TO THE SATISFACTION OF THE ENGINEER. COST FOR ALL LABOR, MATERIAL, EQUIPMENT, INCIDENTIALS TO PERFORM THIS WORK SHALL BE INLCUDED IN ITEM 614 - MAINTAINING TRAFFIC.

STA. 233+00

MATCHLINE

℄ CONST. IR 271

SUM-271-0483
SFN: 7708971

CROSSOVER FOR PHASES 2A AND 3B INTERMEDIATE FULLY CONSTRUCTED IN PHASE 2A

SEE MOT INTERMEDIATE
CROSSOVER PLAN
SHEETS 202

PC Sta. 267+60.14

STA. 283+00

MATCHLINE

BIFURCATED SECTION PCB

CROSSOVER FOR PHASE 1A AND 1B INTERMEDIATE CONSTRUCTED IN PRE-PHASE 1

SEE MOT INTERMEDIATE
CROSSOVER PLAN
SHEETS 169 & 184

PHASE 3B

PHASE 1B

HORIZONTAL SCALE IN FEET
0 100 200 400

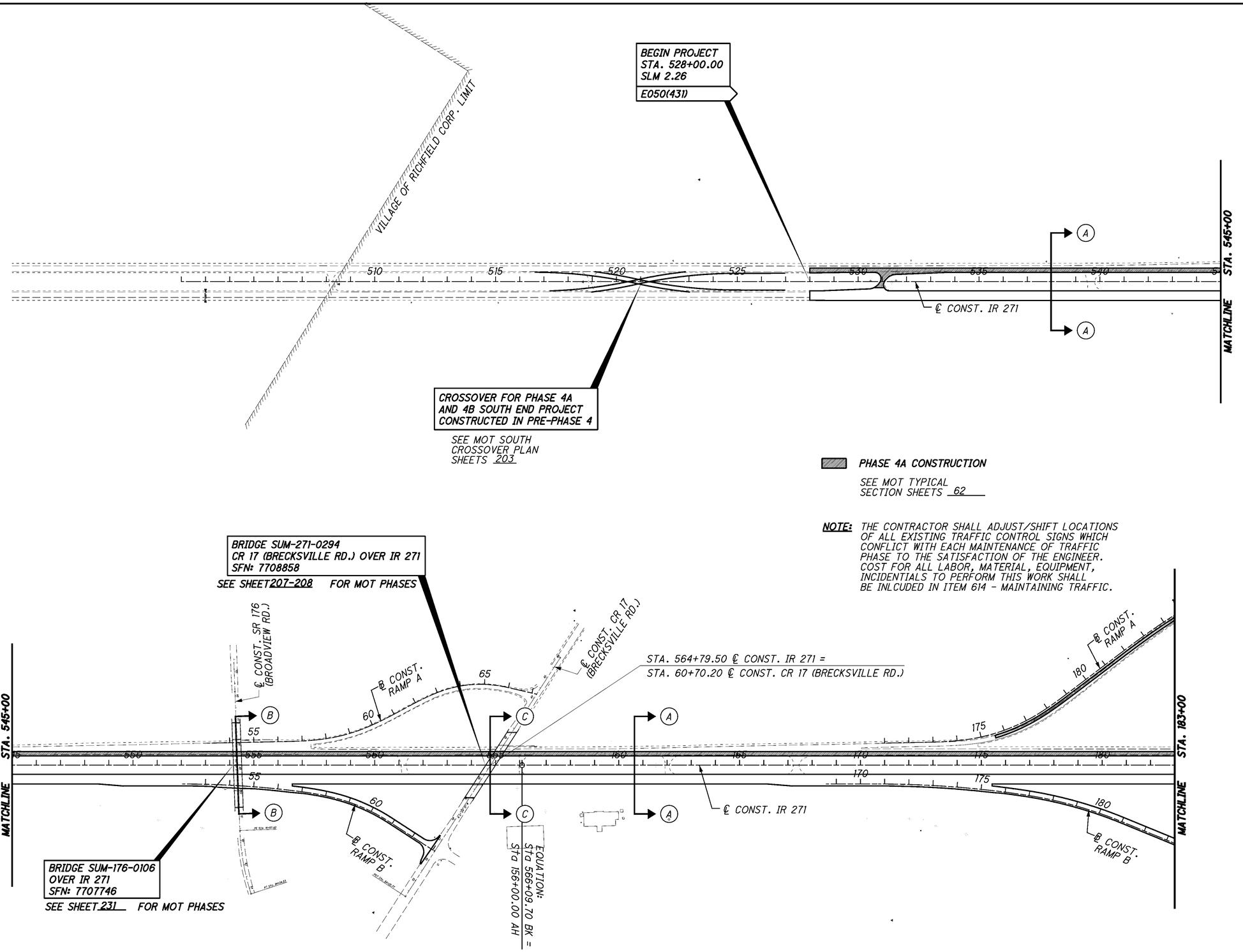
CALCULATED DAW
CHECKED PRS

MAINTENANCE OF TRAFFIC PLAN - PHASE 3B
STA. 183+00 TO STA. 283+00

SUM-271-2.33

125
1195

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HORIZONTAL SCALE IN FEET
0 100 200 400

CALCULATED DAW
CHECKED PRS

MAINTENANCE OF TRAFFIC PLAN - PHASE 4A
STA. 507+00 TO STA. 183+00

SUM-271-2.33

126
1195

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STA. 189+35.14 ℄ CONST. IR 271 =
STA. 917+08.10 ℄ CONST. IR 77

EXIT 10
271 SOUTH
Akron
Cleveland
Columbus
STA. 191+63.6± LT.
OVERHEAD MOUNTED

BRIDGE SUM-271-0375 L&R
OVER RAMP B
SFN: 7708912 &
7708947

SEE SHEETS 68-69
FOR MOT CONSTRUCTION
PHASING

NOTE: THE CONTRACTOR SHALL ADJUST/SHIFT LOCATIONS OF ALL EXISTING TRAFFIC CONTROL SIGNS WHICH CONFLICT WITH EACH MAINTENANCE OF TRAFFIC PHASE TO THE SATISFACTION OF THE ENGINEER. COST FOR ALL LABOR, MATERIAL, EQUIPMENT, INCIDENTIALS TO PERFORM THIS WORK SHALL BE INLCUDED IN ITEM 614 - MAINTAINING TRAFFIC.

℄ CONST. RAMP A
℄ CONST. RAMP D
℄ CONST. RAMP C
℄ CONST. RAMP B
℄ CONST. IR 77
℄ CONST. IR 271

SEE NOTE 1

STA. 183+00
MATCHLINE
PC Sta. 223+29.27
PT Sta. 231+40.79
STA. 233+00
PT Sta. 203+01.00
PC Sta. 181+16.16

NOTE 1. DURING CONSTRUCTION OF BRIDGE SUM-271-0354 L THE OUTSIDE SHOULDER OF IR 77 NORTHBOUND SHALL BE CLOSED WITH PORTABLE CONCRETE BARRIER PER STANDARD CONSTRUCTION DRAWING MT-95.40. QUANTITIES IN MOT SUBSUMMARY SHEETS 105 & 106 . ADVANCE WARNING SIGNING SHALL BE PROVIDED ON IR 77 IN ADVANCE OF THE SHOULDER CLOSURE. ALL EXISTING BARRIER PROTECTION DEVICES REMOVED FOR THE CONSTRUCTION OF BRIDGE SUM-271-0354 L SHALL BE REPLACED PRIOR TO THE REMOVAL OF THE PORTABLE CONCRETE BARRIER.

SIMILARILY THE OUTSIDE SHOULDER OF RAMP D SHALL BE CLOSED WITH PORTABLE CONCRETE BARRIER PER STANDARD CONSTRUCTION DRAWING MT-95.40. ADVANCE WARNING SIGNING SHALL BE PROVIDED ON RAMP D IN ADVANCE OF THE SHOULDER CLOSURE. ALL EXISTING BARRIER PROTECTION DEVICES REMOVED FOR THE CONSTRUCTION OF BRIDGE SUM-271-0354 L SHALL BE REPLACED PRIOR TO THE REMOVAL OF THE PORTABLE CONCRETE BARRIER.

PHASE 4A CONSTRUCTION

SEE MOT TYPICAL
SECTION SHEETS 62

BRIDGE SUM-271-0354B
OVER IR 77
SFN: 7708882

BRIDGE SUM-271-0354 L&R
OVER IR 77
SFN: 7708815 &
7708890

SEE SHEETS 64-67
FOR MOT CONSTRUCTION
PHASING

CROSSOVERS FOR PHASES
2A AND 2B INTERMEDIATE
CONSTRUCTED IN PRE-PHASE 1

PHASE 4A
PHASE 2A

SUM-271-0483
SFN: 7708971

PC Sta. 267+60.14

STA. 233+00
MATCHLINE
℄ CONST. IR 271
+00.00
BIFURCATED SECTION PCB
+00.00
STA. 283+00
MATCHLINE

CROSSOVER FOR PHASES
4A AND 4B INTERMEDIATE FULLY
CONSTRUCTED IN PHASE 2A

SEE MOT INTERMEDIATE
CROSSOVER PLAN
SHEETS 204

SEE MOT INTERMEDIATE
CROSSOVER PLAN
SHEETS 187 & 190

HORIZONTAL SCALE IN FEET
0 100 200 400

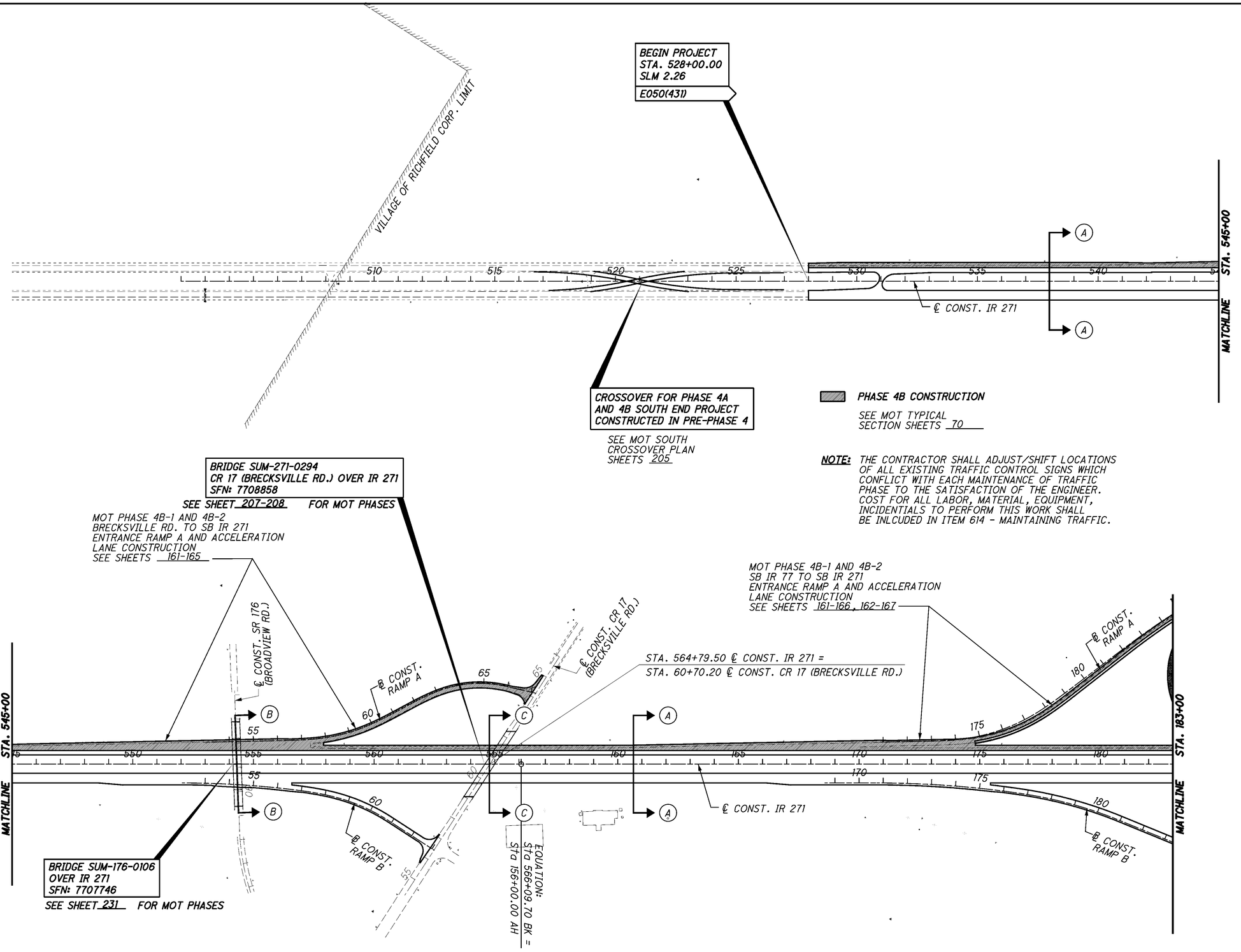
CALCULATED DAW
CHECKED PRS

MAINTENANCE OF TRAFFIC PLAN - PHASE 4A
STA. 183+00 TO STA. 283+00

SUM-271-2.33

127
1195

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HORIZONTAL SCALE IN FEET
0 100 200 400

CALCULATED DAW
CHECKED PRS

MAINTENANCE OF TRAFFIC PLAN - PHASE 4B
STA. 507+00 TO STA. 183+00

SUM-271-2.33

128
1195

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MOT PHASE 4B-1 AND 4B-2
SB IR 271 TO SB IR 77
EXIT RAMP D AND DECELERATION
LANE CONSTRUCTION
SEE SHEETS 163-168

STA. 189+35.14 ℄ CONST. IR 271 =
STA. 917+08.10 ℄ CONST. IR 77

EXIT 10
271 Akron Cleveland
271 SOUTH Columbus
STA. 191+63.6± L.T.
OVERHEAD MOUNTED

BRIDGE SUM-271-0375 L&R
OVER RAMP B
SFN: 7708912 &
7708947

SEE SHEETS 78
FOR MOT CONSTRUCTION
PHASING

℄ CONST. RAMP A
℄ CONST. RAMP D
℄ CONST. RAMP C
℄ CONST. RAMP B
℄ CONST. IR 77
℄ CONST. IR 271

PORTABLE CONCRETE BARRIER (FROM PHASE 4A)

STA. 183+00
MATCHLINE

BIFURCATED SECTION PCB
+50
+40
PC Sta. 223+29.27
PT Sta. 231+40.79
PT Sta. 203+01.00
STA. 233+00
MATCHLINE

PC Sta. 181+76.15

BRIDGE SUM-271-0354B
OVER IR 77
SFN: 7708882

BRIDGE SUM-271-0354 L&R
OVER IR 77
SFN: 7708815 &
7708890

SEE SHEETS 72-77
FOR MOT CONSTRUCTION
PHASING

PHASE 4B CONSTRUCTION

SEE MOT TYPICAL
SECTION SHEETS 70

NOTE: THE CONTRACTOR SHALL ADJUST/SHIFT LOCATIONS OF ALL EXISTING TRAFFIC CONTROL SIGNS WHICH CONFLICT WITH EACH MAINTENANCE OF TRAFFIC PHASE TO THE SATISFACTION OF THE ENGINEER. COST FOR ALL LABOR, MATERIAL, EQUIPMENT, INCIDENTIALS TO PERFORM THIS WORK SHALL BE INLCUDED IN ITEM 614 - MAINTAINING TRAFFIC.

CROSSOVERS FOR PHASES
2A AND 2B INTERMEDIATE
CONSTRUCTED IN PRE-PHASE 1

PHASE 4B
PHASE 2B

SUM-271-0483
SFN: 7708971

BIFURCATED SECTION PCB
+00
+50
PC Sta. 267+60.14
STA. 233+00
STA. 283+00
MATCHLINE
MATCHLINE

+00.00
BIFURCATED SECTION PCB
(FROM PHASE 4A)
+00.00

SEE MOT INTERMEDIATE
CROSSOVER PLAN
SHEETS 187

CROSSOVER FOR PHASES
4A AND 4B INTERMEDIATE FULLY
CONSTRUCTED IN PHASE 2A

SEE MOT INTERMEDIATE
CROSSOVER PLAN
SHEETS 206

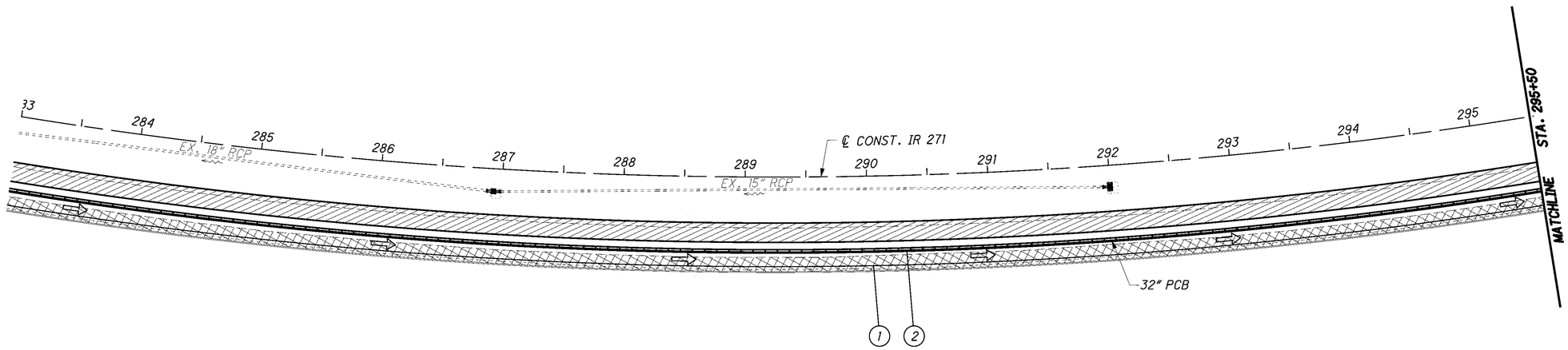
HORIZONTAL SCALE IN FEET
0 100 200 400

CALCULATED DAW
CHECKED PRS

MAINTENANCE OF TRAFFIC PLAN - PHASE 4B
STA. 183+00 TO STA. 283+00

SUM-271-2.33

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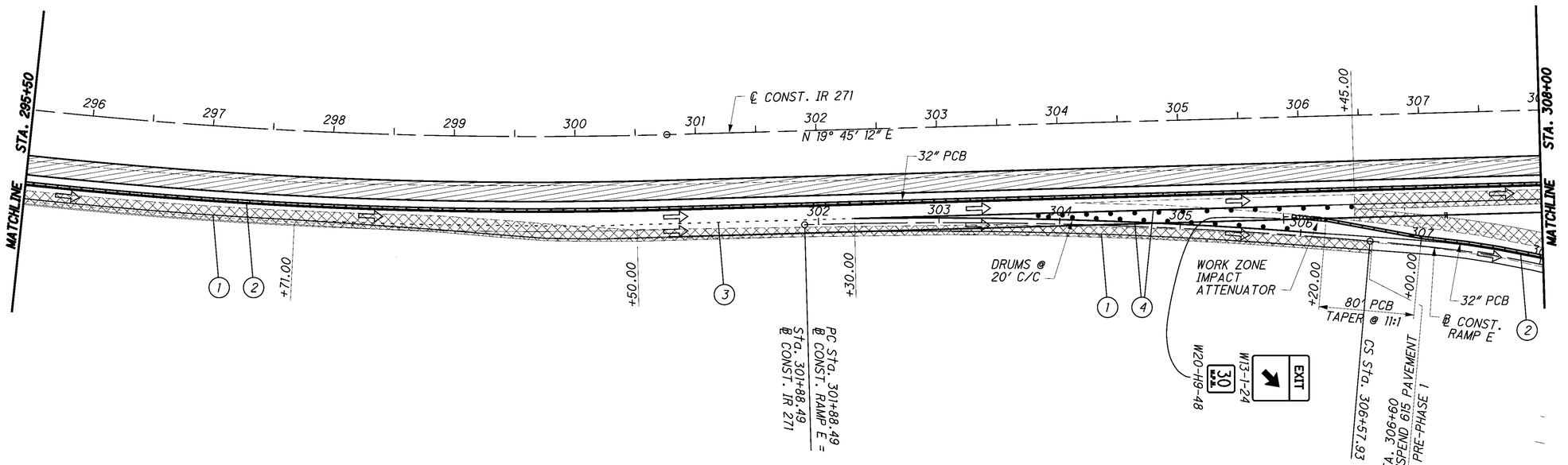
LEGEND

- ITEM 615 PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A, AS PER PLAN
- PHASE 1A CONSTRUCTION
- TRAFFIC DIRECTION

WORK ZONE MARKING LEGEND

1. WORK ZONE EDGE LINE, CLASS 1, AS PER PLAN (WHITE)
2. WORK ZONE EDGE LINE, CLASS 1, AS PER PLAN (YELLOW)
3. WORK ZONE DOTTED LINE, CLASS 1, AS PER PLAN
4. WORK ZONE CHANNELIZING LINE, CLASS 1, AS PER PLAN
5. WORK ZONE LANE LINE, CLASS 1, AS PER PLAN

CROSS REFERENCES	
52&79	MOT TYPICAL SECTIONS
328-539	CROSS SECTIONS IR 271
640-648	CROSS SECTIONS RAMP E



HORIZONTAL SCALE IN FEET
0 25 50 100

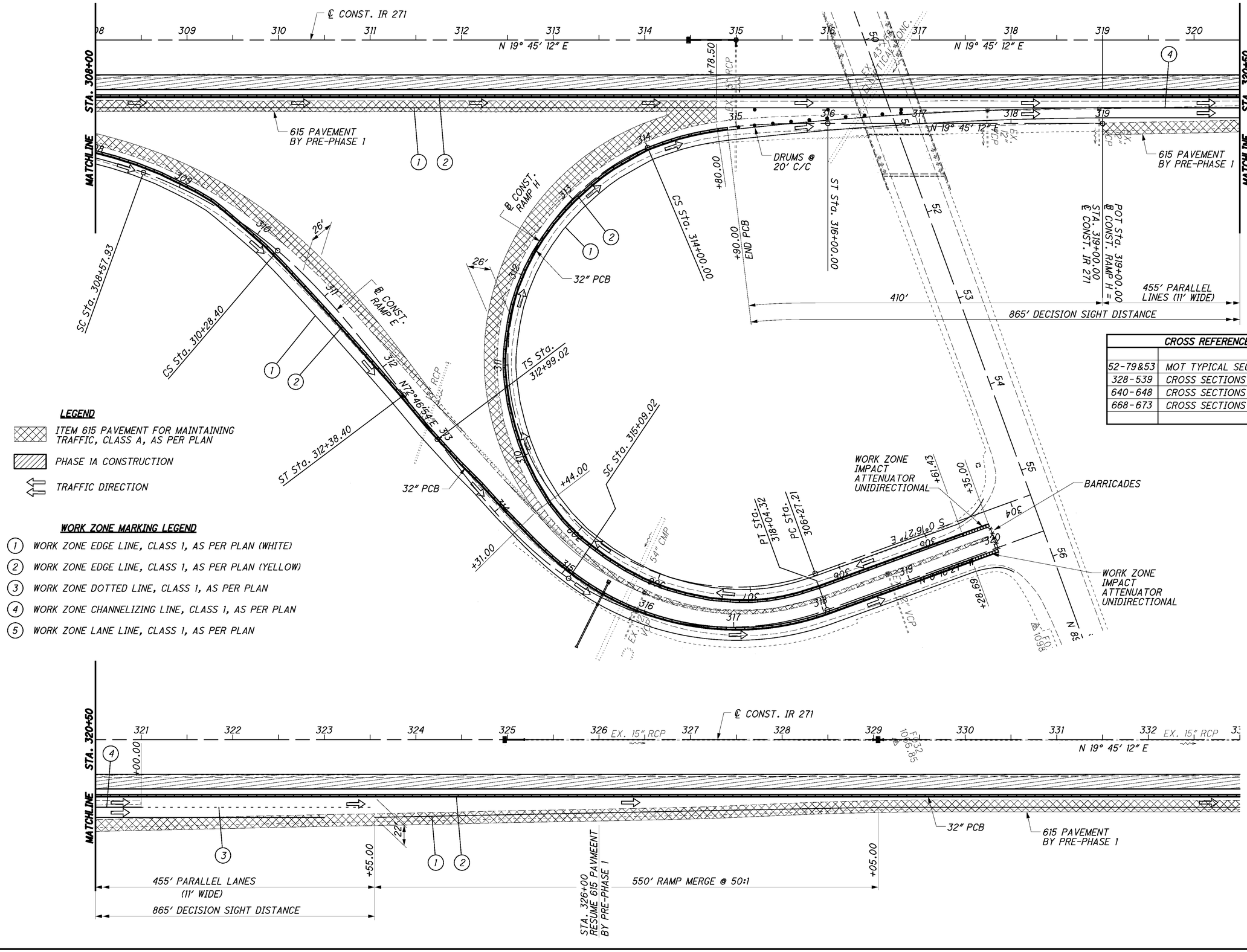
CALCULATED DAW
CHECKED PRS

MAINTENANCE OF TRAFFIC - PHASE 1A
PLAN - SR 303 RAMPS E & H

SUM-271-2.33

130
1195

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LEGEND

- ITEM 615 PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A, AS PER PLAN
- PHASE 1A CONSTRUCTION
- TRAFFIC DIRECTION

WORK ZONE MARKING LEGEND

1. WORK ZONE EDGE LINE, CLASS 1, AS PER PLAN (WHITE)
2. WORK ZONE EDGE LINE, CLASS 1, AS PER PLAN (YELLOW)
3. WORK ZONE DOTTED LINE, CLASS 1, AS PER PLAN
4. WORK ZONE CHANNELIZING LINE, CLASS 1, AS PER PLAN
5. WORK ZONE LANE LINE, CLASS 1, AS PER PLAN

CROSS REFERENCES	
52-79&53	MOT TYPICAL SECTIONS
328-539	CROSS SECTIONS IR 271
640-648	CROSS SECTIONS RAMP E
668-673	CROSS SECTIONS RAMP H

HORIZONTAL SCALE IN FEET
0 25 50 100

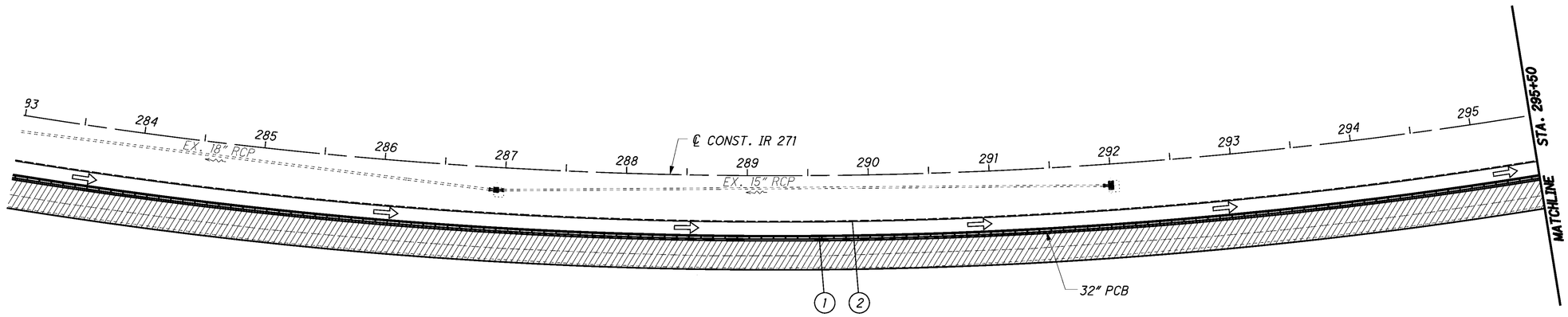
CALCULATED DAW
CHECKED PRS

MAINTENANCE OF TRAFFIC - PHASE 1A
PLAN - SR 303 RAMPS E & H

SUM-271-2.33

131
1195

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LEGEND

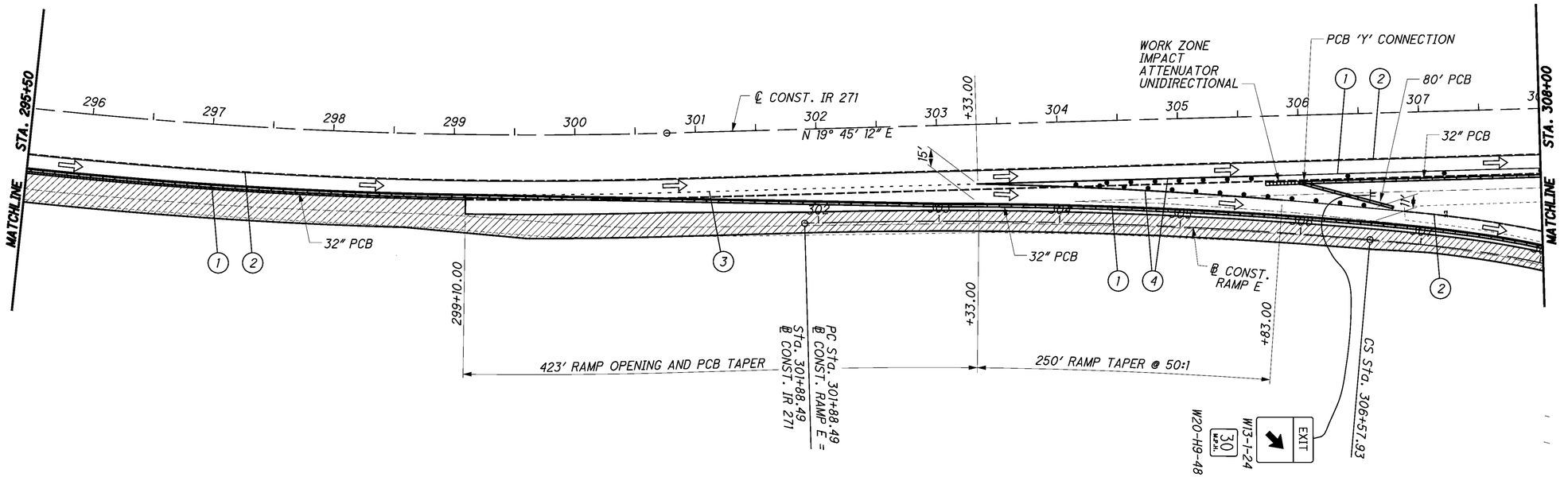
PHASE 1B-1 CONSTRUCTION

TRAFFIC DIRECTION

WORK ZONE MARKING LEGEND

1. WORK ZONE EDGE LINE, CLASS 1, AS PER PLAN (WHITE)
2. WORK ZONE EDGE LINE, CLASS 1, AS PER PLAN (YELLOW)
3. WORK ZONE DOTTED LINE, CLASS 1, AS PER PLAN
4. WORK ZONE CHANNELIZING LINE, CLASS 1, AS PER PLAN
5. WORK ZONE LANE LINE, CLASS 1, AS PER PLAN

CROSS REFERENCES	
58&79	MOT TYPICAL SECTIONS
328-539	CROSS SECTIONS IR 271
640-648	CROSS SECTIONS RAMP E



HORIZONTAL SCALE IN FEET
0 25 50 100

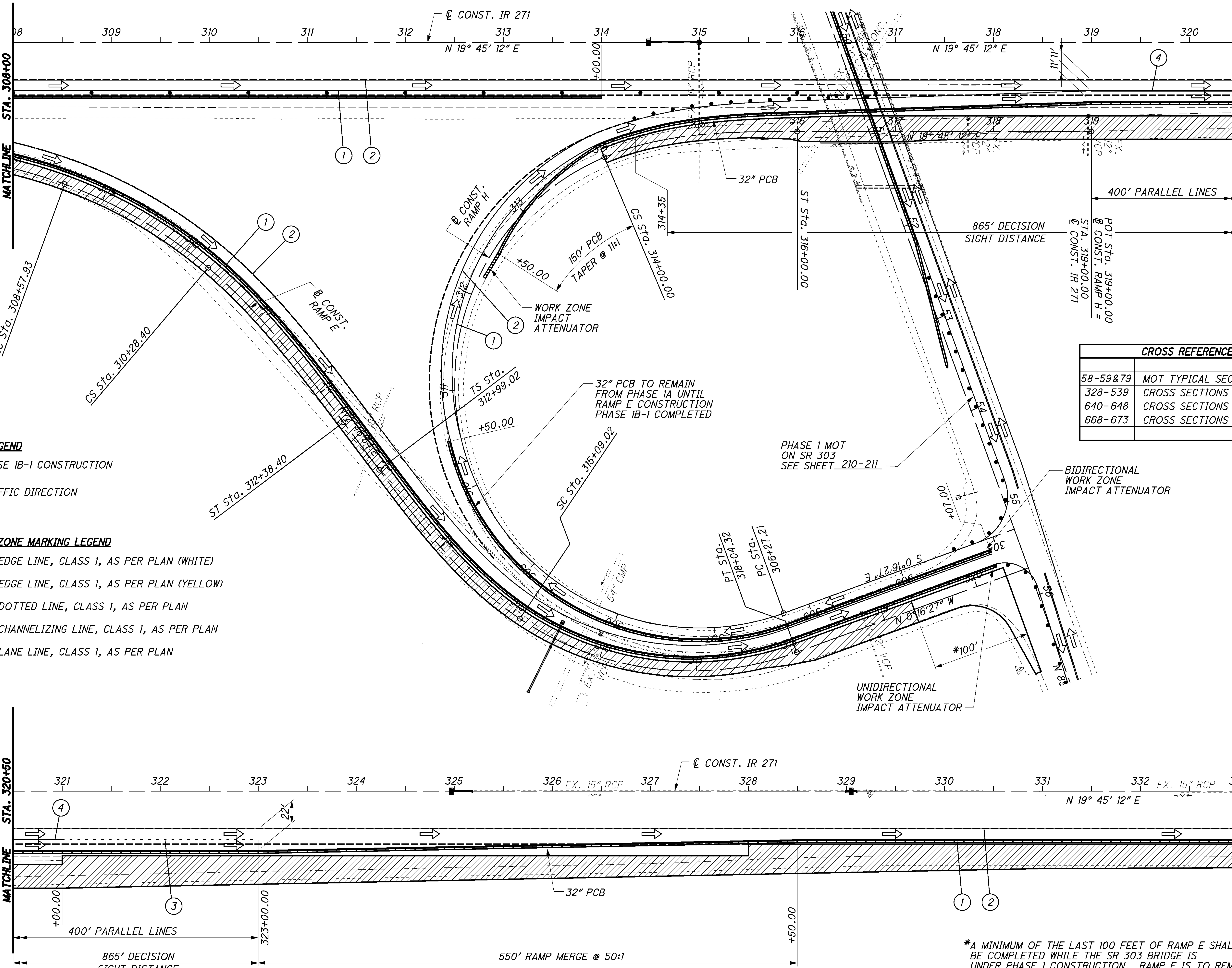
CALCULATED DAW
CHECKED PRS

MAINTENANCE OF TRAFFIC - PHASE 1B-1
PLAN - SR 303 RAMPS E & H

SUM-271-2.33

132
1195

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LEGEND

PHASE 1B-1 CONSTRUCTION

TRAFFIC DIRECTION

WORK ZONE MARKING LEGEND

1. WORK ZONE EDGE LINE, CLASS 1, AS PER PLAN (WHITE)
2. WORK ZONE EDGE LINE, CLASS 1, AS PER PLAN (YELLOW)
3. WORK ZONE DOTTED LINE, CLASS 1, AS PER PLAN
4. WORK ZONE CHANNELIZING LINE, CLASS 1, AS PER PLAN
5. WORK ZONE LANE LINE, CLASS 1, AS PER PLAN

CROSS REFERENCES	
58-59&79	MOT TYPICAL SECTIONS
328-539	CROSS SECTIONS IR 271
640-648	CROSS SECTIONS RAMP E
668-673	CROSS SECTIONS RAMP H

*A MINIMUM OF THE LAST 100 FEET OF RAMP E SHALL BE COMPLETED WHILE THE SR 303 BRIDGE IS UNDER PHASE 1 CONSTRUCTION. RAMP E IS TO REMAIN OPEN. PART WIDTH CONSTRUCTION SHALL BE PERFORMED DURING RAMP INTERSECTION WORK BY FLAGGERS.

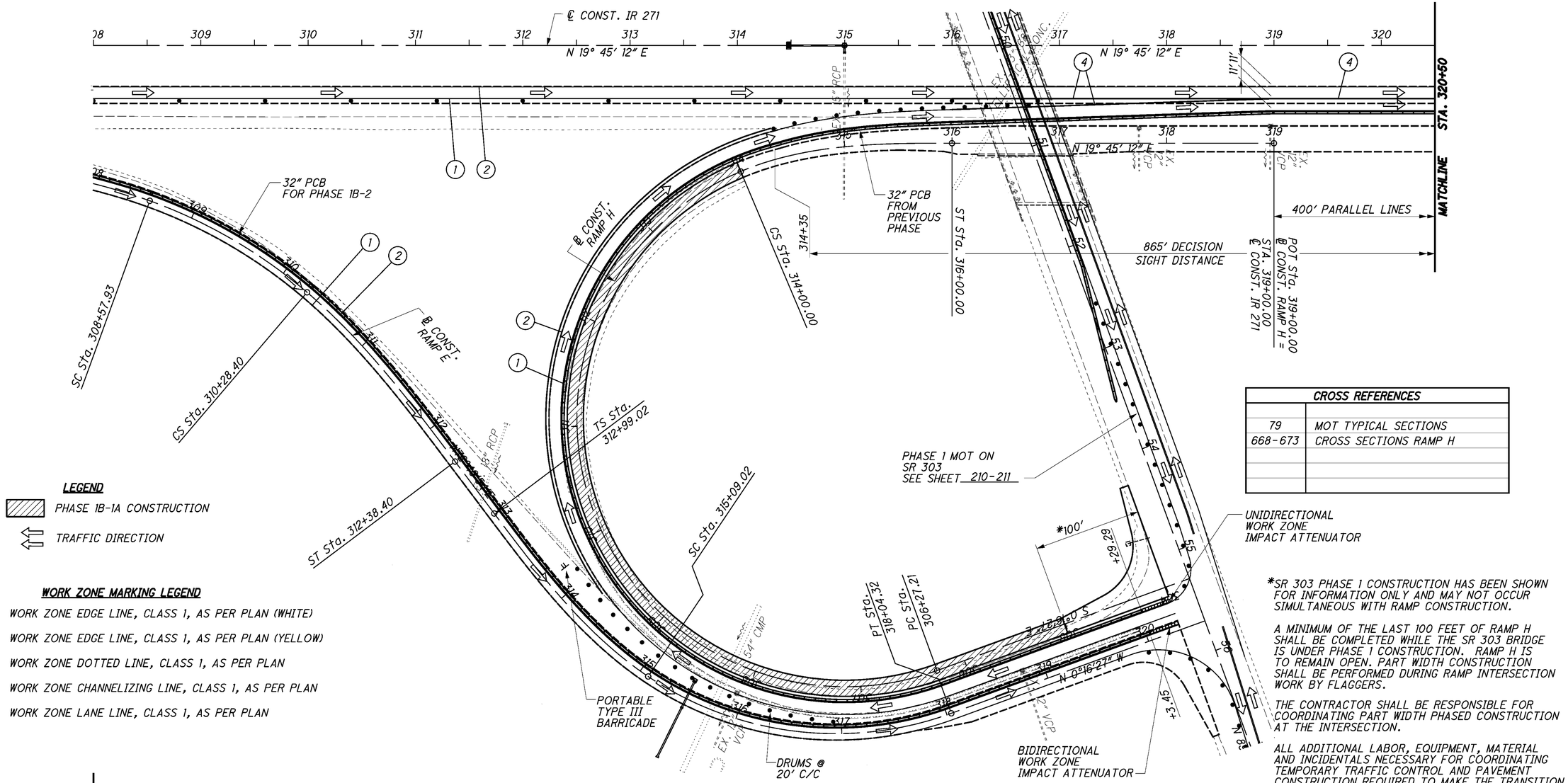
HORIZONTAL SCALE IN FEET 0 25 50 100

CALCULATED DAW CHECKED PRS

MAINTENANCE OF TRAFFIC - PHASE 1B-1
PLAN - SR 303 RAMPS E & H

SUM-271-2.33

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CROSS REFERENCES	
79	MOT TYPICAL SECTIONS
668-673	CROSS SECTIONS RAMP H

*SR 303 PHASE 1 CONSTRUCTION HAS BEEN SHOWN FOR INFORMATION ONLY AND MAY NOT OCCUR SIMULTANEOUS WITH RAMP CONSTRUCTION.

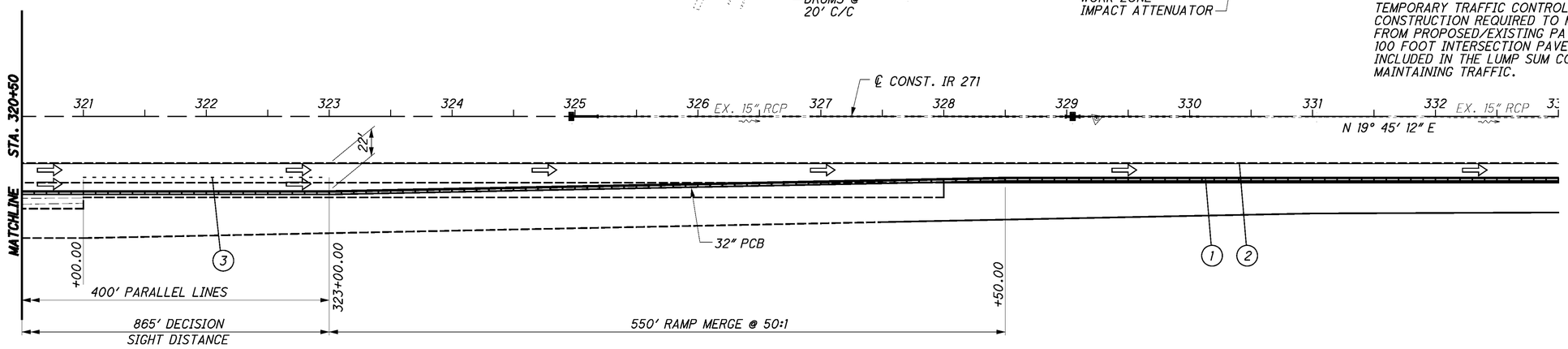
A MINIMUM OF THE LAST 100 FEET OF RAMP H SHALL BE COMPLETED WHILE THE SR 303 BRIDGE IS UNDER PHASE 1 CONSTRUCTION. RAMP H IS TO REMAIN OPEN. PART WIDTH CONSTRUCTION SHALL BE PERFORMED DURING RAMP INTERSECTION WORK BY FLAGGERS.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING PART WIDTH PHASED CONSTRUCTION AT THE INTERSECTION.

ALL ADDITIONAL LABOR, EQUIPMENT, MATERIAL AND INCIDENTALS NECESSARY FOR COORDINATING TEMPORARY TRAFFIC CONTROL AND PAVEMENT CONSTRUCTION REQUIRED TO MAKE THE TRANSITION FROM PROPOSED/EXISTING PAVEMENT TO THE 100 FOOT INTERSECTION PAVEMENT SHALL BE INCLUDED IN THE LUMP SUM COST FOR ITEM 614 MAINTAINING TRAFFIC.

WORK ZONE MARKING LEGEND

1. WORK ZONE EDGE LINE, CLASS 1, AS PER PLAN (WHITE)
2. WORK ZONE EDGE LINE, CLASS 1, AS PER PLAN (YELLOW)
3. WORK ZONE DOTTED LINE, CLASS 1, AS PER PLAN
4. WORK ZONE CHANNELIZING LINE, CLASS 1, AS PER PLAN
5. WORK ZONE LANE LINE, CLASS 1, AS PER PLAN



MAINTENANCE OF TRAFFIC - PHASE 1B-1A
PLAN - SR 303 RAMPS E & H

SUM-271-2.33

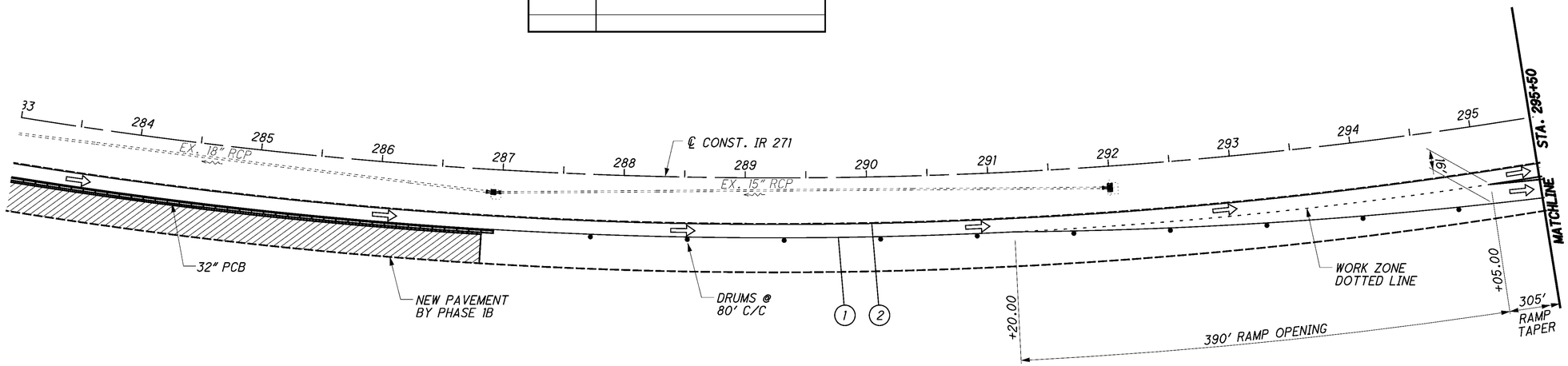
CALCULATED DAW
CHECKED PRS

HORIZONTAL SCALE IN FEET
0 25 50 100

134
1195

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CROSS REFERENCES	
58&79	MOT TYPICAL SECTIONS
328-539	CROSS SECTIONS IR 271
640-648	CROSS SECTIONS RAMP E

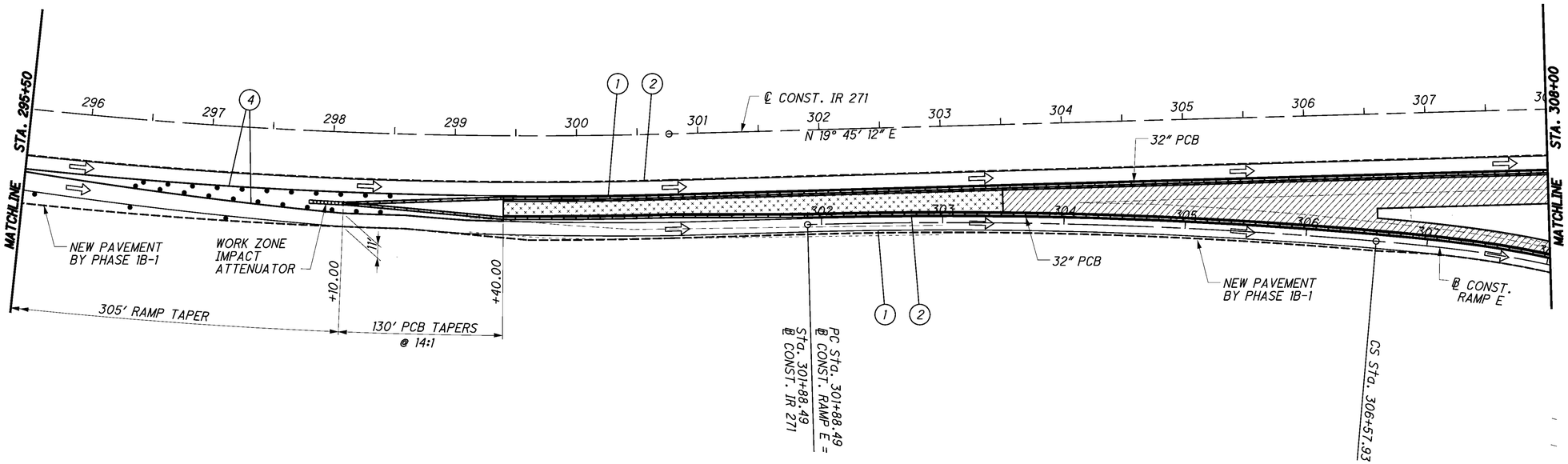


LEGEND

- PHASE 1B-2 CONSTRUCTION
- RESTRICTED WORK AREA - SEE GENERAL NOTES
- TRAFFIC DIRECTION

WORK ZONE MARKING LEGEND

1. WORK ZONE EDGE LINE, CLASS 1, AS PER PLAN (WHITE)
2. WORK ZONE EDGE LINE, CLASS 1, AS PER PLAN (YELLOW)
3. WORK ZONE DOTTED LINE, CLASS 1, AS PER PLAN
4. WORK ZONE CHANNELIZING LINE, CLASS 1, AS PER PLAN
5. WORK ZONE LANE LINE, CLASS 1, AS PER PLAN



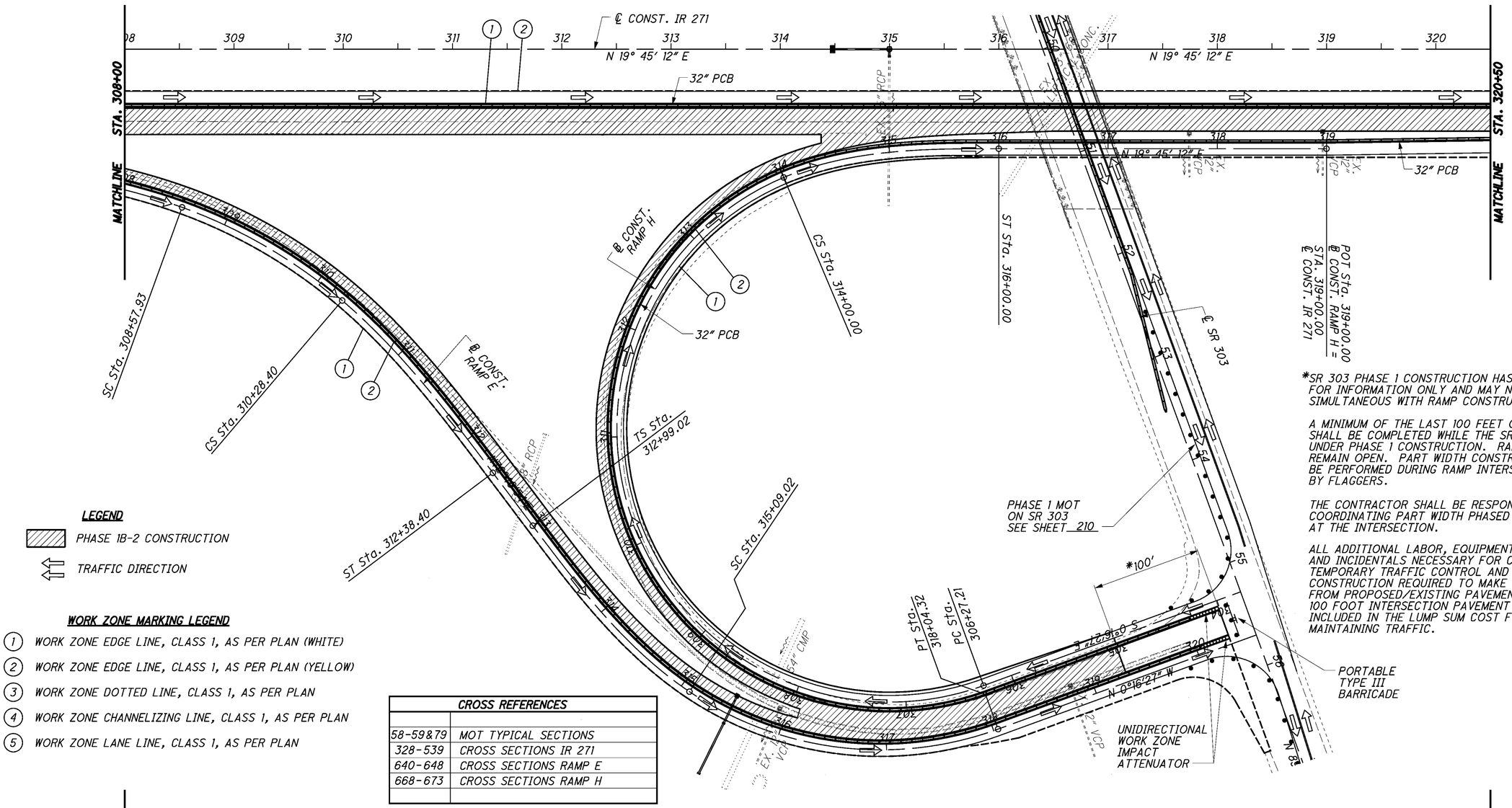
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CALCULATED DAW
CHECKED PRS

HORIZONTAL SCALE IN FEET
0 25 50 100

MAINTENANCE OF TRAFFIC - PHASE 1B-2
PLAN - SR 303 RAMPS E & H

SUM-271-2.33



LEGEND

PHASE 1B-2 CONSTRUCTION

TRAFFIC DIRECTION

WORK ZONE MARKING LEGEND

1. WORK ZONE EDGE LINE, CLASS 1, AS PER PLAN (WHITE)
2. WORK ZONE EDGE LINE, CLASS 1, AS PER PLAN (YELLOW)
3. WORK ZONE DOTTED LINE, CLASS 1, AS PER PLAN
4. WORK ZONE CHANNELIZING LINE, CLASS 1, AS PER PLAN
5. WORK ZONE LANE LINE, CLASS 1, AS PER PLAN

CROSS REFERENCES	
58-59&79	MOT TYPICAL SECTIONS
328-539	CROSS SECTIONS IR 271
640-648	CROSS SECTIONS RAMP E
668-673	CROSS SECTIONS RAMP H

*SR 303 PHASE 1 CONSTRUCTION HAS BEEN SHOWN FOR INFORMATION ONLY AND MAY NOT OCCUR SIMULTANEOUS WITH RAMP CONSTRUCTION.

A MINIMUM OF THE LAST 100 FEET OF RAMP E & H SHALL BE COMPLETED WHILE THE SR 303 BRIDGE IS UNDER PHASE 1 CONSTRUCTION. RAMP E & H IS TO REMAIN OPEN. PART WIDTH CONSTRUCTION SHALL BE PERFORMED DURING RAMP INTERSECTION WORK BY FLAGGERS.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING PART WIDTH PHASED CONSTRUCTION AT THE INTERSECTION.

ALL ADDITIONAL LABOR, EQUIPMENT, MATERIAL AND INCIDENTALS NECESSARY FOR COORDINATING TEMPORARY TRAFFIC CONTROL AND PAVEMENT CONSTRUCTION REQUIRED TO MAKE THE TRANSITION FROM PROPOSED/EXISTING PAVEMENT TO THE 100 FOOT INTERSECTION PAVEMENT SHALL BE INCLUDED IN THE LUMP SUM COST FOR ITEM 614 MAINTAINING TRAFFIC.

HORIZONTAL SCALE IN FEET
0 25 50 100

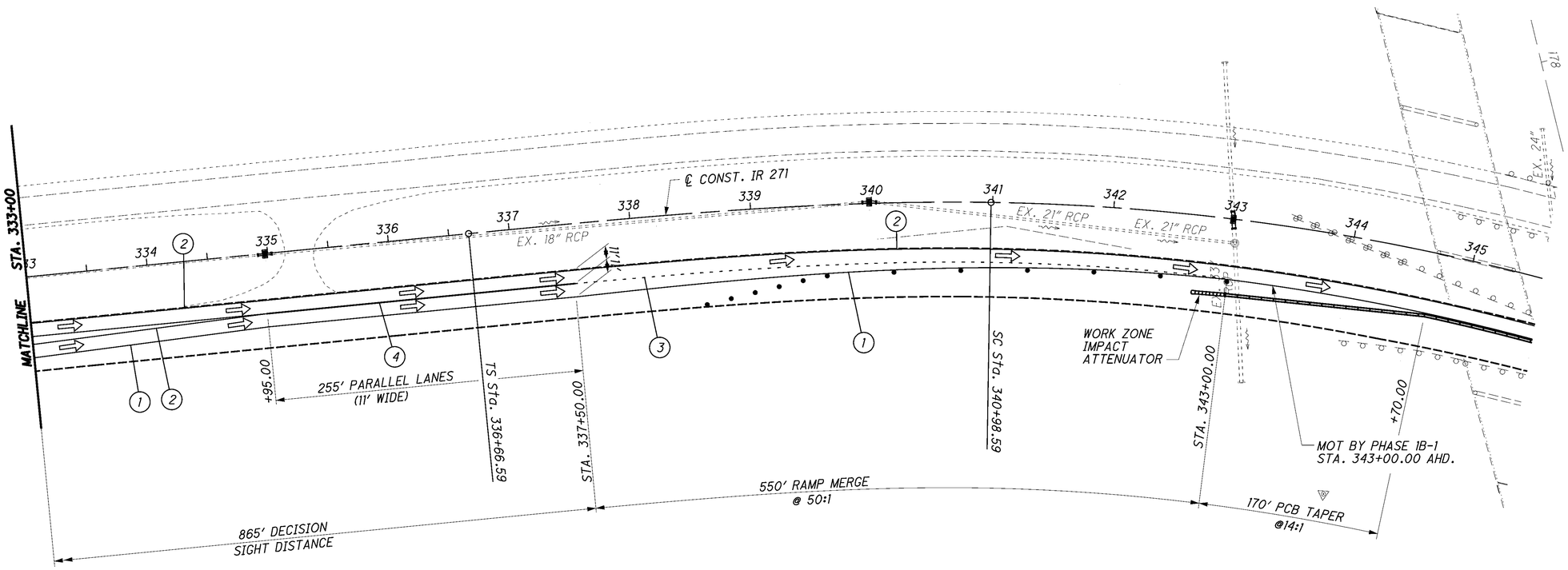
CALCULATED DAW
CHECKED PRS

MAINTENANCE OF TRAFFIC - PHASE 1B-2
PLAN - SR 303 RAMPS E & H

SUM-271-2.33

136
1195

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LEGEND

PHASE 1B-2 CONSTRUCTION

TRAFFIC DIRECTION

WORK ZONE MARKING LEGEND

1. WORK ZONE EDGE LINE, CLASS 1, AS PER PLAN (WHITE)
2. WORK ZONE EDGE LINE, CLASS 1, AS PER PLAN (YELLOW)
3. WORK ZONE DOTTED LINE, CLASS 1, AS PER PLAN
4. WORK ZONE CHANNELIZING LINE, CLASS 1, AS PER PLAN
5. WORK ZONE LANE LINE, CLASS 1, AS PER PLAN

CROSS REFERENCES	
58&59	MOT TYPICAL SECTIONS
328-539	CROSS SECTIONS IR 271

HORIZONTAL SCALE IN FEET
0 25 50 100

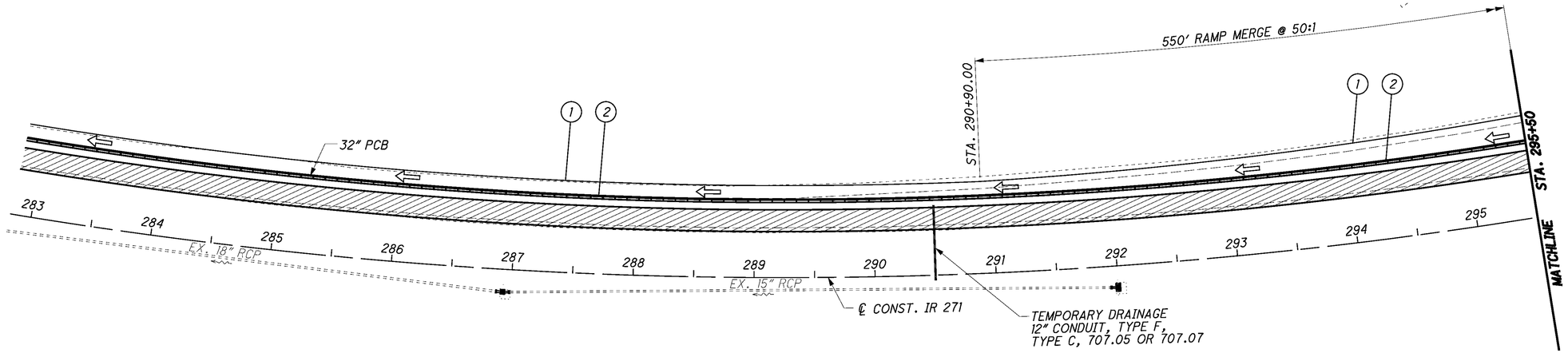
CALCULATED DAW
CHECKED PRS

MAINTENANCE OF TRAFFIC - PHASE 1B-2
PLAN - SR 303 RAMPS E & H

SUM-271-2.33

137
1195

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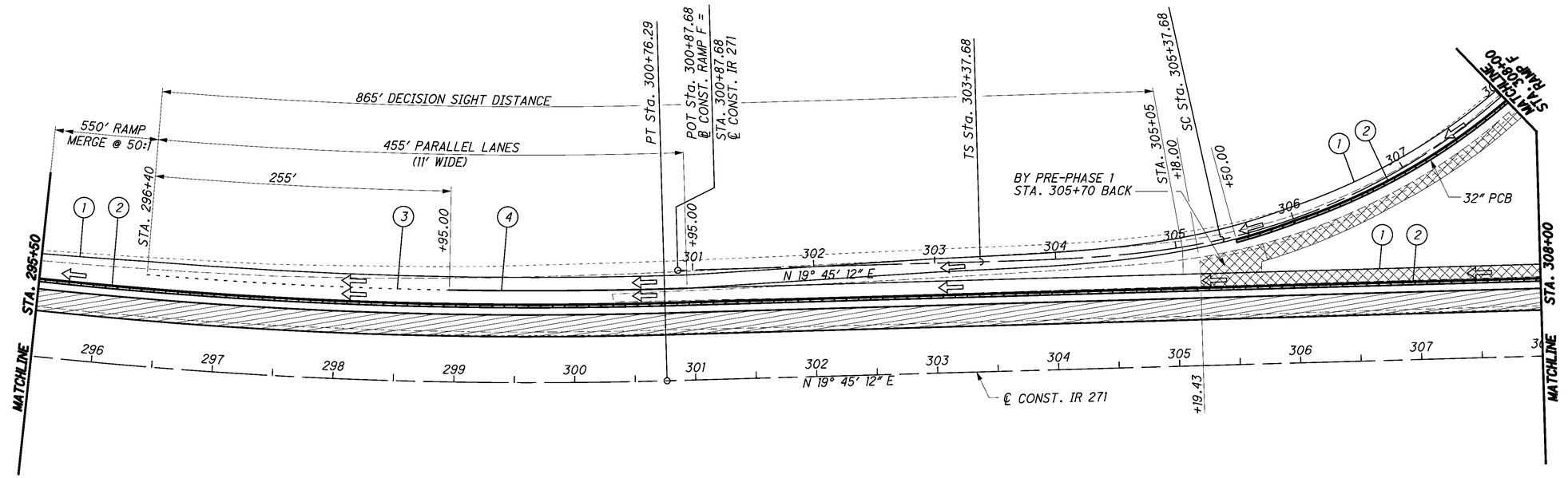
LEGEND

- ITEM 615 PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A, AS PER PLAN
- PHASE 2A CONSTRUCTION
- TRAFFIC DIRECTION

WORK ZONE MARKING LEGEND

1. WORK ZONE EDGE LINE, CLASS 1, AS PER PLAN (WHITE)
2. WORK ZONE EDGE LINE, CLASS 1, AS PER PLAN (YELLOW)
3. WORK ZONE DOTTED LINE, CLASS 1, AS PER PLAN
4. WORK ZONE CHANNELIZING LINE, CLASS 1, AS PER PLAN
5. WORK ZONE LANE LINE, CLASS 1, AS PER PLAN

CROSS REFERENCES	
62&79	MOT TYPICAL SECTIONS
328-539	CROSS SECTIONS IR 271
651-657	CROSS SECTIONS RAMP F



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HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED DAW
CHECKED PRS

MAINTENANCE OF TRAFFIC - PHASE 2A
PLAN - SR 303 RAMPS F & G

SUM-271-2.33

CROSS REFERENCES	
62-63&79	MOT TYPICAL SECTIONS
328-539	CROSS SECTIONS IR 271
651-657	CROSS SECTIONS RAMP F
660-665	CROSS SECTIONS RAMP G

LEGEND

- ITEM 615 PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A, AS PER PLAN
- PHASE 2A CONSTRUCTION
- TRAFFIC DIRECTION

WORK ZONE MARKING LEGEND

1. WORK ZONE EDGE LINE, CLASS 1, AS PER PLAN (WHITE)
2. WORK ZONE EDGE LINE, CLASS 1, AS PER PLAN (YELLOW)
3. WORK ZONE DOTTED LINE, CLASS 1, AS PER PLAN
4. WORK ZONE CHANNELIZING LINE, CLASS 1, AS PER PLAN
5. WORK ZONE LANE LINE, CLASS 1, AS PER PLAN

NOTE: EXISTING SB RAMP EXIT SIGNS TO REMAIN

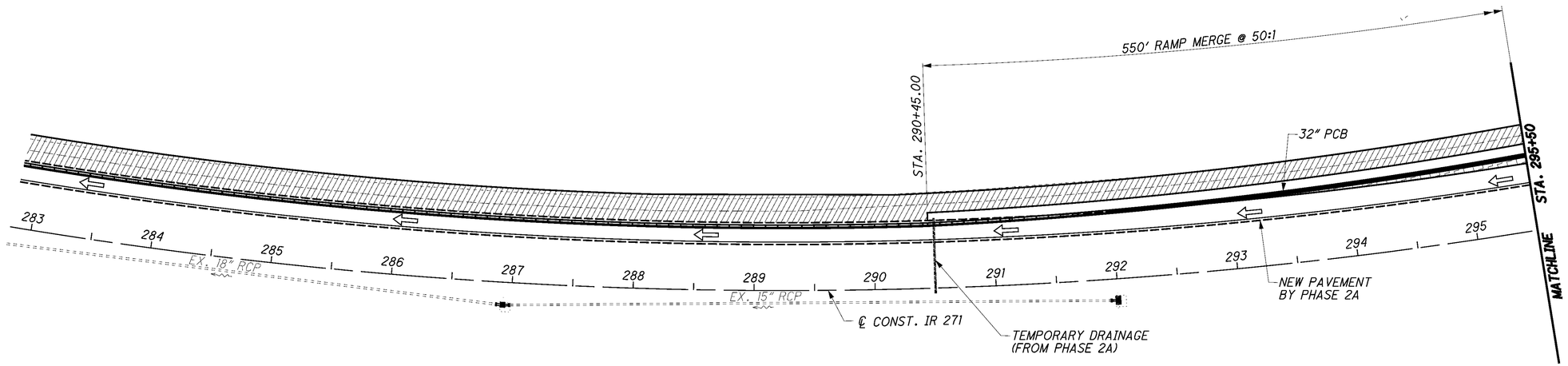
CALCULATED DAW
CHECKED PRS

MAINTENANCE OF TRAFFIC - PHASE 2A
PLAN - SR 303 RAMPS F & G

SUM-271-2.33

139
1195

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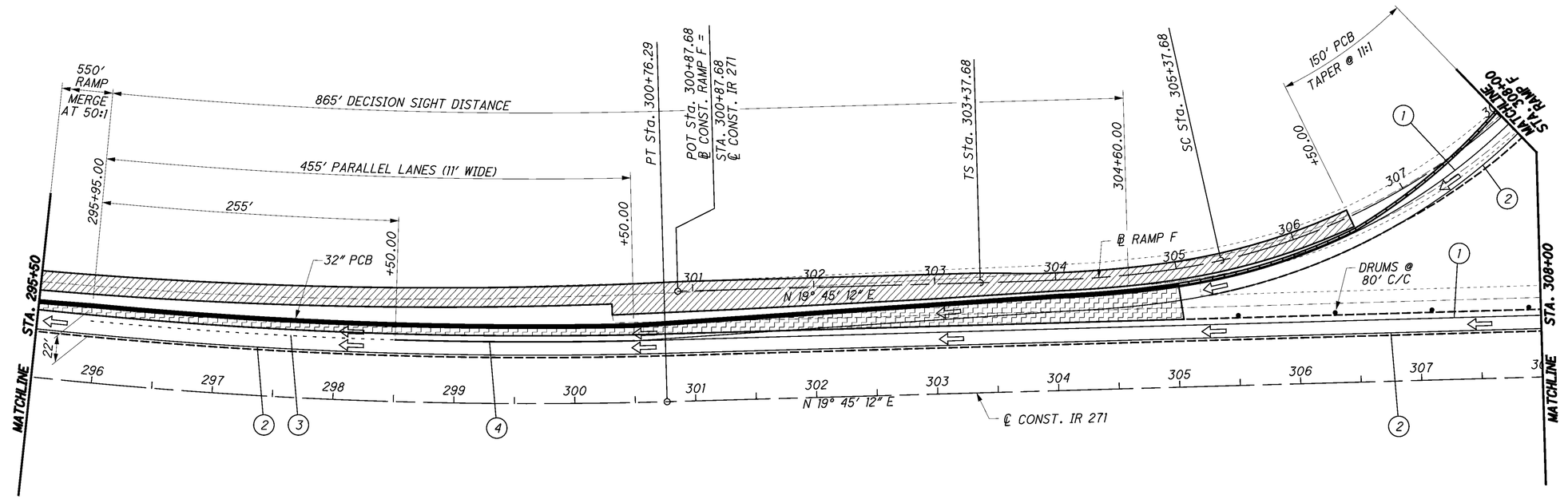
LEGEND

- PHASE 2B-1 CONSTRUCTION
- ITEM 614 ASPHALT CONCRETE FOR MAINTAINING TRAFFIC (THICKNESS VARIES 0' TO 2')
- TRAFFIC DIRECTION

WORK ZONE MARKING LEGEND

1. WORK ZONE EDGE LINE, CLASS 1, AS PER PLAN (WHITE)
2. WORK ZONE EDGE LINE, CLASS 1, AS PER PLAN (YELLOW)
3. WORK ZONE DOTTED LINE, CLASS 1, AS PER PLAN
4. WORK ZONE CHANNELIZING LINE, CLASS 1, AS PER PLAN
5. WORK ZONE LANE LINE, CLASS 1, AS PER PLAN

CROSS REFERENCES	
70&79	MOT TYPICAL SECTIONS
328-539	CROSS SECTIONS IR 271
651-657	CROSS SECTIONS RAMP F



MAINTENANCE OF TRAFFIC - PHASE 2B-1
PLAN - SR 303 RAMPS F & G

CALCULATED DAW
CHECKED PRS

HORIZONTAL SCALE IN FEET
0 25 50 100

SUM-271-2.33

140
1195

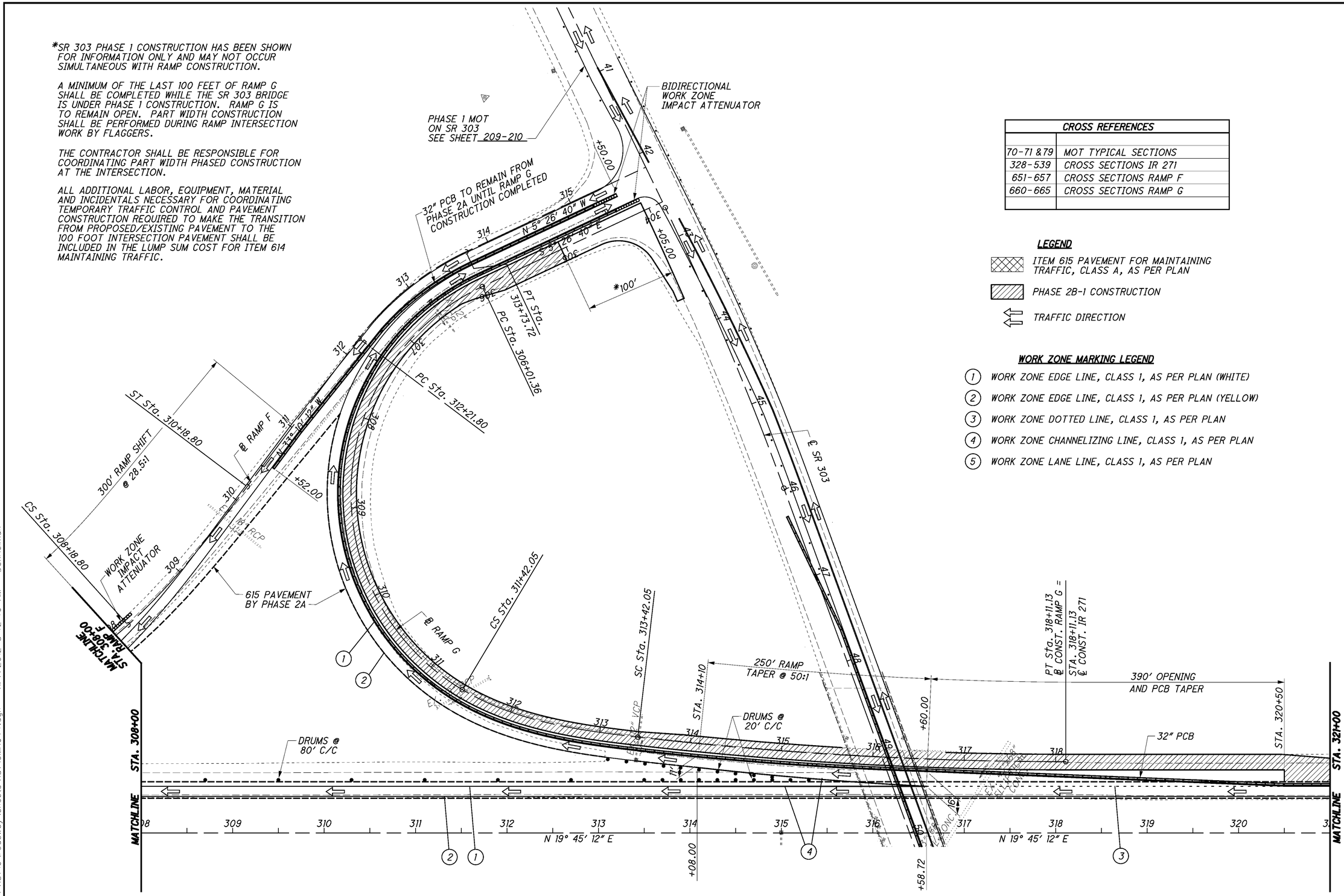
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*SR 303 PHASE 1 CONSTRUCTION HAS BEEN SHOWN FOR INFORMATION ONLY AND MAY NOT OCCUR SIMULTANEOUS WITH RAMP CONSTRUCTION.

A MINIMUM OF THE LAST 100 FEET OF RAMP G SHALL BE COMPLETED WHILE THE SR 303 BRIDGE IS UNDER PHASE 1 CONSTRUCTION. RAMP G IS TO REMAIN OPEN. PART WIDTH CONSTRUCTION SHALL BE PERFORMED DURING RAMP INTERSECTION WORK BY FLAGGERS.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING PART WIDTH PHASED CONSTRUCTION AT THE INTERSECTION.

ALL ADDITIONAL LABOR, EQUIPMENT, MATERIAL AND INCIDENTALS NECESSARY FOR COORDINATING TEMPORARY TRAFFIC CONTROL AND PAVEMENT CONSTRUCTION REQUIRED TO MAKE THE TRANSITION FROM PROPOSED/EXISTING PAVEMENT TO THE 100 FOOT INTERSECTION PAVEMENT SHALL BE INCLUDED IN THE LUMP SUM COST FOR ITEM 614 MAINTAINING TRAFFIC.



CROSS REFERENCES	
70-71 & 79	MOT TYPICAL SECTIONS
328-539	CROSS SECTIONS IR 271
651-657	CROSS SECTIONS RAMP F
660-665	CROSS SECTIONS RAMP G

LEGEND

- ITEM 615 PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A, AS PER PLAN
- PHASE 2B-1 CONSTRUCTION
- TRAFFIC DIRECTION

WORK ZONE MARKING LEGEND

1. WORK ZONE EDGE LINE, CLASS 1, AS PER PLAN (WHITE)
2. WORK ZONE EDGE LINE, CLASS 1, AS PER PLAN (YELLOW)
3. WORK ZONE DOTTED LINE, CLASS 1, AS PER PLAN
4. WORK ZONE CHANNELIZING LINE, CLASS 1, AS PER PLAN
5. WORK ZONE LANE LINE, CLASS 1, AS PER PLAN

HORIZONTAL SCALE IN FEET 0 25 50 100

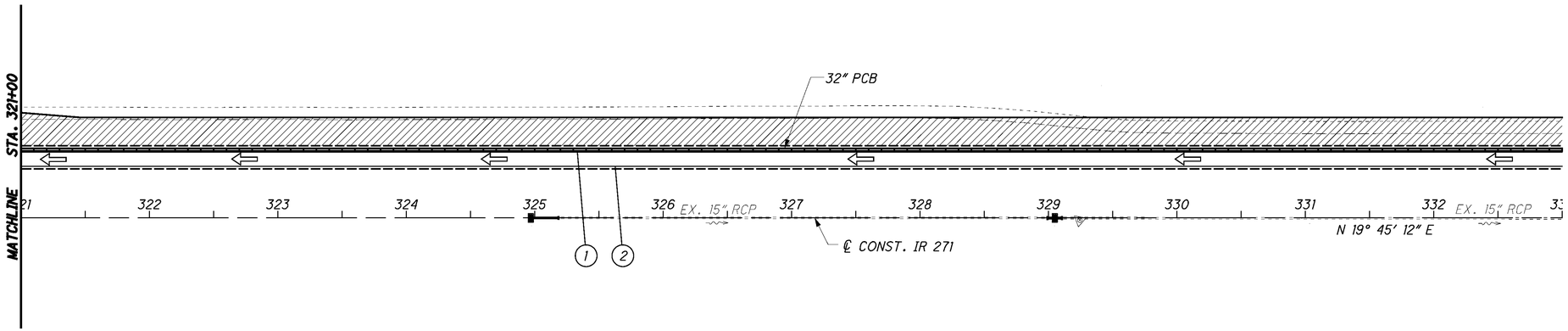
CALCULATED DAW CHECKED PRS

MAINTENANCE OF TRAFFIC - PHASE 2B-1
PLAN - SR 303 RAMPS F & G

SUM-271-2.33

141
1195

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LEGEND

PHASE 2B-1 CONSTRUCTION

TRAFFIC DIRECTION

WORK ZONE MARKING LEGEND

1. WORK ZONE EDGE LINE, CLASS 1, AS PER PLAN (WHITE)
2. WORK ZONE EDGE LINE, CLASS 1, AS PER PLAN (YELLOW)
3. WORK ZONE DOTTED LINE, CLASS 1, AS PER PLAN
4. WORK ZONE CHANNELIZING LINE, CLASS 1, AS PER PLAN
5. WORK ZONE LANE LINE, CLASS 1, AS PER PLAN

CROSS REFERENCES	
70	MOT TYPICAL SECTIONS
328-539	CROSS SECTIONS IR 271

HORIZONTAL SCALE IN FEET
0 25 50 100

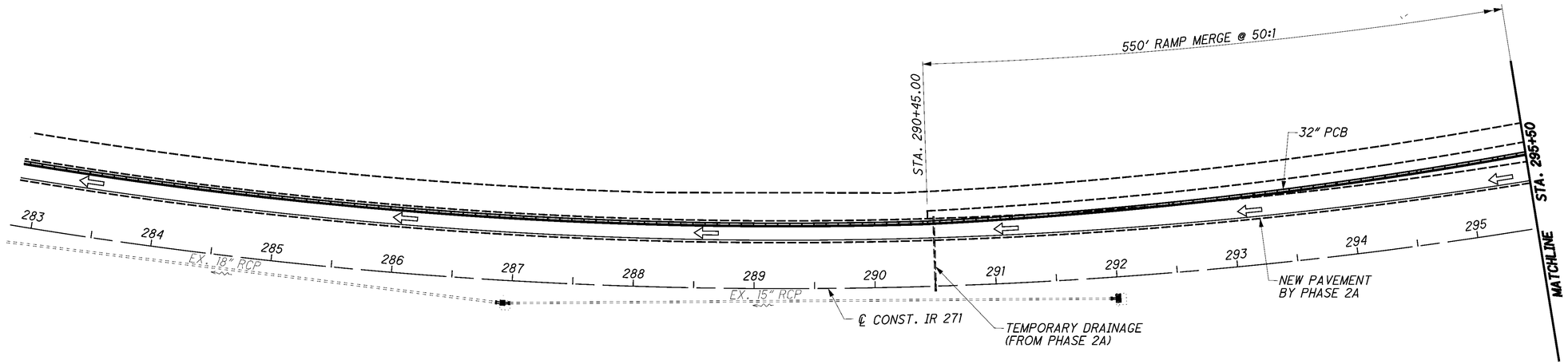
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CHECKED PRS

MAINTENANCE OF TRAFFIC - PHASE 2B-1
PLAN - SR 303 RAMPS F & G

SUM-271-2.33

142
1195

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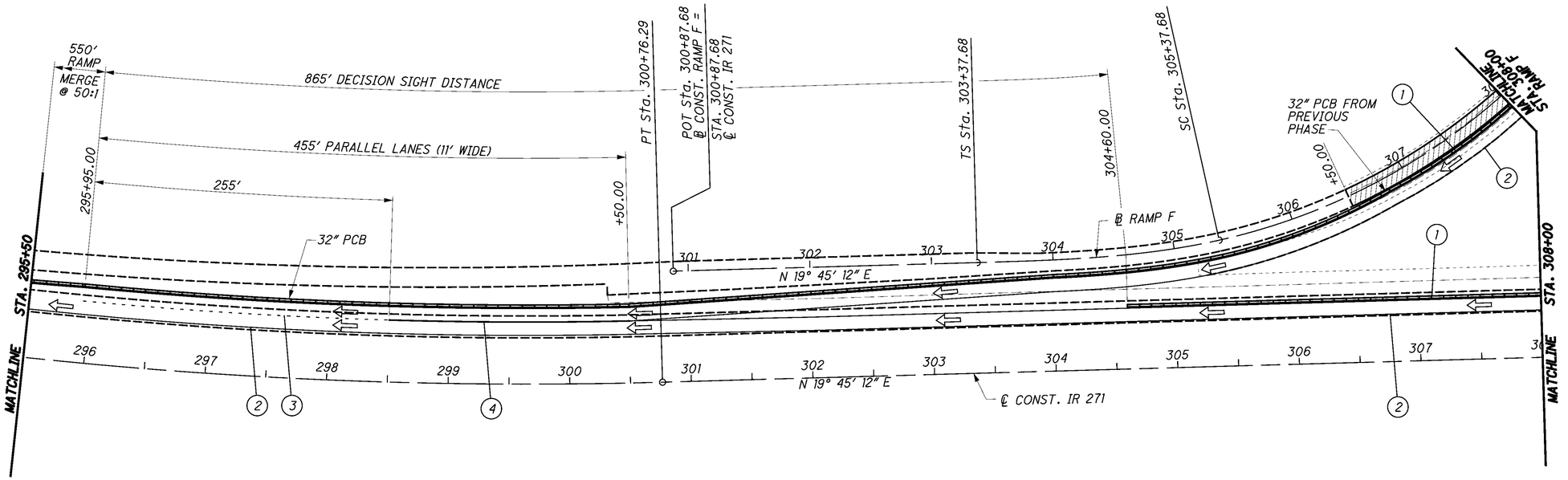
LEGEND

- PHASE 2B-1A CONSTRUCTION
- TRAFFIC DIRECTION

WORK ZONE MARKING LEGEND

1. WORK ZONE EDGE LINE, CLASS 1, AS PER PLAN (WHITE)
2. WORK ZONE EDGE LINE, CLASS 1, AS PER PLAN (YELLOW)
3. WORK ZONE DOTTED LINE, CLASS 1, AS PER PLAN
4. WORK ZONE CHANNELIZING LINE, CLASS 1, AS PER PLAN
5. WORK ZONE LANE LINE, CLASS 1, AS PER PLAN

CROSS REFERENCES	
79	MOT TYPICAL SECTIONS
651-657	CROSS SECTIONS RAMP F



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HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED DAW
CHECKED PRS

MAINTENANCE OF TRAFFIC - PHASE 2B-1A
PLAN - SR 303 RAMPS F & G

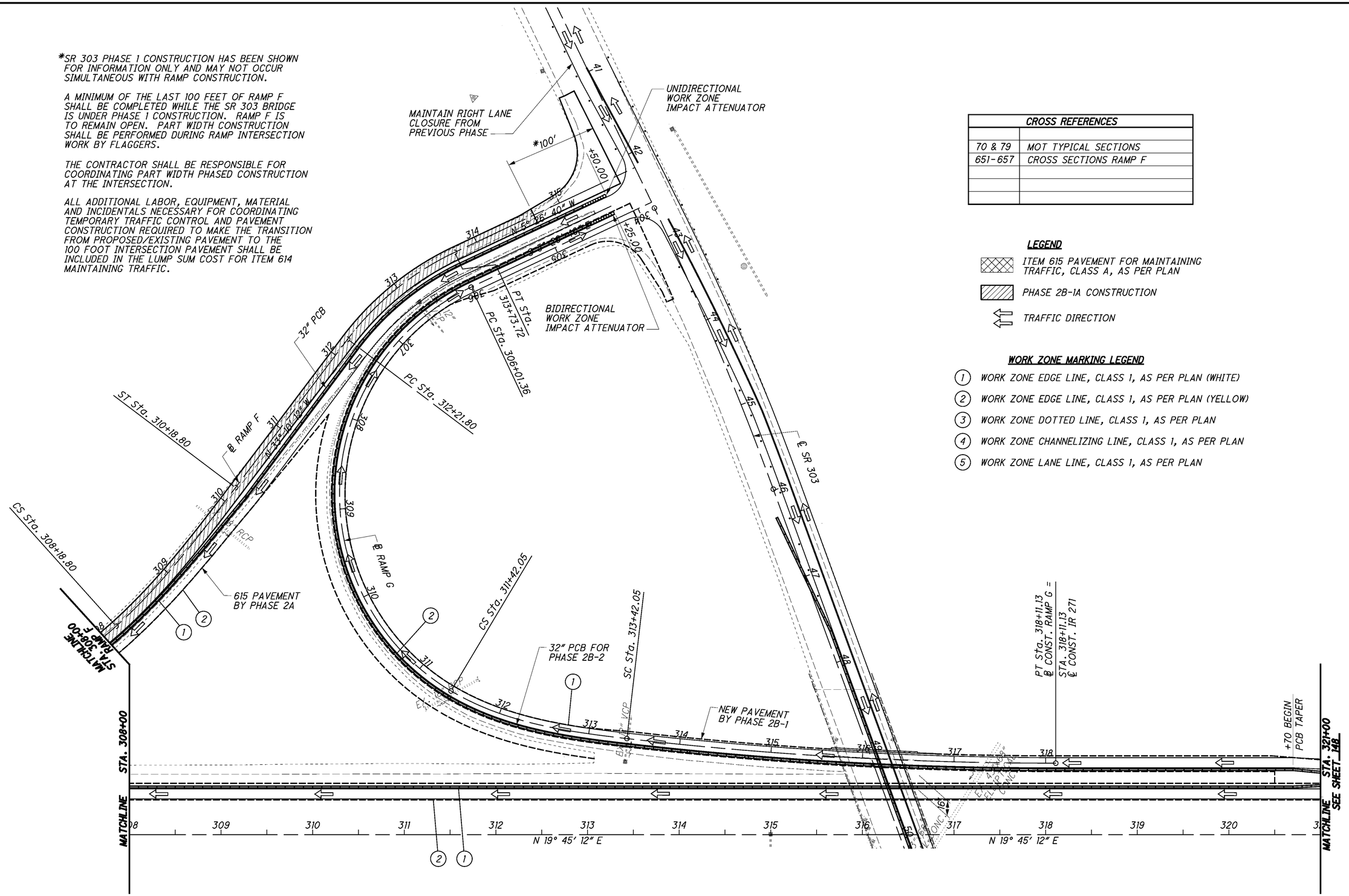
SUM-271-2.33

*SR 303 PHASE 1 CONSTRUCTION HAS BEEN SHOWN FOR INFORMATION ONLY AND MAY NOT OCCUR SIMULTANEOUS WITH RAMP CONSTRUCTION.

A MINIMUM OF THE LAST 100 FEET OF RAMP F SHALL BE COMPLETED WHILE THE SR 303 BRIDGE IS UNDER PHASE 1 CONSTRUCTION. RAMP F IS TO REMAIN OPEN. PART WIDTH CONSTRUCTION SHALL BE PERFORMED DURING RAMP INTERSECTION WORK BY FLAGGERS.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING PART WIDTH PHASED CONSTRUCTION AT THE INTERSECTION.

ALL ADDITIONAL LABOR, EQUIPMENT, MATERIAL AND INCIDENTALS NECESSARY FOR COORDINATING TEMPORARY TRAFFIC CONTROL AND PAVEMENT CONSTRUCTION REQUIRED TO MAKE THE TRANSITION FROM PROPOSED/EXISTING PAVEMENT TO THE 100 FOOT INTERSECTION PAVEMENT SHALL BE INCLUDED IN THE LUMP SUM COST FOR ITEM 614 MAINTAINING TRAFFIC.



CROSS REFERENCES	
70 & 79	MOT TYPICAL SECTIONS
651-657	CROSS SECTIONS RAMP F

LEGEND

- ITEM 615 PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A, AS PER PLAN
- PHASE 2B-1A CONSTRUCTION
- TRAFFIC DIRECTION

WORK ZONE MARKING LEGEND

1. WORK ZONE EDGE LINE, CLASS 1, AS PER PLAN (WHITE)
2. WORK ZONE EDGE LINE, CLASS 1, AS PER PLAN (YELLOW)
3. WORK ZONE DOTTED LINE, CLASS 1, AS PER PLAN
4. WORK ZONE CHANNELIZING LINE, CLASS 1, AS PER PLAN
5. WORK ZONE LANE LINE, CLASS 1, AS PER PLAN

HORIZONTAL SCALE IN FEET
0 25 50 100

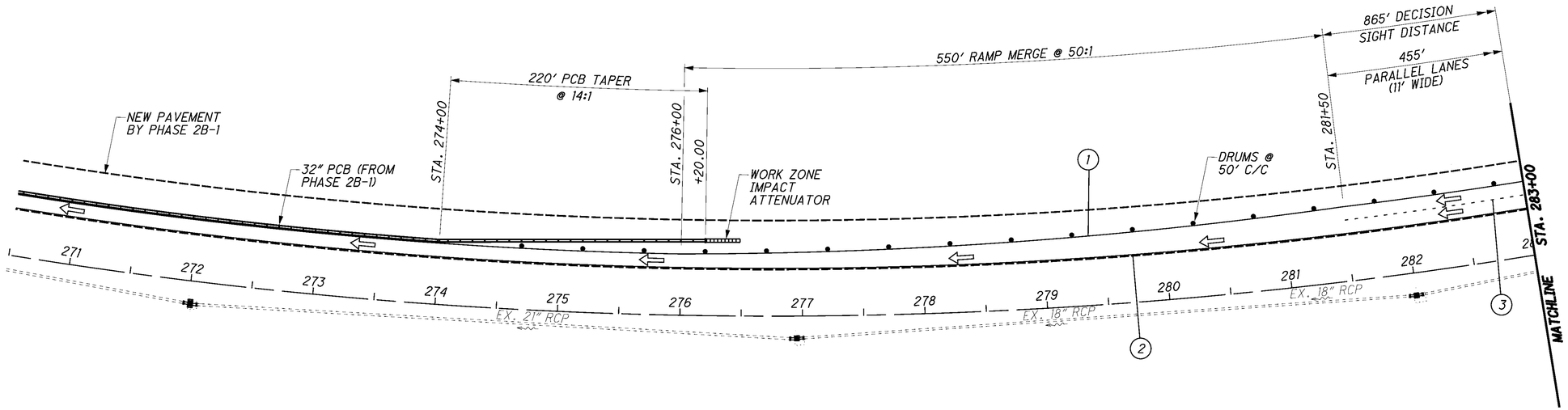
CALCULATED DAW
CHECKED PRS

MAINTENANCE OF TRAFFIC - PHASE 2B-1A
PLAN - SR 303 RAMPS F & G

SUM-271-2.33

144
1195

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LEGEND

PHASE 2B-2 CONSTRUCTION

TRAFFIC DIRECTION

WORK ZONE MARKING LEGEND

1. WORK ZONE EDGE LINE, CLASS 1, AS PER PLAN (WHITE)
2. WORK ZONE EDGE LINE, CLASS 1, AS PER PLAN (YELLOW)
3. WORK ZONE DOTTED LINE, CLASS 1, AS PER PLAN
4. WORK ZONE CHANNELIZING LINE, CLASS 1, AS PER PLAN
5. WORK ZONE LANE LINE, CLASS 1, AS PER PLAN

CROSS REFERENCES	
70	MOT TYPICAL SECTIONS
328-539	CROSS SECTIONS IR 271

HORIZONTAL SCALE IN FEET
0 25 50 100

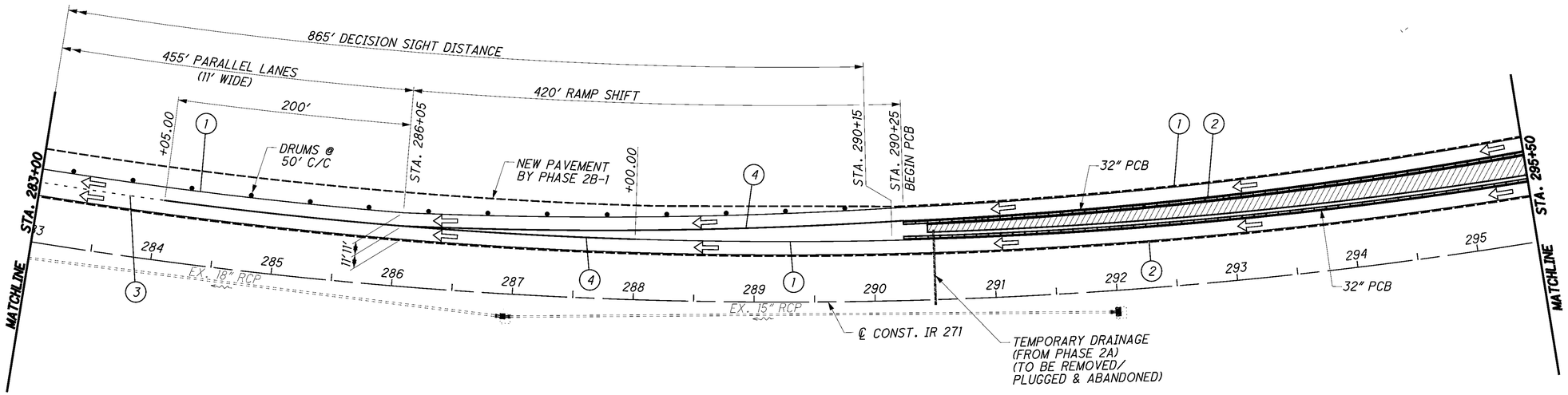
CALCULATED DAW
CHECKED PRS

MAINTENANCE OF TRAFFIC - PHASE 2B-2
PLAN - SR 303 RAMPS F & G

SUM-271-2.33

145
1195

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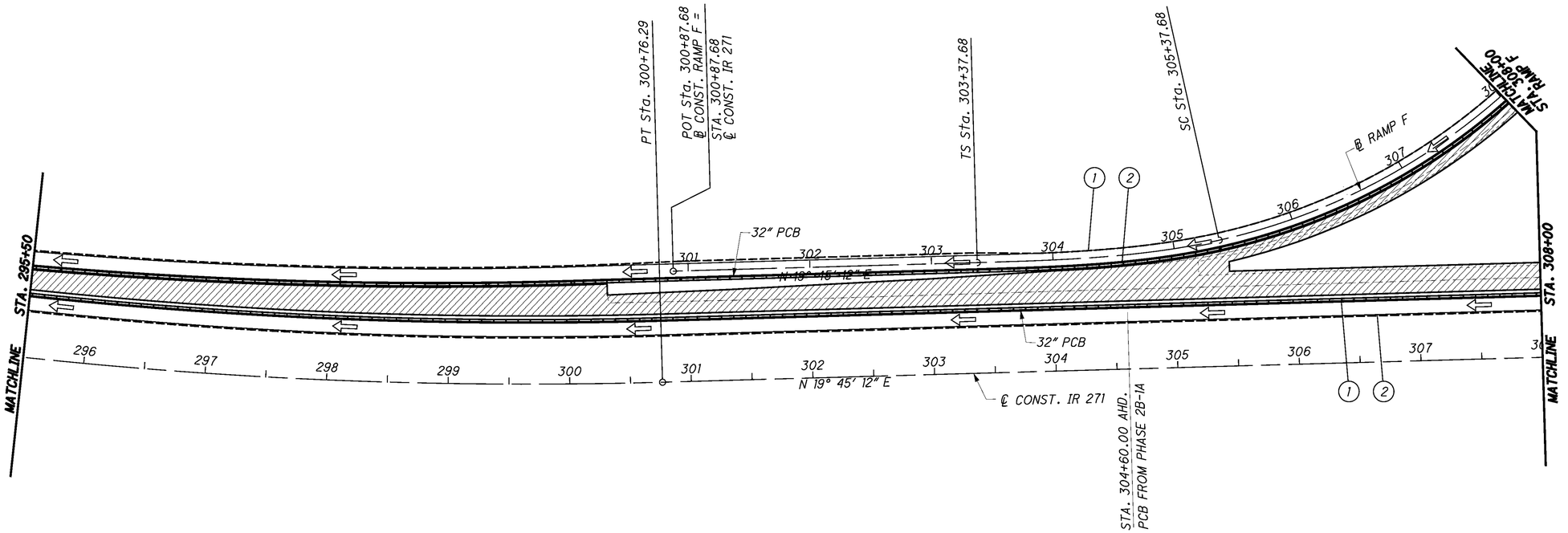
LEGEND

- PHASE 2B-2 CONSTRUCTION
- TRAFFIC DIRECTION

WORK ZONE MARKING LEGEND

1. WORK ZONE EDGE LINE, CLASS 1, AS PER PLAN (WHITE)
2. WORK ZONE EDGE LINE, CLASS 1, AS PER PLAN (YELLOW)
3. WORK ZONE DOTTED LINE, CLASS 1, AS PER PLAN
4. WORK ZONE CHANNELIZING LINE, CLASS 1, AS PER PLAN
5. WORK ZONE LANE LINE, CLASS 1, AS PER PLAN

CROSS REFERENCES	
70&79	MOT TYPICAL SECTIONS
328-539	CROSS SECTIONS IR 271
651-657	CROSS SECTIONS RAMP F



MAINTENANCE OF TRAFFIC - PHASE 2B-2
PLAN - SR 303 RAMPS F & G

SUM-271-2.33

CALCULATED DAW
CHECKED PRS

HORIZONTAL SCALE IN FEET
0 25 50 100

146
1195

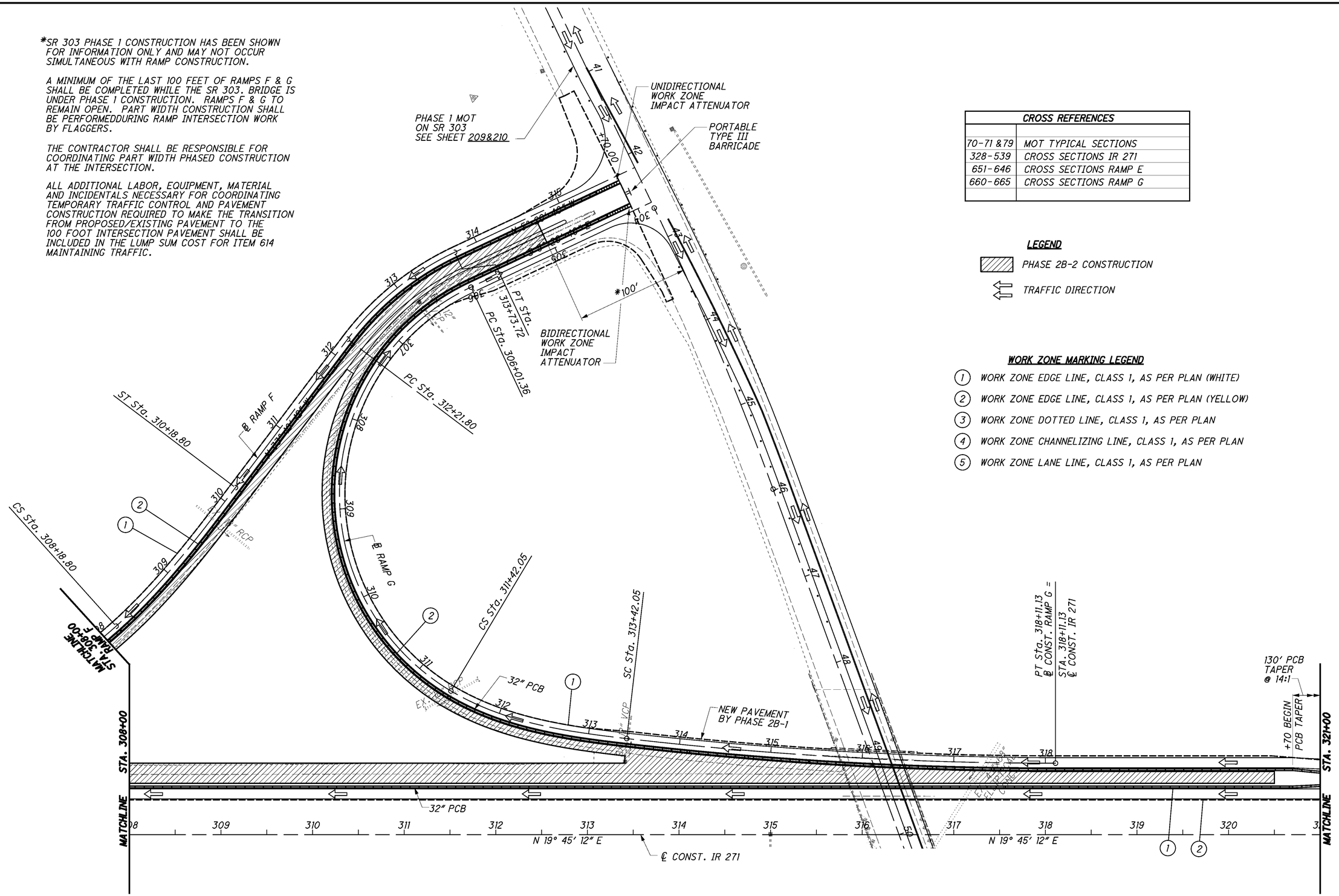
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*SR 303 PHASE 1 CONSTRUCTION HAS BEEN SHOWN FOR INFORMATION ONLY AND MAY NOT OCCUR SIMULTANEOUS WITH RAMP CONSTRUCTION.

A MINIMUM OF THE LAST 100 FEET OF RAMPS F & G SHALL BE COMPLETED WHILE THE SR 303. BRIDGE IS UNDER PHASE 1 CONSTRUCTION. RAMPS F & G TO REMAIN OPEN. PART WIDTH CONSTRUCTION SHALL BE PERFORMEDDURING RAMP INTERSECTION WORK BY FLAGGERS.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING PART WIDTH PHASED CONSTRUCTION AT THE INTERSECTION.

ALL ADDITIONAL LABOR, EQUIPMENT, MATERIAL AND INCIDENTALS NECESSARY FOR COORDINATING TEMPORARY TRAFFIC CONTROL AND PAVEMENT CONSTRUCTION REQUIRED TO MAKE THE TRANSITION FROM PROPOSED/EXISTING PAVEMENT TO THE 100 FOOT INTERSECTION PAVEMENT SHALL BE INCLUDED IN THE LUMP SUM COST FOR ITEM 614 MAINTAINING TRAFFIC.



CROSS REFERENCES	
70-71 &79	MOT TYPICAL SECTIONS
328-539	CROSS SECTIONS IR 271
651-646	CROSS SECTIONS RAMP E
660-665	CROSS SECTIONS RAMP G

LEGEND

PHASE 2B-2 CONSTRUCTION

TRAFFIC DIRECTION

WORK ZONE MARKING LEGEND

1. WORK ZONE EDGE LINE, CLASS 1, AS PER PLAN (WHITE)
2. WORK ZONE EDGE LINE, CLASS 1, AS PER PLAN (YELLOW)
3. WORK ZONE DOTTED LINE, CLASS 1, AS PER PLAN
4. WORK ZONE CHANNELIZING LINE, CLASS 1, AS PER PLAN
5. WORK ZONE LANE LINE, CLASS 1, AS PER PLAN

HORIZONTAL SCALE IN FEET
0 25 50 100

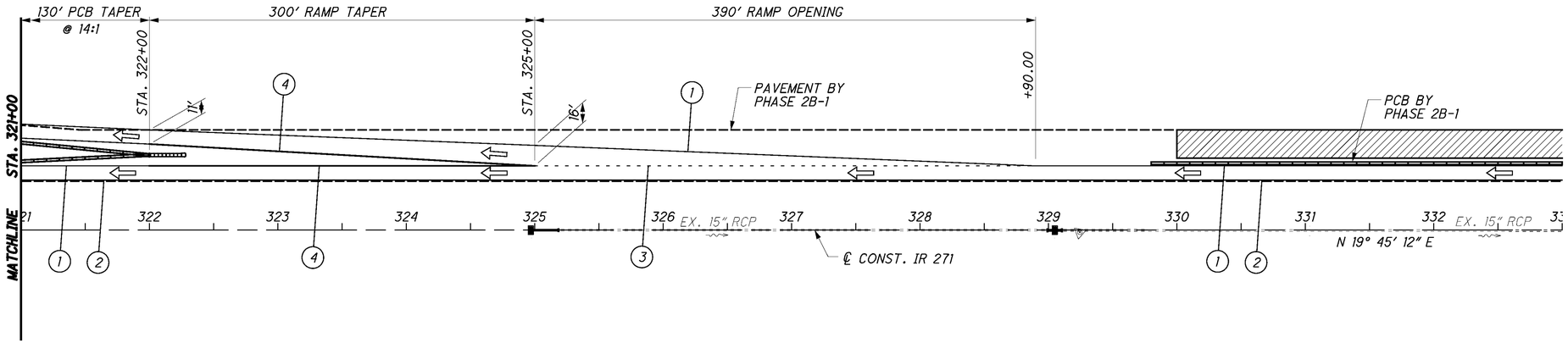
CALCULATED DAW
CHECKED PRS

MAINTENANCE OF TRAFFIC - PHASE 2B-2
PLAN - SR 303 RAMPS F & G

SUM-271-2.33

147
1195

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LEGEND

PHASE 2B-2 CONSTRUCTION

TRAFFIC DIRECTION

WORK ZONE MARKING LEGEND

1. WORK ZONE EDGE LINE, CLASS 1, AS PER PLAN (WHITE)
2. WORK ZONE EDGE LINE, CLASS 1, AS PER PLAN (YELLOW)
3. WORK ZONE DOTTED LINE, CLASS 1, AS PER PLAN
4. WORK ZONE CHANNELIZING LINE, CLASS 1, AS PER PLAN
5. WORK ZONE LANE LINE, CLASS 1, AS PER PLAN

CROSS REFERENCES	
70	MOT TYPICAL SECTIONS
328-539	CROSS SECTIONS IR 271

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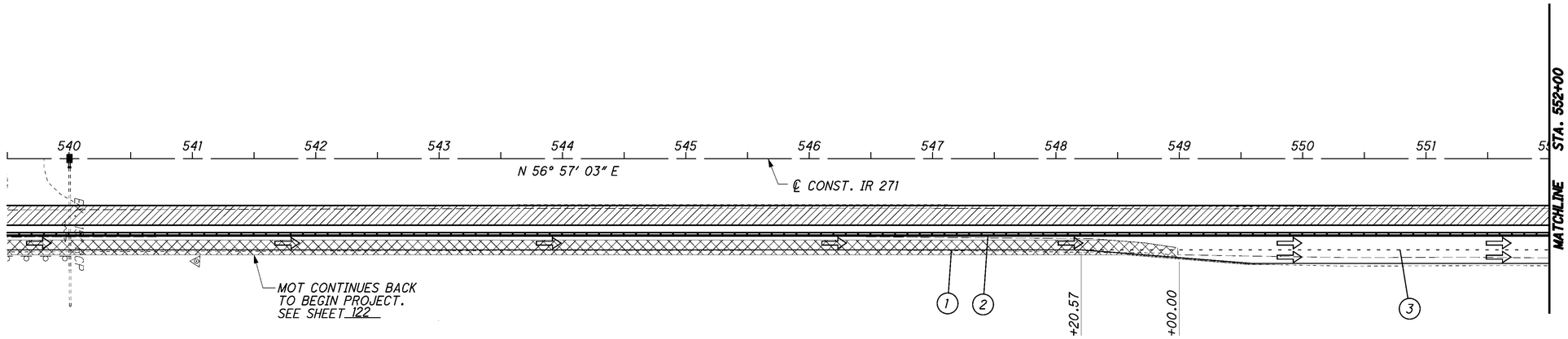
HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED DAW
CHECKED PRS

MAINTENANCE OF TRAFFIC - PHASE 2B-2
PLAN - SR 303 RAMPS F & G

SUM-271-2.33

148
1195



CROSS REFERENCES	
52&79	MOT TYPICAL SECTIONS
328-539	CROSS SECTIONS IR 271
553-556	CROSS SECTIONS RAMP B

LEGEND

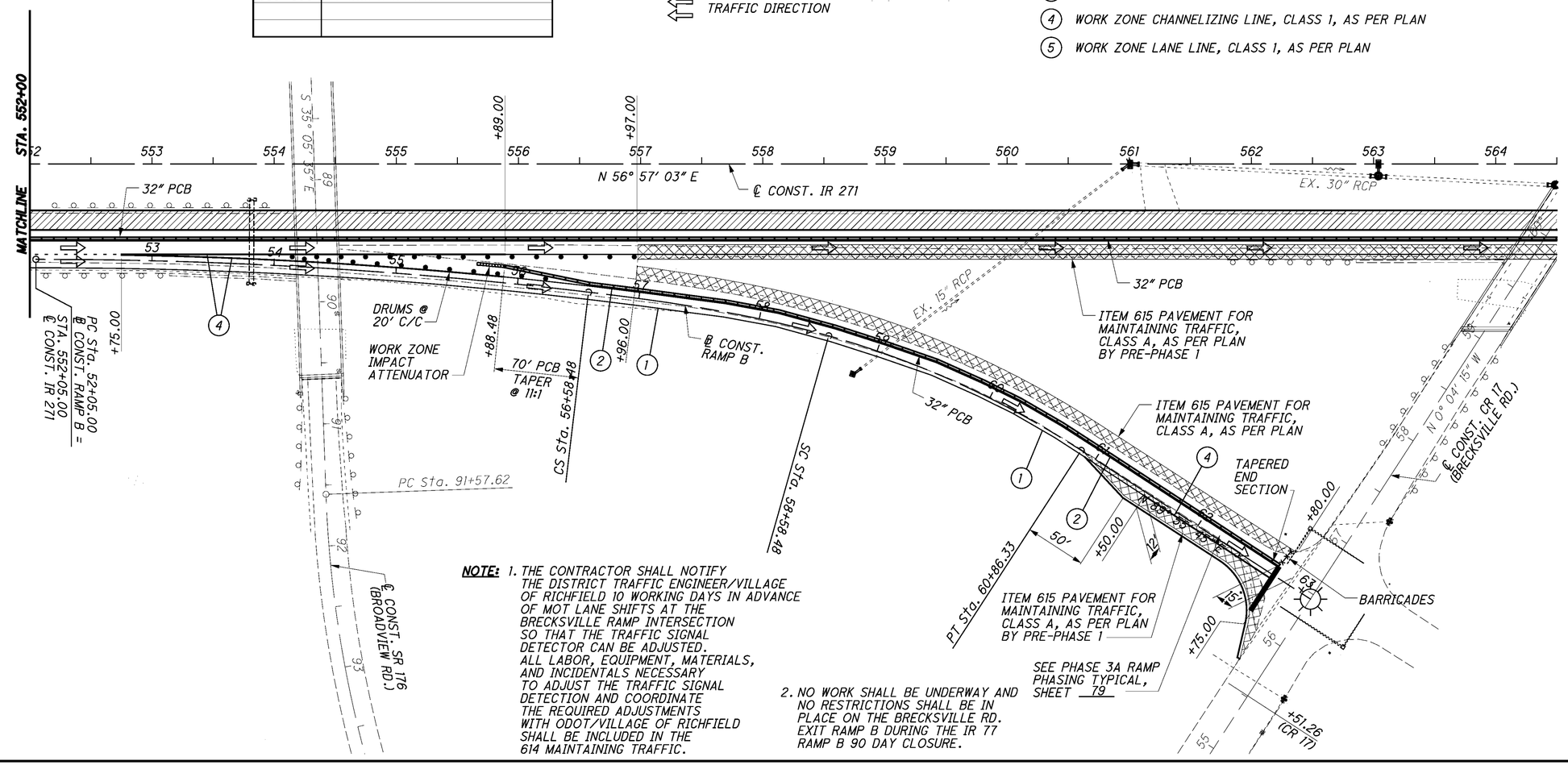
ITEM 615 PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A, AS PER PLAN

PHASE 3A CONSTRUCTION

TRAFFIC DIRECTION

WORK ZONE MARKING LEGEND

1. WORK ZONE EDGE LINE, CLASS 1, AS PER PLAN (WHITE)
2. WORK ZONE EDGE LINE, CLASS 1, AS PER PLAN (YELLOW)
3. WORK ZONE DOTTED LINE, CLASS 1, AS PER PLAN
4. WORK ZONE CHANNELIZING LINE, CLASS 1, AS PER PLAN
5. WORK ZONE LANE LINE, CLASS 1, AS PER PLAN



SEE PHASE 3A RAMP PHASING TYPICAL, SHEET 79

NOTE: 1. THE CONTRACTOR SHALL NOTIFY THE DISTRICT TRAFFIC ENGINEER/VILLAGE OF RICHFIELD 10 WORKING DAYS IN ADVANCE OF MOT LANE SHIFTS AT THE BRECKSVILLE RAMP INTERSECTION SO THAT THE TRAFFIC SIGNAL DETECTOR CAN BE ADJUSTED. ALL LABOR, EQUIPMENT, MATERIALS, AND INCIDENTALS NECESSARY TO ADJUST THE TRAFFIC SIGNAL DETECTION AND COORDINATE THE REQUIRED ADJUSTMENTS WITH ODOT/VILLAGE OF RICHFIELD SHALL BE INCLUDED IN THE 614 MAINTAINING TRAFFIC.

2. NO WORK SHALL BE UNDERWAY AND NO RESTRICTIONS SHALL BE IN PLACE ON THE BRECKSVILLE RD. EXIT RAMP B DURING THE IR 77 RAMP B 90 DAY CLOSURE.

HORIZONTAL SCALE IN FEET
0 25 50 100

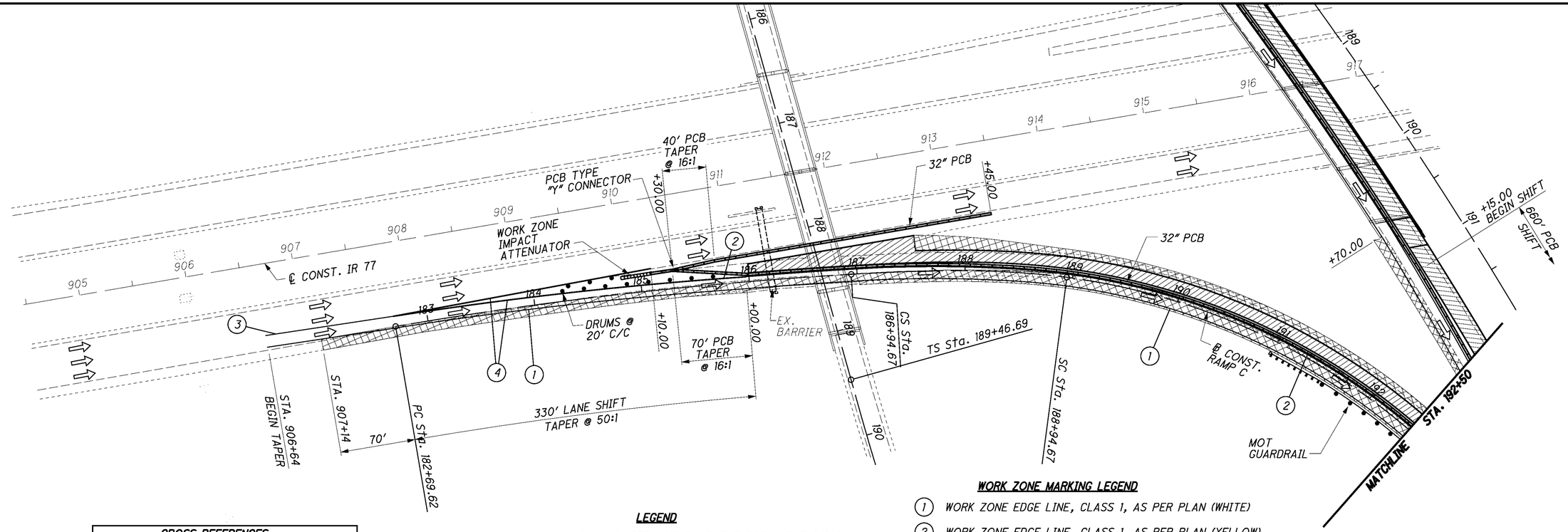
CALCULATED DAW
CHECKED PRS

MAINTENANCE OF TRAFFIC - PHASE 3A
PLAN - CR 17 (BRECKSVILLE RD.) RAMP B

SUM-271-2.33

149
1195

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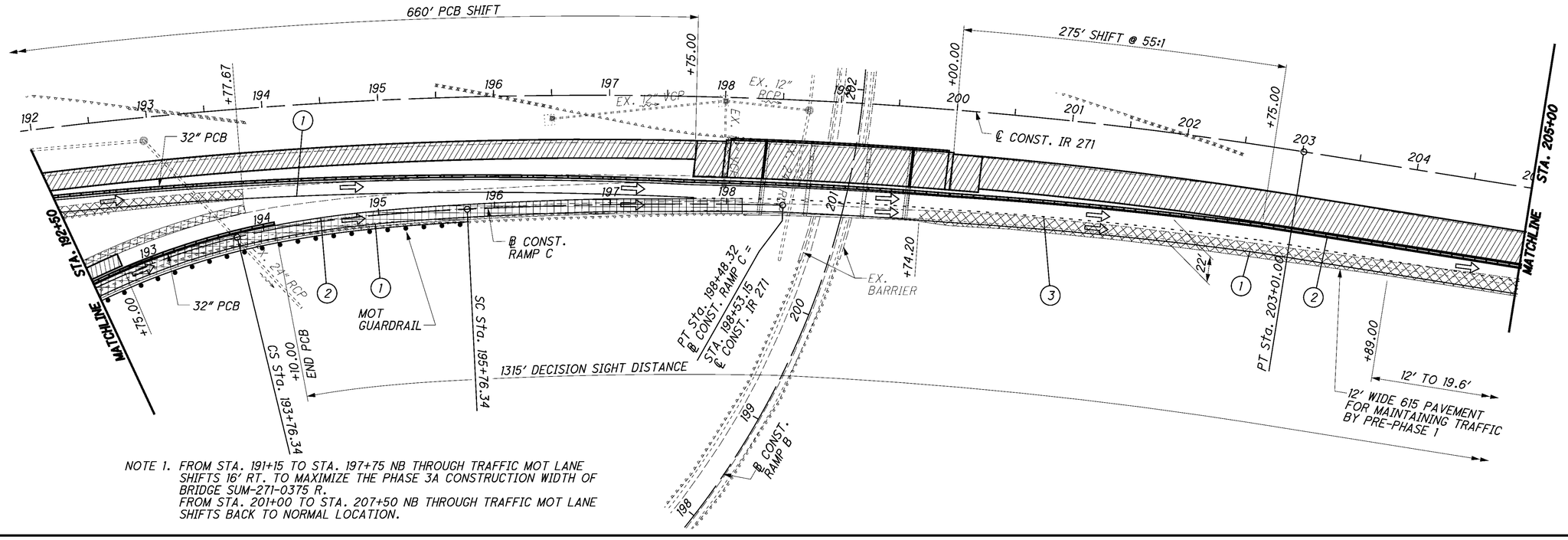
CROSS REFERENCES	
52, 57 & 79	MOT TYPICAL SECTIONS
328-539	CROSS SECTIONS IR 271
619-623	CROSS SECTIONS RAMP C

LEGEND

- ITEM 615 PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A, AS PER PLAN
- PHASE 3A CONSTRUCTION
- TRAFFIC DIRECTION

WORK ZONE MARKING LEGEND

1. WORK ZONE EDGE LINE, CLASS 1, AS PER PLAN (WHITE)
2. WORK ZONE EDGE LINE, CLASS 1, AS PER PLAN (YELLOW)
3. WORK ZONE DOTTED LINE, CLASS 1, AS PER PLAN
4. WORK ZONE CHANNELIZING LINE, CLASS 1, AS PER PLAN
5. WORK ZONE LANE LINE, CLASS 1, AS PER PLAN



NOTE 1. FROM STA. 191+15 TO STA. 197+75 NB THROUGH TRAFFIC MOT LANE SHIFTS 16' RT. TO MAXIMIZE THE PHASE 3A CONSTRUCTION WIDTH OF BRIDGE SUM-271-0375 R.
FROM STA. 201+00 TO STA. 207+50 NB THROUGH TRAFFIC MOT LANE SHIFTS BACK TO NORMAL LOCATION.

HORIZONTAL SCALE IN FEET: 0, 25, 50, 100

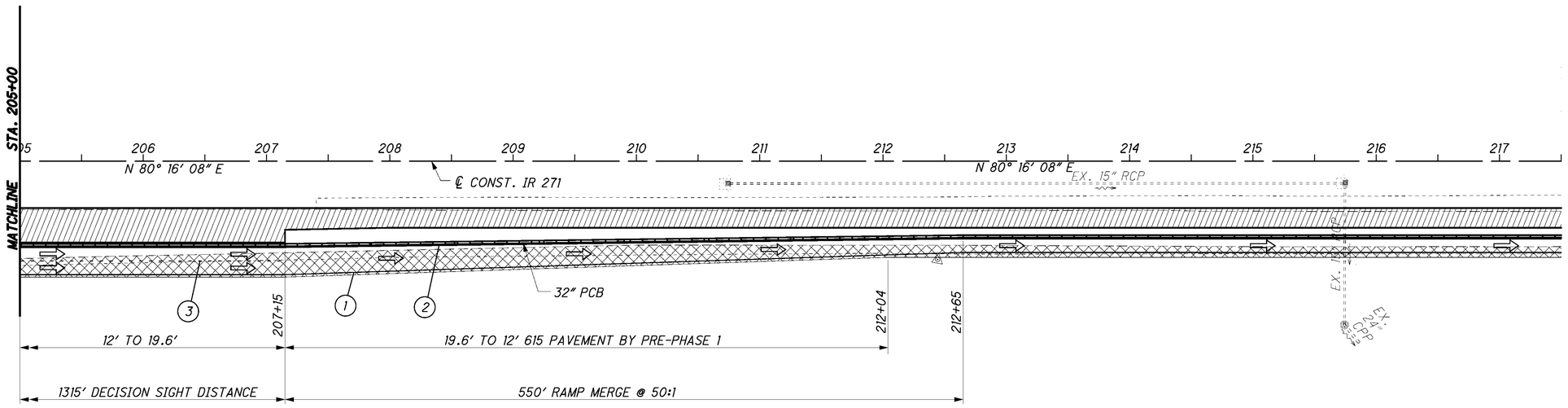
CALCULATED DAW
CHECKED PRS

MAINTENANCE OF TRAFFIC - PHASE 3A
PLAN - I-77 RAMP C

SUM-271-2.33

150
1195

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CROSS REFERENCES	
52	MOT TYPICAL SECTIONS
328-539	CROSS SECTIONS IR 271

LEGEND

ITEM 615 PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A, AS PER PLAN

PHASE 3A CONSTRUCTION

TRAFFIC DIRECTION

WORK ZONE MARKING LEGEND

1. WORK ZONE EDGE LINE, CLASS 1, AS PER PLAN (WHITE)
2. WORK ZONE EDGE LINE, CLASS 1, AS PER PLAN (YELLOW)
3. WORK ZONE DOTTED LINE, CLASS 1, AS PER PLAN
4. WORK ZONE CHANNELIZING LINE, CLASS 1, AS PER PLAN
5. WORK ZONE LANE LINE, CLASS 1, AS PER PLAN

HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED DAW
CHECKED PRS

MAINTENANCE OF TRAFFIC - PHASE 3A
PLAN - I-77 RAMP C

SUM-271-2.33

151
1195

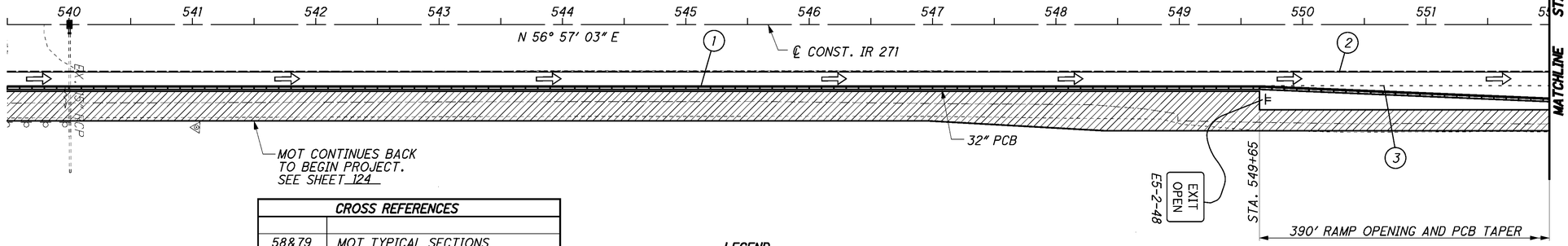
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* CR 17 (BRECKSVILLE ROAD) PHASE 1 CONSTRUCTION MAY NOT OCCUR SIMULTANEOUS WITH RAMP CONSTRUCTION.

A MINIMUM OF THE LAST 100 FEET OF RAMP B SHALL BE COMPLETED BEFORE/AFTER THE BRECKSVILLE RD. BRIDGE CONSTRUCTION AND SHALL NOT OCCUR SIMULTANEOUSLY. RAMP TO REMAIN OPEN. PART WIDTH CONSTRUCTION SHALL BE PERFORMED DURING RAMP INTERSECTION WORK BY FLAGGERS.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING PART WIDTH PHASED CONSTRUCTION AT THE INTERSECTION.

ALL ADDITIONAL LABOR, EQUIPMENT, MATERIAL AND INCIDENTALS NECESSARY FOR COORDINATING TEMPORARY TRAFFIC CONTROL AND PAVEMENT CONSTRUCTION REQUIRED TO MAKE THE TRANSITION FROM PROPOSED/EXISTING PAVEMENT TO THE 100 FOOT INTERSECTION APPROACH PAVEMENT SHALL BE INCLUDED IN THE LUMP SUM COST FOR ITEM 614 - MAINTAINING TRAFFIC.



CROSS REFERENCES	
58&79	MOT TYPICAL SECTIONS
328-539	CROSS SECTIONS IR 271
553-556	CROSS SECTIONS RAMP B

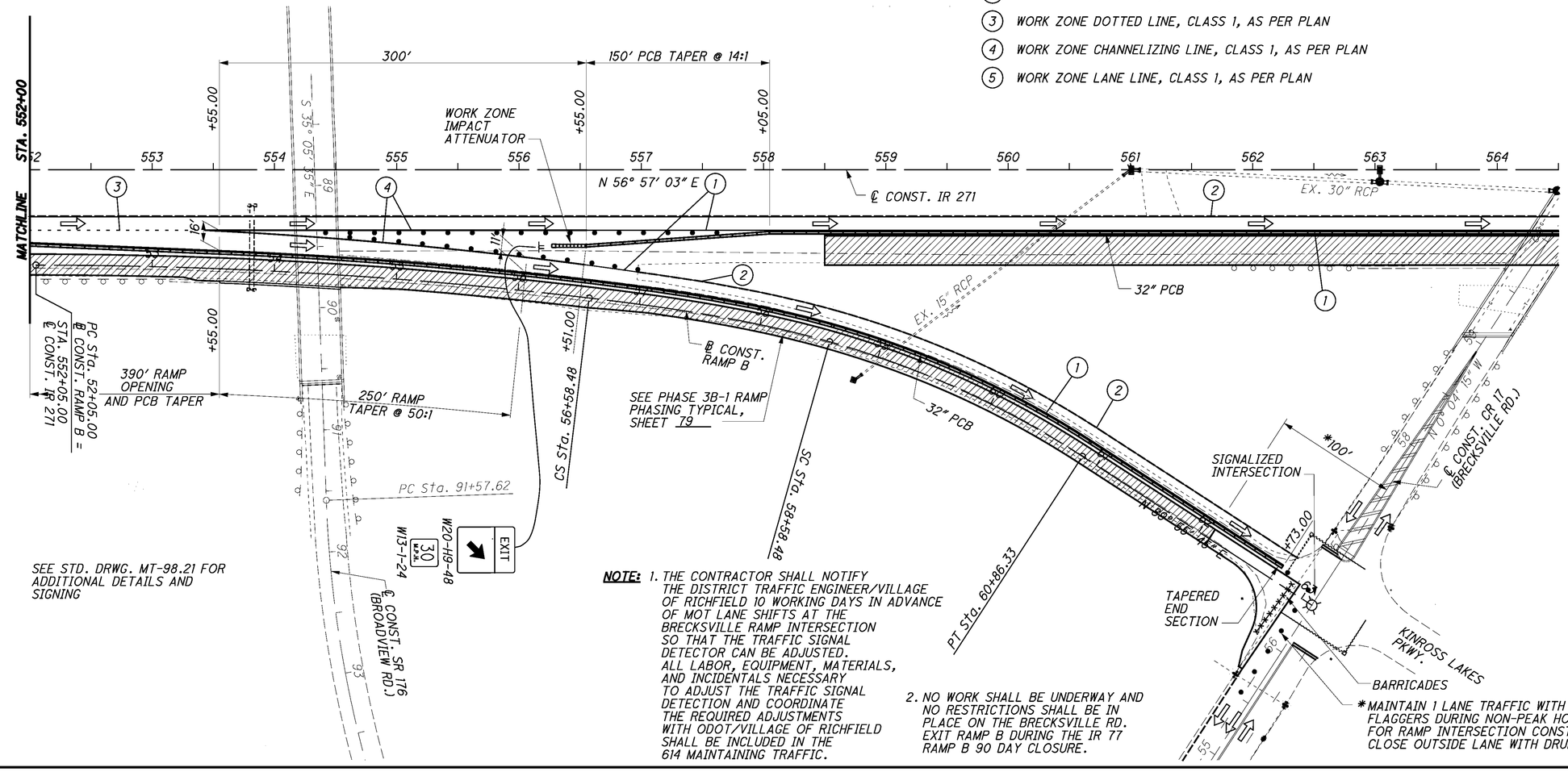
LEGEND

PHASE 3B-1 CONSTRUCTION

TRAFFIC DIRECTION

WORK ZONE MARKING LEGEND

1. WORK ZONE EDGE LINE, CLASS 1, AS PER PLAN (WHITE)
2. WORK ZONE EDGE LINE, CLASS 1, AS PER PLAN (YELLOW)
3. WORK ZONE DOTTED LINE, CLASS 1, AS PER PLAN
4. WORK ZONE CHANNELIZING LINE, CLASS 1, AS PER PLAN
5. WORK ZONE LANE LINE, CLASS 1, AS PER PLAN



NOTE: 1. THE CONTRACTOR SHALL NOTIFY THE DISTRICT TRAFFIC ENGINEER/VILLAGE OF RICHFIELD 10 WORKING DAYS IN ADVANCE OF MOT LANE SHIFTS AT THE BRECKSVILLE RAMP INTERSECTION SO THAT THE TRAFFIC SIGNAL DETECTOR CAN BE ADJUSTED. ALL LABOR, EQUIPMENT, MATERIALS, AND INCIDENTALS NECESSARY TO ADJUST THE TRAFFIC SIGNAL DETECTION AND COORDINATE THE REQUIRED ADJUSTMENTS WITH ODOT/VILLAGE OF RICHFIELD SHALL BE INCLUDED IN THE 614 MAINTAINING TRAFFIC.

2. NO WORK SHALL BE UNDERWAY AND NO RESTRICTIONS SHALL BE IN PLACE ON THE BRECKSVILLE RD. EXIT RAMP B DURING THE IR 77 RAMP B 90 DAY CLOSURE.

* MAINTAIN 1 LANE TRAFFIC WITH FLAGGERS DURING NON-PEAK HOURS FOR RAMP INTERSECTION CONSTRUCTION CLOSE OUTSIDE LANE WITH DRUMS @ 20' C/C

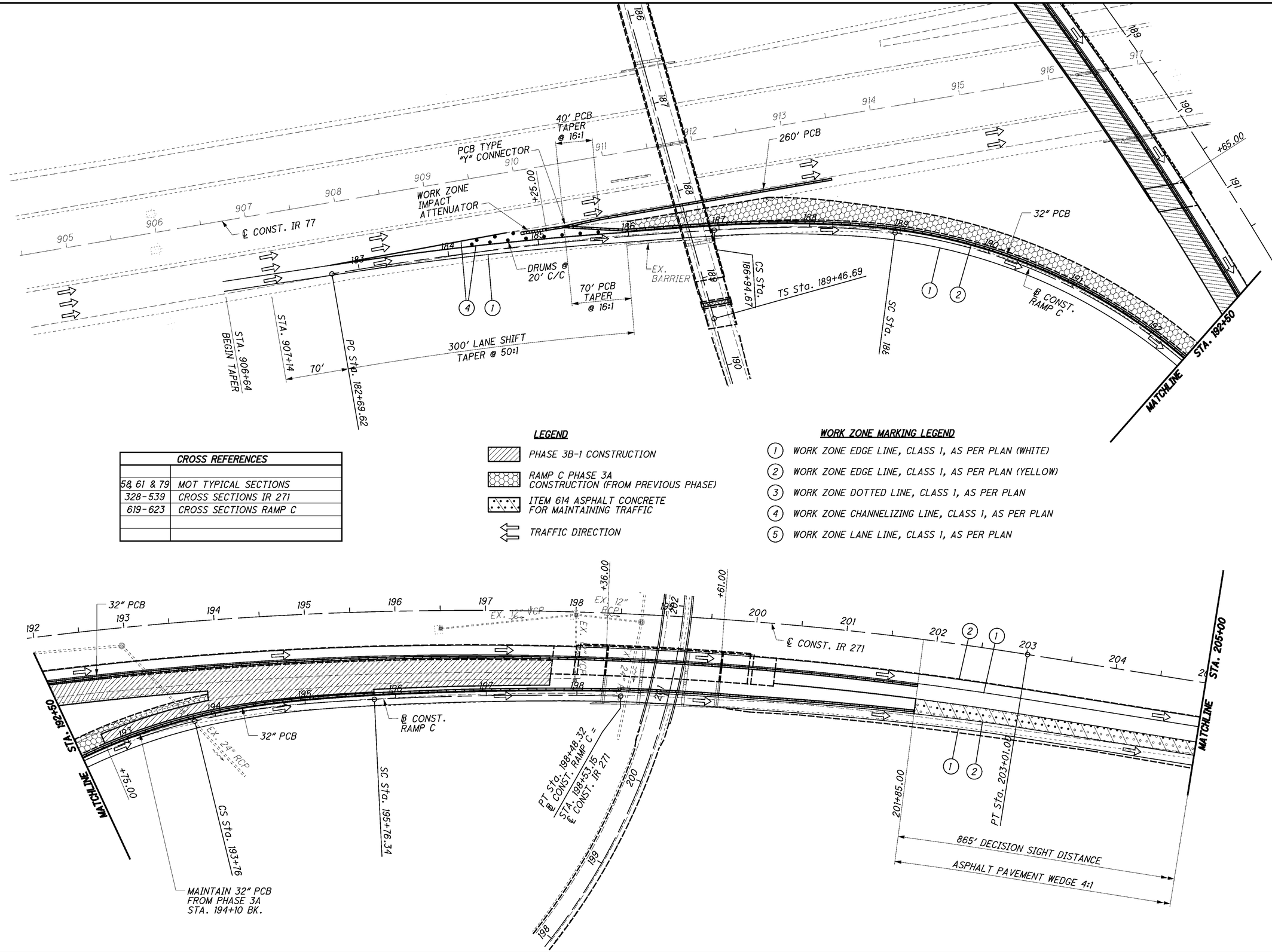
HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED DAW
CHECKED PRS

MAINTENANCE OF TRAFFIC - PHASE 3B-1
PLAN - CR 17 (BRECKSVILLE RD.) RAMP B

SUM-271-2.33

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CROSS REFERENCES	
58, 61 & 79	MOT TYPICAL SECTIONS
328-539	CROSS SECTIONS IR 271
619-623	CROSS SECTIONS RAMP C

LEGEND

- PHASE 3B-1 CONSTRUCTION
- RAMP C PHASE 3A CONSTRUCTION (FROM PREVIOUS PHASE)
- ITEM 614 ASPHALT CONCRETE FOR MAINTAINING TRAFFIC
- TRAFFIC DIRECTION

WORK ZONE MARKING LEGEND

1. WORK ZONE EDGE LINE, CLASS 1, AS PER PLAN (WHITE)
2. WORK ZONE EDGE LINE, CLASS 1, AS PER PLAN (YELLOW)
3. WORK ZONE DOTTED LINE, CLASS 1, AS PER PLAN
4. WORK ZONE CHANNELIZING LINE, CLASS 1, AS PER PLAN
5. WORK ZONE LANE LINE, CLASS 1, AS PER PLAN

HORIZONTAL SCALE IN FEET
0 25 50 100

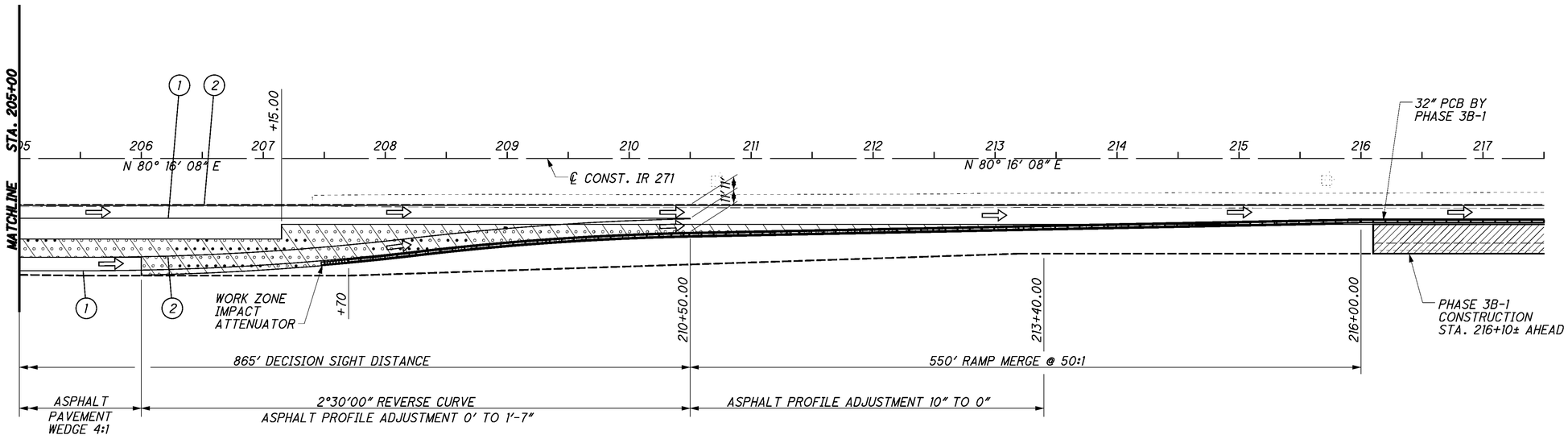
CALCULATED DAW
CHECKED PRS

MAINTENANCE OF TRAFFIC - PHASE 3B-1
PLAN - I-77 RAMP C

SUM-271-2.33

153
1195

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CROSS REFERENCES	
58	MOT TYPICAL SECTIONS
328-539	CROSS SECTIONS IR 271

LEGEND

PHASE 3B-1 CONSTRUCTION

ITEM 614 ASPHALT CONCRETE FOR MAINTAINING TRAFFIC

TRAFFIC DIRECTION

WORK ZONE MARKING LEGEND

1. WORK ZONE EDGE LINE, CLASS 1, AS PER PLAN (WHITE)
2. WORK ZONE EDGE LINE, CLASS 1, AS PER PLAN (YELLOW)
3. WORK ZONE DOTTED LINE, CLASS 1, AS PER PLAN
4. WORK ZONE CHANNELIZING LINE, CLASS 1, AS PER PLAN
5. WORK ZONE LANE LINE, CLASS 1, AS PER PLAN

HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED DAW
CHECKED PRS

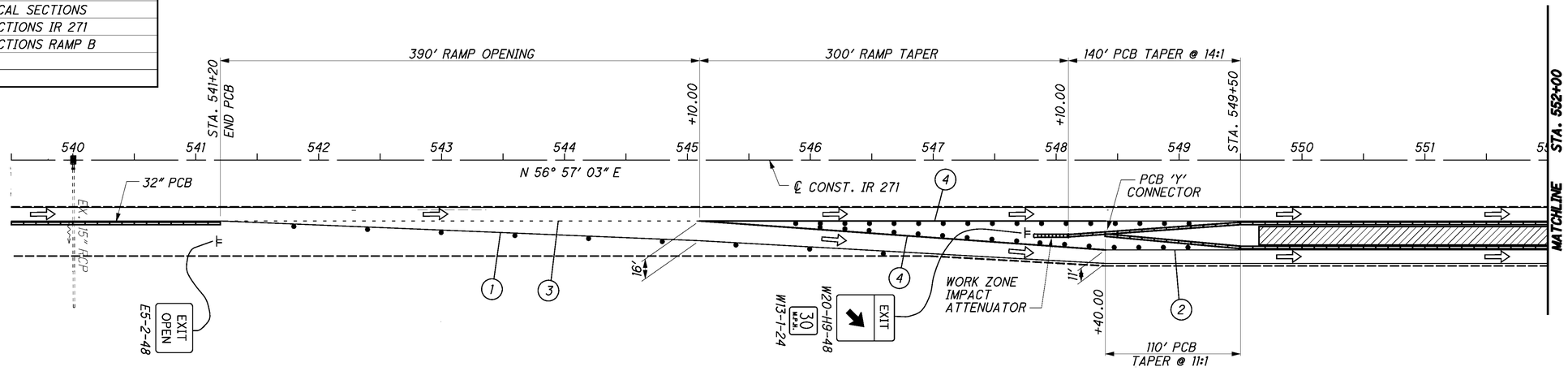
MAINTENANCE OF TRAFFIC - PHASE 3B-1
PLAN - I-77 RAMP C

SUM-271-2.33

154
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CROSS REFERENCES	
58&79	MOT TYPICAL SECTIONS
328-539	CROSS SECTIONS IR 271
553-556	CROSS SECTIONS RAMP B



LEGEND

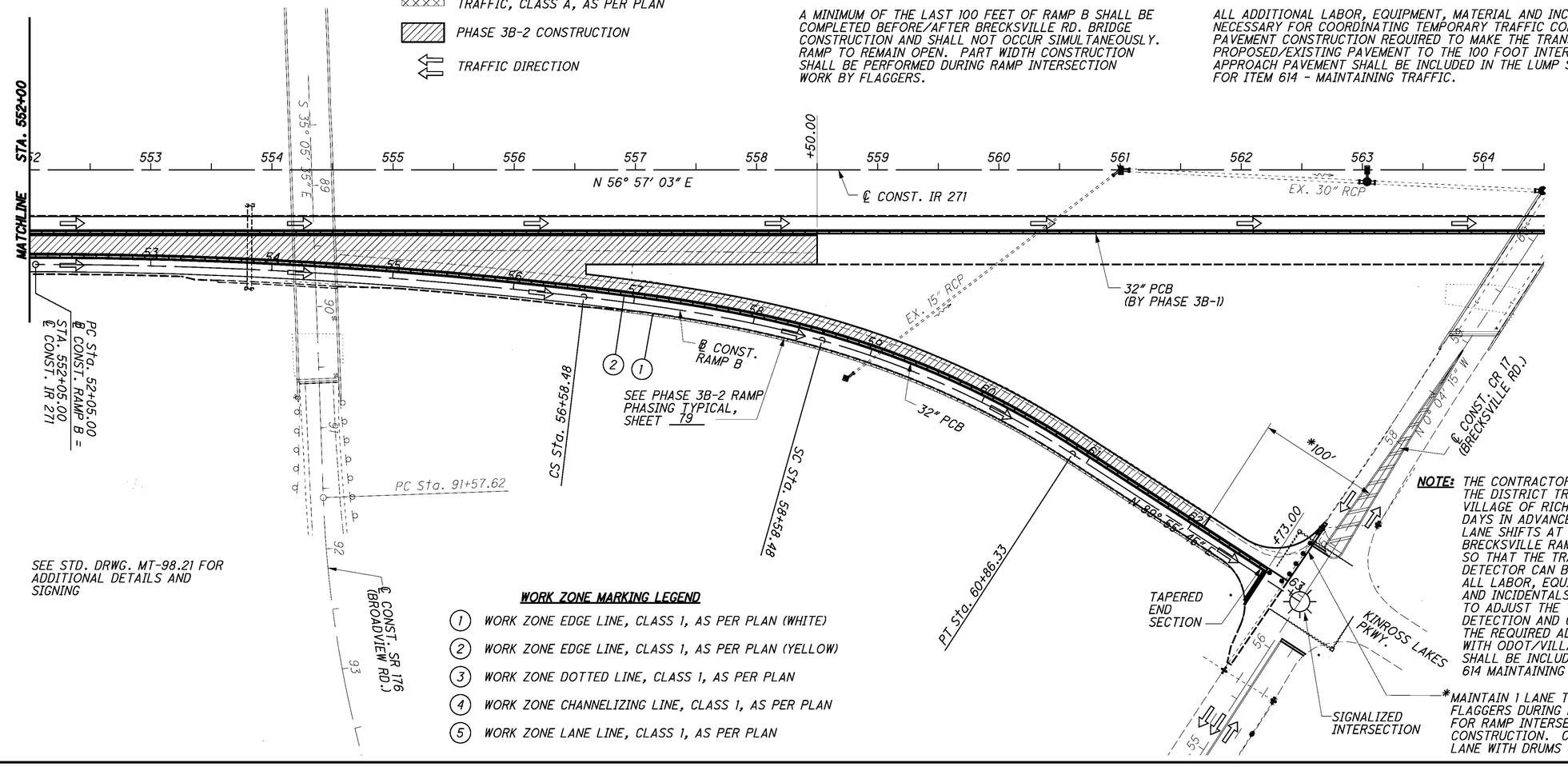
- ITEM 615 PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A, AS PER PLAN
- PHASE 3B-2 CONSTRUCTION
- TRAFFIC DIRECTION

* CR 17 (BRECKSVILLE ROAD) PHASE 1 CONSTRUCTION MAY NOT OCCUR SIMULTANEOUS WITH RAMP CONSTRUCTION.

A MINIMUM OF THE LAST 100 FEET OF RAMP B SHALL BE COMPLETED BEFORE/AFTER BRECKSVILLE RD. BRIDGE CONSTRUCTION AND SHALL NOT OCCUR SIMULTANEOUSLY. RAMP TO REMAIN OPEN. PART WIDTH CONSTRUCTION SHALL BE PERFORMED DURING RAMP INTERSECTION WORK BY FLAGGERS.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING PART WIDTH PHASED CONSTRUCTION AT THE INTERSECTION.

ALL ADDITIONAL LABOR, EQUIPMENT, MATERIAL AND INCIDENTALS NECESSARY FOR COORDINATING TEMPORARY TRAFFIC CONTROL AND PAVEMENT CONSTRUCTION REQUIRED TO MAKE THE TRANSITION FROM PROPOSED/EXISTING PAVEMENT TO THE 100 FOOT INTERSECTION APPROACH PAVEMENT SHALL BE INCLUDED IN THE LUMP SUM COST FOR ITEM 614 - MAINTAINING TRAFFIC.



SEE STD. DRWG. MT-98.21 FOR ADDITIONAL DETAILS AND SIGNING

WORK ZONE MARKING LEGEND

1. WORK ZONE EDGE LINE, CLASS 1, AS PER PLAN (WHITE)
2. WORK ZONE EDGE LINE, CLASS 1, AS PER PLAN (YELLOW)
3. WORK ZONE DOTTED LINE, CLASS 1, AS PER PLAN
4. WORK ZONE CHANNELIZING LINE, CLASS 1, AS PER PLAN
5. WORK ZONE LANE LINE, CLASS 1, AS PER PLAN

NOTE: THE CONTRACTOR SHALL NOTIFY THE DISTRICT TRAFFIC ENGINEER/ VILLAGE OF RICHFIELD 10 WORKING DAYS IN ADVANCE OF MOT LANE SHIFTS AT THE BRECKSVILLE RAMP INTERSECTION SO THAT THE TRAFFIC SIGNAL DETECTOR CAN BE ADJUSTED. ALL LABOR, EQUIPMENT, MATERIALS, AND INCIDENTALS NECESSARY TO ADJUST THE TRAFFIC SIGNAL DETECTION AND COORDINATE THE REQUIRED ADJUSTMENTS WITH ODOT/VILLAGE OF RICHFIELD SHALL BE INCLUDED IN THE 614 MAINTAINING TRAFFIC.

* MAINTAIN 1 LANE TRAFFIC WITH FLAGGERS DURING NON-PEAK HOURS FOR RAMP INTERSECTION CONSTRUCTION. CLOSE OUTSIDE LANE WITH DRUMS @ 20' C/C.

HORIZONTAL SCALE IN FEET
0 25 50 100

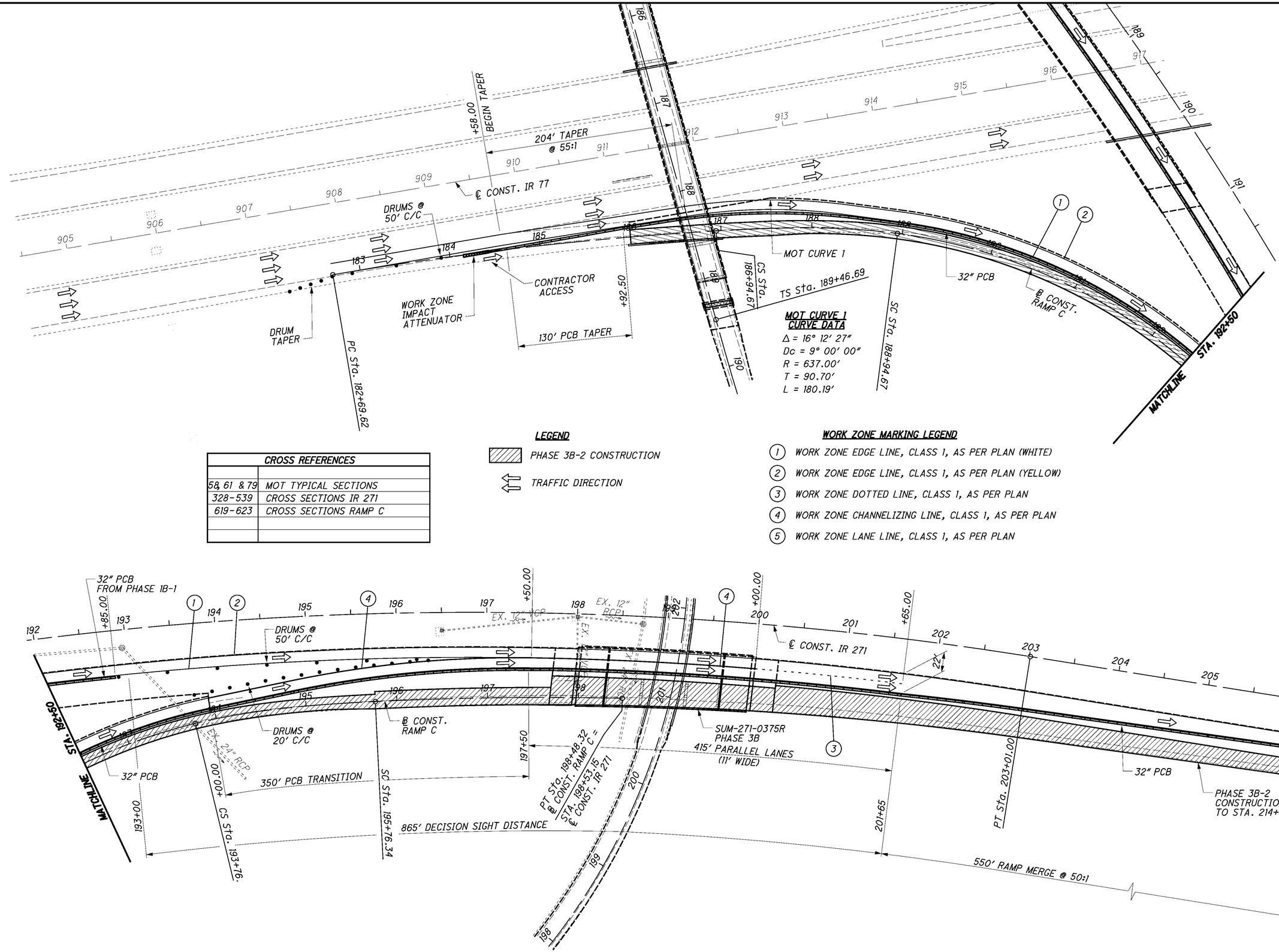
CALCULATED DAW
CHECKED PRS

MAINTENANCE OF TRAFFIC - PHASE 3B-2
PLAN - CR 17 (BRECKSVILLE RD.) RAMP B

SUM-271-2.33

155
1195

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CROSS REFERENCES	
58, 61 & 79	MOT TYPICAL SECTIONS
328-539	CROSS SECTIONS IR 271
619-623	CROSS SECTIONS RAMP C

HORIZONTAL SCALE IN FEET
0 25 50 100

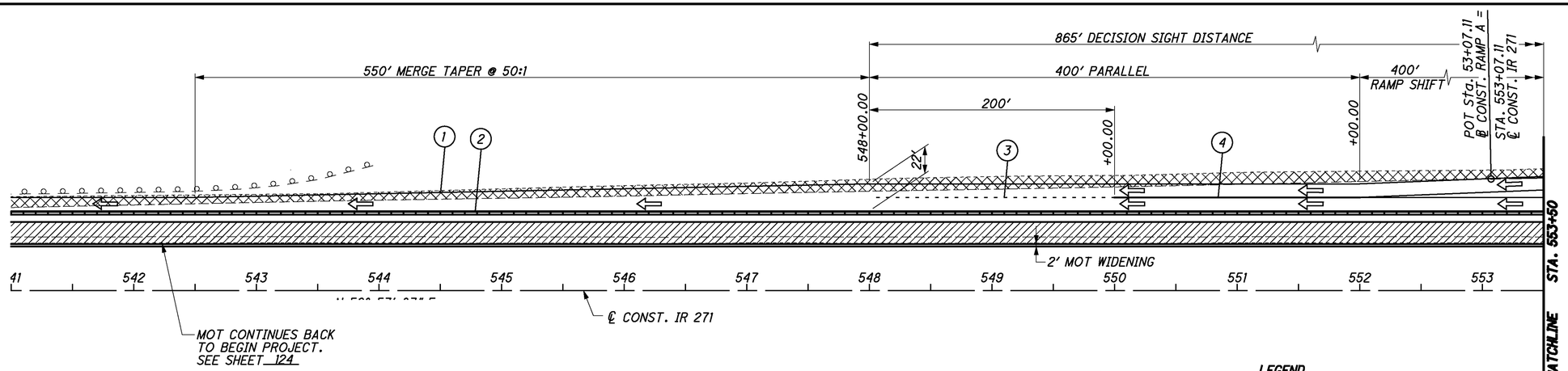
CALCULATED DAW
CHECKED PRS

MAINTENANCE OF TRAFFIC - PHASE 3B-2
PLAN - I-77 RAMP C

SUM-271-2.33

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1195

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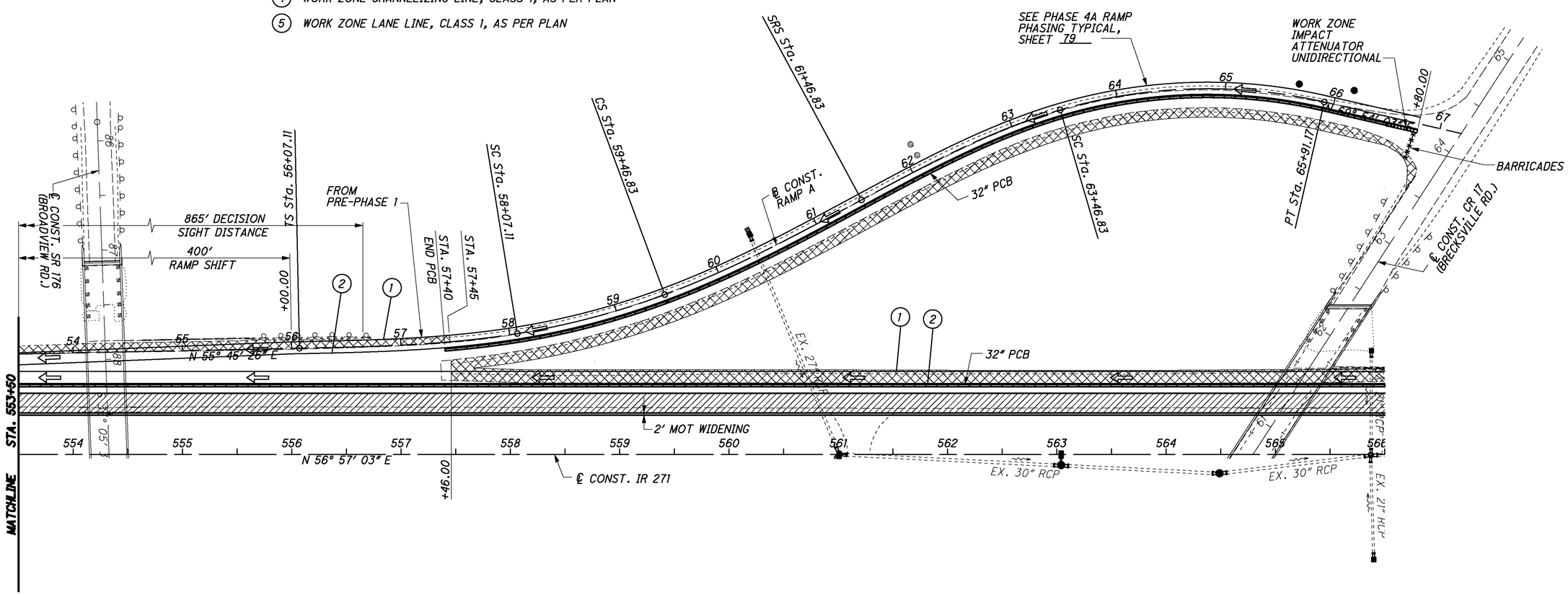
CROSS REFERENCES	
62&79	MOT TYPICAL SECTIONS
328-539	CROSS SECTIONS IR 271
542-550	CROSS SECTIONS RAMP A

LEGEND

- ITEM 615 PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A, AS PER PLAN
- PHASE 4A CONSTRUCTION
- TRAFFIC DIRECTION

WORK ZONE MARKING LEGEND

1. WORK ZONE EDGE LINE, CLASS 1, AS PER PLAN (WHITE)
2. WORK ZONE EDGE LINE, CLASS 1, AS PER PLAN (YELLOW)
3. WORK ZONE LANE LINE, CLASS 1, AS PER PLAN
4. WORK ZONE CHANNELIZING LINE, CLASS 1, AS PER PLAN
5. WORK ZONE LANE LINE, CLASS 1, AS PER PLAN



MAINTENANCE OF TRAFFIC - PHASE 4A
PLAN - CR 17 (BRECKSVILLE RD.) RAMP A

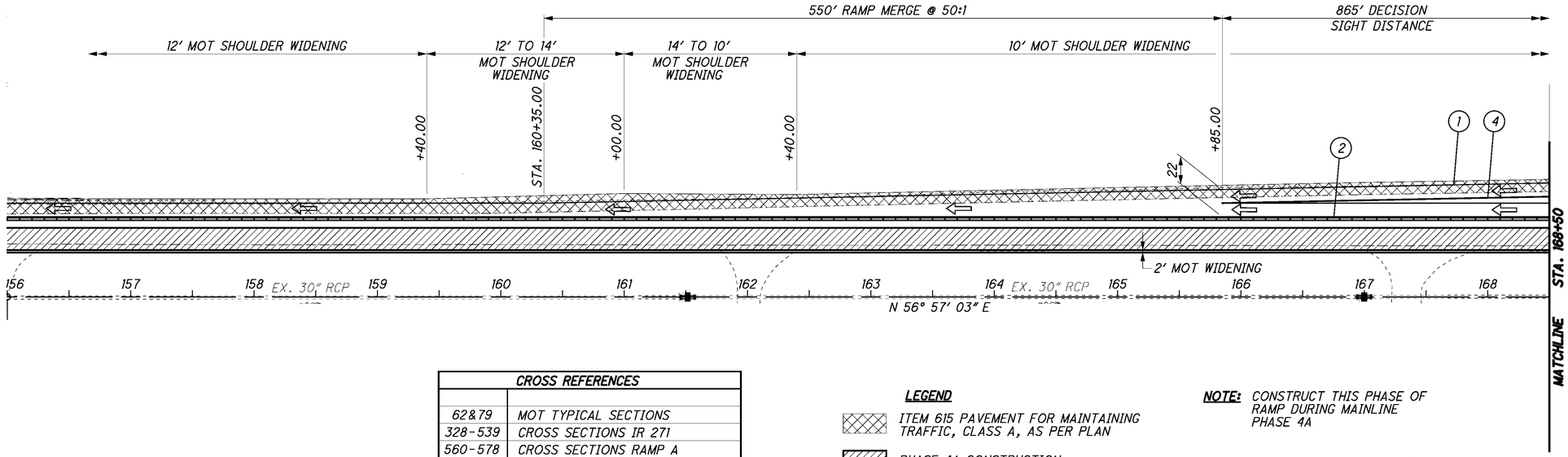
HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED DAW
CHECKED PRS

SUM-271-2.33

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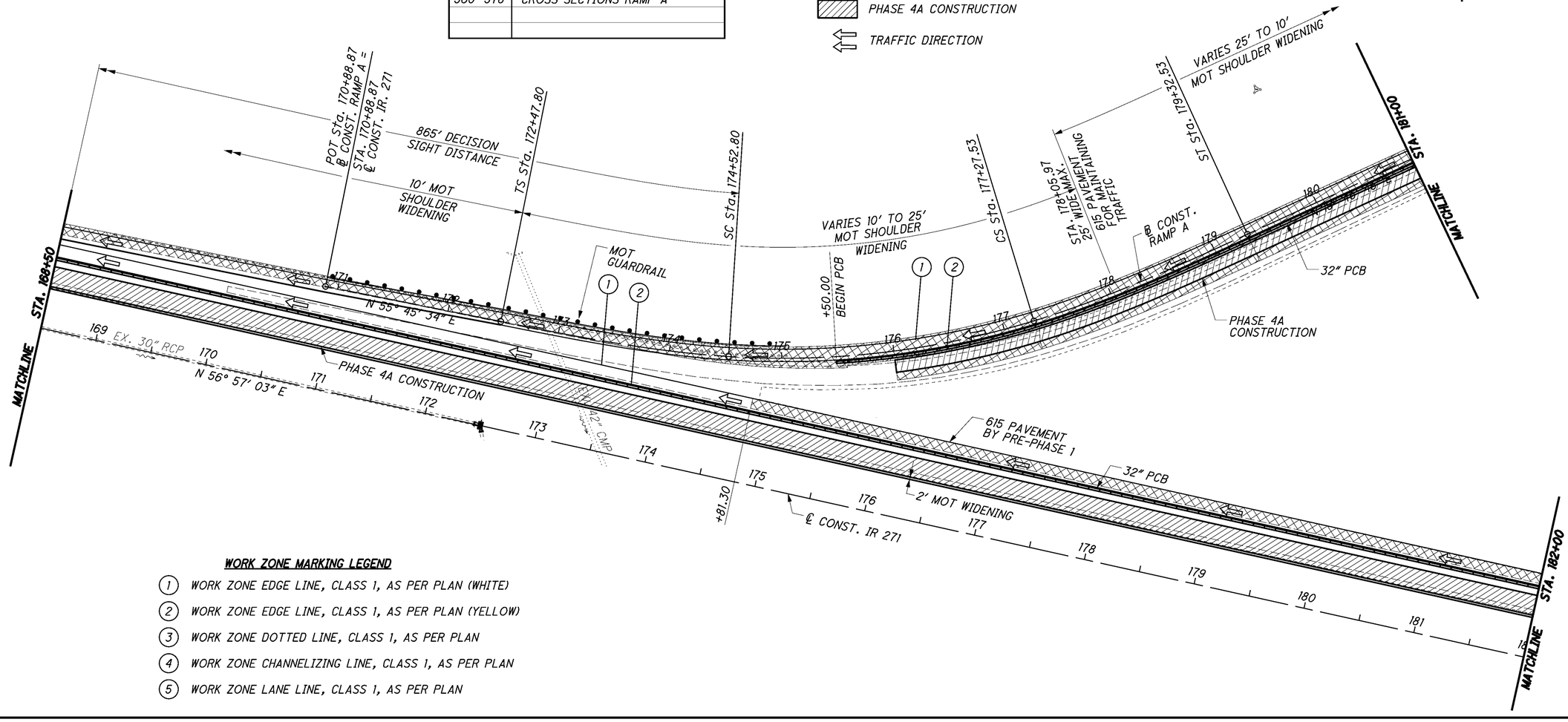


CROSS REFERENCES	
62&79	MOT TYPICAL SECTIONS
328-539	CROSS SECTIONS IR 271
560-578	CROSS SECTIONS RAMP A

LEGEND

- ITEM 615 PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A, AS PER PLAN
- PHASE 4A CONSTRUCTION
- TRAFFIC DIRECTION

NOTE: CONSTRUCT THIS PHASE OF RAMP DURING MAINLINE PHASE 4A



WORK ZONE MARKING LEGEND

1. WORK ZONE EDGE LINE, CLASS 1, AS PER PLAN (WHITE)
2. WORK ZONE EDGE LINE, CLASS 1, AS PER PLAN (YELLOW)
3. WORK ZONE DOTTED LINE, CLASS 1, AS PER PLAN
4. WORK ZONE CHANNELIZING LINE, CLASS 1, AS PER PLAN
5. WORK ZONE LANE LINE, CLASS 1, AS PER PLAN

HORIZONTAL SCALE IN FEET
0 25 50 100

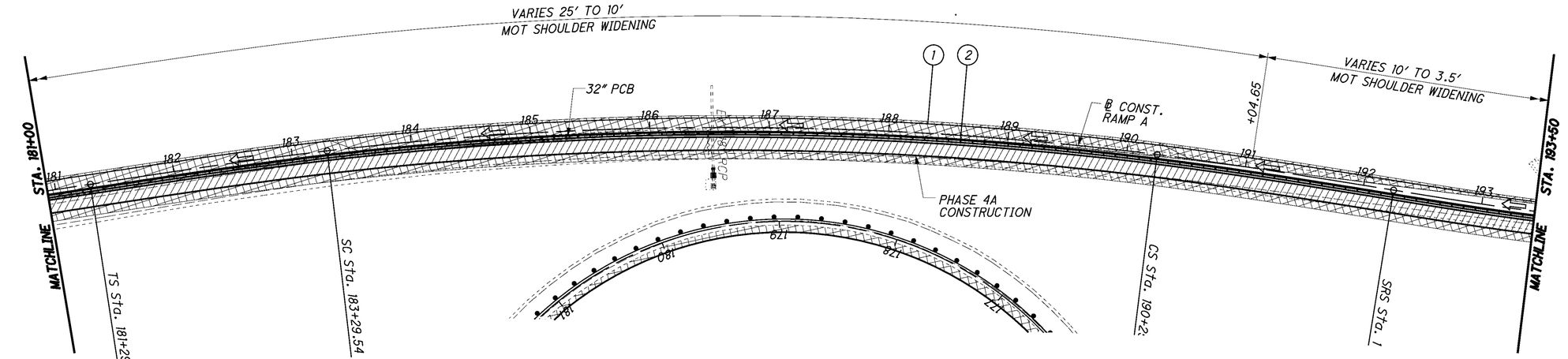
CALCULATED DAW
CHECKED PRS

MAINTENANCE OF TRAFFIC - PHASE 4A PLAN - I-77 RAMP A

SUM-271-2.33

158
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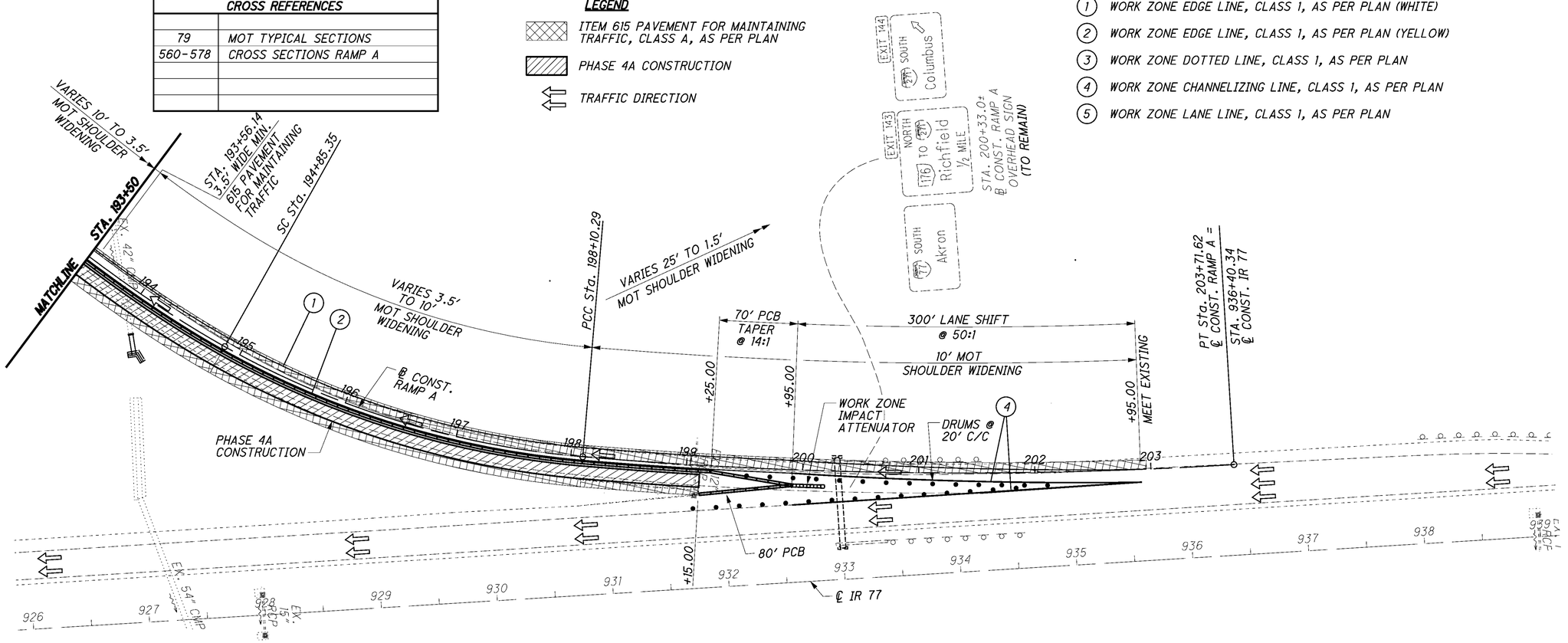
CROSS REFERENCES	
79	MOT TYPICAL SECTIONS
560-578	CROSS SECTIONS RAMP A

LEGEND

- ITEM 615 PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A, AS PER PLAN
- PHASE 4A CONSTRUCTION
- TRAFFIC DIRECTION

WORK ZONE MARKING LEGEND

1. WORK ZONE EDGE LINE, CLASS 1, AS PER PLAN (WHITE)
2. WORK ZONE EDGE LINE, CLASS 1, AS PER PLAN (YELLOW)
3. WORK ZONE DOTTED LINE, CLASS 1, AS PER PLAN
4. WORK ZONE CHANNELIZING LINE, CLASS 1, AS PER PLAN
5. WORK ZONE LANE LINE, CLASS 1, AS PER PLAN



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CALCULATED DAW
CHECKED PRS

HORIZONTAL SCALE IN FEET
0 25 50 100

MAINTENANCE OF TRAFFIC - PHASE 4A
PLAN - I-77 RAMP A

SUM-271-2.33

CROSS REFERENCES	
62 & 65-67	MOT TYPICAL SECTIONS
328-539	CROSS SECTIONS IR 271
627-637	CROSS SECTIONS RAMP D

LEGEND

- ITEM 615 PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A, AS PER PLAN
- PHASE 4A CONSTRUCTION
- TRAFFIC DIRECTION

WORK ZONE MARKING LEGEND

1. WORK ZONE EDGE LINE, CLASS 1, AS PER PLAN (WHITE)
2. WORK ZONE EDGE LINE, CLASS 1, AS PER PLAN (YELLOW)
3. WORK ZONE DOTTED LINE, CLASS 1, AS PER PLAN
4. WORK ZONE CHANNELIZING LINE, CLASS 1, AS PER PLAN
5. WORK ZONE LANE LINE, CLASS 1, AS PER PLAN

PHASE 4A RAMP CONSTRUCTION DETAIL

DRUMS @ 20' C/C
CONSTRUCT TEMPORARY PAVEMENT
DRUM LOCATION DURING WORKING HOURS
℄ CONST. RAMP D
3'-0"± (EXIST. SHOULDER)
16'-0"± (EX. PAVEMENT)
6'-0"± (EXIST. SHOULDER)
DRUM LOCATION DURING NON-WORKING HOURS
GUARDRAIL FOR MAINTAINING TRAFFIC WHERE REQUIRED (SEE PLAN)
2'-0"
13'-0"
+00.00 9.00' LT.
100' MOT PAVEMENT TAPER
+00.00 5.00' LT.
1'-6" x 3" DEEP PARTIAL DEPTH REPLACEMENT
ITEM 615 - PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A, AS PER PLAN SEE NOTE SHEET 40
ITEM 411 - 6" STABILIZED CRUSHED AGGREGATE
SC Sta. 183+29.54
SC Sta. 172+34.29
24" RCP
SHOULDER CLOSURE ON RAMP D W/PCB
W20-H9-48
W13-1-24
℄ CONST. RAMP A
EX. 18" RCP
℄ CONST. RAMP D
CS Sta. 185+50.82
ST Sta. 187+50.82
ST Sta. 170+34.29 = ℄ CONST. RAMP D
STA. 918+79.79 = ℄ CONST. IR 77
300' RAMP SHIFT @ 50:1
EX. 12" CMP (REMOVE)
+00.00
+34.00
+50.00
+62.00
+88.50
N 4° 50' 48" W
N 64° 19' 38" E
N 56° 57' 03" E
PC Sta. 187+12.06
EX. 15" RCP
EX. 15" RCP (REMOVE)
+36.62
+40.00
LANE WIDTH TRANS. @ 65:1
+91.00
+15.00
PROP 15"
EX. 24" RCP
BRIDGE NO. SUM-271-0354L
SHOULDER CLOSURE ON IR 77 NB W/PCB
+60.00
+00.00
MEET EXIST
POT Sta. 192+14.84 = ℄ CONST. RAMP D
STA. 192+14.95 = ℄ CONST. IR 271
210' OPENING
LANE SHIFT @ 65:1
+43.00
+53.00
EXIT OPEN AHEAD
E5-H2B-48
W13-1-24
32" PCB
LANE SHIFT @ 65:1
11'
10'
℄ CONST. IR 77
℄ CONST. IR 271
(REMOVE)

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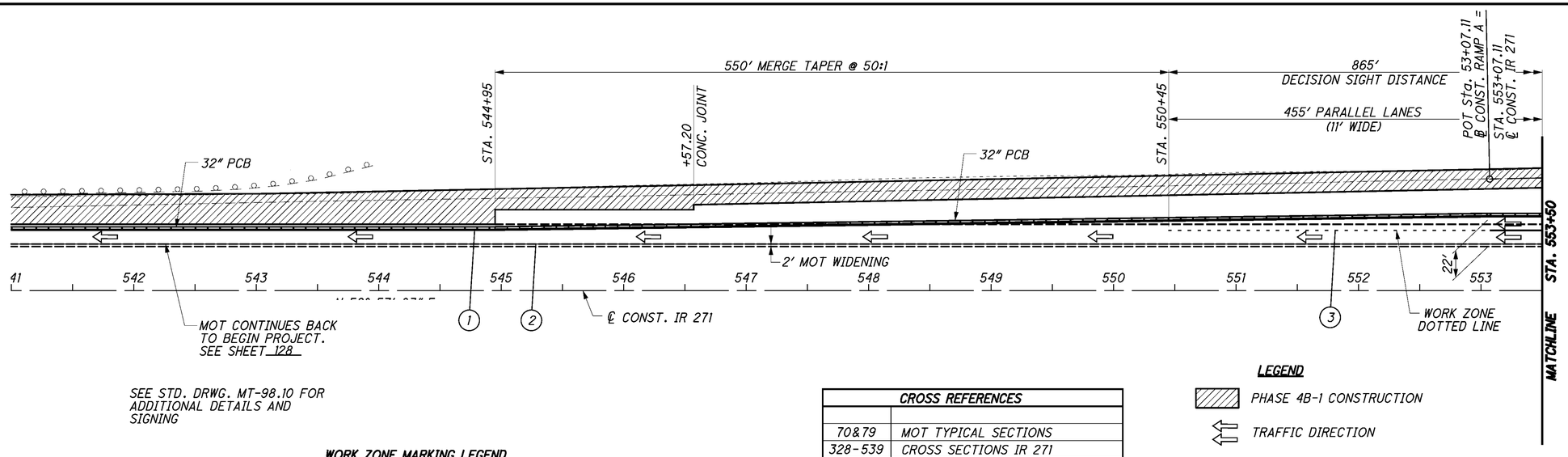
HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED DAW
CHECKED PRS

MAINTENANCE OF TRAFFIC - PHASE 4A
PLAN - I-77 RAMP D

SUM-271-2.33

160
1195



SEE STD. DRWG. MT-98.10 FOR ADDITIONAL DETAILS AND SIGNING

LEGEND

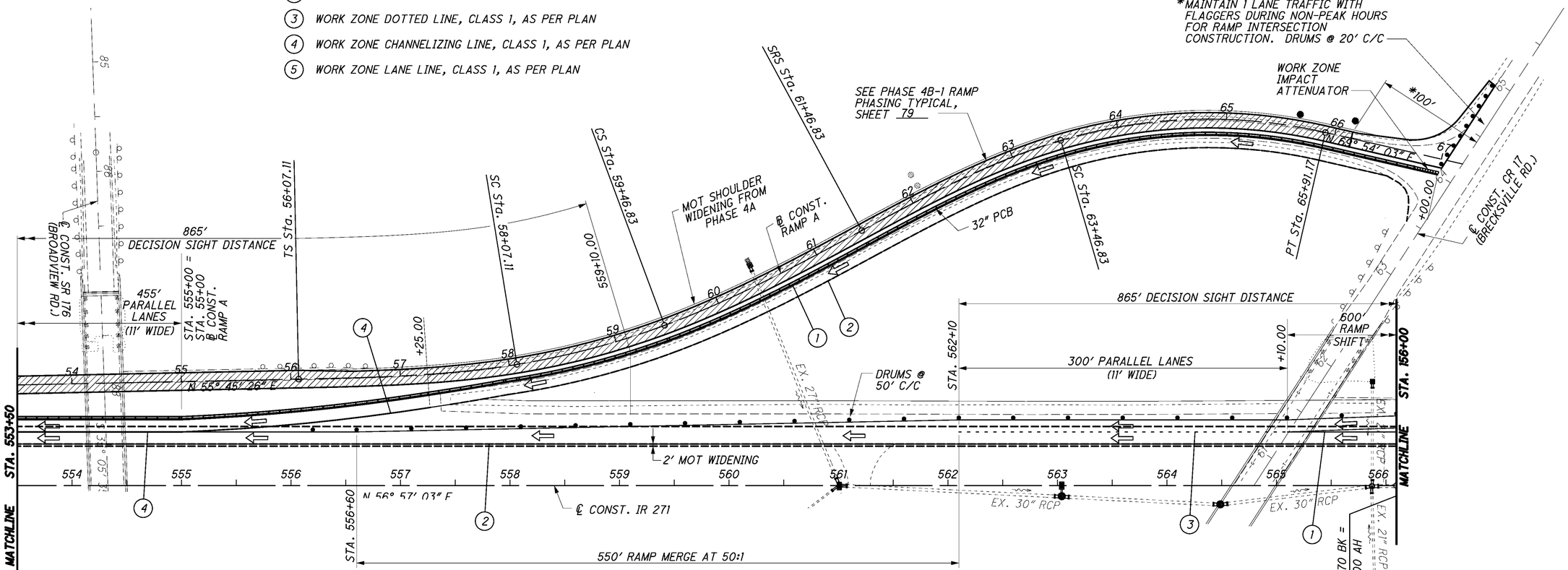
- PHASE 4B-1 CONSTRUCTION
- TRAFFIC DIRECTION

CROSS REFERENCES	
70&79	MOT TYPICAL SECTIONS
328-539	CROSS SECTIONS IR 271
542-550	CROSS SECTIONS RAMP A

WORK ZONE MARKING LEGEND

1. WORK ZONE EDGE LINE, CLASS 1, AS PER PLAN (WHITE)
2. WORK ZONE EDGE LINE, CLASS 1, AS PER PLAN (YELLOW)
3. WORK ZONE DOTTED LINE, CLASS 1, AS PER PLAN
4. WORK ZONE CHANNELIZING LINE, CLASS 1, AS PER PLAN
5. WORK ZONE LANE LINE, CLASS 1, AS PER PLAN

*MAINTAIN 1 LANE TRAFFIC WITH FLAGGERS DURING NON-PEAK HOURS FOR RAMP INTERSECTION CONSTRUCTION. DRUMS @ 20' C/C



* CR 17 (BRECKSVILLE ROAD) PHASE 1 CONSTRUCTION MAY NOT OCCUR SIMULTANEOUS WITH RAMP CONSTRUCTION.

A MINIMUM OF THE LAST 100 FEET OF RAMP A SHALL BE COMPLETED BEFORE/AFTER BRECKSVILLE RD. BRIDGE CONSTRUCTION AND SHALL NOT OCCUR SIMULTANEOUSLY. RAMP A TO REMAIN OPEN. PART WIDTH CONSTRUCTION SHALL BE PERFORMED DURING RAMP INTERSECTION WORK BY FLAGGERS.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING PART WIDTH PHASED CONSTRUCTION AT THE INTERSECTION.

ALL ADDITIONAL LABOR, EQUIPMENT, MATERIAL AND INCIDENTALS NECESSARY FOR COORDINATING TEMPORARY TRAFFIC CONTROL AND PAVEMENT CONSTRUCTION REQUIRED TO MAKE THE TRANSITION FROM PROPOSED/EXISTING PAVEMENT TO THE 100 FOOT INTERSECTION APPROACH PAVEMENT SHALL BE INCLUDED IN THE LUMP SUM COST FOR ITEM 614 - MAINTAINING TRAFFIC.

HORIZONTAL SCALE IN FEET
0 25 50 100

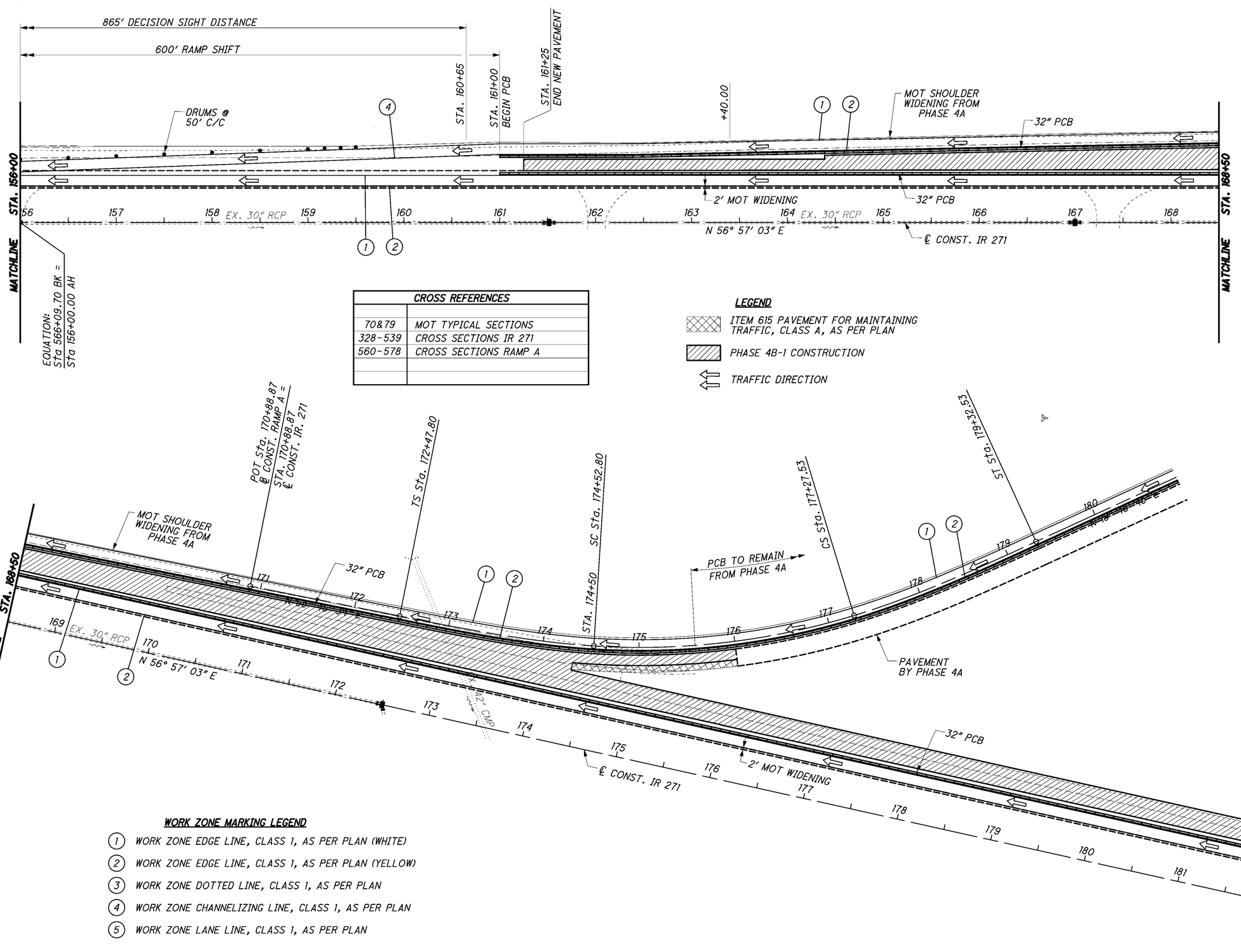
CALCULATED DAW
CHECKED PRS

MAINTENANCE OF TRAFFIC - PHASE 4B-1
PLAN - CR 17 (BRECKSVILLE RD.) RAMP A

SUM-271-2.33

161
1195

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CROSS REFERENCES	
70&79	MOT TYPICAL SECTIONS
328-539	CROSS SECTIONS IR 271
560-578	CROSS SECTIONS RAMP A

LEGEND

- ITEM 615 PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A, AS PER PLAN
- PHASE 4B-1 CONSTRUCTION
- TRAFFIC DIRECTION

WORK ZONE MARKING LEGEND

1. WORK ZONE EDGE LINE, CLASS 1, AS PER PLAN (WHITE)
2. WORK ZONE EDGE LINE, CLASS 1, AS PER PLAN (YELLOW)
3. WORK ZONE DOTTED LINE, CLASS 1, AS PER PLAN
4. WORK ZONE CHANNELIZING LINE, CLASS 1, AS PER PLAN
5. WORK ZONE LANE LINE, CLASS 1, AS PER PLAN

HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED DAW
CHECKED PRS

MAINTENANCE OF TRAFFIC - PHASE 4B-1
PLAN - I-77 INTERCHANGE RAMP A

SUM-271-2.33

162
1195

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WORK ZONE MARKING LEGEND

1. WORK ZONE EDGE LINE, CLASS 1, AS PER PLAN (WHITE)
2. WORK ZONE EDGE LINE, CLASS 1, AS PER PLAN (YELLOW)
3. WORK ZONE DOTTED LINE, CLASS 1, AS PER PLAN
4. WORK ZONE CHANNELIZING LINE, CLASS 1, AS PER PLAN
5. WORK ZONE LANE LINE, CLASS 1, AS PER PLAN

CROSS REFERENCES

70&72-74	MOT TYPICAL SECTIONS
328-539	CROSS SECTIONS IR 271
164	TEMPORARY RAMP D PROFILE
627-637	CROSS SECTIONS RAMP D
47-48	TEMPORARY EARTHWORK TABLE

LEGEND

- TEMPORARY PAVEMENT (ITEM 615 CLASS A, AS PER PLAN)
- PHASE 4B-1 CONSTRUCTION
- TRAFFIC DIRECTION

℄ TEMPORARY RAMP D CURVE DATA

P.I.= Sta. 189+97.58
D = 145° 54′ 50″ (LT)
Dc = 19° 05′ 55″
R = 300.00′
T = 978.63′
L = 764.00′
E = 723.58′
C = 573.65′
C.B. = S 45° 24′ 51″ E

TEMPORARY RAMP D LEGEND

TEMPORARY WEDGE FOR TEMPORARY RAMP D MOT - RESTORE IR 271 SB CROSS SECTION WHEN TEMPORARY RAMP D IS NO LONGER NEEDED SEE NOTE IV. B. IR 77 INTERCHANGE, SHEET 37 FOR QUANTITY

PHASE 4B-1 RAMP D CONSTRUCTION DETAIL

* 8′-0″ NORMAL, SEE MOT CALCULATIONS FOR DIMENSIONS

TEMPORARY RAMP D TYPICAL SECTION

MAINTENANCE OF TRAFFIC - PHASE 4B-1
SUM-271-2.33
INTERCHANGE RAMP D PLAN - I-77

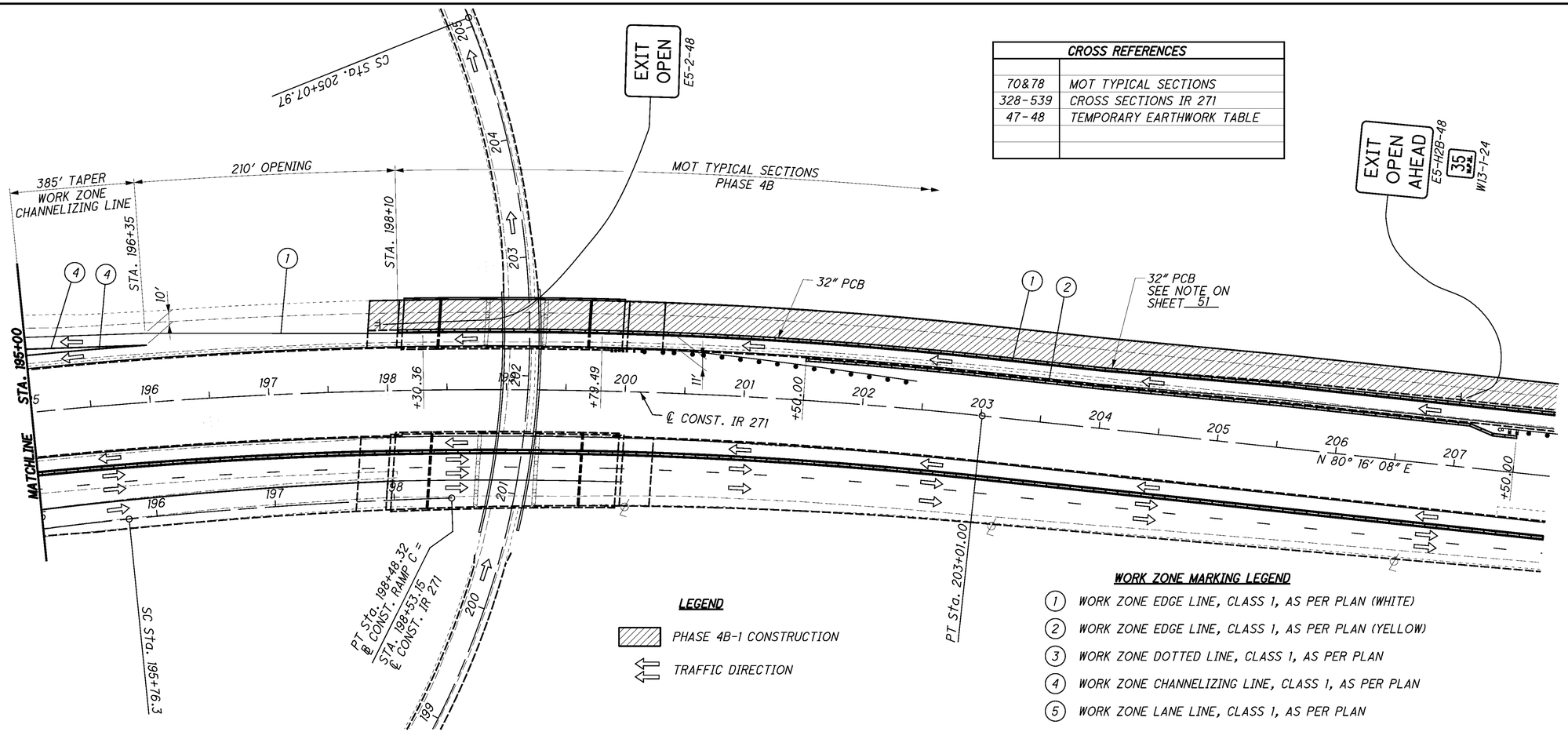
HORIZONTAL SCALE IN FEET 0 25 50 100

CALCULATED DAW CHECKED PRS

163
1195

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CROSS REFERENCES	
70&78	MOT TYPICAL SECTIONS
328-539	CROSS SECTIONS IR 271
47-48	TEMPORARY EARTHWORK TABLE

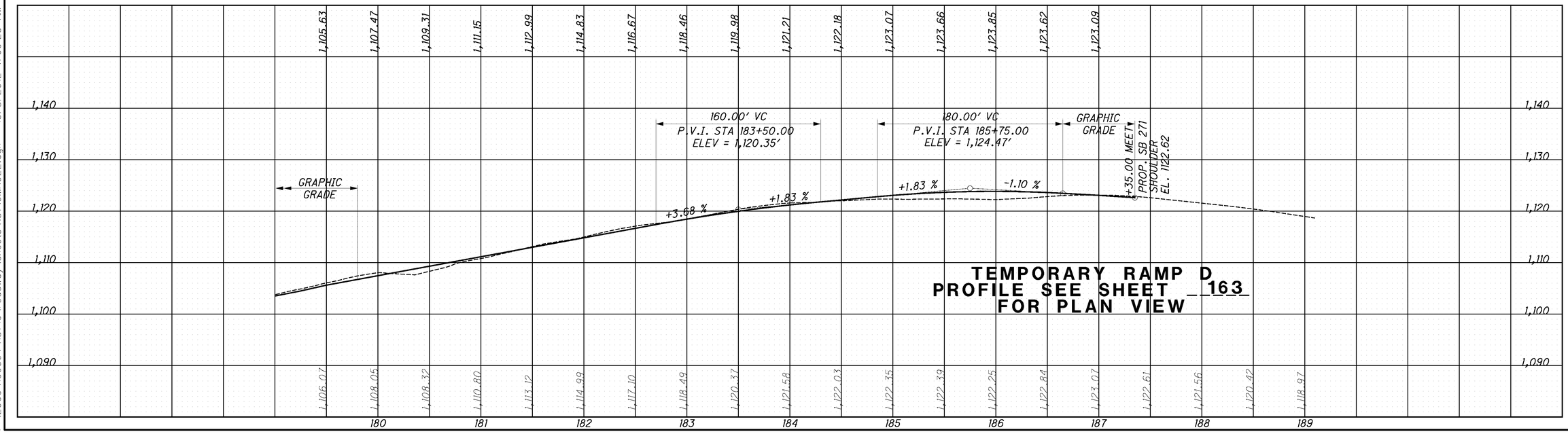


LEGEND

- PHASE 4B-1 CONSTRUCTION
- TRAFFIC DIRECTION

WORK ZONE MARKING LEGEND

1. WORK ZONE EDGE LINE, CLASS 1, AS PER PLAN (WHITE)
2. WORK ZONE EDGE LINE, CLASS 1, AS PER PLAN (YELLOW)
3. WORK ZONE DOTTED LINE, CLASS 1, AS PER PLAN
4. WORK ZONE CHANNELIZING LINE, CLASS 1, AS PER PLAN
5. WORK ZONE LANE LINE, CLASS 1, AS PER PLAN



TEMPORARY RAMP D
PROFILE SEE SHEET 163
FOR PLAN VIEW

HORIZONTAL SCALE IN FEET
0 25 50 100

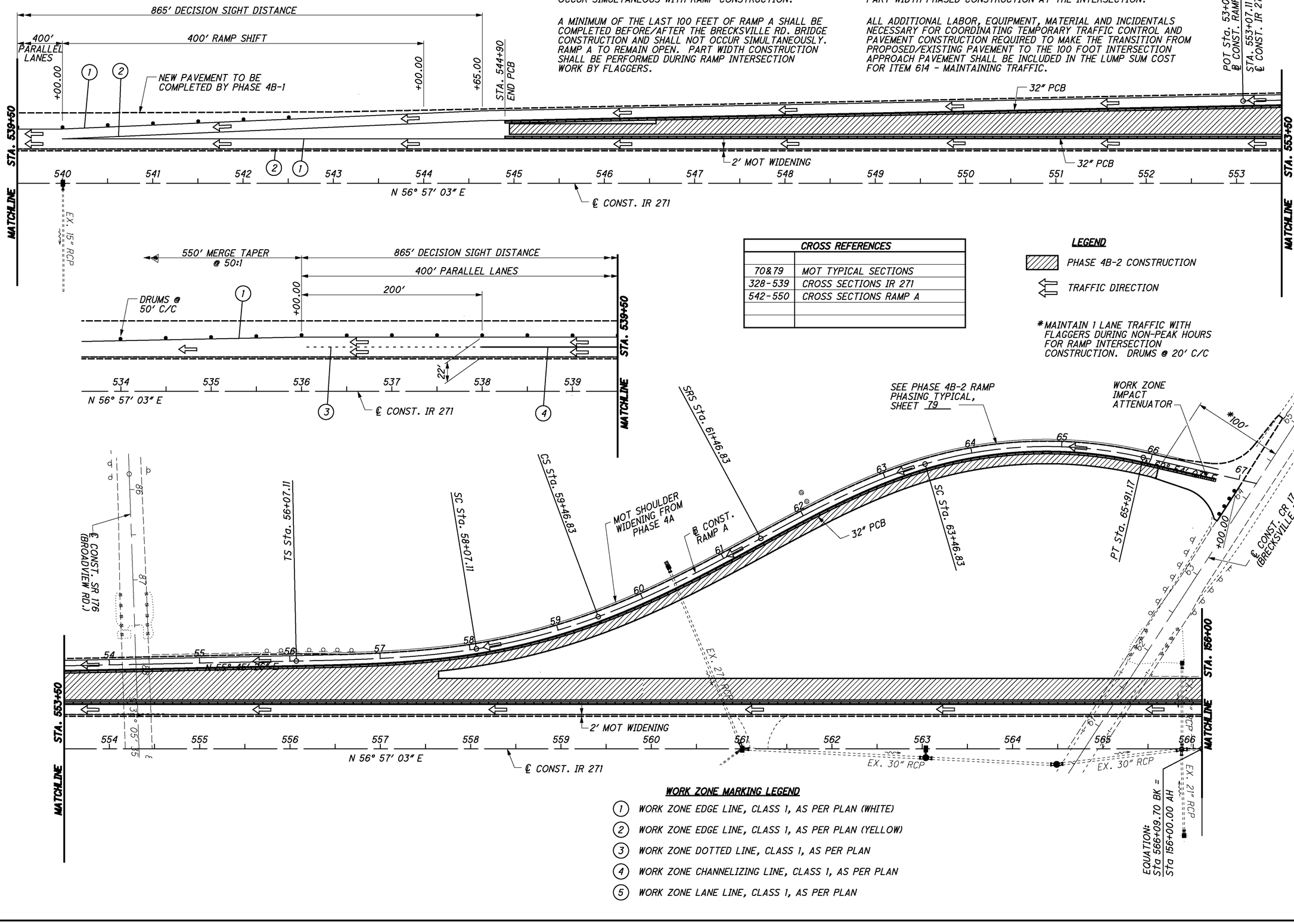
CALCULATED DAW
CHECKED PRS

MAINTENANCE OF TRAFFIC - PHASE 4B-1
PLAN - I-77 INTERCHANGE RAMP D

SUM-271-2.33

164
1195

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* CR 17 (BRECKSVILLE ROAD) PHASE 1 CONSTRUCTION MAY NOT OCCUR SIMULTANEOUS WITH RAMP CONSTRUCTION.

A MINIMUM OF THE LAST 100 FEET OF RAMP A SHALL BE COMPLETED BEFORE/AFTER THE BRECKSVILLE RD. BRIDGE CONSTRUCTION AND SHALL NOT OCCUR SIMULTANEOUSLY. RAMP A TO REMAIN OPEN. PART WIDTH CONSTRUCTION SHALL BE PERFORMED DURING RAMP INTERSECTION WORK BY FLAGGERS.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING PART WIDTH PHASED CONSTRUCTION AT THE INTERSECTION.

ALL ADDITIONAL LABOR, EQUIPMENT, MATERIAL AND INCIDENTALS NECESSARY FOR COORDINATING TEMPORARY TRAFFIC CONTROL AND PAVEMENT CONSTRUCTION REQUIRED TO MAKE THE TRANSITION FROM PROPOSED/EXISTING PAVEMENT TO THE 100 FOOT INTERSECTION APPROACH PAVEMENT SHALL BE INCLUDED IN THE LUMP SUM COST FOR ITEM 614 - MAINTAINING TRAFFIC.

CROSS REFERENCES	
70&79	MOT TYPICAL SECTIONS
328-539	CROSS SECTIONS IR 271
542-550	CROSS SECTIONS RAMP A

LEGEND

PHASE 4B-2 CONSTRUCTION

TRAFFIC DIRECTION

*MAINTAIN 1 LANE TRAFFIC WITH FLAGGERS DURING NON-PEAK HOURS FOR RAMP INTERSECTION CONSTRUCTION. DRUMS @ 20' C/C

WORK ZONE MARKING LEGEND

1. WORK ZONE EDGE LINE, CLASS 1, AS PER PLAN (WHITE)
2. WORK ZONE EDGE LINE, CLASS 1, AS PER PLAN (YELLOW)
3. WORK ZONE DOTTED LINE, CLASS 1, AS PER PLAN
4. WORK ZONE CHANNELIZING LINE, CLASS 1, AS PER PLAN
5. WORK ZONE LANE LINE, CLASS 1, AS PER PLAN

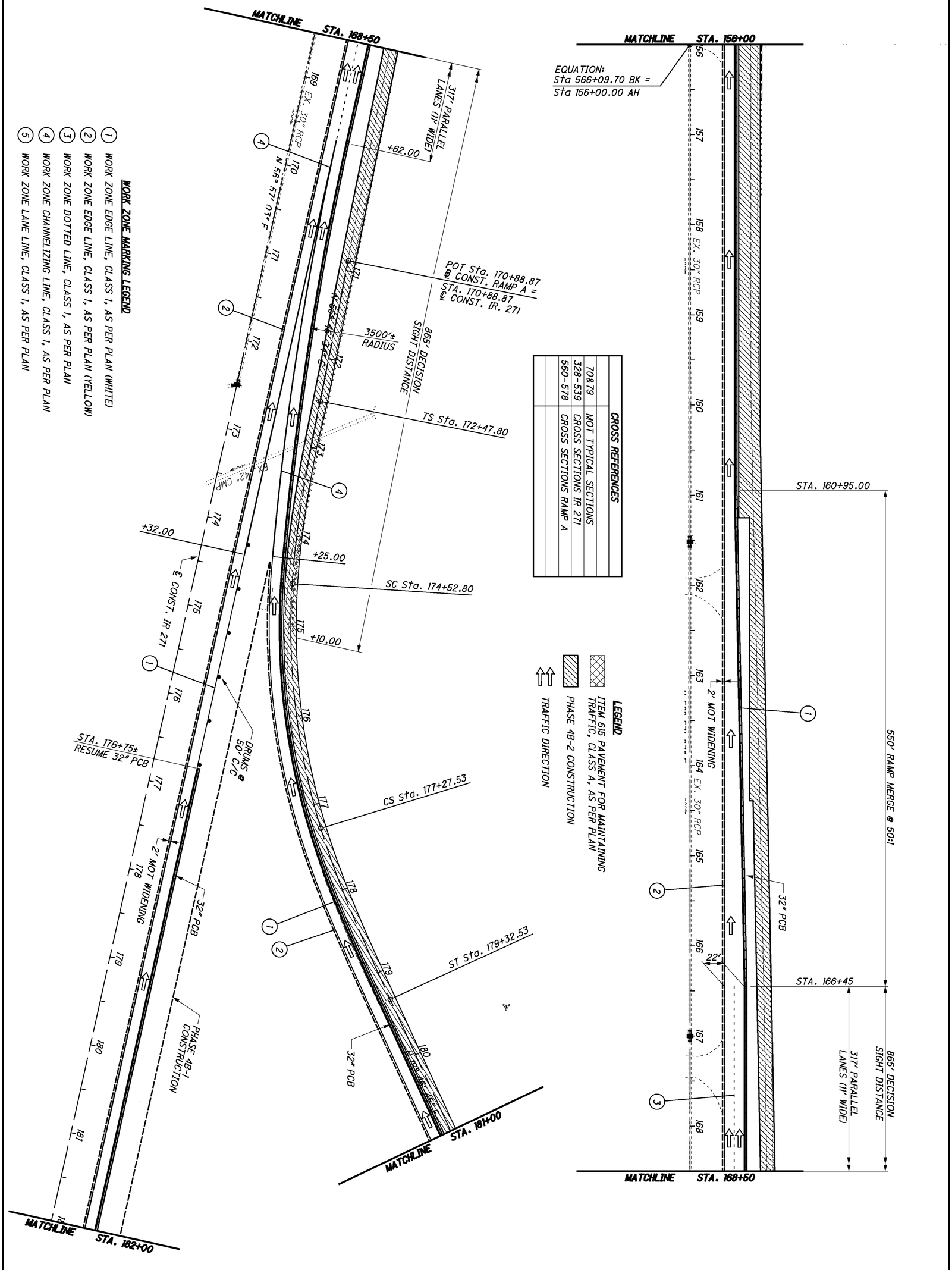
HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED DAW
CHECKED PRS

MAINTENANCE OF TRAFFIC - PHASE 4B-2
PLAN - CR 17 (BRECKSVILLE RD.) RAMP A

SUM-271-2.33

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WORK ZONE MARKING LEGEND

1. WORK ZONE EDGE LINE, CLASS 1, AS PER PLAN (WHITE)
2. WORK ZONE EDGE LINE, CLASS 1, AS PER PLAN (YELLOW)
3. WORK ZONE DOTTED LINE, CLASS 1, AS PER PLAN
4. WORK ZONE CHANNELIZING LINE, CLASS 1, AS PER PLAN
5. WORK ZONE LANE LINE, CLASS 1, AS PER PLAN

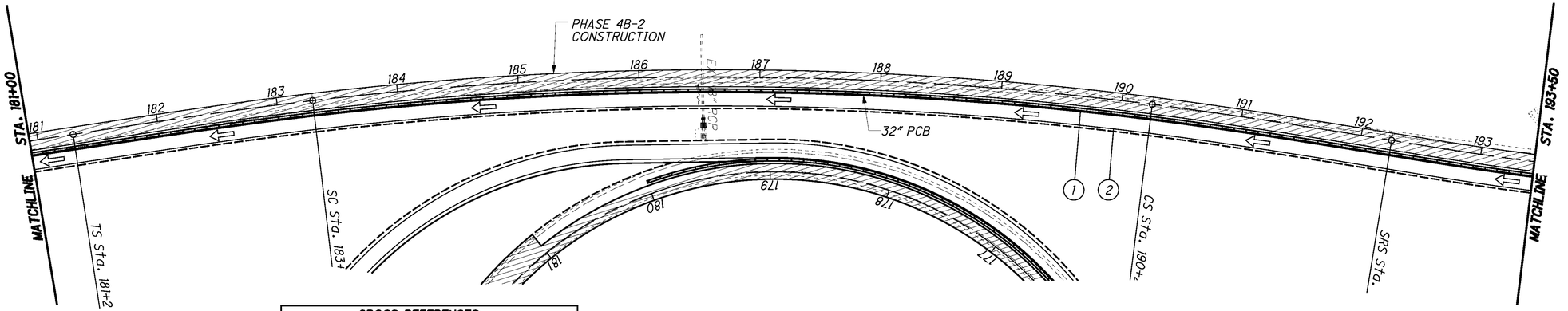
CROSS REFERENCES

70&79	MOT TYPICAL SECTIONS
328-539	CROSS SECTIONS IR 271
560-578	CROSS SECTIONS RAMP A

LEGEND

- ITEM 615 PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A, AS PER PLAN
- PHASE 4B-2 CONSTRUCTION
- TRAFFIC DIRECTION

1195	166	SUM-271-2.33	MAINTENANCE OF TRAFFIC - PHASE 4B-2 PLAN - I-77 RAMP A	CALCULATED DAW CHECKED PRS	0 50 25 100 HORIZONTAL SCALE IN FEET



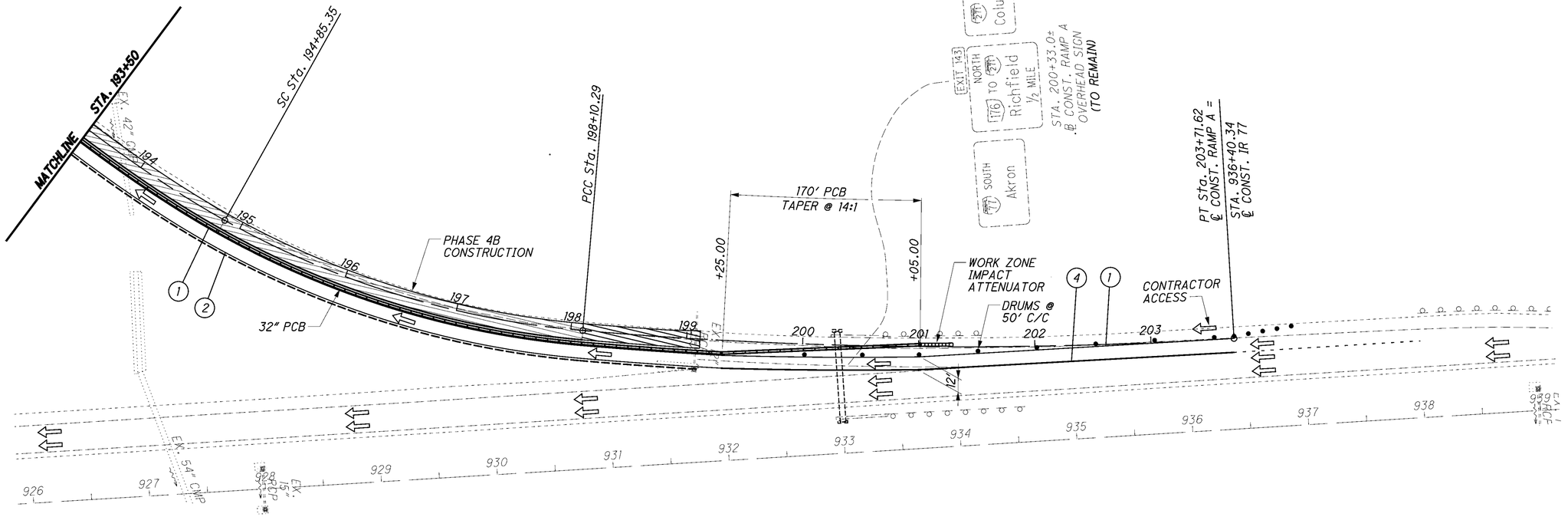
CROSS REFERENCES	
79	MOT TYPICAL SECTIONS
560-578	CROSS SECTIONS RAMP A

LEGEND

- ITEM 615 PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A, AS PER PLAN
- PHASE 4B-2 CONSTRUCTION
- TRAFFIC DIRECTION

WORK ZONE MARKING LEGEND

1. WORK ZONE EDGE LINE, CLASS 1, AS PER PLAN (WHITE)
2. WORK ZONE EDGE LINE, CLASS 1, AS PER PLAN (YELLOW)
3. WORK ZONE DOTTED LINE, CLASS 1, AS PER PLAN
4. WORK ZONE CHANNELIZING LINE, CLASS 1, AS PER PLAN
5. WORK ZONE LANE LINE, CLASS 1, AS PER PLAN



HORIZONTAL SCALE IN FEET: 0, 25, 50, 100

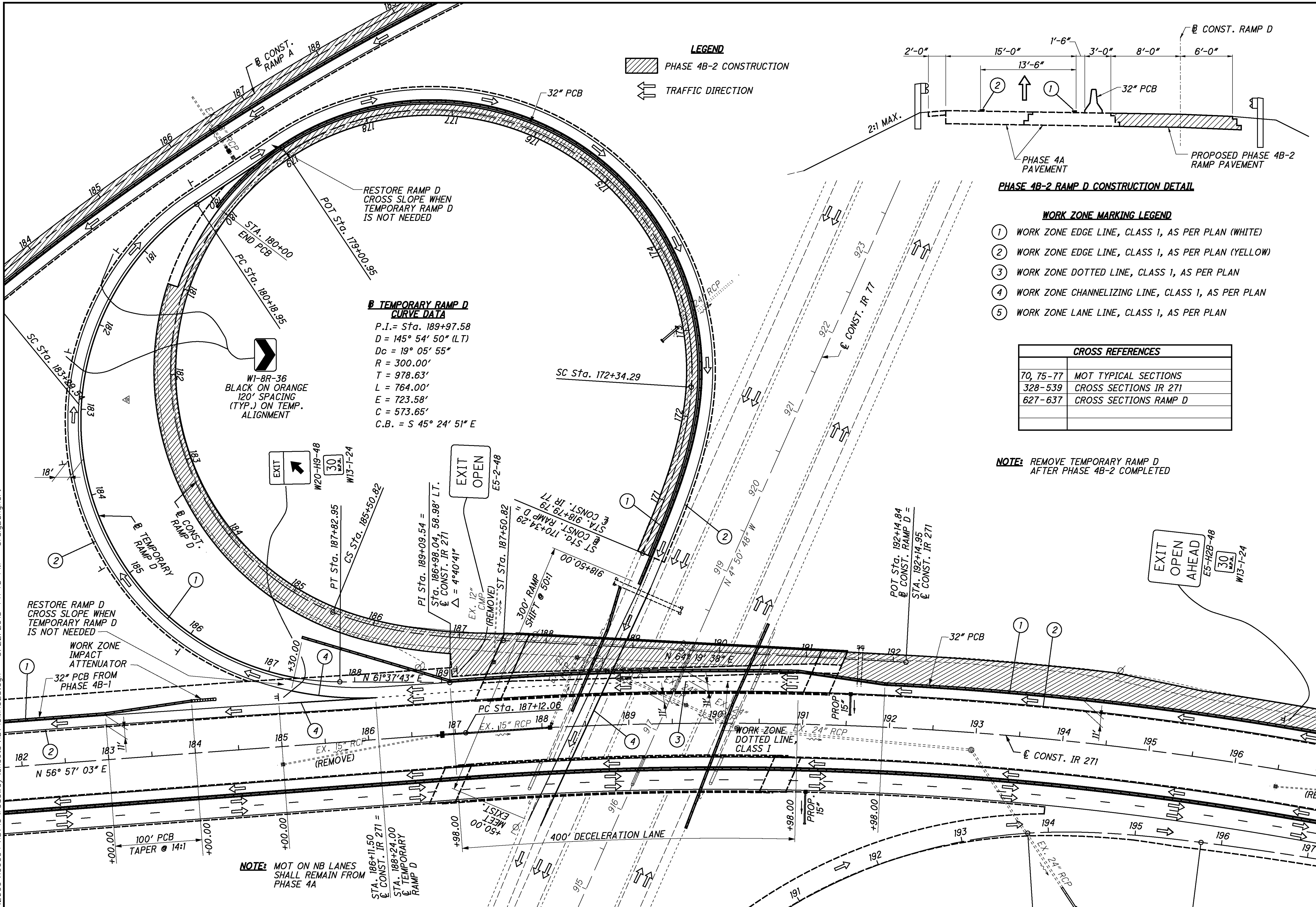
CALCULATED DAW
CHECKED PRS

MAINTENANCE OF TRAFFIC - PHASE 4B-2
PLAN - I-77 RAMP A

SUM-271-2.33

167
1195

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LEGEND

PHASE 4B-2 CONSTRUCTION

TRAFFIC DIRECTION

PHASE 4B-2 RAMP D CONSTRUCTION DETAIL

℄ TEMPORARY RAMP D CURVE DATA

P.I.= Sta. 189+97.58
D = 145° 54' 50" (LT)
Dc = 19° 05' 55"
R = 300.00'
T = 978.63'
L = 764.00'
E = 723.58'
C = 573.65'
C.B. = S 45° 24' 51" E

WORK ZONE MARKING LEGEND

1. WORK ZONE EDGE LINE, CLASS 1, AS PER PLAN (WHITE)
2. WORK ZONE EDGE LINE, CLASS 1, AS PER PLAN (YELLOW)
3. WORK ZONE DOTTED LINE, CLASS 1, AS PER PLAN
4. WORK ZONE CHANNELIZING LINE, CLASS 1, AS PER PLAN
5. WORK ZONE LANE LINE, CLASS 1, AS PER PLAN

CROSS REFERENCES	
70, 75-77	MOT TYPICAL SECTIONS
328-539	CROSS SECTIONS IR 271
627-637	CROSS SECTIONS RAMP D

NOTE: REMOVE TEMPORARY RAMP D AFTER PHASE 4B-2 COMPLETED

NOTE: MOT ON NB LANES SHALL REMAIN FROM PHASE 4A

CALCULATED DAW
CHECKED PRS

MAINTENANCE OF TRAFFIC - PHASE 4B-2
PLAN - I-77 INTERCHANGE RAMP D

SUM-271-2.33

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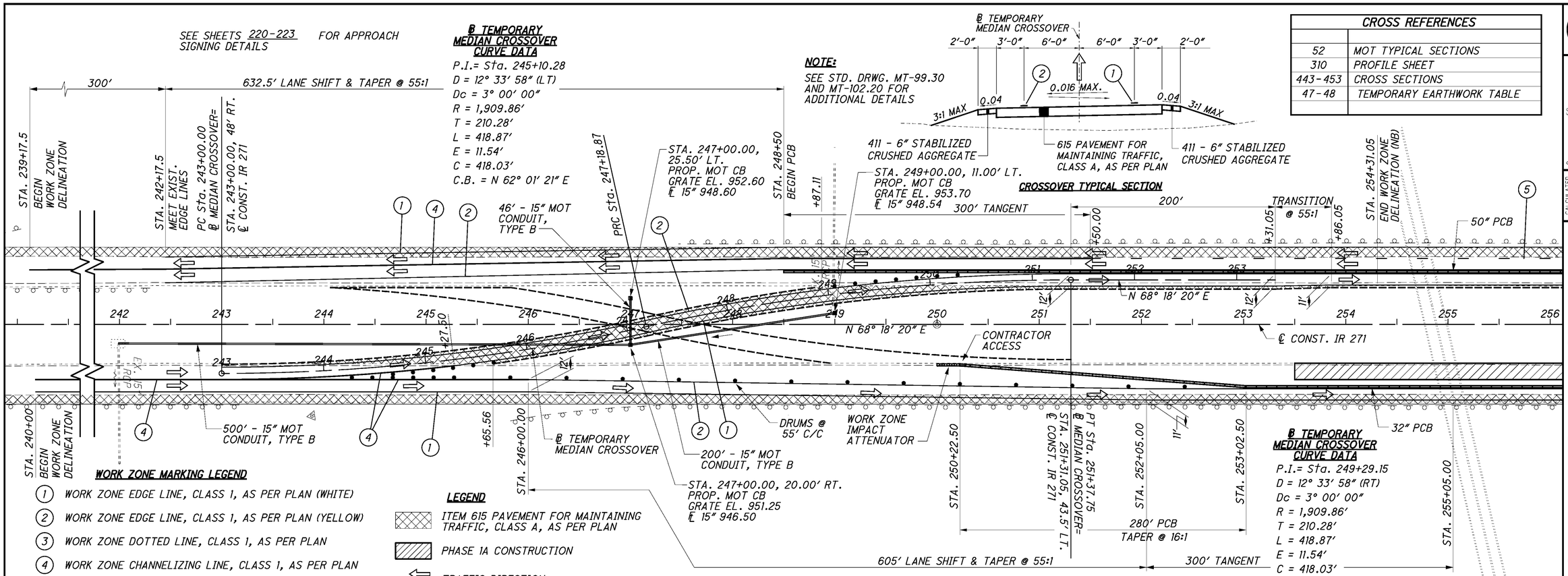
SEE SHEETS 220-223 FOR APPROACH SIGNING DETAILS

℄ TEMPORARY MEDIAN CROSSOVER CURVE DATA
P.I.= Sta. 245+10.28
D = 12° 33' 58" (LT)
Dc = 3° 00' 00"
R = 1,909.86'
T = 210.28'
L = 418.87'
E = 11.54'
C = 418.03'
C.B. = N 62° 01' 21" E

NOTE:
SEE STD. DRWG. MT-99.30 AND MT-102.20 FOR ADDITIONAL DETAILS

CROSS REFERENCES	
52	MOT TYPICAL SECTIONS
310	PROFILE SHEET
443-453	CROSS SECTIONS
47-48	TEMPORARY EARTHWORK TABLE

CROSSOVER TYPICAL SECTION



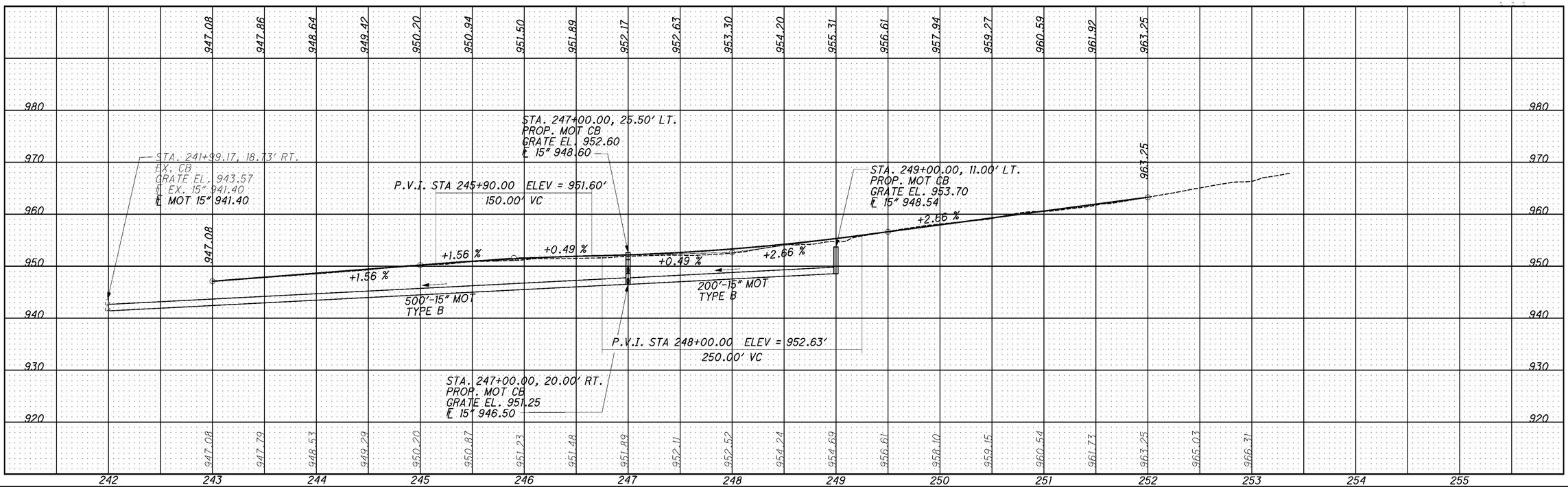
WORK ZONE MARKING LEGEND

1. WORK ZONE EDGE LINE, CLASS 1, AS PER PLAN (WHITE)
2. WORK ZONE EDGE LINE, CLASS 1, AS PER PLAN (YELLOW)
3. WORK ZONE DOTTED LINE, CLASS 1, AS PER PLAN
4. WORK ZONE CHANNELIZING LINE, CLASS 1, AS PER PLAN
5. WORK ZONE LANE LINE, CLASS 1, AS PER PLAN

LEGEND

- ITEM 615 PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A, AS PER PLAN
- PHASE 1A CONSTRUCTION
- TRAFFIC DIRECTION

℄ TEMPORARY MEDIAN CROSSOVER CURVE DATA
P.I.= Sta. 249+29.15
D = 12° 33' 58" (RT)
Dc = 3° 00' 00"
R = 1,909.86'
T = 210.28'
L = 418.87'
E = 11.54'
C = 418.03'
C.B. = N 62° 01' 21" E



HORIZONTAL SCALE IN FEET
0 25 50 100
CALCULATED DAW
CHECKED PRS

MAINTENANCE OF TRAFFIC - PHASE 1A - INTERMEDIATE CROSSOVER PLAN & PROFILE

SUM-271-2.33

169
1195

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CROSS REFERENCES	
52-53	MOT TYPICAL SECTIONS
172-183	CROSS SECTIONS

NOTE:
SEE SHEET NO. 220-223 FOR ADDITIONAL SIGNING REQUIREMENTS

BRIDGE SUM-271-0655 L&R
OVER IR 80
(OHIO TURNPIKE)

LINEAR DELINEATION PROVIDED ON PARAPET

BEGIN WORK ZONE DELINEATION

55' NB AND SB LANE SHIFT

STA. 344+50

+48.00

+65.70

+06.00

50" PCB

℄ CONST. IR 271

SHOULDER RECONTRUCTION WITH SUM-271-8.02 (2005) (PLANING & RESURFACING ONLY)

+50.00

STA. 354+83.86
BEGIN TRANSITION AREA DELINEATION (NB)

65'-15" MOT CONDUIT, TYPE B

STA. 358+00

MATCHLINE

+28.86

+83.36

EX. 21" RCP

32" PCB

LINEAR DELINEATION PROVIDED ON PARAPET

+15.97

STA. 346+50.00
END PCB

+42.79

STA. 343+50
BEGIN WORK ZONE DELINEATION

300' TANGENT

605' LANE SHIFT
TAPER @ 55:1

STA. 352+55.00
MEET EXISTING MARKINGS

STA. 355+50.00, ℄
PROP. MOT CB
GRATE EL. 985.00
℄ 15" 979.50

55' MOT LANE TRANSITION

200'

300' TANGENT

STA. 355+55.00

℄ OHIO TURNPIKE

183

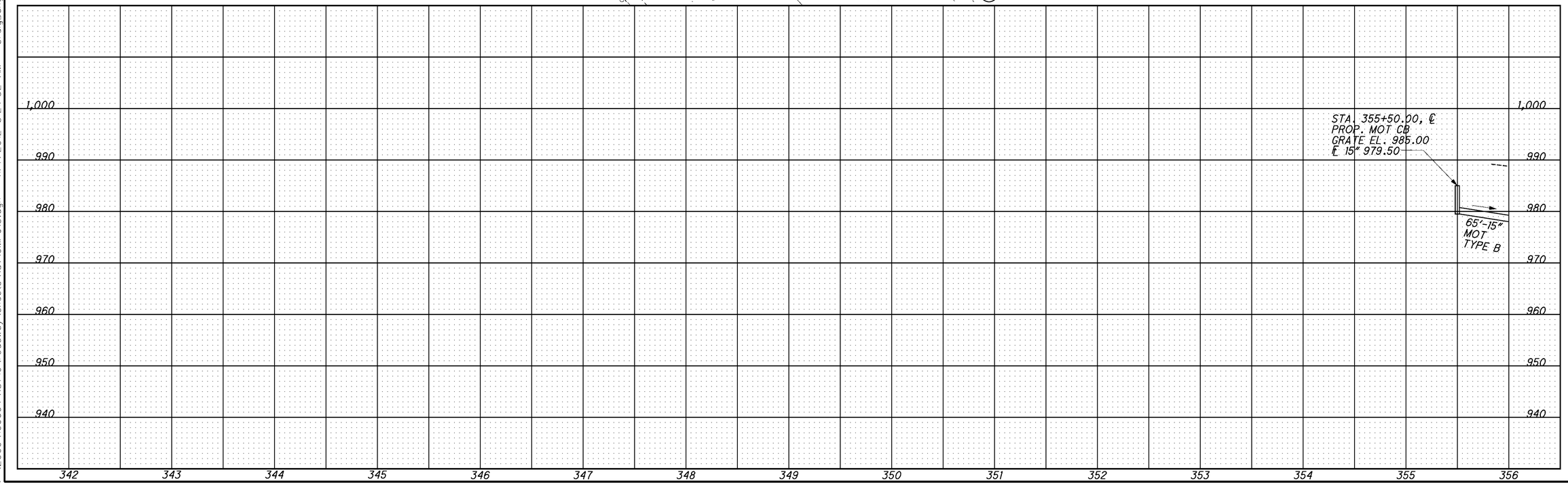
184

LEGEND

- ITEM 615 PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A, AS PER PLAN
- PHASE 1A CONSTRUCTION
- TRAFFIC DIRECTION

WORK ZONE MARKING LEGEND

1. WORK ZONE EDGE LINE, CLASS 1, AS PER PLAN (WHITE)
2. WORK ZONE EDGE LINE, CLASS 1, AS PER PLAN (YELLOW)
3. WORK ZONE DOTTED LINE, CLASS 1, AS PER PLAN
4. WORK ZONE CHANNELIZING LINE, CLASS 1, AS PER PLAN
5. WORK ZONE LANE LINE, CLASS 1, AS PER PLAN



HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED DAW
CHECKED PRS

MAINTENANCE OF TRAFFIC - PHASE 1A - NORTH CROSSOVER
PLAN & PROFILE

SUM-271-2.33

170
1195

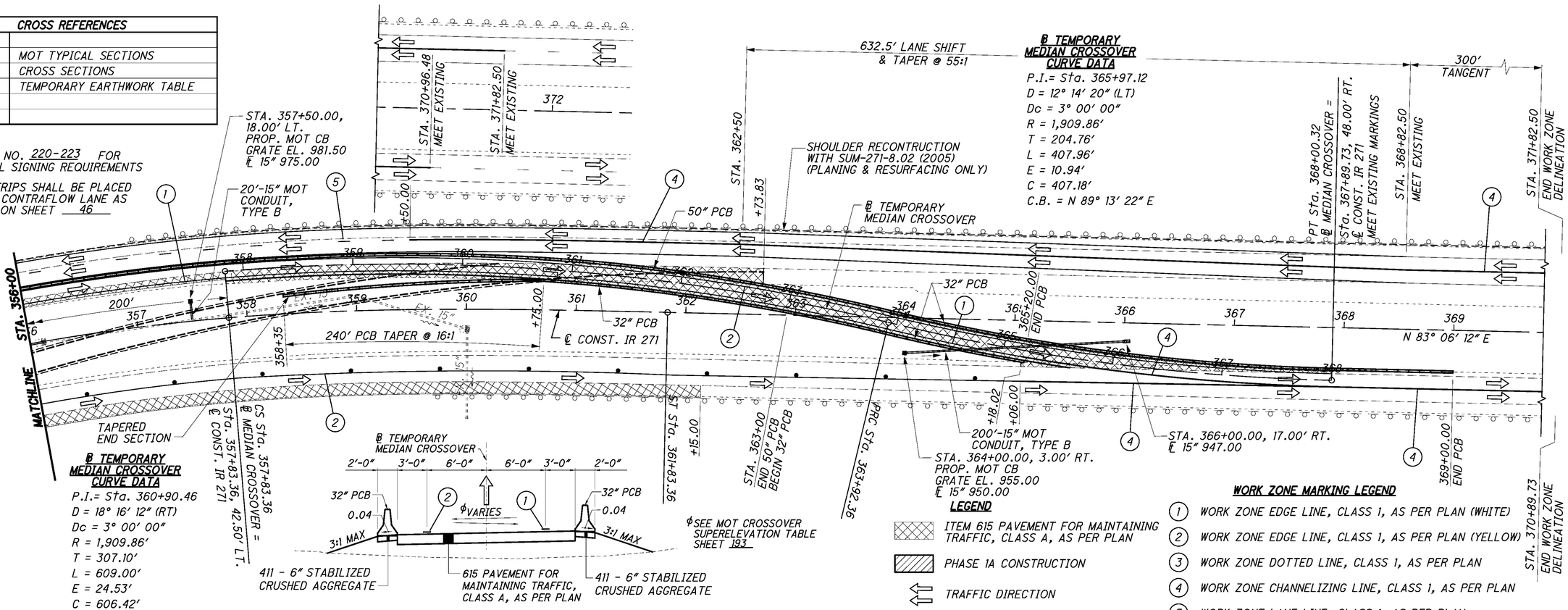
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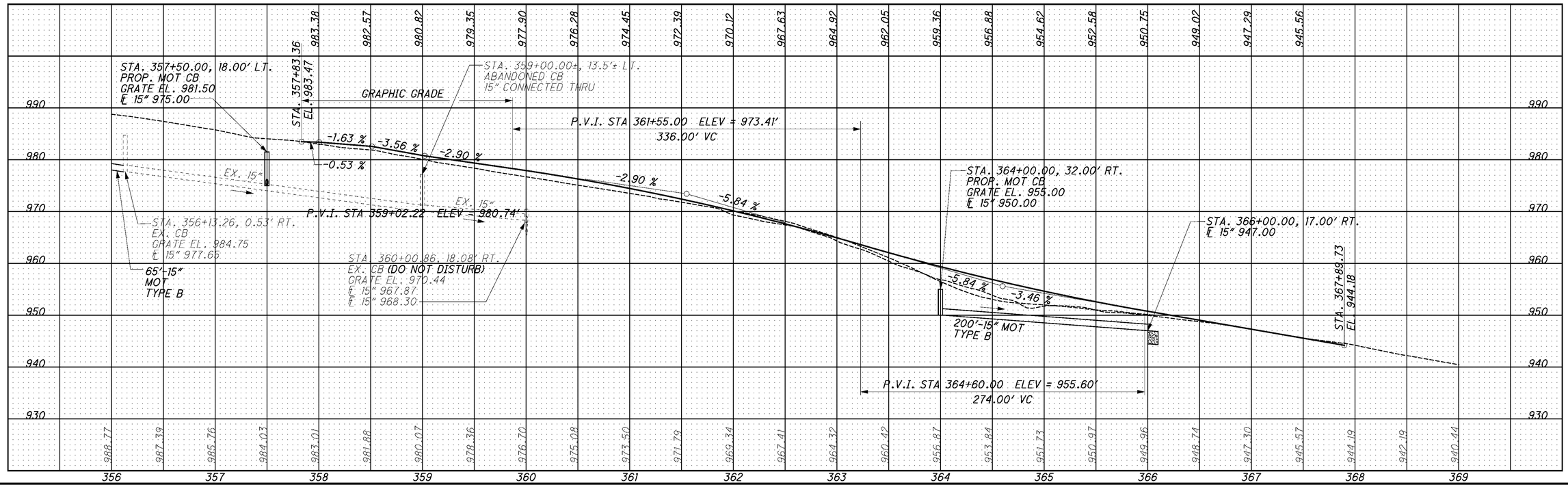
CROSS REFERENCES	
52	MOT TYPICAL SECTIONS
172-183	CROSS SECTIONS
47-48	TEMPORARY EARTHWORK TABLE

NOTE:

1) SEE SHEET NO. 220-223 FOR ADDITIONAL SIGNING REQUIREMENTS

2) RUMBLE STRIPS SHALL BE PLACED IN THE NB CONTRAFLOW LANE AS PER NOTE ON SHEET 46





MAINTENANCE OF TRAFFIC - PHASE 1A
PLAN & PROFILE - NORTH CROSSOVER

SUM-271-2.33

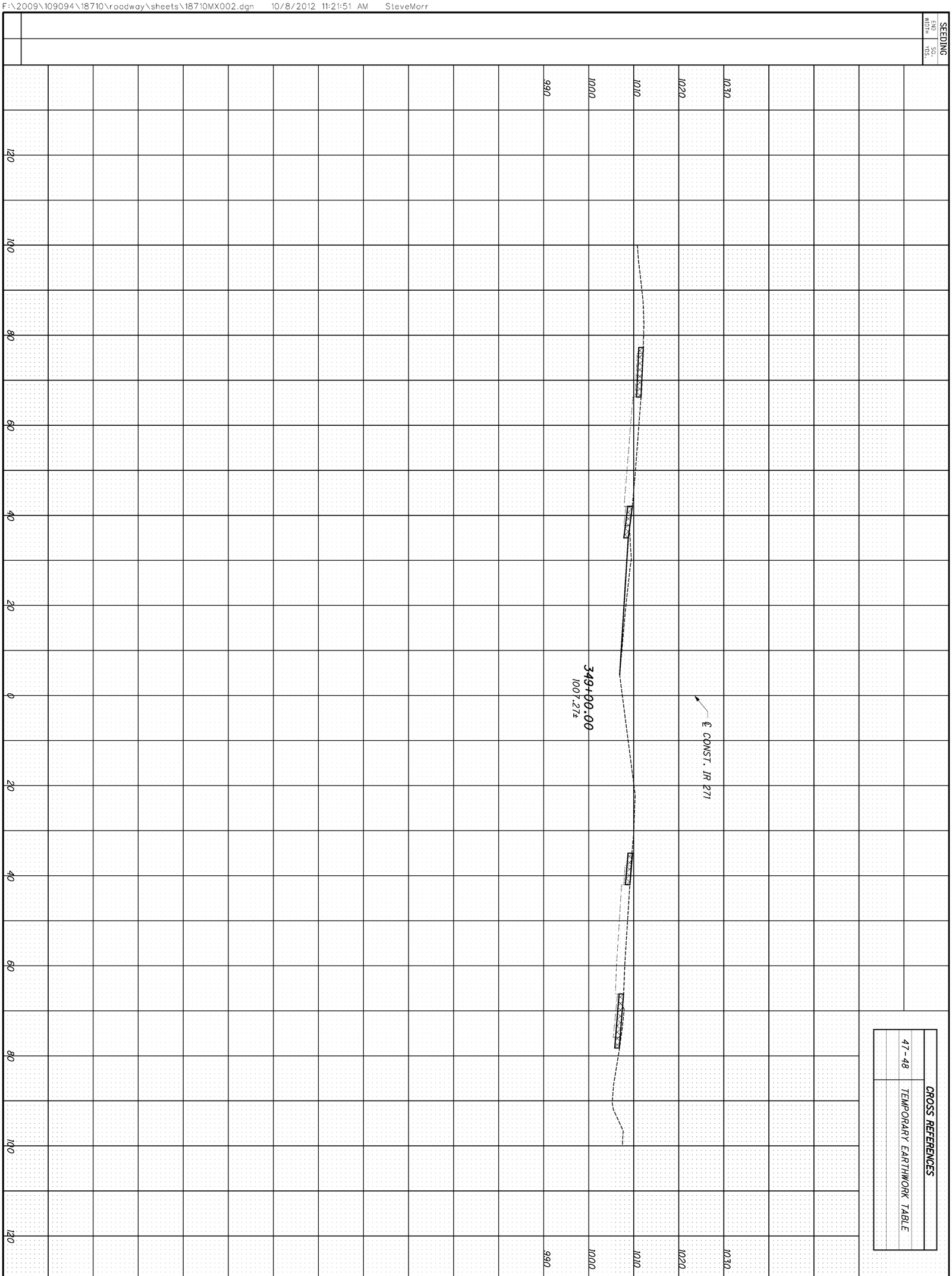
CALCULATED DAW CHECKED PRS

HORIZONTAL SCALE IN FEET

171
1195

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172
1995

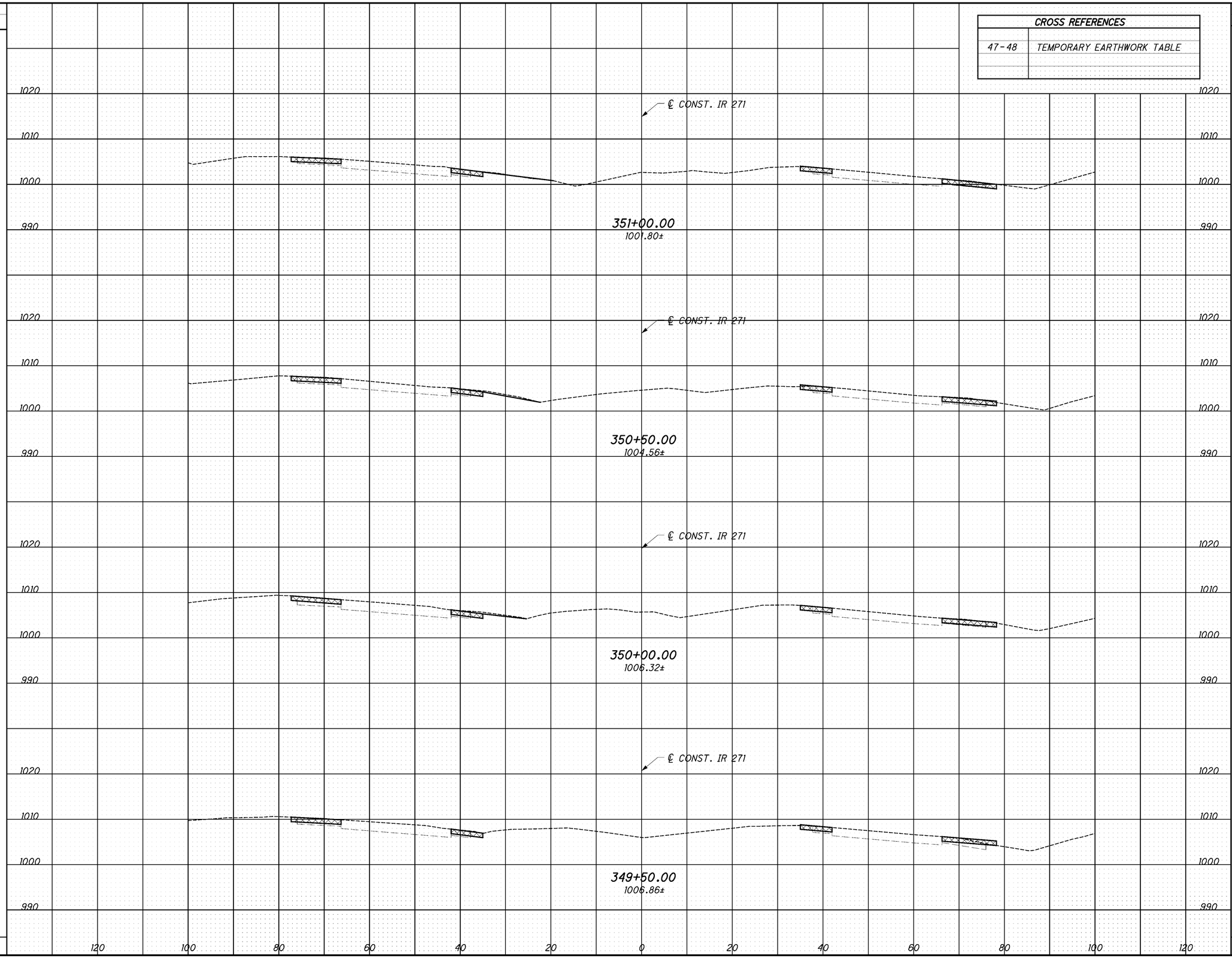
SUM-271-2.33

MAINTENANCE OF TRAFFIC CROSS SECTIONS
STA. 348+00.00 TO STA. 349+00.00

CALCULATED DAW
CHECKED PRS

SEEDING	
END WIDTH	SQ. YDS.

CROSS REFERENCES	
47-48	TEMPORARY EARTHWORK TABLE



END AREA		VOLUME	
CUT	FILL	CUT	FILL

CALCULATED DAW
CHECKED PRS

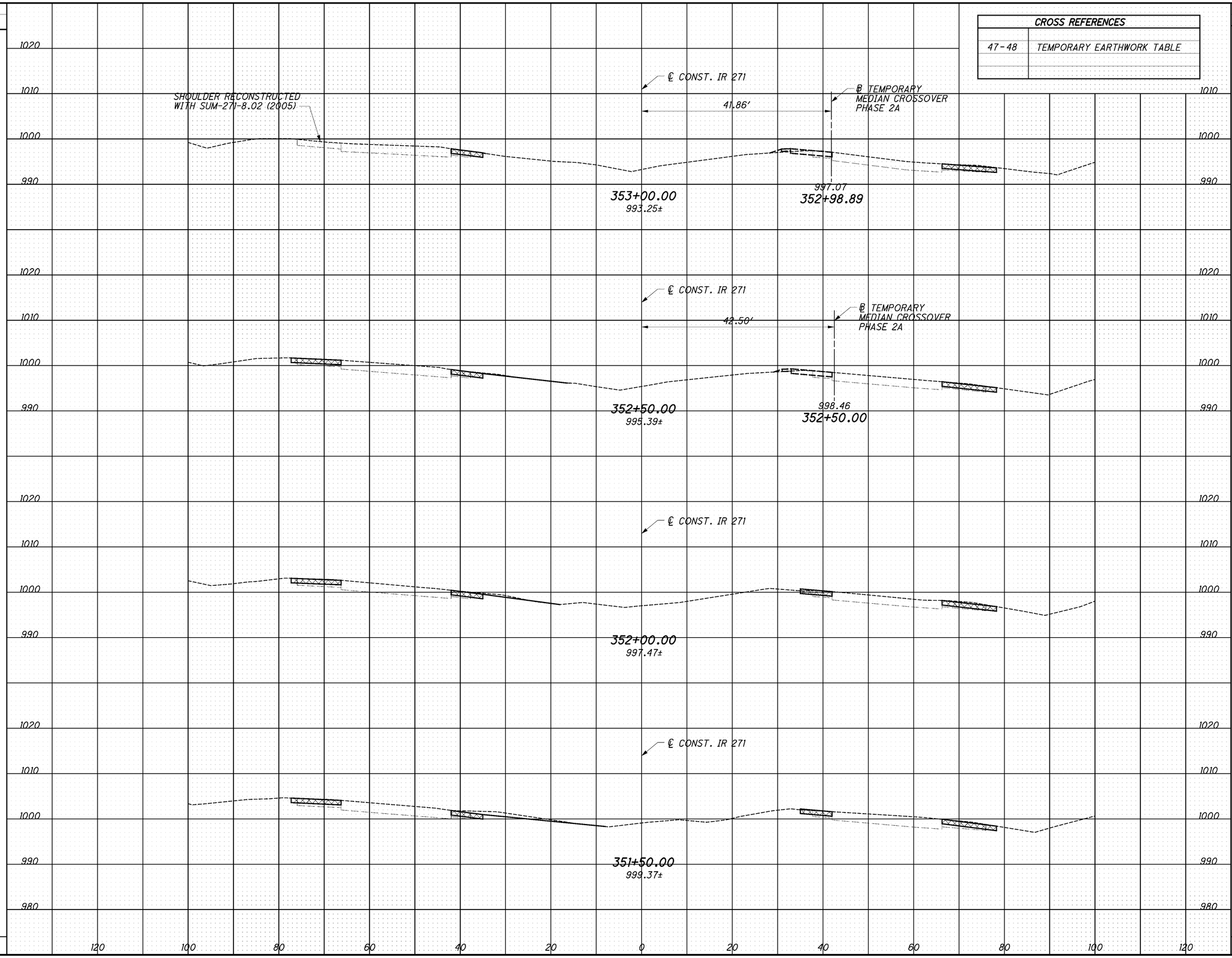
MAINTENANCE OF TRAFFIC CROSS SECTIONS STA. 349+50.00 TO STA. 351+00.00

SUM-271-2.33

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SEEDING	
END WIDTH	SQ. YDS.

CROSS REFERENCES	
47-48	TEMPORARY EARTHWORK TABLE



END AREA		VOLUME	
CUT	FILL	CUT	FILL

CALCULATED DAW
CHECKED PRS

MAINTENANCE OF TRAFFIC CROSS SECTIONS
STA. 351+50.00 TO STA. 353+00.00

SUM-271-2.33

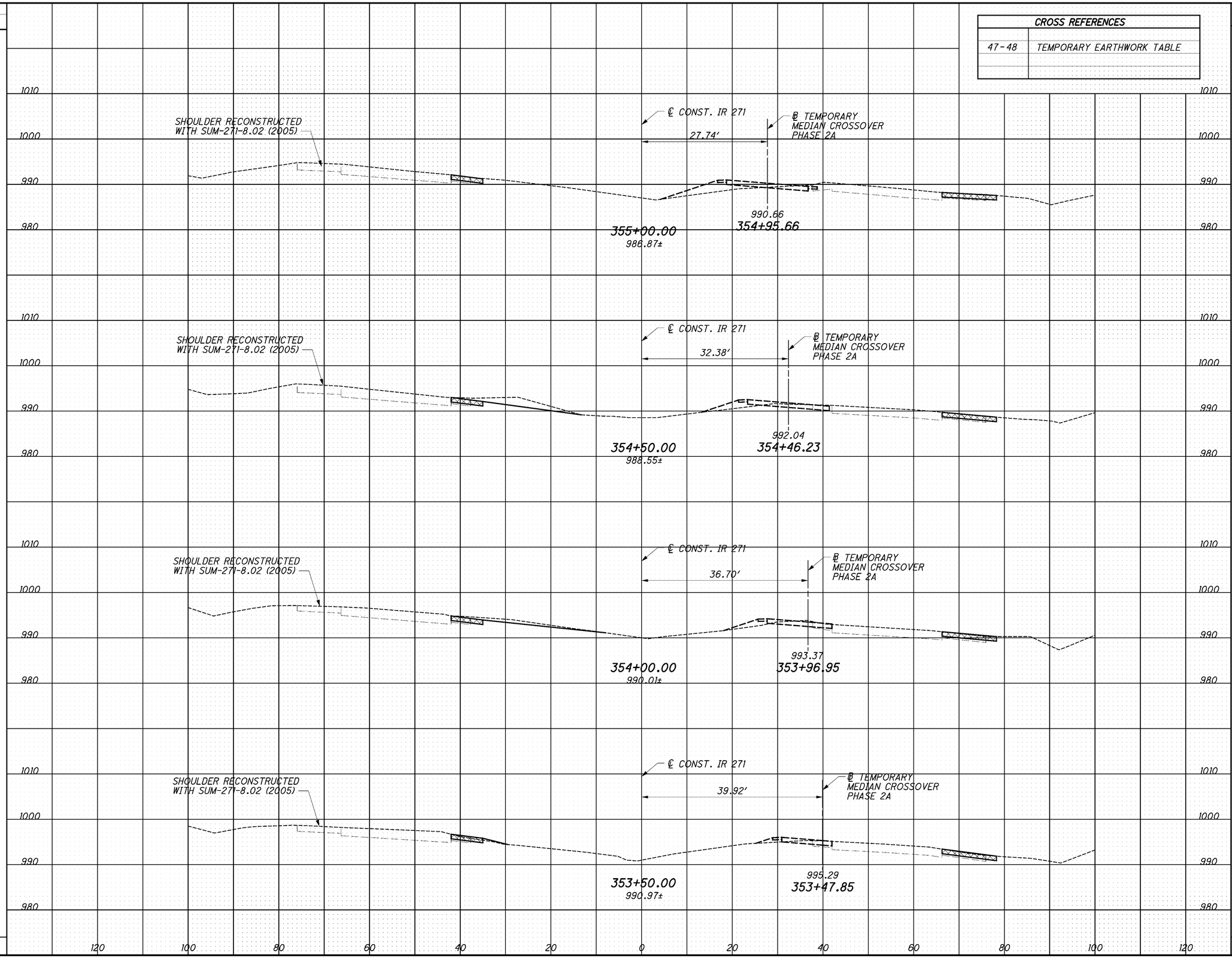
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SEEDING	
END WIDTH	SQ. YDS.

CROSS REFERENCES	
47-48	TEMPORARY EARTHWORK TABLE

END AREA		VOLUME	
CUT	FILL	CUT	FILL

CALCULATED DAW
CHECKED PRS



MAINTENANCE OF TRAFFIC CROSS SECTIONS STA. 353+50.00 TO STA. 355+00.00

SUM-271-2.33

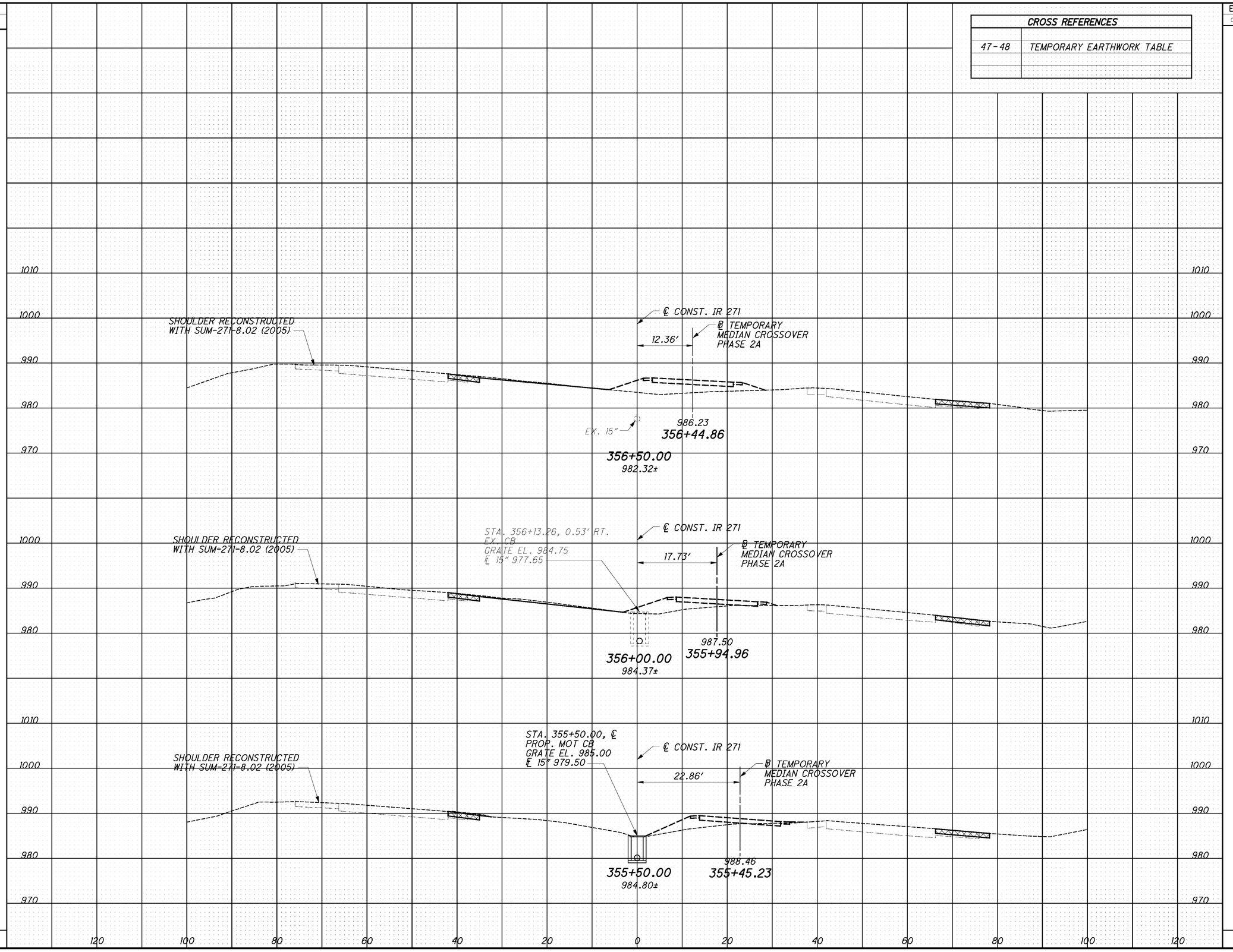
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SEEDING	
END WIDTH	SQ. YDS.

CROSS REFERENCES	
47-48	TEMPORARY EARTHWORK TABLE

END AREA		VOLUME	
CUT	FILL	CUT	FILL

CALCULATED DAW
CHECKED PRS



MAINTENANCE OF TRAFFIC CROSS SECTIONS
STA. 355+50.00 TO STA. 356+50.00

SUM-271-2.33

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SEEDING	
END WIDTH	SQ. YDS.

CROSS REFERENCES	
47-48	TEMPORARY EARTHWORK TABLE

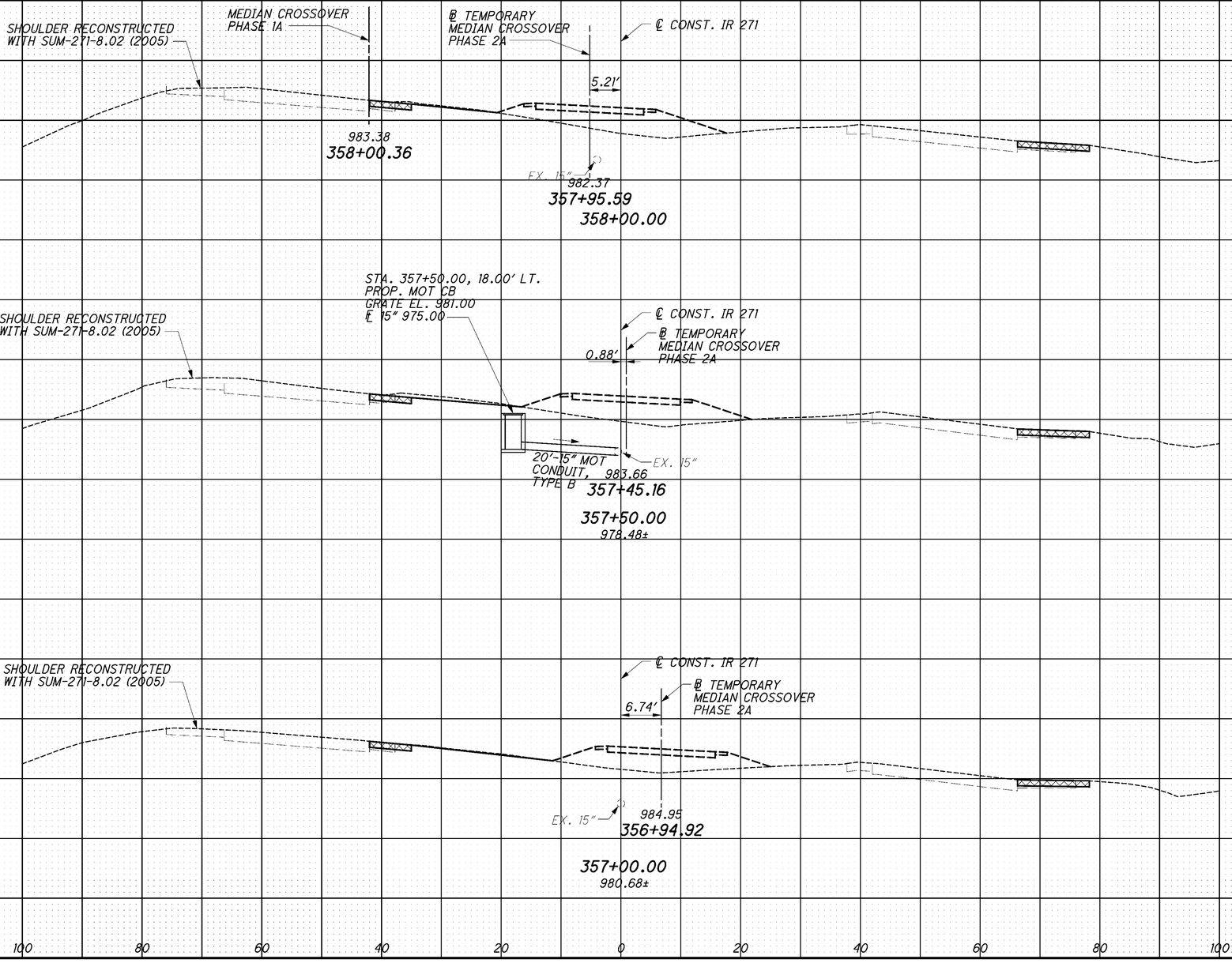
END AREA		VOLUME	
CUT	FILL	CUT	FILL

CALCULATED DAW
CHECKED PRS

MAINTENANCE OF TRAFFIC CROSS SECTIONS STA. 357+00.00 TO STA. 358+00.00

SUM-271-2.33

177
1195



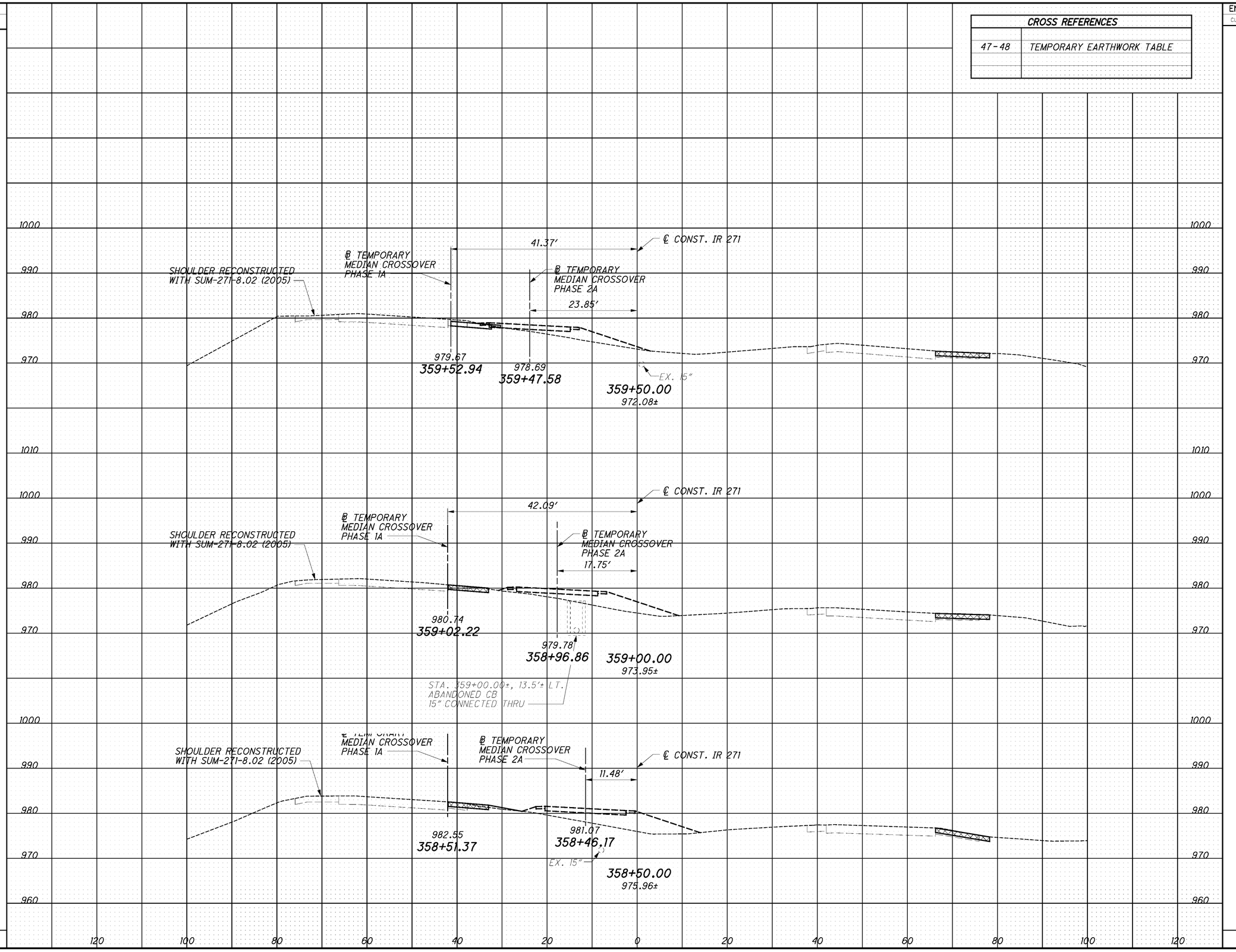
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SEEDING	
END WIDTH	SQ. YDS.

CROSS REFERENCES	
47-48	TEMPORARY EARTHWORK TABLE

END AREA		VOLUME	
CUT	FILL	CUT	FILL

CALCULATED DAW
CHECKED PRS



MAINTENANCE OF TRAFFIC CROSS SECTIONS STA. 358+50.00 TO STA. 359+50.00

SUM-271-2.33

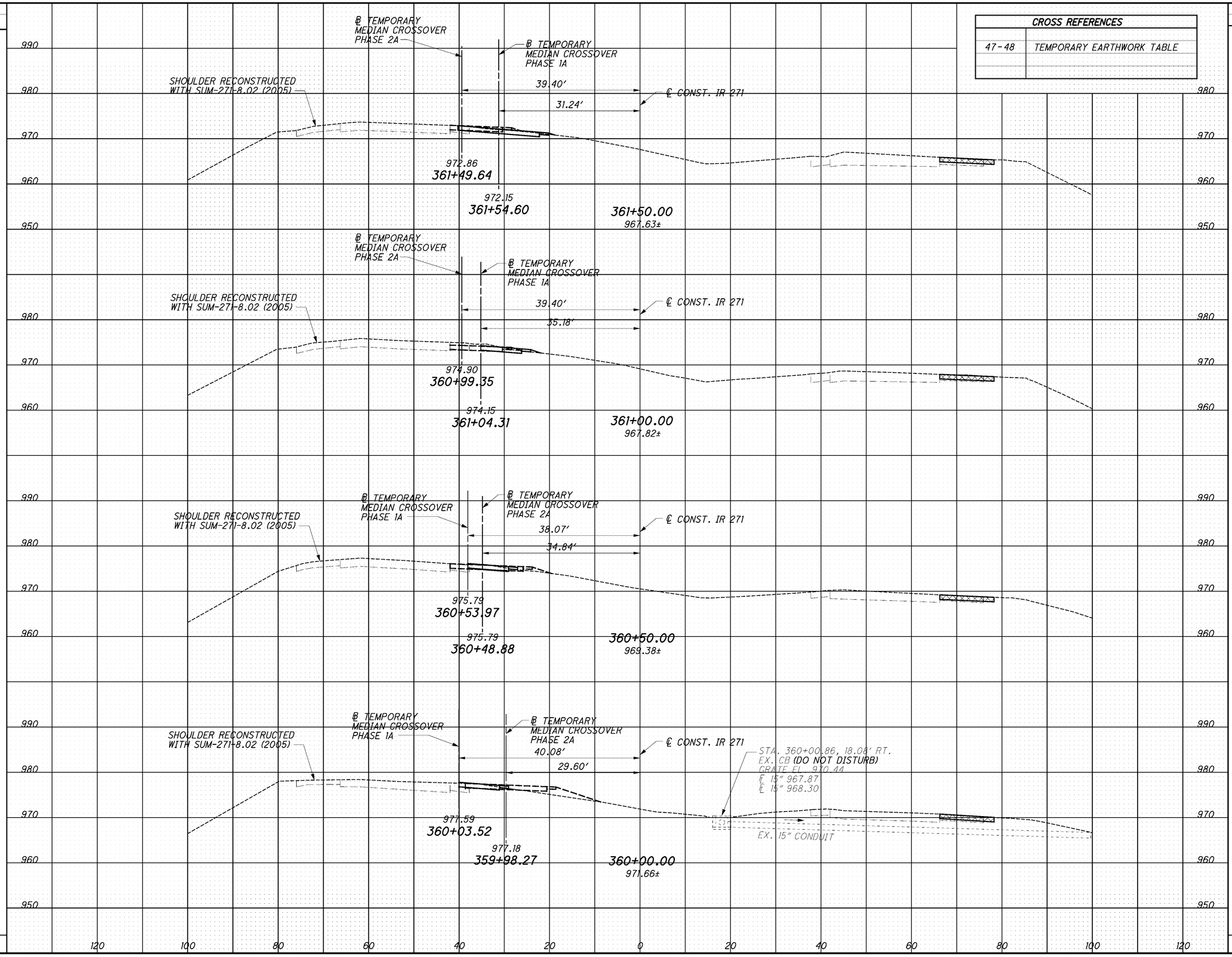
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SEEDING	
END WIDTH	SQ. YDS.

CROSS REFERENCES	
47-48	TEMPORARY EARTHWORK TABLE

END AREA		VOLUME	
CUT	FILL	CUT	FILL

CALCULATED DAW
CHECKED PRS



MAINTENANCE OF TRAFFIC CROSS SECTIONS
STA. 360+00.00 TO STA. 361+50.00

SUM-271-2.33

179
1195

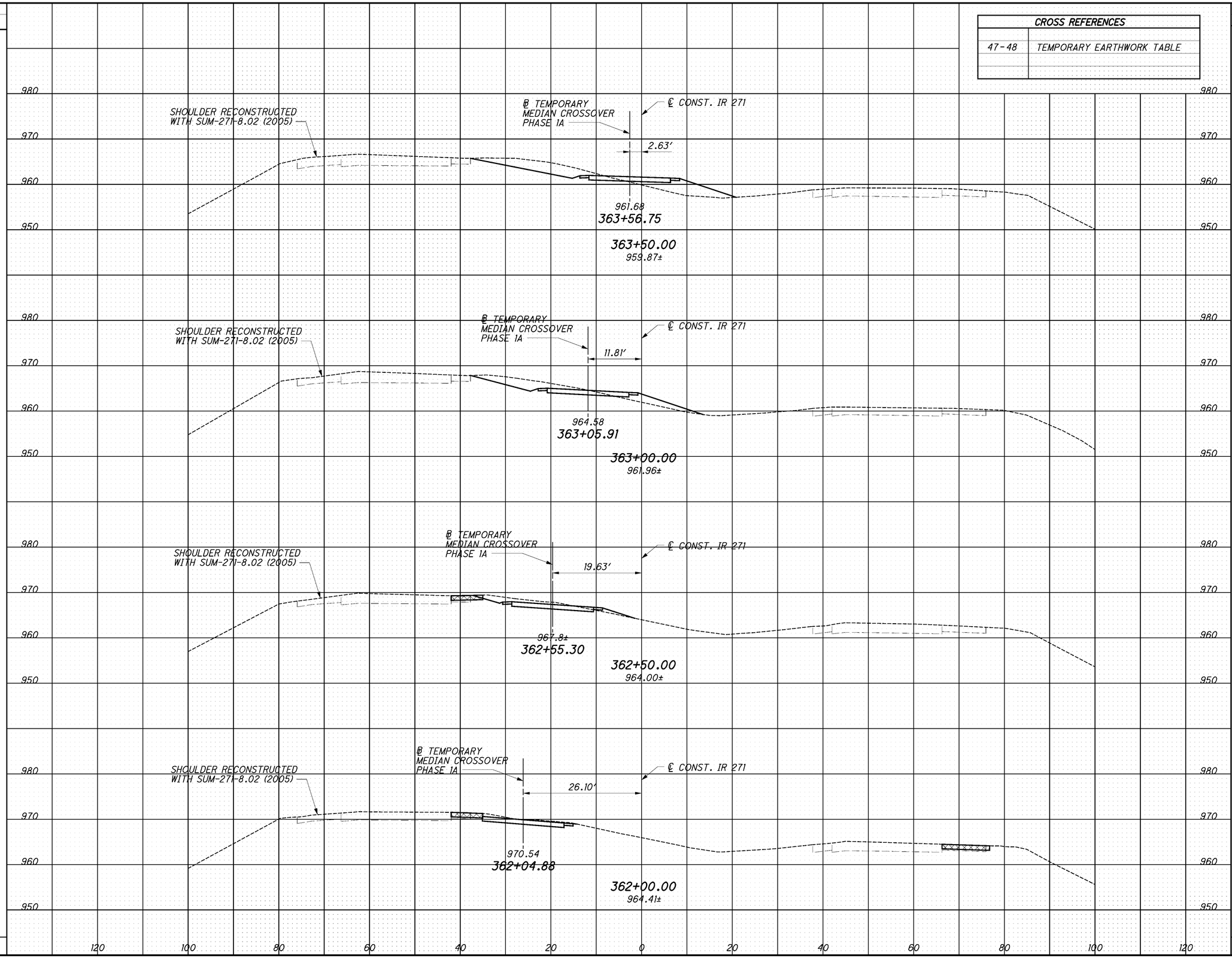
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SEEDING	
END WIDTH	SQ. YDS.

CROSS REFERENCES	
47-48	TEMPORARY EARTHWORK TABLE

END AREA		VOLUME	
CUT	FILL	CUT	FILL

CALCULATED DAW
CHECKED PRS



MAINTENANCE OF TRAFFIC CROSS SECTIONS
STA. 362+00.00 TO STA. 363+50.00

SUM-271-2.33

180
1195

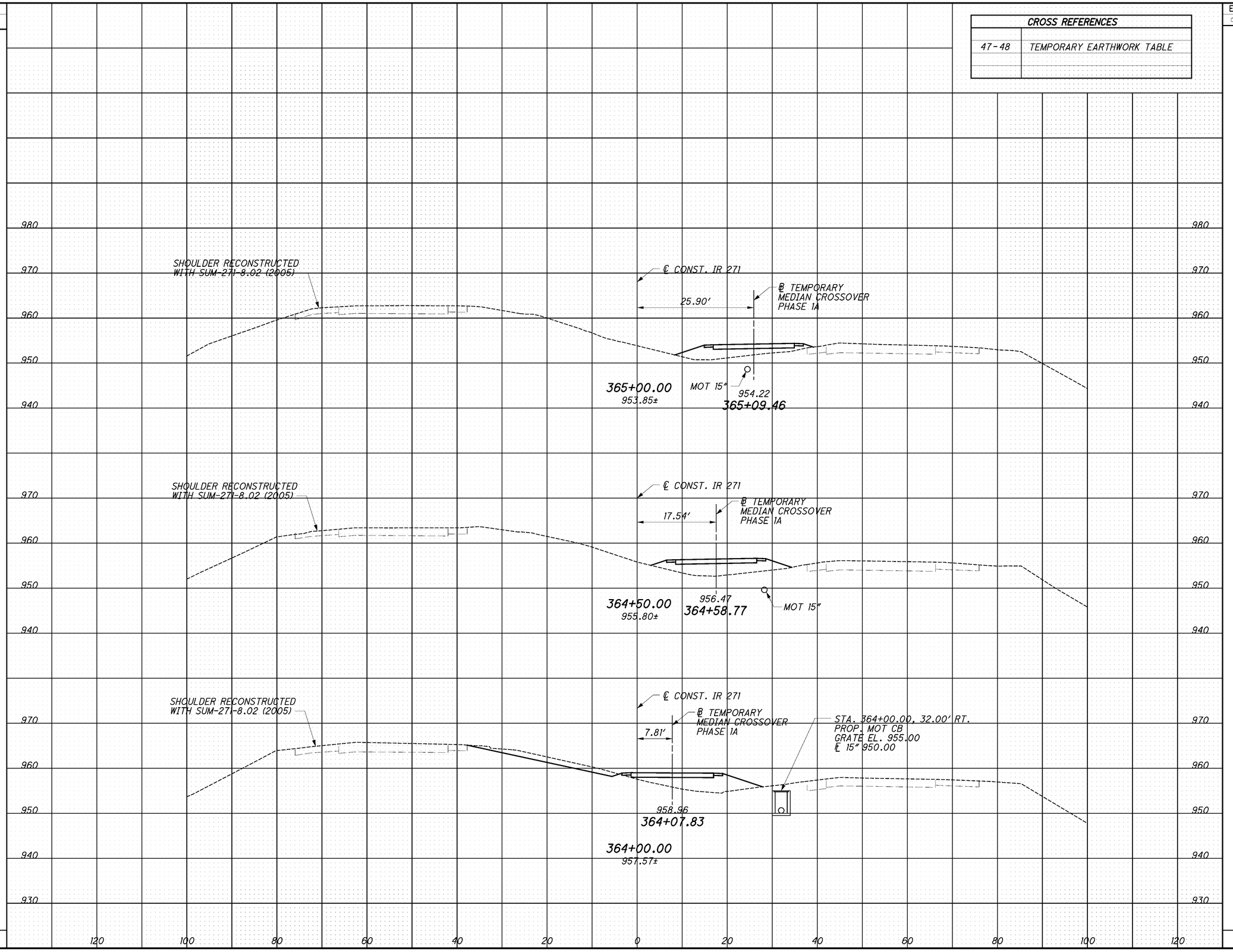
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SEEDING	
END WIDTH	SQ. YDS.

CROSS REFERENCES	
47-48	TEMPORARY EARTHWORK TABLE

END AREA		VOLUME	
CUT	FILL	CUT	FILL

CALCULATED DAW
CHECKED PRS



MAINTENANCE OF TRAFFIC CROSS SECTIONS STA. 364+00.00 TO STA. 365+00.00

SUM-271-2.33

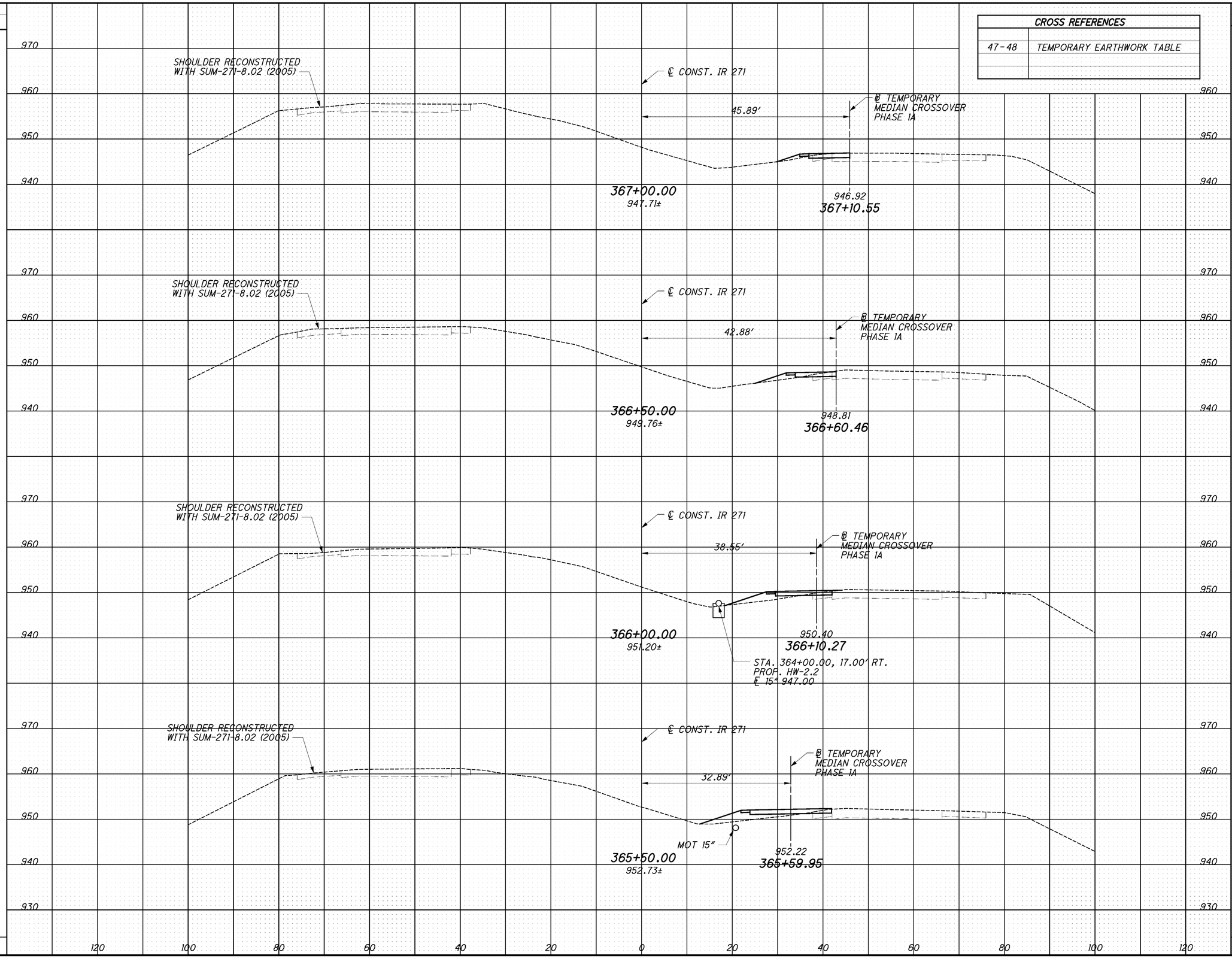
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SEEDING	
END WIDTH	SQ. YDS.

CROSS REFERENCES	
47-48	TEMPORARY EARTHWORK TABLE

END AREA		VOLUME	
CUT	FILL	CUT	FILL

CALCULATED DAW
CHECKED PRS



MAINTENANCE OF TRAFFIC CROSS SECTIONS
STA. 365+50.00 TO STA. 367+00.00

SUM-271-2.33

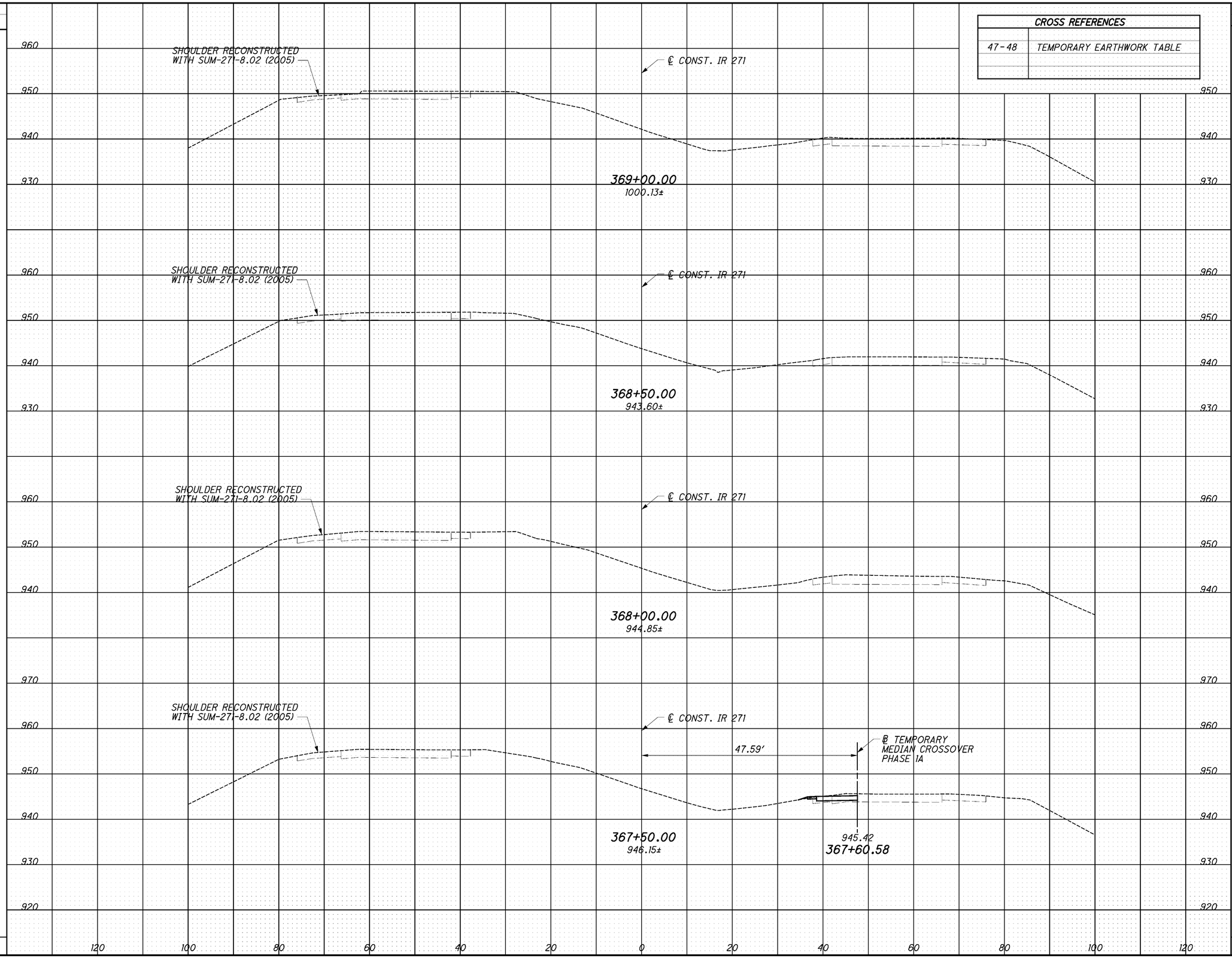
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SEEDING	
END WIDTH	SQ. YDS.

CROSS REFERENCES	
47-48	TEMPORARY EARTHWORK TABLE

END AREA		VOLUME	
CUT	FILL	CUT	FILL

CALCULATED DAW
CHECKED PRS



MAINTENANCE OF TRAFFIC CROSS SECTIONS STA. 367+50.00 TO STA. 369+00.00

SUM-271-2.33

183
1195

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℄ TEMPORARY MEDIAN CROSSOVER CURVE DATA

P.I.= Sta. 245+10.28
D = 12° 33′ 58″ (LT)
Dc = 3° 00′ 00″
R = 1,909.86′
T = 210.28′
L = 418.87′
E = 11.54′
C = 418.03′
C.B. = N 62° 01′ 21″ E

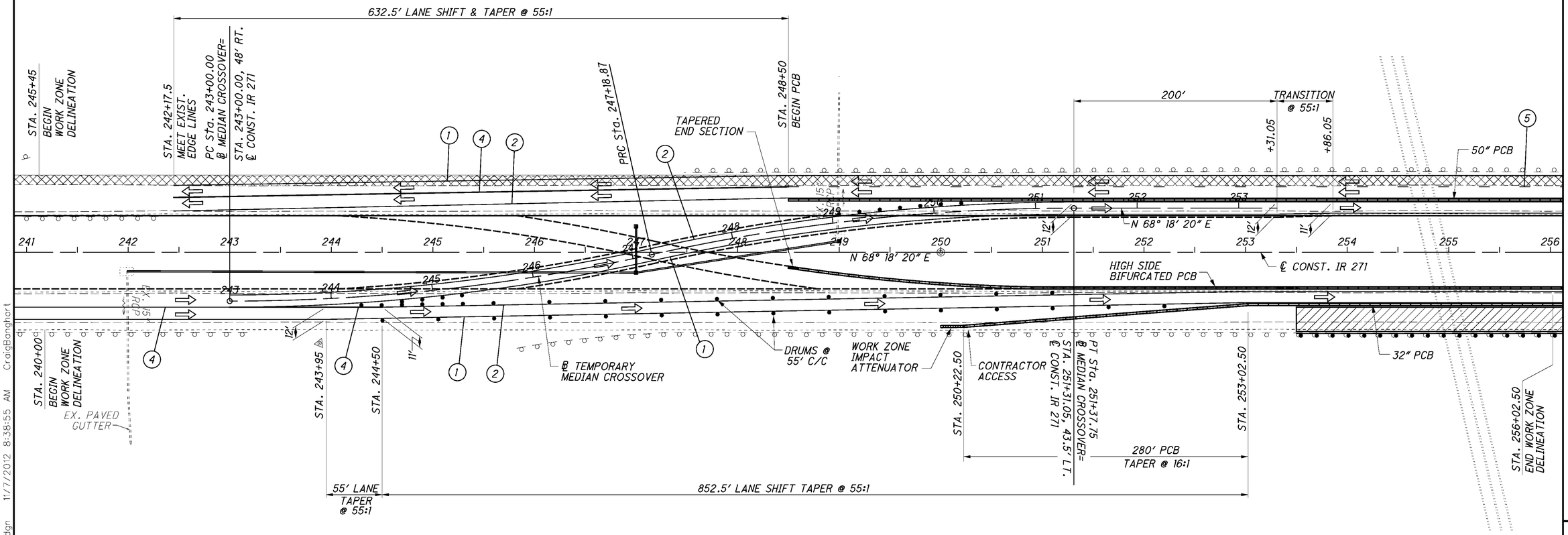
WORK ZONE MARKING LEGEND

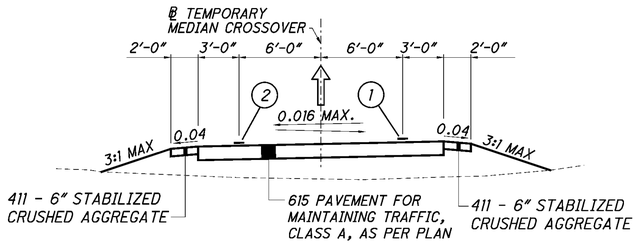
1. WORK ZONE EDGE LINE, CLASS 1, AS PER PLAN (WHITE)
2. WORK ZONE EDGE LINE, CLASS 1, AS PER PLAN (YELLOW)
3. WORK ZONE DOTTED LINE, CLASS 1, AS PER PLAN
4. WORK ZONE CHANNELIZING LINE, CLASS 1, AS PER PLAN
5. WORK ZONE LANE LINE, CLASS 1, AS PER PLAN

NOTE:
MEDIAN CROSSOVER AND MOT ON SB LANES TO REMAIN FROM PHASE 1A

CROSS REFERENCES	
58	MOT TYPICAL SECTIONS
310	PROFILE SHEET
444-452	CROSS SECTIONS

NOTE:
SEE STD. DRWG. MT-99.30 AND MT-102.20 FOR ADDITIONAL DETAILS





CROSSOVER TYPICAL SECTION

℄ TEMPORARY MEDIAN CROSSOVER CURVE DATA

P.I.= Sta. 249+29.15
D = 12° 33′ 58″ (RT)
Dc = 3° 00′ 00″
R = 1,909.86′
T = 210.28′
L = 418.87′
E = 11.54′
C = 418.03′
C.B. = N 62° 01′ 21″ E

LEGEND

- ITEM 615 PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A, AS PER PLAN
- PHASE 1B CONSTRUCTION
- TRAFFIC DIRECTION

HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED DAW
CHECKED PRS

MAINTENANCE OF TRAFFIC - PHASE 1B
PLAN - INTERMEDIATE CROSSOVER

SUM-271-2.33

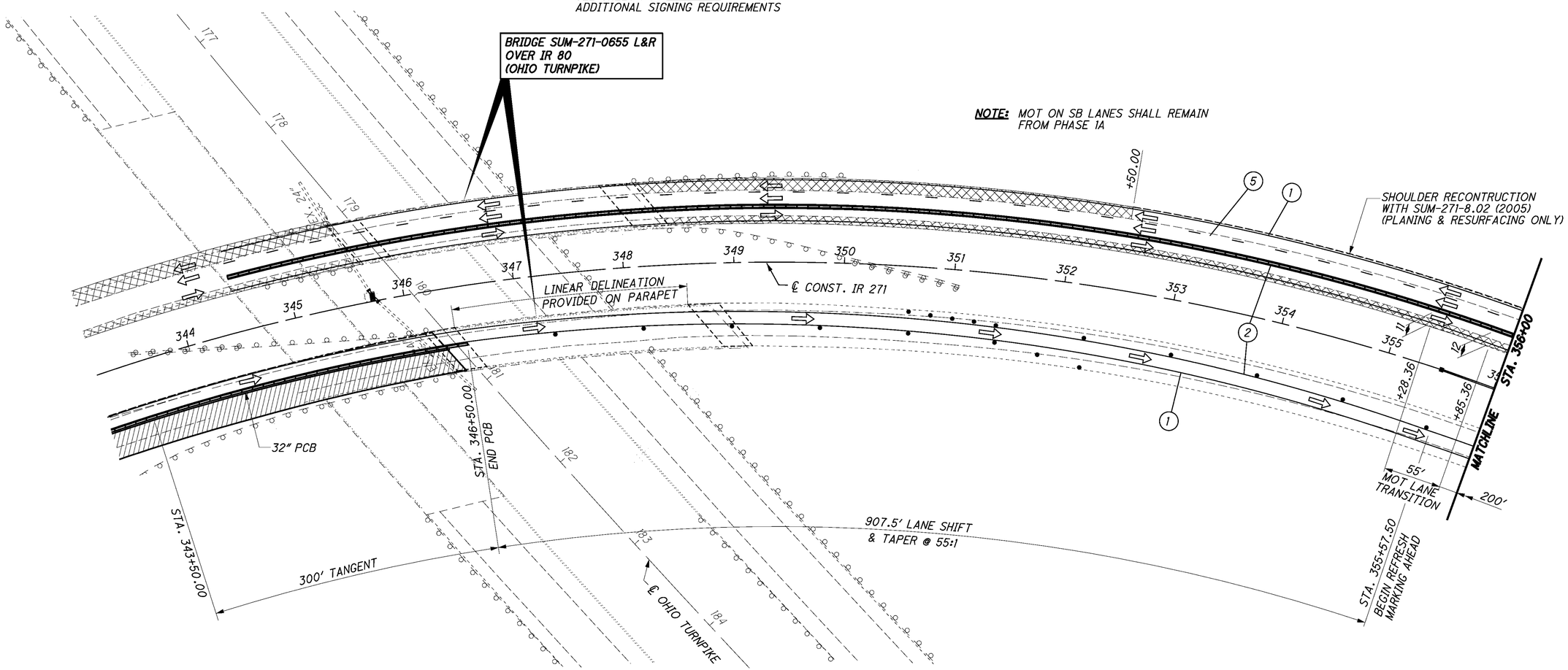
184
1195

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CROSS REFERENCES	
58-59	MOT TYPICAL SECTIONS
172-183	CROSS SECTIONS

NOTE:
SEE SHEET NO. 220-223 FOR ADDITIONAL SIGNING REQUIREMENTS

NOTE: MOT ON SB LANES SHALL REMAIN FROM PHASE 1A



LEGEND

- ITEM 615 PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A, AS PER PLAN
- PHASE 1B CONSTRUCTION
- TRAFFIC DIRECTION

WORK ZONE MARKING LEGEND

1. WORK ZONE EDGE LINE, CLASS 1, AS PER PLAN (WHITE)
2. WORK ZONE EDGE LINE, CLASS 1, AS PER PLAN (YELLOW)
3. WORK ZONE DOTTED LINE, CLASS 1, AS PER PLAN
4. WORK ZONE CHANNELIZING LINE, CLASS 1, AS PER PLAN
5. WORK ZONE LANE LINE, CLASS 1, AS PER PLAN

HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED DAW
CHECKED PRS

MAINTENANCE OF TRAFFIC - PHASE 1B
PLAN - NORTH CROSSOVER

SUM-271-2.33

185
1195

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WORK ZONE MARKING LEGEND

1. WORK ZONE EDGE LINE, CLASS 1, AS PER PLAN (WHITE)
2. WORK ZONE EDGE LINE, CLASS 1, AS PER PLAN (YELLOW)
3. WORK ZONE DOTTED LINE, CLASS 1, AS PER PLAN
4. WORK ZONE CHANNELIZING LINE, CLASS 1, AS PER PLAN
5. WORK ZONE LANE LINE, CLASS 1, AS PER PLAN

LEGEND

ITEM 615 PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A, AS PER PLAN

PHASE 1B CONSTRUCTION

TRAFFIC DIRECTION

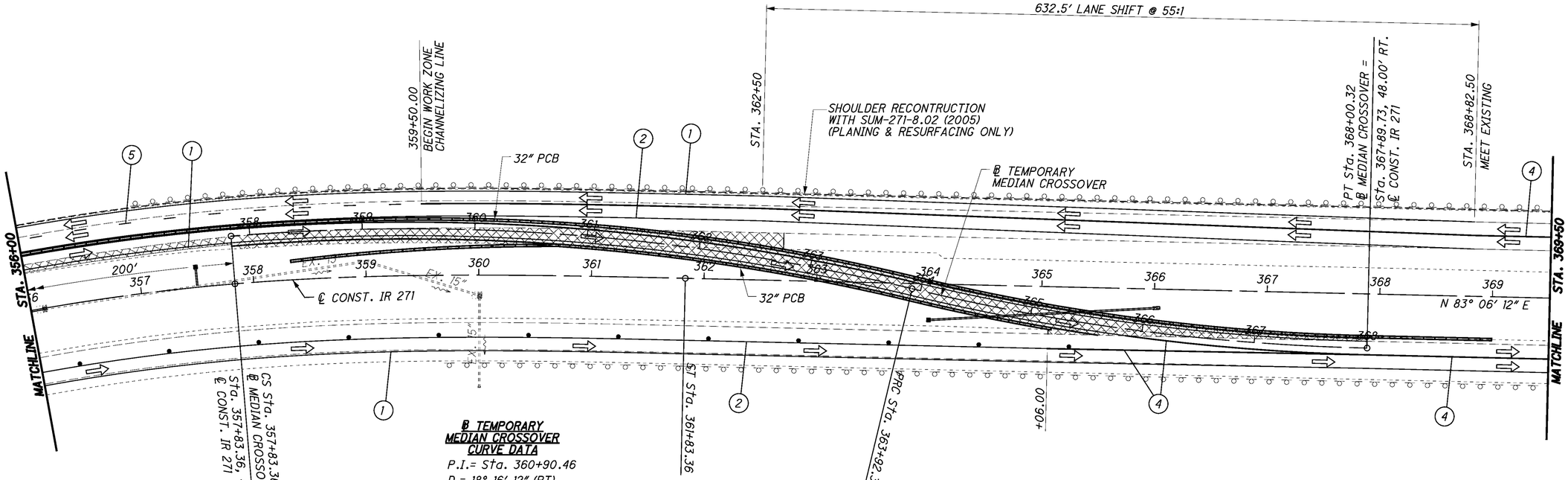
NOTE: MOT ON SB LANES AND MEDIAN CROSOVER SHALL REMAIN FROM PHASE 1A

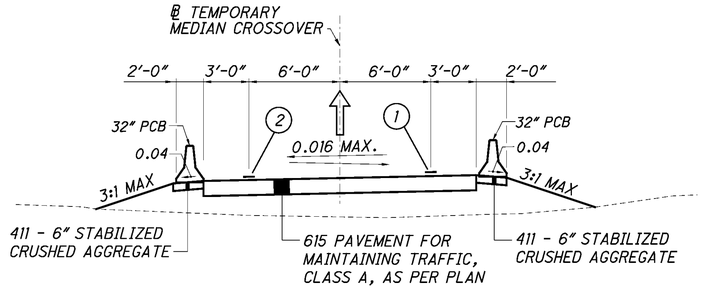
℄ TEMPORARY MEDIAN CROSSOVER CURVE DATA

P.I.= Sta. 365+97.12
D = 12° 14′ 20″ (LT)
Dc = 3° 00′ 00″
R = 1,909.86′
T = 204.76′
L = 407.96′
E = 10.94′
C = 407.18′
C.B. = N 89° 13′ 22″ E

CROSS REFERENCES	
58	MOT TYPICAL SECTIONS
172-183	CROSS SECTIONS

NOTE:
SEE SHEET NO. 220-223 FOR ADDITIONAL SIGNING REQUIREMENTS





CROSSOVER TYPICAL SECTION

HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED DAW
CHECKED PRS

MAINTENANCE OF TRAFFIC - PHASE 1B PLAN - NORTH CROSSOVER

SUM-271-2.33

186
1195

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CROSS REFERENCES	
62	MOT TYPICAL SECTIONS
310	PROFILE
444-452	CROSS SECTIONS
47-48	TEMPORARY EARTHWORK TABLE

℄ TEMPORARY MEDIAN CROSSOVER CURVE DATA
P.I.= Sta. 245+10.28
D = 12° 33′ 58″ (RT)
Dc = 3° 00′ 00″
R = 1,909.86′
T = 210.28′
L = 418.87′
E = 11.54′
C = 418.03′
C.B. = N 74° 35′ 19″ E

NOTE:
RUMBLE STRIPS SHALL BE PLACED IN THE S.B. CONTRAFLOW LANE AS PER NOTE ON SHEET 46

LEGEND
ITEM 615 PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A, AS PER PLAN
PHASE 2A CONSTRUCTION
TRAFFIC DIRECTION

WORK ZONE MARKING LEGEND
1. WORK ZONE EDGE LINE, CLASS 1, AS PER PLAN (WHITE)
2. WORK ZONE EDGE LINE, CLASS 1, AS PER PLAN (YELLOW)
3. WORK ZONE DOTTED LINE, CLASS 1, AS PER PLAN
4. WORK ZONE CHANNELIZING LINE, CLASS 1, AS PER PLAN
5. WORK ZONE LANE LINE, CLASS 1, AS PER PLAN

NOTE:
SEE STD. DRWG. MT-99.30 AND MT-102.20 FOR ADDITIONAL DETAILS

831.05′ MEDIAN CROSSOVER (3° REVERSE CURVES)

605′ LANE SHIFT TAPER @ 55:1

STA. 240+00 BEGIN WORK ZONE DELINEATION

℄ TEMPORARY MEDIAN CROSSOVER

DRUMS @ 55′ C/C

615 PAVEMENT BY PRE-PHASE 1

PT Sta. 251+37.75 ℄ MEDIAN CROSSOVER= STA. 251+31.05, 43.5′ RT. ℄ CONST. IR 271

STA. 253+50 BEGIN PCB

32″ PCB

STA. 256+50 END WORK ZONE DELINEATION

200′ TRANSITION @ 55:1

HIGH SIDE BIFURCATION PCB

N 68° 18′ 20″ E

℄ CONST. IR 271

EX. 15″ RCP

EX. PAVED GUTTER

STA. 241+67.5

STA. 243+00.00 ℄ CONST. IR 271

PC Sta. 243+00.00 ℄ MEDIAN CROSSOVER= STA. 243+00.00, 48′ LT. ℄ CONST. IR 271

WORK ZONE IMPACT ATTENUATOR

615 PAVEMENT BY PRE-PHASE 1 STA. 512+75 AHD.

PRC Sta. 247+18.87

STA. 248+00

192′ PCB TAPER @ 16:1

℄ TEMPORARY MEDIAN CROSSOVER CURVE DATA
P.I.= Sta. 249+29.15
D = 12° 33′ 58″ (LT)
Dc = 3° 00′ 00″
R = 1,909.86′
T = 210.28′
L = 418.87′
E = 11.54′
C = 418.03′
C.B. = N 74° 35′ 19″ E

50″ PCB

℄ TEMPORARY MEDIAN CROSSOVER

2′-0″ 3′-0″ 6′-0″ 6′-0″ 3′-0″ 2′-0″

0.016 MAX.

0.04 0.04

3:1 MAX 3:1 MAX

STA. 254+31.05 END WORK ZONE DELINEATION

411 - 6″ STABILIZED CRUSHED AGGREGATE

615 PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A, AS PER PLAN

411 - 6″ STABILIZED CRUSHED AGGREGATE

300′ TANGENT

632.5′ LANE SHIFT & TAPER @ 55:1

300′ TANGENT

CROSSOVER TYPICAL SECTION

P.V.I. STA 244+50.00
ELEV = 953.85′
NO CURVE

P.V.I. STA 249+50.00
ELEV = 961.93′
NO CURVE

-0.70 % -0.30 % +2.40 % +2.40 % +2.80 % +3.18 %

P.V.I. STA 248+50.00 ELEV = 959.13′
150.00′ VC

P.V.I. STA 246+10.00 ELEV = 953.37′
315.00′ VC

954.90 954.55 954.20 953.85 953.80 953.96 954.33 954.92 955.73 956.74 957.94 959.21 960.54 961.93 963.52 965.11 966.70 968.29 969.88

954.90 954.44 954.43 953.76 953.31 952.73 951.99 951.00 950.97 952.93 955.39 957.97 959.86 961.93 964.32 965.99 967.00 968.10 969.88 971.44 973.04

980 970 960 950 940 930 920

242 243 244 245 246 247 248 249 250 251 252 253 254 255

HORIZONTAL SCALE IN FEET 0 25 50 100

CALCULATED DAW CHECKED PRS

MAINTENANCE OF TRAFFIC - PHASE 2A
PLAN & PROFILE - INTERMEDIATE CROSSOVER

SUM-271-2.33

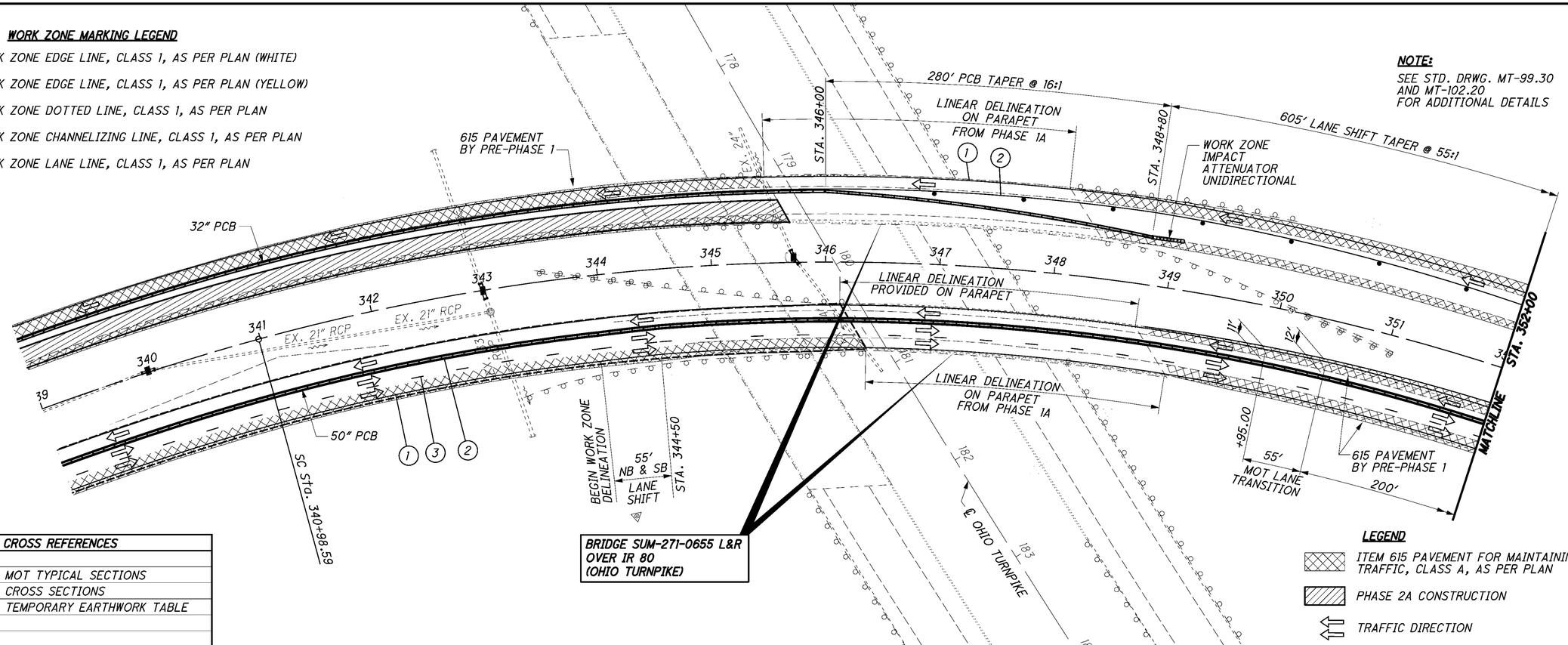
187
1195

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WORK ZONE MARKING LEGEND

1. WORK ZONE EDGE LINE, CLASS 1, AS PER PLAN (WHITE)
2. WORK ZONE EDGE LINE, CLASS 1, AS PER PLAN (YELLOW)
3. WORK ZONE DOTTED LINE, CLASS 1, AS PER PLAN
4. WORK ZONE CHANNELIZING LINE, CLASS 1, AS PER PLAN
5. WORK ZONE LANE LINE, CLASS 1, AS PER PLAN

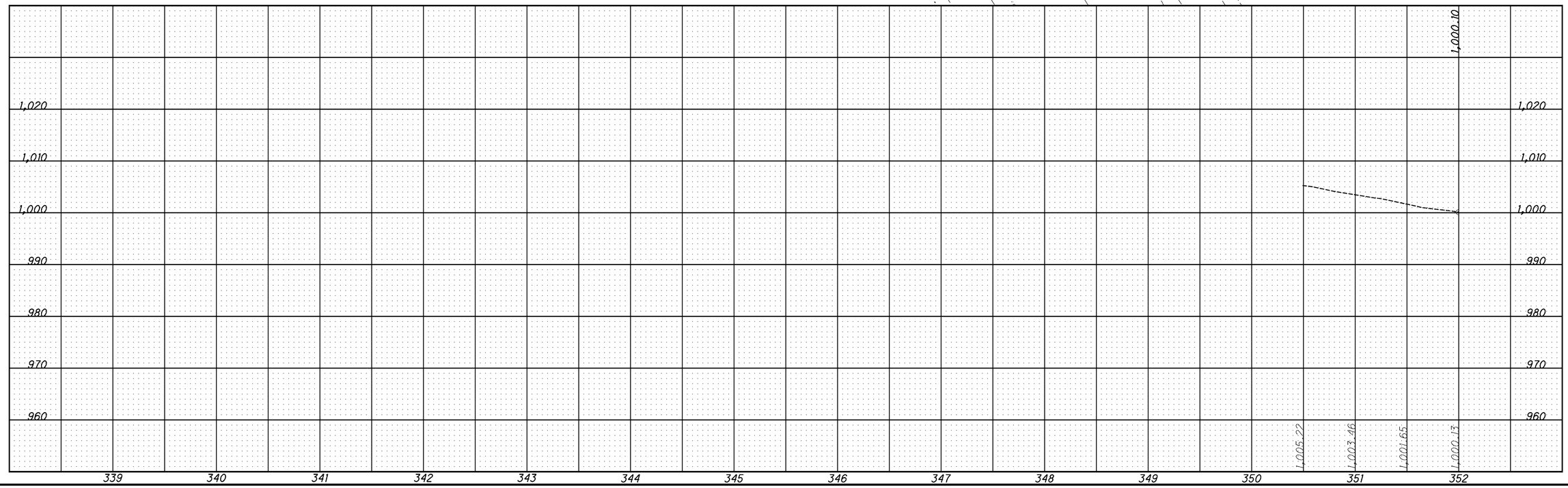
NOTE:
SEE STD. DRWG. MT-99.30 AND MT-102.20 FOR ADDITIONAL DETAILS



LEGEND

- ITEM 615 PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A, AS PER PLAN
- PHASE 2A CONSTRUCTION
- TRAFFIC DIRECTION

CROSS REFERENCES	
62-63	MOT TYPICAL SECTIONS
172-183	CROSS SECTIONS
47-48	TEMPORARY EARTHWORK TABLE



HORIZONTAL SCALE IN FEET (0, 25, 50, 100)

CALCULATED DAW
CHECKED PRS

MAINTENANCE OF TRAFFIC - PHASE 2A
PLAN & PROFILE - NORTH CROSSOVER

SUM-271-2.33

188
1195

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LEGEND

ITEM 615 PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A, AS PER PLAN

PHASE 2A CONSTRUCTION

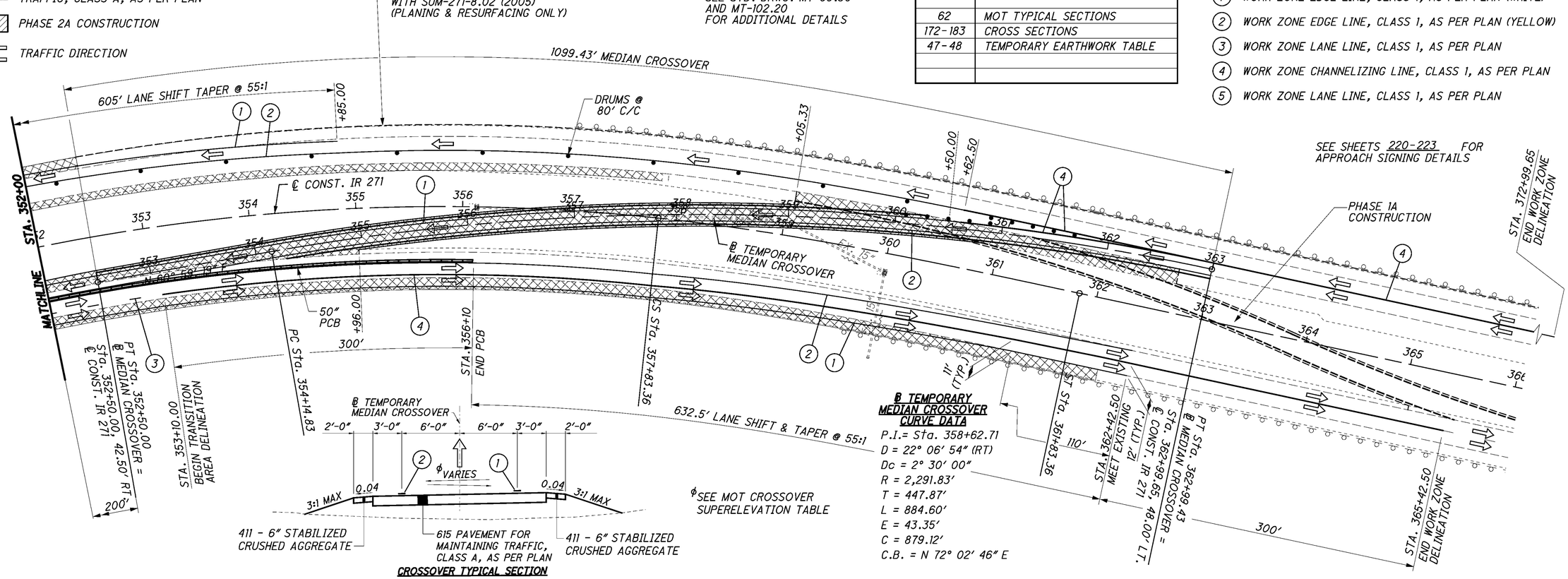
TRAFFIC DIRECTION

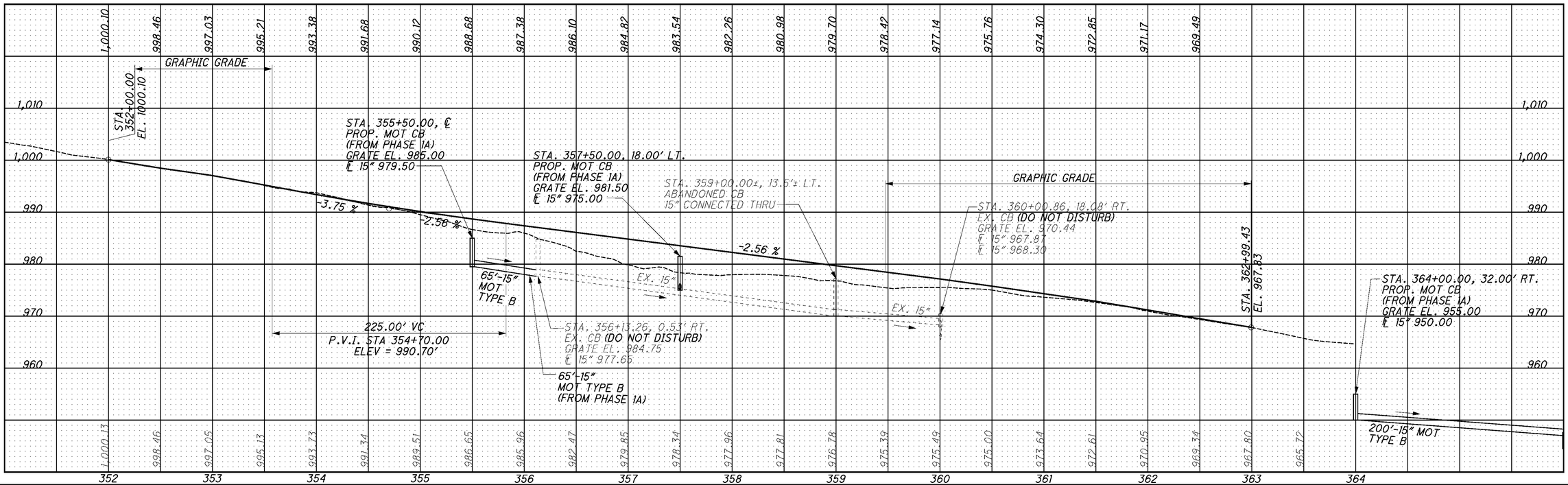
NOTE:
SEE STD. DRWG. MT-99.30 AND MT-102.20 FOR ADDITIONAL DETAILS

CROSS REFERENCES	
62	MOT TYPICAL SECTIONS
172-183	CROSS SECTIONS
47-48	TEMPORARY EARTHWORK TABLE

WORK ZONE MARKING LEGEND

1. WORK ZONE EDGE LINE, CLASS 1, AS PER PLAN (WHITE)
2. WORK ZONE EDGE LINE, CLASS 1, AS PER PLAN (YELLOW)
3. WORK ZONE LANE LINE, CLASS 1, AS PER PLAN
4. WORK ZONE CHANNELIZING LINE, CLASS 1, AS PER PLAN
5. WORK ZONE LANE LINE, CLASS 1, AS PER PLAN





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HORIZONTAL SCALE IN FEET (0, 25, 50, 100)

CALCULATED DAW CHECKED PRS

MAINTENANCE OF TRAFFIC - PHASE 2A
PLAN & PROFILE - NORTH CROSSOVER

SUM-271-2.33

189
1195

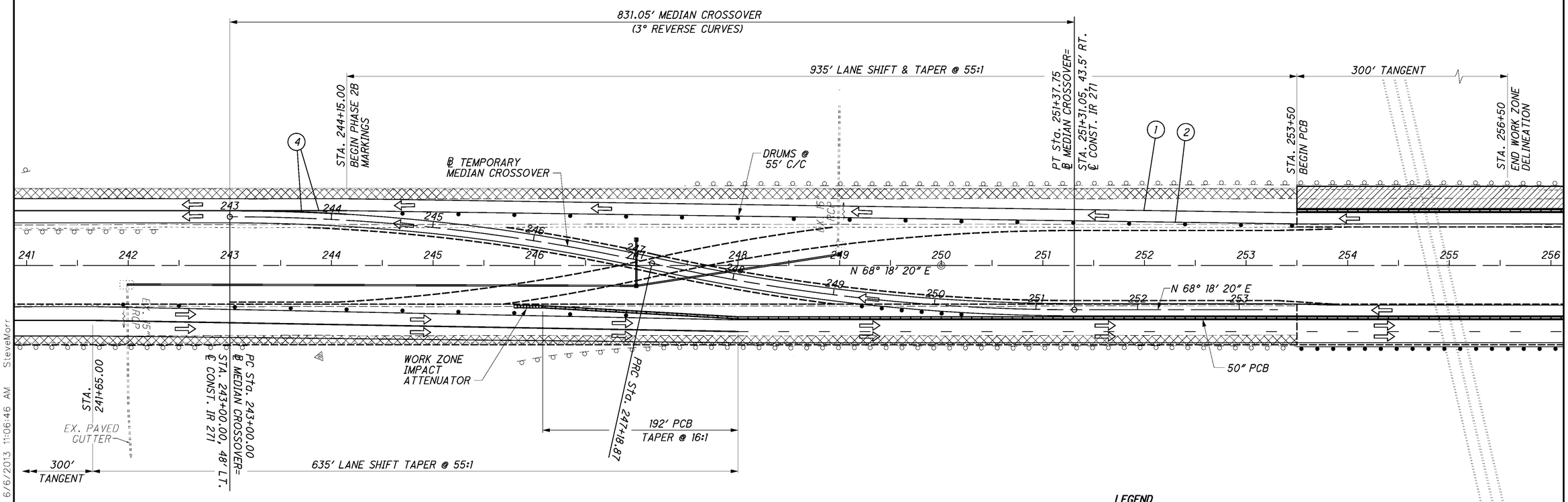
℄ TEMPORARY MEDIAN CROSSOVER CURVE DATA

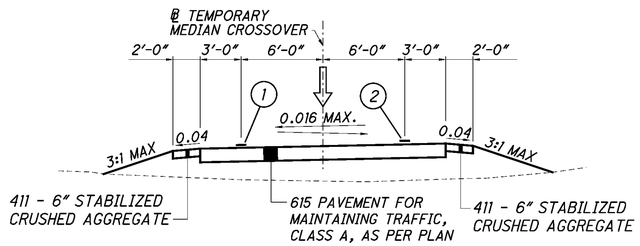
P.I.= Sta. 245+10.28
D = 12° 33′ 58″ (RT)
Dc = 3° 00′ 00″
R = 1,909.86′
T = 210.28′
L = 418.87′
E = 11.54′
C = 418.03′
C.B. = N 74° 35′ 19″ E

NOTE: MEDIAN CROSSOVER AND MOT ON NB LANES TO REMAIN FROM PHASE 2A

CROSS REFERENCES	
70	MOT TYPICAL SECTIONS
310	PROFILE
444-452	CROSS SECTIONS

NOTE:
SEE STD. DRWG. MT-99.30
AND MT-102.20
FOR ADDITIONAL DETAILS





CROSSOVER TYPICAL SECTION

℄ TEMPORARY MEDIAN CROSSOVER CURVE DATA

P.I.= Sta. 249+29.15
D = 12° 33′ 58″ (LT)
Dc = 3° 00′ 00″
R = 1,909.86′
T = 210.28′
L = 418.87′
E = 11.54′
C = 418.03′
C.B. = N 74° 35′ 19″ E

LEGEND

ITEM 615 PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A, AS PER PLAN

PHASE 2B CONSTRUCTION

TRAFFIC DIRECTION

WORK ZONE MARKING LEGEND

1. WORK ZONE EDGE LINE, CLASS 1, AS PER PLAN (WHITE)
2. WORK ZONE EDGE LINE, CLASS 1, AS PER PLAN (YELLOW)
3. WORK ZONE DOTTED LINE, CLASS 1, AS PER PLAN
4. WORK ZONE CHANNELIZING LINE, CLASS 1, AS PER PLAN
5. WORK ZONE LANE LINE, CLASS 1, AS PER PLAN

HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED DAW
CHECKED PRS

MAINTENANCE OF TRAFFIC - PHASE 2B
PLAN - INTERMEDIATE CROSSOVER

SUM-271-2.33

190
1195

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WORK ZONE MARKING LEGEND

1. WORK ZONE EDGE LINE, CLASS 1, AS PER PLAN (WHITE)
2. WORK ZONE EDGE LINE, CLASS 1, AS PER PLAN (YELLOW)
3. WORK ZONE DOTTED LINE, CLASS 1, AS PER PLAN
4. WORK ZONE CHANNELIZING LINE, CLASS 1, AS PER PLAN
5. WORK ZONE LANE LINE, CLASS 1, AS PER PLAN

LEGEND

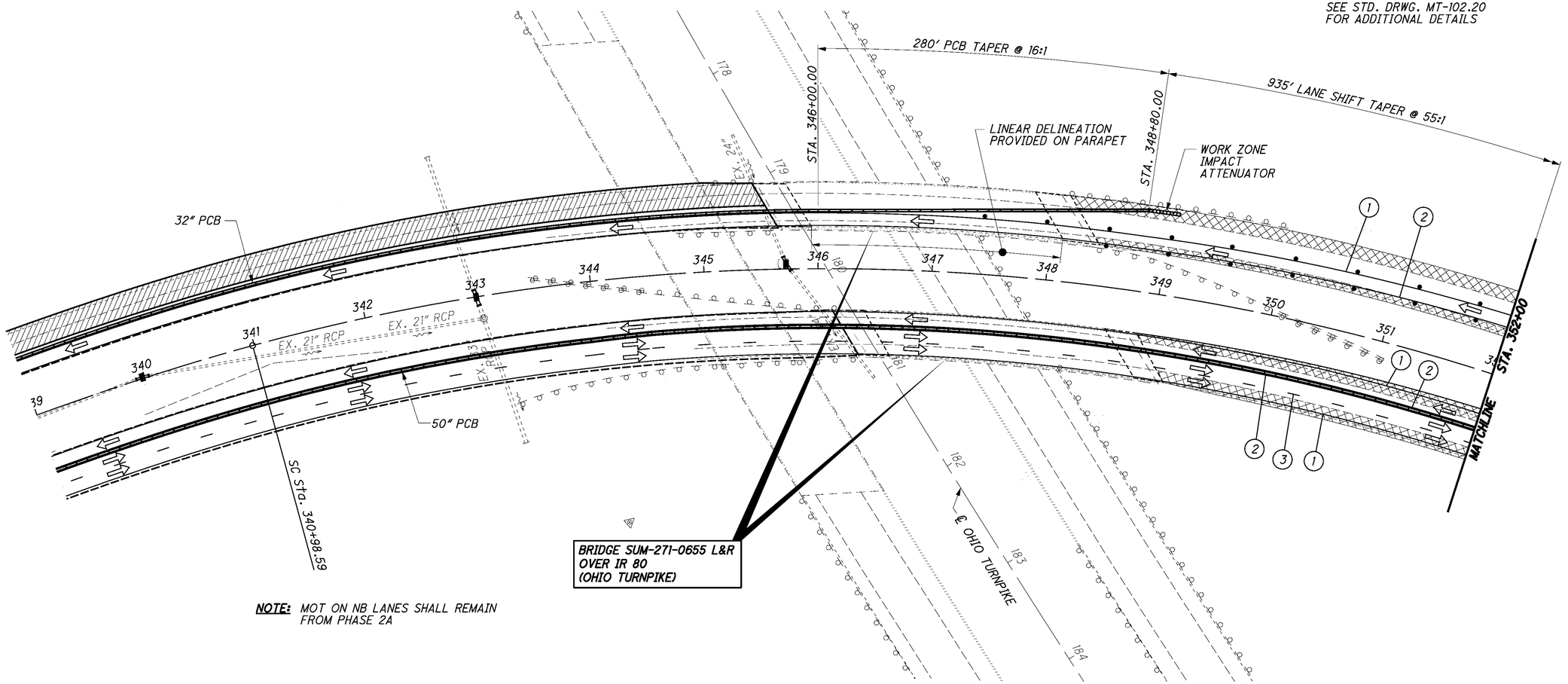
ITEM 615 PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A, AS PER PLAN

PHASE 2B CONSTRUCTION

TRAFFIC DIRECTION

CROSS REFERENCES	
70-71	MOT TYPICAL SECTIONS
172-183	CROSS SECTIONS

NOTE:
SEE STD. DRWG. MT-102.20 FOR ADDITIONAL DETAILS



NOTE: MOT ON NB LANES SHALL REMAIN FROM PHASE 2A

HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED DAW
CHECKED PRS

MAINTENANCE OF TRAFFIC - PHASE 2B
PLAN - NORTH CROSSOVER

SUM-271-2.33

191
1195

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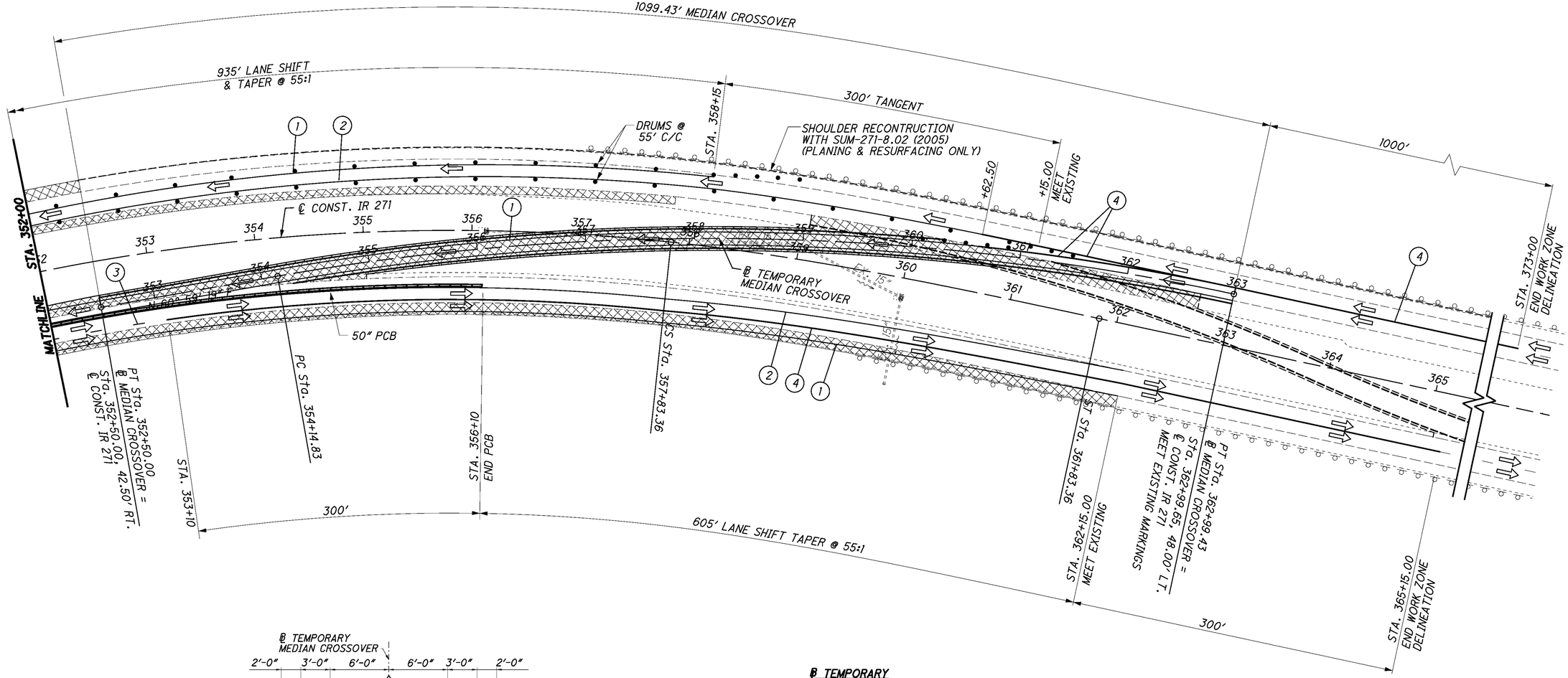
NOTE: MOT ON NB LANES AND MEDIAN CROSSOVER SHALL REMAIN FROM PHASE 2A

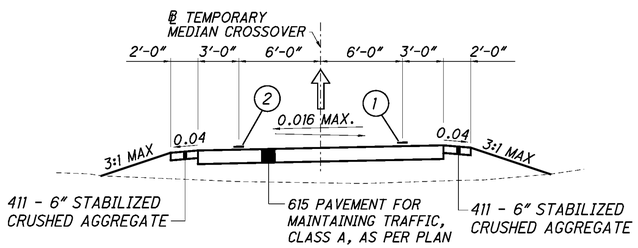
LEGEND

- ITEM 615 PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A, AS PER PLAN
- PHASE 2B CONSTRUCTION
- TRAFFIC DIRECTION

CROSS REFERENCES	
70	MOT TYPICAL SECTIONS
172-183	CROSS SECTIONS

NOTE:
SEE STD. DRWG. MT-99.30
AND MT-102.20
FOR ADDITIONAL DETAILS





CROSSOVER TYPICAL SECTION

℄ TEMPORARY MEDIAN CROSSOVER CURVE DATA

P.I.= Sta. 358+62.71
D = 22° 06' 54" (RT)
Dc = 2° 30' 00"
R = 2,291.83'
T = 447.87'
L = 884.60'
E = 43.35'
C = 879.12'
C.B. = N 72° 02' 46" E

WORK ZONE MARKING LEGEND

1. WORK ZONE EDGE LINE, CLASS 1, AS PER PLAN (WHITE)
2. WORK ZONE EDGE LINE, CLASS 1, AS PER PLAN (YELLOW)
3. WORK ZONE DOTTED LINE, CLASS 1, AS PER PLAN
4. WORK ZONE CHANNELIZING LINE, CLASS 1, AS PER PLAN
5. WORK ZONE LANE LINE, CLASS 1, AS PER PLAN

HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED DAW
CHECKED PRS

MAINTENANCE OF TRAFFIC - PHASE 2B
PLAN - NORTH CROSSOVER

SUM-271-2.33

192
1195

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SUPERELEVATION TABLE

MOT NORTH CROSSOVER PHASE 1A

DESCRIPTION	TRANSITION RATE	BASELINE STATION	RIGHT E.O.P. ELEVATION	ELEVATION CORRECTION	WIDTH	CROSS SLOPE	PROFILE GRADE E.O.P. ELEVATION	WIDTH	ELEVATION CORRECTION	RIGHT E.O.P. ELEVATION
MATCH EXIST. PVT.		357+83.36		0.00	0.00	0.089	983.47	9.00	-0.80	982.67
		358+00.36	983.38	0.00	0.00	0.089	983.38	9.00	-0.80	982.58
		358+51.37	982.55	0.00	0.00	0.08	982.55	9.00	-0.72	981.83
		359+02.22	980.74	0.00	0.00	0.08	980.74	9.00	-0.72	980.02
		359+52.94	979.32	0.05	0.63	0.08	979.27	9.00	-0.72	978.55
		360+03.52	977.94	0.15	1.92	0.08	977.79	9.00	-0.72	977.07
		360+53.97	976.45	0.31	3.93	0.08	976.14	9.00	-0.72	975.42
		361+04.31	974.82	0.54	6.81	0.08	974.28	9.00	-0.72	973.56
		361+54.60	972.91	0.72	9.00	0.08	972.19	9.00	-0.72	971.47
		362+04.88	970.61	0.72	9.00	0.08	969.89	9.00	-0.72	969.17
		362+10.00	970.36	0.72	9.00	0.08	969.64	9.00	-0.72	968.92
		362+55.30	967.96	0.61	9.00	0.0679	967.35	9.00	-0.61	966.74
BEGIN SUPER TRANS.	214:1	362+85.00	966.30	0.54	9.00	0.0600	965.76	9.00	-0.54	965.22
	↑	363+05.91	965.05	0.47	9.00	0.0519	964.58	9.00	-0.47	964.11
		363+56.75	961.97	0.29	9.00	0.0321	961.68	9.00	-0.29	961.39
	↓	364+07.83	959.02	0.06	9.00	0.0069	958.96	9.00	-0.06	958.90
		364+39.00	957.41	0.00	9.00	0	957.41	9.00	0.00	957.41
END SUPER TRANS.	214:1	364+86.00	955.07	-0.16	9.00	-0.0183	955.23	9.00	0.16	955.39
		364+58.77	956.31	-0.16	9.00	-0.0183	956.47	9.00	0.16	956.63
		365+09.46	954.06	-0.16	9.00	-0.0183	954.22	9.00	0.16	954.38
		365+59.95	952.04	-0.16	9.00	-0.0183	952.20	9.00	0.16	952.36
		366+10.27	950.24	-0.16	9.00	-0.0183	950.40	3.43	0.06	950.46
		366+48.89	948.90	-0.16	9.00	-0.0183	949.06	0.00		
		366+60.46	948.50	-0.16	9.00	-0.0183	948.66			
		367+10.55	946.76	-0.16	9.00	-0.0183	946.92			
		367+60.58	945.03	-0.16	9.00	-0.0183	945.19			

MOT NORTH CROSSOVER PHASE 2A

DESCRIPTION	TRANSITION RATE	BASELINE STATION	RIGHT E.O.P. ELEVATION	ELEVATION CORRECTION	WIDTH	CROSS SLOPE	PROFILE GRADE E.O.P. ELEVATION	WIDTH	ELEVATION CORRECTION	RIGHT E.O.P. ELEVATION
MATCH EXIST. PVT.		352+50.00	999.23	0.77	9.00	0.086	998.46	0.00	0.00	998.46
		352+98.89	997.84	0.77	9.00	0.086	997.07	0.14	-0.01	997.06
		353+47.85	996.01	0.72	9.00	0.08	995.29	2.07	-0.17	995.12
		353+96.95	994.21	0.72	9.00	0.08	993.49	5.29	-0.42	993.07
		354+46.23	992.53	0.72	9.00	0.08	991.81	9.00	-0.72	991.09
		354+95.66	990.97	0.72	9.00	0.08	990.25	9.00	-0.72	989.53
BEGIN SUPER TRANS.	262:1	355+25.00	990.10	0.72	9.00	0.0800	989.38	9.00	-0.72	988.66
	↕	355+45.23	989.47	0.66	9.00	0.0736	988.81	9.00	-0.66	988.15
		355+94.96	988.02	0.52	9.00	0.0578	987.50	9.00	-0.52	986.98
END SUPER TRANS.	262:1	356+10.00	987.60	0.48	9.00	0.0530	987.12	9.00	-0.48	986.64
		356+44.86	986.71	0.48	9.00	0.0530	986.23	9.00	-0.48	985.75
		356+94.92	985.43	0.48	9.00	0.0530	984.95	9.00	-0.48	984.47
		357+45.16	984.14	0.48	9.00	0.0530	983.66	9.00	-0.48	983.18
		357+95.59	982.85	0.48	9.00	0.0530	982.37	9.00	-0.48	981.89
		358+46.17	981.55	0.48	9.00	0.0530	981.07	9.00	-0.48	980.59
		358+96.86	980.26	0.48	9.00	0.0530	979.78	9.00	-0.48	979.30
		359+47.58	978.96	0.48	9.00	0.0530	978.48	9.00	-0.48	978.00
		359+65.00	978.51	0.48	9.00	0.0530	978.03	9.00	-0.48	977.55
		359+98.27	977.55	0.37	9.00	0.0406	977.18	9.00	-0.37	976.81
		360+00.00	977.50	0.36	9.00	0.0400	977.14	9.00	-0.36	976.78
		360+48.88	976.08	0.29	7.13	0.0400	975.79	9.00	-0.36	975.43
		360+99.35	974.42	0.10	2.59	0.0400	974.32	9.00	-0.36	973.96
		361+49.64				0.0400	972.86	9.00	-0.36	972.50
		361+99.75				0.0400	971.60	9.00	-0.36	971.24

CALCULATED DAW
CHECKED PRS

MAINTENANCE OF TRAFFIC - PHASE 1A AND 2A
NORTH CROSSOVER SUPERELEVATION TABLE

SUM-271-2.33

193
1195

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℄ TEMPORARY MEDIAN CROSSOVER CURVE DATA

P.I.= Sta. 518+75.28
D = 12° 33′ 58″ (LT)
Dc = 3° 00′ 00″
R = 1,909.86′
T = 210.28′
L = 418.87′
E = 11.54′
C = 418.03′
C.B. = N 50° 40′ 04″ E

SEE SHEETS 220-223 FOR APPROACH SIGNING DETAILS

STA. 512+40 BEGIN WORK ZONE DELINEATION

STA. 515+40 MEET EXIST. EDGE LINES

PC Sta. 516+65.00 ℄ MEDIAN CROSSOVER = Sta. 516+65.00, 48′ RT. ℄ CONST. IR 271

635′ LANE SHIFT & TAPER @ 55:1

STA. 521+00.00, 25.00′ LT.
PROP. MOT CB
GRATE EL. 1168.00
℄ 12″ 1163.00

831.05′ MEDIAN CROSSOVER
(3° REVERSE CURVES)

PRC Sta. 520+83.87

300′ TANGENT

STA. 521+75 BEGIN PCB

+42.97

STA. 522+25.00, ℄
PROP. MOT CB
GRATE EL. 1167.00
℄ 12″ 1164.20

STA. 524+75 END WORK ZONE DELINEATION (SB)

300′ TANGENT

200′ TANGENT

55′ TAPER @ 55:1

50″ PCB

STA. 527+96.05 END WORK ZONE DELINEATION (NB)

615 PAVEMENT BY PRE-PHASE 1

163′-12″ MOT CONDUIT, TYPE B

128′-12″ MOT CONDUIT, TYPE B

EX. 72″ CONDUIT

EX. 15″

EX. 12″

EX. 96″ CMP

CONTRACTOR ACCESS

WORK ZONE IMPACT ATTENUATOR

℄ CONST. IR 271

DRUMS @ 55′ C/C

℄ TEMPORARY MEDIAN CROSSOVER

615 PAVEMENT BY PRE-PHASE 1
STA. 512+75 AHD.

50′-12″ MOT CONDUIT, TYPE B

STA. 521+00.00, 25.00′ RT.
PROP. MOT CB
GRATE EL. 1168.00
℄ 12″ 1163.00

STA. 519+20

+48.24

605′ LANE SHIFT & TAPER @ 55:1

STA. 506+65 BEGIN WORK ZONE DELINEATION

℄ TEMPORARY MEDIAN CROSSOVER

2′-0″ 3′-0″ 6′-0″ 6′-0″ 3′-0″ 2′-0″

0.016 MAX.

0.04 3:1 MAX 0.04 3:1 MAX

411 - 6″ STABILIZED CRUSHED AGGREGATE

615 PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A, AS PER PLAN

411 - 6″ STABILIZED CRUSHED AGGREGATE

CROSSOVER TYPICAL SECTION

CROSS REFERENCES	
52	MOT TYPICAL SECTIONS
195-199	CROSS SECTIONS
47-48	TEMPORARY EARTHWORK TABLE

℄ TEMPORARY MEDIAN CROSSOVER CURVE DATA

P.I.= Sta. 522+94.15
D = 12° 33′ 58″ (RT)
Dc = 3° 00′ 00″
R = 1,909.86′
T = 210.28′
L = 418.87′
E = 11.54′
C = 418.03′
C.B. = N 50° 40′ 04″ E

+70.00

℄ CONST. IR 271

Sta. 524+96.05, 43.50′ LT. ℄ MEDIAN CROSSOVER = PT Sta. 525+02.75

PT Sta. 525+25

STA. 527+50

280′ PCB TAPER @ 16:1

32″ PCB

STA. 528+25 END WORK ZONE DELINEATION

LEGEND

ITEM 615 PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A, AS PER PLAN

PHASE 3A CONSTRUCTION

TRAFFIC DIRECTION

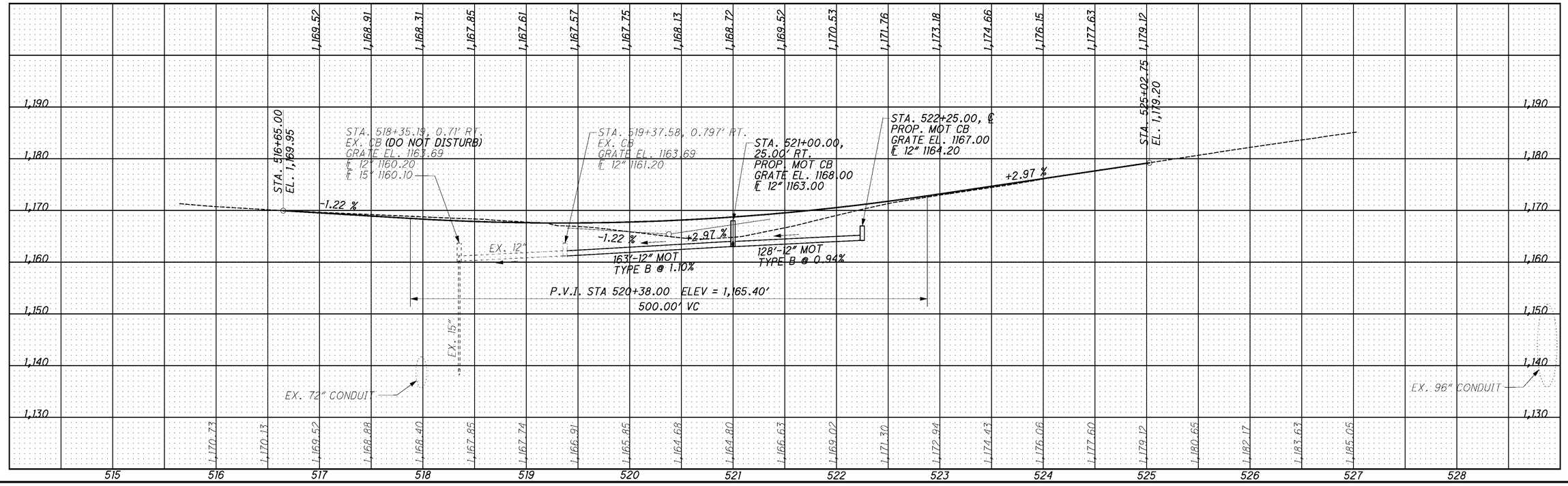
WORK ZONE MARKING LEGEND

1. WORK ZONE EDGE LINE, CLASS 1, AS PER PLAN (WHITE)
2. WORK ZONE EDGE LINE, CLASS 1, AS PER PLAN (YELLOW)
3. WORK ZONE DOTTED LINE, CLASS 1, AS PER PLAN
4. WORK ZONE CHANNELIZING LINE, CLASS 1, AS PER PLAN
5. WORK ZONE LANE LINE, CLASS 1, AS PER PLAN

NOTE:

1) SEE STD. DRWG. MT-99.30 AND MT-102.20 FOR ADDITIONAL DETAILS

2) RUMBLE STRIPS SHALL BE PLACED IN THE N.B. CONTRAFLOW LANES AS PER THE NOTE ON SHEET 46



HORIZONTAL SCALE IN FEET

CALCULATED DAW CHECKED PRS

MAINTENANCE OF TRAFFIC - PHASE 3A
PLAN & PROFILE - SOUTH CROSSOVER

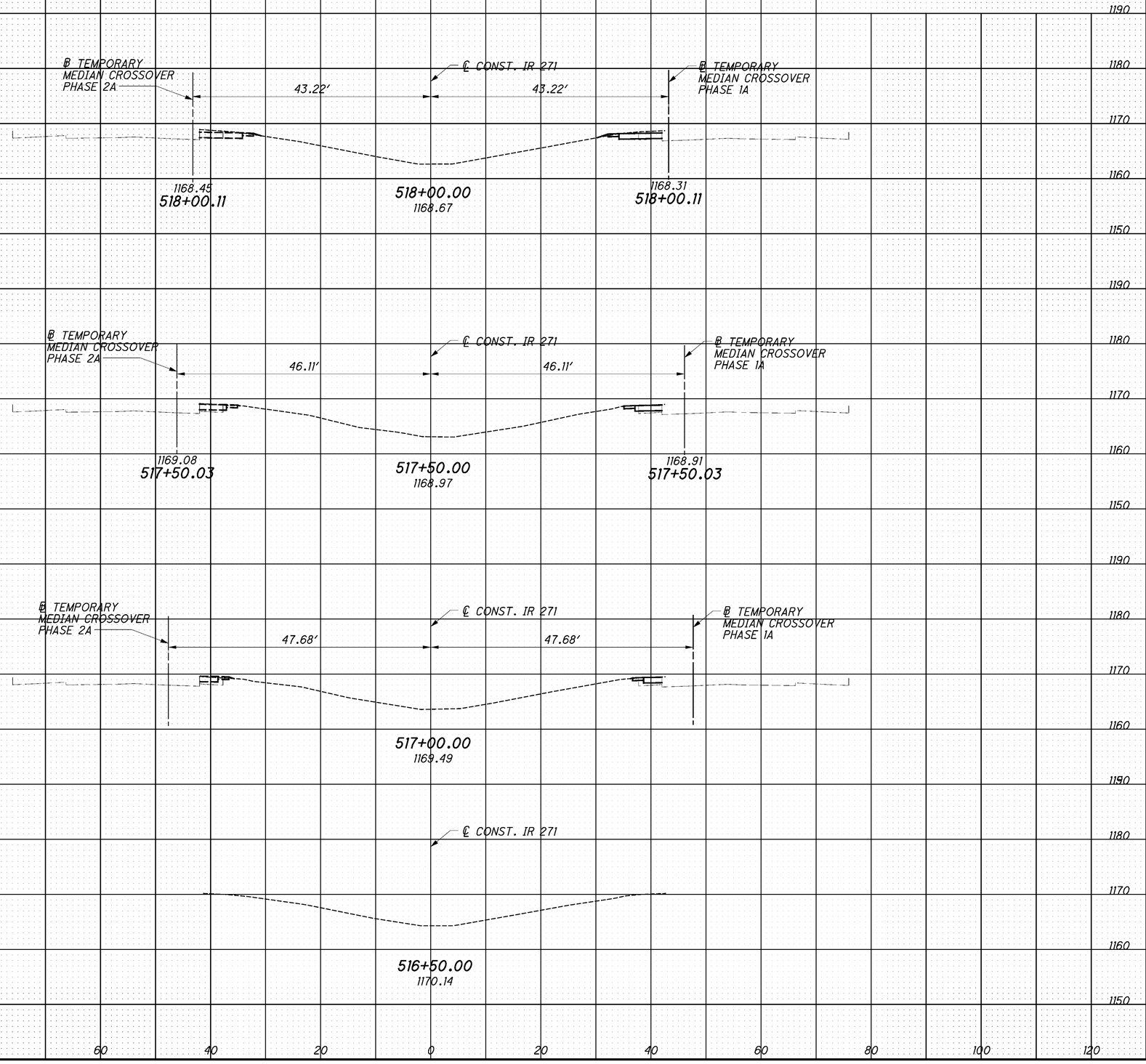
SUM-271-2.33

194
1195

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SEEDING	
END WIDTH	SQ. YDS.

CROSS REFERENCES	
47-48	TEMPORARY EARTHWORK TABLE



END AREA		VOLUME	
CUT	FILL	CUT	FILL

CALCULATED DAW

CHECKED PRS

MAINTENANCE OF TRAFFIC CROSS SECTIONS STA. 516+50.00 TO STA. 518+00.00

SUM-271-2.33

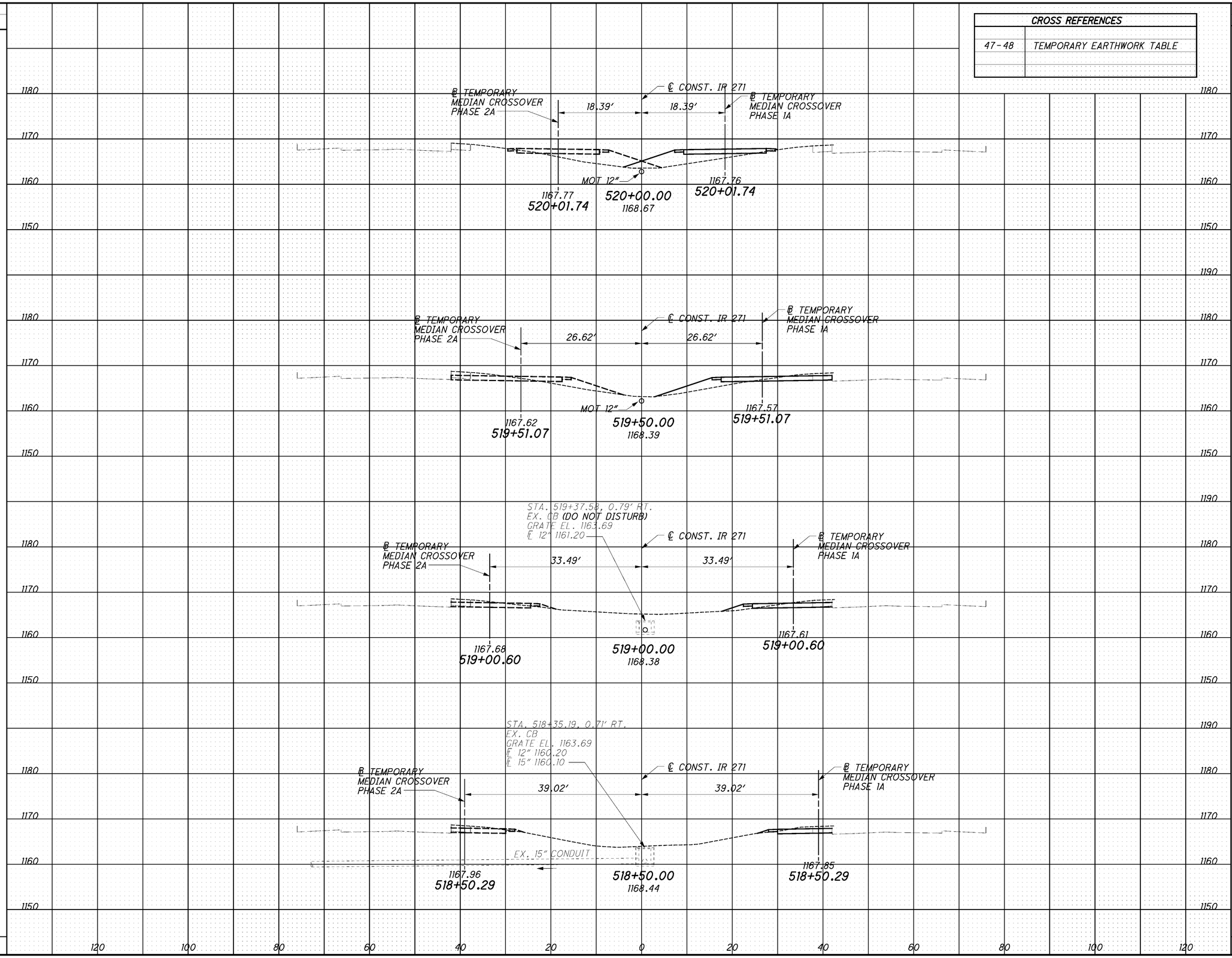
F:\2009\109094\18710\roadway\sheets\18710MX001.dgn 10/8/2012 11:18:15 AM SteveMorr

SEEDING	
END WIDTH	SQ. YDS.

CROSS REFERENCES	
47-48	TEMPORARY EARTHWORK TABLE

END AREA		VOLUME	
CUT	FILL	CUT	FILL

CALCULATED DAW
CHECKED PRS



MAINTENANCE OF TRAFFIC CROSS SECTIONS STA. 518+50.00 TO STA. 520+00.00

SUM-271-2.33

196
1195

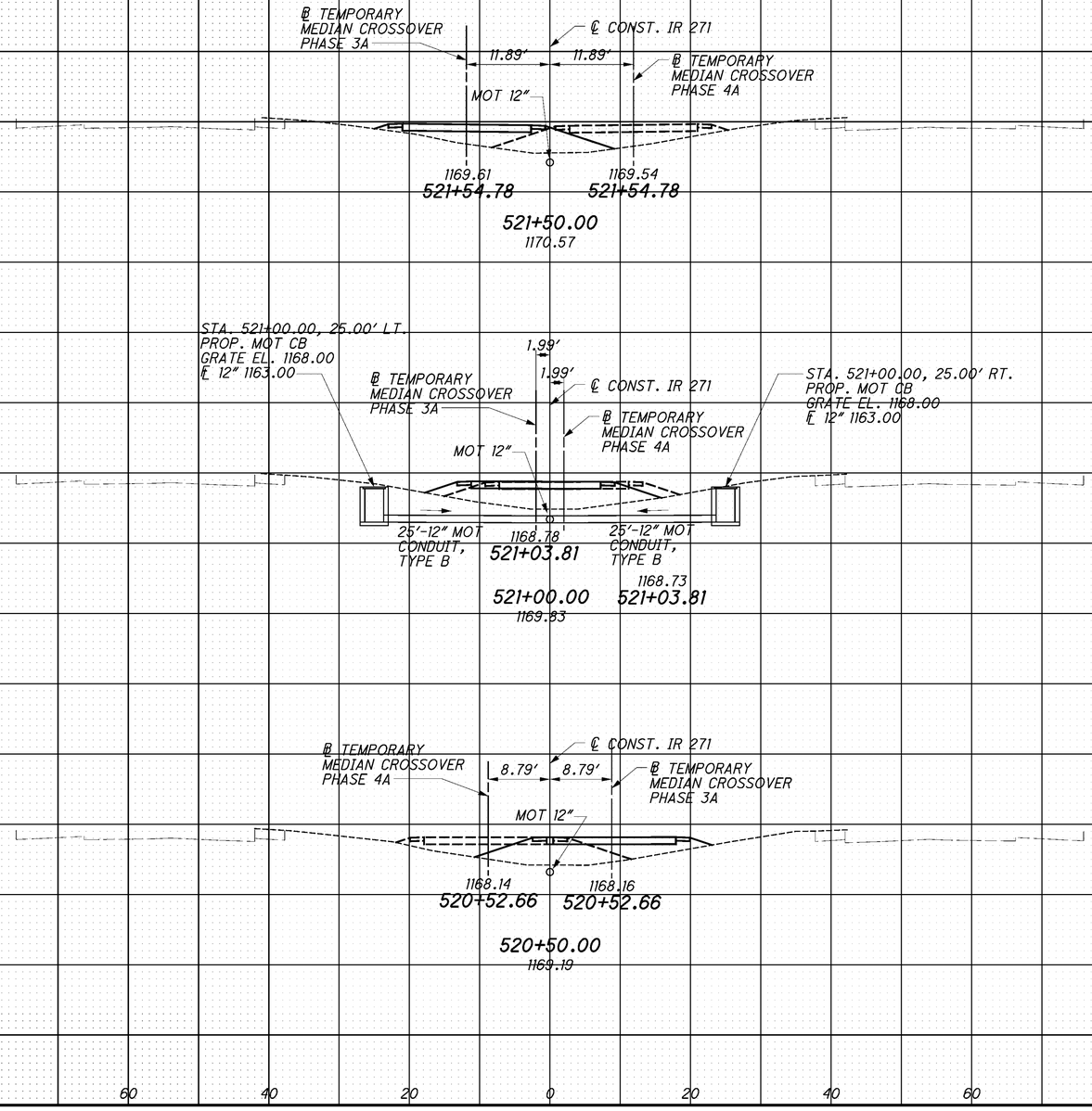
F:\2009\109094\18710\roadway\sheets\18710WX001.dgn 10/8/2012 11:18:26 AM SteveMorr

SEEDING	
END WIDTH	SQ. YDS.

CROSS REFERENCES	
47-48	TEMPORARY EARTHWORK TABLE

END AREA		VOLUME	
CUT	FILL	CUT	FILL

CALCULATED DAW
CHECKED PRS



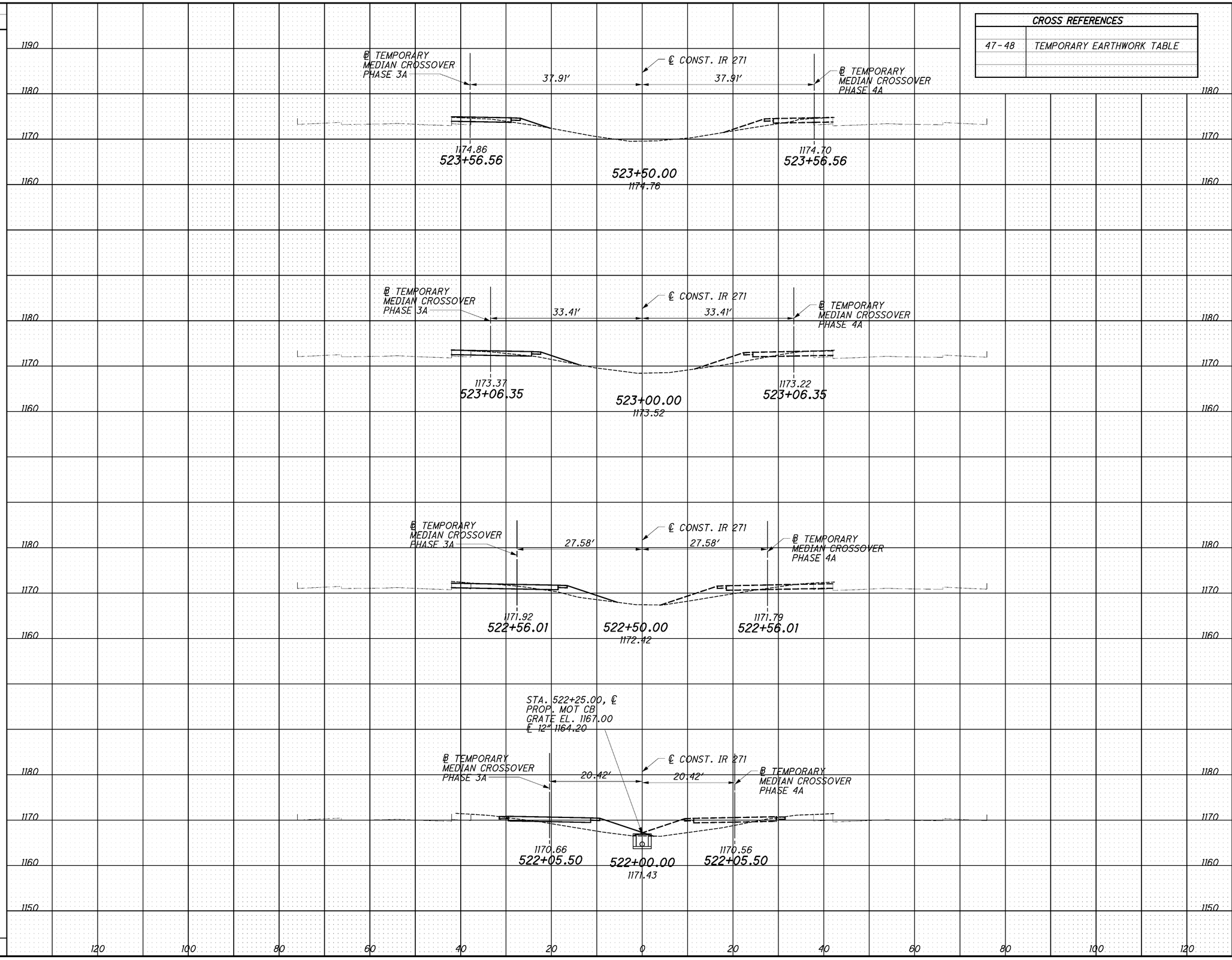
MAINTENANCE OF TRAFFIC CROSS SECTIOS
STA. 520+50.00 TO STA. 521+50.00

SUM-271-2.33

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SEEDING	
END WIDTH	SQ. YDS.

CROSS REFERENCES	
47-48	TEMPORARY EARTHWORK TABLE



END AREA		VOLUME	
CUT	FILL	CUT	FILL

CALCULATED DAW
CHECKED PRS

MAINTENANCE OF TRAFFIC CROSS SECTIONS STA. 522+00.00 TO STA. 523+50.00

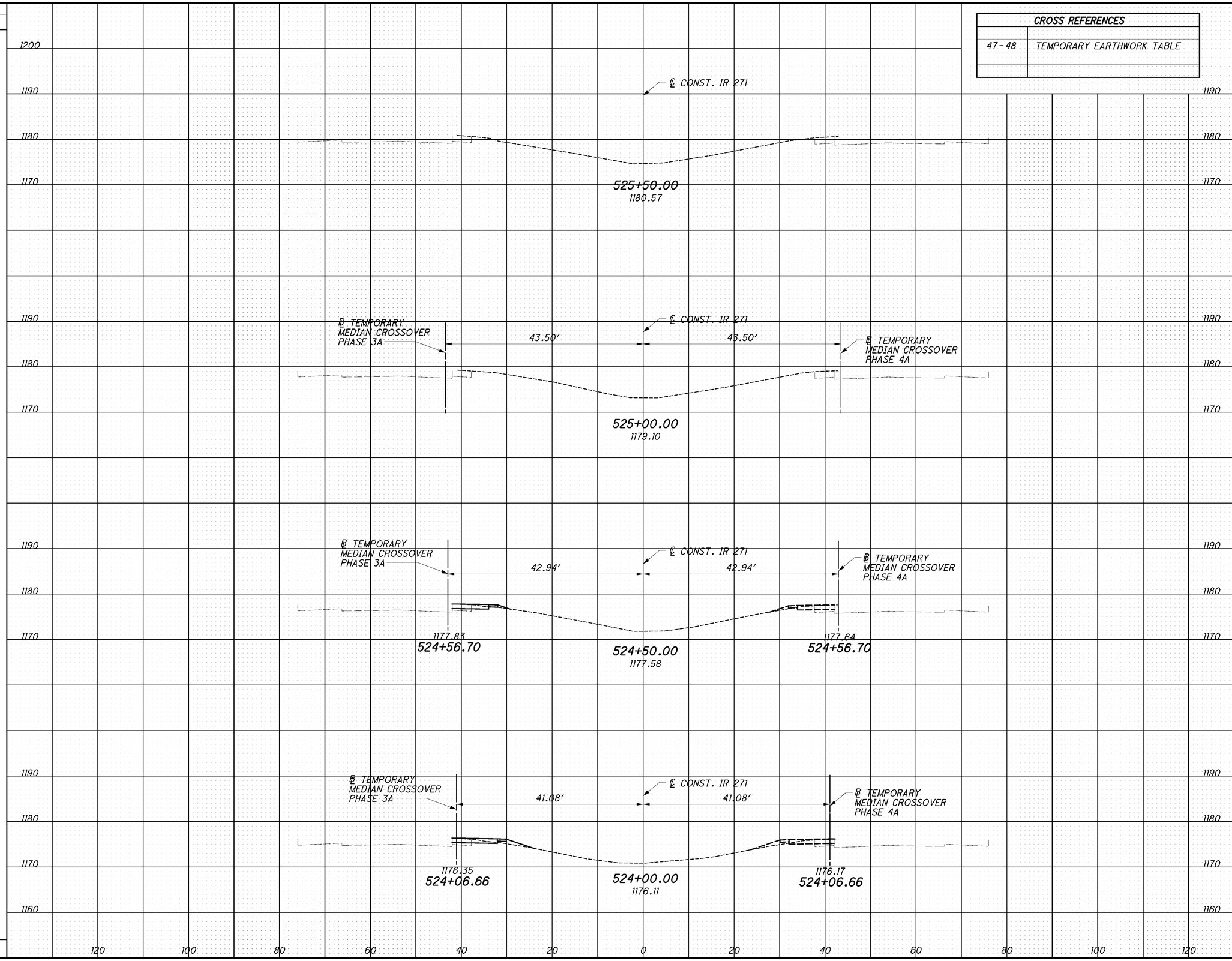
SUM-271-2.33

198
1195

F:\2009\109094\18710\roadway\sheets\18710MX001.dgn 10/8/2012 11:18:47 AM SteveMorr

SEEDING	
END WIDTH	SQ. YDS.

CROSS REFERENCES	
47-48	TEMPORARY EARTHWORK TABLE



END AREA		VOLUME	
CUT	FILL	CUT	FILL

CALCULATED DAW
CHECKED PRS

MAINTENANCE OF TRAFFIC CROSS SECTIONS
STA. 524+00.00 TO STA. 525+50.00

SUM-271-2.33

199
1195

F:\2009\109094\18710\roadway\sheets\18710WX001.dgn 10/8/2012 11:18:59 AM SteveWorr

CROSS REFERENCES	
52	MOT TYPICAL SECTIONS
312	PROFILE
456-470	CROSS SECTIONS
47-48	TEMPORARY EARTHWORK TABLE

HORIZONTAL SCALE IN FEET: 0, 25, 50, 100

CALCULATED DAW | CHECKED PRS

℄ TEMPORARY MEDIAN CROSSOVER

2'-0" 3'-0" 6'-0" 6'-0" 3'-0" 2'-0"

0.04 0.016 MAX. 0.04

3:1 MAX 3:1 MAX

411 - 6" STABILIZED CRUSHED AGGREGATE

615 PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A, AS PER PLAN

411 - 6" STABILIZED CRUSHED AGGREGATE

CROSSOVER TYPICAL SECTION

WIDENED SHOULDER FROM PRE-PHASE 1

WIDENED SHOULDER FROM PHASE 2A

N 68° 18' 20" E

55' TANGENT @ 55:1

200' TANGENT

DRUMS @ 55' C/C

300' TANGENT

STA. 253+75

STA. 254+68.96, 43.5' LT. ℄ CONST. IR 271

PC Sta. 254+62.25 ℄ MEDIAN CROSSOVER=

605' LANE SHIFT & TAPER @ 55:1

STA. 256+58

+97.20

STA. 257+50

STA. 257+00.00, 8.00' LT. ℄ 15" 978.90

100'-15" MOT CONDUIT, TYPE B

STA. 258+00.00, 29.00' LT. PROP. MOT CB GRATE EL. 985.40 ℄ 15" 980.00

300' TANGENT

208' PCB TAPER @ 16:1

STA. 259+58

56'-15" MOT CONDUIT, TYPE B

PRC Sta. 258+81.13

STA. 258+00.00, 27.00' RT. PROP. MOT CB GRATE EL. 987.30 ℄ 15" 982.50

210'-15" MOT CONDUIT, TYPE B

STA. 259+80

+31.00

+00.00

STA. 260+10.00, 3.00' LT. ℄ 15" 990.50

WORK ZONE IMPACT ATTENUATOR UNIDIRECTIONAL

℄ TEMPORARY MEDIAN CROSSOVER CURVE DATA

P.I.= Sta. 256+72.53
D = 12° 33' 58" (RT)
Dc = 3° 00' 00"
R = 1,909.86'
T = 210.28'
L = 418.87'
E = 11.54'
C = 418.03'
C.B. = N 74° 35' 19" E

℄ TEMPORARY MEDIAN CROSSOVER CURVE DATA

P.I.= Sta. 260+91.41
D = 12° 33' 58" (LT)
Dc = 3° 00' 00"
R = 1,909.86'
T = 210.28'
L = 418.87'
E = 11.54'
C = 418.03'
C.B. = N 74° 35' 19" E

PT Sta. 263+00.00 ℄ MEDIAN CROSSOVER= STA. 263+00.00, 48' RT. ℄ CONST. IR 271

635' LANE SHIFT & TAPER

300' TANGENT

STA. 265+93

STA. 268+93 MATCH EXIST. MARKINGS

+38.05

N 68° 18' 20" E

+00.00

300' TANGENT

+00.00 MATCH EXIST. MARKINGS

LEGEND

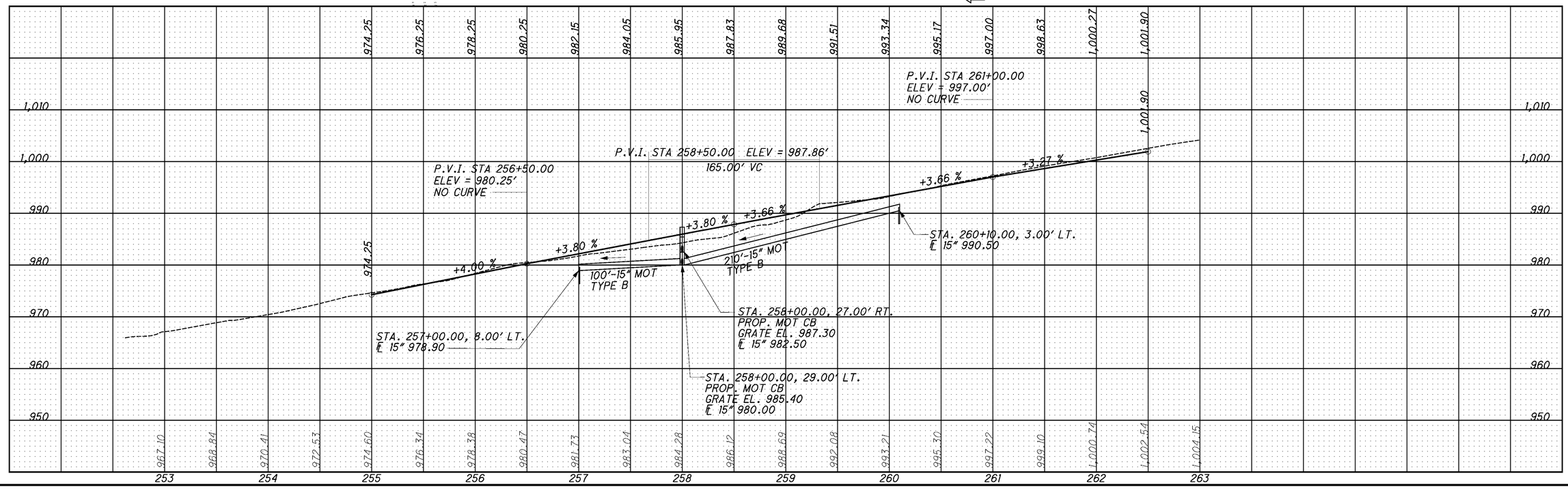
ITEM 615 PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A, AS PER PLAN

PHASE 3A CONSTRUCTION

TRAFFIC DIRECTION

WORK ZONE MARKING LEGEND

1. WORK ZONE EDGE LINE, CLASS 1, AS PER PLAN (WHITE)
2. WORK ZONE EDGE LINE, CLASS 1, AS PER PLAN (YELLOW)
3. WORK ZONE DOTTED LINE, CLASS 1, AS PER PLAN
4. WORK ZONE CHANNELIZING LINE, CLASS 1, AS PER PLAN
5. WORK ZONE LANE LINE, CLASS 1, AS PER PLAN



MAINTENANCE OF TRAFFIC - PHASE 3A
PLAN & PROFILE - INTERMEDIATE CROSSOVER

SUM-271-2.33

200
1195

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℄ TEMPORARY MEDIAN CROSSOVER CURVE DATA

P.I.= Sta. 518+75.28
D = 12° 33′ 58″ (LT)
Dc = 3° 00′ 00″
R = 1,909.86′
T = 210.28′
L = 418.87′
E = 11.54′
C = 418.03′
C.B. = N 50° 40′ 04″ E

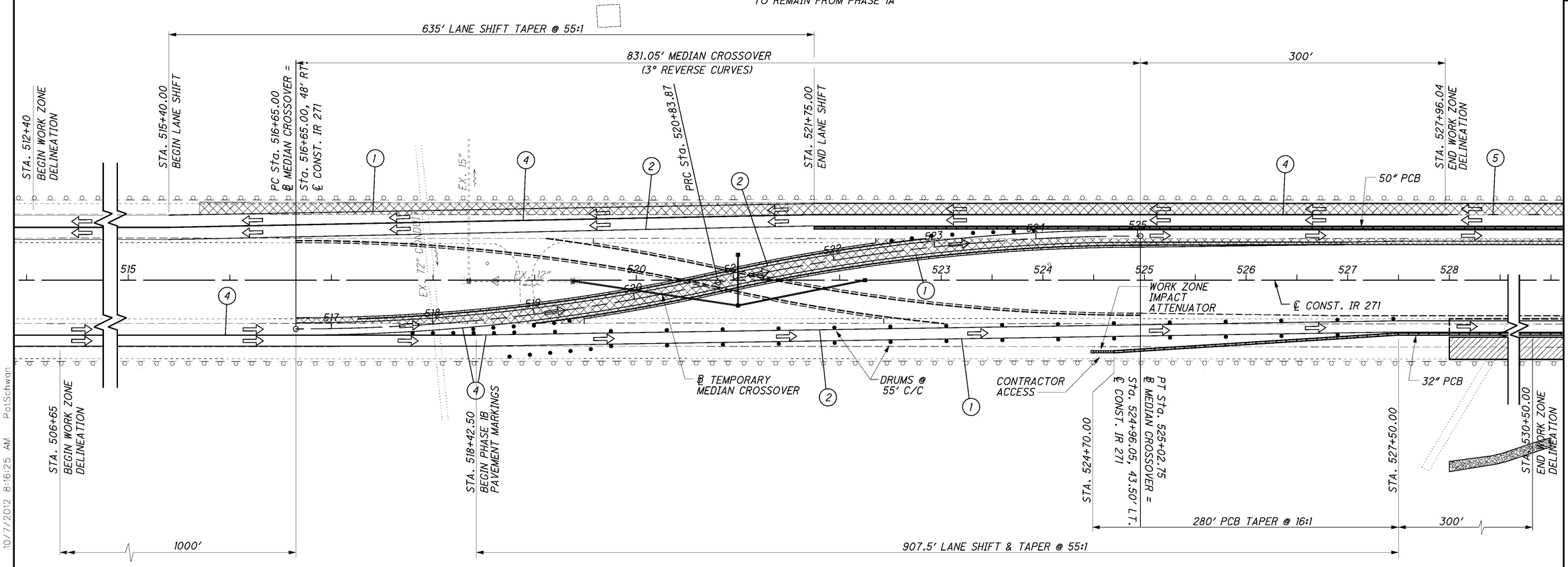
WORK ZONE MARKING LEGEND

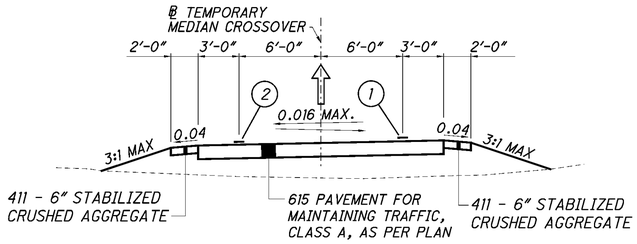
1. WORK ZONE EDGE LINE, CLASS 1, AS PER PLAN (WHITE)
2. WORK ZONE EDGE LINE, CLASS 1, AS PER PLAN (YELLOW)
3. WORK ZONE DOTTED LINE, CLASS 1, AS PER PLAN
4. WORK ZONE CHANNELIZING LINE, CLASS 1, AS PER PLAN
5. WORK ZONE LANE LINE, CLASS 1, AS PER PLAN

NOTE:
MEDIAN CROSSOVER AND MOT ON SB LANES TO REMAIN FROM PHASE 1A

CROSS REFERENCES	
58	MOT TYPICAL SECTIONS
195-199	CROSS SECTIONS

NOTE:
SEE STD. DRWG. MT-99.30 AND MT-102.20 FOR ADDITIONAL DETAILS





CROSSOVER TYPICAL SECTION

℄ TEMPORARY MEDIAN CROSSOVER CURVE DATA

P.I.= Sta. 522+94.15
D = 12° 33′ 58″ (RT)
Dc = 3° 00′ 00″
R = 1,909.86′
T = 210.28′
L = 418.87′
E = 11.54′
C = 418.03′
C.B. = N 50° 40′ 04″ E

LEGEND

- ITEM 615 PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A, AS PER PLAN
- PHASE 1B CONSTRUCTION
- TRAFFIC DIRECTION

HORIZONTAL SCALE IN FEET
0 25 50 100

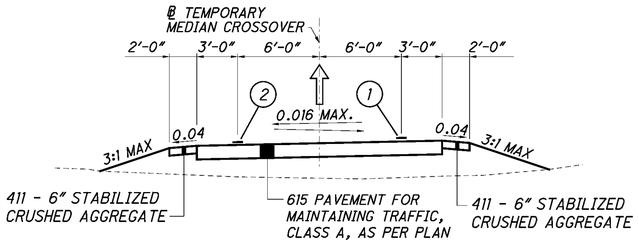
CALCULATED DAW
CHECKED PRS

MAINTENANCE OF TRAFFIC - PHASE 3B - SOUTH CROSSOVER PLAN

SUM-271-2.33

201
1195

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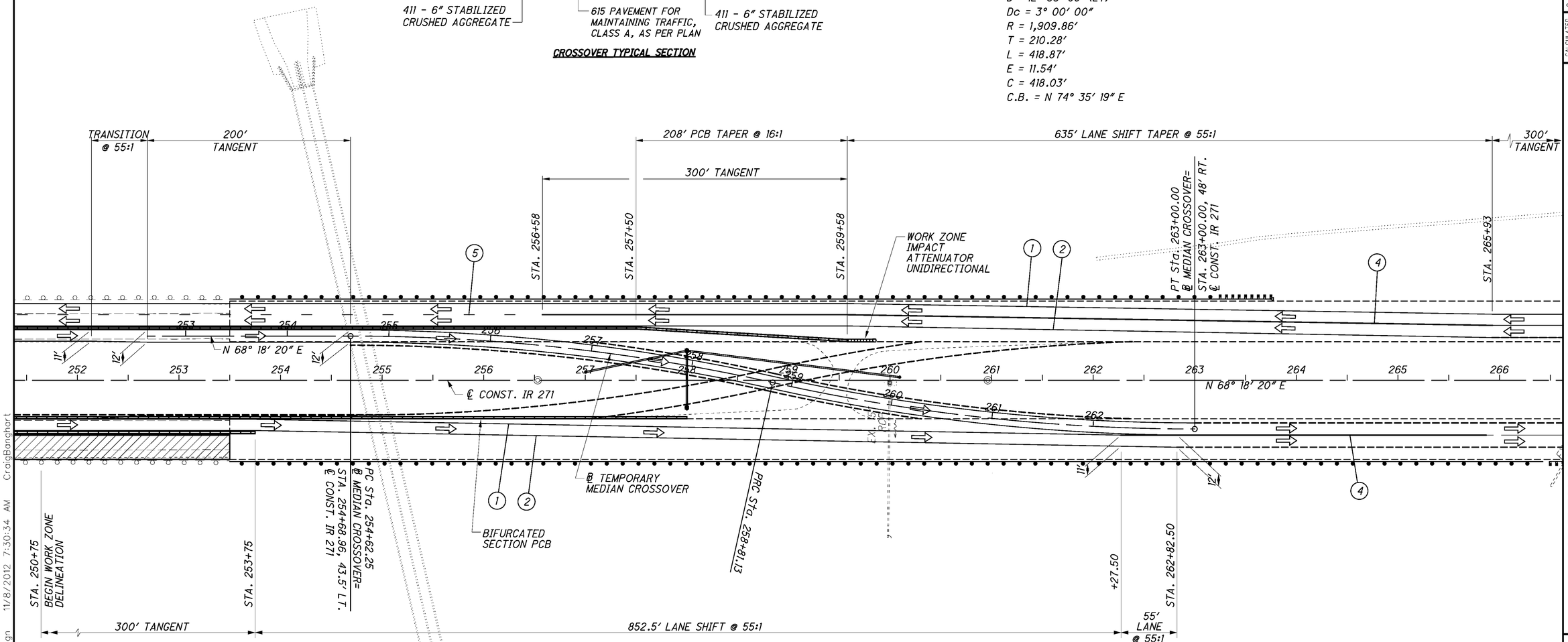


CROSSOVER TYPICAL SECTION

CROSS REFERENCES	
58	MOT TYPICAL SECTIONS
312	PROFILE
456-470	CROSS SECTIONS

℄ TEMPORARY MEDIAN CROSSOVER CURVE DATA

P.I.= Sta. 260+91.41
D = 12° 33′ 58″ (LT)
Dc = 3° 00′ 00″
R = 1,909.86′
T = 210.28′
L = 418.87′
E = 11.54′
C = 418.03′
C.B. = N 74° 35′ 19″ E



℄ TEMPORARY MEDIAN CROSSOVER CURVE DATA

P.I.= Sta. 256+72.53
D = 12° 33′ 58″ (RT)
Dc = 3° 00′ 00″
R = 1,909.86′
T = 210.28′
L = 418.87′
E = 11.54′
C = 418.03′
C.B. = N 74° 35′ 19″ E

WORK ZONE MARKING LEGEND

1. WORK ZONE EDGE LINE, CLASS 1, AS PER PLAN (WHITE)
2. WORK ZONE EDGE LINE, CLASS 1, AS PER PLAN (YELLOW)
3. WORK ZONE DOTTED LINE, CLASS 1, AS PER PLAN
4. WORK ZONE CHANNELIZING LINE, CLASS 1, AS PER PLAN
5. WORK ZONE LANE LINE, CLASS 1, AS PER PLAN

LEGEND

- ITEM 615 PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A, AS PER PLAN
- PHASE 3B CONSTRUCTION
- TRAFFIC DIRECTION

HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED DAW
CHECKED PRS

MAINTENANCE OF TRAFFIC - PHASE 3B
PLAN - INTERMEDIATE CROSSOVER

SUM-271-2.33

202
1195

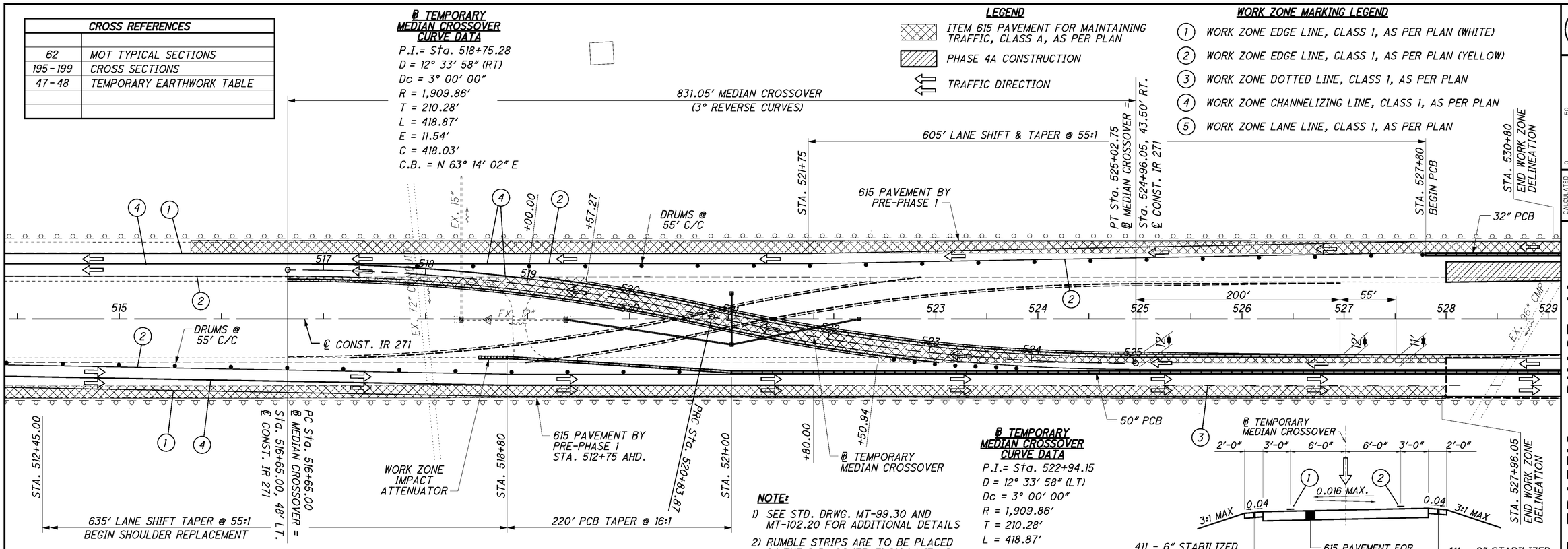
F:\2009\109094\18710\roadway\sheets\18710MP035.dgn 11/8/2012 7:30:34 AM CraigBanghart

CROSS REFERENCES	
62	MOT TYPICAL SECTIONS
195-199	CROSS SECTIONS
47-48	TEMPORARY EARTHWORK TABLE

℄ TEMPORARY MEDIAN CROSSOVER CURVE DATA
P.I.= Sta. 518+75.28
D = 12° 33′ 58″ (RT)
Dc = 3° 00′ 00″
R = 1,909.86′
T = 210.28′
L = 418.87′
E = 11.54′
C = 418.03′
C.B. = N 63° 14′ 02″ E

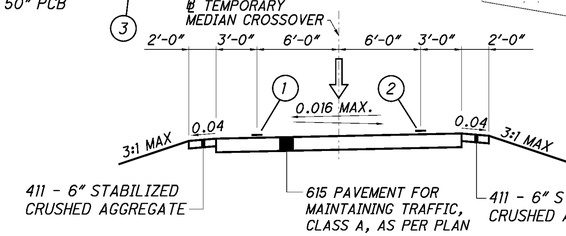
LEGEND
ITEM 615 PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A, AS PER PLAN
PHASE 4A CONSTRUCTION
TRAFFIC DIRECTION

WORK ZONE MARKING LEGEND
1. WORK ZONE EDGE LINE, CLASS 1, AS PER PLAN (WHITE)
2. WORK ZONE EDGE LINE, CLASS 1, AS PER PLAN (YELLOW)
3. WORK ZONE DOTTED LINE, CLASS 1, AS PER PLAN
4. WORK ZONE CHANNELIZING LINE, CLASS 1, AS PER PLAN
5. WORK ZONE LANE LINE, CLASS 1, AS PER PLAN

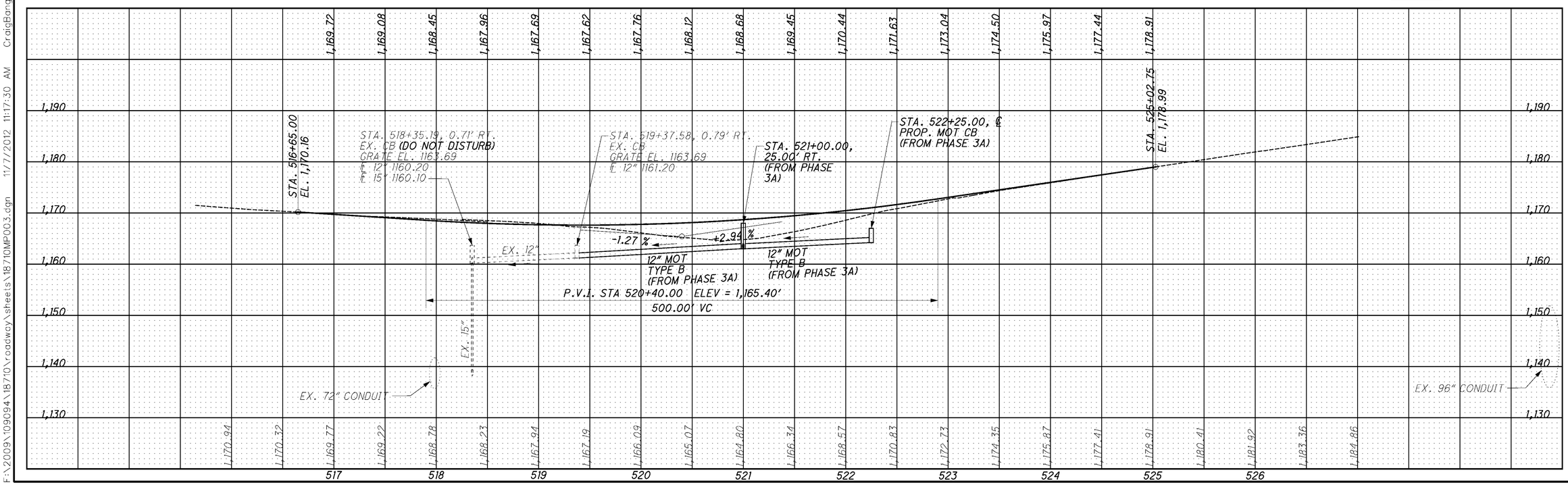


NOTE:
1) SEE STD. DRWG. MT-99.30 AND MT-102.20 FOR ADDITIONAL DETAILS
2) RUMBLE STRIPS ARE TO BE PLACED IN THE S.B. CONTRAFLOW LANE AS PER THE NOTE ON SHEET 46

℄ TEMPORARY MEDIAN CROSSOVER CURVE DATA
P.I.= Sta. 522+94.15
D = 12° 33′ 58″ (LT)
Dc = 3° 00′ 00″
R = 1,909.86′
T = 210.28′
L = 418.87′
E = 11.54′
C = 418.03′
C.B. = N 63° 14′ 02″ E



CROSSOVER TYPICAL SECTION



HORIZONTAL SCALE IN FEET
0 25 50 100
CALCULATED DAW
CHECKED PRS

MAINTENANCE OF TRAFFIC - PHASE 4A
PLAN & PROFILE - SOUTH CROSSOVER

SUM-271-2.33

203
1195

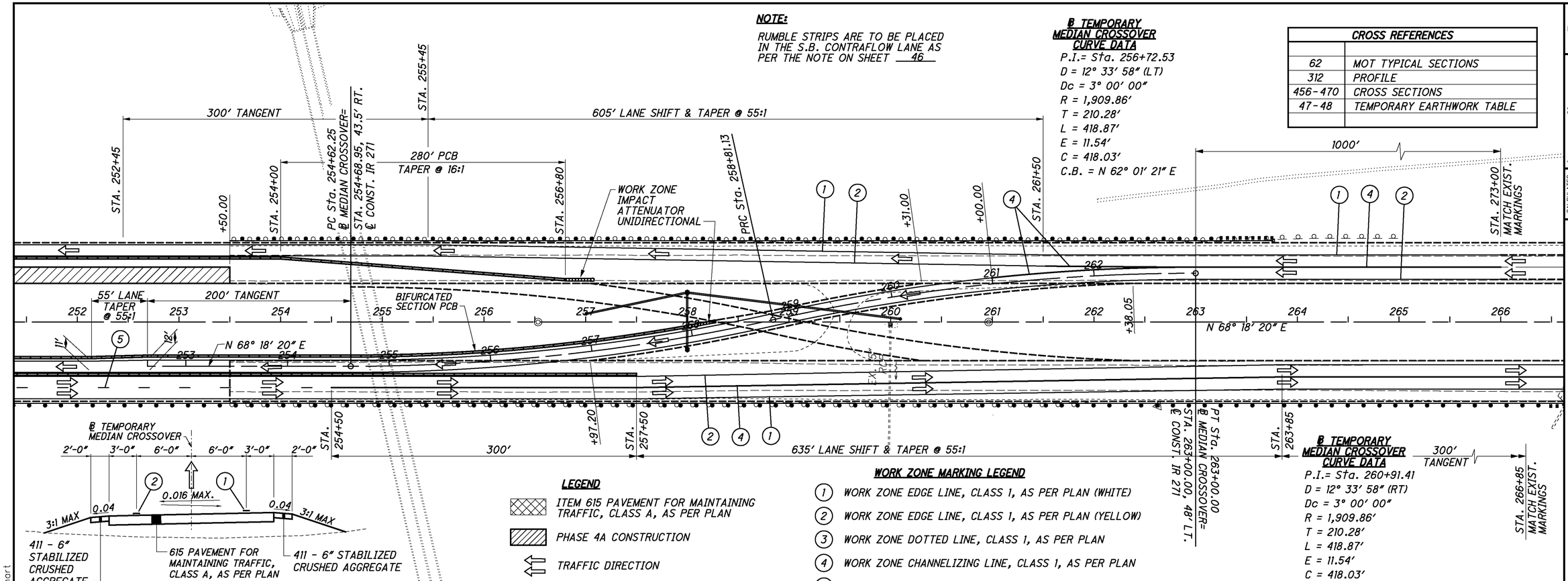
F:\2009\109094\18710\roadway\sheets\18710MP003.dgn 11/7/2012 11:17:30 AM CraigBanghart

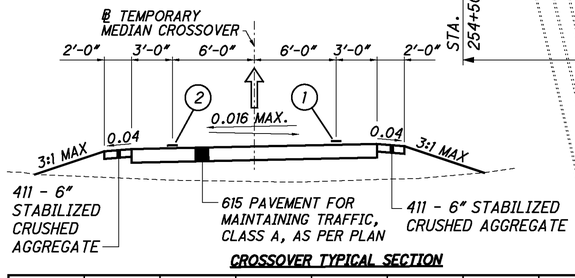
NOTE:

RUMBLE STRIPS ARE TO BE PLACED IN THE S.B. CONTRAFLOW LANE AS PER THE NOTE ON SHEET 46

℄ TEMPORARY MEDIAN CROSSOVER CURVE DATA
P.I.= Sta. 256+72.53
D = 12° 33′ 58″ (LT)
Dc = 3° 00′ 00″
R = 1,909.86′
T = 210.28′
L = 418.87′
E = 11.54′
C = 418.03′
C.B. = N 62° 01′ 21″ E

CROSS REFERENCES	
62	MOT TYPICAL SECTIONS
312	PROFILE
456-470	CROSS SECTIONS
47-48	TEMPORARY EARTHWORK TABLE





CROSSOVER TYPICAL SECTION

LEGEND

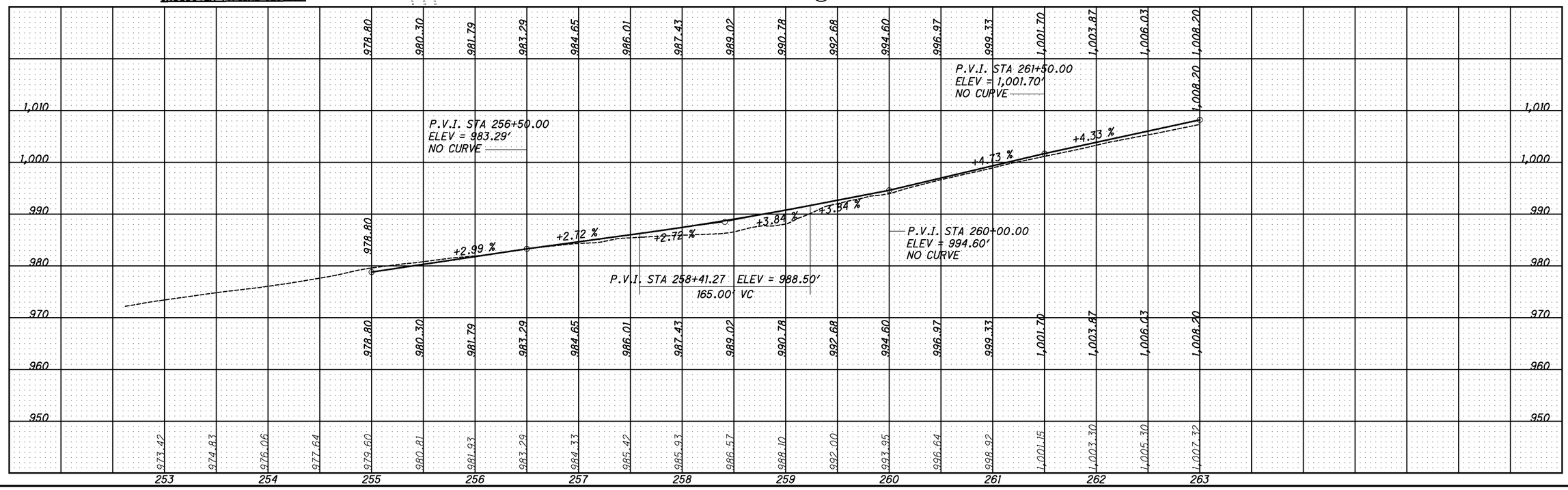
- ITEM 615 PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A, AS PER PLAN
- PHASE 4A CONSTRUCTION
- TRAFFIC DIRECTION

WORK ZONE MARKING LEGEND

1. WORK ZONE EDGE LINE, CLASS 1, AS PER PLAN (WHITE)
2. WORK ZONE EDGE LINE, CLASS 1, AS PER PLAN (YELLOW)
3. WORK ZONE DOTTED LINE, CLASS 1, AS PER PLAN
4. WORK ZONE CHANNELIZING LINE, CLASS 1, AS PER PLAN
5. WORK ZONE LANE LINE, CLASS 1, AS PER PLAN

℄ TEMPORARY MEDIAN CROSSOVER CURVE DATA
P.I.= Sta. 260+91.41
D = 12° 33′ 58″ (RT)
Dc = 3° 00′ 00″
R = 1,909.86′
T = 210.28′
L = 418.87′
E = 11.54′
C = 418.03′
C.B. = N 62° 01′ 21″ E

300′ TANGENT



MAINTENANCE OF TRAFFIC - PHASE 4A
PLAN & PROFILE - INTERMEDIATE CROSSOVER

HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED DAW
CHECKED PRS

SUM-271-2.33

204
1195

F:\2009\109094\18710\roadway\sheets\18710MP036.dgn 3/22/2013 11:29:36 AM CraigBanghart

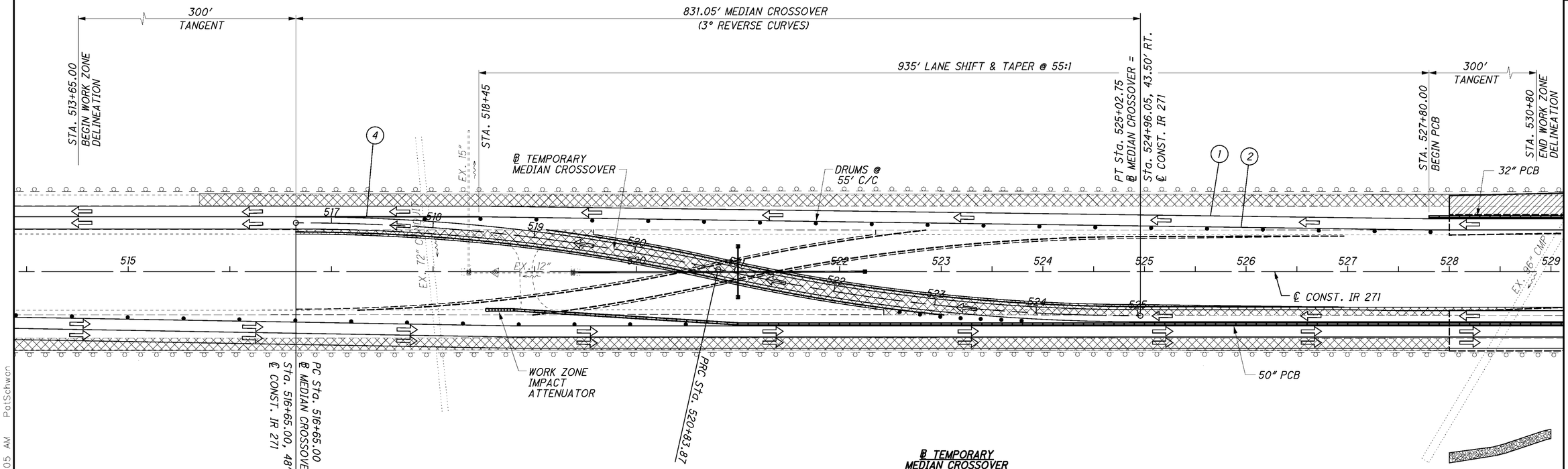
℄ TEMPORARY MEDIAN CROSSOVER CURVE DATA

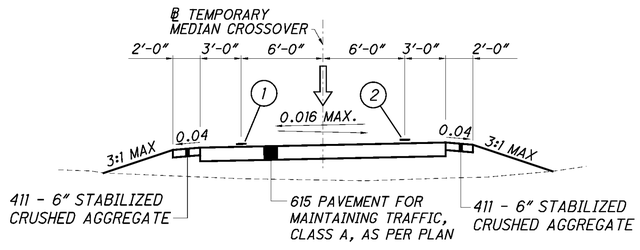
P.I.= Sta. 518+75.28
D = 12° 33′ 58″ (RT)
Dc = 3° 00′ 00″
R = 1,909.86′
T = 210.28′
L = 418.87′
E = 11.54′
C = 418.03′
C.B. = N 63° 14′ 02″ E

NOTE: MEDIAN CROSSOVER AND MOT ON NB LANES TO REMAIN FROM PHASE 4A

CROSS REFERENCES	
70	MOT TYPICAL SECTIONS
195-199	CROSS SECTIONS

NOTE:
SEE STD. DRWG. MT-99.30 AND MT-102.20 FOR ADDITIONAL DETAILS





CROSSOVER TYPICAL SECTION

℄ TEMPORARY MEDIAN CROSSOVER CURVE DATA

P.I.= Sta. 522+94.15
D = 12° 33′ 58″ (LT)
Dc = 3° 00′ 00″
R = 1,909.86′
T = 210.28′
L = 418.87′
E = 11.54′
C = 418.03′
C.B. = N 63° 14′ 02″ E

LEGEND

ITEM 615 PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A, AS PER PLAN

PHASE 2B CONSTRUCTION

TRAFFIC DIRECTION

WORK ZONE MARKING LEGEND

1. WORK ZONE EDGE LINE, CLASS 1, AS PER PLAN (WHITE)
2. WORK ZONE EDGE LINE, CLASS 1, AS PER PLAN (YELLOW)
3. WORK ZONE DOTTED LINE, CLASS 1, AS PER PLAN
4. WORK ZONE CHANNELIZING LINE, CLASS 1, AS PER PLAN
5. WORK ZONE LANE LINE, CLASS 1, AS PER PLAN

HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED DAW
CHECKED PRS

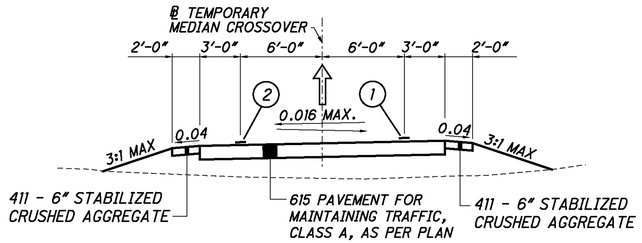
MAINTENANCE OF TRAFFIC - PHASE 4B PLAN - SOUTH CROSSOVER

SUM-271-2.33

205
1195

F:\2009\109094\18710\roadway\sheets\18710MP004.dgn 10/7/2012 8:31:05 AM PatSchwan

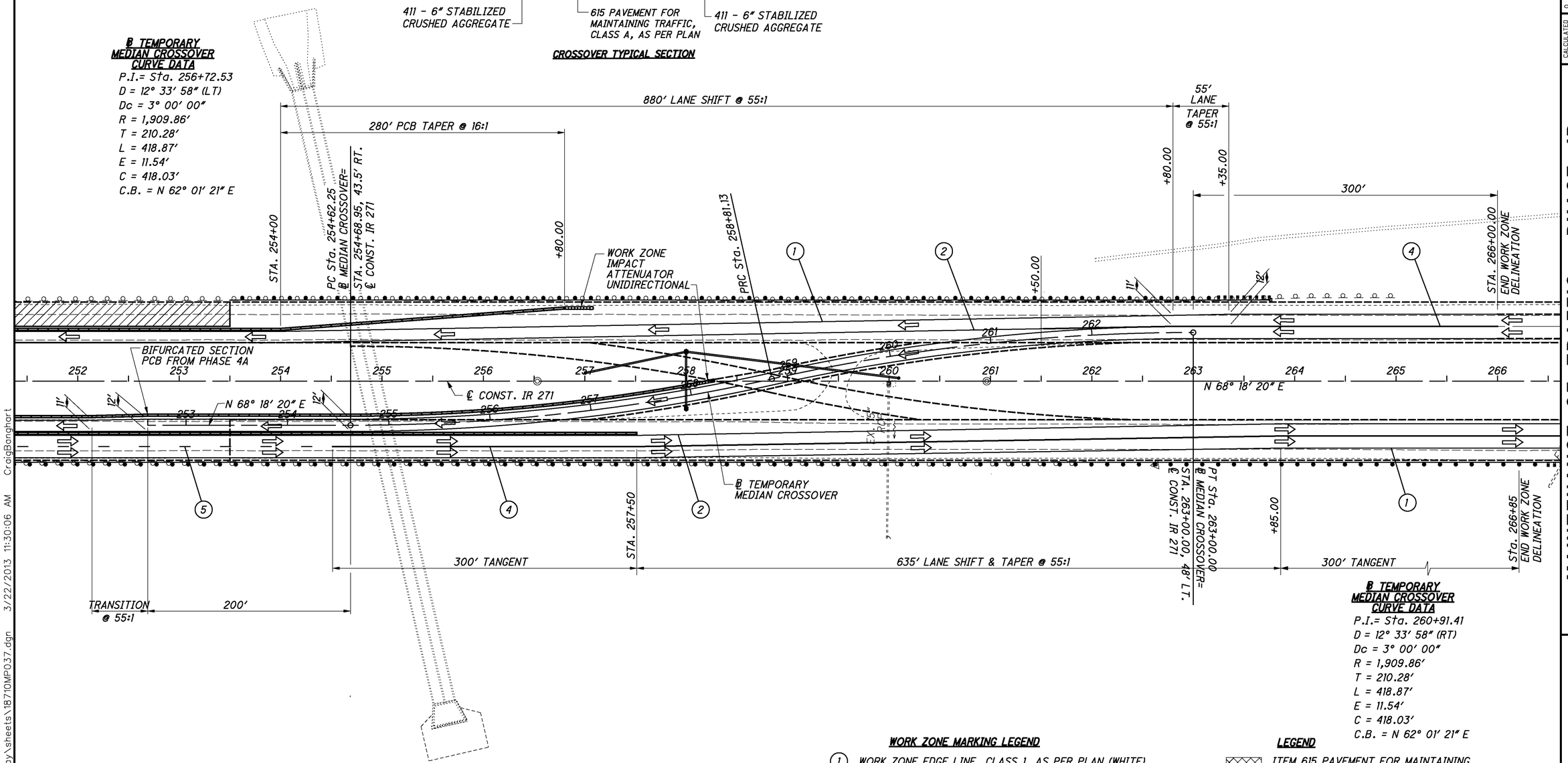
CROSS REFERENCES	
70	MOT TYPICAL SECTIONS
312	PROFILE
456-470	CROSS SECTIONS



CROSSOVER TYPICAL SECTION

℄ TEMPORARY MEDIAN CROSSOVER CURVE DATA

P.I.= Sta. 256+72.53
D = 12° 33' 58" (LT)
Dc = 3° 00' 00"
R = 1,909.86'
T = 210.28'
L = 418.87'
E = 11.54'
C = 418.03'
C.B. = N 62° 01' 21" E



℄ TEMPORARY MEDIAN CROSSOVER CURVE DATA

P.I.= Sta. 260+91.41
D = 12° 33' 58" (RT)
Dc = 3° 00' 00"
R = 1,909.86'
T = 210.28'
L = 418.87'
E = 11.54'
C = 418.03'
C.B. = N 62° 01' 21" E

WORK ZONE MARKING LEGEND

1. WORK ZONE EDGE LINE, CLASS 1, AS PER PLAN (WHITE)
2. WORK ZONE EDGE LINE, CLASS 1, AS PER PLAN (YELLOW)
3. WORK ZONE DOTTED LINE, CLASS 1, AS PER PLAN
4. WORK ZONE CHANNELIZING LINE, CLASS 1, AS PER PLAN
5. WORK ZONE LANE LINE, CLASS 1, AS PER PLAN

LEGEND

- ITEM 615 PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A, AS PER PLAN
- PHASE 4B CONSTRUCTION
- TRAFFIC DIRECTION

HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED DAW
CHECKED PRS

MAINTENANCE OF TRAFFIC - PHASE 4B
PLAN - INTERMEDIATE CROSSOVER

SUM-271-2.33

206
1195

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MAINTENANCE OF TRAFFIC - C.R. 17 (BRECKSVILLE RD.)
PHASE 1 - STA. 55+00.00 TO 66+00.00

HORIZONTAL SCALE IN FEET (0, 10, 20, 40)

CALCULATED PEK CHECKED TLH

SUM-271-2.33

LEGEND

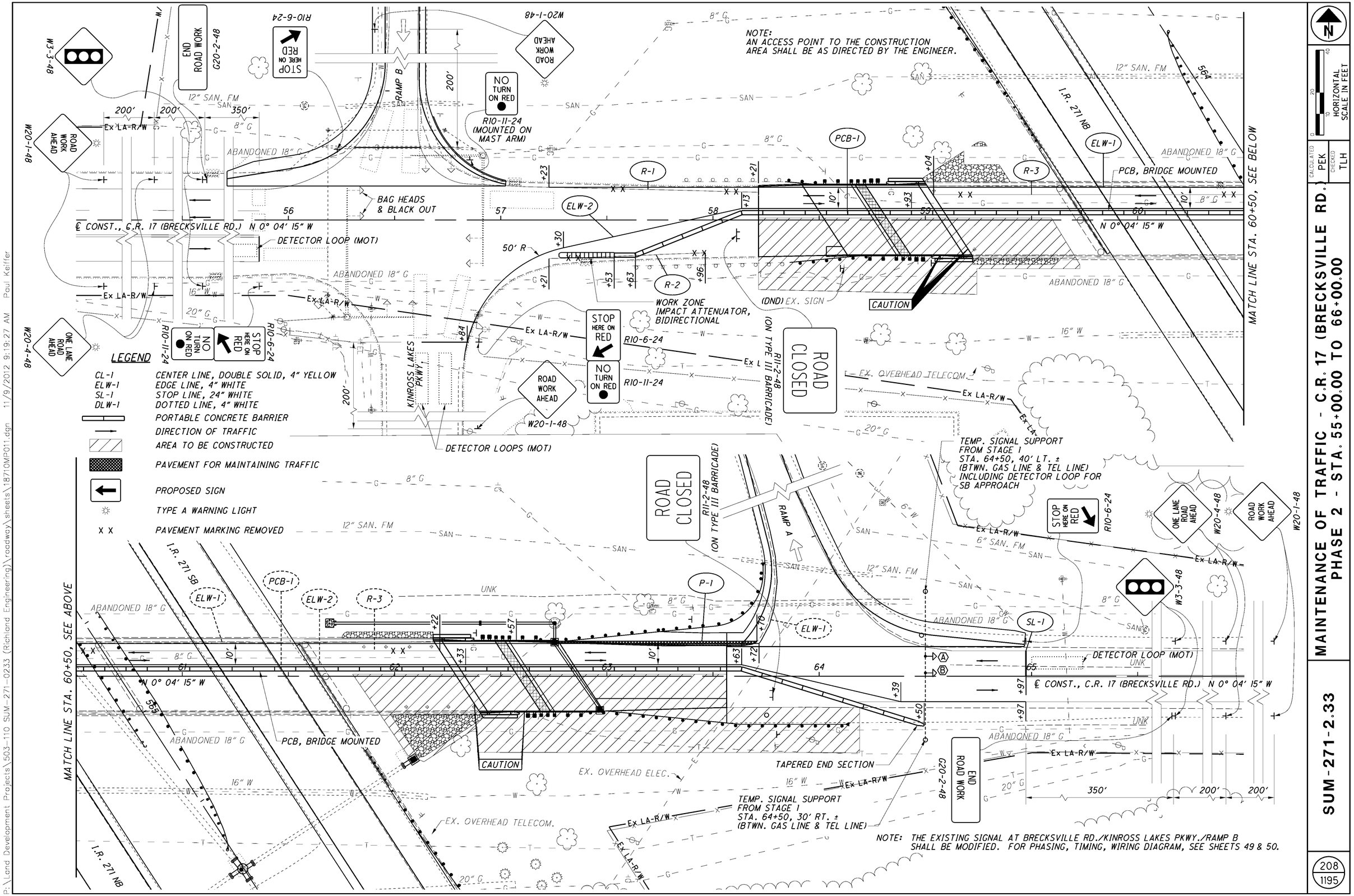
CL-1	CENTER LINE, DOUBLE SOLID, 4" YELLOW
ELW-1	EDGE LINE, 4" WHITE
SL-1	STOP LINE, 24" WHITE
DLW-1	DOTTED LINE, 4" WHITE
	PORTABLE CONCRETE BARRIER
	DIRECTION OF TRAFFIC
	AREA TO BE CONSTRUCTED
	PAVEMENT FOR MAINTAINING TRAFFIC
•	DRUM (35' TAPER, 40' TANGENT)
	PROPOSED SIGN
☼	TYPE A WARNING LIGHT
X X	PAVEMENT MARKING REMOVED

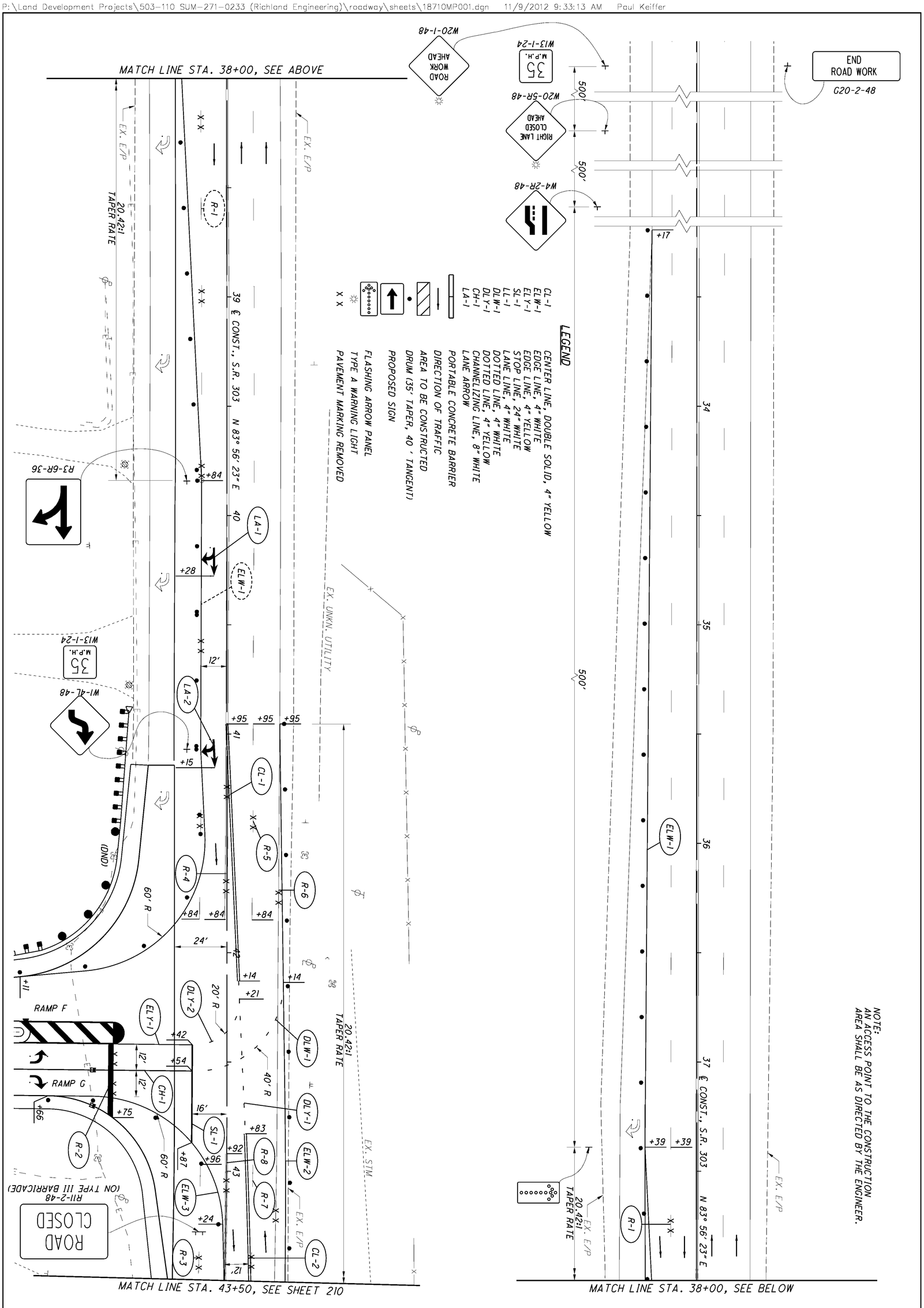
NOTE:
AN ACCESS POINT TO THE CONSTRUCTION AREA SHALL BE AS DIRECTED BY THE ENGINEER.

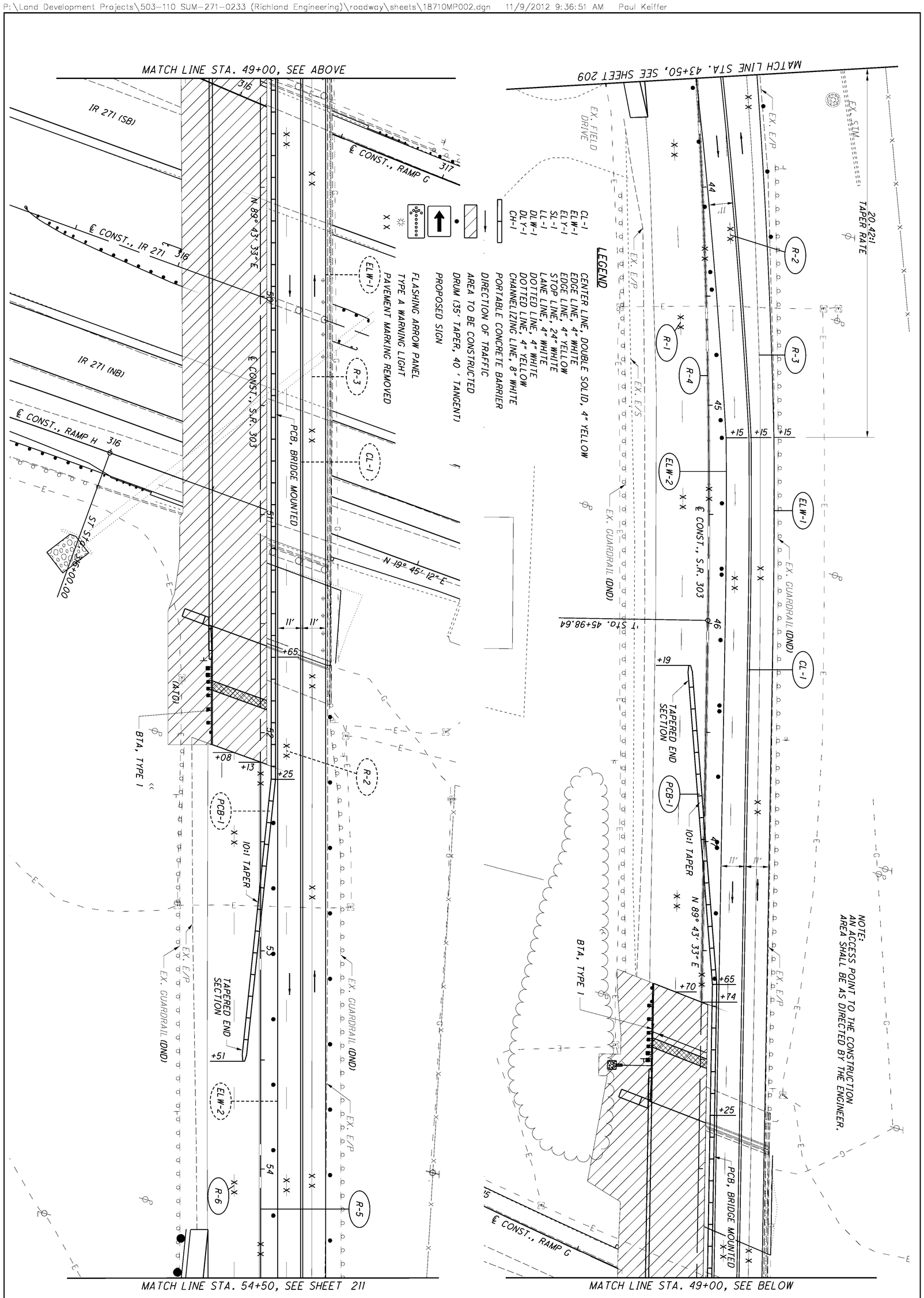
MATCH LINE STA. 60+50, SEE BELOW

MATCH LINE STA. 60+50, SEE ABOVE

NOTE: THE EXISTING SIGNAL AT BRECKSVILLE RD./KINROSS LAKES PKWY./RAMP B SHALL BE MODIFIED. FOR PHASING, TIMING, WIRING DIAGRAM, SEE SHEETS 49 & 50.

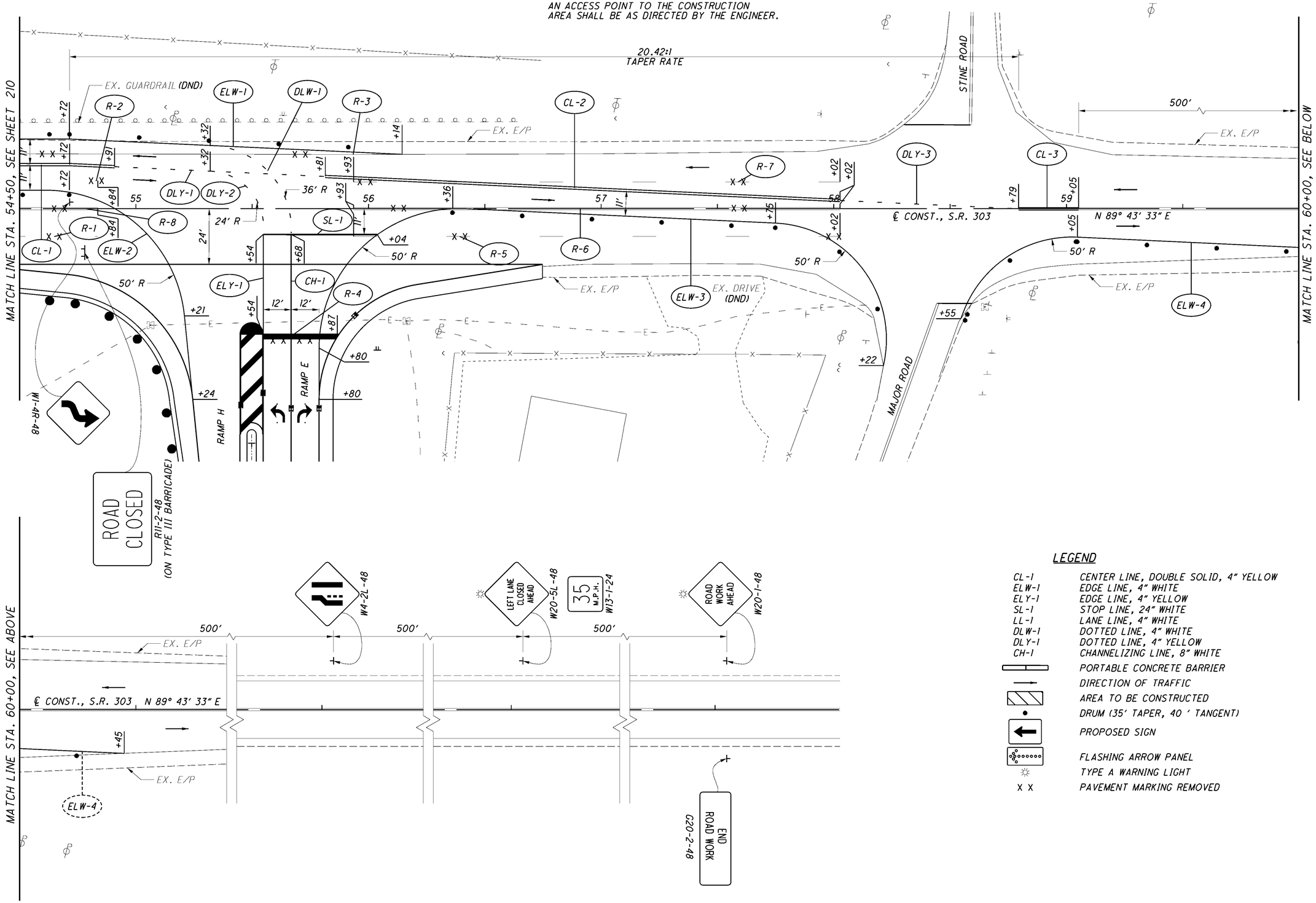

NOTE:
AN ACCESS POINT TO THE CONSTRUCTION AREA SHALL BE AS DIRECTED BY THE ENGINEER.
MATCH LINE STA. 60+50, SEE BELOW
MATCH LINE STA. 60+50, SEE ABOVE
℄ CONST., C.R. 17 (BRECKSVILLE RD.) N 0° 04' 15" W
N 0° 04' 15" W
I.R. 271 NB
I.R. 271 SB
KINROSS LAKES PKWY.
RAMP A
RAMP B
12" SAN. FM
6" SAN. FM
ABANDONED 18" G
8" G
20" G
16" W
6" W
Ex LA-R/W
UNK
BAG HEADS & BLACK OUT
DETECTOR LOOP (MOT)
DETECTOR LOOPS (MOT)
WORK ZONE IMPACT ATTENUATOR, BIDIRECTIONAL
(DND) EX. SIGN
PCB, BRIDGE MOUNTED
TAPERED END SECTION
EX. OVERHEAD ELEC.
EX. OVERHEAD TELECOM.
TEMP. SIGNAL SUPPORT FROM STAGE I STA. 64+50, 40' LT. ± (BTWN. GAS LINE & TEL LINE) INCLUDING DETECTOR LOOP FOR SB APPROACH
TEMP. SIGNAL SUPPORT FROM STAGE I STA. 64+50, 30' RT. ± (BTWN. GAS LINE & TEL LINE)
NOTE: THE EXISTING SIGNAL AT BRECKSVILLE RD./KINROSS LAKES PKWY./RAMP B SHALL BE MODIFIED. FOR PHASING, TIMING, WIRING DIAGRAM, SEE SHEETS 49 & 50.
ROAD CLOSED
R11-2-48 (ON TYPE III BARRICADE)
CAUTION
R1-1
R2-1
R3-1
P-1
PCB-1
ELW-1
ELW-2
SL-1
R10-11-24 (MOUNTED ON MAST ARM)
NO TURN ON RED
STOP HERE ON RED
R10-6-24
R10-11-24
R10-6-24
W20-1-48
W20-1-48
W20-1-48
W20-4-48
W20-4-48
W3-3-48
W3-3-48
G20-2-48
G20-2-48
R10-6-24
LEGEND
CL-1 CENTER LINE, DOUBLE SOLID, 4" YELLOW
ELW-1 EDGE LINE, 4" WHITE
SL-1 STOP LINE, 24" WHITE
DLW-1 DOTTED LINE, 4" WHITE
PORTABLE CONCRETE BARRIER
DIRECTION OF TRAFFIC
AREA TO BE CONSTRUCTED
PAVEMENT FOR MAINTAINING TRAFFIC
PROPOSED SIGN
TYPE A WARNING LIGHT
X X PAVEMENT MARKING REMOVED
200'
350'
50' R
10'
HORIZONTAL SCALE IN FEET
CALCULATED PEK
CHECKED TLH
MAINTENANCE OF TRAFFIC
PHASE 2 - STA. 55+00.00 TO 66+00.00
SUM-271-2.33
208
1195
P:\Land Development Projects\503-110 SUM-271-0233 (Richland Engineering)\roadway\sheets\18710MP011.dgn 11/9/2012 9:19:27 AM Paul Keiffer


MATCH LINE STA. 38+00, SEE ABOVE
W20-1-48
ROAD WORK AHEAD
W13-1-24
35 M.P.H.
W20-5R-48
RIGHT LANE CLOSED AHEAD
W4-2R-48
END ROAD WORK
G20-2-48
500'
LEGEND
CL-1 CENTER LINE, DOUBLE SOLID, 4" YELLOW
ELW-1 EDGE LINE, 4" WHITE
ELY-1 EDGE LINE, 4" YELLOW
SL-1 STOP LINE, 24" WHITE
LL-1 LANE LINE, 4" WHITE
DLW-1 DOTTED LINE, 4" WHITE
DLY-1 DOTTED LINE, 4" YELLOW
CH-1 CHANNELIZING LINE, 8" WHITE
LA-1 LANE ARROW
PORTABLE CONCRETE BARRIER
DIRECTION OF TRAFFIC
AREA TO BE CONSTRUCTED
DRUM (35' TAPER, 40 ' TANGENT)
PROPOSED SIGN
FLASHING ARROW PANEL
TYPE A WARNING LIGHT
PAVEMENT MARKING REMOVED
EX. E/P
EX. UNKN. UTILITY
EX. STM.
20.42:1 TAPER RATE
39 ℄ CONST., S.R. 303 N 83° 56' 23" E
34
35
36
37 ℄ CONST., S.R. 303 N 83° 56' 23" E
R3-6R-36
W1-4L-48
RAMP F
RAMP G
(DND)
ROAD CLOSED
R11-2-48
(ON TYPE III BARRICADE)
MATCH LINE STA. 43+50, SEE SHEET 210
MATCH LINE STA. 38+00, SEE BELOW
NOTE:
AN ACCESS POINT TO THE CONSTRUCTION AREA SHALL BE AS DIRECTED BY THE ENGINEER.



210 / 1195	SUM-271-2.33	MAINTENANCE OF TRAFFIC - PHASE 1 STA. 43+50.00 TO 54+50.00	CALCULATED PEK CHECKED TLH	HORIZONTAL SCALE IN FEET (0, 20, 10, 40)

NOTE:
AN ACCESS POINT TO THE CONSTRUCTION AREA SHALL BE AS DIRECTED BY THE ENGINEER.



LEGEND

CL-1	CENTER LINE, DOUBLE SOLID, 4″ YELLOW
ELW-1	EDGE LINE, 4″ WHITE
ELY-1	EDGE LINE, 4″ YELLOW
SL-1	STOP LINE, 24″ WHITE
LL-1	LANE LINE, 4″ WHITE
DLW-1	DOTTED LINE, 4″ WHITE
DLY-1	DOTTED LINE, 4″ YELLOW
CH-1	CHANNELIZING LINE, 8″ WHITE
	PORTABLE CONCRETE BARRIER
	DIRECTION OF TRAFFIC
	AREA TO BE CONSTRUCTED
	DRUM (35′ TAPER, 40 ′ TANGENT)
	PROPOSED SIGN
	FLASHING ARROW PANEL
	TYPE A WARNING LIGHT
X X	PAVEMENT MARKING REMOVED

HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED PEK
CHECKED TLH

MAINTENANCE OF TRAFFIC - PHASE 1
STA. 54+50.00 TO 65+50.00

SUM-271-2.33

211
1195

P:\Land Development Projects\503-110 SUM-271-0233 (Richland Engineering)\roadway\sheets\18710MP003.dgn 11/9/2012 9:48:02 AM Paul Kelffer

LEGEND

CL-1	CENTER LINE, DOUBLE SOLID, 4" YELLOW
ELW-1	EDGE LINE, 4" WHITE
ELY-1	EDGE LINE, 4" YELLOW
SL-1	STOP LINE, 24" WHITE
LL-1	LANE LINE, 4" WHITE
DLW-1	DOTTED LINE, 4" WHITE
DLY-1	DOTTED LINE, 4" YELLOW
CH-1	CHANNELIZING LINE, 8" WHITE
	PORTABLE CONCRETE BARRIER
	DIRECTION OF TRAFFIC
	AREA TO BE CONSTRUCTED
	DRUM (35' TAPER, 40 ' TANGENT)
	PROPOSED SIGN
	FLASHING ARROW PANEL
	TYPE A WARNING LIGHT
X X	PAVEMENT MARKING REMOVED

NOTE:
AN ACCESS POINT TO THE CONSTRUCTION AREA SHALL BE AS DIRECTED BY THE ENGINEER.

HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED PEK
CHECKED TLH

MAINTENANCE OF TRAFFIC - PHASE 2
STA. 32+50.00 TO 43+50.00

SUM-271-2.33

212
1195

P:\Land Development Projects\503-110 SUM-271-0233 (Richland Engineering)\roadway\sheets\18710MP004.dgn 11/9/2012 9:54:45 AM Paul Keiffer

NOTE:
AN ACCESS POINT TO THE CONSTRUCTION AREA SHALL BE AS DIRECTED BY THE ENGINEER.

MATCH LINE STA. 43+50, SEE SHEET 212

WI-4R-48

WI-HILL-48

EX. STM

20.42:1 TAPER RATE

EX. GUARDRAIL (DND)

EX. E/P

TAPERED END SECTION

+47

10:1 TAPER

PCB-2

BTA, TYPE 1

(ATC)

EX. GAS (TBR, PREVIOUSLY ABANDONED)

ELY-1

ELY-2

ELW-1

℄ CONST., S.R. 303

44

45

46

47

48

N 89° 43' 33" E

+15

+28

+89

+65

+25

10'

PCB, BRIDGE MOUNTED

EX. E/S

PT Sta. 45+98.64

CL-1

ELW-2

R-1

+26

TAPERED END SECTION

EX. GUARDRAIL (TBR)

PCB-1

+05

EX. FIELD DRIVE

℄ CONST., RAMP H

℄ CONST., RAMP G

MATCH LINE STA. 49+00, SEE BELOW

LEGEND

CL-1	CENTER LINE, DOUBLE SOLID, 4" YELLOW
ELW-1	EDGE LINE, 4" WHITE
ELY-1	EDGE LINE, 4" YELLOW
SL-1	STOP LINE, 24" WHITE
LL-1	LANE LINE, 4" WHITE
DLW-1	DOTTED LINE, 4" WHITE
DLY-1	DOTTED LINE, 4" YELLOW
CH-1	CHANNELIZING LINE, 8" WHITE
	PORTABLE CONCRETE BARRIER
	DIRECTION OF TRAFFIC
	AREA TO BE CONSTRUCTED
	DRUM (35' TAPER, 40 ' TANGENT)
	PROPOSED SIGN
	FLASHING ARROW PANEL
	TYPE A WARNING LIGHT
X X	PAVEMENT MARKING REMOVED

MATCH LINE STA. 49+00, SEE ABOVE

317

316

IR 271 (SB)

IR 271 (NB)

℄ CONST., IR 271

EX. GAS (TBR, PREVIOUSLY ABANDONED)

BTA, TYPE 1

(ATC)

EX. GUARDRAIL (DND)

EX. E/P

PCB-2

10:1 TAPER

50

51

52

53

54

+65

+25

10'

PCB, BRIDGE MOUNTED

℄ CONST., S.R. 303

CL-1

ELW-2

ELW-1

R-2

+71

13'±

BTA, TYPE 1

EX. GUARDRAIL (TBR)

PCB-3

10:1 TAPER

TAPERED END SECTION

+90

EX. GUARDRAIL (DND)

MATCH LINE STA. 54+50, SEE SHEET 214

HORIZONTAL SCALE IN FEET

0 10 20 40

CALCULATED PEK

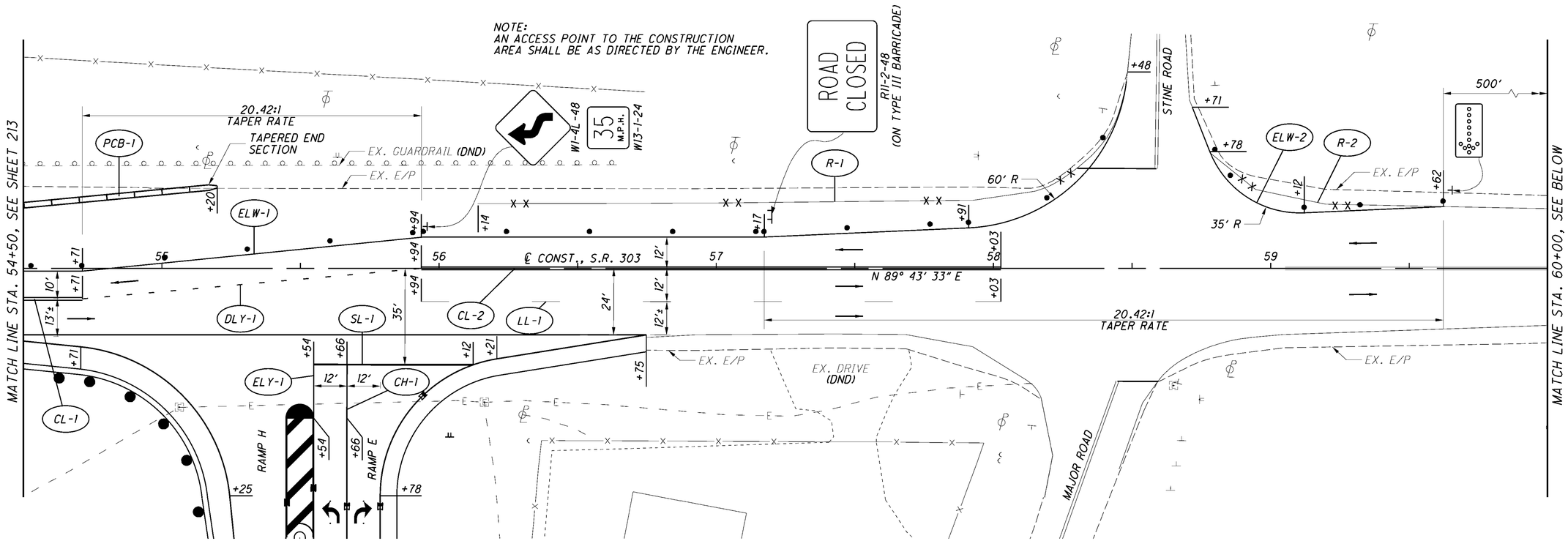
CHECKED TLH

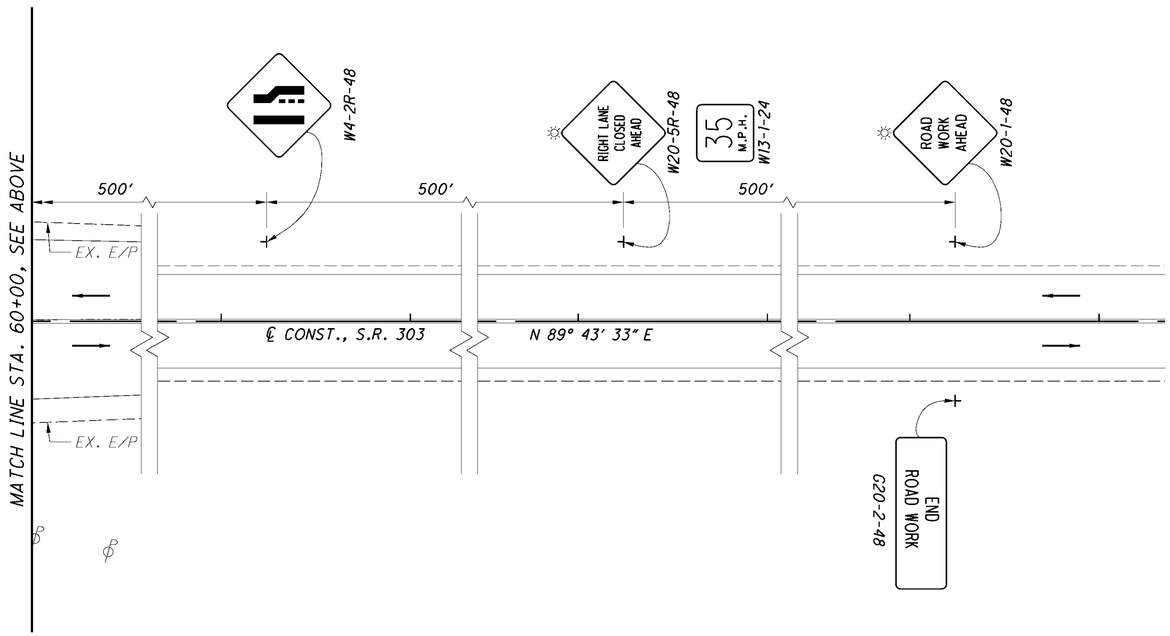
MAINTENANCE OF TRAFFIC - PHASE 2
STA. 43+50.00 TO 54+50.00

SUM-271-2.33

213
1195

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LEGEND

CL-1	CENTER LINE, DOUBLE SOLID, 4" YELLOW
ELW-1	EDGE LINE, 4" WHITE
ELY-1	EDGE LINE, 4" YELLOW
SL-1	STOP LINE, 24" WHITE
LL-1	LANE LINE, 4" WHITE
DLW-1	DOTTED LINE, 4" WHITE
DLY-1	DOTTED LINE, 4" YELLOW
CH-1	CHANNELIZING LINE, 8" WHITE
	PORTABLE CONCRETE BARRIER
	DIRECTION OF TRAFFIC
	AREA TO BE CONSTRUCTED
	DRUM (35' TAPER, 40 ' TANGENT)
	PROPOSED SIGN
	FLASHING ARROW PANEL
	TYPE A WARNING LIGHT
X X	PAVEMENT MARKING REMOVED

HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED PEK
CHECKED TLH

MAINTENANCE OF TRAFFIC - PHASE 2
STA. 54+50.00 TO 65+50.00

SUM-271-2.33

214
1195

P:\Land Development Projects\503-110 SUM-271-0233 (Richland Engineering)\roadway\sheets\18710MP006.dgn 11/9/2012 10:09:51 AM Paul Keiffer

NOTE:
AN ACCESS POINT TO THE CONSTRUCTION AREA SHALL BE AS DIRECTED BY THE ENGINEER.

END ROAD WORK G20-2-48

ROAD WORK AHEAD W20-1-48

35 M.P.H. W13-1-24

RIGHT LANE CLOSED AHEAD W20-5R-48

W4-2R-48

500′ 500′ 500′

20.42:1 TAPER RATE

EX. E/P

34 35 36 37

℄ CONST., S.R. 303 N 83° 56′ 23″ E

+17 +73

ELW-1

MATCH LINE STA. 38+00, SEE BELOW

LEGEND

CL-1	CENTER LINE, DOUBLE SOLID, 4″ YELLOW
ELW-1	EDGE LINE, 4″ WHITE
ELY-1	EDGE LINE, 4″ YELLOW
SL-1	STOP LINE, 24″ WHITE
LL-1	LANE LINE, 4″ WHITE
DLW-1	DOTTED LINE, 4″ WHITE
DLY-1	DOTTED LINE, 4″ YELLOW
CH-1	CHANNELIZING LINE, 8″ WHITE
LA-1	LANE ARROW
	PORTABLE CONCRETE BARRIER
	DIRECTION OF TRAFFIC
	AREA TO BE CONSTRUCTED
	DRUM (35′ TAPER, 40 ′ TANGENT)
	PROPOSED SIGN
X X	FLASHING ARROW PANEL
	TYPE A WARNING LIGHT
	PAVEMENT MARKING REMOVED

ROAD CLOSED (ON TYPE III BARRICADE) R11-2-48

UNKN. UTILITY

ELW-2

PROP. E/P

EX. STM

CL-2

MATCH LINE STA. 38+00, SEE ABOVE

39 40 41 42 43

℄ CONST., S.R. 303 N 83° 56′ 23″ E

R-1

LA-1 LA-2

CL-1

SL-1

ELW-3

50′ R

60′ R

CH-1

ELY-1

ELW-1

EX. E/P

20.42:1 TAPER RATE

R3-6R-36

ROAD CLOSED (ON TYPE III BARRICADE) R11-2-48

(DND)

RAMP F

RAMP G

MATCH LINE STA. 43+50, SEE SHEET 216

HORIZONTAL SCALE IN FEET 0 10 20 40

CALCULATED PEK CHECKED TLH

MAINTENANCE OF TRAFFIC - PHASE 3
STA. 32+50.00 TO 43+50.00

SUM-271-2.33

215
1195

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NOTE:
AN ACCESS POINT TO THE CONSTRUCTION AREA SHALL BE AS DIRECTED BY THE ENGINEER.

MATCH LINE STA. 43+50, SEE SHEET 215

MATCH LINE STA. 49+00, SEE ABOVE

MATCH LINE STA. 49+00, SEE BELOW

MATCH LINE STA. 54+50, SEE SHEET 217

FX. STM

CL-1

ELW-1

ELW-2

R-1

PROP. E/P

PROP. GUARDRAIL

BTA, TYPE I

SAWCUT

(ATG)

℄ CONST., S.R. 303

N 89° 43' 33" E

PT Sta. 45+98.64

℄ CONST., RAMP C

℄ CONST., RAMP H

N 19° 45' 12" E

IR 271 (SB)

IR 271 (NB)

ST Sta. 316+00.00

44 45 46 47 48 49 50 51 52 53 54

12' 26' 27'

+67 +84 +17 +26 +60 +79 +31 +27

316 317

X X

LEGEND

CL-1	CENTER LINE, DOUBLE SOLID, 4" YELLOW
ELW-1	EDGE LINE, 4" WHITE
ELY-1	EDGE LINE, 4" YELLOW
SL-1	STOP LINE, 24" WHITE
LL-1	LANE LINE, 4" WHITE
DLW-1	DOTTED LINE, 4" WHITE
DLY-1	DOTTED LINE, 4" YELLOW
CH-1	CHANNELIZING LINE, 8" WHITE
	PORTABLE CONCRETE BARRIER
	DIRECTION OF TRAFFIC
	AREA TO BE CONSTRUCTED
	DRUM (35' TAPER, 40 ' TANGENT)
	PROPOSED SIGN
X X	FLASHING ARROW PANEL
	TYPE A WARNING LIGHT
	PAVEMENT MARKING REMOVED

HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED PEK
CHECKED TLH

MAINTENANCE OF TRAFFIC - PHASE 3
STA. 43+50.00 TO 54+50.00

SUM-271-2.33

216
1195

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NOTE:
AN ACCESS POINT TO THE CONSTRUCTION AREA SHALL BE AS DIRECTED BY THE ENGINEER.

MATCH LINE STA. 54+50, SEE SHEET 216

MATCH LINE STA. 60+00, SEE BELOW

MATCH LINE STA. 60+00, SEE ABOVE

ROAD CLOSED
R11-2-48
(ON TYPE III BARRICADE)

STINE ROAD

MAJOR ROAD

RAMP H

℄ CONST., S.R. 303

N 89° 43' 33" E

EX. E/P

EX. DRIVE (DND)

(DND)

CL-1, ELW-1, ELW-2, ELY-1, SL-1, CH-1, ELW-3, CL-2, R-1, ELW-4, R-2

12', 24', 22'

50' R, 60' R

+88, +83, +54, +66, +04, +06, +35, +72, +75, +49, +47, +71, +97, +62, +21, +38, +78, +30

55, 56, 57, 58, 59, 61, 62, 63, 70, 75

W4-2R-48

RIGHT LANE CLOSED
W20-5L-48

35 M.P.H.
W13-1-24

ROAD WORK AHEAD
W20-1-48

500′

END ROAD WORK
G20-2-48

LEGEND

CL-1	CENTER LINE, DOUBLE SOLID, 4" YELLOW
ELW-1	EDGE LINE, 4" WHITE
ELY-1	EDGE LINE, 4" YELLOW
SL-1	STOP LINE, 24" WHITE
LL-1	LANE LINE, 4" WHITE
DLW-1	DOTTED LINE, 4" WHITE
DLY-1	DOTTED LINE, 4" YELLOW
CH-1	CHANNELIZING LINE, 8" WHITE
	PORTABLE CONCRETE BARRIER
	DIRECTION OF TRAFFIC
	AREA TO BE CONSTRUCTED
	DRUM (35′ TAPER, 40 ′ TANGENT)
	PROPOSED SIGN
X X	FLASHING ARROW PANEL TYPE A WARNING LIGHT PAVEMENT MARKING REMOVED

HORIZONTAL SCALE IN FEET
0, 10, 20, 40

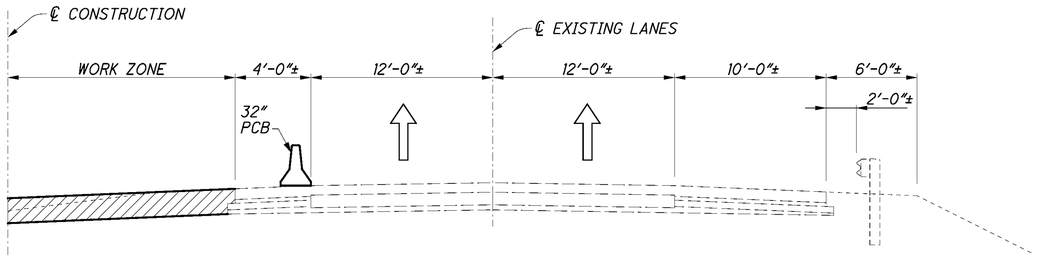
CALCULATED PEK
CHECKED TLH

MAINTENANCE OF TRAFFIC - PHASE 3
STA. 54+50.00 TO 65+50.00

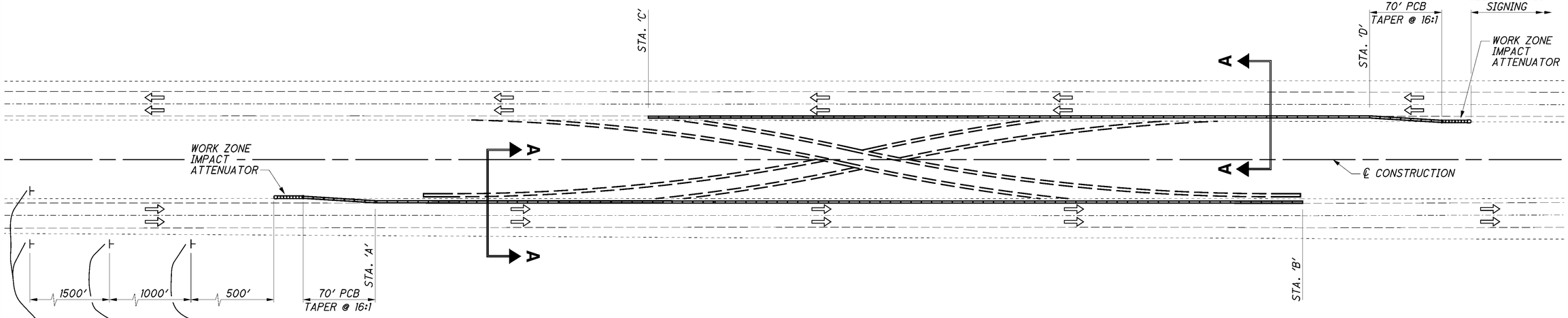
SUM-271-2.33

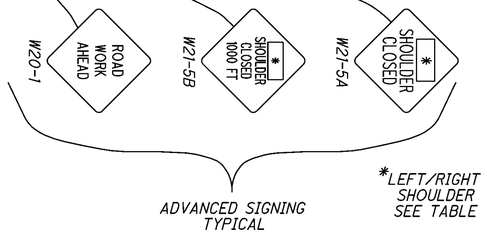
217
1195

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TYPICAL SECTION A-A





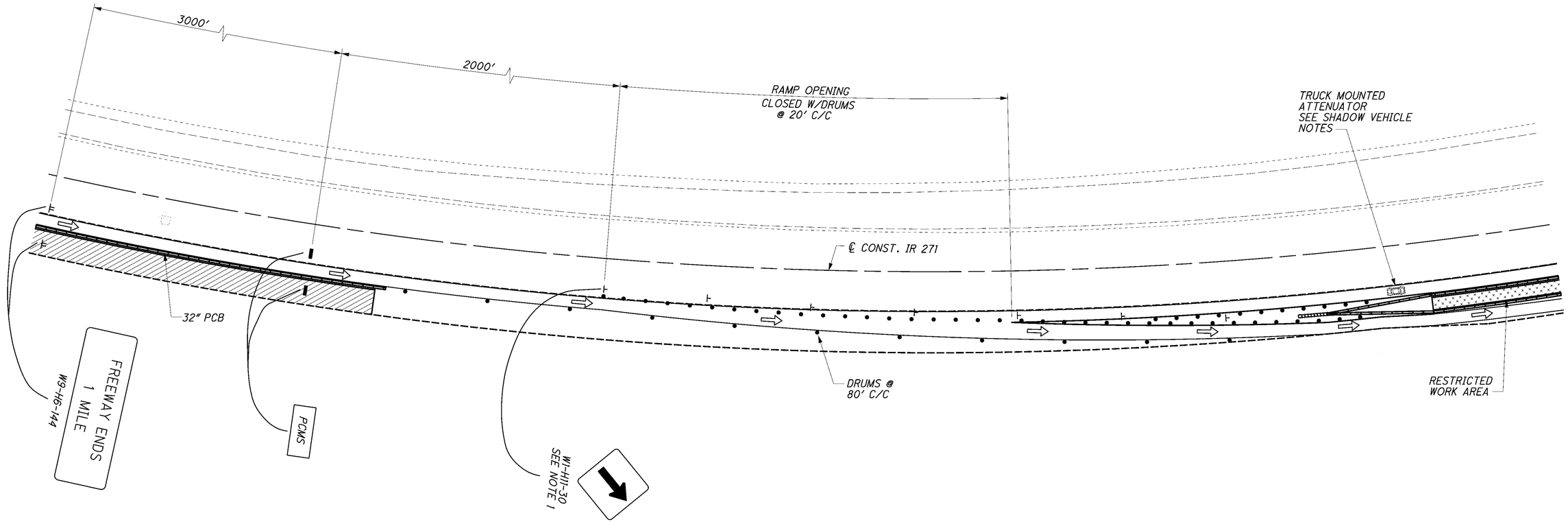
LOCATION	SHOULDER	STA. 'A'	STA. 'B'	STA. 'C'	STA. 'D'
IR 271 PHASE 1A & 2A SOUTH END CROSSOVER	LEFT	515+00	528+20	516+40	528+20
IR 271 PHASE 1A NORTH END CROSSOVER	LEFT	363+00	368+00	348+20	363+50
IR 271 PHASE 2A NORTH END CROSSOVER	LEFT	347+00	356+00	359+00	365+00

CALCULATED DAW
CHECKED PRS

MAINTENANCE OF TRAFFIC SHOULDER CLOSURE DETAIL

SUM-271-2.33

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CROSS REFERENCES	
51-79	MOT TYPICAL SECTIONS
46	MOT GENERAL NOTES

LEGEND

PHASE CONSTRUCTION

RESTRICTED WORK AREA - SEE GENERAL NOTES

TRAFFIC DIRECTION

NOTES:

1. ERECT FIRST SIGN ADJACENT TO BEGINNING OF SHIFT, THEN EVERY 100 FT. ALONG SHIFT TAPER. LOCATE SIGNS AT 10 FT. BEHIND DRUMS.
2. SHADOW VEHICLE
   - A. THE SHADOW VEHICLE SHALL BE IN PLACE AND UNOCCUPIED WHENEVER WORKERS ARE IN THE WORK AREA. THIS VEHICLE SHALL BE REMOVED FROM THE PAVEMENT WHENEVER WORKERS ARE NOT IN THE WORK AREA.
   - B. THE SHADOW VEHICLE SHALL BE EQUIPPED WITH A HIGH-INTENSITY YELLOW ROTATING, FLASHING, OSCILLATING, OR STROBE LIGHT(S).
   - C. THE VEHICLE SHALL BE EQUIPPED WITH A TRUCK-MOUNTED ATTENUATOR (TMA) WHEN SPECIFIED IN THE PLANS.
3. SEE MT-99.50 FOR ADDITIONAL NOTES, SIGNS, AND DETAILS.

HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED DAW
CHECKED PRS

MAINTENANCE OF TRAFFIC
RESTRICTED WORK AREA DETAIL

SUM-271-2.33

219
1195

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* REVERSE ORDER OF INTERCHANGES FOR SOUTHBOUND TRAFFIC

LEGEND

- WORK AREA
- DRUMS
- PORTABLE CONCRETE BARRIER (PCB)
- PCB WITH GLARE SCREEN
- TAPERED END
- ATTENUATOR
- PCB "Y" CONNECTING SEGMENT
- REMOVE EXISTING MARKINGS
- DIRECTION OF TRAVEL

NOTES:

1. DURING RESTRICTED WORK AREA THROUGH LANE CLOSURES OVERLAY "ALL WITH "LEFT.
2. DURING RESTRICTED WORK AREA THROUGH LANE CLOSURES ADD A "CLOSED" OVERLAY NEXT TO THE INACCESSIBLE INTERCHANGE RAMPS.
3. DURING RESTRICTED WORK AREA THROUGH LANE CLOSURES ADVANCE PCMS SHALL BE PLACED TO ALERT DRIVERS OF UP COMING RAMP CLOSURES.

TABLE I (SIGN SPACING)

ROAD TYPE	DISTANCE BETWEEN SIGNS FT(m)		
	A	B	C
FREEWAY & EXPRESSWAY	1000 (300)	1500 (450)	2640 (800)

TABLE II

SPEED LIMIT (mph)	TAPER RATE MINIMUM	PCB FLARE RATE MINIMUM	MAXIMUM DRUM SPACING FT (m)		CLEAR ZONE WIDTH (E) FT (m)
			Taper sec.	Tangent sec.	
25	11:1	8:1	25 (7.5)	40 (12)	15 (5)
30	15:1	8:1	30 (9)	40 (12)	15 (5)
35	21:1	10:1	35 (10.5)	40 (12)	15 (5)
40	27:1	11:1	40 (12)	80 (24)	15 (5)
45	45:1	13:1	45 (13.5)	80 (24)	19 (6)
50	50:1	14:1	50 (15)	80 (24)	19 (6)
55	55:1	16:1	55 (16.5)	80 (24)	23 (7)
60	60:1	17:1	60 (18)	120 (36)	30 (9)
65	65:1	19:1	65 (19.5)	120 (36)	30 (9)

CALCULATED DAW
CHECKED PRS

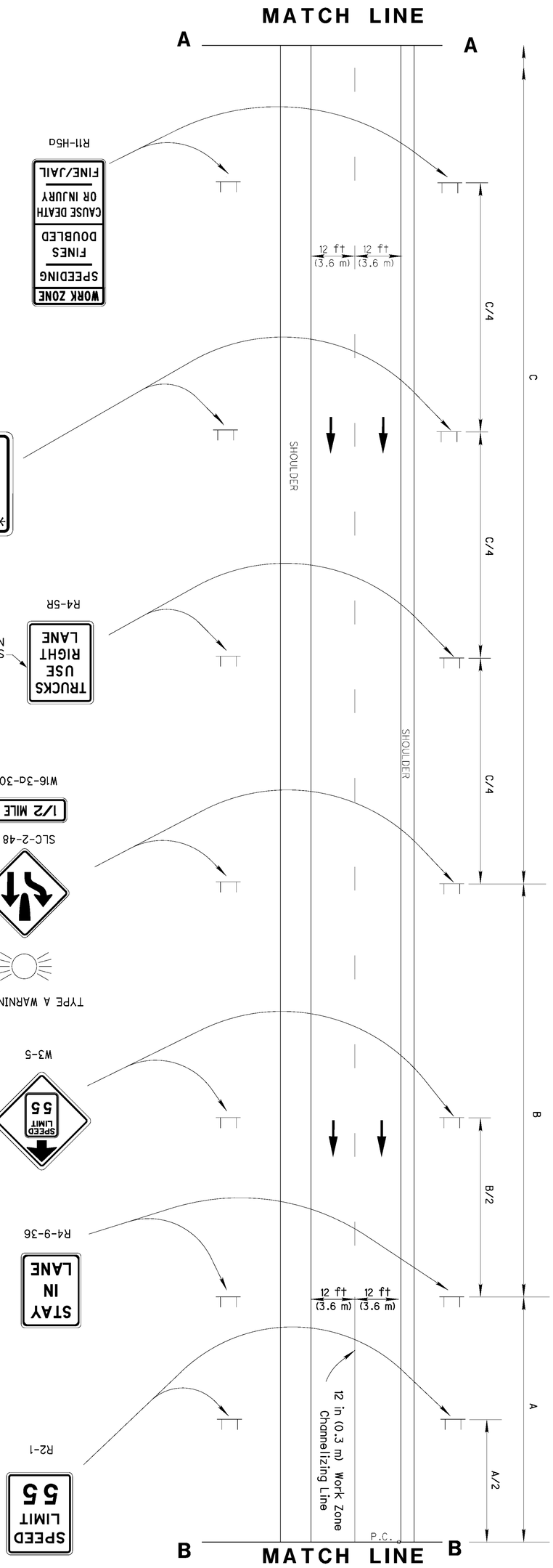
MEDIAN CROSSOVER OF EXPRESS LANE
LONG DISTANCE

SUM-271-2.33

1 / 4

220
1195

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* REVERSE ORDER OF INTERCHANGES FOR SOUTHBOUND TRAFFIC

NOTES:

1. DURING RESTRICTED WORK AREA THROUGH LANE CLOSURES COVER SIGN.
2. DURING RESTRICTED WORK AREA THROUGH LANE CLOSURES ADD A "CLOSED" OVERLAY NEXT TO THE INACCESSIBLE INTERCHANGE RAMPS.

TABLE I (SIGN SPACING)

ROAD TYPE	DISTANCE BETWEEN SIGNS FT(m)		
	A	B	C
FREEWAY & EXPRESSWAY	1000 (300)	1500 (450)	2640 (800)

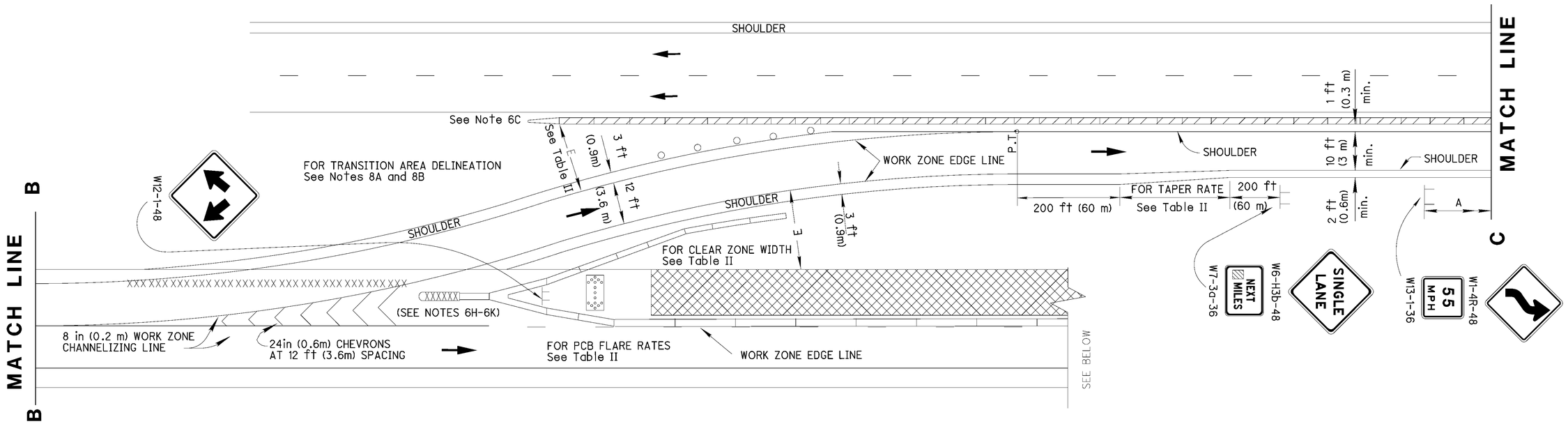
TABLE II

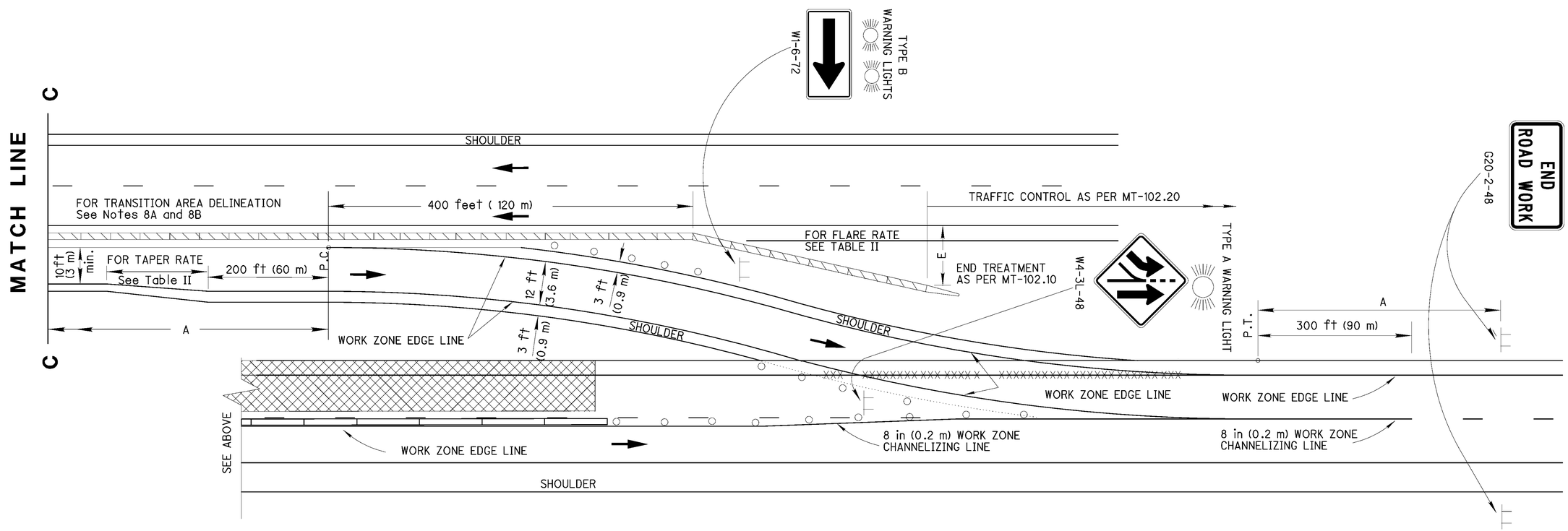
SPEED LIMIT (mph)	TAPER RATE MINIMUM	PCB FLARE RATE MINIMUM	MAXIMUM DRUM SPACING FT (m)		CLEAR ZONE WIDTH (E) FT (m)
			Taper sec.	Tangent sec.	
25	11:1	8:1	25 (7.5)	40 (12)	15 (5)
30	15:1	8:1	30 (9)	40 (12)	15 (5)
35	21:1	10:1	35 (10.5)	40 (12)	15 (5)
40	27:1	11:1	40 (12)	80 (24)	15 (5)
45	45:1	13:1	45 (13.5)	80 (24)	19 (6)
50	50:1	14:1	50 (15)	80 (24)	19 (6)
55	55:1	16:1	55 (16.5)	80 (24)	23 (7)
60	60:1	17:1	60 (18)	120 (36)	30 (9)
65	65:1	19:1	65 (19.5)	120 (36)	30 (9)

MEDIAN CROSSOVER OF EXPRESS LANE
LONG DISTANCE

CALCULATED DAW
CHECKED PRS

MEDIAN CROSSOVER OF EXPRESS LANE
LONG DISTANCE





CALCULATED DAW
CHECKED PRS

SUM-271-2.33

3 / 4

222
1195

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GENERAL NOTES:

GENERAL

1A. This Standard Construction Drawing presents information which is applicable to crossover design. Additional information, applicable to Maintenance of Traffic on multilane highways can be found on the MT-95.30 and MT-95.40 series drawings, on MT-95.50 and on the MT-102 series drawings.

1B. Standard Construction Drawing MT-101.70 shall be used with this drawing.

DESIGN SPEED

2. The design speed used for taper rates should typically be the permanent legal speed. However, on construction projects for which the speed limit is reduced, the reduced speed may be used in determining the taper rate when the taper is not the first active construction area within the project.

TAPERS

3. The minimum acceptable length of taper shall be determined by multiplying the width of offset by the taper rate. The taper rate is provided in Table II.

SIGNING

4A. The advisory speed plaque (W13-1) shall be used when specified in the plans.

4B. The spacing between work zone signs, as shown in Table I, are minimums. Maximum spacing should not be greater than 1.5 times the distances shown in Table I.

4C. Sign spacing should be adjusted to avoid conflict with existing signs. Minimum spacing to existing signs shall be 200 feet (60m) for speeds of 45 mph or less and a minimum of 400 feet (120m) for speeds 50 mph or greater.

4D. Sign locations should be adjusted to provide adequate sight distance for the existing vertical and horizontal roadway alignment.

4E. If the tangent distance along the temporary diversion is less than 2000 feet (600 m), place the second Reverse Curve (W1-4) sign at the mid-point of the tangent.

4F. If the tangent distance along the temporary diversion is 600 feet (180 m) or less, then the double Reverse Curve sign (W24-1) may be used in place of the first Reverse Curve sign, eliminating the need for the second Reverse Curve sign.

4G. The W6-H3b sign shall be provided along directional single-lane roadways over 3 miles (4.8 km). Spacing of the W6-H3b shall be at approximatly 1 mile (1.6 km).

4H. Diagramatic guide signs and interchange guide signs shall be provided as detailed in the plans.

4J. The guide signs shall have white legends on green background, similar to the D2 and E6 series signs and the E4-H1 sign. However, these signs shall be flat sheet signs on sign posts. The size of the signs shall be as specified in the plans.

4K. Signing for exit ramps located within the limits of the crossover lane should be as shown in the plan. Signing shall specify which exits are not accessable from the crossover lane.

4L. Additional information shall be provided in the form of fixed signs and/or changeable message boards as called for in the plans.

4M. Sign spacing on major conventional highways shall be as called for in Table I for freeway & expressway spacing unless otherwise determined by the Engineer.

PAVEMENT MARKING

5A. The existing conflicting pavement markings and reflectors from the raised pavement markers shall be removed and the appropriate color work zone edge lines shall be applied.

5B. Work zone edge lines shall be provided along the tangent section when called for in the plans.

5C. Work zone pavement markings which would conflict with the final traffic lanes shall be removable (CMS 740.06 Type I) tape unless the area will be resurfaced prior to project completion.

5D. After completion of the work, pavement markings other than CMS 740.06, Type I shall be removed in accordance with CMS 614.11I. The original markings and raised pavement marker reflectors shall be restored at no additional cost unless separately itemized in the plans.

5E. Edge lines shall be of the appropriate color for the direction of travel. If the temporary edge lines are located on the same alignment as existing lines, the temporary lines may be painted over top of the existing lines (with subsequent over painting if necessary during the life of the work stage to maintain day and night color) if other than on the final surface. If on the final surface, all marking shall be removable tape as per 5C above.

5F. A 12 inch (0.3 m) channelizing line shall be provided in between the crossover lane and the through lane in advance of the "exit" gore, as shown on sheet 2 of 4. All other channelizing lines shown on this drawing shall be of standard 8 inch (0.2 m) width.

5G. If the intended location of the beginning of the channelizing line, as called for in the detail, is on a curve, then the beginning of the channelizing line should be relocated upstream a distance of 500 feet (150 m).

5H. If the beginning of the channelizing line would be located near an exit ramp, then the beginning of the channelizing line shall be relocated upstream a distance of 1000 feet in advance of the beginning of the exit ramp deceleration lane.

PORTABLE CONCRETE BARRIER

6A. The portable concrete barrier (PCB) near the exiting crossover, shall extend straight on the permanent roadway to 400 feet (120 m) beyond the PC of the crossover. The PCB shall then be flared at the rate specified in Table II.

6B. The PCB shall be 32 inches (813 mm), fitted with glare screen, or may be 50 inches (1270 mm) high if NCHRP 350 compliant.

6C. PCB end treatment shall be by impact attenuator if located within the clear zone of approaching traffic.

6D. PCB end treatment may be by tapered ends if located beyond the clear zone of approaching traffic.

6E. When used, impact attenuators shall be installed parallel to traffic. The last full section of PCB, adjacent to the impact attenuator shall be located parallel to traffic. For installation procedures, refer to manufacturer's installation instructions.

6F. No reflectors or other channelizing devices shall be permitted on the face of the PCB facing the exiting crossover, from PC to end of barrier.

6G. Where portable concrete barrier (PCB) is provided at the gore, the impact attenuators shall be installed parallel to mainline traffic.

6H. Where the impact attenuator is intended to apply to two barriers within the gore, one from the through lane and one from the crossover, the two barriers shall be joined to form one unit using a PCB "Y" connecting segment. For the "Y" details, see Roadway Plan Insert Sheet "Portable Concrete Barrier 'Y' Connector Segment".

PCB cont.

Contractors may choose to install a wide impact attenuator in lieu of utlizing the concrete "Y" segment. For example, a wide impact attenuator at a minimum of 48 inches (1200 mm) wide and rated for the design speed of the roadway could be installed in place of the aforementioned (1) work zone impact attenuator (2) PCB "Y" connector segment and (3) one standard PCB section. However, if contractors use this connection method, the wider impact attenuator must still be crashworthy in accordance with NCHRP Report 350, or MASH-08 and installed as per manufacturer's instructions.

The contractor shall repair or replace a damaged unit within 24 hours of a damaging impact.

6J. Where a PCB "Y" connecting segment is provided, one standard section of PCB shall be provided between the "Y" connecting segment and the impact atenuator.

6K. Connection of the Impact attenuator to the PCB shall be by positive connection. Appropriate crashworthy transitions between the impact attenuator and the first PCB shall be installed.

6L. Where PCB is located beyond the edge of the paved shoulder, the cross slope within the clear zone, including the surface on which the PCB is placed, shall be graded at 10:1 or flatter. If the cross slope is steeper than 10:1, the PCB shall be terminated on the paved shoulder. The PCB shall be extended along the paved shoulder as necessary to satisfy the length of need, and then terminated using an impact attenuator.

6M. For installation procedures for the PCB and for the impact attenuator, refer to manufacturers' installation instructions.

6N. For details on delineation of Portable Concrete Barrier, see Standard Construction Drawing MT-101.70.

6O. PCB shall also be provided along the crossover where the work is within the clear zone of the crossover. The PCB within the gore, along the right side of the crossover lane should be flared as per Table II, with the upstream end of the PCB placed adjacent to the mainline PCB.

DRUMS

7A. Drums along the crossover curves shall be spaced at 20 feet (6 m) center-to-center.

7B. Drums used to close off a crossover shall be spaced at 10 feet (3 m) center-to-center.

7C. All other drum spacing shall be as per Table II.

7D. Drums located along the crossover ramps should be placed on the aggregate shoulder as much as possible in order to maximize the width of pavement open to traffic.

TRANSITION AREA DELINEATION

8A. Transition area delineation shall be provided, as called for in MT-99.30, or as otherwise called for in the plans.

8B. Additionally, RPMs at 20 feet (6 m) spacing shall be provided beside the channelizing line located between the crossover lane and the through lanes.

LIGHTING

9. Work zone lighting shall be provided as per Standard Construction Drawing MT-100.00.

GEOMETIRCS

10. Geometrics of the crossover shall be as called for in the plans.

EXISTING LONGITUDINAL RUMBLE STRIPS

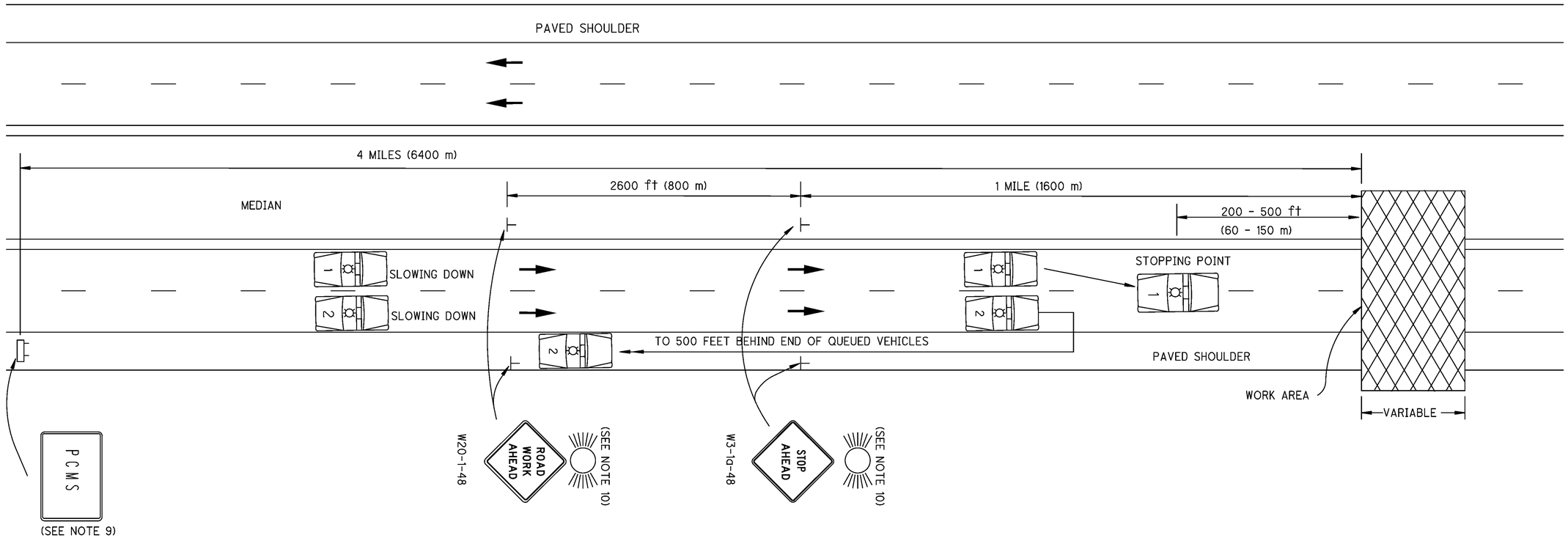
11. Existing longitudinal rumble strips, located within the alignment of the crossover, shall be eliminated by pavement planing and resurfacing.

CALCULATED DAW CHECKED PRS

MEDIAN CROSSOVER OF EXPRESS LANE ALONG DISTANCE

SUM-271-2.33

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1. This type of highway closure shall be used for all construction, maintenance and utility operations when the duration of closure will not exceed 15 minutes.

2. A minimum of two Law Enforcement Officers (LEO) with patrol cars per direction shall be provided to block traffic and pace motorists to a stop. The number of patrol cars shall equal the number of lanes closed on the highway.

3. Patrol cars, with lights flashing, should enter the stream of traffic at approximately 3 miles before the point of closure. At approximately 2 miles before the point of closure, they should begin the gradual slow down. Traffic shall be brought to a complete stop a safe distance, between 200 and 500 feet (60 and 150 m), from the work area. This slowing operation shall take no more than 10 minutes. After traffic has been stopped, one patrol car shall travel along the roadway shoulder 500 feet (150 m) behind the end of the queued vehicles.

4. The Contractor shall not begin work until traffic has been brought to a complete stop.

5. All entrance ramps located between the stopped traffic and the work area shall be closed.

6. After the highway has been closed and reopened via this procedure, both of the following requirements shall have been met before implementation of another short duration closure, except with the approval of the Engineer:
   A. A minimum period of 15 minutes shall have elapsed
   B. The queued traffic shall have dissipated

7. The time frame for stopping traffic shall be specified.

8. The public shall be given advance notice of the upcoming closure by providing Portable Changeable Message signs at the site in advance of the scheduled closing. Closure information should also be provided to the Engineer.

9. An ODOT approved Portable Changeable Message Sign, Class 1, shall be provided during operation. The message sign shall be placed at approximately 4 miles (6400 meters) in advance of the closure or as directed by the Engineer. The message sign shall read "ROAD CLOSED AHEAD" (2 sec.), "PREPARE TO STOP" (2 sec.)

10. The Contractor shall erect and maintain 48 inch "ROAD WORK AHEAD" and "STOP AHEAD" signs on each side of the highway. Each sign shall be equipped with one Type A flashing warning light and one flare. There shall be one flare at each sign on both sides of the roadway. The flare shall be replaced if it burns out.

1870WM005.DGN 6/6/11 SAM

OFFICE OF TRAFFIC ENGINEERING

DESIGNED SHB | REVIEWED LAM

REVISION DATE 10/15/10 | CHECKED

PID NUMBER 209960

PLAN INSERT SHEET

SHORT-DURATION CLOSURE OF MULTI-LANE DIVIDED HIGHWAY

SUM-271-2.33

1 / 1

224
1195

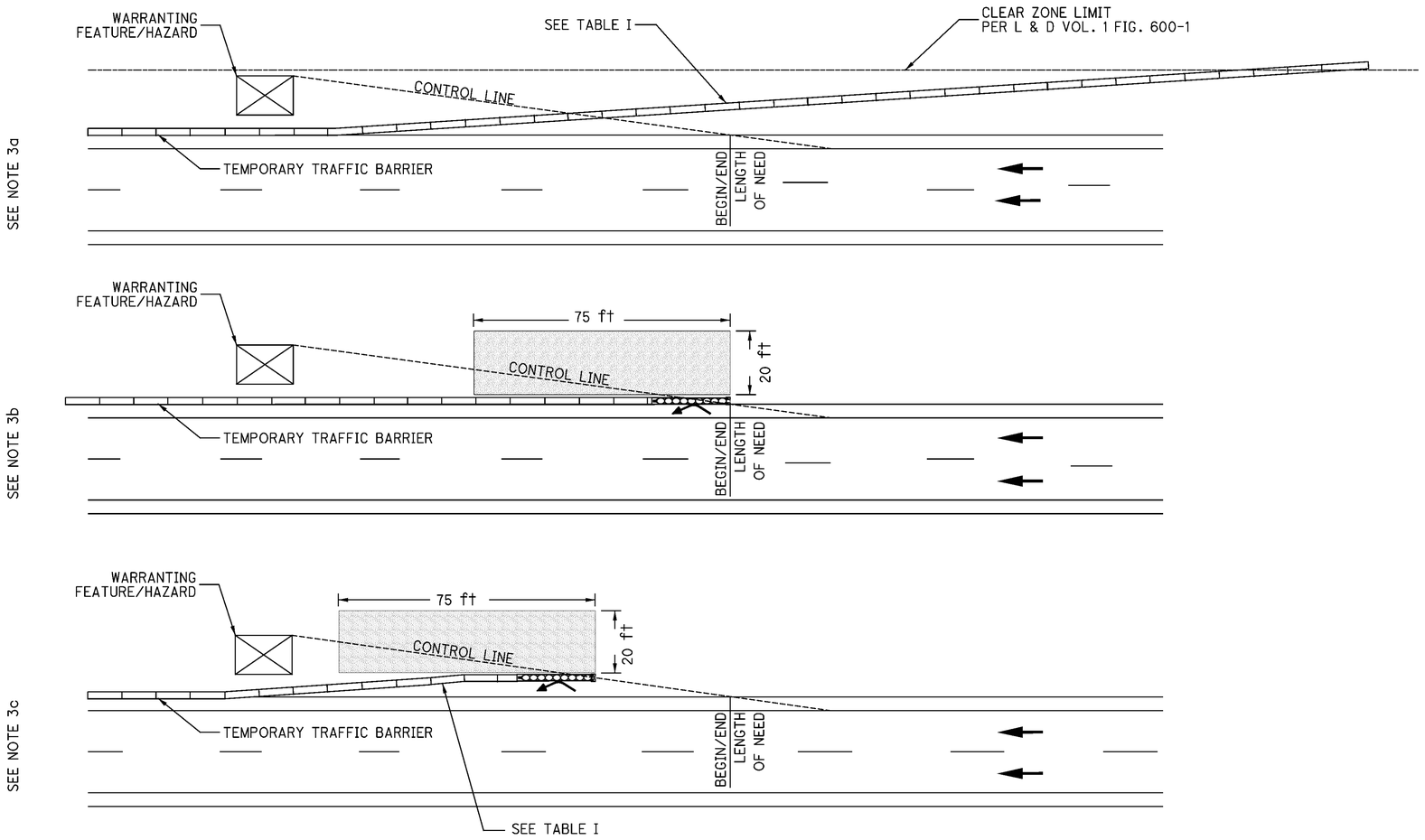


TABLE I

SPEED LIMIT (MPH)	PCB FLARE RATE MINIMUM
25	8:1
30	8:1
35	10:1
40	11:1
45	13:1
50	14:1
55	16:1
60	17:1
65	18:1

NOTES

1. Attenuators shall be installed per manufacturers' specifications.
2. Recovery area shall have slopes 3:1 or flatter and be free of workers, hazards, equipment, drop-offs, and material storage.
3. The Contractor shall select one of the three acceptable options for terminating temporary traffic barrier:
   a) Terminate flared section of temporary traffic barrier outside clear zone with tapered end only where cross slopes are 10:1 or flatter.
   b) Terminate temporary traffic barrier with an impact attenuator. A non-gating attenuator may be included in the length of need measurement.
   c) Flare a section of temporary traffic barrier to the length of need control line and terminate with an impact attenuator. A non-gating impact attenuator may be included in the flared section of temporary traffic barrier.
4. The Contractor shall submit documentation, 2 weeks prior to implementation, to the Engineer for acceptance when:
   a) Deviating from the three acceptable options for terminating temporary traffic barrier.

      Documentation shall explain any deviations and verify that the recovery area fulfills the manufacturers' specifications and note 2.

   b) Using a gating impact attenuator in lieu of a non-gating impact attenuator.

      The gating impact attenuator length shall not be included as part of the length of need or recovery area requirements. Additional temporary traffic barrier will need to be added. The additional cost for the additional barrier required for a gating impact attenuator shall be included in the cost of the gating impact attenuator.

      Documentation shall verify that the extended recovery area fulfills the manufacturers' specifications and note 2.
5. Gating impact attenuators shall not be used in gore locations or within the clear zone between bi-directional traffic.

LEGEND

RECOVERY AREA

TEMPORARY TRAFFIC BARRIER

NON-GATING IMPACT ATTENUATOR

DIRECTION OF TRAVEL

OFFICE OF TRAFFIC ENGINEERING

DESIGNED MER | REVIEWED

REVISION DATE 04/20/11 | CHECKED LAM

PIS NUMBER 2010175

PLAN INSERT SHEET

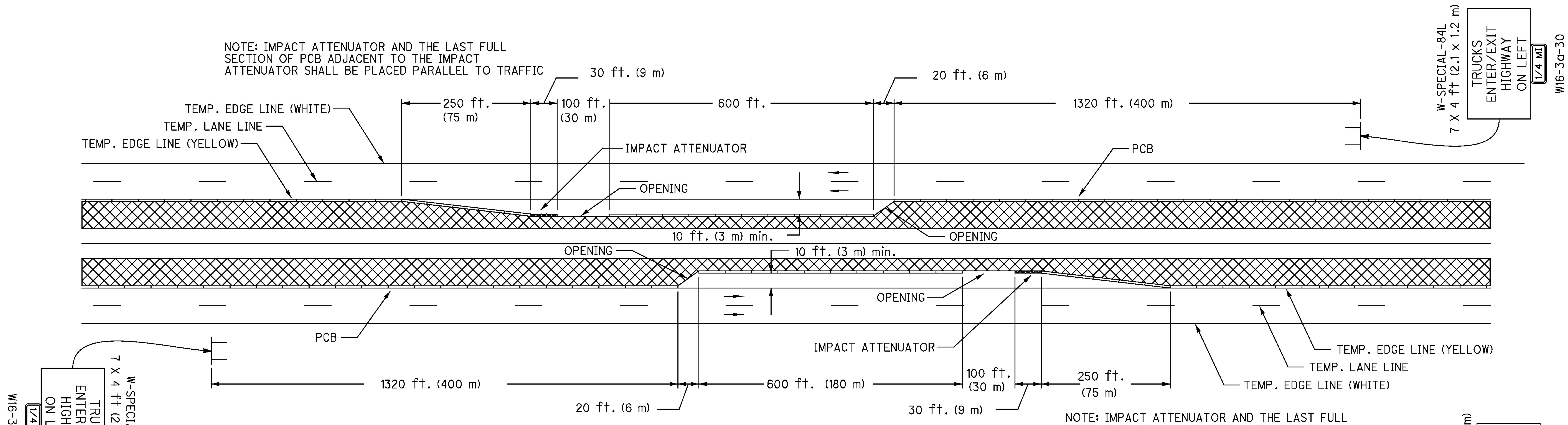
IMPACT ATTENUATOR PLACEMENT

SUM-271-2.33

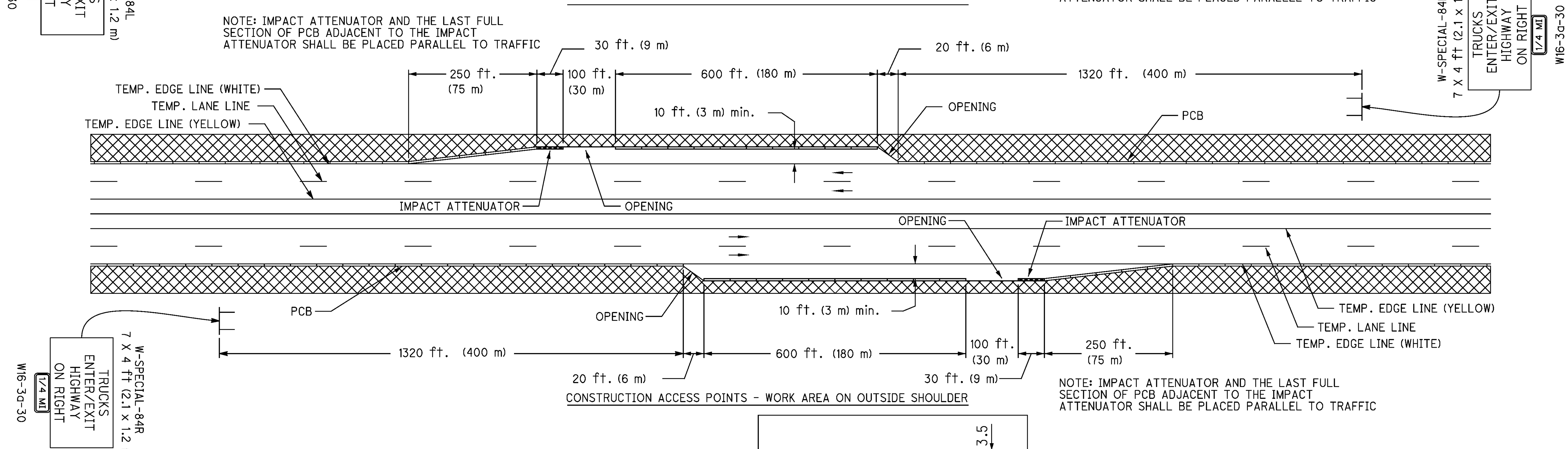
1 / 1

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18710MM003.DGN 6/6/11 SAW



CONSTRUCTION ACCESS POINTS - WORK AREA ON INSIDE SHOULDER



CONSTRUCTION ACCESS POINTS - WORK AREA ON OUTSIDE SHOULDER

NOTE: IMPACT ATTENUATOR AND THE LAST FULL SECTION OF PCB ADJACENT TO THE IMPACT ATTENUATOR SHALL BE PLACED PARALLEL TO TRAFFIC

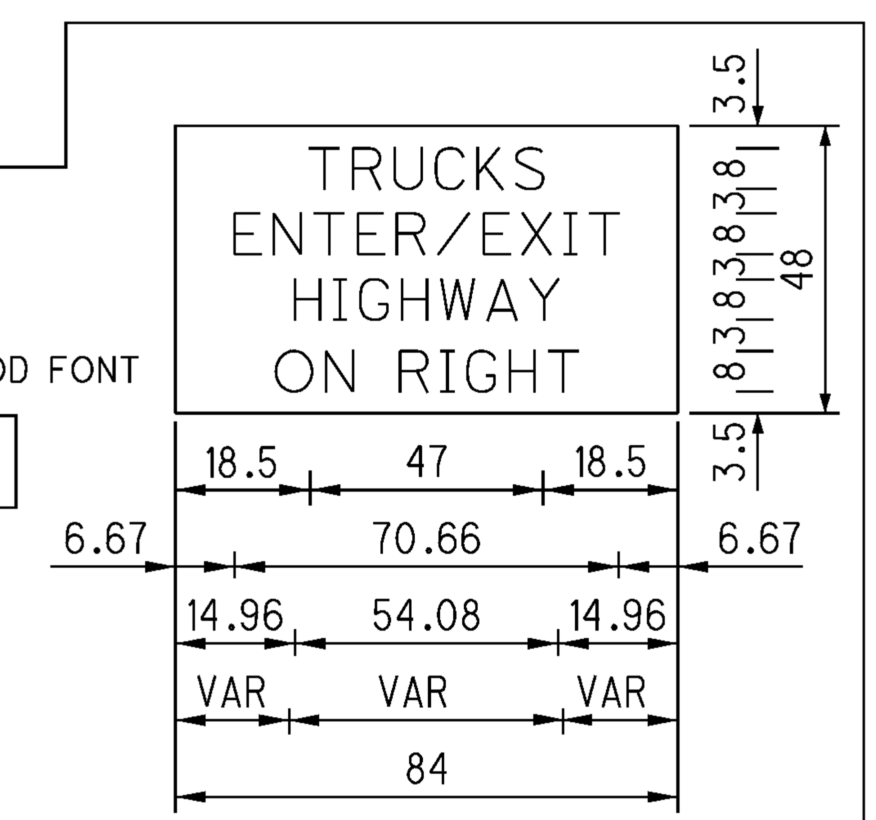
W-SPECIAL-84 (R/L)

(SIGN INFORMATION SHOWN IN ENGLISH UNITS ONLY)

TABLE OF WIDTHS AND SPACES

18.50	T 5.94	1.65	R 6.38	2.05	U 6.37	2.06	C 6.37	1.65	K 6.50	1.65	S 6.38	18.50								
6.67	E 5.94	1.65	N 6.38	1.67	T 5.94	1.65	E 5.94	1.65	R 5.94	0.55	/ 6.47	1.10	E 5.94	1.65	X 6.94	1.65	I 1.60	1.65	T 5.94	6.67
14.96	H 6.38	2.05	I 1.60	2.05	G 6.38	2.05	H 6.37	1.65	W 8.44	0.56	A 8.00	0.55	Y 8.00	14.96						
13.21	O 6.69	2.05	N 6.37	8.00	R 6.38	2.05	I 1.60	2.05	G 6.38	2.05	H 6.37	1.65	T 5.94	13.21						
15.87	O 6.69	2.05	N 6.37	8.00	L 6.38	1.65	E 5.94	1.65	F 5.94	1.65	T 5.94	15.87								

NO BORDER, BLACK ON ORANGE;E MOD FONT



CONSTRUCTION ACCESS POINTS

Construction access point locations may be selected by the Contractor with the approval of the Engineer. The locations shall be selected for good sight distance and ease of access for entering vehicles (avoid locations just beyond crest vertical curves, on overhead structures, on upgrades, etc.). In the event that the Engineer determines that an access point does not function in a safe manner, he/she shall order it immediately closed at no cost to the State. Access points may be relocated subject to the approval of the Engineer, as necessary to accomplish construction activites.

All costs for relocation of portable concrete barrier, installation, repair, replacement and removal of impact attenuators, grading for access drives and related costs shall be included in the lump sum bid for Item 614 Maintaining Traffic.

OFFICE OF TRAFFIC ENGINEERING

DESIGNED RAS | REVIEWED LAM | REVISION DATE 04/16/10 | CHECKED

PIS NUMBER 209563

PLAN INSERT SHEET

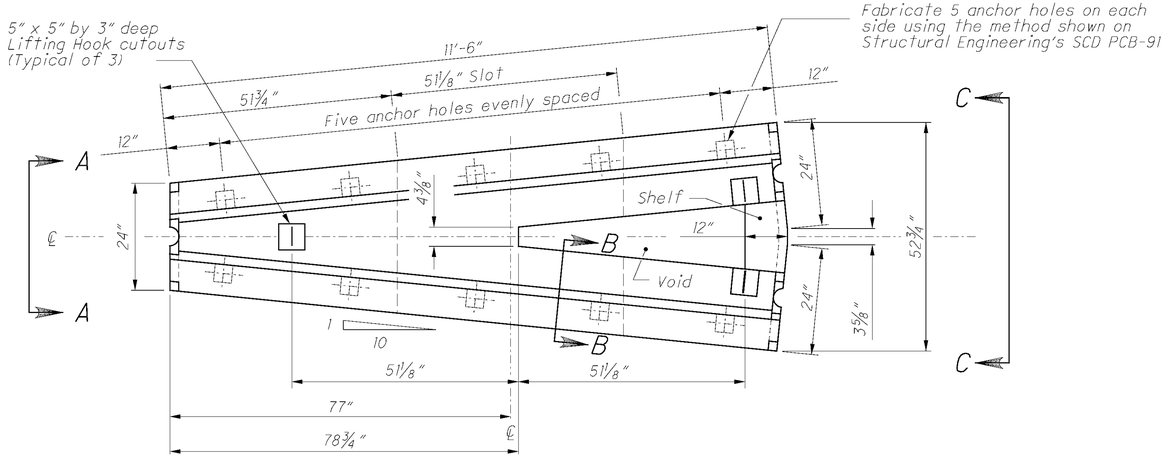
CONSTRUCTION ACCESS POINTS

SUM-271-2.33

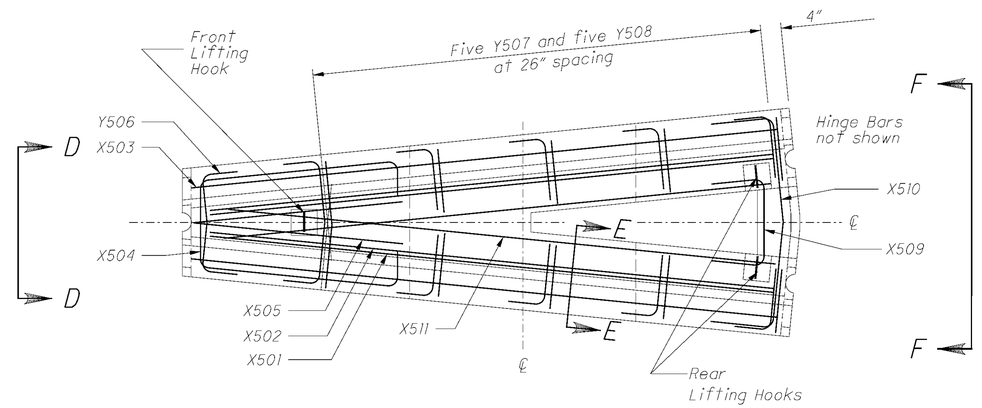
1/1

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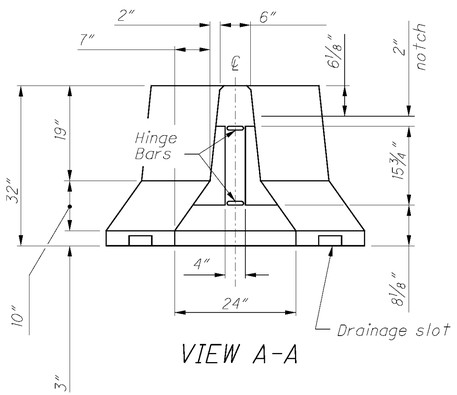
18710MM004.DGN 6/6/11 SAM



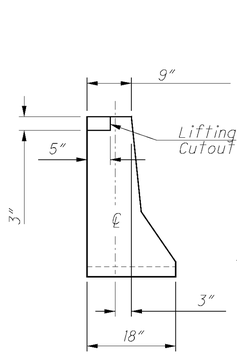
PLAN



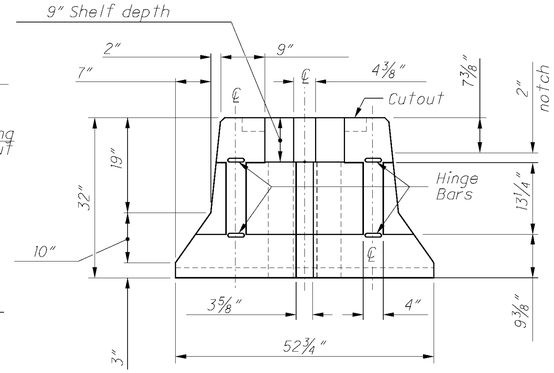
REINFORCING PLAN VIEW



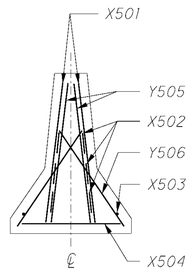
VIEW A-A



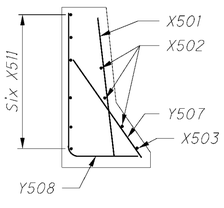
SECTION B-B



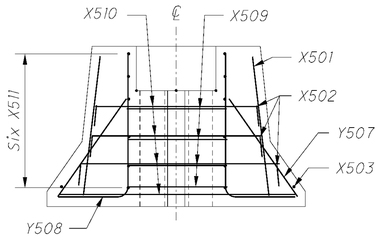
VIEW C-C



VIEW D-D



SECTION E-E



VIEW F-F

REINFORCING DETAILS

NOTES

GENERAL: This barrier segment is used to split one run of portable concrete barrier into dual runs. Attach directly to ODOT's 32" PCB; however, other approved barrier shapes may be connected to this segment by the use of an appropriate transition unit. Attach at least one standard PCB segment in between this "Y" and an Impact Attenuator. Its field application is shown in MOT plans and on MT standard drawings. Do not use this barrier in an unanchored configuration next to bridge deck edges or similiar dropoffs, anchor according to method shown on PCBDD or other approved method.

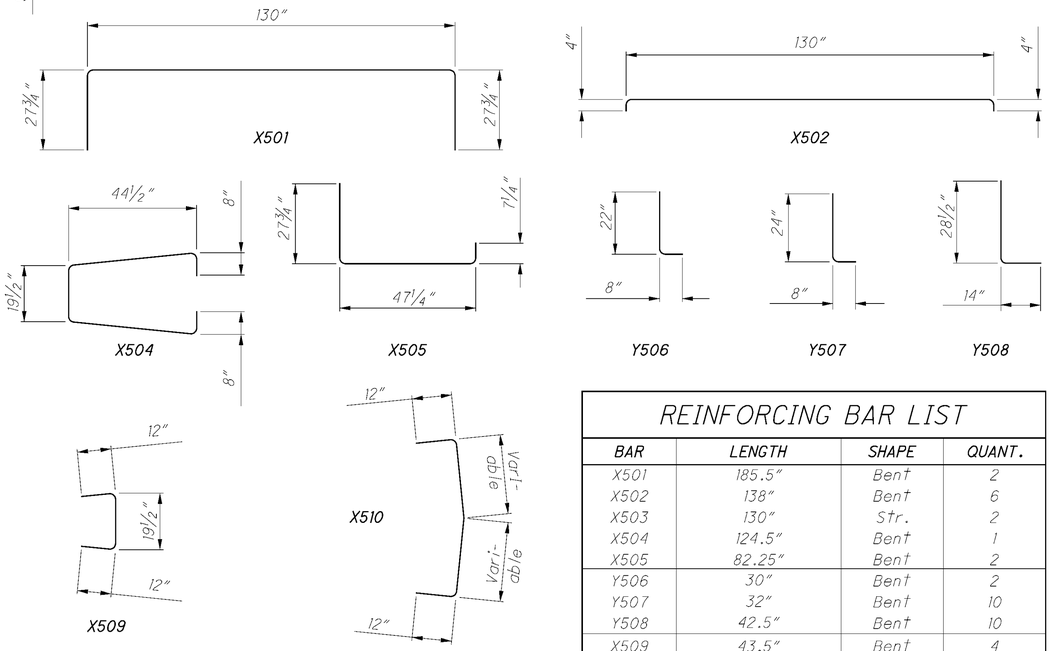
BARRIER DETAILS: Use **SCD RM-4.2** for details not shown here, including the geometry of this pin and loop segment matches in every way the design of the end connections shown on the HINGED CONNECTION and JOINT CONNECTION Details (the alternate J-J Hooks connection design is permitted). Additionally, barrier edges may be radiused or chamfered as per the LEGEND Note, barrier is to be permanently marked as mentioned in the MARKINGS Note, and delineate as per the REFLECTORIZATION Note.

MATERIAL SPECIFICATIONS: The minimum design strength of the concrete is 4,000 psi and meets the requirements of CMS 499. For reinforcing steel, use ASTM A615 Grade 60 black steel and provide 2" min. rebar cover. Material specifications for the Hinge and Reinforcing Bars, as well as the Connecting Hardware may be found on **SCD RM-4.2.** For additional material specifications not shown here, see **SCD RM-4.2** and CMS 622.

HANDLING: The fabricator is responsible for the design of a lifting system for handling segments. As a minimum, use three lifting points at the locations suggested in the Plan views, and design with a lifting factor of safety of 4. Any protrusions from the lifting hook design is not to affect the crash worthiness of the barrier. The calculations shall be signed, sealed and dated by a Registered Engineer and include these calculations with the Manufacturing Drawings required by Supplement 1073.12. Refer to Part 5 of the PCI Handbook. Approximate segment weight is 8,500 lbs [3850 kg].

PAYMENT: Payment will be made under **Item 622 - Portable Barrier, "Y" Connector, Each,** and will include all forms, materials and labor to cast this segment.

ALTERNATE METHOD: Contractors may choose to use a wide Impact Attenuator in lieu of the concrete "Y" alternate. The chosen unit will be a Type 2 or 3 Impact Attenuator matching the product previously called for on the project plans at the expected installation location.



BENDING DIAGRAMS

REINFORCING BAR LIST

BAR	LENGTH	SHAPE	QUANT.
X501	185.5"	Bent	2
X502	138"	Bent	6
X503	130"	Str.	2
X504	124.5"	Bent	1
X505	82.25"	Bent	2
Y506	30"	Bent	2
Y507	32"	Bent	10
Y508	42.5"	Bent	10
X509	43.5"	Bent	4
X510	Varies	Bent	4
X511	124"	Str.	12

THIS DRAWING REPLACES Y BARRIER PLAN ISERT SHEET DATED 11-30-07

OFFICE OF ROADWAY ENGINEERING

DESIGNED | REVIEWED

REVISION DATE 4-16-10 | CHECKED

PLAN INSERT SHEET

PCB "Y" CONNECTOR SEGMENT

SUM-271-2.33

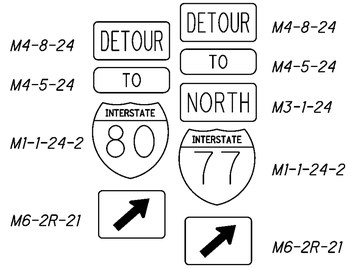
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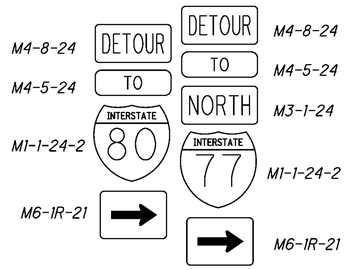
F:\2009\109094\18710\roadway\sheets\18710MD004.dgn 10/7/2012 8:42:31 AM PatSchwan

RAMP TO IR 77 N
CLOSED AHEAD
EXIT TO BRECKSVILLE RD.

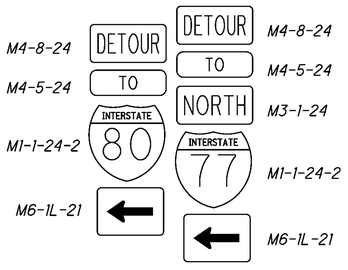
PCMS
(A)
AFTER RAMP CLOSURE



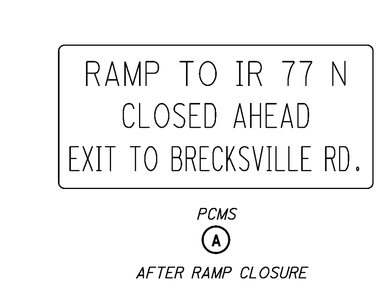
(B)
MOUNT ADJACENT TO
BRECKSVILLE RD. (CO. RD. 17)
EXIT SIGNS



(D)



(F)



(C)

(E)

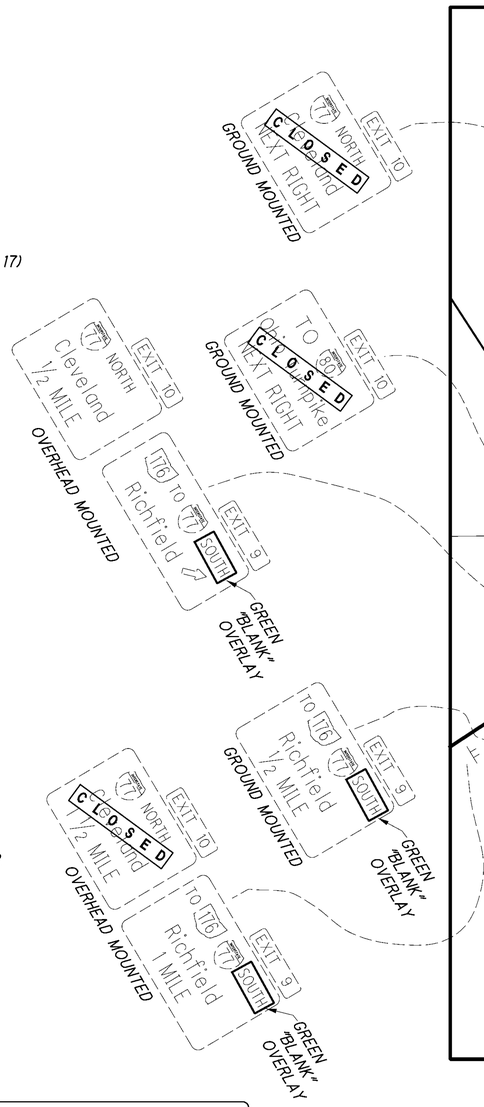
(G)

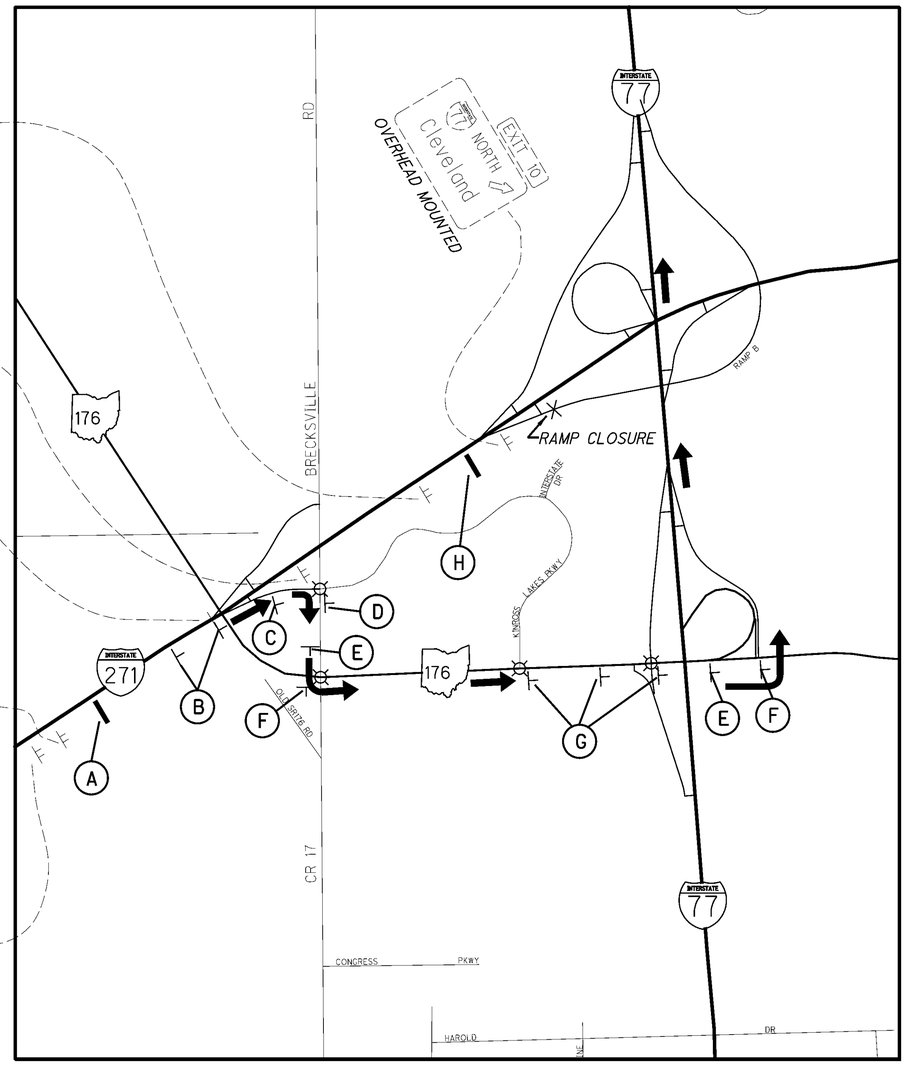
RAMP WILL
BE CLOSED
ON ____ FOR
90 DAYS

PCMS
(H1)
PRIOR TO CLOSURE

RAMP CLOSED
FOR 90 DAYS
EXIT IR 480 W

PCMS
(H2)
AFTER RAMP CLOSURE





DETOUR MAP

DETOUR ROUTE - RAMP B TO IR 77 NORTH

NOTES:

1. REFER TO FIGURE 6H-3 OF OMUTCD FOR TYPICAL SIGN SPACING REQUIREMENTS.
2. ALL SIGN LOCATIONS SHALL BE APPROVED BY THE ENGINEER.
3. ADVANCE IR 77 N EXIT RAMP TRAFFIC CONTROL SIGNS SHALL BE OVERLAYED WITH TEMPORARY SHEETING DENOTING "CLOSED" DURING THE RAMP B CLOSURE DURATION.
4. SEE SHEET 230 FOR SIGNAL TIMING MODIFICATIONS.
5. REFER TO STANDARD CONSTRUCTION DRAWING MT-98.29 EXIT RAMP CLOSURE FOR ADDITIONAL SIGNING REQUIREMENTS.

614 DETOUR SIGNING

ALL DETOUR SIGNS SHOWN SHALL BE PROVIDED, INSTALLED, MAINTAINED AND REMOVED BY THE CONTRACTOR, COST INCLUDED FOR PAYMENT IN LUMP SUM PRICE BID FOR ITEM 614 DETOUR SIGNING

CALCULATED DAW
CHECKED PRS

BRECKSVILLE ROAD RAMP B TO IR 77 NORTH DETOUR

SUM-271-2.33

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1195

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RAMP TO IR 271 N
CLOSED AHEAD
FOLLOW DETOUR

PCMS
(A)
AFTER RAMP CLOSURE

DETOUR M4-8-24
TO M4-5-24
NORTH M3-1-24
INTERSTATE 271 M1-1-24-3
M6-2R-21
(B)
MOUNT ADJACENT TO SR 82 EXIT SIGNS

DETOUR M4-8-24
TO M4-5-24
NORTH M3-1-24
INTERSTATE 271 M1-1-24-3
M6-1R-21
(C)

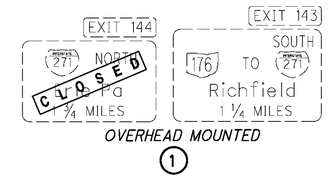
DETOUR M4-8-24
TO M4-5-24
NORTH M3-1-24
INTERSTATE 271 M1-1-24-3
M6-3-21
(D)

RAMP WILL
BE CLOSED
ON ____ FOR
WEEKEND

PCMS
(E1)
PRIOR TO CLOSURE

RAMP CLOSED
FOR WEEKEND
FOLLOW DETOUR

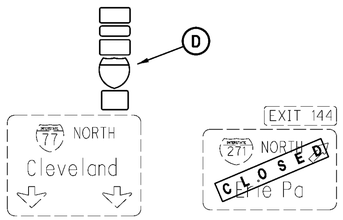
PCMS
(E2)
AFTER RAMP CLOSURE



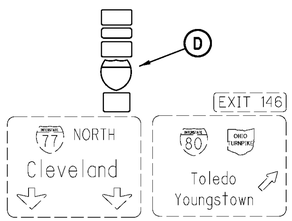
OVERHEAD MOUNTED
(1)



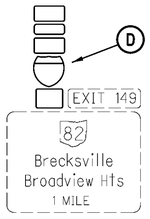
OVERHEAD MOUNTED
(2)



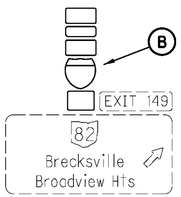
OVERHEAD MOUNTED
(3)



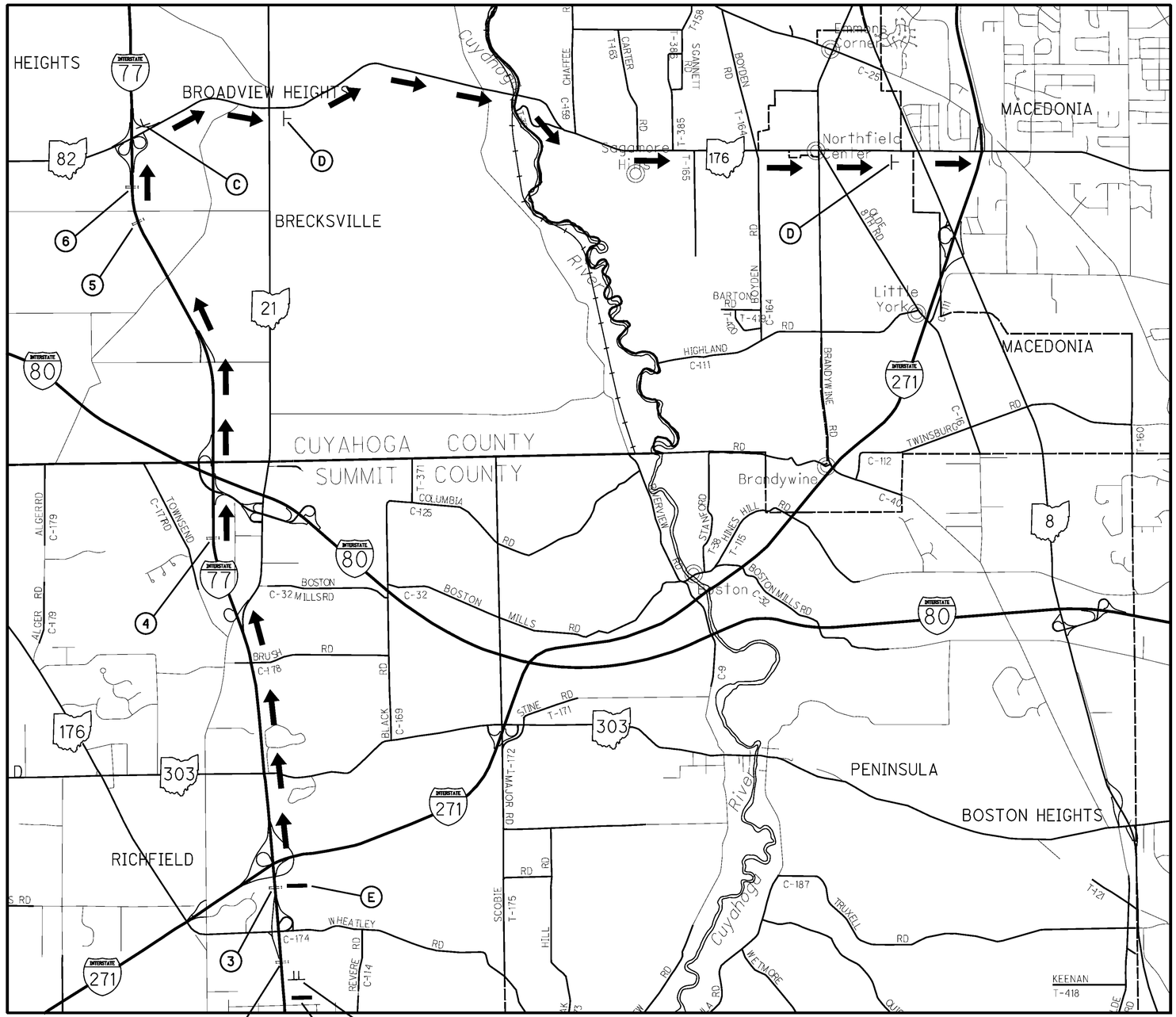
OVERHEAD MOUNTED
(4)



(5)



(6)



NOTES:

1. REFER TO FIGURE 6H-3 OF OMUTCD FOR TYPICAL SIGN SPACING REQUIREMENTS.
2. ALL SIGN LOCATIONS SHALL BE APPROVED BY THE ENGINEER.
3. ADVANCE IR 271 N EXIT RAMP TRAFFIC CONTROL SIGNS SHALL BE OVERLAYED WITH TEMPORARY SHEETING DENOTING "CLOSED" DURING THE RAMP C CLOSURE DURATION.
4. COODINATE WITH ODOT ITS FOR ADVANCE ITS DISPLAY NOTIFICATIONS.

DETOUR MAP

➡ DETOUR ROUTE - IR 77 RAMP C TO IR 271 NORTH

614 DETOUR SIGNING

ALL DETOUR SIGNS SHOWN SHALL BE PROVIDED, INSTALLED, MAINTAINED AND REMOVED BY THE CONTRACTOR, COST INCLUDED FOR PAYMENT IN LUMP SUM PRICE BID FOR ITEM 614 DETOUR SIGNING

CALCULATED DAW
CHECKED PRS

IR 77 RAMP C TO IR 271 NORTH DETOUR

SUM-271-2.33

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BRECKSVILLE ROAD AT HIGHLANDER PARKWAY

EXISTING AM SIGNAL TIMING

PHASE	1	2	3	4	5	6	7	8
INTERSECTION MOVEMENT	SB LT	NB	WB LT	EB	NB LT	SB	EB LT	WB
MIN. INITIAL GREEN (SEC.)		4.0		4.0		4.0		
PASSAGE TIME (SEC.)		3.0		3.0		3.0		
MAX GREEN (SEC.)		34.0		16.0		34.0		
YELLOW CHANGE (SEC.)		4.0		3.0		4.0		
ALL RED CLEARANCE (SEC.)		2.0		1.0		2.0		
WALK (SEC.)								
PEDESTRIAN CLEARANCE (SEC.)								
RECALL MAX		OFF		OFF		OFF		
MIN		ON		OFF		ON		
PED		OFF		OFF		OFF		
MEMORY		OFF		OFF		OFF		
SPLIT		67%		33%		67%		

CYCLE LENGTH = = 60 ACTUATED UNCOORDINATED

OFFSET = NONE

AM DETOUR SIGNAL TIMING

PHASE	1	2	3	4	5	6	7	8
INTERSECTION MOVEMENT	SB LT	NB	WB LT	EB	NB LT	SB	EB LT	WB
MIN. INITIAL GREEN (SEC.)		4.0		4.0		4.0		
PASSAGE TIME (SEC.)		3.0		3.0		3.0		
MAX GREEN (SEC.)		72.0		18.0		72.0		
YELLOW CHANGE (SEC.)		4.0		3.0		4.0		
ALL RED CLEARANCE (SEC.)		2.0		1.0		2.0		
WALK (SEC.)								
PEDESTRIAN CLEARANCE (SEC.)								
RECALL MAX		OFF		OFF		OFF		
MIN		ON		OFF		ON		
PED		OFF		OFF		OFF		
MEMORY		OFF		OFF		OFF		
SPLIT		78%		22%		78%		

CYCLE LENGTH = = 100 ACTUATED UNCOORDINATED

OFFSET = 86 SEC. / 86%

EXISTING PM SIGNAL TIMING

PHASE	1	2	3	4	5	6	7	8
INTERSECTION MOVEMENT	SB LT	NB	WB LT	EB	NB LT	SB	EB LT	WB
MIN. INITIAL GREEN (SEC.)		4.0		4.0		4.0		
PASSAGE TIME (SEC.)		3.0		3.0		3.0		
MAX GREEN (SEC.)		28.0		22.0		28.0		
YELLOW CHANGE (SEC.)		4.0		3.0		4.0		
ALL RED CLEARANCE (SEC.)		2.0		1.0		2.0		
WALK (SEC.)								
PEDESTRIAN CLEARANCE (SEC.)								
RECALL MAX		OFF		OFF		OFF		
MIN		ON		OFF		ON		
PED		OFF		OFF		OFF		
MEMORY		OFF		OFF		OFF		
SPLIT		57%		43%		57%		

CYCLE LENGTH = = 60 ACTUATED UNCOORDINATED

OFFSET = 0 SEC. / 0%

PM DETOUR SIGNAL TIMING

PHASE	1	2	3	4	5	6	7	8
INTERSECTION MOVEMENT	SB LT	NB	WB LT	EB	NB LT	SB	EB LT	WB
MIN. INITIAL GREEN (SEC.)		4.0		4.0		4.0		
PASSAGE TIME (SEC.)		3.0		3.0		3.0		
MAX GREEN (SEC.)		37.0		23.0		37.0		
YELLOW CHANGE (SEC.)		4.0		3.0		4.0		
ALL RED CLEARANCE (SEC.)		2.0		1.0		2.0		
WALK (SEC.)								
PEDESTRIAN CLEARANCE (SEC.)								
RECALL MAX		OFF		OFF		OFF		
MIN		ON		OFF		ON		
PED		OFF		OFF		OFF		
MEMORY		OFF		OFF		OFF		
SPLIT		61%		39%		61%		

CYCLE LENGTH = = 70 ACTUATED UNCOORDINATED

OFFSET = 0 SEC. / 0%

BRECKSVILLE ROAD AT WHEATLEY/BROADVIEW ROAD

EXISTING AM SIGNAL TIMING

PHASE	1	2	3	4	5	6	7	8
INTERSECTION MOVEMENT	SB LT	NB	WB LT	EB	NB LT	SB	EB LT	WB
MIN. INITIAL GREEN (SEC.)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
PASSAGE TIME (SEC.)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
MAX GREEN (SEC.)	5.0	15.0	5.0	15.0	5.0	15.0	5.0	15.0
YELLOW CHANGE (SEC.)	3.0	4.0	3.0	4.0	3.0	4.0	3.0	4.0
ALL RED CLEARANCE (SEC.)	1.0	2.0	1.0	2.0	1.0	2.0	1.0	2.0
WALK (SEC.)								
PEDESTRIAN CLEARANCE (SEC.)								
RECALL MAX	ON	ON	ON	ON	ON	ON	ON	ON
MIN	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF
PED	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF
MEMORY	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF
SPLIT	15%	35%	15%	35%	15%	35%	15%	35%

CYCLE LENGTH = = 60 PRETIMED

OFFSET = 48 SEC. / 80%

AM DETOUR SIGNAL TIMING

PHASE	1	2	3	4	5	6	7	8
INTERSECTION MOVEMENT	SB LT	NB	WB LT	EB	NB LT	SB	EB LT	WB
MIN. INITIAL GREEN (SEC.)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
PASSAGE TIME (SEC.)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
MAX GREEN (SEC.)	34.0	17.0	14.0	15.0	5.0	46.0	6.0	23.0
YELLOW CHANGE (SEC.)	3.0	4.0	3.0	4.0	3.0	4.0	3.0	4.0
ALL RED CLEARANCE (SEC.)	1.0	2.0	1.0	2.0	1.0	2.0	1.0	2.0
WALK (SEC.)								
PEDESTRIAN CLEARANCE (SEC.)								
RECALL MAX	ON	ON	ON	ON	ON	ON	ON	ON
MIN	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF
PED	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF
MEMORY	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF
SPLIT	38%	23%	18%	21%	90%	52%	10%	29%

CYCLE LENGTH = = 100 PRETIMED

OFFSET = 60 SEC. / 60%

EXISTING PM SIGNAL TIMING

PHASE	1	2	3	4	5	6	7	8
INTERSECTION MOVEMENT	SB LT	NB	WB LT	EB	NB LT	SB	EB LT	WB
MIN. INITIAL GREEN (SEC.)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
PASSAGE TIME (SEC.)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
MAX GREEN (SEC.)	4.0	16.0	4.0	16.0	4.0	16.0	4.0	16.0
YELLOW CHANGE (SEC.)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
ALL RED CLEARANCE (SEC.)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
WALK (SEC.)								
PEDESTRIAN CLEARANCE (SEC.)								
RECALL MAX	ON	ON	ON	ON	ON	ON	ON	ON
MIN	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF
PED	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF
MEMORY	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF
SPLIT	15%	35%	15%	35%	15%	35%	15%	35%

CYCLE LENGTH = = 60 PRETIMED

OFFSET = 48 SEC. / 80%

PM DETOUR SIGNAL TIMING

PHASE	1	2	3	4	5	6	7	8
INTERSECTION MOVEMENT	SB LT	NB	WB LT	EB	NB LT	SB	EB LT	WB
MIN. INITIAL GREEN (SEC.)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
PASSAGE TIME (SEC.)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
MAX GREEN (SEC.)	10.0	17.0	7.0	16.0	5.0	22.0	4.0	19.0
YELLOW CHANGE (SEC.)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
ALL RED CLEARANCE (SEC.)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
WALK (SEC.)								
PEDESTRIAN CLEARANCE (SEC.)								
RECALL MAX	ON	ON	ON	ON	ON	ON	ON	ON
MIN	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF
PED	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF
MEMORY	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF
SPLIT	21%	31%	17%	30%	14%	39%	13%	34%

CYCLE LENGTH = = 70 PRETIMED

OFFSET = 62 SEC. / 89%

BRECKSVILLE ROAD AT IR 271 RAMP B/KINROSS LAKES PARKWAY

EXISTING AM SIGNAL TIMING

PHASE	1	2	3	4	5	6	7	8
INTERSECTION MOVEMENT	SB LT	NB	WB LT	EB	NB LT	SB	EB LT	WB
MIN. INITIAL GREEN (SEC.)		4.0		4.0		4.0		
PASSAGE TIME (SEC.)		3.0		3.0		3.0		
MAX GREEN (SEC.)		28.0		22.0		28.0		
YELLOW CHANGE (SEC.)		4.0		3.0		4.0		
ALL RED CLEARANCE (SEC.)		2.0		1.0		2.0		
WALK (SEC.)								
PEDESTRIAN CLEARANCE (SEC.)								
RECALL MAX		OFF		OFF		OFF		
MIN		ON		OFF		ON		
PED		OFF		OFF		OFF		
MEMORY		OFF		OFF		OFF		
SPLIT		57%		43%		57%		

CYCLE LENGTH = = 60 ACTUATED UNCOORDINATED

OFFSET = NONE

AM DETOUR SIGNAL TIMING

PHASE	1	2	3	4	5	6	7	8
INTERSECTION MOVEMENT	SB LT	NB	WB LT	EB	NB LT	SB	EB LT	WB
MIN. INITIAL GREEN (SEC.)		4.0		4.0		4.0		
PASSAGE TIME (SEC.)		3.0		3.0		3.0		
MAX GREEN (SEC.)		38.0		52.0		38.0		
YELLOW CHANGE (SEC.)		4.0		3.0		4.0		
ALL RED CLEARANCE (SEC.)		2.0		1.0		2.0		
WALK (SEC.)								
PEDESTRIAN CLEARANCE (SEC.)								
RECALL MAX		OFF		OFF		OFF		
MIN		ON		OFF		ON		
PED		OFF		OFF		OFF		
MEMORY		OFF		OFF		OFF		
SPLIT		44%		56%		44%		

CYCLE LENGTH = = 100 ACTUATED COORDINATED

OFFSET = 10 SEC. / 10%

EXISTING PM SIGNAL TIMING

PHASE	1	2	3	4	5	6	7	8
INTERSECTION MOVEMENT	SB LT	NB	WB LT	EB	NB LT	SB	EB LT	WB
MIN. INITIAL GREEN (SEC.)		4.0		4.0		4.0		
PASSAGE TIME (SEC.)		3.0		3.0		3.0		
MAX GREEN (SEC.)		23.0		27.0		23.0		
YELLOW CHANGE (SEC.)		4.0		3.0		4.0		
ALL RED CLEARANCE (SEC.)		2.0		1.0		2.0		
WALK (SEC.)								
PEDESTRIAN CLEARANCE (SEC.)								
RECALL MAX		OFF		OFF		OFF		
MIN		ON		OFF		ON		
PED		OFF		OFF		OFF		
MEMORY		OFF		OFF		OFF		
SPLIT		48%		52%		48%		

CYCLE LENGTH = = 60 ACTUATED UNCOORDINATED

OFFSET = NONE

PM DETOUR SIGNAL TIMING

PHASE	1	2	3	4	5	6	7	8
INTERSECTION MOVEMENT	SB LT	NB	WB LT	EB	NB LT	SB	EB LT	WB
MIN. INITIAL GREEN (SEC.)		4.0		4.0		4.0		
PASSAGE TIME (SEC.)		3.0		3.0		3.0		
MAX GREEN (SEC.)		27.0		33.0		27.0		
YELLOW CHANGE (SEC.)		4.0		3.0		4.0		
ALL RED CLEARANCE (SEC.)		2.0		1.0		2.0		
WALK (SEC.)								
PEDESTRIAN CLEARANCE (SEC.)								
RECALL MAX		OFF		OFF		OFF		
MIN		ON		OFF		ON		
PED		OFF		OFF		OFF		
MEMORY		OFF		OFF		OFF		
SPLIT		47%		53%		47%		

CYCLE LENGTH = = 70 ACTUATED COORDINATED

OFFSET = 66 SEC. / 49%

WHEATLEY ROAD AT KINROSS LAKES PARKWAY

EXISTING AM SIGNAL TIMING

PHASE	1	2	3	4	5	6	7	8
INTERSECTION MOVEMENT	SB LT	NB	WB LT	EB	NB LT	SB	EB LT	WB
MIN. INITIAL GREEN (SEC.)				4.0		4.0		4.0
PASSAGE TIME (SEC.)				3.0		3.0		3.0
MAX GREEN (SEC.)				29.0		21.0		29.0
YELLOW CHANGE (SEC.)				4.0		3.0		4.0
ALL RED CLEARANCE (SEC.)				2.0		1.0		2.0
WALK (SEC.)								
PEDESTRIAN CLEARANCE (SEC.)								
RECALL MAX				ON		ON		ON
MIN				OFF		OFF		OFF
PED				OFF		OFF		OFF
MEMORY				OFF		OFF		OFF
SPLIT				58%		42%		58%

CYCLE LENGTH = = 60 PRETIMED

OFFSET = 0 SEC. / 0%

PM DETOUR SIGNAL TIMING

PHASE	1	2	3	4	5	6	7	8
INTERSECTION MOVEMENT	SB LT	NB	WB LT	EB	NB LT	SB	EB LT	WB
MIN. INITIAL GREEN (SEC.)				4.0		4.0		4.0
PASSAGE TIME (SEC.)				3.0		3.0		3.0
MAX GREEN (SEC.)				72.0		18.0		72.0
YELLOW CHANGE (SEC.)				4.0		3.0		4.0
ALL RED CLEARANCE (SEC.)				2.0		1.0		2.0
WALK (SEC.)								
PEDESTRIAN CLEARANCE (SEC.)								
RECALL MAX				ON		ON		ON
MIN				OFF		OFF		OFF
PED				OFF		OFF		OFF
MEMORY				OFF		OFF		OFF
SPLIT				78%		22%		78%

CYCLE LENGTH = = 100 PRETIMED

OFFSET = 64 SEC. / 64%

EXISTING PM SIGNAL TIMING

PHASE	1	2	3	4	5	6	7	8
INTERSECTION MOVEMENT	SB LT	NB	WB LT	EB	NB LT	SB	EB LT	WB
MIN. INITIAL GREEN (SEC.)				4.0		4.0		4.0
PASSAGE TIME (SEC.)				3.0		3.0		3.0
MAX GREEN (SEC.)				27.0		23.0		27.0
YELLOW CHANGE (SEC.)				4.0		3.0		4.0
ALL RED CLEARANCE (SEC.)				2.0		1.0		2.0
WALK (SEC.)								
PEDESTRIAN CLEARANCE (SEC.)								
RECALL MAX				ON		ON		ON
MIN				OFF		OFF		OFF
PED				OFF		OFF		OFF
MEMORY				OFF		OFF		OFF
SPLIT				55%		45%		55%

CYCLE LENGTH = = 60 PRETIMED

OFFSET = 0 SEC. / 0%

PM DETOUR SIGNAL TIMING

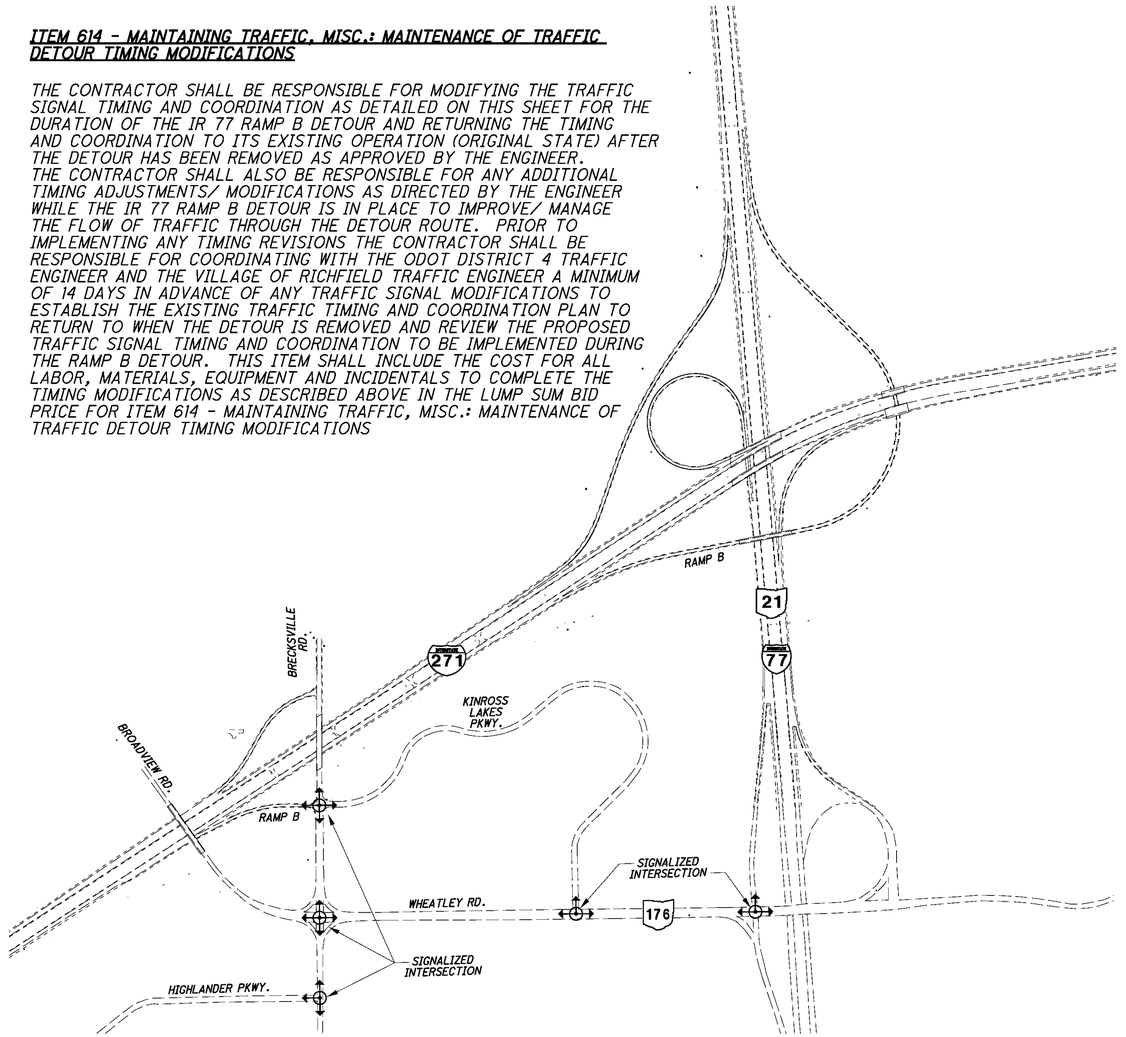
PHASE	1	2	3	4	5	6	7	8
INTERSECTION MOVEMENT	SB LT	NB	WB LT	EB	NB LT	SB	EB LT	WB
MIN. INITIAL GREEN (SEC.)				4.0		4.0		4.0
PASSAGE TIME (SEC.)				3.0		3.0		3.0
MAX GREEN (SEC.)				32.0		28.0		32.0
YELLOW CHANGE (SEC.)				4.0		3.0		4.0
ALL RED CLEARANCE (SEC.)				2.0		1.0		2.0
WALK (SEC.)								
PEDESTRIAN CLEARANCE (SEC.)								
RECALL MAX				ON		ON		ON
MIN				OFF		OFF		OFF
PED				OFF		OFF		OFF
MEMORY				OFF		OFF		OFF
SPLIT				54%		46%		54%

CYCLE LENGTH = = 70 PRETIMED

OFFSET = 46 SEC. / 66%

ITEM 614 - MAINTAINING TRAFFIC, MISC.: MAINTENANCE OF TRAFFIC DETOUR TIMING MODIFICATIONS

THE CONTRACTOR SHALL BE RESPONSIBLE FOR MODIFYING THE TRAFFIC SIGNAL TIMING AND COORDINATION AS DETAILED ON THIS SHEET FOR THE DURATION OF THE IR 77 RAMP B DETOUR AND RETURNING THE TIMING AND COORDINATION TO ITS EXISTING OPERATION (ORIGINAL STATE) AFTER THE DETOUR HAS BEEN REMOVED AS APPROVED BY THE ENGINEER. THE CONTRACTOR SHALL ALSO BE RESPONSIBLE FOR ANY ADDITIONAL TIMING ADJUSTMENTS/ MODIFICATIONS AS DIRECTED BY THE ENGINEER WHILE THE IR 77 RAMP B DETOUR IS IN PLACE TO IMPROVE/ MANAGE THE FLOW OF TRAFFIC THROUGH THE DETOUR ROUTE. PRIOR TO IMPLEMENTING ANY TIMING REVISIONS THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING WITH THE ODOT DISTRICT 4 TRAFFIC ENGINEER AND THE VILLAGE OF RICHFIELD TRAFFIC ENGINEER A MINIMUM OF 14 DAYS IN ADVANCE OF ANY TRAFFIC SIGNAL MODIFICATIONS TO ESTABLISH THE EXISTING TRAFFIC TIMING AND COORDINATION PLAN TO RETURN TO WHEN THE DETOUR IS REMOVED AND REVIEW THE PROPOSED TRAFFIC SIGNAL TIMING AND COORDINATION TO BE IMPLEMENTED DURING THE RAMP B DETOUR. THIS ITEM SHALL INCLUDE THE COST FOR ALL LABOR, MATERIALS, EQUIPMENT AND INCIDENTALS TO COMPLETE THE TIMING MODIFICATIONS AS DESCRIBED ABOVE IN THE LUMP SUM BID PRICE FOR ITEM 614 - MAINTAINING TRAFFIC, MISC.: MAINTENANCE OF TRAFFIC DETOUR TIMING MODIFICATIONS



N

0 250 500 1000 HORIZONTAL SCALE IN FEET

CALCULATED JDL CHECKED PRS

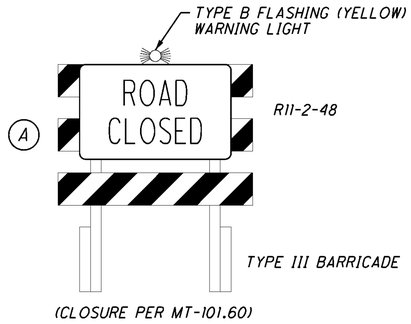
MAINTENANCE OF TRAFFIC DETOUR ROUTE SIGNAL PLAN

SUM-271-2.33

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1195

F:\2009\109094\18710\roadway\sheets\18710MD002.dgn 11/12/2012 3:42:40 PM DonHelman

SIGN INDEX

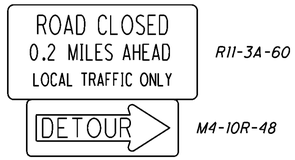


(A) R11-2-48

(CLOSURE PER MT-101.60)



(B) R11-3A-60 M4-10L-48



(C) R11-3A-60 M4-10R-48



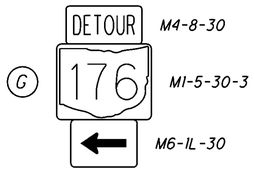
(D) W20-2-36



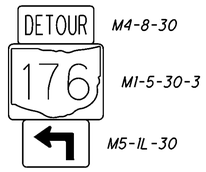
(E) W20-3-36



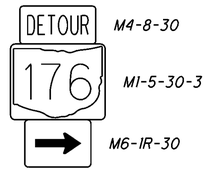
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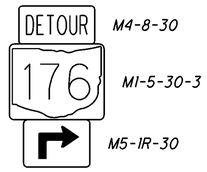
(G) M4-8-30 M1-5-30-3 M6-1L-30



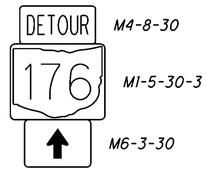
(H) M4-8-30 M1-5-30-3 M5-1L-30



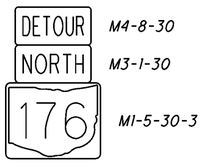
(I) M4-8-30 M1-5-30-3 M6-1R-30



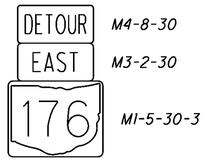
(J) M4-8-30 M1-5-30-3 M5-1R-30



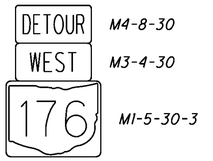
(K) M4-8-30 M1-5-30-3 M6-3-30



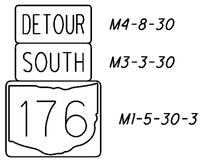
(L) M4-8-30 M3-1-30 M1-5-30-3



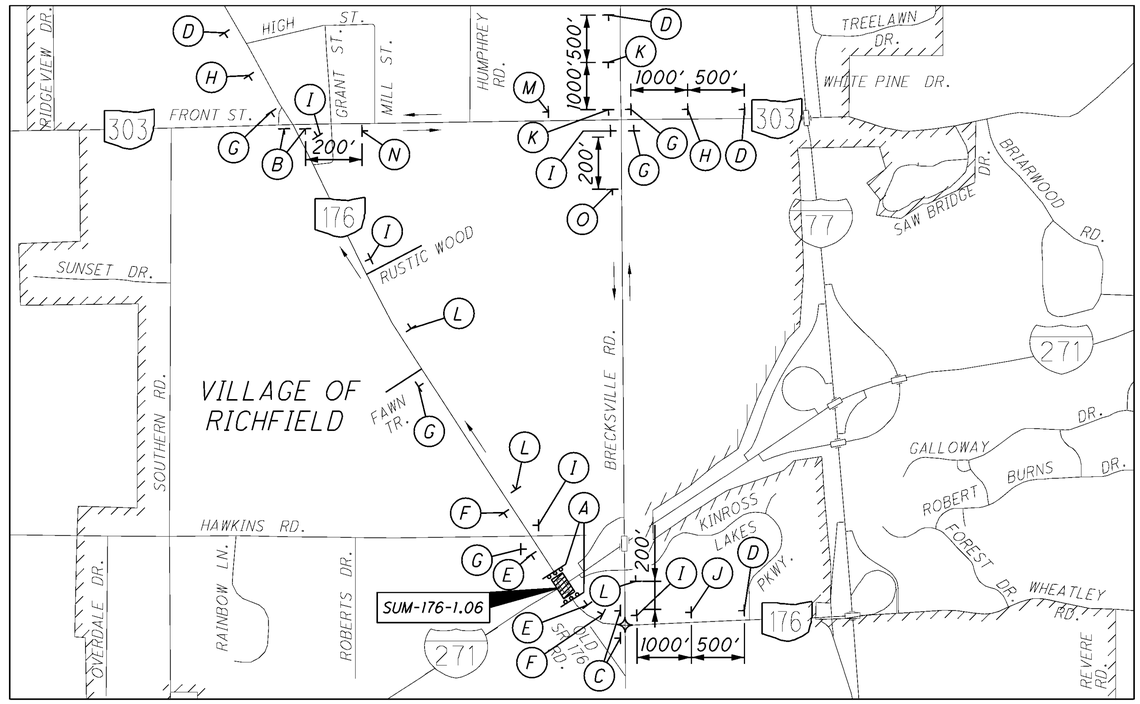
(M) M4-8-30 M3-2-30 M1-5-30-3



(N) M4-8-30 M3-4-30 M1-5-30-3



(O) M4-8-30 M3-3-30 M1-5-30-3



DETOUR MAP - SUM-176-1.09

SCALE IN MILES

0 0.2 0.4 0.6

SIDEROAD MAINTENANCE OF TRAFFIC DETOUR PLAN

CALCULATED SRM CHECKED TLH

SUM-271-2.33

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1195

P:\Land Development Projects\503-110 SUM-271-0233 (Richland Engineering)\roadway\sheets\18710MD001.dgn 11/9/2012 10:42:21 AM Paul Keiffer

SHEET NUMBER																		ITEM	ITEM EXT.	FUNDING PARTICIPATION				GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
29-34	35	36-48, 228-230	49-50	83-110	111-113	241	242	243-248	257	260	261-273	274-276	779-780	792-794	795	786,787, 796-809	810-811			01/IMS/PV	02/BRO/BR	03/BRO/BR	06/IMS/BR				
																										ROADWAY (MAINLINE AND RAMPS)	
LUMP								LUMP										201	11000	LUMP				LUMP		CLEARING AND GRUBBING	
								1										202	11004	1				1	EACH	STRUCTURE REMOVED	
								22										202	20010	22				22	EACH	HEADWALL REMOVED	
											166140							202	23000	166140				166140	SQ YD	PAVEMENT REMOVED	
						888												202	30500	888				888	FT	CONCRETE MEDIAN REMOVED	
							1964											202	30700	1964				1964	FT	CONCRETE BARRIER REMOVED	
						381												202	32000	381				381	FT	CURB REMOVED	
								27										202	32700	27				27	SQ YD	GUTTER REMOVED	
								2040										202	35100	2040				2040	FT	PIPE REMOVED, 24" AND UNDER	
								466										202	35200	466				466	FT	PIPE REMOVED, OVER 24"	
							28700											202	38000	28700				28700	FT	GUARDRAIL REMOVED	
								2										202	58000	2				2	EACH	MANHOLE REMOVED	
								45										202	58101	45				45	EACH	CATCH BASIN REMOVED, AS PER PLAN	33
								3										202	58200	3				3	EACH	INLET REMOVED	
								1556										SPECIAL	20270000	1556				1556	FT	FILL AND PLUG EXISTING CONDUIT	33
150								1742										SPECIAL	20270100	1892				1892	FT	PIPE CLEANOUT	33
50																		202	75000	50				50	FT	FENCE REMOVED	
								1080										202	75200	1080				1080	FT	FENCE REMOVED FOR REUSE	
								26										202	98200	26				26	FT	REMOVAL MISC.: PAVED GUTTER, TYPE 1-2	33
								27										202	98200	27				27	FT	REMOVAL MISC.: RIPRAP, USING 6" REINFORCED CONCRETE SLAB	33
						198425												203	10000	198425				198425	CU YD	EXCAVATION	
						93934		1250										203	20000	95184				95184	CU YD	EMBANKMENT	
54348																		204	10000	54348				54348	SQ YD	SUBGRADE COMPACTION	
10924																		204	13000	10924				10924	CU YD	EXCAVATION OF SUBGRADE (ROCK CUT EXCAVATION)	
326																		204	13000	326				326	CU YD	EXCAVATION OF SUBGRADE (UNDERCUTTING EXCAVATION)	
10924																		204	20000	10924				10924	CU YD	EMBANKMENT	
326																		204	30010	326				326	CU YD	GRANULAR MATERIAL, TYPE B	
											141							204	45000	141				141	HOUR	PROOF ROLLING	
488																		204	50000	488				488	SQ YD	GEOTEXTILE FABRIC	
											7700							206	10500	7700				7700	TON	CEMENT	
											221950							206	11000	221950				221950	SQ YD	CURING COAT	
											221950							206	15020	221950				221950	SQ YD	CEMENT STABILIZED SUBGRADE, 14 INCHES DEEP	
LUMP																		206	30000	LUMP				LUMP		MIXTURE DESIGN FOR CHEMICALLY STABILIZED SOILS	
100								1850										209	10000	1950				1950	FT	DITCH CLEANOUT	
500																		209	10001	500				500	FT	DITCH CLEANOUT, AS PER PLAN	30
							340											209	60201	340				340	STATION	LINEAR GRADING, AS PER PLAN	30
30																		604	40500	30				30	EACH	REFERENCE MONUMENT	
							32700											606	13000	32700				32700	FT	GUARDRAIL, TYPE 5	
							15											606	26000	15				15	EACH	ANCHOR ASSEMBLY, TYPE B	
							22											606	26100	22				22	EACH	ANCHOR ASSEMBLY, TYPE E	
							27											606	26500	27				27	EACH	ANCHOR ASSEMBLY, TYPE T	
							26											606	35000	26				26	EACH	BRIDGE TERMINAL ASSEMBLY, TYPE 1	
							11											606	35100	11				11	EACH	BRIDGE TERMINAL ASSEMBLY, TYPE 2	
50																		607	15000	50				50	FT	FENCE, TYPE 47	
50																		607	15001	50				50	FT	FENCE, TYPE 47, AS PER PLAN	32
								1000										607	16000	1000				1000	FT	FENCE REBUILT, TYPE 47	
								80										607	16001	80				80	FT	FENCE REBUILT, TYPE 47, AS PER PLAN	762
							1107											622	10160	1107				1107	FT	CONCRETE BARRIER, SINGLE SLOPE, TYPE D	
							13											622	25010	13				13	EACH	CONCRETE BARRIER END SECTION, TYPE D, REINFORCED	
							11											622	25050	11				11	EACH	CONCRETE BARRIER, END ANCHORAGE, REINFORCED, TYPE D	

CALCULATED JDL
CHECKED PRS

GENERAL SUMMARY

SUM-271-2.33

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1195

F:\2009\109094\18710\roadway\sheets\18710GG001.dgn 6/6/2013 9:09:07 AM CraigBanghart

SHEET NUMBER																	ITEM	ITEM EXT.	FUNDING PARTICIPATION				GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
29-34	35	36-48, 228-230	49-50	83-110	111-113	241	242	243-248	257	260	261-273	274-276	779-780	792-794	795	786,787, 796-809	810-811			01/IMS/PV	02/BRO/BR	03/BRO/BR	06/IMS/BR				
																										ROADWAY (MAINLINE AND RAMPS) (CONT'D.)	
		1620																SPECIAL	69013000	1620				1620	FT	RUMBLE STRIPS	46
16																		SPECIAL	69098000	16				16	EACH	MISC.: VERTICAL CLEARANCE	34
																1		SPECIAL	69098000	1				1	EACH	MISC.: ROAD WEATHER INFORMATION SYSTEM [RWIS] SENSOR	787
																17.22		SPECIAL	69099000	17.22				17.22	ACRE	MISC.: CLEARING AND GRUBBING	786
																										ROADWAY (SIDEROADS)	
										655								202	23000				655	655	SQ YD	PAVEMENT REMOVED	
										112								202	32000			112		112	FT	CURB REMOVED	
										2423								202	38000		393	289	1741	2423	FT	GUARDRAIL REMOVED	
										2								202	60010		2			2	EACH	MONUMENT ASSEMBLY REMOVED	
										92								202	75000		92			92	FT	FENCE REMOVED	
										476								202	98300			476		476	SQ YD	REMOVAL MISC.:EXISTING SLOPE PROTECTION	35
						1142												203	10000		279	271	592	1142	CU YD	EXCAVATION	
	5																	203	10000				5	5	CU YD	EXCAVATION (FOR PAVEMENT REPAIR)	
						301												203	20000		124	35	142	301	CU YD	EMBANKMENT	
												2258						204	10000		640	559	1059	2258	SQ YD	SUBGRADE COMPACTION	
												3						204	45000		1	1	1	3	HOUR	PROOF ROLLING	
												0.41						209	60501		0.08	0.04	0.29	0.41	MILE	LINEAR GRADING, AS PER PLAN	30
												8						209	72001				8	8	STATION	PREPARING SUBGRADE FOR SHOULDER PAVING, AS PER PLAN	28A
										2								604	38500		2			2	EACH	MONUMENT ASSEMBLY	
										4								604	39500			1	3	4	EACH	MONUMENT BOX ADJUSTED TO GRADE	
										2231								606	13000		412.5	318.5	1500	2231	FT	GUARDRAIL, TYPE 5	
										9								606	26100		4	1	4	9	EACH	ANCHOR ASSEMBLY, TYPE E	
										1								606	26500			1		1	EACH	ANCHOR ASSEMBLY, TYPE T	
										12								606	35000		4	4	4	12	EACH	BRIDGE TERMINAL ASSEMBLY, TYPE 1	
										78								607	15000		78			78	FT	FENCE, TYPE 47	
										78								607	70000		78			78	FT	FENCELINE SEEDING AND MULCHING	
										4								625	32000		4			4	EACH	GROUND ROD	
																										EROSION CONTROL (MAINLINE AND RAMPS)	
								56										601	10001	56				56	SQ YD	RIPRAP, AS PER PLAN	762
30								145										601	11001	175				175	SQ YD	RIPRAP USING 6" REINFORCED CONCRETE SLAB, AS PER PLAN	33
								58										601	12000	58				58	SQ YD	RIPRAP, WITH GROUT	
						3185												601	20000	3185				3185	SQ YD	CRUSHED AGGREGATE SLOPE PROTECTION	
10									91									601	21050	101				101	SQ YD	TIED CONCRETE BLOCK MAT, TYPE 1	
								227										601	32000	227				227	CU YD	ROCK CHANNEL PROTECTION, TYPE A WITH FILTER	
								143										601	32004	143				143	CU YD	ROCK CHANNEL PROTECTION, TYPE A WITH FABRIC FILTER	
10								535										601	32104	545				545	CU YD	ROCK CHANNEL PROTECTION, TYPE B WITH FABRIC FILTER	
25								393										601	32204	418				418	CU YD	ROCK CHANNEL PROTECTION, TYPE C WITH FABRIC FILTER	
								20										601	37500	20				20	FT	PAVED GUTTER, TYPE 1-2	
								131										601	38000	131				131	FT	PAVED GUTTER, TYPE 1-4	
6																		659	00100	6				6	EACH	SOIL ANALYSIS TEST	
50960																		659	00300	50960				50960	CU YD	TOPSOIL	
435557																		659	10000	435557				435557	SQ YD	SEEDING AND MULCHING	
22954																		659	14000	22954				22954	SQ YD	REPAIR SEEDING AND MULCHING	
22954																		659	15000	22954				22954	SQ YD	INTER-SEEDING	
64.02																		659	20000	64.02				64.02	TON	COMMERCIAL FERTILIZER	
94.85																		659	31000	94.85				94.85	ACRE	LIME	
2541																		659	35000	2541				2541	M GAL	WATER	
1033																		659	40000	1033				1033	M SQ FT	MOWING	
								23506										670	00700	23506				23506	SQ YD	DITCH EROSION PROTECTION	

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29-34	35	36-48, 228-230	49-50	83-110	111-113	241	242	243-248	257	260	261-273	274-276	779-780	792-794	795	786,787, 796-809	810-811			01/IMS/PV	02/BRO/BR	03/BRO/BR	06/IMS/BR				
																										EROSION CONTROL (MAINLINE AND RAMPS) (CONT'D)	
LUMP																	832	15000	LUMP				LUMP		STORM WATER POLLUTION PREVENTION PLAN	
2200000																	832	30000	2200000				2200000	EACH	EROSION CONTROL	
								11364									836	10000	11364				11364	SQ YD	SEEDING AND EROSION CONTROL WITH TURF REINFORCING MAT, TYPE 1	
																										EROSION CONTROL (SIDEROADS)	
										644							601	20000		51	519	74	644	SQ YD	CRUSHED AGGREGATE SLOPE PROTECTION	
										4							601	21050				4	4	SQ YD	TIED CONCRETE BLOCK MAT, TYPE 1	
										6							601	32204		3	1	2	6	CU YD	ROCK CHANNEL PROTECTION, TYPE C WITH FABRIC FILTER	
	2995																659	10000		937	242	1816	2995	SQ YD	SEEDING AND MULCHING	
	150																659	14000		47	12	91	150	SQ YD	REPAIR SEEDING AND MULCHING	
	150																659	15000		47	12	91	150	SQ YD	INTER-SEEDING	
	0.67																659	20000		0.21	0.05	0.41	0.67	TON	COMMERCIAL FERTILIZER	
	0.62																659	31000		0.19	0.05	0.38	0.62	ACRE	LIME	
	25																659	35000		8	2	15	25	M GAL	WATER	
	3																659	40000		1	1	1	3	M SQ FT	MOWING	
																										DRAINAGE (MAINLINE AND RAMPS)	
								26									602	20000	26				26	CU YD	CONCRETE MASONRY	
350									3858								603	00510	4208				4208	FT	6" CONDUIT, TYPE F FOR UNDERDRAIN OUTLETS, 707.33 OR 707.41	
									1791								603	00900	1791				1791	FT	6" CONDUIT, TYPE B, 707.33 OR 707.41	
									394								603	01100	394				394	FT	6" CONDUIT, TYPE C, 707.42 OR 707.45	
150																	603	02600	150				150	FT	8" CONDUIT, TYPE F	
								120									603	05700	120				120	FT	15" CONDUIT, TYPE A, 706.02, 2500 D-LOAD	
								155									603	05900	155				155	FT	15" CONDUIT TYPE B, 706.02	
								214									603	06100	214				214	FT	15" CONDUIT, TYPE C	
								86									603	06100	86				86	FT	15" CONDUIT, TYPE C, 706.02	
								828									603	06700	828				828	FT	15" CONDUIT, TYPE F, 707.05 TYPE C, OR 707.21	
								58									603	07400	58				58	FT	18" CONDUIT, TYPE B	
								42									603	07600	42				42	FT	18" CONDUIT, TYPE C, 706.02	
								50									603	09100	50				50	FT	21" CONDUIT, TYPE C, 706.02	
								60									603	10600	60				60	FT	24" CONDUIT, TYPE C , 706.02	
								8									603	12100	8				8	FT	27" CONDUIT, TYPE C, 706.02	
								314									603	13600	314				314	FT	30" CONDUIT, TYPE C, 706.02	
								4									603	15100	4				4	FT	33" CONDUIT, TYPE C,706.02	
								206									603	16200	206				206	FT	36" CONDUIT, TYPE A, 706.02	
								228									603	16200	228				228	FT	36" CONDUIT, TYPE A, 706.02, 1250 D-LOAD	
								122									603	19200	122				122	FT	42" CONDUIT, TYPE A, 706.02	
								43									603	19200	43				43	FT	42" CONDUIT, TYPE A, 706.02, 1500 D-LOAD	
								96									603	20700	96				96	FT	48" CONDUIT, TYPE A, 706.02, 1250 D-LOAD	
								47									603	20700	47				47	FT	48" CONDUIT, TYPE A, 706.02, 1500 D-LOAD	
								42									603	21100	42				42	FT	48" CONDUIT, TYPE C, 706.02, 1250 D-LOAD	
								696									603	28401	696				696	FT	84" CONDUIT, TYPE C, 706.02, 1750 D-LOAD, AS PER PLAN	746
								386									603	96550	386				386	FT	42" CONDUIT, TYPE A, FIELD PAVING OF EXISTING PIPE	
								419									603	96550	419				419	FT	54" CONDUIT, TYPE A, FIELD PAVING OF EXISTING PIPE	
								937									603	96550	937				937	FT	78" CONDUIT, TYPE A, FIELD PAVING OF EXISTING PIPE	
								204									603	96601	204				204	FT	CONDUIT, BORED OR JACKED, 36", 748.06, AS PER PLAN	33
								269									603	96601	269				269	FT	CONDUIT, BORED OR JACKED, 42", 748.06, AS PER PLAN	33
								1									604	00800	1				1	EACH	CATCH BASIN, NO. 3A	
								6									604	00801	6				6	EACH	CATCH BASIN, NO. 3A, AS PER PLAN	33
								26									604	01200	26				26	EACH	CATCH BASIN, NO. 4	
								12									604	01600	12				12	EACH	CATCH BASIN, NO. 5	
						2											604	09500	2				2	EACH	CATCH BASIN RECONSTRUCTED TO GRADE	

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SHEET NUMBER																		ITEM	ITEM EXT.	FUNDING PARTICIPATION				GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
29-34	35	36-48, 228-230	49-50	83-110	111-113	241	242	243-248	257	260	261-273	274-276	779-780	792-794	795	786,787, 796-809	810-811			01/IMS/PV	02/BRO/BR	03/BRO/BR	06/IMS/BR				
																										DRAINAGE (MAINLINE AND RAMPS) (CONT'D.)	
								1										604	09501	1				1	EACH	CATCH BASIN RECONSTRUCTED TO GRADE, AS PER PLAN	752
								11										604	31500	11				11	EACH	MANHOLE, NO. 3	
								2										604	34500	2				2	EACH	MANHOLE ADJUSTED TO GRADE	
17									50									604	36600	67				67	EACH	PRECAST REINFORCED CONCRETE OUTLET	
								1										604	37501	1				1	EACH	JUNCTION CHAMBER, AS PER PLAN	768,769
								1										604	37501	1				1	EACH	JUNCTION CHAMBER, AS PER PLAN -1	768,769
		2075																605	11000	2075				2075	FT	6" CONSTRUCTION UNDERDRAINS	
									39428									605	11110	39428				39428	FT	6" SHALLOW PIPE UNDERDRAINS WITH FABRIC WRAP, 707.31 OR 707.41	
									49904									605	12211	49904				49904	FT	6" DEEP PIPE UNDERDRAINS WITH FABRIC WRAP, 707.31 OR 707.41, AS PER PLAN	33
350																		605	13402	350				350	FT	6" UNCLASSIFIED PIPE UNDERDRAINS FOR SPRINGS	
350									4202									605	13411	4552				4552	FT	6" UNCLASSIFIED PIPE UNDERDRAINS WITH FABRIC WRAP, 707.31 OR 707.41, AS PER PLAN	33
									29199									605	13501	29199				29199	FT	6" ROCK CUT UNDERDRAINS, AS PER PLAN	33
									27006									605	14020	27006				27006	FT	6" BASE PIPE UNDERDRAINS WITH FABRIC WRAP, 707.31 OR 707.41	
100																		605	32200	100				100	FT	AGGREGATE DRAINS FOR SPRINGS	
																										DRAINAGE (SIDEROADS)	
										1.6								602	20000		0.8	0.2	0.6	1.6	CU YD	CONCRETE MASONRY	
										113								603	00510		40	20	53	113	FT	6" CONDUIT, TYPE F FOR UNDERDRAIN OUTLETS	
										39								603	04400			39		39	FT	12" CONDUIT, TYPE B	
										196								603	04600		152	44		196	FT	12" CONDUIT, TYPE C	
										393								603	05200		321	72		393	FT	12" CONDUIT, TYPE F, 707.05 TYPE C, OR 707.21	
										34								603	06100				34	34	FT	15" CONDUIT, TYPE C	
										145								603	06700				145	145	FT	15" CONDUIT, TYPE F, 705.05 TYPE C, OR 707.21	
										7								604	00800		4	2	1	7	EACH	CATCH BASIN, NO. 3A	
										6								604	31500		4	1	1	6	EACH	MANHOLE, NO. 3	
										2								604	36600				2	2	EACH	PRECAST REINFORCED CONCRETE OUTLET	
										551								605	11110		143	248	160	551	FT	6" SHALLOW PIPE UNDERDRAINS WITH FABRIC WRAP, 707.31 OR 707.41	
										143								605	13410		50		93	143	FT	6" UNCLASSIFIED PIPE UNDERDRAINS WITH FABRIC WRAP, 707.31 OR 707.41	
																										PAVEMENT (MAINLINE AND RAMPS: GENERAL)	
				2263							35600							254	01000	37863				37863	SQ YD	PAVEMENT PLANING, ASPHALT CONCRETE	
		360																301	46000	360				360	CU YD	ASPHALT CONCRETE BASE, PG64-22	
		430									46580							304	20001	47010				47010	CU YD	AGGREGATE BASE, AS PER PLAN	30
		142		220							2670							407	10000	3032				3032	GALLON	TACK COAT	
		1035																408	10000	1035				1035	GALLON	PRIME COAT	
											1580							408	10001	1580				1580	GALLON	PRIME COAT, AS PER PLAN	29
				535														411	10000	535				535	CU YD	STABILIZED CRUSHED AGGREGATE	
				107							1490							442	20051	1597				1597	CU YD	ASPHALT CONCRETE SURFACE COURSE, 12.5 MM, TYPE B (446), AS PER PLAN	30
							1572											448	46061	1572				1572	CU YD	ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I, UNDER GUARDRAIL, PG64-22, AS PER PLAN	30
		100																448	47021	100				100	CU YD	ASPHALT CONCRETE SURFACE COURSE, TYPE I, PG64-22, AS PER PLAN	30
											300							609	24000	300				300	FT	CURB, TYPE 4-A	
											374							609	24510	374				374	FT	CURB, TYPE 4-C	
						50					103							609	26000	153				153	FT	CURB, TYPE 6	
											400							609	72001	400				400	SQ YD	CONCRETE MEDIAN, AS PER PLAN	22
		120									1830							617	10101	1950				1950	CU YD	COMPACTED AGGREGATE, AS PER PLAN	30
		0.5																617	25000	0.5				0.5	M GAL	WATER	
											3.29							618	40600	3.29				3.29	MILE	RUMBLE STRIPS, (ASPHALT CONCRETE)	

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29-34	35	36-48, 228-230	49-50	83-110	111-113	241	242	243-248	257	260	261-273	274-276	779-780	792-794	795	786,787, 796-809	810-811			01/IMS/PV	02/BRO/BR	03/BRO/BR	06/IMS/BR				
																									PAVEMENT (MAINLINE AND RAMPS: FLEXIBLE PAVEMENT OPTION)		
											64850							302	46000	64850				64850	CU YD	ASPHALT CONCRETE BASE, PG64-22	
											20720							407	14000	20720				20720	GALLON	TACK COAT FOR INTERMEDIATE COURSE	
											11220							408	10000	11220				11220	GALLON	PRIME COAT	
											10790							442	10051	10790				10790	CU YD	ASPHALT CONCRETE SURFACE COURSE, 12.5 MM, TYPE B (446), AS PER PLAN	30
											12600							442	10150	12600				12600	CU YD	ASPHALT CONCRETE INTERMEDIATE COURSE, 19 MM, TYPE B (446)	
											704							451	16000	704				704	SQ YD	12" REINFORCED CONCRETE PAVEMENT	
											270							SPECIAL	45130000	270				270	FT	PRESSURE RELIEF JOINT, TYPE A	30
											16.78							618	40600	16.78				16.78	MILE	RUMBLE STRIPS, (ASPHALT CONCRETE)	
																									PAVEMENT (MAINLINE AND RAMPS: RIGID PAVEMENT OPTION)		
											16.78							618	40700	16.78				16.78	MILE	RUMBLE STRIPS, (CONCRETE)	
											258890							888	15000	258890				258890	SQ YD	PORTLAND CEMENT CONCRETE PAVEMENT, 12" THICK (NON-REINFORCED PER 452)	
																									PAVEMENT (SIDEROADS)		
												12						253	01001				12	12	SQ YD	PAVEMENT REPAIR, AS PER PLAN	35
												10457						254	01000		639	260	9558	10457	SQ YD	PAVEMENT PLANING, ASPHALT CONCRETE	
												523						254	01600		32	13	478	523	SQ YD	PATCHING PLANED SURFACE	
										1864								255	20000		321	261	1282	1864	FT	FULL DEPTH PAVEMENT SAWING	
												77						301	46000		33	24	20	77	CU YD	ASPHALT CONCRETE BASE, PG64-22	
												422						304	20001		114	101	207	422	CU YD	AGGREGATE BASE, AS PER PLAN	30
	2																	304	20001				2	2	CU YD	AGGREGATE BASE, AS PER PLAN (FOR PAVEMENT REPAIR)	35
												807						407	10000		58	27	722	807	GALLON	TACK COAT	
												11						407	14000		5	3	3	11	GALLON	TACK COAT FOR INTERMEDIATE COURSE	
												138						408	10000		57	43	38	138	GALLON	PRIME COAT	
												14						448	46050		6	4	4	14	CU YD	ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, PG64-22	
												51						448	46061		12	3	36	51	CU YD	ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 1, UNDER GUARDRAIL, PG64-22, AS PER PLAN	30
												591						448	47021		40	18	533	591	CU YD	ASPHALT CONCRETE SURFACE COURSE, TYPE 1, PG64-22, AS PER PLAN	30
												260						SPECIAL	45130000		78	86	96	260	FT	PRESSURE RELIEF JOINT, TYPE A	30
												644						452	13000		206	188	250	644	SQ YD	9" NON-REINFORCED CONCRETE PAVEMENT	
										352								609	24000		116	119	117	352	FT	CURB, TYPE 4-A	
										61								609	24510			31	30	61	FT	CURB, TYPE 4-C	
												36						617	10101		13	3	20	36	CU YD	COMPACTED AGGREGATE, AS PER PLAN	30
																									WATER WORK & SANITARY SEWER (MAINLINE AND RAMPS)		
													2120					603	01101	2120				2120	FT	6" CONDUIT, TYPE C, 748.02, AS PER PLAN	780
													2180					638	98600	2180				2180	FT	WATER WORK, MISC.: 6" POLYVINYL CHLORIDE PIPE AND FITTINGS, AWWA C-900 (DR 14) WITH POLYETHYLE ENCLOSED DUCTILE IRON RESTRAINED FITTINGS	780
																									LIGHTING (MAINLINE AND RAMPS)		
																									(SEE SHEET 860 FOR LIGHTING GEN. SUMMARY)		
																									FUNDING PARTICIPATION: (01/IMS/PV)		
																									TRAFFIC CONTROL (MAINLINE AND RAMPS)		
														458				620	00500	458				458	EACH	DELINEATOR, POST MOUNTED	
														12				620	11000	12				12	EACH	DELINEATOR, BRACKET MOUNTED	
														460				621	10010	460				460	EACH	RPM, LOW PROFILE, WHITE	
														243				621	10020	243				243	EACH	RPM, LOW PROFILE WHITE/RED	
														181				621	10030	181				181	EACH	RPM, LOW PROFILE YELLOW/RED	

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SHEET NUMBER																	ITEM	ITEM EXT.	FUNDING PARTICIPATION				GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
29-34	35	36-48, 228-230	49-50	83-110	111-113	241	242	243-248	257	260	261-273	274-276	779-780	792-794	795	786,787, 796-809	810-811			01/IMS/PV	02/BRO/BR	03/BRO/BR	06/IMS/BR				
																										TRAFFIC CONTROL (MAINLINE AND RAMPS) (CONT'D.)	
														884				621	54000	884				884	EACH	RAISED PAVEMENT MARKER REMOVED	
						2												625	31600	2				2	EACH	PULL BOX, MISC.: ADJUST TO GRADE	32
																6		625	32000	6				6	EACH	GROUND ROD	
							412							66				626	00100	478				478	EACH	BARRIER REFLECTOR	
																668		630	02100	668				668	FT	GROUND MOUNTED SUPPORT, NO. 2 POST	
																2028		630	03100	2028				2028	FT	GROUND MOUNTED SUPPORT, NO. 3 POST	
																231		630	04100	231				231	FT	GROUND MOUNTED SUPPORT, NO. 4 POST	
																198		630	06400	198				198	FT	GROUND MOUNTED STRUCTURAL BEAM SUPPORT, S4X7.7	
																109		630	06500	109				109	FT	GROUND MOUNTED STRUCTURAL BEAM SUPPORT, W6X9	
																215		630	07000	215				215	FT	GROUND MOUNTED STRUCTURAL BEAM SUPPORT, W8X18	
																242		630	07600	242				242	FT	GROUND MOUNTED STRUCTURAL BEAM SUPPORT, W10X12	
																707		630	08000	707				707	FT	GROUND MOUNTED STRUCTURAL BEAM SUPPORT, W12X30	
																31		630	08004	31				31	FT	ONE WAY SUPPORT, NO. 3 POST	
																17		630	08100	17				17	FT	ONE WAY SUPPORT, NO. 4 POST	
																166		630	08210	166				166	FT	GROUND MOUNTED SUPPORT, PIPE	
																114		630	08600	114				114	EACH	SIGN POST REFLECTOR	
																63		630	09000	63				63	EACH	BREAKAWAY STRUCTURAL BEAM CONNECTION	
																10		630	09050	10				10	EACH	TRIANGULAR SLIP BASE CONNECTION	
																2		630	35500	2				2	EACH	OVERHEAD SIGN SUPPORT, TYPE TC-7.65, DESIGN 6	
																1		630	45500	1				1	EACH	OVERHEAD SIGN SUPPORT, TYPE TC-7.65, DESIGN 8	
																30		630	80100	30				30	SQ FT	SIGN, FLAT SHEET, 730.20	
																1510		630	80100	1510				1510	SQ FT	SIGN, FLAT SHEET	
																16		630	80101	16				16	SQ FT	SIGN, FLAT SHEET, AS PER PLAN	787
																3247		630	80200	3247				3247	SQ FT	SIGN, GROUND MOUNTED EXTRUSHEET	
																986		630	80224	986				986	SQ FT	SIGN, OVERHEAD EXTRUSHEET	
																63		630	84500	63				63	EACH	GROUND MOUNTED STRUCTURAL BEAM SUPPORT FOUNDATION	
																6		630	84510	6				6	EACH	RIGID OVERHEAD SIGN SUPPORT FOUNDATION	
																10		630	84600	10				10	EACH	GROUND MOUNTED PIPE SUPPORT FOUNDATION	
																166		630	84900	166				166	EACH	REMOVAL OF GROUND MOUNTED SIGN AND DISPOSAL	
																6		630	85100	6				6	EACH	REMOVAL OF GROUND MOUNTED SIGN AND REERECTION	
																33		630	85400	33				33	EACH	REMOVAL OF GROUND MOUNTED MAJOR SIGN AND DISPOSAL	
																148		630	86002	148				148	EACH	REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL	
																57		630	86102	57				57	EACH	REMOVAL OF GROUND MOUNTED STRUCTURAL BEAM SUPPORT AND DISPOSAL	
																10		630	87400	10				10	EACH	REMOVAL OF OVERHEAD MOUNTED SIGN AND DISPOSAL	
																3		630	89802	3				3	EACH	REMOVAL OF OVERHEAD SIGN SUPPORT AND DISPOSAL, TYPE TC-7.65	
																6		632	90104	6				6	EACH	REUSE OF TRAFFIC CONTROL ITEM: INSTALLATION OF RWIS SENSOR	787
																6		632	90400	6				6	EACH	SIGNALIZATION, MISC.: REMOVAL AND STORAGE OF RWIS SENSOR	787
		0.5																642	00290	0.5				0.5	MILE	CENTER LINE	
														28				646	10010	28				28	MILE	EDGE LINE, 6"	
														11				646	10110	11				11	MILE	LANE LINE, 6"	
														1				646	10200	1				1	MILE	CENTER LINE	
														8353				646	10310	8353				8353	FT	CHANNELIZING LINE, 12"	

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SHEET NUMBER																	ITEM	ITEM EXT.	FUNDING PARTICIPATION				GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
29-34	35	36-48, 228-230	49-50	83-110	111-113	241	242	243-248	257	260	261-273	274-276	779-780	792-794	795	786,787, 796-809	810-811			01/IMS/PV	02/BRO/BR	03/BRO/BR	06/IMS/BR				
																										TRAFFIC CONTROL (MAINLINE AND RAMPS) (CONT'D.)	
														138				646	10400	138				138	FT	STOP LINE	
														859				646	10600	859				859	FT	TRANSVERSE/DIAGONAL LINE	
														64				646	10800	64				64	SQ FT	ISLAND MARKING	
														8				646	20300	8				8	EACH	LANE ARROW	
														8225				646	20500	8225				8225	FT	DOTTED LINE	
																										TRAFFIC CONTROL (SIDEROADS)	
															8			621	10000				8	8	EACH	RPM, LOW PROFILE, YELLOW/YELLOW	
															11			621	10010				11	11	EACH	RPM, LOW PROFILE, WHITE	
															9			621	10020				9	9	EACH	RPM, LOW PROFILE WHITE/RED	
															17			621	10030				17	17	EACH	RPM, LOW PROFILE YELLOW/RED	
															70			621	54000				70	70	EACH	RAISED PAVEMENT MARKER REMOVED	
																	1486	625	25402		766		720	1486	FT	CONDUIT, 2", 725.05	
																	2	625	32000				2	2	EACH	GROUND ROD	
	20																	626	00100			20		20	EACH	BARRIER REFLECTOR	
																	283.5	630	03100			120	163.5	283.5	FT	GROUND MOUNTED SUPPORT, NO. 3 POST	
																	59	630	08210				59	59	FT	GROUND MOUNTED SUPPORT, PIPE	
																	4	630	09050				4	4	EACH	TRIANGULAR SLIP BASE CONNECTION	
																	1	630	20200				1	1	EACH	OVERHEAD SIGN SUPPORT, TYPE TC-12.30, DESIGN 2	
																	1	630	20400				1	1	EACH	OVERHEAD SIGN SUPPORT, TYPE TC-12.30, DESIGN 4	
																	158.2	630	80100			52.2	106	158.2	SQ FT	SIGN, FLAT SHEET	
																	238	630	80224				238	238	SQ FT	SIGN, OVERHEAD EXTRUSHEET	
																	2	630	84510				2	2	EACH	RIGID OVERHEAD SIGN SUPPORT FOUNDATION	
																	4	630	84600				4	4	EACH	GROUND MOUNTED PIPE SUPPORT FOUNDATION	
																	31	630	84900			20	11	31	EACH	REMOVAL OF GROUND MOUNTED SIGN AND DISPOSAL	
																	2	630	85100				2	2	EACH	REMOVAL OF GROUND MOUNTED SIGN AND REERECTION	
																	23	630	86002			8	15	23	EACH	REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL	
																	4	630	87400				4	4	EACH	REMOVAL OF OVERHEAD MOUNTED SIGN AND DISPOSAL	
																	2	630	89702				2	2	EACH	REMOVAL OF OVERHEAD SIGN SUPPORT AND DISPOSAL	
															1.21			646	10000		0.24	0.23	0.74	1.21	MILE	EDGE LINE, 4"	
															0.22			646	10100				0.22	0.22	MILE	LANE LINE, 4"	
															0.79			646	10200		0.12	0.17	0.5	0.79	MILE	CENTER LINE	
															331			646	10310				331	331	FT	CHANNELIZING LINE, 12"	
															51			646	10400				51	51	FT	STOP LINE	
															451			646	10600			93	358	451	FT	TRANSVERSE/DIAGONAL LINE	
															127			646	10800			45	82	127	SQ FT	ISLAND MARKING	
															4			646	20300				4	4	EACH	LANE ARROW	
																										(STRUCTURES OVER 20 FEET)	
																										SUM-176-0106	
																										(SEE SHEET 908 FOR STRUCTURE EST. QTY'S.)	
																										THESE QUANITITES SHALL BE INCLUDED UNDER FUNDING PARTICIPATION: (02/BRO/BR), (02/BRO/BR/RICH)	
																										SUM-271-0294	
																										(SEE SHEET 938 FOR STRUCTURE EST. QTY'S.)	
																										FUNDING PARTICIPATION: (03/BRO/BR)	
																										SUM-271-0354 L & R	
																										(SEE SHEET 966 FOR STRUCTURE EST. QTY'S.)	
																										FUNDING PARTICIPATION: (05/IMS/BR)	

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SHEET NUMBER																		ITEM	ITEM EXT.	FUNDING PARTICIPATION				GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
29-34	35	36-48, 228-230	49-50	83-110	111-113	241	242	243-248	257	260	261-273	274-276	779-780	792-794	795	786,787, 796-809	810-811			01/IMS/PV	02/BRO/BR	03/BRO/BR	06/IMS/BR				
																										(STRUCTURES OVER 20 FEET) (CONT'D.)	
																										SUM-271-0354B	
																										(SEE SHEET 1068 FOR STRUCTURE EST. QTY'S.)	
																										FUNDING PARTICIPATION: (04/BRO/BR)	
																										SUM-271-0375 L & R	
																										(SEE SHEET 1104 FOR STRUCTURE EST. QTY'S.)	
																										FUNDING PARTICIPATION: (04/BRO/BR)	
																										SUM-271-0483	
																										(SEE SHEET 1154 FOR STRUCTURE EST. QTY'S.)	
																										FUNDING PARTICIPATION: (05/IMS/BR)	
																										SUM-303-0502	
																										(SEE SHEET 1162 FOR STRUCTURE EST. QTY'S.)	
																										FUNDING PARTICIPATION: (06/IMS/BR)	
																										MAINTENANCE OF TRAFFIC (MAINLINE AND RAMPS)	
		65																SPECIAL	51911900	65				65	CU YD	PATCHING CONCRETE STRUCTURE, MISC.: VES-LMC (VERY EARLY STRENGTH LATEX MODIFIED CONCRETE)	46B
		LUMP																SPECIAL	51960000	LUMP				LUMP		PATCHING CONCRETE STRUCTURE, MISC.: TRAIL BATCH FOR VES-LMC (VERY EARLY STRENGTH LATEX MODIFIED CONCRETE)	46B
		200																614	11110	200				200	HOUR	LAW ENFORCEMENT OFFICER WITH PATROL CAR FOR ASSISTANCE	
		48																614	11500	48				48	MONTH	WORKSITE TRAFFIC SUPERVISOR	
		2505		24647														614	11620	27152				27152	FT	LINEAR DELINEATION	
		8		50														614	12336	58				58	EACH	WORK ZONE IMPACT ATTENUATOR (UNIDIRECTIONAL)	
				4														614	12338	4				4	EACH	WORK ZONE IMPACT ATTENUATOR (BIDIRECTIONAL)	
		46																614	12410	46				46	EACH	SPEED ZONE AHEAD SYMBOL SIGN	
		LUMP																614	12420	LUMP				LUMP		DETOUR SIGNING	
		44																614	12460	44				44	EACH	WORK ZONE MARKING SIGN	
		46																614	12470	46				46	EACH	WORK ZONE SPEED LIMIT SIGN	
		22																614	12484	22				22	EACH	WORK ZONE INCREASED PENALTIES SIGN	
				8														614	12756	8				8	EACH	WORK ZONE CROSSOVER LIGHTING SYSTEM	
				5922														614	12801	5922				5922	EACH	WORK ZONE RAISED PAVEMENT MARKER, AS PER PLAN	43
		2725		700														614	13000	3425				3425	CU YD	ASPHALT CONCRETE FOR MAINTAINING TRAFFIC	
		950																614	13200	950				950	EACH	BARRIER REFLECTOR, TYPE A	
		161		4832														614	13300	4993				4993	EACH	BARRIER REFLECTOR, TYPE B	
		1160		3302														614	13350	4462				4462	EACH	OBJECT MARKER, ONE WAY	
				1070														614	13360	1070				1070	EACH	OBJECT MARKER, TWO WAY	
		LUMP																614	18002	LUMP				LUMP		MAINTAINING TRAFFIC MISC.: MAINTENANCE OF TRAFFIC DETOUR TIMING MODIFICATIONS	230
		20000																614	18010	20000				20000	SQ FT	MAINTAINING TRAFFIC, MISC.: 3" PARTIAL DEPTH PAVEMENT REPAIR	41
		1950																614	18030	1950				1950	FT	MAINTAINING TRAFFIC, MISC.: TEMPORARY SHEET PILING FOR PHASED CONSTRUCTION	44
		1600																614	18401	1600				1600	DAY	PORTABLE CHANGEABLE MESSAGE SIGN, AS PER PLAN	
				62.75														614	20001	62.75				62.75	MILE	WORK ZONE LANE LINE, CLASS I, AS PER PLAN	41
		11.22																614	20550	11.22				11.22	MILE	WORK ZONE LANE LINE, CLASS III, 642 PAINT	
		0.06																614	21001	0.06				0.06	MILE	WORK ZONE CENTER LINE, CLASS I, AS PER PLAN	41

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SHEET NUMBER																	ITEM	ITEM EXT.	FUNDING PARTICIPATION				GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
29-34	35	36-48, 228-230	49-50	83-110	111-113	241	242	243-248	257	260	261-273	274-276	779-780	792-794	795	786,787, 796-809	810-811			01/IMS/PV	02/BRO/BR	03/BRO/BR	06/IMS/BR				
		1.50															614	21550	1.50				1.50	MILE	WORK ZONE CENTER LINE, CLASS III, 642 PAINT	
		0.25		281.28													614	22001	281.53				281.53	MILE	WORK ZONE EDGE LINE, CLASS I, AS PER PLAN	41
		29.49															614	22350	29.49				29.49	MILE	WORK ZONE EDGE LINE, CLASS III, 642 PAINT	
		150		87332													614	23001	87482				87482	FT	WORK ZONE CHANNELIZING LINE, CLASS I, AS PER PLAN	41
		8684															614	23680	8684				8684	FT	WORK ZONE CHANNELIZING LINE, CLASS III, 642 PAINT	
				8531													614	24001	8531				8531	FT	WORK ZONE DOTTED LINE, CLASS I, AS PER PLAN	41
		8225															614	24610	8225				8225	FT	WORK ZONE DOTTED LINE, CLASS III, 642 PAINT	
				3436													614	25000	3436				3436	FT	WORK ZONE TRANSVERSE/DIAGONAL LINE, CLASS I	
		150		712													614	26000	862				862	FT	WORK ZONE STOP LINE, CLASS I	
		189															614	26610	189				189	FT	WORK ZONE STOP LINE, CLASS III, 642 PAINT	
		12															614	30650	12				12	EACH	WORK ZONE ARROW, CLASS III, 642 PAINT	
		LUMP															615	10000	LUMP				LUMP		ROADS FOR MAINTAINING TRAFFIC	
				125486													615	20001	125486				125486	SQ YD	PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A, AS PER PLAN	40
		1015															616	10000	1015				1015	M GAL	WATER	
		9940		148050													622	40020	157990				157990	FT	PORTABLE CONCRETE BARRIER, 32"	
				52190													622	40031	52190				52190	FT	PORTABLE CONCRETE BARRIER, 50", AS PER PLAN	46
				4440													622	40040	4440				4440	FT	PORTABLE CONCRETE BARRIER, 32", BRIDGE MOUNTED	
				5													622	40100	5				5	EACH	PORTABLE CONCRETE BARRIER, "Y" CONNECTOR	
		LUMP															SPECIAL	62540000	LUMP				LUMP		MAINTAIN EXISTING LIGHTING	43
		2															SPECIAL	62540010	2				2	EACH	REPLACEMENT OF EXISTING LIGHTING UNIT	43
																									MAINTENANCE OF TRAFFIC (SIDEROADS)	
			20														410	12000				20	20	CU YD	TRAFFIC COMPACTED SURFACE, TYPE A OR B	
			LUMP														614	11000		LUMP	LUMP	LUMP	LUMP		MAINTAINING TRAFFIC	
			2														SPECIAL	61411300			2		2	EACH	WORK ZONE TRAFFIC SIGNAL	49
					3												614	12338			3		3	EACH	WORK ZONE IMPACT ATTENUATOR (BIDIRECTIONAL)	
			LUMP														614	12420		LUMP			LUMP		DETOUR SIGNING	
			8														614	12460				8	8	EACH	WORK ZONE MARKING SIGN	
			70														614	13302			28	42	70	EACH	BARRIER REFLECTOR, TYPE B2	
			70														614	13360			28	42	70	EACH	OBJECT MARKER, TWO WAY	
			LUMP														614	18002		LUMP	LUMP	LUMP	LUMP		MAINTAINING TRAFFIC, MISC.: BRIDGE PAINTING	49
					0.08												614	20000				0.08	0.08	MILE	WORK ZONE LANE LINE, CLASS I	
					0.85												614	21000			0.01	0.84	0.85	MILE	WORK ZONE CENTER LINE, CLASS I	
			0.08														614	21400				0.08	0.08	MILE	WORK ZONE CENTER LINE, CLASS II	
					3.22												614	22000			0.58	2.64	3.22	MILE	WORK ZONE EDGE LINE, CLASS I	
					181												614	23000				181	181	FT	WORK ZONE CHANNELIZING LINE, CLASS I	
					750												614	24000			93	657	750	FT	WORK ZONE DOTTED LINE, CLASS I	
			100		320												614	26000			24	396	420	FT	WORK ZONE STOP LINE, CLASS I	
					4												614	30000				4	4	EACH	WORK ZONE ARROW, CLASS I	
					38												615	25000			38		38	SQ YD	PAVEMENT FOR MAINTAINING TRAFFIC, CLASS B	
			3														616	10000		1	1	1	3	M GAL	WATER	
					2070												622	40020			630	1440	2070	FT	PORTABLE CONCRETE BARRIER, 32"	
					1360												622	40040			680	680	1360	FT	PORTABLE CONCRETE BARRIER, 32", BRIDGE MOUNTED	
					9299												642	30000			2194	7105	9299	FT	REMOVAL OF PAVEMENT MARKING	
																									INCIDENTALS	
																	614	11000	LUMP				LUMP		MAINTAINING TRAFFIC	
48																	619	16021	48				48	MONTH	FIELD OFFICE, TYPE C, AS PER PLAN	34
LUMP																	623	10001	LUMP				LUMP		CONSTRUCTION LAYOUT STAKES, AS PER PLAN	29
																	623	11000	1				1	EACH	PROVIDING ELECTRONIC INSTRUMENTATION	
																	623	11100	16				16	HOUR	TECHNICAL ASSISTANCE	
																	624	10000	LUMP				LUMP		MOBILIZATION	

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BRIDGE EROSION CONTROL SUBSUMMARY

SHEET NO.	REF NO.	LOCATION	STATION		601 CRUSHED AGGREGATE SLOPE PROTECTION
			TO	FROM	SQ YD
	BRIDGE 0354				
299	1-CAP	SB	187+66.00	188+28.00	692.0
299	2-CAP	NB	187+11.00	187+78.00	513.0
299	3-CAP	SB	190+68.00	191+02.00	278.0
299	4-CAP	NB	190+23.00	190+58.00	251.0
	BRIDGE 0354 B				
299	5-CAP	NB	185+84.00	186+41.00	283.0
299	6-CAP	NB	188+71.00	188+91.00	143.0
	BRIDGE 0375				
301	7-CAP	SB	198+45.00	198+83.00	247.0
301	8-CAP	SB	199+37.00	199+67.00	197.0
301	9-CAP	NB	198+37.00	198+80.00	359.0
301	10-CAP	NB	199+36.00	199+62.00	222.0
TOTALS					
TOTALS CARRIED TO THE GENERAL SUMMARY					**3185**

EARTHWORK SUMMARY

SHEET NO.	REFERENCE	203 EXCAVATION	203 EMBANKMENT
		CU. YD.	**CU. YD.**
539	I.R. 271 MAINLINE	190279	70614
550	C.R. 17 RAMP A	3239	38
556	C.R. 17 RAMP B	1932	16
578	I.R. 77 RAMP A	9490	289
616	I.R. 77 RAMP B	9094	6929
623	I.R. 77 RAMP C	2715	3574
637	I.R. 77 RAMP D	3850	273
648	S.R. 303 RAMP E	2950	105
657	S.R. 303 RAMP F	3866	24
665	S.R. 303 RAMP G	2833	262
673	S.R. 303 RAMP H	3238	721
	ADJUSTMENT FOR CONCRETE PAVEMENT REMOVED	-35061	11089
	MAINLINE & RAMP TOTALS CARRIED TO GENERAL SUMMARY	**198425**	**93934**
678	S.R. 176 (BROADVIEW ROAD)	279	124
683	C.R. 17 (BRECKSVILLE ROAD)	271	35
699	S.R. 303	592	142
	SIDEROAD TOTALS CARRIED TO GENERAL SUMMARY	**1142**	**301**

MISCELLANEOUS ROADWAY SUMMARY

SHEET NO.	STATION FROM	STATION TO	SIDE	202 CONCRETE MEDIAN REMOVED	202 CURB REMOVED	604 CATCH BASIN RECONSTRUCTED TO GRADE	609 CURB, TYPE 6	625 PULL BOX, MISC.: ADJUST TO GRADE
	FROM	**TO**		**FT**	**FT**	**EACH**	**FT**	**EACH**
	RAMP B BRECKSVILLE ROAD							
552	62+68.00		RT					1
552	62+68.00		LT					1
552	62+92.00		LT			1		
552	62+61.45	62+91.88	LT		31		50	
552	62+88.00		RT			1		
	RAMP E S.R. 303							
639	313+26.85	314+15.88			87.00			
639	314+15.88	319+96.00		557.00				
	RAMP H S.R. 303							
666	309+59.20	310+41.80			88.00			
	RAMP F S.R 303							
649	311+00.45	311+86.28			86.00			
650	311+85.00	315+30.00		331.00				
	RAMP G S.R. 303							
658	307+65.65	308+49.50			89.00			
TOTALS CARRIED TO GENERAL SUMMARY				**888**	**381**	**2**	**50**	**2**

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ROADWAY SUBSUMMARY

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REFERENCE NO.	SHEET NO.	STATION FROM	STATION TO	SIDE	LOCATION	202 CONCRETE BARRIER REMOVED	202 GUARDRAIL REMOVED	209 LINEAR GRADING, AS PER PLAN	448 ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I, UNDER GUARDRAIL, PG64-22, AS PER PLAN	606 GUARDRAIL, TYPE 5	606 ANCHOR ASSEMBLY, TYPE B	606 ANCHOR ASSEMBLY, TYPE E	606 ANCHOR ASSEMBLY, TYPE T	606 BRIDGE TERMINAL ASSEMBLY, TYPE 1	606 BRIDGE TERMINAL ASSEMBLY, TYPE 2	622 CONCRETE BARRIER, SINGLE SLOPE, TYPE D	622 CONCRETE BARRIER END SECTION, TYPE D, REINFORCED	622 CONCRETE BARRIER, END ANCHORAGE, REINFORCED, TYPE D	626 BARRIER REFLECTOR A	626 BARRIER REFLECTOR B	DEDUCT FOR 617 SHOULDER PREPARATION AND COMPACTED AGGREGATE
		FROM	TO			FT	FT	STATION	CU YD	FT	EACH	EACH	EACH	EACH	EACH	FT	EACH	EACH	EACH		FT
1 -GR	289	528+00.00	540+62.50	RT.	NBO		1204	12.6	58.33	1250.00			1						14		
2 -GR	289	528+00.00	545+56.25	LT.	SBO		1595	17.6	81.48	1706.25		1							19		-1756.3
3 -GR	291	552+62.50	554+50.00	RT.	NBI		177	1.9	8.8	137.50	1		1						3		-187.5
4 -GR	291	548+95.60	54+55.00	RT.	NBO	140	106	4.6	21.3	412.50		1		1		70.00	1	1	6	2	-561.5
5 -GR	293	554+02.50	555+65.00	RT.	SBI					112.50	1		1								
6 -GR	293	560+90.10	564+47.00	RT.	NBO	163	106	3	13.89	250.00		1		1		30.00	1	1	4	1	-359
7 -GR	293	563+74.54	565+12.04	RT.	NBI					87.50	1		1								
8 -GR	295	564+51.11	565+76.11	LT.	SBI					75.00	1		1								
9 -GR	295	565+13.00	157+35.20	LT.	SBO	163	106	1.8	8.33	125.00		1		1		30.00	1	1	3	1	-234
10 -GR	297	167+92.39	185+67.39	RT.	NBO		1226	17.8	82.41	1725.00		1		1					19		-1775
11 -GR	297	168+37.50	175+82.61	LT.	SBO		610	7.4	34.26	681.25		1	1						8		-743.8
12 -GR	297	172+06.83	173+19.33	RT.	NBI	123	107	1.1	5.09	62.50	1		1						2		-112.5
13 -GR	299	185+40.44	187+02.94	RT.	NBI		275	1.6	7.41	125.00	1			1					3		-125
14 -GR	299	182+19.05	186+81.55	RT.	NBO		250	4.6	21.3	412.50		1		1					6		-462.5
15 -GR	299	187+04.66	187+42.16	LT.	SBI			0.4	1.85	25.00			1		1				1		
16 -GR	299	190+64.69	192+49.47	RT.	NBO		189	1.8	8.33	168.75			1		1				3		-181.3
17 -GR	299	190+81.75	191+25.50	RT.	NBI			0.4	1.85	31.25			1	1					1		
18 -GR	299	191+12.54	193+11.06	LT.	SBI		275	2	9.26	162.50	1			1					3		-125
19 -GR	299	191+32.31	198+32.36	LT.	SBO		714	7.1	32.87	712.50				1	1				8		-712.5
20-GR	301	195+64.98	198+23.31	RT.	NBI		276	2.6	12.04	218.75	1			1					4		-125
21 -GR	301	197+79.17	198+29.17	LT.	SBI			0.5	2.31	37.50			1		1				1		
22-GR	301	199+81.70	203+03.78	LT.	SBI		276	3.3	15.28	287.50	1			1					4		-125
23-GR	301	199+78.74	200+34.99	RT.	NBI			0.6	2.78	43.75			1	1					2		
24-GR	301	199+76.07	200+26.07	RT.	NBO			0.5	2.31	37.50			1		1				2		
25-GR	301	199+83.35	201+74.36	LT.	SBO		188	1.9	8.80	143.75		1		1					3		
26-GR	303	207+37.50	244+32.52	LT.	SBI		3437	36.9	170.83	3637.50	1		1						38		-3687.5
27-GR	303	213+41.25	266+62.50	RT.	NBO		4482	53.4	247.22	5275.00		1	1						54		-5337.5
28-GR	303	216+87.50	241+89.55	LT.	SBO		2490	25.2	116.67	2456.25		1	1						26		-2518.8
29-GR	309	247+87.50	264+62.50	LT.	SBO		1752	16.8	77.78	1612.50		1	1						18		-1675
30-GR	311	264+50.00	304+50.74	LT.	SBI		3025	40.3	186.57	3981.25	1		1						41		-4031.3
31 -GR	319	315+92.50	317+55.00	LT.	SBI					112.50	1		1						3		
32-GR	319	315+25.00	316+87.50	RT.	NBI					112.50	1		1						3		
33-GR	325	343+97.62	346+47.62	RT.	NBO		313	2.5	11.57	212.50	1			1					4		-250
34-GR	325	342+90.47	346+21.72	RT.	NBI		275	3.3	15.28	293.75	1			1					4		-331.3
35-GR	325	344+07.03	345+50.78	LT.	SBO		49	1.4	6.48	131.25			1		1				2		
36-GR	325	344+64.90	345+71.15	LT.	SBI		94	1.1	5.09	93.75			1		1				2		
37-GR	540	54+12.00	58+52.65	LT.	RAMP A	156	105	3.9	18.06	343.75		1		1		20.00	1	1	5	1	-442.8
38-GR	580	183+76.74	185+70.49	LT.	RAMP 77B		152	1.9	8.8	143.75		1		1					3		
39-GR	580	189+18.41	191+12.16	LT.	RAMP 77B			1.9	8.8	181.25			1		1				3		-193.8
40-GR	580	189+15.30	202+72.30	RT.	RAMP 77B	240	1149	11.7	54.17	1168.75				1	1	175.00	1	1	13	2	
41 -GR	581	194+27.99	202+71.80	LT.	RAMP 77B	240	540	6.2	28.7	568.75		1		1		175.00	1	1	7	2	
42-GR	582	210+99.00	215+00.00	RT.	RAMP 77B		352	4	18.52	337.50		1	1						5		
43-GR	617	188+96.72	198+13.80	RT.	RAMP C		722	9.1	42.13	862.50		1		1					10		-912.5
44-GR	625	185+35.88	187+67.13	LT.	RAMP D		240	2.3	10.65	218.75			1		1				3		-231.3
45-GR	639	312+19.91	318+00.00	RT.	RAMP E		403	5.9	27.31	525.00		1	1						7		
46-GR	659	315+65.52	321+57.42	LT.	RAMP G	120	265	5	23.15	450.00		1		1		65.00	1	1	6	1	-594
47-GR	666	314+57.35	317+13.00	RT.	RAMP H	125	180	1.7	7.87	118.75		1		1		60.00	1	1	3	1	-257.8
48-GR	666	RAMP H	RETURN	RT.	RAMP H		141	1.6	7.41	150.00			1						3		
49-GR	684	911+37.00	915+62.65	LT.	IR 77	60	368	3.7	17.13	368.75				1	1	30.00	1	1	5	1	
50-GR	685	915+60.54	919+58.84	LT.	IR 77	218	161	1.8	8.33	131.25		1		1		191.15	2		3	2	
51 -GR	684	184+55.62	187+01.27	RT.	IR 77	104	112	1.4	6.48	93.75		1		1		75.00	1	1	2	1	
52-GR	685	915+12.60	918+62.00	RT.	IR 77	112	213	1.4	6.48	87.50		1		1		185.00	1	1	2	2	
			TOTAL			1964	28700	337.9	1564.35	32543.75	15	22	27	26	11	1106.15	13	11	393	17	-29312
TOTALS CARRIED TO CALCULATIONS SHEET 271																					-29312
TOTALS CARRIED TO GENERAL SUMMARY						1964	28700	340	1572	32700	15	22	27	26	11	1107	13	11	412		

CALCULATED JDL
CHECKED MAF

GUARDRAIL SUBSUMMARY

SUM-271-2.33

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DRAINAGE SUBSUMMARY

CALCULATED DAW
CHECKED PRS

REFERENCE NO.	SHEET NO.	STATION FROM	STATION TO	SIDE	201 CLEARING AND GRUBBING LUMP	202 STRUCTURE REMOVED EACH	202 HEADWALL REMOVED EACH	202 GUTTER REMOVED SQ YD	202 PIPE REMOVED, 24" AND UNDER FT	202 PIPE REMOVED, OVER 24" FT	202 MANHOLE REMOVED EACH	202 CATCH BASIN REMOVED, AS PER PLAN EACH	202 INLET REMOVED EACH	202 SPECIAL - FILL AND PLUG EXISTING CONDUIT FT	202 PIPE CLEANOUT FT	202 FENCE REMOVED FOR REUSE FT	202 REMOVAL MISC: PAVED GUTTER, TYPE 1-2 FT	202 REMOVAL MISC: RIPRAP, USING 6" REINFORCED CONCRETE SLAB FT	203 EMBANKMENT CU YD	209 DITCH CLEANOUT FT	601 RIPRAP, AS PER PLAN SQ YD	601 RIPRAP USING 6" REINFORCED CONCRETE SLAB, AS PER PLAN SQ YD	601 RIPRAP, WITH GROUT SQ YD	601 ROCK CHANNEL PROTECTION, TYPE A WITH FILTER CU YD	601 ROCK CHANNEL PROTECTION, TYPE A WITH FABRIC FILTER CU YD	601 ROCK CHANNEL PROTECTION, TYPE B WITH FABRIC FILTER CU YD	601 ROCK CHANNEL PROTECTION, TYPE C WITH FABRIC FILTER CU YD	601 PAVED GUTTER, TYPE 1-2 FT	601 PAVED GUTTER, TYPE 1-4 FT	602 CONCRETE MASONRY CU YD	603 15" CONDUIT, TYPE A, 706.02, 2500 D-LOAD FT	603 15" CONDUIT, TYPE B, 706.02 FT	603 15" CONDUIT, TYPE C FT	603 15" CONDUIT, TYPE C, 706.02 FT	603 15" CONDUIT, TYPE F, 707.05 TYPE C, OR 707.21 FT	603 18" CONDUIT, TYPE B FT	603 18" CONDUIT, TYPE C, 706.02 FT	603 21" CONDUIT, TYPE C, 706.02 FT	603 24" CONDUIT, TYPE C, 706.02 FT
		IR 271																																				
1A-D	289	528+00.00	529+00.00	RT																									50									
1-D	289	530+90.00	531+40.00	RT																50																		
2-D	289	531+41.03	531+41.76	CL & RT					4			1																	1		0.27				4	63			
3-D	289	531+48.59	532+98.59	CL																																			
4-D	291	540+00.46	540+01.03	CL & RT					4			1																	1						4				
5-D	291	540+07.86	541+57.86	CL																																			
6-D	293	559+44.05	560+94.05	CL																																			
7-D	293	561+00.88		CL					4	8		1																							4				
8-D	293	561+47.17	562+97.17	CL																																			
9-D	293	558+00.00	157+75.00	LT																																			
10-D	295	157+75.00	167+75.00	LT																																			
11-D	293	557+75.00	565+88.00	RT																																			
12-D	293	563+04.00		CL & RT																															10				
13-D	293	563+04.00		RT						12																													
14-D	293	564+48.88		RT						12		1																											
15-D	295	565+87.35		CL					12	12		1																									8		
16-D	295	565+87.91		LT					4			1																									4		
17-D	295	565+90.08		RT					4			1																									4		
18-D	295	NOT USED																																					
19-D	295	157+00.00	161+44.64	CL																																			
20-D	295	161+51.47		CL						8		1																											
21-D	295	162+00.00	169+50.00	RT																																			
22-D	295	165+43.17	166+93.17	CL																																			
23-D	297	167+00.00		CL						8		1																											
24-D	297	170+93.17	172+43.17	CL																																			
25-D	297	172+50.00		CL						8		1																								0.56				
26-D	297	176+00.00	186+78.17	CL																																			
27-D	299	184+99.50	186+84.81	CL					185			1																											
28-D	299	186+30.00	187+30.00	RT																									134										
29-D	299	186+85.00	188+09.22	CL					125			2																									37		92			4	
30-D THRU 35-D NOT USED																																							
35-D	299	191+00.00	197+93.17	CL																																			
36-D	299	191+05.00		RT																										2			0.27				39		
37-D	299	191+54.00		LT																													0.27			26				
38-D	301	192+95.90		RT																																				
39-D	301	194+22.48	194+35.00	RT					8																				4				0.43						28
40-D	301	194+47.00	195+10.00	RT																									59										
41-D	301	196+50.20	198+00.00	CL & RT					150			1																											
42-D	301	198+00.00	198+01.05	RT					72			1																											
43-D	301	198+00.00	198+72.71	CL					73			1																										74		
44-D	301	200+00.00	208+00.00	LT																																			
45-D	301	200+00.00	209+50.00	RT																																			
46-D	301	200+12.00		RT																													0.27			27				
47-D	301	200+16.33	200+32.59	LT																													0.27			34				
48-D	303	205+00.00	210+68.17	CL																																			
49-D	303	209+50.00	215+00.00	RT																																			
50-D	303	210+75.00		RT					4			1																										4		
51-D	303	210+75.00	215+68.17	RT																																			
52-D	303	215+00.00	215+74.23	RT																																		82		
53-D	303	215+75.00		RT					8			1																										8		
54-D	303	215+75.00	229+93.17	RT																																			
55-D	307	230+00.00	239+92.71	RT																																			
56-D	307	239+99.54	240+00.00	RT		1			110			1																							0.27		38		170			
57-D	307	240+00.00	243+00.00	LT																																			
58-D	307	240+42.34	241+92.34	RT																																			
59-D	307	241+99.17	242+00.06	RT		1			108			1					5			30										5		0.27		37		71			
60-D THRU 65-D NOT USED																																							
SUBTOTALS CARRIED TO SHEET NO. 247						2			875	68		20					5			80									197	54	5		2.88		75	124	34	591			20	28

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REFERENCE NO.	SHEET NO.	STATION FROM	STATION TO	SIDE	603 27" CONDUIT, TYPE C, 706.02 FT	603 30" CONDUIT, TYPE C, 706.02 FT	603 33" CONDUIT, TYPE C, 706.02 FT	603 36" CONDUIT, TYPE A, 706.02 FT	603 36" CONDUIT, TYPE A, 706.02, 1250 D-LOAD FT	603 42" CONDUIT, TYPE A, 706.02 FT	603 42" CONDUIT, TYPE A, 706.02 1500 D-LOAD FT	603 48" CONDUIT, TYPE A, 706.02 1250 D-LOAD FT	603 48" CONDUIT, TYPE A, 706.02, 1500 D-LOAD FT	603 48" CONDUIT, TYPE C, 706.02, 1250 D-LOAD FT	603 84" CONDUIT, TYPE C, 706.02, 1750 D-LOAD, AS PER PLAN FT	603 42" CONDUIT, TYPE A, FIELD PAVING OF EXISTING PIPE FT	603 54" CONDUIT, TYPE A, FIELD PAVING OF EXISTING PIPE FT	603 78" CONDUIT, TYPE A, FIELD PAVING OF EXISTING PIPE FT	603 CONDUIT, BORED OR JACKED, 36", 748.06, AS PER PLAN FT	603 CONDUIT, BORED OR JACKED, 42", 748.06, AS PER PLAN FT	604 CATCH BASIN, NO. 3A EACH	604 CATCH BASIN, NO. 3A, AS PER PLAN EACH	604 CATCH BASIN, NO. 4 EACH	604 CATCH BASIN, NO. 5 EACH	604 CATCH BASIN RECONSTRUCTED TO GRADE, AS PER PLAN EACH	604 MANHOLE, NO. 3 EACH	604 MANHOLE ADJUSTED TO GRADE EACH	604 JUNCTION CHAMBER, AS PER PLAN EACH	604 JUNCTION CHAMBER, AS PER PLAN -I EACH	607 FENCE REBUILT, TYPE 47 FT	607 FENCE REBUILT, TYPE 47, AS PER PLAN FT	659 SEEDING AND MULCHING SQ YD	670 DITCH EROSION PROTECTION SQ YD	836 SEEDING AND EROSION CONTROL WITH TURF REINFORCING MAT, TYPE 1 SQ YD
		IR 271																																
1A-D	289	528+00.00	529+00.00	RT																														
1-D	289	530+90.00	531+40.00	RT																														
2-D	289	531+41.03	531+41.76	CL & RT																			1											
3-D	289	531+48.59	532+98.59	CL																													125	
4-D	291	540+00.46	540+01.03	CL & RT																			1											
5-D	291	540+07.86	541+57.86	CL																													125	
6-D	293	559+44.05	560+94.05	CL																													125	
7-D	293	561+00.88		CL	4	4																	1											
8-D	293	561+47.17	562+97.17	CL																													125	
9-D	293	558+00.00	157+75.00	LT																													1204	
10-D	295	157+75.00	167+75.00	LT																														1223
11-D	293	557+75.00	565+88.00	RT																													994	
12-D	293	563+04.00		CL & RT																			1											
13-D	293	563+04.00		RT		8																							1					
14-D	293	564+48.88		RT		8																							1					
15-D	295	565+87.35		CL		8																							1					
16-D	295	565+87.91		LT																				1										
17-D	295	565+90.08		RT																				1										
18-D	295	NOT USED																																
19-D	295	157+00.00	161+44.64	CL																													544	
20-D	295	161+51.47		CL		8																	1											
21-D	295	162+00.00	169+50.00	RT																													917	
22-D	295	165+43.17	166+93.17	CL																													125	
23-D	297	167+00.00		CL		8																	1											
24-D	297	170+93.17	172+43.17	CL																													125	
25-D	297	172+50.00		CL		8																	1											
26-D	297	176+00.00	186+78.17	CL																													1582	
27-D	299	184+99.50	186+84.81	CL																														
28-D	299	186+30.00	187+30.00	RT																														
29-D	299	186+85.00	188+09.22	CL																			1	1										
30-D THRU 35-D NOT USED																																		
35-D	299	191+00.00	197+93.17	CL																													848	
36-D	299	191+05.00		RT																					1									
37-D	299	191+54.00		LT																					1									
38-D	301	192+95.90		RT																								1						
39-D	301	194+22.48	194+35.00	RT																														
40-D	301	194+47.00	195+10.00	RT																														
41-D	301	196+50.20	198+00.00	CL & RT																														
42-D	301	198+00.00	198+01.05	RT																														
43-D	301	198+00.00	198+72.71	CL																			1											
44-D	301	200+00.00	208+00.00	LT																													667	
45-D	301	200+00.00	209+50.00	RT																													1045	
46-D	301	200+12.00		RT																					1									
47-D	301	200+16.33	200+32.59	LT																					1									
48-D	303	205+00.00	210+68.17	CL																													916	
49-D	303	209+50.00	215+00.00	RT																														673
50-D	303	210+75.00		RT																			1											
51-D	303	210+75.00	215+68.17	RT																													795	
52-D	303	215+00.00	215+74.23	RT																				1										
53-D	303	215+75.00		RT																			1											
54-D	303	215+75.00	229+93.17	RT																													1734	
55-D	307	230+00.00	239+92.71	RT																													828	
56-D	307	239+99.54	240+00.00	RT																			1											
57-D	307	240+00.00	243+00.00	LT																													367	
58-D	307	240+42.34	241+92.34	RT																													125	
59-D	307	241+99.17	242+00.06	RT																			1										125	
60-D THRU 65-D NOT USED																																		
SUBTOTALS CARRIED TO SHEET NO. 248					4	52																	4	13	4		3	1				13441	1896

CALCULATED DAW
CHECKED PRS

DRAINAGE SUBSUMMARY

SUM-271-2.33

244
1195

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REFERENCE NO.	SHEET NO.	STATION FROM	STATION TO	SIDE	201 CLEARING AND GRUBBING	202 STRUCTURE REMOVED	202 HEADWALL REMOVED	202 GUTTER REMOVED	202 PIPE REMOVED, 24" AND UNDER	202 PIPE REMOVED, OVER 24"	202 MANHOLE REMOVED	202 CATCH BASIN REMOVED, AS PER PLAN	202 INLET REMOVED	202 SPECIAL - FILL AND PLUG EXISTING CONDUIT	202 PIPE CLEANOUT	202 FENCE REMOVED FOR REUSE	202 REMOVAL MISC: PAVED GUTTER, TYPE 1-2	202 REMOVAL MISC: RIPRAP, USING 6" REINFORCED CONCRETE SLAB	203 EMBANKMENT	209 DITCH CLEANOUT	601 RIPRAP, AS PER PLAN	601 RIPRAP USING 6" REINFORCED CONCRETE SLAB, AS PER PLAN	601 RIPRAP, WITH GROUT	601 ROCK CHANNEL PROTECTION, TYPE A WITH FILTER	601 ROCK CHANNEL PROTECTION, TYPE A WITH FABRIC FILTER	601 ROCK CHANNEL PROTECTION, TYPE B WITH FABRIC FILTER	601 ROCK CHANNEL PROTECTION, TYPE C WITH FABRIC FILTER	601 PAVED GUTTER, TYPE 1-2	601 PAVED GUTTER, TYPE 1-4	602 CONCRETE MASONRY	603 15" CONDUIT, TYPE A, 706.02, 2500 D-LOAD	603 15" CONDUIT, TYPE B, 706.02	603 15" CONDUIT, TYPE C	603 15" CONDUIT, TYPE C, 706.02	603 15" CONDUIT, TYPE F, 707.05 TYPE C, OR 707.21	603 18" CONDUIT, TYPE B	603 18" CONDUIT, TYPE C, 706.02	603 21" CONDUIT, TYPE C, 706.02	603 24" CONDUIT, TYPE C, 706.02
					LUMP	EACH	EACH	SQ YD	FT	FT	EACH	EACH	EACH	FT	FT	FT	FT	FT	CU YD	FT	SQ YD	SQ YD	SQ YD	CU YD	CU YD	CU YD	CU YD	FT	FT	CU YD	FT	FT	FT	FT	FT	FT	FT	FT
		IR 271																																				
66-D	309	244+00.00	247+50.00	RT																																		
67-D	309	248+99.00	248+99.91	LT					133			1																2			0.27		33	13		98			
68-D	309	249+05.83	255+00.00	LT																																		
69-D	311	255+46.30	256+05.00	RT																					227													
70-D	311	259+98.02	259+99.80	RT			1		96			1																2			0.27				4	85			
71-D	311	260+06.63	261+56.63	RT																																		
72-D	311	262+00.00	280+00.00	LT																																		
73-D	311	266+50.77		RT																								9			0.37								
74-D	311	266+50.00	286+50.00	RT																																		
75-D	311	266+92.00	266+99.56	RT					14			1																										14	
76-D	313	267+06.39	268+56.39	RT																																		
77-D	313	272+01.60		RT					8			1																										8	
78-D	313	272+08.43	273+58.43	RT																																		
79-D	313	276+95.29		RT					8			1																									4	4	
80-D	313	277+02.12	278+52.12	RT																																		
81-D	315	285+00.00	295+00.00	LT																																		
82-D	315	282+00.00		RT					8			1																									8		
83-D	315	282+06.83	283+56.83	RT																																		
84-D	315	286+50.00	295+00.00	RT																																		
85-D	315	286+93.11		RT					8			1																									4		
86-D	315	286+99.94	288+49.94	RT																																		
87-D	315	292+00.00		RT					4			1																									4		
88-D	317	292+06.83	293+56.83	RT																																		
89-D	319	312+91.17	314+41.17	CL																																		
90-D	319	314+48.00	314+99.88	CL																																52		
90-D THRU 96-D NOT USED																																				
97-D	319	314+99.24	314+99.88	CL & RT					6			1																2			0.25				4			
98-D	321	319+50.00	330+00.00	RT																																		
99-D	321	323+40.17	324+90.17	CL																																		
100-D	321	324+97.00		CL					20			1																									20		
101-D	321	327+00.00	330+50.00	LT																																		
102-D	321	327+48.17	328+98.17	CL																																		
103-D	321	329+05.00		CL					8			1																									8		
104-D	323	330+00.00	342+00.00	RT																																		
105-D	323	330+50.00	342+00.00	LT																																		
106-D	323	333+40.78	334+90.78	CL																																		
107-D	323	334+97.61		CL					8			1																									4		
108-D	323	338+41.17	339+91.17	CL																																		
109-D	323	339+98.00		CL					8			1																									4	4	
110-D	323	341+42.29	342+92.29	CL																																		
111-D NOT USED																																				
112-D	325	342+00.00	342+74.00	LT																																		
113-D	325	342+00.00	343+22.00	RT																				58														
114-D	325	342+99.12		CL						8		1																										
115-D	325	343+02.75		RT																																		
116-D	325	343+23.77	343+60.00	RT	LUMP																							14		6								
117-D	325	345+70.22		CL					8			1																										8	
CR 17 RAMP A																																				
118-D	540	56+50.00	60+34.25	LT																																		
119-D	540	60+41.08		LT						9		1																										
120-D	540	60+47.91	61+97.91	LT																																		
CR 17 RAMP B																																				
121-D	551	57+30.06	58+80.06																																		
122-D	552	58+86.89							4			1																									4		
123-D		NOT USED																																				
SUBTOTALS CARRIED TO SHEET NO. 247					LUMP		1		341	17		17								58	227						29		91	1.16		33	65	52	183		24	30	8

CALCULATED DAW
CHECKED PRS

DRAINAGE SUBSUMMARY

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REFERENCE NO.	SHEET NO.	STATION FROM	STATION TO	SIDE	603 27" CONDUIT, TYPE C, 706.02 FT	603 30" CONDUIT, TYPE C, 706.02 FT	603 33" CONDUIT, TYPE C, 706.02 FT	603 36" CONDUIT, TYPE A, 706.02 FT	603 36" CONDUIT, TYPE A, 706.02, 1250 D-LOAD FT	603 42" CONDUIT, TYPE A, 706.02 FT	603 42" CONDUIT, TYPE A, 706.02 1500 D-LOAD FT	603 48" CONDUIT, TYPE A, 706.02 1250 D-LOAD FT	603 48" CONDUIT, TYPE A, 706.02, 1500 D-LOAD FT	603 48" CONDUIT, TYPE C, 706.02, 1250 D-LOAD FT	603 84" CONDUIT, TYPE C, 706.02, 1750 D-LOAD, AS PER PLAN FT	603 42" CONDUIT, TYPE A, FIELD PAVING OF EXISTING PIPE FT	603 54" CONDUIT, TYPE A, FIELD PAVING OF EXISTING PIPE FT	603 78" CONDUIT, TYPE A, FIELD PAVING OF EXISTING PIPE FT	603 CONDUIT, BORED OR JACKED, 36", 748.06, AS PER PLAN FT	603 CONDUIT, BORED OR JACKED, 42", 748.06, AS PER PLAN FT	604 CATCH BASIN, NO. 3A EACH	604 CATCH BASIN, NO. 3A, AS PER PLAN EACH	604 CATCH BASIN, NO. 4 EACH	604 CATCH BASIN, NO. 5 EACH	604 CATCH BASIN RECONSTRUCTED TO GRADE, AS PER PLAN EACH	604 MANHOLE, NO. 3 EACH	604 MANHOLE ADJUSTED TO GRADE EACH	604 JUNCTION CHAMBER, AS PER PLAN EACH	604 JUNCTION CHAMBER, AS PER PLAN -I EACH	607 FENCE REBUILT, TYPE 47 FT	607 FENCE REBUILT, TYPE 47, AS PER PLAN FT	659 SEEDING AND MULCHING SQ YD	670 DITCH EROSION PROTECTION SQ YD	836 SEEDING AND EROSION CONTROL WITH TURF REINFORCING MAT, TYPE 1 SQ YD
		IR 271																																
66-D	309	244+00.00	247+50.00	RT																													292	
67-D	309	248+99.00	248+99.91	LT																			1											
68-D	309	249+05.83	255+00.00	LT																													958	
69-D	311	255+46.30	256+05.00	RT																														
70-D	311	259+98.02	259+99.80	RT																			1											
71-D	311	260+06.63	261+56.63	RT																													125	
72-D	311	262+00.00	280+00.00	LT																														2200
73-D	311	266+50.77		RT																														
74-D	311	266+50.00	286+50.00	RT																														2445
75-D	311	266+92.00	266+99.56	RT																			1											
76-D	313	267+06.39	268+56.39	RT																													125	
77-D	313	272+01.60		RT																			1											
78-D	313	272+08.43	273+58.43	RT																													125	
79-D	313	276+95.29		RT																				1										
80-D	313	277+02.12	278+52.12	RT																													125	
81-D	315	285+00.00	295+00.00	LT																													1821	
82-D	315	282+00.00		RT																				1										
83-D	315	282+06.83	283+56.83	RT																													125	
84-D	315	286+50.00	295+00.00	RT																													1039	
85-D	315	286+93.11		RT																				1										
86-D	315	286+99.94	288+49.94	RT																													125	
87-D	315	292+00.00		RT																			1											
88-D	317	292+06.83	293+56.83	RT																													125	
89-D	319	312+91.17	314+41.17	CL																													125	
90-D	319	314+48.00	314+99.88	CL																			1											
90-D THRU 96-D NOT USED																																		
97-D	319	314+99.24	314+99.88	CL & RT																								1						
98-D	321	319+50.00	330+00.00	RT																													1284	
99-D	321	323+40.17	324+90.17	CL																													125	
100-D	321	324+97.00		CL																			1											
101-D	321	327+00.00	330+50.00	LT																													428	
102-D	321	327+48.17	328+98.17	CL																													125	
103-D	321	329+05.00		CL																			1											
104-D	323	330+00.00	342+00.00	RT																														1467
105-D	323	330+50.00	342+00.00	LT																														1853
106-D	323	333+40.78	334+90.78	CL																													125	
107-D	323	334+97.61		CL																			1											
108-D	323	338+41.17	339+91.17	CL																													125	
109-D	323	339+98.00		CL																			1											
110-D	323	341+42.29	342+92.29	CL																													125	
111-D NOT USED																																		
112-D	325	342+00.00	342+74.00	LT																														
113-D	325	342+00.00	343+22.00	RT																														
114-D	325	342+99.12		CL		4	4																1											
115-D	325	343+02.75		RT																									1					
116-D	325	343+23.77	343+60.00	RT																														
117-D	325	345+70.22		CL																			1											
CR 17 RAMP A																																		
118-D	540	56+50.00	60+34.25	LT																													470	
119-D	540	60+41.08		LT	4																			1										
120-D	540	60+47.91	61+97.91	LT																													125	
CR 17 RAMP B																																		
121-D	551	57+30.06	58+80.06																														125	
122-D	552	58+86.89																						1										
123-D		NOT USED																																
SUBTOTALS CARRIED TO SHEET NO. 248					4	4	4																12	5		1	1					8167	7965

CALCULATED DAW
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DRAINAGE SUBSUMMARY

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DRAINAGE SUBSUMMARY

CALCULATED DAW
CHECKED PRS

REFERENCE NO.	SHEET NO.	STATION FROM	STATION TO	SIDE	201 CLEARING AND GRUBBING LUMP	202 STRUCTURE REMOVED EACH	202 HEADWALL REMOVED EACH	202 GUTTER REMOVED SQ YD	202 PIPE REMOVED, 24" AND UNDER FT	202 PIPE REMOVED, OVER 24" FT	202 MANHOLE REMOVED EACH	202 CATCH BASIN REMOVED, AS PER PLAN EACH	202 INLET REMOVED EACH	202 SPECIAL - FILL AND PLUG EXISTING CONDUIT FT	202 PIPE CLEANOUT FT	202 FENCE REMOVED FOR REUSE FT	202 REMOVAL MISC: PAVED GUTTER, TYPE 1-2 FT	202 REMOVAL MISC: RIPRAP, USING 6" REINFORCED CONCRETE SLAB FT	203 EMBANKMENT CU YD	209 DITCH CLEANOUT FT	601 RIPRAP, AS PER PLAN SQ YD	601 RIPRAP USING 6" REINFORCED CONCRETE SLAB, AS PER PLAN SQ YD	601 RIPRAP, WITH GROUT SQ YD	601 ROCK CHANNEL PROTECTION, TYPE A WITH FILTER CU YD	601 ROCK CHANNEL PROTECTION, TYPE A WITH FABRIC FILTER CU YD	601 ROCK CHANNEL PROTECTION, TYPE B WITH FABRIC FILTER CU YD	601 ROCK CHANNEL PROTECTION, TYPE C WITH FABRIC FILTER CU YD	601 PAVED GUTTER, TYPE 1-2 FT	601 PAVED GUTTER, TYPE 1-4 FT	602 CONCRETE MASONRY CU YD	603 15" CONDUIT, TYPE A, 706.02, 2500 D-LOAD FT	603 15" CONDUIT, TYPE B, 706.02 FT	603 15" CONDUIT, TYPE C FT	603 15" CONDUIT, TYPE C, 706.02 FT	603 15" CONDUIT, TYPE F, 707.05 TYPE C, OR 707.21 FT	603 18" CONDUIT, TYPE B FT	603 18" CONDUIT, TYPE C, 706.02 FT	603 21" CONDUIT, TYPE C, 706.02 FT	603 24" CONDUIT, TYPE C, 706.02 FT
					LUMP	EACH	EACH	SQ YD	FT	FT	EACH	EACH	EACH	FT	FT	FT	FT	FT	CU YD	FT	SQ YD	SQ YD	SQ YD	CU YD	CU YD	CU YD	CU YD	FT	FT	CU YD	FT	FT	FT	FT	FT	FT	FT	FT	FT
		IR 77 RAMP A																																					
124-D	557	179+18.00	186+90.00	LT																																			
125-D	558	186+53.15		RT					4			1								80																	4		
		IR 77 RAMP B																																					
126-D	580	180+50.00	186+50.00	LT																										71									
127-D	580	189+46.54	189+65.29	LT																														19					
128-D	580	189+65.29		LT																										2					0.27		25			
129-D	NOT USED			LT																																			
130-D	581	202+98.20	203+03.55	LT & RT					62			1																									58		
130A-D	581	203+03.55	201+75.07	LT					121			1																											
130B-D	581	201+75.07	200+30.00	LT			1		132		1																								0.6				
		IR 77 RAMP C																																					
131-D	617	187+50.00	194+39.00	RT																										123									
		IR 77 RAMP D																																					
132-D	624	170+34.29	180+00.00	LT																																			
132A-D	625	179+50.00	183+50.00	RT																																			
133-D	626	187+40.67	187+41.43	LT			1		84			1																											
		SR 303 RAMP E																																					
134-D	639	315+00.00	315+93.33	LT					55				1																	2					0.27		28			54
135-D	639	318+78.72	318+80.25	LT & RT			1		69				1																											
		SR 303 RAMP G																																					
136-D	658	306+56.00		LT & RT			1		42				1																											
137-D	658	313+41.69	313+44.09	LT & RT			1		50			1																											
		SR 303 RAMP H																																					
138-D	667	317+74.00		LT & RT			1		41			1																											
139-D	667	318+97.00		LT & RT			1		41			1																											
		CULVERTS MAINLINE																																					
745-746		220+30.14	239+80.00	RT		1	1			329					357	937	1000												143					4.05					
749		173+57.59			LUMP											386					150		26						235										
750		219+76.54			LUMP		2			22	1				395					25	100		13						12					1.68					
751		225+17.00			LUMP		2		23						261			15		60	70		12								15		1.38					
752		229+27.11							10			1			98						100									10					120				
753		238+15.00					1		75						305						160		9										0.69					
754		316+86.43			LUMP													6	27		220		36						17	28		10							
		IR 77																																					
755		927+31.58			LUMP											249					125								14										
756		193+80.47		RAMP A	LUMP		1			6											90								12				8.50						
757		196+64.00		RAMP B			2								140					1100			18					25	68			2.18						
761		213+51.21		RAMP B	LUMP		1	27		24							80			65	15	56						23			30	1.09						
763		173+10.71		RAMP D	LUMP		1		7												210		14							4			0.43						24
		SR 303																																					
764		312+80.54		RAMP E																	195		7							2									
765		315+75.26		RAMP E												170					50		10																
766		309+76.53		RAMP F	LUMP																105																		
767		311+49.51		RAMP G	LUMP		1		8												100												0.31				14		
TOTALS FROM THIS SHEET NO. 247					LUMP	1	19	27	824	381	2	8	3	1556	1742	1080	21	27	1250	1770	56	145			143	338	310	15	40	21.5	120	47	25		54	58	18		24
TOTALS FROM SHEET NO. 243							2		875	68		20					5				80						197	54	5		2.88		75	124	34	591		20	28
TOTALS FROM SHEET NO. 245					LUMP		1		341	17		17												58	227			29		91	1.16		33	65	52	183		24	30	8
TOTALS					LUMP	1	22	27	2040	466	2	45	3	1556	1742	1080	26	27	1250	1850	56	145	58	227	143	535	393	20	131	25.54	120	155	214	86	828	58	42	50	60
TOTALS TO CALCS. SHEET NO. 273																																							
SUBTOTALS CARRIED TO GENERAL SUMMARY					**LUMP**	**1**	**22**	**27**	**2040**	**466**	**2**	**45**	**3**	**1556**	**1742**	**1080**	**26**	**27**	**1250**	**1850**	**56**	**145**	**58**	**227**	**143**	**535**	**393**	**20**	**131**	**26**	**120**	**155**	**214**	**86**	**828**	**58**	**42**	**50**	**60**

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REFERENCE NO.	SHEET NO.	STATION FROM	STATION TO	SIDE	603 27" CONDUIT, TYPE C, 706.02 FT	603 30" CONDUIT, TYPE C, 706.02 FT	603 33" CONDUIT, TYPE C, 706.02 FT	603 36" CONDUIT, TYPE A, 706.02 FT	603 36" CONDUIT, TYPE A, 706.02, 1250 D-LOAD FT	603 42" CONDUIT, TYPE A, 706.02 FT	603 42" CONDUIT, TYPE A, 706.02 1500 D-LOAD FT	603 48" CONDUIT, TYPE A, 706.02 1250 D-LOAD FT	603 48" CONDUIT, TYPE A, 706.02, 1500 D-LOAD FT	603 48" CONDUIT, TYPE C, 706.02, 1250 D-LOAD FT	603 84" CONDUIT, TYPE C, 706.02, 1750 D-LOAD, AS PER PLAN FT	603 42" CONDUIT, TYPE A, FIELD PAVING OF EXISTING PIPE FT	603 54" CONDUIT, TYPE A, FIELD PAVING OF EXISTING PIPE FT	603 78" CONDUIT, TYPE A, FIELD PAVING OF EXISTING PIPE FT	603 CONDUIT, BORED OR JACKED, 36", 748.06, AS PER PLAN FT	603 CONDUIT, BORED OR JACKED, 42", 748.06, AS PER PLAN FT	604 CATCH BASIN, NO. 3A EACH	604 CATCH BASIN, NO. 3A, AS PER PLAN EACH	604 CATCH BASIN, NO. 4 EACH	604 CATCH BASIN, NO. 5 EACH	604 CATCH BASIN RECONSTRUCTED TO GRADE, AS PER PLAN EACH	604 MANHOLE, NO. 3 EACH	604 MANHOLE ADJUSTED TO GRADE EACH	604 JUNCTION CHAMBER, AS PER PLAN EACH	604 JUNCTION CHAMBER, AS PER PLAN -I EACH	607 FENCE REBUILT, TYPE 47 FT	607 FENCE REBUILT, TYPE 47, AS PER PLAN FT	659 SEEDING AND MULCHING SQ YD	670 DITCH EROSION PROTECTION SQ YD	836 SEEDING AND EROSION CONTROL WITH TURF REINFORCING MAT, TYPE 1 SQ YD
		IR 77 RAMP A																																		
124-D	557	179+18.00	186+90.00	LT																																1169
125-D	558	186+53.15		RT																				1												
		IR 77 RAMP B																																		
126-D	580	180+50.00	186+50.00	LT																															422	
127-D	580	189+46.54	189+65.29	LT																			1													
128-D	580	189+65.29		LT																			1													
129-D	NOT USED																																			
130-D	581	202+98.20	203+03.55	LT & RT																				1											125	
130A-D	581	203+03.55	201+75.07	LT		121																			1										125	
130B-D	581	201+75.07	200+30.00	LT		137																						1								
		IR 77 RAMP C																																		
131-D	617	187+50.00	194+39.00	RT																															375	
		IR 77 RAMP D																																		
132-D	624	170+34.29	180+00.00	LT																															423	334
132A-D	625	179+50.00	183+50.00	RT																															428	
133-D	626	187+40.67	187+41.43	LT																																
		SR 303 RAMP E																																		
134-D	639	315+00.00	315+93.33	LT																			1													
135-D	639	318+78.72	318+80.25	LT & RT																																
		SR 303 RAMP G																																		
136-D	658	306+56.00		LT & RT																																
137-D	658	313+41.69	313+44.09	LT & RT																																
		SR 303 RAMP H																																		
138-D	667	317+74.00		LT & RT																																
139-D	667	318+97.00		LT & RT																																
		CULVERTS MAINLINE																																		
	745-746	220+30.14	239+80.00	RT											696			937																		
	749	173+57.59														386																				
	750	219+76.54							104	43										269								2								
	751	225+17.00						100	86										104									1								
	752	229+27.11																											1							
	753	238+15.00						106	142										100						1			1								
	754	316+86.43																																		
		IR 77																																		
	755	927+31.58															249																			
	756	193+80.47		RAMP A					18																											
	757	196+64.00		RAMP B							96	47																	1								
	761	213+51.21		RAMP B									42																1					80			
	763	173+10.71		RAMP D																																	
		SR 303																																		
	764	312+80.54		RAMP E																																	
	765	315+75.26		RAMP E													170																				
	766	309+76.53		RAMP F																																	
	767	311+49.51		RAMP G																																	
TOTALS FROM THIS SHEET NO. 248						258		206	228	122	43	96	47	42	696	386	419	937	204	269	1	2	1	3	1	7		1	1	1000	80	56151	1898	1503
TOTALS FROM SHEET NO. 244					4	52																4	13	4		3	1						13441	1896
TOTALS FROM SHEET NO. 246					4	4	4																12	5		1	1						8167	7965
TOTALS					8	314	4	206	228	122	43	96	47	42	696	386	419	937	204	269	1	6	26	12	1	11	2	1	1	1000	80	56151	23506	11364
TOTALS TO CALCS. SHEET NO. 273																																56151	23506	
SUBTOTALS CARRIED TO GENERAL SUMMARY					**8**	**314**	**4**	**206**	**228**	**122**	**43**	**96**	**47**	**42**	**696**	**386**	**419**	**937**	**204**	**269**	**1**	**6**	**26**	**12**	**1**	**11**	**2**	**1**	**1**	**1000**	**80**		**23506**	**11364**

CALCULATED DAW
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F:\2009\109094\18710\roadway\sheets\18710DS101-OHIO EDISON.dgn 3/22/2013 9:18:14 AM CraigBanghart

REFERENCE NO.	SHEET NO.	STATION							601	603			604	605					BENDS & BRANCHES INFORMATION ONLY						
									TIED CONCRETE BLOCK MAT, TYPE 1	6" CONDUIT, TYPE B, 707.33 OR 707.41	6" CONDUIT, TYPE C, 707.42 OR 707.45	6" CONDUIT, TYPE F, FOR UNDERDRAIN OUTLET, 707.33 OR 707.41	PRECAST REINFORCED CONCRETE OUTLET	6" SHALLOW PIPE UNDERDRAINS WITH FABRIC WRAP, 707.31 OR 707.41	6" DEEP PIPE UNDERDRAINS WITH FABRIC WRAP, 707.31 OR 707.41, AS PER PLAN	6" UNCLASSIFIED PIPE UNDERDRAINS WITH FABRIC WRAP ,707.31 OR 707.41, AS PER PLAN	6" ROCK CUT UNDERDRAINS, AS PER PLAN	6" BASE PIPE UNDERDRAINS WITH FABRIC WRAP, 707.31 OR 707.41	OUTLET DETAILS	6" CROSS	6" TEE	6" WYE	6" X 45° BEND	6" X 90° BEND	6" PLUG
		FROM	CL	ELEV	SLOPE	TO	CL	ELEV	SY	FT	FT	FT	EA	FT	FT	FT	FT	FT		EA	EA	EA	EA	EA	EA
1 - LM	289	528+05.00	IR 271			531+37.00	IR 271			29				332					F					1	1
2 - LM	289 - 291	531+41.00	IR 271			539+96.00	IR 271					37		855					A					1	
3 - LM	291	540+00.00	IR 271			550+43.00	IR 271					37		1043					A					1	
4 - LM	291 - 293	550+43.00	IR 271			561+01.00	IR 271					37		1058					A					1	
5 - LM	293 - 295	561+05.00	IR 271			565+87.00	IR 271					52		450					A				1		1
6 - LM	295	565+59.00	IR 271			161+51.00	IR 271					37		607					A						1
7 - LM	295	161+55.00	IR 271			167+00.00	IR 271					37		545					A					1	1
8 - LM	297	167+04.00	IR 271			172+50.00	IR 271					37		546					A					1	1
9 - LM	299	172+54.00	IR 271			186+00.00	IR 271					37		1346											
		186+00.00	IR 271			186+85.00	IR 271								85				B		1				1
10 - LM	299	186+85.00	IR 271	1112.19	0.0011	187+50.00	IR 271	1112.26								65									1
11 - LM	299	191+05.00	IR 271	1102.08	-0.0031	191+54.00	IR 271	1101.93				5				49			G				1		1
12 - LM	299 - 301	191+56.00	IR 271			198+00.00	IR 271					37			644				B		1				1
13 - LM	301	198+00.00	IR 271	1081.43	0.0030	198+37.00	IR 271	1081.54								37			B						1
14 - LM	301	199+73.00	IR 271	1077.52	-0.0418	200+16.33	IR 271	1075.71				4				39			G		1		1		1
15 - LM	301 - 303	200+26.00	IR 271			205+00.00	IR 271								474										1
		205+00.00	IR 271			206+00.00	IR 271									100									
		206+00.00	IR 271			210+75.00	IR 271					55		475					A					1	
16 - LM	303	210+79.00	IR 271			215+75.00	IR 271					55		496					A					1	1
17 - LM	303 - 305	215+79.00	IR 271			222+00.00	IR 271			28				621					F					1	1
18 - LM	305 - 307	222+04.00	IR 271			230+00.00	IR 271					55		796					A					1	1
19 - LM	307	230+04.00	IR 271			240+00.00	IR 271					55		996					A					1	1
20 - LM	307 - 309	240+04.00	IR 271			245+58.00	IR 271							554											1
21 - LM	309	241+99.00	IR 271	941.40	0.0080	245+58.00	IR 271	944.27			349														
		245+58.00	IR 271	944.27	0.0746	245+58.00	IR 271	947.63			45										1			1	
22 - LM	309	245+58.00	IR 271			248+97.00	IR 271								339										1
23 - LM	309	249+01.00	IR 271	951.50	0.0040	249+12.00	IR 271	951.77				27				11			B			1			1
24 - LM	309 - 311	249+12.00	IR 271	951.77	0.0136	250+18.00	IR 271	953.21								106			B			1			
		250+18.00	IR 271			259+96.00	IR 271							978											1
25 - LM	311	260+00.00	IR 271			266+96.00	IR 271					43		696					A						1
26 - LM	311 - 313	267+00.00	IR 271			271+97.00	IR 271					55		497					A						1
27 - LM	313	272+01.00	IR 271			274+00.00	IR 271					55		199					A		1			1	
		274+00.00	IR 271			276+91.00	IR 271										291				1				1
28 - LM	313 - 315	276+95.00	IR 271			282+00.00	IR 271					55					505		A						
		282+00.00	IR 271			286+89.00	IR 271							489											1
29 - LM	315	286+93.00	IR 271			291+96.00	IR 271					55		503					A		1				1
30 - LM	317	292+00.00	IR 271			298+00.00	IR 271					55		600					A					1	
		298+00.00	IR 271			299+51.00	IR 271										151				1				
31 - LM	317 - 319	299+51.00	IR 271			306+00.00	IR 271										649								
		306+00.00	IR 271			313+40.89	IR 271							741											
		313+40.89	IR 271			315+00.00	IR 271					37					159		A					1	
32 - LM	319 - 321	315+04.00	IR 271			324+97.00	IR 271					37					993		A						1
33 - LM	321	325+01.00	IR 271			329+05.00	IR 271					37					404		A					1	1
34 - LM	321 - 323	329+09.00	IR 271			334+98.00	IR 271					37					589		A		1				1
35 - LM	323	335+02.00	IR 271			339+98.00	IR 271					36					496		A						1
36 - LM	323 - 325	340+01.00	IR 271			341+00.00	IR 271										99				1				1
		341+00.00	IR 271			342+64.00	IR 271					51			128				B		1		1		
37 - LM	325	342+64.00	IR 271	1024.52	0.0040	342+92.00	IR 271	1024.63								28			B						1
38 - LM	325	342+95.00	IR 271			345+71.00	IR 271					54			240				B						1
39 - LM	325	345+33.00	IR 271	1016.10	0.0040	345+68.00	IR 271	1016.24								35									
																					1				
LM TOTALS CARRIED TO SHEET NO. 257										57	394	1211		15423	1910	471	4337				12	2	4	16	32

CALCULATED DAW
CHECKED PRS

UNDERDRAIN SUBSUMMARY

SUM-271-2.33

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REFERENCE NO.	SHEET NO.	STATION							601	603			604	605					BENDS & BRANCHES INFORMATION ONLY						
									TIED CONCRETE BLOCK MAT, TYPE 1	6" CONDUIT, TYPE B, 707.33 OR 707.41	6" CONDUIT, TYPE C, 707.42 OR 707.45	6" CONDUIT, TYPE F, FOR UNDERDRAIN OUTLET, 707.33 OR 707.41	PRECAST REINFORCED CONCRETE OUTLET	6" SHALLOW PIPE UNDERDRAINS WITH FABRIC WRAP, 707.31 OR 707.41	6" DEEP PIPE UNDERDRAINS WITH FABRIC WRAP, 707.31 OR 707.41, AS PER PLAN	6" UNCLASSIFIED PIPE UNDERDRAINS WITH FABRIC WRAP ,707.31 OR 707.41, AS PER PLAN	6" ROCK CUT UNDERDRAINS, AS PER PLAN	6" BASE PIPE UNDERDRAINS WITH FABRIC WRAP, 707.31 OR 707.41	OUTLET DETAILS	6" CROSS	6" TEE	6" WYE	6" X 45° BEND	6" X 90° BEND	6" PLUG
		FROM	CL	ELEV	SLOPE	TO	CL	ELEV	SY	FT	FT	FT	EA	FT	FT	FT	FT	FT		EA	EA	EA	EA	EA	EA
1 - LE	289	528+05.00	IR 271			534+96.00	IR 271			12					691				F		1				1
2 - LE	289 - 291	535+00.00	IR 271			541+96.00	IR 271			12					696				F					1	1
3 - LE	291	542+00.00	IR 271			550+36.00	IR 271			12					836				F					1	
4 - LE	291 - 293	550+36.00	IR 271			60+41.00	CR 17 R A					24			988				G				3		
5 - LE	293 - 295	553+07.00	IR 271			565+72.00	IR 271			17					1254				D				1		1
6 - LE	295	565+65.00	IR 271			161+50.00	IR 271			37					595				A		1				1
7 - LE	295 - 297	161+54.00	IR 271			171+00.00	IR 271			8					946				E					1	1
8 - LE	297 - 299	170+90.00	IR 271			187+10.00	IR 271	1114.10		12					1620				F		1				1
9 - LE	299	187+10.00	IR 271	1114.10	0.0009	187+64.00	IR 271	1114.15								54									1
10 - LE	303	204+80.00	IR 271			208+50.00	IR 271			12					370				F					1	1
11 - LE	303	208+54.00	IR 271			216+90.00	IR 271			12					836				F					1	1
12 - LE	305	216+94.00	IR 271			222+00.00	IR 271			12					506				F		1				1
13 - LE	305	222+04.00	IR 271			227+00.00	IR 271			12					496				F					1	1
14 - LE	305 - 307	227+04.00	IR 271			232+00.00	IR 271			12					496				F					1	1
15 - LE	307	232+04.00	IR 271			236+50.00	IR 271			12					446				F					1	1
16 - LE	307 - 309	236+54.00	IR 271			245+58.00	IR 271								904										1
		245+58.00	IR 271	947.32	-0.0010	247+50.00	IR 271	947.13		12						192			E		1				
17 - LE	309	247+50.00	IR 271			248+97.00	IR 271								147				E						1
18 - LE	309	249+01.00	IR 271	952.33	-0.0051	249+45.00	IR 271	952.15		40						35			B			1			1
19 - LE	309 - 311	249+45.00	IR 271	952.15	0.0128	250+45.00	IR 271	953.54								109			B			1			
		250+45.00	IR 271			259+96.00	IR 271								951										1
20 - LE	311	260+00.00	IR 271			266+96.00	IR 271			31					696				A		1				1
21 - LE	313	267+00.00	IR 271			274+00.00	IR 271			31					700				A		1				
		274+00.00	IR 271			276+91.00	IR 271										291								1
22 - LE	313 - 315	276+95.00	IR 271			282+00.00	IR 271			31							505		A		1				
		282+00.00	IR 271			286+89.00	IR 271								489										1
23 - LE	315 - 317	286+93.00	IR 271			292+96.00	IR 271			31					603				A		1				1
24 - LE	317	293+00.00	IR 271			298+00.00	IR 271			12					500				F					1	
		298+00.00	IR 271			299+51.00	IR 271										151								
25 - LE	317 - 319	300+94.00	IR 271			306+00.00	IR 271										506								1
		306+00.00	IR 271			313+40.89	IR 271								741										
		313+40.89				315+64.00	IR 271			20							223		E					1	
26 - LE	319 - 321	315+68.00	IR 271			324+97.00	IR 271			31							929		A		1				1
27 - LE	321 - 323	325+01.00	IR 271			334+98.00	IR 271			31							997		A		1				1
28 - LE	323	335+02.00	IR 271			340+00.00	IR 271			31							498		A		1				1
29 - LE				NOT USED																					
30 - LE	649	299+51.00	SR 303 R F			305+42.35	SR 303 R F								591						1				
		305+42.35	SR 303 R F			306+00.00	SR 303 R F										58								
		306+00.00	SR 303 R F			309+06.00	SR 303 R F								306										
		309+06.00	SR 303 R F	1100.62	-0.0060	309+06.00	SR 303 R F	1100.47		25													1		
		309+06.00	SR 303 R F	1100.47	-0.0081	309+71.00	SR 303 R F	1099.85	1.79			77	1						J						
31 - LE	658	311+57.00	SR 303 R G			313+41.69	SR 303 R G										185								1
		313+41.69	SR 303 R G			315+64.00	SR 303 R G			8					222				E	1					
LE TOTALS CARRIED TO SHEET NO. 257									2	516		101	1		17627	390	4343			1	13	2	5	10	26

CALCULATED DAW
CHECKED PRS

UNDERDRAIN SUBSUMMARY

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1195

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REFERENCE NO.	REFERENCE NO.	STATION							601	603			604	605					BENDS & BRANCHES INFORMATION ONLY						
		FROM	CL	ELEV	SLOPE	TO	CL	ELEV	TIED CONCRETE BLOCK MAT, TYPE 1	6" CONDUIT, TYPE B, 707.33 OR 707.41	6" CONDUIT, TYPE C, 707.42 OR 707.45	6" CONDUIT, TYPE F, FOR UNDERDRAIN OUTLET, 707.33 OR 707.41	PRECAST REINFORCED CONCRETE OUTLET	6" SHALLOW PIPE UNDERDRAINS WITH FABRIC WRAP, 707.31 OR 707.41	6" DEEP PIPE UNDERDRAINS WITH FABRIC WRAP, 707.31 OR 707.41, AS PER PLAN	6" UNCLASSIFIED PIPE UNDERDRAINS WITH FABRIC WRAP ,707.31 OR 707.41, AS PER PLAN	6" ROCK CUT UNDERDRAINS, AS PER PLAN	6" BASE PIPE UNDERDRAINS WITH FABRIC WRAP, 707.31 OR 707.41	OUTLET DETAILS	6" CROSS	6" TEE	6" WYE	6" X 45° BEND	6" X 90° BEND	6" PLUG
									SY	FT	FT	FT	EA	FT	FT	FT	FT	FT		EA	EA	EA	EA	EA	EA
1 - LS	289	528+05.00	IR 271			534+96.00	IR 271		1.79			17	1					691	F		1		1		1
2 - LS	289 - 291	535+00.00	IR 271			541+96.00	IR 271		1.79			11	1					696	F		1		1		1
3 - LS	291	542+00.00	IR 271			550+43.00	IR 271		1.79			27	1					843	F		1		1		
4 - LS	291 - 293	550+43.00	IR 271			556+25.00	IR 271											582	G			1			
5 - LS	293	554+50.00	IR 271			565+88.00	IR 271					24						1121	D				1		1
6 - LS	295	565+74.00	IR 271			161+51.00	IR 271			8								587	A					1	1
7 - LS	295 - 297	161+55.00	IR 271			171+00.00	IR 271		1.79			13	1					945	F		1		1		1
8 - LS	297 - 299	172+50.00	IR 271			187+10.00	IR 271			40								1460	E	1			2		1
9 - LS	299	187+10.00	IR 271	1114.09	0.0054	187+69.00	IR 271	1114.41								59							2		1
10 - LS	301	191+25.00	IR 271	1083.98		198+00.00	IR 271		1.79			53	1					675	E		1				1
11 - LS	301	198+00.00	IR 271	1083.98	0.0030	198+40.00	IR 271	1084.10								40			E						1
12 - LS	301 - 303	199+75.00	IR 271	1083.11		208+50.00	IR 271		1.79			27	1					875	F		1		1		1
13 - LS	303	208+54.00	IR 271			216+90.00	IR 271		1.79			23	1					836	F		1		1		1
14 - LS	305	216+94.00	IR 271			222+00.00	IR 271		1.79			20	1					506	F		1		1		1
15 - LS	305	222+04.00	IR 271			227+00.00	IR 271		1.79			20	1					496	F		1		1		1
16 - LS	305 - 307	227+04.00	IR 271			232+00.00	IR 271		1.79			17	1					496	F		1		1		1
17 - LS	307	232+04.00	IR 271			236+50.00	IR 271		1.79			18	1					446	F		1		1		1
18 - LS	307 - 309	236+54.00	IR 271			247+50.00	IR 271		1.79			36	1					1096	E	1			2		1
19 - LS	309	247+50.00	IR 271			248+97.00	IR 271											147	E				2		1
20 - LS	309	249+01.00	IR 271	952.45	-0.0040	249+45.00	IR 271	952.27								44			B			1			1
21 - LS	309 - 311	249+45.00	IR 271			259+98.00	IR 271											1053	B						1
22 - LS	311	260+00.00	IR 271			266+96.00	IR 271			12								696	A					1	1
23 - LS	313	267+00.00	IR 271			274+00.00	IR 271			12				700					A					1	1
		274+00.00				276+91.00											291								
24 - LS	313 - 315	276+95.00	IR 271			282+00.00	IR 271			12							505		A					1	1
		282+00.00				286+89.00								489											
25 - LS	315 - 317	286+93.00	IR 271			292+96.00	IR 271			12								603	A					1	1
26 - LS	317	293+00.00	IR 271			298+00.00	IR 271		1.79			27	1	500					F		1		2		
		298+00.00				299+51.00											151								
27 - LS	319	304+67.00	IR 271			306+00.00	IR 271			12							133								
		306+00.00				313+40.89								741											
		313+40.89				313+65.00											24								
28 - LS	321	315+70.00	IR 271			324+97.00	IR 271			12							927		A					1	1
29 - LS	321 - 323	325+01.00	IR 271			334+98.00	IR 271			12							997		A					1	1
30 - LS	323	335+02.00	IR 271			340+00.00	IR 271			12							498		A					1	1
31 - LS	325	340+02.00	IR 271			341+00.00	IR 271					52					98		F					1	1
		341+00.00				342+82.00								182											
32 - LS		342+86.00	IR 271			345+22.00	IR 271		1.79			45	1					236	E		1				1
33 - LS	325	345+22.00	IR 271	1017.23	0.0040	345+49.00	IR 271	1017.34								27			E						1
34 - LS	325	THRU	39-LS	NOT USED			IR 271																		
LS TOTALS CARRIED TO SHEET NO. 252									26	144		430	14	2612		170	3625	15086		2	13	2	21	9	29

CALCULATED DAW
CHECKED PRS

UNDERDRAIN SUBSUMMARY

SUM-271-2.33

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1195

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REFERENCE NO.	SHEET NO.	STATION							601	603			604	605						BENDS & BRANCHES INFORMATION ONLY						
		FROM	CL	ELEV	SLOPE	TO	CL	ELEV	TIED CONCRETE BLOCK MAT, TYPE 1	6" CONDUIT, TYPE B, 707.33 OR 707.41	6" CONDUIT, TYPE C, 707.42 OR 707.45	6" CONDUIT, TYPE F, FOR UNDERDRAIN OUTLET, 707.33 OR 707.41	PRECAST REINFORCED CONCRETE OUTLET	6" SHALLOW PIPE UNDERDRAINS WITH FABRIC WRAP, 707.31 OR 707.41	6" DEEP PIPE UNDERDRAINS WITH FABRIC WRAP, 707.31 OR 707.41, AS PER PLAN	6" UNCLASSIFIED PIPE UNDERDRAINS WITH FABRIC WRAP ,707.31 OR 707.41, AS PER PLAN	6" ROCK CUT UNDERDRAINS, AS PER PLAN	6" BASE PIPE UNDERDRAINS WITH FABRIC WRAP, 707.31 OR 707.41	OUTLET DETAILS	6" CROSS	6" TEE	6" WYE	6" X 45° BEND	6" X 90° BEND	6" PLUG
									SY	FT	FT	FT	EA	FT	FT	FT	FT	FT		EA	EA	EA	EA	EA	EA
40 - LS	540 - 541	60+41.00	CR 17 R A			66+22.00	CR 17 R A					25			563				H				1		1
41 - LS	557	171+04.00	IR 77 R A			174+50.00	IR 77 R A		1.79			24	1		346				I					1	1
42 - LS	557 - 558	174+54.00	IR 77 R A			181+50.00	IR 77 R A								696										1
		181+50.00	IR 77 R A			182+00.00	IR 77 R A									50									
		182+00.00	IR 77 R A			186+44.00	IR 77 R A		1.79			25	1	444					I					1	
43 - LS	558	186+48.00	IR 77 R A			191+50.00	IR 77 R A							502											1
		191+50.00	IR 77 R A			193+39.00	IR 77 R A		1.79			35	1		164				J			1			
44 - LS	558 - 559	193+14.00	IR 77 R A	1077.63	0.0040	193+67.00	IR 77 R A	1077.84								53			J						1
45 - LS	559	193+80.00	IR 77 R A			196+46.00	IR 77 R A								246						1				1
46 - LS	559	194+81.00	IR 77 R A	1068.93	0.0010	196+45.00	IR 77 R A	1069.14	1.79				1			211			I						
		196+45.00	IR 77 R A	1069.14	0.0012	196+46.00	IR 77 R A	1069.17		30													1		
47 - LS	559	196+46.00	IR 77 R A	1069.17	0.0010	199+11.00	IR 77 R A	1069.44								265									1
48 - LS	580	182+73.00	IR 77 R B			185+50.00	IR 77 R B	1121.88	1.79			22	1		277				J		1				1
49 - LS	580	185+50.00	IR 77 R B	1121.88	0.0030	185+80.00	IR 77 R B	1121.97								30			J						1
50 - LS	580	189+10.00	IR 77 R B	1105.21	-0.0414	189+65.29	IR 77 R B	1102.92				10			49				G				1		1
51 - LS	580 - 581	189+68.00	IR 77 R B			196+00.00	IR 77 R B		1.79			26	1		632				I					1	1
52 - LS	581	196+04.00	IR 77 R B			199+50.00	IR 77 R B		1.79			22	1		346				J	1					1
53 - LS	581	199+50.00	IR 77 R B	1054.85	0.0026	200+75.00	IR 77 R B	1055.18								125			J						
		200+75.00	IR 77 R B			203+00.00	IR 77 R B								225										1
54 - LS	581 - 582	203+04.00	IR 77 R B			209+50.00	IR 77 R B					24			629				I			1			1
55 - LS	624	170+36.00	IR 77 R D	1078.83	-0.0035	172+92.00	IR 77 R D	1077.94	1.79			12	1			256			I					1	1
56 - LS	624 - 625	173+06.00	IR 77 R D			185+34.00	IR 77 R D		1.79			17	1		1216				I				1		
57 - LS	625 - 626	185+34.00	IR 77 R D			187+00.00	IR 77 R D		1.79			16	1		166				I	1					
58 - LS		187+00.00	IR 77 R D	1113.65	0.0108	187+75.00	IR 77 R D	1114.46								75			I						1
59 - LS		NOT USED																							
60 - LS	639	313+00.00	SR 303 R E			313+71.00	SR 303 R E			26							71		G		1				1
61 - LS	639	313+71.00	SR 303 R E			315+00.00	SR 303 R E										129		G						1
		315+00.00	SR 303 R E			315+46.00	SR 303 R E							46											
62 - LS	639	315+50.00	SR 303 R E			319+55.00	SR 303 R E					10			377				G						1
63 - LS	649	299+51.00	SR 303 R F			303+44.00	SR 303 R F							393									2		
64 - LS	649	309+06.00	SR 303 R F	1100.62	0.0040	309+71.00	SR 303 R F	1100.88								65			J						1
65 - LS	649 - 650	309+76.00	SR 303 R F			315+00.00	SR 303 R F			29				524					I					1	1
66 - LS	658	304+63.00	SR 303 R G			306+75.00	SR 303 R G								212										1
		306+75.00	SR 303 R G	1102.97	0.0065	307+78.00	SR 303 R G	1102.30								103									
		307+78.00	SR 303 R G	1102.30	0.0040	308+00.00	SR 303 R G	1102.00	1.79			31	1						I				1		
67 - LS	658	308+04.00	SR 303 R G			311+50.00	SR 303 R G		1.79			18	1		337				I				1		1
		311+50.00	SR 303 R G			311+59.00	SR 303 R G										9								
68 - LS	658	313+51.00	SR 303 R G			315+64.00	SR 303 R G		1.79			12	1					213	E	1			2		1
LS TOTALS THIS SHEET NO. 252									24	85		329	13	1909	6481	1233	209	213		3	3	2	10	5	24
LS TOTALS FROM SHEET NO. 251									26	144		447	14	2612		170	3625	15088		2	13	2	4	9	29
LS TOTALS CARRIED TO SHEET 257									50	229		776	27	4521	6481	1403	3834	15301		5	16	4	14	14	53

CALCULATED DAW
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UNDERDRAIN SUBSUMMARY

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REFERENCE NO.	SHEET NO.	STATION							601	603			604	605					BENDS & BRANCHES INFORMATION ONLY						
									TIED CONCRETE BLOCK MAT, TYPE 1	6" CONDUIT, TYPE B, 707.33 OR 707.41	6" CONDUIT, TYPE C, 707.42 OR 707.45	6" CONDUIT, TYPE F, FOR UNDERDRAIN OUTLET, 707.33 OR 707.41	PRECAST REINFORCED CONCRETE OUTLET	6" SHALLOW PIPE UNDERDRAINS WITH FABRIC WRAP, 707.31 OR 707.41	6" DEEP PIPE UNDERDRAINS WITH FABRIC WRAP, 707.31 OR 707.41, AS PER PLAN	6" UNCLASSIFIED PIPE UNDERDRAINS WITH FABRIC WRAP ,707.31 OR 707.41, AS PER PLAN	6" ROCK CUT UNDERDRAINS, AS PER PLAN	6" BASE PIPE UNDERDRAINS WITH FABRIC WRAP, 707.31 OR 707.41	OUTLET DETAILS	6" CROSS	6" TEE	6" WYE	6" X 45° BEND	6" X 90° BEND	6" PLUG
		FROM	CL	ELEV	SLOPE	TO	CL	ELEV	SY	FT	FT	FT	EA	FT	FT	FT	FT	FT		EA	EA	EA	EA	EA	EA
1 - RM	289	528+05.00	IR 271			531+75.00	IR 271			31				366					F					1	1
2 - RM	289 - 291	531+41.00	IR 271			540+36.00	IR 271					53		856					A				1		1
3 - RM	291	540+00.00	IR 271			550+00.00	IR 271					53		963					A				1		
	291	550+00.00	IR 271			550+38.00	IR 271										38								
4 - RM	291 - 293	550+38.00	IR 271			558+00.00	IR 271										762								
		558+00.00	IR 271			561+01.00	IR 271					37		301					A					1	
5 - RM	293 - 295	561+05.00	IR 271			565+87.00	IR 271					52		445					A				1		1
6 - RM	295	565+55.00	IR 271			161+51.00	IR 271					37		606					A		1				1
7 - RM	295 - 309	161+55.00	IR 271			167+00.00	IR 271					37		545					A					1	1
8 - RM	297	167+04.00	IR 271			172+50.00	IR 271					37		546					A					1	1
9 - RM	297 - 299	172+54.00	IR 271			181+00.00	IR 271			31				846					F					1	1
10 - RM	299	181+04.00	IR 271			186+85.00	IR 271					37		581					B		1				1
11 - RM	299	186+85.00	IR 271	1114.56	0.0031	187+11.00	IR 271	1114.64								26			B						1
12 - RM	299 - 301	190+74.00	IR 271	1105.22	-0.0297	197+97.00	IR 271	1083.74				37		723					B		1				1
13 - RM	301	197+97.00	IR 271	1083.74	0.0029	198+31.00	IR 271	1083.84								34			B						1
14 - RM	301 - 303	199+72.00	IR 271	1078.88		210+75.00	IR 271					28			1083				C	1			1		1
15 - RM	303	210+59.00	IR 271			215+75.00	IR 271					27			516				A				1		1
15A - RM	303	215+53.00	IR 271			215+73.00	IR 271								20				A						1
16 - RM	305	215+77.00	IR 271			222+00.00	IR 271					19		623											
		222+00.00	IR 271			230+00.00	IR 271								800				A				1		1
17 - RM	307	230+04.00	IR 271			233+00.00	IR 271								296										1
	307	233+00.00	IR 271			234+00.00	IR 271									100									
	307	234+00.00	IR 271			240+00.00	IR 271					28		581					B				1		
18 - RM	307	239+80.00	IR 271	940.64	0.0040	239+97.00	IR 271	940.71								17			B				1		1
19 - RM	307	240+02.00	IR 271	940.57	0.0040	240+20.00	IR 271	940.50				28				18			B				1		1
20 - RM	307	240+20.00	IR 271	940.50	0.0040	241+97.00	IR 271	941.21								177			B				1		1
21 - RM	307	242+01.00	IR 271	940.60	0.0040	242+20.00	IR 271	940.52				30				19			B				1		1
22 - RM	309	242+20.00	IR 271			248+95.00	IR 271								675				B				1		1
23 - RM	309 - 311	248+99.00	IR 271			260+26.00	IR 271					55		1127					A					1	1
24 - RM	311	260+00.00	IR 271			266+88.00	IR 271					42		658					A				1		1
25 - RM	313	266+92.00	IR 271			270+00.00	IR 271					19		308					A					1	
		270+00.00	IR 271			271+97.00	IR 271										197								1
26 - RM	313	272+01.00	IR 271			276+91.00	IR 271					19					490		A					1	1
27 - RM	313 - 315	276+95.00	IR 271			281+96.00	IR 271					19					501		A		1				1
28 - RM	315	282+00.00	IR 271			286+89.00	IR 271					19					489		A					1	1
29 - RM	315	286+93.00	IR 271			290+00.00	IR 271					18					307		A		1				
	315	290+00.00	IR 271			291+96.00	IR 271								196										1
30 - RM	317	292+00.00	IR 271			302+00.00	IR 271					19			1000				A		1				
		302+00.00	IR 271			304+23.00	IR 271										223								
31 - RM	317	304+23.00	IR 271			308+00.00	IR 271										377								
	319	308+00.00	IR 271			315+00.00	IR 271					52		663					A				1		
32 - RM	319	314+70.00	IR 271			317+00.00	IR 271							230											1
	321	317+00.00	IR 271			324+97.00	IR 271					37					797		A		1				
33 - RM	321	325+01.00	IR 271			329+05.00	IR 271					37					404		A					1	1
34 - RM	321 - 323	329+09.00	IR 271			334+98.00	IR 271					37					589		A		1				1
35 - RM	323	335+02.00	IR 271			339+98.00	IR 271					37					496		A					1	1
36 - RM	323	340+02.00	IR 271			341+00.00	IR 271										98								
	325	341+00.00	IR 271			343+00.00	IR 271					18			200				A					1	1
37 - RM	325	343+11.00	IR 271			345+88.00	IR 271					42		277					B		1				1
38 - RM	325	345+88.00	IR 271	1015.64	0.0040	346+20.00	IR 271	1015.94								32			B						1
RM TOTALS CARRIED TO SHEET NO. 257										62		1010		11249	4764	423	5768			1	9	8	6	12	35

CALCULATED DAW
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UNDERDRAIN SUBSUMMARY

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REFERENCE NO.	SHEET NO.	STATION							601	603			604	605					BENDS & BRANCHES INFORMATION ONLY						
									TIED CONCRETE BLOCK MAT, TYPE 1	6" CONDUIT, TYPE B, 707.33 OR 707.41	6" CONDUIT, TYPE C, 707.42 OR 707.45	6" CONDUIT, TYPE F, FOR UNDERDRAIN OUTLET, 707.33 OR 707.41	PRECAST REINFORCED CONCRETE OUTLET	6" SHALLOW PIPE UNDERDRAINS WITH FABRIC WRAP, 707.31 OR 707.41	6" DEEP PIPE UNDERDRAINS WITH FABRIC WRAP, 707.31 OR 707.41, AS PER PLAN	6" UNCLASSIFIED PIPE UNDERDRAINS WITH FABRIC WRAP ,707.31 OR 707.41, AS PER PLAN	6" ROCK CUT UNDERDRAINS, AS PER PLAN	6" BASE PIPE UNDERDRAINS WITH FABRIC WRAP, 707.31 OR 707.41	OUTLET DETAILS	6" CROSS	6" TEE	6" WYE	6" X 45° BEND	6" X 90° BEND	6" PLUG
		FROM	CL	ELEV	SLOPE	TO	CL	ELEV	SY	FT	FT	FT	EA	FT	FT	FT	FT	FT		EA	EA	EA	EA	EA	EA
1 - RE	289	528+05.00	IR 271			534+96.00	IR 271			12					691				F		1				1
2 - RE	289-291	535+00.00	IR 271			540+46.00	IR 271			12					546				F					1	1
3 - RE	291	540+50.00	IR 271			550+00.00	IR 271			12					950				F					1	
		550+00.00	IR 271			550+38.00	IR 271											38							
4 - RE	291 - 293	550+38.00	IR 271			58+87.00	CR 17 R B					28						829	G				2		
5 - RE	293-295	556+60.00	IR 271			558+00.00	IR 271			17					128				D			1			1
		558+00.00	IR 271			565+57.00	IR 271											757							
6 - RE	295	565+57.00	IR 271	1202.83	0.0040	565+87.00	IR 271	1202.95								30									1
7 - RE	295	565+93.00	IR 271			161+51.00	IR 271			31					568				A		1				1
8 - RE	295- 297	161+55.00	IR 271			171+00.00	IR 271			8					945				D					1	1
9 - RE	297- 299	175+50.00	IR 271			181+00.00	IR 271			12					550				F		1				1
10 - RE	299	181+04.00	IR 271			186+50.00	IR 271			12					546				E		1				1
11 - RE	299	186+50.00	IR 271	1114.01	0.0011	186+95.00	IR 271	1114.06								45			E						1
12A - RE	299	190+61.00	IR271	1104.14	-0.0577	191+05.40	IR 271	1101.00		10				44					E					1	1
12 - RE	299-301	191+09.00	IR 271			197+47.00	IR 271			28					638				E		1				1
13 - RE	301	193+09.00	IR 77 R C			197+45.00	IR 77 R C			8					436				E	1			2		
14 - RE	301	197+47.00	IR 271	1081.05	0.0156	198+29.00	IR 271	1082.33								82			E						1
15 - RE	301	197+45.00	IR 77 R C	1080.97	0.0028	198+27.00	IR 77 R C	1081.20								82			E						1
16 - RE	301 - 303	199+70.00	IR 271	1076.20		210+55.00	IR 271			43					1085				C		1				1
17 - RE	303	210+59.00	IR 271			215+00.00	IR 271			12					441				F					1	1
18 - RE	303	215+04.00	IR 271			222+00.00	IR 271								696										1
	305	222+00.00	IR 271			223+00.00	IR 271									100									
	305-307	223+00.00	IR 271			230+00.00	IR 271			31				672					A		1				
19 - RE	307	230+04.00	IR 271			239+81.00	IR 271			45					945				B			1			1
20 - RE	307	239+48.00	IR 271	940.46	0.0040	239+97.00	IR 271	940.66								49			B			1			1
21 - RE	307	240+02.00	IR 271	940.30	0.0040	240+46.00	IR 271	940.12		45						44			B			1			1
22 - RE	307	240+46.00	IR 271	940.12	0.0040	241+97.00	IR 271	940.72								151			B			1			1
23 - RE	307	242+02.00	IR 271	941.06	0.0040	242+45.00	IR 271	940.89		45						43			B			1			1
24 - RE	309	242+45.00	IR 271			248+97.00	IR 271								652				B			1			1
25 - RE	309-311	249+00.00	IR 271			260+58.00	IR 271			12					1158				F					1	1
26 - RE	311	260+62.00	IR 271			266+00.00	IR 271			44					510				A			1			1
27 - RE	319	306+45.00	IR 271			308+00.00	IR 271											155							1
		308+00.00	IR 271			315+50.00	IR 271			35					750				F					1	
28 - RE	319	315+54.00	IR 271			317+00.00	IR 271								146										1
	321	317+00.00	IR 271			321+00.00	IR 271			24								400			1			1	
29 - RE	319	315+54.00	IR 271			317+00.00	IR 271								146										1
	321	317+00.00	IR 271			324+97.00	IR 271			45								797	A		1				
30 - RE	321 - 323	325+01.00	IR 271			334+98.00	IR 271			31								997	A		1				1
31 - RE	323	335+02.00	IR 271			341+00.00	IR 271											598							1
	325	341+00.00	IR 271			343+30.00	IR 271			12				230					F					1	
32 - RE	325	343+34.00	IR 271			346+45.00	IR 271			14				291					F				1		1
33 - RE		THRU	35-RE	NOT USED																					
36 - RE	579- 580	171+04.00	IR 77 R B			181+00.00	IR 77 R B		1.79			14	1		996				I					1	1
37 - RE	638	304+23.00	SR 303 R E			306+89.00	SR 303 R E								266										1
	639	306+89.00	SR 303 R E			313+70.00	SR 303 R E		1.79			38	1					681	J	1					
RE TOTALS CARRIED TO SHEET NO. 257									4	600		80	2	1238	13789	629	5252			2	10	8	5	10	32

CALCULATED DAW
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UNDERDRAIN SUBSUMMARY

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REFERENCE NO.	SHEET NO.	STATION							601	603			604	605					BENDS & BRANCHES INFORMATION OLNY						
		FROM	CL	ELEV	SLOPE	TO	CL	ELEV	TIED CONCRETE BLOCK MAT, TYPE 1	6" CONDUIT, TYPE B, 707.33 OR 707.41	6" CONDUIT, TYPE C, 707.42 OR 707.45	6" CONDUIT, TYPE F, FOR UNDERDRAIN OUTLET, 707.33 OR 707.41	PRECAST REINFORCED CONCRETE OUTLET	6" SHALLOW PIPE UNDERDRAINS WITH FABRIC WRAP, 707.31 OR 707.41	6" DEEP PIPE UNDERDRAINS WITH FABRIC WRAP, 707.31 OR 707.41, AS PER PLAN	6" UNCLASSIFIED PIPE UNDERDRAINS WITH FABRIC WRAP ,707.31 OR 707.41, AS PER PLAN	6" ROCK CUT UNDERDRAINS, AS PER PLAN	6" BASE PIPE UNDERDRAINS WITH FABRIC WRAP, 707.31 OR 707.41	OUTLET DETAILS	6" CROSS	6" TEE	6" WYE	6" X 45° BEND	6" X 90° BEND	6" PLUG
									SY	FT	FT	FT	EA	FT	FT	FT	FT	FT		EA	EA	EA	EA	EA	EA
1 - RS	289	528+05.00	IR 271			534+96.00	IR 271		1.79			14	1					691	F		1		1		1
2 - RS	289 - 291	535+00.00	IR 271			540+46.00	IR 271		1.79			13	1					546	F		1		1		1
3 - RS	291	540+50.00	IR 271			550+00.00	IR 271		1.79			26	1	950					F		1		1		
		550+00.00	IR 271			550+38.00	IR 271										38								
4 - RS	291 - 293	550+38.00	IR 271			556+60.00	IR 271										622				1				
5 - RS	293	556+60.00	IR 271			558+00.00	IR 271					25					140		D		1	2		1
	295	558+00.00	IR 271			565+90.00	IR 271							770											
6 - RS	295	565+72.00	IR 271	1203.50	0.0040	565+87.00	IR 271	1203.56								15			D				2		1
7 - RS	295	565+93.00	IR 271			161+51.00	IR 271			12								568	A					1	1
8 - RS	295 - 297	161+55.00	IR 271			171+00.00	IR 271		1.79			20	1					945	D		1		2		1
9 - RS	297 - 299	175+50.00	IR 271			181+00.00	IR 271		1.79			23	1					550	F		1		2		1
10 - RS	299	181+04.00	IR 271			186+50.00	IR 271		1.79			15	1					546	E	1			2		1
11 - RS	299	186+50.00	IR 271	1114.00	0.0200	186+90.00	IR 271	1114.80								40			E				2		1
12 - RS	299	190+57.00	IR 271	1104.62	-0.0438	191+05.40	IR 271	1102.50				10				38			G						1
13 - RS	301	191+10.00	IR 271			196+85.00	IR 271			12								575			1			1	1
14 - RS	301	195+48.00	IR 77 R C			197+45.00	IR 77 R C	1080.95	1.79			14	1					187	E	1			2		1
15 - RS	301	197+45.00	IR 77 R C	1081.48	0.0109	198+26.00	IR 77 R C	1081.83								81			E				2		1
16 - RS	301	199+70.00	IR 271	1076.88	-0.0400	200+12.00	IR 271	1075.20				10				32			G						1
17 - RS	301 - 303	200+19.00	IR 271			210+55.00	IR 271			12								1026	C					1	1
18 - RS	303	210+59.00	IR 271			215+00.00	IR 271		1.79			30	1					431	F		1		2		1
19 - RS	303 - 307	215+04.00	IR 271			230+00.00	IR 271			12								1484	A				1		1
20 - RS	307	230+04.00	IR 271			239+49.00	IR 271			17								932	B			1			1
21 - RS	307	239+36.00	IR 271	941.56	0.0040	239+97.00	IR 271	941.80								49			B						1
22 - RS	307 -	240+02.00	IR 271	941.61	0.0040	240+60.00	IR 271	941.38								46			B			1			1
23 - RS	307	240+60.00	IR 271			241+97.00	IR 271											137	B						1
24 - RS	307 - 309	242+02.00	IR 271	942.30	0.0040	242+61.00	IR 271	942.06								59			B			1			1
25 - RS	309	242+61.00	IR 271			248+97.00	IR 271			17								636	B		1				1
26 - RS	309 - 311	249+00.00	IR 271			260+69.00	IR 271		1.79			14	1					1169	F				2		1
27 - RS	311 -	260+62.00	IR 271			265+96.00	IR 271			17								523	A				1		1
28 - RS	311	266+00.00	IR 271			270+00.00	IR 271		1.79			20	1	388					F					1	1
	313	270+00.00	IR 271			276+91.00	IR 271										691								
29 - RS	313 - 315	276+95.00	IR 271			286+89.00	IR 271			43							982		A					1	1
30 - RS	315	286+93.00	IR 271			290+00.00	IR 271			43							295		A					1	1
		290+00.00	IR 271			291+96.00	IR 271							196											
31 - RS	317	292+00.00	IR 271			302+00.00	IR 271			43				988					A					1	
		302+00.00	IR 271			304+23.00	IR 271										223								
32 - RS	319	306+45.00	IR 271			308+00.00	IR 271			12							143				1			1	1
		308+00.00	IR 271			314+96.00	IR 271							696											
33 - RS	319	315+54.00	IR 271			317+00.00	IR 271			12				134					A					1	1
	321	317+00.00	IR 271			324+97.00	IR 271										797								
34 - RS	321 - 323	325+01.00	IR 271			334+98.00	IR 271			12							985		A					1	1
35 - RS	323	335+02.00	IR 271			341+00.00	IR 271					53	1				586		F		1				1
	325	341+00.00	IR 271			343+30.00	IR 271							230											
36 - RS	325	343+34.00	IR 271			346+45.00	IR 271					19						299	E			1	2		1
37 - RS		THRU	39-RS	NOT USED			IR 271																		
RS TOTALS CARRIED TO SHEET NO. 257									18	264		306	11	4352		361	5502	11245		2	10	6	27	10	33

CALCULATED DAW
CHECKED PRS

UNDERDRAIN SUBSUMMARY

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REFERENCE NO.	SHEET NO.	STATION							601	603			604	605					BENDS & BRANCHES INFORMATION OLNY						
		FROM	CL	ELEV	SLOPE	TO	CL	ELEV	TIED CONCRETE BLOCK MAT, TYPE 1	6" CONDUIT, TYPE B, 707.33 OR 707.41	6" CONDUIT, TYPE C, 707.42 OR 707.45	6" CONDUIT, TYPE F, FOR UNDERDRAIN OUTLET, 707.33 OR 707.41	PRECAST REINFORCED CONCRETE OUTLET	6" SHALLOW PIPE UNDERDRAINS WITH FABRIC WRAP, 707.31 OR 707.41	6" DEEP PIPE UNDERDRAINS WITH FABRIC WRAP, 707.31 OR 707.41, AS PER PLAN	6" UNCLASSIFIED PIPE UNDERDRAINS WITH FABRIC WRAP ,707.31 OR 707.41, AS PRE PLAN	6" ROCK CUT UNDERDRAINS, AS PER PLAN	6" BASE PIPE UNDERDRAINS WITH FABRIC WRAP, 707.31 OR 707.41	OUTLET DETAILS	6" CROSS	6" TEE	6" WYE	6" X 45° BEND	6" X 90° BEND	6" PLUG
									SY	FT	FT	FT	EA	FT	FT	FT	FT	FT		EA	EA	EA	EA	EA	EA
40 - RS	540-541	61+47.00	CR 17 R A			66+23.00	CR 17 R A		1.79			121	1		466				I					1	1
41 - RS	552	58+87.00	CR 17 R B			62+41.00	CR 17 R B					21			352				H					1	1
42 - RS	558	180+89.00	IR 77 R A			186+09.00	IR 77 R A					48			495				H				1		1
43 - RS	558-559	186+24.00	IR 77 R A			193+96.00	IR 77 R A		1.79			27	1		744				I				1		1
44 - RS	579	171+04.00	IR 77 R B			175+94.00	IR 77 R B											462				1	1		1
45 - RS	580	181+04.00	IR 77 R B			185+50.00	IR 77 R B	1122.03	1.79			15	1		446				J		1				1
46 - RS	580	185+50.00	IR 77 R B	1122.03	0.0196	185+77.00	IR 77 R B	1122.56								27			J						1
47 - RS	580-581	189+07.00	IR 77 R B	1105.86		196+00.00	IR 77 R B		1.79			16	1	693					I				2	1	1
48 - RS	581	196+04.00	IR 77 R B			199+50.00	IR 77 R B							346					J		1		2		1
49 - RS	581	199+50.00	IR 77 R B	1056.90	0.0010	200+75.00	IR 77 R B	1057.02		28						125			J						
		200+75.00	IR 77 R B			202+94.00	IR 77 R B							219											1
50 - RS	581	203+04.00		1058.59	-0.0040	203+45.00	IR 77 R B	1058.42								43			J			1			1
51 - RS	581 -582	203+21.00	IR 77 R B			210+00.00	IR 77 R B			35				679					J						
		210+00.00	IR 77 R B			211+00.00	IR 77 R B									100									
		211+00.00	IR 77 R B			212+96.00	IR 77 R B								196										1
52 - RS	582-583	213+00.00	IR 77 R B			216+20.00	IR 77 R B		1.79			22	1		320				I					1	
		216+20.00	IR 77 R B			218+50.00	IR 77 R B									230									1
53 - RS	617	186+00.00	IR 77 R C			188+11.00	IR 77 R C		1.79			19	1		211				J		1				1
54 - RS	617 -618	188+11.00	IR 77 R C			193+09.00	IR 77 R C								498				J						
55 - RS		NOT USED																							
56 - RS		NOT USED																							
57 - RS		THRU	59-RS	NOT USED																					
60 - RS	638	304+23.00	SR 303 R E			306+57.93	SR 303 R E							235									2		
		306+57.93	SR 303 R E			306+90.00	SR 303 R E										32								
61 - RS	639	313+70.00	SR 303 R E			315+00.00	SR 303 R E										130		J				1		
		315+00.00	SR 303 R E			319+73.00	SR 303 R E							473											1
62 - RS	649-650	309+80.00	SR 303 R F			314+96.25	SR 303 R F		1.79			37	1		516				I		1				1
63 - RS		NOT USED																							
64 - RS	666	304+57.00	SR 303 R H			310+00.00	SR 303 R H		1.79			31	1		543				I					1	1
65 - RS	666	310+04.00	SR 303 R H			315+50.00	SR 303 R H		1.79			34	1		546				I		1				1
RS TOTALS THIS SHEET NO. 256									17	63		391	9	2645	5333	525	163	462			5	2	10	5	18
RS TOTALS FROM SHEET NO. 255									18	264		306	11	4352		361	5502	11245		2	10	6	27	10	33
RS TOTALS CARRIED TO SHEET NO. 257									35	327		697	20	6997	5333	886	5665	11707		2	15	8	37	15	51

CALCULATED DAW
CHECKED PRS

UNDERDRAIN SUBSUMMARY

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REFERENCE NO.	SHEET NO.	STATION							601	603			604	605					BENDS & BRANCHES INFORMATION OLNY						
		FROM	CL	ELEV	SLOPE	TO	CL	ELEV	TIED CONCRETE BLOCK MAT, TYPE 1	6" CONDUIT, TYPE B, 707.33 OR 707.41	6" CONDUIT, TYPE C, 707.42 OR 707.45	6" CONDUIT, TYPE F, FOR UNDERDRAIN OUTLET, 707.33 OR 707.41	PRECAST REINFORCED CONCRETE OUTLET	6" SHALLOW PIPE UNDERDRAINS WITH FABRIC WRAP, 707.31 OR 707.41	6" DEEP PIPE UNDERDRAINS WITH FABRIC WRAP, 707.31 OR 707.41, AS PER PLAN	6" UNCLASSIFIED PIPE UNDERDRAINS WITH FABRIC WRAP ,707.31 OR 707.41, AS PER PLAN	6" ROCK CUT UNDERDRAINS, AS PER PLAN	6" BASE PIPE UNDERDRAINS WITH FABRIC WRAP, 707.31 OR 707.41	OUTLET DETAILS	6" CROSS	6" TEE	6" WYE	6" X 45° BEND	6" X 90° BEND	6" PLUG
									SY	FT	FT	FT	EA	FT	FT	FT	FT	FT		EA	EA	EA	EA	EA	EA
1 - PU	301	198+05.00	IR 271	1081.45	-0.0265	198+09.00	IR 271	1082.51		40											1				1
2 - PU	301	200+06.00	IR 271	1076.14	-0.0377	200+07.00	IR 271	1077.65		40											1				1
3 - PU	301	197+89.00	IR 77 R C	1081.48	-0.0538	197+98.80	IR 271	1084.92		64											1				1
4 - PU	301	200+01.00	IR 271	1075.64	-0.0275	200+03.00	IR 271	1077.29		60											1				1
5 - PU	580	185+48.00	IR 77 R B	1123.53	0.0550	185+51.00	IR 77 R B	1121.88		30											1				1
6 - PU	580	189+34.50	IR 77 R B	1104.36	0.0300	189+38.00	IR 77 R B	1103.46		30											1				1
							PU TOTALS =			264											6				6
							LEFT SIDE (SOUTHBOUND)																		
							LM TOTALS =			57	394	1211		15423	1910	471	4337				13	2	4	16	32
							LE TOTALS =		2	516		101	1		17627	390	4343			1	13	2	5	10	26
							LS TOTALS =		50	229		759	27	4521	6481	1403	3834	15299		5	15	4	31	14	53
							RIGHT SIDE (NORTHBOUND)																		
							RM TOTALS =			62		1010		11249	4764	423	5768			1	9	8	6	12	35
							RE TOTALS =		4	600		80	2	1238	13789	629	5252			2	10	8	5	10	32
							RS TOTALS =		35	327		697	20	6997	5333	886	5665	11707		2	15	8	37	15	51
							PRESSURE RELIEF JOINT UNDERDRAIN																		
							PU TOTALS =			264											6				6
							TOTALS =		91	1791	394	3858	50	39428	49904	4202	29199	27006		11	81	32	88	77	235

CALCULATED DAW
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UNDERDRAIN SUBSUMMARY

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SIDEROAD ROADWAY SUBSUMMARY

CALCULATED PEK
CHECKED TLH

REF NO.	SHEET NO.	STATION TO STATION	SIDE	202 GUARDRAIL REMOVED	202 MONUMENT ASSEMBLY REMOVED	202 FENCE REMOVED			255 FULL DEPTH PAVMENT SAWING	601 CRUSHED AGGREGATE SLOPE PROTECTION	601 ROCK CHANNEL PROTECTION, TYPE C WITH FABRIC FILTER		602 CONCRETE MASONRY	603 6" CONDUIT, TYPE F FOR UNDERDRAIN OUTLETS	603 12" CONDUIT, TYPE C	603 12" CONDUIT, TYPE F, 707.05 TYPE C OR 707.21	604 CATCH BASIN, NO. 3A	604 MANHOLE NO. 3	604 MONUMENT ASSEMBLY	605 6" SHALLOW PIPE UNDERDRAIN WITH FABRIC WRAP, 707.31 OR 707.41	605 6" UNCLASSIFIED PIPE UNDERDRAIN WITH FABRIC WRAP, 707.31 OR 707.41	605 6"x6"x6" TEE (FOR INFORMATIONAL PURPOSE ONLY)	606 GUARDRAIL, TYPE 5	606 ANCHOR ASSEMBLY TYPE E	606 BRIDGE TERMINAL ASSEMBLY TYPE 1	607 FENCE, TYPE 47	607 FENCELINE SEEDING AND MULCHING	609 CURB, TYPE 4-A	625 GROUND ROD	625 CONDUIT, 2", 725.05
				FT	EACH	FT			FT	SQ YD	CU YD		CU TD	FT	FT	FT	EACH	EACH	EACH	FT	FT	EACH	FT	EACH	EACH	FT	FT	FT	EACH	FT
		S.R. 176																												
R1	674	85+87.11 TO 86+95.49	L T.	108.38																										
R2	674	85+87.22 TO 86+95.19	RT.	107.97																										
R3	674	87+13.11 TO 87+13.11	L T.			29.48																								
R4	674	87+05.82 TO 87+05.82	RT.			16.87																								
P1	674	85+31.00 TO 86+56.35	L T.						121.92																					
P2	674	86+34.87 TO 86+56.35	RT.						21.48																					
P3	674	86+56.35 TO 86+56.35	L. & R.						32.07																					
P4	674	86+56.35 TO 86+85.35	L T.																										29.00	
P5	674	86+56.35 TO 86+85.35	RT.																										29.00	
M1	674	86+79.39	L. & R.		1														1											
EC1	674	87+14.02 TO 87+45.13	L T.							11.61																				
EC2	674	87+13.83 TO 87+44.91	RT.							11.61																				
D1	674	86+69.33 TO 87+53.61	RT.								0.89		0.21		36.00	82.00	1	1												
D2	674	86+69.33 TO 87+56.62	L T.								0.89		0.21		36.00	72.00	1	1												
U1	674	86+56.35 TO 86+68.25	L T.																		11.90									
U2	674	86+56.35 TO 86+68.25	RT.																		11.90									
U3	674	86+68.25 TO 86+95.27	L T.											10.00						17.02										
U4	674	86+68.25 TO 86+95.27	RT.											10.00						17.02										
U5	674	86+78.73 TO 86+78.73	L. & R.																	36.16		2								
F1	674	87+13.11 TO 87+13.11	L T.																							26.28	26.28		1	
F2	674	87+05.82 TO 87+05.82	RT.																							11.89	11.89		1	
G1	674	85+66.31 TO 86+97.37	L T.																				81.25	1	1					
G2	674	85+41.31 TO 86+97.37	RT.																				106.25	1	1					
R5	675	90+77.85 TO 91+78.75	L T.	100.70																										
R6	675	90+77.97 TO 91+53.36	RT.	75.56																										
R7	675	90+63.65 TO 90+63.65	L T.			22.78																								
R8	675	90+68.45 TO 90+68.45	RT.			22.99																								
P6	675	91+16.85 TO 91+26.05	L T.						11.38																					
P7	675	91+16.85 TO 92+14.98	RT.						100.94																					
P8	675	90+87.85 TO 91+16.85	L T.																										29.00	
P9	675	90+87.85 TO 91+16.85	RT.																										29.00	
P10	675	91+16.85 TO 91+16.85	L. & R.						33.60																					
M2	675	90+99.75	L. & R.		1														1											
EC3	675	90+23.34 TO 90+59.50	L T.							13.50																				
EC4	675	90+21.70 TO 90+59.50	RT.							14.11																				
D3	675	90+08.84 TO 91+03.86	RT.								0.89		0.21		37.00	86.00	1	1												
D4	675	90+07.07 TO 91+03.86	L T.								0.89		0.21		43.00	81.00	1	1												
U6	675	90+75.73 TO 91+03.86	L T.											10.00						18.16										
U7	675	91+03.86 TO 91+16.85	L T.																		12.99									
U8	675	90+75.73 TO 91+03.86	RT.											10.00						18.16										
U9	675	91+03.86 TO 91+16.85	RT.																		12.99									
U10	675	90+94.46 TO 90+94.46	L. & R.																	36.16		2								
F3	675	90+63.65 TO 90+63.65	L T.																							20.01	20.01		1	
F4	675	90+68.45 TO 90+68.45	RT.																							19.27	19.27		1	
G3	675	90+75.73 TO 92+59.28	L T.																				131.25	1	1					
G4	675	90+75.73 TO 92+17.80	RT.																				93.75	1	1					
L1	674, 675	86+95.00 TO 90+78.00	L T.																											383
L2	674, 675	86+95.00 TO 90+78.00	RT.																											383
SHEET TOTALS				392.61	2	92.12			321.39	50.83	3.56		0.84	40.00	152.00	321.00	4	4	2	142.68	49.78	4	412.50	4	4	77.45	77.45	116.00	4	766
SHEET TOTALS CARRIED TO SHEET 260				392.61	2	92.12			321.39	50.83	3.56		0.84	40.00	152.00	321.00	4	4	2	142.68	49.78	4	412.50	4	4	77.45	77.45	116.00	4	766

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REF NO.	SHEET NO.	STATION TO STATION	SIDE	202 PAVEMENT REMOVED	202 GUARDRAIL REMOVED	202 CURB REMOVED	202 REMOVAL MISC.: EXISTING SLOPE PROTECTION		255 FULL DEPTH PAVMENT SAWING	601 CRUSHED AGGREGATE SLOPE PROTECTION	601 ROCK CHANNEL PROTECTION, TYPE C WITH FABRIC FILTER		602 CONCRETE MASONRY	603 6" CONDUIT, TYPE F FOR UNDERDRAIN OUTLETS	603 12" CONDUIT, TYPE B	603 12" CONDUIT, TYPE C	603 12" CONDUIT, TYPE F, 707.05 TYPE C OR 707.21	604 CATCH BASIN, NO. 3A	604 MANHOLE NO. 3	604 MONUMENT BOX ADJUSTED TO GRADE		605 6" SHALLOW PIPE UNDERDRAIN WITH FABRIC WRAP, 707.31 OR 707.41	605 6"x6"x6" TEE (FOR INFORMATIONAL PURPOSE ONLY)	606 GUARDRAIL, TYPE 5	606 ANCHOR ASSEMBLY TYPE E	606 ANCHOR ASSEMBLY TYPE T	606 BRIDGE TERMINAL ASSEMBLY TYPE 1	609 CURB, TYPE 4-A	609 CURB, TYPE 4-C	625 CONDUIT, 2", 725.05
				SQ YD	FT	FT	SQ YD		FT	SQ YD	CU YD		CU TD	FT	FT	FT	FT	EACH	EACH	EACH		FT	EACH	FT	EACH	EACH	EACH	FT	FT	FT
		C.R. 17																												
R1	679	58+21.40 TO 58+83.78	LT.			62.38																								
R2	679	58+33.92 TO 58+83.00	LT.		49.08																									
R3	679	58+53.38 TO 59+02.92	RT.			49.54																								
R4	679	58+36.08 TO 59+03.74	RT.		67.68																									
R5	679	58+99.49 TO 59+62.35	L. & R.				233.87																							
P1	679	58+21.40 TO 58+45.18	LT.						28.59																					
P2	679	58+41.98 TO 58+63.28	L. & R.						39.62																					
P3	679	58+53.38 TO 58+60.73	RT.						12.07																					
P4	679	58+21.40 TO 58+71.75	LT.																										29.77	20.58
P5	679	58+53.38 TO 58+93.05	RT.																										29.77	9.90
EC1	679	58+98.52 TO 59+62.76	L. & R.							250.22																				
U1	679	58+21.40 TO 58+81.75	LT.																				60.35							
U2	679	58+65.02 TO 58+86.47	L. & R.																				39.34	2						
U3	679	58+53.38 TO 59+03.05	RT.																				49.67							
G1	679	58+33.92 TO 58+83.85	LT.																						50.00			1		
G2	679	58+36.08 TO 59+05.15	RT.																						68.75			1		
R6	680	61+75.19 TO 62+40.90	L. & R.				241.72																							
R7	680	62+35.76 TO 63+34.23	LT.		98.73																									
R8	680	62+58.36 TO 63+31.53	RT.		73.79																									
P6	680	62+80.99 TO 63+56.44	LT.						79.44																					
P7	680	62+78.33 TO 62+97.34	L. & R.						34.96																					
P8	680	62+94.60 TO 63+56.44	RT.						66.04																					
P9	680	62+47.38 TO 62+77.15	LT.																										29.77	
P10	680	62+68.68 TO 62+98.45	RT.																										29.77	
EC2	680	61+75.24 TO 62+41.90	L. & R.							268.27																				
D1	680	61+71.44 TO 62+96.69	L. & R.								0.89		0.21		39.00	44.00	72.00	2	1											
U4	680	62+37.38 TO 62+77.15	LT.											10.00									29.77							
U5	680	62+53.96 TO 62+75.35	L. & R.																				39.34	2						
U6	680	62+58.68 TO 62+98.44	RT.											10.00									29.76							
G3	680	62+35.28 TO 63+73.56	LT.																						112.50		1	1		
G4	680	62+56.58 TO 64+12.52	RT.																						106.25	1		1		
M1	680	62+94.87	L. & R.																	1										
		S.R. 303																												
R1	687, 688	43+66.70 TO 47+85.00	LT.	159.85																										
R2	687, 688	43+66.31 TO 47+63.00	RT.	191.15																										
R3	687, 688	43+89.07 TO 48+23.85	LT.		436.85																									
R4	687, 688	44+00.53 TO 48+31.12	RT.		400.00																									
R5	688, 689	51+85.50 TO 56+64.09	LT.		478.83																									
R6	688, 689	51+63.17 TO 55+27.46	RT.		425.52																									
R7	689	52+25.00 TO 55+35.00	LT.	199.84																										
R8	689	52+02.00 TO 53+53.93	RT.	104.31																										
M1	687	46+02.24	L. & R.																	1										
L1	688	48+21.00 TO 51+84.00	LT.																											360
L2	688	48+04.00 TO 51+64.00	RT.																											360
SHEET TOTALS				655.15	2030.48	111.92	475.59		260.72	518.49	0.89		0.21	20.00	39.00	44.00	72.00	2	1	2		248.23	4	337.50	1	1	4	119.08	30.48	720
SHEET TOTALS CARRIED TO SHEET 260				655.15	2030.48	111.92	475.59		260.72	518.49	0.89		0.21	20.00	39.00	44.00	72.00	2	1	2		248.23	4	337.50	1	1	4	119.08	30.48	720

CALCULATED PEK
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SIDEROAD ROADWAY SUBSUMMARY

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REF NO.	SHEET NO.	STATION TO STATION	SIDE	202 PAVEMENT REMOVED SQ YD	202 GUARDRAIL REMOVED FT	202 CURB REMOVED FT	202 MONUMENT ASSEMBLY REMOVED EACH	202 FENCE REMOVED FT	202 REMOVAL MISC.; EXISTING SLOPE PROTECTION SQ YD	255 FULL DEPTH PAVMENT SAWING FT	601 CRUSHED AGGREGATE SLOPE PROTECTION SQ YD	601 TIED CONCRETE BLOCK MAT, TYPE 1 SQ YD	601 ROCK CHANNEL PROTECTION, TYPE C WITH FABRIC FILTER CU YD	602 CONCRETE MASONRY CU YD	603 6" CONDUIT, TYPE F FOR UNDERDRAIN OUTLETS FT	603 12" CONDUIT, TYPE B FT	603 12" CONDUIT, TYPE C FT	603 12" CONDUIT, TYPE F, 707.05 TYPE C OR 707.21 FT	603 15" CONDUIT, TYPE C FT	603 15" CONDUIT, TYPE F, 707.05 TYPE C OR 707.21 FT	604 CATCH BASIN, NO. 3A EACH	604 MANHOLE NO. 3 EACH	604 PRECAST REINFORCED CONCRETE OUTLET EACH	604 MONUMENT BOX ADJUSTED TO GRADE EACH	604 MONUMENT ASSEMBLY EACH	605 6" SHALLOW PIPE UNDERDRAIN WITH FABRIC WRAP, 707.31 OR 707.41 FT	605 6" UNCLASSIFIED PIPE UNDERDRAIN WITH FABRIC WRAP, 707.31 OR 707.41 FT	605 6"x6"x6" TEE (FOR INFORMATIONAL PURPOSE ONLY) EACH	606 GUARDRAIL, TYPE 5 FT	606 ANCHOR ASSEMBLY TYPE E EACH	606 ANCHOR ASSEMBLY TYPE T EACH	606 BRIDGE TERMINAL ASSEMBLY TYPE 1 EACH	607 FENCE, TYPE 47 FT	607 FENCELINE SEEDING AND MULCHING FT	609 CURB, TYPE 4-A FT	609 CURB, TYPE 4-C FT	625 GROUND ROD EACH	625 CONDUIT, 2", 625.05 EACH
		S.R. 303																																				
P1	687	43+66.31 TO 43+84.02	RT.							17.47																												
P2	687	43+84.02 TO 44+17.74	RT.							33.42																												
P3	687	44+17.74 TO 45+08.71	RT.							90.25																												
P4	687, 688	45+08.71 TO 47+50.00	RT.							241.05																												
P5	688	47+50.00 TO 47+66.19	RT.							16.19																												
P6	688	47+66.19 TO 47+81.08	L. & R.							42.68																												
P7	688	47+66.83 TO 47+81.08	LT.							14.25																												
P8	687, 688	45+20.00 TO 47+66.83	LT.							247.41																												
P9	689	53+31.96 TO 54+27.75	RT.							113.79																												
P10	689	52+20.41 TO 53+31.96	RT.							93.81																												
P11	689	52+07.00 TO 52+20.41	RT.							15.57																												
P12	689	52+07.00 TO 52+19.91	L. & R.							37.93																												
P13	689	52+19.91 TO 52+36.46	LT.							18.71																												
P14	689	52+36.46 TO 55+35.00	LT.							298.92																												
P15	688	47+81.82 TO 48+11.09	LT.																																29.27			
P16	688	47+65.45 TO 47+94.72	RT.																																29.27			
P17	688, 689	51+92.17 TO 52+21.42	LT.																																29.25			
P18	688, 689	51+76.25 TO 52+05.50	RT.																																29.25			
P19	689	52+21.42 TO 52+36.46	LT.																																	15.04		
P20	689	52+05.50 TO 52+20.41	RT.									1.78																								14.91		
EC1	688	48+01.15 TO 48+05.15	RT.									1.78																										
EC2	688	48+17.02 TO 48+21.02	LT.																																			
EC3	688	48+18.48 TO 48+48.32	L. & R.								37.00																											
EC4	688	51+38.87 TO 51+68.63	L. & R.								37.46																											
D1	688	48+03.16 TO 48+03.16	RT.												15.00									1													
D2	688	48+09.02 TO 48+19.02	LT.												18.00									1													
D3	688, 689	51+25.43 TO 53+26.29	LT.										0.89	0.27					29.00	78.00	1	1															
D4	689	52+10.25 TO 52+10.25	RT.										0.89	0.27					5.00	67.00																	
U1	688	47+87.62 TO 48+04.05	L. & R.																								47.12		2								
U2	688	47+81.82 TO 48+19.02	LT.																									37.19									
U3	688	47+65.45 TO 48+03.16	RT.																									37.71									
U4	688, 689	51+83.25 TO 51+99.24	L. & R.																								46.96		2								
U5	688, 689	51+82.31 TO 52+25.21	LT.												10.00												32.90	9.08									
U6	688, 689	51+66.27 TO 52+09.16	RT.												10.00												32.89	9.08									
G1	687, 688	43+69.10 TO 48+22.99	LT.																											406.25	1		1					
G2	687, 688	43+70.09 TO 48+06.84	RT.																											381.25	1		1					
G3	688, 689	51+80.23 TO 56+73.79	LT.																											443.75	1		1					
G4	688, 689	51+64.16 TO 54+27.75	RT.																											268.75	1		1					
M2	689	55+00.23	RT.																					1													
M3	690	58+59.94	L. & R.																					1													
SHEET SUBTOTALS				0	0	0	0	0	0	1281.45	74.46	3.56	1.78	0.54	53.00	0	0	0	34.00	145.00	1	1	2	2	0	159.87	93.06	4	1500.00	4	0	4	0	0	117.04	29.95	0	0
SHEET TOTALS				0	0	0	0	0	0	1281.45	74.46	3.56	1.78	0.54	53.00	0	0	0	34.00	145.00	1	1	2	2	0	159.87	93.06	4	1500.00	4	0	4	0	0	117.04	29.95	0	0
SHEET TOTALS CARRIED FROM SHEET 258				0	392.61	0	2	92.12	0	321.39	50.83	0	3.56	0.84	40.00	0	152.00	321.00	0	0	4	4	0	0	2	142.68	49.78	4	412.50	4	0	4	77.45	77.45	116.00	0	4	766
SHEET TOTALS CARRIED FROM SHEET 259				655.15	2030.48	111.92	0	0	475.59	260.72	518.49	0	0.89	0.21	20.00	39.00	44.00	72.0	0	0	2	1	0	2	0	248.23	0	4	318.50	1	1	4	0	0	119.08	30.48	0	720
GRAND TOTALS				655.15	2423.09	111.92	2	92.12	475.59	1863.56	643.78	3.56	6.23	1.59	113.00	39.00	196.00	393.00	34.00	145.00	7	6	2	4	2	550.78	142.84	12	2231.00	9	1	12	77.45	77.45	352.12	60.43	4	1486
TOTALS CARRIED TO GENERAL SUMMARY				655	2423	112	2	92	476	1864	644	4	6	1.6	113	39	196	393	34	145	7	6	2	4	2	551	143	12	2231.00	9	1	12	78	78	352	61	4	1486

CALCULATED PEK
CHECKED TLH

SIDEROAD ROADWAY SUBSUMMARY

SUM-271-2.33

260
1195

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LINE	DESCRIPTION			CALCULATION							QUANTITY	
	MAINLINE PAVEMENT											
	LOCATION	*FROM STATION*	*TO STATION*		*LENGTH*			*WIDTH*			*SURFACE AREA*	
								FROM	*TO*			
1	*NB*	*528+00.00*	*528+42.16*	*=*	*42.16*	*FEET*		*38.69*	*39.24*	*=*	*182.53*	*SQ YD*
2	*NB*	*528+42.16*	*530+42.16*	*=*	*200.00*	*FEET*		*39.24*	*48*	*=*	*969.33*	*SQ YD*
3	*NB*	*530+42.16*	*566+09.70*	*BK =*	*3567.54*	*FEET*		*40.00*	*40.00*	*=*	*15855.73*	*SQ YD*
4	*NB*	*156+00.00 AHD*	*186+75.18*	*=*	*3075.18*	*FEET*		*40.00*	*40.00*	*=*	*13667.47*	*SQ YD*
5	*NB*	*190+90.59*	*197+74.59*	*=*	*684.00*	*FEET*		*40.00*	*40.00*	*=*	*3040.00*	*SQ YD*
6	*NB*	*200+24.44*	*256+92.08*	*=*	*5667.64*	*FEET*		*40.00*	*40.00*	*=*	*25189.51*	*SQ YD*
7	*NB*	*256+92.08*	*258+92.08*	*=*	*200.00*	*FEET*		*40.00*	*48.00*	*=*	*977.78*	*SQ YD*
8	*NB*	*258+92.08*	*332+68.60*	*=*	*7376.52*	*FEET*		*40.00*	*40.00*	*=*	*32784.53*	*SQ YD*
9	*NB*	*332+68.60*	*334+68.60*	*=*	*200.00*	*FEET*		*40.00*	*48.00*	*=*	*977.78*	*SQ YD*
10	*NB*	*334+68.60*	*345+64.74*	*=*	*1096.14*	*FEET*		*40.00*	*40.00*	*=*	*4871.73*	*SQ YD*
11	*NB*	*345+64.74*	*345+79.32*	*=*	*14.58*	*FEET*		*40.00*	*40.45*	*=*	*65.16*	*SQ YD*
12	*NB*	*345+79.32*	*346+24.61*	*=*	*45.29*	*FEET*		*40.45*	*39.70*	*=*	*201.67*	*SQ YD*
13	*SB*	*528+00.00*	*529+40.00*	*=*	*140.00*	*FEET*		*38.17*	*40.00*	*=*	*607.99*	*SQ YD*
14	*SB*	*529+40.00*	*531+57.84*	*=*	*217.84*	*FEET*		*40.00*	*40.00*	*=*	*968.18*	*SQ YD*
15	*SB*	*531+57.84*	*533+57.84*	*=*	*200.00*	*FEET*		*48.00*	*40.00*	*=*	*977.78*	*SQ YD*
16	*SB*	*533+57.84*	*566+09.70*	*BK =*	*3251.86*	*FEET*		*40.00*	*40.00*	*=*	*14452.71*	*SQ YD*
17	*SB*	*156+00.00 AHD*	*187+35.78*	*=*	*3135.78*	*FEET*		*40.00*	*40.00*	*=*	*13936.80*	*SQ YD*
18	*SB*	*191+37.48*	*197+85.31*	*=*	*647.83*	*FEET*		*40.00*	*40.00*	*=*	*2879.24*	*SQ YD*
19	*SB*	*200+27.93*	*260+07.75*	*=*	*5979.82*	*FEET*		*40.00*	*40.00*	*=*	*26576.98*	*SQ YD*
20	*SB*	*260+07.75*	*262+07.75*	*=*	*200.00*	*FEET*		*48.00*	*40.00*	*=*	*977.78*	*SQ YD*
21	*SB*	*262+07.75*	*335+84.27*	*=*	*7376.52*	*FEET*		*40.00*	*40.00*	*=*	*32784.53*	*SQ YD*
22	*SB*	*335+84.27*	*337+84.27*	*=*	*200.00*	*FEET*		*48.00*	*40.00*	*=*	*977.78*	*SQ YD*
23	*SB*	*337+84.27*	*345+01.38*	*=*	*717.11*	*FEET*		*40.00*	*40.00*	*=*	*3187.16*	*SQ YD*
24	*SB*	*345+01.38*	*345+14.10*	*=*	*12.72*	*FEET*		*40.00*	*39.25*	*=*	*56.00*	*SQ YD*
25	*SB*	*345+14.10*	*345+55.02*	*=*	*40.92*	*FEET*		*39.25*	*39.70*	*=*	*179.48*	*SQ YD*
26	*MEDIAN CROSSOVER AT*	*531+00.00*		*=*			*2979.43*	*SQ. FT.*	*COMPUTER CALCULATED AREA*	*=*	*331.05*	*SQ YD*
27	*MEDIAN CROSSOVER AT*	*259+50.00*		*=*			*2976.33*	*SQ. FT.*	*COMPUTER CALCULATED AREA*	*=*	*330.70*	*SQ YD*
28	*MEDIAN CROSSOVER AT*	*335+26.44*		*=*			*2979.43*	*SQ. FT.*	*COMPUTER CALCULATED AREA*	*=*	*331.05*	*SQ YD*
29	*SUM LINES 1 TO*	*25 =*		***TOTAL LENGTH =***	***44289.45 FEET***							
30	*SUM LINES 1 TO*	*28 =*								***TOTAL AREA =***	***198338.43***	***SQ YD***
	RAMP PAVEMENT											
	LOCATION	*FROM STATION*	*TO STATION*		*LENGTH*			*WIDTH*				
								FROM	*TO*			
31	*RAMP B CR 17*	*56+58.48*	*57+08.48*	*=*	*50.00*	*FEET*		*27.00*	*25.00*	*=*	*144.44*	*SQ YD*
32	*RAMP B CR 17*	*57+08.48*	*62+94.01*	*=*	*585.53*	*FEET*		*25.00*	*25.00*	*=*	*1626.47*	*SQ YD*
33	*RAMP B CR 17*	*RIGHT RETURN*					*1295.76*	*SQ. FT.*	*COMPUTER CALCULATED AREA*	*=*	*143.97*	*SQ YD*
34	*RAMP B CR 17*	*LEFT RETURN*					*543.49*	*SQ. FT.*	*COMPUTER CALCULATED AREA*	*=*	*60.39*	*SQ YD*
35	*RAMP B IR 77*	*175+43.90*	*175+93.90*	*=*	*50.00*	*FEET*		*27.00*	*25.00*	*=*	*144.44*	*SQ YD*
36	*RAMP B IR 77*	*175+93.90*	*185+27.76*	*=*	*933.86*	*FEET*		*25.00*	*25.00*	*=*	*2594.06*	*SQ YD*
37	*RAMP B IR 77*	*189+57.83*	*218+56.90*	*=*	*2899.07*	*FEET*		*25.00*	*25.00*	*=*	*8052.97*	*SQ YD*
38	*RAMP C IR 77*	*186+00.00*	*187+54.94*	*=*	*154.94*	*FEET*		*24.35*	*41.20*	*=*	*564.24*	*SQ YD*
39	*RAMP C IR 77*	*187+54.94*	*188+04.85*	*=*	*49.91*	*FEET*		*27.00*	*25.00*	*=*	*144.18*	*SQ YD*
40	*RAMP C IR 77*	*188+04.85*	*194+14.80*	*=*	*609.95*	*FEET*		*25.00*	*25.00*	*=*	*1694.31*	*SQ YD*
41	*RAMP E SR 303*	*306+57.93*	*307+07.93*	*=*	*50.00*	*FEET*		*27.00*	*25.00*	*=*	*144.44*	*SQ YD*
42	*RAMP E SR 303*	*307+07.93*	*317+70.00*	*=*	*1062.07*	*FEET*		*25.00*	*25.00*	*=*	*2950.19*	*SQ YD*
43	*RAMP E SR 303*	*317+70.00*	*318+20.00*	*=*	*50.00*	*FEET*		*25.00*	*33.00*	*=*	*161.11*	*SQ YD*
44	*RAMP E SR 303*	*318+20.00*	*319+58.86*	*=*	*138.86*	*FEET*		*33.00*	*33.00*	*=*	*509.15*	*SQ YD*
45	*RAMP E SR 303*	*319+58.86*	*319+60.86*	*=*	*2.00*	*FEET*		*33.00*	*35.00*	*=*	*7.56*	*SQ YD*
46	*RAMP E SR 303*	*319+60.86*	*320+31.86*	*=*	*71.00*	*FEET*		*35.00*	*35.00*	*=*	*276.11*	*SQ YD*
47	*RAMP E SR 303*	*RIGHT RETURN*		*=*			*1479.30*	*SQ. FT.*	*COMPUTER CALCULATED AREA*	*=*	*164.37*	*SQ YD*

CALCULATED MF
CHECKED JDL

PAVEMENT CALCULATIONS

SUM-271-2.33

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LINE	DESCRIPTION			CALCULATION							QUANTITY	
	RAMP PAVEMENT (CONTINUED)											
	LOCATION	FROM STATION	TO STATION		LENGTH			WIDTH FROM		TO		SURFACE AREA
48	RAMP H SR 303	LEFT RETURN		=			2055.28	SQ. FT.	COMPUTER CALCULATED AREA	=	228.36	SQ YD
49	RAMP H SR 303	304+00.88	304+71.89	=	71.01	FEET		27.00		27.00 =	213.03	SQ YD
50	RAMP H SR 303	304+71.89	304+73.89	=	2.00	FEET		27.00		25.00	5.78	SQ YD
51	RAMP H SR 303	304+73.89	314+40.42	=	966.53	FEET		25.00		25.00 =	2684.81	SQ YD
52	RAMP A CR 17	57+63.10	67+02.51	=	939.41	FEET		25.00		25.00 =	2609.47	SQ YD
53	RAMP A CR 17	RIGHT RETURN		=			1246.68	SQ. FT.	COMPUTER CALCULATED AREA	=	138.52	SQ YD
54	RAMP A CR 17	LEFT RETURN		=			872.27	SQ. FT.	COMPUTER CALCULATED AREA	=	96.92	SQ YD
55	RAMP A IR 77	174+32.32	198+23.70	=	2391.38	FEET		25.00		25.00 =	6642.72	SQ YD
56	RAMP A IR 77	198+23.70	198+75.95	=	52.25	FEET		25.00		27.09 =	151.21	SQ YD
57	RAMP A IR 77	198+75.95	198+83.72		7.77	FEET		27.09		27.17 =	23.42	SQ YD
58	RAMP A IR 77	198+83.72	199+11.47		27.75	FEET		27.17		28.68 =	86.10	SQ YD
59	RAMP D IR 77	170+34.29	170+73.25	=	38.96	FEET		22.56		22.23 =	96.95	SQ YD
60	RAMP D IR 77	170+73.25	170+84.29	=	11.04	FEET		22.23		22.13 =	27.21	SQ YD
61	RAMP D IR 77	170+84.29	171+65.02	=	80.73	FEET		22.13		25.00 =	211.38	SQ YD
62	RAMP D IR 77	171+65.02	187+00.82	=	1535.80	FEET		25.00		25.00 =	4266.11	SQ YD
63	RAMP D IR 77	187+00.82	187+41.75	=	40.93	FEET		25.00		26.59 =	117.31	SQ YD
64	RAMP D IR 77	187+41.75	187+50.82	=	9.07	FEET		26.59		3.11 =	14.97	SQ YD
65	RAMP D IR 77	187+50.82	187+52.00	=	1.18	FEET		3.11		0.00 =	0.20	SQ YD
66	RAMP F SR 303	305+42.35	314+96.28	=	953.93	FEET		25.00		25.00 =	2649.81	SQ YD
67	RAMP F SR 303	314+96.28	314+98.28	=	2.00	FEET		25.00		27.00 =	5.78	SQ YD
68	RAMP F SR 303	314+98.28	315+67.10	=	68.82	FEET		27.00		27.00 =	206.46	SQ YD
69	RAMP F SR 303	LEFT RETURN		=			3230.89	SQ. FT.	COMPUTER CALCULATED AREA	=	358.99	SQ YD
70	RAMP G SR 303	RIGHT RETURN		=			1560.05	SQ. FT.	COMPUTER CALCULATED AREA	=	173.34	SQ YD
71	RAMP G SR 303	304+07.66	304+76.82	=	69.16	FEET		35.00		35.00 =	268.96	SQ YD
72	RAMP G SR 303	304+76.82	304+78.82	=	2.00	FEET		35.00		33.00 =	7.56	SQ YD
73	RAMP G SR 303	304+78.82	305+80.00	=	101.18	FEET		33.00		33.00 =	370.99	SQ YD
74	RAMP G SR 303	305+80.00	306+30.00	=	50.00	FEET		33.00		25.00 =	161.11	SQ YD
75	RAMP G SR 303	306+30.00	312+91.69	=	661.69	FEET		25.00		25.00 =	1838.03	SQ YD
76	RAMP G SR 303	312+91.69	313+41.69	=	50.00	FEET		25.00		27.00 =	144.44	SQ YD
77	SUM LINES 31 TO 76 =		TOTAL LENGTH =		14841.78	FEET						
78	SUM LINES 31 TO 76 =								TOTAL AREA	=	43182.34	SQ YD

CALCULATED MF
CHECKED JDL

PAVEMENT CALCULATIONS

SUM-271-2.33

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LINE	DESCRIPTION			CALCULATION								QUANTITY	
	SPEED CHANGE LANE PAVEMENT												
	LOCATION	FROM STATION		TO STATION		LENGTH			WIDTH FROM		TO	SURFACE AREA	
79	NB IR 271 AT RAMP B CR 17	548+58.07		549+58.07	=	100.00	FEET		0.00		8.00 =	44.44	SQ YD
80	NB IR 271 AT RAMP B CR 17	549+58.07		552+05.00	BK =	246.93	FEET		8.00		8.00 =	219.49	SQ YD
81	NB IR 271 AT RAMP B CR 17	52+05.00	AHD	56+58.48	=	453.48	FEET		8.00		8.00 =	403.09	SQ YD
82	NB IR 271 AT RAMP B CR 17	552+05.00		556+59.31	=			4084.90	SQ. FT. COMPUTER CALCULATION GORE AREA=			453.88	SQ YD
83	NB IR 271 AT RAMP B IR 77	166+15.89		167+15.89	=	100.00	FEET		0.00		8.00 =	44.44	SQ YD
84	NB IR 271 AT RAMP B IR 77	167+15.89		168+58.71	BK =	142.82	FEET		8.00		8.00 =	126.95	SQ YD
85	NB IR 271 AT RAMP B IR 77	168+58.71	AHD	175+43.90	=	685.19	FEET		8.00		8.00 =	609.06	SQ YD
86	NB IR 271 AT RAMP B IR 77	170+74.45		175+43.90	=			4228.49	SQ. FT. COMPUTER CALCULATION GORE AREA=			469.83	SQ YD
87	NB IR 271 AT RAMP C IR 77	194+41.80		195+26.34	=	111.54	FEET		25.00		25.00 =	309.83	SQ YD
88	NB IR 271 AT RAMP C IR 77	195+26.34		195+76.34	=	50	FEET		25.88		26.69 =	146.03	SQ YD
89	NB IR 271 AT RAMP C IR 77	195+76.34		197+69.99	=	193.65	FEET		26.69		22.70 =	531.35	SQ YD
90	NB IR 271 AT RAMP C IR 77	200+23.24		203+01.17	=	277.93	FEET		17.66		12.11	459.67	SQ YD
91	NB IR 271 AT RAMP C IR 77	203+01.17		211+06.73	=	805.56	FEET		12.11		0.00	541.96	SQ YD
92	NB IR 271 AT RAMP C IR 77	194+14.80		195+26.34	=			416.05	SQ. FT. COMPUTER CALCULATION GORE AREA=			46.23	SQ YD
93	NB IR 271 AT RAMP E SR 303	298+57.93		299+57.93	=	100.00	FEET		0.00		8.00 =	44.44	SQ YD
94	NB IR 271 AT RAMP E SR 303	299+57.93		301+88.49	BK =	230.56	FEET		8.00		8.00 =	204.94	SQ YD
95	NB IR 271 AT RAMP E SR 303	301+88.49	AHD	306+57.93	=	469.44	FEET		8.00		8.00 =	417.28	SQ YD
96	NB IR 271 AT RAMP E SR 303	301+88.49		306+58.74	=			5062.17	SQ. FT. COMPUTER CALCULATION GORE AREA=			562.46	SQ YD
97	NB IR 271 AT RAMP H SR 303	314+37.42		316+00.00	=			2667.19	SQ. FT. COMPUTER CALCULATION GORE AREA=			296.35	SQ YD
98	NB IR 271 AT RAMP H SR 303	314+40.42		315+50.00	=	109.58	FEET		6.00		6.00 =	73.05	SQ YD
99	NB IR 271 AT RAMP H SR 303	315+50.00		316+00.00	=	50	FEET		6.00		8.00 =	38.89	SQ YD
100	NB IR 271 AT RAMP H SR 303	316+00.00		319+00.00	BK =	300.00	FEET		21.00		21.00 =	700.00	SQ YD
101	NB IR 271 AT RAMP H SR 303	319+00.00	AHD	321+00.00	=	200.00	FEET		21.00		21.00 =	466.67	SQ YD
102	NB IR 271 AT RAMP H SR 303	321+00.00		333+50.00	=	1250.00	FEET		21.00		0.00 =	1458.33	SQ YD
103	SB IR 271 AT RAMP A CR 17	542+57.11		553+07.11	BK =	1050.00	FEET		0.00		21.00 =	1225.00	SQ YD
104	SB IR 271 AT RAMP A CR 17	53+07.11	AHD	54+50.96	=	143.85	FEET		21.00		24.00 =	359.63	SQ YD
105	SB IR 271 AT RAMP A CR 17	54+50.96		56+07.11	=	156.15	FEET		24.00		24.00 =	416.40	SQ YD
106	SB IR 271 AT RAMP A CR 17	56+07.11		56+57.11	=	50.00	FEET		24.00		22.00 =	127.78	SQ YD
107	SB IR 271 AT RAMP A CR 17	56+57.11		57+63.10	=	105.99	FEET		22.00		22.00 =	259.09	SQ YD
108	SB IR 271 AT RAMP A CR 17	554+51.26		557+64.49	=			1197.97	SQ. FT. COMPUTER CALCULATION GORE AREA=			133.11	SQ YD
109	SB IR 271 AT RAMP A IR 77	160+38.87		170+88.87	BK =	1050.00	FEET		0.00		21.00 =	1225.00	SQ YD
110	SB IR 271 AT RAMP A IR 77	170+88.87	AHD	172+47.80	=	158.93	FEET		21.00		24.30 =	399.97	SQ YD
111	SB IR 271 AT RAMP A IR 77	172+47.80		172+97.80	=	50.00	FEET		24.30		23.47 =	132.69	SQ YD
112	SB IR 271 AT RAMP A IR 77	172+97.80		173+38.39	=	40.59	FEET		23.47		25.00 =	109.30	SQ YD
113	SB IR 271 AT RAMP A IR 77	173+38.39		174+32.32	=			2678.28	SQ. FT. COMPUTER CALCULATION GORE AREA=			297.59	SQ YD
114	NB IR 271 AT RAMP D IR 77	191+45.70		192+14.84	BK =	69.14	FEET		8.63		8.00 =	63.88	SQ YD
115	NB IR 271 AT RAMP D IR 77	192+14.95	AHD	194+50.93	=	235.98	FEET		8.00		8.00 =	209.76	SQ YD
116	NB IR 271 AT RAMP D IR 77	194+50.93		195+50.93	=	100	FEET		8.00		0.00 =	44.44	SQ YD
117	SB IR 271 AT RAMP F SR 303	290+16.00		300+87.68	BK =	1071.68	FEET		0.00		21.00 =	1250.29	SQ YD
118	SB IR 271 AT RAMP F SR 303	300+87.68	AHD	303+37.68	=	250.00	FEET		21.00		21.00 =	583.33	SQ YD
119	SB IR 271 AT RAMP F SR 303	303+37.68		303+87.68	=	50.00	FEET		8.00		6.00 =	38.89	SQ YD
120	SB IR 271 AT RAMP F SR 303	303+87.68		305+42.35	=	154.67	FEET		6.00		6.00 =	103.11	SQ YD
121	SB IR 271 AT RAMP F SR 303	303+37.68		305+44.72	=			3404.05	SQ. FT. COMPUTER CALCULATION GORE AREA=			378.23	SQ YD
122	SB IR 271 AT RAMP G SR 303	313+69.05		318+11.13	BK =	442.08	FEET		8.00		8.00 =	392.96	SQ YD
123	SB IR 271 AT RAMP G SR 303	318+11.13	AHD	320+46.93	=	235.80	FEET		8.00		8.00 =	209.60	SQ YD
124	SB IR 271 AT RAMP G SR 303	320+46.93		321+46.93	=	100.00	FEET		8.00		0.00 =	44.44	SQ YD
125	SB IR 271 AT RAMP G SR 303	313+40.89		318+11.13	=			4228.43	SQ. FT. COMPUTER CALCULATION GORE AREA=			469.83	SQ YD
126	SUM LINES 79 TO	124 =		**TOTAL LENGTH =**		**11391.54**	**FEET**						
127	SUM LINES 79 TO	124 =							**TOTAL AREA =**			**17142.98**	**SQ YD**

CALCULATED MF CHECKED JDL

PAVEMENT CALCULATIONS

SUM-271-2.33

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LINE	DESCRIPTION		CALCULATION								QUANTITY	
	PRESSURE RELIEF JOINT CONCRETE PAVEMENT											
	LOCATION	FROM STATION	TO STATION		CURVE CORRECTION		LENGTH		WIDTH FROM	WIDTH TO	SURFACE AREA	
128	0354B REAR APPROACH	185+27.09	185+52.09	=		=	25.00	FEET	25.00	25.00 =	69.44	SQ YD
129	0354B FORWARD APPROACH	189+32.15	189+57.15	=		=	25.00	FEET	25.00	25.00 =	69.44	SQ YD
130	0374L REAR APPROACH	197+83.84	198+08.65	=	(1.01 x 24.81)	=	25.00	FEET	40.00	40.00 =	111.11	SQ YD
131	0374L FORWARD APPROACH	200+02.74	200+27.46	=	(1.01 x 24.72)	=	25.00	FEET	40.00	40.00 =	111.11	SQ YD
132	0374R REAR APPROACH	197+76.13	198+01.47	=	(0.99 x 25.34)	=	25.00	FEET	63.93	63.42 =	176.88	SQ YD
133	0374R FORWARD APPROACH	199+99.70	200+24.94	=	(0.99 x 25.24)	=	25.00	FEET	59.28	58.93 =	164.18	SQ YD
134			TOTAL LENGTH	=			150.00	FEET				
135										TOTAL AREA =	702.16	SQ YD
	APPROACH SLABS											
	LOCATION	FROM STATION	TO STATION				LENGTH		WIDTH FROM	WIDTH TO		
136	RAMP B IR 77 REAR	185+56.11	185+81.11	=			25.00	FEET	25.00	25.00 =	69.44	SQ YD
137	RAMP B IR 77 REAR		PARAPET	=			30.00	FEET	1.50	=	5.00	SQ YD
138	RAMP B IR 77 REAR		CURB	=			20.00	FEET	0.50	=	1.11	SQ YD
139	RAMP B IR 77 FORWARD	189+03.13	189+28.13	=			25.00	FEET	25.00	25.00 =	69.44	SQ YD
140	RAMP B IR 77 FORWARD		PARAPET	=			30.00	FEET	1.50	=	5.00	SQ YD
141	RAMP B IR 77 FORWARD		CURB	=			20.00	FEET	0.50	=	1.11	SQ YD
142	0354L REAR APPROACH	187+27.41	187+57.11	=			30.00	FEET	74.74	71.57 =	243.85	SQ YD
143	0354L REAR APPROACH		PARAPET	=			30.00	FEET	1.50	=	5.00	SQ YD
144	0354L REAR APPROACH		CURB	=			28.41	FEET	0.50	=	1.58	SQ YD
145	0354L FORWARD APPROACH	191+09.39	191+39.11	=			30.00	FEET	49.18	48.57 =	162.92	SQ YD
146	0354L FORWARD APPROACH		PARAPET	=			30.00	FEET	1.50	=	5.00	SQ YD
147	0354L FORWARD APPROACH		CURB	=			29.71	FEET	0.50	=	1.65	SQ YD
148	0354R REAR APPROACH	186+83.73	187+13.75	=			30.00	FEET	40.00	40.00 =	133.33	SQ YD
149	0354R REAR APPROACH		PARAPET	=			30.00	FEET	1.50	=	5.00	SQ YD
150	0354R REAR APPROACH		CURB	=			30.00	FEET	0.50	=	1.67	SQ YD
151	0354R FORWARD APPROACH	190+67.01	190+97.34	=			30.00	FEET	40.00	40.00 =	133.33	SQ YD
152	0354R FORWARD APPROACH		PARAPET	=			30.00	FEET	1.50	=	5.00	SQ YD
153	0354R FORWARD APPROACH		CURB	=			30.00	FEET	0.50	=	1.67	SQ YD
154	0375L REAR APPROACH	198+12.62	198+42.37	=			30.00	FEET	40.00	40.00 =	133.33	SQ YD
155	0375L REAR APPROACH		PARAPET	=			30.00	FEET	1.50	=	5.00	SQ YD
156	0375L REAR APPROACH		CURB	=			30.09	FEET	0.50	=	1.67	SQ YD
157	0375L FORWARD APPROACH	199+69.11	199+98.78	=			30.00	FEET	40.00	40.00 =	133.33	SQ YD
158	0375L FORWARD APPROACH		PARAPET	=			30.00	FEET	1.50	=	5.00	SQ YD
159	0375L FORWARD APPROACH		CURB	=			29.94	FEET	0.50	=	1.66	SQ YD
160	0375R REAR APPROACH	198+05.53	198+35.91	=			30.00	FEET	63.83	62.70 =	210.05	SQ YD
161	0375R REAR APPROACH		PARAPET	=			30.00	FEET	1.50	=	5.00	SQ YD
162	0375R REAR APPROACH		CURB	=			30.17	FEET	0.50	=	1.68	SQ YD
163	0375R FORWARD APPROACH	199+65.35	199+95.65	=			30.00	FEET	60.05	59.50 =	199.25	SQ YD
164	0375R FORWARD APPROACH		PARAPET	=			30.00	FEET	1.50	=	5.00	SQ YD
165	0375R FORWARD APPROACH		CURB	=			29.98	FEET	0.50	=	1.67	SQ YD
166			TOTAL LENGTH	=			290.00	FEET				
167										TOTAL AREA =	1553.74	SQ YD
	PLANING AND SURFACING AREAS (1.5" AVERAGE DEPTH)											
	LOCATION	FROM STATION	TO STATION				LENGTH		WIDTH FROM	WIDTH TO		
167A	RAMP A CR 17	63+56.44 CR 17	64+96.67 CR 17	=			140.23	FEET	4.00	4.00 =	62.32	SQ YD
167B	RAMP B CR 17	55+71.06 CR 17	57+02.09 CR 17	=			131.03	FEET	4.00	4.00 =	58.24	SQ YD
	MOT AREAS OUTSIDE PROJECT LIMITS											
168	NB SR 271	506+65.00	528+00.00	=			2135.00	FEET	38.00	38.00 =	9014.44	SQ YD
169	SB SR 271	512+40.00	528+00.00	=			1560.00	FEET	38.00	38.00 =	6586.67	SQ YD
170	NB SR 271	348+76.00	370+90.00	=			2214.00	FEET	38.00	38.00 =	9348.00	SQ YD
171	SB SR 271	348+06.00	373+00.00	=			2494.00	FEET	38.00	38.00 =	10530.22	SQ YD
172			TOTAL LENGTH	=			8674.26	FEET				
173										TOTAL AREA =	35599.89	SQ YD

CALCULATED MF
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PAVEMENT CALCULATIONS

SUM-271-2.33

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LINE	DESCRIPTION	CALCULATION	QUANTITY
	ITEM 204 - PROOF ROLLING		
174	FROM LINE 30	=	198338.43 SQ YD
175	FROM LINE 29 = 44289.45 FT X 3 FT / 9	=	14763.15 SQ YD
	SPEED CHANGE LANE PAVEMENT		
176	FROM LINE 127	=	17142.98 SQ YD
	RAMP PAVEMENT		
177	FROM LINE 78	=	43182.34 SQ YD
178	FROM LINE 77 = 14841.78 FT X 3 FT / 9	=	4947.26 SQ YD
	APPROACH SLABS		
179	FROM LINE 167	=	1553.74 SQ YD
180	FROM LINE 166 = 290.00 FT X 4 FT / 9	=	128.89 SQ YD
	PRESSURE RELIEF JOINT CONCRETE PAVEMENT		
181	FROM LINE 135	=	702.16 SQ YD
182	FROM LINE 134 = 150.00 FT X 3 FT / 9	=	50 SQ YD
	UNDER CONCRETE MEDIAN		
183	RAMP E SR 303 FROM 316+12.50 TO 318+05.53 = 193.03 FT X(9.00 + 4.00)/ 2	=	139.41 SQ YD
184	RAMP E SR 303 FROM 318+05.53 TO 319+60.86 = 155.33 FT X(4.00 + 4.00)/ 2	=	69.04 SQ YD
185	RAMP F SR 303 FROM 311+95.31 TO 313+73.72 = 178.41 FT X(9.00 + 4.00)/ 2	=	128.85 SQ YD
186	RAMP F SR 303 FROM 313+73.72 TO 314+98.28 = 124.56 FT X(4.00 + 4.00)/ 2	=	55.36 SQ YD
187	TOTAL ITEM 204 FROM OVERPASS PIER PROTECTION DETAIL SHEET 785	=	383.60 SQ YD
188	TOTAL ITEM 204 FROM BRIDGE 0375 L&R STRUCTURE END DETAIL SHEET 774	=	5.43 SQ YD
189	TOTAL ITEM 204 FROM BRIDGE 0354 B SHEET 775	=	35.64 SQ YD
190	SUM OF LINES 174 TO 189 = 281028.19 SQ YD / 2000 SQ YD / HOUR TOTAL ITEM 204		140.81 HOUR
	TOTAL CARRIED TO GENERAL SUMMARY		141 HOUR
	ITEM 254 - PAVEMENT PLANING, ASPHALT CONCRETE		
191	FROM LINE 173 PLANING AND RESURFACING AREAS	=	35599.89 SQ YD
192	TOTAL ITEM 254	=	35599.89 SQ YD
	TOTAL CARRIED TO GENERAL SUMMARY	=	35600 SQ YD
	ITEM 407 - TACK COAT (@ 0.075 GAL. PER SQ. YD.)		
193	FROM LINE 173 PLANING AND RESURFACING AREAS	=	35599.89 SQ YD
194	FROM LINE 193 = 35599.89 SQ YD X 0.075 GAL/SQ YD	=	2669.99 GAL
195	TOTAL ITEM 407	=	2669.99 GAL
	TOTAL CARRIED TO GENERAL SUMMARY	=	2670 GAL
	ITEM 442 - 1.5" ASPHALT CONCRETE SURFACE COURSE, 12.5mm, TYPE B (446), AS PER PLAN		
	PLANING AND RESURFACING AREAS		
196	FROM LINE 173	=	35599.89 SQ YD
197	SUM OF LINES 196 TO 196	=	35599.89 SQ YD
198	FROM LINE 197 35599.89 SQ YD X 1.5 / 36	=	1483.33 CU YD
199	NOT USED		
200	NOT USED		
201	NOT USED		
202	NOT USED		
203	SUM OF LINES 198 TO 202	=	1483.33 CU YD
204	TOTAL ITEM 442	=	1483.33 CU YD
	TOTAL CARRIED TO GENERAL SUMMARY	=	1490 CU YD

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PAVEMENT CALCULATIONS

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LINE	DESCRIPTION	CALCULATION		QUANTITY
	ITEM 442 - 1.5" ASPHALT CONCRETE SURFACE COURSE, 12.5mm, TYPE B (446), AS PER PLAN (FLEXIBLE PAVEMENT OPTION)			
	MAINLINE PAVEMENT			
205	FROM LINE 30		=	198338.43 SQ YD
	SPEED CHANGE LANE PAVEMENT			
206	FROM LINE 127		=	17142.98 SQ YD
	RAMP PAVEMENT			
207	FROM LINE 78		=	43182.34 SQ YD
208	SUM OF LINES 205 TO 207		=	258663.75 SQ YD
209	FROM LINE 208 258663.75 SQ YD X 1.5 / 36		=	10777.80 CU YD
210	ADDITIONAL QUANTITY FROM OVERPASS PIER PROTECTION DETAIL SHEET 785		=	7.37 CU YD
211	ADDITIONAL QUANTITY FROM STRUCTURE END DETAILS SHEETS 774 & 775		=	1.71 CU YD
212	SUM OF LINES 209 TO 211		=	10786.74 CU YD
213		TOTAL ITEM 442	=	10786.74 CU YD
		TOTAL CARRIED TO GENERAL SUMMARY	=	10790 CU YD
	ITEM 407 - TACK COAT FOR INTERMEDIATE COURSE (@ 0.04 GAL PER SQ YD) (FLEXIBLE PAVEMENT OPTION)			
	MAINLINE PAVEMENT			
214	FROM LINE 30		=	198338.43 SQ YD
	SPEED CHANGE LANE PAVEMENT			
215	FROM LINE 127		=	17142.98 SQ YD
	RAMP PAVEMENT			
216	FROM LINE 78		=	43182.34 SQ YD
217	SUM OF LINES 214 TO 216		=	258663.75 SQ YD
218	FROM LINE 217 258663.75 SQ YD X 0.04 GAL/SQ YD X 2 APPLICATIONS		=	20693.10 GAL
219	ADDITIONAL QUANTITY FROM OVERPASS PIER PROTECTION DETAIL SHEET 785		=	15.33 GAL
220	ADDITIONAL QUANTITY FROM STRUCTURE END DETAILS SHEETS 774 & 775		=	1.65 GAL
221	NOT USED			
222	NOT USED			
223	SUM OF LINES 218 TO 222		=	20710.08 GAL
224		TOTAL ITEM 407	=	20710.08 GAL
		TOTAL CARRIED TO GENERAL SUMMARY	=	20720 GAL
	ITEM 442 - 1.75" ASPHALT CONCRETE INTERMEDIATE COURSE, 19mm, TYPE B (446) (FLEXIBLE PAVEMENT OPTION)			
	MAINLINE PAVEMENT			
225	FROM LINE 30		=	198338.43 SQ YD
	SPEED CHANGE LANE PAVEMENT			
226	FROM LINE 127		=	17142.98 SQ YD
	RAMP PAVEMENT			
227	FROM LINE 78		=	43182.34 SQ YD
228	SUM OF LINES 225 TO 227		=	258663.75 SQ YD
229	FROM LINE 228 258663.75 SQ YD X 1.75 / 36		=	12573.93 CU YD
230	ADDITIONAL QUANTITY FROM OVERPASS PIER PROTECTION DETAIL SHEET 785		=	18.62 CU YD
231	ADDITIONAL QUANTITY FROM STRUCTURE END DETAILS SHEETS 774 & 775		=	2.00 CU YD
232	NOT USED			
233	NOT USED			
234	SUM OF LINES 229 TO 233		=	12594.55 CU YD
235		TOTAL ITEM 442	=	12594.55 CU YD
		TOTAL CARRIED TO GENERAL SUMMARY	=	12600 CU YD

CALCULATED MF
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PAVEMENT CALCULATIONS

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1195

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LINE	DESCRIPTION	CALCULATION	QUANTITY
	ITEM 302 - 8.75" ASPHALT CONCRETE BASE, PG64-22 (FLEXIBLE PAVEMENT OPTION)		
	MAINLINE PAVEMENT		
236	FROM LINE 30	=	198338.43 SQ YD
237	FROM LINE 29 = 44289.45 FT X 1.17 FT / 9	=	5757.63 SQ YD
	SPEED CHANGE LANE PAVEMENT		
238	FROM LINE 126	=	17142.98 SQ YD
	RAMP PAVEMENT		
239	FROM LINE 78	=	43182.34 SQ YD
240	FROM LINE 77 = 14841.78 FT X 1.17 FT / 9	=	1929.43 SQ YD
241	SUM OF LINES 236 TO 240 = 266350.81 SQ YD X 8.75 / 36	=	64738.04 CU YD
242	ADDITIONAL QUANTITY FROM OVERPASS PIER PROTECTION DETAIL SHEET 785	=	93.25 CU YD
243	ADDITIONAL QUANTITY FROM STRUCTURE END DETAILS SHEETS 774 & 775	=	9.99 CU YD
244	NOT USED		
245	NOT USED		
246	SUM OF LINES 241 TO 245	=	64841.28 CU YD
247	TOTAL ITEM 302	=	64841.28 CU YD
	TOTAL CARRIED TO GENERAL SUMMARY	=	64850 CU YD
	ITEM 304 - 6" AGGREGATE BASE, AS PER PLAN		
	MAINLINE PAVEMENT		
248	FROM LINE 30	=	198338.43 SQ YD
249	FROM LINE 29 = 44289.45 FT X 2.67 FT / 9	=	13139.2 SQ YD
	SPEED CHANGE LANE PAVEMENT		
250	FROM LINE 126	=	17142.98 SQ YD
	RAMP PAVEMENT		
251	FROM LINE 78	=	43182.34 SQ YD
252	FROM LINE 77 = 14841.78 FT X 2.67 FT / 9	=	4403.06 SQ YD
	APPROACH SLABS		
253	FROM LINE 167	=	1553.74 SQ YD
254	FROM LINE 166 = 290.00 FT X 4 FT / 9	=	128.89 SQ YD
	PRESSURE RELIEF JOINT CONCRETE PAVEMENT		
255	FROM LINE 135	=	702.16 SQ YD
256	FROM LINE 134 = 150.00 FT X 3 FT / 9	=	50 SQ YD
	UNDER CONCRETE MEDIAN		
257	RAMP E SR 303 FROM 316+12.50 TO 318+05.53 = 193.03 FT X(9.00 + 4.00)/ 2	=	139.41 SQ YD
258	RAMP E SR 303 FROM 318+05.53 TO 319+60.86 = 155.33 FT X(4.00 + 4.00)/ 2	=	69.04 SQ YD
259	RAMP F SR 303 FROM 311+95.31 TO 313+73.72 = 178.41 FT X(9.00 + 4.00)/ 2	=	128.85 SQ YD
260	RAMP F SR 303 FROM 313+73.72 TO 314+98.28 = 124.56 FT X(4.00 + 4.00)/ 2	=	55.36 SQ YD
261	SUM OF LINES 248 TO 260 = 279033.46 SQ YD X 6 / 36	=	46505.58 CU YD
262	ADDITIONAL QUANTITY FROM OVERPASS PIER PROTECTION DETAIL SHEET 785	=	63.98 CU YD
263	ADDITIONAL QUANTITY FROM STRUCTURE END DETAILS SHEETS 774 & 775	=	6.85 CU YD
264	NOT USED		
265	NOT USED		
266	SUM OF LINES 261 TO 265	=	46576.41 CU YD
267	TOTAL ITEM 304	=	46576.41 CU YD
	TOTAL CARRIED TO GENERAL SUMMARY	=	46580 CU YD

CALCULATED MF
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PAVEMENT CALCULATIONS

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1195

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LINE	DESCRIPTION	CALCULATION							QUANTITY	
	ITEM 408 - PRIME COAT (0.40 GAL. PER SQ. YD.) (FLEXIBLE PAVEMENT OPTION)									
	MAINLINE PAVEMENT									
268	FROM LINE 30							=	198338.43	SQ YD
269	FROM LINE 29	=	44289.45 FT	X	2.67 FT	/	9	=	13139.2	SQ YD
	SPEED CHANGE LANE PAVEMENT									
270	FROM LINE 126							=	17142.98	SQ YD
	RAMP PAVEMENT									
271	FROM LINE 78							=	43182.34	SQ YD
272	FROM LINE 77	=	14841.78 FT	X	2.67 FT	/	9	=	4403.06	SQ YD
273	SUM OF LINES 268 TO 272 = 276206.01 SQ YD	X	0.04	GAL/SQ YD				=	11048.24	GAL
274	ADDITIONAL QUANTITY FROM OVERPASS PIER PROTECTION DETAIL SHEET 785							=	153.40	GAL
275	ADDITIONAL QUANTITY FROM STRUCTURE END DETAILS SHEETS 774 & 775							=	16.43	GAL
276	NOT USED									
277	NOT USED									
278	SUM OF LINES 273 TO 277							=	11218.07	GAL
279							TOTAL ITEM 408	=	11218.07	GAL
							TOTAL CARRIED TO GENERAL SUMMARY	=	11220	GAL
	ITEM 451 - 12" REINFORCED CONCRETE PAVEMENT PRESSURE RELIEF JOINT (FLEXIBE PAVEMENT OPTION)									
	0354B REAR APPROACH									
280	FROM LINE 128							=	69.44	SQ YD
	0354B FORWARD APPROACH									
281	FROM LINE 129							=	69.44	SQ YD
	0374L REAR APPROACH									
282	FROM LINE 130							=	111.11	SQ YD
	0374L FORWARD APPROACH									
283	FROM LINE 131							=	111.11	SQ YD
	0374R REAR APPROACH									
284	FROM LINE 132							=	176.88	SQ YD
	0374R FORWARD APPROACH									
285	FROM LINE 133							=	164.18	SQ YD
286							TOTAL ITEM 451	=	702.16	SQ YD
							TOTAL CARRIED TO GENERAL SUMMARY	=	704	SQ YD
	ITEM 888 - PORTLAND CEMENT CONCRETE PAVEMENT, 12" THICK (NON-REINFORCED PER ITEM 452) (RIGID PAVEMENT OPTION)									
	MAINLINE PAVEMENT									
287	FROM LINE 30							=	198338.43	SQ YD
	SPEED CHANGE LANE PAVEMENT									
288	FROM LINE 126							=	17412.98	SQ YD
	RAMP PAVEMENT									
289	FROM LINE 78							=	43182.34	SQ YD
290	SUM OF LINES 287 TO 289							=	258663.75	SQ YD
291	ADDITIONAL QUANTITY FROM OVERPASS PIER PROTECTION DETAIL SHEET 785							=	177.02	SQ YD
292	ADDITIONAL QUANTITY FROM STRUCTURE END DETAILS SHEETS 774 & 775							=	41.07	SQ YD
293	NOT USED									
294	NOT USED									
295	SUM OF LINES 290 TO 294							=	258881.84	SQ YD
296							TOTAL ITEM 888	=	258881.84	SQ YD
							TOTAL CARRIED TO GENERAL SUMMARY	=	258890	SQ YD
	ITEM 451 SPECIAL - PRESSURE RELIEF JOINT, TYPE A (FLEXIBLE PAVEMENT OPTION)									
	LOCATION C.L. STATION									
297	0354B REAR APPROACH 185+56.11						LENGTH	=	31.16	FT
298	0354B FORWARD APPROACH 189+28.13						LENGTH	=	31.16	FT
299	0374L REAR APPROACH 198+12.62						LENGTH	=	41.03	FT
300	0374L FORWARD APPROACH 199+98.78						LENGTH	=	41.14	FT
301	0374R REAR APPROACH 198+05.53						LENGTH	=	64.62	FT
302	0374R FORWARD APPROACH 199+95.65						LENGTH	=	60.54	FT
303	SUM OF LINES: 297 TO 302							=	269.65	FT
304							TOTAL ITEM SPECIAL	=	269.65	FT
							TOTAL CARRIED TO GENERAL SUMMARY	=	270	FT

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PAVEMENT CALCULATIONS

SUM-271-2.33

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LINE	DESCRIPTION	CALCULATION	QUANTITY
	LOCATION FROM STATION TO STATION LENGTH WIDTH FROM TO		
	ITEM 206 - CEMENT STABILIZED SUBGRADE, 14 INCHES DEEP		
	MAINLINE PAVEMENT		
305	FROM LINE 30		198338.43 SQ YD
306	FROM LINE 29	TOTAL LENGTH = 44289.45 FEET X 3 FT / 9 =	14763.15 SQ YD
	MAINLINE PAVEMENT DEDUCTS FOR ROCK CUT SECTIONS		
307	NB 550+00.00	558+00.00 = 800.00 FEET 40.00 40.00 =	-3555.56 SQ YD
308	NB 270+00.00	290+00.00 = 2000.00 FEET 40.00 40.00 =	-8888.89 SQ YD
309	NB 302+00.00	308+00.00 = 600.00 FEET 40.00 40.00 =	-2666.67 SQ YD
310	NB 317+00.00	332+68.60 = 1568.60 FEET 40.00 40.00 =	-6971.56 SQ YD
311	NB 332+68.60	334+68.60 = 200.00 FEET 40.00 48.00 =	-977.78 SQ YD
312	NB 334+68.60	341+00.00 = 631.40 FEET 40.00 40.00 =	-2806.22 SQ YD
313	SB 274+00.00	282+00.00 = 800.00 FEET 40.00 40.00 =	-3555.56 SQ YD
314	SB 298+00.00	306+00.00 = 800.00 FEET 40.00 40.00 =	-3555.56 SQ YD
315	SB 313+40.89	335+84.27 = 2243.38 FEET 40.00 40.00 =	-9970.58 SQ YD
316	SB 335+84.27	337+84.27 = 200.00 FEET 48.00 40.00 =	-977.78 SQ YD
317	SB 337+84.27	341+00.00 = 315.73 FEET 40.00 40.00 =	-1403.24 SQ YD
318	SUM LINES 307 TO 317 =	TOTAL LENGTH = 10159.11 FEET	
319	FROM LINE 318	TOTAL LENGTH = 10159.11 FEET X 3 FT / 9 =	-3386.37 SQ YD
	RAMP PAVEMENT *		
320	FROM LINE 78		43182.34 SQ YD
321	FROM LINE 77 =	TOTAL LENGTH = 14841.78 FEET X 3 FT / 9 =	4947.26 SQ YD
	*QUANTITY FOR RAMP B AT CR 17 (BRECKSVILLE RD.) SHALL BE USED AS DIRECTED BY THE ENGINEER		
	RAMP PAVEMENT DEDUCTS FOR ROCK CUT SECTIONS		
322	RAMP E SR 303 306+57.93	307+07.93 50.00 FEET 27.00 25.00 =	-144.44 SQ YD
323	RAMP E SR 303 307+07.93	315+00.00 792.07 FEET 25.00 25.00 =	-2200.19 SQ YD
324	RAMP F SR 303 305+42.35	306+00.00 57.65 FEET 25.00 25.00 =	-160.00 SQ YD
325	RAMP G SR 303 311+50.00	312+91.69 141.69 FEET 25.00 25.00 =	-393.58 SQ YD
326	RAMP G SR 303 312+91.69	313+41.69 50.00 FEET 25.00 27.00 =	-144.44 SQ YD
327	SUM LINES 322 TO 326 =	TOTAL LENGTH = 1091.41 FEET	
328	FROM LINE 327	TOTAL LENGTH = 1091.41 FEET 3 9 =	-363.8 SQ YD
	SPEED CHANGE LANE PAVEMENT		
329	FROM LINE 127	TOTAL AREA =	17142.98 SQ YD
	SPEED CHANGE LANE DEDUCTS FOR ROCK CUT SECTIONS		
330	NB IR 271 AT RAMP B CR 17 550+00.00	552+05.00 BK 205.00 FEET 8.00 8.00 =	-182.22 SQ YD
331	NB IR 271 AT RAMP B CR 17 52+05.00 AHD	56+58.48 453.48 FEET 8.00 8.00 =	-403.09 SQ YD
332	NB IR 271 AT RAMP B CR 17 552+05.00	556+59.31 4084.90 SQ. FT. COMPUTER CALCULATED AREA =	-453.88 SQ YD
333	NB IR 271 AT RAMP E SR 303 302+00.00	306+57.93 457.93 FEET 8.00 8.00 =	-407.05 SQ YD
334	NB IR 271 AT RAMP E SR 303	4228.82 SQ. FT. COMPUTER CALCULATED GORE AREA	-469.87 SQ YD
335	NB IR 271 AT RAMP H SR 303 317+00.00	319+00.00 BK 200.00 FEET 21.00 21.00 =	-466.67 SQ YD
336	NB IR 271 AT RAMP H SR 303 319+00.00 AHD	321+00.00 200.00 FEET 21.00 21.00 =	-466.67 SQ YD
337	NB IR 271 AT RAMP H SR 303 321+00.00	333+50.00 1250.00 FEET 21.00 0.00 =	-1458.33 SQ YD

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PAVEMENT CALCULATIONS

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LINE	DESCRIPTION	CALCULATION	QUANTITY
	ITEM 206 - CEMENT STABILIZED SUBGRADE, 14 INCHES DEEP (CONTINUED)		
	LOCATION / FROM STATION / TO STATION / LENGTH / WIDTH (FROM / TO)		
338	SB IR 271 AT RAMP F SR 303 — 298+00.00 — 300+87.68 BK = 287.68 FEET — 15.40 / 21.00	=	-581.75 SQ YD
339	SB IR 271 AT RAMP F SR 303 — 300+87.68 AHD — 303+37.68 = 250.00 FEET — 21.00 / 21.00	=	-583.33 SQ YD
340	SB IR 271 AT RAMP F SR 303 — 303+37.68 — 303+87.68 = 50.00 FEET — 8.00 / 6.00	=	-38.89 SQ YD
341	SB IR 271 AT RAMP F SR 303 — 303+87.68 — 305+42.35 — 154.67 FEET — 6.00 / 6.00		-103.11 SQ YD
342	SB IR 271 AT RAMP F SR 303 — 3404.05 SQ. FT. COMPUTER CALCULATED GORE AREA		-378.23 SQ YD
343	SB IR 271 AT RAMP G SR 303 — 313+41.69 — 318+11.13 BK = 469.44 FEET — 8.00 / 8.00	=	-417.28 SQ YD
344	SB IR 271 AT RAMP G SR 303 — 318+11.13 AHD — 320+46.93 = 235.80 FEET — 8.00 / 8.00	=	-209.60 SQ YD
345	SB IR 271 AT RAMP G SR 303 — 320+46.93 — 321+46.93 = 100.00 FEET — 8.00 / 0.00	=	-44.44 SQ YD
346	SB IR 271 AT RAMP G SR 303 — 313+41.69 — 318+11.13 = 4228.43 SQ. FT. COMPUTER CALCULATED AREA		-469.83 SQ YD
	APPROACH SLABS		
347	FROM LINE 167	=	1553.74 SQ YD
348	FROM LINE 166 = 290.00 FT X 4 FT / 9	=	128.89 SQ YD
	PRESSURE RELIEF JOINT CONCRETE PAVEMENT		
349	FROM LINE 135	=	702.16 SQ YD
350	FROM LINE 134 = 150.00 FT X 3 FT / 9	=	50 SQ YD
	UNDER CONCRETE MEDIAN		
351	RAMP E SR 303 FROM 316+12.50 TO 318+05.53 = 193.03 FT X(9.00 + 4.00)/ 2	=	139.41 SQ YD
352	RAMP E SR 303 FROM 318+05.53 TO 319+60.86 = 155.33 FT X(4.00 + 4.00)/ 2	=	69.04 SQ YD
353	RAMP F SR 303 FROM 311+95.31 TO 313+73.72 = 178.41 FT X(9.00 + 4.00)/ 2	=	128.85 SQ YD
354	RAMP F SR 303 FROM 313+73.72 TO 314+96.28 = 122.56 FT X(4.00 + 4.00)/ 2	=	54.47 SQ YD
355	SUM OF LINES 305 TO 354	=	221944.26 SQ YD
356	TOTAL ITEM 206	=	221944.26 SQ YD
	TOTAL CARRIED TO GENERAL SUMMARY	=	221950 SQ YD
	ITEM 206 - CEMENT		
357	FROM LINE 356 — 221944.26 SQ YD X 9 X (14 / 12)	=	2330414.73 CU FT
358	FROM LINE 357 — 2330414.73 CU FT X 110 LBS/CU FT / 2000 X 6.00%	=	7690.37 TONS
359	TOTAL ITEM 206	=	7690.37 TONS
	TOTAL CARRIED TO GENERAL SUMMARY	=	7700 TONS
	ITEM 206 - CURING COAT		
360	FROM LINE 356	=	221944.26 SQ YD
361	TOTAL ITEM 206	=	221944.26 SQ YD
	TOTAL CARRIED TO GENERAL SUMMARY	=	221950 SQ YD
	ITEM 609 - CONCRETE MEDIAN, AS PER PLAN		
	LOCATION / FROM STATION / TO STATION / LENGTH / WIDTH		
362	RAMP E SR 303 — 316+12.50 — 318+05.53 = 193.03 FEET — 9.00 / 4.00	=	1254.69 SQ FT
363	RAMP E SR 303 — 318+05.53 — 319+60.86 = 155.33 FEET — 4.00 / 4.00	=	621.32 SQ FT
364	RAMP F SR 303 — 311+95.31 — 313+73.72 = 178.41 FEET — 9.00 / 4.00	=	1159.67 SQ FT
365	RAMP F SR 303 — 313+73.72 — 314+96.28 = 122.56 FEET — 4.00 / 4.00	=	490.24 SQ FT
366	SUM OF LINES 362 TO 365 = 3525.92 / 9 TOTAL ITEM 609	=	392 SQ YD
	TOTAL CARRIED TO GENERAL SUMMARY	=	400 SQ YD

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PAVEMENT CALCULATIONS

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LINE	DESCRIPTION	CALCULATION	QUANTITY
	ITEM 609 - CURB TYPE 4-A		
367	FROM 197+70.40 TO 197+96.18 IR 271 NB RIGHT	=	25.00 FT
368	FROM 197+76.63 TO 198+01.93 IR 271 NB LEFT	=	25.00 FT
369	FROM 197+83.47 TO 198+08.30 IR 271 SB RIGHT	=	25.00 FT
370	FROM 197+87.12 TO 198+11.70 IR 271 SB LEFT	=	25.00 FT
371	FROM 199+97.60 TO 200+23.00 IR 271 NB RIGHT	=	25.00 FT
372	FROM 199+99.89 TO 200+25.10 IR 271 NB LEFT	=	25.00 FT
373	FROM 200+02.59 TO 200+27.33 IR 271 SB RIGHT	=	25.00 FT
374	FROM 200+04.00 TO 200+28.50 IR 271 SB LEFT	=	25.00 FT
375	FROM 185+26.26 TO 185+51.25 RAMP B 77 RIGHT	=	25.00 FT
376	FROM 185+29.36 TO 185+54.36 RAMP B 77 LEFT	=	25.00 FT
377	FROM 189+31.32 TO 189+56.32 RAMP B 77 RIGHT	=	25.00 FT
378	FROM 189+34.40 TO 189+59.43 RAMP B 77 LEFT	=	25.00 FT
379	SUM OF LINES 367 TO 378	TOTAL ITEM 609 =	300.00 FT
		TOTAL CARRIED TO GENERAL SUMMARY =	**300 FT**
	ITEM 609 - CURB TYPE 4-C		
380	FROM 186+54.42 TO 186+64.42 IR 271 NB RIGHT	=	10.00 FT
381	FROM 186+75.87 TO 186+85.87 IR 271 NB LEFT	=	10.00 FT
382	FROM 190+82.07 TO 191+12.70 IR 271 NB RIGHT	=	30.00 FT
383	FROM 191+29.49 TO 191+64.02 IR 271 SB RIGHT	=	35.00 FT
384	FROM 191+48.76 TO 191+59.81 IR 271 SB LEFT	=	10.00 FT
385	ADDITIONAL QUANTITY FROM 0375 L & R STRUCTURE END RETAILS	=	70.00 FT
386	ADDITIONAL QUANTITY FROM 0354B STRUCTURE END RETAILS	=	48.50 FT
387	ADDITIONAL QUANTITY FROM PIER PTOTECTION DETAIL	=	160 FT
388	NOT USED	=	
389	NOT USED	=	
390	NOT USED	=	
391	NOT USED	=	
392	NOT USED	=	
393	NOT USED	=	
394	NOT USED	=	
395	NOT USED	=	
396	SUM OF LINES 380 TO 395	TOTAL ITEM 609 =	373.50 FT
		TOTAL CARRIED TO GENERAL SUMMARY =	**374 FT**
	ITEM 609 - CURB TYPE 6		
397	FROM 311+85.31 TO 311+95.31 RAMP F RIGHT	=	10.00 FT
398	FROM 307+55.99 TO 307+65.29 RAMP G RIGHT	=	10.00 FT
399	FROM 315+40.00 TO 316+12.50 RAMP E LEFT	=	72.50 FT
400	FROM 307+92.38 TO 308+01.67 RAMP H LEFT	=	10.00 FT
401	SUM OF LINES 397 TO 400	TOTAL ITEM 609 =	102.50 FT
		TOTAL CARRIED TO GENERAL SUMMARY =	**103 FT**
	ITEM 618 - RUMBLE STRIPS ASPHALT CONCRETE / OR CONCRETE (FLEXIBLE OR RIGID PAVEMENT OPTION)		
402	FROM LINE 29 MAINLINE PAVEMENT = 44289.45 FT X 2 SIDES	=	88578.9 FT
403	FROM LINE 402 = 88578.9 FT / 5280 FT / MILE	=	16.78 MILE
404		TOTAL ITEM 618 =	16.78 MILE
		TOTAL CARRIED TO GENERAL SUMMARY =	**16.78 MILE**
	ITEM 618 - RUMBLE STRIPS ASPHALT CONCRETE PLANING AND RESURFACING AREAS		
405	FROM LINE 172 MAINLINE PAVEMENT = 8674.26 FT X 2 SIDES	=	17348.52 FT
406	FROM LINE 405 = 17348.52 FT / 5280 FT / MILE	=	3.29 MILE
407		TOTAL ITEM 618 =	3.29 MILE
		TOTAL CARRIED TO GENERAL SUMMARY =	**3.29 MILE**
	ITEM 617 - 2" COMPACTED AGGREGATE, AS PER PLAN		
408	FROM LINE 29 MAINLINE PAVEMENT = 44289.45 FT X 4 SIDES x 2 FT. WIDE x 2 " DEEP / 12 / 27	=	2187 CU YD
409	DEDUCT FROM GUARDRAIL SUBSUMMARY = -29312.00 FT X 1 SIDES x 2 FT. WIDE x 2 " DEEP / 12 / 27	=	-362 CU YD
410	SUM OF LINES 408 TO 409	=	1825 CU YD
411		TOTAL ITEM 617 =	1825 CU YD
412		**TOTAL CARRIED TO GENERAL SUMMARY** =	**1830 CU YD**

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PAVEMENT CALCULATIONS

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LINE	DESCRIPTION	CALCULATION	QUANTITY
	ITEM 408 - PRIME COAT, AS PER PLAN (0.40 GAL. PER SQ. YD.) (SHOULDERS)		
413	FROM LINE 29 MAINLINE PAVEMENT SHOULDERS	= 44289.45 FT X 4 SIDES x 2 FT. WIDE =	39368.4 SQ YD
414	FROM LINE 411 =	39368.40 SQ YD X 0.04 GAL/SQ YD =	1574.74 GAL
415	SUM OF LINES 412 TO 412	=	1574.74 GAL
416		TOTAL ITEM 408 =	1574.74 GAL
		TOTAL CARRIED TO GENERAL SUMMARY =	**1580 GAL**
	ITEM 202 - EXISTING 10" CONCRETE PAVEMENT REMOVAL		
	MAINLINE PAVEMENT		
417	FROM LINE 29	= 44289.45 FT X 24 FT / 9	118105.20 SQ YD
	RAMP PAVEMENT		
418	FROM LINE 77	= 14841.78 FT X 16 FT / 9	26385.39 SQ YD
	SPEED CHANGE LANE PAVEMENT		

LINE	LOCATION	FROM STATION	TO STATION		LENGTH		WIDTH			SURFACE AREA
419	NB IR 271 AT RAMP B CR 17	548+58.07	549+58.07	=	100.00	FEET	0.00	12.00	=	66.67 SQ YD
420	NB IR 271 AT RAMP B CR 17	549+58.07	552+05.00	BK =	246.93	FEET	12.00	12.00	=	329.24 SQ YD
421	NB IR 271 AT RAMP B CR 17	52+05.00 AHD	53+79.46	=	174.46	FEET	12.00	16.00	=	271.38 SQ YD
422	NB IR 271 AT RAMP B CR 17	53+79.46	56+58.48	=	279.02	FEET	16.00	16.00	=	496.04 SQ YD
423	NB IR 271 AT RAMP B CR 17	53+79.46	56+58.48	=	2732.78	SQ. FT.	COMPUTER GENERATED GORE AREA=		=	303.64 SQ YD
424	NB IR 271 AT RAMP B IR 77	166+15.89	167+15.89	=	100.00	FEET	0.00	12.00	=	66.67 SQ YD
425	NB IR 271 AT RAMP B IR 77	167+15.89	170+74.45	BK =	358.56	FEET	12.00	12.00	=	478.08 SQ YD
426	NB IR 271 AT RAMP B IR 77	170+74.45 AHD	172+55.06	=	180.61	FEET	12.00	16.00	=	280.95 SQ YD
427	NB IR 271 AT RAMP B IR 77	172+55.06	175+43.90	=	288.84	FEET	16.00	16.00	=	513.49 SQ YD
428	NB IR 271 AT RAMP B IR 77	172+55.06	175+43.90	=	2829.05	SQ. FT.	COMPUTER GENERATED GORE AREA=			314.34 SQ YD
429	NB IR 271 AT RAMP C IR 77	193+87.35	198+00.05	=	412.70	FEET	16.00	16.00	=	733.69 SQ YD
430	NB IR 271 AT RAMP C IR 77	193+87.35	198+00.05	=	4571.22	SQ. FT.	COMPUTER GENERATED GORE AREA=			507.91 SQ YD
431	NB IR 271 AT RAMP C IR 77	199+94.69	203+01.00	=	306.31	FEET	21.26	17.36		657.21 SQ YD
432	NB IR 271 AT RAMP C IR 77	203+01.00	209+97.60	=	696.60	FEET	17.36	0.00	=	671.83 SQ YD
433	NB IR 271 AT RAMP E SR 303	298+57.93	299+57.93	=	100.00	FEET	0.00	12.00	=	176.67 SQ YD
434	NB IR 271 AT RAMP E SR 303	299+57.93	301+88.49	BK =	230.56	FEET	12.00	12.00	=	307.41 SQ YD
435	NB IR 271 AT RAMP E SR 303	301+88.49 AHD	303+69.11	=	180.62	FEET	12.00	16.00	=	280.96 SQ YD
436	NB IR 271 AT RAMP E SR 303	303+69.11 AHD	306+57.93	=	288.82	FEET	16.00	16.00	=	513.46 SQ YD
437	NB IR 271 AT RAMP E SR 303	303+69.11	306+58.74	=	2829.02	SQ. FT.	COMPUTER GENERATED GORE AREA=			314.34 SQ YD
438	NB IR 271 AT RAMP H SR 303	314+40.42	316+00.00	=	2031.07	SQ. FT.	COMPUTER GENERATED GORE AREA=			225.67 SQ YD
439	NB IR 271 AT RAMP H SR 303	314+40.42	316+00.00	=	159.58	FEET	16.00	16.00	=	283.70 SQ YD
440	NB IR 271 AT RAMP H SR 303	316+00.00	321+00.50	=	500.5	FEET	25.00	25.00	=	1390.28 SQ YD
441	NB IR 271 AT RAMP H SR 303	321+00.50	333+50.00	BK =	1249.50	FEET	25.00	0.00	=	1735.42 SQ YD
442	SB IR 271 AT RAMP A CR 17	542+57.11	553+07.11	BK =	1050.00	FEET	0.00	25.00	=	1458.33 SQ YD
443	SB IR 271 AT RAMP A CR 17	53+07.11 AHD	56+07.11	=	300	FEET	25.00	31.26	=	937.67 SQ YD
444	SB IR 271 AT RAMP A CR 17	56+07.11	57+62.79	=	155.68	FEET	16.00	16.00	=	276.76 SQ YD
445	SB IR 271 AT RAMP A CR 17	56+07.00	57+62.79	=	2826.45	SQ. FT.	COMPUTER GENERATED GORE AREA=			314.05 SQ YD
446	SB IR 271 AT RAMP A IR 77	159+95.16	170+88.87	BK =	1093.71	FEET	0.00	23.38	=	1420.61 SQ YD
447	SB IR 271 AT RAMP A IR 77	170+88.87 AHD	172+47.80	=	158.93	FEET	23.38	26.66	=	441.83 SQ YD
448	SB IR 271 AT RAMP A IR 77	172+47.80	174+82.86	=	235.06	FEET	16.00	16.00	=	417.88 SQ YD
449	SB IR 271 AT RAMP A IR 77	172+47.80	174+82.86	=	3416.67	SQ. FT.	COMPUTER GENERATED GORE AREA=			379.63 SQ YD
450	NB IR 271 AT RAMP D IR 77	191+45.70	192+14.84	BK =	69.14	FEET	12.62	12.00	=	94.57 SQ YD
451	NB IR 271 AT RAMP D IR 77	192+14.94 AHD	194+50.93	=	235.99	FEET	12.00	12.00	=	314.65 SQ YD
452	NB IR 271 AT RAMP D IR 77	194+50.93	195+50.93	=	100	FEET	12.00	0.00	=	66.67 SQ YD
453	SB IR 271 AT RAMP F SR 303	288+12.30	300+87.68	BK =	1275.38	FEET	0.00	25.00	=	1771.36 SQ YD
454	SB IR 271 AT RAMP F SR 303	300+87.68AHD	303+37.68	=	250.00	FEET	25.00	25.00	=	694.44 SQ YD
455	SB IR 271 AT RAMP F SR 303	303+37.68	305+41.76	=	204.08	FEET	16.00	16.00	=	362.81 SQ YD
456	SB IR 271 AT RAMP F SR 303	303+37.68	305+41.76	=	2587.12	SQ. FT.	COMPUTER GENERATED GORE AREA=			287.46 SQ YD
457	SB IR 271 AT RAMP G SR 303	313+42.05	316+30.53	=	288.48	FEET	16.00	16.00	=	512.85 SQ YD
458	SB IR 271 AT RAMP G SR 303	316+30.53	318+11.13	BK =	180.60	FEET	16.00	12.00	=	280.93 SQ YD
459	SB IR 271 AT RAMP G SR 303	318+11.13 AHD	320+46.93	=	235.80	FEET	12.00	12.00	=	314.40 SQ YD
460	SB IR 271 AT RAMP G SR 303	320+46.93	321+46.93	=	100.00	FEET	12.00	0.00	=	66.67 SQ YD
460	SB IR 271 AT RAMP G SR 303	313+42.05	316+30.53	=	2824.72	SQ. FT.	COMPUTER GENERATED AREA			313.86 SQ YD
461	SUM LINES 419 TO	459 =	TOTAL LENGTH	=	38434.57	FEET				
462	SUM LINES 417 TO	460 =							TOTAL ITEM 202 =	166137.07 SQ YD
									TOTAL CARRIED TO GENERAL SUMMARY =	**166140 SQ YD**

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PAVEMENT CALCULATIONS

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LINE	DESCRIPTION	CALCULATION	QUANTITY
	ITEM 659 - SEEDING AND MULCHING		
1	I.R. 271 SEEDING FROM CROSS SECTION SHEET 451-539	=	322471 SQ YD
2	C.R. 17 RAMP A SEEDING FROM CROSS SECTION SHEET 550	=	6217 SQ YD
3	C.R. 17 RAMP B SEEDING FROM CROSS SECTION SHEET 556	=	4130 SQ YD
4	I.R. 77 RAMP A SEEDING FROM CROSS SECTION SHEET 578	=	16582 SQ YD
5	I.R. 77 RAMP B SEEDING FROM CROSS SECTION SHEET 616	=	23881 SQ YD
6	I.R. 77 RAMP C SEEDING FROM CROSS SECTION SHEET 623	=	5787 SQ YD
7	I.R. 77 RAMP D SEEDING FROM CROSS SECTION SHEET 637	=	6737 SQ YD
8	S.R. 303 RAMP E SEEDING FROM CROSS SECTION SHEET 648	=	3383 SQ YD
9	S.R. 303 RAMP F SEEDING FROM CROSS SECTION SHEET 657	=	4854 SQ YD
10	S.R. 303 RAMP G SEEDING FROM CROSS SECTION SHEET 665	=	3773 SQ YD
11	S.R. 303 RAMP H SEEDING FROM CROSS SECTION SHEET 673	=	5097 SQ YD
12	SEEDING CARRIED FROM DRAINAGE CALCS SHEET 248	=	56151 SQ YD
13	SUM LINES 1 THROUGH 12	=	459063 SQ YD
14	DEDUCT FOR DEP FROM DRAINAGE CALCS SHEET 248	=	-23506 SQ YD
15	SUM OF LINES 13 & 14	TOTAL ITEM 659 =	435557 SQ YD
		TOTAL CARRIED TO GENERAL SUMMARY =	**435557 SQ YD**
	ITEM 659 - TOPSOIL		
16	LINE 13 , (459063 SQ. YD. X 111 CU. YD. / 1000 SQ. YD.)	=	50955.99 CU YD
		TOTAL CARRIED TO GENERAL NOTES =	**50960 CU YD**
	ITEM 659 - SOIL ANALYSIS TEST		
17	LINE 16, (50955.99 CU. YD. X 1 TEST / 10000 CU. YD.)	=	5.10 TEST
		TOTAL CARRIED TO GENERAL NOTES =	**6 TEST**
	ITEM 659 - REPAIR SEEDING AND MULCHING		
18	LINE 13, (459063 SQ. YD. X 5%)	=	22953.15 SQ YD
		TOTAL CARRIED TO GENERAL NOTES =	**22954 SQ YD**
	ITEM 659 - INTERSEEDING		
19	LINE 13, (459063 SQ. YD. X 5%)	=	22953.15 SQ YD
		TOTAL CARRIED TO GENERAL NOTES =	**22954 SQ YD**
	ITEM 659 - COMMERCIAL FERTILIZER		
20	LINE 13, (459063 SQ. YD. X 1 TON / 7410 SQ. YD.)	=	61.95 TON
21	LINE 19, (22953.15 SQ. YD. X 1 TON / 11115 SQ. YD.)	=	2.07 TON
		TOTAL CARRIED TO GENERAL NOTES =	**64.02 TON**
	ITEM 659 - LIME		
22	LINE 13, (459063 SQ. YD. X 4840 SQ. YD. PER ACRE)	=	94.85 ACRE
		TOTAL CARRIED TO GENERAL NOTES =	**94.85 ACRE**
	ITEM 659 - WATER		
23	LINE 13, (459063 SQ. YD. X 0.0027 M. GAL. / SQ. YD. X 2 APPLICATIONS)	=	2478.94 M GAL
24	LINE 19, (22953.15 SQ. YD. X 0.0027 M. GAL. / SQ. YD. X 1 APPLICATIONS)	=	61.97 M GAL
		TOTAL CARRIED TO GENERAL NOTES =	**2541 M GAL**
	ITEM 659 - MOWING		
25	LINE 13, (459063 25% X 9) / 1000	=	1032.89 M SQ FT
		TOTAL CARRIED TO GENERAL NOTES =	**1033 M SQ FT**

CALCULATED MF CHECKED JDL

EROSION CONTROL CALCULATIONS

SUM-271-2.33

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STATION TO STATION	SIDE	LENGTH L	AVERAGE WIDTH W	SURFACE AREA A A=LxW	CADD MEASURED AREAS	204 SUBGRADE COMPACTION	204 PROOF ROLLING	209 LINEAR GRADING, AS PER PLAN		254 2" PAVEMENT PLANING, ASPHALT CONCRETE	254 PATCHING PLANED SURFACE (5%)	301 9" ASPHALT CONCRETE BASE, PG64-22	304 6" AGGREGATE BASE, AS PER PLAN	304 9" AGGREGATE BASE, AS PER PLAN	407 TACK COAT (0.075 GAL./SQ. YD.)	407 TACK COAT FOR INTERMEDIATE COURSE (0.04 GAL./SQ. YD.)	408 PRIME COAT (0.40 GAL./SQ. YD.)	448 1 1/4" ASPHALT CONCRETE SURFACE COURSE, TYPE 1, PG64-22, AS PER PLAN	448 2" ASPHALT CONCRETE SURFACE COURSE, TYPE 1, PG64-22, AS PER PLAN	448 1 3/4" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, PG64-22	448 3" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 1, UNDER GUARDRAIL, PG64-22, AS PER PLAN	SPECIAL PRESSURE RELIEF JOINT, TYPE A	452 9" NON-REINFORCED CONCRETE PAVEMENT	617 2" COMPACTED AGGREGATE, AS PER PLAN
						SQ YD	HOUR	MILE		SQ YD	SQ YD	CU YD	CU YD	CU YD	GALLON	GALLON	GALLON	CU YD	CU YD	CU YD	CU YD	FT	SQ YD	CU YD
S.R. 176																								
TYPICAL 1																								
85+34.43 TO 86+56.35	L. & R.				2921.83					324.65	16.23				24.35				18.04					
85+34.43 TO 85+99.52	LT.	65.09	6.00	390.54																				2.41
85+99.52 TO 86+56.35	LT.	56.83	3.00	170.49																				1.05
85+34.43 TO 86+56.35	LT.	121.92	4.54	553.52		81.82	0.06					16.50	12.13		4.95	2.46	29.12	2.14		3.00				
85+66.31 TO 86+56.35	LT.	90.04	2.67	240.41				0.02													2.22			
85+34.43 TO 86+34.87	RT.	100.44	6.00	602.64																				3.72
86+34.87 TO 86+56.35	RT.	21.48	3.00	64.44																				0.40
86+34.87 TO 86+56.35	RT.	21.48	4.83	103.75		15.11	0.01					3.08	2.25		0.92	0.46	5.41	0.40		0.56				
85+41.31 TO 86+16.31	RT.	75.00	4.47	335.25				0.01													3.10			
86+16.31 TO 86+56.35	RT.	40.04	3.24	129.73				0.01													1.20			
91+16.85 TO 92+14.98	L. & R.				2822.31					313.59	15.68				23.52				17.42					
91+16.85 TO 91+83.57	LT.	66.72	3.00	200.16																				1.24
91+83.57 TO 92+14.98	LT.	31.41	6.00	188.46																				1.16
91+16.85 TO 91+26.05	LT.	9.20	3.08	28.34		4.68	0.01					0.87	0.67		0.26	0.13	1.60	0.11		0.15				
91+16.85 TO 91+83.57	LT.	66.72	2.00	133.44				0.01													1.24			
91+83.57 TO 92+59.28	LT.	75.51	2.75	207.65				0.01													1.92			
91+16.85 TO 91+61.49	RT.	44.64	3.00	133.92																				0.83
91+61.49 TO 92+14.98	RT.	53.49	6.00	320.94																				1.98
91+16.85 TO 92+14.98	RT.	98.13	4.04	396.45		60.40	0.05					11.92	8.86		3.58	1.76	21.25	1.53		2.14				
91+16.85 TO 91+61.49	RT.	44.64	2.00	89.28				0.01													0.83			
91+61.49 TO 92+17.80	RT.	56.31	3.14	176.81				0.01													1.64			
TYPICAL 2																								
86+56.35 TO 86+81.35	L. & R.	25.00	37.00	925.00		111.11	0.08							27.08									102.78	
TYPICAL 3																								
90+91.85 TO 91+16.85	L. & R.	25.00	37.00	925.00		111.11	0.08							27.08									102.78	
TYPICAL 4																								
86+85.35 TO 86+95.35	L. & R.	10.00	37.00	370.00		44.44	0.03						7.22											
90+77.85 TO 90+87.85	L. & R.	10.00	37.00	370.00		44.44	0.03						7.22											
TYPICAL 5																								
86+95.35 TO 87+10.35	L. & R.	15.00	37.00	555.00		66.67	0.05						10.83											
90+62.85 TO 90+77.85	L. & R.	15.00	37.00	555.00		66.67	0.05						10.83											
PRESSURE RELEIF JOINTS																								
86+81.35 TO 86+85.35	L. & R.	4.00	37.00	148.00		16.44	0.01															39.00		
90+87.85 TO 90+91.85	L. & R.	4.00	37.00	148.00		16.44	0.01															39.00		
C.R. 17																								
TYPICAL 8																								
58+21.40 TO 58+52.63	L. & R.				901.79					100.20	5.00				7.51				5.57					
58+21.40 TO 58+41.98	LT.	20.58	4.63	95.29		14.02	0.01					2.65	2.14		0.79	0.42	5.15	0.37		0.51				
58+53.38 TO 58+63.28	RT.	9.90	4.09	40.49		6.15	0.01					1.12	0.93		0.34	0.18	2.24	0.16		0.22				
SHEET SUBTOTALS						659.50	0.49	0.08		738.44	36.91	36.14	63.08	54.16	66.22	5.41	64.77	4.71	41.03	6.58	12.15	78.00	205.56	12.79
SHEET TOTALS CARRIED TO SHEET 276						**659.50**	**0.49**	**0.08**		**738.44**	**36.91**	**36.14**	**63.08**	**54.16**	**66.22**	**5.41**	**64.77**	**4.71**	**41.03**	**6.58**	**12.15**	**78.00**	**205.56**	**12.79**

CALCULATED PEK
CHECKED TLH

SIDEROAD PAVEMENT CALCULATIONS

SUM-271-2.33

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SIDEROAD PAVEMENT CALCULATIONS

CALCULATED PEK | CHECKED TLH

SUM-271-2.33

STATION TO STATION	SIDE	LENGTH L	AVERAGE WIDTH W	SURFACE AREA A A=LxW	CADD MEASURED AREAS	204 SUBGRADE COMPACTION	204 PROOF ROLLING	209 LINEAR GRADING, AS PER PLAN	209 PREPARING SUBGRADE FOR SHOULDER PAVING, AS PER PLAN	254 2" PAVEMENT PLANING, ASPHALT CONCRETE	254 PATCHING PLANED SURFACE (5%)	301 9" ASPHALT CONCRETE BASE, PG64-22	304 6" AGGREGATE BASE, AS PER PLAN	304 9" AGGREGATE BASE, AS PER PLAN	407 TACK COAT (0.075 GAL./SQ. YD.)	407 TACK COAT FOR INTERMEDIATE COURSE (0.04 GAL./SQ. YD.)	408 PRIME COAT (0.40 GAL./SQ. YD.)	448 1 1/4" ASPHALT CONCRETE SURFACE COURSE, TYPE 1, PG64-22, AS PER PLAN	448 2" ASPHALT CONCRETE SURFACE COURSE, TYPE 1, PG64-22, AS PER PLAN	448 1 3/4" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, PG64-22	448 3" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 1, UNDER GUARDRAIL, PG64-22, AS PER PLAN	SPECIAL PRESSURE RELIEF JOINT, TYPE A	452 9" NON-REINFORCED CONCRETE PAVEMENT	617 2" COMPACTED AGGREGATE, AS PER PLAN
						SQ YD	HOUR	MILE	STATION	SQ YD	SQ YD	CU YD	CU YD	CU YD	GALLON	GALLON	GALLON	CU YD	CU YD	CU YD	CU YD	FT	SQ YD	CU YD
C.R. 17																								
TYPICAL 9																								
62+87.80 TO 63+56.44	L. & R.				1441.44					160.16	8.01				12.01				8.90					
62+77.15 TO 63+24.91	LT.	47.76	2.00	95.52				0.01													0.88			
63+24.91 TO 63+56.44	LT.	31.53	4.33	136.52				0.01													1.26			
62+77.15 TO 63+24.91	LT.	47.76	3.00	143.28																				0.88
63+24.91 TO 63+56.44	LT.	31.53	6.00	189.18																				1.17
62+77.15 TO 63+56.44	LT.	79.29	4.96	393.28		56.92	0.04					11.66	8.51		3.50	1.75	20.42	1.52		2.12				
62+98.44 TO 63+56.44	RT.	58.00	2.00	116.00				0.02													1.07			
62+98.44 TO 63+56.44	RT.	58.00	3.67	212.86																				1.31
62+98.44 TO 63+56.44	RT.	58.00	5.09	295.22		42.47	0.03					8.74	6.36		2.62	1.31	15.27	1.14		1.59				
TYPICAL 10																								
58+52.63 TO 58+77.63	L. & R.	25.00	33.85	846.25		102.36	0.08							24.55									94.03	
62+62.80 TO 62+87.80	L. & R.	25.00	33.85	846.25		102.36	0.08							24.55									94.03	
TYPICAL 11																								
58+82.40 TO 58+92.40	L. & R.	10.00	33.85	338.50		40.94	0.03						6.82											
62+48.03 TO 62+58.03	L. & R.	10.00	33.85	338.50		40.94	0.03						6.82											
TYPICAL 12																								
58+92.40 TO 59+07.40	L. & R.	15.00	33.85	507.75		61.42	0.05						10.24											
62+33.03 TO 62+48.03	L. & R.	15.00	33.85	507.75		61.42	0.05						10.24											
PRESSURE RELIEF JOINTS																								
58+77.63 TO 58+82.40	L. & R.	4.00	33.85	135.40		15.04	0.01															42.73		
62+58.03 TO 62+62.80	L. & R.	4.00	33.85	135.40		15.04	0.01															42.73		
S.R. 303																								
TYPICAL 15																								
41+13.00 TO 43+66.70	L. & R.				13399.16					1488.80	74.44				111.66				82.71					
41+13.00 TO 43+66.70	LT.	253.70	2.00	507.40		42.28	0.03		2.64				11.75						0.25					3.13
TYPICAL 16																								
43+66.70 TO 47+73.64	L. & R.				20995.34					2332.82	116.64				174.96				129.60					
43+66.70 TO 47+81.82	LT.	415.12	2.38	987.99				0.08													9.15			
43+66.70 TO 47+81.82	LT.	415.12	2.00	830.24		161.44	0.05						21.78											5.12
43+66.31 TO 47+65.46	RT.	399.15	2.38	949.98				0.08													8.80			
43+66.31 TO 47+65.46	RT.	399.15	2.00	798.30		66.53	0.05						18.48											4.93
43+84.03 TO 44+17.74	RT.	33.71	1.92	64.72		12.81	0.01					2.11	1.72		0.63	0.29	4.12	0.30		0.35				
44+17.74 TO 45+08.71	RT.	90.97	1.92	174.66		34.57	0.02					5.69	4.64		1.71	0.78	11.13	0.81		0.94				
TYPICAL 17																								
47+73.64 TO 47+98.64	L. & R.	25.00	45.00	1125.00		133.33	0.10							33.33									125.00	
51+88.46 TO 52+13.46	L. & R.	25.00	45.00	1125.00		133.33	0.10							33.33									125.00	
TYPICAL 18																								
48+02.95 TO 48+12.95	L. & R.	10.00	45.00	450.00		53.33	0.04						8.70											
51+74.22 TO 51+84.22	L. & R.	10.00	45.00	450.00		53.33	0.04						8.70											
SHEET SUBTOTALS						1229.86	0.85	0.20	2.64	3981.78	199.09	28.20	124.76	115.76	307.09	4.13	50.94	3.77	221.46	5.00	21.16	85.46	438.06	16.54
SHEET TOTALS CARRIED TO SHEET 276						1229.86	0.85	0.20	2.64	3981.78	199.09	28.20	124.76	115.76	307.09	4.13	50.94	3.77	221.46	5.00	21.16	85.46	438.06	16.54

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STATION TO STATION	SIDE	LENGTH L	AVERAGE WIDTH W	SURFACE AREA A A=LxW	CADD MEASURED AREAS	204 SUBGRADE COMPACTION	204 PROOF ROLLING	209 LINEAR GRADING, AS PER PLAN	209 PREPARING SUBGRADE FOR SHOULDER PAVING, AS PER PLAN	253 PAVEMENT REPAIR, AS PER PLAN	254 2" PAVEMENT PLANING, ASPHALT CONCRETE	254 PATCHING PLANED SURFACE (5%)	301 9" ASPHALT CONCRETE BASE, PG64-22	304 6" AGGREGATE BASE, AS PER PLAN	304 9" AGGREGATE BASE, AS PER PLAN	407 TACK COAT (0.075 GAL./SQ. YD.)	407 TACK COAT FOR INTERMEDIATE COURSE (0.04 GAL./SQ. YD.)	408 PRIME COAT (0.40 GAL./SQ. YD.)	448 1 1/4" ASPHALT CONCRETE SURFACE COURSE, TYPE 1, PG64-22, AS PER PLAN	448 2" ASPHALT CONCRETE SURFACE COURSE, TYPE 1, PG64-22, AS PER PLAN	448 1 3/4" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, PG64-22	448 3" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 1, UNDER GUARDRAIL, PG64-22, AS PER PLAN	SPECIAL PRESSURE RELIEF JOINT, TYPE A	452 9" NON-REINFORCED CONCRETE PAVEMENT	617 2" COMPACTED AGGREGATE, AS PER PLAN
						SQ YD	HOUR	MILE	STATION	SQ YD	SQ YD	SQ YD	CU YD	CU YD	CU YD	GALLON	GALLON	GALLON	CU YD	CU YD	CU YD	CU YD	FT	SQ YD	CU YD
S.R. 303																									
TYPICAL 19																									
48+12.95 TO 48+27.95	L. & R.	15.00	47.00	705.00		83.33	0.06							13.11											
51+59.22 TO 51+74.22	L. & R.	15.00	47.00	705.00		83.33	0.06							13.11											
TYPICAL 20																									
52+13.46 TO 56+76.26	L. & R.				23146.24						2571.80	128.59				192.89				142.88					
52+36.46 TO 56+76.26	LT.	439.80	2.00	879.60		73.30	0.06							23.08											5.43
52+36.46 TO 56+76.26	LT.	439.80	2.38	1046.72				0.08														9.69			
52+20.42 TO 54+27.75	RT.	207.33	4.00	829.32				0.04														7.68			
54+27.75 TO 54+34.94	RT.	7.19	1.62	11.65				0.01														0.11			
53+13.97 TO 53+80.79	RT.	66.82	2.50	167.05		29.70	0.02						5.26	4.12		1.58	0.74	9.90	0.64		0.90				
53+80.79 TO 54+27.75	RT.	46.96	5.00	234.80		33.92	0.02						6.96	5.07		2.09	1.04	12.17	0.91		1.27				
52+19.91 TO 52+36.42	LT.				58.21					6.47															
52+05.49 TO 52+20.42	RT.				51.45					5.72															
TYPICAL 21																									
56+76.26 TO 62+30.00	L. & R.				28479.95						3164.44	158.22				237.33				175.80					
56+76.26 TO 58+07.52	LT.	131.26	2.00	262.52		21.88	0.02		5.5					6.08						0.53					1.62
PRESSURE RELIEF JOINTS																									
47+98.64 TO 48+02.95	L. & R.	4.00	45.00	180.00		21.33	0.02																48.00		
51+84.22 TO 51+88.46	L. & R.	4.00	45.00	180.00		21.33	0.02																48.00		
SHEET SUBTOTALS						368.12	0.28	0.13	5.5	12.19	5736.24	286.81	12.22	64.57	0	433.89	1.78	22.07	1.55	319.21	2.17	17.48	96.00	0	7.05
SHEET TOTALS						368.12	0.28	0.13	5.5	12.19	5736.24	286.81	12.22	64.57	0	433.89	1.78	22.07	1.55	319.21	2.17	17.48	96.00	0	7.05
SHEET TOTALS CARRIED FROM SHEET 274						659.50	0.49	0.08	0	0	738.44	36.91	36.14	63.08	54.16	66.22	5.41	64.77	4.71	41.03	6.58	12.15	78.00	205.56	12.79
SHEET TOTALS CARRIED FROM SHEET 275						1229.86	0.85	0.20	2.5	0	3981.78	199.09	28.20	124.76	115.76	307.09	4.13	50.94	3.77	221.45	5.00	21.16	85.46	438.06	16.54
GRAND TOTALS						2257.48	1.60	0.41	8	12.19	10456.46	522.81	76.56	252.41	169.92	807.20	11.32	137.78	10.03	581.69	13.75	50.79	259.46	643.62	36.38
TOTALS CARRIED TO GENERAL SUMMARY						2258	2	1.00	9	12	10457	523	77	422		807	11	138	592		14	51	260	644	36

CALCULATED PEK
CHECKED TLH

SIDEROAD PAVEMENT CALCULATIONS

SUM-271-2.33

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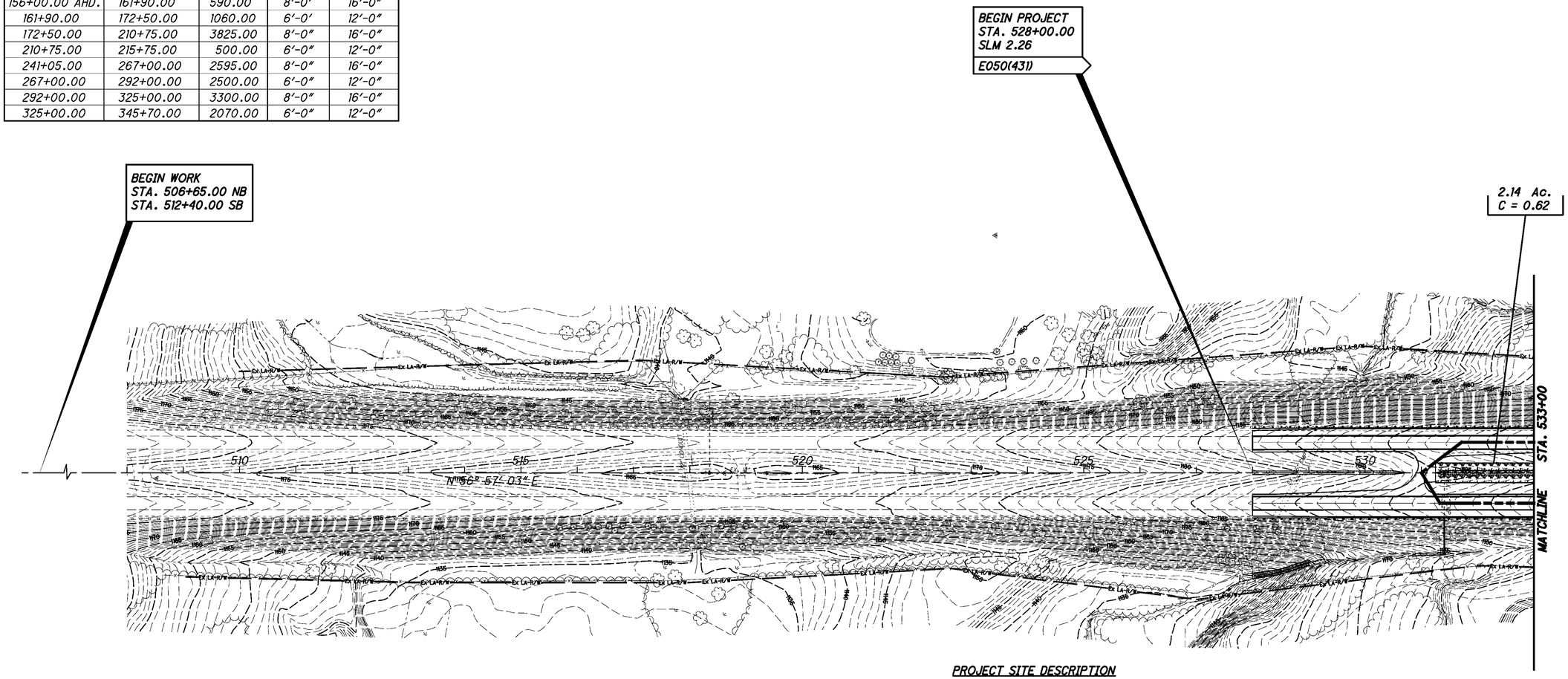
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POST CONSTRUCTION STORM WATER MANAGEMENT VEGETATED BIOFILTER DITCH BOTTOM TABLE				
STATION		LENGTH (FT.)	DITCH BOTTOM	
FROM	TO		WIDTH	ROUNDING
531+25.00	561+20.00	2995.00	8'-0"	16'-0"
561+20.00	566+09.70 BK.	489.70	6'-0"	12'-0"
156+00.00 AHD.	161+90.00	590.00	8'-0'	16'-0"
161+90.00	172+50.00	1060.00	6'-0'	12'-0"
172+50.00	210+75.00	3825.00	8'-0"	16'-0"
210+75.00	215+75.00	500.00	6'-0"	12'-0"
241+05.00	267+00.00	2595.00	8'-0"	16'-0"
267+00.00	292+00.00	2500.00	6'-0"	12'-0"
292+00.00	325+00.00	3300.00	8'-0"	16'-0"
325+00.00	345+70.00	2070.00	6'-0"	12'-0"

LEGEND

DRAINAGE DIVIDE LINE

POST CONSTRUCTION STORM WATER TREATMENT



PROJECT DATA			
TOTAL AREA (EXISTING RIGHT-OF-WAY):	315 ACRES		
PROJECT EARTH DISTURBED AREA:	217.7 ACRES	RUNOFF COEFFICIENT FOR PRE-CONSTRUCTION SITE:	0.57
ESTIMATED CONTRACTOR EARTH DISTURBED AREA:	8.2 ACRES	RUNOFF COEFFICIENT FOR POST CONSTRUCTION SITE:	0.58
NOTICE OF INTENT EARTH DISTURBED AREA:	225.9 ACRES	ALSO SEE SOIL SURVEY OF SUMMIT CO.	
IMPERVIOUS (PAVED) AREA FOR PRE-CONSTRUCTION SITE:	52.22 ACRES		
IMPERVIOUS (PAVED) AREA FOR POST CONSTRUCTION SITE:	53.08 ACRES		

PROJECT SITE DESCRIPTION

THE PROJECT CONSISTS OF PAVEMENT RECONSTRUCTION AND STRUCTURE REHABILITATION FOR 4.26 MILES OF INTERSTATE ROUTE 271. THE RAMPS AT THE COUNTY ROAD 17 (BRECKSVILLE ROAD), INTERSTATE ROUTE 77, AND STATE ROUTE 303 INTERCHANGES WILL BE RECONSTRUCTED. BRIDGE WORK WILL INCLUDE MAINLINE IR 271 STRUCTURES SUM-271-0354 L&R, IR 271 OVER IR 77; SUM-271-0375 L&R, IR 271 OVER IR 77 RAMP B; SUM-271-0483, IR 271 OVER FURNACE RUN; SUM-271-0354B, IR 271 RAMP B OVER IR 77; AND SIDEROAD STRUCTURES SUM-176-0106, SR 176 OVER IR 271; SUM-271-0294, CR 17 OVER IR 271; AND SUM-303-0502, SR 303 OVER IR 271. DRAINAGE ITEMS WILL BE NEW OR RECONSTRUCTED. NEW HIGH MAST LIGHTING WILL BE INSTALLED AT THE INTERSTATE ROUTE 77 INTERCHANGE. NEW TRAFFIC CONTROL INCLUDING SIGNING AND MARKING WILL BE INSTALLED.

THIS PLAN UTILIZES STRUCTURAL BEST MANAGEMENT PRACTICES (BMP'S) FOR POST CONSTRUCTION STORM WATER TREATMENT. THE FOLLOWING BMP'S HAVE BEEN DESIGNED INTO THE PLANS.

1. VEGETATED BIOFILTERS HAVE BEEN DESIGNED INTO THE MEDIAN DITCHES THROUGHOUT THE LENGTH OF THIS PROJECT. SEE TABLE ABOVE FOR LOCATIONS.

THE PROJECT SITE IS SHOWN ON THE SOIL SURVEY OF SUMMIT COUNTY, OHIO.

THE IMMEDIATE RECEIVING WATERS FOR THE PROJECT RUNOFF IS FURNACE RUN.

THE SUBSEQUENT RECEIVING WATERS FOR THE PROJECT IS THE CUYAHOGA RIVER.

LATITUDE: N41°13'52" LONGITUDE: W81°36'50"

USGS 7.5 MINUTE QUADRANGLE MAP: NORTHFIELD N4115-W8130/7.5

PENINSULA 41081-B5-TF-024

WEST RICHFIELD N4107.5-W8137.5/7.5

HORIZONTAL SCALE IN FEET
0 50 100 200

CALCULATED EEL
CHECKED PRS

PROJECT SITE PLAN
STA. 508+00 TO STA. 533+00

SUM-271-2.33

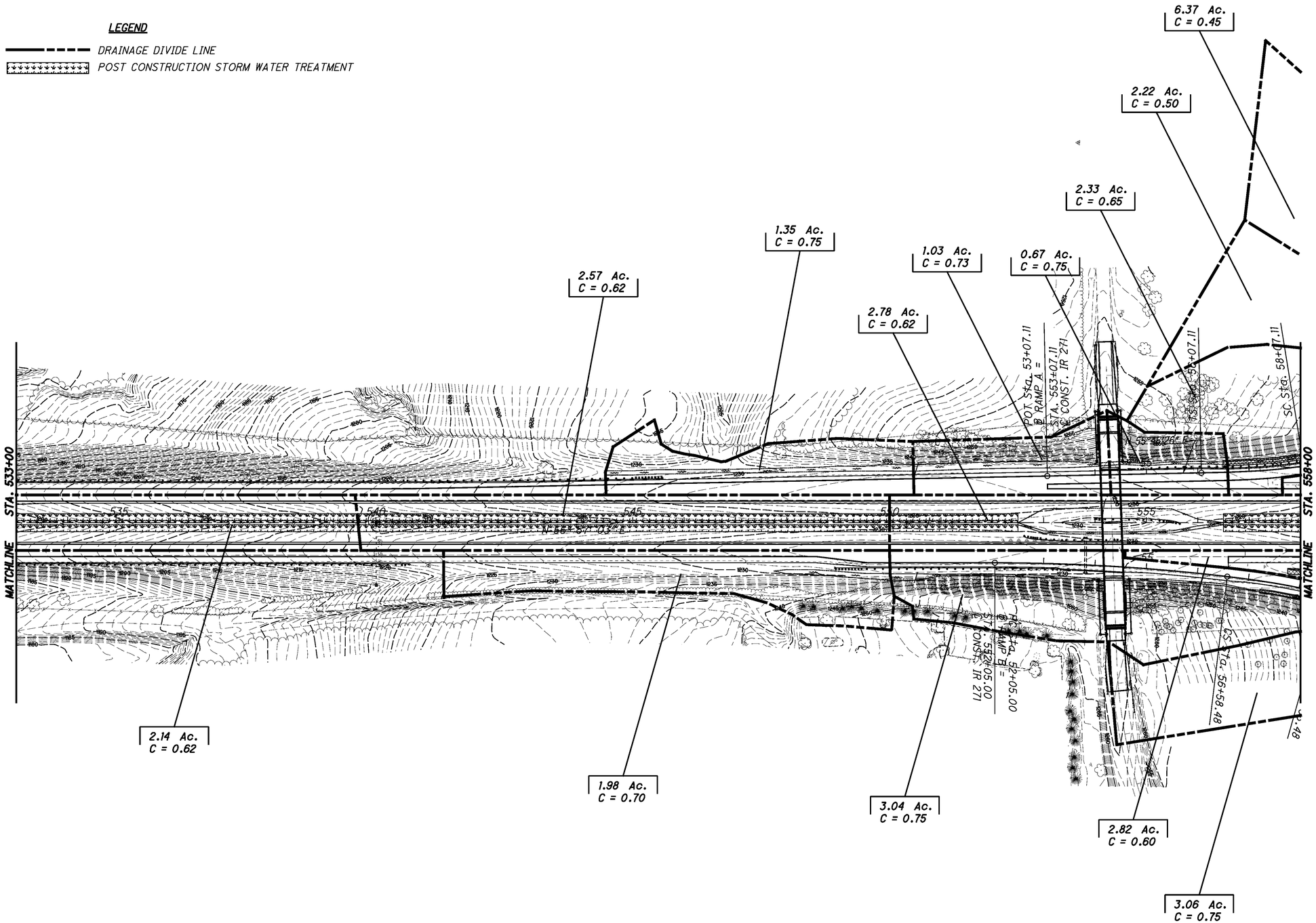
277
1195

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LEGEND

DRAINAGE DIVIDE LINE

POST CONSTRUCTION STORM WATER TREATMENT



HORIZONTAL SCALE IN FEET
0 50 100 200

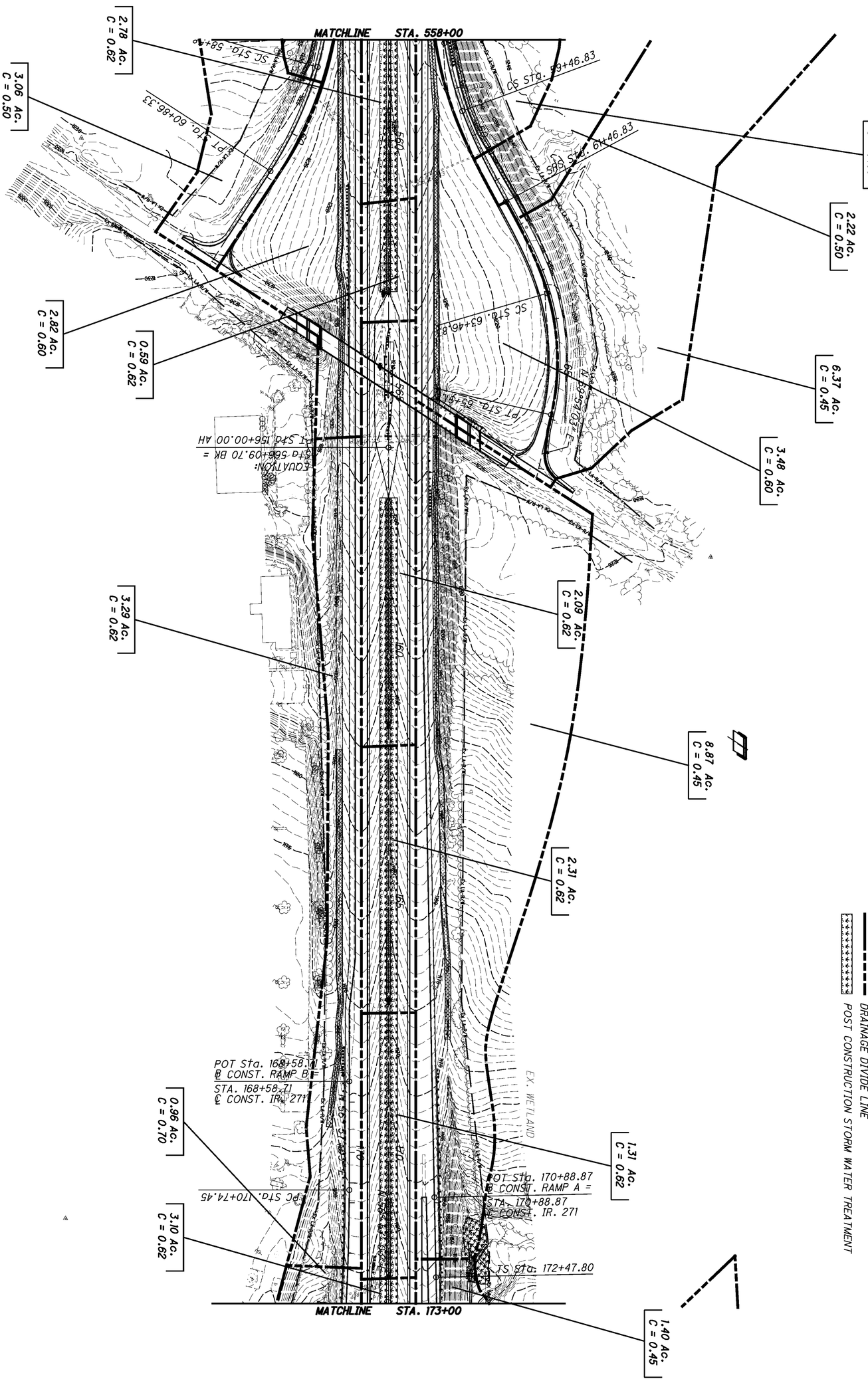
CALCULATED EEL
CHECKED PRS

PROJECT SITE PLAN
STA. 533+00 TO STA. 558+00

SUM-271-2.33

278
1195

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279 / 1195	SUM-271-2.33	PROJECT SITE PLAN STA. 558+00 TO STA. 173+00.00	CALCULATED EEL CHECKED PRS	0 100 50 200 HORIZONTAL SCALE IN FEET

LEGEND

DRAINAGE DIVIDE LINE

POST CONSTRUCTION STORM WATER TREATMENT

5.64 Ac. C = 0.50

7.62 Ac. C = 0.55

0.29 Ac. SCUPPER AREA C = 0.90

6.84 Ac. C = 0.54

1.40 Ac. C = 0.45

EX. WETLAND

SR 271 STA. 192+25.35

TS STA. 211+80.00

2.63 Ac. C = 0.62

10.90 Ac. C = 0.50

0.32 Ac. C = 0.90

1.74 Ac. C = 0.62

CS STA. 205+07.91

ST STA. 201+10.91

ST STA. 197+79.79

SC STA. 183+29.35

CS STA. 179+32.53

N 19° 16' 45" E

CS STA. 174+52.80

CS STA. 177+21.53

ST STA. 181+29.29

ST STA. 185+30.82

ST STA. 187+50.82

ST STA. 172+34.29

SC STA. 172+34.29

N 64° 19' 30" E

ROT Sta. 192+19.44 CONST. RAMP 'D' STA. 193+44.95 CONST. LT. 271

MATCHLINE STA. 173+00

MATCHLINE STA. 198+00

CS STA. 176+75.89

181+00.63

3.63 Ac. C = 0.62

2.71 Ac. C = 0.50

0.96 Ac. C = 0.70

5.90 Ac. C = 0.64

0.16 Ac. C = 0.90

CS STA. 191+21.40

SC STA. 193+76.34

SC STA. 191+46.69

SC STA. 188+94.

0.97 Ac. C = 0.80

1.78 Ac. C = 0.60

2.28 Ac. C = 0.63

6.12 Ac. C = 0.57

0.43 Ac. C = 0.90

3.30 Ac. C = 0.62

PC STA. 182+69.62

1.10 Ac. C = 0.75

TENNIS COURTS

HORIZONTAL SCALE IN FEET

0 50 100 200

CALCULATED EEL

CHECKED PRS

PROJECT SITE PLAN
STA. 173+00 TO STA. 198+00

SUM-271-2.33

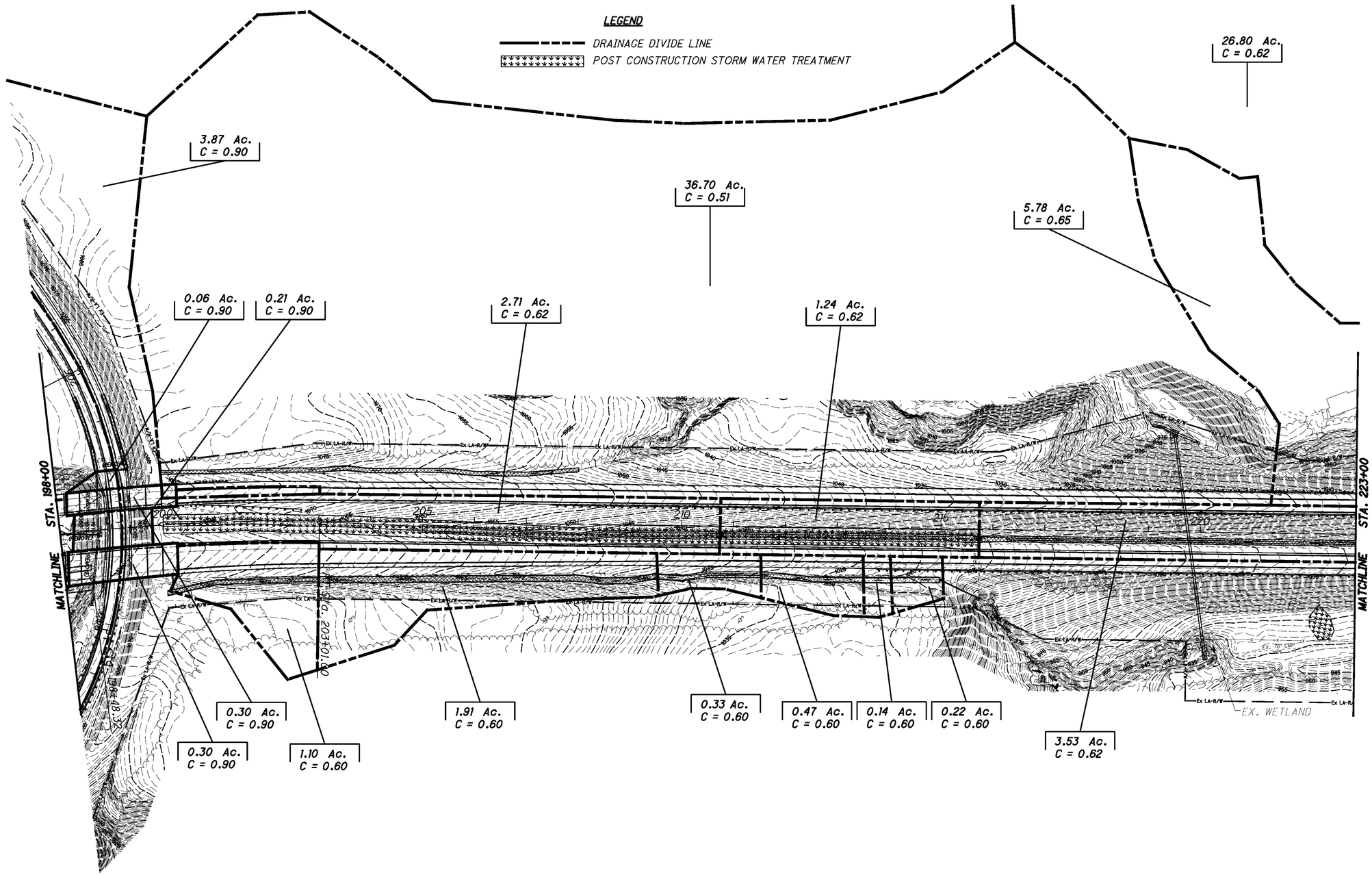
280
1195

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LEGEND

DRAINAGE DIVIDE LINE

POST CONSTRUCTION STORM WATER TREATMENT



HORIZONTAL SCALE IN FEET

0 50 100 200

CALCULATED EEL

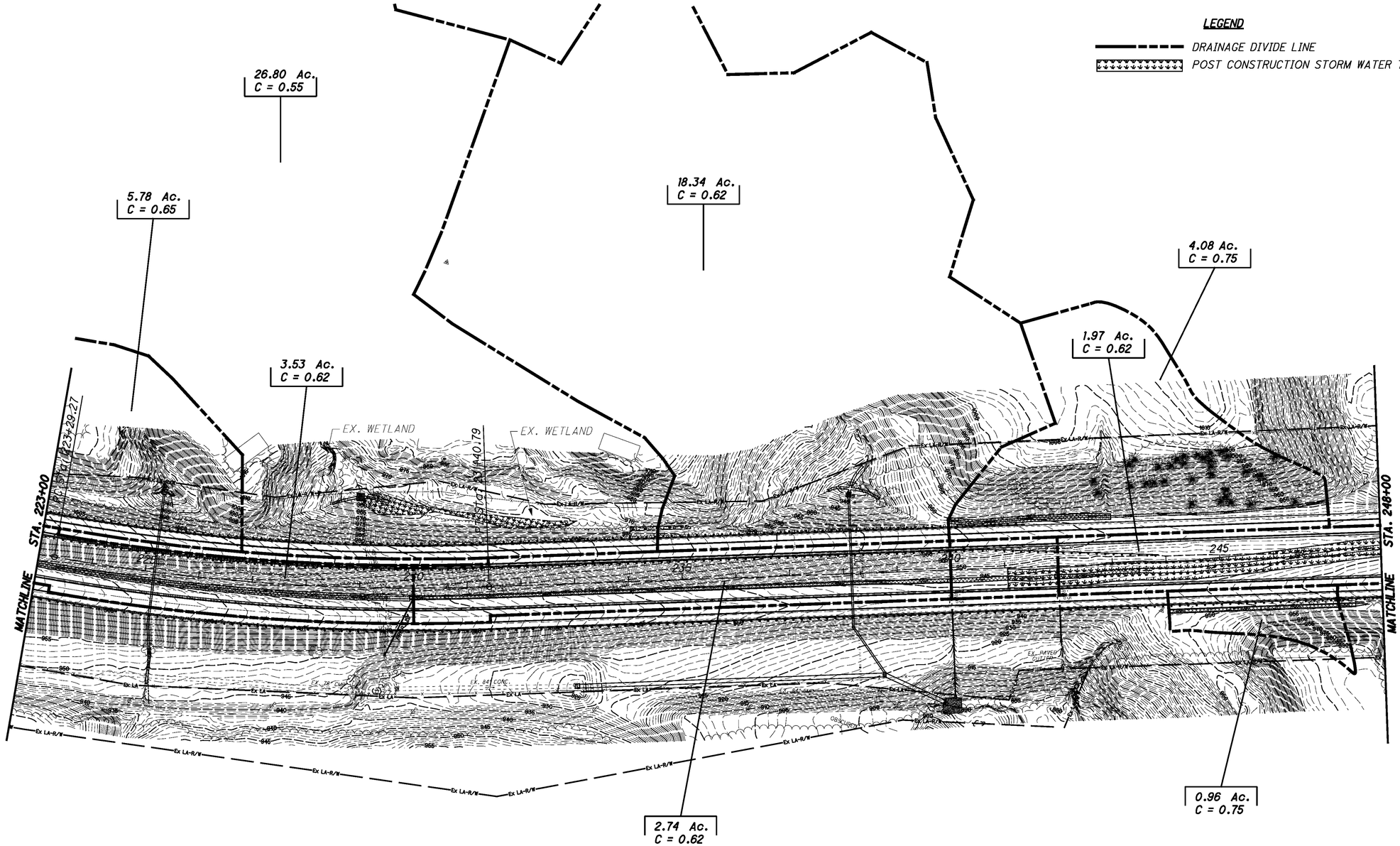
CHECKED PRS

PROJECT SITE PLAN
STA. 198+00 TO STA. 223+00

SUM-271-2.33

281
1195

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HORIZONTAL SCALE IN FEET
0 50 100 200

CALCULATED EEL
CHECKED PRS

PROJECT SITE PLAN
STA. 223+00 TO STA. 248+00

SUM-271-2.33

282
1195

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LEGEND

DRAINAGE DIVIDE LINE

POST CONSTRUCTION STORM WATER TREATMENT

2.63 Ac.
C = 0.62

7.56 Ac.
C = 0.75

1.24 Ac.
C = 0.62

1.24 Ac.
C = 0.62

1.97 Ac.
C = 0.62

1.83 Ac.
C = 0.62

10.25 Ac.
C = 0.74

MATCHLINE STA. 248+00

MATCHLINE STA. 273+00

N 68° 18' 20" E

20 SF 2867+60.14

260

265

270

HORIZONTAL SCALE IN FEET
0 50 100 200

CALCULATED EEL
CHECKED PRS

PROJECT SITE PLAN
STA. 248+00 TO STA. 273+00

SUM-271-2.33

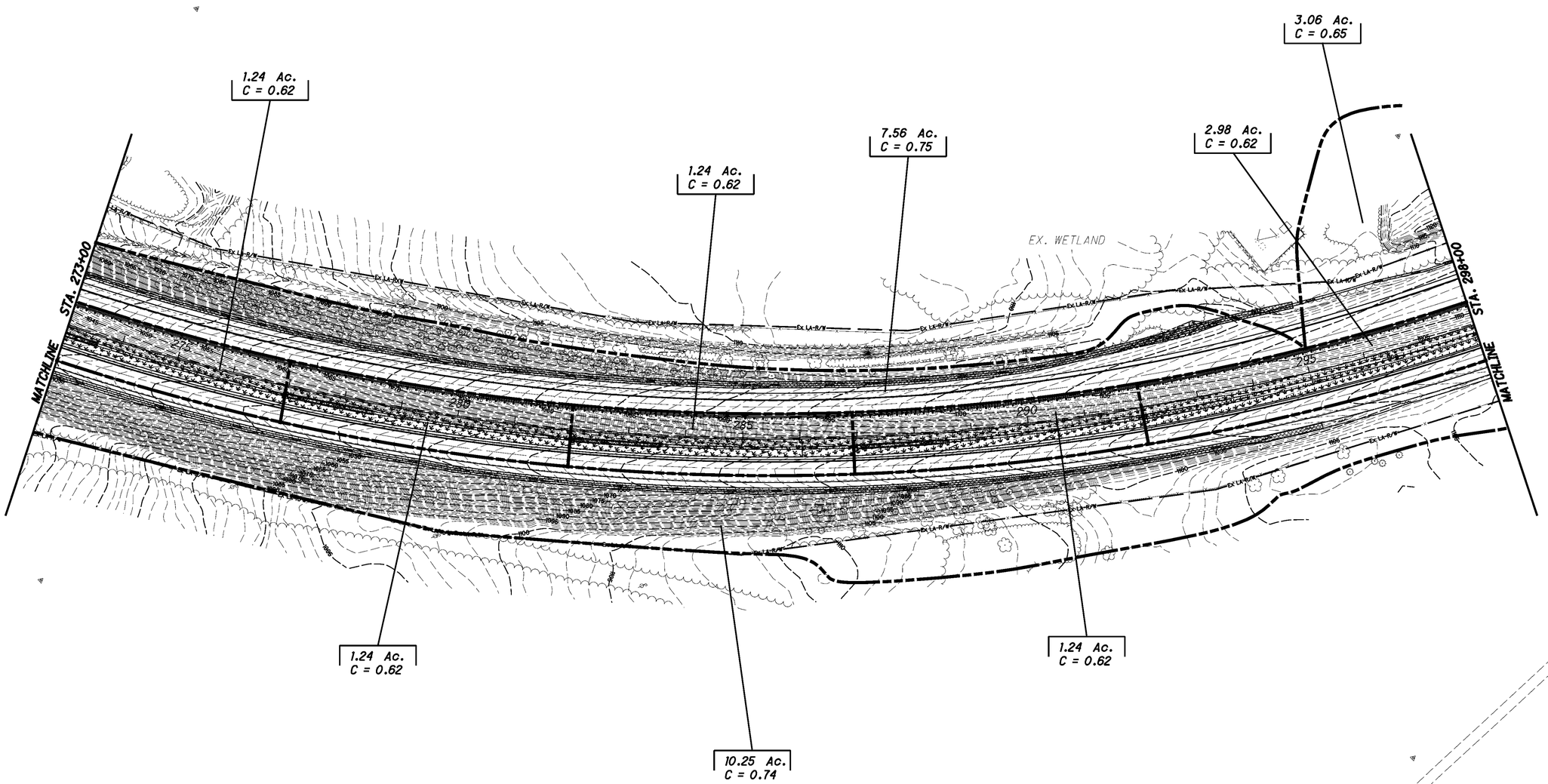
283
1195

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LEGEND

DRAINAGE DIVIDE LINE

POST CONSTRUCTION STORM WATER TREATMENT



HORIZONTAL SCALE IN FEET
0 50 100 200

CALCULATED EEL
CHECKED PRS

PROJECT SITE PLAN
STA. 273+00 TO STA. 298+00

SUM-271-2.33

284
1195

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LEGEND

DRAINAGE DIVIDE LINE

POST CONSTRUCTION STORM WATER TREATMENT

3.06 Ac.
C = 0.65

2.85 Ac.
C = 0.62

1.30 Ac.
C = 0.90

0.18 Ac.
C = 0.90

2.60 Ac.
C = 0.70

2.13 Ac.
C = 0.62

12.64 Ac.
C = 0.65

2.98 Ac.
C = 0.62

4.39 Ac.
C = 0.62

3.07 Ac.
C = 0.62

0.13 Ac.
C = 0.90

0.09 Ac.
C = 0.90

0.07 Ac.
C = 0.90

0.23 Ac.
C = 0.90

7.89 Ac.
C = 0.75

BL Sta. 300+76.29

POT Sta. 300+87.68
@ CONST. RAMP F =
STA. 300+87.68
℄ CONST. IR 271

TS Sta. 303+37.68

SC Sta. 305+37.68

ST Sta. 308+18.80

310+18.80

PC Sta. 306+01.36

PT Sta. 313+73.72

PC Sta. 312+21.80

PT Sta. 316+98.64

CS Sta. 311+42.05

SC Sta. 313+42.05

PT Sta. 318+36.36
CONST. RAMP G =
STA. 318+36.36
℄ CONST. IR 271

STA. 298+00

STA. 323+00

MATCHLINE

MATCHLINE

POT Sta. 301+88.49
@ CONST. RAMP E =
Sta. 301+88.49
℄ CONST. IR 271

CS Sta. 306+57.93

SC Sta. 308+57.93

CS Sta. 310+28.40

ST Sta. 312+38.40

CS Sta. 314+90.00

SC Sta. 316+90.00

TS Sta. 312+89.20

SC Sta. 315+89.20

PT Sta. 318+04.32

PC Sta. 306+21.21

POT Sta. 319+00.00
@ CONST. RAMP H =
STA. 319+00.00
℄ CONST. IR 271

N 19° 49' 12" E

N 89° 43' 35" E

56° 23" E

42+65.28

PC Sta.

CALCULATED EEL

CHECKED PRS

0 50 100 200
HORIZONTAL SCALE IN FEET

PROJECT SITE PLAN
STA. 298+00 TO STA. 323+00

SUM-271-2.33

285
1195

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LEGEND

DRAINAGE DIVIDE LINE

POST CONSTRUCTION STORM WATER TREATMENT

2.13 Ac.
C = 0.62

0.50 Ac.
C = 0.62

12.64 Ac.
C = 0.75

0.76 Ac.
C = 0.62

0.72 Ac.
C = 0.62

0.72 Ac.
C = 0.75

END PROJECT
STA. 345+91.20
S.L.M. 6.55
E050(431)

0.99 Ac.
C = 0.62

7.89 Ac.
C = 0.75

0.99 Ac.
C = 0.62

0.53 Ac.
C = 0.62

0.80 Ac.
C = 0.62

0.24 Ac.
C = 0.60

MATCHLINE STA. 323+00

MATCHLINE STA. 352+00

CS Sta. 357+83.36

ST Sta. 361+83.36

POT Sta. 378+00.71

END WORK
STA. 373+00.00

N 83° 08' 12" E

HORIZONTAL SCALE IN FEET
0 50 100 200

CALCULATED EEL
CHECKED PRS

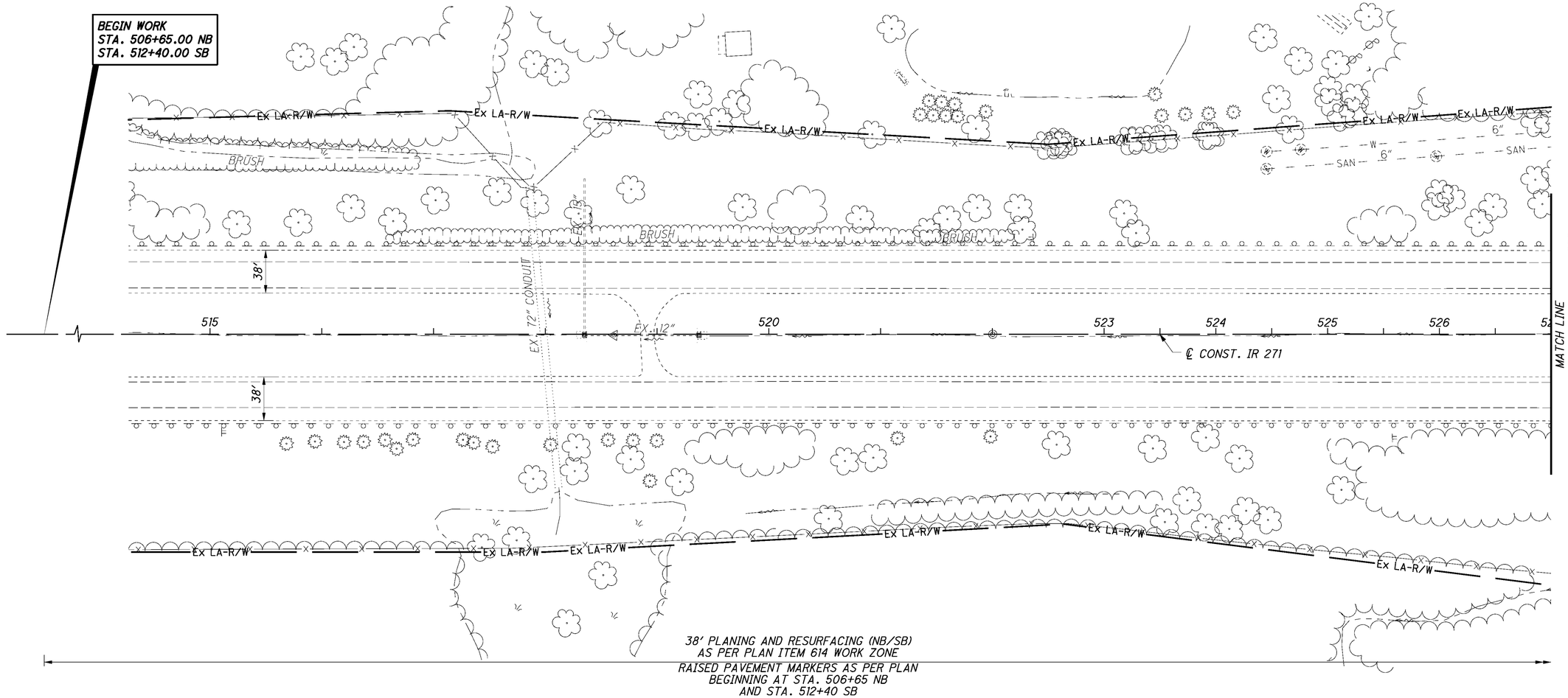
PROJECT SITE PLAN
STA. 323+00 TO STA. 350+00

SUM-271-2.33

286
1195

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CROSS REFERENCES	
11	TYPICAL SECTIONS
288	PROFILE SHEET
328-539	CROSS SECTIONS



UNDERDRAIN LEGEND

- (1-LS) LEFT OUTSIDE SHOULDER
- (1-LE) LEFT OUTSIDE EDGE OF PAVEMENT
- (1-LM) LEFT MEDIAN
- (1-RM) RIGHT MEDIAN
- (1-RE) RIGHT OUTSIDE EDGE OF PAVEMENT
- (1-RS) RIGHT OUTSIDE SHOULDER

GUARDRAIL LEGEND

- (T) ANCHOR ASSEMBLY TYPE 'T' (12.5')
- (E) ANCHOR ASSEMBLY TYPE 'E' (50')
- (B) ANCHOR ASSEMBLY TYPE 'B' (37.5')
- (B1) BRIDGE TERMINAL ASSEMBLY TYPE 1 (31.25')
- (B2) BRIDGE TERMINAL ASSEMBLY TYPE 2 (25')

DRAINAGE LEGEND

- ITEM 670 - DITCH EROSION PROTECTION (WIDTH SHOWN ON PLANS)
- ITEM 836 - SEEDING AND EROSION CONTROL WITH TURF REINFORCING MAT, TYPE 1 (WIDTH SHOWN ON PLANS)

LEGEND

- —•— CONST. LIMITS

HORIZONTAL SCALE IN FEET
0 25 50 100

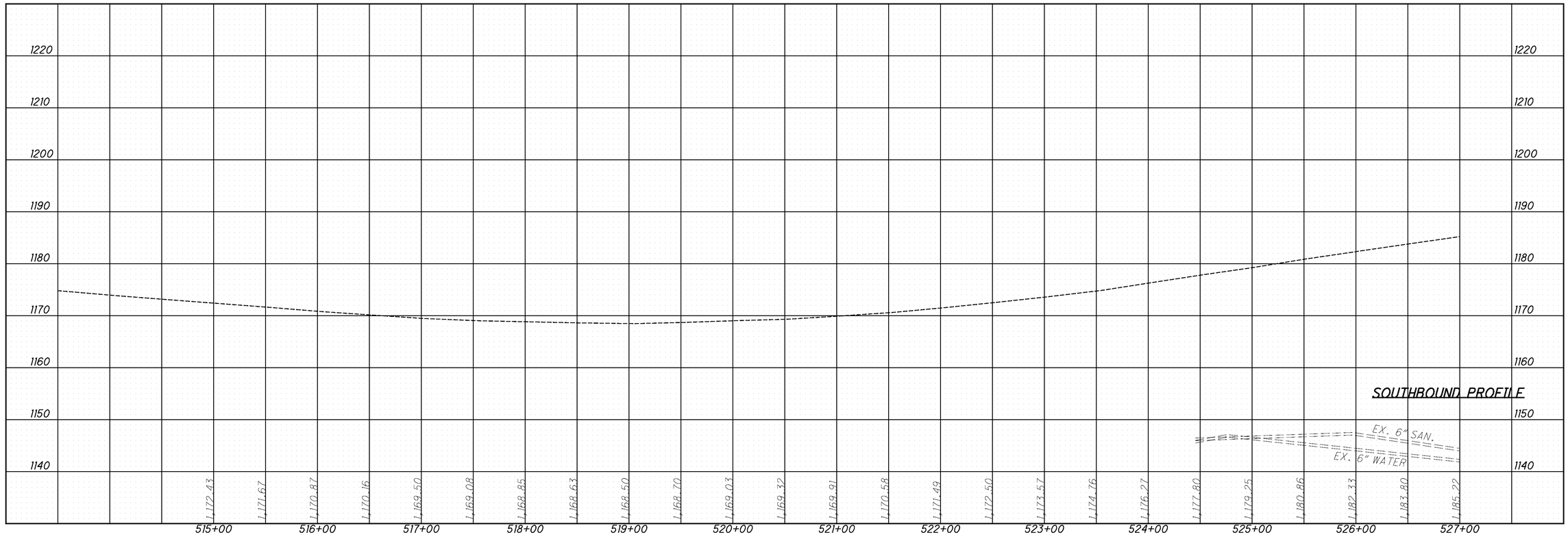
CALCULATED DAW
CHECKED PRS

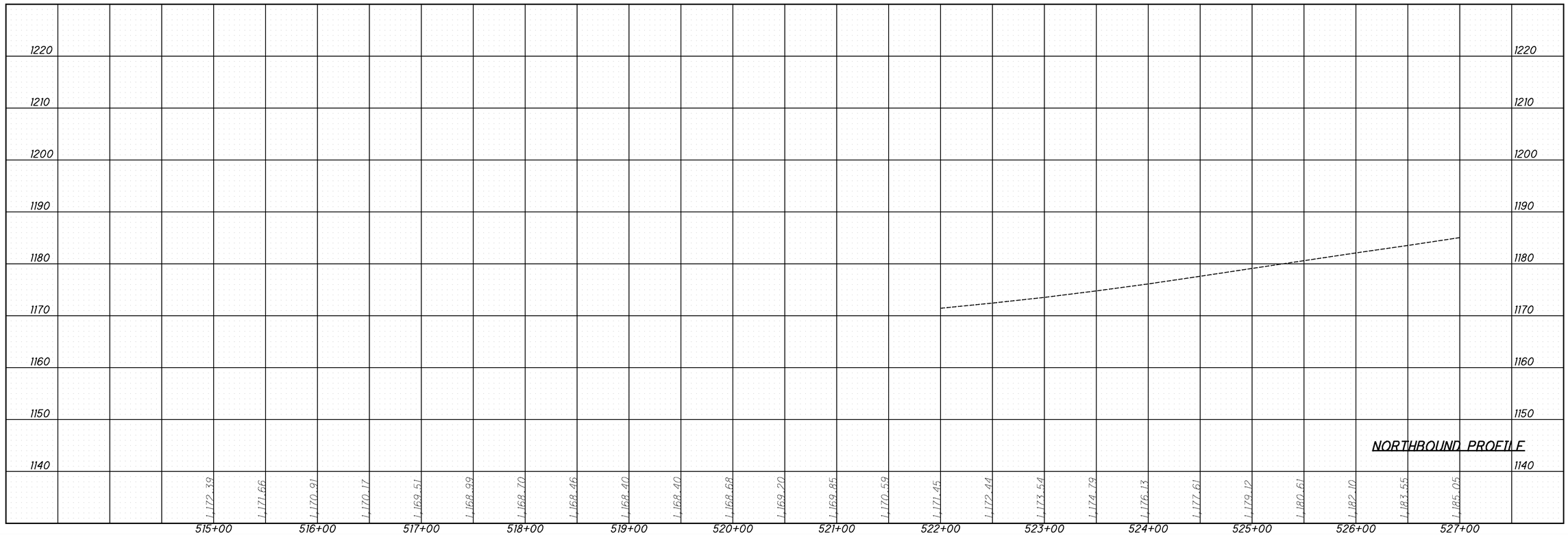
PLAN - I-271
STA. 514+50 TO STA. 527+00

SUM-271-2.33

287
1195

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CALCULATED DAW
CHECKED PRS

PROFILE
STA. 514+50 TO STA. 527+00

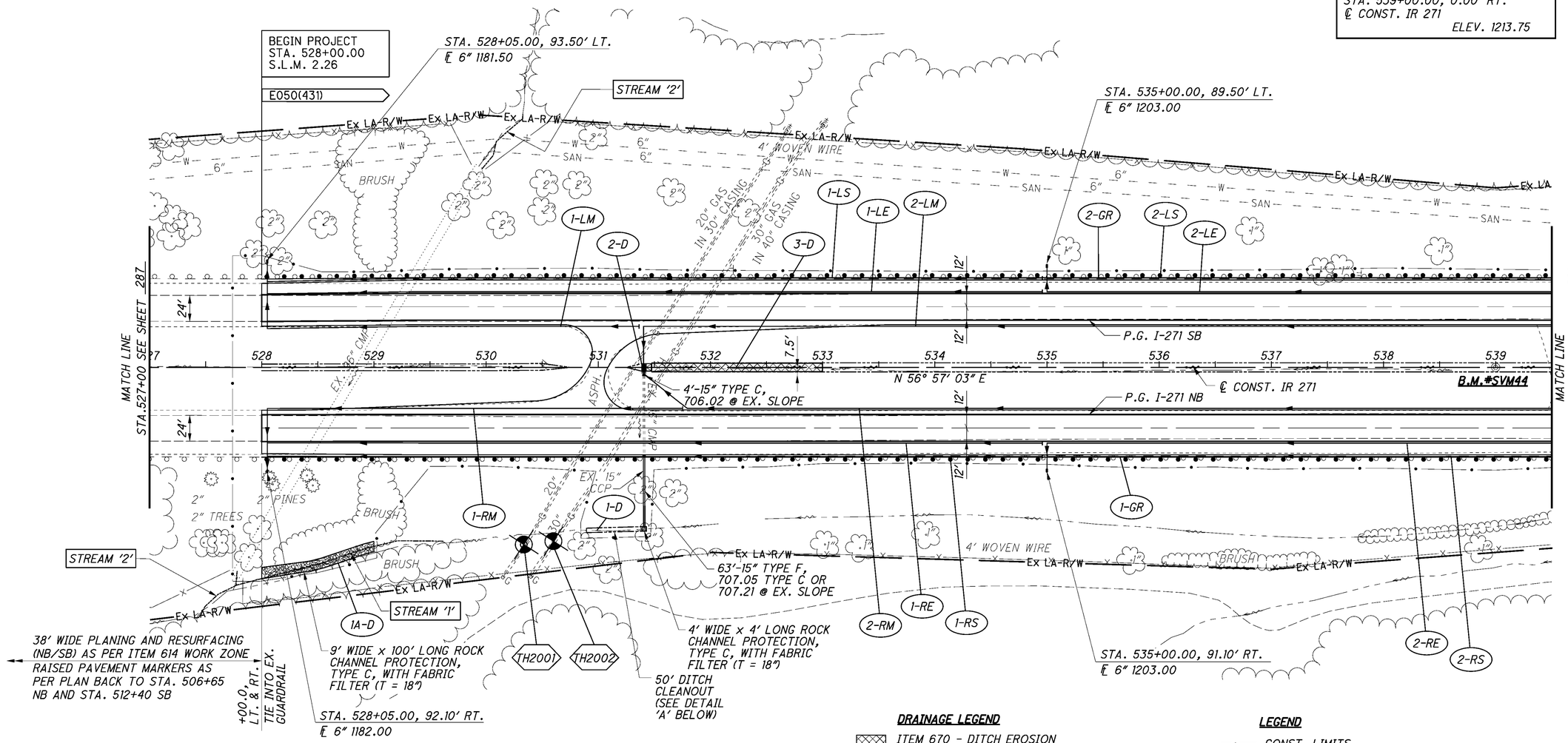
SUM-271-2.33

288
1195

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CROSS REFERENCES	
16	TYPICAL SECTIONS
290	PROFILE SHEET
328-539	CROSS SECTIONS
740	PAVEMENT DETAIL
739	MEDIAN CROSSOVER DETAIL
781 - 783	WATER/SANITARY PLANS

B.M.#SVM44: ℄ MONUMENT FOUND
STA. 539+00.00, 0.00' RT.
℄ CONST. IR 271
ELEV. 1213.75



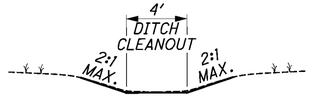
GUARDRAIL LEGEND

- (T) ANCHOR ASSEMBLY TYPE 'T' (12.5')
- (E) ANCHOR ASSEMBLY TYPE 'E' (50')
- (B) ANCHOR ASSEMBLY TYPE 'B' (37.5')
- (B1) BRIDGE TERMINAL ASSEMBLY TYPE 1 (31.25')
- (B2) BRIDGE TERMINAL ASSEMBLY TYPE 2 (25')

UNDERGROUND UTILITY TEST HOLE			
TEST HOLE NO.	℄ CONST IR 271 STATION, OFFSET	SURVEYED ELEV. TOP OF UTILITY	UTILITY
TH2001	530+33.68, 157.96' RT.	1165.7	GAS
TH2002	530+60.08, 154.98' RT.	1165.7	GAS

DRAINAGE LEGEND

- ITEM 670 - DITCH EROSION PROTECTION (WIDTH SHOWN ON PLANS)
- ITEM 836 - SEEDING AND EROSION CONTROL WITH TURF REINFORCING MAT, TYPE 1 (WIDTH SHOWN ON PLANS)



DETAIL 'A'

LEGEND

- CONST. LIMITS
- STREAM 'X' STREAM RESOURCE ID
- WETLAND 'X' WETLAND RESOURCE ID

HORIZONTAL SCALE IN FEET
0 25 50 100

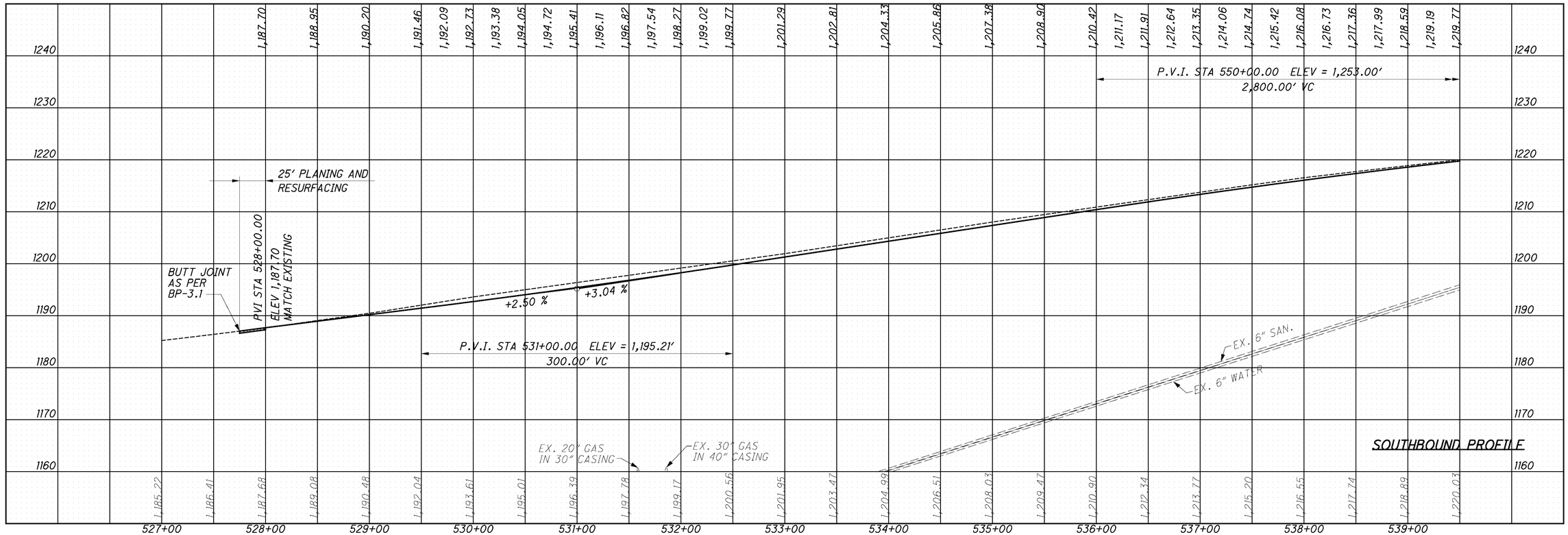
CALCULATED DAW
CHECKED PRS

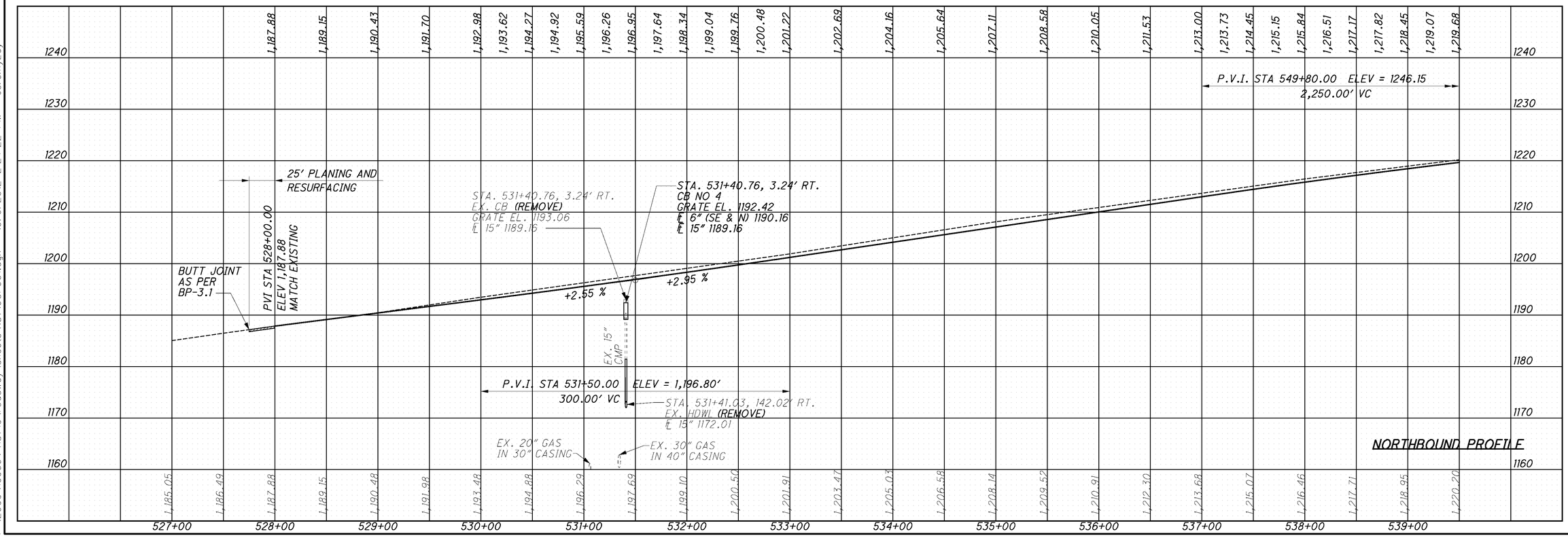
PLAN - I-271
STA. 527+00 TO STA. 539+50

SUM-271-2.33

289
1195

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CALCULATED DAW
CHECKED PRS

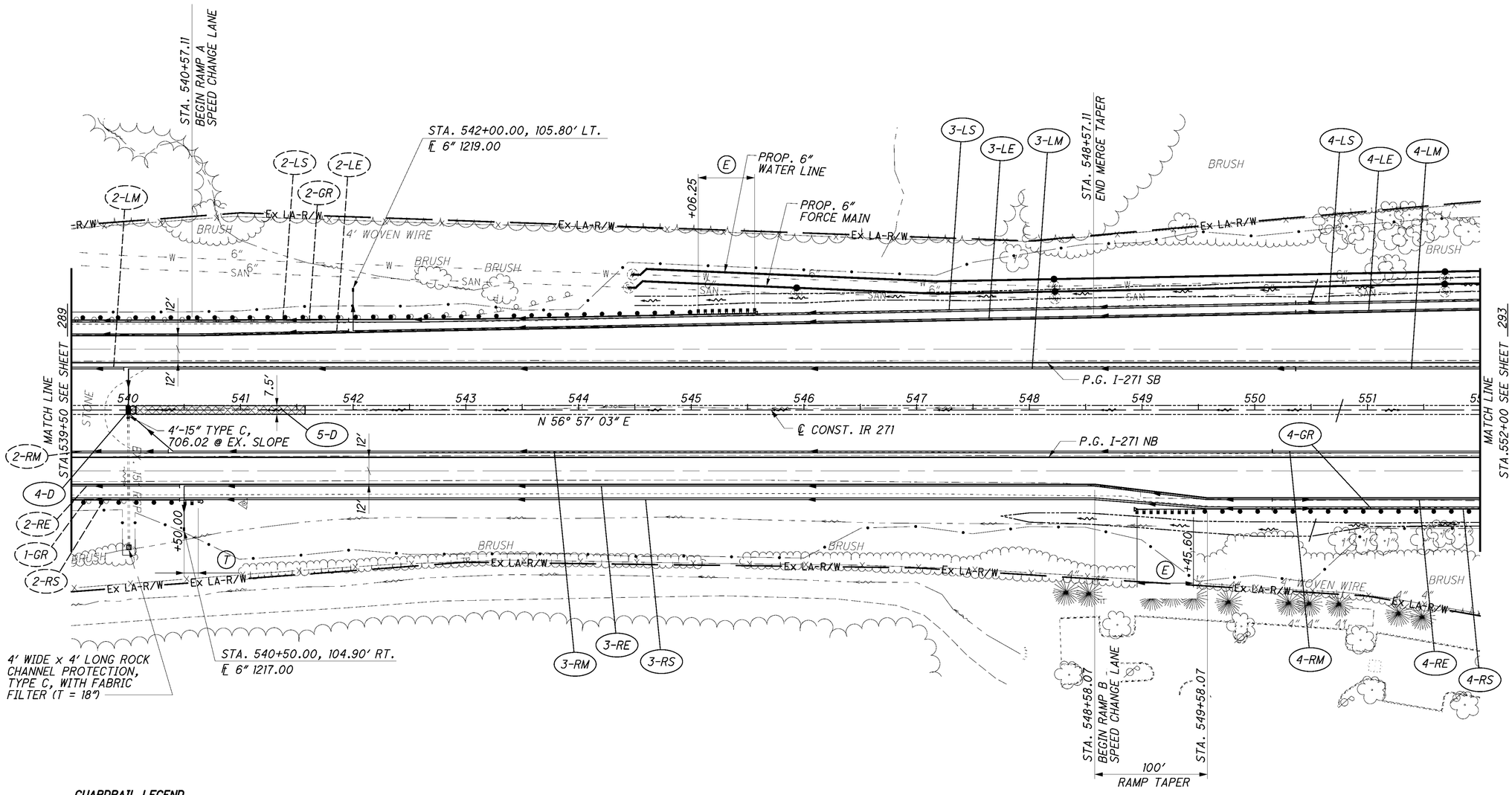
PROFILE
STA. 527+00 TO STA. 539+50

SUM-271-2.33

290
1195

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CROSS REFERENCES	
16&20	TYPICAL SECTIONS
292	PROFILE SHEET
328-539	CROSS SECTIONS
725 - 726	INTERCHANGE DETAILS
781 - 783	WATER/SANITARY PLANS



GUARDRAIL LEGEND

- (T) ANCHOR ASSEMBLY TYPE 'T' (12.5')
- (E) ANCHOR ASSEMBLY TYPE 'E' (50')
- (B) ANCHOR ASSEMBLY TYPE 'B' (37.5')
- (B1) BRIDGE TERMINAL ASSEMBLY TYPE 1 (31.25')
- (B2) BRIDGE TERMINAL ASSEMBLY TYPE 2 (25')

DRAINAGE LEGEND

- ITEM 670 - DITCH EROSION PROTECTION (WIDTH SHOWN ON PLANS)
- ITEM 836 - SEEDING AND EROSION CONTROL WITH TURF REINFORCING MAT, TYPE 1 (WIDTH SHOWN ON PLANS)

LEGEND

- —•— CONST. LIMITS

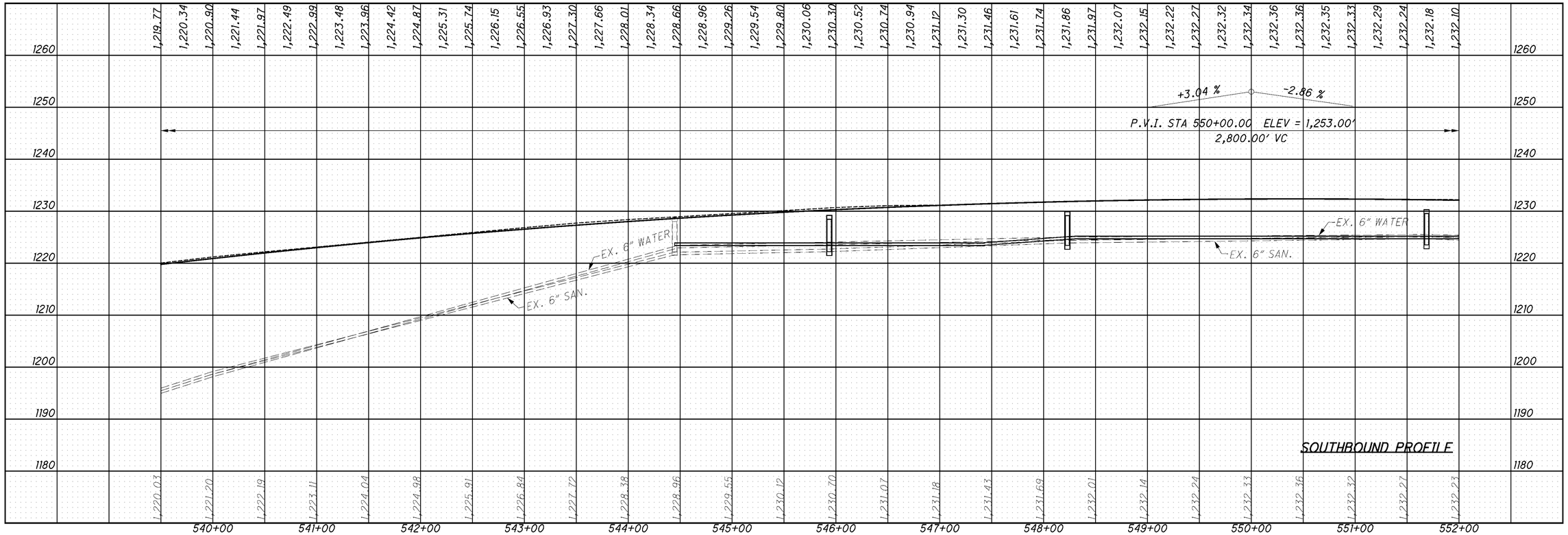
HORIZONTAL SCALE IN FEET
0 25 50 100

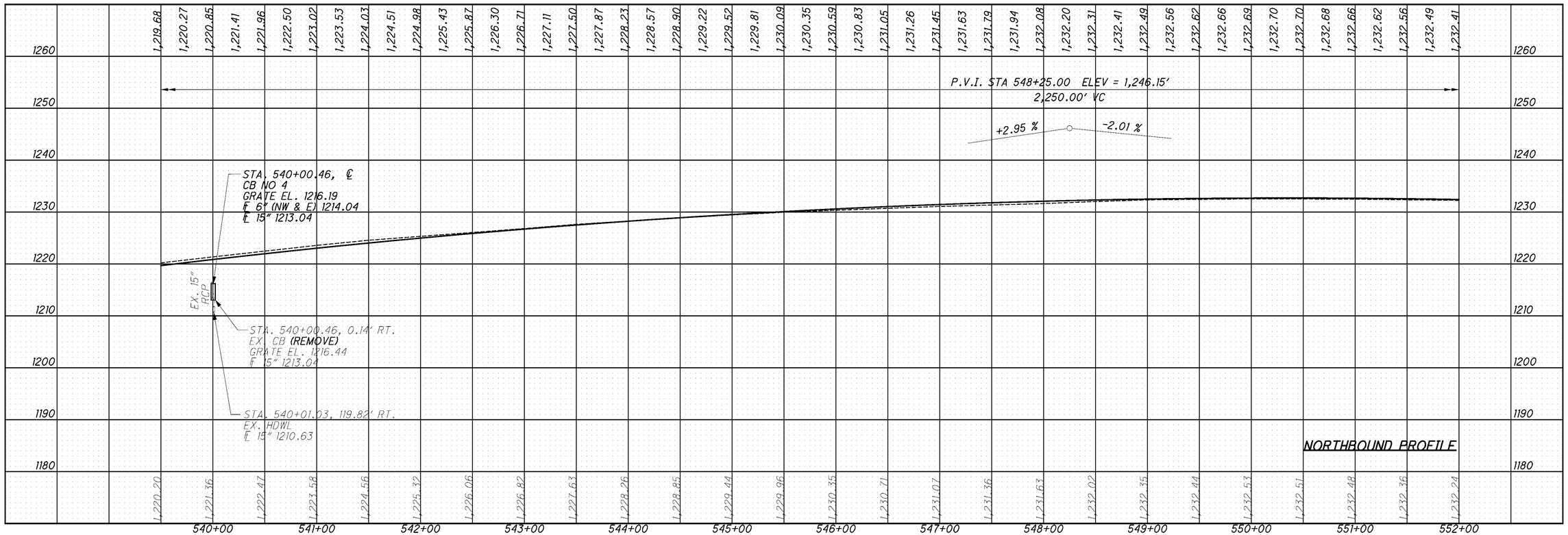
CALCULATED DAW
CHECKED PRS

PLAN - I-271
STA. 539+50 TO STA. 552+00

SUM-271-2.33

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CALCULATED DAW
CHECKED PRS

PROFILE

STA. 539+50 TO STA. 552+00

SUM-271-2.33

292
1195

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GUARDRAIL LEGEND

- (T) ANCHOR ASSEMBLY TYPE 'T' (12.5')
- (E) ANCHOR ASSEMBLY TYPE 'E' (50')
- (B) ANCHOR ASSEMBLY TYPE 'B' (37.5')
- (B1) BRIDGE TERMINAL ASSEMBLY TYPE 1 (31.25')
- (B2) BRIDGE TERMINAL ASSEMBLY TYPE 2 (25')

B.M.#SVM41: ℄ MONUMENT FOUND
STA. 554+00.06, 0.04' LT.
℄ CONST. IR 271
ELEV. 1231.62

UNDERGROUND UTILITY TEST HOLE

TEST HOLE NO.	℄ CONST IR 271 STATION, OFFSET	℄ CONST RAMP B STATION, OFFSET		SURVEYED ELEV. TOP OF UTILITY	UTILITY
TH2003	562+99.31, 87.27' RT.			1204.6*	GAS
TH2004	563+54.32, 3.99' RT.			1202.9*	GAS
TH2005	564+24.09, 96.64' LT.			1202.8*	GAS
TH2006	563+35.66, 86.22' RT.			1204.8*	SAN
TH2008	561+92.29, 334.63' RT.	62+51.26	12.43' RT.	1223.7	SAN
TH2009	561+98.00, 363.99' RT.	62+71.99	33.96' RT.	1224.2	GAS
TH2010	561.97.51, 372.26' RT.	62+76.09	41.16' RT.	1221.7*	GAS
TH2011	561+96.29, 382.21' RT.	62+80.48	50.17' RT.	1220.6*	NO UT.

* BOTTOM OF TEST HOLE ELEV.- UTILITY DEPTH NOT CONFIRMED.

B.M.#SVM34: ℄ MONUMENT FOUND
STA. 564+00.22, 0.04' RT.
℄ CONST. IR 271
ELEV. 1211.07

B.M.#SVM40: ℄ MONUMENT FOUND
STA. 555+00.12, 0.04' LT.
℄ CONST. IR 271
ELEV. 1229.64

LEGEND

— • — CONST. LIMITS

DRAINAGE LEGEND

ITEM 670 - DITCH EROSION PROTECTION (WIDTH SHOWN ON PLANS)

ITEM 836 - SEEDING AND EROSION CONTROL WITH TURF REINFORCING MAT, TYPE 1 (WIDTH SHOWN ON PLANS)

STRUCTURE CLEARANCE LEGEND

- (P) POINT OF MINIMUM VERTICAL CLEARANCE (SEE PROFILE FOR DIMENSIONS)
- (P1) STA. 554+15.95, 59.28' LT.
- (P2) STA. 554+19.31, 53.48' RT.
- (P3) STA. 564+26.20, 55.23' RT.

CROSS REFERENCES

16,20 ,21	TYPICAL SECTIONS
294	PROFILE SHEET
328-539	CROSS SECTIONS
540-541	RAMP A PLAN & PROFILE
551-552	RAMP B PAN & PROFILE
674-675	SR176 PLAN & PROFILES
725-726	INTERCHANGE DETAILS
785	OVERPASS PIER PROTECTION DETAIL
781 - 783	WATER/SANITARY PLANS

HORIZONTAL SCALE IN FEET
0 25 50 100

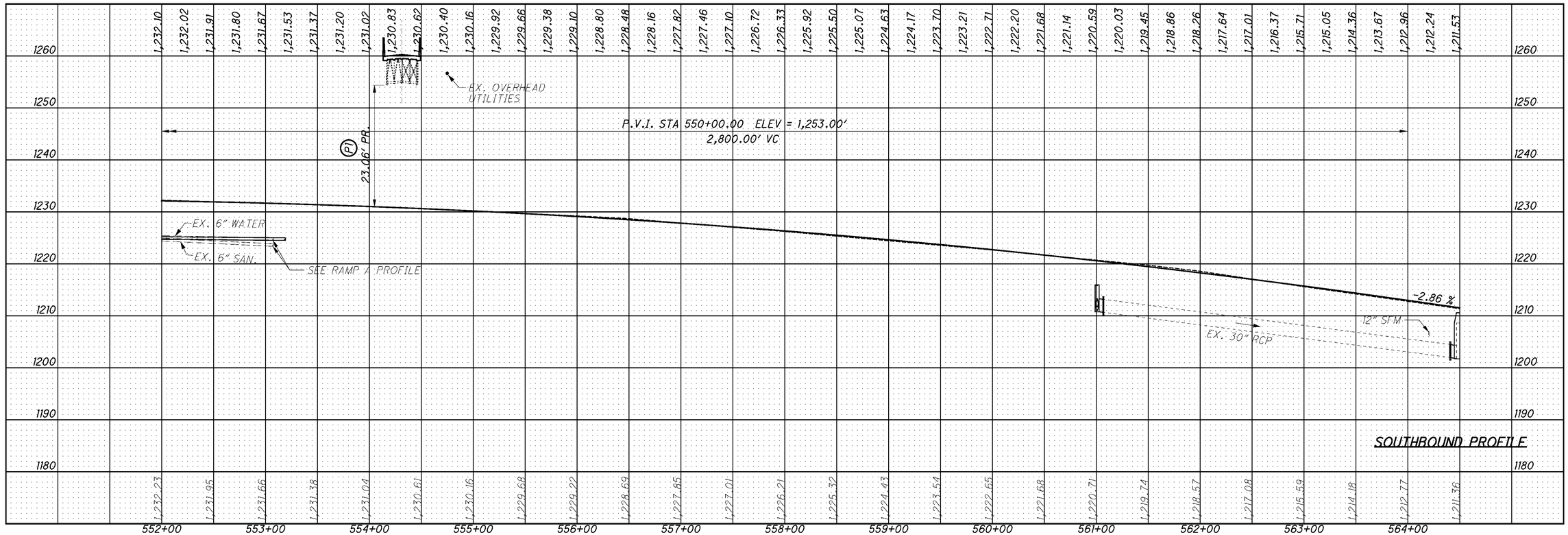
CALCULATED DAW
CHECKED PRS

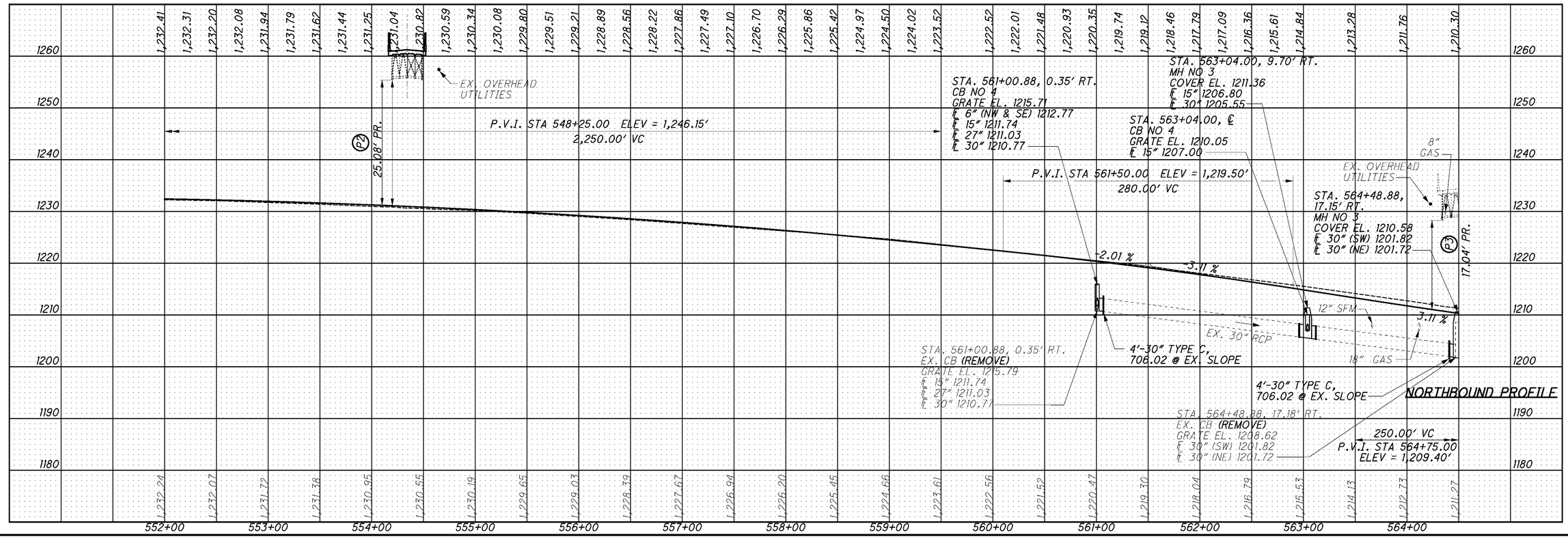
PLAN - I-271
STA. 552+00 TO STA. 564+50

SUM-271-2.33

293
1195

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CALCULATED DAW
CHECKED PRS

PROFILE
STA. 552+00 TO STA. 564+50

SUM-271-2.33

294
1195

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CROSS REFERENCES	
16 & 20	TYPICAL SECTIONS
296	PROFILE SHEET
328-539	CROSS SECTIONS
679-680	CR 17 PLAN & PROFILES
727 & 729	INTERCHANGE DETAILS
785	OVERPASS PIER PROTECTION DETAIL

STRUCTURE CLEARANCE LEGEND

(P) POINT OF MINIMUM VERTICAL CLEARANCE (SEE PROFILE FOR DIMENSIONS)

(P4) STA. 564+96.85, 53.63' LT.

B.M.#SVM32: ℄ MONUMENT FOUND
STA. 158+78.88, 0.03' RT.
℄ CONST. IR 271
ELEV. 1194.13

BRIDGE NO. SUM-271-0294

PROP. 6" FORCE MAIN

PROP. 6" WATER LINE

PROP. CONC. BARRIER, TYPE D

℄ CONST. RAMP A

PT Sta. 65+91.17

EX. 12" SAN IN 22" CASING

℄ CONST. CR 17 (BRECKSVILLE RD.) N 0° 04' 15" W

N 69° 54' 03" E

SMALL TREES & BRUSH

STA. 158+38.87 BEGIN RAMP A SPEED CHANGE LANE

STA. 166+38.87 END MERGE TAPER

P.G. I-271 SB

P.G. I-271 NB

℄ CONST. IR 271

B.M.#SVM32

N 56° 57' 03" E

4'-21" TYPE C, 706.02 @ EX. SLOPE

4'-30" TYPE C, 706.02 @ EX. SLOPE

4' WOVEN WIRE

Ex LA-R/W

EX. 30" RCP

EX. OVERHEAD ELECTRIC LINES 69kV

PLAYGROUND

STONE

BRUSH

SMALL TREES

MATCH LINE STA.564+50 SEE SHEET 293

MATCH LINE STA.167+00 SEE SHEET 297

EQUATION: Sta 566+09.70 BK = Sta 156+00.00 AH

STA. 564+79.50 ℄ CONST. IR 271 = STA. 60+70.20 ℄ CONST. CR 17 (BRECKSVILLE RD.)

STA. 166+15.89 BEGIN RAMP B SPEED CHANGE LANE

100' RAMP TAPER

GUARDRAIL LEGEND

(T) ANCHOR ASSEMBLY TYPE 'T' (12.5')
(E) ANCHOR ASSEMBLY TYPE 'E' (50')
(B) ANCHOR ASSEMBLY TYPE 'B' (37.5')
(B1) BRIDGE TERMINAL ASSEMBLY TYPE 1 (31.25')
(B2) BRIDGE TERMINAL ASSEMBLY TYPE 2 (25')

DRAINAGE LEGEND

ITEM 670 - DITCH EROSION PROTECTION (WIDTH SHOWN ON PLANS)

ITEM 836 - SEEDING AND EROSION CONTROL WITH TURF REINFORCING MAT, TYPE 1 (WIDTH SHOWN ON PLANS)

LEGEND

—•— CONST. LIMITS

UNDERGROUND UTILITY TEST HOLE

TEST HOLE NO.	℄ CONST IR 271 STATION, OFFSET	℄ CONST RAMP A STATION, OFFSET	SURVEYED ELEV. TOP OF UTILITY	UTILITY
TH2007	564+57.29, 98.89' LT.		1199.7*	SAN
TH2012	156+16.04, 321.67' LT.	66+70.30 17.30' LT.	1221.9	SAN
TH2013	156+28.83, 320.98' LT.	66+82.92 19.49' LT.	1224.8	UNK
TH2014	156+32.88, 321.33' LT.	66+86.92 20.74' LT.	1223.7	GAS
TH2015	156+37.75, 322.58' LT.	66+91.25 23.05' LT.	1224.5	GAS
TH2016	565+99.81, 93.14' LT.		1197.2*	WATER
TH2017	156+41.94, 89.36' LT.		1199.6	GAS
TH2018	564+77.80, 92.57' RT.		1199.8*	WATER
TH2019	565+41.65, 98.20' RT.		1198.0	GAS

* BOTTOM OF TEST HOLE ELEV.- UTILITY DEPTH NOT CONFIRMED.

HORIZONTAL SCALE IN FEET 0 25 50 100

CALCULATED DAW CHECKED PRS

PLAN - I-271
STA. 564+50 TO STA. 167+00

SUM-271-2.33

295
1195

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CALCULATED DAW
CHECKED PRS

PROFILE
STA. 564+50 TO STA. 167+00

SUM-271-2.33

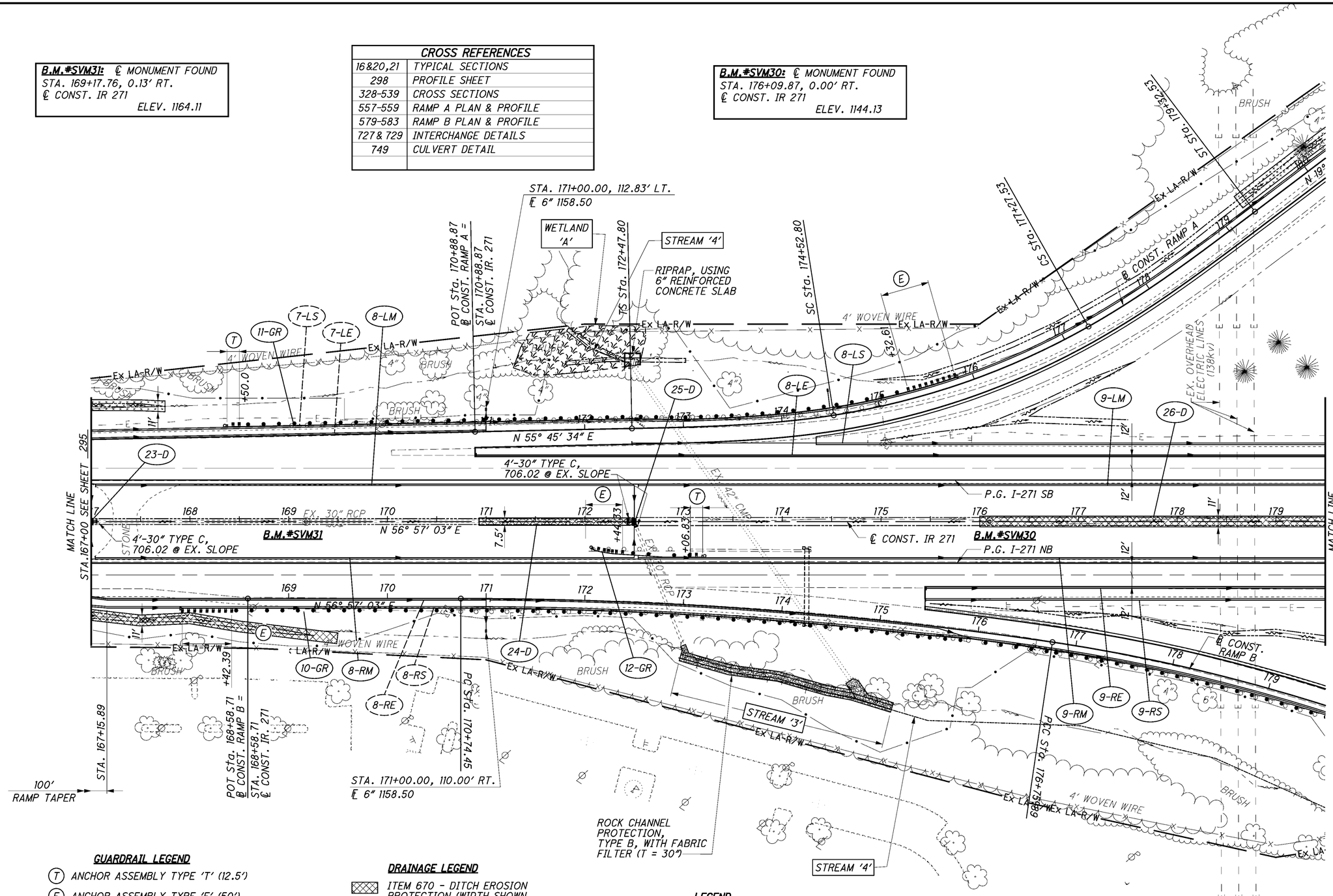
296
1195

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B.M.#SVM31: ℄ MONUMENT FOUND
STA. 169+17.76, 0.13' RT.
℄ CONST. IR 271
ELEV. 1164.11

CROSS REFERENCES	
16&20,21	TYPICAL SECTIONS
298	PROFILE SHEET
328-539	CROSS SECTIONS
557-559	RAMP A PLAN & PROFILE
579-583	RAMP B PLAN & PROFILE
727& 729	INTERCHANGE DETAILS
749	CULVERT DETAIL

B.M.#SVM30: ℄ MONUMENT FOUND
STA. 176+09.87, 0.00' RT.
℄ CONST. IR 271
ELEV. 1144.13



GUARDRAIL LEGEND

- (T) ANCHOR ASSEMBLY TYPE 'T' (12.5')
- (E) ANCHOR ASSEMBLY TYPE 'E' (50')
- (B) ANCHOR ASSEMBLY TYPE 'B' (37.5')
- (B1) BRIDGE TERMINAL ASSEMBLY TYPE 1 (31.25')
- (B2) BRIDGE TERMINAL ASSEMBLY TYPE 2 (25')

DRAINAGE LEGEND

- ITEM 670 - DITCH EROSION PROTECTION (WIDTH SHOWN ON PLANS)
- ITEM 836 - SEEDING AND EROSION CONTROL WITH TURF REINFORCING MAT, TYPE 1 (WIDTH SHOWN ON PLANS)

LEGEND

- CONST. LIMITS
- STREAM 'X' STREAM RESOURCE ID
- WETLAND 'X' WETLAND RESOURCE ID

HORIZONTAL SCALE IN FEET
0 25 50 100

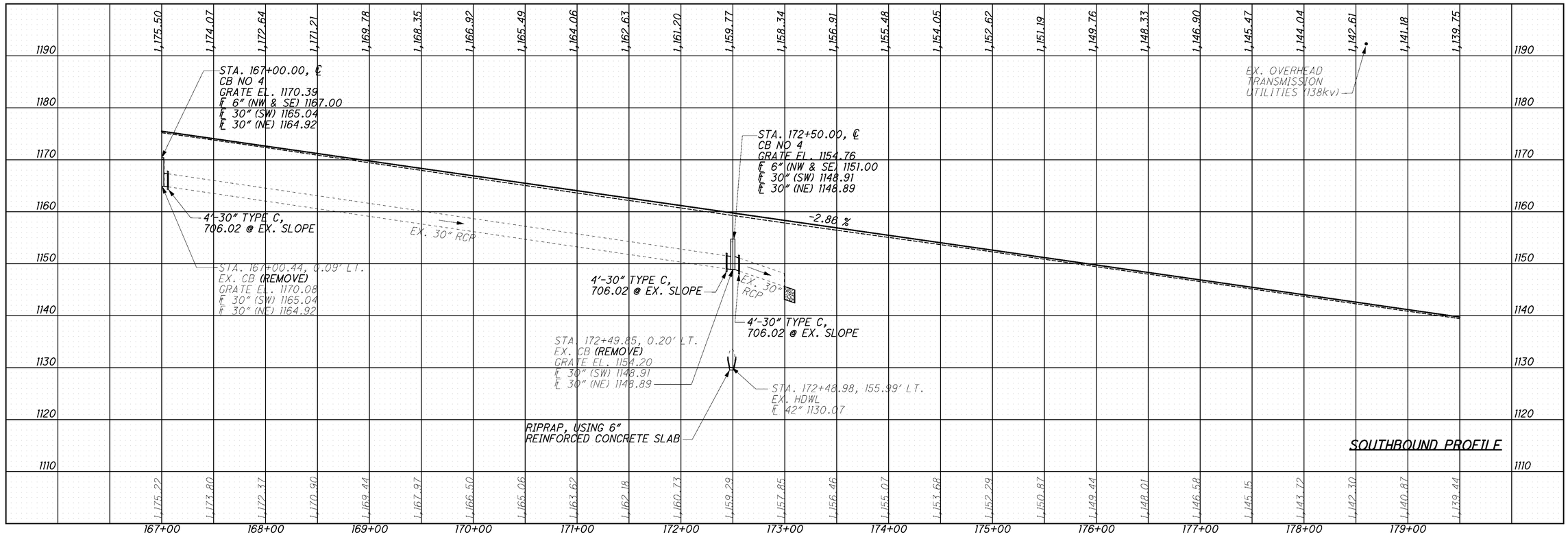
CALCULATED DAW
CHECKED PRS

PLAN - I-271
STA. 167+00 TO STA. 179+50

SUM-271-2.33

297
1195

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CALCULATED DAW
CHECKED PRS

PROFILE
STA. 167+00 TO STA. 179+50

SUM-271-2.33

298
1195

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CROSS REFERENCES	
16&20,21	TYPICAL SECTIONS
300	PROFILE SHEET
328-539	CROSS SECTIONS
624-626	RAMP D PLAN & PROFILE
734	INTERCHANGE DETAILS
777	DRAINAGE DETAILS

B.M.#SVM27: ℄ MONUMENT FOUND
STA. 187+12.06, 0.03' RT.
℄ CONST. IR 271
ELEV. 1116.06

B.M.#SVM7031: IRON PIN FOUND
STA. 186+99.89, 0.21' LT.
℄ CONST. IR 271
ELEV. 1117.18

LEGEND

—·— CONST. LIMITS
STREAM 'X' STREAM RESOURCE ID
WETLAND 'X' WETLAND RESOURCE ID

** SEE SHEETS 787 - 791 FOR RWIS SENSOR NOTES AND DETAIL

STRUCTURE CLEARANCE LEGEND

(P) POINT OF MINIMUM VERTICAL CLEARANCE (SEE PROFILE FOR DIMENSIONS)
(P1) STA. 189+57.78, 78" RT.
(P2) STA. 190+23.98, 39.39' LT.

STA. 187+00.00, 22.00' LT.
℄ RAMP D
℄ 6" 1113.00

SC Sta. 183+29.54
TS Sta. 181+29.54
SC Sta. 172+34.29
CS Sta. 185+50.82
ST Sta. 187+50.82
ST Sta. 170+34.29 = ST Sta. 918+79.79 ℄ CONST. RAMP D = ST Sta. 918+79.79 ℄ CONST. IR 77
PC Sta. 187+12.06
CS Sta. 186+94.67

℄ CONST. RAMP A
℄ CONST. RAMP D
℄ CONST. IR 271
℄ CONST. IR 77
P.G. I-271 SB
P.G. I-271 NB
EX. LA R/W
EX. 21" RCP
EX. 15" CMP
EX. 12" CMP (REMOVE)
PROP. 15" RCP
PROP. 18" RCP
4' WOVEN WIRE
BRUSH
TREES
2" TREES
3" TREES
4" PINES
N 56° 51' 03" E
N 79° 14' 55" E
N 64° 19' 38" E
N 4° 50' 48" W
46' 45" E
150' PAVEMENT SHIFT
+50.00 42' LT.
+00.00 40' LT.
+48.58
+42.1
+77.9
+69.05
+50.3
+90.2
+62.9
+73.00
MATCH LINE STA.179+50 SEE SHEET 297
MATCH LINE STA.192+00 SEE SHEET 301

BRIDGE NO. SUM-271-0354 L&R
STA. 189+35.14, ℄ CONST. IR 271 = STA. 917+08.10, ℄ CONST. IR 77
4'-21" TYPE C, 706.02 @ EX. SLOPE
26'-15" TYPE C @ 0.52%
B.M.#SVM7032
B.M.#SVM27
B.M.#SVM7031
BRIDGE NO. SUM-271-0354 B
STA. 187+47.81 ℄ CONST. RAMP B = STA. 911+70.79 ℄ CONST. IR 77
** STA. 187+01.03, 9.62' RT. EX. WEATHER STATION (DO NOT DISTURB)
37'-15" TYPE C @ 4.00%
10'-15" TYPE F @ 4.00%
77'-15" TYPE F @ 38.49%
5'-15" TYPE F @ 2.00%
10'-15" TYPE F @ 2.00%
21'-15" TYPE F @ 43.31%
8'-15" TYPE F @ 0.50%
STA. 186+50.00, 93.00' RT.
℄ 6" 1113.50
RCP, TYPE B W/ FF (T=30")
STA. 181+00.00, 107.70' RT.
℄ 6" 1130.00
STREAM '4'
RCP, TYPE B W/ FABRIC FILTER (T=30")
SECTION A-A
2:1 MAX. 2' 4' 2' 2:1 MAX.

℄ CONST. IR 271 271-C1 CURVE DATA
P.I.= Sta. 195+17.68
Δ = 23° 19' 05" (RT)
Dc = 1° 28' 03"
R = 3,904.23'
T = 805.62'
L = 1,588.94'
E = 82.25'
C = 1,578.00'
C.B. = N 68° 36' 35" E
eMAX. = 0.051

B.M.#SVM7032: IRON PIN FOUND
STA. 191+99.94, 0.12' LT.
℄ CONST. IR 271
ELEV. 1100.61

GUARDRAIL LEGEND

(T) ANCHOR ASSEMBLY TYPE 'T' (12.5')
(E) ANCHOR ASSEMBLY TYPE 'E' (50')
(B) ANCHOR ASSEMBLY TYPE 'B' (37.5')
(B1) BRIDGE TERMINAL ASSEMBLY TYPE 1 (31.25')
(B2) BRIDGE TERMINAL ASSEMBLY TYPE 2 (25')

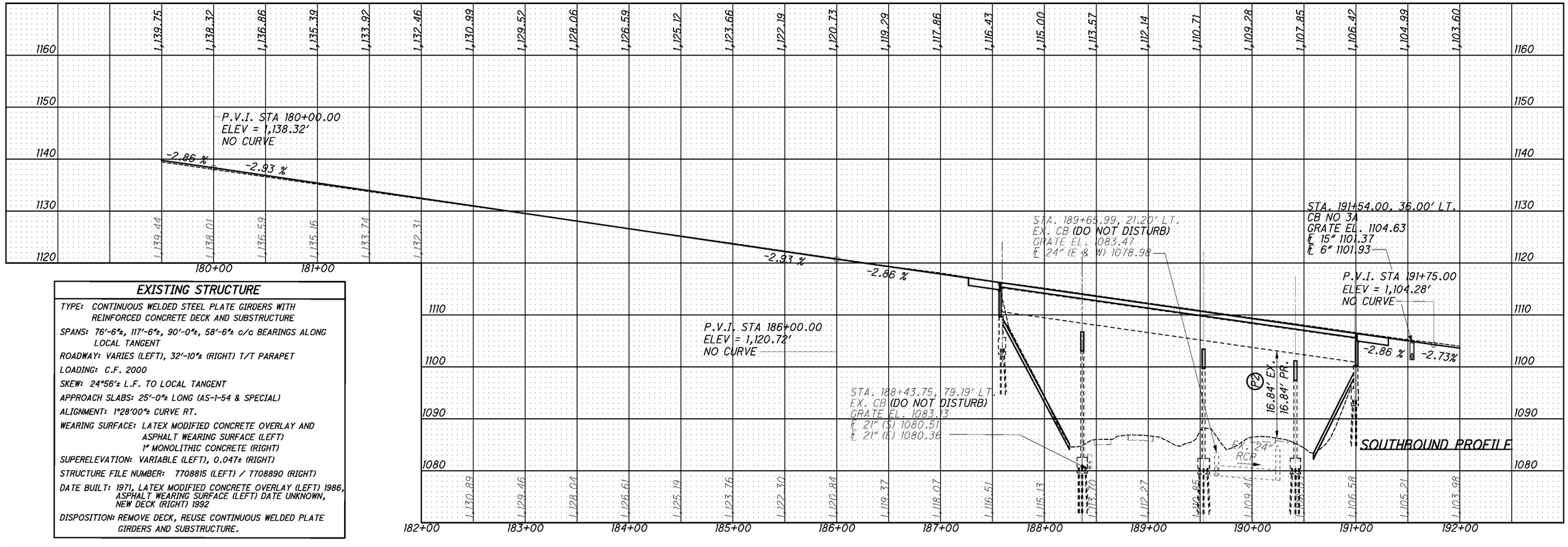
DRAINAGE LEGEND

ITEM 670 - DITCH EROSION PROTECTION (WIDTH SHOWN ON PLANS)
ITEM 836 - SEEDING AND EROSION CONTROL WITH TURF REINFORCING MAT, TYPE 1 (WIDTH SHOWN ON PLANS)

HORIZONTAL SCALE IN FEET
0 25 50 100
CALCULATED DAW
CHECKED PRS

PLAN - I-271
STA. 179+50 TO STA. 192+00
SUM-271-2.33
299
1195

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EXISTING STRUCTURE

TYPE: CONTINUOUS WELDED STEEL PLATE GIRDERS WITH REINFORCED CONCRETE DECK AND SUBSTRUCTURE

SPANS: 76'-6"±, 117'-6"±, 90'-0"±, 58'-6"± c/c BEARINGS ALONG LOCAL TANGENT

ROADWAY: VARIES (LEFT), 32'-10"± (RIGHT) T/T PARAPET

LOADING: C.F. 2000

SKEW: 24°56'± L.F. TO LOCAL TANGENT

APPROACH SLABS: 25'-0"± LONG (AS-I-54 & SPECIAL)

ALIGNMENT: 1°28'00"± CURVE RT.

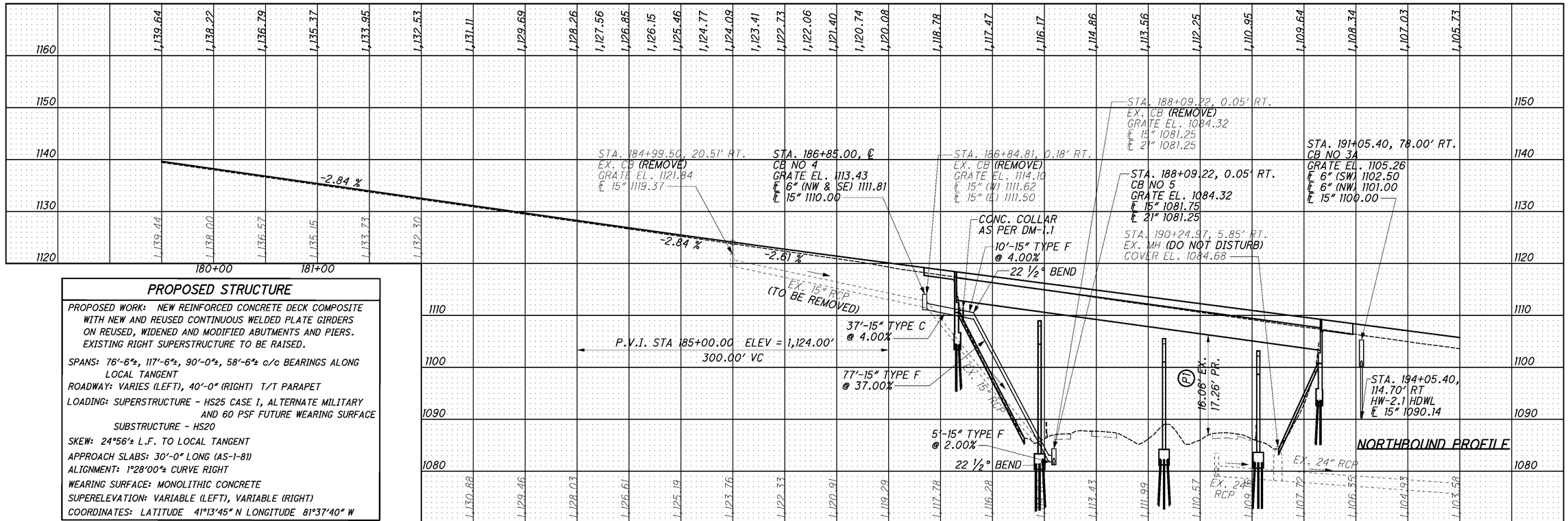
WEARING SURFACE: LATEX MODIFIED CONCRETE OVERLAY AND ASPHALT WEARING SURFACE (LEFT)
1" MONOLITHIC CONCRETE (RIGHT)

SUPERELEVATION: VARIABLE (LEFT), 0.047± (RIGHT)

STRUCTURE FILE NUMBER: 7708815 (LEFT) / 7708890 (RIGHT)

DATE BUILT: 1971, LATEX MODIFIED CONCRETE OVERLAY (LEFT) 1986, ASPHALT WEARING SURFACE (LEFT) DATE UNKNOWN, NEW DECK (RIGHT) 1992

DISPOSITION: REMOVE DECK, REUSE CONTINUOUS WELDED PLATE GIRDERS AND SUBSTRUCTURE.



PROPOSED STRUCTURE

PROPOSED WORK: NEW REINFORCED CONCRETE DECK COMPOSITE WITH NEW AND REUSED CONTINUOUS WELDED PLATE GIRDERS ON REUSED, WIDENED AND MODIFIED ABUTMENTS AND PIERS. EXISTING RIGHT SUPERSTRUCTURE TO BE RAISED.

SPANS: 76'-6"±, 117'-6"±, 90'-0"±, 58'-6"± c/c BEARINGS ALONG LOCAL TANGENT

ROADWAY: VARIES (LEFT), 40'-0" (RIGHT) T/T PARAPET

LOADING: SUPERSTRUCTURE - HS25 CASE I, ALTERNATE MILITARY AND 60 PSF FUTURE WEARING SURFACE
SUBSTRUCTURE - HS20

SKEW: 24°56'± L.F. TO LOCAL TANGENT

APPROACH SLABS: 30'-0" LONG (AS-I-81)

ALIGNMENT: 1°28'00"± CURVE RIGHT

WEARING SURFACE: MONOLITHIC CONCRETE

SUPERELEVATION: VARIABLE (LEFT), VARIABLE (RIGHT)

COORDINATES: LATITUDE 41°13'45" N LONGITUDE 81°37'40" W

CALCULATED DAW
CHECKED PRS

PROFILE
STA. 179+50 TO STA. 192+00

SUM-271-2.33

300
1195

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CROSS REFERENCES	
16, 17, 19 - 21	TYPICAL SECTIONS
302	PROFILE SHEET
328-539	CROSS SECTIONS
581	RAMP B PLAN & PROFILE
617-618	RAMP C PLAN & PROFILE
731-732, 734	INTERCHANGE DETAILS
777	DRAINAGE DETAILS
774	STRUCTURE END DETAILS

DRAINAGE LEGEND

- ITEM 670 - DITCH EROSION PROTECTION (WIDTH SHOWN ON PLANS)
- ITEM 836 - SEEDING AND EROSION CONTROL WITH TURF REINFORCING MAT, TYPE 1 (WIDTH SHOWN ON PLANS)

LEGEND

- PRESSURE RELIEF JOINT
- PRESSURE RELIEF JOINT CONCRETE
- CONST. LIMITS

B.M.#SVM26: ℄ MONUMENT FOUND
STA. 195+06.75, 0.16' RT.
℄ CONST. IR 271
ELEV. 1091.01

B.M.#SV74: IRON PIN FOUND
STA. 198+98.91, 163.45' RT.
℄ CONST. IR 271
ELEV. 1061.29

B.M.#SV7035: IRON PIN FOUND
STA. 196+99.80, 0.19' LT.
℄ CONST. IR 271
ELEV. 1086.58

B.M.#SV75: IRON PIN FOUND
STA. 199+15.13, 169.22' LT.
℄ CONST. IR 271
ELEV. 1063.11

STA. 199+18.03 ℄ CONST. IR 271
STA. 201+88.30 ℄ CONST. RAMP B

POT STA. 192+14.84 ℄ CONST. RAMP D = STA. 192+14.95 ℄ CONST. IR 271

MATCH LINE STA. 192+00 SEE SHEET 299

MATCH LINE STA. 204+50 SEE SHEET 303

℄ CONST. RAMP D

℄ CONST. IR 271 B.M.#SVM26

P.G. I-271 NB

P.G. I-271 SB B.M.#SV7035

℄ CONST. RAMP C

℄ CONST. RAMP B

EX LA-R/W

EX 24" RCP

EX 36" CMP

STA. 194+50.93 BEGIN RAMP D SPEED CHANGE LANE

STA. 195+50.93 BEGIN RAMP D SPEED CHANGE LANE

CS STA. 207+07.97

CS STA. 205+07.97

100' RAMP TAPER

72'-15" TYPE F @ 35.05%

34'-15" TYPE C @ 1.00%

27'-15" TYPE C @ 1.00%

4' WOVEN WIRE

150' PAVEMENT SHIFT

STA. 198+00.00, 130.00' LT.
℄ 6" 1064.00

4' WIDE x 10' LONG ROCK CHANNEL PROTECTION, TYPE B, WITH FABRIC FILTER (T = 30")

10' WIDE x 220' LONG ROCK CHANNEL PROTECTION, TYPE C, WITH FABRIC FILTER (T = 18")

9' WIDE x 65' LONG ROCK CHANNEL PROTECTION, TYPE B, WITH FABRIC FILTER (T = 30")

PT Sta. 198+48.38 ℄ CONST. RAMP C

PT Sta. 198+53.15 ℄ CONST. IR 271

PT Sta. 203+60.00

BRIDGE NO. SUM-271-0375 L&R

STREAM '7'

EX. OVERHEAD ELECTRIC LINES

STA. 203+06.35 BEGIN MERGE TAPER

2"-4" TREES

1" PINES

2" PINES

DENSE TREES

BRUSH

ACP (REMOVE)

CONC (REMOVE)

GUARDRAIL LEGEND

- (T) ANCHOR ASSEMBLY TYPE 'T' (12.5')
- (E) ANCHOR ASSEMBLY TYPE 'E' (50')
- (B) ANCHOR ASSEMBLY TYPE 'B' (37.5')
- (B1) BRIDGE TERMINAL ASSEMBLY TYPE 1 (31.25')
- (B2) BRIDGE TERMINAL ASSEMBLY TYPE 2 (25')

℄ CONST. IR 271
271-C1 CURVE DATA

P.I.= Sta. 195+17.68
Δ = 23° 19' 05" (RT)
Dc = 1° 28' 03"
R = 3,904.23'
T = 805.62'
L = 1,588.94'
E = 82.25'
C = 1,578.00'
C.B. = N 68° 36' 35" E
eMAX. = 0.051

STRUCTURE CLEARANCE LEGEND

- (P) POINT OF MINIMUM VERTICAL CLEARANCE (SEE PROFILE FOR DIMENSIONS)
- (P1) STA. 199+24.90, 37.60' LT.
- (P2) STA. 199+11.26, 97.00' RT.

HORIZONTAL SCALE IN FEET
0 25 50 100

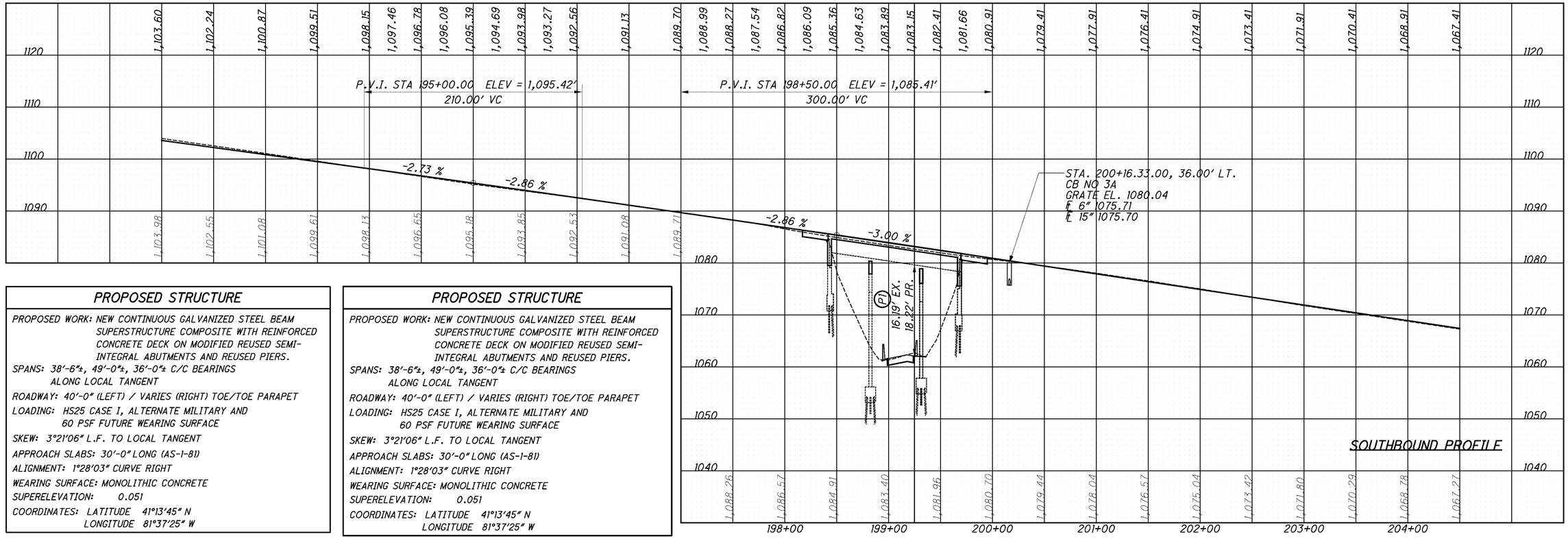
CALCULATED DAW
CHECKED PRS

PLAN - I-271
STA. 192+00 TO STA. 204+50

SUM-271-2.33

301
1195

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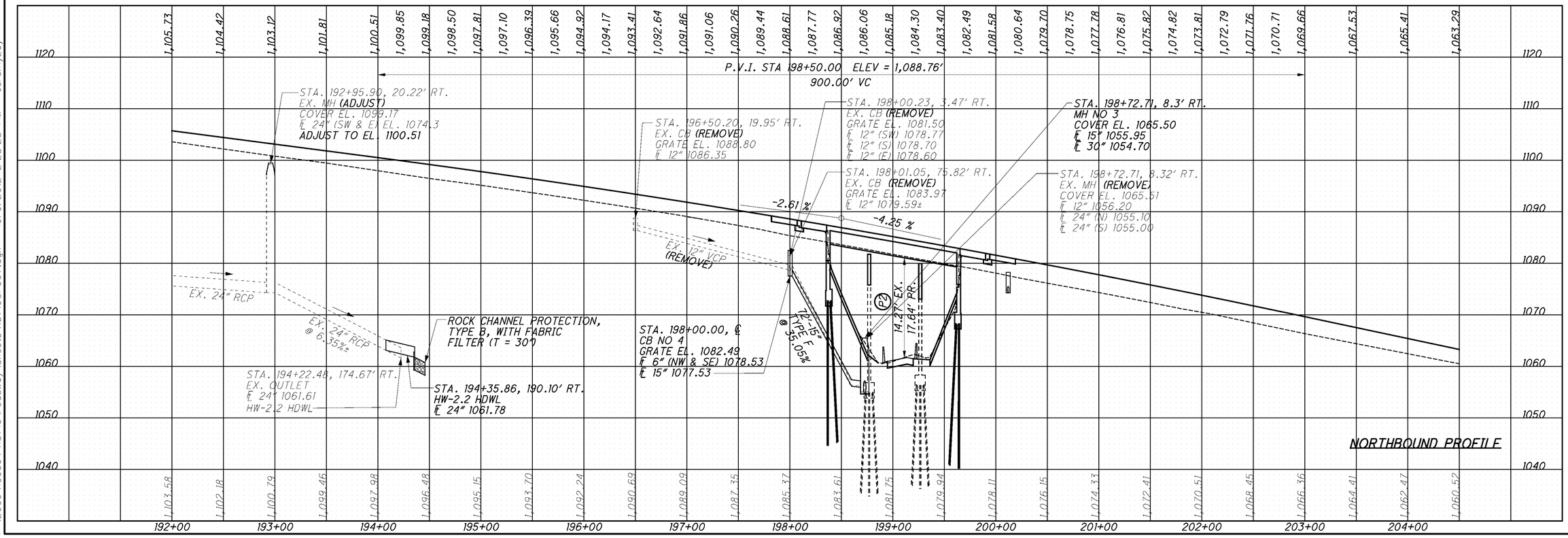


PROPOSED STRUCTURE

PROPOSED WORK: NEW CONTINUOUS GALVANIZED STEEL BEAM SUPERSTRUCTURE COMPOSITE WITH REINFORCED CONCRETE DECK ON MODIFIED REUSED SEMI-INTEGRAL ABUTMENTS AND REUSED PIERS.
SPANS: 38'-6¼, 49'-0¼, 36'-0"± C/C BEARINGS ALONG LOCAL TANGENT
ROADWAY: 40'-0" (LEFT) / VARIES (RIGHT) TOE/TOE PARAPET
LOADING: HS25 CASE I, ALTERNATE MILITARY AND 60 PSF FUTURE WEARING SURFACE
SKEW: 3°21'06" L.F. TO LOCAL TANGENT
APPROACH SLABS: 30'-0" LONG (AS-1-81)
ALIGNMENT: 1°28'03" CURVE RIGHT
WEARING SURFACE: MONOLITHIC CONCRETE
SUPERELEVATION: 0.051
COORDINATES: LATITUDE 41°13'45" N
LONGITUDE 81°37'25" W

PROPOSED STRUCTURE

PROPOSED WORK: NEW CONTINUOUS GALVANIZED STEEL BEAM SUPERSTRUCTURE COMPOSITE WITH REINFORCED CONCRETE DECK ON MODIFIED REUSED SEMI-INTEGRAL ABUTMENTS AND REUSED PIERS.
SPANS: 38'-6¼, 49'-0¼, 36'-0"± C/C BEARINGS ALONG LOCAL TANGENT
ROADWAY: 40'-0" (LEFT) / VARIES (RIGHT) TOE/TOE PARAPET
LOADING: HS25 CASE I, ALTERNATE MILITARY AND 60 PSF FUTURE WEARING SURFACE
SKEW: 3°21'06" L.F. TO LOCAL TANGENT
APPROACH SLABS: 30'-0" LONG (AS-1-81)
ALIGNMENT: 1°28'03" CURVE RIGHT
WEARING SURFACE: MONOLITHIC CONCRETE
SUPERELEVATION: 0.051
COORDINATES: LATITUDE 41°13'45" N
LONGITUDE 81°37'25" W



CALCULATED DAW
CHECKED PRS

PROFILE
STA. 192+00 TO STA. 204+50

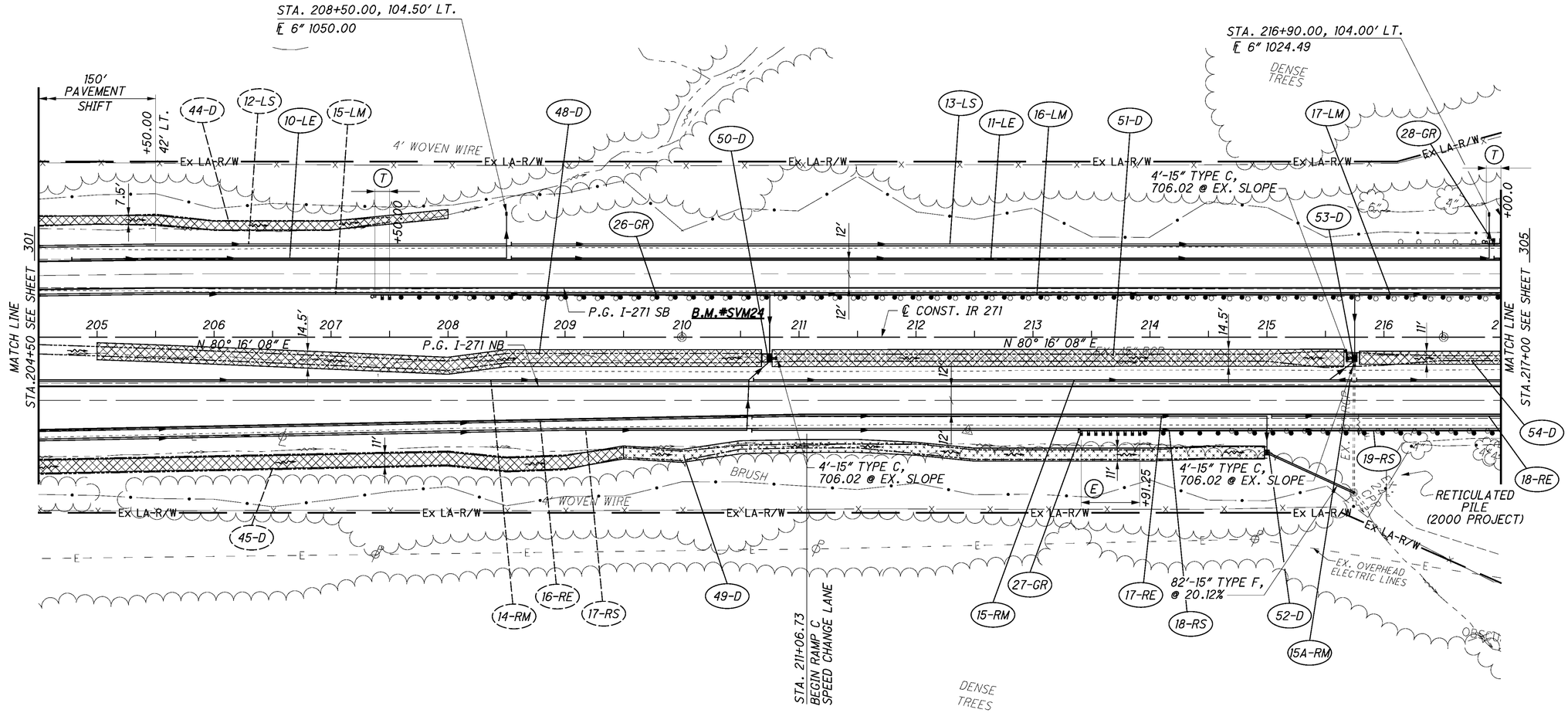
SUM-271-2.33

302
1195

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B.M.#SVM24: ℄ MONUMENT FOUND
STA. 209+99.91, 0.00' RT.
℄ CONST. IR 271
ELEV. 1040.35

CROSS REFERENCES	
17	TYPICAL SECTIONS
304	PROFILE SHEET
328-539	CROSS SECTIONS



GUARDRAIL LEGEND

- (T) ANCHOR ASSEMBLY TYPE 'T' (12.5')
- (E) ANCHOR ASSEMBLY TYPE 'E' (50')
- (B) ANCHOR ASSEMBLY TYPE 'B' (37.5')
- (B1) BRIDGE TERMINAL ASSEMBLY TYPE 1 (31.25')
- (B2) BRIDGE TERMINAL ASSEMBLY TYPE 2 (25')

DRAINAGE LEGEND

- ITEM 670 - DITCH EROSION PROTECTION (WIDTH SHOWN ON PLANS)
- ITEM 836 - SEEDING AND EROSION CONTROL WITH TURF REINFORCING MAT, TYPE 1 (WIDTH SHOWN ON PLANS)

LEGEND

- CONST. LIMITS

HORIZONTAL SCALE IN FEET
0 25 50 100

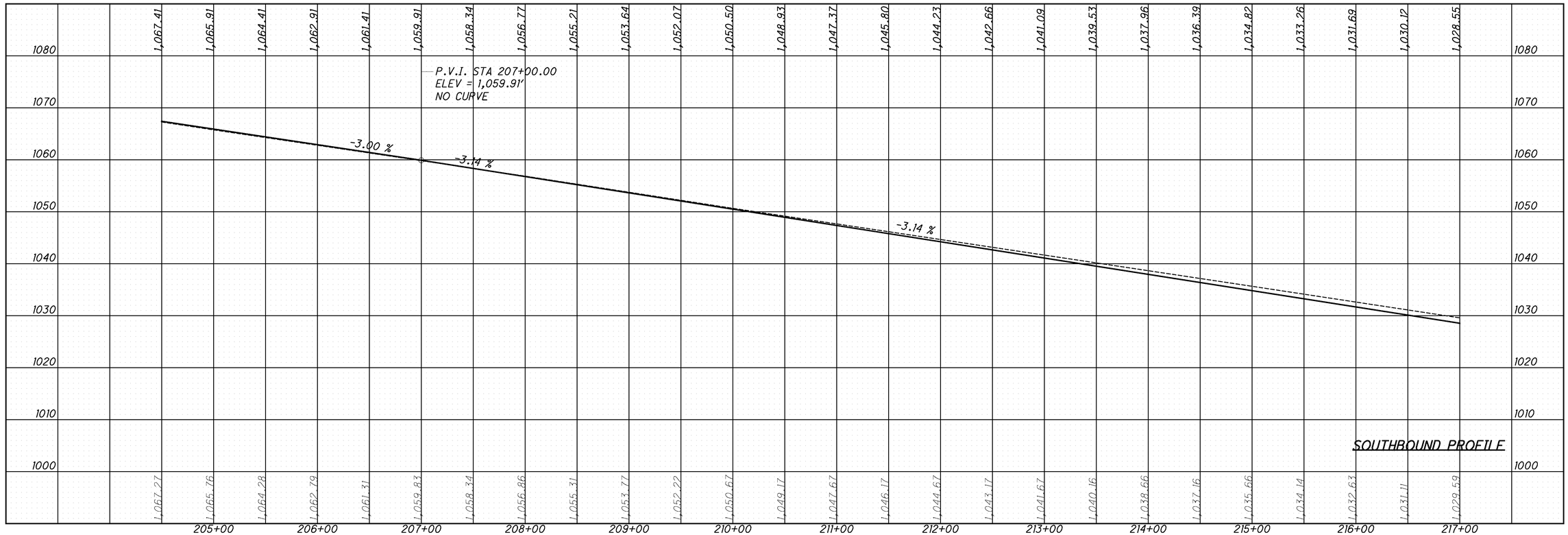
CALCULATED DAW
CHECKED PRS

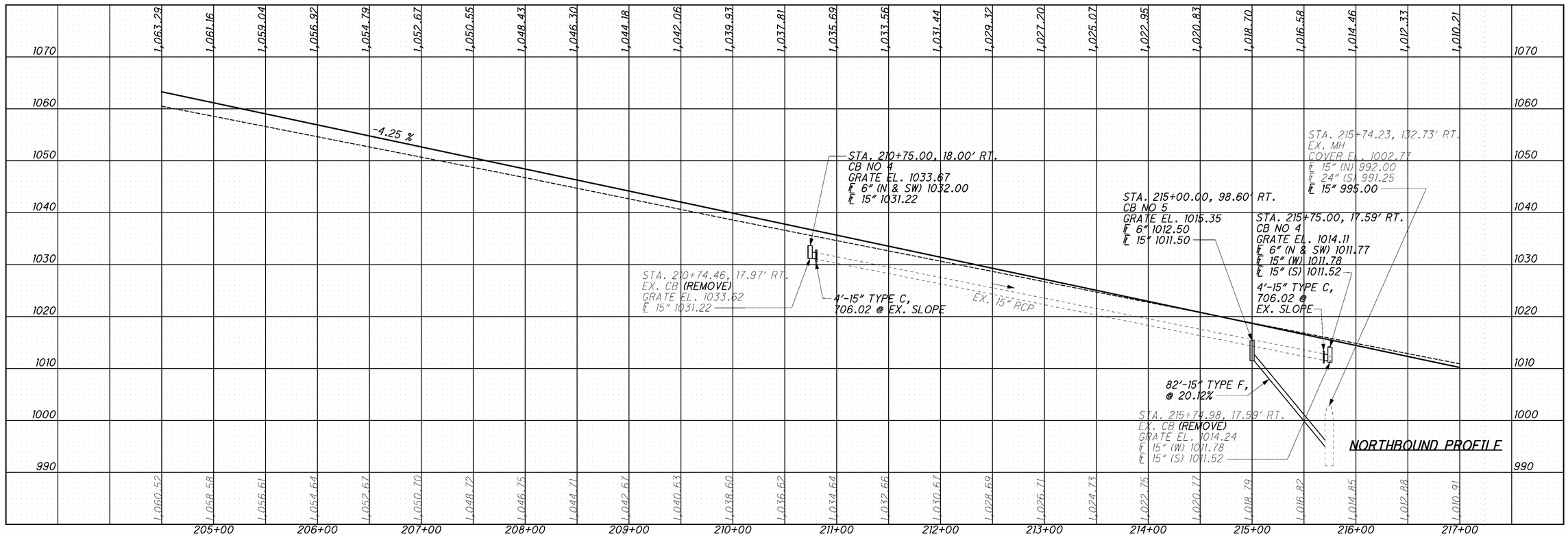
PLAN - I-271
STA. 204+50 TO STA. 217+00

SUM-271-2.33

303
1195

F:\2009\109094\18710\roadway\sheets\18710GP008.dgn 11/1/2012 2:46:31 PM CraigBanghart





PROFILE
STA. 204+50 TO STA. 217+00

CALCULATED DAW
CHECKED PRS

SUM-271-2.33

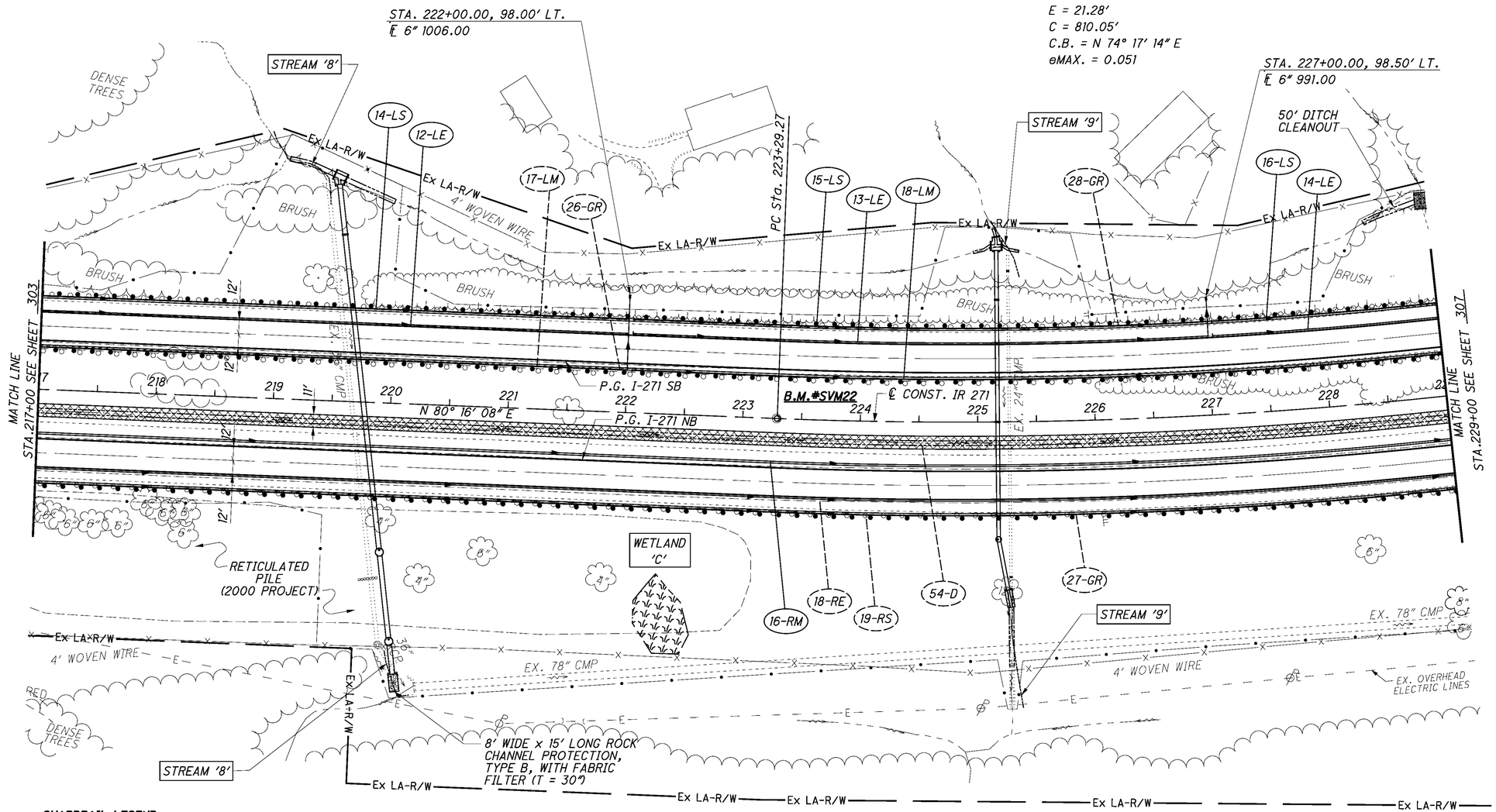
304
1195

F:\2009\109094\18710\roadway\sheets\18710GF008.dgn 10/6/2012 2:29:01 PM Jeremy.Loy

B.M.#SVM22: ℄ MONUMENT FOUND
STA. 223+28.82, 0.00' RT.
℄ CONST. IR 271
ELEV. 992.94

℄ CONST. IR 271
271-C2 CURVE DATA
P.I.= Sta. 227+36.51
Δ = 11° 57' 48" (LT)
Dc = 1° 28' 27"
R = 3,886.56'
T = 407.24'
L = 811.52'
E = 21.28'
C = 810.05'
C.B. = N 74° 17' 14" E
eMAX. = 0.051

CROSS REFERENCES	
17	TYPICAL SECTIONS
306	PROFILE SHEET
328-539	CROSS SECTIONS
745	STORM SEWER PROFILE
750 & 751	CULVERT DETAILS



GUARDRAIL LEGEND

- (T) ANCHOR ASSEMBLY TYPE 'T' (12.5')
- (E) ANCHOR ASSEMBLY TYPE 'E' (50')
- (B) ANCHOR ASSEMBLY TYPE 'B' (37.5')
- (B1) BRIDGE TERMINAL ASSEMBLY TYPE 1 (31.25')
- (B2) BRIDGE TERMINAL ASSEMBLY TYPE 2 (25')

DRAINAGE LEGEND

- ITEM 670 - DITCH EROSION PROTECTION (WIDTH SHOWN ON PLANS)
- ITEM 836 - SEEDING AND EROSION CONTROL WITH TURF REINFORCING MAT, TYPE 1 (WIDTH SHOWN ON PLANS)

LEGEND

- —·— CONST. LIMITS
- STREAM 'X' STREAM RESOURCE ID
- WETLAND 'X' WETLAND RESOURCE ID

HORIZONTAL SCALE IN FEET
0 25 50 100

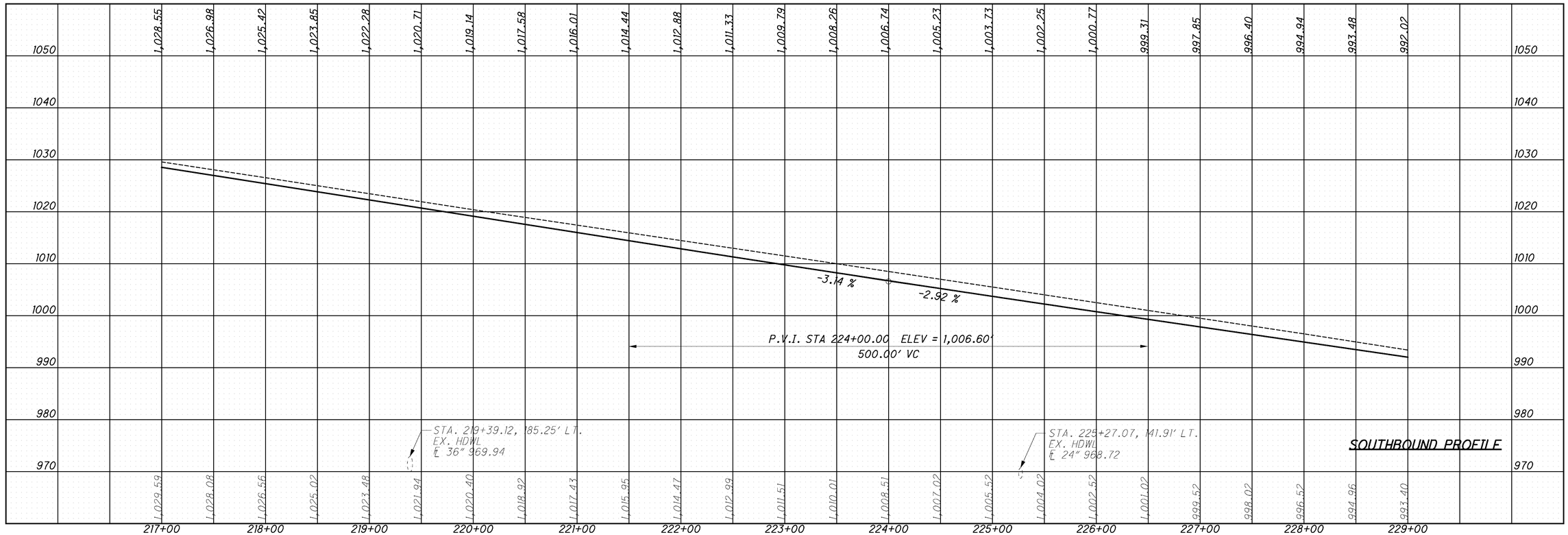
CALCULATED DAW
CHECKED PRS

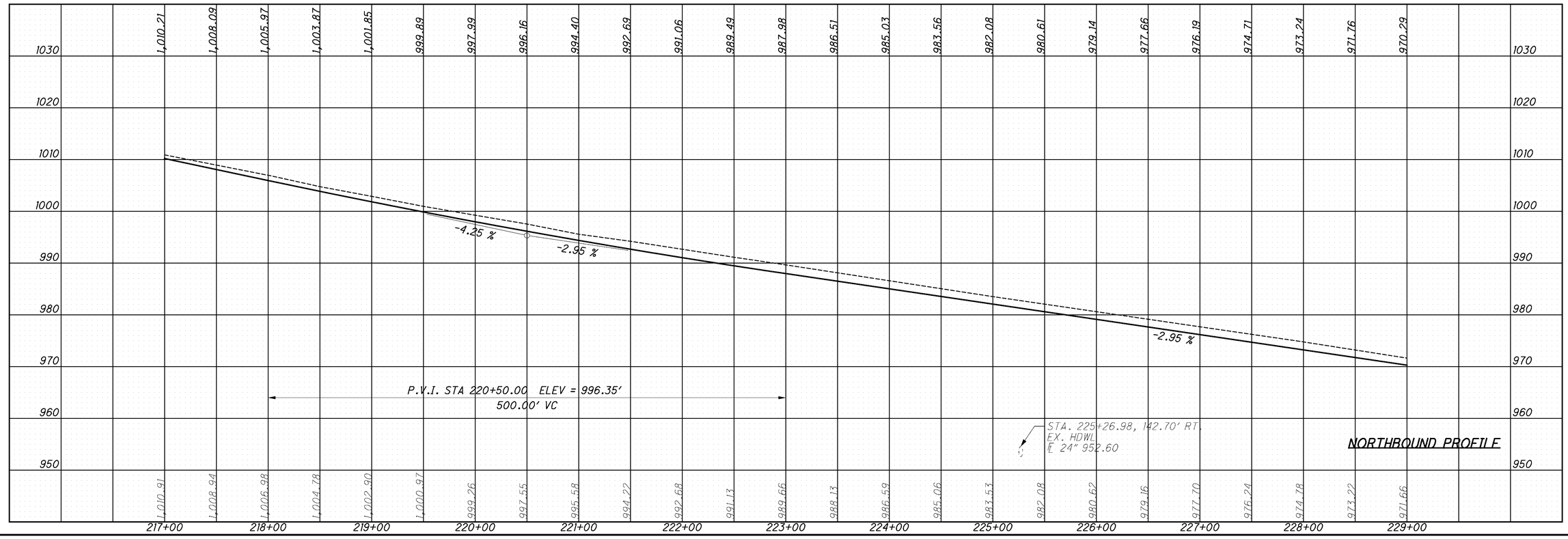
PLAN - I-271
STA. 217+00 TO STA. 229+00

SUM-271-2.33

305
1195

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PROFILE
STA. 217+00 TO STA. 229+00

CALCULATED DAW
CHECKED PRS

SUM-271-2.33

306
1195

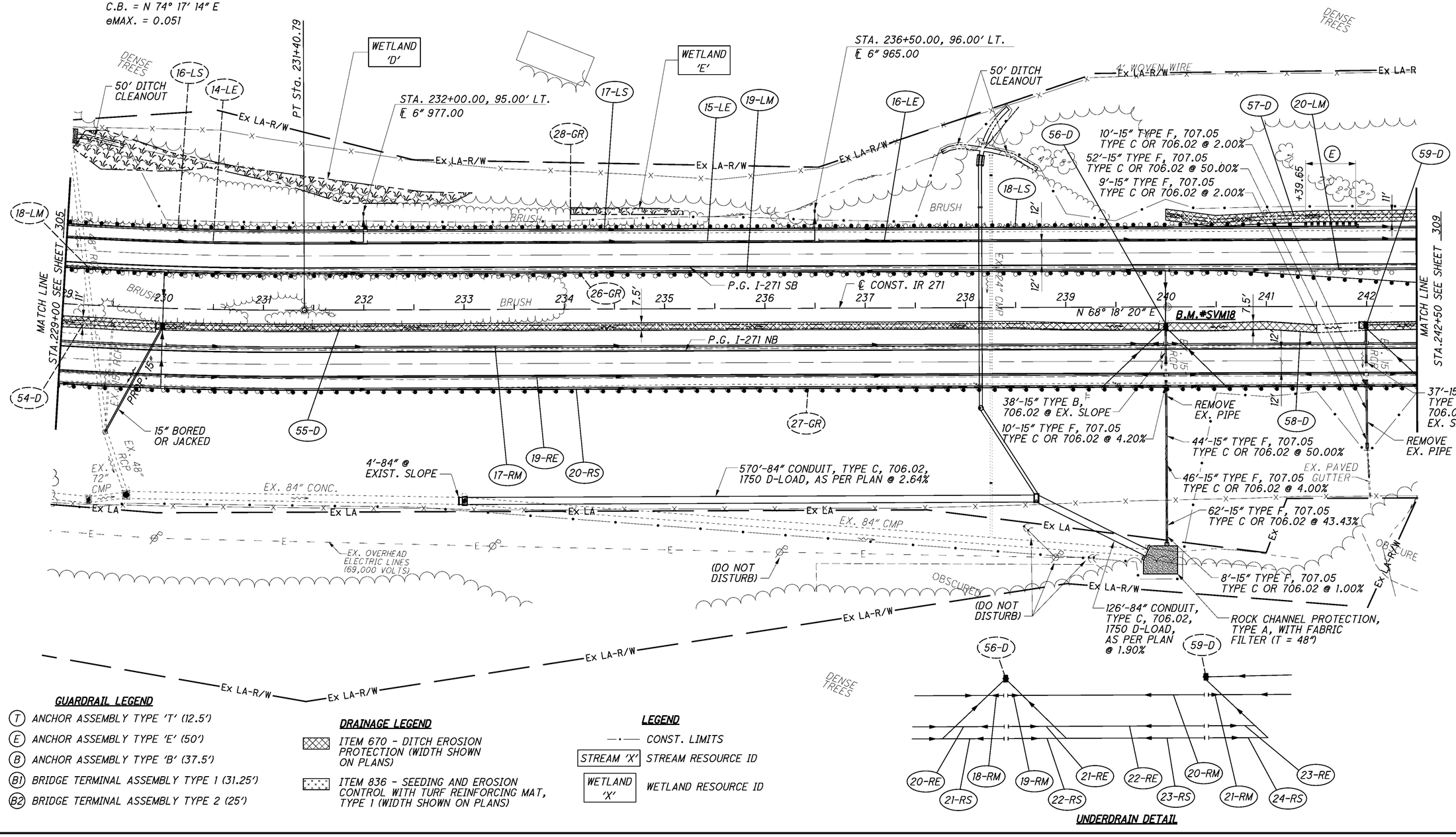
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℄ CONST. IR 271
271-C2 CURVE DATA

P.I.= Sta. 227+36.51
Δ = 11° 57′ 48″ (LT)
Dc = 1° 28′ 27″
R = 3,886.56′
T = 407.24′
L = 811.52′
E = 21.28′
C = 810.05′
C.B. = N 74° 17′ 14″ E
eMAX. = 0.051

B.M.#SVM18: ℄ MONUMENT FOUND
STA. 240+01.50, 0.00′ RT.
℄ CONST. IR 271
ELEV. 948.35

CROSS REFERENCES	
17	TYPICAL SECTIONS
308	PROFILE SHEET
328-539	CROSS SECTIONS
752 & 753	CULVERT DETAILS
745 & 746	STORM SEWER PROFILE



GUARDRAIL LEGEND

- (T) ANCHOR ASSEMBLY TYPE 'T' (12.5′)
- (E) ANCHOR ASSEMBLY TYPE 'E' (50′)
- (B) ANCHOR ASSEMBLY TYPE 'B' (37.5′)
- (B1) BRIDGE TERMINAL ASSEMBLY TYPE 1 (31.25′)
- (B2) BRIDGE TERMINAL ASSEMBLY TYPE 2 (25′)

DRAINAGE LEGEND

- ITEM 670 - DITCH EROSION PROTECTION (WIDTH SHOWN ON PLANS)
- ITEM 836 - SEEDING AND EROSION CONTROL WITH TURF REINFORCING MAT, TYPE 1 (WIDTH SHOWN ON PLANS)

LEGEND

- CONST. LIMITS
- STREAM 'X' STREAM RESOURCE ID
- WETLAND 'X' WETLAND RESOURCE ID

HORIZONTAL SCALE IN FEET
0 25 50 100

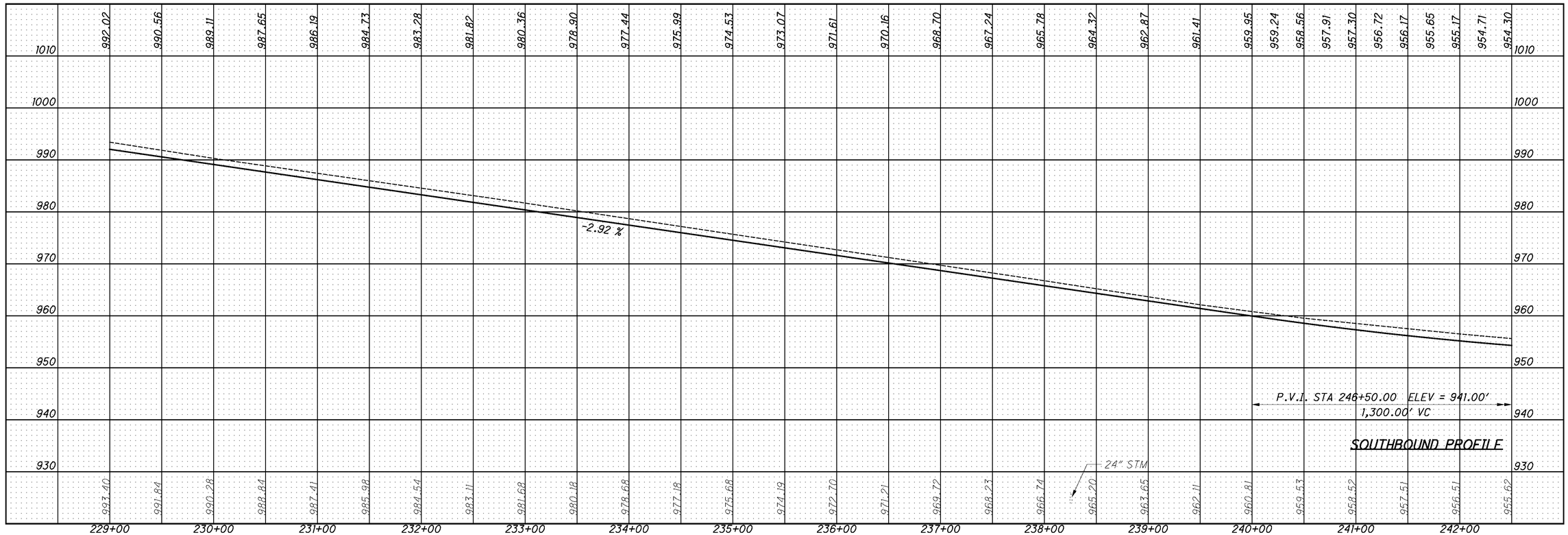
CALCULATED DAW
CHECKED PRS

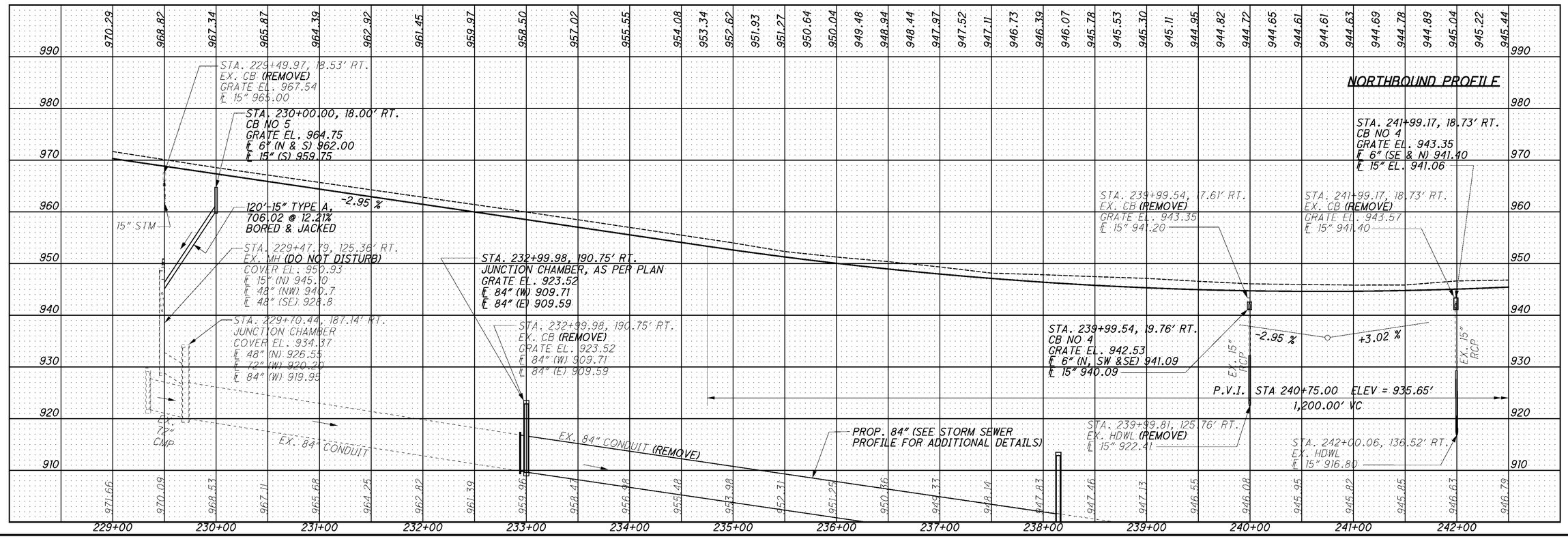
PLAN - I-271
STA. 229+00 TO STA. 242+50

SUM-271-2.33

307
1195

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PROFILE
STA. 229+00 TO STA. 242+50

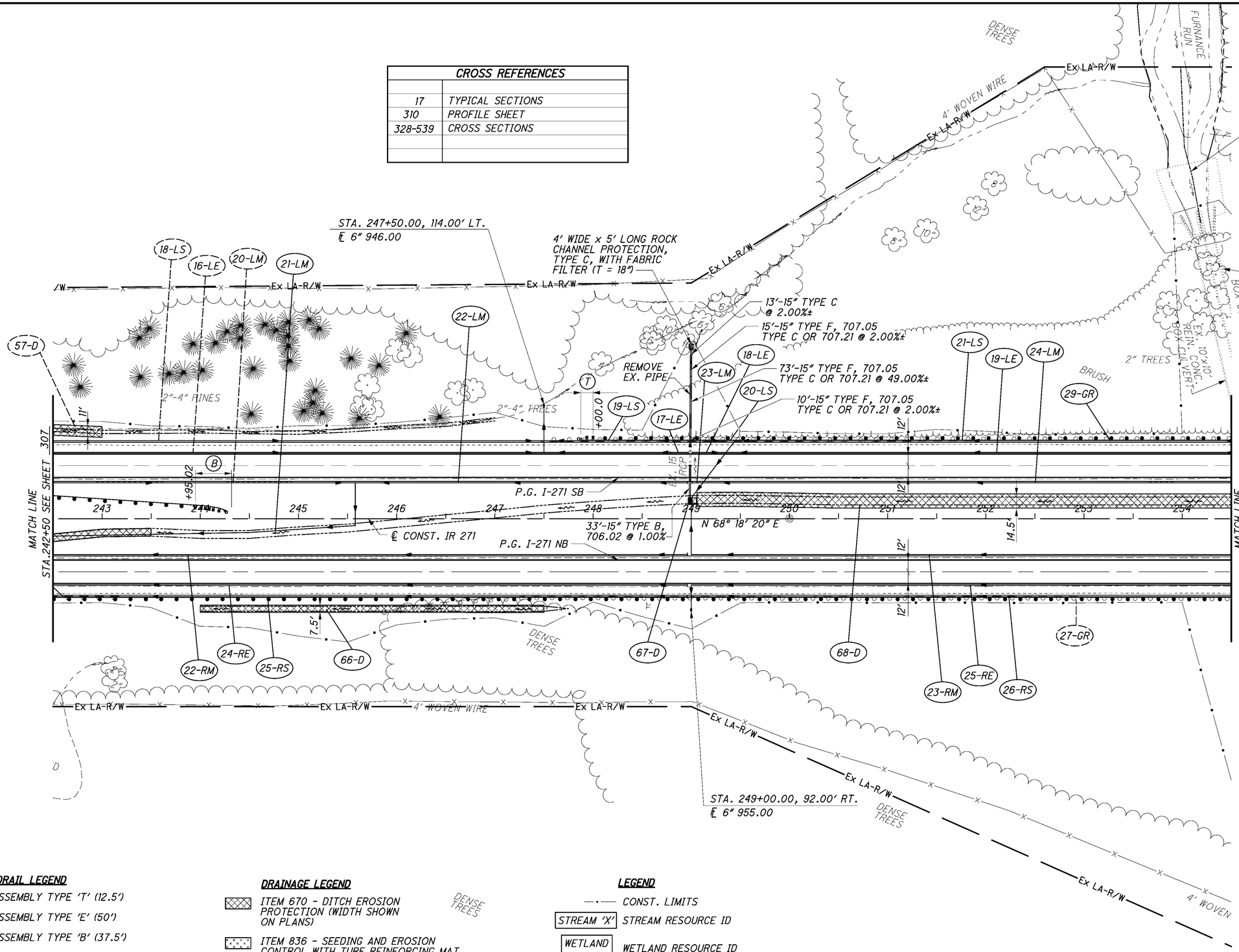
CALCULATED DAW
CHECKED PRS

SUM-271-2.33

308
1195

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CROSS REFERENCES	
17	TYPICAL SECTIONS
310	PROFILE SHEET
328-539	CROSS SECTIONS



GUARDRAIL LEGEND

- (T) ANCHOR ASSEMBLY TYPE 'T' (12.5')
- (E) ANCHOR ASSEMBLY TYPE 'E' (50')
- (B) ANCHOR ASSEMBLY TYPE 'B' (37.5')
- (B1) BRIDGE TERMINAL ASSEMBLY TYPE 1 (31.25')
- (B2) BRIDGE TERMINAL ASSEMBLY TYPE 2 (25')

DRAINAGE LEGEND

- ITEM 670 - DITCH EROSION PROTECTION (WIDTH SHOWN ON PLANS)
- ITEM 836 - SEEDING AND EROSION CONTROL WITH TURF REINFORCING MAT, TYPE 1 (WIDTH SHOWN ON PLANS)

LEGEND

- —·— CONST. LIMITS
- STREAM 'X' STREAM RESOURCE ID
- WETLAND 'X' WETLAND RESOURCE ID

HORIZONTAL SCALE IN FEET
0 25 50 100

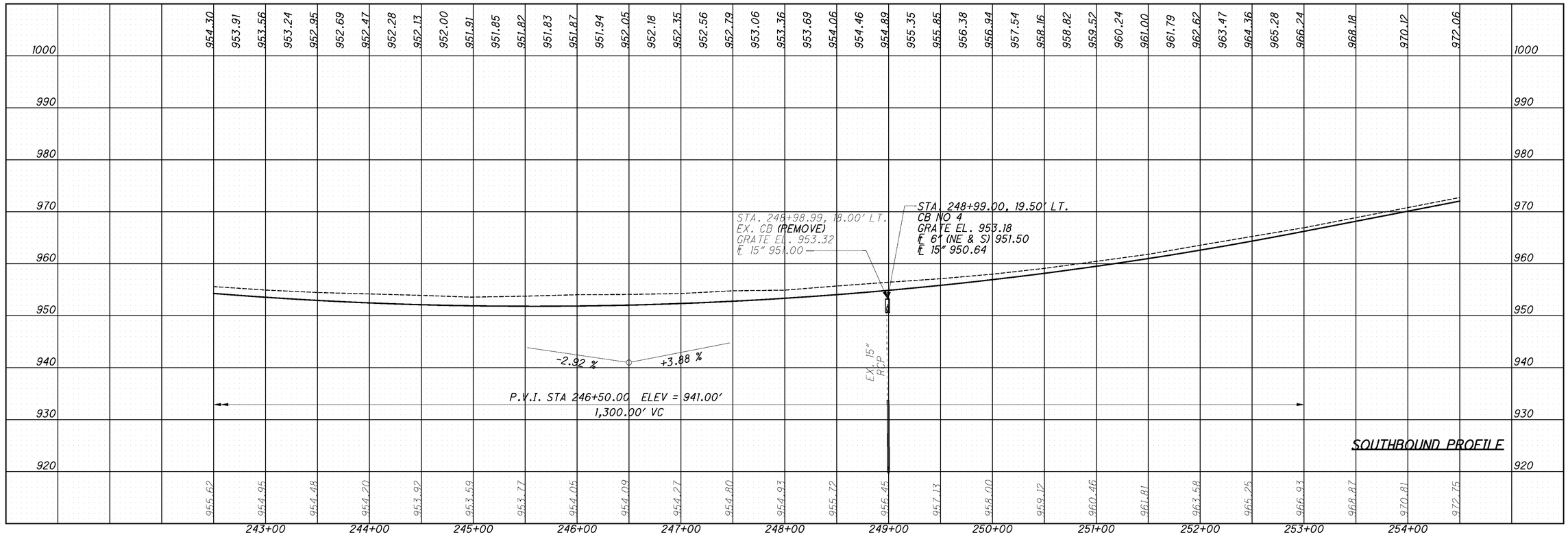
CALCULATED DAW
CHECKED PRS

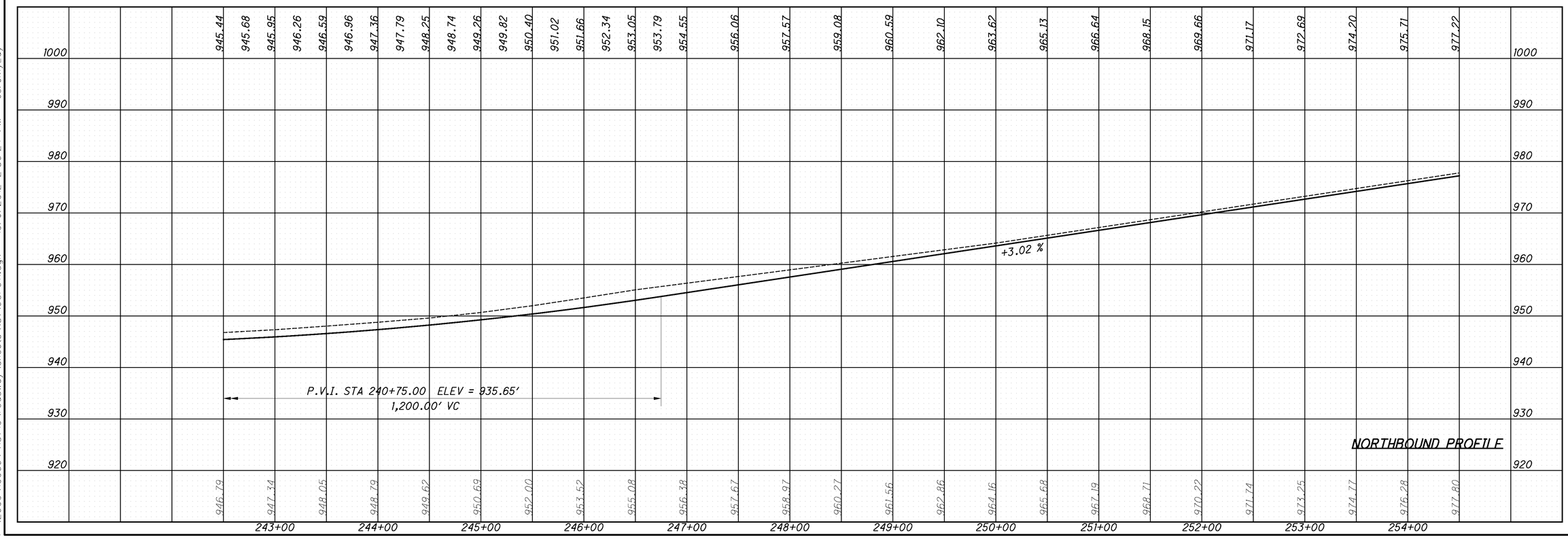
PLAN - I-271
STA. 242+50 TO STA. 254+50

SUM-271-2.33

309
1195

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CALCULATED DAW
CHECKED PRS

PROFILE
STA. 242+50 TO STA. 254+50

SUM-271-2.33

310
1195

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B.M.#SVM16: ℄ MONUMENT FOUND
STA. 256+53.20, 0.02' RT.
℄ CONST. IR 271
ELEV. 978.95

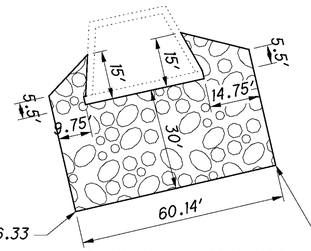
B.M.#SVM15: ℄ MONUMENT FOUND
STA. 260+96.34, 0.06' RT.
℄ CONST. IR 271
ELEV. 994.52

PROPOSED STRUCTURE

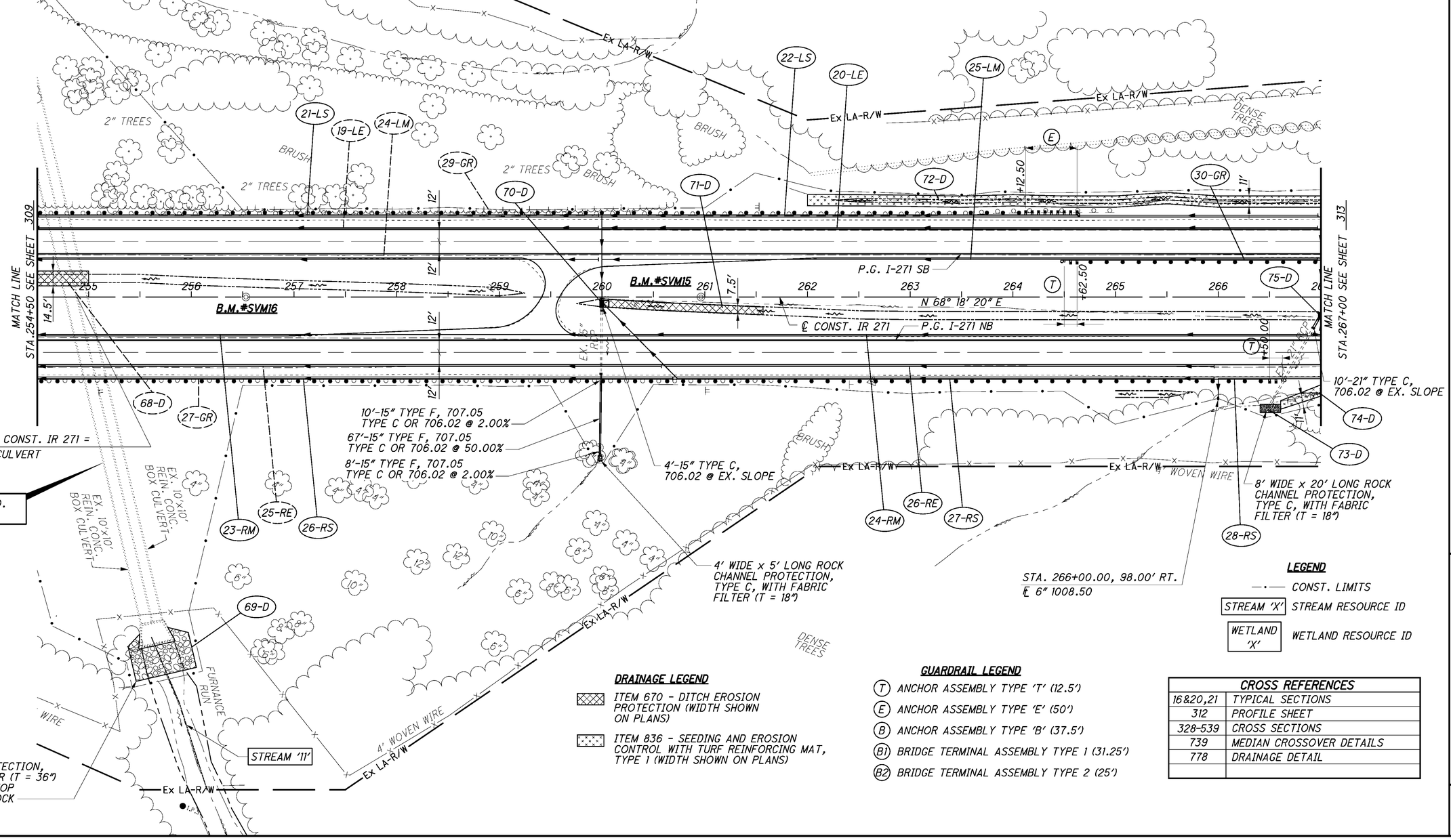
PROPOSED WORK: CONCRETE REPAIR PATCH SPALLED AND DELAMINATED AREAS. EPOXY INJECT CRACKS.
TYPE: 10'x10' TWIN REINFORCED CONCRETE BOX CULVERT
SPAN: 23'-4"± O/O CULVERT WALLS
LENGTH: 620'-0"±
SKEW: 13°00'± R.F.
HEIGHT OF FILL: 117'±
APPROACH SLABS: NONE
ALIGNMENT: TANGENT

EXISTING STRUCTURE

TYPE: 10'x10' TWIN REINFORCED CONCRETE BOX CULVERT
SPAN: 23'-4"± O/O CULVERT WALLS
LENGTH: 620'-0"±
SKEW: 13°00'± R.F.
HEIGHT OF FILL: 117'±
APPROACH SLABS: NONE
ALIGNMENT: TANGENT
STRUCTURE FILE NUMBER: 7708971
DATE BUILT: 1971
DISPOSITION: TO REMAIN



ROCK CHANNEL PROTECTION DETAIL



DRAINAGE LEGEND

- ITEM 670 - DITCH EROSION PROTECTION (WIDTH SHOWN ON PLANS)
- ITEM 836 - SEEDING AND EROSION CONTROL WITH TURF REINFORCING MAT, TYPE 1 (WIDTH SHOWN ON PLANS)

GUARDRAIL LEGEND

- (T) ANCHOR ASSEMBLY TYPE 'T' (12.5')
- (E) ANCHOR ASSEMBLY TYPE 'E' (50')
- (B) ANCHOR ASSEMBLY TYPE 'B' (37.5')
- (B1) BRIDGE TERMINAL ASSEMBLY TYPE 1 (31.25')
- (B2) BRIDGE TERMINAL ASSEMBLY TYPE 2 (25')

LEGEND

- —·— CONST. LIMITS
- STREAM 'X' STREAM RESOURCE ID
- WETLAND 'X' WETLAND RESOURCE ID

CROSS REFERENCES	
16&20,21	TYPICAL SECTIONS
312	PROFILE SHEET
328-539	CROSS SECTIONS
739	MEDIAN CROSSOVER DETAILS
778	DRAINAGE DETAIL

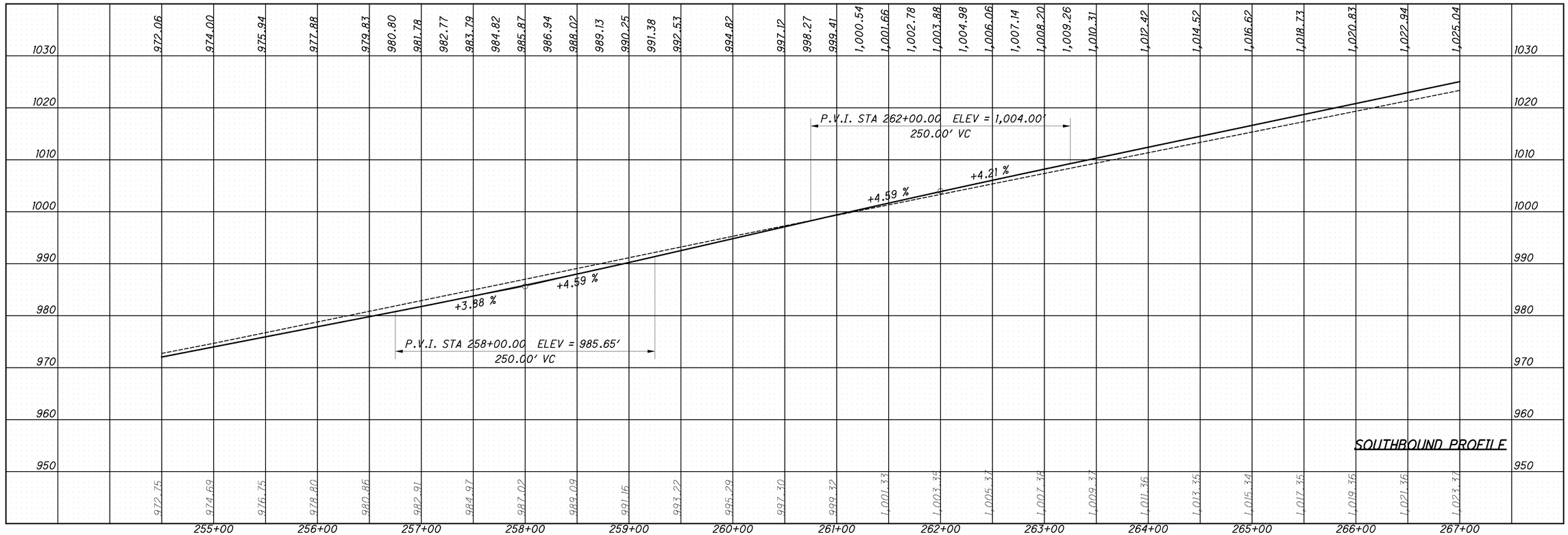
HORIZONTAL SCALE IN FEET
0 25 50 100
CALCULATED DAW
CHECKED PRS

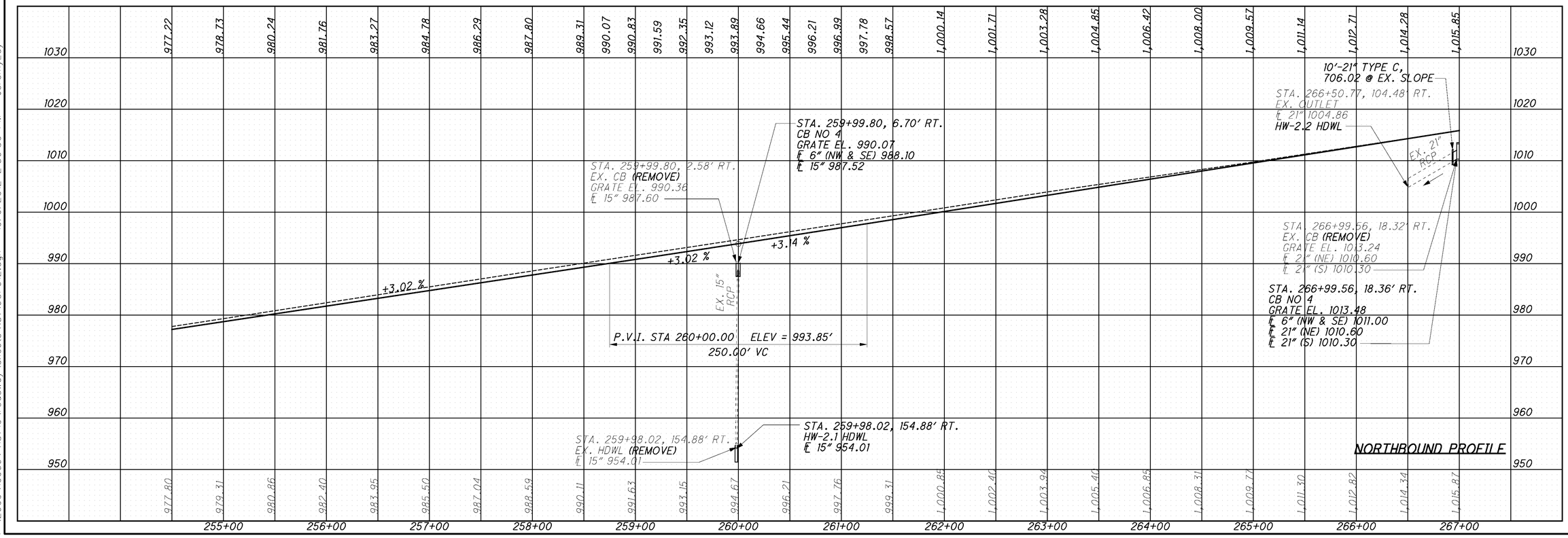
PLAN - I-271
STA. 254+50 TO STA. 267+00

SUM-271-2.33

311
1195

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PROFILE
STA. 254+50 TO STA. 267+00

CALCULATED DAW
CHECKED PRS

SUM-271-2.33

312
1195

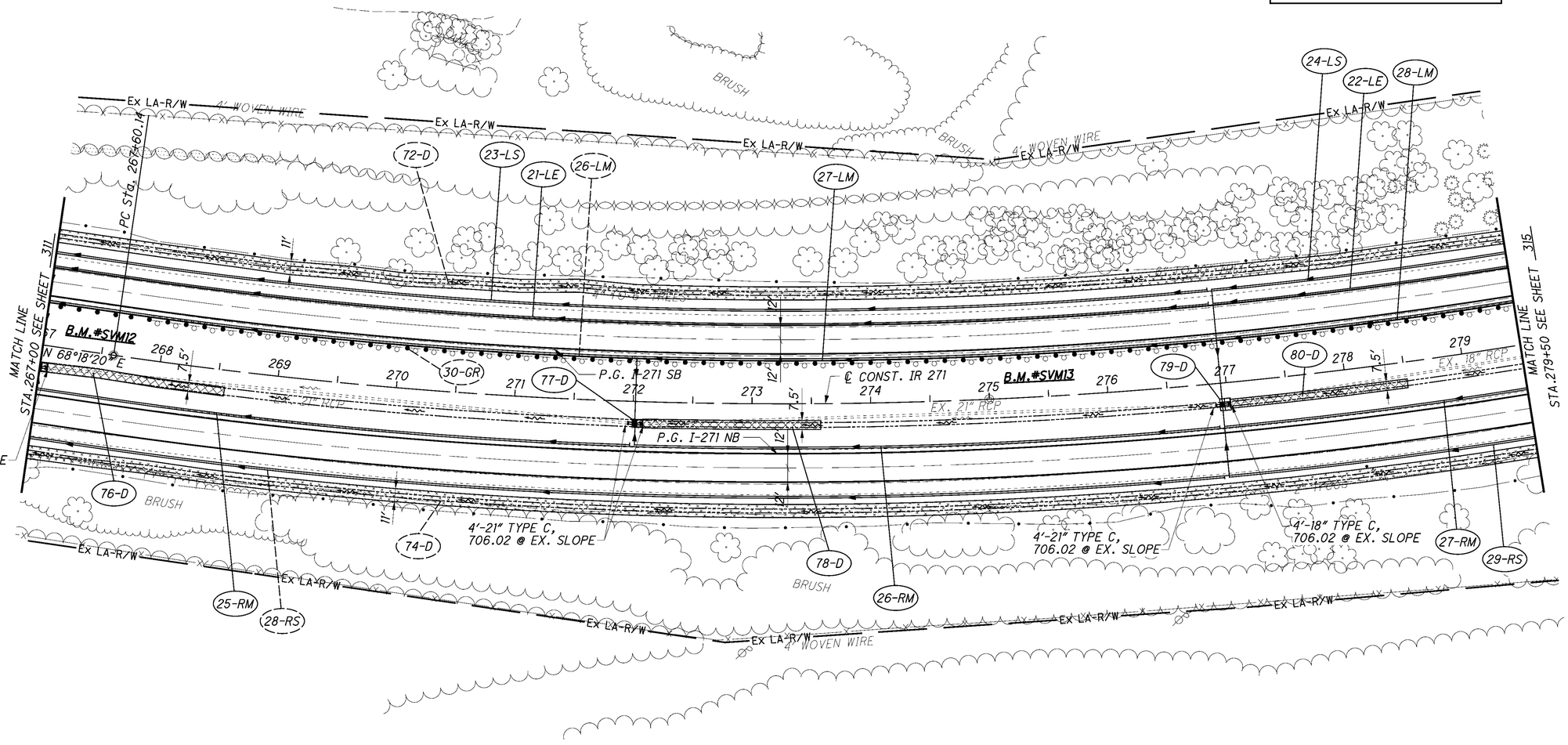
F:\2009\109094\18710\roadway\sheets\18710GF012.dgn 10/6/2012 2:30:50 PM Jeremy.Loy

B.M.#SVM12: ℄ MONUMENT FOUND
STA. 267+60.13, 0.00' RT.
℄ CONST. IR 271
ELEV. 1018.25

℄ CONST. IR 271
271-C3 CURVE DATA
P.I.= Sta. 285+25.12
Δ = 48° 33' 08" (LT)
Dc = 1° 27' 51"
R = 3,913.36'
T = 1,764.98'
L = 3,316.16'
E = 379.60'
C = 3,217.82'
C.B. = N 44° 01' 46" E
eMAX. = 0.051

CROSS REFERENCES	
17 & 20	TYPICAL SECTIONS
314	PROFILE SHEET
328-539	CROSS SECTIONS

B.M.#SVM13: ℄ MONUMENT FOUND
STA. 274+99.94, 0.03' RT.
℄ CONST. IR 271
ELEV. 1043.11



GUARDRAIL LEGEND

- (T) ANCHOR ASSEMBLY TYPE 'T' (12.5')
- (E) ANCHOR ASSEMBLY TYPE 'E' (50')
- (B) ANCHOR ASSEMBLY TYPE 'B' (37.5')
- (B1) BRIDGE TERMINAL ASSEMBLY TYPE 1 (31.25')
- (B2) BRIDGE TERMINAL ASSEMBLY TYPE 2 (25')

DRAINAGE LEGEND

- ITEM 670 - DITCH EROSION PROTECTION (WIDTH SHOWN ON PLANS)
- ITEM 836 - SEEDING AND EROSION CONTROL WITH TURF REINFORCING MAT, TYPE 1 (WIDTH SHOWN ON PLANS)

LEGEND

- CONST. LIMITS

HORIZONTAL SCALE IN FEET
0 25 50 100

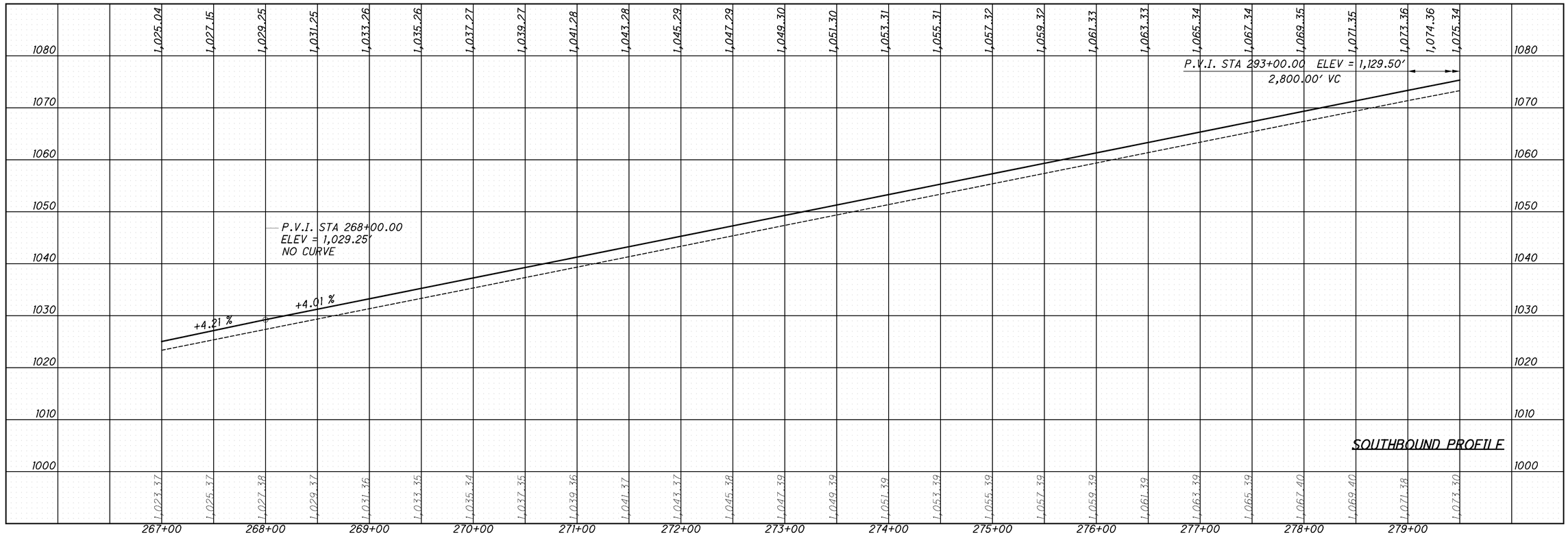
CALCULATED DAW
CHECKED PRS

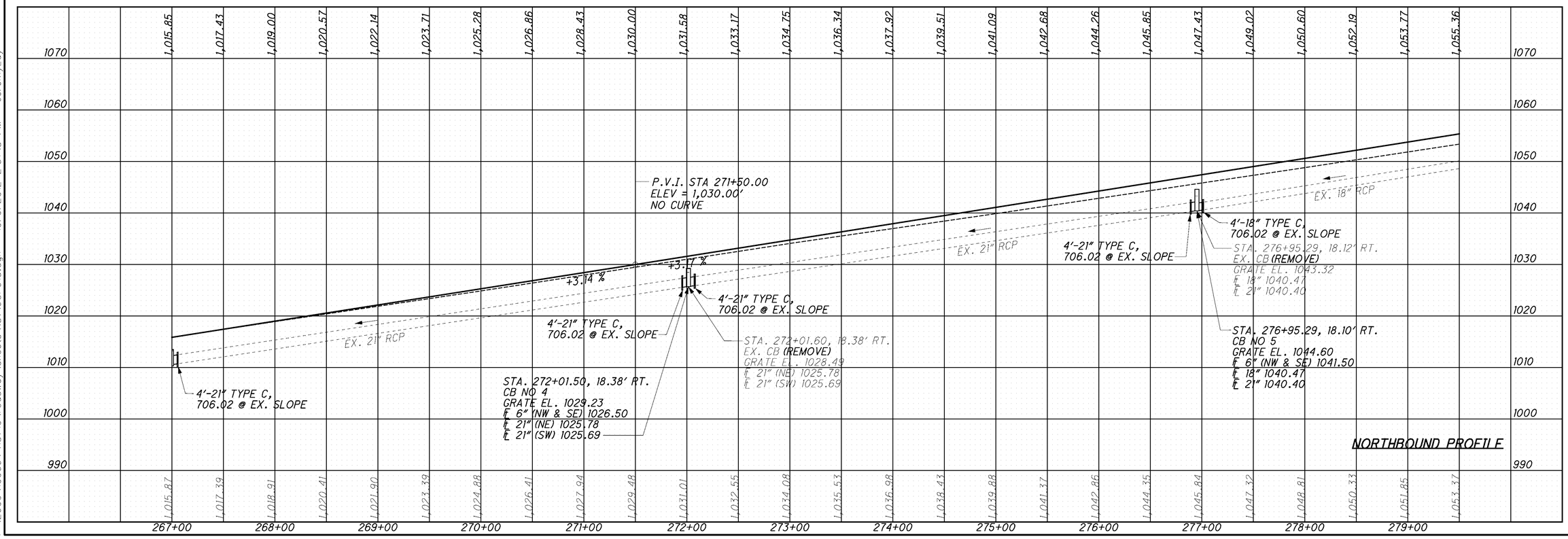
PLAN - I-271
STA. 267+00 TO STA. 279+50

SUM-271-2.33

313
1195

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PROFILE
STA. 267+00 TO STA. 279+50

CALCULATED DAW
CHECKED PRS

SUM-271-2.33

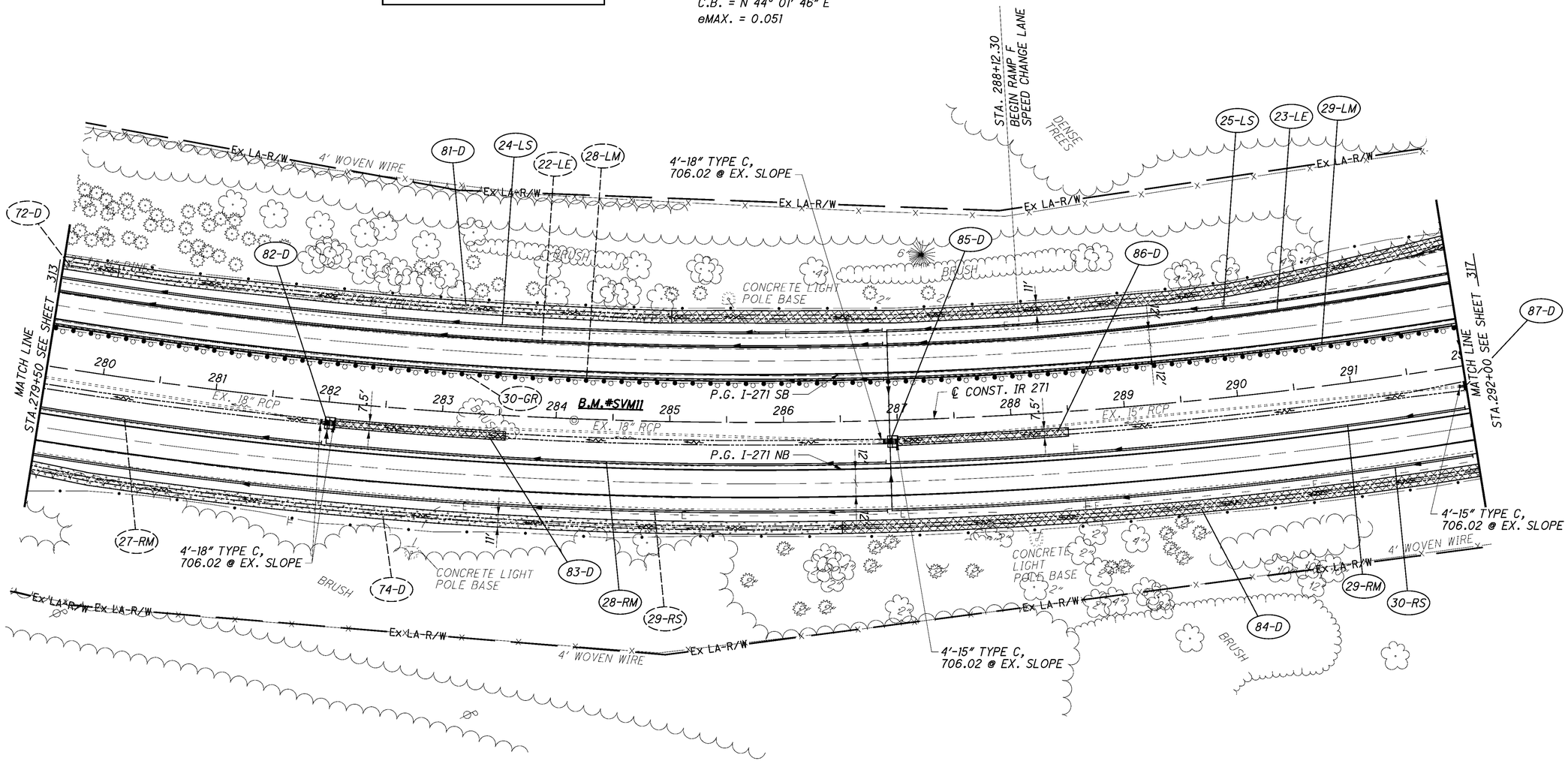
314
1195

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B.M.#SVM11: ℄ MONUMENT FOUND
STA. 284+15.97, 1.41' RT.
℄ CONST. IR 271
ELEV. 1072.71

℄ CONST. IR 271
271- C3 CURVE DATA
P.I.= Sta. 285+25.12
Δ = 48° 33' 08" (LT)
Dc = 1° 27' 51"
R = 3,913.36'
T = 1,764.98'
L = 3,316.16'
E = 379.60'
C = 3,217.82'
C.B. = N 44° 01' 46" E
eMAX. = 0.051

CROSS REFERENCES	
17 & 20	TYPICAL SECTIONS
316	PROFILE SHEET
328-539	CROSS SECTIONS



GUARDRAIL LEGEND
- (T) ANCHOR ASSEMBLY TYPE 'T' (12.5')
- (E) ANCHOR ASSEMBLY TYPE 'E' (50')
- (B) ANCHOR ASSEMBLY TYPE 'B' (37.5')
- (B1) BRIDGE TERMINAL ASSEMBLY TYPE 1 (31.25')
- (B2) BRIDGE TERMINAL ASSEMBLY TYPE 2 (25')

DRAINAGE LEGEND
- ITEM 670 - DITCH EROSION PROTECTION (WIDTH SHOWN ON PLANS)
- ITEM 836 - SEEDING AND EROSION CONTROL WITH TURF REINFORCING MAT, TYPE 1 (WIDTH SHOWN ON PLANS)

LEGEND
- —·— CONST. LIMITS
- STREAM 'X' STREAM RESOURCE ID
- WETLAND 'X' WETLAND RESOURCE ID

HORIZONTAL SCALE IN FEET
0 25 50 100

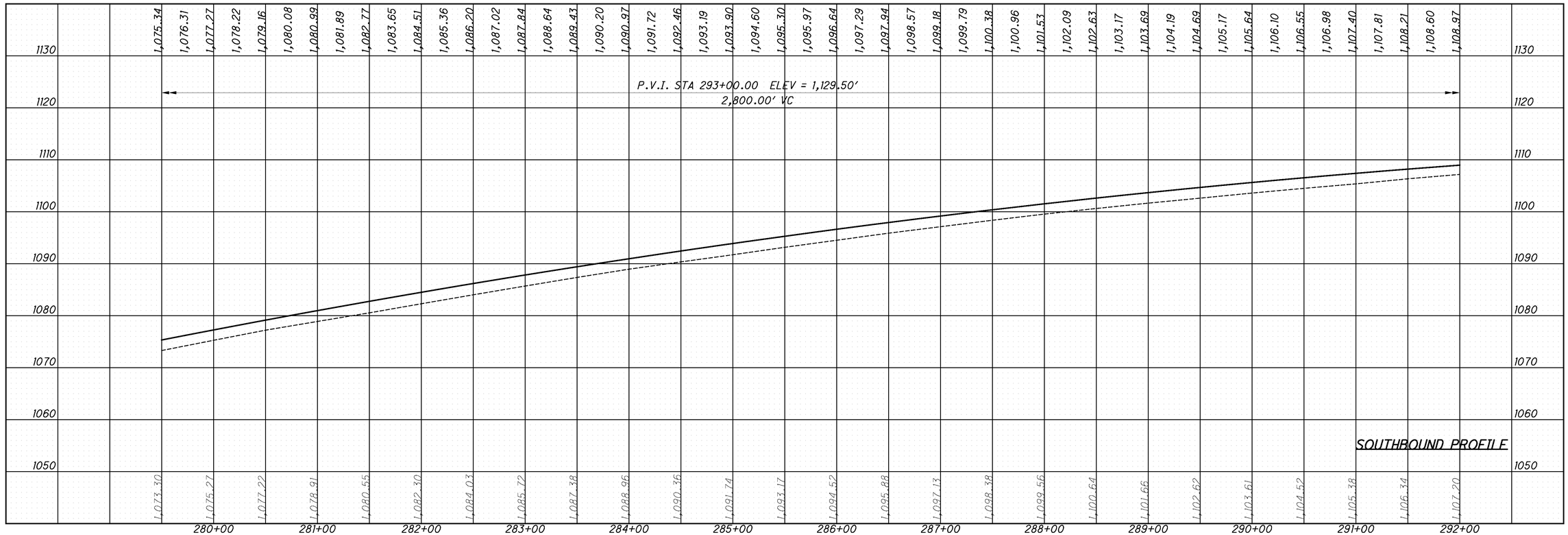
CALCULATED DAW
CHECKED PRS

PLAN - I-271
STA. 279+50 TO STA. 292+00

SUM-271-2.33

315
1195

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CALCULATED DAW
CHECKED PRS

PROFILE
STA. 279+50 TO STA. 292+00

SUM-271-2.33

316
1195

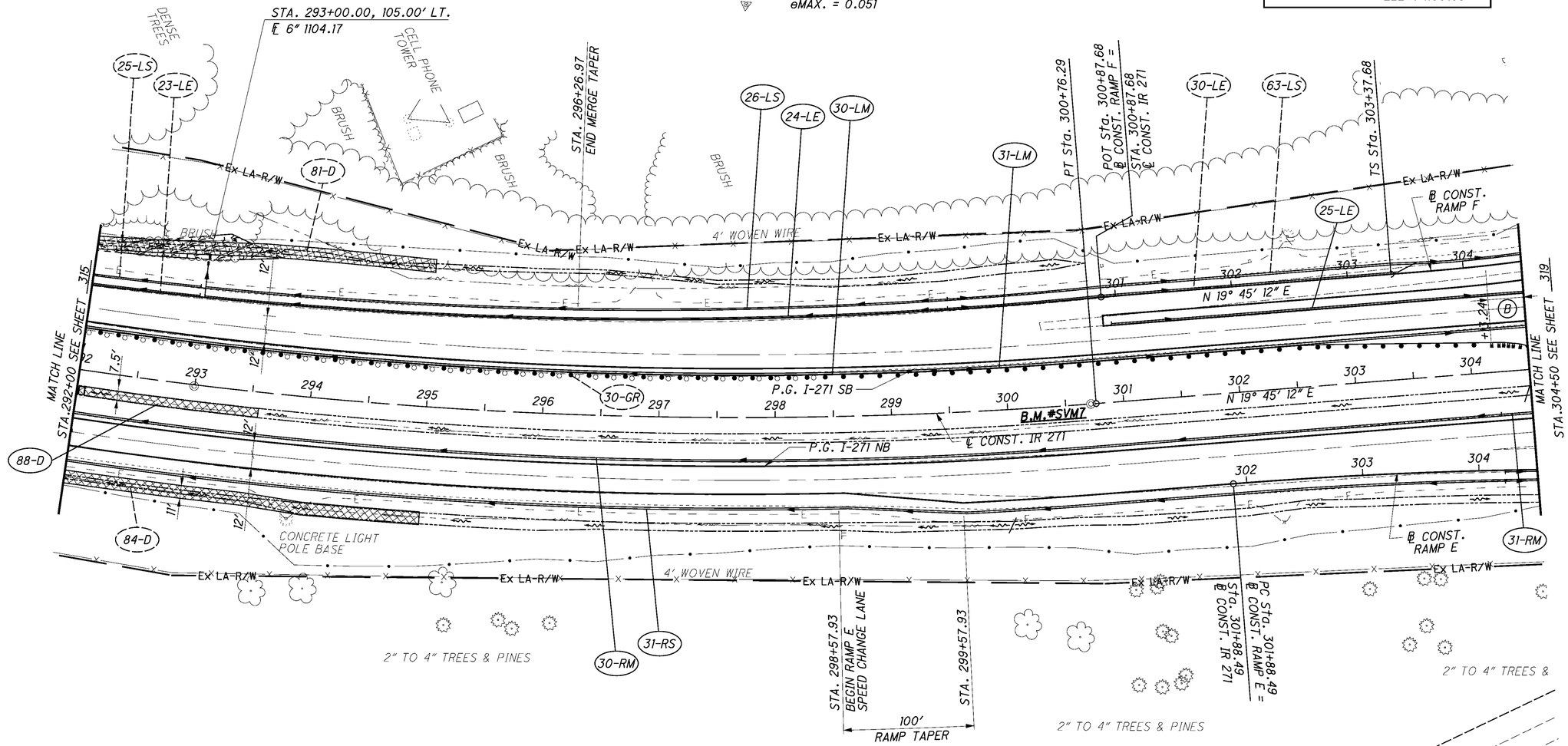
F:\2009\109094\18710\roadway\sheets\18710GF014.dgn 10/6/2012 2:31:49 PM JeremyLay

℄ CONST. IR 271
271-C3 CURVE DATA

P.I.= Sta. 285+25.12
Δ = 48° 33′ 08″ (LT)
Dc = 1° 27′ 51″
R = 3,913.36′
T = 1,764.98′
L = 3,316.16′
E = 379.60′
C = 3,217.82′
C.B. = N 44° 01′ 46″ E
eMAX. = 0.051

CROSS REFERENCES	
17,20 &21	TYPICAL SECTIONS
318	PROFILE SHEET
328-539	CROSS SECTIONS
638-639	RAMP E PLAN & POFILE
649-650	RAMP F PLAN & PROFILE
735-736	INTERCHANGE DETAILS

B.M.#SVM7: ℄ MONUMENT FOUND
STA. 300+71.77, 0.00′ RT.
℄ CONST. IR 271
ELEV. 1106.55



GUARDRAIL LEGEND

- (T) ANCHOR ASSEMBLY TYPE 'T' (12.5′)
- (E) ANCHOR ASSEMBLY TYPE 'E' (50′)
- (B) ANCHOR ASSEMBLY TYPE 'B' (37.5′)
- (B1) BRIDGE TERMINAL ASSEMBLY TYPE 1 (31.25′)
- (B2) BRIDGE TERMINAL ASSEMBLY TYPE 2 (25′)

DRAINAGE LEGEND

- ITEM 670 - DITCH EROSION PROTECTION (WIDTH SHOWN ON PLANS)
- ITEM 836 - SEEDING AND EROSION CONTROL WITH TURF REINFORCING MAT, TYPE 1 (WIDTH SHOWN ON PLANS)

LEGEND

- CONST. LIMITS
- STREAM 'X' STREAM RESOURCE ID
- WETLAND 'X' WETLAND RESOURCE ID

HORIZONTAL SCALE IN FEET
0 25 50 100

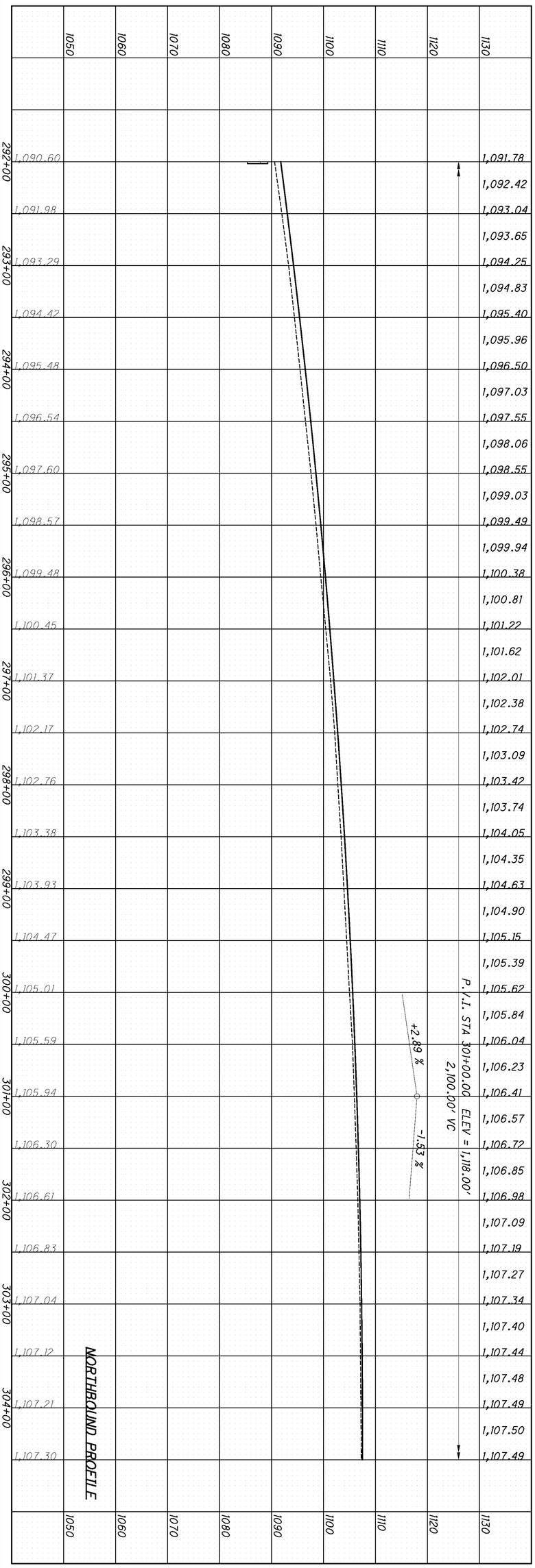
CALCULATED DAW
CHECKED PRS

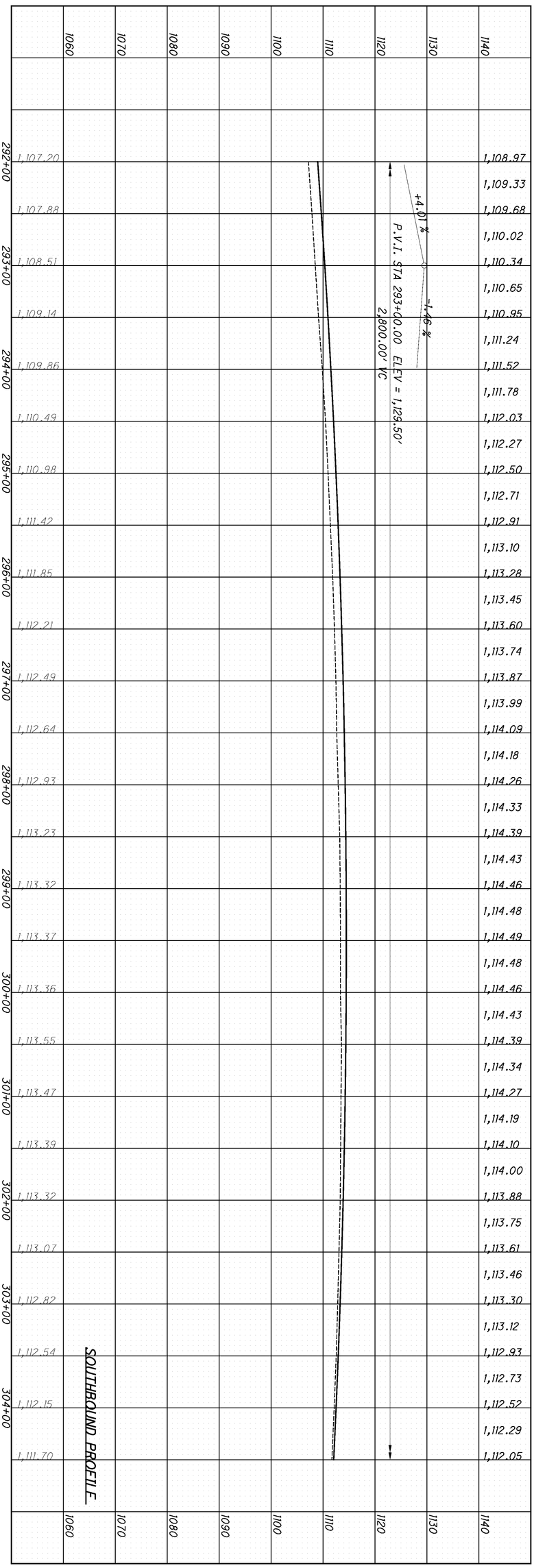
PLAN - I-271
STA. 292+00 TO STA. 304+50

SUM-271-2.33

317
1195

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318 / 1195	SUM-271-2.33	PROFILE STA. 292+00 TO STA. 304+50	CALCULATED DAW CHECKED PRS

CROSS REFERENCES	
16-21	TYPICAL SECTIONS
320	PROFILE SHEET
328-539	CROSS SECTIONS
687-690	SR 303 PLAN & PROFILES
638-639	RAMP E PLAN & PROFILE
649-650	RAMP F PLAN & PROFILE
658-659	RAMP G PLAN & PROFILE
666-667	RAMP H PLAN & PROFILE
735-738	INTERCHANGE DETAILS
754	CULVERT DETAIL

LEGEND

— · — CONST. LIMITS

STREAM 'X' STREAM RESOURCE ID

WETLAND 'X' WETLAND RESOURCE ID

STA. 316+40.26 ℄ CONST. IR 271 =
STA. 50+00.00 ℄ CONST. SR 303

STRUCTURE CLEARANCE LEGEND

(P) POINT OF MINIMUM VERTICAL CLEARANCE (SEE PROFILE FOR DIMENSIONS)

(P1) STA. 315+89.73, 53.47' LT.

(P2) STA. 316+29.01, 55.37' RT.

HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED DAW
CHECKED PRS

PLAN - I-271 SUM-271-2.33 STA. 304+50 TO STA. 317+00

319
1195

GUARDRAIL LEGEND

(T) ANCHOR ASSEMBLY TYPE 'T' (12.5')

(E) ANCHOR ASSEMBLY TYPE 'E' (50')

(B) ANCHOR ASSEMBLY TYPE 'B' (37.5')

(B1) BRIDGE TERMINAL ASSEMBLY TYPE 1 (31.25')

(B2) BRIDGE TERMINAL ASSEMBLY TYPE 2 (25')

LEGEND

— · — CONST. LIMITS

DRAINAGE LEGEND

ITEM 670 - DITCH EROSION PROTECTION (WIDTH SHOWN ON PLANS)

ITEM 836 - SEEDING AND EROSION CONTROL WITH TURF REINFORCING MAT, TYPE 1 (WIDTH SHOWN ON PLANS)

BRIDGE NO. SUM-303-0502

PROP. CONC. BARRIER, TYPE D

PROP. CONC. BARRIER, TYPE D

STA. 315+64.00, 107.00' LT.
℄ 6" 1090.50

STA. 315+50.00, 124.50' RT.
℄ 6" 1090.50

4' WIDE x 5' LONG ROCK CHANNEL PROTECTION, TYPE C, WITH FABRIC FILTER (T = 18")

12' WIDE x 15' LONG ROCK CHANNEL PROTECTION, TYPE B, WITH FABRIC FILTER (T = 30")

STREAM '12'

4'-15" TYPE C, 706.02 @ EX. SLOPE

52'-15" TYPE C, @ 0.61%

P.G. I-271 SB

P.G. I-271 NB

℄ CONST. IR 271

℄ CONST. RAMP F

℄ CONST. RAMP E

℄ CONST. RAMP G

℄ CONST. RAMP H

CS Sta. 305+37.68

SC Sta. 306+57.93

CS Sta. 308+16.80

SC Sta. 308+57.93

CS Sta. 310+28.40

ST Sta. 310+16.80

ST Sta. 312+38.40

CS Sta. 311+42.05

SC Sta. 313+42.05

TS Sta. 312+99.02

ST Sta. 314+00.00

ST Sta. 316+00.00

N 33° 10' 12" W

N 19° 45' 12" E

N 12° 46' 54" E

MATCH LINE STA. 304+50 SEE SHEET 317

MATCH LINE STA. 317+00 SEE SHEET 321

RICHFIELD TOWNSHIP

BOSTON TOWNSHIP

4" PINES

4' WOVEN WIRE

Ex LA-R/W

Ex R/W

EX. OVERHEAD UTILITIES

EX. CTV

EX. SAN

EX. GAS

EX. RDWY

EX. E.O.I.

DENSE BRUSH

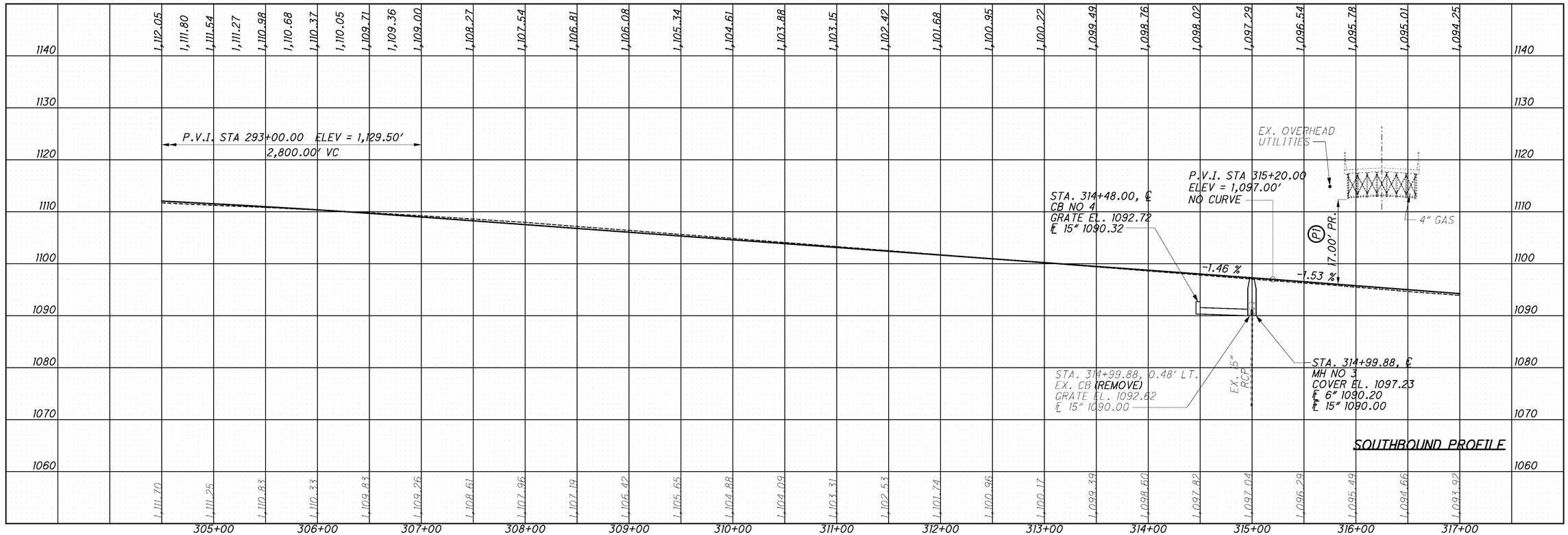
BRUSH

PINES

RCP

31-LM 25-LE 27-LS 31-RM 27-RE 32-RS 97-D 45-GR 89-D 90-D 46-GR 26-LE 32-LM 31-GR 32-GR 32-RM 28-RE 29-RE 33-RS 47-GR

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CALCULATED DAW
CHECKED PRS

PROFILE
STA. 304+50 TO STA. 317+00

SUM-271-2.33

320
1195

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B.M.#SVM2: ℄ MONUMENT FOUND
STA. 318+63.48, 0.08' LT.
℄ CONST. IR 271
ELEV. 1087.23

LEGEND

CONST. LIMITS

STREAM 'X' STREAM RESOURCE ID

WETLAND 'X' WETLAND RESOURCE ID

CROSS REFERENCES	
16,18&20-21	TYPICAL SECTIONS
322	PROFILE SHEET
328-539	CROSS SECTIONS
658-659	RAMP G PLAN & PROFILE
666-667	RAMP H PLAN & PROFILE
737	INTERCHANGE DETAILS
754	CULVERT DETAIL

B.M.#SVM5: ℄ MONUMENT FOUND
STA. 325+28.31, 0.04' LT.
℄ CONST. IR 271
ELEV. 1075.67

RICHFIELD TOWNSHIP
BOSTON TOWNSHIP

100' RAMP TAPER

STA. 320+46.93

STA. 321+46.93
BEGIN RAMP B
SPEED CHANGE LANE

PT Sta. 318+11.13
℄ CONST. RAMP G =
STA. 318+11.13
℄ CONST. IR 271

STREAM '12'

TH2020

TH2022

TH2023

TH2021

℄ CONST. RAMP G

℄ CONST. RAMP H

DENSE TREES

SAN

Ex LA-R/W

4' WOVEN WIRE

CONCRETE LIGHT POLE BASE

BRUSH

EARTH

ROCK

43' ELLIPTICAL CONC.

EX. 12" IRON WATER CASING IN 24" CASING

EX. 24" SAN CASING

P.G. I-271 SB

P.G. I-271 NB

℄ CONST. IR 271

20'-15" TYPE C, 706.02 @ 1.00%

EX. 15" RCP

4'-15" TYPE C, 706.02 @ EX. SLOPE

B.M.#SVM2

B.M.#SVM5

N 19° 45' 12" E

MATCH LINE STA.317+00 SEE SHEET 319

MATCH LINE STA.329+50 SEE SHEET 323

PROP. CONC. BARRIER, TYPE D

POT Sta. 319+00.00
℄ CONST. RAMP H =
STA. 319+00.00
℄ CONST. IR 271

STA. 325+50.00
BEGIN MERGE TAPER

28-LE, 29-LS, 27-LE, 33-LM, 34-LM, 26-LE, 32-LM, 28-LS, 46-GR, 99-D, 100-D, 101-D, 102-D, 103-D, 31-GR, 98-D, 32-RM, 29-RE, 33-RS, 28-RE, 34-RM, 33-RM, 30-RE, 34-RS

UNDERGROUND UTILITY TEST HOLE			
TEST HOLE NO.	℄ CONST IR 271 STATION, OFFSET	SURVEYED ELEV. TOP OF UTILITY	UTILITY
TH2020	318+28.06, 106.77' LT.	1083.1*	WATER
TH2021	318+71.24, 122.95' RT.	1084.8*	WATER
TH2022	318+47.14, 106.61' LT.	1085.6*	SAN
TH2023	318+88.34, 122.33' RT.	1082.0*	SAN

* BOTTOM OF TEST HOLE ELEV.- UTILITY DEPTH NOT CONFIRMED.

LEGEND

CONST. LIMITS

DRAINAGE LEGEND

ITEM 670 - DITCH EROSION PROTECTION (WIDTH SHOWN ON PLANS)

ITEM 836 - SEEDING AND EROSION CONTROL WITH TURF REINFORCING MAT, TYPE 1 (WIDTH SHOWN ON PLANS)

GUARDRAIL LEGEND

(T) ANCHOR ASSEMBLY TYPE 'T' (12.5')
(E) ANCHOR ASSEMBLY TYPE 'E' (50')
(B) ANCHOR ASSEMBLY TYPE 'B' (37.5')
(B1) BRIDGE TERMINAL ASSEMBLY TYPE 1 (31.25')
(B2) BRIDGE TERMINAL ASSEMBLY TYPE 2 (25')

HORIZONTAL SCALE IN FEET
0 25 50 100

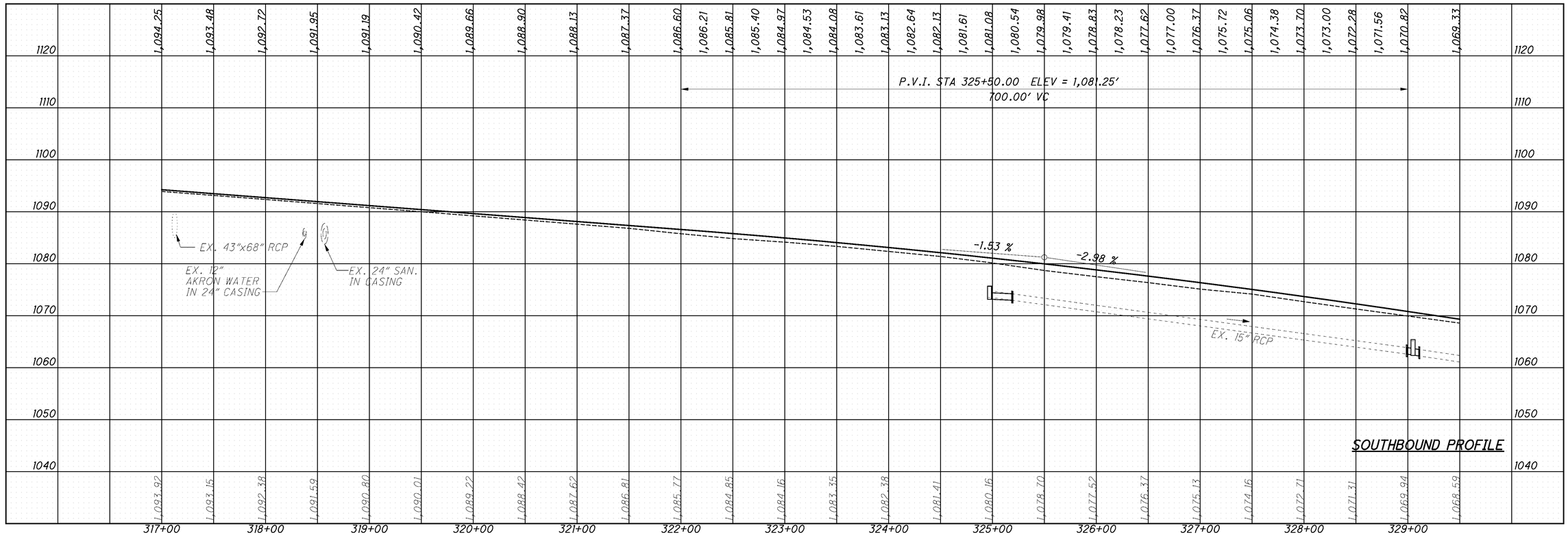
CALCULATED DAW
CHECKED PRS

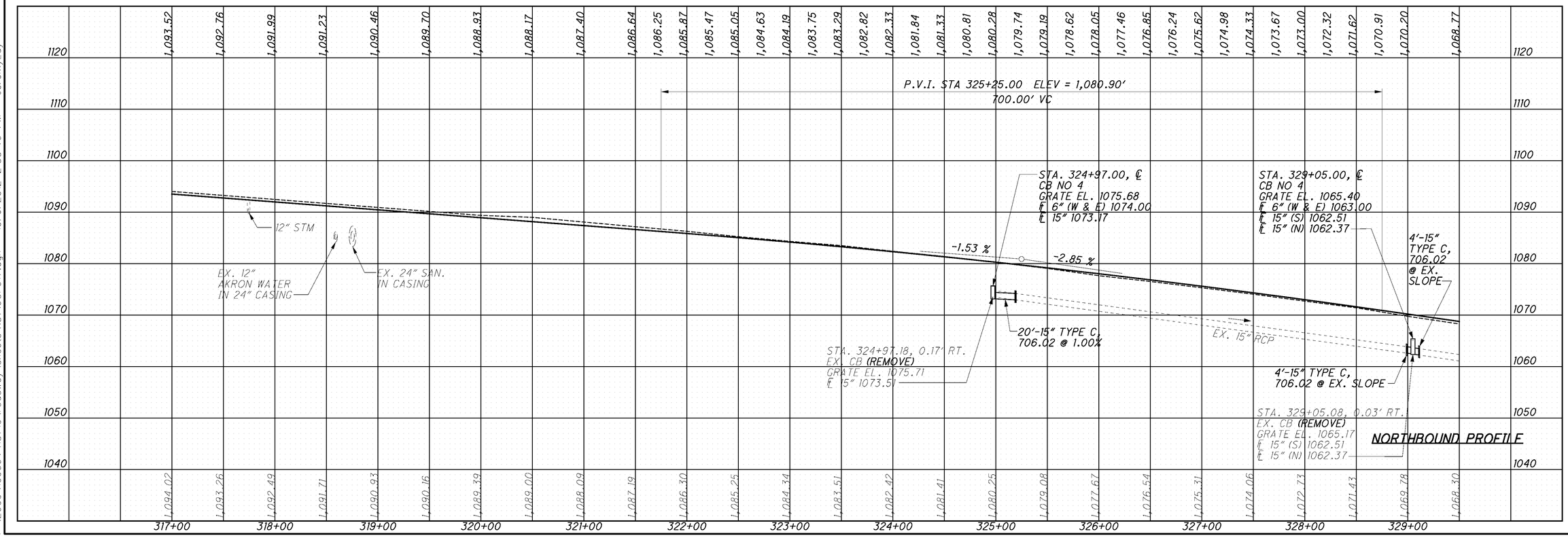
PLAN - I-271
STA. 317+00 TO STA. 329+50

SUM-271-2.33

321
1195

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CALCULATED DAW
CHECKED PRS

PROFILE
STA. 317+00 TO STA. 329+50

SUM-271-2.33

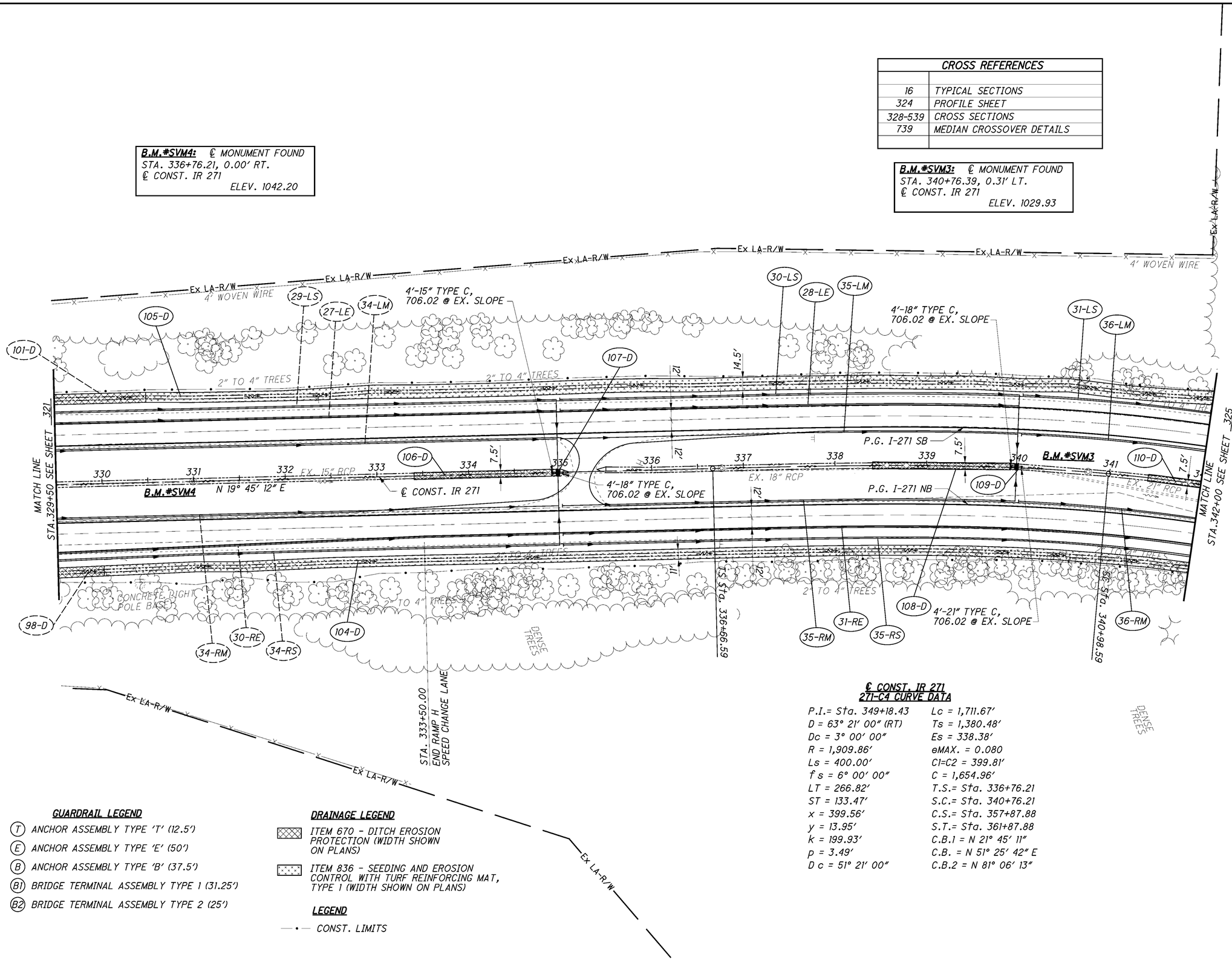
322
1195

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CROSS REFERENCES	
16	TYPICAL SECTIONS
324	PROFILE SHEET
328-539	CROSS SECTIONS
739	MEDIAN CROSSOVER DETAILS

B.M.#SVM4: ℄ MONUMENT FOUND
STA. 336+76.21, 0.00' RT.
℄ CONST. IR 271
ELEV. 1042.20

B.M.#SVM3: ℄ MONUMENT FOUND
STA. 340+76.39, 0.31' LT.
℄ CONST. IR 271
ELEV. 1029.93



℄ CONST. IR 271
271-C4 CURVE DATA

P.I.= Sta. 349+18.43	Lc = 1,711.67'
D = 63° 21' 00" (RT)	Ts = 1,380.48'
Dc = 3° 00' 00"	Es = 338.38'
R = 1,909.86'	eMAX. = 0.080
Ls = 400.00'	C1=C2 = 399.81'
f s = 6° 00' 00"	C = 1,654.96'
LT = 266.82'	T.S.= Sta. 336+76.21
ST = 133.47'	S.C.= Sta. 340+76.21
x = 399.56'	C.S.= Sta. 357+87.88
y = 13.95'	S.T.= Sta. 361+87.88
k = 199.93'	C.B.1 = N 21° 45' 11"
p = 3.49'	C.B. = N 51° 25' 42" E
D c = 51° 21' 00"	C.B.2 = N 81° 06' 13"

GUARDRAIL LEGEND

- (T) ANCHOR ASSEMBLY TYPE 'T' (12.5')
- (E) ANCHOR ASSEMBLY TYPE 'E' (50')
- (B) ANCHOR ASSEMBLY TYPE 'B' (37.5')
- (B1) BRIDGE TERMINAL ASSEMBLY TYPE 1 (31.25')
- (B2) BRIDGE TERMINAL ASSEMBLY TYPE 2 (25')

DRAINAGE LEGEND

- ITEM 670 - DITCH EROSION PROTECTION (WIDTH SHOWN ON PLANS)
- ITEM 836 - SEEDING AND EROSION CONTROL WITH TURF REINFORCING MAT, TYPE 1 (WIDTH SHOWN ON PLANS)

LEGEND

- CONST. LIMITS

HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED DAW
CHECKED PRS

PLAN - I-271
STA. 329+50 TO STA. 342+00

SUM-271-2.33

323
1195

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CALCULATED DAW
CHECKED PRS

PROFILE
STA. 329+50 TO STA. 342+00

SUM-271-2.33

324
1195

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END PROJECT
STA. 345+91.20
S.L.M. 6.55

E050(431)

BRIDGE IR 80
(OHIO TURNPIKE)
OVER IR 271
SFN: 7729545

BRIDGE SUM-271-0655 L&R
OVER IR 80 (OHIO TURNPIKE)
SFN: 7729561 & 7729596

STA. 342+74.00, 128.00' LT.
℄ 6" 1025.75

STA. 345+22.00, 121.00' LT.
℄ 6" 1020.50'

TH2024

TH2025A

TH2025B

PAVED GUTTER,
TYPE 1-4 (SEE
DETAIL 'A')

4'-30" TYPE C,
706.02 @ EX. SLOPE

EX. 21" RCP

P.G. I-271 SB

P.G. I-271 NB

MATCH LINE SEE SHEET 326
STA. 342+00

MATCH LINE SEE SHEET 327
STA. 354+50

4' WOVEN WIRE

DENSE TREES

38' WIDE PLANING AND RESURFACING
(NB/SB) AS PER ITEM 614 WORK ZONE
RAISED PAVEMENT MARKERS AS
PER PLAN AHEAD TO
STA. 370+90 NB

38' WIDE PLANING AND RESURFACING
(NB/SB) AS PER ITEM 614 WORK ZONE
RAISED PAVEMENT MARKERS AS
PER PLAN AHEAD TO
STA. 373+00 SB

℄ CONST. IR 271

130'-4' RIPRAP
WITH GROUT

REPLACE 6'
SECTION OF
TYPE 1-4
PAVED GUTTER

CLEARING & GRUBBING,
10' WIDE FOR 75' BOTH
SIDES OF PAVED GUTTER

ROCK CHANNEL
PROTECTION,
TYPE C, WITH
FILTER FABRIC
(T=18") TO 2'
ABOVE PAVED
GUTTER ELEVATION

STA. 343+30.00, 132.00' RT.
℄ 6" 1017.80

STA. 346+54.87, 93.55' RT.
℄ 6" 1009.83
MATCH EXISTING OUTLET
IN EXISTING HEADWALL

IR 80 (OHIO TURNPIKE) EASTBOUND

IR 80 (OHIO TURNPIKE) WESTBOUND

BRUSH

STRUCTURE CLEARANCE LEGEND

(P) POINT OF MINIMUM VERTICAL CLEARANCE (SEE PROFILE FOR DIMENSIONS)

(P1) STA. 344+38.13, 66.69' LT.

(P2) STA. 345+01.27, 67.15' LT.

(P3) STA. 344+92.70, 41.53' RT.

(P4) STA. 345+60.79, 41.21' RT.

CROSS REFERENCES

16	TYPICAL SECTIONS
326	PROFILE SHEET
328-539	CROSS SECTIONS
740	PAVEMENT DETAILS
778	DRAINAGE DETAILS

UNDERGROUND UTILITY TEST HOLE

TEST HOLE NO.	℄ CONST IR 271 STATION, OFFSET	SURVEYED ELEV. TOP OF UTILITY	UTILITY
TH2024	343+37.40, 96.40' LT.	1023.3*	F.O.
TH2025A	344+16.74, 90.63' RT.	1011.1*	F.O.
TH2025B	344+12.82, 91.60' RT.	1010.1*	F.O.

* BOTTOM OF TEST HOLE ELEV.- UTILITY DEPTH NOT CONFIRMED.

℄ CONST. IR 271
271-C4 CURVE DATA

P.I.= Sta. 350+56.69	p1 = 4.09'
Δ = 63° 21' 00" (RT)	p2 = 3.51'
Dc = 3° 00' 56"	Δc = 50° 48' 19" (RT)
R = 1,900.00'	Lc = 1,684.77'
Ls1 = 432.00'	Ts = 1,390.10'
Ls2 = 400.00'	Es = 337.03'
θs1 = 6° 30' 49"	eMAX. = 0.080
θs2 = 6° 01' 52"	C1 = 431.75'
LT1 = 288.20'	C2 = 399.81'
LT2 = 266.82'	C = 1,630.11'
ST1 = 144.18'	T.S.= Sta. 336+66.59
ST2 = 133.47'	S.C.= Sta. 340+98.59
x1 = 431.44'	C.S.= Sta. 357+83.36
x2 = 399.56'	S.T.= Sta. 361+83.36
y1 = 16.36'	C.B.1 = N 21° 55' 28" E
y2 = 14.02'	C.B. = N 51° 40' 11" E
k1 = 215.91'	C.B.2 = S 81° 05' 36" W
k2 = 199.93'	

LEGEND

—•— CONST. LIMITS

GUARDRAIL LEGEND

(T) ANCHOR ASSEMBLY TYPE 'T' (12.5')

(E) ANCHOR ASSEMBLY TYPE 'E' (50')

(B) ANCHOR ASSEMBLY TYPE 'B' (37.5')

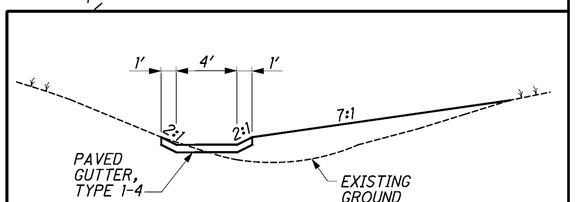
(B1) BRIDGE TERMINAL ASSEMBLY TYPE 1 (31.25')

(B2) BRIDGE TERMINAL ASSEMBLY TYPE 2 (25')

DRAINAGE LEGEND

ITEM 670 - DITCH EROSION PROTECTION (WIDTH SHOWN ON PLANS)

ITEM 836 - SEEDING AND EROSION CONTROL WITH TURF REINFORCING MAT, TYPE 1 (WIDTH SHOWN ON PLANS)



DETAIL 'A'

HORIZONTAL SCALE IN FEET
0 25 50 100

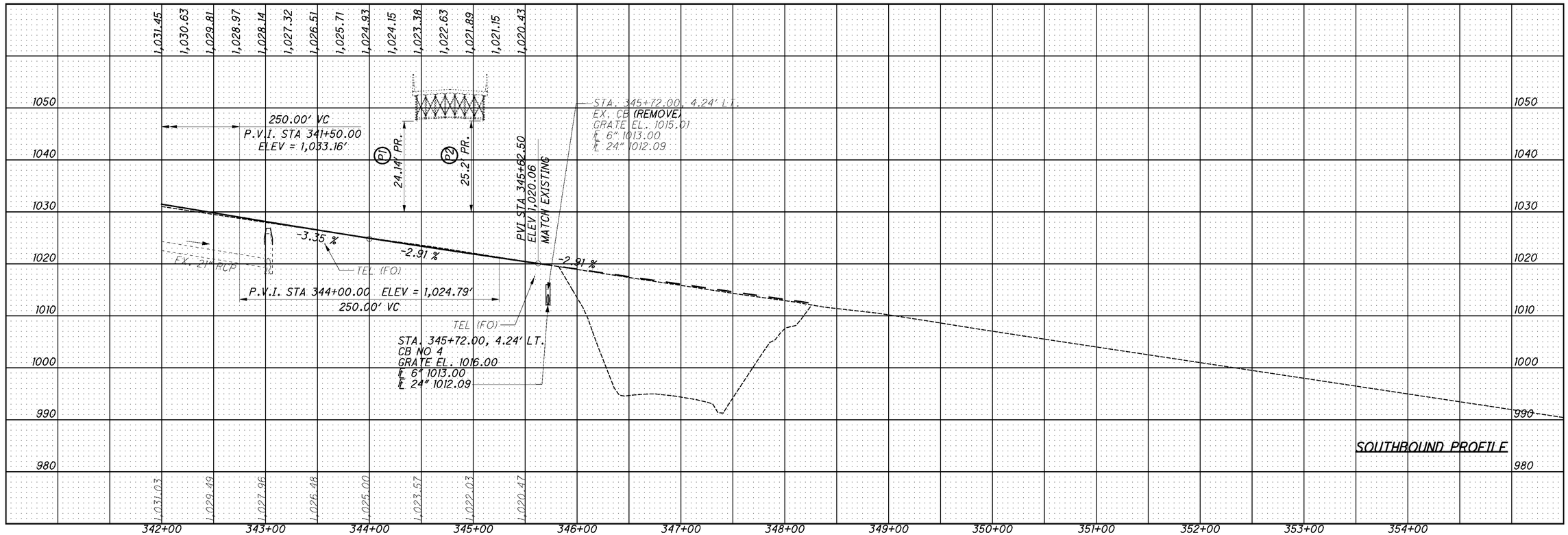
CALCULATED DAW
CHECKED PRS

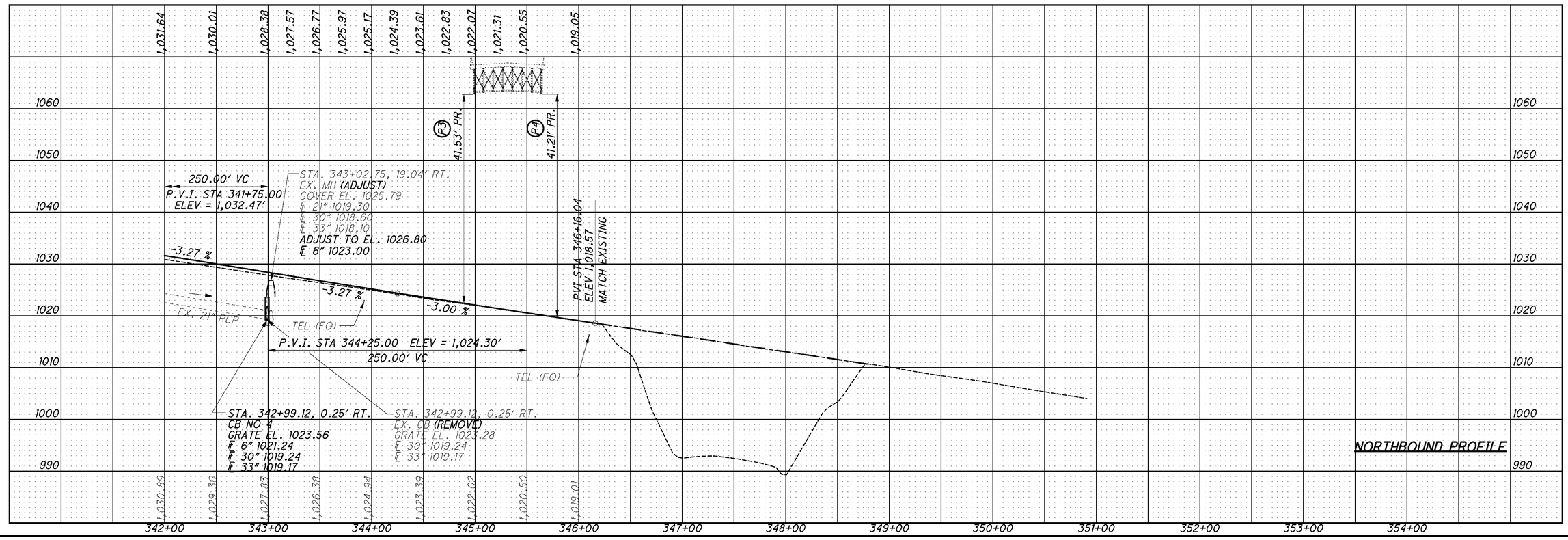
PLAN
STA. 342+00 TO STA. 354+50

SUM-271-2.33

325
1195

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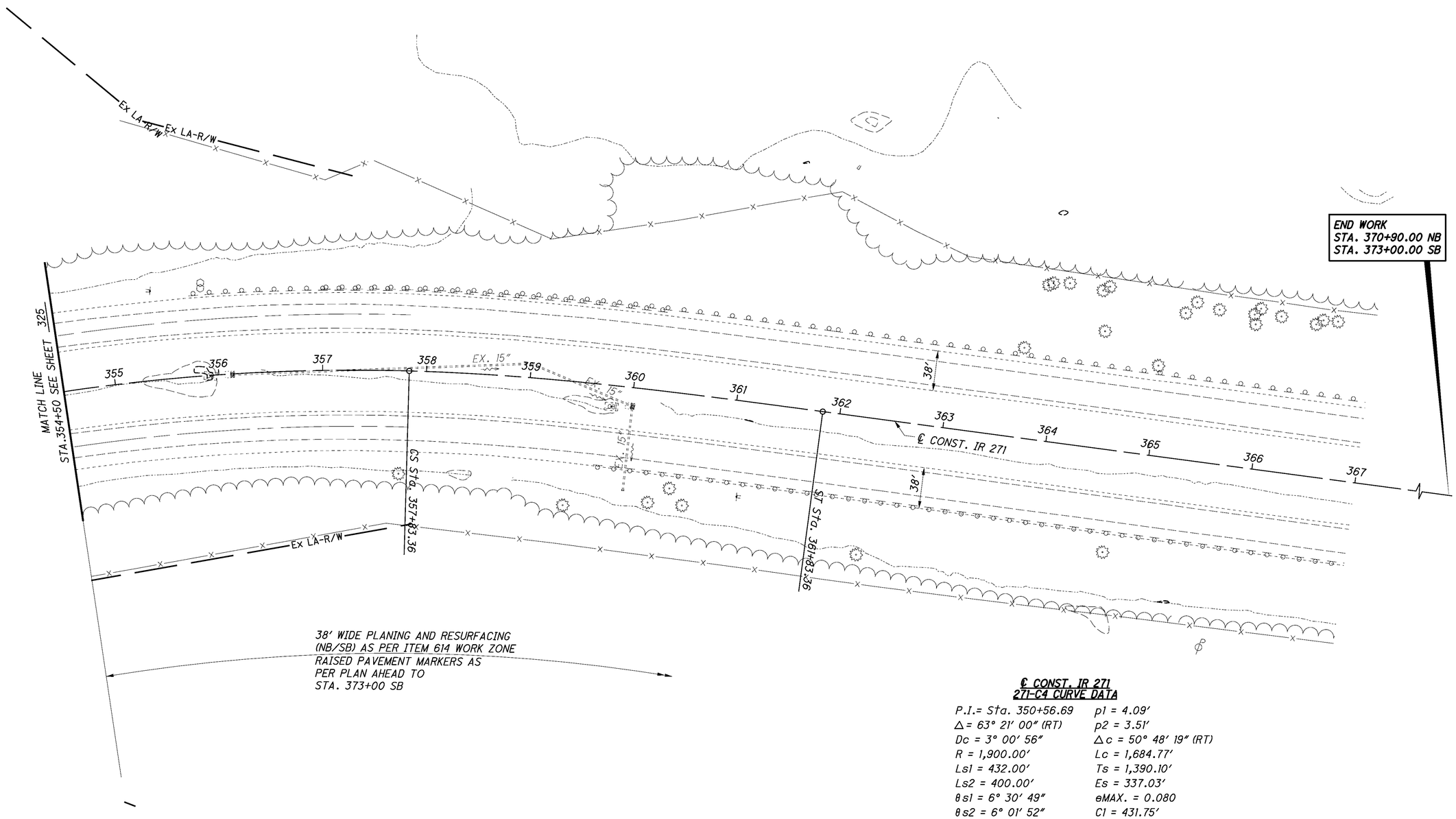
CALCULATED DAW
CHECKED PRS

PROFILE
STA. 342+00 TO STA. 354+50

SUM-271-2.33

326
1195

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℄ CONST. IR 271
271-C4 CURVE DATA

P.I.= Sta. 350+56.69	p1 = 4.09′
△= 63° 21′ 00″ (RT)	p2 = 3.51′
Dc = 3° 00′ 56″	△c = 50° 48′ 19″ (RT)
R = 1,900.00′	Lc = 1,684.77′
Ls1 = 432.00′	Ts = 1,390.10′
Ls2 = 400.00′	Es = 337.03′
θs1 = 6° 30′ 49″	eMAX. = 0.080
θs2 = 6° 01′ 52″	C1 = 431.75′
LT1 = 288.20′	C2 = 399.81′
LT2 = 266.82′	C = 1,630.11′
ST1 = 144.18′	T.S.= Sta. 336+66.59
ST2 = 133.47′	S.C.= Sta. 340+98.59
x1 = 431.44′	C.S.= Sta. 357+83.36
x2 = 399.56′	S.T.= Sta. 361+83.36
y1 = 16.36′	C.B.1 = N 21° 55′ 28″ E
y2 = 14.02′	C.B. = N 51° 40′ 11″ E
k1 = 215.91′	C.B.2 = S 81° 05′ 36″ W
k2 = 199.93′	

HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED DAW
CHECKED PRS

PLAN - I-271
STA. 354+50 TO STA. 367+00

SUM-271-2.33

327
1195

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SEEDING	
END WIDTH	SQ. YDS.
220	
0	

END AREA		VOLUME	
CUT	FILL	CUT	FILL

CALCULATED JDL
CHECKED PRS

100 50 0 ℄ CONST. IR 271 50 100

MAINLINE I-271

1190 1180 1170 1160 1150

527+50.00
1186.41

527+50.00
1181.09

527+50.00
1186.49

STA. 527+50.00 AHD.
BEGIN SEEDING

STA. 527+50.00 BK.

527+00.00
1185.22

527+00.00
1179.49

527+00.00
1185.05

526+50.00
1183.80

526+50.00
1178.04

526+50.00
1183.55

526+00.00
1182.33

526+00.00
1176.47

526+00.00
1182.10

LEGEND

- CONCRETE TO BE REMOVED UNDER ITEM 202 - PAVEMENT REMOVED (TYP.)
- ITEM 206 - CEMENT STABILIZED SUBGRADE (SEE GENERAL NOTE)
- ITEM 615 - ROADS FOR MAINTAINING TRAFFIC (EARTHWORK)
- ITEM 203 - SPECIAL BENCHING

CROSS SECTIONS
STA. 526+00.00 TO STA. 527+50.00

SUM-271-2.33

328
1195

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SEEDING	
END WIDTH	SQ. YDS.
	195
	228
	220
1175	
1245	
2420	

END AREA		VOLUME	
CUT	FILL	CUT	FILL
189	72		
*283	*283		
		344	143
		*583	*583
		344	143
		*904	*904
182	82		
*346	*346		
		*321	*321
*0	*0		

CALCULATED JDL
CHECKED PRS

CROSS SECTIONS
STA. 528+00.00 TO STA. 528+50.00

SUM-271-2.33

329
1195

100 50 0 ℄ CONST. IR 271 50 100

MAINLINE I-271

LEGEND

- CONCRETE TO BE REMOVED UNDER ITEM 202 - PAVEMENT REMOVED (TYP.)
- ITEM 206 - CEMENT STABILIZED SUBGRADE (SEE GENERAL NOTE)
- ITEM 615 - ROADS FOR MAINTAINING TRAFFIC (EARTHWORK)
- ITEM 203 - SPECIAL BENCHING

MATCHLINE 120' RT. (SEE BELOW)

2:1

1170 1160 1150 1140 1190 1180 1170 1160

150

1143.9

EX R/W Fee LA

ROCK CHANNEL PROTECTION, TYPE C, WITH FABRIC FILTER (T =18")

12:1 8:1 7.1:1

1188.95
528+50.00
1189.07

1184.6
528+50.00
1184.10

1189.15
528+50.00
1189.15

MATCHLINE 120' RT. (SEE ABOVE)

MATCHLINE 120' RT. (SEE BELOW)

2:1

1150 1140 1160 1150

150

1138.8

ROCK CHANNEL PROTECTION, TYPE C, WITH FABRIC FILTER (T =18")

2:1 8:1 8:1

1187.70
528+00.00
1187.68

1183.4

1187.88
528+00.00
1187.88

528+00.00 BEGIN PROJECT
1182.58

MATCHLINE 120' RT. (SEE ABOVE)

1190 1180 1170 1160 1150 1140 1130

SEE SHEET _2ZZ_ FOR POST CONSTRUCTION STORM WATER MANAGEMENT

STA. 528+00.00 BEGIN EARTHWORK AHD.

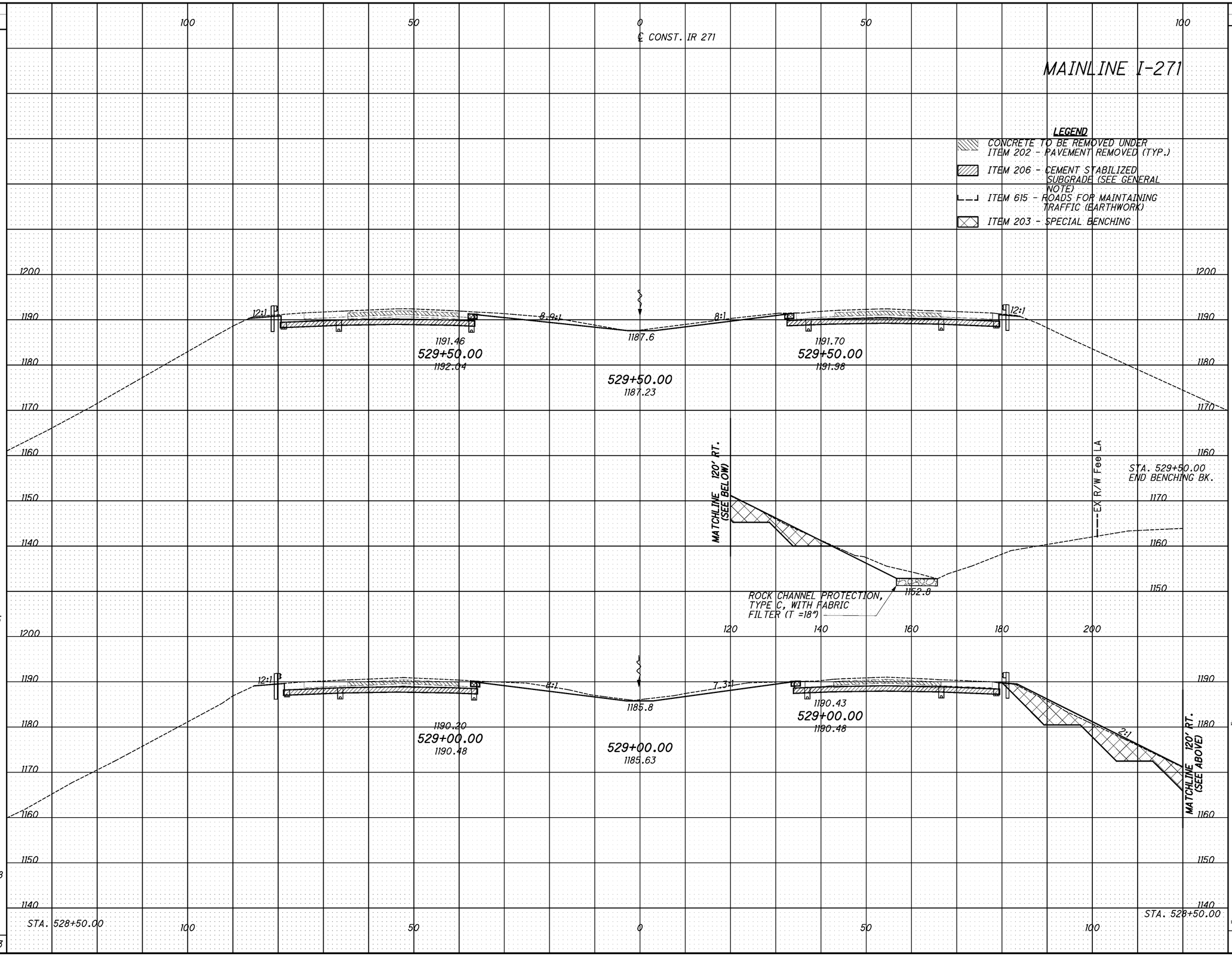
STA. 527+50.00 BEGIN BENCHING AHD.

STA. 527+50.00 AHD.

100 50 0 50 100

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SEEDING	
END WIDTH	SQ. YDS.
86	745
182	1048
195	1793



END AREA		VOLUME	
CUT	FILL	CUT	FILL
216	0		
*0	*0		
		405	16
		*189	*189
		380	83
		*451	*451
221	17		
*204	*204		
189	72		
*283	*283		
		785	99
		*640	*640

CALCULATED JDL
CHECKED PRS

CROSS SECTIONS
STA. 529+00.00 TO STA. 529+50.00

SUM-271-2.33

330
1195

F:\2009\109094\18710\roadway\sheets\18710XS001.dgn 11/10/2012 9:28:41 AM DonHelman

SEEDING	
END WIDTH	SQ. YDS.
85	489
91	492
86	981

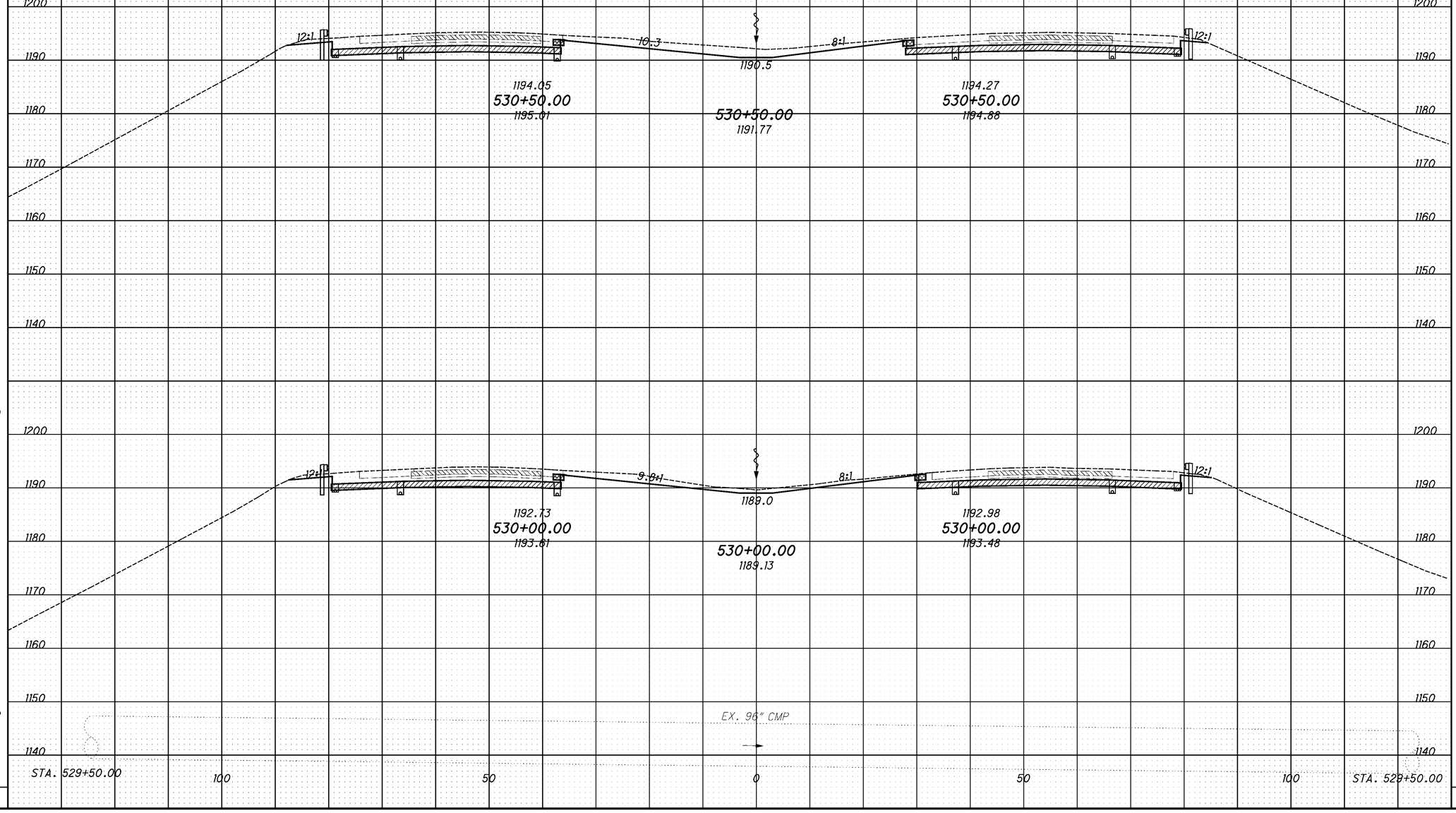
100 50 0 50 100

℄ CONST. IR 271

MAINLINE I-271

LEGEND

- CONCRETE TO BE REMOVED UNDER ITEM 202 - PAVEMENT REMOVED (TYP.)
- ITEM 206 - CEMENT STABILIZED SUBGRADE (SEE GENERAL NOTE)
- ITEM 615 - ROADS FOR MAINTAINING TRAFFIC (EARTHWORK)
- ITEM 203 - SPECIAL BENCHING



END AREA		VOLUME	
CUT	FILL	CUT	FILL
303	0	525	0
263	0	444	0
216	0	969	0

CALCULATED JDL
CHECKED PRS

CROSS SECTIONS
STA. 530+00.00 TO STA. 530+50.00

SUM-271-2.33

331
1195

F:\2009\109094\18710\roadway\sheets\18710XS001.dgn 11/10/2012 9:29:18 AM DonHelmon

SEEDING	
END WIDTH	SQ. YDS.
85	300
23	300
85	600

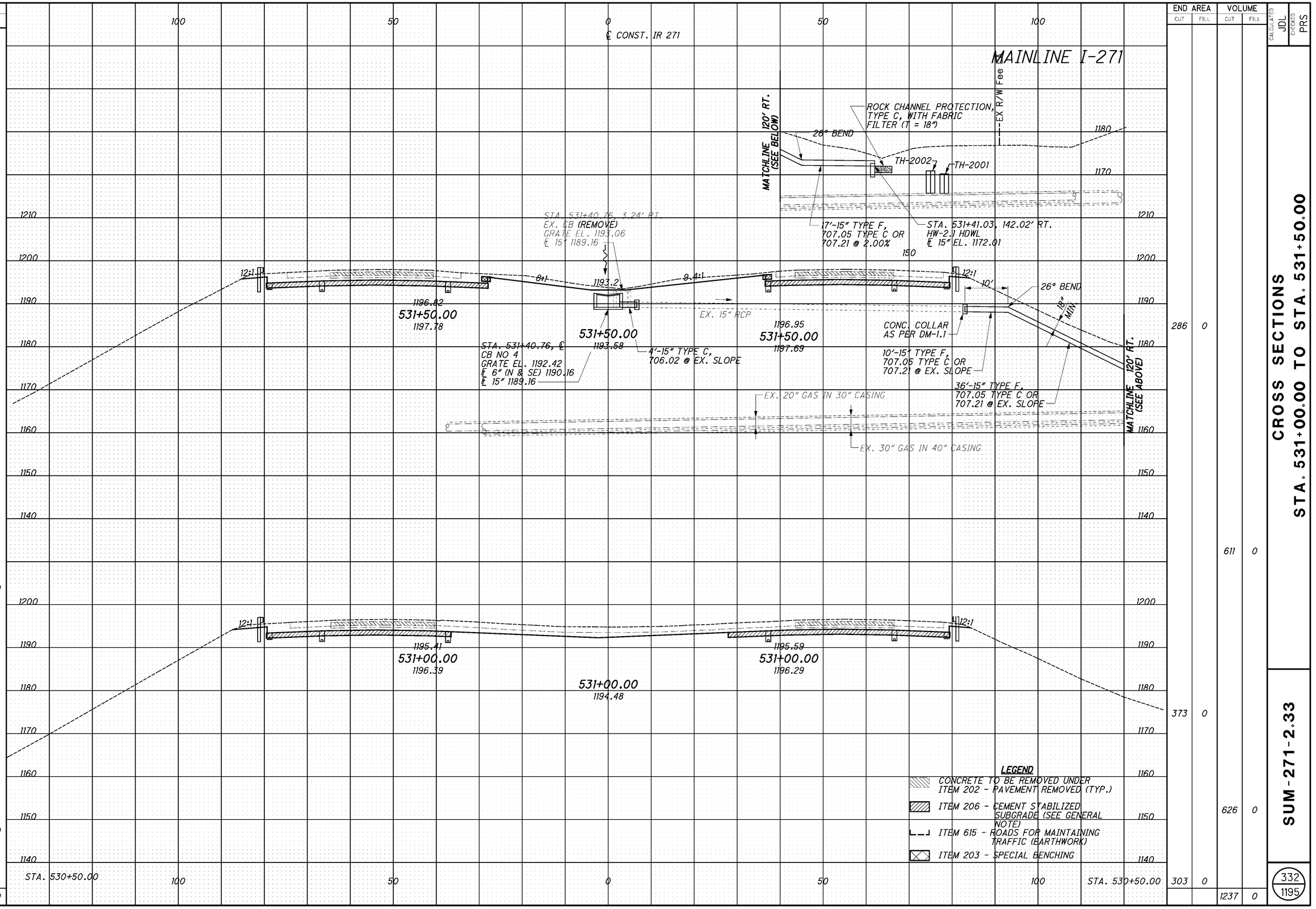
END AREA		VOLUME	
CUT	FILL	CUT	FILL
286	0		
		611	0
373	0		
		626	0
303	0		
		1237	0

CALCULATED JDL
CHECKED PRS

CROSS SECTIONS
STA. 531+00.00 TO STA. 531+50.00

SUM-271-2.33

332
1195



F:\2009\109094\18710\roadway\sheets\18710XS001.dgn 11/10/2012 9:29:38 AM Donhelman

SEEDING	
END WIDTH	SQ. YDS.
86	475
85	473
85	948

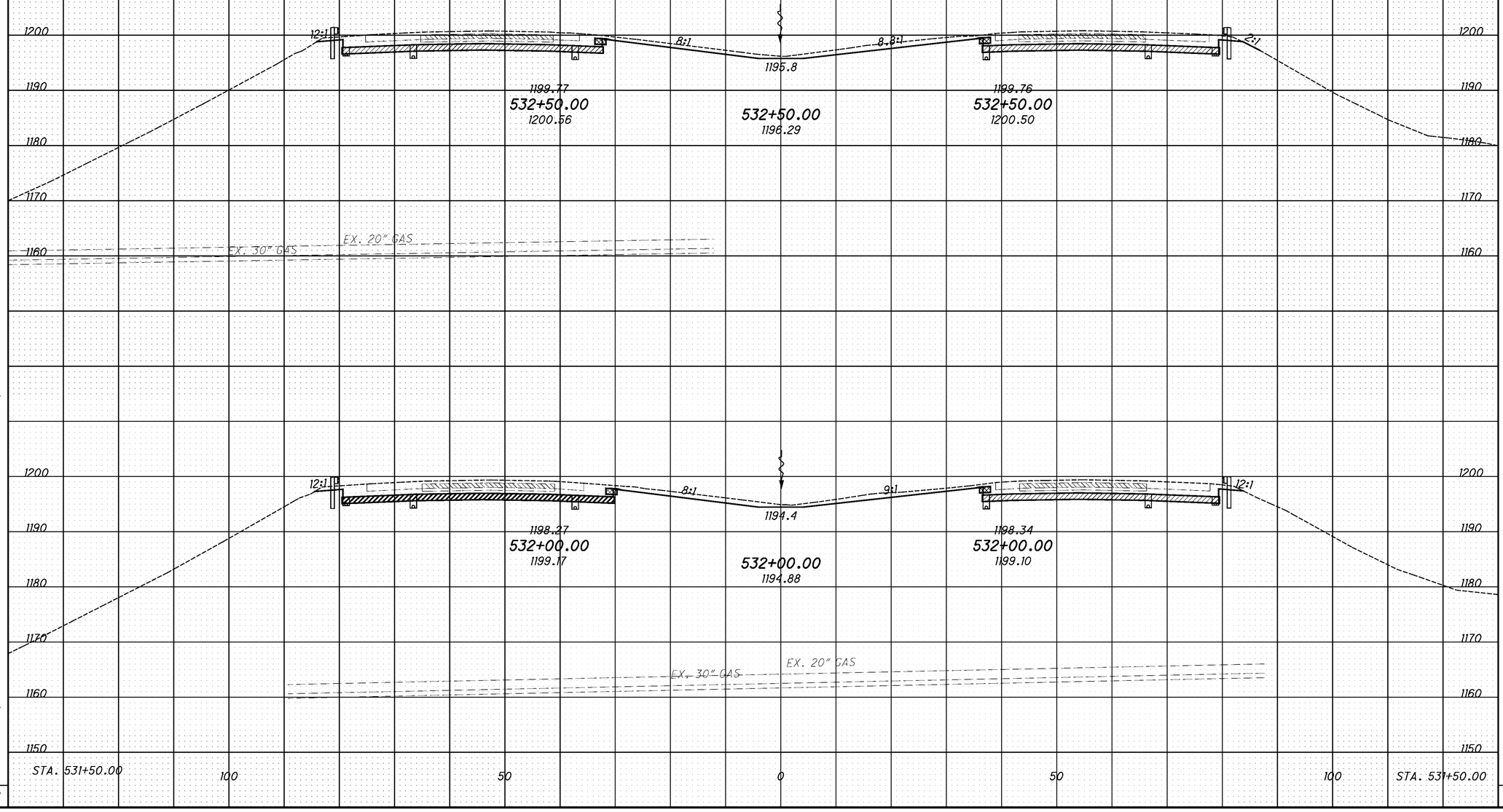
100 50 0 50 100

℄ CONST. IR 271

MAINLINE I-271

LEGEND

- CONCRETE TO BE REMOVED UNDER ITEM 202 - PAVEMENT REMOVED (TYP.)
- ITEM 206 - CEMENT STABILIZED SUBGRADE (SEE GENERAL NOTE)
- ITEM 615 - ROADS FOR MAINTAINING TRAFFIC (EARTHWORK)
- ITEM 203 - SPECIAL BENCHING



END AREA		VOLUME	
CUT	FILL	CUT	FILL
260	0		
269	0	490	0
286	0	514	0
		1004	0

CALCULATED JDL

CHECKED PRS

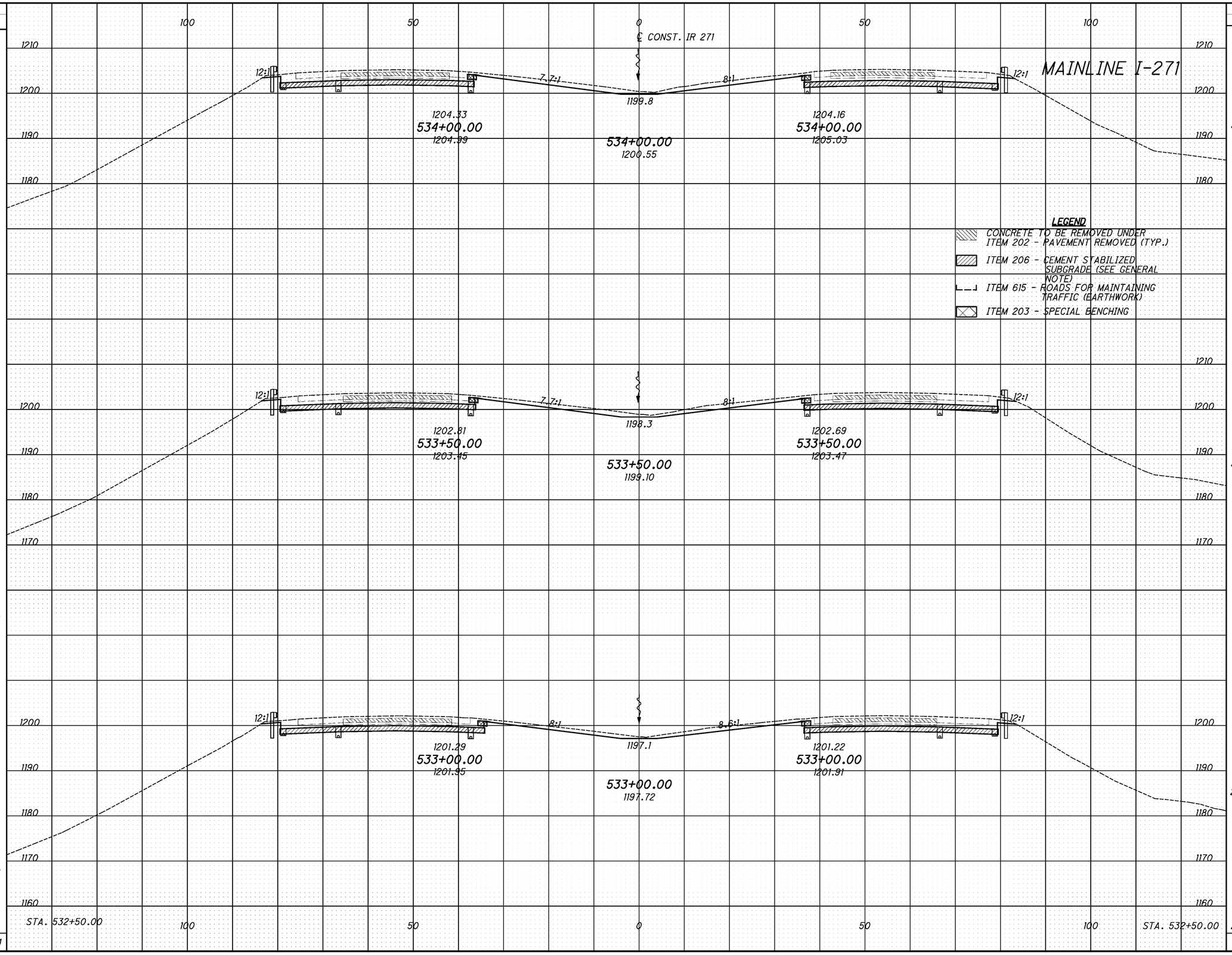
CROSS SECTIONS
STA. 532+00.00 TO STA. 532+50.00

SUM-271-2.33

333
1195

F:\2009\109094\18710\roadway\sheets\18710XS001.dgn 11/10/2012 9:29:57 AM DonHelman

SEEDING	
END WIDTH	SQ. YDS.
86	481
87	478
85	475
86	
	1434



END AREA		VOLUME	
CUT	FILL	CUT	FILL
263	0		
		481	0
256	0		
		466	0
247	0		
		470	0
260	0		
		1417	0

CALCULATED JDL
CHECKED PRS

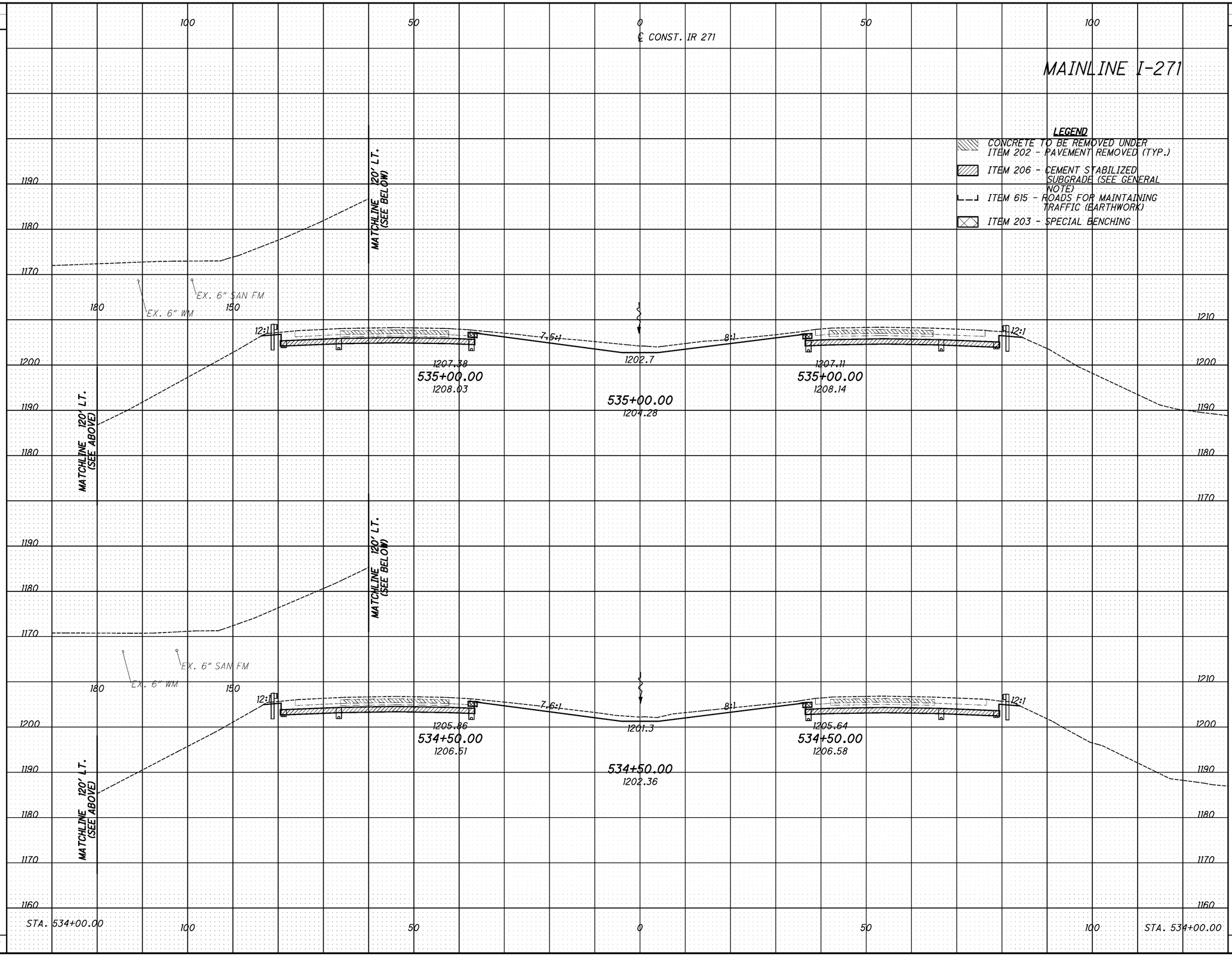
CROSS SECTIONS
STA. 533+00.00 TO STA. 534+00.00

SUM-271-2.33

334
1195

18710XS001.DGN 6/1/1 SAM

SEEDING END WIDTH	SEEDING SQ. YDS.
88	487
87	481
86	968



END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
287	0		
516	0		
494	0		
270	0		
263	0		
		1010	0

CALCULATED JDL
CHECKED PRS

CROSS SECTIONS
STA. 534+50.00 TO STA. 535+00.00

SUM-271-2.33

335
1195

F:\2009\109094\18710\roadway\sheets\18710XS001.dgn 11/10/2012 9:30:41 AM DonHelman

SEEDING	
END WIDTH	SQ. YDS.
91	503
90	495
88	998

100 50 0 50 100

℄ CONST. IR 271

MAINLINE I-271

LEGEND

- CONCRETE TO BE REMOVED UNDER ITEM 202 - PAVEMENT REMOVED (TYP.)
- ITEM 206 - CEMENT STABILIZED SUBGRADE (SEE GENERAL NOTE)
- ITEM 615 - ROADS FOR MAINTAINING TRAFFIC (EARTHWORK)
- ITEM 203 - SPECIAL BENCHING

1210 1200 1190 1180 1170 1160

12:1 7.4:1 8:1 12:1

1210.42
536+00.00
1210.90

1205.7
536+00.00
1207.34

1210.05
536+00.00
1210.91

EX R/W Fee LA

FM

EX. 6" SAN FM

EX. 6" WM

180 150

MATCHLINE 120' LT. (SEE BELOW)

MATCHLINE 120' LT. (SEE ABOVE)

1208.90
535+50.00
1209.47

1204.2
535+50.00
1205.85

1208.58
535+50.00
1209.52

STA. 535+00.00 100 50 0 50 100 STA. 535+00.00

END AREA		VOLUME	
CUT	FILL	CUT	FILL
280	0		
278	0	517	0
287	0	524	0
		1041	0

CALCULATED JDL
CHECKED PRS

CROSS SECTIONS
STA. 535+50.00 TO STA. 536+00.00

SUM-271-2.33

336
1195

F:\2009\109094\18710\roadway\sheets\18710XS001.dgn 11/10/2012 9:31:02 AM DonHelman

SEEDING	
END WIDTH	SQ. YDS.
93	517
93	512
91	506
91	1535

100 50 0 50 100

℄ CONST. IR 271

MAINLINE I-271

1220 / 1210 / 1200 / 1190 / 1180 / 1170

12:1 7.5:1 8:1 12:1

1214.74
537+50.00
1215.20

1210.1
537+50.00
1210.81

1214.45
537+50.00
1215.07

X. 6" SAN. FM

LEGEND

- CONCRETE TO BE REMOVED UNDER ITEM 202 - PAVEMENT REMOVED (TYP.)
- ITEM 206 - CEMENT STABILIZED SUBGRADE (SEE GENERAL NOTE)
- ITEM 615 - ROADS FOR MAINTAINING TRAFFIC (EARTHWORK)
- ITEM 203 - SPECIAL BENCHING

12:1 7.4:1 8:1 12:1

1213.35
537+00.00
1213.77

1208.6
537+00.00
1209.66

1213.00
537+00.00
1213.68

6" SAN. FM

12:1 7.3:1 8:1 12:1

1211.91
536+50.00
1212.34

1207.2
536+50.00
1208.62

1211.53
536+50.00
1212.30

6" SAN. FM

STA. 536+00.00 — 100 — 50 — 0 — 50 — 100 — STA. 536+00.00

END AREA		VOLUME	
CUT	FILL	CUT	FILL
231	0		
		444	0
248	0		
		479	0
269	0		
		509	0
280	0		
		1432	0

CALCULATED JDL
CHECKED PRS

CROSS SECTIONS
STA. 536+50.00 TO STA. 537+50.00

SUM-271-2.33

337
1195

F:\2009\109094\18710\roadway\sheets\18710XS001.dgn 11/10/2012 9:31:23 AM DonHelmon

SEEDING END WIDTH	SEEDING SQ. YDS.
94	523
94	523
94	520
93	1566

100 50 0 50 100

℄ CONST. IR 271

MAINLINE I-271

1230 1220 1210 1200 1190

12:1 7.7:1 8:1 12:1

1218.59
539+00.00
1218.89

1214.1
539+00.00
1214.94

1218.45
539+00.00
1218.95

EX. 6" SAN FM
6" WM

LEGEND

- CONCRETE TO BE REMOVED UNDER ITEM 202 - PAVEMENT REMOVED (TYP.)
- ITEM 206 - CEMENT STABILIZED SUBGRADE (SEE GENERAL NOTE)
- ITEM 615 - ROADS FOR MAINTAINING TRAFFIC (EARTHWORK)
- ITEM 203 - SPECIAL BENCHING

1217.36
538+50.00
1217.74

1212.8
538+50.00
1213.46

1217.17
538+50.00
1217.71

1216.08
538+00.00
1216.55

1211.5
538+00.00
1212.07

1215.84
538+00.00
1216.46

EX. 6" SAN FM
6" WM

EX. 6" SAN FM
M

STA. 537+50.00 100 50 0 50 100 STA. 537+50.00

END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
236	0	425	0
223	0	425	0
235	0	432	0
231	0	1282	0

CALCULATED JDL
CHECKED PRS

CROSS SECTIONS
STA. 538+00.00 TO STA. 539+00.00

SUM-271-2.33

338
1195

F:\2009\109094\18710\roadway\sheets\18710XS001.dgn 11/10/2012 9:31:46 AM DonHelman

SEEDING	
END WIDTH	SQ. YDS.
	111
	562
	91
	506
	91
	514
	94
	1582

100 50 0 50 100

℄ CONST. IR 271

MAINLINE I-271

1230 1220 1210 1200 1190

12:1 8:1 8:1 6:1

1221.97
540+50.00
1222.19

1217.6

1221.96
540+50.00
1222.47

540+50.00
1217.97

EX. 6" SAN FM
EX. 6" WM

LEGEND

- CONCRETE TO BE REMOVED UNDER ITEM 202 - PAVEMENT REMOVED (TYP.)
- ITEM 206 - CEMENT STABILIZED SUBGRADE (SEE GENERAL NOTE)
- ITEM 615 - ROADS FOR MAINTAINING TRAFFIC (EARTHWORK)
- ITEM 203 - SPECIAL BENCHING

STA. 540+00.46, 0.14' RT.
EX. C.B. (REMOVE)
GRATE EL. 1216.44
℄ 15" 1213.04

12:1 8:1 8:1 12:1

ROCK CHANNEL PROTECTION, TYPE C, WITH FABRIC FILTER (T = 18")

1220.90
540+00.00
1221.20

1216.5

1220.85
540+00.00
1221.36

EX. 15" RCP

STA. 540+00.46, ℄
CB NO 4
GRATE EL. 1216.55
℄ 6" (E & NW) 1214.04
℄ 15" 1213.04

4'-15" TYPE C,
706.02 @ EX. SLOPE

STA. 540+01.03, 119.82' RT.
EX. HDWL
℄ 15" 1210.63

540+00.00
1216.69

EX. 6" SAN FM
EX. 6" WM

12:1 7.8:1 8:1 12:1

1219.77
539+50.00
1220.03

1215.3

1219.68
539+50.00
1220.18

539+50.00
1219.48

EX. 6" SAN FM
EX. 6" WM

STA. 539+00.00 100 50 0 50 100 STA. 539+00.00

END AREA		VOLUME	
CUT	FILL	CUT	FILL
235	0	443	0
243	0	552	0
353	0	546	0
236	0	1541	0

CALCULATED JDL
CHECKED PRS

CROSS SECTIONS
STA. 539+50.00 TO STA. 540+50.00

SUM-271-2.33

339
1195

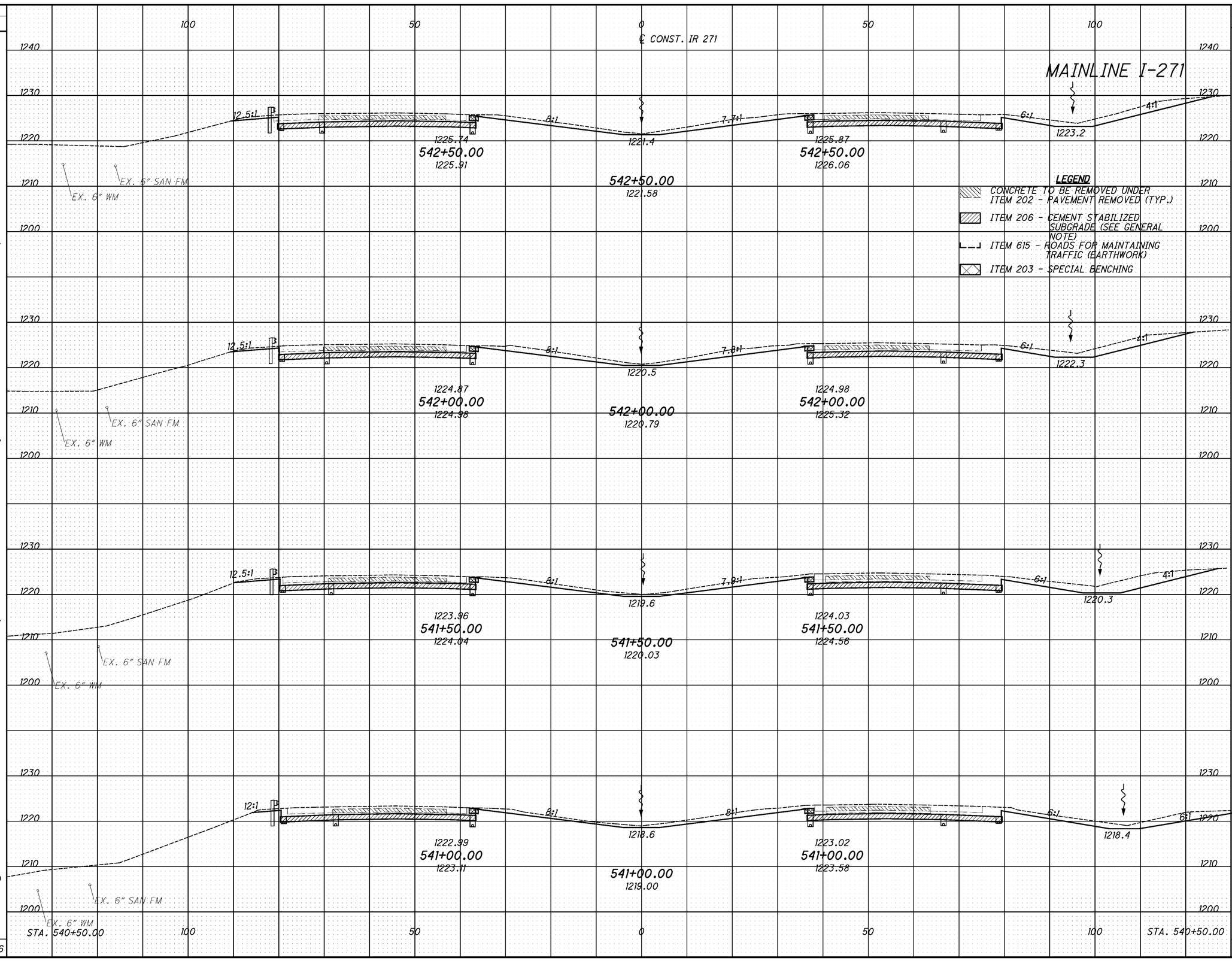
F:\2009\109094\18710\roadway\sheets\18710XS001.dgn 11/10/2012 9:32:11 AM DonHelman

SEEDING	
END WIDTH	SQ. YDS.
136	745
132	748
137	773
141	700
111	
	2966

100 50 0 50 100

℄ CONST. IR 271

MAINLINE I-271



LEGEND

- CONCRETE TO BE REMOVED UNDER ITEM 202 - PAVEMENT REMOVED (TYP.)
- ITEM 206 - CEMENT STABILIZED SUBGRADE (SEE GENERAL NOTE)
- ITEM 615 - ROADS FOR MAINTAINING TRAFFIC (EARTHWORK)
- ITEM 203 - SPECIAL BENCHING

STA. 540+50.00 100 50 0 50 100 STA. 540+50.00

END AREA		VOLUME	
CUT	FILL	CUT	FILL
271	0	509	0
278	0	534	0
298	0	535	0
279	0	476	0
235	0	2054	0

CALCULATED JDL
CHECKED PRS

CROSS SECTIONS
STA. 541+00 TO STA. 542+50.00

SUM-271-2.33

340
1195

F:\2009\109094\18710\roadway\sheets\18710XS001.dgn 11/10/2012 9:32:36 AM DonHelman

SEEDING	
END WIDTH	SQ. YDS.
130	725
131	745
137	759
136	2229

100 50 0 ℄ CONST. IR 271 50 100

MAINLINE I-271

1240 1230 1220 1210 1200

EX. 6" WM EX. 6" SAN FM

8:1 7.6:1 6:1 4:1

1228.01 544+00.00 1228.38

1223.6 544+00.00 1223.83

1228.23 544+00.00 1228.26

1225.5

LEGEND

- CONCRETE TO BE REMOVED UNDER ITEM 202 - PAVEMENT REMOVED (TYP.)
- ITEM 206 - CEMENT STABILIZED SUBGRADE (SEE GENERAL NOTE)
- ITEM 615 - ROADS FOR MAINTAINING TRAFFIC (EARTHWORK)
- ITEM 203 - SPECIAL BENCHING

EX. 6" WM EX. 6" SAN FM

8:1 7.6:1 6:1 4:1

1227.30 543+50.00 1227.72

1222.9 543+50.00 1223.08

1227.50 543+50.00 1227.63

1224.8

12.5:1 8:1 7.7:1 6:1 4:1

EX. 6" WM EX. 6" SAN FM

1226.55 543+00.00 1226.84

1222.2 543+00.00 1222.34

1226.71 543+00.00 1226.82

1224.0

STA. 542+50.00 100 50 0 50 100 STA. 542+50.00

END AREA		VOLUME	
CUT	FILL	CUT	FILL
240	0	456	0
252	0	473	0
258	0	490	0
271	0	1419	0

CALCULATED JDL

CHECKED PRS

CROSS SECTIONS STA. 543+00.00 TO 544+00.00

SUM-271-2.33

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1195

F:\2009\109094\18710\roadway\sheets\18710XS001.dgn 11/10/2012 9:32:58 AM DonHelman

SEEDING	
END WIDTH	SQ. YDS.
159	875
156	856
152	784
130	2515

100 50 0 ℄ CONST. IR 271 50 100

MAINLINE I-271

LEGEND

- CONCRETE TO BE REMOVED UNDER ITEM 202 - PAVEMENT REMOVED (TYP.)
- ITEM 206 - CEMENT STABILIZED SUBGRADE (SEE GENERAL NOTE)
- ITEM 615 - ROADS FOR MAINTAINING TRAFFIC (EARTHWORK)
- ITEM 203 - SPECIAL BENCHING

1240 / 1230 / 1220 / 1210 / 1200

4:1 6:1 8:1 7.5:1 6:1 4:1

1227.5

PROP. 6" WATER

EX. 6" WM (REMOVE UNDER 638)

EX. 6" SAN FM (REMOVE UNDER 603)

PROP. 6" SAN. FORCE MAIN

1229.80
545+50.00
1230.12

1225.4
545+50.00
1225.89

1230.09
545+50.00
1229.96

1227.4

1227.1

PROP. 6" WATER

EX. 6" WM (REMOVE UNDER 638)

EX. 6" SAN FM (REMOVE UNDER 603)

PROP. 6" SAN. FORCE MAIN

1229.26
545+00.00
1229.55

1224.9
545+00.00
1225.33

1229.52
545+00.00
1229.44

1226.8

1226.4

EX. 6" WM

EX. AIR RELEASE MANHOLE (DO NOT DISTURB)

EX. 6" SAN FM

EX. AIR RELEASE MANHOLE (DO NOT DISTURB)

1228.66
544+50.00
1228.96

1224.3
544+50.00
1224.67

1228.90
544+50.00
1228.85

1226.2

STA. 544+00.00 STA. 544+00.00

END AREA		VOLUME	
CUT	FILL	CUT	FILL
246	0		
		457	0
247	0		
		458	0
247	0		
		451	0
240	0		
		1366	0

CALCULATED JDL

CHECKED PRS

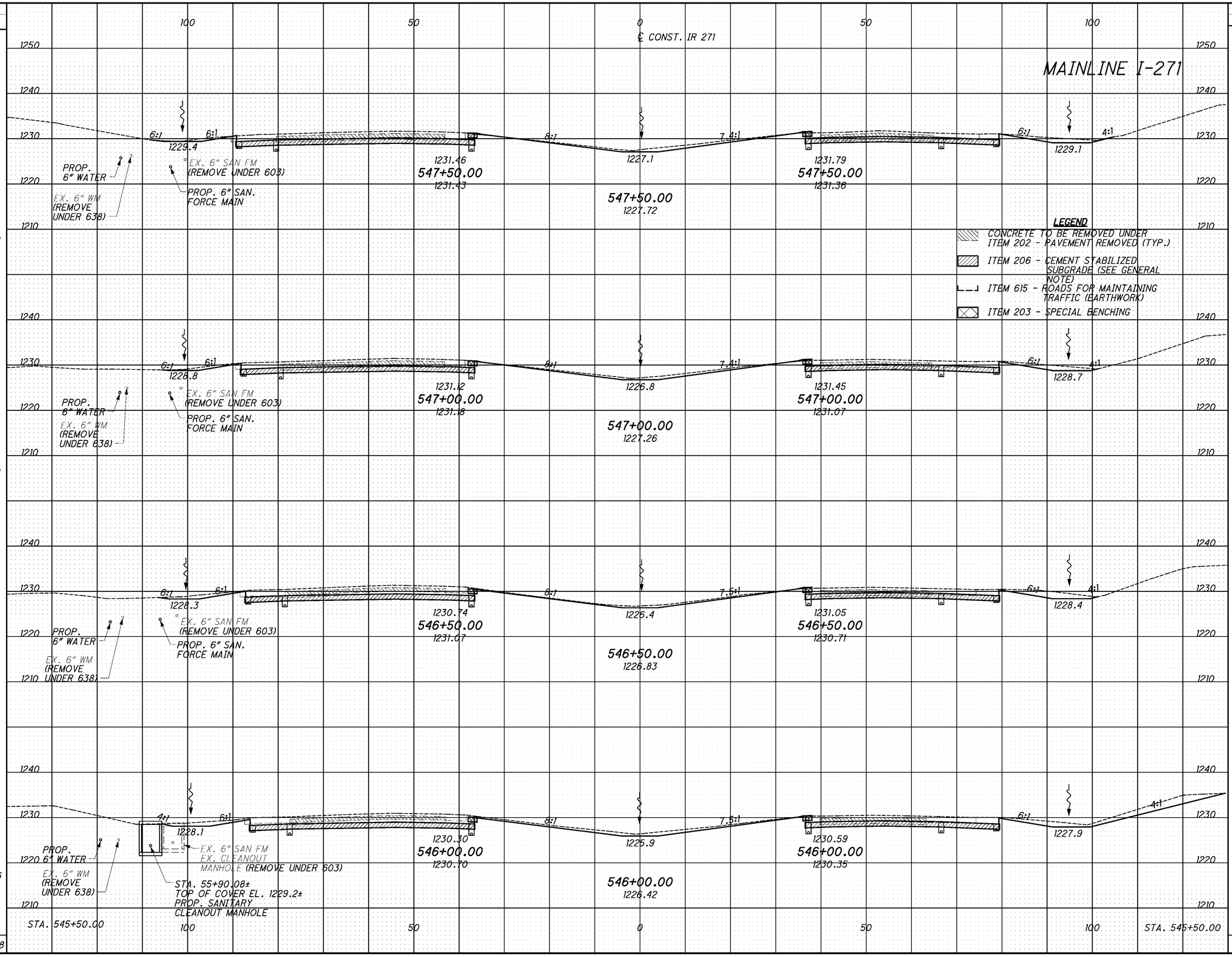
CROSS SECTIONS STA. 544+50.00 TO STA. 545+50.00

SUM-271-2.33

342
1195

F:\2009\109094\18710\roadway\sheets\18710XS001.dgn 11/10/2012 9:33:19 AM DonHelman

SEEDING	
END WIDTH	SQ. YDS.
126	678
118	664
121	750
149	856
159	
	2948



END AREA		VOLUME	
CUT	FILL	CUT	FILL
165	1		
		308	1
167	0		
		324	0
182	0		
		388	0
237	0		
		448	0
246	0		
		1468	1

CALCULATED JDL
CHECKED PRS

CROSS SECTIONS
STA. 546+00.00 TO STA. 547+50.00

SUM-271-2.33

343
1195

F:\2009\109094\18710\roadway\sheets\18710XS001.dgn 11/10/2012 9:36:47 AM DonHelman

SEEDING	
END WIDTH	SQ. YDS.
164	
	820
131	
	709
124	
	695
126	
	2224

100 50 0 50 100

℄ CONST. IR 271

MAINLINE I-271

—EX R/W Fee LA

MATCHLINE (SEE BELOW) 120' LT.

MATCHLINE (SEE ABOVE) 120' LT.

LEGEND

- CONCRETE TO BE REMOVED UNDER ITEM 202 - PAVEMENT REMOVED (TYP.)
- ITEM 206 - CEMENT STABILIZED SUBGRADE (SEE GENERAL NOTE)
- ITEM 615 - ROADS FOR MAINTAINING TRAFFIC (EARTHWORK)
- ITEM 203 - SPECIAL BENCHING

1240 / 1230 / 1220 / 1210 / 1250

150

3:1 6:1 8:1 7.4:1 6:1 3:1

1230.0

EX. 6" SAN FM (REMOVE UNDER 603)

PROP. 6" SAN. FORCE MAIN

EX. 6" WM (REMOVE UNDER 638)

PROP. 6" WATER

1232.15
549+00.00
1232.14

1227.8

549+00.00
1228.46

1232.49
549+00.00
1232.35

1229.7

3.7:1 6:1 8:1 7.4:1 6:1 3:1

1229.8

PROP. 6" WATER

EX. 6" WM (REMOVE UNDER 638)

EX. 6" SAN FM (REMOVE UNDER 603)

PROP. 6" SAN. FORCE MAIN

1231.97
548+50.00
1232.01

1227.6

548+50.00
1228.21

1232.31
548+50.00
1232.02

1229.6

4:1 6:1 8:1 7.4:1 6:1 4:1

1228.6

STA. 158+18.08±
PROP. AIR RELEASE MANHOLE

EX. 6" SAN FM
EX. AIR RELEASE MANHOLE (REMOVE UNDER 603)

STA. 58+19.44±
TOP OF COVER EL. 1229.8±
PROP. AIR RELEASE MANHOLE

EX. 6" WM
EX. AIR RELEASE MANHOLE (REMOVE UNDER 638)

1231.74
548+00.00
1231.69

1227.4

548+00.00
1228.01

1232.08
548+00.00
1231.63

1229.4

STA. 547+50.00

50 0 50 100

STA. 547+50.00

END AREA		VOLUME	
CUT	FILL	CUT	FILL
216	0		
		363	1
176	1		
		315	3
164	2		
		305	3
165	1		
		983	7

CALCULATED JDL

CHECKED PRS

CROSS SECTIONS

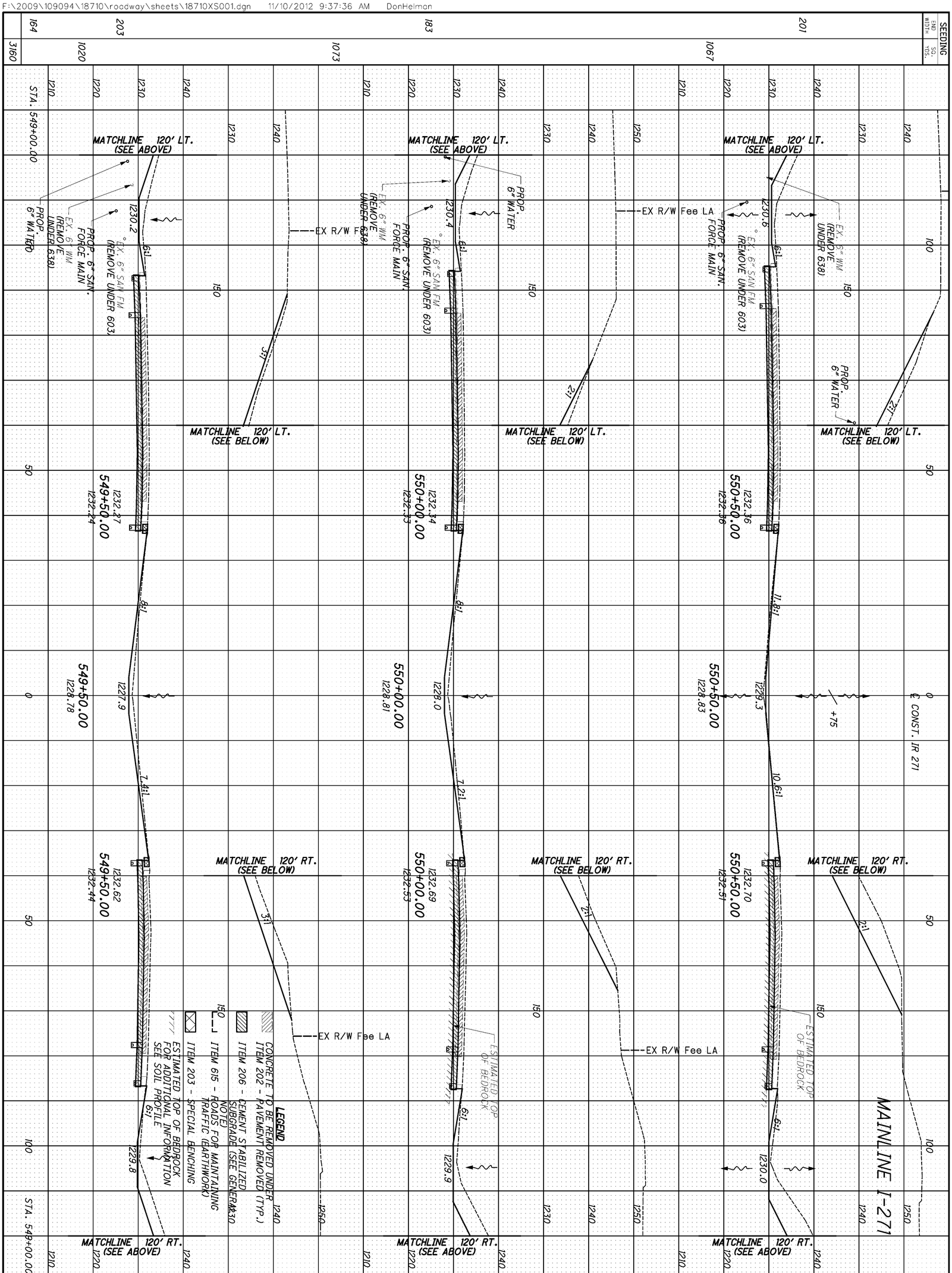
STA. 548+00.00 TO STA. 549+50.00

SUM-271-2.33

344
1195

F:\2009\109094\18710\roadway\sheets\18710XS001.dgn 11/10/2012 9:37:11 AM DonHelman

F:\2009\109094\18710\roadway\sheets\18710XS001.dgn 11/10/2012 9:37:36 AM DonHelman



	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
549+50.00	216	0	543	0
550+00.00	370	0	695	0
550+50.00	380	0	766	9
	447	9		

345
1195

SUM-271-2.33

CROSS SECTIONS
STA. 549+50.00 TO STA. 550+50.00

CALCULATED JDL
CHECKED PRS

SEEDING	
END WIDTH	SQ. YDS.
164	906
162	909
165	1017
201	2832

END AREA		VOLUME	
CUT	FILL	CUT	FILL
382	10		
		675	20
347	11		
		607	18
308	8		
		700	16
447	9		
		1982	54

CALCULATED JDL
CHECKED PRS

CROSS SECTIONS
STA. 551+00.00 TO STA. 552+00.00

SUM-271-2.33

346
1195

MAINLINE I-271

100 50 0 ℄ CONST. IR 271 50 100

STA. 161+65.08±
PROP. AIR RELEASE MANHOLE

EX. 6" WM
EX. AIR RELEASE MANHOLE (REMOVE UNDER 638)

EX. 6" SAN FM
EX. AIR RELEASE MANHOLE (REMOVE UNDER 603)

STA. 61+65.35±
TOP OF COVER EL. 1230.2±
PROP. AIR RELEASE MANHOLE

PROP. 6" WATER

PROP. 6" SAN. FORCE MAIN

EX. 6" WM (REMOVE UNDER 638)

MATCHLINE 120' LT. (SEE ABOVE)

MATCHLINE 120' LT. (SEE BELOW)

EX R/W Fee L

ESTIMATED TOP OF BEDROCK

6:1	11.8:1	10.6:1	5.3:1	6:1	11.8:1	10.6:1	4.9:1	6:1	11.8:1	10.6:1	5.3:1	2:1
1230.0	1232.10	1229.1	1232.41	1229.7	1230.2	1232.24	1229.2	1232.56	1229.8	1230.4	1232.33	1229.3	1232.66	1229.9
	552+00.00	552+00.00	552+00.00			551+50.00	551+50.00	551+50.00			551+00.00	551+00.00	551+00.00	
	1232.23	1228.76	1232.24			1232.27	1228.80	1232.36			1232.32	1228.83	1232.48	

LEGEND

- CONCRETE TO BE REMOVED UNDER ITEM 202 - PAVEMENT REMOVED (TYP.)
- ITEM 206 - CEMENT STABILIZED SUBGRADE (SEE GENERAL NOTE)
- ITEM 615 - ROADS FOR MAINTAINING TRAFFIC (EARTHWORK)
- ITEM 203 - SPECIAL BENCHING
- ESTIMATED TOP OF BEDROCK FOR ADDITIONAL INFORMATION SEE SOIL PROFILE

STA. 550+50.00 100 50 0 50 100 STA. 550+50.00

F:\2009\109094\18710\roadway\sheets\18710XS001.dgn 11/10/2012 9:37:59 AM DonHelman

SEEDING	
END WIDTH	SQ. YDS.
171	942
168	923
164	1865

END AREA		VOLUME	
CUT	FILL	CUT	FILL
450	99		
		809	104
423	13		
		746	22
382	10		
		1555	126

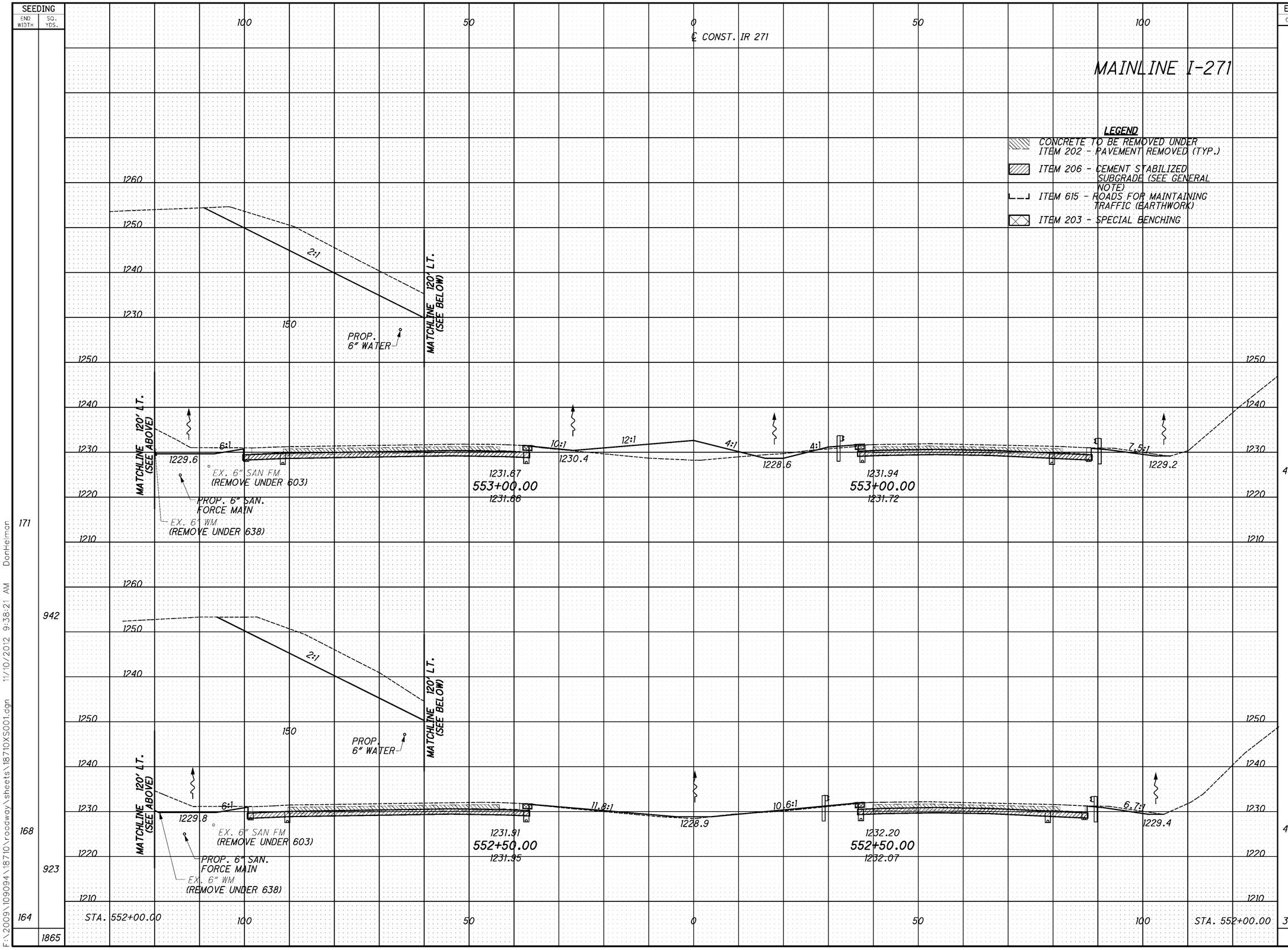
CALCULATED JDL

CHECKED PRS

CROSS SECTIONS

STA. 552+50.00 TO STA. 553+00.00

SUM-271-2.33



F:\2009\109094\18710\roadway\sheets\18710XS001.dgn 11/10/2012 9:38:21 AM DonHelmon

SEEDING	
END WIDTH	SQ. YDS.
160	
171	
	956
173	
	956
171	
	1912

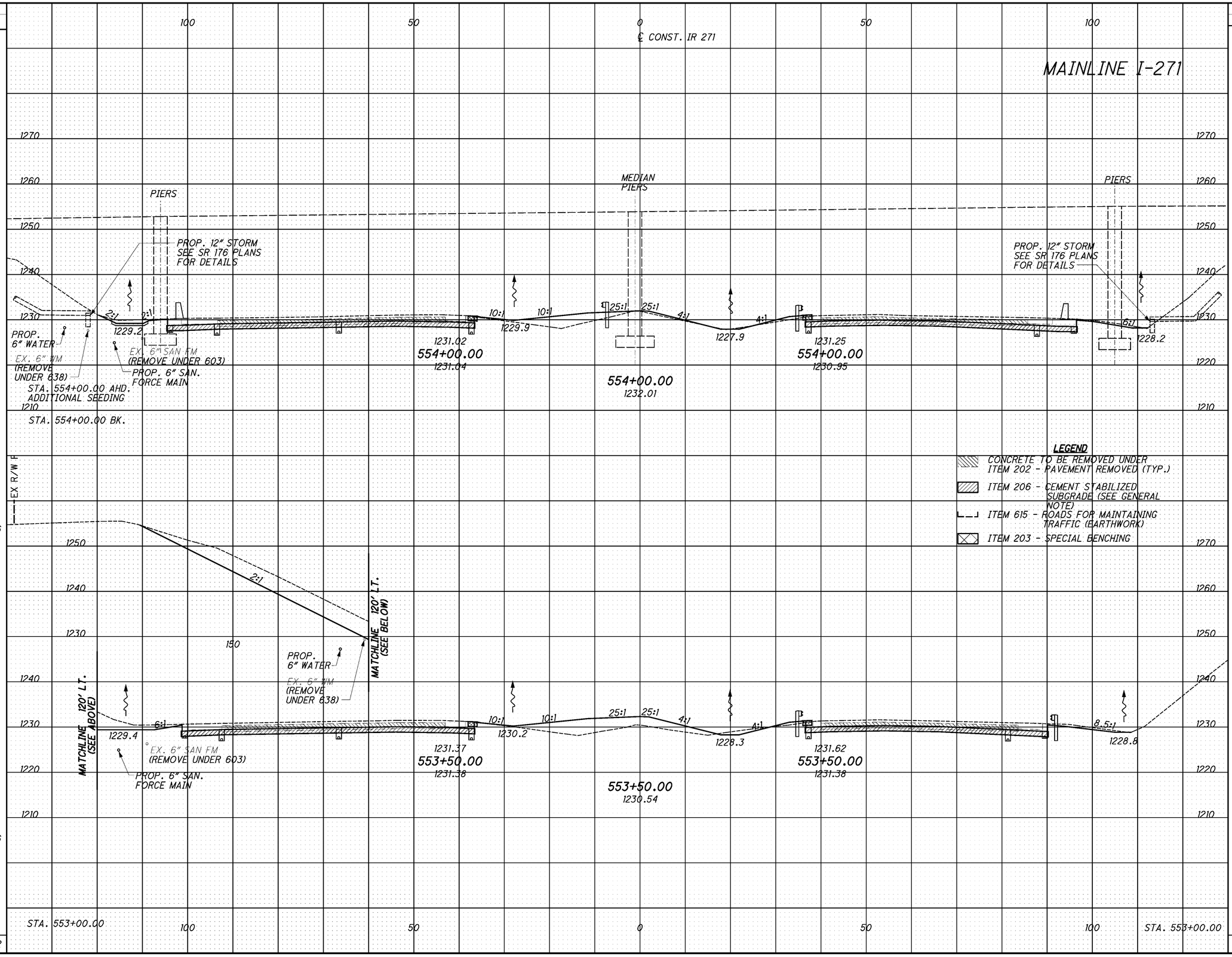
END AREA		VOLUME	
CUT	FILL	CUT	FILL
181	52		
		500	134
358	92		
		749	177
450	99		
		1249	311

CALCULATED JDL
CHECKED PRS

CROSS SECTIONS
STA. 553+50.00 TO STA. 554+00.00

SUM-271-2.33

348
1195



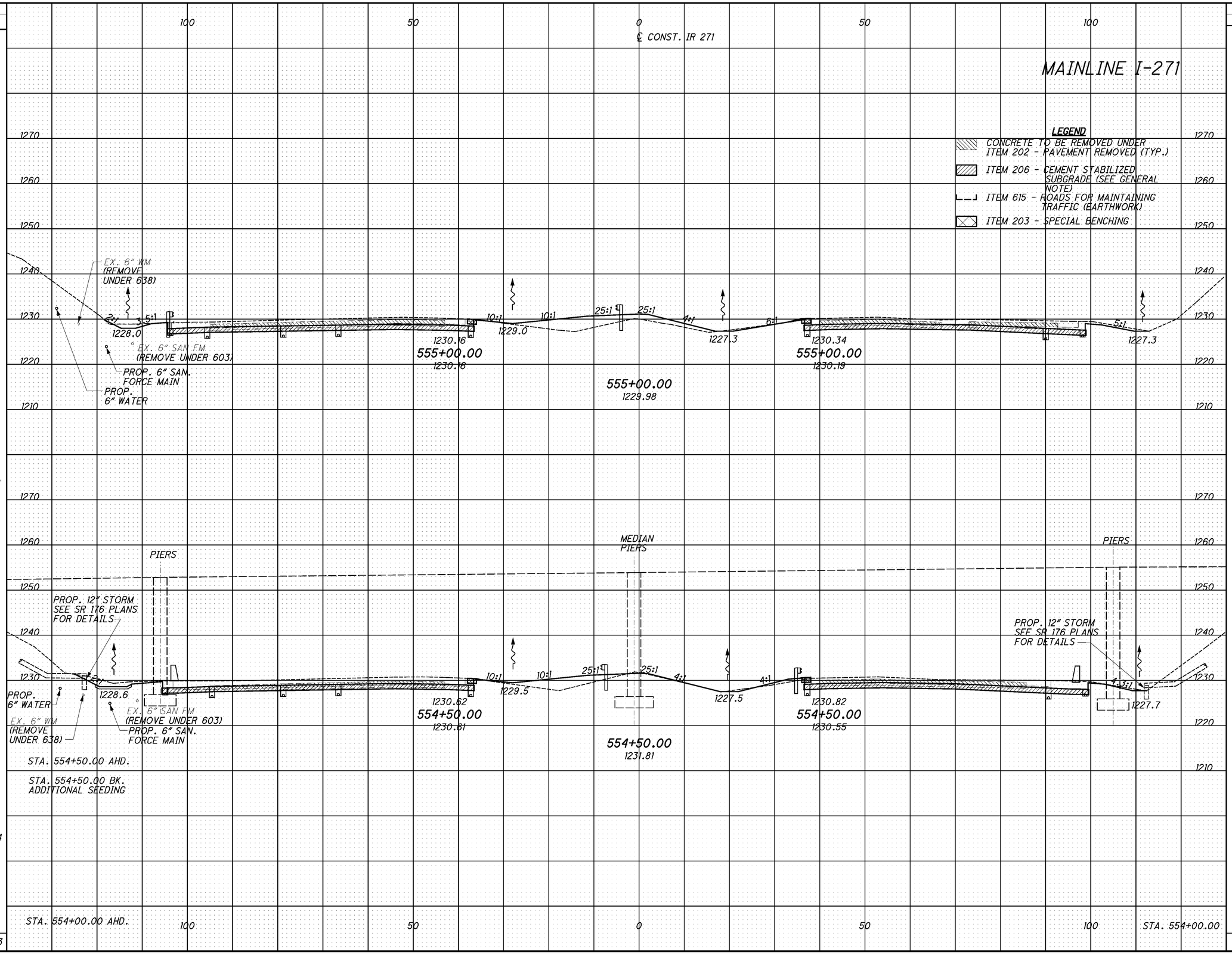
F:\2009\109094\18710\roadway\sheets\18710XS001.dgn 11/10/2012 9:38:46 AM DonHelman

SEEDING	
END WIDTH	SQ. YDS.
	107
	609
	112
	158
	884
	160
	1493

END AREA	
CUT	FILL
192	70
191	45
181	52

VOLUME	
CUT	FILL
355	107
345	90
700	197

CALCULATED JDL
CHECKED PRS



CROSS SECTIONS
STA. 554+50.00 TO STA. 555+00.00

SUM-271-2.33

349
1195

F:\2009\109094\18710\roadway\sheets\18710XS001.dgn 11/10/2012 9:40:54 AM Donkelman

SEEDING	
END WIDTH	SQ. YDS.
161	
	914
168	
	764
107	
	1678

100 50 0 ℄ CONST. IR 271 50 100

MAINLINE I-271

EX R/W Fee LA

1250 1240 1230 1220 1210 1200

2:1

3:1

MATCHLINE 120' LT. (SEE BELOW)

PROP. 6" WATER

EX. 6" WM (REMOVE UNDER 638)

180 180

MATCHLINE 120' LT. (SEE ABOVE)

3.8:1

1226.7

EX. 6" SAN FM (REMOVE UNDER 603)

PROP. 6" SAN. FORCE MAIN

10:1

1229.10

556+00.00

1229.22

12:1

5.8:1

1225.4

556+00.00

1225.33

1225.4

7:1

1229.21

556+00.00

1229.03

ESTIMATED TOP OF BEDROCK

4.5:1

1226.6

1260 1250 1240 1230 1220 1210

LEGEND

- CONCRETE TO BE REMOVED UNDER ITEM 202 - PAVEMENT REMOVED (TYP.)
- ITEM 206 - CEMENT STABILIZED SUBGRADE (SEE GENERAL NOTE)
- ITEM 615 - ROADS FOR MAINTAINING TRAFFIC (EARTHWORK)
- ITEM 203 - SPECIAL BENCHING
- ESTIMATED TOP OF BEDROCK FOR ADDITIONAL INFORMATION SEE SOIL PROFILE

EX R/W Fee LA

1250 1240 1230 1220 1210 1200

2:1

MATCHLINE 120' LT. (SEE BELOW)

PROP. 6" WATER

EX. 6" WM (REMOVE UNDER 638)

180 180

MATCHLINE 120' LT. (SEE ABOVE)

3:1 4:1

1227.3

EX. 6" SAN FM (REMOVE UNDER 603)

PROP. 6" SAN. FORCE MAIN

10:1

1229.66

555+50.00

1229.68

12:1

1228.4

555+50.00

1226.55

4:1

1226.6

6:1

1229.80

555+50.00

1229.65

5.4:1

1227.1

1260 1250 1240 1230 1220 1210 1200

STA. 555+00.00 100 50 0 50 100 STA. 556+00.00

END AREA		VOLUME	
CUT	FILL	CUT	FILL
397	5		
		774	87
438	88		
		584	147
192	70		
		1358	234

CALCULATED JDL

CHECKED PRS

CROSS SECTIONS

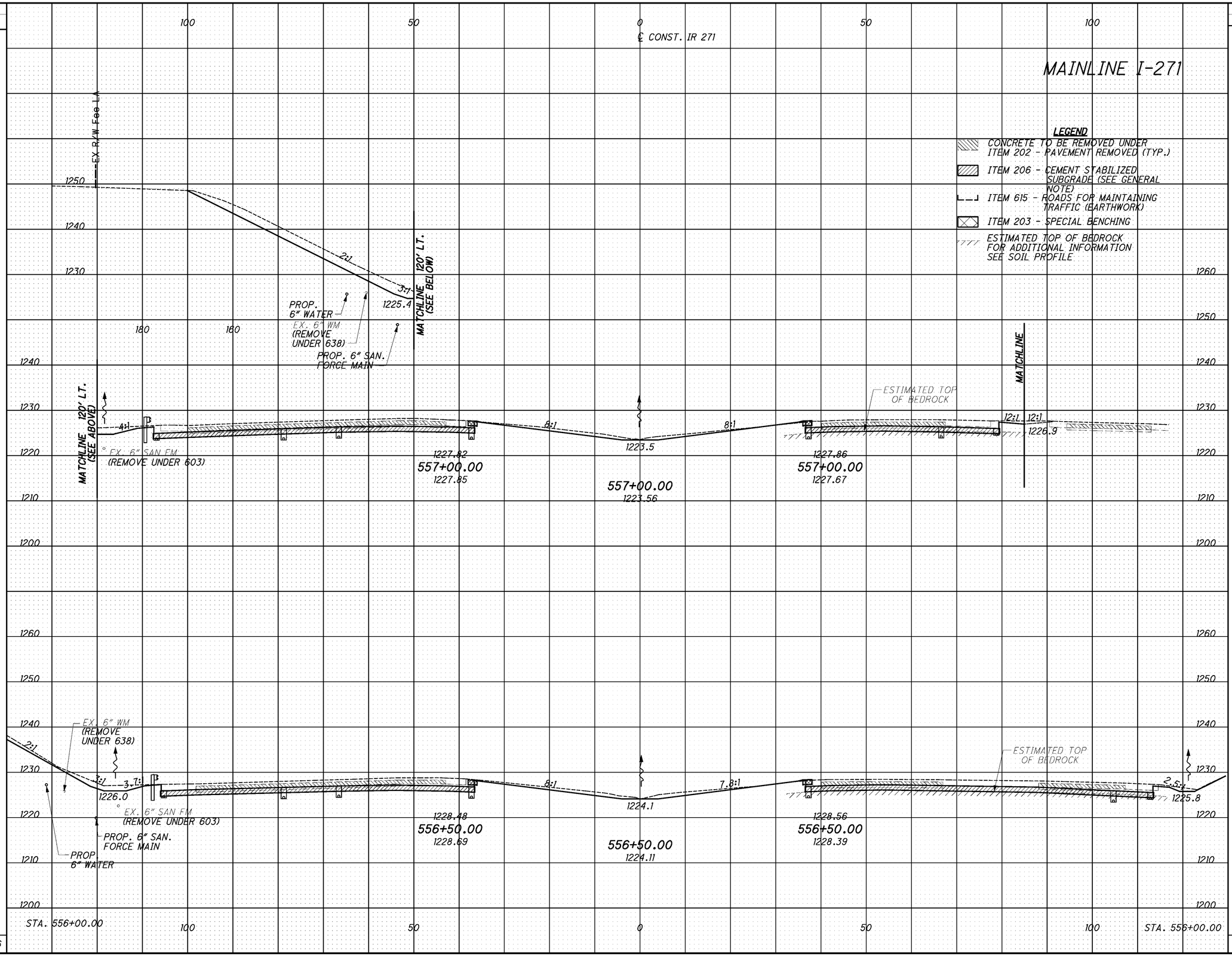
STA. 555+55.00 TO STA. 556+00.00

SUM-271-2.33

350
1195

F:\2009\109094\18710\roadway\sheets\18710XS001.dgn 11/10/2012 9:41:15 AM DonHelman

SEEDING	
END WIDTH	SQ. YDS.
151	
	859
158	
	887
161	
	1746



END AREA		VOLUME	
CUT	FILL	CUT	FILL
311	1		
		552	1
285	0		
		632	5
397	5		
		1184	6

CALCULATED JDL
CHECKED PRS

CROSS SECTIONS
STA. 556+50.00 TO STA. 557+00.00

SUM-271-2.33

351
1195

F:\2009\109094\18710\roadway\sheets\18710XS001.dgn 11/10/2012 9:41:37 AM DonHelman

SEEDING	
END WIDTH	SQ. YDS.
104	548
93	675
150	837
151	2060

END AREA		VOLUME	
CUT	FILL	CUT	FILL
170	3	313	5
168	2	422	3
287	1	554	2
311	1	1289	10

CALCULATED JDL
CHECKED PRS

CROSS SECTIONS
STA. 557+50.00 TO STA. 558+50.00

SUM-271-2.33

352
1195

100 50 0 50 100

℄ CONST. IR 271

MAINLINE I-271

MATCHLINE

1250 1240 1230 1220 1210 1200

12:1 12:1 7.9:1 8:1 6:1 6:1

1224.3 1221.1 1225.42 1222.9

1225.50
558+50.00
1225.32

558+50.00
1221.47

558+50.00
1225.45

LEGEND

- CONCRETE TO BE REMOVED UNDER ITEM 202 - PAVEMENT REMOVED (TYP.)
- ITEM 206 - CEMENT STABILIZED SUBGRADE (SEE GENERAL NOTE)
- ITEM 615 - ROADS FOR MAINTAINING TRAFFIC (EARTHWORK)
- ITEM 203 - SPECIAL BENCHING
- ESTIMATED TOP OF BEDROCK FOR ADDITIONAL INFORMATION SEE SOIL PROFILE

MATCHLINE

ESTIMATED TOP OF BEDROCK

12:1 12:1 8:1 8:1 6:1 6:1

225.4 1221.9 1223.8

1226.33
558+00.00
1226.21

558+00.00
1222.22

1226.29
558+00.00
1226.20

EX R/W Fee LA

EX. 6" SAN FM (REMOVE UNDER 603)

2:1 3:1

1224.0

PROP. 6" WATER

EX. 6" WM (REMOVE UNDER 638)

PROP. 6" SAN. FORCE MAIN

MATCHLINE 120' LT. (SEE BELOW)

MATCHLINE 120' LT. (SEE ABOVE)

180 180

6:1 8:1 8:1 12:1 8:1

1227.10
557+50.00
1227.01

1222.7

557+50.00
1223.05

1227.10
557+50.00
1226.94

1225.8

STA. 557+00.00 100 50 0 50 100 STA. 557+00.00

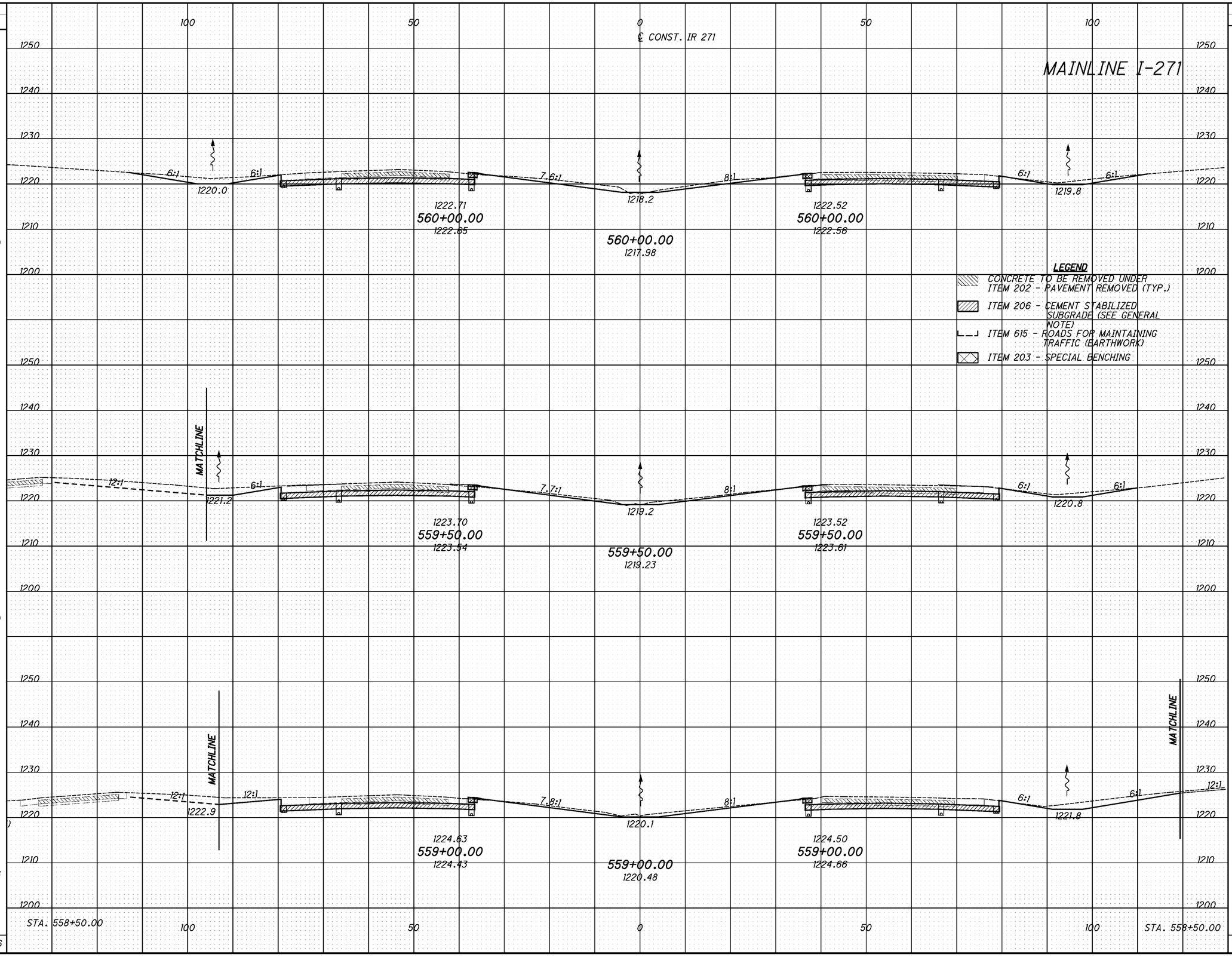
F:\2009\109094\18710\roadway\sheets\18710XS001.dgn 11/12/2012 1:33:52 PM DonHelman

SEEDING	
END WIDTH	SQ. YDS.
150	770
127	720
132	656
104	2146

END AREA	
CUT	FILL
204	1
179	1
196	1
170	3

VOLUME	
CUT	FILL
355	2
348	2
339	4
1042	8

CALCULATED JDL
CHECKED PRS



CROSS SECTIONS

STA. 559+00.00 TO STA. 560+00.00

SUM-271-2.33

353
1195

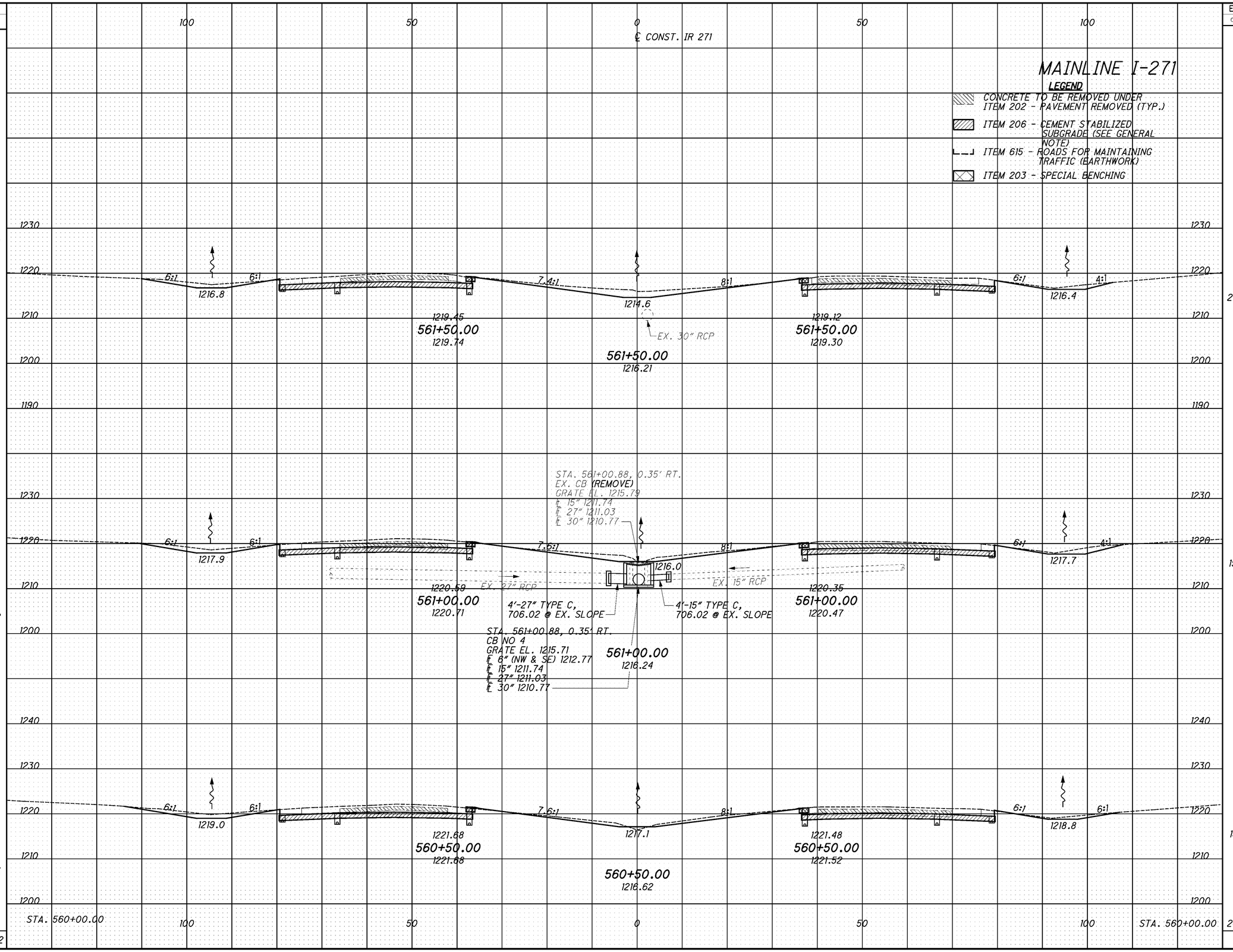
F:\2009\109094\18710\roadway\sheets\18710XS001.dgn 11/12/2012 1:34:16 PM DonHelman

CROSS SECTIONS
STA. 560+50.00 TO STA. 561+50.00

CALCULATED: JDL
CHECKED: PRS

SUM-271-2.33

354
1195



SEEDING END WIDTH	SEEDING SQ. YDS.	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
137	767	209	1	374	2
139	792	194	1	348	4
146	823	181	3	357	4
150	2382	204	1	1079	10

F:\2009\109094\18710\roadway\sheets\18710XS001.dgn 11/10/2012 9:42:57 AM DonHelmen

SEEDING	
END WIDTH	SQ. YDS.
126	770
151	814
142	775
137	2359

END AREA	
CUT	FILL
220	7
231	7
204	4
209	1

VOLUME	
CUT	FILL
418	13
403	11
383	5
1204	29

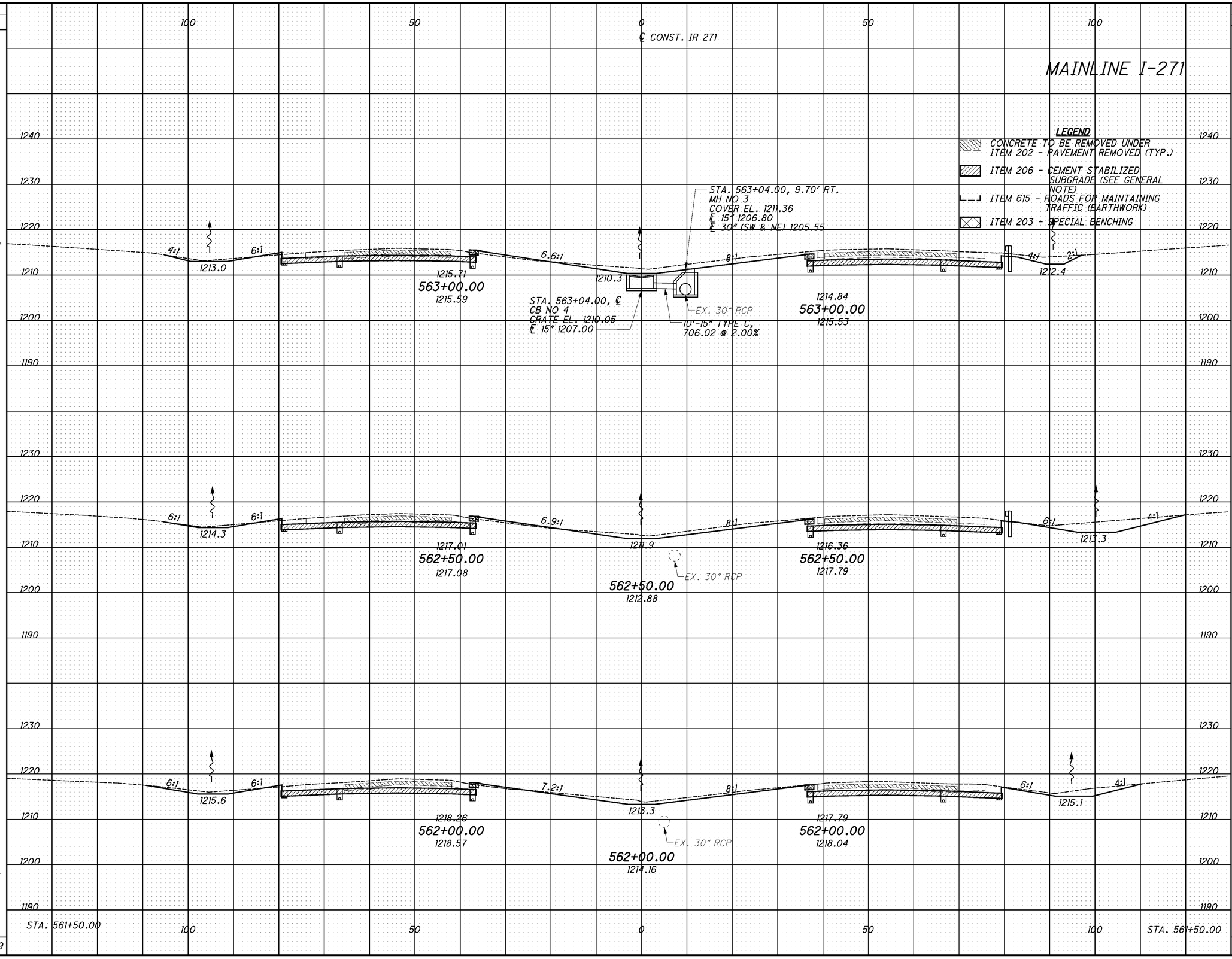
CALCULATED JDL
CHECKED PRS

CROSS SECTIONS
STA. 562+00.00 TO STA. 563+00.00

SUM-271-2.33

355
1195

F:\2009\109094\18710\roadway\sheets\18710XS001.dgn 11/10/2012 9:43:19 AM DonHelman



SEEDING	
END WIDTH	SQ. YDS.
138	
	767
138	
	745
130	
	712
126	
	2224

100 50 0 ℄ CONST. IR 271 50 100

MEDIAN PIERS PIERS

MAINLINE I-271

STA. 564+48.88, 17.18' RT.
EX. CB (REMOVE)
GRATE EL. 1208.62
℄ 30" (SW) 1201.82
℄ 30" (NE) 1201.72

STA. 564+48.88, 17.18' RT
MH NO 3
COVER EL. 1210.58
℄ 30" (SW) 1201.82
℄ 30" (NE) 1201.72

4:1 6:1 10:1 10:1 25:1 25:1 10:1 10:1 4:1 2:1

1208.8 1209.8 1209.2 1207.9

EX. 18" GAS (ABANDONED)

1211.53 564+50.00 1211.36 | 564+50.00 1211.45 | 1210.30 564+50.00 1211.27

TH-2007 TH-2006

1210.3 1211.2 1210.6 1209.3

EX. 30" RCP

EX. 12" SAN.
IN 62"-22" CASING

1212.96 564+00.00 1212.77 | 564+00.00 1211.44 | 1211.76 564+00.00 1212.73

TH-2005 TH-2004 TH-2003

1211.7 1212.5 1212.0 1210.9

EX. 12" GAS
(APPROX. 30"± COVER)

EX. 30" RCP

1214.36 563+50.00 1214.18 | 563+50.00 1211.16 | 1213.28 563+50.00 1214.13

LEGEND

- CONCRETE TO BE REMOVED UNDER ITEM 202 - PAVEMENT REMOVED (TYP.)
- ITEM 206 - CEMENT STABILIZED SUBGRADE (SEE GENERAL NOTE)
- ITEM 615 - ROADS FOR MAINTAINING TRAFFIC (EARTHWORK)
- ITEM 203 - SPECIAL BENCHING
- TH-UTILITY DEPTHS NOT CONFIRMED

STA. 563+00.00 100 50 0 50 100 STA. 563+00.00

END AREA		VOLUME	
CUT	FILL	CUT	FILL
217	59	398	141
212	93	374	166
191	86	381	87
220	7	1153	394

CALCULATED JDL
CHECKED PRS

CROSS SECTIONS STA. 563+50.00 TO STA. 564+50.00

SUM-271-2.33

356
1195

F:\2009\109094\18710\roadway\sheets\18710XS001.dgn 11/10/2012 9:43:42 AM DonHelman

SEEDING	
END WIDTH	SQ. YDS.
164	873
150	800
138	1673

END AREA		VOLUME	
CUT	FILL	CUT	FILL
251	87		
		481	119
268	41		
		450	93
217	59		
		931	212

CALCULATED JDL
CHECKED PRS

CROSS SECTIONS
STA. 565+00.00 TO STA. 565+50.00

SUM-271-2.33

357
1195

100 50 0 50 100

℄ CONST. IR 271

MAINLINE I-271

LEGEND

- CONCRETE TO BE REMOVED UNDER ITEM 202 - PAVEMENT REMOVED (TYP.)
- ITEM 206 - CEMENT STABILIZED SUBGRADE (SEE GENERAL NOTE)
- ITEM 615 - ROADS FOR MAINTAINING TRAFFIC (EARTHWORK)
- ITEM 203 - SPECIAL BENCHING
- TH- UTILITY DEPTH NOT CONFIRMED

EX R/W Fee LA

MATCHLINE 120' RT. (SEE BELOW)

EX. 16" WATERMAIN (APPROX. 6'± COVER)

PIERS

FACE OF ABUTMENT

TH-2016

EX. 16" WATERMAIN (APPROX. 6'± COVER)

3:1 9.2:1 10:1 10:1 25:1 25:1 10:1 10:1 6:1 3:1

1207.0 1206.9 1206.4 1204.9

TH-2018

MATCHLINE 120' RT. (SEE ABOVE)

EX. 16" WATERMAIN IN 224'-30" CASING

1208.67 565+50.00 1208.54

565+50.00 1205.80

EX. 30" RCP

1207.55 565+50.00 1208.44

EX. 16" WATERMAIN IN 224'-30" CASING

PIERS

MEDIAN PIERS

PROP. 12" STORM SEE CR 17 PLANS FOR DETAILS

3:1 12:1 18.5:1 10:1 10:1 25:1 25:1 10:1 10:1 6:1 3:1

1208.4 1208.3 1207.7 1206.2

EX. 18" GAS (ABANDONED)

EX. 30" RCP

1210.10 565+00.00 1209.97

565+00.00

1208.90 565+00.00 1209.88

STA. 564+50.00 STA. 564+50.00

1230 1220 1210 1200 1190 1180

F:\2009\109094\18710\roadway\sheets\18710XS001.dgn 11/12/2012 1:44:25 PM DonHelman

SEEDING	
END WIDTH	SQ. YDS.
205	
214	231
	1050
164	
	1281

100 50 0 ℄ CONST. IR 271 50 100

MAINLINE I-271

LEGEND

- CONCRETE TO BE REMOVED UNDER ITEM 202 - PAVEMENT REMOVED (TYP.)
- ITEM 206 - CEMENT STABILIZED SUBGRADE (SEE GENERAL NOTE)
- ITEM 615 - ROADS FOR MAINTAINING TRAFFIC (EARTHWORK)
- ITEM 203 - SPECIAL BENCHING
- TH-UTILITY DEPTHS NOT CONFIRMED

EQUATION:
STA. 566+09.70 BK. =
STA. 156+00.00 AHEAD

EX R/W Fee LA

MATCHLINE 120' RT. (SEE BELOW)

MATCHLINE 120' RT. (SEE ABOVE)

2:1 12.5:1 10:1 12:1 12:1 10:1 3:1 6:1

1205.4 1206.96 566+09.70 1206.82 1204.8 1204.4 566+09.70 1206.03 566+09.70 1206.71 1203.3

EX. 30" RCP

STA. 566+09.70 BK. = STA. 156+00.00 AHD.

STA. 565+87.91, 95.17' LT.
EX. CB (REMOVE)
GRATE EL. 1205.01
℄ 21" 1200.87

TH-2017

1205.6

EX. 21" RCP

4'-21" TYPE C, 706.02 @ EX. SLOPE

STA. 565+87.91, 95.00' LT.
CB NO 5
GRATE EL. 1205.73
℄ 6" 1202.00
℄ 21" 1200.87

1207.24 566+00.00 1207.10

STA. 565+87.35, 0.50' RT.
EX. CB (REMOVE)
GRATE EL. 1202.76
℄ 21" (SE) 1197.83
℄ 21" (NW) 1197.70
℄ 30" (SW) 1197.57
℄ 30" (NE) 1197.29

1205.4

4'-21" TYPE C, 706.02 @ EX. SLOPE

STA. 565+87.35, 0.50' RT.
MH NO 3
COVER EL. 1207.31
℄ 6" (W & S) 1199.50
℄ 21" (SE) 1197.83
℄ 21" (NW) 1197.70
℄ 30" (SW) 1197.57
℄ 30" (NE) 1197.29

566+00.00 1204.19

1204.9

4'-21" TYPE C, 706.02 @ EX. SLOPE

EX. 21" RCP

EX. 20" GAS IN 240'-36" CASING

1206.27 566+00.00 1206.99

STA. 565+90.08, 96.32' RT.
EX. CB (REMOVE)
GRATE EL. 1204.73
℄ 21" 1200.58

TH-2019

1203.6

4'-21" TYPE C, 706.02 @ EX. SLOPE

STA. 565+90.08, 96.00' RT.
CB NO 5
GRATE EL. 1203.53
℄ 6" 1201.58
℄ 21" 1200.58

STA. 565+50.00 STA. 565+50.00

END AREA		VOLUME	
CUT	FILL	CUT	FILL
336	47		
119	23		
324	78		
533	153		
251	87		
652	176		

CALCULATED JDL
CHECKED PRS

CROSS SECTIONS
STA. 566+00.00 TO STA. 566+09.70 BK./ 156+00.00 AHD.

SUM-271-2.33

358
1195

F:\2009\109094\18710\roadway\sheets\18710XS001.dgn 11/10/2012 9:44:28 AM DonHerman

SEEDING END WIDTH	SEEDING SQ. YDS.
148	814
145	925
188	1092
205	2831

END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
312	1	568	2
301	1	632	2
381	1	664	45
336	47	1864	49

CALCULATED JDL
CHECKED PRS

CROSS SECTIONS
STA. 156+50.00 TO STA. 157+50.00

SUM-271-2.33

359
1195

F:\2009\109094\18710\roadway\sheets\18710XS001.dgn 11/10/2012 9:44:50 AM DonHelman

SEEDING	
END WIDTH	SQ. YDS.
150	823
146	817
148	1640

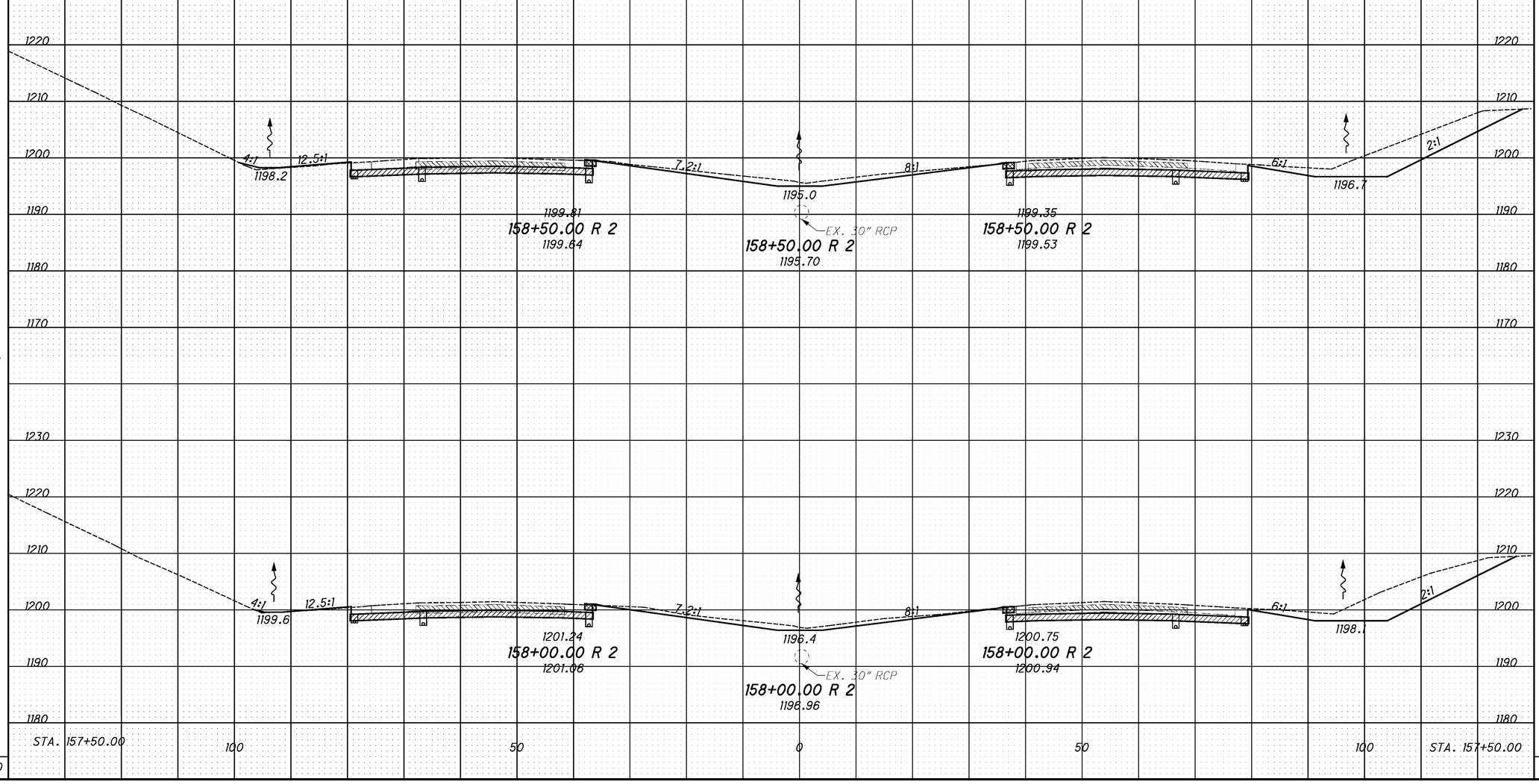
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℄ CONST. IR 271

MAINLINE I-271

LEGEND

- CONCRETE TO BE REMOVED UNDER ITEM 202 - PAVEMENT REMOVED (TYP.)
- ITEM 206 - CEMENT STABILIZED SUBGRADE (SEE GENERAL NOTE)
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- ITEM 203 - SPECIAL BENCHING



END AREA		VOLUME	
CUT	FILL	CUT	FILL
310	4		
302	1	567	5
312	1	569	2
		1136	7

CALCULATED JDL
CHECKED PRS

CROSS SECTIONS
STA. 158+00.00 TO STA. 158+50.00

SUM-271-2.33

360
1195

F:\2009\109094\18710\roadway\sheets\18710XS001.dgn 11/10/2012 9:45:16 AM DonHelmon

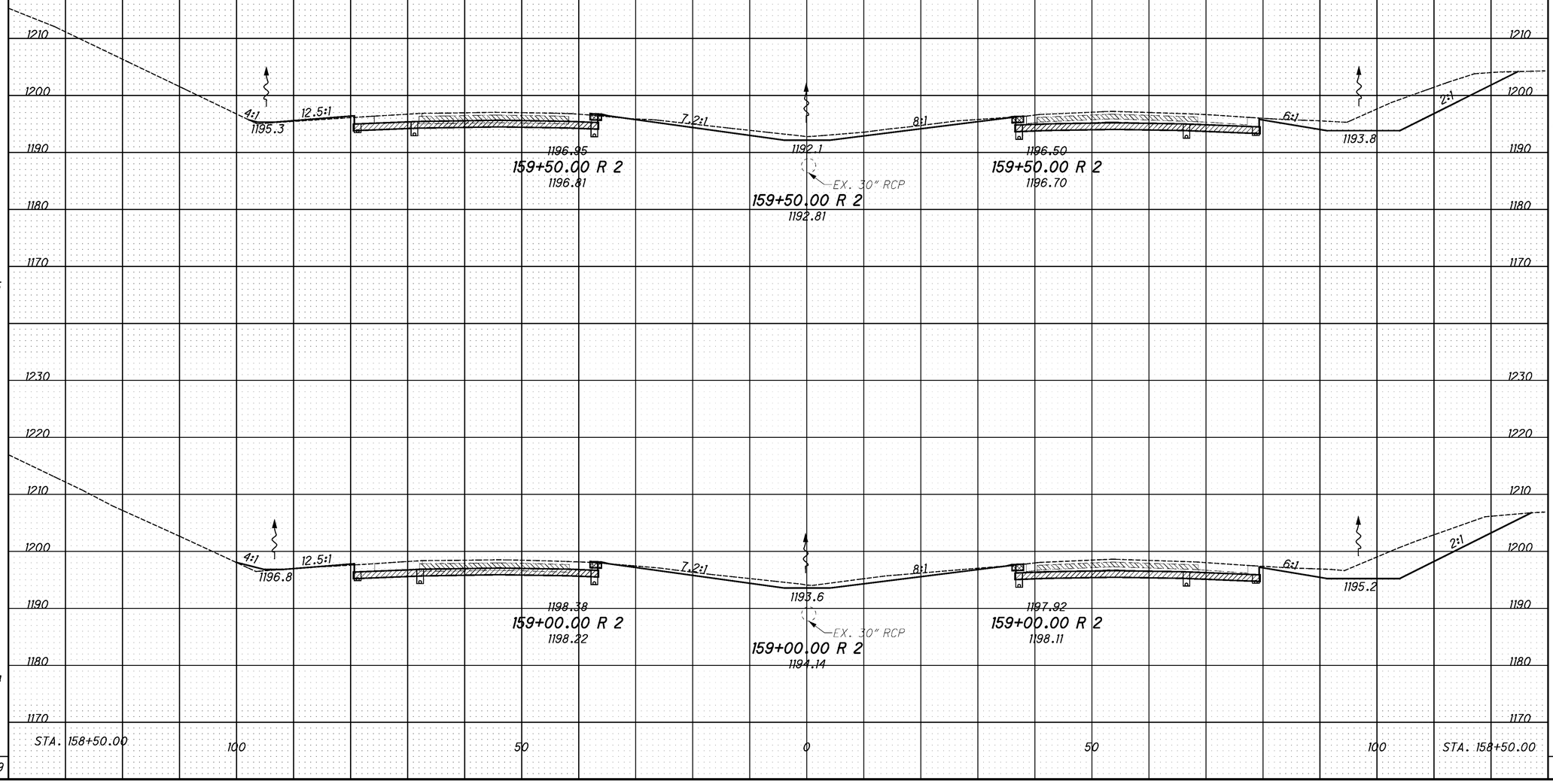
SEEDING	
END WIDTH	SQ. YDS.
147	
	825
150	
	834
150	
	1659

100 50 0 ℄ CONST. IR 271 50 100

MAINLINE I-271

LEGEND

- CONCRETE TO BE REMOVED UNDER ITEM 202 - PAVEMENT REMOVED (TYP.)
- ITEM 206 - CEMENT STABILIZED SUBGRADE (SEE GENERAL NOTE)
- ITEM 615 - ROADS FOR MAINTAINING TRAFFIC (EARTHWORK)
- ITEM 203 - SPECIAL BENCHING



END AREA		VOLUME	
CUT	FILL	CUT	FILL
297	4		
306	3		
310	4		
		1130	14
		559	7
		571	7

CALCULATED JDL
CHECKED PRS

CROSS SECTIONS
STA. 159+00.00 TO STA. 159+50.00

SUM-271-2.33

361
1195

F:\2009\109094\18710\roadway\sheets\18710XS001.dgn 11/10/2012 9:45:37 AM DonHelman

SEEDING	
END WIDTH	SQ. YDS.
149	834
151	814
142	803
147	2451

100 50 0 50 100

℄ CONST. IR 271

MAINLINE I-271

4:1 12.5:1 7.3:1 8:1 6:1 2:1

1191.2 — 1192.66 — 161+00.00 R 2 — 1192.50 — 1187.9 — EX. 30" RCP — 161+00.00 R 2 — 1188.61 — 1192.24 — 161+00.00 R 2 — 1192.41 — 1189.5

4:1 12.5:1 7.3:1 8:1 6:1 2:1

1192.6 — 1194.09 — 160+50.00 R 2 — 1193.95 — 1189.3 — EX. 30" RCP — 160+50.00 R 2 — 1190.01 — 1193.66 — 160+50.00 R 2 — 1193.85 — 1191.0

4:1 12.5:1 7.2:1 8:1 6:1 2:1

1194.0 — 1195.82 — 160+00.00 R 2 — 1195.39 — 1190.7 — EX. 30" RCP — 160+00.00 R 2 — 1191.50 — 1195.08 — 160+00.00 R 2 — 1195.29 — 1192.4

LEGEND

- CONCRETE TO BE REMOVED UNDER ITEM 202 - PAVEMENT REMOVED (TYP.)
- ITEM 206 - CEMENT STABILIZED SUBGRADE (SEE GENERAL NOTE)
- ITEM 615 - ROADS FOR MAINTAINING TRAFFIC (EARTHWORK)
- ITEM 203 - SPECIAL BENCHING

STA. 159+50.00 — 100 50 0 50 100 — STA. 159+50.00

END AREA		VOLUME	
CUT	FILL	CUT	FILL
228	3		
249	7		
274	9	442	10
297	4	485	15
		529	13
		1456	38

CALCULATED JDL

CHECKED PRS

CROSS SECTIONS

STA. 160+00.00 TO STA. 161+00.00

SUM-271-2.33

362
1195

F:\2009\109094\18710\roadway\sheets\18710XS001.dgn 11/10/2012 9:46:01 AM DonHelman

SEEDING END WIDTH	SEEDING SQ. YDS.
176	884
142	789
142	809
149	2482

100 50 0 ℄ CONST. IR 271 50 100

MAINLINE I-271

LEGEND

- CONCRETE TO BE REMOVED UNDER ITEM 202 - PAVEMENT REMOVED (TYP.)
- ITEM 206 - CEMENT STABILIZED SUBGRADE (SEE GENERAL NOTE)
- ITEM 615 - ROADS FOR MAINTAINING TRAFFIC (EARTHWORK)
- ITEM 203 - SPECIAL BENCHING

1210 1200 1190 1180 1170 1160

3:1 6:1 7.3:1 8:1 6:1 2:1

1185.4 1188.37 162+50.00 R 2 1188.16 1183.5 EX. 30" RCP 162+50.00 R 2 1184.44 1187.97 162+50.00 R 2 1188.10 1185.3

1210 1200 1190 1180 1170

4:1 12.5:1 7.3:1 8:1 6:1 2:1

1188.3 1189.80 162+00.00 R 2 1189.61 1184.9 EX. 30" RCP 162+00.00 R 2 1186.37 1189.39 162+00.00 R 2 1189.54 1186.7

1210 1200 1190 1180 1170

STA. 161+51.47, 0.19' RT.
EX. CB (REMOVE)
GRATE EL. 1186.09
℄ 30" (SW) 1180.97
℄ 30" (NE) 1180.89

4:1 12.5:1 7.3:1 8:1 6:1 2:1

1189.7 1191.23 161+50.00 R 2 1191.05 1186.5 1190.82 161+50.00 R 2 1190.98 161+50.00 R 2 1187.09 1188.1

STA. 161+51.47, ℄
CB NO. 4
GRATE EL. 1185.99
℄ 6" (NW & SE) 1183.00
℄ 30" (SW) 1180.97
℄ 30" (NE) 1180.89

STA. 161+00.00 100 50 0 50 100 STA. 161+00.00

END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
425	1		
233	2		
225	2		
228	3		
		610	3
		425	4
		420	5
		1455	12

CALCULATED JDL
CHECKED PRS

CROSS SECTIONS
STA. 161+50.00 TO STA. 162+50.00

SUM-271-2.33

363
1195

F:\2009\109094\18710\roadway\sheets\18710XS001.dgn 11/12/2012 1:39:25 PM DonHelman

SEEDING END WIDTH	SEEDING SQ. YDS.	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
159	903	295	1	585	2
166	937	336	1	647	2
171	964	362	1	729	2
176	2804	425	1	1961	6

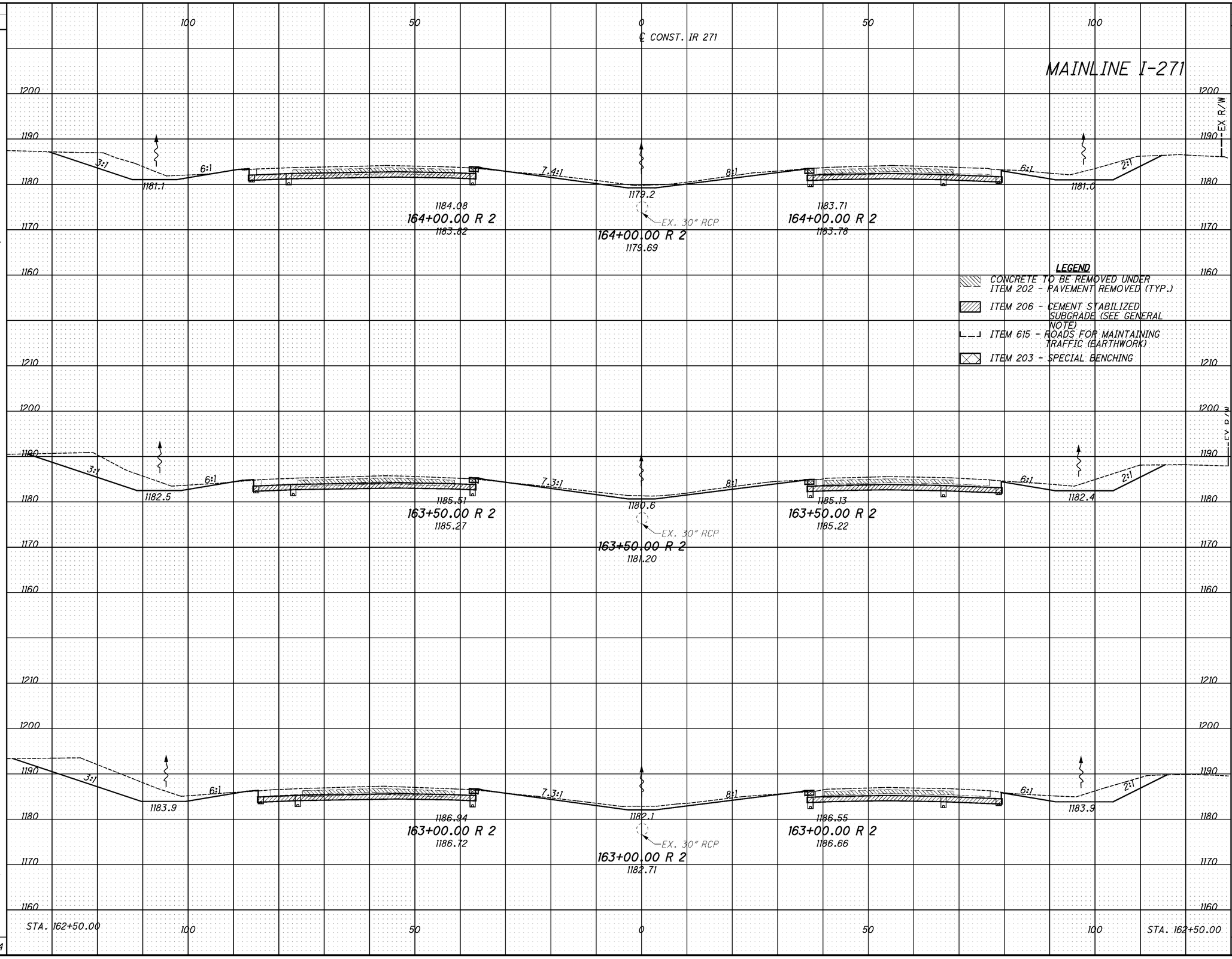
CALCULATED JDL

CHECKED PRS

CROSS SECTIONS
STA. 163+00.00 TO STA. 164+00.00

SUM-271-2.33

364
1195



F:\2009\109094\18710\roadway\sheets\18710XS001.dgn 11/10/2012 9:46:48 AM DonHelman

SEEDING	
END WIDTH	SQ. YDS.
151	842
152	853
155	873
159	2568

END AREA	
CUT	FILL
237	2
250	1
281	1
295	1

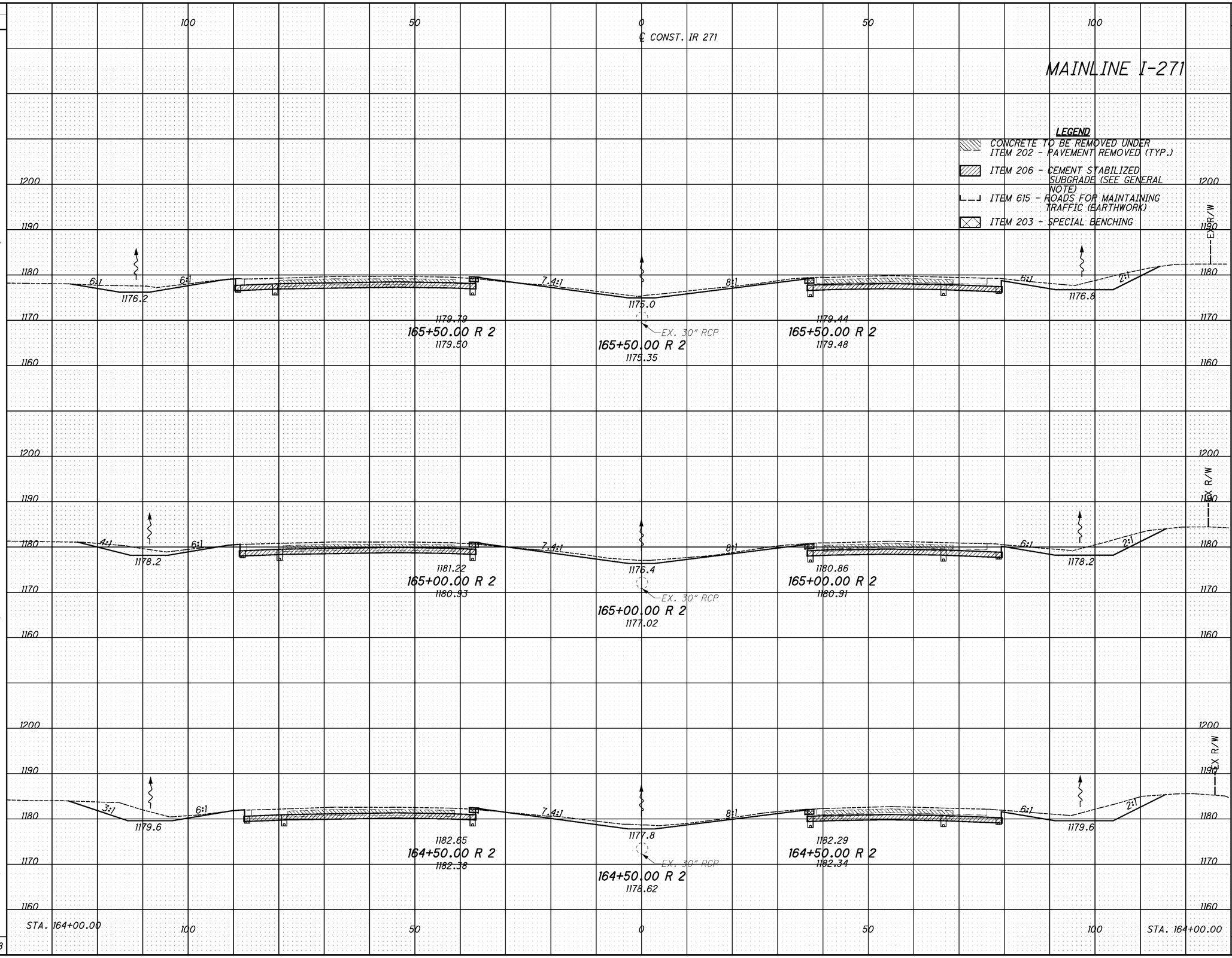
VOLUME	
CUT	FILL
451	3
492	2
534	2
1477	7

CALCULATED JDL
CHECKED PRS

CROSS SECTIONS
STA. 164+50.00 TO STA. 165+50.00

SUM-271-2.33

365
1195



F:\2009\109094\18710\roadway\sheets\18710XS001.dgn 11/10/2012 9:47:12 AM DonHelman

SEEDING	
END WIDTH	SQ. YDS.
148	812
144	823
152	842
151	2477

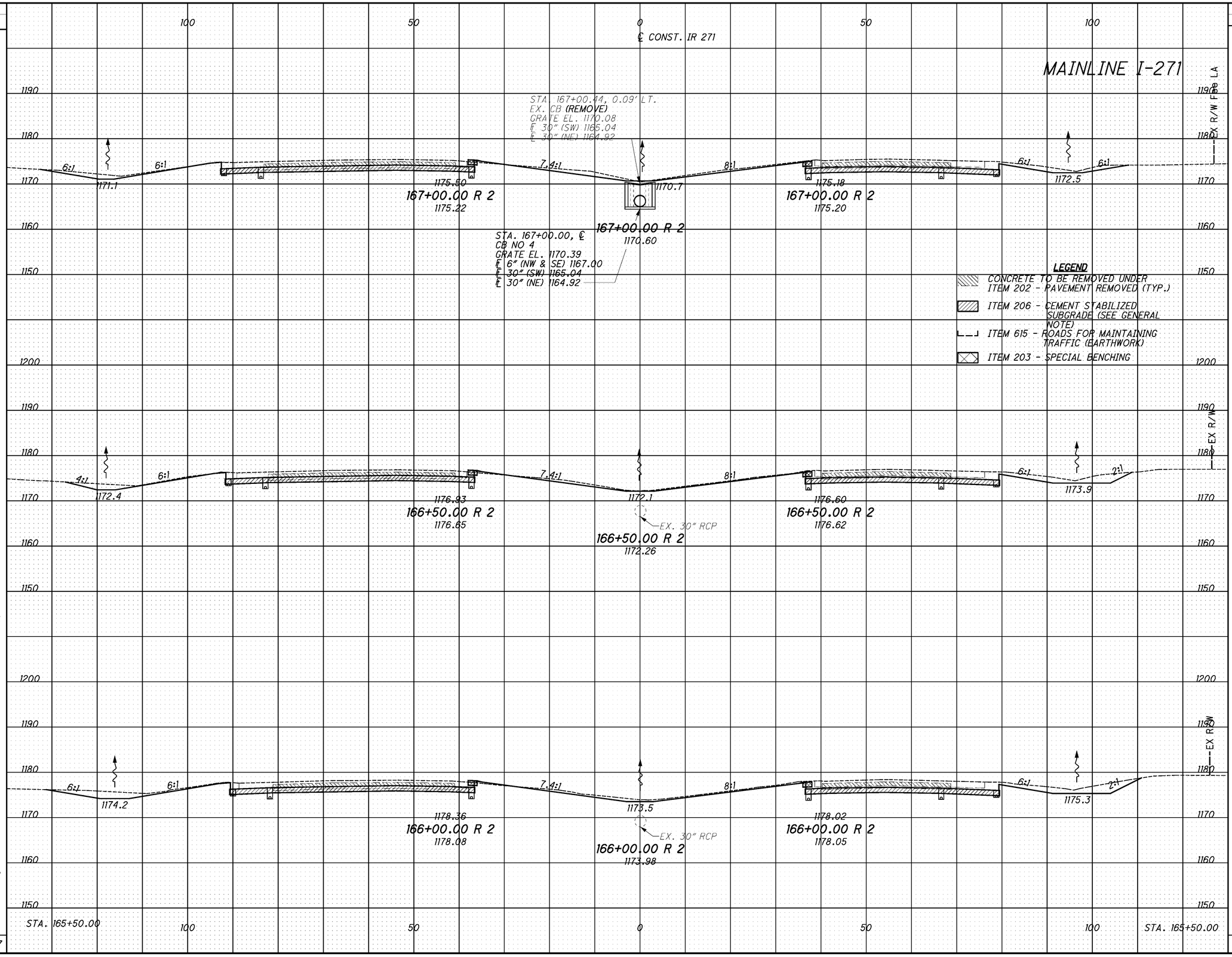
END AREA	
CUT	FILL
200	2
202	2
223	2
237	2

VOLUME	
CUT	FILL
373	4
394	4
426	4
1193	12

CALCULATED JDL
CHECKED PRS

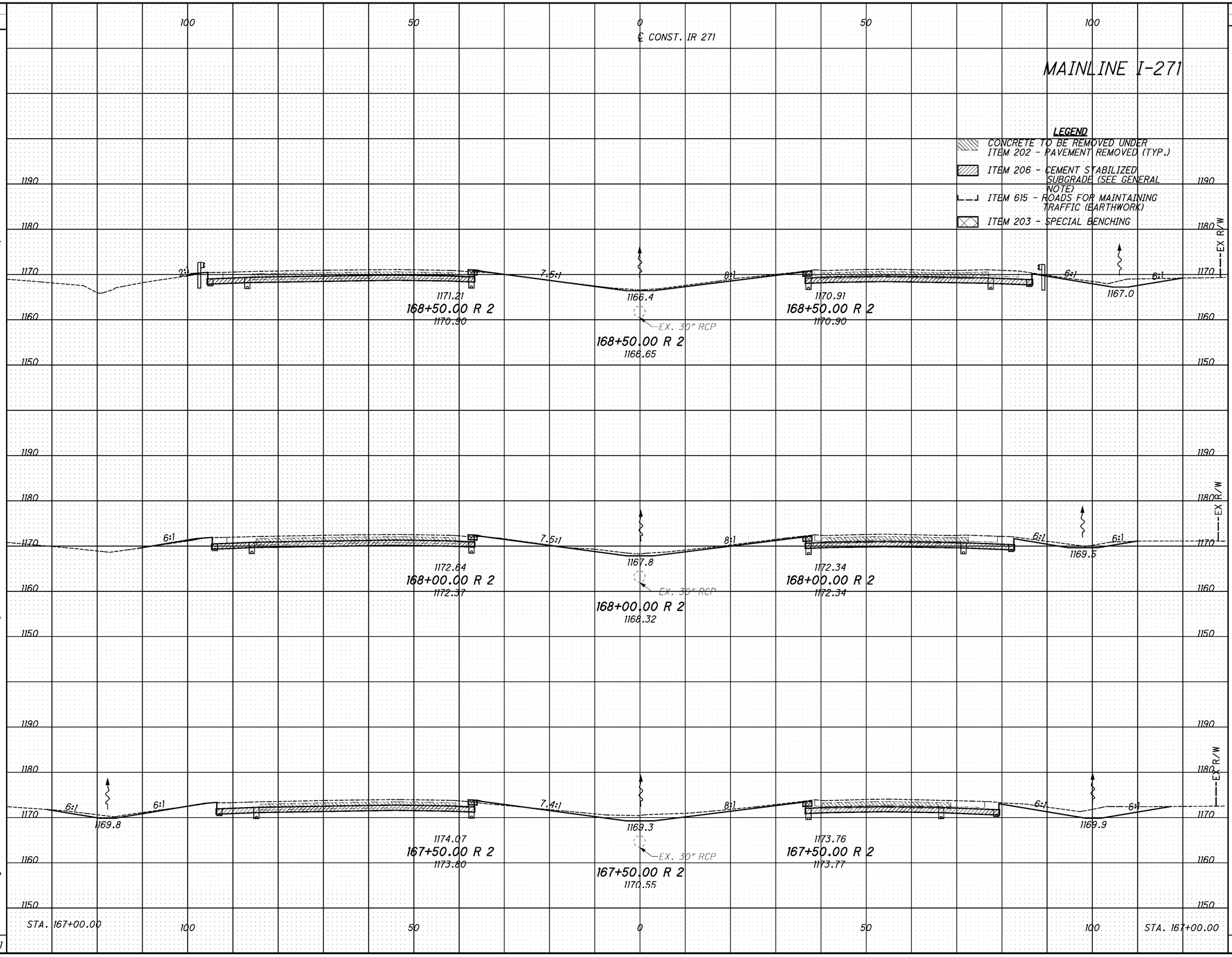
CROSS SECTIONS
STA. 166+00.00 TO STA. 167+00.00
SUM-271-2.33

366
1195



F:\2009\109094\18710\roadway\sheets\18710XS001.dgn 11/10/2012 9:47:35 AM DonHelmon

SEEDING	
END WIDTH	SQ. YDS.
116	675
127	784
155	842
148	2301



END AREA		VOLUME	
CUT	FILL	CUT	FILL
189	2		
183	2		
229	3	345	4
200	2	382	5
		398	5
		1125	14

CALCULATED JDL
CHECKED PRS

CROSS SECTIONS
STA. 167+50.00 TO STA. 168+50.00

SUM-271-2.33

367
1195

F:\2009\109094\18710\roadway\sheets\18710XS001.dgn 11/10/2012 9:47:58 AM DonHelman

SEEDING	
END WIDTH	SQ. YDS.
115	631
112	645
120	656
116	1932

100 50 0 50 100

℄ CONST. IR 271

MAINLINE I-271

LEGEND

- CONCRETE TO BE REMOVED UNDER ITEM 202 - PAVEMENT REMOVED (TYP.)
- ITEM 206 - CEMENT STABILIZED SUBGRADE (SEE GENERAL NOTE)
- ITEM 615 - ROADS FOR MAINTAINING TRAFFIC (EARTHWORK)
- ITEM 203 - SPECIAL BENCHING

1180 1170 1160 1150 1140 1190

2:1 7.5:1 8:1 6:1

1166.92 170+00.00 R 2 1166.50

1162.2 EX. 30" RCP 170+00.00 R 2 1162.25

1166.65 170+00.00 R 2 1166.57

1168.35 169+50.00 R 2 1167.97

1163.6 EX. 30" RCP 169+50.00 R 2 1163.64

1168.07 169+50.00 R 2 1168.01

1169.78 169+00.00 R 2 1169.44

1165.0 EX. 30" RCP 169+00.00 R 2 1165.06

1169.49 169+00.00 R 2 1169.46

6:1 6:1 1165.3

STA. 168+50.00 STA. 168+50.00

END AREA		VOLUME	
CUT	FILL	CUT	FILL
158	6		
		298	8
163	2		
		319	3
181	1		
		343	3
189	2		
		960	14

CALCULATED JDL
CHECKED PRS

CROSS SECTIONS

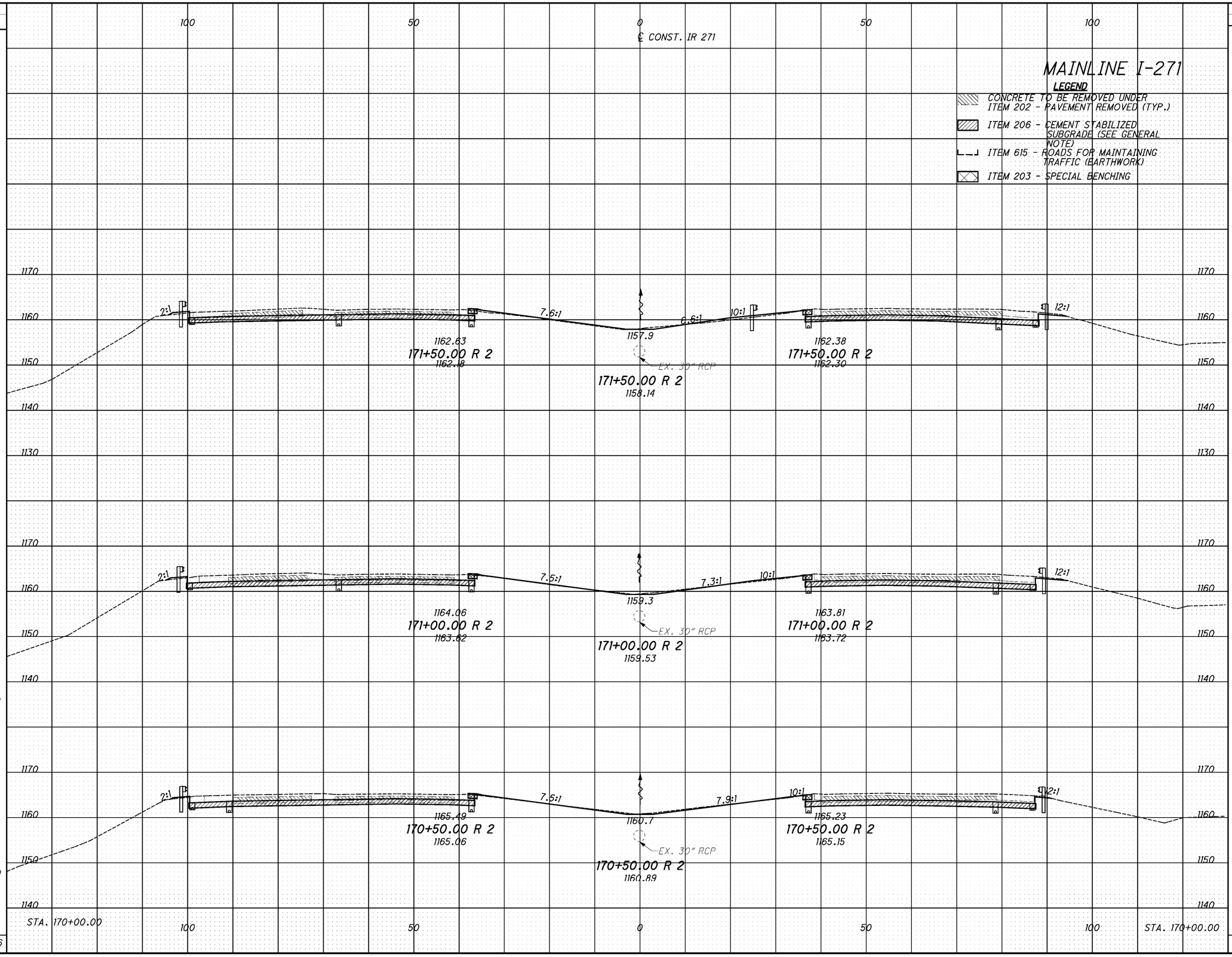
STA. 169+00.00 TO STA. 170+00.00

SUM-271-2.33

368
1195

F:\2009\109094\18710\roadway\sheets\18710XS001.dgn 11/10/2012 9:48:17 AM DonHelman

SEEDING	
END WIDTH	SQ. YDS.
89	498
90	489
86	559
115	1546



END AREA		VOLUME	
CUT	FILL	CUT	FILL
162	15		
		306	20
168	6		
		307	9
163	3		
		298	9
158	6		
		911	38

CALCULATED JDL
CHECKED PRS

CROSS SECTIONS
STA. 170+50.00 TO STA. 171+50.00

SUM-271-2.33

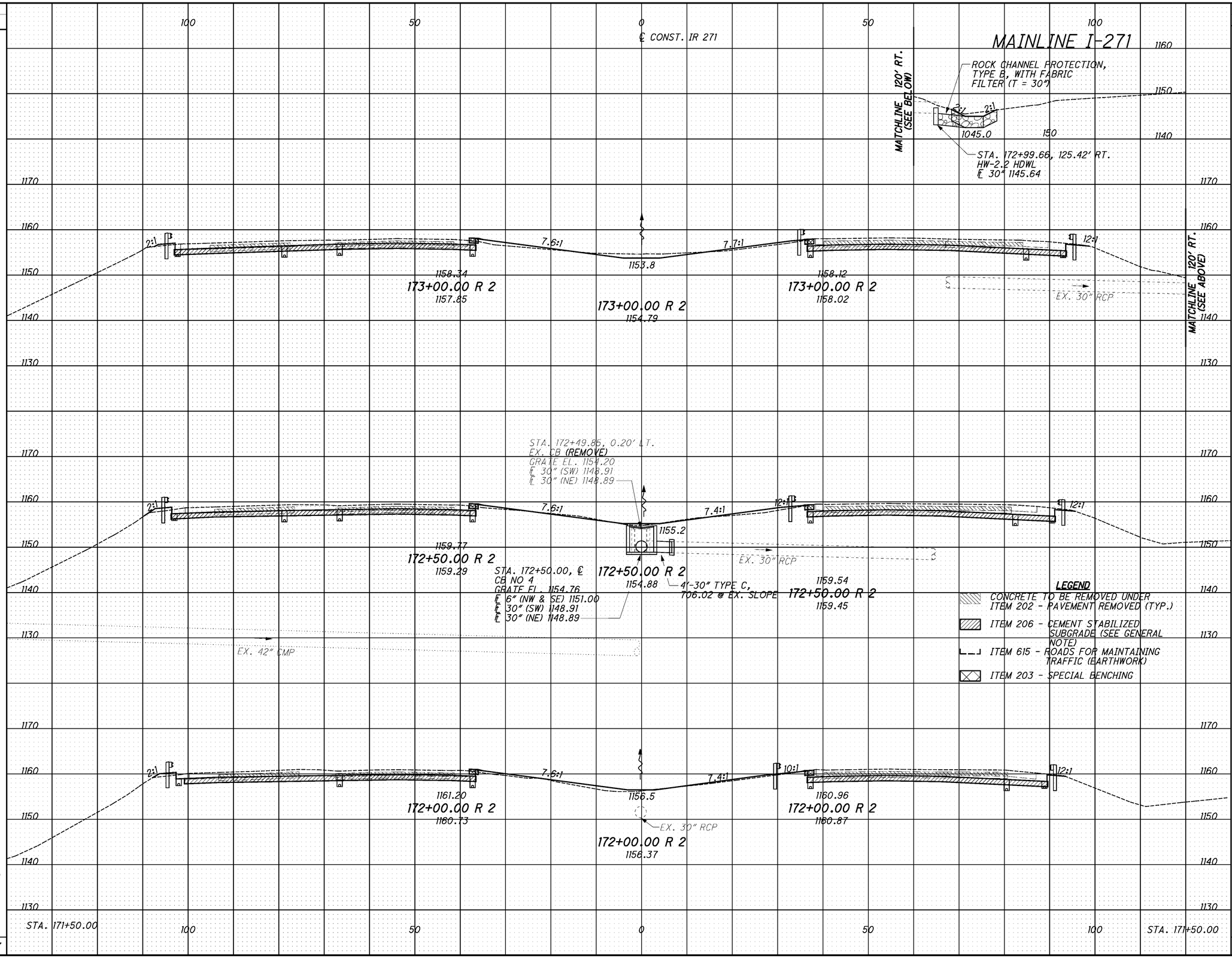
369
1195

F:\2009\109094\18710\roadway\sheets\18710XS001.dgn 11/12/2012 10:33:49 AM DonHelman

CROSS SECTIONS
STA. 172+00.00 TO STA. 173+00.00

CALCULATED: JDL
CHECKED: PRS

SEEDING END WIDTH	SEEDING SQ. YDS.	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
103	531	177	19	319	35
88	487	167	18	302	40
87	489	159	25	298	38
89		162	15		
	1507			919	113



SUM-271-2.33

370
1195

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SEEDING	
END WIDTH	SQ. YDS.
159	789
125	664
114	603
103	2056

END AREA	
CUT	FILL
293	28
*0	*0
244	6
197	7
177	19

VOLUME	
CUT	FILL
498	32
409	13
347	25
1254	70

CALCULATED JDL
CHECKED PRS

CROSS SECTIONS
STA. 173+50.00 TO STA. 174+50.00

SUM-271-2.33

371
1195

LEGEND

- CONCRETE TO BE REMOVED UNDER ITEM 202 - PAVEMENT REMOVED (TYP.)
- ITEM 206 - CEMENT STABILIZED SUBGRADE (SEE GENERAL NOTE)
- ITEM 615 - ROADS FOR MAINTAINING TRAFFIC (EARTHWORK)
- ITEM 203 - SPECIAL BENCHING

℄ CONST. IR 271

MAINLINE I-271

STA. 174+69.42, 160.19' LT.
EX. HDWL.
℄ 42" 1121.71

ROCK CHANNEL PROTECTION, TYPE B, WITH FABRIC FILTER (T=30")

STA. 174+50.00
BEGIN BENCHING AHD.

MATCHLINE 120' RT. (SEE BELOW)

MATCHLINE 120' RT. (SEE ABOVE)

EX. 42" CMP

174+50.00 R 2
1154.05
1153.68

174+50.00 R 2
1149.68
1149.5

174+50.00 R 2
1153.85
1153.66

1024.8

1031.5

174+00.00 R 2
1155.48
1155.07

174+00.00 R 2
1150.9
1151.06

174+00.00 R 2
1155.28
1155.11

1038.1

173+50.00 R 2
1156.91
1156.46

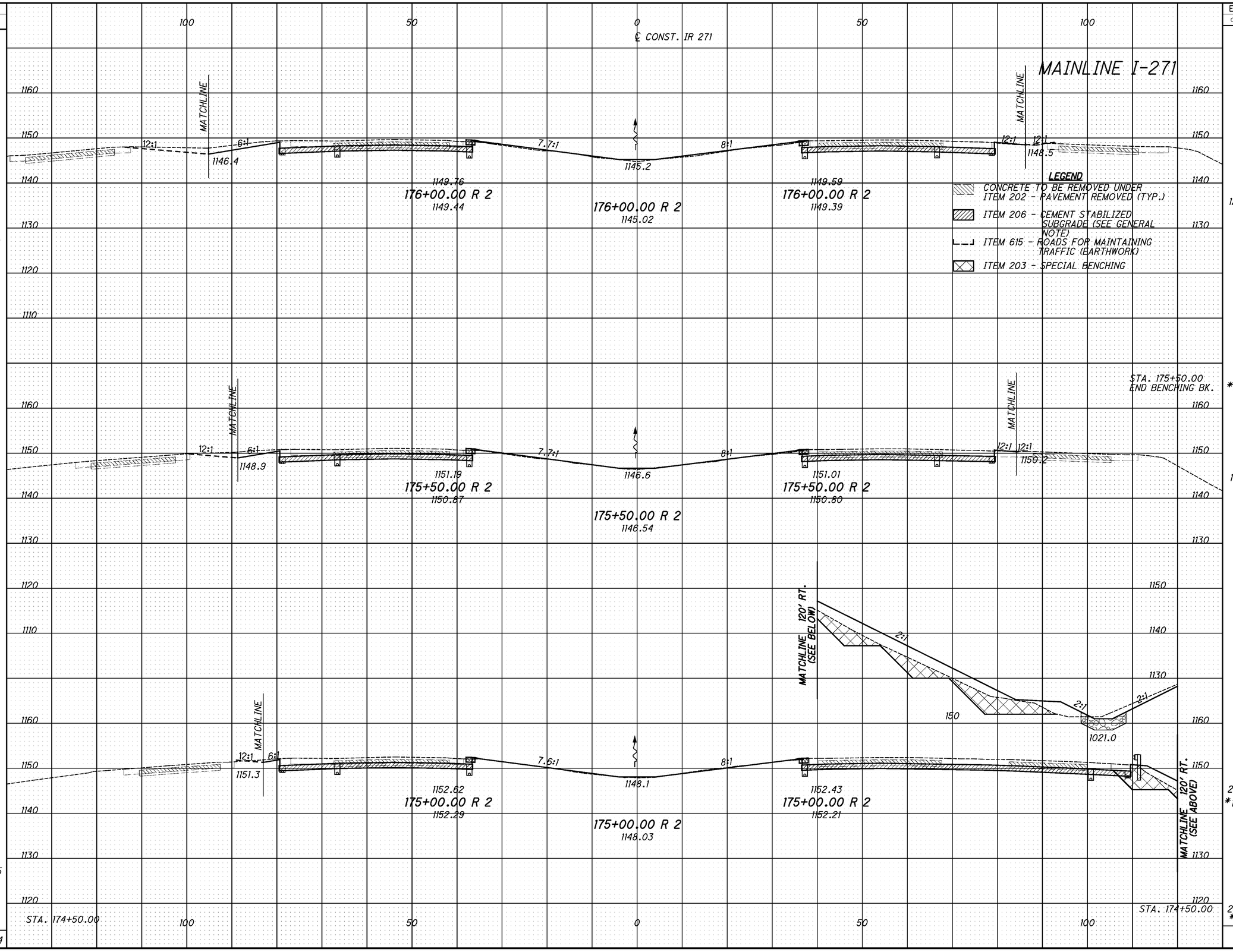
173+50.00 R 2
1152.3
1152.66

173+50.00 R 2
1156.70
1156.57

STA. 173+00.00

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SEEDING END WIDTH	SEEDING SQ. YDS.
102	545
94	864
217	1045
159	2454



END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
123	15		
*0	*0	222	22
116	8		
		313	137
		*161	*161
		477	155
		*161	*161
222	139		
*173	*173		
293	28		
*0	*0		
		1012	314
		*322	*322

CALCULATED JDL
CHECKED PRS

CROSS SECTIONS
STA. 175+00.00 TO STA. 176+00.00

SUM-271-2.33

372
1195

F:\2009\109094\18710\roadway\sheets\18710XS001.dgn 11/12/2012 1:55:55 PM DonHelman

SEEDING	
END WIDTH	SQ. YDS.
126	
	673
116	
	606
102	
	1279

100 50 0 ℄ CONST. IR 271 50 100

MAINLINE I-271

LEGEND

- CONCRETE TO BE REMOVED UNDER ITEM 202 - PAVEMENT REMOVED (TYP.)
- ITEM 206 - CEMENT STABILIZED SUBGRADE (SEE GENERAL NOTE)
- ITEM 615 - ROADS FOR MAINTAINING TRAFFIC (EARTHWORK)
- ITEM 203 - SPECIAL BENCHING

1160 1150 1140 1130 1120 1110 1100

19.1:1 7.7:1 8:1 8:1 8:1

MATCHLINE

1146.90
177+00.00 R 2
1146.58

1142.4
177+00.00 R 2
1141.94

1146.75
177+00.00 R 2
1146.58

1146.7

MATCHLINE

12:1 6:1 7.7:1 8:1 12:1 12:1

1144.1

1148.33
176+50.00 R 2
1148.01

1143.8
176+50.00 R 2
1143.39

1148.17
176+50.00 R 2
1147.98

1146.7

STA. 176+00.00 100 50 0 50 100 STA. 176+00.00

END AREA		VOLUME	
CUT	FILL	CUT	FILL
115	32		
153	22		
123	15		
		249	50
		256	35
		505	85

CALCULATED JDL
CHECKED PRS

CROSS SECTIONS
STA. 176+50.00 TO STA. 177+00.00

SUM-271-2.33

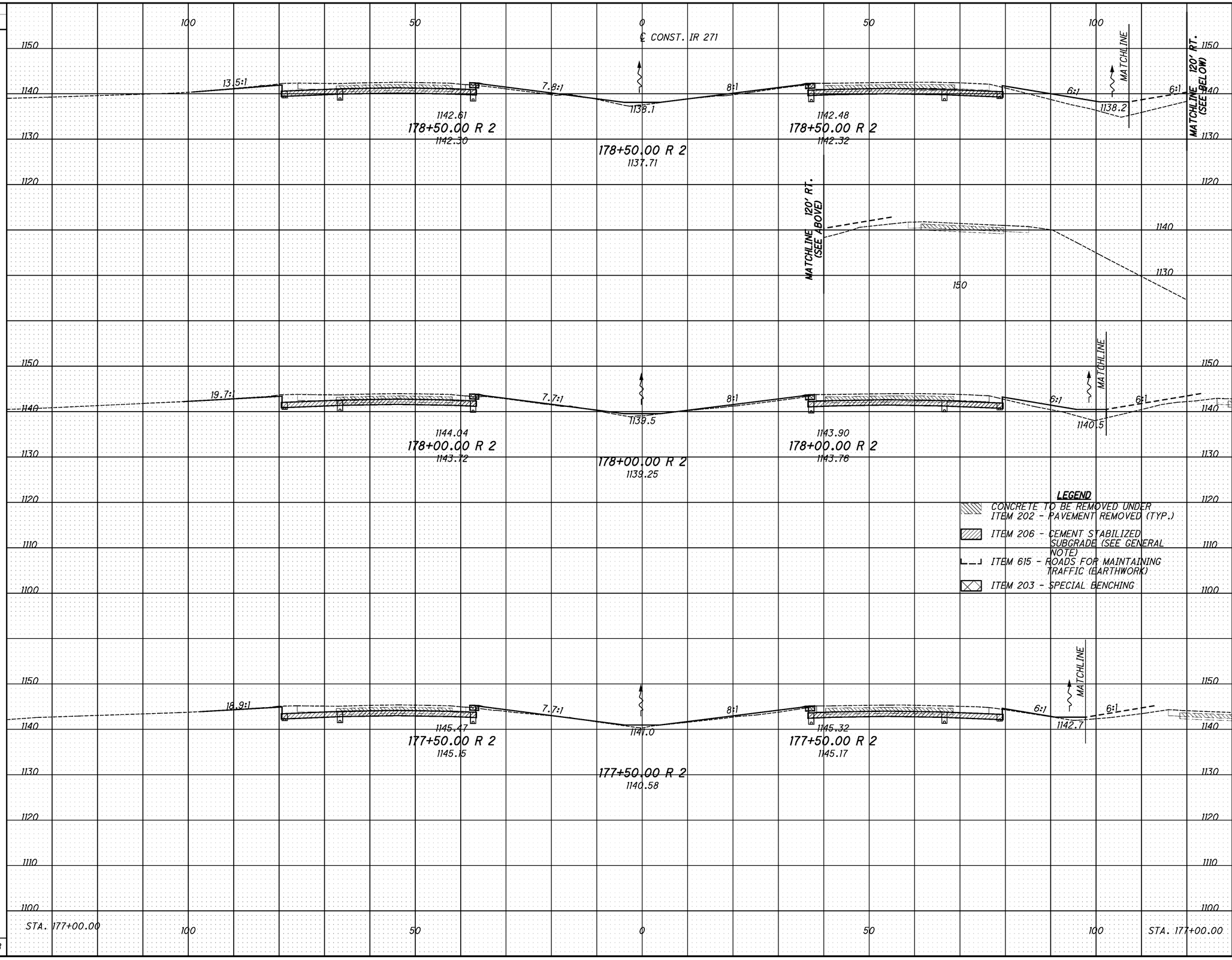
373
1195

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SEEDING	
END WIDTH	SQ. YDS.
126	692
123	659
114	667
126	2018

END AREA		VOLUME	
CUT	FILL	CUT	FILL
118	64		
		217	101
116	45		
		213	63
113	23		
		212	51
115	32		
		642	215

CALCULATED JDL
CHECKED PRS



CROSS SECTIONS
STA. 177+50.00 TO STA. 178+50.00

SUM-271-2.33

374
1195

F:\2009\109094\18710\roadway\sheets\18710XS001.dgn 11/12/2012 1:56:41 PM DonHelman

SEEDING	
END WIDTH	SQ. YDS.
152	795
134	745
134	723
126	2263

END AREA	
CUT	FILL
118	134
119	112
118	92
118	64

VOLUME	
CUT	FILL
220	228
220	189
219	145
659	562

CALCULATED JDL
CHECKED PRS

CROSS SECTIONS
STA. 179+00.00 TO STA. 180+00.00

SUM-271-2.33

375
1195

100 50 0 ℄ CONST. IR 271 50 100

MAINLINE I-271

LEGEND

- CONCRETE TO BE REMOVED UNDER ITEM 202 - PAVEMENT REMOVED (TYP.)
- ITEM 206 - CEMENT STABILIZED SUBGRADE (SEE GENERAL NOTE)
- ITEM 615 - ROADS FOR MAINTAINING TRAFFIC (EARTHWORK)
- ITEM 203 - SPECIAL BENCHING

MATCHLINE 120' RT. (SEE BELOW) — MATCHLINE — 4:1 — 1129.7 — 150 — 200 — MATCHLINE 120' RT. (SEE ABOVE)

12:1 — 7.8:1 — 8:1 — 6:1

1138.32 — 180+00.00 R 2 — 1138.01

1133.9 — 180+00.00 R 2 — 1134.10

1138.22 — 180+00.00 R 2 — 1138.00

MATCHLINE 120' RT. (SEE BELOW) — MATCHLINE — 4:1 — 32.6 — 150 — 200 — MATCHLINE 120' RT. (SEE ABOVE)

12:1 — 7.8:1 — 8:1 — 6:1

1139.75 — 179+50.00 R 2 — 1139.44

1135.3 — 179+50.00 R 2 — 1135.31

1139.64 — 179+50.00 R 2 — 1139.44

MATCHLINE 120' RT. (SEE BELOW) — 4:1 — 150 — MATCHLINE — MATCHLINE 120' RT. (SEE ABOVE)

12:1 — 7.8:1 — 8:1 — 6:1

1141.18 — 179+00.00 R 2 — 1140.87

1136.7 — 179+00.00 R 2 — 1136.37

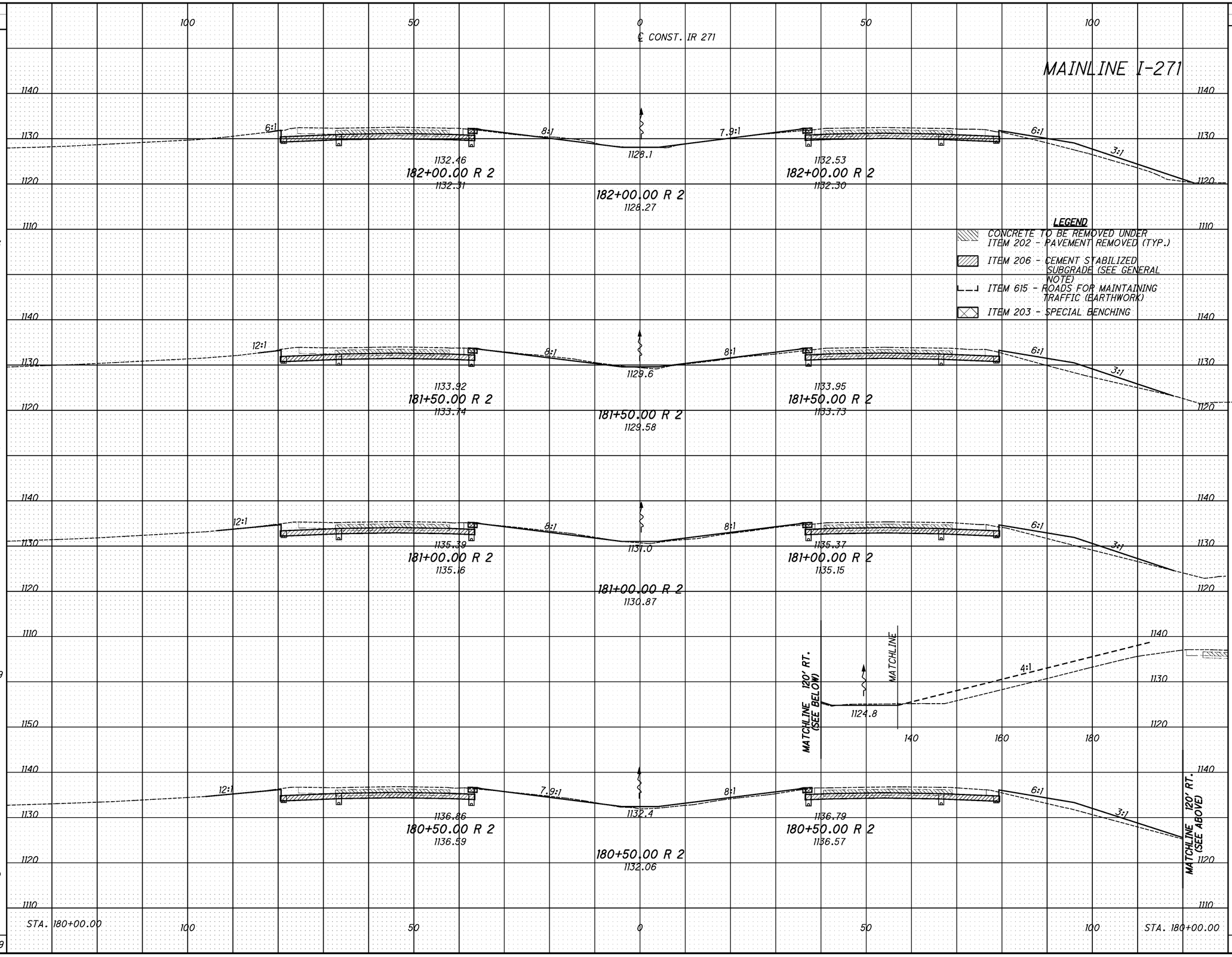
1141.06 — 179+00.00 R 2 — 1140.88

1135.3

STA. 178+50.00 — STA. 178+50.00

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SEEDING	
END WIDTH	SQ. YDS.
125	703
128	737
137	809
154	850
152	3099



END AREA		VOLUME	
CUT	FILL	CUT	FILL
121	44		
		227	93
124	56		
		227	96
121	47		
		225	98
122	58		
		223	178
118	134		
		902	465

CALCULATED JDL
CHECKED PRS

CROSS SECTIONS
STA. 180+50.00 TO STA. 182+00.00

SUM-271-2.33

376
1195

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SEEDING	
END WIDTH	SQ. YDS.
140	742
127	709
128	703
125	2154

100 50 0 50 100

℄ CONST. IR 271

MAINLINE I-271

LEGEND

- CONCRETE TO BE REMOVED UNDER ITEM 202 - PAVEMENT REMOVED (TYP.)
- ITEM 206 - CEMENT STABILIZED SUBGRADE (SEE GENERAL NOTE)
- ITEM 615 - ROADS FOR MAINTAINING TRAFFIC (EARTHWORK)
- ITEM 203 - SPECIAL BENCHING

1140 1130 1120 1110 1100

12:1 8:1 7.2:1 10:1 6:1 3:1

1128.06
183+50.00 R 2
1128.04

1123.6
183+50.00 R 2
1124.98

1128.26
183+50.00 R 2
1128.03

12:1 8:1 7.7:1 6:1 3:1

1129.52
183+00.00 R 2
1129.46

1125.2
183+00.00 R 2
1126.36

1129.69
183+00.00 R 2
1129.46

12:1 8:1 7.3:1 6:1 3:1

1130.99
182+50.00 R 2
1130.69

1126.6
182+50.00 R 2
1126.96

1131.11
182+50.00 R 2
1130.87

STA. 182+00.00 100 50 0 50 100 STA. 182+00.00

END AREA		VOLUME	
CUT	FILL	CUT	FILL
178	48		
		331	76
179	34		
		288	65
131	36		
		234	75
121	44		
		853	216

CALCULATED JDL
CHECKED PRS

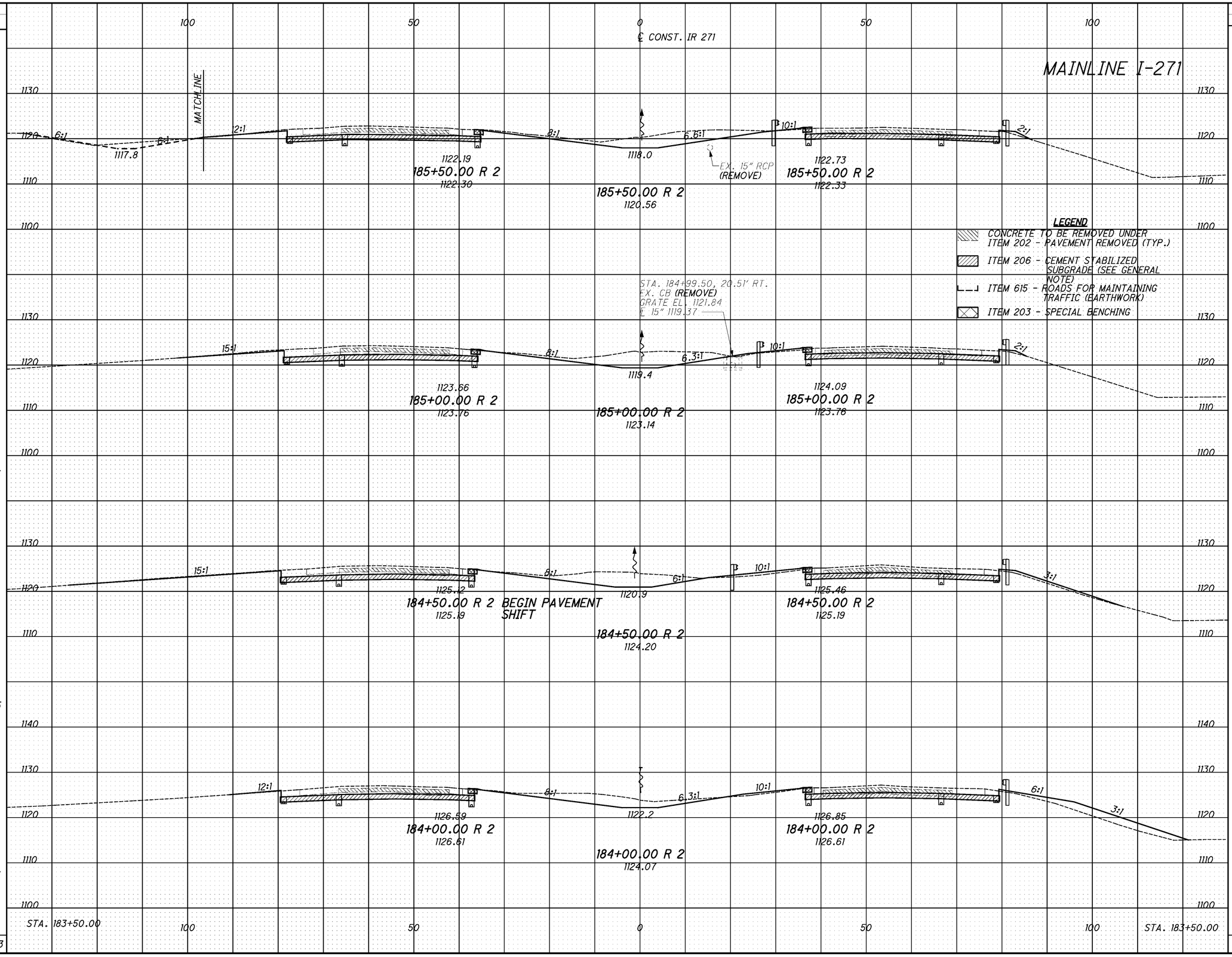
CROSS SECTIONS
STA. 182+50.00 TO STA. 183+50.00

SUM-271-2.33

377
1195

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SEEDING	
END WIDTH	SQ. YDS.
108	612
112	753
159	825
138	773
140	2963



END AREA		VOLUME	
CUT	FILL	CUT	FILL
209	4		
		400	11
222	7		
		402	25
212	20		
		372	71
189	56		
		340	97
178	48		
		1514	204

CALCULATED JDL
CHECKED PRS

CROSS SECTIONS
STA. 184+00.00 TO STA. 185+50.00

SUM-271-2.33

378
1195

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SEEDING END WIDTH	SEEDING SQ. YDS.
6	22
6	22
	163 LT.
	408 RT.
46	LT.
	278 LT.
54	STA. 186+00 AHD LT.
47	STA. 186+00 AHD RT.
101	STA. 186+00 BK.
	581
108	STA. 185+50.00
	1430

100 50 0 50 100

℄ CONST. IR 271

MAINLINE I-271

STA. 187+06.20 AHD.
6 x COS 28°3'24" = 6 LT.
24 x COS 28°3'24" = 22 RT.

STA. 187+06.20 BK.
6 x COS 28°3'24" = 6 LT.
24 x COS 28°3'24" = 22 RT.

116.67'

BASE LINE RAMP D

MATCHLINE 120' LT. (SEE BELOW)

MATCHLINE 120' LT. (SEE ABOVE)

MATCHLINE 120' RT. (SEE BELOW)

MATCHLINE 120' RT. (SEE ABOVE)

MATCHLINE

EXISTING WEATHER STATION
STA. 187+01.03, 9.62' RT.
(DO NOT DISTURB)

STA. 186+84.81, 9.18' RT.
EX. CB (REMOVE)
GRATE EL. 1114.10
℄ 15" (W) 1111.62
℄ 15" (E) 1111.50

STA. 186+85.00, ℄
CB NO 4
GRATE EL. 1113.43
℄ 6" (NW & SE) 1111.81
℄ 15" 1110.00

EX. 15" RCP (REMOVE)

EX. GROUND @ STA. 187+00 (NO SKEW)

6:1 2:1 9:1 6.7:1 6.6:1 12:1

BK AHD

1117.08
187+27.41
1117.20

1119.20
186+83.73
1118.24

187+06.20 SKEW LF
END NORMAL PAV'T. BUILD-UP
BEGIN APPROACH SLAB

LEGEND

- CONCRETE TO BE REMOVED UNDER ITEM 202 - PAVEMENT REMOVED (TYP.)
- ITEM 206 - CEMENT STABILIZED SUBGRADE (SEE GENERAL NOTE)
- ITEM 615 - ROADS FOR MAINTAINING TRAFFIC (EARTHWORK)
- ITEM 203 - SPECIAL BENCHING

STA. 187+06.20
CUT = 55 x COS 28°03'24" = 49 AHD.
FILL = 32 x COS 28°03'24" = 29 AHD.

STA. 187+06.20
CUT = 168 x COS 28°03'24" = 149 BK.
FILL = 59 x COS 28°03'24" = 53 BK.

STA. 186+50.00 BK.

1118.0 1119.29 **186+50.00 R 2** 1119.37

1115.6 1120.08 **186+50.00 R 2** 1119.29

186+50.00 R 2 1116.08

1093.1 1105.8 10.95 10.90

1117.9 1120.73 **186+00.00 R 2 END PAVEMENT SHIFT** 1120.84

1116.6 1121.40 **186+00.00 R 2** 1120.91

186+00.00 R 2 1118.10

STA. 185+50.00

END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
49	29		
149	53	341	93
178	36		
179	7	331	40
209	4	360	11
		1032	144

CALCULATED JDL
CHECKED PRS

CROSS SECTIONS
STA. 186+00.00 TO STA. 187+06.20

SUM-271-2.33

379
1195

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SEEDING END WIDTH	SEEDING SQ. YDS.
0	
0	
47	
82	
	854
112	
132	
	1123
56	
47	
0	
0	
11	
37	
22	
	2025

100 50 0 50 100

℄ CONST. IR 271

LEGEND

CONCRETE TO BE REMOVED UNDER ITEM 202 - PAVEMENT REMOVED (TYP.)

ITEM 206 - CEMENT STABILIZED SUBGRADE (SEE GENERAL NOTE)

ITEM 615 - ROADS FOR MAINTAINING TRAFFIC (EARTHWORK)

ITEM 203 - SPECIAL BENCHING

STA. 190+84.82 AHD.
0 x COS 22°44'24" = 0 LT.
0 x COS 22°44'24" = 0 RT.

83.63'

BASE LINE RAMP D

AHD

BK

1106.38
191+01.40
1106.54

STA. 190+24.97, 5.85' RT.
EX. MH (DO NOT DISTURB)
COVER EL. 1084.68
℄ 24" (W & NE) EL. 1078.14

STA.191+05.40, 78.00' RT
CB NO. 3A
GRATE EL. 1105.26
℄ 6" (SW) 1102.50
℄ 6" (NW) 1101.00
℄ 15" 1100.00

STA. 190+84.82
CUT = 103 x COS 22°44'24" = 95 AHD.
FILL = 36 x COS 22°44'24" = 34 AHD.

STA. 190+84.82
CUT = 20 x COS 22°44'24" = 19 BK.
FILL = 32 x COS 22°44'24" = 30 BK.

10' - 15" TYPE F, 707.05, TYPE C OR 707.21 @ 2.00%

21' - 15" TYPE F, 707.05, TYPE C OR 707.21 @ 43.31%

2:1

22 1/2° BEND

1109.20
190+67.01
1107.30

22 1/2° BEND

8' - 15" TYPE F, 707.05, TYPE C OR 707.21 @ 0.50%

STA.191+05.40, 114.70' RT
HW-2.1 HDWL
℄ 15" 1090.14

5' - 2.5' ROCK CHANNEL PROTECTION, TYPE C, WITH FABRIC FILTER (T=18")

STA. 190+84.82 BK.
50 x COS 22°44'24" = 47 LT.
88 x COS 22°44'24" = 82 RT.

190+84.82 SKEW LF
FORWARD ABUTMENT
BEGIN APPROACH SLAB

STA. 190+21.07
RESUME SEEDING AHD

STA. 189+65.99, 21.10' LT.
EX. CB (DO NOT DISTURB)
GRATE EL. 1083.47
℄ 21" (W) EL. 1078.98
℄ 24" (E) EL. 1078.98

STA. 190+24.97, 5.85' RT.
EX. MH (DO NOT DISTURB)
COVER EL. 1084.68
℄ 24" (W & NE) EL. 1078.14

STA. 190+50.00
BEGIN BENCHING AHD.
RESUME EARTHWORK

STA. 188+22.16
SUSDPEND SEEDING BK

STA. 187+60.00 BK.
SUSPEND EARTHWORK

190+50.00 R 2
1107.72

STA. 187+36.21 AHD.
63 x COS 27°51'00" = 56 LT.
53 x COS 27°51'00" = 47 RT.

190+50.00 R 2
1108.03

190+50.00 R 2
1085.30

STA. 187+36.21
CUT = 307 x COS 27°51'00" = 272 AHD.
FILL = 0 x COS 27°51'00" = 0 AHD.

112.65'

BASE LINE RAMP D

STA. 187+36.21
CUT = 674 x COS 27°51'00" = 596 BK.
FILL = 0 x COS 27°51'00" = 0 BK.

BK

AHD

1116.23
187+57.11
1116.31

187+36.21 SKEW LF
END APPROACH SLAB
REAR ABUTMENT

1118.42
187+13.75
1117.41

STA. 187+36.21 BK.
0 x COS 27°51'00" = 0 LT.
0 x COS 27°51'00" = 0 RT.

LT.
RT.

STA. 187+06.20

STA. 187+06.20 AHD.

END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
95	34		
19	30		
		13	20
*0	*0		
0	0		
272	0	120	0
596	0		
		359	17
49	29		
		492	37

CALCULATED JDL
CHECKED PRS

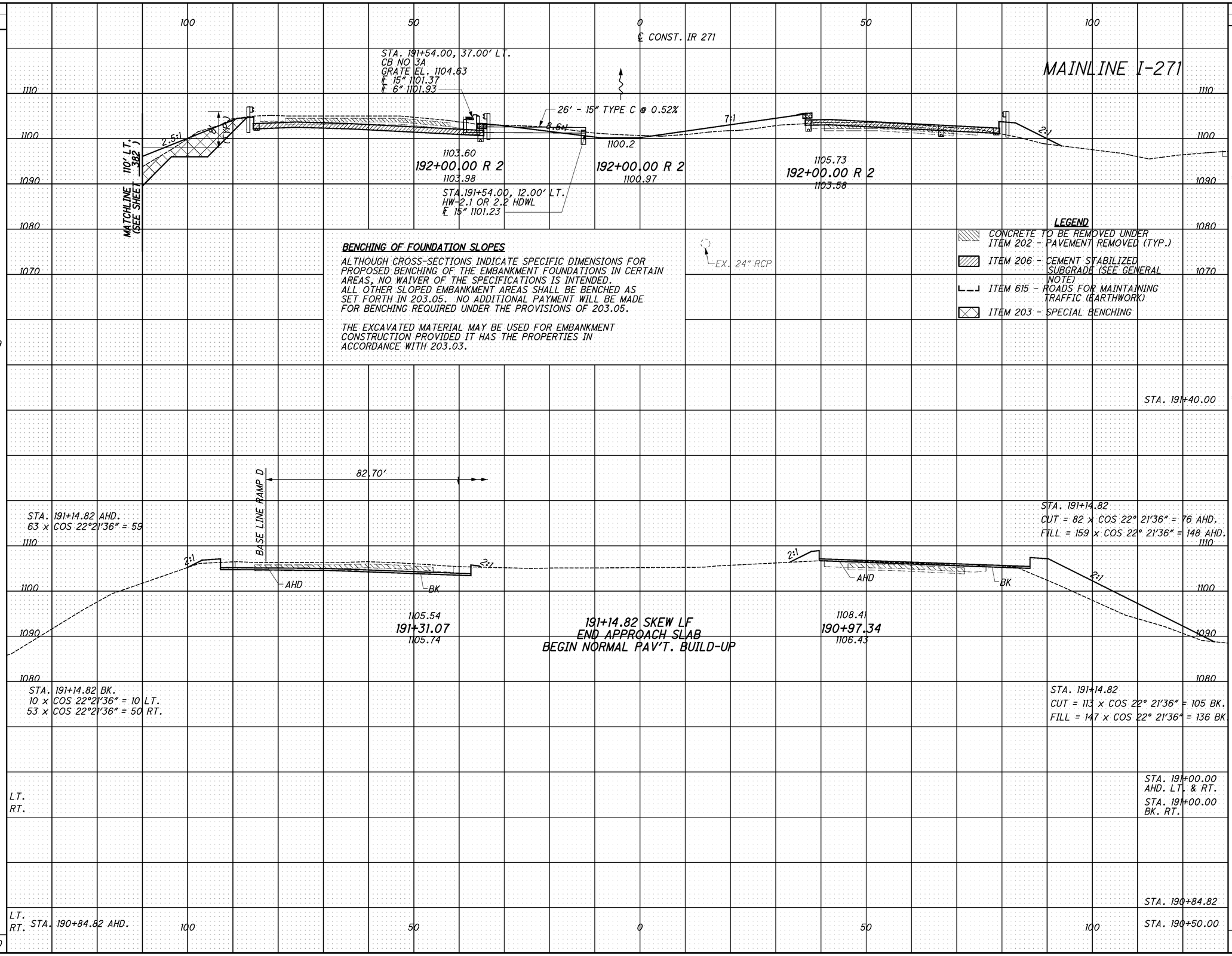
CROSS SECTIONS
STA. 187+36.21 TO STA. 190+84.82

SUM-271-2.33

380
1195

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SEEDING END WIDTH	SEEDING SQ. YDS.
152	
	999
59	
10	
50	
	17
LT.	84
RT.	
0	
0	
LT. RT. STA. 190+84.82 AHD.	1100



END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
114	200		
*109	*109		
		*340	*340
		300	549
*197	*197		
76	148		
		*214	*214
105	136		
*91	*91		
*91	*91		
		112	95
		*85	*85
95	34		
*0	*0		
		412	644
		*639	*639

CALCULATED JDL
CHECKED PRS

CROSS SECTIONS
STA. 191+14.82 TO STA. 192+00.00

SUM-271-2.33

381
1195

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SEEDING	
END WIDTH	SQ. YDS.

END AREA		VOLUME		CALCULATED	CHECKED
CUT	FILL	CUT	FILL		

250 200 150

1110 1100 1090 1080 1070

LEGEND

- CONCRETE TO BE REMOVED UNDER ITEM 202 - PAVEMENT REMOVED (TYP.)
- ITEM 206 - CEMENT STABILIZED SUBGRADE (SEE GENERAL NOTE)
- ITEM 615 - ROADS FOR MAINTAINING TRAFFIC (EARTHWORK)
- ITEM 203 - SPECIAL BENCHING

MAINLINE I-271

2.5:1

8' (TYP.)

ELEV. 1088.00 (TYP.)

110' LT. (SEE SHEET 381)

MATCHLINE (SEE SHEET 381)

CROSS SECTIONS STA. 192+00.00

SUM-271-2.33

382
1195

18710XS002A.DGN 2/7/11 SAM

SEEDING	
END WIDTH	SQ. YDS.
148	
	850
158	
	895
164	
	878
152	
	2623

100 50 0 50 100

℄ CONST. IR 271

LEGEND

- CONCRETE TO BE REMOVED UNDER ITEM 202 - PAVEMENT REMOVED (TYP.)
- ITEM 206 - CEMENT STABILIZED SUBGRADE (SEE GENERAL NOTE)
- ITEM 615 - ROADS FOR MAINTAINING TRAFFIC (EARTHWORK)
- ITEM 203 - SPECIAL BENCHING

MAINLINE I-271

MATCHLINE (SEE SHEET 384) 110' LT.

2.5:1 | 10:1 | 7:1 | 6:1 | 12.5:1 | 43.7:1

1099.51 — 193+50.00 R 2 — 1099.61

1095.8

1101.81 — 193+50.00 R 2 — 1099.46

1099.3

MATCHLINE

BENCHING OF FOUNDATION SLOPES

ALTHOUGH CROSS-SECTIONS INDICATE SPECIFIC DIMENSIONS FOR PROPOSED BENCHING OF THE EMBANKMENT FOUNDATIONS IN CERTAIN AREAS, NO WAIVER OF THE SPECIFICATIONS IS INTENDED. ALL OTHER SLOPED EMBANKMENT AREAS SHALL BE BENCHED AS SET FORTH IN 203.05. NO ADDITIONAL PAYMENT WILL BE MADE FOR BENCHING REQUIRED UNDER THE PROVISIONS OF 203.05.

THE EXCAVATED MATERIAL MAY BE USED FOR EMBANKMENT CONSTRUCTION PROVIDED IT HAS THE PROPERTIES IN ACCORDANCE WITH 203.03.

STA. 192+95.90, 20.22' RT.
EX. MH (ADJUST)
COVER 1099.17
E 24" (SW & E) 1074.3
ADJUST TO EL. 1100.51

MATCHLINE (SEE SHEET 384) 110' LT.

2.5:1 | 10:1 | 8:1 | 6.5:1 | 6:1 | 12:1

1100.87 — 193+00.00 R 2 — 1101.08

1097.3

1103.12 — 193+00.00 R 2 — 1100.79

1099.2

193+00.00 R 2 — 1099.86

EX. 24" RCP

MATCHLINE

MATCHLINE (SEE SHEET 384) 110' LT.

2.5:1 | 9:1 | 7:1 | 6:1 | 6.9:1

1102.24 — 192+50.00 R 2 — 1102.55

1098.4

1104.42 — 192+50.00 R 2 — 1102.18

1098.8

192+50.00 R 2 — 1100.18

ELEV. 1096.00 (TYP.)

EX. 24" RCP

MATCHLINE

STA. 192+00.00 STA. 192+00.00

100 50 0 50 100

END AREA		VOLUME	
CUT	FILL	CUT	FILL
121 *103	182 *103		
		216 *189	363 *189
112 *101	210 *101		
		200 *242	411 *242
		202 *250	401 *250
104 *160	233 *160		
114 *109	200 *109		
		618 *681	1175 *681

CALCULATED JDL
CHECKED PRS

CROSS SECTIONS
STA. 192+50.00 TO STA. 193+50.00

SUM-271-2.33

383
1195

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SEEDING	
END WIDTH	SQ. YDS.

LEGEND

- CONCRETE TO BE REMOVED UNDER ITEM 202 - PAVEMENT REMOVED (TYP.)
- ITEM 206 - CEMENT STABILIZED SUBGRADE (SEE GENERAL NOTE)
- ITEM 615 - ROADS FOR MAINTAINING TRAFFIC (EARTHWORK)
- ITEM 203 - SPECIAL BENCHING

MAINLINE I-271

250 200 150

1110 1100 1090 1080 1070 1060

2.5:1

MATCHLINE (SEE SHEET 382) 110' LT.

MATCHLINE (SEE SHEET 383) 110' LT.

END AREA		VOLUME		CALCULATED	CHECKED
CUT	FILL	CUT	FILL		

CROSS SECTIONS

STA. 192+50.00 TO STA. 193+50.00

SUM-271-2.33

384
1195

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SEEDING	
END WIDTH	SQ. YDS.
	247
	1473
	283
	1198
	148
	2671

END AREA		VOLUME	
CUT	FILL	CUT	FILL
60	538		
*360	*360		
		266	951
		*588	*588
227	489		
*275	*275		
		323	622
		*350	*350
121	182		
*103	*103		
		589	1573
		*938	*938

CALCULATED JDL
CHECKED PRS

CROSS SECTIONS
STA. 194+00.00 TO STA. 194+50.00
SUM-271-2.33

385
1195

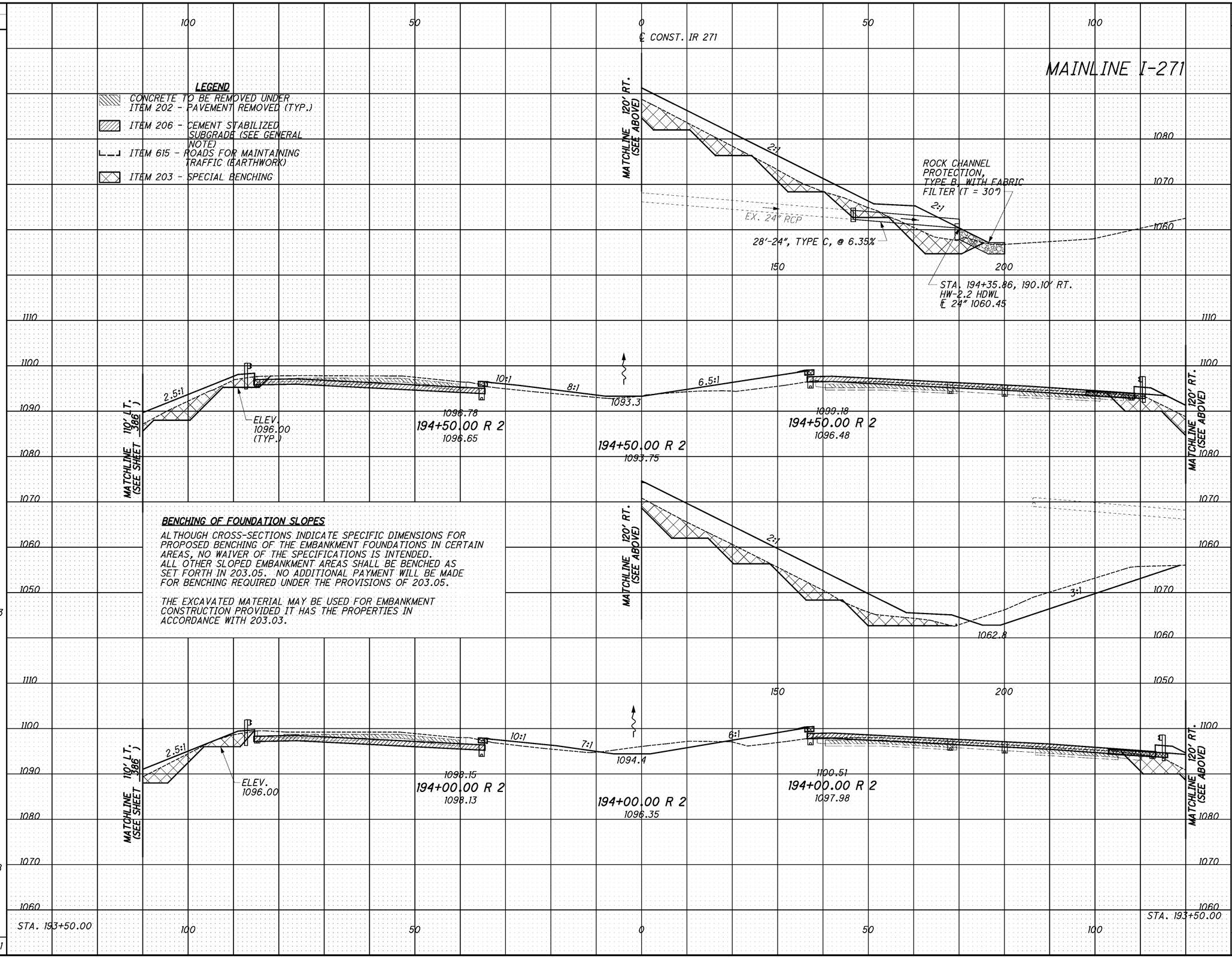
LEGEND

- CONCRETE TO BE REMOVED UNDER ITEM 202 - PAVEMENT REMOVED (TYP.)
- ITEM 206 - CEMENT STABILIZED SUBGRADE (SEE GENERAL NOTE)
- ITEM 615 - ROADS FOR MAINTAINING TRAFFIC (EARTHWORK)
- ITEM 203 - SPECIAL BENCHING

BENCHING OF FOUNDATION SLOPES

ALTHOUGH CROSS-SECTIONS INDICATE SPECIFIC DIMENSIONS FOR PROPOSED BENCHING OF THE EMBANKMENT FOUNDATIONS IN CERTAIN AREAS, NO WAIVER OF THE SPECIFICATIONS IS INTENDED. ALL OTHER SLOPED EMBANKMENT AREAS SHALL BE BENCHED AS SET FORTH IN 203.05. NO ADDITIONAL PAYMENT WILL BE MADE FOR BENCHING REQUIRED UNDER THE PROVISIONS OF 203.05.

THE EXCAVATED MATERIAL MAY BE USED FOR EMBANKMENT CONSTRUCTION PROVIDED IT HAS THE PROPERTIES IN ACCORDANCE WITH 203.03.



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SEEDING	
END WIDTH	SQ. YDS.

END AREA		VOLUME		CALCULATED	CHECKED
CUT	FILL	CUT	FILL		

LEGEND

- CONCRETE TO BE REMOVED UNDER ITEM 202 - PAVEMENT REMOVED (TYP.)
- ITEM 206 - CEMENT STABILIZED SUBGRADE (SEE GENERAL NOTE)
- ITEM 615 - ROADS FOR MAINTAINING TRAFFIC (EARTHWORK)
- ITEM 203 - SPECIAL BENCHING

MAINLINE I-271

250 200 150

1110 1100 1090 1080 1070 1060 1050

2.5:1

ELEV. 1080.00

MATCHLINE (SEE SHEET 385) 120' RT.

2.5:1

MATCHLINE (SEE SHEET 385) 120' RT.

250 200 150

CROSS SECTIONS

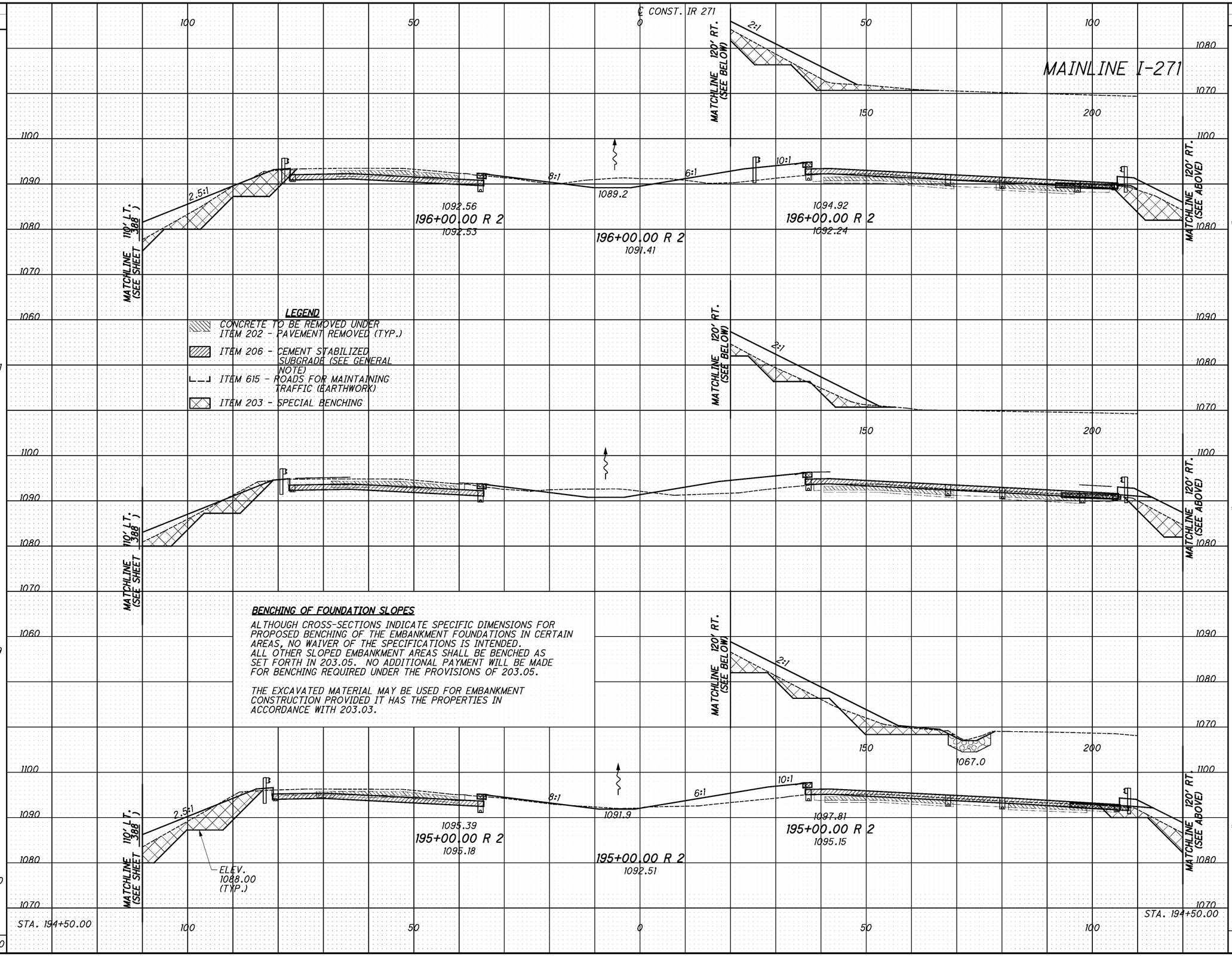
STA. 194+00.00 TO STA. 194+50.00

SUM-271-2.33

386
1195

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SEEDING END WIDTH	SEEDING SQ. YDS.
189	1081
200	1189
228	1320
247	3590



LEGEND

- CONCRETE TO BE REMOVED UNDER ITEM 202 - PAVEMENT REMOVED (TYP.)
- ITEM 206 - CEMENT STABILIZED SUBGRADE (SEE GENERAL NOTE)
- ITEM 615 - ROADS FOR MAINTAINING TRAFFIC (EARTHWORK)
- ITEM 203 - SPECIAL BENCHING

BENCHING OF FOUNDATION SLOPES

ALTHOUGH CROSS-SECTIONS INDICATE SPECIFIC DIMENSIONS FOR PROPOSED BENCHING OF THE EMBANKMENT FOUNDATIONS IN CERTAIN AREAS, NO WAIVER OF THE SPECIFICATIONS IS INTENDED. ALL OTHER SLOPED EMBANKMENT AREAS SHALL BE BENCHED AS SET FORTH IN 203.05. NO ADDITIONAL PAYMENT WILL BE MADE FOR BENCHING REQUIRED UNDER THE PROVISIONS OF 203.05.

THE EXCAVATED MATERIAL MAY BE USED FOR EMBANKMENT CONSTRUCTION PROVIDED IT HAS THE PROPERTIES IN ACCORDANCE WITH 203.03.

STA. 194+50.00 — STA. 194+50.00

END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
95 *273	355 *273		
		175 *433	652 *433
93 *194	349 *194		
		150 *434	660 *434
68 *274	363 *274		
		119 *588	835 *588
60 *360	538 *360		
		444 *1455	2147 *1455

CALCULATED JDL
CHECKED PRS

CROSS SECTIONS
STA. 195+00.00 TO STA. 196+00.00

SUM-271-2.33

387
1195

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SEEDING	
END WIDTH	SQ. YDS.

END AREA		VOLUME		CALCULATED	CHECKED
CUT	FILL	CUT	FILL		

LEGEND

- CONCRETE TO BE REMOVED UNDER ITEM 202 - PAVEMENT REMOVED (TYP.)
- ITEM 206 - CEMENT STABILIZED SUBGRADE (SEE GENERAL NOTE)
- ITEM 615 - ROADS FOR MAINTAINING TRAFFIC (EARTHWORK)
- ITEM 203 - SPECIAL BENCHING

MAINLINE I-271

250 200 150

1100 1090 1080 1070 1060 1050 1110

2.5:1

ELEV. 1072.00 (TYP.)

MATCHLINE (SEE SHEET 38Z) 110' LT.

MATCHLINE (SEE SHEET 38Z) 110' LT.

MATCHLINE (SEE SHEET 38Z) 110' LT.

CROSS SECTIONS

STA. 195+00.00 TO STA. 196+00.00

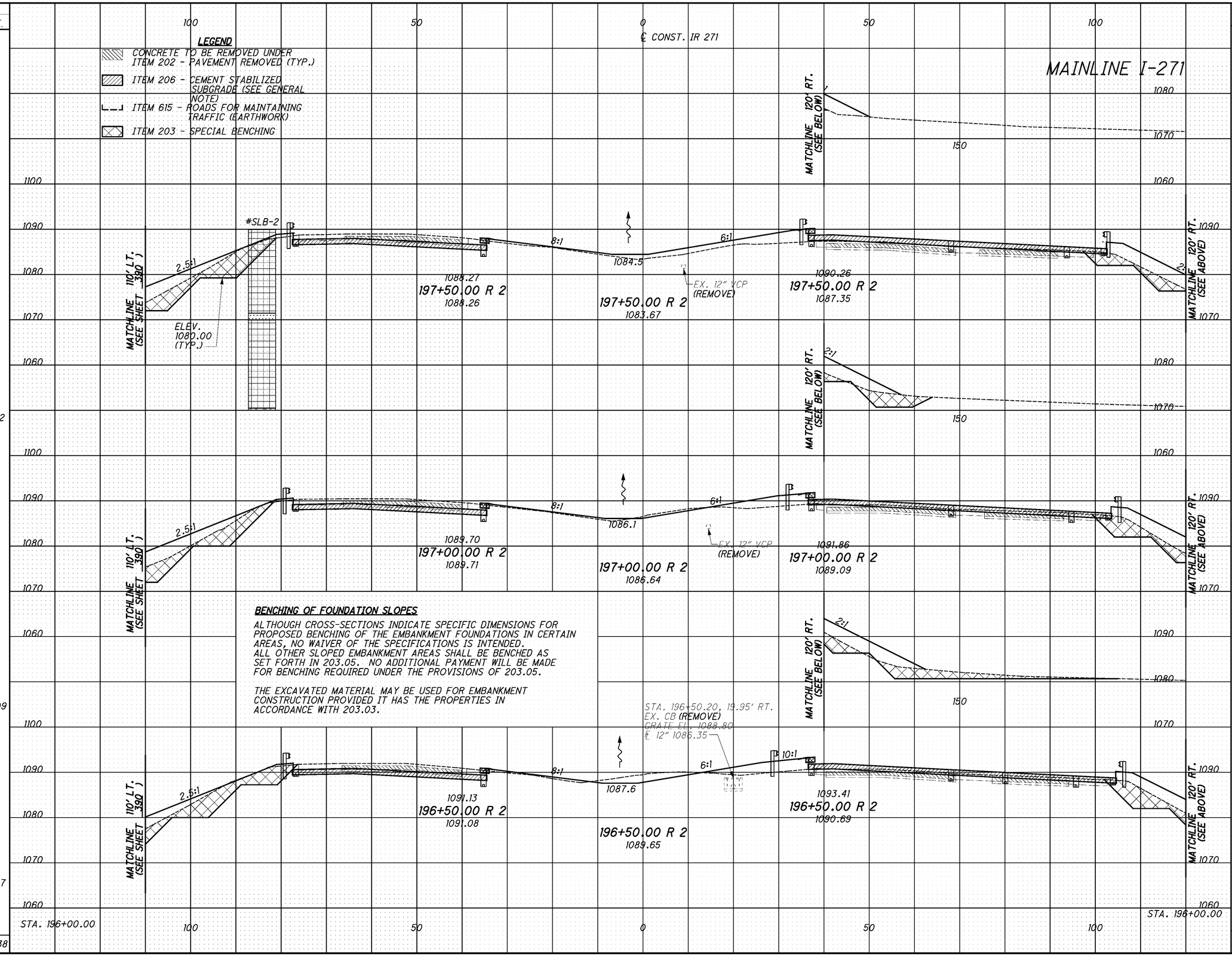
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SEEDING	
END WIDTH	SQ. YDS.
	178
	992
	179
	1009
	184
	1037
	189
	3038

LEGEND

- CONCRETE TO BE REMOVED UNDER ITEM 202 - PAVEMENT REMOVED (TYP.)
- ITEM 206 - CEMENT STABILIZED SUBGRADE (SEE GENERAL NOTE)
- ITEM 615 - ROADS FOR MAINTAINING TRAFFIC (EARTHWORK)
- ITEM 203 - SPECIAL BENCHING



BENCHING OF FOUNDATION SLOPES

ALTHOUGH CROSS-SECTIONS INDICATE SPECIFIC DIMENSIONS FOR PROPOSED BENCHING OF THE EMBANKMENT FOUNDATIONS IN CERTAIN AREAS, NO WAIVER OF THE SPECIFICATIONS IS INTENDED. ALL OTHER SLOPED EMBANKMENT AREAS SHALL BE BENCHED AS SET FORTH IN 203.05. NO ADDITIONAL PAYMENT WILL BE MADE FOR BENCHING REQUIRED UNDER THE PROVISIONS OF 203.05.

THE EXCAVATED MATERIAL MAY BE USED FOR EMBANKMENT CONSTRUCTION PROVIDED IT HAS THE PROPERTIES IN ACCORDANCE WITH 203.03.

END AREA		VOLUME	
CUT	FILL	CUT	FILL
52	355		
*184	*184		
		105	625
		*341	*341
61	320		
*184	*184		
		134	589
		*392	*392
83	316		
*239	*239		
		165	622
		*475	*475
95	355		
*273	*273		
		404	1836
		*1208	*1208

CALCULATED JDL
CHECKED PRS

CROSS SECTIONS
STA. 196+50.00 TO STA. 197+50.00

SUM-271-2.33

389
1195

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SEEDING	
END WIDTH	SQ. YDS.

LEGEND

- CONCRETE TO BE REMOVED UNDER ITEM 202 - PAVEMENT REMOVED (TYP.)
- ITEM 206 - CEMENT STABILIZED SUBGRADE (SEE GENERAL NOTE)
- ITEM 615 - ROADS FOR MAINTAINING TRAFFIC (EARTHWORK)
- ITEM 203 - SPECIAL BENCHING

250 200 150

MAINLINE I-271

#SLB-1

2.5:1

110' LT. 389)

MATCHLINE (SEE SHEET

1100 1090 1080 1070 1060

END AREA		VOLUME		CALCULATED	CHECKED
CUT	FILL	CUT	FILL		

CROSS SECTIONS

STA. 196+50.00 TO STA. 197+50.00

SUM-271-2.33

390
1195

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SEEDING END WIDTH	SEEDING SQ. YDS.
216	
111	
	318
79	
	218
56	
	392
178	
	928

LEGEND

- CONCRETE TO BE REMOVED UNDER ITEM 202 - PAVEMENT REMOVED (TYP.)
- ITEM 206 - CEMENT STABILIZED SUBGRADE (SEE GENERAL NOTE)
- ITEM 615 - ROADS FOR MAINTAINING TRAFFIC (EARTHWORK)
- ITEM 203 - SPECIAL BENCHING

℄ CONST. IR 271

STA. 198+72.71, 8.32' RT.
EX. MH (REMOVE)
COVER EL. 1065.51
℄ 12" (W) 1056.20
℄ 24" (N) 1055.10
℄ 24" (S) 1055.00

STA. 198+72.71, 8.3' RT.
MH NO 3
COVER EL. 1065.50
℄ 15" 1055.95
℄ 30" 1054.70

STA. 198+00.00, ℄
CB NO 4
GRATE EL. 1082.49
℄ 6" (NW & SE) 1078.53
℄ 15" 1077.53

STA. 198+00.23, 3.47' RT.
EX. CB (REMOVE)
GRATE EL. 1081.50
℄ 12" (SW) 1078.77
℄ 12" (S) 1078.70
℄ 12" (E) 1078.60

EX. 12" VCP (REMOVE)

STA. 198+01.05, 15.82' RT.
EX. CB (REMOVE)
GRATE EL. 1083.97
℄ 12" 1079.59±

198+39.25 SKEW LF
END APPROACH SLAB
REAR ABUTMENT

198+09.15 SKEW LF
END PRJ CONC. PAV'T.
BEGIN APPROACH SLAB

197+80.12 SKEW LF
END NORMAL PAV'T. BUILD-UP
BEGIN PRJ CONC. PAV'T.

1085.58
198+42.37
1085.16

1087.40
198+35.91
1084.13

1086.45
198+12.58
1086.12

1088.43
198+05.48
1086.37

1087.29
197+83.84
1087.18

1089.40
197+76.13
1086.37

121'-30" TYPE C @ 0.56%
EX. 24" RCP (REMOVE)

137'-30" TYPE C @ 0.51%
EX. 24" RCP (REMOVE)

91.73'
92.42'
93.10'

BASE LINE RAMP C

MATCHLINE 120' RT. (SEE BELOW)

STA. 198+39.25 AHD.
216 x COS 4°30'00" = 216

STA. 198+39.25 BK.
111 x COS 4°30'00" = 111

STA. 198+39.25
CUT = 17 x COS 4°30'00" = 7 AHD.
FILL = 224 x COS 4°30'00" = 224 AHD.

STA. 198+39.25
CUT = 19 x COS 4°30'00" = 19 BK.
FILL = 525 x COS 4°30'00" = 524 BK.

STA. 198+09.15
CUT = 72 x COS 4°54'10" = 72 AHD.
FILL = 167 x COS 4°54'10" = 167 AHD.

STA. 198+09.15
CUT = 55 x COS 4°54'10" = 55 BK.
FILL = 193 x COS 54°54'10" = 193 BK.

STA. 197+80.12
CUT = 63 x COS 5°22'04" = 63
FILL = 191 x COS 5°22'04" = 191

STA. 198+75.00
END BENCHING BK.
SUSPEND EARTHWORK

STA. 198+50.00

STA. 198+00.00

STA. 197+50.00

END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
*0	*0		
0	0	*32	*32
*69	*69	5	149
7			
	224		
0	433		
19	524		
		51	386
		*156	*156
72	167		
55	193		
*99	*99		
		64	207
		*263	*263
63	191		
		65	305
52	355		
*184	*184		
		185	1047
		*451	*451

CALCULATED JDL
CHECKED PRS

CROSS SECTIONS
STA. 197+80.12 TO STA. 198+39.25
SUM-271-2.33

391
1195

F:\2009\109094\18710\roadway\sheets\18710XS002.dgn 11/10/2012 8:48:21 AM DonHerman

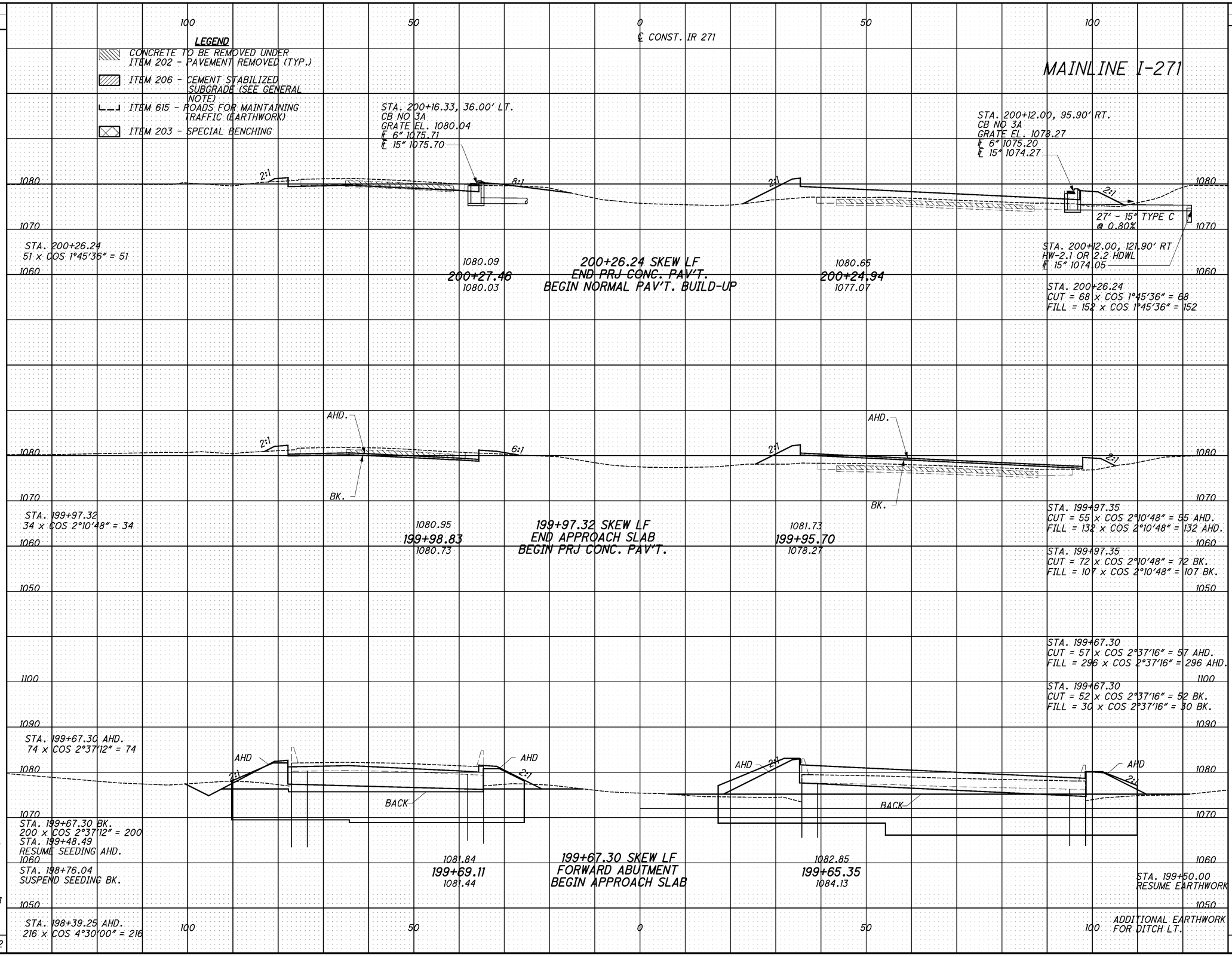
SEEDING END WIDTH	SEEDING SQ. YDS.
51	137
34	181
74	200
281	68
108	663
216	1262

END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
68	152	66	153
55	132	72	225
72	107		
57	296	17	10
52	30		
0	0	11	0
		166	388

CALCULATED JDL
CHECKED PRS

CROSS SECTIONS
STA. 199+67.30 TO STA. 200+26.24
SUM-271-2.33

392
1195



F:\2009\109094\18710\roadway\sheets\18710XS002.dgn 11/10/2012 8:48:46 AM DonHelman

SEEDING	
END WIDTH	SQ. YDS.
165	937
	295
172	
51	1232

LEGEND

CONCRETE TO BE REMOVED UNDER ITEM 202 - PAVEMENT REMOVED (TYP.)

ITEM 206 - CEMENT STABILIZED SUBGRADE (SEE GENERAL NOTE)

ITEM 615 - ROADS FOR MAINTAINING TRAFFIC (EARTHWORK)

ITEM 203 - SPECIAL BENCHING

℄ CONST. IR 271

MAINLINE I-271

EX R/W Fee LA

MATCHLINE 120' RT. (SEE BELOW)

MATCHLINE 120' RT. (SEE ABOVE)

6:1 6:1 8:1 8:1 3:1 6:1

1076.3 1077.91 201+00.00 R 2 1078.04 1073.7 201+00.00 R 2 1074.34 1077.78 201+00.00 R 2 1074.33 1072.1

150

STA. 200+32.59, 9.76' LT
HW-2.1 OR 2.2 HDWL
℄ 15" 1075.45

34' - 15" TYPE C @ 1.00%

1077.6 1079.41 200+50.00 R 2 1079.44 1075.4 200+50.00 R 2 1075.05 1072.9 1079.70 200+50.00 R 2 1076.15

STA. 200+26.24
51 x COS 1°45'36" = 51

100 50 0 50 100

END AREA		VOLUME	
CUT	FILL	CUT	FILL
168	194	379	359
241	193	136	152
68	152	515	511

CALCULATED JDL

CHECKED PRS

CROSS SECTIONS
STA. 200+00.00 TO STA. 201+00.00

SUM-271-2.33

393
1195

F:\2009\109094\18710\roadway\sheets\18710XS002.dgn 11/10/2012 8:49:17 AM DonHelmen

SEEDING	
END WIDTH	SQ. YDS.
168	920
163	892
158	898
165	2710

END AREA		VOLUME	
CUT	FILL	CUT	FILL
150	195		
		312	353
186	186		
		351	360
193	202		
		335	367
168	194		
		998	1080

CALCULATED JDL
CHECKED PRS

CROSS SECTIONS
STA. 201+50.00 TO STA. 202+50.00

SUM-271-2.33

394
1195

LEGEND

- CONCRETE TO BE REMOVED UNDER ITEM 202 - PAVEMENT REMOVED (TYP.)
- ITEM 206 - CEMENT STABILIZED SUBGRADE (SEE GENERAL NOTE)
- ITEM 615 - ROADS FOR MAINTAINING TRAFFIC (EARTHWORK)
- ITEM 203 - SPECIAL BENCHING

MAINLINE I-271

℄ CONST. IR 271

100 50 0 50 100

EX R/W Fee LA

MATCHLINE (SEE BELOW) 120' RT.

MATCHLINE (SEE ABOVE) 120' RT.

1080 1070 1060 1050 1090

4:1 6:1 10:1 6:1 8:1 2:1

150

1071.7 1073.41 202+50.00 R 2 1073.42 1068.2 202+50.00 R 2 1069.95 1071.76 202+50.00 R 2 1068.45 1066.8

1073.3 1074.91 202+00.00 R 2 1075.03 1069.8 202+00.00 R 2 1072.13 1073.81 202+00.00 R 2 1070.51 1068.4

1074.8 1076.41 201+50.00 R 2 1076.57 1071.5 201+50.00 R 2 1074.01 1075.82 201+50.00 R 2 1072.41 1070.3

STA. 201+00.00 STA. 201+00.00

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SEEDING END WIDTH	SEEDING SQ. YDS.
174	989
182	975
169	937
168	2901

LEGEND

- CONCRETE TO BE REMOVED UNDER ITEM 202 - PAVEMENT REMOVED (TYP.)
- ITEM 206 - CEMENT STABILIZED SUBGRADE (SEE GENERAL NOTE)
- ITEM 615 - ROADS FOR MAINTAINING TRAFFIC (EARTHWORK)
- ITEM 203 - SPECIAL BENCHING

100 50 0 ℄ CONST. IR 271 50 100

MAINLINE I-271

EX R/W Fee LA

MATCHLINE 120' RT. (SEE BELOW)

MATCHLINE 120' RT. (SEE ABOVE)

4:1 6:1 6:1 8:1 6:1 2:1

1066.6 1068.91 1068.1 1061.7

204+00.00 R 2 BEGIN PAVEMENT SHIFT
1068.78

204+00.00 R 2
1061.49

1065.41
204+00.00 R 2
1062.47

3:1 6:1 6:1 8:1 6:1 2:1

1068.3 1070.41 1064.0 1063.4

203+50.00 R 2
1070.29

203+50.00 R 2
1063.64

1067.53
203+50.00 R 2
1064.41

4:1 6:1 10:1 6:1 8:1 6:1 2:1

1069.9 1071.91 1066.1 1065.2

203+00.00 R 2
1071.80

203+00.00 R 2
1065.93

1069.66
203+00.00 R 2
1066.36

STA. 202+50.00 100 50 0 50 100 STA. 202+50.00

END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
131	207	274	385
164	208	263	378
119	200	250	366
150	195	787	1129

CALCULATED JDL
CHECKED PRS

CROSS SECTIONS
STA. 203+00.00 TO STA. 204+00.00

SUM-271-2.33

395
1195

F:\2009\109094\18710\roadway\sheets\18710XS002.dgn 11/10/2012 8:50:03 AM DonHelman

SEEDING	
END WIDTH	SQ. YDS.
172	945
168	934
168	950
174	
	2829

LEGEND

- CONCRETE TO BE REMOVED UNDER ITEM 202 - PAVEMENT REMOVED (TYP.)
- ITEM 206 - CEMENT STABILIZED SUBGRADE (SEE GENERAL NOTE)
- ITEM 615 - ROADS FOR MAINTAINING TRAFFIC (EARTHWORK)
- ITEM 203 - SPECIAL BENCHING

100 50 0 ℄ CONST. IR 271 50 100

MAINLINE I-271

EX R/W Fee LA

MATCHLINE (SEE BELOW) 120' RT.

MATCHLINE (SEE ABOVE) 120' RT.

1070 1060 1050 1040

6:1 1061.7

1064.41
205+50.00 R 2 END PAVEMENT SHIFT
1064.28

205+50.00 R 2
1056.12

8:1 1056.4

1058.04
205+50.00 R 2
1056.61

6:1 1056.0

150

4:1 .0

205+00.00 R 2
1065.76

205+00.00 R 2
1057.72

6:1 1063.3

1065.91

8:1 1058.3

1061.16
205+00.00 R 2
1058.58

6:1 1058.0

4:1 1065.0

1067.41
204+50.00 R 2
1067.27

204+50.00 R 2
1059.17

8:1 1060.2

1063.29
204+50.00 R 2
1060.52

6:1 1059.9

STA. 204+00.00 100 50 0 50 100 STA. 204+00.00

END AREA		VOLUME	
CUT	FILL	CUT	FILL
130	222	245	416
134	227	251	405
137	210	249	387
131	207	745	1208

CALCULATED JDL
CHECKED PRS

CROSS SECTIONS
STA. 204+50.00 TO STA. 205+50.00

SUM-271-2.33

396
1195

F:\2009\109094\18710\roadway\sheets\18710XS002.dgn 11/10/2012 8:50:26 AM DonHelman

SEEDING	
END WIDTH	SQ. YDS.
167	945
173	928
161	925
172	2798

LEGEND

- CONCRETE TO BE REMOVED UNDER ITEM 202 - PAVEMENT REMOVED (TYP.)
- ITEM 206 - CEMENT STABILIZED SUBGRADE (SEE GENERAL NOTE)
- ITEM 615 - ROADS FOR MAINTAINING TRAFFIC (EARTHWORK)
- ITEM 203 - SPECIAL BENCHING

MAINLINE I-271

℄ CONST. IR 271

EX R/W Fee LA

MATCHLINE 120' RT. (SEE BELOW)

MATCHLINE 120' RT. (SEE ABOVE)

207+00.00 R 2 — 1059.31 / 1059.83

207+00.00 R 2 — 1052.67 / 1050.70

207+00.00 R 2 — 1052.79

206+50.00 R 2 — 1061.41 / 1061.31

206+50.00 R 2 — 1054.79 / 1052.67

206+50.00 R 2 — 1054.49

206+00.00 R 2 — 1062.91 / 1062.79

206+00.00 R 2 — 1056.91 / 1054.64

206+00.00 R 2 — 1054.77

STA. 205+50.00

END AREA		VOLUME	
CUT	FILL	CUT	FILL
127	132	262	256
155	144	254	322
119	203	231	394
130	222	747	972

CALCULATED JDL

CHECKED PRS

CROSS SECTIONS 206+00.00 TO STA. 207+00.00

SUM-271-2.33

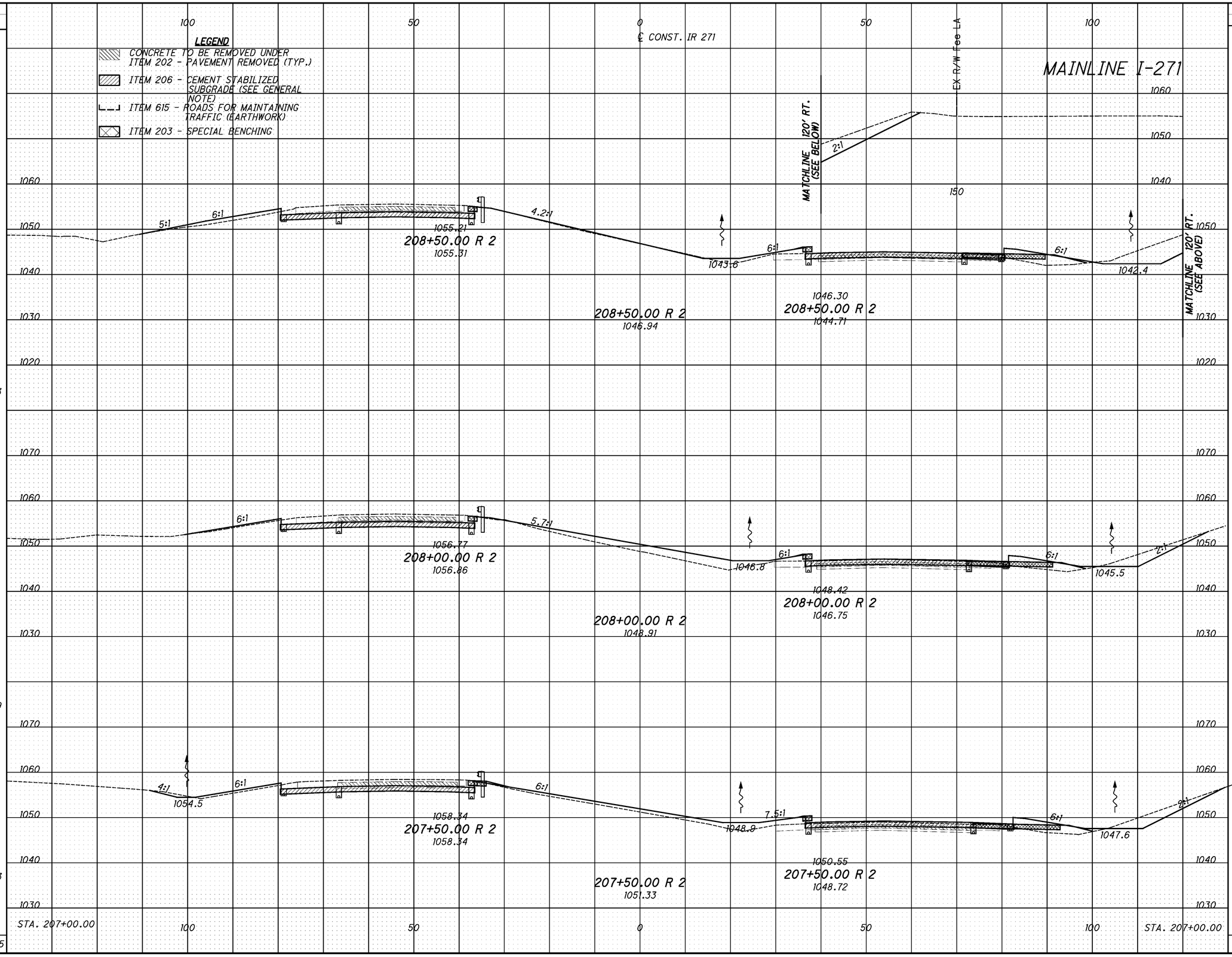
397
1195

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SEEDING	
END WIDTH	SQ. YDS.
181	923
151	859
158	903
167	2685

LEGEND

- CONCRETE TO BE REMOVED UNDER ITEM 202 - PAVEMENT REMOVED (TYP.)
- ITEM 206 - CEMENT STABILIZED SUBGRADE (SEE GENERAL NOTE)
- ITEM 615 - ROADS FOR MAINTAINING TRAFFIC (EARTHWORK)
- ITEM 203 - SPECIAL BENCHING



END AREA		VOLUME	
CUT	FILL	CUT	FILL
174	76	252	187
98	125	183	225
99	117	210	231
127	132	645	643

CALCULATED JDL
CHECKED PRS

CROSS SECTIONS
STA. 207+50.00 TO STA. 208+50.00

SUM-271-2.33

398
1195

F:\2009\109094\18710\roadway\sheets\18710XS002.dgn 11/10/2012 8:51:21 AM DonHelmon

SEEDING END WIDTH	SEEDING SQ. YDS.
167	
	970
182	
	1000
178	
	998
181	
	2968

LEGEND

- CONCRETE TO BE REMOVED UNDER ITEM 202 - PAVEMENT REMOVED (TYP.)
- ITEM 206 - CEMENT STABILIZED SUBGRADE (SEE GENERAL NOTE)
- ITEM 615 - ROADS FOR MAINTAINING TRAFFIC (EARTHWORK)
- ITEM 203 - SPECIAL BENCHING

℄ CONST. IR 271

MAINLINE I-271

100 50 0 50 100

1060 1050 1040 1030 1020 1010

5:1 6:1 3.7:1 6:1 4:1

1050.50
210+00.00 R 2
1050.67

1037.2

1039.93
210+00.00 R 2
1038.60

1036.3

5:1 6:1 3.9:1 6:1 4:1

1052.07
209+50.00 R 2
1052.22

1039.3

1042.05
209+50.00 R 2
1040.63

1039.2

209+50.00 R 2
1042.96

EX R/W Fee A

MATCHLINE 120' RT. (SEE BELOW)

150

4.8:1 6:1 4:1 6:1 2:1

1053.64
209+00.00 R 2
1053.77

1041.1

1044.18
209+00.00 R 2
1042.67

1040.4

MATCHLINE 120' RT. (SEE ABOVE)

209+00.00 R 2
1044.22

STA. 208+50.00 100 50 0 50 100 STA. 208+50.00

END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
154	47	239	131
104	94	228	195
142	116	293	178
174	76	760	504

CALCULATED JDL
CHECKED PRS

CROSS SECTIONS
STA. 209+00.00 TO STA. 210+00.00

SUM-271-2.33

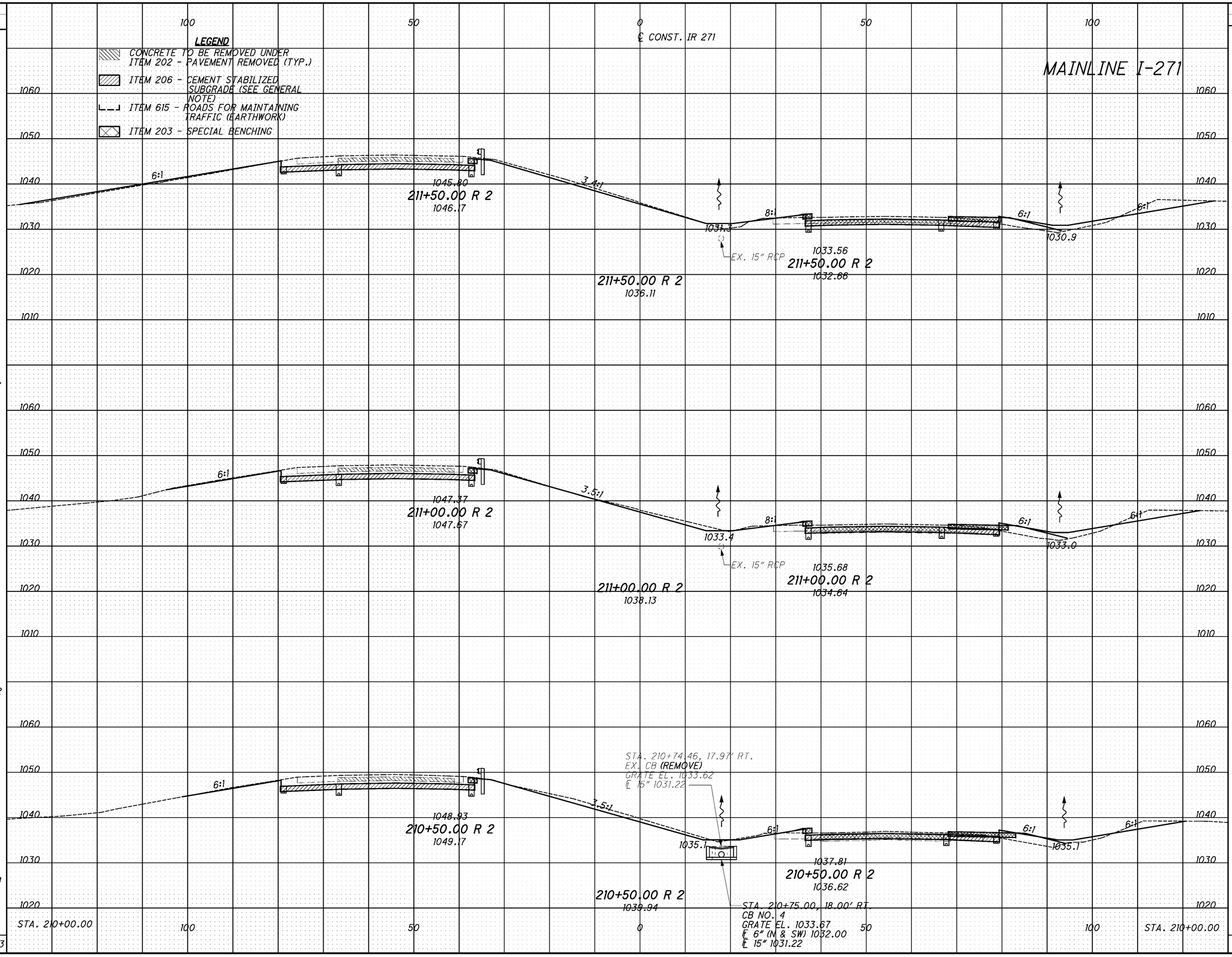
399
1195

F:\2009\109094\18710\roadway\sheets\18710XS002.dgn 11/10/2012 8:51:51 AM DonHelman

SEEDING	
END WIDTH	SQ. YDS.
185	937
152	842
151	884
167	2663

LEGEND

- CONCRETE TO BE REMOVED UNDER ITEM 202 - PAVEMENT REMOVED (TYP.)
- ITEM 206 - CEMENT STABILIZED SUBGRADE (SEE GENERAL NOTE)
- ITEM 615 - ROADS FOR MAINTAINING TRAFFIC (EARTHWORK)
- ITEM 203 - SPECIAL BENCHING



END AREA		VOLUME	
CUT	FILL	CUT	FILL
149	55	268	88
140	39	260	69
140	35	273	76
154	47	801	233

CALCULATED JDL
CHECKED PRS

CROSS SECTIONS
STA. 210+50.00 TO STA. 211+50.00

SUM-271-2.33

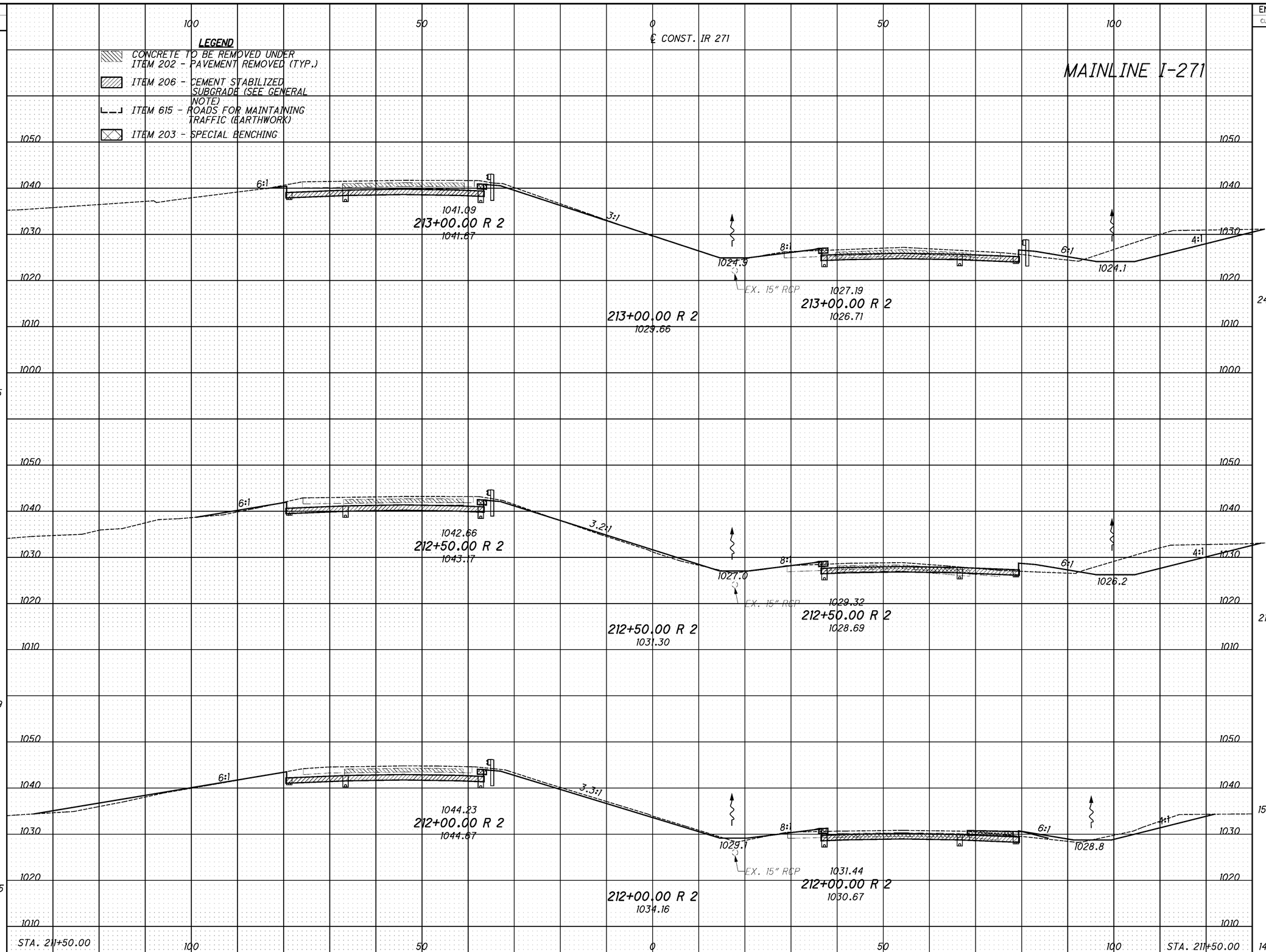
400
1195

F:\2009\109094\18710\roadway\sheets\18710XS002.dgn 11/10/2012 8:52:16 AM DonHelmon

SEEDING END WIDTH	SEEDING SQ. YDS.
143	825
154	939
184	1025
185	2789

LEGEND

- CONCRETE TO BE REMOVED UNDER ITEM 202 - PAVEMENT REMOVED (TYP.)
- ITEM 206 - CEMENT STABILIZED SUBGRADE (SEE GENERAL NOTE)
- ITEM 615 - ROADS FOR MAINTAINING TRAFFIC (EARTHWORK)
- ITEM 203 - SPECIAL BENCHING



END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
248	16	428	48
214	35	344	64
157	34	284	83
149	55	1056	195

CALCULATED JDL

CHECKED PRS

CROSS SECTIONS
STA. 212+00.00 TO STA. 213+00.00

SUM-271-2.33

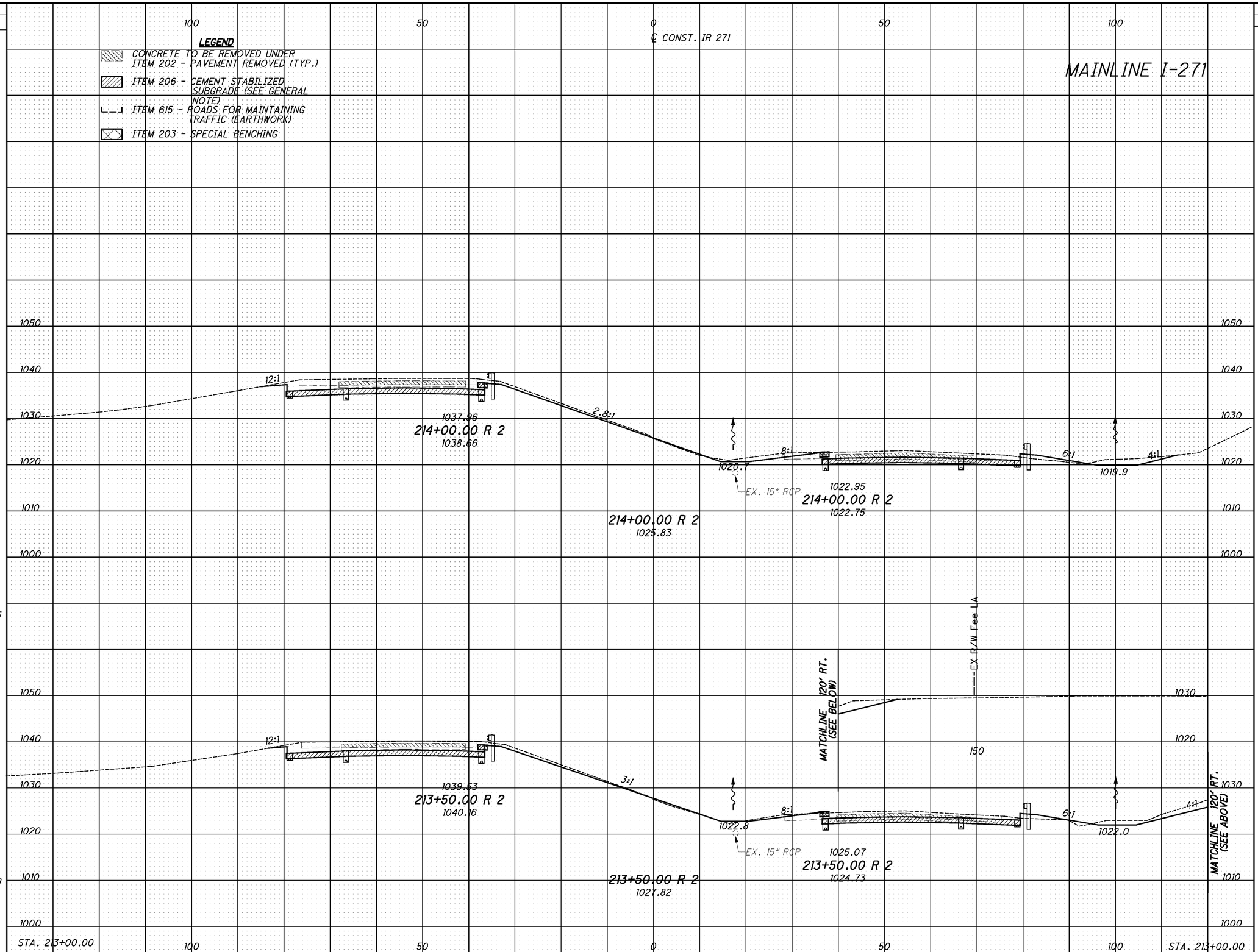
401
1195

18710XS002.DGN 6/27/11 SAM

SEEDING	
END WIDTH	SQ. YDS.
120	725
141	789
143	1514

LEGEND

- CONCRETE TO BE REMOVED UNDER ITEM 202 - PAVEMENT REMOVED (TYP.)
- ITEM 206 - CEMENT STABILIZED SUBGRADE (SEE GENERAL NOTE)
- ITEM 615 - ROADS FOR MAINTAINING TRAFFIC (EARTHWORK)
- ITEM 203 - SPECIAL BENCHING



END AREA		VOLUME	
CUT	FILL	CUT	FILL
195	11	359	23
192	13	408	27
248	16	767	50

CALCULATED JDL
CHECKED PRS

CROSS SECTIONS
STA. 213+50.00 TO STA. 214+00.00

SUM-271-2.33

402
1195

F:\2009\109094\18710\roadway\sheets\18710XS002.dgn 11/10/2012 8:53:03 AM DonHelman

SEEDING	
END WIDTH	SQ. YDS.
149	892
172	812
120	
	1704

LEGEND

- CONCRETE TO BE REMOVED UNDER ITEM 202 - PAVEMENT REMOVED (TYP.)
- ITEM 206 - CEMENT STABILIZED SUBGRADE (SEE GENERAL NOTE)
- ITEM 615 - ROADS FOR MAINTAINING TRAFFIC (EARTHWORK)
- ITEM 203 - SPECIAL BENCHING

100 50 0 ℄ CONST. IR 271 50 100

MAINLINE I-271

MATCHLINE 120' RT. (SEE BELOW)

EX R/W Fee LA

MATCHLINE 120' RT. (SEE ABOVE)

6:1 2.7:1 8:1 6:1 3:4:1

1034.82
215+00.00 R 2
1035.66

1016.4

EX. 15" RCP

1018.70
215+00.00 R 2
1018.79

215+00.00 R 2
1022.24

1015.6

STA. 215+00.00, 98.60' RT.
CB NO 5
GRATE EL. 1015.35
℄ 6" 1012.50
℄ 15" 1011.50

1036.39
214+50.00 R 2
1037.16

6:1 2.8:1 8:1 6:1 3:1

1018.5

EX. 15" RCP

1020.82
214+50.00 R 2
1020.77

214+50.00 R 2
1024.17

1017.7

STA. 214+00.00 STA. 214+00.00

END AREA		VOLUME	
CUT	FILL	CUT	FILL
297	0	556	1
303	1	462	12
195	11	1018	13

CALCULATED JDL
CHECKED PRS

CROSS SECTIONS
STA. 214+50.00 TO STA. 215+00.00

SUM-271-2.33

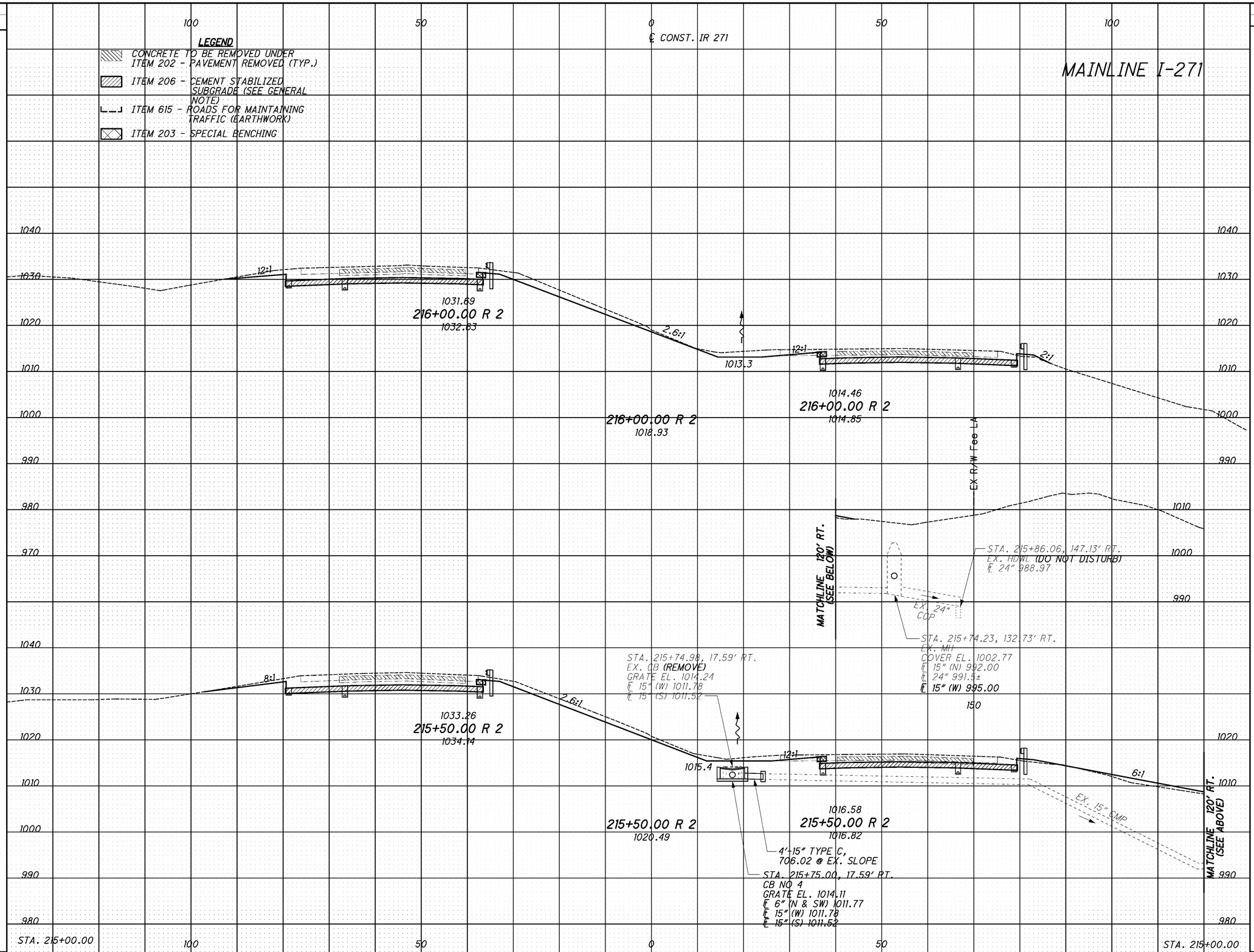
403
1195

F:\2009\109094\18710\roadway\sheets\18710XS002.dgn 11/10/2012 8:53:28 AM DonHelman

SEEDING	
END WIDTH	SQ. YDS.
107	
	714
150	
	831
149	
	1545

LEGEND

- CONCRETE TO BE REMOVED UNDER ITEM 202 - PAVEMENT REMOVED (TYP.)
- ITEM 206 - CEMENT STABILIZED SUBGRADE (SEE GENERAL NOTE)
- ITEM 615 - ROADS FOR MAINTAINING TRAFFIC (EARTHWORK)
- ITEM 203 - SPECIAL BENCHING



END AREA		VOLUME	
CUT	FILL	CUT	FILL
268	2		
		482	22
252	21		
		509	20
297	0		
		991	42

CALCULATED JDL
CHECKED PRS

CROSS SECTIONS
STA. 215+50.00 TO STA. 216+00.00

SUM-271-2.33

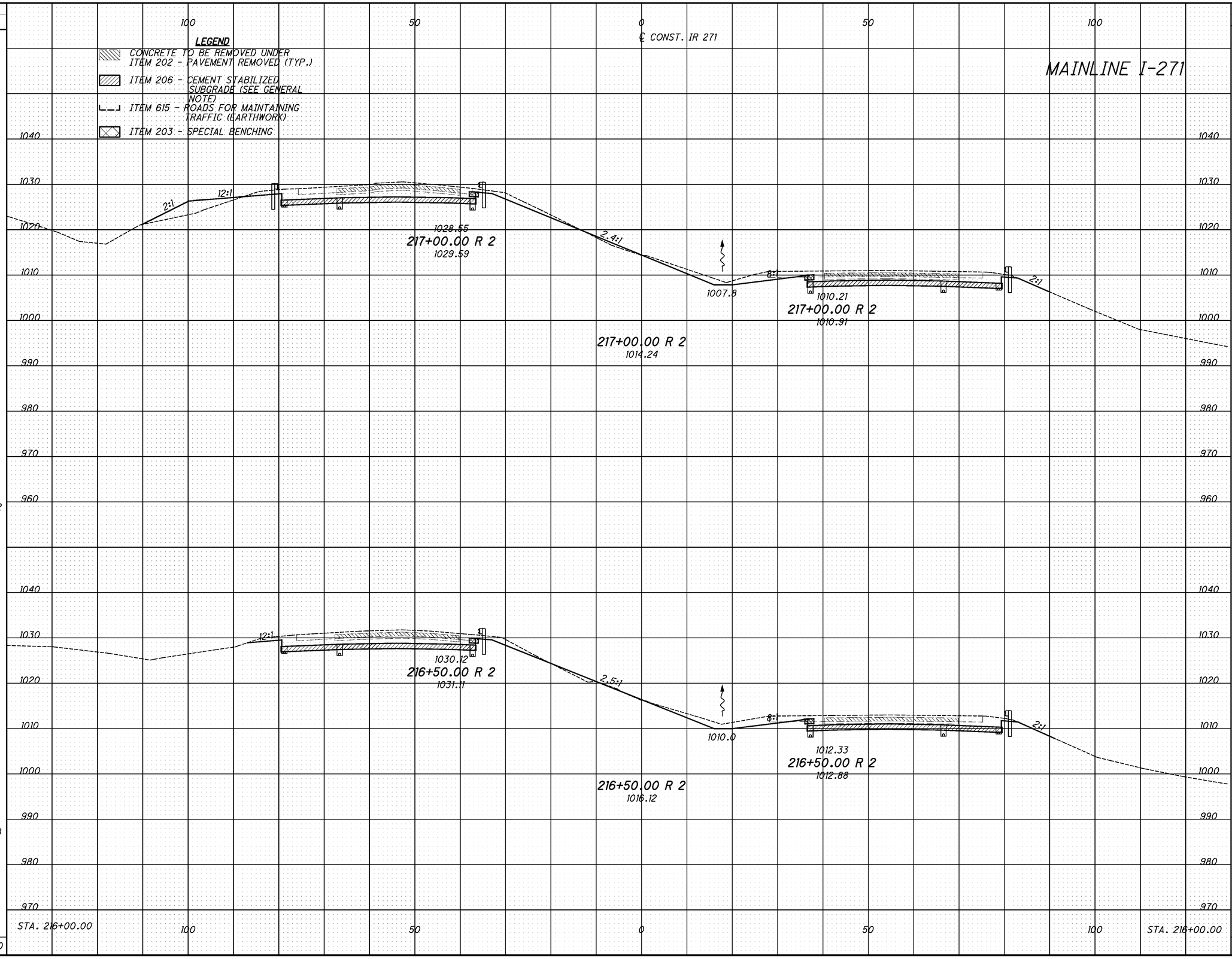
404
1195

F:\2009\109094\18710\roadway\sheets\18710XS002.dgn 11/10/2012 8:53:51 AM DonHelman

SEEDING	
END WIDTH	SQ. YDS.
130	642
101	578
107	1220

LEGEND

- CONCRETE TO BE REMOVED UNDER ITEM 202 - PAVEMENT REMOVED (TYP.)
- ITEM 206 - CEMENT STABILIZED SUBGRADE (SEE GENERAL NOTE)
- ITEM 615 - ROADS FOR MAINTAINING TRAFFIC (EARTHWORK)
- ITEM 203 - SPECIAL BENCHING



END AREA		VOLUME	
CUT	FILL	CUT	FILL
275	38	498	40
262	5	491	7
268	2	989	47

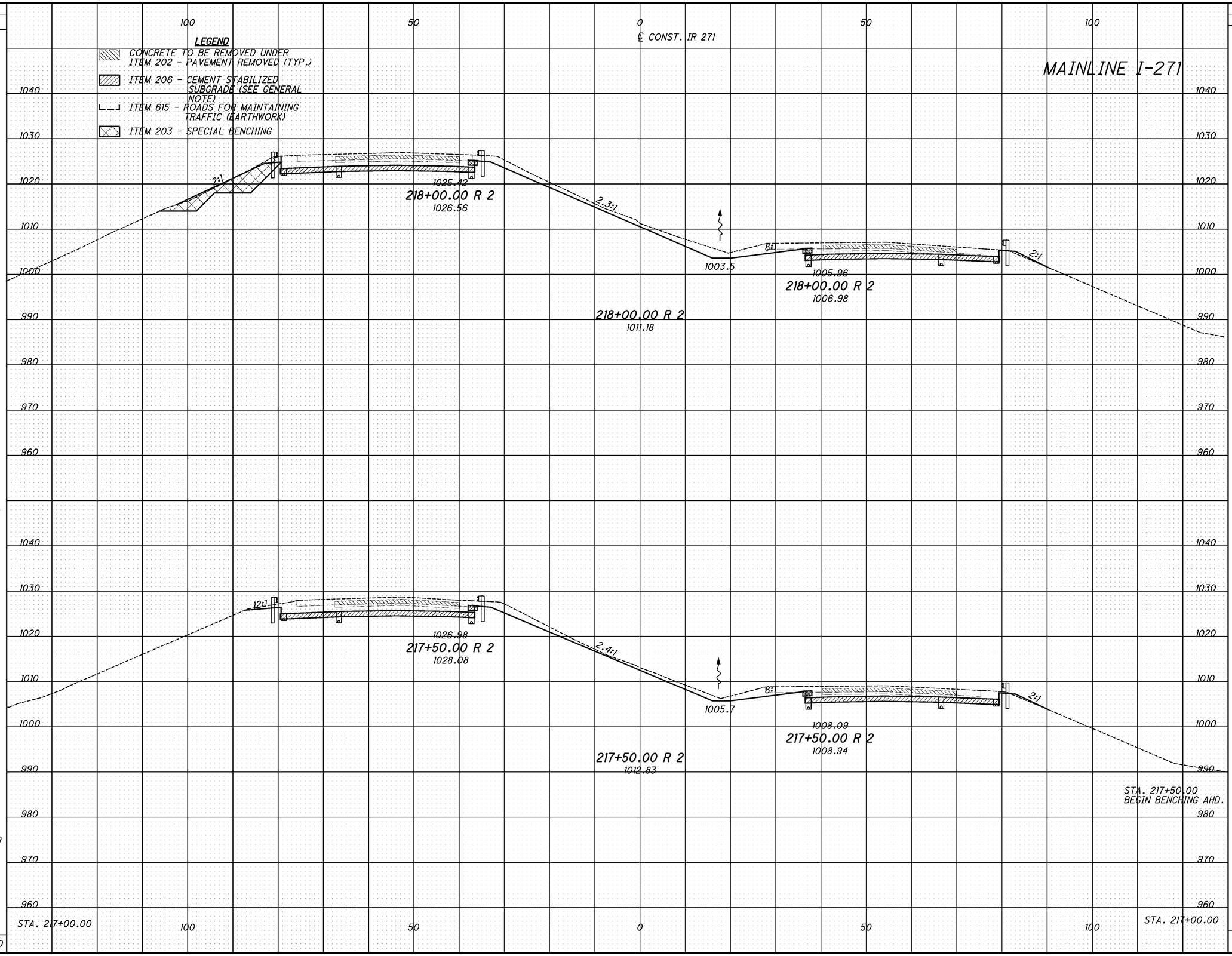
CALCULATED JDL
CHECKED PRS

CROSS SECTIONS
STA. 216+50.00 TO STA. 217+00.00

SUM-271-2.33

405
1195

F:\2009\109094\18710\roadway\sheets\18710XS002.dgn 11/10/2012 8:54:14 AM DonHelfman



SEEDING END WIDTH	SEEDING SQ. YDS.
120	631
107	659
130	1290

END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
313	5		
*66	*66		
		563	7
		*62	*62
295	2		
*0	*0		
		528	38
275	38		
		1091	45
		*62	*62

CALCULATED JDL
CHECKED PRS

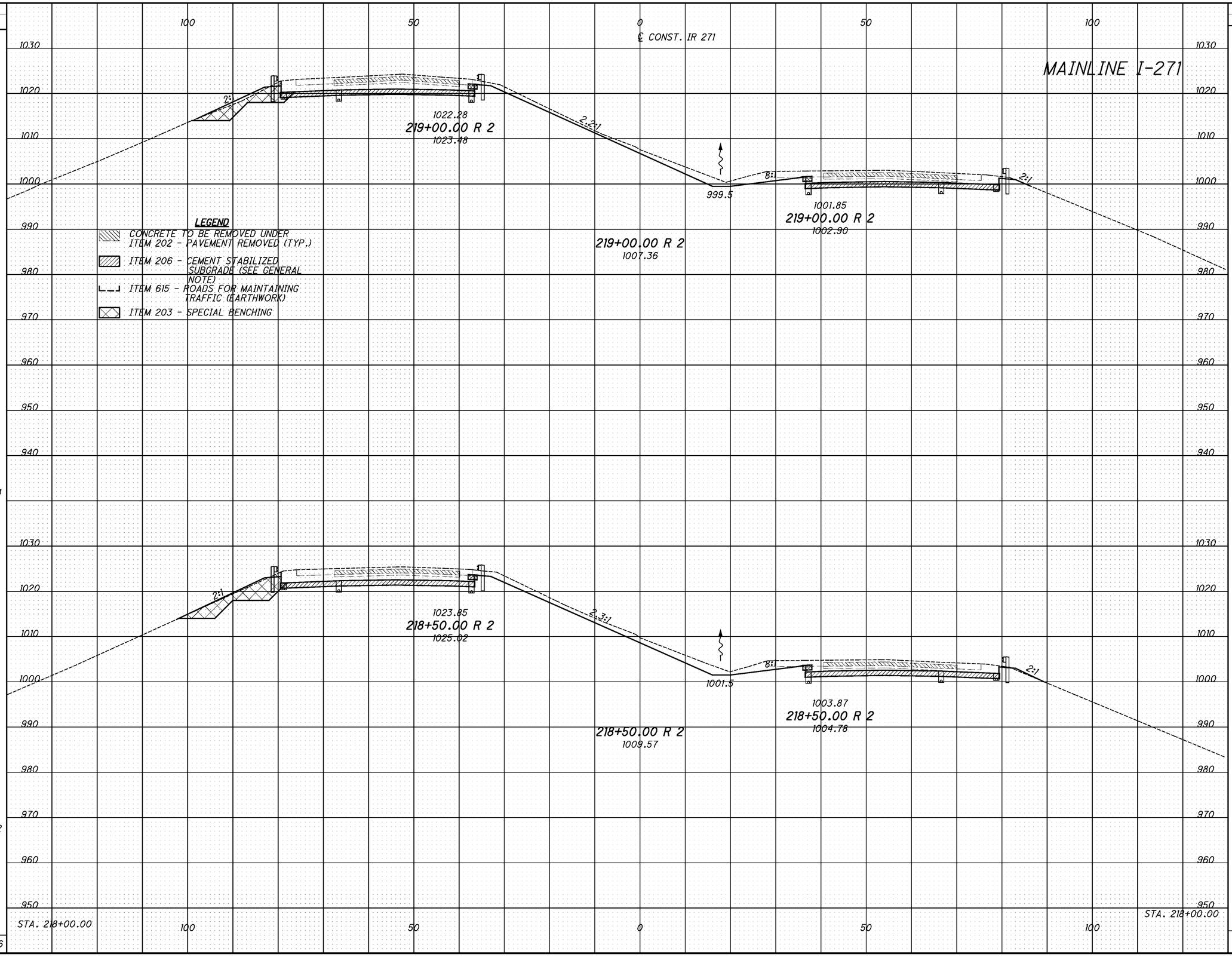
CROSS SECTIONS
STA. 217+50.00 TO STA. 218+00.00

SUM-271-2.33

406
1195

F:\2009\109094\18710\roadway\sheets\18710XS002.dgn 11/12/2012 9:24:24 AM SteveWorr

SEEDING	
END WIDTH	SQ. YDS.
110	634
118	662
120	1296



END AREA		VOLUME	
CUT	FILL	CUT	FILL
312 *46	7 *46		
		577 *100	12 *100
311 *61	5 *61		
		578 *118	10 *118
313 *66	5 *66		
		1155 *218	22 *218

CALCULATED JDL
CHECKED PRS

CROSS SECTIONS
STA. 218+50.00 TO STA. 219+00.00
SUM-271-2.33

407
1195

F:\2009\109094\18710\roadway\sheets\18710XS002.dgn 11/10/2012 8:55:04 AM DonHelman

SEEDING	
END WIDTH	SQ. YDS.
114	623
110	623

100 50 0 50 100

℄ CONST. IR 271

MAINLINE I-271

LEGEND

- CONCRETE TO BE REMOVED UNDER ITEM 202 - PAVEMENT REMOVED (TYP.)
- ITEM 206 - CEMENT STABILIZED SUBGRADE (SEE GENERAL NOTE)
- ITEM 615 - ROADS FOR MAINTAINING TRAFFIC (EARTHWORK)
- ITEM 203 - SPECIAL BENCHING

EX R/W Fee LA

RIPRAP, USING 6" REINFORCED CONCRETE SLAB

43'-42" TYPE A, 706.02, 1500 D-LOAD @ 1.00%

MATCHLINE 120' LT. (SEE ABOVE)

STA. 219+39.12, 185.25' LT.
EX. HDWL (REMOVE)
℄ EL. 989.94

STA. 219+43.33, 184.52' LT.
HW-2.2 HDWL
℄ 42" 973.00

2:1

1020.71
219+50.00 R 2
1021.94

2:1

997.5

999.89
219+50.00 R 2
1000.97

2:1

219+50.00 R 2
1005.37

MATCHLINE 120' LT. (SEE ABOVE)

269'-42" CONDUIT, BORED OR JACKED @ 1.00%

EX. 36" CMP

1030 1020 1010 1000 990 980 970 960 950 940 930

STA. 219+00.00

100 50 0 50 100

STA. 219+00.00

END AREA		VOLUME	
CUT	FILL	CUT	FILL
329 *112	7 *112		
		594 *147	13 *147
312 *46	7 *46		
		594 *147	13 *147

CALCULATED JDL
CHECKED PRS

CROSS SECTIONS
STA.219+50.00

SUM-271-2.33

408
1195

F:\2009\109094\18710\roadway\sheets\18710XS002.dgn 11/12/2012 9:25:10 AM SteveMorr

SEEDING	
END WIDTH	SQ. YDS.
149	
114	731

END AREA		VOLUME	
CUT	FILL	CUT	FILL
329 *113	19 *113		
329 *112	7 *112		
		610 *209	25 *209
		610 *209	25 *209

CALCULATED JDL
CHECKED PRS

LEGEND

- CONCRETE TO BE REMOVED UNDER ITEM 202 - PAVEMENT REMOVED (TYP.)
- ITEM 206 - CEMENT STABILIZED SUBGRADE (SEE GENERAL NOTE)
- ITEM 615 - ROADS FOR MAINTAINING TRAFFIC (EARTHWORK)
- ITEM 203 - SPECIAL BENCHING

℄ CONST. IR 271

MAINLINE I-271

STA. 219+95.28, 127.11' RT.
MH NO 3 WITH 72" BASE I.D.
COVER EL. 977.00
℄ 42" (N) 969.85
℄ 42" (S) 963.00

MATCHLINE 120' RT. (SEE BELOW)

2' MIN. COVER

76'-42" TYPE A, 706.02, @ 30.26%

STA. 220+06.36, 202.82' RT.
MH NO 3 WITH 72" BASE I.D.
COVER EL. 948.00
℄ 42" (N) 940.00
℄ 42" (S) 934.50

STA. 219+96.83, 206.19' RT.
EX. MH (REMOVE)
COVER EL. 949.73
℄ 36" (N) 934.6
℄ 36" (S) 934.5

STA. 220+10.52, 230.49' RT.
HW-3.2 HDWL
℄ 42" 933.96

28'-42" TYPE A, 706.02 @ 1.93%

STA. 220+09.00, 233.61' RT.
EX. HDWL (REMOVE)
℄ 36" 933.96

EXISTING GROUND

2:1

1019.14
220+00.00 R 2
1020.40

2:1

140 160 180 200 220 240

995.6

8:1

997.99
220+00.00 R 2
999.26

2:1

220+00.00 R 2
1003.68

MATCHLINE 120' RT. (SEE ABOVE)

269'-42" CONDUIT, BORED OR JACKED @ 1.00%

EX. 36" CMP

1030 1020 1010 1000 990 980 970 960 950 940 930

STA. 219+50.00 — 100 — 50 — 0 — 50 — 100 — STA. 219+50.00

731

CROSS SECTIONS
STA. 220+00.00

SUM-271-2.33

409
1195

F:\2009\109094\18710\roadway\sheets\18710XS002.dgn 11/10/2012 11:36:11 AM CraigBarnhart

SEEDING	
END WIDTH	SQ. YDS.
106	709
149	709

100 50 0 ℄ CONST. IR 271 50 100

MAINLINE I-271

LEGEND

- CONCRETE TO BE REMOVED UNDER ITEM 202 - PAVEMENT REMOVED (TYP.)
- ITEM 206 - CEMENT STABILIZED SUBGRADE (SEE GENERAL NOTE)
- ITEM 615 - ROADS FOR MAINTAINING TRAFFIC (EARTHWORK)
- ITEM 203 - SPECIAL BENCHING

1030 1020 1010 1000 990 980 970 960 950 940

1017.58
220+50.00 R 2
1018.92

2:1

993.8

8:1

996.17
220+50.00 R 2
997.55

2:1

220+50.00 R 2
1001.75

STA. 220+00.00 100 50 0 50 100 STA. 220+00.00

END AREA		VOLUME	
CUT	FILL	CUT	FILL
345 *52	1 *52		
		625 *153	19 *153
329 *113	19 *113		
		625 *153	19 *153

CALCULATED JDL
CHECKED PRS

CROSS SECTIONS
STA. 220+50.00

SUM-271-2.33

410
1195

F:\2009\109094\18710\roadway\sheets\18710XS002.dgn 11/10/2012 8:57:02 AM DonHelman

SEEDING	
END WIDTH	SQ. YDS.
122	634
106	634

LEGEND

- CONCRETE TO BE REMOVED UNDER ITEM 202 - PAVEMENT REMOVED (TYP.)
- ITEM 206 - CEMENT STABILIZED SUBGRADE (SEE GENERAL NOTE)
- ITEM 615 - ROADS FOR MAINTAINING TRAFFIC (EARTHWORK)
- ITEM 203 - SPECIAL BENCHING

100 50 0 50 100

℄ CONST. IR 271

MAINLINE I-271

1030 1020 1010 1000 990 980 970 960 950 940

1016.01
221+00.00 R 2
1017.43

2:1

992.0

8:1

994.40
221+00.00 R 2
995.58

2:1

221+00.00 R 2
1000.72

STA. 220+50.00 — STA. 220+50.00

100 50 0 50 100

END AREA		VOLUME	
CUT	FILL	CUT	FILL
376 *66	0 *66		
		668 *110	1 *110
345 *52	1 *52		
		668 *110	1 *110

CALCULATED JDL
CHECKED PRS

CROSS SECTIONS
STA. 221+00.00

SUM-271-2.33

411
1195

F:\2009\109094\18710\roadway\sheets\18710XS002.dgn 11/12/2012 9:25:50 AM SteveNorr

SEEDING	
END WIDTH	SQ. YDS.
100	
100	
122	
	617

100 50 0 50 100

℄ CONST. IR 271

MAINLINE I-271

LEGEND

- CONCRETE TO BE REMOVED UNDER ITEM 202 - PAVEMENT REMOVED (TYP.)
- ITEM 206 - CEMENT STABILIZED SUBGRADE (SEE GENERAL NOTE)
- ITEM 615 - ROADS FOR MAINTAINING TRAFFIC (EARTHWORK)
- ITEM 203 - SPECIAL BENCHING

1030 1020 1010 1000 990 980 970 960 950 940

12:1 2:1 8:1 12:1

1014.44
221+50.00 R 2
1015.95

990.3

992.69
221+50.00 R 2
994.22

221+50.00 R 2
999.22

STA. 221+50.00
END BENCHING BK.

STA. 221+00.00

STA. 221+00.00 50 0 50 100

END AREA		VOLUME	
CUT	FILL	CUT	FILL
394	0		
*0	*0		
		713	0
		*62	*62
376	0		
*66	*66		
		713	0
		*62	*62

CALCULATED JDL
CHECKED PRS

CROSS SECTIONS
STA. 221+50.00

SUM-271-2.33

412
1195

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SEEDING	
END WIDTH	SQ. YDS.
100	
	562

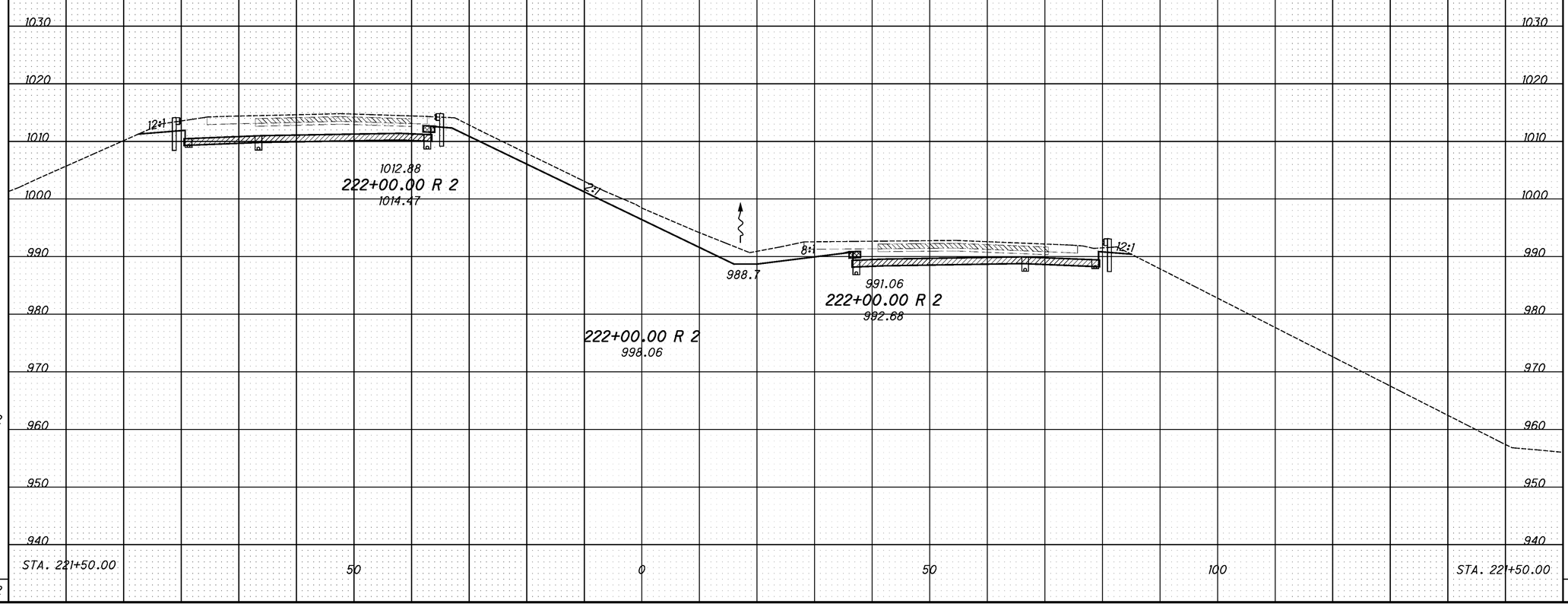
100 50 0 50 100

℄ CONST. IR 271

MAINLINE I-271

LEGEND

- CONCRETE TO BE REMOVED UNDER ITEM 202 - PAVEMENT REMOVED (TYP.)
- ITEM 206 - CEMENT STABILIZED SUBGRADE (SEE GENERAL NOTE)
- ITEM 615 - ROADS FOR MAINTAINING TRAFFIC (EARTHWORK)
- ITEM 203 - SPECIAL BENCHING



END AREA		VOLUME	
CUT	FILL	CUT	FILL
436	0		
		769	0
394	0		
		769	0

CALCULATED JDL
CHECKED PRS

CROSS SECTIONS
STA. 222+00.00

SUM-271-2.33

413
1195

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SEEDING	
END WIDTH	SQ. YDS.
103	570
102	
	570

100 50 0 ℄ CONST. IR 271 50 100

LEGEND

- CONCRETE TO BE REMOVED UNDER ITEM 202 - PAVEMENT REMOVED (TYP.)
- ITEM 206 - CEMENT STABILIZED SUBGRADE (SEE GENERAL NOTE)
- ITEM 615 - ROADS FOR MAINTAINING TRAFFIC (EARTHWORK)
- ITEM 203 - SPECIAL BENCHING

MAINLINE I-271

1030 1020 1010 1000 990 980 970 960 950 940

12:1 1011.33 222+50.00 R 2 1012.99 2:1 987.1 8:1 989.49 222+50.00 R 2 991.13 12:1

222+50.00 R 2 996.80

STA. 222+50.00 BEGIN BENCHING AHD.

STA. 222+00.00 50 0 50 100 STA. 222+00.00

END AREA		VOLUME	
CUT	FILL	CUT	FILL
457	0		
*0	*0		
436	0		
		827	0
		827	0

CALCULATED JDL
CHECKED PRS

CROSS SECTIONS
STA. 222+50.00

SUM-271-2.33

414
1195

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SEEDING	
END WIDTH	SQ. YDS.
103	
103	573
	573

100 50 0 50 100

℄ CONST. IR 271

MAINLINE I-271

LEGEND

- CONCRETE TO BE REMOVED UNDER ITEM 202 - PAVEMENT REMOVED (TYP.)
- ITEM 206 - CEMENT STABILIZED SUBGRADE (SEE GENERAL NOTE)
- ITEM 615 - ROADS FOR MAINTAINING TRAFFIC (EARTHWORK)
- ITEM 203 - SPECIAL BENCHING

1030 1020 1010 1000 990 980 970 960 950 940

12:1 2:1 8:1 2:1

1009.79
223+00.00 R 2
1011.51

985.6

987.98
223+00.00 R 2
989.66

223+00.00 R 2
995.22

STA. 222+50.00 50 0 50 100 STA. 222+50.00

END AREA		VOLUME	
CUT	FILL	CUT	FILL
479 *98	0 *98		
		867 *91	0 *91
457 *0	0 *0		
		867 *91	0 *91

CALCULATED JDL
CHECKED PRS

CROSS SECTIONS
STA. 223+00.00

SUM-271-2.33

415
1195

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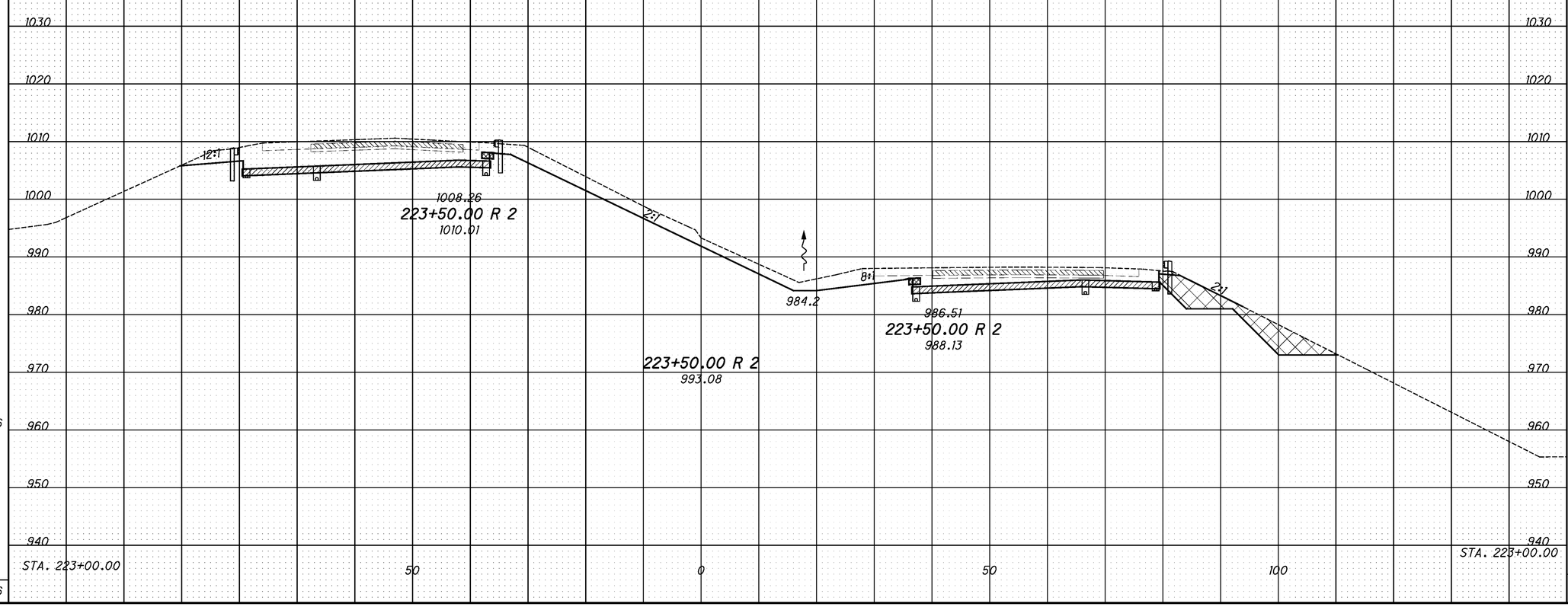
SEEDING	
END WIDTH	SQ. YDS.
115	606
103	606

100 50 0 ℄ CONST. IR 271 50 100

MAINLINE I-271

LEGEND

- CONCRETE TO BE REMOVED UNDER ITEM 202 - PAVEMENT REMOVED (TYP.)
- ITEM 206 - CEMENT STABILIZED SUBGRADE (SEE GENERAL NOTE)
- ITEM 615 - ROADS FOR MAINTAINING TRAFFIC (EARTHWORK)
- ITEM 203 - SPECIAL BENCHING



END AREA		VOLUME	
CUT	FILL	CUT	FILL
458 *95	0 *95		
		868 *179	0 *179
479 *98	0 *98		
		868 *179	0 *179

CALCULATED JDL
CHECKED PRS

CROSS SECTIONS
STA. 223+50.00

SUM-271-2.33

416
1195

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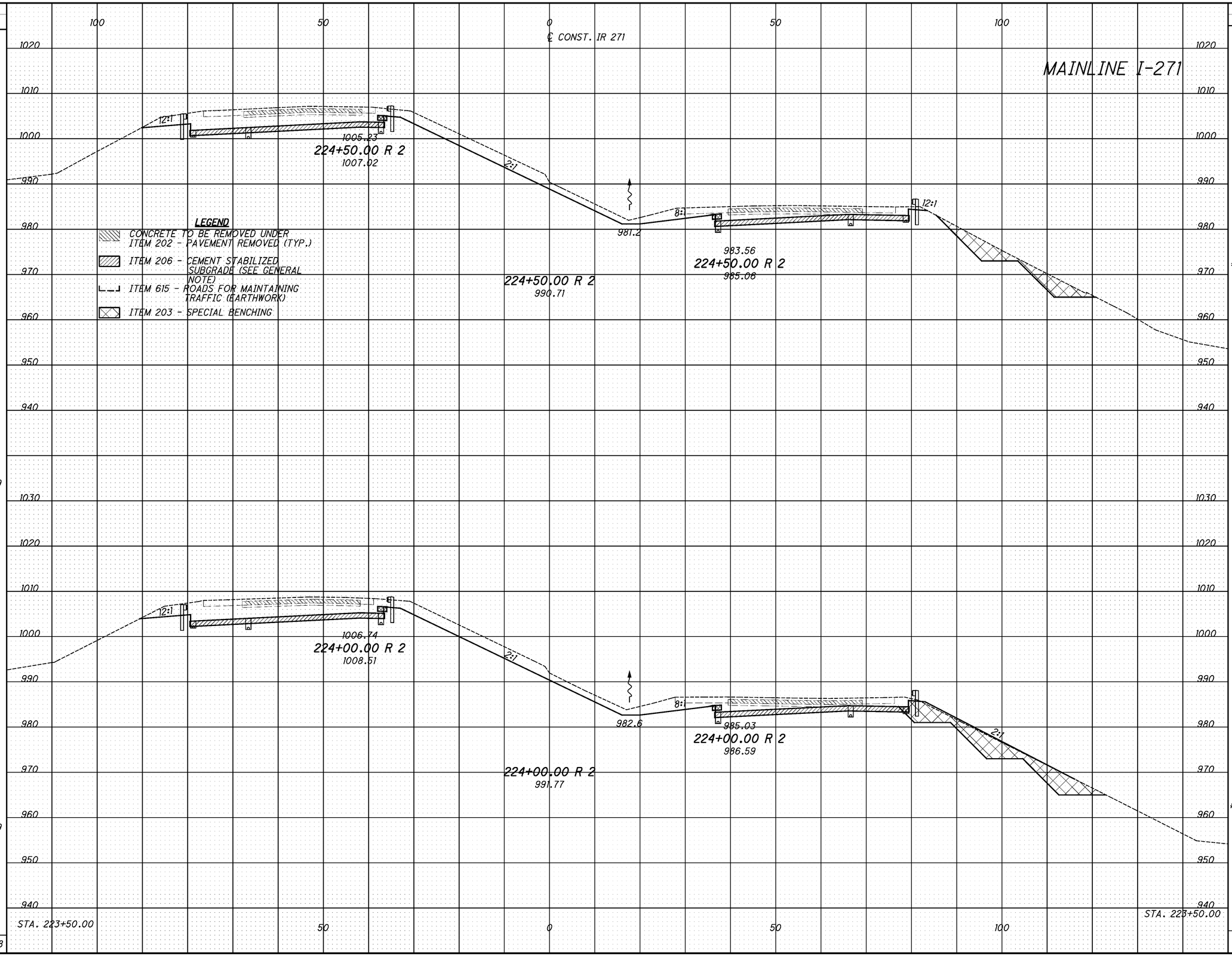
CROSS SECTIONS

STA. 224+00.00 TO STA. 224+50.00

SUM-271-2.33

CALCULATED JDL

CHECKED PRS



SEEDING END WIDTH	SEEDING SQ. YDS.
97	659
140	709
115	1368

END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
439 *83	0 *83	823 *207	7 *207
449 *140	7 *140	840 *218	7 *218
458 *95	0 *95	1663 *425	14 *425

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SEEDING	
END WIDTH	SQ. YDS.
104	
159	731
97	712
	1443

END AREA		VOLUME	
CUT	FILL	CUT	FILL
357	2		
*0	*0		
		700	42
		*138	*138
		776	40
		*214	*214
399	43		
*148	*148		
439	0		
*83	*83		
		1476	82
		*352	*352

CALCULATED JDL
CHECKED PRS

CROSS SECTIONS
STA. 225+00.00 TO STA. 225+50.00

SUM-271-2.33

418
1195

MAINLINE I-271

℄ CONST. IR 271

100 50 0 50 100

1020 1010 1000 990 980 970 960 950 940

12:1 2:1 8:1

1002.25
225+50.00 R 2
1004.02

978.2

225+50.00 R 2
986.83

980.61
225+50.00 R 2
982.08

EX. 24" CMP

STA. 225+17.00, 100.00' RT.
MH NO.3
(SEE CULVERT DETAILS)

MATCHLINE 120' LT. (SEE BELOW)

MATCHLINE 120' RT. (SEE BELOW)

EX R/W Fee LA

RIPRAP USING
6" REINFORCED
CONCRETE SLAB

STA. 225+17.00, 146.00' LT.
HW-2.2 HDWL
(SEE CULVERT DETAILS)

STA. 225+27.07, 141.91' LT.
EX. HDWL
℄ EL. 968.72

150

MATCHLINE 120' LT. (SEE ABOVE)

MATCHLINE 120' RT. (SEE ABOVE)

STA. 225+26.98, 42.70' RT.
EX. HDWL
℄ EL. 952.60

150

STA. 225+24.50, 143.22' RT.
HW-2.2 HDWL
(SEE CULVERT DETAILS)

STA. 225+50.00
END BENCHING BK.

1003.73
225+00.00 R 2
1005.52

979.7

225+00.00 R 2
988.47

982.08
225+00.00 R 2
983.54

STA. 224+50.00

STA. 224+50.00

100 50 0 50 100

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SEEDING	
END WIDTH	SQ. YDS.
103	575
104	
	575

100 50 0 50 100

℄ CONST. IR 271

MAINLINE I-271

1020
1010
1000
990
980
970
960
950
940
930

12:1
1000.77
226+00.00 R 2
1002.52
2:1
976.8
8:1
12:1
979.14
226+00.00 R 2
980.62
226+00.00 R 2
986.28

STA. 225+50.00 100 50 0 50 100 STA. 225+50.00

END AREA		VOLUME	
CUT	FILL	CUT	FILL
446 *0	0 *0		
		744	2
357 *0	2 *0		
		744	2

CALCULATED JDL
CHECKED PRS

CROSS SECTIONS
STA. 226+00.00

SUM-271-2.33

419
1195

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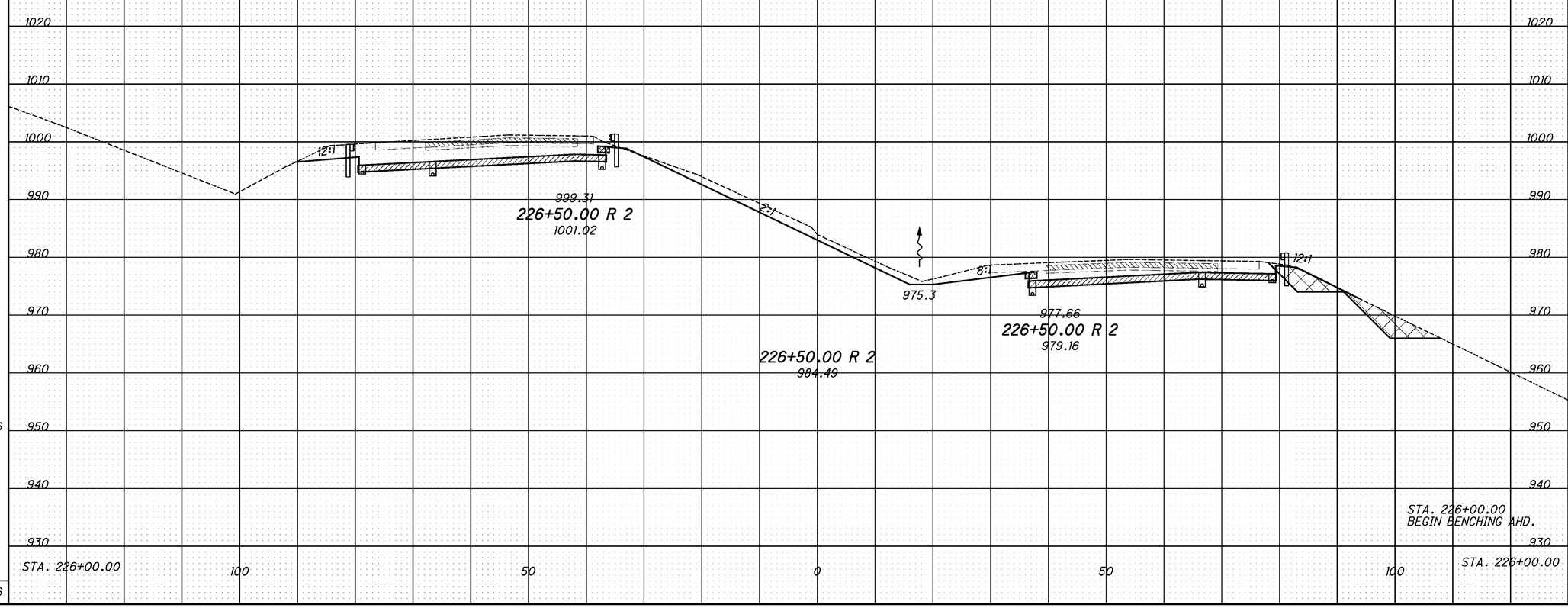
SEEDING	
END WIDTH	SQ. YDS.
115	606
103	606

100 50 0 ℄ CONST. IR 271 50 100

MAINLINE I-271

LEGEND

- CONCRETE TO BE REMOVED UNDER ITEM 202 - PAVEMENT REMOVED (TYP.)
- ITEM 206 - CEMENT STABILIZED SUBGRADE (SEE GENERAL NOTE)
- ITEM 615 - ROADS FOR MAINTAINING TRAFFIC (EARTHWORK)
- ITEM 203 - SPECIAL BENCHING



END AREA		VOLUME	
CUT	FILL	CUT	FILL
*64	*64		
373	1		
		*60	*60
		759	1
*0	*0		
446	0		
		759 *60	1 *60

CALCULATED JDL
CHECKED PRS

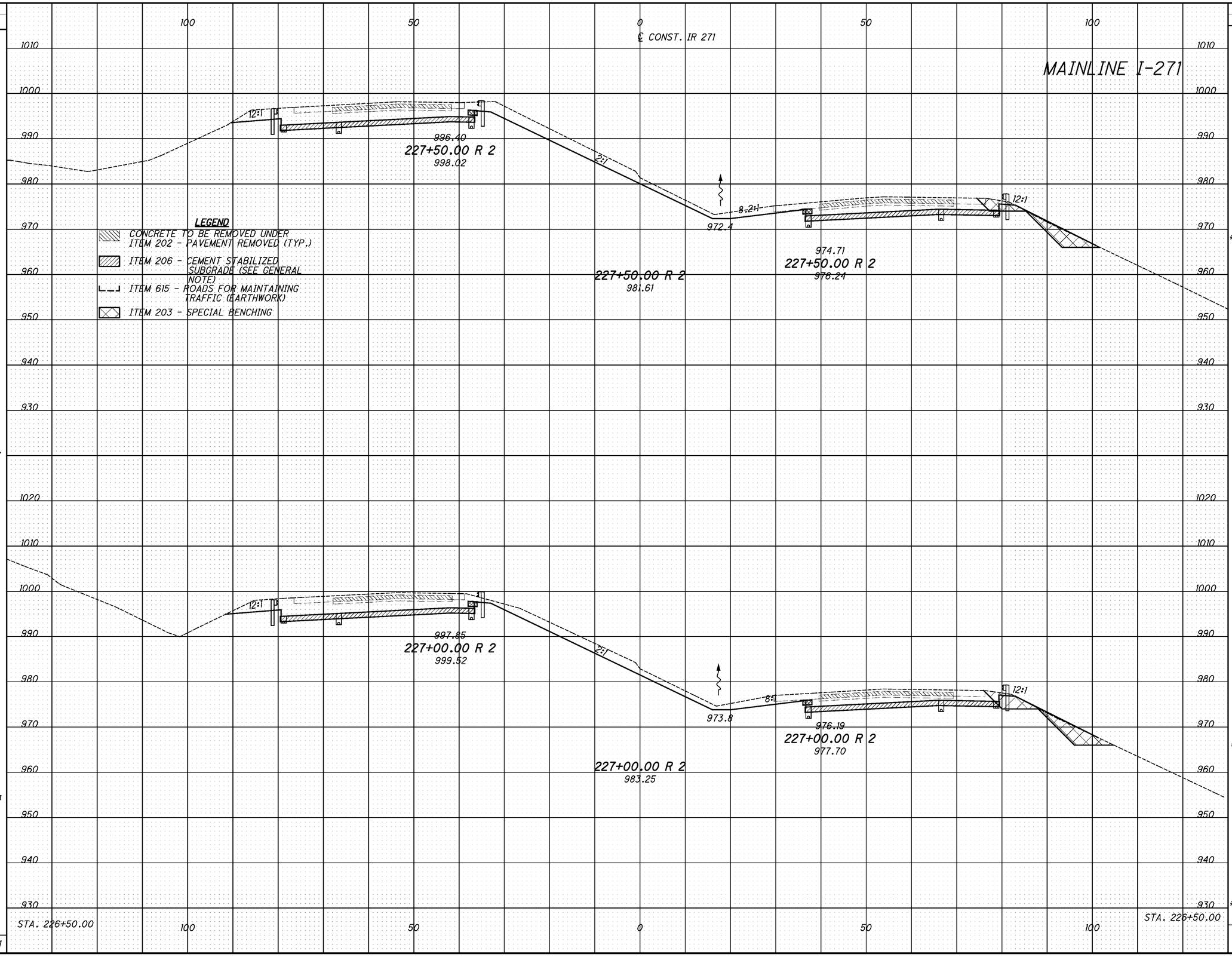
CROSS SECTIONS
STA. 226+50.00

SUM-271-2.33

420
1195

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SEEDING	
END WIDTH	SQ. YDS.
123	
	687
124	
	664
115	
	1351



END AREA		VOLUME	
CUT	FILL	CUT	FILL
*51	*51		
441	2		
		*102	*102
		799	4
421	2		
		*114	*114
		736	3
*64	*64		
373	1		
		1535	7
		*216	*216

CALCULATED JDL
CHECKED PRS

CROSS SECTIONS
STA. 227+00.00 TO STA. 227+50.00

SUM-271-2.33

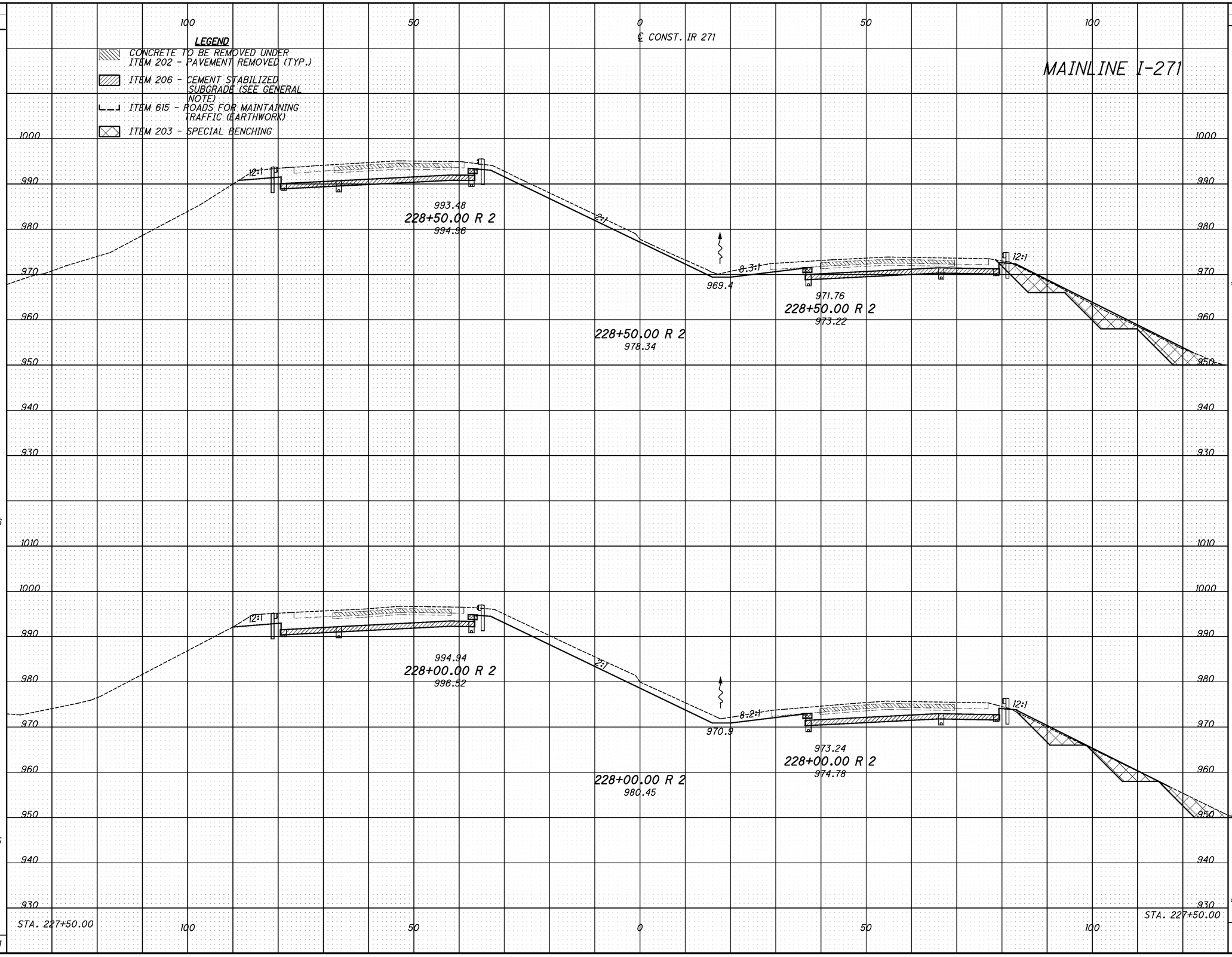
421
1195

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SEEDING	
END WIDTH	SQ. YDS.
145	806
145	745
123	1551

LEGEND

- CONCRETE TO BE REMOVED UNDER ITEM 202 - PAVEMENT REMOVED (TYP.)
- ITEM 206 - CEMENT STABILIZED SUBGRADE (SEE GENERAL NOTE)
- ITEM 615 - ROADS FOR MAINTAINING TRAFFIC (EARTHWORK)
- ITEM 203 - SPECIAL BENCHING



END AREA		VOLUME	
CUT	FILL	CUT	FILL
*127	*127		
365	12		
		*203	*203
		730	18
*92	*92		
423	7		
*51	*51		
441	2		
		*133	*133
		800	9
		1530	27
		*336	*336

CALCULATED JDL
CHECKED PRS

CROSS SECTIONS
STA. 228+00.00 TO STA. 228+50.00

SUM-271-2.33

422
1195

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SEEDING	
END WIDTH	SQ. YDS.
	138
	103
	145
	670
	689
	1359

LEGEND

- CONCRETE TO BE REMOVED UNDER ITEM 202 - PAVEMENT REMOVED (TYP.)
- ITEM 206 - CEMENT STABILIZED SUBGRADE (SEE GENERAL NOTE)
- ITEM 615 - ROADS FOR MAINTAINING TRAFFIC (EARTHWORK)
- ITEM 203 - SPECIAL BENCHING

100 50 0 ℄ CONST. IR 271 50 100

MAINLINE I-271

STA. 229+47.79, 125.36' RT.
EX. MH (DO NOT DISTURB)
COVER EL. 950.93
℄ 15" (N) 945.10
℄ 48" (NW) 940.7
℄ 48" (SE) 928.8

MATCHLINE 120' RT. (SEE BELOW)

EX. 48" RCP

STA. 229+50.40, 18.53' RT.
EX. CB (REMOVE)
GRATE EL. 967.54
℄ 15" 965.00

EX. 15" RCP (REMOVE)

MATCHLINE 120' RT. (SEE ABOVE)

EX. 48" RCP

12:1 2:1 8.5:1 2:1

990.56
229+50.00 R 2
991.84

966.5

229+50.00 R 2
974.47

968.82
229+50.00 R 2
970.09

992.02
229+00.00 R 2
993.40

967.9

970.29
229+00.00 R 2
971.66

229+00.00 R 2
976.81

STA. 228+50.00 STA. 228+50.00

END AREA		VOLUME	
CUT	FILL	CUT	FILL
333 *118	20 *118		
		674 *231	19 *231
394 *131	0 *131		
		703 *239	12 *239
*127 365	*127 12		
		1377 *470	31 *470

CALCULATED JDL
CHECKED PRS

CROSS SECTIONS
STA. 229+00.00 TO STA. 229+50.00
SUM-271-2.33

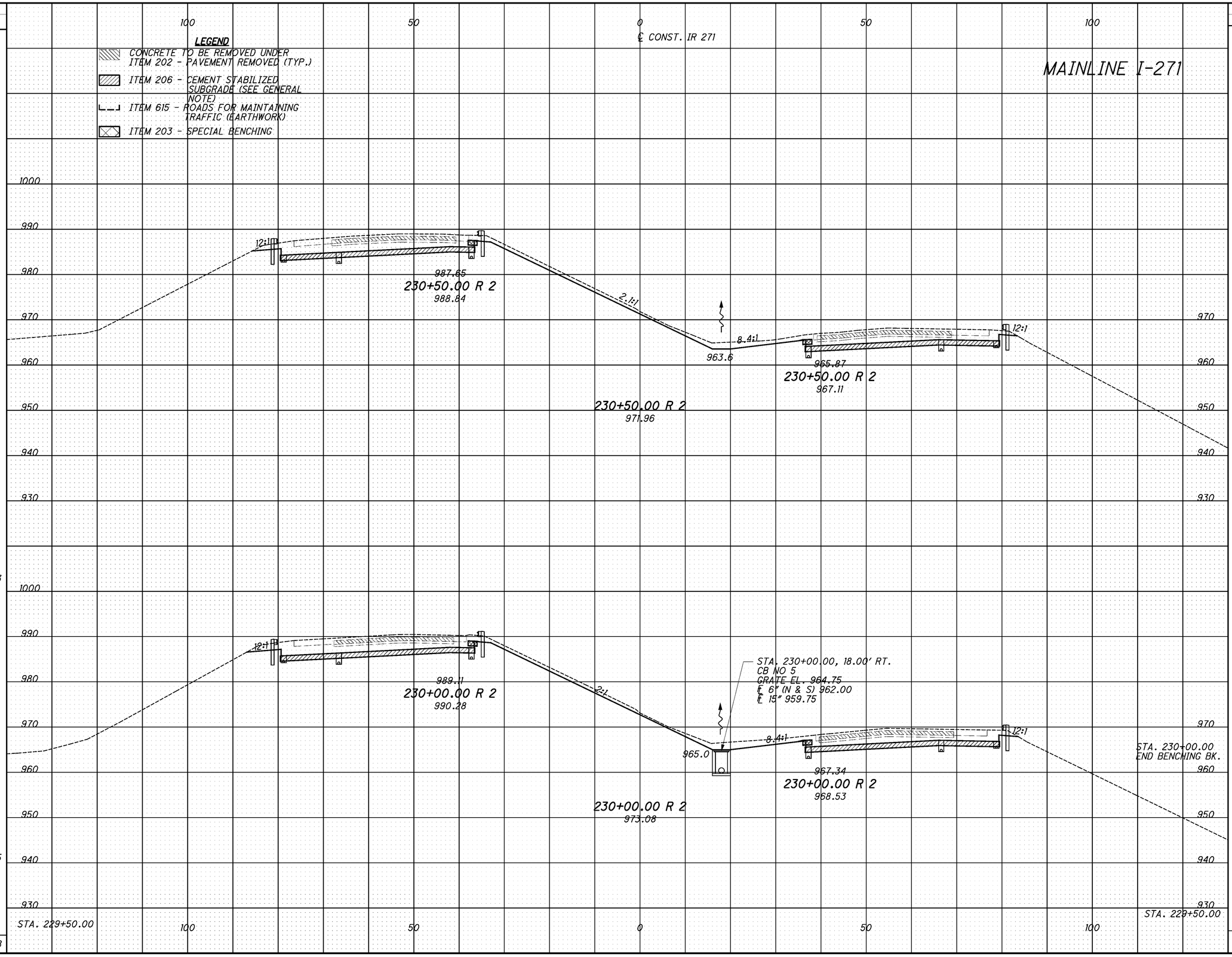
423
1195

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SEEDING	
END WIDTH	SQ. YDS.
94	523
94	645
138	
	1168

LEGEND

- CONCRETE TO BE REMOVED UNDER ITEM 202 - PAVEMENT REMOVED (TYP.)
- ITEM 206 - CEMENT STABILIZED SUBGRADE (SEE GENERAL NOTE)
- ITEM 615 - ROADS FOR MAINTAINING TRAFFIC (EARTHWORK)
- ITEM 203 - SPECIAL BENCHING



END AREA		VOLUME	
CUT	FILL	CUT	FILL
325	0		
		610	0
333	0		
*0	*0		
		617	19
		*110	*110
333	20		
*118	*118		
		1227	19
		*110	*110

CALCULATED JDL
CHECKED PRS

CROSS SECTIONS
STA. 230+00.00 TO STA. 230+50.00

SUM-271-2.33

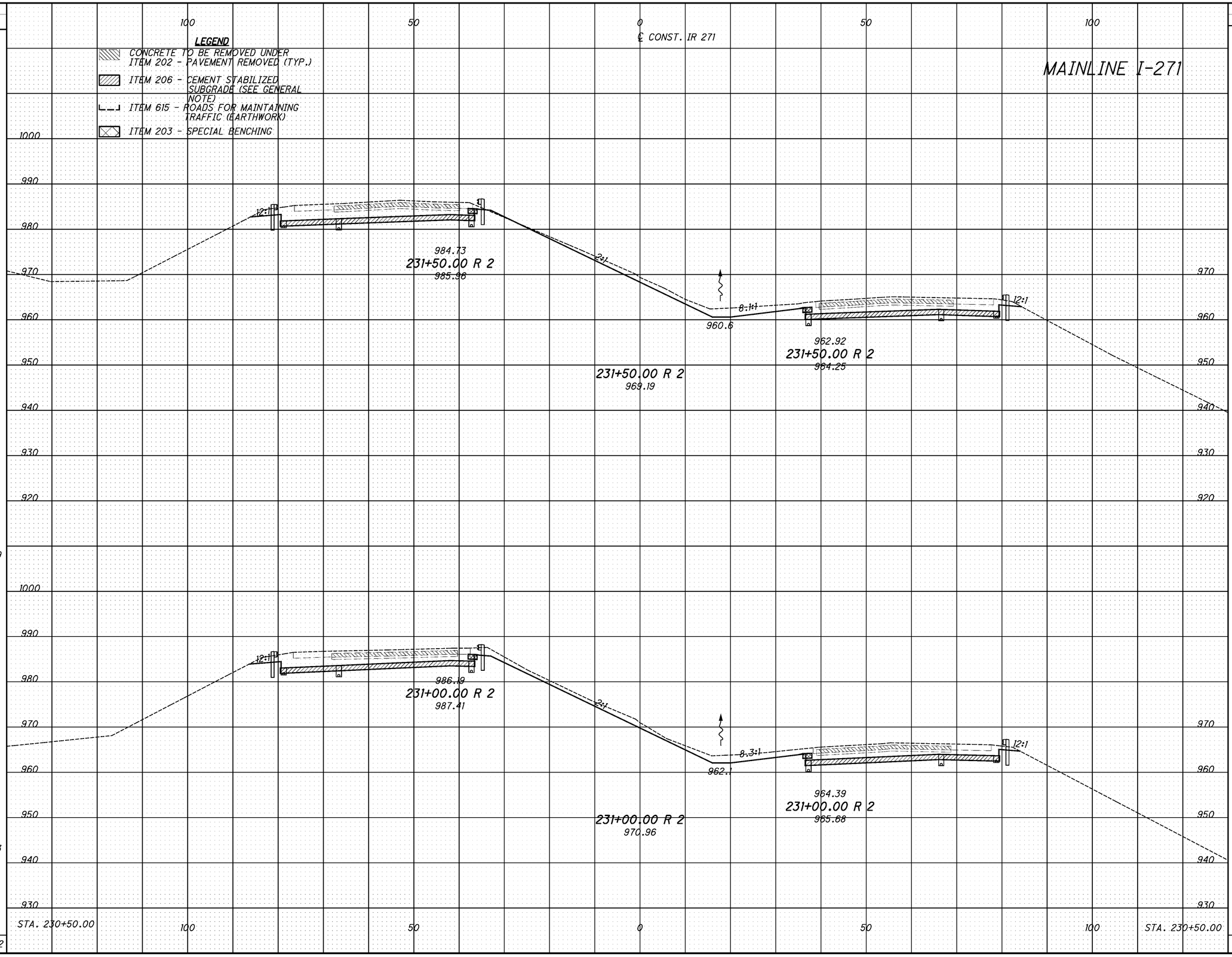
424
1195

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SEEDING	
END WIDTH	SQ. YDS.
100	539
94	523
94	1062

LEGEND

- CONCRETE TO BE REMOVED UNDER ITEM 202 - PAVEMENT REMOVED (TYP.)
- ITEM 206 - CEMENT STABILIZED SUBGRADE (SEE GENERAL NOTE)
- ITEM 615 - ROADS FOR MAINTAINING TRAFFIC (EARTHWORK)
- ITEM 203 - SPECIAL BENCHING



END AREA		VOLUME	
CUT	FILL	CUT	FILL
343	1	631	1
338	0	614	0
325	0	1245	1

CALCULATED JDL
CHECKED PRS

CROSS SECTIONS
STA. 231+00.00 TO STA. 231+50.00

SUM-271-2.33

425
1195

F:\2009\109094\18710\roadway\sheets\18710XS002.dgn 11/10/2012 9:03:18 AM DonHelman

SEEDING	
END WIDTH	SQ. YDS.
102	567
102	562
100	1129

LEGEND

- CONCRETE TO BE REMOVED UNDER ITEM 202 - PAVEMENT REMOVED (TYP.)
- ITEM 206 - CEMENT STABILIZED SUBGRADE (SEE GENERAL NOTE)
- ITEM 615 - ROADS FOR MAINTAINING TRAFFIC (EARTHWORK)
- ITEM 203 - SPECIAL BENCHING

MAINLINE I-271

℄ CONST. IR 271

100 50 0 50 100

STA. 231+50.00 100 50 0 50 100 STA. 231+50.00

1000 990 980 970 960 950 940 930 920

12:1 2:1 8:1 12:1

981.82
232+50.00 R 2
983.11

957.7

959.97
232+50.00 R 2
961.39

232+50.00 R 2
966.87

983.28
232+00.00 R 2
984.54

959.1

961.45
232+00.00 R 2
962.82

232+00.00 R 2
968.25

END AREA		VOLUME	
CUT	FILL	CUT	FILL
408	0	775	0
428	0	714	1
343	1	1489	1

CALCULATED JDL
CHECKED PRS

CROSS SECTIONS
STA. 232+00.00 TO STA. 232+50.00

SUM-271-2.33

426
1195

F:\2009\109094\18710\roadway\sheets\18710XS002.dgn 11/10/2012 9:03:44 AM DonHelman

SEEDING	
END WIDTH	SQ. YDS.
102	564
101	564
102	564
	1128

LEGEND

- CONCRETE TO BE REMOVED UNDER ITEM 202 - PAVEMENT REMOVED (TYP.)
- ITEM 206 - CEMENT STABILIZED SUBGRADE (SEE GENERAL NOTE)
- ITEM 615 - ROADS FOR MAINTAINING TRAFFIC (EARTHWORK)
- ITEM 203 - SPECIAL BENCHING

℄ CONST. IR 271

MAINLINE I-271

MATCHLINE 120' RT. (SEE BELOW)

MATCHLINE 120' RT. (SEE ABOVE)

12:1 — 978.90 — 233+50.00 R 2 — 980.18

2:1

8:1 — 954.7 — 957.02 — 233+50.00 R 2 — 958.47 — 12:1

233+50.00 R 2 — 964.64

PROP. 84"

EX. 84" (REMOVE)

STA. 232+99.98, 190.75' RT.
JUNCTION CHAMBER, AS PER PLAN
GRATE EL. 923.52
℄ 84" (W) 909.71
℄ 84" (E) 909.59

STA. 232+99.98, 190.75' RT.
EX. CB (REMOVE)
GRATE EL. 923.52
℄ 84" (W) 909.71
℄ 84" (E) 909.59

12:1 — 980.36 — 233+00.00 R 2 — 981.68

2:1

8:1 — 956.2 — 958.50 — 233+00.00 R 2 — 959.96 — 12:1

233+00.00 R 2 — 965.22

STA. 232+50.00 — STA. 232+50.00

END AREA		VOLUME	
CUT	FILL	CUT	FILL
430	0		
		753	0
383	0		
		733	0
408	0		
		1486	0

CALCULATED JDL
CHECKED PRS

CROSS SECTIONS
STA. 233+00.00 TO STA. 233+50.00
SUM-271-2.33

427
1195

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SEEDING	
END WIDTH	SQ. YDS.
102	567
102	567

END AREA		VOLUME	
CUT	FILL	CUT	FILL
414	0		
		782	0
430	0		
		782	0

CALCULATED JDL
CHECKED PRS

LEGEND

- CONCRETE TO BE REMOVED UNDER ITEM 202 - PAVEMENT REMOVED (TYP.)
- ITEM 206 - CEMENT STABILIZED SUBGRADE (SEE GENERAL NOTE)
- ITEM 615 - ROADS FOR MAINTAINING TRAFFIC (EARTHWORK)
- ITEM 203 - SPECIAL BENCHING

100 50 0 50 100

℄ CONST. IR 271

MAINLINE I-271

1020 1010 1000 990 980 970 960 950 940 930 920

940 930 920 970 960 950 930 920

MATCHLINE 120' RT. (SEE BELOW)

MATCHLINE 120' RT. (SEE ABOVE)

PROP. 84"

EX. 84" (REMOVE)

150 200

12:1

977.44
234+00.00 R 2
978.68

2:1

953.3

8:1

955.55
234+00.00 R 2
956.98

2:1

234+00.00 R 2
963.42

STA. 233+50.00 100 50 0 50 100 STA. 233+50.00

CROSS SECTIONS
STA. 234+00.00

SUM-271-2.33

428
1195

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SEEDING	
END WIDTH	SQ. YDS.
103	570
102	570

LEGEND

- CONCRETE TO BE REMOVED UNDER ITEM 202 - PAVEMENT REMOVED (TYP.)
- ITEM 206 - CEMENT STABILIZED SUBGRADE (SEE GENERAL NOTE)
- ITEM 615 - ROADS FOR MAINTAINING TRAFFIC (EARTHWORK)
- ITEM 203 - SPECIAL BENCHING

100 50 0 ℄ CONST. IR 271 50 100

MAINLINE I-271

MATCHLINE 120' RT. (SEE BELOW)

PROP. 84"

EX. 84" (REMOVE)

150 200

12:1 12:1 8:1 12:1

975.99
234+50.00 R 2
977.18

951.8

954.08
234+50.00 R 2
955.48

234+50.00 R 2
960.97

MATCHLINE 120' RT. (SEE ABOVE)

1020 1010 1000 990 980 970 960 950 940 930 920

930 920

STA. 234+00.00 100 50 0 50 100 STA. 234+00.00

END AREA		VOLUME	
CUT	FILL	CUT	FILL
383	0		
		738	0
414	0		
		738	0

CALCULATED JDL
CHECKED PRS

CROSS SECTIONS
STA. 234+50.00

SUM-271-2.33

429
1195

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SEEDING	
END WIDTH	SQ. YDS.
107	584
103	584

END AREA		VOLUME	
CUT	FILL	CUT	FILL
388	0		
383	0	714	0
		714	0

CALCULATED JDL
CHECKED PRS

LEGEND

- CONCRETE TO BE REMOVED UNDER ITEM 202 - PAVEMENT REMOVED (TYP.)
- ITEM 206 - CEMENT STABILIZED SUBGRADE (SEE GENERAL NOTE)
- ITEM 615 - ROADS FOR MAINTAINING TRAFFIC (EARTHWORK)
- ITEM 203 - SPECIAL BENCHING

100 50 0 ℄ CONST. IR 271 50 100

MAINLINE I-271

MATCHLINE 120' RT. (SEE BELOW)

930 920 910

PROP. 84"

EX. 84" (REMOVE)

150 200

12:1

974.52
235+00.00 R 2
975.68

2:1

950.4

8:1

952.62
235+00.00 R 2
953.98

12:1

235+00.00 R 2
959.81

MATCHLINE 120' RT. (SEE ABOVE)

1020 1010 1000 990 980 970 960 950 940 930 920 910

STA. 234+50.00 100 50 0 50 100 STA. 234+50.00

CROSS SECTIONS
STA. 235+00.00

SUM-271-2.33

430
1195

F:\2009\109094\18710\roadway\sheets\18710XS002 OHIO EDISON.dgn 1/17/2013 9:57:27 AM SteveWorr

SEEDING	
END WIDTH	SQ. YDS.
107	
	589

END AREA		VOLUME	
CUT	FILL	CUT	FILL
388	0		
		713	0

CALCULATED JDL
CHECKED PRS

LEGEND

- CONCRETE TO BE REMOVED UNDER ITEM 202 - PAVEMENT REMOVED (TYP.)
- ITEM 206 - CEMENT STABILIZED SUBGRADE (SEE GENERAL NOTE)
- ITEM 615 - ROADS FOR MAINTAINING TRAFFIC (EARTHWORK)
- ITEM 203 - SPECIAL BENCHING

100 50 0 50 100

℄ CONST. IR 271

MAINLINE I-271

MATCHLINE 120' RT. (SEE BELOW)

930 920 910

1010 1000 990 980 970 960 950 940 930 920 910 900

105

589

12:1

973.07
235+50.00 R 2
974.19

2:1

948.9

235+50.00 R 2
958.21

8:1

951.27
235+50.00 R 2
952.31

12:1

150

PROP. 84"

200

EX. 84" (REMOVE)

MATCHLINE 120' RT. (SEE ABOVE)

STA. 235+00.00 100 50 0 50 100 STA. 235+00.00

381 0

713 0

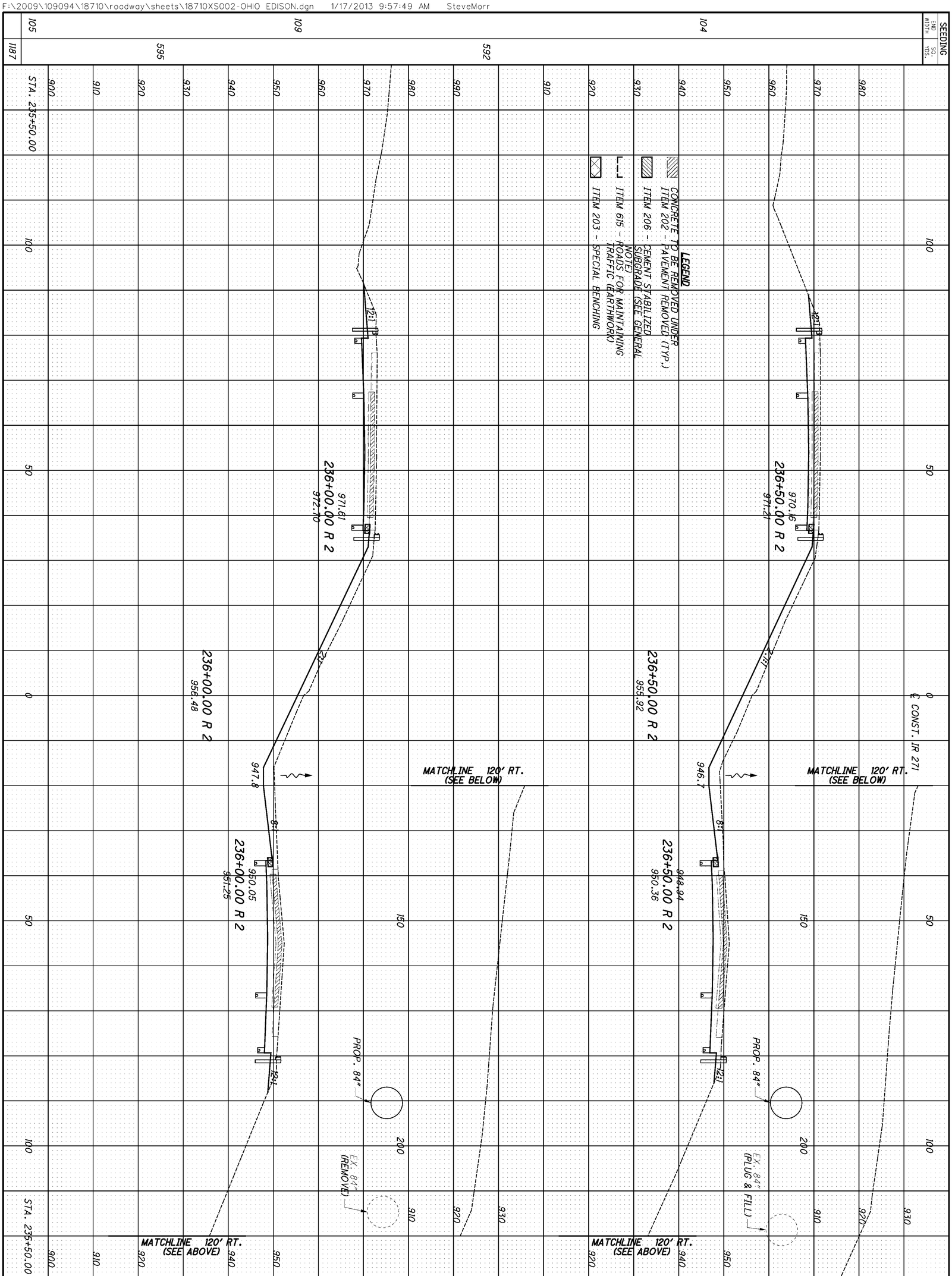
CROSS SECTIONS STA. 235+50.00

SUM-271-2.33

431
1195

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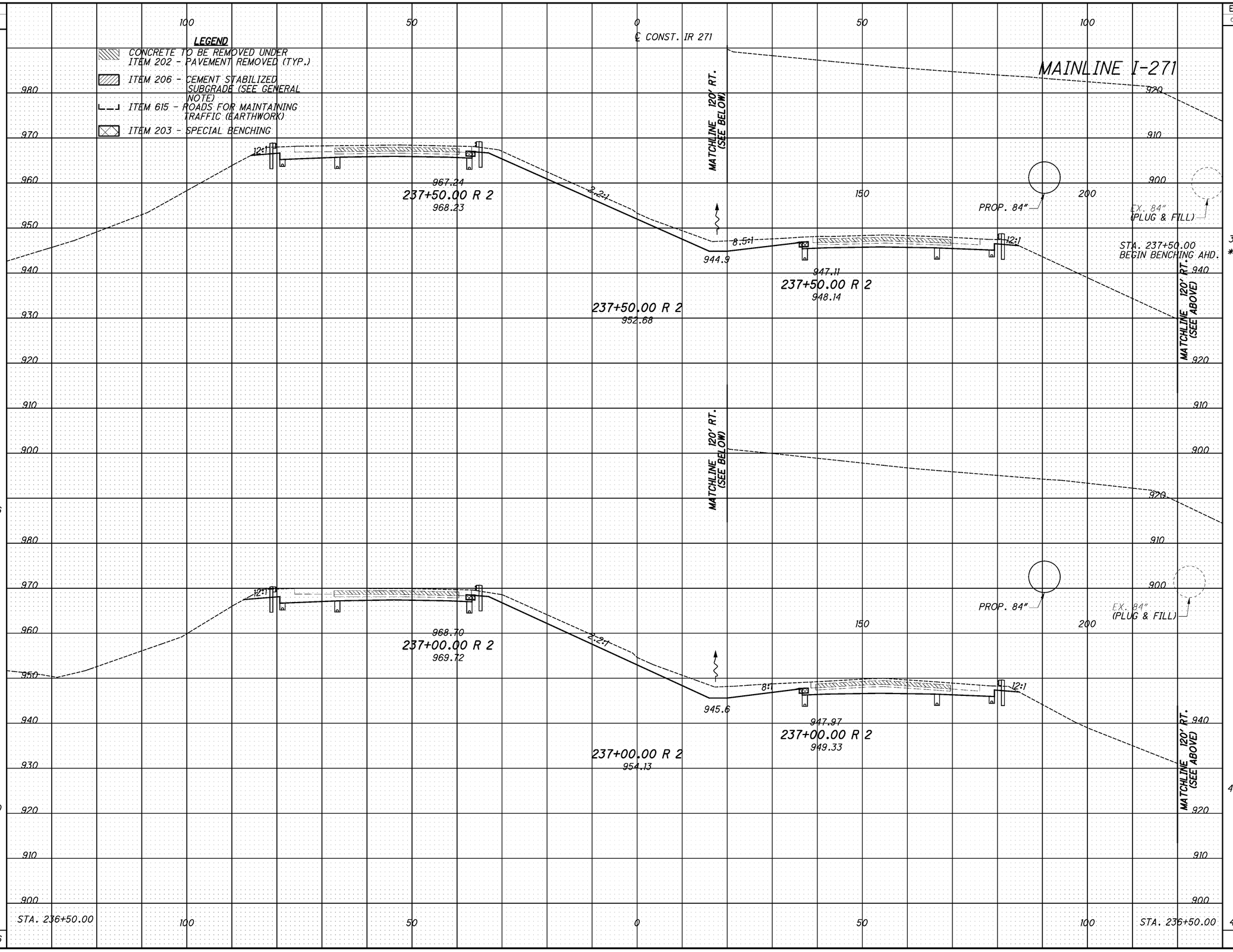


432 / 1195	SUM-271-2.33	CROSS SECTIONS STA. 236+00.00 TO STA. 236+50.00	CALCULATED JDL CHECKED PRS

SEEDING	
END WIDTH	SQ. YDS.
99	556
101	570
104	1126

LEGEND

- CONCRETE TO BE REMOVED UNDER ITEM 202 - PAVEMENT REMOVED (TYP.)
- ITEM 206 - CEMENT STABILIZED SUBGRADE (SEE GENERAL NOTE)
- ITEM 615 - ROADS FOR MAINTAINING TRAFFIC (EARTHWORK)
- ITEM 203 - SPECIAL BENCHING



END AREA		VOLUME	
CUT	FILL	CUT	FILL
351	0		
*0	*0		
		696	0
400	0		
		753	0
413	0		
		1449	0

CALCULATED JDL
CHECKED PRS

CROSS SECTIONS
STA. 237+00.00 TO STA. 237+50.00
SUM-271-2.33

433
1195

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SEEDING	
END WIDTH	SQ. YDS.
138	
789	
146	
681	
99	
1470	

LEGEND

- CONCRETE TO BE REMOVED UNDER ITEM 202 - PAVEMENT REMOVED (TYP.)
- ITEM 206 - CEMENT STABILIZED SUBGRADE (SEE GENERAL NOTE)
- ITEM 615 - ROADS FOR MAINTAINING TRAFFIC (EARTHWORK)
- ITEM 203 - SPECIAL BENCHING

100 50 0 ℄ CONST. IR 271 50

STA. 238+70.00, 90.00' RT.
JUNCTION CHAMBER, AS PER PLAN-1
GRATE EL. 920.00
℄ 84" (E) 892.10
℄ 84" (W) 894.57
℄ 36" 907.50

MAINLINE I-271

MATCHLINE 120' RT. (SEE BELOW)

106'-36" TYPE A, 706.02 @ 15.80%

964.32
238+50.00 R 2
965.20

2:1

2.4:1

8.5:1

12:1

943.5

945.78
238+50.00 R 2
947.46

238+50.00 R 2
949.86

150

MATCHLINE 120' RT. (SEE ABOVE)

EX R/W Fee LA

STA. 238+15.00, 142.00' LT.
HW-2.2 HDWL
℄ 36" 936.00

RIPRAP USING 6" REINFORCED CONCRETE SLAB

STA. 238+26.06, 152.34' LT.
EXIST. HW (REMOVE)
℄ 24" 931.91

EX. 24" CMP

42'-36" TYPE A, 706.02, 1250 D-LOAD @ 2.00%

MATCHLINE 130' LT. (SEE BELOW)

MATCHLINE 120' RT. (SEE BELOW)

106'-36" TYPE A, 706.02 @ 15.80%

55'
PIPE REMOVED

BULKHEAD

EX. 24" CMP (PLUG & FILL)

PROP. 84"

EX. 84" (PLUG & FILL)

965.78
238+00.00 R 2
966.74

2.3:1

8.4:1

944.1

946.39
238+00.00 R 2
947.83

238+00.00 R 2
951.93

CONCRETE COLLAR AS PER SCD DM-1.1

CONCRETE COLLAR AS PER SCD DM-1.1

100'-36" CONDUIT BORED OR JACKED @ 2.00%

100'-36" TYPE A, 706.02, 1250D-LOAD @ 2.00%

42'-36" TYPE A, 706.02, 1250 D-LOAD @ 2.00%

STA. 238+15.00, 100.00' RT.
MH NO 3
COVER EL. 938.75
℄ 36" (N) 931.16
℄ 36" (S) 924.25

106'-36" TYPE A, 706.02 @ 15.80%

MATCHLINE 130' LT. (SEE ABOVE)

MATCHLINE 120' RT. (SEE ABOVE)

EX. 24" CMP (PLUG & FILL)

STA. 237+50.00 100 50 0 50 100 STA. 237+50.00

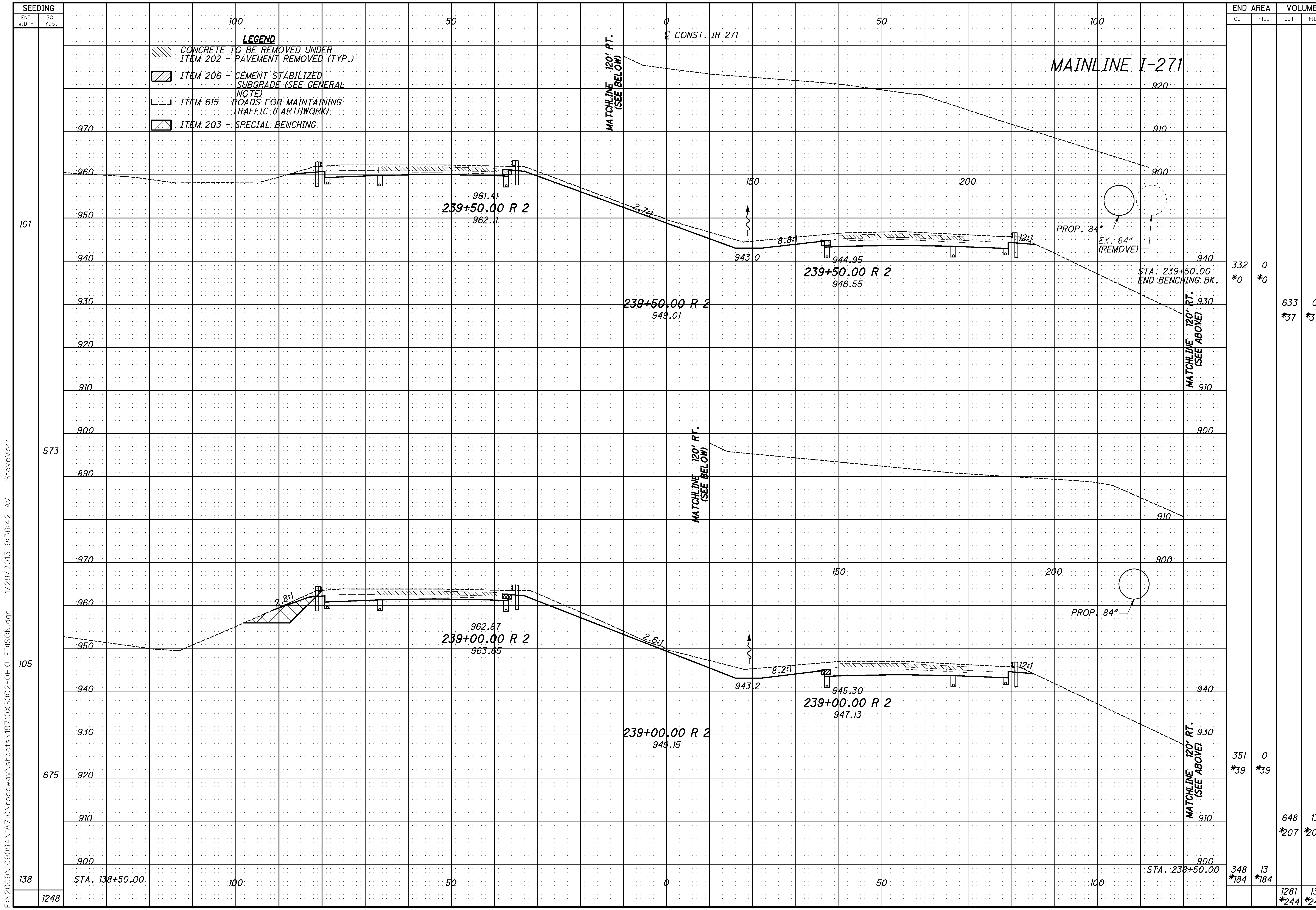
END AREA		VOLUME	
CUT	FILL	CUT	FILL
348 *184	13 *184		
		642 *374	68 *374
345 *219	60 *219		
		645 *203	56 *203
351 *0	0 *0		
		1287 *577	124 *577

CALCULATED JDL
CHECKED PRS

CROSS SECTIONS
STA. 238+00.00 TO STA. 238+50.00
SUM-271-2.33

434
1195

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CALCULATED JDL
CHECKED PRS

CROSS SECTIONS
STA. 239+00.00 TO STA. 239+50.00

SUM-271-2.33

SEEDING	
END WIDTH	SQ. YDS.
241	950
101	950

END AREA		VOLUME	
CUT	FILL	CUT	FILL
363	167		
332	0		
		644	155
		644	155

CALCULATED JDL
CHECKED PRS

CROSS SECTIONS
STA. 240+00.00

SUM-271-2.33

436
1195

LEGEND

- CONCRETE TO BE REMOVED UNDER ITEM 202 - PAVEMENT REMOVED (TYP.)
- ITEM 206 - CEMENT STABILIZED SUBGRADE (SEE GENERAL NOTE)
- ITEM 615 - ROADS FOR MAINTAINING TRAFFIC (EARTHWORK)
- ITEM 203 - SPECIAL BENCHING

MAINLINE I-271

℄ CONST. IR 271

100 50 0 50 100

MATCHLINE 120' RT. (SEE BELOW)

STA. 239+99.81, 125.76' RT.
EX. HDWL (REMOVE)
℄ 15" 922.41

EMBANKMENT OVER PIPE

46'-15" TYPE F,
707.05 TYPE C OR
707.21 @ 4.00%

STA. 240+00, 170.0' RT.
25° BEND
℄ PROP. 15" EL. 916.55

STA. 240+00, 123.5' RT.
25° BEND
℄ PROP. 15" EL. 918.39

62'-15" TYPE F,
707.05 TYPE C OR
707.21 @ 43.43%

2' MIN. COVER

STA. 240+00, 227.0' RT.
25° BEND
℄ PROP. 15" EL. 891.77

ROCK CHANNEL PROTECTION, TYPE A, WITH FABRIC FILTER (T = 48")

8'-15" TYPE F,
707.05 TYPE C OR
707.21 @ 2.00%±

STA. 240+00.00, 235.00' RT.
HW-2.2 HDWL
℄ 15" 891.69

STA. 239+80.00, 245.00' RT.
PROP. HW-2.2
℄ PROP. 84" EL. 889.76

930 920 910 900 890 880 970 960 950 940 930 920 910 900 890 880

140 160 180 200 220 240 260 980

2:1 1.3:1 958.5 959.95 240+00.00 R 2 960.81 2.9:1 942.8 944.72 240+00.00 R 2 946.08 8± 240+00.00 R 2 948.68

STA. 239+99.54, 17.61' RT.
EX. CB (REMOVE)
GRATE EL. 943.35
℄ 15" 941.20

38'-15" TYPE B,
706.02 @ 1.00%

STA. 239+99.54, 19.76' RT.
CB NO 4
GRATE EL. 942.53
℄ 6" (N, SW & SE) 941.09
℄ 15" 940.09

CONC. COLLAR AS PER DM-1.1

10'-15" TYPE F,
707.05 TYPE C OR
707.21 @ 4.20%±

10'

REMOVE EX. COLLAR

EX. 15" CMP (REMOVE)

44'-15" TYPE F,
707.05 TYPE C OR
707.21 @ 50.00%±

MATCHLINE 120' RT. (SEE ABOVE)

STA. 239+50.00 100 50 0 50 100 STA. 239+50.00

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SEEDING	
END WIDTH	SQ. YDS.
112	981
241	981

100 50 0 50 100

℄ CONST. IR 271

MAINLINE I-271

LEGEND

- CONCRETE TO BE REMOVED UNDER ITEM 202 - PAVEMENT REMOVED (TYP.)
- ITEM 206 - CEMENT STABILIZED SUBGRADE (SEE GENERAL NOTE)
- ITEM 615 - ROADS FOR MAINTAINING TRAFFIC (EARTHWORK)
- ITEM 203 - SPECIAL BENCHING

1000 990 980 970 960 950 940 930 920 910 900 890 880

2:1 4:1 6:1 957.5 958.56 240+50.00 R 2 959.53 3.3:1 943.0 5.7:1 12:1 944.61 240+50.00 R 2 945.95 240+50.00 R 2 948.83

STA. 240+00.00 100 50 0 50 100 STA. 240+00.00

END AREA		VOLUME	
CUT	FILL	CUT	FILL
341	0	652	155
363	167	652	155

CALCULATED JDL
CHECKED PRS

CROSS SECTIONS STA. 240+50.00

SUM-271-2.33

437
1195

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SEEDING	
END WIDTH	SQ. YDS.
115	
	631
112	
	631

100 50 0 ℄ CONST. IR 271 50 100

LEGEND

- CONCRETE TO BE REMOVED UNDER ITEM 202 - PAVEMENT REMOVED (TYP.)
- ITEM 206 - CEMENT STABILIZED SUBGRADE (SEE GENERAL NOTE)
- ITEM 615 - ROADS FOR MAINTAINING TRAFFIC (EARTHWORK)
- ITEM 203 - SPECIAL BENCHING

MAINLINE I-271

1010 1000 990 980 970 960 950 940 930 920 910 900 890 880

2:1 4:1 11:1 956.1

957.30
241+00.00 R 2
958.52

3.4:1 943.2 12:1 12:1

944.63
241+00.00 R 2
945.82

241+00.00 R 2
948.97

STA. 240+50.00 100 50 0 50 100 STA. 240+50.00

END AREA		VOLUME	
CUT	FILL	CUT	FILL
387	0		
341	0		
		675	0
		675	0

CALCULATED JDL
CHECKED PRS

CROSS SECTIONS
STA. 241+00.00

SUM-271-2.33

438
1195

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SEEDING	
END WIDTH	SQ. YDS.
115	
	631

100 50 0 50 100

℄ CONST. IR 271

MAINLINE I-271

LEGEND

- CONCRETE TO BE REMOVED UNDER ITEM 202 - PAVEMENT REMOVED (TYP.)
- ITEM 206 - CEMENT STABILIZED SUBGRADE (SEE GENERAL NOTE)
- ITEM 615 - ROADS FOR MAINTAINING TRAFFIC (EARTHWORK)
- ITEM 203 - SPECIAL BENCHING

1010 1000 990 980 970 960 950 940 930 920 910 900 890 880

2:1 4:1 8.4:1 954.5

956.17
241+50.00 R 2
957.51

10:1 4:1

943.6

12:1 12:1

944.78
241+50.00 R 2
945.85

241+50.00 R 2
947.75

112

631

STA. 241+00.00

100 50 0 50 100

STA. 241+00.00

END AREA		VOLUME	
CUT	FILL	CUT	FILL
315	0		
		650	0
387	0		
		650	0

CALCULATED JDL
CHECKED PRS

CROSS SECTIONS
STA. 241+50.00

SUM-271-2.33

439
1195

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SEEDING	
END WIDTH	SQ. YDS.
112	
	581

LEGEND

- CONCRETE TO BE REMOVED UNDER ITEM 202 - PAVEMENT REMOVED (TYP.)
- ITEM 206 - CEMENT STABILIZED SUBGRADE (SEE GENERAL NOTE)
- ITEM 615 - ROADS FOR MAINTAINING TRAFFIC (EARTHWORK)
- ITEM 203 - SPECIAL BENCHING

0
℄ CONST. IR 271

MAINLINE I-271

MATCHLINE I20' RT. (SEE BELOW)

STA. 242+00.06, 136.52' RT.
EX. HDWL (REMOVE)
℄ 15" 916.80

REMOVE AND REPLACE 5' - PAVED GUTTER, TYPE 1-2
30' DITCH CLEANOUT

27° BEND

EX. PAVED GUTTER, TYPE 1-2

STA. 242+00.06, 136.52' RT.
HW-2.2 HDWL
℄ 15" 916.80

9'-15" TYPE F,
707.05 TYPE C OR
707.21 @ 2.00%±

STA. 241+99.17, 18.73' RT.
EX. CB (REMOVE)
GRATE EL. 943.57
℄ 15" 941.40

4:1 6.8:1 953.3 10:1 955.17

242+00.00 R 2
956.51

4:1 943.7 12:1

EX. 15" RCP (REMOVE)

EX. 15" RCP

945.04

242+00.00 R 2
946.63

CONC. COLLAR AS PER DM-1.1

10' 10'-15" TYPE F, 707.05 TYPE C OR 707.21 @ 2.00%±

242+00.00 R 2
946.99

37'-15" TYPE B,
706.02 @ 1.0%

STA. 241+99.17, 18.73' RT.
CB NO 4
GRATE EL. 943.44
℄ 6" (SE & E) 941.40
℄ 15" 941.06

27° BEND

EX. 15" CMP (REMOVE)

52'-15" TYPE F,
707.05 TYPE C OR
707.21 @ 50.00%±

MATCHLINE I20' RT. (SEE ABOVE)

980 970 960 950 940 930 920 910 900 890 880

930 920 910 950 940 930 920 910 900 890 880

150

STA. 241+50.00 100 50 0 50 100 STA. 241+50.00

END AREA		VOLUME	
CUT	FILL	CUT	FILL
286	20	557	19
315	0		
		557	19

CALCULATED JDL
CHECKED PRS

CROSS SECTIONS
STA. 242+00.00

SUM-271-2.33

440
1195

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SEEDING	
END WIDTH	SQ. YDS.
117	595
97	595

LEGEND

- CONCRETE TO BE REMOVED UNDER ITEM 202 - PAVEMENT REMOVED (TYP.)
- ITEM 206 - CEMENT STABILIZED SUBGRADE (SEE GENERAL NOTE)
- ITEM 615 - ROADS FOR MAINTAINING TRAFFIC (EARTHWORK)
- ITEM 203 - SPECIAL BENCHING

100 50 0 ℄ CONST. IR 271 50 100

MAINLINE I-271

1010 1000 990 980 970 960 950 940 930 920 910 900 890

2:1 4:1 20:1 953.2 10:1 5:1 12:1 12:1

954.30
242+50.00 R 2
955.62

6" CONDUIT, TYPE C (UD OUTLET)

944.5

945.44
242+50.00 R 2
946.79

242+50.00 R 2
947.66

STA. 242+00.00 100 50 0 50 100 STA. 242+00.00

END AREA		VOLUME	
CUT	FILL	CUT	FILL
291	22		
286	20		
		535	39
		535	39

CALCULATED JDL
CHECKED PRS

CROSS SECTIONS
STA. 242+50.00

SUM-271-2.33

441
1195

F:\2009\109094\18710\roadway\sheets\18710XS002.dgn 11/10/2012 9:14:48 AM DonHerman

SEEDING	
END WIDTH	SQ. YDS.
110	631
117	631

100 50 0 ℄ CONST. IR 271 50 100

LEGEND

- CONCRETE TO BE REMOVED UNDER ITEM 202 - PAVEMENT REMOVED (TYP.)
- ITEM 206 - CEMENT STABILIZED SUBGRADE (SEE GENERAL NOTE)
- ITEM 615 - ROADS FOR MAINTAINING TRAFFIC (EARTHWORK)
- ITEM 203 - SPECIAL BENCHING

MAINLINE I-271

1010 1000 990 980 970 960 950 940 930 920 910

2:1 4:1 7:1 951.9 10:1 6:1 12:1 12:1

953.56
243+00.00 R 2
954.95

945.0

6" CONDUIT, TYPE C (UD OUTLET)

945.95
243+00.00 R 2
947.34

243+00.00 R 2
947.57

STA. 242+50.00 100 50 0 50 100 STA. 242+50.00

END AREA		VOLUME	
CUT	FILL	CUT	FILL
295	14	543	34
291	22	543	34

CALCULATED JDL
CHECKED PRS

CROSS SECTIONS
STA. 243+00.00

SUM-271-2.33

442
1195

F:\2009\109094\18710\roadway\sheets\18710XS002.dgn 11/10/2012 9:15:08 AM DonHelman

SEEDING	
END WIDTH	SQ. YDS.
111	614
110	614

100 50 0 ℄ CONST. IR 271 50 100

LEGEND

- CONCRETE TO BE REMOVED UNDER ITEM 202 - PAVEMENT REMOVED (TYP.)
- ITEM 206 - CEMENT STABILIZED SUBGRADE (SEE GENERAL NOTE)
- ITEM 615 - ROADS FOR MAINTAINING TRAFFIC (EARTHWORK)
- ITEM 203 - SPECIAL BENCHING

MAINLINE I-271

1010 1000 990 980 970 960 950 940 930 920 910

2:1 4:1 11.6:1 951.7 952.95 243+50.00 R 2 954.48 10:1 7:1 945.4 6" CONDUIT, TYPE C (UD OUTLET) 243+50.00 R 2 947.88 12:1 946.59 243+50.00 R 2 948.05 6:1

STA. 243+00.00 100 50 0 50 100 STA. 243+00.00

END AREA		VOLUME	
CUT	FILL	CUT	FILL
319	0		
295	14		
		569	13
		569	13

CALCULATED JDL
CHECKED PRS

CROSS SECTIONS
STA. 243+50.00

SUM-271-2.33

443
1195

F:\2009\109094\18710\roadway\sheets\18710XS002.dgn 11/10/2012 9:15:28 AM DonHelman

SEEDING	
END WIDTH	SQ. YDS.
127	
	662
111	
	662

LEGEND

- CONCRETE TO BE REMOVED UNDER ITEM 202 - PAVEMENT REMOVED (TYP.)
- ITEM 206 - CEMENT STABILIZED SUBGRADE (SEE GENERAL NOTE)
- ITEM 615 - ROADS FOR MAINTAINING TRAFFIC (EARTHWORK)
- ITEM 203 - SPECIAL BENCHING

100 50 0 ℄ CONST. IR 271 50 100

MAINLINE I-271

1010 1000 990 980 970 960 950 940 930 920

℄ TEMPORARY MEDIAN CROSSOVER PHASE 2A

℄ TEMPORARY MEDIAN CROSSOVER PHASE 1A

45.38' 45.38'

4:1 13.6:1 951.3

952.47
244+00.00 R 2
954.20

7.5:1 10:1 945.6

6" CONDUIT, TYPE C (UD OUTLET)

244+00.00 R 2
948.38

947.36
244+00.00 R 2
948.79

4:1 4:1 945.0

STA. 243+50.00 100 50 0 50 100 STA. 243+50.00

END AREA		VOLUME	
CUT	FILL	CUT	FILL
413	0		
		678	0
319	0		
		678	0

CALCULATED JDL
CHECKED PRS

CROSS SECTIONS
STA. 244+00.00

SUM-271-2.33

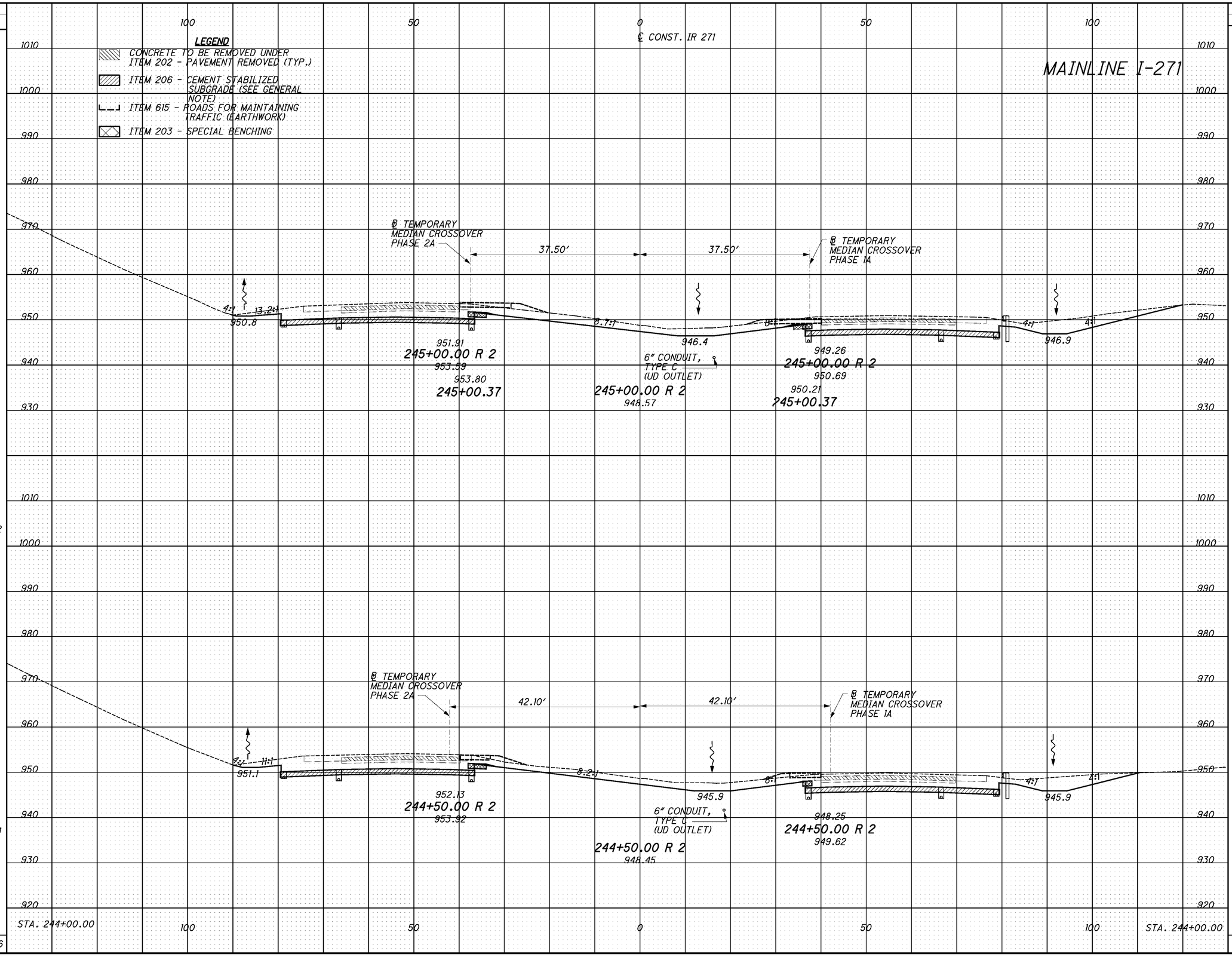
444
1195

F:\2009\109094\18710\roadway\sheets\18710XS002.dgn 11/10/2012 9:15:50 AM DonHelman

SEEDING	
END WIDTH	SQ. YDS.
130	692
119	684
127	1376

LEGEND

- CONCRETE TO BE REMOVED UNDER ITEM 202 - PAVEMENT REMOVED (TYP.)
- ITEM 206 - CEMENT STABILIZED SUBGRADE (SEE GENERAL NOTE)
- ITEM 615 - ROADS FOR MAINTAINING TRAFFIC (EARTHWORK)
- ITEM 203 - SPECIAL BENCHING



END AREA		VOLUME	
CUT	FILL	CUT	FILL
456	0	828	0
438	0	788	0
413	0	1616	0

CALCULATED JDL
CHECKED PRS

CROSS SECTIONS
STA. 244+50.00 TO STA. 245+00.00

SUM-271-2.33

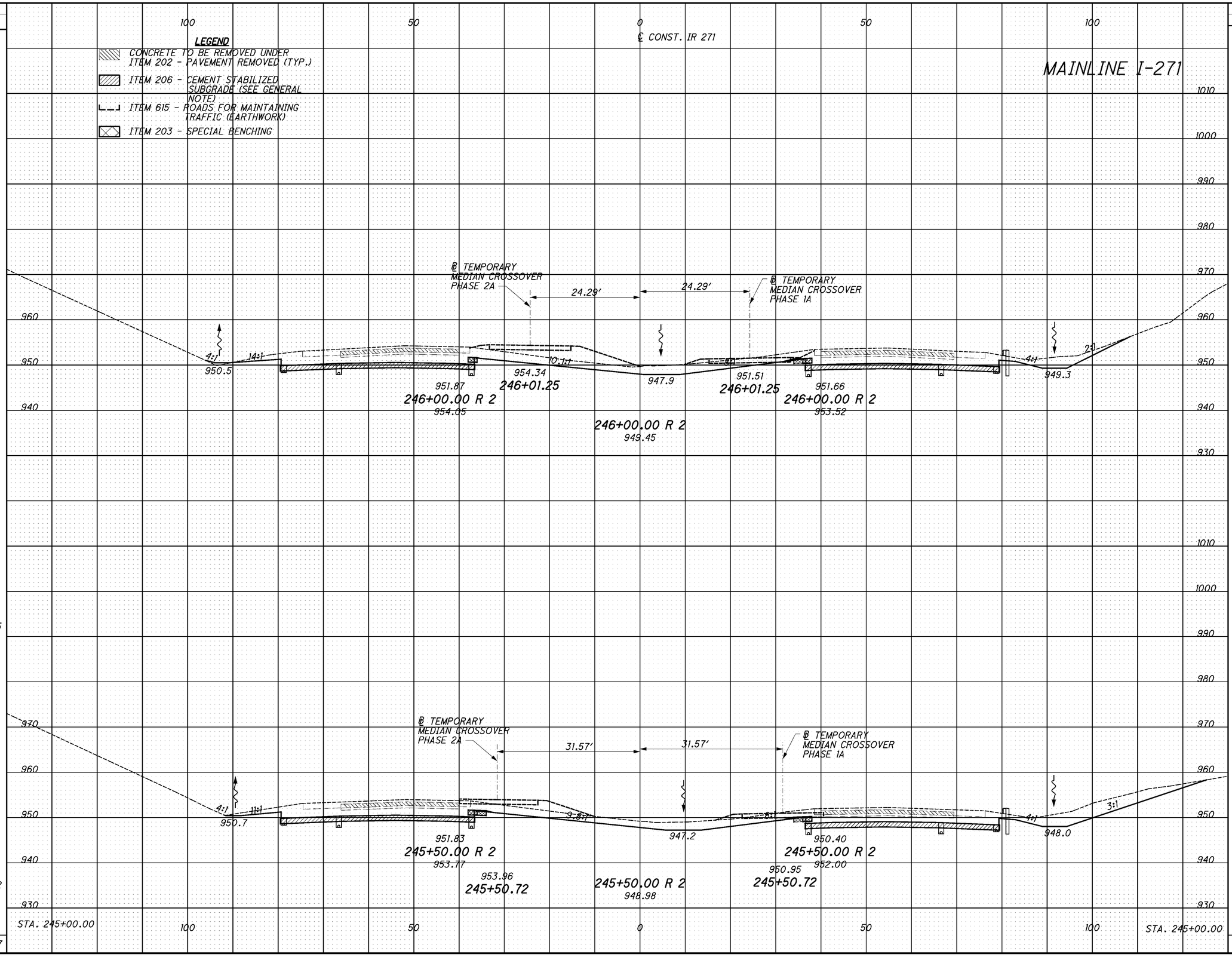
445
1195

F:\2009\109094\18710\roadway\sheets\18710XS002.dgn 11/10/2012 9:16:14 AM DonHelmon

SEEDING END WIDTH	SEEDING SQ. YDS.
131	745
137	742
130	1487

LEGEND

- CONCRETE TO BE REMOVED UNDER ITEM 202 - PAVEMENT REMOVED (TYP.)
- ITEM 206 - CEMENT STABILIZED SUBGRADE (SEE GENERAL NOTE)
- ITEM 615 - ROADS FOR MAINTAINING TRAFFIC (EARTHWORK)
- ITEM 203 - SPECIAL BENCHING



END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
458	2	878	2
490	0	876	0
456	0	1754	2

CALCULATED JDL
CHECKED PRS

CROSS SECTIONS
STA. 245+50.00 TO STA. 246+00.00

SUM-271-2.33

446
1195

F:\2009\109094\18710\roadway\sheets\18710XS002.dgn 11/10/2012 9:16:42 AM DonHelman

SEEDING	
END WIDTH	SQ. YDS.
134	
	728
128	
	720
131	
	1448

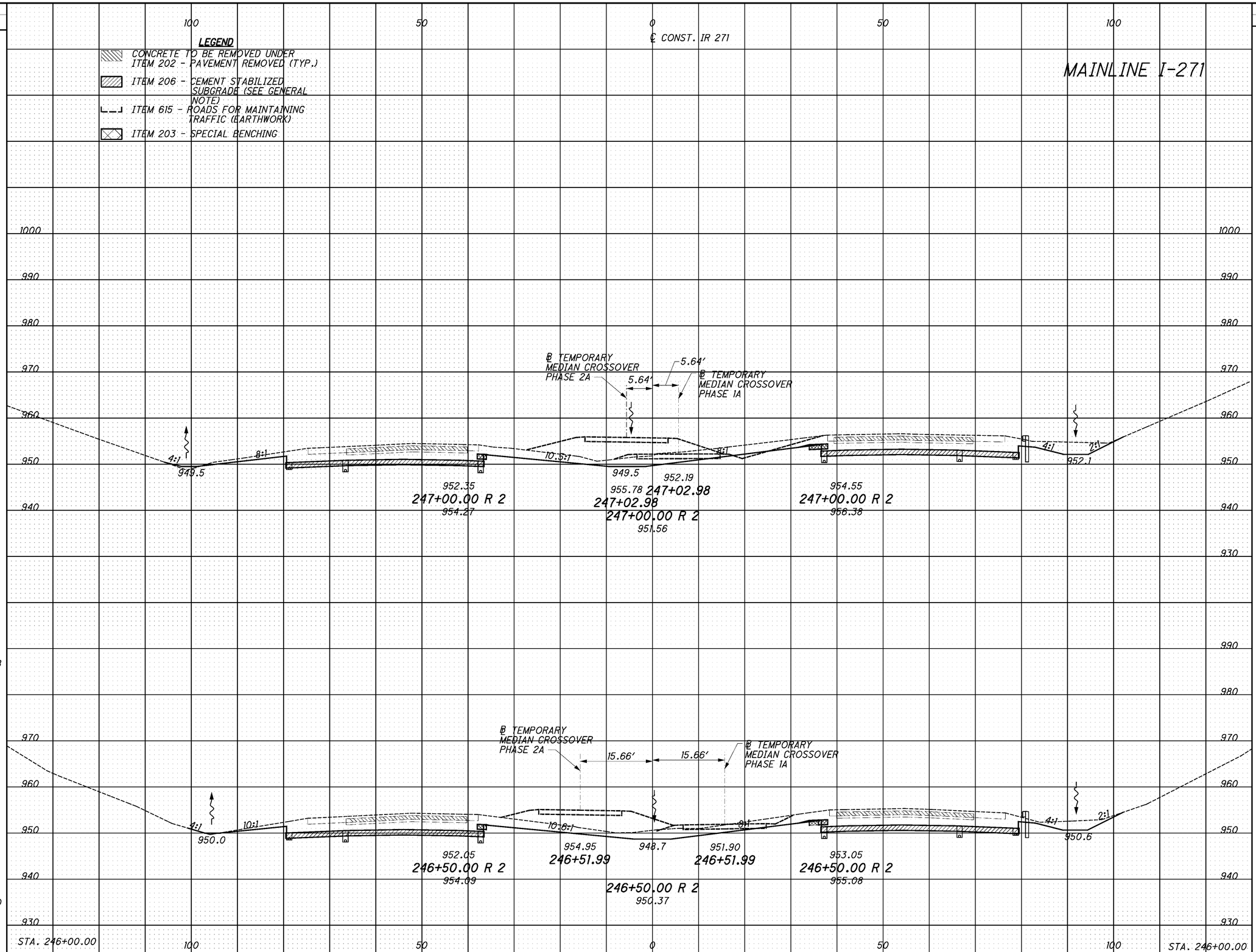
LEGEND

CONCRETE TO BE REMOVED UNDER ITEM 202 - PAVEMENT REMOVED (TYP.)

ITEM 206 - CEMENT STABILIZED SUBGRADE (SEE GENERAL NOTE)

ITEM 615 - ROADS FOR MAINTAINING TRAFFIC (EARTHWORK)

ITEM 203 - SPECIAL BENCHING



END AREA		VOLUME	
CUT	FILL	CUT	FILL
465	2		
		841	3
443	1		
		835	3
458	2		
		1676	6

CALCULATED JDL

CHECKED PRS

CROSS SECTIONS

STA. 246+50.00 TO STA. 247+00.00

SUM-271-2.33

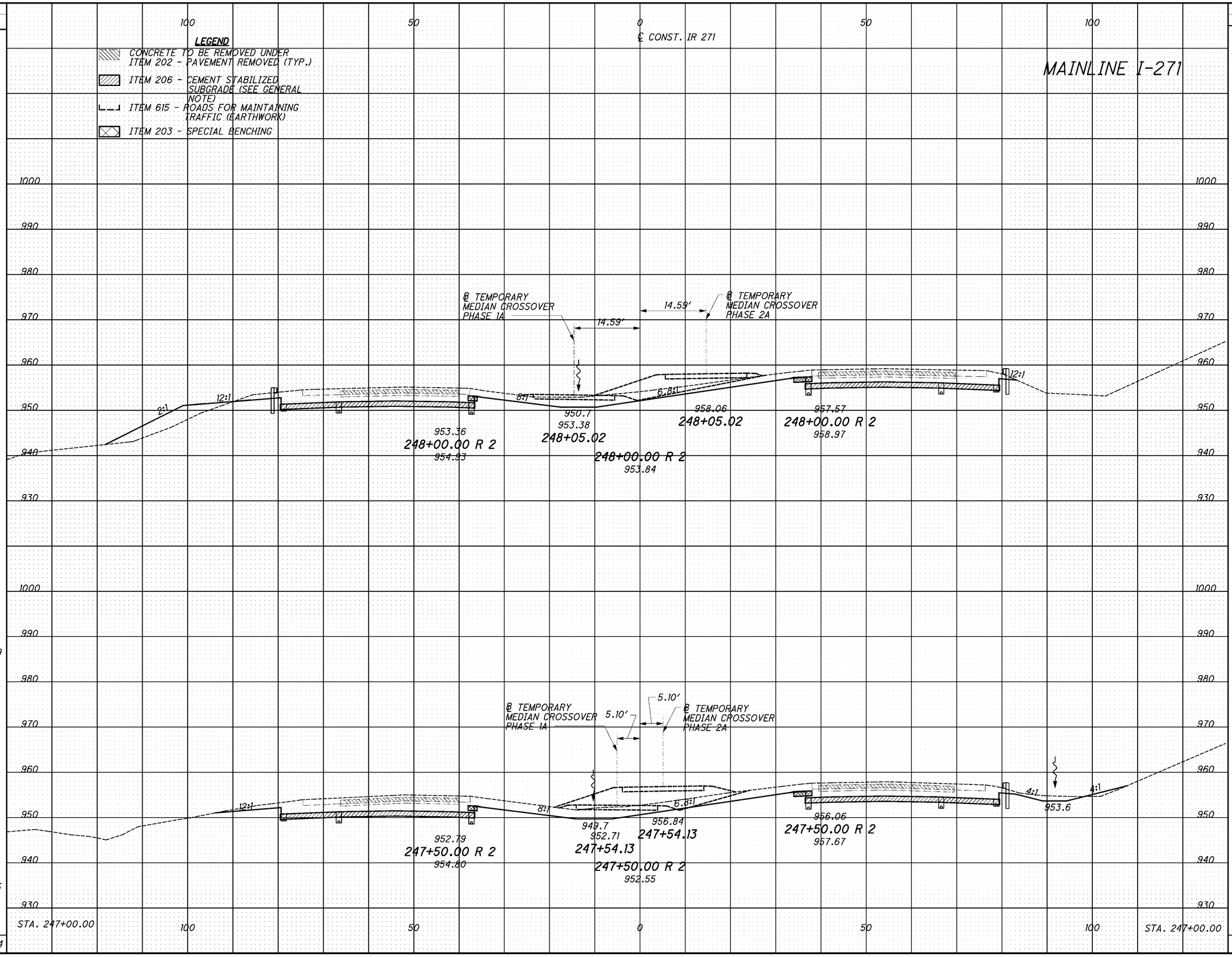
447
1195

F:\2009\109094\18710\roadway\sheets\18710XS002.dgn 11/10/2012 9:17:03 AM DonHelman

SEEDING	
END WIDTH	SQ. YDS.
128	709
127	725
134	1434

LEGEND

- CONCRETE TO BE REMOVED UNDER ITEM 202 - PAVEMENT REMOVED (TYP.)
- ITEM 206 - CEMENT STABILIZED SUBGRADE (SEE GENERAL NOTE)
- ITEM 615 - ROADS FOR MAINTAINING TRAFFIC (EARTHWORK)
- ITEM 203 - SPECIAL BENCHING



END AREA		VOLUME	
CUT	FILL	CUT	FILL
396	60	777	60
443	4	841	6
465	2	1618	66

CALCULATED JDL
CHECKED PRS

CROSS SECTIONS
STA. 248+00.00

SUM-271-2.33

448
1195

F:\2009\109094\18710\roadway\sheets\18710XS002.dgn 11/10/2012 9:17:26 AM DonHelman

CROSS SECTIONS
STA. 248+50.00 TO STA. 249+00.00

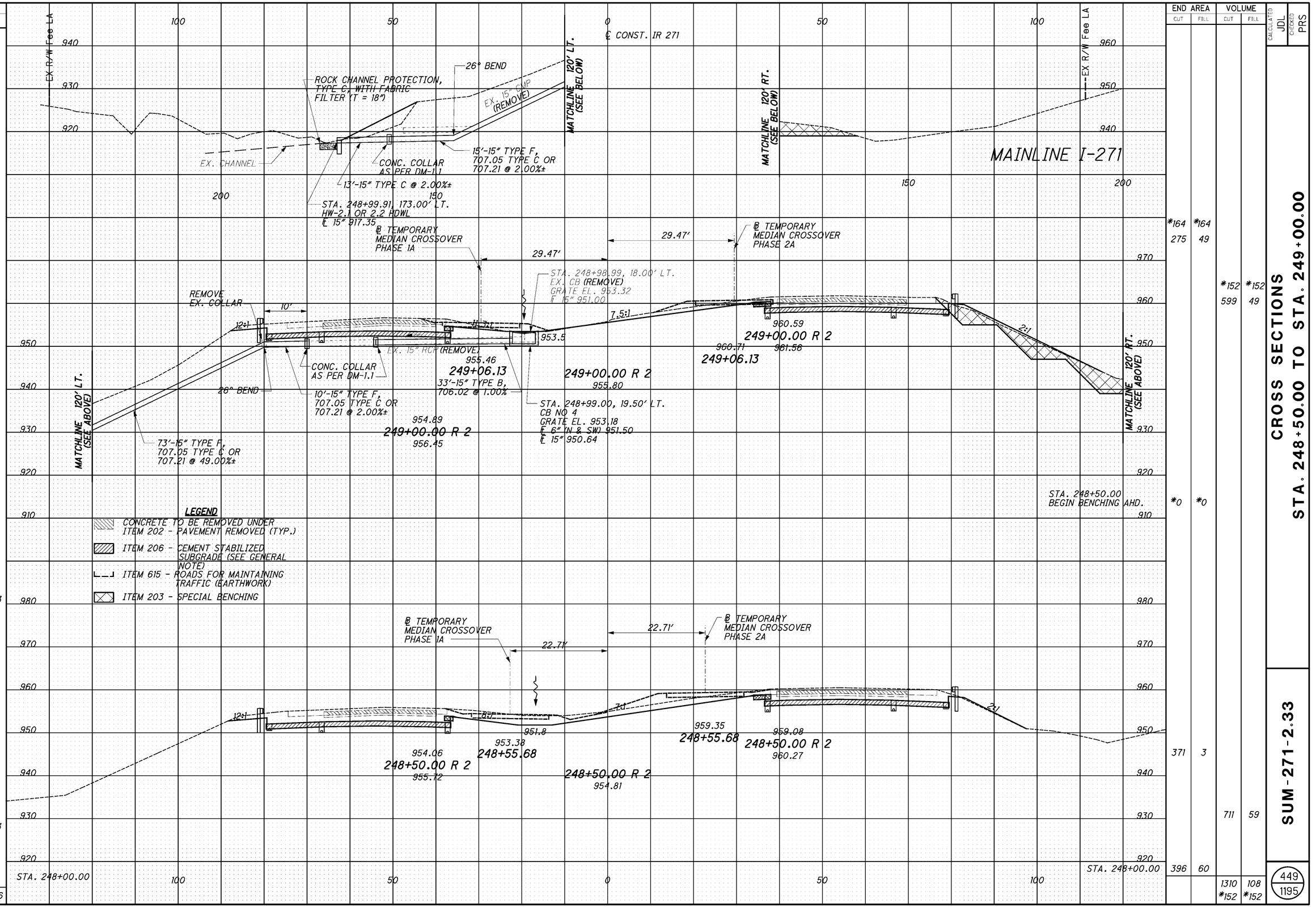
SUM-271-2.33

CALCULATED JDL
CHECKED PRS

SEEDING END WIDTH	SEEDING SQ. YDS.
146	703
	107
	653
128	
	1356

END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
*164	*164		
275	49		
		*152	*152
		599	49
*0	*0		
371	3		
		711	59
396	60		
		1310	108
		*152	*152

449
1195



F:\2009\109094\18710\roadway\sheets\18710XS002.dgn 11/12/2012 8:14:03 AM SteveWorr

SEEDING	
END WIDTH	SQ. YDS.
183	
90	759
146	656
	1415

LEGEND

- CONCRETE TO BE REMOVED UNDER ITEM 202 - PAVEMENT REMOVED (TYP.)
- ITEM 206 - CEMENT STABILIZED SUBGRADE (SEE GENERAL NOTE)
- ITEM 615 - ROADS FOR MAINTAINING TRAFFIC (EARTHWORK)
- ITEM 203 - SPECIAL BENCHING

END AREA		VOLUME	
CUT	FILL	CUT	FILL
*259 215	*259 101		
		*369 424	*369 94
*139 242	*139 0		
		*281 479	*281 46
*164 275	*164 49		
		903 *650	140 *650

CALCULATED JDL

CHECKED PRS

CROSS SECTIONS

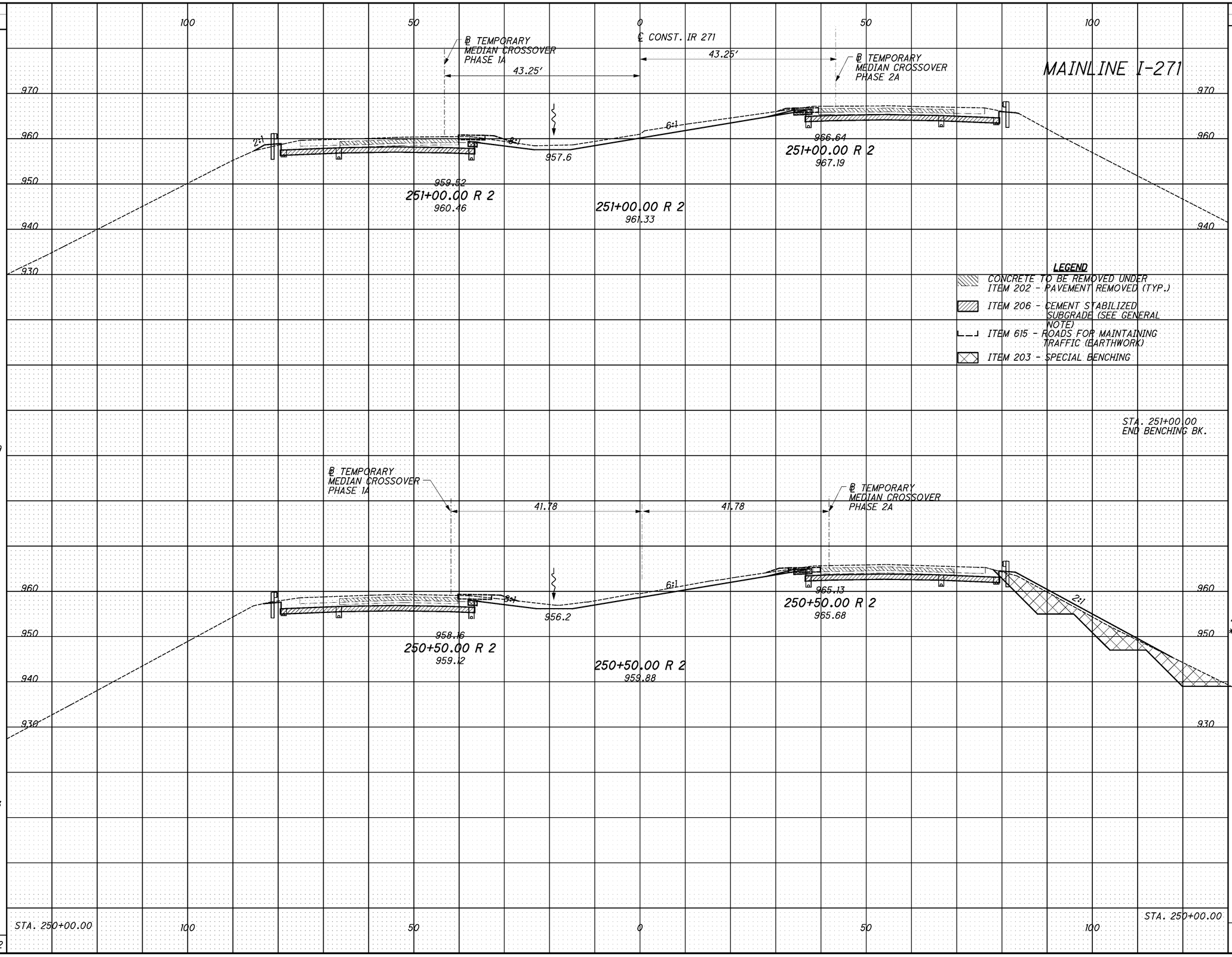
STA. 249+50.00 TO STA. 250+00.00

SUM-271-2.33

450
1195

F:\2009\109094\18710\roadway\sheets\18710XS002.dgn 11/12/2012 8:14:25 AM SteveWorr

SEEDING	
END WIDTH	SQ. YDS.
88	609
131	873
183	1482



END AREA		VOLUME	
CUT	FILL	CUT	FILL
250	3		
		470	21
*0	*0		
		*163	*163
257	19		
*175	*175		
		438	112
		*402	*402
*259	*259		
215	101		
		908	133
		*565	*565

CALCULATED JDL
CHECKED PRS

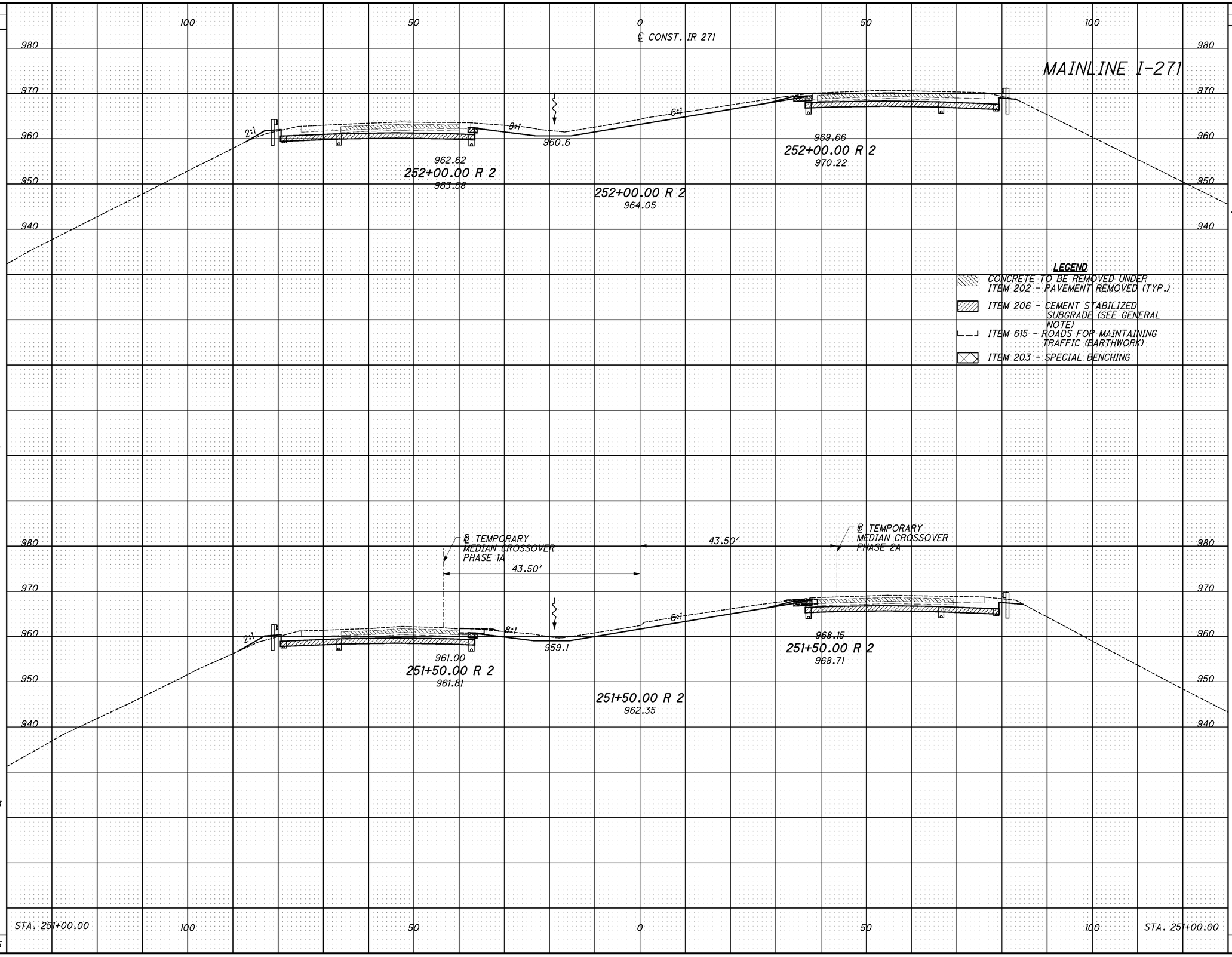
CROSS SECTIONS STA. 250+50.00 TO STA. 251+00.00

SUM-271-2.33

451
1195

F:\2009\109094\18710\roadway\sheets\18710XS003.dgn 11/12/2012 11:45:09 AM SteveMorr

SEEDING	
END WIDTH	SQ. YDS.
91	512
93	503
88	1015



END AREA		VOLUME	
CUT	FILL	CUT	FILL
272	3	502	8
270	5	482	8
250	3	984	16

CALCULATED JDL
CHECKED PRS

CROSS SECTIONS
STA. 251+50.00 TO STA. 252+00.00

SUM-271-2.33

452
1195

F:\2009\109094\18710\roadway\sheets\18710XS003.dgn 11/10/2012 10:14:38 AM DonHerman

SEEDING	
END WIDTH	SQ. YDS.
91	495
87	495

100 50 0 ℄ CONST. IR 271 50 100

MAINLINE I-271

LEGEND

- CONCRETE TO BE REMOVED UNDER ITEM 202 - PAVEMENT REMOVED (TYP.)
- ITEM 206 - CEMENT STABILIZED SUBGRADE (SEE GENERAL NOTE)
- ITEM 615 - ROADS FOR MAINTAINING TRAFFIC (EARTHWORK)
- ITEM 203 - SPECIAL BENCHING

970 960 950 940 930 920 910 900 890

2:1 9:1 6:1

964.36
252+50.00 R 2
965.25

962.3

252+50.00 R 2
966.18

971.17
252+50.00 R 2
971.74

STA. 252+00.00 100 50 0 50 100 STA. 252+00.00

END AREA		VOLUME	
CUT	FILL	CUT	FILL
264	1	497	4
272	3	497	4

CALCULATED JDL
CHECKED PRS

CROSS SECTIONS
STA. 252+50.00

SUM-271-2.33

453
1195

F:\2009\109094\18710\roadway\sheets\18710XS003.dgn 11/10/2012 10:13:31 AM DonHelman

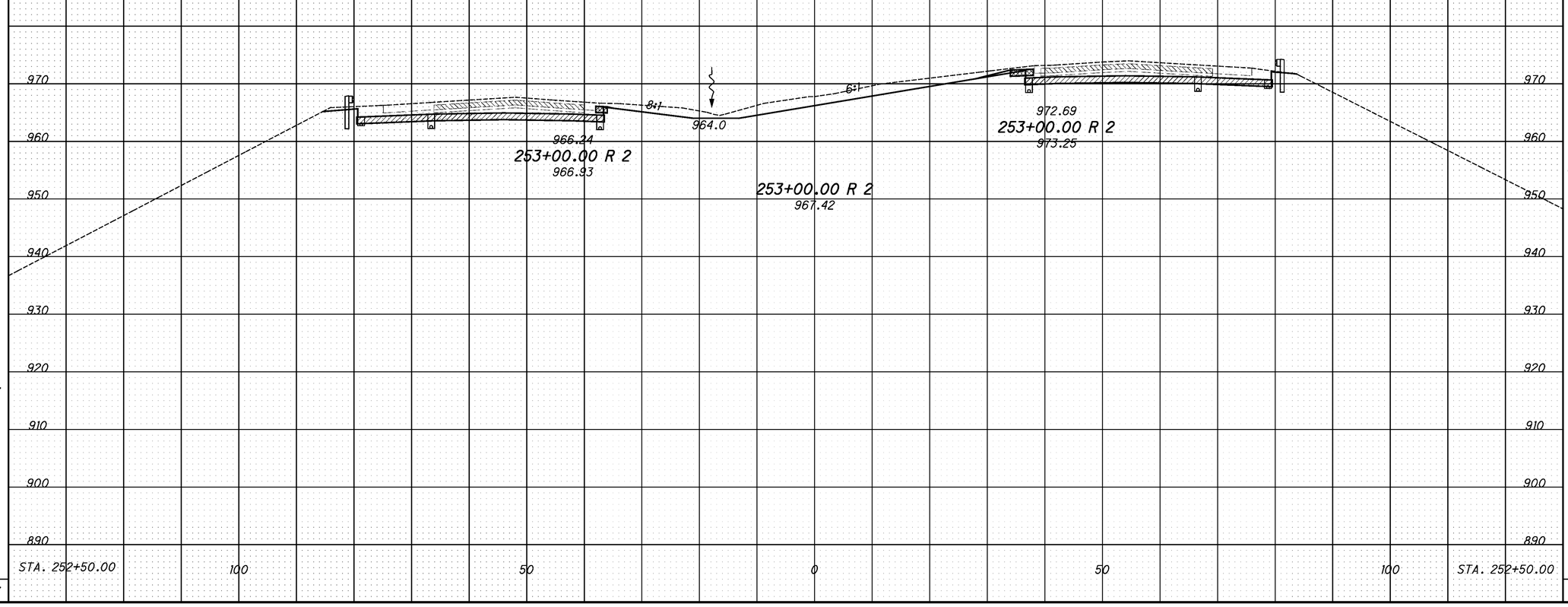
SEEDING	
END WIDTH	SQ. YDS.
88	
87	487
	487

100 50 0 ℄ CONST. IR 271 50 100

MAINLINE I-271

LEGEND

- CONCRETE TO BE REMOVED UNDER ITEM 202 - PAVEMENT REMOVED (TYP.)
- ITEM 206 - CEMENT STABILIZED SUBGRADE (SEE GENERAL NOTE)
- ITEM 615 - ROADS FOR MAINTAINING TRAFFIC (EARTHWORK)
- ITEM 203 - SPECIAL BENCHING



STA. 252+50.00 100 50 0 50 100 STA. 252+50.00

END AREA		VOLUME	
CUT	FILL	CUT	FILL
290	0		
		513	1
264	1		
		513	1

CALCULATED JDL
CHECKED PRS

CROSS SECTIONS
STA. 253+00.00

SUM-271-2.33

454
1195

F:\2009\109094\18710\roadway\sheets\18710XS003.dgn 11/12/2012 9:28:21 AM SteveMorr

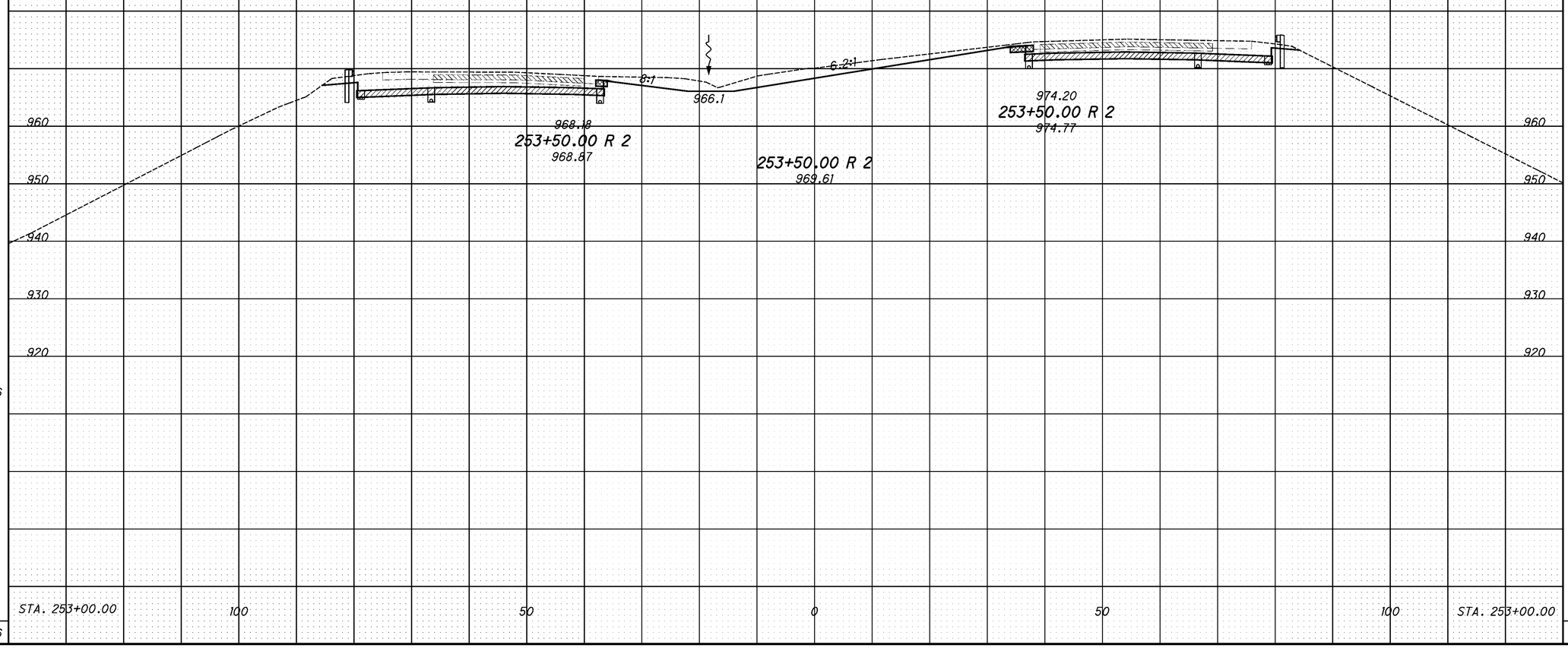
SEEDING	
END WIDTH	SQ. YDS.
94	
88	
	506
	506

100 50 0 ℄ CONST. IR 271 50 100

MAINLINE I-271

LEGEND

- CONCRETE TO BE REMOVED UNDER ITEM 202 - PAVEMENT REMOVED (TYP.)
- ITEM 206 - CEMENT STABILIZED SUBGRADE (SEE GENERAL NOTE)
- ITEM 615 - ROADS FOR MAINTAINING TRAFFIC (EARTHWORK)
- ITEM 203 - SPECIAL BENCHING



STA. 253+00.00 100 50 0 50 100 STA. 253+00.00

END AREA		VOLUME	
CUT	FILL	CUT	FILL
312	0		
		558	0
290	0		
		558	0

CALCULATED JDL
CHECKED PRS

CROSS SECTIONS
STA. 253+50.00

SUM-271-2.33

455
1195

F:\2009\109094\18710\roadway\sheets\18710XS003.dgn 11/10/2012 10:16:02 AM DonHelman

SEEDING	
END WIDTH	SQ. YDS.
95	525
94	525

100 50 0 ℄ CONST. IR 271 50 100

MAINLINE I-271

LEGEND

- CONCRETE TO BE REMOVED UNDER ITEM 202 - PAVEMENT REMOVED (TYP.)
- ITEM 206 - CEMENT STABILIZED SUBGRADE (SEE GENERAL NOTE)
- ITEM 615 - ROADS FOR MAINTAINING TRAFFIC (EARTHWORK)
- ITEM 203 - SPECIAL BENCHING

℄ TEMPORARY MEDIAN CROSSOVER PHASE 3A

43.50'

43.50'

℄ TEMPORARY MEDIAN CROSSOVER PHASE 4A

970 960 950 940 930

970.12
254+00.00 R 2
970.81

968.0

971.41
254+00.00 R 2

975.71
254+00.00 R 2
976.28

8:1 6:1

970 960 950 940 930

STA. 253+50.00 100 50 0 50 100 STA. 253+50.00

END AREA		VOLUME	
CUT	FILL	CUT	FILL
323	0		
312	0		
		588	0
		588	0

CALCULATED JDL
CHECKED PRS

CROSS SECTIONS
STA. 254+00.00

SUM-271-2.33

456
1195

F:\2009\109094\18710\roadway\sheets\18710XS003.dgn 11/10/2012 10:16:23 AM DonHelman

SEEDING	
END WIDTH	SQ. YDS.
95	525
94	525

END AREA		VOLUME	
CUT	FILL	CUT	FILL
323	0	590	0
314	0	590	0

CALCULATED JDL
CHECKED PRS

CROSS SECTIONS
STA. 254+50.00

SUM-271-2.33

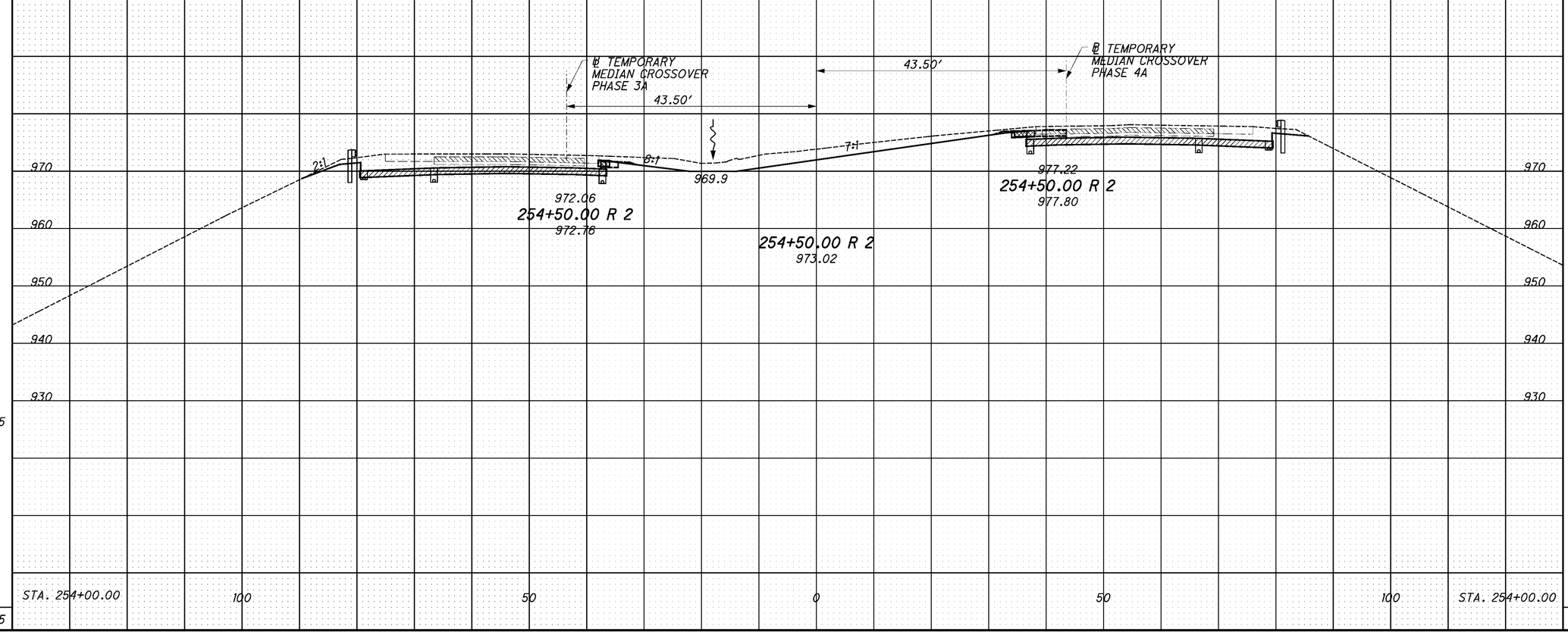
457
1195

100 50 0 ℄ CONST. IR 271 50 100

MAINLINE I-271

LEGEND

- CONCRETE TO BE REMOVED UNDER ITEM 202 - PAVEMENT REMOVED (TYP.)
- ITEM 206 - CEMENT STABILIZED SUBGRADE (SEE GENERAL NOTE)
- ITEM 615 - ROADS FOR MAINTAINING TRAFFIC (EARTHWORK)
- ITEM 203 - SPECIAL BENCHING



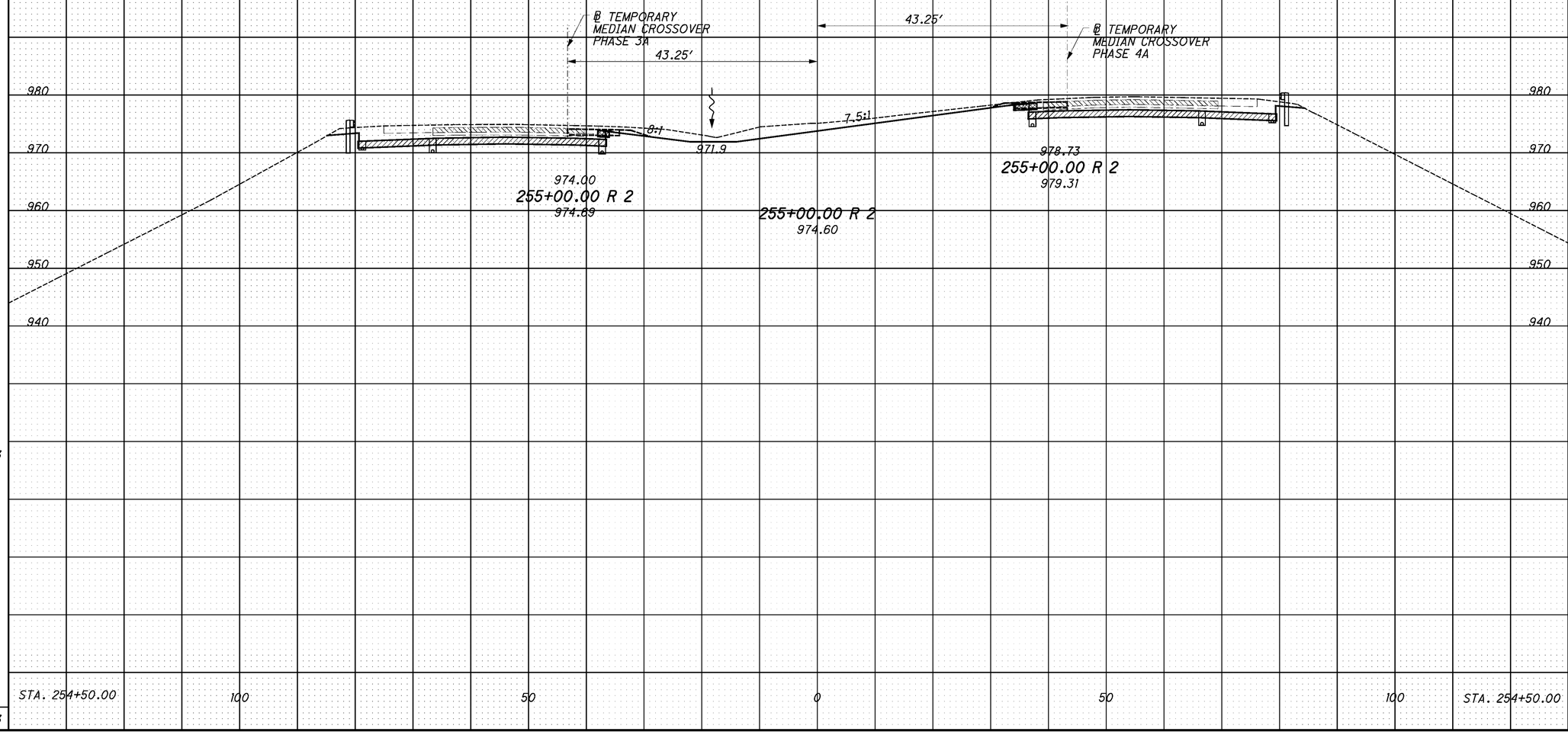
F:\2009\109094\18710\roadway\sheets\18710XS003.dgn 11/10/2012 10:16:43 AM DonHelmer

SEEDING	
END WIDTH	SQ. YDS.
94	523

100 50 0 ℄ CONST. IR 271 50 100

LEGEND

- CONCRETE TO BE REMOVED UNDER ITEM 202 - PAVEMENT REMOVED (TYP.)
- ITEM 206 - CEMENT STABILIZED SUBGRADE (SEE GENERAL NOTE)
- ITEM 615 - ROADS FOR MAINTAINING TRAFFIC (EARTHWORK)
- ITEM 203 - SPECIAL BENCHING



STA. 254+50.00	100	50	0	50	100	STA. 254+50.00

END AREA		VOLUME	
CUT	FILL	CUT	FILL
282	0		
		552	0
314	0		
		552	0

CALCULATED JDL
CHECKED PRS

CROSS SECTIONS STA. 255+00.00

SUM-271-2.33

458
1195

F:\2009\109094\18710\roadway\sheets\18710XS003.dgn 11/10/2012 10:17:10 AM DonHelman

SEEDING	
END WIDTH	SQ. YDS.
95	525
94	525

100 50 0 ℄ CONST. IR 271 50 100

MAINLINE I-271

LEGEND

- CONCRETE TO BE REMOVED UNDER ITEM 202 - PAVEMENT REMOVED (TYP.)
- ITEM 206 - CEMENT STABILIZED SUBGRADE (SEE GENERAL NOTE)
- ITEM 615 - ROADS FOR MAINTAINING TRAFFIC (EARTHWORK)
- ITEM 203 - SPECIAL BENCHING

℄ TEMPORARY MEDIAN CROSSOVER PHASE 3A

℄ TEMPORARY MEDIAN CROSSOVER PHASE 4A

41.78′

41.78′

8:1

8:1

980.24
255+50.00 R 2
980.86

975.94
255+50.00 R 2
976.75

973.8

255+50.00 R 2
975.92

980 970 960 950 940

STA. 255+00.00 100 50 0 50 100 STA. 255+00.00

END AREA		VOLUME	
CUT	FILL	CUT	FILL
296	0		
		536	0
282	0		
		536	0

CALCULATED JDL
CHECKED PRS

CROSS SECTIONS STA. 255+50.00

SUM-271-2.33

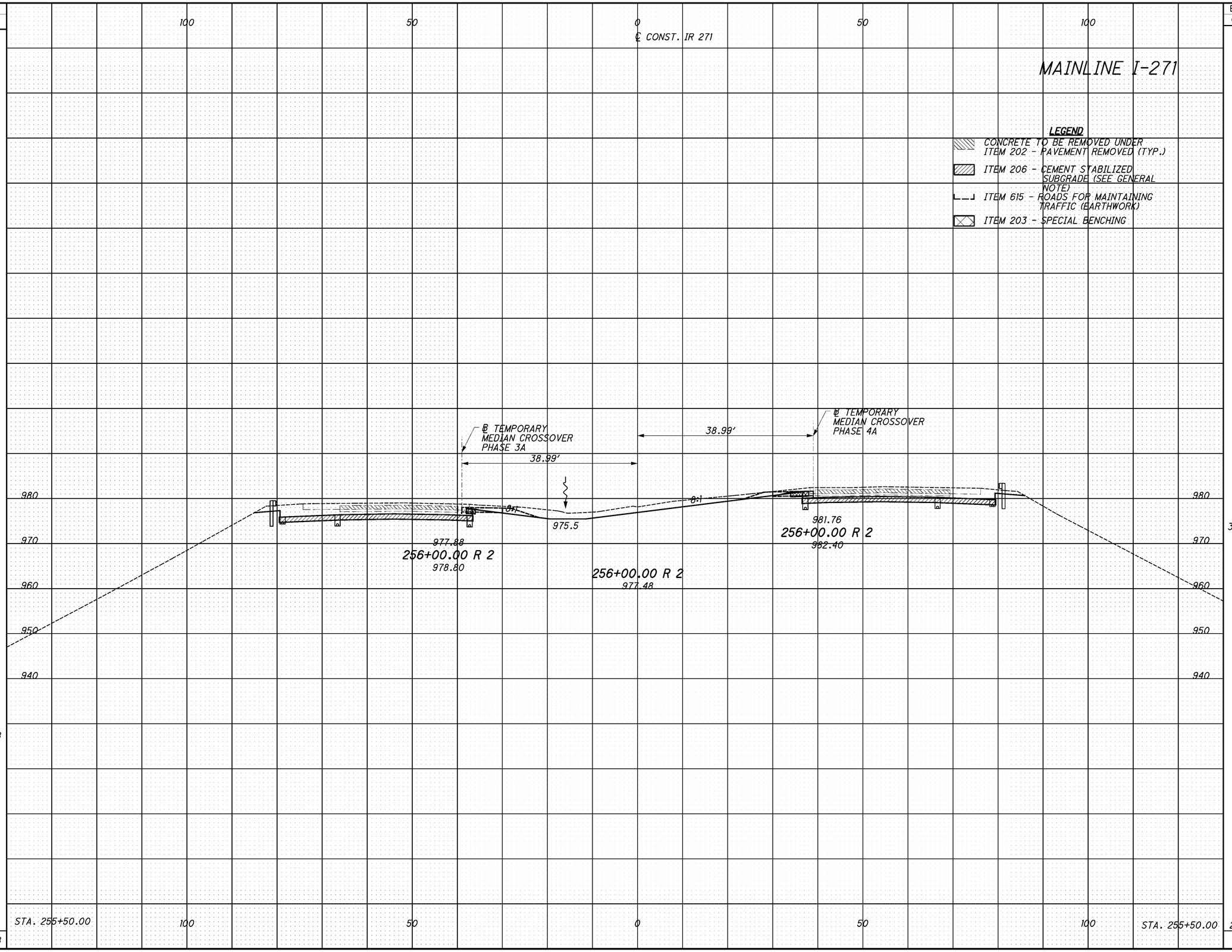
459
1195

F:\2009\109094\18710\roadway\sheets\18710XS003.dgn 11/10/2012 10:17:33 AM DonHelman

SEEDING	
END WIDTH	SQ. YDS.
95	528

END AREA		VOLUME	
CUT	FILL	CUT	FILL
309	0		
		561	0
296	0		
		561	0

CALCULATED JDL
CHECKED PRS



CROSS SECTIONS
STA. 256+00.00

SUM-271-2.33

460
1195

F:\2009\109094\18710\roadway\sheets\18710XS003.dgn 11/10/2012 10:17:56 AM DonHelman

SEEDING	
END WIDTH	SQ. YDS.
87	506
95	506

END AREA		VOLUME	
CUT	FILL	CUT	FILL
301	0	565	0
309	0	565	0

CALCULATED JDL
CHECKED PRS

100 50 0 ℄ CONST. IR 271 50 100

MAINLINE I-271

LEGEND

- CONCRETE TO BE REMOVED UNDER ITEM 202 - PAVEMENT REMOVED (TYP.)
- ITEM 206 - CEMENT STABILIZED SUBGRADE (SEE GENERAL NOTE)
- ITEM 615 - ROADS FOR MAINTAINING TRAFFIC (EARTHWORK)
- ITEM 203 - SPECIAL BENCHING

℄ TEMPORARY MEDIAN CROSSOVER PHASE 3A

34.90'

34.90'

℄ TEMPORARY MEDIAN CROSSOVER PHASE 4A

980 970 960 950 940

9:1

977.2

8:1

979.63
256+50.00 R 2
980.86

256+50.00 R 2
979.12

983.27
256+50.00 R 2
983.95

STA. 256+00.00 100 50 0 50 100 STA. 256+00.00

CROSS SECTIONS
STA. 256+50.00

SUM-271-2.33

461
1195

F:\2009\109094\18710\roadway\sheets\18710XS003.dgn 11/10/2012 10:18:17 AM DonHelman

SEEDING	
END WIDTH	SQ. YDS.
87	
	506
95	
	506

END AREA		VOLUME	
CUT	FILL	CUT	FILL
333	0		
		588	0
301	0		
		588	0

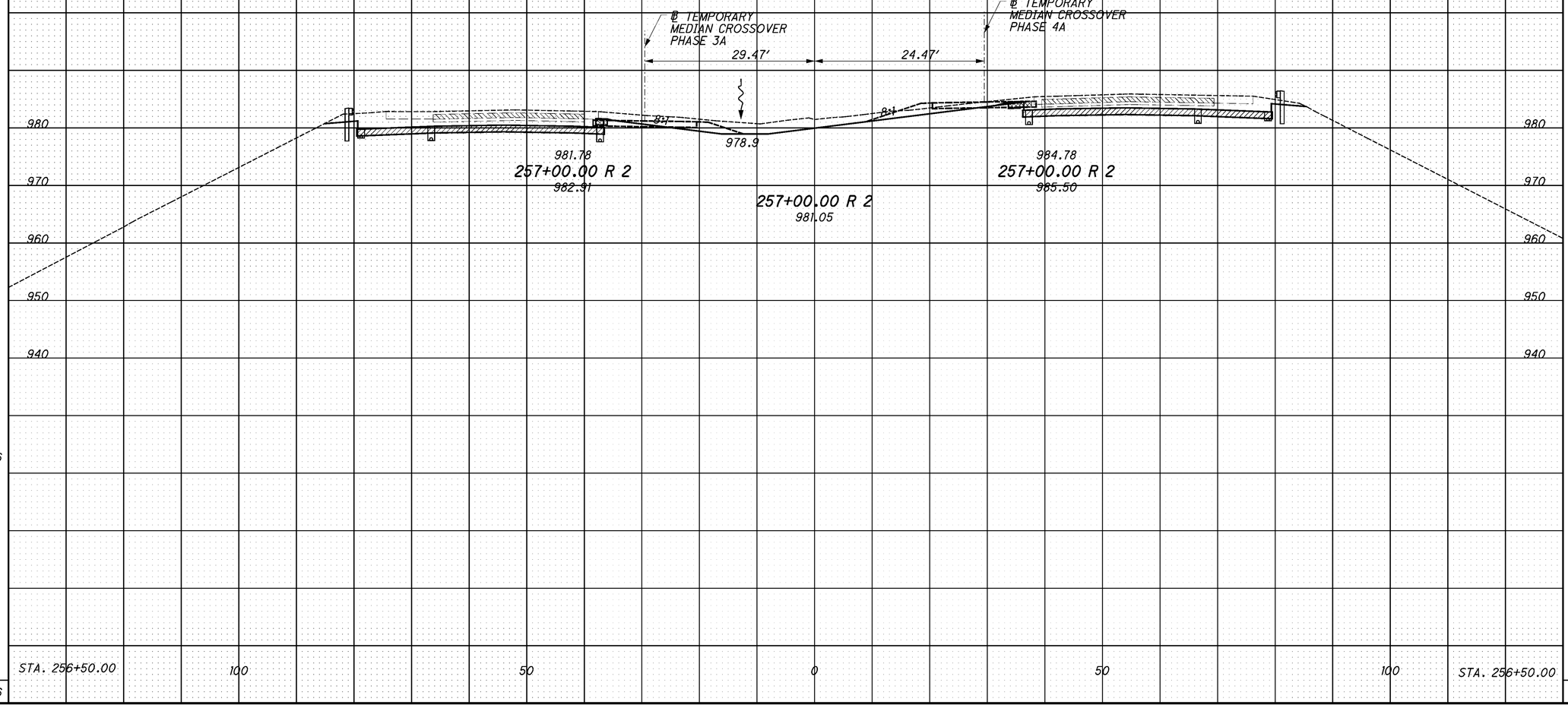
CALCULATED JDL
CHECKED PRS

100 50 0 ℄ CONST. IR 271 50 100

MAINLINE I-271

LEGEND

- CONCRETE TO BE REMOVED UNDER ITEM 202 - PAVEMENT REMOVED (TYP.)
- ITEM 206 - CEMENT STABILIZED SUBGRADE (SEE GENERAL NOTE)
- ITEM 615 - ROADS FOR MAINTAINING TRAFFIC (EARTHWORK)
- ITEM 203 - SPECIAL BENCHING



STA. 256+50.00 100 50 0 50 100 STA. 256+50.00

CROSS SECTIONS
STA. 257+00.00

SUM-271-2.33

462
1195

F:\2009\109094\18710\roadway\sheets\18710XS003.dgn 11/10/2012 10:18:40 AM DonHelman

SEEDING	
END WIDTH	SQ. YDS.
94	525
95	525

END AREA		VOLUME	
CUT	FILL	CUT	FILL
350	0	633	0
333	0	633	0

CALCULATED JDL
CHECKED PRS

100 50 0 ℄ CONST. IR 271 50 100

MAINLINE I-271

LEGEND

- CONCRETE TO BE REMOVED UNDER ITEM 202 - PAVEMENT REMOVED (TYP.)
- ITEM 206 - CEMENT STABILIZED SUBGRADE (SEE GENERAL NOTE)
- ITEM 615 - ROADS FOR MAINTAINING TRAFFIC (EARTHWORK)
- ITEM 203 - SPECIAL BENCHING

℄ TEMPORARY MEDIAN CROSSOVER PHASE 3A

℄ TEMPORARY MEDIAN CROSSOVER PHASE 4A

22.71' 22.71'

990 980 970 960 950 940

6:1 6:1

980.8

983.79
257+50.00 R 2
984.97

257+50.00 R 2
982.51

986.29
257+50.00 R 2
987.04

STA. 257+00.00 100 50 0 50 100 STA. 257+00.00

CROSS SECTIONS
STA. 257+50.00

SUM-271-2.33

463
1195

F:\2009\109094\18710\roadway\sheets\18710XS003.dgn 11/10/2012 10:19:02 AM DonHelman

SEEDING	
END WIDTH	SQ. YDS.
91	514
94	514

END AREA		VOLUME	
CUT	FILL	CUT	FILL
342	0	641	0
350	0	641	0

CALCULATED JDL
CHECKED PRS

CROSS SECTIONS
STA. 258+00.00

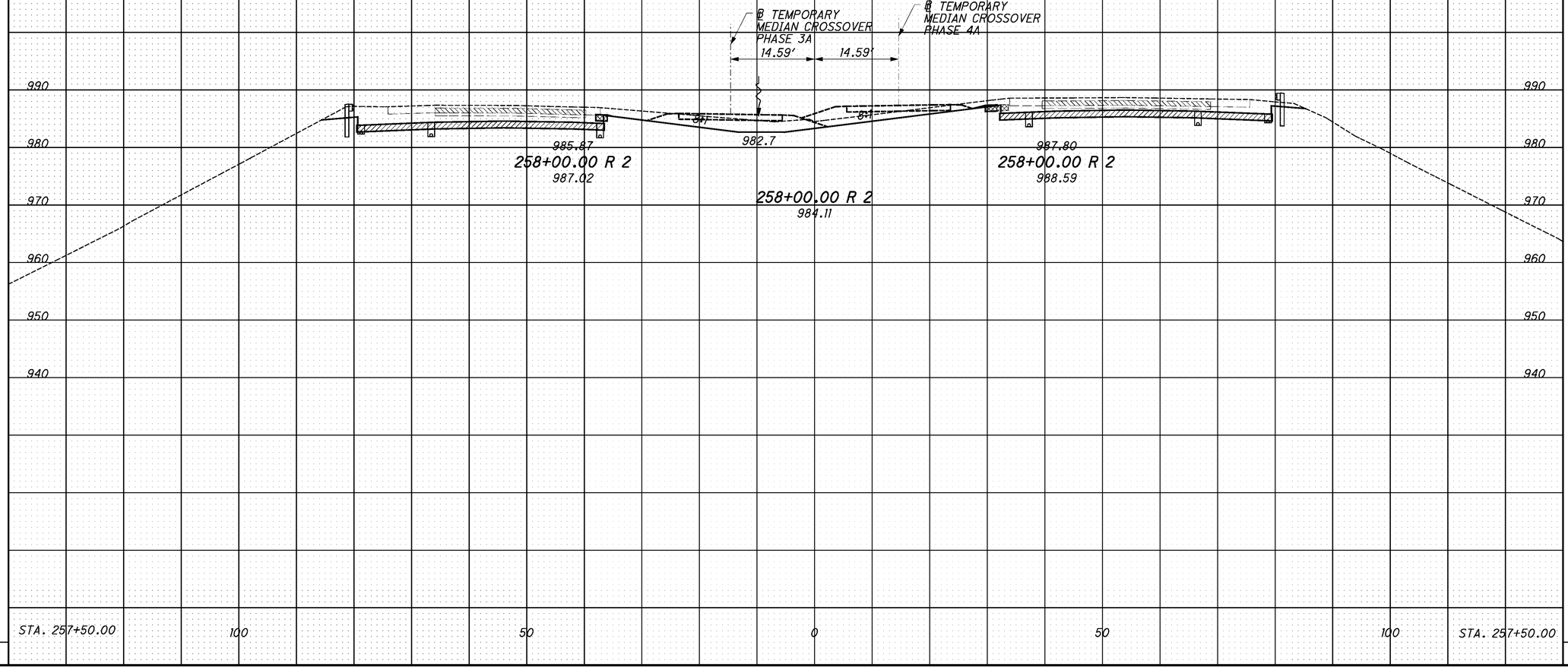
SUM-271-2.33

464
1195

MAINLINE I-271

LEGEND

- CONCRETE TO BE REMOVED UNDER ITEM 202 - PAVEMENT REMOVED (TYP.)
- ITEM 206 - CEMENT STABILIZED SUBGRADE (SEE GENERAL NOTE)
- ITEM 615 - ROADS FOR MAINTAINING TRAFFIC (EARTHWORK)
- ITEM 203 - SPECIAL BENCHING



F:\2009\109094\18710\roadway\sheets\18710XS003.dgn 11/10/2012 10:19:21 AM DonHelman

SEEDING	
END WIDTH	SQ. YDS.
89	500
91	500

END AREA		VOLUME	
CUT	FILL	CUT	FILL
346	0	638	0
342	0	638	0

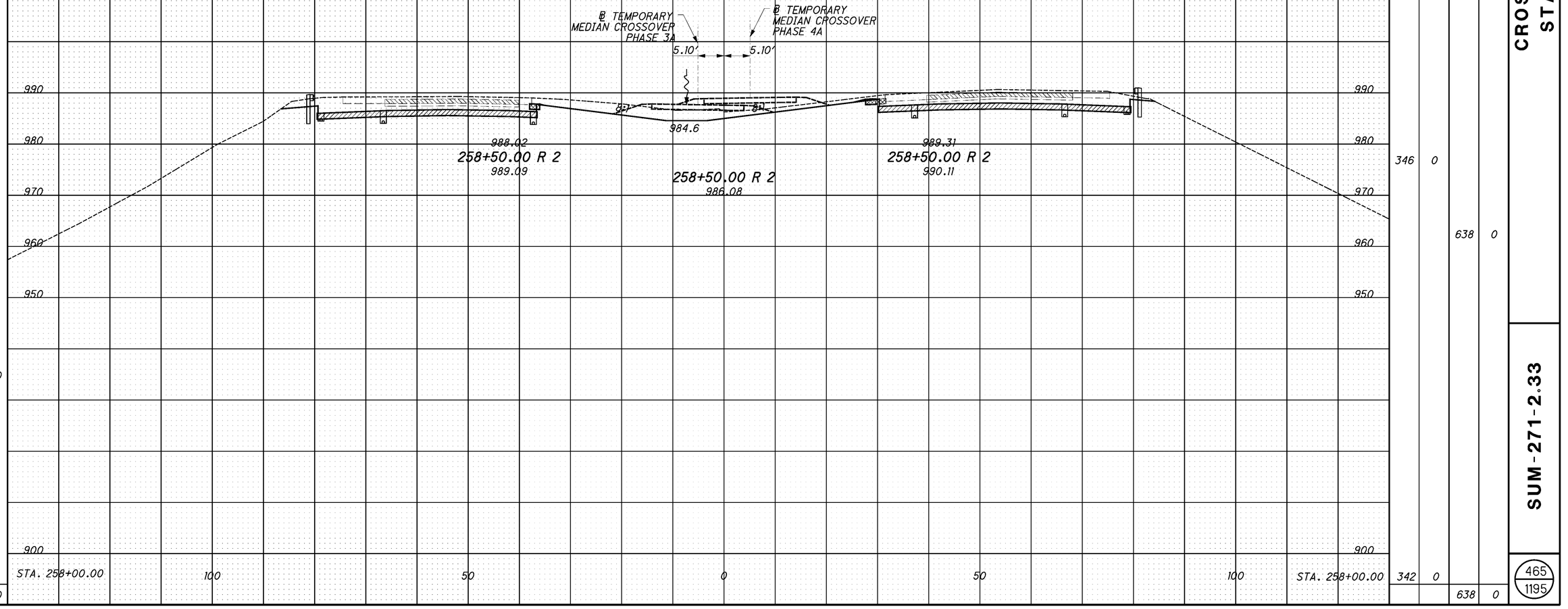
CALCULATED JDL
CHECKED PRS

100 50 0 ℄ CONST. IR 271 50 100

MAINLINE I-271

LEGEND

- CONCRETE TO BE REMOVED UNDER ITEM 202 - PAVEMENT REMOVED (TYP.)
- ITEM 206 - CEMENT STABILIZED SUBGRADE (SEE GENERAL NOTE)
- ITEM 615 - ROADS FOR MAINTAINING TRAFFIC (EARTHWORK)
- ITEM 203 - SPECIAL BENCHING

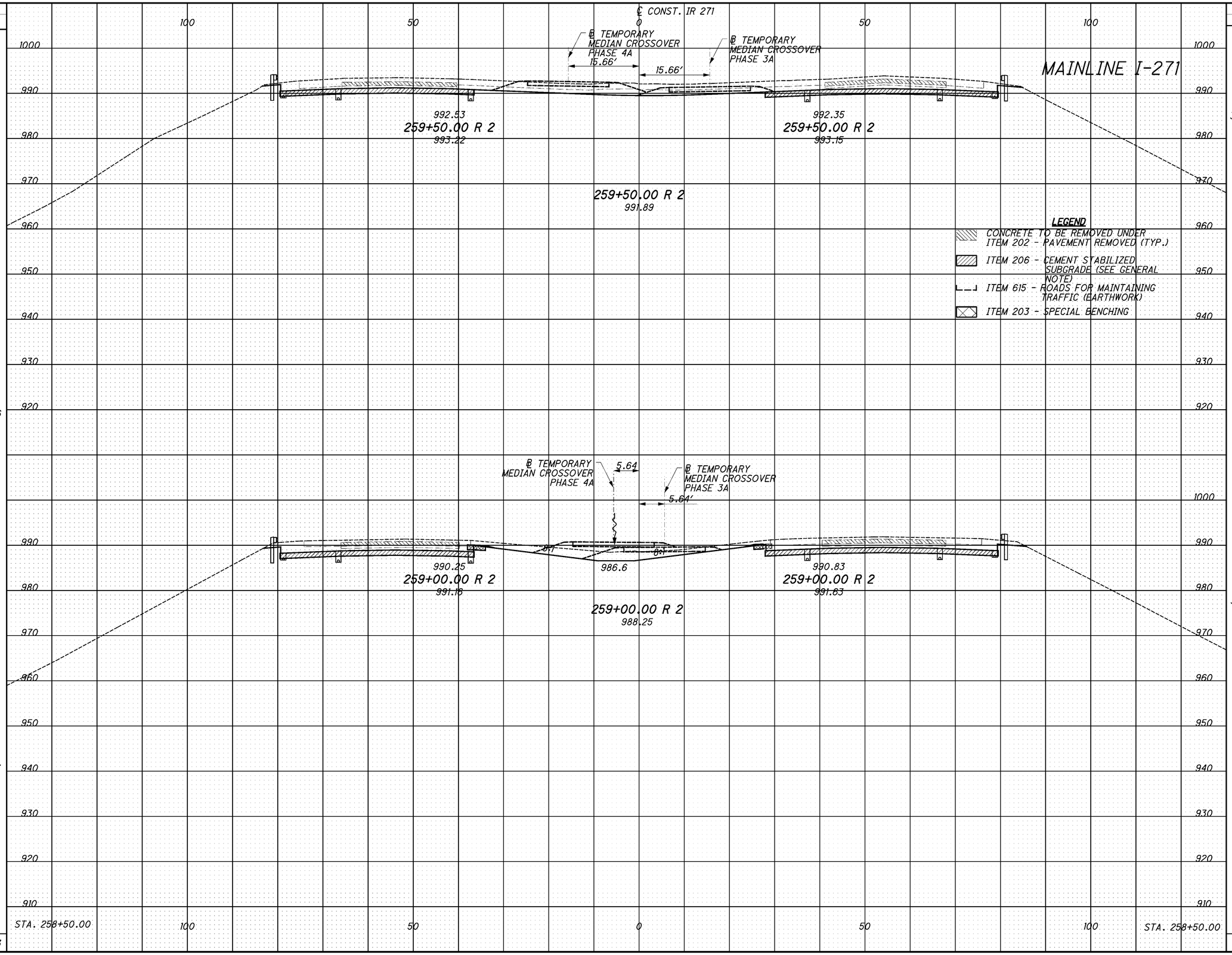


CROSS SECTIONS STA. 258+50.00

SUM-271-2.33

465
1195

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SEEDING END WIDTH	SEEDING SQ. YDS.	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
13	256	376	0	651	0
79	467	327	0	624	0
89	723	346	0	1275	0

CALCULATED JDL
CHECKED PRS

CROSS SECTIONS
STA. 259+00.00 TO STA. 259+50.00

SUM-271-2.33

466
1195

F:\2009\109094\18710\roadway\sheets\18710XS003.dgn 11/10/2012 10:20:09 AM DonHelman

SEEDING	
END WIDTH	SQ. YDS.
81	448
80	259
13	707

END AREA		VOLUME	
CUT	FILL	CUT	FILL
240	1	483	1
281	0	609	0
376	0	1092	1

CALCULATED JDL
CHECKED PRS

MAINLINE I-271

LEGEND

- CONCRETE TO BE REMOVED UNDER ITEM 202 - PAVEMENT REMOVED (TYP.)
- ITEM 206 - CEMENT STABILIZED SUBGRADE (SEE GENERAL NOTE)
- ITEM 615 - ROADS FOR MAINTAINING TRAFFIC (EARTHWORK)
- ITEM 203 - SPECIAL BENCHING

℄ CONST. IR 271

100 50 0 50 100

℄ TEMPORARY MEDIAN CROSSOVER PHASE 4A

℄ TEMPORARY MEDIAN CROSSOVER PHASE 3A

31.57′ 31.57′

2:1 8:1 6% ℄

997.12
260+50.00 R 2
997.30

992.2
260+50.00 R 2
993.22

995.44
260+50.00 R 2
996.21

1010 1000 990 980 970 960 950

MATCHLINE 120′ RT. (SEE BELOW)

STA. 259+98.02, 154.88′ RT.
EX. HDWL (REMOVE)
℄ 15″ 954.01

ROCK CHANNEL PROTECTION, TYPE C, WITH FABRIC FILTER (T = 18″)

22 ½° BEND

STA. 259+98.02, 154.88′ RT.
HW-2.2 HDWL
℄ EL. 954.01

8′-15″ TYPE F,
707.05 TYPE C OR
707.21 @ 0.50%±

℄ TEMPORARY MEDIAN CROSSOVER PHASE 4A

STA. 259+99.80, 2.58′ RT.
EX. CB (REMOVE)
GRATE EL. 990.36
℄ 15″ 987.60

24.29′ 24.29′

℄ TEMPORARY MEDIAN CROSSOVER PHASE 3A

2:1 12:1 1:1 8:1

990.2

994.82
260+00.00 R 2
995.29

991.69
260+00.00 R 2

STA. 259+99.80, 6.70′ RT.
CB NO 4
GRATE EL. 990.07
℄ 6″ (NW & SE) 988.10
℄ 15″ 987.52

4′-15″ TYPE C,
706.02 @ EX. SLOPE

EX. 15″ RCP

993.89
260+00.00 R 2
994.67

10′

REMOVE EX. COLLAR

22 ½° BEND

CONC. COLLAR AS PER DM-1.1

10′-15″ TYPE F,
707.05 TYPE C OR
707.21 @ 2.00%±

67′-15″ TYPE F,
707.05 TYPE C OR
707.21 @ 50.00%±

MATCHLINE 120′ RT. (SEE ABOVE)

STA. 259+50.00 100 50 0 50 100 STA. 259+50.00

CROSS SECTIONS
STA. 260+00.00 TO STA. 260+50.00

SUM-271-2.33

467
1195

F:\2009\109094\18710\roadway\sheets\18710XS003.dgn 11/10/2012 10:20:30 AM DonHelman

SEEDING	
END WIDTH	SQ. YDS.
127	
	587
84	
	459
81	
	1046

END AREA	
CUT	FILL
201	15
212	3
240	1

VOLUME	
CUT	FILL
383	17
419	4
802	21

CALCULATED JDL
CHECKED PRS

CROSS SECTIONS
STA. 264+00.00 TO STA. 261+50.00

SUM-271-2.33

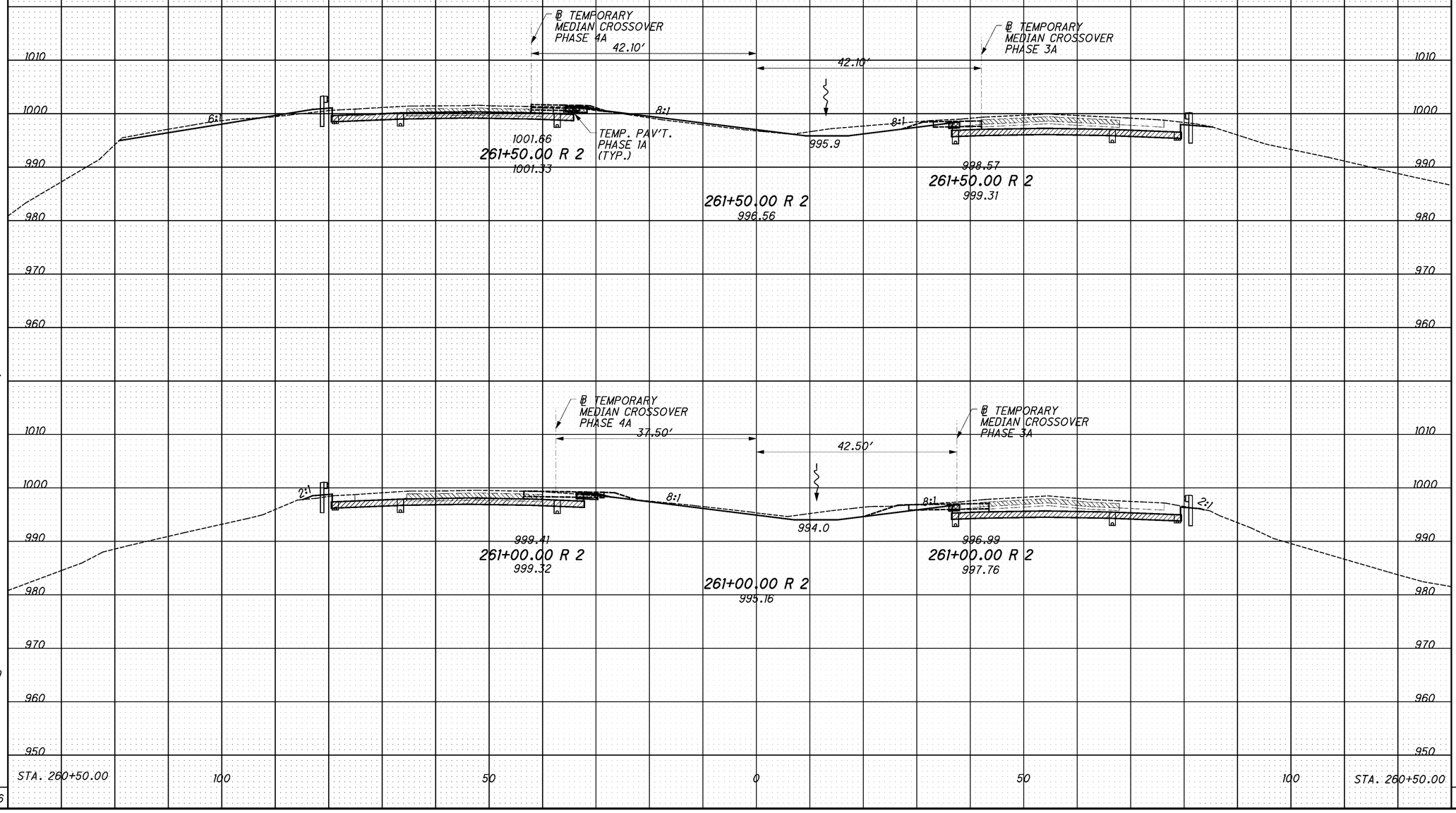
468
1195

MAINLINE I-271

100 50 0 ℄ CONST. IR 271 50 100

LEGEND

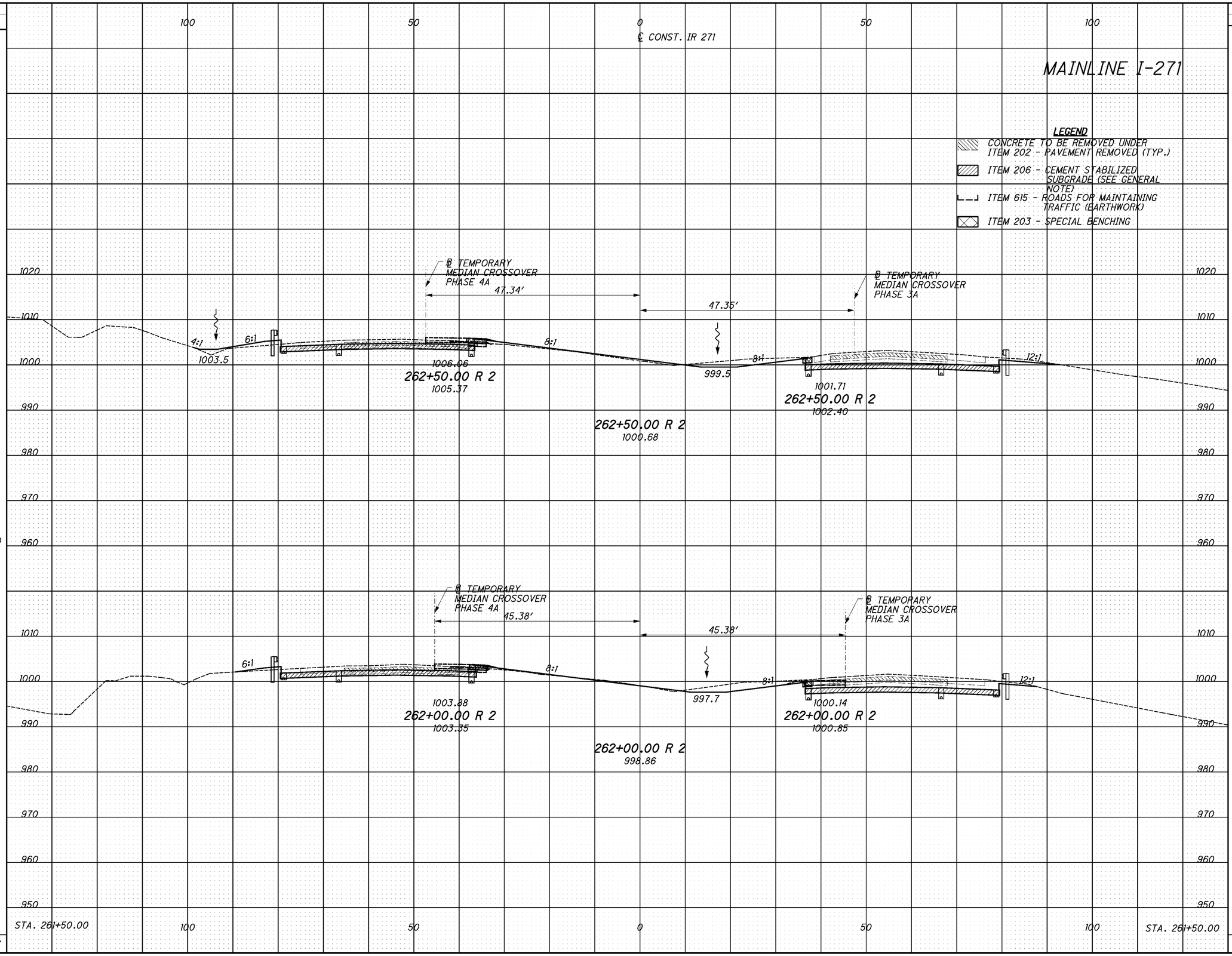
- CONCRETE TO BE REMOVED UNDER ITEM 202 - PAVEMENT REMOVED (TYP.)
- ITEM 206 - CEMENT STABILIZED SUBGRADE (SEE GENERAL NOTE)
- ITEM 615 - ROADS FOR MAINTAINING TRAFFIC (EARTHWORK)
- ITEM 203 - SPECIAL BENCHING



STA. 260+50.00 100 50 0 50 100 STA. 260+50.00

F:\2009\109094\18710\roadway\sheets\18710XS003.dgn 11/10/2012 10:21:07 AM DonHelman

SEEDING	
END WIDTH	SQ. YDS.
110	
95	570
	617
127	
	1187



END AREA		VOLUME	
CUT	FILL	CUT	FILL
165	27		
		320	35
180	10		
		353	24
201	15		
		673	59

CALCULATED JDL
CHECKED PRS

CROSS SECTIONS
STA. 262+00.00 TO STA. 262+50.00

SUM-271-2.33

469
1195

F:\2009\109094\18710\roadway\sheets\18710XS003.dgn 11/10/2012 10:21:28 AM DonHelman

SEEDING	
END WIDTH	SQ. YDS.
113	637
116	628
110	1265

100 50 0 50 100

℄ CONST. IR 271

MAINLINE I-271

1030 1020 1010 1000 990 980 970 960 950 940

4:1 6:1 7:1 8:1 12:1

1007.9

1010.31
263+50.00 R 2
1009.37

1002.7

1004.85
263+50.00 R 2
1005.40

263+50.00 R 2
1004.31

LEGEND

- CONCRETE TO BE REMOVED UNDER ITEM 202 - PAVEMENT REMOVED (TYP.)
- ITEM 206 - CEMENT STABILIZED SUBGRADE (SEE GENERAL NOTE)
- ITEM 615 - ROADS FOR MAINTAINING TRAFFIC (EARTHWORK)
- ITEM 203 - SPECIAL BENCHING

℄ TEMPORARY MEDIAN CROSSOVER PHASE 4A

48.00'

℄ TEMPORARY MEDIAN CROSSOVER PHASE 3A

48.00'

4:1 6:1 7:5:1 8:1 12:1

1005.6

1008.20
263+00.00 R 2
1007.38

1001.2

1003.28
263+00.00 R 2
1003.94

263+00.00 R 2
1002.28

STA. 262+50.00 STA. 262+50.00

END AREA		VOLUME	
CUT	FILL	CUT	FILL
122	48	239	88
136	47	279	69
165	27	518	157

CALCULATED JDL
CHECKED PRS

CROSS SECTIONS
STA. 263+00.00 TO STA. 263+50.00

SUM-271-2.33

470
1195

F:\2009\109094\18710\roadway\sheets\18710XS003.dgn 11/10/2012 10:21:48 AM DonHerman

SEEDING	
END WIDTH	SQ. YDS.
109	
	634
119	
	645
113	
	1279

100 50 0 ℄ CONST. IR 271 50 100

MAINLINE I-271

LEGEND

- CONCRETE TO BE REMOVED UNDER ITEM 202 - PAVEMENT REMOVED (TYP.)
- ITEM 206 - CEMENT STABILIZED SUBGRADE (SEE GENERAL NOTE)
- ITEM 615 - ROADS FOR MAINTAINING TRAFFIC (EARTHWORK)
- ITEM 203 - SPECIAL BENCHING

4:1 6:1 1012.1 1014.52 264+50.00 R 2 1013.35 5.8:1 1005.9 8:1 1008.00 264+50.00 R 2 1008.31 13.1:1

264+50.00 R 2 1008.25

LEGEND

- CONCRETE TO BE REMOVED UNDER ITEM 202 - PAVEMENT REMOVED (TYP.)
- ITEM 206 - CEMENT STABILIZED SUBGRADE (SEE GENERAL NOTE)
- ITEM 615 - ROADS FOR MAINTAINING TRAFFIC (EARTHWORK)
- ITEM 203 - SPECIAL BENCHING

4:1 6:1 1010.0 1012.42 264+00.00 R 2 1011.36 6.2:1 1004.3 8:1 1006.42 264+00.00 R 2 1006.85 17.3:1

264+00.00 R 2 1006.01

STA. 263+50.00 STA. 263+50.00

END AREA		VOLUME	
CUT	FILL	CUT	FILL
103	52		
		207	109
120	65		
		225	105
122	48		
		432	214

CALCULATED JDL
CHECKED PRS

CROSS SECTIONS
STA. 264+00.00 TO STA. 264+50.00

SUM-271-2.33

471
1195

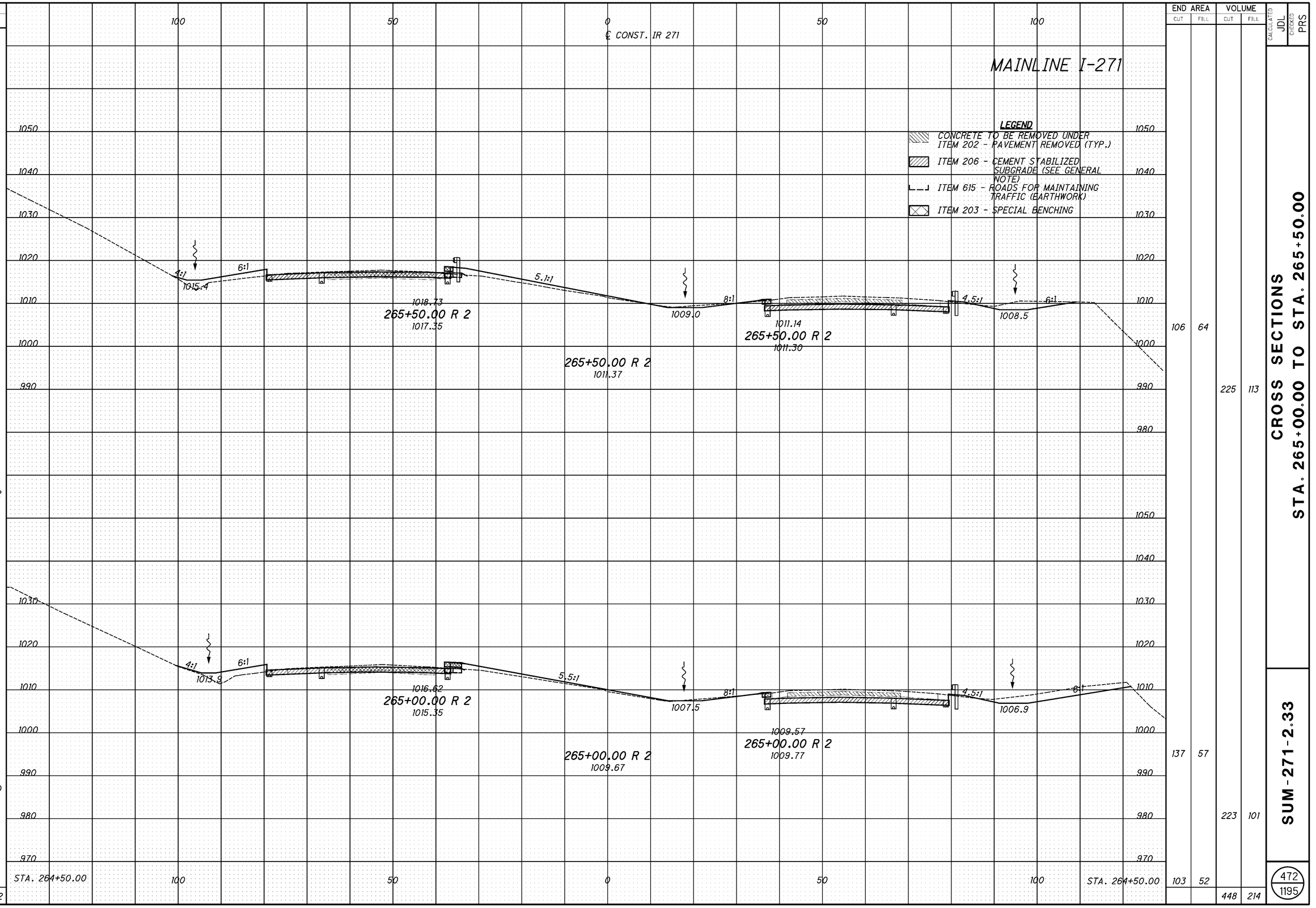
F:\2009\109094\18710\roadway\sheets\18710XS003.dgn 11/10/2012 10:22:14 AM DonHerman

SEEDING	
END WIDTH	SQ. YDS.
131	762
143	700
109	1462

END AREA	
CUT	FILL
106	64
137	57
103	52

VOLUME	
CUT	FILL
225	113
223	101
448	214

CALCULATED JDL
CHECKED PRS



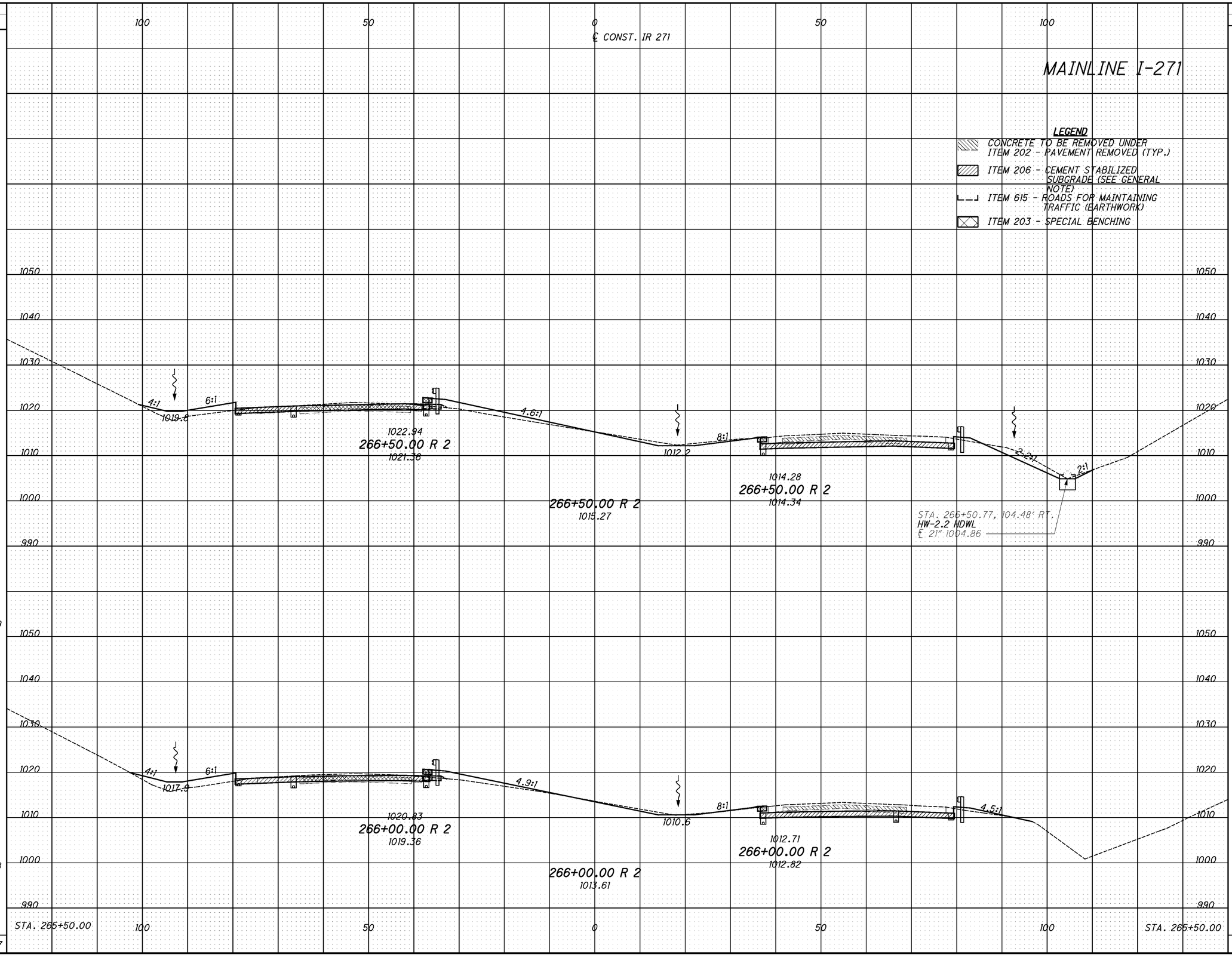
CROSS SECTIONS
STA. 265+00.00 TO STA. 265+50.00

SUM-271-2.33

472
1195

F:\2009\109094\18710\roadway\sheets\18710XS003.dgn 11/10/2012 10:22:43 AM DonHelman

SEEDING	
END WIDTH	SQ. YDS.
135	
	709
120	
	698
131	
	1407



END AREA		VOLUME	
CUT	FILL	CUT	FILL
106	69		
		175	126
82	67		
		175	122
106	64		
		350	248

CALCULATED JDL
CHECKED PRS

CROSS SECTIONS
STA. 266+00.00 TO STA. 266+50.00
SUM-271-2.33

473
1195

F:\2009\109094\18710\roadway\sheets\18710XS003.dgn 11/10/2012 10:23:05 AM DonHelman

CROSS SECTIONS

STA. 267+00.00 TO STA. 267+50.00

SUM-271-2.33

CALCULATED JDL

CHECKED PRS

MAINLINE I-271

℄ CONST. IR 271

LEGEND

- CONCRETE TO BE REMOVED UNDER ITEM 202 - PAVEMENT REMOVED (TYP.)
- ITEM 206 - CEMENT STABILIZED SUBGRADE (SEE GENERAL NOTE)
- ITEM 615 - ROADS FOR MAINTAINING TRAFFIC (EARTHWORK)
- ITEM 203 - SPECIAL BENCHING

SEEDING END WIDTH	SEEDING SQ. YDS.	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
118	767	65	63	171	127
158	814	119	74	209	133
135	1581	106	69	380	260

STA. 266+50.00

100 50 0 50 100

1060 1050 1040 1030 1020 1010 1000 990

4:1 6:1 1023.6

1027.15
267+50.00 R 2
1025.37

4:1 8:1 6:1 4:1 1016.3

1015.2 EX. 21" RCP

1017.43
267+50.00 R 2
1017.39

267+50.00 R 2
1018.70

4:1 6:1 1021.7

1025.04
267+00.00 R 2
1023.37

4.4:1 2:1

STA. 266+99.56, 18.32' RT.
EX. CB (REMOVE)
GRATE EL. 1013.24
℄ 21" (NE) 1010.60
℄ 21" (S) 1010.30

1013.7 8:1 6:1 1013.5

1015.85
267+00.00 R 2
1015.87

EX. 21" RCP

267+00.00 R 2
1016.80

10' - 21" TYPE C,
706.02 @ EX. SLOPE

STA. 266+99.56, 18.36' RT.
CB NO 4
GRATE EL. 1013.48
℄ 6" (NW & SE) 1011.00
℄ 21" (NE) 1010.60
℄ 21" (S) 1010.30

STA. 266+50.00

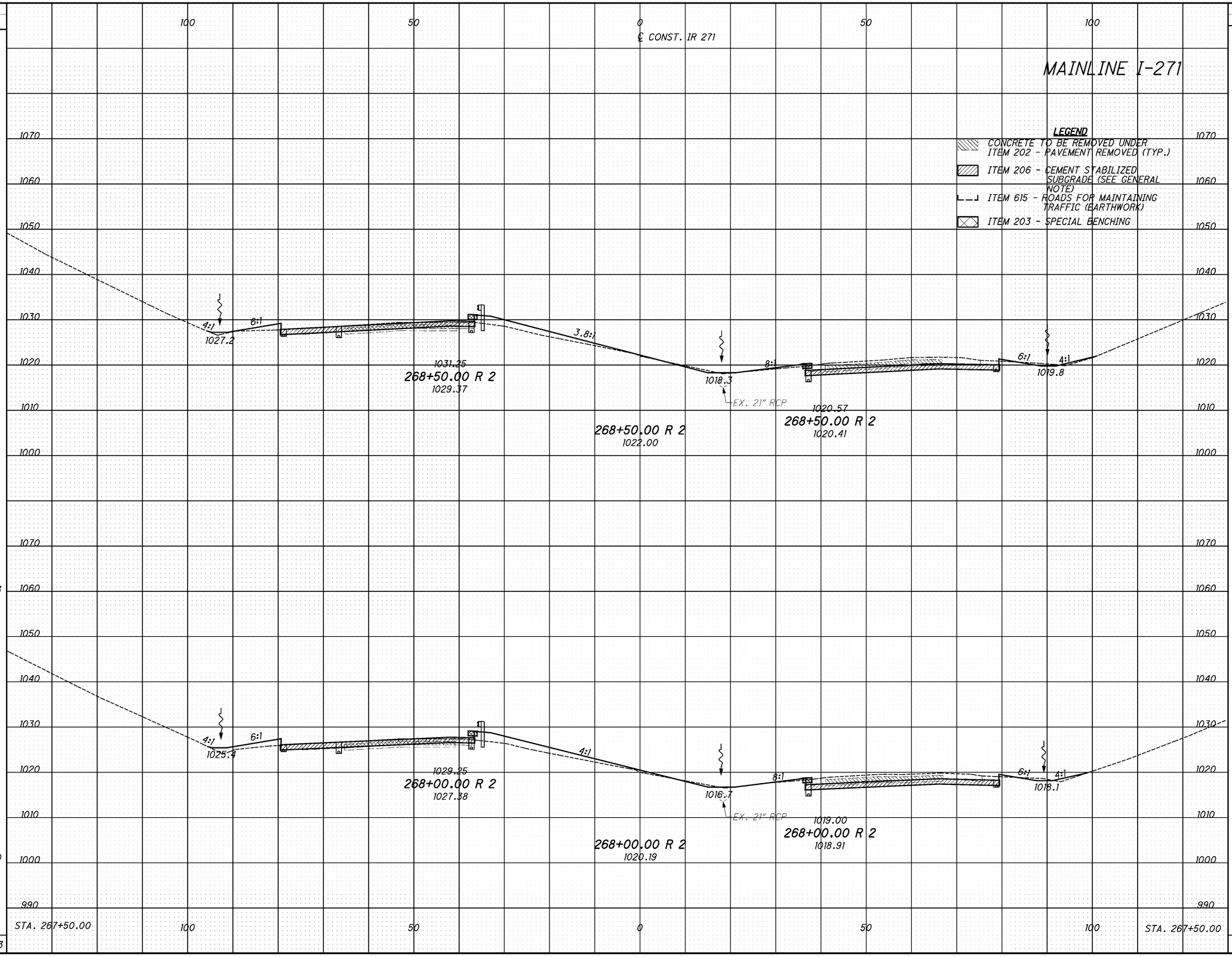
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474
1195

SEEDING	
END WIDTH	SQ. YDS.
119	653
116	650
118	1303

END AREA		VOLUME	
CUT	FILL	CUT	FILL
65	55	116	115
60	69	116	123
65	63	232	238

CALCULATED JDL
CHECKED PRS



CROSS SECTIONS
STA. 268+00.00 TO STA. 268+50.00

SUM-271-2.33

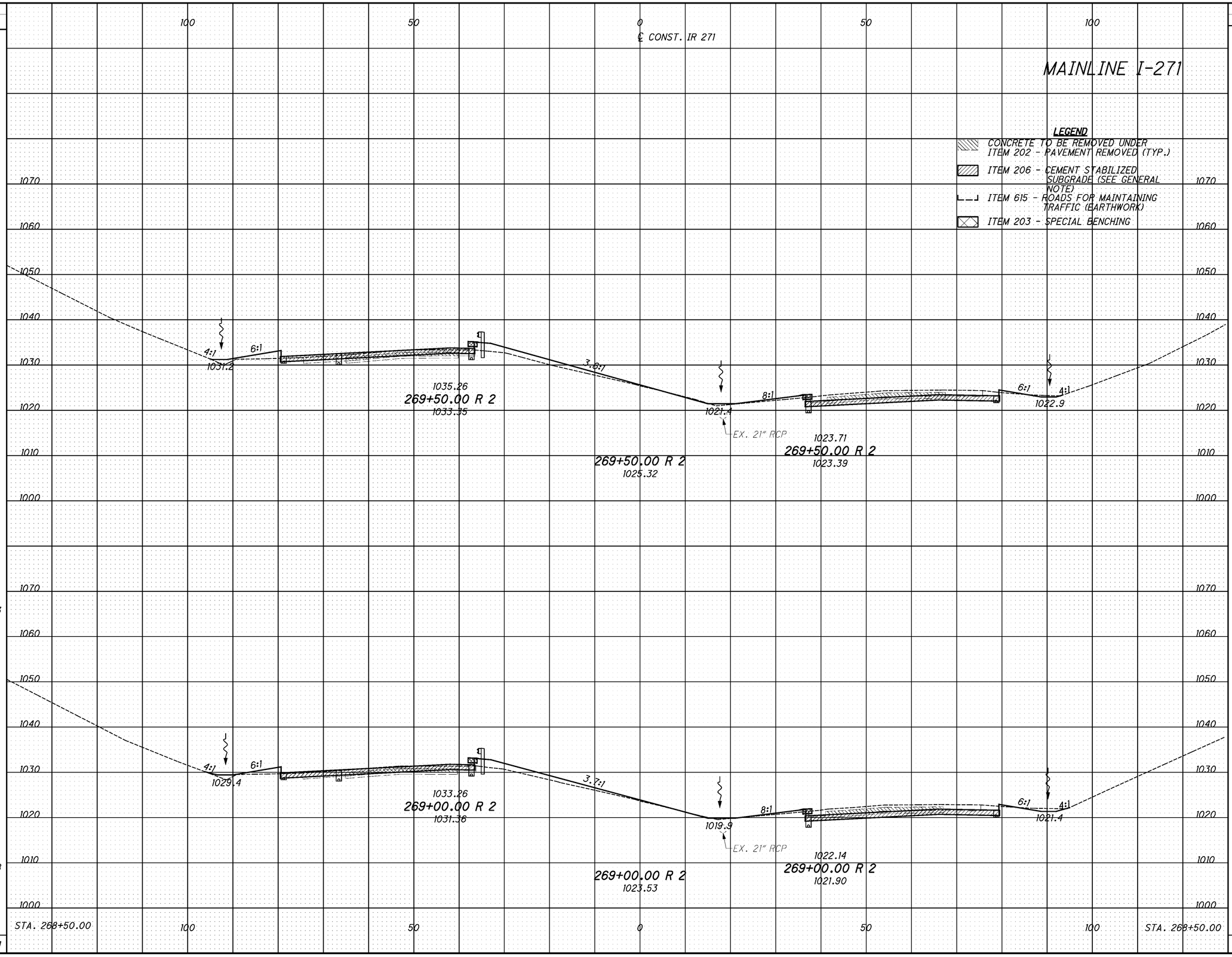
475
1195

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SEEDING	
END WIDTH	SQ. YDS.
110	
114	623
119	648
	1271

END AREA		VOLUME	
CUT	FILL	CUT	FILL
53	70		
57	57		
65	55		
		102	118
		113	104
		215	222

CALCULATED JDL
CHECKED PRS



CROSS SECTIONS
269+00.00 TO STA. 269+50.00

SUM-271-2.33

476
1195

F:\2009\109094\18710\roadway\sheets\18710XS003.dgn 11/10/2012 10:24:32 AM DonHelmon

SEEDING	
END WIDTH	SQ. YDS.
120	645
112	617
110	1262

END AREA	
CUT	FILL
41	94
52	78
53	70

VOLUME	
CUT	FILL
87	160
98	138
185	298

CALCULATED JDL
CHECKED PRS

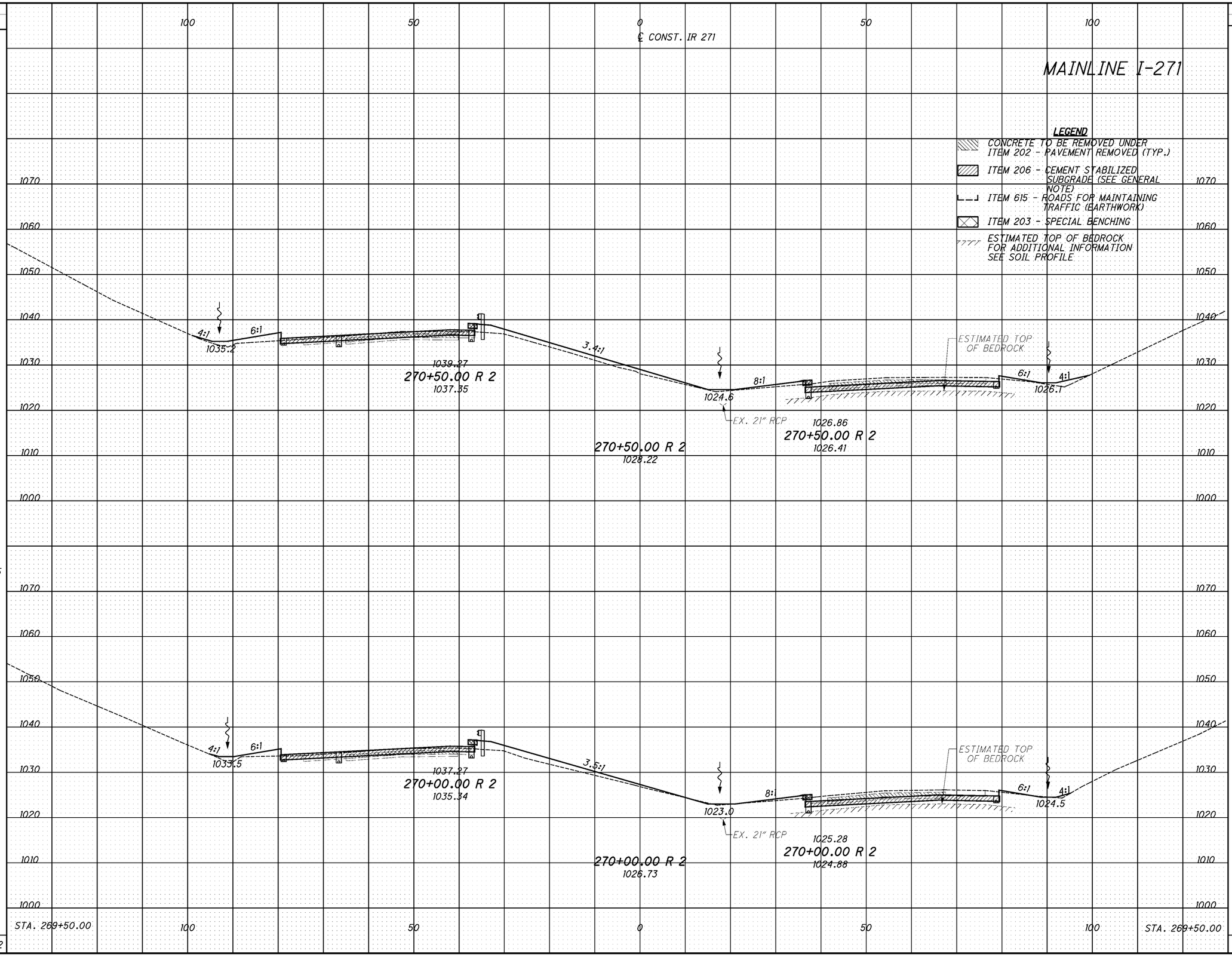
CROSS SECTIONS
STA. 270+00.00 TO STA. 270+50.00

MAINLINE I-271

℄ CONST. IR 271

LEGEND

- CONCRETE TO BE REMOVED UNDER ITEM 202 - PAVEMENT REMOVED (TYP.)
- ITEM 206 - CEMENT STABILIZED SUBGRADE (SEE GENERAL NOTE)
- ITEM 615 - ROADS FOR MAINTAINING TRAFFIC (EARTHWORK)
- ITEM 203 - SPECIAL BENCHING
- ESTIMATED TOP OF BEDROCK FOR ADDITIONAL INFORMATION SEE SOIL PROFILE



SUM-271-2.33

477
1195

F:\2009\109094\18710\roadway\sheets\18710XS003.dgn 11/10/2012 10:24:52 AM DonHelman

SEEDING	
END WIDTH	SQ. YDS.
121	
122	675
	673
120	
	1348

END AREA		VOLUME	
CUT	FILL	CUT	FILL
60	84		
49	85		
41	94		
		101	157
		84	166
		185	323

CALCULATED JDL
CHECKED PRS

100 50 0 ℄ CONST. IR 271 50 100

MAINLINE I-271

LEGEND

- CONCRETE TO BE REMOVED UNDER ITEM 202 - PAVEMENT REMOVED (TYP.)
- ITEM 206 - CEMENT STABILIZED SUBGRADE (SEE GENERAL NOTE)
- ITEM 615 - ROADS FOR MAINTAINING TRAFFIC (EARTHWORK)
- ITEM 203 - SPECIAL BENCHING
- ESTIMATED TOP OF BEDROCK FOR ADDITIONAL INFORMATION SEE SOIL PROFILE

1080 1070 1060 1050 1040 1030 1020 1010

4:1 6:1 1038.8 1043.28 271+50.00 R 2 1041.37 3.2:1 1027.7 8:1 ESTIMATED TOP OF BEDROCK 6:1 4:1 1029.2

EX. 21" RCP 1030.00 271+50.00 R 2 1029.48

271+50.00 R 2 1031.50

4:1 6:1 1037.2 1041.28 271+00.00 R 2 1039.36 3.3:1 1026.1 8:1 ESTIMATED TOP OF BEDROCK 6:1 4:1 1027.6

EX. 21" RCP 1028.43 271+00.00 R 2 1027.94

271+00.00 R 2 1030.09

STA. 270+50.00 100 50 0 50 100 STA. 270+50.00

CROSS SECTIONS STA. 271+00.00 TO STA. 271+50.00

SUM-271-2.33

478
1195

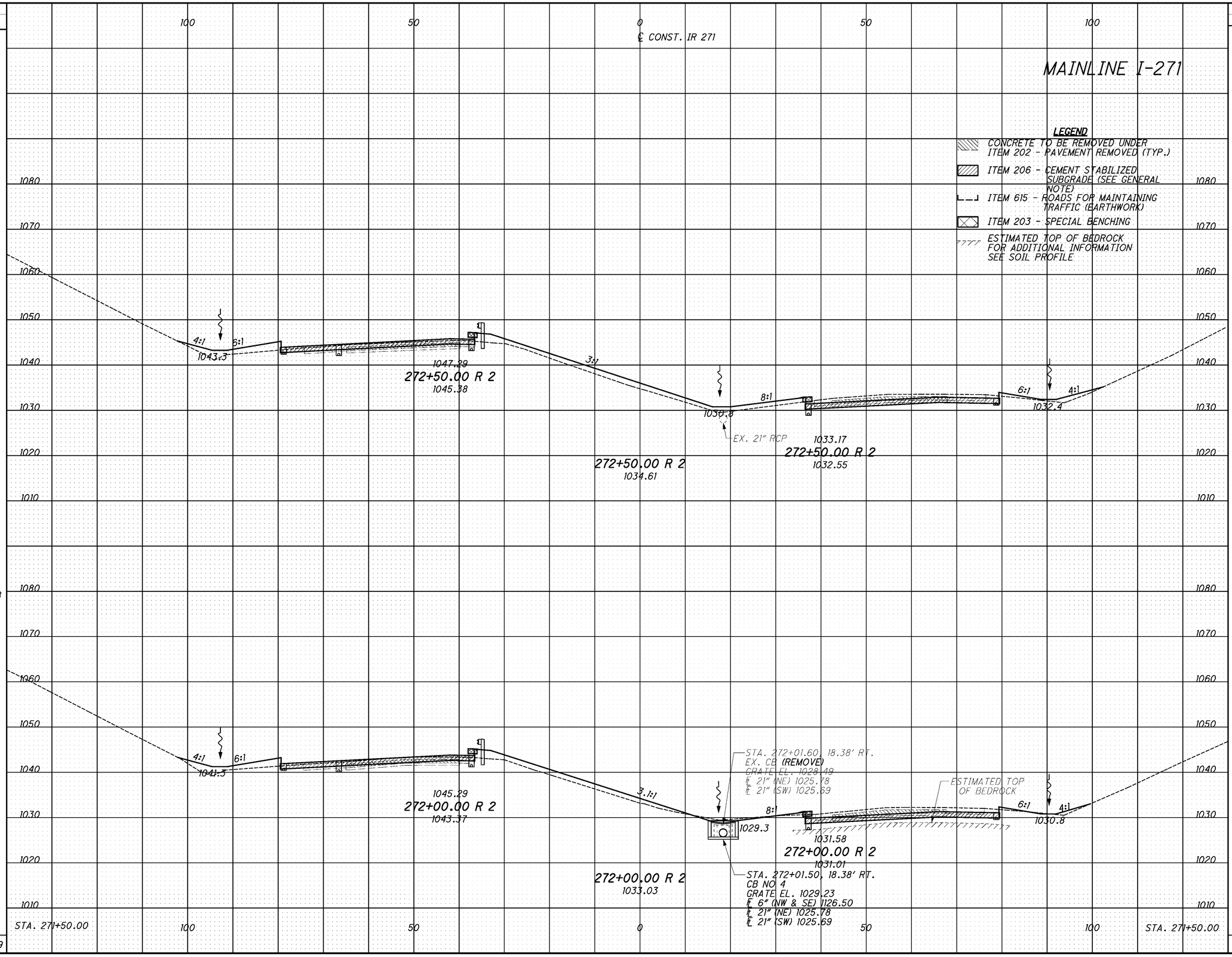
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CROSS SECTIONS
STA. 272+00.00 TO STA. 272+50.00

CALCULATED JDL
CHECKED PRS

SEEDING END WIDTH	SEEDING SQ. YDS.
127	
124	698
121	681
	1379

END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
37	137		
50	99		
60	84		
		81	219
		102	170
		183	389



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SUM-271-2.33

SEEDING	
END WIDTH	SQ. YDS.
125	698
126	703
127	1401

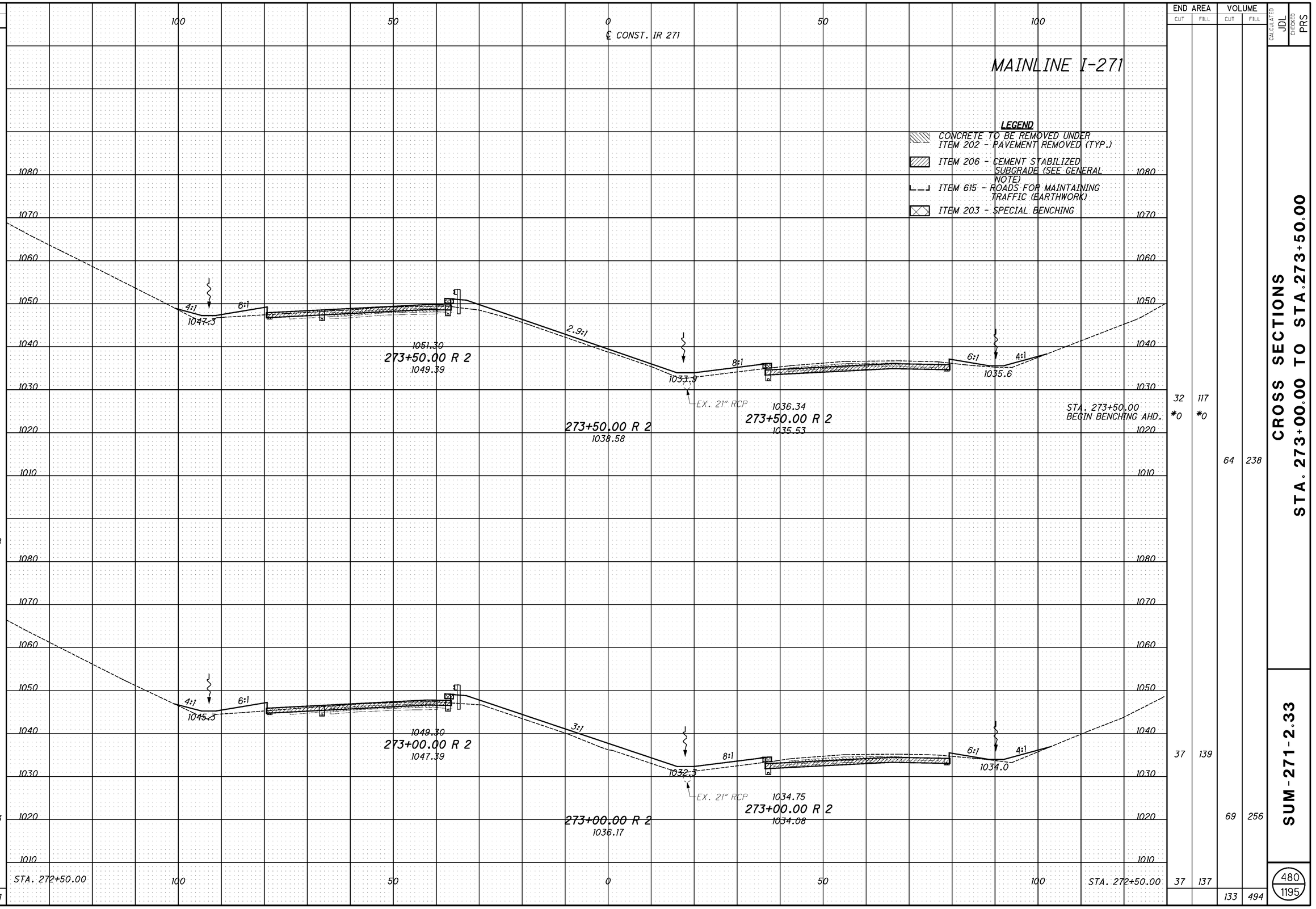
END AREA		VOLUME	
CUT	FILL	CUT	FILL
32	117		
*0	*0		
		64	238
37	139		
		69	256
37	137		
		133	494

CALCULATED JDL
CHECKED PRS

CROSS SECTIONS
STA. 273+00.00 TO STA.273+50.00

SUM-271-2.33

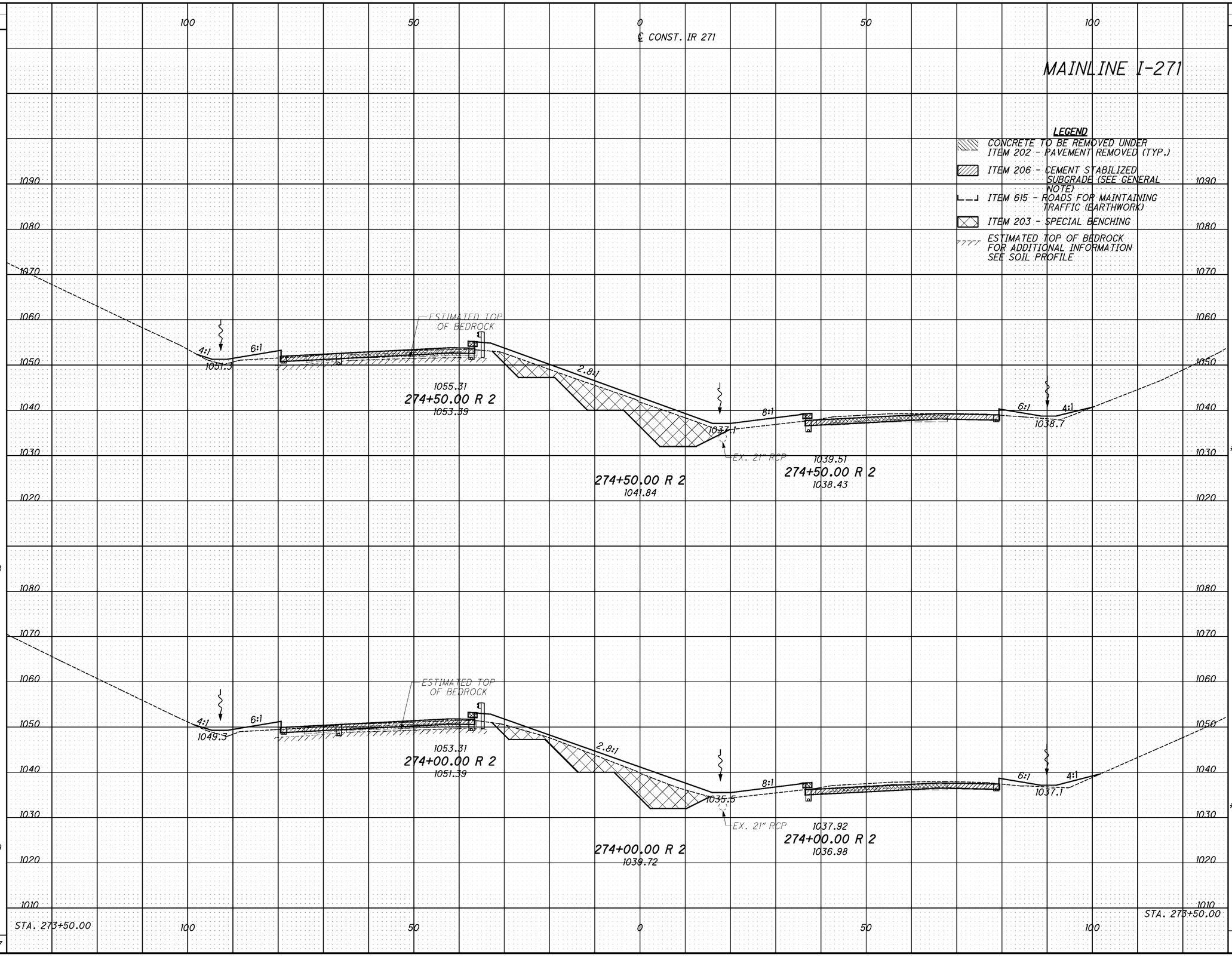
480
1195



F:\2009\109094\18710\roadway\sheets\18710XS003.dgn 11/12/2012 6:59:57 AM CraigBarghart

CROSS SECTIONS
STA. 274+00.00 TO STA. 274+50.00
SUM-271-2.33

CALCULATED JDL
CHECKED PRS



SEEDING END WIDTH	SEEDING SQ. YDS.
121	
	678
123	
	689
125	
	1367

END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
12	128		
*219	*219		
		29	243
		*353	*353
		48	233
		*150	*150
19	134		
*162	*162		
32	117		
*0	*0		
		77	476
		*503	*503

481
1195

F:\2009\109094\18710\roadway\sheets\18710XS003.dgn 11/10/2012 10:26:25 AM DonHelman

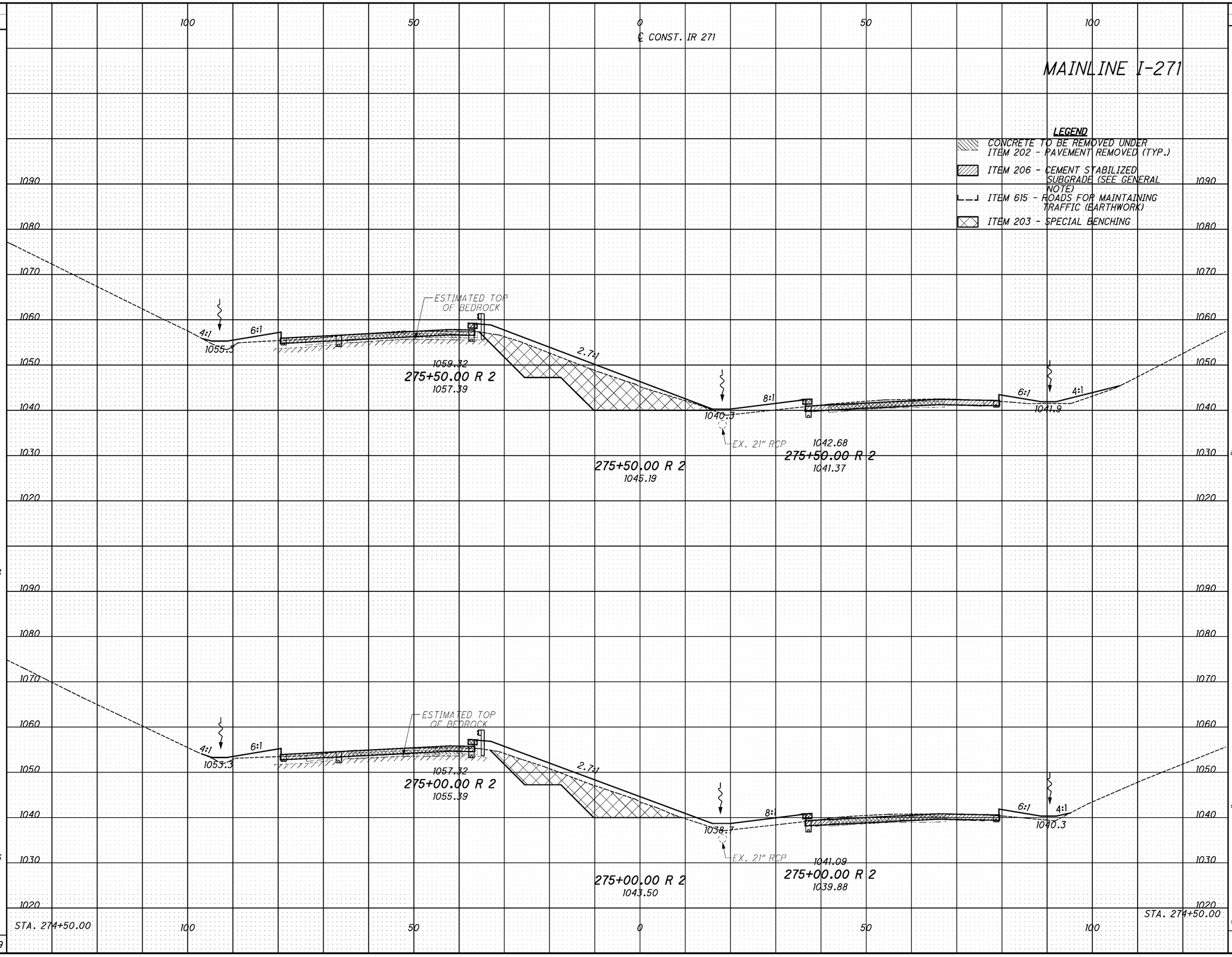
SEEDING	
END WIDTH	SQ. YDS.
127	
	673
115	
	656
121	
	1329

100 50 0 ℄ CONST. IR 271 50 100

MAINLINE I-271

LEGEND

- CONCRETE TO BE REMOVED UNDER ITEM 202 - PAVEMENT REMOVED (TYP.)
- ITEM 206 - CEMENT STABILIZED SUBGRADE (SEE GENERAL NOTE)
- ITEM 615 - ROADS FOR MAINTAINING TRAFFIC (EARTHWORK)
- ITEM 203 - SPECIAL BENCHING



END AREA		VOLUME	
CUT	FILL	CUT	FILL
10 *252	138 *252		
		18 *383	257 *383
9 *161	139 *161		
		20 *352	248 *352
12 *219	128 *219		
		38 *735	505 *735

CALCULATED JDL
CHECKED PRS

CROSS SECTIONS
STA. 275+00.00 TO STA. 275+50.00

SUM-271-2.33

482
1195

F:\2009\109094\18710\roadway\sheets\18710XS003.dgn 11/10/2012 10:26:51 AM DonHelman

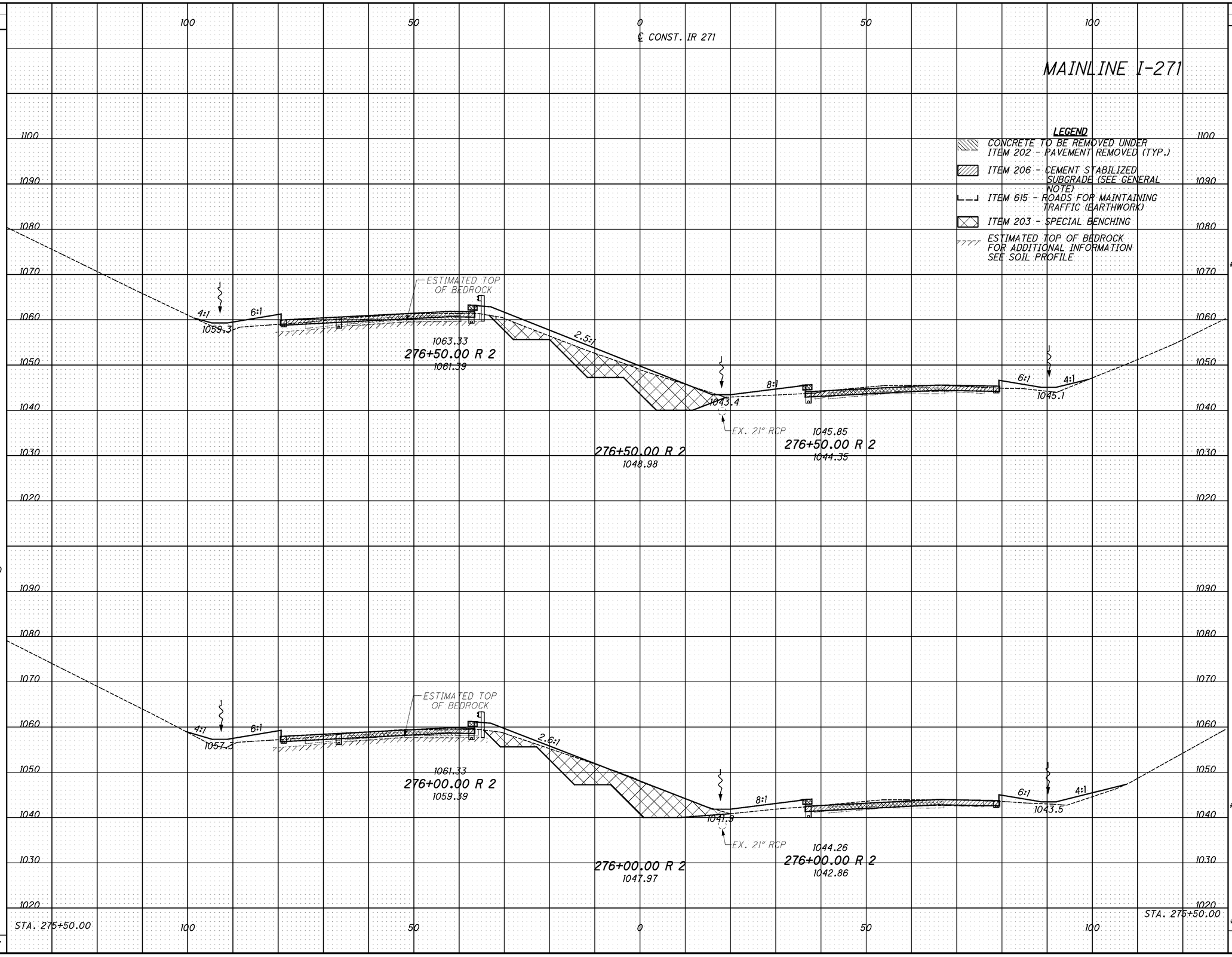
CROSS SECTIONS

STA. 276+00.00 TO STA. 276+50.00

SUM-271-2.33

CALCULATED JDL

CHECKED PRS



SEEDING END WIDTH	SEEDING SQ. YDS.
121	700
131	717
127	1417

END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
7	139		
*203	*203		
		15	228
		*375	*375
9	107		
*201	*201		
		18	227
		*420	*420
10	138		
*252	*252		
		33	455
		*795	*795

F:\2009\109094\18710\roadway\sheets\18710XS003.dgn 11/10/2012 10:27:14 AM DonHelman

SEEDING	
END WIDTH	SQ. YDS.
130	695
120	670
121	1365

100 50 0 50 100

℄ CONST. IR 271

MAINLINE I-271

LEGEND

- CONCRETE TO BE REMOVED UNDER ITEM 202 - PAVEMENT REMOVED (TYP.)
- ITEM 206 - CEMENT STABILIZED SUBGRADE (SEE GENERAL NOTE)
- ITEM 615 - ROADS FOR MAINTAINING TRAFFIC (EARTHWORK)
- ITEM 203 - SPECIAL BENCHING
- ESTIMATED TOP OF BEDROCK FOR ADDITIONAL INFORMATION SEE SOIL PROFILE

1100 1090 1080 1070 1060 1050 1040 1030 1020

4:1 6:1 1063.3

ESTIMATED TOP OF BEDROCK

1067.34
277+50.00 R 2
1065.39

2.4:1

1046.6

8:1

EX. 18" RCP

1049.02
277+50.00 R 2
1047.32

277+50.00 R 2
1052.08

6:1 4:1 1048.2

4:1 6:1 1061.3

ESTIMATED TOP OF BEDROCK

1065.34
277+00.00 R 2
1063.39

2.5:1

STA. 276+95.29, 18.12' RT.
EX. CB (REMOVE)
GRATE EL. 1043.32
℄ 18" 1040.47
℄ 21" 1040.40

8:1 1045.0

1047.43
277+00.00 R 2
1045.84

277+00.00 R 2
1050.98

STA. 276+95.29, 18.12' RT.
CB NO. 5
GRATE EL. 1044.60
℄ 6" (NW & SE) 1041.50
℄ 18" 1040.47
℄ 21" 1040.40

6:1 4:1 1046.7

STA. 276+50.00 STA. 276+50.00

100 50 0 50 100

END AREA		VOLUME	
CUT	FILL	CUT	FILL
1 *110	182 *110		
		2 *316	303 *316
1 *231	145 *231		
		8 *402	263 *402
7 *203	139 *203		
		10 *718	566 *718

CALCULATED JDL
CHECKED PRS

CROSS SECTIONS
STA. 277+00.00 TO STA. 277+50.00

SUM-271-2.33

484
1195

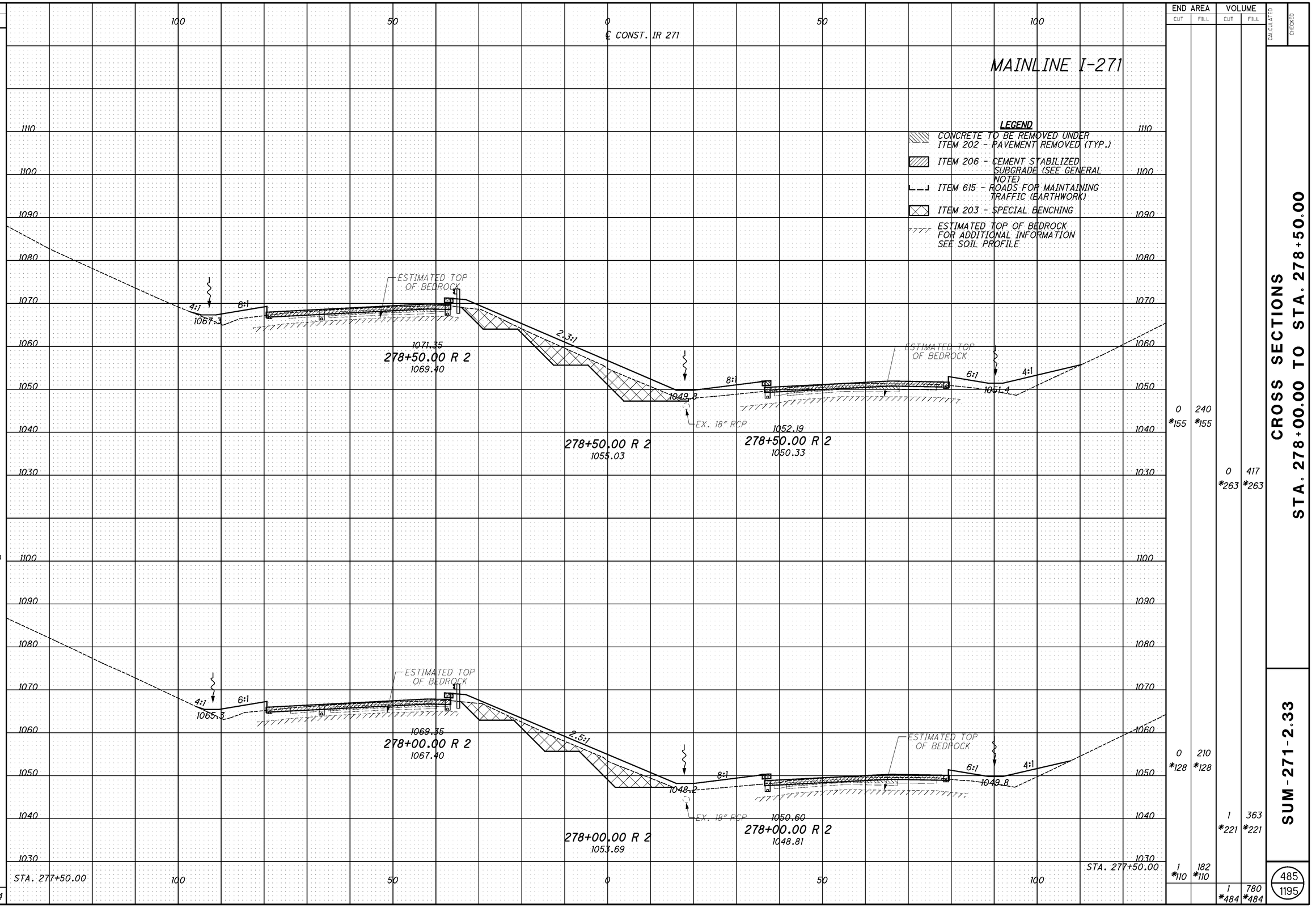
F:\2009\109094\18710\roadway\sheets\18710XS003.dgn 11/10/2012 10:27:37 AM DonHelmon

CROSS SECTIONS
STA. 278+00.00 TO STA. 278+50.00
SUM-271-2.33

CALCULATED | CHECKED

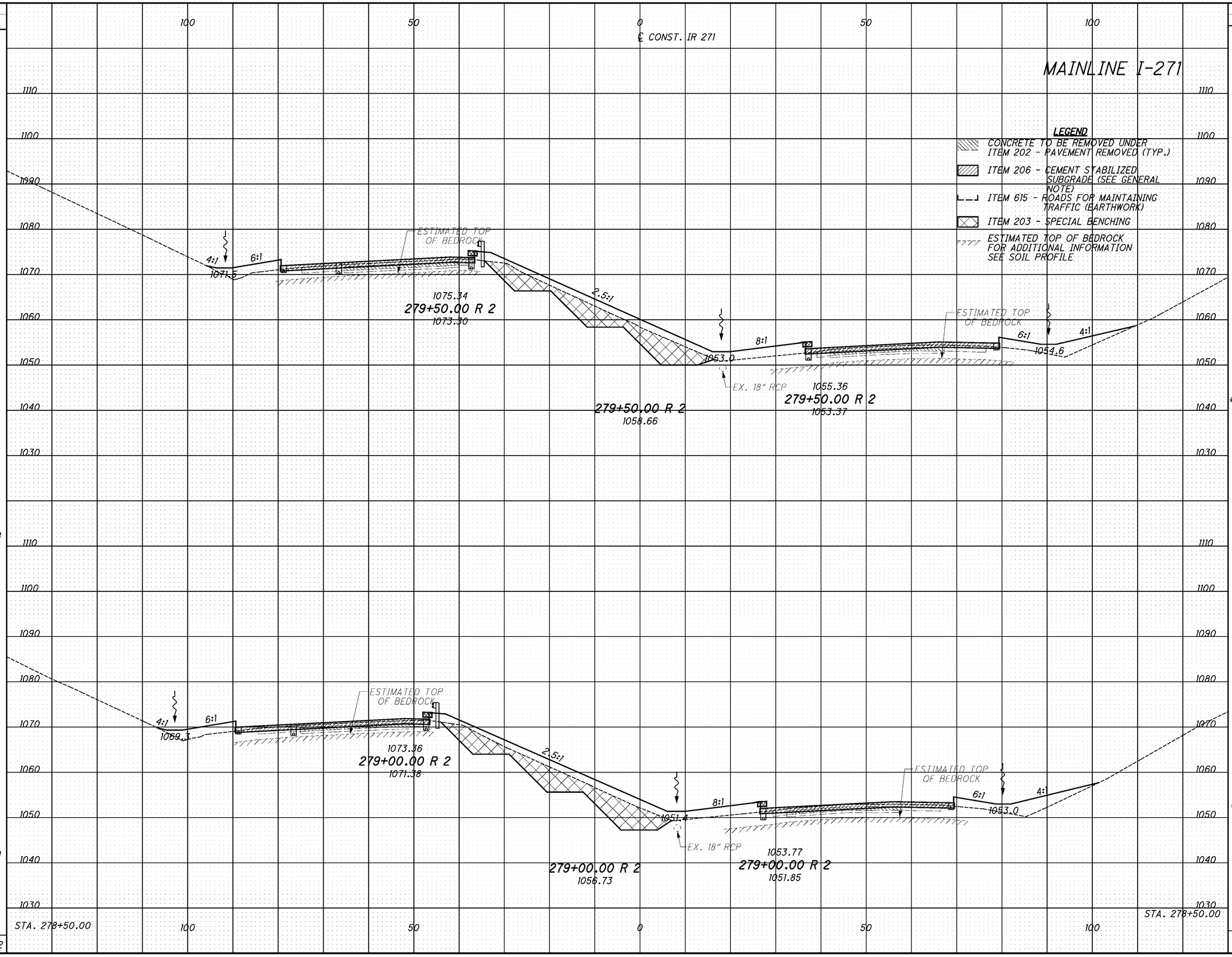
SEEDING END WIDTH	SEEDING SQ. YDS.
132	
127	720
130	714
	1434

END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
0	240		
*155	*155		
		0	417
		*263	*263
0	210		
*128	*128		
		1	363
		*221	*221
1	182		
*110	*110		
		1	780
		*484	*484



F:\2009\109094\18710\roadway\sheets\18710XS003.dgn 11/10/2012 10:27:57 AM DonHelmon

SEEDING	
END WIDTH	SQ. YDS.
130	
132	728
132	734
132	1462



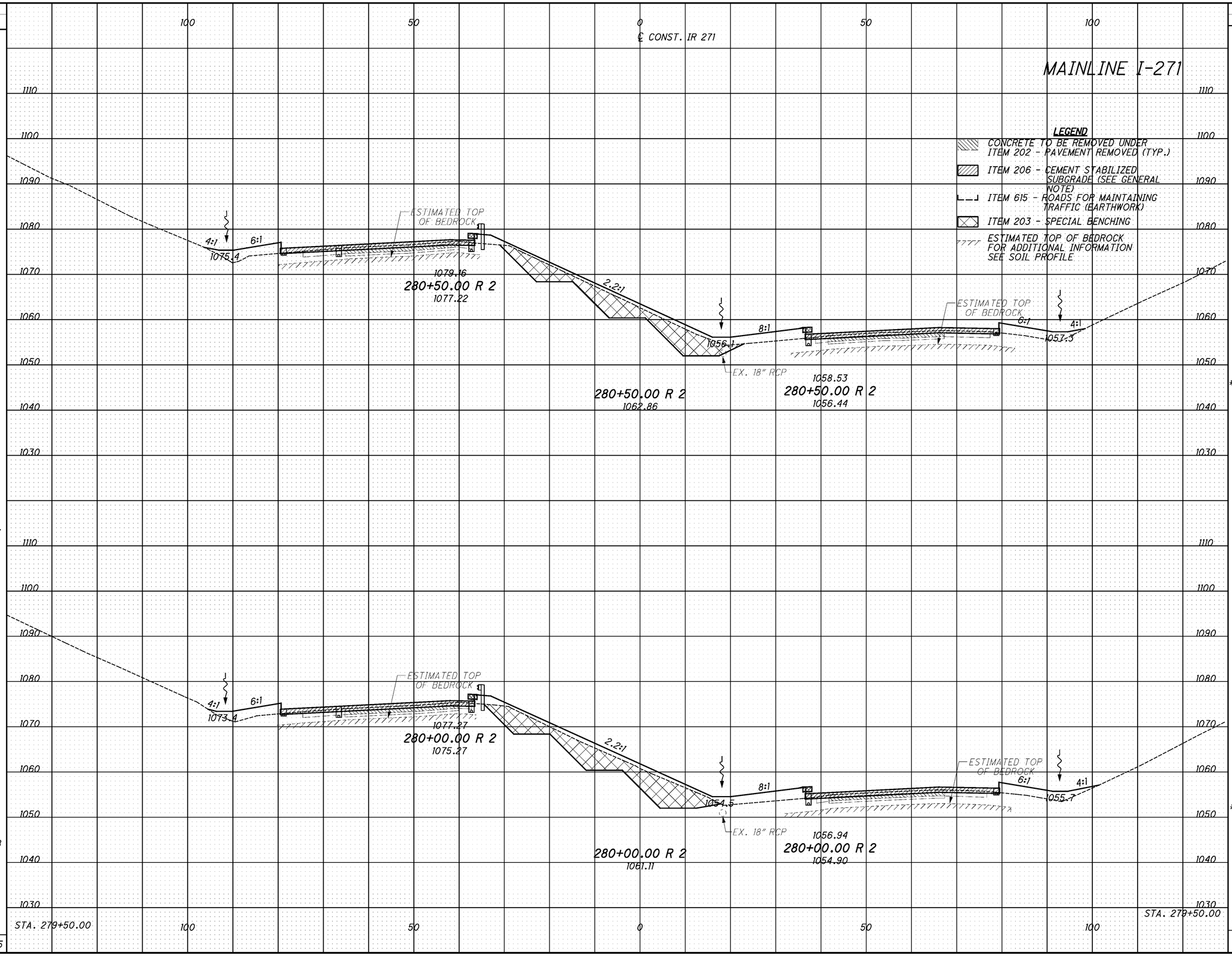
END AREA		VOLUME	
CUT	FILL	CUT	FILL
0	255		
*174	*174		
		0	469
		*338	*338
0	251		
*190	*190		
		0	455
		*320	*320
0	240		
*155	*155		
		0	924
		*658	*658

CALCULATED JDL
CHECKED PRS

CROSS SECTIONS
STA. 279+00.00 TO STA. 279+50.00
SUM-271-2.33

F:\2009\109094\18710\roadway\sheets\18710XS003.dgn 11/10/2012 10:28:19 AM DonHelman

SEEDING END WIDTH	SEEDING SQ. YDS.
119	667
121	698
130	1365



END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
0	204		
*179	*179		
		0	386
		*350	*350
0	212		
*198	*198		
		0	433
		*345	*345
0	255		
*174	*174		
		0	819
		*695	*695

CALCULATED JDL
CHECKED PRS

CROSS SECTIONS
STA. 280+00.00 TO STA. 280+50.00
SUM-271-2.33

F:\2009\109094\18710\roadway\sheets\18710XS003.dgn 11/10/2012 10:28:41 AM DonHerman

CROSS SECTIONS
STA. 281+00.00 TO STA. 281+50.00

CALCULATED JDL | CHECKED PRS

MAINLINE I-271

100 50 0 ℄ CONST. IR 271 50 100

LEGEND

- CONCRETE TO BE REMOVED UNDER ITEM 202 - PAVEMENT REMOVED (TYP.)
- ITEM 206 - CEMENT STABILIZED SUBGRADE (SEE GENERAL NOTE)
- ITEM 615 - ROADS FOR MAINTAINING TRAFFIC (EARTHWORK)
- ITEM 203 - SPECIAL BENCHING
- ESTIMATED TOP OF BEDROCK FOR ADDITIONAL INFORMATION SEE SOIL PROFILE

1110 1100 1090 1080 1070 1060 1050 1040

4:1 6:1 1078.7 ESTIMATED TOP OF BEDROCK 1082.77 281+50.00 R 2 1080.55 2.1:1 8:1 1059.2 EX. 18" RCP 1061.61 281+50.00 R 2 1059.54 ESTIMATED TOP OF BEDROCK 6:1 4:1 1060.4

281+50.00 R 2 1066.26

4:1 6:1 1077.0 ESTIMATED TOP OF BEDROCK 1080.99 281+00.00 R 2 1078.91 2.1:1 8:1 1057.7 EX. 18" RCP 1060.08 281+00.00 R 2 1057.99 ESTIMATED TOP OF BEDROCK 6:1 4:1 1058.9

281+00.00 R 2 1064.06

STA. 280+50.00 STA. 280+50.00

SEEDING END WIDTH	SEEDING SQ. YDS.
120	662
118	659
119	1321

END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
0	189		
*193	*193		
		0	371
		*340	*340
0	211		
*174	*174		
		0	385
		*327	*327
0	204		
*179	*179		
		0	756
		*667	*667

SUM-271-2.33

488
1195

F:\2009\109094\18710\roadway\sheets\18710XS003.dgn 11/10/2012 10:29:02 AM DonHelman

SEEDING	
END WIDTH	SQ. YDS.
125	
126	698
	684
120	1382

100 50 0 50 100

℄ CONST. IR 271

MAINLINE I-271

LEGEND

- CONCRETE TO BE REMOVED UNDER ITEM 202 - PAVEMENT REMOVED (TYP.)
- ITEM 206 - CEMENT STABILIZED SUBGRADE (SEE GENERAL NOTE)
- ITEM 615 - ROADS FOR MAINTAINING TRAFFIC (EARTHWORK)
- ITEM 203 - SPECIAL BENCHING
- ESTIMATED TOP OF BEDROCK FOR ADDITIONAL INFORMATION SEE SOIL PROFILE

1110 1100 1090 1080 1070 1060 1050 1040

4:1 6:1 1082.2

1086.20
282+50.00 R 2
1084.03

2:1

8:1 1082.2

EX. 18" RCP

1064.58
282+50.00 R 2
1062.83

ESTIMATED TOP OF BEDROCK

6:1 4:1 1063.4

282+50.00 R 2
1068.70

4:1 6:1 1080.5

ESTIMATED TOP OF BEDROCK

1084.51
282+00.00 R 2
1082.30

2:1

STA. 282+00.06, 18.43' RT.
EX. CB (REMOVE)
GRATE EL. 1059.59
℄ 18" (NE) 1056.77
℄ 18" (SW) 1056.63

8:1 1060.7

ESTIMATED TOP OF BEDROCK

6:1 4:1 1061.9

1063.11
282+00.00 R 2
1061.08

282+00.00 R 2
1067.00

STA. 282+00.00, 18.43' RT.
CB NO 5
GRATE EL. 1060.45
℄ 6" 1057.77
℄ 18" (NE) 1056.77
℄ 18" (SW) 1056.63

STA. 281+50.00 100 50 0 50 100 STA. 281+50.00

END AREA		VOLUME	
CUT	FILL	CUT	FILL
0 *171	194 *171		
		0 *291	363 *291
0 *143	198 *143		
		0 *312	359 *312
0 *193	189 *193		
		0 *603	722 *603

CALCULATED JDL
CHECKED PRS

CROSS SECTIONS
STA. 282+00.00 TO STA. 282+50.00

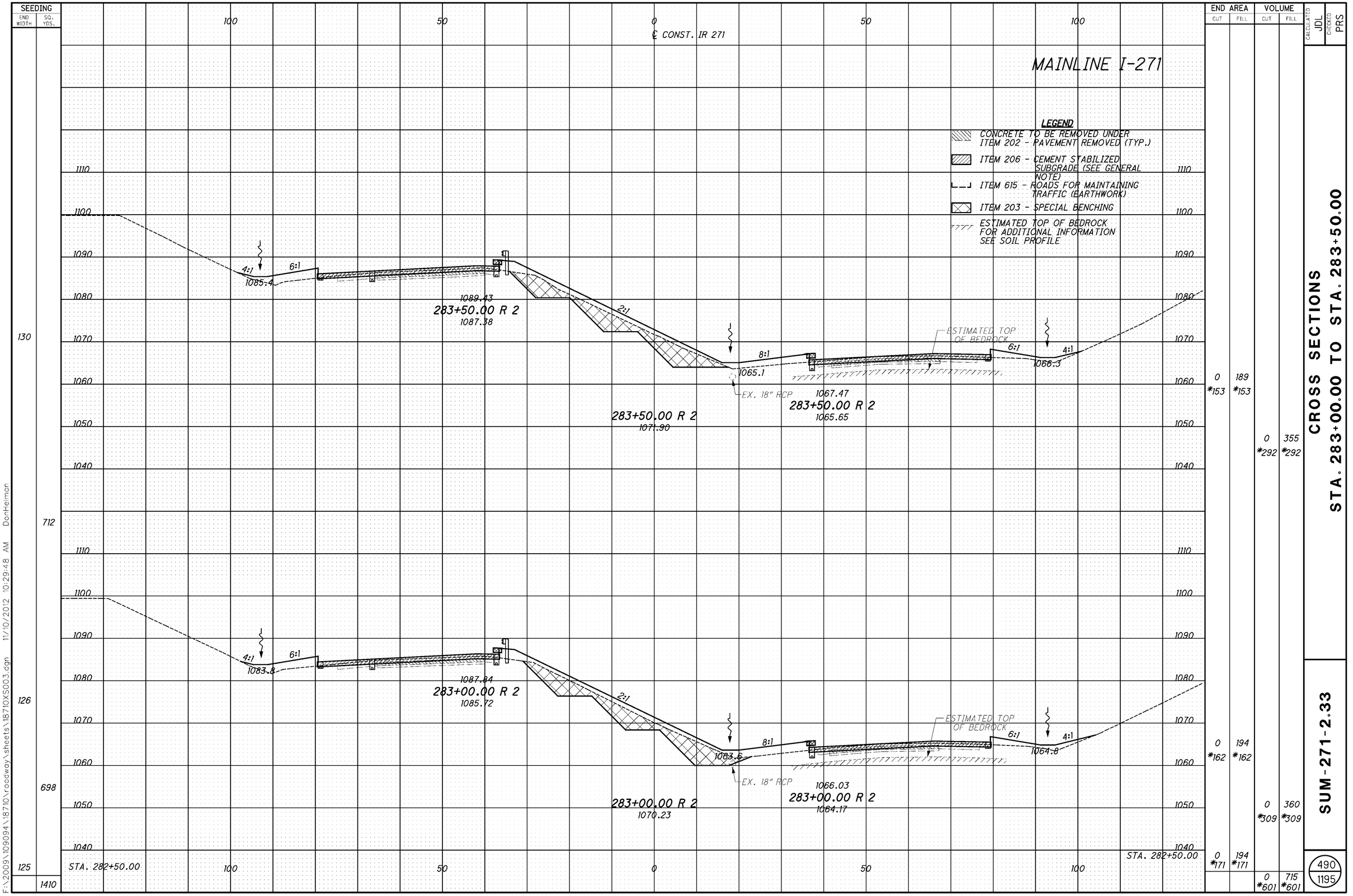
SUM-271-2.33

489
1195

F:\2009\109094\18710\roadway\sheets\18710XS003.dgn 11/10/2012 10:29:26 AM DonHelman

CROSS SECTIONS
STA. 283+00.00 TO STA. 283+50.00
SUM-271-2.33

CALCULATED JDL
CHECKED PRS



SEEDING END WIDTH	SEEDING SQ. YDS.
130	
	712
126	
	698
125	
	1410

END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
0	189		
*153	*153		
		0	355
		*292	*292
		0	360
		*309	*309
0	194		
*162	*162		
0	194		
*171	*171		
		0	715
		*601	*601

F:\2009\109094\18710\roadway\sheets\18710XS003.dgn 11/10/2012 10:29:48 AM DonHelman

CROSS SECTIONS
STA. 284+00.00 TO STA. 284+50.00

CALCULATED JDL
CHECKED PRS

MAINLINE I-271

℄ CONST. IR 271

LEGEND

- CONCRETE TO BE REMOVED UNDER ITEM 202 - PAVEMENT REMOVED (TYP.)
- ITEM 206 - CEMENT STABILIZED SUBGRADE (SEE GENERAL NOTE)
- ITEM 615 - ROADS FOR MAINTAINING TRAFFIC (EARTHWORK)
- ITEM 203 - SPECIAL BENCHING
- ESTIMATED TOP OF BEDROCK FOR ADDITIONAL INFORMATION SEE SOIL PROFILE

SEEDING END WIDTH	SEEDING SQ. YDS.
129	698
	122
	700
130	1398

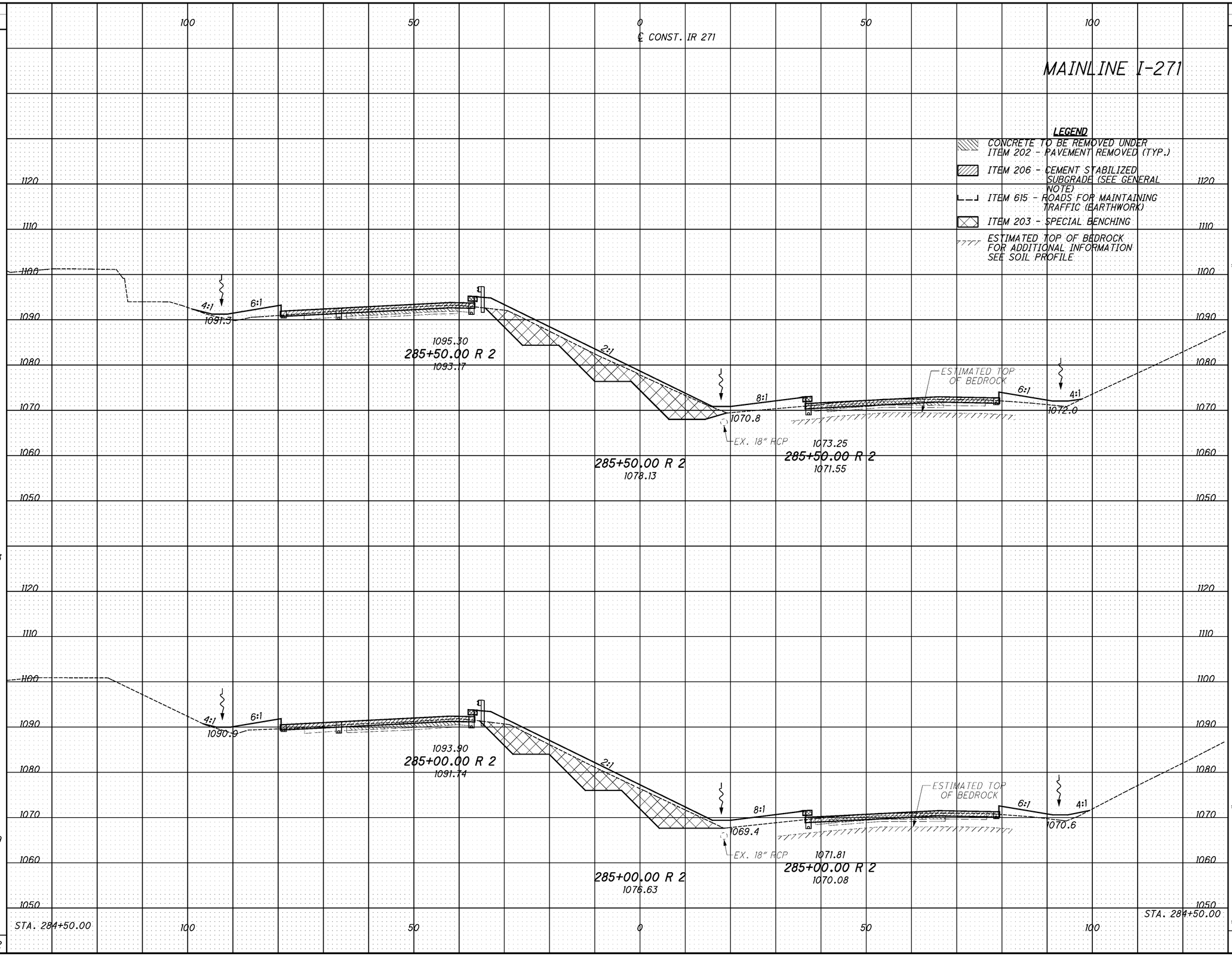
END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
0	184		
*208	*208		
		0	329
		*330	*330
0	171		
*148	*148		
		0	344
		*279	*279
0	189		
*153	*153		
		0	663
		*609	*609

SUM-271-2.33

491
1195

F:\2009\109094\18710\roadway\sheets\18710XS003.dgn 11/10/2012 10:30:14 AM DonHelman

SEEDING	
END WIDTH	SQ. YDS.
127	
126	703
129	709
	1412



END AREA		VOLUME	
CUT	FILL	CUT	FILL
0 *214	171 *214		
		0 *393	323 *393
0 *210	177 *210		
		0 *388	335 *388
0 *208	184 *208		
		0 *781	658 *781

CALCULATED JDL
CHECKED PRS

CROSS SECTIONS
STA. 285+00.00 TO STA. 285+50.00

SUM-271-2.33

492
1195

F:\2009\109094\18710\roadway\sheets\18710XS003.dgn 11/10/2012 10:30:39 AM DonHelman

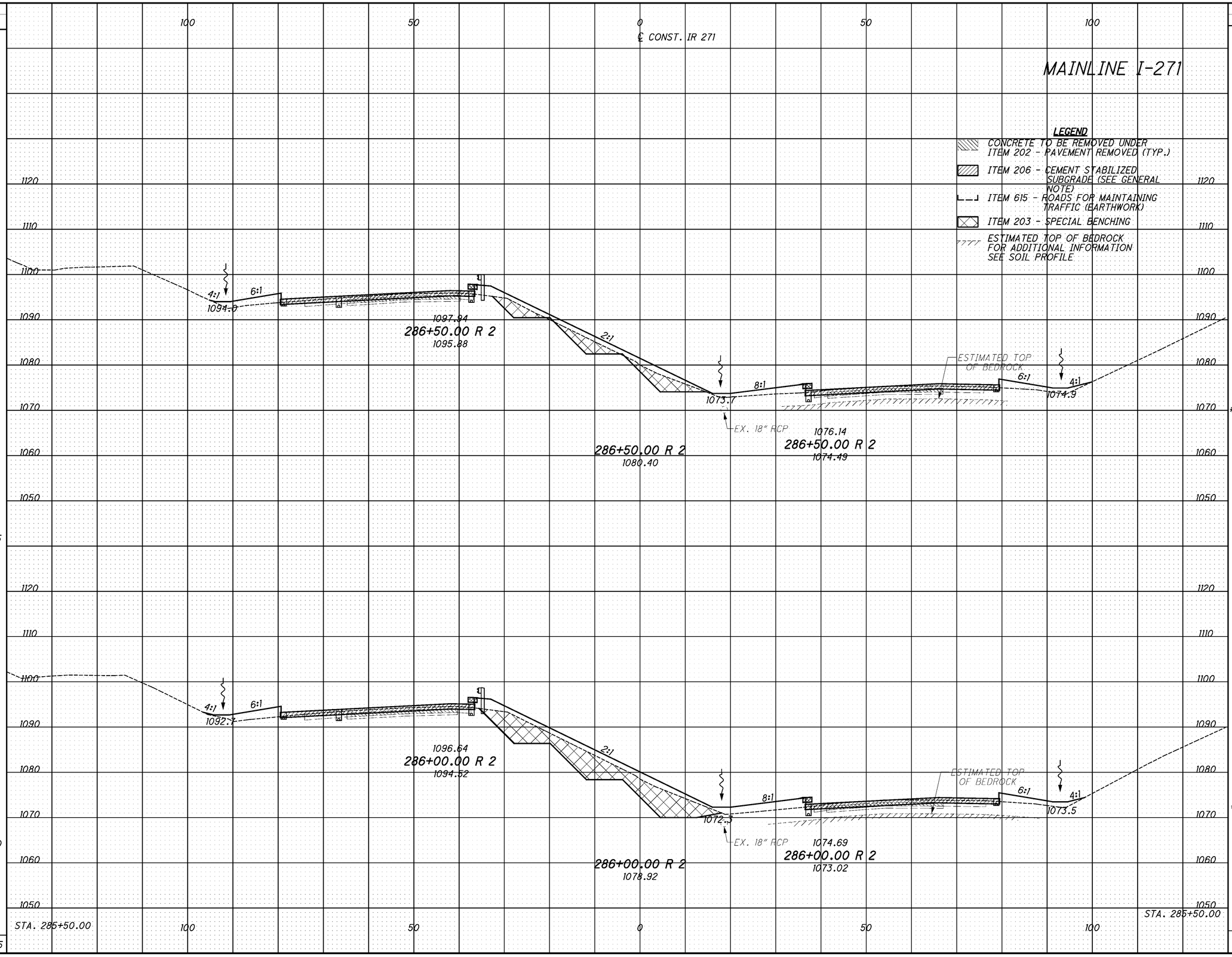
SEEDING	
END WIDTH	SQ. YDS.
125	695
125	700
127	1395

END AREA		VOLUME	
CUT	FILL	CUT	FILL
0	163		
*81	*81		
		0	322
		*271	*271
0	184		
*211	*211		
		0	329
		*394	*394
0	171		
*214	*214		
		0	651
		*665	*665

CALCULATED JDL
CHECKED PRS

CROSS SECTIONS
STA. 286+00.00 TO STA. 286+50.00
SUM-271-2.33

493
1195



F:\2009\109094\18710\roadway\sheets\18710XS003.dgn 11/10/2012 10:31:04 AM DonHelman

SEEDING	
END WIDTH	SQ. YDS.
	118
	675
	125
	695
	125
	1370

100 50 0 50 100

℄ CONST. IR 271

MAINLINE I-271

LEGEND

- CONCRETE TO BE REMOVED UNDER ITEM 202 - PAVEMENT REMOVED (TYP.)
- ITEM 206 - CEMENT STABILIZED SUBGRADE (SEE GENERAL NOTE)
- ITEM 615 - ROADS FOR MAINTAINING TRAFFIC (EARTHWORK)
- ITEM 203 - SPECIAL BENCHING
- ESTIMATED TOP OF BEDROCK FOR ADDITIONAL INFORMATION SEE SOIL PROFILE

1120 1110 1100 1090 1080 1070 1060 1050

4:1 6:1 1098.6

1100.38
287+50.00 R 2
1098.38

2:1 8:1 1076.6

EX. 15" RCP

1079.02
287+50.00 R 2
1077.43

ESTIMATED TOP OF BEDROCK

6:1 4:1 1077.8

287+50.00 R 2
1083.69

4:1 6:1 1095.5

1099.18
287+00.00 R 2
1097.13

2:1 1075.2

STA. 286+93.11, 18.65' RT.
EX. CB (REMOVE)
GRATE EL. 1073.32
℄ 15" 1070.78
℄ 18" 1070.78

ESTIMATED TOP OF BEDROCK

8:1 6:1 4:1 1076.4

1077.58
287+00.00 R 2
1075.96

287+00.00 R 2
1081.95

STA. 286+93.11, 18.65' RT.
CB NO. 5
GRATE EL. 1074.76
℄ 6" (NW & SE) 1071.78
℄ 15" 1070.78
℄ 18" 1070.78

STA. 286+50.00 STA. 286+50.00

100 50 0 50 100

END AREA		VOLUME	
CUT	FILL	CUT	FILL
2	117		
*135	*135		
		3	247
		*268	*268
1	149		
*154	*154		
		1	289
		*218	*218
0	163		
*81	*81		
		4	536
		*486	*486

CALCULATED JDL
CHECKED PRS

CROSS SECTIONS
STA. 287+00.00 TO STA. 287+50.00

SUM-271-2.33

494
1195

F:\2009\109094\18710\roadway\sheets\18710XS003.dgn 11/10/2012 10:31:28 AM DonHelman

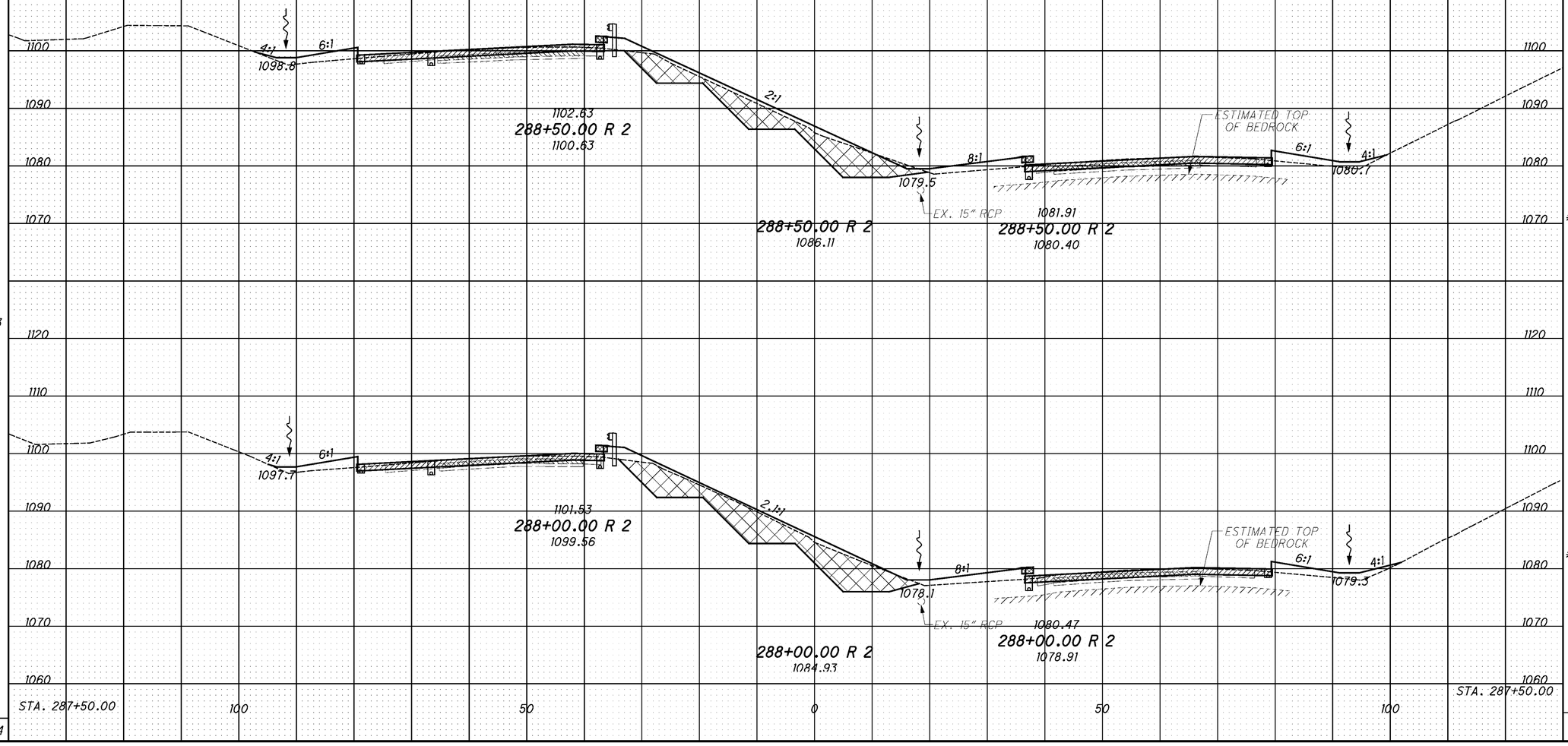
SEEDING	
END WIDTH	SQ. YDS.
126	703
127	681
118	1384

100 50 0 ℄ CONST. IR 271 50 100

MAINLINE I-271

LEGEND

- CONCRETE TO BE REMOVED UNDER ITEM 202 - PAVEMENT REMOVED (TYP.)
- ITEM 206 - CEMENT STABILIZED SUBGRADE (SEE GENERAL NOTE)
- ITEM 615 - ROADS FOR MAINTAINING TRAFFIC (EARTHWORK)
- ITEM 203 - SPECIAL BENCHING
- ESTIMATED TOP OF BEDROCK FOR ADDITIONAL INFORMATION SEE SOIL PROFILE



END AREA		VOLUME	
CUT	FILL	CUT	FILL
4 *161	121 *161		
		6 *334	223 *334
2 *199	119 *199		
		4 *310	219 *310
2 *135	117 *135		
		10 *644	442 *644

CALCULATED JDL
CHECKED PRS

CROSS SECTIONS
STA. 288+00.00 TO STA. 288+50.00

SUM-271-2.33

495
1195

F:\2009\109094\18710\roadway\sheets\18710XS003.dgn 11/12/2012 6:57:46 AM CraigBanghart

SEEDING	
END WIDTH	SQ. YDS.
123	
119	673
126	681
	1354

100 50 0 ℄ CONST. IR 271 50 100

MAINLINE I-271

LEGEND

- CONCRETE TO BE REMOVED UNDER ITEM 202 - PAVEMENT REMOVED (TYP.)
- ITEM 206 - CEMENT STABILIZED SUBGRADE (SEE GENERAL NOTE)
- ITEM 615 - ROADS FOR MAINTAINING TRAFFIC (EARTHWORK)
- ITEM 203 - SPECIAL BENCHING
- ESTIMATED TOP OF BEDROCK FOR ADDITIONAL INFORMATION SEE SOIL PROFILE

1120 1110 1100 1090 1080 1070 1060

4:1 6:1 1100.5 1104.69 289+50.00 R 2 1102.62 2.3:1 1082.4 8:1 ESTIMATED TOP OF BEDROCK 6:1 4:1 1083.6

EX. 15" RCP

289+50.00 R 2 1088.67 1084.80 289+50.00 R 2 1083.39

4:1 6:1 1099.8 1103.69 289+00.00 R 2 1101.66 2.2:1 1080.9 8:1 ESTIMATED TOP OF BEDROCK 6:1 4:1 1082.1

EX. 15" RCP

289+00.00 R 2 1087.23 1083.35 289+00.00 R 2 1081.89

STA. 288+50.00 STA. 288+50.00

END AREA		VOLUME	
CUT	FILL	CUT	FILL
5 *90	123 *90		
		8 *293	232 *293
3 *226	127 *226		
		7 *359	230 *359
4 *161	121 *161		
		15 *652	462 *652

CALCULATED JDL CHECKED PRS

CROSS SECTIONS STA. 289+00.00 TO STA. 289+50.00

SUM-271-2.33

496 1195

F:\2009\109094\18710\roadway\sheets\18710XS003.dgn 11/12/2012 6:56:20 AM CraigBanghart

SEEDING	
END WIDTH	SQ. YDS.
133	731
130	712
126	692
123	2135

100 50 0 ℄ CONST. IR 271 50 100

MAINLINE I-271

291+00.00 R 2 — 1107.40 — 1105.38 — 4:1 — 6:1 — 1102.4 — 2.4:1 — 8:1 — 1086.7 — EX. 15" RCP — 1089.10 — 6:1 — 4:1 — 1087.9

291+00.00 R 2 — 1093.07

291+00.00 R 2 — 1087.87

290+50.00 R 2 — 1106.55 — 1104.52 — 4:1 — 6:1 — 1102.2 — 2.4:1 — 8:1 — 1085.3 — EX. 15" RCP — 1087.68 — 6:1 — 4:1 — 1086.5

290+50.00 R 2 — 1091.19

290+50.00 R 2 — 1086.42

290+00.00 R 2 — 1105.64 — 1103.61 — 4:1 — 6:1 — 1101.4 — 2.3:1 — 8:1 — 1083.8 — EX. 15" RCP — 1086.24 — ESTIMATED TOP OF BEDROCK — 6:1 — 4:1 — 1085.0

290+00.00 R 2 — 1090.01

290+00.00 R 2 — 1084.88

LEGEND

- CONCRETE TO BE REMOVED UNDER ITEM 202 - PAVEMENT REMOVED (TYP.)
- ITEM 206 - CEMENT STABILIZED SUBGRADE (SEE GENERAL NOTE)
- ITEM 615 - ROADS FOR MAINTAINING TRAFFIC (EARTHWORK)
- ITEM 203 - SPECIAL BENCHING
- ESTIMATED TOP OF BEDROCK FOR ADDITIONAL INFORMATION SEE SOIL PROFILE

STA. 289+50.00 100 50 0 50 100 STA. 289+50.00

END AREA		VOLUME	
CUT	FILL	CUT	FILL
15	125		
*172	*172		
		20	242
		*252	*252
6	136		
*100	*100		
		10	253
		*195	*195
4	137		
*110	*110		
		9	241
		*186	*186
5	123		
*90	*90		
		39	736
		*633	*633

CALCULATED JDL
CHECKED PRS

CROSS SECTIONS STA. 290+00.00 TO STA. 291+00.00

SUM-271-2.33

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1195

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SEEDING	
END WIDTH	SQ. YDS.
137	
	753
134	
	748
135	
	745
133	
	2246

100 50 0 50 100

℄ CONST. IR 271

MAINLINE I-271

1120 1110 1100 1090 1080 1070

4:1 6:1 1103.0

1109.68
292+50.00 R 2
1107.88

2.6:1 1090.9 8:1 1093.04
292+50.00 R 2
1091.98

6:1 4:1 1091.8

292+50.00 R 2
1095.56

STA. 292+50.00
END BENCHING BK.

4:1 6:1 1102.8

1108.97
292+00.00 R 2
1107.20

2.5:1 STA. 291+99.91, 17.70' RT.
EX. CB (REMOVE)
GRATE EL. 1087.89
℄ 15" 1085.35

1089.5 8:1 1091.78
292+00.00 R 2
1090.60

6:1 4:1 1090.6

292+00.00 R 2
1095.19

STA. 292+00.00, 17.70' RT.
CB NO 4
GRATE EL. 1089.29
℄ 6" (NW & SE) 1085.85
℄ 15" 1085.35

4:1 6:1 1102.6

1108.21
291+50.00 R 2
1106.34

2.5:1 1088.1 8:1 1090.47
291+50.00 R 2
1089.27

6:1 4:1 1089.3

EX. 15" RCP

291+50.00 R 2
1094.06

STA. 291+00.00

100 50 0 50 100

LEGEND

- CONCRETE TO BE REMOVED UNDER ITEM 202 - PAVEMENT REMOVED (TYP.)
- ITEM 206 - CEMENT STABILIZED SUBGRADE (SEE GENERAL NOTE)
- ITEM 615 - ROADS FOR MAINTAINING TRAFFIC (EARTHWORK)
- ITEM 203 - SPECIAL BENCHING

END AREA		VOLUME	
CUT	FILL	CUT	FILL
21	145		
*0	*0		
		39	243
		*140	*140
21	117		
*151	*151		
		36	214
		*253	*253
17	114		
*122	*122		
		30	222
		*273	*273
15	125		
*172	*172		
		105	679
		*666	*666

CALCULATED JDL
CHECKED PRS

CROSS SECTIONS
STA. 291+50+00 TO STA. 292+50.00

SUM-271-2.33

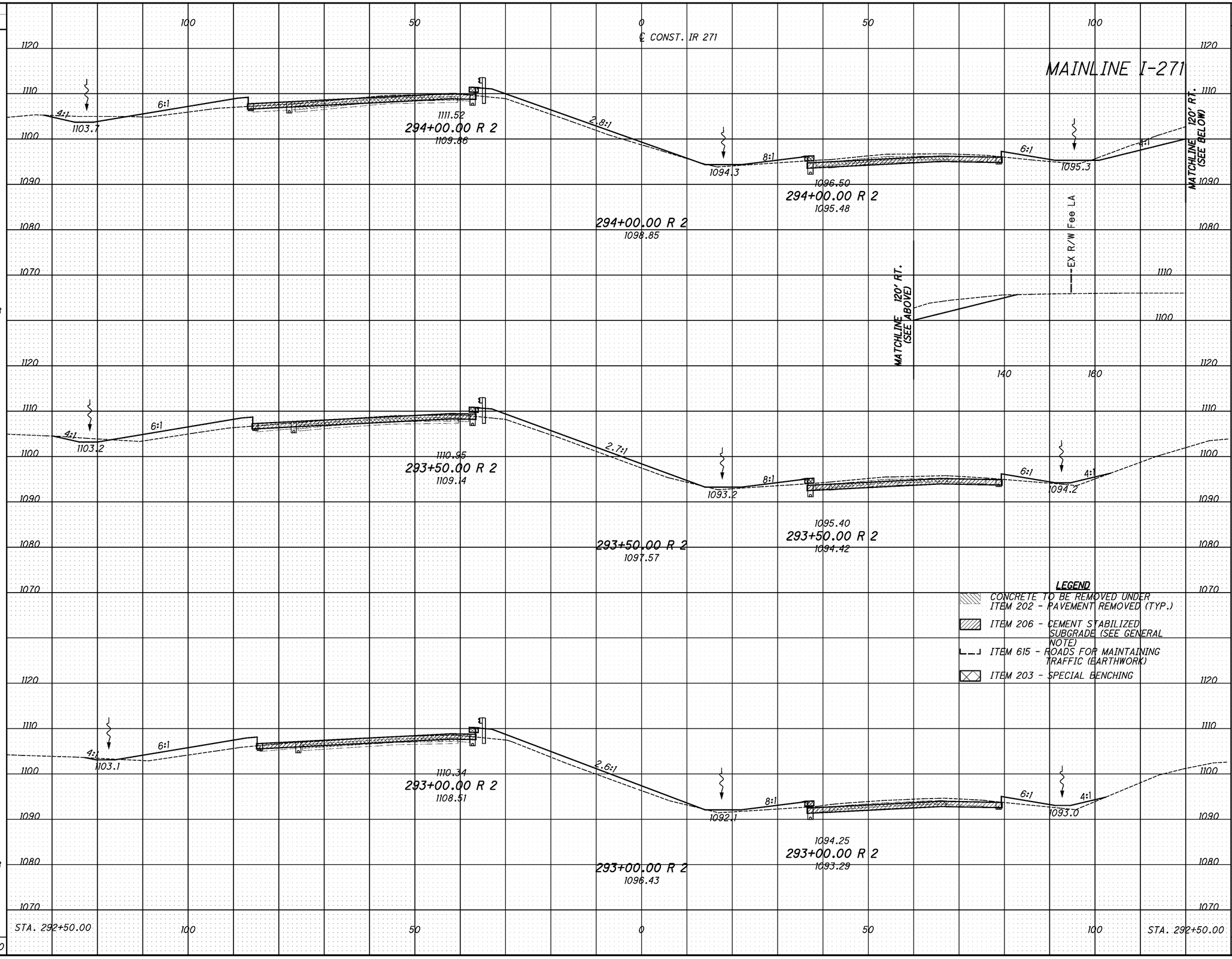
498
1195

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SEEDING	
END WIDTH	SQ. YDS.
191	948
150	814
143	778
137	2540

END AREA		VOLUME	
CUT	FILL	CUT	FILL
120	110	144	223
35	130	58	255
27	145	45	269
21	145	247	747

CALCULATED JDL
CHECKED PRS



CROSS SECTIONS
STA. 293+00.00 TO STA. 294+00.00

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499
1195

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SEEDING END WIDTH	SEEDING SQ. YDS.
186	1025
183	1025
186	1048
191	3098

END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
91	108	173	209
95	117	173	200
91	98	196	193
120	110	542	602

CALCULATED JDL

CHECKED PRS

CROSS SECTIONS
STA. 294+50.00 TO STA. 295+50.00

SUM-271-2.33

500
1195

MAINLINE I-271

LEGEND

- CONCRETE TO BE REMOVED UNDER ITEM 202 - PAVEMENT REMOVED (TYP.)
- ITEM 206 - CEMENT STABILIZED SUBGRADE (SEE GENERAL NOTE)
- ITEM 615 - ROADS FOR MAINTAINING TRAFFIC (EARTHWORK)
- ITEM 203 - SPECIAL BENCHING

100 50 0 ℄ CONST. IR 271 50 100

1120 / 1110 / 1100 / 1090 / 1080 / 1070

4:1 1105.6 6:1 1112.91 295+50.00 R 2 1111.42 3:1 1097.3 8:1 1099.49 295+50.00 R 2 1098.57 6:1 4:1 1098.3

295+50.00 R 2 1101.22

MATCHLINE 120' RT. (SEE BELOW)

EX R/W Fee LA

4:1 1105.2 6:1 1112.50 295+00.00 R 2 1110.97 3:1 1096.4 8:1 1098.55 295+00.00 R 2 1097.60 6:1 4:1 1097.3

295+00.00 R 2 1100.30

MATCHLINE 120' RT. (SEE BELOW)

EX R/W Fee L

MATCHLINE 120' RT. (SEE ABOVE)

4:1 1104.5 6:1 1112.03 294+50.00 R 2 1110.49 3:1 1095.4 8:1 1097.55 294+50.00 R 2 1096.54 6:1 4:1 1096.3

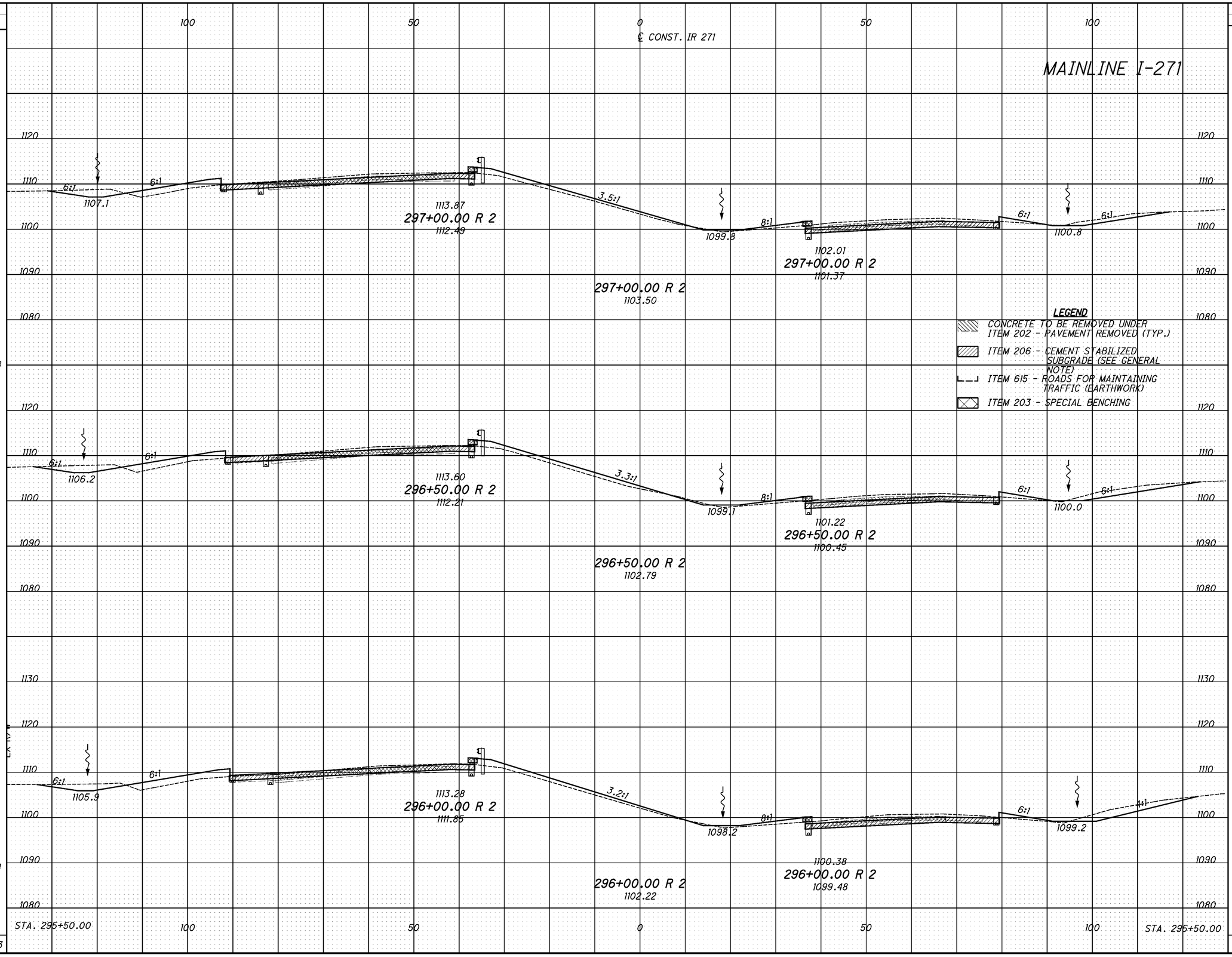
294+50.00 R 2 1099.51

MATCHLINE 120' RT. (SEE ABOVE)

STA. 294+00.00 100 50 0 50 100 STA. 294+00.00

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SEEDING END WIDTH	SEEDING SQ. YDS.
156	898
167	931
168	984
186	2813



END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
85	76	165	150
93	85	168	164
88	92	166	186
91	108	499	500

CALCULATED JDL
CHECKED PRS

CROSS SECTIONS
STA. 296+00.00 TO STA. 297+00.00

SUM-271-2.33

501
1195

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SEEDING	
END WIDTH	SQ. YDS.
157	848
148	825
149	848
156	2521

100 50 0 ℄ CONST. IR 271 50 100

MAINLINE I-271

ESTIMATED TOP OF BEDROCK

1120 1110 1100 1090 1080 1130

6:1 6:1 1108.6 1114.39 298+50.00 R 2 1113.23 4:1 1101.9 8:1 6:1 6:1 1102.8

1104.05 298+50.00 R 2 1103.38

298+50.00 R 2 1105.13

ESTIMATED TOP OF BEDROCK

6:1 6:1 1108.3 1114.26 298+00.00 R 2 1112.93 TEMP. PAV'T. PHASE 1A (TYP.) 3.8:1 1101.3 8:1 6:1 6:1 1102.2

1103.42 298+00.00 R 2 1102.76

298+00.00 R 2 1104.55

6:1 6:1 1108.1 1114.09 297+50.00 R 2 1112.64 3.6:1 1100.6 8:1 6:1 6:1 1101.5

1102.74 297+50.00 R 2 1102.17

297+50.00 R 2 1104.29

STA. 297+00.00 100 50 0 50 100 STA. 297+00.00

LEGEND

- CONCRETE TO BE REMOVED UNDER ITEM 202 - PAVEMENT REMOVED (TYP.)
- ITEM 206 - CEMENT STABILIZED SUBGRADE (SEE GENERAL NOTE)
- ITEM 615 - ROADS FOR MAINTAINING TRAFFIC (EARTHWORK)
- ITEM 203 - SPECIAL BENCHING
- ESTIMATED TOP OF BEDROCK FOR ADDITIONAL INFORMATION SEE SOIL PROFILE

END AREA		VOLUME	
CUT	FILL	CUT	FILL
105	58	182	110
91	60	163	113
84	61	157	127
85	76	502	350

CALCULATED JDL

CHECKED PRS

CROSS SECTIONS STA. 297+50.00 TO STA. 298+50.00

SUM-271-2.33

502
1195

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SEEDING END WIDTH	SEEDING SQ. YDS.
151	831
148	848
157	873
157	2552

100 50 0 ℄ CONST. IR 271 50 100

EX R/W Fee LA

MAINLINE I-271

MATCHLINE 120' LT. (SEE ABOVE)

MATCHLINE 120' LT. (SEE BELOW)

ESTIMATED TOP OF BEDROCK

4:1 6:1 4:1 1109

1114.46
300+00.00 R 2
1113.36

4.5:1 8:1 1103.5

1105.62
300+00.00 R 2
1105.01

6:1 6:1 1105.1

300+00.00 R 2
1108.56

4:1 6:1 1109.2

1114.49
299+50.00 R 2
1113.37

4.3:1 8:1 1103.0

1105.15
299+50.00 R 2
1104.47

6:1 6:1 1104.6

299+50.00 R 2
1108.08

6:1 6:1 1108.9

1114.46
299+00.00 R 2
1113.32

4:1 8:1 1102.5

1104.63
299+00.00 R 2
1103.93

6:1 6:1 1103.7

299+00.00 R 2
1105.54

LEGEND

- CONCRETE TO BE REMOVED UNDER ITEM 202 - PAVEMENT REMOVED (TYP.)
- ITEM 206 - CEMENT STABILIZED SUBGRADE (SEE GENERAL NOTE)
- ITEM 615 - ROADS FOR MAINTAINING TRAFFIC (EARTHWORK)
- ITEM 203 - SPECIAL BENCHING
- ESTIMATED TOP OF BEDROCK FOR ADDITIONAL INFORMATION SEE SOIL PROFILE

STA. 298+50.00 100 50 0 50 100 STA. 298+50.00

END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
121	50	217	103
113	61	210	113
113	61	202	111
105	58	629	327

CALCULATED JDL

CHECKED PRS

CROSS SECTIONS

STA. 299+00.00 TO STA. 300+00.00

SUM-271-2.33

503
1195

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SEEDING	
END WIDTH	SQ. YDS.
136	759
137	812
155	850
151	2421

END AREA		VOLUME	
CUT	FILL	CUT	FILL
145	26		
121	31		
		247	53
		253	59
152	32		
		253	76
121	50		
		753	188

CALCULATED JDL
CHECKED PRS

100 50 0 ℄ CONST. IR 271 50 100

MAINLINE I-271

ESTIMATED TOP OF BEDROCK

12.6:1 5.3:1 8:1 6:1 6:1

1114.10
301+50.00 R 2
1113.39

1104.6

1106.72
301+50.00 R 2
1106.30

1104.7

301+50.00 R 2
1107.56

LEGEND

- CONCRETE TO BE REMOVED UNDER ITEM 202 - PAVEMENT REMOVED (TYP.)
- ITEM 206 - CEMENT STABILIZED SUBGRADE (SEE GENERAL NOTE)
- ITEM 615 - ROADS FOR MAINTAINING TRAFFIC (EARTHWORK)
- ITEM 203 - SPECIAL BENCHING
- ESTIMATED TOP OF BEDROCK FOR ADDITIONAL INFORMATION SEE SOIL PROFILE

ESTIMATED TOP OF BEDROCK

11.6:1 5:1 8:1 6:1 6:1

1114.27
301+00.00 R 2
1113.47

1104.3

1106.41
301+00.00 R 2
1105.95

1104.8

301+00.00 R 2
1107.26

EX R/W Fee I A

4:1

1109.

120' LT.
MATCHLINE
(SEE BELOW)

120' LT.
MATCHLINE
(SEE ABOVE)

ESTIMATED TOP OF BEDROCK

6:1 4.7:1 8:1 6:1 6:1

1114.39
300+50.00 R 2
1113.55

1103.9

1106.04
300+50.00 R 2
1105.59

1105.0

300+50.00 R 2
1106.91

STA. 300+00.00 100 50 0 50 100 STA. 300+00.00

CROSS SECTIONS
STA. 300+50.00 TO STA. 301+50.00

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1195

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SEEDING	
END WIDTH	SQ. YDS.
120	703
133	753
138	762
136	2218

END AREA	
CUT	FILL
184	16
171	19
164	23
145	26

VOLUME	
CUT	FILL
329	33
311	39
287	46
927	118

CALCULATED JDL
CHECKED PRS

100 50 0 50 100

℄ CONST. IR 271

MAINLINE I-271

STA. 301+50.00 STA. 302+00.00 STA. 303+00.00

1120 1110 1100 1090 1080

ESTIMATED TOP OF BEDROCK

6:1 9.9:1 11.2:1 5.8:1 5.6:1 8:1

1113.30
303+00.00 R 2
1112.82

1105.1

1107.34
303+00.00 R 2
1107.04

303+00.00 R 2
1107.55

1104.2

1113.61
302+50.00 R 2
1113.07

1105.0

1107.19
302+50.00 R 2
1106.83

302+50.00 R 2
1107.65

1104.4

1113.88
302+00.00 R 2
1113.32

1104.9

1106.98
302+00.00 R 2
1106.61

302+00.00 R 2
1107.87

1104.5

LEGEND

- CONCRETE TO BE REMOVED UNDER ITEM 202 - PAVEMENT REMOVED (TYP.)
- ITEM 206 - CEMENT STABILIZED SUBGRADE (SEE GENERAL NOTE)
- ITEM 615 - ROADS FOR MAINTAINING TRAFFIC (EARTHWORK)
- ITEM 203 - SPECIAL BENCHING
- ESTIMATED TOP OF BEDROCK FOR ADDITIONAL INFORMATION SEE SOIL PROFILE

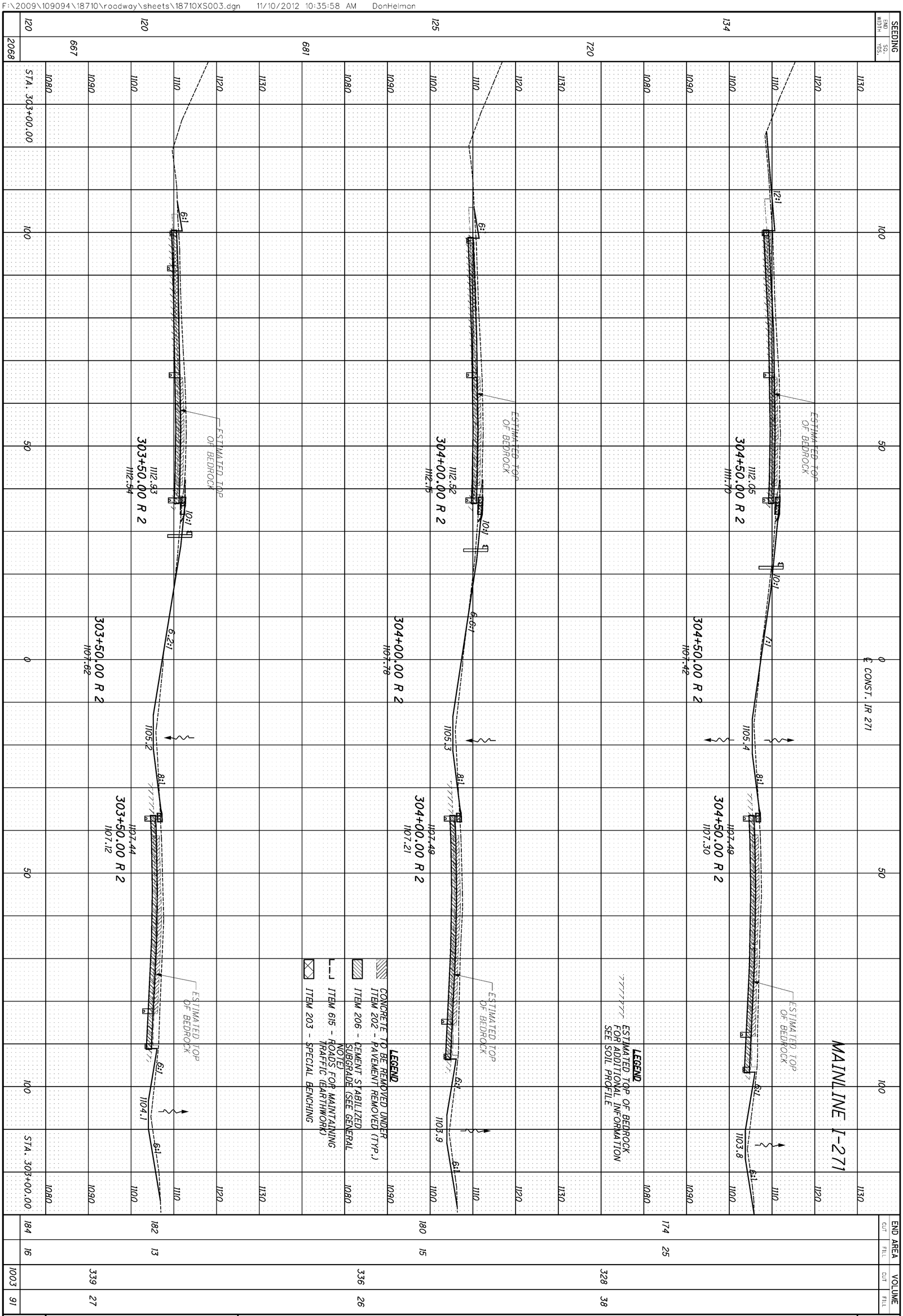
CROSS SECTIONS STA. 302+00.00 TO STA. 303+00.00

SUM-271-2.33

505
1195

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SUM-271-2.33

CROSS SECTIONS
STA. 303+50.00 TO STA. 304+50.00

CALCULATED JDL
CHECKED PRS

506
1195

SEEDING	
END WIDTH	SQ. YDS.
121	656
115	700
137	753
134	2109

END AREA		VOLUME	
CUT	FILL	CUT	FILL
210	2	361	6
179	4	338	18
185	15	333	38
174	25	1032	62

CALCULATED JDL
CHECKED PRS

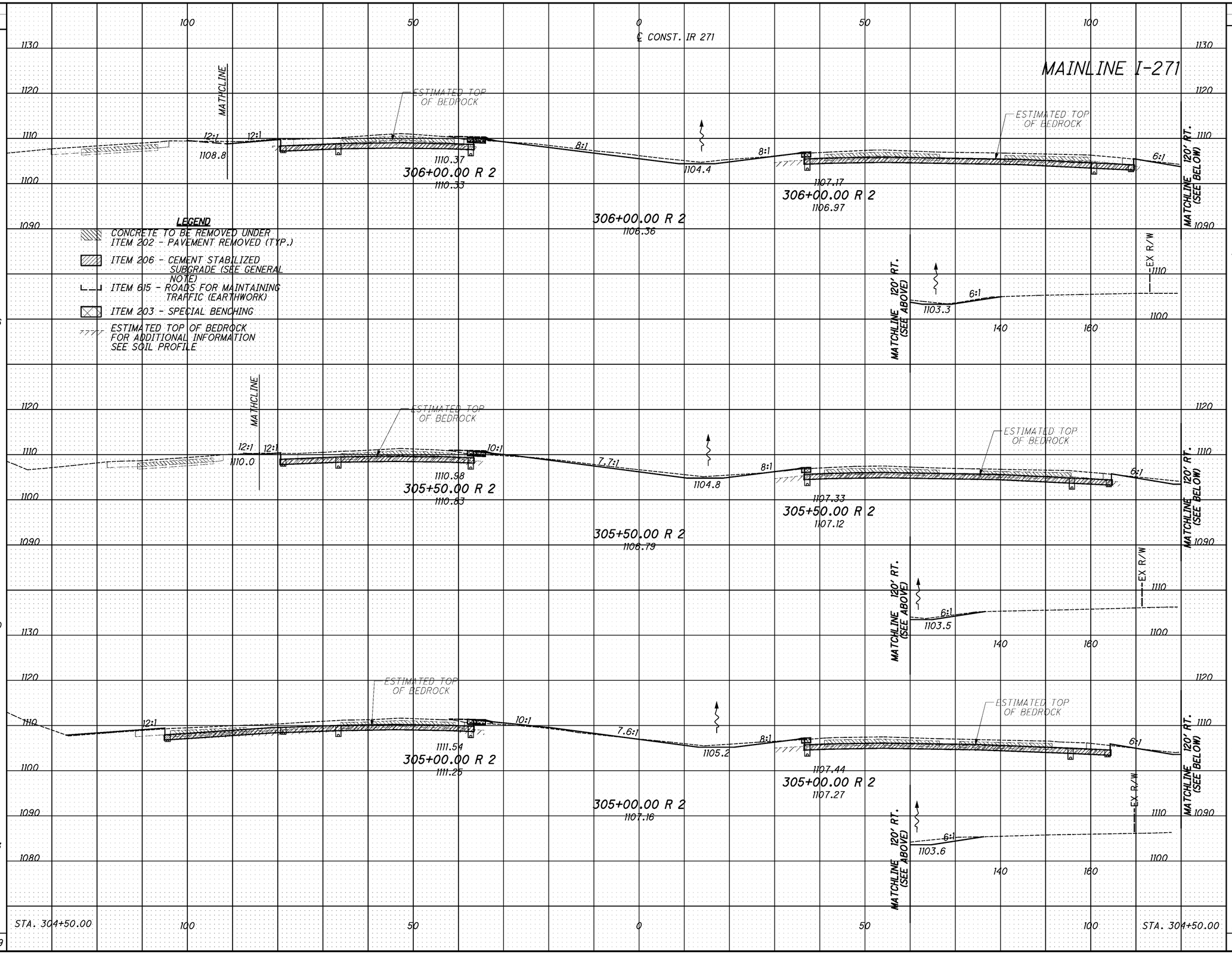
CROSS SECTIONS
STA. 305+00.00 TO STA. 306+00.00

SUM-271-2.33

507
1195

LEGEND

- CONCRETE TO BE REMOVED UNDER ITEM 202 - PAVEMENT REMOVED (TYP.)
- ITEM 206 - CEMENT STABILIZED SUBGRADE (SEE GENERAL NOTE)
- ITEM 615 - ROADS FOR MAINTAINING TRAFFIC (EARTHWORK)
- ITEM 203 - SPECIAL BENCHING
- ESTIMATED TOP OF BEDROCK FOR ADDITIONAL INFORMATION SEE SOIL PROFILE



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SEEDING END WIDTH	SEEDING SQ. YDS.
114	634
114	603
103	623
121	
	1860

100 50 0 ℄ CONST. IR 271 50 100

MAINLINE I-271

1120 1110 1100 1090 1080 1130 1120 1110 1100 1090 1080 1130 1120 1110 1100 1090 1080 1120 1110 1100 1090 1080

6:1 6:1 1105.6 1108.27 307+50.00 R 2 1108.61

8:1 8:1 1103.0 307+50.00 R 2 1104.77

ESTIMATED TOP OF BEDROCK

MATCHLINE 12:1 12:1 1105.3 1106.37 307+50.00 R 2 1106.47

LEGEND

- CONCRETE TO BE REMOVED UNDER ITEM 202 - PAVEMENT REMOVED (TYP.)
- ITEM 206 - CEMENT STABILIZED SUBGRADE (SEE GENERAL NOTE)
- ITEM 615 - ROADS FOR MAINTAINING TRAFFIC (EARTHWORK)
- ITEM 203 - SPECIAL BENCHING
- ESTIMATED TOP OF BEDROCK FOR ADDITIONAL INFORMATION SEE SOIL PROFILE

6:1 6:1 1106.3 1109.00 307+00.00 R 2 1109.26

8:1 8:1 1103.5 307+00.00 R 2 1105.20

ESTIMATED TOP OF BEDROCK

MATCHLINE 12:1 12:1 1105.4 1106.69 307+00.00 R 2 1106.68

MATCHLINE (SEE BELOW) 120' RT.

EX R/W Fee LA

MATHCLINE 12:1 6:1 1107.0 1109.71 306+50.00 R 2 1109.83

8:1 8:1 1104.0 306+50.00 R 2 1105.82

ESTIMATED TOP OF BEDROCK

MATCHLINE 12:1 12:1 1106.47 1106.96 306+50.00 R 2 1106.83

MATCHLINE (SEE ABOVE) 120' RT.

STA. 306+00.00 100 50 0 50 100 STA. 306+00.00

END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
235	0	415	0
213	0	373	1
189	1	370	3
210	2	1158	4

CALCULATED JDL

CHECKED PRS

CROSS SECTIONS STA. 306+50.00 TO STA. 307+50.00

SUM-271-2.33

508
1195

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SEEDING	
END WIDTH	SQ. YDS.
126	695
124	687
123	659
114	2041

END AREA	
CUT	FILL
243	0
256	0
246	0
235	0

VOLUME	
CUT	FILL
463	0
465	0
446	0
1374	0

CALCULATED JDL
CHECKED PRS

CROSS SECTIONS
STA. 308+00.00 TO STA. 309+00.00

SUM-271-2.33

509
1195

MAINLINE I-271

℄ CONST. IR 271

LEGEND

- CONCRETE TO BE REMOVED UNDER ITEM 202 - PAVEMENT REMOVED (TYP.)
- ITEM 206 - CEMENT STABILIZED SUBGRADE (SEE GENERAL NOTE)
- ITEM 615 - ROADS FOR MAINTAINING TRAFFIC (EARTHWORK)
- ITEM 203 - SPECIAL BENCHING
- ESTIMATED TOP OF BEDROCK FOR ADDITIONAL INFORMATION SEE SOIL PROFILE

100 50 0 50 100

1120 1110 1100 1090 1080

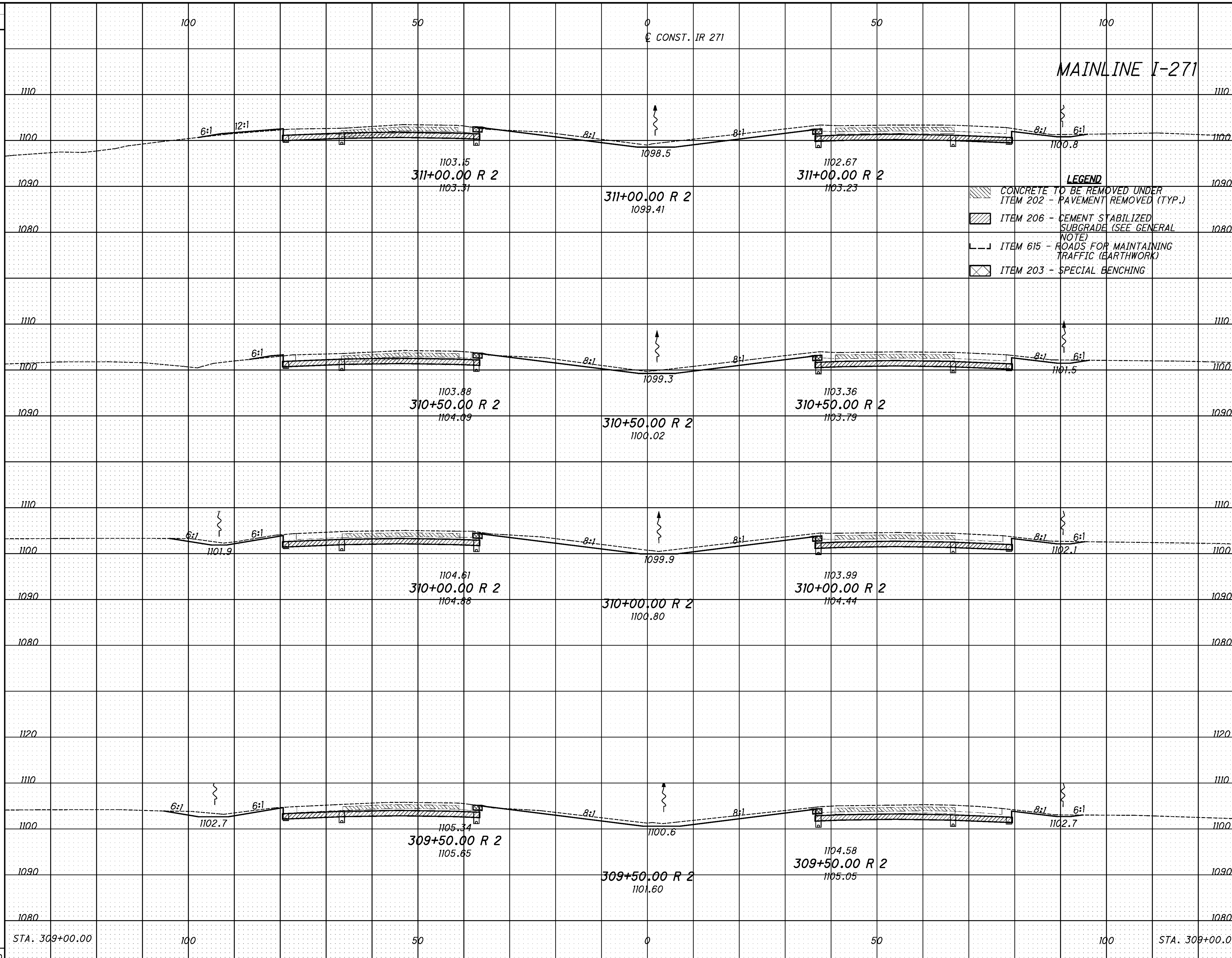
6:1 6:1 1103.4 1106.08 309+00.00 R 2 1106.42 8:1 8:1 1101.2 309+00.00 R 2 1102.65 1105.10 309+00.00 R 2 1105.39 8:1 6:1 1103.2

6:1 6:1 1104.1 1106.81 308+50.00 R 2 1107.19 8:1 8:1 1101.8 1105.58 308+50.00 R 2 1105.73 12:1 6:1 1104.3

6:1 6:1 1104.9 1107.54 308+00.00 R 2 1107.96 8:1 8:1 1102.4 308+00.00 R 2 1104.02 1106.00 308+00.00 R 2 1106.07 ESTIMATED TOP OF BEDROCK MATCHLINE 16:1 6:1 1104.6

STA. 307+50.00 100 50 0 50 100 STA. 307+50.00

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SEEDING

END WIDTH	SQ. YDS.
126	
	650
108	
	631
119	
	670
122	
	689
126	
	2640

END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
214	4		
		393	6
210	2		
		411	2
233	0		
		419	0
219	0		
		428	0
243	0		
		1651	8

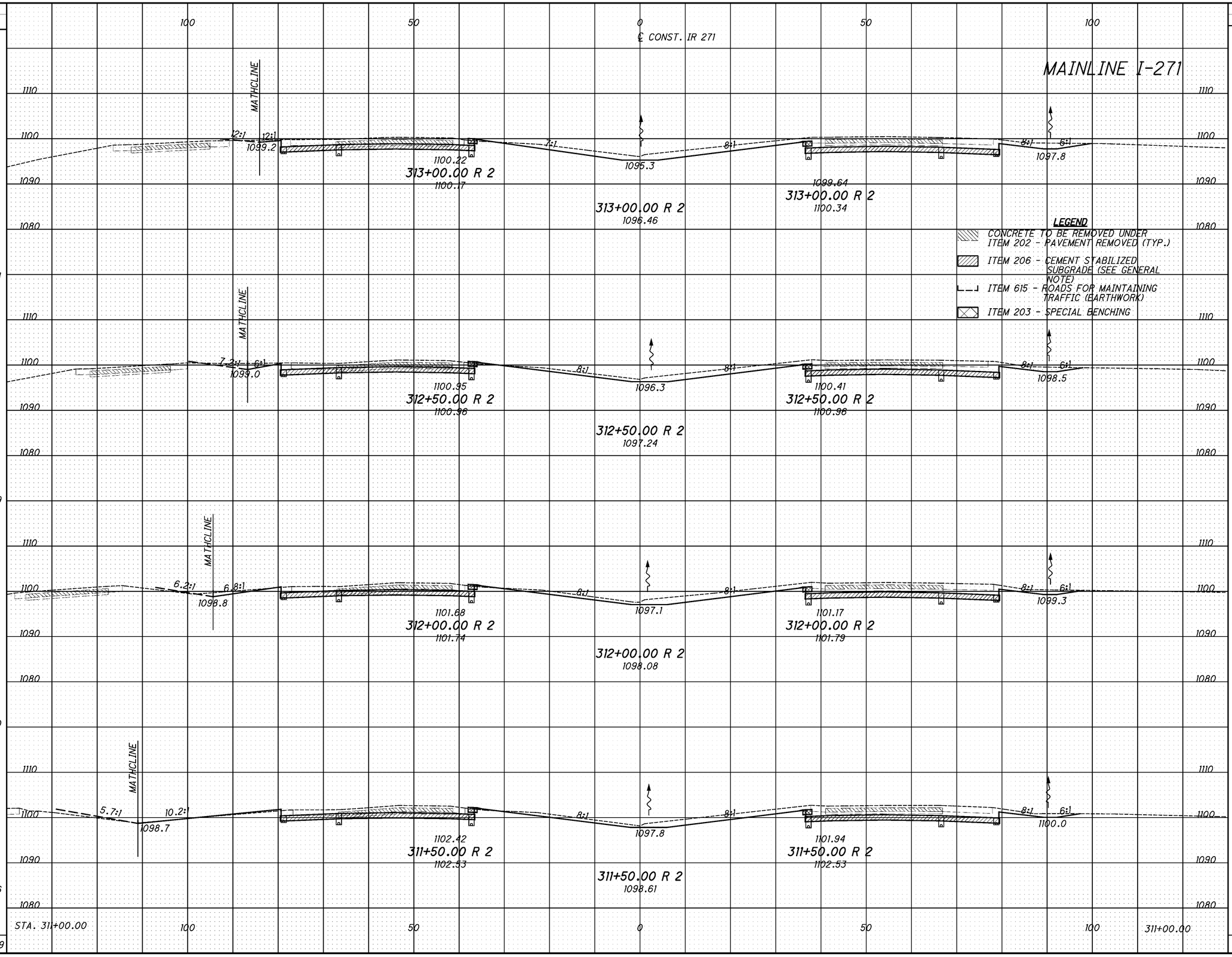
CALCULATED JDL
CHECKED PRS

CROSS SECTIONS
STA. 309+50.00 TO STA. 310+50.00

SUM-271-2.33

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SEEDING	
END WIDTH	SQ. YDS.
104	584
106	609
113	670
128	706
126	2569



END AREA		VOLUME	
CUT	FILL	CUT	FILL
243	1	434	2
225	1	420	2
228	1	413	5
218	4	400	8
214	4	1667	17

CALCULATED JDL
CHECKED PRS

CROSS SECTIONS
STA. 311+50.00 TO STA. 313+00.00

SUM-271-2.33

511
1195

F:\2009\109094\18710\roadway\sheets\18710XS003.dgn 11/12/2012 11:57:27 AM SteveWorr

SEEDING	
END WIDTH	SQ. YDS.
167	
	767
109	
	581
100	
	567
104	
	1915

END AREA	
CUT	FILL
431	19
243	16
250	0
243	1

VOLUME	
CUT	FILL
625	33
457	15
457	1
1539	49

CALCULATED JDL
CHECKED PRS

CROSS SECTIONS
STA. 313+50.00 TO STA. 314+50.00

SUM-271-2.33

512
1195

MAINLINE I-271

100 50 0 ℄ CONST. IR 271 50 100

MATCHLINE 120' RT. (SEE BELOW)
6.2:1 6.2:1
1088.3
1100 1090
140 160
1110

ESTIMATED TOP OF BEDROCK
STA. 314+48.00, ℄
CB NO 4
GRATE EL. 1092.72
℄ 15" 1090.32
4:1 6.9:1 8:1
1098.02
314+50.00 R 2
1097.82
1092.9
1097.35
314+50.00 R 2
1097.83
314+50.00 R 2
1094.13
MATCHLINE 120' RT. (SEE ABOVE)

ESTIMATED TOP OF BEDROCK
4:1 7:1 8:1
1098.76
314+00.00 R 2
1098.60
1093.7
314+00.00 R 2
1095.05
1098.11
314+00.00 R 2
1098.56
MATCHLINE
17.2:1 12:1
1097.1

MATHCLINE
ESTIMATED TOP OF BEDROCK
12:1 12:1 7:1 8:1 8:1 6:1
1099.49
313+50.00 R 2
1099.39
1094.5
313+50.00 R 2
1096.02
1098.88
313+50.00 R 2
1099.47
1097.0
1096.6

LEGEND

- CONCRETE TO BE REMOVED UNDER ITEM 202 - PAVEMENT REMOVED (TYP.)
- ITEM 206 - CEMENT STABILIZED SUBGRADE (SEE GENERAL NOTE)
- ITEM 615 - ROADS FOR MAINTAINING TRAFFIC (EARTHWORK)
- ITEM 203 - SPECIAL BENCHING
- ESTIMATED TOP OF BEDROCK FOR ADDITIONAL INFORMATION SEE SOIL PROFILE

STA. 313+00.00 100 50 0 50 100 STA. 313+00.00

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SEEDING END WIDTH	SEEDING SQ. YDS.
112	653
123	684
123	806
167	2143

END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
218	51	423	137
238	96	449	199
246	118	627	127
431	19	1499	463

CALCULATED JDL
CHECKED PRS

CROSS SECTIONS
STA. 315+00.00 TO STA. 316+00.00

SUM-271-2.33

513
1195

100 50 0 50 100

PIERS

℄ CONST. IR 271

MEDIAN PIERS

MAINLINE I-271

MATCHLINE 120' LT. (SEE BELOW)

ESTIMATED TOP OF BEDROCK

2.8:1 10:1 10:1 25:1 25:1 10:1 10:1 12:1

1094.0 1093.7

1095.78
316+00.00 R 2
1095.49

316+00.00 R 2
1095.74

1095.05
316+00.00 R 2
1095.62

EX. 43"x68" CONC.

STA. 316+02.89, 134.55' RT.
EX. HDWL
℄ EL. 1083.84

SEAT EL. = 1111.48 ±

FACE OF ABUTMENT

150

MATCHLINE 120' LT. (SEE ABOVE)

LEGEND

- CONCRETE TO BE REMOVED UNDER ITEM 202 - PAVEMENT REMOVED (TYP.)
- ITEM 206 - CEMENT STABILIZED SUBGRADE (SEE GENERAL NOTE)
- ITEM 615 - ROADS FOR MAINTAINING TRAFFIC (EARTHWORK)
- ITEM 203 - SPECIAL BENCHING
- ESTIMATED TOP OF BEDROCK FOR ADDITIONAL INFORMATION SEE SOIL PROFILE

ESTIMATED TOP OF BEDROCK

4:1 10:1 10:1 25:1 25:1 10:1 10:1 12:1

1096.54
315+50.00 R 2
1096.29

1094.8 1094.4

315+50.00 R 2
1094.93

1095.82
315+50.00 R 2
1096.38

MATCHLINE 120' RT. (SEE BELOW)

ROCK CHANNEL PROTECTION, TYPE C, WITH FABRIC FILTER (T = 18")

STA. 314+99.24, 143.35' RT.
HW-2.2 HDWL
℄ 15" 1087.36

STA. 314+99.88, 0.48' LT.
EX. CB (REMOVE)
GRATE EL. 1092.62
℄ 15" 1090.00

STA. 314+99.88, ℄
MH NO 3
COVER EL. 1097.23
℄ 6" (W & S) 1090.20
℄ 15" 1090.00

ESTIMATED TOP OF BEDROCK

4:1 10:1 12:1 12:1 10:1 12:1

1097.29
315+00.00 R 2
1097.04

1095.4 1095.1

EX. 15" RCP

4-15" TYPE C, 706.02 @ EX. SLOPE

315+00.00 R 2
1092.75

1096.58
315+00.00 R 2
1097.13

MATCHLINE 120' RT. (SEE ABOVE)

STA. 314+50.00 100 50 0 50 100 STA. 314+50.00

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SEEDING	
END WIDTH	SQ. YDS.
109	589
103	617
119	642
112	1848

END AREA	
CUT	FILL
212	99
234	62
228	62
218	51

VOLUME	
CUT	FILL
413	150
428	115
413	105
1254	370

CALCULATED JDL
CHECKED PRS

CROSS SECTIONS
STA. 316+50.00 TO STA. 317+50.00

SUM-271-2.33

514
1195

MAINLINE I-271

℄ CONST. IR 271

100 50 0 50 100

ESTIMATED TOP OF BEDROCK

STA. 317+48.13, 100.08' LT.
EX. HDWL
℄ EL. 1085.44

EX. 43"x68" CONC.

1093.48
317+50.00 R 2
1093.15

1091.7

1091.08
317+50.00 R 2
1091.08

1091.4

1092.76
317+50.00 R 2
1093.26

STA. 317+74.52, 76.74' RT.
EX. CB (REMOVE)
GRATE EL. 1092.40
℄ 12" 1089.70

ESTIMATED TOP OF BEDROCK

EX. 12" VCP

1089.4

STA. 317+74.53, 116.98' RT.
EX. HDWL (REMOVE)
℄ 12" 1088.33

LEGEND

CONCRETE TO BE REMOVED UNDER ITEM 202 - PAVEMENT REMOVED (TYP.)

ITEM 206 - CEMENT STABILIZED SUBGRADE (SEE GENERAL NOTE)

ITEM 615 - ROADS FOR MAINTAINING TRAFFIC (EARTHWORK)

ITEM 203 - SPECIAL BENCHING

ESTIMATED TOP OF BEDROCK
FOR ADDITIONAL INFORMATION SEE SOIL PROFILE

PIERS

ESTIMATED TOP OF BEDROCK

1094.25
317+00.00 R 2
1093.92

1092.5

1092.1
317+00.00 R 2
1093.92

1093.52
317+00.00 R 2
1094.02

ESTIMATED TOP OF BEDROCK

1090.9

PROP. 12" STORM
SEE SR 303 PLANS FOR DETAILS

MEDIAN PIERS

PIERS

ESTIMATED TOP OF BEDROCK

3.3:1

1095.01
316+50.00 R 2
1094.66

1093.3

1092.9
316+50.00 R 2
1094.74

1094.29
316+50.00 R 2
1094.81

1092.5

STA. 316+00.00 100 50 0 50 100 STA. 316+00.00

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SEEDING	
END WIDTH	SQ. YDS.
	122
	759
	151
	745
	117
	628
	109
	2132

END AREA		VOLUME	
CUT	FILL	CUT	FILL
248	19		
		452	57
240	42		
		435	94
229	59		
		409	147
212	99		
		1296	298

CALCULATED JDL
CHECKED PRS

LEGEND

- CONCRETE TO BE REMOVED UNDER ITEM 202 - PAVEMENT REMOVED (TYP.)
- ITEM 206 - CEMENT STABILIZED SUBGRADE (SEE GENERAL NOTE)
- ITEM 615 - ROADS FOR MAINTAINING TRAFFIC (EARTHWORK)
- ITEM 203 - SPECIAL BENCHING
- ESTIMATED TOP OF BEDROCK FOR ADDITIONAL INFORMATION SEE SOIL PROFILE
- TH-UTILITY DEPTH NOT CONFIRMED

100 50 0 ℄ CONST. IR 271 50 100

STA. 318+96.79, 75.18' RT.
EX. CB (REMOVE)
GRATE EL. 1090.66
℄ 12" 1087.20

STA. 318+96.47, 115.50' RT.
EX. HDWL (REMOVE)
℄ 12" 1086.54

ESTIMATED TOP OF BEDROCK

4:1 6:1 6.8:1 8:1 6:1 4:1

1089.0 1091.19 319+00.00 R 2 1090.80 1086.1 319+00.00 R 2 1086.90 1090.46 319+00.00 R 2 1090.93 EX. 12" VCP 1087.5

MATCHLINE 120' RT. (SEE BELOW)

EX. R/W

TH-2021 TH-2023 TH-2020 TH-2022

1089.9 1086.9 1088.3

EX. AKRON 12" WATER IN 24" CASING

EX. 24" SAN. IN CASING

1091.95 318+50.00 R 2 1091.59 318+50.00 R 2 1087.82 1091.23 318+50.00 R 2 1091.71

MATCHLINE 120' RT. (SEE ABOVE)

10:1 12:1 12:1 10:1 6:1 6:1

1090.1 1089.8 1089.1

1092.72 318+00.00 R 2 1092.38 318+00.00 R 2 1088.87 1091.99 318+00.00 R 2 1092.49

STA. 317+50.00 100 50 0 50 100 STA. 317+50.00

CROSS SECTIONS STA. 318+00.00 TO STA. 319+00.00

SUM-271-2.33

515
1195

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MAINLINE I-271

LEGEND

- CONCRETE TO BE REMOVED UNDER ITEM 202 - PAVEMENT REMOVED (TYP.)
- ITEM 206 - CEMENT STABILIZED SUBGRADE (SEE GENERAL NOTE)
- ITEM 615 - ROADS FOR MAINTAINING TRAFFIC (EARTHWORK)
- ITEM 203 - SPECIAL BENCHING
- ESTIMATED TOP OF BEDROCK FOR ADDITIONAL INFORMATION SEE SOIL PROFILE

℄ CONST. IR 271

SEEDING END WIDTH	SEEDING SQ. YDS.		END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
	114	320+50.00 R 2	221	20	420	40
	653	320+00.00 R 2	232	23	435	38
	673	319+50.00 R 2	237	18	450	35
	675	STA. 319+00.00	248	19	1305	113
	2001					

CALCULATED JDL
CHECKED PRS

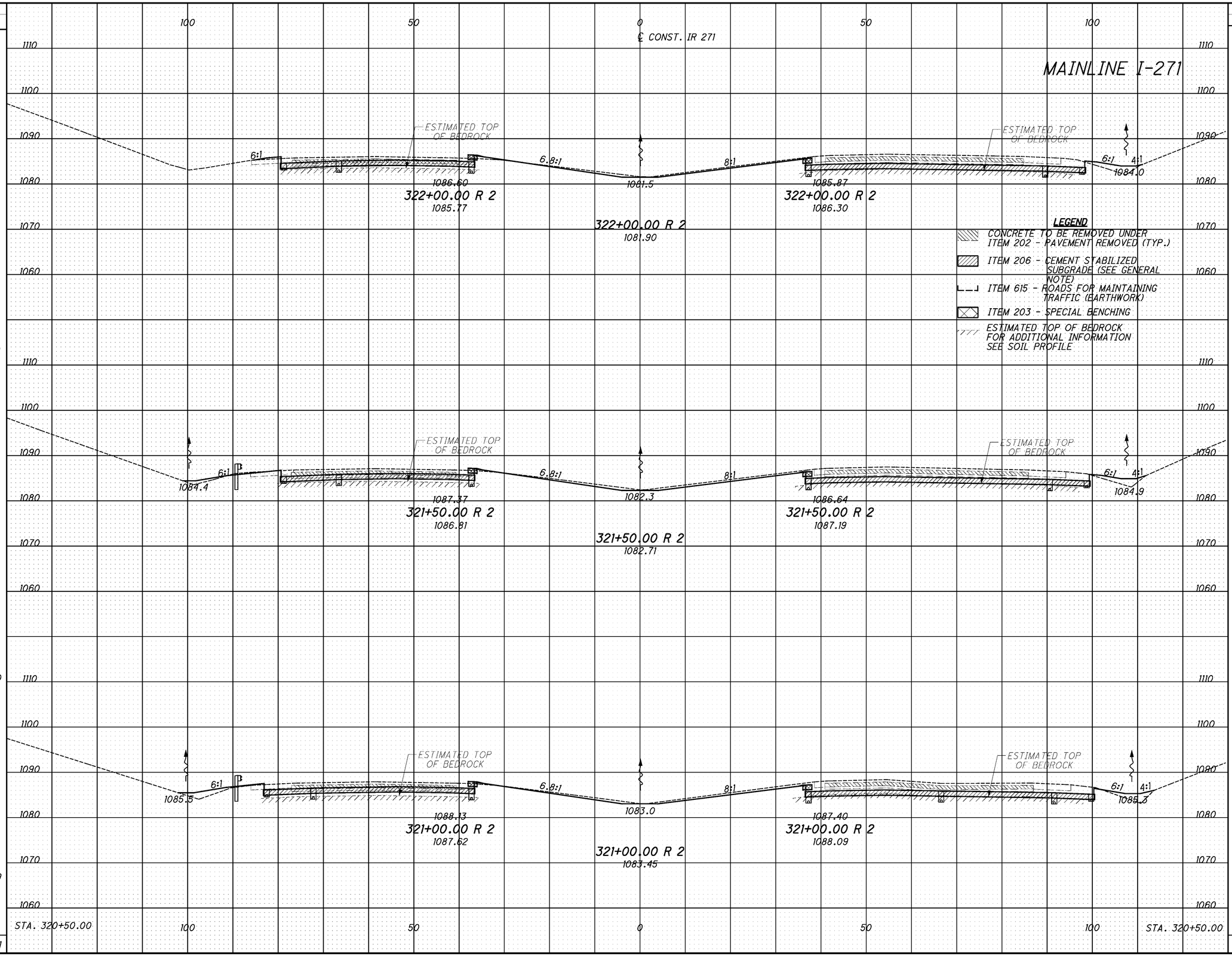
CROSS SECTIONS
STA. 319+50.00 TO STA. 320+50.00

SUM-271-2.33

516
1195

F:\2009\109094\18710\roadway\sheets\18710XS003.dgn 11/10/2012 10:39:43 AM DonHelmon

SEEDING	
END WIDTH	SQ. YDS.
	102
	612
	118
	650
	116
	639
	114
	1901



END AREA		VOLUME	
CUT	FILL	CUT	FILL
173	17	347	32
201	17	374	38
202	24	392	41
221	20	1113	111

CALCULATED JDL
CHECKED PRS

CROSS SECTIONS
STA. 321+00.00 TO STA. 322+00.00

SUM-271-2.33

517
1195

F:\2009\109094\18710\roadway\sheets\18710XS003.dgn 11/10/2012 10:40:11 AM DonHelman

SEEDING	
END WIDTH	SQ. YDS.
94	539
100	573
106	578
102	1690

END AREA	
CUT	FILL
152	21
144	19
141	22
173	17

VOLUME	
CUT	FILL
275	38
264	38
291	37
830	113

CALCULATED JDL
CHECKED PRS

CROSS SECTIONS
STA. 322+50.00 TO STA. 323+50.00

SUM-271-2.33

518
1195

MAINLINE I-271

℄ CONST. IR 271

100 50 0 50 100

1110 / 1100 / 1090 / 1080 / 1070 / 1060

ESTIMATED TOP OF BEDROCK

6:1 | 6.7:1 | 8:1 | 6:1 | 4:1

1084.08
323+50.00 R 2
1083.35

1078.9

323+50.00 R 2
1079.24

1083.29
323+50.00 R 2
1083.51

1083.5

1084.97
323+00.00 R 2
1084.16

1079.8

323+00.00 R 2
1080.41

1084.19
323+00.00 R 2
1084.34

1082.5

1085.81
322+50.00 R 2
1084.85

1080.7

322+50.00 R 2
1081.08

1085.05
322+50.00 R 2
1085.25

1083.3

LEGEND

- CONCRETE TO BE REMOVED UNDER ITEM 202 - PAVEMENT REMOVED (TYP.)
- ITEM 206 - CEMENT STABILIZED SUBGRADE (SEE GENERAL NOTE)
- ITEM 615 - ROADS FOR MAINTAINING TRAFFIC (EARTHWORK)
- ITEM 203 - SPECIAL BENCHING
- ESTIMATED TOP OF BEDROCK FOR ADDITIONAL INFORMATION SEE SOIL PROFILE

STA. 322+00.00 100 50 0 50 100 STA. 322+00.00

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SEEDING	
END WIDTH	SQ. YDS.
102	553
97	539
97	531
94	1623

END AREA		VOLUME	
CUT	FILL	CUT	FILL
152	21	277	44
147	26	265	50
139	27	270	45
152	21	812	139

CALCULATED JDL
CHECKED PRS

CROSS SECTIONS
STA. 324+00.00 TO STA. 325+00.00

SUM-271-2.33

519
1195

MAINLINE I-271

℄ CONST. IR 271

STA. 324+97.18, 0.17' RT.
EX. CB (REMOVE)
GRATE EL. 1075.71
℄ 15" 1073.51

STA. 324+97.00, ℄
CB NO 4
GRATE EL. 1075.68
℄ 6" (W & E) 1074.00
℄ 15" 1073.17

ESTIMATED TOP OF BEDROCK

LEGEND

- CONCRETE TO BE REMOVED UNDER ITEM 202 - PAVEMENT REMOVED (TYP.)
- ITEM 206 - CEMENT STABILIZED SUBGRADE (SEE GENERAL NOTE)
- ITEM 615 - ROADS FOR MAINTAINING TRAFFIC (EARTHWORK)
- ITEM 203 - SPECIAL BENCHING
- ESTIMATED TOP OF BEDROCK FOR ADDITIONAL INFORMATION SEE SOIL PROFILE

STA. 323+50.00 — 100 — 50 — 0 — 50 — 100 — STA. 323+50.00

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SEEDING	
END WIDTH	SQ. YDS.
98	
	550
100	
	562
102	
	1112

END AREA	
CUT	FILL
87	41
96	38
152	21

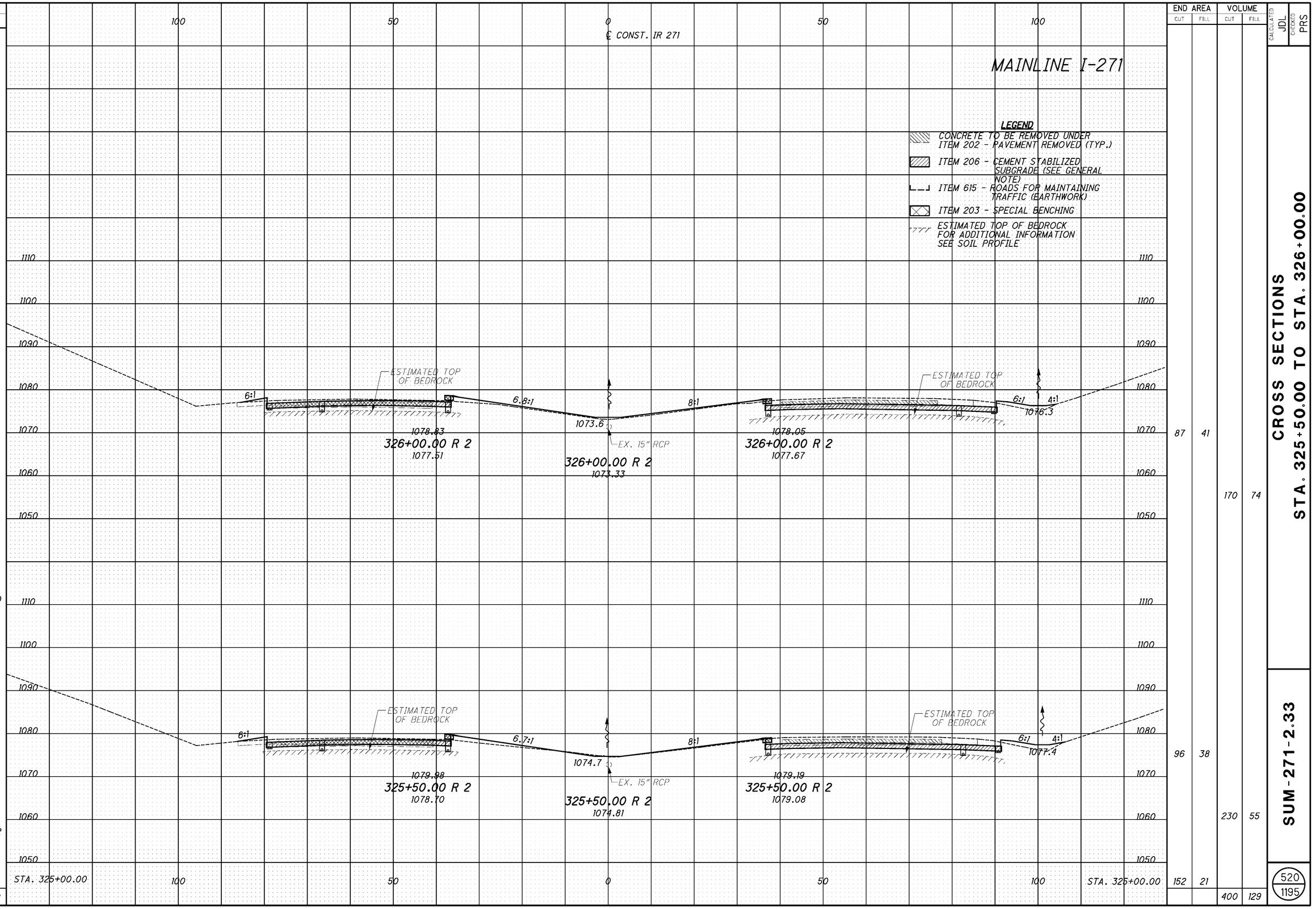
VOLUME	
CUT	FILL
170	74
230	55
400	129

CALCULATED JDL
CHECKED PRS

CROSS SECTIONS
STA. 325+50.00 TO STA. 326+00.00

SUM-271-2.33

520
1195



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SEEDING	
END WIDTH	SQ. YDS.
	108
	587
	103
	559
	98
	1146

END AREA		VOLUME	
CUT	FILL	CUT	FILL
87	47		
		166	81
92	40		
		166	75
87	41		
		332	156

CALCULATED JDL
CHECKED PRS

100 50 0 ℄ CONST. IR 271 50 100

MAINLINE I-271

LEGEND

- CONCRETE TO BE REMOVED UNDER ITEM 202 - PAVEMENT REMOVED (TYP.)
- ITEM 206 - CEMENT STABILIZED SUBGRADE (SEE GENERAL NOTE)
- ITEM 615 - ROADS FOR MAINTAINING TRAFFIC (EARTHWORK)
- ITEM 203 - SPECIAL BENCHING
- ESTIMATED TOP OF BEDROCK FOR ADDITIONAL INFORMATION SEE SOIL PROFILE

1110 1100 1090 1080 1070 1060 1050

ESTIMATED TOP OF BEDROCK — 6:1 — 6.8:1 — 8:1 — 6:1 — 4:1

1076.37
327+00.00 R 2
1075.13

1071.1
EX. 15" RCP
327+00.00 R 2
1070.84

1075.62
327+00.00 R 2
1075.31

1073.8

1077.62
326+50.00 R 2
1076.37

1072.4
EX. 15" RCP
326+50.00 R 2
1072.03

1076.85
326+50.00 R 2
1076.54

1075.1

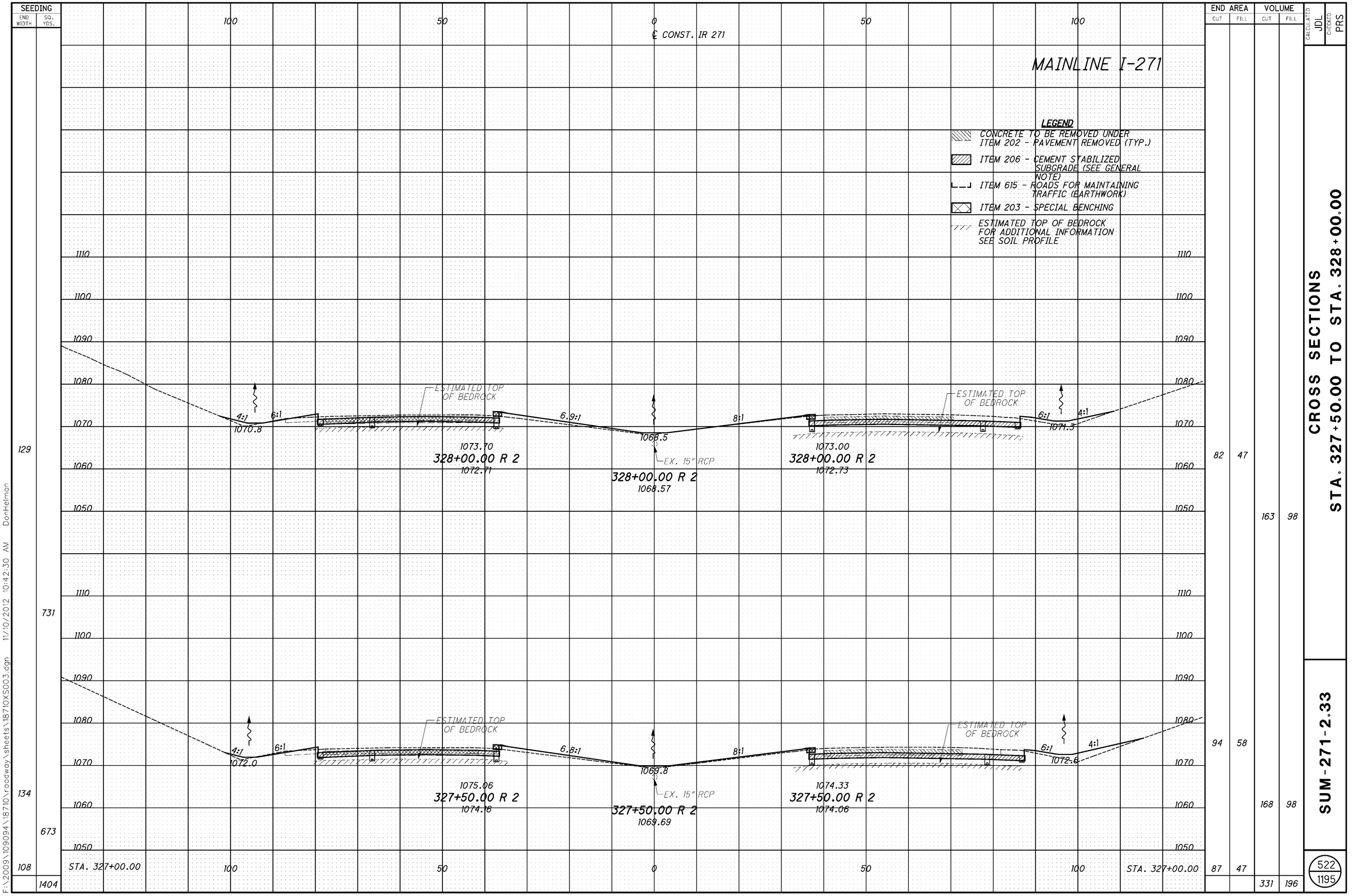
STA. 326+00.00 100 50 0 50 100 STA. 326+00.00

CROSS SECTIONS
STA. 326+50.00 TO STA. 327+00.00

SUM-271-2.33

521
1195

F:\2009\109094\18710\roadway\sheets\18710XS003.dgn 11/10/2012 10:42:07 AM DonHelman


SEEDING
END WIDTH
SQ. YDS.
100
50
0
℄ CONST. IR 271
50
100
MAINLINE I-271
LEGEND
CONCRETE TO BE REMOVED UNDER ITEM 202 - PAVEMENT REMOVED (TYP.)
ITEM 206 - CEMENT STABILIZED SUBGRADE (SEE GENERAL NOTE)
ITEM 615 - ROADS FOR MAINTAINING TRAFFIC (EARTHWORK)
ITEM 203 - SPECIAL BENCHING
ESTIMATED TOP OF BEDROCK FOR ADDITIONAL INFORMATION SEE SOIL PROFILE
1110
1100
1090
1080
1070
1060
1050
ESTIMATED TOP OF BEDROCK
4:1
6:1
1070.8
6.9:1
1068.5
8:1
1071.3
1073.70
328+00.00 R 2
1072.71
EX. 15" RCP
328+00.00 R 2
1068.57
1073.00
328+00.00 R 2
1072.73
ESTIMATED TOP OF BEDROCK
6:1
4:1
1072.0
6.8:1
1069.8
8:1
1072.6
1075.06
327+50.00 R 2
1074.16
EX. 15" RCP
327+50.00 R 2
1069.69
1074.33
327+50.00 R 2
1074.06
ESTIMATED TOP OF BEDROCK
129
731
134
673
108
1404
STA. 327+00.00
100
50
0
50
100
STA. 327+00.00
END AREA
CUT
FILL
VOLUME
CUT
FILL
82
47
94
58
87
47
163
98
168
98
331
196
CALCULATED
JDL
CHECKED
PRS
CROSS SECTIONS
STA. 327+50.00 TO STA. 328+00.00
SUM-271-2.33
522
1195
F:\2009\109094\18710\roadway\sheets\18710XS003.dgn 11/10/2012 10:42:30 AM DonHelman

SEEDING	
END WIDTH	SQ. YDS.
124	
	698
127	
	712
129	
	1410

END AREA	
CUT	FILL
68	58
81	54
82	47

VOLUME	
CUT	FILL
138	104
151	94
289	198

CALCULATED JDL
CHECKED PRS

CROSS SECTIONS
STA. 328+50.00 TO STA. 329+00.00

SUM-271-2.33

523
1195

MAINLINE I-271

℄ CONST. IR 271

LEGEND

- CONCRETE TO BE REMOVED UNDER ITEM 202 - PAVEMENT REMOVED (TYP.)
- ITEM 206 - CEMENT STABILIZED SUBGRADE (SEE GENERAL NOTE)
- ITEM 615 - ROADS FOR MAINTAINING TRAFFIC (EARTHWORK)
- ITEM 203 - SPECIAL BENCHING
- ESTIMATED TOP OF BEDROCK FOR ADDITIONAL INFORMATION SEE SOIL PROFILE

STA. 329+05.08, 0.03' RT.
EX. CB (REMOVE)
GRATE EL. 1065.17
℄ 15" (S) 1062.51
℄ 15" (N) 1062.37

STA. 329+05.00, ℄
CB NO 4
GRATE EL. 1065.40
℄ 6" (W & S) 1063.00
℄ 15" (S) 1062.51
℄ 15" (N) 1062.37

ESTIMATED TOP OF BEDROCK

4:1 6:1 7:1 8:1 6:1 4:1

1068.1 1065.7 1068.5

1070.82 329+00.00 R 2 1069.94

329+00.00 R 2 1065.65

1070.20 329+00.00 R 2 1069.78

ESTIMATED TOP OF BEDROCK

4:1 6:1 6.9:1 8:1 6:1 4:1

1069.6 1067.1 1069.9

1072.28 328+50.00 R 2 1071.31

EX. 15" RCP

328+50.00 R 2 1067.08

1071.62 328+50.00 R 2 1071.43

STA. 328+00.00 100 50 0 50 100 STA. 328+00.00

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SEEDING	
END WIDTH	SQ. YDS.
127	
124	698
124	689
124	
	1387

END AREA	
CUT	FILL
84	52
85	52
68	58

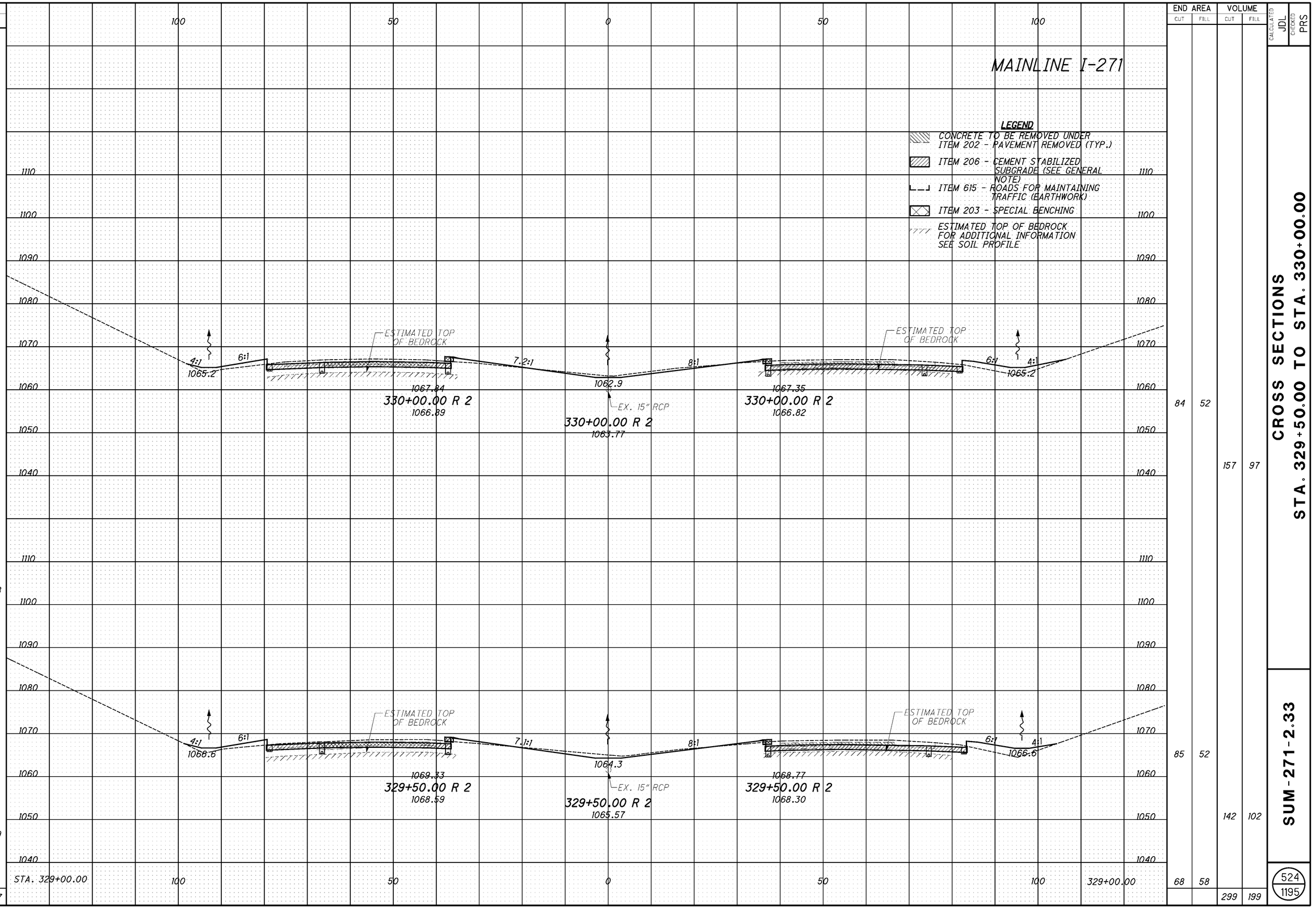
VOLUME	
CUT	FILL
157	97
142	102
299	199

CALCULATED JDL
CHECKED PRS

CROSS SECTIONS
STA. 329+50.00 TO STA. 330+00.00

SUM-271-2.33

524
1195



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SEEDING	
END WIDTH	SQ. YDS.
133	
128	725
127	709
	1434

END AREA	
CUT	FILL
80	52
80	58
84	52

VOLUME	
CUT	FILL
149	102
152	102
301	204

CALCULATED JDL
CHECKED PRS

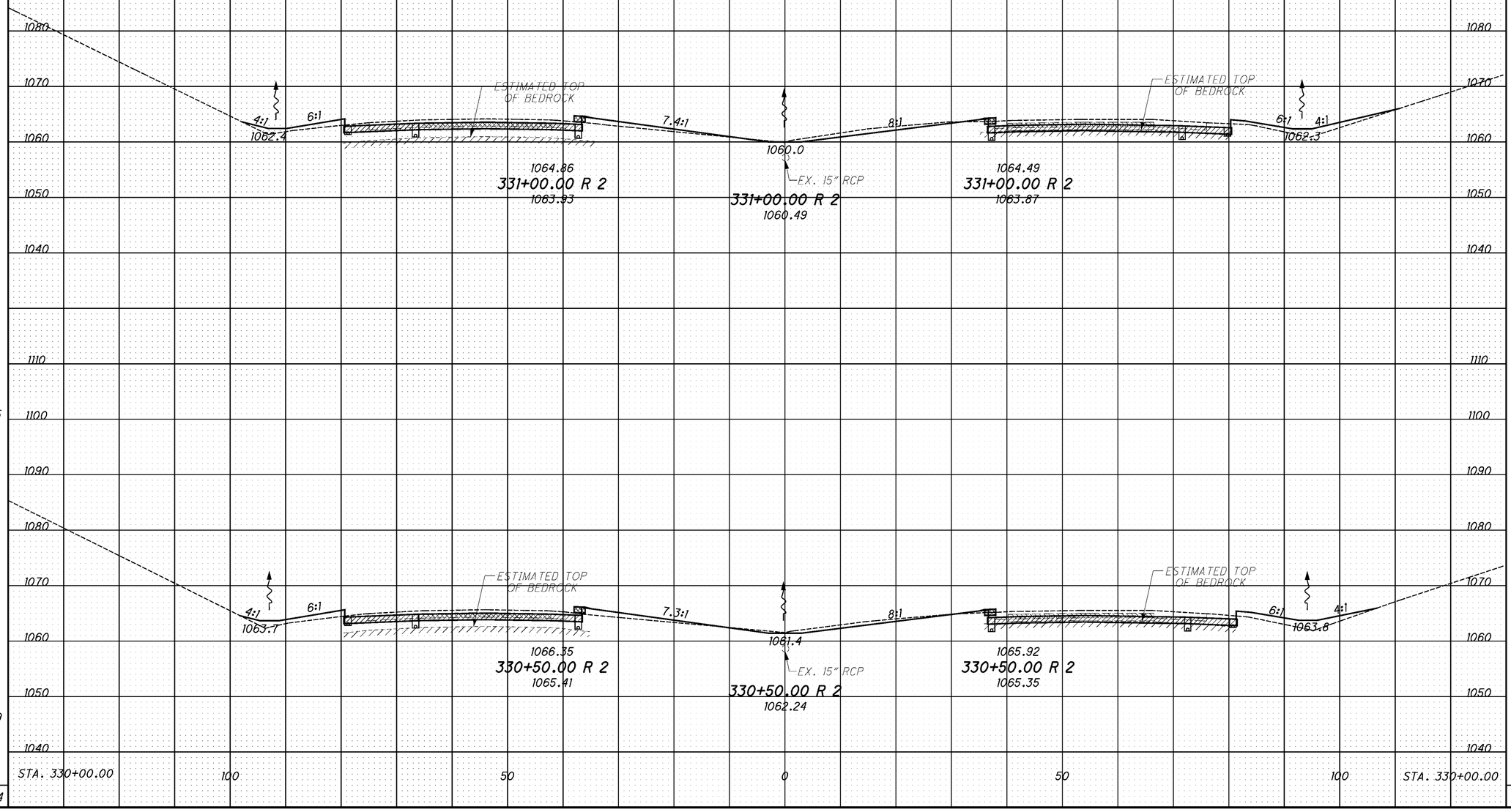
CROSS SECTIONS
STA. 330+50.00 TO STA. 331+00.00

MAINLINE I-271

100 50 0 ℄ CONST. IR 271 50 100

LEGEND

- CONCRETE TO BE REMOVED UNDER ITEM 202 - PAVEMENT REMOVED (TYP.)
- ITEM 206 - CEMENT STABILIZED SUBGRADE (SEE GENERAL NOTE)
- ITEM 615 - ROADS FOR MAINTAINING TRAFFIC (EARTHWORK)
- ITEM 203 - SPECIAL BENCHING
- ESTIMATED TOP OF BEDROCK FOR ADDITIONAL INFORMATION SEE SOIL PROFILE



STA. 330+00.00 100 50 0 50 100 STA. 330+00.00

SUM-271-2.33

525
1195

F:\2009\109094\18710\roadway\sheets\18710XS003.dgn 11/10/2012 10:43:39 AM DonHelman

SEEDING	
END WIDTH	SQ. YDS.
125	695
125	717
133	
	1412

100 50 0 50 100

℄ CONST. IR 271

MAINLINE I-271

LEGEND

- CONCRETE TO BE REMOVED UNDER ITEM 202 - PAVEMENT REMOVED (TYP.)
- ITEM 206 - CEMENT STABILIZED SUBGRADE (SEE GENERAL NOTE)
- ITEM 615 - ROADS FOR MAINTAINING TRAFFIC (EARTHWORK)
- ITEM 203 - SPECIAL BENCHING
- ESTIMATED TOP OF BEDROCK FOR ADDITIONAL INFORMATION SEE SOIL PROFILE

1110 1100 1090 1080 1070 1060 1050 1040

4:1 6:1 7.6:1 8:1 6:1 4:1

1059.5 1061.88 332+00.00 R 2 1060.97 1057.2 EX. 15" RCP 332+00.00 R 2 1057.57 1061.64 332+00.00 R 2 1060.93 1059.2

ESTIMATED TOP OF BEDROCK

4:1 6:1 7.5:1 8:1 6:1 4:1

1061.0 1063.37 331+50.00 R 2 1062.45 1058.6 EX. 15" RCP 331+50.00 R 2 1059.13 1063.07 331+50.00 R 2 1062.40 1060.6

ESTIMATED TOP OF BEDROCK

STA. 331+00.00 100 50 0 50 100 STA. 331+00.00

END AREA		VOLUME	
CUT	FILL	CUT	FILL
65	54	125	92
70	45	139	90
80	52	264	182

CALCULATED JDL
CHECKED PRS

CROSS SECTIONS
STA. 331+50.00 TO STA. 332+00.00

SUM-271-2.33

526
1195

F:\2009\109094\18710\roadway\sheets\18710XS003.dgn 11/10/2012 10:44:01 AM DonHeiman

SEEDING	
END WIDTH	SQ. YDS.
126	700
	698
125	
	1398

END AREA	
CUT	FILL
57	85
58	79
65	54

VOLUME	
CUT	FILL
107	152
114	124
221	276

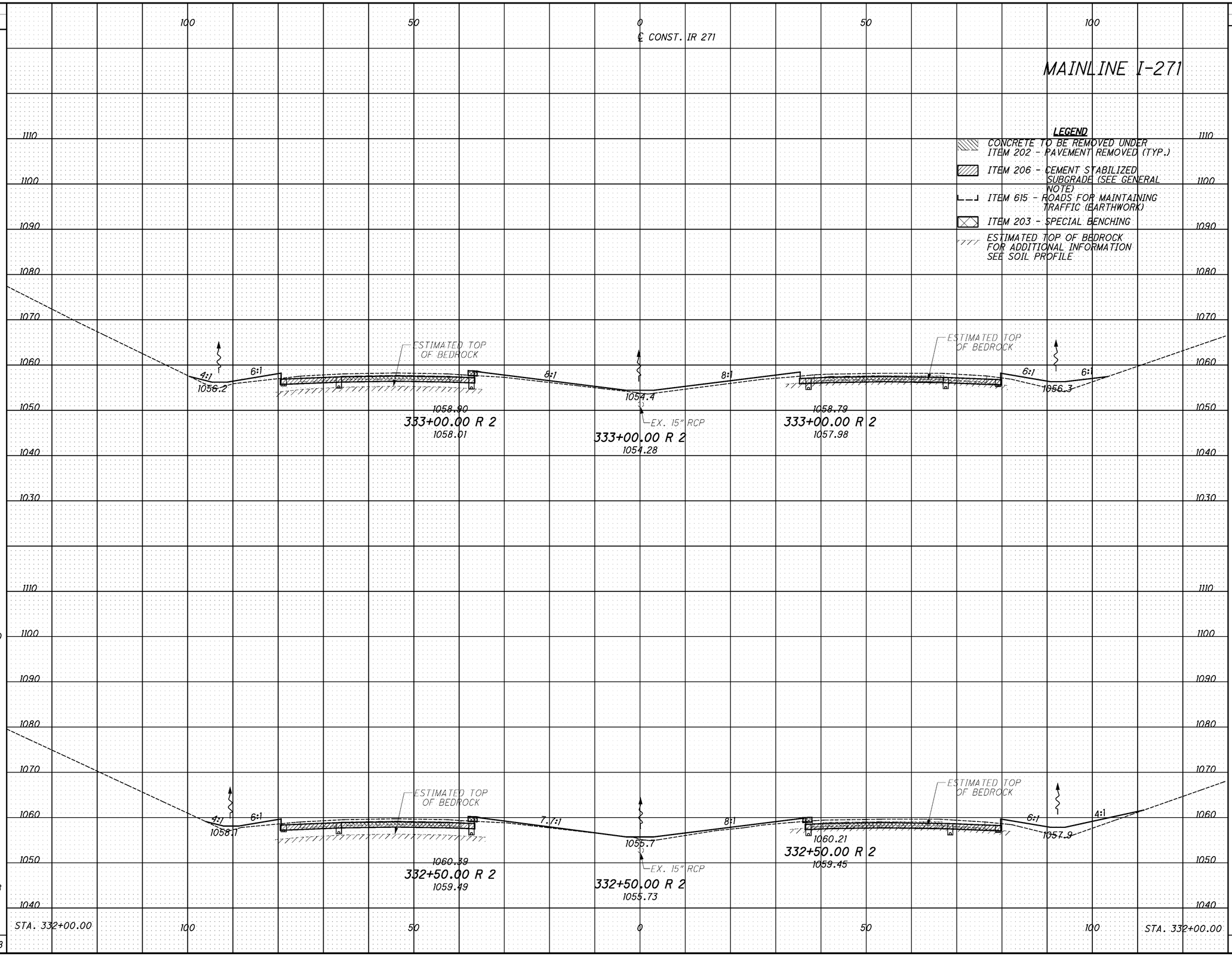
CALCULATED JDL
CHECKED PRS

CROSS SECTIONS
STA. 332+50.00 TO STA. 333+00.00

SUM-271-2.33

527
1195

F:\2009\109094\18710\roadway\sheets\18710XS003.dgn 11/10/2012 10:44:25 AM DonHelman



SEEDING	
END WIDTH	SQ. YDS.
124	
	689
124	
	695
126	
	1384

END AREA	
CUT	FILL
51	145
54	124
57	85

VOLUME	
CUT	FILL
98	250
103	194
201	444

CALCULATED JDL

CHECKED PRS

CROSS SECTIONS

STA. 333+50.00 TO STA. 334+00.00

SUM-271-2.33

528
1195

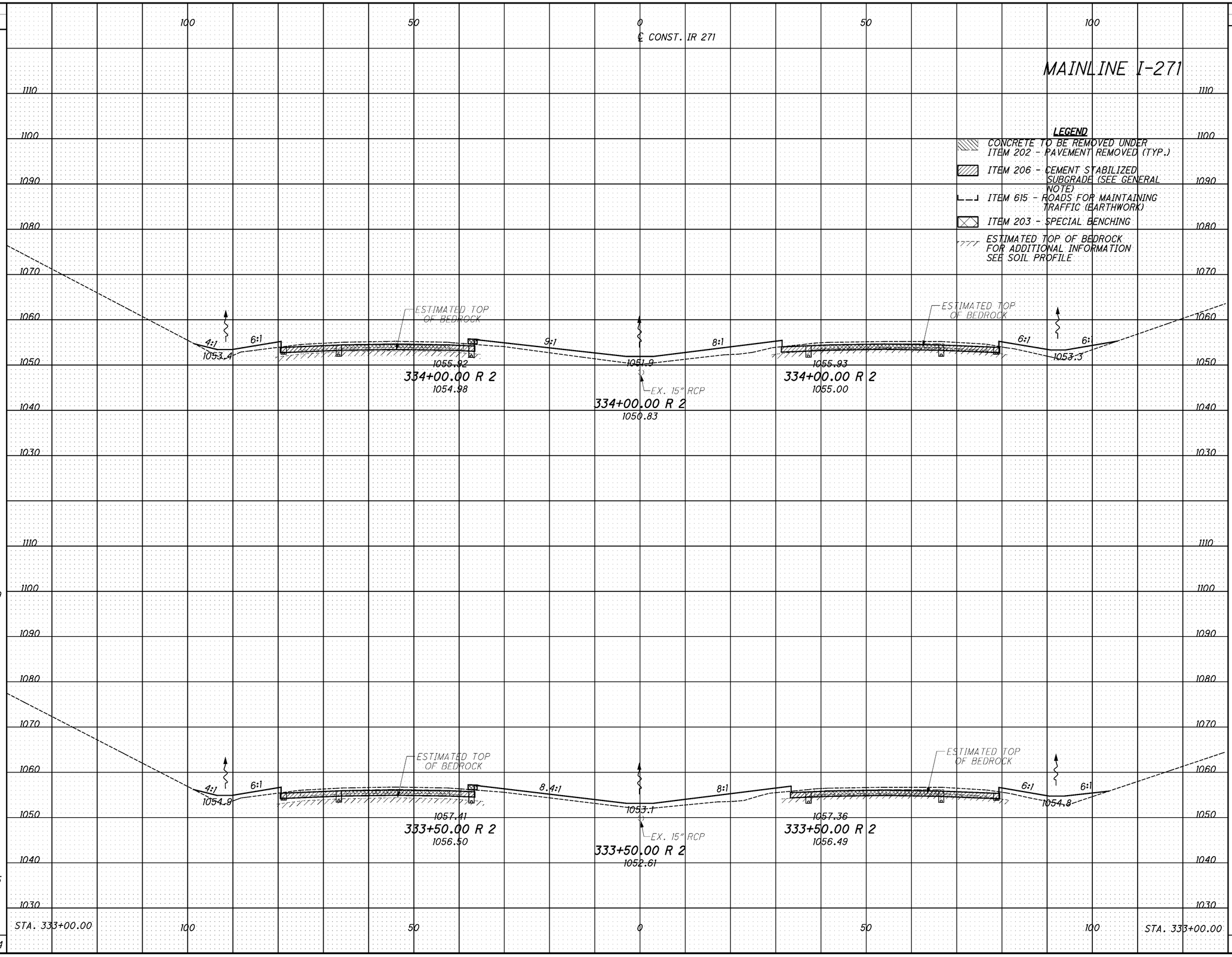
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MAINLINE I-271

℄ CONST. IR 271

LEGEND

- CONCRETE TO BE REMOVED UNDER ITEM 202 - PAVEMENT REMOVED (TYP.)
- ITEM 206 - CEMENT STABILIZED SUBGRADE (SEE GENERAL NOTE)
- ITEM 615 - ROADS FOR MAINTAINING TRAFFIC (EARTHWORK)
- ITEM 203 - SPECIAL BENCHING
- ESTIMATED TOP OF BEDROCK FOR ADDITIONAL INFORMATION SEE SOIL PROFILE



SEEDING	
END WIDTH	SQ. YDS.
112	648
121	681
124	1329

100 50 0 ℄ CONST. IR 271 50 100

MAINLINE I-271

LEGEND

- CONCRETE TO BE REMOVED UNDER ITEM 202 - PAVEMENT REMOVED (TYP.)
- ITEM 206 - CEMENT STABILIZED SUBGRADE (SEE GENERAL NOTE)
- ITEM 615 - ROADS FOR MAINTAINING TRAFFIC (EARTHWORK)
- ITEM 203 - SPECIAL BENCHING
- ESTIMATED TOP OF BEDROCK FOR ADDITIONAL INFORMATION SEE SOIL PROFILE

1100 1090 1080 1070 1060 1050 1040 1030

4:1 6:1 1050.4 ESTIMATED TOP OF BEDROCK 1052.94 335+00.00 R 2 1051.94

STA. 334+97.61, 0.25' RT. EX. CB (REMOVE) GRATE EL. 1047.33 ℄ 15" 1044.84 ℄ 18" 1044.80

8:1 1049.0 335+00.00 R 2 1049.02

STA. 334+97.61, 0.25' RT CB NO 4 GRATE EL. 1048.32 ℄ 6" (W & E) 1045.80 ℄ 15" 1044.84 ℄ 18" 1044.80

6:1 1053.08 335+00.00 R 2 1052.02

ESTIMATED TOP OF BEDROCK 6:1 6: 1050.5

4:1 6:1 1051.9 ESTIMATED TOP OF BEDROCK 1054.43 334+50.00 R 2 1053.46

9.5:1 1050.6 EX. 15" RCP 334+50.00 R 2 1049.39

8:1 1054.51 334+50.00 R 2 1053.51

ESTIMATED TOP OF BEDROCK 6:1 6: 1051.9

STA. 334+00.00 100 50 0 50 100 STA. 334+00.00

END AREA		VOLUME	
CUT	FILL	CUT	FILL
43	123	85	244
48	140	92	264
51	145	177	508

CALCULATED JDL

CHECKED PRS

CROSS SECTIONS STA. 334+50.00 STA. 335+00.00

SUM-271-2.33

529
1195

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SEEDING	
END WIDTH	SQ. YDS.
122	637
107	609
112	1246

100 50 0 ℄ CONST. IR 271 50 100

MAINLINE I-271

LEGEND

- CONCRETE TO BE REMOVED UNDER ITEM 202 - PAVEMENT REMOVED (TYP.)
- ITEM 206 - CEMENT STABILIZED SUBGRADE (SEE GENERAL NOTE)
- ITEM 615 - ROADS FOR MAINTAINING TRAFFIC (EARTHWORK)
- ITEM 203 - SPECIAL BENCHING
- ESTIMATED TOP OF BEDROCK FOR ADDITIONAL INFORMATION SEE SOIL PROFILE

1100 1090 1080 1070 1060 1050 1040 1030 1020

4:1 6:1 1047.3 ESTIMATED TOP OF BEDROCK 1049.96 336+00.00 R 2 1048.95 8:1 1046.1 EX. 18" RCP 336+00.00 R 2 1045.35 8.3:1 1050.22 336+00.00 R 2 1049.03 ESTIMATED TOP OF BEDROCK 6:1 6:1 1047.6

4:1 6:1 1048.8 ESTIMATED TOP OF BEDROCK 1051.45 335+50.00 R 2 1050.45 8.3:1 1048.9 0.1 FT./FT. EX. 18" RCP 335+50.00 R 2 1048.66 1051.65 335+50.00 R 2 1050.52 ESTIMATED TOP OF BEDROCK 6:1 6:1 1049.0

STA. 335+00.00 100 50 0 50 100 STA. 335+00.00

END AREA		VOLUME	
CUT	FILL	CUT	FILL
35	127		
		76	219
47	109		
		84	215
43	123		
		160	434

CALCULATED JDL

CHECKED PRS

CROSS SECTIONS

STA. 335+50.00 TO STA. 336+00.00

SUM-271-2.33

530
1195

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SEEDING	
END WIDTH	SQ. YDS.
126	
	684
120	
	673
122	
	1357

END AREA	
CUT	FILL
32	146
35	128
35	127

VOLUME	
CUT	FILL
63	254
65	237
128	491

CALCULATED JDL

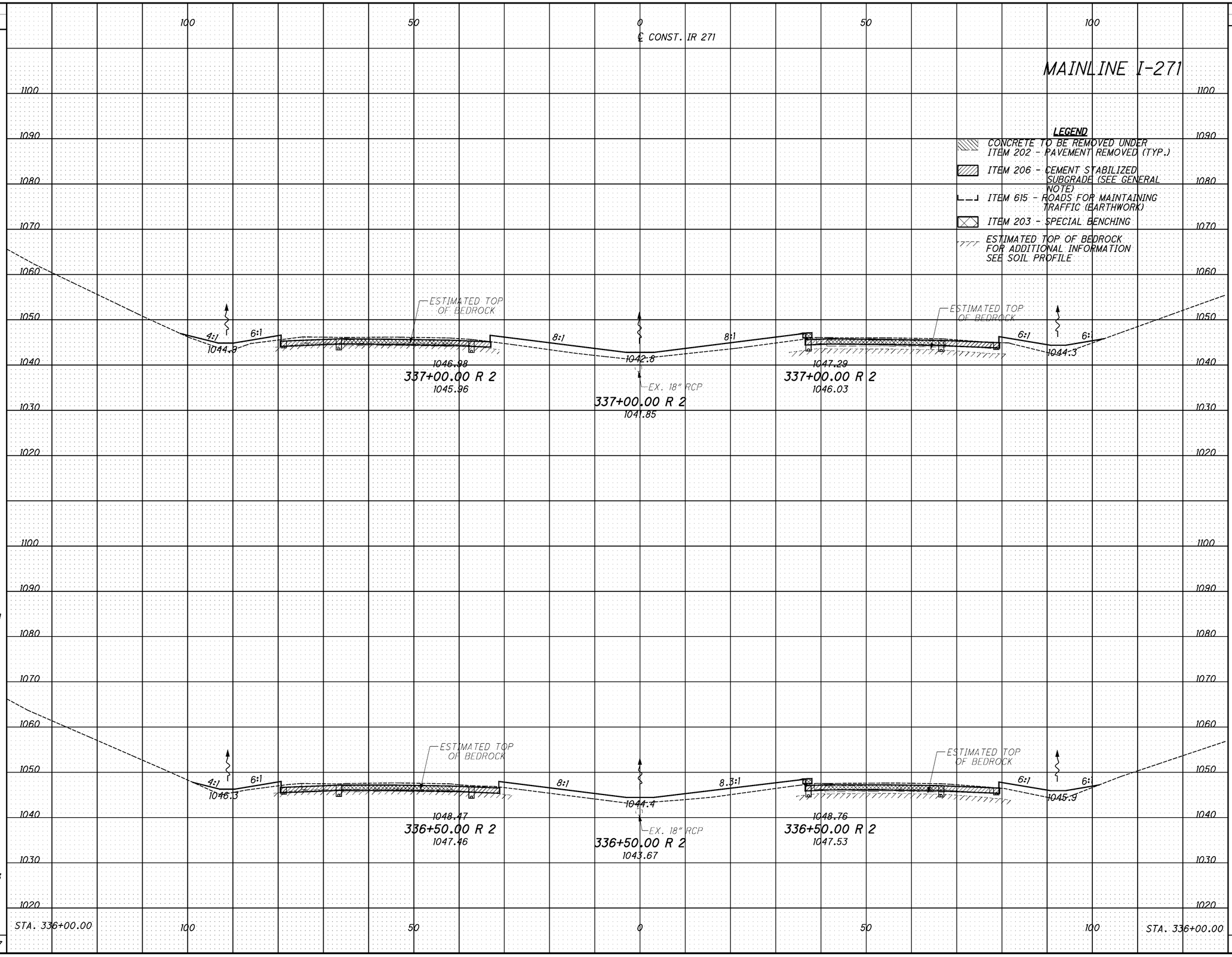
CHECKED PRS

CROSS SECTIONS
STA. 336+50.00 TO STA. 337+00.00

SUM-271-2.33

531
1195

F:\2009\109094\18710\roadway\sheets\18710XS003.dgn 11/10/2012 10:46:00 AM DonHelman



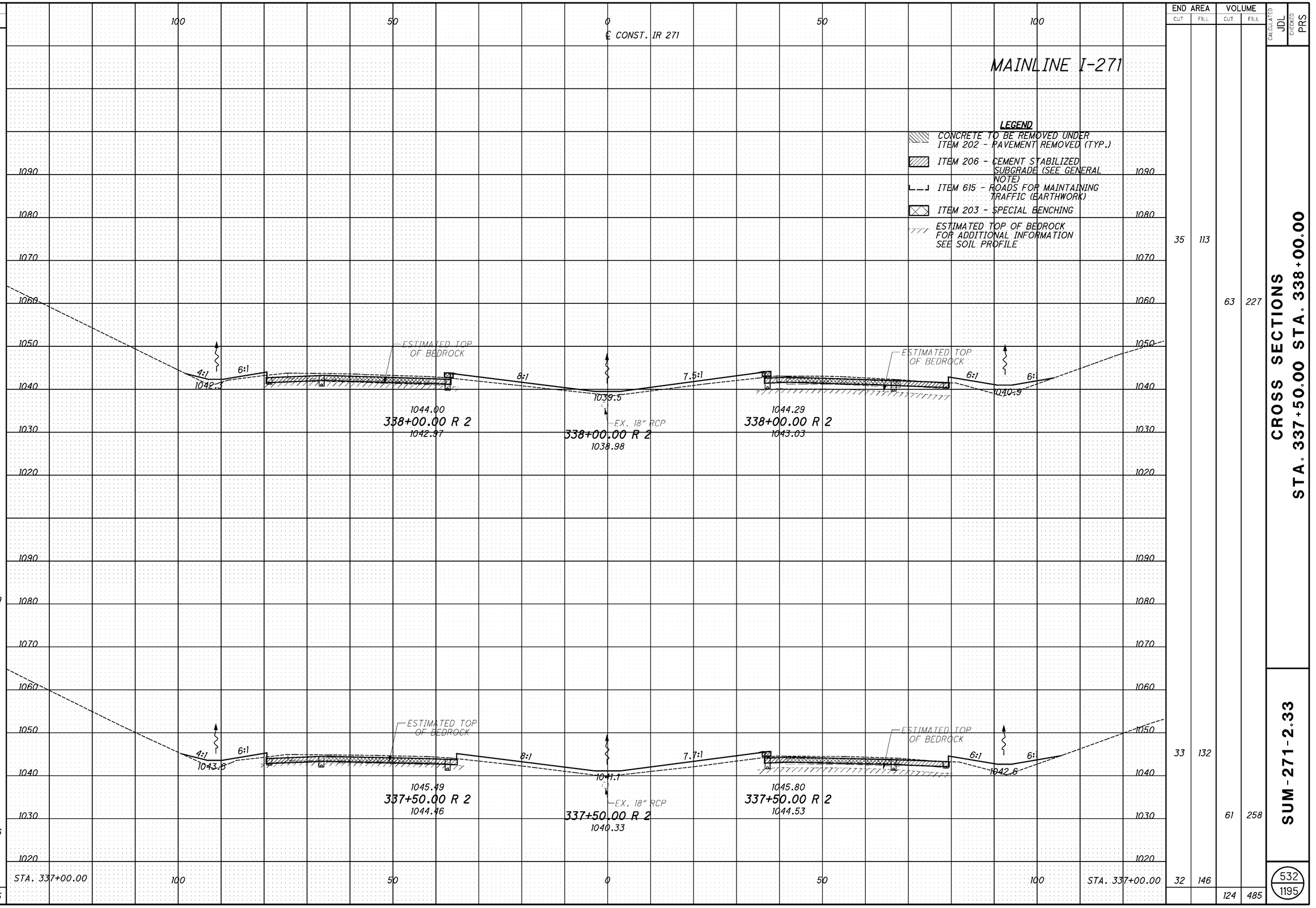
CROSS SECTIONS
STA. 337+50.00 STA. 338+00.00

SUM-271-2.33

532
1195

CALCULATED JDL
CHECKED PRS

SEEDING		END AREA		VOLUME	
END WIDTH	SQ. YDS.	CUT	FILL	CUT	FILL
127	709	35	113	63	227
128	706	33	132	61	258
126	1415	32	146	124	485



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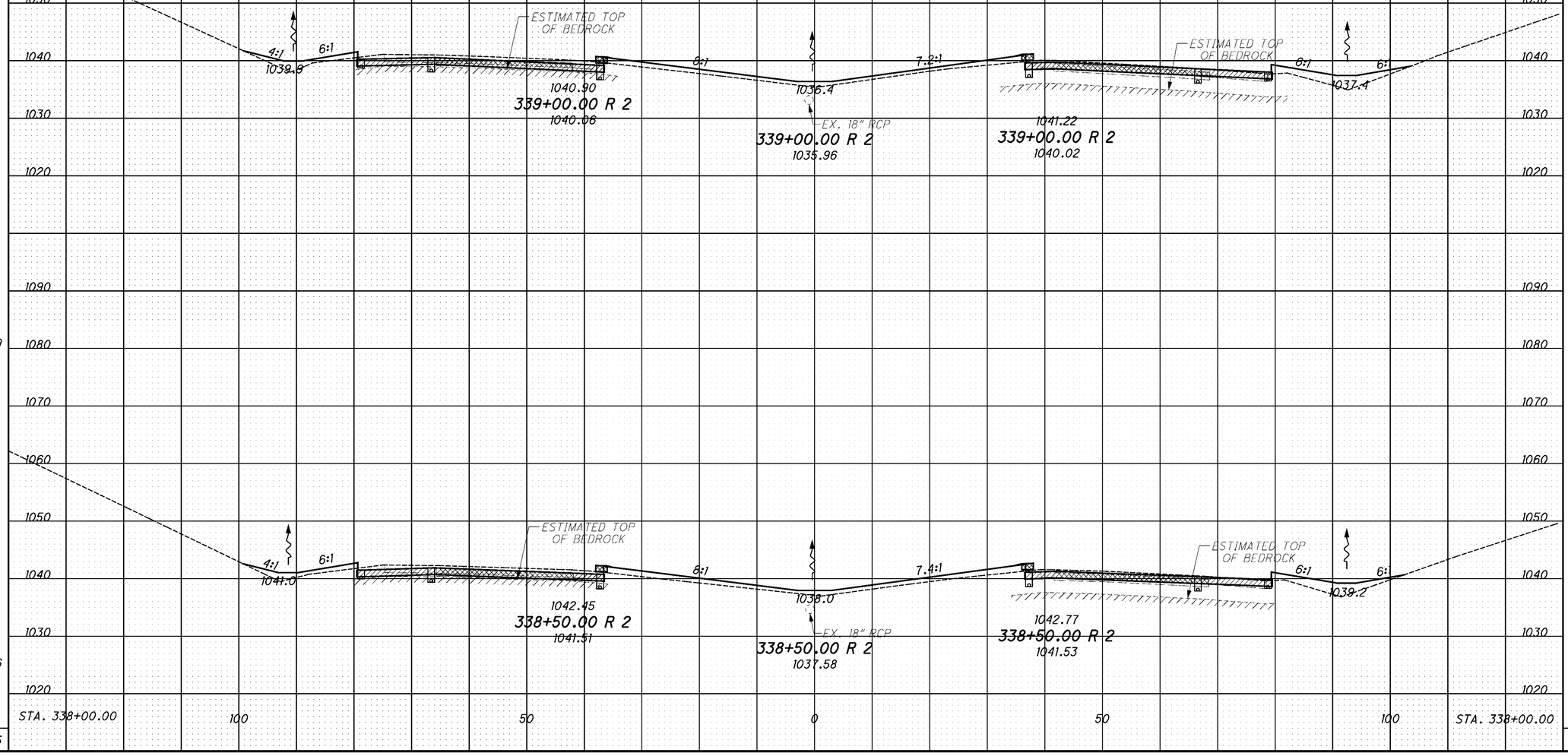
SEEDING	
END WIDTH	SQ. YDS.
128	
	709
127	
	706
127	
	1415

100 50 0 ℄ CONST. IR 271 50 100

MAINLINE I-271

LEGEND

- CONCRETE TO BE REMOVED UNDER ITEM 202 - PAVEMENT REMOVED (TYP.)
- ITEM 206 - CEMENT STABILIZED SUBGRADE (SEE GENERAL NOTE)
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- ITEM 203 - SPECIAL BENCHING
- ESTIMATED TOP OF BEDROCK FOR ADDITIONAL INFORMATION SEE SOIL PROFILE



END AREA		VOLUME	
CUT	FILL	CUT	FILL
32	107		
		59	200
31	109		
		62	206
35	113		
		121	406

CALCULATED JDL
CHECKED PRS

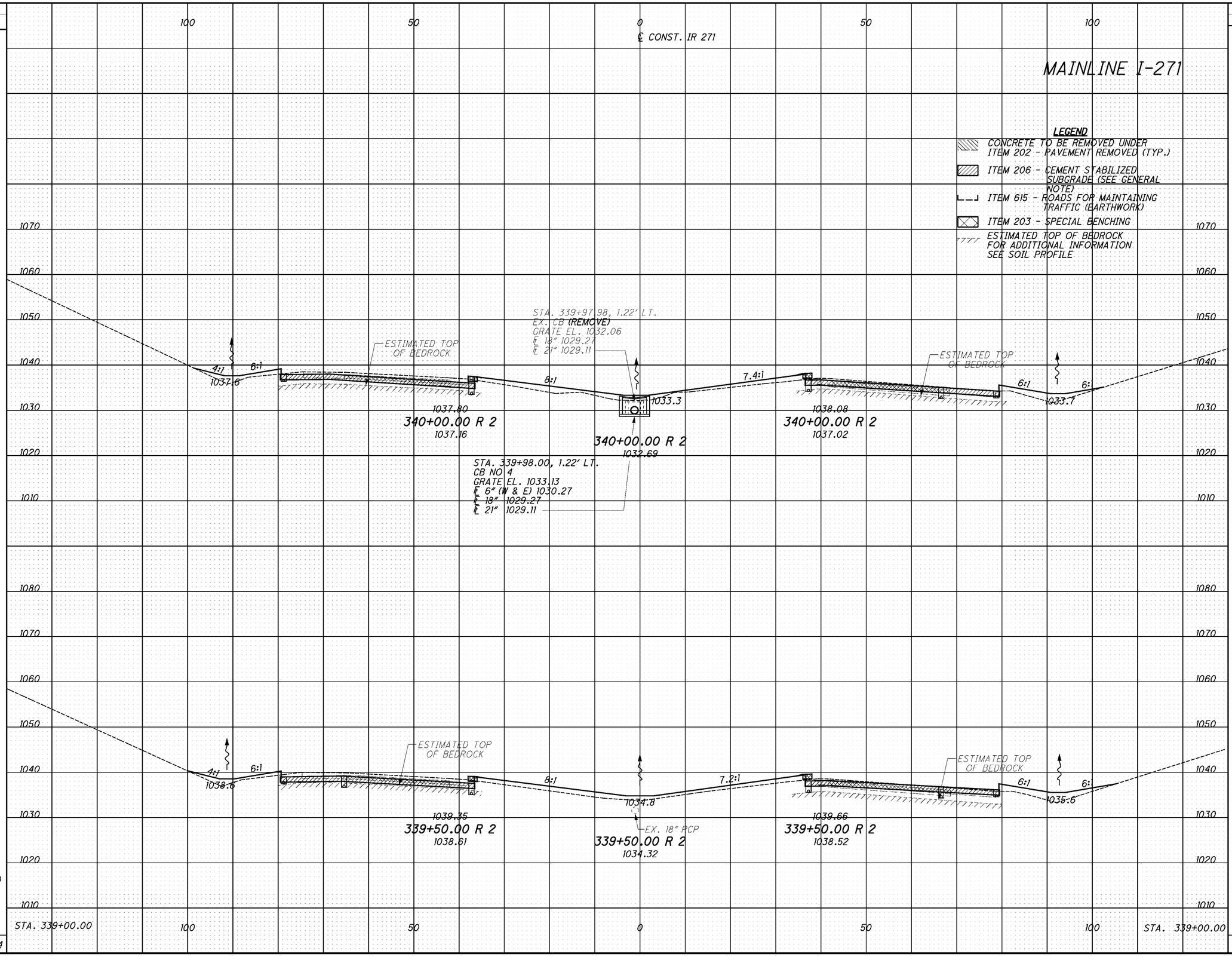
CROSS SECTIONS
STA. 338+50.00 TO STA. 339+00.00

SUM-271-2.33

533
1195

F:\2009\109094\18710\roadway\sheets\18710XS003.dgn 11/12/2012 8:51:20 AM SteveMorr

SEEDING	
END WIDTH	SQ. YDS.
126	
	714
131	
	720
128	
	1434



END AREA		VOLUME	
CUT	FILL	CUT	FILL
36	110		
		69	212
38	118		
		65	209
32	107		
		134	421

CALCULATED JDL
CHECKED PRS

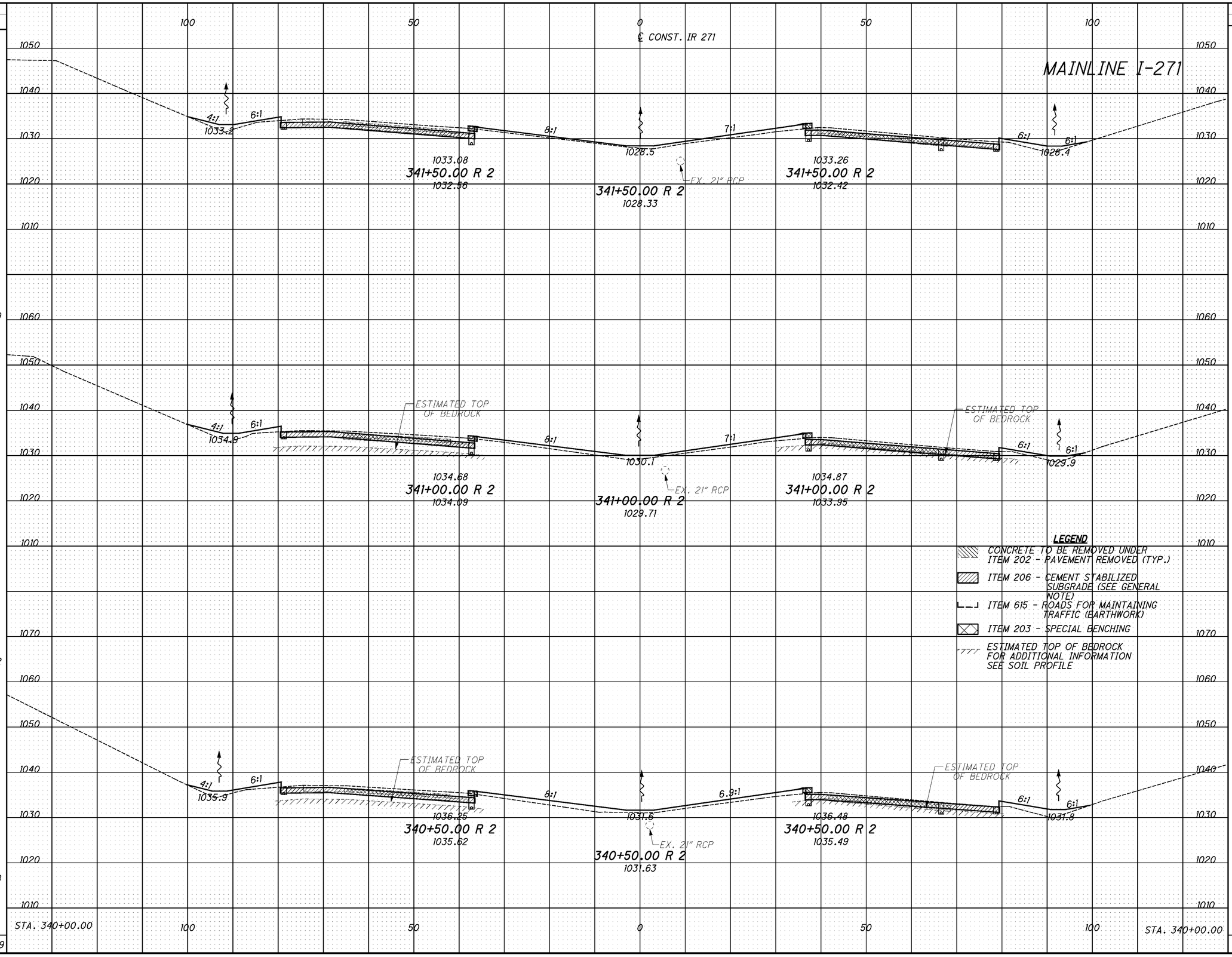
CROSS SECTIONS
STA. 339+50.00 TO STA. 340+00.00

SUM-271-2.33

534
1195

F:\2009\109094\18710\roadway\sheets\18710XS003.dgn 11/12/2012 6:49:27 AM CraigBanghart

SEEDING	
END WIDTH	SQ. YDS.
124	
	689
124	
	692
125	
	698
126	
	2079



END AREA		VOLUME	
CUT	FILL	CUT	FILL
57	69		
		94	138
44	80		
		77	164
39	97		
		70	192
36	110		
		241	494

CALCULATED JDL
CHECKED PRS

CROSS SECTIONS
STA. 340+50.00 TO STA. 341+50.00

SUM-271-2.33

535
1195

F:\2009\109094\18710\roadway\sheets\18710XS003.dgn 11/10/2012 10:47:33 AM DonHelman

SEEDING	
END WIDTH	SQ. YDS.
	147
	781
	134
	723
	126
	695
	124
	2199

END AREA	
CUT	FILL
191	20
96	51
66	65
57	69

VOLUME	
CUT	FILL
266	66
150	108
114	125
530	299

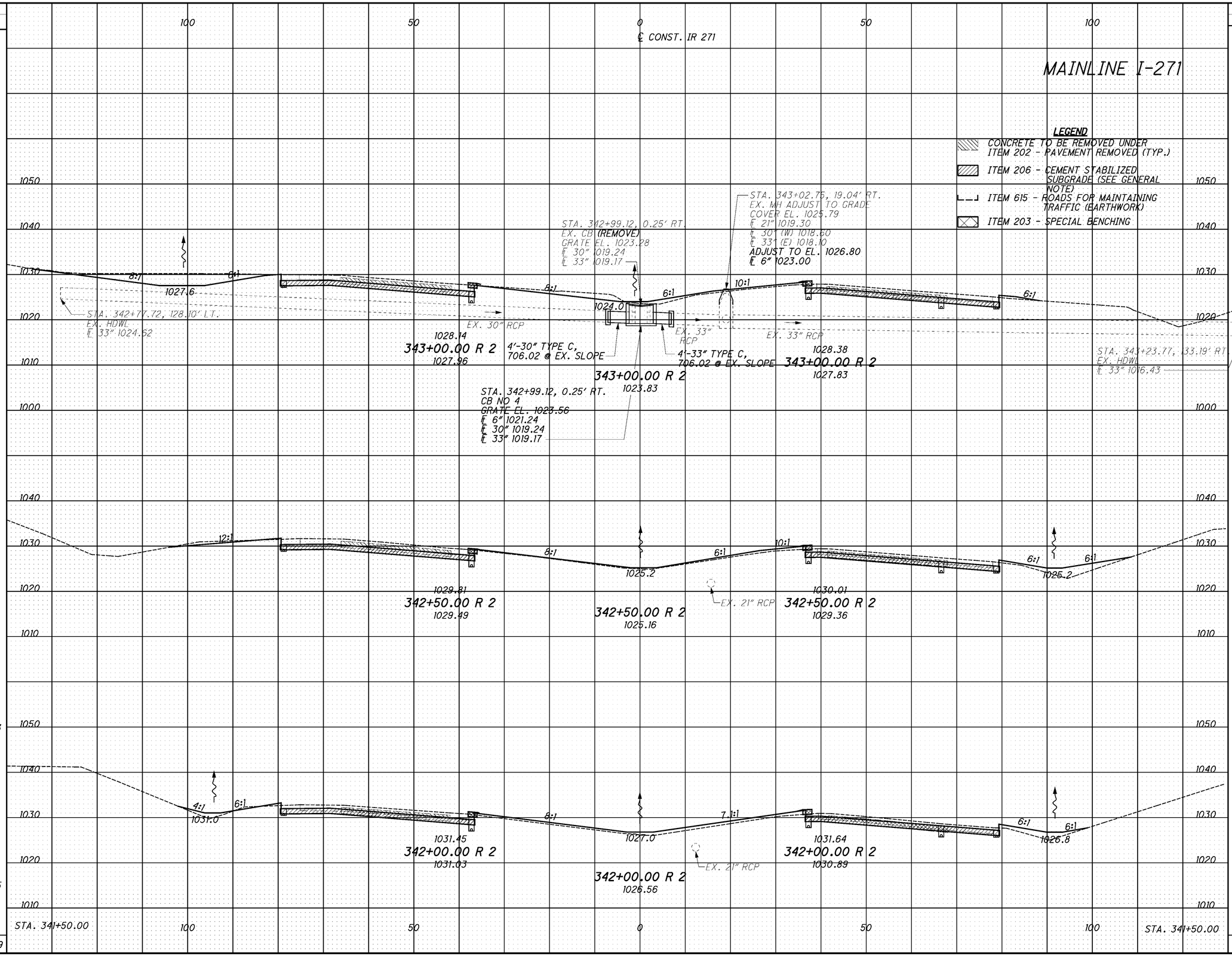
CALCULATED JDL
CHECKED PRS

CROSS SECTIONS
STA. 342+00.00 TO STA. 343+00.00

SUM-271-2.33

536
1195

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SEEDING	
END WIDTH	SQ. YDS.
132	
	775
147	
	817
147	
	1592

100 50 0 50 100

℄ CONST. IR 271

MAINLINE I-271

LEGEND

- CONCRETE TO BE REMOVED UNDER ITEM 202 - PAVEMENT REMOVED (TYP.)
- ITEM 206 - CEMENT STABILIZED SUBGRADE (SEE GENERAL NOTE)
- ITEM 615 - ROADS FOR MAINTAINING TRAFFIC (EARTHWORK)
- ITEM 203 - SPECIAL BENCHING
- ▲ TH-UTILITY DEPTH NOT CONFIRMED

1070 1060 1050 1040 1030 1020 1010 1000

8:1 6:1 1024.3 1024.93 344+00.00 R 2 1025.00 7:1 7.5:1 1020.7 344+00.00 R 2 1024.59 10:1 1025.17 344+00.00 R 2 1024.94 12:1 4:1

TH-2024▲ 8:1 6:1 1025.2 1026.51 343+50.00 R 2 1026.48 8:1 6:1 1022.5 10:1 1026.77 343+50.00 R 2 1026.38 343+50.00 R 2 1025.23 12:1 TH-2025A▲ TH-2025B▲

FX. FO. IN 4" CONDUIT (APPROX. 2'± COVER)

STA. 343+00.00 100 50 0 50 100 STA. 343+00.00

END AREA		VOLUME	
CUT	FILL	CUT	FILL
237	6	432	25
229	20	389	38
191	20	821	63

CALCULATED JDL

CHECKED PRS

CROSS SECTIONS 343+50.00 TO STA. 344+00.00

SUM-271-2.33

537
1195

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SEEDING	
END WIDTH	SQ. YDS.
63	
134	
	328
134	
	800
154	
	825
143	
	764
132	
	2717

100 50 0 50 100

℄ CONST. IR 271

PIERS

STA. 345+72.00 AH RT

STA. 345+72.00
END SEEDING LT. AND CENTER BK.

STA. 345+72.00, 4.24' LT.
EX. CB (REMOVE)
GRATE EL. 1015.01
℄ 24" (W & E) 1012.09

4'-24" TYPE C,
706.02 @ EX. SLOPE

12:1 6:1 11:1 6:1 4:1

1016.6 1015.8

4'-24" TYPE C,
706.02 @ EX. SLOPE

1020.43
345+50.00 R 2
1020.47

345+50.00 R 2
1017.43

1020.55
345+50.00 R 2
1020.50

STA. 345+29.78, 118.70' LT.
EX. HDWL
℄ 24" 1019.22

STA. 345+72.00, 4.24' LT.
CB NO. 4
GRATE EL. 1016.00
℄ 6" (W & SE) 1013.00
℄ 24" (W & E) 1012.09

MEDIAN
PIERS

STA. 346+51.47, 94.89' RT.
EX. HDWL
℄ 24" 1008.95
℄ 6" 1009.83

8:1 8:1 8:1 12.5:1 6:1 6:1

1021.2 1018.7 1016.5

1021.89
345+00.00 R 2
1022.03

345+00.00 R 2
1019.28

1022.07
345+00.00 R 2
1022.02

LEGEND

- CONCRETE TO BE REMOVED UNDER ITEM 202 - PAVEMENT REMOVED (TYP.)
- ITEM 206 - CEMENT STABILIZED SUBGRADE (SEE GENERAL NOTE)
- ITEM 615 - ROADS FOR MAINTAINING TRAFFIC (EARTHWORK)
- ITEM 203 - SPECIAL BENCHING

PIERS

8:1 6:1 7:1 10.7:1 6:1 6:1

1022.7 1019.6 1018.0

1023.38
344+50.00 R 2
1023.57

344+50.00 R 2
1021.74

1023.61
344+50.00 R 2
1023.39

STA. 344+00.00 100 50 0 50 100 STA. 344+00.00

END AREA		VOLUME	
CUT	FILL	CUT	FILL
194	2		
		402	6
240	4		
		455	4
251	0		
		452	6
237	6		
		1309	16

CALCULATED JDL
CHECKED PRS

CROSS SECTIONS
STA. 344+50.00 TO STA. 345+50.00

SUM-271-2.33

538
1195

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SQ. YDS.
322471

SEEDING

END WIDTH	SQ. YDS.
0	
35	105
35	153
63	258

TOTAL CARRIED TO EROSION CONTROL CALCULATION SHEET 273

100 50 0 ℄ CONST. IR 271 50 100

TOTALS CARRIED TO EARTHWORK SUBSUMMARY SHEET 241

CUT	FILL
190279	70614

END AREA		VOLUME	
CUT	FILL	CUT	FILL
	*	24221	24221
		166058	46393
194	2		
		263	2

CALCULATED JDL

CHECKED PRS

CROSS SECTIONS STA. 346+00.00 TO STA. 346+50.00

SUM-271-2.33

539
1195

MAINLINE I-271

LEGEND

- CONCRETE TO BE REMOVED UNDER ITEM 202 - PAVEMENT REMOVED (TYP.)
- ITEM 206 - CEMENT STABILIZED SUBGRADE (SEE GENERAL NOTE)
- ITEM 615 - ROADS FOR MAINTAINING TRAFFIC (EARTHWORK)
- ITEM 203 - SPECIAL BENCHING

1050 1040 1030 1020 1010 1000 990

346+50.00 R 2
994.65

346+50.00 R 2
1001.16

346+50.00 R 2
1012.55

STA. 346+27.00 AHD.

STA. 346+27.00
END SEEDING RT. BK.

EX. FO
IN 4" CONDUIT
(APPROX. 2'± COVER)

346+00.00 R 2
1018.92

346+00.00 R 2
1018.57

1019.05

346+00.00 R 2
1019.01

6:1

4:1

1013.3

STA. 345+72.00

STA. 345+50.00

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GUARDRAIL LEGEND

- (T) ANCHOR ASSEMBLY TYPE 'T' (12.5')
- (E) ANCHOR ASSEMBLY TYPE 'E' (50')
- (B) ANCHOR ASSEMBLY TYPE 'B' (37.5')
- (B1) BRIDGE TERMINAL ASSEMBLY TYPE 1 (31.25')
- (B2) BRIDGE TERMINAL ASSEMBLY TYPE 2 (25')

CROSS REFERENCES

20-21	TYPICAL SECTIONS
542-550	CROSS SECTIONS
709	SUPERELEVATION TABLES
725	PAVEMENT DETAILS

DRAINAGE LEGEND

ITEM 670 - DITCH EROSION PROTECTION (WIDTH SHOWN ON PLANS)

ITEM 836 - SEEDING AND EROSION CONTROL WITH TURF REINFORCING MAT, TYPE 1 (WIDTH SHOWN ON PLANS)

℄ CONST. RAMP A 17-A1 CURVE DATA

P.I.= Sta. 58+80.72
△= 27° 10′ 38″ (LT)
Dc = 8° 00′ 00″
R = 716.20′
Ls = 200.00′
θ s = 8° 00′ 00″ (LT)
LT = 133.47′
ST = 66.79′
x = 199.61′
y = 9.30′
k = 99.94′
p = 2.33′
△c = 11° 10′ 38″ (LT)
Lc = 139.72′
Ts = 273.61′
Es = 23.02′
eMAX. = 0.060
C = 139.49′
C1=C2 = 199.83′
C.B.1 = N 53° 05′ 27″ E
C.B. = N 42° 10′ 07″ E
C.B.2 = S 31° 14′ 46″ W

℄ CONST. RAMP A 17-A2 CURVE DATA

P.I.= Sta. 64+22.76
△= 41° 19′ 15″ (RT)
Dc = 12° 00′ 00″
R = 477.46′
Ls = 200.00′
θ s = 12° 00′ 00″ (RT)
LT = 133.64′
ST = 66.95′
x = 199.12′
y = 13.92′
k = 99.85′
p = 3.49′
△c = 29° 19′ 15″ (RT)
Lc = 244.34′
T1 = 275.93′
Es = 34.70′
T2 = 185.32′
eMAX. = 0.057
C = 199.61′
C = 241.68′
C.B.1 = N 32° 34′ 42″ E
C.B. = N 55° 14′ 25″ E

POT Sta. 53+07.11 ℄ CONST. RAMP A = STA. 553+07.11 ℄ CONST. IR 271

℄ CONST. SR 176 (BROADVIEW ROAD)

EX. OVERHEAD TELEPHONE

TS Sta. 56+07.11

SC Sta. 58+07.11

CS Sta. 59+46.83

SRS Sta. 61+46.83

4-LS, 4-LE, B1, 37-GR, 118-D, E, 119-D, 40-LS, 120-D, 40-RS

4' WOVEN WIRE, Ex LA-R/W, BRUSH, 2"-4" TREES, ROCK, SAN, W, 6" W, 8" W, 12" W, 16.00'

PROP. 6" WATER LINE

PROP. 6" FORCE MAIN

℄ CONST. RAMP A

4'-27" TYPE C, 706.02 @ EX. SLOPE

MATCH LINE STA. 62+50 SEE SHEET 541

STA. 61+47.00, 140.00' RT. ℄ 6" 1217.74

N 55° 45′ 26″ E

N 56° 57′ 03″ E

℄ CONST. IR 271

GRAPHIC GRADE

SEE MAINLINE PLAN & PROFILE FOR CRITICAL VERTICAL CLEARANCES

STA. 53+07.11 EL. 1,231.23

STA. 57+63.10 EL. 1,225.71

6" WTR

6" SFM

1.98 %

1.27 %

STA. 60+41.08, 20.15' LT.
CB NO 5
GRATE EL. 1220.33
℄ 6" (S & E) 1218.00
℄ 27" 1216.29

STA. 60+41.08, 24.02' LT.
EX. CB (REMOVE)
GRATE EL. 1220.88
℄ 27" 1216.29

500.00' VC
P.V.I. STA 60+15.00
ELEV = 1,220.71'

1,231.12 1,230.95 1,230.78 1,230.59 1,230.39 1,230.17 1,229.94 1,229.70 1,229.44 1,229.17 1,228.89 1,228.59 1,228.22 1,227.81 1,227.38 1,226.93 1,226.46 1,225.97 1,225.48 1,225.02 1,224.60 1,224.22 1,223.88 1,223.59 1,223.33 1,223.12 1,222.94 1,222.81 1,222.71 1,222.66 1,222.65 1,222.62 1,222.75 1,222.86 1,223.01 1,223.20 1,223.44 1,223.71

1,230.93 1,230.46 1,229.87 1,229.26 1,228.63 1,227.92 1,227.16 1,226.31 1,225.57 1,224.89 1,224.41 1,223.96 1,223.55 1,223.29 1,223.26 1,223.27 1,223.46 1,223.88 1,224.23

1250 1240 1230 1220 1210 1200 1190

54+00 55+00 56+00 57+00 58+00 59+00 60+00 61+00 62+00

HORIZONTAL SCALE IN FEET 0 25 50 100

CALCULATED JDL CHECKED PRS

PLAN AND PROFILE - CR 17 RAMP A
STA. 53+07.11 TO STA. 62+50

SUM-271-2.33

540
1195

F:\2009\109094\18710\roadway\sheets\18710GP021.dgn 11/9/2012 11:46:46 AM Jeremy.Lay

CROSS REFERENCES	
21	TYPICAL SECTIONS
542-550	CROSS SECTIONS
709	SUPERELEVATION TABLES
741	INTERSECTION DETAILS
679-680	CR 17 PLAN & PROFILE

℄ CONST. RAMP A
17-A2 CURVE DATA

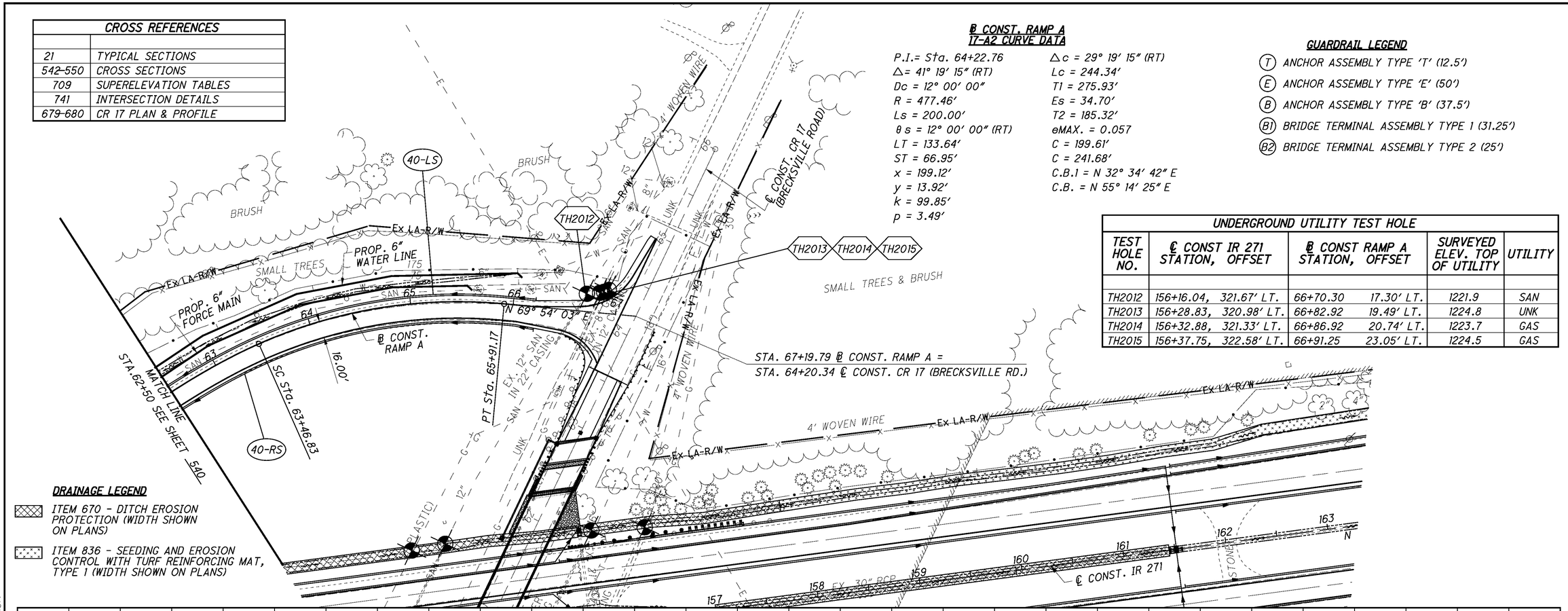
P.I.= Sta. 64+22.76
△= 41° 19′ 15″ (RT)
Dc = 12° 00′ 00″
R = 477.46′
Ls = 200.00′
θs = 12° 00′ 00″ (RT)
LT = 133.64′
ST = 66.95′
x = 199.12′
y = 13.92′
k = 99.85′
p = 3.49′
△c = 29° 19′ 15″ (RT)
Lc = 244.34′
T1 = 275.93′
Es = 34.70′
T2 = 185.32′
eMAX. = 0.057
C = 199.61′
C = 241.68′
C.B.1 = N 32° 34′ 42″ E
C.B. = N 55° 14′ 25″ E

GUARDRAIL LEGEND

(T) ANCHOR ASSEMBLY TYPE 'T' (12.5')
(E) ANCHOR ASSEMBLY TYPE 'E' (50')
(B) ANCHOR ASSEMBLY TYPE 'B' (37.5')
(B1) BRIDGE TERMINAL ASSEMBLY TYPE 1 (31.25')
(B2) BRIDGE TERMINAL ASSEMBLY TYPE 2 (25')

UNDERGROUND UTILITY TEST HOLE

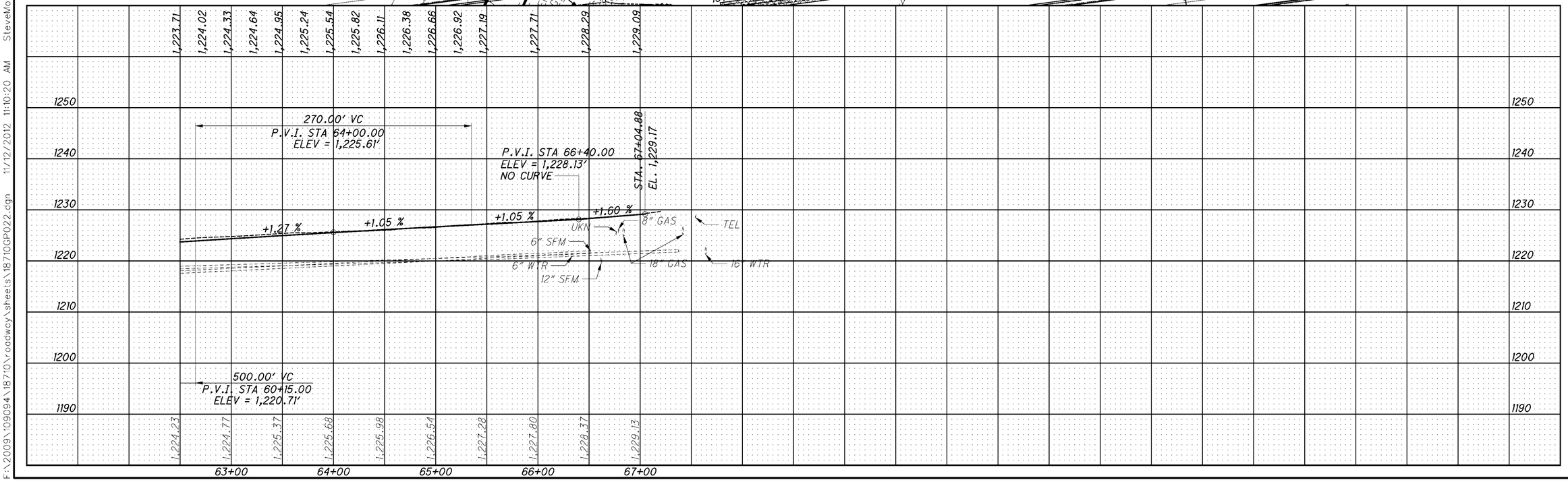
TEST HOLE NO.	℄ CONST IR 271 STATION, OFFSET	℄ CONST RAMP A STATION, OFFSET	SURVEYED ELEV. TOP OF UTILITY	UTILITY
TH2012	156+16.04, 321.67′ LT.	66+70.30 17.30′ LT.	1221.9	SAN
TH2013	156+28.83, 320.98′ LT.	66+82.92 19.49′ LT.	1224.8	UNK
TH2014	156+32.88, 321.33′ LT.	66+86.92 20.74′ LT.	1223.7	GAS
TH2015	156+37.75, 322.58′ LT.	66+91.25 23.05′ LT.	1224.5	GAS



DRAINAGE LEGEND

ITEM 670 - DITCH EROSION PROTECTION (WIDTH SHOWN ON PLANS)

ITEM 836 - SEEDING AND EROSION CONTROL WITH TURF REINFORCING MAT, TYPE 1 (WIDTH SHOWN ON PLANS)



HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED JDL
CHECKED PRS

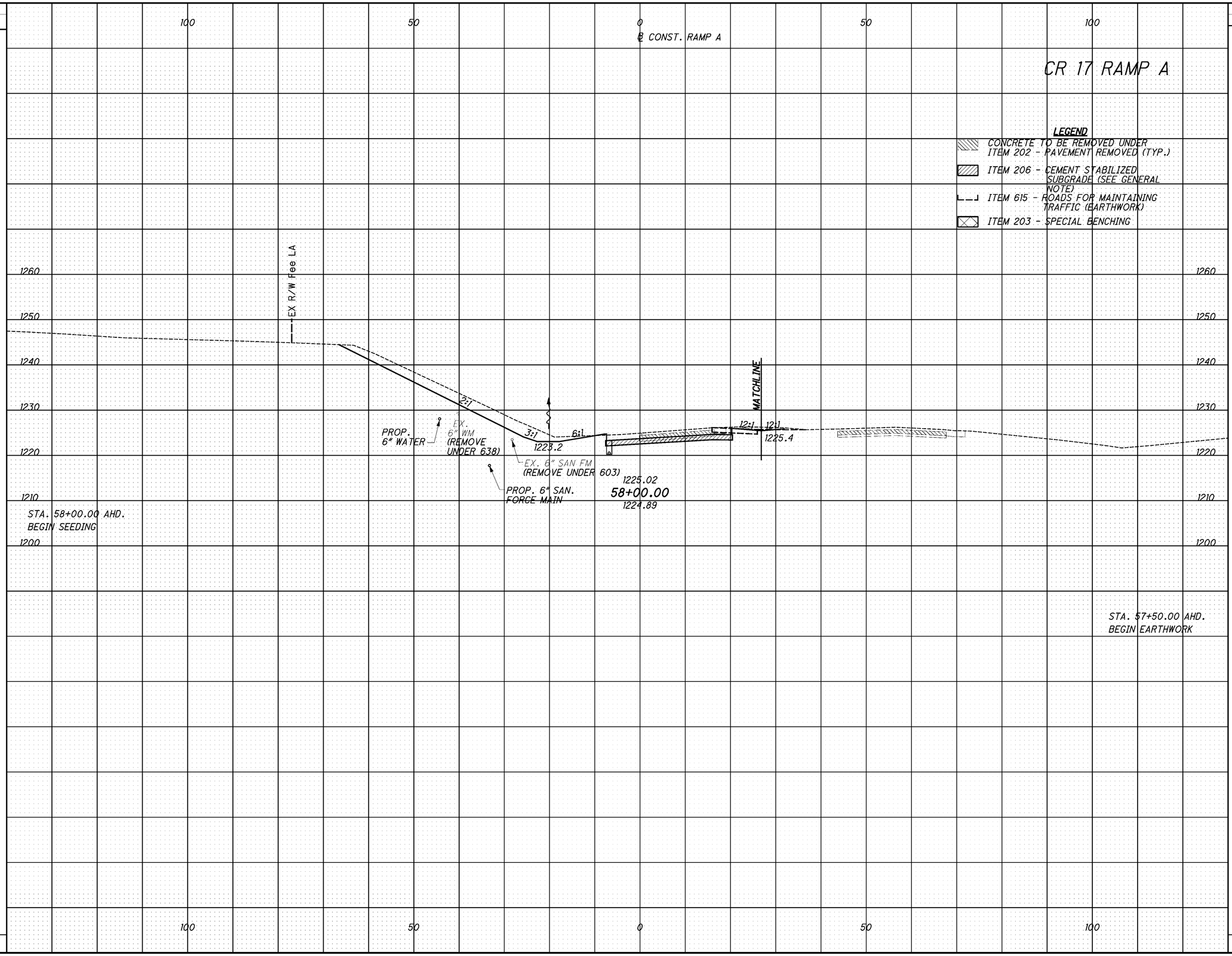
PLAN AND PROFILE - CR 17 RAMP A
STA. 62+50 STA. 67+19.79

SUM-271-2.33

541
1195

F:\2009\1090941871O\roadway\sheets\18710GP022.dgn 11/12/2012 11:10:20 AM SteveMorr

SEEDING	
END WIDTH	SQ. YDS.
75	



END AREA		VOLUME	
CUT	FILL	CUT	FILL
153	0		
32	1	171	1
		171	1

CALCULATED JDL
CHECKED PRS

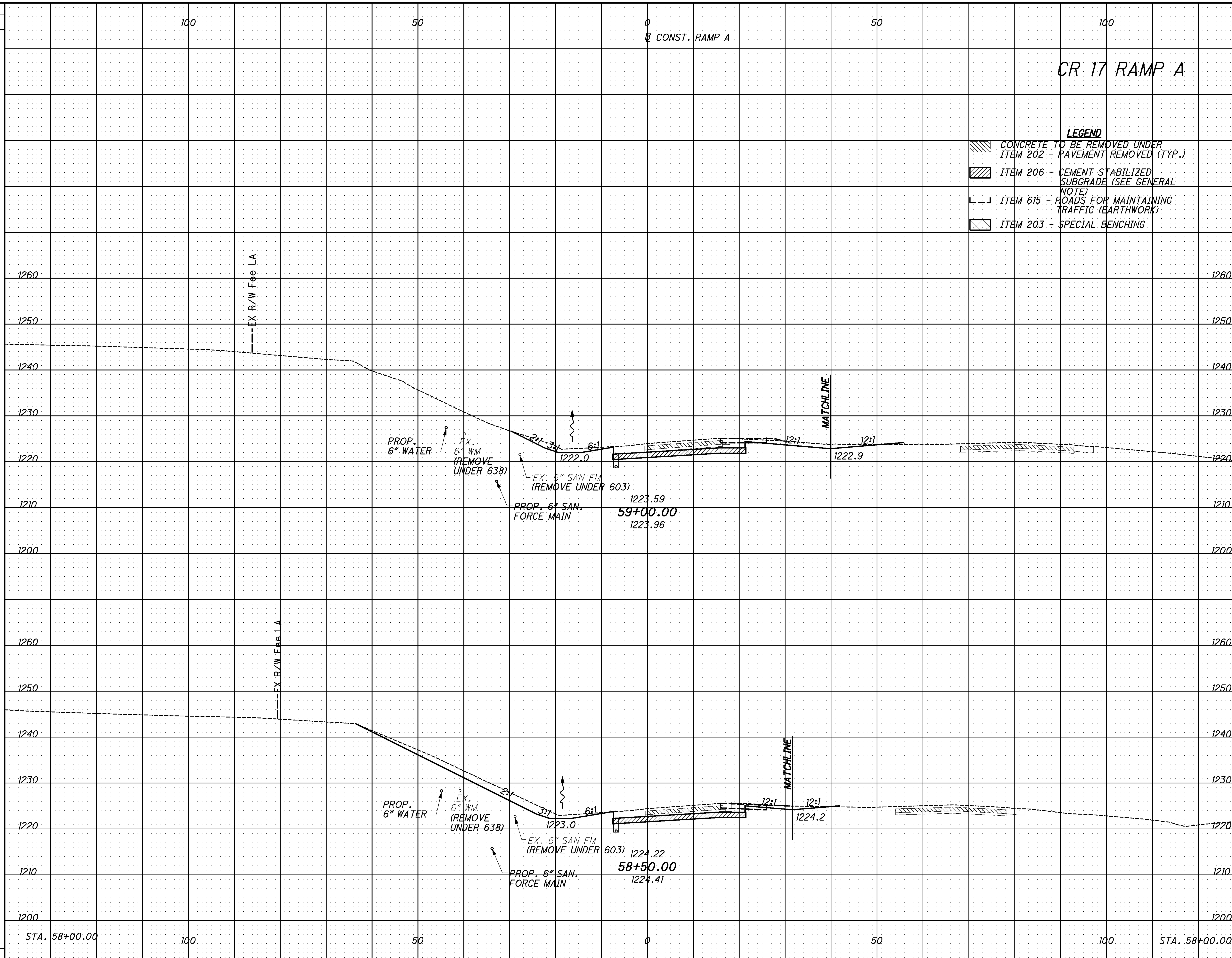
CROSS SECTIONS
STA. 58+00.00

SUM-271-2.33

542
1195

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CR 17 RAMP A



SEEDING END WIDTH	SEEDING SQ. YDS.
46	
	339
76	
	420
75	
	759

END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
86	0		
		188	0
118	0		
		250	0
153	0		
		438	0

CALCULATED JDL
CHECKED PRS

CROSS SECTIONS
STA. 58+50.00 TO STA. 59+00.00

SUM-271-2.33

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SEEDING	
END WIDTH	SQ. YDS.
60	312
52	273
46	585

END AREA		VOLUME	
CUT	FILL	CUT	FILL
83	3		
98	0	168	3
86	0	170	0
		338	3

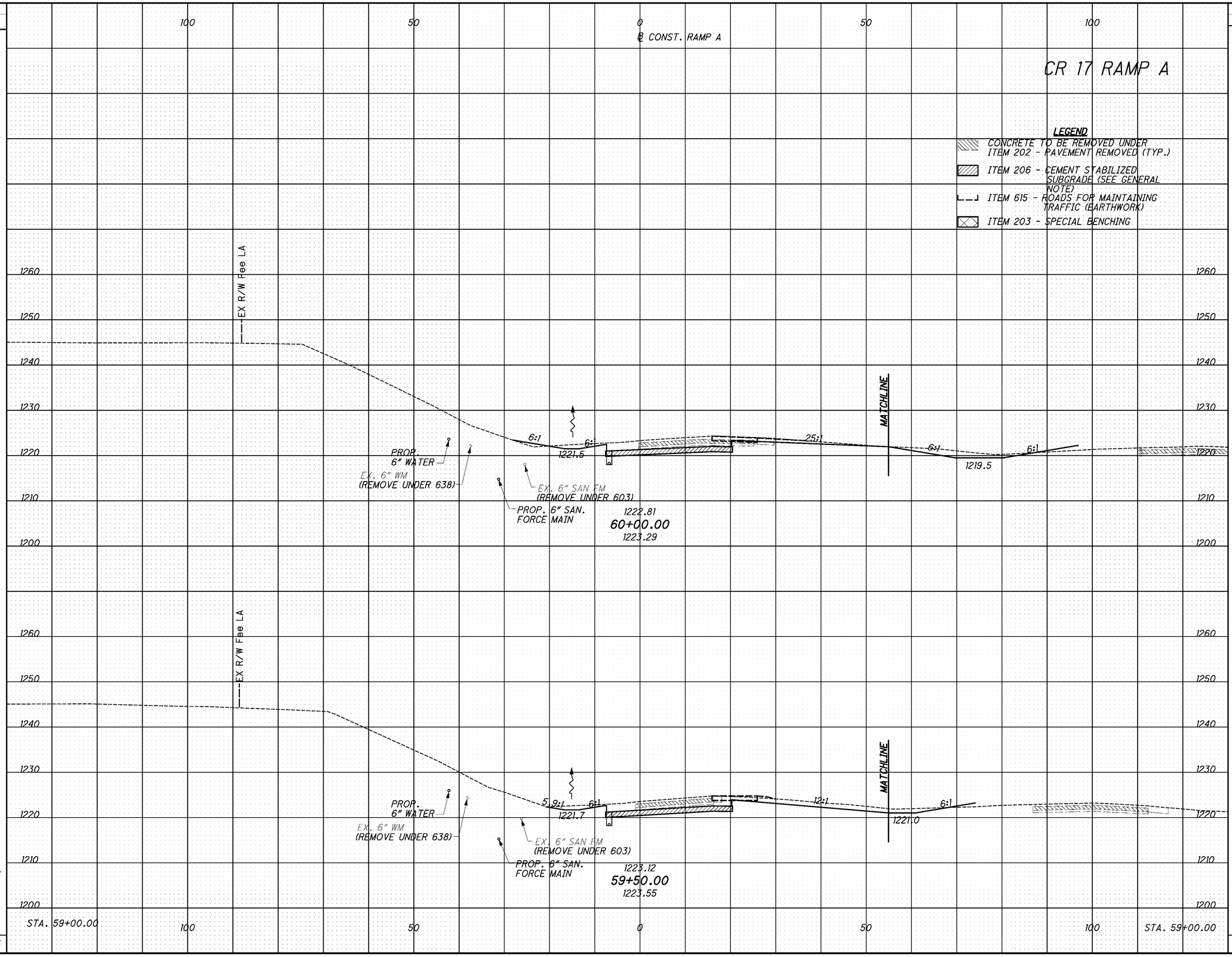
CALCULATED JDL
CHECKED PRS

CR 17 RAMP A

℄ CONST. RAMP A

LEGEND

- CONCRETE TO BE REMOVED UNDER ITEM 202 - PAVEMENT REMOVED (TYP.)
- ITEM 206 - CEMENT STABILIZED SUBGRADE (SEE GENERAL NOTE)
- ITEM 615 - ROADS FOR MAINTAINING TRAFFIC (EARTHWORK)
- ITEM 203 - SPECIAL BENCHING



CROSS SECTIONS
STA. 59+50.00 TO STA. 60+00.00

SUM-271-2.33

544
1195

F:\2009\109094\18710\roadway\sheets\18710XS101.dgn 11/12/2012 10:48:24 AM SteveWorr

SEEDING	
END WIDTH	SQ. YDS.
91	545
105	459
60	
	1004

100 50 0 ℄ CONST. RAMP A 50 100

CR 17 RAMP A

LEGEND

- CONCRETE TO BE REMOVED UNDER ITEM 202 - PAVEMENT REMOVED (TYP.)
- ITEM 206 - CEMENT STABILIZED SUBGRADE (SEE GENERAL NOTE)
- ITEM 615 - ROADS FOR MAINTAINING TRAFFIC (EARTHWORK)
- ITEM 203 - SPECIAL BENCHING

EX R/W Fee LA

2:1 3:1 8:1 30:1

1221.1

PROP. 6" WATER

EX. 6" WM (REMOVE UNDER 638)

EX. 6" SAN FM (REMOVE UNDER 603)

PROP. 6" SAN. FORCE MAIN

1222.68

61+00.00

1223.27

EX R/W Fee LA

STA. 60+41.08, 24.02' LT.
EX. CB (REMOVE)
GRATE EL. 1220.88
℄ 27" 1216.29

EX. 6" WM (REMOVE UNDER 638)

3:1 6:1 27.4:1 6:1 6:1

1220.6

MATCHLINE

1218.5

PROP. 6" WATER

PROP. 6" SAN. FORCE MAIN

EX. 6" SAN FM (REMOVE UNDER 603)

EX. 27" RCP

1222.62

60+50.00

1223.26

4'-27" TYPE C, 706.02 @ EX. SLOPE

STA. 60+41.08, 20.15' LT.
CB NO 5
GRATE EL. 1220.33
℄ 6" (S & E) 1218.00
℄ 27" 1216.29

STA. 60+00.00 STA. 60+00.00

END AREA		VOLUME	
CUT	FILL	CUT	FILL
115	0		
		216	12
119	13		
		187	14
83	3		
		403	26

CALCULATED JDL
CHECKED PRS

CROSS SECTIONS
STA. 60+50.00 TO STA. 61+00.00

SUM-271-2.33

545
1195

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SEEDING	
END WIDTH	SQ. YDS.
121	645
111	562
91	1207

END AREA		VOLUME	
CUT	FILL	CUT	FILL
167	0		
		289	0
145	0		
		241	0
115	0		
		530	0

CALCULATED JDL
CHECKED PRS

100 50 0 50 100

℄ CONST. RAMP A

CR 17 RAMP A

LEGEND

- CONCRETE TO BE REMOVED UNDER ITEM 202 - PAVEMENT REMOVED (TYP.)
- ITEM 206 - CEMENT STABILIZED SUBGRADE (SEE GENERAL NOTE)
- ITEM 615 - ROADS FOR MAINTAINING TRAFFIC (EARTHWORK)
- ITEM 203 - SPECIAL BENCHING

EX R/W Fee LA

2:1 3:1 8:1 30:1

122.7

STA. 171+88.10±
PROP. AIR
RELEASE MANHOLE

EX. 6" WM
EX. AIR RELEASE
MANHOLE
(REMOVE UNDER 638)

EX. 6" SAN FM
EX. AIR RELEASE
MANHOLE (REMOVE UNDER 603)

STA. 71+94.41±
TOP OF COVER EL. 1221.9±
PROP. AIR
RELEASE MANHOLE

1223.20
62+00.00
1223.88

EX R/W Fee LA

2:1 3:1 8:1 30:1

122.3

PROP.
6" WATER

EX. 6" WM
(REMOVE UNDER 638)

PROP. 6" SAN.
FORCE MAIN

EX. 6" SAN FM
(REMOVE UNDER 603)

1222.86
61+50.00
1223.46

STA. 61+00.00 100 50 0 50 100 STA. 61+00.00

CROSS SECTIONS STA. 61+50.00 TO STA. 62+00.00

SUM-271-2.33

546
1195

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SEEDING	
END WIDTH	SQ. YDS.
43	245
45	462
121	707

100 50 0 ℄ CONST. RAMP A 50 100

CR 17 RAMP A

LEGEND

- CONCRETE TO BE REMOVED UNDER ITEM 202 - PAVEMENT REMOVED (TYP.)
- ITEM 206 - CEMENT STABILIZED SUBGRADE (SEE GENERAL NOTE)
- ITEM 615 - ROADS FOR MAINTAINING TRAFFIC (EARTHWORK)
- ITEM 203 - SPECIAL BENCHING

1260 1250 1240 1230 1220 1210 1200

EX R/W Fee LA

3:1 8:1 17:1

1222.9

PROP. 6" WATER

EX. 6" WM (REMOVE UNDER 638)

PROP. 6" SAN. FORCE MAIN

EX. 6" SAN FM (REMOVE UNDER 603)

1224.33

63+00.00

1224.77

EX R/W Fee LA

3:1 8:1 25:1

1222.2

PROP. 6" WATER

EX. 6" WM (REMOVE UNDER 638)

EX. 6" SAN FM (REMOVE UNDER 603)

PROP. 6" SAN. FORCE MAIN

1223.71

62+50.00

1224.23

STA. 62+00.00 100 50 0 50 100 STA. 62+00.00

END AREA		VOLUME	
CUT	FILL	CUT	FILL
83	0		
		165	0
96	0		
		244	0
167	0		
		409	0

CALCULATED JDL

CHECKED PRS

CROSS SECTIONS

STA. 62+50.00 TO STA. 63+00.00

SUM-271-2.33

547
1195

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CROSS SECTIONS
STA. 63+50.00 TO STA. 64+50.00

CALCULATED: JDL
CHECKED: PRS

CR 17 RAMP A

℄ CONST. RAMP A

LEGEND

- CONCRETE TO BE REMOVED UNDER ITEM 202 - PAVEMENT REMOVED (TYP.)
- ITEM 206 - CEMENT STABILIZED SUBGRADE (SEE GENERAL NOTE)
- ITEM 615 - ROADS FOR MAINTAINING TRAFFIC (EARTHWORK)
- ITEM 203 - SPECIAL BENCHING

SEEDING END WIDTH	SEEDING SQ. YDS.	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
40	192	51	1	104	1
29	198	62	0	125	0
42	237	72	0	144	0
43		83	0		
	627			373	1

STA. 63+00.00 — 100 — 50 — 0 — 50 — 100 — STA. 63+00.00

EX R/W Fee LA

1250 / 1240 / 1230 / 1220 / 1210

15.4:1 — 8:1 — 1224.7 — 14:1

PROP. 6" WATER

EX. 6" WM (REMOVE UNDER 638)

PROP. 6" SAN. FORCE MAIN

EX. 6" SAN FM (REMOVE UNDER 603)

1226.11

64+50.00

1225.98

3.9:1 — 8:1 — 1224.2 — 15:1

PROP. 6" WATER

EX. 6" WM (REMOVE UNDER 638)

PROP. 6" SAN. FORCE MAIN

EX. 6" SAN FM (REMOVE UNDER 603)

1225.54

64+00.00

1225.68

3:1 — 8:1 — 1223.6 — 20.3:1

PROP. 6" WATER

EX. 6" WM (REMOVE UNDER 638)

PROP. 6" SAN. FORCE MAIN

EX. 6" SAN FM (REMOVE UNDER 603)

1224.95

63+50.00

1225.37

SUM-271-2.33

548
1195

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SEEDING		END AREA		VOLUME		CALCULATED	CHECKED
END WIDTH	SQ. YDS.	CUT	FILL	CUT	FILL	JDL	PRS
37	195	65	0	115	0		
33	203	59	0	104	1		
40	223	53	2	96	2		
40		51	1				
	621			315	3		

100 50 0 ℄ CONST. RAMP A 50 100

CR 17 RAMP A

EX R/W Fee LA

6:1 12:1 12.6:1

1226.1

EX. 6" WM
EX. AIR VACUUM RELEASE MANHOLE (DO NOT DISTURB)

EX. 6" SAN FM
EX. AIR RELEASE MANHOLE (DO NOT DISTURB)

1227.71
66+00.00
1227.80

LEGEND

- CONCRETE TO BE REMOVED UNDER ITEM 202 - PAVEMENT REMOVED (TYP.)
- ITEM 206 - CEMENT STABILIZED SUBGRADE (SEE GENERAL NOTE)
- ITEM 615 - ROADS FOR MAINTAINING TRAFFIC (EARTHWORK)
- ITEM 203 - SPECIAL BENCHING

EX R/W Fee LA

6:1 10:1 12.6:1

1225.8

PROP. 6" WATER

EX. 6" WM (REMOVE UNDER 638)

PROP. 6" SAN. FORCE MAIN

EX. 6" SAN FM
EX. CLEANOUT MANHOLE (DO NOT DISTURB)

1227.19
65+50.00
1227.28

EX R/W Fee LA

7.2:1 8:1 12:1

1225.4

PROP. 6" WATER

EX. 6" WM (REMOVE UNDER 638)

PROP. 6" SAN. FORCE MAIN

EX. 6" SAN FM (REMOVE UNDER 603)

1226.66
65+00.00
1226.54

STA. 64+50.00 100 50 0 50 100 STA. 64+50.00

CROSS SECTIONS
STA. 65+00.00 TO STA. 66+00.00

SUM-271-2.33

549
1195

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SEEDING END WIDTH	SEEDING SQ. YDS.
	6217

TOTAL CARRIED TO EROSION CONTROL CALCULATION SHEET 273

TOTALS CARRIED TO EARTHWORK SUBSUMMARY SHEET 241

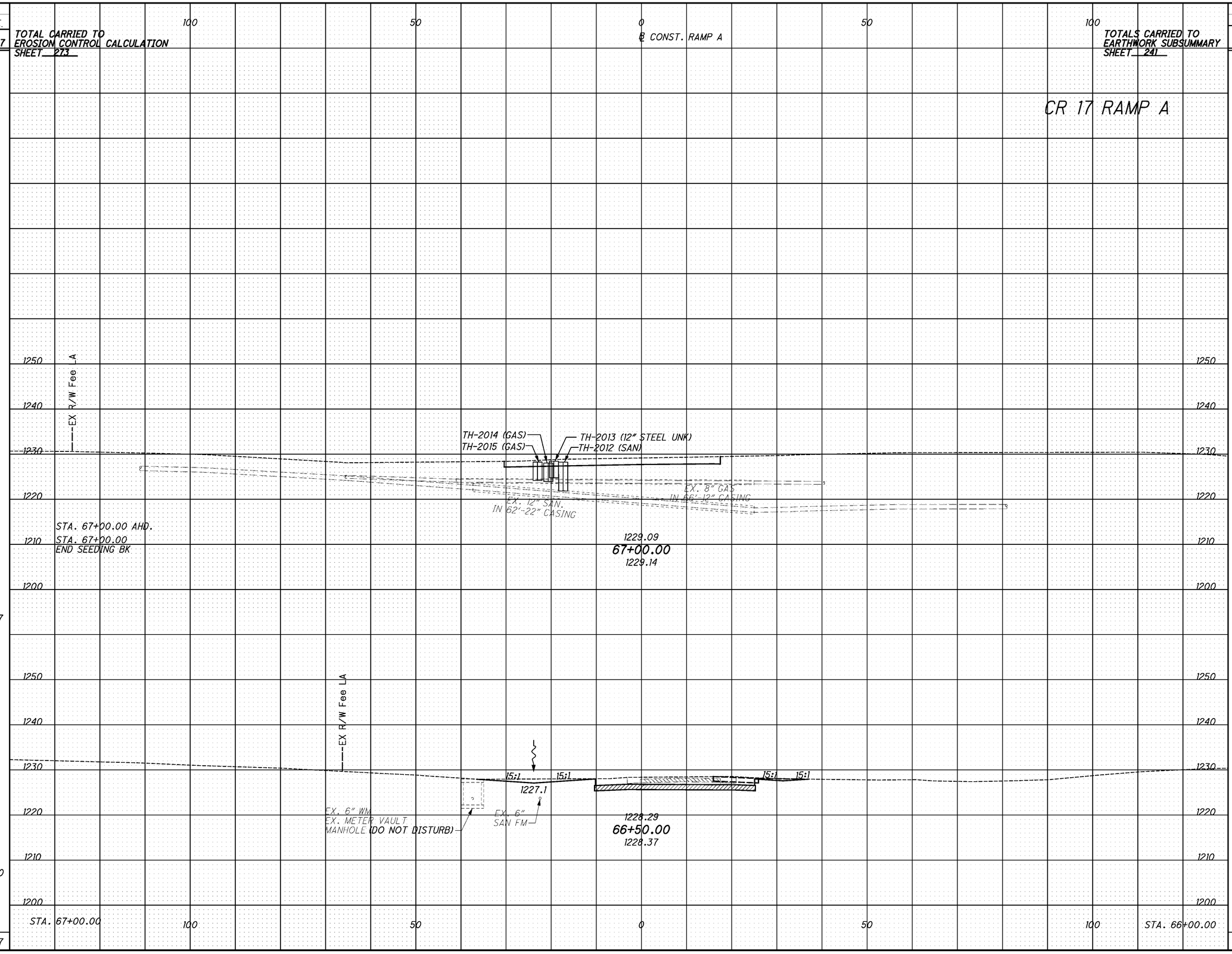
END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
		3239	38

CALCULATED JDL

CHECKED PRS

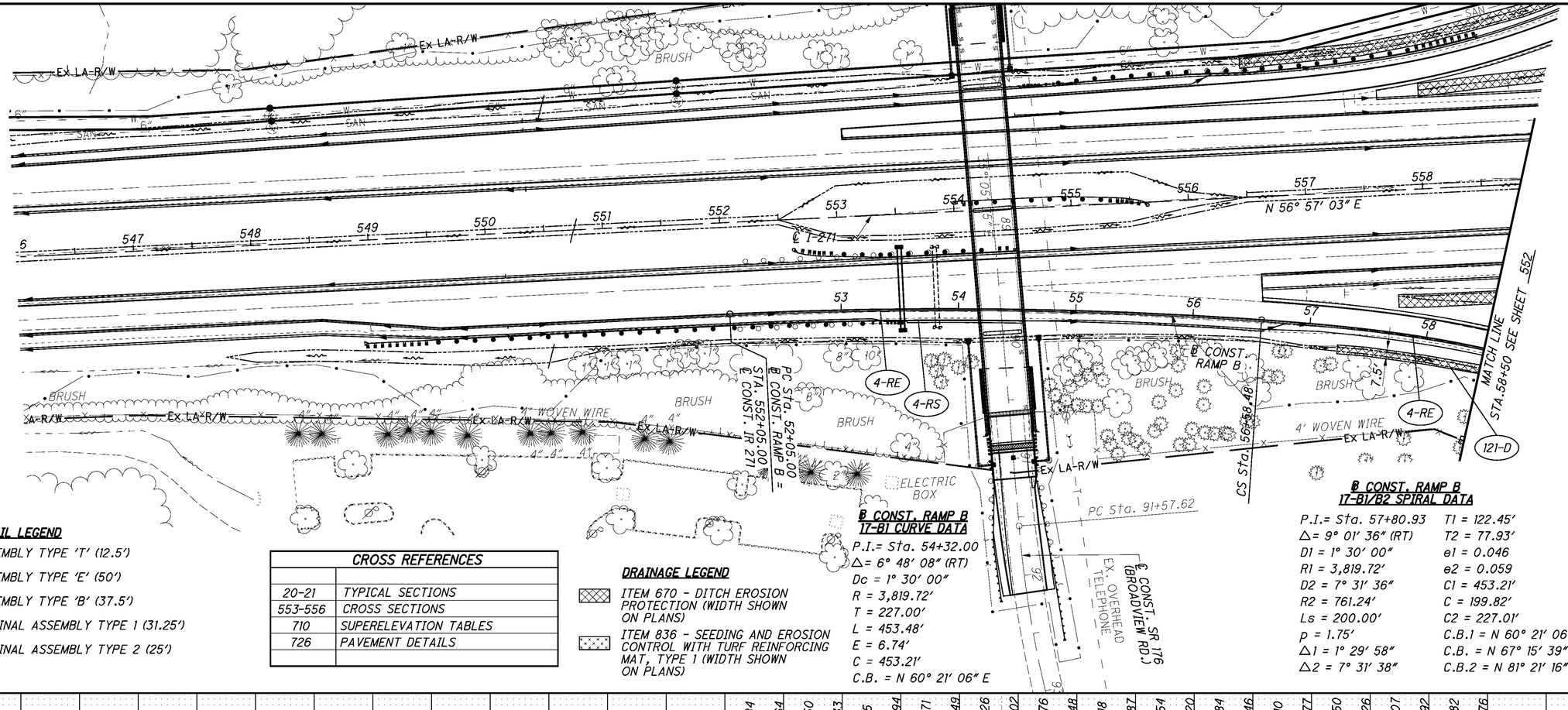
CROSS SECTIONS
STA. 66+50.00 TO STA. 67+00.00

SUM-271-2.33



0					69	0	
133							133 0
	487						
					74	0	
42							
	220						129 0
37					65	0	
	707						262 0

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GUARDRAIL LEGEND

- (T) ANCHOR ASSEMBLY TYPE 'T' (12.5')
- (E) ANCHOR ASSEMBLY TYPE 'E' (50')
- (B) ANCHOR ASSEMBLY TYPE 'B' (37.5')
- (B1) BRIDGE TERMINAL ASSEMBLY TYPE 1 (31.25')
- (B2) BRIDGE TERMINAL ASSEMBLY TYPE 2 (25')

CROSS REFERENCES	
20-21	TYPICAL SECTIONS
553-556	CROSS SECTIONS
710	SUPERELEVATION TABLES
726	PAVEMENT DETAILS

DRAINAGE LEGEND

ITEM 670 - DITCH EROSION PROTECTION (WIDTH SHOWN ON PLANS)

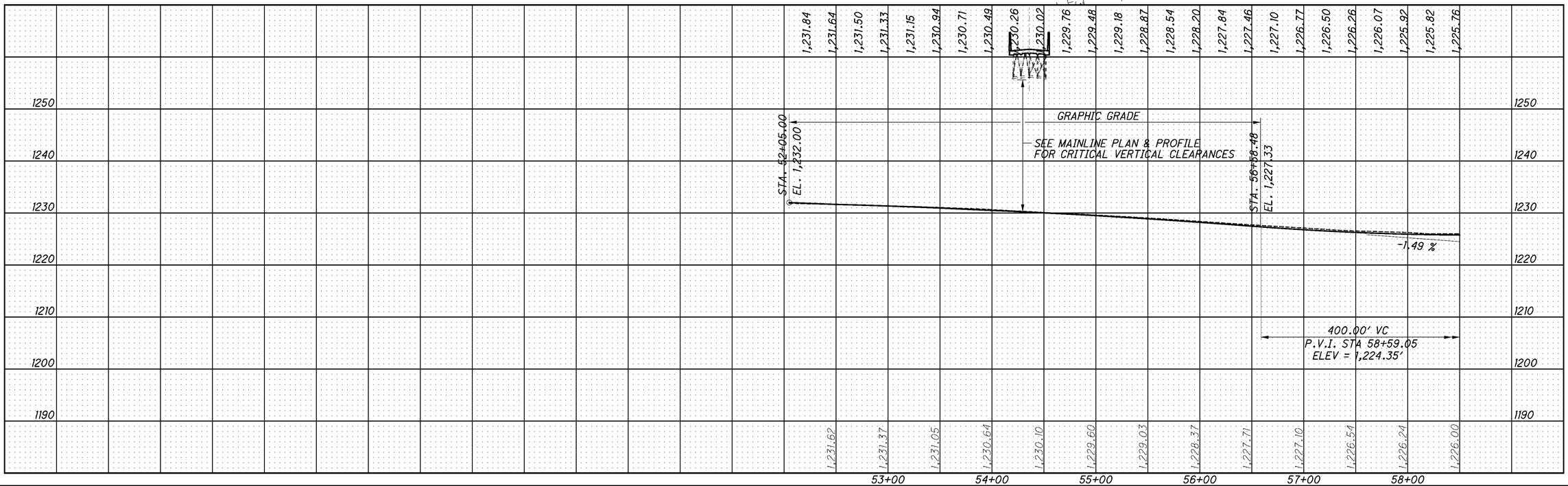
ITEM 836 - SEEDING AND EROSION CONTROL WITH TURF REINFORCING MAT, TYPE 1 (WIDTH SHOWN ON PLANS)

℄ CONST. RAMP B 17-B1 CURVE DATA

P.I.= Sta. 54+32.00
△= 6° 48' 08" (RT)
Dc = 1° 30' 00"
R = 3,819.72'
T = 227.00'
L = 453.48'
E = 6.74'
C = 453.21'
C.B. = N 60° 21' 06" E

℄ CONST. RAMP B 17-B1/B2 SPIRAL DATA

P.I.= Sta. 57+80.93	T1 = 122.45'
△= 9° 01' 36" (RT)	T2 = 77.93'
D1 = 1° 30' 00"	e1 = 0.046
R1 = 3,819.72'	e2 = 0.059
D2 = 7° 31' 36"	C1 = 453.21'
R2 = 761.24'	C = 199.82'
Ls = 200.00'	C2 = 227.01'
p = 1.75'	C.B.1 = N 60° 21' 06" E
△1 = 1° 29' 58"	C.B. = N 67° 15' 39" E
△2 = 7° 31' 38"	C.B.2 = N 81° 21' 16" E



HORIZONTAL SCALE IN FEET
0 25 50 100

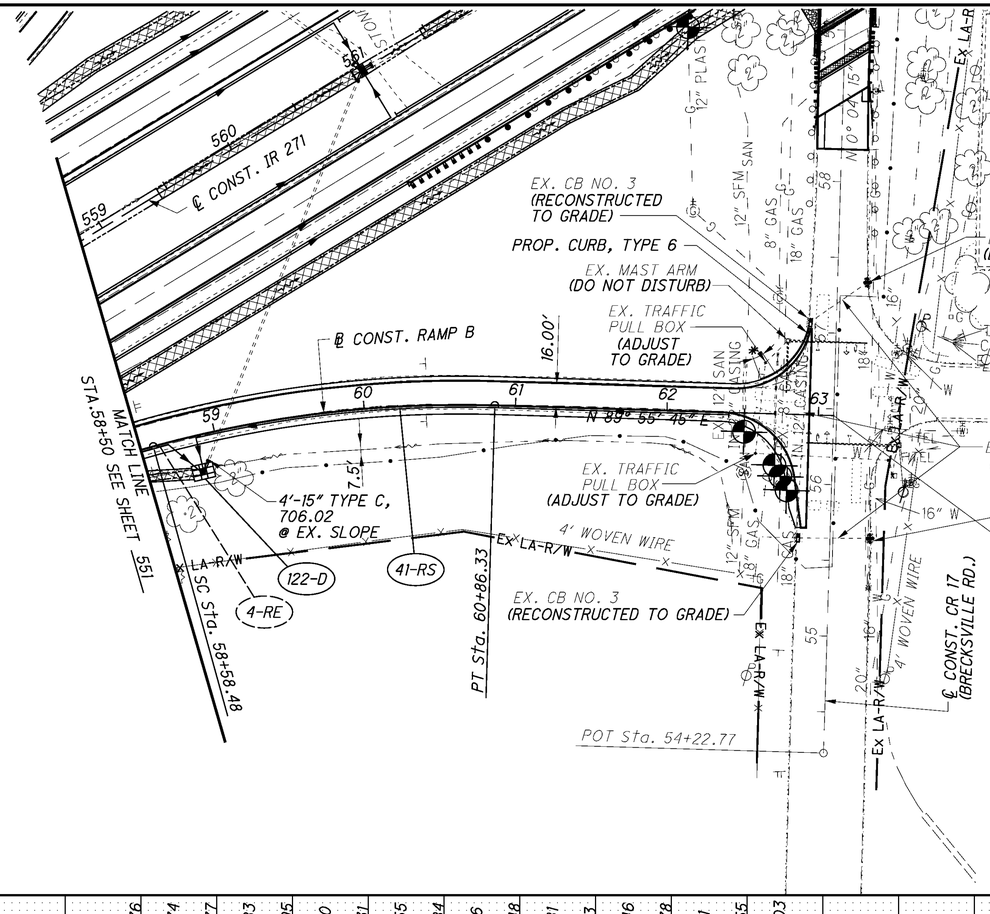
CALCULATED JDL
CHECKED PRS

PLAN AND PROFILE - CR 17 RAMP B
STA. 52+05.00 TO STA. 58+50

SUM-271-2.33

551
1195

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* TAPER CURB FROM 6" TO 0" IN 10'-0"

CROSS REFERENCES	
21	TYPICAL SECTIONS
241	ROADWAY SUBSUMMARY
553-556	CROSS SECTIONS
679-680	CR 17 PLAN & PROFILE
710	SUPERELEVATION TABLES
742	INTERSECTION DETAILS

GUARDRAIL LEGEND

- (T) ANCHOR ASSEMBLY TYPE 'T' (12.5')
- (E) ANCHOR ASSEMBLY TYPE 'E' (50')
- (B) ANCHOR ASSEMBLY TYPE 'B' (37.5')
- (B1) BRIDGE TERMINAL ASSEMBLY TYPE 1 (31.25')
- (B2) BRIDGE TERMINAL ASSEMBLY TYPE 2 (25')

UNDERGROUND UTILITY TEST HOLE

TEST HOLE NO.	℄ CONST IR 271 STATION, OFFSET	℄ CONST RAMP B STATION, OFFSET	SURVEYED ELEV. TOP OF UTILITY	UTILITY
TH2008	561+92.29, 334.63' RT.	62+51.26 12.43' RT.	1223.7	SAN
TH2009	561+98.00, 363.99' RT.	62+71.99 33.96' RT.	1224.2	GAS
TH2010	561.97.51, 372.26' RT.	62+76.09 41.16' RT.	1221.7 ▲	GAS
TH2011	561+96.29, 382.21' RT.	62+80.48 50.17' RT.	1220.6 ▲	NO UT.

▲ BOTTOM OF TEST HOLE ELEV.- UTILITY DEPTH NOT CONFIRMED.
SEE IR 271 PLAN SHEET 293 FOR TEST HOLE IDENTIFICATION

℄ CONST. RAMP B 17-B1 CURVE DATA

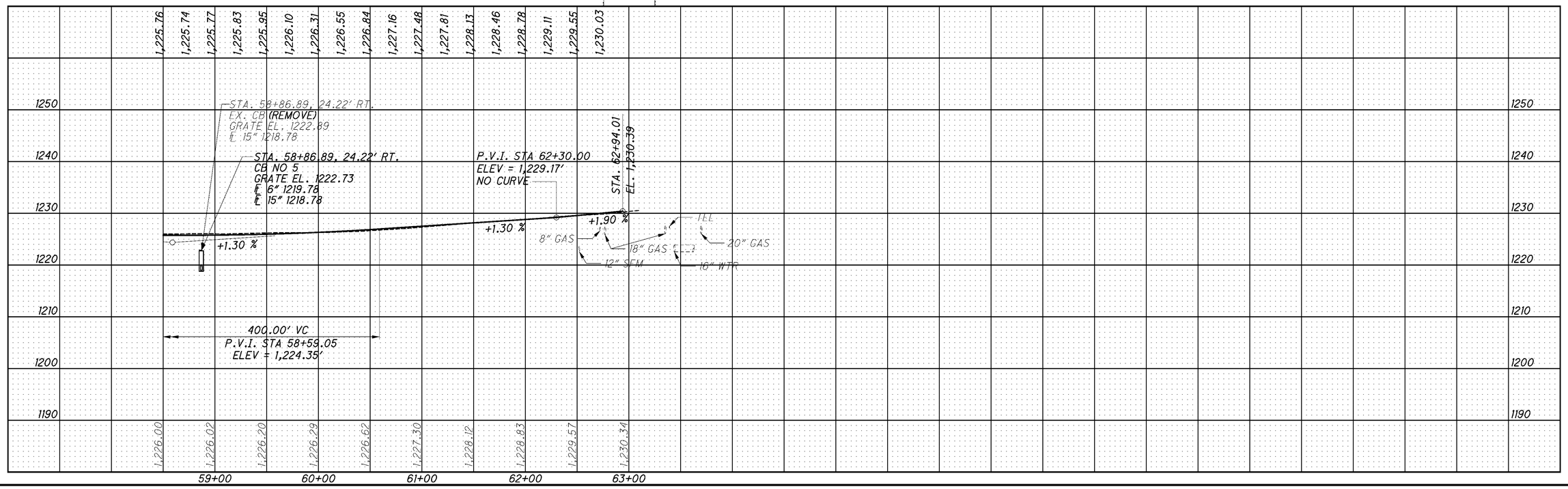
P.I.= Sta. 54+32.00
△= 6° 48' 08" (RT)
Dc = 1° 30' 00"
R = 3,819.72'
T = 227.00'
L = 453.48'
E = 6.74'
C = 453.21'
C.B. = N 60° 21' 06" E

℄ CONST. RAMP B 17-B2 CURVE DATA

P.I.= Sta. 59+73.26
△ = 17° 08' 59" (RT)
Dc = 7° 31' 36"
R = 761.24'
T = 114.79'
L = 227.85'
E = 8.61'
C = 227.01'
C.B. = N 81° 21' 16" E

DRAINAGE LEGEND

- ITEM 670 - DITCH EROSION PROTECTION (WIDTH SHOWN ON PLANS)
- ITEM 836 - SEEDING AND EROSION CONTROL WITH TURF REINFORCING MAT, TYPE 1 (WIDTH SHOWN ON PLANS)



HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED JDL CHECKED PRS

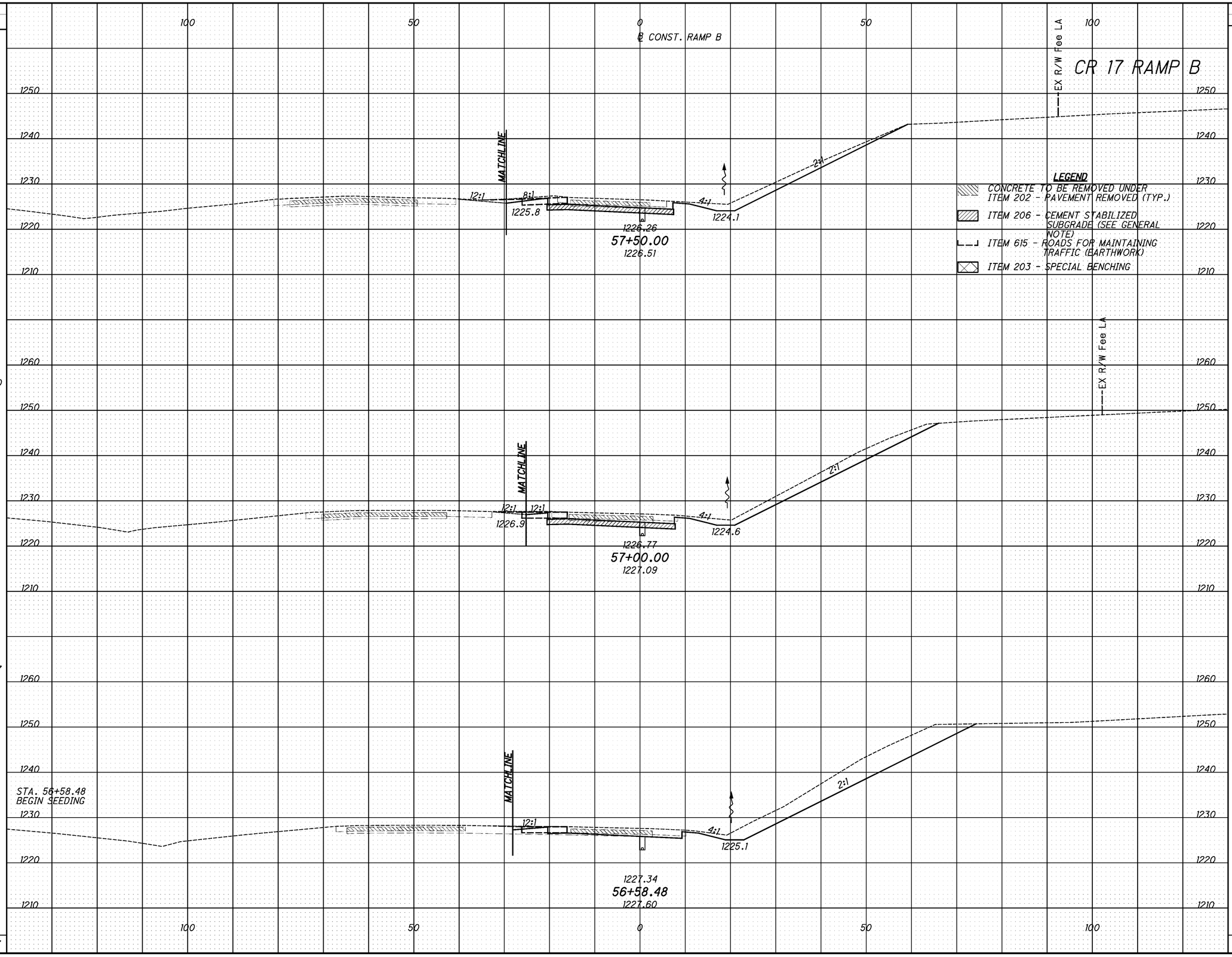
PROFILE - CR 17 RAMP B
STA. 58+50 TO STA. 63+10.01

SUM-271-2.33

552
1195

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SEEDING END WIDTH	SEEDING SQ. YDS.
71	400
73	347
77	
	747



END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
114	0		
148	0		
310	0		
256	0		
		242	0
		552	0

CALCULATED JDL
CHECKED PRS

CROSS SECTIONS
STA. 57+00.00 TO STA. 57+50.00

SUM-271-2.33

553
1195

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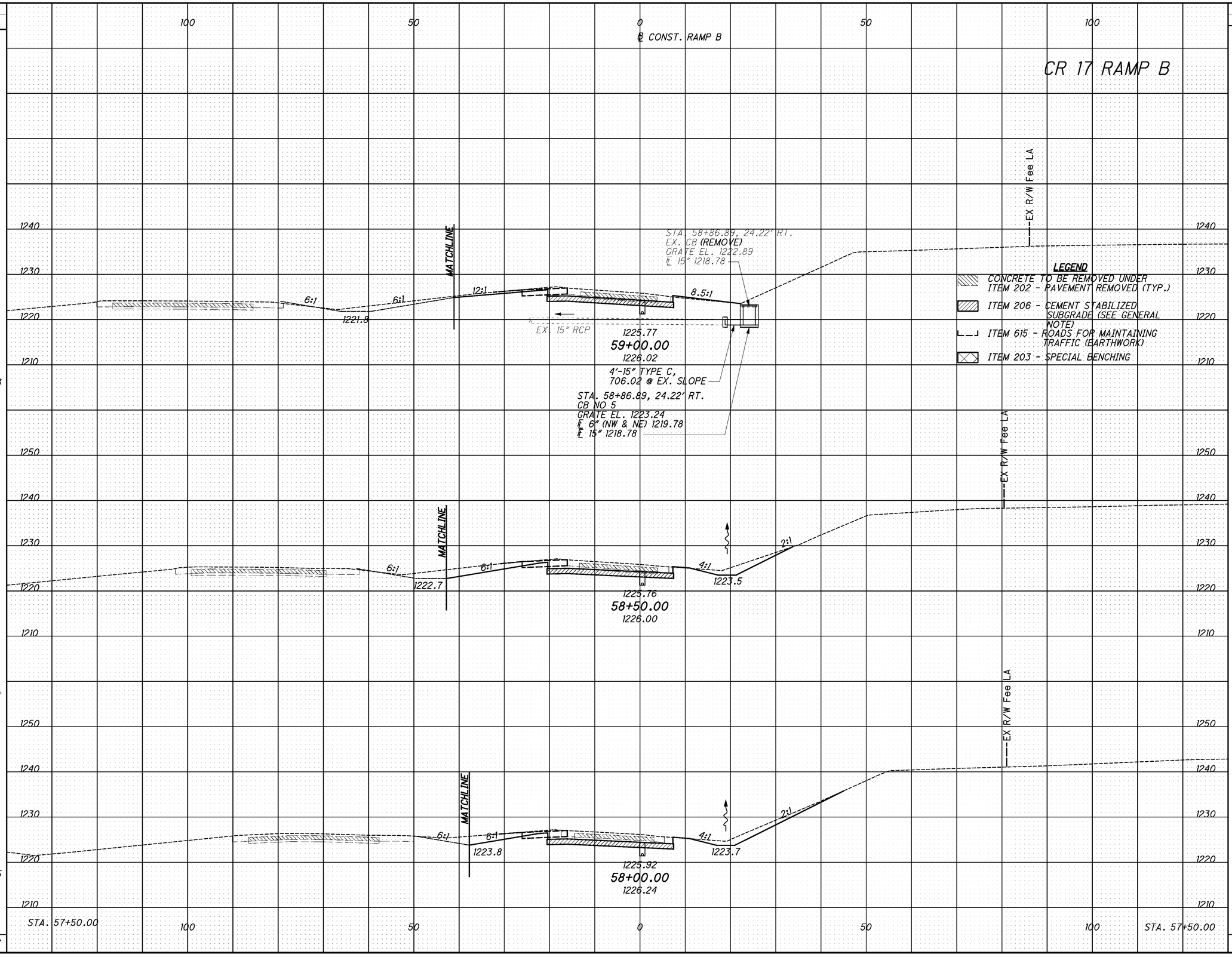
SEEDING	
END WIDTH	SQ. YDS.
40	223
40	289
64	375
71	887

END AREA	
CUT	FILL
54	3
98	1
96	0
114	0

VOLUME	
CUT	FILL
141	3
180	1
194	0
515	4

CALCULATED JDL
CHECKED PRS

CROSS SECTIONS
STA. 58+00.00 TO STA. 59+00.00

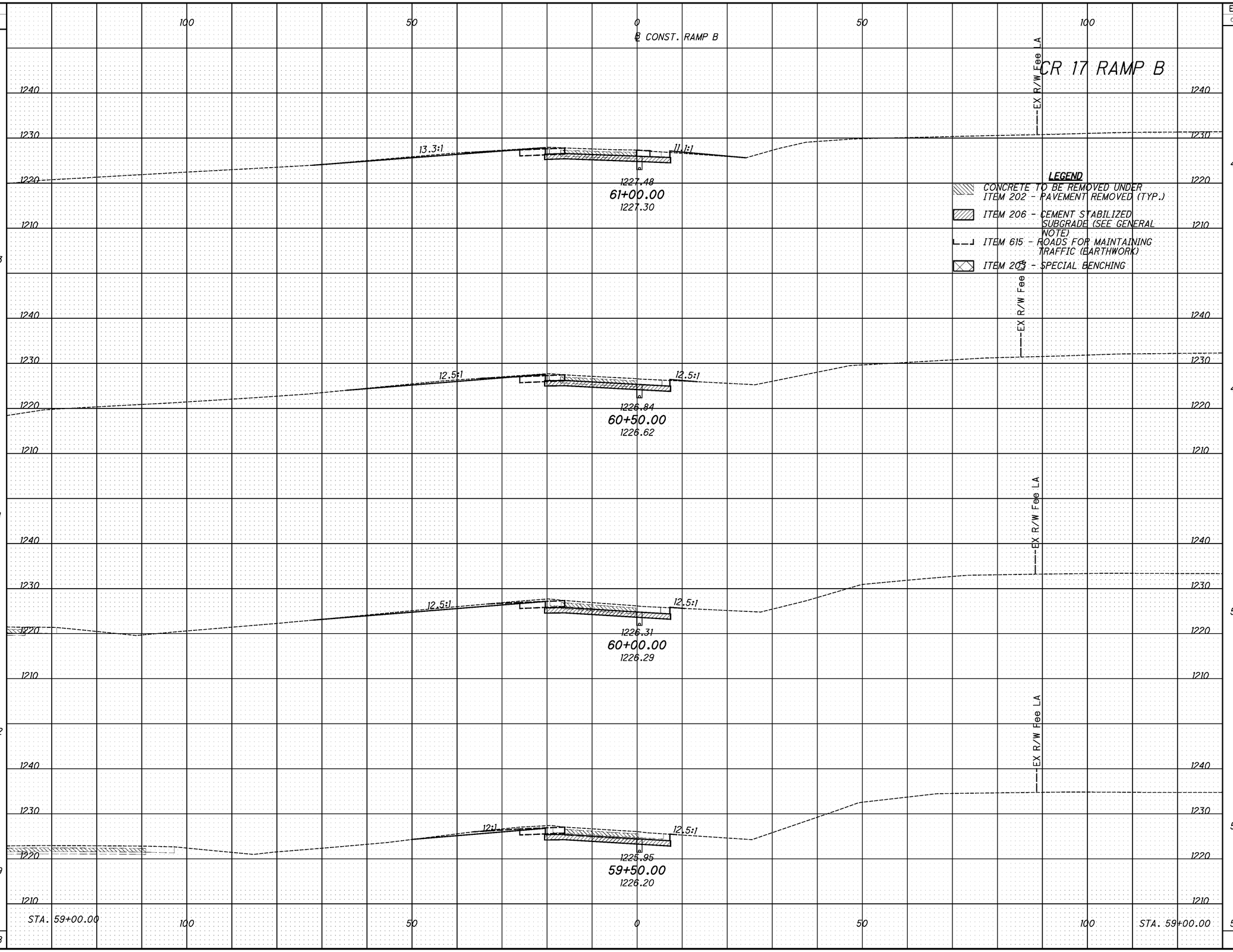


SUM-271-2.33

554
1195

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SEEDING	
END WIDTH	SQ. YDS.
73	
	353
54	
	314
59	
	262
35	
	209
40	
	1138



END AREA		VOLUME	
CUT	FILL	CUT	FILL
44	3		
		82	4
44	1		
		95	1
58	0		
		108	0
59	0		
		105	3
54	3		
		390	8

CALCULATED JDL
CHECKED PRS

CROSS SECTIONS
STA. 59+50.00 TO STA. 61+00.00

SUM-271-2.33

555
1195

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SEEDING END WIDTH	SEEDING SQ. YDS.
	4130

TOTAL CARRIED TO EROSION CONTROL CALCULATION SHEET 273

TOTALS CARRIED TO EARTHWORK SUBSUMMARY SHEET 241

END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
		1932	16

CALCULATED JDL

CHECKED PRS

CR 17 RAMP B

LEGEND

- CONCRETE TO BE REMOVED UNDER ITEM 202 - PAVEMENT REMOVED (TYP.)
- ITEM 206 - CEMENT STABILIZED SUBGRADE (SEE GENERAL NOTE)
- ITEM 615 - ROADS FOR MAINTAINING TRAFFIC (EARTHWORK)
- ITEM 203 - SPECIAL BENCHING
- TH-UTILITY DEPTH NOT CONFIRMED

100 50 0 50 100

B CONST. RAMP B

STA. 62+87.00 AHD.
STA. 62+87.00
END SEEDING BK.

1230.39
62+94.00
1230.39

28.7:1 37:1

1229.55
62+50.00
1229.57

14:1 12.5:1

TH-2008 TH-2009 TH-2010 TH-2011

EX. 12" SAN IN 55"-22" CASING (APPROX. 5'± COVER)

1228.78
62+00.00
1228.83

EX. 8" GAS IN 71"-12" CASING (APPROX. 3'± COVER)

14.3:1 12.5:1

1228.13
61+50.00
1228.12

EX R/W Fee LA

0				215	0	
75						
	284					216 0
63				50	0	
	345					92 0
61				49	0	
	348					86 1
64				44	1	
	381					81 3
73				44	3	
	1358					475 4

STA. 61+00.00 100 50 0 50 100 STA. 61+00.00

CROSS SECTIONS STA. 61+50.00 TO STA. 62+94.00

SUM-271-2.33

556
1195

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LEGEND

CONST. LIMITS

STREAM 'X' — STREAM RESOURCE ID

WETLAND 'X' — WETLAND RESOURCE ID

DRAINAGE LEGEND

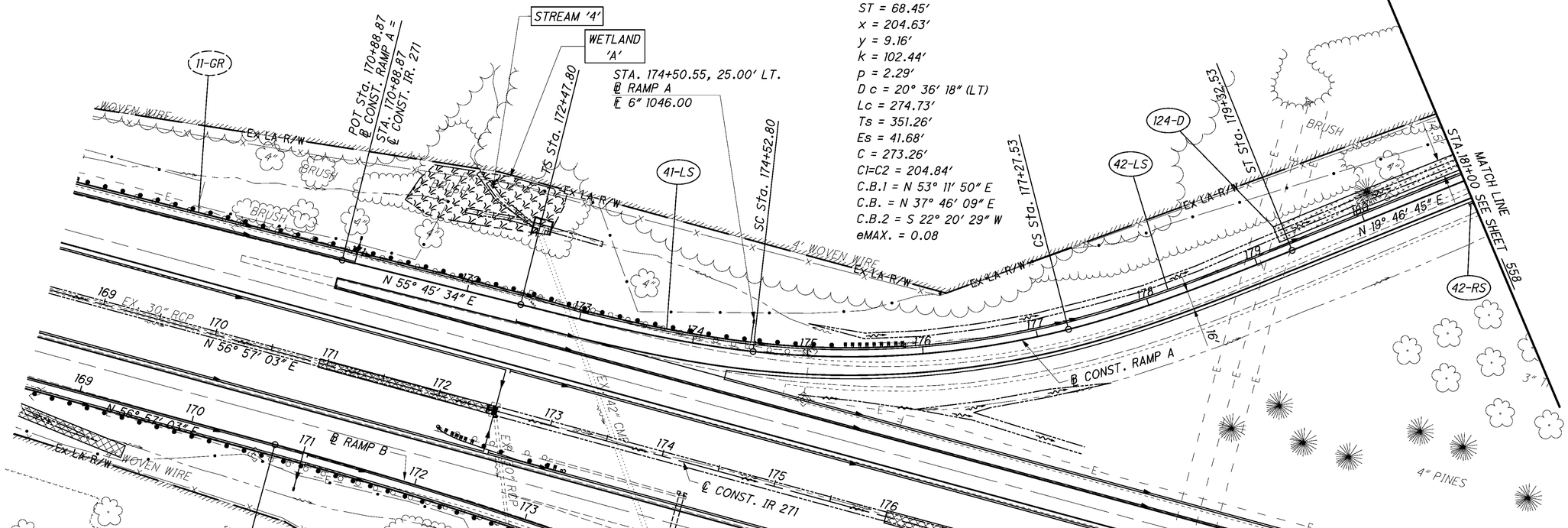
ITEM 670 - DITCH EROSION PROTECTION (WIDTH SHOWN ON PLANS)

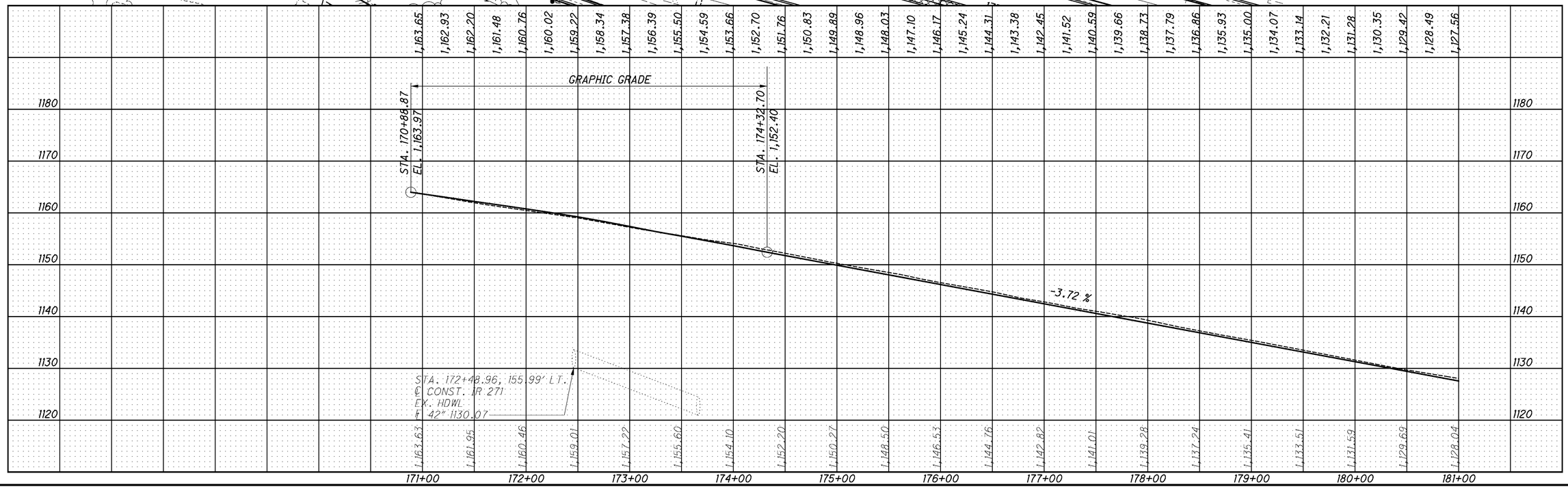
ITEM 836 - SEEDING AND EROSION CONTROL WITH TURF REINFORCING MAT, TYPE 1 (WIDTH SHOWN ON PLANS)

℄ CONST. RAMP A
77-A1 CURVE DATA

P.I.= Sta. 175+99.06
D = 35° 58' 48" (LT)
Dc = 7° 30' 00"
R = 763.94'
Ls = 205.00'
f s = 7° 41' 15"
LT = 136.80'
ST = 68.45'
x = 204.63'
y = 9.16'
k = 102.44'
p = 2.29'
D c = 20° 36' 18" (LT)
Lc = 274.73'
Ts = 351.26'
Es = 41.68'
C = 273.26'
C1=C2 = 204.84'
C.B.1 = N 53° 11' 50" E
C.B. = N 37° 46' 09" E
C.B.2 = S 22° 20' 29" W
eMAX. = 0.08

CROSS REFERENCES	
20—21	TYPICAL SECTIONS
560—578	CROSS SECTIONS
711—712	SUPERELEVATION TABLES
727	PAVEMENT DETAILS





HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED JDL
CHECKED PRS

PLAN AND PROFILE - I-77 RAMP A
STA. 170+88.87 TO STA. 181+00

SUM-271-2.33

557
1195

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LEGEND

CONST. LIMITS

STREAM 'X' — STREAM RESOURCE ID

WETLAND 'X' — WETLAND RESOURCE ID

DRAINAGE LEGEND

ITEM 670 - DITCH EROSION PROTECTION (WIDTH SHOWN ON PLANS)

ITEM 836 - SEEDING AND EROSION CONTROL WITH TURF REINFORCING MAT, TYPE 1 (WIDTH SHOWN ON PLANS)

CROSS REFERENCES	
21	TYPICAL SECTIONS
560-578	CROSS SECTIONS
711-712	SUPERELEVATION TABLES
756	CULVERT DETAIL

B CONST. RAMP A
77-A2 CURVE DATA

P.I.= Sta. 186+81.22
D = 17° 54' 59" (RT)
Dc = 2° 00' 00"
R = 2,864.79'
Ls = 200.00'
f s = 2° 00' 00"
LT = 133.34'
ST = 66.67'
x = 199.98'
y = 2.33'
k = 100.00'
p = 0.58'
D c = 13° 54' 59" (RT)
Lc = 695.81'
Ts = 551.68'
Es = 35.96'
C = 694.10'
C1=C2 = 199.99'
C.B.1 = N 20° 26' 45" E
C.B. = N 28° 44' 15" E
C.B.2 = S 37° 01' 44" W
eMAX. = 0.051

80' DITCH CLEANOUT (SEE DETAIL 'A' BELOW)

STA. 186+43.91, 32.00' LT.
℄ 6" 1103.00

WETLAND 'B'

STREAM '5'

STA. 193+38.61, 32.20' LT.
℄ 6" 1187.00

STREAM '6'

42-LS

43-LS

44-LS

42-RS

43-RS

125-D

B CONST. RAMP A

4'-18" TYPE C, 706.02 @ EX. SLOPE

18" RCP

4' WOVEN WIRE

EX LA R/W

BRUSH

TS Sta. 181+29.54

SC Sta. 183+29.54

CS Sta. 190+25.35

SR Sta. 192+25.35

4" PINES

2" TREES

MATCH LINE STA.181+00 SEE SHEET 557

MATCH LINE STA.193+50 SEE SHEET 559

DETAIL 'A'

4' DITCH CLEANOUT
2:1 MAX.
2:1 MAX.

STA. 186+53.15, 40.05' RT.
CB NO 5
GRATE EL. 1103.60
℄ 6" 1101.10
℄ 18" 1100.05

STA. 186+53.26, 48.98' RT.
EX. CB (REMOVE)
GRATE EL. 1104.48
℄ 18" 1100.10

STA. 186+51.89, 35.00' LT.
EX. HDWL (DO NOT DISTURB)
℄ 18" 1099.10

-3.72 %

720.00' VC
P.V.I. STA 195+49.12
ELEV = 1,073.60'

1,127.56 1,126.62 1,125.69 1,124.76 1,123.83 1,122.90 1,121.97 1,121.04 1,120.11 1,119.18 1,118.25 1,117.32 1,116.39 1,115.46 1,114.52 1,113.59 1,112.66 1,111.73 1,110.80 1,109.87 1,108.94 1,108.01 1,107.08 1,106.15 1,105.22 1,104.29 1,103.36 1,102.42 1,101.49 1,100.56 1,099.63 1,098.70 1,097.77 1,096.84 1,095.91 1,094.98 1,094.05 1,093.12 1,092.19 1,091.26 1,090.32 1,089.39 1,088.46 1,087.53 1,086.60 1,085.70 1,084.83 1,083.96 1,083.16 1,082.37 1,081.61

1,128.04 1,126.08 1,124.23 1,122.56 1,120.63 1,118.64 1,116.83 1,115.06 1,113.18 1,111.24 1,109.47 1,107.72 1,105.74 1,104.00 1,102.23 1,100.38 1,098.47 1,096.55 1,094.79 1,092.98 1,091.15 1,089.32 1,087.36 1,085.61 1,083.97 1,082.25

1130 1120 1110 1100 1090 1080 1070

181+00 182+00 183+00 184+00 185+00 186+00 187+00 188+00 189+00 190+00 191+00 192+00 193+00

HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED JDL
CHECKED PRS

PLAN AND PROFILE - I-77 RAMP A
STA. 181+00 TO STA. 193+50

SUM-271-2.33

558
1195

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LEGEND

—·— CONST. LIMITS

STREAM 'X' STREAM RESOURCE ID

WETLAND 'X' WETLAND RESOURCE ID

℄ CONST. RAMP A
T7-A3 CURVE DATA

P.I.= Sta. 195+84.23
D = 34° 07′ 13″ (LT)
Dc = 7° 30′ 00″
R = 763.94′
f
D c = 24° 22′ 13″ (LT)
Lc = 324.94′
Es = 37.11′
C = 322.49′
C.B.1 = N 34° 26′ 47″ E
C.B. = N 15° 45′ 37″ E
C.B.2 = Due South
Ls1 = 260′
eMAX. = 0.08

℄ CONST. RAMP A
T7-A4 CURVE DATA

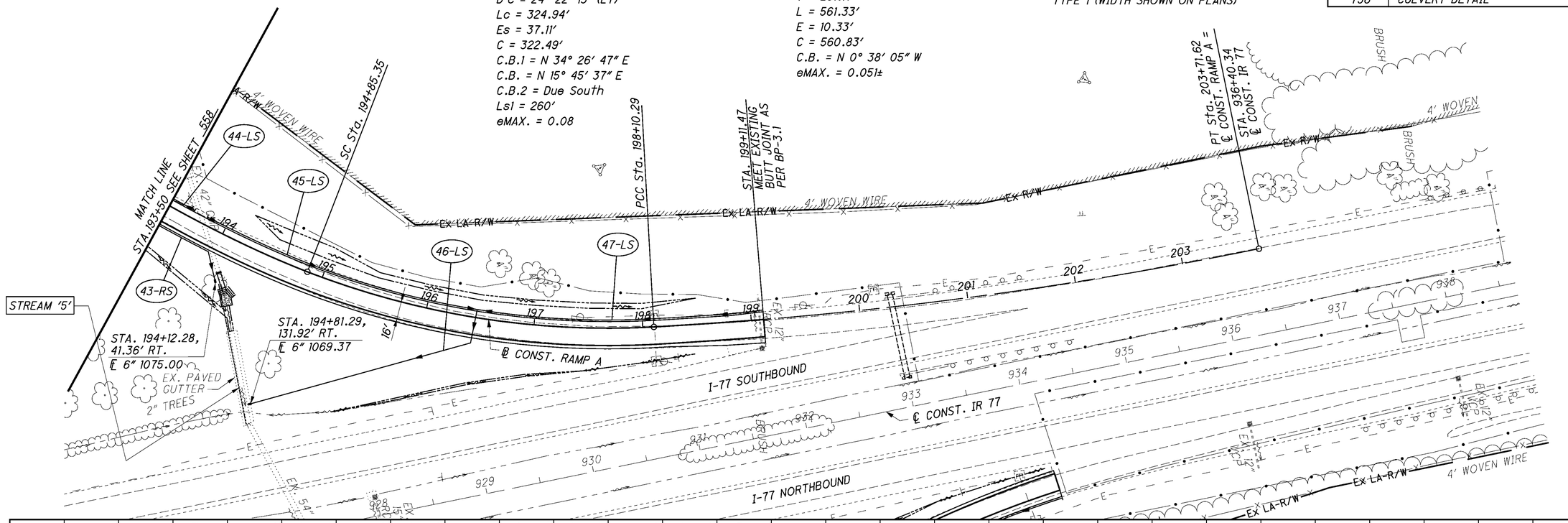
P.I.= Sta. 200+91.46
D = 8° 25′ 12″ (LT)
Dc = 1° 30′ 00″
R = 3,819.72′
T = 281.17′
L = 561.33′
E = 10.33′
C = 560.83′
C.B. = N 0° 38′ 05″ W
eMAX. = 0.051±

DRAINAGE LEGEND

ITEM 670 - DITCH EROSION PROTECTION (WIDTH SHOWN ON PLANS)

ITEM 836 - SEEDING AND EROSION CONTROL WITH TURF REINFORCING MAT, TYPE 1 (WIDTH SHOWN ON PLANS)

CROSS REFERENCES	
21	TYPICAL SECTIONS
560-578	CROSS SECTIONS
711-712	SUPERELEVATION TABLES
728	PAVEMENT DETAILS
756	CULVERT DETAIL



1,081.61 1,080.88 1,080.18 1,079.51 1,078.86 1,078.25 1,077.66 1,077.10 1,076.57 1,076.07 1,075.60 1,075.15 1,074.74 1,074.35 1,074.00 1,073.67 1,073.37 1,073.10 1,072.86 1,072.64 1,072.46 1,072.30 1,072.18 1,072.11

1,082.25 1,080.72 1,079.24 1,077.99 1,076.91 1,075.84 1,074.93 1,074.12 1,073.62 1,072.88 1,072.47 1,072.17 1,071.94 1,071.74 1,071.57 1,071.19 1,070.76 1,070.29 1,069.76 1,069.17 1,068.57

1100 1090 1080 1070 1060 1050 1040

194+00 195+00 196+00 197+00 198+00 199+00 200+00 201+00 202+00 203+00

HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED JDL
CHECKED PRS

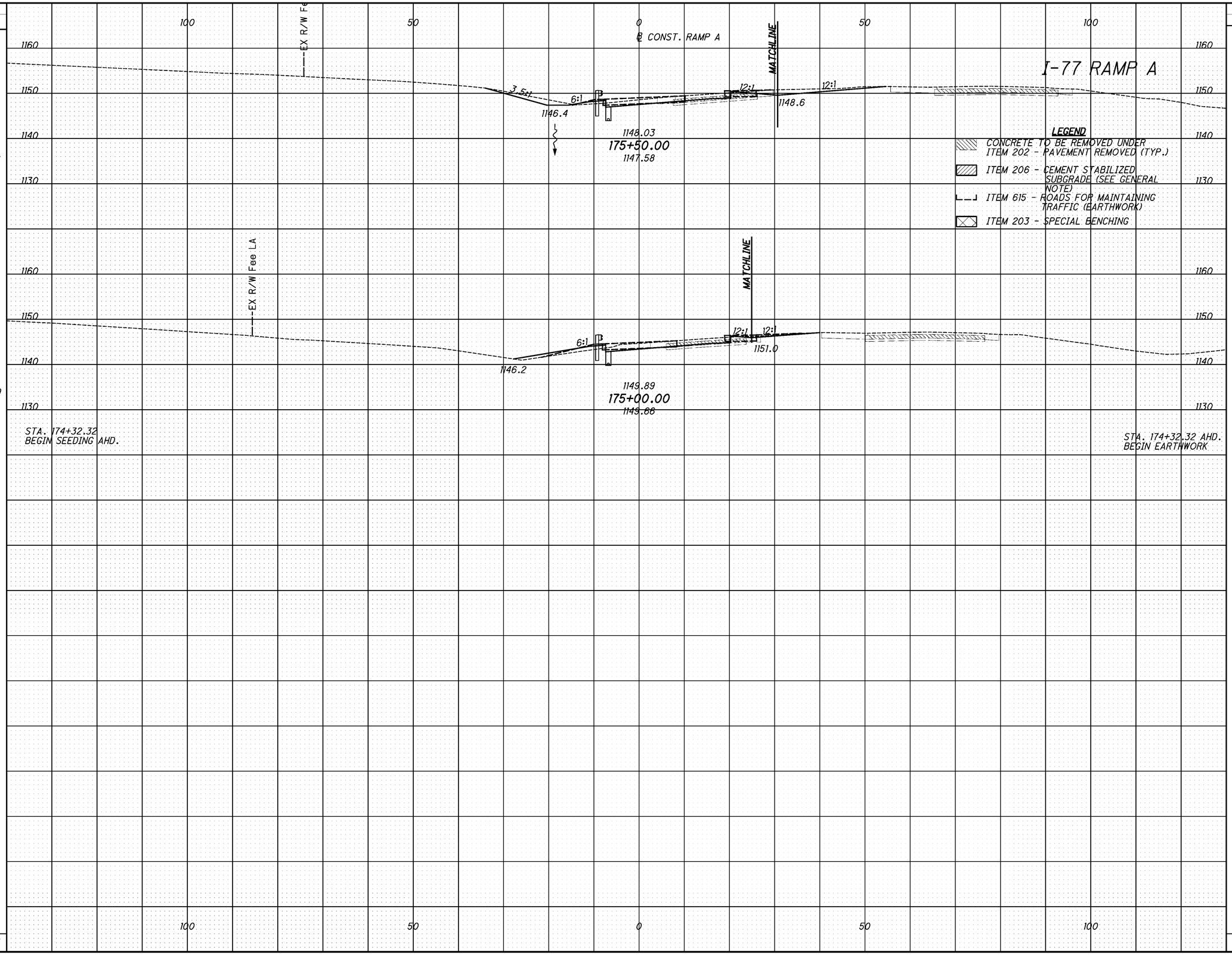
PLAN AND PROFILE - I-77 RAMP A
STA. 193+50 TO STA. 203+71.62

SUM-271-2.33

559
1195

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SEEDING END WIDTH	SEEDING SQ. YDS.
41	
	195
29	
	219
29	
	414



END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
47	4		
		75	17
33	14		
		40	17
33	14		
		115	34

CALCULATED JDL
CHECKED PRS

CROSS SECTIONS
STA. 175+00.00 TO STA. 175+50.00

SUM-271-2.33

560
1195

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SEEDING	
END WIDTH	SQ. YDS.
108	498
71	356
57	273
41	1127

END AREA	
CUT	FILL
161	6
136	5
77	6
47	4

VOLUME	
CUT	FILL
275	11
198	11
115	10
588	32

CALCULATED JDL
CHECKED PRS

CROSS SECTIONS
STA. 176+00.00 TO STA. 177+00.00

SUM-271-2.33

561
1195

℄ CONST. RAMP A

I-77 RAMP A

LEGEND

- CONCRETE TO BE REMOVED UNDER ITEM 202 - PAVEMENT REMOVED (TYP.)
- ITEM 206 - CEMENT STABILIZED SUBGRADE (SEE GENERAL NOTE)
- ITEM 615 - ROADS FOR MAINTAINING TRAFFIC (EARTHWORK)
- ITEM 203 - SPECIAL BENCHING

EX R/W Fee LA

3:1 6:1 12:1 11:1

1140.5 1142.45 177+00.00 1141.30 1141.7

EX R/W Fee LA

MATCHLINE

3:1 6:1 12:1 11:1

1142.4 1144.31 176+50.00 1143.39 1143.6

EX R/W Fee LA

MATCHLINE

3:1 6:1 12:1 10:1

1144.6 1146.17 176+00.00 1145.40 1146.0

1160 1150 1140 1130 1120

100 50 0 50 100

STA. 175+50.00 STA. 175+50.00

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SEEDING	
END WIDTH	SQ. YDS.
82	453
81	456
83	531
108	1440

100 50 0 ℄ CONST. RAMP A 50 100

I-77 RAMP A

LEGEND

- CONCRETE TO BE REMOVED UNDER ITEM 202 - PAVEMENT REMOVED (TYP.)
- ITEM 206 - CEMENT STABILIZED SUBGRADE (SEE GENERAL NOTE)
- ITEM 615 - ROADS FOR MAINTAINING TRAFFIC (EARTHWORK)
- ITEM 203 - SPECIAL BENCHING

EX R/W Fee LA

1160 1150 1140 1130 1120

3:1 6:1 26:1

1135.6

1136.86

178+50.00

1135.97

EX R/W Fee LA

1160 1150 1140 1130 1120

3:1 6:1 20:1

1136.7

1138.73

178+00.00

1137.68

EX R/W Fee LA

1160 1150 1140 1130 1120

3:1 6:1 20:1

1138.7

1140.59

177+50.00

1139.52

STA. 177+00.00 100 50 0 50 100 STA. 177+00.00

END AREA		VOLUME	
CUT	FILL	CUT	FILL
152	3	277	6
146	3	258	9
131	6	271	12
161	6	806	27

CALCULATED JDL

CHECKED PRS

CROSS SECTIONS

STA. 177+50.00 TO STA. 178+50.00

SUM-271-2.33

562
1195

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SEEDING	
END WIDTH	SQ. YDS.
72	398
71	412
77	442
82	1252

END AREA	
CUT	FILL
125	3
130	3
154	3
152	3

VOLUME	
CUT	FILL
237	6
263	6
284	6
784	18

CALCULATED JDL
CHECKED PRS

CROSS SECTIONS
STA. 179+00.00 TO STA. 180+00.00

SUM-271-2.33

563
1195

℄ CONST. RAMP A

I-77 RAMP A

LEGEND

- CONCRETE TO BE REMOVED UNDER ITEM 202 - PAVEMENT REMOVED (TYP.)
- ITEM 206 - CEMENT STABILIZED SUBGRADE (SEE GENERAL NOTE)
- ITEM 615 - ROADS FOR MAINTAINING TRAFFIC (EARTHWORK)
- ITEM 203 - SPECIAL BENCHING

EX R/W Fee LA

3:1 6:1 20:1 1129.4 1131.28 180+00.00 1130.54

EX R/W Fee LA

3:1 6:1 25:1 1131.2 1133.14 179+50.00 1132.20

EX R/W Fee LA

3:1 6:1 25:1 1133.1 1135.00 179+00.00 1134.26

100 50 0 50 100

STA. 178+50.00

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SEEDING END WIDTH	SEEDING SQ. YDS.
68	367
64	370
69	392
72	1129

100 50 0 ℄ CONST. RAMP A 50 100

I-77 RAMP A

LEGEND

- CONCRETE TO BE REMOVED UNDER ITEM 202 - PAVEMENT REMOVED (TYP.)
- ITEM 206 - CEMENT STABILIZED SUBGRADE (SEE GENERAL NOTE)
- ITEM 615 - ROADS FOR MAINTAINING TRAFFIC (EARTHWORK)
- ITEM 203 - SPECIAL BENCHING

1150 1140 1130 1120 1110

EX R/W Fee LA

3:1 6:1 20:1 8:1

1123.8 1125.69 **181+50.00** 1125.26 1124.0

EX R/W Fee LA

3:1 6:1 20:1

1126.6 1127.56 **181+00.00** 1127.00

EX R/W Fee LA

3:1 6:1 20:1

1127.5 1129.42 **180+50.00** 1128.76

STA. 180+00.00 100 50 0 50 100 STA. 180+00.00

END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
100	3	184	6
98	3	194	6
94	3	219	6
125	3	597	18

CALCULATED JDL

CHECKED PRS

CROSS SECTIONS STA. 180+50.00 TO STA. 181+50.00

SUM-271-2.33

564
1195

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CROSS SECTIONS
STA. 182+00.00 TO STA. 183+00.00

CALCULATED JDL
CHECKED PRS

I-77 RAMP A

℄ CONST. RAMP A

LEGEND

- CONCRETE TO BE REMOVED UNDER ITEM 202 - PAVEMENT REMOVED (TYP.)
- ITEM 206 - CEMENT STABILIZED SUBGRADE (SEE GENERAL NOTE)
- ITEM 615 - ROADS FOR MAINTAINING TRAFFIC (EARTHWORK)
- ITEM 203 - SPECIAL BENCHING

EX R/W Fee LA

SEEDING END WIDTH	SEEDING SQ. YDS.	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
67	367	142	3	249	6
65	370	126	3	226	5
68	378	118	2	202	5
68	1115	100	3	677	16

STA. 181+50.00 — 100 — 50 — 0 — 50 — 100 — STA. 181+50.00

1130 / 1120 / 1110 / 1100 / 1140

3:1 — 6:1 — 6:1 — 6:1

1118.3 — 1120.11 — 183+00.00 — 1119.87 — 1117.3

3:1 — 6:1 — 14:1 — 8:1

1120.0 — 1121.97 — 182+50.00 — 1121.71 — 1119.8

3:1 — 6:1 — 20:1 — 8:1

1121.9 — 1123.83 — 182+00.00 — 1123.33 — 1121.8

SUM-271-2.33

565
1195

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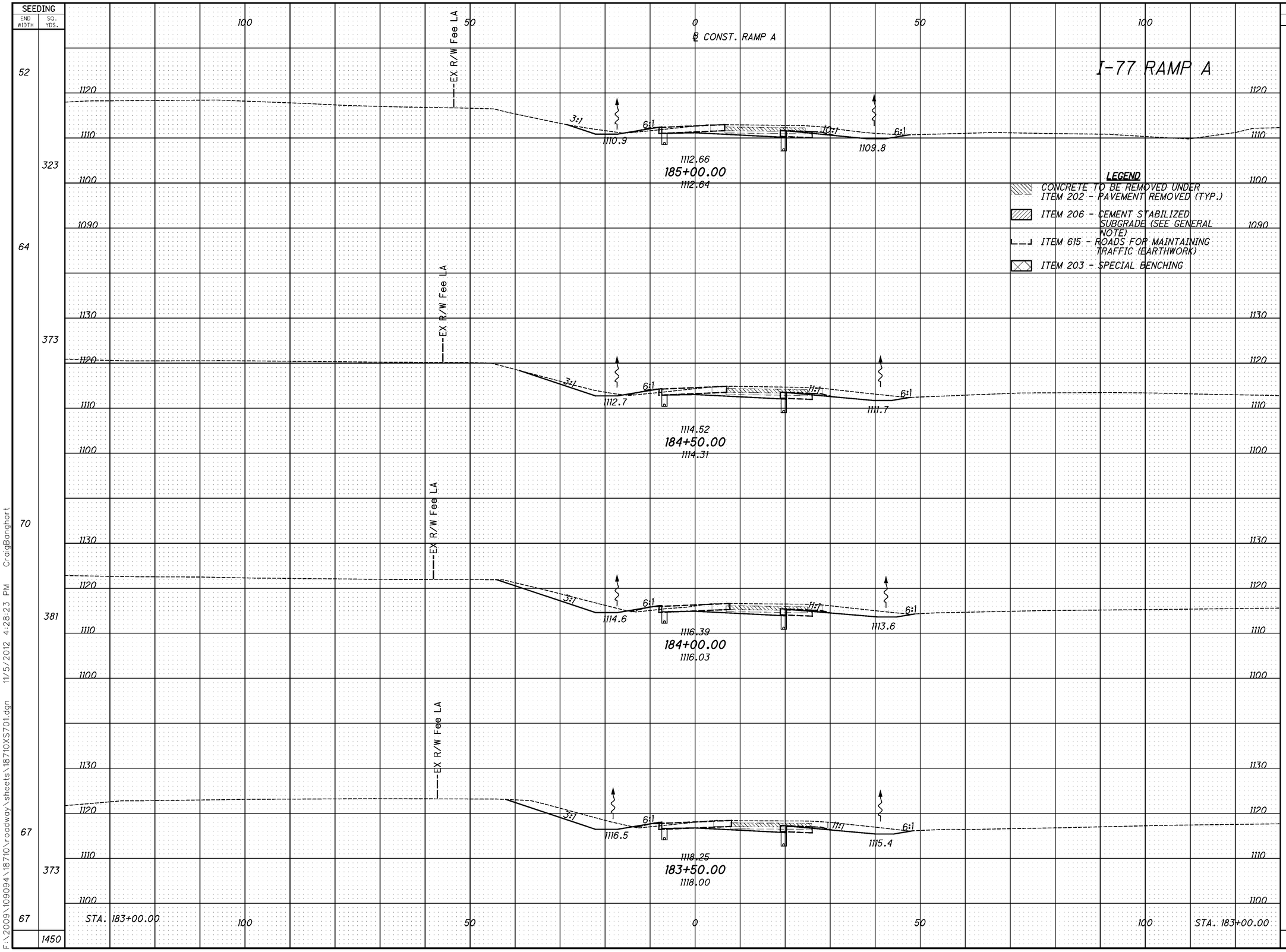
SEEDING END WIDTH	SEEDING SQ. YDS.	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
52	323	95	3	183	7
64	373	102	4	208	9
70	381	122	5	237	9
67	373	133	4	255	7
67	1450	142	3	883	32

CALCULATED JDL
CHECKED PRS

CROSS SECTIONS
STA. 183+50.00 TO STA. 185+00.00

SUM-271-2.33

566
1195



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I-77 RAMP A

℄ CONST. RAMP A

SEEDING END WIDTH	SEEDING SQ. YDS.
36	209
39	212
37	237
48	278
52	936

END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
97	0		
		183	1
100	1		
		177	4
91	3		
		177	4
100	1		
		181	4
95	3		
		718	13

CALCULATED JDL

CHECKED PRS

LEGEND

- CONCRETE TO BE REMOVED UNDER ITEM 202 - PAVEMENT REMOVED (TYP.)
- ITEM 206 - CEMENT STABILIZED SUBGRADE (SEE GENERAL NOTE)
- ITEM 615 - ROADS FOR MAINTAINING TRAFFIC (EARTHWORK)
- ITEM 203 - SPECIAL BENCHING

EX R/W Fee LA

MATCHLINE

4:1 6:1 1103.4 1105.22 **187+00.00** 1105.41 6:1 6:1 1101.7

10:1 1107.08 EX. 18" RCP **186+50.00** 1107.31 7.6:1 1104.1 7.2:1

STA. 186+51.89, 35.00' LT.
EX. HDWL (DO NOT DISTURB)
℄ 18" 1099.10

4'-18" TYPE C,
706.02 @ EX. SLOPE

STA. 186+53.21, 44.21' RT.
EX. CB (REMOVE)
GRATE EL. 1104.48
℄ 18" 1100.10

STA. 186+53.15, 40.00' RT.
CB NO 5
GRATE EL. 1103.60
℄ 6" 1101.10
℄ 18" 1100.05

6:1 6:1 1108.94 **186+00.00** 1109.12 6:1 6:1 6:1 6:1 6.1:1 1106.1 1106.2

3:1 6:1 1109.0 1110.80 **185+50.00** 1110.94 6:1 6:1 1108.0

STA. 185+00.00 STA. 185+00.00

100 50 0 50 100

1120 1110 1100 1090

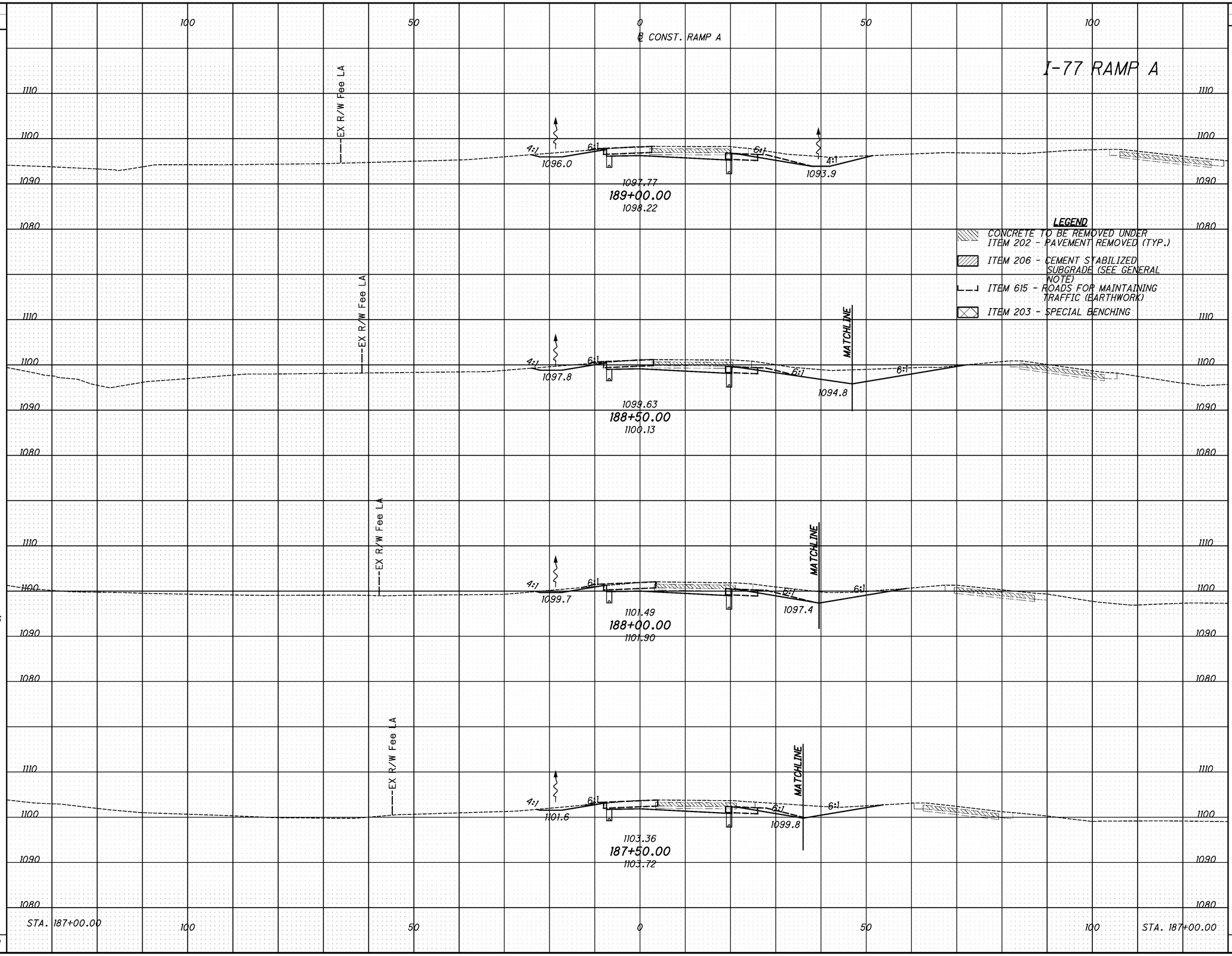
CROSS SECTIONS STA. 185+50.00 TO STA. 187+00.00

SUM-271-2.33

567
1195

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SEEDING END WIDTH	SEEDING SQ. YDS.
52	278
48	242
39	206
35	198
36	924



END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
124	0	232	0
126	0	214	0
105	0	189	0
99	0	182	0
97	0	817	0

CALCULATED JDL
CHECKED PRS

CROSS SECTIONS
STA. 187+50.00 TO STA. 189+00.00

SUM-271-2.33

568
1195

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CROSS SECTIONS
STA. 189+50.00 TO STA. 191+00.00

CALCULATED JDL
CHECKED PRS

I-77 RAMP A

℄ CONST. RAMP A

SEEDING END WIDTH	SEEDING SQ. YDS.	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
51	278	113	0	211	0
50	275	114	0	207	0
48	259	109	0	197	0
45	270	103	0	211	0
52	1082	124	0	826	0

EX R/W Fee LA

1088.4 — 1090.32 — 1087.8
191+00.00
1090.96

1090.4 — 1092.19 — 1089.5
190+50.00
1092.75

1092.2 — 1094.05 — 1091.2
190+00.00
1094.58

1094.1 — 1095.91 — 1093.1
189+50.00
1096.31

4:1 6:1 8:1 6:1

100 50 0 50 100

STA. 189+00.00 STA. 189+00.00

1100 1090 1080 1070 1110

LEGEND

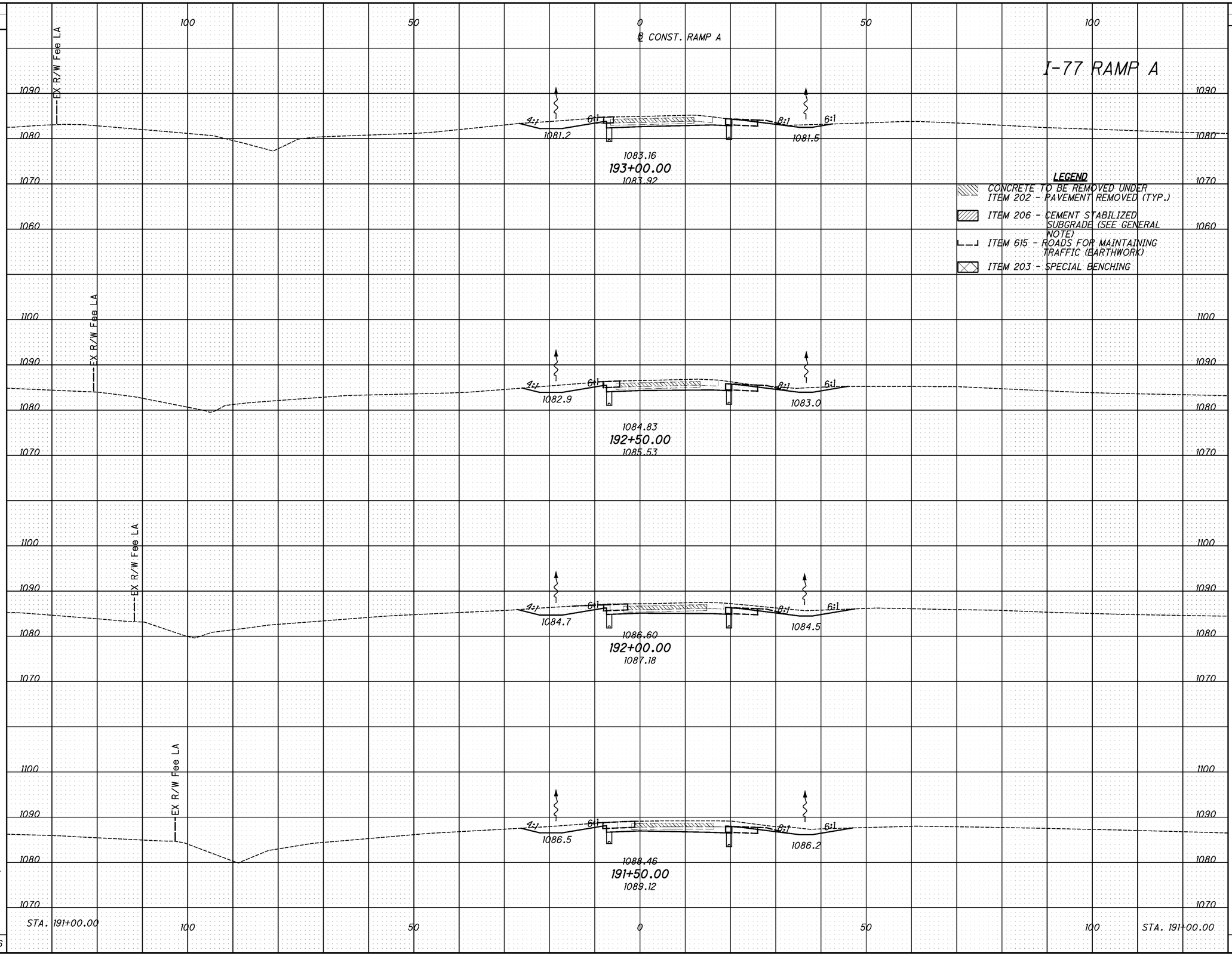
- CONCRETE TO BE REMOVED UNDER ITEM 202 - PAVEMENT REMOVED (TYP.)
- ITEM 206 - CEMENT STABILIZED SUBGRADE (SEE GENERAL NOTE)
- ITEM 615 - ROADS FOR MAINTAINING TRAFFIC (EARTHWORK)
- ITEM 203 - SPECIAL BENCHING

SUM-271-2.33

569
1195

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SEEDING END WIDTH	SEEDING SQ. YDS.
45	262
49	278
51	281
50	275
49	1096



END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
87	1	174	1
100	0	198	0
113	0	210	0
113	0	210	0
113	0	792	1

CALCULATED JDL
CHECKED PRS

CROSS SECTIONS
STA. 191+50.00 TO STA. 193+00.00

SUM-271-2.33

570
1195

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CROSS SECTIONS
STA. 193+50.00 TO STA. 194+50.00

SUM-271-2.33

571
1195

CALCULATED JDL
CHECKED PRS

SEEDING END WIDTH	SEEDING SQ. YDS.	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
32	287	66	1	138	33
71	339	82	34	150	40
51	267	80	9	155	10
45	893	87	1	443	83

100 50 0 ℄ CONST. RAMP A 50 100

I-77 RAMP A

LEGEND

- CONCRETE TO BE REMOVED UNDER ITEM 202 - PAVEMENT REMOVED (TYP.)
- ITEM 206 - CEMENT STABILIZED SUBGRADE (SEE GENERAL NOTE)
- ITEM 615 - ROADS FOR MAINTAINING TRAFFIC (EARTHWORK)
- ITEM 203 - SPECIAL BENCHING

EX R/W Fee LA

3:1
6:1
1076.7
1078.86
194+50.00
1079.35

15:1
6:1
1080.18
194+00.00
1080.81

18" - 42" CONDUIT, TYPE A, 706.02
ROCK CHANNEL PROTECTION, TYPE B, WITH FABRIC FILTER (T=30")
STA. 194+24.07, 46.79' RT.
HW-1.1
℄ 42" 1072.50
4:1
1075.7
CONC. COLLAR AS PER SCD DM-1.1
STA. 194+16.26, 37.97' RT.
EX. HDWL
℄ 42" 1072.63

12:1
6:1
4:1
1081.5
EX. 42" CONC.
1081.61
193+50.00
1082.29
STA. 193+48.49, 31.29' LT.
EX. HDWL (DO NOT DISTURB)
℄ 42" 1073.71

1100
1090
1080
1070
1060

STA. 193+00.00

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I-77 RAMP A

℄ CONST. RAMP A

LEGEND

- CONCRETE TO BE REMOVED UNDER ITEM 202 - PAVEMENT REMOVED (TYP.)
- ITEM 206 - CEMENT STABILIZED SUBGRADE (SEE GENERAL NOTE)
- ITEM 615 - ROADS FOR MAINTAINING TRAFFIC (EARTHWORK)
- ITEM 203 - SPECIAL BENCHING

EX R/W Fee LA

EX R/W Fee LA

EX R/W Fee LA

SEEDING END WIDTH	SEEDING SQ. YDS.	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
97	575	94	1	181	2
110	673	101	1	214	2
132	456	130	1	182	2
32	1704	66	1	577	6

CALCULATED JDL

CHECKED PRS

CROSS SECTIONS

STA. 195+00.00TO STA. 196+00.00

SUM-271-2.33

572
1195

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CROSS SECTIONS
STA. 196+50.00 TO STA. 197+00.00

I-77 RAMP A

℄ CONST. RAMP A

LEGEND

- CONCRETE TO BE REMOVED UNDER ITEM 202 - PAVEMENT REMOVED (TYP.)
- ITEM 206 - CEMENT STABILIZED SUBGRADE (SEE GENERAL NOTE)
- ITEM 615 - ROADS FOR MAINTAINING TRAFFIC (EARTHWORK)
- ITEM 203 - SPECIAL BENCHING

EX R/W Fee LA

1074.00
197+00.00
1074.09

1074.74
196+50.00
1074.94

STA. 196+00.00

STA. 196+00.00

SEEDING END WIDTH	SEEDING SQ. YDS.
86	487
89	517
97	1004

END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
102	1	190	1
103	0	183	1
94	1	373	2

CALCULATED JDL
CHECKED PRS

SUM-271-2.33

573
1195

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SEEDING	
END WIDTH	SQ. YDS.
47	306
63	414
86	720

100 50 0 ℄ CONST. RAMP A 50 100

I-77 RAMP A

LEGEND

- CONCRETE TO BE REMOVED UNDER ITEM 202 - PAVEMENT REMOVED (TYP.)
- ITEM 206 - CEMENT STABILIZED SUBGRADE (SEE GENERAL NOTE)
- ITEM 615 - ROADS FOR MAINTAINING TRAFFIC (EARTHWORK)
- ITEM 203 - SPECIAL BENCHING

1110 1100 1090 1080 1070 1060 1050

EX R/W Fee LA

3:1 6:1 10:1 12:1 1070.8 1072.4 1072.86 198+00.00 1073.06

2:1 6:1 8:1 8:1 1071.1 1072.3 1073.37 197+50.00 1073.59

STA. 197+00.00 STA. 197+00.00

END AREA		VOLUME	
CUT	FILL	CUT	FILL
65	0		
		126	2
71	2		
		161	3
102	1		
		287	5

CALCULATED JDL CHECKED PRS

CROSS SECTIONS
STA. 197+50.00 TO STA. 198+00.00

SUM-271-2.33

574
1195

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SEEDING	
END WIDTH	SQ. YDS.
9	12
9	89
23	195
47	296

END AREA	
CUT	FILL
43	
43	1
47	0
65	0

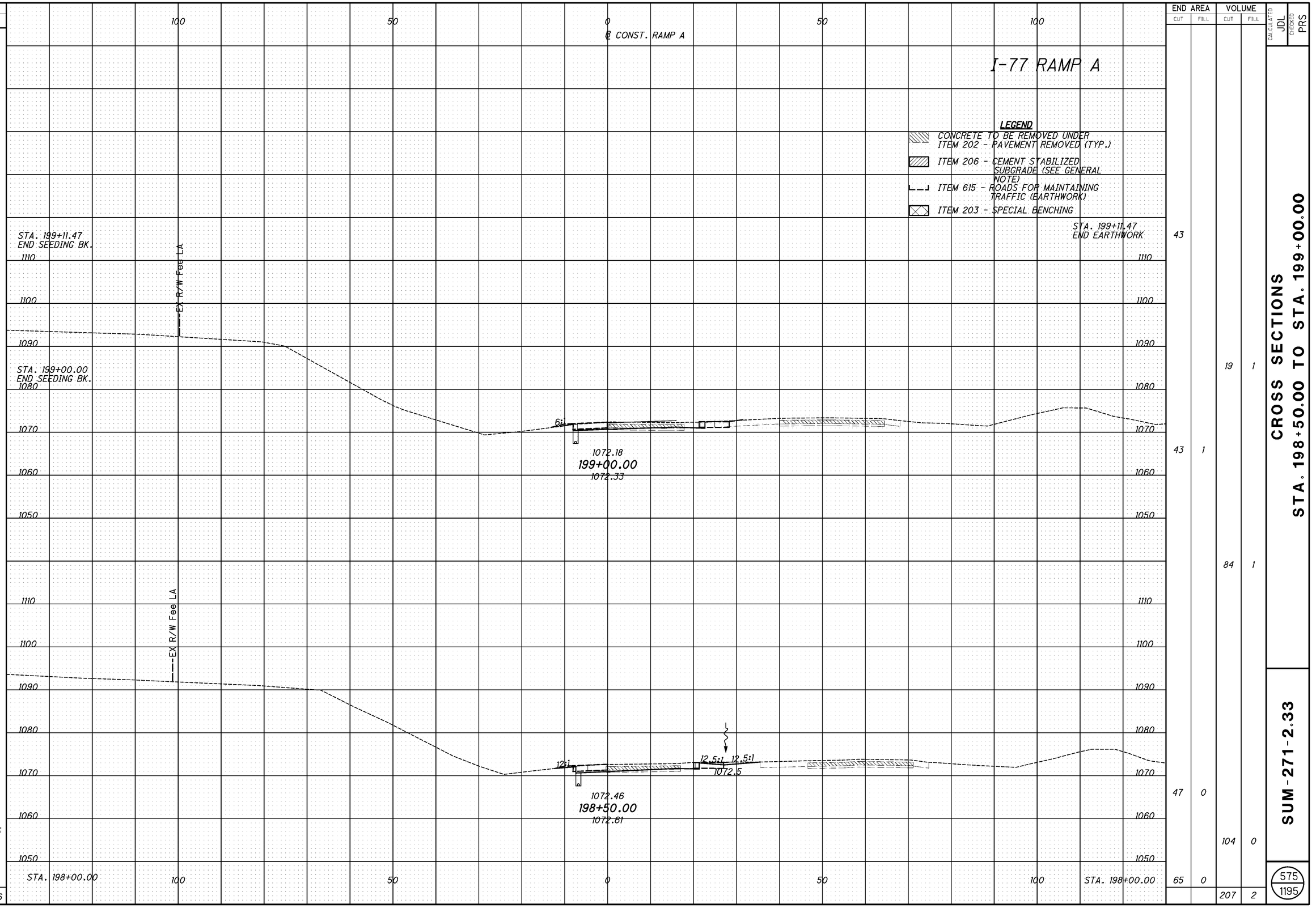
VOLUME	
CUT	FILL
19	1
84	1
104	0
207	2

CALCULATED JDL
CHECKED PRS

CROSS SECTIONS
STA. 198+50.00 TO STA. 199+00.00

SUM-271-2.33

575
1195



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SEEDING	
END WIDTH	SQ. YDS.

END AREA		VOLUME	
CUT	FILL	CUT	FILL

CALCULATED JDL
CHECKED PRS

I-77 RAMP A

℄ CONST. RAMP A

LEGEND

- CONCRETE TO BE REMOVED UNDER ITEM 202 - PAVEMENT REMOVED (TYP.)
- ITEM 206 - CEMENT STABILIZED SUBGRADE (SEE GENERAL NOTE)
- ITEM 615 - ROADS FOR MAINTAINING TRAFFIC (EARTHWORK)
- ITEM 203 - SPECIAL BENCHING

100 50 0 50 100

1110 1100 1090 1080 1070 1060

200+50.00
1071.57±

200+00.00
1071.74±

199+50.00
1071.94±

EX R/W Fee LA

CROSS SECTIONS
STA. 199+50.00 TO STA. 200+50.00

SUM-271-2.33

576
1195

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SEEDING	
END WIDTH	SQ. YDS.

END AREA		VOLUME	
CUT	FILL	CUT	FILL

CALCULATED JDL
CHECKED PRS

100 50 0 50 100

℄ CONST. RAMP A

I-77 RAMP A

LEGEND

- CONCRETE TO BE REMOVED UNDER ITEM 202 - PAVEMENT REMOVED (TYP.)
- ITEM 206 - CEMENT STABILIZED SUBGRADE (SEE GENERAL NOTE)
- ITEM 615 - ROADS FOR MAINTAINING TRAFFIC (EARTHWORK)
- ITEM 203 - SPECIAL BENCHING

202+00.00
1070.29±

201+50.00
1070.76±

201+00.00
1071.19±

1090 1080 1070 1060 1110 1100

CROSS SECTIONS
STA. 201+00.00 TO STA. 202+00.00

SUM-271-2.33

577
1195

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SEEDING	
END WIDTH	SQ. YDS.
	16582

TOTAL CARRIED TO EROSION CONTROL CALCULATION SHEET 273

100 50 0 50 100

℄ CONST. RAMP A

TOTALS CARRIED TO EARTHWORK SUBSUMMARY SHEET 241

END AREA		VOLUME	
CUT	FILL	CUT	FILL
		9490	289

CALCULATED JDL

CHECKED PRS

I-77 RAMP A

LEGEND

- CONCRETE TO BE REMOVED UNDER ITEM 202 - PAVEMENT REMOVED (TYP.)
- ITEM 206 - CEMENT STABILIZED SUBGRADE (SEE GENERAL NOTE)
- ITEM 615 - ROADS FOR MAINTAINING TRAFFIC (EARTHWORK)
- ITEM 203 - SPECIAL BENCHING

1090 1080 1070 1060

203+50.00
1068.57±

203+00.00
1069.17±

202+50.00
1069.76±

STA. 63+00.00

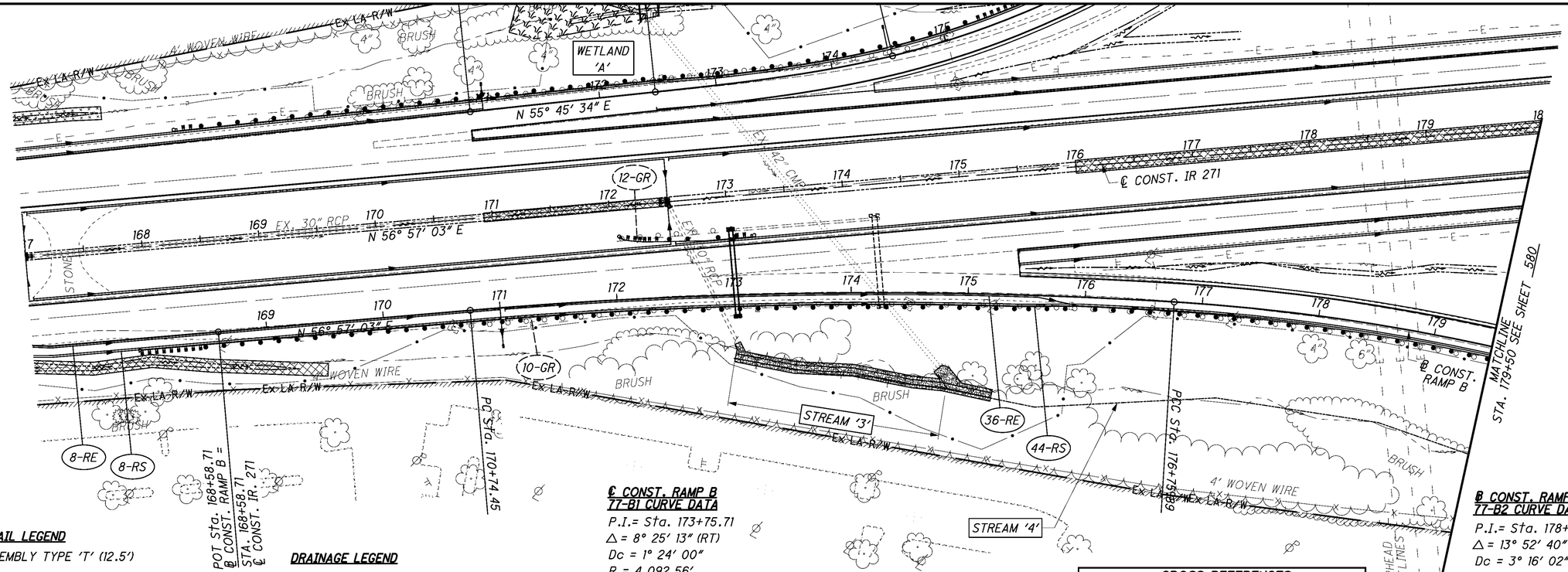
100 50 0 50 100

CROSS SECTIONS STA. 202+50.00 TO STA. 203+50.00

SUM-271-2.33

578
1195

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GUARDRAIL LEGEND

- (T) ANCHOR ASSEMBLY TYPE 'T' (12.5')
- (E) ANCHOR ASSEMBLY TYPE 'E' (50')
- (B) ANCHOR ASSEMBLY TYPE 'B' (37.5')
- (B1) BRIDGE TERMINAL ASSEMBLY TYPE 1 (31.25')
- (B2) BRIDGE TERMINAL ASSEMBLY TYPE 2 (25')

DRAINAGE LEGEND

- ITEM 670 - DITCH EROSION PROTECTION (WIDTH SHOWN ON PLANS)
- ITEM 836 - SEEDING AND EROSION CONTROL WITH TURF REINFORCING MAT, TYPE 1 (WIDTH SHOWN ON PLANS)

℄ CONST. RAMP B 77-B1 CURVE DATA

P.I.= Sta. 173+75.71
△ = 8° 25' 13" (RT)
Dc = 1° 24' 00"
R = 4,092.56'
T = 301.26'
L = 601.44'
E = 11.07'
eMAX. = 0.048
C = 600.90'
C.B. = N 61° 09' 39" E

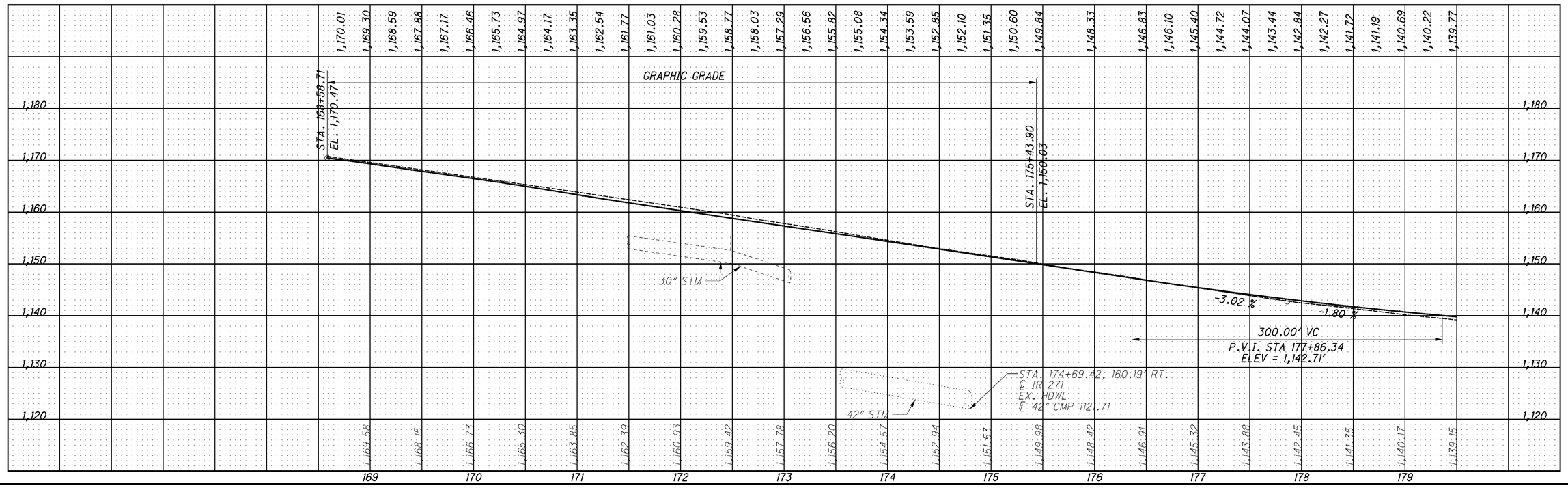
LEGEND

- CONST. LIMITS
- STREAM 'X' STREAM RESOURCE ID
- WETLAND 'X' WETLAND RESOURCE ID

CROSS REFERENCES	
20-21	TYPICAL SECTIONS
584-616	CROSS SECTIONS
713-715	SUPERELEVATION TABLES
729	PAVEMENT DETAILS

℄ CONST. RAMP B 77-B2 CURVE DATA

P.I.= Sta. 178+89.31
△ = 13° 52' 40" (RT)
Dc = 3° 16' 02"
R = 1,753.59'
T = 213.42'
L = 424.74'
E = 12.94'
eMAX = 0.071
C = 423.70'
C.B. = N 72° 18' 35" E



HORIZONTAL SCALE IN FEET: 0, 25, 50, 100

CALCULATED JDL CHECKED PRS

PLAN AND PROFILE - I-77 RAMP B
STA. 168+58.71 TO STA. 179+50

SUM-271-2.33

579
1195

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CROSS REFERENCES	
21	TYPICAL SECTIONS
584-616	CROSS SECTIONS
713-715	SUPERELEVATION TABLES
729	PAVEMENT DETAIL
775	STRUCTURE END DETAIL
778	DRAINAGE DETAILS

LEGEND

PRESSURE RELIEF JOINT CONCRETE

PRESSURE RELIEF JOINT

DRAINAGE LEGEND

ITEM 670 - DITCH EROSION PROTECTION (WIDTH SHOWN ON PLANS)

ITEM 836 - SEEDING AND EROSION CONTROL WITH TURF REINFORCING MAT, TYPE 1 (WIDTH SHOWN ON PLANS)

ROCK CHANNEL PROTECTION, TYPE C, WITH FABRIC FILTER (T = 18")

℄ CONST. RAMP B 77-B3 CURVE DATA

P.I.= Sta. 204+24.03
Δ = 124° 54' 10" (LT)
Dc = 8° 00' 00"
R = 716.20'
Ls = 200.00'
θ s = 8° 00' 00"
LT = 133.47'
ST = 66.79'
&199.61'
y = 9.30'
k = 99.94'
p = 2.33'
D c = 108° 54' 10" (LT)
Lc = 1,361.28'
Ts = 1,477.35'
Es = 837.36'
eMAX = 0.078
C = 1,165.43'
C1=C2 = 199.83'
C.B.1 = N 76° 34' 57" E
C.B. = N 16° 47' 50" E
C.B.2 = N 42° 59' 16" W

℄ CONST. RAMP B 77-B2 CURVE DATA

P.I.= Sta. 178+89.31
Δ = 13° 52' 40" (RT)
Dc = 3° 16' 02"
R = 1,753.59'
T = 213.42'
L = 424.74'
E = 12.94'
C = 423.70'
C.B. = N 72° 18' 35" E

B.M.#SVM60: MAG NAIL SET
STA. 186+53.81, 64.65' RT.
℄ CONST. RAMP B
ELEV. 1091.80

B.M.#SV1: MAG NAIL SET
STA. 188+31.65, 104.33' RT.
℄ CONST. RAMP B
ELEV. 1091.85

GUARDRAIL LEGEND

(T) ANCHOR ASSEMBLY TYPE 'T' (12.5')
(E) ANCHOR ASSEMBLY TYPE 'E' (50')
(B) ANCHOR ASSEMBLY TYPE 'B' (37.5')
(B1) BRIDGE TERMINAL ASSEMBLY TYPE 1 (31.25')
(B2) BRIDGE TERMINAL ASSEMBLY TYPE 2 (25')

STRUCTURE CLEARANCE LEGEND

(P2) POINT OF MINIMUM VERTICAL CLEARANCE (SEE PROFILE FOR DIMENSIONS)
(P1) STA. 911+87.00, 42.27' LT. ℄ CONST. IR 77
(P2) STA. 186+87.62, 0.00' LT. ℄ CONST. RAMP C

℄ CONST. RAMP B STA. 187+47.81 = ℄ CONST. IR 77 STA. 911+70.79

BRIDGE NO. SUM-271-0354B

STA. 181+00.00, 20.00' RT. ℄ 6" 1132.00

STA.185+50.00, 40.50' LT. ℄ 6" 1121.00

STA.185+50.00, 20.50' RT. ℄ 6" 1121.00

PT Sta. 181+00.63

CS Sta. 186+94.67

TS Sta. 189+46.69

SC Sta. 191+66.69

15" @ 5.90%

15" @ 19.36%

4' WIDE x 5' LONG ROCK CHANNEL PROTECTION, TYPE C, WITH FABRIC FITLER (T = 18")

MATCHLINE STA. 179+50 SEE SHEET 579

MATCHLINE STA. 192+00 SEE SHEET 581

℄ CONST. IR 77

℄ CONST. RAMP C

℄ CONST. RAMP B

4' WOVEN WIRE

Ex LA-R/W

BRUSH

2" TREES

TENNIS COURTS

O.H. ELEC.

EXISTING STRUCTURE	PROPOSED STRUCTURE
TYPE: CONTINUOUS WELDED PLATE GIRDERS WITH HINGE, WITH REINFORCED CONCRETE DECK AND SUBSTRUCTURE.	PROPOSED WORK: NEW CONTINUOUS WELDED STEEL GIRDER COMPOSITE WITH REINFORCED CONCRETE DECK ON REUSED SEMI-INTEGRAL MODIFIED ABUTMENTS AND REUSED PIERS.
SPANS: 69'-9¼, 94'-9¼, 113'-6¼, 39'-6¼ C/C BEARINGS	SPANS: 70'-3½; 94'-9½; 113'-6½; 40'-0½ C/C BEARINGS
ROADWAY: 26'-10¼" T/T PARAPET	ROADWAY: 30'-0" T/T PARAPET
LOADING: C.F. 2000	LOADING: NEW SUPERSTRUCTURE - HS25 CASE II, THE ALTERNATE MILITARY AND 60 PSF FUTURE WEARING SURFACE. EXISTING SUBSTRUCTURE - HS20-44, THE ALTERNATE MILITARY AND 60 PSF FUTURE WEARING SURFACE.
SKEW: 5°54'22" L.F.	SKEW: 5°54'22" L.F.
APPROACH SLABS: 25' LONG (AS-1-54)	APPROACH SLABS: 25'-0" LONG (AS-1-81)
ALIGNMENT: TANGENT	ALIGNMENT: TANGENT
WEARING SURFACE: 3" ASPHALT CONCRETE OVERLAY	WEARING SURFACE: MONOLITHIC CONCRETE
SUPERELEVATION: 0.016	SUPERELEVATION: 0.016
STRUCTURE FILE NUMBER: 7708882	COORDINATES: LATITUDE 41°13'40" N LONGITUDE 81°37'35" W
DATE BUILT: 1969, NEW DECK 1986	
DISPOSITION: REMOVE SUPERSTRUCTURE, REUSE SUBSTRUCTURE	

700.00' VC
P.V.I. STA 186+00.00
ELEV = 1,128.07'

-1.80 %

-5.90 %

STA. 189+46.54, 22.00' LT.
CB NO 3A
GRATE EL. 1107.03
℄ 15" 1102.03

STA. 189+65.29, 22.00' LT.
CB NO 3A
GRATE EL. 1105.84
℄ 15" (W) 1100.91
℄ 15" (N) 1100.84
℄ 6" 1102.92

STA. 189+65.29, 47.00' LT.
HW-2.1 OR 2.2 HDWL
℄ 15" 1096.00

(P1) EX. 22.41' PR. 23.12'

(P2) EX. 15.62' PR. 17.02'

19' - 15" TYPE B @ 5.90%

25' - 15" TYPE C @ 19.36%

PROFILE - I-77 RAMP B
STA. 179+50 TO STA. 192+00

PLAN AND PROFILE

SUM-271-2.33

580
1195

HORIZONTAL SCALE IN FEET

CALCULATED JDL CHECKED PRS

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CROSS REFERENCES	
21	TYPICAL SECTIONS
584–616	CROSS SECTIONS
713–715	SUPERELEVATION TABLES
757	CULVERT DETAILS
778	DRAINAGE DETAILS
785	OVERPASS PIER PROTECTION DETAILS

GUARDRAIL LEGEND

- (T) ANCHOR ASSEMBLY TYPE 'T' (12.5')
- (E) ANCHOR ASSEMBLY TYPE 'E' (50')
- (B) ANCHOR ASSEMBLY TYPE 'B' (37.5')
- (B1) BRIDGE TERMINAL ASSEMBLY TYPE 1 (31.25')
- (B2) BRIDGE TERMINAL ASSEMBLY TYPE 2 (25')

(129-D) NOT USED

MATCHLINE STA. 192+00 SEE SHEET 580

STA. 196+00.00, 45.00' LT.
℄ 6" 1064.00

ROCK CHANNEL PROTECTION, TYPE C, WITH FABRIC FILTER (T = 18")

77.99'

STA. 199+50.00, 41.00' LT.
℄ 6" 1054.00

PT Sta. 198+48.32
℄ CONST. RAMP C =
STA. 198+53.15
℄ CONST. IR 271

SC Sta. 195+76.34

CR Sta. 193+76.34

STA. 196+00.00, 22.00' RT.
℄ 6" 1066.00

STA. 199+18.03, ℄ CONST. IR 271 =
STA. 201+88.30, ℄ CONST. RAMP B

℄ CONST. RAMP B

℄ CONST. IR 271

10.0E+38.17

MATCHLINE STA. 204+50 SEE SHEET 582

121'-30" TYPE C, @ 0.56%

58'-18" TYPE B @ 2.00%

2' 4' 2'
2:1 MAX. 2:1 MAX.

ROCK CHANNEL PROTECTION, TYPE C W/ FABRIC FILTER (T=18")

DRAINAGE LEGEND

- ITEM 670 - DITCH EROSION PROTECTION (WIDTH SHOWN ON PLANS)
- ITEM 836 - SEEDING AND EROSION CONTROL WITH TURF REINFORCING MAT, TYPE 1 (WIDTH SHOWN ON PLANS)

℄ CONST. RAMP B 77-B3 CURVE DATA

P.I.= Sta. 204+24.03	k = 99.94'
△ = 124° 54' 10" (LT)	p = 2.33'
Dc = 8° 00' 00"	D c = 108° 54' 10" (LT)
R = 716.20'	Lc = 1,361.28'
Ls = 200.00'	Ts = 1,477.35'
θ s = 8° 00' 00"	Es = 837.36'
LT = 133.47'	eMAX = 0.078
ST = 66.79'	C = 1,165.43'
x = 199.61'	C1=C2 = 199.83'
y = 9.30'	C.B.1 = N 76° 34' 57" E
	C.B. = N 16° 47' 50" E
	C.B.2 = N 42° 59' 16" W

STRUCTURE CLEARANCE LEGEND

- (P) POINT OF MINIMUM VERTICAL CLEARANCE (SEE PROFILE FOR DIMENSIONS)
- (P1) STA. 202+24.09, 6.27' RT.
- (P2) STA. 200+89.88, 6.12' RT.

LEGEND

- CONST. LIMITS
- STREAM 'X' STREAM RESOURCE ID
- WETLAND 'X' WETLAND RESOURCE ID

HORIZONTAL SCALE IN FEET (0, 25, 50, 100)

CALCULATED JDL CHECKED PRS

PLAN AND PROFILE - I-77 RAMP B
STA. 192+00 TO STA. 204+50

SUM-271-2.33

581
1195

STA. 202+98.20, 22.53' RT.
CB NO 5
GRATE EL. 1060.59
℄ 18" 1057.54

STA. 202+98.20, 22.53' RT.
EX. CB (REMOVE)
GRATE EL. 1061.06
℄ 18" 1058.38

STA. 203+03.55, 35.56' LT.
EX. CB (REMOVE)
GRATE EL. 1059.47
℄ 18" 1056.38
℄ 24" 1055.92

14.2' EX.
17.64' PR.

16.4' EX.
17.84' PR.

STA. 200+34.24, 39.47' LT.
EX. HDWL (REMOVE)
℄ 24" 1054.39

-5.90 %

+0.65 %

750.00' VC
P.V.I. STA 197+73.04
ELEV = 1,058.86'

EX. 24" RCP (REMOVE)

EX. 24" RCP (REMOVE)

STA. 200+30, 44.0' LT.
HW-2.1 OR 2.2
℄ 30" 1054.00

137'-30" TYPE C, 706.02 @ 0.51%

121'-30" TYPE C, 706.02 @ 0.56%

STA. 201+75.07, 44.01' LT. ℄ IR 77 RAMP B=
STA. 198+72.71, 8.32' RT ℄ CONST. IR 271
EX. MH (REMOVE)
COVER EL. 1065.51
℄ 12" (W) 1056.20
℄ 24" (N) 1055.10
℄ 24" (S) 1055.00

STA. 198+72.71, 8.3' RT.
MH NO 3
COVER EL. 1065.50
℄ 15" 1055.95
℄ 30" 1054.70

STA. 203+03.55, 35.56' LT.
CB NO 5
GRATE EL. 1059.01
℄ 6" 1156.38
℄ 18" 1056.38
℄ 30" 1055.38

36" STM

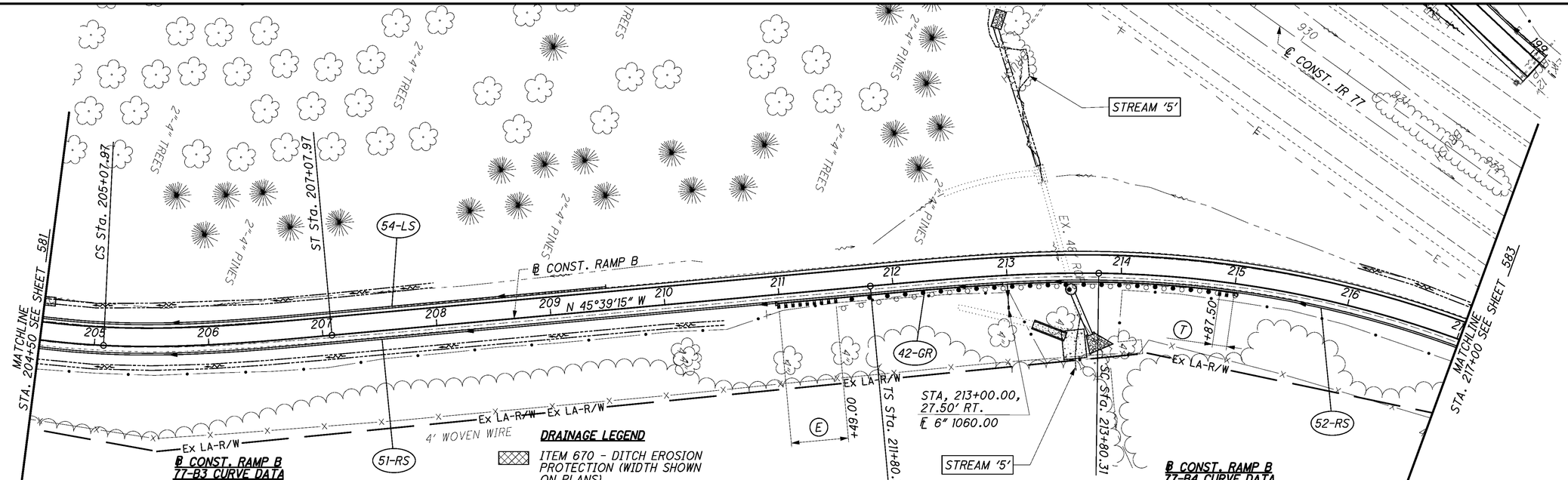
1,100 1,090 1,080 1,070 1,060 1,050 1,040 1,030

1,092.67 1,091.19 1,089.72 1,088.24 1,086.77 1,085.29 1,083.82 1,082.34 1,080.87 1,079.42 1,078.03 1,076.70 1,075.42 1,074.20 1,073.03 1,071.91 1,070.85 1,069.84 1,068.89 1,067.99 1,067.15 1,066.36 1,065.63 1,064.95 1,064.32 1,063.75 1,063.24 1,062.78 1,062.37 1,062.02 1,061.72 1,061.48 1,061.29 1,061.16 1,061.08 1,061.05 1,061.09 1,061.17 1,061.31 1,061.63 1,061.96 1,062.29 1,062.61 1,062.94 1,063.26

1,092.07 1,089.13 1,086.27 1,083.42 1,080.65 1,077.84 1,074.97 1,072.35 1,069.81 1,067.69 1,066.15 1,064.79 1,063.57 1,062.58 1,062.03 1,061.43 1,061.22 1,061.21 1,061.69 1,061.95 1,062.25 1,062.44 1,062.71 1,063.12 1,063.43 1,063.71

192 193 194 195 196 197 198 199 200 201 202 203 204

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℄ CONST. RAMP B
77-B3 CURVE DATA

P.I.= Sta. 204+24.03
△ = 124° 54′ 10″ (LT)
Dc = 8° 00′ 00″
R = 716.20′
Ls = 200.00′
θ s = 8° 00′ 00″
LT = 133.47′
ST = 66.79′
x = 199.61′
y = 9.30′
k = 99.94′
p = 2.33′
D c = 108° 54′ 10″ (LT)
Lc = 1,361.28′
Ts = 1,477.35′
Es = 837.36′
eMAX = 0.078
C = 1,165.43′
C1=C2 = 199.83′
C.B.1 = N 76° 34′ 57″ E
C.B. = N 16° 47′ 50″ E
C.B.2 = N 42° 59′ 16″ W

DRAINAGE LEGEND

ITEM 670 - DITCH EROSION PROTECTION (WIDTH SHOWN ON PLANS)

ITEM 836 - SEEDING AND EROSION CONTROL WITH TURF REINFORCING MAT, TYPE 1 (WIDTH SHOWN ON PLANS)

GUARDRAIL LEGEND

(T) ANCHOR ASSEMBLY TYPE 'T' (12.5')
(E) ANCHOR ASSEMBLY TYPE 'E' (50')
(B) ANCHOR ASSEMBLY TYPE 'B' (37.5')
(B1) BRIDGE TERMINAL ASSEMBLY TYPE 1 (31.25')
(B2) BRIDGE TERMINAL ASSEMBLY TYPE 2 (25')

CROSS REFERENCES

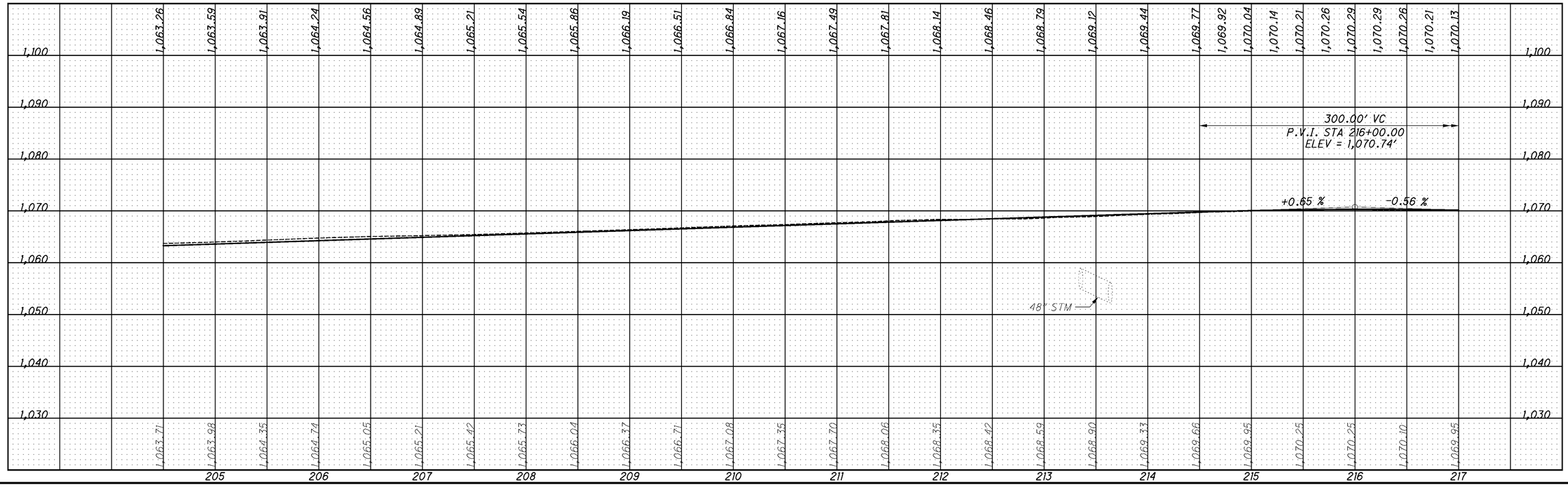
21	TYPICAL SECTIONS
584—616	CROSS SECTIONS
713—715	SUPERELEVATION TABLES
761—762	CULVERT DETAILS

℄ CONST. RAMP B
77-B4 CURVE DATA

P.I.= Sta. 216+22.11
△ = 39° 36′ 56″ (RT)
Dc = 6° 00′ 00″
R = 954.93′
Ls = 200.00′
θ s = 6° 00′ 00″ (RT)
LT = 133.41′
ST = 66.74′
x = 199.78′
y = 6.98′
k = 99.96′
p = 1.74′
△ c = 33° 36′ 56″ (RT)
Lc = 560.26′
Ts1 = 441.80′
Ts2 = 346.68′
Es = 60.98′
eMAX. = 0.080
C = 199.90′
C = 552.26′
C.B.1 = N 43° 39′ 15″ W
C.B. = N 22° 50′ 47″ W

LEGEND

—·— CONST. LIMITS
STREAM 'X' STREAM RESOURCE ID
WETLAND 'X' WETLAND RESOURCE ID



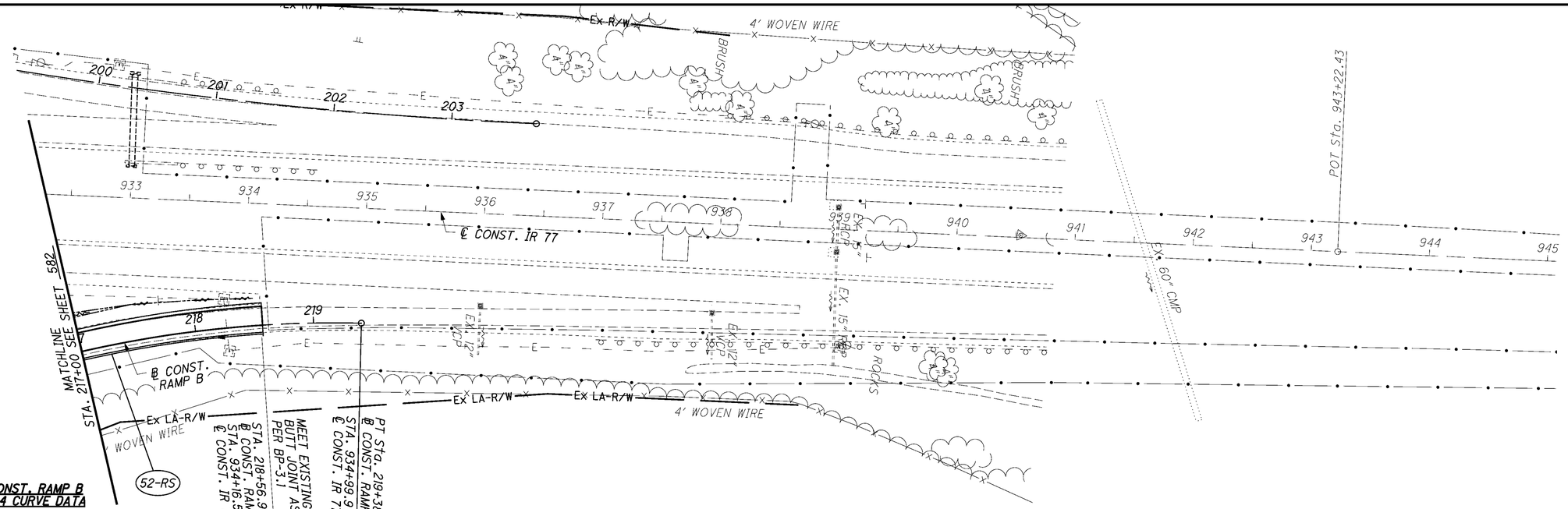
HORIZONTAL SCALE IN FEET
0 25 50 100
CALCULATED JDL
CHECKED PRS

PLAN AND PROFILE - I-77 RAMP B
STA. 204+50 TO STA. 217+00

SUM-271-2.33

582
1195

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℄ CONST. RAMP B
77-B4 CURVE DATA

P.I.= Sta. 216+22.11	p = 1.74′
△ = 39° 36′ 56″ (RT)	△c = 33° 36′ 56″ (RT)
Dc = 6° 00′ 00″	Lc = 560.26′
R = 954.93′	Ts1 = 441.80′
Ls = 200.00′	Ts2 = 346.68′
θs = 6° 00′ 00″ (RT)	Es = 60.98′
LT = 133.41′	eMAX. = 0.080
ST = 66.74′	C = 199.90′
x = 199.78′	C = 552.26′
y = 6.98′	C.B.1 = N 43° 39′ 15″ W
k = 99.96′	C.B. = N 22° 50′ 47″ W

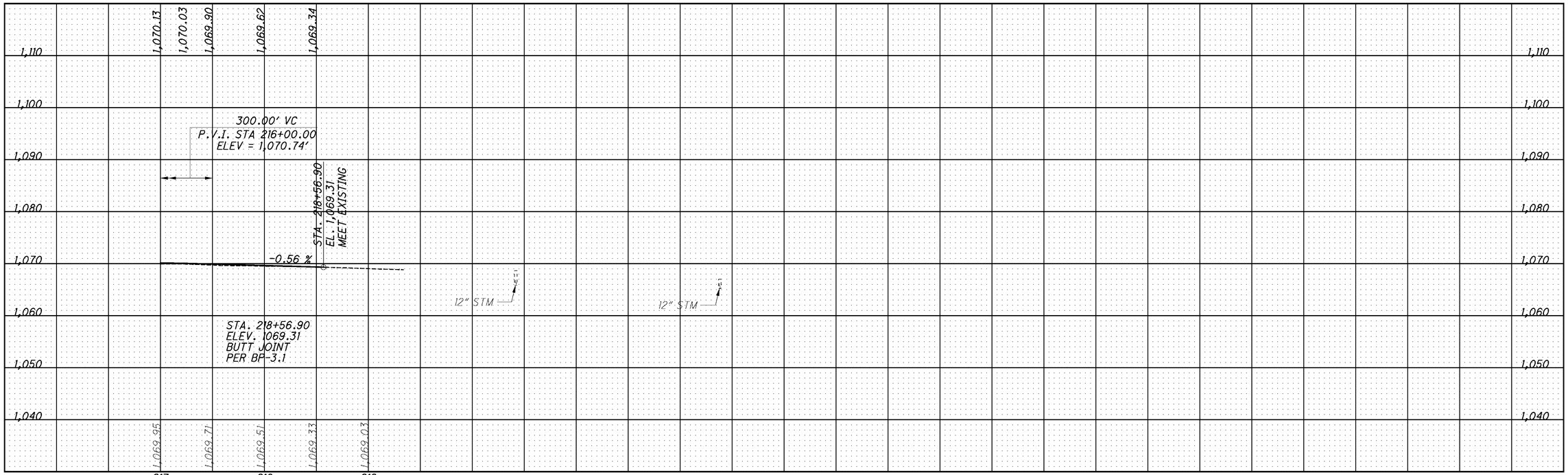
GUARDRAIL LEGEND

- (T) ANCHOR ASSEMBLY TYPE 'T' (12.5')
- (E) ANCHOR ASSEMBLY TYPE 'E' (50')
- (B) ANCHOR ASSEMBLY TYPE 'B' (37.5')
- (B1) BRIDGE TERMINAL ASSEMBLY TYPE 1 (31.25')
- (B2) BRIDGE TERMINAL ASSEMBLY TYPE 2 (25')

DRAINAGE LEGEND

- ITEM 670 - DITCH EROSION PROTECTION (WIDTH SHOWN ON PLANS)
- ITEM 836 - SEEDING AND EROSION CONTROL WITH TURF REINFORCING MAT, TYPE 1 (WIDTH SHOWN ON PLANS)

CROSS REFERENCES	
21	TYPICAL SECTIONS
584-616	CROSS SECTIONS
713-715	SUPERELEVATION TABLES
730	PAVEMENT DETAIL



HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED JDL
CHECKED PRS

PLAN AND PROFILE - I-77 RAMP B
STA. 217+00 TO STA. 218+56.90

SUM-271-2.33

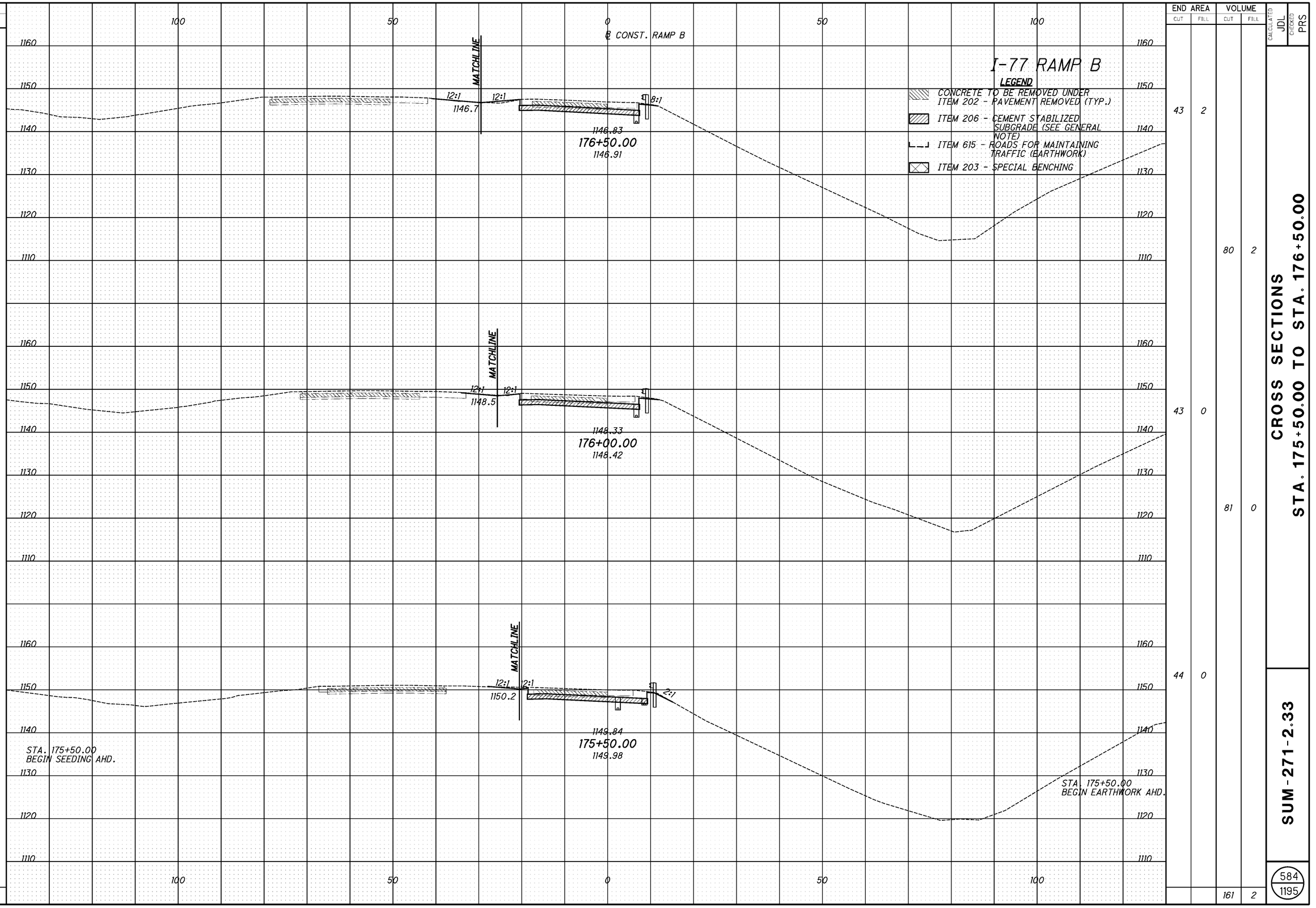
583
1195

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CROSS SECTIONS
STA. 175+50.00 TO STA. 176+50.00

CALCULATED JDL
CHECKED PRS

SEEDING END WIDTH	SEEDING SQ. YDS.	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
18	89	43	2	80	2
14	73	43	0	81	0
12	162	44	0	161	2

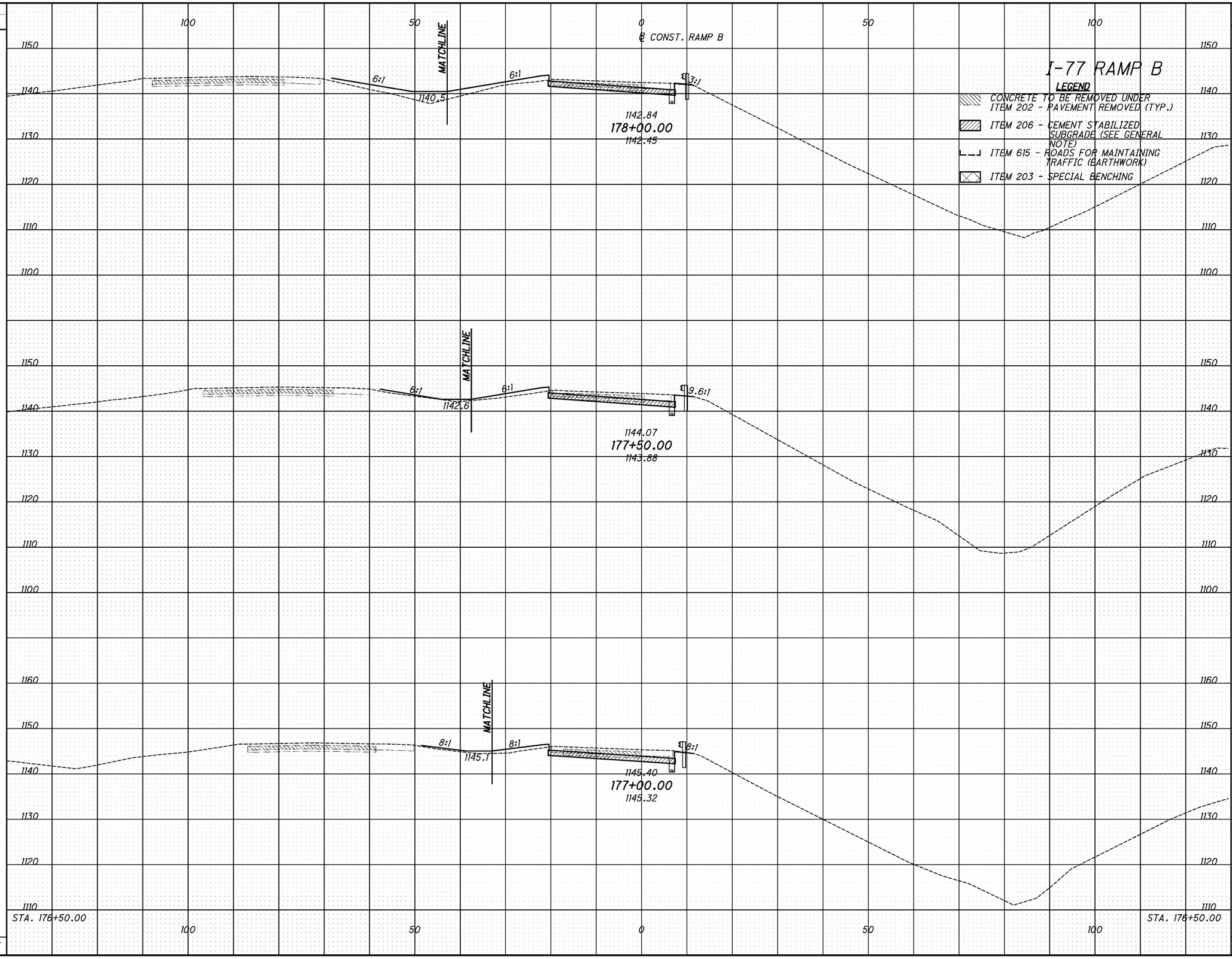


SUM-271-2.33

584
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SEEDING	
END WIDTH	SQ. YDS.
31	
	156
25	
	128
	109
21	
18	
	393



END AREA		VOLUME	
CUT	FILL	CUT	FILL
25	25		
		50	35
30	13		
		60	20
35	9		
		72	11
43	2		
		182	66

CALCULATED JDL
CHECKED PRS

CROSS SECTIONS
STA. 177+00.00 TO STA. 178+00.00

SUM-271-2.33

585
1195

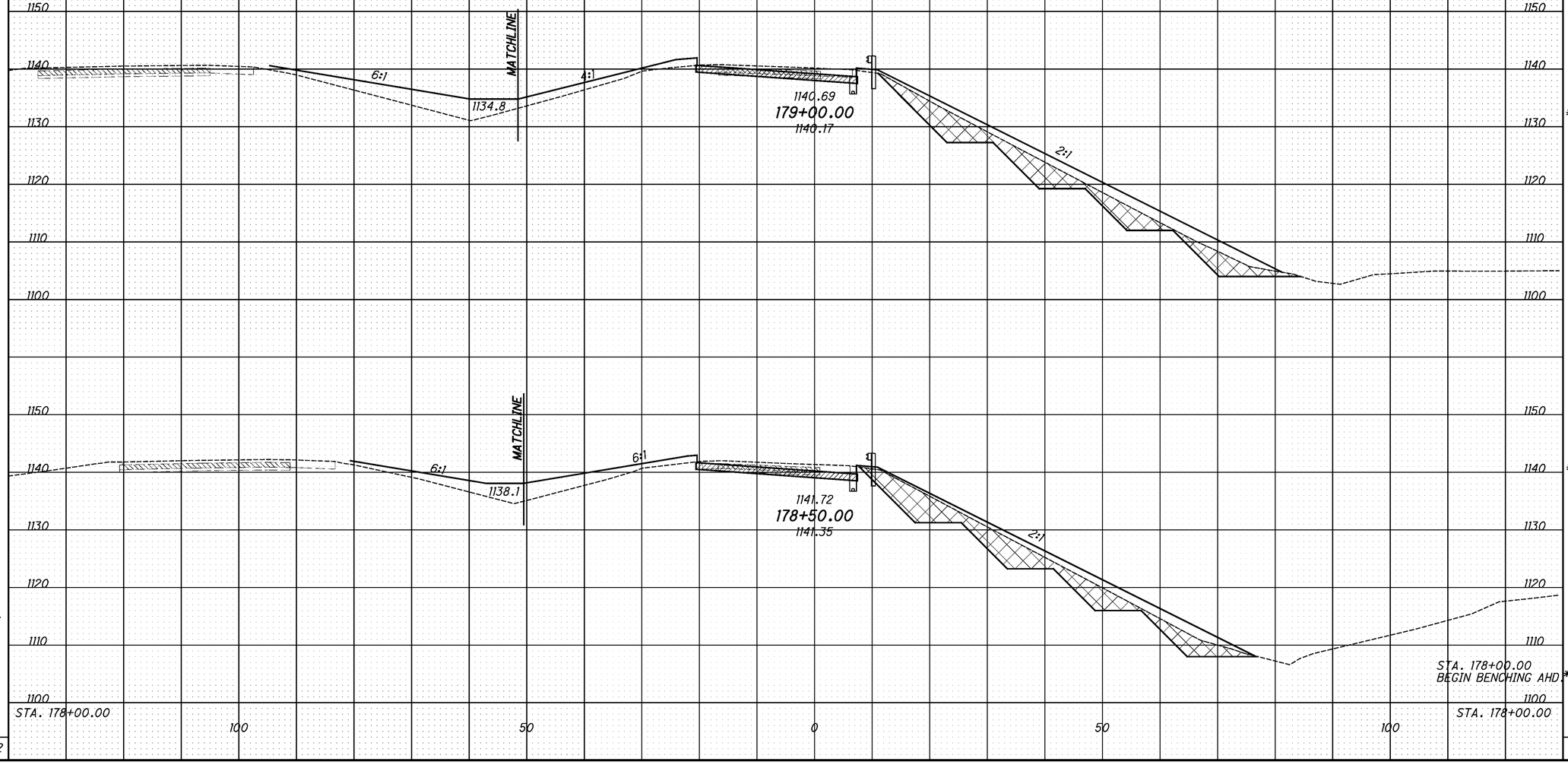
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I-77 RAMP B

℄ CONST. RAMP B

LEGEND

- CONCRETE TO BE REMOVED UNDER ITEM 202 - PAVEMENT REMOVED (TYP.)
- ITEM 206 - CEMENT STABILIZED SUBGRADE (SEE GENERAL NOTE)
- ITEM 615 - ROADS FOR MAINTAINING TRAFFIC (EARTHWORK)
- ITEM 203 - SPECIAL BENCHING



SEEDING END WIDTH	SEEDING SQ. YDS.
118	637
111	395
31	1032

END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
20 *189	141 *189	42 *360	247 *360
25 *199	125 *199	46 *185	139 *185
* 0	*0	88 *545	386 *545
25	25		

CALCULATED JDL
CHECKED PRS

CROSS SECTIONS
STA. 178+50.00 TO STA. 179+00.00

SUM-271-2.33

586
1195

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CROSS SECTIONS

STA. 179+50.00 TO STA. 180+00.00

SUM-271-2.33

587
1195

CALCULATED JDL
CHECKED PRS

I-77 RAMP B

℄ CONST. RAMP B

LEGEND

- CONCRETE TO BE REMOVED UNDER ITEM 202 - PAVEMENT REMOVED (TYP.)
- ITEM 206 - CEMENT STABILIZED SUBGRADE (SEE GENERAL NOTE)
- ITEM 615 - ROADS FOR MAINTAINING TRAFFIC (EARTHWORK)
- ITEM 203 - SPECIAL BENCHING

SEEDING END WIDTH	SEEDING SQ. YDS.	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
118	714	15 *219	125 *219	30 *449	245 *449
139	714	18 *265	139 *265	35 *421	260 *421
118	1428	20 *189	141 *189	65 *870	505 *870

STA. 179+00.00 — 100 — 50 — 0 — 50 — 100 — STA. 179+00.00

MATCHLINE

6:1 — 4:1 — 2:1

1128.6 — 1131.5 — 1138.87 — 1139.77

180+00.00 — 1138.24

179+50.00 — 1139.15

1150 — 1140 — 1130 — 1120 — 1110 — 1100 — 1090

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SEEDING	
END WIDTH	SQ. YDS.
90	523
98	600
118	1123

100 50 0 ℄ CONST. RAMP B 50 100

I-77 RAMP B

LEGEND

- CONCRETE TO BE REMOVED UNDER ITEM 202 - PAVEMENT REMOVED (TYP.)
- ITEM 206 - CEMENT STABILIZED SUBGRADE (SEE GENERAL NOTE)
- ITEM 615 - ROADS FOR MAINTAINING TRAFFIC (EARTHWORK)
- ITEM 203 - SPECIAL BENCHING

1150 1140 1130 1120 1110 1100 1090 1080

6:1 1122.8 4:1 1137.07 181+00.00 1136.08 2:1 EX R/W Fee LA

STA. 181+00.00 END BENCHING BK.

MATCHLINE

1124.0 4:1 1137.97 180+50.00 1137.12 2:1 EX R/W Fee LA

STA. 180+00.00

END AREA		VOLUME	
CUT	FILL	CUT	FILL
13	100		
*0	*0	23	204
12	120	*65	*65
*70	*70		
15	125	25	227
*219	*219	*268	*268
		48	431
		*333	*333

CALCULATED JDL

CHECKED PRS

CROSS SECTIONS

STA. 180+50.00 TO STA. 181+00.00

SUM-271-2.33

588
1195

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SEEDING	
END WIDTH	SQ. YDS.
99	542
96	523
92	506
90	
	1571

END AREA	
CUT	FILL
5	75
8	101
12	90
13	100

VOLUME	
CUT	FILL
12	163
18	176
23	176
53	515

CALCULATED JDL
CHECKED PRS

CROSS SECTIONS
STA. 181+50.00 TO STA. 182+50.00

I-77 RAMP B

℄ CONST. RAMP B

LEGEND

- CONCRETE TO BE REMOVED UNDER ITEM 202 - PAVEMENT REMOVED (TYP.)
- ITEM 206 - CEMENT STABILIZED SUBGRADE (SEE GENERAL NOTE)
- ITEM 615 - ROADS FOR MAINTAINING TRAFFIC (EARTHWORK)
- ITEM 203 - SPECIAL BENCHING

100 50 0 50 100

1150 1140 1130 1120 1110

EX R/W Fee LA

6:1 4:1 3:1

1118.2

1134.37
182+50.00
1132.98

1119.6

1135.27
182+00.00
1134.02

1120.9

1136.17
181+50.00
1135.07

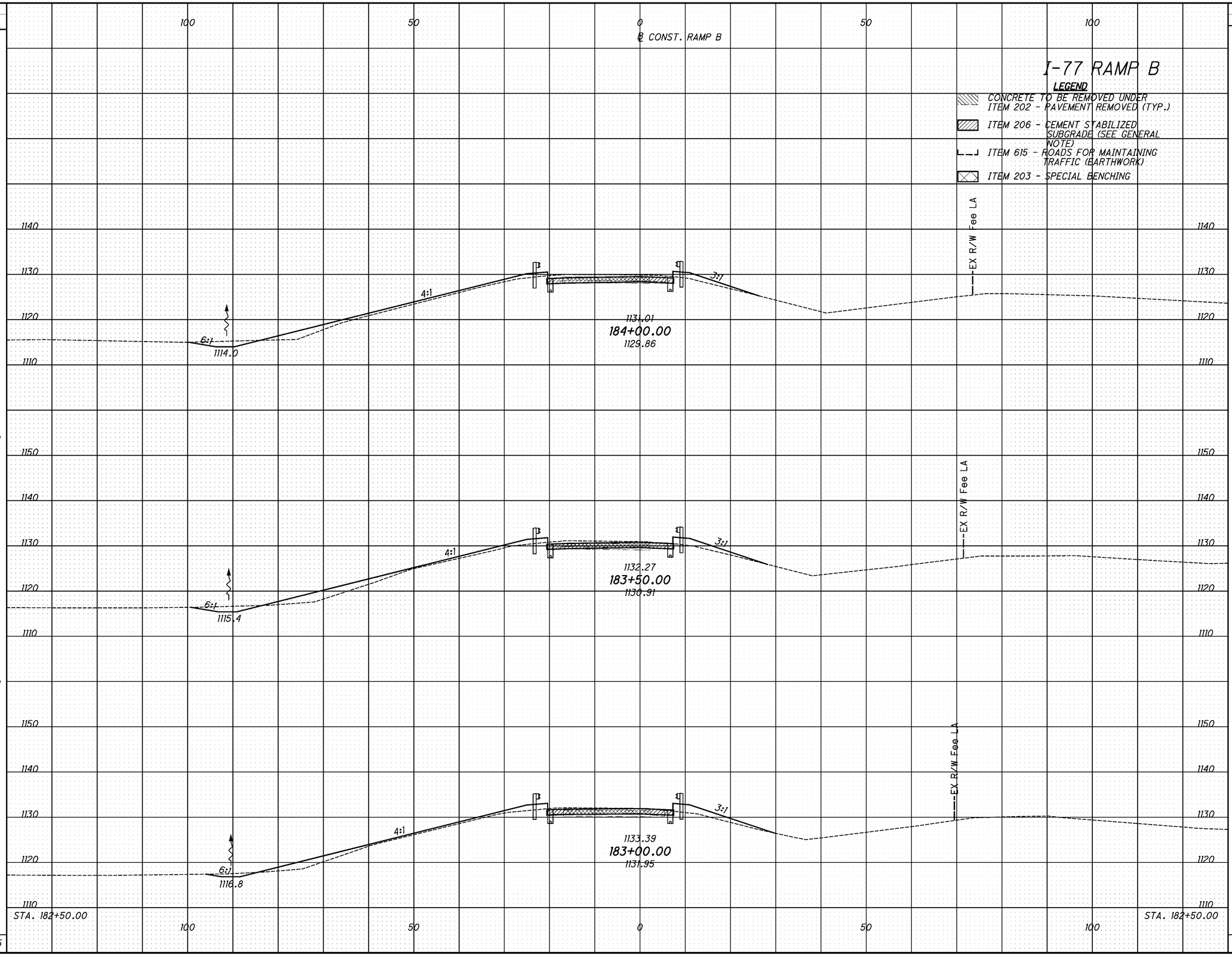
STA. 181+00.00

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SUM-271-2.33

589
1195

SEEDING END WIDTH	SEEDING SQ. YDS.
105	589
107	589
105	567
99	
	1745



END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
27	60	44	125
21	75	28	133
10	68	14	133
5	75	86	391

CALCULATED JDL
CHECKED PRS

CROSS SECTIONS
STA. 183+00.00 TO STA. 184+00.00

SUM-271-2.33

590
1195

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SEEDING	
END WIDTH	SQ. YDS.
22	
	113
53	
	314
60	
	459
105	
	886

100 50 0 50 100

℄ CONST. RAMP B

I-77 RAMP B

LEGEND

- CONCRETE TO BE REMOVED UNDER ITEM 202 - PAVEMENT REMOVED (TYP.)
- ITEM 206 - CEMENT STABILIZED SUBGRADE (SEE GENERAL NOTE)
- ITEM 615 - ROADS FOR MAINTAINING TRAFFIC (EARTHWORK)
- ITEM 203 - SPECIAL BENCHING

1140 1130 1120 1110 1100

2:1 2:1 2:1 2:1

1127.13
185+27.09
1126.43
SKEW LF
END NORMAL PAV'T. BUILD-UP
BEGIN PRJ CONC. PAV'T.

1110.1

STA. 185+27.09

4:1 3:1 6:1

1128.04
185+00.00
1127.22

1111.7

EX R/W Fee LA

1129.60
184+50.00
1128.66

1112.6

STA. 185+50.00
SUSPEND EARTHWORK

STA. 184+00.00

100 50 0 50 100

STA. 184+00.00

END AREA		VOLUME	
CUT	FILL	CUT	FILL
33	10		
		35	14
36	17		
		70	32
40	18		
		62	72
27	60		
		167	118

CALCULATED JDL
CHECKED PRS

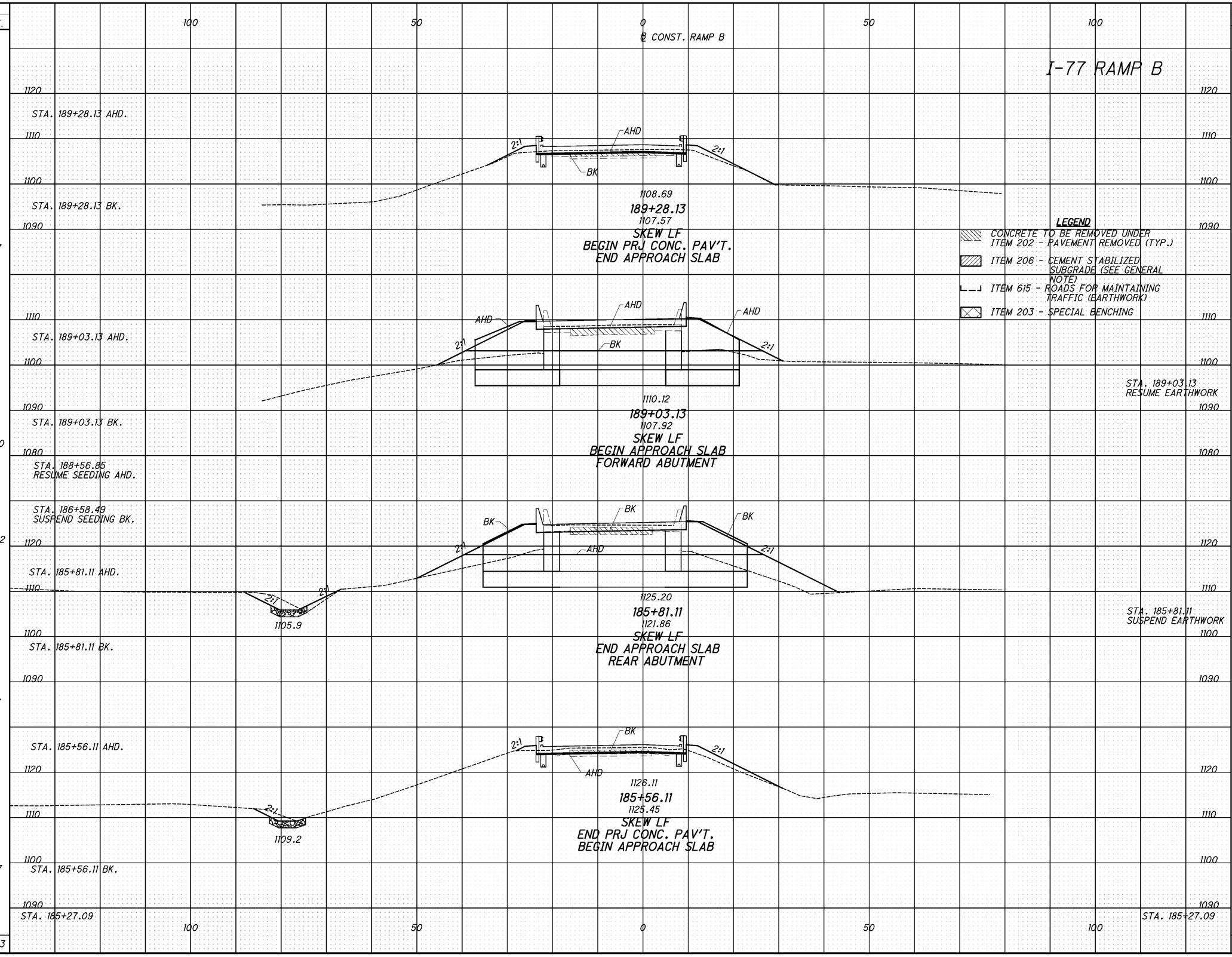
CROSS SECTIONS
STA. 184+50.00 TO STA. 185+27.09

SUM-271-2.33

591
1195

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SEEDING END WIDTH	SEEDING SQ. YDS.	
39		STA. 189+28.13 AHD.
39	127	STA. 189+28.13 BK.
52		STA. 189+03.13 AHD.
71	280	STA. 189+03.13 BK.
38		STA. 188+56.85 RESUME SEEDING AHD.
34	452	STA. 186+58.49 SUSPEND SEEDING BK.
71		STA. 185+81.11 AHD.
97	187	STA. 185+81.11 BK.
37		STA. 185+56.11 AHD.
38	97	STA. 185+56.11 BK.
22		STA. 185+27.09
	1143	



END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
13	18		
		6	22
1	29		
0	98		
		0	56
0	24		
		18	18
33	10		
		24	96

CALCULATED JDL
CHECKED PRS

CROSS SECTIONS
STA. 185+56.11 TO STA. 189+28.13

SUM-271-2.33

592
1195

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SEEDING	
END WIDTH	SQ. YDS.
71	312
41	222
52	147
39	681

END AREA	
CUT	FILL
20 *46	47 *46
12 *69	29 *69
*0	*0
13	10
13	18

VOLUME	
CUT	FILL
30 *107	70 *107
*64	*64
20	41
14	15
64 *171	126 *171

CALCULATED JDL
CHECKED PRS

CROSS SECTIONS
STA. 189+57.15 TO STA. 190+50.00

SUM-271-2.33

593
1195

100 50 0 50 100

℄ CONST. RAMP B

I-77 RAMP B

LEGEND

- CONCRETE TO BE REMOVED UNDER ITEM 202 - PAVEMENT REMOVED (TYP.)
- ITEM 206 - CEMENT STABILIZED SUBGRADE (SEE GENERAL NOTE)
- ITEM 615 - ROADS FOR MAINTAINING TRAFFIC (EARTHWORK)
- ITEM 203 - SPECIAL BENCHING

1110 1100 1090 1080 1070

3:1 2:1

1101.52
190+50.00
1100.70

EX R/W Fee LA

STA. 189+65.29, 22.00' LT.
CB NO 3A
GRATE EL. 1105.84
℄ 15" (W) 1100.91
℄ 15" (N) 1100.84

STA. 189+65.29, 47.00' LT.
HW-2.1 OR 2.2 HDWL
℄ 15" 1096.00

3:1 2:1

35'-15" TYPE C
@ 19.36%

1104.47
190+00.00
1103.33

4' WIDEx5' LONG ROCK CHANNEL PROTECTION, TYPE C, WITH FABRIC FILTER (T=18")

STA. 189+50.00
BEGIN BENCHING AHD.

STA. 189+46.54, 22.00' LT.
CB NO 3A
GRATE EL. 1107.03
℄ 6" 1102.92
℄ 15" 1102.03

2:1 2:1

1106.99
189+57.15
1105.81

SKEW LF
END PRJ CONC. PAV'T.
BEGIN NORMAL PAV'T BUILD-UP

STA. 189+28.13 AHD.

100 50 0 50 100

STA. 189+28.13

F:\2009\109094\18710\roadway\sheets\18710XS702.dgn 3/22/2013 9:43:42 AM CraigBanghart

CROSS SECTIONS
STA. 191+00.00 TO STA. 192+00.00

CALCULATED JDL
CHECKED PRS

I-77 RAMP B

℄ CONST. RAMP B

LEGEND
- CONCRETE TO BE REMOVED UNDER ITEM 202 - PAVEMENT REMOVED (TYP.)
- ITEM 206 - CEMENT STABILIZED SUBGRADE (SEE GENERAL NOTE)
- ITEM 615 - ROADS FOR MAINTAINING TRAFFIC (EARTHWORK)
- ITEM 203 - SPECIAL BENCHING

SEEDING END WIDTH	SEEDING SQ. YDS.	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
62	309	28 *95	28 *95	54 *161	40 *161
49	284	30 *78	15 *78	49 *105	39 *105
53	345	23 *35	27 *35	39 *75	69 *75
71	938	20 *46	47 *46	142 *341	148 *341

STA. 190+50.00 … 100 … 50 … 0 … 50 … 100 … STA. 190+50.00

1100 / 1090 / 1080 / 1070 / 1060 / 1110

6:1 — 2:1 — 1092.67 — 192+00.00 — 1092.07 — EX R/W Fee LA

4:1 — 2:1 — 1095.62 — 191+50.00 — 1095.06 — EX R/W Fee LA

4:1 — 2:1 — 1098.57 — 191+00.00 — 1097.85 — EX R/W Fee LA

SUM-271-2.33

594
1195

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SEEDING END WIDTH	SEEDING SQ. YDS.
20	164
39	237
46	300
62	701

I-77 RAMP B

LEGEND

- CONCRETE TO BE REMOVED UNDER ITEM 202 - PAVEMENT REMOVED (TYP.)
- ITEM 206 - CEMENT STABILIZED SUBGRADE (SEE GENERAL NOTE)
- ITEM 615 - ROADS FOR MAINTAINING TRAFFIC (EARTHWORK)
- ITEM 203 - SPECIAL BENCHING

℄ CONST. RAMP B

100 50 0 50 100

1090 1080 1070 1060 1050 1100

EX R/W Fee LA

6:1 2:1

1083.82
193+50.00
1083.42

STA. 193+50.00
END BENCHING BK.

1086.77
193+00.00
1086.27

4:1

1089.72
192+50.00
1089.13

STA. 192+00.00

END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
33	3		
* 0	*0	59 *54	14 *54
31 *58	12 *58	53 *113	42 *113
27 *64	33 *64	51 *148	56 *148
28 *95	28 *95	163 *315	112 *315

CALCULATED JDL
CHECKED PRS

CROSS SECTIONS
STA. 192+50.00 TO STA. 193+50.00

SUM-271-2.33

595
1195

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SEEDING	
END WIDTH	SQ. YDS.
23	
15	106
20	98
	204

END AREA	
CUT	FILL
43	0
40	0
33	3

VOLUME	
CUT	FILL
77	0
68	3
145	3

CALCULATED JDL
CHECKED PRS

CROSS SECTIONS
STA. 194+00.00 TO STA. 194+50.00

SUM-271-2.33

596
1195

I-77 RAMP B

℄ CONST. RAMP B

LEGEND

- CONCRETE TO BE REMOVED UNDER ITEM 202 - PAVEMENT REMOVED (TYP.)
- ITEM 206 - CEMENT STABILIZED SUBGRADE (SEE GENERAL NOTE)
- ITEM 615 - ROADS FOR MAINTAINING TRAFFIC (EARTHWORK)
- ITEM 203 - SPECIAL BENCHING

100 50 0 50 100

1090 1080 1070 1060 1050 1040 1030

4:1 6:1

1078.03
194+50.00
1077.84

EX R/W Fee LA

1080.87
194+00.00
1080.65

EX R/W Fee LA

STA. 193+50.00 STA. 193+50.00

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SEEDING END WIDTH	SEEDING SQ. YDS.
46	170
15	106
23	276

100 50 0 ℄ CONST. RAMP B 50 100

I-77 RAMP B

LEGEND

- CONCRETE TO BE REMOVED UNDER ITEM 202 - PAVEMENT REMOVED (TYP.)
- ITEM 206 - CEMENT STABILIZED SUBGRADE (SEE GENERAL NOTE)
- ITEM 615 - ROADS FOR MAINTAINING TRAFFIC (EARTHWORK)
- ITEM 203 - SPECIAL BENCHING

1080 1070 1060 1050 1040 1030 1020 1090

4:1 4:1

1066.2

1073.02
195+50.00
1072.35

EX R/W Fee LA

4:1 6:1

1075.42
195+00.00
1074.98

EX R/W Fee LA

STA. 194+50.00 STA. 194+50.00

100 50 0 50 100

END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
25	13	54	14
33	2	71	2
43	0	125	16

CALCULATED JDL
CHECKED PRS

CROSS SECTIONS
STA. 195+00.00 TO STA. 195+50.00

SUM-271-2.33

597
1195

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I-77 RAMP B

℄ CONST. RAMP B

LEGEND

- CONCRETE TO BE REMOVED UNDER ITEM 202 - PAVEMENT REMOVED (TYP.)
- ITEM 206 - CEMENT STABILIZED SUBGRADE (SEE GENERAL NOTE)
- ITEM 615 - ROADS FOR MAINTAINING TRAFFIC (EARTHWORK)
- ITEM 203 - SPECIAL BENCHING

RIPRAP USING 6" REINFORCED CONCRETE SLAB WITH 3-SIDED CUTOFF WALL

AHEAD

BACK

MATCHLINE CULVERT STA. 9+25

STA. 196+64.00, 61.00' LT.
HW-2.2 HDWL
℄ 42" 1051.29

1051.5

3:1

2:1

1068.89
196+50.00
1067.69

96'-48" TYPE A, @ 0.50%

EX. 36" CMP

RIPRAP USING 6" REINFORCED CONCRETE SLAB

STA. 196+74.36, 66.73' LT.
EX. HDWL
℄ 36" 1041.26

STA. 196+68.50, 81.50' RT.
HW-2.1 OR 2.2 HDWL
℄ 48" 1032.02

STA. 196+75.35, 73.85' RT.
EX. HDWL
℄ 36" 1032.15

EX R/W Fee LA

1070.85
196+00.00
1069.81

1058.7

STA. 195+50.00

STA. 195+50.00

SEEDING END WIDTH	SEEDING SQ. YDS.	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
74	362	12	175	28	189
56	284	18	30	40	40
46	646	25	13	68	229

CALCULATED JDL
CHECKED PRS

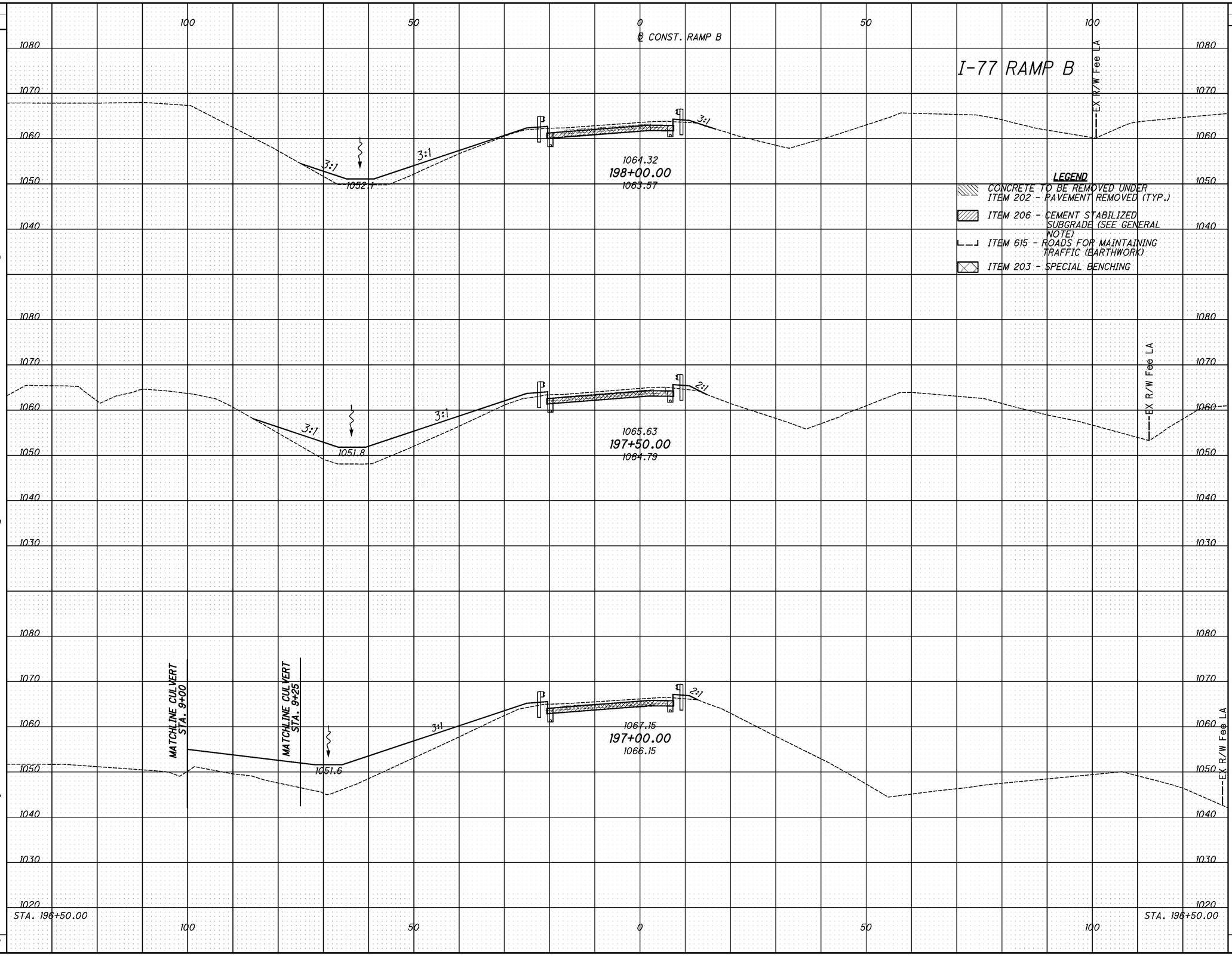
CROSS SECTIONS
STA. 196+00.00 TO STA. 196+50.00

SUM-271-2.33

598
1195

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SEEDING END WIDTH	SEEDING SQ. YDS.
71	420
80	409
67	392
74	
	1221



END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
23	59		
19	161		
		39	204
18	190		
12	175		
		34	325
		27	337
		100	866

CALCULATED JDL
CHECKED PRS

CROSS SECTIONS
STA. 197+00.00 TO STA. 198+00.00

SUM-271-2.33

599
1195

F:\2009\109094\18710\roadway\sheets\18710XS702.dgn 3/22/2013 9:51:32 AM CraigBanghart

SEEDING	
END WIDTH	SQ. YDS.
49	275
50	387
89	445
71	
	1107

100 50 0 ℄ CONST. RAMP B 50 100

I-77 RAMP B

EX R/W Fee LA

1090 1080 1070 1060 1050 1040

2:1 3:1 6:1

1053.30

1061.72

199+50.00

1061.43

LEGEND

CONCRETE TO BE REMOVED UNDER ITEM 202 - PAVEMENT REMOVED (TYP.)

ITEM 206 - CEMENT STABILIZED SUBGRADE (SEE GENERAL NOTE)

ITEM 615 - ROADS FOR MAINTAINING TRAFFIC (EARTHWORK)

ITEM 203 - SPECIAL BENCHING

EX R/W Fee LA

2:1 3:1 8:1

1052.80

1062.37

199+00.00

1062.03

EX R/W Fee LA

3:1 3:1 4:1

1052.35

1063.24

198+50.00

1062.58

EX R/W Fee LA

STA. 198+00.00 100 50 0 50 100 STA. 198+00.00

END AREA		VOLUME	
CUT	FILL	CUT	FILL
61	1	92	13
38	13	59	72
25	65	44	115
23	59	195	200

CALCULATED JDL

CHECKED PRS

CROSS SECTIONS

STA. 198+50.00 TO STA. 199+50.00

SUM-271-2.33

600
1195

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SEEDING	
END WIDTH	SQ. YDS.
31	245
57	295
49	540

100 50 0 50 100

℄ CONST. RAMP B

I-77 RAMP B

LEGEND

- CONCRETE TO BE REMOVED UNDER ITEM 202 - PAVEMENT REMOVED (TYP.)
- ITEM 206 - CEMENT STABILIZED SUBGRADE (SEE GENERAL NOTE)
- ITEM 615 - ROADS FOR MAINTAINING TRAFFIC (EARTHWORK)
- ITEM 203 - SPECIAL BENCHING

1100 1090 1080 1070 1060 1050 1040

EX R/W Fee LA

2:1 3:1

1058.5

1061.08

200+50.00

1061.21

STA. 200+30.00, 44.00' LT.
HW-2.1 OR 2.2
℄ 30" 1054.00

STA. 200+34.24, 39.47' LT.
EX. HDWL (REMOVE)
℄ 24" 1054.39

EX R/W Fee LA

2:1 3:1

1053.80

1061.29

200+00.00

1061.22

STA. 199+50.00 STA. 199+50.00

100 50 0 50 100

END AREA		VOLUME	
CUT	FILL	CUT	FILL
62	0		
		141	0
90	0		
		140	1
61	1		
		281	1

CALCULATED JDL
CHECKED PRS

CROSS SECTIONS
STA. 200+00.00 TO STA. 200+50.00

SUM-271-2.33

601
1195

F:\2009\109094\18710\roadway\sheets\18710XS702.dgn 3/22/2013 9:53:42 AM CraigBangHart

SEEDING	
END WIDTH	SQ. YDS.
36	209
39	195
31	
	404

END AREA		VOLUME	
CUT	FILL	CUT	FILL
112	0		
		211	0
116	0		
		165	0
62	0		
		376	0

CALCULATED JDL
CHECKED PRS

CROSS SECTIONS
STA. 201+00.00 TO STA. 201+50.00

SUM-271-2.33

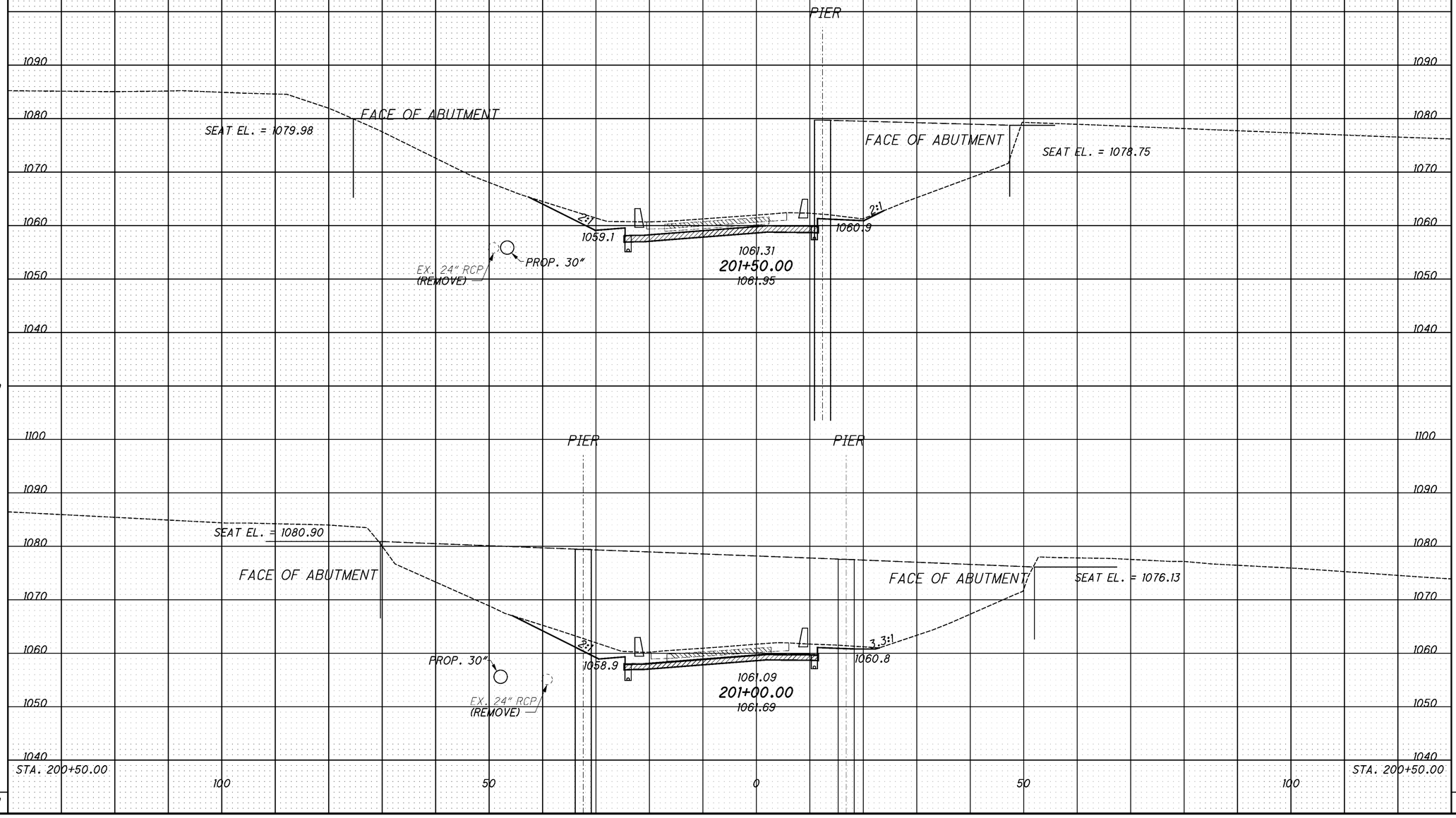
602
1195

I-77 RAMP B

℄ CONST. RAMP B

LEGEND

- CONCRETE TO BE REMOVED UNDER ITEM 202 - PAVEMENT REMOVED (TYP.)
- ITEM 206 - CEMENT STABILIZED SUBGRADE (SEE GENERAL NOTE)
- ITEM 615 - ROADS FOR MAINTAINING TRAFFIC (EARTHWORK)
- ITEM 203 - SPECIAL BENCHING



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SEEDING	
END WIDTH	SQ. YDS.
53	273
45	225
36	
	498

END AREA		VOLUME	
CUT	FILL	CUT	FILL
115	0		
		212	0
114	0		
		209	0
112	0		
		421	0

CALCULATED JDL
CHECKED PRS

I-77 RAMP B

℄ CONST. RAMP B

100 50 0 50 100

LEGEND

- CONCRETE TO BE REMOVED UNDER ITEM 202 - PAVEMENT REMOVED (TYP.)
- ITEM 206 - CEMENT STABILIZED SUBGRADE (SEE GENERAL NOTE)
- ITEM 615 - ROADS FOR MAINTAINING TRAFFIC (EARTHWORK)
- ITEM 203 - SPECIAL BENCHING

1100 1090 1080 1070 1060 1050 1040

PIER PIER

SEAT EL. = 1084.04

FACE OF ABUTMENT

2:1

SEAT EL. = 1079.93

FACE OF ABUTMENT

2:1 2:1

PROP. 30"

EX. 24" RCP (REMOVE)

1059.9

1061.3

1061.96
202+50.00
1062.44

STA. 198+00.00, ℄
℄ CONST. IR 271
CB NO 4
FOR DETAILS SEE SHEET 391

STA. 198+72.71, 8.3' RT.
MH NO 3
COVER EL. 1065.50
℄ 15" 1055.95
℄ 30" 1054.70

STA. 198+72.71, 8.32' RT.
℄ CONST. IR 271
EX. MH (REMOVE)
COVER EL. 1065.51
℄ 12" 1056.20
℄ 24" (N) 1055.10
℄ 24" (S) 1055.00

PROP. 15" @ 35.05%

10'-15" @ 2.00%

2:1 2:1

1059.5

1061.2

1061.63
202+00.00
1062.25

STA. 198+60, 7.5' RT.
℄ CONST. IR 271
30° BEND
℄ 15" (W & E) 1056.15

STA. 201+50.00 STA. 201+50.00

100 50 0 50 100

CROSS SECTIONS
STA. 202+00.00 TO STA. 202+50.00

SUM-271-2.33

603
1195

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I-77 RAMP B

℄ CONST. RAMP B

LEGEND

- CONCRETE TO BE REMOVED UNDER ITEM 202 - PAVEMENT REMOVED (TYP.)
- ITEM 206 - CEMENT STABILIZED SUBGRADE (SEE GENERAL NOTE)
- ITEM 615 - ROADS FOR MAINTAINING TRAFFIC (EARTHWORK)
- ITEM 203 - SPECIAL BENCHING

EX R/W Fee LA

6:1 8:1 1059.6 — 1062.61 — 203+50.00 — 1063.12 — 6:1 2:1 1061.3

STA. 203+03.55, 35.56' LT.
EX. CB (REMOVE)
GRATE EL. 1059.47
℄ 18" 1056.38
℄ 24" 1055.92

2:1 8:1 1059.3

STA. 203+03.55, 35.56' LT.
CB NO 5
GRATE EL. 1059.01
℄ 6" 1056.38
℄ 18" 1056.38
℄ 30" 1055.38

58'-18" TYPE B @ 2.0%

1062.29 — 203+00.00 — 1062.71

"EX. 12" RCP" (REMOVE)

8.3:1 2:1 1060.8

STA. 202+98.20, 22.53' RT.
EX. CB (REMOVE)
GRATE EL. 1061.06
℄ 18" 1058.38

STA. 202+98.20, 22.53' RT.
CB NO 5
GRATE EL. 1060.59
℄ 18" 1057.54

EX R/W Fee LA

STA. 202+50.00 — STA. 202+50.00

SEEDING END WIDTH	SEEDING SQ. YDS.	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
44		85	0		
				185	0
	345				
80		114	0		
	370			213	0
53		115	0		
	715			398	0

CALCULATED JDL
CHECKED PRS

CROSS SECTIONS
STA. 203+00.00 TO STA. 203+50.00

SUM-271-2.33

604
1195

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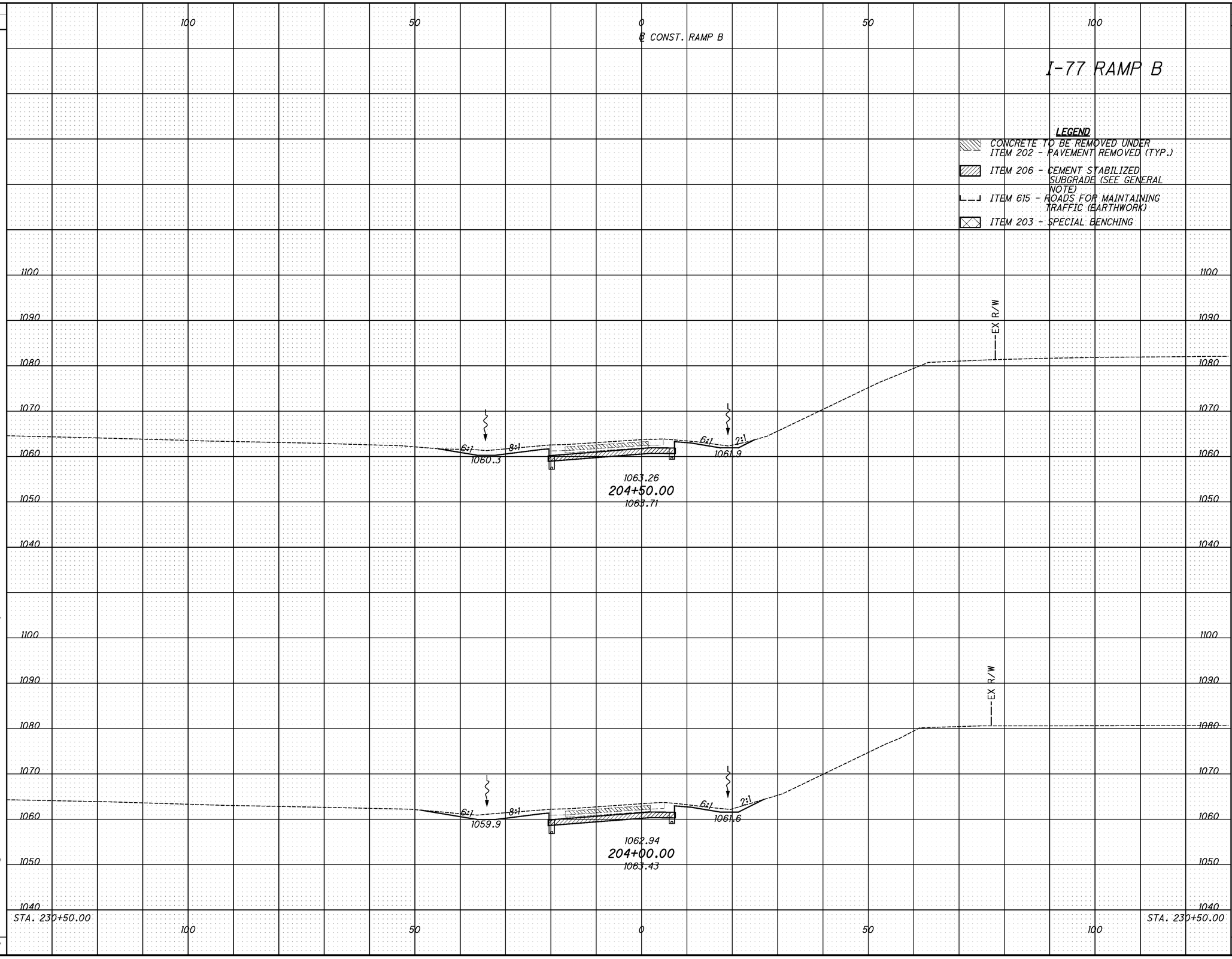
SEEDING			END AREA		VOLUME	
STA.	END WIDTH	SQ. YDS.	CUT	FILL	CUT	FILL
230+50.00						
231+00.00	44	548	85	0	329	0
231+50.00	53	270	92	0	164	0
232+00.00	47	278	86	0	165	0
232+50.00						

CALCULATED JDL
CHECKED PRS

CROSS SECTIONS
STA. 204+50.00 TO STA. 232+50.00

SUM-271-2.33

605
1195



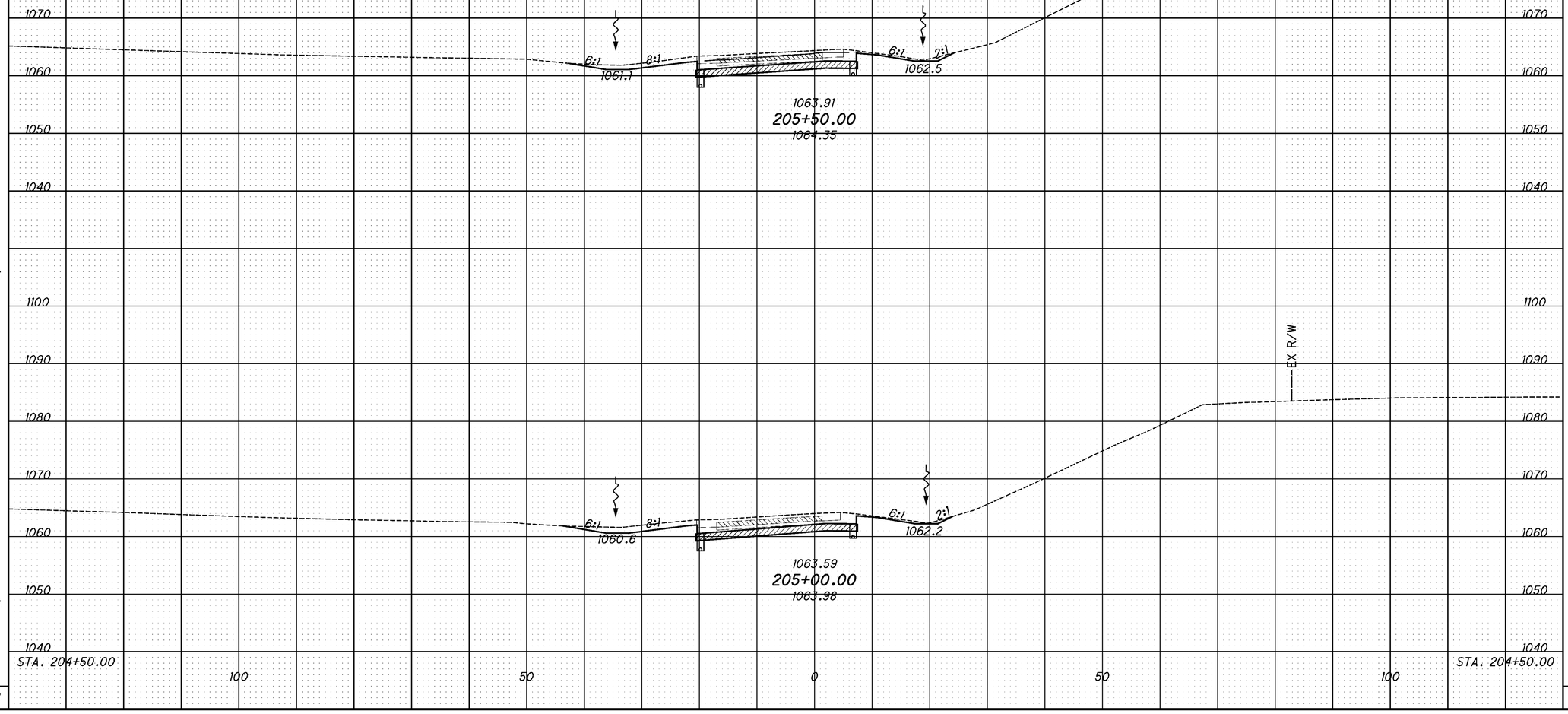
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I-77 RAMP B

℄ CONST. RAMP B

LEGEND

- CONCRETE TO BE REMOVED UNDER ITEM 202 - PAVEMENT REMOVED (TYP.)
- ITEM 206 - CEMENT STABILIZED SUBGRADE (SEE GENERAL NOTE)
- ITEM 615 - ROADS FOR MAINTAINING TRAFFIC (EARTHWORK)
- ITEM 203 - SPECIAL BENCHING



SEEDING END WIDTH	SEEDING SQ. YDS.	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
44	245	80	0	148	0
44	253	80	0	154	0
47	498	86	0	302	0

CALCULATED JDL
CHECKED PRS

CROSS SECTIONS
205+00.00 TO STA. 205+50.00

SUM-271-2.33

606
1195

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CROSS SECTIONS
STA. 206+00.00 TO STA. 206+50.00

CALCULATED JDL
CHECKED PRS

I-77 RAMP B

℄ CONST. RAMP B

LEGEND

- CONCRETE TO BE REMOVED UNDER ITEM 202 - PAVEMENT REMOVED (TYP.)
- ITEM 206 - CEMENT STABILIZED SUBGRADE (SEE GENERAL NOTE)
- ITEM 615 - ROADS FOR MAINTAINING TRAFFIC (EARTHWORK)
- ITEM 203 - SPECIAL BENCHING

EX R/W

6:1 8:1 1062.1 — 1064.56 — 206+50.00 — 1065.05 — 8:1 3.8:1 1063.1

6:1 8:1 1061.6 — 1064.24 — 206+00.00 — 1064.74 — 6:1 7:1 1062.8

SEEDING END WIDTH	SEEDING SQ. YDS.	
46	253	
45	248	
44	501	

END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
77	0	142	0
76	0	144	0
80	0	286	0

SUM-271-2.33

607
1195

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SEEDING	
END WIDTH	SQ. YDS.
43	
	256
49	
	264
46	
	520

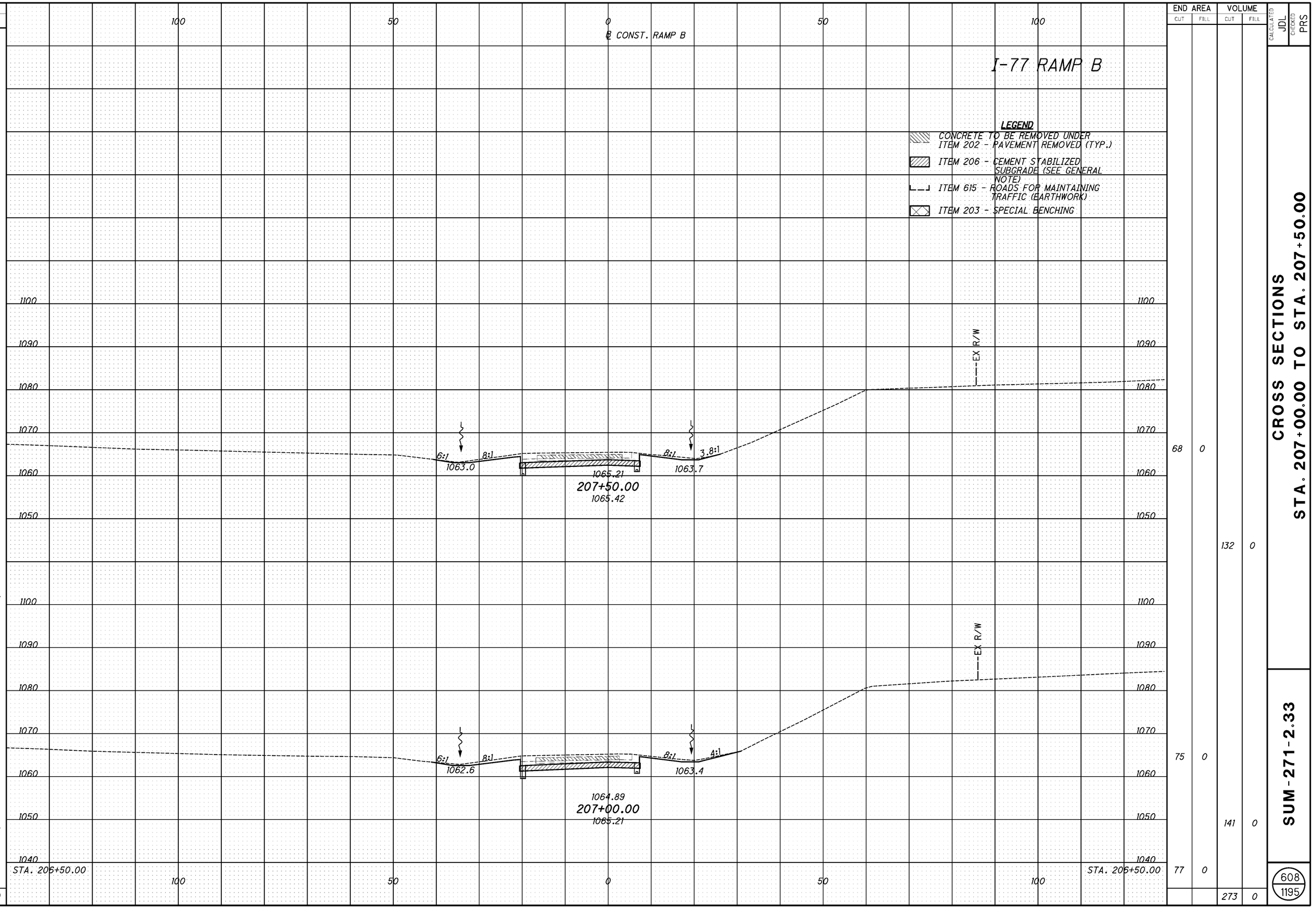
END AREA		VOLUME	
CUT	FILL	CUT	FILL
68	0		
		132	0
75	0		
		141	0
77	0		
		273	0

CALCULATED JDL
CHECKED PRS

CROSS SECTIONS
STA. 207+00.00 TO STA. 207+50.00

SUM-271-2.33

608
1195



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SEEDING END WIDTH	SEEDING SQ. YDS.	STA.
28	178	STA. 207+50.00
36	223	
44	242	
43		
	643	

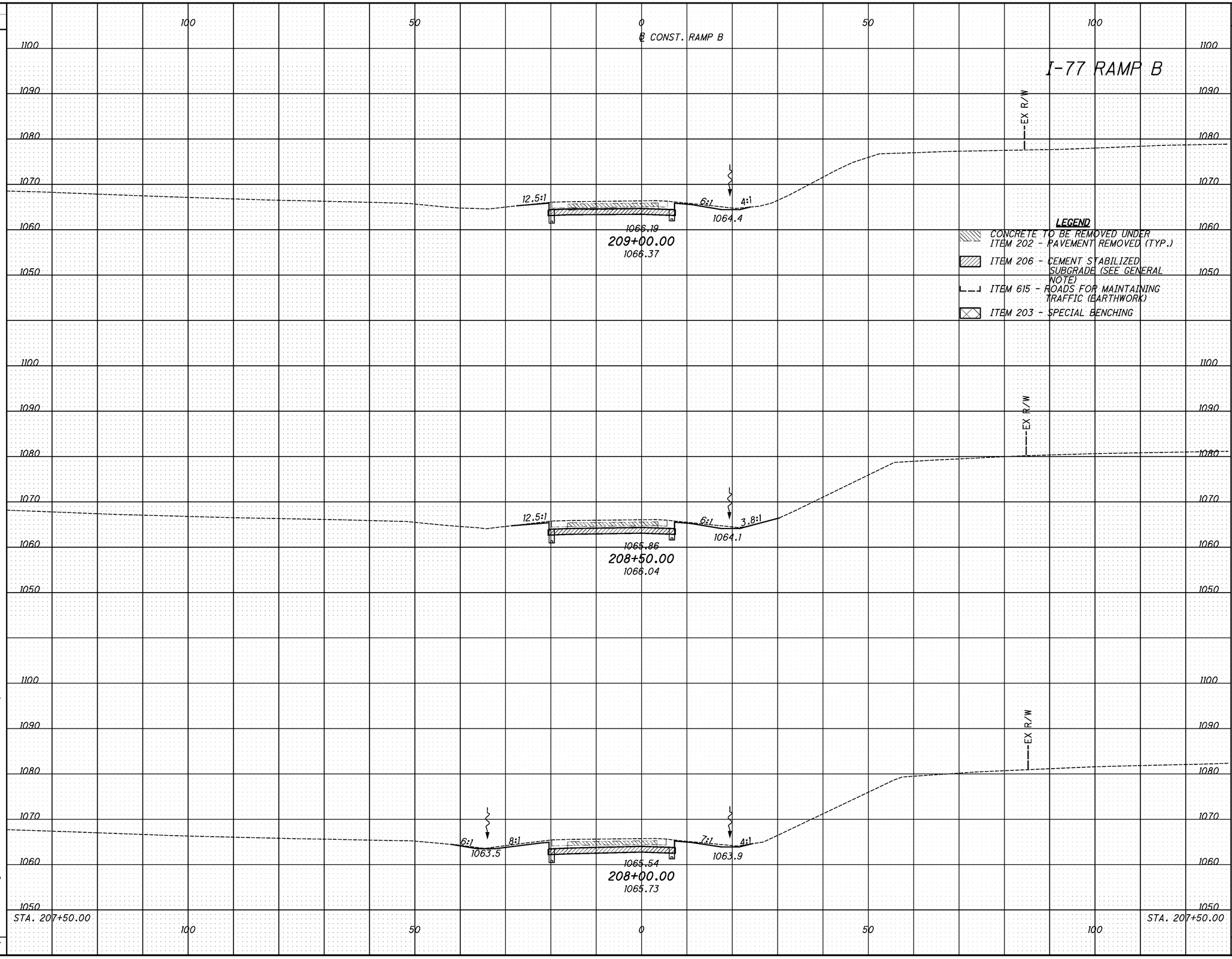
END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
53	0	100	0
55	0	109	0
62	0	121	0
68	0	330	0

CALCULATED JDL
CHECKED PRS

CROSS SECTIONS
STA. 208+00.00 TO STA. 209+00.00

SUM-271-2.33

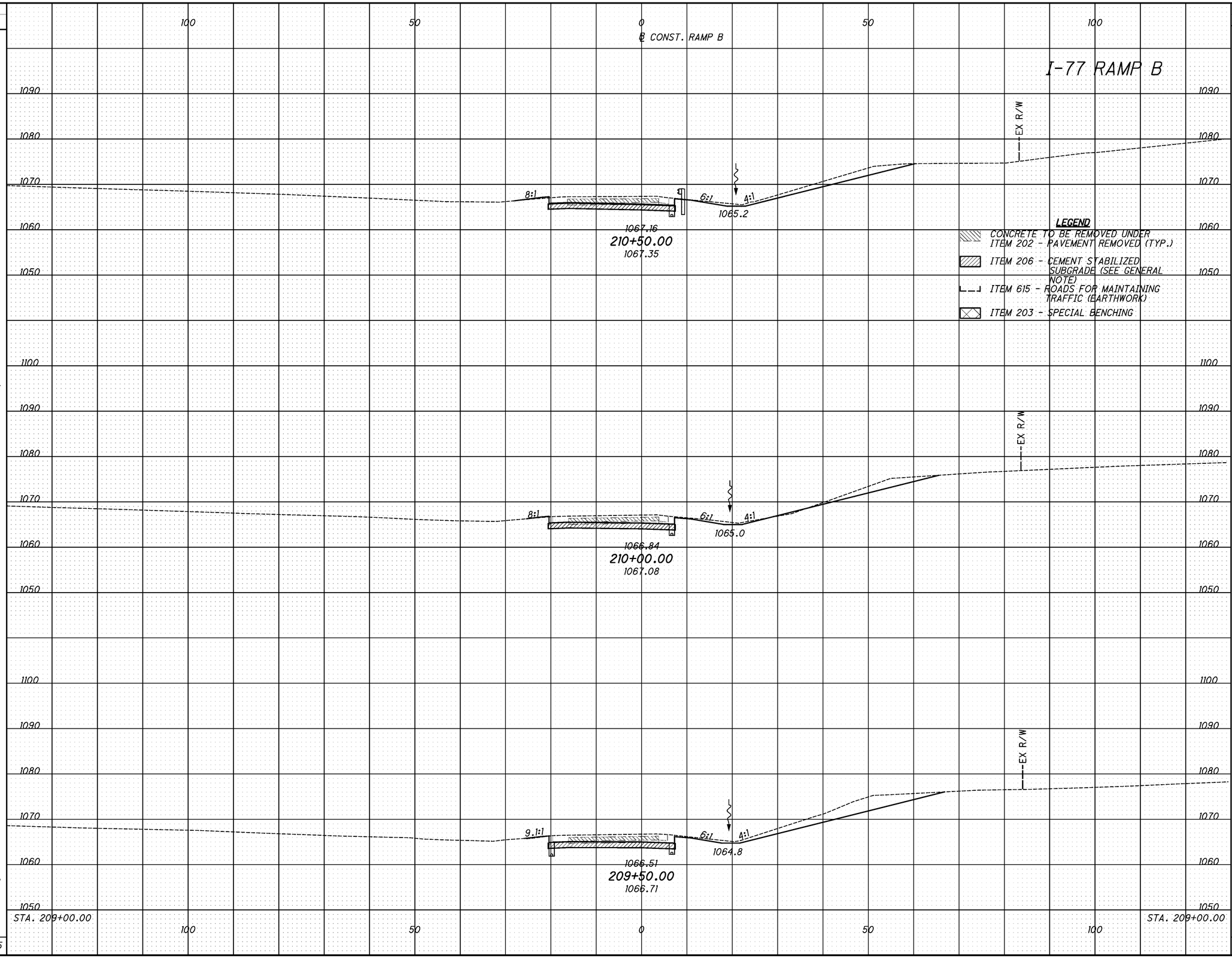
609
1195



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SEEDING END WIDTH	SEEDING SQ. YDS.	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
66	375	84	1	152	3
69	412	80	2	190	3
79	298	125	1	165	1
28	1085	53	0	507	7

CALCULATED JDL
CHECKED PRS



CROSS SECTIONS
STA. 209+50.00 TO STA. 210+50.00

SUM-271-2.33

610
1195

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I-77 RAMP B

℄ CONST. RAMP B

LEGEND

- CONCRETE TO BE REMOVED UNDER ITEM 202 - PAVEMENT REMOVED (TYP.)
- ITEM 206 - CEMENT STABILIZED SUBGRADE (SEE GENERAL NOTE)
- ITEM 615 - ROADS FOR MAINTAINING TRAFFIC (EARTHWORK)
- ITEM 203 - SPECIAL BENCHING

SEEDING END WIDTH	SEEDING SQ. YDS.	STA.	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
		212+00.00	38	4		
29	150				73	7
		211+50.00	40	4		
25	120				75	5
		211+00.00	41	2		
18	234				116	3
66		STA. 210+50.00	84	1		
	504				264	15

CALCULATED JDL

CHECKED PRS

CROSS SECTIONS
STA. 211+00.00 TO STA. 212+00.00

SUM-271-2.33

611
1195

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SEEDING END WIDTH	SEEDING SQ. YDS.
19	95
15	142
36	181
29	
	418

END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
30	5	57	7
31	2	63	5
36	3	69	6
38	4	189	18

CALCULATED JDL
CHECKED PRS

CROSS SECTIONS
STA. 212+50.00 TO STA. 213+50.00

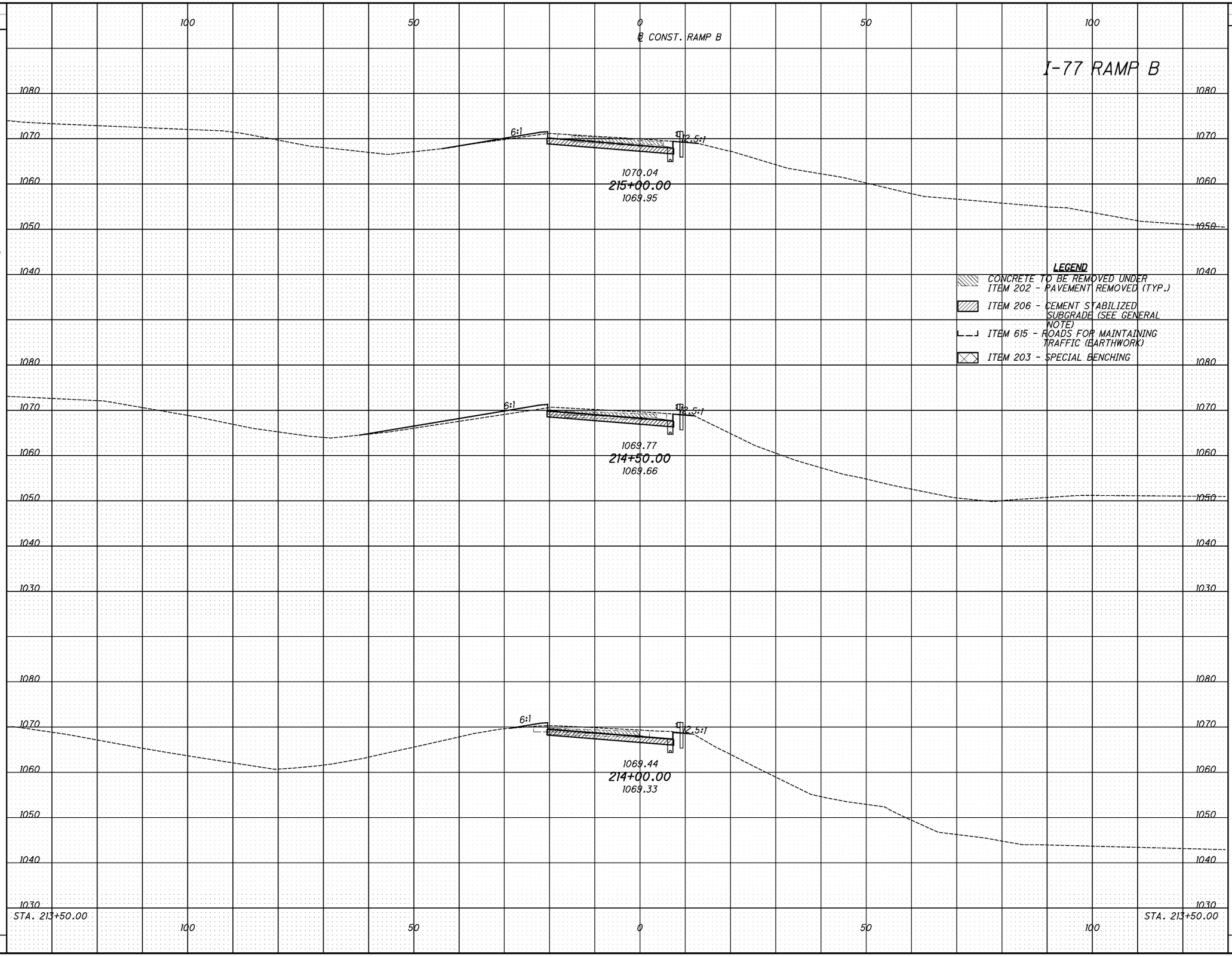
SUM-271-2.33

612
1195

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CROSS SECTIONS
STA. 214+00.00 TO STA. 215+00.00
SUM-271-2.33

CALCULATED JDL
CHECKED PRS



SEEDING END WIDTH	SEEDING SQ. YDS.	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
33	234	35	5	64	27
51		34	24		
	187			62	25
16		34	3		
	98			59	7
19		30	5		
	519			185	59

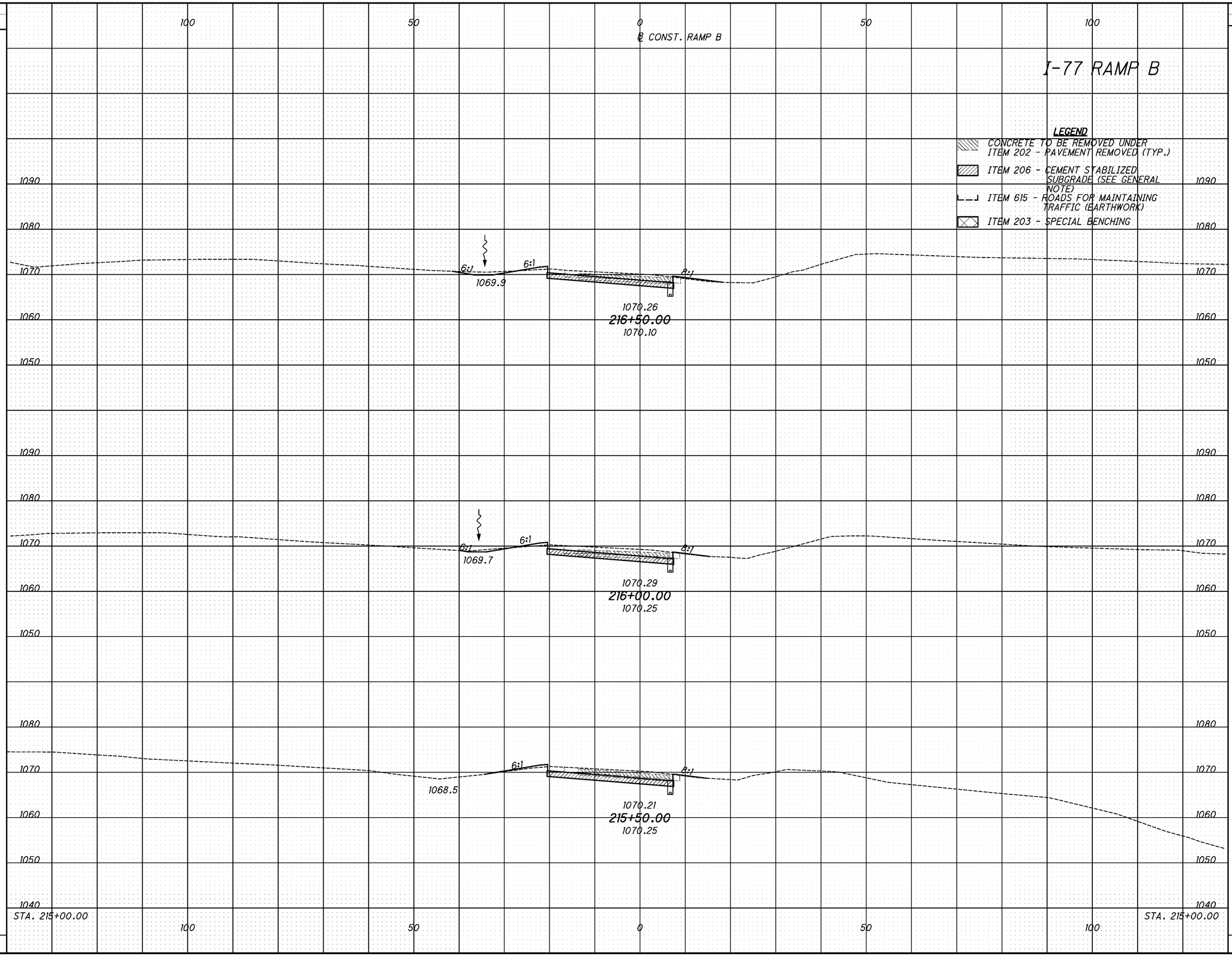
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CROSS SECTIONS
STA. 215+50.00 TO STA. 216+50.00

CALCULATED JDL
CHECKED PRS

SEEDING

END WIDTH	SQ. YDS.
36	189
32	159
25	162
33	
	510



END AREA

CUT	FILL
37	5
38	4
37	4
35	5

VOLUME

CUT	FILL
69	8
69	7
67	9
205	24

SUM-271-2.33

614
1195

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SEEDING END WIDTH	SEEDING SQ. YDS.
21	159
36	239
50	239
36	637

100 50 0 ℄ CONST. RAMP B 50 100

I-77 RAMP B

LEGEND

- CONCRETE TO BE REMOVED UNDER ITEM 202 - PAVEMENT REMOVED (TYP.)
- ITEM 206 - CEMENT STABILIZED SUBGRADE (SEE GENERAL NOTE)
- ITEM 615 - ROADS FOR MAINTAINING TRAFFIC (EARTHWORK)
- ITEM 203 - SPECIAL BENCHING

1090 1080 1070 1060 1050

8:1
1070.5
1069.62
218+00.00
1069.57

12:1 7:1
1070.3
8:1
1069.90
217+50.00
1069.71

6:1
1070.1
8:1
1070.13
217+00.00
1069.95

STA. 216+50.00 100 50 0 50 100 STA. 216+50.00

END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
38	1	72	4
39	4	76	7
43	4	74	8
37	5	222	19

CALCULATED JDL
CHECKED PRS

CROSS SECTIONS
STA. 217+00.00 TO STA. 218+00.00
SUM-271-2.33

615
1195

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SEEDING END WIDTH	SEEDING SQ. YDS.
	23881

TOTAL CARRIED TO EROSION CONTROL CALCULATION SHEET 273

100 50 0 ℄ CONST. RAMP B 50 100

TOTAL CARRIED TO EARTHWORK SUBSUMMARY SHEET 241

SUB TOTALS

END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
		9094	6929
	*	2575	2575
		6519	4354

CALCULATED JDL

CHECKED PRS

I-77 RAMP B

LEGEND

- CONCRETE TO BE REMOVED UNDER ITEM 202 - PAVEMENT REMOVED (TYP.)
- ITEM 206 - CEMENT STABILIZED SUBGRADE (SEE GENERAL NOTE)
- ITEM 615 - ROADS FOR MAINTAINING TRAFFIC (EARTHWORK)
- ITEM 203 - SPECIAL BENCHING

1090 1080 1070 1060 1050

219+00.00
1069.03

218+56.90 END PAVEMENT MATCH EXISTING

STA. 218+56.90 AHD.
STA. 218+56.90 BK.

0	0				
43	0				
				11	0
43	0				
				75	1
38	1				
				86	1

STA. 218+50.00 AHD.

STA. 218+50.00 END SEEDING BK.

8:1

1069.34
218+50.00
1069.33

STA. 218+00.00

84

21

9

0

84

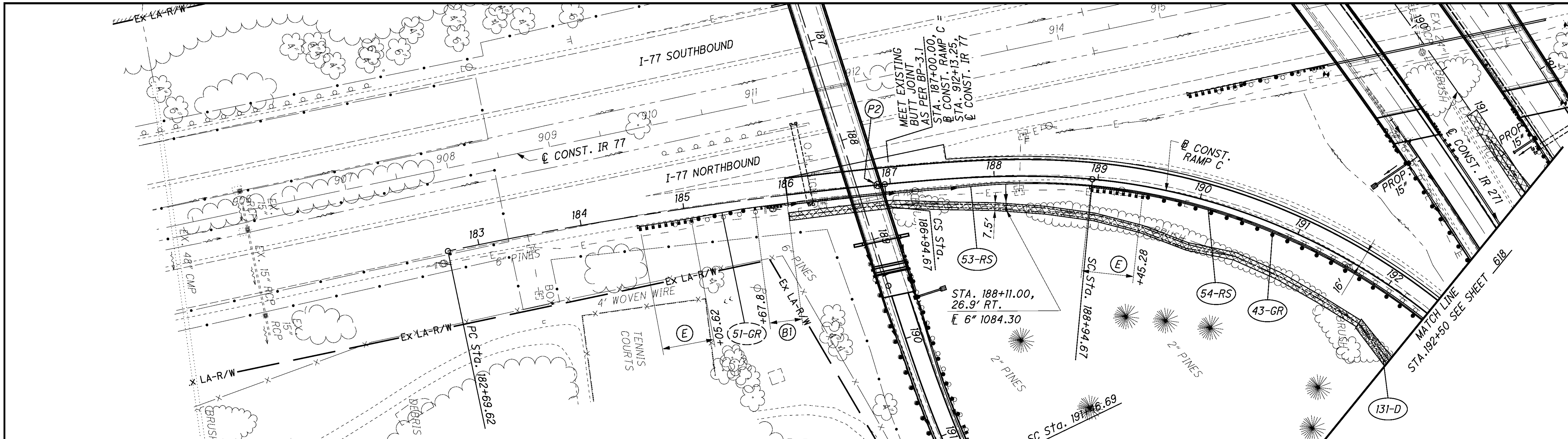
100 50 0 50 100

CROSS SECTIONS STA. 218+50.00 TO STA. 219+00.00

SUM-271-2.33

616
1195

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STRUCTURE CLEARANCE LEGEND

(P2) POINT OF MINIMUM VERTICAL CLEARANCE (SEE PROFILE FOR DIMENSIONS)

(P2) STA. 186+87.62, 0.00' LT. ℄ CONST. RAMP C

DRAINAGE LEGEND

ITEM 670 - DITCH EROSION PROTECTION (WIDTH SHOWN ON PLANS)

ITEM 836 - SEEDING AND EROSION CONTROL WITH TURF REINFORCING MAT, TYPE 1 (WIDTH SHOWN ON PLANS)

℄ CONST. RAMP C
77-C1 CURVE DATA

P.I.= Sta. 184+82.36
Δ = 6° 22' 33" (RT)
Dc = 1° 30' 00"
R = 3,819.72'
T = 212.74'
L = 425.05'
E = 5.92'
eMAX. = 0.042
C = 424.83'
C.B. = N 1° 39' 23" W

℄ CONST. RAMP C
77-C2 CURVE DATA

P.I.= Sta. 191+48.79
Δ = 45° 08' 23" (RT)
Dc = 9° 22' 17"
R = 611.39'
T = 254.12'
L = 481.67'
E = 50.71'
eMAX. = 0.080
C = 469.31'
C.B. = N 34° 58' 22" E

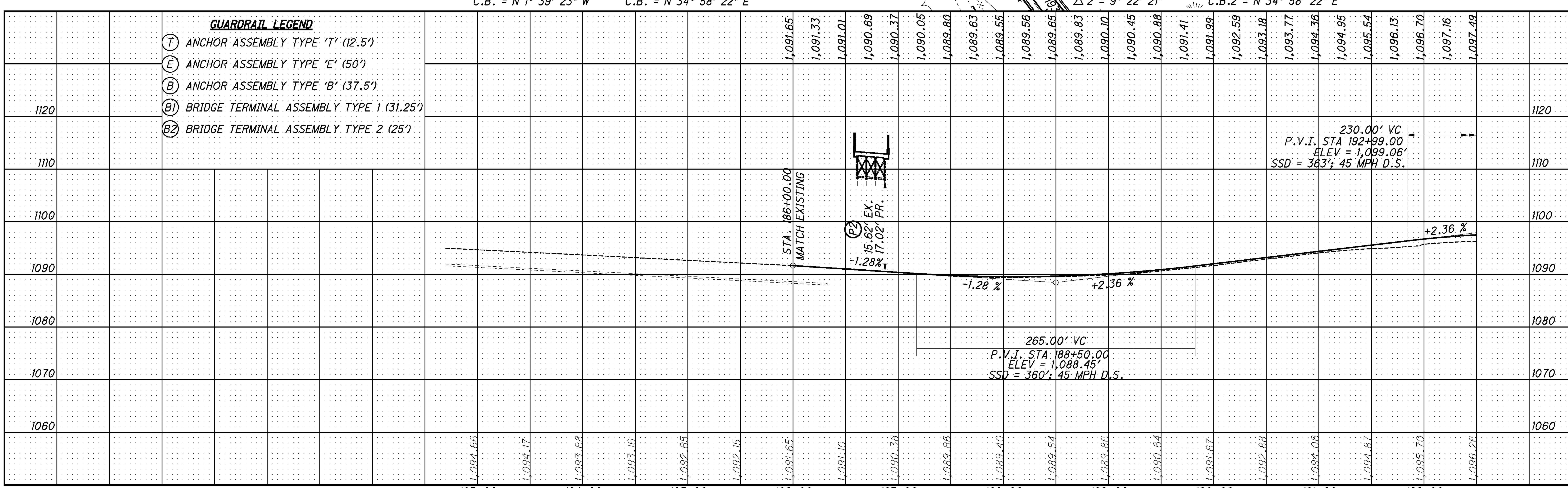
℄ CONST. RAMP C
77-C1/C2 SPIRAL DATA

P.I.= Sta. 188+19.08
△= 10° 52' 17"
D1 = 1° 30' 00"
R1 = 3,819.72'
D2 = 9° 22' 17"
R2 = 611.39'
Ls = 200.00'
p = 2.29'
△ 1 = 1° 29' 56"
△ 2 = 9° 22' 21"
T1 = 124.42'
T2 = 76.12'
eMAX.1 = 0.042
eMAX.2 = 0.008
C1 = 424.83'
C = 199.69'
C2 = 469.31'
C.B.1 = N 1° 39' 23" W
C.B. = N 5° 39' 17" E
C.B.2 = N 34° 58' 22" E

CROSS REFERENCES	
21	TYPICAL SECTIONS
619-623	CROSS SECTIONS
716	SUPERELEVATION TABLES
731	PAVEMENT DETAIL
778	DRAINAGE DETAILS

GUARDRAIL LEGEND

(T) ANCHOR ASSEMBLY TYPE 'T' (12.5')
(E) ANCHOR ASSEMBLY TYPE 'E' (50')
(B) ANCHOR ASSEMBLY TYPE 'B' (37.5')
(B1) BRIDGE TERMINAL ASSEMBLY TYPE 1 (31.25')
(B2) BRIDGE TERMINAL ASSEMBLY TYPE 2 (25')



HORIZONTAL SCALE IN FEET (0 25 50 100)

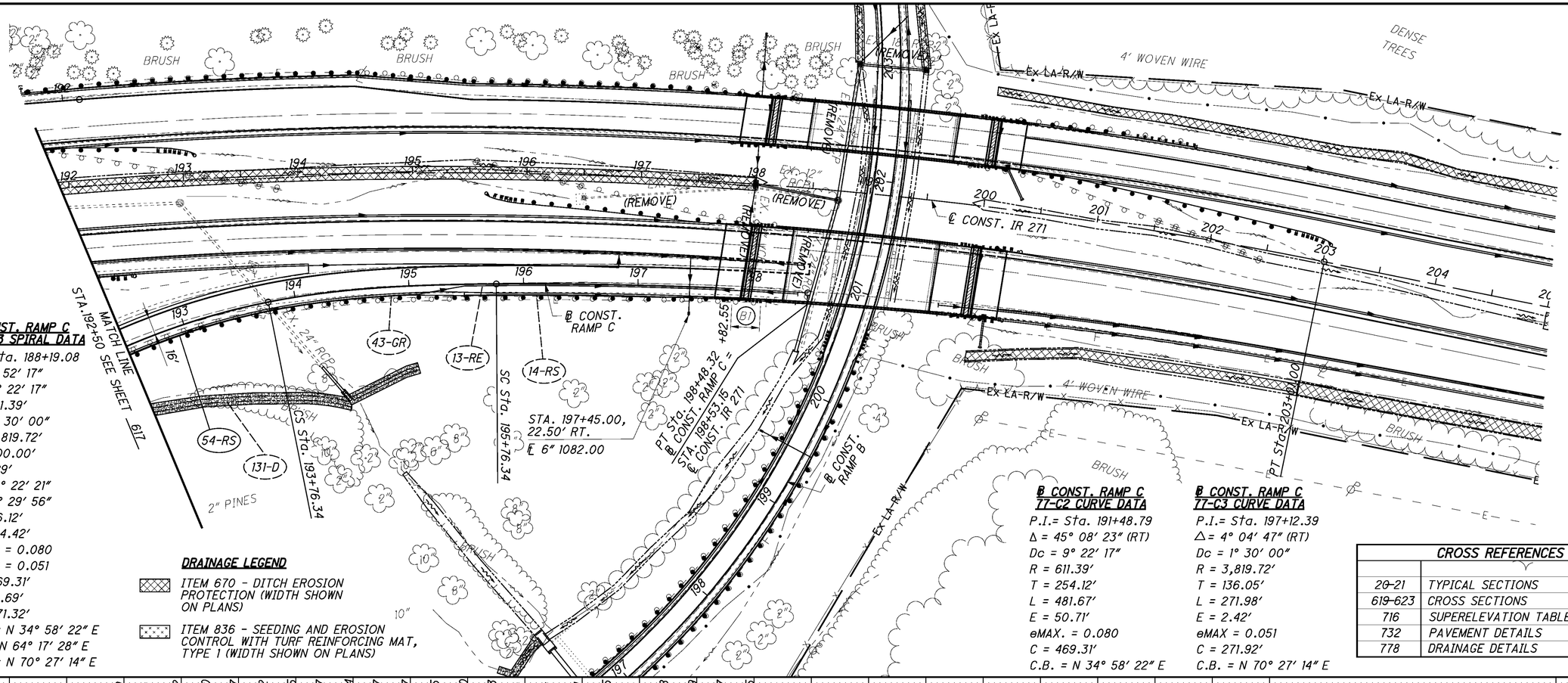
CALCULATED JDL | CHECKED PRS

PLAN AND PROFILE - I-77 RAMP C
STA. 182+69.62 TO STA. 192+50

SUM-271-2.33

617 / 1195

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℄ CONST. RAMP C
77-C2/C3 SPIRAL DATA

P.I.= Sta. 188+19.08
△ = 10° 52′ 17″
D2 = 9° 22′ 17″
R2 = 611.39′
D3 = 1° 30′ 00″
R3 = 3,819.72′
Ls = 200.00′
p = 2.29′
△2 = 9° 22′ 21″
△3 = 1° 29′ 56″
T2 = 76.12′
T3 = 124.42′
eMAX.2 = 0.080
eMAX.3 = 0.051
C2 = 469.31′
C = 199.69′
C3 = 271.32′
C.B.2 = N 34° 58′ 22″ E
C.B. = N 64° 17′ 28″ E
C.B.3 = N 70° 27′ 14″ E

DRAINAGE LEGEND

ITEM 670 - DITCH EROSION PROTECTION (WIDTH SHOWN ON PLANS)

ITEM 836 - SEEDING AND EROSION CONTROL WITH TURF REINFORCING MAT, TYPE 1 (WIDTH SHOWN ON PLANS)

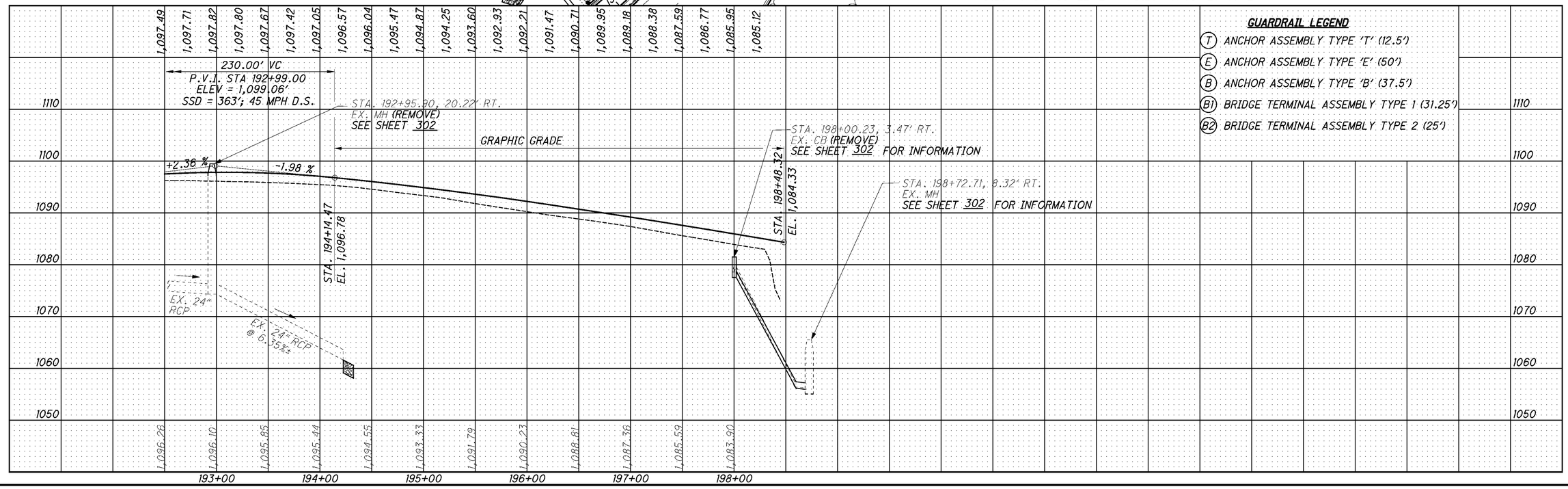
℄ CONST. RAMP C
77-C2 CURVE DATA

P.I.= Sta. 191+48.79
△ = 45° 08′ 23″ (RT)
Dc = 9° 22′ 17″
R = 611.39′
T = 254.12′
L = 481.67′
E = 50.71′
eMAX. = 0.080
C = 469.31′
C.B. = N 34° 58′ 22″ E

℄ CONST. RAMP C
77-C3 CURVE DATA

P.I.= Sta. 197+12.39
△ = 4° 04′ 47″ (RT)
Dc = 1° 30′ 00″
R = 3,819.72′
T = 136.05′
L = 271.98′
E = 2.42′
eMAX = 0.051
C = 271.92′
C.B. = N 70° 27′ 14″ E

CROSS REFERENCES	
20-21	TYPICAL SECTIONS
619-623	CROSS SECTIONS
716	SUPERELEVATION TABLES
732	PAVEMENT DETAILS
778	DRAINAGE DETAILS



GUARDRAIL LEGEND

- (T) ANCHOR ASSEMBLY TYPE 'T' (12.5')
- (E) ANCHOR ASSEMBLY TYPE 'E' (50')
- (B) ANCHOR ASSEMBLY TYPE 'B' (37.5')
- (B1) BRIDGE TERMINAL ASSEMBLY TYPE 1 (31.25')
- (B2) BRIDGE TERMINAL ASSEMBLY TYPE 2 (25')

HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED JDL
CHECKED PRS

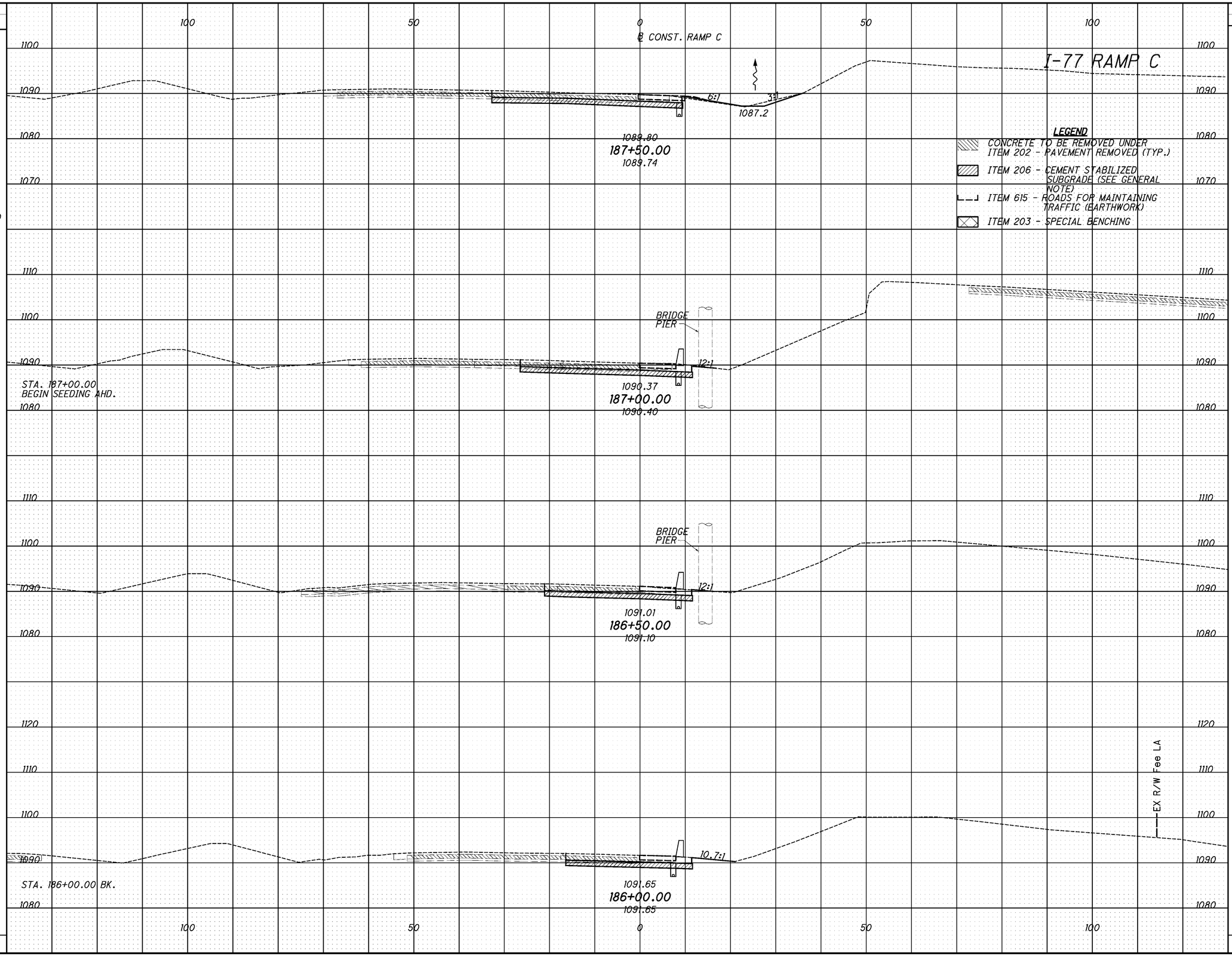
PLAN AND PROFILE - I-77 RAMP C
STA. 192+50 TO STA. 198+48.32

SUM-271-2.33

618
1195

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SEEDING	
END WIDTH	SQ. YDS.
29	
	100
7	
	39
7	
	53
12	
0	
	192



END AREA		VOLUME	
CUT	FILL	CUT	FILL
62	3	113	3
60	0	102	1
50	1	86	1
42	0		
		301	5

CALCULATED JDL
CHECKED PRS

CROSS SECTIONS
STA. 186+00.00 TO STA. 187+50.00

SUM-271-2.33

619
1195

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CROSS SECTIONS
STA. 188+00.00 TO STA. 189+50.00

CALCULATED JDL
CHECKED PRS

I-77 RAMP C

℄ CONST. RAMP C

SEEDING END WIDTH	SEEDING SQ. YDS.
72	384
66	337
55	367
77	295
29	
	1383

END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
44	36		
44	13	82	46
50	7	88	19
126	3	163	10
62	3	175	6
		508	81

LEGEND

- CONCRETE TO BE REMOVED UNDER ITEM 202 - PAVEMENT REMOVED (TYP.)
- ITEM 206 - CEMENT STABILIZED SUBGRADE (SEE GENERAL NOTE)
- ITEM 615 - ROADS FOR MAINTAINING TRAFFIC (EARTHWORK)
- ITEM 203 - SPECIAL BENCHING

1090.88
189+50.00
1090.10

1083.0

1090.10
189+00.00
1089.66

1083.5

1089.65
188+50.00
1089.43

1084.0

1089.55
188+00.00
1089.39

1084.4

STA. 187+50.00 — STA. 187+50.00

SUM-271-2.33

620
1195

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CROSS SECTIONS
STA. 190+00.00 TO STA. 191+50.00

CALCULATED JDL
CHECKED PRS

I-77 RAMP C

℄ CONST. RAMP C

SEEDING END WIDTH	SEEDING SQ. YDS.	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
45	239	8	49	25	75
41	275	18	32	36	81
58	392	20	55	55	109
83	431	39	62	77	91
72		44	36		
	1337			193	356

LEGEND

- CONCRETE TO BE REMOVED UNDER ITEM 202 - PAVEMENT REMOVED (TYP.)
- ITEM 206 - CEMENT STABILIZED SUBGRADE (SEE GENERAL NOTE)
- ITEM 615 - ROADS FOR MAINTAINING TRAFFIC (EARTHWORK)
- ITEM 203 - SPECIAL BENCHING

1095.54
191+50.00
1094.20

1094.36
191+00.00
1093.12

1093.18
190+50.00
1092.06

1091.99
190+00.00
1090.98

1082.5

STA. 189+50.00

SUM-271-2.33

621
1195

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CROSS SECTIONS
STA. 192+00.00 TO STA. 193+00.00

CALCULATED JDL
CHECKED PRS

I-77 RAMP C

℄ CONST. RAMP C

LEGEND

- CONCRETE TO BE REMOVED UNDER ITEM 202 - PAVEMENT REMOVED (TYP.)
- ITEM 206 - CEMENT STABILIZED SUBGRADE (SEE GENERAL NOTE)
- ITEM 615 - ROADS FOR MAINTAINING TRAFFIC (EARTHWORK)
- ITEM 203 - SPECIAL BENCHING

SEEDING END WIDTH	SEEDING SQ. YDS.	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
104	562	66 *107	238 *107	113 *185	388 *185
98	420	55 *92	181 *92	53 *158	267 *158
53	273	2 *78	107 *78	10 *73	145 *73
45		8 *0	49 *0		
	1255			176 *416	800 *416

SUM-271-2.33

622
1195

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SEEDING END WIDTH	SEEDING SQ. YDS.
	5787
0	
146	
	241
146	
	748
123	
	631
104	
	1620

100 50 0 50 100

℄ CONST. RAMP C

TOTAL CARRIED TO EROSION CONTROL CALCULATION SHEET 273

STA. 194+14.80 AHD.

STA. 194+14.80
END SEEDING BK.

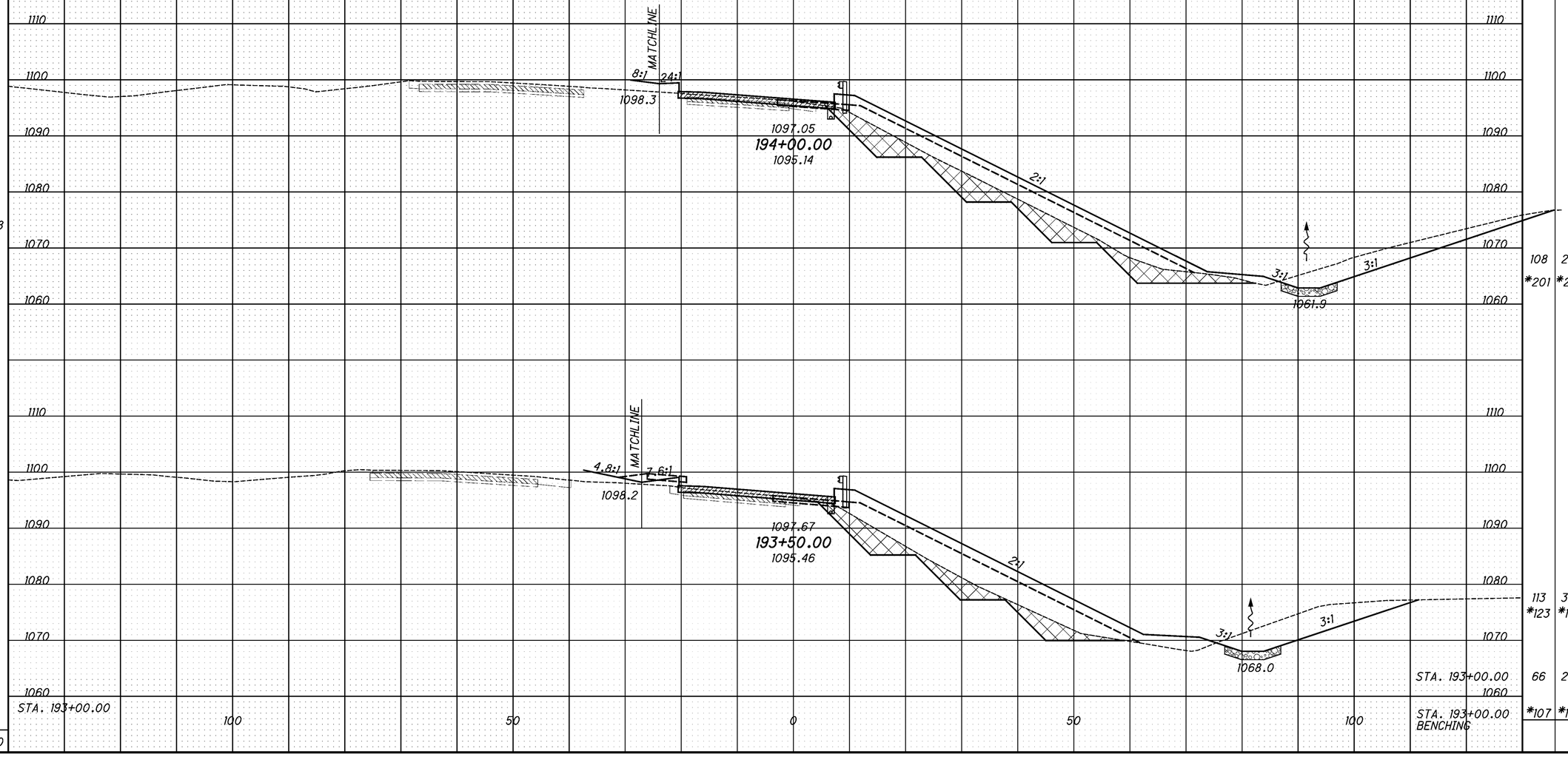
TOTAL CARRIED TO EARTHWORK SUBSUMMARY SHEET 241

SUB TOTALS

I-77 RAMP C

LEGEND

- CONCRETE TO BE REMOVED UNDER ITEM 202 - PAVEMENT REMOVED (TYP.)
- ITEM 206 - CEMENT STABILIZED SUBGRADE (SEE GENERAL NOTE)
- ITEM 615 - ROADS FOR MAINTAINING TRAFFIC (EARTHWORK)
- ITEM 203 - SPECIAL BENCHING



STA. 194+50.00
END BENCHING BK.

STA. 194+14.80

END EARTHWORK BK.

STA. 193+00.00

STA. 193+00.00
BENCHING

END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
		2715	3574
	*	1116	1116
		1599	2458
*0	*0		
108	272		
		50	126
		*187	*187
108	272		
*201	*201		
		205	561
		*300	*300
113	333		
*123	*123		
		166	529
		*213	*213
66	238		
*107	*107		
		421	1216
		*700	*700

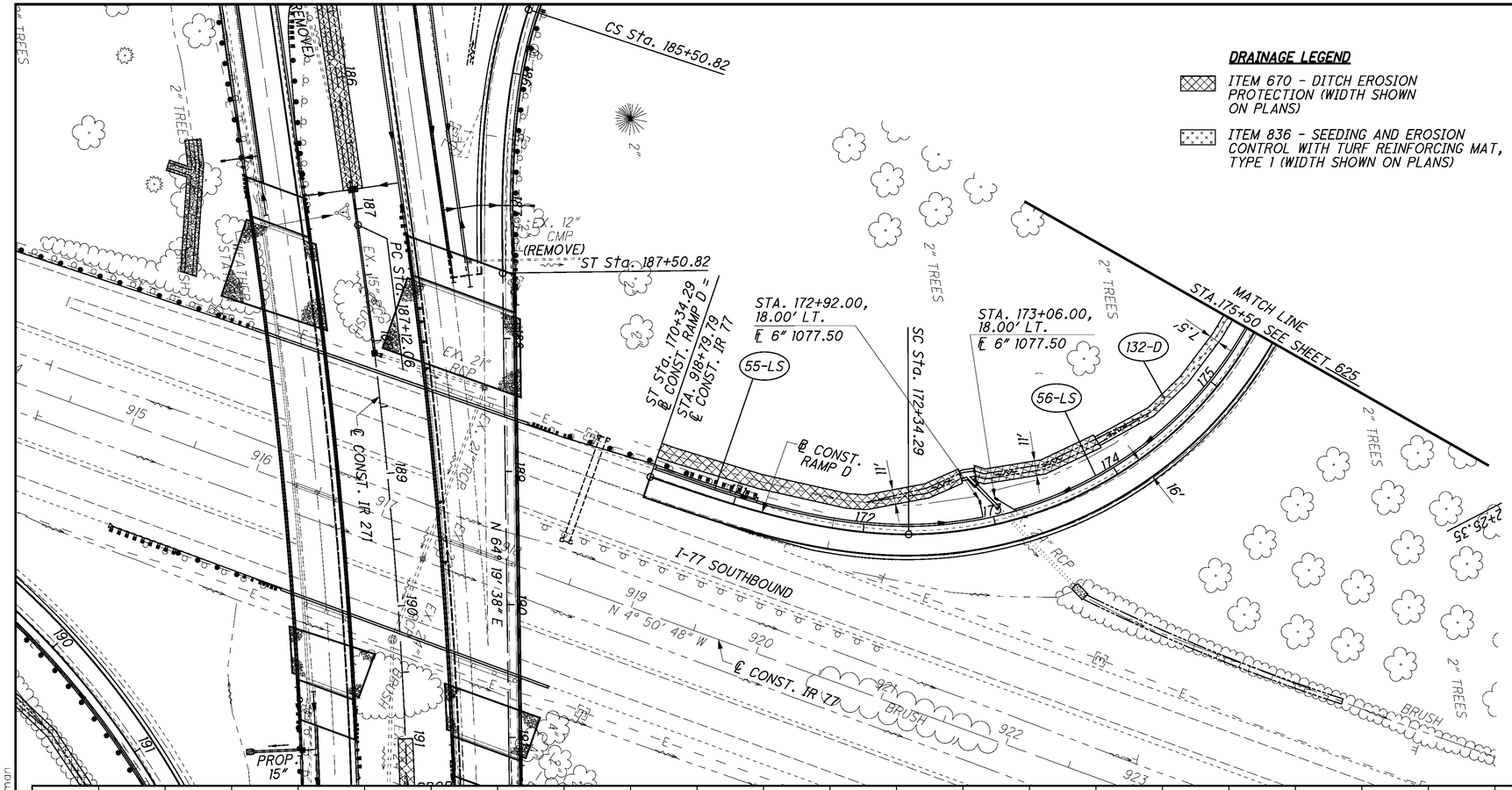
CALCULATED JDL
CHECKED PRS

CROSS SECTIONS
STA. 193+50.00 TO STA. 194+00.00

SUM-271-2.33

623
1195

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DRAINAGE LEGEND

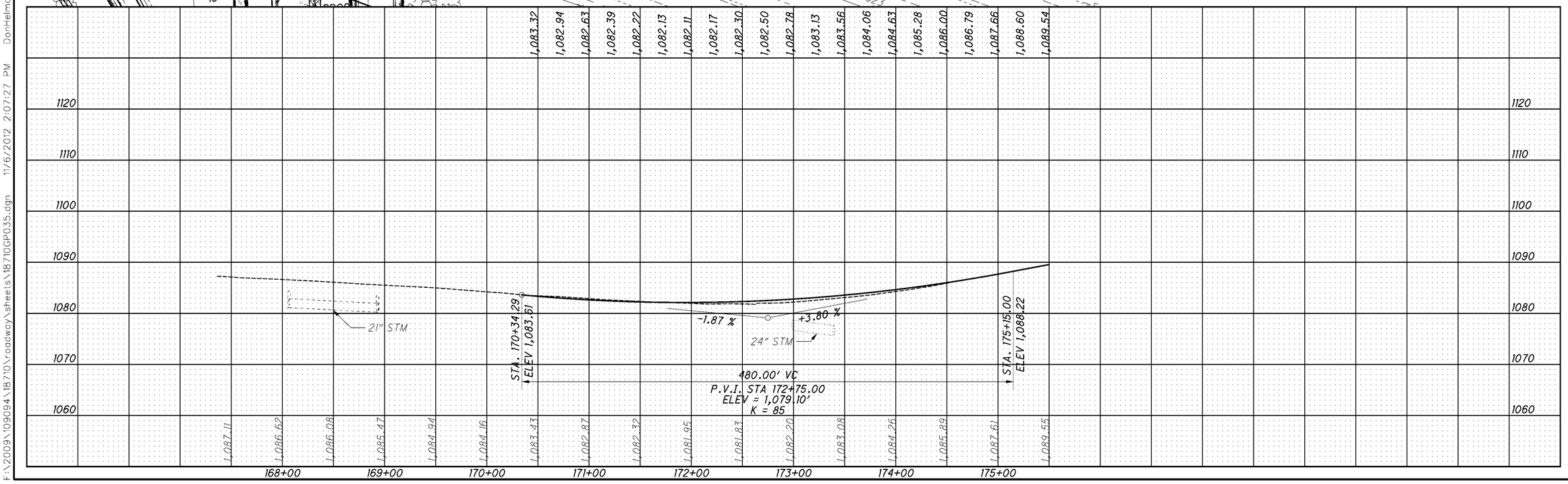
ITEM 670 - DITCH EROSION PROTECTION (WIDTH SHOWN ON PLANS)

ITEM 836 - SEEDING AND EROSION CONTROL WITH TURF REINFORCING MAT, TYPE 1 (WIDTH SHOWN ON PLANS)

℄ CONST. RAMP D
77-D1 CURVE DATA

P.I.= Sta. 169+18.53
△ = 289° 38' 09" (LT)
Dc = 19° 05' 55"
R = 300.00'
Ls = 200.00'
θ s = 19° 05' 55" (LT)
LT = 134.12'
ST = 67.38'
x = 197.79'
y = 22.05'
k = 99.63'
p = 5.53'
△c = 251° 26' 19" (LT)
Lc = 1,316.53'
Ts = 115.76'
Es = 673.82'
eMAX. = 0.075
C = 487.13'
C1=C2 = 199.01'
C.B.1 = N 12° 23' 50" W
C.B. = S 29° 08' 43" W
C.B.2 = S 70° 41' 15" W

CROSS REFERENCES	
21	TYPICAL SECTIONS
627-637	CROSS SECTIONS
717	SUPERELEVATION TABLES
733	PAVEMENT DETAIL
763	CULVERT DETAIL



HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED JDL
CHECKED PRS

PLAN AND PROFILE - I-77 RAMP D
STA. 170+34.29 TO STA. 175+50

SUM-271-2.33

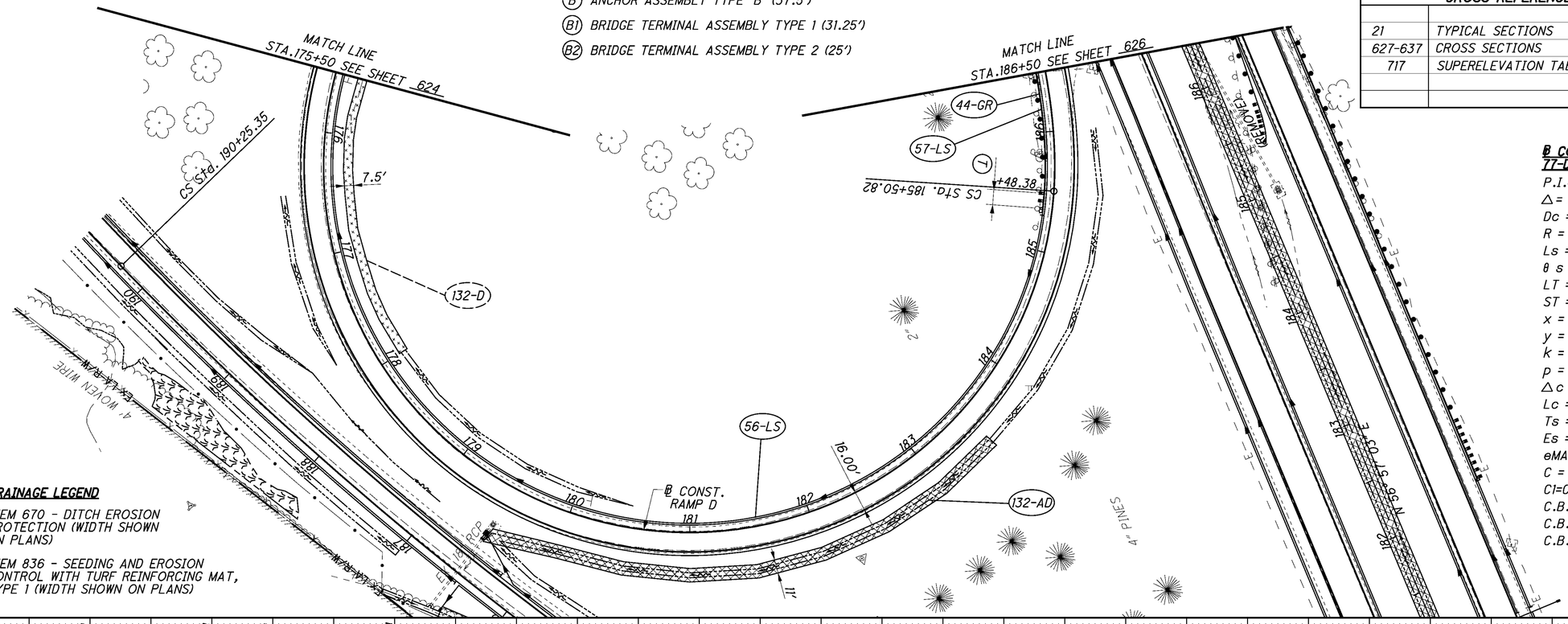
624
1195

F:\2009\109094\18710\roadway\streets\18710GP035.dgn 11/6/2012 2:07:27 PM DonHelman

GUARDRAIL LEGEND

- (T) ANCHOR ASSEMBLY TYPE 'T' (12.5')
- (E) ANCHOR ASSEMBLY TYPE 'E' (50')
- (B) ANCHOR ASSEMBLY TYPE 'B' (37.5')
- (B1) BRIDGE TERMINAL ASSEMBLY TYPE 1 (31.25')
- (B2) BRIDGE TERMINAL ASSEMBLY TYPE 2 (25')

CROSS REFERENCES	
21	TYPICAL SECTIONS
627-637	CROSS SECTIONS
717	SUPERELEVATION TABLES

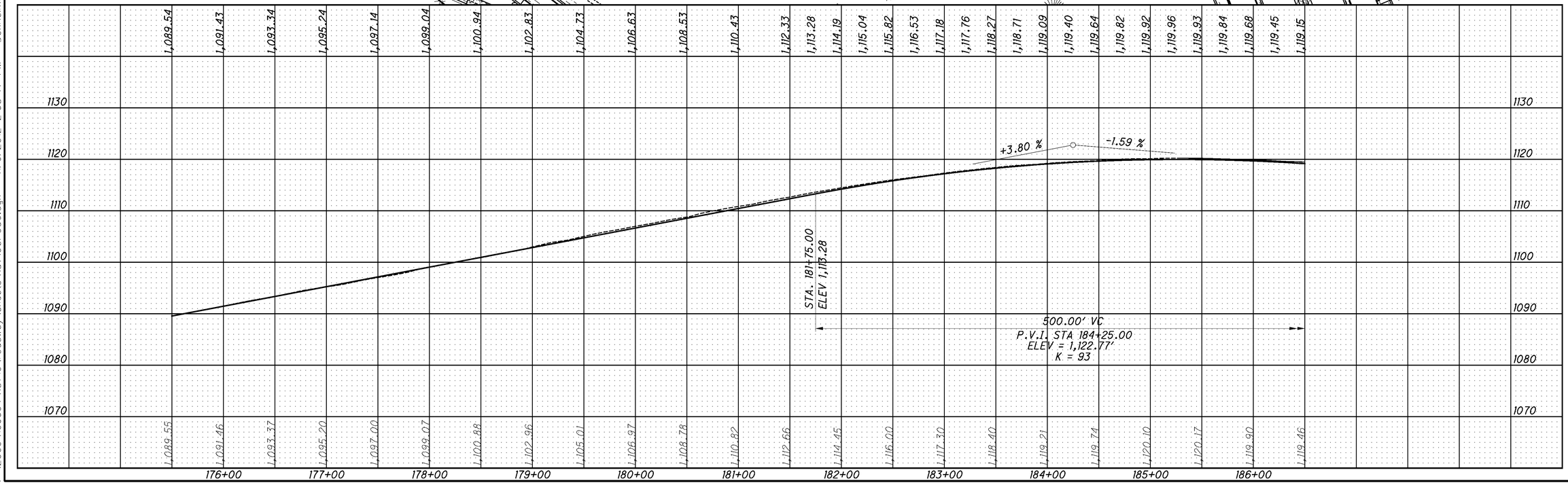


DRAINAGE LEGEND

- ITEM 670 - DITCH EROSION PROTECTION (WIDTH SHOWN ON PLANS)
- ITEM 836 - SEEDING AND EROSION CONTROL WITH TURF REINFORCING MAT, TYPE 1 (WIDTH SHOWN ON PLANS)

℄ CONST. RAMP D
77-D1 CURVE DATA

P.I.= Sta. 169+18.53
△= 289° 38' 09" (LT)
Dc = 19° 05' 55"
R = 300.00'
Ls = 200.00'
θ s = 19° 05' 55" (LT)
LT = 134.12'
ST = 67.38'
x = 197.79'
y = 22.05'
k = 99.63'
p = 5.53'
△c = 251° 26' 19" (LT)
Lc = 1,316.53'
Ts = 115.76'
Es = 673.82'
eMAX. = 0.075
C = 487.13'
C1=C2 = 199.01'
C.B.1 = N 12° 23' 50" W
C.B. = S 29° 08' 43" W
C.B.2 = S 70° 41' 15" W



HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED JDL
CHECKED PRS

PROFILE - I-77 RAMP D
STA. 175+50 TO STA. 186+50

SUM-271-2.33

625
1195

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℄ CONST. RAMP D
77-D1 CURVE DATA

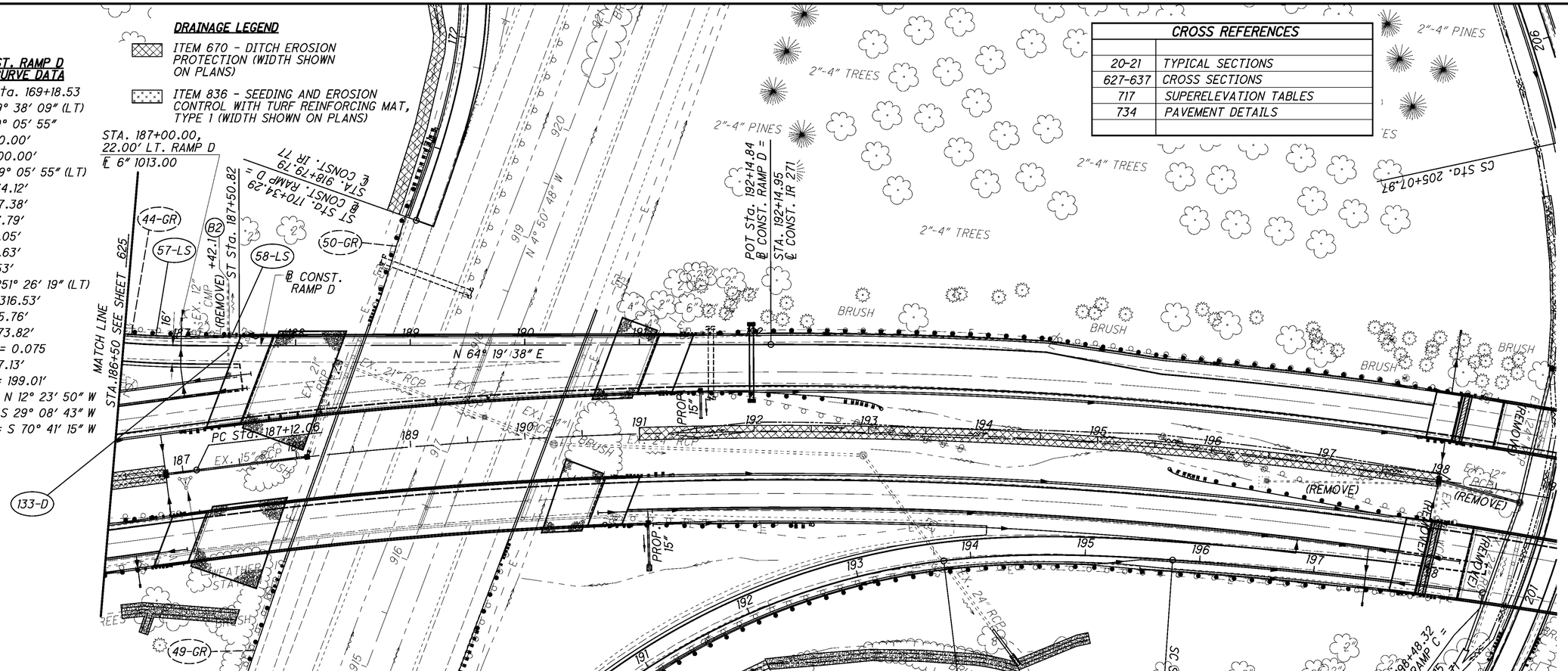
P.I.= Sta. 169+18.53
△ = 289° 38′ 09″ (LT)
Dc = 19° 05′ 55″
R = 300.00′
Ls = 200.00′
θ s = 19° 05′ 55″ (LT)
LT = 134.12′
ST = 67.38′
x = 197.79′
y = 22.05′
k = 99.63′
p = 5.53′
△c = 251° 26′ 19″ (LT)
Lc = 1,316.53′
Ts = 115.76′
Es = 673.82′
eMAX. = 0.075
C = 487.13′
C1=C2 = 199.01′
C.B.1 = N 12° 23′ 50″ W
C.B. = S 29° 08′ 43″ W
C.B.2 = S 70° 41′ 15″ W

DRAINAGE LEGEND

ITEM 670 - DITCH EROSION PROTECTION (WIDTH SHOWN ON PLANS)

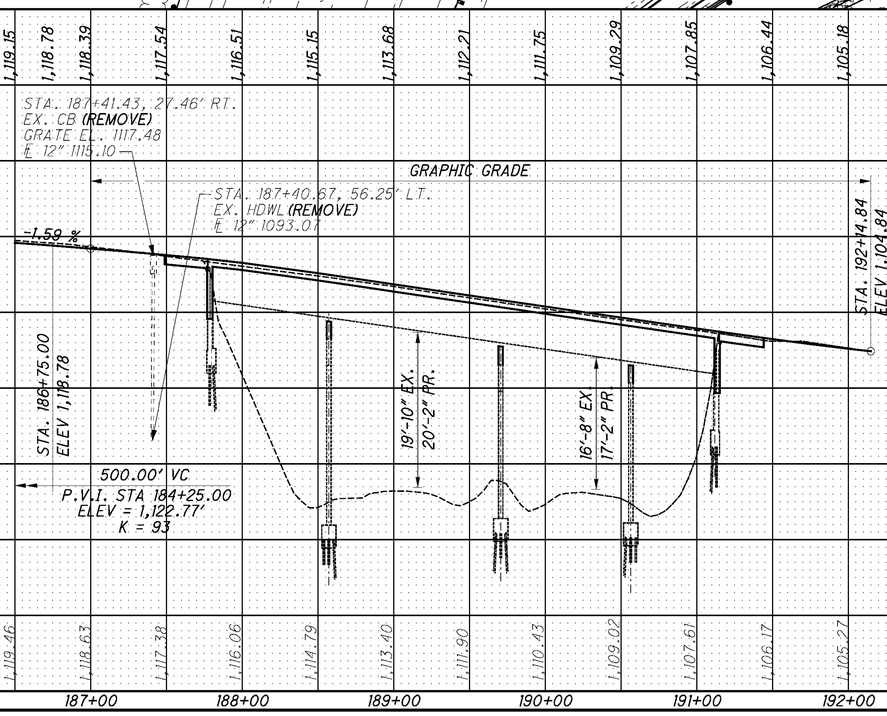
ITEM 836 - SEEDING AND EROSION CONTROL WITH TURF REINFORCING MAT, TYPE 1 (WIDTH SHOWN ON PLANS)

CROSS REFERENCES	
20-21	TYPICAL SECTIONS
627-637	CROSS SECTIONS
717	SUPERELEVATION TABLES
734	PAVEMENT DETAILS



GUARDRAIL LEGEND

(T) ANCHOR ASSEMBLY TYPE 'T' (12.5′)
(E) ANCHOR ASSEMBLY TYPE 'E' (50′)
(B) ANCHOR ASSEMBLY TYPE 'B' (37.5′)
(B1) BRIDGE TERMINAL ASSEMBLY TYPE 1 (31.25′)
(B2) BRIDGE TERMINAL ASSEMBLY TYPE 2 (25′)



HORIZONTAL SCALE IN FEET
0 25 50 100

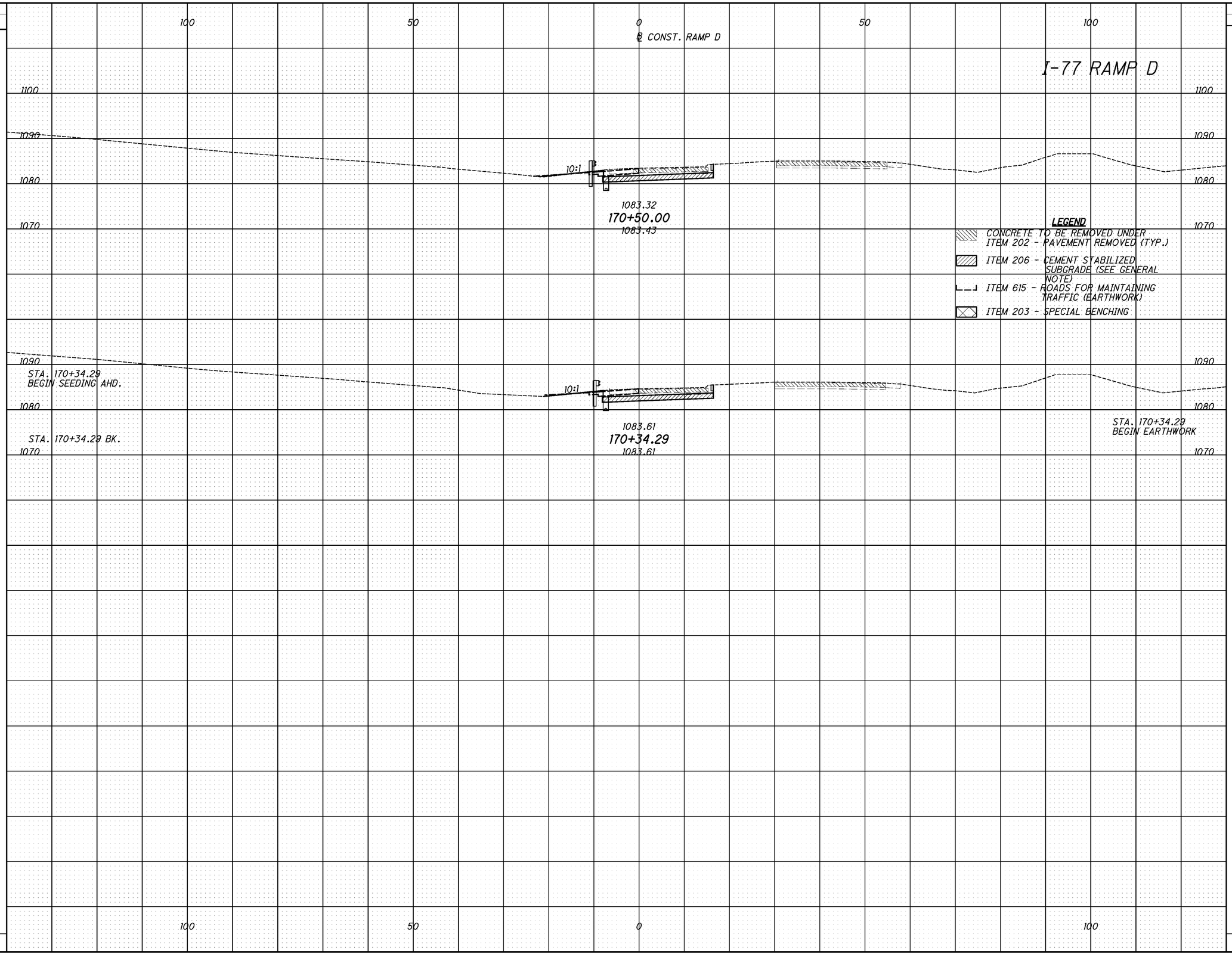
CALCULATED JDL
CHECKED PRS

PLAN AND PROFILE - I-77 RAMP D
STA. 186+50 TO STA. 192+14.84

SUM-271-2.33

626
1195

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SEEDING END WIDTH	SEEDING SQ. YDS.
18	
	30
17	
0	
	30

END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
38	1		
		22	1
35	1		
		22	1

CALCULATED JDL
CHECKED PRS

CROSS SECTIONS
STA. 170+34.29 TO STA. 170+50.00

SUM-271-2.33

627
1195

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SEEDING END WIDTH	SEEDING SQ. YDS.	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
26	98	38	4	72	5
9	48	39	1	75	1
8	73	41	0	74	1
18		38	1		
	219			221	7

CALCULATED JDL

CHECKED PRS

100 50 0 ℄ CONST. RAMP D 50 100

I-77 RAMP D

LEGEND

- CONCRETE TO BE REMOVED UNDER ITEM 202 - PAVEMENT REMOVED (TYP.)
- ITEM 206 - CEMENT STABILIZED SUBGRADE (SEE GENERAL NOTE)
- ITEM 615 - ROADS FOR MAINTAINING TRAFFIC (EARTHWORK)
- ITEM 203 - SPECIAL BENCHING

1100 / 1090 / 1080 / 1070 / 1060

6:1 12:1

1082.11
172+00.00
1081.95

6:1

1082.22
171+50.00
1082.32

13:1

1082.63
171+00.00
1082.87

STA. 170+50.00 100 50 0 50 100 STA. 170+50.00

CROSS SECTIONS
STA. 171+00.00 TO STA. 172+00.00

SUM-271-2.33

628
1195

F:\2009\109094\18710\roadway\sheets\18710XS704.dgn 11/5/2012 4:07:41 PM DonHelman

SEEDING	
END WIDTH	SQ. YDS.
58	362
72	364
59	237
26	963

100 50 0 50 100

℄ CONST. RAMP D

I-77 RAMP D

LEGEND

- CONCRETE TO BE REMOVED UNDER ITEM 202 - PAVEMENT REMOVED (TYP.)
- ITEM 206 - CEMENT STABILIZED SUBGRADE (SEE GENERAL NOTE)
- ITEM 615 - ROADS FOR MAINTAINING TRAFFIC (EARTHWORK)
- ITEM 203 - SPECIAL BENCHING

1100 1090 1080 1070 1060

4:1 4:1 6:1

1078.3

1083.56
173+50.00
1083.08

4:1 6:1 6:1

1077.5

1082.78
173+00.00
1082.20

STA. 173+01.28, 17.88' LT.
EX. HDWL
℄ 24" 1076.29

STA. 173+39.96, 61.72' RT.
EX. HDWL
℄ 24" 1075.56

4:1 6:1 6:1

1077.9

1082.30
172+50.00
1081.83

STA. 172+00.00 100 50 0 50 100 STA. 172+00.00

END AREA		VOLUME	
CUT	FILL	CUT	FILL
84	22		
112	32		
75	19		
38	4		
		182	50
		174	48
		105	22
		461	120

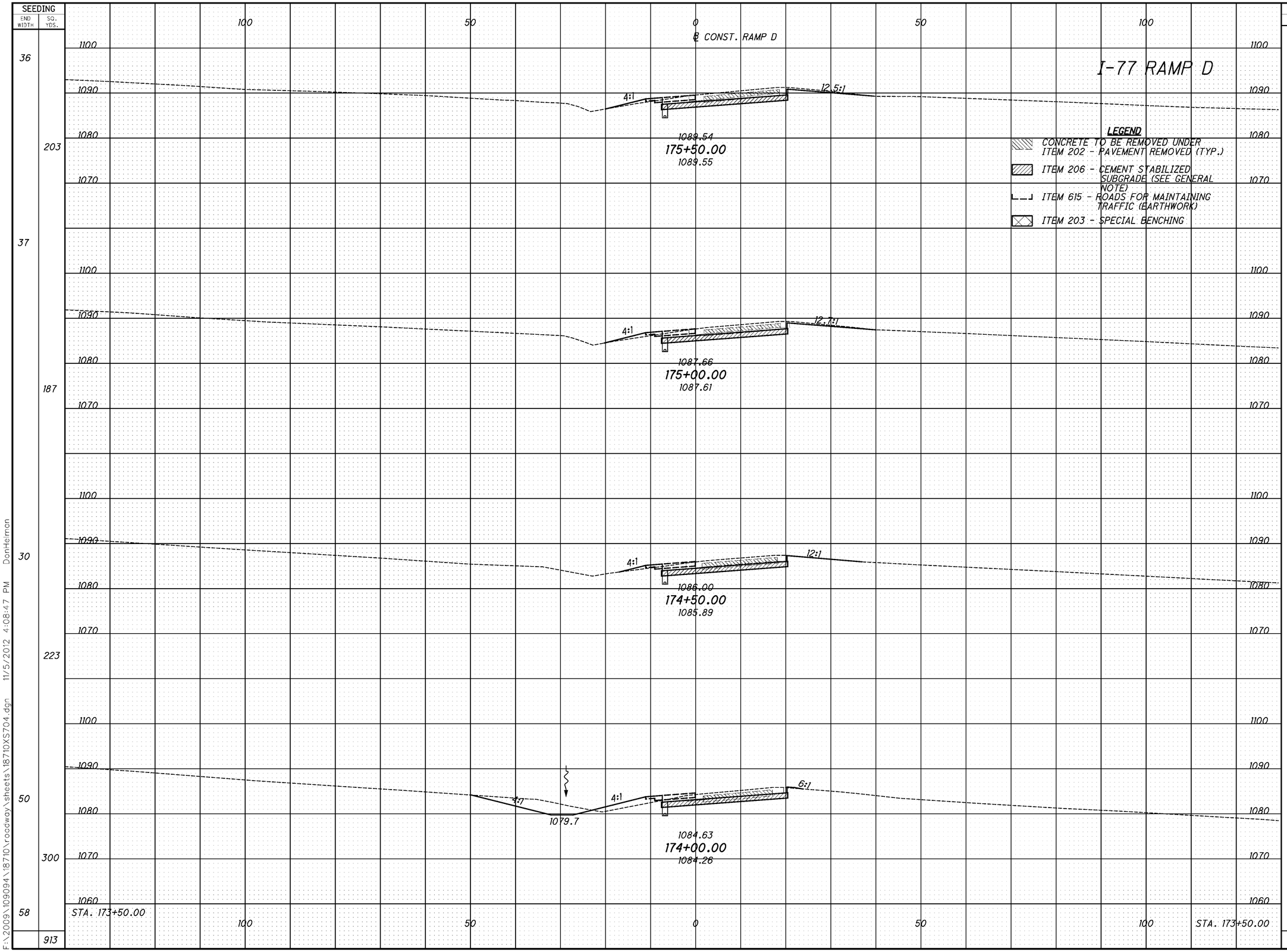
CALCULATED JDL
CHECKED PRS

CROSS SECTIONS
STA. 172+50.00 TO STA. 173+50.00

SUM-271-2.33

629
1195

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SEEDING END WIDTH	SEEDING SQ. YDS.	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
36	203	49	5	89	11
37	187	47	6	81	10
30	223	40	4	107	21
50	300	75	18	148	38
58	913	84	22	425	80

CALCULATED JDL
CHECKED PRS

CROSS SECTIONS
STA. 174+00.00 TO STA. 175+50.00

SUM-271-2.33

630
1195

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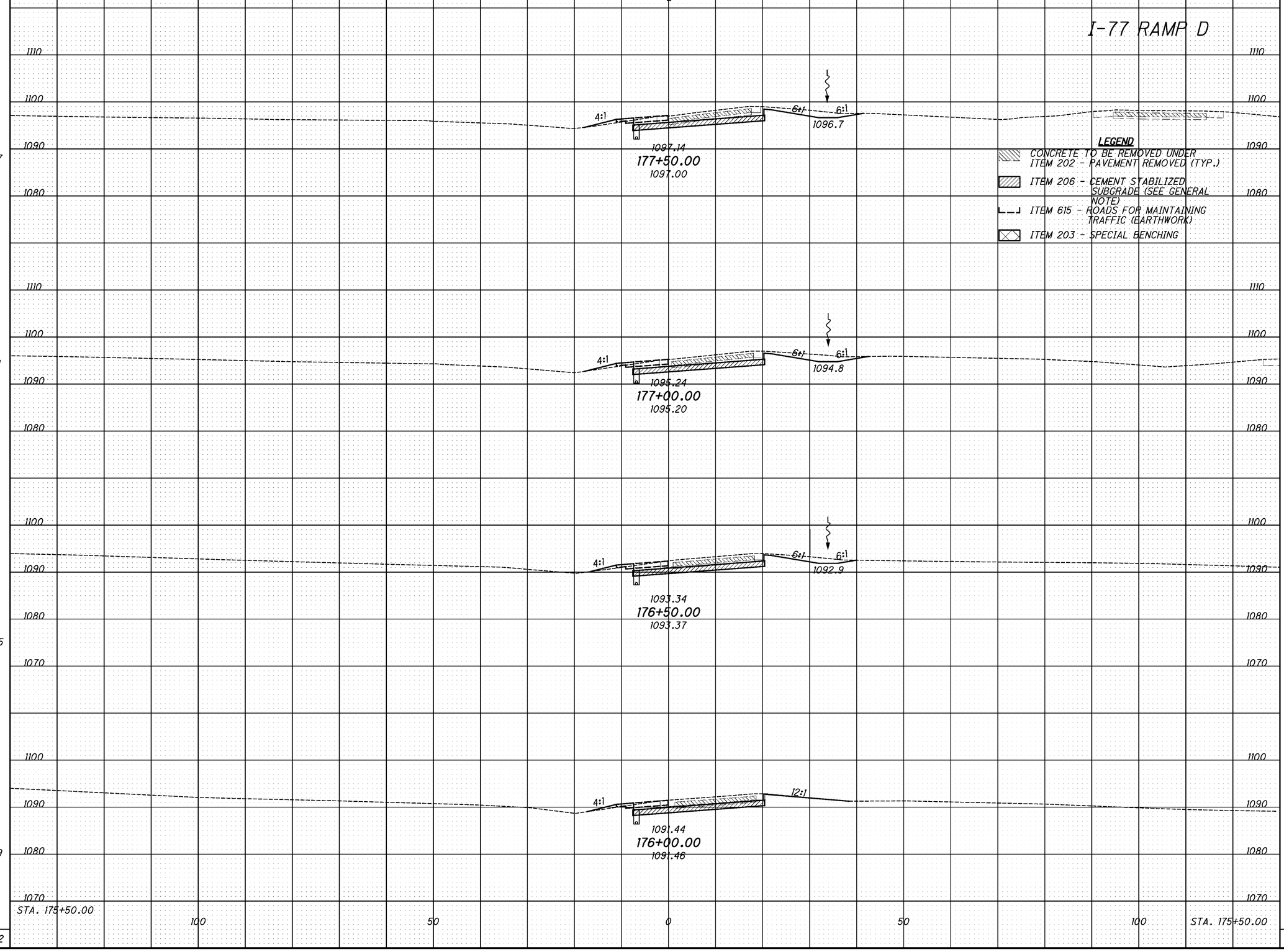
CROSS SECTIONS
STA. 176+00.00 TO STA. 177+50.00

CALCULATED JDL
CHECKED PRS

I-77 RAMP D

℄ CONST. RAMP D

SEEDING END WIDTH	SEEDING SQ. YDS.	STATION	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
		177+50.00				
33			62	5		
	187				115	9
34						
	181	177+00.00	62	4		
					111	8
31						
	175	176+50.00	57	4		
					92	8
32						
	189	176+00.00	42	4		
					85	9
36		STA. 175+50.00	49	5		
	732				403	34



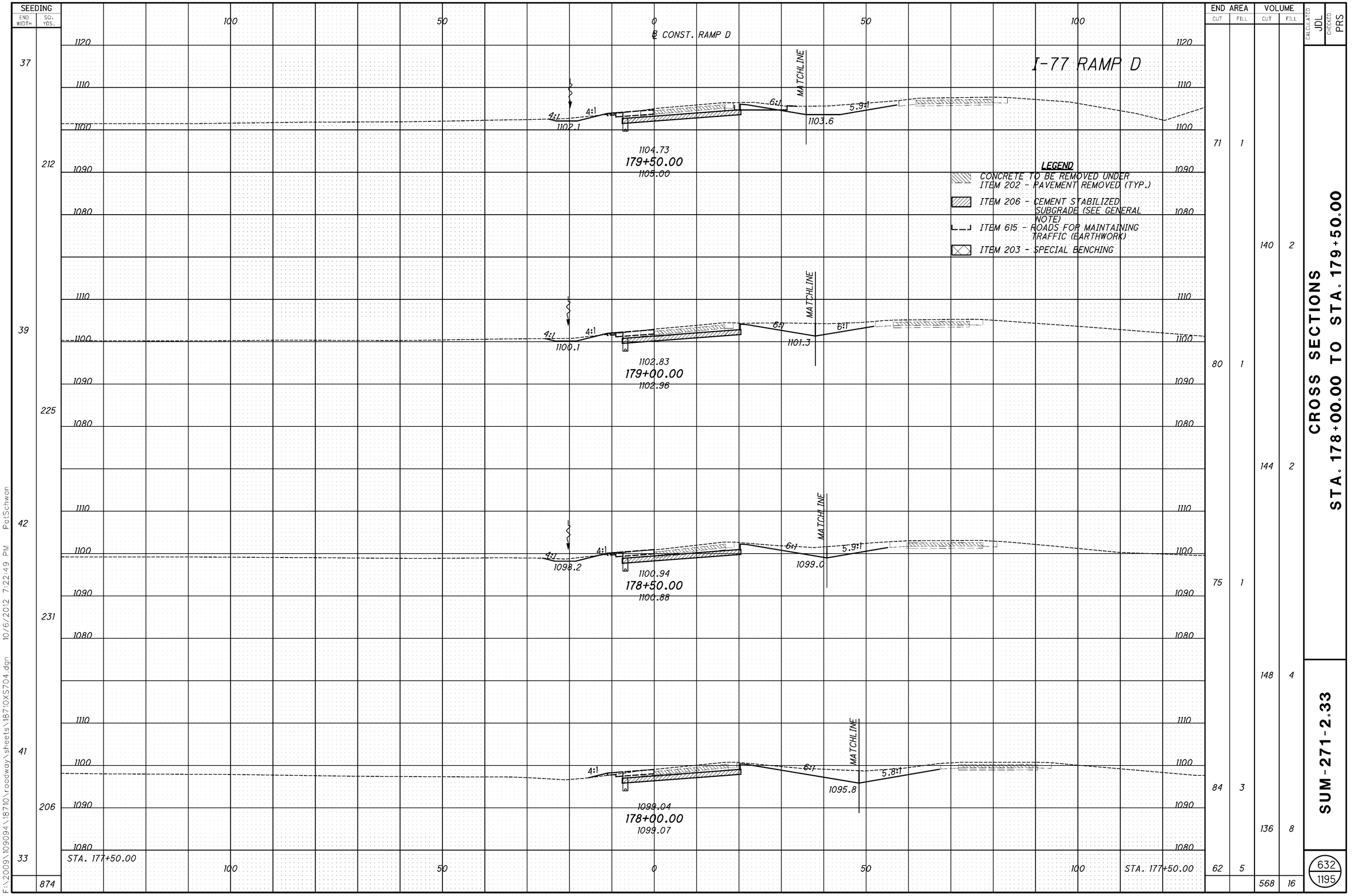
SUM-271-2.33

631
1195

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CROSS SECTIONS

STA. 178+00.00 TO STA. 179+50.00



SEEDING END WIDTH	SEEDING SQ. YDS.	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
37	212	71	1	140	2
39	225	80	1	144	2
42	231	75	1	148	4
41	206	84	3	136	8
33	874	62	5	568	16

CALCULATED JDL
CHECKED PRS

SUM-271-2.33

632
1195

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CROSS SECTIONS
STA. 180+00.00 TO STA. 181+00.00

SUM-271-2.33

633
1195

CALCULATED JDL
CHECKED PRS

I-77 RAMP D

℄ CONST. RAMP D

LEGEND

- CONCRETE TO BE REMOVED UNDER ITEM 202 - PAVEMENT REMOVED (TYP.)
- ITEM 206 - CEMENT STABILIZED SUBGRADE (SEE GENERAL NOTE)
- ITEM 615 - ROADS FOR MAINTAINING TRAFFIC (EARTHWORK)
- ITEM 203 - SPECIAL BENCHING

SEEDING END WIDTH	SEEDING SQ. YDS.	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
		61	0		
28	153			115	0
27	203	63	0	127	2
46	231	74	2	135	3
37	587	71	1	377	5

STA. 179+50.00 — 100 — 50 — 0 — 50 — 100 — STA. 179+50.00

1130 / 1120 / 1110 / 1100 / 1090

12:1 6:1 6:1 1110.43 181+00.00 1110.82 1109.8 1112.23 181+29.30

℄ TEMPORARY RAMP D

12:1 6:1 6:1 1108.53 180+50.00 1108.77 1108.0 1109.92 180+66.64

℄ TEMPORARY RAMP D

4:1 4:1 1104.1 6:1 6:1 5.7:1 1106.2 1106.1 1108.63 180+00.00 1108.97 1107.72 180+06.85

MATCHLINE

F:\2009\109094\18710\roadway\sheets\18710XS704.dgn 11/10/2012 8:15:32 AM BobMcAuley

SEEDING	
END WIDTH	SQ. YDS.
29	
	164
30	
	167
30	
	173
32	
	167
28	
	671

LEGEND

- CONCRETE TO BE REMOVED UNDER ITEM 202 - PAVEMENT REMOVED (TYP.)
- ITEM 206 - CEMENT STABILIZED SUBGRADE (SEE GENERAL NOTE)
- ITEM 615 - ROADS FOR MAINTAINING TRAFFIC (EARTHWORK)
- ITEM 203 - SPECIAL BENCHING

℄ CONST. RAMP D

1117.18
183+00.00
1117.30

℄ TEMPORARY RAMP D

MATCHLINE 110' RT. (SEE ABOVE)

MATCHLINE 110' RT. (SEE BELOW)

1121.18
183+98.61

1121.0

1115.82
182+50.00
1116.00

1116.4

1115.0

1119.39
183+29.42

1119.1

1114.19
182+00.00
1114.45

1113.4

1117.08
182+61.15

1116.8

1112.33
181+50.00
1112.66

1111.4

1114.62
181+94.29

1113.9

I-77 RAMP D

STA. 181+00.00

END AREA	
CUT	FILL
52	0
54	1
64	0
63	0
61	0

VOLUME	
CUT	FILL
99	1
110	1
118	0
115	0
442	2

CALCULATED JDL

CHECKED PRS

CROSS SECTIONS
STA. 181+50.00 TO STA. 183+00.00

SUM-271-2.33

634
1195

F:\2009\109094\18710\roadway\sheets\18710XS704.dgn 10/6/2012 7:23:15 PM PatSchwan

SEEDING END WIDTH	SEEDING SQ. YDS.
56	
	287
47	
	242
40	
	206
34	
	175
29	
	910

END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
70	1		
		124	1
63	0		
		121	0
67	0		
		113	0
54	0		
		99	0
52	0		
		457	1

CALCULATED JDL

CHECKED PRS

CROSS SECTIONS
STA. 183+50.00 TO STA. 185+00.00

SUM-271-2.33

635
1195

LEGEND

- CONCRETE TO BE REMOVED UNDER ITEM 202 - PAVEMENT REMOVED (TYP.)
- ITEM 206 - CEMENT STABILIZED SUBGRADE (SEE GENERAL NOTE)
- ITEM 615 - ROADS FOR MAINTAINING TRAFFIC (EARTHWORK)
- ITEM 203 - SPECIAL BENCHING

℄ CONST. RAMP D

I-77 RAMP D

℄ TEMPORARY RAMP D

1119.92
185+00.00
1120.10

1119.64
184+50.00
1119.74

1119.09
184+00.00
1119.21

1118.27
183+50.00
1118.40

1117.7
1123.36
186+75.31

1117.6
1123.84
186+07.08

1117.5
1122.5

1117.4
1122.2
1123.56
185+37.90

1121.7
1122.51
184+68.26

MATCHLINE 110' RT. (SEE ABOVE)

MATCHLINE 110' RT. (SEE BELOW)

STA. 183+00.00

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I-77 RAMP D

℄ CONST. RAMP D

LEGEND

- CONCRETE TO BE REMOVED UNDER ITEM 202 - PAVEMENT REMOVED (TYP.)
- ITEM 206 - CEMENT STABILIZED SUBGRADE (SEE GENERAL NOTE)
- ITEM 615 - ROADS FOR MAINTAINING TRAFFIC (EARTHWORK)
- ITEM 203 - SPECIAL BENCHING

SEEDING END WIDTH	SEEDING SQ. YDS.	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
24	162	60	0	110	0
34	245	58	0	124	3
54	306	75	3	135	4
56	713	70	1	369	7

STA. 185+00.00 — 100 — 50 — 0 — 50 — 100 — STA. 185+00.00

MATCHLINE

6:1 — 6:1 — 6:1 — 1118.0

1119.15
186+50.00
1119.46

MATCHLINE

6:1 — 6:1 — 6:1 — 1117.9

1119.68
186+00.00
1119.90

MATCHLINE

6:1 — 6:1 — 6:1 — 2:1 — 1117.8

1119.93
185+50.00
1120.17

1130 / 1120 / 1110 / 1100 / 1090

CALCULATED JDL
CHECKED PRS

CROSS SECTIONS
STA. 185+50.00 TO STA. 186+50.00

SUM-271-2.33

636
1195

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SEEDING	
END WIDTH	SQ. YDS.
	6737

END AREA		VOLUME	
CUT	FILL	CUT	FILL
		3850	273

CALCULATED JDL

CHECKED PRS

100 50 0 50 100

TOTAL CARRIED TO EROSION CONTROL CALCULATION SHEET 273

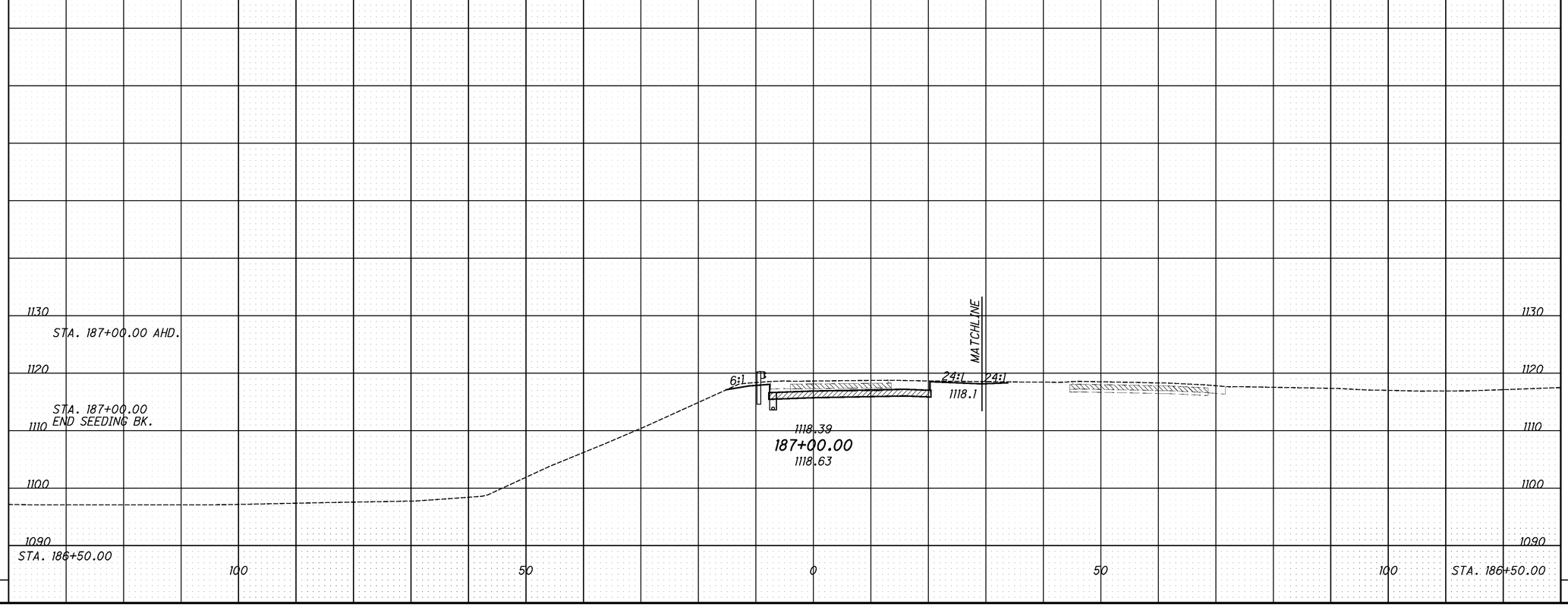
℄ CONST. RAMP D

TOTALS CARRIED TO EARTHWORK SUBSUMMARY SHEET 241

I-77 RAMP D

LEGEND

- CONCRETE TO BE REMOVED UNDER ITEM 202 - PAVEMENT REMOVED (TYP.)
- ITEM 206 - CEMENT STABILIZED SUBGRADE (SEE GENERAL NOTE)
- ITEM 615 - ROADS FOR MAINTAINING TRAFFIC (EARTHWORK)
- ITEM 203 - SPECIAL BENCHING



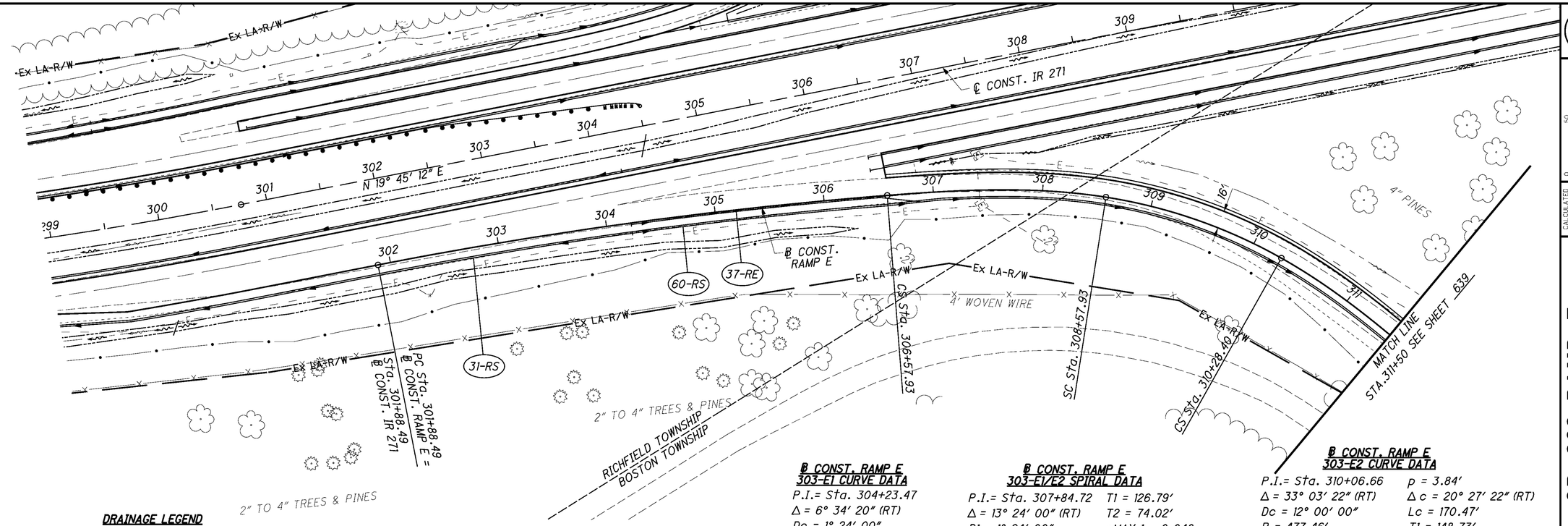
0						
21						
	125			53	0	
						105 0
24				60	0	
	125					105 0

CROSS SECTIONS
STA. 187+00.00

SUM-271-2.33

637
1195

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DRAINAGE LEGEND

ITEM 670 - DITCH EROSION PROTECTION (WIDTH SHOWN ON PLANS)

ITEM 836 - SEEDING AND EROSION CONTROL WITH TURF REINFORCING MAT, TYPE 1 (WIDTH SHOWN ON PLANS)

CROSS REFERENCES	
20-22	TYPICAL SECTIONS
640-648	CROSS SECTIONS
718	SUPERELEVATION TABLES
735	PAVEMENT DETAILS

℄ CONST. RAMP E 303-E1 CURVE DATA

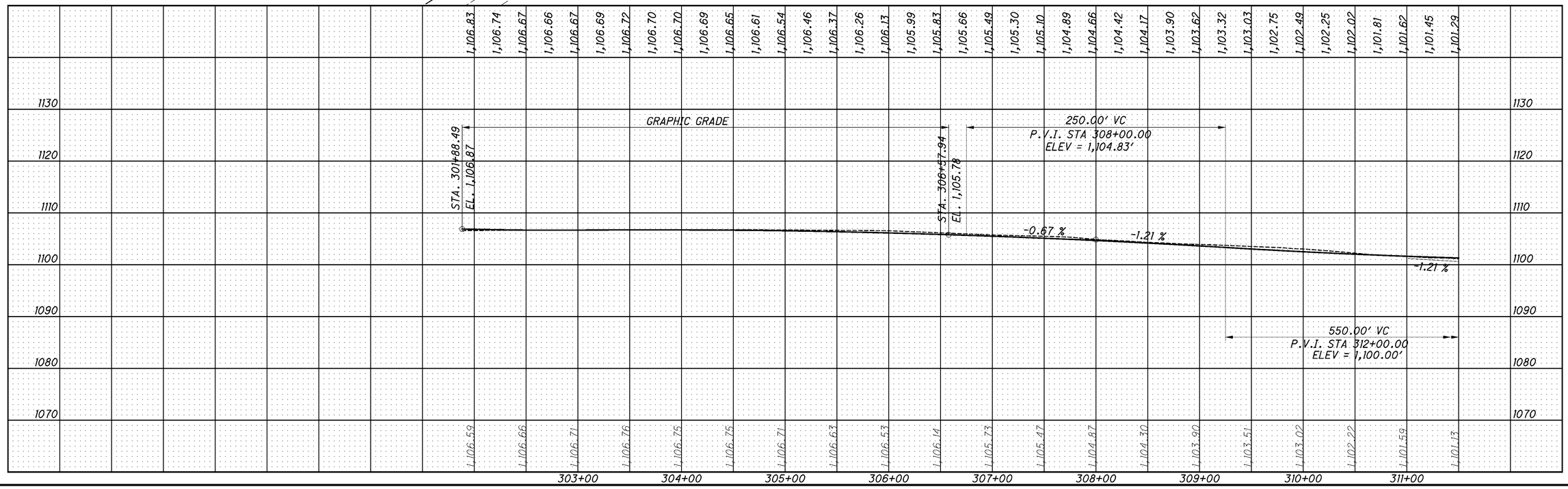
P.I.= Sta. 304+23.47
Δ = 6° 34' 20" (RT)
Dc = 1° 24' 00"
R = 4,092.56'
T = 234.98'
L = 469.44'
E = 6.74'
C = 469.19'
C.B. = N 23° 02' 22" E
eMAX. = 0.048

℄ CONST. RAMP E 303-E1/E2 SPIRAL DATA

P.I.= Sta. 307+84.72
Δ = 13° 24' 00" (RT)
D1 = 1° 24' 00"
R1 = 4,092.56'
D2 = 12° 00' 00"
R2 = 477.46'
Ls = 200.00'
p = 3.08'
Δ 1 = 1° 23' 53"
Δ 2 = 12° 00' 07"
T1 = 126.79'
T2 = 74.02'
eMAX.1 = 0.048
eMAX.2 = 0.080
C1 = 469.19'
C = 199.64'
C2 = 169.56'
C.B.1 = N 23° 02' 22" E
C.B. = N 31° 15' 19" E
C.B.2 = N 49° 57' 13" E

℄ CONST. RAMP E 303-E2 CURVE DATA

P.I.= Sta. 310+06.66
Δ = 33° 03' 22" (RT)
Dc = 12° 00' 00"
R = 477.46'
Ls = 210.00'
θ s = 12° 36' 00" (RT)
LT = 140.36'
ST = 70.32'
x = 208.99'
y = 15.34'
k = 104.83'
p = 3.84'
Δ c = 20° 27' 22" (RT)
Lc = 170.47'
T1 = 148.73'
T2 = 240.61'
Es = 22.63'
eMAX. = 0.080
C = 169.56'
C2 = 209.55'
C.B. = N 49° 57' 13" E
C.B.2 = N 68° 35' 00" E



HORIZONTAL SCALE IN FEET
0 25 50 100

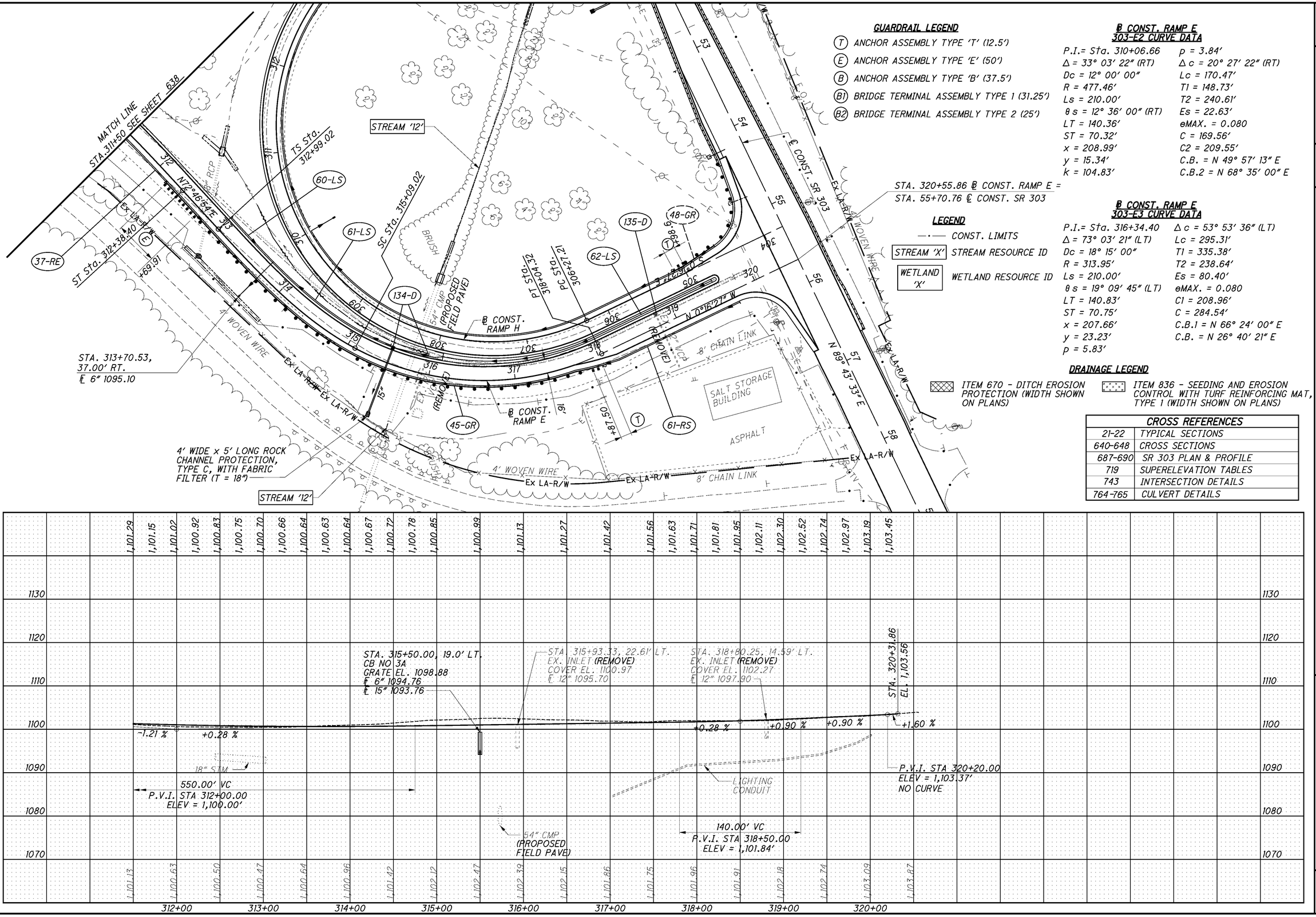
CALCULATED JDL
CHECKED PRS

PLAN AND PROFILE - SR 303 RAMP E STA. 301+88.49 TO STA. 311+50

SUM-271-2.33

638
1195

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GUARDRAIL LEGEND

- (T) ANCHOR ASSEMBLY TYPE 'T' (12.5')
- (E) ANCHOR ASSEMBLY TYPE 'E' (50')
- (B) ANCHOR ASSEMBLY TYPE 'B' (37.5')
- (B1) BRIDGE TERMINAL ASSEMBLY TYPE 1 (31.25')
- (B2) BRIDGE TERMINAL ASSEMBLY TYPE 2 (25')

LEGEND

- —·— CONST. LIMITS
- STREAM 'X' STREAM RESOURCE ID
- WETLAND 'X' WETLAND RESOURCE ID

℄ CONST. RAMP E 303-E2 CURVE DATA

P.I.= Sta. 310+06.66	p = 3.84'
Δ = 33° 03' 22" (RT)	Δ c = 20° 27' 22" (RT)
Dc = 12° 00' 00"	Lc = 170.47'
R = 477.46'	T1 = 148.73'
Ls = 210.00'	T2 = 240.61'
θ s = 12° 36' 00" (RT)	Es = 22.63'
LT = 140.36'	eMAX. = 0.080
ST = 70.32'	C = 169.56'
x = 208.99'	C2 = 209.55'
y = 15.34'	C.B. = N 49° 57' 13" E
k = 104.83'	C.B.2 = N 68° 35' 00" E

℄ CONST. RAMP E 303-E3 CURVE DATA

P.I.= Sta. 316+34.40	Δ c = 53° 53' 36" (LT)
Δ = 73° 03' 21" (LT)	Lc = 295.31'
Dc = 18° 15' 00"	T1 = 335.38'
R = 313.95'	T2 = 238.64'
Ls = 210.00'	Es = 80.40'
θ s = 19° 09' 45" (LT)	eMAX. = 0.080
LT = 140.83'	C1 = 208.96'
ST = 70.75'	C = 284.54'
x = 207.66'	C.B.1 = N 66° 24' 00" E
y = 23.23'	C.B. = N 26° 40' 21" E
p = 5.83'	

DRAINAGE LEGEND

- ITEM 670 - DITCH EROSION PROTECTION (WIDTH SHOWN ON PLANS)
- ITEM 836 - SEEDING AND EROSION CONTROL WITH TURF REINFORCING MAT, TYPE 1 (WIDTH SHOWN ON PLANS)

CROSS REFERENCES	
21-22	TYPICAL SECTIONS
640-648	CROSS SECTIONS
687-690	SR 303 PLAN & PROFILE
719	SUPERELEVATION TABLES
743	INTERSECTION DETAILS
764-765	CULVERT DETAILS

HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED JDL
CHECKED PRS

PLAN AND PROFILE - SR 303 RAMP E
STA. 311+50 TO STA. 320+55.86

SUM-271-2.33

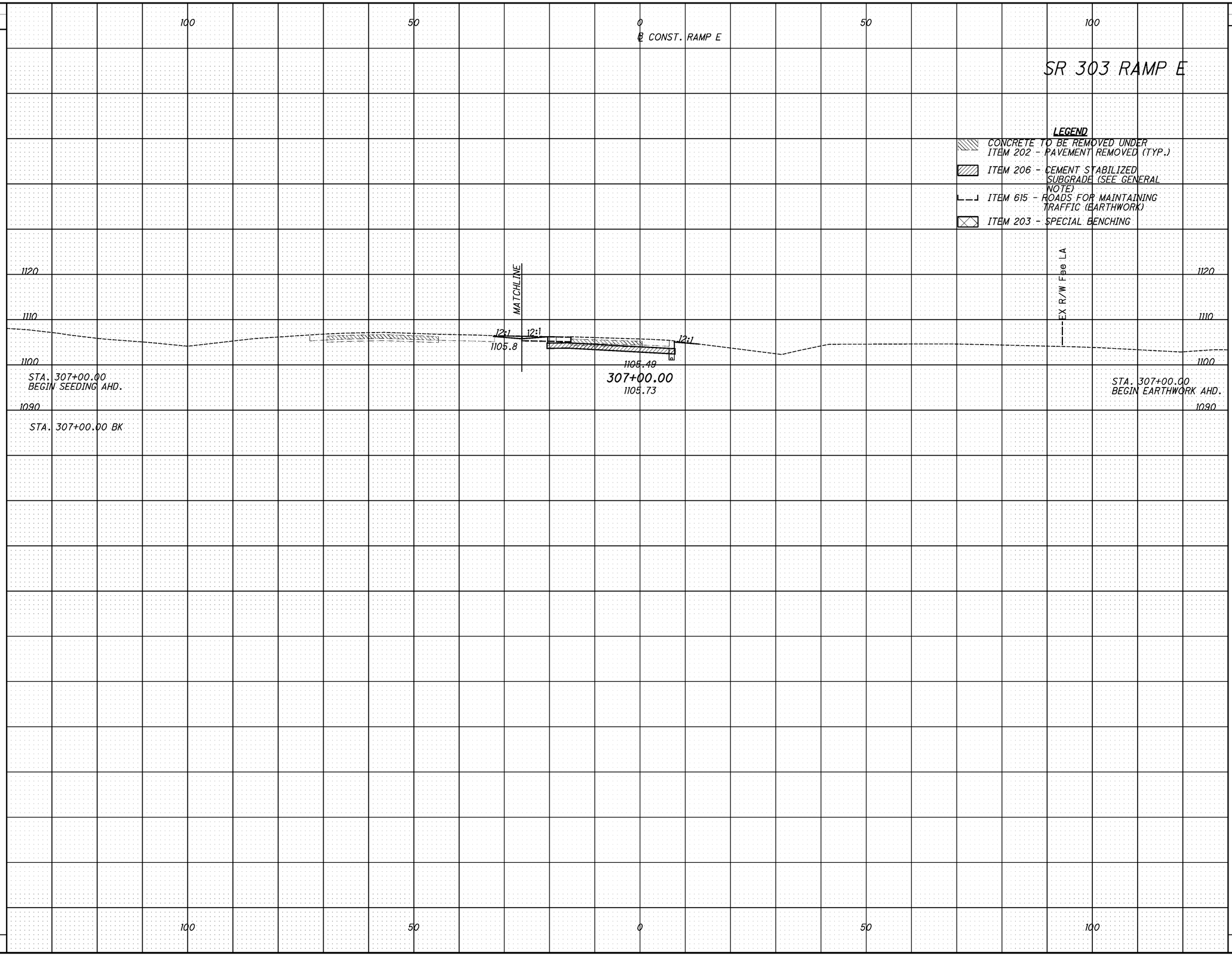
639
1195

F:\2009\109094\18710\roadway\sheets\18710GP039.dgn 11/9/2012 1:06:03 PM JeremyLoy

SEEDING	
END WIDTH	SQ. YDS.
16	0

END AREA		VOLUME	
CUT	FILL	CUT	FILL
46	0		

CALCULATED JDL
CHECKED PRS



CROSS SECTIONS
STA. 307+00.00

SUM-271-2.33

640
1195

F:\2009\109094\18710\roadway\sheets\18710XS301.dgn 11/10/2012 8:54:30 AM BobVicAuley

SEEDING	
END WIDTH	SQ. YDS.
11	89
21	114
20	100
16	303

100 50 0 ℄ CONST. RAMP E 50 100

SR 303 RAMP E

1120 1110 1100 1090 1080

6:1 12:1

1104.17
308+50.00
1104.30

EX R/W Fee LA

MATCHLINE

12:1 12:1 12:1

1104.6
1104.66
308+00.00
1104.87

MATCHLINE

12:1 12:1 12:1

1105.2
1105.10
307+50.00
1105.47

EX R/W Fee LA

EX R/W Fee LA

LEGEND

- CONCRETE TO BE REMOVED UNDER ITEM 202 - PAVEMENT REMOVED (TYP.)
- ITEM 206 - CEMENT STABILIZED SUBGRADE (SEE GENERAL NOTE)
- ITEM 615 - ROADS FOR MAINTAINING TRAFFIC (EARTHWORK)
- ITEM 203 - SPECIAL BENCHING

STA. 307+00.00 100 50 0 50 100 STA. 307+00.00

END AREA		VOLUME	
CUT	FILL	CUT	FILL
46	0		
		88	0
49	0		
		92	0
50	0		
		89	0
46	0		
		269	0

CALCULATED JDL
CHECKED PRS

CROSS SECTIONS

STA. 307+50.00 TO STA. 308+50.00

SUM-271-2.33

641
1195

F:\2009\109094\18710\roadway\sheets\18710XS301.dgn 10/7/2012 6:20:54 AM Jeremy.Lay

SEEDING	
END WIDTH	SQ. YDS.
36	181
29	128
17	78
11	
	387

100 50 0 ℄ CONST. RAMP E 50 100

SR 303 RAMP E

1120 1110 1100 1090 1080

6:1 12:1

1102.49
310+00.00
1103.03

EX R/W Fee LA

LEGEND

- CONCRETE TO BE REMOVED UNDER ITEM 202 - PAVEMENT REMOVED (TYP.)
- ITEM 206 - CEMENT STABILIZED SUBGRADE (SEE GENERAL NOTE)
- ITEM 615 - ROADS FOR MAINTAINING TRAFFIC (EARTHWORK)
- ITEM 203 - SPECIAL BENCHING

1103.03
309+50.00
1103.51

1103.62
309+00.00
1103.90

STA. 308+50.00

END AREA		VOLUME	
CUT	FILL	CUT	FILL
57	7	105	10
56	3	96	5
48	2	87	2
46	0	288	17

CALCULATED JDL
CHECKED PRS

CROSS SECTIONS
STA. 309+00.00 TO STA. 310+00.00

SUM-271-2.33

642
1195

F:\2009\109094\18710\roadway\sheets\18710XS301.dgn 10/7/2012 6:21:15 AM JeremyLoy

SEEDING	
END WIDTH	SQ. YDS.
36	225
45	242
42	217
36	
	684

END AREA	
CUT	FILL
39	4
42	11
48	11
57	7

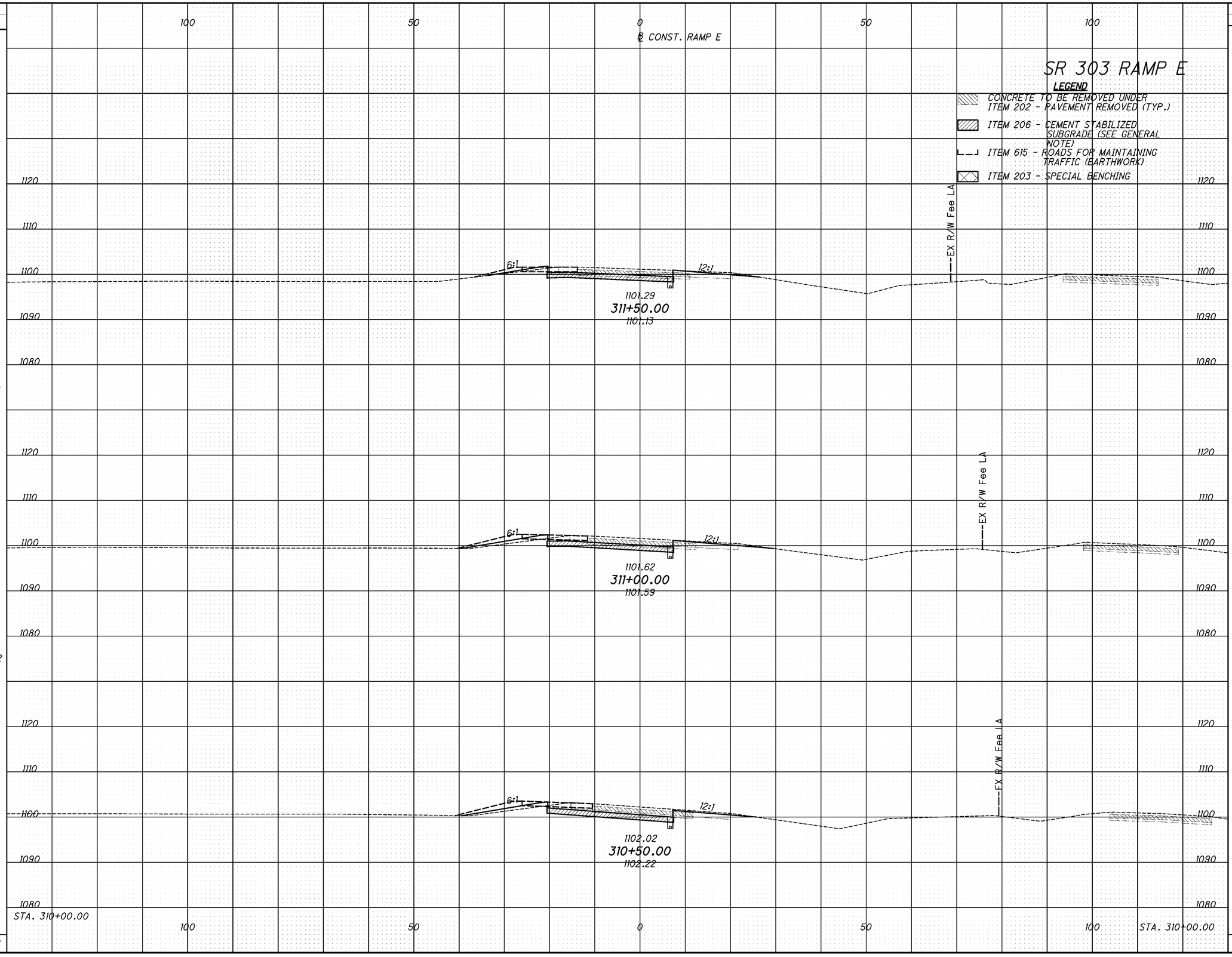
VOLUME	
CUT	FILL
75	14
83	20
97	17
255	51

CALCULATED JDL
CHECKED PRS

CROSS SECTIONS
STA. 310+50.00 TO STA. 311+50.00

SUM-271-2.33

643
1195



F:\2009\109094\18710\roadway\sheets\18710XS301.dgn 10/7/2012 6:21:39 AM JeremyLay

SEEDING	
END WIDTH	SQ. YDS.
28	123
16	106
22	162
36	391

END AREA	
CUT	FILL
44	0
33	1
32	1
39	4

VOLUME	
CUT	FILL
71	1
60	2
66	5
197	8

CALCULATED JDL
CHECKED PRS

CROSS SECTIONS
STA. 312+00.00 TO STA. 313+00.00

SUM-271-2.33

644
1195

SR 303 RAMP E

LEGEND

- CONCRETE TO BE REMOVED UNDER ITEM 202 - PAVEMENT REMOVED (TYP.)
- ITEM 206 - CEMENT STABILIZED SUBGRADE (SEE GENERAL NOTE)
- ITEM 615 - ROADS FOR MAINTAINING TRAFFIC (EARTHWORK)
- ITEM 203 - SPECIAL BENCHING

℄ CONST. RAMP E

100 50 0 50 100

1110 / 1100 / 1090 / 1080 / 1120

12:1

1100.70
313+00.00
1100.47

EX R/W Fee LA

EX. 18" CONC.

STA. 313+05.23, 35.53' RT
EX. HDWL
℄ 18" 1092.07

6:1 12:1

1100.83
312+50.00
1100.51

EX. 18" CONC.

STA. 312+39.01, 59.75' LT.
EX. HDWL
℄ 18" 1092.88

6:1 12:1

1101.03
312+00.00
1100.63

STA. 311+50.00

STA. 311+50.00

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SR 303 RAMP E

LEGEND

- CONCRETE TO BE REMOVED UNDER ITEM 202 - PAVEMENT REMOVED (TYP.)
- ITEM 206 - CEMENT STABILIZED SUBGRADE (SEE GENERAL NOTE)
- ITEM 615 - ROADS FOR MAINTAINING TRAFFIC (EARTHWORK)
- ITEM 203 - SPECIAL BENCHING

CROSS SECTIONS

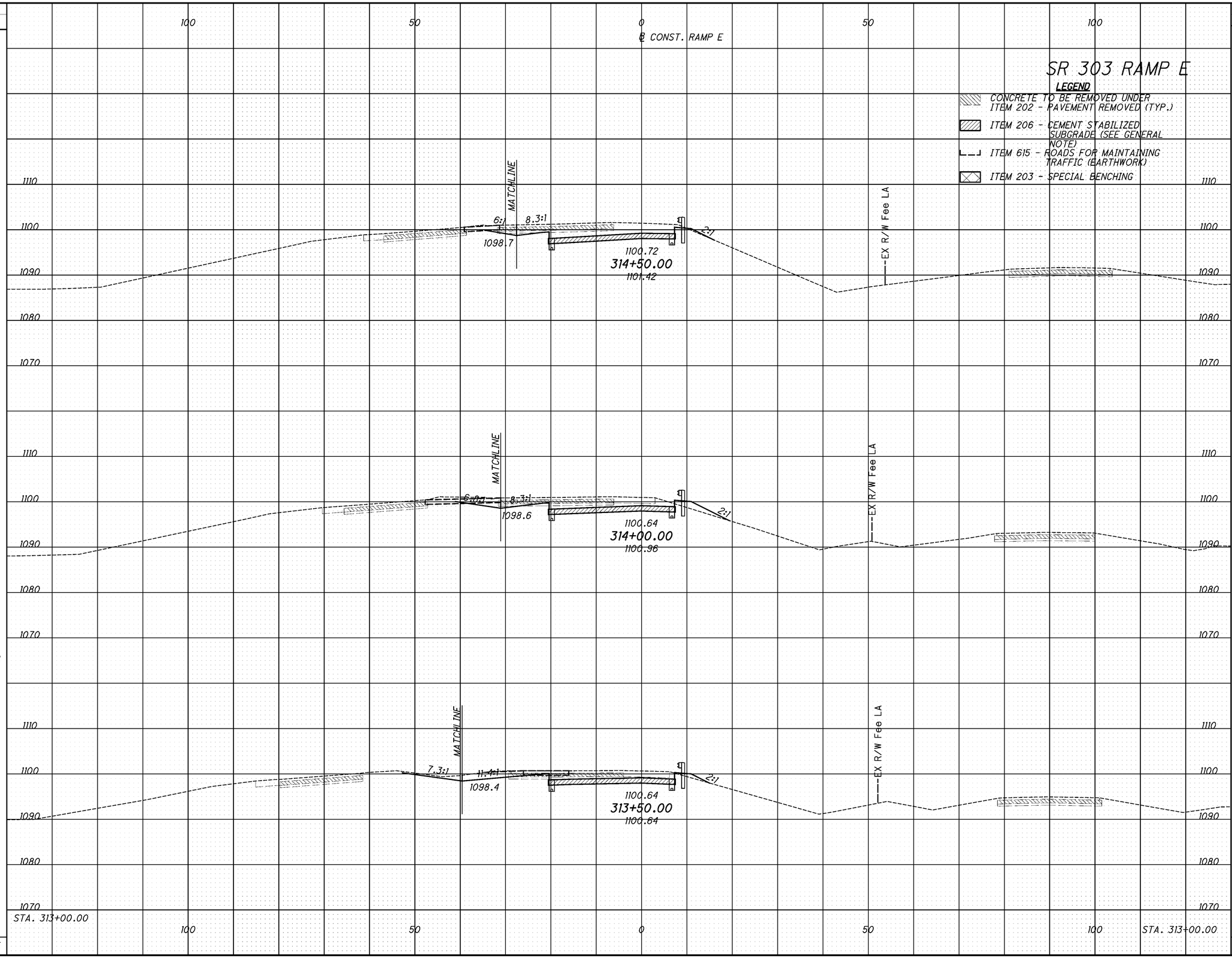
STA. 313+50.00 TO STA. 314+50.00

SUM-271-2.33

645
1195

CALCULATED JDL
CHECKED PRS

SEEDING END WIDTH	SEEDING SQ. YDS.	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
21	137	88	1	151	11
28	164	75	11	135	14
31	164	70	4	106	3
28	465	44	0	392	28



F:\2009\109094\18710\roadway\sheets\18710XS301.dgn 10/7/2012 6:22:51 AM Jeremy.Lay

CROSS SECTIONS
STA. 315+00.00 TO STA. 316+00.00

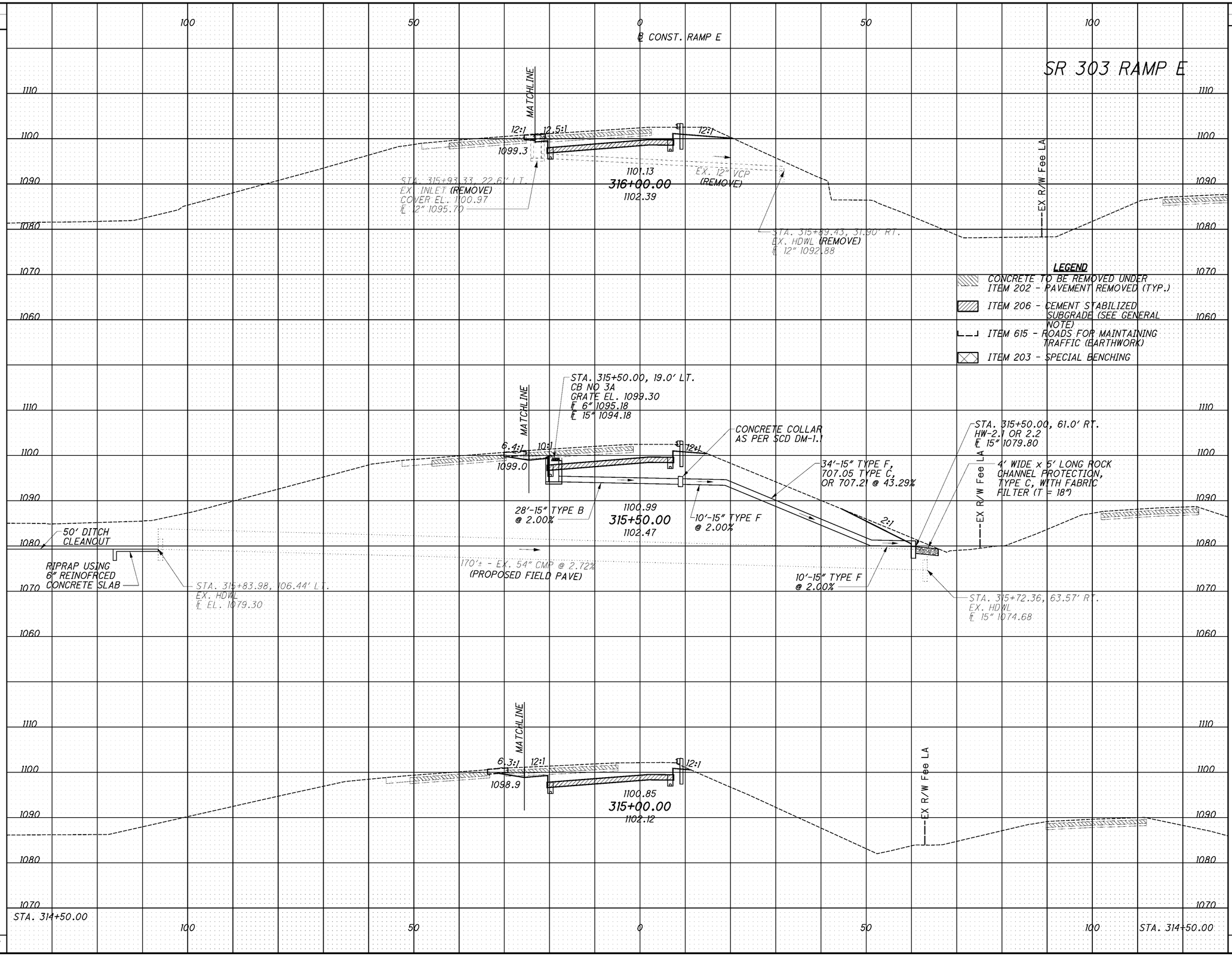
SUM-271-2.33

STA. 316+00.00

CALCULATED JDL
CHECKED PRS

SEEDING END WIDTH	SEEDING SQ. YDS.
22	112
18	87
13	95
21	294

END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
103	0	193	0
105	0	189	0
99	0	173	1
88	1	555	1



F:\2009\109094\18710\roadway\sheets\18710XS301.dgn 10/7/2012 6:23:24 AM JeremyLay

646
1195

SEEDING	
END WIDTH	SQ. YDS.
27	139
23	125
22	123
22	387

END AREA	
CUT	FILL
76	0
80	0
91	0
103	0

VOLUME	
CUT	FILL
144	0
158	0
180	0
482	0

CALCULATED JDL
CHECKED PRS

CROSS SECTIONS
STA. 316+50.00 TO STA. 317+50.00

SR 303 RAMP E

LEGEND

- CONCRETE TO BE REMOVED UNDER ITEM 202 - PAVEMENT REMOVED (TYP.)
- ITEM 206 - CEMENT STABILIZED SUBGRADE (SEE GENERAL NOTE)
- ITEM 615 - ROADS FOR MAINTAINING TRAFFIC (EARTHWORK)
- ITEM 203 - SPECIAL BENCHING

℄ CONST. RAMP E

100 50 0 50 100

1110 / 1100 / 1090 / 1080 / 1070

MATCHLINE

12:1

1101.56
317+50.00
1101.75

1101.42
317+00.00
1101.86

1101.27
316+50.00
1102.15

EX R/W Fee LA

STA. 316+00.00

F:\2009\109094\18710\roadway\sheets\18710XS301.dgn 10/7/2012 6:24:22 AM JeremyLay

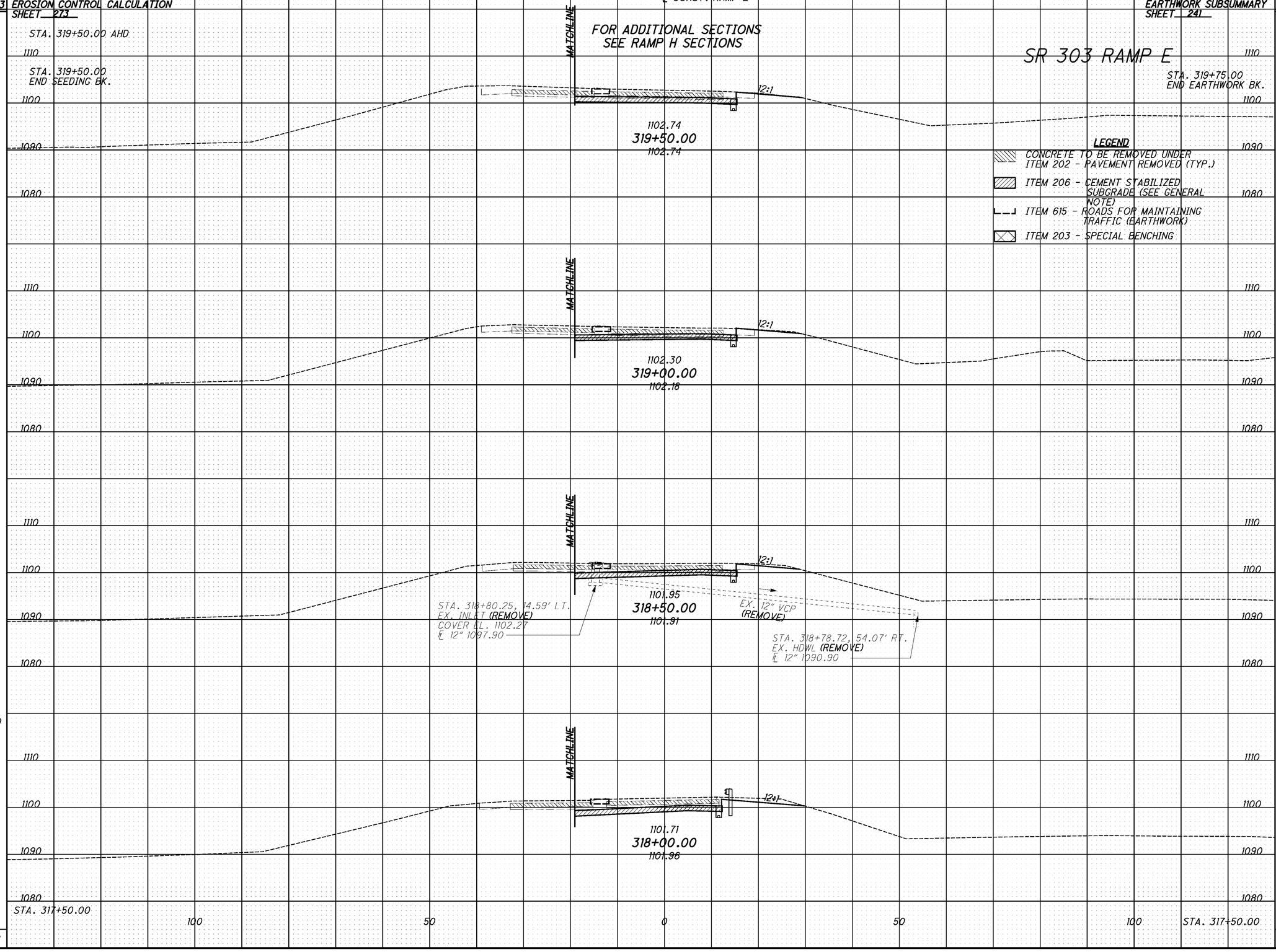
SUM-271-2.33

647
1195

SEEDING END WIDTH	SEEDING SQ. YDS.
	3383
0	
18	
	114
23	
	112
17	
	109
22	
	137
27	
	472

TOTAL CARRIED TO EROSION CONTROL CALCULATION SHEET 273

TOTALS CARRIED TO EARTHWORK SUBSUMMARY SHEET 241



END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
		2950	105
55	0	51	0
55	0		
		100	0
53	0		
		104	0
60	0		
		121	0
71	0		
		136	0
76	0		
		512	0

CALCULATED JDL

CHECKED PRS

CROSS SECTIONS
STA. 318+00.00 TO STA. 319+50.00

SUM-271-2.33

F:\2009\109094\18710\roadway\sheets\18710XS301.dgn 11/10/2012 8:55:57 AM BobMcAuley

℄ CONST. RAMP F
303-FT CURVE DATA

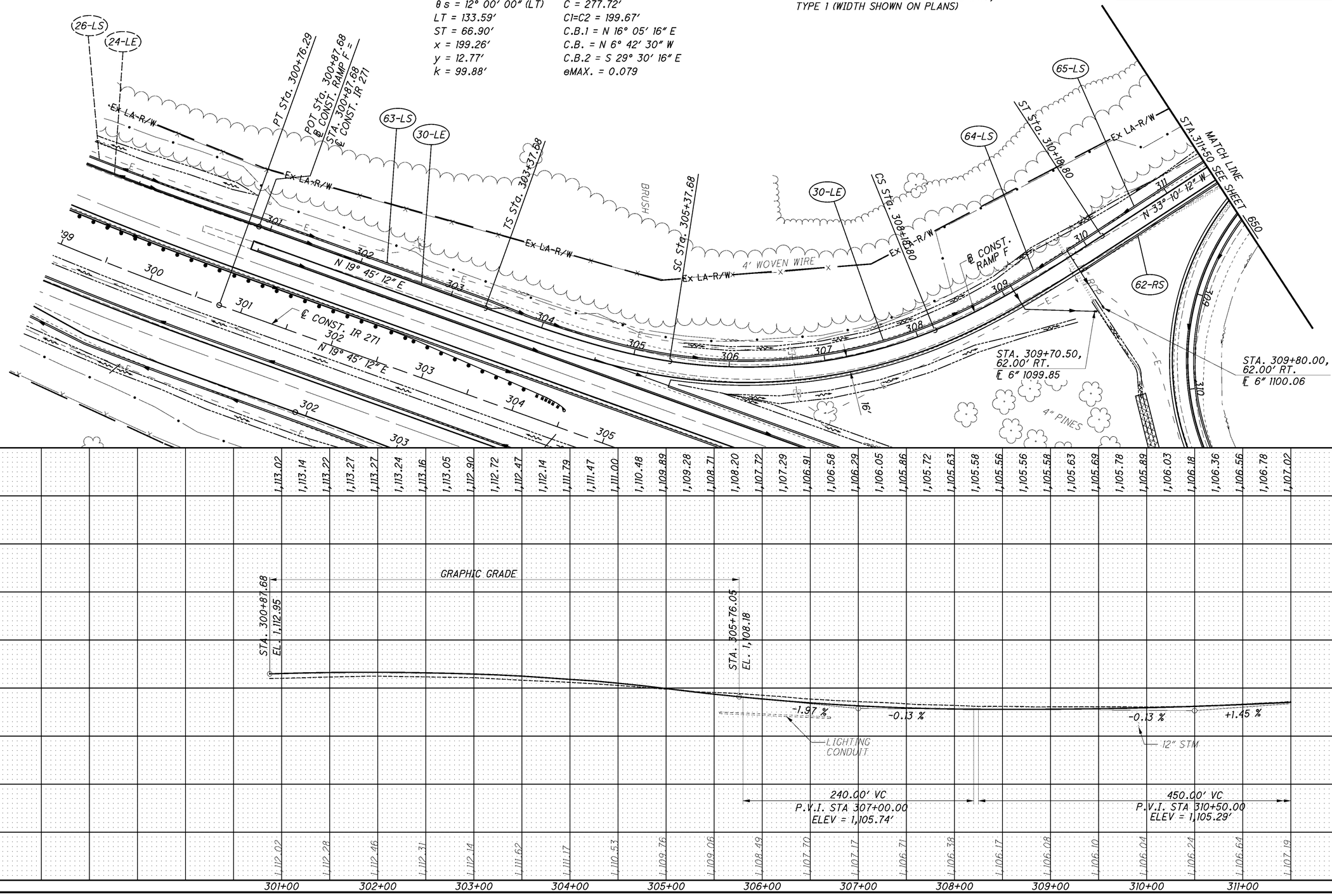
P.I.= Sta. 306+98.41	p = 3.20′
Δ = 52° 55′ 25″ (LT)	D c = 30° 55′ 25″
Dc = 11° 00′ 00″	Lc = 281.12′
R = 520.87′	Ts = 360.73′
Ls = 200.00′	Es = 64.53′
θ s = 12° 00′ 00″ (LT)	C = 277.72′
LT = 133.59′	C1=C2 = 199.67′
ST = 66.90′	C.B.1 = N 16° 05′ 16″ E
x = 199.26′	C.B. = N 6° 42′ 30″ W
y = 12.77′	C.B.2 = S 29° 30′ 16″ E
k = 99.88′	eMAX. = 0.079

DRAINAGE LEGEND

ITEM 670 - DITCH EROSION PROTECTION (WIDTH SHOWN ON PLANS)

ITEM 836 - SEEDING AND EROSION CONTROL WITH TURF REINFORCING MAT, TYPE 1 (WIDTH SHOWN ON PLANS)

CROSS REFERENCES	
20-22	TYPICAL SECTIONS
651-657	CROSS SECTIONS
720	SUPERELEVATION TABLES
736	PAVEMENT DETAILS
766	CULVERT DETAIL



F:\2009\109094\18710\roadway\sheets\18710GP040.dgn 11/6/2012 2:21:22 PM DonHelman

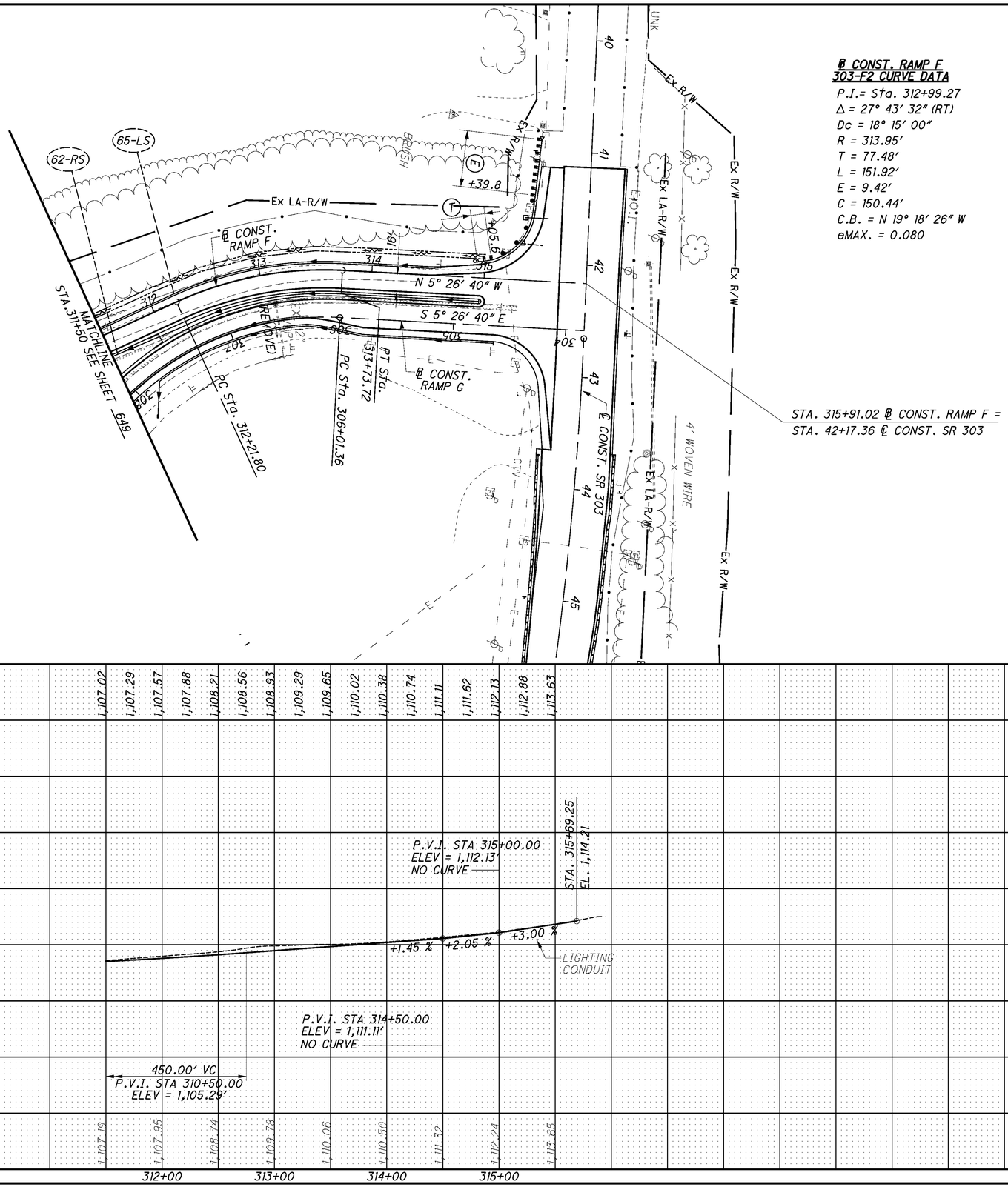
HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED JDL
CHECKED PRS

PLAN AND PROFILE - SR 303 RAMP F
STA. 300+87.68 TO STA. 311+50

SUM-271-2.33

649
1195



℄ CONST. RAMP F
303-F2 CURVE DATA

P.I.= Sta. 312+99.27
Δ = 27° 43' 32" (RT)
Dc = 18° 15' 00"
R = 313.95'
T = 77.48'
L = 151.92'
E = 9.42'
C = 150.44'
C.B. = N 19° 18' 26" W
eMAX. = 0.080

CROSS REFERENCES	
21-22	TYPICAL SECTIONS
651-657	CROSS SECTIONS
687-690	SR 303 PLAN & PROFILE
720	INTERSECTION DETAILS
744	SUPERELEVATION TABLES

DRAINAGE LEGEND

ITEM 670 - DITCH EROSION PROTECTION (WIDTH SHOWN ON PLANS)

ITEM 836 - SEEDING AND EROSION CONTROL WITH TURF REINFORCING MAT, TYPE 1 (WIDTH SHOWN ON PLANS)

GUARDRAIL LEGEND

(T) ANCHOR ASSEMBLY TYPE 'T' (12.5')
(E) ANCHOR ASSEMBLY TYPE 'E' (50')
(B) ANCHOR ASSEMBLY TYPE 'B' (37.5')
(B1) BRIDGE TERMINAL ASSEMBLY TYPE 1 (31.25')
(B2) BRIDGE TERMINAL ASSEMBLY TYPE 2 (25')

HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED JDL
CHECKED PRS

PLAN AND PROFILE - SR 303 RAMP F
STA. 311+50 TO STA. 315+91.02

SUM-271-2.33

650
1195

F:\2009\109094\18710\roadway\sheets\18710GP041.dgn 11/9/2012 1:07:08 PM JeremyLay

SEEDING	
END WIDTH	SQ. YDS.
47	223
33	167
27	
0	
	390

END AREA		VOLUME	
CUT	FILL	CUT	FILL
112	0		
		186	0
88	0		
		147	0
70	0		
0	0		
		333	0

CALCULATED JDL
CHECKED PRS

CROSS SECTIONS
STA. 305+50.00 TO STA. 306+50.00

SUM-271-2.33

651
1195

F:\2009\109094\18710\roadway\sheets\18710XS302.dgn 11/10/2012 9:01:08 AM BobMcAuley

SEEDING	
END WIDTH	SQ. YDS.
50	281
51	284
51	273
47	838

END AREA	
CUT	FILL
118	0
129	0
134	0
112	0

VOLUME	
CUT	FILL
229	0
244	0
228	0
701	0

CALCULATED JDL
CHECKED PRS

CROSS SECTIONS
STA. 307+00.00 TO STA. 308+00.00

SUM-271-2.33

652
1195

℄ CONST. RAMP F

SR 303 RAMP F

EX R/W Fee LA

5.2:1 4:1 1103.1 1105.63 308+00.00 1106.38 6:1 4:1 1105.4

4.4:1 4:1 1103.5 1105.86 307+50.00 1106.71 6:1 4:1 1105.6

4:1 5:1 1103.9 1106.29 307+00.00 1107.17 6:1 4:1 1106.0

STA. 306+50.00

100 50 0 50 100

1140 1130 1120 1110 1100 1090

LEGEND

- CONCRETE TO BE REMOVED UNDER ITEM 202 - PAVEMENT REMOVED (TYP.)
- ITEM 206 - CEMENT STABILIZED SUBGRADE (SEE GENERAL NOTE)
- ITEM 615 - ROADS FOR MAINTAINING TRAFFIC (EARTHWORK)
- ITEM 203 - SPECIAL BENCHING

F:\2009\109094\18710\roadway\sheets\18710XS302.dgn 10/23/2012 2:27:33 PM CraigBanghart

SR 303 RAMP F

LEGEND

- CONCRETE TO BE REMOVED UNDER ITEM 202 - PAVEMENT REMOVED (TYP.)
- ITEM 206 - CEMENT STABILIZED SUBGRADE (SEE GENERAL NOTE)
- ITEM 615 - ROADS FOR MAINTAINING TRAFFIC (EARTHWORK)
- ITEM 203 - SPECIAL BENCHING

℄ CONST. RAMP F

EX R/W Fee LA

STA. 309+77.09, 21.74' LT.
EX. HDWL
℄ 18" 101.56

EX. 18" CONC.

STA. 309+75.20, 52.31' RT
EX. HDWL
℄ 18" 1098.78

309+50.00
1106.10

1102.5 | 1105.69 | 1102.3

3:1 | 4:1 | 12:1 | 6:1 | 4:1

309+00.00
1106.08

1102.7 | 1105.58 | 1103.6

3.8:1 | 4:1 | 12:1 | 6:1 | 4:1

308+50.00
1106.17

1102.9 | 1105.56 | 1105.1

5.2:1 | 4:1 | 6:1 | 4:1

STA. 308+00.00

SEEDING END WIDTH	SEEDING SQ. YDS.
82	398
61	309
50	278
50	
	985

END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
89	0		
		185	0
110	0		
		197	0
102	0		
		204	0
118	0		
		586	0

CALCULATED JDL
CHECKED PRS

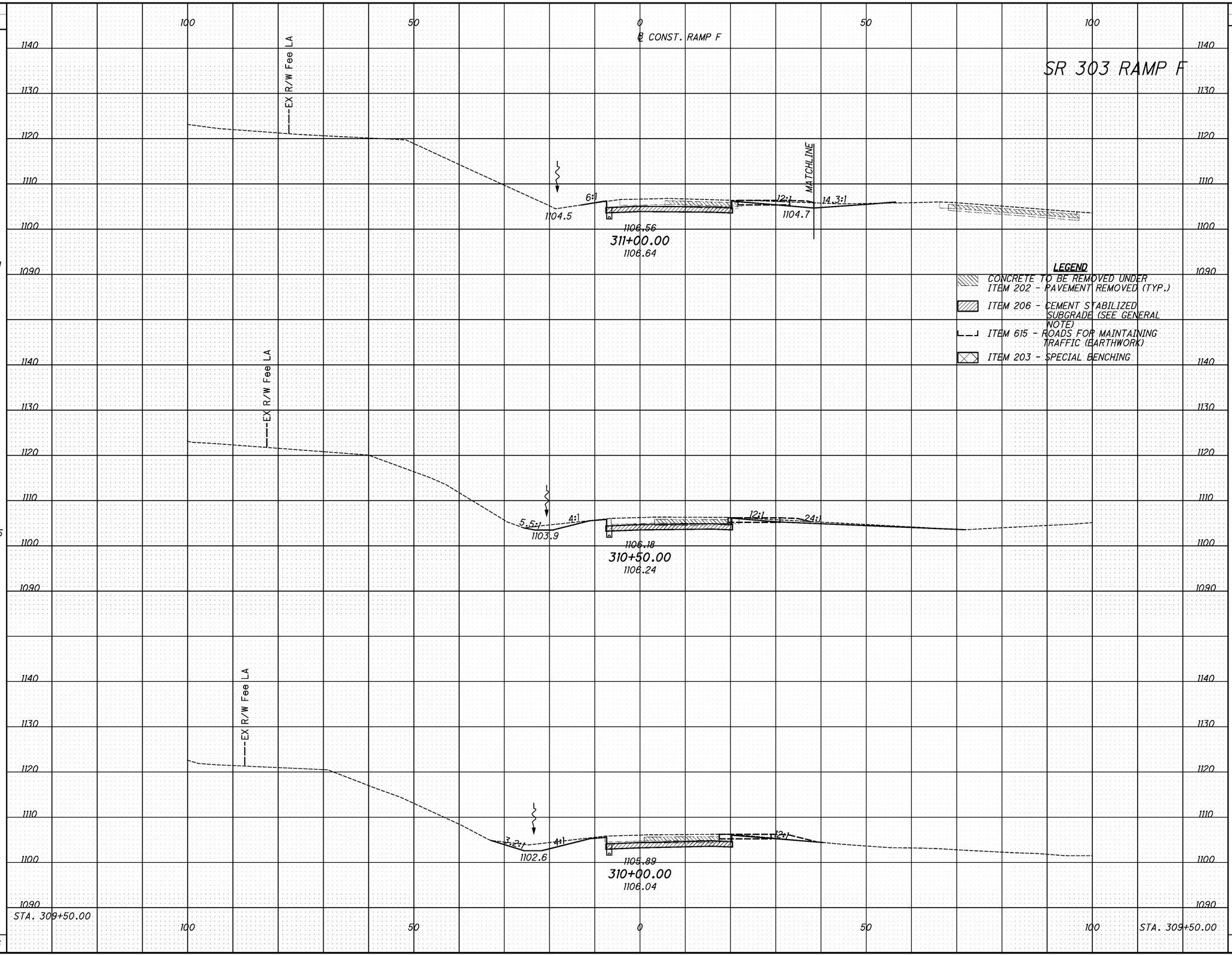
CROSS SECTIONS
STA. 308+50.00 TO STA. 309+50.00

SUM-271-2.33

653
1195

F:\2009\109094\18710\roadway\sheets\18710XS302.dgn 10/23/2012 2:28:03 PM CraigBarghart

SEEDING END WIDTH	SEEDING SQ. YDS.
28	284
74	345
50	367
82	996



END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
59	0	115	0
65	0	124	0
68	0	146	0
89	0	385	0

CALCULATED JDL
CHECKED PRS

CROSS SECTIONS
STA. 310+00.00 TO STA. 311+00.00

SUM-271-2.33

654
1195

F:\2009\109094\18710\roadway\sheets\18710XS302.dgn 10/23/2012 2:28:22 PM CraigBanghart

SEEDING END WIDTH	SEEDING SQ. YDS.
43	237
42	264
53	225
28	
	726

END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
174	2	291	6
140	4	261	7
141	3	186	3
59	0	738	16

CALCULATED JDL
CHECKED PRS

CROSS SECTIONS

STA. 311+50.00 TO STA. 312+50.00

SUM-271-2.33

655
1195

℄ CONST. RAMP F

SR 303 RAMP F

EX R/W Fee LA

MATCHLINE

2:1

6:1

12.5:1

12:1

1106.9

1108.21
312+50.00
1108.73

1106.0

1107.57
312+00.00
1107.95

1105.4

1107.02
311+50.00
1107.19

1105.7

STA. 311+00.00

100 50 0 50 100

1140 1130 1120 1110 1100 1090

LEGEND

CONCRETE TO BE REMOVED UNDER ITEM 202 - PAVEMENT REMOVED (TYP.)

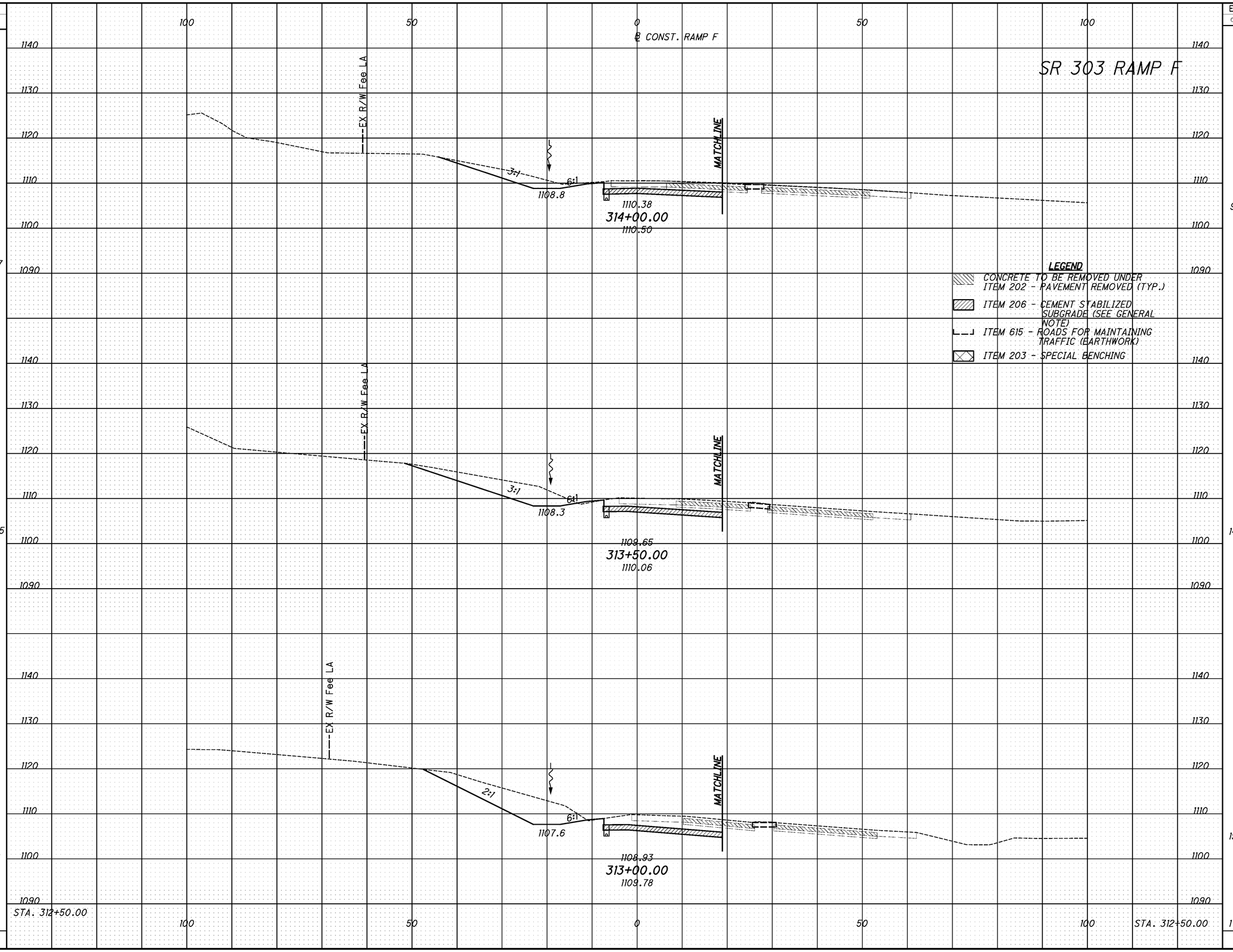
ITEM 206 - CEMENT STABILIZED SUBGRADE (SEE GENERAL NOTE)

ITEM 615 - ROADS FOR MAINTAINING TRAFFIC (EARTHWORK)

ITEM 203 - SPECIAL BENCHING

F:\2009\109094\18710\roadway\sheets\18710XS302.dgn 10/23/2012 2:28:43 PM CraigBanghart

SEEDING END WIDTH	SEEDING SQ. YDS.
39	237
46	245
42	237
43	719



END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
93	0		
		225	2
149	2		
		319	3
195	1		
		342	3
174	2		
		886	8

CALCULATED JDL
CHECKED PRS

CROSS SECTIONS
STA. 313+00.00 TO STA. 314+00.00

SUM-271-2.33

656
1195

F:\2009\109094\18710\roadway\sheets\18710XS302.dgn 10/23/2012 2:29:02 PM CraigBonghart

SEEDING END WIDTH	SEEDING SQ. YDS.
	4854

TOTAL CARRIED TO EROSION CONTROL CALCULATION SHEET 273

℄ CONST. RAMP F

TOTALS CARRIED TO EARTHWORK SUBSUMMARY SHEET 241

END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
		3866	24

CALCULATED

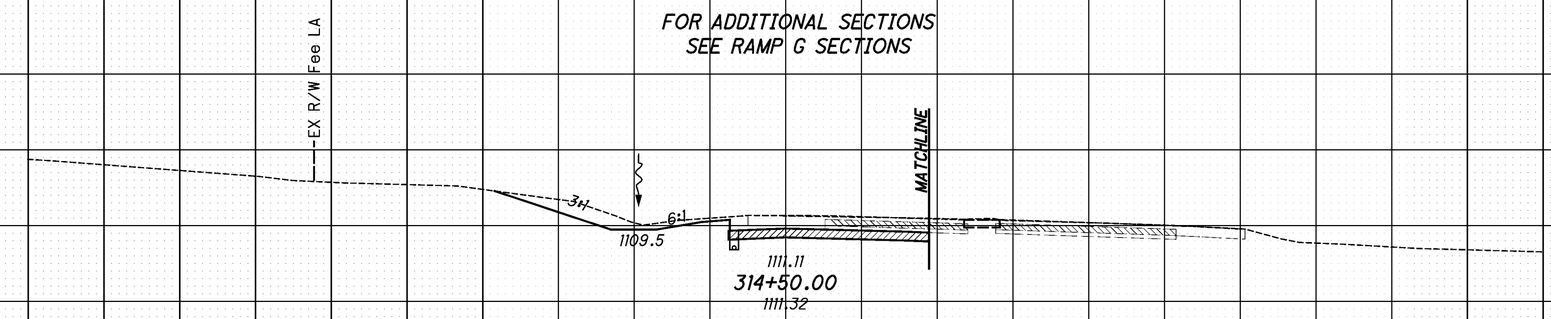
CHECKED

SR 303 RAMP F

LEGEND

- CONCRETE TO BE REMOVED UNDER ITEM 202 - PAVEMENT REMOVED (TYP.)
- ITEM 206 - CEMENT STABILIZED SUBGRADE (SEE GENERAL NOTE)
- ITEM 615 - ROADS FOR MAINTAINING TRAFFIC (EARTHWORK)
- ITEM 203 - SPECIAL BENCHING

FOR ADDITIONAL SECTIONS SEE RAMP G SECTIONS



		100	50	0	50	100			
0		STA. 314+50.00 AHD.							
33		STA. 314+50.00 END SEEDING BK.							
	200								
39		STA. 314+00.00							
	200		100	50	0	50	100	STA. 314+00.00	

STA. 314+75.00 AHD.	0	0	
STA. 314+75.00 END EARTHWORK BK.	81	0	
	81	0	
	93	0	
		75	0
		162	0
		237	0

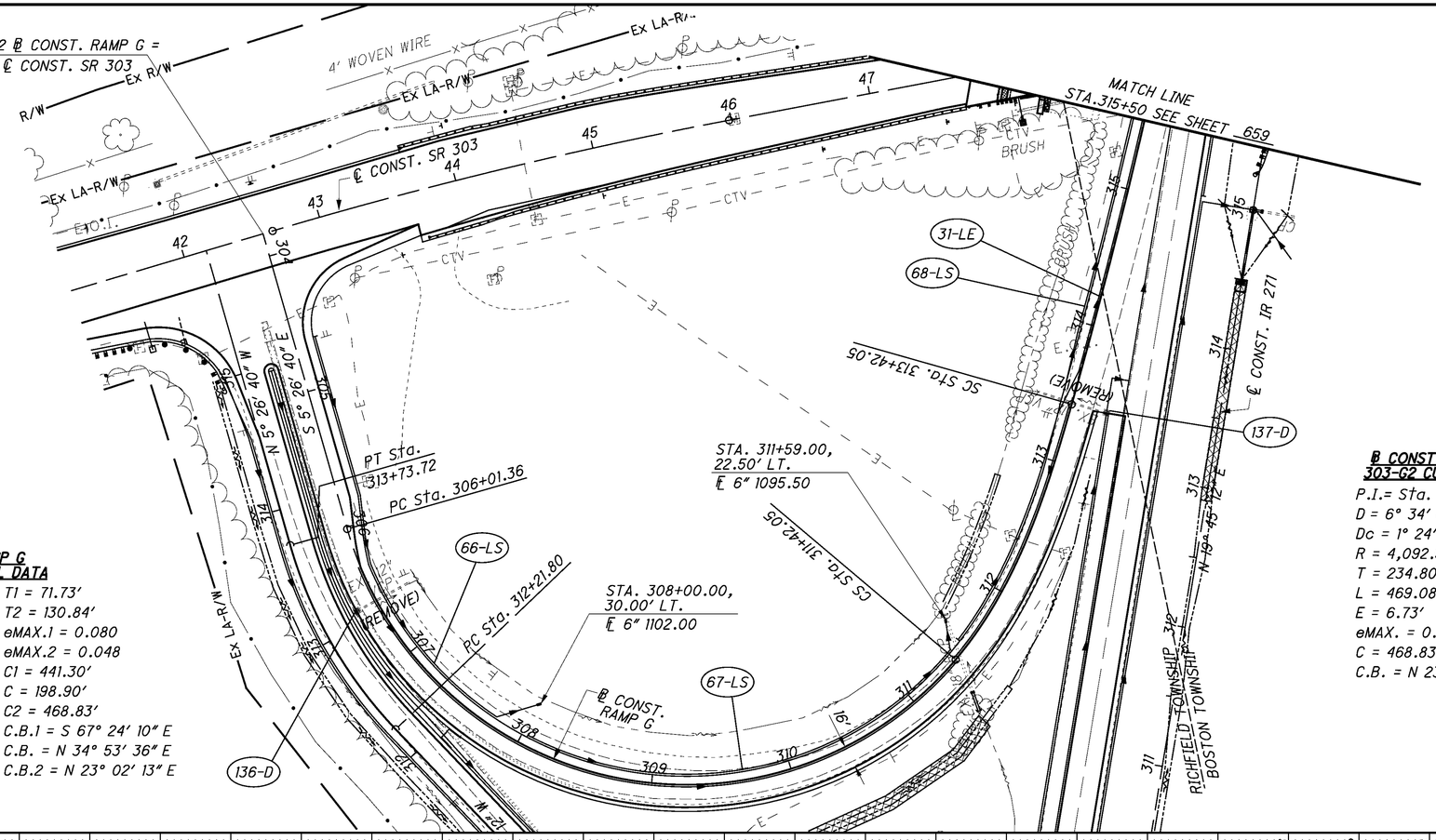
CROSS SECTIONS
STA. 314+50.00

SUM-271-2.33

657
1195

F:\2009\109094\18710\roadway\sheets\18710XS302.dgn 11/10/2012 9:04:52 AM BobMcAuley

STA. 303+83.02 ℄ CONST. RAMP G =
STA. 42+58.32 ℄ CONST. SR 303



CROSS REFERENCES	
21-22	TYPICAL SECTIONS
660-665	CROSS SECTIONS
687-690	SR 303 PLAN & PROFILE
721	SUPERELEVATION TABLES
744	INTERSECTION DETAILS
767	CULVERT DETAIL

DRAINAGE LEGEND

ITEM 670 - DITCH EROSION PROTECTION (WIDTH SHOWN ON PLANS)

ITEM 836 - SEEDING AND EROSION CONTROL WITH TURF REINFORCING MAT, TYPE 1 (WIDTH SHOWN ON PLANS)

℄ CONST. RAMP G
303-G1 CURVE DATA

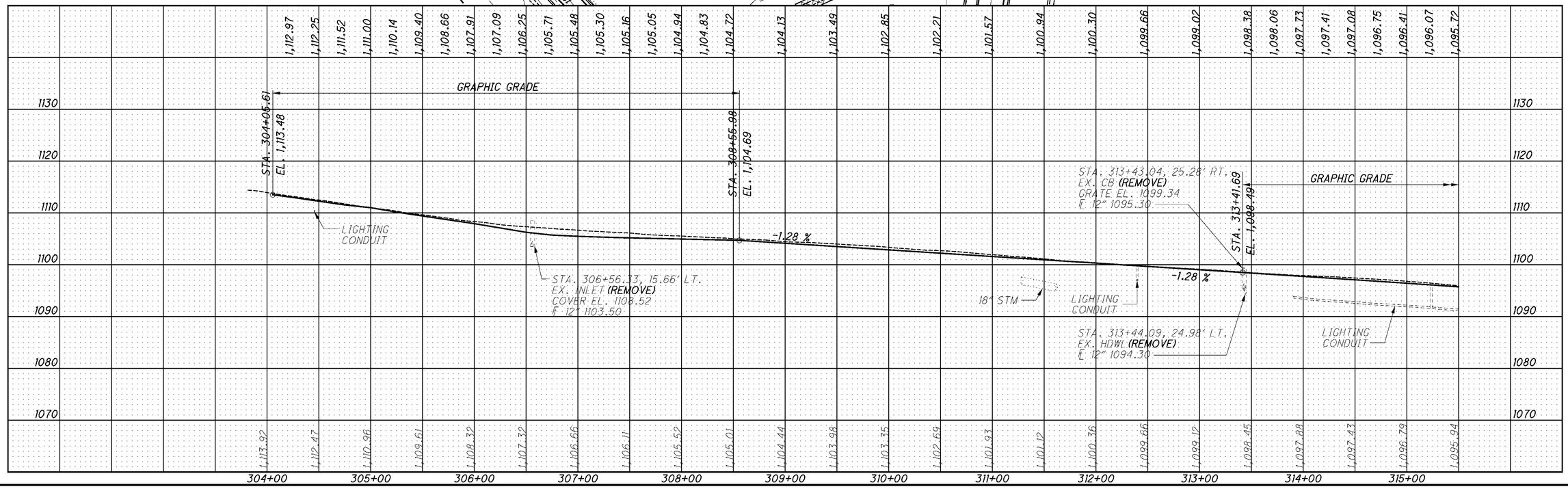
P.I.= Sta. 310+70.72
D = 123° 55' 00" (LT)
Dc = 22° 55' 06"
R = 250.00'
T = 469.36'
L = 540.69'
E = 281.79'
eMAX. = 0.080
C = 441.30'
C.B. = S 67° 24' 10" E

℄ CONST. RAMP G
303-G1/G2 SPIRAL DATA

P.I.= Sta. 312+13.79	T1 = 71.73'
Δ = 24° 19' 06" (LT)	T2 = 130.84'
D1 = 22° 55' 06"	eMAX.1 = 0.080
R1 = 250.00'	eMAX.2 = 0.048
D2 = 1° 24' 00"	C1 = 441.30'
R2 = 4,092.56'	C = 198.90'
Ls = 200.00'	C2 = 468.83'
p = 6.22'	C.B.1 = S 67° 24' 10" E
Δ 1 = 22° 55' 31"	C.B. = N 34° 53' 36" E
Δ 2 = 1° 23' 35"	C.B.2 = N 23° 02' 13" E

℄ CONST. RAMP G
303-G2 CURVE DATA

P.I.= Sta. 315+76.85
D = 6° 34' 02" (LT)
Dc = 1° 24' 00"
R = 4,092.56'
T = 234.80'
L = 469.08'
E = 6.73'
eMAX. = 0.048
C = 468.83'
C.B. = N 23° 02' 13" E



HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED JDL
CHECKED PRS

PLAN AND PROFILE - SR 303 RAMP G
STA. 303+83.02 TO STA. 315+50

SUM-271-2.33

658
1195

F:\2009\1090941871OYroadway\sheets\18710GP042.dgn 11/9/2012 1:09:53 PM Jeremy Loy

℄ CONST. RAMP G
303-G2 CURVE DATA

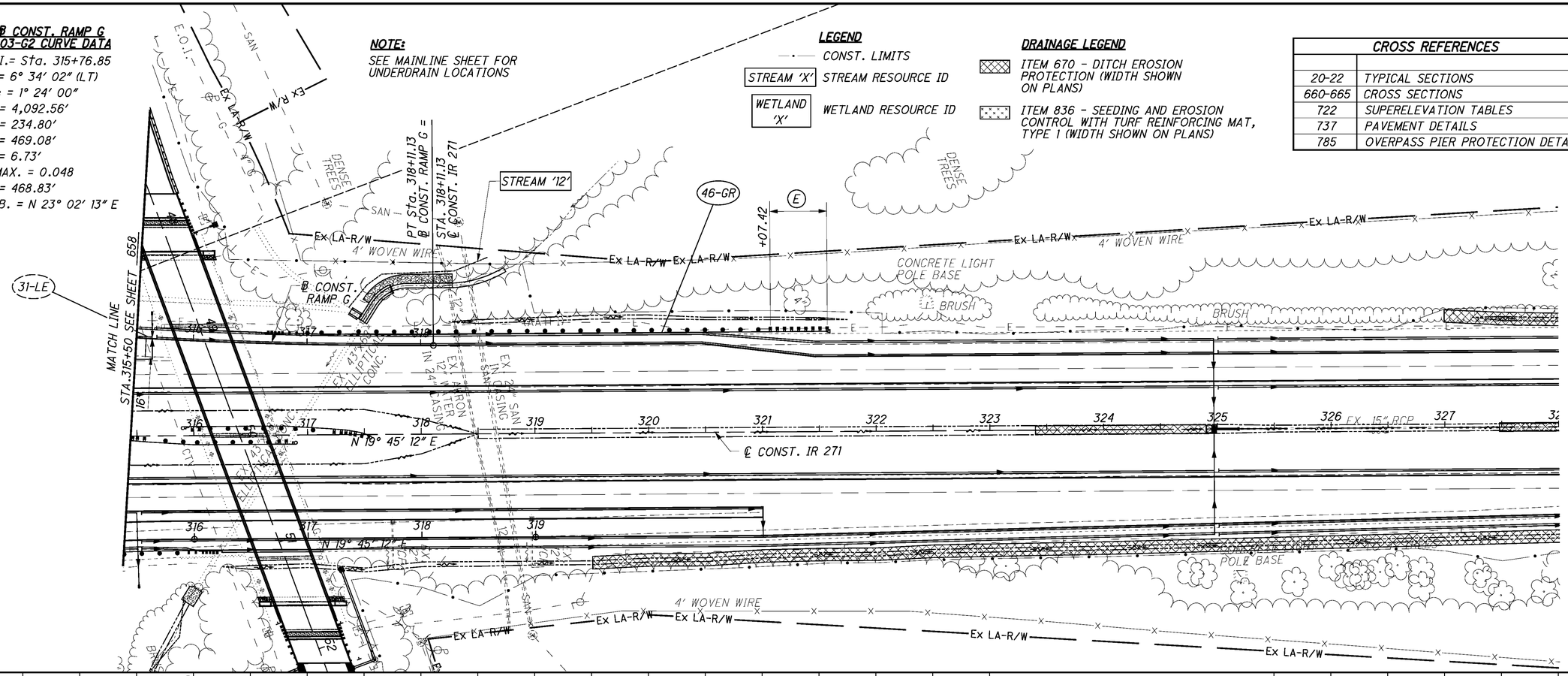
P.I.= Sta. 315+76.85
D = 6° 34′ 02″ (LT)
Dc = 1° 24′ 00″
R = 4,092.56′
T = 234.80′
L = 469.08′
E = 6.73′
eMAX. = 0.048
C = 468.83′
C.B. = N 23° 02′ 13″ E

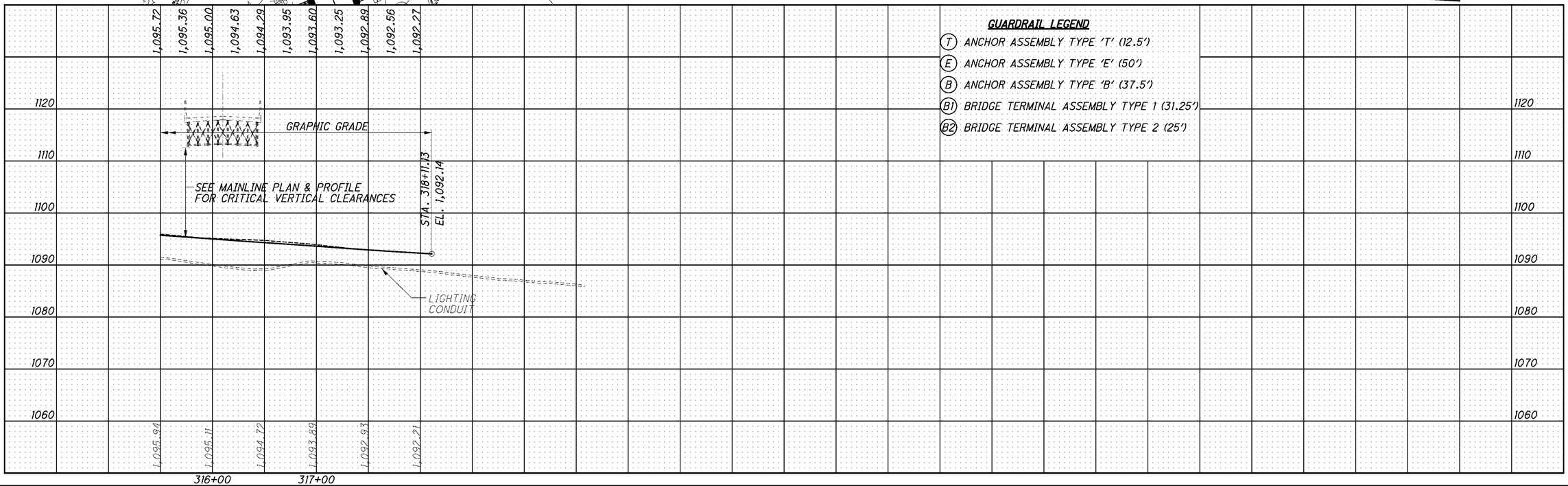
NOTE:
SEE MAINLINE SHEET FOR UNDERDRAIN LOCATIONS

LEGEND
- CONST. LIMITS
- STREAM 'X' — STREAM RESOURCE ID
- WETLAND 'X' — WETLAND RESOURCE ID

DRAINAGE LEGEND
- ITEM 670 - DITCH EROSION PROTECTION (WIDTH SHOWN ON PLANS)
- ITEM 836 - SEEDING AND EROSION CONTROL WITH TURF REINFORCING MAT, TYPE 1 (WIDTH SHOWN ON PLANS)

CROSS REFERENCES	
20-22	TYPICAL SECTIONS
660-665	CROSS SECTIONS
722	SUPERELEVATION TABLES
737	PAVEMENT DETAILS
785	OVERPASS PIER PROTECTION DETAIL





GUARDRAIL LEGEND
- (T) ANCHOR ASSEMBLY TYPE 'T' (12.5')
- (E) ANCHOR ASSEMBLY TYPE 'E' (50')
- (B) ANCHOR ASSEMBLY TYPE 'B' (37.5')
- (B1) BRIDGE TERMINAL ASSEMBLY TYPE 1 (31.25')
- (B2) BRIDGE TERMINAL ASSEMBLY TYPE 2 (25')

HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED JDL
CHECKED PRS

PLAN AND PROFILE FILE - SR 303 RAMP G
STA. 315+50 STA. 318+11.13

SUM-271-2.33

659
1195

F:\2009\109094\18710\roadway\sheets\18710GP043.dgn 11/9/2012 1:10:38 PM Jeremy.Jay

SEEDING END WIDTH	SEEDING SQ. YDS.
21	159
36	223
0	0
	382

100 50 0 50 100

℄ CONST. RAMP G

SR 303 RAMP G

EX R/W Fee LA

MATCHLINE

1130 1120 1110 1100 1090

6:1

1111.00
305+00.00
1110.96

1111.62
314+75.09
1111.78

SEE RAMP F CROSS SECTIONS

LEGEND

- CONCRETE TO BE REMOVED UNDER ITEM 202 - PAVEMENT REMOVED (TYP.)
- ITEM 206 - CEMENT STABILIZED SUBGRADE (SEE GENERAL NOTE)
- ITEM 615 - ROADS FOR MAINTAINING TRAFFIC (EARTHWORK)
- ITEM 203 - SPECIAL BENCHING

12:1 12:1

1112.25
304+50.00
1112.47

1112.89
315+25.09
1112.91

STA. 304+17.65
BEGIN SEEDING AHD.

STA. 304+17.65 BK.

STA. 304+07.62 AHD.
BEGIN EARTHWORK

100 50 50 100

END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
AHD. 58	4		
BK. 139	4		
		265	4
147	0		
		412	0
378	0		
		677	4

CALCULATED JDL
CHECKED PRS

CROSS SECTIONS
304+50.00 TO STA. 305+00.00
STA. 314+75.09 TO STA. 315+25.09

SUM-271-2.33

660
1195

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SEEDING	
END WIDTH	SQ. YDS.
24	145
28	148
25	128
21	
	421

END AREA		VOLUME	
CUT	FILL	CUT	FILL
97	0	157	0
73	0	130	3
67	4	116	7
58	4		
		403	10

CALCULATED JDL
CHECKED PRS

CROSS SECTIONS
STA. 305+50.00 TO STA. 306+50.00

SUM-271-2.33

661
1195

℄ CONST. RAMP G

SR 303 RAMP G

EX R/W Fee

MATCHLINE

12:1

EX. 12" VCP (REMOVE)

STA. 306+56.05, 26.42' LT.
EX. HDWL (REMOVE)
℄ 12" 1103.27

1106.25
306+50.00
1107.32

1109.18
313+17.24
1109.85

STA. 306+56.33, 15.66' RT.
EX. INLET (REMOVE)
COVER EL. 1108.52
℄ 12" 1103.50

LEGEND

- CONCRETE TO BE REMOVED UNDER ITEM 202 - PAVEMENT REMOVED (TYP.)
- ITEM 206 - CEMENT STABILIZED SUBGRADE (SEE GENERAL NOTE)
- ITEM 615 - ROADS FOR MAINTAINING TRAFFIC (EARTHWORK)
- ITEM 203 - SPECIAL BENCHING

EX R/W Fee LA

1107.91
306+00.00
1108.32

1110.02
313+75.09
1110.19

1109.40
305+50.00
1109.61

1110.75
314+25.09
1110.90

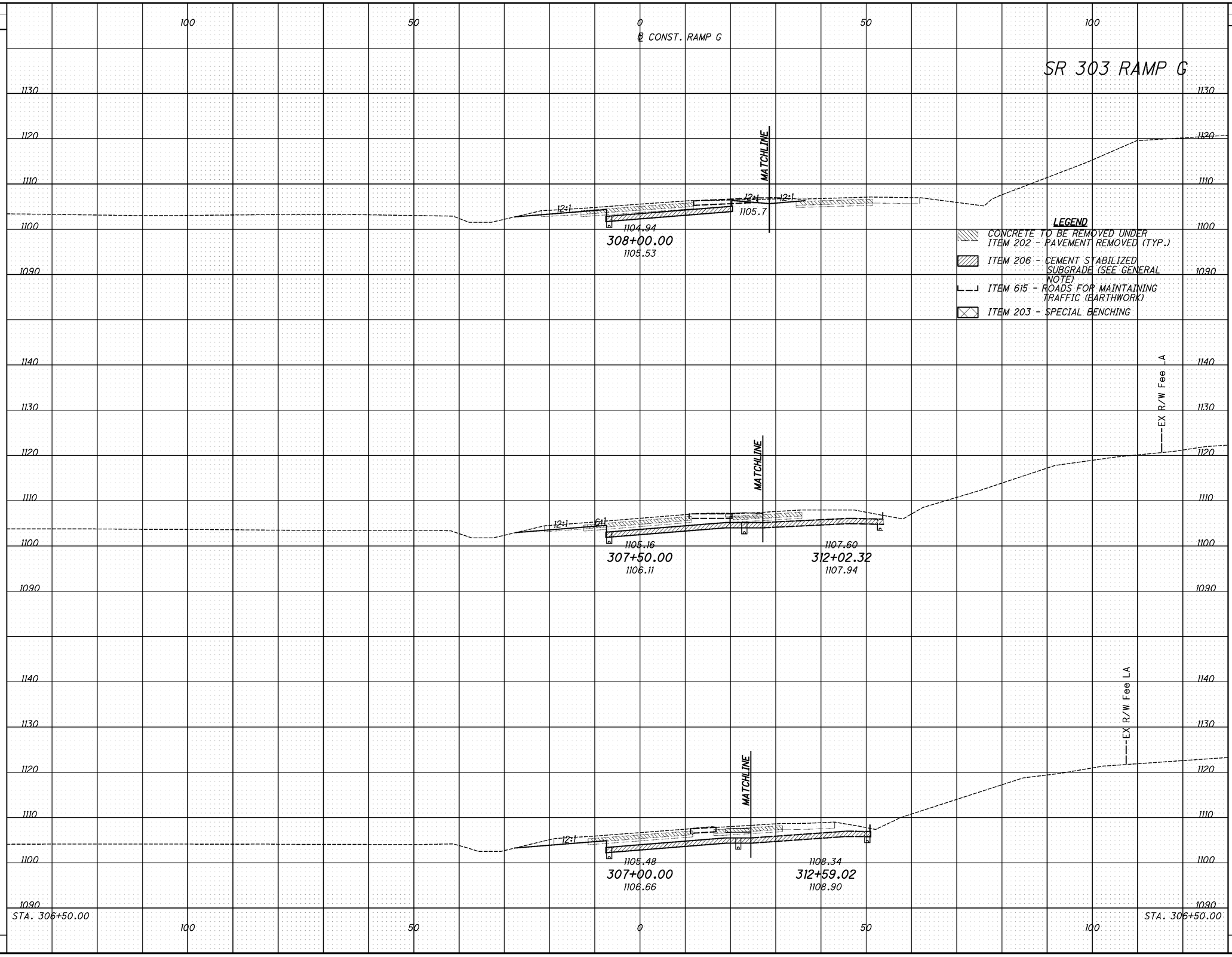
STA. 305+00.00

100 50 0 50 100

1140 1130 1120 1110 1100 1090

F:\2009\109094\18710\roadway\sheets\18710XS303.dgn 10/30/2012 9:47:27 AM CraigBanghart

SEEDING END WIDTH	SEEDING SQ. YDS.
33	159
24	134
24	134
24	
	427



END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
71	0	156	0
97	0	188	0
106	0	188	0
97	0		
		532	0

CALCULATED JDL
CHECKED PRS

CROSS SECTIONS
STA. 307+00.00 TO STA. 308+00.00

SUM-271-2.33

662
1195

F:\2009\109094\18710\roadway\sheets\18710XS303.dgn 10/7/2012 6:53:09 AM JeremyLay

SR 303 RAMP G

LEGEND

- CONCRETE TO BE REMOVED UNDER ITEM 202 - PAVEMENT REMOVED (TYP.)
- ITEM 206 - CEMENT STABILIZED SUBGRADE (SEE GENERAL NOTE)
- ITEM 615 - ROADS FOR MAINTAINING TRAFFIC (EARTHWORK)
- ITEM 203 - SPECIAL BENCHING

℄ CONST. RAMP G

SEEDING END WIDTH	SEEDING SQ. YDS.	100	50	0	50	100	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
44	209	1110 / 1100 / 1090 / 1080	12:1	1103.49 309+50.00 1103.98	6:1	1110 / 1100 / 1090 / 1080	57	17	102	18
31	203	1110 / 1100 / 1090 / 1080	12:1	1104.13 309+00.00 1104.43	6:1	1110 / 1100 / 1090 / 1080	53	3	104	4
42	209	1130 / 1120 / 1110 / 1100 / 1090 / 1080	12:1	1104.72 308+50.00 1105.01	MATCHLINE 12:1 12:1 1104.4	1130 / 1120 / 1110 / 1100 / 1090 / 1080	60	1	121	1
33		STA. 308+00.00				STA. 308+00.00	71	0		
	621								327	23

CALCULATED JDL
CHECKED PRS

CROSS SECTIONS
STA. 308+50.00 TO STA. 309+50.00

SUM-271-2.33

663
1195

F:\2009\109094\18710\roadway\sheets\18710XS303.dgn 10/7/2012 6:53:30 AM JeremyLay

SR 303 RAMP G

℄ CONST. RAMP G

SEEDING END WIDTH	SEEDING SQ. YDS.	STA. 309+50.00	100	50	0	50	100	STA. 309+50.00	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
44									57	17		
59	303				1102.85 310+00.00 1103.35		1097.8		78	29	125	42
65					1102.21 310+50.00 1102.69		1097.6		69	29	136	54
52	345				1101.57 311+00.00 1101.93		1096.9		66	29		
72					1100.94 311+50.00 1101.12		1098.6		48	16	105	42
	364										125	53
	345										491	191
	1357											

ESTIMATED TOP OF BEDROCK

EX. 18" CONC.

STA. 311+62.64, 25.04' LT.
EX. HDWL
℄ 18" 1094.82

STA. 311+30.00, 30.50' RT.
EX. HDWL
℄ 18" 1096.14

LEGEND

- CONCRETE TO BE REMOVED UNDER ITEM 202 - PAVEMENT REMOVED (TYP.)
- ITEM 206 - CEMENT STABILIZED SUBGRADE (SEE GENERAL NOTE)
- ITEM 615 - ROADS FOR MAINTAINING TRAFFIC (EARTHWORK)
- ITEM 203 - SPECIAL BENCHING
- ESTIMATED TOP OF BEDROCK FOR ADDITIONAL INFORMATION SEE SOIL PROFILE

CALCULATED JDL
CHECKED PRS

CROSS SECTIONS
STA. 310+00.00 TO STA. 311+50.00

SUM-271-2.33

664
1195

F:\2009\109094\18710\roadway\sheets\18710XS303.dgn 10/7/2012 6:54:02 AM JeremyLay

SEEDING END WIDTH	SEEDING SQ. YDS.
	3773
0	
19	
	131
28	
	184
38	
	250
52	
	565

TOTAL CARRIED TO EROSION CONTROL CALCULATION SHEET 273

100 50 0 50 100

℄ CONST. RAMP G

TOTALS CARRIED TO EARTHWORK SUBSUMMARY SHEET 241

SR 303 RAMP G

LEGEND

- CONCRETE TO BE REMOVED UNDER ITEM 202 - PAVEMENT REMOVED (TYP.)
- ITEM 206 - CEMENT STABILIZED SUBGRADE (SEE GENERAL NOTE)
- ITEM 615 - ROADS FOR MAINTAINING TRAFFIC (EARTHWORK)
- ITEM 203 - SPECIAL BENCHING
- ESTIMATED TOP OF BEDROCK FOR ADDITIONAL INFORMATION SEE SOIL PROFILE

STA. 313+00.00 AHD.

STA. 313+00.00 END SEEDING BK.

STA. 313+50.00 END EARTHWORK BK.

ESTIMATED TOP OF BEDROCK

MATCHLINE

4:1

12:1 12:1

EX. 12" VCP (REMOVE)

1099.02

313+00.00

1099.12

STA. 313+44.09, 24.98' LT.
EX. HDWL (REMOVE)
℄ 12" 1094.3

STA. 313+43.04, 25.28' RT.
EX. CB (REMOVE)
GRATE EL. 1099.34
℄ 12" 1096.3

ESTIMATED TOP OF BEDROCK

MATCHLINE

4:1 6.5:1 6:1

1099.0

1099.66

312+50.00

1099.66

ESTIMATED TOP OF BEDROCK

MATCHLINE

4:1 6:1 7.6:1

1098.8

1100.30

312+00.00

1100.36

STA. 311+50.00

STA. 311+50.00

END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
		2833	262
81	2		
		121	2
49	1		
		96	3
54	2		
		96	8
49	6		
		90	21
48	16		
		403	34

CALCULATED JDL

CHECKED PRS

CROSS SECTIONS

STA. 312+00.00 TO STA. 313+00.00

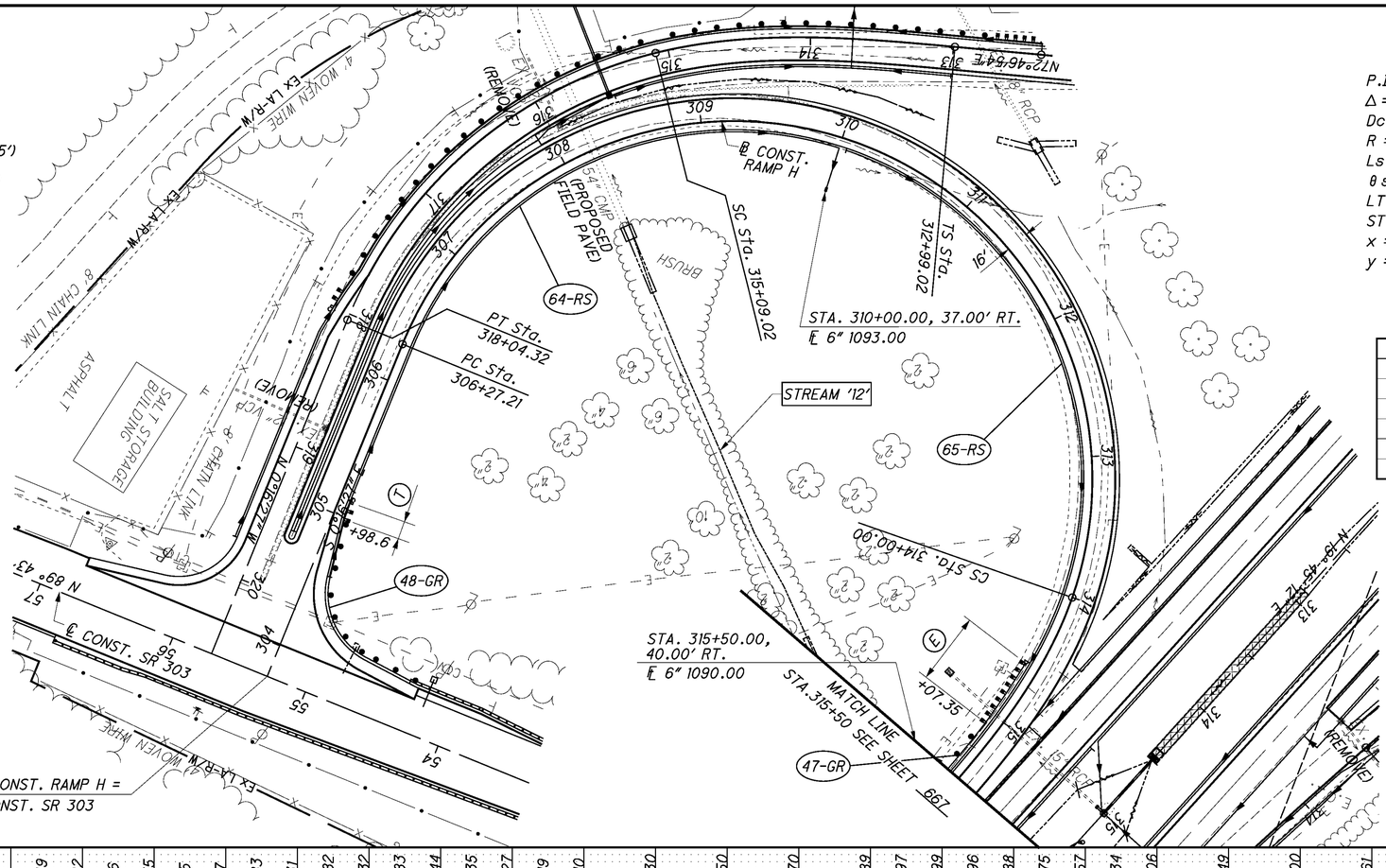
SUM-271-2.33

665
1195

F:\2009\109094\18710\roadway\sheets\18710XS303.dgn 11/8/2012 3:17:02 PM DonHelman

GUARDRAIL LEGEND

- (T) ANCHOR ASSEMBLY TYPE 'T' (12.5')
- (E) ANCHOR ASSEMBLY TYPE 'E' (50')
- (B) ANCHOR ASSEMBLY TYPE 'B' (37.5')
- (B1) BRIDGE TERMINAL ASSEMBLY TYPE 1 (31.25')
- (B2) BRIDGE TERMINAL ASSEMBLY TYPE 2 (25')



℄ CONST. RAMP H
303-HI CURVE DATA

P.I.= Sta. 291+92.03	k = 99.47'
Δ = 159° 58' 21" (LT)	p = 6.63'
Dc = 22° 55' 06"	Δ c = 177° 06' 33" (RT)
R = 250.00'	Lc = 772.79'
Ls = 200.00'	T1 = 1,435.18'
θ s = 22° 55' 06" (RT)	T2 = 1,334.54'
LT = 134.47'	Es = 1,706.79'
ST = 67.70'	eMAX. = 0.080
x = 196.82'	C = 499.84'
y = 26.36'	C2 = 198.58'
	C.B. = S 88° 16' 49" W
	C.B.2 = N 12° 07' 28" E

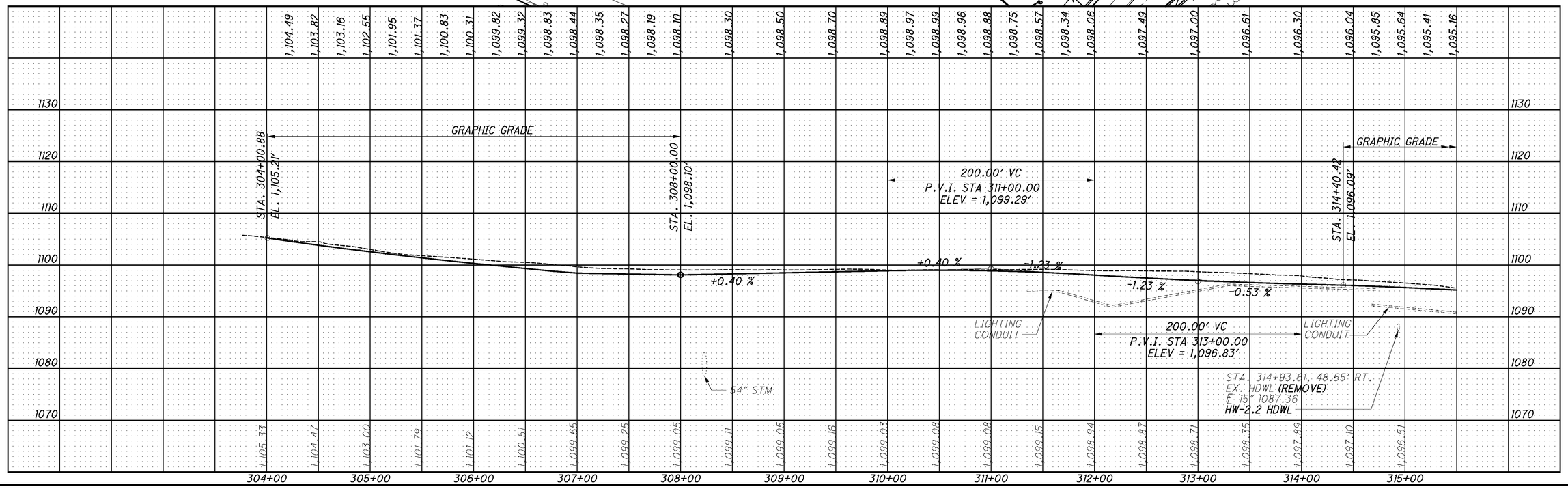
CROSS REFERENCES	
21-22	TYPICAL SECTIONS
668-673	CROSS SECTIONS
687-690	SR 303 PLAN & PROFILE
723	SUPERELEVATION TABLES
738	PAVEMENT DETAILS
743	INTERSECTION DETAILS

DRAINAGE LEGEND

- ITEM 670 - DITCH EROSION PROTECTION (WIDTH SHOWN ON PLANS)
- ITEM 836 - SEEDING AND EROSION CONTROL WITH TURF REINFORCING MAT, TYPE 1 (WIDTH SHOWN ON PLANS)

LEGEND

- CONST. LIMITS
- STREAM 'X' STREAM RESOURCE ID
- WETLAND 'X' WETLAND RESOURCE ID



HORIZONTAL SCALE IN FEET
0 25 50 100

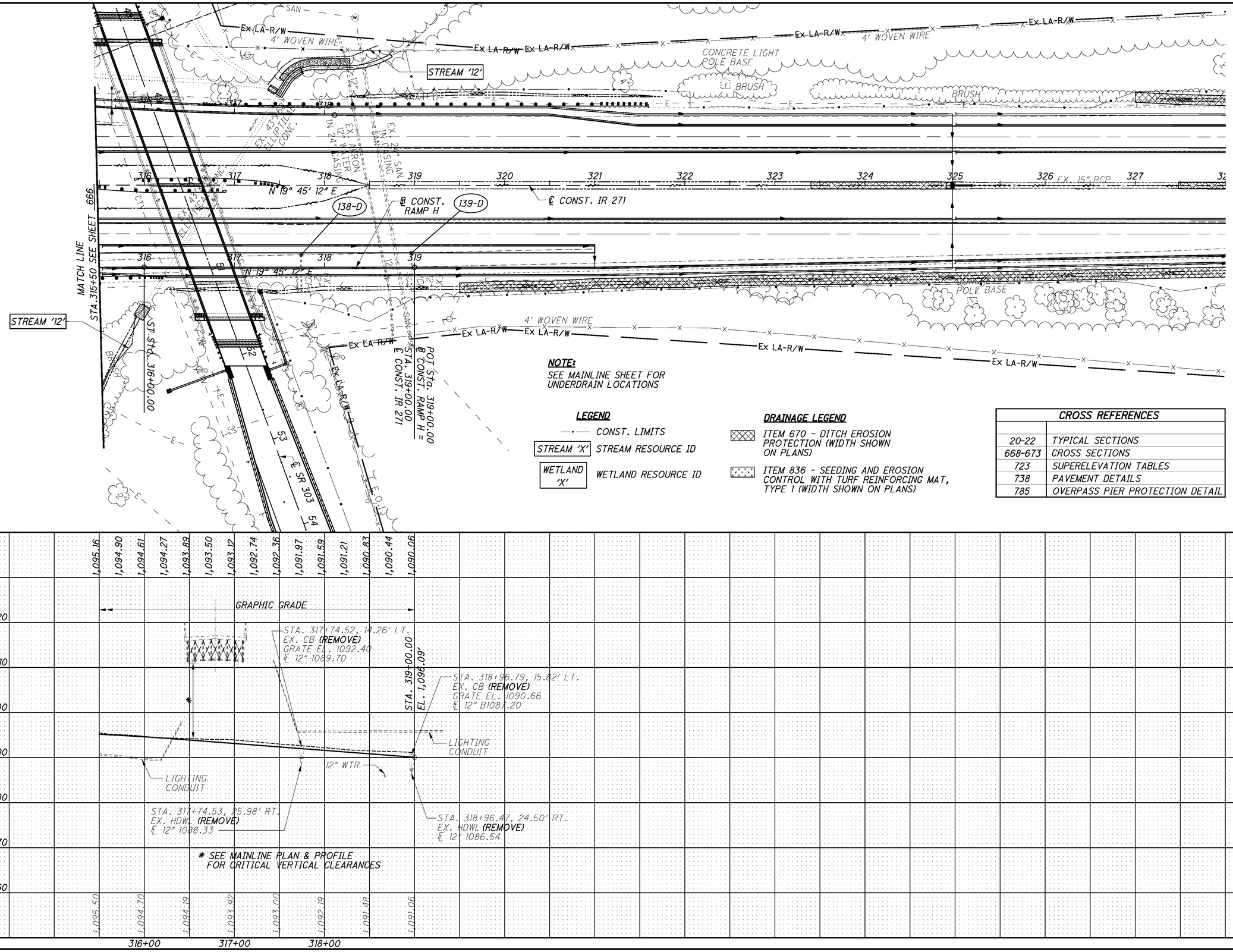
CALCULATED JDL
CHECKED PRS

PLAN AND PROFILE - SR 303 RAMP H
STA. 303+76.88 TO STA. 315+50

SUM-271-2.33

666
1195

F:\2009\109094\18710\roadway\sheets\18710GP044.dgn 11/9/2012 1:12:07 PM JeremyLay



NOTE:
SEE MAINLINE SHEET FOR UNDERDRAIN LOCATIONS

LEGEND

- —·— CONST. LIMITS
- STREAM 'X' STREAM RESOURCE ID
- WETLAND 'X' WETLAND RESOURCE ID

DRAINAGE LEGEND

- ITEM 670 - DITCH EROSION PROTECTION (WIDTH SHOWN ON PLANS)
- ITEM 836 - SEEDING AND EROSION CONTROL WITH TURF REINFORCING MAT, TYPE 1 (WIDTH SHOWN ON PLANS)

CROSS REFERENCES	
20-22	TYPICAL SECTIONS
668-673	CROSS SECTIONS
723	SUPERELEVATION TABLES
738	PAVEMENT DETAILS
785	OVERPASS PIER PROTECTION DETAIL

HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED JDL
CHECKED PRS

PLAN AND PROFILE - SR 303 RAMP H
STA. 315+50 TO STA. 319+00

SUM-271-2.33

667
1195

F:\2009\109094\18710\roadway\sheets\18710GP045.dgn 11/9/2012 1:13:32 PM Jeremy.Loy

CROSS SECTIONS
STA. 304+00.00 TO STA. 305+50.00

SR 303 RAMP H

℄ CONST. RAMP H

MATCHLINE

1102.17
318+82.74
1102.00

1101.37
305+50.00
1101.79

4:1

MATCHLINE

1102.58
319+32.74
1102.50

1102.55
305+00.00
1103.00

4:1

MATCHLINE

12:1

1103.03
319+82.74
1103.00

1103.82
304+50.00
1104.47

4:1

304+00.00
1105.33

STA. 304+13.15
BEGIN SEEDING AHD.

STA. 304+57.74 AHD.
STA. 304+57.74 BK.
SEE RAMP E
CROSS SECTIONS

STA. 304+00.88 AHD.
BEGIN EARTHWORK

LEGEND

- CONCRETE TO BE REMOVED UNDER ITEM 202 - PAVEMENT REMOVED (TYP.)
- ITEM 206 - CEMENT STABILIZED SUBGRADE (SEE GENERAL NOTE)
- ITEM 615 - ROADS FOR MAINTAINING TRAFFIC (EARTHWORK)
- ITEM 203 - SPECIAL BENCHING

SEEDING END WIDTH	SEEDING SQ. YDS.	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
60	317	58	80	109	161
54	331	59	93	93	146
		59	93	36	13
		125	45		
65	299	125	45	452	41
81		371	0		
	947			690	361

CALCULATED JDL
CHECKED PRS

SUM-271-2.33

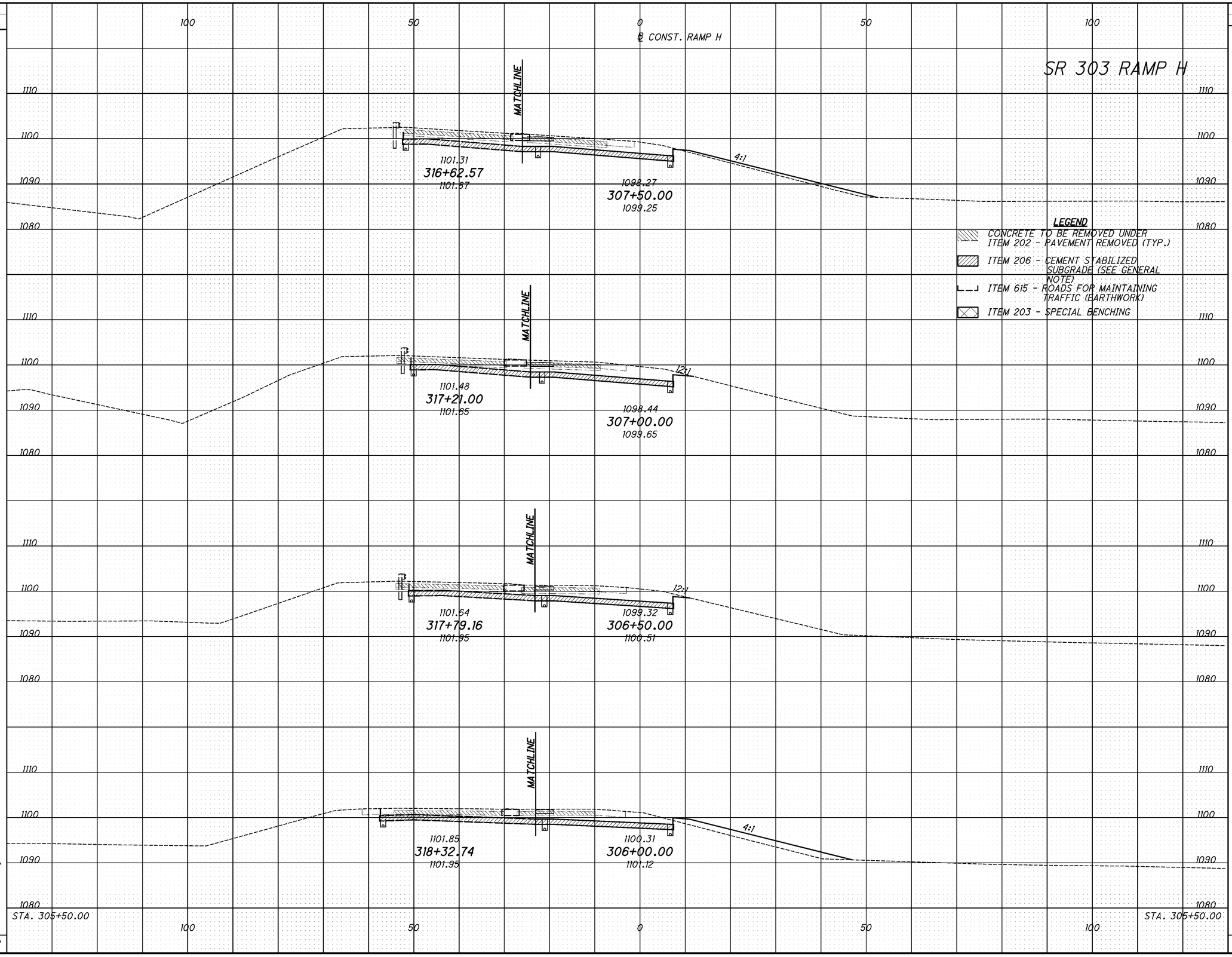
668
1195

F:\2009\109094\18710\roadway\sheets\18710XS304.dgn 11/10/2012 9:10:29 AM BobMcAuley

SR 303 RAMP H

℄ CONST. RAMP H

SEEDING END WIDTH	SEEDING SQ. YDS.
50	164
9	48
8	148
45	292
60	652



LEGEND

- CONCRETE TO BE REMOVED UNDER ITEM 202 - PAVEMENT REMOVED (TYP.)
- ITEM 206 - CEMENT STABILIZED SUBGRADE (SEE GENERAL NOTE)
- ITEM 615 - ROADS FOR MAINTAINING TRAFFIC (EARTHWORK)
- ITEM 203 - SPECIAL BENCHING

END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
81	24	155	22
86	0	153	0
79	0	135	44
67	48	116	118
58	80	559	184

CALCULATED JDL
CHECKED PRS

CROSS SECTIONS
STA. 306+00.00 TO STA. 307+50.00

SUM-271-2.33

669
1195

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SEEDING	
END WIDTH	SQ. YDS.
29	203
44	487
131	503
50	1193

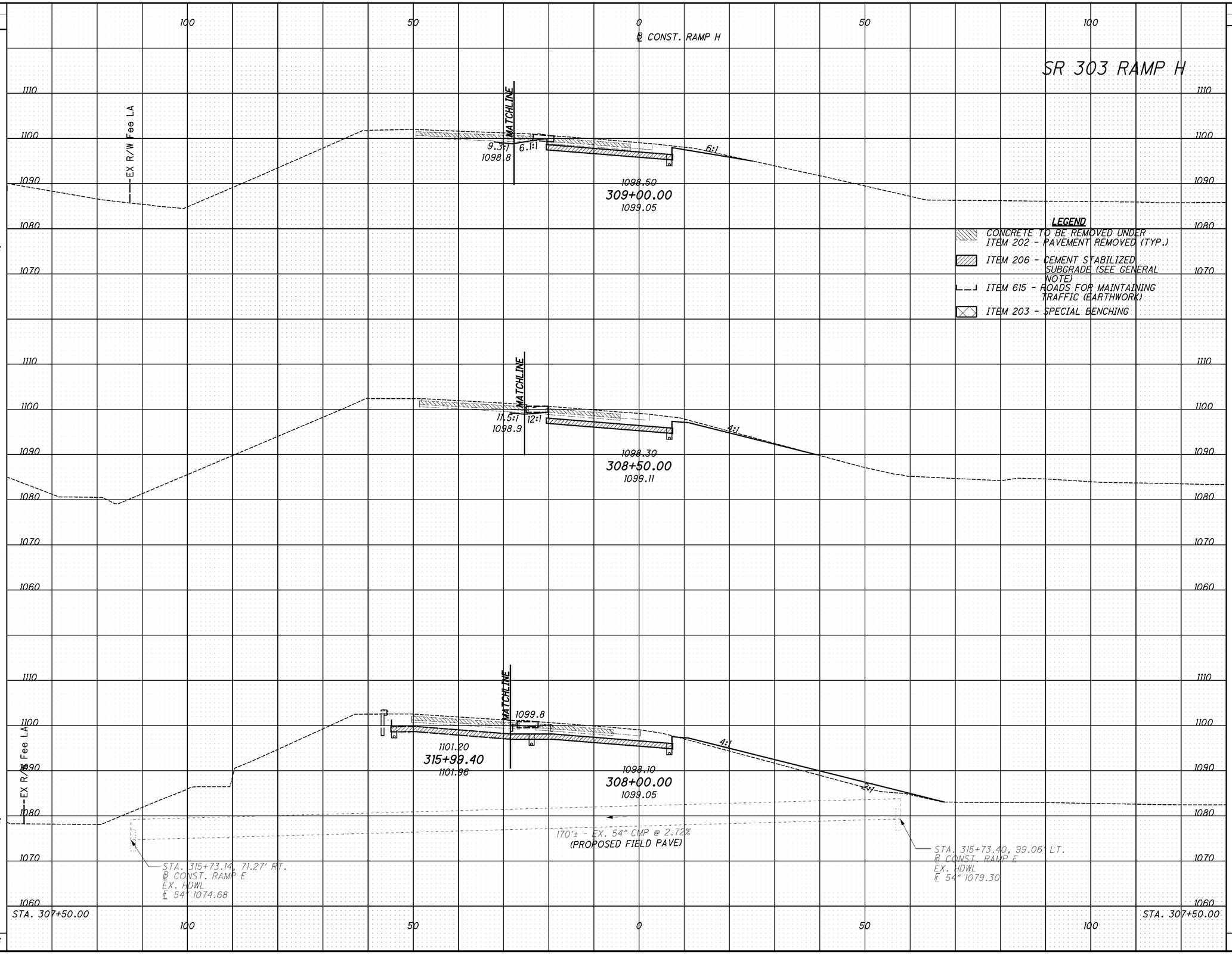
END AREA	
CUT	FILL
76	0
91	0
90	42
81	24

VOLUME	
CUT	FILL
154	0
167	39
158	61
479	100

CALCULATED JDL
CHECKED PRS

CROSS SECTIONS
STA. 308+00.00 TO STA. 309+00.00
SUM-271-2.33

670
1195



F:\2009\109094\18710\roadway\sheets\18710XS304.dgn 10/7/2012 7:14:29 AM JeremyLoy

SEEDING END WIDTH	SEEDING SQ. YDS.
39	214
38	231
45	237
40	192
29	
	874

END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
51	8		
		93	10
49	2		
		112	2
72	0		
		143	0
82	0		
		146	0
76	0		
		494	12

CALCULATED JDL
CHECKED PRS

100 50 0 50 100

℄ CONST. RAMP H

SR 303 RAMP H

1110 / 1100 / 1090 / 1080

4:1 6:1
1098.88
311+00.00
1099.07

4:1 6:1
1098.99
310+50.00
1099.08

MATCHLINE
10.4:1 7.2:1
1098.5
6:1
1098.89
310+00.00
1099.03

EX R/W Fee LA
MATCHLINE
8.6:1 6:1
1098.6
6:1
1098.70
309+50.00
1099.16

STA. 309+00.00

LEGEND

- CONCRETE TO BE REMOVED UNDER ITEM 202 - PAVEMENT REMOVED (TYP.)
- ITEM 206 - CEMENT STABILIZED SUBGRADE (SEE GENERAL NOTE)
- ITEM 615 - ROADS FOR MAINTAINING TRAFFIC (EARTHWORK)
- ITEM 203 - SPECIAL BENCHING

CROSS SECTIONS
STA. 309+50.00 TO STA. 311+00.00

SUM-271-2.33

671
1195

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SR 303 RAMP H

℄ CONST. RAMP H

SEEDING END WIDTH	SEEDING SQ. YDS.	STA. 311+00.00	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
		100				
		50				
		0				
		50				
		100				
43		1110 / 1100 / 1090 / 1080	113	4		
	248	4:1, 10:1; 1097.00; 313+00.00; 1098.71			196	9
46		1110 / 1100 / 1090 / 1080	99	7		
	237	4:1, 8:1; 1097.49; 312+50.00; 1098.87			159	14
39		1110 / 1100 / 1090 / 1080	73	9		
	231	4:1, 8:1; 1098.06; 312+00.00; 1098.94			128	17
44		1110 / 1100 / 1090 / 1080	65	10		
	231	4:1, 6:1; 1098.57; 311+50.00; 1099.15			107	16
39		STA. 311+00.00	51	8		
	947				590	56

LEGEND

- CONCRETE TO BE REMOVED UNDER ITEM 202 - PAVEMENT REMOVED (TYP.)
- ITEM 206 - CEMENT STABILIZED SUBGRADE (SEE GENERAL NOTE)
- ITEM 615 - ROADS FOR MAINTAINING TRAFFIC (EARTHWORK)
- ITEM 203 - SPECIAL BENCHING

CALCULATED JDL

CHECKED PRS

CROSS SECTIONS

STA. 311+50.00 TO STA. 313+00.00

SUM-271-2.33

672
1195

F:\2009\109094\18710\roadway\sheets\18710XS304.dgn 10/7/2012 7:15:29 AM JeremyLoy

SEEDING END WIDTH	SEEDING SQ. YDS.	
	5097	TOTAL CARRIED TO EROSION CONTROL CALCULATION SHEET 273

100 50 0 ℄ CONST. RAMP H 50 100

TOTALS CARRIED TO EARTHWORK SUBSUMMARY SHEET 241

SR 303 RAMP H

LEGEND

- CONCRETE TO BE REMOVED UNDER ITEM 202 - PAVEMENT REMOVED (TYP.)
- ITEM 206 - CEMENT STABILIZED SUBGRADE (SEE GENERAL NOTE)
- ITEM 615 - ROADS FOR MAINTAINING TRAFFIC (EARTHWORK)
- ITEM 203 - SPECIAL BENCHING

STA. 314+00.00 AHD.

STA. 314+00.00 END SEEDING BK.

MATCHLINE

12:1 12:1 10:1

1097.2

1096.30

314+00.00

1097.90

4:1 1:1

1096.4

1096.61

313+50.00

1098.35

STA. 313+00.00

STA. 314+00.00 AHD.

STA. 314+00.00 END EARTHWORK BK.

STA. 313+00.00

SEEDING END WIDTH	SEEDING SQ. YDS.
0	
43	
	242
44	
	242
43	
	484

END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
		3238	721
0	0		
112	1		
		213	3
117	2		
		213	5
113	4		
		426	8

CALCULATED JDL

CHECKED PRS

CROSS SECTIONS

STA. 313+50.00 TO STA. 314+00.00

SUM-271-2.33

673
1195

F:\2009\109094\18710\roadway\sheets\18710XS304.dgn 11/10/2012 9:12:20 AM BobMcAuley

LEGEND

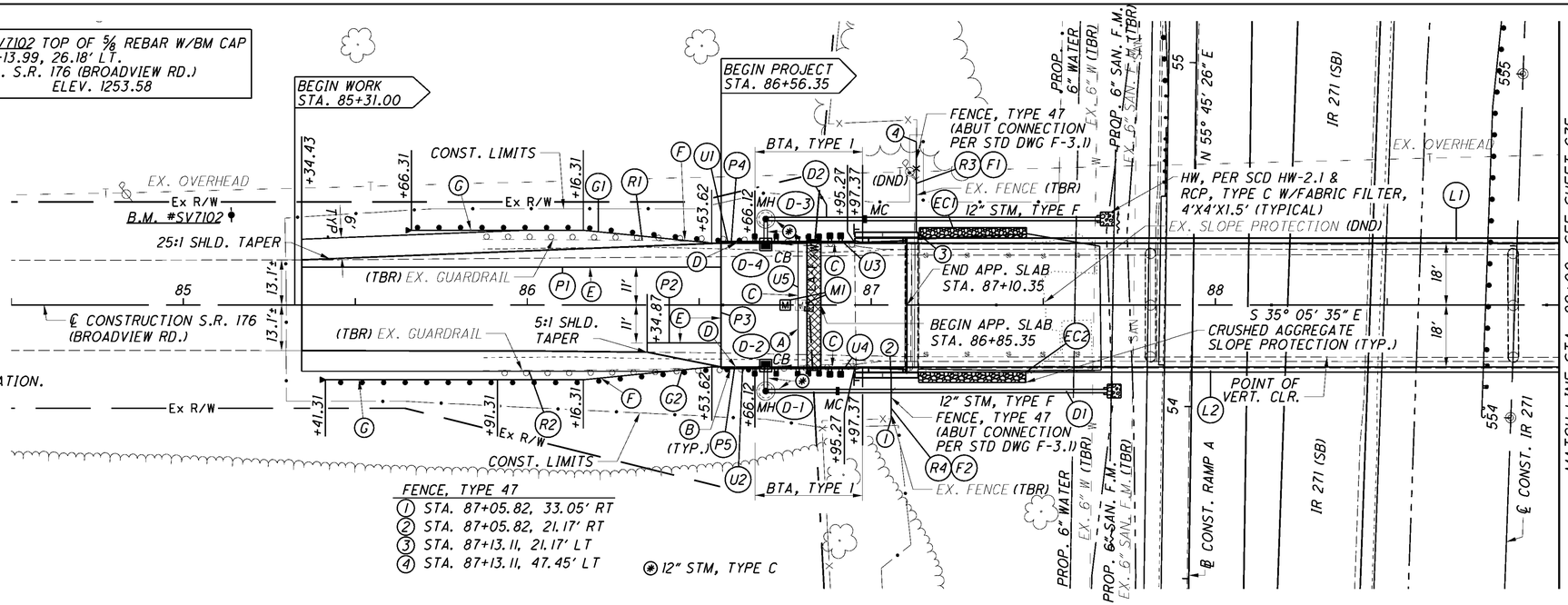
TBR - TO BE REMOVED
DND - DO NOT DISTURB
MC - MASONRY COLLAR
(A) PRESSURE RELIEF JOINT, TYPE A
(B) CURB, TYPE 4A
(C) 6" SHALLOW PIPE UNDERDRAIN
(D) 6" UNCLASSIFIED UNDERDRAIN
(E) SAWCUT
(F) GUARDRAIL, TYPE 5 (10:1 TAPER)
(G) ANCHOR ASSEMBLY, TYPE E

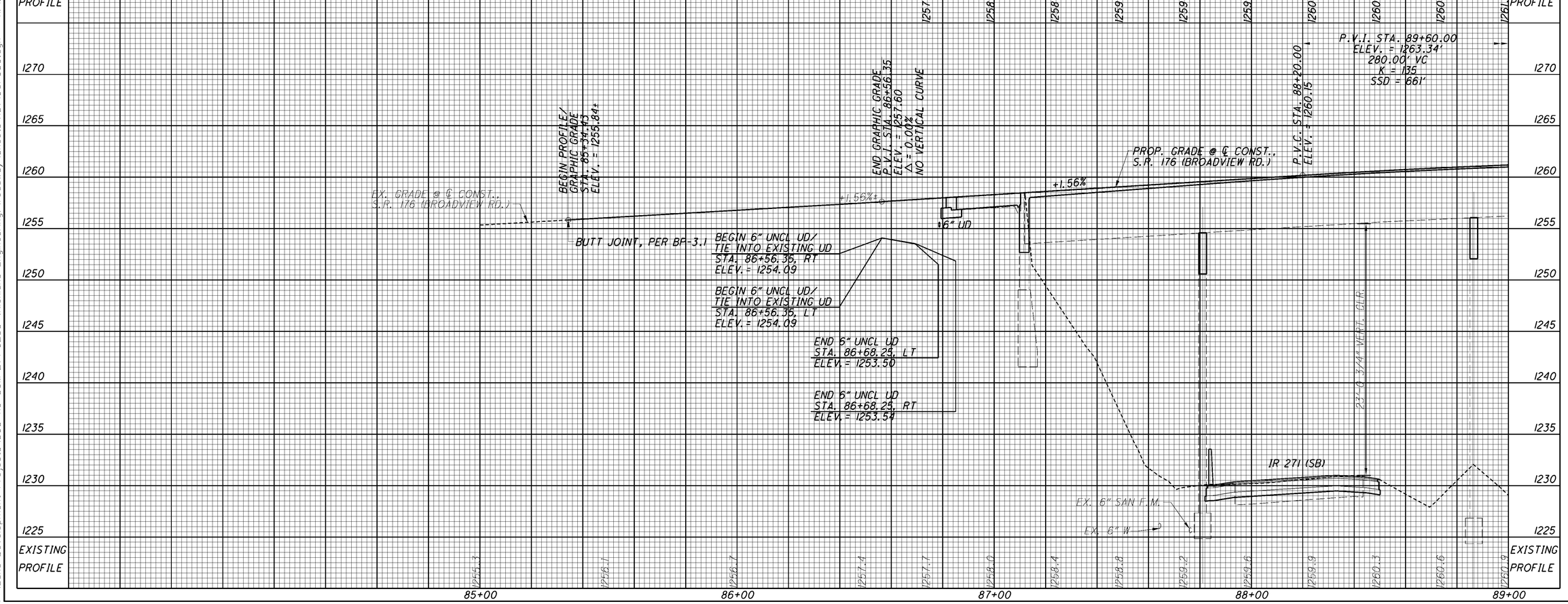
B.M. #SV7102 TOP OF ⅝ REBAR W/BM CAP
STA. 85+13.99, 26.18' LT.
℄ CONST. S.R. 176 (BROADVIEW RD.)
ELEV. 1253.58

NOTE:
SEE SHEET 9 FOR ADDITIONAL PROJECT CONTROL INFORMATION.

CROSS REFERENCE

SHEET NO.	DESCRIPTION
747	STORM SEWER
905	STRUCTURE SITE PLAN
843	PAVEMENT MARKING AND SIGNING
676 - 678	CROSS SECTIONS
258	ROADWAY SUBSUMMARY
293 - 294	IR 271 PLAN & PROFILE
781 - 783	WATER & SANITARY PLANS





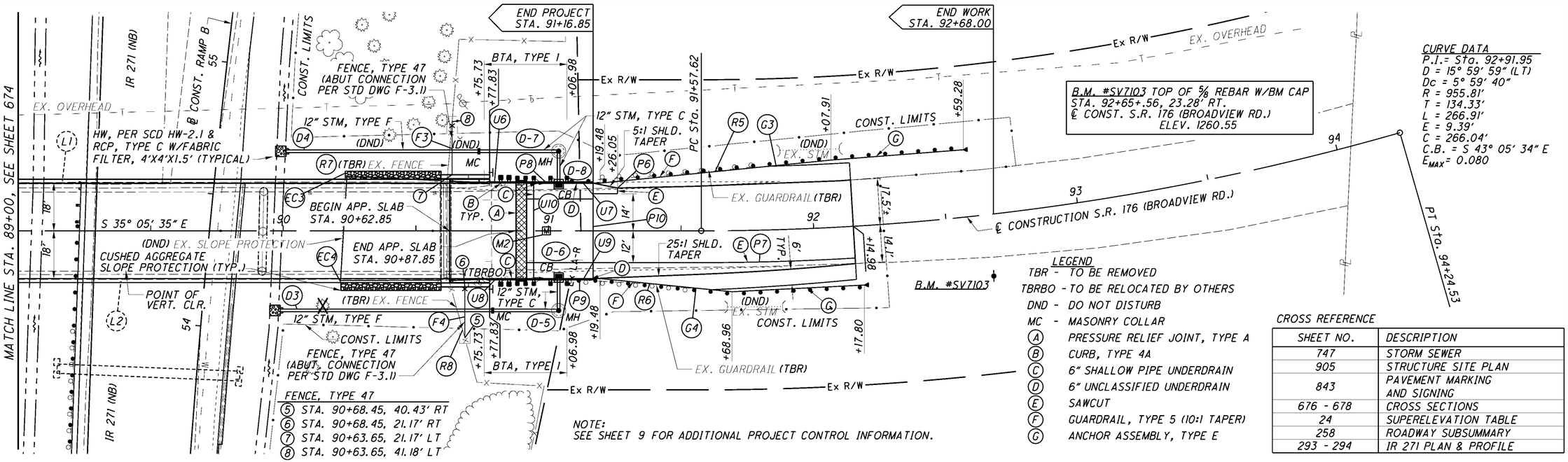
HORIZONTAL SCALE IN FEET
0 10 20 40
CALCULATED PEK
CHECKED TLH

PLAN AND PROFILE - S.R. 176 (BROADVIEW ROAD)
STA. 84+50 TO STA. 89+00

SUM-271-2.33

674
1195

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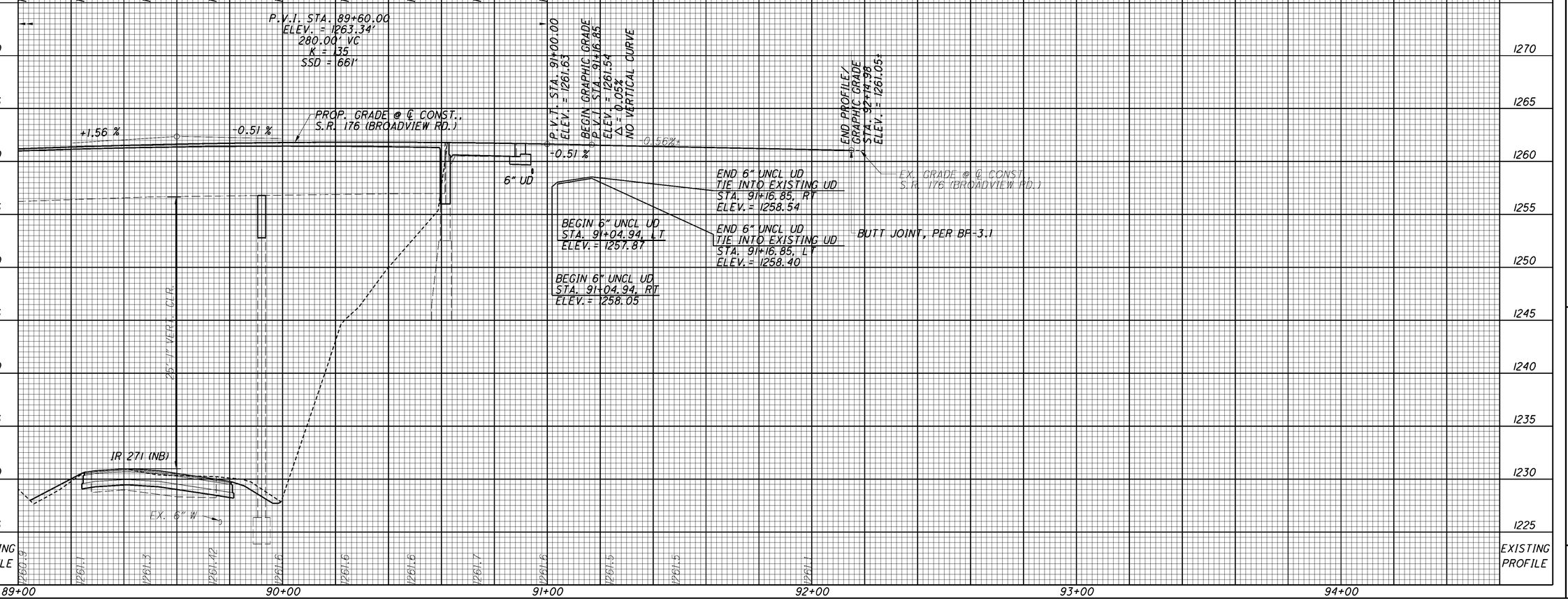
B.M. #SV7103 TOP OF 5/8 REBAR W/BM CAP
STA. 92+65+.56, 23.28' RT.
℄ CONST. S.R. 176 (BROADVIEW RD.)
ELEV. 1260.55

CURVE DATA
P.I.= Sta. 92+91.95
D = 15° 59' 59" (LT)
Dc = 5° 59' 40"
R = 955.81'
T = 134.33'
L = 266.91'
E = 9.39'
C = 266.04'
C.B. = S 43° 05' 34" E
E_{MAX} = 0.080

LEGEND
TBR - TO BE REMOVED
TBRBO - TO BE RELOCATED BY OTHERS
DND - DO NOT DISTURB
MC - MASONRY COLLAR
(A) PRESSURE RELIEF JOINT, TYPE A
(B) CURB, TYPE 4A
(C) 6" SHALLOW PIPE UNDERDRAIN
(D) 6" UNCLASSIFIED UNDERDRAIN
(E) SAWCUT
(F) GUARDRAIL, TYPE 5 (10:1 TAPER)
(G) ANCHOR ASSEMBLY, TYPE E

CROSS REFERENCE

SHEET NO.	DESCRIPTION
747	STORM SEWER
905	STRUCTURE SITE PLAN
843	PAVEMENT MARKING AND SIGNING
676 - 678	CROSS SECTIONS
24	SUPERELEVATION TABLE
258	ROADWAY SUBSUMMARY
293 - 294	IR 271 PLAN & PROFILE



HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED PEK
CHECKED TLH

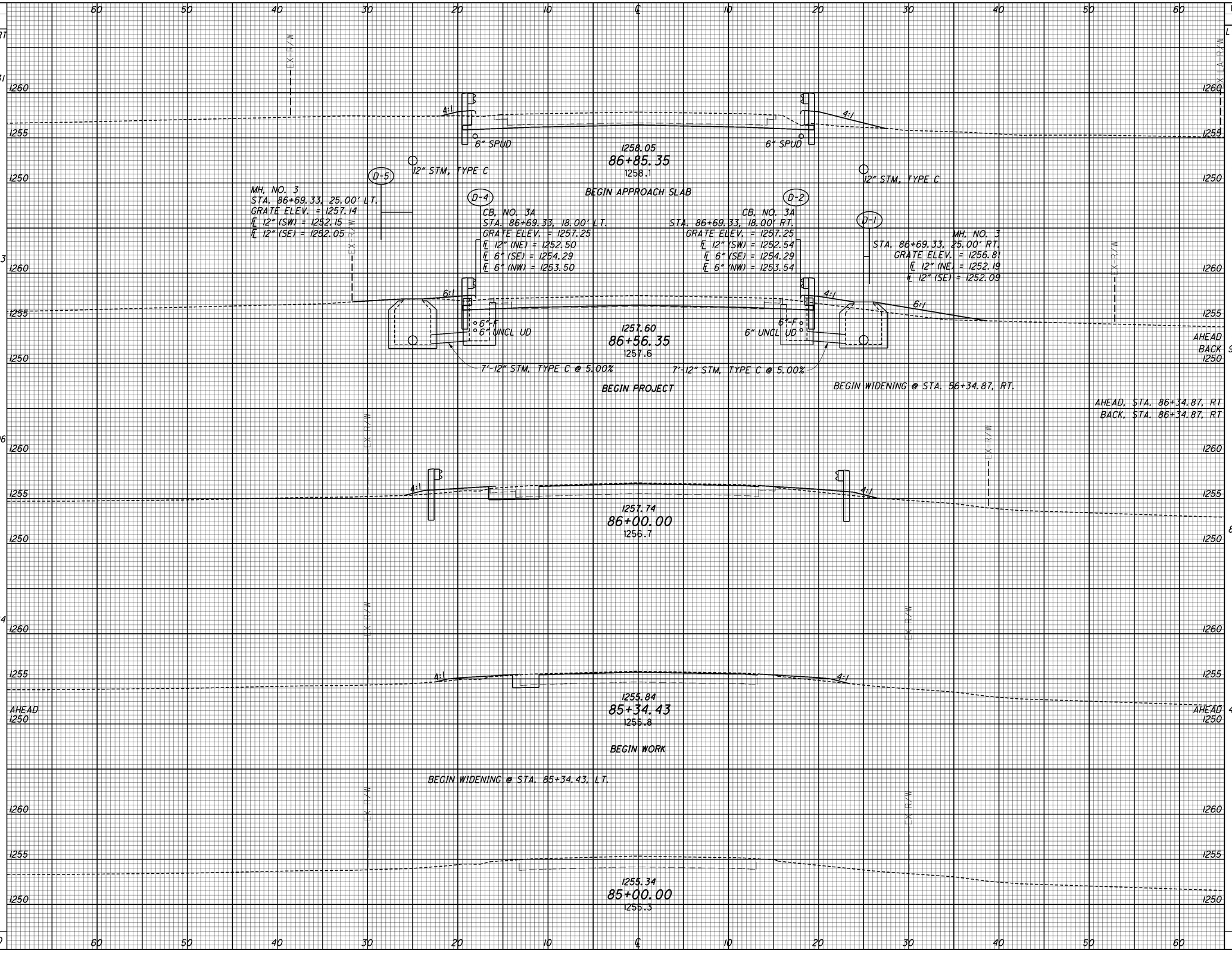
PLAN AND PROFILE - S.R. 176 (BROADVIEW ROAD)
STA. 89+00 TO STA. 94+24.53

SUM-271-2.33

675
1195

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SEEDING END WIDTH LT/RT	SEEDING SQ. YDS. LT/RT
25	31
12	12
40	53
13	21
72	106
10	13
69	84
9	10
	480



END AREA CUT LT/RT	END AREA FILL LT/RT	VOLUME CUT LT/RT	VOLUME FILL LT/RT
		49	11 17
55	3 8		
		52	2 11
AHEAD 42	1 13		
BACK 9 9	1 13		
		5	
AHEAD, STA. 86+34.87, RT 4			
BACK, STA. 86+34.87, RT 0			
		18	4 17
		0	
8 0	3 3		
		15	0 5 6
AHEAD 4 0	1 2		
		139	73

CALCULATED PEK
CHECKED TLH

CROSS SECTIONS - S.R. 176 (BROADVIEW ROAD)
STA. 85+00.00 TO STA. 86+85.35

SUM-271-2.33

676
1195

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SEEDING END WIDTH LT/RT	SEEDING SQ. YDS. LT/RT
22	28
18	19
22	23
14	15
38	40
13	14
6	10
	173

END AREA CUT LT/RT	END AREA FILL LT/RT	VOLUME CUT LT/RT	VOLUME FILL LT/RT
		32	1 3
48	1 4		
		25	1 2
64	3 4		
		56	9 15
57	17 28		
51	20 29		
		113	31

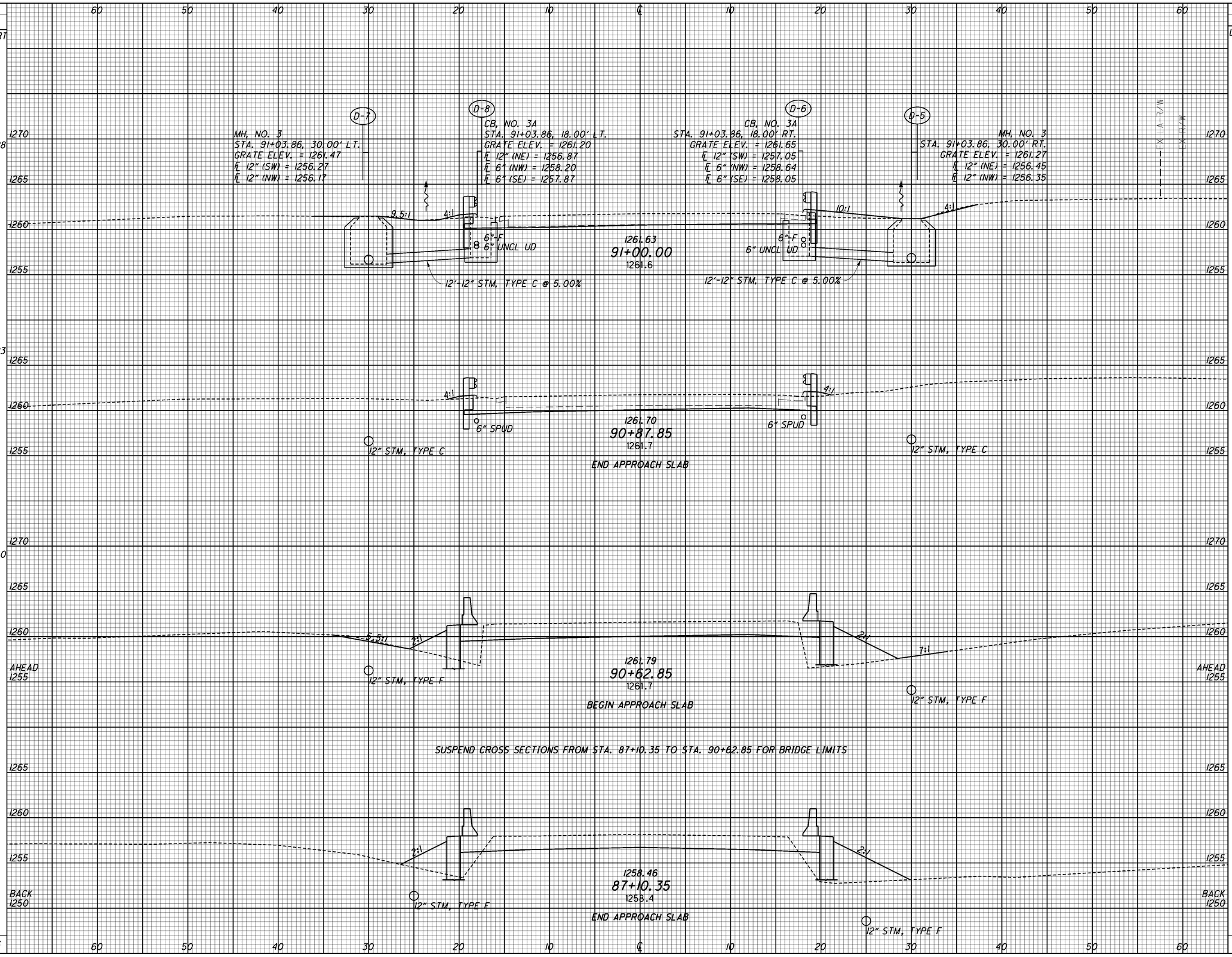
CALCULATED PEK

CHECKED TLH

CROSS SECTIONS
STA. 87+10.35 TO STA. 91+00.00
SUM-271-2.33

677
1195

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SEEDING END WIDTH LT/RT	SEEDING SQ. YDS. LT/RT
10	
	12
13	
	54
15 10	
	94 61
11 7	
	30 33
5 11	
	284

60 50 40 30 20 10 ℄ 10 20 30 40 50 60

EX. R/W

1265 1260 1255

BACK, STA. 92+59.28, LT

END GRADING @ STA. 92+59.28, LT.

2:1

1257.8

93+00.00
1259.8

92+50.00
1260.5

4:1 2:1

1259.4

126.05
92+14.98
1261.0

BACK, RT

END WORK

2:1 4:1

126.50
91+50.00
1261.5

END WIDENING @ STA. 91+26.05, LT.

6:1 6:1

6" UNCL UD 6" UNCL UD

126.54
91+16.85
1261.5

END PROJECT

EXCAVATION..... 279 CU. YD.
EMBANKMENT..... 124 CU. YD.
SEEDING & MULCHING * ..... 937 SQ. YD.
TOTALS CARRIED TO EARTHWORK SUMMARY, SHEET 241
*TOTAL CARRIED TO SIDEROAD GENERAL NOTES, SHT. 35

BACK, STA. 92+59.28, LT

END WIDENING @ STA. 92+14.98, RT.

AHEAD, STA. 91+26.05, LT
BACK, STA. 91+26.05, LT

AHEAD
BACK

END AREA CUT LT/RT	END AREA FILL LT/RT	VOLUME CUT LT/RT	VOLUME FILL LT/RT
0	3		
		0	1
0	5		
		0	5
0	4	2	1
		0	14 5 3
0	8	2	1
		0	
0			11 3 3
3			
		2	
7 10	2	4	
53	2	4	
		27	20

CALCULATED PEK
CHECKED TLH

CROSS SECTIONS - S.R. 176 (BROADVIEW ROAD)
STA. 91+16.85 TO STA. 93+00.00

SUM-271-2.33

678
1195

P:\Land Development Projects\503-110 SUM-271-0233 (Richland Engineering)\roadway\sheets\18710XS001.dgn 11/9/2012 12:55:36 PM CECUSER

CROSS REFERENCE

SHEET NO.	DESCRIPTION
934	STRUCTURE SITE PLAN
681 - 683	CROSS SECTIONS
844	PAVEMENT MARKING AND SIGNING
551 - 552	RAMP B PLAN & PROFILE
553 - 556	RAMP B CROSS SECTIONS
259	SIDEROAD SUBSUMMARY
293 - 294	IR 271 PLAN & PROFILE

NOTE:
SEE SHEET 9 FOR ADDITIONAL PROJECT CONTROL INFORMATION.
SEE SHEET 35 FOR CONNECTING TO EXISTING UNDERDRAIN.

LEGEND

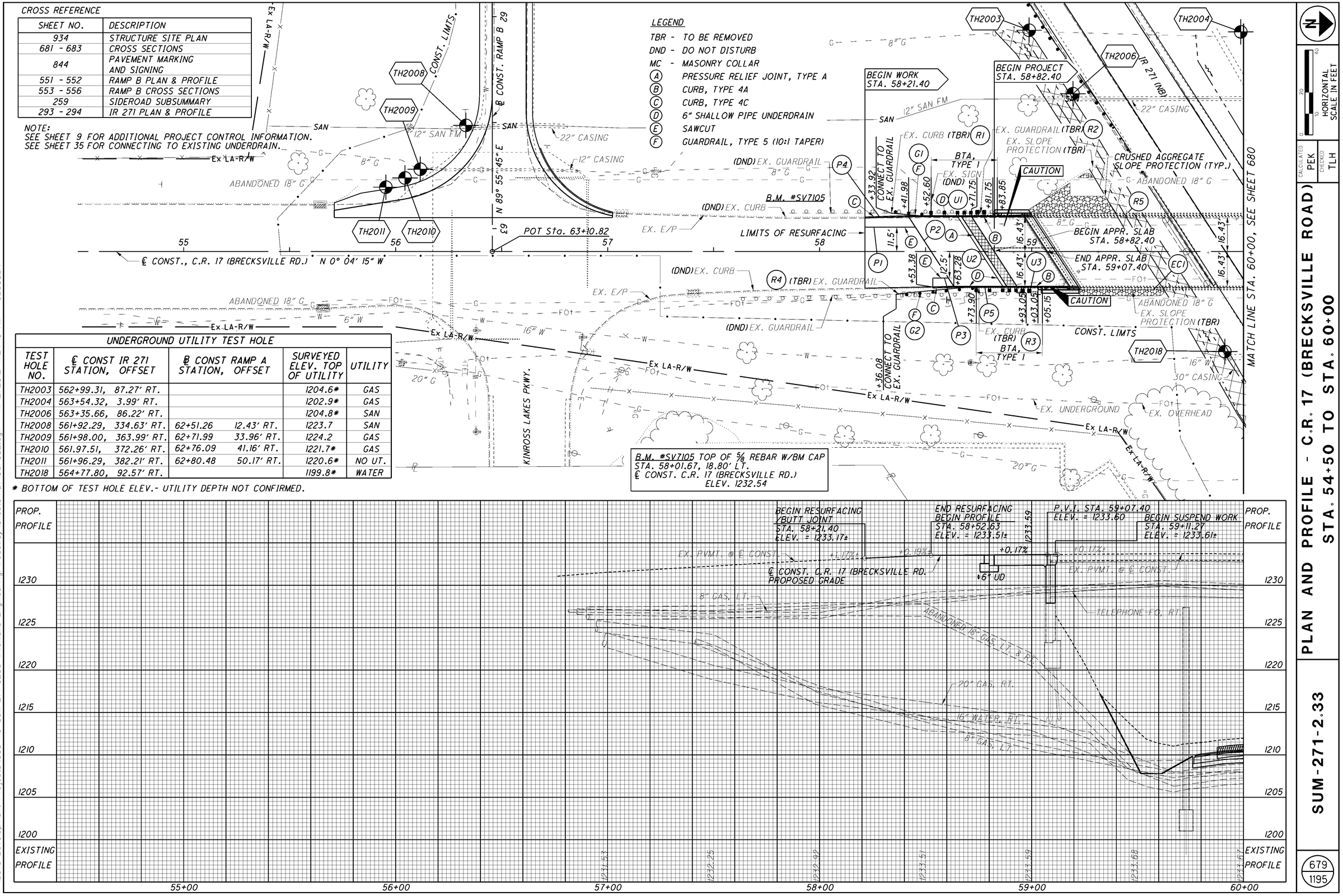
TBR - TO BE REMOVED
DND - DO NOT DISTURB
MC - MASONRY COLLAR
(A) PRESSURE RELIEF JOINT, TYPE A
(B) CURB, TYPE 4A
(C) CURB, TYPE 4C
(D) 6" SHALLOW PIPE UNDERDRAIN
(E) SAWCUT
(F) GUARDRAIL, TYPE 5 (10:1 TAPER)

UNDERGROUND UTILITY TEST HOLE

TEST HOLE NO.	℄ CONST IR 271 STATION, OFFSET	℄ CONST RAMP A STATION, OFFSET		SURVEYED ELEV. TOP OF UTILITY	UTILITY
TH2003	562+99.31, 87.27' RT.			1204.6*	GAS
TH2004	563+54.32, 3.99' RT.			1202.9*	GAS
TH2006	563+35.66, 86.22' RT.			1204.8*	SAN
TH2008	561+92.29, 334.63' RT.	62+51.26	12.43' RT.	1223.7	SAN
TH2009	561+98.00, 363.99' RT.	62+71.99	33.96' RT.	1224.2	GAS
TH2010	561.97.51, 372.26' RT.	62+76.09	41.16' RT.	1221.7*	GAS
TH2011	561+96.29, 382.21' RT.	62+80.48	50.17' RT.	1220.6*	NO UT.
TH2018	564+77.80, 92.57' RT.			1199.8*	WATER

* BOTTOM OF TEST HOLE ELEV.- UTILITY DEPTH NOT CONFIRMED.

B.M. #SV7105 TOP OF 5/8 REBAR W/BM CAP
STA. 58+01.67, 18.80' LT.
℄ CONST. C.R. 17 (BRECKSVILLE RD.)
ELEV. 1232.54



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CROSS REFERENCE

SHEET NO.	DESCRIPTION
934	STRUCTURE SITE PLAN
681 - 683	CROSS SECTIONS
844	PAVEMENT MARKING AND SIGNING
540 - 541	RAMP A PLAN & PROFILE
542 - 550	RAMP A CROSS SECTIONS
748	STORM SEWER
259	SIDEROAD SUBSUMMARY

UNDERGROUND UTILITY TEST HOLE

TEST HOLE NO.	℄ CONST IR 271 STATION, OFFSET	℄ CONST RAMP A STATION, OFFSET	SURVEYED ELEV. TOP OF UTILITY	UTILITY
TH2005	564+24.09, 96.64' LT.		1202.8*	GAS
TH2007	564+57.29, 98.89' LT.		1199.7*	SAN
TH2012	156+16.04, 321.67' LT.	66+70.30 17.30' LT.	1221.9	SAN
TH2013	156+28.83, 320.98' LT.	66+82.92 19.49' LT.	1224.8	UNK
TH2014	156+32.88, 321.33' LT.	66+86.92 20.74' LT.	1223.7	GAS
TH2015	156+37.75, 322.58' LT.	66+91.25 23.05' LT.	1224.5	GAS
TH2016	565+99.81, 93.14' LT.		1197.2*	WATER
TH2017	156+41.94, 89.36' LT.		1199.6	GAS
TH2019	565+41.65, 98.20' RT.		1198.0	GAS

* BOTTOM OF TEST HOLE ELEV.- UTILITY DEPTH NOT CONFIRMED.

HORIZONTAL SCALE IN FEET
0 10 20 40
CALCULATED PEK
CHECKED TLH

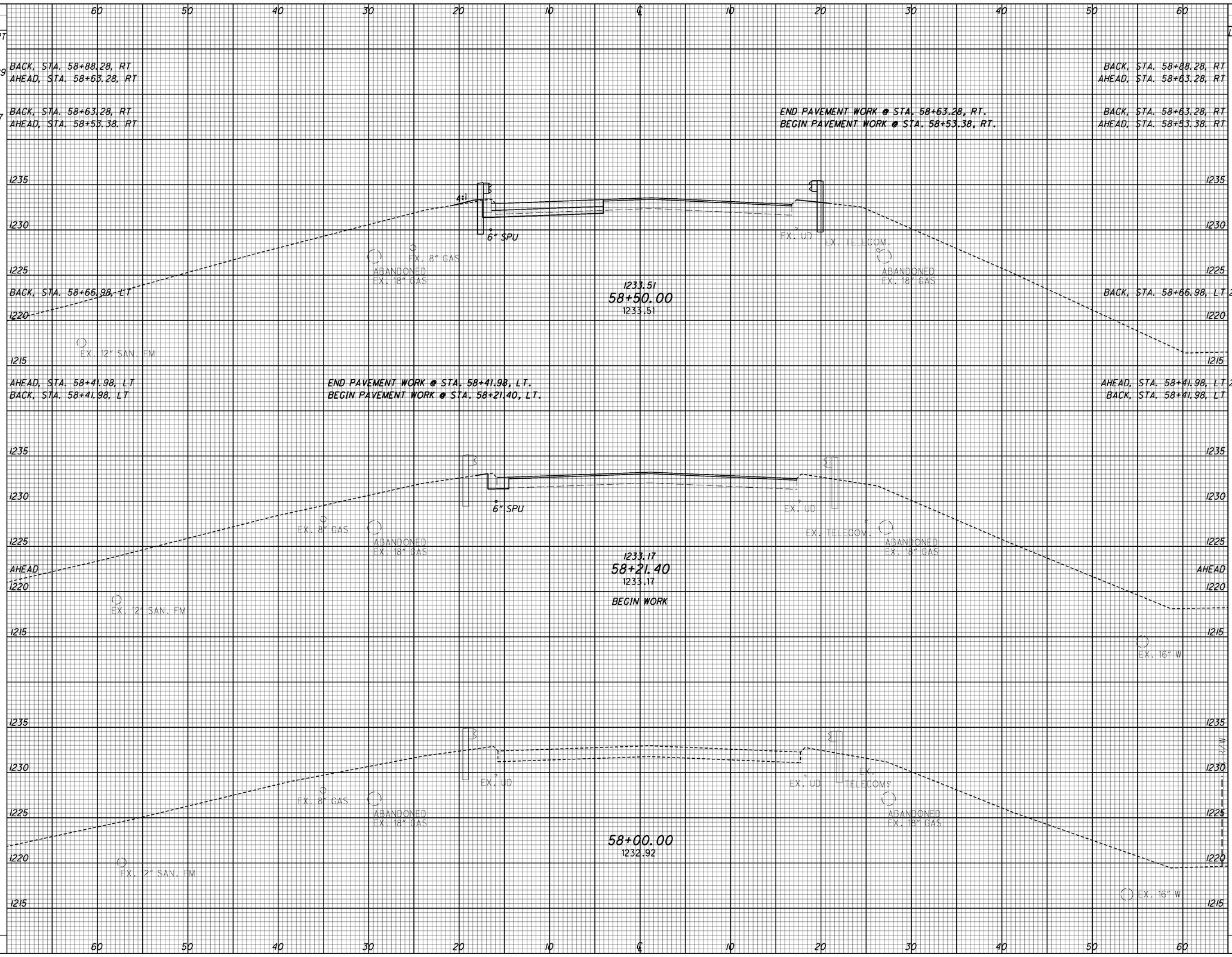
PLAN AND PROFILE - C.R. 17 (BRECKSVILLE ROAD)
STA. 60+00 TO STA. 65+50

SUM-271-2.33

680
1195

P:\Land Development Projects\503 110 SUM-271-0233 (Richland Engineering)\roadway\sheets\18710GP053.dgn 11/12/2012 11:25:48 AM CECUSER

SEEDING END WIDTH LT/RT	SEEDING SQ. YDS. LT/RT		END AREA CUT LT/RT	END AREA FILL LT/RT	VOLUME CUT LT/RT	VOLUME FILL LT/RT
12	29	BACK, STA. 58+88.28, RT				
9		AHEAD, STA. 58+63.28, RT				
			BACK, STA. 58+88.28, RT 26	1	24	1
			AHEAD, STA. 58+63.28, RT 26	1		
9	7	BACK, STA. 58+63.28, RT				
4		AHEAD, STA. 58+53.38, RT				
		END PAVEMENT WORK @ STA. 58+63.28, RT.				
		BEGIN PAVEMENT WORK @ STA. 58+53.38, RT.				
			BACK, STA. 58+63.28, RT 5	1	2	0
			AHEAD, STA. 58+53.38, RT 5	1		
11		BACK, STA. 58+66.98, LT				
	21		BACK, STA. 58+66.98, LT 26	1		
					24	1
4		AHEAD, STA. 58+41.98, LT				
4		BACK, STA. 58+41.98, LT				
		END PAVEMENT WORK @ STA. 58+41.98, LT.				
		BEGIN PAVEMENT WORK @ STA. 58+21.40, LT.				
			AHEAD, STA. 58+41.98, LT 26	1		
			BACK, STA. 58+41.98, LT 5	1		
	7				3	0
2 0		AHEAD	AHEAD 3 0 0 0			
0 0			0 0 0 0			
	64				53	2



CALCULATED PEK

CHECKED TLH

CROSS SECTIONS - C.R. 17 (BRECKSVILLE ROAD)

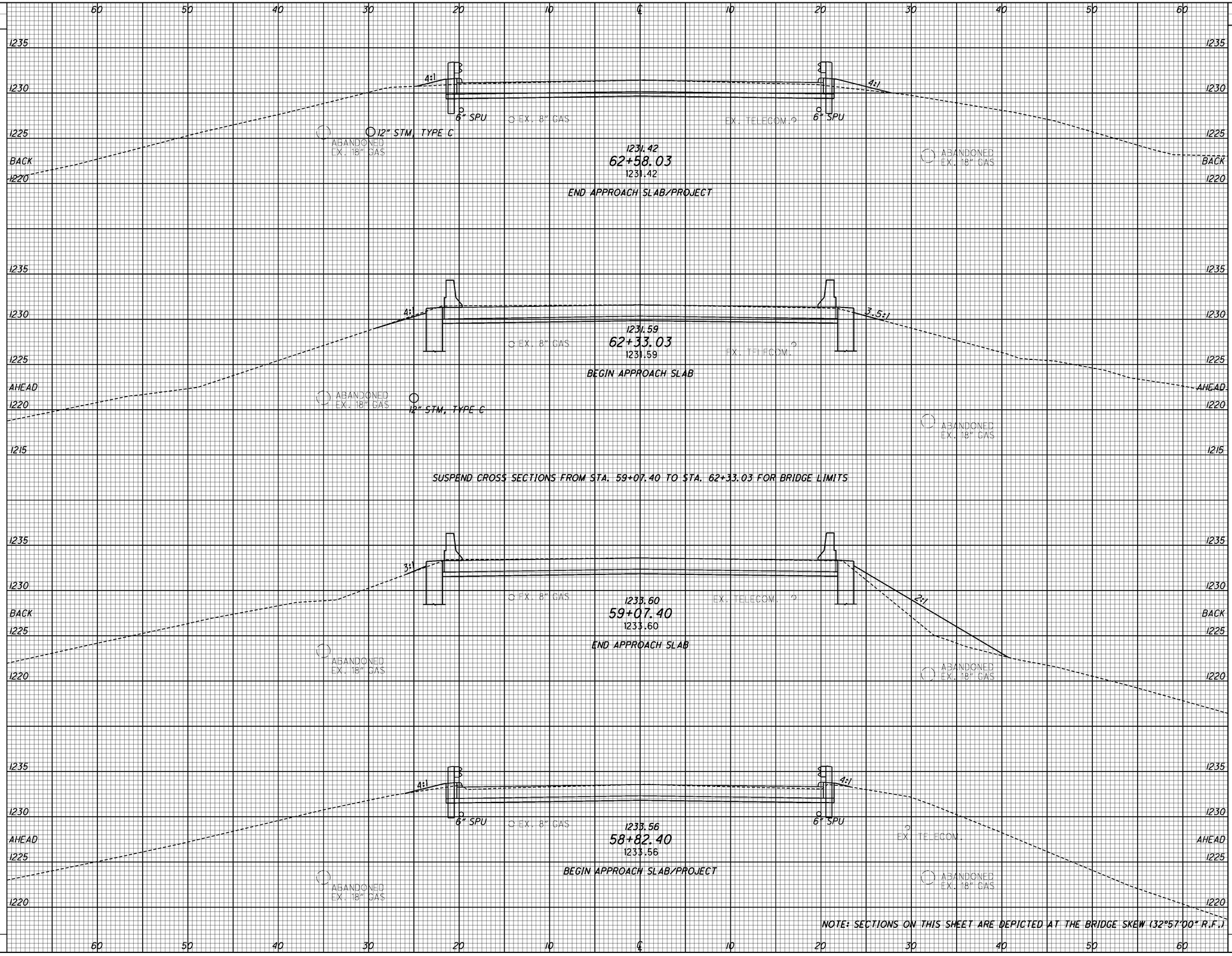
STA. 58+00.00 TO STA. 58+50.00

SUM-271-2.33

681
1195

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SEEDING END WIDTH	SEEDING SQ. YDS.
	25
	49
	10
	63
	22
	23
	112



END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
71	16		
78	0	69	7
77	25		
71	12	69	17
		138	24

CALCULATED PEK
CHECKED TLH

CROSS SECTINS - C.R. 17 (BRECKSVILLE ROAD)
STA. 58+82.40 TO STA. 62+58.03

SUM-271-2.33

682
1195

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SEEDING END WIDTH LT/RT	SEEDING SQ. YDS. LT/RT
0 0	
BACK	
0 2	
0 2	
AHEAD, STA. 62+98.44, RT	
BACK, STA. 62+98.44, RT	
9 0	
9 0	
AHEAD, STA. 62+77.15, LT	
BACK, STA. 62+77.15, LT	
0 21	
25 0	
0 13	
AHEAD, STA. 62+73.44, RT	
9 0	
AHEAD, STA. 62+52.15, LT	
66	

END AREA CUT LT/RT	END AREA FILL LT/RT	VOLUME CUT LT/RT	VOLUME FILL LT/RT
0 0 0 0			
BACK 6 8 0 0			
6 5 1 0			
13 14 1 0			
0 0			
5 1			
AHEAD, STA. 62+98.44, RT 5 0			
BACK, STA. 62+98.44, RT 26 3			
AHEAD, STA. 62+77.15, LT 6 0			
BACK, STA. 62+77.15, LT 26 4			
24 3			
24 4			
AHEAD, STA. 62+73.44, RT 26 3			
AHEAD, STA. 62+52.15, LT 26 4		80	9

EXCAVATION..... 271 CU. YD.
EMBANKMENT..... 35 CU. YD.
SEEDING & MULCHING * ..... 242 SQ. YD.
TOTALS CARRIED TO EARTHWORK SUMMARY, SHEET 241
*TOTAL CARRIED TO SIDEROAD GENERAL NOTES, SHT. 35

64+00.00
1229.86

1230.32
63+56.44
1230.32
END WORK

1230.95
63+00.00
1230.95

BEGIN PAVEMENT WIDENING @ STA. 62+77.15, LT.

BEGIN PAVEMENT WIDENING @ STA. 62+98.44, RT.

D-12
MH, NO. 3
STA. 62+75.40, 25.00' LT.
GRATE ELEV. = 1230.23
IL 12" (E) = 1225.67
IL 12" (W) = 1225.57

D-13
CB, NO. 3A
STA. 62+75.40, 16.43' LT.
GRATE ELEV. = 1230.49
IL 12" (E) = 1226.20
IL 12" (W) = 1226.10
IL 6" (S) = 1227.10

D-14
CB, NO. 3A
STA. 62+96.69, 16.43' RT.
GRATE ELEV. = 1230.47
IL 12" (W) = 1226.97
IL 6" (S) = 1227.97

39.00'-12" STM, TYPE B @ 2.00%
9.00'-12" STM, TYPE C @ 5.00%

1231.19
62+75.00
1231.19

EX. 12" SAN. FM
EX. UNKN. UTILITY
EX. 8" GAS
ABANDONED EX. 18" GAS
EX. TELECOM
EX. 16" W
EX. 18" W
4:1
6:1
20:1
6"-F

CROSS SECTINS - C.R. 17 (BRECKSVILLE ROAD)
STA. 62+75.00 TO STA. 64+00.00

CALCULATED PEK
CHECKED TLH

SUM-271-2.33

683
1195

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DRAINAGE LEGEND

ITEM 670 - DITCH EROSION PROTECTION (WIDTH SHOWN ON PLANS)

ITEM 836 - SEEDING AND EROSION CONTROL WITH TURF REINFORCING MAT, TYPE 1 (WIDTH SHOWN ON PLANS)

CROSS REFERENCES	
21–22	TYPICAL SECTIONS
542–550	CROSS SECTIONS
785	OVER PASS PIER PROTECTION DETAIL
732	PAVEMENT DETAILS

GUARDRAIL LEGEND

(T) ANCHOR ASSEMBLY TYPE 'T' (12.5')

(E) ANCHOR ASSEMBLY TYPE 'E' (50')

(B) ANCHOR ASSEMBLY TYPE 'B' (37.5')

(B1) BRIDGE TERMINAL ASSEMBLY TYPE 1 (31.25')

(B2) BRIDGE TERMINAL ASSEMBLY TYPE 2 (25')

HORIZONTAL SCALE IN FEET

CALCULATED JDL

CHECKED PRS

PLAN - IR 77
STA. 902+50 TO STA. 915+00

SUM-271-2.33

684
1195

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LEGEND

CONST. LIMITS

STREAM 'X' — STREAM RESOURCE ID

WETLAND 'X' — WETLAND RESOURCE ID

CROSS REFERENCES	
20	TYPICAL SECTIONS
785	OVER PASS PIER PROTECTION DETAIL
755	CULVERT DETAIL

DRAINAGE LEGEND

ITEM 670 - DITCH EROSION PROTECTION (WIDTH SHOWN ON PLANS)

ITEM 836 - SEEDING AND EROSION CONTROL WITH TURF REINFORCING MAT, TYPE 1 (WIDTH SHOWN ON PLANS)

GUARDRAIL LEGEND

(T) ANCHOR ASSEMBLY TYPE 'T' (12.5')

(E) ANCHOR ASSEMBLY TYPE 'E' (50')

(B) ANCHOR ASSEMBLY TYPE 'B' (37.5')

(B1) BRIDGE TERMINAL ASSEMBLY TYPE 1 (31.25')

(B2) BRIDGE TERMINAL ASSEMBLY TYPE 2 (25')

CS Sta. 185+50.82

PROP. CONC. BARRIER, TYPE D

EX. 12" CMP (REMOVE)

ST Sta. 187+50.82

PC Sta. 187+12.06

EX. 15" RCP

EX. 2'x' RCP

(B2) +37.65

(B1) +08.80

50-GR

ST Sta. 170+34.29
℄ CONST. RAMP D =
STA. 918+79.79
℄ CONST. IR 77

(E) 38.84

SC Sta. 172+34.29

℄ CONST. RAMP D

EX. 24" RCP

BRUSH

2" TREES

CS Sta. 190+25.35

SRS Sta. 192+25.35

℄ CONST. RAMP A

EX. LA R/W

EX. LA

EX. 42" CMP

STREAM '5'

MATCH LINE STA.915+00 SEE SHEET 684

MATCH LINE STA.927+50 SEE SHEET 686

EX. 2'x' RCP

N 64° 19' 38" E

EX. 54" CMP

N 4° 50' 48" W

℄ CONST. IR 77

(E) +62.60

(B1) +18.85

52-GR

PROP. CONC. BARRIER, TYPE D

PROP. 15"

POT Sta. 192+14.84
℄ CONST. RAMP D =
STA. 192+14.95
℄ CONST. IR 271

℄ CONST. RAMP C

℄ CONST. IR 271

2"-4" PINES

2"-4" TREES

CS Sta. 193+70.00

24" RCP

EX. 24" RCP

EX. 2'x' RCP

EX. 15" RCP

EX. 12" CMP

EX. 2'x' RCP

EX. 54" CMP

CALCULATED JDL

CHECKED PRS

HORIZONTAL SCALE IN FEET

0 25 50 100

PLAN - IR 77

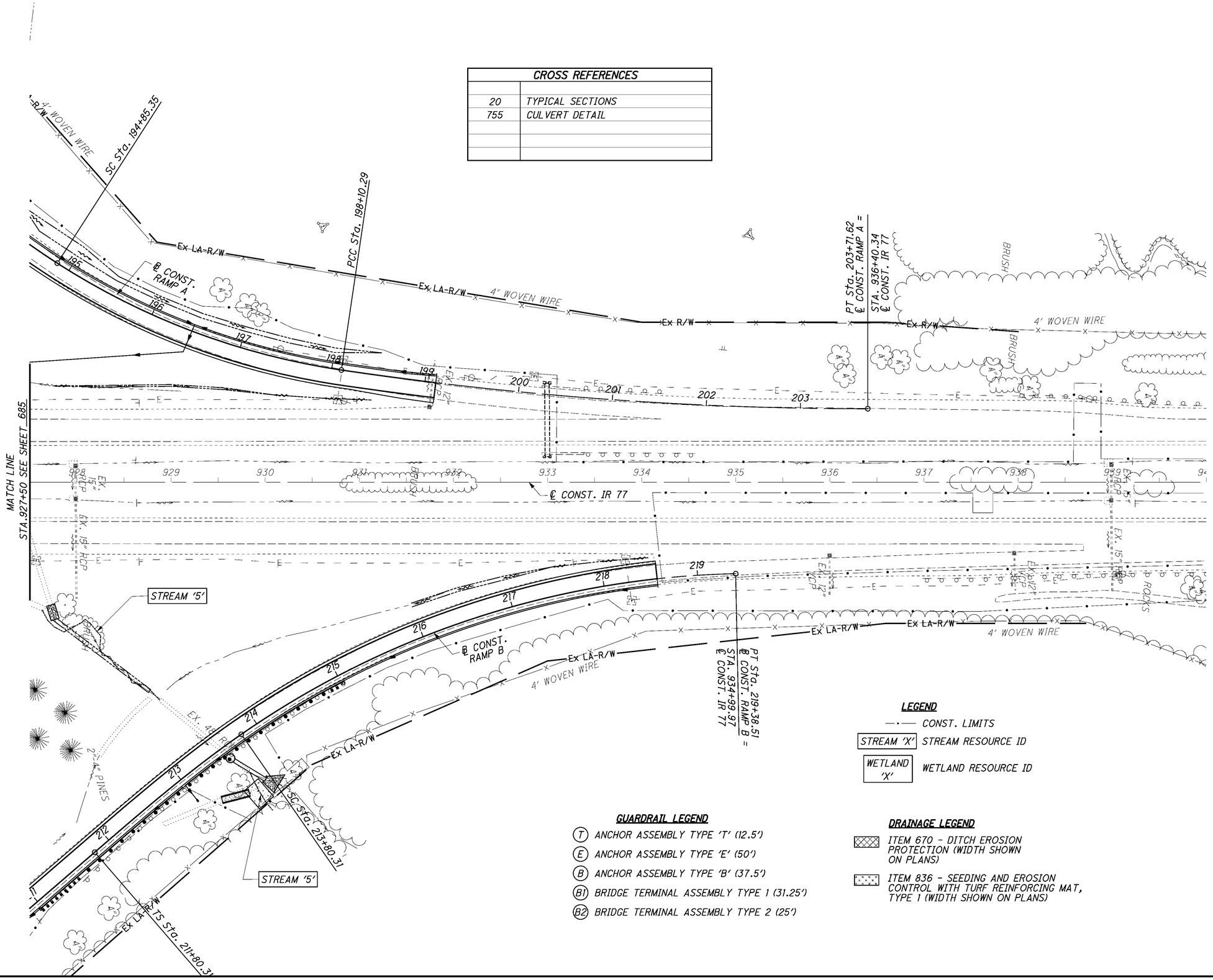
STA. 915+00 TO STA. 927+50

SUM-271-2.33

685
1195

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CROSS REFERENCES	
20	TYPICAL SECTIONS
755	CULVERT DETAIL



LEGEND

—·— CONST. LIMITS

STREAM 'X' STREAM RESOURCE ID

WETLAND 'X' WETLAND RESOURCE ID

GUARDRAIL LEGEND

(T) ANCHOR ASSEMBLY TYPE 'T' (12.5')

(E) ANCHOR ASSEMBLY TYPE 'E' (50')

(B) ANCHOR ASSEMBLY TYPE 'B' (37.5')

(B1) BRIDGE TERMINAL ASSEMBLY TYPE 1 (31.25')

(B2) BRIDGE TERMINAL ASSEMBLY TYPE 2 (25')

DRAINAGE LEGEND

ITEM 670 - DITCH EROSION PROTECTION (WIDTH SHOWN ON PLANS)

ITEM 836 - SEEDING AND EROSION CONTROL WITH TURF REINFORCING MAT, TYPE 1 (WIDTH SHOWN ON PLANS)

HORIZONTAL SCALE IN FEET
0 25 50 100

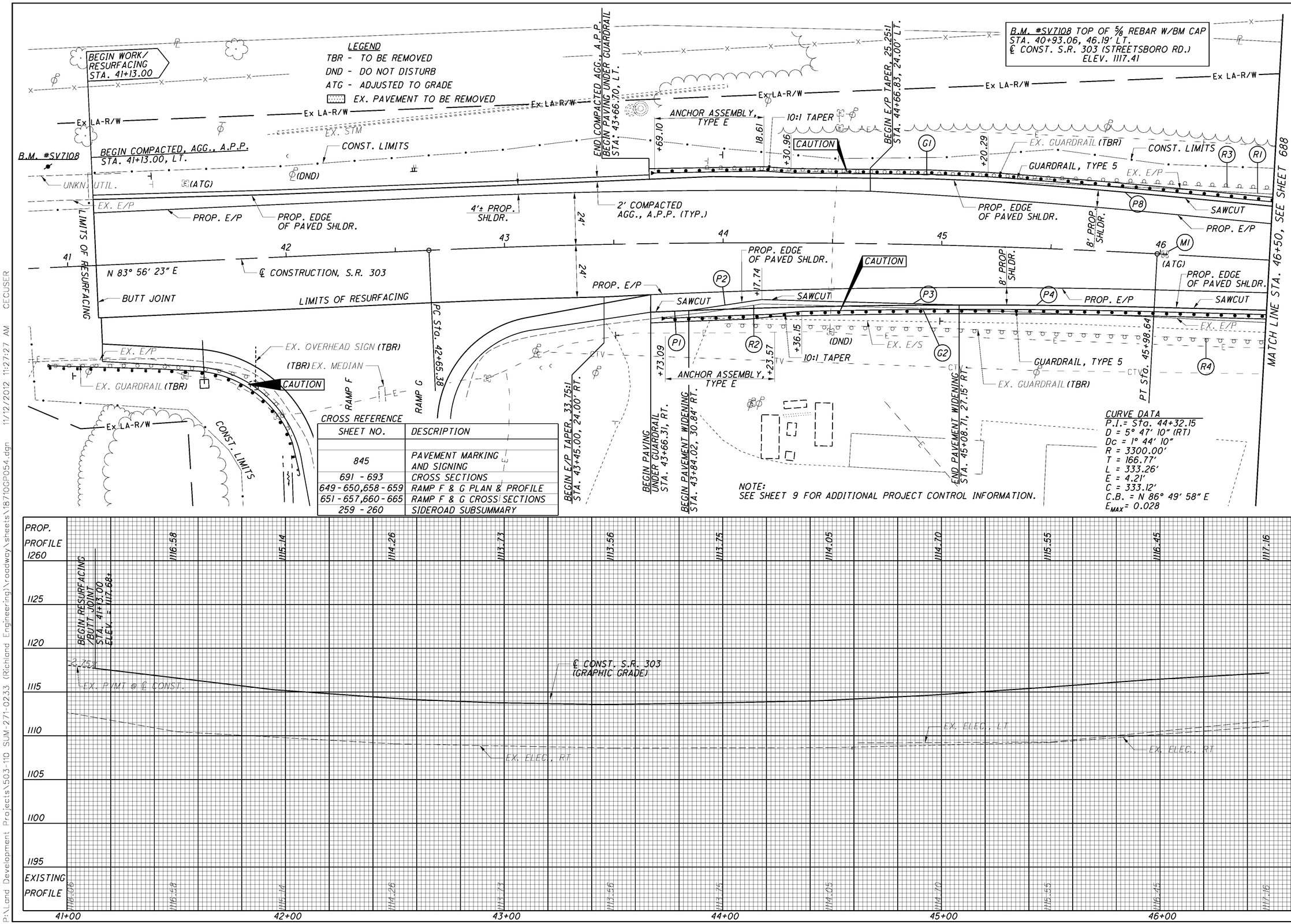
CALCULATED JDL
CHECKED PRS

PLAN - IR 77
STA. 927+50 TO STA. 940+00

SUM-271-2.33

686
1195

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HORIZONTAL SCALE IN FEET

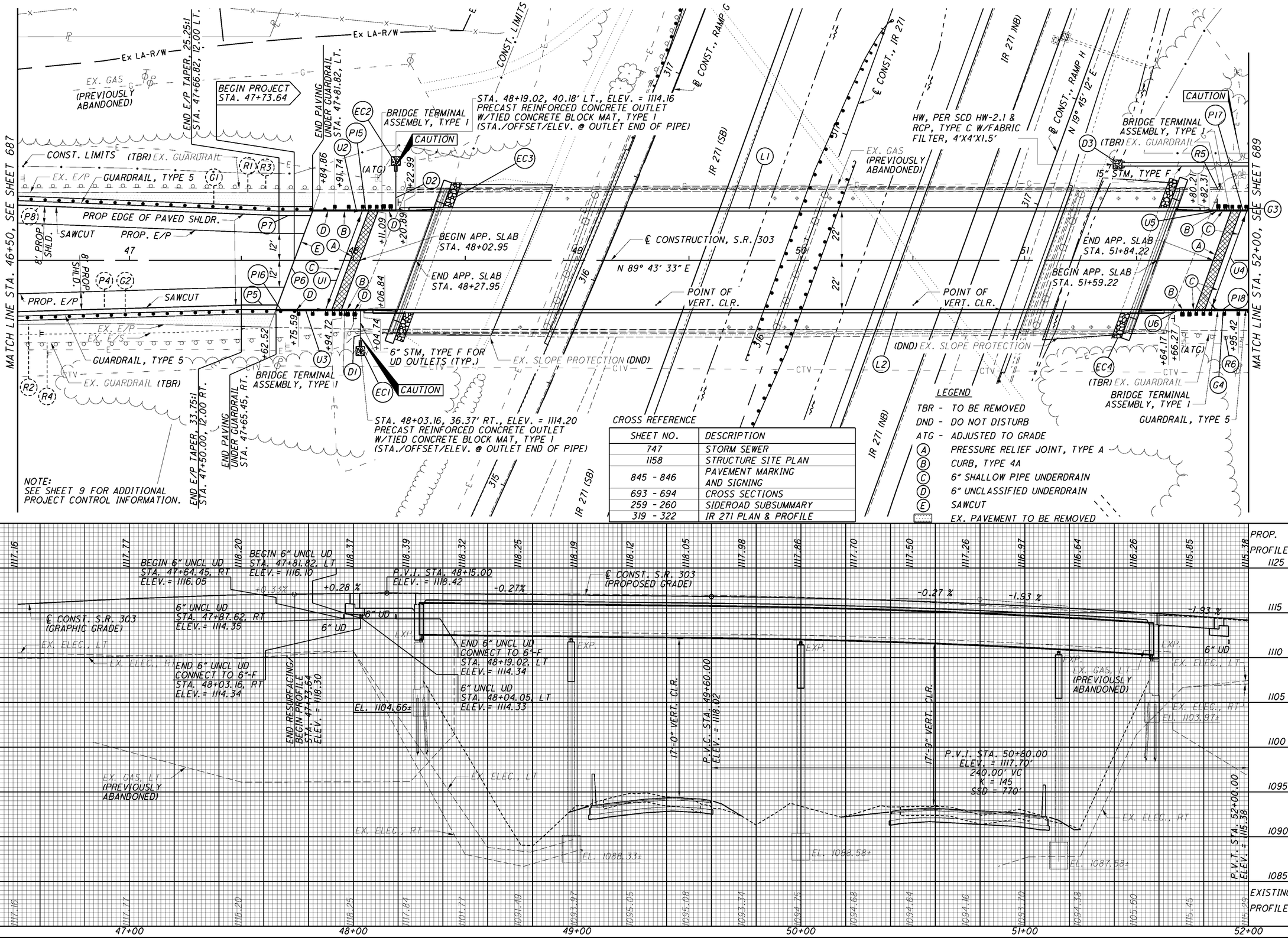
CALCULATED SRM CHECKED TLH

PLAN AND PROFILE - S.R. 303
STA. 41+00 TO STA. 46+50

SUM-271-2.33

687
1195

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CROSS REFERENCE

SHEET NO.	DESCRIPTION
747	STORM SEWER
1158	STRUCTURE SITE PLAN
845 - 846	PAVEMENT MARKING AND SIGNING
693 - 694	CROSS SECTIONS
259 - 260	SIDEROAD SUBSUMMARY
319 - 322	IR 271 PLAN & PROFILE

PLAN AND PROFILE - S.R. 303
STA. 46+50 TO STA. 52+00

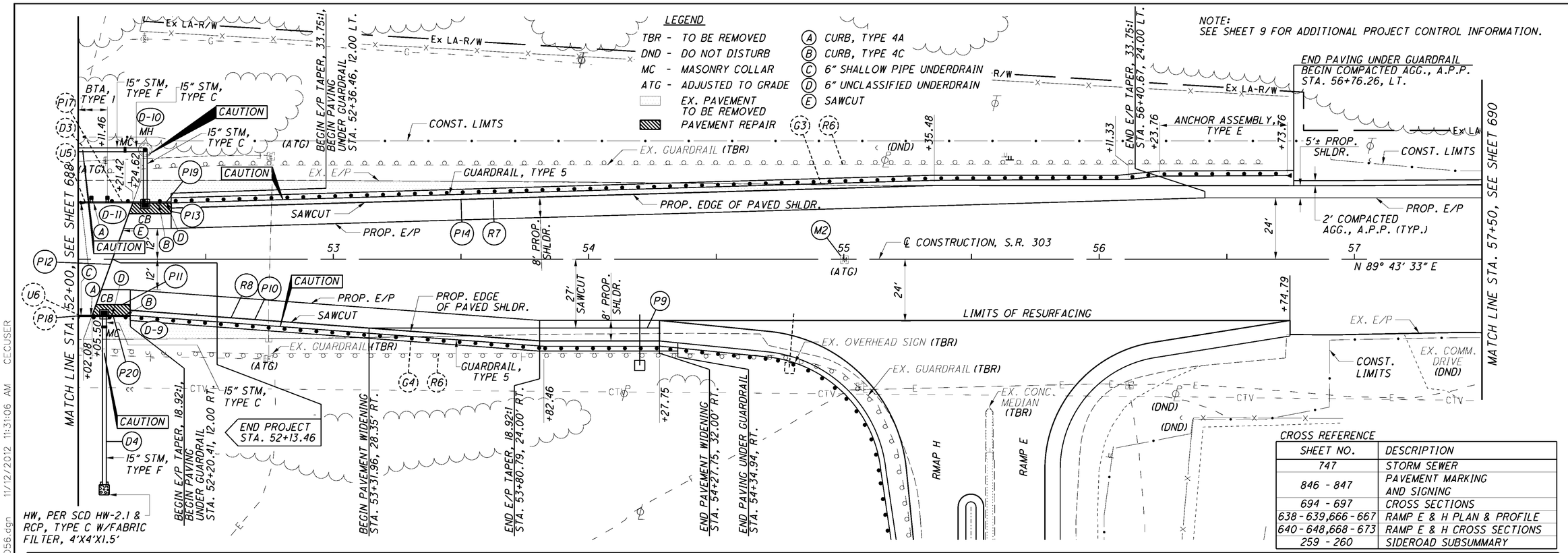
SUM-271-2.33

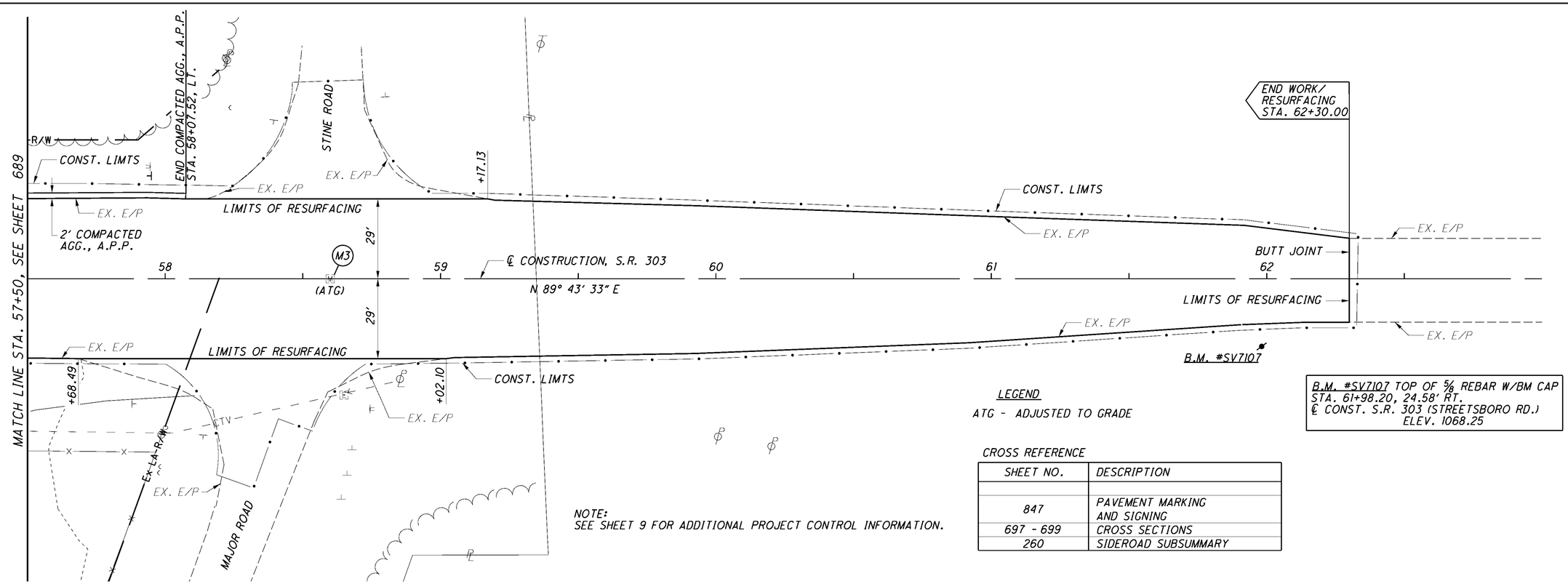
688
1195

CALCULATED SRM
CHECKED TLH

HORIZONTAL SCALE IN FEET
0 10 20 40

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LEGEND
TBR - TO BE REMOVED
DND - DO NOT DISTURB
MC - MASONRY COLLAR
ATG - ADJUSTED TO GRADE
EX. PAVEMENT TO BE REMOVED
PAVEMENT REPAIR
(A) CURB, TYPE 4A
(B) CURB, TYPE 4C
(C) 6" SHALLOW PIPE UNDERDRAIN
(D) 6" UNCLASSIFIED UNDERDRAIN
(E) SAWCUT
NOTE:
SEE SHEET 9 FOR ADDITIONAL PROJECT CONTROL INFORMATION.
MATCH LINE STA. 52+00, SEE SHEET 688
MATCH LINE STA. 57+50, SEE SHEET 690
BEGIN E/P TAPER, 33.75:1, BEGIN PAVING UNDER GUARDRAIL STA. 52+36.46, 12.00 LT.
END E/P TAPER, 33.75:1 STA. 56+40.67, 24.00 LT.
END PAVING UNDER GUARDRAIL BEGIN COMPACTED AGG., A.P.P. STA. 56+76.26, LT.
BTA, TYPE I
15" STM, TYPE F
15" STM, TYPE C
D-10 MH
D-11 CB
CB
MC
CAUTION
CONST. LIMTS
EX. GUARDRAIL (TBR)
EX. E/P
GUARDRAIL, TYPE 5
PROP. EDGE OF PAVED SHLDR.
PROP. E/P
SAWCUT
8' PROP. SHLDR.
27' SAWCUT
24'
℄ CONSTRUCTION, S.R. 303
N 89° 43' 33" E
ANCHOR ASSEMBLY, TYPE E
5'± PROP. SHLDR.
2' COMPACTED AGG., A.P.P. (TYP.)
LIMITS OF RESURFACING
EX. OVERHEAD SIGN (TBR)
EX. CONC. MEDIAN (TBR)
EX. COMM. DRIVE (DND)
RMAP H
RAMP E
END PROJECT STA. 52+13.46
BEGIN E/P TAPER, 18.92:1, BEGIN PAVING UNDER GUARDRAIL STA. 52+20.41, 12.00 RT.
BEGIN PAVEMENT WIDENING STA. 53+31.96, 28.35' RT.
END E/P TAPER, 18.92:1 STA. 53+80.79, 24.00' RT.
END PAVEMENT WIDENING STA. 54+27.75, 32.00' RT.
END PAVING UNDER GUARDRAIL STA. 54+34.94, RT.
HW, PER SCD HW-2.1 & RCP, TYPE C W/FABRIC FILTER, 4'X4'X1.5'
CROSS REFERENCE
SHEET NO. | DESCRIPTION
747 | STORM SEWER
846 - 847 | PAVEMENT MARKING AND SIGNING
694 - 697 | CROSS SECTIONS
638 - 639,666 - 667 | RAMP E & H PLAN & PROFILE
640 - 648,668 - 673 | RAMP E & H CROSS SECTIONS
259 - 260 | SIDEROAD SUBSUMMARY
PROP. PROFILE
EXISTING PROFILE
END PROFILE/ BEGIN RESURFACING STA. 52+13.46 ELEV. = 1115.12
1.93 %
-1.98%
℄ CONST. S.R. 303 (PROPOSED GRADE)
BEGIN 6" UNCL UD STA. 52+26.29, LT ELEV. = 1111.35
END 6" UNCL UD STA. 52+36.46, LT ELEV. = 1111.26
END 6" UNCL UD STA. 52+20.41, RT ELEV. = 1111.75
BEGIN 6" UNCL UD STA. 52+10.25, RT ELEV. = 1111.74
EX. ELEC., LT
EX. ELEC., RT
℄ CONST. S.R. 303 (GRAPHIC GRADE)
EX. GAS, LT (PREVIOUSLY ABANDONED)
1115.38
1114.28
1113.02
1111.66
1110.13
1108.15
1106.65
1104.69
1102.57
1100.31
1097.90
1095.32
1125
1120
1115
1110
1105
1100
1095
1090
1085
52+00
53+00
54+00
55+00
56+00
57+00
HORIZONTAL SCALE IN FEET
CALCULATED SRM
CHECKED TLH
PLAN AND PROFILE - S.R. 303
STA. 52+00 TO 57+50
SUM-271-2.33
689
1195
P:\Land Development Projects\503-110 SUM-271-0233 (Richland Engineering)\roadway\sheets\18710GP056.dgn 11/12/2012 11:31:06 AM CECUSER



NOTE:
SEE SHEET 9 FOR ADDITIONAL PROJECT CONTROL INFORMATION.

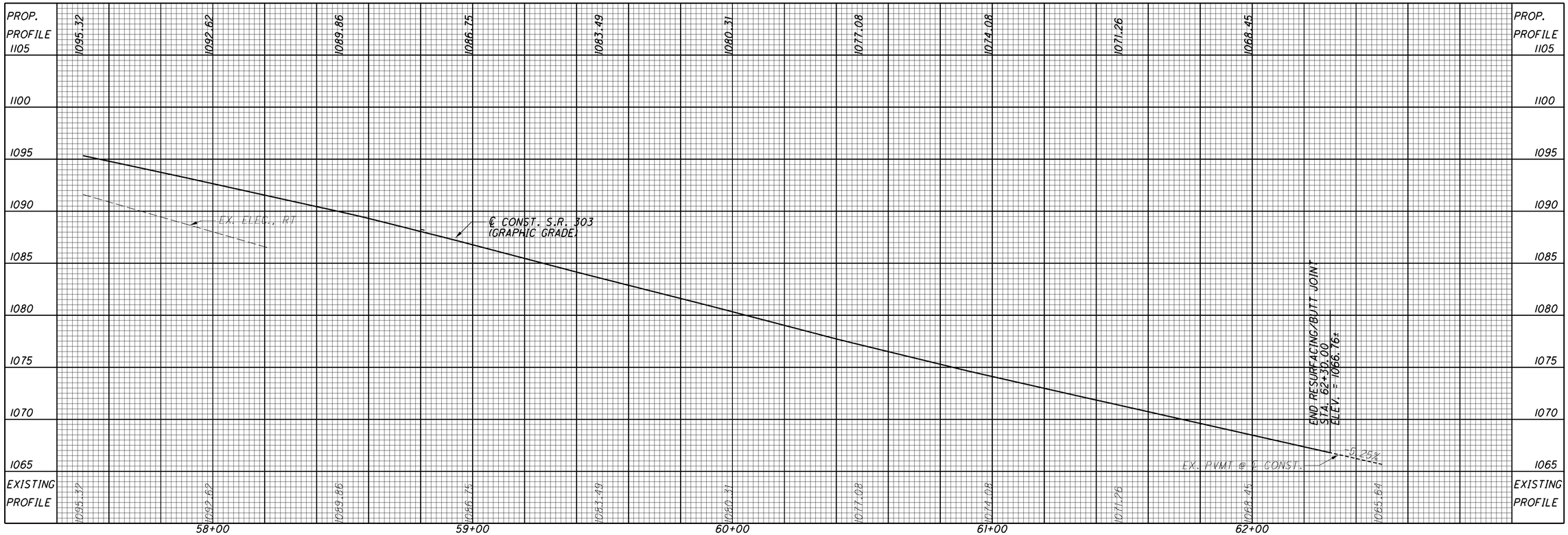
LEGEND

ATG - ADJUSTED TO GRADE

B.M. #SV7107 TOP OF 5/8 REBAR W/BM CAP
STA. 61+98.20, 24.58' RT.
℄ CONST. S.R. 303 (STREETSBORO RD.)
ELEV. 1068.25

CROSS REFERENCE

SHEET NO.	DESCRIPTION
847	PAVEMENT MARKING AND SIGNING
697 - 699	CROSS SECTIONS
260	SIDEROAD SUBSUMMARY



PLAN AND PROFILE - S.R. 303
STA. 57+50 TO 63+00

SUM-271-2.33

690
1195

CALCULATED PEK
CHECKED TLH

HORIZONTAL SCALE IN FEET
0 10 20 40

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SEEDING END WIDTH LT/RT	SEEDING SQ. YDS. LT/RT
	39 0
2 0	
	31 0
9 0	
	39 0
5 0	
	14 0
2 0	
0 0	
0 0	
	123

60 50 40 30 20 10 ℄ 10 20 30 40 50 60

1120 / 1115 / 1110

30:1

EX STM.

1114.26
42+50.00
1114.26

SEE RAMP F & G

EX FIFC.

50:1

EX STM.

1115.14
42+00.00
1115.14

SEE RAMP F & G

20:1

1116.58
41+50.00
1116.58

EX ELEC.

SEE RAMP F & G

6:1

EX UNKN. UTILITY

1117.68
41+13.00
1117.68

EX ELEC.

AHEAD

BEGIN COMPACTED AGGREGATE, A.P.P., STA. 41+13.00, LT.

BEGIN WORK

41+00.00
1118.06

END AREA CUT LT/RT	END AREA FILL LT/RT	VOLUME CUT LT/RT	VOLUME FILL LT/RT
		7 0 0 0	
3 0 0 0			
		7 0 0 0	
4 0 0 0			
		7 0 0 0	
3 0 0 0			
		4 0 1 0	
3 0 1 0			
		0 0 0 0	
0 0 0 0			
		25	1

CALCULATED PEK
CHECKED TLH

CROSS SECTIONS - S.R. 303
STA. 41+00.00 TO STA. 42+50.00

SUM-271-2.33

691
1195

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SEEDING END WIDTH LT/RT	SEEDING SQ. YDS. LT/RT	END AREA CUT LT/RT	END AREA FILL LT/RT	VOLUME CUT LT/RT	VOLUME FILL LT/RT
	42 36			4 9	0 2
4 7		2 5	0 1		
	19 39			4 11	0 1
3 7		2 7	0 0		
	25 25			4 13	0 0
6 2		AHEAD 2 7	0 0		
6 2		BACK 2 7	0 0		
	8				3 0
2					
	81	AHEAD, STA. 43.84.02, RT 2	0		
		BACK, STA. 43.84.02, RT 2	0	6	0
				1	0
		STA. 43+66.31, RT, AHEAD 2	0		
23 0		4 0	0 0		
	97 0			7 0	0 0
12 0		4 0	0 0		
	372			62	3

END PAVEMENT WIDENING
STA. 45+08.71, RT.

20:1

EX ELEC.

BEGIN E/P TAPER
STA. 44+66.83, LT.

1114.70
45+00.00
1114.70

1114.05
44+50.00
1114.05

END COMPACTED AGGREGATE, A.P.P./
BEGIN PAVING UNDER GUARDRAIL
STA. 43+66.70, LT.

AHEAD, STA. 43+66.31, RT

1113.75
44+00.00
1113.75

BEGIN PAVING UNDER GUARDRAIL, STA. 43+66.31, RT.
BEGIN PAVEMENT WIDENING, STA. 43+84.02, RT.

80:1

EX STM

1113.56
43+50.00
1113.56

BEGIN E/P TAPER
STA. 43+45.00, RT.

SEE RAMP F & G

1113.73
43+00.00
1113.73

CALCULATED PEK
CHECKED TLH

CROSS SECTIONS - S.R. 303
STA. 43+00.00 TO STA. 45+00.00

SUM-271-2.33

692
1195

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SEEDING END WIDTH LT/RT	SEEDING SQ. YDS. LT/RT	END AREA CUT LT/RT	END AREA FILL LT/RT	VOLUME CUT LT/RT	VOLUME FILL LT/RT
	32 26			3 3	5 4
12 10		3 3	6 5		
	69 53			6 7	9 7
13 9		3 4	4 3		
	67 47			7 7	5 6
11 8		4 4	1 3		
	53 39			7 7	1 5
8 6		4 4	0 2		
	53 33			6 8	0 3
11 6		2 5	0 1		
	472			61	45

CALCULATED PEK

CHECKED TLH

END E/P TAPER, STA. 47+66.82, LT.
END PAVING UNDER GUARDRAIL, STA. 47+81.82, LT.

END PAVING UNDER GUARDRAIL
STA. 47+65.46, RT.

END E/P TAPER
STA. 47+50.00, RT.

1118.20
47+50.00
1118.20

1117.77
47+00.00
1117.77

1117.16
46+50.00
1117.16

1116.45
46+00.00
1116.45

1115.55
45+50.00
1115.55

50:1 20:1 40:L 30:L 20:1

℄EX ELEC.

PAVEMENT TO BE REMOVED

CROSS SECTIONS - S.R. 303
STA. 45+50.00 TO STA. 47+50.00

SUM-271-2.33

693
1195

SEEDING END WIDTH LT/RT	SEEDING SQ. YDS. LT/RT	END AREA CUT LT/RT	END AREA FILL LT/RT	VOLUME CUT LT/RT	VOLUME FILL LT/RT
	97			86	5
29		86	5		
29		97	3		
	86			85	6
33		87	10		
	89			88	18
22		76	23		
12 10		3 3	6 5		
	272			259	29

1116.12
51+59.22
1115.49
BEGIN APPROACH SLAB

SUSPEND CROSS SECTIONS FROM STA. 48+27.95 TO STA. 51+59.22 FOR BRIDGE LIMITS

1118.38
48+27.95
1117.80
END APPROACH SLAB

PRECAST REINFORCED CONCRETE OUTLET
W/TIED CONCRETE BLOCK MAT, TYPE 1
(STA. 48+19.02, 40.18' LT., ELEV. = 1114.16)

PRECAST REINFORCED CONCRETE OUTLET
W/TIED CONCRETE BLOCK MAT, TYPE 1
(STA. 48+03.16, 36.37' RT., ELEV. = 1114.20)

1118.42
48+02.95
1118.21
BEGIN APPROACH SLAB

PAVEMENT TO BE REMOVED

1118.28
47+73.64
1118.28
BEGIN PROJECT

NOTE: SECTIONS ON THIS SHEET ARE DEPICTED AT THE BRIDGE (20°01'59" L.F.)

CALCULATED PEK
CHECKED TLH

CROSS SECTIONS - S.R. 303
STA. 47+73.64 TO STA. 52+13.46

SUM-271-2.33

694
1195

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SEEDING END WIDTH LT/RT	SEEDING SQ. YDS. LT/RT	END AREA CUT LT/RT	END AREA FILL LT/RT	VOLUME CUT LT/RT	VOLUME FILL LT/RT
	17 25			3 15	4 0
4 6		1 7	3 0		
	25 42			3 3	7 0
		AHEAD, STA. 53+31.96, RT	2 0		
		BACK, STA. 53+31.96, RT	2 0	3 2	7 1
5 9		2 2	5 1		
	39 58			3 5	11 6
9 12		1 3	7 5		
	61 51			1 4	10 7
21 13		AHEAD	1 3	7 5	
34		BACK	87	6	
	122			104	6
41		100	5		
	440			143	52

1111.66
53+50.00
1111.66

50:1

10:1

BEGIN PAVEMENT WIDENING
STA. 53+31.96, RT.

1113.02
53+00.00
1113.02

50:1

20:1

1114.27
52+50.00
1114.27

50:1

20:1

EX ELEC.

BEGIN E/P TAPER/
BEGIN PAVING UNDER GUARDRAIL
STA. 52+36.46, LT.

D-10

MH. NO. 1
STA. 52+26.29, 43.00' LT.
GRATE ELEV. = 1112.15
℄ 15" (S) = 1107.25
℄ 15" (W) = 1107.15

D-11

CB. NO. 3A
STA. 52+26.29, 22.00' LT.
GRATE ELEV. = 1114.08
℄ 15" (N) = 1110.08
℄ 6" (W) = 1111.42
℄ 6" (E) = 1111.27

6:1

EX ELEC. (TBRO)

6" UD
6" UNCL. UD

21'-15" TYPE C @ 13.47%

D-9

CB. NO. 3A
STA. 52+10.25, 22.00' RT.
GRATE ELEV. = 1114.59
℄ 15" (N) = 1110.59
℄ 6" (W) = 1111.93
℄ 6" (E) = 1111.75

BEGIN E/P TAPER/
BEGIN PAVING UNDER GUARDRAIL
STA. 52+20.41, RT.

12:1

6" UD
6" UNCL. UD

5'-15", TYPE C @ 5.00%

MASONRY COLLAR

10'-15", TYPE F @ 5.00%

STA. 52+10.25
GRADE BREAK
USE 22.5° BEND

42'-15" TYPE F @ 51.97%
SEE SHEET 747 FOR
STORM PROFILE

1115.12
52+13.46
1115.12

(AT SKEW)
END PROJECT

PAVEMENT TO BE REMOVED

6:1

6" UNCL. UD

1115.68
51+84.22
1115.44

(AT SKEW)
END APPROACH SLAB

CALCULATED PEK
CHECKED TLH

CROSS SECTIONS - S.R. 303
STA. 52+50.00 TO STA. 54+50.00

SUM-271-2.33

695
1195

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SEEDING END WIDTH LT/RT	SEEDING SQ. YDS. LT/RT
	80
10	
	60
10	
	80
	20
	80
10	
	88
	23
	46

END E/P TAPER
STA. 56+41.46, LT.

SEE RAMP E & H

1102.57
56+00.00
1102.57

EX ELEC.

SEE RAMP E & H

1104.69
55+50.00
1104.69

EX ELEC.

SEE RAMP E & H

1106.65
55+00.00
1106.65

EX ELEC.

1108.45
54+50.00
1108.45

END PAVEMENT WIDENING, STA. 54+27.75, RT.
END PAVING UNDER GUARDRAIL, STA. 54+34.94, RT

BACK, STA. 54+34.94, RT

AHEAD, STA. 54+27.75, RT
BACK, STA. 54+27.75, RT

1110.13
54+00.00
1110.13

END E/P TAPER
STA. 53+80.79, RT.

END AREA CUT LT/RT	END AREA FILL LT/RT	VOLUME CUT LT/RT	VOLUME FILL LT/RT
		20	20
10	10		
		20	20
10	10		
		20	20
10	10		
2	0		
		2	0
9	0		
9	0		
		3	2
		9	0
29	10		
		22	10

CALCULATED PEK
CHECKED TLH

CROSS SECTIONS - S.R. 303
STA. 55+00.00 TO STA. 57+00.00

SUM-271-2.33

696
1195

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SEEDING END WIDTH LT/RT	SEEDING SQ. YDS. LT/RT
0	0
4 0	
5 0	
9 0	
33 0	
3 0	
28 0	
7 0	
25 0	
2 0	
91	

60 50 40 30 20 10 ℄ 10 20 30 40 50 60

1095 1090 1085 1080

BACK, STA. 58+07.52, LT

END COMPACTED AGGREGATE, A.P.P., STA. 58+07.52, LT.

1089.86
58+50.00
1089.86

3:1

1092.62
58+00.00
1092.62

EX ELEC.

1095 1090 1085 1100

4:1

1095.32
57+50.00
1095.32

EX ELEC.

1100 1095 1090

25:1

1097.90
57+00.00
1097.90

EX ELEC.

END PAVING UNDER GUARDRAIL / BEGIN COMPACTED AGGREGATE, A.P.P., STA. 56+76.26, LT.

SEE RAMP E & H

AHEAD, STA. 56+76.26, LT
BACK, STA. 56+76.26, LT

1105 1100 1095 1090

5:1

1100.31
56+50.00
1100.31

EX ELEC.

END AREA CUT LT/RT	END AREA FILL LT/RT	VOLUME CUT LT/RT	VOLUME FILL LT/RT
		0	0
3 0	0		
		1 0	0
7 0	0		
		9 0	0
3 0	0		
		7 0	0
4 0	0		
1 0	1 0	2 0	1 0
1 0	1 0		
		1 0	1 0
1 0	1 0		
		20	2

CALCULATED PEK
CHECKED TLH

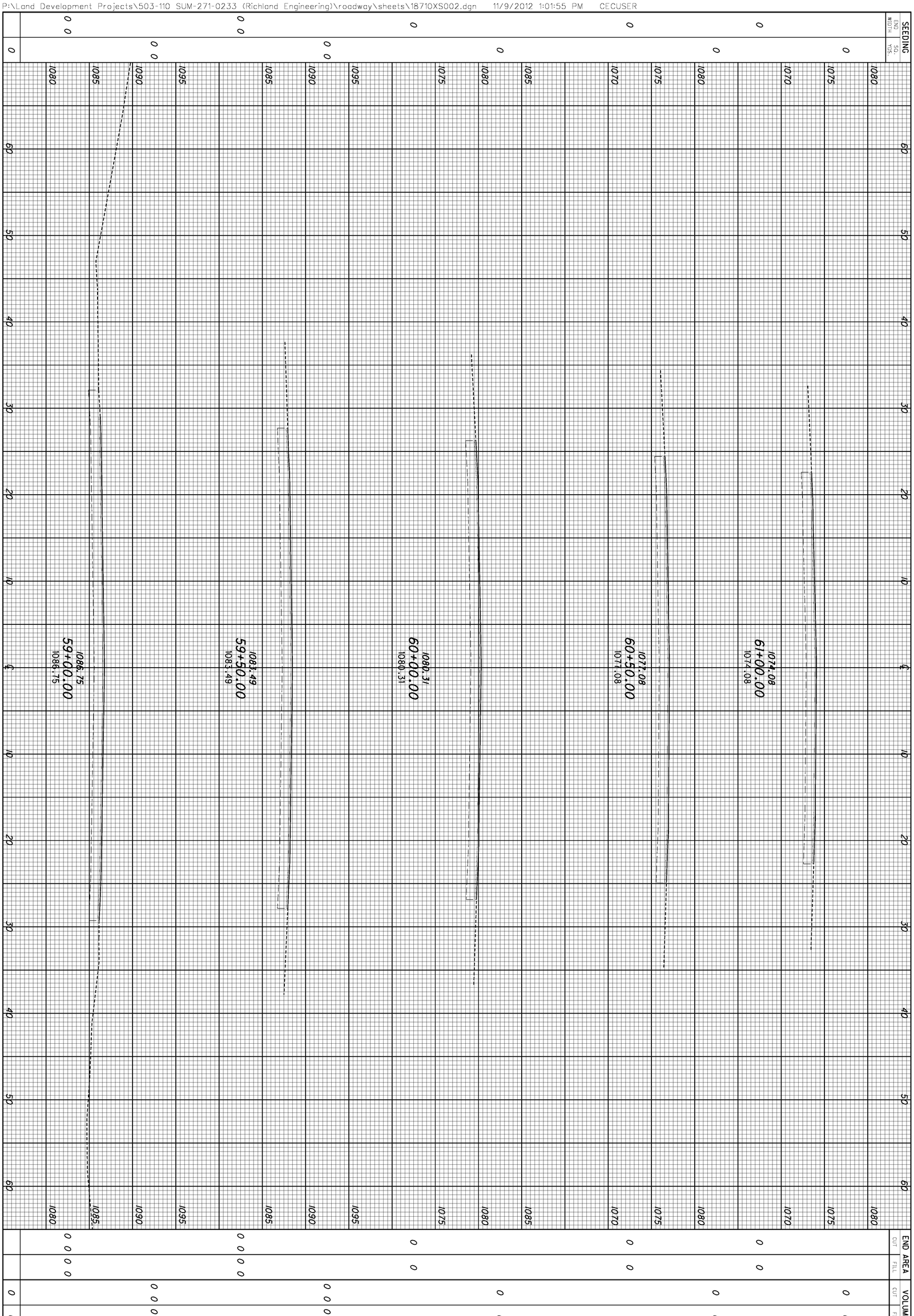
CROSS SECTIONS - S.R. 303
STA. 54+50.00 TO STA. 59+50.00

SUM-271-2.33

697
1195

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698 / 1195	SUM-271-2.33	CROSS SECTIONS - S.R. 303 STA. 60+00.00 TO STA. 62+00.00
		CALCULATED PEK CHECKED TLH

SEEDING	
END WIDTH	SQ. YDS.
0	0
0	0
0	0
0	0
0	0

60 50 40 30 20 10 ℄ 10 20 30 40 50 60

1070
1065
1060
1070
1065
1060
1070
1065
1060
1080
1070
1065

EXCAVATION.....592 CU. YD.
EMBANKMENT.....142 CU. YD.
SEEDING & MULCHING * .....1816 SQ. YD.
TOTALS CARRIED TO EARTHWORK SUMMARY, SHEET 241
*TOTAL CARRIED TO SIDEROAD GENERAL NOTES, SHT. 35

62+50.00
1065.64

1066.76
62+30.00
1066.76
END WORK

1068.45
62+00.00
1068.45

1071.26
61+50.00
1071.26

END AREA		VOLUME	
CUT	FILL	CUT	FILL
0	0		
0	0		
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0

CALCULATED PEK
CHECKED TLH

CROSS SECTIONS - S.R. 303
STA. 62+30.00 TO STA. 62+50.00

SUM-271-2.33

699
1195

P:\Land Development Projects\503-110 SUM-271-0233 (Richland Engineering)\roadway\sheets\18710XS002.dgn 11/9/2012 1:01:03 PM CECUSER

SUPERELEVATION TABLE

P.I. STA. 195+17.68 | Dc = 1°28'03" CURVE RIGHT

NOTE 1: OUTSIDE E.O.P. ADJUSTED FOR ROUNDING OF GRADE AT BEGIN/END SUPERELEVATION TRANSITION

CALCULATED JDL | CHECKED PRS

REMARKS	CENTER LINE CONSTRUCTION STATION	SOUTHBOUND LANES									MEDIAN	NORTHBOUND LANES								
		TRANSITION RATE	OUTSIDE E.O.P. ELEV. (SEE NOTE 1)	OUTSIDE E.O.P. ELEVATION	CROSS SLOPE	WIDTH	CROWN S.B. LANES ELEVATION	CROSS SLOPE	WIDTH	PROFILE GRADE INSIDE E.O.P. ELEVATION		TRANSITION RATE	PROFILE GRADE INSIDE E.O.P. ELEVATION	CROSS SLOPE	WIDTH	CROWN N.B. LANES ELEVATION	CROSS SLOPE	WIDTH	OUTSIDE E.O.P. ELEVATION	OUTSIDE E.O.P. ELEV. (SEE NOTE 1)
	184+50.00			1125.12	-0.0160	12.00	1125.32	0.0160	12.00	1125.12			1125.46	0.0160	12.00	1125.65	-0.0160	12.00	1125.46	
	184+48.46			1125.17	-0.0160	12.00	1125.36	0.0160	12.00	1125.17			1125.50	0.0160	12.00	1125.70	-0.0160	12.00	1125.50	
	184+75.00		(1124.41)	1124.39	-0.0160	12.00	1124.58	0.0160	12.00	1124.39			1124.77	0.0160	12.00	1124.96	-0.0160	12.00	1124.77	(1124.75)
NORMAL SECTION	184+83.46	250:1	(1124.18)	1124.14	-0.0160	12.00	1124.33	0.0160	12.00	1124.14		250:1	1124.54	0.0160	12.00	1124.73	-0.0160	12.00	1124.54	(1124.51)
	185+00.00	↑	(1123.73)	1123.72	-0.0105	12.00	1123.85	0.0160	12.00	1123.66		↑	1124.09	0.0105	12.00	1124.21	-0.0160	12.00	1124.02	(1124.01)
	185+18.46	↕		1123.26	-0.0043	12.00	1123.31	0.0160	12.00	1123.12		↕	1123.59	0.0043	12.00	1123.64	-0.0160	12.00	1123.45	
	185+25.00	↕		1123.09	-0.0022	12.00	1123.12	0.0160	12.00	1122.92		↕	1123.41	0.0022	12.00	1123.43	-0.0160	12.00	1123.24	
HALF FLAT	185+31.46	↕		1122.93	0.000	12.00	1122.93	0.0160	12.00	1122.74		↕	1123.23	0.000	12.00	1123.23	-0.0160	12.00	1123.04	
	185+50.00	↕		1122.46	0.0062	12.00	1122.38	0.0160	12.00	1122.19		↕	1122.73	-0.0062	12.00	1122.66	-0.0160	12.00	1122.47	
	185+75.00	↕		1121.82	0.0145	12.00	1121.65	0.0160	12.00	1121.46		↕	1122.06	-0.0145	12.00	1121.89	-0.0160	12.00	1121.70	
REVERSE CROWN	185+79.46	↕		1121.71	0.0160	12.00	1121.52	0.0160	12.00	1121.33		↕	1121.95	-0.0160	12.00	1121.75	-0.0160	12.00	1121.56	
	186+00.00	↕		1121.19	0.0194	12.00	1120.96	0.0194	12.00	1120.73		↕	1121.40	-0.0194	12.00	1121.17	-0.0194	12.00	1120.93	
	186+25.00	↕		1120.58	0.0236	12.00	1120.29	0.0236	12.00	1120.01		↕	1120.74	-0.0236	12.00	1120.46	-0.0236	12.00	1120.17	
	186+50.00	↕		1119.96	0.0278	12.00	1119.63	0.0278	12.00	1119.29		↕	1120.08	-0.0278	12.00	1119.75	-0.0278	12.00	1119.42	
	186+75.00	↕		1119.35	0.0319	12.00	1118.96	0.0319	12.00	1118.58		↕	1119.43	-0.0319	12.00	1119.05	-0.0319	12.00	1118.67	
	187+00.00	↕		1118.73	0.0361	12.00	1118.30	0.0361	12.00	1117.86		↕	1118.78	-0.0361	12.00	1118.35	-0.0361	12.00	1117.91	
PC HORIZONTAL CURVE	187+12.06	↕		1118.43	0.0381	12.00	1117.98	0.0381	12.00	1117.52		↕	1118.46	-0.0381	12.00	1118.01	-0.0381	12.00	1117.55	
	187+25.00	↕		1118.12	0.0403	12.00	1117.63	0.0403	12.00	1117.15		↕	1118.13	-0.0403	12.00	1117.64	-0.0403	12.00	1117.16	
	187+50.00	↕		1117.50	0.0444	12.00	1116.97	0.0444	12.00	1116.43		↕	1117.47	-0.0444	12.00	1116.94	-0.0444	12.00	1116.41	
	187+54.46	↕		1117.39	0.0452	12.00	1116.85	0.0452	12.00	1116.31		↕	1117.36	-0.0452	12.00	1116.82	-0.0452	12.00	1116.27	
	187+75.00	↕	(1116.87)	1116.89	0.0486	12.00	1116.30	0.0486	12.00	1115.72		↓	1116.82	-0.0486	12.00	1116.24	-0.0486	12.00	1115.66	(1115.67)
BEGIN FULL SUPER	187+89.46	250:1	(1116.50)	1116.53	0.0510	12.00	1115.92	0.0510	12.00	1115.31		250:1	1116.44	-0.0510	12.00	1115.83	-0.0510	12.00	1115.22	(1115.26)
	188+00.00		(1116.21)	1116.23	0.0510	12.00	1115.62	0.0510	12.00	1115.00			1116.17	-0.0510	12.00	1115.56	-0.0510	12.00	1114.95	(1114.96)
	188+24.46			1115.53	0.0510	12.00	1114.92	0.0510	12.00	1114.31			1115.53	-0.0510	12.00	1114.92	-0.0510	12.00	1114.31	
	188+25.00			1115.51	0.0510	12.00	1114.90	0.0510	12.00	1114.29			1115.52	-0.0510	12.00	1114.90	-0.0510	12.00	1114.29	
	188+50.00			1114.80	0.0510	12.00	1114.19	0.0510	12.00	1113.57			1114.86	-0.0510	12.00	1114.25	-0.0510	12.00	1113.64	
	188+75.00			1114.08	0.0510	12.00	1113.47	0.0510	12.00	1112.86			1114.21	-0.0510	12.00	1113.60	-0.0510	12.00	1112.99	
	189+00.00			1113.37	0.0510	12.00	1112.76	0.0510	12.00	1112.14			1113.56	-0.0510	12.00	1112.95	-0.0510	12.00	1112.34	
	189+25.00			1112.65	0.0510	12.00	1112.04	0.0510	12.00	1111.43			1112.91	-0.0510	12.00	1112.29	-0.0510	12.00	1111.68	
	189+50.00			1111.94	0.0510	12.00	1111.33	0.0510	12.00	1110.71			1112.25	-0.0510	12.00	1111.64	-0.0510	12.00	1111.03	
	189+75.00			1111.22	0.0510	12.00	1110.61	0.0510	12.00	1110.00			1111.60	-0.0510	12.00	1110.99	-0.0510	12.00	1110.38	
	190+00.00			1110.51	0.0510	12.00	1109.90	0.0510	12.00	1109.28			1110.95	-0.0510	12.00	1110.34	-0.0510	12.00	1109.72	
	190+25.00			1109.79	0.0510	12.00	1109.18	0.0510	12.00	1108.57			1110.30	-0.0510	12.00	1109.68	-0.0510	12.00	1109.07	
	190+50.00			1109.08	0.0510	12.00	1108.47	0.0510	12.00	1107.85			1109.64	-0.0510	12.00	1109.03	-0.0510	12.00	1108.42	
	190+75.00			1108.36	0.0510	12.00	1107.75	0.0510	12.00	1107.14			1108.99	-0.0510	12.00	1108.38	-0.0510	12.00	1107.77	
	191+00.00			1107.65	0.0510	12.00	1107.04	0.0510	12.00	1106.42			1108.34	-0.0510	12.00	1107.73	-0.0510	12.00	1107.11	
	191+25.00			1106.93	0.0510	12.00	1106.32	0.0510	12.00	1105.71			1107.69	-0.0510	12.00	1107.07	-0.0510	12.00	1106.46	
	191+50.00			1106.22	0.0510	12.00	1105.61	0.0510	12.00	1104.99			1107.03	-0.0510	12.00	1106.42	-0.0510	12.00	1105.81	
	191+75.00			1105.50	0.0510	12.00	1104.89	0.0510	12.00	1104.28			1106.38	-0.0510	12.00	1105.77	-0.0510	12.00	1105.16	
	192+00.00			1104.82	0.0510	12.00	1104.21	0.0510	12.00	1103.60			1105.73	-0.0510	12.00	1105.12	-0.0510	12.00	1104.50	
	192+25.00			1104.14	0.0510	12.00	1103.53	0.0510	12.00	1102.92			1105.08	-0.0510	12.00	1104.46	-0.0510	12.00	1103.85	
	192+50.00			1103.46	0.0510	12.00	1102.85	0.0510	12.00	1102.24			1104.42	-0.0510	12.00	1103.81	-0.0510	12.00	1103.20	
	192+75.00			1102.78	0.0510	12.00	1102.17	0.0510	12.00	1101.55			1103.77	-0.0510	12.00	1103.16	-0.0510	12.00	1102.55	
	193+00.00			1102.10	0.0510	12.00	1101.49	0.0510	12.00	1100.87			1103.12	-0.0510	12.00	1102.51	-0.0510	12.00	1101.89	
	193+25.00			1101.42	0.0510	12.00	1100.80	0.0510	12.00	1100.19			1102.47	-0.0510	12.00	1101.85	-0.0510	12.00	1101.24	
	193+50.00			1100.73	0.0510	12.00	1100.12	0.0510	12.00	1099.51			1101.81	-0.0510	12.00	1101.20	-0.0510	12.00	1100.59	
	193+75.00			1100.05	0.0510	12.00	1099.44	0.0510	12.00	1098.83			1101.16	-0.0510	12.00	1100.55	-0.0510	12.00	1099.94	
	194+00.00			1099.37	0.0510	12.00	1098.76	0.0510	12.00	1098.15			1100.51	-0.0510	12.00	1099.90	-0.0510	12.00	1099.28	
	194+25.00			1098.69	0.0510	12.00	1098.08	0.0510	12.00	1097.46			1099.85	-0.0510	12.00	1099.24	-0.0510	12.00	1098.63	
	194+50.00			1098.00	0.0510	12.00	1097.39	0.0510	12.00	1096.78			1099.18	-0.0510	12.00	1098.57	-0.0510	12.00	1097.96	
	194+75.00			1097.31	0.0510	12.00	1096.70	0.0510	12.00	1096.08			1098.50	-0.0510	12.00	1097.89	-0.0510	12.00	1097.28	
	195+00.00			1096.61	0.0510	12.00	1096.00	0.0510	12.00	1095.39			1097.81	-0.0510	12.00	1097.19	-0.0510	12.00	1096.58	

CONTINUED ON SHEET 701

SUPERELEVATION TABLE

SUM-271-2.33

700
1195

F:\2009\109094\18710\roadway\sheets\18710GE001.dgn 10/6/2012 9:31:43 AM RichHording

SUPERELEVATION TABLE

P.I. STA. 195+17.68 | Dc = 1°28'03" CURVE RIGHT

NOTE 1: OUTSIDE E.O.P. ADJUSTED FOR ROUNDING OF GRADE AT BEGIN/END SUPERELEVATION TRANSITION

CALCULATED JDL | CHECKED PRS

REMARKS	CENTER LINE CONSTRUCTION STATION	SOUTHBOUND LANES									MEDIAN	NORTHBOUND LANES								
		TRANSITION RATE	OUTSIDE E.O.P. ELEV. (SEE NOTE 1)	OUTSIDE E.O.P. ELEVATION	CROSS SLOPE	WIDTH	CROWN S.B. LANES ELEVATION	CROSS SLOPE	WIDTH	PROFILE GRADE INSIDE E.O.P. ELEVATION		TRANSITION RATE	PROFILE GRADE INSIDE E.O.P. ELEVATION	CROSS SLOPE	WIDTH	CROWN N.B. LANES ELEVATION	CROSS SLOPE	WIDTH	OUTSIDE E.O.P. ELEVATION	OUTSIDE E.O.P. ELEV. (SEE NOTE 1)
	195+25.00			1095.91	0.0510	12.00	1095.30	0.0510	12.00	1094.69			1097.10	-0.0510	12.00	1096.49	-0.0510	12.00	1095.88	
	195+50.00			1095.21	0.0510	12.00	1094.59	0.0510	12.00	1093.98			1096.39	-0.0510	12.00	1095.78	-0.0510	12.00	1095.16	
	195+75.00			1094.50	0.0510	12.00	1093.89	0.0510	12.00	1093.27			1095.66	-0.0510	12.00	1095.05	-0.0510	12.00	1094.44	
	196+00.00			1093.79	0.0510	12.00	1093.17	0.0510	12.00	1092.56			1094.92	-0.0510	12.00	1094.31	-0.0510	12.00	1093.70	
	196+25.00			1093.07	0.0510	12.00	1092.46	0.0510	12.00	1091.85			1094.17	-0.0510	12.00	1093.56	-0.0510	12.00	1092.95	
	196+50.00			1092.36	0.0510	12.00	1091.74	0.0510	12.00	1091.13			1093.41	-0.0510	12.00	1092.80	-0.0510	12.00	1092.19	
	196+75.00			1091.64	0.0510	12.00	1091.03	0.0510	12.00	1090.42			1092.64	-0.0510	12.00	1092.03	-0.0510	12.00	1091.42	
	197+00.00			1090.93	0.0510	12.00	1090.31	0.0510	12.00	1089.70			1091.86	-0.0510	12.00	1091.25	-0.0510	12.00	1090.64	
	197+25.00			1090.21	0.0510	12.00	1089.60	0.0510	12.00	1088.99			1091.06	-0.0510	12.00	1090.45	-0.0510	12.00	1089.84	
	197+50.00			1089.49	0.0510	12.00	1088.88	0.0510	12.00	1088.27			1090.26	-0.0510	12.00	1089.65	-0.0510	12.00	1089.03	
	197+75.00			1088.77	0.0510	12.00	1088.16	0.0510	12.00	1087.54			1089.44	-0.0510	12.00	1088.83	-0.0510	12.00	1088.22	
	198+00.00			1088.04	0.0510	12.00	1087.43	0.0510	12.00	1086.82			1088.61	-0.0510	12.00	1088.00	-0.0510	12.00	1087.39	
	198+25.00			1087.31	0.0510	12.00	1086.70	0.0510	12.00	1086.09			1087.77	-0.0510	12.00	1087.16	-0.0510	12.00	1086.55	
	198+50.00			1086.58	0.0510	12.00	1085.97	0.0510	12.00	1085.36			1086.92	-0.0510	12.00	1086.31	-0.0510	12.00	1085.70	
	198+75.00			1085.85	0.0510	12.00	1085.24	0.0510	12.00	1084.63			1086.06	-0.0510	12.00	1085.45	-0.0510	12.00	1084.84	
	199+00.00			1085.11	0.0510	12.00	1084.50	0.0510	12.00	1083.89			1085.18	-0.0510	12.00	1084.57	-0.0510	12.00	1083.96	
	199+25.00			1084.37	0.0510	12.00	1083.76	0.0510	12.00	1083.15			1084.30	-0.0510	12.00	1083.69	-0.0510	12.00	1083.08	
	199+50.00			1083.63	0.0510	12.00	1083.02	0.0510	12.00	1082.41			1083.40	-0.0510	12.00	1082.79	-0.0510	12.00	1082.18	
	199+75.00			1082.88	0.0510	12.00	1082.27	0.0510	12.00	1081.66			1082.49	-0.0510	12.00	1081.88	-0.0510	12.00	1081.27	
	200+00.00			1082.14	0.0510	12.00	1081.52	0.0510	12.00	1080.91			1081.58	-0.0510	12.00	1080.96	-0.0510	12.00	1080.35	
	200+25.00			1081.39	0.0510	12.00	1080.77	0.0510	12.00	1080.16			1080.64	-0.0510	12.00	1080.03	-0.0510	12.00	1079.42	
	200+50.00			1080.64	0.0510	12.00	1080.02	0.0510	12.00	1079.41			1079.70	-0.0510	12.00	1079.09	-0.0510	12.00	1078.48	
	200+75.00			1079.89	0.0510	12.00	1079.27	0.0510	12.00	1078.66			1078.75	-0.0510	12.00	1078.14	-0.0510	12.00	1077.52	
	201+00.00			1079.14	0.0510	12.00	1078.52	0.0510	12.00	1077.91			1077.78	-0.0510	12.00	1077.17	-0.0510	12.00	1076.56	
	201+25.00			1078.39	0.0510	12.00	1077.77	0.0510	12.00	1077.16			1076.81	-0.0510	12.00	1076.20	-0.0510	12.00	1075.58	
	201+50.00			1077.64	0.0510	12.00	1077.02	0.0510	12.00	1076.41			1075.82	-0.0510	12.00	1075.21	-0.0510	12.00	1074.60	
	201+75.00			1076.89	0.0510	12.00	1076.27	0.0510	12.00	1075.66			1074.82	-0.0510	12.00	1074.21	-0.0510	12.00	1073.60	
	201+88.60			1076.48	0.0510	12.00	1075.87	0.0510	12.00	1075.25			1074.27	-0.0510	12.00	1073.66	-0.0510	12.00	1073.05	
	202+00.00		(1076.13)	1076.14	0.0510	12.00	1075.52	0.0510	12.00	1074.91			1073.81	-0.0510	12.00	1073.20	-0.0510	12.00	1072.59	(1072.59)
END FULL SUPER	202+23.60	250:1	(1075.39)	1075.43	0.0510	12.00	1074.82	0.0510	12.00	1074.20	250:1		1072.85	-0.0510	12.00	1073.23	-0.0510	12.00	1071.62	(1071.65)
	202+25.00		(1075.35)	1075.38	0.0508	12.00	1074.77	0.0508	12.00	1074.16			1072.79	-0.0508	12.00	1072.18	-0.0508	12.00	1071.57	(1071.59)
	202+50.00		(1074.53)	1074.53	0.0466	12.00	1073.97	0.0466	12.00	1073.41			1071.76	-0.0466	12.00	1071.20	-0.0466	12.00	1070.64	(1070.64)
	202+58.60			1074.24	0.0452	12.00	1073.70	0.0452	12.00	1073.15			1071.40	-0.0452	12.00	1070.86	-0.0452	12.00	1070.31	
	202+75.00			1073.68	0.0424	12.00	1073.17	0.0424	12.00	1072.66			1070.71	-0.0424	12.00	1070.20	-0.0424	12.00	1069.69	
	203+00.00			1072.83	0.0383	12.00	1072.37	0.0383	12.00	1071.91			1069.66	-0.0383	12.00	1069.20	-0.0383	12.00	1068.74	
PT HORIZONTAL CURVE	203+01.00			1072.80	0.0381	12.00	1072.34	0.0381	12.00	1071.88			1069.61	-0.0381	12.00	1069.16	-0.0381	12.00	1068.70	
	203+25.00			1071.98	0.0341	12.00	1071.57	0.0341	12.00	1071.16			1068.59	-0.0341	12.00	1068.18	-0.0341	12.00	1067.78	
	203+50.00			1071.13	0.0299	12.00	1070.77	0.0299	12.00	1070.41			1067.53	-0.0299	12.00	1067.17	-0.0299	12.00	1066.81	
	203+75.00			1070.28	0.0258	12.00	1069.97	0.0258	12.00	1069.66			1066.47	-0.0258	12.00	1066.16	-0.0258	12.00	1065.85	
	204+00.00			1069.43	0.0216	12.00	1069.17	0.0216	12.00	1068.91			1065.41	-0.0216	12.00	1065.15	-0.0216	12.00	1064.89	
	204+25.00			1068.58	0.0174	12.00	1068.37	0.0174	12.00	1068.16			1064.35	-0.0174	12.00	1064.14	-0.0174	12.00	1063.93	
REVERSE CROWN	204+33.60			1068.29	0.0160	12.00	1068.09	0.0160	12.00	1067.90			1063.98	-0.0160	12.00	1063.79	-0.0160	12.00	1063.62	
	204+50.00			1067.73	0.0105	12.00	1067.60	0.0160	12.00	1067.41			1063.29	-0.0105	12.00	1063.16	-0.0160	12.00	1062.97	
	204+75.00			1066.88	0.0022	12.00	1066.85	0.0160	12.00	1066.66			1062.22	-0.0022	12.00	1062.20	-0.0160	12.00	1062.01	
HALF FLAT	204+81.60			1066.65	0.000	12.00	1066.65	0.0160	12.00	1066.46			1061.94	0.000	12.00	1061.94	-0.0160	12.00	1061.75	
	204+94.60			1066.21	-0.0043	12.00	1066.26	0.0160	12.00	1066.07			1061.39	0.0043	12.00	1061.44	-0.0160	12.00	1061.25	
	205+00.00		(1066.03)	1066.03	-0.0061	12.00	1066.10	0.0160	12.00	1065.91			1061.16	0.0061	12.00	1061.24	-0.0160	12.00	1061.04	(1061.04)
	205+25.00		(1065.21)	1065.18	-0.0145	12.00	1065.35	0.0160	12.00	1065.16			1060.10	0.0145	12.00	1060.28	-0.0160	12.00	1060.08	(1060.06)
NORMAL SECTION	205+29.60	250:1	(1065.06)	1065.02	-0.0160	12.00	1065.21	0.0160	12.00	1065.02	250:1		1059.91	0.0160	12.00	1060.10	-0.0160	12.00	1059.91	(1059.87)
	205+50.00		(1064.42)	1064.41	-0.0160	12.00	1064.60	0.0160	12.00	1064.41			1059.04	0.0160	12.00	1059.23	-0.0160	12.00	1059.04	(1059.03)
	205+64.60			1063.97	-0.0160	12.00	1064.16	0.0160	12.00	1063.97			1058.42	0.0160	12.00	1058.61	-0.0160	12.00	1058.42	
	205+75.00			1063.66	-0.0160	12.00	1063.85	0.0160	12.00	1063.66			1057.98	0.0160	12.00	1058.17	-0.0160	12.00	1057.98	

SUPERELEVATION TABLE

SUM-271-2.33

701
1195

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SUPERELEVATION TABLE

P.I. STA. 227+36.51 | Dc = 1°28'27" CURVE LEFT

NOTE 1: OUTSIDE E.O.P. ADJUSTED FOR ROUNDING OF GRADE AT BEGIN/END SUPERELEVATION TRANSITION

CALCULATED JDL | CHECKED PRS

REMARKS	CENTER LINE CONSTRUCTION STATION	SOUTHBOUND LANES									MEDIAN	NORTHBOUND LANES								
		TRANSITION RATE	OUTSIDE E.O.P. ELEV. (SEE NOTE 1)	OUTSIDE E.O.P. ELEVATION	CROSS SLOPE	WIDTH	CROWN S.B. LANES ELEVATION	CROSS SLOPE	WIDTH	PROFILE GRADE INSIDE E.O.P. ELEVATION		TRANSITION RATE	PROFILE GRADE INSIDE E.O.P. ELEVATION	CROSS SLOPE	WIDTH	CROWN N.B. LANES ELEVATION	CROSS SLOPE	WIDTH	OUTSIDE E.O.P. ELEVATION	OUTSIDE E.O.P. ELEV. (SEE NOTE 1)
	220+50.00			1017.58	-0.0160	12.00	1017.77	0.0160	12.00	1017.58			996.16	0.0160	12.00	996.35	-0.0160	12.00	996.16	
	220+65.67			1017.08	-0.0160	12.00	1017.28	0.0160	12.00	1017.08			995.60	0.0160	12.00	995.79	-0.0160	12.00	995.60	
	220+75.00		(1016.79)	1016.79	-0.0160	12.00	1016.98	0.0160	12.00	1016.79			995.27	0.0160	12.00	995.46	-0.0160	12.00	995.27	(995.27)
	221+00.00		(1015.97)	1016.01	-0.0160	12.00	1016.20	0.0160	12.00	1016.01			994.40	0.0160	12.00	994.59	-0.0160	12.00	994.40	(994.44)
NORMAL SECTION	221+00.67	250:1	(1015.95)	1015.99	-0.0160	12.00	1016.18	0.0160	12.00	1015.99		250:1	994.37	0.0160	12.00	994.56	-0.0160	12.00	994.37	(994.42)
	221+25.00	↑	(1015.12)	1015.13	-0.0160	12.00	1015.32	0.0079	12.00	1015.22		↑	993.54	0.0160	12.00	993.73	-0.0079	12.00	993.63	(993.64)
	221+35.67			1014.75	-0.0160	12.00	1014.94	0.0043	12.00	1014.89			993.17	0.0160	12.00	993.37	-0.0043	12.00	993.31	
HALF FLAT	221+48.67			1014.29	-0.0160	12.00	1014.48	0.0000	12.00	1014.48			992.74	0.0160	12.00	992.93	0.0000	12.00	992.93	
	221+50.00			1014.24	-0.0160	12.00	1014.43	-0.0004	12.00	1014.44			992.69	0.0160	12.00	992.89	0.0004	12.00	992.89	
	221+75.00			1013.36	-0.0160	12.00	1013.55	-0.0088	12.00	1013.66			991.87	0.0160	12.00	992.06	0.0088	12.00	992.16	
REVERSE CROWN	221+96.67			1012.60	-0.0160	12.00	1012.79	-0.0160	12.00	1012.98			991.16	0.0160	12.00	991.36	0.0160	12.00	991.55	
	222+00.00			1012.48	-0.0166	12.00	1012.68	-0.0166	12.00	1012.88			991.06	0.0166	12.00	991.26	0.0166	12.00	991.45	
	222+25.00			1011.60	-0.0207	12.00	1011.85	-0.0207	12.00	1012.10			990.26	0.0207	12.00	990.51	0.0207	12.00	990.76	
	222+50.00			1010.73	-0.0249	12.00	1011.03	-0.0249	12.00	1011.33			989.49	0.0249	12.00	989.78	0.0249	12.00	990.08	
	222+75.00			1009.86	-0.0291	12.00	1010.21	-0.0291	12.00	1010.55			988.72	0.0291	12.00	989.07	0.0291	12.00	989.42	
	223+00.00			1008.99	-0.0332	12.00	1009.39	-0.0332	12.00	1009.79			987.98	0.0332	12.00	988.38	0.0332	12.00	988.78	
	223+25.00			1008.12	-0.0374	12.00	1008.57	-0.0374	12.00	1009.02			987.24	0.0374	12.00	987.69	0.0374	12.00	988.14	
PC HORIZONTAL CURVE	223+29.27			1007.97	-0.0381	12.00	1008.43	-0.0381	12.00	1008.89			987.12	0.0381	12.00	987.57	0.0381	12.00	988.03	
	223+50.00			1007.26	-0.0416	12.00	1007.76	-0.0416	12.00	1008.26			986.51	0.0416	12.00	987.00	0.0416	12.00	987.50	
	223+71.67			1006.51	-0.0452	12.00	1007.05	-0.0452	12.00	1007.60			985.87	0.0452	12.00	986.41	0.0452	12.00	986.95	
	223+75.00		(1006.40)	1006.40	-0.0457	12.00	1006.95	-0.0457	12.00	1007.50			985.77	0.0457	12.00	986.32	0.0457	12.00	986.87	(986.87)
	224+00.00	↓	(1005.57)	1005.54	-0.0499	12.00	1006.14	-0.0499	12.00	1006.74		↓	985.03	0.0499	12.00	985.63	0.0499	12.00	986.23	(986.21)
BEGIN FULL SUPER	224+06.67	250:1	(1005.35)	1005.31	-0.0510	12.00	1005.92	-0.0510	12.00	1006.54		250:1	984.83	0.0510	12.00	985.45	0.0510	12.00	986.06	(986.02)
	224+25.00		(1004.77)	1004.76	-0.0510	12.00	1005.37	-0.0510	12.00	1005.98			984.29	0.0510	12.00	984.91	0.0510	12.00	985.52	(985.51)
	224+41.67			1004.26	-0.0510	12.00	1004.87	-0.0510	12.00	1005.48			983.80	0.0510	12.00	984.41	0.0510	12.00	985.03	
	224+50.00			1004.01	-0.0510	12.00	1004.62	-0.0510	12.00	1005.23			983.56	0.0510	12.00	984.17	0.0510	12.00	984.78	
	224+75.00			1003.26	-0.0510	12.00	1003.87	-0.0510	12.00	1004.48			982.82	0.0510	12.00	983.43	0.0510	12.00	984.04	
	225+00.00			1002.51	-0.0510	12.00	1003.12	-0.0510	12.00	1003.73			982.08	0.0510	12.00	982.70	0.0510	12.00	983.31	
	225+25.00			1001.77	-0.0510	12.00	1002.38	-0.0510	12.00	1002.99			981.35	0.0510	12.00	981.96	0.0510	12.00	982.57	
	225+50.00			1001.02	-0.0510	12.00	1001.64	-0.0510	12.00	1002.25			980.61	0.0510	12.00	981.22	0.0510	12.00	981.83	
	225+75.00			1000.29	-0.0510	12.00	1000.90	-0.0510	12.00	1001.51			979.87	0.0510	12.00	980.48	0.0510	12.00	981.10	
	226+00.00			999.55	-0.0510	12.00	1000.16	-0.0510	12.00	1000.77			979.14	0.0510	12.00	979.75	0.0510	12.00	980.36	
	226+25.00			998.82	-0.0510	12.00	999.43	-0.0510	12.00	1000.04			978.40	0.0510	12.00	979.01	0.0510	12.00	979.62	
	226+50.00			998.09	-0.0510	12.00	998.70	-0.0510	12.00	999.31			977.66	0.0510	12.00	978.27	0.0510	12.00	978.89	
	226+75.00			997.36	-0.0510	12.00	997.97	-0.0510	12.00	998.58			976.92	0.0510	12.00	977.54	0.0510	12.00	978.15	
	227+00.00			996.63	-0.0510	12.00	997.24	-0.0510	12.00	997.85			976.19	0.0510	12.00	976.80	0.0510	12.00	977.41	
	227+25.00			995.90	-0.0510	12.00	996.51	-0.0510	12.00	997.12			975.45	0.0510	12.00	976.06	0.0510	12.00	976.67	
	227+50.00			995.17	-0.0510	12.00	995.78	-0.0510	12.00	996.40			974.71	0.0510	12.00	975.32	0.0510	12.00	975.94	
	227+75.00			994.44	-0.0510	12.00	995.05	-0.0510	12.00	995.67			973.98	0.0510	12.00	974.59	0.0510	12.00	975.20	
	228+00.00			993.71	-0.0510	12.00	994.33	-0.0510	12.00	994.94			973.24	0.0510	12.00	973.85	0.0510	12.00	974.46	
	228+25.00			992.98	-0.0510	12.00	993.60	-0.0510	12.00	994.21			972.50	0.0510	12.00	973.11	0.0510	12.00	973.73	
	228+50.00			992.26	-0.0510	12.00	992.87	-0.0510	12.00	993.48			971.76	0.0510	12.00	972.38	0.0510	12.00	972.99	
	228+75.00			991.53	-0.0510	12.00	992.14	-0.0510	12.00	992.75			971.03	0.0510	12.00	971.64	0.0510	12.00	972.25	
	229+00.00			990.80	-0.0510	12.00	991.41	-0.0510	12.00	992.02			970.29	0.0510	12.00	970.90	0.0510	12.00	971.51	
	229+25.00			990.07	-0.0510	12.00	990.68	-0.0510	12.00	991.29			969.55	0.0510	12.00	970.17	0.0510	12.00	970.78	
	229+50.00			989.34	-0.0510	12.00	989.95	-0.0510	12.00	990.56			968.82	0.0510	12.00	969.43	0.0510	12.00	970.04	
	229+75.00			988.61	-0.0510	12.00	989.22	-0.0510	12.00	989.84			968.08	0.0510	12.00	968.69	0.0510	12.00	969.30	
	230+00.00			987.88	-0.0510	12.00	988.49	-0.0510	12.00	989.11			967.34	0.0510	12.00	967.95	0.0510	12.00	968.57	
	230+25.00			987.15	-0.0510	12.00	987.77	-0.0510	12.00	988.38			966.61	0.0510	12.00	967.22	0.0510	12.00	967.83	
	230+28.39			987.05	-0.0510	12.00	987.67	-0.0510	12.00	988.28			966.51	0.0510	12.00	967.12	0.0510	12.00	967.73	
	230+50.00		(986.44)	986.42	-0.0510	12.00	987.04	-0.0510	12.00	987.65			965.87	0.0510	12.00	966.48	0.0510	12.00	967.09	(967.08)

CONTINUED ON SHEET 703

SUPERELEVATION TABLE

SUM-271-2.33

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SUPERELEVATION TABLE

P.I. STA. 227+36.51 | Dc = 1°28'27" CURVE LEFT

NOTE 1: OUTSIDE E.O.P. ADJUSTED FOR ROUNDING OF GRADE AT BEGIN/END SUPERELEVATION TRANSITION

CALCULATED JDL | CHECKED PRS

REMARKS	CENTER LINE CONSTRUCTION STATION	SOUTHBOUND LANES									MEDIAN	NORTHBOUND LANES								
		TRANSITION RATE	OUTSIDE E.O.P. ELEV. (SEE NOTE 1)	OUTSIDE E.O.P. ELEVATION	CROSS SLOPE	WIDTH	CROWN S.B. LANES ELEVATION	CROSS SLOPE	WIDTH	PROFILE GRADE INSIDE E.O.P. ELEVATION		TRANSITION RATE	PROFILE GRADE INSIDE E.O.P. ELEVATION	CROSS SLOPE	WIDTH	CROWN N.B. LANES ELEVATION	CROSS SLOPE	WIDTH	OUTSIDE E.O.P. ELEVATION	OUTSIDE E.O.P. ELEV. (SEE NOTE 1)
END FULL SUPER	230+63.39	250:1	(986.07)	986.03	-0.0510	12.00	986.65	-0.0510	12.00	987.26		250:1	965.47	0.0510	12.00	966.09	0.0510	12.00	966.70	(966.66)
	230+75.00		(985.76)	985.74	-0.0491	12.00	986.33	-0.0491	12.00	986.92			965.13	0.0491	12.00	965.72	0.0491	12.00	966.31	(966.29)
	230+98.39			985.15	-0.0452	12.00	985.70	-0.0452	12.00	986.24			964.44	0.0452	12.00	964.98	0.0452	12.00	965.53	
	231+00.00			985.11	-0.0449	12.00	985.65	-0.0449	12.00	986.19			964.39	0.0449	12.00	964.93	0.0449	12.00	965.47	
	231+25.00			984.48	-0.0407	12.00	984.97	-0.0407	12.00	985.46			963.66	0.0407	12.00	964.15	0.0407	12.00	964.63	
PT HORIZONTAL CURVE	231+40.79			984.09	-0.0381	12.00	984.54	-0.0381	12.00	985.00			963.19	0.0381	12.00	963.65	0.0381	12.00	964.11	
	231+50.00			983.86	-0.0366	12.00	984.29	-0.0366	12.00	984.73			962.92	0.0366	12.00	963.36	0.0366	12.00	963.80	
	231+75.00			983.23	-0.0324	12.00	983.62	-0.0324	12.00	984.00			962.18	0.0324	12.00	962.57	0.0324	12.00	962.96	
	232+00.00			982.60	-0.0282	12.00	982.94	-0.0282	12.00	983.28			961.45	0.0282	12.00	961.79	0.0282	12.00	962.12	
	232+25.00			981.97	-0.0241	12.00	982.26	-0.0241	12.00	982.55			960.71	0.0241	12.00	961.00	0.0241	12.00	961.29	
	232+50.00			981.34	-0.0199	12.00	981.58	-0.0199	12.00	981.82			959.97	0.0199	12.00	960.21	0.0199	12.00	960.45	
REVERSE CROWN	232+73.39			980.75	-0.0160	12.00	980.94	-0.0160	12.00	981.14			959.28	0.0160	12.00	959.47	0.0160	12.00	959.67	
	232+75.00			980.71	-0.0160	12.00	980.90	-0.0155	12.00	981.09			959.24	0.0160	12.00	959.43	0.0155	12.00	959.61	
	233+00.00			980.08	-0.0160	12.00	980.27	-0.0071	12.00	980.36			958.50	0.0160	12.00	958.69	0.0071	12.00	958.78	
HALF FLAT	233+21.39			979.54	-0.0160	12.00	979.74	0.0000	12.00	979.74			957.87	0.0160	12.00	958.06	0.0000	12.00	958.06	
	233+25.00			979.45	-0.0160	12.00	979.65	0.0012	12.00	979.63			957.76	0.0160	12.00	957.95	-0.0012	12.00	957.94	
	233+34.39			979.22	-0.0160	12.00	979.41	0.0043	12.00	979.36			957.48	0.0160	12.00	957.68	-0.0043	12.00	957.62	
	233+50.00		(978.82)	978.82	-0.0160	12.00	979.02	0.0095	12.00	978.90			957.02	0.0160	12.00	957.22	-0.0095	12.00	957.10	(957.11)
NORMAL SECTION	233+69.39	250:1	(978.30)	978.34	-0.0160	12.00	978.53	0.0160	12.00	978.34		250:1	956.45	0.0160	12.00	956.64	-0.0160	12.00	956.45	(956.49)
	233+75.00		(978.15)	978.17	-0.0160	12.00	978.37	0.0160	12.00	978.17			956.29	0.0160	12.00	956.48	-0.0160	12.00	956.29	(956.31)
	234+04.39			977.32	-0.0160	12.00	977.51	0.0160	12.00	977.32			955.42	0.0160	12.00	955.61	-0.0160	12.00	955.42	
	234+00.00			977.44	-0.0160	12.00	977.64	0.0160	12.00	977.44			955.55	0.0160	12.00	955.74	-0.0160	12.00	955.55	

SUPERELEVATION TABLE

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1195

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SUPERELEVATION TABLE

P.I. STA. 285+25.12 | Dc = 1°27'51" CURVE LEFT

NOTE 1: OUTSIDE E.O.P. ADJUSTED FOR ROUNDING OF GRADE AT BEGIN/END SUPERELEVATION TRANSITION

CALCULATED JDL | CHECKED PRS

REMARKS	CENTER LINE CONSTRUCTION STATION	SOUTHBOUND LANES									MEDIAN	NORTHBOUND LANES								
		TRANSITION RATE	OUTSIDE E.O.P. ELEV. (SEE NOTE 1)	OUTSIDE E.O.P. ELEVATION	CROSS SLOPE	WIDTH	CROWN S.B. LANES ELEVATION	CROSS SLOPE	WIDTH	PROFILE GRADE INSIDE E.O.P. ELEVATION		TRANSITION RATE	PROFILE GRADE INSIDE E.O.P. ELEVATION	CROSS SLOPE	WIDTH	CROWN N.B. LANES ELEVATION	CROSS SLOPE	WIDTH	OUTSIDE E.O.P. ELEVATION	OUTSIDE E.O.P. ELEV. (SEE NOTE 1)
	264+75.00			1015.57	-0.0160	12.00	1015.76	0.0160	12.00	1015.57			1008.78	0.0160	12.00	1008.97	-0.0160	12.00	1008.78	
	264+96.54			1016.48	-0.0160	12.00	1016.67	0.0160	12.00	1016.48			1009.46	0.0160	12.00	1009.65	-0.0160	12.00	1009.46	
	265+00.00		(1016.62)	1016.63	-0.0160	12.00	1016.82	0.0160	12.00	1016.63			1009.57	0.0160	12.00	1009.76	-0.0160	12.00	1009.57	(1009.57)
	265+25.00		(1017.65)	1017.68	-0.0160	12.00	1017.87	0.0160	12.00	1017.68			1010.35	0.0160	12.00	1010.55	-0.0160	12.00	1010.35	(1010.38)
NORMAL SECTION	265+31.54	250:1	(1017.92)	1017.95	-0.0160	12.00	1018.14	0.0160	12.00	1017.95		250:1	1010.56	0.0160	12.00	1010.75	-0.0160	12.00	1010.56	(1010.59)
	265+50.00	↑	(1018.65)	1018.66	-0.0160	12.00	1018.85	0.0098	12.00	1018.73		↑	1011.14	0.0160	12.00	1011.33	-0.0098	12.00	1011.21	(1011.22)
	265+66.54			1019.29	-0.0160	12.00	1019.48	0.0043	12.00	1019.43			1011.66	0.0160	12.00	1011.85	-0.0043	12.00	1011.80	
	265+75.00			1019.61	-0.0160	12.00	1019.80	0.0015	12.00	1019.78			1011.93	0.0160	12.00	1012.12	-0.0015	12.00	1012.10	
HALF FLAT	265+79.54			1019.78	-0.0160	12.00	1019.97	0.0000	12.00	1019.97			1012.07	0.0160	12.00	1012.26	0.0000	12.00	1012.26	
	266+00.00			1020.56	-0.0160	12.00	1020.75	-0.0068	12.00	1020.83			1012.71	0.0160	12.00	1012.90	0.0068	12.00	1012.98	
	266+25.00			1021.51	-0.0160	12.00	1021.70	-0.0152	12.00	1021.89			1013.50	0.0160	12.00	1013.69	0.0152	12.00	1013.87	
REVERSE CROWN	266+27.54			1021.61	-0.0160	12.00	1021.80	-0.0160	12.00	1021.99			1013.58	0.0160	12.00	1013.77	0.0160	12.00	1013.96	
	266+50.00			1022.46	-0.0197	12.00	1022.70	-0.0197	12.00	1022.94			1014.28	0.0197	12.00	1014.52	0.0197	12.00	1014.76	
	266+75.00			1023.42	-0.0239	12.00	1023.70	-0.0239	12.00	1023.99			1015.07	0.0239	12.00	1015.36	0.0239	12.00	1015.64	
	267+00.00			1024.37	-0.0281	12.00	1024.70	-0.0281	12.00	1025.04			1015.85	0.0281	12.00	1016.19	0.0281	12.00	1016.53	
	267+25.00			1025.32	-0.0322	12.00	1025.71	-0.0322	12.00	1026.09			1016.64	0.0322	12.00	1017.03	0.0322	12.00	1017.41	
	267+50.00			1026.27	-0.0364	12.00	1026.71	-0.0364	12.00	1027.15			1017.43	0.0364	12.00	1017.86	0.0364	12.00	1018.30	
PC HORIZONTAL CURVE	267+60.14			1026.66	-0.0381	12.00	1027.12	-0.0381	12.00	1027.57			1017.74	0.0381	12.00	1018.20	0.0381	12.00	1018.66	
	267+75.00			1027.22	-0.0406	12.00	1027.71	-0.0406	12.00	1028.20			1018.21	0.0406	12.00	1018.70	0.0406	12.00	1019.19	
	268+00.00			1028.18	-0.0447	12.00	1028.71	-0.0447	12.00	1029.25			1019.00	0.0447	12.00	1019.53	0.0447	12.00	1020.07	
	268+02.54			1028.27	-0.0452	12.00	1028.81	-0.0452	12.00	1029.35			1019.08	0.0452	12.00	1019.62	0.0452	12.00	1020.16	
	268+25.00	↓	(1029.09)	1029.08	-0.0489	12.00	1029.67	-0.0489	12.00	1030.25		↓	1019.78	0.0489	12.00	1020.37	0.0489	12.00	1020.96	(1020.94)
BEGIN FULL SUPER	268+37.54	250:1	(1029.57)	1029.53	-0.0510	12.00	1030.14	-0.0510	12.00	1030.76		250:1	1020.18	0.0510	12.00	1020.79	0.0510	12.00	1021.40	(1021.37)
	268+50.00		(1030.05)	1030.03	-0.0510	12.00	1030.64	-0.0510	12.00	1031.26			1020.57	0.0510	12.00	1021.18	0.0510	12.00	1021.79	(1021.78)
	268+72.54			1030.93	-0.0510	12.00	1031.55	-0.0510	12.00	1032.16			1021.28	0.0510	12.00	1021.89	0.0510	12.00	1022.50	
	268+75.00			1031.03	-0.0510	12.00	1031.65	-0.0510	12.00	1032.26			1021.36	0.0510	12.00	1021.97	0.0510	12.00	1022.58	
	269+00.00			1032.04	-0.0510	12.00	1032.65	-0.0510	12.00	1033.26			1022.14	0.0510	12.00	1022.75	0.0510	12.00	1023.37	
	269+25.00			1033.04	-0.0510	12.00	1033.65	-0.0510	12.00	1034.26			1022.93	0.0510	12.00	1023.54	0.0510	12.00	1024.15	
	269+50.00			1034.04	-0.0510	12.00	1034.65	-0.0510	12.00	1035.27			1023.71	0.0510	12.00	1024.33	0.0510	12.00	1024.94	
	269+75.00			1035.04	-0.0510	12.00	1035.66	-0.0510	12.00	1036.27			1024.50	0.0510	12.00	1025.11	0.0510	12.00	1025.72	
	270+00.00			1036.05	-0.0510	12.00	1036.66	-0.0510	12.00	1037.27			1025.28	0.0510	12.00	1025.90	0.0510	12.00	1026.51	
	270+25.00			1037.05	-0.0510	12.00	1037.66	-0.0510	12.00	1038.27			1026.07	0.0510	12.00	1026.68	0.0510	12.00	1027.29	
	270+50.00			1038.05	-0.0510	12.00	1038.66	-0.0510	12.00	1039.28			1026.86	0.0510	12.00	1027.47	0.0510	12.00	1028.08	
	270+75.00			1039.05	-0.0510	12.00	1039.67	-0.0510	12.00	1040.28			1027.64	0.0510	12.00	1028.25	0.0510	12.00	1028.87	
	271+00.00			1040.06	-0.0510	12.00	1040.67	-0.0510	12.00	1041.28			1028.43	0.0510	12.00	1029.04	0.0510	12.00	1029.65	
	271+25.00			1041.06	-0.0510	12.00	1041.67	-0.0510	12.00	1042.28			1029.21	0.0510	12.00	1029.83	0.0510	12.00	1030.44	
	271+50.00			1042.06	-0.0510	12.00	1042.67	-0.0510	12.00	1043.29			1030.00	0.0510	12.00	1030.61	0.0510	12.00	1031.22	
	271+75.00			1043.06	-0.0510	12.00	1043.68	-0.0510	12.00	1044.29			1030.79	0.0510	12.00	1031.40	0.0510	12.00	1032.02	
	272+00.00			1044.07	-0.0510	12.00	1044.68	-0.0510	12.00	1045.29			1031.59	0.0510	12.00	1032.20	0.0510	12.00	1032.81	
	272+25.00			1045.07	-0.0510	12.00	1045.68	-0.0510	12.00	1046.29			1032.38	0.0510	12.00	1032.99	0.0510	12.00	1033.60	
	272+50.00			1046.07	-0.0510	12.00	1046.68	-0.0510	12.00	1047.30			1033.17	0.0510	12.00	1033.78	0.0510	12.00	1034.39	
	272+75.00			1047.07	-0.0510	12.00	1047.69	-0.0510	12.00	1048.30			1033.96	0.0510	12.00	1034.57	0.0510	12.00	1035.19	
	273+00.00			1048.08	-0.0510	12.00	1048.69	-0.0510	12.00	1049.30			1034.76	0.0510	12.00	1035.37	0.0510	12.00	1035.98	
	273+25.00			1049.08	-0.0510	12.00	1049.69	-0.0510	12.00	1050.30			1035.55	0.0510	12.00	1036.16	0.0510	12.00	1036.77	
	273+50.00			1050.08	-0.0510	12.00	1050.69	-0.0510	12.00	1051.31			1036.34	0.0510	12.00	1036.95	0.0510	12.00	1037.56	
	273+75.00			1051.08	-0.0510	12.00	1051.70	-0.0510	12.00	1052.31			1037.13	0.0510	12.00	1037.74	0.0510	12.00	1038.36	
	274+00.00			1052.09	-0.0510	12.00	1052.70	-0.0510	12.00	1053.31			1037.93	0.0510	12.00	1038.54	0.0510	12.00	1039.15	
	274+25.00			1053.09	-0.0510	12.00	1053.70	-0.0510	12.00	1054.31			1038.72	0.0510	12.00	1039.33	0.0510	12.00	1039.94	
	274+50.00			1054.09	-0.0510	12.00	1054.70	-0.0510	12.00	1055.32			1039.51	0.0510	12.00	1040.12	0.0510	12.00	1040.73	
	274+75.00			1055.09	-0.0510	12.00	1055.71	-0.0510	12.00	1056.32			1040.30	0.0510	12.00	1040.91	0.0510	12.00	1041.53	
	275+00.00			1056.10	-0.0510	12.00	1056.71	-0.0510	12.00	1057.32			1041.10	0.0510	12.00	1041.71	0.0510	12.00	1042.32	
	275+25.00			1057.10	-0.0510	12.00	1057.71	-0.0510	12.00	1058.32			1041.89	0.0510	12.00	1042.50	0.0510	12.00	1043.11	
	275+50.00			1058.10	-0.0510	12.00	1058.71	-0.0510	12.00	1059.33			1042.68	0.0510	12.00	1043.29	0.0510	12.00	1043.90	

CONTINUED ON SHEET 705

SUPERELEVATION TABLE

SUM-271-2.33

F:\2009\109094\18710\roadway\sheets\18710GE005.dgn 10/6/2012 9:33:20 AM RichHarding

SUPERELEVATION TABLE

P.I. STA. 285+25.12 | Dc = 1°27'51" CURVE LEFT

NOTE 1: OUTSIDE E.O.P. ADJUSTED FOR ROUNDING OF GRADE AT BEGIN/END SUPERELEVATION TRANSITION

CALCULATED JDL | CHECKED PRS

REMARKS	CENTER LINE CONSTRUCTION STATION	SOUTHBOUND LANES									MEDIAN	NORTHBOUND LANES								
		TRANSITION RATE	OUTSIDE E.O.P. ELEV. (SEE NOTE 1)	OUTSIDE E.O.P. ELEVATION	CROSS SLOPE	WIDTH	CROWN S.B. LANES ELEVATION	CROSS SLOPE	WIDTH	PROFILE GRADE INSIDE E.O.P. ELEVATION		TRANSITION RATE	PROFILE GRADE INSIDE E.O.P. ELEVATION	CROSS SLOPE	WIDTH	CROWN N.B. LANES ELEVATION	CROSS SLOPE	WIDTH	OUTSIDE E.O.P. ELEVATION	OUTSIDE E.O.P. ELEV. (SEE NOTE 1)
	275+75.00			1059.10	-0.0510	12.00	1059.72	-0.0510	12.00	1060.33			1043.47	0.0510	12.00	1044.08	0.0510	12.00	1044.70	
	276+00.00			1060.11	-0.0510	12.00	1060.72	-0.0510	12.00	1061.33			1044.27	0.0510	12.00	1044.88	0.0510	12.00	1045.49	
	276+25.00			1061.11	-0.0510	12.00	1061.72	-0.0510	12.00	1062.33			1045.06	0.0510	12.00	1045.67	0.0510	12.00	1046.28	
	276+50.00			1062.11	-0.0510	12.00	1062.72	-0.0510	12.00	1063.34			1045.85	0.0510	12.00	1046.46	0.0510	12.00	1047.07	
	276+75.00			1063.11	-0.0510	12.00	1063.73	-0.0510	12.00	1064.34			1046.64	0.0510	12.00	1047.25	0.0510	12.00	1047.87	
	277+00.00			1064.12	-0.0510	12.00	1064.73	-0.0510	12.00	1065.34			1047.44	0.0510	12.00	1048.05	0.0510	12.00	1048.66	
	277+25.00			1065.12	-0.0510	12.00	1065.73	-0.0510	12.00	1066.34			1048.23	0.0510	12.00	1048.84	0.0510	12.00	1049.45	
	277+50.00			1066.12	-0.0510	12.00	1066.73	-0.0510	12.00	1067.35			1049.02	0.0510	12.00	1049.63	0.0510	12.00	1050.24	
	277+75.00			1067.12	-0.0510	12.00	1067.74	-0.0510	12.00	1068.35			1049.81	0.0510	12.00	1050.42	0.0510	12.00	1051.04	
	278+00.00			1068.13	-0.0510	12.00	1068.74	-0.0510	12.00	1069.35			1050.61	0.0510	12.00	1051.22	0.0510	12.00	1051.83	
	278+25.00			1069.13	-0.0510	12.00	1069.74	-0.0510	12.00	1070.35			1051.40	0.0510	12.00	1052.01	0.0510	12.00	1052.62	
	278+50.00			1070.13	-0.0510	12.00	1070.74	-0.0510	12.00	1071.36			1052.19	0.0510	12.00	1052.80	0.0510	12.00	1053.41	
	278+75.00			1071.13	-0.0510	12.00	1071.75	-0.0510	12.00	1072.36			1052.98	0.0510	12.00	1053.59	0.0510	12.00	1054.21	
	279+00.00			1072.14	-0.0510	12.00	1072.75	-0.0510	12.00	1073.36			1053.78	0.0510	12.00	1054.39	0.0510	12.00	1055.00	
	279+25.00			1073.13	-0.0510	12.00	1073.74	-0.0510	12.00	1074.36			1054.57	0.0510	12.00	1055.18	0.0510	12.00	1055.79	
	279+50.00			1074.12	-0.0510	12.00	1074.73	-0.0510	12.00	1075.34			1055.36	0.0510	12.00	1055.97	0.0510	12.00	1056.58	
	279+75.00			1075.09	-0.0510	12.00	1075.70	-0.0510	12.00	1076.31			1056.15	0.0510	12.00	1056.76	0.0510	12.00	1057.38	
	280+00.00			1076.05	-0.0510	12.00	1076.66	-0.0510	12.00	1077.27			1056.95	0.0510	12.00	1057.56	0.0510	12.00	1058.17	
	280+25.00			1077.00	-0.0510	12.00	1077.61	-0.0510	12.00	1078.22			1057.74	0.0510	12.00	1058.35	0.0510	12.00	1058.96	
	280+50.00			1077.93	-0.0510	12.00	1078.54	-0.0510	12.00	1079.16			1058.53	0.0510	12.00	1059.14	0.0510	12.00	1059.75	
	280+75.00			1078.85	-0.0510	12.00	1079.47	-0.0510	12.00	1080.08			1059.31	0.0510	12.00	1059.92	0.0510	12.00	1060.53	
	281+00.00			1079.77	-0.0510	12.00	1080.38	-0.0510	12.00	1080.99			1060.08	0.0510	12.00	1060.70	0.0510	12.00	1061.31	
	281+25.00			1080.66	-0.0510	12.00	1081.28	-0.0510	12.00	1081.89			1060.85	0.0510	12.00	1061.46	0.0510	12.00	1062.07	
	281+50.00			1081.55	-0.0510	12.00	1082.16	-0.0510	12.00	1082.77			1061.61	0.0510	12.00	1062.22	0.0510	12.00	1062.84	
	281+75.00			1082.42	-0.0510	12.00	1083.04	-0.0510	12.00	1083.65			1062.37	0.0510	12.00	1062.98	0.0510	12.00	1063.59	
	282+00.00			1083.29	-0.0510	12.00	1083.90	-0.0510	12.00	1084.51			1063.11	0.0510	12.00	1063.72	0.0510	12.00	1064.34	
	282+25.00			1084.14	-0.0510	12.00	1084.75	-0.0510	12.00	1085.36			1063.85	0.0510	12.00	1064.46	0.0510	12.00	1065.08	
	282+50.00			1084.97	-0.0510	12.00	1085.59	-0.0510	12.00	1086.20			1064.58	0.0510	12.00	1065.20	0.0510	12.00	1065.81	
	282+75.00			1085.80	-0.0510	12.00	1086.41	-0.0510	12.00	1087.02			1065.31	0.0510	12.00	1065.92	0.0510	12.00	1066.53	
	283+00.00			1086.61	-0.0510	12.00	1087.22	-0.0510	12.00	1087.84			1066.03	0.0510	12.00	1066.64	0.0510	12.00	1067.25	
	283+25.00			1087.41	-0.0510	12.00	1088.02	-0.0510	12.00	1088.64			1066.75	0.0510	12.00	1067.36	0.0510	12.00	1067.98	
	283+50.00			1088.20	-0.0510	12.00	1088.81	-0.0510	12.00	1089.43			1067.47	0.0510	12.00	1068.09	0.0510	12.00	1068.70	
	283+75.00			1088.98	-0.0510	12.00	1089.59	-0.0510	12.00	1090.20			1068.20	0.0510	12.00	1068.81	0.0510	12.00	1069.42	
	284+00.00			1089.74	-0.0510	12.00	1090.35	-0.0510	12.00	1090.97			1068.92	0.0510	12.00	1069.53	0.0510	12.00	1070.14	
	284+25.00			1090.49	-0.0510	12.00	1091.11	-0.0510	12.00	1091.72			1069.64	0.0510	12.00	1070.25	0.0510	12.00	1070.86	
	284+50.00			1091.23	-0.0510	12.00	1091.85	-0.0510	12.00	1092.46			1070.36	0.0510	12.00	1070.97	0.0510	12.00	1071.59	
	284+75.00			1091.96	-0.0510	12.00	1092.57	-0.0510	12.00	1093.19			1071.08	0.0510	12.00	1071.70	0.0510	12.00	1072.31	
	285+00.00			1092.68	-0.0510	12.00	1093.29	-0.0510	12.00	1093.90			1071.81	0.0510	12.00	1072.42	0.0510	12.00	1073.03	
	285+25.00			1093.38	-0.0510	12.00	1093.99	-0.0510	12.00	1094.60			1072.53	0.0510	12.00	1073.14	0.0510	12.00	1073.75	
	285+50.00			1094.07	-0.0510	12.00	1094.68	-0.0510	12.00	1095.30			1073.25	0.0510	12.00	1073.86	0.0510	12.00	1074.47	
	285+75.00			1094.75	-0.0510	12.00	1095.36	-0.0510	12.00	1095.97			1073.97	0.0510	12.00	1074.58	0.0510	12.00	1075.19	
	286+00.00			1095.42	-0.0510	12.00	1096.03	-0.0510	12.00	1096.64			1074.69	0.0510	12.00	1075.30	0.0510	12.00	1075.92	
	286+25.00			1096.07	-0.0510	12.00	1096.68	-0.0510	12.00	1097.29			1075.41	0.0510	12.00	1076.03	0.0510	12.00	1076.64	
	286+50.00			1096.71	-0.0510	12.00	1097.32	-0.0510	12.00	1097.94			1076.14	0.0510	12.00	1076.75	0.0510	12.00	1077.36	
	286+75.00			1097.34	-0.0510	12.00	1097.95	-0.0510	12.00	1098.57			1076.86	0.0510	12.00	1077.47	0.0510	12.00	1078.08	
	287+00.00			1097.96	-0.0510	12.00	1098.57	-0.0510	12.00	1099.18			1077.58	0.0510	12.00	1078.19	0.0510	12.00	1078.80	
	287+25.00			1098.57	-0.0510	12.00	1099.18	-0.0510	12.00	1099.79			1078.30	0.0510	12.00	1078.91	0.0510	12.00	1079.53	
	287+50.00			1099.16	-0.0510	12.00	1099.77	-0.0510	12.00	1100.38			1079.02	0.0510	12.00	1079.64	0.0510	12.00	1080.25	
	287+75.00			1099.74	-0.0510	12.00	1100.35	-0.0510	12.00	1100.96			1079.74	0.0510	12.00	1080.36	0.0510	12.00	1080.97	
	288+00.00			1100.31	-0.0510	12.00	1100.92	-0.0510	12.00	1101.53			1080.47	0.0510	12.00	1081.08	0.0510	12.00	1081.69	
	288+25.00			1100.86	-0.0510	12.00	1101.48	-0.0510	12.00	1102.09			1081.19	0.0510	12.00	1081.80	0.0510	12.00	1082.41	
	288+50.00			1101.41	-0.0510	12.00	1102.02	-0.0510	12.00	1102.63			1081.91	0.0510	12.00	1082.52	0.0510	12.00	1083.13	
	288+75.00			1101.94	-0.0510	12.00	1102.55	-0.0510	12.00	1103.17			1082.63	0.0510	12.00	1083.24	0.0510	12.00	1083.86	

CONTINUED ON SHEET 706

SUPERELEVATION TABLE

SUM-271-2.33

F:\2009\109094\18710\roadway\sheets\18710GE006.dgn 10/6/2012 9:33:35 AM Richtarding

SUPERELEVATION TABLE

P.I. STA. 285+25.12 | Dc = 1°27'51" CURVE LEFT

NOTE 1: OUTSIDE E.O.P. ADJUSTED FOR ROUNDING OF GRADE AT BEGIN/END SUPERELEVATION TRANSITION

CALCULATED JDL | CHECKED PRS

REMARKS	CENTER LINE CONSTRUCTION STATION	SOUTHBOUND LANES									MEDIAN	NORTHBOUND LANES								
		TRANSITION RATE	OUTSIDE E.O.P. ELEV. (SEE NOTE 1)	OUTSIDE E.O.P. ELEVATION	CROSS SLOPE	WIDTH	CROWN S.B. LANES ELEVATION	CROSS SLOPE	WIDTH	PROFILE GRADE INSIDE E.O.P. ELEVATION		TRANSITION RATE	PROFILE GRADE INSIDE E.O.P. ELEVATION	CROSS SLOPE	WIDTH	CROWN N.B. LANES ELEVATION	CROSS SLOPE	WIDTH	OUTSIDE E.O.P. ELEVATION	OUTSIDE E.O.P. ELEV. (SEE NOTE 1)
	289+00.00			1102.46	-0.0510	12.00	1103.07	-0.0510	12.00	1103.69			1083.35	0.0510	12.00	1083.97	0.0510	12.00	1084.58	
	289+25.00			1102.97	-0.0510	12.00	1103.58	-0.0510	12.00	1104.19			1084.08	0.0510	12.00	1084.69	0.0510	12.00	1085.30	
	289+50.00			1103.46	-0.0510	12.00	1104.08	-0.0510	12.00	1104.69			1084.80	0.0510	12.00	1085.41	0.0510	12.00	1086.02	
	289+75.00			1103.95	-0.0510	12.00	1104.56	-0.0510	12.00	1105.17			1085.52	0.0510	12.00	1086.13	0.0510	12.00	1086.74	
	290+00.00			1104.42	-0.0510	12.00	1105.03	-0.0510	12.00	1105.64			1086.24	0.0510	12.00	1086.85	0.0510	12.00	1087.47	
	290+25.00			1104.88	-0.0510	12.00	1105.49	-0.0510	12.00	1106.10			1086.96	0.0510	12.00	1087.57	0.0510	12.00	1088.19	
	290+50.00			1105.32	-0.0510	12.00	1105.94	-0.0510	12.00	1106.55			1087.68	0.0510	12.00	1088.30	0.0510	12.00	1088.91	
	290+75.00			1105.76	-0.0510	12.00	1106.37	-0.0510	12.00	1106.98			1088.40	0.0510	12.00	1089.01	0.0510	12.00	1089.62	
	291+00.00			1106.18	-0.0510	12.00	1106.79	-0.0510	12.00	1107.40			1089.10	0.0510	12.00	1089.71	0.0510	12.00	1090.33	
	291+25.00			1106.59	-0.0510	12.00	1107.20	-0.0510	12.00	1107.81			1089.79	0.0510	12.00	1090.40	0.0510	12.00	1091.01	
	291+50.00			1106.99	-0.0510	12.00	1107.60	-0.0510	12.00	1108.21			1090.47	0.0510	12.00	1091.08	0.0510	12.00	1091.69	
	291+75.00			1107.37	-0.0510	12.00	1107.99	-0.0510	12.00	1108.60			1091.13	0.0510	12.00	1091.74	0.0510	12.00	1092.35	
	292+00.00			1107.75	-0.0510	12.00	1108.36	-0.0510	12.00	1108.97			1091.78	0.0510	12.00	1092.39	0.0510	12.00	1093.00	
	292+25.00			1108.11	-0.0510	12.00	1108.72	-0.0510	12.00	1109.33			1092.42	0.0510	12.00	1093.03	0.0510	12.00	1093.64	
	292+50.00			1108.46	-0.0510	12.00	1109.07	-0.0510	12.00	1109.68			1093.04	0.0510	12.00	1093.65	0.0510	12.00	1094.26	
	292+75.00			1108.79	-0.0510	12.00	1109.40	-0.0510	12.00	1110.02			1093.65	0.0510	12.00	1094.26	0.0510	12.00	1094.87	
	293+00.00			1109.12	-0.0510	12.00	1109.73	-0.0510	12.00	1110.34			1094.25	0.0510	12.00	1094.86	0.0510	12.00	1095.47	
	293+25.00			1109.43	-0.0510	12.00	1110.04	-0.0510	12.00	1110.65			1094.83	0.0510	12.00	1095.44	0.0510	12.00	1096.05	
	293+50.00			1109.73	-0.0510	12.00	1110.34	-0.0510	12.00	1110.95			1095.40	0.0510	12.00	1096.01	0.0510	12.00	1096.62	
	293+75.00			1110.02	-0.0510	12.00	1110.63	-0.0510	12.00	1111.24			1095.96	0.0510	12.00	1096.57	0.0510	12.00	1097.18	
	294+00.00			1110.29	-0.0510	12.00	1110.90	-0.0510	12.00	1111.52			1096.50	0.0510	12.00	1097.11	0.0510	12.00	1097.73	
	294+25.00			1110.56	-0.0510	12.00	1111.17	-0.0510	12.00	1111.78			1097.03	0.0510	12.00	1097.64	0.0510	12.00	1098.26	
	294+50.00			1110.81	-0.0510	12.00	1111.42	-0.0510	12.00	1112.03			1097.55	0.0510	12.00	1098.16	0.0510	12.00	1098.77	
	294+75.00			1111.05	-0.0510	12.00	1111.66	-0.0510	12.00	1112.27			1098.06	0.0510	12.00	1098.67	0.0510	12.00	1099.28	
	295+00.00			1111.27	-0.0510	12.00	1111.88	-0.0510	12.00	1112.50			1098.55	0.0510	12.00	1099.16	0.0510	12.00	1099.77	
	295+25.00			1111.49	-0.0510	12.00	1112.10	-0.0510	12.00	1112.71			1099.03	0.0510	12.00	1099.64	0.0510	12.00	1100.25	
	295+50.00			1111.69	-0.0510	12.00	1112.30	-0.0510	12.00	1112.91			1099.49	0.0510	12.00	1100.10	0.0510	12.00	1100.72	
	295+75.00			1111.88	-0.0510	12.00	1112.49	-0.0510	12.00	1113.10			1099.94	0.0510	12.00	1100.56	0.0510	12.00	1101.17	
	296+00.00			1112.06	-0.0510	12.00	1112.67	-0.0510	12.00	1113.28			1100.38	0.0510	12.00	1100.99	0.0510	12.00	1101.61	
	296+25.00			1112.22	-0.0510	12.00	1112.83	-0.0510	12.00	1113.45			1100.81	0.0510	12.00	1101.42	0.0510	12.00	1102.03	
	296+50.00			1112.38	-0.0510	12.00	1112.99	-0.0510	12.00	1113.60			1101.22	0.0510	12.00	1101.83	0.0510	12.00	1102.45	
	296+75.00			1112.52	-0.0510	12.00	1113.13	-0.0510	12.00	1113.74			1101.62	0.0510	12.00	1102.23	0.0510	12.00	1102.85	
	297+00.00			1112.65	-0.0510	12.00	1113.26	-0.0510	12.00	1113.87			1102.01	0.0510	12.00	1102.62	0.0510	12.00	1103.23	
	297+25.00			1112.76	-0.0510	12.00	1113.37	-0.0510	12.00	1113.99			1102.38	0.0510	12.00	1102.99	0.0510	12.00	1103.61	
	297+50.00			1112.87	-0.0510	12.00	1113.48	-0.0510	12.00	1114.09			1102.74	0.0510	12.00	1103.35	0.0510	12.00	1103.97	
	297+75.00			1112.96	-0.0510	12.00	1113.57	-0.0510	12.00	1114.18			1103.09	0.0510	12.00	1103.70	0.0510	12.00	1104.31	
	298+00.00			1113.04	-0.0510	12.00	1113.65	-0.0510	12.00	1114.26			1103.42	0.0510	12.00	1104.03	0.0510	12.00	1104.65	
	298+25.00			1113.11	-0.0510	12.00	1113.72	-0.0510	12.00	1114.33			1103.74	0.0510	12.00	1104.36	0.0510	12.00	1104.97	
	298+50.00			1113.16	-0.0510	12.00	1113.77	-0.0510	12.00	1114.39			1104.05	0.0510	12.00	1104.66	0.0510	12.00	1105.28	
	298+75.00			1113.21	-0.0510	12.00	1113.82	-0.0510	12.00	1114.43			1104.35	0.0510	12.00	1104.96	0.0510	12.00	1105.57	
	299+00.00			1113.24	-0.0510	12.00	1113.85	-0.0510	12.00	1114.46			1104.63	0.0510	12.00	1105.24	0.0510	12.00	1105.85	
	299+12.29			1113.25	-0.0510	12.00	1113.86	-0.0510	12.00	1114.47			1104.76	0.0510	12.00	1105.37	0.0510	12.00	1105.98	
	299+25.00		(1113.26)	1113.26	-0.0510	12.00	1113.87	-0.0510	12.00	1114.48			1104.90	0.0510	12.00	1105.51	0.0510	12.00	1106.12	(1106.11)
END FULL SUPER	299+47.29	250:1	(1113.28)	1113.26	-0.0510	12.00	1113.87	-0.0510	12.00	1114.49		250:1	1105.12	0.0510	12.00	1105.74	0.0510	12.00	1106.35	(1106.30)
	299+50.00		(1113.29)	1113.27	-0.0505	12.00	1113.88	-0.0505	12.00	1114.49			1105.15	0.0505	12.00	1105.76	0.0505	12.00	1106.36	(1106.32)
	299+75.00		(1113.37)	1113.37	-0.0464	12.00	1113.92	-0.0464	12.00	1114.48			1105.39	0.0464	12.00	1105.95	0.0464	12.00	1106.51	(1106.50)
	299+82.29			1113.39	-0.0452	12.00	1113.93	-0.0452	12.00	1114.48			1105.46	0.0452	12.00	1106.00	0.0452	12.00	1106.54	
	300+00.00			1113.45	-0.0422	12.00	1113.96	-0.0422	12.00	1114.46			1105.62	0.0422	12.00	1106.13	0.0422	12.00	1106.63	
	300+25.00			1113.52	-0.0380	12.00	1113.98	-0.0380	12.00	1114.43			1105.84	0.0380	12.00	1106.29	0.0380	12.00	1106.75	
	300+50.00			1113.58	-0.0339	12.00	1113.98	-0.0339	12.00	1114.39			1106.04	0.0339	12.00	1106.45	0.0339	12.00	1106.85	
	300+75.00			1113.62	-0.0297	12.00	1113.98	-0.0297	12.00	1114.34			1106.23	0.0297	12.00	1106.59	0.0297	12.00	1106.94	
PT HORIZONTAL CURVE	300+76.29			1113.62	-0.0295	12.00	1113.98	-0.0295	12.00	1114.33			1106.24	0.0295	12.00	1106.59	0.0295	12.00	1106.95	
	301+00.00			1113.66	-0.0255	12.00	1113.96	-0.0255	12.00	1114.27			1106.41	0.0255	12.00	1106.71	0.0255	12.00	1107.02	

CONTINUED ON SHEET 707

SUPERELEVATION TABLE

SUM-271-2.33

706
1195

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SUPERELEVATION TABLE

P.I. STA. 285+25.12 | Dc = 1°27'51" CURVE LEFT

NOTE 1: OUTSIDE E.O.P. ADJUSTED FOR ROUNDING OF GRADE AT BEGIN/END SUPERELEVATION TRANSITION

CALCULATED JDL | CHECKED PRS

REMARKS	CENTER LINE CONSTRUCTION STATION	SOUTHBOUND LANES									MEDIAN	NORTHBOUND LANES								
		TRANSITION RATE	OUTSIDE E.O.P. ELEV. (SEE NOTE 1)	OUTSIDE E.O.P. ELEVATION	CROSS SLOPE	WIDTH	CROWN S.B. LANES ELEVATION	CROSS SLOPE	WIDTH	PROFILE GRADE INSIDE E.O.P. ELEVATION		TRANSITION RATE	PROFILE GRADE INSIDE E.O.P. ELEVATION	CROSS SLOPE	WIDTH	CROWN N.B. LANES ELEVATION	CROSS SLOPE	WIDTH	OUTSIDE E.O.P. ELEVATION	OUTSIDE E.O.P. ELEV. (SEE NOTE 1)
	301+25.00			1113.68	-0.0214	12.00	1113.93	-0.0214	12.00	1114.19			1106.57	0.0214	12.00	1106.82	0.0214	12.00	1107.08	
	301+50.00			1113.69	-0.0172	12.00	1113.89	-0.0172	12.00	1114.10			1106.72	0.0172	12.00	1106.92	0.0172	12.00	1107.13	
REVERSE CROWN	301+57.29			1113.69	-0.0160	12.00	1113.88	-0.0160	12.00	1114.07			1106.76	0.0160	12.00	1106.95	0.0160	12.00	1107.14	
	301+75.00			1113.68	-0.0160	12.00	1113.87	-0.0101	12.00	1114.00			1106.85	0.0160	12.00	1107.05	0.0101	12.00	1107.17	
	302+00.00			1113.67	-0.0160	12.00	1113.86	-0.0018	12.00	1113.88			1106.98	0.0160	12.00	1107.17	0.0018	12.00	1107.19	
HALF FLAT	302+05.29			1113.66	-0.0160	12.00	1113.85	0.0000	12.00	1113.85			1107.00	0.0160	12.00	1107.20	0.0000	12.00	1107.20	
	302+18.29			1113.65	-0.0160	12.00	1113.84	0.0043	12.00	1113.79			1107.06	0.0160	12.00	1107.25	-0.0043	12.00	1107.20	
	302+25.00		(1113.64)	1113.64	-0.0160	12.00	1113.83	0.0066	12.00	1113.75			1107.09	0.0160	12.00	1107.28	-0.0066	12.00	1107.20	(1107.20)
	302+50.00		(1113.56)	1113.60	-0.0160	12.00	1113.79	0.0149	12.00	1113.61			1107.19	0.0160	12.00	1107.38	-0.0149	12.00	1107.20	(1107.22)
NORMAL SECTION	302+53.29	250:1	(1113.55)	1113.59	-0.0160	12.00	1113.79	0.0160	12.00	1113.59		250:1	1107.20	0.0160	12.00	1107.39	-0.0160	12.00	1107.20	(1107.22)
	302+75.00		(1113.45)	1113.46	-0.0160	12.00	1113.65	0.0160	12.00	1113.46			1107.27	0.0160	12.00	1107.46	-0.0160	12.00	1107.27	(1107.27)
	302+88.29			1113.37	-0.0160	12.00	1113.57	0.0160	12.00	1113.37			1107.31	0.0160	12.00	1107.50	-0.0160	12.00	1107.31	
	303+00.00			1113.30	-0.0160	12.00	1113.49	0.0160	12.00	1113.30			1107.34	0.0160	12.00	1107.53	-0.0160	12.00	1107.34	

SUPERELEVATION TABLE

SUM-271-2.33

707
1195

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SUPERELEVATION TABLE

P.I. STA. 350+56.69 | Dc = 3°00'56" CURVE RIGHT

NOTE 1: OUTSIDE E.O.P. ADJUSTED FOR ROUNDING OF GRADE AT BEGIN/END SUPERELEVATION TRANSITION

CALCULATED JDL | CHECKED PRS

REMARKS	CENTER LINE CONSTRUCTION STATION	SOUTHBOUND LANES									MEDIAN	NORTHBOUND LANES								
		TRANSITION RATE	OUTSIDE E.O.P. ELEV. (SEE NOTE 1)	OUTSIDE E.O.P. ELEVATION	CROSS SLOPE	WIDTH	CROWN S.B. LANES ELEVATION	CROSS SLOPE	WIDTH	PROFILE GRADE INSIDE E.O.P. ELEVATION		TRANSITION RATE	PROFILE GRADE INSIDE E.O.P. ELEVATION	CROSS SLOPE	WIDTH	CROWN N.B. LANES ELEVATION	CROSS SLOPE	WIDTH	OUTSIDE E.O.P. ELEVATION	OUTSIDE E.O.P. ELEV. (SEE NOTE 1)
	335+75.00			1050.71	-0.0160	12.00	1050.90	0.0160	12.00	1050.71			1050.94	0.0160	12.00	1051.13	-0.0160	12.00	1050.94	
	335+83.59			1050.45	-0.0160	12.00	1050.64	0.0160	12.00	1050.45			1050.69	0.0160	12.00	1050.88	-0.0160	12.00	1050.69	
	336+00.00		(1049.97)	1049.96	-0.0160	12.00	1050.15	0.0160	12.00	1049.96			1050.22	0.0160	12.00	1050.41	-0.0160	12.00	1050.22	(1050.21)
T.S. NORMAL SECTION	336+18.59	250:1	(1049.44)	1049.41	-0.0160	12.00	1049.60	0.0160	12.00	1049.41		250:1	1049.68	0.0160	12.00	1049.87	-0.0160	12.00	1049.68	(1049.64)
	336+25.00	↑	(1049.26)	1049.24	-0.0139	12.00	1049.41	0.0160	12.00	1049.22		↑	1049.49	0.0139	12.00	1049.66	-0.0160	12.00	1049.47	(1049.44)
	336+50.00	↑	(1048.60)	1048.60	-0.0055	12.00	1048.66	0.0160	12.00	1048.47		↑	1048.76	0.0055	12.00	1048.83	-0.0160	12.00	1048.64	(1048.64)
	336+53.59	↑		1048.50	-0.0043	12.00	1048.55	0.0160	12.00	1048.36		↑	1048.66	0.0043	12.00	1048.71	-0.0160	12.00	1048.52	
HALF FLAT	336+66.59	↑		1048.17	0.0000	12.00	1048.17	0.0160	12.00	1047.98		↑	1048.28	0.0000	12.00	1048.28	-0.0160	12.00	1048.09	
	336+75.00	↑		1047.95	0.0028	12.00	1047.92	0.0160	12.00	1047.73		↑	1048.03	-0.0028	12.00	1048.00	-0.0160	12.00	1047.80	
	337+00.00	↑		1047.31	0.0111	12.00	1047.17	0.0160	12.00	1046.98		↑	1047.29	-0.0111	12.00	1047.16	-0.0160	12.00	1046.97	
REVERSE CROWN	337+14.59	↑		1046.93	0.0160	12.00	1046.74	0.0160	12.00	1046.55		↑	1046.86	-0.0160	12.00	1046.67	-0.0160	12.00	1046.48	
	337+25.00	↑		1046.66	0.0177	12.00	1046.45	0.0177	12.00	1046.24		↑	1046.55	-0.0177	12.00	1046.34	-0.0177	12.00	1046.12	
	337+50.00	↑		1046.02	0.0219	12.00	1045.75	0.0219	12.00	1045.49		↑	1045.80	-0.0219	12.00	1045.54	-0.0219	12.00	1045.28	
	337+75.00	↑		1045.37	0.0261	12.00	1045.06	0.0261	12.00	1044.75		↑	1045.05	-0.0261	12.00	1044.74	-0.0261	12.00	1044.42	
	338+00.00	↑		1044.73	0.0302	12.00	1044.36	0.0302	12.00	1044.00		↑	1044.29	-0.0302	12.00	1043.93	-0.0302	12.00	1043.57	
	338+25.00	↑		1044.05	0.0344	12.00	1043.64	0.0344	12.00	1043.23		↑	1043.53	-0.0344	12.00	1043.12	-0.0344	12.00	1042.71	
	338+50.00	↑		1043.38	0.0386	12.00	1042.91	0.0386	12.00	1042.45		↑	1042.77	-0.0386	12.00	1042.31	-0.0386	12.00	1041.84	
	338+75.00	↑		1042.70	0.0427	12.00	1042.19	0.0427	12.00	1041.68		↑	1042.00	-0.0427	12.00	1041.49	-0.0427	12.00	1040.97	
	339+00.00	↑		1042.03	0.0469	12.00	1041.46	0.0469	12.00	1040.90		↑	1041.22	-0.0469	12.00	1040.66	-0.0469	12.00	1040.10	
	339+25.00	↑		1041.35	0.0511	12.00	1040.74	0.0511	12.00	1040.13		↑	1040.45	-0.0511	12.00	1039.83	-0.0511	12.00	1039.22	
	339+50.00	↑		1040.68	0.0552	12.00	1040.02	0.0552	12.00	1039.35		↑	1039.66	-0.0552	12.00	1039.00	-0.0552	12.00	1038.34	
	339+75.00	↑		1040.00	0.0594	12.00	1039.29	0.0594	12.00	1038.58		↑	1038.87	-0.0594	12.00	1038.16	-0.0594	12.00	1037.45	
	340+00.00	↑		1039.33	0.0636	12.00	1038.57	0.0636	12.00	1037.80		↑	1038.08	-0.0636	12.00	1037.32	-0.0636	12.00	1036.56	
	340+25.00	↑		1038.65	0.0677	12.00	1037.84	0.0677	12.00	1037.03		↑	1037.29	-0.0677	12.00	1036.47	-0.0677	12.00	1035.66	
	340+50.00	↑		1037.98	0.0719	12.00	1037.11	0.0719	12.00	1036.25		↑	1036.48	-0.0719	12.00	1035.62	-0.0719	12.00	1034.76	
	340+63.59	↑		1037.61	0.0742	12.00	1036.72	0.0742	12.00	1035.83		↑	1036.05	-0.0742	12.00	1035.16	-0.0742	12.00	1034.27	
	340+75.00	↑	(1037.29)	1037.29	0.0761	12.00	1036.38	0.0761	12.00	1035.47		↑	1035.68	-0.0761	12.00	1034.77	-0.0761	12.00	1033.85	(1033.86)
	340+90.00	↑	(1036.86)	1036.88	0.0786	12.00	1035.94	0.0786	12.00	1034.99		↑	1035.20	-0.0786	12.00	1034.25	-0.0786	12.00	1033.31	(1033.33)
SC BEGIN FULL SUPER	340+98.59	250:1	(1036.60)	1036.64	0.0800	12.00	1035.68	0.0800	12.00	1034.72		250:1	1034.92	-0.0800	12.00	1033.96	-0.0800	12.00	1033.00	(1033.03)
	341+00.00	↓	(1036.56)	1036.60	0.0800	12.00	1035.64	0.0800	12.00	1034.68		↓	1034.87	-0.0800	12.00	1033.91	-0.0800	12.00	1032.95	(1032.99)
	341+33.59			1035.53	0.0800	12.00	1034.57	0.0800	12.00	1033.61			1033.79	-0.0800	12.00	1032.83	-0.0800	12.00	1031.87	
	341+25.00			1035.80	0.0800	12.00	1034.84	0.0800	12.00	1033.88			1034.07	-0.0800	12.00	1033.11	-0.0800	12.00	1032.15	
	341+50.00			1035.00	0.0800	12.00	1034.04	0.0800	12.00	1033.08			1033.26	-0.0800	12.00	1032.30	-0.0800	12.00	1031.34	
	341+75.00			1034.19	0.0800	12.00	1033.23	0.0800	12.00	1032.27			1032.45	-0.0800	12.00	1031.49	-0.0800	12.00	1030.53	
	342+00.00			1033.37	0.0800	12.00	1032.41	0.0800	12.00	1031.45			1031.64	-0.0800	12.00	1030.68	-0.0800	12.00	1029.72	
	342+25.00			1032.55	0.0800	12.00	1031.59	0.0800	12.00	1030.63			1030.83	-0.0800	12.00	1029.87	-0.0800	12.00	1028.91	
	342+50.00			1031.73	0.0800	12.00	1030.77	0.0800	12.00	1029.81			1030.01	-0.0800	12.00	1029.05	-0.0800	12.00	1028.09	
	342+75.00			1030.89	0.0800	12.00	1029.93	0.0800	12.00	1028.97			1029.20	-0.0800	12.00	1028.24	-0.0800	12.00	1027.28	
	343+00.00			1030.06	0.0800	12.00	1029.10	0.0800	12.00	1028.14			1028.38	-0.0800	12.00	1027.42	-0.0800	12.00	1026.46	
	343+25.00			1029.24	0.0800	12.00	1028.28	0.0800	12.00	1027.32			1027.57	-0.0800	12.00	1026.61	-0.0800	12.00	1025.65	
	343+50.00			1028.43	0.0800	12.00	1027.47	0.0800	12.00	1026.51			1026.77	-0.0800	12.00	1025.81	-0.0800	12.00	1024.85	
	343+75.00			1027.63	0.0800	12.00	1026.67	0.0800	12.00	1025.71			1025.97	-0.0800	12.00	1025.01	-0.0800	12.00	1024.05	
	344+00.00			1026.85	0.0800	12.00	1025.89	0.0800	12.00	1024.93			1025.17	-0.0800	12.00	1024.21	-0.0800	12.00	1023.25	
	344+25.00			1026.07	0.0800	12.00	1025.11	0.0800	12.00	1024.15			1024.39	-0.0800	12.00	1023.43	-0.0800	12.00	1022.47	
	344+50.00			1025.30	0.0800	12.00	1024.34	0.0800	12.00	1023.38			1023.61	-0.0800	12.00	1022.65	-0.0800	12.00	1021.69	
	344+75.00			1024.55	0.0800	12.00	1023.59	0.0800	12.00	1022.63			1022.83	-0.0800	12.00	1021.87	-0.0800	12.00	1020.91	
	345+00.00			1023.81	0.0800	12.00	1022.85	0.0800	12.00	1021.89			1022.07	-0.0800	12.00	1021.11	-0.0800	12.00	1020.15	
	345+25.00			1023.07	0.0800	12.00	1022.11	0.0800	12.00	1021.15			1021.31	-0.0800	12.00	1020.35	-0.0800	12.00	1019.39	
	345+50.00			1022.35	0.0800	12.00	1021.39	0.0800	12.00	1020.43			1020.55	-0.0800	12.00	1019.59	-0.0800	12.00	1018.63	
	345+75.00	MATCH EXISTING											1019.80	-0.0800	12.00	1018.84	-0.0800	12.00	1017.88	
												MATCH EXISTING								

SUPERELEVATION TABLE

SUM-271-2.33

708
1195

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SUPERELEVATION TABLE

DESCRIPTION	RAMP A BRECKSVILLE ROAD						
	BASELINE STATION	TRANSITION RATE	PROFILE GRADE E.O.P. ELEVATION	CROSS SLOPE	WIDTH	ELEVATION CORRECTION	RIGHT E.O.P. ELEVATION
P.O.T. NORMAL SECTION	53+07.11		1231.23	0.0160	16.00	0.26	1231.49
	53+25.00		1231.12	0.0160	16.00	0.26	1231.38
	53+50.00		1230.95	0.0160	16.00	0.26	1231.21
	53+75.00		1230.78	0.0160	16.00	0.26	1231.04
	54+00.00		1230.59	0.0160	16.00	0.26	1230.85
	54+25.00		1230.39	0.0160	16.00	0.26	1230.65
	54+50.00		1230.17	0.0160	16.00	0.26	1230.43
	54+75.00		1229.94	0.0160	16.00	0.26	1230.20
	55+00.00		1229.70	0.0160	16.00	0.26	1229.96
	55+25.00		1229.44	0.0160	16.00	0.26	1229.70
	55+50.00		1229.17	0.0160	16.00	0.26	1229.43
	55+75.00		1228.89	0.0160	16.00	0.26	1229.15
	56+00.00		1228.59	0.0160	16.00	0.26	1228.85
T.S. NORMAL SECTION	56+07.11	284:1	1228.48	0.0160	16.00	0.26	1228.74
	56+25.00	↑	1228.22	0.0199	16.00	0.32	1228.54
	56+50.00	|	1227.81	0.0254	16.00	0.41	1228.22
	56+75.00	|	1227.38	0.0309	16.00	0.49	1227.87
	57+00.00	|	1226.93	0.0364	16.00	0.58	1227.51
	57+25.00	|	1226.46	0.0419	16.00	0.67	1227.13
	57+50.00	|	1225.97	0.0474	16.00	0.76	1226.73
	57+75.00	|	1225.48	0.0529	16.00	0.85	1226.33
	58+00.00	↓	1225.02	0.0584	16.00	0.93	1225.95
S.C. FULL SUPER	58+07.11	284:1	1224.89	0.0600	16.00	0.96	1225.85
	58+25.00		1224.60	0.0600	16.00	0.96	1225.56
	58+50.00		1224.22	0.0600	16.00	0.96	1225.18
	58+75.00		1223.88	0.0600	16.00	0.96	1224.84
	59+00.00		1223.59	0.0600	16.00	0.96	1224.55
	59+25.00		1223.33	0.0600	16.00	0.96	1224.29
C.S. FULL SUPER	59+46.83	208:1	1223.14	0.0600	16.00	0.96	1224.10
	59+50.00	↑	1223.12	0.0590	16.00	0.94	1224.06
	59+75.00	|	1222.94	0.0515	16.00	0.82	1223.76
	60+00.00	|	1222.81	0.0440	16.00	0.70	1223.51
	60+25.00	|	1222.71	0.0365	16.00	0.58	1223.29
	60+50.00	|	1222.66	0.0290	16.00	0.46	1223.12
	60+75.00	|	1222.65	0.0215	16.00	0.34	1222.99
	61+00.00	↓	1222.68	0.0140	16.00	0.22	1222.90
	61+25.00	208:1	1222.75	0.0065	16.00	0.10	1222.85
S.R.S. FLAT	61+46.82		1222.84	0.0000	16.00	0.00	1222.84
	61+50.00	219:1	1222.86	-0.0009	16.00	-0.01	1222.85
	61+75.00	↑	1223.01	-0.0080	16.00	-0.13	1222.88
	62+00.00	|	1223.20	-0.0152	16.00	-0.24	1222.96
	62+25.00	|	1223.44	-0.0223	16.00	-0.36	1223.08
	62+50.00	|	1223.71	-0.0294	16.00	-0.47	1223.24
	62+75.00	|	1224.02	-0.0365	16.00	-0.58	1223.44
	63+00.00	|	1224.33	-0.0437	16.00	-0.70	1223.63
	63+25.00	↓	1224.64	-0.0508	16.00	-0.81	1223.83
S.C. FULL SUPER	63+46.82	219:1	1224.91	-0.0570	16.00	-0.91	1224.00
	63+50.00		1224.95	-0.0570	16.00	-0.91	1224.04
	63+75.00		1225.24	-0.0570	16.00	-0.91	1224.33
	64+00.00		1225.54	-0.0570	16.00	-0.91	1224.63
	64+25.00		1225.82	-0.0570	16.00	-0.91	1224.91
	64+50.00		1226.11	-0.0570	16.00	-0.91	1225.20
	64+75.00		1226.38	-0.0570	16.00	-0.91	1225.47

DESCRIPTION	RAMP A BRECKSVILLE ROAD						
	BASELINE STATION	TRANSITION RATE	PROFILE GRADE E.O.P. ELEVATION	CROSS SLOPE	WIDTH	ELEVATION CORRECTION	RIGHT E.O.P. ELEVATION
	65+00.00		1226.66	-0.0570	16.00	-0.91	1225.75
END FULL SUPER	65+22.85	150:1	1226.85	-0.0570	16.00	-0.91	1225.94
	65+25.00	↑	1226.92	-0.0561	16.00	-0.90	1226.02
	65+50.00	|	1227.19	-0.0457	16.00	-0.73	1226.46
	65+75.00	|	1227.45	-0.0352	16.00	-0.56	1226.89
PT	65+91.17	|	1227.62	-0.0285	16.00	-0.46	1227.16
	66+00.00	|	1227.71	-0.0248	16.00	-0.40	1227.31
	66+25.00	|	1227.97	-0.0144	16.00	-0.23	1227.74
	66+50.00	|	1228.29	-0.0040	16.00	-0.06	1228.23
	66+59.49	|	1228.53	0.0000	16.00	0.00	1228.53
	66+75.00	|	1228.69	0.0065	16.00	0.10	1228.79
	66+99.05	150:1	1229.08	0.0165	16.00	0.26	1229.34
	67+00.00		1229.09	0.0165	16.00	0.26	1229.35
MATCH CR17 EP	67+04.89		1229.17	0.0165	16.00	0.26	1229.43

CALCULATED JDL
CHECKED PRS

SUPERELEVATION TABLE

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709
1195

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SUPERELEVATION TABLE

DESCRIPTION	RAMP B BRECKSVILLE ROAD						
	BASELINE STATION	TRANSITION RATE	LEFT E.O.P. ELEVATION	ELEVATION CORRECTION	WIDTH	CROSS SLOPE	PROFILE GRADE E.O.P. ELEVATION
END NORMAL SECTION	551+56.40	250:1	1232.54	0.19	12.00	0.0160	1232.35
	551+75.00	↑	1232.49	0.27	12.00	0.0222	1232.22
	552+00.00	↕	1232.41	0.37	12.00	0.0305	1232.04
P.C.	52+05.00	↕	1232.39	0.39	12.00	0.0322	1232.00
	52+25.00	↕	1232.31	0.47	12.05	0.0389	1231.84
FULL SUPER	52+46.40	250:1	1232.23	0.56	12.23	0.0460	1231.67
	52+50.00		1232.20	0.56	12.27	0.0460	1231.64
	52+75.00		1232.08	0.58	12.64	0.0460	1231.50
	53+00.00		1231.94	0.61	13.19	0.0460	1231.33
	53+25.00		1231.79	0.64	13.89	0.0460	1231.15
	53+50.00		1231.62	0.68	14.76	0.0460	1230.94
	53+75.00		1231.44	0.73	15.80	0.0460	1230.71
NORMAL RAMP WIDTH	53+79.46		1231.41	0.74	16.00	0.0460	1230.67
	54+00.00		1231.23	0.74	16.00	0.0460	1230.49
	54+25.00		1231.00	0.74	16.00	0.0460	1230.26
	54+50.00		1230.76	0.74	16.00	0.0460	1230.02
	54+75.00		1230.50	0.74	16.00	0.0460	1229.76
	55+00.00		1230.22	0.74	16.00	0.0460	1229.48
	55+25.00		1229.92	0.74	16.00	0.0460	1229.18
	55+50.00		1229.61	0.74	16.00	0.0460	1228.87
	55+75.00		1229.28	0.74	16.00	0.0460	1228.54
	56+00.00		1228.94	0.74	16.00	0.0460	1228.20
	56+25.00		1228.58	0.74	16.00	0.0460	1227.84
	56+50.00		1228.20	0.74	16.00	0.0460	1227.46
C.S. BEGIN SUPER TRANS.	56+58.48	962:1	1228.07	0.74	16.00	0.0460	1227.33
	56+75.00	↑	1227.85	0.75	16.00	0.0471	1227.10
	57+00.00	↕	1227.55	0.78	16.00	0.0487	1226.77
	57+25.00	↕	1227.31	0.81	16.00	0.0503	1226.50
	57+50.00	↕	1227.09	0.83	16.00	0.0519	1226.26
	57+75.00	↕	1226.93	0.86	16.00	0.0536	1226.07
	58+00.00	↕	1226.80	0.88	16.00	0.0552	1225.92
	58+25.00	↕	1226.73	0.91	16.00	0.0568	1225.82
	58+50.00	↓	1226.70	0.94	16.00	0.0584	1225.76
S.C. END SUPER TRANS.	58+58.48	962:1	1226.69	0.94	16.00	0.0590	1225.75
	58+75.00		1226.68	0.94	16.00	0.0590	1225.74
	59+00.00		1226.71	0.94	16.00	0.0590	1225.77
	59+25.00		1226.77	0.94	16.00	0.0590	1225.83
	59+50.00		1226.89	0.94	16.00	0.0590	1225.95
	59+75.00		1227.04	0.94	16.00	0.0590	1226.10
	60+00.00		1227.25	0.94	16.00	0.0590	1226.31
END FULL SUPER	60+33.94	185:1	1227.59	0.94	16.00	0.0590	1226.65
	60+50.00	↑	1227.70	0.86	16.00	0.0536	1226.84
	60+75.00	↕	1227.88	0.72	16.00	0.0451	1227.16
P.T.	60+86.33	↕	1227.97	0.66	16.00	0.0413	1227.31
	61+00.00	↕	1228.07	0.59	16.00	0.0367	1227.48
	61+25.00	↕	1228.26	0.45	16.00	0.0282	1227.81
	61+50.00	↓	1228.45	0.32	16.00	0.0198	1228.13
NORMAL SECTION	61+61.22	185:1	1228.54	0.26	16.00	0.0160	1228.28

DESCRIPTION	RAMP B BRECKSVILLE ROAD						
	BASELINE STATION	TRANSITION RATE	LEFT E.O.P. ELEVATION	ELEVATION CORRECTION	WIDTH	CROSS SLOPE	PROFILE GRADE E.O.P. ELEVATION
	61+75.00		1228.72	0.26	16.00	0.0160	1228.46
	62+00.00		1229.04	0.26	16.00	0.0160	1228.78
	62+25.00		1229.37	0.26	16.00	0.0160	1229.11
	62+50.00		1229.81	0.26	16.00	0.0160	1229.55
	62+74.56	143:1	1230.28	0.26	16.00	0.0160	1230.02
	62+75.00	↕	1230.28	0.25	16.00	0.0158	1230.03
MEET EXIST. C.R. 17 PVT.	62+94.01	143:1	1230.51	0.12	16.00	0.0075	1230.39

CALCULATED JDL
CHECKED PRS

SUPERELEVATION TABLE

SUM-271-2.33

710
1195

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SUPERELEVATION TABLE

NOTE 1: OUTSIDE E.O.P. ADJUSTED FOR ROUNDING OF GRADE AT BEGIN/END SUPERELEVATION TRANSITION

CALCULATED JDL | CHECKED PRS

DESCRIPTION	RAMP A I.R. 77								
	BASELINE STATION	TRANSITION RATE	OUTSIDE E.O.P. ELEVATION (SEE NOTE 1)	PROFILE GRADE E.O.P. ELEVATION	CROSS SLOPE	WIDTH	ELEVATION CORRECTION	RIGHT E.O.P. ELEVATION	OUTSIDE E.O.P. ELEVATION (SEE NOTE 1)
P.O.T. NORMAL SECTION	170+88.87			1163.97	0.0160	16.00	0.26	1164.23	
	171+00.00			1163.65	0.0160	16.00	0.26	1163.91	
	171+25.00			1162.93	0.0160	16.00	0.26	1163.19	
	171+50.00			1162.20	0.0160	16.00	0.26	1162.46	
	171+75.00			1161.48	0.0160	16.00	0.26	1161.74	
	172+00.00			1160.76	0.0160	16.00	0.26	1161.02	
	172+25.00		(1160.02)	1160.03	0.0160	16.00	0.26	1160.29	
T.S. (END NORMAL SECTION)	172+47.80	200:1	(1159.29)	1159.37	0.0160	16.00	0.26	1159.63	
	172+50.00	↑	(1159.22)	1159.29	0.0167	16.00	0.27	1159.56	
	172+75.00		(1158.34)	1158.34	0.0245	16.00	0.39	1158.73	
	173+00.00			1157.38	0.0323	16.00	0.52	1157.90	
	173+25.00			1156.39	0.0401	16.00	0.64	1157.03	
	173+50.00			1155.50	0.0479	16.00	0.77	1156.27	
	173+75.00			1154.59	0.0557	16.00	0.89	1155.48	
	174+00.00			1153.66	0.0635	16.00	1.02	1154.68	
	174+25.00			1152.70	0.0713	16.00	1.14	1153.84	
	174+50.00	↓		1151.76	0.0791	16.00	1.27	1153.03	
S.C. (FULL SUPER)	174+52.80	200:1		1151.65	0.0800	16.00	1.28	1152.93	
	174+75.00			1150.83	0.0800	16.00	1.28	1152.11	
	175+00.00			1149.89	0.0800	16.00	1.28	1151.17	
	175+25.00			1148.96	0.0800	16.00	1.28	1150.24	
	175+50.00			1148.03	0.0800	16.00	1.28	1149.31	
	175+75.00			1147.10	0.0800	16.00	1.28	1148.38	
	176+00.00			1146.17	0.0800	16.00	1.28	1147.45	
	176+25.00			1145.24	0.0800	16.00	1.28	1146.52	
	176+50.00			1144.31	0.0800	16.00	1.28	1145.59	
	176+75.00			1143.38	0.0800	16.00	1.28	1144.66	
	177+00.00			1142.45	0.0800	16.00	1.28	1143.73	
	177+02.53			1142.35	0.0800	16.00	1.28	1143.63	
	177+25.00			1141.52	0.0800	16.00	1.28	1142.80	(1142.77)
C.S. (END FULL SUPER)	177+27.53			1141.42	0.0800	16.00	1.28	1142.70	(1142.67)
	177+50.00	↑		1140.59	0.0730	16.00	1.17	1141.76	(1141.76)
	177+52.53			1140.49	0.0722	16.00	1.16	1141.65	
	177+75.00			1139.66	0.0652	16.00	1.04	1140.70	
	178+00.00			1138.73	0.0574	16.00	0.92	1139.65	
	178+25.00			1137.79	0.0496	16.00	0.79	1138.58	
	178+50.00			1136.86	0.0418	16.00	0.67	1137.53	
	178+75.00			1135.93	0.0340	16.00	0.54	1136.47	
	179+00.00			1135.00	0.0262	16.00	0.42	1135.42	
	179+25.00	200:1		1134.07	0.0184	16.00	0.29	1134.36	
S.T. (NORMAL SECTION)	179+32.53			1133.79	0.0160	16.00	0.26	1134.05	
	179+50.00			1133.14	0.0160	16.00	0.26	1133.40	
	179+75.00			1132.21	0.0160	16.00	0.26	1132.47	
	180+00.00			1131.28	0.0160	16.00	0.26	1131.54	
	180+25.00			1130.35	0.0160	16.00	0.26	1130.61	

CONTINUED ON NEXT COLUMN

DESCRIPTION	RAMP A I.R. 77								
	BASELINE STATION	TRANSITION RATE	OUTSIDE E.O.P. ELEVATION (SEE NOTE 1)	PROFILE GRADE E.O.P. ELEVATION	CROSS SLOPE	WIDTH	ELEVATION CORRECTION	RIGHT E.O.P. ELEVATION	OUTSIDE E.O.P. ELEVATION (SEE NOTE 1)
	180+36.79			1129.91	0.0160	16.00	0.26	1130.17	
	180+50.00			1129.42	0.0160	16.00	0.26	1129.68	(1129.67)
END NORMAL SECTION	180+66.79	245.1:1		1128.79	0.0160	16.00	0.26	1129.05	(1129.03)
	180+75.00	↑		1128.49	0.0139	16.00	0.22	1128.71	(1128.69)
	180+96.79			1127.68	0.0084	16.00	0.13	1127.81	
	181+00.00			1127.56	0.0075	16.00	0.12	1127.68	
	181+25.00			1126.62	0.0012	16.00	0.02	1126.64	
T.S. (FLAT)	181+29.54			1126.46	0.0000	16.00	0.00	1126.46	
	181+50.00			1125.69	-0.0052	16.00	-0.08	1125.61	
	181+75.00			1124.76	-0.0116	16.00	-0.19	1124.57	
	182+00.00			1123.83	-0.0180	16.00	-0.29	1123.54	
	182+25.00			1122.90	-0.0243	16.00	-0.39	1122.51	
	182+50.00			1121.97	-0.0307	16.00	-0.49	1121.48	
	182+75.00			1121.04	-0.0371	16.00	-0.59	1120.45	
	182+99.54			1120.13	-0.0434	16.00	-0.69	1119.44	
	183+00.00			1120.11	-0.0435	16.00	-0.70	1119.41	(1119.41)
	183+25.00	↓		1119.18	-0.0498	16.00	-0.80	1118.38	(1118.40)
S.C. (FULL SUPER)	183+29.54	245.1:1		1119.01	-0.0510	16.00	-0.82	1118.19	(1118.22)
	183+50.00			1118.25	-0.0510	16.00	-0.82	1117.43	(1117.43)
	183+59.54			1117.89	-0.0510	16.00	-0.82	1117.07	
	183+75.00			1117.32	-0.0510	16.00	-0.82	1116.50	
	184+00.00			1116.39	-0.0510	16.00	-0.82	1115.57	
	184+25.00			1115.46	-0.0510	16.00	-0.82	1114.64	
	184+50.00			1114.52	-0.0510	16.00	-0.82	1113.70	
	184+75.00			1113.59	-0.0510	16.00	-0.82	1112.77	
	185+00.00			1112.66	-0.0510	16.00	-0.82	1111.84	
	185+25.00			1111.73	-0.0510	16.00	-0.82	1110.91	
	185+50.00			1110.80	-0.0510	16.00	-0.82	1109.98	
	185+75.00			1109.87	-0.0510	16.00	-0.82	1109.05	
	186+00.00			1108.94	-0.0510	16.00	-0.82	1108.12	
	186+25.00			1108.01	-0.0510	16.00	-0.82	1107.19	
	186+50.00			1107.08	-0.0510	16.00	-0.82	1106.26	
	186+75.00			1106.15	-0.0510	16.00	-0.82	1105.33	
	187+00.00			1105.22	-0.0510	16.00	-0.82	1104.40	
	187+25.00			1104.29	-0.0510	16.00	-0.82	1103.47	
	187+50.00			1103.36	-0.0510	16.00	-0.82	1102.54	
	187+75.00			1102.42	-0.0510	16.00	-0.82	1101.60	
	188+00.00			1101.49	-0.0510	16.00	-0.82	1100.67	
	188+25.00			1100.56	-0.0510	16.00	-0.82	1099.74	
	188+50.00			1099.63	-0.0510	16.00	-0.82	1098.81	
	188+75.00			1098.70	-0.0510	16.00	-0.82	1097.88	
	189+00.00			1097.77	-0.0510	16.00	-0.82	1096.95	
	189+25.00			1096.84	-0.0510	16.00	-0.82	1096.02	
	189+50.00			1095.91	-0.0510	16.00	-0.82	1095.09	
	189+75.00			1094.98	-0.0510	16.00	-0.82	1094.16	

CONTINUED ON SHEET

SUPERELEVATION TABLE

SUM-271-2.33

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SUPERELEVATION TABLE

DESCRIPTION	RAMP A I.R. 77								
	BASELINE STATION	TRANSITION RATE	OUTSIDE E.O.P. ELEVATION (SEE NOTE 1)	PROFILE GRADE E.O.P. ELEVATION	CROSS SLOPE	WIDTH	ELEVATION CORRECTION	RIGHT E.O.P. ELEVATION	OUTSIDE E.O.P. ELEVATION (SEE NOTE 1)
	CONTINUED FROM SHEET 711								
	189+95.35			1094.22	-0.0510	16.00	-0.82	1093.40	
	190+00.00			1094.05	-0.0510	16.00	-0.82	1093.23	(1093.23)
	190+25.00			1093.12	-0.0510	16.00	-0.82	1092.30	(1092.33)
C.S. (END FULL SUPER)	190+25.35	245.1:1		1093.10	-0.0510	16.00	-0.82	1092.28	(1092.31)
	190+50.00	↑		1092.19	-0.0447	16.00	-0.72	1091.47	(1091.47)
	190+55.35	|		1091.99	-0.0434	16.00	-0.69	1091.30	
	190+75.00	|		1091.26	-0.0383	16.00	-0.61	1090.65	
	191+00.00	|		1090.32	-0.0320	16.00	-0.51	1089.81	
	191+25.00	|		1089.39	-0.0256	16.00	-0.41	1088.98	
	191+50.00	|		1088.46	-0.0192	16.00	-0.31	1088.15	
	191+75.00	|		1087.53	-0.0128	16.00	-0.21	1087.32	
	191+95.35	|		1086.78	-0.0077	16.00	-0.12	1086.66	
	192+00.00	|		1086.60	-0.0065	16.00	-0.10	1086.50	(1086.50)
	192+25.00	245.1:1 ↓		1085.70	-0.0001	16.00	0.00	1085.70	(1085.73)
S.R.S (FLAT)	192+25.35			1085.69	0.0000	16.00	0.00	1085.69	(1085.72)
	192+50.00	203.1:1 ↑		1084.83	0.0076	16.00	0.12	1084.95	(1084.95)
	192+55.35	|		1084.64	0.0092	16.00	0.15	1084.79	
	192+75.00	|		1083.98	0.0153	16.00	0.24	1084.22	
	193+00.00	|		1083.16	0.0230	16.00	0.37	1083.53	
	193+25.00	|		1082.37	0.0307	16.00	0.49	1082.86	
	193+50.00	|		1081.61	0.0384	16.00	0.61	1082.22	
	193+75.00	|		1080.88	0.0460	16.00	0.74	1081.62	
	194+00.00	|		1080.18	0.0537	16.00	0.86	1081.04	
	194+25.00	|		1079.51	0.0614	16.00	0.98	1080.49	
	194+50.00	|		1078.86	0.0691	16.00	1.11	1079.97	
	194+75.00	↓		1078.25	0.0768	16.00	1.23	1079.48	
S.C. (FULL SUPER)	194+85.35	203.1:1		1078.00	0.0800	16.00	1.28	1079.28	
	195+00.00			1077.66	0.0800	16.00	1.28	1078.94	
	195+25.00			1077.10	0.0800	16.00	1.28	1078.38	
	195+50.00			1076.57	0.0800	16.00	1.28	1077.85	
	195+75.00			1076.07	0.0800	16.00	1.28	1077.35	
	196+00.00			1075.60	0.0800	16.00	1.28	1076.88	
	196+25.00			1075.15	0.0800	16.00	1.28	1076.43	
	196+50.00			1074.74	0.0800	16.00	1.28	1076.02	
	196+75.00			1074.35	0.0800	16.00	1.28	1075.63	
	197+00.00			1074.00	0.0800	16.00	1.28	1075.28	
	197+25.00			1073.67	0.0800	16.00	1.28	1074.95	
BEGIN SUPER TRANS.	197+26.33	222:1		1073.65	0.0800	16.00	1.28	1074.93	
	197+50.00	↑		1073.37	0.0733	16.00	1.17	1074.54	
	197+75.00	|		1073.10	0.0663	16.00	1.06	1074.16	
	198+00.00	|		1072.86	0.0593	16.00	0.95	1073.81	
P.C.C.	198+10.29	|		1072.77	0.0564	16.00	0.90	1073.67	
	198+25.00	|		1072.64	0.0523	16.00	0.84	1073.48	
	198+50.00	|		1072.46	0.0452	16.00	0.72	1073.18	
	198+75.00	|		1072.30	0.0382	16.00	0.61	1072.91	
	199+00.00	↓		1072.18	0.0312	16.00	0.50	1072.68	
MATCH EXISTING	199+15.33	222:1		1072.11	0.0269	16.00	0.43	1072.54	

NOTE 1: OUTSIDE E.O.P. ADJUSTED FOR ROUNDING OF GRADE AT BEGIN/END SUPERELEVATION TRANSITION

CALCULATED JDL
CHECKED PRS

SUPERELEVATION TABLE

SUM-271-2.33

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SUPERELEVATION TABLE

DESCRIPTION	RAMP B I.R. 77									DESCRIPTION	RAMP B I.R. 77								
	BASELINE STATION	TRANSITION RATE	OUTSIDE E.O.P. ELEVATION (SEE NOTE 1)	LEFT E.O.P. ELEVATION	ELEVATION CORRECTION	WIDTH	CROSS SLOPE	PROFILE GRADE E.O.P. ELEVATION	OUTSIDE E.O.P. ELEVATION (SEE NOTE 1)		BASELINE STATION	TRANSITION RATE	OUTSIDE E.O.P. ELEVATION (SEE NOTE 1)	LEFT E.O.P. ELEVATION	ELEVATION CORRECTION	WIDTH	CROSS SLOPE	PROFILE GRADE E.O.P. ELEVATION	OUTSIDE E.O.P. ELEVATION (SEE NOTE 1)
P.O.T. NORMAL SECTION	168+58.71			1170.66	0.19	12.00	0.0160	1170.47			178+00.00			1143.98	1.14	16.00	0.0710	1142.84	
	168+75.00			1170.20	0.19	12.00	0.0160	1170.01			178+25.00			1143.41	1.14	16.00	0.0710	1142.27	
	169+00.00			1169.49	0.19	12.00	0.0160	1169.30			178+50.00			1142.86	1.14	16.00	0.0710	1141.72	
	169+25.00			1168.78	0.19	12.00	0.0160	1168.59			178+75.00			1142.33	1.14	16.00	0.0710	1141.19	
	169+50.00			1168.07	0.19	12.00	0.0160	1167.88			179+00.00			1141.83	1.14	16.00	0.0710	1140.69	
	169+75.00			1167.36	0.19	12.00	0.0160	1167.17			179+25.00			1141.36	1.14	16.00	0.0710	1140.22	
	170+00.00			1166.65	0.19	12.00	0.0160	1166.46			179+50.00			1140.91	1.14	16.00	0.0710	1139.77	
	170+01.05			1166.62	0.19	12.00	0.0160	1166.43	(1166.43)		179+75.00			1140.46	1.14	16.00	0.0710	1139.32	
	170+25.00			1165.94	0.19	12.00	0.0160	1165.75	(1165.73)		180+00.00			1140.00	1.14	16.00	0.0710	1138.87	
END NORMAL SECTION	170+36.05	250:1		1165.62	0.19	12.00	0.0160	1165.43	(1165.40)	END FULL SUPER	180+24.73	222:1		1139.56	1.14	16.00	0.0710	1138.42	
	170+50.00	↕		1165.23	0.25	12.00	0.0207	1164.98	(1164.97)		180+25.00	↕		1139.55	1.13	16.00	0.0709	1138.42	
	170+71.05			1164.63	0.33	12.00	0.0277	1164.30	(1164.30)		180+50.00			1138.99	1.02	16.00	0.0639	1137.97	
P.C.	170+74.45			1164.54	0.35	12.00	0.0288	1164.19			180+75.00			1138.43	0.91	16.00	0.0569	1137.52	
	170+75.00			1164.52	0.35	12.00	0.0290	1164.17			181+00.00			1137.87	0.80	16.00	0.0499	1137.07	
	170+97.05			1163.89	0.44	12.06	0.0363	1163.45	(1163.45)	PT	181+00.63			1137.86	0.80	16.00	0.0497	1137.06	
	171+00.00			1163.80	0.45	12.08	0.0373	1163.35	(1163.35)		181+25.00			1137.31	0.69	16.00	0.0429	1136.62	
	171+25.00	↕		1163.09	0.56	12.31	0.0457	1162.53	(1162.54)		181+50.00			1136.74	0.57	16.00	0.0358	1136.17	
FULL SUPER	171+32.05	250:1		1162.89	0.60	12.41	0.0480	1162.29	(1162.32)		181+75.00			1136.18	0.46	16.00	0.0288	1135.72	
	171+50.00			1162.38	0.61	12.70	0.0480	1161.77	(1161.77)		182+00.00			1135.62	0.35	16.00	0.0218	1135.27	
	171+67.05			1161.89	0.63	13.05	0.0480	1161.26	(1161.26)		182+25.00			1135.06	0.24	16.00	0.0148	1134.82	
	171+75.00			1161.67	0.64	13.24	0.0480	1161.03			182+50.00			1134.49	0.12	16.00	0.0078	1134.37	
	172+00.00			1160.95	0.67	13.93	0.0480	1160.28			182+75.00			1133.91	0.01	16.00	0.0008	1133.90	
	172+25.00			1160.24	0.71	14.78	0.0480	1159.53		FLAT	182+77.73			1133.85	0.00	16.00	0.0000	1133.85	
	172+50.00			1159.53	0.76	15.78	0.0480	1158.77			183+00.00			1133.29	-0.10	16.00	-0.0063	1133.39	
NORMAL RAMP WIDTH	172+55.70			1159.37	0.77	16.00	0.0480	1158.60			183+25.00	↕		1132.64	-0.21	16.00	-0.0133	1132.85	
	172+75.00			1158.80	0.77	16.00	0.0480	1158.03		NORMAL SECTION	183+34.73	222:1		1132.37	-0.26	16.00	-0.0160	1132.63	
	173+00.00			1158.06	0.77	16.00	0.0480	1157.29			183+50.00			1132.01	-0.26	16.00	-0.0160	1132.27	
	173+25.00			1157.33	0.77	16.00	0.0480	1156.56			183+75.00			1131.40	-0.26	16.00	-0.0160	1131.66	
	173+50.00			1156.59	0.77	16.00	0.0480	1155.82			184+00.00			1130.75	-0.26	16.00	-0.0160	1131.01	
	173+75.00			1155.85	0.77	16.00	0.0480	1155.08			184+25.00			1130.06	-0.26	16.00	-0.0160	1130.32	
	174+00.00			1155.11	0.77	16.00	0.0480	1154.34			184+50.00			1129.34	-0.26	16.00	-0.0160	1129.60	
	174+25.00			1154.36	0.77	16.00	0.0480	1153.59			184+75.00			1128.57	-0.26	16.00	-0.0160	1128.83	
	174+50.00			1153.62	0.77	16.00	0.0480	1152.85			185+00.00			1127.78	-0.26	16.00	-0.0160	1128.04	
	174+75.00			1152.87	0.77	16.00	0.0480	1152.10			185+25.00			1126.94	-0.26	16.00	-0.0160	1127.20	
	175+00.00			1152.12	0.77	16.00	0.0480	1151.35			185+50.00			1126.07	-0.26	16.00	-0.0160	1126.33	
	175+25.00			1151.37	0.77	16.00	0.0480	1150.60			185+75.00			1125.16	-0.26	16.00	-0.0160	1125.42	
	175+50.00			1150.61	0.77	16.00	0.0480	1149.84			186+00.00			1124.22	-0.26	16.00	-0.0160	1124.48	
	175+75.00			1149.86	0.77	16.00	0.0480	1149.09			186+25.00			1123.24	-0.26	16.00	-0.0160	1123.50	
	175+99.89			1149.11	0.77	16.00	0.0480	1148.34			186+50.00			1122.22	-0.26	16.00	-0.0160	1122.48	
	176+00.00		(1149.10)	1149.10	0.77	16.00	0.0480	1148.33			186+75.00			1121.17	-0.26	16.00	-0.0160	1121.43	
	176+25.00		(1148.37)	1148.35	0.77	16.00	0.0480	1147.58			187+00.00			1120.08	-0.26	16.00	-0.0160	1120.34	
BEGIN SUPER TRANS.	176+34.89	222:1	(1148.10)	1148.05	0.77	16.00	0.0480	1147.28			187+25.00			1118.95	-0.26	16.00	-0.0160	1119.21	
	176+50.00	↕	(1147.68)	1147.67	0.84	16.00	0.0522	1146.83			187+50.00			1117.79	-0.26	16.00	-0.0160	1118.05	
	176+75.00		(1147.05)	1147.05	0.95	16.00	0.0593	1146.10			187+75.00			1116.58	-0.26	16.00	-0.0160	1116.84	
	176+69.89			1147.18	0.93	16.00	0.0578	1146.25			188+00.00			1115.35	-0.26	16.00	-0.0160	1115.61	
P.C.C.	176+75.89			1147.03	0.95	16.00	0.0595	1146.08			188+25.00			1114.07	-0.26	16.00	-0.0160	1114.33	
	17681.89			1146.89	0.98	16.00	0.0612	1145.91			188+50.00			1112.76	-0.26	16.00	-0.0160	1113.02	
	177+00.00	↕	(1146.45)	1146.46	1.06	16.00	0.0663	1145.40			188+75.00			1111.42	-0.26	16.00	-0.0160	1111.68	
END SUPER TRANS.	177+16.89	222:1	(1146.06)	1146.08	1.14	16.00	0.0710	1144.94			189+00.00			1110.04	-0.26	16.00	-0.0160	1110.29	
	177+25.00		(1145.85)	1145.86	1.14	16.00	0.0710	1144.72			189+25.00			1108.62	-0.26	16.00	-0.0160	1108.87	
	177+50.00		(1145.21)	1145.21	1.14	16.00	0.0710	1144.07		T.S. END NORMAL SECTION	189+46.69	202:1		1107.36	-0.26	16.00	-0.0160	1107.61	
	177+51.89			1145.16	1.14	16.00	0.0710	1144.02			189+50.00	↕		1107.14	-0.27	16.00	-0.0170	1107.42	
	177+75.00			1144.58	1.14	16.00	0.0710	1143.44			189+75.00			1105.55	-0.40	16.00	-0.0248	1105.94	

CONTINUED ON NEXT COLUMN

CONTINUED ON SHEET 714

CALCULATED JDL
CHECKED PRS

SUPERELEVATION TABLE

SUM-271-2.33

713
1195

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SUPERELEVATION TABLE

DESCRIPTION	RAMP B I.R. 77								
	BASELINE STATION	TRANSITION RATE	OUTSIDE E.O.P. ELEVATION (SEE NOTE 1)	LEFT E.O.P. ELEVATION	ELEVATION CORRECTION	WIDTH	CROSS SLOPE	PROFILE GRADE E.O.P. ELEVATION	OUTSIDE E.O.P. ELEVATION (SEE NOTE 1)
	CONTINUED FROM SHEET 713								
	190+00.00	↑		1103.95	-0.52	16.00	-0.0325	1104.47	
	190+25.00	|		1102.35	-0.64	16.00	-0.0403	1102.99	
	190+50.00	|		1100.75	-0.77	16.00	-0.0480	1101.52	
	190+75.00	|		1099.15	-0.89	16.00	-0.0558	1100.04	
	191+00.00	|		1097.55	-1.02	16.00	-0.0635	1098.57	
	191+25.00	↓		1095.95	-1.14	16.00	-0.0713	1097.09	
S.C. FULL SUPER	191+46.69	202:1		1094.56	-1.25	16.00	-0.0780	1095.81	
	191+50.00			1094.37	-1.25	16.00	-0.0780	1095.62	
	191+75.00			1092.89	-1.25	16.00	-0.0780	1094.14	
	192+00.00			1091.42	-1.25	16.00	-0.0780	1092.67	
	192+25.00			1089.94	-1.25	16.00	-0.0780	1091.19	
	192+50.00			1088.47	-1.25	16.00	-0.0780	1089.72	
	192+75.00			1086.99	-1.25	16.00	-0.0780	1088.24	
	193+00.00			1085.52	-1.25	16.00	-0.0780	1086.77	
	193+25.00			1084.04	-1.25	16.00	-0.0780	1085.29	
	193+50.00			1082.57	-1.25	16.00	-0.0780	1083.82	
	193+75.00			1081.09	-1.25	16.00	-0.0780	1082.34	
	194+00.00			1079.62	-1.25	16.00	-0.0780	1080.87	
	194+25.00			1078.17	-1.25	16.00	-0.0780	1079.42	
	194+50.00			1076.78	-1.25	16.00	-0.0780	1078.03	
	194+75.00			1075.45	-1.25	16.00	-0.0780	1076.70	
	195+00.00			1074.17	-1.25	16.00	-0.0780	1075.42	
	195+25.00			1072.95	-1.25	16.00	-0.0780	1074.20	
	195+50.00			1071.78	-1.25	16.00	-0.0780	1073.03	
	195+75.00			1070.66	-1.25	16.00	-0.0780	1071.91	
	196+00.00			1069.60	-1.25	16.00	-0.0780	1070.85	
	196+25.00			1068.59	-1.25	16.00	-0.0780	1069.84	
	196+50.00			1067.64	-1.25	16.00	-0.0780	1068.89	
	196+75.00			1066.74	-1.25	16.00	-0.0780	1067.99	
	197+00.00			1065.90	-1.25	16.00	-0.0780	1067.15	
	197+25.00			1065.11	-1.25	16.00	-0.0780	1066.36	
	197+50.00			1064.38	-1.25	16.00	-0.0780	1065.63	
	197+75.00			1063.70	-1.25	16.00	-0.0780	1064.95	
	198+00.00			1063.07	-1.25	16.00	-0.0780	1064.32	
	198+25.00			1062.50	-1.25	16.00	-0.0780	1063.75	
	198+50.00			1061.99	-1.25	16.00	-0.0780	1063.24	
	198+75.00			1061.53	-1.25	16.00	-0.0780	1062.78	
	199+00.00			1061.12	-1.25	16.00	-0.0780	1062.37	
	199+25.00			1060.77	-1.25	16.00	-0.0780	1062.02	
	199+50.00			1060.47	-1.25	16.00	-0.0780	1061.72	
	199+75.00			1060.23	-1.25	16.00	-0.0780	1061.48	
	200+00.00			1060.04	-1.25	16.00	-0.0780	1061.29	
	200+25.00			1059.91	-1.25	16.00	-0.0780	1061.16	
	200+50.00			1059.83	-1.25	16.00	-0.0780	1061.08	
	200+75.00			1059.80	-1.25	16.00	-0.0780	1061.05	
	201+00.00			1059.84	-1.25	16.00	-0.0780	1061.09	
	201+25.00			1059.92	-1.25	16.00	-0.0780	1061.17	
	201+50.00			1060.06	-1.25	16.00	-0.0780	1061.31	
	201+75.00			1060.22	-1.25	16.00	-0.0780	1061.47	
	202+00.00			1060.38	-1.25	16.00	-0.0780	1061.63	
	202+25.00			1060.55	-1.25	16.00	-0.0780	1061.80	
	202+50.00			1060.71	-1.25	16.00	-0.0780	1061.96	
	202+75.00			1060.87	-1.25	16.00	-0.0780	1062.12	
	CONTINUED ON NEXT COLUMN								

DESCRIPTION	RAMP B I.R. 77								
	BASELINE STATION	TRANSITION RATE	OUTSIDE E.O.P. ELEVATION (SEE NOTE 1)	LEFT E.O.P. ELEVATION	ELEVATION CORRECTION	WIDTH	CROSS SLOPE	PROFILE GRADE E.O.P. ELEVATION	OUTSIDE E.O.P. ELEVATION (SEE NOTE 1)
	203+00.00			1061.04	-1.25	16.00	-0.0780	1062.29	
	203+25.00			1061.20	-1.25	16.00	-0.0780	1062.45	
	203+50.00			1061.36	-1.25	16.00	-0.0780	1062.61	
	203+75.00			1061.52	-1.25	16.00	-0.0780	1062.77	
	204+00.00			1061.69	-1.25	16.00	-0.0780	1062.94	
	204+25.00			1061.85	-1.25	16.00	-0.0780	1063.10	
	204+50.00			1062.01	-1.25	16.00	-0.0780	1063.26	
	204+75.00			1062.17	-1.25	16.00	-0.0780	1063.42	
	205+00.00			1062.34	-1.25	16.00	-0.0780	1063.59	
C.S. FULL SUPER	205+07.97	345:1		1062.39	-1.25	16.00	-0.0780	1063.64	
	205+25.00	↑		1062.55	-1.20	16.00	-0.0749	1063.75	
	205+50.00	|		1062.78	-1.13	16.00	-0.0704	1063.91	
	205+75.00	|		1063.02	-1.05	16.00	-0.0659	1064.07	
	206+00.00	|		1063.26	-0.98	16.00	-0.0613	1064.24	
	206+25.00	|		1063.49	-0.91	16.00	-0.0568	1064.40	
	206+50.00	|		1063.72	-0.84	16.00	-0.0523	1064.56	
	206+75.00	|		1063.96	-0.76	16.00	-0.0477	1064.72	
	207+00.00	|		1064.20	-0.69	16.00	-0.0432	1064.89	
S.T.	207+07.97	|		1064.27	-0.67	16.00	-0.0418	1064.94	
	207+25.00	|		1064.43	-0.62	16.00	-0.0387	1065.05	
	207+50.00	|		1064.66	-0.55	16.00	-0.0342	1065.21	
	207+75.00	|		1064.91	-0.47	16.00	-0.0296	1065.38	
	208+00.00	|		1065.14	-0.40	16.00	-0.0251	1065.54	
	208+25.00	|		1065.37	-0.33	16.00	-0.0206	1065.70	
	208+50.00	|		1065.60	-0.26	16.00	-0.0161	1065.86	
	208+75.00	|		1065.85	-0.18	16.00	-0.0115	1066.03	
	209+00.00	|		1066.08	-0.11	16.00	-0.0070	1066.19	
	209+25.00	|		1066.31	-0.04	16.00	-0.0025	1066.35	
FLAT	209+38.53	|		1066.44	0.00	16.00	0.0000	1066.44	
	209+50.00	|		1066.54	0.03	16.00	0.0021	1066.51	
	209+75.00	|		1066.79	0.11	16.00	0.0066	1066.68	
	210+00.00	|		1067.02	0.18	16.00	0.0111	1066.84	
	210+25.00	|		1067.25	0.25	16.00	0.0156	1067.00	
	210+50.00	|		1067.48	0.32	16.00	0.0202	1067.16	
	210+75.00	|		1067.73	0.40	16.00	0.0247	1067.33	
	211+00.00	|		1067.96	0.47	16.00	0.0292	1067.49	
	211+25.00	|		1068.19	0.54	16.00	0.0338	1067.65	
	211+50.00	|		1068.42	0.61	16.00	0.0383	1067.81	
	211+75.00	|		1068.67	0.69	16.00	0.0428	1067.98	
T.S.	211+80.31	|		1068.71	0.70	16.00	0.0438	1068.01	
	212+00.00	|		1068.90	0.76	16.00	0.0473	1068.14	
	212+25.00	|		1069.13	0.83	16.00	0.0519	1068.30	
	212+50.00	|		1069.36	0.90	16.00	0.0564	1068.46	
	212+75.00	|		1069.60	0.97	16.00	0.0609	1068.63	
	213+00.00	|		1069.84	1.05	16.00	0.0655	1068.79	
	213+25.00	|		1070.07	1.12	16.00	0.0700	1068.95	
	213+50.00	|		1070.31	1.19	16.00	0.0745	1069.12	
	213+75.00	↓		1070.54	1.26	16.00	0.0790	1069.28	
S.C. FULL SUPER	213+80.31	345:1		1070.59	1.28	16.00	0.0800	1069.31	
	214+00.00			1070.72	1.28	16.00	0.0800	1069.44	
	214+25.00			1070.88	1.28	16.00	0.0800	1069.60	
	214+50.00			1071.05	1.28	16.00	0.0800	1069.77	
	214+75.00			1071.20	1.28	16.00	0.0800	1069.92	
	CONTINUED ON SHEET 715								

CALCULATED JDL
CHECKED PRS

SUPERELEVATION TABLE

SUM-271-2.33

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SUPERELEVATION TABLE

DESCRIPTION	RAMP B I.R. 77								
	BASELINE STATION	TRANSITION RATE	OUTSIDE E.O.P. ELEVATION (SEE NOTE 1)	LEFT E.O.P. ELEVATION	ELEVATION CORRECTION	WIDTH	CROSS SLOPE	PROFILE GRADE E.O.P. ELEVATION	OUTSIDE E.O.P. ELEVATION (SEE NOTE 1)
	CONTINUED FROM SHEET 714								
	215+00.00			1071.32	1.28	16.00	0.0800	1070.04	
	215+25.00			1071.42	1.28	16.00	0.0800	1070.14	
	215+50.00			1071.49	1.28	16.00	0.0800	1070.21	
	215+75.00			1071.54	1.28	16.00	0.0800	1070.26	
	216+00.00			1071.57	1.28	16.00	0.0800	1070.29	
	216+25.00			1071.57	1.28	16.00	0.0800	1070.29	
	216+50.00			1071.54	1.28	16.00	0.0800	1070.26	
	216+75.00			1071.49	1.28	16.00	0.0800	1070.21	
	217+00.00			1071.41	1.28	16.00	0.0800	1070.13	
	217+25.00			1071.31	1.28	16.00	0.0800	1070.03	
	217+50.00			1071.18	1.28	16.00	0.0800	1069.90	
	217+75.00			1071.04	1.28	16.00	0.0800	1069.76	
END FULL SUPER	217+99.30	213:1		1070.90	1.28	16.00	0.0800	1069.62	
	218+00.00	↑		1070.90	1.28	16.00	0.0798	1069.62	
	218+25.00	↕		1070.64	1.16	16.00	0.0725	1069.48	
	218+50.00	↓		1070.38	1.04	16.00	0.0651	1069.34	
END FULL DEPTH PVT.	218+56.90	213:1		1070.32	1.01	16.00	0.0631	1069.31	

CALCULATED JDL
CHECKED PRS

SUPERELEVATION TABLE

SUM-271-2.33

715
1195

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SUPERELEVATION TABLE

DESCRIPTION	RAMP C IR 77						
	BASELINE STATION	TRANSITION RATE	RIGHT E.O.P. ELEVATION	ELEVATION CORRECTION	WIDTH	CROSS SLOPE	PROFILE GRADE E.O.P. ELEVATION
(MATCH EXIST. PVT.)	186+00.00		1092.06	0.41	16.00	0.0256	1091.65
	186+25.00		1091.74	0.41	16.00	0.0257	1091.33
	186+50.00		1091.42	0.41	16.00	0.0258	1091.01
	186+75.00		1091.10	0.41	16.00	0.0259	1090.69
C.S. BEGIN SUPER TRANS.	186+94.67	234:1	1090.85	0.42	16.00	0.0260	1090.43
	187+00.00		1090.81	0.44	16.00	0.0274	1090.37
	187+25.00		1090.60	0.55	16.00	0.0342	1090.05
	187+50.00		1090.45	0.66	16.00	0.0409	1089.80
	187+75.00		1090.40	0.76	16.00	0.0477	1089.63
	188+00.00		1090.43	0.87	16.00	0.0544	1089.55
	188+25.00		1090.54	0.98	16.00	0.0612	1089.56
	188+50.00		1090.74	1.09	16.00	0.0679	1089.65
	188+75.00		1091.03	1.20	16.00	0.0747	1089.83
S.C. END SUPER TRANS.	188+94.67	234:1	1091.31	1.28	16.00	0.0800	1090.03
	189+00.00		1091.38	1.28	16.00	0.0800	1090.10
	189+25.00		1091.73	1.28	16.00	0.0800	1090.45
	189+50.00		1092.16	1.28	16.00	0.0800	1090.88
	189+75.00		1092.69	1.28	16.00	0.0800	1091.41
	190+00.00		1093.27	1.28	16.00	0.0800	1091.99
	190+25.00		1093.87	1.28	16.00	0.0800	1092.59
	190+50.00		1094.46	1.28	16.00	0.0800	1093.18
	190+75.00		1095.05	1.28	16.00	0.0800	1093.77
	191+00.00		1095.64	1.28	16.00	0.0800	1094.36
	191+25.00		1096.23	1.28	16.00	0.0800	1094.95
	191+50.00		1096.82	1.28	16.00	0.0800	1095.54
	191+75.00		1097.41	1.28	16.00	0.0800	1096.13
	192+00.00		1097.98	1.28	16.00	0.0800	1096.70
	192+25.00		1098.44	1.28	16.00	0.0800	1097.16
	192+50.00		1098.77	1.28	16.00	0.0800	1097.49
	192+75.00		1098.99	1.28	16.00	0.0800	1097.71
	193+00.00		1099.10	1.28	16.00	0.0800	1097.82
	193+25.00		1099.08	1.28	16.00	0.0800	1097.80
	193+50.00		1098.95	1.28	16.00	0.0800	1097.67
	193+75.00		1098.70	1.28	16.00	0.0800	1097.42
C.S. BEGIN SUPER TRANS.	193+76.34	431:1	1098.68	1.28	16.00	0.0800	1097.40
	194+00.00		1098.27	1.23	16.00	0.0766	1097.05
	194+25.00		1097.74	1.17	16.00	0.0729	1096.57
	194+50.00		1097.15	1.11	16.00	0.0693	1096.04
	194+75.00		1096.53	1.05	16.00	0.0657	1095.47
	195+00.00		1095.87	0.99	16.00	0.0621	1094.87
	195+25.00		1095.18	0.94	16.00	0.0584	1094.25
	195+50.00		1094.47	0.88	16.00	0.0548	1093.60
	195+75.00		1093.75	0.82	16.00	0.0512	1092.93
S.C. END SUPER TRANS.	195+76.34	431:1	1093.71	0.82	16.00	0.0510	1092.89
	196+00.00		1093.02	0.82	16.00	0.0510	1092.21
	196+25.00		1092.28	0.82	16.00	0.0510	1091.47
	196+50.00		1091.53	0.82	16.00	0.0510	1090.71
	196+75.00		1090.76	0.82	16.00	0.0510	1089.95
	197+00.00		1089.99	0.82	16.00	0.0510	1089.18
	197+25.00		1089.20	0.82	16.00	0.0510	1088.38
	197+50.00		1088.40	0.82	16.00	0.0510	1087.59
PT	197+75.00		1087.59	0.82	16.00	0.0510	1086.77
	198+00.00		1086.77	0.82	16.00	0.0510	1085.95
	198+25.00		1085.93	0.82	16.00	0.0510	1085.12
	198+48.32		1085.14	0.82	16.00	0.0510	1084.33

CALCULATED JDL
CHECKED PRS

SUPERELEVATION TABLE

SUM-271-2.33

716
1195

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SUPERELEVATION TABLE

NOTE 1: OUTSIDE E.O.P. ADJUSTED FOR ROUNDING OF GRADE AT BEGIN/END SUPERELEVATION TRANSITION

CALCULATED JDL | CHECKED PRS

DESCRIPTION	RAMP D IR 77 BASELINE STATION	TRANSITION RATE	OUTSIDE E.O.P. ELEVATION (SEE NOTE 1)	PROFILE GRADE E.O.P. ELEVATION	CROSS SLOPE	WIDTH	ELEVATION CORRECTION	RIGHT E.O.P. ELEVATION
T.S. MATCH EXIST. PVT.	170+34.29	317:1		1083.61	0.0356	16.00	0.57	1084.18
	170+50.00	↑		1083.32	0.0387	16.00	0.62	1083.94
	170+75.00	↕		1082.94	0.0436	16.00	0.70	1083.64
	171+00.00	↕		1082.63	0.0485	16.00	0.78	1083.40
	171+25.00	↕		1082.39	0.0535	16.00	0.86	1083.24
	171+50.00	↕		1082.22	0.0584	16.00	0.93	1083.16
	171+75.00	↕		1082.13	0.0633	16.00	1.01	1083.14
	172+00.00	↕		1082.11	0.0682	16.00	1.09	1083.20
	172+25.00	↓		1082.17	0.0732	16.00	1.17	1083.34
S.C. END SUPER TRANS.	172+34.29	317:1		1082.21	0.0750	16.00	1.20	1083.41
	172+50.00			1082.30	0.0750	16.00	1.20	1083.50
	172+75.00			1082.50	0.0750	16.00	1.20	1083.70
	173+00.00			1082.78	0.0750	16.00	1.20	1083.98
	173+25.00			1083.13	0.0750	16.00	1.20	1084.33
	173+50.00			1083.56	0.0750	16.00	1.20	1084.76
	173+75.00			1084.06	0.0750	16.00	1.20	1085.26
	174+00.00			1084.63	0.0750	16.00	1.20	1085.83
	174+25.00			1085.28	0.0750	16.00	1.20	1086.48
	174+50.00			1086.00	0.0750	16.00	1.20	1087.20
	174+75.00			1086.79	0.0750	16.00	1.20	1087.99
	175+00.00			1087.66	0.0750	16.00	1.20	1088.86
	175+25.00			1088.60	0.0750	16.00	1.20	1089.80
	175+50.00			1089.54	0.0750	16.00	1.20	1090.74
	175+75.00			1090.49	0.0750	16.00	1.20	1091.69
	176+00.00			1091.44	0.0750	16.00	1.20	1092.64
	176+25.00			1092.39	0.0750	16.00	1.20	1093.59
	176+50.00			1093.34	0.0750	16.00	1.20	1094.54
	176+75.00			1094.29	0.0750	16.00	1.20	1095.49
	177+00.00			1095.24	0.0750	16.00	1.20	1096.44
	177+25.00			1096.19	0.0750	16.00	1.20	1097.39
	177+50.00			1097.14	0.0750	16.00	1.20	1098.34
	177+75.00			1098.09	0.0750	16.00	1.20	1099.29
	178+00.00			1099.04	0.0750	16.00	1.20	1100.24
	178+25.00			1099.99	0.0750	16.00	1.20	1101.19
	178+50.00			1100.94	0.0750	16.00	1.20	1102.14
	178+75.00			1101.89	0.0750	16.00	1.20	1103.09
	179+00.00			1102.83	0.0750	16.00	1.20	1104.03
	179+25.00			1103.78	0.0750	16.00	1.20	1104.98
	179+50.00			1104.73	0.0750	16.00	1.20	1105.93
	179+75.00			1105.68	0.0750	16.00	1.20	1106.88
	180+00.00			1106.63	0.0750	16.00	1.20	1107.83
	180+25.00			1107.58	0.0750	16.00	1.20	1108.78
	180+50.00			1108.53	0.0750	16.00	1.20	1109.73
	180+75.00			1109.48	0.0750	16.00	1.20	1110.68
	181+00.00			1110.43	0.0750	16.00	1.20	1111.63
	181+25.00			1111.38	0.0750	16.00	1.20	1112.58
	181+50.00			1112.33	0.0750	16.00	1.20	1113.53
	181+75.00			1113.28	0.0750	16.00	1.20	1114.48
	182+00.00			1114.19	0.0750	16.00	1.20	1115.39
	182+25.00			1115.04	0.0750	16.00	1.20	1116.24
	182+50.00			1115.82	0.0750	16.00	1.20	1117.02
	182+75.00			1116.53	0.0750	16.00	1.20	1117.73
	183+00.00			1117.18	0.0750	16.00	1.20	1118.38
	183+25.00			1117.76	0.0750	16.00	1.20	1118.96
			CONTINUED ON NEXT COLUMN					

DESCRIPTION	RAMP D IR 77 BASELINE STATION	TRANSITION RATE	OUTSIDE E.O.P. ELEVATION (SEE NOTE 1)	PROFILE GRADE E.O.P. ELEVATION	CROSS SLOPE	WIDTH	ELEVATION CORRECTION	RIGHT E.O.P. ELEVATION
	183+50.00			1118.27	0.0750	16.00	1.20	1119.47
	183+75.00			1118.71	0.0750	16.00	1.20	1119.91
	184+00.00			1119.09	0.0750	16.00	1.20	1120.29
	184+25.00			1119.40	0.0750	16.00	1.20	1120.60
	184+50.00			1119.64	0.0750	16.00	1.20	1120.84
	184+75.00			1119.82	0.0750	16.00	1.20	1121.02
	185+00.00			1119.92	0.0750	16.00	1.20	1121.12
	185+25.00			1119.96	0.0750	16.00	1.20	1121.16
	185+50.00			1119.93	0.0750	16.00	1.20	1121.13
C.S. BEGIN SUPER TRANS.	185+50.82	167:1		1119.93	0.0750	16.00	1.20	1121.13
	185+75.00	↕		1119.84	0.0659	16.00	1.05	1120.89
	186+00.00	↕		1119.68	0.0566	16.00	0.90	1120.58
	186+25.00	↕		1119.45	0.0472	16.00	0.75	1120.20
	186+50.00	↕		1119.15	0.0378	16.00	0.60	1119.75
	186+75.00	↕		1118.78	0.0284	16.00	0.45	1119.24
	187+00.00	↕		1118.39	0.0191	16.00	0.30	1118.69
	187+15.82	↕		1118.13	0.0131	16.00	0.21	1118.34
	187+25.00	↓	(1117.98)	1117.98	0.0097	16.00	0.15	1118.14
	187+50.00	167:1	(1117.52)	1117.57	0.0003	16.00	0.00	1117.57
S.T. FLAT	187+50.82		(1117.53)	1117.58	0.0000	16.00	0.00	1117.58
	187+75.00	250:1	(1117.07)	1117.08	-0.0060	16.00	-0.10	1116.98
	187+85.82	↕	(1116.84)	1116.84	-0.0088	16.00	-0.14	1116.70
	187+91.82	↕	(1116.70)	1116.70	-0.0103	16.00	-0.16	1116.54
	188+00.00	↕	(1116.51)	1116.52	-0.0123	16.00	-0.20	1116.32
	188+25.00	↕	(1115.83)	1115.89	-0.0185	16.00	-0.30	1115.59
NORMAL SECTION	188+26.82	250:1	(1115.78)	1115.84	-0.0190	16.00	-0.30	1115.54
	188+50.00		(1115.15)	1115.16	-0.0190	16.00	-0.30	1114.85
	188+61.82			1114.80	-0.0190	16.00	-0.30	1114.50
	188+75.00			1114.41	-0.0190	16.00	-0.30	1114.11
	189+00.00			1113.68	-0.0190	16.00	-0.30	1113.37
	189+25.00			1112.94	-0.0190	16.00	-0.30	1112.64
	189+50.00			1112.21	-0.0190	16.00	-0.30	1111.90
	189+75.00			1111.47	-0.0190	16.00	-0.30	1111.17
	190+00.00			1110.75	-0.0190	16.00	-0.30	1110.44
	190+25.00			1110.02	-0.0190	16.00	-0.30	1109.71
NORMAL RAMP WIDTH	190+36.47			1109.69	-0.0190	16.00	-0.30	1109.38
	190+50.00			1109.29	-0.0190	15.42	-0.29	1109.00
	190+75.00			1108.57	-0.0190	14.46	-0.27	1108.30
	191+00.00			1107.85	-0.0190	13.66	-0.26	1107.59
	191+25.00			1107.14	-0.0190	13.01	-0.25	1106.89
	191+29.74			1107.00	-0.0190	12.91	-0.25	1106.76
	191+50.00		(1106.44)	1106.42	-0.0190	12.53	-0.24	1106.19
END NORMAL SECTON	191+64.74	250:1	(1106.06)	1106.01	-0.0190	12.31	-0.23	1105.77
	191+75.00	↑	(1105.78)	1105.76	-0.0224	12.20	-0.27	1105.48
	191+99.74	↕		1105.19	-0.0307	12.04	-0.37	1104.82
	192+00.00	↕		1105.18	-0.0308	12.03	-0.37	1104.81
PC BK	192+14.84	↕		1104.84	-0.0357	12.00	-0.43	1104.42
AH	192+14.95	↕		1104.84	-0.0357	12.00	-0.43	1104.42
	192+25.00	↕		1104.61	-0.0390	12.00	-0.47	1104.14
	192+50.00	↓		1104.03	-0.0474	12.00	-0.57	1103.46
FULL SUPER	192+60.85	250:1		1103.78	-0.0510	12.00	-0.61	1103.16

SUPERELEVATION TABLE

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SUPERELEVATION TABLE

NOTE 1: OUTSIDE E.O.P. ADJUSTED FOR ROUNDING OF GRADE AT BEGIN/END SUPERELEVATION TRANSITION

DESCRIPTION	RAMP E SR 303											
	BASELINE STATION	TRANSITION RATE	LEFT E.O.P. ELEVATION	ELEVATION CORRECTION	WIDTH	CROSS SLOPE	PROFILE GRADE E.O.P. ELEVATION	OUTSIDE E.O.P. ELEVATION (SEE NOTE 1)	CROSS SLOPE	WIDTH	ELEVATION CORRECTION	RIGHT E.O.P. ELEVATION
	299+30.29		1106.16	-0.41	8.13	-0.0510	1106.58					
END M.L. FULL SUPER	299+47.29		1106.30	-0.53	10.30	-0.0510	1106.82	(1106.79)				
	299+50.00		1106.32	-0.54	10.65	-0.0505	1106.86	(1106.82)				
BEGIN RAMP SUPER TRANS.	299+65.29	250:1	1106.44	-0.58	12.00	-0.0480	1107.02	(1106.89)				
	299+75.00	↑	1106.50	-0.54	12.00	-0.0448	1107.04	(1106.97)				
	300+00.00		1106.63	-0.44	12.00	-0.0364	1107.07	(1107.07)				
	300+00.29		1106.64	-0.44	12.00	-0.0363	1107.07					
	300+25.00		1106.75	-0.34	12.00	-0.0281	1107.09					
	300+50.00		1106.85	-0.24	12.00	-0.0198	1107.09					
	300+75.00		1106.94	-0.14	12.00	-0.0114	1107.08					
	301+00.00		1107.02	-0.04	12.00	-0.0031	1107.06					
FLAT	301+09.29		1107.04	0.00	12.00	0.0000	1107.04					
	301+25.00		1107.08	0.06	12.00	0.0052	1107.02					
	301+50.00		1107.13	0.16	12.00	0.0136	1106.97					
P.C.	301+88.49		1107.18	0.32	12.00	0.0264	1106.87					
	302+00.00		1107.19	0.36	12.02	0.0302	1106.83					
	302+18.29		1107.20	0.44	12.11	0.0363	1106.76					
	302+25.00		1107.20	0.47	12.16	0.0386	1106.73	(1106.74)				
	302+50.00		1107.22	0.58	12.46	0.0469	1106.63	(1106.67)				
FULL RAMP SUPER	302+53.29	250:1	1107.22	0.60	12.51	0.0480	1106.62	(1106.67)				
	302+75.00		1107.27	0.62	12.92	0.0480	1106.65	(1106.66)				
	302+88.29		1107.31	0.63	13.22	0.0480	1106.68					
	303+00.00		1107.32	0.65	13.52	0.0480	1106.67					
	303+25.00		1107.38	0.69	14.28	0.0480	1106.69					
	303+50.00		1107.45	0.73	15.20	0.0480	1106.72					
NORMAL RAMP WIDTH	303+69.10		1107.48	0.77	16.00	0.0480	1106.71					
	303+75.00		1107.47	0.77	16.00	0.0480	1106.70					
	304+00.00		1107.47	0.77	16.00	0.0480	1106.70					
	304+25.00		1107.45	0.77	16.00	0.0480	1106.69					
	304+50.00		1107.42	0.77	16.00	0.0480	1106.65					
	304+75.00		1107.37	0.77	16.00	0.0480	1106.61					
	305+00.00		1107.31	0.77	16.00	0.0480	1106.54					
	305+25.00		1107.23	0.77	16.00	0.0480	1106.46					
	305+50.00		1107.13	0.77	16.00	0.0480	1106.37					
	305+75.00		1107.02	0.77	16.00	0.0480	1106.26					
	306+00.00		1106.90	0.77	16.00	0.0480	1106.13					
	306+25.00		1106.76	0.77	16.00	0.0480	1105.99					
	306+50.00		1106.60	0.77	16.00	0.0480	1105.83					
	306+75.00		1106.43	0.77	16.00	0.0480	1105.66					
C.S. BEGIN SUPER TRANS.	306+57.93	391:1	1106.55	0.77	16.00	0.0480	1105.78					
	306+75.00	↑	1106.48	0.81	16.00	0.0507	1105.66					
	307+00.00		1106.37	0.88	16.00	0.0547	1105.49					
	307+25.00		1106.24	0.94	16.00	0.0587	1105.30					
	307+50.00		1106.11	1.00	16.00	0.0627	1105.10					
	307+75.00		1105.96	1.07	16.00	0.0667	1104.89					
	308+00.00		1105.79	1.13	16.00	0.0707	1104.66					
	308+25.00		1105.62	1.20	16.00	0.0747	1104.42					
	308+50.00	↓	1105.42	1.26	16.00	0.0787	1104.17					
S.C. END SUPER TRANS.	308+57.93	391:1	1105.36	1.28	16.00	0.0800	1104.08					
	308+75.00		1105.18	1.28	16.00	0.0800	1103.90					
	309+00.00		1104.90	1.28	16.00	0.0800	1103.62					
	309+25.00		1104.60	1.28	16.00	0.0800	1103.32					
	309+50.00		1104.31	1.28	16.00	0.0800	1103.03					
	309+75.00		1104.03	1.28	16.00	0.0800	1102.75					
				CONTINUED ON SHEET 719								

CALCULATED JDL
CHECKED PRS

SUPERELEVATION TABLE

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SUPERELEVATION TABLE

NOTE 1: OUTSIDE E.O.P. ADJUSTED FOR ROUNDING OF GRADE AT BEGIN/END SUPERELEVATION TRANSITION

CALCULATED JDL | CHECKED PRS

DESCRIPTION	RAMP E SR 303											
	BASELINE STATION	TRANSITION RATE	LEFT E.O.P. ELEVATION	ELEVATION CORRECTION	WIDTH	CROSS SLOPE	PROFILE GRADE E.O.P. ELEVATION	OUTSIDE E.O.P. ELEVATION (SEE NOTE 1)	CROSS SLOPE	WIDTH	ELEVATION CORRECTION	RIGHT E.O.P. ELEVATION
	CONTINUED FROM SHEET											
	310+00.00		1103.77	1.28	16.00	0.0800	1102.49					
	310+25.00		1103.53	1.28	16.00	0.0800	1102.25					
C.S. BEGIN SUPER TRANS.	310+28.40	205:1	1103.50	1.28	16.00	0.0800	1102.22					
	310+50.00	↑	1103.20	1.17	16.00	0.0734	1102.02					
	310+75.00		1102.87	1.05	16.00	0.0658	1101.81					
	311+00.00		1102.55	0.93	16.00	0.0582	1101.62					
	311+25.00		1102.26	0.81	16.00	0.0506	1101.45					
	311+50.00		1101.98	0.69	16.00	0.0429	1101.29					
	311+75.00		1101.71	0.57	16.00	0.0353	1101.15					
	312+00.00		1101.47	0.44	16.00	0.0277	1101.02					
	312+25.00	↓	1101.24	0.32	16.00	0.0201	1100.92					
S.T. END SUPER TRANS.	312+38.40	205:1	1101.12	0.26	16.00	0.0160	1100.87					
	312+50.00		1101.08	0.26	16.00	0.0160	1100.83					
END NORMAL SECTION	312+57.12	164:1	1101.06	0.26	16.00	0.0160	1100.80					
	312+75.00	↑	1100.90	0.15	16.00	0.0092	1100.75					
T.S. FLAT	312+99.02		1100.70	0.00	16.00	0.0000	1100.70					
	313+00.00		1100.69	-0.01	16.00	-0.0004	1100.70					
	313+25.00		1100.50	-0.16	16.00	-0.0099	1100.66					
	313+50.00		1100.33	-0.31	16.00	-0.0194	1100.64					
	313+75.00		1100.17	-0.46	16.00	-0.0289	1100.63					
	314+00.00		1100.03	-0.62	16.00	-0.0385	1100.64					
	314+25.00		1099.90	-0.77	16.00	-0.0480	1100.67					
	314+50.00		1099.80	-0.92	16.00	-0.0575	1100.72					
	314+75.00		1099.71	-1.07	16.00	-0.0670	1100.78					
	315+00.00	↓	1099.62	-1.23	16.00	-0.0766	1100.85					
S.C. END SUPER TRANS.	315+09.02	164:1	1099.59	-1.28	16.00	-0.0800	1100.87					
	315+25.00		1099.64	-1.28	16.00	-0.0800	1100.92					
	315+50.00		1099.71	-1.28	16.00	-0.0800	1100.99					
	315+75.00		1099.78	-1.28	16.00	-0.0800	1101.06					
	316+00.00		1099.85	-1.28	16.00	-0.0800	1101.13					
	316+25.00		1099.92	-1.28	16.00	-0.0800	1101.20					
	316+50.00		1099.99	-1.28	16.00	-0.0800	1101.27					
	316+75.00		1100.06	-1.28	16.00	-0.0800	1101.34					
	317+00.00		1100.14	-1.28	16.00	-0.0800	1101.42					
END FULL SUPER	317+20.16	161:1	1100.19	-1.28	16.00	-0.0800	1101.47					
	317+25.00	↑	1100.24	-1.25	16.00	-0.0781	1101.49					
	317+50.00		1100.46	-1.09	16.00	-0.0684	1101.56					
BEGIN RAMP WIDENING	317+70.00		1100.64	-0.97	16.00	-0.0607	1101.61		0.0607	0.00	0.00	1101.61
	317+75.00		1100.69	-0.94	16.00	-0.0587	1101.63		0.0587	0.80	0.05	1101.68
PT	318+04.32		1100.97	-0.76	16.00	-0.0473	1101.72		0.0473	5.49	0.26	1101.98
END RAMP WIDENING	318+20.00		1101.13	-0.66	16.00	-0.0412	1101.79		0.0412	8.00	0.33	1102.12
	318+25.00		1101.19	-0.63	16.00	-0.0393	1101.81		0.0393	8.00	0.31	1102.12
	318+50.00		1101.47	-0.47	16.00	-0.0296	1101.95		0.0296	8.00	0.24	1102.19
	318+75.00		1101.79	-0.32	16.00	-0.0199	1102.11		0.0199	8.00	0.16	1102.27
	319+00.00		1102.14	-0.16	16.00	-0.0102	1102.30		0.0102	8.00	0.08	1102.38
	319+25.00		1102.51	-0.01	16.00	-0.0005	1102.52		0.0005	8.00	0.00	1102.52
FLAT	319+26.24		1102.53	0.00	16.00	0.0000	1102.53		0.0000	8.00	0.00	1102.53
	319+50.00		1102.89	0.15	16.00	0.0092	1102.74		-0.0092	8.00	-0.07	1102.67
NORMAL SECTION	319+67.46	161:1	1103.15	0.26	16.00	0.0160	1102.90		-0.0160	8.00	-0.13	1102.77
	319+75.00		1103.27	0.30	16.00	0.0189	1102.97		-0.0189	8.00	-0.15	1102.82
	320+00.00		1103.65	0.46	16.00	0.0286	1103.19		-0.0286	8.00	-0.23	1102.96
	320+25.00		1104.06	0.61	16.00	0.0383	1103.45		-0.0383	8.00	-0.31	1103.14
MATCH S.R. 303 E.O.P.	320+31.86		1104.22	0.66	16.00	0.0410	1103.56		-0.0410	8.00	-0.33	1103.23

SUPERELEVATION TABLE

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SUPERELEVATION TABLE

NOTE 1: OUTSIDE E.O.P. ADJUSTED FOR ROUNDING OF GRADE AT BEGIN/END SUPERELEVATION TRANSITION

CALCULATED JDL | CHECKED PRS

DESCRIPTION	RAMP F SR 303 BASELINE STATION	TRANSITION RATE	OUTSIDE E.O.P. ELEVATION (SEE NOTE 1)	PROFILE GRADE E.O.P. ELEVATION	CROSS SLOPE	WIDTH	ELEVATION CORRECTION	RIGHT E.O.P. ELEVATION
P.O.T. NORMAL SECTION	300+87.68	250:1		1112.95	0.0276	16.00	0.44	1113.39
	301+00.00	↕		1113.02	0.0255	16.00	0.41	1113.43
	301+22.29			1113.13	0.0218	16.00	0.35	1113.48
	301+25.00		(1113.14)	1113.14	0.0214	16.00	0.34	1113.48
	301+50.00		(1113.22)	1113.25	0.0172	16.00	0.28	1113.53
BEGIN NORMAL RAMP SECTION	301+57.29	250:1	(1113.24)	1113.28	0.0160	16.00	0.26	1113.54
	301+75.00		(1113.27)	1113.28	0.0160	16.00	0.26	1113.54
	301+92.29			1113.27	0.0160	16.00	0.26	1113.53
	302+00.00			1113.27	0.0160	16.00	0.26	1113.52
	302+25.00			1113.24	0.0160	16.00	0.26	1113.49
	302+50.00			1113.16	0.0160	16.00	0.26	1113.42
	302+75.00			1113.05	0.0160	16.00	0.26	1113.31
	303+00.00			1112.90	0.0160	16.00	0.26	1113.15
	303+02.68			1112.88	0.0160	16.00	0.26	1113.13
	303+25.00			1112.72	0.0160	16.00	0.26	1112.98
T.S. END NORMAL SECTION	303+37.68	198:1	(1112.70)	1112.63	0.0160	16.00	0.26	1112.88
	303+50.00	↕	(1112.57)	1112.47	0.0199	16.00	0.32	1112.79
	303+72.68		(1112.44)	1112.17	0.0270	16.00	0.43	1112.60
	303+75.00			1112.14	0.0278	16.00	0.44	1112.58
	304+00.00			1111.79	0.0356	16.00	0.57	1112.36
	304+25.00			1111.47	0.0435	16.00	0.70	1112.17
	304+50.00			1111.00	0.0514	16.00	0.82	1111.83
	304+75.00			1110.48	0.0593	16.00	0.95	1111.43
	304+76.05			1110.46	0.0596	16.00	0.95	1111.41
	305+00.00			1109.89	0.0671	16.00	1.07	1110.96
	305+25.00		(1109.89)	1109.25	0.0750	16.00	1.20	1110.45
	305+26.05		(1109.28)	1109.23	0.0753	16.00	1.21	1110.43
S.C. FULL SUPER	305+37.68	198:1	(1109.26)	1108.95	0.0790	16.00	1.26	1110.21
	305+50.00		(1108.97)	1108.71	0.0790	16.00	1.26	1109.97
	305+75.00		(1108.70)	1108.20	0.0790	16.00	1.26	1109.46
	305+76.05		(1108.20)	1108.18	0.0790	16.00	1.26	1109.44
	306+00.00			1107.72	0.0790	16.00	1.26	1108.99
	306+25.00			1107.29	0.0790	16.00	1.26	1108.56
	306+50.00			1106.91	0.0790	16.00	1.26	1108.17
	306+75.00			1106.58	0.0790	16.00	1.26	1107.84
	307+00.00			1106.29	0.0790	16.00	1.26	1107.55
	307+25.00			1106.05	0.0790	16.00	1.26	1107.32
	307+50.00			1105.86	0.0790	16.00	1.26	1107.13
C.S. END FULL SUPER	308+18.80	198:1		1105.59	0.0790	16.00	1.26	1106.85
	308+25.00	↕		1105.58	0.0770	16.00	1.23	1106.81
	308+50.00			1105.56	0.0692	16.00	1.11	1106.66
	308+75.00			1105.56	0.0613	16.00	0.98	1106.54
	309+00.00			1105.58	0.0534	16.00	0.85	1106.44
	309+25.00			1105.63	0.0455	16.00	0.73	1106.36
	309+50.00			1105.69	0.0377	16.00	0.60	1106.30
	309+75.00			1105.78	0.0298	16.00	0.48	1106.26
	310+00.00			1105.89	0.0219	16.00	0.35	1106.25
S.C. FULL SUPER	310+18.80	198:1		1105.99	0.0160	16.00	0.26	1106.25
	310+25.00			1106.03	0.0160	16.00	0.26	1106.28

CONTINUED ON NEXT COLUMN

DESCRIPTION	RAMP F SR 303 BASELINE STATION	TRANSITION RATE	OUTSIDE E.O.P. ELEVATION (SEE NOTE 1)	PROFILE GRADE E.O.P. ELEVATION	CROSS SLOPE	WIDTH	ELEVATION CORRECTION	RIGHT E.O.P. ELEVATION
END NORMAL SECTION	310+36.32	161:1		1106.09	0.0160	16.00	0.26	1106.35
	310+50.00	↕		1106.18	0.0107	16.00	0.17	1106.35
	310+75.00			1106.36	0.0010	16.00	0.02	1106.37
FLAT	310+77.54			1106.38	0.0000	16.00	0.00	1106.38
	311+00.00			1106.56	-0.0087	16.00	-0.14	1106.42
	311+25.00			1106.78	-0.0184	16.00	-0.29	1106.48
	311+50.00			1107.02	-0.0281	16.00	-0.45	1106.57
	311+75.00			1107.29	-0.0378	16.00	-0.61	1106.68
	312+00.00			1107.57	-0.0475	16.00	-0.76	1106.81
PC	312+21.80			1107.84	-0.0560	16.00	-0.90	1106.94
	312+25.00			1107.88	-0.0572	16.00	-0.92	1106.97
	312+50.00			1108.21	-0.0669	16.00	-1.07	1107.14
	312+75.00	↕		1108.56	-0.0767	16.00	-1.23	1107.34
FULL SUPER	312+83.62	161:1		1108.69	-0.0800	16.00	-1.28	1107.41
	313+00.00			1108.93	-0.0800	16.00	-1.28	1107.65
END FULL SUPER	313+11.90	161:1		1109.10	-0.0800	16.00	-1.28	1107.82
	313+25.00	↕		1109.29	-0.0749	16.00	-1.20	1108.09
	313+50.00			1109.65	-0.0652	16.00	-1.04	1108.61
PT	313+73.72			1110.00	-0.0560	16.00	-0.90	1109.10
	313+75.00			1110.02	-0.0555	16.00	-0.89	1109.13
	314+00.00			1110.38	-0.0458	16.00	-0.73	1109.65
	314+25.00			1110.74	-0.0361	16.00	-0.58	1110.17
	314+50.00	↕		1111.11	-0.0264	16.00	-0.42	1110.69
NORMAL SECTION	314+76.76	161:1		1111.66	-0.0160	16.00	-0.26	1111.40
	315+00.00			1112.13	-0.0160	16.00	-0.26	1111.88
	315+25.00			1112.88	-0.0160	16.00	-0.26	1112.63
	315+50.00	161:1		1113.63	-0.0160	16.00	-0.26	1113.38
MACTH S.R. 303 E.O.P.	315+67.02	161:1		1114.21	-0.0213	16.00	-0.34	1113.87

SUPERELEVATION TABLE

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SUPERELEVATION TABLE

NOTE 1: OUTSIDE E.O.P. ADJUSTED FOR ROUNDING OF GRADE AT BEGIN/END SUPERELEVATION TRANSITION

DESCRIPTION	RAMP G SR 303											
	BASELINE STATION	TRANSITION RATE	LEFT E.O.P. ELEVATION	ELEVATION CORRECTION	WIDTH	CROSS SLOPE	OUTSIDE E.O.P. ELEVATION (SEE NOTE 1)	PROFILE GRADE E.O.P. ELEVATION	CROSS SLOPE	WIDTH	ELEVATION CORRECTION	RIGHT E.O.P. ELEVATION
MATCH S.R. 303 E.O.P.	304+05.61		1113.35	-0.13	8.00	-0.0160		1113.48	0.0160	16.00	0.26	1113.74
	304+25.00		1112.84	-0.13	8.00	-0.0160		1112.97	0.0160	16.00	0.26	1113.23
	304+50.00		1112.12	-0.13	8.00	-0.0160		1112.25	0.0160	16.00	0.26	1112.50
	304+75.00		1111.39	-0.13	8.00	-0.0160		1111.52	0.0160	16.00	0.26	1111.78
	305+00.00		1110.87	-0.13	8.00	-0.0160		1111.00	0.0160	16.00	0.26	1111.26
END NORMAL SECTION	305+04.21	152:1	1110.73	-0.13	8.00	-0.0160		1110.86	0.0160	16.00	0.26	1111.11
	305+25.00	↑	1109.94	-0.20	8.00	-0.0245		1110.14	0.0245	16.00	0.39	1110.54
	305+50.00	↕	1109.12	-0.28	8.00	-0.0348		1109.40	0.0348	16.00	0.56	1109.96
	305+75.00	↕	1108.30	-0.36	8.00	-0.0451		1108.66	0.0451	16.00	0.72	1109.38
END RAMP WIDENING	305+80.00	↕	1108.13	-0.38	8.00	-0.0472		1108.51	0.0472	16.00	0.75	1109.26
	306+00.00	↕	1107.64	-0.27	4.80	-0.0554		1107.91	0.0554	16.00	0.89	1108.80
P.C.	306+01.36	↕	1107.61	-0.26	4.58	-0.0559		1107.87	0.0559	16.00	0.90	1108.76
	306+25.00	↕	1107.04	-0.05	0.80	-0.0657		1107.09	0.0657	16.00	1.05	1108.14
BEGIN RAMP WIDENING	306+30.00	↕	1106.92	0.00	0.00	-0.0677		1106.92	0.0677	16.00	1.08	1108.00
	306+50.00	↓						1106.25	0.0759	16.00	1.22	1107.47
FULL SUPER	306+59.86	152:1						1106.04	0.0800	16.00	1.28	1107.32
	306+75.00							1105.71	0.0800	16.00	1.28	1106.99
	307+00.00							1105.48	0.0800	16.00	1.28	1106.76
	307+25.00							1105.30	0.0800	16.00	1.28	1106.58
	307+50.00							1105.16	0.0800	16.00	1.28	1106.44
	307+75.00							1105.05	0.0800	16.00	1.28	1106.33
	308+00.00							1104.94	0.0800	16.00	1.28	1106.22
	308+25.00							1104.83	0.0800	16.00	1.28	1106.11
	308+50.00							1104.72	0.0800	16.00	1.28	1106.00
	308+75.00							1104.45	0.0800	16.00	1.28	1105.73
	309+00.00							1104.13	0.0800	16.00	1.28	1105.41
	309+25.00							1103.81	0.0800	16.00	1.28	1105.09
	309+50.00							1103.49	0.0800	16.00	1.28	1104.77
	309+75.00							1103.17	0.0800	16.00	1.28	1104.45
	310+00.00							1102.85	0.0800	16.00	1.28	1104.13
	310+25.00							1102.53	0.0800	16.00	1.28	1103.81
	310+50.00							1102.21	0.0800	16.00	1.28	1103.49
	310+75.00							1101.89	0.0800	16.00	1.28	1103.17
	311+00.00							1101.57	0.0800	16.00	1.28	1102.85
	311+25.00							1101.26	0.0800	16.00	1.28	1102.54
	311+50.00							1100.94	0.0800	16.00	1.28	1102.22
C.S. BEGIN SUPER TRANS.	311+42.05	391:1						1101.04	0.0800	16.00	1.28	1102.32
	311+50.00	↑						1100.94	0.0787	16.00	1.26	1102.20
	311+75.00	↕						1100.62	0.0747	16.00	1.20	1101.81
	312+00.00	↕						1100.30	0.0707	16.00	1.13	1101.43
	312+25.00	↕						1099.98	0.0667	16.00	1.07	1101.05
	312+50.00	↕						1099.66	0.0627	16.00	1.00	1100.66
	312+75.00	↕						1099.34	0.0587	16.00	0.94	1100.28
	313+00.00	↕						1099.02	0.0547	16.00	0.88	1099.89
	313+25.00	↓						1098.70	0.0507	16.00	0.81	1099.51
S.C. END SUPER TRANSITION	313+42.05	391:1						1098.48	0.0480	16.00	0.77	1099.25
	313+50.00							1098.38	0.0480	16.00	0.77	1099.15
	313+75.00							1098.06	0.0480	16.00	0.77	1098.83
	314+00.00							1097.73	0.0480	16.00	0.77	1098.50
	314+25.00							1097.41	0.0480	16.00	0.77	1098.18
	314+50.00							1097.08	0.0480	16.00	0.77	1097.85
	314+75.00							1096.75	0.0480	16.00	0.77	1097.51
	315+00.00							1096.41	0.0480	16.00	0.77	1097.18
	315+25.00							1096.07	0.0480	16.00	0.77	1096.84

CONTINUED ON SHEET 722

CALCULATED JDL
CHECKED PRS

SUPERELEVATION TABLE

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SUPERELEVATION TABLE

NOTE 1: OUTSIDE E.O.P. ADJUSTED FOR ROUNDING OF GRADE AT BEGIN/END SUPERELEVATION TRANSITION

DESCRIPTION	RAMP G SR 303											
	BASELINE STATION	TRANSITION RATE	LEFT E.O.P. ELEVATION	ELEVATION CORRECTION	WIDTH	CROSS SLOPE	OUTSIDE E.O.P. ELEVATION (SEE NOTE 1)	PROFILE GRADE E.O.P. ELEVATION	CROSS SLOPE	WIDTH	ELEVATION CORRECTION	RIGHT E.O.P. ELEVATION
	315+50.00							1095.72	0.0480	16.00	0.77	1096.48
	315+75.00							1095.36	0.0480	16.00	0.77	1096.13
	316+00.00							1095.00	0.0480	16.00	0.77	1095.76
	316+25.00							1094.63	0.0480	16.00	0.77	1095.40
NORMAL RAMP WIDTH	316+30.53							1094.56	0.0480	16.00	0.77	1095.33
	316+50.00							1094.29	0.0480	15.18	0.73	1095.02
	316+75.00							1093.95	0.0480	14.27	0.69	1094.64
	317+00.00							1093.60	0.0480	13.51	0.65	1094.25
	317+25.00							1093.25	0.0480	12.91	0.62	1093.87
	317+32.93							1093.14	0.0480	12.75	0.61	1093.75
	317+50.00						(1092.89)	1092.89	0.0480	12.46	0.60	1093.49
END FULL SUPER	317+67.93	250:1					(1092.65)	1092.62	0.0480	12.23	0.59	1093.21
	317+75.00	↕					(1092.56)	1092.55	0.0456	12.16	0.56	1093.10
	318+00.00	↕					(1092.27)	1092.27	0.0373	12.02	0.45	1092.72
	318+02.93	↕						1092.24	0.0363	12.01	0.44	1092.67
P.T.	318+11.13	↕						1092.14	0.0336	12.00	0.40	1092.55
	318+25.00	↕						1091.99	0.0290	12.00	0.35	1092.34
	318+28.93	↕						1091.94	0.0277	12.00	0.33	1092.28
	318+50.00	↕					(1091.69)	1091.71	0.0206	12.00	0.25	1091.95
NORMAL SECTION	318+63.93	250:1					(1091.51)	1091.55	0.0160	12.00	0.19	1091.74
	318+75.00						(1091.36)	1091.38	0.0160	12.00	0.19	1091.57
	318+98.93							1091.01	0.0160	12.00	0.19	1091.21
	319+00.00							1091.00	0.0160	12.00	0.19	1091.19
	319+25.00							1090.62	0.0160	12.00	0.19	1090.81
	319+50.00							1090.23	0.0160	12.00	0.19	1090.42
	319+75.00							1089.85	0.0160	12.00	0.19	1090.04
	320+00.00							1089.47	0.0160	12.00	0.19	1089.66
	320+25.00							1089.09	0.0160	12.00	0.19	1089.28
P.O.T.	320+46.93							1088.75	0.0160	12.00	0.19	1088.94

CALCULATED JDL
CHECKED PRS

SUPERELEVATION TABLE

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SUPERELEVATION TABLE

NOTE 1: OUTSIDE E.O.P. ADJUSTED FOR ROUNDING OF GRADE AT BEGIN/END SUPERELEVATION TRANSITION

DESCRIPTION	RAMP H SR 303							
	BASELINE STATION	TRANSITION RATE	LEFT E.O.P. ELEVATION	ELEVATION CORRECTION	WIDTH	CROSS SLOPE	PROFILE GRADE E.O.P. ELEVATION	OUTSIDE E.O.P. ELEVATION (SEE NOTE 1)
MATCH S.R. 303 E.O.P.	304+00.88		1104.61	-0.60	16.00	-0.0375	1105.21	
	304+25.00		1104.05	-0.43	16.00	-0.0271	1104.49	
	304+50.00		1103.56	-0.26	16.00	-0.0163	1103.82	
	304+75.00		1103.07	-0.09	16.00	-0.0056	1103.16	
FLAT	304+90.12		1102.96	0.00	16.00	0.0000	1102.96	
	305+00.00		1102.64	0.08	16.00	0.0052	1102.55	
END NORMAL SECTION	305+25.00		1102.20	0.26	16.00	0.0160	1101.95	
	305+28.19	155:1	1102.13	0.26	16.00	0.0160	1101.87	
	305+50.00	↑	1101.77	0.40	16.00	0.0248	1101.37	
	305+75.00		1101.39	0.56	16.00	0.0349	1100.83	
	306+00.00		1101.03	0.72	16.00	0.0450	1100.31	
P.C.	306+25.00		1100.70	0.88	16.00	0.0550	1099.82	
	306+27.21		1100.67	0.89	16.00	0.0559	1099.77	
	306+50.00		1100.36	1.04	16.00	0.0651	1099.32	
FULL SUPER	306+75.00	↓	1100.03	1.20	16.00	0.0752	1098.83	
	306+86.91	155:1	1099.92	1.28	16.00	0.0800	1098.64	
	307+00.00		1099.72	1.28	16.00	0.0800	1098.44	
	307+25.00		1099.63	1.28	16.00	0.0800	1098.35	
	307+50.00		1099.55	1.28	16.00	0.0800	1098.27	
	307+75.00		1099.47	1.28	16.00	0.0800	1098.19	
	308+00.00		1099.38	1.28	16.00	0.0800	1098.10	
	308+25.00		1099.48	1.28	16.00	0.0800	1098.20	
	308+50.00		1099.58	1.28	16.00	0.0800	1098.30	
	308+75.00		1099.68	1.28	16.00	0.0800	1098.40	
	309+00.00		1099.78	1.28	16.00	0.0800	1098.50	
	309+25.00		1099.88	1.28	16.00	0.0800	1098.60	
	309+50.00		1099.98	1.28	16.00	0.0800	1098.70	
	309+75.00		1100.07	1.28	16.00	0.0800	1098.79	
	310+00.00		1100.17	1.28	16.00	0.0800	1098.89	
	310+25.00		1100.25	1.28	16.00	0.0800	1098.97	
	310+50.00		1100.27	1.28	16.00	0.0800	1098.99	
	310+75.00		1100.24	1.28	16.00	0.0800	1098.96	
	311+00.00		1100.16	1.28	16.00	0.0800	1098.88	
	311+25.00		1100.03	1.28	16.00	0.0800	1098.75	
	311+50.00		1099.85	1.28	16.00	0.0800	1098.57	
	311+75.00		1099.62	1.28	16.00	0.0800	1098.34	
	312+00.00		1099.34	1.28	16.00	0.0800	1098.06	
	312+25.00		1099.04	1.28	16.00	0.0800	1097.76	
	312+50.00		1098.77	1.28	16.00	0.0800	1097.49	
	312+75.00		1098.51	1.28	16.00	0.0800	1097.23	
	313+00.00		1098.28	1.28	16.00	0.0800	1097.00	
	313+25.00		1098.07	1.28	16.00	0.0800	1096.79	
	313+50.00		1097.89	1.28	16.00	0.0800	1096.61	
	313+75.00		1097.72	1.28	16.00	0.0800	1096.44	

CONTINUED ON NEXT COLUMN

DESCRIPTION	RAMP H SR 303							
	BASELINE STATION	TRANSITION RATE	LEFT E.O.P. ELEVATION	ELEVATION CORRECTION	WIDTH	CROSS SLOPE	PROFILE GRADE E.O.P. ELEVATION	OUTSIDE E.O.P. ELEVATION (SEE NOTE 1)
C.S. BEGIN SUPER TRANS.	314+00.00	195:1	1097.58	1.28	16.00	0.0800	1096.30	
	314+25.00	↑	1097.32	1.15	16.00	0.0720	1096.17	
	314+50.00		1097.06	1.02	16.00	0.0640	1096.04	
	314+75.00		1096.75	0.90	16.00	0.0560	1095.85	
	315+00.00		1096.41	0.77	16.00	0.0480	1095.64	
	315+25.00		1096.05	0.64	16.00	0.0400	1095.41	
	315+50.00		1095.67	0.51	16.00	0.0320	1095.16	
	315+65.00		1095.44	0.44	16.00	0.0272	1095.01	
	315+75.00	↓	1095.29	0.38	16.00	0.0240	1094.91	(1094.90)
S.T. NORMAL SECTION	316+00.00	195:1	1094.91	0.26	16.00	0.0160	1094.65	(1094.61)
	316+25.00		1094.53	0.26	16.00	0.0160	1094.27	(1094.27)
	316+35.00		1094.37	0.26	16.00	0.0160	1094.12	
	316+50.00		1094.14	0.26	16.00	0.0160	1093.89	
	316+75.00		1093.76	0.26	16.00	0.0160	1093.50	
	317+00.00		1093.38	0.26	16.00	0.0160	1093.12	
	317+25.00		1093.00	0.26	16.00	0.0160	1092.74	
	317+50.00		1092.61	0.26	16.00	0.0160	1092.36	
	317+75.00		1092.23	0.26	16.00	0.0160	1091.97	
	318+00.00		1091.85	0.26	16.00	0.0160	1091.59	
	318+25.00		1091.47	0.26	16.00	0.0160	1091.21	
	318+50.00		1091.08	0.26	16.00	0.0160	1090.83	
	318+75.00		1090.70	0.26	16.00	0.0160	1090.44	
P.O.T. MATCH MAINLINE	319+00.00		1090.32	0.26	16.00	0.0160	1090.06	

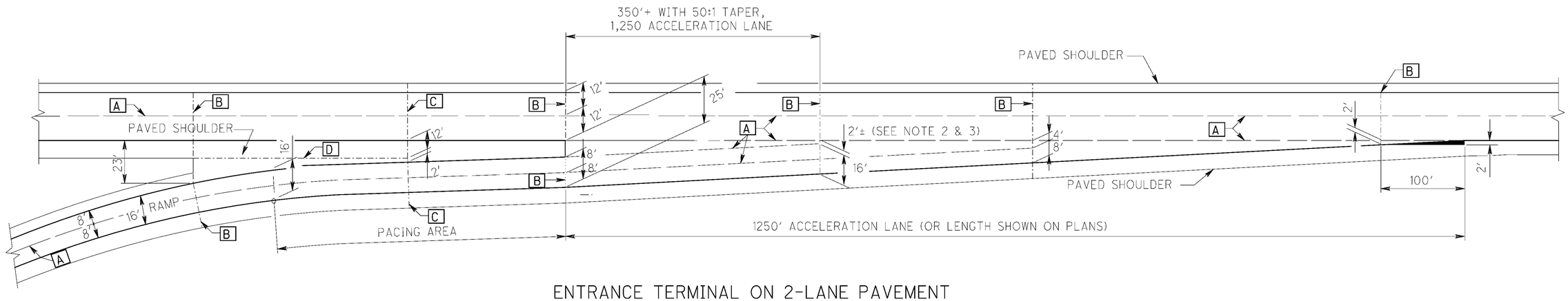
CALCULATED JDL
CHECKED PRS

SUPERELEVATION TABLE

SUM-271-2.33

723
1195

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ENTRANCE TERMINAL ON 2-LANE PAVEMENT

FOR ADDITIONAL DETAILS SEE SCD BP-6.1

NOTES

GENERAL: THIS JOINT TREATMENT IS APPLICABLE FOR MAINLINE AND SPEED CHANGE LANE PAVEMENT CONSTRUCTED OF REINFORCED OR NON-REINFORCED PORTLAND CEMENT CONCRETE.

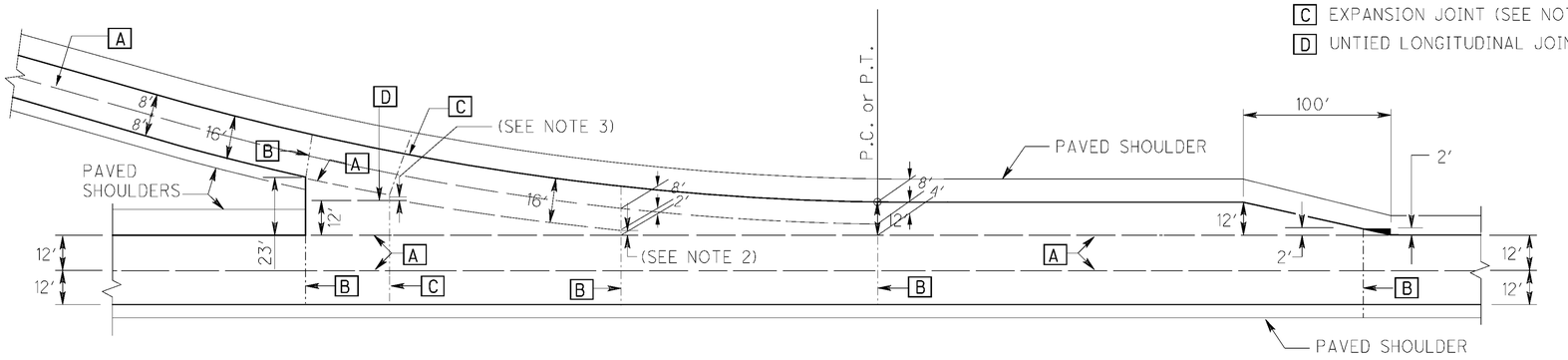
1. SPECIFIC LOCATION OF TRANSVERSE JOINTS REQUIRED BY THE TERMINAL GEOMETRICS HAVE BEEN SHOWN. INTERVENING TRANSVERSE JOINTS ARE REQUIRED PER SCD BP-2.2. UNLESS OTHERWISE REQUIRED, ALL TRANSVERSE JOINTS IN THE SPEED CHANGE LANES ARE TO BE CONTINUOUS IN A STAIGHT LINE THROUGH THE SPEED CHANGE LANE AND MAINLINE PAVEMENT WITH THE EXCEPTION OF THE EXPANSION JOINT AT THE EXIT NOSE WHICH IS LOCATED RADIAL OR NORMAL TO THE RAMP PAVEMENT.

2. THE LONGITUDINAL JOINT WHICH EXTENDS THE 16' [4.8 M] RAMP SLAB SHALL END AT ANY MAINLINE CONTRACTION JOINT WHERE THE DISTANCE BETWEEN THIS LONGITUDINAL JOINT AT THE EDGE OF THE 16' [4.8 M] SLAB AND THE LONGITUDINAL JOINT AT THE EDGE OF THE MAINLINE PAVEMENT IS NOT MORE THAN 2'-6" [0.75 M] AND NOT LESS THAN 1'-6" [0.45 M].

3. DIMENSION OF 2' [0.6 M] HAS A TOLERANCE OF PLUS OR MINUS 6" [150].

JOINT LEGEND

- A LONGITUDINAL JOINT
- B CONTRACTION JOINT (SEE NOTE 1)
- C EXPANSION JOINT (SEE NOTE 1)
- D UNTIED LONGITUDINAL JOINT



EXIT TERMINAL ON 2-LANE PAVEMENT

CALCULATED JDL
CHECKED PRS

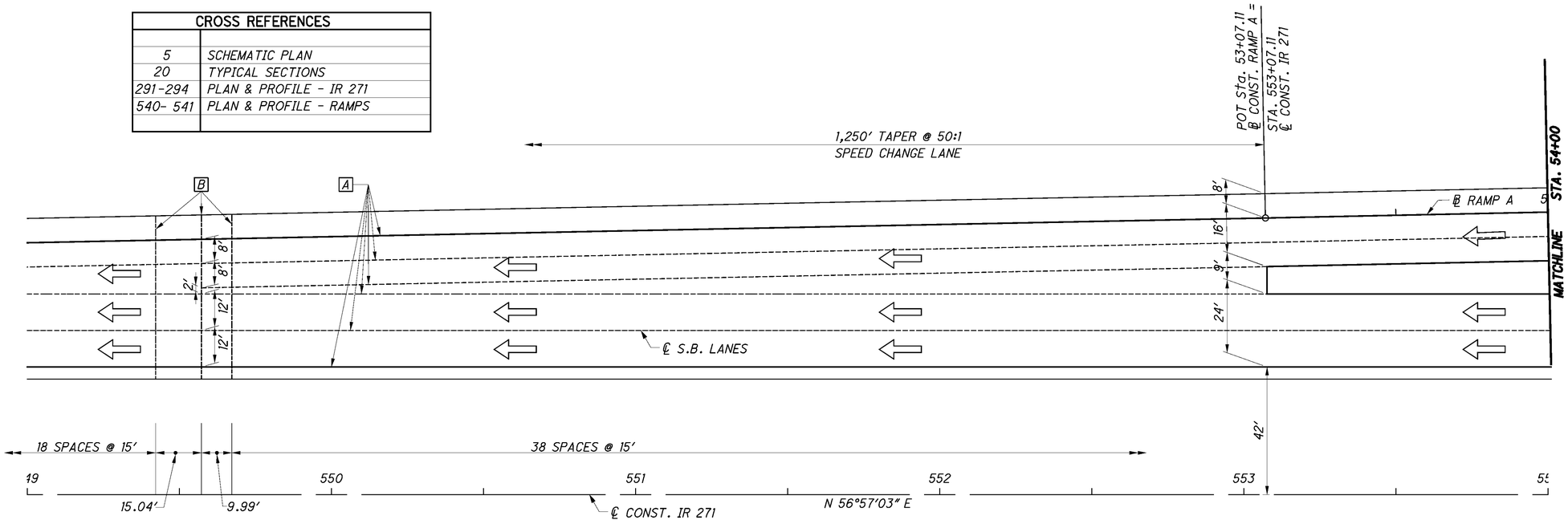
PAVEMENT JOINT DETAILS AT RAMPS

SUM-271-2.33

724
1195

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CROSS REFERENCES	
5	SCHEMATIC PLAN
20	TYPICAL SECTIONS
291-294	PLAN & PROFILE - IR 271
540- 541	PLAN & PROFILE - RAMPS



℄ CONST. RAMP A
17-A1 CURVE DATA

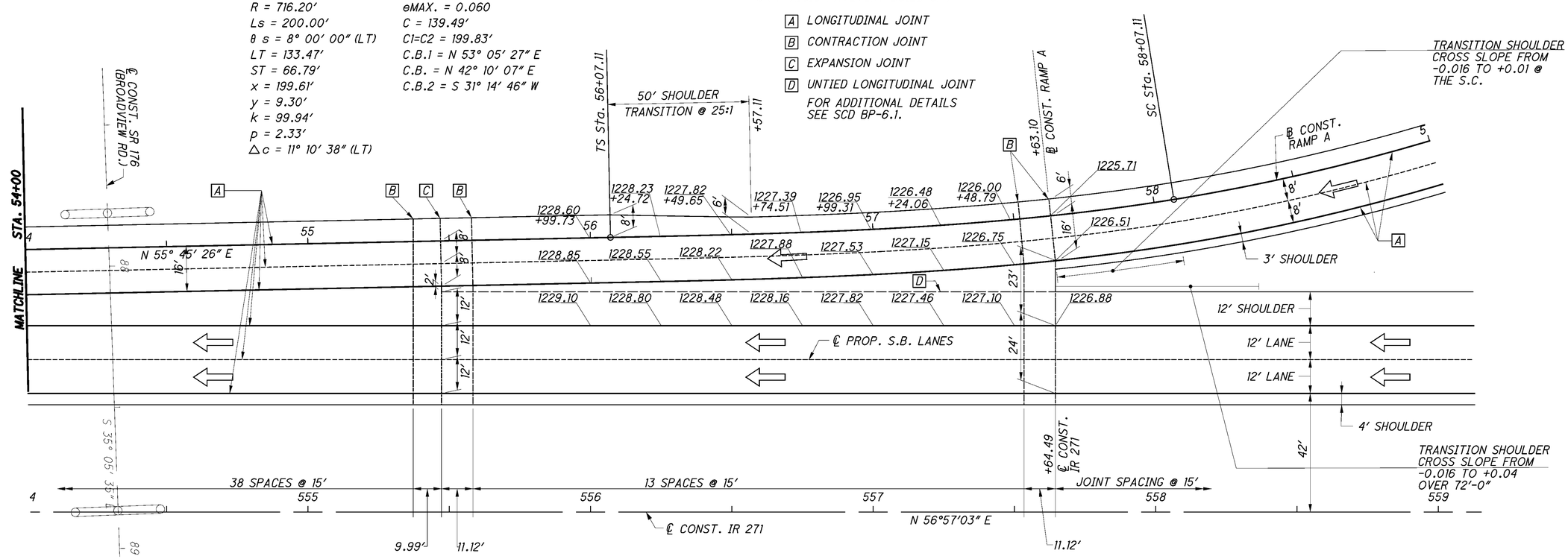
P.I.= Sta. 58+80.72	Lc = 139.72'
△= 27° 10' 38" (LT)	Ts = 273.61'
Dc = 8° 00' 00"	Es = 23.02'
R = 716.20'	eMAX. = 0.060
Ls = 200.00'	C = 139.49'
θ s = 8° 00' 00" (LT)	C1=C2 = 199.83'
LT = 133.47'	C.B.1 = N 53° 05' 27" E
ST = 66.79'	C.B. = N 42° 10' 07" E
x = 199.61'	C.B.2 = S 31° 14' 46" W
y = 9.30'	
k = 99.94'	
p = 2.33'	
△c = 11° 10' 38" (LT)	

CONCRETE PAVEMENT JOINT LEGEND

CONCRETE PAVEMENT JOINTS ARE SHOWN FOR INFORMATION PURPOSES. THE PROPOSED ROADWAY PAVEMENT UTILIZED FOR THIS PROJECT SHALL CONSIST OF EITHER A FLEXIBLE PAVEMENT BUILD-UP OR A RIGID PAVEMENT BUILD-UP.

- A LONGITUDINAL JOINT
- B CONTRACTION JOINT
- C EXPANSION JOINT
- D UNTIED LONGITUDINAL JOINT

FOR ADDITIONAL DETAILS SEE SCD BP-6.1.



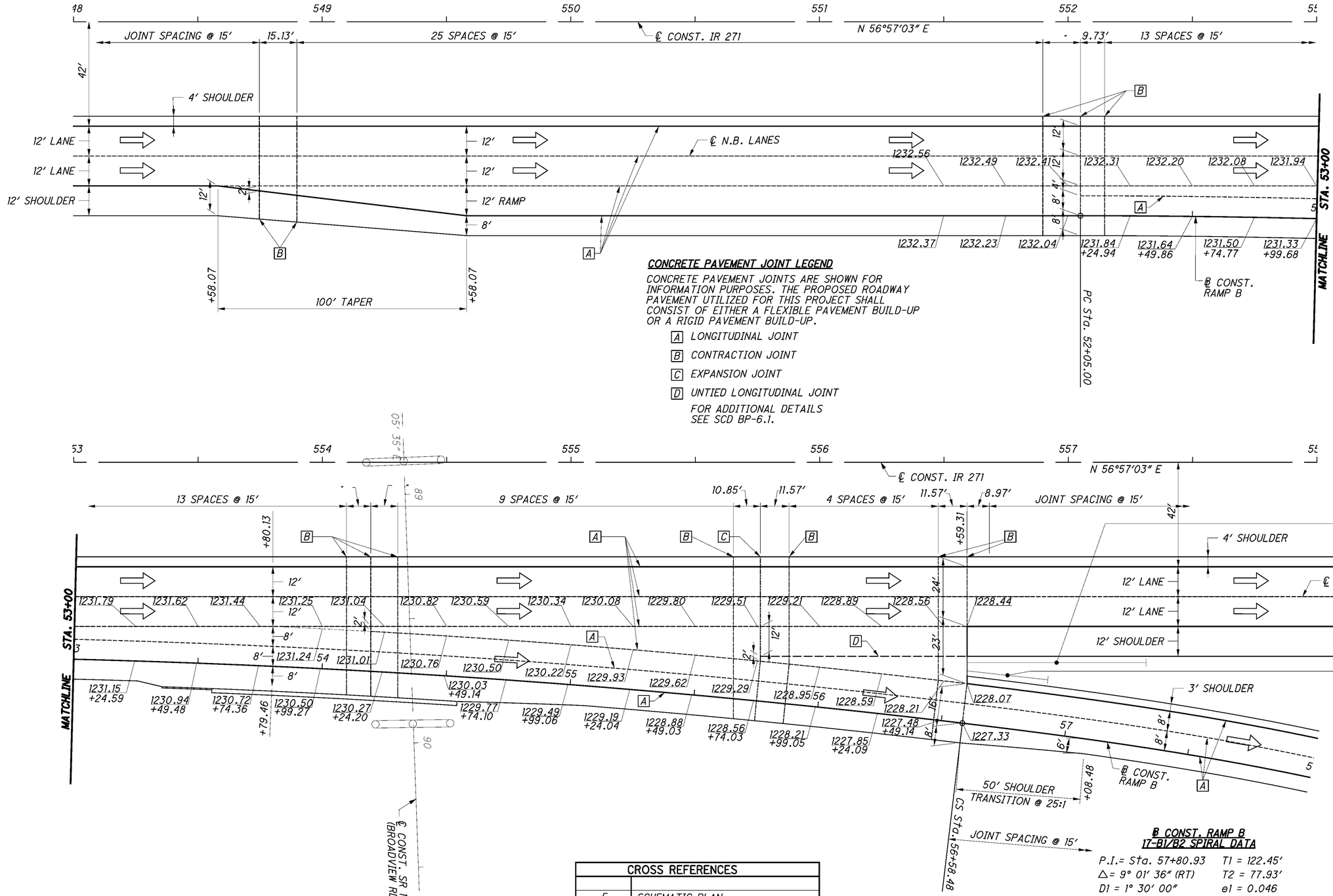
HORIZONTAL SCALE IN FEET
0 10 20 40
CALCULATED JDL
CHECKED PRS

PAVEMENT DETAIL
CR 17 (BRECKSVILLE RD.) ENTRANCE RAMP A

SUM-271-2.33

725
1195

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CROSS REFERENCES	
5	SCHEMATIC PLAN
20	TYPICAL SECTIONS
291-294	PLAN & PROFILE - IR 271
551 - 552	PLAN & PROFILE - RAMPS

HORIZONTAL SCALE IN FEET
0 10 20 40
CALCULATED JDL
CHECKED PRS

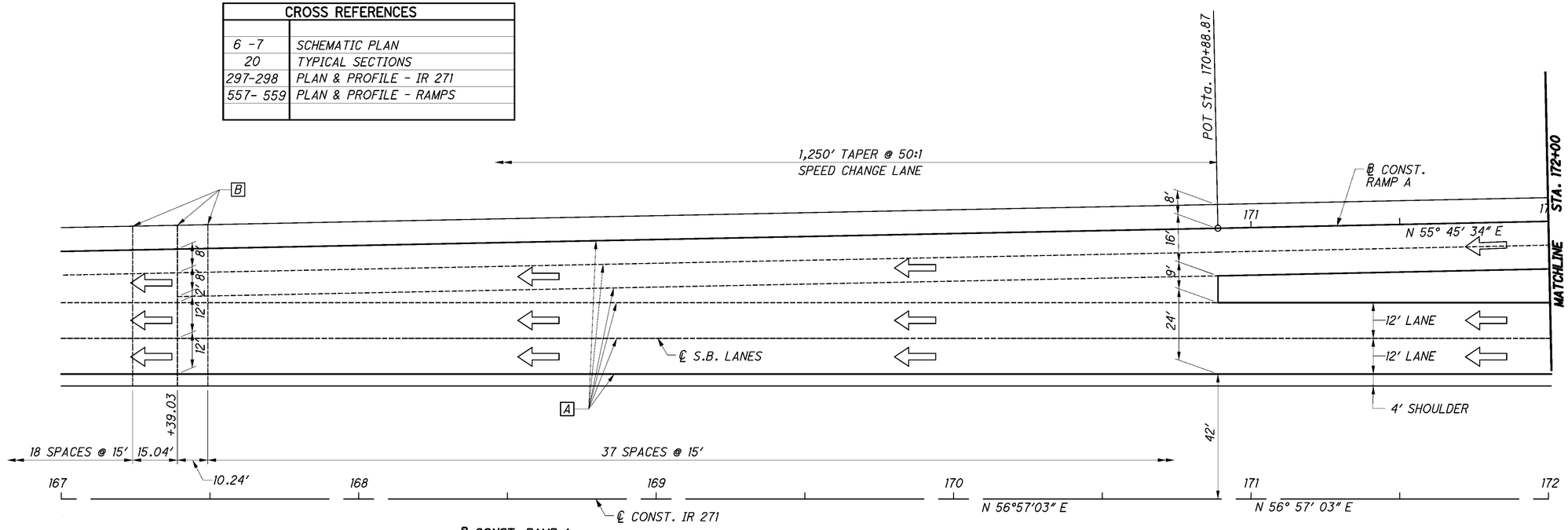
PAVEMENT DETAIL
CR 17 (BRECKSVILLE RD.) EXIT RAMP B

SUM-271-2.33

726
1195

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CROSS REFERENCES	
6 -7	SCHEMATIC PLAN
20	TYPICAL SECTIONS
297-298	PLAN & PROFILE - IR 271
557- 559	PLAN & PROFILE - RAMPS



℄ CONST. RAMP A
17-A1 CURVE DATA

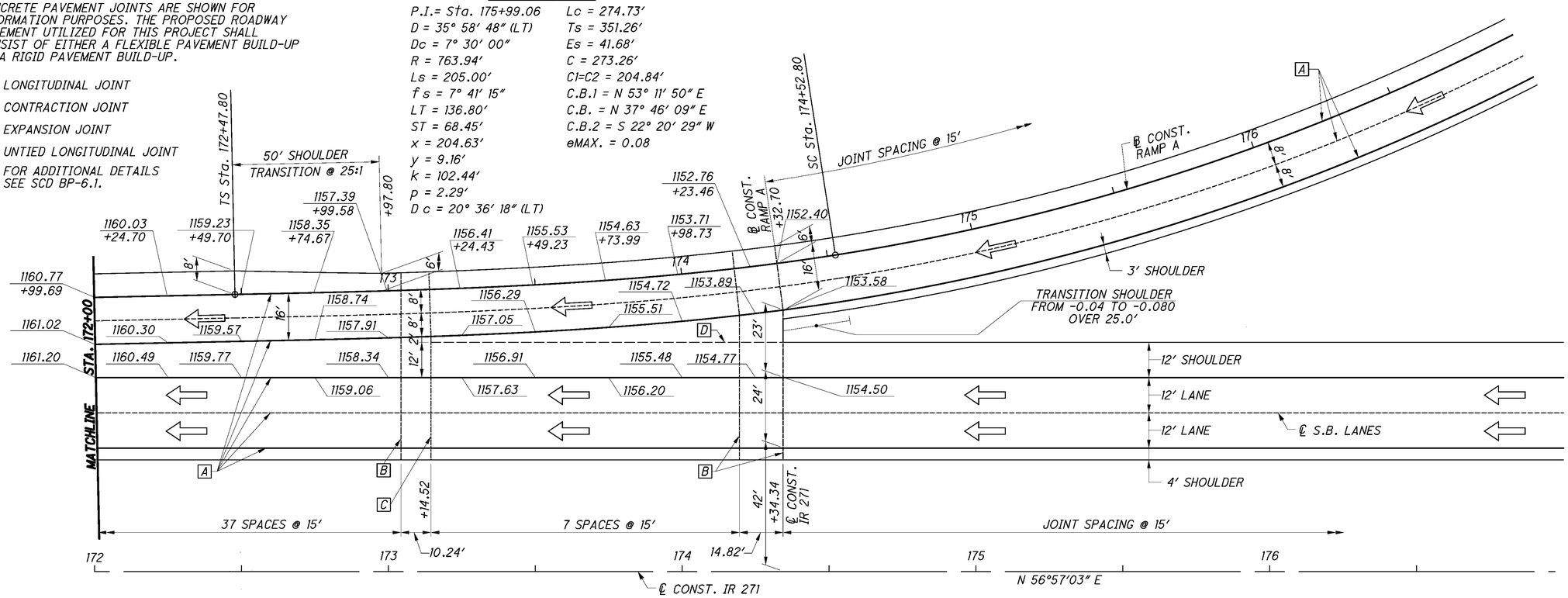
P.I.= Sta. 175+99.06	Lc = 274.73'
D = 35° 58' 48" (LT)	Ts = 351.26'
Dc = 7° 30' 00"	Es = 41.68'
R = 763.94'	C = 273.26'
Ls = 205.00'	CI=C2 = 204.84'
f s = 7° 41' 15"	C.B.1 = N 53° 11' 50" E
LT = 136.80'	C.B. = N 37° 46' 09" E
ST = 68.45'	C.B.2 = S 22° 20' 29" W
x = 204.63'	eMAX. = 0.08
y = 9.16'	
k = 102.44'	
p = 2.29'	
D c = 20° 36' 18" (LT)	

CONCRETE PAVEMENT JOINT LEGEND

CONCRETE PAVEMENT JOINTS ARE SHOWN FOR INFORMATION PURPOSES. THE PROPOSED ROADWAY PAVEMENT UTILIZED FOR THIS PROJECT SHALL CONSIST OF EITHER A FLEXIBLE PAVEMENT BUILD-UP OR A RIGID PAVEMENT BUILD-UP.

- A LONGITUDINAL JOINT
- B CONTRACTION JOINT
- C EXPANSION JOINT
- D UNTIED LONGITUDINAL JOINT

FOR ADDITIONAL DETAILS SEE SCD BP-6.1.



HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED JDL
CHECKED PRS

PAVEMENT DETAIL
IR 77 ENTRANCE RAMP A

SUM-271-2.33

727
1195

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℄ CONST. RAMP A
77-A4 CURVE DATA

P.I.= Sta. 200+91.46
D = 8° 25′ 12″ (LT)
Dc = 1° 30′ 00″
R = 3,819.72′
T = 281.17′
L = 561.33′
E = 10.33′
C = 560.83′
C.B. = N 0° 38′ 05″ W
eMAX. = 0.051±

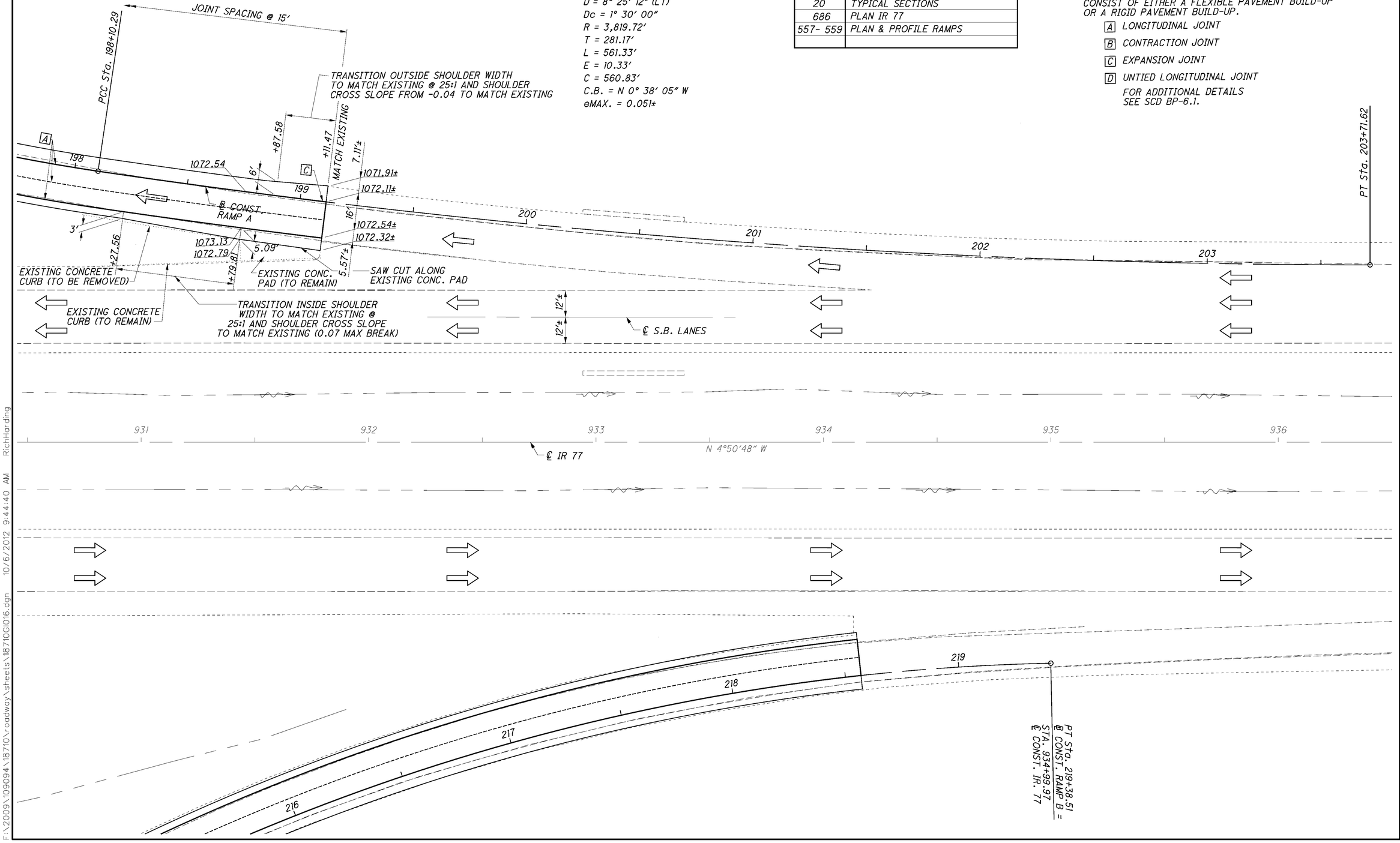
CROSS REFERENCES	
6 -7	SCHEMATIC PLAN
20	TYPICAL SECTIONS
686	PLAN IR 77
557- 559	PLAN & PROFILE RAMPS

CONCRETE PAVEMENT JOINT LEGEND

CONCRETE PAVEMENT JOINTS ARE SHOWN FOR INFORMATION PURPOSES. THE PROPOSED ROADWAY PAVEMENT UTILIZED FOR THIS PROJECT SHALL CONSIST OF EITHER A FLEXIBLE PAVEMENT BUILD-UP OR A RIGID PAVEMENT BUILD-UP.

- [A] LONGITUDINAL JOINT
- [B] CONTRACTION JOINT
- [C] EXPANSION JOINT
- [D] UNTIED LONGITUDINAL JOINT

FOR ADDITIONAL DETAILS SEE SCD BP-6.1.



HORIZONTAL SCALE IN FEET
0 10 20 40

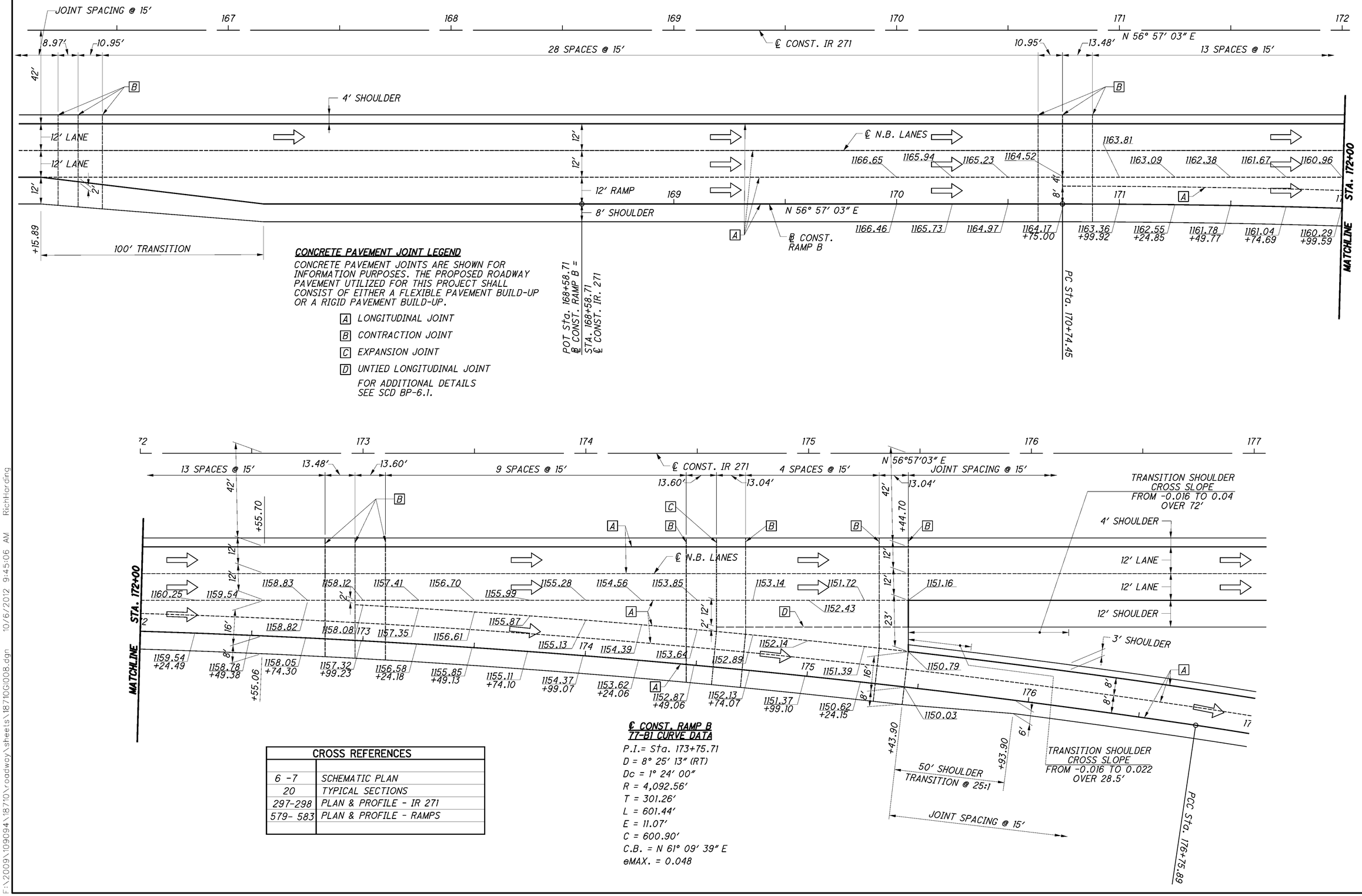
CALCULATED JDL
CHECKED PRS

PAVEMENT DETAIL
IR 77 EXIT RAMP A

SUM-271-2.33

728
1195

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CROSS REFERENCES	
6 -7	SCHEMATIC PLAN
20	TYPICAL SECTIONS
297-298	PLAN & PROFILE - IR 271
579- 583	PLAN & PROFILE - RAMPS

HORIZONTAL SCALE IN FEET
0 10 20 40
CALCULATED JDL
CHECKED PRS

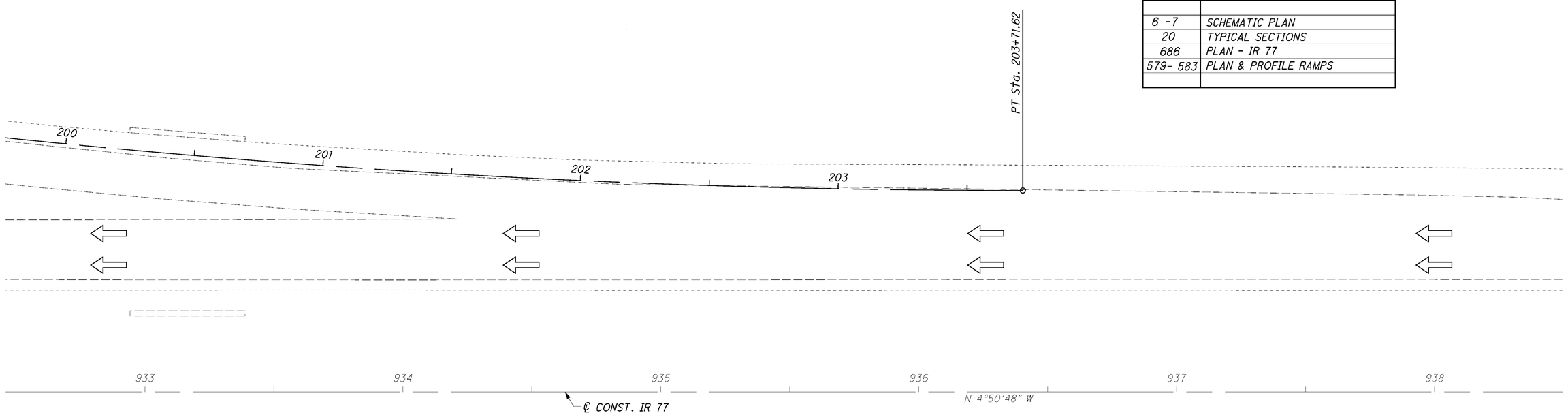
PAVEMENT DETAIL
IR 77 EXIT RAMP B

SUM-271-2.33

729
1195

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CROSS REFERENCES	
6 -7	SCHEMATIC PLAN
20	TYPICAL SECTIONS
686	PLAN - IR 77
579- 583	PLAN & PROFILE RAMPS



℄ CONST. RAMP B
77-B4 CURVE DATA

P.I.= Sta. 216+22.11	p = 1.74′
△ = 39° 36′ 56″ (RT)	△c = 33° 36′ 56″ (RT)
Dc = 6° 00′ 00″	Lc = 560.26′
R = 954.93′	Ts1 = 441.80′
Ls = 200.00′	Ts2 = 346.68′
θs = 6° 00′ 00″ (RT)	Es = 60.98′
LT = 133.41′	eMAX. = 0.080
ST = 66.74′	C = 199.90′
x = 199.78′	C = 552.26′
y = 6.98′	C.B.1 = N 43° 39′ 15″ W
k = 99.96′	C.B. = N 22° 50′ 47″ W

CONCRETE PAVEMENT JOINT LEGEND

CONCRETE PAVEMENT JOINTS ARE SHOWN FOR INFORMATION PURPOSES. THE PROPOSED ROADWAY PAVEMENT UTILIZED FOR THIS PROJECT SHALL CONSIST OF EITHER A FLEXIBLE PAVEMENT BUILD-UP OR A RIGID PAVEMENT BUILD-UP.

- A LONGITUDINAL JOINT
- B CONTRACTION JOINT
- C EXPANSION JOINT
- D UNTIED LONGITUDINAL JOINT

FOR ADDITIONAL DETAILS SEE SCD BP-6.1.

HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED JDL
CHECKED PRS

PAVEMENT DETAIL
IR 77 ENTRANCE RAMP B

SUM-271-2.33

730
1195

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CROSS REFERENCES	
6 -7	SCHEMATIC PLAN
20	TYPICAL SECTIONS
684	PLAN - IR 77
617 - 618	PLAN & PROFILE - RAMPS

909 910 911 912 913 914

℄ IR 77

N 4°50'48" W

SAW CUT EXISTING PAVEMENT @ 76' RT. ℄ IR 77 AND PROVIDE A LONGITUDINAL JOINT AS PER BP 2.1. MATCH EXISTING PAVEMENT ELEVATIONS

℄ CONST. RAMP B

184 185 186 187 188 189 190

1092.06± STA. 911+15.16, 76' RT.

1091.65± +00.00

1091.42±

1091.86± +40.13

1091.74

1091.64± +65.12

1091.42

1091.33

1091.01

1091.01 +25.00

1090.69

1091.34± +90.09

1091.10

1090.85

1090.43

1090.11

1090.69

1090.37

1091.21± STA. 912+09.73, 76' RT.

1090.82± +40.03

1090.54± +65.04

1090.47± STA. 912+71.04, 76' RT.

1090.44

1089.80

1090.60

1090.05

1090.43

1089.76

1090.45

16' @ 0.0256±

16' @ 0.026

9.53' @ -0.038

17' @ 0.0024

12'

2'-6"±

8'

16'

3' SHOULDER

6'

+00.00 MATCH EXISTING BUTT JOINT AS PER BP-3.1

TRANSITION SHOULDER CROSS SLOPE FROM 0.04 TO MATCH EXISTING IN 25'-0"

+54.85

50' SHOULDER TRANSITION @ 25:1

+04.58

JOINT SPACING @ 15'

CONTRACTOR SHALL LINE UP JOINTS WITH EXISTING LONGINTUDINAL JOINTS IN GORE. 15' MAX. JOINT SPACING

℄ CONST. RAMP C

℄ CS Sta. 186+94.67

SC Sta. 188+94.67

TS Sta. 189+46.69

CONCRETE PAVEMENT JOINT LEGEND

CONCRETE PAVEMENT JOINTS ARE SHOWN FOR INFORMATOIN PURPOSES. THE PROPOSED ROADWAY PAVEMENT UTILIZED FOR THIS PROJECT SHALL CONSIST OF EITHER A FLEXIBLE PAVEMENT BUILD-UP OR A RIGID PAVEMENT BUILD-UP.

- [A] LONGITUDINAL JOINT
- [B] CONTRACTION JOINT
- [C] EXPANSION JOINT
- [D] UNTIED LONGITUDINAL JOINT

FOR ADDITIONAL DETAILS SEE SCD BP-6.1.

℄ CONST. RAMP C
77-C1 CURVE DATA

P.I.= Sta. 184+82.36
Δ = 6° 22' 33" (RT)
Dc = 1° 30' 00"
R = 3,819.72'
T = 212.74'
L = 425.05'
E = 5.92'
eMAX. = 0.042
C = 424.83'
C.B. = N 1° 39' 23" W

℄ CONST. RAMP C
77-C1/C2 SPIRAL DATA

P.I.= Sta. 188+19.08	T1 = 124.42'
Δ = 10° 52' 17"	T2 = 76.12'
D1 = 1° 30' 00"	eMAX.1 = 0.042
R1 = 3,819.72'	eMAX.2 = 0.008
D2 = 9° 22' 17"	C1 = 424.83'
R2 = 611.39'	C = 199.69'
Ls = 200.00'	C2 = 469.31'
p = 2.29'	C.B.1 = N 1° 39' 23" W
Δ 1 = 1° 29' 56"	C.B. = N 5° 39' 17" E
Δ 2 = 9° 22' 21"	C.B.2 = N 34° 58' 22" E

HORIZONTAL SCALE IN FEET
0 10 20 40

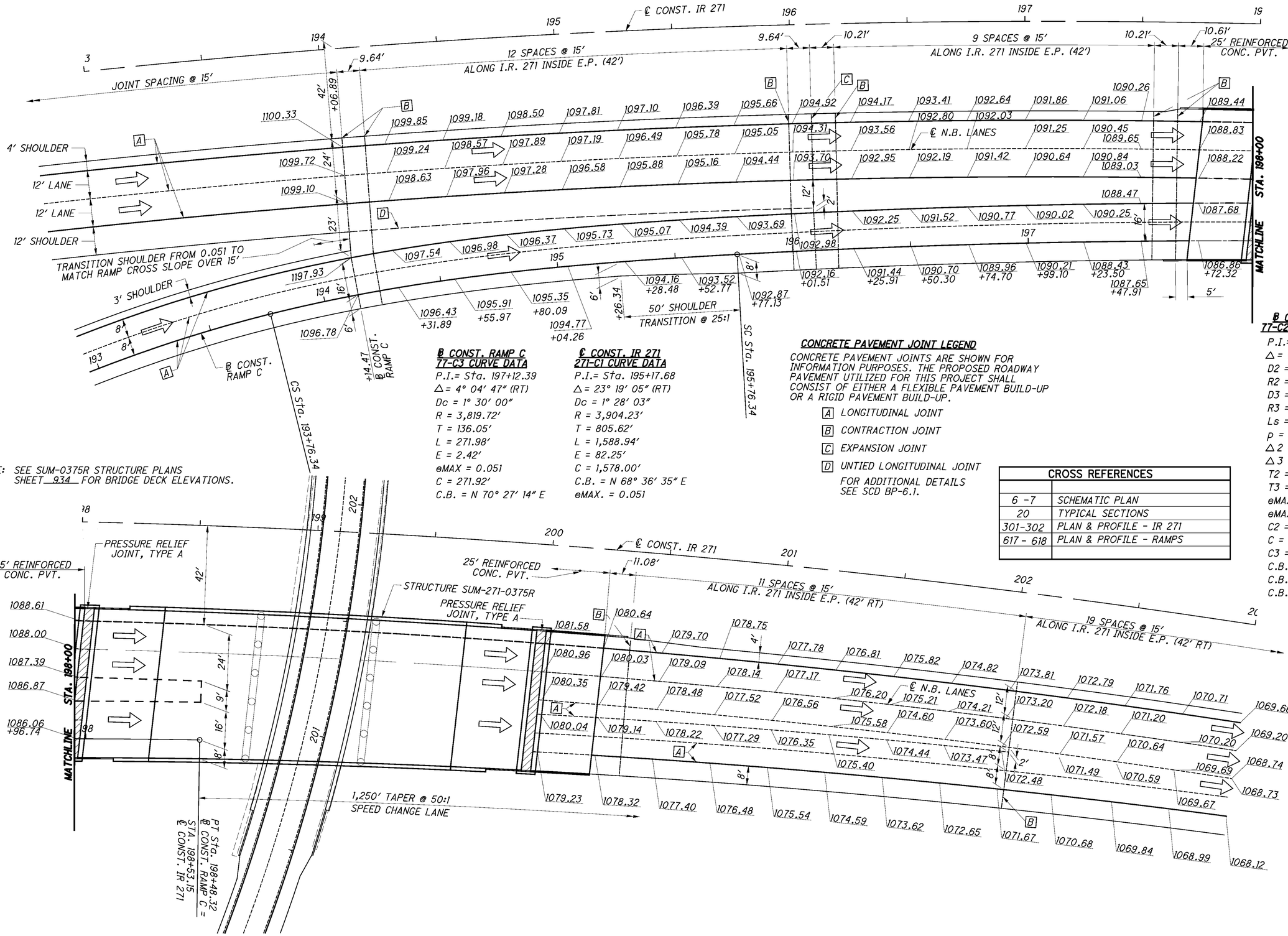
CALCULATED JDL
CHECKED PRS

PAVEMENT DETAIL IR 77 EXIT RAMP C

SUM-271-2.33

731
1195

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℄ CONST. RAMP C 77-C3 CURVE DATA

P.I.= Sta. 197+12.39
△ = 4° 04' 47" (RT)
Dc = 1° 30' 00"
R = 3,819.72'
T = 136.05'
L = 271.98'
E = 2.42'
eMAX = 0.051
C = 271.92'
C.B. = N 70° 27' 14" E

℄ CONST. IR 271 271-C1 CURVE DATA

P.I.= Sta. 195+17.68
△ = 23° 19' 05" (RT)
Dc = 1° 28' 03"
R = 3,904.23'
T = 805.62'
L = 1,588.94'
E = 82.25'
C = 1,578.00'
C.B. = N 68° 36' 35" E
eMAX. = 0.051

CONCRETE PAVEMENT JOINT LEGEND

CONCRETE PAVEMENT JOINTS ARE SHOWN FOR INFORMATION PURPOSES. THE PROPOSED ROADWAY PAVEMENT UTILIZED FOR THIS PROJECT SHALL CONSIST OF EITHER A FLEXIBLE PAVEMENT BUILD-UP OR A RIGID PAVEMENT BUILD-UP.

- [A] LONGITUDINAL JOINT
- [B] CONTRACTION JOINT
- [C] EXPANSION JOINT
- [D] UNTIED LONGITUDINAL JOINT

FOR ADDITIONAL DETAILS SEE SCD BP-6.1.

CROSS REFERENCES	
6 -7	SCHEMATIC PLAN
20	TYPICAL SECTIONS
301-302	PLAN & PROFILE - IR 271
617 - 618	PLAN & PROFILE - RAMPS

℄ CONST. RAMP C 77-C2/C3 SPIRAL DATA

P.I.= Sta. 188+19.08
△ = 10° 52' 17"
D2 = 9° 22' 17"
R2 = 611.39'
D3 = 1° 30' 00"
R3 = 3,819.72'
Ls = 200.00'
p = 2.29'
△2 = 9° 22' 21"
△3 = 1° 29' 56"
T2 = 76.12'
T3 = 124.42'
eMAX.2 = 0.080
eMAX.3 = 0.051
C2 = 469.31'
C = 199.69'
C3 = 271.32'
C.B.2 = N 34° 58' 22" E
C.B. = N 64° 17' 28" E
C.B.3 = N 70° 27' 14" E

HORIZONTAL SCALE IN FEET
0 10 20 40
CALCULATED JDL
CHECKED PRS

PAVEMENT DETAIL
IR 77 ENTRANCE RAMP C

SUM-271-2.33

732
1195

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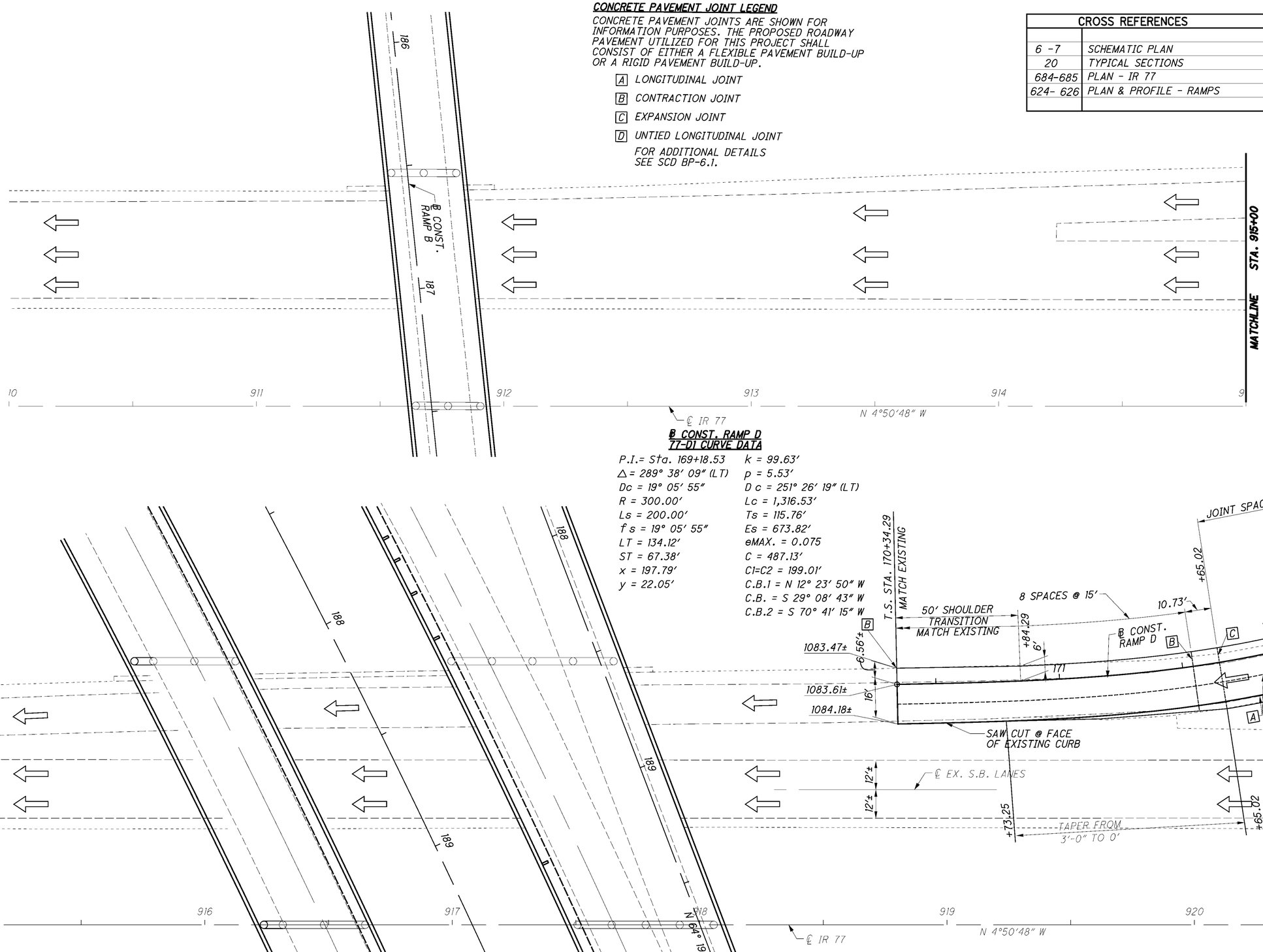
CONCRETE PAVEMENT JOINT LEGEND

CONCRETE PAVEMENT JOINTS ARE SHOWN FOR INFORMATION PURPOSES. THE PROPOSED ROADWAY PAVEMENT UTILIZED FOR THIS PROJECT SHALL CONSIST OF EITHER A FLEXIBLE PAVEMENT BUILD-UP OR A RIGID PAVEMENT BUILD-UP.

- [A] LONGITUDINAL JOINT
- [B] CONTRACTION JOINT
- [C] EXPANSION JOINT
- [D] UNTIED LONGITUDINAL JOINT

FOR ADDITIONAL DETAILS SEE SCD BP-6.1.

CROSS REFERENCES	
6 -7	SCHEMATIC PLAN
20	TYPICAL SECTIONS
684-685	PLAN - IR 77
624- 626	PLAN & PROFILE - RAMPS



B CONST. RAMP D
77-D1 CURVE DATA

P.I.= Sta. 169+18.53	k = 99.63'
△ = 289° 38' 09" (LT)	p = 5.53'
Dc = 19° 05' 55"	D c = 251° 26' 19" (LT)
R = 300.00'	Lc = 1,316.53'
Ls = 200.00'	Ts = 115.76'
f s = 19° 05' 55"	Es = 673.82'
LT = 134.12'	eMAX. = 0.075
ST = 67.38'	C = 487.13'
x = 197.79'	C1=C2 = 199.01'
y = 22.05'	C.B.1 = N 12° 23' 50" W
	C.B. = S 29° 08' 43" W
	C.B.2 = S 70° 41' 15" W

HORIZONTAL SCALE IN FEET
0 10 20 40

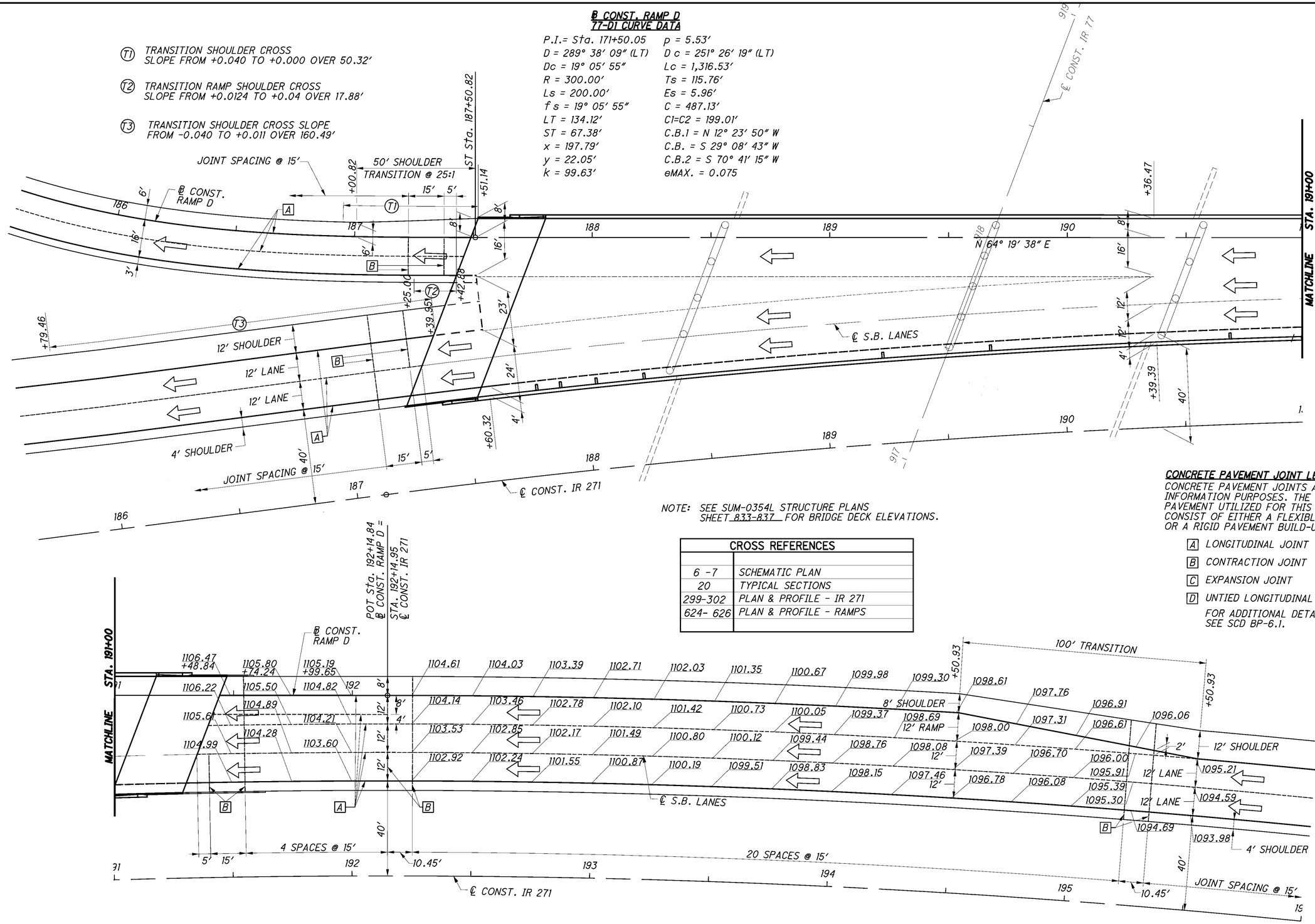
CALCULATED JDL
CHECKED PRS

PAVEMENT DETAIL
IR 77 ENTRANCE RAMP D

SUM-271-2.33

733
1195

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NOTE: SEE SUM-0354L STRUCTURE PLANS SHEET 833-837 FOR BRIDGE DECK ELEVATIONS.

CROSS REFERENCES	
6 -7	SCHEMATIC PLAN
20	TYPICAL SECTIONS
299-302	PLAN & PROFILE - IR 271
624- 626	PLAN & PROFILE - RAMPS

CONCRETE PAVEMENT JOINT LEGEND

CONCRETE PAVEMENT JOINTS ARE SHOWN FOR INFORMATION PURPOSES. THE PROPOSED ROADWAY PAVEMENT UTILIZED FOR THIS PROJECT SHALL CONSIST OF EITHER A FLEXIBLE PAVEMENT BUILD-UP OR A RIGID PAVEMENT BUILD-UP.

- [A] LONGITUDINAL JOINT
- [B] CONTRACTION JOINT
- [C] EXPANSION JOINT
- [D] UNTIED LONGITUDINAL JOINT

FOR ADDITIONAL DETAILS SEE SCD BP-6.1.

HORIZONTAL SCALE IN FEET

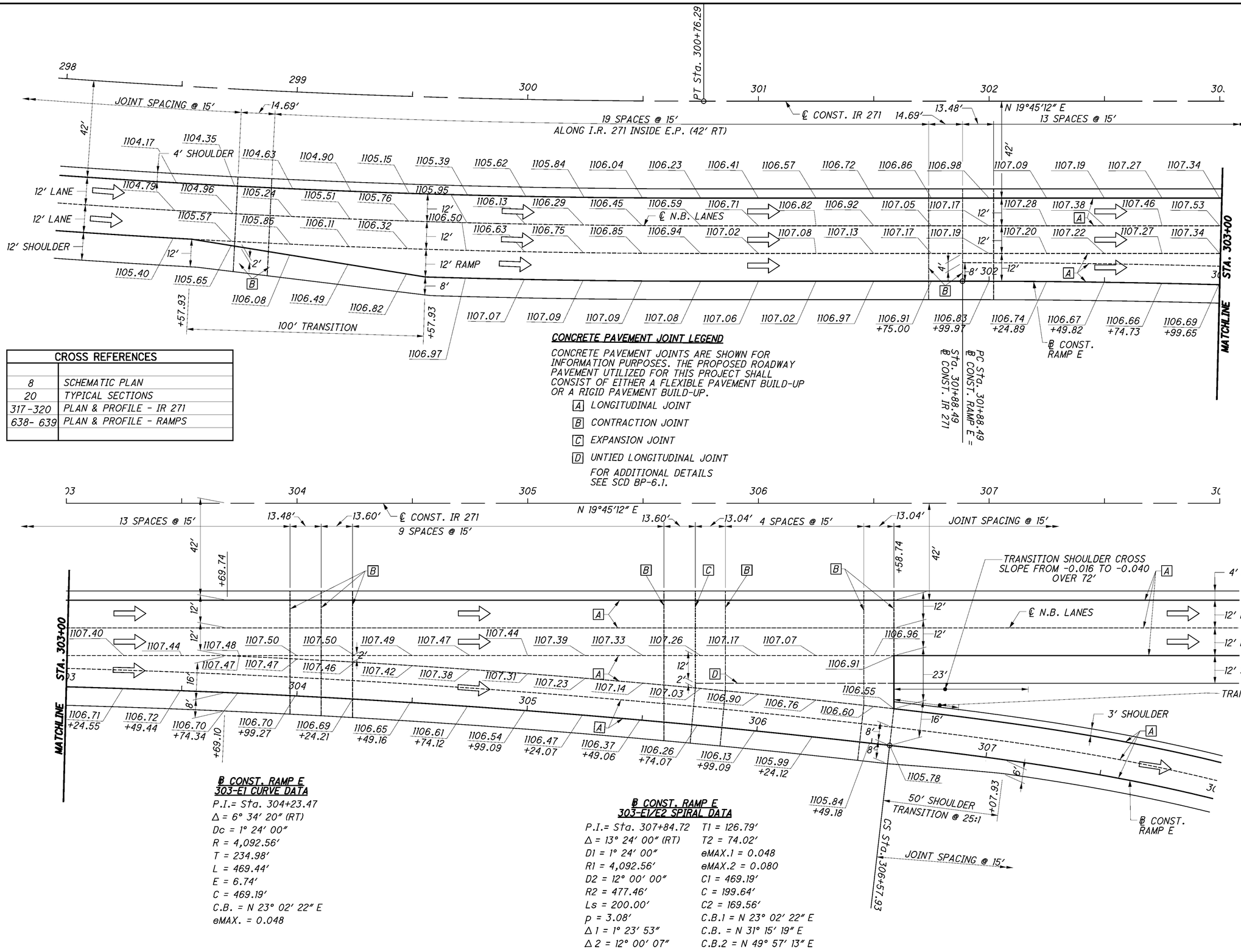
CALCULATED JDL CHECKED PRS

PAVEMENT DETAIL IR 77 EXIT RAMP D

SUM-271-2.33

734
1195

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CROSS REFERENCES	
8	SCHEMATIC PLAN
20	TYPICAL SECTIONS
317-320	PLAN & PROFILE - IR 271
638- 639	PLAN & PROFILE - RAMPS

CONCRETE PAVEMENT JOINT LEGEND

CONCRETE PAVEMENT JOINTS ARE SHOWN FOR INFORMATION PURPOSES. THE PROPOSED ROADWAY PAVEMENT UTILIZED FOR THIS PROJECT SHALL CONSIST OF EITHER A FLEXIBLE PAVEMENT BUILD-UP OR A RIGID PAVEMENT BUILD-UP.

- [A] LONGITUDINAL JOINT
- [B] CONTRACTION JOINT
- [C] EXPANSION JOINT
- [D] UNTIED LONGITUDINAL JOINT

FOR ADDITIONAL DETAILS SEE SCD BP-6.1.

℄ CONST. RAMP E 303-E1 CURVE DATA

P.I.= Sta. 304+23.47
Δ = 6° 34' 20" (RT)
Dc = 1° 24' 00"
R = 4,092.56'
T = 234.98'
L = 469.44'
E = 6.74'
C = 469.19'
C.B. = N 23° 02' 22" E
eMAX. = 0.048

℄ CONST. RAMP E 303-E1/E2 SPIRAL DATA

P.I.= Sta. 307+84.72	T1 = 126.79'
Δ = 13° 24' 00" (RT)	T2 = 74.02'
D1 = 1° 24' 00"	eMAX.1 = 0.048
R1 = 4,092.56'	eMAX.2 = 0.080
D2 = 12° 00' 00"	C1 = 469.19'
R2 = 477.46'	C = 199.64'
Ls = 200.00'	C2 = 169.56'
p = 3.08'	C.B.1 = N 23° 02' 22" E
Δ 1 = 1° 23' 53"	C.B. = N 31° 15' 19" E
Δ 2 = 12° 00' 07"	C.B.2 = N 49° 57' 13" E

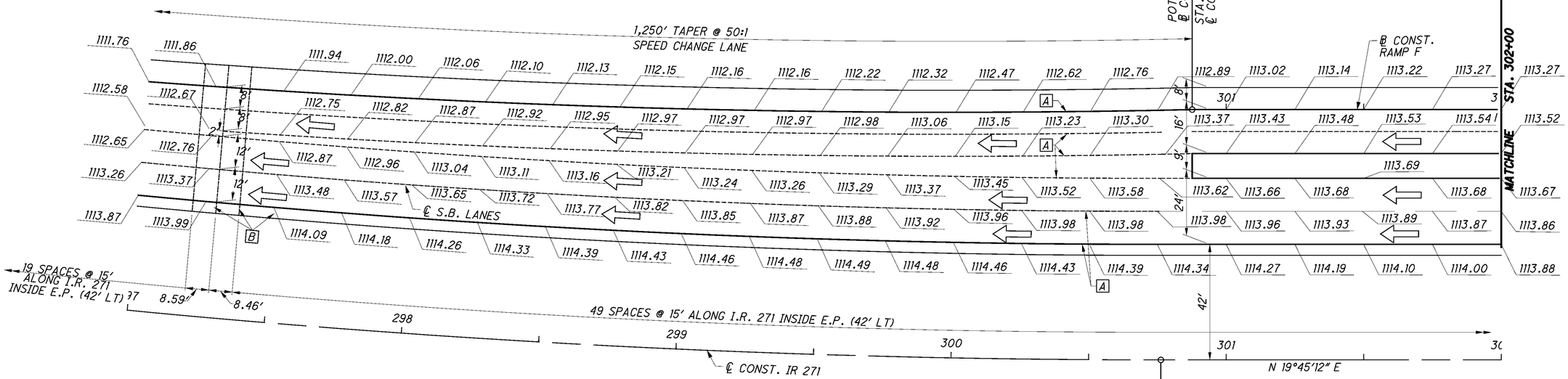
HORIZONTAL SCALE IN FEET
0 10 20 40
CALCULATED JDL
CHECKED PRS

PAVEMENT DETAIL
SR 303 EXIT RAMP E

SUM-271-2.33

735
1195

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CONCRETE PAVEMENT JOINT LEGEND

CONCRETE PAVEMENT JOINTS ARE SHOWN FOR INFORMATION PURPOSES. THE PROPOSED ROADWAY PAVEMENT UTILIZED FOR THIS PROJECT SHALL CONSIST OF EITHER A FLEXIBLE PAVEMENT BUILD-UP OR A RIGID PAVEMENT BUILD-UP.

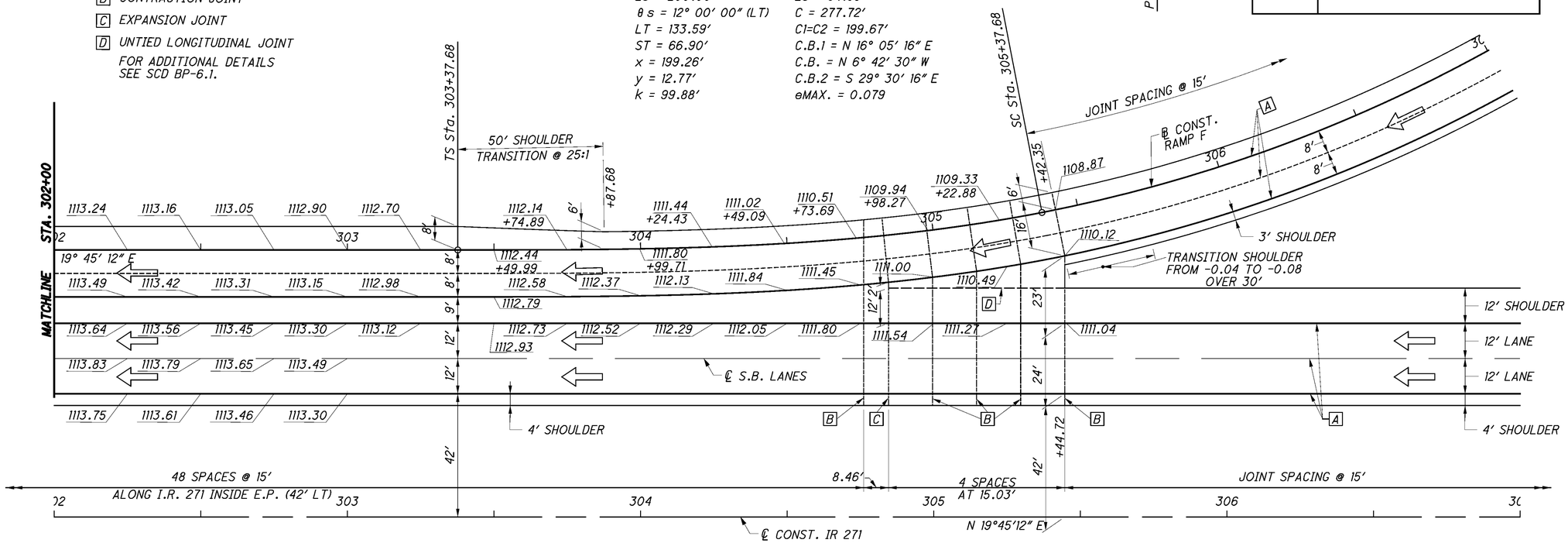
- [A] LONGITUDINAL JOINT
- [B] CONTRACTION JOINT
- [C] EXPANSION JOINT
- [D] UNTIED LONGITUDINAL JOINT

FOR ADDITIONAL DETAILS SEE SCD BP-6.1.

℄ CONST. RAMP F
303-FI CURVE DATA

P.I.= Sta. 306+98.41	p = 3.20'
Δ = 52° 55' 25" (LT)	D c = 30° 55' 25"
Dc = 11° 00' 00"	Lc = 281.12'
R = 520.87'	Ts = 360.73'
Ls = 200.00'	Es = 64.53'
θ s = 12° 00' 00" (LT)	C = 277.72'
LT = 133.59'	C1=C2 = 199.67'
ST = 66.90'	C.B.1 = N 16° 05' 16" E
x = 199.26'	C.B. = N 6° 42' 30" W
y = 12.77'	C.B.2 = S 29° 30' 16" E
k = 99.88'	θMAX. = 0.079

CROSS REFERENCES	
8	SCHEMATIC PLAN
20	TYPICAL SECTIONS
317-320	PLAN & PROFILE - IR 271
649- 650	PLAN & PROFILE - RAMPS

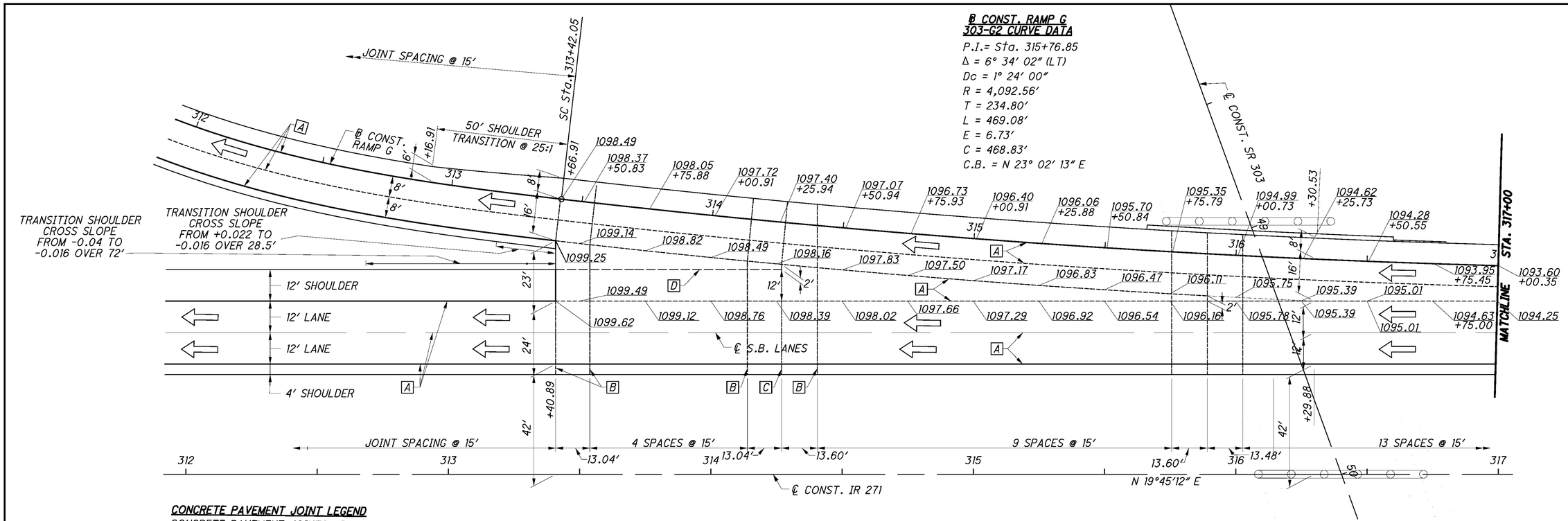


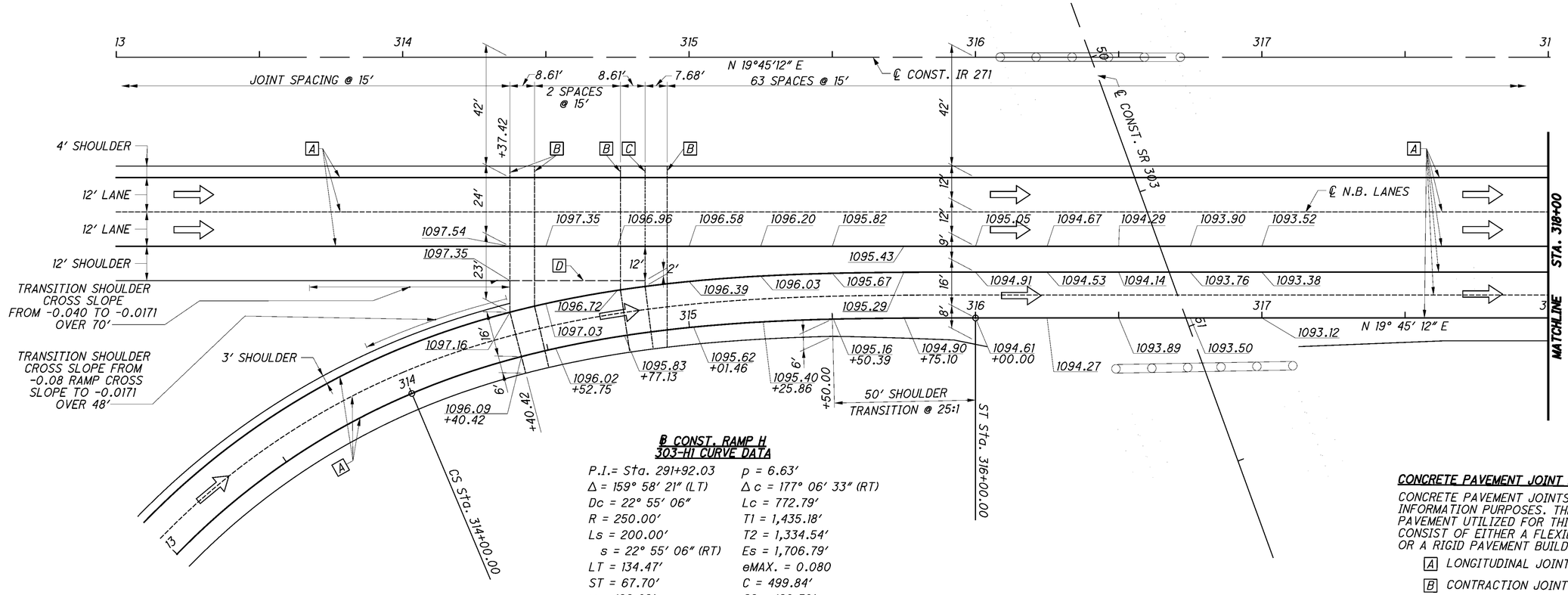
HORIZONTAL SCALE IN FEET
0 10 20 40
CALCULATED JDL
CHECKED PRS

PAVEMENT DETAIL
SR 303 ENTRANCE RAMP F
SUM-271-2.33

736
1195

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℄ CONST. RAMP G
303-G2 CURVE DATA
P.I.= Sta. 315+76.85
Δ = 6° 34′ 02″ (LT)
Dc = 1° 24′ 00″
R = 4,092.56′
T = 234.80′
L = 469.08′
E = 6.73′
C = 468.83′
C.B. = N 23° 02′ 13″ E
JOINT SPACING @ 15′
SC Sta. 313+42.05
℄ CONST. RAMP G
50′ SHOULDER TRANSITION @ 25:1
℄ CONST. SR 303
TRANSITION SHOULDER CROSS SLOPE FROM -0.04 TO -0.016 OVER 72′
TRANSITION SHOULDER CROSS SLOPE FROM +0.022 TO -0.016 OVER 28.5′
12′ SHOULDER
12′ LANE
12′ LANE
4′ SHOULDER
℄ S.B. LANES
MATCHLINE STA. 317+00
JOINT SPACING @ 15′
4 SPACES @ 15′
9 SPACES @ 15′
13 SPACES @ 15′
℄ CONST. IR 271
N 19°45′12″ E
CONCRETE PAVEMENT JOINT LEGEND
CONCRETE PAVEMENT JOINTS ARE SHOWN FOR INFORMATION PURPOSES. THE PROPOSED ROADWAY PAVEMENT UTILIZED FOR THIS PROJECT SHALL CONSIST OF EITHER A FLEXIBLE PAVEMENT BUILD-UP OR A RIGID PAVEMENT BUILD-UP.
A LONGITUDINAL JOINT
B CONTRACTION JOINT
C EXPANSION JOINT
D UNTIED LONGITUDINAL JOINT
FOR ADDITIONAL DETAILS SEE SCD BP-6.1.
℄ CONST. RAMP G
303-G1/G2 SPIRAL DATA
P.I.= Sta. 312+13.79
Δ = 24° 19′ 06″ (LT)
D1 = 22° 55′ 06″
R1 = 250.00′
D2 = 1° 24′ 00″
R2 = 4,092.56′
Ls = 200.00′
p = 6.22′
1 = 22° 55′ 31″
2 = 1° 23′ 35″
T1 = 71.73′
T2 = 130.84′
eMAX.1 = 0.080
eMAX.2 = 0.048
C1 = 441.30′
C = 198.90′
C2 = 468.83′
C.B.1 = S 67° 24′ 10″ E
C.B. = N 34° 53′ 36″ E
C.B.2 = N 23° 02′ 13″ E
PT Sta. 318+11.13 ℄ CONST. RAMP G = STA. 318+11.13 ℄ CONST. IR 271
℄ CONST. RAMP G
100′ TRANSITION
12′ SHOULDER
12′ LANE
12′ LANE
4′ SHOULDER
℄ S.B. LANES
13 SPACES @ 15′
20 SPACES @ 15′
JOINT SPACING @ 15′
N 19° 45′ 12″ E
℄ CONST. IR 271
CROSS REFERENCES
8 SCHEMATIC PLAN
20 TYPICAL SECTIONS
319-322 PLAN & PROFILE - IR 271
658- 659 PLAN & PROFILE - RAMPS
HORIZONTAL SCALE IN FEET
CALCULATED JDL
CHECKED PRS
PAVEMENT DETAIL
SR 303 EXIT RAMP G
SUM-271-2.33
737
1195
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℄ CONST. RAMP H
303-H1 CURVE DATA

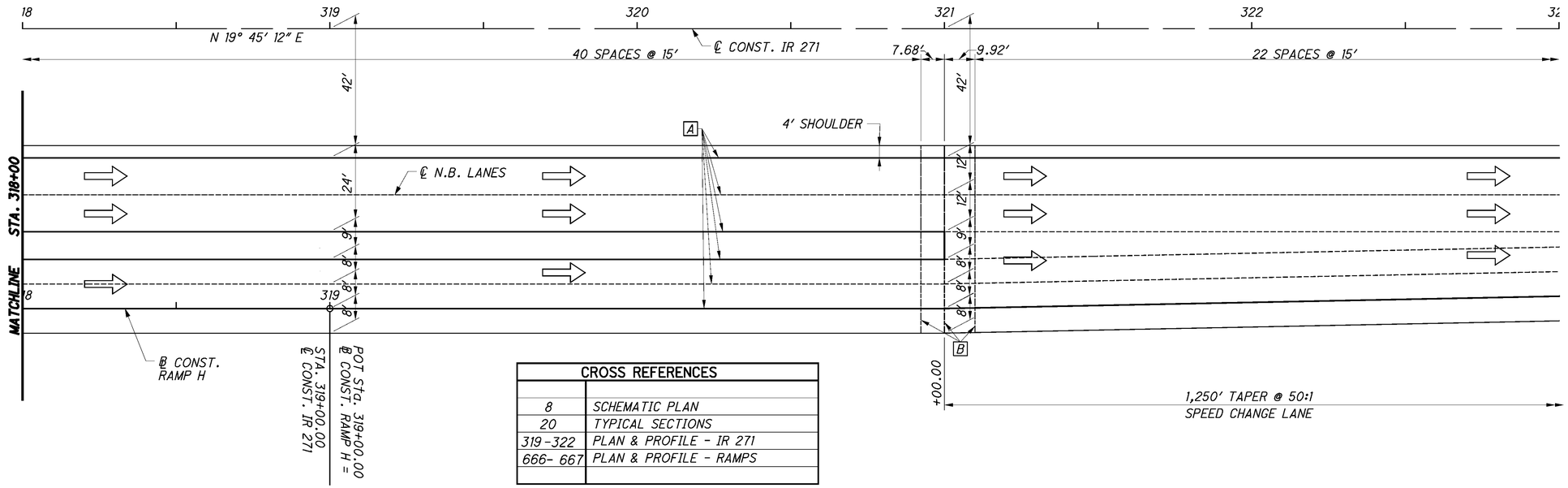
P.I.= Sta. 291+92.03	p = 6.63'
Δ = 159° 58' 21" (LT)	Δ c = 177° 06' 33" (RT)
Dc = 22° 55' 06"	Lc = 772.79'
R = 250.00'	T1 = 1,435.18'
Ls = 200.00'	T2 = 1,334.54'
s = 22° 55' 06" (RT)	Es = 1,706.79'
LT = 134.47'	eMAX. = 0.080
ST = 67.70'	C = 499.84'
x = 196.82'	C2 = 198.58'
y = 26.36'	C.B. = S 88° 16' 49" W
k = 99.47'	C.B.2 = N 12° 07' 28" E

CONCRETE PAVEMENT JOINT LEGEND

CONCRETE PAVEMENT JOINTS ARE SHOWN FOR INFORMATION PURPOSES. THE PROPOSED ROADWAY PAVEMENT UTILIZED FOR THIS PROJECT SHALL CONSIST OF EITHER A FLEXIBLE PAVEMENT BUILD-UP OR A RIGID PAVEMENT BUILD-UP.

- A LONGITUDINAL JOINT
- B CONTRACTION JOINT
- C EXPANSION JOINT
- D UNTIED LONGITUDINAL JOINT

FOR ADDITIONAL DETAILS SEE SCD BP-6.1.



CROSS REFERENCES	
8	SCHEMATIC PLAN
20	TYPICAL SECTIONS
319-322	PLAN & PROFILE - IR 271
666- 667	PLAN & PROFILE - RAMPS

HORIZONTAL SCALE IN FEET
0 10 20 40

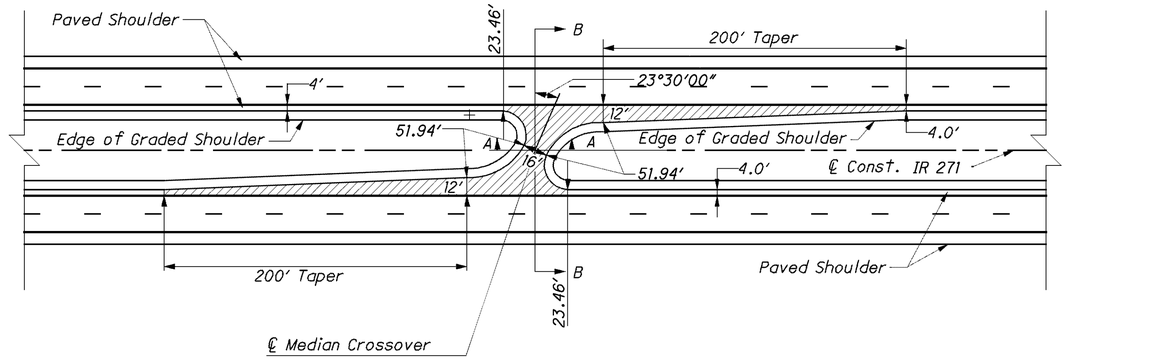
CALCULATED JDL
CHECKED PRS

PAVEMENT DETAIL
SR 303 ENTRANCE RAMP H

SUM-271-2.33

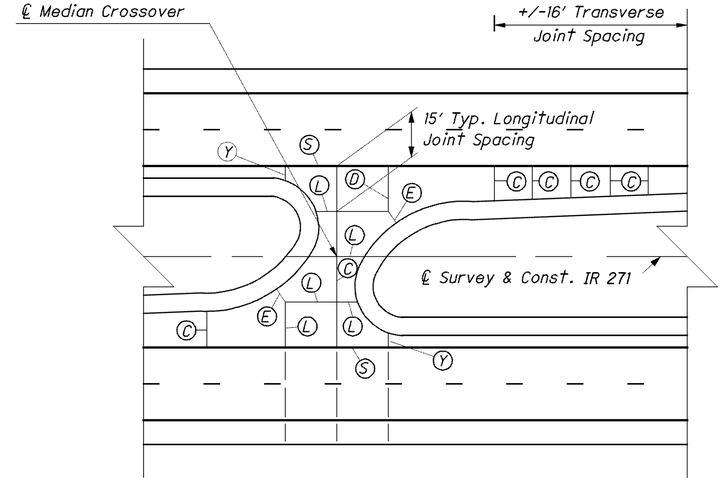
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MEDIAN CROSSOVER PAVEMENT

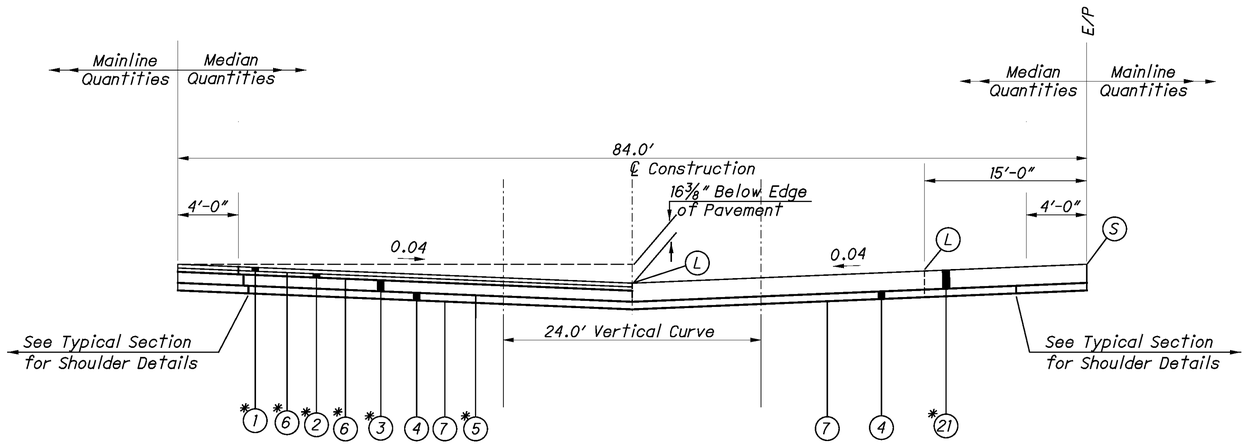
TYPICAL MEDIAN CROSSOVER DETAIL



MEDIAN CROSSOVER JOINT DETAIL

Align Transverse Joints in Median Crossover and Proposed Pavement.

Note: The Above is A Suggested Joint Diagram. The Contractor May Submit an Alternate Joint Diagram to the Engineer for Approval.



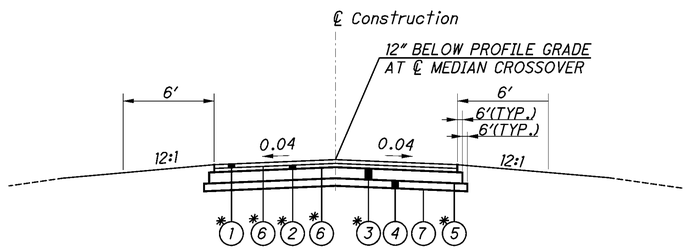
SECTION B-B

LEGEND

- *(1) ITEM 442 - 1½" ASPHALT CONCRETE SURFACE COURSE, 12.5mm, TYPE B (446), AS PER PLAN
- *(2) ITEM 442 - 1¾" ASPHALT CONCRETE INTERMEDIATE COURSE, 19mm, TYPE B (446)
- *(3) ITEM 302 - 8¾" BITUMINOUS AGGREGATE BASE
- (4) ITEM 304 - 6" AGGREGATE BASE, AS PER PLAN
- *(5) ITEM 408 - PRIME COAT (0.4 GAL./SY. APP. RATE)
- *(6) ITEM 407 - TACK COAT FOR INTERMEDIATE COURSE (0.04 GAL./SQ. YD.)
- (7) ITEM 204 - SUBGRADE COMPACTION
- *(21) ITEM 452 - 12" NON-REINFORCED CONCRETE PAVEMENT

- (C) CONTRACTION JOINT AS PER BP-2.2
- (D) TRANSVERSE JOINT (WITH DOWELS), AS PER BP-2.2
- (E) EXPANSION JOINT (WITHOUT DOWELS), AS PER BB-2.2
- (S) STANDARD LONGITUDINAL JOINT, AS PER BP-2.1 WITHOUT TIE BAR 3
- (L) LONGITUDINAL JOINT, AS PER-2.1
- (Y) CONTRACTION JOINT (TYPE Y) AS PER BP-2.5

* PROPOSED REFERENCE ITEMS 1, 2, 3, 5, 6 ON THE PROPOSED TYPICAL SECTIONS ARE SHOWN FOR INFORMATIONAL PURPOSES. THE PROPOSED ROADWAY PAVEMENT BUILD-UP UTILIZED FOR THE PROJECT SHALL CONSIST OF EITHER A RIGID PAVEMENT BUILD-UP CONSISTING OF REFERENCE ITEM 21 - NON-REINFORCED CONCRETE PAVEMENT OR A FLEXIBLE PAVEMENT BUILD-UP CONSISTING OF REFERENCE ITEMS 1, 2, 3, 5, 6 ASHPALT CONCRETE PAVEMENT.



SECTION B-B

CALCULATED | CHECKED

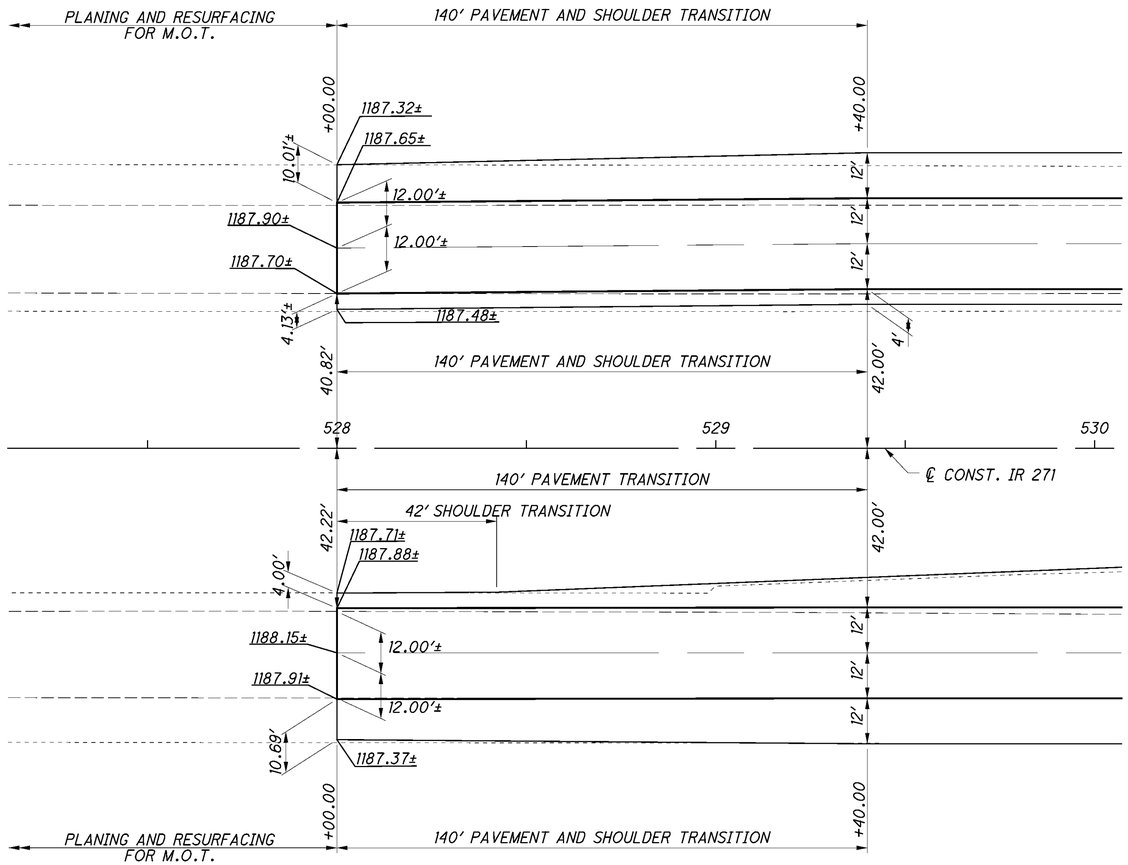
MEDIAN CROSSOVER DETAILS

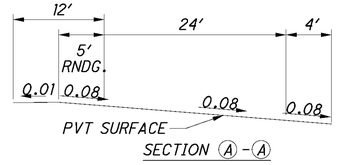
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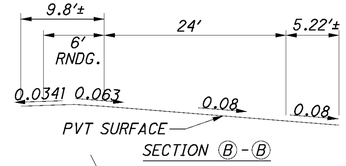
739
1195

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CROSS REFERENCES	
16	TYPICAL SECTIONS
289- 290	PLAN & PROFILE SHEET
328-330	CROSS SECTIONS

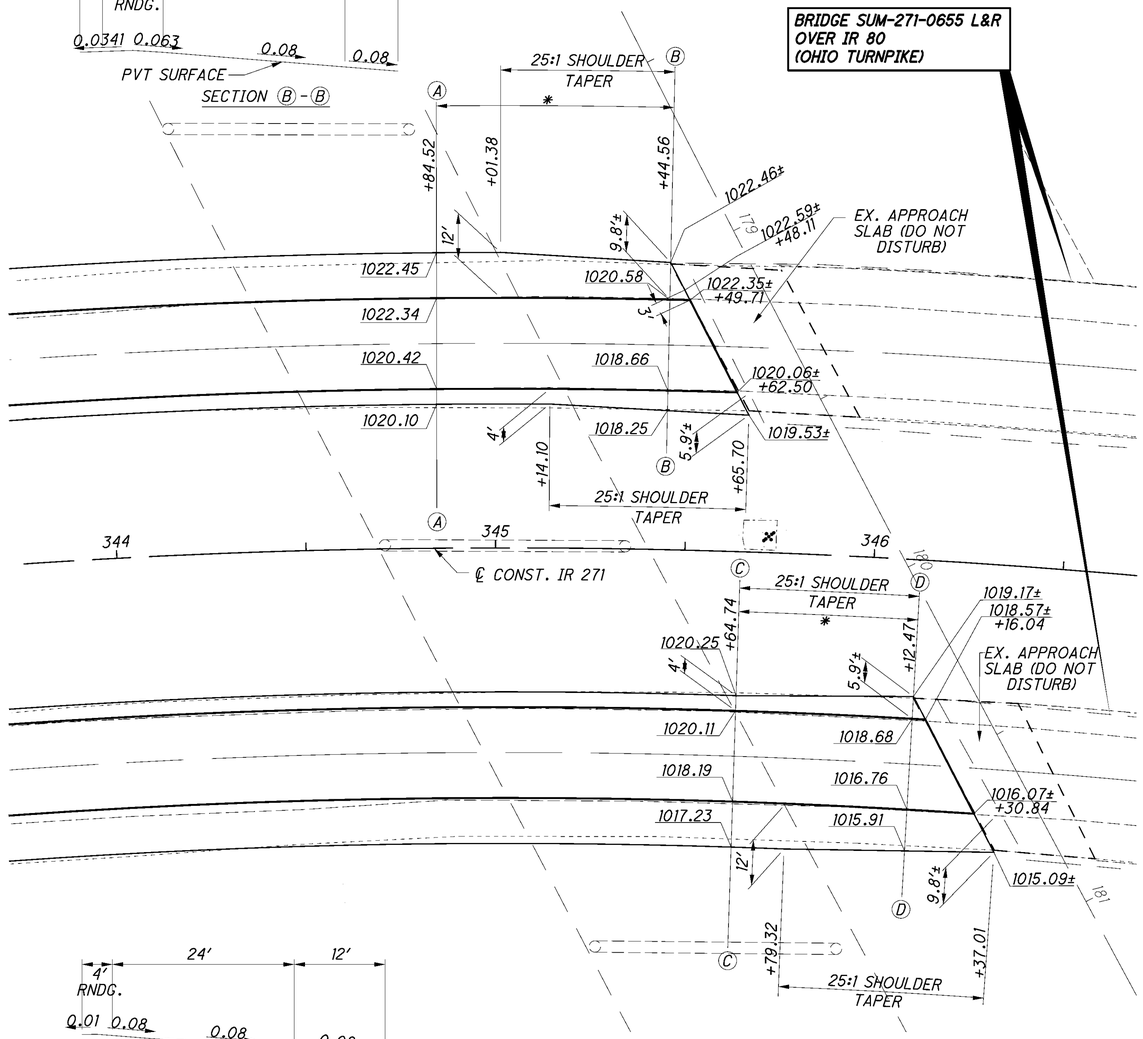


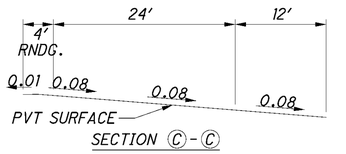


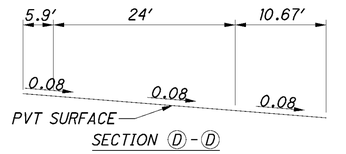


* TRANSITION SHOULDER CROSS SLOPES TO MATCH EXISTING APPROACH SLAB CROSS SLOPES AND ELEVATIONS.

BRIDGE SUM-271-0655 L&R OVER IR 80 (OHIO TURNPIKE)







CROSS REFERENCES	
16	TYPICAL SECTIONS
325- 326	PLAN & PROFILE SHEET
538-539	CROSS SECTIONS

HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED JDL
CHECKED

PAVEMENT DETAIL
BEGIN AND END PROJECT

SUM-271-2.33

740
1195

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CONCRETE PAVEMENT JOINT LEGEND

CONCRETE PAVEMENT JOINTS ARE SHOWN FOR INFORMATION PURPOSES. THE PROPOSED ROADWAY PAVEMENT UTILIZED FOR THIS PROJECT SHALL CONSIST OF EITHER A FLEXIBLE PAVEMENT BUILD-UP OR A RIGID PAVEMENT BUILD-UP.

- A LONGITUDINAL JOINT
- B CONTRACTION JOINT (AS PER BP-21)
- C EXPANSION JOINT
- D UNTIED LONGITUDINAL JOINT WITHOUT TIE BARS (AS PER BP-21)

LEGEND

XX.XX — PROPOSED ELEVATION (ADD 1200 TO ELEVATION)

NOTE: E.P. = EDGE OF PAVEMENT

PLANING AND RESURFACING

℄ CONST. RAMP A CR 17-A2 CURVE DATA

P.I.= Sta. 64+22.76	△c = 29° 19′ 15″ (RT)
△= 41° 19′ 15″ (RT)	Lc = 244.34′
Dc = 12° 00′ 00″	T1 = 275.93′
R = 477.46′	Es = 34.70′
Ls = 200.00′	T2 = 185.32′
θs = 12° 00′ 00″ (RT)	⊕MAX. = 0.057
LT = 133.64′	C = 199.61′
ST = 66.95′	C = 241.68′
x = 199.12′	C.B.1 = N 32° 34′ 42″ E
y = 13.92′	C.B. = N 55° 14′ 25″ E
k = 99.85′	
p = 3.49′	

C1

R = 60.00′
△= 58°33′01″
ARC LENGTH @ EDGE OF PAVEMENT = 61.31′

STA. 64+59.66, 79′ LT.
℄ CONST. CR 17 (BRECKSVILLE RD.) =
STA. 66+59.03, 64′ LT.
℄ CONST. RAMP A CR 17 (BRECKSVILLE RD.)

STA. 63+27.61, 50′ LT.
℄ CONST. CR 17 (BRECKSVILLE RD.) =
STA. 66+41.05, 74′ RT.
℄ CONST. RAMP A CR 17 (BRECKSVILLE RD.)

C2

R = 50.00′
△= 58°44′42″
ARC LENGTH @ EDGE OF PAVEMENT = 51.27′

STA. 67+19.79 ℄ CONST. RAMP A =
STA. 64+20.34 ℄ CONST. CR 17 (BRECKSVILLE RD.)

2 SPACES @ 8′-0″

TRANSITION RAMP CROSS SLOPE FROM 0.057 TO 0.0165 TO MATCH C.R. 17 E.O.P.

15′ TYPICAL JOINT SPACING BACK

12′ TYPICAL JOINT SPACING AHEAD

42.98′

42.48′

AT Sta. 65+91.17

1/4 POINTS (TYP.)

64+53.69 E.P. 28.72

66+65.00 E.P. 28.52

63+63.31 ℄ CR 17 E.P. 29.69

66+46.03 E.P. 28.12

E.P. 28.75

E.P. 28.78

E.P. 28.70

E.P. 28.74

E.P. 29.22

2′-0″ MIN. (TYP.)

N 0°04′15″ W 42.98′ ℄ CONST. CR 17 (BRECKSVILLE RD.) 4 SPACES @ 12′-0″

N 69° 54′ 03″ E

2 SPACES @ 12′-0″

2 SPACES @ 12′-0″

69°58′17″

0.057

+22.85 (END FULL SUPER)

INTERSECTION DETAIL
CR 17 (BRECKSVILLE RD.) RAMP A
SUM-271-2.33

741
1195

HORIZONTAL SCALE IN FEET

CALCULATED JDL CHECKED PRS

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CONCRETE PAVEMENT JOINT LEGEND

CONCRETE PAVEMENT JOINTS ARE SHOWN FOR INFORMATION PURPOSES. THE PROPOSED ROADWAY PAVEMENT UTILIZED FOR THIS PROJECT SHALL CONSIST OF EITHER A FLEXIBLE PAVEMENT BUILD-UP OR A RIGID PAVEMENT BUILD-UP.

- [A] LONGITUDINAL JOINT
- [B] CONTRACTION JOINT (AS PER BP-21)
- [C] EXPANSION JOINT
- [D] UNTIED LONGITUDINAL JOINT WITHOUT TIE BARS (AS PER BP-21)

LEGEND

XX.XX — PROPOSED ELEVATION (ADD 1200 TO ELEVATION)

PLANING AND RESURFACING

NOTE:
E.P. = EDGE OF PAVEMENT

C1
R = 50.00′
△= 79°20′00″
ARC LENGTH @ EDGE OF PAVEMENT = 69.23′

C2
R = 50.00′
△= 80°54′35″
ARC LENGTH @ EDGE OF PAVEMENT = 70.61′

† TRANSITION SHOULDER WIDTH FROM 3′-0″ TO 1′-3″ OVER 50′-0″

* TAPER CURB FROM 6″ TO 0″ IN 10′-0″

STA. 57+11.59, 66′ LT.
℄ CONST. CR 17 (BRECKSVILLE RD.) =
STA. 62+44.01, 66′ LT.
℄ CONST. RAMP B CR 17 (BRECKSVILLE RD.)

STA. 55+95.59, 74′ LT.
℄ CONST. CR 17 (BRECKSVILLE RD.) =
STA. 62+36.01, 50′ RT.
℄ CONST. RAMP B CR 17 (BRECKSVILLE RD.)

STA. 63+10.01 ℄ CONST. RAMP B =
STA. 56+45.59 ℄ CONST. CR 17 (BRECKSVILLE RD.)

EX. CB NO. 3 (RECONSTRUCTED TO GRADE)
EX. CB NO. 3 (DO NOT DISTURB)
EX. MAST ARM (DO NOT DISTURB)
EX. MAST ARM
MATCH EXIST. CURB
PROP. CURB, TYPE 6
MATCH EXISTING CATCH BASIN APRON
℄ CONST. RAMP B
℄ CONST. CR 17 (BRECKSVILLE RD.)
N 89° 55′ 45″ E
N 0°04′15″ W
END SUPERELEVATION TRANSITION, BEGIN NORMAL CROSS SLOPE
15′ TYPICAL JOINT SPACING BACK
12′ TYPICAL JOINT SPACING AHEAD
TRANSITION RAMP CROSS SLOPE FROM 0.016 TO 0.0075+/- TO MATCH C.R. 17 E.O.P.
2 SPACES @ 8′-0″
3 SPACES @ 12′-0″
5 SPACES @ 12′-0″
90°00′00″
11°50′
22°30′
22°30′
22°30′
57+02.33
E.P. 30.81
E.P. 30.75
E.P. 30.53
E.P. 30.12
62+44.01
E.P. 29.70
62+36.01
E.P. 29.29
E.P. 29.57
E.P. 29.71
E.P. 29.85
2′-0″MIN. (TYP.)
E.P. 56+03.49
29.99
8.63′
32.45′
55+71.06
3.52′
3.44′
4′-0″
4′
4′-8½″
14′-6½″
2.14′±
3′
6′
16′
61
63
56
57
+74.56
0.016
28.45 +50
28.72 +75.00
29.04 +00.00
29.37 +25.00
29.81 +50.00
30.06
30.33
30.47
28.13
28.46 +75.00
62 28.78
29.11 +25.00
29.44 +44.01
29.62 +53.30
29.80 +63.15
30.12 +79.64
29.55
29.80 +68.46
30.11 +79.37
30.32 +90.21
32.02± +50.00
31.77± +25.00
31.41± +00.00
31.09± +75.00
30.80±
30.65±
30.55±
30.51±
30.39±
30.78± +50.00
30.32±
30.23±
30.59± +25.00
30.13±
30.41± +00.00
30.10±
30.29± +75.00
30.18± +50.00

HORIZONTAL SCALE IN FEET
0 5 10 20
CALCULATED JDL
CHECKED PRS

INTERSECTION DETAIL
CR 17 (BRECKSVILLE RD.) RAMP B

SUM-271-2.33

742
1195

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STA. 303+76.88 ℄ CONST. RAMP H =
STA. 55+28.76 ℄ CONST. SR 303

STA. 320+55.86 ℄ CONST. RAMP E =
STA. 55+70.76 ℄ CONST. SR 303

1109.31± +25.00 | 1108.47± +50.00 | 1107.58± +75.00 | 55 1106.67± +00.00 | 1105.71± +25.00 | 1104.72± +50.00 | 1103.68± +75.00 | 56 1102.58± +00.00 | 1101.46± +25.00 | 1100.32± +50.00 | 1099.13± +75.00 | 1097.91± +00.00 | 57

℄ CONST. SR 303

5′-0″ | 8 SPACES @ 12′-0″ | 2 SPACES @ 8′-0″ | 10′-0″ | 3 SPACES @ 8′-0″ | 8 SPACES @ 12′-0″

42.98′ | 53.92′

24′ | 24′ | 24′

8′ | 6′

1108.85 +27.74 | 1108.16± +50.00 | 1107.42± +70.72 | 1106.62± +90.45 | 1106.01± +07.18 | 1105.57± +18.97 | 1105.21± +28.75 | 1104.61± +44.75 | 1104.21± +54.75 | 1103.56± +70.75 | 1103.20± +78.75 | 1102.67± +90.71 | 1102.04± +04.27 | 1101.28± +20.85 | 1099.93± | 1098.81± | 1099.86

1108.13 | 4.30′ | 8.63′

E.P. 1107.36 | E.P. 1106.44 | 2′ MIN.(TYP.) | E.P. 1105.38 | E.P. 1104.32 | E.P. 1103.64 | E.P. 1102.81 | E.P. 1102.63 | E.P. 1102.85 | E.P. 1101.88 | E.P. 1101.14

1104.51 | 1104.38 | 1104.11 | 1103.74 | 1103.38 | 1103.53 | 1103.25 | 1103.12 | 1103.06 | 1103.00 | 1102.96 | 1102.92

1104.02 | 1103.91 | 1103.65 | 1103.27 | 1103.25 | 1103.04 | 1102.89 | 1102.74 | 1102.67 | 1102.63 | 1102.59 | 1102.55 | 1102.52 | 1102.51 | 1102.18 | 1102.14 | 1102.38

1105.08 +05.18 | 1104.92 +10.66 | 1104.56 +22.45 | 1104.49 +25.00 | 1104.11 +39.13 | 1103.82 +50.00 | 1103.59 +58.91 | 1103.42 +53.24 | 1103.35 +47.46 | 1103.25 +06.31 | 1103.19 +00.00 | 1103.16 +75.00 | 1103.13 +91.15 | 1103.55 +50.00 | 1103.38 | 1103.27 +75.00 | 1103.18 | 1102.97 +75.00 | 1102.86 +73.86 | 1102.74 +50.00 | 1102.63 | 1102.58 +25.00 | 1102.55 +00.00 | 1102.30 +00.00 | 1101.95 +25.00

12′-00″ (TYP.)

C1 | C2

1/4 POINTS (TYP.)

STA. 54+64.75, 88′ RT.
℄ CONST. SR 303 =
STA. 304+64.88, 64′ RT.
℄ CONST. RAMP H SR 303

304+90.12
FLAT CROSS SLOPE

305+01.89
E.P. 1102.51

305+28.19
NORMAL CROSS SLOPE (+0.016)

319+67.46
NORMAL CROSS SLOPE (-0.016)

319+26.24
FLAT CROSS SLOPE

STA. 56+28.75, 82′ RT.
℄ CONST. SR 303 =
STA. 319+73.86, 58′ RT.
℄ CONST. RAMP E SR 303

S 0°02′27″ E

N 0°16′27″ W

-0.016

+0.016

42.98′

4.30′ | 8.00′

6.00′

℄ CONST. RAMP H

℄ CONST. RAMP E

319

CONTRACTION JOINT SPACING @ 12′-0″(TYP.)

8′ | 8′ | 10′ | 8′ | 8′ | 8′

6′ | 16′ | 10′ | 16′ | 8′ | 6′

C1
R = 60.00′
△= 78°34′43.73″
ARC LENGTH @ EDGE OF PAVEMENT = 82.29′

C2
R = 50.00′
△= 80°54′35″
ARC LENGTH @ EDGE OF PAVEMENT = 70.61′

* TRANSITION CROSS SLOPE FROM +0.016 TO -0.0375+/- TO MATCH S.R. 303 E.O.P. SLOPE

** RAMP H CURVE SUPERELEVATION TRANSITION RUNOUT

≠ TRANSITION CROSS SLOPE FROM -0.016 TO -0.041+/- TO MATCH S.R. 303 E.O.P. SLOPE

≠ ≠ RAMP E CURVE SUPERELEVATION TRANSITION RUNOUT

CONCRETE PAVEMENT JOINT LEGEND

CONCRETE PAVEMENT JOINTS ARE SHOWN FOR INFORMATION PURPOSES. THE PROPOSED ROADWAY PAVEMENT UTILIZED FOR THIS PROJECT SHALL CONSIST OF EITHER A FLEXIBLE PAVEMENT BUILD-UP OR A RIGID PAVEMENT BUILD-UP.

- [A] LONGITUDINAL JOINT
- [B] CONTRACTION JOINT (AS PER BP-21)
- [C] EXPANSION JOINT
- [D] UNTIED LONGITUDINAL JOINT WITHOUT TIE BARS (AS PER BP-21)

LEGEND

XXXX.XX PROPOSED ELEVATION

NOTE:
E.P. = EDGE OF PAVEMENT

HORIZONTAL SCALE IN FEET
0 5 10 20

CALCULATED JDL | CHECKED PRS

INTERSECTION DETAIL SR 303 RAMP E AND H

SUM-271-2.33

743
1195

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STA. 315+91.02 ℄ CONST. RAMP F =
STA. 42+16.32 ℄ CONST. SR 303

STA. 303+83.62 ℄ CONST. RAMP G =
STA. 42+58.32 ℄ CONST. SR 303

℄ CONST. SR 303

1118.00± +00.00 | 1117.32± +25.00 | 1116.57± +50.00 | 1115.81± +75.00 | 1115.12± +00.00 | 1114.66± +25.00 | 1114.21± +50.00 | 1113.92± +75.00 | 1113.71± +00.00 | 1113.62± +25.00 | 1113.56± +50.00 | 1113.65± +75.00

41 42 43

5′-10″ | 8 SPACES @ 12′-0″ | 2 SPACES @ 8′-0″ | 10′ | 3 SPACES @ 8′-0″ | 7 SPACES @ 12′-0″ | 15′-9″

43.44 | 57.10 | 24′ | 23.36

PC 304+58.27

1117.22 +14.24 | 1116.17± +50.00 | 1115.93± +57.21 | 1115.26± +77.08 | 1114.69± +93.90 | 1114.55± +00.00 | 1114.43± +05.67 | 1114.21± +16.00 | 1113.87± +32.07 | 1113.72± +42.07 | 1113.60± +50.00 | 1113.48± +58.27 | 1113.41± +66.07 | 1113.28± +78.11 | 1113.14± +92.09 | 1113.10± +00.00 | 1113.08± +09.03 | 1113.02± +50.00 | 1113.05± +66.54

2.10 | 8.52′ | 8′-0″ | 9′-0″ | 12′ | 8′-0″

1116.80 | 1115.96 | 1115.70 | 1115.89 | 4.30′ | 1114.99 | 1114.38 | 1114.23 | 1114.09 | 1113.78 +55.02 | 1113.64 +50.09 | 1113.48 +44.75 | 12′ (TYP.) | 1113.53 | 1113.38 | 1113.22 | 1113.47 | 1114.32 | 1113.01 | 1113.21 +15.88 | 1113.06 +21.55 | 1112.75 +32.69 | 1112.62 | 1113.08 | 1112.93 | 1112.97

1113.12 +35.98 | 1112.88 +25.00 | 1112.62 +16.17 | 1112.94 | 1112.63 | 1112.56 | 1112.36 | 1112.50 +50.00 | 1112.25 +50.00 | 1112.31 +47.97 | 1112.18 | 1112.12 +50.00 | 1111.80 +65.34 | 1112.06 | 1112.13 | 1111.88 | 1111.78 | 1111.52 +75.00 | 1111.40 | 1111.62 +75.00 | 1111.35 | 1111.26 | 1111.00 +00.00 | 1110.87 | 1111.18 | 1110.82 | 1110.54 | 1110.14 +25.00 | 1109.95 | 1111.11 | 1110.77 +50

E.P. 1115.62 | E.P. 1114.67 | E.P. 1113.72 | E.P. 1112.78 | E.P. 1112.64 | E.P. 1112.84 | E.P. 1112.43 | E.P. 1112.13 | E.P. 1111.68

C1 | C2

1/4 POINTS (TYP.)

STA. 41+51.24, 100.00′ RT.
℄ CONST. SR 303 =
STA. 314+92.16, 64′ LT.
℄ CONST. RAMP F SR 303

C1
R = 60.00′
△= 79°11′05.41.02″
ARC LENGTH @ EDGE
OF PAVEMENT = 82.93′

STA. 43+16.72, 81.95′ RT.
℄ CONST. SR 303 =
STA. 304+65.34, 58′ LT.
℄ CONST. RAMP G SR 303

C2
R = 50.00′
△= 81°30′59.68″
ARC LENGTH @ EDGE OF PAVEMENT = 71.14′

8′-0″ 4.30′ | 42.98′ | 21.37′ | 315 | N 6° 26′ 40″ W | S 6° 26′ 40″ E | 305

-0.016 | -0.016

314+76.76
NORMAL CROSS SLOPE
(-0.016)

314+53.32

SUPERELEVATION
TRANSITION RUNOUT

6′-0″

16′ | 10′ | 16′ | 8′

℄ CONST. RAMP G

CONTRACTION JOINT
SPACING @ 12′-0″ (TYP.)

℄ CONST. SR 303 CURVE DATA

P.I.= Sta. 44+32.15
Δ = 5° 47′ 10″ (RT)
Dc = 1° 44′ 10″
R = 3,300′
T = 166.77′
L = 333.26′
E = 4.21′
C = 333.21′
C.B. = N 86° 49′ 58″ E

LEGEND

XXXX.XX PROPOSED ELEVATION

NOTE:
E.P. = EDGE OF PAVEMENT

CONCRETE PAVEMENT JOINT LEGEND

CONCRETE PAVEMENT JOINTS ARE SHOWN FOR INFORMATION PURPOSES. THE PROPOSED ROADWAY PAVEMENT UTILIZED FOR THIS PROJECT SHALL CONSIST OF EITHER A FLEXIBLE PAVEMENT BUILD-UP OR A RIGID PAVEMENT BUILD-UP.

- [A] LONGITUDINAL JOINT
- [B] CONTRACTION JOINT (AS PER BP-21)
- [C] EXPANSION JOINT
- [D] UNTIED LONGITUDINAL JOINT WITHOUT TIE BARS (AS PER BP-21)

FOR ADDITIONAL DETAILS
SEE SCD BP-6.1.

HORIZONTAL SCALE IN FEET
0 5 10 20

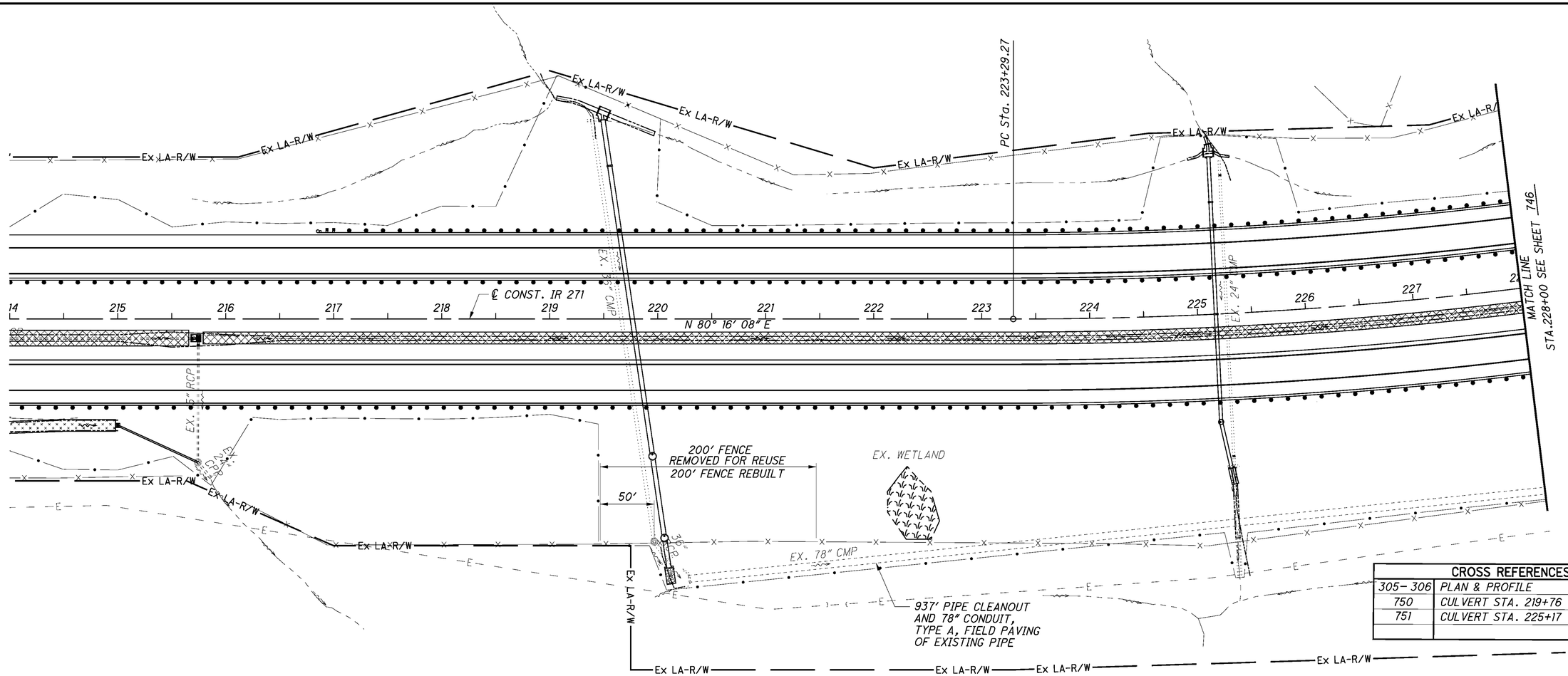
CALCULATED JDL | CHECKED PRS

INTERSECTION DETAIL SR 303 RAMP F AND G

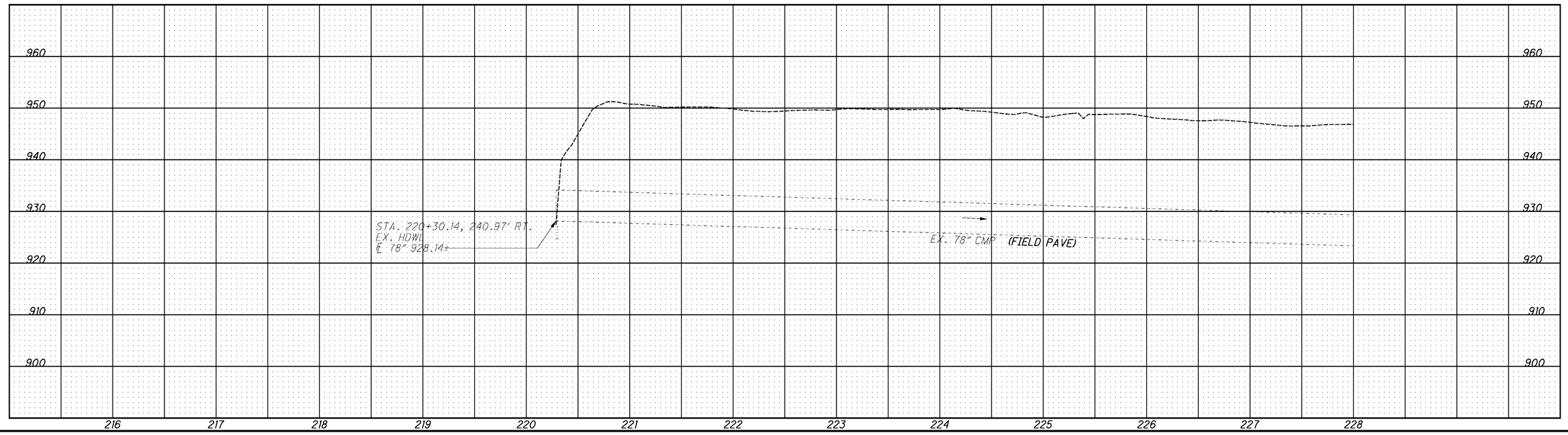
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1195

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CROSS REFERENCES	
305– 306	PLAN & PROFILE
750	CULVERT STA. 219+76
751	CULVERT STA. 225+17



HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED DAW
CHECKED PRS

STORM SEWER PROFILE

SUM-271-2.33

745
1195

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CROSS REFERENCES	
307–308	PLAN & PROFILE
752	CULVERT STA. 229+27
753	CULVERT STA. 238+15
768	JUNCTION CHAMBER, AS PER PLAN
769	JUNCTION CHAMBER, AS PER PLAN-1

HORIZONTAL SCALE IN FEET: 0, 25, 50, 100

CALCULATED: DAW

CHECKED: PRS

MATCH LINE STA. 228+00 SEE SHEET 745

Ex LA-R/W

EX. WETLAND

EX. 48" RCP

(REMOVE) EX. 15" RCP

PROP. 15"

EX. 24" CMP

EX. 15" RCP

℄ CONST. IR 271

N 68° 18' 20" E

937' PIPE CLEANOUT AND 78" CONDUIT, TYPE A, FIELD PAVING OF EXISTING PIPE

4' WIDE x 3' LONG ROCK CHANNEL PROTECTION, TYPE A WITH FABRIC FILTER (T=48")

28' WIDE x 34' LONG ROCK CHANNEL PROTECTION, TYPE A WITH FABRIC FILTER (T=48")

800'-FENCE REMOVED FOR REUSE
FENCE REBUILT

50'

570'-84"

126'-84"

EX. 78" CMP

EX. 72" CMP

EX. 48" RCP

EX. 84" CONC.

EX. 84" CMP

Ex LA

EX. OVERHEAD ELECTRIC LINES (69,000 VOLTS)

REMOVE 84" TO FIRST JOINT SW OF THE CATCH BASIN LOCATION

BULKHEAD

(DO NOT DISTURB)

(REMOVE)

357' (PLUG & FILL)

Ex L 25'

ITEM 603 84" CONDUIT, TYPE C, 706.02, 1750 D-LOAD, AS PER PLAN

IN ADDITION TO ITEM 603, THE LENGTH OF PROPOSED CONDUIT EXCAVATION, CONDUIT INSTALLATION, AND BACKFILL OPERATION SHALL BE HELD TO A MINIMUM AS APPROVED BY THE ENGINEER. NO CONDUIT TRENCH MAY BE LEFT OPEN OVER-NIGHT. TRENCH BACKFILL SHALL BE COMPLETED TO THE EXISTING GROUNDLINE BY THE END OF THE WORK DAY. IN CASE SOME WORK MUST BE SUSPENDED BECAUSE OF INCLEMENT WEATHER OR OTHER REASONS, THE CONDUIT TRENCH SHALL BE BACKFILLED AS APPROVED BY THE ENGINEER. EXCAVATION FOR THE EXISTING CONDUIT REMOVAL IN THE VICINTY OF THE LOCATION OF THE PROPOSED CONDUIT INSTALLATION SHALL BE IMMEDIATELY BACKFILLED IN ACCORDANCE WITH ITEM 603 SUBSEQUENT TO THE REMOVAL OF THE EXISTING CONDUIT AS APPROVED BY THE ENGINEER. THE 69 kv ELECTRIC LINE, POWER POLES, AND ANCHORS SHALL NOT BE DISTURBED. THE ANCHORS NEED TO HAVE UNDISTURBED SOIL FOR AT LEAST 15 FEET FROM THE POST WHERE THE ANCHORS ENTER THE GROUND.

ALL LABOR, MATERIALS, EQUIPMENT, AND INCIDENTALS NECESSARY TO COMPLETE THIS ITEM OF WORK SHALL BE INCLUDED IN THE UNIT CONTRACT BID PRICE PER FOOT FOR ITEM 603-84" CONDUIT, TYPE C, 706.02, 1750 D-LOAD, AS PER PLAN.

ITEM 659 SEEDING AND MULCHING

AN ADDITIONAL QUANTITY OF ITEM 659 SEEDING AND MULCHING HAS BEEN PROVIDED TO COVER THE AREA INSIDE THE CONSTRUCTION LIMITS NOT INCLUDED IN THE SEEDING AREA COVERED ON THE CROSS SECTIONS.

Ex LA-R/W

ESTIMATED QUANTITIES

ITEM	QUANTITY	UNIT	DESCRIPTION
202	1	EA	HEADWALL REMOVED
202	329	FT	PIPE REMOVED, OVER 24"
SPECIAL	357	FT	FILL AND PLUG EXISTING CONDUIT
SPECIAL	937	FT	PIPE CLEANOUT
202	1	EA	STRUCTURE REMOVED
202	1000	FT	FENCE REMOVED FOR REUSE
601	143	CU YD	ROCK CHANNEL PROTECTION, TYPE A, WITH FABRIC FILTER
602	4.05	CU YD	CONCRETE MASONRY
603	937	FT	78" CONDUIT, TYPE A, FIELD PAVING OF EXISTING PIPE
603	696	FT	84" CONDUIT, TYPE C, 706.02, 1750 D-LOAD, AS PER PLAN
604	1	EA	JUNCTION CHAMBER, AS PER PLAN
604	1	EA	JUNCTION CHAMBER, AS PER PLAN-1
607	1000	FT	FENCE REBUILT, TYPE 47
659	30886	SQ YD	SEEDING AND MULCHING

QUANTITIES CARRIED TO DRAINAGE SUBSUMMARY

940 / 930 / 920 / 910 / 900 / 890 / 880

STA. 232+99.98, 190.75' RT.
JUNTION CHAMBER, AS PER PLAN
GRATE EL. 923.52
℄ 84" (W) 909.71
℄ 84" (E) 909.59

EX. 78" CMP

EX. 72" CONC.

EX. 336' - 84" @ 3.05%±

STA. 229+34.95, 193.71' RT.
EX. CB
GRATE EL. 929.72
℄ 72" (E) 920.57
℄ 78" (W) 920.52

STA. 229+70.44, 187.14' RT.
JUNCTION CHAMBER
COVER EL. 934.35
℄ 48" (N) 926.55
℄ 72" (W) 920.20
℄ 84" (E) 919.95

4' - 84" CONDUIT, TYPE C, 706.02, 1750 D-LOAD, AS PER PLAN @ 3.05%

STA. 232+99.98, 190.75' RT.
EX. CB (REMOVE)
GRATE EL. 923.52
℄ 84" (W) 909.71
℄ 84" (E) 909.59

EX. 682' - 84" @ 2.91%

EXISTING 84" (REMOVE)

126'-84" CONDUIT, TYPE C, 706.02, 1750 D-LOAD AS PER PLAN @ 1.90%

570'-84" CONDUIT, TYPE C, 706.02, 1750 D-LOAD, AS PER PLAN @ 2.64%

EXISTING 84" 357' (PLUG & FILL)

STA. 238+70.00, 190.00' RT.
JUNCTION CHAMBER, AS PER PLAN-1
GRATE EL. 920.00
℄ 84" (E) 892.10
℄ 84" (W) 894.57
℄ 36" (N) 907.50

STA. 239+80.0±, 245.0'± RT.
EX. HDWL (REMOVE)
℄ 84" 889.76

STA. 239+80.00, 245.00' RT
HW-2.2 HDWL
℄ 84" 889.76

25' (REMOVE)

228 / 229 / 230 / 231 / 232 / 233 / 234 / 235 / 236 / 237 / 238 / 239 / 240 / 241

STORM SEWER PROFILE

SUM-271-2.33

746
1195

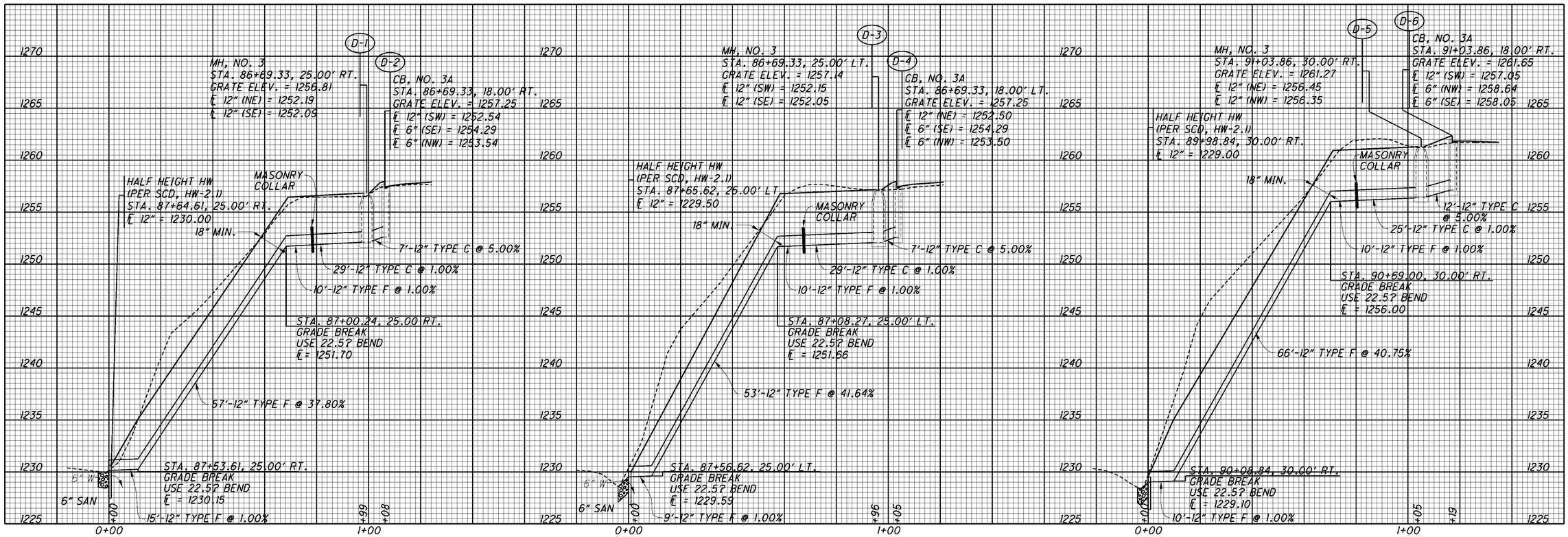
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CALCULATED PEK
CHECKED TLH

SIDEROAD STORM SEWER PROFILES

SUM-271-2.33





RCP, TYPE C W/FABRIC FILTER (4'X4'X1.5')

CALCULATED PEK
CHECKED TLH

SIDEROAD STORM SEWER PROFILES

SUM-271-2.33

748
1195

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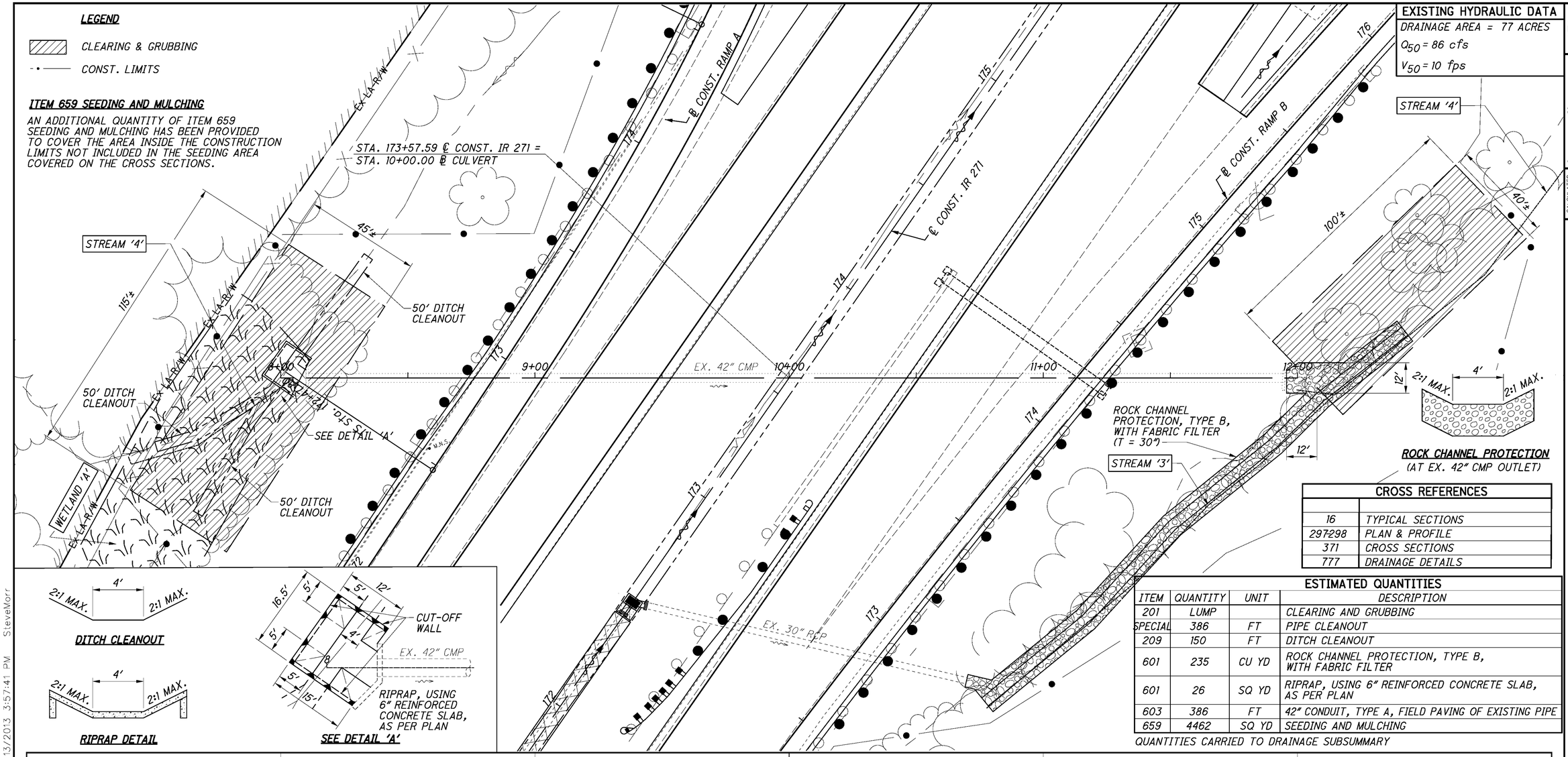
LEGEND

CLEARING & GRUBBING

CONST. LIMITS

ITEM 659 SEEDING AND MULCHING

AN ADDITIONAL QUANTITY OF ITEM 659 SEEDING AND MULCHING HAS BEEN PROVIDED TO COVER THE AREA INSIDE THE CONSTRUCTION LIMITS NOT INCLUDED IN THE SEEDING AREA COVERED ON THE CROSS SECTIONS.



ROCK CHANNEL PROTECTION
(AT EX. 42" CMP OUTLET)

EXISTING HYDRAULIC DATA

DRAINAGE AREA = 77 ACRES

Q_{50} = 86 cfs

V_{50} = 10 fps

HORIZONTAL SCALE IN FEET

CALCULATED DAW

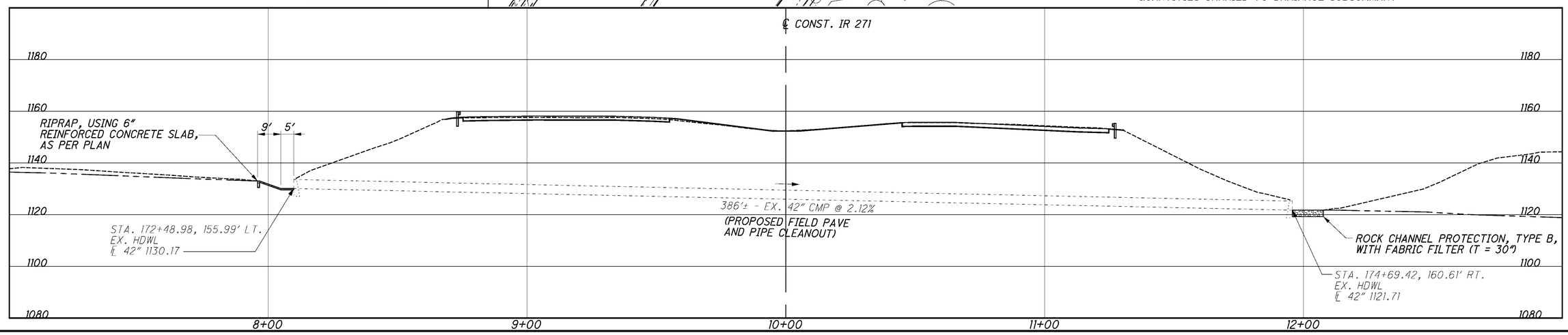
CHECKED PRS

CROSS REFERENCES	
16	TYPICAL SECTIONS
297-298	PLAN & PROFILE
371	CROSS SECTIONS
777	DRAINAGE DETAILS

ESTIMATED QUANTITIES

ITEM	QUANTITY	UNIT	DESCRIPTION
201	LUMP		CLEARING AND GRUBBING
SPECIAL	386	FT	PIPE CLEANOUT
209	150	FT	DITCH CLEANOUT
601	235	CU YD	ROCK CHANNEL PROTECTION, TYPE B, WITH FABRIC FILTER
601	26	SQ YD	RIPRAP, USING 6" REINFORCED CONCRETE SLAB, AS PER PLAN
603	386	FT	42" CONDUIT, TYPE A, FIELD PAVING OF EXISTING PIPE
659	4462	SQ YD	SEEDING AND MULCHING

QUANTITIES CARRIED TO DRAINAGE SUBSUMMARY



CULVERT DETAIL STA. 173+57.59

SUM-271-2.33

749
1195

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LEGEND

CLEARING & GRUBBING

CONST. LIMITS

STA. 219+76.54 ℄ CONST. IR 271 =
STA. 10+00.00 ℄ CULVERT

ITEM 203 - EMBANKMENT

THE FOLLOWING QUANTITY HAS BEEN PROVIDED TO FILL IN THE VOID BETWEEN THE EXISTING AND PROPOSED HEADWALL AT THE OUTLET END OF THE PROPOSED CULVERT.

HDWL WIDTH = 8 FT.
END AREA = 35 SQ.FT. (TAKEN FROM PROFILE VIEW)
LENGTH FROM HDWL TO TOUCHDOWN = 10 FT.
[(35 SQ.FT. X 8 FT.) + (10 FT. X 35 SQ.FT./2) X 2 SIDES] / 27 = 23.33 CU.YD.
USE 25 CU.YD.

ITEM 203 - EMBANKMENT 25 CU. YD.

DITCH CLEANOUT

100' DITCH CLEANOUT

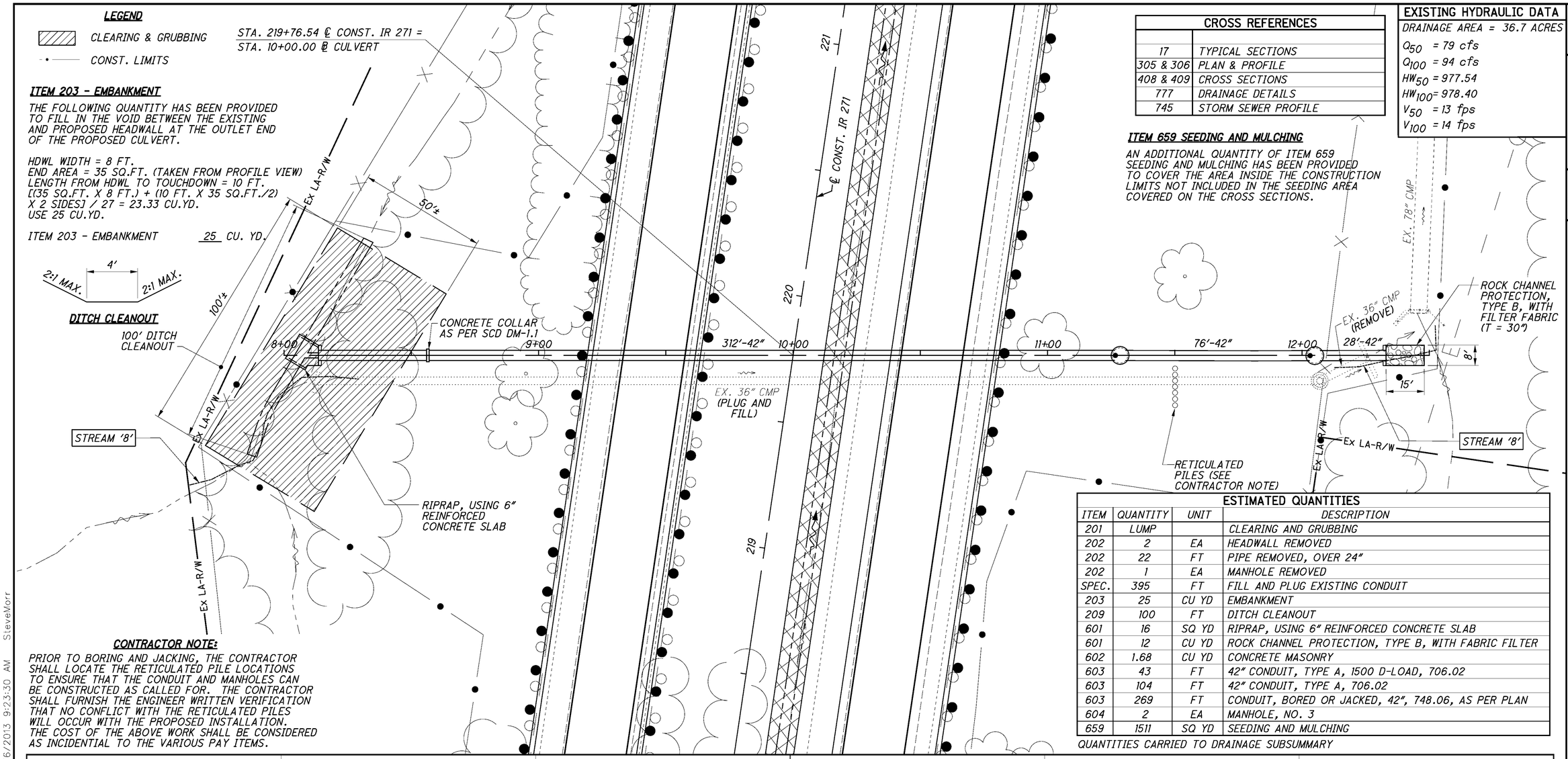
CROSS REFERENCES	
17	TYPICAL SECTIONS
305 & 306	PLAN & PROFILE
408 & 409	CROSS SECTIONS
777	DRAINAGE DETAILS
745	STORM SEWER PROFILE

EXISTING HYDRAULIC DATA

DRAINAGE AREA = 36.7 ACRES
Q_{50} = 79 cfs
Q_{100} = 94 cfs
HW_{50} = 977.54
HW_{100} = 978.40
V_{50} = 13 fps
V_{100} = 14 fps

ITEM 659 SEEDING AND MULCHING

AN ADDITIONAL QUANTITY OF ITEM 659 SEEDING AND MULCHING HAS BEEN PROVIDED TO COVER THE AREA INSIDE THE CONSTRUCTION LIMITS NOT INCLUDED IN THE SEEDING AREA COVERED ON THE CROSS SECTIONS.



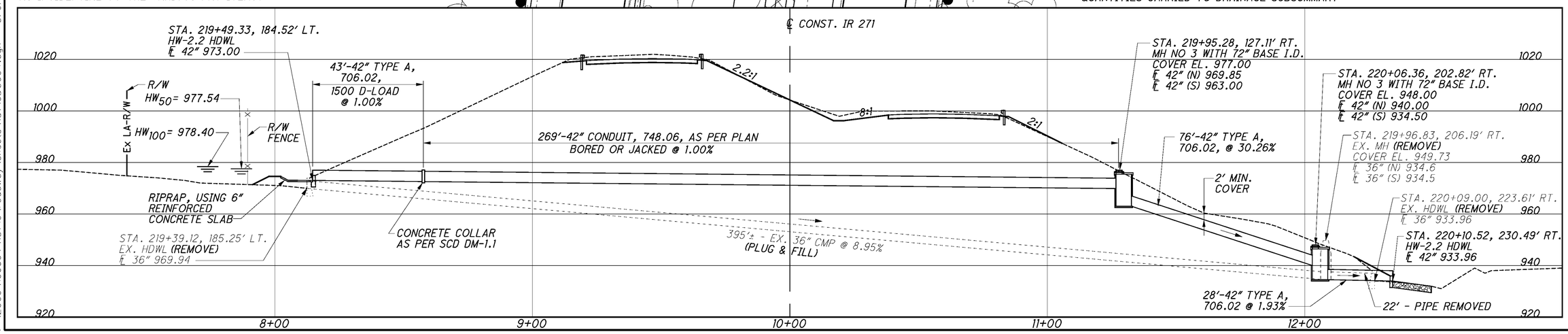
CONTRACTOR NOTE:

PRIOR TO BORING AND JACKING, THE CONTRACTOR SHALL LOCATE THE RETICULATED PILE LOCATIONS TO ENSURE THAT THE CONDUIT AND MANHOLES CAN BE CONSTRUCTED AS CALLED FOR. THE CONTRACTOR SHALL FURNISH THE ENGINEER WRITTEN VERIFICATION THAT NO CONFLICT WITH THE RETICULATED PILES WILL OCCUR WITH THE PROPOSED INSTALLATION. THE COST OF THE ABOVE WORK SHALL BE CONSIDERED AS INCIDENTIAL TO THE VARIOUS PAY ITEMS.

ESTIMATED QUANTITIES

ITEM	QUANTITY	UNIT	DESCRIPTION
201	LUMP		CLEARING AND GRUBBING
202	2	EA	HEADWALL REMOVED
202	22	FT	PIPE REMOVED, OVER 24"
202	1	EA	MANHOLE REMOVED
SPEC.	395	FT	FILL AND PLUG EXISTING CONDUIT
203	25	CU YD	EMBANKMENT
209	100	FT	DITCH CLEANOUT
601	16	SQ YD	RIPRAP, USING 6" REINFORCED CONCRETE SLAB
601	12	CU YD	ROCK CHANNEL PROTECTION, TYPE B, WITH FABRIC FILTER
602	1.68	CU YD	CONCRETE MASONRY
603	43	FT	42" CONDUIT, TYPE A, 1500 D-LOAD, 706.02
603	104	FT	42" CONDUIT, TYPE A, 706.02
603	269	FT	CONDUIT, BORED OR JACKED, 42", 748.06, AS PER PLAN
604	2	EA	MANHOLE, NO. 3
659	1511	SQ YD	SEEDING AND MULCHING

QUANTITIES CARRIED TO DRAINAGE SUBSUMMARY



CULVERT DETAIL
STA. 219+76.54

SUM-271-2.33

HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED DAW
CHECKED PRS

750
1195

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CROSS REFERENCES	
17	TYPICAL SECTIONS
305 & 306	PLAN & PROFILE
418	CROSS SECTIONS
776	DRAINAGE DETAILS
745	STORM SEWER PROFILE

EXISTING HYDRAULIC DATA
DRAINAGE AREA = 5.8 ACRES
Q_{50} = 21 cfs
Q_{100} = 25 cfs
HW_{50} = 976.61
HW_{100} = 976.82
V_{50} = 10 fps
V_{100} = 10 fps

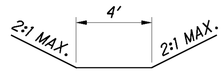
HORIZONTAL SCALE IN FEET (0, 10, 20, 40)

CALCULATED DAW CHECKED PRS

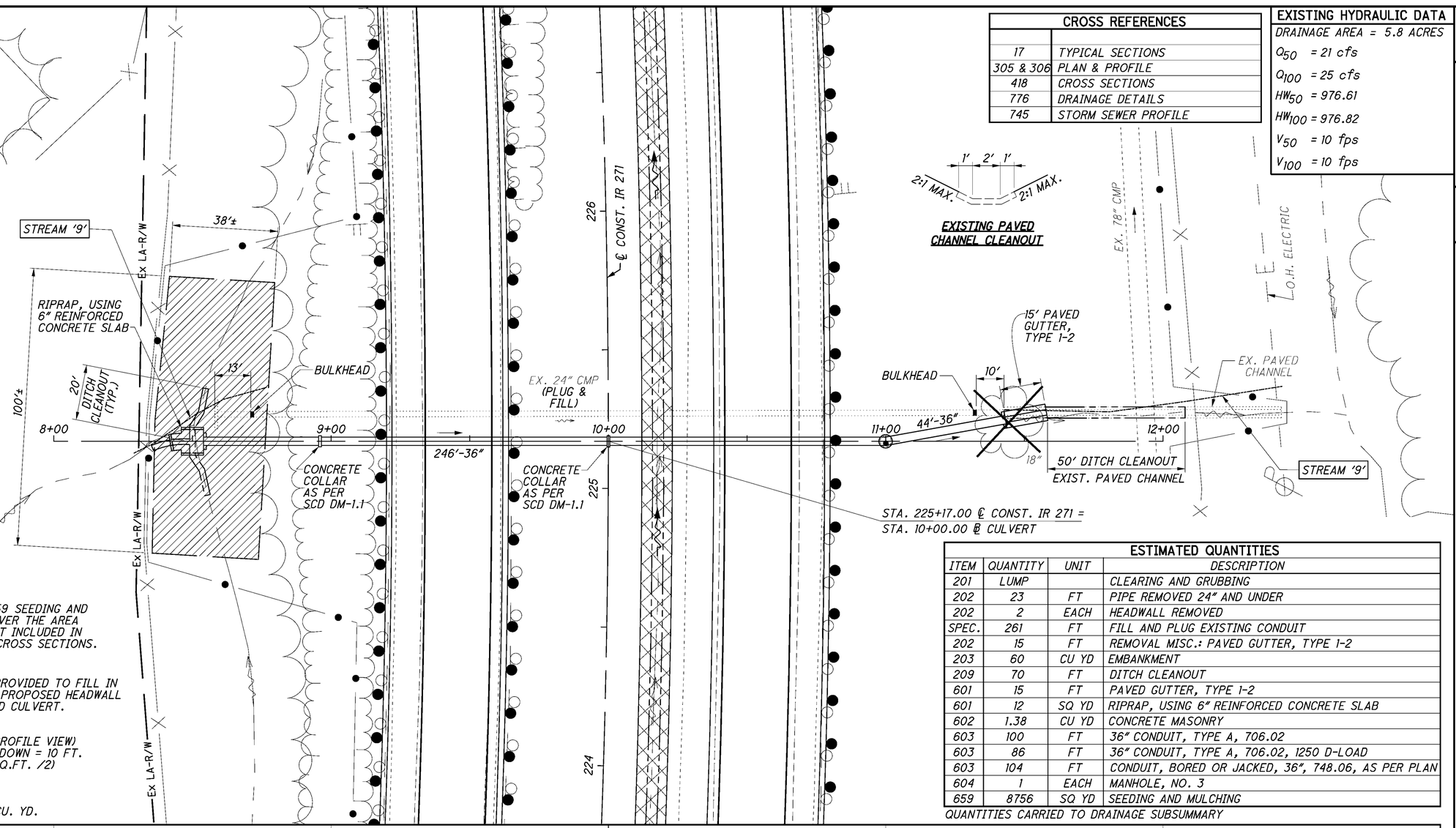
LEGEND

CLEARING & GRUBBING

CONST. LIMITS



DITCH CLEANOUT



ITEM 659 SEEDING AND MULCHING

AN ADDITIONAL QUANTITY OF ITEM 659 SEEDING AND MULCHING HAS BEEN PROVIDED TO COVER THE AREA INSIDE THE CONSTRUCTION LIMITS NOT INCLUDED IN THE SEEDING AREA COVERED ON THE CROSS SECTIONS.

ITEM 203 - EMBANKMENT

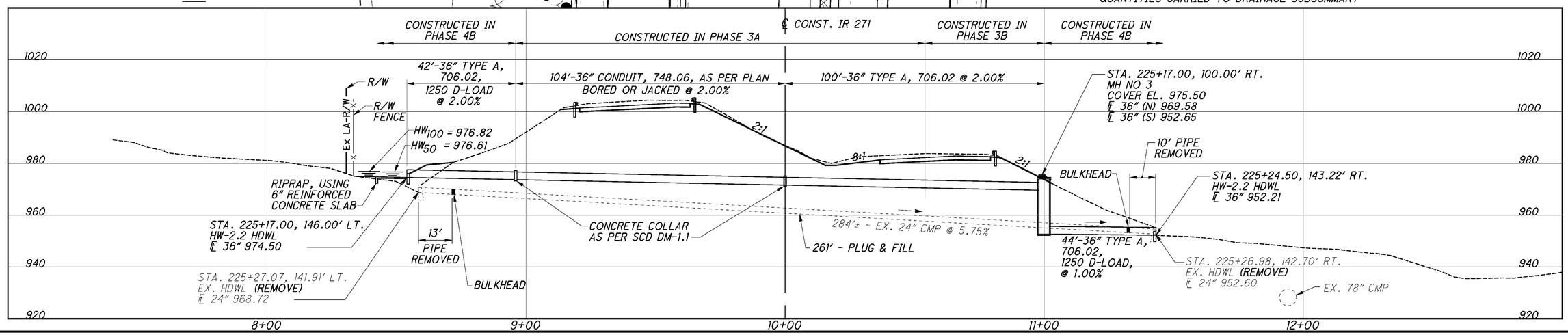
THE FOLLOWING QUANTITY HAS BEEN PROVIDED TO FILL IN THE VOID BETWEEN THE EXISTING AND PROPOSED HEADWALL AT THE OUTLET END OF THE PROPOSED CULVERT.

HDWL WIDTH = 6 FT.
END AREA = 97 SQ.FT. (TAKEN FROM PROFILE VIEW)
LENGTH FROM END OF HDWL TO TOUCHDOWN = 10 FT.
[(97 SQ.FT. X 6 FT.) + (10 FT. X 97 SQ.FT. /2)
X 2 SIDES] /27 = 57.48 CU.YD.
USE 60 CU. YD.

ITEM 203 - EMBANKMENT 60 CU. YD.

ESTIMATED QUANTITIES			
ITEM	QUANTITY	UNIT	DESCRIPTION
201	LUMP		CLEARING AND GRUBBING
202	23	FT	PIPE REMOVED 24" AND UNDER
202	2	EACH	HEADWALL REMOVED
SPEC.	261	FT	FILL AND PLUG EXISTING CONDUIT
202	15	FT	REMOVAL MISC.: PAVED GUTTER, TYPE 1-2
203	60	CU YD	EMBANKMENT
209	70	FT	DITCH CLEANOUT
601	15	FT	PAVED GUTTER, TYPE 1-2
601	12	SQ YD	RIPRAP, USING 6" REINFORCED CONCRETE SLAB
602	1.38	CU YD	CONCRETE MASONRY
603	100	FT	36" CONDUIT, TYPE A, 706.02
603	86	FT	36" CONDUIT, TYPE A, 706.02, 1250 D-LOAD
603	104	FT	CONDUIT, BORED OR JACKED, 36", 748.06, AS PER PLAN
604	1	EACH	MANHOLE, NO. 3
659	8756	SQ YD	SEEDING AND MULCHING

QUANTITIES CARRIED TO DRAINAGE SUBSUMMARY

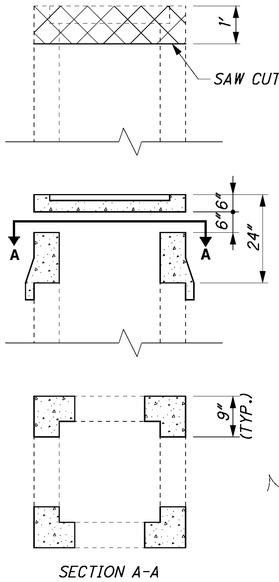


CULVERT DETAIL STA. 225+17.00

SUM-271-2.33

751
1195

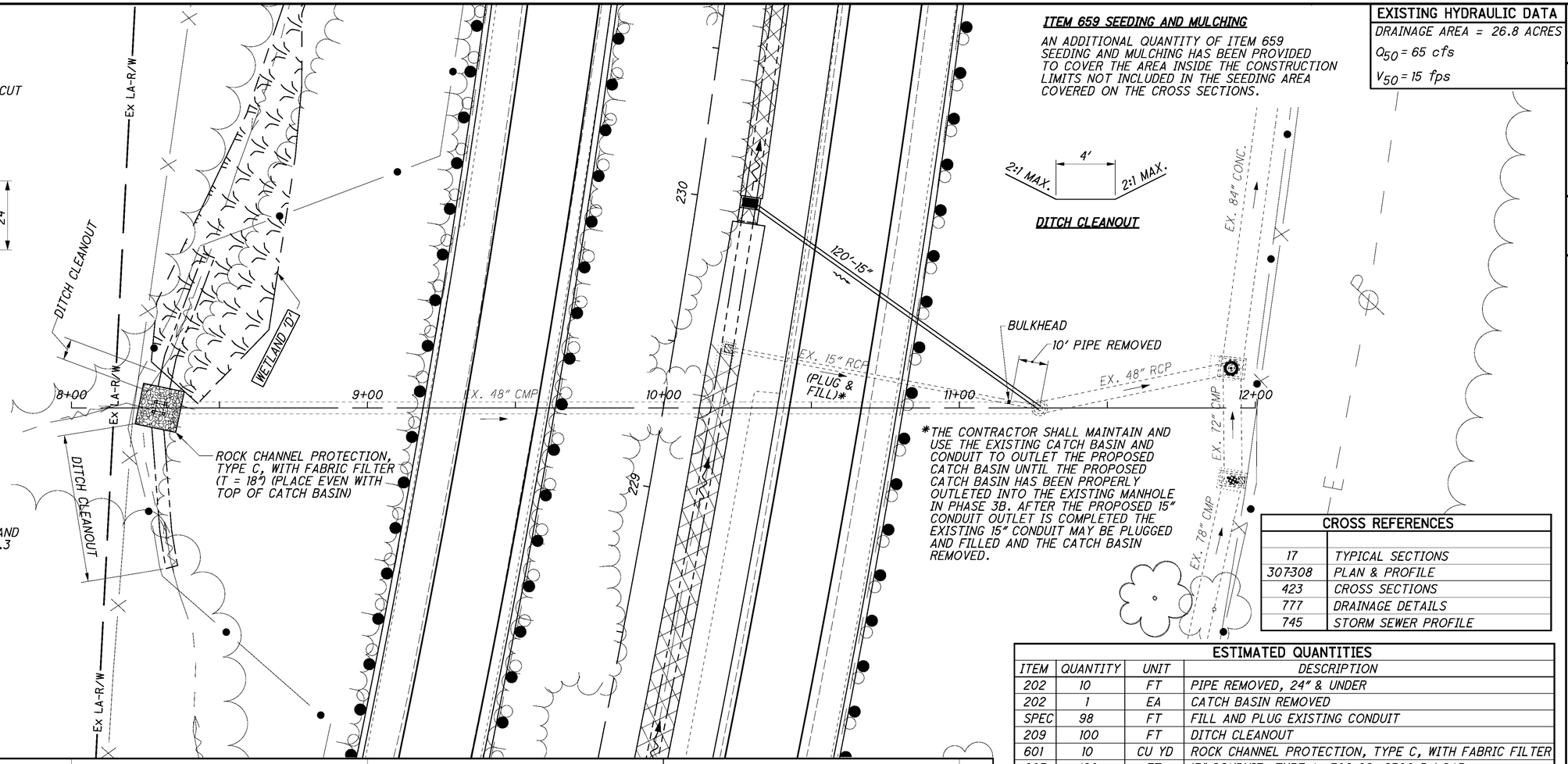
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CATCH BASIN RECONSTRUCTED TO GRADE, AS PER PLAN DETAIL

NOTE: REINFORCING IN THE WALLS AND TOP SHALL BE PER THE CB-1.3

GRATE SHALL BE PER CB-1.1



ITEM 659 SEEDING AND MULCHING

AN ADDITIONAL QUANTITY OF ITEM 659 SEEDING AND MULCHING HAS BEEN PROVIDED TO COVER THE AREA INSIDE THE CONSTRUCTION LIMITS NOT INCLUDED IN THE SEEDING AREA COVERED ON THE CROSS SECTIONS.

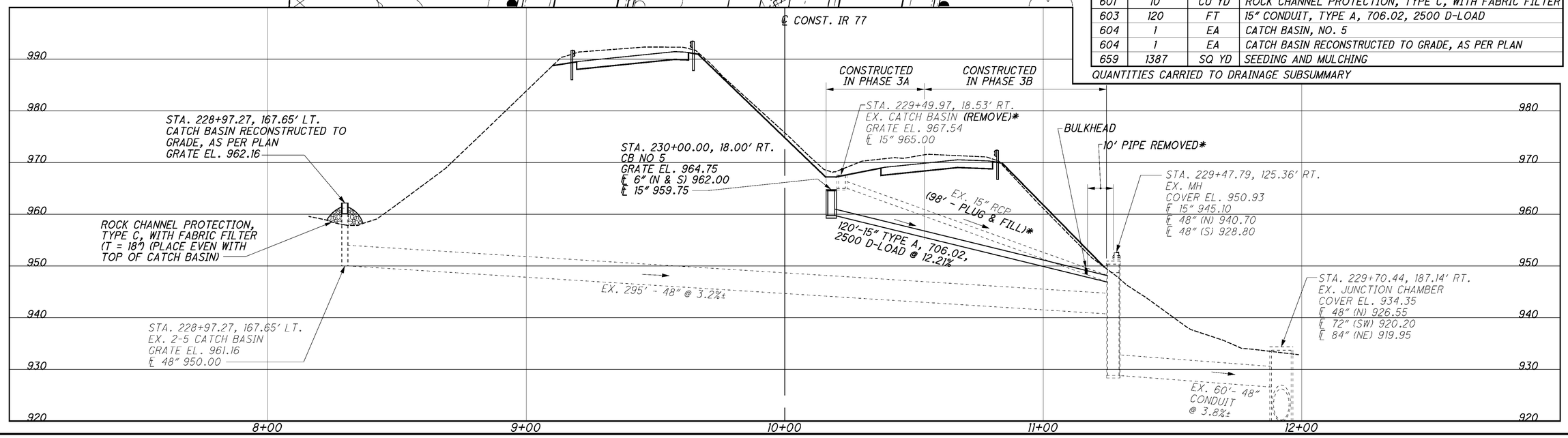
*THE CONTRACTOR SHALL MAINTAIN AND USE THE EXISTING CATCH BASIN AND CONDUIT TO OUTLET THE PROPOSED CATCH BASIN UNTIL THE PROPOSED CATCH BASIN HAS BEEN PROPERLY OUTLETED INTO THE EXISTING MANHOLE IN PHASE 3B. AFTER THE PROPOSED 15" CONDUIT OUTLET IS COMPLETED THE EXISTING 15" CONDUIT MAY BE PLUGGED AND FILLED AND THE CATCH BASIN REMOVED.

EXISTING HYDRAULIC DATA
DRAINAGE AREA = 26.8 ACRES
Q_{50} = 65 cfs
V_{50} = 15 fps

CROSS REFERENCES	
17	TYPICAL SECTIONS
307308	PLAN & PROFILE
423	CROSS SECTIONS
777	DRAINAGE DETAILS
745	STORM SEWER PROFILE

LEGEND

CONST. LIMITS



ESTIMATED QUANTITIES			
ITEM	QUANTITY	UNIT	DESCRIPTION
202	10	FT	PIPE REMOVED, 24" & UNDER
202	1	EA	CATCH BASIN REMOVED
SPEC	98	FT	FILL AND PLUG EXISTING CONDUIT
209	100	FT	DITCH CLEANOUT
601	10	CU YD	ROCK CHANNEL PROTECTION, TYPE C, WITH FABRIC FILTER
603	120	FT	15" CONDUIT, TYPE A, 706.02, 2500 D-LOAD
604	1	EA	CATCH BASIN, NO. 5
604	1	EA	CATCH BASIN RECONSTRUCTED TO GRADE, AS PER PLAN
659	1387	SQ YD	SEEDING AND MULCHING

QUANTITIES CARRIED TO DRAINAGE SUBSUMMARY

HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED DAW
CHECKED PRS

CULVERT DETAIL STA. 229+27.11

SUM-271-2.33

752
1195

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DITCH CLEANOUT

ITEM 659 SEEDING AND MULCHING

AN ADDITIONAL QUANTITY OF ITEM 659 SEEDING AND MULCHING HAS BEEN PROVIDED TO COVER THE AREA INSIDE THE CONSTRUCTION LIMITS NOT INCLUDED IN THE SEEDING AREA COVERED ON THE CROSS SECTIONS.

LEGEND

CONST. LIMITS

CROSS REFERENCES	
17	TYPICAL SECTIONS
307-308	PLAN & PROFILE
434	CROSS SECTIONS
776	DRAINAGE DETAILS
768 - 769	JUNCTION CHAMBER DETAILS
745	STORM SEWER PROFILE

EXISTING HYDRAULIC DATA

DRAINAGE AREA = 18.34

Q_{50} = 53 cfs

Q_{100} = 60.2 cfs

HW_{50} = 939.84

HW_{100} = 940.40

V_{50} = 13.5 fps

V_{100} = 14.5 fps

HORIZONTAL SCALE IN FEET (0, 10, 20, 40)

CALCULATED DAW

CHECKED PRS

STA. 238+15.00 ℄ CONST. IR 271 = STA. 10+00.00 ℄ CULVERT

Ex LA

64' DITCH CLEANOUT

56' DITCH CLEANOUT

20' PIPE REMOVED

BULKHEAD

40' DITCH CLEANOUT

RIPRAP USING 6" REINFORCED CONCRETE SLAB

CONCRETE COLLAR AS PER SCD DM-1.1

℄ CONST. IR 271

8+00 9+00 10+00 11+00 12+00

242'-36"

106'-36"

55' PIPE REMOVED

BULKHEAD

EX. 24" CMP (PLUG & FILL)

84" CONC.

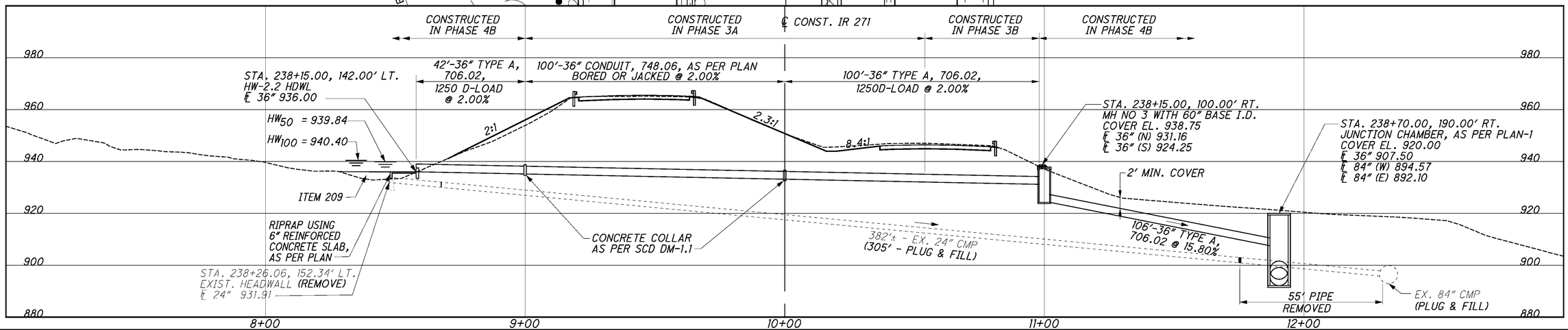
EX. 84" CMP (PLUG & FILL)

(DO NOT DISTURB)

239 238 237

ESTIMATED QUANTITIES			
ITEM	QUANTITY	UNIT	DESCRIPTION
202	1	EA	HEADWALL REMOVED
202	75	FT	PIPE REMOVED, 24" & UNDER
SPEC.	305	FT	FILL AND PLUG EXISTING CONDUIT
209	160	FT	DITCH CLEANOUT
601	9	SQ YD	RIPRAP USING 6" REINFORCED CONCRETE SLAB, AS PER PLAN
602	0.69	CU YD	CONCRETE MASONRY
603	142	FT	36" CONDUIT, TYPE A, 706.02, 1250 D-LOAD
603	106	FT	36" CONDUIT, TYPE A, 706.02
603	100	FT	CONDUIT, BORED OR JACKED, 36" , 748.06, AS PER PLAN
604	1	EA	MANHOLE, NO. 3
659	605	SQ YD	SEEDING AND MULCHING

QUANTITIES CARRIED TO DRAINAGE SUBSUMMARY



CULVERT DETAIL STA. 238+15.00

SUM-271-2.33

753
1195

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STA. 316+86.43 ℄ CONST. IR 271 =
STA. 10+00.00 ℄ CULVERT

50'±

EX LA-R/W

STREAM '12'

4'
2:1 MAX. 2:1 MAX.

DITCH CLEANOUT

ROCK CHANNEL PROTECTION, TYPE C, WITH FABRIC FILTER (T=18")

8+00

9+00

10+00

11+00

12+00

120' DITCH CLEANOUT

EX. PAVED GUTTER (REMOVE) - REPLACE WITH RIPRAP, USING 6" REINFORCED CONCRETE SLAB)

EX. 43"x68" ELLIPTICAL CONC.

REMOVE AND REPLACE PAVED GUTTER

CUTOFF WALL

EX. 12" WATER IN 24" CASING

℄ CONST. IR 271

℄ CONST. SR 303

EX. PAVED GUTTER

BOSTON TOWNSHIP
RICHFIELD TOWNSHIP

230'±

35' R.

8'

16'

10'

A
B

LEGEND

CLEARING & GRUBBING

CONST. LIMITS

4'
2:1 MAX. 2:1 MAX.

PAVED GUTTER, TYPE 1-4

SECTION A-A

2' 4' 2'
2:1 2:1

RIPRAP, USING 6" REINFORCED CONCRETE SLAB, PER PLAN

SECTION B-B

EXISTING HYDRAULIC DATA

DRAINAGE AREA = 256 ACRES

Q_{50} = 151 cfs

V_{50} = 12 fps

4'
2:1 MAX. 2:1 MAX.

ROCK CHANNEL PROTECTION

ITEM 659 SEEDING AND MULCHING

AN ADDITIONAL QUANTITY OF ITEM 659 SEEDING AND MULCHING HAS BEEN PROVIDED TO COVER THE AREA INSIDE THE CONSTRUCTION LIMITS NOT INCLUDED IN THE SEEDING AREA COVERED ON THE CROSS SECTIONS.

ROCK CHANNEL PROTECTION, TYPE B, WITH FABRIC FILTER (T = 30")

15'

ST STA. 316+00.00

12'

STREAM '12'

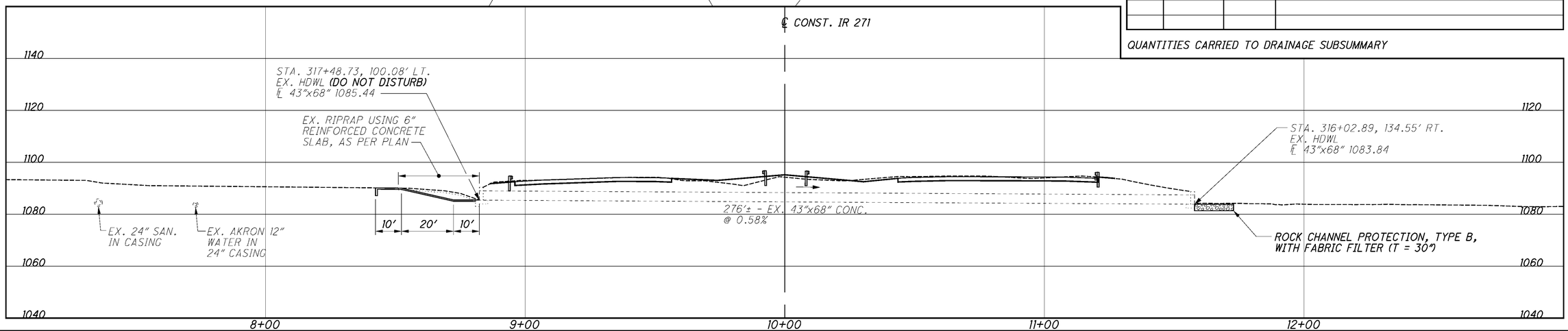
100' DITCH CLEANOUT

CROSS REFERENCES	
18	TYPICAL SECTIONS
321322	PLAN & PROFILE
514	CROSS SECTIONS
777	DRAINAGE DETAILS

ESTIMATED QUANTITIES

ITEM	QUANTITY	UNIT	DESCRIPTION
201	LUMP		CLEARING AND GRUBBING
202	27	SQ YD	REMOVAL MISC.: RIPRAP, USING 6" CONCRETE SLAB
202	6	FT	REMOVAL MISC.: PAVED GUTTER, TYPE 1-2
209	220	FT	DITCH CLEANOUT
601	36	SQ YD	RIPRAP, USING 6" REINFORCED CONCRETE SLAB, AS PER PLAN
601	10	FT	PAVED GUTTER, TYPE 1-4
601	17	CU YD	ROCK CHANNEL PROTECTION, TYPE B, WITH FABRIC FILTER
601	28	CU YD	ROCK CHANNEL PROTECTION, TYPE C, WITH FABRIC FILTER
659	1144	SQ YD	SEEDING AND MULCHING

QUANTITIES CARRIED TO DRAINAGE SUBSUMMARY



HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED DAW
CHECKED PRS

CULVERT DETAIL STA. 316+86.43

SUM-271-2.33

754
1195

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LEGEND

CLEARING & GRUBBING

CONST. LIMITS

SEEDING LIMITS

STA. 927+31.58 ℄ CONT. IR 77 =
STA. 10+00.00 ℄ CULVERT

℄ CONST. IR 77 RAMP A

QUANTITIES CARRIED ON SHEET 756

EX. 42" CMP

EX. PAVED GUTTER

STREAM '5'

EX. 54" CMP

EX. 15" RCP

EX. 48" RCP

ITEM 659 SEEDING AND MULCHING

AN ADDITIONAL QUANTITY OF ITEM 659 SEEDING AND MULCHING HAS BEEN PROVIDED TO COVER THE AREA INSIDE THE SEEDING LIMITS AS SHOWN ON THIS SHEET NOT INCLUDED IN THE SEEDING AREA COVERED ON THE CROSS SECTIONS.

DITCH CLEANOUT

2:1 MAX. 4' 2:1 MAX.

75'±

20'±

5'

125' DITCH CLEANOUT

16'

ROCK CHANNEL PROTECTION, TYPE B, WITH FABRIC FILTER (T = 30")

EXISTING HYDRAULIC DATA

DRAINAGE AREA = 119 ACRES

Q_{50} = 152 cfs

V_{50} = 14 fps

HORIZONTAL SCALE IN FEET 0 10 20 40

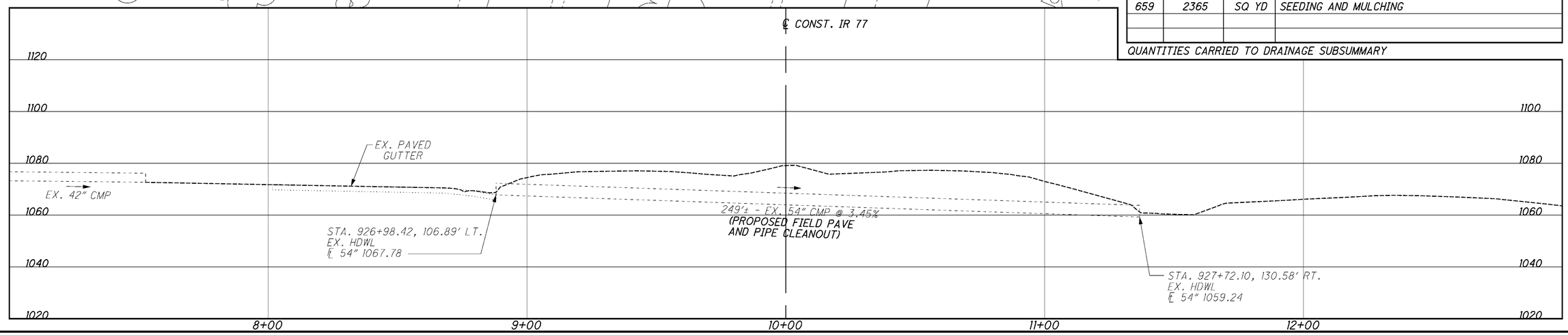
CALCULATED DAW CHECKED PRS

CROSS REFERENCES	
16	TYPICAL SECTIONS
685—686	PLAN
778	DRAINAGE DETAILS

ESTIMATED QUANTITIES

ITEM	QUANTITY	UNIT	DESCRIPTION
201	LUMP		CLEARING AND GRUBBING
SPECIAL	249	FT	PIPE CLEANOUT
209	125	FT	DITCH CLEANOUT
601	14	CU YD	ROCK CHANNEL PROTECTION, TYPE B, WITH FABRIC FILTER (T=30")
603	249	FT	54" CONDUIT, TYPE A, FIELD PAVING OF EXISTING PIPE
659	2365	SQ YD	SEEDING AND MULCHING

QUANTITIES CARRIED TO DRAINAGE SUBSUMMARY



CULVERT DETAIL
STA. 927+31.58 IR 77

SUM-271-2.33

755
1195

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LEGEND

CLEARING & GRUBBING

CONST. LIMITS

STA. 193+80.47 ℄ CONST. IR 77 RAMP A =
STA. 10+09.08 ℄ CULVERT

EX. LA R/W

SCD Std. 194+85.35

65' DITCH CLEANOUT

EX. CONC. GUTTER

20'

7'

8+00

9+00

10+00

EX. 42" CONC.

10'

15'

CLEARING AND GRUBBING

STREAM '5'

℄ CONST. IR 77 RAMP A

193

192

SR35 Sta. 192+

194

195

CONCRETE COLLAR AS PER SCD DM-1.1

12' FROM END OF CULVERT FOUNDATION

25' DITCH CLEANOUT

10'

11+00

STREAM '5'

12+00

EX. 54" CMP

15'

30'

18' - 42" TYPE A

CLEARING AND GRUBBING

ROCK CHANNEL PROTECTION, TYPE B, WITH FABRIC FILTER (T = 30")

EX. CONC. GUTTER

927

4'

2:1 MAX.

2:1 MAX.

DITCH CLEANOUT

4'

2:1 MAX.

2:1 MAX.

ROCK CHANNEL PROTECTION

EXISTING HYDRAULIC DATA

DRAINAGE AREA = 107 ACRES

Q_{50} = 90 cfs

V_{50} = 13 fps

ITEM 659 SEEDING AND MULCHING

AN ADDITIONAL QUANTITY OF ITEM 659 SEEDING AND MULCHING HAS BEEN PROVIDED TO COVER THE AREA INSIDE THE CONSTRUCTION LIMITS NOT INCLUDED IN THE SEEDING AREA COVERED ON THE CROSS SECTIONS.

CROSS REFERENCES	
21	TYPICAL SECTIONS
558 -559	PLAN & PROFILE
571	CROSS SECTIONS
778	DRAINAGE DETAILS

ESTIMATED QUANTITIES

ITEM	QUANTITY	UNIT	DESCRIPTION
201	LUMP		CLEARING AND GRUBBING
202	1	EACH	HEADWALL REMOVED
202	6	FT	PIPE REMOVED, OVER 24"
209	90	FT	DITCH CLEANOUT
601	12	CU YD	ROCK CHANNEL PROTECTION, TYPE B, WITH FABRIC FILTER
602	8.5	CU YD	CONCRETE MASONRY
603	18	FT	42" CONDUIT, TYPE A, 706.02
659	293	SQ YD	SEEDING AND MULCHING

QUANTITIES CARRIED TO DRAINAGE SUBSUMMARY

HORIZONTAL SCALE IN FEET

0 10 20 40

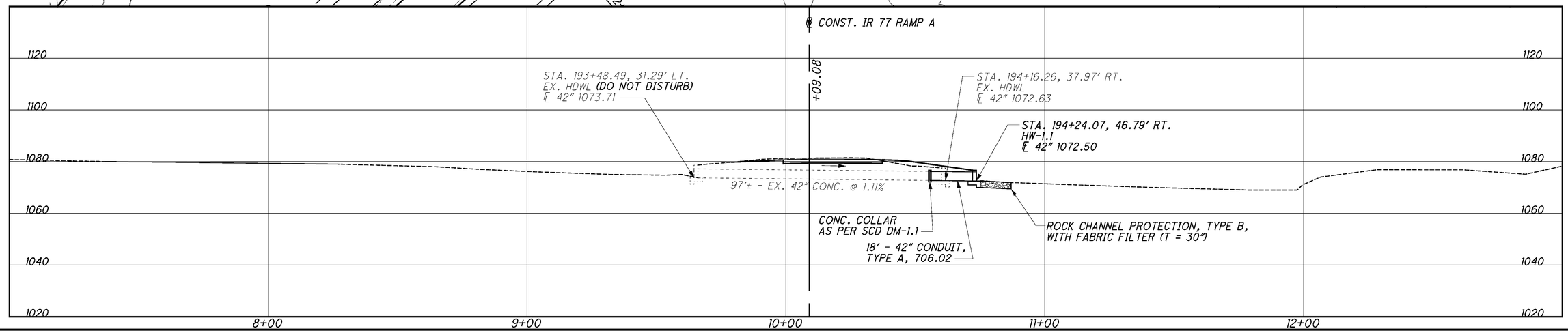
CALCULATED DAW

CHECKED PRS

CULVERT DETAIL
STA. 193+80.47 IR 77 RAMP A

SUM-271-2.33

756
1195



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ITEM 203 - EMBANKMENT

THE FOLLOWING QUANTITY HAS BEEN PROVIDED TO FILL IN THE VOID BETWEEN THE EXISTING AND PROPOSED HEADWALL AT THE OUTLET AND THE ADDITIONAL GRADING UP THE SLOPE TO THE CATCH BASIN.

HDWL WIDTH = 8 FT.
END AREA = 99 SQ.FT. (TAKEN FROM PROFILE VIEW)
LENGTH FROM END OF HDWL TO TOUCHDOWN = 10 FT.
[(99 SQ.FT. X 8 FT.) + (10 FT. X 99 SQ.FT. /2) x 2 SIDES] /27 = 66.00 CU.YD.
USE 70 CU.YD.

ITEM 203 - EMBANKMENT 70 CU. YD.

ITEM 203 - EMBANKMENT CARIED FROM SECTIONS ON SHEETS 758-760 1030 CU.YD.

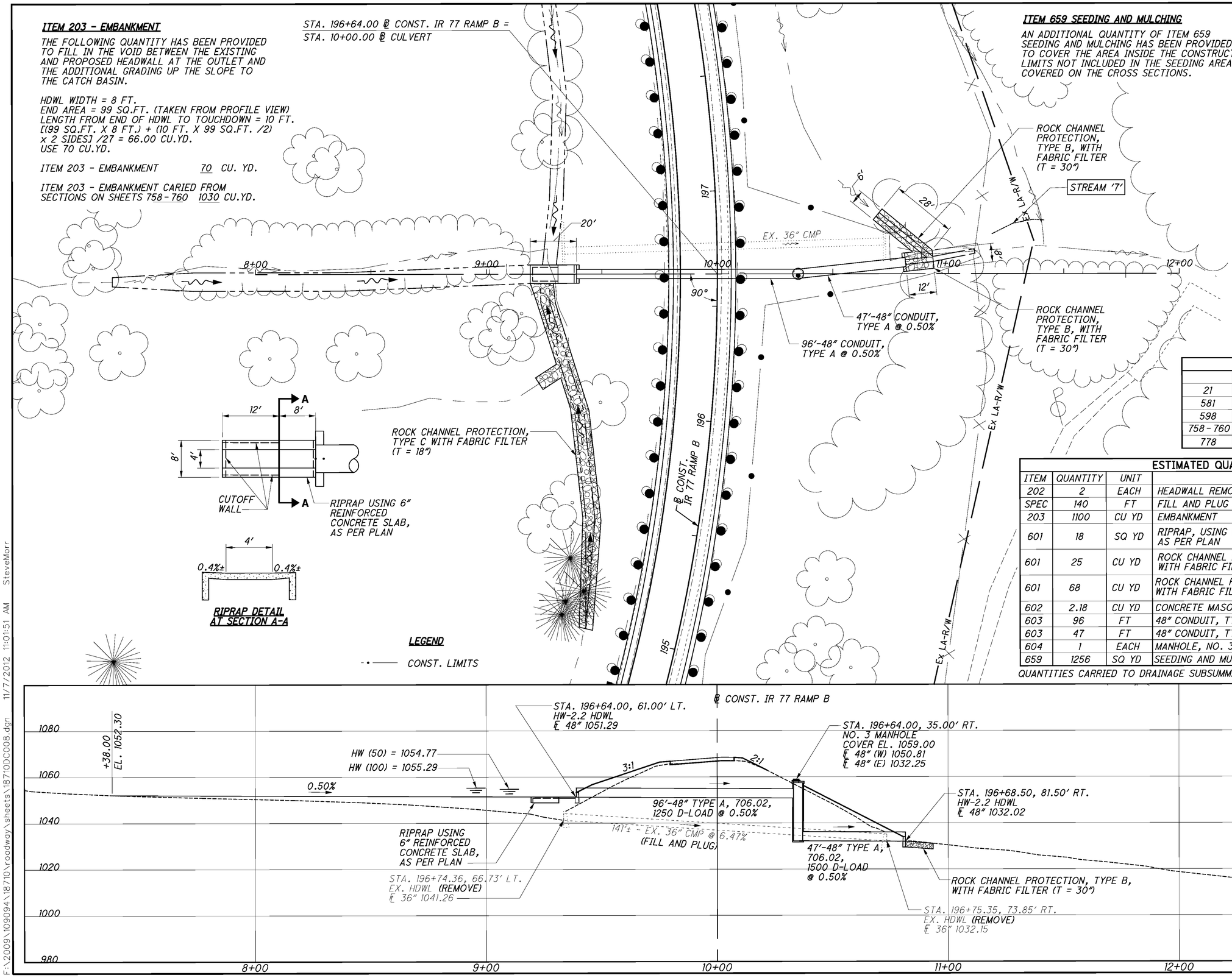
STA. 196+64.00 ℄ CONST. IR 77 RAMP B =
STA. 10+00.00 ℄ CULVERT

ITEM 659 SEEDING AND MULCHING

AN ADDITIONAL QUANTITY OF ITEM 659 SEEDING AND MULCHING HAS BEEN PROVIDED TO COVER THE AREA INSIDE THE CONSTRUCTION LIMITS NOT INCLUDED IN THE SEEDING AREA COVERED ON THE CROSS SECTIONS.

EXISTING HYDRAULIC DATA

DRAINAGE AREA = 41 ACRES
Q_{50} = 79 cfs
Q_{100} = 107 cfs
HW_{50} = 1054.77
HW_{100} = 1055.29
V_{50} = 8 fps
V_{100} = 8 fps



RIPRAP DETAIL AT SECTION A-A

2' 2:1 MAX. 2:1 MAX.

ROCK CHANNEL PROTECTION

CROSS REFERENCES

21	TYPICAL SECTIONS
581	PLAN & PROFILE
598	CROSS SECTIONS
758 - 760	CULVERT CROSS SECTIONS
778	DRAINAGE DETAILS

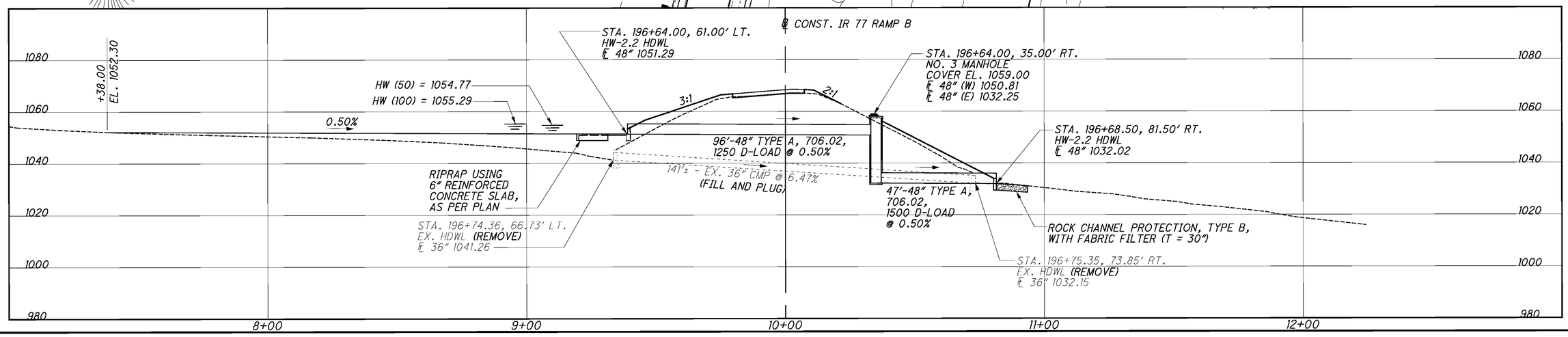
ESTIMATED QUANTITIES

ITEM	QUANTITY	UNIT	DESCRIPTION
202	2	EACH	HEADWALL REMOVED
SPEC	140	FT	FILL AND PLUG EXISTING CONDUIT
203	1100	CU YD	EMBANKMENT
601	18	SQ YD	RIPRAP, USING 6" REINFORCED CONCRETE SLAB, AS PER PLAN
601	25	CU YD	ROCK CHANNEL PROTECTION, TYPE B, WITH FABRIC FILTER
601	68	CU YD	ROCK CHANNEL PROTECTION, TYPE C, WITH FABRIC FILTER
602	2.18	CU YD	CONCRETE MASONRY
603	96	FT	48" CONDUIT, TYPE A, 706.02, 1250 D-LOAD
603	47	FT	48" CONDUIT, TYPE A, 706.02, 1500 D-LOAD
604	1	EACH	MANHOLE, NO. 3
659	1256	SQ YD	SEEDING AND MULCHING

QUANTITIES CARRIED TO DRAINAGE SUBSUMMARY

LEGEND

CONST. LIMITS



HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED DAW
CHECKED PRS

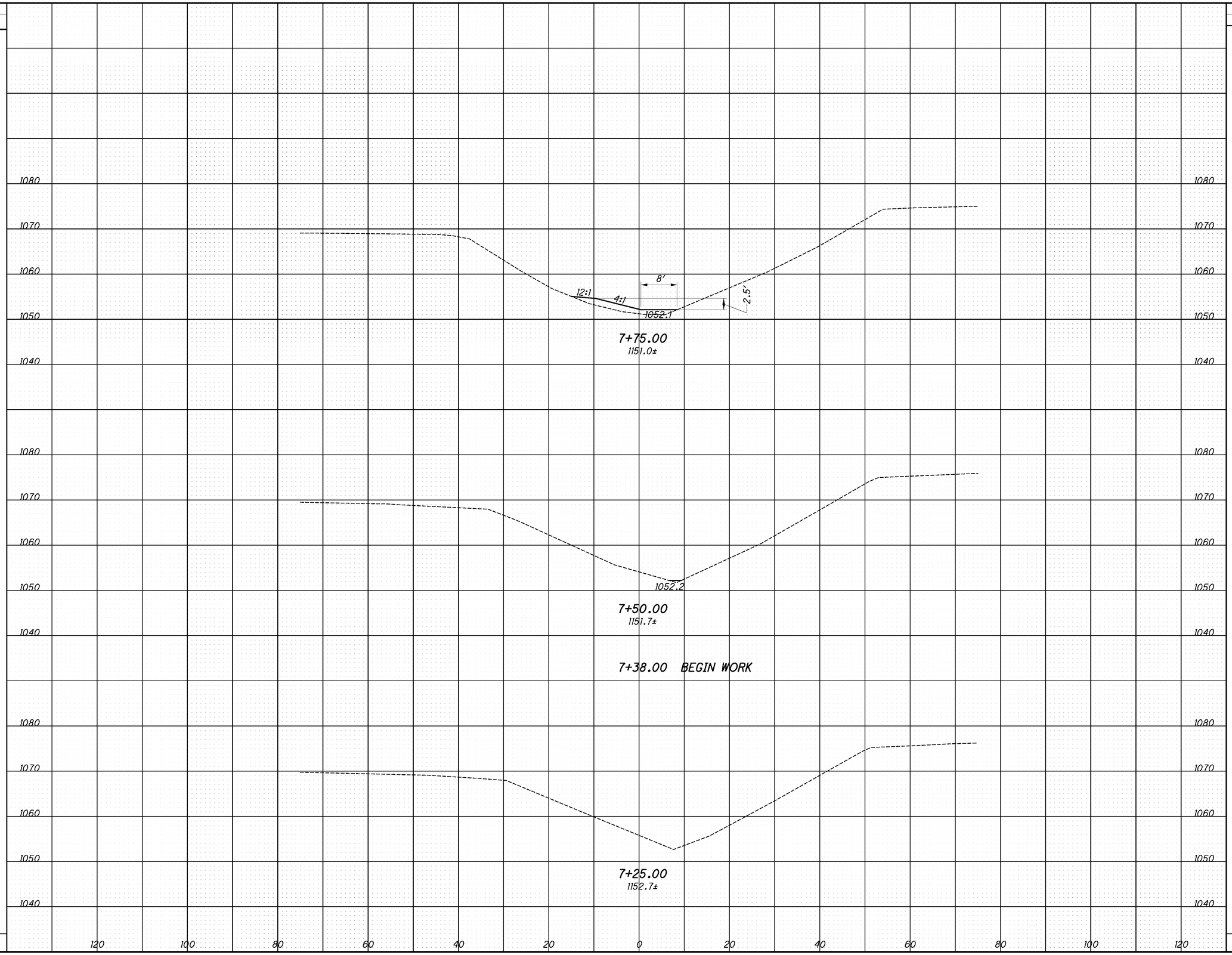
CULVERT DETAIL
STA. 196+64.00 IR 77 RAMP B

SUM-271-2.33

757
1195

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SEEDING		END AREA		VOLUME	
END WIDTH	SQ. YDS.	CUT	FILL	CUT	FILL
24	38	0	25	0	13
3	5	0	1	0	1
0		0	0		
	43			0	14



CALCULATED MS
CHECKED JDL

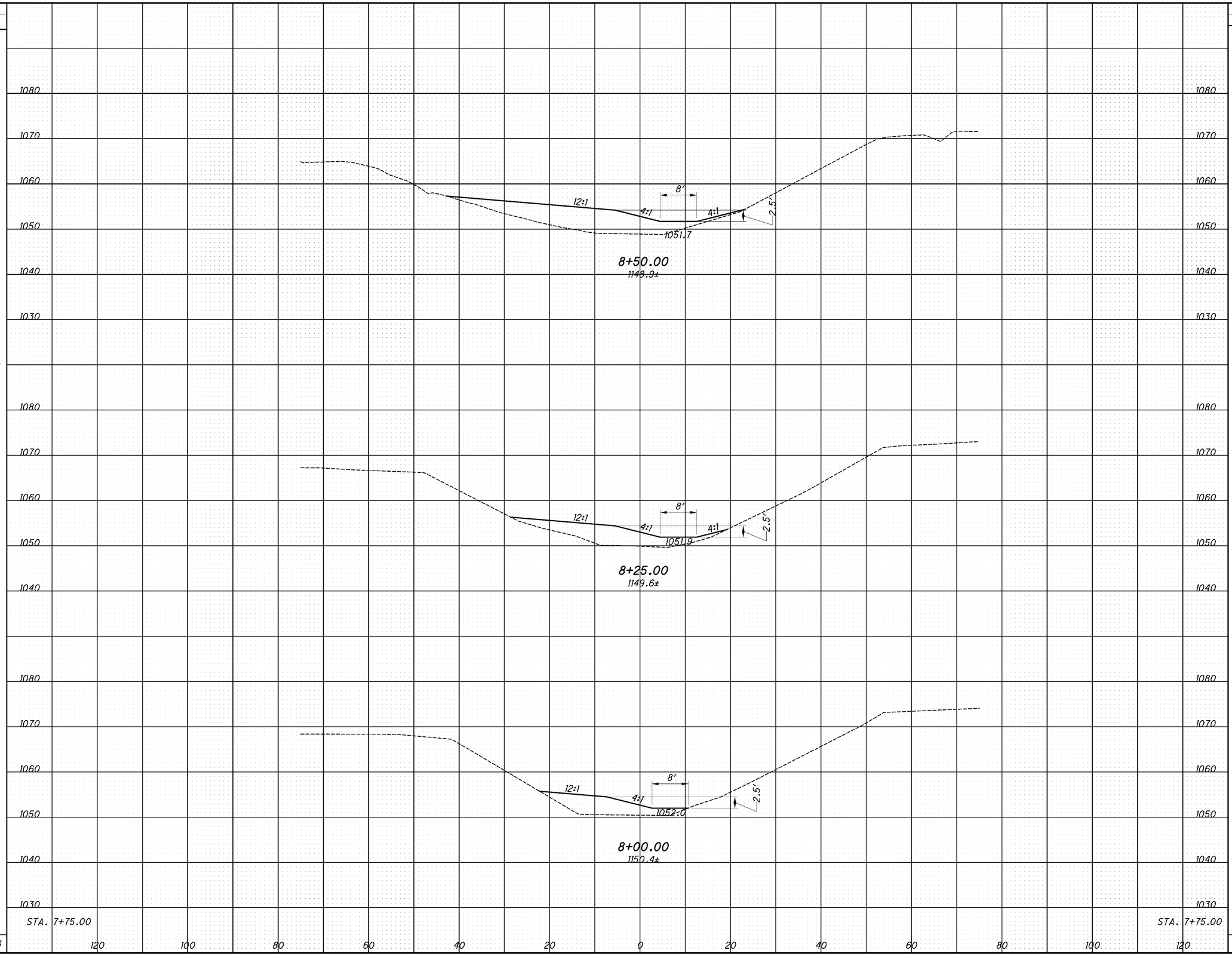
CROSS SECTIONS
CULVERT STATION 196+75.20 RAMP B

SUM-271-2.33

758
1195

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SEEDING	
END WIDTH	SQ. YDS.
67	
	160
48	
	113
33	
	80
24	
	353



END AREA		VOLUME	
CUT	FILL	CUT	FILL
0	168		
0	109		
		0	129
		0	89
0	83		
		0	50
0	25		
		0	268

CALCULATED MS
CHECKED JDL

CROSS SECTIONS
CULVERT STATION 196+75.20 RAMP B

SUM-271-2.33

759
1195

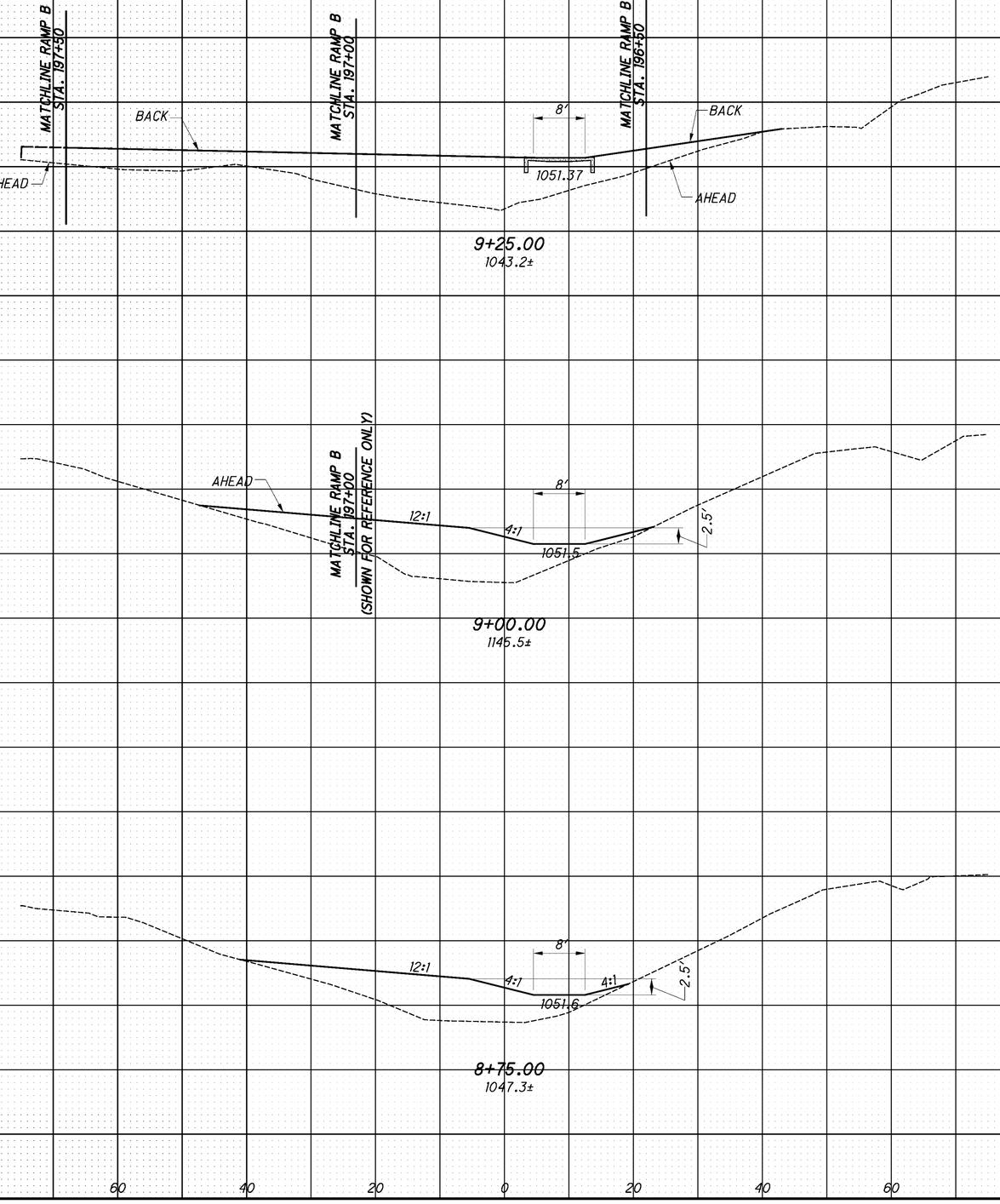
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SEEDING END WIDTH	SEEDING SQ. YDS.	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
	1011			0	1030
111		0	418		
	253			0	331
71		0	295		
	184			0	238
61		0	217		
	178			0	179
67		0	168		
	615			0	748

TOTAL CARRIED TO CULVERT DETAIL ESTIMATED QUANTITIES SHEET 757

FOR ADDITIONAL EARTHWORK AHEAD SEE RAMP B CROSS SECTIONS

TOTAL CARRIED TO CULVERT DETAIL ESTIMATED QUANTITIES SHEET 757



CALCULATED MS

CHECKED JDL

CULVERT STATION 196+75.20 RAMP B

CROSS SECTIONS

SUM-271-2.33

760
1195

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LEGEND

CLEARING & GRUBBING

CONST. LIMITS

STA. 213+51.21 ℄ CONST. IR 77 RAMP B =
STA. 10+00.00 ℄ CULVERT

℄ IR 77

EX. 15" RCP

EX. 54" CMP

STREAM '5'

EX. PAVED GUTTER

15'±

26'±

8+00

9+00

10+00

11+00

EX. 48" CONC.

EX. PAVED GUTTER

QUANTITIES CARRIED ON SHEET 755

15' DITCH CLEANOUT

℄ CONST. IR 77 RAMP B

215

214

213

SC Sta. 213+78.85

REMOVE 24' (3 PIPE SECTIONS)

Ex LA-R/W

REMOVE 40'± OF PAVED GUTTER

30'

SEE DETAIL 'A' SHEET NO.

FENCE REMOVED FOR REUSE

STREAM '5'

PAVED GUTTER, TYPE 1-4

EX. PAVED GUTTER

Ex LA-R/W

ITEM 659 SEEDING AND MULCHING

AN ADDITIONAL QUANTITY OF ITEM 659 SEEDING AND MULCHING HAS BEEN PROVIDED TO COVER THE AREA INSIDE THE CONSTRUCTION LIMITS NOT INCLUDED IN THE SEEDING AREA COVERED ON THE CROSS SECTIONS.

EXISTING HYDRAULIC DATA
DRAINAGE AREA = 128 ACRES
Q_{50} = 145 cfs
V_{50} = 12 fps

CROSS REFERENCES	
21	TYPICAL SECTIONS
582	PLAN & PROFILE
612	CROSS SECTIONS
778	DRAINAGE DETAILS

ITEM 203 - EMBANKMENT

THE FOLLOWING QUANTITY HAS BEEN PROVIDED TO FILL IN THE VOID BETWEEN THE EXISTING AND PROPOSED HEADWALL AT THE OUTLET AND THE ADDITIONAL GRADING UP THE SLOPE TO THE CATCH BASIN.

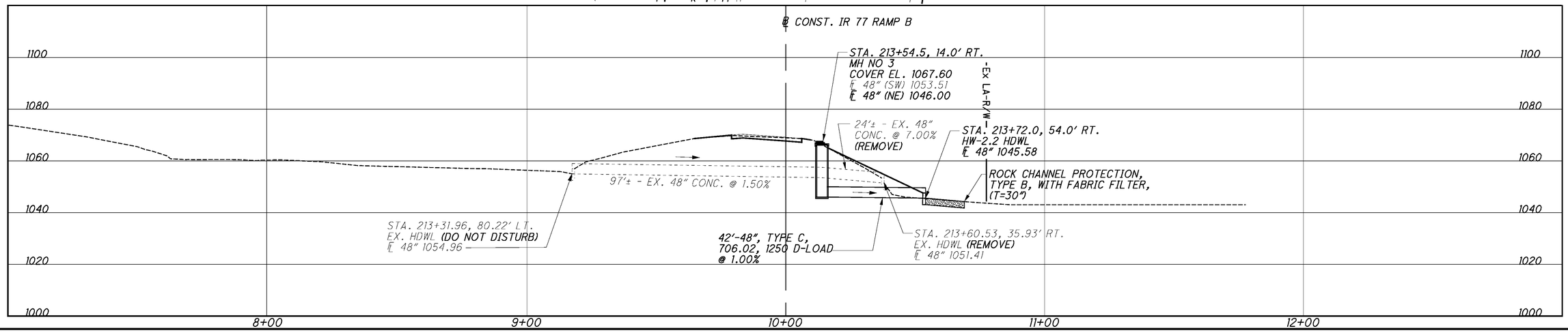
HDWL WIDTH = 8 FT.
END AREA = 92 SQ.FT. (TAKEN FROM PROFILE VIEW)
LENGTH FROM END OF HDWL TO TOUCHDOWN = 10 FT
[(92 SQ.FT. X 8 FT.) + (10 FT. X 90 SQ.FT. /2) X 2 SIDES] / 27 = 61.33 CU.YD.
USE 65 CU YD

ITEM 203 - EMBANKMENT 65 CU. YD.

12+00

ESTIMATED QUANTITIES			
ITEM	QUANTITY	UNIT	DESCRIPTION
201	LUMP		CLEARING AND GRUBBING
202	80	FT	FENCE REMOVED FOR REUSE
202	24	FT	PIPE REMOVED OVER 24"
202	1	EACH	HEADWALL REMOVED
202	27	SQ YD	GUTTER REMOVED
203	65	CU YD	EMBANKMENT
209	15	FT	DITCH CLEANOUT
601	56	SQ YD	RIPRAP, AS PER PLAN
601	23	CU YD	ROCK CHANNEL PROTECTION, TYPE B, WITH FABRIC FILTER
601	30	FT	PAVED GUTTER, TYPE 1-4
602	1.09	CU YD	CONCRETE MASONRY
603	42	FT	48" CONDUIT, TYPE C, 706.02, 1250 D-LOAD
604	1	EACH	MANHOLE, NO. 3
607	80	FT	FENCE REBUILT, TYPE 47, AS PER PLAN
659	507	SQ YD	SEEDING AND MULCHING

QUANTITIES CARRIED TO DRAINAGE SUBSUMMARY



HORIZONTAL SCALE IN FEET
0 10 20 40

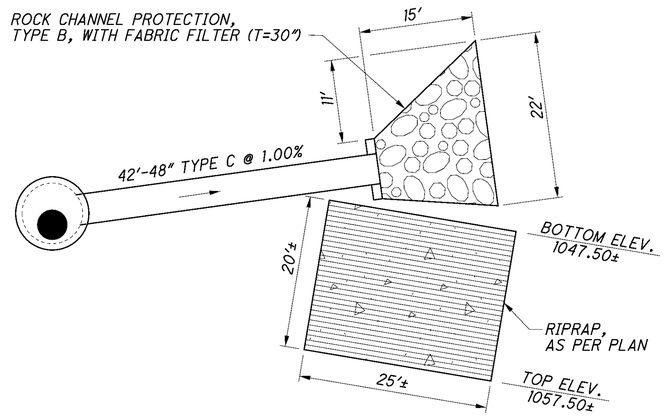
CALCULATED DAW
CHECKED PRS

CULVERT DETAIL
STA. 213+51.21 IR 77 RAMP B

SUM-271-2.33

761
1195

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DETAIL 'A'

ITEM 601 - RIP-RAP, AS PER PLAN

THIS ITEM OF WORK SHALL CONSIST OF EXCAVATION INTO THE SLOPE AS NEEDED, AND THE FURNISHING AND PLACING BRIDGE DECK SLABS SO THAT THE EXPOSED FINISHED EDGE IS ON AN APPROXIMATE 2:1 SLOPE. THE SLABS SHALL BE SLOPED TOWARD THE EXPOSED FACE AND SHALL BE APPROXIMATELY LEVEL IN THE DIRECTION PERPENDICULAR TO THE IR 77 RAMP B CONSTRUCTION BASELINE. THE SLABS SHALL BE A MINIMUM OF SIX FEET WIDE.

THE SLABS SHALL BE PLACED TO A MAXIMUM OF TWO FEET BEYOND THE RIGHT OF WAY FENCE SO THAT UPON REPLACING THE FENCE, THE POSTS CAN BE ATTACHED TO THE EXPOSED SLABS.

THE TOP ELEVATION SHALL BE AS SHOWN ON THE PLANS, TO ALLOW PLACEMENT OF EMBANKMENT TO CONSTRUCT THE PAVED GUTTER A MINIMUM OF 2 FEET ONTO THE DECK SLABS.

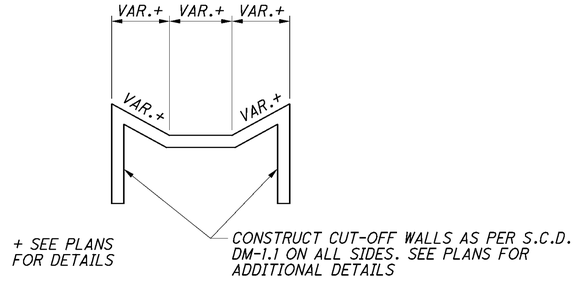
PAYMENT FOR THIS WORK SHALL BE MADE AT THE UNIT PRICE BID PER SQUARE YARD OF ITEM 601 - RIP-RAP, AS PER PLAN AND SHALL INCLUDE SLOPE PREPARATION, FURNISHING AND PLACING BRIDGE DECK SLABS, AND FURNISHING ALL EQUIPMENT, LABOR MATERIAL AND INCIDENTALS NECESSARY TO COMPLETE THIS ITEM OF WORK IN PLACE.

ITEM 607 - FENCE REBUILT, TYPE 47, AS PER PLAN

THIS ITEM OF WORK SHALL CONSIST OF PLACING THE RIGHT OF WAY FENCE ON THE EXISTING ALIGNMENT AS CALLED FOR IN THE STANDARD DRAWINGS AND THE CONSTRUCTION AND MATERIAL SPECIFICATIONS EXCEPT FOR POST PLACEMENT AS DESCRIBED BELOW.

POST PLACEMENT ALONG THE SLOPE IN THE AREA OF THE STACKED BRIDGE DECK SLABS SHALL BE ACCOMPLISHED BY CORING THE BRIDGE DECK SLAB WITH A CORE 1" LARGER THAN THE GREATEST FENCE POST DIMENSION, PLACING THE POST PLUMB AND FILLING THE VOID WITH QUICK SETTING CONCRETE MORTAR PER CMS 705.21. THE POST SHALL BE SUPPORTED IN THE PLUMB POSITION FOR 24 HOURS DURING THE INITIAL CURING TIME. NO FENCE PLACEMENT SHALL BE PERFORMED FOR 7 DAYS FOLLOWING PLACEMENT OF THE POSTS.

PAYMENT FOR THE ABOVE SHALL BE INCLUDED IN THE UNIT PRICE BID PER LINEAL FOOT OF ITEM 607 FENCE REBUILT, TYPE 47, AS PER PLAN AND SHALL INCLUDE ALL EQUIPMENT AND INCIDENTALS NECESSARY TO COMPLETE THIS ITEM OF WORK IN PLACE.



ITEM 601 - RIPRAP USING 6" REINFORCED CONCRETE SLAB, AS PER PLAN

CALCULATED DAW
CHECKED PRS

CULVERT DETAIL

STA. 213+51.21 IR 77 RAMP B

SUM-271-2.33

762
1195

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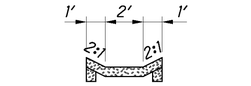
ITEM 659 SEEDING AND MULCHING

AN ADDITIONAL QUANTITY OF ITEM 659 SEEDING AND MULCHING HAS BEEN PROVIDED TO COVER THE AREA INSIDE THE CONSTRUCTION LIMITS NOT INCLUDED IN THE SEEDING AREA COVERED ON THE CROSS SECTIONS.

LEGEND

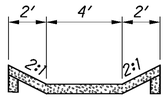
ITEM 836 - SEEDING AND EROSION CONTROL WITH TURF REINFORCING MAT, TYPE 1 (WIDTH SHOWN ON PLANS)

SEEDING LIMITS



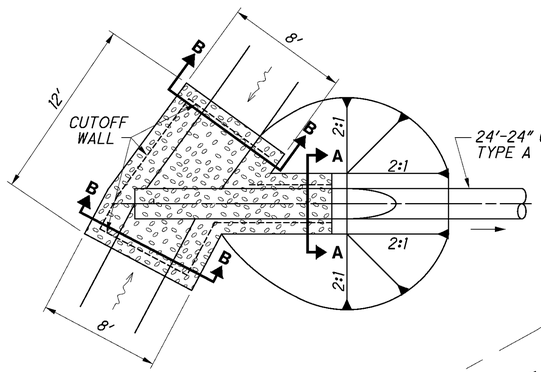
RIPRAP, USING 6" REINFORCED CONCRETE SLAB, AS PER PLAN

SECTION A-A

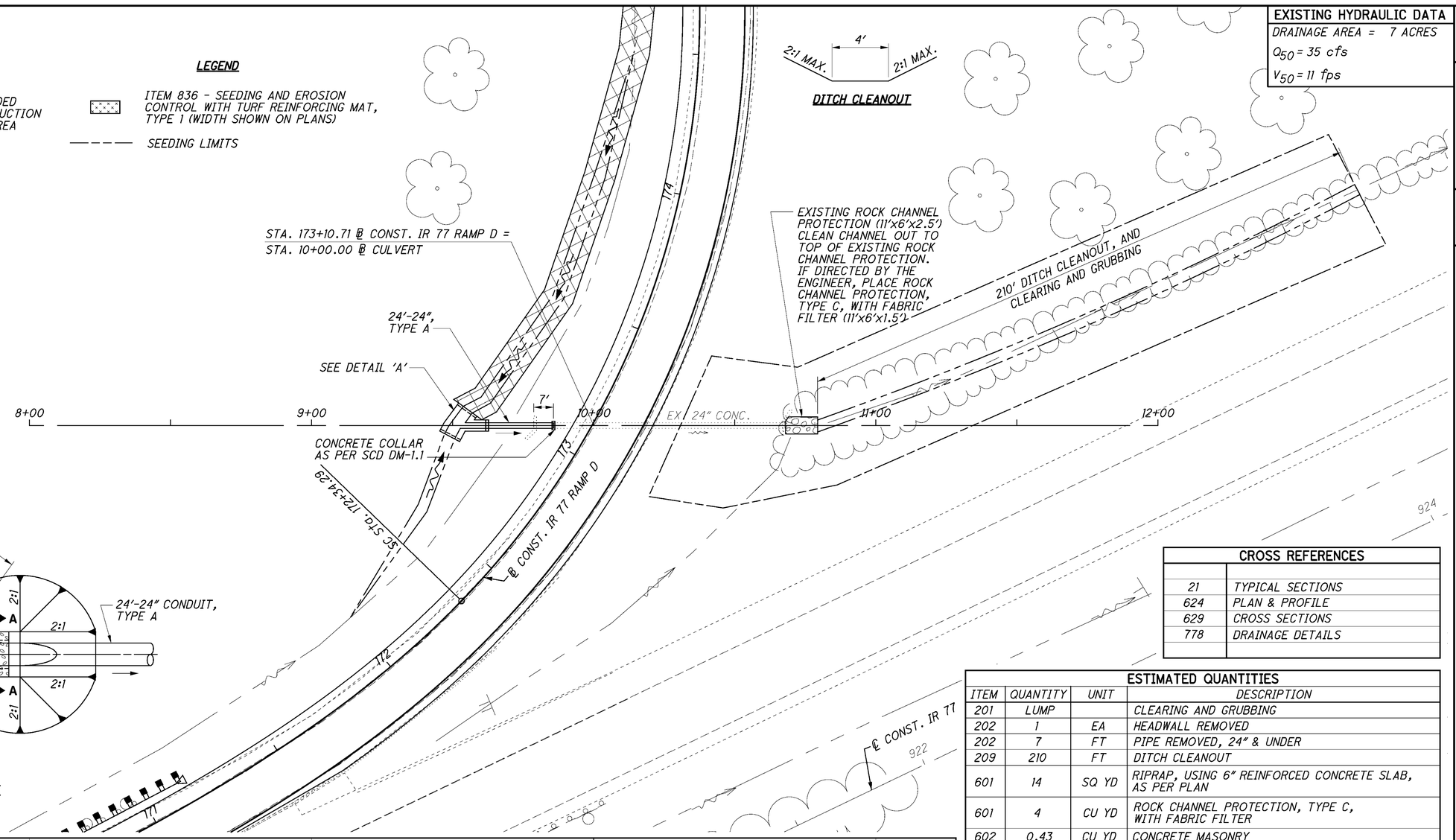


RIPRAP, USING 6" REINFORCED CONCRETE SLAB, AS PER PLAN

SECTION B-B



DETAIL 'A'

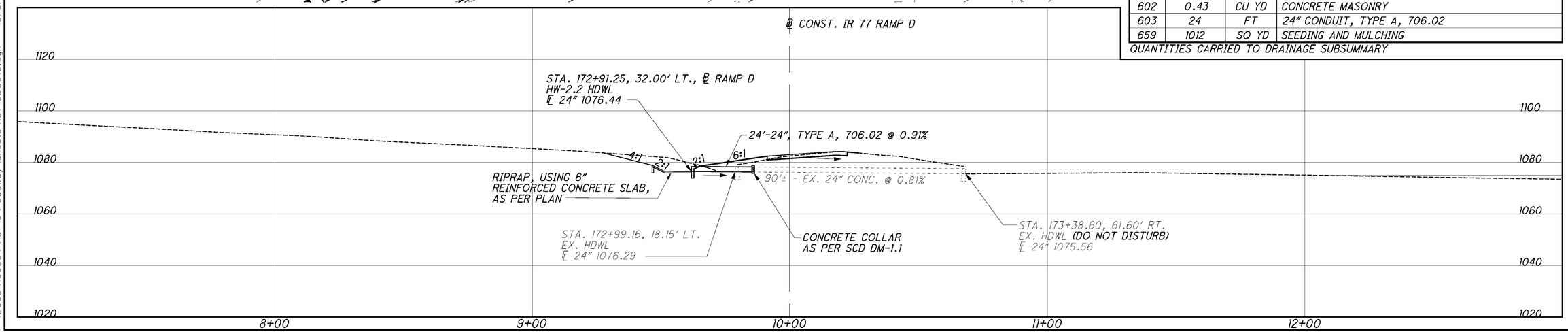


EXISTING HYDRAULIC DATA
DRAINAGE AREA = 7 ACRES
Q_{50} = 35 cfs
V_{50} = 11 fps

CROSS REFERENCES	
21	TYPICAL SECTIONS
624	PLAN & PROFILE
629	CROSS SECTIONS
778	DRAINAGE DETAILS

ESTIMATED QUANTITIES			
ITEM	QUANTITY	UNIT	DESCRIPTION
201	LUMP		CLEARING AND GRUBBING
202	1	EA	HEADWALL REMOVED
202	7	FT	PIPE REMOVED, 24" & UNDER
209	210	FT	DITCH CLEANOUT
601	14	SQ YD	RIPRAP, USING 6" REINFORCED CONCRETE SLAB, AS PER PLAN
601	4	CU YD	ROCK CHANNEL PROTECTION, TYPE C, WITH FABRIC FILTER
602	0.43	CU YD	CONCRETE MASONRY
603	24	FT	24" CONDUIT, TYPE A, 706.02
659	1012	SQ YD	SEEDING AND MULCHING

QUANTITIES CARRIED TO DRAINAGE SUBSUMMARY



HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED DAW
CHECKED PRS

CULVERT DETAIL
STA. 173+10.71 IR 77 RAMP D

SUM-271-2.33

763
1195

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LEGEND

CONST. LIMITS

STA. 312+80.54 ℄ CONST. SR 303 RAMP E =
STA. 10+00.00 ℄ CULVERT

℄ CONST. SR 303 RAMP H

℄ CONST. SR 303 RAMP E

TS Sta. 312+99.20

25' DITCH CLEANOUT

RIPRAP, USING 6" REINFORCED CONCRETE SLAB, AS PER PLAN

10'

6'

EX. 18" CONC.

25' DITCH CLEANOUT

N 72° 46' 54" E

ST Sta. 312+38.40

5'

6'

100' DITCH CLEANOUT

Ex LA-R/W

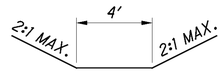
20' DITCH CLEANOUT

ROCK CHANNEL PROTECTION, TYPE C, WITH FABRIC FILTER (T = 18")

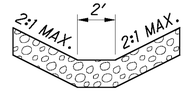
8+00 9+00 10+00 11+00 12+00

310 311 312 313 314

EXISTING HYDRAULIC DATA
DRAINAGE AREA = 3 ACRES
Q_{50} = 9 cfs
V_{50} = 6 fps



DITCH CLEANOUT



ROCK CHANNEL PROTECTION

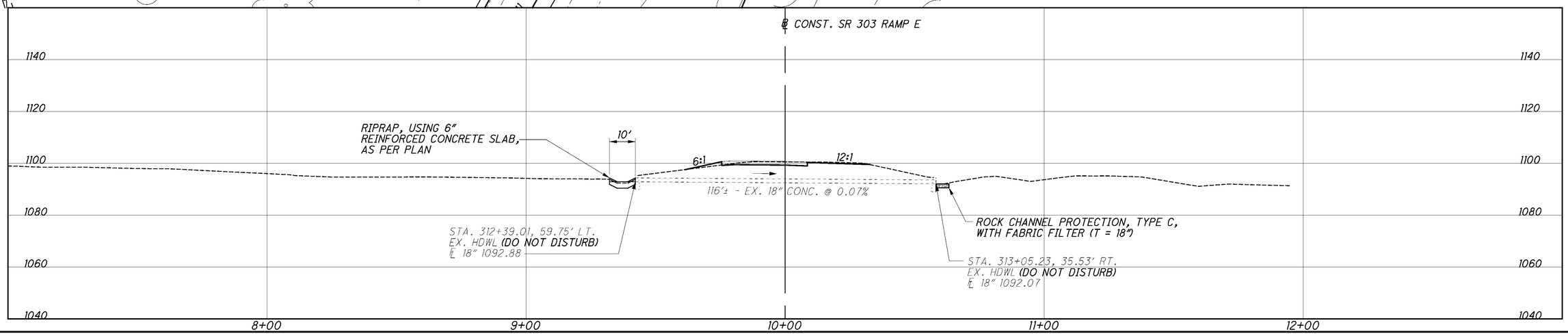
ITEM 659 SEEDING AND MULCHING

AN ADDITIONAL QUANTITY OF ITEM 659 SEEDING AND MULCHING HAS BEEN PROVIDED TO COVER THE AREA INSIDE THE CONSTRUCTION LIMITS NOT INCLUDED IN THE SEEDING AREA COVERED ON THE CROSS SECTIONS.

CROSS REFERENCES	
21	TYPICAL SECTIONS
639	PLAN & PROFILE
644	CROSS SECTIONS
778	DRAINAGE DETAILS

ESTIMATED QUANTITIES			
ITEM	QUANTITY	UNIT	DESCRIPTION
209	170	FT	DITCH CLEANOUT
601	2	CY YD	ROCK CHANNEL PROTECTION, TYPE C, WITH FABRIC FILTER
601	7	SQ YD	RIPRAP, USING 6" REINFORCED CONCRETE SLAB, AS PER PLAN
659	289	SQ YD	SEEDING AND MULCHING

QUANTITIES CARRIED TO DRAINAGE SUBSUMMARY



HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED DAW
CHECKED PRS

CULVERT DETAIL
STA. 312+80.54 SR 303 RAMP E

SUM-271-2.33

764
1195

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EXISTING HYDRAULIC DATA
DRAINAGE AREA = 264 ACRES
Q_{50} = 189 cfs
V_{50} = 12 fps

STA. 315+75.26 ℄ CONST. SR 303 RAMP E =
STA. 10+00.00 ℄ CULVERT

DITCH CLEANOUT

RIPRAP, USING 6" REINFORCED CONCRETE SLAB, AS PER PLAN

SECTION A-A

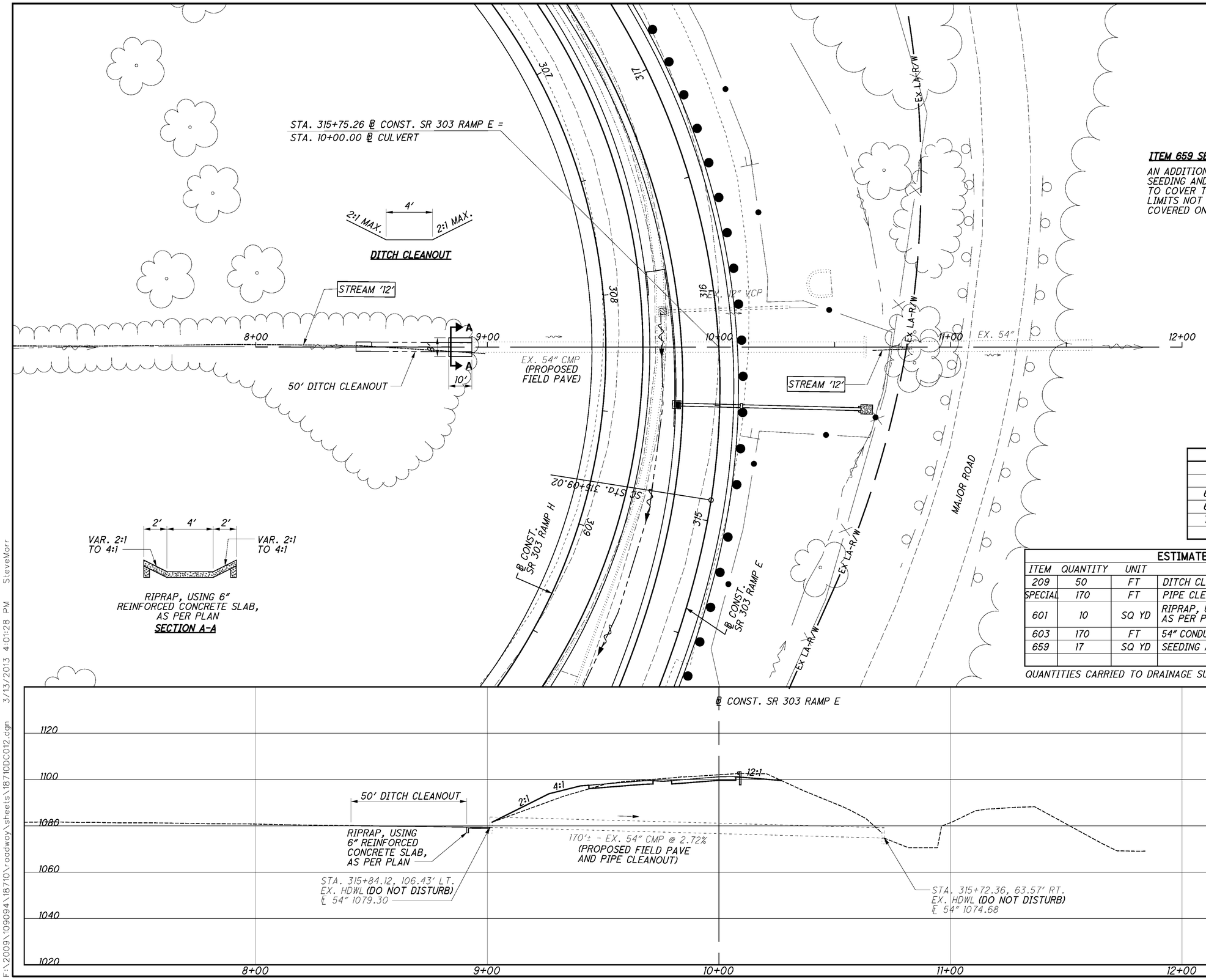
ITEM 659 SEEDING AND MULCHING

AN ADDITIONAL QUANTITY OF ITEM 659 SEEDING AND MULCHING HAS BEEN PROVIDED TO COVER THE AREA INSIDE THE CONSTRUCTION LIMITS NOT INCLUDED IN THE SEEDING AREA COVERED ON THE CROSS SECTIONS.

CROSS REFERENCES	
21	TYPICAL SECTIONS
639	PLAN & PROFILE
646	CROSS SECTIONS
778	DRAINAGE DETAILS

ESTIMATED QUANTITIES			
ITEM	QUANTITY	UNIT	DESCRIPTION
209	50	FT	DITCH CLEANOUT
SPECIAL	170	FT	PIPE CLEANOUT
601	10	SQ YD	RIPRAP, USING 6" REINFORCED CONCRETE SLAB, AS PER PLAN
603	170	FT	54" CONDUIT, TYPE A, FIELD PAVING OF EXISTING PIPE
659	17	SQ YD	SEEDING AND MULCHING

QUANTITIES CARRIED TO DRAINAGE SUBSUMMARY



HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED DAW
CHECKED PRS

CULVERT DETAIL
STA. 315+75.26 SR 303 RAMP E

SUM-271-2.33

765
1195

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LEGEND

CLEARING & GRUBBING

CONST. LIMITS

STA. 309+76.53 ℄ CONST. SR 303 RAMP F =
STA. 10+00.00 ℄ CULVERT

4′
2:1 MAX. 2:1 MAX.

DITCH CLEANOUT

EXISTING HYDRAULIC DATA
DRAINAGE AREA = 7 ACRES
Q_{50} = 18 cfs
V_{50} = 14 fps

ITEM 659 SEEDING AND MULCHING

AN ADDITIONAL QUANTITY OF ITEM 659 SEEDING AND MULCHING HAS BEEN PROVIDED TO COVER THE AREA INSIDE THE CONSTRUCTION LIMITS NOT INCLUDED IN THE SEEDING AREA COVERED ON THE CROSS SECTIONS.

HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED DAW
CHECKED PRS

60′±
205′±
70′±
N 33°
℄ CONST. SR 303 RAMP F
℄ CONST. SR 303 RAMP G
Ex LA-R/W
ST STA. 310+18.80
8+00 9+00 10+00 11+00 12+00
EX. 18" CONC.
10′
105′ DITCH CLEANOUT
30′
10′x6′ EXISTING DUMPED ROCK FILL
309 310 311

CROSS REFERENCES	
21	TYPICAL SECTIONS
649	PLAN & PROFILE
653	CROSS SECTIONS
777	DRAINAGE DETAILS

ESTIMATED QUANTITIES

ITEM	QUANTITY	UNIT	DESCRIPTION
201	LUMP		CLEARING AND GRUBBING
209	105	FT	DITCH CLEANOUT
659	1661	SQ YD	SEEDING AND MULCHING

QUANTITIES CARRIED TO DRAINAGE SUBSUMMARY

℄ CONST. SR 303 RAMP F

1140 1120 1100 1080 1060 1040

74′± - EX. 18" CONC. @ 3.75%

STA. 309+77.09, 21.74′ LT.
EX. HDWL (DO NOT DISTURB)
℄ 18" 1101.56

STA. 309+75.20, 52.31′ RT.
EX. HDWL (DO NOT DISTURB)
℄ 18" 1098.78

8+00 9+00 10+00 11+00 12+00

CULVERT DETAIL
STA. 309+76.53 SR 303 RAMP F

SUM-271-2.33

766
1195

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LEGEND

CLEARING & GRUBBING

CONST. LIMITS

STA. 311+49.51 ℄ CONST. SR 303 RAMP G =
STA. 10+04.32 ℄ CULVERT

℄ CONST. SR 303 RAMP G

℄ CONST. IR 271

CS Sta. 311+42.05

EX. 18" CONC.

EX. DUMPED ROCK FILL

50'±

20'±

90'±

100' DITCH CLEANOUT

20'±

8+00 9+00 10+00 11+00 12+00

309 310 311 312 313

DITCH CLEANOUT

4'
2:1 MAX. 2:1 MAX.

EXISTING HYDRAULIC DATA

DRAINAGE AREA = 10 ACRES
Q_{50} = 26 cfs
V_{50} = 14 fps

HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED DAW
CHECKED PRS

CROSS REFERENCES	
21	TYPICAL SECTIONS
658	PLAN & PROFILE
664	CROSS SECTIONS

ESTIMATED QUANTITIES

ITEM	QUANTITY	UNIT	DESCRIPTION
201	LUMP		CLEARING AND GRUBBING
202	8	FT	PIPE REMOVED, 24" & UNDER
202	1	EA	HEADWALL REMOVED
209	100	FT	DITCH CLEANOUT
602	0.31	CU YD	CONCRETE MASONRY
603	14	FT	18" CONDUIT, TYPE C, 706.02

QUANTITIES CARRIED TO DRAINAGE SUBSUMMARY

℄ CONST. SR 303 RAMP G

1140 1120 1100 1080 1060 1040

STA. 311+28.91, 40.79' RT.
HW-2.2 HDWL
℄ 18" 1096.26

14'-18" CONDUIT, TYPE A, 706.02 @ 2.00%
CONCRETE COLLAR PER DM-1.1

66'± - EX. 18" CONC. @ 2.00%

STA. 311+31.03, 35.24' RT.
EX. HDWL **(REMOVE)**
℄ 18" 1096.14

STA. 311+63.78, 21.39' LT.
EX. HDWL **(DO NOT DISTURB)**
℄ 18" 1094.82

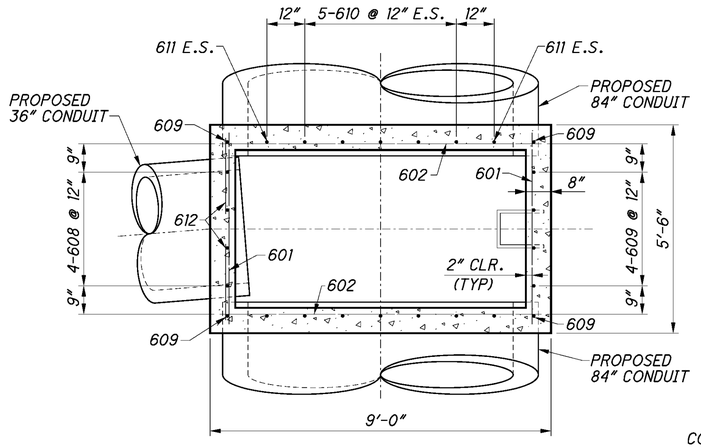
8+00 9+00 10+00 11+00 12+00

CULVERT DETAIL
STA. 311+49.51 SR 303 RAMP G

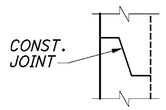
SUM-271-2.33

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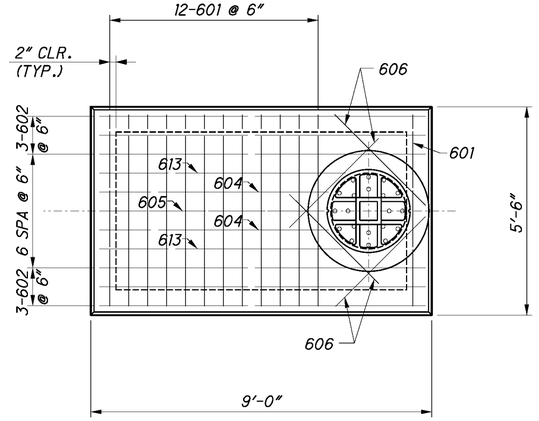
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SECTION A-A



DETAIL 'A'



TOP SLAB PLAN

NOTES:

WALLS: PRECAST WALLS, IF USED, SHALL HAVE A MINIMUM THICKNESS OF 6" AND BE REINFORCED SUFFICIENTLY TO PERMIT SHIPPING AND HANDLING WITHOUT DAMAGE AND SHALL BE AT LEAST EQUIVALENT TO REINFORCED CAST-IN-PLACE CONSTRUCTION. PRECAST TOPS SHALL MEET CAST-IN-PLACE TOPS FOR DIMENSIONS AND REINFORCEMENT.

STEPS: STEPS SHALL BE PROVIDED WHERE THE DEPTH EXCEEDS 6' AND SHALL MEET THE REQUIREMENTS OF SCD MH-1.1.

REINFORCING STEEL: SHALL BE EPOXY COATED #6 BAR WITH A MINIMUMIN YIELD STRENGTH OF Fy = 60,000 PSI IN ACCORDANCE WITH CMS 509.

CONCRETE: CAST-IN-PLACE CONCRETE IS TO BE CLASS C. ALL PRECAST CONCRETE SHALL MEET THE REQUIREMENTS OF CMS 706.13 AND BE MARKED WITH THE CATCH BASIN NUMBER.

PRECAST BASE: IF A PRECAST BASE IS USED, IT SHALL BE SET DEEP ENOUGH SO THAT THE TOP CAN BE PLACED ON THE BASE TO PROVIDE THE GRATE ELEVATION SPECIFIED IN THE PLANS. LAYERS OF BRICK SHALL NOT BE USED TO ADJUST THE TOP ELEVATION.

LOCATION AND ELEVATION: WHEN GIVEN ON THE PLANS, THE LOCATION AND THE ELEVATION ARE AT THE CENTER OF THE STRUCTURE. WHEN SIDE OPENINGS ARE PROVIDED, THE ELEVATION SHALL BE AT THE FLOW LINE OF THE SIDE INLET.

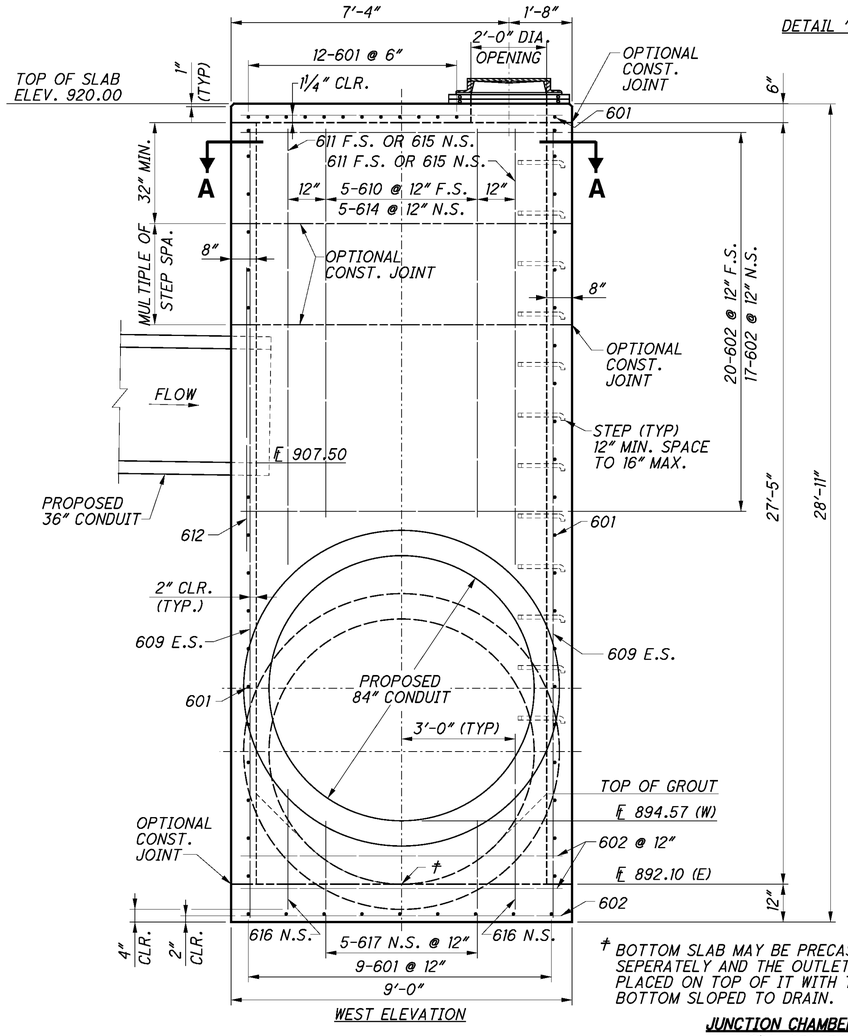
OPENINGS: PIPE OPENINGS SHALL BE THE O.D. OF THE PIPE BEING SUPPLIED PLUS 2" WHEN FABRICATED OR FIELD CUT. FILL ANY VOIDS PER CMS 601.

PAYMENT: ALL MATERIALS AND LABOR, INCLUDING EXCAVATION AND BACKFILLING, SHALL BE PAID FOR UNDER JUNCTION CHAMBER, AS PER PLAN/JUNCTION CHAMBER AS PER PLAN-1.

NOTATION: E.S. - EACH SIDE; F.S. - FAR SIDE; N.S. - NEAR SIDE

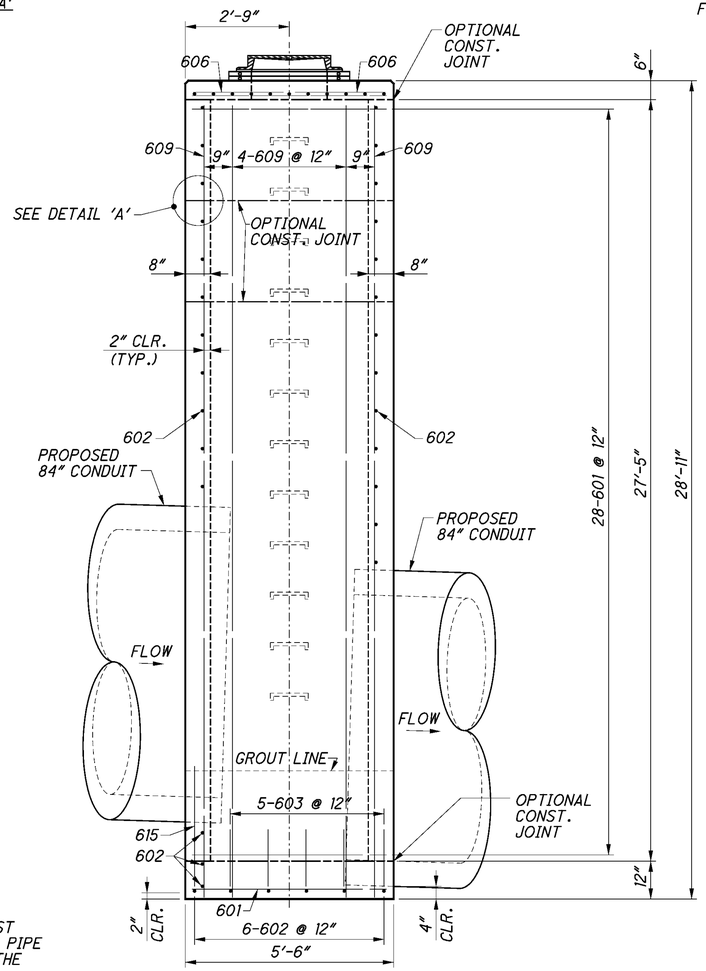
REFERENCE:

FOR ALL REINFORCING STEEL QUANTITIES SEE SHEET 769 .

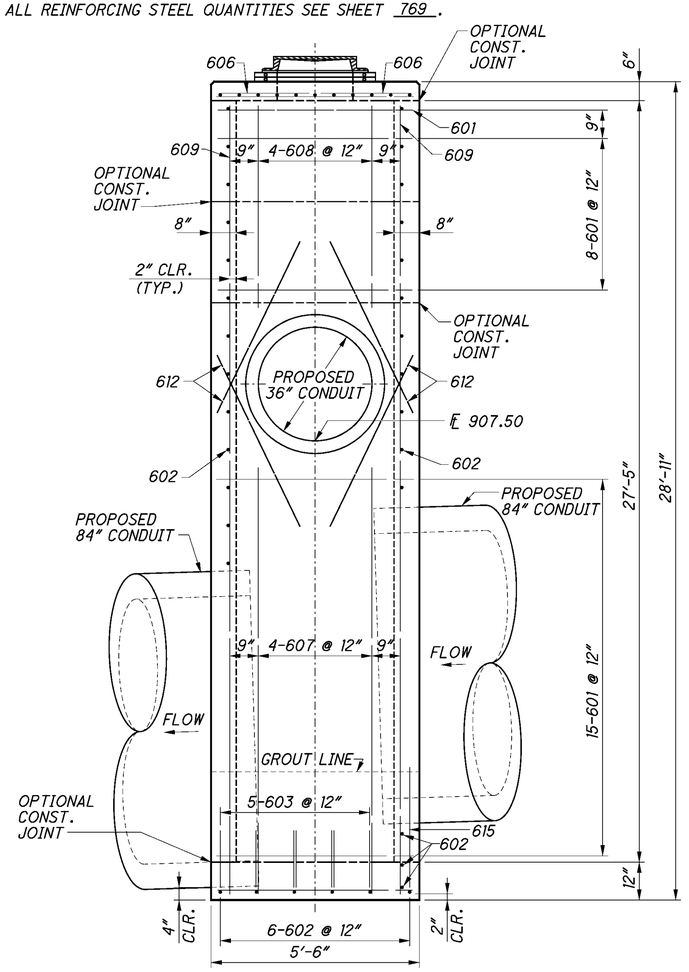


WEST ELEVATION

† BOTTOM SLAB MAY BE PRECAST SEPERATELY AND THE OUTLET PIPE PLACED ON TOP OF IT WITH THE BOTTOM SLOPED TO DRAIN.



SOUTH ELEVATION



NORTH ELEVATION

JUNCTION CHAMBER, AS PER PLAN - 1
STA. 238+70.00, 190.00' RT.

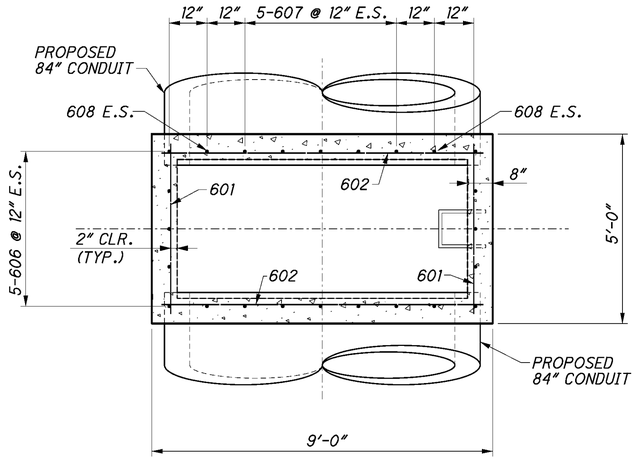
CALCULATED EEL
CHECKED KAK

DRAINAGE DETAILS - JUNCTION CHAMBER, AS PER PLAN

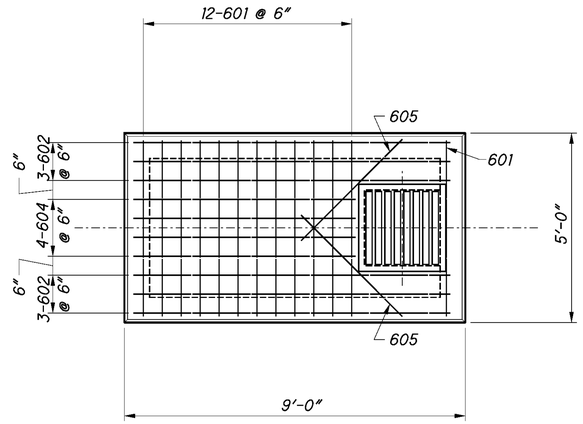
SUM-271-2.33

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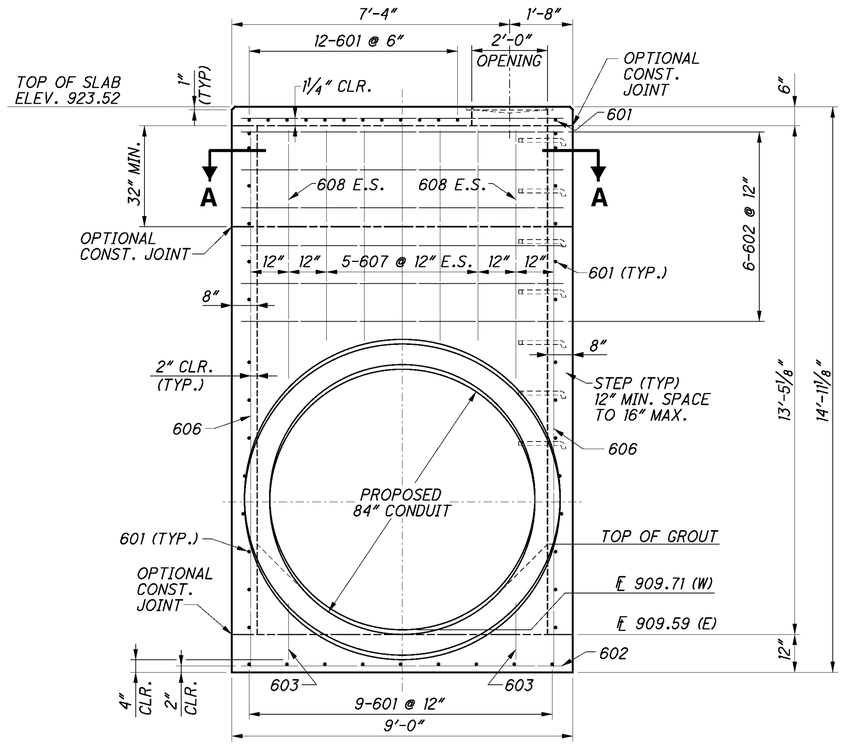
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SECTION A-A

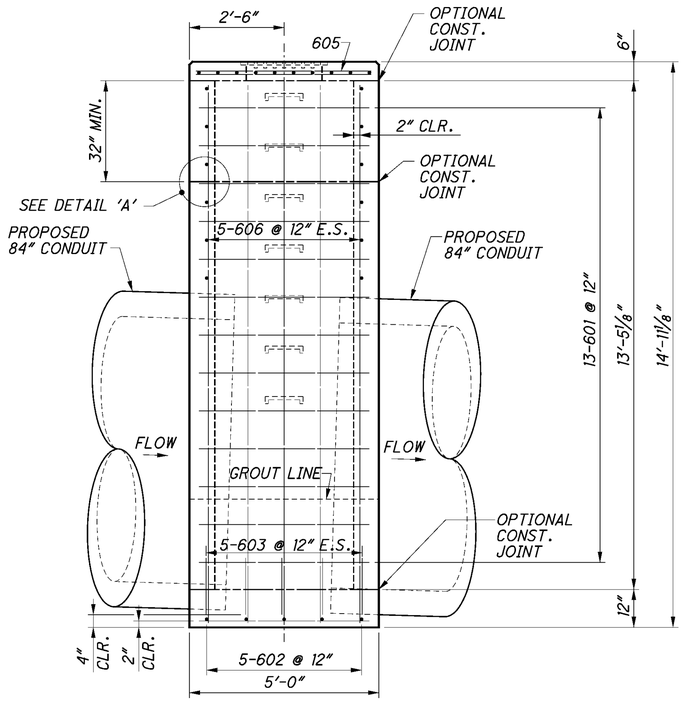


TOP SLAB PLAN

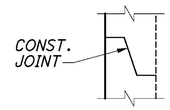


ELEVATION

JUCTION CHAMBER, AS PER PLAN
STA. 232+99.98, 190.75′ RT.



ELEVATION



DETAIL 'A'

NOTES:

REFERENCE: FOR ADDITIONAL NOTES, SEE JUNCTION CHAMBER NOTES ON SHEET 768 .

GRATE: SEE DETAILS ON SCD CB-1.1. MINIMUM WEIGHT OF GRATE 120 LBS. OR MEETS THE REQUIREMENTS OF CMS 711.14. GRATE OPENINGS AND DIMENSIONS SHALL NOT DIFFER FROM THOSE SHOWN UNLESS OTHERWISE SHOWN ON THE PLANS.

IF NECESSARY, BICYCLE SAFE GRATES SHALL BE SPECIFIED IN THE PLANS. BICYCLE SAFE GRATES SHALL BE NEENAH NO. R-4589-C OR EAST JORDAN NO. 5110 TYPE M3 OR APPROVED EQUAL.

AS OF JANUARY 1, 2003, THE FOLLOWING TEXT SHALL BE CAST INTO THE TOP OF THE GRATE.

"**DUMP NO WASTE**" AND "**DRAINS TO WATERWAY**"

TEXT SHALL BE PRINTED IN BOLD, CAPITAL LETTERS WITH A MINIMUM HEIGHT OF ½". "WATERWAY" MAY BE SUBSTITUTED WITH "STREAM", "RIVER", "LAKE", ETC. ACTUAL PLACEMENT AND LOGO MAY VARY PER MANUFACTURER.

REINFORCING STEEL LIST

JUNCTION CHAMBER, STA. 238+70.00		
MARK	NO.	LENGTH
601	76	5′-0″
602	46	8′-6″
603	10	1′-6″
604	2	6′-2″
605	1	6′-0″
606	4	3′-4″
607	8	15′-6″
608	4	8′-4″
609	8	28′-1″
610	5	19′-2″
611	2	20′-5″
612	4	5′-0″
613	2	6′-6″
614	5	16′-8″
615	2	17′-11″
616	2	4′-0″
617	5	3′-2″

REINFORCING STEEL LIST

JUNCTION CHAMBER, STA. 232+99.98		
MARK	NO.	LENGTH
601	48	4′-6″
602	23	8′-6″
603	10	1′-6″
604	4	6′-2″
605	2	3′-9″
606	10	14′-1″
607	10	5′-5″
608	4	6′-8″

CALCULATED EEL
CHECKED KAK

JUNCTION CHAMBER AS PER PLAN

DRAINAGE DETAILS - JUN

SUM-271-2.33

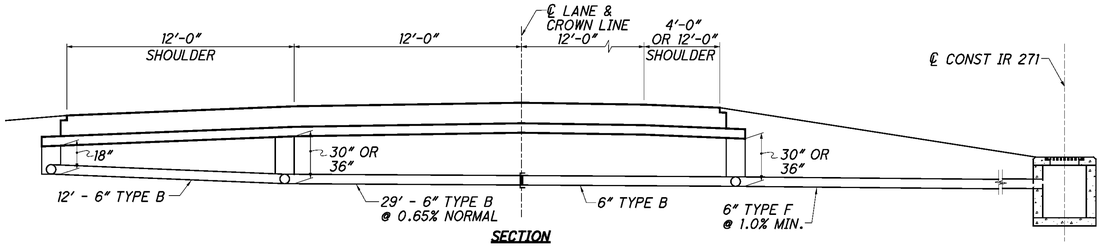
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LEGEND

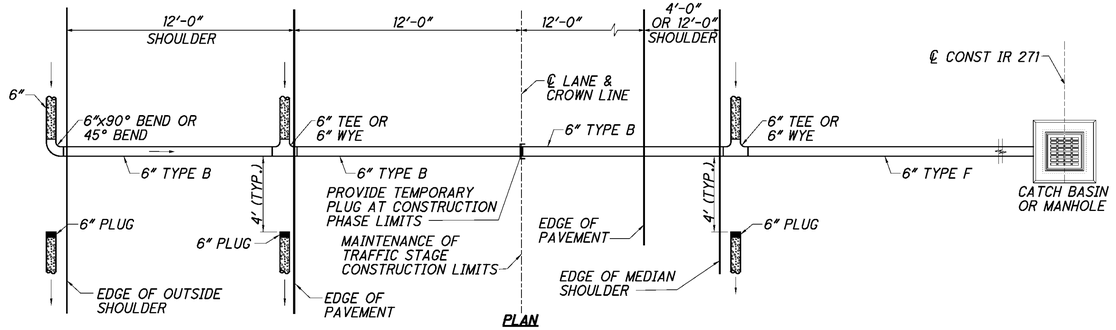
6" BASE PIPE UNDERDRAIN WITH FABRIC WRAP, 707.31 OR 707.41 (18" NORMAL DEPTH)
OR
6" SHALLOW PIPE UNDERDRAIN WITH FABRIC WRAP, 707.31 OR 707.41 (30" NORMAL DEPTH)
OR
6" ROCK CUT UNDERDRAIN WITH FABRIC WRAP, 707.31 OR 707.41, AS PER PLAN (30" NORMAL DEPTH)
OR
6" DEEP PIPE UNDERDRAIN WITH FABRIC WRAP, 707.31 OR 707.41, AS PER PLAN (36" NORMAL DEPTH)

OUTLET PIPES, AS NOTED

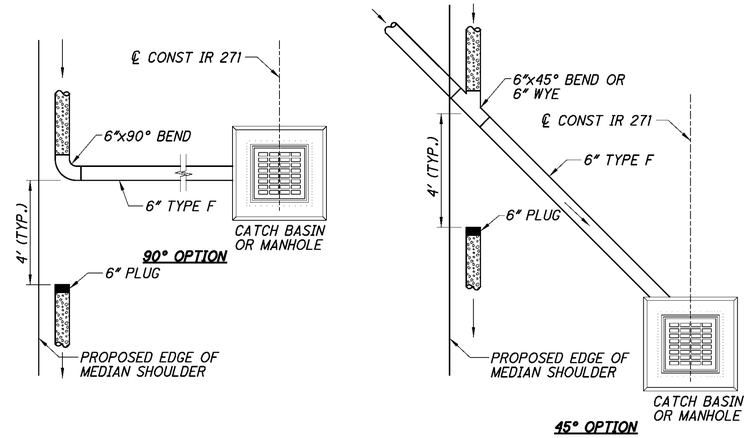
UNDERDRAIN DETAIL A
MEDIAN



SECTION



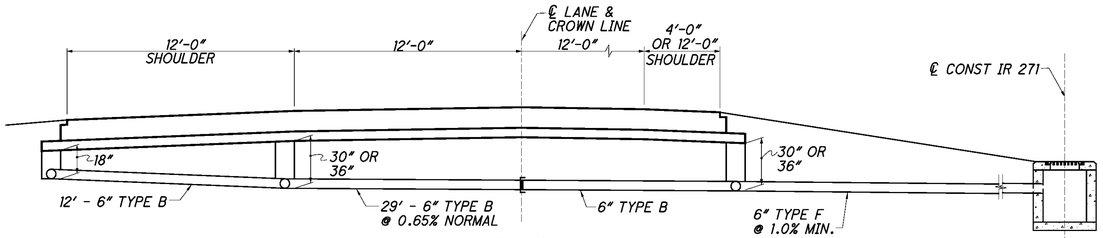
PLAN



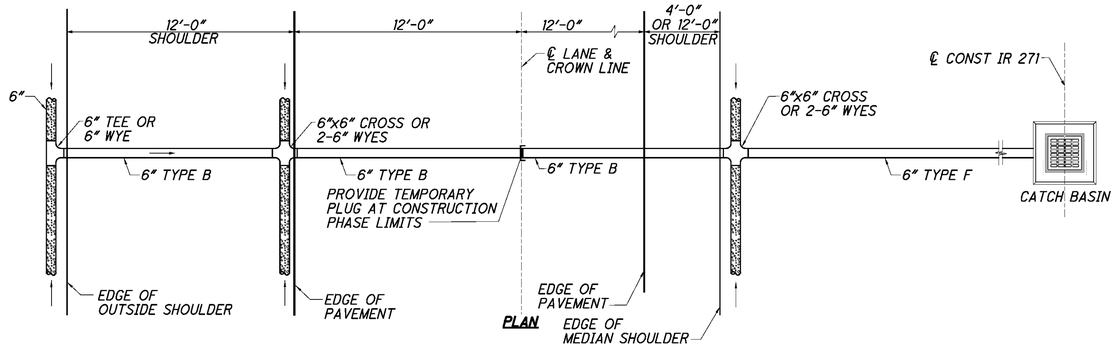
90° OPTION

45° OPTION

UNDERDRAIN DETAIL B
MEDIAN

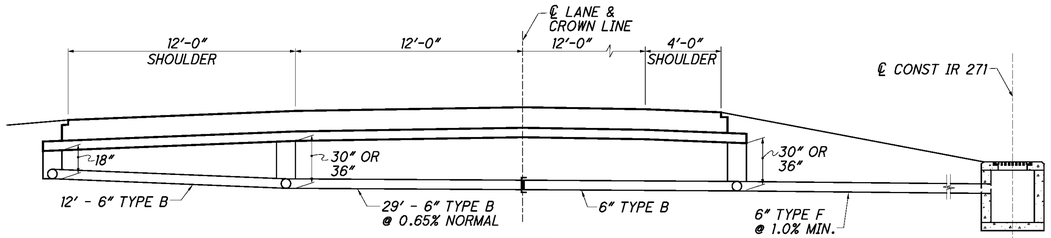


SECTION

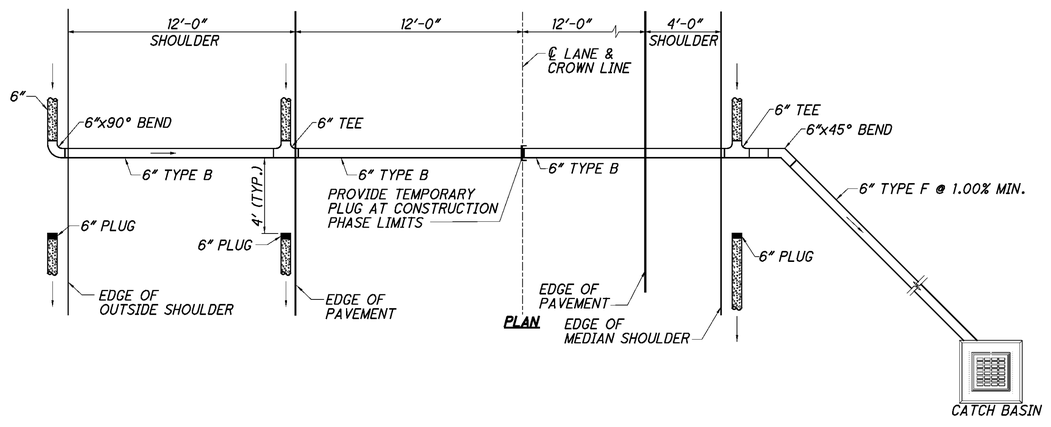


PLAN

UNDERDRAIN DETAIL C
MEDIAN



SECTION



PLAN

CALCULATED EEL
CHECKED PRS

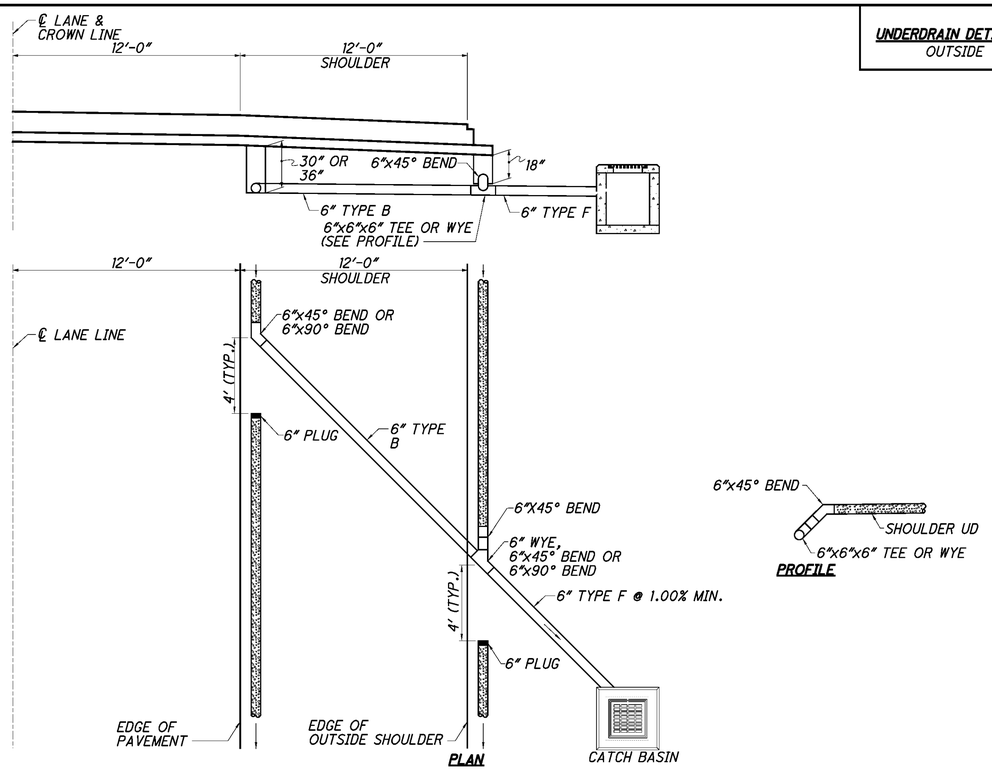
UNDERDRAIN DETAILS

SUM-271-2.33

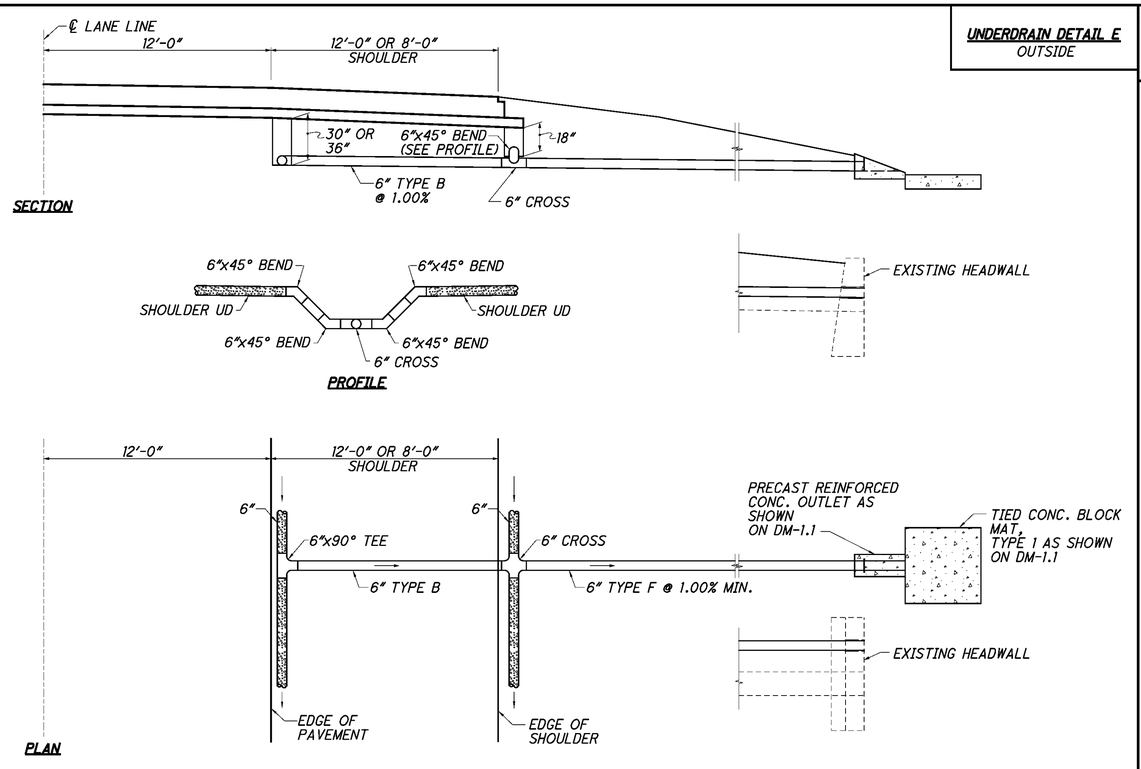
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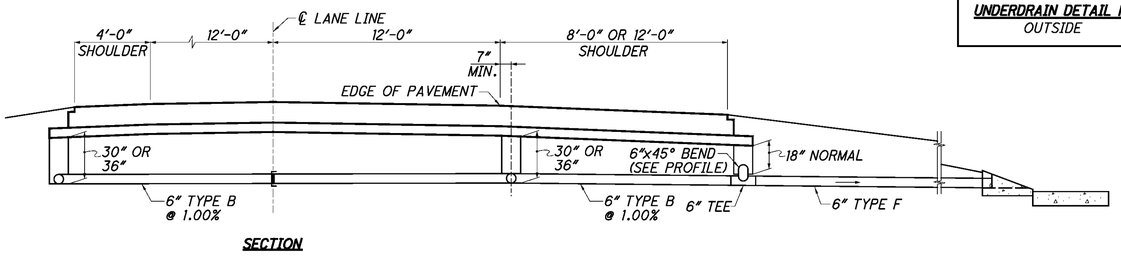
UNDERDRAIN DETAIL D
OUTSIDE

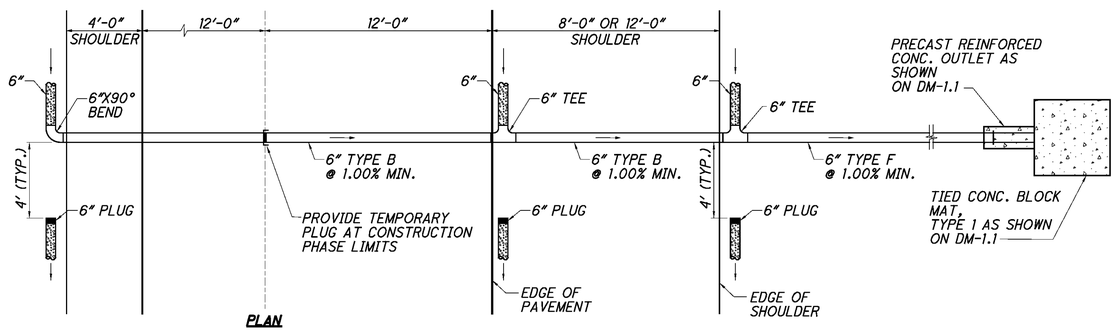


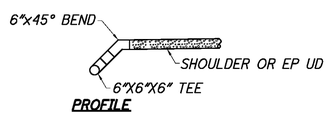
UNDERDRAIN DETAIL E
OUTSIDE



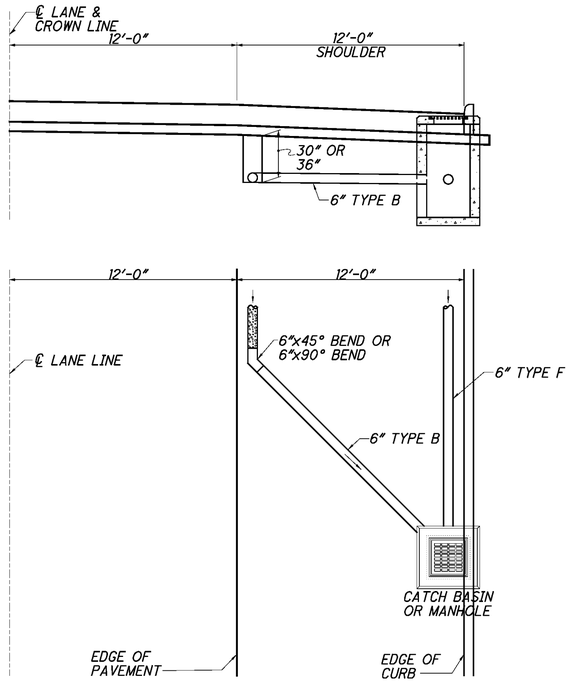
UNDERDRAIN DETAIL F
OUTSIDE







UNDERDRAIN DETAIL G
MAINLINE



CALCULATED EEL
CHECKED PRS

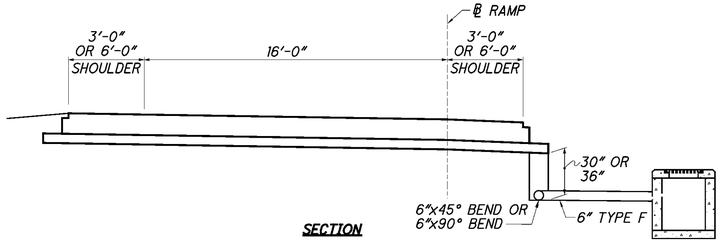
UNDERDRAIN DETAILS

SUM-271-2.33

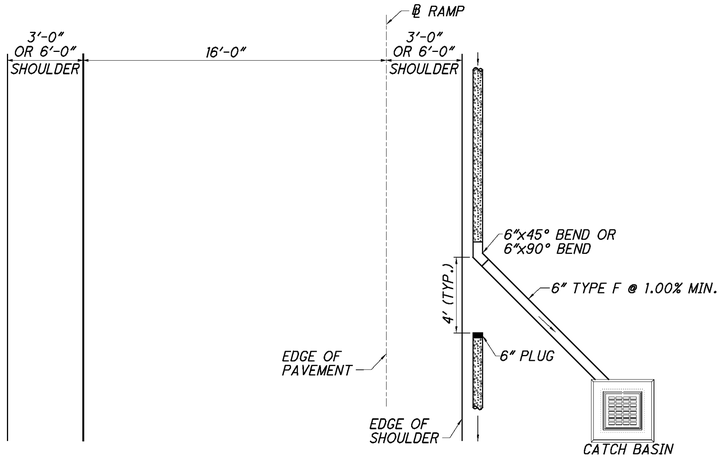
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1195

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UNDERDRAIN DETAIL H
RAMP

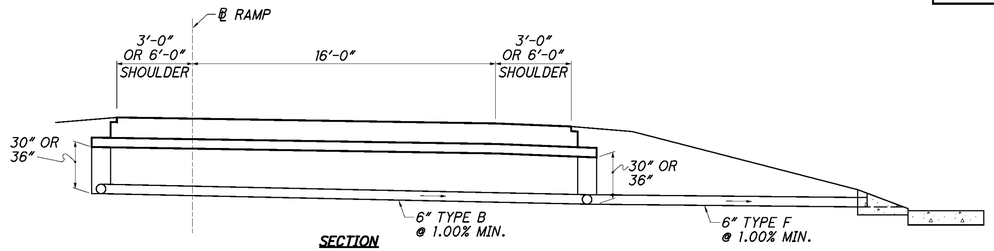


SECTION

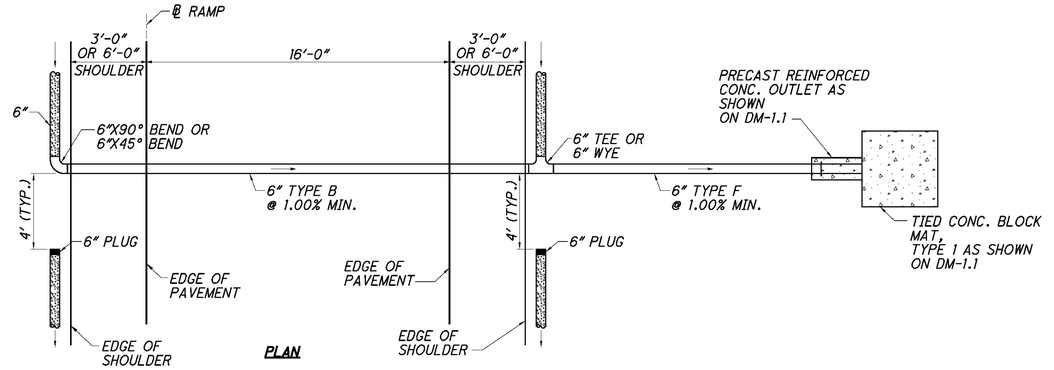


PLAN

UNDERDRAIN DETAIL I
RAMP

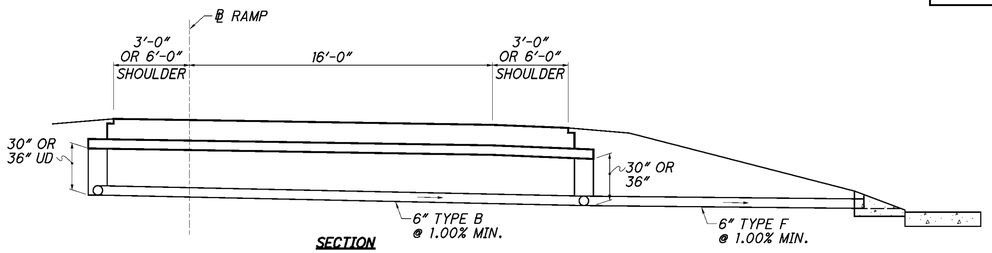


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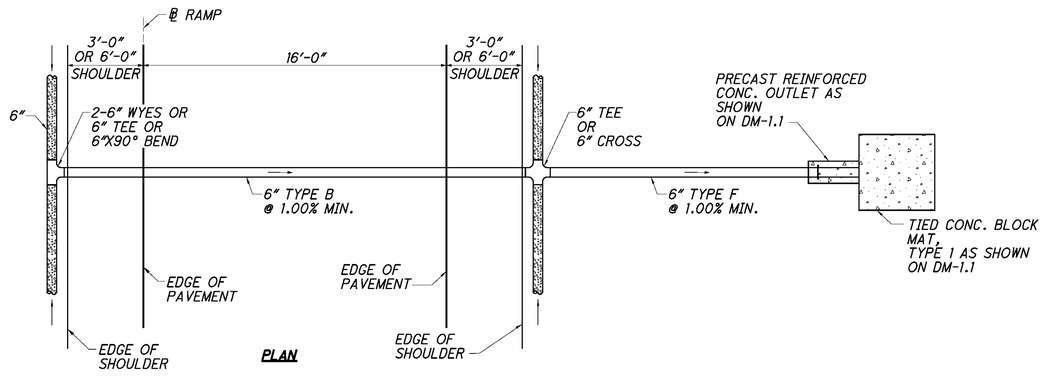


PLAN

UNDERDRAIN DETAIL J
RAMP

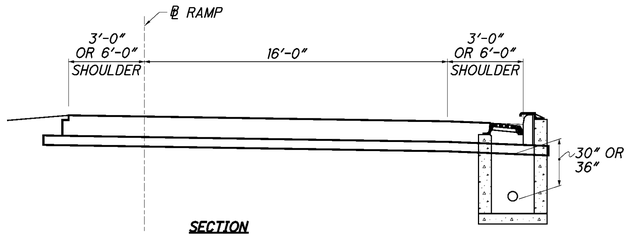


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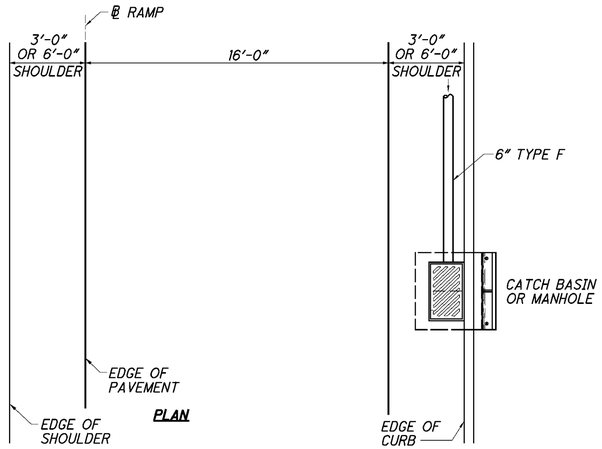


PLAN

UNDERDRAIN DETAIL K
RAMP



SECTION



PLAN

CALCULATED EEL
CHECKED PRS

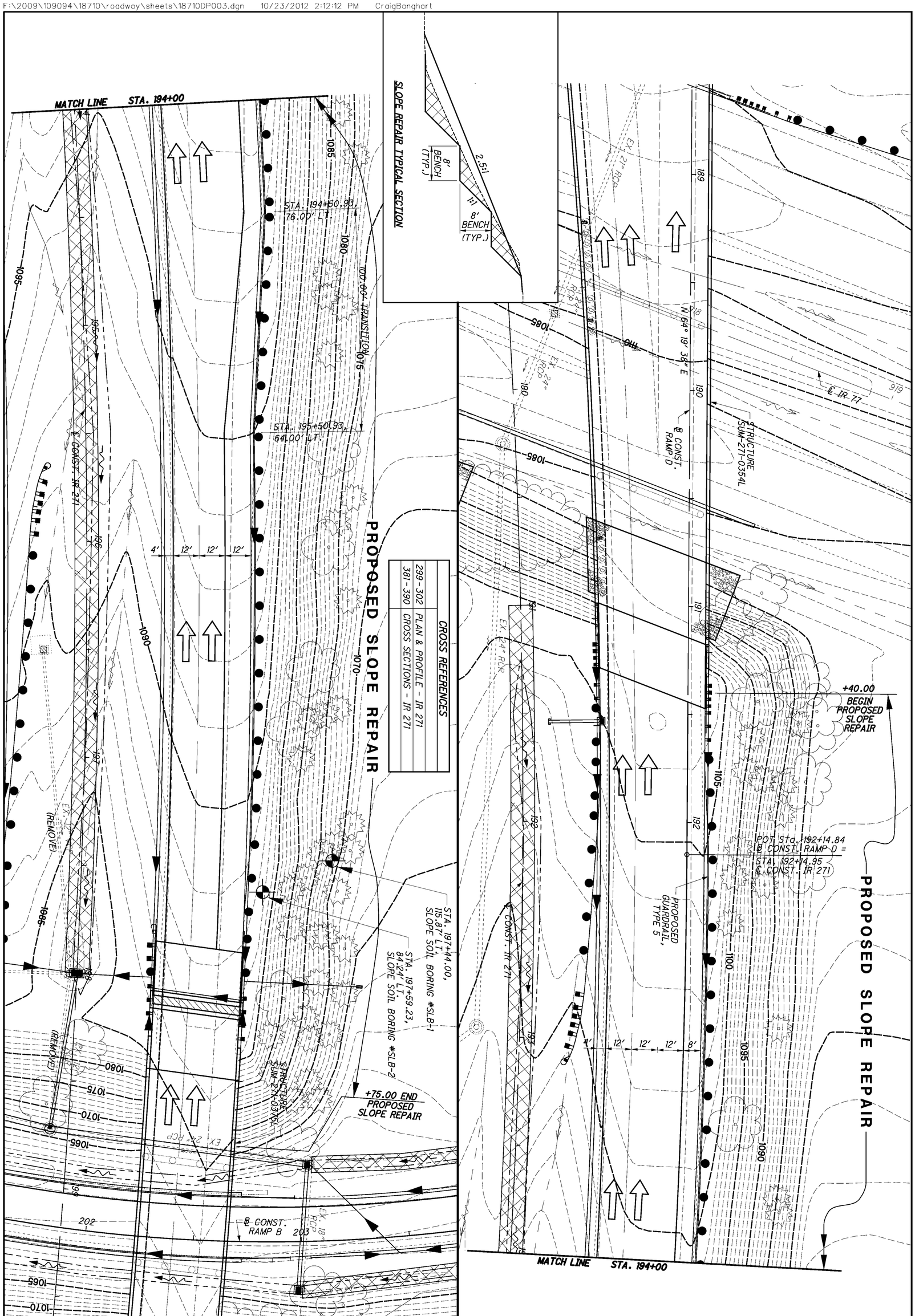
UNDERDRAIN DETAILS

SUM-271-2.33

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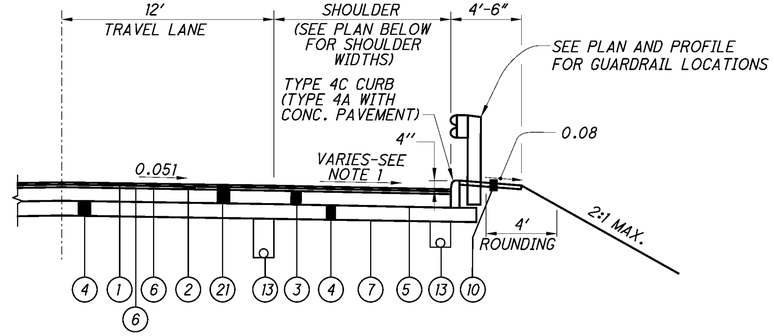
F:\2009\109094\18710\roadway\sheets\18710DP003.dgn 10/23/2012 2:12:12 PM CraigBanghart



773 1195	SUM-271-2.33	SLOPE REPAIR PLAN STA. 189+00 TO STA. 199+00	CALCULATED DAW	0 20	N
			CHECKED PRS	10 40 HORIZONTAL SCALE IN FEET	

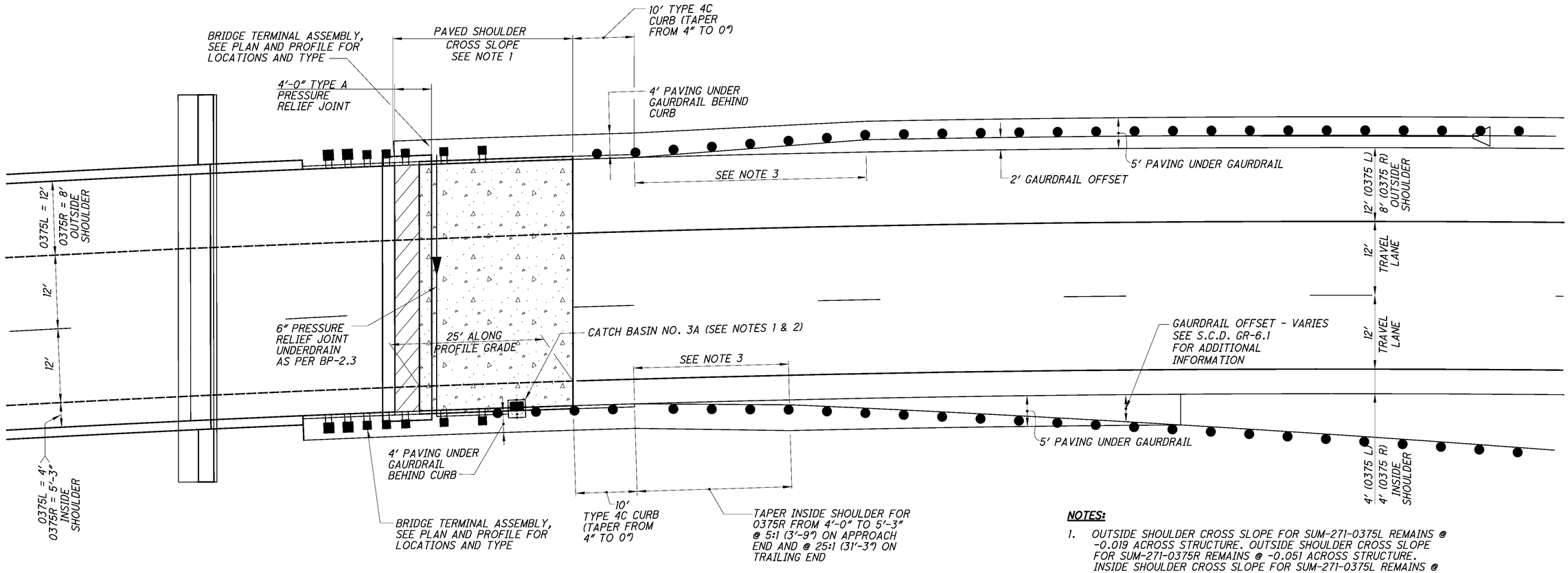
SHEET NO.	REF.	STATION		204 SUBGRADE COMPACTION	302 ASPHALT CONCRETE BASE PG64-22	304 AGGREGATE BASE	407 TACK COAT FOR INTERMEDIATE COURSE	408 PRIME COAT	442 ASPHALT CONCRETE SURFACE COURSE	442 ASPHALT CONCRETE INTERMEDIATE COURSE	609 CURB, TYPE 4C	888 PORTLAND CEMENT CONCRETE PAVEMENT, 12" THICK (NON-REINFORCED PER ITEM 452) ✖
		FROM	TO	SQ. YD.	CU. YD.	CU. YD.	GAL.	GAL.	CU. YD.	CU. YD.	FT.	FT.
301	NB 271 LT	197+60.23	197+76.64	1.84	0.45	0.30	0.08	0.74	0.08	0.09	10.00	1.84
301	NB 271 LT	200+25.10	200+66.77	3.59	0.87	0.60	0.15	1.44	0.15	0.18	10.00	3.59
301	NB 271 RT	197+60.15	197+70.41								10.00	
301	SB 271 LT	197+77.32	197+87.13								10.00	
301	SB 271 LT	200+28.53	200+38.34								10.00	
301	SB 271 RT	197+73.57	197+83.48								10.00	
301	SB 271 RT	200+27.34	200+37.24								10.00	
TOTALS CARRIED TO PAVEMENT CALCULATIONS				5.43	1.32	0.90	0.23	2.18	0.23	0.27	70.00	5.43

✖ FOR RIGID PAVEMENT OPTION



ASPHALT SHOULDER DETAIL - CATCH BASIN AT END OF STRUCTURE (SUM-271-0375 L&R)

SEE TYPICAL SECTIONS FOR CONCRETE PAVEMENT LOCATIONS (SUM-271-0375 L&R)
(NOT TO SCALE)
SEE PAVEMENT TYPICAL SECTION FOR ITEM LEGEND



NOTES:

1. OUTSIDE SHOULDER CROSS SLOPE FOR SUM-271-0375L REMAINS @ -0.019 ACROSS STRUCTURE. OUTSIDE SHOULDER CROSS SLOPE FOR SUM-271-0375R REMAINS @ -0.051 ACROSS STRUCTURE. INSIDE SHOULDER CROSS SLOPE FOR SUM-271-0375L REMAINS @ -0.051 ACROSS STRUCTURE. INSIDE SHOULDER CROSS SLOPE FOR SUM-271-0375R TRANSITIONS FROM -0.019 TO -0.051 OVER 70' (250:1 TRANSITION)
2. DEPRESS GRATE 2" AT FACE OF CURB TO CREATE SUMP. TRANSITION SHOULDER AT FACE OF CURB 2' ON EACH SIDE OF CATCH BASIN. SEE PLAN AND PROFILE SHEETS FOR OUTLET PIPE ARRANGEMENT.
3. SEE GR-6.1 (SHEETS 785M-785N) FOR GUARDRAIL FLARE ARC AND TAPER RATE.

0 5 10 20 HORIZONTAL SCALE IN FEET

CALCULATED MF CHECKED JDL

SUM-271-0375 L&R STRUCTURE END DETAILS WITH PRESSURE RELIEF JOINT

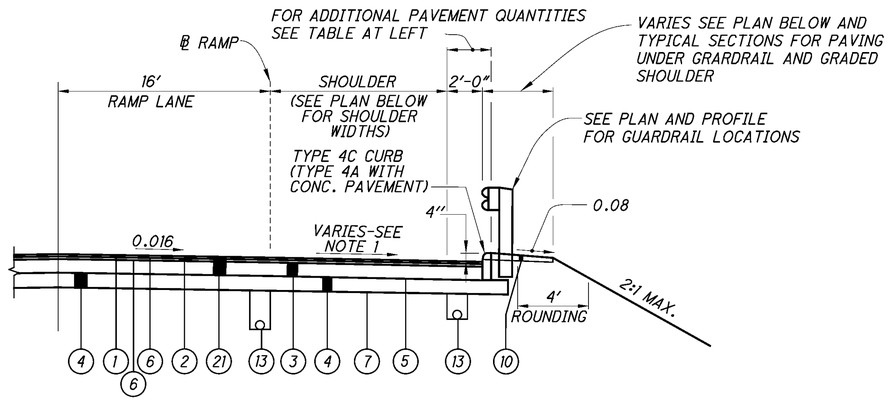
SUM-271-2.33

774 1195

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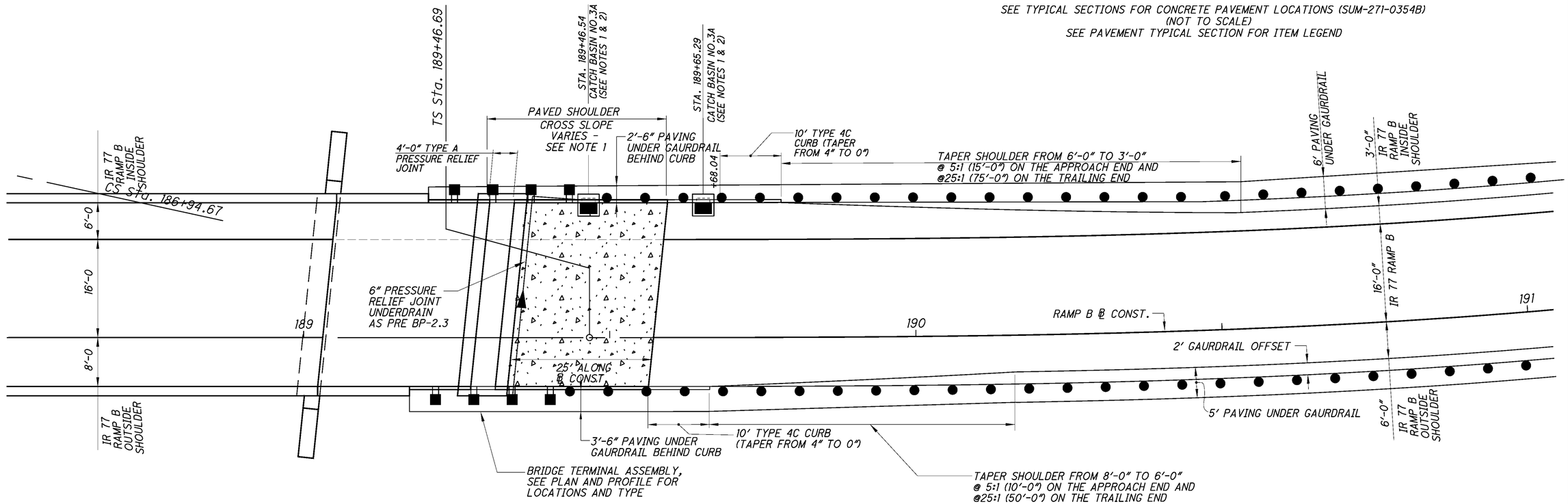
SHEET NO.	LOCATION	STATION		204	302	304	407	408	442	442	609	888
				SUBGRADE COMPACTION	ASPHALT CONCRETE BASE PG64-22	AGGREGATE BASE	TACK COAT FOR INTERMEDIATE COURSE	PRIME COAT	ASPHALT CONCRETE SURFACE COURSE	ASPHALT CONCRETE INTERMEDIATE COURSE	CURB, TYPE 4C	PORTLAND CEMENT CONCRETE PAVEMENT, 12" THICK (NON-REINFORCED PER ITEM 452) ✱
		FROM	TO	SQ. YD.	CU. YD.	CU. YD.	GAL.	GAL.	CU. YD.	CU. YD.	FT.	FT.
581	0354B RT	185+06.25	185+26.26	3.33	0.81	0.56	0.13	1.33	0.14	0.16	10.00	3.33
581	0354B LT	184+04.47	185+29.37	5.83	1.42	0.98	0.23	2.33	0.24	0.28	10.00	5.83
581	0354B RT	189+56.32	190+16.31	7.78	1.89	1.30	0.31	3.11	0.32	0.38	10.00	7.78
581	0354B LT	189+59.44	190+53.04	18.70	4.55	3.11	0.75	7.48	7.48	0.91	18.50	18.70
TOTALS CARRIED TO PAVEMENT CALCULATIONS				35.64	8.67	5.95	1.42	14.25	1.48	1.73	48.50	35.64

✱ FOR RIGID PAVEMENT OPTION



ASPHALT SHOULDER DETAIL - CATCH BASIN AT END OF STRUCTURE (SUM-271-0354B)

SEE TYPICAL SECTIONS FOR CONCRETE PAVEMENT LOCATIONS (SUM-271-0354B)
(NOT TO SCALE)
SEE PAVEMENT TYPICAL SECTION FOR ITEM LEGEND



NOTES:

1. TRANSITION CROSS SLOPE FROM -0.016 TO +0.040 IN 35' .
2. DEPRESS GRATE 2" AT FACE OF CURB TO CREATE SUMP. TRANSITION SHOULDER AT FACE OF CURB 2' ON EACH SIDE OF CATCH BASIN. SEE PLAN AND PROFILE SHEETS FOR OUTLET PIPE ARRANGEMENT.
3. SEE GR-6.1 (SHEETS 785M-785N) FOR GAURDRAIL FLARE ARC AND TAPER RATE.

0 5 10 20 HORIZONTAL SCALE IN FEET

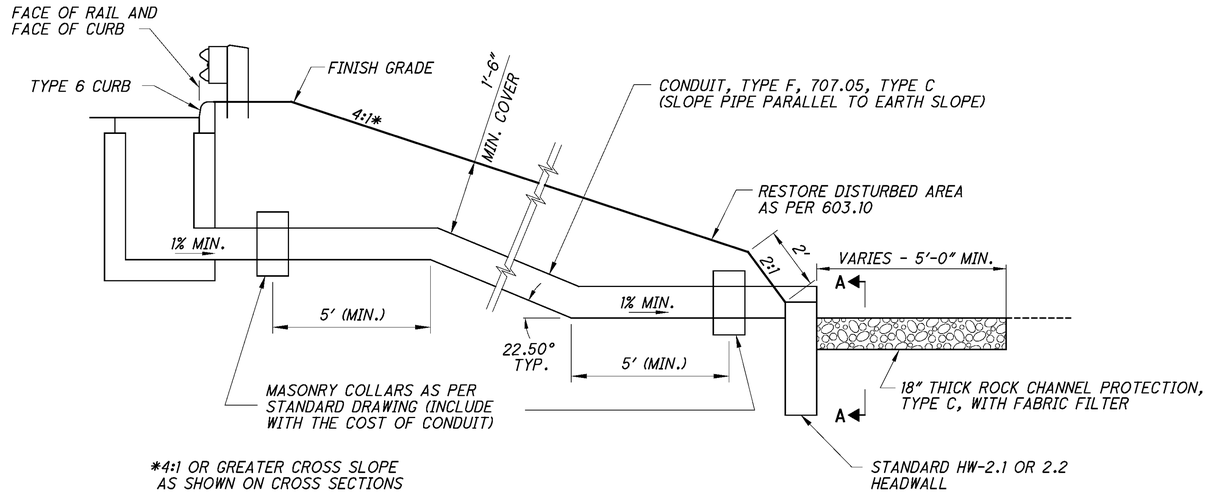
CALCULATED MF | CHECKED JDL

SUM-271-0354B STRUCTURE END PRESSURE RELIEF JOINT DETAIL WITH PRE

SUM-271-2.33

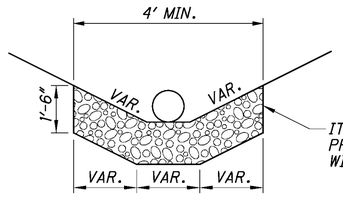
775
1195

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*4:1 OR GREATER CROSS SLOPE AS SHOWN ON CROSS SECTIONS

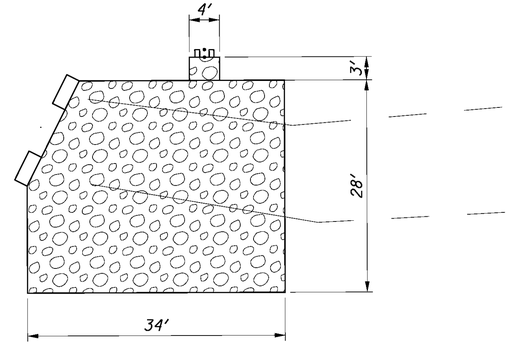
STORM SEWER OUTLET DETAIL UNDER AN EMBANKMENT SLOPE OF 4:1 OR GREATER



SECTION A-A

NOTE:

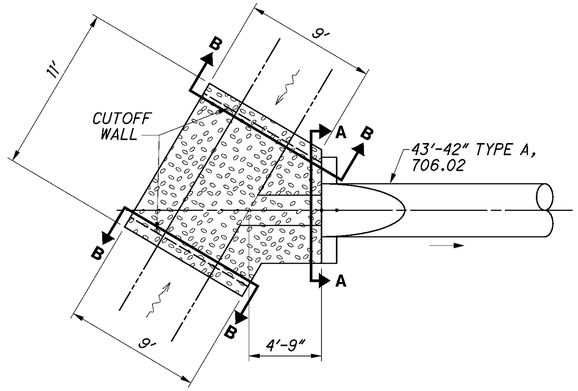
QUANTITIES ARE CARRIED TO CULVERT DETAIL SHEET (WHEN APPLICABLE) OR TO DRAINAGE SUMMARY



ITEM 601 - ROCK CHANNEL PROTECTION, TYPE A WITH FABRIC FILTER

STA. 220+28.82 TO STA. 239+80.00 ℄ CONST. IR 77 - SEE PLAN SHEET NO. 307 AND STORM SEWER PROFILE SHEET NO. 746

4' x 3' x 48" / 12 / 27 = 1.78 CU. YD.
28' x 34' x 48" / 12 / 27 = 141.04 CU. YD.
= 142.82 CU. YD.
USE = 143 CU. YD.



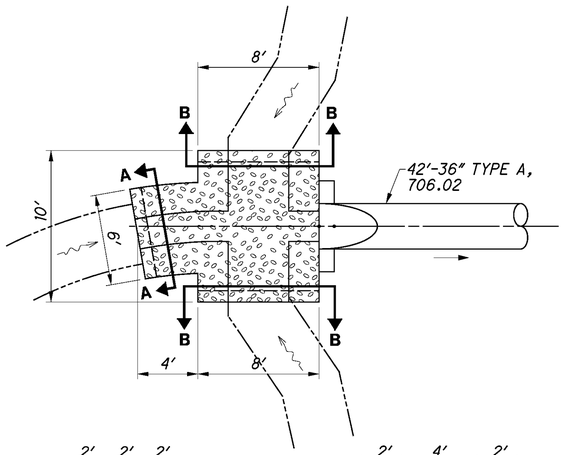


SECTION A-A **SECTION B-B**

ITEM 601 - RIPRAP, USING 6" REINFORCED CONCRETE SLAB, AS PER PLAN

STA. 219+43.33, 184.52' LT., ℄ CONST. IR 77 - SEE PLAN SHEET NO. 305 AND CULVERT DETAIL SHEET NO. 750

[(11' x 9') + (7' x 4.25'/2)] / 9 = 12.65 SQ. YD.
USE = 13 SQ. YD.



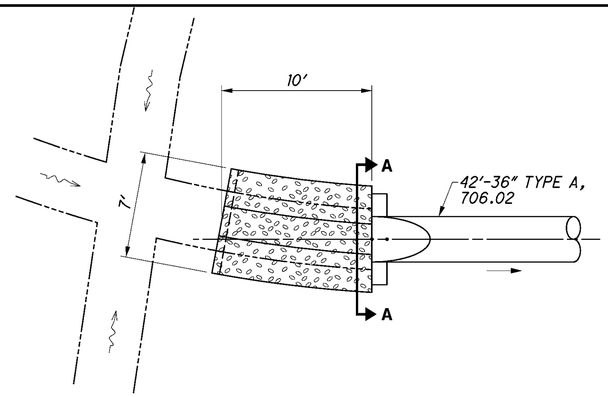


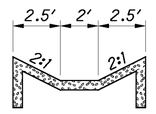
SECTION A-A **SECTION B-B**

ITEM 601 - RIPRAP, USING 6" REINFORCED CONCRETE SLAB, AS PER PLAN

STA. 225+17.00, 146.00' LT., ℄ CONST. IR 77 - SEE PLAN SHEET NO. 305 AND CULVERT DETAIL SHEET NO. 751

[(6' x 4') + (10' x 8')] / 9 = 11.56 SQ. YD.
USE = 12 SQ. YD.





SECTION A-A

ITEM 601 - RIPRAP, USING 6" REINFORCED CONCRETE SLAB, AS PER PLAN

STA. 238+15.00, 142.00' LT., ℄ CONST. IR 77 - SEE PLAN SHEET NO. 307 AND CULVERT DETAIL SHEET NO. 753

10' x 2' / 9 = 2.22 SQ. YD.
10' x 5' x 1.12 / 9 = 6.22 SQ. YD.
= 8.44 SQ. YD.
USE = 9 SQ. YD.

CALCULATED JDL CHECKED DAW

DRAINAGE DETAILS

SUM-271-2.33

776
1195

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2-D



ITEM 601 - ROCK CHANNEL PROTECTION, TYPE C WITH FABRIC FILTER

STA. 531+41 ℄ CONST. IR 271 - SEE PLAN SHEET NO. 289

4' x 4' x 18" / 12 / 27 = 0.9 CU. YD.

USE = 1 CU. YD.

4-D

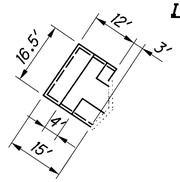


ITEM 601 - ROCK CHANNEL PROTECTION, TYPE C WITH FABRIC FILTER

STA. 540+00 ℄ CONST. IR 271 - SEE PLAN SHEET NO. 291

4' x 4' x 18" / 12 / 27 = 0.9 CU. YD.

USE = 1 CU. YD.

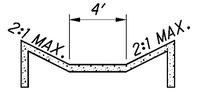


ITEM 601 - RIPRAP, USING 6" REINFORCED CONCRETE SLAB, AS PER PLAN

STA. 173+57.59 ℄ CONST. IR 271 - SEE PLAN SHEET NO. 297
AND CULVERT DETAIL SHEET NO. T49

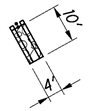
16.5' x 12' / 9 = 22.00 SQ. YD.
11.5' x 3' / 9 = 3.83 SQ. YD.
= 25.83 SQ. YD.

USE = 26 SQ. YD.



RIPRAP DETAIL

39-D



ITEM 601 - ROCK CHANNEL PROTECTION, TYPE B WITH FABRIC FILTER

STA. 194+22 ℄ CONST. IR 271 - SEE PLAN SHEET NO. 301

10' x 4' x 30" x 1 / 12 / 27 = 3.8 CU. YD.

USE = 4 CU. YD.

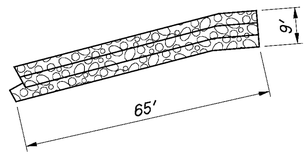
40-D

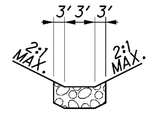
ITEM 601 - ROCK CHANNEL PROTECTION, TYPE B WITH FABRIC FILTER

STA. 194+47 ℄ CONST. IR 271 - SEE PLAN SHEET NO. 301

65' x 3' x 30" x 1 / 12 / 27 = 18.1 CU. YD.
65' x 6' x 1.12 x 30" x 1 / 12 / 27 = 40.4 CU. YD.
= 58.5 CU. YD.

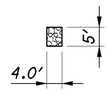
USE = 59 CU. YD.





RCP, TYPE B
W/ FABRIC
FILTER (T=30")

67-D



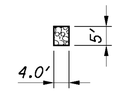
ITEM 601 - ROCK CHANNEL PROTECTION, TYPE C WITH FABRIC FILTER

STA. 248+99 ℄ CONST. IR 271 - SEE PLAN SHEET NO. 309

5' x 4' x 18" / 12 / 27 = 1.2 CU. YD.

USE = 2 CU. YD.

70-D

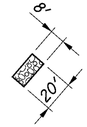


ITEM 601 - ROCK CHANNEL PROTECTION, TYPE C WITH FABRIC FILTER

STA. 259+98 ℄ CONST. IR 271 - SEE PLAN SHEET NO. 311

5' x 4' x 18" / 12 / 27 = 1.2 CU. YD.

USE = 2 CU. YD.



73-D

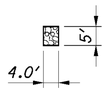
ITEM 601 - ROCK CHANNEL PROTECTION, TYPE C WITH FABRIC FILTER

STA. 266+50 ℄ CONST. IR 271 - SEE PLAN SHEET NO. 311

20' x 8' x 18" / 12 / 27 = 8.9 CU. YD.

USE = 9 CU. YD.

97-D



ITEM 601 - ROCK CHANNEL PROTECTION, TYPE C WITH FABRIC FILTER

STA. 314+99 ℄ CONST. IR 271 - SEE PLAN SHEET NO. 319

5' x 4' x 18" / 12 / 27 = 1.2 CU. YD.

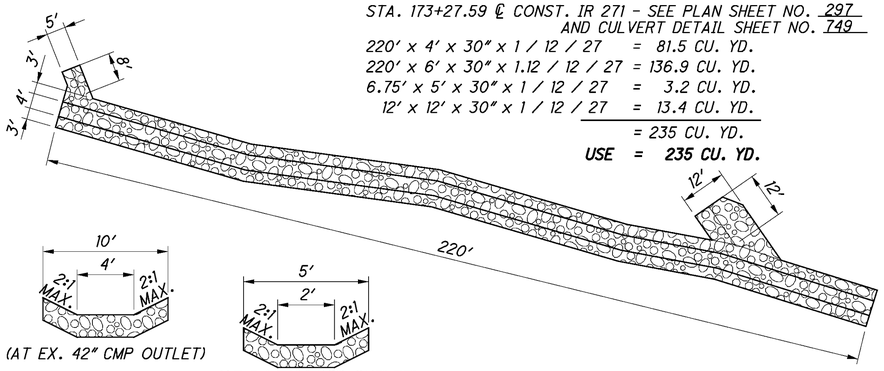
USE = 2 CU. YD.

ITEM 601 - ROCK CHANNEL PROTECTION, TYPE B WITH FABRIC FILTER

STA. 173+27.59 ℄ CONST. IR 271 - SEE PLAN SHEET NO. 297
AND CULVERT DETAIL SHEET NO. T49

220' x 4' x 30" x 1 / 12 / 27 = 81.5 CU. YD.
220' x 6' x 30" x 1.12 / 12 / 27 = 136.9 CU. YD.
6.75' x 5' x 30" x 1 / 12 / 27 = 3.2 CU. YD.
12' x 12' x 30" x 1 / 12 / 27 = 13.4 CU. YD.
= 235 CU. YD.

USE = 235 CU. YD.



(AT EX. 42" CMP OUTLET)

(AT EX. 30" RCP OUTLET)

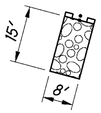
ROCK CHANNEL PROTECTION DETAILS

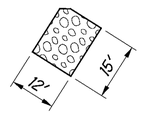
ITEM 601 - ROCK CHANNEL PROTECTION, TYPE B WITH FABRIC FILTER

STA. 219+76.54 ℄ CONST. IR 271 - SEE PLAN SHEET NO. 305
AND CULVERT DETAIL SHEET NO. T50

15' x 8' x 30" x 1 / 12 / 27 = 11.2 CU. YD.

USE = 12 CU. YD.





ITEM 601 - ROCK CHANNEL PROTECTION, TYPE B WITH FABRIC FILTER

STA. 316+86.43 ℄ CONST. IR 271 - SEE PLAN SHEET NO. 319
AND CULVERT DETAIL SHEET NO. T49

15' x 12' x 30" x 1 / 12 / 27 = 16.7 CU. YD.

USE = 17 CU. YD.

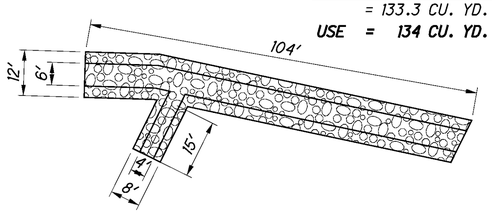
28-D

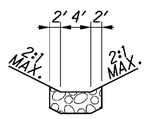
ITEM 601 - ROCK CHANNEL PROTECTION, TYPE B WITH FABRIC FILTER

STA. 186+30 ℄ CONST. IR 271 - SEE PLAN SHEET NO. 299

103' x 6' x 30" x 1 / 12 / 27 = 57.3 CU. YD.
103' x 6' x 30" x 1.12 / 12 / 27 = 64.1 CU. YD.
15' x 4' x 30" x 1.12 / 12 / 27 = 6.3 CU. YD.
15' x 4' x 30" x 1 / 12 / 27 = 5.6 CU. YD.
= 133.3 CU. YD.

USE = 134 CU. YD.





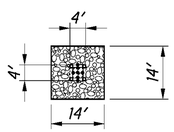
RCP, TYPE B
W/ FABRIC
FILTER (T=30")

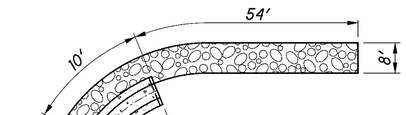
ITEM 601 - ROCK CHANNEL PROTECTION, TYPE C WITH FABRIC FILTER

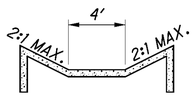
STA. 229+27.11 ℄ CONST. IR 271 - SEE PLAN SHEET NO. 307
AND CULVERT DETAIL SHEET NO. T52

14' x 14' x 18" / 12 / 27 = 10.9 CU. YD.
SUBTRACT FOR CB 4' x 4' x 18" / 12 / 27 = -0.9 CU. YD.
= 10 CU. YD.

USE = 10 CU. YD.







RIPRAP DETAIL

ITEM 601 - RIPRAP, USING 6" REINFORCED CONCRETE SLAB, AS PER PLAN

STA. 316+86.43 ℄ CONST. IR 271 - SEE PLAN SHEET NO. 321
AND CULVERT DETAIL SHEET NO. T54

4' x 38' x 1 / 9 = 16.90 SQ. YD.
4' x 38' x 1.12 / 9 = 19 SQ. YD.
= 35.90 SQ. YD.

USE = 36 SQ. YD.

ITEM 601 - ROCK CHANNEL PROTECTION, TYPE C WITH FABRIC FILTER

STA. 316+86.43 ℄ CONST. IR 271 - SEE PLAN SHEET NO. 321
AND CULVERT DETAIL SHEET NO. T54

54' x 8' x 18" / 12 / 27 = 24 CU. YD.
10' x 6' x 18" / 12 / 27 = 3.4 CU. YD.
= 27.4 CU. YD.

USE = 28 CU. YD.

HORIZONTAL SCALE IN FEET
0 10 20 40

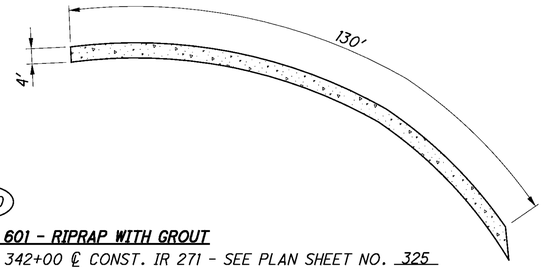
CALCULATED JDL
CHECKED PRS

DRAINAGE DETAILS

SUM-271-2.33

777
1195

F:\2009\109094\1871\roadway\sheets\18710DD005.dgn 10/24/2012 4:23:17 PM CraigBanghart



113-D

ITEM 601 - RIPRAP WITH GROUT
STA. 342+00 ℄ CONST. IR 271 - SEE PLAN SHEET NO. 325

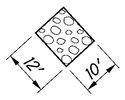
130' x 4' / 9 = 58.00 SQ. YD.
USE = 58 SQ. YD.



116-D

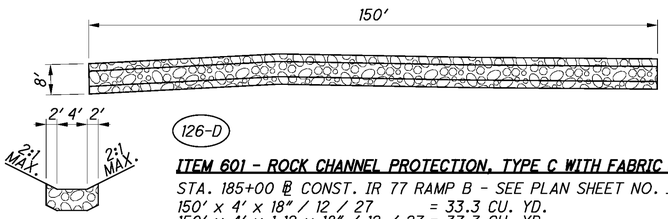
ITEM 601 - ROCK CHANNEL PROTECTION, TYPE C WITH FABRIC FILTER
STA. 343+23 ℄ CONST. IR 271 - SEE PLAN SHEET NO. 325

250 SQ. FT. COMPUTER GENERATED x 18" / 12 / 27 = 13.9 CU. YD.
USE = 14 CU. YD.



ITEM 601 - ROCK CHANNEL PROTECTION, TYPE B WITH FABRIC FILTER
STA. 193+80.47 ℄ CONST. IR 77 RAMP A - SEE PLAN SHEET NO. 559
AND CULVERT DETAIL SHEET NO. 756

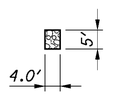
12' x 10' x 30" x 1 / 12 / 27 = 11.2 CU. YD.
USE = 12 CU. YD.



RCP, TYPE C
W/ FABRIC
FILTER (T=18")

126-D

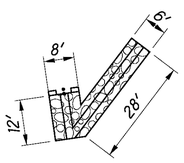
ITEM 601 - ROCK CHANNEL PROTECTION, TYPE C WITH FABRIC FILTER
STA. 185+00 ℄ CONST. IR 77 RAMP B - SEE PLAN SHEET NO. 580
150' x 4' x 18" / 12 / 27 = 33.3 CU. YD.
150' x 4' x 1.12 x 18" / 12 / 27 = 37.3 CU. YD.
= 70.6 CU. YD.
USE = 71 CU. YD.



128-D

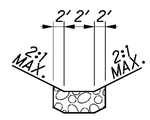
ITEM 601 - ROCK CHANNEL PROTECTION, TYPE C WITH FABRIC FILTER
STA. 189+65 ℄ CONST. IR 77 RAMP B - SEE PLAN SHEET NO. 580

5' x 4' x 18" / 12 / 27 = 1.2 CU. YD.
USE = 2 CU. YD.

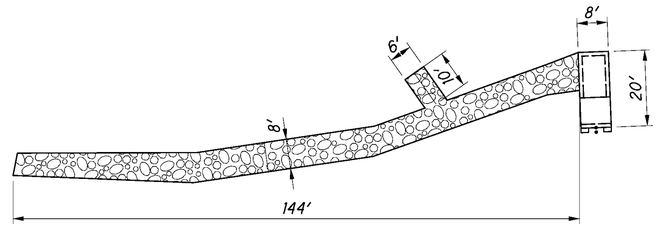


ITEM 601 - ROCK CHANNEL PROTECTION, TYPE B WITH FABRIC FILTER
STA. 196+64 ℄ CONST. IR 77 RAMP B - SEE PLAN SHEET NO. 581
AND CULVERT DETAIL SHEET NO. 757

28' x 6' x 30" x 1 / 12 / 27 = 15.6 CU. YD.
12' x 8' x 30" x 1 / 12 / 27 = 8.9 CU. YD.
= 24.5 CU. YD.
USE = 25 CU. YD.



RCP, TYPE C
W/ FABRIC
FILTER (T=30")

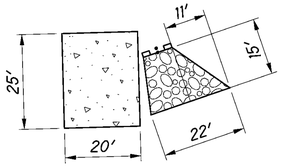


ITEM 601 - RIPRAP, USING 6" REINFORCED CONCRETE SLAB, AS PER PLAN
STA. 196+64 ℄ CONST. IR 77 RAMP B - SEE PLAN SHEET NO. 581
AND CULVERT DETAIL SHEET NO. 757

20' x 8' / 9 = 17.80 SQ. YD.
USE = 18 SQ. YD.

ITEM 601 - ROCK CHANNEL PROTECTION, TYPE C WITH FABRIC FILTER
STA. 195+00 ℄ CONST. IR 77 RAMP B - SEE PLAN SHEET NO. 581
AND CULVERT DETAIL SHEET NO. 757

144' x 8' x 18" / 12 / 27 = 64 CU. YD.
10' x 6' x 18" / 12 / 27 = 3.4 CU. YD.
= 67.4 CU. YD.
USE = 68 CU. YD.

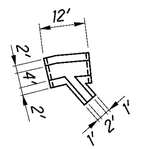


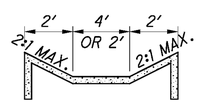
ITEM 601 - RIPRAP, AS PER PLAN
STA. 213+51.21 ℄ CONST. IR 77 RAMP B - SEE PLAN SHEET NO. 582
AND CULVERT DETAIL SHEET NO. 761

20' x 25' / 9 = 55.56 SQ. YD.
USE = 56 SQ. YD.

ITEM 601 - ROCK CHANNEL PROTECTION, TYPE B WITH FABRIC FILTER
STA. 213+51.21 ℄ CONST. IR 77 RAMP B - SEE PLAN SHEET NO. 582
AND CULVERT DETAIL SHEET NO. 761 AND SHEET NO. 762

22' x 15' x 30" x 1 / 12 / 27 = 30.6 CU. YD.
SUBTRACT 15' x 11' x 30" x 0.5 / 12 / 27 = -7.7 CU. YD.
= 22.9 CU. YD.
USE = 23 CU. YD.





RIPRAP DETAIL

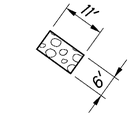
ITEM 601 - RIPRAP, USING 6" REINFORCED CONCRETE SLAB, AS PER PLAN
STA. 173+10.71 ℄ CONST. IR 77 RAMP D - SEE PLAN SHEET NO. 624
AND CULVERT DETAIL SHEET NO. 763

4' x 12' x 1 / 9 = 5.4 SQ. YD.
4' x 12' x 1.12 / 9 = 6 SQ. YD.
2' x 4' x 1.12 / 9 = 1 SQ. YD.
2' x 4' x 1 / 9 = 0.9 SQ. YD.
= 13.3 SQ. YD.
USE = 14 SQ. YD.

131-D

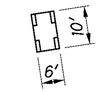
ITEM 601 - ROCK CHANNEL PROTECTION, TYPE C WITH FABRIC FILTER
STA. 192+00.00 ℄ CONST. IR 77 RAMP C - SEE SHEET NO. 617

10' x 220' x 18" / 12 / 27 = 122.2 CU. YD.
USE = 123 CU. YD.



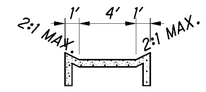
ITEM 601 - ROCK CHANNEL PROTECTION, TYPE C WITH FABRIC FILTER
STA. 173+10.71 ℄ CONST. IR 77 RAMP D - SEE PLAN SHEET NO. 624
AND CULVERT DETAIL SHEET NO. 763

11' x 6' x 18" / 12 / 27 = 3.7 CU. YD.
USE = 4 CU. YD.

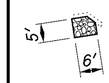


ITEM 601 - RIPRAP, USING 6" REINFORCED CONCRETE SLAB, AS PER PLAN
STA. 312+80.54 ℄ CONST. IR 303 RAMP E - SEE PLAN SHEET NO. 639
AND CULVERT DETAIL SHEET NO. 764

10' x 6' / 9 = 6.7 SQ. YD.
USE = 7 SQ. YD.



RIPRAP DETAIL



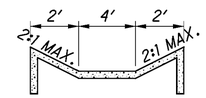
ITEM 601 - ROCK CHANNEL PROTECTION, TYPE C WITH FABRIC FILTER
STA. 312+80.54 ℄ CONST. IR 303 RAMP E - SEE PLAN SHEET NO. 639
AND CULVERT DETAIL SHEET NO. 764

6' x 5' x 18" / 12 / 27 = 1.7 CU. YD.
USE = 2 CU. YD.

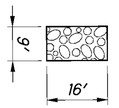


ITEM 601 - RIPRAP, USING 6" REINFORCED CONCRETE SLAB, AS PER PLAN
STA. 315+75.26 ℄ CONST. IR 303 RAMP E - SEE PLAN SHEET NO. 639
AND CULVERT DETAIL SHEET NO. 765

10' x 4' / 9 = 4.4 SQ. YD.
10' x 4' x 1.12 / 9 = 5.00 SQ. YD.
= 9.4 SQ. YD.
USE = 10 SQ. YD.

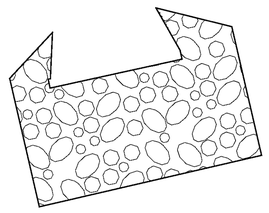


RIPRAP DETAIL



ITEM 601 - ROCK CHANNEL PROTECTION, TYPE B WITH FABRIC FILTER
STA. 927+31.58 ℄ CONST. IR 77 - SEE PLAN SHEET NO. 686
AND CULVERT DETAIL SHEET NO. 755

16' x 9' x 30" x 1 / 12 / 27 = 13.4 CU. YD.
USE = 14 CU. YD.



69-D

ITEM 601 - ROCK CHANNEL PROTECTION, TYPE A WITH FILTER
STA. 255+46.3 ℄ CONST. IR 271 - SEE PLAN SHEET NO. 311
(TO BE UTILIZED AS APPROVED BY THE ENGINEER)

2041.9 SQ. FT. COMPUTER GENERATED x 36" / 12 / 27 = 226.9 CU. YD.
USE = 227 CU. YD.

HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED JDL
CHECKED PRS

DRAINAGE DETAILS

SUM-271-2.33

778
1195

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WATER WORK/SANITARY SEWER NOTES

THE GENERAL CONTRACTOR SHALL NOTIFY ODOT AT LEAST 14 DAYS IN ADVANCE OF THE ANTICIPATED START OF WATER WORK/SANITARY SEWER CONSTRUCTION.

ALL WATER WORK SHALL BE IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS AND DRAWINGS OF THE OHIO DEPARTMENT OF TRANSPORTATION AND THE CITY OF CLEVELAND. THE COST OF ALL LABOR, MATERIAL, EQUIPMENT, TOOLS, EXCAVATION, BEDDING AND BACKFILL FOR THE WATER WORK SHALL BE INCLUDED IN THE CONTRACT UNIT PRICE BID FOR EACH WATER WORK ITEM. THE REPLACEMENT OF PAVEMENT, WALKS, DRIVES, LANDSCAPING AND ALL OTHER WORK EXCEPTING THE "WATER WORK" ITSELF, SHALL BE AS STIPULATED IN THE CONTRACT SPECIFICATIONS.

ALL PERMITS, FEES AND C.W.D. CHARGES SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AND THEIR ASSOCIATED COST SHALL BE INCLUDED IN THE CONTRACT UNIT PRICE BID FOR THE PERTINENT WATER WORK ITEMS. THE CLEVELAND DIVISION OF WATER (CWD) CHARGES AND FEES MAY BE OBTAINED FROM THE CWD "WATER DISTRIBUTION ENGINEERING" OFFICE.

ALL PIPE AND FITTINGS NECESSARY FOR THE WATER LINE RELOCATION, AS SHOWN, SHALL BE NEW 6" WATER MAIN PVC, AWWA C900, PRESSURE CLASS 200 (DR-14) WITH POLYETHYLENE ENCLOSED DUCTILE IRON RESTRAINED FITTINGS. LOCATIONS OF ALL EXISTING WATERLINES, APPURTENANCES AND SERVICE LINES IN THE PROJECT LIMITS SHALL BE FIELD VERIFIED BY THE CONTRACTOR PRIOR TO THE PROPOSED WATER WORK. THE EXISTING 6" WATERLINE AND APPLICABLE APPURTENANCES THAT ARE BEING REPLACED WILL BE REMOVED UNLESS OTHERWISE NOTED IN THE PLANS OR DIRECTED BY THE ENGINEER AFTER THE NEW 6" WATERLINE IS CONSTRUCTED, APPROVED, AND ON-LINE. PAYMENT FOR THIS REMOVAL SHALL BE INCLUDED IN THE UNIT PRICE BID FOR 638, WATER WORK MISC.: 6" POLYVINYL CHLORIDE PIPE AND FITTINGS, AWWA C900 (DR14) WITH POLYETHYLENE ENCLOSED DUCTILE IRON RESTRAINED FITTINGS UNLESS OTHERWISE ITEMIZED IN THE PLANS AND AS INDICATED IN THE BID DOCUMENTS. PAYMENT FOR 6" PVC, AWWA C900, PRESSURE CLASS 200 (DR-14) WITH POLYETHYLENE ENCLOSED DUCTILE IRON RESTRAINED FITTINGS SHALL BE AS PER ODOT CMS 638.20 AND PROJECT BID DOCUMENTS UNLESS SEPARATELY ITEMIZED IN THE PLANS.

ALL PIPE AND FITTINGS NECESSARY FOR THE SANITARY FORCE MAIN LINE RELOCATION, AS SHOWN, SHALL BE NEW 6" CONDUIT, TYPE C, 748.02, AS PER PLAN. LOCATIONS OF ALL EXISTING SANITARY FORCE MAINS, APPURTENANCES AND SERVICE LINES IN THE PROJECT LIMITS SHALL BE FIELD VERIFIED BY THE CONTRACTOR PRIOR TO THE PROPOSED WATER WORK. THE EXISTING 6" SANITARY FORCE MAIN AND APPLICABLE APPURTENANCES THAT ARE BEING REPLACED WILL BE REMOVED UNLESS OTHERWISE NOTED IN THE PLANS OR DIRECTED BY THE ENGINEER AFTER THE NEW 6" SANITARY FORCE MAIN IS CONSTRUCTED, APPROVED, AND ON-LINE. PAYMENT FOR THIS REMOVAL SHALL BE INCLUDED IN THE UNIT PRICE BID FOR 603 6" CONDUIT, TYPE C, 748.02, AS PER PLAN UNLESS OTHERWISE ITEMIZED IN THE PLANS AND AS INDICATED IN THE BID DOCUMENTS. PAYMENT FOR 603 6" CONDUIT, TYPE C, 748.02, AS PER PLAN MEETING SDR 21 CLASS 200 REQUIREMENTS WITH POLYETHYLENE ENCLOSED DUCTILE IRON RESTRAINED FITTINGS SHALL BE AS PER ODOT CMS 603 AND PROJECT BID DOCUMENTS UNLESS SEPARATELY ITEMIZED IN THE PLANS.

THE CONTRACTOR SHALL INVESTIGATE THE SITE PRIOR TO BIDDING. THE CONTRACTOR SHALL EXAMINE IN THE FIELD THE ACCESS, AVAILABLE WORK AREAS, EXISTING SITE CONDITIONS, WATER CONDITIONS, NEARBY STRUCTURES, TREES, GROUND CONDITIONS AND FILL MATERIALS. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO MAKE INVESTIGATIONS OF SUBSURFACE CONDITIONS AND DEWATERING REQUIREMENTS PRIOR TO SUBMITTING A PROPOSAL. LIMITED SUBSURFACE INVESTIGATIONS WERE MADE AND ARE INCLUDED IN THE PLANS. PRIOR TO ANY SUBSURFACE INVESTIGATIONS OR ON-SITE EXAMINATION OF THE PROJECT, BIDDERS SHALL OBTAIN APPROVAL FROM ODOT.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING ALL EXISTING STRUCTURES, ROADS, UTILITIES, PIPING AND VERIFYING THEIR EXACT LOCATION WITHIN THE LIMITS OF WORK PRIOR TO STARTING CONSTRUCTION. IT IS BELIEVED THAT THE DRAWINGS ARE ESSENTIALLY CORRECT, BUT THEY DO NOT PURPORT TO SHOW ALL EXISTING FACILITIES OR CORRECT ELEVATIONS. THE IDENTITY AND LOCATION OF THE EXISTING UNDERGROUND UTILITY FACILITIES KNOWN TO BE LOCATED IN THE CONSTRUCTION AREA HAVE BEEN SHOWN ON THE PLANS AS ACCURATELY AS PROVIDED BY THE OWNER OF THE UNDERGROUND UTILITY. ODOT AND/OR THE ENGINEER ASSUMES NO RESPONSIBILITY TO THE ACCURACY OF LOCATION OR THE DEPTHS OF THE UNDERGROUND FACILITIES SHOWN ON THE PLANS. LOCATION, SUPPORT, PROTECTION AND RESTORATION OF ALL EXISTING UTILITIES AND APPURTENANCES SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.

THE CONTRACTOR SHALL FURNISH ALL MATERIALS, LABOR, TOOLS, TRANSPORTATION, INCIDENTALS AND APPURTENANCES TO COMPLETE IN EVERY DETAIL AND LEAVE IN WORKING ORDER ALL ITEMS OF WORK CALLED FOR AND OR SHOWN IN THE ACCOMPANYING DRAWINGS. ANY MATERIALS OR WORK NOT SPECIFICALLY MENTIONED OR SHOWN ON THE DRAWINGS, BUT NECESSARY TO COMPLETE THE WORK SHALL BE FURNISHED.

THE ELEVATIONS AND EXISTING INFORMATION GIVEN ON THESE SANITARY/WATER WORK DRAWINGS WERE OBTAINED FROM EXISTING DRAWINGS. ALL EXISTING INFORMATION SHALL BE FIELD VERIFIED. RECORD DOCUMENTS OF THE INSTALLATION ARE AVAILABLE FROM ODOT DISTRICT FOUR.

ALL EROSION AND SEDIMENT CONTROL PRACTICES ARE SUBJECT TO FIELD MODIFICATIONS AT THE DISCRETION OF ODOT OR THE OHIO EPA. THE CONTRACTOR SHALL LEAVE THE AREA DISTURBED BY HIS WORK IN AS GOOD OF CONDITION AS THE AREA WAS PRIOR TO COMMENCEMENT OF THIS WORK. ANY DAMAGE DONE TO THE OTHER UTILITIES DURING THIS WORK BY THE CONTRACTOR SHALL BE REPAIRED BY THE APPROPRIATE UTILITY OWNER AT THE CONTRACTORS EXPENSE. ALL SIGNS, FENCES, SHRUBS, DRAINAGE STRUCTURES, DRAINAGE DITCHES, OR OTHER PHYSICAL FEATURES THAT ARE TO REMAIN INTACT WHICH ARE DISTURBED OR DAMAGED DURING WORK UNDER THE CONTRACT SHALL BE RESTORED TO THEIR ORIGINAL CONDITION BY THE CONTRACTOR, UNLESS OTHERWISE PROVIDED IN THE CONTRACT.

SANITARY FORCE MAIN AND WATERLINE SHALL BE DEWATERED TO 2" BELOW THE BELL OF THE PIPE PRIOR TO INSTALLATION OF THE PIPE. CONTRACTOR SHALL UNDERCUT SOFT, SPONGY, UNSUITABLE OR SIMILARLY UNACCEPTABLE MATERIAL IN THE SANITARY FORCE MAIN AND WATERLINE TRENCH AND REPLACE WITH #2 STONE OR COMPACTED EARTH AS DIRECTED BY ODOT.

REQUIREMENTS

THE VERTICAL CLEARANCE BETWEEN WATERLINES AND STORM, SANITARY SEWERS SHALL BE A MINIMUM OF 18 INCHES.

PRESSURE TESTING SHALL BE IN ACCORDANCE WITH AWWA C-600 AS APPROVED BY ODOT.

DISINFECTION SHALL BE IN ACCORDANCE WITH AWWA C-651 AS APPROVED BY ODOT.

THERE SHALL BE A MINIMUM OF FIVE (5) FEET OF COVER ON THE WATERLINE AT ALL LOCATIONS, UNLESS OTHERWISE SHOWN ON THE PROFILE OR ORDERED BY THE ENGINEER.

SEPARATION OF WATER MAINS AND SEWERS SHALL BE IN ACCORDANCE WITH THE GLUMRB.

PROVIDE A MINIMUM OF 4'-0" COVER OVER THE SANITARY FORCE MAIN UNLESS NOTED OTHERWISE.

PIPE WAS LAID OUT USING 45° BENDS. OTHER BENDS OR ALLOWABLE JOINT DEFLECTION MAY BE REQUIRED TO INSTALL PIPES OR MAINTAIN PIPE ALIGNMENTS.

THE WATERLINE AND SANITARY FORCE MAIN SHALL HAVE RESTRAINED JOINTS, FITTINGS AND AT ALL ATTACHMENTS TO THEM.

ALL NEW PIPES, CATCH BASINS AND MANHOLES CONSTRUCTED AS PART OF THIS PROJECT SHALL BE FREE OF ALL FOREIGN MATTER AND IN A CLEAN CONDITION BEFORE THE PROJECT WILL BE ACCEPTED BY THE STATE.

WATERLINES CROSSING SEWERS OR SANITARY FORCE MAINS SHALL BE LAID TO PROVIDE A MINIMUM VERTICAL DISTANCE OF 18" BETWEEN THE OUTSIDE OF THE WATERLINE AND THE OUTSIDE OF THE SEWER OR SANITARY FORCE MAIN. THIS SHALL BE THE CASE WHERE THE WATERLINE IS EITHER ABOVE OR BELOW THE SEWER OR SANITARY FORCE MAIN. AT CROSSINGS, ONE FULL LENGTH OF WATER PIPE SHALL BE LOCATED SO BOTH JOINTS WILL BE AS FAR FROM THE SEWER OR SANITARY FORCE MAIN AS POSSIBLE.

TOP OF CASTING FOR THE CLEAN-OUTS AND AIR RELEASE SHALL BE SET 2" ABOVE GRADE AND SOIL SLOPED AWAY FROM THE TOP.

THE CONTRACTOR SHALL NOTIFY THE VILLAGE OF RICHFIELD A MINIMUM OF 48 HOURS IN ADVANCE TO INITIATE WORK TO CONNECT THE SANITARY FORCE MAIN TO THEIR SANITARY SEWER SYSTEM.

THE CONTRACTOR SHALL COORDINATE HIS WORK WITH THE CITY OF CLEVELAND. THE CONTRACTOR SHALL NOTIFY CLEVELAND WATER DISTRICT A MINIMUM OF 48 HOURS PRIOR TO WORKING ON THE WATERLINE. THE CONTRACTOR SHALL PROVIDE ALL FITTINGS, ADAPTERS AND PIPE REQUIRED TO CONNECT ADJACENT TO THE EXISTING METER LOCATION.

CONNECTIONS TO EXISTING WATERLINES

PAYMENT FOR CONNECTIONS TO EXISTING WATERLINES AS SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER SHALL BE INCLUDED IN THE UNIT PRICE BID FOR 638 - WATER WORK MISC.: 6" POLYVINYL CHLORIDE PIPE AND FITTINGS, AWWA C-900 (DR 14) WITH POLYETHYLENE ENCLOSED DUCTILE IRON RESTRAINED FITTINGS. NO ADDITIONAL PAYMENT SHALL BE MADE.

WATERLINE TRACER TAPE

INSTALL TRACER TAPE OVER WATERLINES, INCLUDING SERVICE LINES. PLACE THE TRACER TAPE APPROXIMATELY 1 FOOT ABOVE THE TOP OF THE WATERLINE AND EXTEND THE TAPE FOR THE FULL LENGTH OF THE WATERLINE. USE TRACER TAPE THAT IS DETECTABLE TYPE AND IS MARKED "WATER". PAYMENT FOR THE TRACER TAPE IS TO BE INCLUDED IN THE UNIT PRICE BID FOR THE APPLICABLE WATERLINE OR SERVICE LINE.

WATER WORK SHUT-DOWN COORDINATION

ALL WATERLINE WORK, SUCH AS CONNECTING TO EXISTING WATERLINES OR SERVICE RECONNECTION, WHICH REQUIRES THE SHUTDOWN OF EXISTING WATER MAINS OR SERVICE CONNECTIONS SHALL BE FULLY COORDINATED WITH ODOT AND THE CITY OF CLEVELAND WATER. ALL WORK SHALL BE SCHEDULED AND PERFORMED IN SUCH MANNER AS TO RESULT IN A MINIMUM AMOUNT OF SHUT-DOWN TIME FOR EXISTING WATERLINES AND SERVICE CONNECTIONS.

THE CONTRACTOR, SHALL FORMULATE A SCHEDULE OF PROPOSED WATERLINE AND SERVICE SHUT-DOWN TIMES TO BE APPROVED BY ODOT AND THE CITY OF CLEVELAND WATER. THE CONTRACTOR SHALL RE-CONFIRM THE SHUT-DOWN TIMES WITH ODOT AND THE CITY OF CLEVELAND WATER AT LEAST 24 HOURS PRIOR TO THE WATER-LINE AND SERVICE SHUT-DOWNS, ONLY CITY OF CLEVELAND WATER PERSONNEL SHALL OPERATE EXISTING VALVES FOR SHUT-DOWNS.

DUE TO THE REQUIREMENTS FOR MINIMAL SHUT-DOWN WITHIN THE PROJECT LIMITS, IT MAY BE NECESSARY TO PERFORM PROPOSED WATERLINE AND SERVICE SHUT-DOWNS BETWEEN PRE-APPROVED TIME FRAMES AS APPROVED BY THE ENGINEER. ALL LABOR, EQUIPMENT, MATERIALS, AND INCIDENTALS TO PERFORM THIS WORK AS APPROVED BY THE ENGINEER SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM 638 - WATER WORK MISC.: 6" POLYVINYL CHLORIDE PIPE AND FITTINGS, AWWA C-900 (DR 14) WITH POLYETHYLENE ENCLOSED DUCTILE IRON RESTRAINED FITTINGS.

CONFLICTS WITH EXISTING WATER SERVICES

EXISTING WATER SERVICES SHALL BE MAINTAINED AT ALL TIMES DURING CONSTRUCTION EXCEPT WHEN SHORT TERM SHUT-DOWNS ARE NECESSARY FOR NEW SERVICE CONNECTIONS OR NEW WATER MAIN CONNECTIONS AS APPROVED BY THE ENGINEER, ODOT, AND CITY OF CLEVELAND WATER. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAKING REPAIRS OR PROVIDE TEMPORARY WATER SERVICE CONNECTIONS TO EXISTING WATER SERVICE LINES (UNTIL THE NEW WATER SERVICE LINES ARE INSTALLED/APPROVED/CONNECTED) WHERE IT BECOMES NECESSARY TO RAISE OR LOWER SERVICES TO CLEAR THE PROPOSED CONSTRUCTION OR WHERE EXISTING WATER SERVICES ARE DAMAGED DURING CONSTRUCTION. REPAIRS AND TEMPORARY SERVICE CONNECTIONS SHALL BE MADE USING APPROVED PIPE, UNIONS AND COUPLERS AND SHALL BE COMPLETED TO THE SATISFACTION OF THE ENGINEER AND THE CITY OF CLEVELAND WATER. THE COST OF REPAIRING EXISTING WATER SERVICE LINES, AND/OR PROVIDING TEMPORARY WATER SERVICE CONNECTIONS, INCLUDING ALL LABOR, MATERIALS, TOOLS AND EQUIPMENT NECESSARY TO COMPLETE THE REPAIRS/INSTALLATION SHALL BE INCLUDED IN THE UNIT PRICES BID FOR THE WATER WORK AND STORM SEWER ITEMS. NO SEPARATE PAYMENT WILL BE MADE.

UNDERGROUND UTILITIES

THE LOCATION OF THE UNDERGROUND UTILITIES SHOWN ON THE PLANS HAVE BEEN OBTAINED BY DILIGENT FIELD CHECKS AND SEARCHES OF ALL AVAILABLE RECORDS. IT IS BELIEVED THAT THEY ARE ESSENTIALLY CORRECT, BUT NEITHER THE CITY OF INDEPENDENCE OR THE ENGINEER ENSURES THEIR ACCURACY OR COMPLETENESS.

THE CONTRACTOR SHALL VERIFY WITH THE OWNERS THE LOCATION OF ALL PUBLIC AND PRIVATE UTILITIES WHICH MAY BE AFFECTED BY CONSTRUCTION. THE LOCATION OF UTILITIES AND STRUCTURES, BOTH SURFACE AND SUBSURFACE, ARE SHOWN ON THE DRAWINGS FROM DATA AVAILABLE AT TIME OF SURVEY AND IS NOT NECESSARILY COMPLETE OR CORRECT. THE EXACT LOCATION AND PROTECTION OF UTILITIES AND STRUCTURES IS THE RESPONSIBILITY OF THE CONTRACTOR.

WHERE POTENTIAL GRADE CONFLICTS MIGHT OCCUR WITH EXISTING UTILITIES, THE CONTRACTOR SHALL BE REQUIRED TO UNCOVER SUCH UTILITIES SUFFICIENTLY IN ADVANCE OF LAYING PIPE IN ORDER TO DETERMINE THE EXACT ELEVATION AND MAKE ANY NECESSARY ADJUSTMENTS.

MAINTENANCE OF SEWER FLOWS

THE CONTRACTOR SHALL CONDUCT HIS OPERATION SO AS TO MAINTAIN AT ALL TIMES STORM SEWER FLOWS THROUGH EXISTING SEWERS TO REMAIN IN PLACE AND THROUGH EXISTING SEWERS TO BE REPLACED UNTIL NEW SEWERS ARE COMPLETE AND PLACED IN USE.

PAYMENT FOR ANY ADDITIONAL COSTS INVOLVED IN MAINTAINING THESE FLOWS BY PUMPING OR BY ANY OTHER MEANS APPROVED BY THE ENGINEER SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THE SEVERAL ITEMS IN THE CONTRACT. NO SEPARATE PAYMENT WILL BE MADE.

CALCULATED PRS CHECKED DAW

WATER WORK / SANITARY GENERAL NOTES

SUM-271-2.33

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PROTECTION OF EXISTING UTILITIES AND PIPES

THE CONTRACTOR SHALL BE REQUIRED, AT HIS OWN EXPENSE, TO DO EVERYTHING NECESSARY TO PROTECT, SUPPORT AND SUSTAIN ALL STORM SEWERS, WATER OR GAS PIPES, ELECTRIC LIGHTS, POWER AND TELEPHONE POLES, CONDUIT AND OTHER FIXTURES LAID ACROSS OR ALONG THE SITE OF THE WORK. THE ENGINEER AS WELL AS THE COMPANY OR CORPORATION OWNING SAID PIPES, POLES OR CONDUITS MUST BE NOTIFIED OF THE SAME BY THE CONTRACTOR, BEFORE ANY SUCH FIXTURES ARE REMOVED OR DISTURBED. IN CASE ANY OF THE SAID SEWER, GAS OR WATER PIPES, SERVICE PIPES, ELECTRIC LIGHT, POWER AND TELEPHONE POLES, CONDUITS OR OTHER FIXTURES ARE DAMAGED THEY SHALL BE REPAIRED BY THE AUTHORITIES HAVING CONTROL OF THE SAME, AND THE EXPENSE OF SAID REPAIRS SHALL BE DEDUCTED FROM THE MONIES WHICH ARE DUE OR TO BECOME DUE THE CONTRACTOR UNDER THIS CONTRACT.

SHOULD IT BECOME NECESSARY TO CHANGE THE POSITION, OR TEMPORARILY REMOVE ANY SEWERS, ELECTRIC CONDUITS, WATER PIPES, GAS PIPES OR OTHER PIPES OR WIRES IN ORDER TO PERMIT THE CONTRACTOR TO USE A PARTICULAR METHOD OF CONSTRUCTION OR IN ORDER TO AVOID THE WATER LINE, THE CONTRACTOR SHALL NOTIFY THE ENGINEER OF THE LOCATION AND CIRCUMSTANCES AND SHALL CEASE WORK, IF NECESSARY, UNTIL SATISFACTORY ARRANGEMENTS HAVE BEEN MADE BY THE OWNERS OF SAID PIPES OR WIRES TO PROPERLY CARE FOR THE SAME. NO CLAIMS FOR DAMAGES WILL BE ALLOWED ON ACCOUNT OF ANY DELAY OCCASIONED THEREBY. THE ENTIRE COST OF THE CHANGES OR TEMPORARY REMOVAL MUST BE INCLUDED IN THE PRICES STIPULATED FOR THE VARIOUS ITEMS OF WORK TO BE DONE UNDER THIS CONTRACT.

CONNECTIONS TO EXISTING SANITARY SEWERS

PAYMENT FOR CONNECTIONS TO EXISTING SANITARY SEWERS AS SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER SHALL BE INCLUDED IN THE UNIT PRICE BID FOR 6" CONDUIT, TYPE C, 748.02, AS PER PLAN.

SANITARY SEWER SHUT-DOWN COORDINATION

ALL SANITARY SEWER WORK, SUCH AS CONNECTING TO EXISTING SANITARY SEWER LINES OR SERVICE RECONNECTION, WHICH REQUIRES THE SHUTDOWN OF EXISTING SANITARY SEWER LINES OR SERVICE CONNECTIONS SHALL BE FULLY COORDINATED WITH ODOT AND THE VILLAGE OF RICHFIELD. ALL WORK SHALL BE SCHEDULED AND PERFORMED IN SUCH MANNER AS TO RESULT IN A MINIMUM AMOUNT OF SHUT-DOWN TIME FOR EXISTING SANITARY SEWER LINES AND SERVICE CONNECTIONS.

THE CONTRACTOR, SHALL FORMULATE A SCHEDULE OF PROPOSED SANITARY SEWER LINE AND SERVICE SHUT-DOWN TIMES TO BE APPROVED BY ODOT AND THE VILLAGE OF RICHFIELD THE CONTRACTOR SHALL RE-CONFIRM THE SHUT-DOWN TIMES WITH ODOT AND THE VILLAGE OF RICHFIELD AT LEAST 24 HOURS PRIOR TO THE SANITARY SEWER LINE AND SERVICE SHUT-DOWNS, ONLY VILLAGE OF RICHFIELD PERSONNEL SHALL OPERATE EXISTING VALVES FOR SHUT-DOWNS.

DUE TO THE REQUIREMENTS FOR MINIMAL SHUT-DOWN WITHIN THE PROJECT LIMITS, IT MAY BE NECESSARY TO PERFORM PROPOSED SANITARY SEWER LINE AND SERVICE SHUT-DOWNS BETWEEN PRE-APPROVED TIME FRAMES AS APPROVED BY THE ENGINEER. ALL LABOR, EQUIPMENT, MATERIALS, AND INCIDENTALS TO PERFORM THIS WORK AS APPROVED BY THE ENGINEER SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM 603 6" CONDUIT, TYPE C, 748.02, AS PER PLAN.

SANITARY SEWER TRACER TAPE

INSTALL TRACER TAPE OVER SANITARY SEWER, INCLUDING SERVICE LINES. PLACE THE TRACER TAPE APPROXIMATELY 1 FOOT ABOVE THE TOP OF THE SANITARY SEWER AND EXTEND THE TAPE FOR THE FULL LENGTH OF THE SANITARY SEWER. USE TRACER TAPE THAT IS DETECTABLE TYPE AND IS MARKED "SANITARY". PAYMENT FOR THE TRACER TAPE IS TO BE INCLUDED IN THE UNIT PRICE BID FOR THE APPLICABLE SANITARY SEWER OR SERVICE LINE.

ITEM 638 -WATER WORK MISC.: 6" POLYVINYL CHLORIDE PIPE AND FITTINGS, AWWA C-900 (DR 14) WITH POLYETHYLENE ENCLOSED DUCTILE IRON RESTRAINED FITTINGS

PRIOR TO CONSTRUCTION OF THE PROPOSED GRADING/CONDUIT REPLACEMENT, THE CONTRACTOR SHALL EXPOSE THE EXISTING 6" WATERLINE TO DETERMINE THE ACTUAL WATERLINE LOCATION AND DEPTH INCIDENTAL TO ITEM 203. THE CONTRACTOR SHALL PROVIDE ADEQUATE NOTICE IN ADVANCE OF THIS WORK TO THE OHIO DEPARTMENT OF TRANSPORTATION AND CLEVELAND WATER. UPON FIELD REVIEW BY THE CONTRACTOR, ODOT, AND A REPRESENTATIVE OF CLEVELAND WATER OF THE EXISTING 6" WATERLINE LOCATION AND DEPTH A DETERMINATION WILL BE MADE IF IT IS NECESSARY TO RELOCATE THE 6" WATER MAIN AS IDENTIFIED IN THE PLANS TO PERMIT THE INSTALLATION OF THE PROPOSED CONDUIT/GRADING AND MEET THE ODOT/CLEVELAND WATER REQUIREMENTS. IF RELOCATION IS NOT REQUIRED THE 6" WATERLINE SHALL NOT BE DISTURBED.

THE EXISTING WATERLINE/SANITARY SEWER LOCATION/DEPTH SHOWN ON THE PLANS IS APPROXIMATE, IF IT IS FIELD DETERMINED THAT THE EXISTING 6" WATERLINE, MANHOLES AND APPURTENANCES WILL NEED TO BE RELOCATED THIS ITEM SHALL CONSIST OF FURNISHING AND INSTALLING THE 6" WATERLINE COMPLETE AND IN PLACE AT THE APPROXIMATE LOCATION SHOWN ON PLANS INCLUDING LAYOUT, FURNISHING, AND INSTALLING THE PIPE, FITTINGS, JOINT RESTRAINT, MANHOLES/AIR RELEASE/VACUUM - COMPLETE, GRANULAR BACKFILL MATERIAL, ADDITIONAL CUSHION MATERIAL, EXISTING WATER LINE REMOVAL/DISPOSAL (INCLUDING AIR RELEASE/VACUUM MANHOLES AND ALL APPURTENANCES), WATER LINE TRACER TAPE COMPLETE AND IN PLACE INCLUDING ALL LABOR, MATERIALS, EQUIPMENT, AND INCIDENTALS AS APPROVED BY THE ENGINEER. THE PROPOSED RELOCATION LAYOUT MAY REQUIRE FIELD LAYOUT ADJUSTMENT TO PERMIT LIMITED SHUT-DOWN OF THE EXISTING FACILITIES, MEET INSTALLATION REQUIREMENTS, AND PERMIT CONSTRUCTION OF PROPOSED ROADWAY IMPROVEMENTS AS APPROVED BY THE ENGINEER.

THE FOLLOWING ESTIMATED QUANTITY IS INCLUDED IN THIS PROJECT FOR WATERLINE RELOCATION:

ITEM 638 - WATER WORK MISC.: 6" POLYVINYL CHLORIDE PIPE AND FITTINGS, AWWA C-900 (DR 14) WITH POLYETHYLENE ENCLOSED DUCTILE IRON RESTRAINED FITTINGS. 2180 FT.

ITEM 603 - 6" CONDUIT, TYPE C, 748.02, AS PER PLAN

PRIOR TO CONSTRUCTION OF THE PROPOSED GRADING/CONDUIT REPLACEMENT, THE CONTRACTOR SHALL EXPOSE THE EXISTING 6" SANITARY SEWER TO DETERMINE THE ACTUAL SANITARY SEWER LOCATION AND DEPTH INCIDENTAL TO ITEM 203. THE CONTRACTOR SHALL PROVIDE ADEQUATE NOTICE IN ADVANCE OF THIS WORK TO THE OHIO DEPARTMENT OF TRANSPORTATION AND VILLAGE OF RICHFIELD. UPON FIELD REVIEW BY THE CONTRACTOR, ODOT, AND A REPRESENTATIVE OF VILLAGE OF RICHFIELD OF THE EXISTING 6" SANITARY SEWER LOCATION AND DEPTH A DETERMINATION WILL BE MADE IF IT IS NECESSARY TO RELOCATE THE 6" SANITARY SEWER AS IDENTIFIED IN THE PLANS TO PERMIT THE INSTALLATION OF PROPOSED CONDUIT/GRADING AND MEET ODOT/VILLAGE SANITARY REQUIREMENTS. IF RELOCATION IS NOT REQUIRED THE 6" SANITARY SEWER SHALL NOT BE DISTURBED.

THE EXISTING WATERLINE/SANITARY SEWER LOCATION/DEPTH SHOWN ON THE PLANS IS APPROXIMATE, IF IT IS FIELD DETERMINED THAT THE EXISTING 6" SANITARY SEWER, MANHOLES AND APPURTENANCES WILL NEED TO BE RELOCATED THIS ITEM SHALL CONSIST OF FURNISHING AND INSTALLING THE 6" CONDUIT COMPLETE AND IN PLACE AT THE APPROXIMATE LOCATION SHOWN ON PLANS INCLUDING LAYOUT, FURNISHING, AND INSTALLING PIPE MEETING CMS 748.02 SDR 21 CLASS 200 REQUIREMENTS, POLYETHYLENE ENCLOSED DUCTILE IRON RESTRAINED FITTINGS, MANHOLES/AIR RELEASE/VACUUM - COMPLETE, GRANULAR BACKFILL MATERIAL, ADDITIONAL CUSHION MATERIAL, AND EXISTING SANITARY SEWER REMOVAL/DISPOSAL (INCLUDING MANHOLES AND APPURTENANCES), SANITARY SEWER TRACER TAPE COMPLETE AND IN PLACE INCLUDING ALL LABOR, MATERIALS, EQUIPMENT, AND INCIDENTALS AS APPROVED BY THE ENGINEER. THE PROPOSED RELOCATION LAYOUT MAY REQUIRE FIELD LAYOUT ADJUSTMENT TO PERMIT LIMITED SHUT-DOWN OF THE EXISTING FACILITIES, MEET INSTALLATION REQUIREMENTS, AND PERMIT CONSTRUCTION OF PROPOSED ROADWAY IMPROVEMENTS AS APPROVED BY THE ENGINEER.

THE FOLLOWING ESTIMATED QUANTITY IS INCLUDED IN THIS PROJECT FOR SANITARY SEWER RELOCATION:

ITEM 603 - 6" CONDUIT, TYPE C, 748.02, AS PER PLAN 2120 FT.

CALCULATED PRS CHECKED DAW

WATER WORK / SANITARY GENERAL NOTES

SUM-271-2.33

780
1195

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BEGIN PROJECT
STA. 528+00.00
S.L.M. 2.26

E050(431)

B.M.#SVM44: ℄ MONUMENT FOUND
STA. 539+00.00, 0.00' RT.
℄ CONST. IR 271
ELEV. 1213.75

HORIZONTAL SCALE IN FEET
0 25 50 100

Ex LA-R/W
BRUSH
4' WOVEN WIRE
30" CAS. IN 30" CASING
20" CAS. IN 30" CASING
EX. 15" CMP
EX. 15" CMP
ASPH.
2" PINES
2" TREES
P.G. I-271 SB
P.G. I-271 NB
N 56° 57' 03" E
℄ CONST. IR 271
B.M.#SVM44
MATCH LINE
STA.539+50 SEE SHEET 782
EX. 6" SAN. (DO NOT DISTURB)
EX. 6" WATER (DO NOT DISTURB)

1,200
1,190
1,180
1,170
1,160
1,150
1,140

526 527 528 529 530 531 532 533 534 535 536 537 538 539

WATER / SANITARY PLAN & PROFILE
STA. 526+00 TO STA. 539+50

SUM-271-2.33

1 / 3

781
1195

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CROSS REFERENCES	
779-780	WATER WORK/SANITARY NOTES
784	WATER WORK/SANITARY DETAILS
328-359	CROSS SECTIONS IR 271

HORIZONTAL DEFLECTION
STA. 539+98.39± ℄ CONST. IR 271 =
STA. 150+00.00± ℄ WATER LINE

HORIZONTAL DEFLECTION
STA. 539+98.39± ℄ CONST. IR 271 =
STA. 50+00.00± ℄ SANITARY FORCE MAIN

6" x 45° BEND
CONNECT TO EXISTING
STA. 154+50.91± ℄ WATER LINE

6" x 45° BEND,
CONNECT TO EXISTING
STA. 54+47.19± ℄ SANITARY
FORCE MAIN

PROP. CLEANOUT IN MANHOLE
STA. 55+90.08± ℄ SANITARY
FORCE MAIN

6" x 45°
BEND

6" x 45°
BEND

HORIZONTAL DEFLECTION
STA. 547+13.57± ℄ CONST. IR 271 =
STA. 157+14.53± ℄ WATER LINE

HORIZONTAL DEFLECTION
STA. 547+13.91± ℄ CONST. IR 271 =
STA. 57+14.87± ℄ SANITARY FORCE MAIN

PROP. AIR RELEASE IN MANHOLE
STA. 158+18.08± ℄ WATER LINE

PROP. AIR RELEASE IN MANHOLE
STA. 58+19.44± ℄ SANITARY
FORCE MAIN

PROP. AIR RELEASE IN MANHOLE
STA. 161+65.08± ℄ WATER LINE

PROP. AIR RELEASE IN MANHOLE
STA. 61+65.35± ℄ SANITARY
FORCE MAIN

℄ PROP. 6" WATER LINE

℄ PROP. 6" FORCE MAIN

Ex LA-R/W

6" SAN

MATCH LINE
STA.539+50 SEE SHEET 781

MATCH LINE
STA.163+00 FORCE MAIN
SEE SHEET 783

P.G. I-271 SB

P.G. I-271 NB

N 56° 57' 03" E

℄ CONST. IR 271

540 541 542 543 544 545 546 547 548 549 550 551 552 553

50 51 52 53 54 55 56 57 58 59 60 61 62 63

1,250
1,240
1,230
1,220
1,210
1,200
1,190

STA. 54+41.26±
EX. AIR RELEASE
MANHOLE
(DO NOT DISTURB)

STA. 55+90.08±
TOP OF COVER EL. 1229.2±
PROP. SANITARY
CLEANOUT MANHOLE

STA. 58+19.44±
TOP OF COVER EL. 1229.8±
PROP. AIR
RELEASE MANHOLE

STA. 61+65.35±
TOP OF COVER EL. 1230.2±
PROP. AIR
RELEASE MANHOLE

PROP. GROUNDLINE OVER
WATERLINE RELOCATION

PROP. GROUNDLINE OVER
PROP. SANITARY FORCE
MAIN RELOCATION

EXIST. GROUNDLINE

EXIST. 6" SANITARY
FORCE MAIN (ESTIMATED
LOCATION - DEPTH NOT
VERIFIED)

PROP. 6"
SANITARY
FORCE MAIN

EXIST. 6" SANITARY
FORCE MAIN (ESTIMATED
LOCATION - DEPTH NOT
VERIFIED)
(DO NOT DISTURB)

EXIST. 6" WATER
(ESTIMATED
LOCATION - DEPTH
NOT VERIFIED)
(DO NOT DISTURB)

P.V.I. STA 57+36.26±
ELEV = 1,223.90'
(TOP OF CONDUIT)

P.V.I. STA 58+27.26±
ELEV = 1,225.20'
(TOP OF CONDUIT)

P.V.I. STA 61+95.26±
ELEV = 1,225.20'
(TOP OF CONDUIT)

NOTE: WATERLINE PROFILE NOT SHOWN FOR
PLAN CLARITY MAINTAIN 5' MIN. COVER
OVER WATERLINE RELOCATION

PROFILE ALONG ℄ PROPOSED FORCE MAIN

HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED PRS
CHECKED DAW

WATER/SANITARY PLAN & PROFILE
STA. 539+50 TO STA. 63+00 ℄ FORCE MAIN

SUM-271-2.33

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CROSS REFERENCES	
779-780	WATER WORK/SANITARY NOTES
784	WATER WORK/SANITARY DETAILS
328-359	CROSS SECTIONS IR 271
640-648	CROSS SECTIONS RAMP A

HORIZONTAL DEFLECTION
STA. 554+56.56± ℄ CONST. IR 271 =
STA. 64+51.04± ℄ SANITARY FORCE MAIN

HORIZONTAL DEFLECTION
STA. 554+56.58± ℄ CONST. IR 271 =
STA. 164+50.38± ℄ WATER LINE

HORIZONTAL DEFLECTION
STA. 556+86.64± ℄ CONST. IR 271 =
STA. 166+80.91± ℄ WATER LINE

HORIZONTAL DEFLECTION
STA. 556+87.65± ℄ CONST. IR 271 =
STA. 66+82.55± ℄ SANITARY FORCE MAIN

HORIZONTAL DEFLECTION
STA. 559+00.95± ℄ CONST. IR 271 =
STA. 68+69.89± ℄ SANITARY FORCE MAIN

HORIZONTAL DEFLECTION
STA. 559+00.42± ℄ CONST. IR 271 =
STA. 168+66.73± ℄ WATER LINE

HORIZONTAL DEFLECTION
STA. 559+92.93± ℄ CONST. IR 271 =
STA. 169+39.23± ℄ WATER LINE

HORIZONTAL DEFLECTION
STA. 559+93.61± ℄ CONST. IR 271 =
STA. 69+43.56± ℄ SANITARY FORCE MAIN

HORIZONTAL DEFLECTION
STA. 562+91.32± ℄ CONST. IR 271 =
STA. 71+94.41± ℄ SANITARY FORCE MAIN

HORIZONTAL DEFLECTION
STA. 562+91.03± ℄ CONST. IR 271 =
STA. 171+89.16± ℄ WATER LINE

HORIZONTAL DEFLECTION
STA. 564+50.39± ℄ CONST. IR 271 =
STA. 73+85.74± ℄ SANITARY FORCE MAIN

HORIZONTAL DEFLECTION
STA. 564+51.72± ℄ CONST. IR 271 =
STA. 173+83.40± ℄ WATER LINE

HORIZONTAL DEFLECTION
STA. 564+58.77± ℄ CONST. IR 271 =
STA. 74+77.37± ℄ SANITARY FORCE MAIN

HORIZONTAL DEFLECTION
STA. 564+59.68± ℄ CONST. IR 271 =
STA. 174+77.22± ℄ WATER LINE

HORIZONTAL DEFLECTION
STA. 565+69.65± ℄ CONST. IR 271 =
STA. 176+46.40± ℄ WATER LINE

HORIZONTAL DEFLECTION
STA. 565+69.65±
℄ CONST. IR 271 =
STA. 76+45.64± ℄
SANITARY FORCE
MAIN

PROP. AIR RELEASE
IN MANHOLE
STA. 171+88.10±
℄ WATER LINE

PROP. AIR RELEASE
IN MANHOLE
STA. 71+94.41±
℄ SANITARY
FORCE MAIN

EX. AIR
RELEASE/
VACUUM
(DO NOT
DISTURB)

6" x 45°
BEND

6" x 45°
BEND

6" x 45° BEND,
CONNECT TO EXISTING
STA. 75+54.24±
℄ SANITARY FORCE MAIN

EX. SAN.
CLEANOUT MH
(DO NOT DISTURB)

6" x 45° BEND
CONNECT TO EXISTING
STA. 176+03.96±
℄ WATER LINE

EX. SAN.
AIR RELEASE MH
(DO NOT DISTURB)

EX. WATER METER
VAULT (DO NOT
DISTURB)

MATCH LINE
STA.163+00 ℄ WATER MAIN
SEE SHEET 782

℄ CONST. SR 176
(BROADVIEW RD.)

EX. OVERHEAD
TELEPHONE

POT Sta. 53+07.11
℄ CONST. RAMP A =
STA. 553+07.11
℄ CONST. IR 271

TS Sta. 56+07.11

SC Sta. 58+07.11

CS Sta. 59+46.83

SR5 Sta. 61+46.83

SC Sta. 63+46.83

PT Sta. 65+91.17

℄ CONST. RAMP A

N 55° 45' 26" E

N 56° 57' 03" E

P.G. I-271 SB

℄ CONST. IR 271

EX. 30" RCP

EX. 12" SAN
IN 22" CASING

N 69° 54' 03" E

℄ CONST. CR 17
(BREEDSVILLE RD.)

TH2012

TH2013

TH2014

TH2015

Ex LA-R/W

PROP. 12" CONDUIT
SEE SR 176 PLANS
FOR DETAILS

MAINTAIN
18" MIN.
CLEAR.

MAINTAIN
18" MIN.
CLEAR.

PROP. GROUNDLINE OVER
WATERLINE RELOCATION

PROP. GROUNDLINE OVER
PROP. SANITARY FORCE
MAIN RELOCATION

STA. 71+94.41±
TOP OF COVER EL. 1222.0±
PROP. AIR
RELEASE MANHOLE

STA. 75+61.15±
TOP OF COVER EL. 1227.2±
EX. CLEANOUT
MANHOLE
(DO NOT DISTURB)

P.V.I. STA 63+15.26±
ELEV = 1,225.00'
(TOP OF CONDUIT)

P.V.I. STA 64+57.26±
ELEV = 1,224.00'
(TOP OF CONDUIT)

P.V.I. STA 67+44.26±
ELEV = 1,218.80'
(TOP OF CONDUIT)

P.V.I. STA 70+38.26±
ELEV = 1,215.00'
(TOP OF CONDUIT)

P.V.I. STA 72+02.26±
ELEV = 1,217.30'

PROP. 6" SANITARY
FORCE MAIN

EXIST. 6" SANITARY
FORCE MAIN (ESTIMATED
LOCATION - DEPTH NOT
VERIFIED)

EXIST. 6" WATER
(ESTIMATED
LOCATION - DEPTH
NOT VERIFIED)

EXIST. GROUNDLINE

STA. 60+41.08, 20.15' LT.
CB NO 5
GRATE EL. 1220.33
℄ 6" IS & E) 1218.00
℄ 27" 1216.29

STA. 60+41.08, 24.02' LT.
EX. CB (REMOVE)
GRATE EL. 1220.88
℄ 27" 1216.29

PROP. 6" SANITARY
FORCE MAIN

UKN
8" GAS
6" SFM
18" GAS
12" SFM

1,240
1,230
1,220
1,210
1,200
1,190
1,180

63 64 65 66 67 68 69 70 71 72 73 74 75 76

UNDERGROUND UTILITY TEST HOLE					
TEST HOLE NO.	℄ CONST IR 271 STATION, OFFSET	℄ CONST RAMP A STATION, OFFSET		SURVEYED ELEV. TOP OF UTILITY	UTILITY
TH2012	156+16.04, 321.67' LT.	66+70.30	17.30' LT.	1221.9	SAN
TH2013	156+28.83, 320.98' LT.	66+82.92	19.49' LT.	1224.8	UNK
TH2014	156+32.88, 321.33' LT.	66+86.92	20.74' LT.	1223.7	GAS
TH2015	156+37.75, 322.58' LT.	66+91.25	23.05' LT.	1224.5	GAS

NOTE: WATERLINE PROFILE NOT SHOWN FOR PLAN CLARITY MAINTAIN 5' MIN. COVER OVER WATERLINE RELOCATION

PROFILE ALONG ℄ PROPOSED FORCE MAIN

HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED PRS
CHECKED DAW

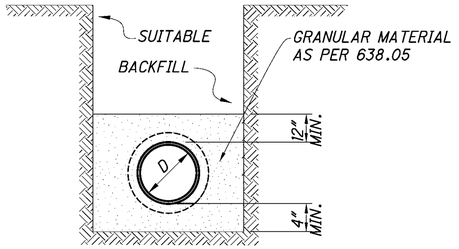
WATER/SANITARY PLAN & PROFILE
STA. 63+00 TO STA. 76+00 ℄ FORCE MAIN

SUM-271-2.33

3 / 3

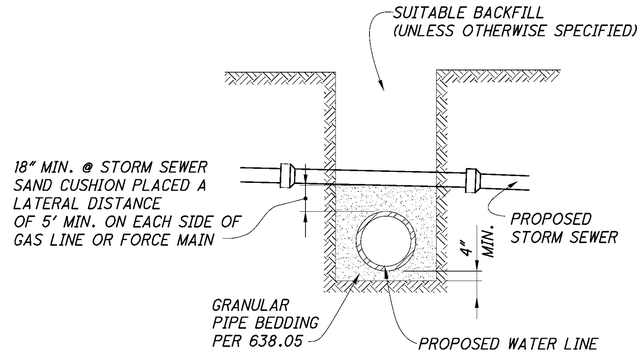
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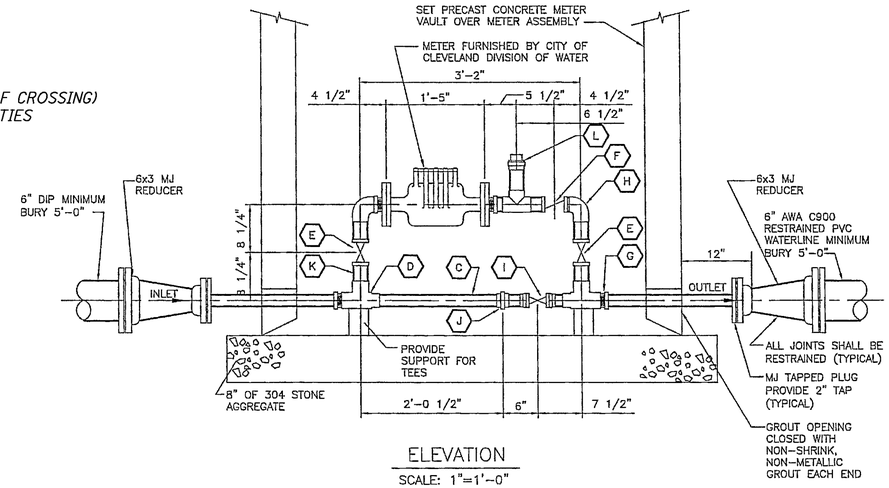
TYPICAL WATERLINE PIPE BEDDING DETAILS

ALL PROPOSED WATERLINES SHALL HAVE GRANULAR BEDDING AS PER 638.05 AND AS DETAILED IN TYPICAL WATER LINE PIPE BEDDING DETAIL. AT LOCATIONS WHERE THE PROPOSED WATER LINES OR STORM SEWERS CROSS OR PARALLEL EXISTING OR PROPOSED STREETS, ROADWAYS, DRIVES AND PARKING AREAS, OR AT MISCELLANEOUS LOCATIONS AS DIRECTED BY THE ENGINEER. GRANULAR BACKFILL MATERIAL SHALL BE COMPACTED TO NOT LESS THAN 100% OF THE MAXIMUM DENSITY AS DETERMINED IN ACCORDANCE WITH ASTM D-1557 (MODIFIED PROCTOR.



WATERLINE UNDER PROPOSED STORM SEWER

(NO WATERLINE JOINTS SHALL BE PLACED WITHIN 5' MIN. OF CROSSING)
NOTE: CONTRACTOR SHALL COORDINATE WORK NEAR UTILITIES WITH APPLICABLE UTILITY OWNER.

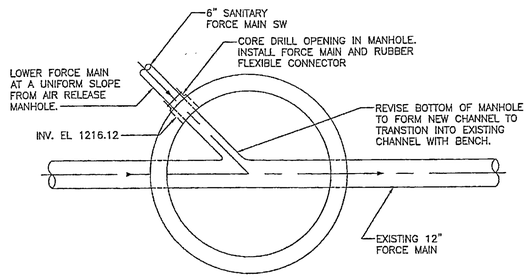


ELEVATION

SCALE: 1"=1'-0"

METER VAULT DETAIL

(FOR INFORMATION)



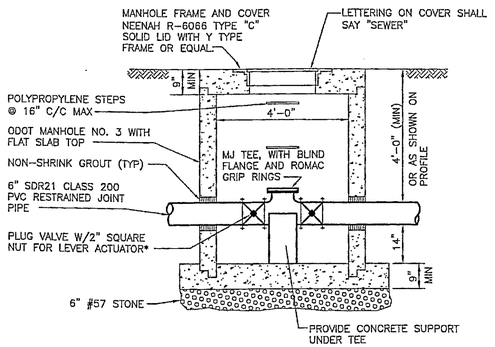
NOTES:

1. PROVIDE PROPER CLEARANCE WHEN CROSSING NEW WATERLINE.
2. THE CONTRACTOR SHALL COORDINATE WITH THE VILLAGE OF RICHFIELD TO POUR CONCRETE TO REVISE THE BOTTOM OF THE MANHOLE WHEN PUMP STATION ON 12" FORCE MAIN IS OFF.

EXISTING CITY OF RICHFIELD SANITARY MANHOLE No.26 CONNECTION OF 6" SANITARY FORCE MAIN

SCALE: NONE

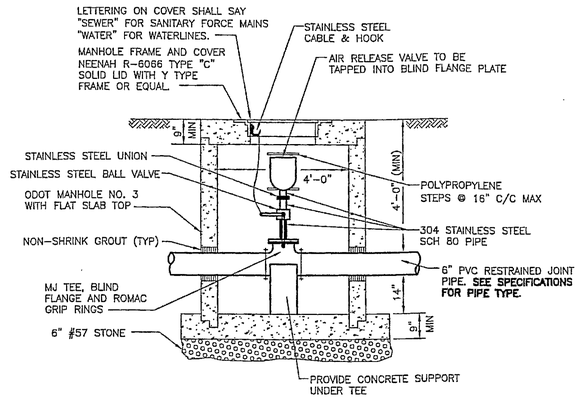
(FOR INFORMATION)



*NOTE: VALVE SHALL BE CAPABLE OF PASSING A CLEANING PIG FOR THE PIPE DIAMETER SHOWN.
ALL FITTINGS AND PIPE SHALL HAVE RESTRAINED JOINTS.
TOP SLAB SHALL BE DESIGNED TO WITHSTAND H10-44 WHEEL LOADS.

SANITARY FORCE MAIN CLEAN-OUT MANHOLE

(TO BE PAID COMPLETE FOR UNDER ITEM 603)



*NOTE: COMBINATION AIR/VACUUM – LOCATE AS SHOWN ON SANITARY FORCE MAIN PROFILES.
SANITARY FORCE MAIN AND WATERLINE AIR-RELEASE – LOCATE AS SHOWN ON WATERLINE PLAN AND SANITARY FORCE MAIN PROFILES.
ALL FITTINGS AND PIPE SHALL HAVE RESTRAINED JOINTS.
TOP SLAB SHALL BE DESIGNED TO WITHSTAND H10-44 WHEEL LOADS.
AIR RELEASE AND COMBINATION AIR/VACUUM VALVES ON SANITARY FORCE MAINS SHALL INCLUDE BACKFLUSHING ATTACHMENTS, BLOW OFF VALVE AND SHUT-OFF VALVE WITH FEMALE QUICK CONNECT COUPLING.

AIR-RELEASE MANHOLE FOR WATERLINE AND SANITARY FORCE MAIN

(TO BE PAID COMPLETE FOR UNDER ITEM 603 AND ITEM 638)

WATER / SANITARY DETAILS

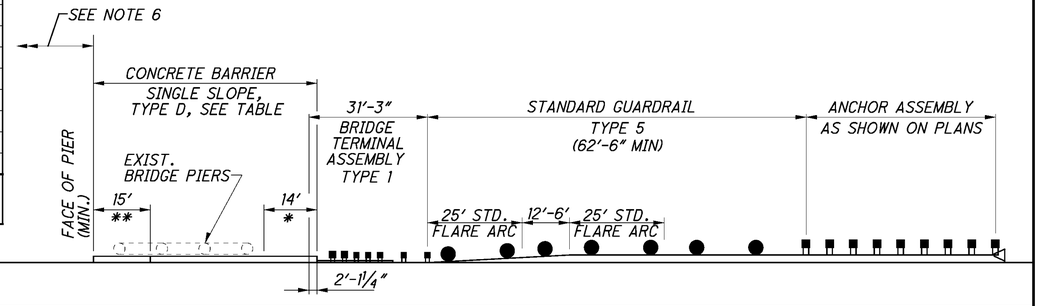
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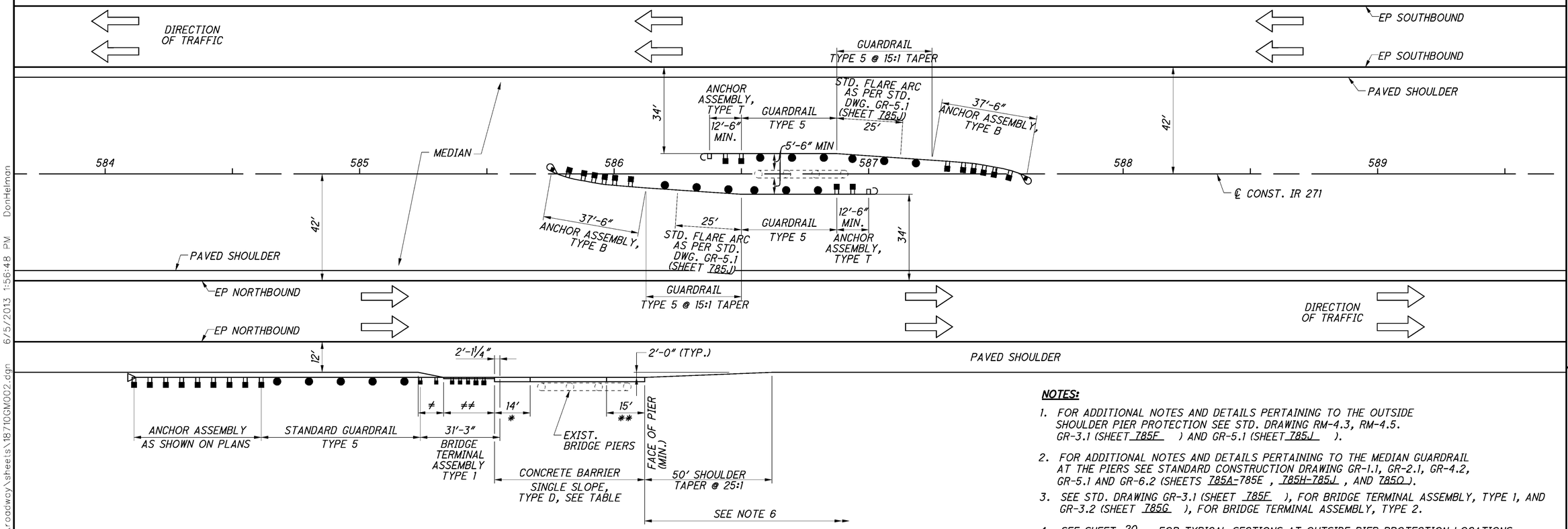
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SHEET NO.	LOCATION	STATION FROM	STATION TO	SIDE	204 SUBGRADE COMPACTION	302 ASPHALT CONCRETE BASE PG64-22	304 AGGREGATE BASE	407 TACK COAT FOR INTERMEDIATE COURSE	408 PRIME COAT	442 ASPHALT CONCRETE SURFACE COURSE, 12.5mm TYPE B (446), AS PER PLAN	442 ASPHALT CONCRETE INTERMEDIATE COURSE 19mm, TYPE B (446)	609 CURB TYPE 4C	888 PORTLAND CEMENT CONCRETE PAVEMENT, 12" THICK (NON-REINFORCED PER ITEM 452) ✱
					SQ. YD.	CU. YD.	CU. YD.	GALLONS	GALLONS	CU. YD.	CU. YD.	FT	SQ. YD.
293	IR 271 NB	553+25.67	555+04.06	RT	56.87	13.82	9.49	2.27	22.74	1.38	2.76	20	33.06
293	IR 271 SB	554+11.81	554+80.79	LT	11.81	2.87	1.97	0.47	4.72		0.57	20	
293–295	IR 271 NB	563+68.00	564+47.00	RT	14.23	3.46	2.37	0.57	5.69		0.69	20	
295	IR 271 SB	565+13.00	565+92.00	LT	14.23	3.46	2.37	0.57	5.69		0.69	20	
581	RAMP 77B	200+31.04	203+21.80	LT	105.64	25.68	17.62	4.22	42.25	2.35	5.13	20	56.45
581	RAMP 77B	200+40.78	203+22.30	RT	105.64	25.68	17.62	4.22	42.25	2.35	5.13	20	56.45
659	RAMP G	315+65.52	316+79.75	LT	22.66	5.51	3.78	0.91	9.06		1.10	20	
667	RAMP H	315+92.50	317+63.00	RT	52.52	12.77	8.76	2.10	21.00	1.29	2.55	20	31.06
SUBTOTAL OF ADDITIONAL PAVEMENT QUANTITIES CARRIED TO CALCULATIONS					383.60	93.25	63.98	15.33	153.40	7.37	18.62	160	177.02

✱ FOR RIGID PAVEMENT OPTION





≠ 10' SHOULDER TAPER @ 5:1

≠≠ 20' CURB TYPE 4C (TYPE 4B WITH CONC. BUILDUP) PER S.C.D. GR-3.1 (SHEET 785F)

✱ TYPE D END SECTION SEE STD. DRAWING RM-4.6

✱✱ TYPE D REINFORCED END ANCHORAGE SEE STD. DRAWING RM-4.5

NOTES:

1. FOR ADDITIONAL NOTES AND DETAILS PERTAINING TO THE OUTSIDE SHOULDER PIER PROTECTION SEE STD. DRAWING RM-4.3, RM-4.5. GR-3.1 (SHEET 785F) AND GR-5.1 (SHEET 785J).
2. FOR ADDITIONAL NOTES AND DETAILS PERTAINING TO THE MEDIAN GUARDRAIL AT THE PIERS SEE STANDARD CONSTRUCTION DRAWING GR-1.1, GR-2.1, GR-4.2, GR-5.1 AND GR-6.2 (SHEETS 785A-785E , 785H-785J , AND 785Q).
3. SEE STD. DRAWING GR-3.1 (SHEET 785F), FOR BRIDGE TERMINAL ASSEMBLY, TYPE 1, AND GR-3.2 (SHEET 785G), FOR BRIDGE TERMINAL ASSEMBLY, TYPE 2.
4. SEE SHEET 20 FOR TYPICAL SECTIONS AT OUTSIDE PIER PROTECTION LOCATIONS.
5. THE CONCRETE BARRIER SHALL NOT BE PLACED PRIOR TO THE PLACEMENT OF THE INTERMEDIATE COURSE ON THE BERM FOR ASPHALT PAVEMENT BUILDUP.
6. WHERE PLANS INDICATED A TRAILING GUARDRAIL RUN A 14' TYPE D END SECTION SHALL BE INSTALLED AT THE END OF THE BRIDGE PIER PROTECTION AND CONNECTION OF THE TRAILING GUARDRAIL SHALL BE MADE USING A BRIDGE TERMINAL ASSEMBLY, TYPE 2, PER STD. DRAWING GR-3.2. (SHEET 785G).

HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED MF
CHECKED JDL

OVERPASS PIER PROTECTION DETAIL

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NOTES

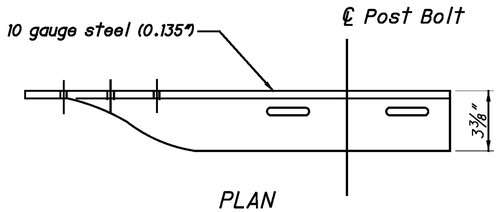
GENERAL: Components shown on this drawing are used in a variety of guardrail systems. See individual guardrail drawing for specific applications.

See CMS 606 for guardrail specifications not covered on these drawings.

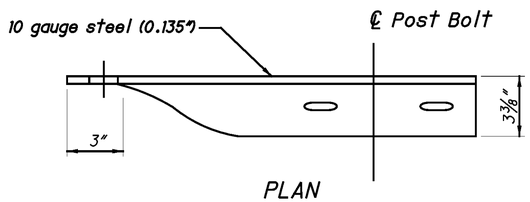
Refer to AASHTO M 180 for dimensional details of W-Beam and Thrie-Beam rail elements, related buffer and end sections, beam splices, post and splice bolts, nuts, and Type 1 W-Beam to Thrie-Beam Transition sections.

RAIL ELEMENTS: W-Beam Rail has an effective length of 12'-6" unless otherwise specified, with ¾" x 2½" post bolt slots on 6'-3" centers regardless of post spacing. Field punch or drill bolt holes or slots for irregularly spaced posts as specified in CMS 606.04.

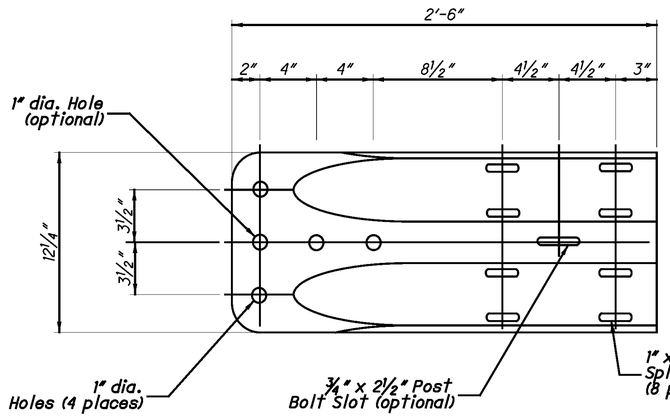
RAIL SPLICES: Lap splices between two rail elements or between a rail and terminal connector in the direction of traffic. Lap the buffer or flared end sections in the direction of traffic.



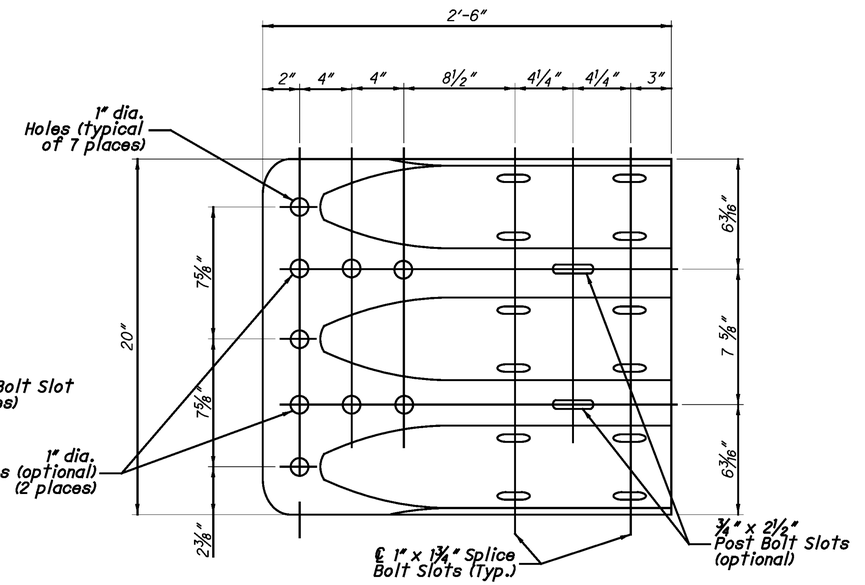
PLAN



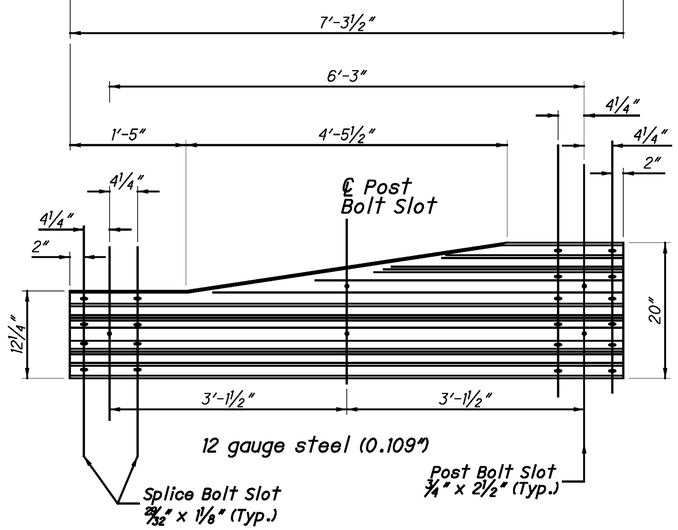
PLAN



ELEVATION
W-BEAM TERMINAL CONNECTOR

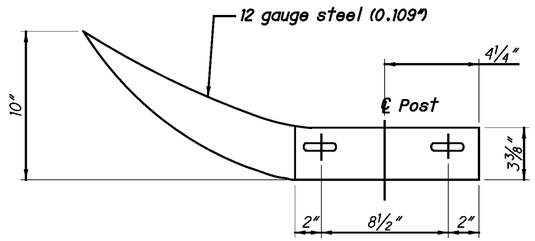


ELEVATION
THRIE-BEAM TERMINAL CONNECTOR

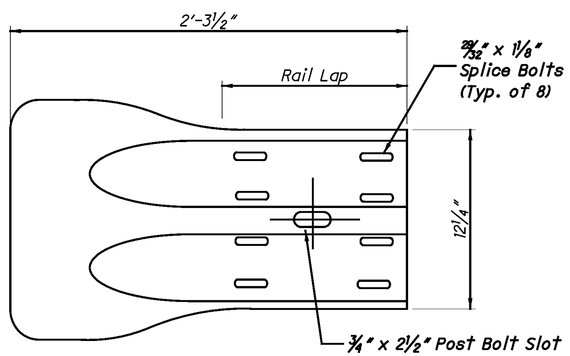


ELEVATION
TYPE 2 TRANSITION SECTION
(Asymmetric W to Thrie-Beam)

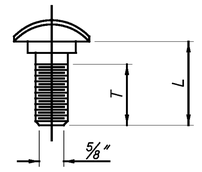
For details of Type 1 Transition Section (Symmetric), refer to AASHTO M 180, Figure 4.



PLAN



ELEVATION
W-BEAM FLARED END SECTION



GUARDRAIL BOLT (For Post and Splice Bolts)		
L	T min.	Bolt Use
18" (Standard Rail)	4"	Type 5: WP/WB, PB
26" (Barrier Rail)		
10"	4"	Type 5: SP/WB, PB
1¼	1⅛	Splice Bolt

WP = Wood Post WB = Wood Blockout
SP = Steel Post PB = Plastic Blockout

Longer Bolt may be needed for round Wood Post larger than 8" dia.

SCD GR-1.1 PRIOR TO 1/18/13

OFFICE OF ROADWAY ENGINEERING

DESIGNED | REVIEWED

REVISION DATE | CHECKED

PID NUMBER

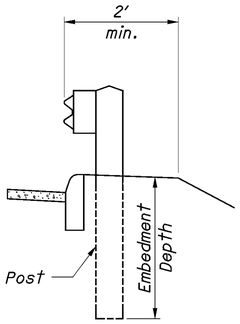
PLAN INSERT SHEET

GUARDRAIL DETAILS (Rail Components)

SUM-271-2.33

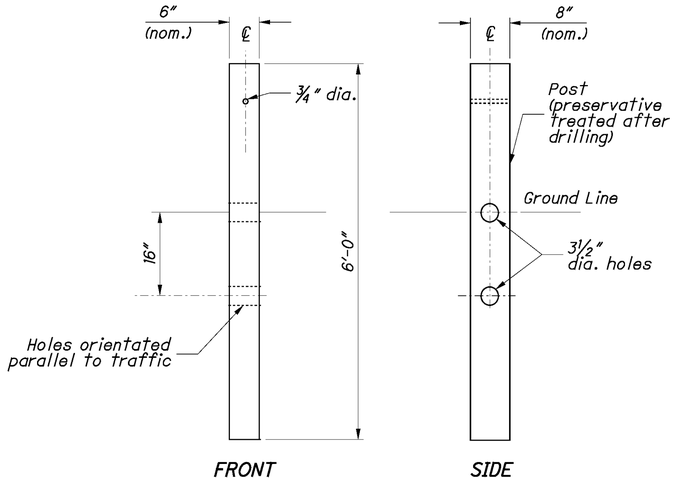
1 / 3

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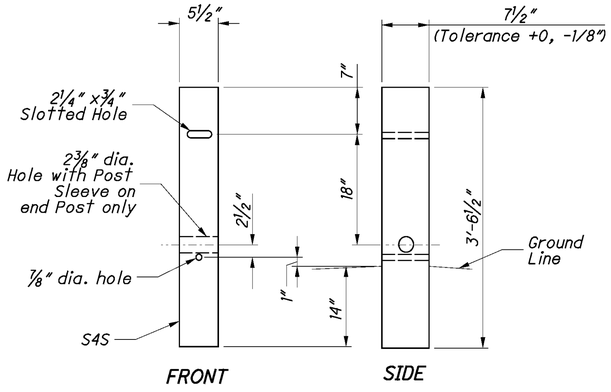


DETAIL A

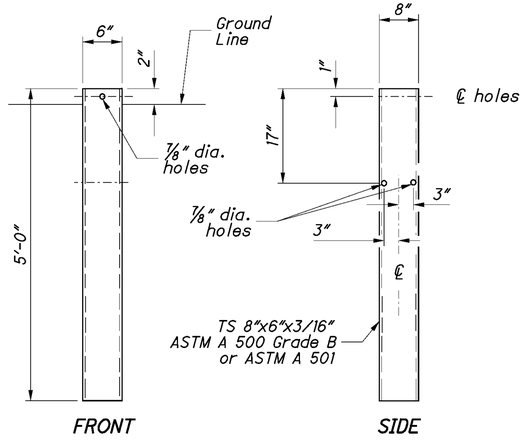
See POST EMBEDMENT DEPTH Note



TYPE 1 BREAKAWAY CRT POST



TYPE 2 BREAKAWAY CRT POST



STEEL GROUND TUBE

NOTES

GUARDRAIL HEIGHT: *For initial installation, construct the guardrail within ± 1″ of the standard height, h, or* ***29″*** *to the top of W-Beam rail. (See MEASURING GUARDRAIL HEIGHT Detail.)*

When subsequent projects, such as resurfacings, affect the height of existing guardrail, the finished height is to be within ±2.5″ of the standard height.

POST EMBEDMENT DEPTH: *Standard embedment is 3′-5″ min. Where less than 2′ of graded shoulder width (10:1 or flatter) exists, measured from the face of the guardrail (see DETAIL "A"), use longer posts so that a minimum of 5′-5″ embedment depth is provided. Payment for the longer posts will be made at the unit price bid for* ***ITEM 606 - GUARDRAIL POST, 9′, Each.***

SPECIAL POST MOUNTINGS: *Install posts located over a drainage inlet or structure as shown in the FOOTING ANCHOR Detail, or anchor per the details shown on* ***SCD GR-2.2.***

Install posts located over a footing with a cover of less than 2′-6″ with a footing anchor as detailed here. (A plate, as detailed on SECTION B-B of ***SCD GR-2.2,*** *may be used as an alternative attachment method.) Where the cover is between 2′-6″ and 3′-5″, the footing anchor may be omitted and the post encased instead with 4″ (min.) of concrete.*

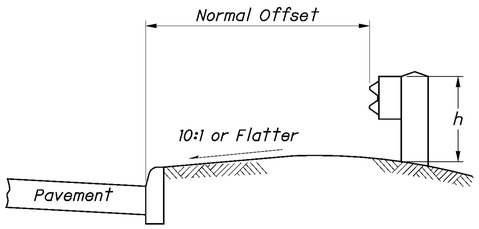
Do not drive posts located over a culvert with less than 4′-3″ of cover; instead set in drilled or dug holes. Where the available post embedment depth is less than 3′-5″, encase the post with a minimum of 4″ concrete.

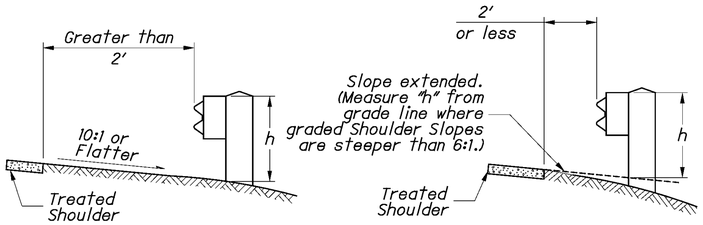
All costs associated with special post mountings are included in the unit price bid of Item 606 Guardrail of the type specified in the plans.

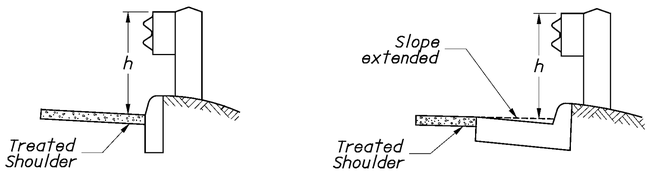
ANCHORS: *Holes and grouting shall comply with CMS 510. Use either cement or non-shrink, nonmetallic grout.*

Expansion shield anchors as specified in CMS 712.01 may be substituted except where concrete deterioration has occurred, as determined by the Engineer. Where self-drilling anchors are used, drill the holes with the expansion shield (not by a drill bit) and install the shield flush with the concrete surface.

PROTECTIVE COATING: *In lieu of the complying with CMS 710.06, coat expansion shields, anchors and concrete insert anchor assemblies embedded in concrete in accordance with ASTM A 153 or be of stainless steel. Any bolts screwed into these devices shall meet CMS 710.06. (See sheet 3 for Concrete Insert Anchor Assembly Detail.)*

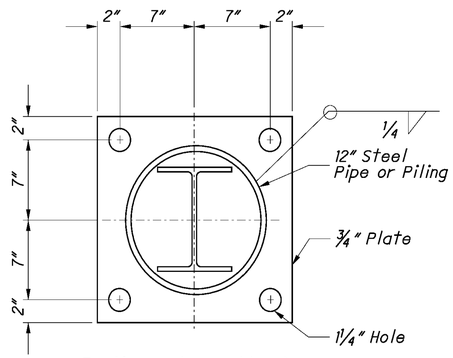






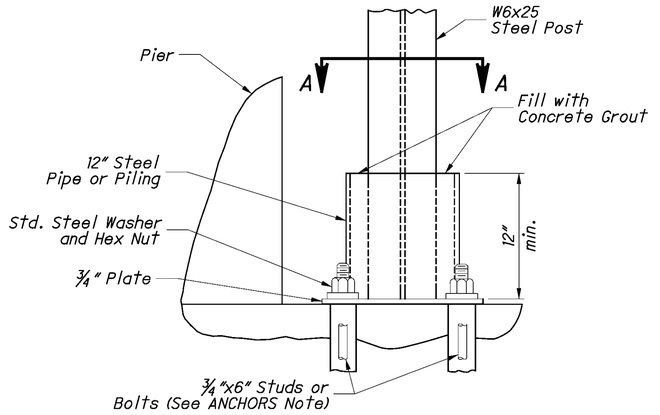
h = Standard Height (See GUARDRAIL HEIGHT Note)

MEASURING GUARDRAIL HEIGHT



Footing Anchor and hardware need not be galvanized

SECTION A-A



ELEVATION
FOOTING ANCHOR

See SPECIAL POST MOUNTINGS Note.

SCD GR-1.1 PRIOR TO 1/18/13

OFFICE OF ROADWAY ENGINEERING

DESIGNED | REVIEWED

REVISION DATE | CHECKED

P.I.S. NUMBER

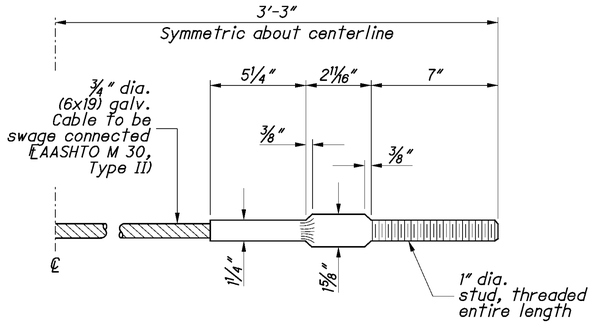
PLAN INSERT SHEET

GUARDRAIL DETAILS (Rail Components)

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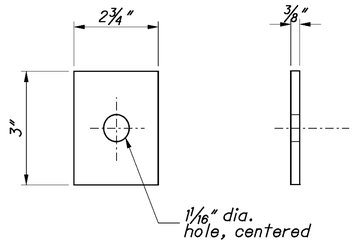
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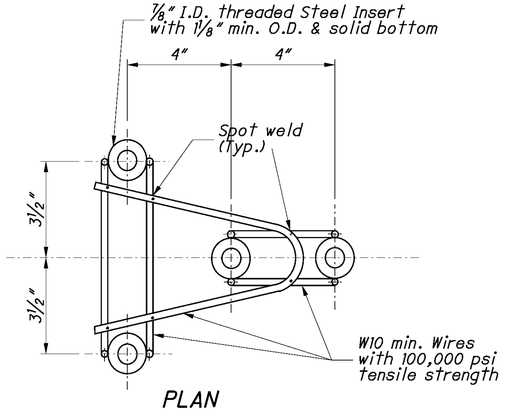


STANDARD SWAGED FITTING AND STUD

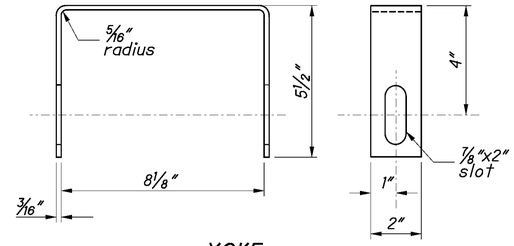
CABLE ANCHOR



END PLATE

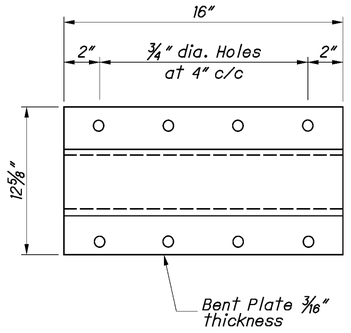


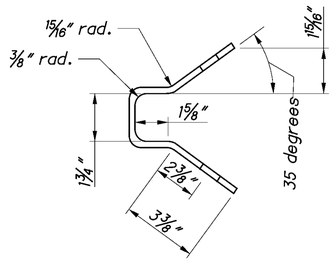
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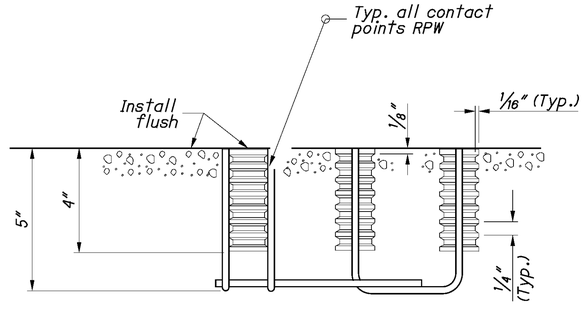
YOKE

Two required in Assembly



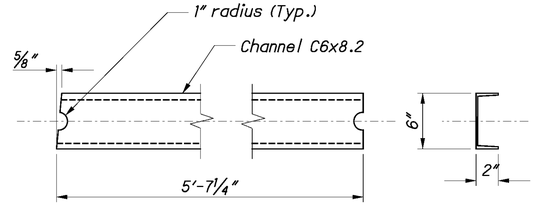


ANCHOR BRACKET



Four 7/8" Bolts required

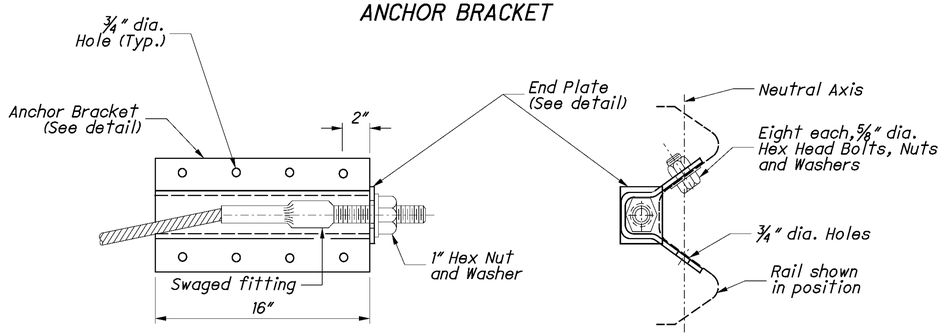
ELEVATION



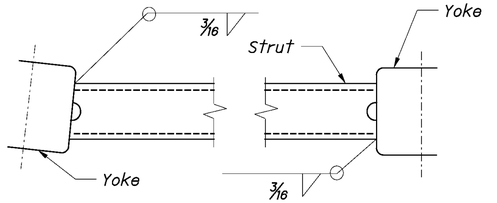
STRUT

CONCRETE INSERT ANCHOR ASSEMBLY (W-BEAM ONLY)

See ANCHORS and PROTECTIVE COATINGS Notes on Sheet 2

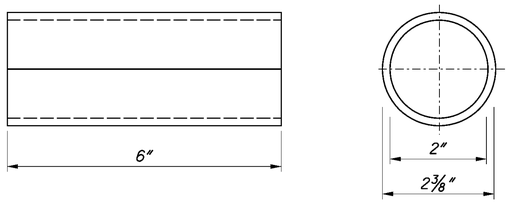


ANCHOR BRACKET ASSEMBLY DETAILS

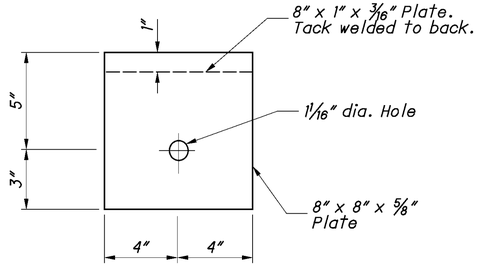


Channel legs shown down. For opposite hand, install Channel legs up.

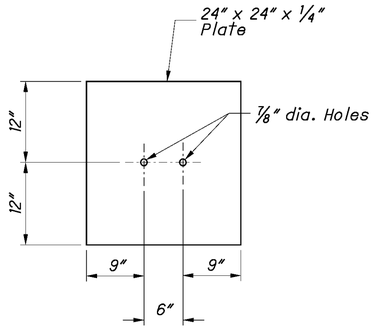
STRUT AND YOKE ASSEMBLY



POST SLEEVE



BEARING PLATE



SOIL PLATE

SCD GR-1.1 PRIOR TO 1/18/13

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REVISION DATE | CHECKED

P.I.S. NUMBER

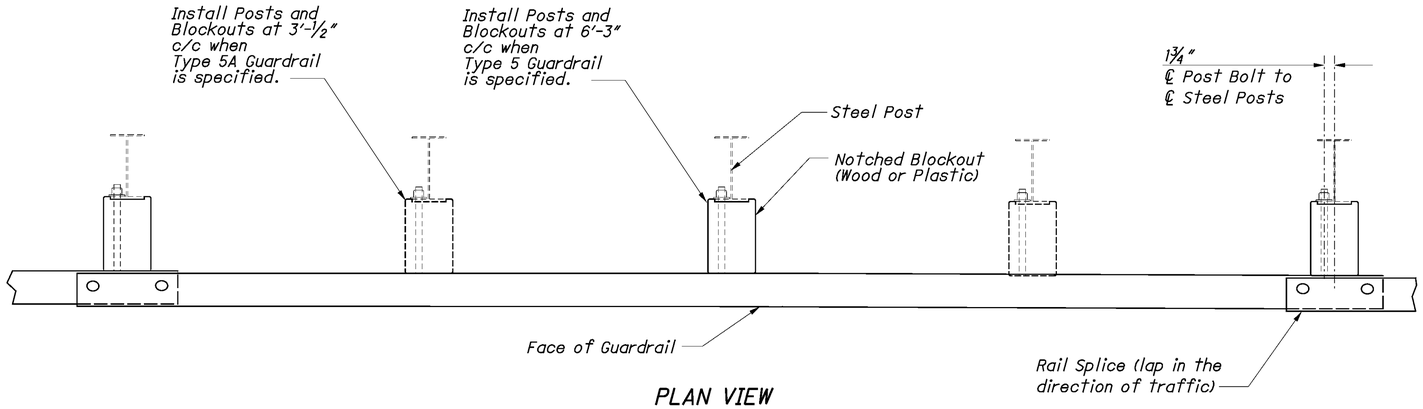
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GUARDRAIL DETAILS (Rail Components)

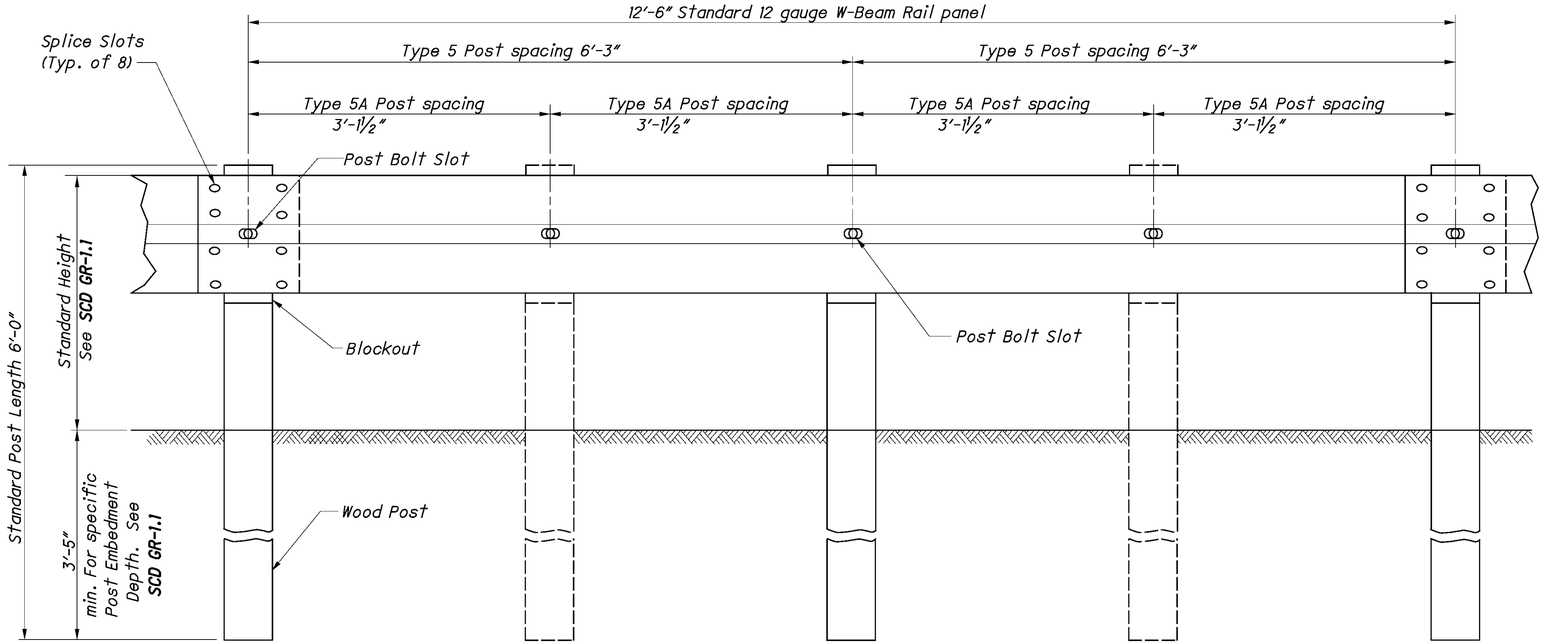
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PLAN VIEW
(Steel Posts shown)



ELEVATION
(Wood Posts shown)

NOTES

RAIL: Use W-Beam rail meeting AASHTO M 180 Type II Class A, as specified in CMS 606.

POSTS: Posts may be constructed of wood or steel. Wood posts may be round or 6"x8" square-sawed.

Use round wood posts on runs of single-sided rail. The round posts shall be 8"±1 in diameter at the top and not more than 3" larger at the butt with a uniform taper.

Fabricated wood posts with square ends. Posts shall be pressure-treated as per CMS 710.14. Bore bolt holes and, if required, trim the tops of posts after the posts are set.

Steel posts are to be W6x9 or W6x8.5 galvanized steel. Use the same type of post throughout the length of the project unless otherwise specified in the plans or permitted by the Engineer.

All posts are 6'-0" long unless specified otherwise in the Contract Document. Posts may be set in drilled holes or may be driven to grade.

WELDED BEAM POSTS: Welded beam guardrail posts may be used for Item 606, Guardrail, provided the web and flange sizes are as shown here. Welding of the web to the flanges must comply with ASTM A 769, Class 1, using Grade 36 steel [250 MPa yield point] with the following exceptions:

Sec. 7.2 Test reports of tensile properties for each lot shall accompany each shipment.

Sec. 12 Beams that have imperfections repaired by welding shall not be accepted for use in Item 606.

Sec. 13 Random samples shall be tested by the Department from materials delivered to the project site, or other locations designated by the Laboratory.

ALTERNATE POSTS: Engineered guardrail posts having met NCHRP 350 criteria, and listed on the ***Office of Materials Management's*** Approved List are permitted as an equal alternate when installed according to the Manufacturer's instructions and within the limitations shown on the Approved List.

BLOCKOUTS: Blockout dimensions are dependent on post used. Wood Blockouts are to be pressure treated as specified in CMS 710.14. Bore bolt holes. Approved alternate blockouts may be used in lieu of the wood blockouts shown. The approved list is maintained by the ***Office of Roadway Engineering.***

WASHERS: Install appropriate sized standard galvanized steel washers on the nut side of bolts installed on wood posts.

DELINEATION: For barrier reflectors, see CMS 626.

MISCELLANEOUS: For other guardrail details, see ***SCD GR-1.1.***

STEEL BEAM POSTS (English)				
Size	**Beam depth**	**Flange width**	**Flange thickness**	**Web thickness**
Rolled W6x8.5	5.8"	3.94"	0.193"	0.170"
Rolled W6x9	5.9"	3.94"	0.215"	0.170"
Welded 6x8.5	6.0"	3.94"	0.193"	0.170"
Welded 6x9	6.0"	3.94"	0.215"	0.170"

SCD GR-2.1 PRIOR TO 1/18/13

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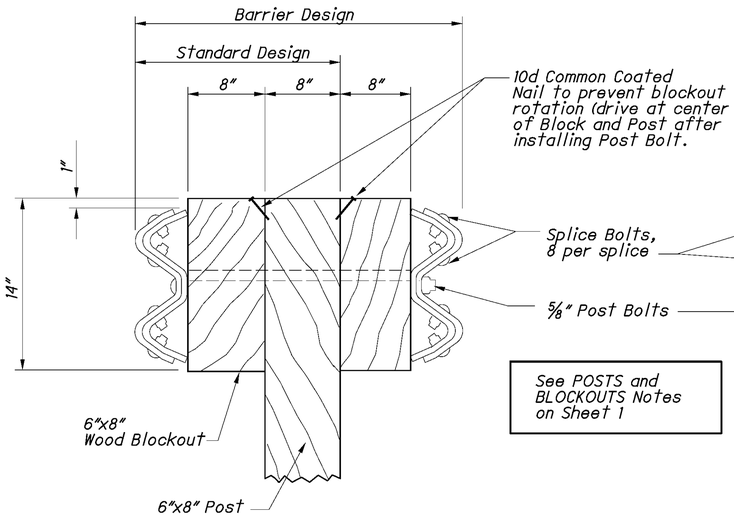
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GUARDRAIL TYPE 5 & 5A

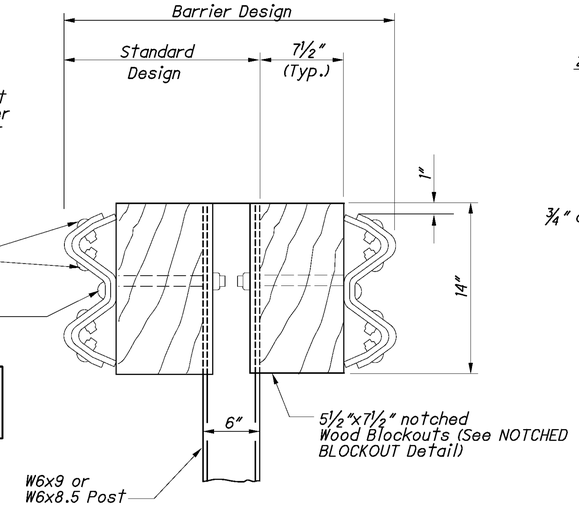
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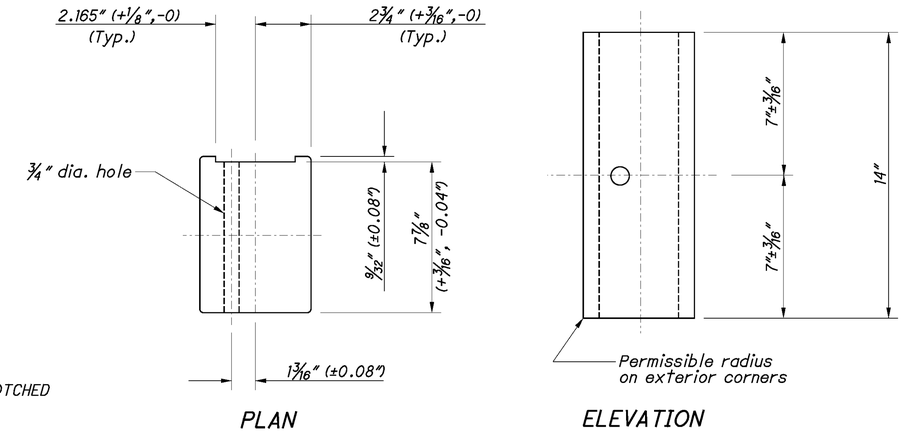
SQUARE WOOD POST



See POSTS and BLOCKOUTS Notes on Sheet 1

STEEL POST

See POSTS Note, Sheet 1



NOTCHED BLOCKOUTS FOR STEEL POSTS

See BLOCKOUTS Note on Sheet 1

Method 1
Routed Blockout

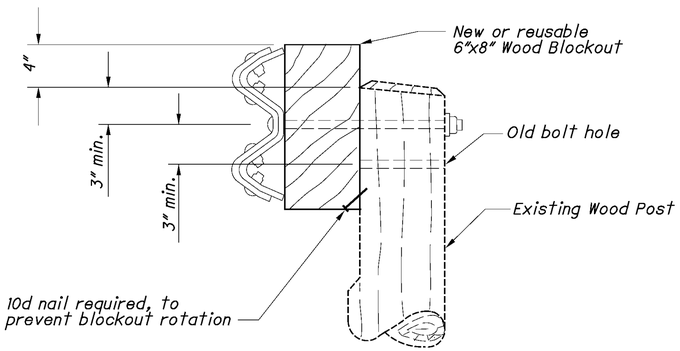
Toenail not required if post is cut as shown

Method 2
Notched Post

Alternate methods of placing the Blockouts on round Posts may be submitted for consideration and approved by the Engineer.

ROUND WOOD POSTS

Single Sided runs only (Standard Design)



WOOD POSTS WITH WOOD BLOCK RAISING EXISTING GUARDRAIL HEIGHT

SCD GR-2.1 PRIOR TO 1/18/13

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P.I.S. NUMBER

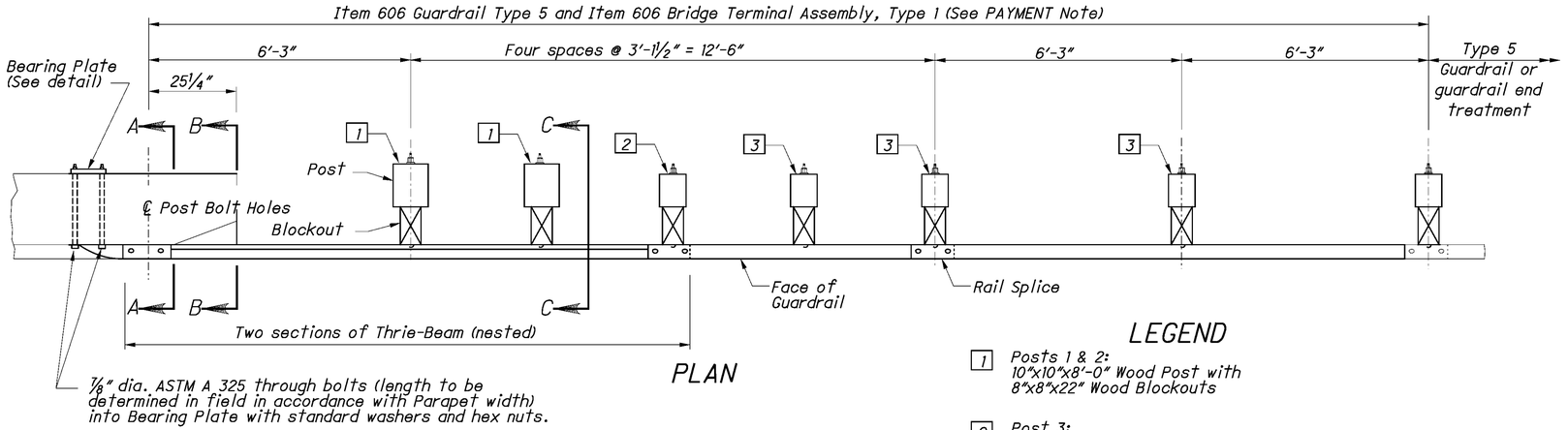
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GUARDRAIL TYPE 5 & 5A

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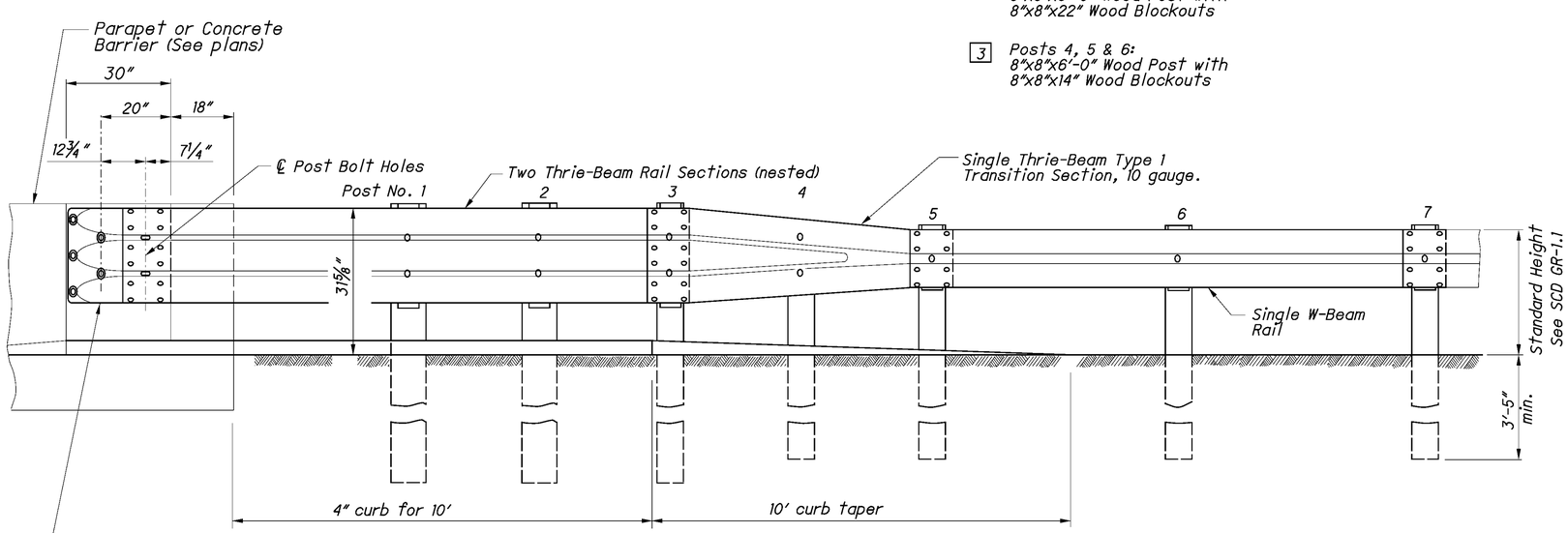
PLAN

LEGEND

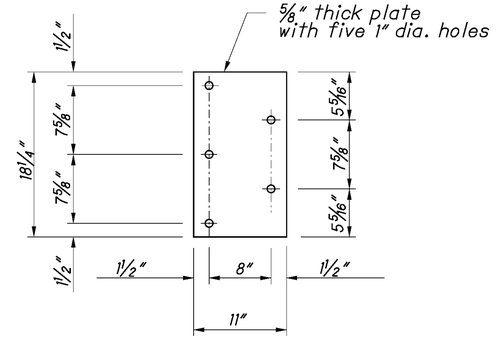
1 Posts 1 & 2:
10"x10"x8'-0" Wood Post with
8"x8"x22" Wood Blockouts

2 Post 3:
8"x8"x8'-0" Wood Post with
8"x8"x22" Wood Blockouts

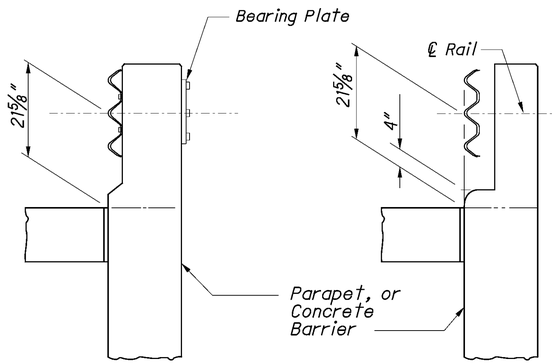
3 Posts 4, 5 & 6:
8"x8"x6'-0" Wood Post with
8"x8"x14" Wood Blockouts



ELEVATION

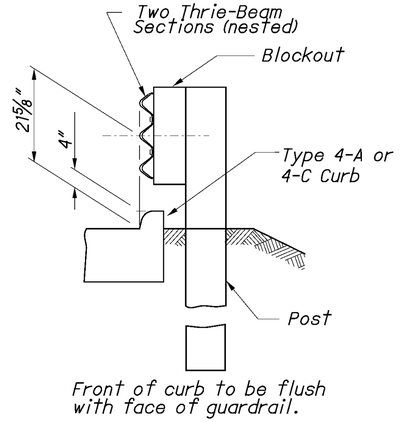


BEARING PLATE



SECTION A-A

SECTION B-B



SECTION C-C

NOTES

GENERAL: For additional details, see **SCD GR-1.1.**

APPLICATION: Use Type 1 Bridge Terminal Assembly to connect guardrail runs to bridges having deflector Parapet Type Bridge Railing (see **Structural Engineering's SCD BR-1).** It may also be used to connect guardrail runs to the approach ends of Concrete Barrier (see **SCD RM-4.6).**

On undivided, bi-directional roadways, Type 1's may be used to anchor guardrail runs to the trailing end of Deflector Parapets or Concrete Barrier installations.

THRIE BEAM TRANSITION: Symmetrical W-Beam to Thrie Beam transition panel shall be 10 gauge.

POSTS: Posts may be set in drilled holes or driven to grade. See **SCD GR-1.1** for additional Post embedment details.

WOOD POSTS - Use square sawed pressure treated wood as per CMS 710.14 and fabricate with square ends. Bore bolt holes and trim the tops of posts, if required, after the posts are set.

STEEL POSTS - are allowed as an alternate. Use W8x24 for 10"x10" wood posts and use W6x25 for 8"x8" posts. Use same post material throughout assembly.

BLOCKOUTS: Use wood blockouts only, steel or plastic blockouts are not permitted. Use notched blockouts with steel posts.

CURB: Provide a Type 4A or 4C concrete curb minimum of 20', or longer as shown on plans, including a 10' taper (from curb height to flush). Front of curb to be flush with face of guardrail.

FLARED GUARDRAIL: Begin Standard Guardrail Flares as shown on **SCD GR-5.1** preferably at or beyond Post No. 7; however, the flare may begin at Post No. 5.

PAYMENT: Item 606 - Bridge Terminal Assembly, Type 1, Each, includes the cost of extra components, in excess of normal guardrail, for additional and different size of posts and blockouts, nested Thrie-Beam, transition and connector sections, Bearing Plate, bolts, washers, nuts, and other hardware.

The curb is required in this design, and is paid separately under **Item 609 - Curb, Type 4A (or 4C), per Foot,** for the curb and taper sections, including materials, forming and labor needed to construct as shown.

SCD GR-3.1 PRIOR TO 1/18/13

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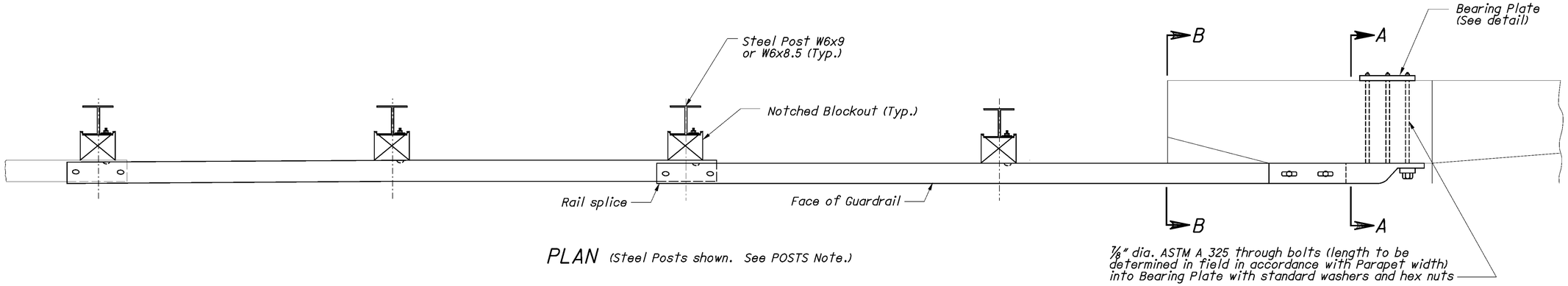
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BRIDGE TERMINAL ASSEMBLY, TYPE 1

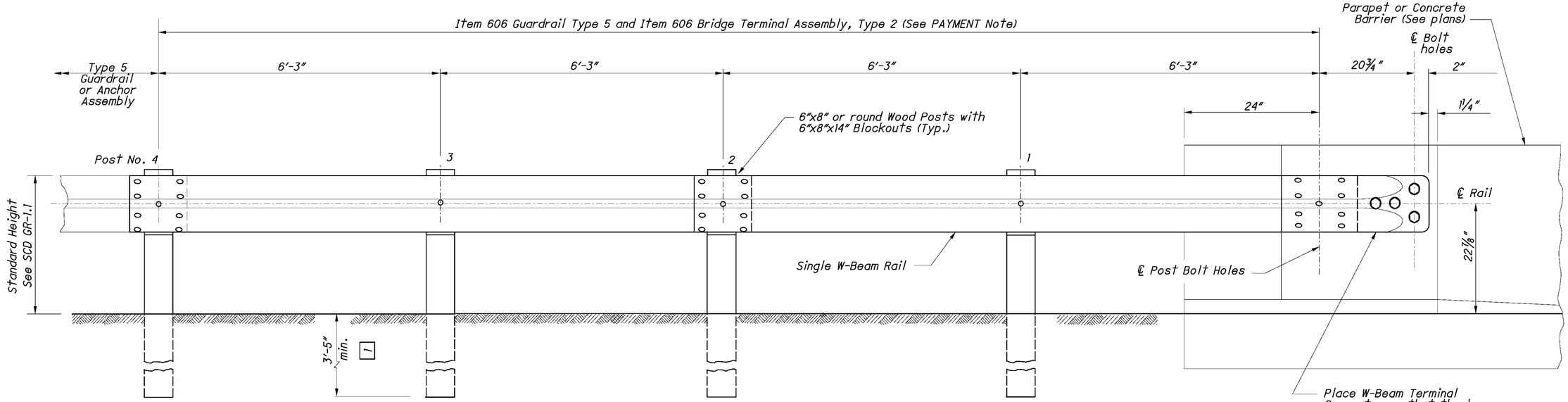
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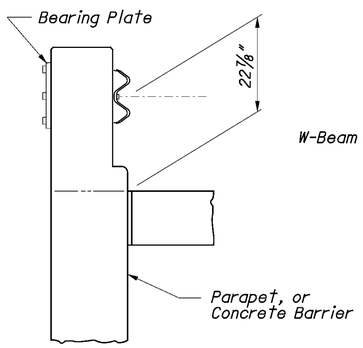
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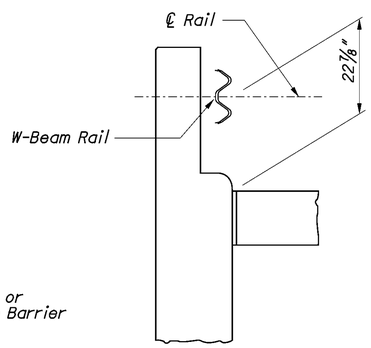
PLAN (Steel Posts shown. See POSTS Note.)



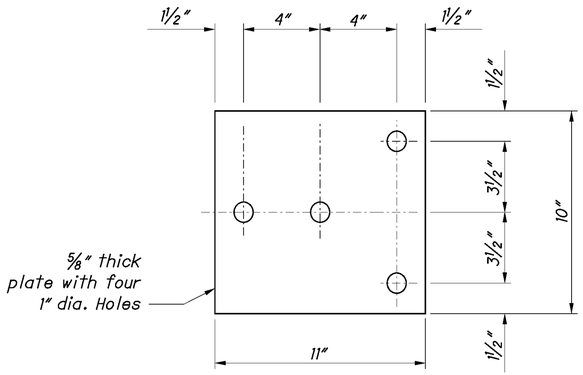
ELEVATION (Wood Posts shown. See POSTS Note.)



SECTION A-A



SECTION B-B



BEARING PLATE

NOTES

GENERAL: For additional rail and post details, see **SCD GR-1.1.**

APPLICATION: Use Type 2 Bridge Terminal Assembly to connect guardrail runs to the trailing end of Parapets or Concrete Barriers (see **SCD RM-4.6** for barrier) on one-directional roadways. Do not use if located within clear zone of opposing traffic.

POSTS: Posts shall be of standard size and material specified for the appropriate type of guardrail to be installed leaving the bridge or barrier. For Type 5 guardrail, see **SCD GR-2.1.**

BLOCKOUTS: Wood or plastic blockouts are permitted.

FLARED GUARDRAIL: Begin Standard Guardrail Flares as shown on **SCD GR-5.1,** preferably at or beyond Post No. 4, however, the flare may begin at Post No. 2.

PAYMENT: **Item 606 - Bridge Terminal Assembly, Type 2, Each.** includes the cost of extra components, in excess of normal guardrail for the Terminal connector, Bearing Plates, bolts, washers, nuts, and other hardware.

SCD GR-3.2 PRIOR TO 1/18/13

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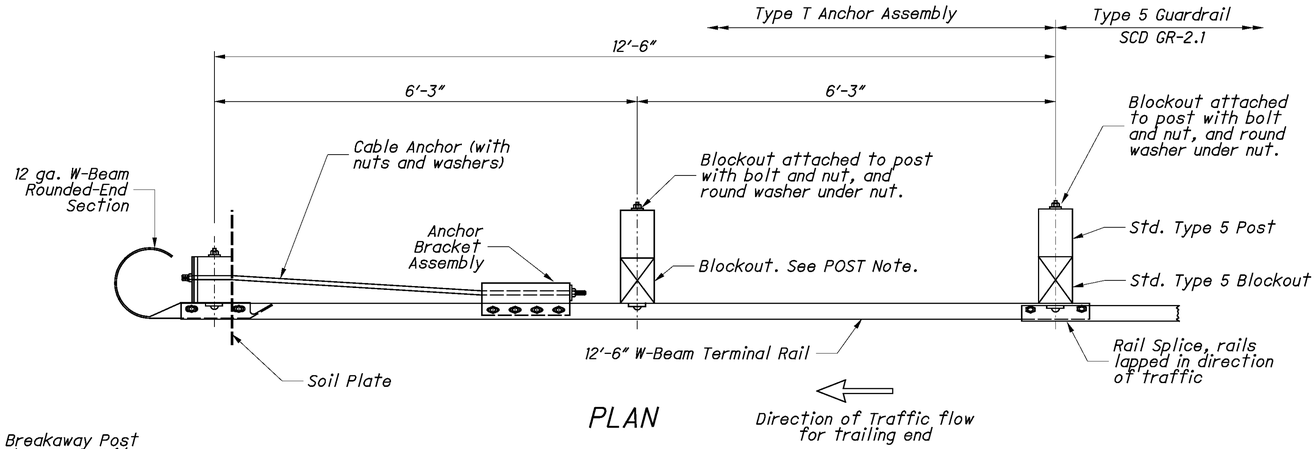
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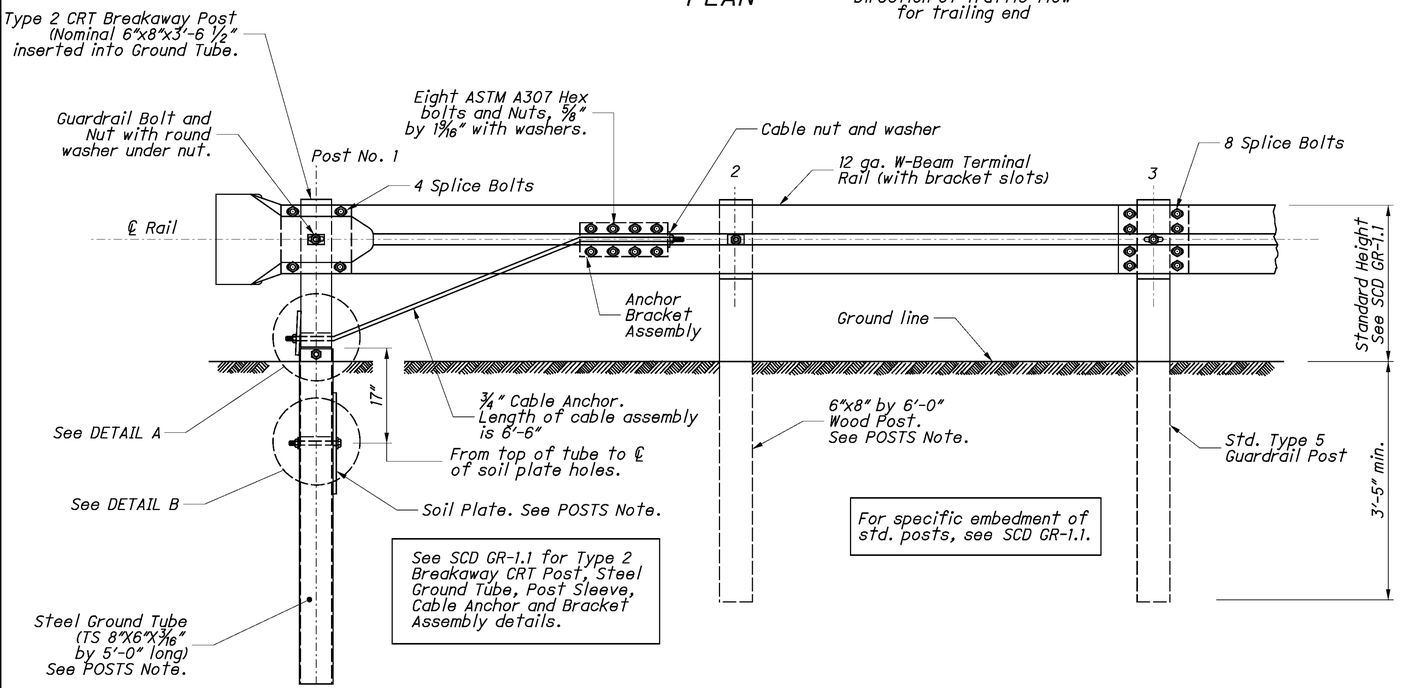
BRIDGE TERMINAL ASSEMBLY, TYPE 2

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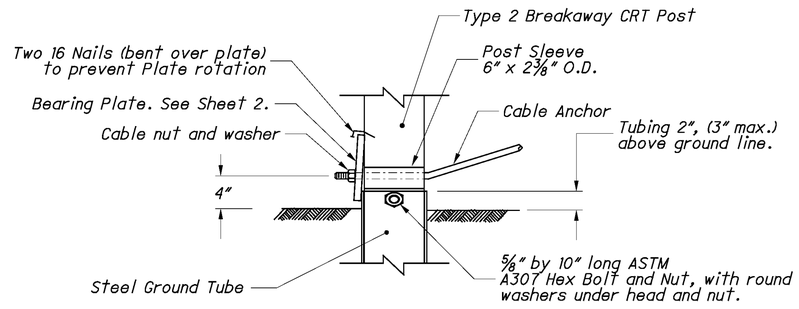
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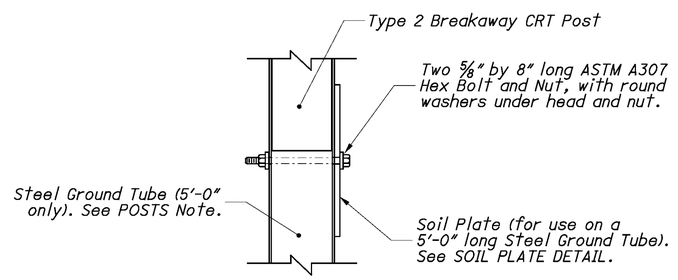




ELEVATION - FOUNDATION TUBE

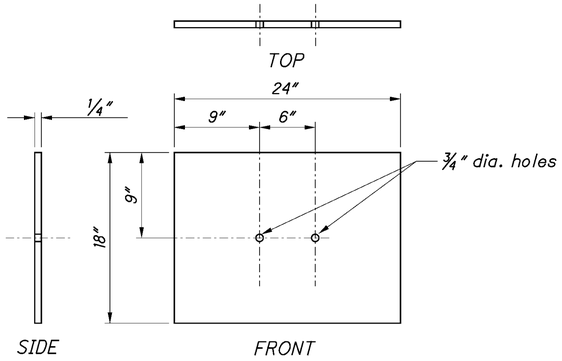


DETAIL A



DETAIL B

SCD GR-4.2 PRIOR TO 1/18/13



SOIL PLATE DETAIL

NOTES

APPLICATION: *Use Type T Anchor Assemblies on the trailing end of guardrail runs, located outside of the clear zone of opposing traffic. The assembly is 12'-6" long, none of which can be considered the Length of Need for the guardrail run.*

For termination requirements at driveways, see DRIVEWAY OPENING Detail on Sheet 2. For side road approaches and Terminals at Structures, see Location & Design Manual, Volume 1, Figure 603-3.

ANCHORING OPTIONS: *Contractor may choose either the foundation tube (shown on this Sheet) or the concrete footing option (Sheet 2) to construct this anchor assembly.*

If the foundation tube option is chosen, the contractor will take proper care to insure that the Soil Plate fasteners are not broken during the driving process.

Concrete footings may be cast-in-place or precast. Compact fill after placing precast unit.

MATERIALS: *See* ***SCD GR-1.1*** *for parts used on this anchor, including the CRT Breakaway Posts, Steel Ground Tube, Post Sleeve, Cable Anchor and Bracket Assembly.*

Bearing Plate and Soil Plate is ASTM A709 Grade 36. Steel Ground Tube shall be ASTM A500, Grade B, and meet CMS 707.10. All angles, channels and plates shall meet CMS 711.01. All structural steel shall be galvanized as specified in CMS 711.02. All bolt washers indicated are standard galvanized steel of the appropriate size.

Concrete shall be class C.

Components on this anchor that are not detailed on SCD GR-1.1 include: 1) 12'-6" W-Beam Terminal Rail (standard part RWM14a), and 2) W-Beam Rounded End Section (RWE03a). For complete details and specifications, see part descriptions in the ***AASHTO/AGC/ARTBA Standardized Hardware Guide.***

POSTS: *Post No. 1 may be an 8'-0" long Steel Ground Tube without a Soil Plate in lieu of the 5'-0" tube with Soil Plate.*

Post No. 2 can be W6x9 (or W6x8.5) with notched wood blockouts or a standard Type 5 post and blockout. Recycled plastic blockouts are permitted.

PAYMENT: *All labor and materials, including the W-Beam Rounded End Section and the W-Beam Terminal Rail for the 12'-6" anchor assembly shall be included in the unit price bid for*

Item 606 - Anchor Assembly, Type T, Each.

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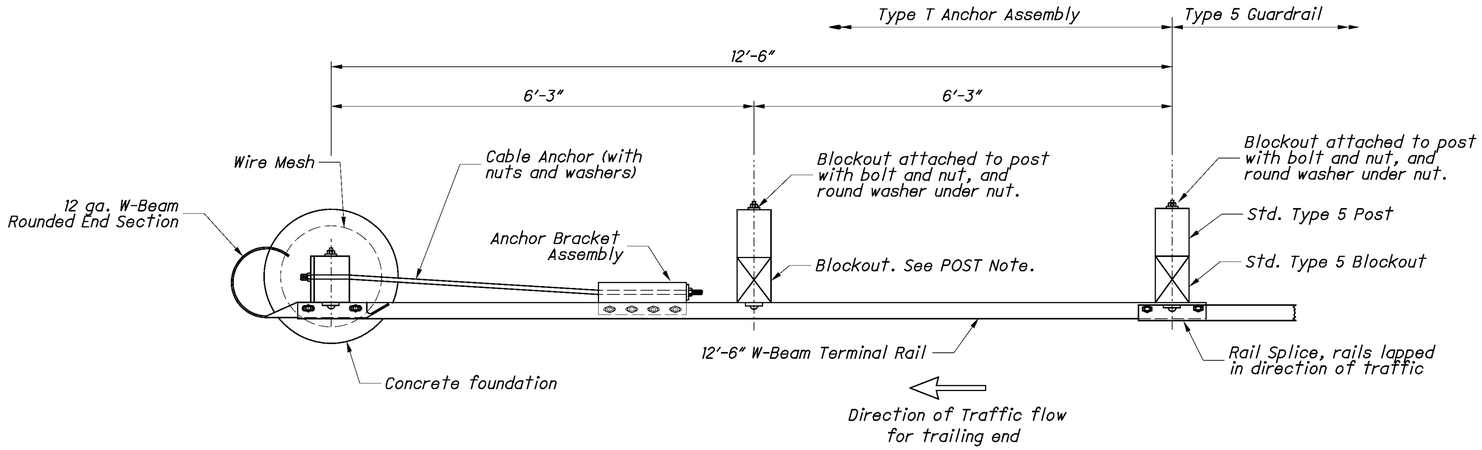
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TYPE T ANCHOR ASSEMBLY (Foundation Tube Option)

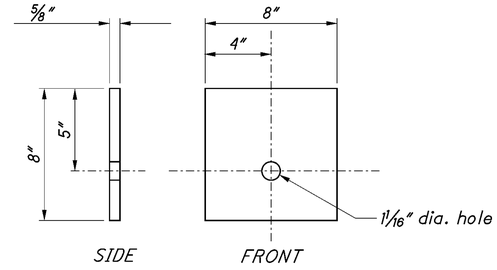
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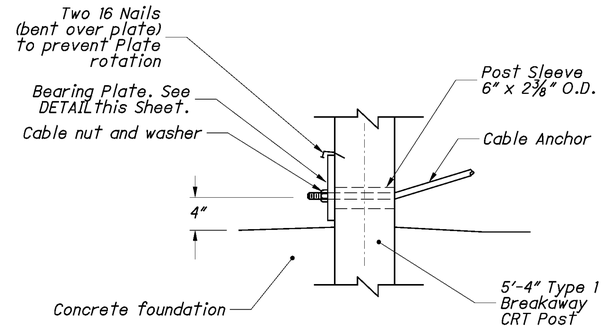
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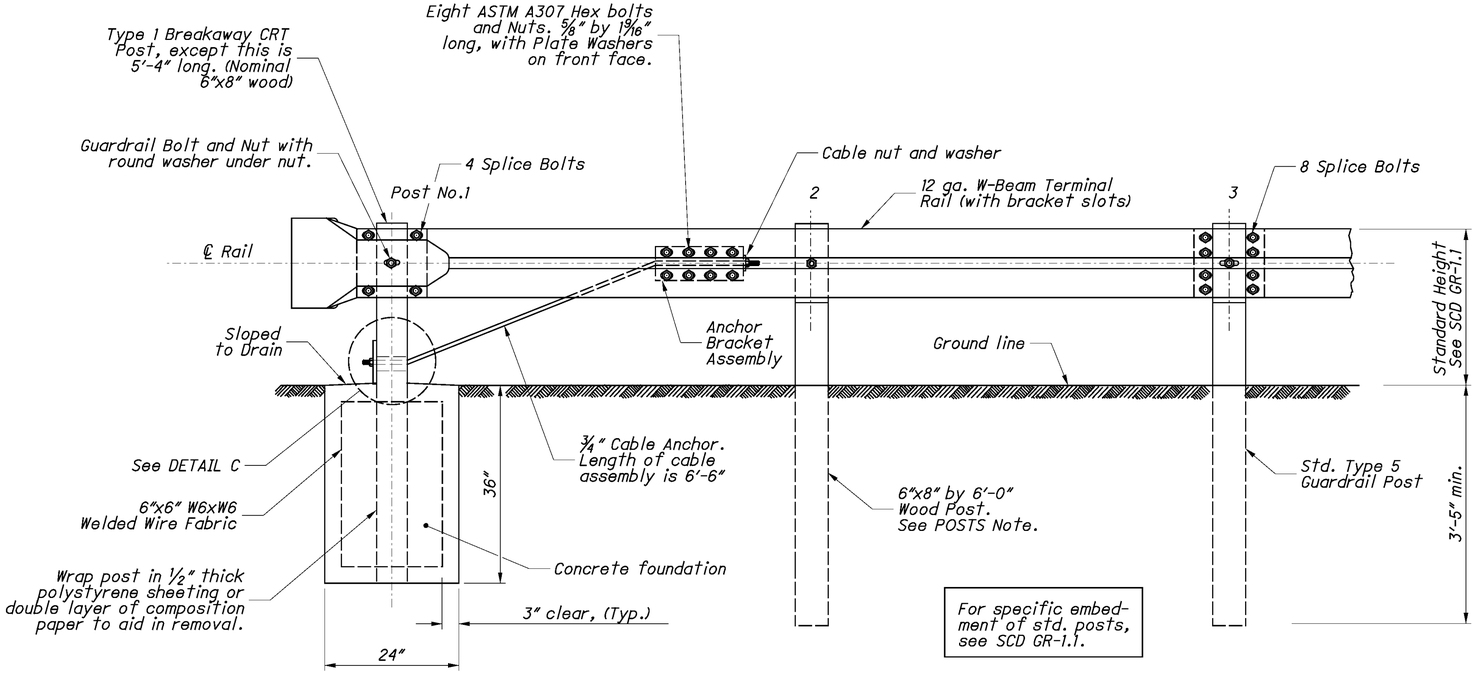
PLAN



BEARING PLATE DETAIL

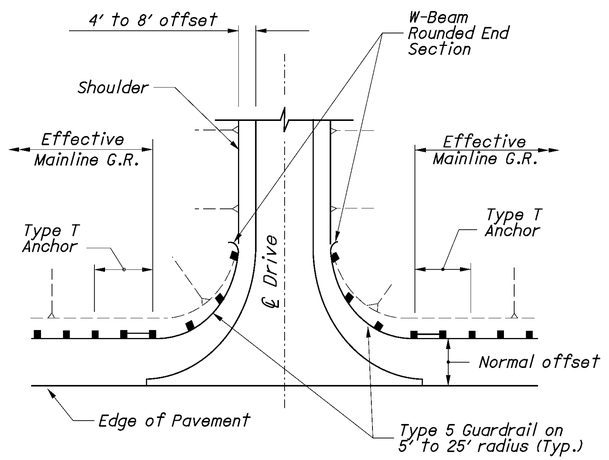


DETAIL C



See SCD GR-1.1 for Type 1 Breakaway CRT Post, Steel Ground Tube, Post Sleeve, Cable Anchor and Bracket Assembly details.

ELEVATION - CONCRETE FOOTER



DRIVEWAY OPENING

SCD GR-4.2 PRIOR TO 1/18/13

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REVISION DATE | CHECKED

PIS NUMBER

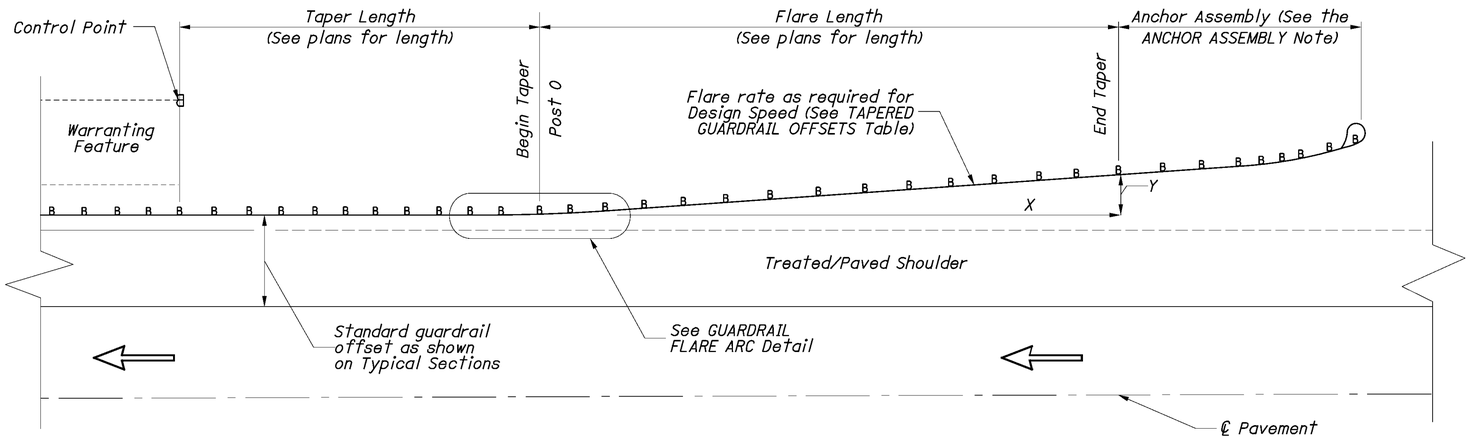
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TYPE T ANCHOR ASSEMBLY (Foundation Tube Option)

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STANDARD GUARDRAIL FLARE

(Plan View)

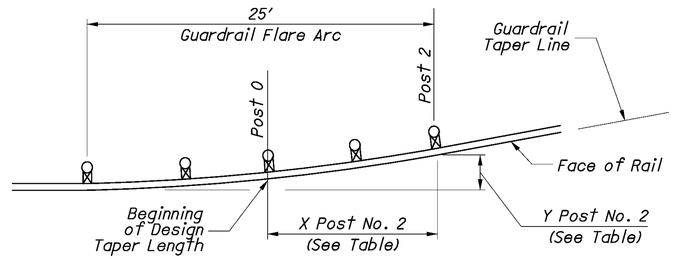
NOTES

STANDARD GUARDRAIL FLARE: *Construct the flare shown here when indicated in the construction plans and in conujunction with* ***SCD GR-5.2.***

FLARE RATES AND OFFSET SPEEDS: *Use the Design Speed shown on the plans to determine flare rates and offsets. Where a Design Speed is not shown or availale, ust eh legal posted speed limit.*

ANCHOR ASSEMBLY: *Use a Type B Anchor Assembly with standard guardrail flares unless otherwise specified. The Type A can be used, with restrictions.* ***Location and Design Manuel, Volume 1, Section 603.***

CONTROL POINT: *The point shown designates the extent of the hazard being protected and is shown for design use only.*



GUARDRAIL FLARE ARC DETAIL

TAPERED GUARDRAIL OFFSETS (Feet)

Post No.	Flare Length	45 MPH or less 10:1 Taper		50 MPH 11:1 Taper		55 MPH 12:1 Taper		60 MPH 13:1 Taper		65 MPH 14:1 Taper		70 MPH 15:1 Taper	
		X	Y	X	Y	X	Y	X	Y	X	Y	X	Y
0		0	0.3	0	0.3	0	0.3	0	0.2	0	0.2	0	0.2
2	25	12.4	1.3	12.5	1.1	12.5	1.0	12.5	1.0	12.5	0.9	12.5	0.8
4		24.9	2.5	24.9	2.3	24.9	2.1	24.9	1.9	24.9	1.8	24.9	1.7
6	50	37.3	3.7	37.3	3.4	37.4	3.1	37.4	2.9	37.4	2.7	37.4	2.5
8		49.8	5.0	49.8	4.5	49.8	4.1	49.9	3.8	49.9	3.6	49.9	3.3
10	75	62.2	6.2	62.2	5.7	62.3	5.2	62.3	4.8	62.3	4.5	62.4	4.2
12		74.6	7.5	74.7	6.8	74.7	6.2	74.8	5.7	74.8	5.3	74.8	5.0
14	100	87.1	8.7	87.1	7.9	87.2	7.3	87.2	6.7	87.3	6.2	87.3	5.8
16		99.5	9.9	99.6	9.1	99.7	8.3	99.7	7.7	99.7	7.1	99.8	6.7
18	125	111.9	11.2	112.0	10.2	112.1	9.3	112.2	8.6	112.2	8.0	112.3	7.5
20		124.4	12.4	124.5	11.3	124.6	10.4	124.7	9.5	124.7	8.9	124.7	8.3
22	150	136.8	13.7	136.9	12.5	137.0	11.4	137.1	10.5	137.1	9.8	137.2	9.1
24		149.3	14.9	149.4	13.6	149.5	12.5	149.6	11.5	149.6	10.7	149.7	10.0
26	175	161.7	16.2	161.8	14.7	161.9	13.5	162,0	12.5	162.1	11.6	162.1	10.8
28		174.1	17.4	174.3	15.8	174.4	14.5	174.5	13.4	174.6	12.5	174.6	11.6
30	200	186.6	18.7	186.7	17.0	186.9	15.6	186.9	14.4	187.9	13.4	187.1	12.5
32		199.0	19.9	199.2	18.1	199.3	16.6	199.4	15.3	199.5	14.3	199.6	13.3

All "X" dimensions shown are from the ceterline of Post 0 to the centerline of the indicated post along the standard guardrail offset line extended.

All "Y" dimensions shown are from the standard guardrail offset line extended to the face of rail at the post indicated.

SCD GR-5.1 PRIOR TO 1/18/13

OFFICE OF ROADWAY ENGINEERING

DESIGNED | REVIEWED

REVISION DATE | CHECKED

PIS NUMBER

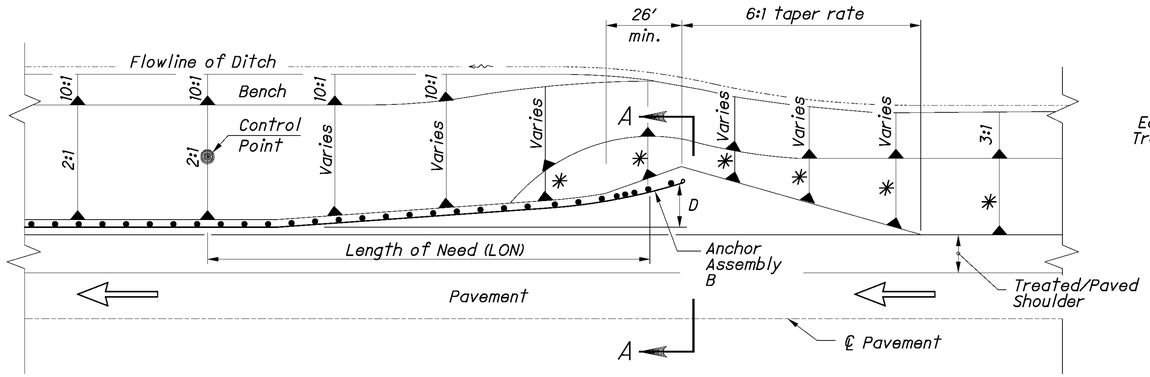
PLAN INSERT SHEET

GUARDRAIL FLARE DETAILS

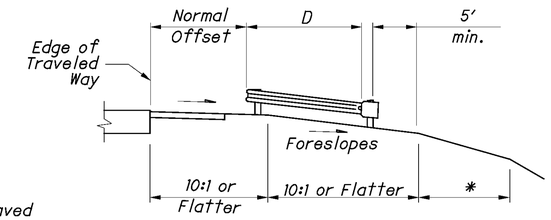
SUM-271-2.33

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FILL TO FILL



SECTION A-A

NOTES

APPLICATION: *Utilize details shown here only where approach foreslopes are 6:1 or flatter.*

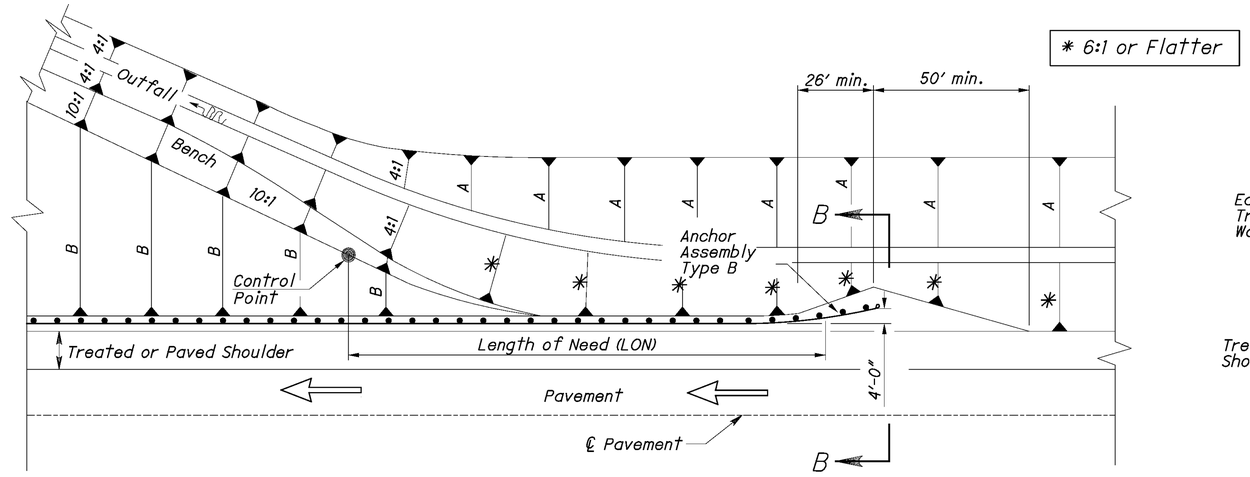
SLOPES: *Slopes designated by * are 6:1 or flatter. Construct slopes labeled "A" or "B" as specified in the plans.*

DISTANCES: *The Length of Need, LON, represents the distance from the control point to the beginning of the end treatment. "D" is the lateral offset of the flare.*

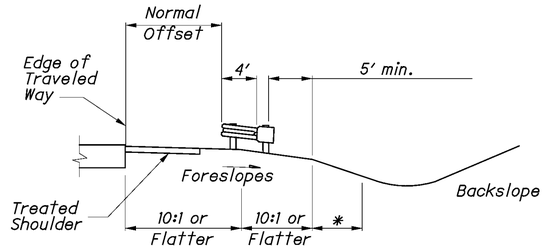
*See **SCD GR-5.1** for additional details on guardrail flares. The control point shown designates the extent of the hazard being shielded and is shown for design use only. See **Location & Design Manual, Volume 1,** Section 602, for more information.*

GRADING: *The Anchor Assembly shown requires proper grading to function properly. See GRADING PLAN FOR FLARED ANCHOR ASSEMBLIES for more information.*

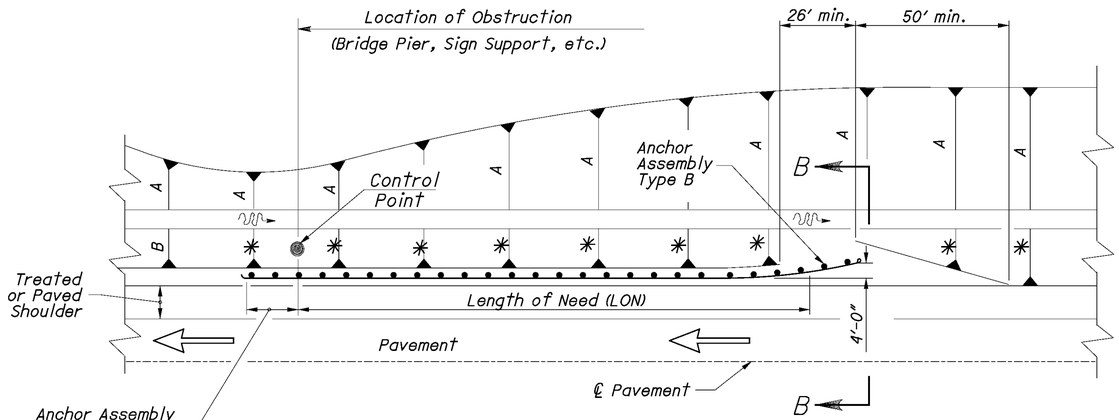
ANCHOR ASSEMBLY: *Install Type B Anchor Assemblies according to the Manufacturer's instructions. Products are install either on a curved flare or straight flare.*



CUT TO FILL

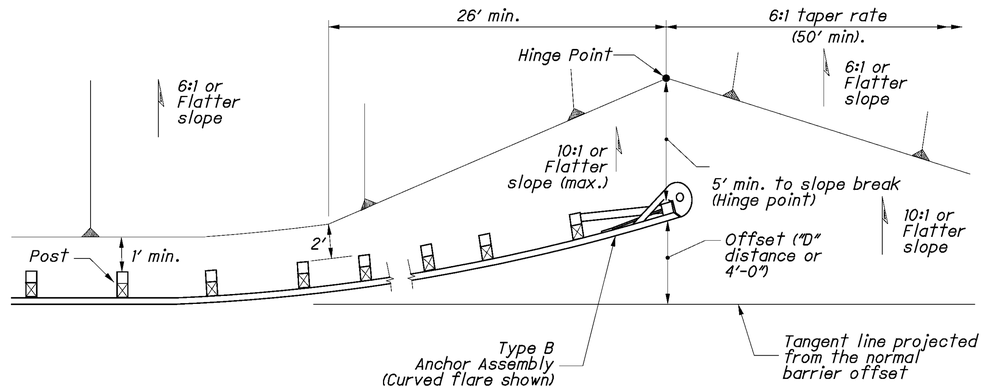


SECTION B-B



OBSTRUCTION

(For Obstructions in Fill Conditions, use above details)



GRADING PLAN FOR FLARED ANCHOR ASSEMBLIES

Flared Anchor Assemblies are considered gating terminals, and thus, an area 20′ by 75′ behind and beyond should be resonably traversable and free from fixed objects hazards.

SCD GR-5.2 PRIOR TO 1/18/13

OFFICE OF ROADWAY ENGINEERING

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P1S NUMBER

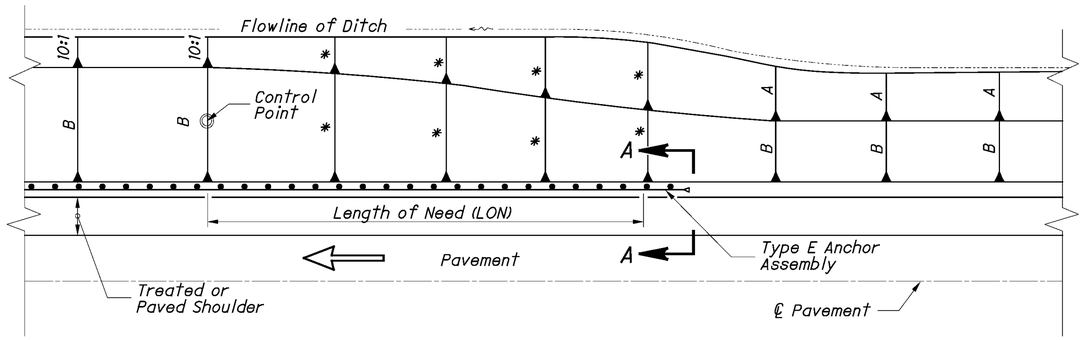
PLAN INSERT SHEET

INTRODUCTION OF GUARDRAIL RUNS
Foreslope 6:1 or Flatter

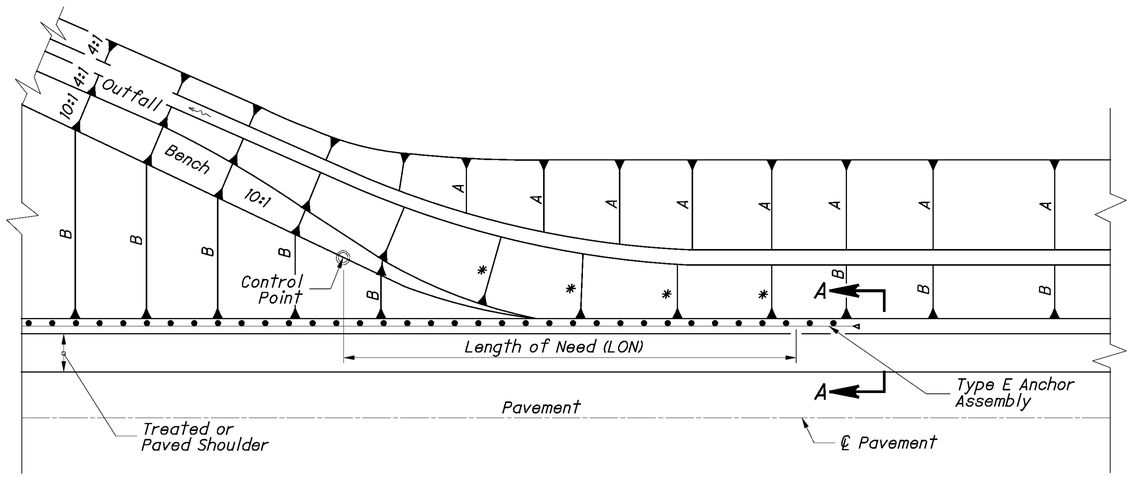
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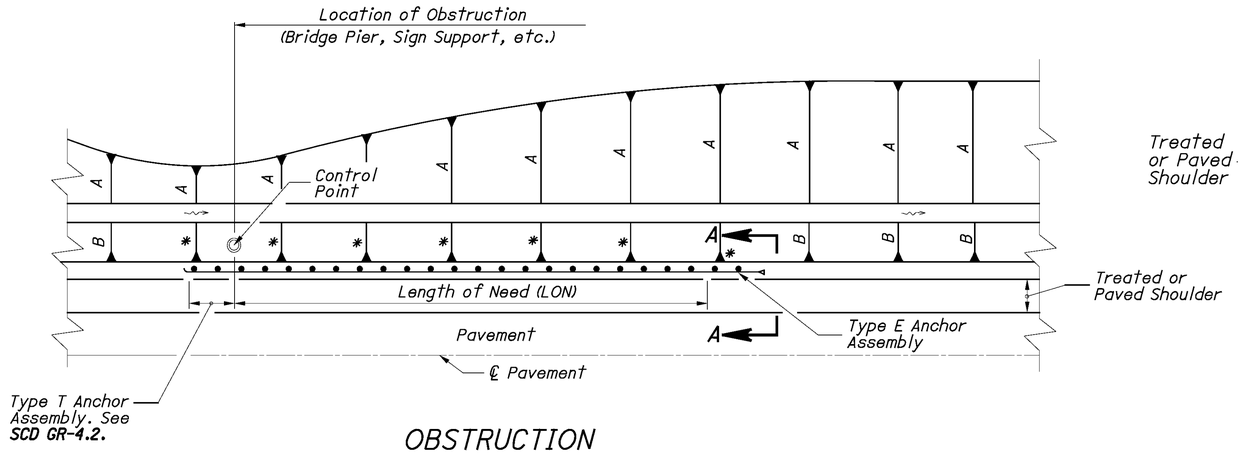
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FILL TO FILL

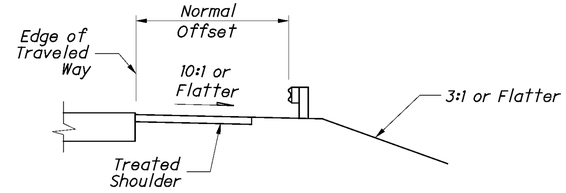


CUT TO FILL



OBSTRUCTION

* 3:1 or Flatter



SECTION A-A

NOTES

APPLICATION: *Utilitize details shown here only where approach foreslopes are steeper than 6:1, but not steeper than 3:1.*

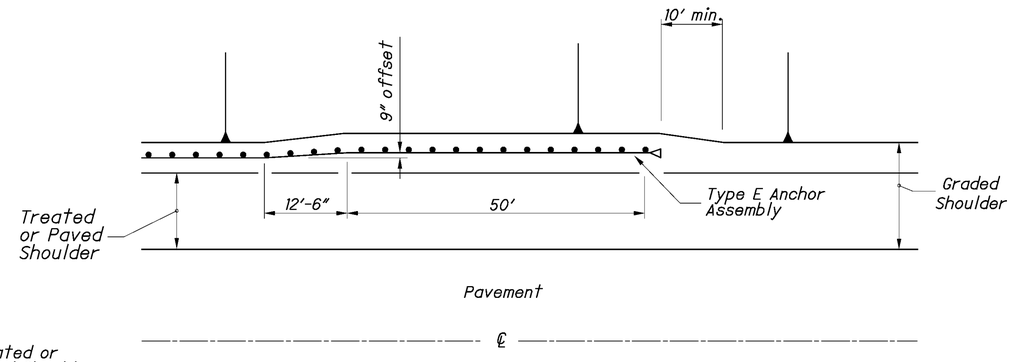
SLOPES: *Slopes designated by * shall be 3:1 or flatter. Slopes labeled "A" and "B" shall be constructed as specified in the plans.*

"LON" DISTANCE: *The Length of Need, LON, represents the distance from the control point to the beginning of the end treatment. The control point shown designates the extent of the hazard being shielded and is shown for design use only. See* ***Location & Design Manual, Volume 1,*** *Section 602.*

GUARDRAIL END TERMINALS: *Terminals utilized for the situations shown here shall be Type E Anchor Assemblies unless otherwise specified in the plans.*

OBSTRUCTION INSTALLATION: *Use this installation for one-directional roadways only.*

OFFSET DESIGN: *The design shown may be specified on the plans where it is deemed detrimental to lose effective shoulder width due to the dimensions of the Type E Anchor Assembly. The Type E which represents the final 50′ of guardrail is to be offset an additional 9″ from the normal guardrail offset by tapering within the 12′-6″ shown below. The graded shoulder width shall be increased 9″ and tapered back to the normal width to 10′ as shown.*



OFFSET DESIGN
(Plan View)

SCD GR-5.3 PRIOR TO 1/18/13

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REVISION DATE | CHECKED

PIS NUMBER

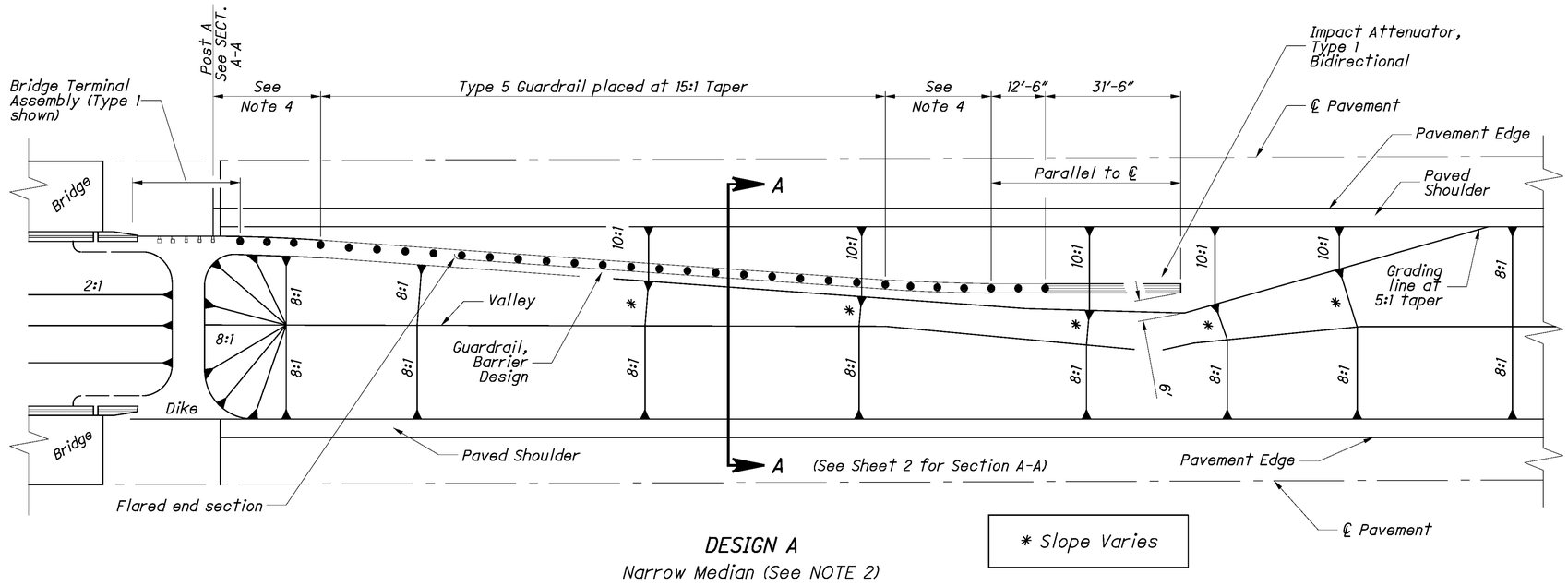
PLAN INSERT SHEET

INTRODUCTION OF GUARDRAIL RUNS
Foreslope steeper than 6:1

SUM-271-2.33

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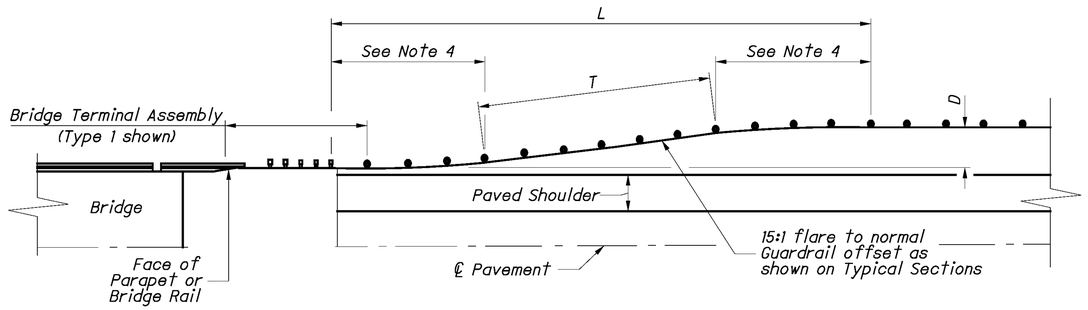
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DESIGN A

Narrow Median (See NOTE 2)

INTRODUCED GUARDRAIL APPROACH INSTALLATIONS



RECOMMENDED LENGTHS FOR GUARDRAIL OFFSET TRANSITIONS		
English (ft)		
D Difference in Offset	**L** Total Length	**T** Tangent Length on Flares
2	62.5	12.5
4	87.5	37.5
6	125.0	75.0
8	150.0	100.0
10	175.0	125.0

GUARDRAIL OFFSET TRANSITION

NOTES

1) The length of guardrail needed shall be determined according to methods contained in the **Location and design Manual, Volume 1, Section 602**. Quantities shown on this sheet are based on these methods, using a lateral offset of 30' for the area of concern, a runout length of 472', and a guardrail flare rate of 15:1.

2) Use **DESIGN "A"** in narrow medians where the end of the guardrail run extends into the clear zone of the opposite side traffic. In medians where the guardrail run would otherwise extend beyond the centerline of the median, turn the guardrail run to follow the centerline using a standard flare arc. The plans shall clearly indicate what portion of the flared guardrail run is to be constructed using barrier guardrail.

3) Use **DESIGN "B"** (see Sheet 2 of 2) where the guardrail run lies outside of the Clear Zone of the opposite side traffic. In this case, the design of the guardrail flare in the median would be similar to that of the guardrail approach on the outside shoulder. Estimated quantities are probided in the box below.

4) Use a 25'-0" Standard Flare Arc per **SCD GR-5.1.**

5) Provide 10:1 or flatter cross-slopes in front of guardrail. The 8:1 slopes shown in the median at other locations are the recommended practice, although other slopes may be designated in the plans.

SCD GR-6.1 PRIOR TO 1/18/13

OFFICE OF ROADWAY ENGINEERING

DESIGNED | REVIEWED

REVISION DATE | CHECKED

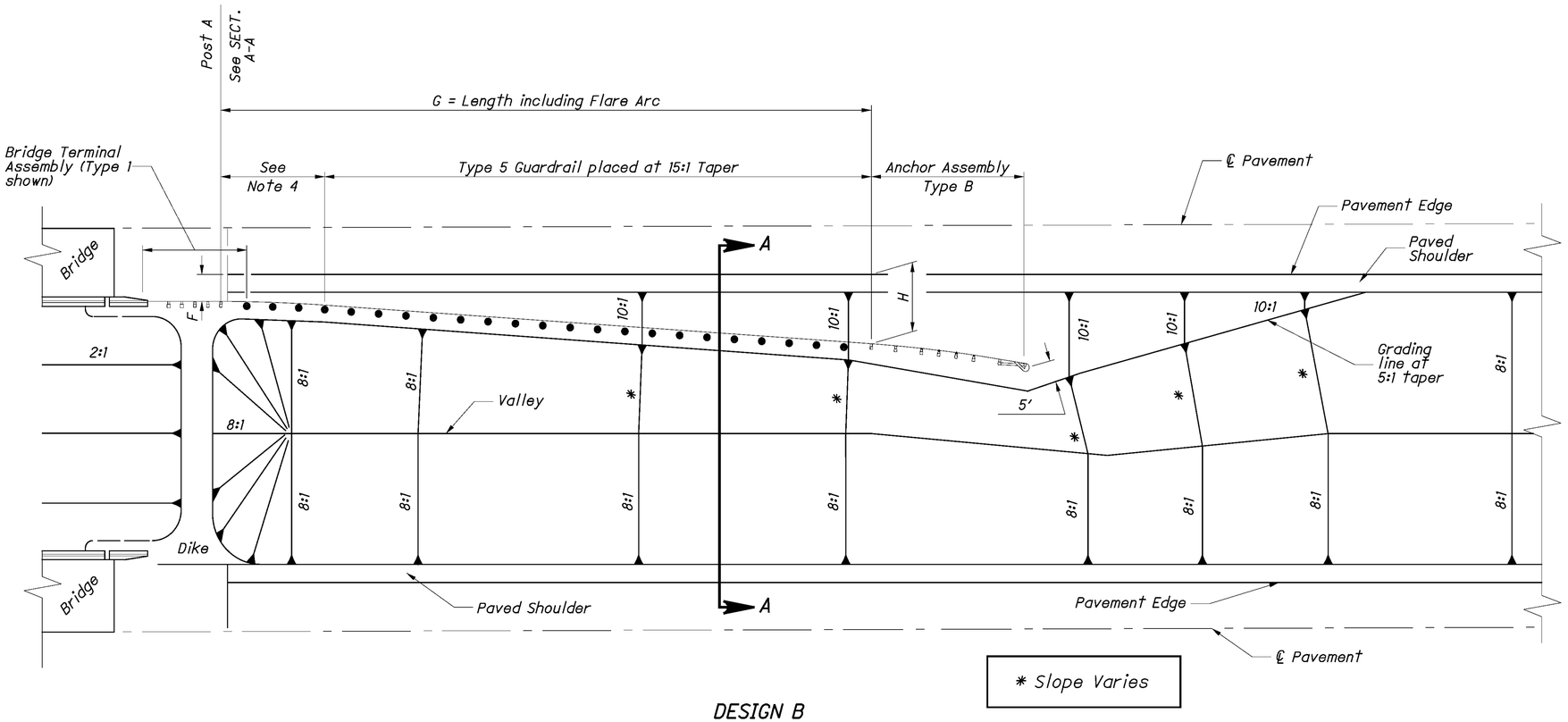
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PLAN INSERT SHEET

GUARDRAIL AT BRIDGES

SUM-271-2.33

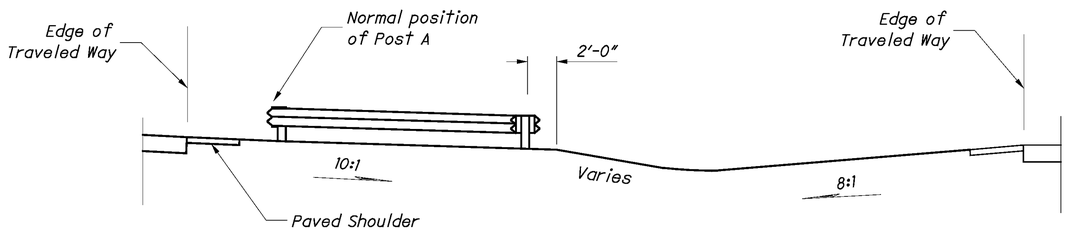
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DESIGN B

Wide Median (See NOTE 3 on Sheet 1)

INTRODUCED GUARDRAIL APPROACH INSTALLATIONS



SECTION A-A

RECOMMENDED LENGTHS FOR(1) GUARDRAIL FLARES AT BRIDGE APPROACHES(2)		
English (ft)		
F Guardrail Offset At Bridge	G Length of Need (3)	H Offset At End of Run
4	212.5	17.3
6	200.0	18.4
8	175.0	18.7
10	162.5	19.8
12	150.0	21.0
14	137.5	22.1
16	125.0	23.3

1. Including the 25'-0" Standard Flare Arc coming off the Bridge, but excluding the Anchor Assembly/Attenuator device.
2. For use with a DESIGN "B" Median (see this sheet) or on the outside Shoulder approach to the Bridge.
3. Lengths are based on using whole numbers of Guardrail panels (12'-6" long).

SCD GR-6.1 PRIOR TO 1/18/13

OFFICE OF ROADWAY ENGINEERING

DESIGNED | REVIEWED

REVISION DATE | CHECKED

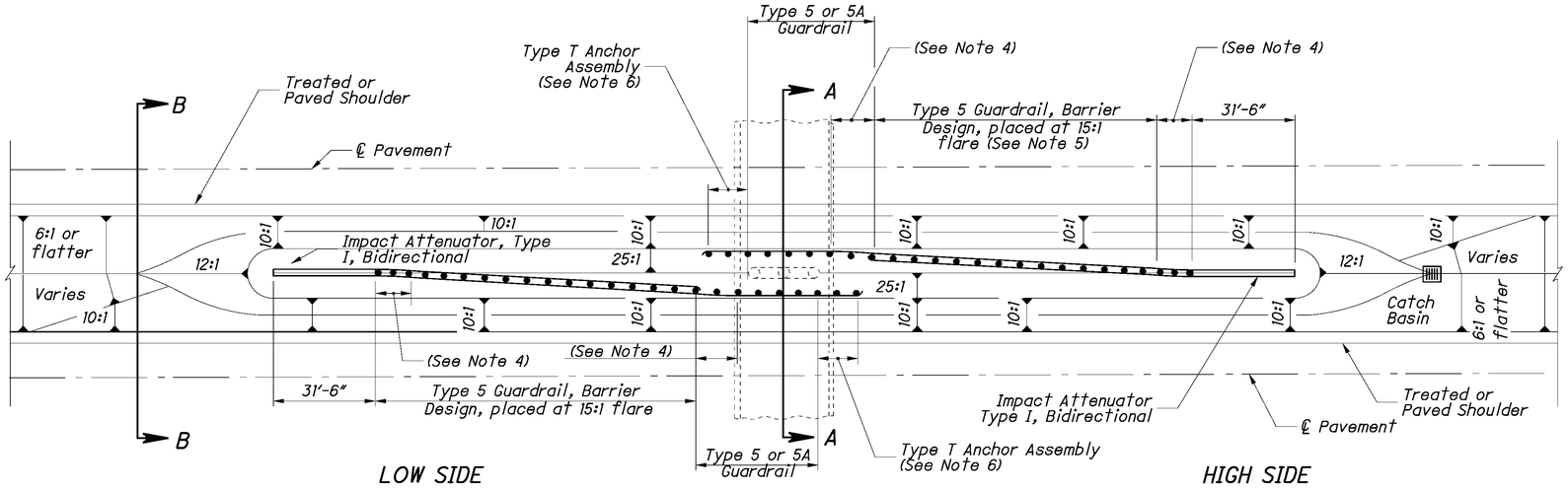
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PLAN INSERT SHEET

GUARDRAIL AT BRIDGES

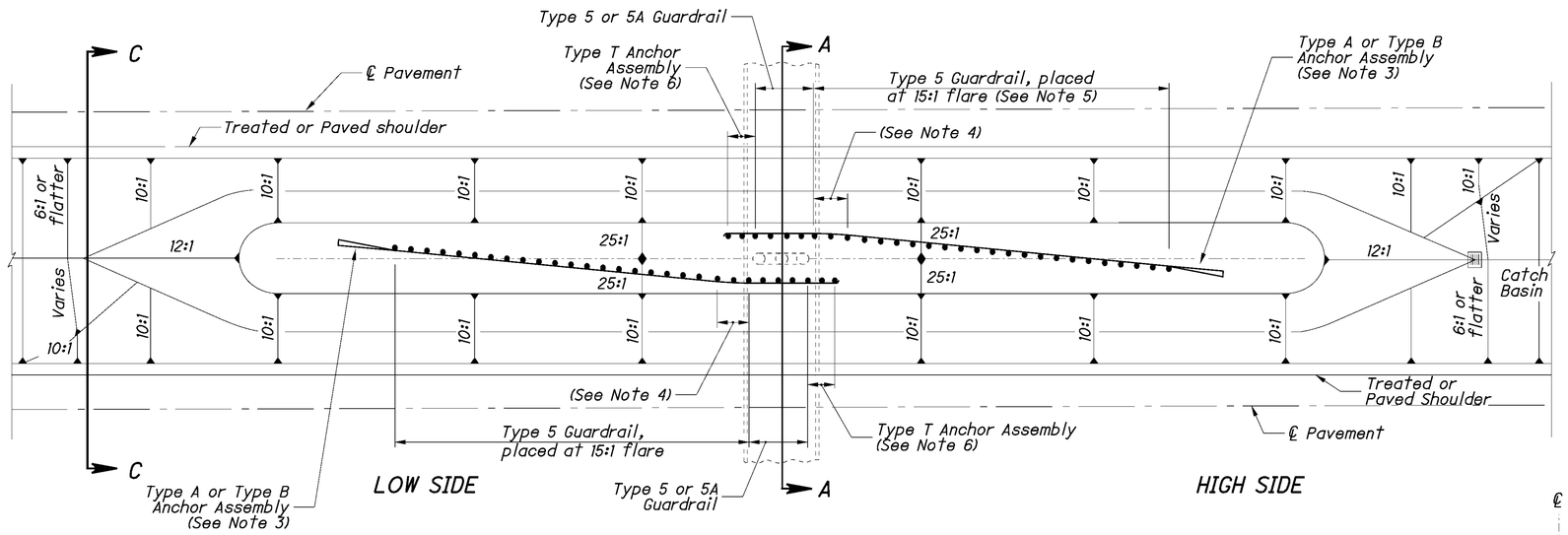
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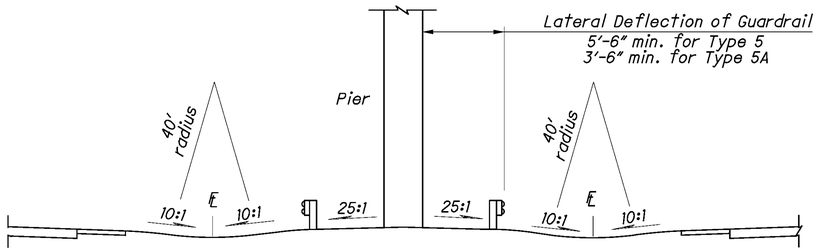
DESIGN A

Narrow Median (See Note 2)

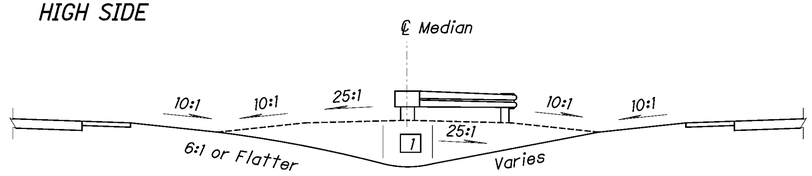


DESIGN B

Wide Median (See Note 3)

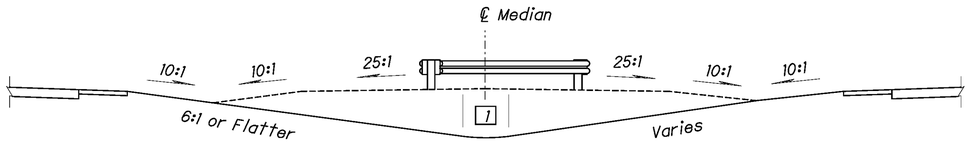


SECTION A-A



VIEW B-B

1 8' rounding



VIEW C-C

SCD GR-6.2 PRIOR TO 1/18/13

NOTES

1) The length of guardrail needed shall be determined according to methods contained in the **Location & Design Manual, Volume 1, Section 602.**

2) Use **DESIGN "A"** in the narrow Medians where the end of the guardrail run extends into the Clear Zone of the opposite side of traffic.

In Medians where the guardrail run would otherwise extend beyond the centerline of the median, the guardrail run should be turned to follow the centerline using a standard flare arc. The plans shall clearly indicate what portion of the flared guardrail run is to be constructed using barrier guardrail.

3) Use **DESIGN "B"** where the end of the guardrail run shielding the piers lies outside the clear zone of the opposite side of traffic.

Use a Type A Anchor Assembly (see **SCD GR-4.1**) when the end of the guardrail run is also outside the Clear Zone of the approaching traffic. Where the end is inside the Clear Zone of the approaching traffic, use a Type B Anchor Assembly.

4) Use a 25'-0" Standard Flare Arc as per **SCD GR-5.1.**

5) Provide 10:1 or flatter cross-slopes in front of guardrail. Other slopes are shown in the median to suggest a grading and drainage plan, however for complete details see the construction plans.

6) Install Type T Anchor Assemblies (see **SCD GR-4.2**) on the trailing ends of the guardrail beyond the bridge piers (downstream from traffic flow.)

7) The "HIGH SIDE" and the "LOW SIDE" designations are shown in the reference to the drainage design and are dependent upon the longitudinal slop in the median.

OFFICE OF ROADWAY ENGINEERING

DESIGNED | REVIEWED

REVISION DATE | CHECKED

PIS NUMBER

PLAN INSERT SHEET

MEDIAN GUARDRAIL AT PIERS

SUM-271-2.33

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SIGN PLACEMENT

THE ELEVATIONS SHOWN IN THE PLANS ARE FOR INFORMATIONAL PURPOSES ONLY. THE EXACT LOCATIONS OF SIGNS ARE TO BE STAKED. THE ENGINEER WILL REVIEW THE LOCATIONS PRIOR TO POST FABRICATION TO INSURE CLEARANCE OF DRIVES, ROADWAYS AND OTHER OBSTACLES. IF THERE ARE ANY CONFLICTS, THEY WILL BE ADJUSTED AS DIRECTED BY THE ENGINEER. UPON ACCEPTANCE OF THE LOCATIONS BY THE ENGINEER AND PRIOR TO POST FABRICATION, THE CONTRACTOR WILL VERIFY THE REQUIRED LENGTH OF THE SIGN POSTS. PAYMENT FOR THIS IS INCIDENTAL TO ALL 630 ITEMS.

SIGN REMOVAL

ALL SIGNS REMOVED SHALL BE DISPOSED OF BY THE CONTRACTOR UNLESS OTHERWISE INSTRUCTED BY THE ENGINEER.

ITEM 630 SPECIFIC SERVICE AND TOURIST-ORIENTED DIRECTIONAL SIGNS REMOVAL AND REINSTALLATION

IN THE EVENT THAT THIS PROJECT NECESSITATES THE REMOVAL OF ANY SPECIFIC SERVICE (LOGO) SIGNS AND/OR TOURIST-ORIENTED DIRECTIONAL SIGNS (TODS) THAT ARE NOT SPECIFICALLY DESCRIBED IN OTHER ITEMS OF WORK, THE CONTRACTOR SHALL CAREFULLY REMOVE SUCH SIGNS. REMOVED LOGO SIGNS AND TODS SHALL BE IMMEDIATELY RE-ERECTED ON APPROVED TEMPORARY SUPPORTS IN THE SAME GENERAL VICINITY ALONG THE ROADWAY TO BE VIEWED BY THE MOTORING PUBLIC. UNLESS THE ORIGINAL SUPPORTS WILL BE REUSED, THE CONTRACTOR SHALL REMOVE AND DISPOSE OF THE SUPPORTS AND FOUNDATIONS IN ACCORDANCE WITH ITEM 630.12. THE CONTRACTOR SHALL NOTIFY OHIO LOGOS, INC. AT (800) 860-5646 AT LEAST 60 DAYS PRIOR TO PROJECT COMPLETION TO ALERT THEM THAT ONE OR MORE LOGO SIGNS AND/OR TODS ARE ON TEMPORARY SUPPORTS. OHIO LOGOS, INC. WILL MAKE ARRANGEMENTS TO HAVE THE SIGNS INSTALLED ON PERMANENT SUPPORTS AT THE COMPLETION OF THE PROJECT.

THIS ITEM OF WORK INCLUDES REMOVAL AND TEMPORARY RE-ERECTION OF LOGO SIGNS AND TODS, FURNISHING AND INSTALLATION OF TEMPORARY SUPPORTS, REMOVAL AND DISPOSAL OF THE ORIGINAL SUPPORTS AND FOUNDATIONS, AND PROVIDING NOTIFICATION TO OHIO LOGOS, INC. THIS WORK WILL BE INCLUDED IN THE LUMP SUM PAYMENT FOR ITEM 614, MAINTAINING TRAFFIC.

ITEM 631 - REMOVAL OF SIGN SERVICE AND DISPOSAL, AS PER PLAN

THE CONTRACTOR SHALL REMOVE THE SIGN SERVICE AND OTHER MISCELLANEOUS COMPONENTS FROM OVERHEAD AND STRUCTURE MOUNTED SIGN SUPPORTS.

IF ANY SUPPORTS RECEIVE POWER FROM A NEARBY UTILITY POLE, THE CONTRACTOR SHALL REMOVE THE POWER DROP OR CONNECTION AND NOTIFY THE UTILITY THAT IT IS BEING DISCONNECTED.

TWO (2) CABLE SPLICE KITS SHALL BE PROVIDED AS A PART OF THIS PAY ITEM FOR EACH LOCATION WHERE SIGN LIGHTING AND SIGN SERVICE IS BEING REMOVED. THEY ARE TO BE USED TO PROPERLY RESTORE THE CONTINUITY OF THE MAIN POWER FEED AT THE PULL BOX WHERE THE SIGN SERVICE SUPPLIED POWER TO THE SIGN LOCATION. SIGN SERVICE WIRING IS NOT TO BE CUT AND CAPPED. SIGN SERVICE FROM THE DISCONNECT SWITCH SHALL BE COMPLETELY REMOVED. THE PULL BOX SHALL REMAIN IN PLACE.

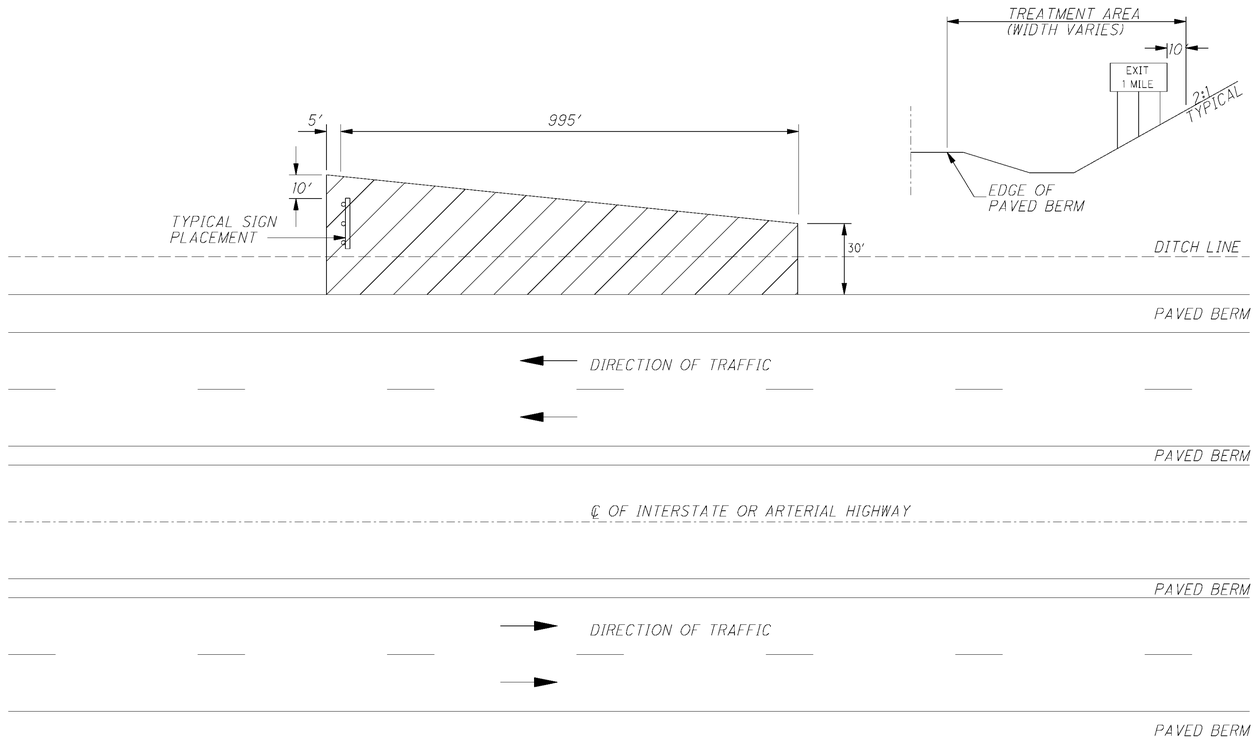
ALL EQUIPMENT, MATERIALS, AND LABOR REQUIRED TO PERFORM THE WORK OUTLINED ABOVE SHALL BE INCLUDED IN THE UNIT BID PRICE OF EACH FOR ITEM 631-REMOVAL OF SIGN SERVICE AND DISPOSAL, AS PER PLAN.

ITEM 690 - SPECIAL, MISC.: CLEARING AND GRUBBING

THIS ITEM IS INTENDED TO BE USED TO CLEAR ALL GROWTH IN FRONT OF HIGHWAY SIGNS THAT MAY IMPEDE ITS VIEWING BY MOTORISTS.

IN ADDITION TO THE REQUIREMENTS OF 201, THE CONTRACTOR WILL REMOVE STUMPS AT LEAST 6 INCHES BELOW GROUND SURFACE AND THE WORK WILL NOT INCLUDE SCALPING. THE AREA TO BE CLEARED AND GRUBBED WILL BE DELINEATED IN THE WORK ORDER.

PAYMENT WILL BE AT THE UNIT BID PRICE PER ACRE CLEARED AND GRUBBED AND WILL INCLUDE BACKFILLING HOLES AND REMOVING ALL TREES AND STUMPS.



* CLEAR SIGHT AREA

* PAY QUANTITY IS BASED ONLY ON ACTUAL AREAS MEASURED WHERE BRUSH CUTTING HAS BEEN PERFORMED WITHIN THE CLEAR SIGHT AREA.

OBJECT MARKERS AND STRUCTURE IDENTIFICATION SIGNS

OBJECT MARKERS WILL BE PLACED ON EACH APPROACH OFF THE LEFT AND RIGHT SHOULDER, FACING TRAFFIC, AND BEHIND THE GUARDRAIL IF APPLICABLE. ONE OM-3L AND ONE OM-3R WILL BE INSTALLED AT EACH APPROACH. THE SIGNS WILL BE MOUNTED ON NEW NO. 2 POSTS AND SHALL BE INSTALLED AS PER STANDARD CONSTRUCTION DRAWING TC-41.20, MOST CURRENT REVISION. EACH POST WILL BE 10.5' IN LENGTH.

STRUCTURE IDENTIFICATION SIGNS (I-H25a) WILL BE INSTALLED ON THE SAME POST AND DIRECTLY BELOW THE OBJECT MARKER OFF THE RIGHT SHOULDER ON EACH APPROACH. A QUANTITY OF ONE SIGN WILL BE INSTALLED AT EACH APPROACH. THE SIGNS WILL HAVE A NON-REFLECTIVE WHITE SHEETING BACKGROUND.

INSTALL SIGNS FOR THE FOLLOWING STRUCTURES:

		OBJECT MARKER	STRUCTURE I.D.
SUM-176-0106	[4 APPROACHES]	4	4
SUM-271-0294	[4 APPROACHES]	4	4
SUM-271-0354R	[3 APPROACHES]	2	3
SUM-271-0354L	[3 APPROACHES]	2	3
SUM-271-0354B	[3 APPROACHES]	2	3
SUM-271-0375R	[2 APPROACHES]	2	2
SUM-271-0375L	[2 APPROACHES]	2	2
SUM-271-0483	[2 APPROACHES]	-	2
SUM-303-0502	[4 APPROACHES]	4	4
SUM-271-0652R	[2 APPROACHES]	-	2
SUM-271-0655R	[1 APPROACH]	2	1
	TOTAL	20	30

THE FOLLOWING QUANTITIES HAVE BEEN INCLUDED FOR EACH SIGN AS DESIGNATED ABOVE:

ITEM 630 - SIGN, FLAT SHEET, 730.20 (PER BRIDGE I.D.)	1	SQ. FT.
ITEM 630 - SIGN, FLAT SHEET (PER OM)	3	SQ. FT.
ITEM 630 - GROUND MOUNTED SUPPORT, NO. 2 POST (PER OM)	10.5	FT.
ITEM 630 - REMOVAL OF GROUND MOUNTED SIGN AND DISPOSAL (PER SIGN)	1	EACH
ITEM 630 - REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL (PER OM AND STAND ALONE BRIDGE I.D.'S)	1	EACH

THE FOLLOWING QUANTITIES HAVE BEEN INCLUDED IN THE GENERAL SUMMARY FOR THE WORK NOTED ABOVE:

ITEM 630 - SIGN, FLAT SHEET, 730.20	30	SQ. FT.
ITEM 630 - SIGN, FLAT SHEET	60	SQ. FT.
ITEM 630 - GROUND MOUNTED SUPPORT, NO. 2 POST	441	FT.
ITEM 630 - REMOVAL OF GROUND MOUNTED SIGN AND DISPOSAL	50	EACH
ITEM 630 - REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL	42	EACH

MILE MARKER SIGNS AND LOCATIONS

EACH MILE MARKER SIGN (D10-2-12) WILL BE PLACED IN THE LOCATION SPECIFIED BY THE LATITUDE AND LONGITUDE STATED BELOW. EACH SIGNS WILL BE MOUNTED ON A NEW NO. 2 POST AND SHALL BE INSTALLED AS PER STANDARD CONSTRUCTION DRAWING TC-41.20, MOST CURRENT REVISION. EACH POST WILL BE 10.5' IN LENGTH.

MILE MARKER LOCATIONS ON IR-271:

LOGPOINT STATE	LATITUDE	LONGITUDE	LOGPOINT COUNTY	MILE POST NO.
9.00	41.519353	-81.646475	2.42	9
10.00	41.227314	-81.629905	3.42	10
11.00	41.231435	-81.611816	4.42	11
12.00	41.237606	-81.594822	5.42	12
13.00	41.250917	-81.587102	6.42	13

THE FOLLOWING QUANTITIES HAVE BEEN INCLUDED FOR EACH SIGN LOCATION:

ITEM 630 - SIGN, FLAT SHEET	6	SQ. FT.
ITEM 630 - GROUND MOUNTED SUPPORT, NO. 2 POST	21	SQ. FT.
ITEM 630 - REMOVAL OF GROUND MOUNTED SIGN AND DISPOSAL	2	EACH
ITEM 630 - REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL	2	EACH

THE FOLLOWING QUANTITIES HAVE BEEN INCLUDED IN THE GENERAL SUMMARY FOR THE WORK NOTED ABOVE:

ITEM 630 - SIGN, FLAT SHEET	30	SQ. FT.
ITEM 630 - GROUND MOUNTED SUPPORT, NO. 2 POST	105	SQ. FT.
ITEM 630 - REMOVAL OF GROUND MOUNTED SIGN AND DISPOSAL	10	EACH
ITEM 630 - REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL	10	EACH

CALCULATED JDL CHECKED JAB

TRAFFIC CONTROL NOTES

SUM-271-2.33

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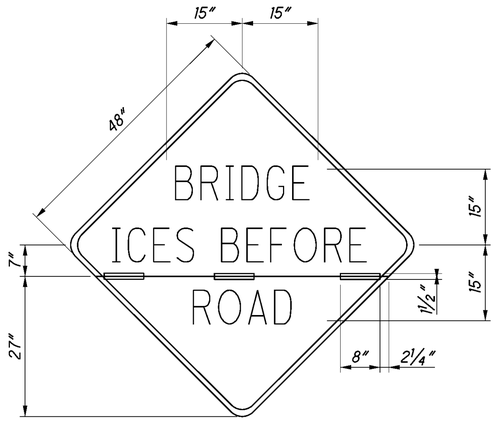
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ITEM 630- SIGN FLAT SHEET, AS PER PLAN

THE CONTRACTOR SHALL FURNISH AND INSTALL A W8-H13-48 HINGED SIGN AS DETAILED BELOW.

THE SIGN SHALL BE HINGED WITH 8" LENGTHS OF BRASS PLATED HINGE WHICH IS RIVETED TO EACH SECTION OF THE SIGN AND THEN COVERED WITH YELLOW REFLECTIVE SHEETING (TYPE G, 730.19) TO MATCH THE BACKGROUND OF THE SIGN.

ALL LABOR AND MATERIAL NEEDED FOR THIS ITEM OF WORK SHALL BE INCLUDED IN THE PAYMENT FOR ITEM 630, SIGN FLAT SHEET, AS PER PLAN.



ITEM 632- SIGNALIZATION, MISC.: REMOVAL AND STORAGE OF RWIS SENSOR

ITEM 632- REUSE OF TRAFFIC CONTROL ITEM: INSTALLATION OF RWIS SENSOR

THE CONTRACTOR WILL CONTACT THE SENSOR MANUFACTURER'S REPRESENTATIVE, WHO WILL BE PRESENT WHILE THE SENSORS ARE BEING REMOVED AND RE-INSTALLED.

SENSOR MANUFACTURER'S REPRESENTATIVE
M.H. CORBIN, INC.
9042 HERITAGE DRIVE
PLAIN CITY, OH 43064
PHONE: 614-873-5216

THE EXISTING SENSORS SHALL BE REMOVED PRIOR TO THE PLANING OF THE PAVEMENT. THE SIX [6] SENSORS ARE LOCATED ON IR 271, [ONE SENSOR IN EACH LANE], AT THE FOLLOWING APPROXIMATE SLM:

IR 271 NB SLM 3.54 [2 SENSORS, LOCATED IN THE PAVEMENT WEST OF STRUCTURE No. SUM-271-0354 R]
IR 271 NB SLM 3.54 [2 SENSORS, LOCATED IN THE DECK OF STRUCTURE No. SUM-271-0354 R]
IR 271 SB SLM 3.54 [2 SENSORS, LOCATED IN THE DECK OF STRUCTURE No. SUM-271-0354 L]

THE REMOVAL AND STORAGE OF THE SIX [6] SENSORS WILL BE PAID FOR UNDER ITEM 632 - SIGNALIZATION, MISC.; REMOVAL AND STORAGE OF RWIS SENSOR, EACH. THE RE-INSTALLATION OF THE SIX [6] SENSORS WILL OCCUR AFTER THE COMPLETION OF THE PROJECT AND WILL BE PAID FOR UNDER ITEM 632 - REUSE OF TRAFFIC CONTROL ITEM: INSTALLATION OF RWIS SENSOR EACH.

THE ABOVE SLM'S ARE NOT EXACT LOCATIONS FOR THE RE-INSTALLATION, BUT SHOULD BE ADJUSTED TO AVOID PLACING THE SENSORS DIRECTLY BENEATH HIGH POWER ELECTRICAL LINES, TO PROVIDE FOR INSTALLATION IN SOUND PAVEMENT, AND TO MAINTAIN LINE OF SIGHT COMMUNICATION FROM THE SENSOR TO THE EQUIPMENT ENCLOSURE CABINET LOCATED ON THE WEST SIDE OF STRUCTURE No. SUM-271-0354 L & R IN THE MEDIAN.

THE CANISTERS WILL BE INSTALLED USING THE PROPER CANISTER INSTALLATION TOOLS PER THE MANUFACTURERS INSTRUCTIONS (SHEET T88-791).

THE SENSORS SHALL BE RE-INSTALLED IN ACCORDANCE WITH THE MANUFACUTUERS INSTRUCTIONS USING EPOXY AS RECOMMENED BY THE SENSOR MANUFACTURER. THE PAVEMENT TEMPERATURE SHALL NOT BE LESS THEN FORTY [40] DEGREES FAHRENHEIT DURING SEALING AND THE CONTRACTOR SHALL ENSURE THAT THE COMPLETE CURING OF THE SEALANT TAKES PLACE PRIOR TO OPENING THE LANE TO TRAFFIC.

THE ODOT DISTRICT 4 HIGHWAY MANAGEMENT [PAUL ENSINGER, 330-786-3135] SHALL BE NOTIFIED WHEN THE SENSORS ARE REMOVED FROM THE PAVEMENT AND WHEN THE RE-INSTALLATION IS COMPLETE. THE DISTRICT WILL MONITOR THE SENSORS PERFORMANCE FOR A MINIMUM OF FIVE WORKING DAYS TO VERIFY PROPER OPERATION. IF THE SENSORS DO NOT PERFORM PROPERLY WITHIN THIS TEST PERIOD, THE CONTRACTOR SHALL VERIFY THAT THE INSTALLATION IS CORRECT. IF A SENSOR FAILS AFTER IT IS REMOVED FROM THE PAVEMENT, THE CONTRACTOR SHALL REPLACE THE FAILED SENSOR UNIT WITH A NEW GROUNDHOG WIRELESS PAVEMENT/TRAFFIC SENSOR, MODEL G10-ETP.

THE FOLLOWING ESTIMATED QUANTITY HAS BEEN CARRIED TO THE GENERAL SUMMARY TO PERFORM THIS WORK COMPLETE TO THE SATISFACTION OF THE ENGINEER.

ITEM 632 - SIGNALIZATION, MISC.; REMOVAL AND STORAGE OF RWIS SENSOR 6 EACH

ITEM 632 - REUSE OF TRAFFIC CONTROL ITEM: INSTALLATION OF RWIS SENSOR 6 EACH

A CONTINGENCY QUANTITY OF 1 EACH ITEM SPECIAL - MISC.: ROAD WEATHER INFORMATION SYSTEM [RWIS] SENSOR IS INCLUDED IN THE GENERAL SUMMARY TO BE USED IF A SENSOR FAILS PRIOR TO REMOVAL. THE NEW SENSOR SHALL BE A GROUNDHOG WIRELESS PAVEMENT/ TRAFFIC SENSOR, MODEL G10-ETP.

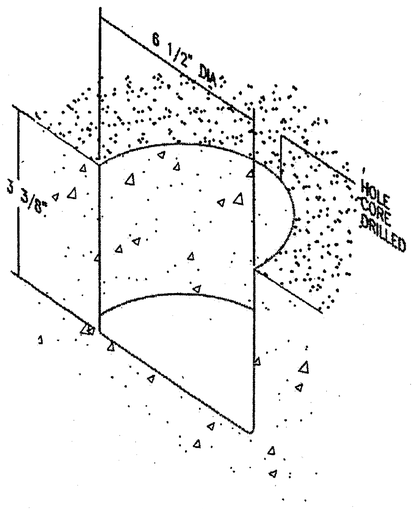
CALCULATED JDL
CHECKED JAB

TRAFFIC CONTROL NOTES

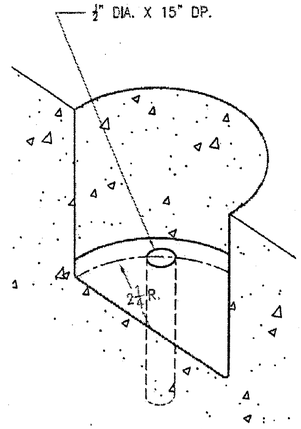
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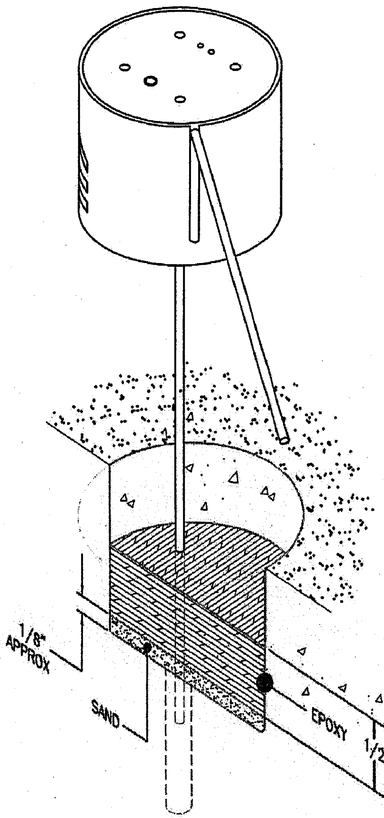
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STEP 1. DRILL 6 1/2" DIA HOLE TO A DEPTH OF 3 3/8".



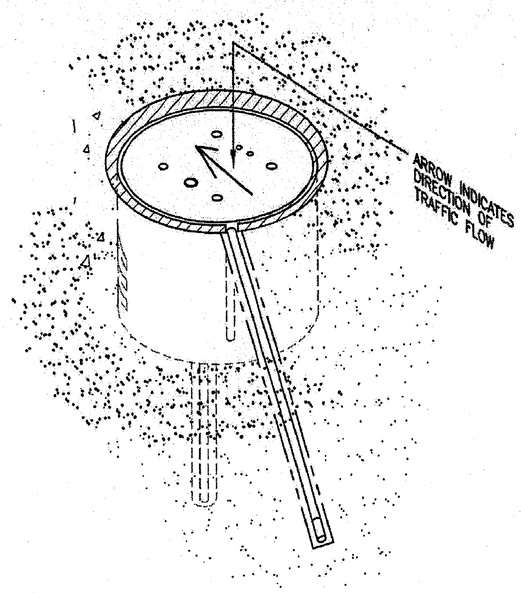
STEP 2. POINT ARROW ON LID OF CANISTER IN DIRECTION OF TRAFFIC AND MARK WHERE THE PROBE HITS THE GROUND THEN DRILL 1/2" DIA HOLE TO A DEPTH OF 15" ON RADIUS SHOWN.



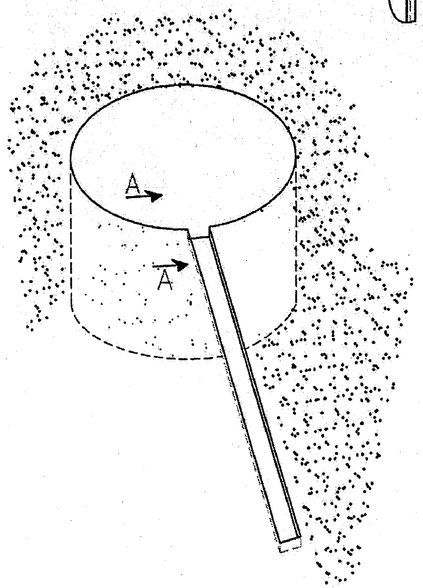
STEP 5. TAKE RUBBER ELECTRIC TAPE AND WRAP TWICE AROUND PROBE AT LOCATIONS SHOWN IN STEP 8 DWG. DOC222558-3 (2OF4). DO NOT USE BACKAROD.

STEP 6. HOLDING TCP500 ETP ASSEMBLY PLACE BOTTOM EXTERNAL TEMPERATURE PROBE INTO 1/2" HOLE. PLACE SAND IN BOTTOM OF HOLE TO LEVEL THE CANISTER. PLACE ENOUGH SAND IN THE BOTTOM OF THE HOLE SO THAT THE TOP OF THE CANISTER IS AT LEAST 1/16" (NO MORE THAN 1/8") BELOW THE ROAD SURFACE. (SEE FIG. 2)

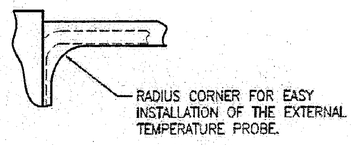
STEP 7. FILL BOTTOM OF HOLE WITH APPROXIMATELY 1/2" OF LORD EPOXY ENCAPSULATING COMPOUND 975-1154 A/B. MIX AT ROOM TEMPERATURE (70° +/- 5 DEGREES F) ACCORDING TO "ENCAPSULATING EPOXY 20 OZ. MIXING INSTRUCTIONS". SEE DRAWING DOC222558-3 (4 OF 4). IT TAKES APPROXIMATELY 2 TUBES TO DO ONE G10ETP.



STEP 3. PLACE CANISTER IN HOLE, LABEL ON CANISTER OR ARROW ON LID SHOULD BE POINTING IN DIRECTION OF TRAFFIC FLOW. PLACE PROBE ON GROUND AND MARK OUTLINE FOR GROOVE.



STEP 4. REMOVE CANISTER FROM HOLE AND CUT OUT GROOVE FOR PROBE. (1/4" WIDE X 1" DP X 13" LG) CLEAN OUT HOLE AND GROOVE OF ALL DEBRIS. CLEAN AND DRY AREA AROUND HOLE USING SHOP-VAC OR EQ.



VIEW A-A

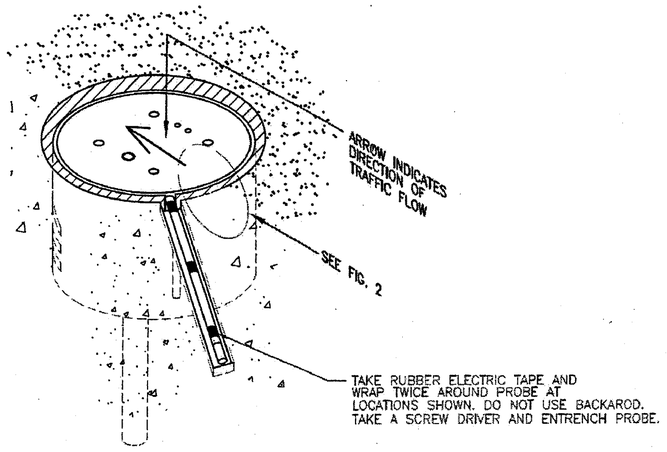
CALCULATED JDL
CHECKED JAB

TRAFFIC CONTROL NOTES

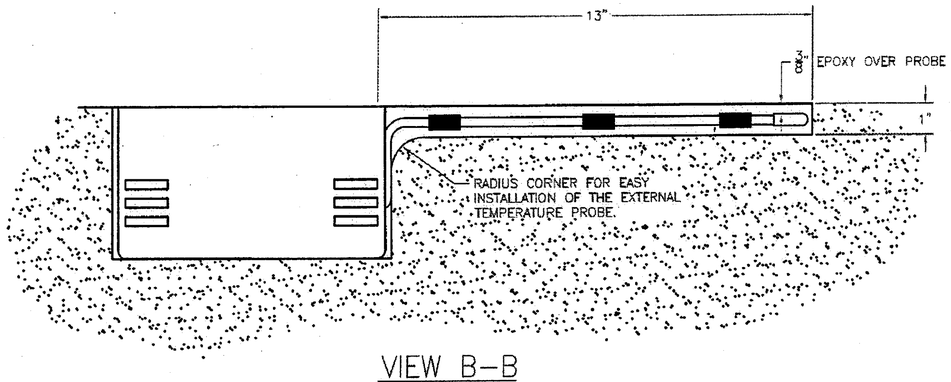
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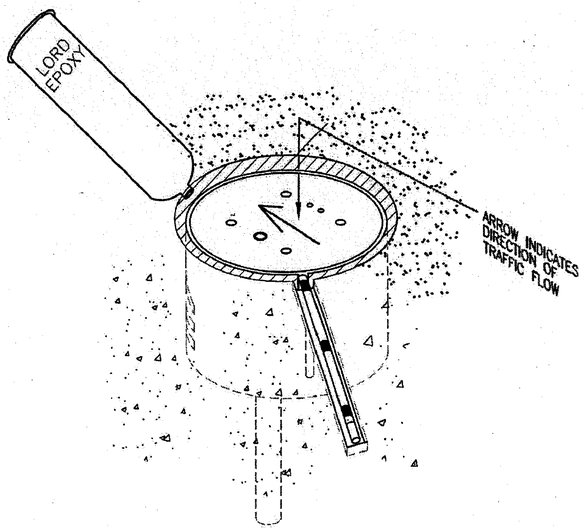
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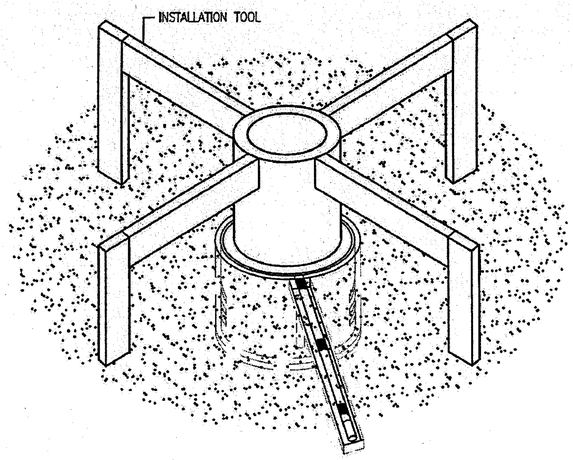
STEP 8. PLACE THE TCP500 ETP CANISTER (FIG. 1) IN THE EPOXY FILLED HOLE AND PROBE IN THE SLOT WITH ARROW POINTED IN DIRECTION OF TRAFFIC FLOW AND AT DEPTH SHOWN (FIG. 2) .



VIEW B–B



STEP 9. USING THE CANISTER INSTALLATION TOOL AS SHOWN IN STEP 10. TAKE THE LORD EPOXY ENCAPSULATING COMPOUND 975–1154 A/B ALREADY MIXED AT ROOM TEMPERATURE (70° +/– 5 DEGREES F) ACCORDING TO "ENCAPSULATING EPOXY 20 OZ. MIXING INSTRUCTIONS". SEE DRAWING D0C222558–3 (4 OF 4). FILL AROUND THE THE CANISTER AND OVER THE PROBE, MAKING SURE THAT THE EPOXY FLOWS COMPLETELY AROUND THE CANISTER AND PROBE SO THAT THERE ARE NO AIR CAPS. THIS IS PARTICULARLY NECESSARY FOR THE AREA WHERE THE PROBE ENTERS THE CANISTER. NO PART OF THE PROBE OR ELECRICAL TAPE SHOWN BE EXPOSED. SEE VIEW B–B.



STEP 10. USE CANISTER INSTALLATION TOOL TO APPLY PRESSURE AS NEEDED TO POSITION THE CANISTER AT DEPTH SHOWN (FIG, 2). IF NECESSARY, ADD ADDITIONAL EPOXY SO THAT THE PERIMETER AROUND CANISTER HAS NO SINK MARKS.

NOTE: DO NOT ATTEMPT TO REMOVE LID UNTIL EPOXY HAS HARDENED.

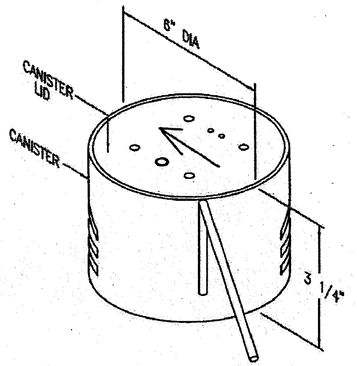


FIG. 1
GROUNDHOG TCP500 ETP

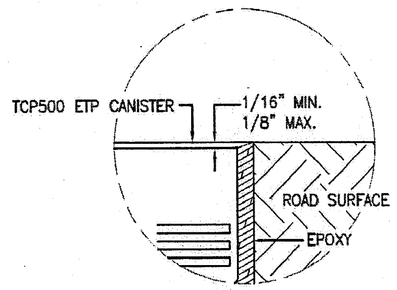


FIG. 2
GROUNDHOG TCP500 ETP

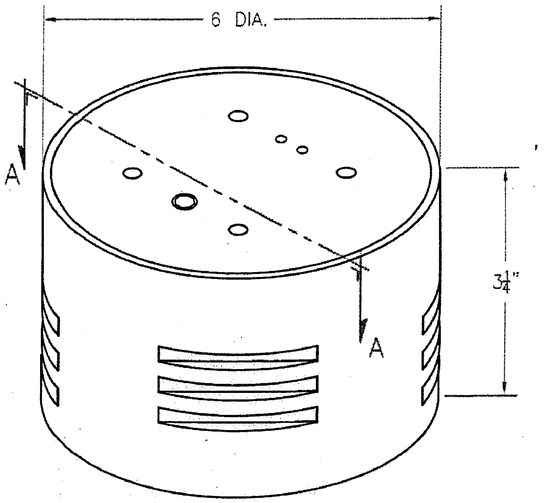
CALCULATED JDL
CHECKED JAB

TRAFFIC CONTROL NOTES

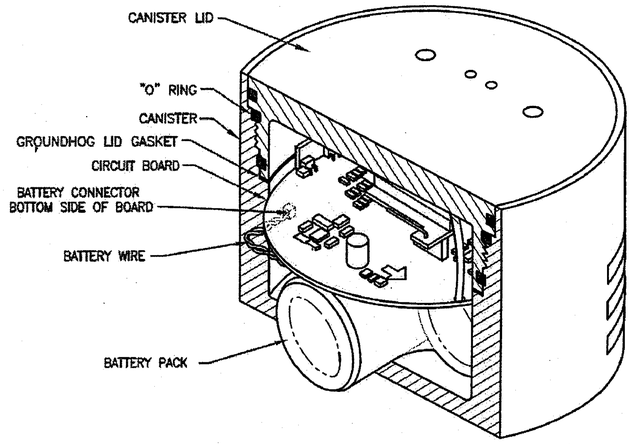
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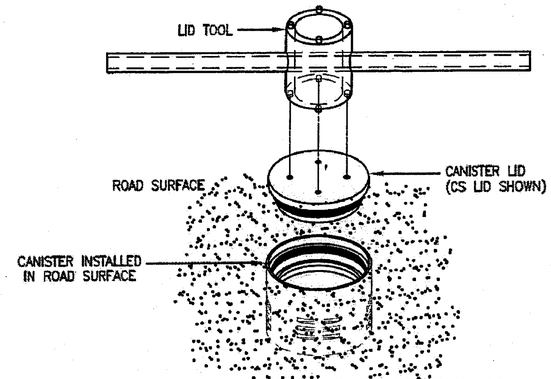
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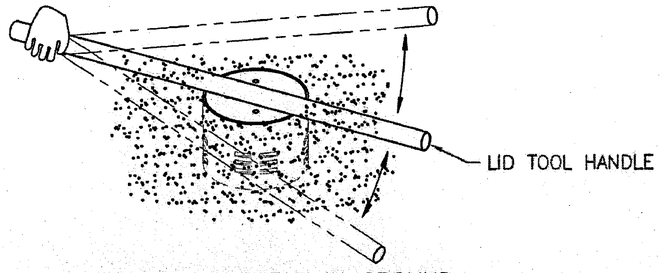
TCP500 GROUND HOG
SHOWN WITH WX LID



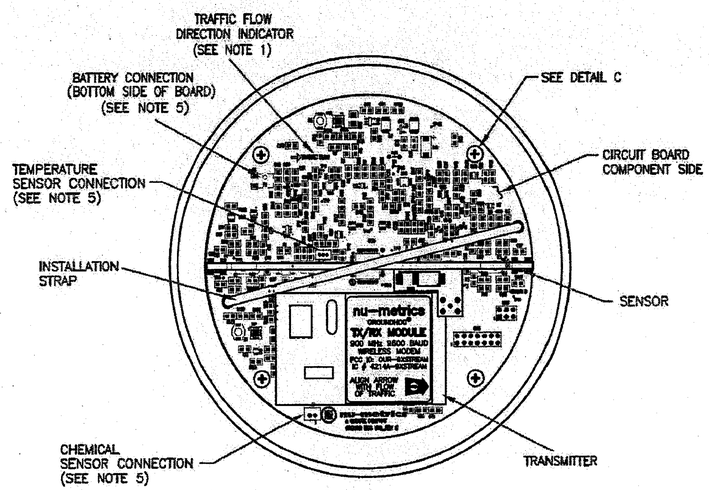
SECTION A–A



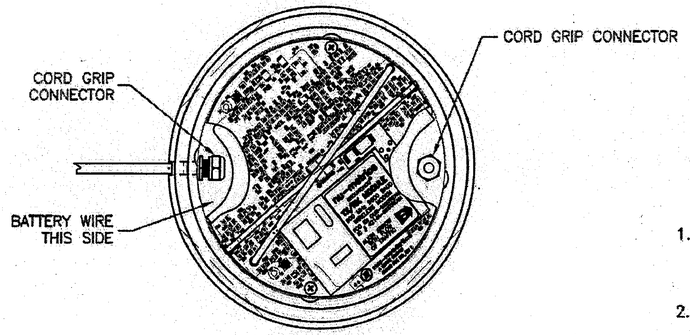
LID AND CANISTER ASSEMBLY



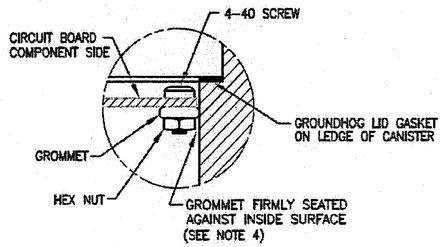
CANISTER ASSEMBLY IN GROUND
DETAIL D



VIEW OF CIRCUIT BOARD INSIDE CANISTER
(LID REMOVED)



VIEW B
SHOWN WITH EXTERNAL
TEMPERATURE PROBES



DETAIL C
2X SCALE

NOTES:

1. PRIOR TO INSTALLATION, LOCATE THE "TRAFFIC FLOW DIRECTION INDICATOR" THAT IS PRINTED ON THE CIRCUIT BOARD, AND ALIGN THE INDICATOR WITH THE ACTUAL DIRECTION OF TRAFFIC FLOW.
2. REMOVE THE LID FROM THE INSTALLED CANISTER AND REMOVE ANY DIRT OR DEBRIS FROM CANISTER AND LID THREADS.
3. BEFORE INSTALLING CIRCUIT BOARD AND BATTERY PACK CONNECT THE BATTERY TO THE BOARD AND EXTERNAL TEMPERATURE PROBES (IF APPLICABLE).
4. USING THE INSTALLATION STRAP, PLACE THE CIRCUIT BOARD AND BATTERY PACK ASSEMBLY INTO THE CANISTER WITH THE "TRAFFIC FLOW DIRECTION INDICATOR" POINTED IN THE APPROPRIATE DIRECTION.
5. IF INSTALLING BOARD WITH EXTERNAL TEMPERATURE PROBES, MAKE SURE UNIT GOES INTO CANISTER AS SHOWN IN VIEW B.
6. PRESS THE CIRCUIT BOARD FIRMLY INTO THE CANISTER TO SECURE RUBBER GROMMETS AGAINST INSIDE SURFACE OF CANISTER (DETAIL C).
7. PLACE GROUNDHOG LID GASKET ON LEDGE OF CANISTER AS SHOWN IN DETAIL C AND SECTION A–A.
8. CONNECT TOP SENSORS WIRES (FROM LID IF APPLICABLE) TO APPROPRIATE CONNECTORS ON CIRCUIT BOARD
9. PLACE LID IN CANISTER AND HAND TIGHTEN.
10. SECURE LID BY TURNING WITH LID TOOL UNTIL LID SEATS FIRMLY WITH CANISTER.
11. AFTER INSTALLATING THE G10, TAKE THE LID TOOL HANDLE FROM THE TOOL LID, WAVE IT OVER G10 UNIT SEVERAL TIMES AS SHOWN IN DETAIL D. THEN VERIFY IF THE UNIT IS COUNTING AT THE SITE.

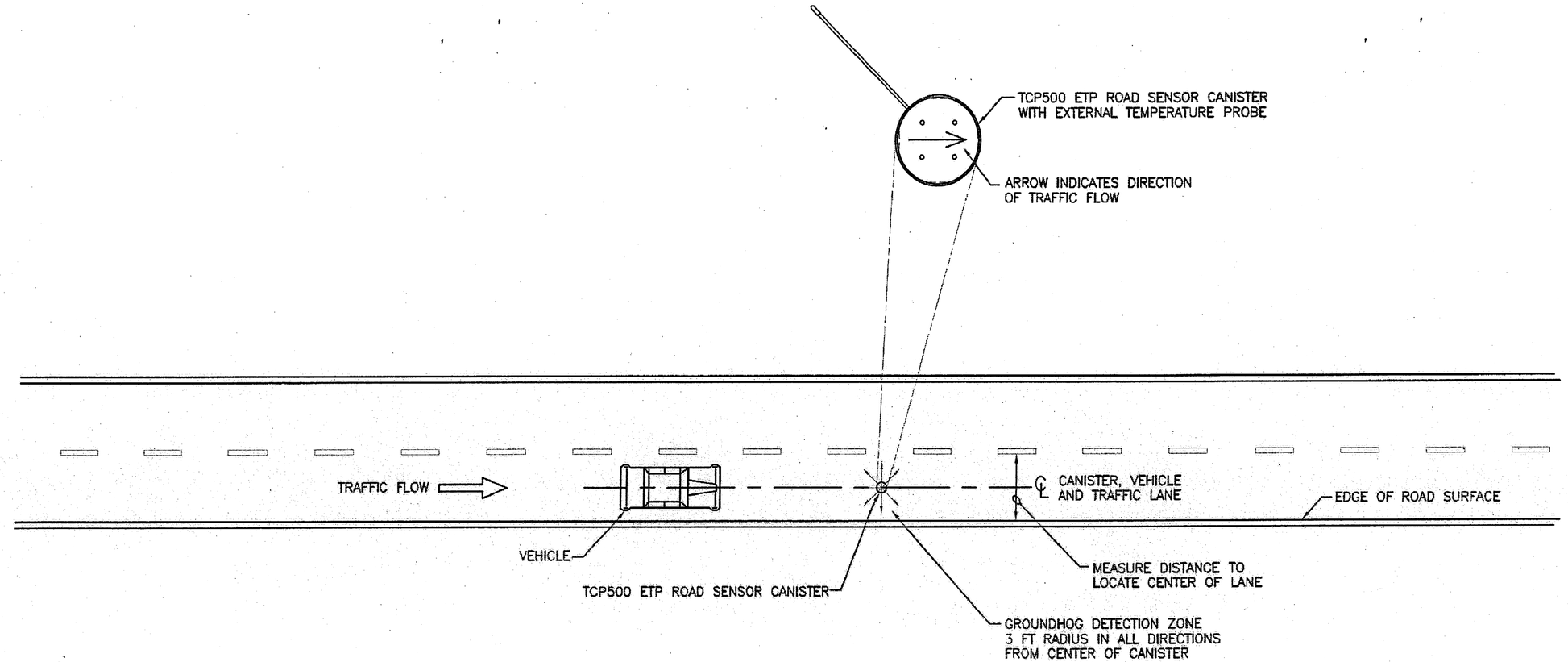
CALCULATED JDL
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TRAFFIC CONTROL NOTES

SUM-271-2.33

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NOTE:

1. DO NOT PLACE CANISTER DIRECTLY UNDER HIGH POWER LINES.
2. DO NOT PLACE CANISTER NEAR UNDERGROUND CABLES OR POWER RUNS.

CALCULATED JDL
CHECKED JAB

TRAFFIC CONTROL NOTES

SUM-271-2.33

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SHEET NO.	STATION FROM	STATION TO	SIDE	620 DELINEATOR, POST MOUNTED TYPE C	620 DELINEATOR, POST MOUNTED TYPE D	620 DELINEATOR, BRACKET MOUNTED TYPE C	620 DELINEATOR, BRACKET MOUNTED TYPE D	621 RPM, LOW PROFILE, WHITE	621 RPM, LOW PROFILE WHITE/RED	621 RPM, LOW PROFILE YELLOW/RED	621 RAISED PAVEMENT MARKER REMOVED	626 BARRIER REFLECTOR	646 EDGE LINE, 6" Y	646 EDGE LINE, 6" W	646 LANE LINE, 6"	646 CENTER LINE	646 CHANNELIZING LINE, 12"	646 STOP LINE	646 TRANSVERSE/ DIAGONAL LINE	646 ISLAND MARKING	646 LANE ARROW	646 DOTTED LINE
				EACH		EACH		EACH	EACH	EACH	EACH	EACH	MILE		MILE	MILE	FT	FT	FT	SQ FT	EACH	FT
	SUM-271 (MRK)																					
813 - 814	506+65.00	548+58.07	NB	11									0.79	0.79	0.79							
814	548+58.07	553+80.13	NB	2									0.10	0.10	0.10							522.06
814	553+80.13	556+59.31	NB						8		8		0.05		0.05		279.18					
814 - 815	556+59.31	566+09.70	NB	2									0.18	0.18	0.18							
815 - 816	156+00.00	166+15.89	NB	3									0.19	0.19	0.19							
816 - 817	166+15.89	172+55.70	NB	2									0.12	0.12	0.12							639.81
817	172+55.70	175+44.70	NB						8		8		0.05		0.05		289.00					
817 - 818	175+44.70	194+06.89	NB	4									0.35	0.35	0.35							
818 - 819	194+06.89	198+53.15	NB										0.08	0.08	0.08							
819	198+53.15	200+06.30	NB						4		4		0.03	0.06	0.03		153.15					
819	200+06.30	211+06.73	NB	3									0.21	0.21	0.21							1100.43
819 - 820	211+06.73	298+57.93	NB	23									1.66	1.66	1.66							
820	298+57.93	303+69.74	NB	1									0.10	0.10	0.10							511.81
820	303+69.74	306+58.74	NB						8		8		0.05		0.05		289.00					
820 - 821	306+58.74	314+37.42	NB	1									0.15	0.15	0.15							
821	314+37.42	319+00.00	NB										0.09	0.09	0.09							
821	319+00.00	322+49.72	NB						9		9		0.07	0.14	0.07		349.72					
821	322+49.72	333+50.00	NB	3									0.21	0.21	0.21							1100.28
821 - 822	333+50.00	370+90.00	NB	9									0.71	0.71	0.71							
813 - 814	512+40.00	540+57.11	SB	7									0.53	0.53	0.53							
814	540+57.11	551+57.11	SB	3									0.21	0.21	0.21							1100.00
814	551+57.11	553+07.11	SB						4		4		0.03	0.06	0.03		150.00					
814 - 815	553+07.11	557+64.49	SB										0.09	0.09	0.09							
815	557+64.49	566+09.70	SB	2									0.16	0.16	0.16							
815 - 816	156+00.00	158+38.87	SB										0.05	0.05	0.05							
816	158+38.87	169+38.87	SB	3									0.21	0.21	0.21							1100.00
816	169+38.87	170+88.87	SB						4		4		0.03	0.06	0.03		300.00					
816 - 817	170+88.87	174+34.34	SB										0.07	0.07	0.07		345.47					
817 - 818	174+34.34	187+60.32	SB	3									0.25	0.25	0.25							
818	187+60.32	190+39.39	SB						8		8		0.05		0.05		279.07					
818	190+39.39	195+50.93	SB	2									0.10	0.10	0.10							511.54
818 - 820	195+50.93	288+12.30	SB	23									1.75	1.75	1.75							
820	288+12.30	299+33.71	SB	3									0.21	0.21	0.21							1121.41
820	299+33.71	300+87.68	SB						4		4		0.03	0.06	0.03		153.97					
820	300+87.68	305+44.72	SB										0.09	0.09	0.09							
820 - 821	305+44.72	313+40.89	SB	1									0.15	0.15	0.15							
821	313+40.89	316+29.88	SB						8		8		0.05		0.05		288.99					
821	316+29.88	321+46.93	SB	3									0.10	0.10	0.10							517.05
821 - 822	321+46.93	373+00.00	SB	14									0.98	0.98	0.98							
813 - 815	506+65.00	566+09.70	NB					51			51											
815 - 822	156+00.00	370+90.00	NB					181			181											
813 - 815	512+40.00	566+09.70	SB					46			46											
815 - 822	156+00.00	373+00.00	SB					182			182											
818	186+79.42	190+66.71	NBO			1						9										
818	187+00.87	190+83.87	NBI				1					9										
818	187+40.18	191+14.62	SBI				1					8										
818	187+76.82	191+34.37	SBO			1						8										
819	198+15.83	199+78.12	NBO			1						4										
819	198+21.19	199+80.74	NBI				1					4										
819	198+27.19	199+83.79	SBI				1					4										
819	198+30.40	199+85.42	SBO			1						4										
SUBTOTALS CARRIED TO SHEET NO. 794				128		4	4	460	65		525	50	10.33	10.27	10.33		2877.55					8224.39

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PAVEMENT MARKING SUBSUMMARY

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SHEET NO.	STATION FROM	STATION TO	SIDE	620 DELINEATOR, POST MOUNTED TYPE C	620 DELINEATOR, POST MOUNTED TYPE D	620 DELINEATOR, BRACKET MOUNTED TYPE C	620 DELINEATOR, BRACKET MOUNTED TYPE D	621 RPM, LOW PROFILE, WHITE	621 RPM, LOW PROFILE WHITE/RED	621 RPM, LOW PROFILE YELLOW/RED	621 RAISED PAVEMENT MARKER REMOVED	626 BARRIER REFLECTOR	646 EDGE LINE, 6" Y	646 EDGE LINE, 6" W	646 LANE LINE, 6"	646 CENTER LINE	646 CHANNELIZING LINE, 12"	646 STOP LINE	646 TRANSVERSE/ DIAGONAL LINE	646 ISLAND MARKING	646 LANE ARROW	646 DOTTED LINE
				EACH		EACH		EACH	EACH	EACH	EACH	EACH	MILE		MILE	MILE	FT	FT	FT	SQ FT	EACH	FT
	CR 17 RAMP A																					
814 - 815	53+07.11	57+63.10	SB						12		12			0.09			455.99					
815	57+63.10	66+03.54	SB							10	10		0.16	0.16								
815	66+03.54	63+63.31 CR 17	RT/LT										0.03									
815	66+03.54	64+96.67 CR 17	LT/LT											0.02								
814	53+07.11	56+07.11	LT	2																		
814 - 815	56+07.11	61+46.83	LT	6																		
815	57+63.10	61+46.83	RT		6																	
815	61+46.83	65+91.17	LT	7																		
	CR 17 RAMP B																					
814	53+79.46	56+58.48	NB						7		7			0.05			279.02		111			
814 - 815	56+58.48	62+84.33	NB						17	7	24		0.12	0.12								
815 - 814	62+84.33	55+71.06 CR 17	RT/LT											0.02								
815 - 814	62+84.33	57+11.59 CR 17	LT/LT										0.02									
815	62+84.33		LT/RT															74				
814 - 815	53+79.46	58+58.48	RT	2																		
814 - 815	56+58.48	58+58.48	LT		1																	
815	58+58.48	61+00.00	LT/RT	4	4																	
	IR 77 RAMP A																					
816 - 817	170+88.87	174+32.32	SB						9		9			0.07			343.45					
817 - 824	174+32.32	199+11.47	SB							30	30		0.47	0.47								
824	199+11.47	201+83.11	SB						15		15			0.05			543.28		115			
824	201+83.11	203+71.62	SB											0.04	0.04							
816 - 817	170+88.87	174+32.32	LT	2																		
817	174+32.32	179+32.53	LT	7																		
817	174+32.32	179+32.53	RT		7																	
817 - 823	179+32.53	192+96.00	LT/RT	6																		
823 - 824	192+96.00	202+04.14	LT/RT	9	6																	
	IR 77 RAMP B																					
817	172+55.06	175+43.90	NB						7		7			0.05			288.84		107			
817 - 824	175+43.90	218+56.90	NB							53	53		0.82	0.82								
817 - 818	185+65.28	189+17.30	NBO			2						8										
817 - 818	185+68.39	189+20.41	NBI				2					8										
817	172+55.06	176+75.89	RT	2																		
817	175+43.90	176+75.89	LT		1																	
817 - 818	176+75.89	189+46.69	LT/RT	6	3																	
818 - 819	189+46.69	207+07.97	LT/RT	22																		
819 - 824	207+07.97	211+80.31	LT/RT	3																		
824	211+80.31	218+56.90	LT/RT	7	9																	
	IR 77 RAMP C																					
818	182+69.62	184+65.86	NB											0.04	0.04							
818	184+65.86	187+54.94	NB						15		15			0.05			578.18		127			
818	187+54.94	194+14.80	NB							8	8		0.12	0.12								
818 - 819	194+14.80	198+48.32	NB						11		11			0.08			433.52					
818	182+69.62	187+54.94	RT	3																		
818	187+54.94	195+76.34	RT	11																		
818 - 819	195+76.34	198+48.32	RT	1																		
818	187+54.94	194+14.80	LT		10																	
SUBTOTALS CARRIED TO SHEET NO. 794				100	47	2	2		93	108	201	16	1.74	2.25	0.08		2922.26	74	460			

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PAVEMENT MARKING SUBSUMMARY

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SHEET NO.	STATION FROM	STATION TO	SIDE	620 DELINEATOR, POST MOUNTED TYPE C	620 DELINEATOR, POST MOUNTED TYPE D	620 DELINEATOR, BRACKET MOUNTED TYPE C	620 DELINEATOR, BRACKET MOUNTED TYPE D	621 RPM, LOW PROFILE, WHITE	621 RPM, LOW PROFILE WHITE/RED	621 RPM, LOW PROFILE YELLOW/RED	621 RAISED PAVEMENT MARKER REMOVED	626 BARRIER REFLECTOR	646 EDGE LINE, 6" Y	646 EDGE LINE, 6" W	646 LANE LINE, 6"	646 CENTER LINE	646 CHANNELIZING LINE, 12"	646 STOP LINE	646 TRANSVERSE/ DIAGONAL LINE	646 ISLAND MARKING	646 LANE ARROW	646 DOTTED LINE
				EACH		EACH		EACH	EACH	EACH	EACH	EACH	MILE		MILE	MILE	FT	FT	FT	SQ FT	EACH	FT
	IR 77 RAMP D																					
823	170+34.29	171+45.10	SB						4		4			0.02			110.81					
823 - 818	171+45.10	187+51.14	SB							19	19		0.30	0.30								
818	187+51.14	190+36.47	SB						7		7			0.05			285.33		110			
823	170+34.29	172+34.29	LT	4																		
823	171+45.10	172+34.29	RT		2																	
823 - 818	172+34.29	187+51.14	LT/RT	30	33																	
	SR 303 RAMP E																					
820	303+69.10	306+57.93	NB						7		7			0.05			288.83		109			
820 - 825	306+57.93	317+70.00	NB						10	14	24		0.21	0.21								
825	317+70.00	320+01.86	NB						6	4	10		0.03	0.04		0.01	231.86	32	36	31.8	4	
825	320+01.86	56+74.79 SR 303	RT											0.02								
820	303+69.10	306+57.93	RT	2																		
820 - 825	306+57.93	312+38.40	LT/RT	8	9																	
825	312+38.40	315+09.02	LT/RT	4	1																	
825	315+09.02	318+04.32	RT	4																		
825	318+04.32	320+01.86	RT	1																		
	SR 303 RAMP F																					
820	300+87.68	305+42.35	SB						12		12			0.09			454.67					
820 - 825	305+42.35	314+53.32	SB							11	11		0.17	0.17								
825	314+53.32	314+96.28	RT							1	1		0.01									
825	314+96.28	315+39.28	RT													0.01						
825	314+53.32	41+14.24 SR 303	LT											0.03								
820	300+87.68	303+37.68	LT	2																		
820	303+37.68	310+18.80	LT/RT	7	5																	
820 - 825	310+18.80	312+21.80	LT	2																		
825	312+21.80	314+53.32	LT	4																		
	SR 303 RAMP G																					
825	43+66.54 SR 303	304+35.82	RT/LT											0.02								
825	304+35.82	305+80.00	SB						8	2	10		0.02	0.03		0.01	144.18	32	36	31.8	4	
825 - 821	305+80.00	313+41.69	SB						12	9	21		0.14	0.14								
821	313+41.69	316+30.53	SB						7		7			0.05			577.68		108			
825	304+35.82	306+01.36	LT	2																		
825 - 821	306+01.36	313+42.05	LT	15																		
821	313+42.05	316+30.53	LT	1																		
825 - 821	307+76.00	313+41.69	RT		13																	
	SR 303 RAMP H																					
825	54+27.75 SR 303	305+01.89	RT											0.03								
825	304+30.88	304+73.88	LT							1	1					0.01						
825	304+73.88	305+01.89	LT										0.01									
825 - 821	305+01.89	314+40.42	SB							12	12		0.18	0.18								
821	314+40.42	319+00.00	SB						12		12			0.09			459.58					
825 - 821	305+01.89	316+00.00	RT	18																		
821	316+00.00	319+00.00	RT	2																		
825 - 821	308+36.00	314+40.42	LT		14																	
SUBTOTALS FROM SHEET NO. 792				128		4	4	460	65		525	50	10.33	10.27	10.33		2877.55					8224.39
SUBTOTALS FROM SHEET NO. 793				100	47	2	2		93	108	201	16	1.74	2.25	0.08		2922.26	74	460			
SUBTOTALS FROM THIS SHEET NO. 794				106	77				85	73	158		1.07	1.52		0.04	2552.94	64	399	63.6	8	
TOTALS CARRIED TO THE GENERAL SUMMARY				**458**		**12**		**460**	**243**	**181**	**884**	**66**	**28**		**11**	**1**	**8353**	**138**	**859**	**64**	**8**	**8225**

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PAVEMENT MARKING SUBSUMMARY

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SHEET NO.	REFERENCE NO.	LOCATION	STATION FROM	STATION TO	SIDE	621 RAISED PAVEMENT MARKER REMOVED EACH	621 RPM, LOW-PROFILE, WHITE ONE-WAY) EACH	621 RPM, LOW-PROFILE, YELLOW/YELLOW (TWO-WAY) EACH	621 RPM, LOW PROFILE, WHITE/RED (TWO-WAY) EACH	621 RPM, LOW PROFILE, YELLOW/RED (TWO-WAY) EACH		646 EDGE LINE, 4 (WHITE) MILE	646 LANE LINE, 4" MILE	646 CENTER LINE MILE	646 CHANNELIZING LINE, 12" FT	646 STOP LINE FT	646 ISLAND MARKING SQ FT	646 LANE ARROW EACH	646 TRANSVERSE LINE, 24" YELLOW FT			
843	ELW-1	℄ CONSTR., S.R. 176	85+34	92+15	RT.							0.12										
843	ELW-2	℄ CONSTR., S.R. 176	85+34	92+15	LT.							0.12										
843	CL-1	℄ CONSTR., S.R. 176	85+34	92+15	L. & R.									0.12								
844	ELW-1	℄ CONSTR., C.R. 17	57+23	63+56	LT.							0.10										
844	ELW-2	℄ CONSTR., C.R. 17	57+23	64+97	RT.							0.13										
844	CL-1	℄ CONSTR., C.R. 17	57+06	63+78	L. & R.									0.13								
844	CL-2	℄ CONSTR., C.R. 17	57+06	58+82	RT.									0.03								
844	CL-3	℄ CONSTR., C.R. 17	64+48	64+97	L. & R.									0.01								
844	TR-1	℄ CONSTR., C.R. 17	57+06	58+82	L. & R.															93		
844	IM-1	℄ CONSTR., C.R. 17	57+00	57+06	L. & R.												45					
845	ELW-1	℄ CONSTR., S.R. 303	39+13	47+50	LT.							0.16										
845	ELW-2	℄ CONSTR., S.R. 303	43+66	47+50	RT.							0.07										
845	LL-1	℄ CONSTR., S.R. 303	39+13	41+92	LT.	1	2						0.05									
845	LL-2	℄ CONSTR., S.R. 303	37+39	41+92	RT.	1	2						0.09									
845	LL-3	℄ CONSTR., S.R. 303	42+87	44+67	LT.		3						0.03									
845	LL-4	℄ CONSTR., S.R. 303	42+87	43+45	RT.		1						0.01									
845	CL-1	℄ CONSTR., S.R. 303	39+60	41+92	L. & R.			2						0.04								
845	CL-2	℄ CONSTR., S.R. 303	42+87	47+50	L. & R.	5		6						0.09								
845	CH-1	℄ CONSTR., S.R. 303	41+13	41+92	RT.										79							
845	R-6	℄ CONSTR., S.R. 303	42+87	47+50	LT.	5																
845	R-7	℄ CONSTR., S.R. 303	42+87	47+50	RT.	5																
846	ELW-1	℄ CONSTR., S.R. 303	47+50	58+48	LT.	9						0.21										
846	ELW-2	℄ CONSTR., S.R. 303	47+50	54+28	RT.	6						0.13										
846	ELW-3	℄ CONSTR., S.R. 303	56+75	58+21	RT.							0.03										
846	LL-1	℄ CONSTR., S.R. 303	56+00	58+00	RT.	3	3						0.04									
846	CH-1	℄ CONSTR., S.R. 303	53+64	54+90	RT.	3			4						126							
846	CH-2	℄ CONSTR., S.R. 303	56+00	58+00	LT.	3			5						126							
846	CL-1	℄ CONSTR., S.R. 303	47+50	54+90	L. & R.	20				10				0.14								
846	CL-2	℄ CONSTR., S.R. 303	52+36	54+90	L. & R.					4				0.05								
846	CL-3	℄ CONSTR., S.R. 303	56+00	58+00	RT.	3				3				0.04								
846	CL-4	℄ CONSTR., S.R. 303	58+45	58+48	RT.									0.01								
846	TR-1	℄ CONSTR., S.R. 303	52+36	54+90	LT.															165		
846	SL-1	℄ CONSTR., S.R. 303	58+28	58+50	LT.											22						
846	SL-2	℄ CONSTR., S.R. 303	58+48	58+50	RT.											2						
846	LA-1	℄ CONSTR., S.R. 303	53+72		RT.													1				
846	LA-2	℄ CONSTR., S.R. 303	54+60		RT.													1				
846	LA-3	℄ CONSTR., S.R. 303	56+30		LT.													1				
846	LA-4	℄ CONSTR., S.R. 303	57+18		LT.													1				
846	IM-1	℄ CONSTR., S.R. 303	54+90	54+94	LT.												25					
847	CL-1	℄ CONSTR., S.R. 303	58+59	58+59	LT.									0.01								
847	CL-2	℄ CONSTR., S.R. 303	58+93	62+30	LT.									0.06								
847	CL-3	℄ CONSTR., S.R. 303	58+93	62+30	L. & R.									0.06								
847	TR-1	℄ CONSTR., S.R. 303	58+93	62+30	L. & R.															193		
847	ELW-1	℄ CONSTR., S.R. 303	58+70	62+30	LT.							0.07										
847	ELW-2	℄ CONSTR., S.R. 303	58+51	62+30	RT.							0.07										
847	SL-1	℄ CONSTR., S.R. 303	58+50	58+59	LT.											9						
847	SL-2	℄ CONSTR., S.R. 303	58+50	58+68	RT.											18						
847	IM-1	℄ CONSTR., S.R. 303	58+87	58+93	LT.												57					
SHEET SUBTOTALS						70	11	8	9	17		1.21	0.22	0.79	331	51	127	4	451			
TOTALS CARRIED TO GENERAL SUMMARY						70	45					1.21	0.22	0.79	331	51	127	4	451			

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SIDEROAD PAVEMENT MARKING SUBSUMMARY

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REFERENCE NO.	SHEET NO.	STATION		LOCATION	SIDE	SIGN CODE	SIGN SIZE	625	630	630	630	630		630		630			630		630		630		630		
								GROUND ROD	GROUND MOUNTED SUPPORT, NO. 2 POST	GROUND MOUNTED SUPPORT, NO. 3 POST	GROUND MOUNTED SUPPORT, NO. 4 POST	GROUND MOUNTED STRUCTURAL BEAM SUPPORT, S4X7.7		GROUND MOUNTED STRUCTURAL BEAM SUPPORT, W6X9		GROUND MOUNTED STRUCTURAL BEAM SUPPORT, W8X18			GROUND MOUNTED STRUCTURAL BEAM SUPPORT, W10X12		GROUND MOUNTED STRUCTURAL BEAM SUPPORT, W12X30			ONE WAY SUPPORT, NO. 3 POST	ONE WAY SUPPORT, NO. 4 POST	GROUND MOUNTED SUPPORT, PIPE	SIGN POST REFLECTOR	
		EXISTING	PROPOSED				IN X IN	EACH	FT	FT	FT	FT	FT	FT	FT	FT	FT	FT	FT	FT	FT	FT	FT	FT	FT	FT	EACH	
		SUM-271																										
1-S	827	530+50.90 +/-	530+40.00	MED	LT	R3-4-36	36 x 36				18.0																	
						R5-H11-24	24 x 30																					
2-S	827	530+50.00 +/-	531+60.00	MED	RT	R3-4-36	36 x 36				17.0																	
						R5-H11-24	24 x 30																					
3-S	827	532+20.60 +/-	532+20.60	SB	LT	D5-H1-120	120 x 60												24.9	20.3								
4-S	827	536+10.00 +/-	533+50.00	NB	RT	E1-H1-240	240 x 108														26.2	31.3	36.0					
						E1-H5-72	72 x 24																					
5-S		NOT USED																										
6-S		NOT USED																										
7-S	827	537+80.20 +/-	537+85.00	SB	LT	M1-1-36-3	36 x 45			30																		
						M3-3-36	36 x 18																					
8-S	827	543+28.20 +/-	543+00.00	SB	LT	R25-H1-120	120 x 60												20.1	19.1								
9-S	828	553+81.50 +/-	553+50.00	NB	RT	E1-H1-168	168 x 108	2																				
						E1-H3-240	240 x 96																					
						E1-H5-72	72 x 24																					
						E1-H5-84	84 x 24																					
10-S	828	557+00.00 +/-	557+25.00	NB	RT	E5-H1A-72	72 x 60					16.9	16.9															
11-S	829	558+77.40 +/-	558+90.00	SB	LT	W4-1R-48	48 x 48			32.0																		
12-S	829	563+46.30 +/-	563+50.00	NB	RT	E1-H1-288	288 x 132														32.7	29.5	25.5					
						E1-H5-84	84 x 24																					
13-S	829	156+02.28 +/-	156+00.00	SB	LT	M1-1-36-3	36 x 45			30																		
						M3-3-36	36 x 18																					
14-S	829	159+69.40 +/-	159+57.00	SB	LT	I-H2A-72	72 x 36					15.0	13.3															
15-S	830	161+27.70 +/-	161+50.00	NB	RT	E1-H1-192	192 x 132														28.2	24.4						
						E1-H5-84	84 x 24																					
16-S	831	174+25.00 +/-	173+00.00	NB	RT	E6-H2-204	204 x 120	2																				
						E1-H3-204	204 x 96																					
						E1-H5-84	84 x 24																					
17-S	831	176+27.20 +/-	176+10.00	NB	RT	E5-H1A-72	72 x 60					17.1	17.0															
18-S	831	175+90.00 +/-	175+80.00	SB	LT	W4-1R-48	48 x 48			32.0																		
19-S	831	179+30.00 +/-	179+30.00	SB	LT	I-H14-48	48 x 30			28.0																		
20-S		NOT USED																										
21-S		NOT USED																										
22-S	832	186+60.00 +/-	186+95.00	SB	LT	E5-H1A-72	72 x 60					16.8	16.8															
23-S		NOT USED																										
24-S		NOT USED																										
25-S		NOT USED																										
SUBTOTALS CARIED TO SHEET NO. 808								4		152.0	35.0	65.8	64.0						45.0	39.4	87.1	85.2	61.5					

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REFERENCE NO.	SHEET NO.	STATION EXISTING	STATION PROPOSED	LOCATION	SIDE	SIGN CODE	SIGN SIZE IN X IN	630 BREAKAWAY STRUCTURAL BEAM CONNECTION EACH	630 TRIANGULAR SLIP BASE CONNECTION EACH	630 OVERHEAD SIGN SUPPORT, TYPE TC-7.65, DESIGN 6 EACH	630 OVERHEAD SIGN SUPPORT, TYPE TC-7.65, DESIGN 8 EACH	630 SIGN, FLAT SHEET SQ FT	630 SIGN, FLAT SHEET, AS PER PLAN SQ FT	630 SIGN, GROUND MOUNTED EXTRUSHEET SQ FT	630 SIGN, OVERHEAD EXTRUSHEET SQ FT	630 GROUND MOUNTED STRUCTURAL BEAM SUPPORT FOUNDATION EACH	630 RIGID OVERHEAD SIGN SUPPORT FOUNDATION EACH	630 GROUND MOUNTED PIPE SUPPORT FOUNDATION EACH	630 REMOVAL OF GROUND MOUNTED SIGN AND DISPOSAL EACH	630 REMOVAL OF GROUND MOUNTED SIGN AND REERECTION EACH	630 REMOVAL OF GROUND MOUNTED MAJOR SIGN AND DISPOSAL EACH	630 REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL EACH	630 REMOVAL OF GROUND MOUNTED STRUCTURAL BEAM SUPPORT AND DISPOSAL EACH	630 REMOVAL OF OVERHEAD MOUNTED SIGN AND DISPOSAL EACH	630 REMOVAL OF OVERHEAD SIGN SUPPORT AND DISPOSAL, TYPE TC-7.65 EACH	SPECIAL MISC.: CLEARING AND GRUBBING ACRE
		SUM-271																									
1-S	827	530+50.90 +/-	530+40.00	MED	LT	R3-4-36	36 x 36					9.0							1			1					
						R5-H11-24	24 x 30					5.0							1								
2-S	827	530+50.00 +/-	531+60.00	MED	RT	R3-4-36	36 x 36					9.0							1			1					
						R5-H11-24	24 x 30					5.0							1								
3-S	827	532+20.60 +/-	532+20.60	SB	LT	D5-H1-120	120 x 60	2						50.0		2					1		2				0.68
4-S	827	536+10.00 +/-	533+50.00	NB	RT	E1-H1-240	240 x 108	3						180.0		3					1		3				0.76
						E1-H5-72	72 x 24							12.0					1								
5-S		NOT USED																									
6-S		NOT USED																									
7-S	827	537+80.20 +/-	537+85.00	SB	LT	M1-1-36-3	36 x 45					11.3							1			1					
						M3-3-36	36 x 18					4.5							1								
8-S	827	543+28.20 +/-	543+00.00	SB	LT	R25-H1-120	120 x 60	2						50.0		2					1		2				0.68
9-S	828	553+81.50 +/-	553+50.00	NB	RT	E1-H1-168	168 x 108			1					126.0		2								1	1	
						E1-H3-240	240 x 96								160.0										1		
						E1-H5-72	72 x 24								12.0										1		
						E1-H5-84	84 x 24								14.0										1		
10-S	828	557+00.00 +/-	557+25.00	NB	RT	E5-H1A-72	72 x 60	2						30.0		2					1		2				
11-S	829	558+77.40 +/-	558+90.00	SB	LT	W4-1R-48	48 x 48					16.0							1			2					
12-S	829	563+46.30 +/-	563+50.00	NB	RT	E1-H1-288	288 x 132	3						264.0		3					1		3				0.97
						E1-H5-84	84 x 24							14.0					1								
13-S	829	156+02.28 +/-	156+00.00	SB	LT	M1-1-36-3	36 x 45					11.3							1			1					
						M3-3-36	36 x 18					4.5							1								
14-S	829	159+69.40 +/-	159+57.00	SB	LT	I-H2A-72	72 x 36	2						18.0		2					1		2				0.77
15-S	830	161+27.70 +/-	161+50.00	NB	RT	E1-H1-192	192 x 132	2						176.0		2					1		2				0.92
						E1-H5-84	84 x 24							14.0							1						
16-S	831	174+25.00 +/-	173+00.00	NB	RT	E6-H2-204	204 x 120				1				170.0		2								1	1	
						E1-H3-204	204 x 96								136.0										1		
						E1-H5-84	84 x 24								14.0										1		
17-S	831	176+27.20 +/-	176+10.00	NB	RT	E5-H1A-72	72 x 60	2						30.0		2					1		2				
18-S	831	175+90.00 +/-	175+80.00	SB	LT	W4-1R-48	48 x 48					16.0							1			2					
19-S	831	179+30.00 +/-	179+30.00	SB	LT	I-H14-48	48 x 30					10.0							1			2					
20-S		NOT USED																									
21-S		NOT USED																									
22-S	832	186+60.00 +/-	186+95.00	SB	LT	E5-H1A-72	72 x 60	2						30.0		2					1		2				
23-S		NOT USED																									
24-S		NOT USED																									
25-S		NOT USED																									
SUBTOTALS CARRIED TO SHEET NO. 809								20		1	1	101.5		868.0	632.0	20	4		13		10	10	20	7	2	4.78

CALCULATED JDL
CHECKED MS

SIGNING SUBSUMMARY

SUM-271-2.33

797
1195

F:\2009\109094\18710\roadway\sheets\18710TS001.dgn 11/5/2012 9:55:35 AM DonHelman

REFERENCE NO.	SHEET NO.	STATION		LOCATION	SIDE	SIGN CODE	SIGN SIZE	625	630	630	630	630		630		630			630		630		630		630		
								GROUND ROD	GROUND MOUNTED SUPPORT, NO. 2 POST	GROUND MOUNTED SUPPORT, NO. 3 POST	GROUND MOUNTED SUPPORT, NO. 4 POST	GROUND MOUNTED STRUCTURAL BEAM SUPPORT, S4X7.7		GROUND MOUNTED STRUCTURAL BEAM SUPPORT, W6X9		GROUND MOUNTED STRUCTURAL BEAM SUPPORT, W8X18			GROUND MOUNTED STRUCTURAL BEAM SUPPORT, W10X12		GROUND MOUNTED STRUCTURAL BEAM SUPPORT, W12X30			ONE WAY SUPPORT, NO. 3 POST	ONE WAY SUPPORT, NO. 4 POST	GROUND MOUNTED SUPPORT, PIPE	SIGN POST REFLECTOR	
		EXISTING	PROPOSED				IN X IN	EACH	FT	FT	FT	FT	FT	FT	FT	FT	FT	FT	FT	FT	FT	FT	FT	FT	FT	FT	EACH	
		SUM-271																										
26-S		NOT USED																										
27-S	832	191+63.60 +/-	192+00.00	SB	LT	E6-H2-204	204 x 120	2																				
						E1-H3-204	204 x 120																					
						E1-H5-84	84 x 24																					
28-S	832	192+10.00 +/-	192+63.00	NB	RT	W4-1R-48	48 x 48			32.0																		
29-S	832	197+05.00 +/-	197+05.00	SB	LT	M1-1-36-2	36 x 36				36																	
						M3-3-36	36 x 18																					
						M6-2R-30	30 x 24																					
30-S	833	198+17.00 +/-		NB	RT	R1-2-48	48 x 48																					
31-S		NOT USED																										
32-S		NOT USED																										
33-S		NOT USED																										
34-S	834	216+00.00 +/-	216+00.00	NB	RT	M1-1-36-3	36 x 45			32																		
						M3-3-36	36 x 18																					
35-S	834	225+97.10 +/-	217+00.00	SB	LT	E1-H1-204	204 x 180														32.3	31.5						
						E1-5-84	84 x 24																					
36-S	834	226+04.50 +/-	226+00.00	NB	RT	R2-1-48	48 x 60																				17.0	
37-S		NOT USED																										
38-S		NOT USED																										
39-S	835	239+19.80 +/-	239+19.80	NB	RT	E7-H1-156	156 x 72									21.3	25.1											
40-S	835	243+50.00 +/-	243+50.00	NB	RT	R5-H10F-36	36 x 30			14.0																		
41-S	835	248+54.70 +/-	248+50.00	NB	RT	E1-H1-168	168 x 144														34.1	30.1						
						E1-H5-84	84 x 24																					
42-S	835	255+10.00 +/-	255+00.00	NB	RT	E3-H2-216	216 x 84														30.8	25.6						
						D7-H10-120	120 x 12																					
43-S	835	258+90.90 +/-	258+90.00	MED	LT	R3-4-36	36 x 36				18.0																	
						R5-H11-24	24 x 30																					
44-S	836	260+31.20 +/-	260+10.00	MED	RT	R3-4-36	36 x 36				18.0																	
						R5-H11-24	24 x 30																					
45-S	836	261+00.90 +/-	261+00.00	NB	RT	E3-H2-288	288 x 60									20.5	24.3	27.0										
						E1-H5-84	84 x 24																					
46-S	835	261+53.10 +/-	248+00.00	SB	LT	E1-H1-204	204 x 180														32.3	31.5						
						E1-H5-84	84 x 24																					
47-S	836	262+41.00 +/-	262+41.00	NB	RT	I-H14-48	48 x 30			28.0																		
47a-S	836		272+75.00	SB	LT	R2-1-48	48 x 60																				17.0	
48-S	836	281+74.60 +/-	275+00.00	NB	RT	E1-H1-168	168 x 144														30.0	26.6						
						E1-H5-84	84 x 24																					
SUBTOTALS CARIED TO SHEET NO. 808								2		106.0	72.0					41.8	49.4	27.0			159.5	145.3				34.0		

CALCULATED JDL
CHECKED MS

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SUM-271-2.33

798
1195

F:\2009\109094\18710\roadway\sheets\18710TS001.dgn 10/29/2012 11:28:25 AM SteveMorr

REFERENCE NO.	SHEET NO.	STATION EXISTING	STATION PROPOSED	LOCATION	SIDE	SIGN CODE	SIGN SIZE IN X IN	630 BREAKAWAY STRUCTURAL BEAM CONNECTION EACH	630 TRIANGULAR SLIP BASE CONNECTION EACH	630 OVERHEAD SIGN SUPPORT, TYPE TC-7.65, DESIGN 6 EACH	630 OVERHEAD SIGN SUPPORT, TYPE TC-7.65, DESIGN 8 EACH	630 SIGN, FLAT SHEET SQ FT	630 SIGN, FLAT SHEET, AS PER PLAN SQ FT	630 SIGN, GROUND MOUNTED EXTRUSHEET SQ FT	630 SIGN, OVERHEAD EXTRUSHEET SQ FT	630 GROUND MOUNTED STRUCTURAL BEAM SUPPORT FOUNDATION EACH	630 RIGID OVERHEAD SIGN SUPPORT FOUNDATION EACH	630 GROUND MOUNTED PIPE SUPPORT FOUNDATION EACH	630 REMOVAL OF GROUND MOUNTED SIGN AND DISPOSAL EACH	630 REMOVAL OF GROUND MOUNTED SIGN AND REERECTION EACH	630 REMOVAL OF GROUND MOUNTED MAJOR SIGN AND DISPOSAL EACH	630 REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL EACH	630 REMOVAL OF GROUND MOUNTED STRUCTURAL BEAM SUPPORT AND DISPOSAL EACH	630 REMOVAL OF OVERHEAD MOUNTED SIGN AND DISPOSAL EACH	630 REMOVAL OF OVERHEAD SIGN SUPPORT AND DISPOSAL, TYPE TC-7.65 EACH	SPECIAL MISC.: CLEARING AND GRUBBING ACRE
		SUM-271																								
26-S		NOT USED																								
27-S	832	191+63.60 +/-	192+00.00	SB	LT	E6-H2-204	204 x 120			1					170.0		2							1	1	
						E1-H3-204	204 x 120								170.0										1	
						E1-H5-84	84 x 24								14.0										1	
28-S	832	192+10.00 +/-	192+63.00	NB	RT	W4-1R-48	48 x 48					16.0							1			2				
29-S	832	197+05.00 +/-	197+05.00	SB	LT	M1-1-36-2	36 x 36					9.0							1			1				
						M3-3-36	36 x 18					4.5							1							
						M6-2R-30	30 x 24					5.0							1							
30-S	833	198+17.00 +/-		NB	RT	R1-2-48	48 x 48												1			1				
31-S		NOT USED																								
32-S		NOT USED																								
33-S		NOT USED																								
34-S	834	216+00.00 +/-	216+00.00	NB	RT	M1-1-36-3	36 x 45					11.3							1			1				
						M3-3-36	36 x 18					4.5							1							
35-S	834	225+97.10 +/-	217+00.00	SB	LT	E1-H1-204	204 x 180	2						255.0		2					1		2			0.73
						E1-5-84	84 x 24							14.0					1							
36-S	834	226+04.50 +/-	226+00.00	NB	RT	R2-1-48	48 x 60		1			20.0						1	1			2				
37-S		NOT USED																								
38-S		NOT USED																								
39-S	835	239+19.80 +/-	239+19.80	NB	RT	E7-H1-156	156 x 72	2						78.0		2					1		2			0.68
40-S	835	243+50.00 +/-	243+50.00	NB	RT	R5-H10F-36	36 x 30					7.5							1			1				
41-S	835	248+54.70 +/-	248+50.00	NB	RT	E1-H1-168	168 x 144	2						168.0		2					1		2			0.69
						E1-H5-84	84 x 24							14.0					1							
42-S	835	255+10.00 +/-	255+00.00	NB	RT	E3-H2-216	216 x 84	2						126.0		2					1		2			0.74
						D7-H10-120	120 x 12							10.0					1							
43-S	835	258+90.90 +/-	258+90.00	MED	LT	R3-4-36	36 x 36					9.0							1			1				
						R5-H11-24	24 x 30					5.0							1							
44-S	836	260+31.20 +/-	260+10.00	MED	RT	R3-4-36	36 x 36					9.0							1			1				
						R5-H11-24	24 x 30					5.0							1							
45-S	836	261+00.90 +/-	261+00.00	NB	RT	E3-H2-288	288 x 60	3						120.0		3					1		3			0.81
						E1-H5-84	84 x 24							14.0					1							
46-S	835	261+53.10 +/-	248+00.00	SB	LT	E1-H1-204	204 x 180	2						255.0		2					1		2			0.73
						E1-H5-84	84 x 24							14.0					1							
47-S	836	262+41.00 +/-	262+41.00	NB	RT	I-H14-48	48 x 30					10.0							1			2				
47-Sa	836		272+75.00	SB	LT	R2-1-48	48 x 60		1			20.0						1								
48-S	836	281+74.60 +/-	275+00.00	NB	RT	E1-H1-168	168 x 144	2						168.0		2					1		2			0.83
						E1-H5-84	84 x 24							14.0					1							
SUBTOTALS CARRIED TO SHEET NO. 809								15	2	1		135.8		1250.0	354.0	15	2	2	20		7	12	15	3	1	5.21

CALCULATED JDL
CHECKED MS

SIGNING SUBSUMMARY

SUM-271-2.33

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REFERENCE NO.	SHEET NO.	STATION		LOCATION	SIDE	SIGN CODE	SIGN SIZE	625	630	630	630	630		630		630			630		630		630		630		
								GROUND ROD	GROUND MOUNTED SUPPORT, NO. 2 POST	GROUND MOUNTED SUPPORT, NO. 3 POST	GROUND MOUNTED SUPPORT, NO. 4 POST	GROUND MOUNTED STRUCTURAL BEAM SUPPORT, S4X7.7		GROUND MOUNTED STRUCTURAL BEAM SUPPORT, W6X9		GROUND MOUNTED STRUCTURAL BEAM SUPPORT, W8X18			GROUND MOUNTED STRUCTURAL BEAM SUPPORT, W10X12		GROUND MOUNTED STRUCTURAL BEAM SUPPORT, W12X30			ONE WAY SUPPORT, NO. 3 POST	ONE WAY SUPPORT, NO. 4 POST	GROUND MOUNTED SUPPORT, PIPE	SIGN POST REFLECTOR	
		EXISTING	PROPOSED				IN X IN	EACH	FT	FT	FT	FT	FT	FT	FT	FT	FT	FT	FT	FT	FT	FT	FT	FT	FT	FT	EACH	
		SUM-271																										
49-S	836	282+43.40 +/-	282+43.40	SB	LT	M1-1-36-3	36 x 45			32																	
						M3-3-36	36 x 18																				
50-S		NOT USED																									
51-S		NOT USED																									
52-S	837	298+54.90 +/-	298+50.00	NB	RT	E1-H3-204	204 x 120														27.4	25.7					
						E1-H5-84	84 x 24																				
52a-S	837		303+70.00	NB	RT	W13-2-48	48 x 60																		16.0		
53-S	837	305+43.00 +/-	306+10.00	SB	LT	W4-1R-48	48 x 48			32.0																	
54-S	837	307+20.40 +/-	307+25.00	NB	RT	E5-H1A-72	72 x 60					17.0	16.9														
55-S	838	312+74.80 +/-	312+75.00	SB	LT	E5-H1A-72	72 x 60					16.9	16.9														
56-S	838	314+47.40 +/-	313+85.00	NB	RT	W4-1R-48	48 x 48			32.0																	
57-S	838	316+95.40 +/-	317+00.00	SB	LT	W13-2-48	48 x 60																		16.0		
58-S	838	328+81.30 +/-	328+80.00	NB	RT	W8-13-48	48 x 48			32.0																	
59-S	838	329+41.50 +/-	321+50.00	SB	LT	E1-H3-204	204 x 120														26.5	30.0					
						E1-H5-84	84 x 24																				
60-S	838	332+38.60 +/-	332+40.00	SB	LT	R2-1-48	48 x 60																		16.0		
61-S	838	335+04.00 +/-	334+67.00	MED	LT	R3-4-36	36 x 36				16.0																
						R5-H11-24	24 x 30																				
62-S	839	335+95.00 +/-	335+85.00	MED	RT	R3-4-36	36 x 36				16.0																
						R5-H11-24	24 x 30																				
63-S	839	336+37.00 +/-	336+40.00	NB	RT	M1-1-36-3	36 x 45			32																	
						M3-3-36	36 x 18																				
64-S		NOT USED																									
65-S		NOT USED																									
66-S	839	341+98.80 +/-	342+50.00	SB	LT	E1-H1-168	168 x 144														29.5	28.8					
						E1-H5-84	84 x 24																				
67-S	839	344+57.80 +/-	344+60.00	NB	RT	R2-1-48	48 x 60																		18.0		
68-S	827	522+36.80 +/-	527+50.00	SB	LT	R2-1-48	48 x 60																		16.0		
69-S		NOT USED																									
		BRECKSVILLE ROAD RAMPS																									
70-S	829	66+05.30 +/-	66+05.00	RAMP A	LT	R5-H10D-36	36 x 36			15.0																	
71-S	828		52+80.00	RAMP B	RT	W13-2-48	48 x 60																		16.0		
72-S	829		57+80.00	RAMP B	LT	W1-8R-36	36 x 48			28.0																2	
	829		59+00.00	RAMP B	LT	W1-8R-36	36 x 48			28.0																2	
73-S	829	60+00.00 +/-	60+00.00	RAMP B	LT	W3-3-48	48 x 48			32.0																	
						S4-1-24	24 x 10																				
74-S	829	60+00.00 +/-	60+00.00	RAMP B	RT	W3-3-48	48 x 48			32.0																	
						S4-1-24	24 x 10																				
SUBTOTALS CARIED TO SHEET NO. 808										295.0	32.0	33.9	33.8								83.4	84.5			98.0	4	

CALCULATED JDL
CHECKED MS

SIGNING SUBSUMMARY

SUM-271-2.33

800
1195

F:\2009\109094\18710\roadway\sheets\18710TS001.dgn 11/16/2012 7:26:44 AM JeremyLay

REFERENCE NO.	SHEET NO.	STATION EXISTING	STATION PROPOSED	LOCATION	SIDE	SIGN CODE	SIGN SIZE IN X IN	630 BREAKAWAY STRUCTURAL BEAM CONNECTION EACH	630 TRIANGULAR SLIP BASE CONNECTION EACH	630 OVERHEAD SIGN SUPPORT, TYPE TC-7.65, DESIGN 6 EACH	630 OVERHEAD SIGN SUPPORT, TYPE TC-7.65, DESIGN 8 EACH	630 SIGN, FLAT SHEET SQ FT	630 SIGN, FLAT SHEET, AS PER PLAN SQ FT	630 SIGN, GROUND MOUNTED EXTRUSHEET SQ FT	630 SIGN, OVERHEAD EXTRUSHEET SQ FT	630 GROUND MOUNTED STRUCTURAL BEAM SUPPORT FOUNDATION EACH	630 RIGID OVERHEAD SIGN SUPPORT FOUNDATION EACH	630 GROUND MOUNTED PIPE SUPPORT FOUNDATION EACH	630 REMOVAL OF GROUND MOUNTED SIGN AND DISPOSAL EACH	630 REMOVAL OF GROUND MOUNTED SIGN AND REERECTION EACH	630 REMOVAL OF GROUND MOUNTED MAJOR SIGN AND DISPOSAL EACH	630 REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL EACH	630 REMOVAL OF GROUND MOUNTED STRUCTURAL BEAM SUPPORT AND DISPOSAL EACH	630 REMOVAL OF OVERHEAD MOUNTED SIGN AND DISPOSAL EACH	630 REMOVAL OF OVERHEAD SIGN SUPPORT AND DISPOSAL, TYPE TC-7.65 EACH	SPECIAL MISC.: CLEARING AND GRUBBING ACRE
		SUM-271																								
49-S	836	282+43.40 +/-	282+43.40	SB	LT	M1-1-36-3	36 x 45					11.3							1			1				
						M3-3-36	36 x 18					4.5							1							
50-S		NOT USED																								
51-S		NOT USED																								
52-S	837	298+54.90 +/-	298+50.00	NB	RT	E1-H3-204	204 x 120	2						170.0		2					1		2			0.87
						E1-H5-84	84 x 24							14.0					1							
52-Sa	837		303+70.00	NB	RT	W13-2-48	48 x 60		1			20.0						1								
53-S	837	305+43.00 +/-	306+10.00	SB	LT	W4-1R-48	48 x 48					16.0							1			2				
54-S	837	307+20.40 +/-	307+25.00	NB	RT	E5-H1A-72	72 x 60	2						30.0		2		1			1		2			
55-S	838	312+74.80 +/-	312+75.00	SB	LT	E5-H1A-72	72 x 60	2						30.0		2					1		2			
56-S	838	314+47.40 +/-	313+85.00	NB	RT	W4-1R-48	48 x 48					16.0							1			2				
57-S	838	316+95.40 +/-	317+00.00	SB	LT	W13-2-48	48 x 60		1			20.0						1	1			2				
58-S	838	328+81.30 +/-	328+80.00	NB	RT	W8-13-48	48 x 48						16.0						1			2				
59-S	838	329+41.50 +/-	321+50.00	SB	LT	E1-H3-204	204 x 120	2						170.0		2					1		2			0.92
						E1-H5-84	84 x 24							14.0					1							
60-S	838	332+38.60 +/-	332+40.00	SB	LT	R2-1-48	48 x 60		1			20.0							1			2				
61-S	838	335+04.00 +/-	334+67.00	MED	LT	R3-4-36	36 x 36					9.0							1			1				
						R5-H11-24	24 x 30					5.0							1							
62-S	839	335+95.00 +/-	335+85.00	MED	RT	R3-4-36	36 x 36					9.0							1			1				
						R5-H11-24	24 x 30					5.0							1							
63-S	839	336+37.00 +/-	336+40.00	NB	RT	M1-1-36-3	36 x 45					11.3							1			1				
						M3-3-36	36 x 18					4.5							1							
64-S		NOT USED																								
65-S		NOT USED																								
66-S	839	341+98.80 +/-	342+50.00	SB	LT	E1-H1-168	168 x 144	2						168.0		2					1		2			0.83
						E1-H5-84	84 x 24							14.0					1							
67-S	839	344+57.80 +/-	344+60.00	NB	RT	R2-1-48	48 x 60		1			20.0						1	1			2				
68-S	827	522+36.80 +/-	527+50.00	SB	LT	R2-1-48	48 x 60		1			20.0						1	1			2				
69-S		NOT USED																								
		BRECKSVILLE ROAD RAMPS																								
70-S	829	66+05.30 +/-	66+05.00	RAMP A	LT	R5-H10D-36	36 x 36					9.0							1			1				
71-S	828		52+80.00	RAMP B	RT	W13-2-48	48 x 60		1			20.0						1								
72-S	829		57+80.00	RAMP B	LT	W1-8R-36	36 x 48					12.0														
	829		59+00.00	RAMP B	LT	W1-8R-36	36 x 48					12.0														
73-S	829	60+00.00 +/-	60+00.00	RAMP B	LT	W3-3-48	48 x 48													1		2				
						S4-1-24	24 x 10													1							
74-S	829	60+00.00 +/-	60+00.00	RAMP B	RT	W3-3-48	48 x 48													1		2				
						S4-1-24	24 x 10													1							
SUBTOTALS CARRIED TO SHEET NO. 809								10	6			244.5	16.0	610.0		10		6	19	4	5	23	10			2.62

CALCULATED JDL
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REFERENCE NO.	SHEET NO.	STATION EXISTING	STATION PROPOSED	LOCATION	SIDE	SIGN CODE	SIGN SIZE	625 GROUND ROD	630 GROUND MOUNTED SUPPORT, NO. 2 POST	630 GROUND MOUNTED SUPPORT, NO. 3 POST	630 GROUND MOUNTED SUPPORT, NO. 4 POST	630 GROUND MOUNTED STRUCTURAL BEAM SUPPORT, S4X7.7		630 GROUND MOUNTED STRUCTURAL BEAM SUPPORT, W6X9		630 GROUND MOUNTED STRUCTURAL BEAM SUPPORT, W8X18			630 GROUND MOUNTED STRUCTURAL BEAM SUPPORT, W10X12		630 GROUND MOUNTED STRUCTURAL BEAM SUPPORT, W12X30			630 ONE WAY SUPPORT, NO. 3 POST	630 ONE WAY SUPPORT, NO. 4 POST	630 GROUND MOUNTED SUPPORT, PIPE	630 SIGN POST REFLECTOR	
							IN X IN	EACH	FT	FT	FT	FT	FT	FT	FT	FT	FT	FT	FT	FT	FT	FT	FT	FT	FT	FT	FT	EACH
	BRECKSVILLE ROAD RAMPS																											
75-S	829	60+41.60 +/-	61+00.00	RAMP B	LT	R5-1A-42	42 x 30			14.0																		1
76-S	829	60+42.10 +/-	61+00.00	RAMP B	RT	R5-1A-42	42 x 30												17.9	18.6								
						M4-5-24	24 x 12																					
						M4-5-24	24 x 12																					
						M3-3-30	30 x 15																					
						M1-5-30-3	37.5 x 30																					
						M1-1-30	30 x 30																					
						M6-1R-21	21 x 15																					
						M6-1R-21	21 x 15																					
						D3-H3-132	132 x 24																					
						D1-H5a-32	132 x 24																					
77-S	829	62+60.80 +/-	62+60.00	RAMP B	LT	R5-1-36	36 x 36		26.0																			2
78-S	829	62+43.80 +/-	62+60.00	RAMP B	RT	R5-1-36	36 x 36			13.0															14.0			1
						R6-1L-36	36 x 12																					
						R6-1R-36	36 x 12																					
	IR 77 INTERCHANGE																											
79-S	831	179+10.40 +/-	179+10.00	RAMP A	LT	D10-H5A-30	30 x 30		12.0																			
80-S	840	186+02.90 +/-	186+03.00	RAMP A	LT	D10-H5A-30	30 x 30		12.0																			
81-S	841	198+35.20 +/-	198+35.00	RAMP A	RT	E5-H1A-96	96 x 60							17.9	17.9													
82-S	840		193+40.00	RAMP A	RT	W1-8R-36	36 x 48			28.0																		2
	840		194+60.00	RAMP A	RT	W1-8R-36	36 x 48			28.0																		2
	841		195+80.00	RAMP A	RT	W1-8R-36	36 x 48			28.0																		2
	841		197+00.00	RAMP A	RT	W1-8R-36	36 x 48			28.0																		2
83-S	831	179+76.00 +/-		RAMP B	RT	W12-2-48	48 x 48																					
84-S	831	184+25.00 +/-	184+25.00	RAMP B	RT	D10-H5A-30	30 x 30		12.0																			
85-S	832	185+18.70 +/-	185+19.00	RAMP B	RT	W1-2L-48	48 x 48				38.0																	2
						W13-1-30	30 x 30																					
86-S	832	185+18.70 +/-	185+19.00	RAMP B	LT	W1-2L-48	48 x 48				38.0																	2
						W13-1-30	30 x 30																					
87-S		NOT USED																										
88-S	832		191+50.00	RAMP B	RT	W1-8L-36	36 x 48			26.0																		2
89-S	832	192+37.70 +/-	193+00.00	RAMP B	RT	W1-8L-36	36 x 48			26.0																		2
90-S	832	194+32.90 +/-		RAMP B	RT	W1-2L-48	48 x 48																					
						W13-1-30	30 x 30																					
90a-S	832		194+50.00	RAMP B	RT	W1-8L-36	36 x 48			26.0																		2
SUBTOTALS CARIED TO SHEET NO. 808									62.0	217.0	76			17.9	17.9				17.9	18.6				14			22	

CALCULATED JDL
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REFERENCE NO.	SHEET NO.	STATION EXISTING	STATION PROPOSED	LOCATION	SIDE	SIGN CODE	SIGN SIZE	630 BREAKAWAY STRUCTURAL BEAM CONNECTION	630 TRIANGULAR SLIP BASE CONNECTION	630 OVERHEAD SIGN SUPPORT, TYPE TC-7.65, DESIGN 6	630 OVERHEAD SIGN SUPPORT, TYPE TC-7.65, DESIGN 8	630 SIGN, FLAT SHEET	630 SIGN, FLAT SHEET, AS PER PLAN	630 SIGN, GROUND MOUNTED EXTRUSHEET	630 SIGN, OVERHEAD EXTRUSHEET	630 GROUND MOUNTED STRUCTURAL BEAM SUPPORT FOUNDATION	630 RIGID OVERHEAD SIGN SUPPORT FOUNDATION	630 GROUND MOUNTED PIPE SUPPORT FOUNDATION	630 REMOVAL OF GROUND MOUNTED SIGN AND DISPOSAL	630 REMOVAL OF GROUND MOUNTED SIGN AND REERECTION	630 REMOVAL OF GROUND MOUNTED MAJOR SIGN AND DISPOSAL	630 REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL	630 REMOVAL OF GROUND MOUNTED STRUCTURAL BEAM SUPPORT AND DISPOSAL	630 REMOVAL OF OVERHEAD MOUNTED SIGN AND DISPOSAL	630 REMOVAL OF OVERHEAD SIGN SUPPORT AND DISPOSAL, TYPE TC-7.65	SPECIAL MISC.: CLEARING AND GRUBBING
							IN X IN	EACH	EACH	EACH	EACH	SQ FT	SQ FT	SQ FT	SQ FT	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	ACRE
	BRECKSVILLE ROAD RAMPS																									
75-S	829	60+41.60 +/-	61+00.00	RAMP B	LT	R5-1A-42	42 x 30					8.8							1			1				
76-S	829	60+42.10 +/-	61+00.00	RAMP B	RT	R5-1A-42	42 x 30	2				8.8				2			1			1				0.66
						M4-5-24	24 x 12					2.0														
						M4-5-24	24 x 12					2.0														
						M3-3-30	30 x 15					3.2														
						M1-5-30-3	37.5 x 30							7.8												
						M1-1-30	30 x 30							6.3												
						M6-1R-21	21 x 15					2.2														
						M6-1R-21	21 x 15					2.2														
						D3-H3-132	132 x 24							22.0												
						D1-H5a-32	132 x 24							22.0												
77-S	829	62+60.80 +/-	62+60.00	RAMP B	LT	R5-1-36	36 x 36					9.0							1			2				
78-S	829	62+43.80 +/-	62+60.00	RAMP B	RT	R5-1-36	36 x 36					9.0							1			2				
						R6-1L-36	36 x 12					3.0							1							
						R6-1R-36	36 x 12					3.0							1							
	IR 77 INTERCHANGE																									
79-S	831	179+10.40 +/-	179+10.00	RAMP A	LT	D10-H5A-30	30 x 30					6.3							1			1				
80-S	840	186+02.90 +/-	186+03.00	RAMP A	LT	D10-H5A-30	30 x 30					6.3							1			1				
81-S	841	198+35.20 +/-	198+35.00	RAMP A	RT	E5-H1A-96	96 x 60	2						40.0		2					1		2			
82-S	840		193+40.00	RAMP A	RT	W1-8R-36	36 x 48					12.0														
	840		194+60.00	RAMP A	RT	W1-8R-36	36 x 48					12.0														
	841		195+80.00	RAMP A	RT	W1-8R-36	36 x 48					12.0														
	841		197+00.00	RAMP A	RT	W1-8R-36	36 x 48					12.0														
83-S	831	179+76.00 +/-		RAMP B	RT	W12-2-48	48 x 48												1			1				
84-S	831	184+25.00 +/-	184+25.00	RAMP B	RT	D10-H5A-30	30 x 30					6.3							1			1				
85-S	832	185+18.70 +/-	185+19.00	RAMP B	RT	W1-2L-48	48 x 48					16.0							1			1				
						W13-1-30	30 x 30					6.3							1							
86-S	832	185+18.70 +/-	185+19.00	RAMP B	LT	W1-2L-48	48 x 48					16.0							1			1				
						W13-1-30	30 x 30					6.3							1							
87-S		NOT USED																								
88-S	832		191+50.00	RAMP B	RT	W1-8L-36	36 x 48					12.0														
89-S	832	192+37.70 +/-	193+00.00	RAMP B	RT	W1-8L-36	36 x 48					12.0							1			1				
90-S	832	194+32.90 +/-		RAMP B	RT	W1-2L-48	48 x 48												1			1				
						W13-1-30	30 x 30												1							
90a-S	832		194+50.00	RAMP B	RT	W1-8L-36	36 x 48					12.0														
SUBTOTALS CARRIED TO SHEET NO. 809								4				209.4		98.1		4			17		1	14	2			0.66

CALCULATED JDL
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REFERENCE NO.	SHEET NO.	STATION EXISTING	STATION PROPOSED	LOCATION	SIDE	SIGN CODE	SIGN SIZE	625 GROUND ROD	630 GROUND MOUNTED SUPPORT, NO. 2 POST	630 GROUND MOUNTED SUPPORT, NO. 3 POST	630 GROUND MOUNTED SUPPORT, NO. 4 POST	630 GROUND MOUNTED STRUCTURAL BEAM SUPPORT, S4X7.7		630 GROUND MOUNTED STRUCTURAL BEAM SUPPORT, W6X9		630 GROUND MOUNTED STRUCTURAL BEAM SUPPORT, W8X18			630 GROUND MOUNTED STRUCTURAL BEAM SUPPORT, W10X12		630 GROUND MOUNTED STRUCTURAL BEAM SUPPORT, W12X30			630 ONE WAY SUPPORT, NO. 3 POST	630 ONE WAY SUPPORT, NO. 4 POST	630 GROUND MOUNTED SUPPORT, PIPE	630 SIGN POST REFLECTOR
							IN X IN	EACH	FT	FT	FT	FT	FT	FT	FT	FT	FT	FT	FT	FT	FT	FT	FT	FT	FT	FT	EACH
	IR 77 INTERCHANGE																										
91-S	832	195+08.80 +/-	195+10.00	RAMP B	RT	D10-H5A-30	30 x 30		12.0																		
91a-S	832		196+00.00	RAMP B	RT	W1-8L-36	36 x 48			26.0																	2
92-S	832	196+49.10 +/-	197+50.00	RAMP B	RT	W1-8L-36	36 x 48			26.0																	2
93-S	833	198+66.50 +/-	199+00.00	RAMP B	RT	W1-8L-36	36 x 48			26.0																	2
94-S	833		200+50.00	RAMP B	RT	W1-8L-36	36 x 48			26.0																	2
94A-S	833		202+00.00	RAMP B	RT	W1-8L-36	36 x 48			26.0																	2
95-S	833		203+50.00	RAMP B	RT	W1-8L-36	36 x 48			26.0																	2
96-S	833		205+00.00	RAMP B	RT	W1-8L-36	36 x 48			26.0																	2
97-S	841	210+85.60 +/-	210+85.00	RAMP B	RT	D10-H5A-30	30 x 30		12.0																		
98-S	832		183+00.00	RAMP C	RT	W13-2-48	48 x 60																			16.0	
99-S		NOT USED																									
100-S	832		189+00.00	RAMP C	LT	W1-8R-36	36 x 48			28.0																	2
	832		190+20.00	RAMP C	LT	W1-8R-36	36 x 48			28.0																	2
	832		191+40.00	RAMP C	LT	W1-8R-36	36 x 48			28.0																	2
101-S	832	188+30.50 +/-	188+30.50	RAMP C	LT	E5-H1A-96	96 x 60							18.2	18.2												
102-S	832	191+50.00 +/-	191+50.00	RAMP C	RT	D10-H5A-30	30 x 30		12.0																		
103-S	840		172+30.00	RAMP D	RT	W1-8R-36	36 x 48			26.0																	2
103A-S	840		173+10.00	RAMP D	RT	W1-8R-36	36 x 48			27.0																	2
103B-S	840		173+90.00	RAMP D	RT	W1-8R-36	36 x 48			26.0																	2
103C-S	840		174+70.00	RAMP D	RT	W1-8R-36	36 x 48			26.0																	2
103D-S	840		175+50.00	RAMP D	RT	W1-8R-36	36 x 48			26.0																	2
103E-S	840		176+30.00	RAMP D	RT	W1-8R-36	36 x 48			26.0																	2
103F-S	840		177+10.00	RAMP D	RT	W1-8R-36	36 x 48			28.0																	2
103G-S	840		177+90.00	RAMP D	RT	W1-8R-36	36 x 48			31.0																	2
103H-S	840		178+70.00	RAMP D	RT	W1-8R-36	36 x 48			29.0																	2
103I-S	840		179+50.00	RAMP D	RT	W1-8R-36	36 x 48			28.0																	2
103J-S	840		180+30.00	RAMP D	RT	W1-8R-36	36 x 48			30.0																	2
SUBTOTALS CARIED TO SHEET NO. 808									36	569.0				18.2	18.2										16.0	42	

CALCULATED JDL
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REFERENCE NO.	SHEET NO.	STATION EXISTING	STATION PROPOSED	LOCATION	SIDE	SIGN CODE	SIGN SIZE	630 BREAKAWAY STRUCTURAL BEAM CONNECTION	630 TRIANGULAR SLIP BASE CONNECTION	630 OVERHEAD SIGN SUPPORT, TYPE TC-7.65, DESIGN 6	630 OVERHEAD SIGN SUPPORT, TYPE TC-7.65, DESIGN 8	630 SIGN, FLAT SHEET	630 SIGN, FLAT SHEET, AS PER PLAN	630 SIGN, GROUND MOUNTED EXTRUSHEET	630 SIGN, OVERHEAD EXTRUSHEET	630 GROUND MOUNTED STRUCTURAL BEAM SUPPORT FOUNDATION	630 RIGID OVERHEAD SIGN SUPPORT FOUNDATION	630 GROUND MOUNTED PIPE SUPPORT FOUNDATION	630 REMOVAL OF GROUND MOUNTED SIGN AND DISPOSAL	630 REMOVAL OF GROUND MOUNTED SIGN AND REERECTION	630 REMOVAL OF GROUND MOUNTED MAJOR SIGN AND DISPOSAL	630 REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL	630 REMOVAL OF GROUND MOUNTED STRUCTURAL BEAM SUPPORT AND DISPOSAL	630 REMOVAL OF OVERHEAD MOUNTED SIGN AND DISPOSAL	630 REMOVAL OF OVERHEAD SIGN SUPPORT AND DISPOSAL, TYPE TC-7.65	SPECIAL MISC.: CLEARING AND GRUBBING
							IN X IN	EACH	EACH	EACH	EACH	SQ FT	SQ FT	SQ FT	SQ FT	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	ACRE
		IR 77 INTERCHANGE																								
91-S	832	195+08.80 +/-	195+10.00	RAMP B	RT	D10-H5A-30	30 x 30					6.3							1			1				
91a-S	832		196+00.00	RAMP B	RT	W1-8L-36	36 x 48					12.0														
92-S	832	196+49.10 +/-	197+50.00	RAMP B	RT	W1-8L-36	36 x 48					12.0							1			1				
93-S	833	198+66.50 +/-	199+00.00	RAMP B	RT	W1-8L-36	36 x 48					12.0							1			1				
94-S	833		200+50.00	RAMP B	RT	W1-8L-36	36 x 48					12.0														
94A-S	833		202+00.00	RAMP B	RT	W1-8L-36	36 x 48					12.0														
95-S	833		203+50.00	RAMP B	RT	W1-8L-36	36 x 48					12.0														
96-S	833		205+00.00	RAMP B	RT	W1-8L-36	36 x 48					12.0														
97-S	841	210+85.60 +/-	210+85.00	RAMP B	RT	D10-H5A-30	30 x 30					6.3							1			1				
98-S	832		183+00.00	RAMP C	RT	W13-2-48	48 x 60		1			20.0						1								
99-S		NOT USED																								
100-S	832		189+00.00	RAMP C	LT	W1-8R-36	36 x 48					12.0														
	832		190+20.00	RAMP C	LT	W1-8R-36	36 x 48					12.0														
	832		191+40.00	RAMP C	LT	W1-8R-36	36 x 48					12.0														
101-S	832	188+30.50 +/-	188+30.50	RAMP C	LT	E5-H1A-96	96 x 60	2						40.0		2					1			2		
102-S	832	191+50.00 +/-	191+50.00	RAMP C	RT	D10-H5A-30	30 x 30					6.3							1			1				
103-S	840		172+30.00	RAMP D	RT	W1-8R-36	36 x 48					12.0														
103A-S	840		173+10.00	RAMP D	RT	W1-8R-36	36 x 48					12.0														
103B-S	840		173+90.00	RAMP D	RT	W1-8R-36	36 x 48					12.0														
103C-S	840		174+70.00	RAMP D	RT	W1-8R-36	36 x 48					12.0														
103D-S	840		175+50.00	RAMP D	RT	W1-8R-36	36 x 48					12.0														
103E-S	840		176+30.00	RAMP D	RT	W1-8R-36	36 x 48					12.0														
103F-S	840		177+10.00	RAMP D	RT	W1-8R-36	36 x 48					12.0														
103G-S	840		177+90.00	RAMP D	RT	W1-8R-36	36 x 48					12.0														
103H-S	840		178+70.00	RAMP D	RT	W1-8R-36	36 x 48					12.0														
103I-S	840		179+50.00	RAMP D	RT	W1-8R-36	36 x 48					12.0														
103J-S	840		180+30.00	RAMP D	RT	W1-8R-36	36 x 48					12.0														
SUBTOTALS CARRIED TO SHEET NO. 809								2	1			290.9		40		2		1	5		1	5	2			

CALCULATED JDL
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SUM-271-2.33

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REFERENCE NO.	SHEET NO.	STATION		LOCATION	SIDE	SIGN CODE	SIGN SIZE	625	630	630	630	630		630		630			630		630			630	630	630	630	
								GROUND ROD	GROUND MOUNTED SUPPORT, NO. 2 POST	GROUND MOUNTED SUPPORT, NO. 3 POST	GROUND MOUNTED SUPPORT, NO. 4 POST	GROUND MOUNTED STRUCTURAL BEAM SUPPORT, S4X7.7		GROUND MOUNTED STRUCTURAL BEAM SUPPORT, W6X9		GROUND MOUNTED STRUCTURAL BEAM SUPPORT, W8X18			GROUND MOUNTED STRUCTURAL BEAM SUPPORT, W10X12		GROUND MOUNTED STRUCTURAL BEAM SUPPORT, W12X30			ONE WAY SUPPORT, NO. 3 POST	ONE WAY SUPPORT, NO. 4 POST	GROUND MOUNTED SUPPORT, PIPE	SIGN POST REFLECTOR	
		EXISTING	PROPOSED				IN X IN	EACH	FT	FT	FT	FT	FT	FT	FT	FT	FT	FT	FT	FT	FT	FT	FT	FT	FT	FT	EACH	
		IR 77 INTERCHANGE																										
103k-S	840		181+10.00	RAMP D	RT	W1-8R-36	36 x 48			28.0																	2	
103l-S	840		181+90.00	RAMP D	RT	W1-8R-36	36 x 48			27.0																	2	
103m-S	840		182+70.00	RAMP D	RT	W1-8R-36	36 x 48			29.0																	2	
103n-S	840		183+50.00	RAMP D	RT	W1-8R-36	36 x 48			28.0																	2	
103o-S	840		184+30.00	RAMP D	RT	W1-8R-36	36 x 48			28.0																	2	
103p-S	832		185+10.00	RAMP D	RT	W1-8R-36	36 x 48			29.0																	2	
103q-S	832		185+90.00	RAMP D	RT	W1-8R-36	36 x 48			28.0																	2	
103r-S	832		186+70.00	RAMP D	RT	W1-8R-36	36 x 48			27.0																	2	
104-S	840	175+55.60 +/-	175+55.00	RAMP D	LT	D10-H5A-30	30 x 30		12.0																			
105-S	840	180+14.40 +/-	180+14.00	RAMP D	LT	D10-H5A-30	30 x 30		12.0																			
106-S	840	184+00.00 +/-	184+05.00	RAMP D	RT	W1-6R-96	96 x 48							18.2	17.2												2	
107-S	832	187+00.00 +/-	187+00.00	RAMP D	LT	W13-7-48	48 x 84																			18.0		
		SR 303 RAMPS																										
107A-S	837		308+00.00	RAMP E	RT	W1-8R-36	36 x 48			28.0																	2	
	837		309+20.00	RAMP E	RT	W1-8R-36	36 x 48			28.0																	2	
	842		310+40.00	RAMP E	RT	W1-8R-36	36 x 48			28.0																	2	
108-S	842	311+62.00 +/-	311+62.00	RAMP E	RT	W3-1-48	48 x 48			34.0																	2	
109-S	842	311+62.00 +/-	311+62.00	RAMP E	LT	W3-1-48	48 x 48			34.0																	2	
110-S	842	314+19.70 +/-	314+00.00	RAMP E	RT	D1-H5A-120	120 x 24									22.8	26.1											
						D1-H5A-120	120 x 24																					
						D7-H5A-168	168 x 36																					
111-S	842	315+36.00 +/-	318+20.00	RAMP E	RT	R3-H8BD-30	30 x 30			15.0																		
112-S	842	316+43.90 +/-	315+40.00	RAMP E		D7-H5-120	120 x 24												18.6	21.7								
						D7-H5-132	132 x 36																					
						M1-5-30-3	37.5 x 30																					
						M6-4-24	24 x 18																					
						D-SPECIAL																						
						R5-1A-42	42 x 30																					
113-S	842	317+21.00 +/-		RAMP E	RT	D7-H5																						
114-S	842	317+89.30 +/-	317+00.00	RAMP E	RT	D7-H5-120	120 x 36												19.6	20.2								
						D7-H5-120	120 x 36																					
SUBTOTALS CARIED TO SHEET NO. 808									24.0	391.0				18.2	17.2	22.8	26.1		38.2	41.9					18	28	

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REFERENCE NO.	SHEET NO.	STATION EXISTING	STATION PROPOSED	LOCATION	SIDE	SIGN CODE	SIGN SIZE IN X IN	630 BREAKAWAY STRUCTURAL BEAM CONNECTION EACH	630 TRIANGULAR SLIP BASE CONNECTION EACH	630 OVERHEAD SIGN SUPPORT, TYPE TC-7.65, DESIGN 6 EACH	630 OVERHEAD SIGN SUPPORT, TYPE TC-7.65, DESIGN 8 EACH	630 SIGN, FLAT SHEET SQ FT	630 SIGN, FLAT SHEET, AS PER PLAN SQ FT	630 SIGN, GROUND MOUNTED EXTRUSHEET SQ FT	630 SIGN, OVERHEAD EXTRUSHEET SQ FT	630 GROUND MOUNTED STRUCTURAL BEAM SUPPORT FOUNDATION EACH	630 RIGID OVERHEAD SIGN SUPPORT FOUNDATION EACH	630 GROUND MOUNTED PIPE SUPPORT FOUNDATION EACH	630 REMOVAL OF GROUND MOUNTED SIGN AND DISPOSAL EACH	630 REMOVAL OF GROUND MOUNTED SIGN AND REERECTION EACH	630 REMOVAL OF GROUND MOUNTED MAJOR SIGN AND DISPOSAL EACH	630 REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL EACH	630 REMOVAL OF GROUND MOUNTED STRUCTURAL BEAM SUPPORT AND DISPOSAL EACH	630 REMOVAL OF OVERHEAD MOUNTED SIGN AND DISPOSAL EACH	630 REMOVAL OF OVERHEAD SIGN SUPPORT AND DISPOSAL, TYPE TC-7.65 EACH	SPECIAL MISC.: CLEARING AND GRUBBING ACRE
		IR 77 INTERCHANGE																								
103k-S	840		181+10.00	RAMP D	RT	W1-8R-36	36 x 48					12.0														
103l-S	840		181+90.00	RAMP D	RT	W1-8R-36	36 x 48					12.0														
103m-S	840		182+70.00	RAMP D	RT	W1-8R-36	36 x 48					12.0														
103n-S	840		183+50.00	RAMP D	RT	W1-8R-36	36 x 48					12.0														
103o-S	840		184+30.00	RAMP D	RT	W1-8R-36	36 x 48					12.0														
103p-S	832		185+10.00	RAMP D	RT	W1-8R-36	36 x 48					12.0														
103q-S	832		185+90.00	RAMP D	RT	W1-8R-36	36 x 48					12.0														
103r-S	832		186+70.00	RAMP D	RT	W1-8R-36	36 x 48					12.0														
104-S	840	175+55.60 +/-	175+55.00	RAMP D	LT	D10-H5A-30	30 x 30					6.3							1			1				
105-S	840	180+14.40 +/-	180+14.00	RAMP D	LT	D10-H5A-30	30 x 30					6.3							1			1				
106-S	840	184+00.00 +/-	184+05.00	RAMP D	RT	W1-6R-96	96 x 48	2						32.0		2					1		2			0.66
107-S	832	187+00.00 +/-	187+00.00	RAMP D	LT	W13-7-48	48 x 84		1			28.0						1	1			2				
		SR 303 RAMPS																								
107A-S	837		308+00.00	RAMP E	RT	W1-8R-36	36 x 48					12.0														
	837		309+20.00	RAMP E	RT	W1-8R-36	36 x 48					12.0														
	842		310+40.00	RAMP E	RT	W1-8R-36	36 x 48					12.0														
108-S	842	311+62.00 +/-	311+62.00	RAMP E	RT	W3-1-48	48 x 48					16.0							1			2				
109-S	842	311+62.00 +/-	311+62.00	RAMP E	LT	W3-1-48	48 x 48					16.0							1			2				
110-S	842	314+19.70 +/-	314+00.00	RAMP E	RT	D1-H5A-120	120 x 24	2						20.0		2					1		2			0.67
						D1-H5A-120	120 x 24							20.0							1					
						D7-H5A-168	168 x 36							42.0							1					
111-S	842	315+36.00 +/-	318+20.00	RAMP E	RT	R3-H8BD-30	30 x 30					6.3							1			2				
112-S	842	316+43.90 +/-	315+40.00	RAMP E		D7-H5-120	120 x 24	2						20.0		2					1		2			0.65
						D7-H5-132	132 x 36							33.0							1					
						M1-5-30-3	37.5 x 30					7.8							1							
						M6-4-24	24 x 18					3.0							1							
						D-SPECIAL														1						
						R5-1A-42	42 x 30					8.8							1							
113-S	842	317+21.00 +/-		RAMP E	RT	D7-H5													1			2				
114-S	842	317+89.30 +/-	317+00.00	RAMP E	RT	D7-H5-120	120 x 36	2						30.0		2			1			2				0.67
						D7-H5-120	120 x 36							30.0												
SUBTOTALS CARRIED TO SHEET NO. 809								8	1			230.3		227		8		1	11	1	6	14	6			2.65

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REFERENCE NO.	SHEET NO.	STATION EXISTING	STATION PROPOSED	LOCATION	SIDE	SIGN CODE	SIGN SIZE IN X IN	625 GROUND ROD EACH	630 GROUND MOUNTED SUPPORT, NO. 2 POST FT	630 GROUND MOUNTED SUPPORT, NO. 3 POST FT	630 GROUND MOUNTED SUPPORT, NO. 4 POST FT	630 GROUND MOUNTED STRUCTURAL BEAM SUPPORT, S4X7.7 FT	FT	630 GROUND MOUNTED STRUCTURAL BEAM SUPPORT, W6X9 FT	FT	630 GROUND MOUNTED STRUCTURAL BEAM SUPPORT, W8X18 FT	FT	FT	630 GROUND MOUNTED STRUCTURAL BEAM SUPPORT, W10X12 FT	FT	630 GROUND MOUNTED STRUCTURAL BEAM SUPPORT, W12X30 FT	FT	FT	630 ONE WAY SUPPORT, NO. 3 POST FT	630 ONE WAY SUPPORT, NO. 4 POST FT	630 GROUND MOUNTED SUPPORT, PIPE FT	630 SIGN POST REFLECTOR EACH	
		SR 303 RAMPS																										
115-S	842	319+72.30 +/-	319+90.00	RAMP E	RT	R1-1-48	48 x 48				16.0														17.0		4	
						R5-1-36	36 x 36																					
						R6-1L-36	36 x 12																					
						R6-1R-36	36 x 12																					
116-S	842	319+74.50 +/-	319+80.00	RAMP E	LT	R4-7B-24	24 x 30			14.0																		
117-S	842	305+00.00 +/-	305+00.00	RAMP H	RT	R5-H10D-36	36 x 36			15.0																		
118-S	842	305+95.00 +/-	306+00.00	RAMP H	RT	R21-H2-30	30 x 36			15.0																		
119-S	842	314+57.40 +/-	314+60.00	RAMP F	LT	R5-H10D-36	36 x 36			15.0																		
120-S	842	311+56.00 +/-	311+56.00	RAMP F	LT	R21-H2-30	30 x 36			15.0																		
121-S	842	304+67.30 +/-	304+80.00	RAMP G	RT	R4-7B-24	24 x 30			14.0																		
122-S	842	304+65.90 +/-	304+40.00	RAMP G	LT	R1-1-48	48 x 48			16															17.0		4	
						R5-1-36	36 x 36																					
						R6-1L-36	36 x 12																					
						R6-1R-36	36 x 12																					
123-S	842	306+49.18 +/-	307+00.00	RAMP G	LT	D7-H5-120	120 x 36									23.7	23											
						D7-H5-120	120 x 36																					
						D7-H5-132	132 x 36																					
124-S	842	307+57.64 +/-	308+00.00	RAMP G	LT	D1-H5A-120	120 x 24												20.7	20.0								
						D1-H5A-120	120 x 24																					
						D7-H5-120	120 x 24																					
						M1-5-30-3	30 x 37.5																					
						M6-4-24	24 x 18																					
						D-SPECIAL																					
125-S	842	308+50.00 +/-	305+80.00	RAMP G	LT	R3-H8BD-30	30 x 30			14.0																		
125a-S	842		309+00.00	RAMP G	LT	W3-1-48	48 x 48			34.0																	2	
			309+00.00	RAMP G	RT	W3-1-48	48 x 48			34.0																	2	
125B-S	842		309+90.00	RAMP G	RT	W1-8R-36	36 x 48			28.0																	2	
	842		310+80.00	RAMP G	RT	W1-8R-36	36 x 48			28.0																	2	
	842		311+70.00	RAMP G	RT	W1-8R-36	36 x 48			28.0																	2	
126-S	842	310+65.40 +/-	310+65.40	RAMP G	LT	R5-1A-42	42 x 30			14.0																		
127-S	842	310+65.40 +/-	314+65.40	RAMP G	RT	R5-1A-42	42 x 30			14.0																		
TOTALS FROM THIS SHEET NO. 808										298	16.0					23.7	23		20.7	20				17.0	17.0		18	
TOTALS FROM SHEET NO. 796								4		152.0	35.0	65.8	64.0						45.0	39.4	87.1	85.2	61.5					
TOTALS FROM SHEET NO. 798								2		106.0	72.0					41.8	49.4	27.0			159.5	145.3				34.0		
TOTALS FROM SHEET NO. 800										295	32.0	33.9	33.8								83.4	84.5				98.0	4	
TOTALS FROM SHEET NO. 802									62	217	76			17.9	17.9				17.9	18.6				14.0			22	
TOTALS FROM SHEET NO. 804									36	569				18.2	18.2											16	42	
TOTALS FROM SHEET NO. 806									24	391				18.2	17.2	22.8	26.1		38.2	41.9						18	28	
TOTALS								6	122	2028	231	100.0	98.0	55	54	89	99	27	122.0	120.0	330.0	315.0	62.0	31.0	17.0	166	114	
TOTALS CARRIED TO GENERAL SUMMARY								**6**	**122**	**2028**	**231**	**198**		**109**		**215**			**242**		**707**			**31**	**17**	**166**	**114**	

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REFERENCE NO.	SHEET NO.	STATION EXISTING	STATION PROPOSED	LOCATION	SIDE	SIGN CODE	SIGN SIZE	630 BREAKAWAY STRUCTURAL BEAM CONNECTION	630 TRIANGULAR SLIP BASE CONNECTION	630 OVERHEAD SIGN SUPPORT, TYPE TC-7.65, DESIGN 6	630 OVERHEAD SIGN SUPPORT, TYPE TC-7.65, DESIGN 8	630 SIGN, FLAT SHEET	630 SIGN, FLAT SHEET, AS PER PLAN	630 SIGN, GROUND MOUNTED EXTRUSHEET	630 SIGN, OVERHEAD EXTRUSHEET	630 GROUND MOUNTED STRUCTURAL BEAM SUPPORT FOUNDATION	630 RIGID OVERHEAD SIGN SUPPORT FOUNDATION	630 GROUND MOUNTED PIPE SUPPORT FOUNDATION	630 REMOVAL OF GROUND MOUNTED SIGN AND DISPOSAL	630 REMOVAL OF GROUND MOUNTED SIGN AND REERECTION	630 REMOVAL OF GROUND MOUNTED MAJOR SIGN AND DISPOSAL	630 REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL	630 REMOVAL OF GROUND MOUNTED STRUCTURAL BEAM SUPPORT AND DISPOSAL	630 REMOVAL OF OVERHEAD MOUNTED SIGN AND DISPOSAL	630 REMOVAL OF OVERHEAD SIGN SUPPORT AND DISPOSAL, TYPE TC-7.65	SPECIAL MISC.: CLEARING AND GRUBBING
							IN X IN	EACH	EACH	EACH	EACH	SQ FT	SQ FT	SQ FT	SQ FT	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	ACRE
		SR 303 RAMPS																								
115-S	842	319+72.30 +/-	319+90.00	RAMP E	RT	R1-1-48	48 x 48					16.0							1			2				
						R5-1-36	36 x 36					9.0							1							
						R6-1L-36	36 x 12					3.0							1							
						R6-1R-36	36 x 12					3.0							1							
116-S	842	319+74.50 +/-	319+80.00	RAMP E	LT	R4-7B-24	24 x 30					5.0							1			1				
117-S	842	305+00.00 +/-	305+00.00	RAMP H	RT	R5-H10D-36	36 x 36					9.0							1			1				
118-S	842	305+95.00 +/-	306+00.00	RAMP H	RT	R21-H2-30	30 x 36					7.5							1			2				
119-S	842	314+57.40 +/-	314+60.00	RAMP F	LT	R5-H10D-36	36 x 36					9.0							1			1				
120-S	842	311+56.00 +/-	311+56.00	RAMP F	LT	R21-H2-30	30 x 36					7.5							1			2				
121-S	842	304+67.30 +/-	304+80.00	RAMP G	RT	R4-7B-24	24 x 30					5.0							1			1				
122-S	842	304+65.90 +/-	304+40.00	RAMP G	LT	R1-1-48	48 x 48					16.0							1			2				
						R5-1-36	36 x 36					9.0							1							
						R6-1L-36	36 x 12					3.0							1							
						R6-1R-36	36 x 12					3.0							1							
123-S	842	306+49.18 +/-	307+00.00	RAMP G	LT	D7-H5-120	120 x 36	2						30.0		2			1			2				0.65
						D7-H5-120	120 x 36							30.0					1							
						D7-H5-132	132 x 36							33.0												
124-S	842	307+57.64 +/-	308+00.00	RAMP G	LT	D1-H5A-120	120 x 24	2						20.0		2					1		2			0.65
						D1-H5A-120	120 x 24							20.0							1					
						D7-H5-120	120 x 24							20.0							1					
						M1-5-30-3	30 x 37.5					7.8							1							
						M6-4-24	24 x 18					3.0							1							
						D-SPECIAL														1						
125-S	842	308+50.00 +/-	305+80.00	RAMP G	LT	R3-H8BD-30	30 x 30					6.3							1			2				
125a-S	842		309+00.00	RAMP G	LT	W3-1-48	48 x 48					16.0														
			309+00.00	RAMP G	RT	W3-1-48	48 x 48					16.0														
125B-S	842		309+90.00	RAMP G	RT	W1-8R-36	36 x 48					12.0														
	842		310+80.00	RAMP G	RT	W1-8R-36	36 x 48					12.0														
	842		311+70.00	RAMP G	RT	W1-8R-36	36 x 48					12.0														
126-S	842	310+65.40 +/-	310+65.40	RAMP G	LT	R5-1A-42	42 x 30					8.8							1			1				
127-S	842	310+65.40 +/-	314+65.40	RAMP G	RT	R5-1A-42	42 x 30					8.8							1			1				
TOTALS FROM THIS SHEET NO. 809								4				207.6		153		4			21	1	3	18	2			1.30
TOTALS FROM SHEET NO. 797								20		1	1	101.5		868.0	632.0	20	4		13		10	10	20	7	2	4.78
TOTALS FROM SHEET NO. 799								15	2	1		135.8		1250.0	354.0	15	2	2	20		7	12	15	3	1	5.21
TOTALS FROM SHEET NO. 801								10	6			244.5	16.0	610.0		10		6	19	4	5	23	10			2.62
TOTALS FROM SHEET NO. 803								4				209.4		98.1		4			17		1	14	2			0.66
TOTALS FROM SHEET NO. 805								2	1			290.9		40		2		1	5		1	5	2			
TOTALS FROM SHEET NO. 807								8	1			230.3		227		8		1	11	1	6	14	6			2.65
TOTALS								63	10	2	1	1420	16	3247	986	63	6	10	106	6	33	96	57	10	3	17.22
TOTALS CARRIED TO GENERAL SUMMARY								**63**	**10**	**2**	**1**	**1420**	**16**	**3247**	**986**	**63**	**6**	**10**	**106**	**6**	**33**	**96**	**57**	**10**	**3**	**17.22**

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SHEET NO.	REFERENCE NO.	LOCATION	STATION	SIDE	CODE	SIZE (INCHES)	625 GROUND ROD EACH	625 CONDUIT, 2", 725.05 FT	630 GROUND MOUNTED SUPPORT, NO. 3 POST FT	630 SIGN, FLAT SHEET SQ FT	630 SIGN, OVERHEAD EXTRUSHEET SQ FT	630 REMOVAL OF GROUND MOUNTED SIGN AND DISPOSAL EACH	630 REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL EACH	630 REMOVAL OF GROUND MOUNTED SIGN AND REERECTION EACH	630 OVERHEAD SIGN SUPPORT, TYPE TC-12.30, DESIGN 2 EACH	630 OVERHEAD SIGN SUPPORT, TYPE TC-12.30, DESIGN 4 EACH	630 RIGID OVERHEAD SIGN SUPPORT AND FOUNDATION EACH	630 REMOVAL OF OVERHEAD MOUNTED SIGN AND DISPOSAL EACH	630 REMOVAL OF OVERHEAD SIGN SUPPORT AND DISPOSAL EACH	630 GROUND MOUNTED SUPPORT, PIPE FT	630 GROUND MOUNTED PIPE SUPPORT FOUNDATION EACH	630 TRIANGULAR SLIP BASE CONNECTION EACH
846	L-1	℄ CONSTR., S.R. 176	86+95 TO 90+78	LT.				383														
846	L-2	℄ CONSTR., S.R. 176	86+95 TO 90+78	RT.				383														
844	S-1	℄ CONSTR., C.R. 17	58+60	RT.	D1-h4-72	72"X12"			20.0-20.0	6.0												
					M3-3-24	24"X12"				2.0												
					M1-1-24-3	30"X24"				5.0												
					M5-IL-30	30"X21"				4.4												
844	S-2	℄ CONSTR., C.R. 17	63+80	RT.	D1-h4-72	72"X12"			20.0-20.0	6.0												
					M3-3-24	24"X12"				2.0												
					M1-1-24-3	30"X24"				5.0												
					M6-IL-30	30"X21"				4.4												
844	S-3	℄ CONSTR., C.R. 17	63+40	LT.	D1-h4-72	72"X12"			20.0-20.0	6.0												
					M3-3-24	24"X12"				2.0												
					M1-1-24-3	30"X24"				5.0												
					M6-IR-30	30"X21"				4.4												
844	R-1	℄ CONSTR., C.R. 17	56+20	RT.								8	2									
844	R-2	℄ CONSTR., C.R. 17	58+60	RT.								4	2									
844	R-3	℄ CONSTR., C.R. 17	63+77	RT.								4	2									
844	R-4	℄ CONSTR., C.R. 17	63+40	LT.								4	2									
845	S-1	℄ CONSTR., S.R. 303	41+40	LT.	M1-H5-3-24	37.5"x24"			13.5	6.3												
					M3-4-24	24"x15"				2.5												
845	S-2	℄ CONSTR., S.R. 303	41+00	RT.	W9-IL-30	30"X30"			13.5	6.3												
845	S-3	℄ CONSTR., S.R. 303	41+60	RT.	E1-H1	9'x7'	1				63.0					1	1					
					E1-H1	9'x7'					63.0											
845	S-4	℄ CONSTR., S.R. 303	42+60	LT.	M2-H4-108	108"x36"			12.5 - 12.5	27.0												
845	S-5	℄ CONSTR., S.R. 303	44+00	LT.	R2-1-30	24"x30"			12.0	5.0												
845	S-6	℄ CONSTR., S.R. 303	46+53	LT.										1								
845	S-7	℄ CONSTR., S.R. 303	43+50	RT.	W4-2L-30	30"X30"			13.0	6.3												
845	S-8	℄ CONSTR., S.R. 303	45+00	RT.	R2-1-30	24"X30"			12.0	5.0												
845	S-9	℄ CONSTR., S.R. 303	46+60	RT.	1-H2E-48	48"x24"			11.5 - 11.5	8.0												
845	R-1	℄ CONSTR., S.R. 303	41+40	LT.								2	1									
845	R-2	℄ CONSTR., S.R. 303	41+60	RT.															2	1		
845	R-3	℄ CONSTR., S.R. 303	42+60	LT.								1	2									
845	R-4	℄ CONSTR., S.R. 303	44+00	LT.								1	1									
845	R-5	℄ CONSTR., S.R. 303	46+60	RT.								1	2									
846	S-1	℄ CONSTR., S.R. 303	47+50	RT.	M2-H3-48	48"x60"															14.5-15.0	2	2
846	S-2	℄ CONSTR., S.R. 303	52+21	LT.	M2-H3-48	48"x60"															14.5-15.0	2	2
846	S-3	℄ CONSTR., S.R. 303	53+14	RT.	R3-H8BB-30	30"x30"			12.0	6.3												
846	S-4	℄ CONSTR., S.R. 303	55+65	LT.	M2-H4	108"x36"			12.5 - 12.5	27.0												
846	S-5	℄ CONSTR., S.R. 303	54+20	RT.	E1-H1	8'x7'	1				56.0				1		1					
					E1-H1	8'x7'					56.0											
846	S-6	℄ CONSTR., S.R. 303	57+97	LT.	R3-H8BA-30	30"x30"			14.5	6.3				1								
SHEET SUBTOTALS							2	766.00	283.5	158.2	238.0	25	14	2	1	1	2	2	1	59.0	4	4
SHEET TOTALS CARRIED TO SHEET 811							2	766	283.5	158.2	238.0	25	14	2	1	1	2	2	1	59.0	4	4

CALCULATED DQ
CHECKED PEK

SIDEROAD SIGNING SUBSUMMARY

SUM-271-2.33

810
1195

P:\Land Development Projects\503-110 SUM-271-0233 (Richland Engineering)\roadway\sheets\187101S003.dgn 11/12/2012 9:40:31 AM CECUSER

SHEET NO.	REFERENCE NO.	LOCATION	STATION	SIDE	CODE	SIZE (INCHES)	625 GROUND ROD EACH	625 CONDUIT, 2", 725.05 FT	630 GROUND MOUNTED SUPPORT, NO. 3 POST FT	630 SIGN, FLAT SHEET SQ FT	630 SIGN, OVERHEAD EXTRUSHEET SQ FT	630 REMOVAL OF GROUND MOUNTED SIGN AND DISPOSAL EACH	630 REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL EACH	630 REMOVAL OF GROUND MOUNTED SIGN AND REERECTION EACH	630 OVERHEAD SIGN SUPPORT, TYPE TC-12.30, DESIGN 2 EACH	630 OVERHEAD SIGN SUPPORT, TYPE TC-12.30, DESIGN 4 EACH	630 RIGID OVERHEAD SIGN SUPPORT FOUNDATION EACH	630 REMOVAL OF OVERHEAD MOUNTED SIGN DISPOSAL EACH	630 REMOVAL OF OVERHEAD SIGN SUPPORT AND DISPOSAL EACH	630 GROUND MOUNTED SUPPORT, PIPE FT	630 GROUND MOUNTED PIPE SUPPORT FOUNDATION EACH	630 TRIANGULAR SLIP BASE CONNECTION EACH
846	R-1	℄ CONSTR., S.R. 303	47+70	RT.								1	2									
846	R-2	℄ CONSTR., S.R. 303	52+11	LT.								1	2									
846	R-3	℄ CONSTR., S.R. 303	51+72	RT.								1	1									
846	R-4	℄ CONSTR., S.R. 303	52+28	RT.								1	1									
846	R-5	℄ CONSTR., S.R. 303	55+64	LT.								1	2									
846	R-6	℄ CONSTR., S.R. 303	53+75	RT.								1	1									
846	R-7	℄ CONSTR., S.R. 303	54+79	RT.														2	1			
846	L-1	℄ CONSTR., S.R. 303	48+21 TO 51+84	LT.				360.00														
846	L-2	℄ CONSTR., S.R. 303	48+04 TO 51+64	RT.				360.00														
SHEET SUBTOTALS							0	720.00	0	0	0	6	9	0	0	0	0	2	1	0	0	0
SHEET TOTALS							0	720.00	0	0	0	6	9	0	0	0	0	2	1	0	0	0
SHEET TOTALS CARRIED FROM SHEET 810							2	766.00	283.5	158.2	238.0	25	14	2	1	1	2	2	1	59.0	4	4
GRAND TOTALS							2	1486.00	283.5	158.2	238.0	31	23	2	1	1	2	4	2	59.0	4	4
TOTALS CARRIED TO GENERAL SUMMARY							2	1486	283.5	158.2	238.0	31	23	2	1	1	2	4	2	59.0	4	4

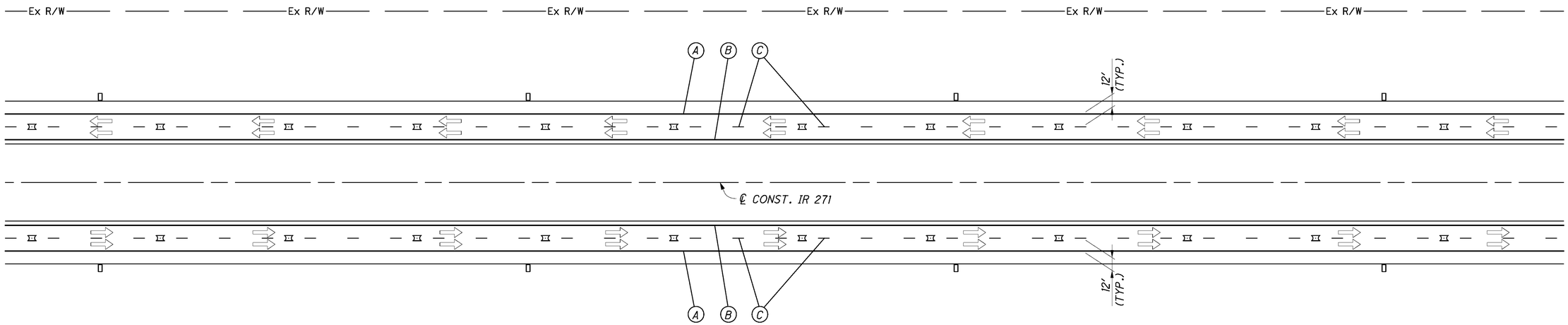
CALCULATED DO
CHECKED PEK

SIDEROAD SIGNING SUBSUMMARY

SUM-271-2.33

811
1195

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PAVEMENT MARKING LEGEND

- (A) 646 EDGE LINE, WHITE
- (B) 646 EDGE LINE, YELLOW
- (C) 646 LANE LINE
- (D) 646 CHANNELIZING LINE, 12"
- (E) 646 TRANSVERSE/DIAGONAL LINE, WHITE
- (F) 646 STOP LINE
- (G) 646 TRANSVERSE/DIAGONAL LINE, YELLOW
- (H) 646 CROSSWALK LINE
- (I) 646 LANE ARROW
- (J) 646 LANE LINE
- (K) 646 DOTTED LINE, WHITE
- (L) 646 CENTER LINE
- (M) 646 ISLAND MARKING, YELLOW
- ⇦ TRAFFIC DIRECTION

RAISED PAVEMENT MARKER (RPM) LEGEND

- ¤ 1 WAY (WHITE) @ 120' C/C
- ¤ 2 WAY (WHITE/RED) @ 40' C/C (UNLESS OTHERWISE SHOWN)
- ¤ 2 WAY (YELLOW/RED) @ 80' C/C

DELINEATOR LEGEND

- ▯ TYPE C DELINEATOR, WHITE (400' SPACING UNLESS OTHERWISE NOTED ON RAMP & DECELERATION LANE)
- ▮ TYPE D DELINEATOR, YELLOW (200' SPACING UNLESS OTHERWISE NOTED ON RAMP & DECELERATION LANE)

NOTE: SEE STANDARD CONSTRUCTION DRAWINGS TC-61.10, TC-65.10, TC-65.11, TC-71.10, AND TC-72.20 FOR ADDITIONAL DETAILS.

SEE SHEETS 792 - 794 FOR QUANTITIES.

HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED JDL
CHECKED JAB

TYPICAL PAVEMENT MARKING PLAN

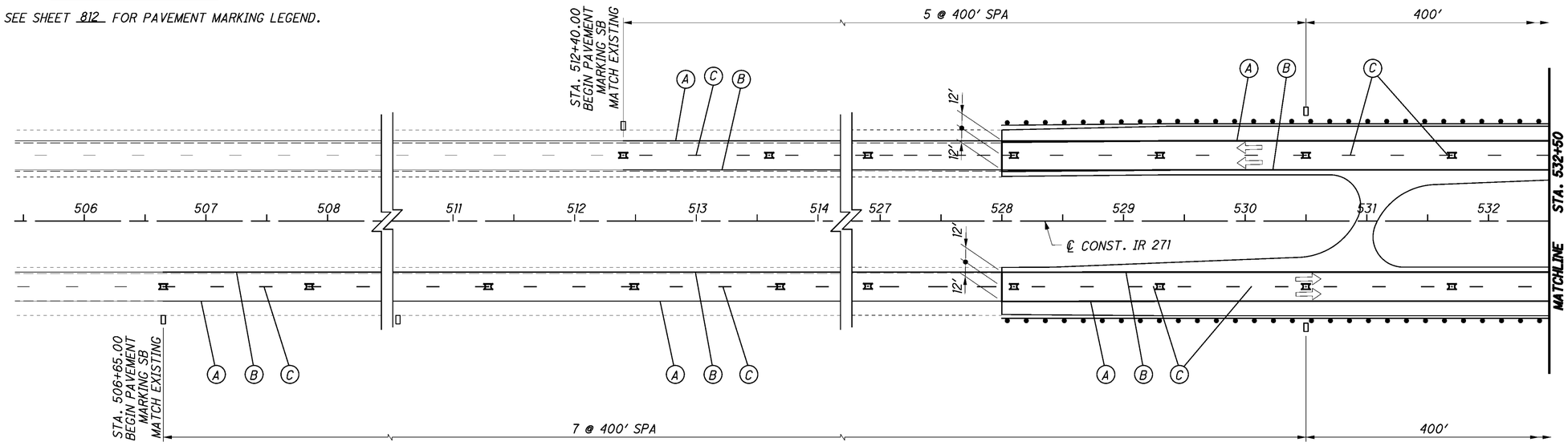
SUM-271-2.33

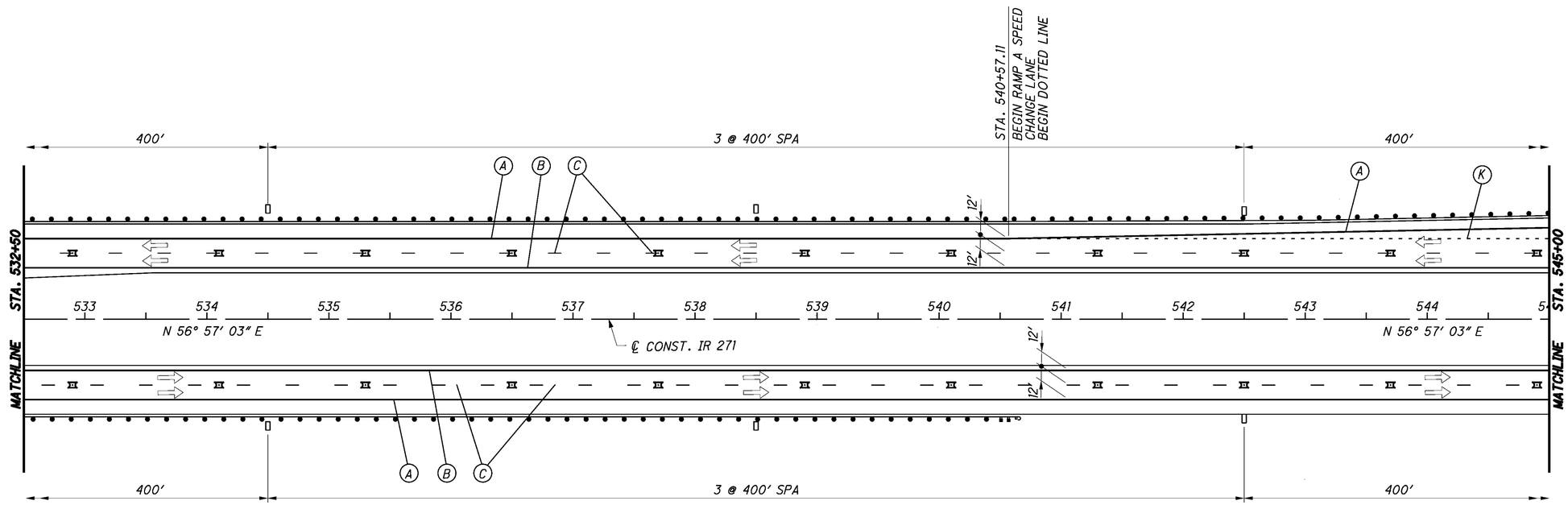
812
1195

F:\2009\109094\18710\roadway\sheets\18710TD001.dgn 10/7/2012 11:28:34 AM JeremyLay

PAVEMENT MARKING NOTES

1. SEE SHEET 812 FOR PAVEMENT MARKING LEGEND.





HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED JDL
CHECKED JAB

TRAFFIC CONTROL PLAN
STA. 520+00 TO STA. 545+00

SUM-271-2.33

813
1195

F:\2009\109094\18710\roadway\sheets\18710TP001.dgn 10/25/2012 9:50:53 AM SteveVorr

PAVEMENT MARKING NOTES

1. SEE SHEET 812 FOR PAVEMENT MARKING LEGEND.
2. TRANSVERSE DIAGONAL LINE (E) SPACING AND WIDTH IN GORE AREA AS PER SCD TC-72.20.
3. SEE SHEET 843 FOR SR 176 (BROADVIEW RD.) MARKING PLAN.

HORIZONTAL SCALE IN FEET
0 25 50 100

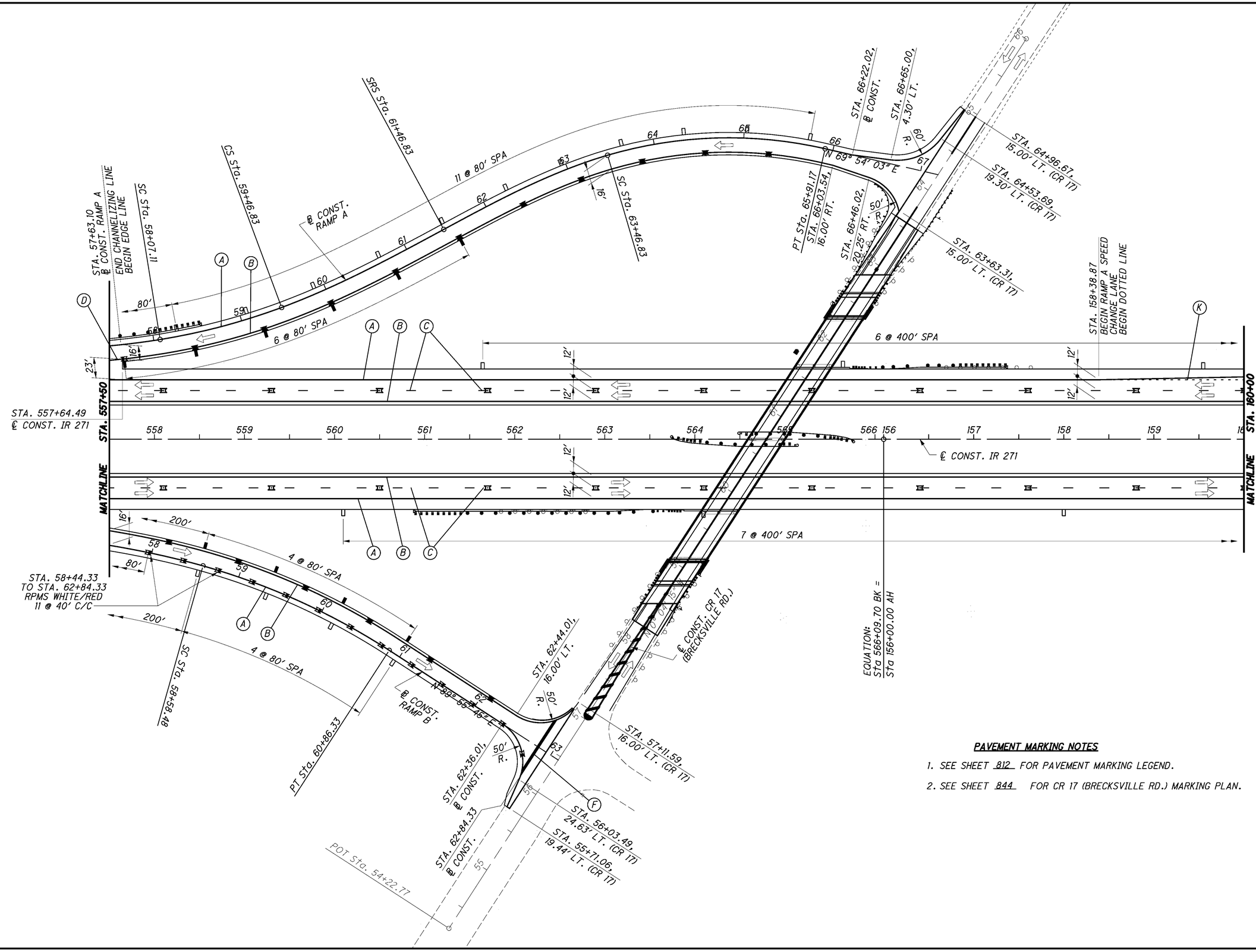
CALCULATED JDL
CHECKED JAB

TRAFFIC CONTROL PLAN
STA. 545+00 TO STA. 557+50

SUM-271-2.33

814
1195

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PAVEMENT MARKING NOTES

1. SEE SHEET 812 FOR PAVEMENT MARKING LEGEND.
2. SEE SHEET 844 FOR CR 17 (BRECKSVILLE RD.) MARKING PLAN.

HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED JDL
CHECKED JAB

TRAFFIC CONTROL PLAN
STA. 557+50 TO STA. 160+00

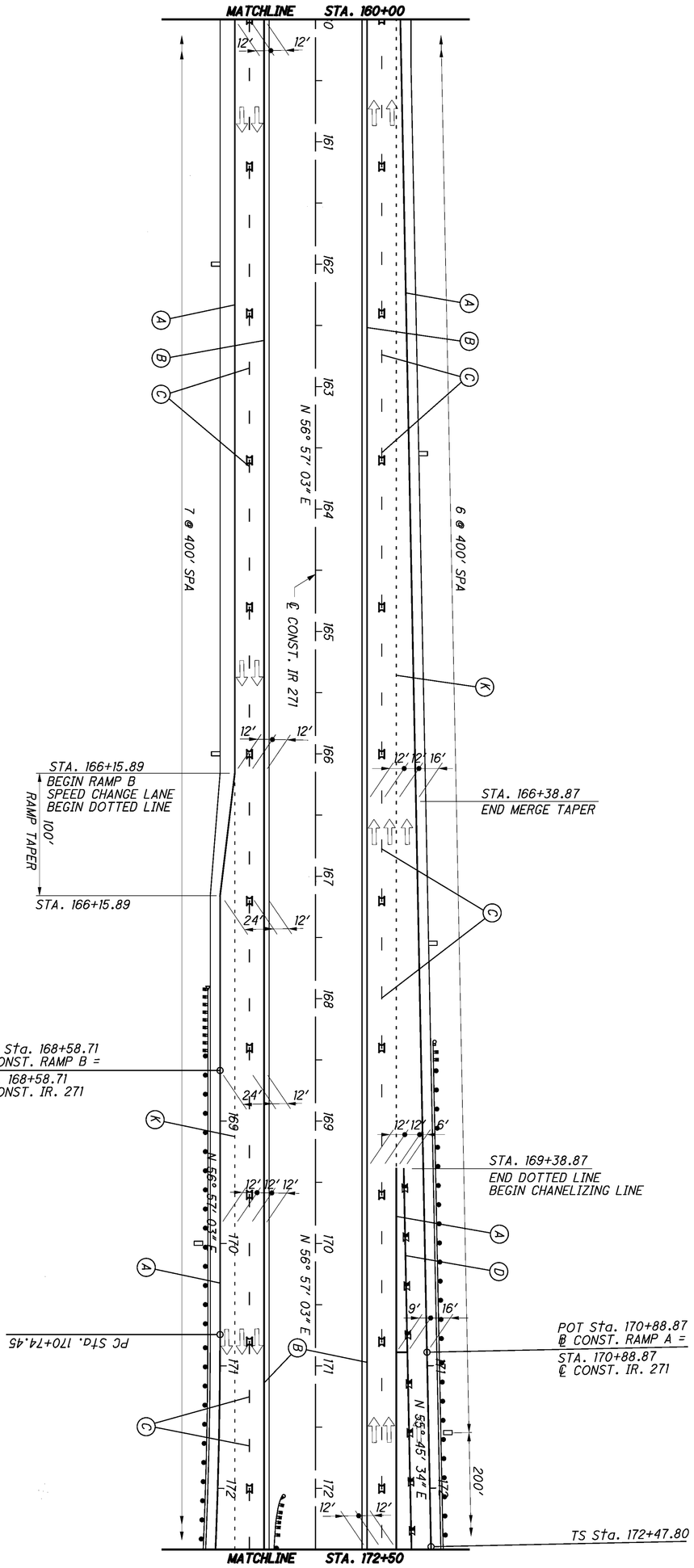
SUM-271-2.33

815
1195

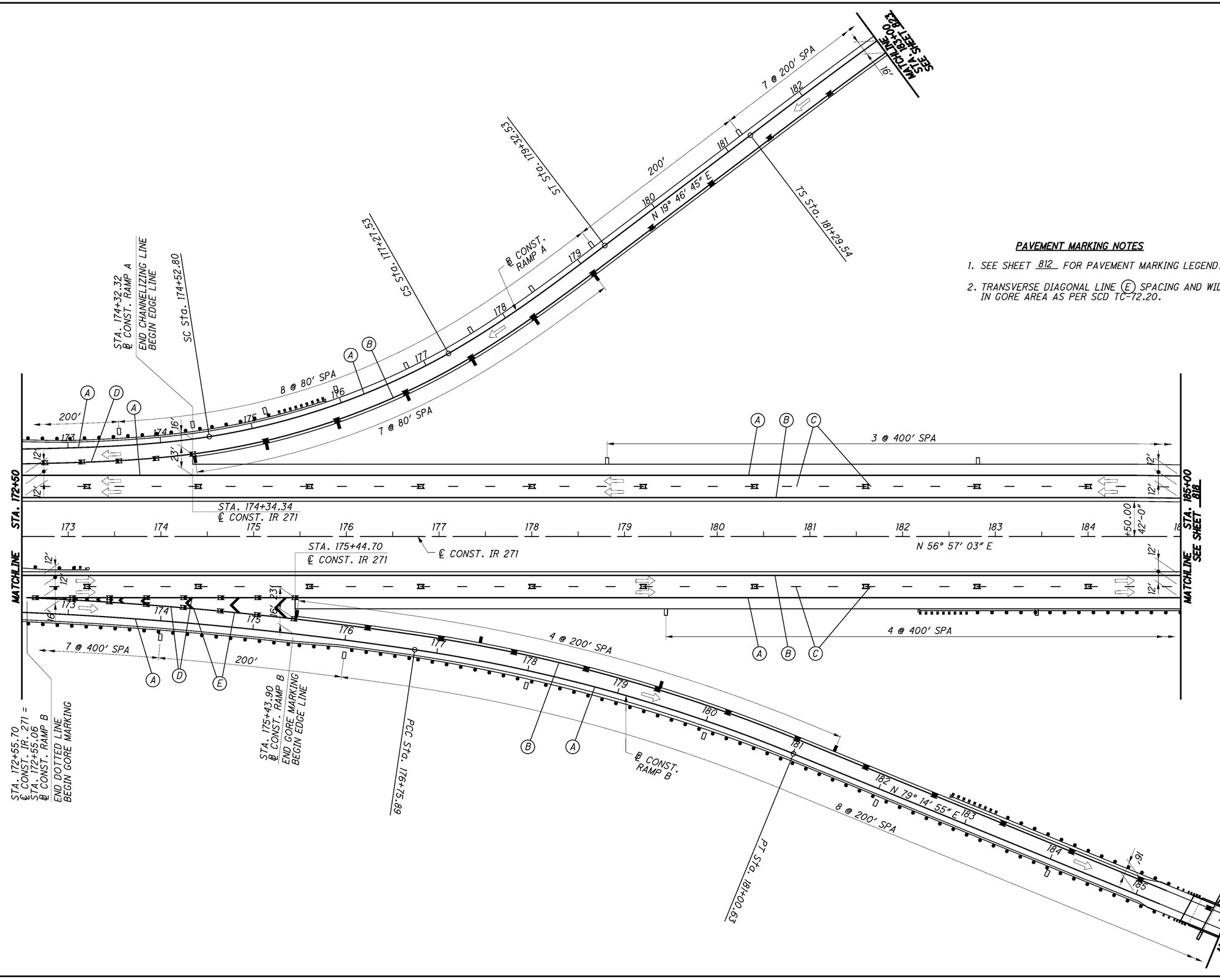
F:\2009\109094\18710\roadway\sheets\18710TP003.dgn 11/9/2012 2:13:51 PM Jeremy.Loy

PAVEMENT MARKING NOTES

1. SEE SHEET 812 FOR PAVEMENT MARKING LEGEND.



816 / 1195	SUM-271-2.33	TRAFFIC CONTROL PLAN STA. 160+00 TO STA. 172+50	CALCULATED JDL CHECKED PRS	0 50 25 100 HORIZONTAL SCALE IN FEET



PAVEMENT MARKING NOTES

1. SEE SHEET 812 FOR PAVEMENT MARKING LEGEND.
2. TRANSVERSE DIAGONAL LINE (E) SPACING AND WIDTH IN GORE AREA AS PER SCD TC-72.20.

HORIZONTAL SCALE IN FEET
0 25 50 100

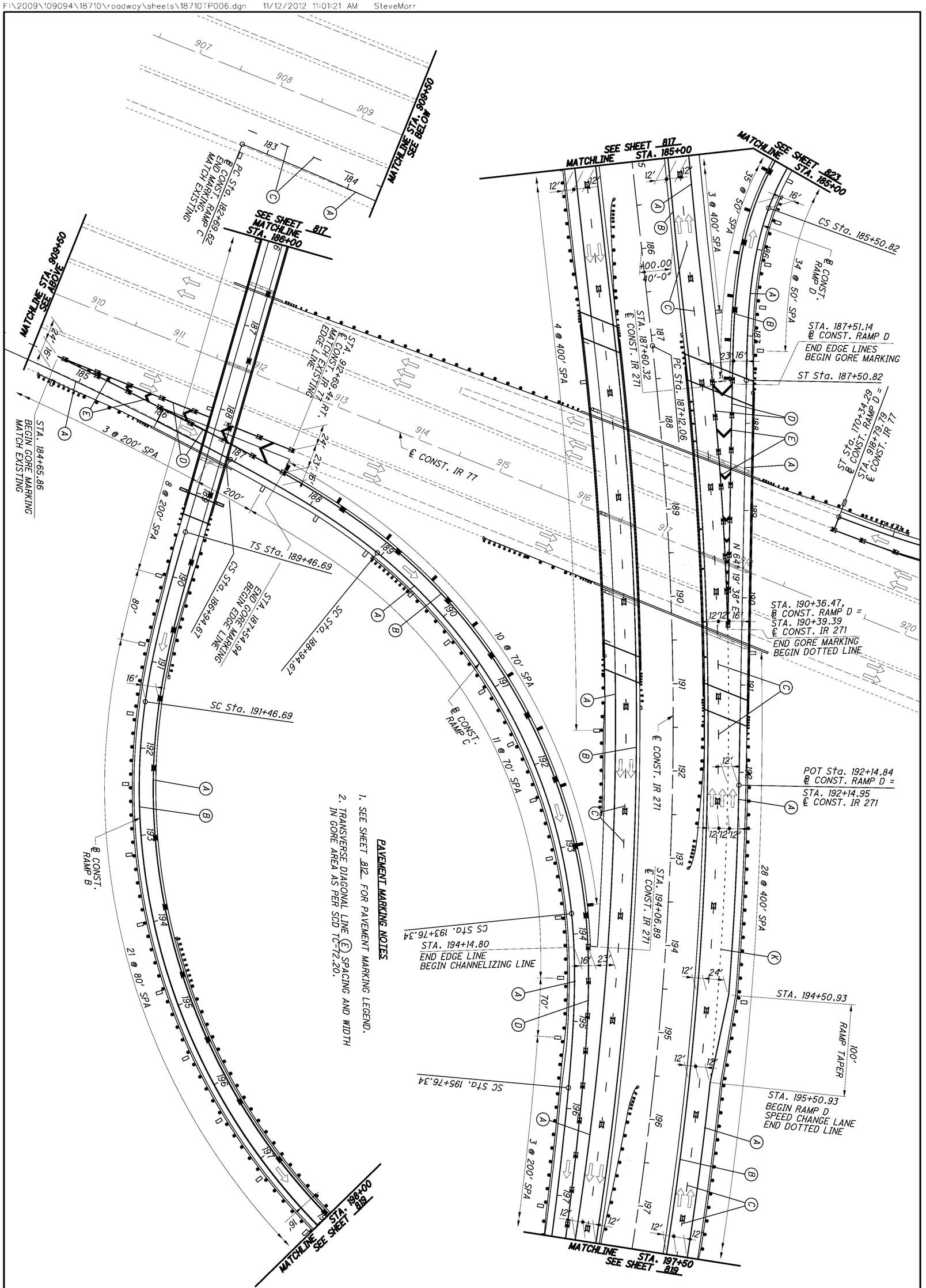
CALCULATED JDL
CHECKED PRS

TRAFFIC CONTROL PLAN
STA. 172+50 TO STA. 185+00

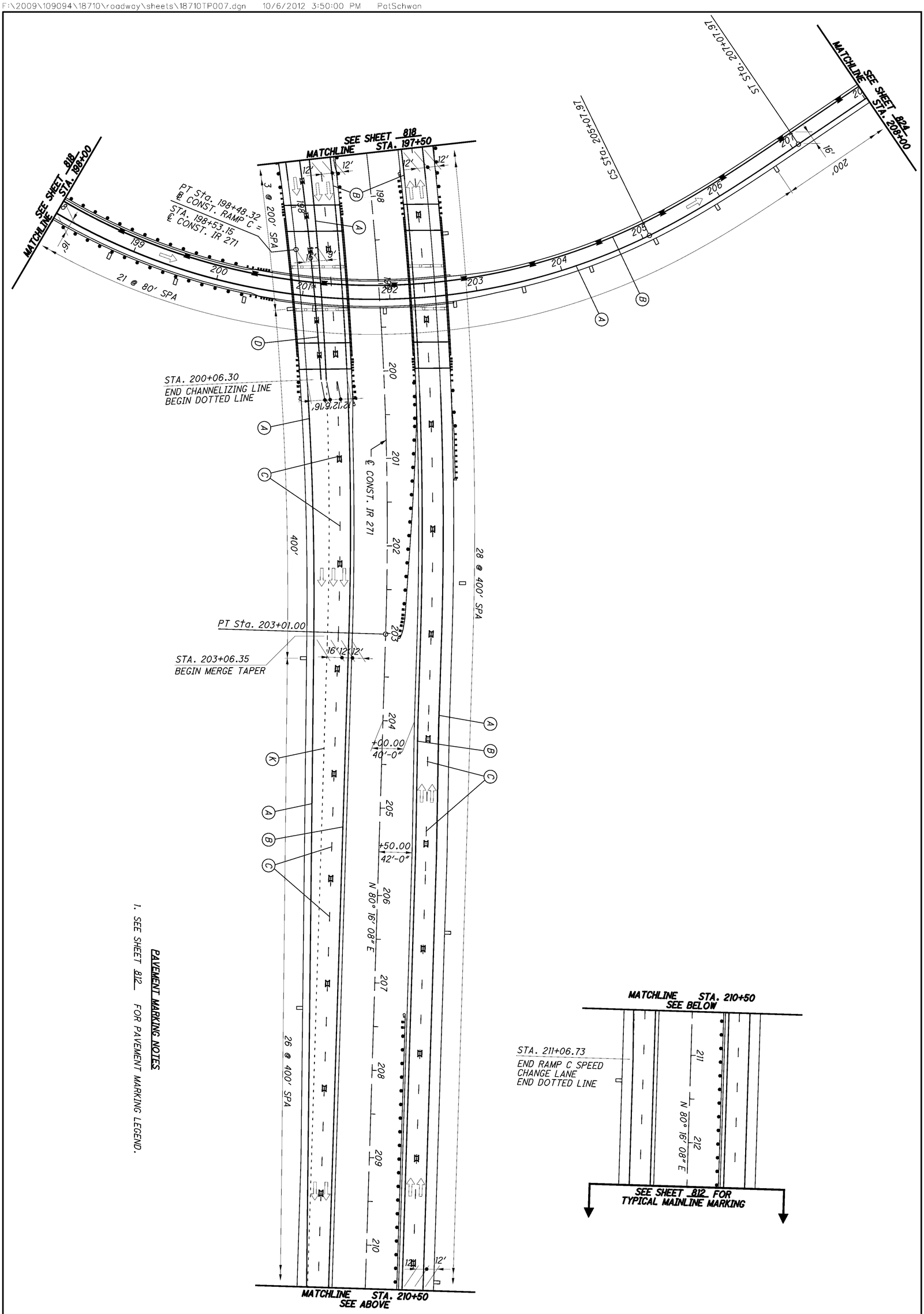
SUM-271-2.33

817
1195

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818 / 1195	SUM-271-2.33	TRAFFIC CONTROL PLAN STA. 185+00 TO STA. 197+50	CALCULATED JDL CHECKED PRS	0 50 25 100 HORIZONTAL SCALE IN FEET

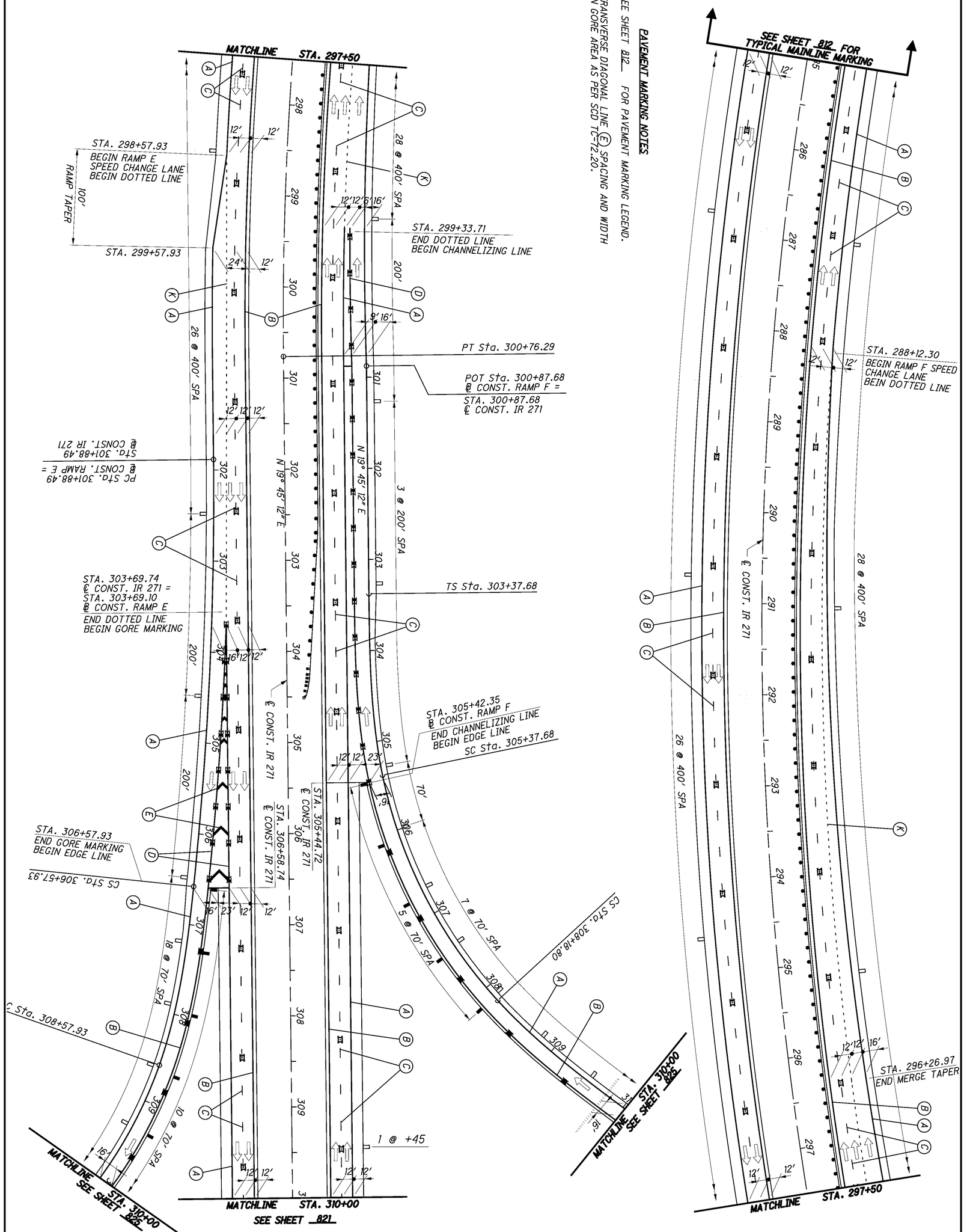


PAVEMENT MARKING NOTES

1. SEE SHEET 812 FOR PAVEMENT MARKING LEGEND.

819 / 1195	SUM-271-2.33	TRAFFIC CONTROL PLAN STA. 197+50 TO STA. 210+50	CALCULATED JDL CHECKED PRS	0 50 25 100 HORIZONTAL SCALE IN FEET	N

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PAVEMENT MARKING NOTES

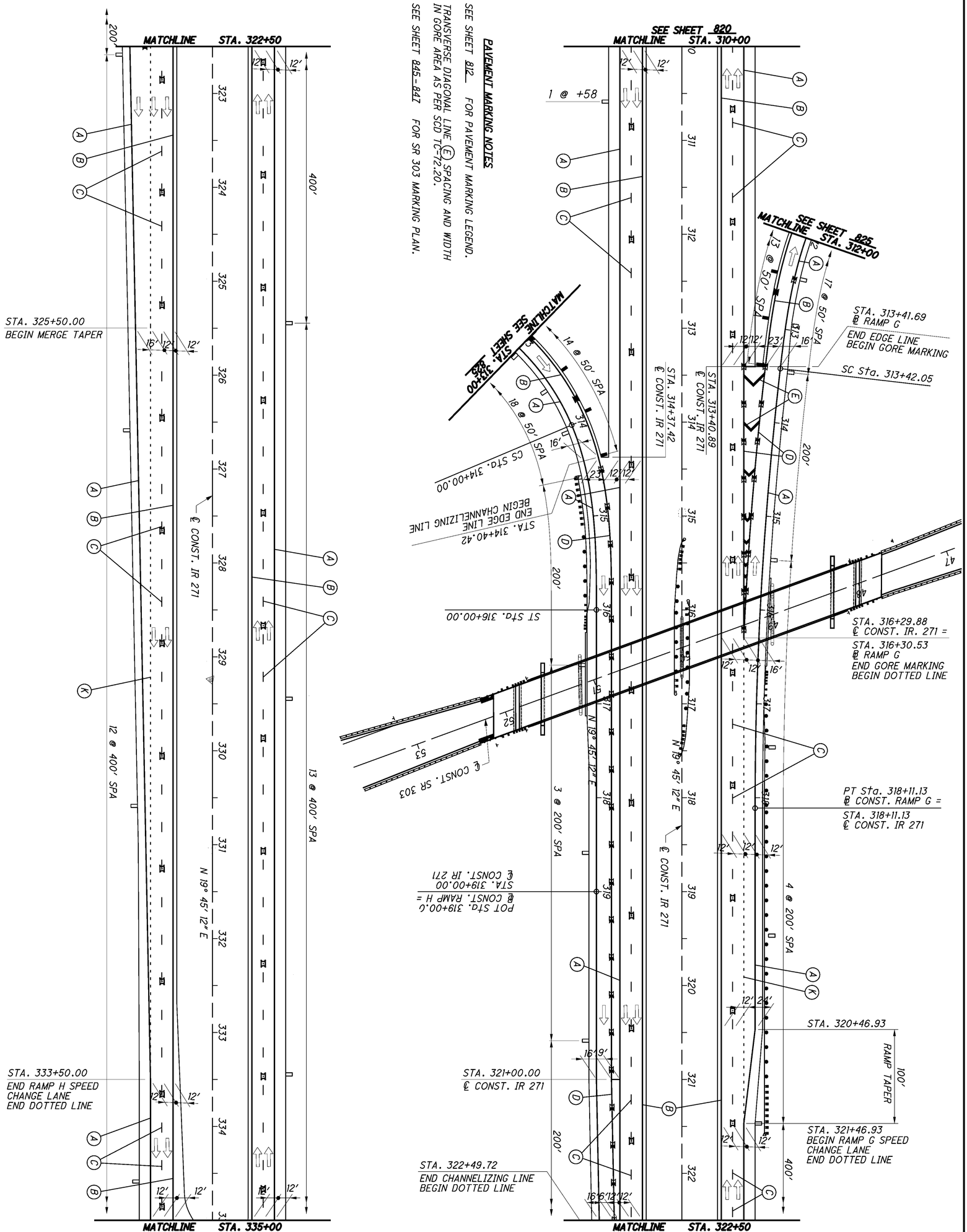
1. SEE SHEET 812 FOR PAVEMENT MARKING LEGEND.
2. TRANSVERSE DIAGONAL LINE (E) SPACING AND WIDTH IN GORE AREA AS PER SCD TC-12.20.

820 / 1195	SUM-271-2.33	TRAFFIC CONTROL PLAN STA. 285+00 TO STA. 310+00	CALCULATED JDL CHECKED PRS	0 50 25 100 HORIZONTAL SCALE IN FEET

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PAVEMENT MARKING NOTES

1. SEE SHEET 812 FOR PAVEMENT MARKING LEGEND.
2. TRANSVERSE DIAGONAL LINE (E) SPACING AND WIDTH IN GORE AREA AS PER SCD TC-12.20.
3. SEE SHEET 845-847 FOR SR 303 MARKING PLAN.



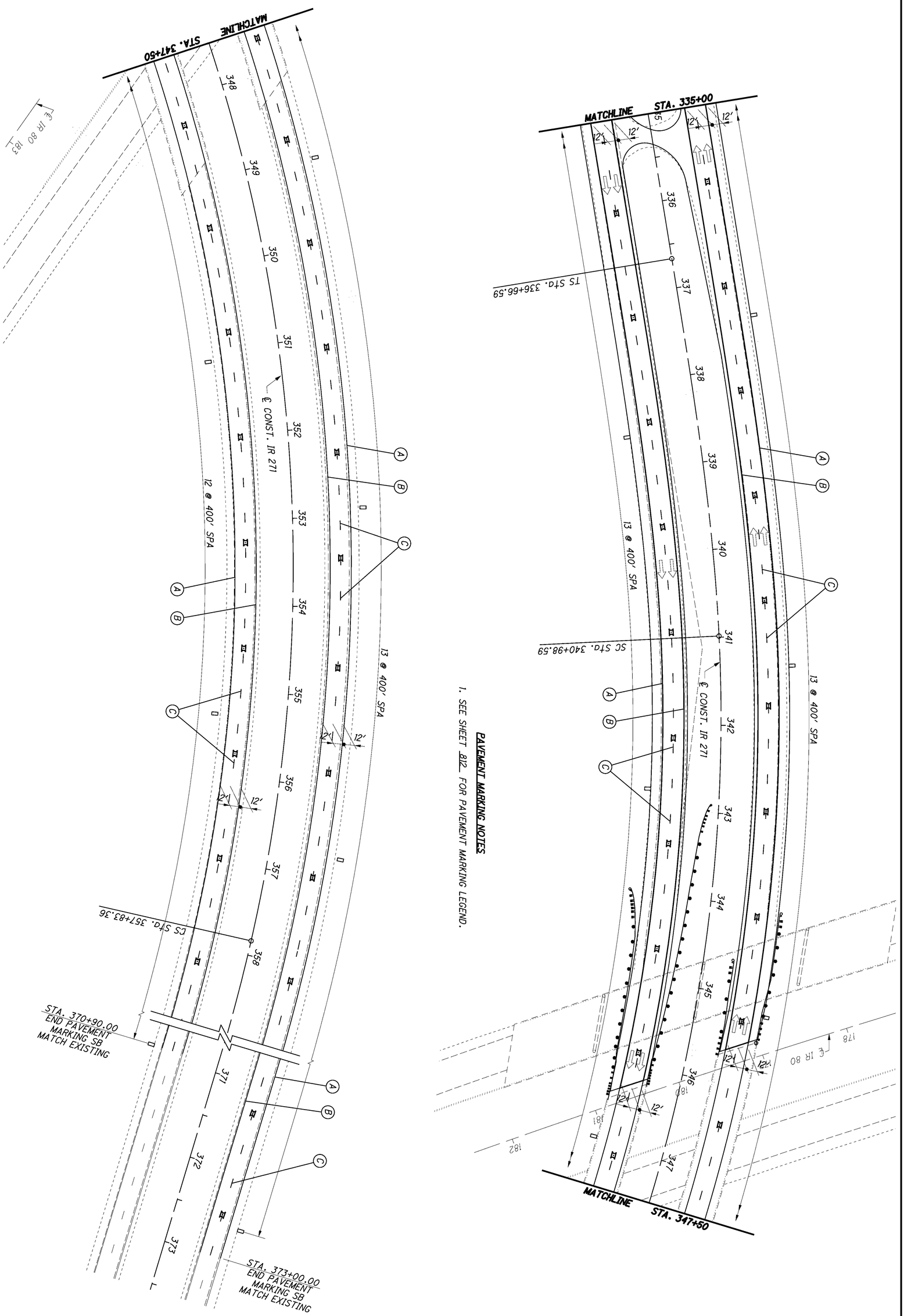
821 1195

SUM-271-2.33

TRAFFIC CONTROL PLAN
STA. 310+00 TO STA. 335+00

CALCULATED JDL
CHECKED PRS

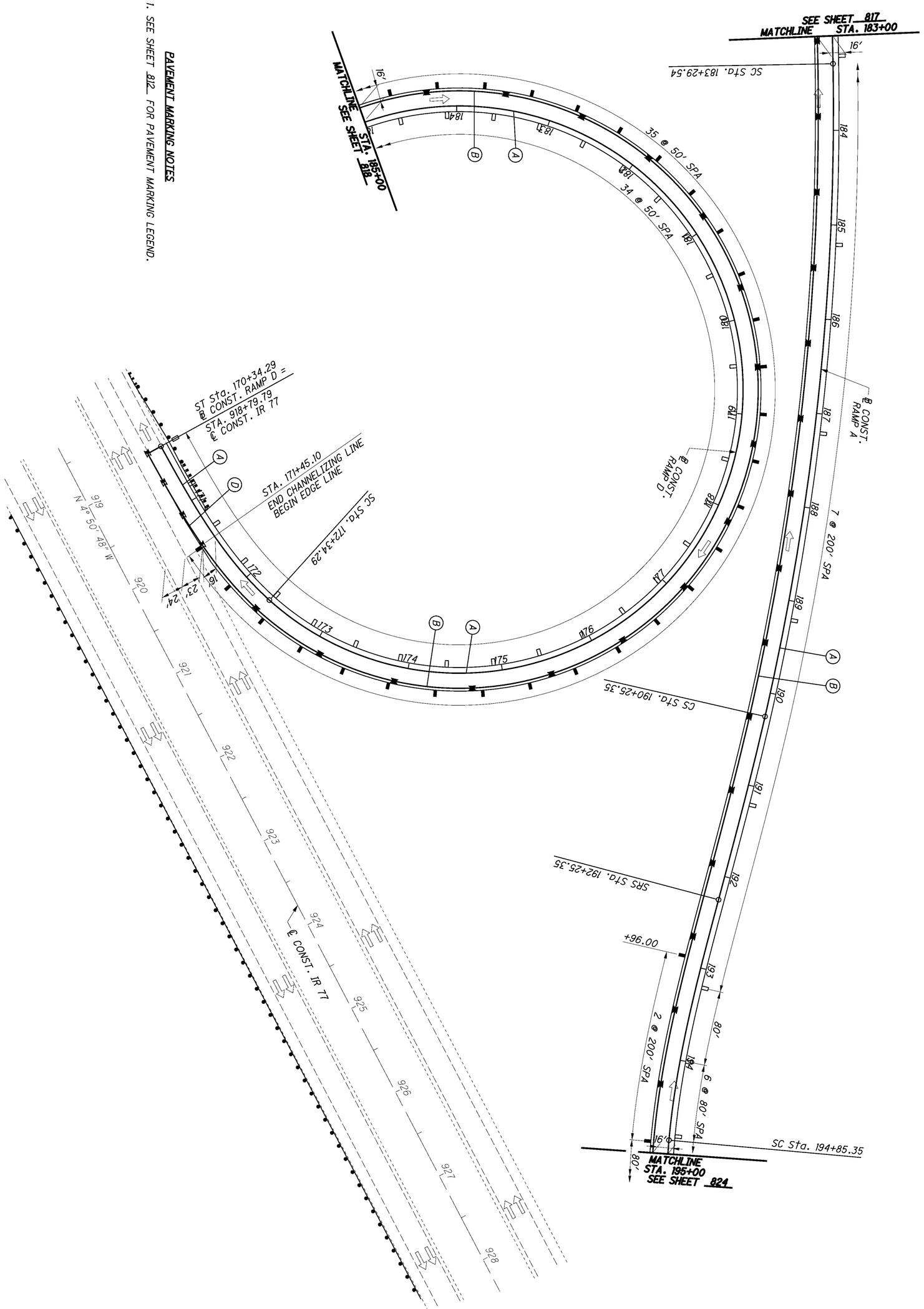
0 50
25 100
HORIZONTAL SCALE IN FEET



PAVEMENT MARKING NOTES

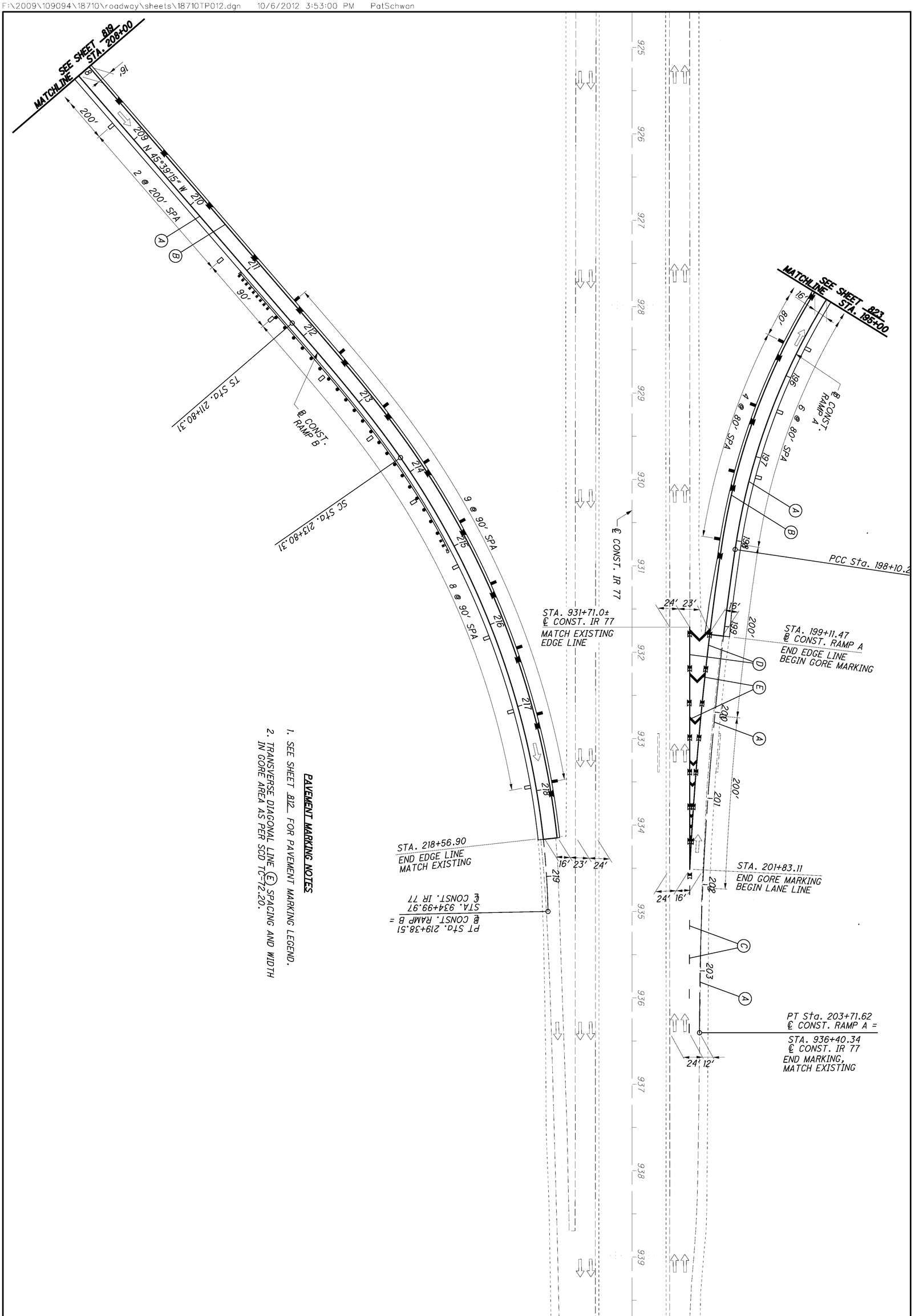
1. SEE SHEET 812 FOR PAVEMENT MARKING LEGEND.

822 / 1195	SUM-271-2.33	TRAFFIC CONTROL PLAN STA. 335+00 TO STA. 360+00	CALCULATED JDL CHECKED PRS	0 50 25 100 HORIZONTAL SCALE IN FEET	N



823 / 1195	SUM-271-2.33	TRAFFIC CONTROL PLAN IR 77 RAMPS	CALCULATED JDL CHECKED JAB	0 50 25 100 HORIZONTAL SCALE IN FEET	N

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PAVEMENT MARKING NOTES

1. SEE SHEET 812 FOR PAVEMENT MARKING LEGEND.
2. TRANSVERSE DIAGONAL LINE (E) SPACING AND WIDTH IN GORE AREA AS PER SCD TC-72.20.

824
1195

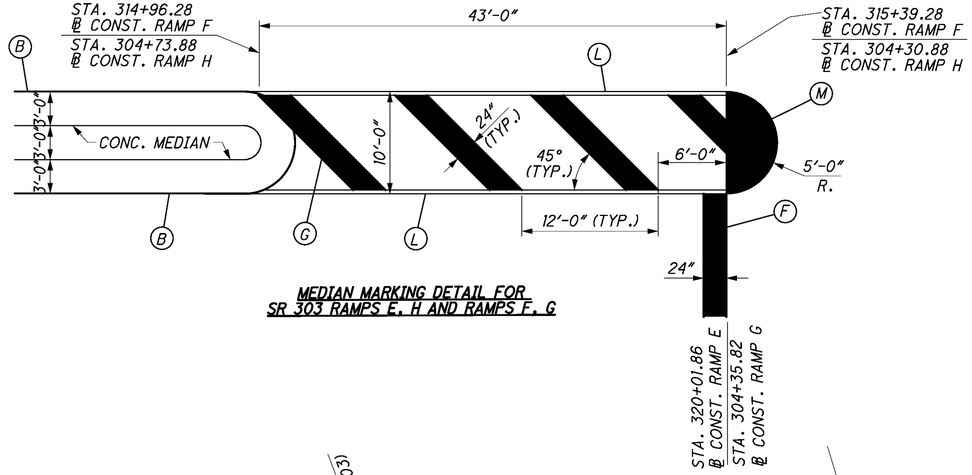
SUM-271-2.33

TRAFFIC CONTROL PLAN
IR 77 RAMPS

CALCULATED JDL
CHECKED PRS

0 50
25 100
HORIZONTAL SCALE IN FEET

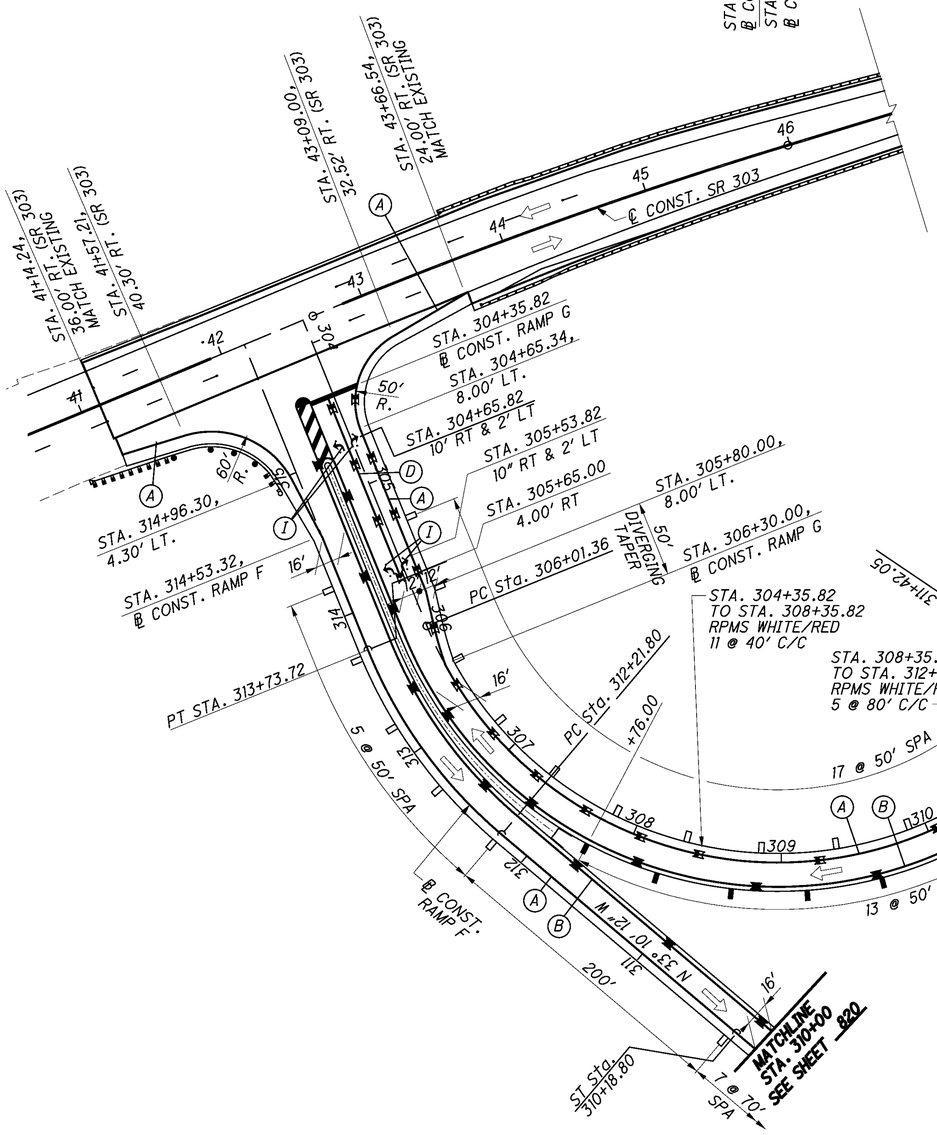
N

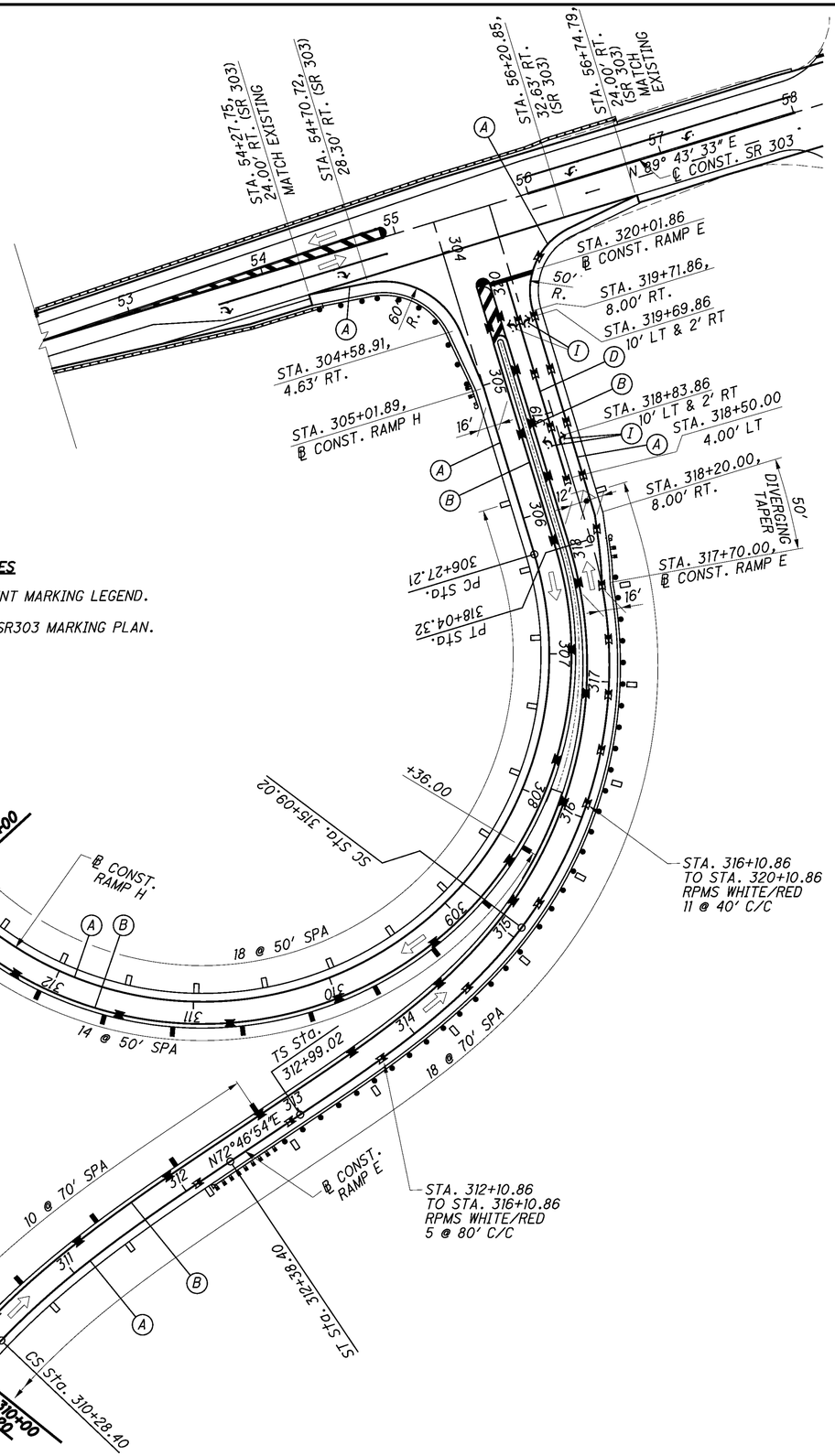


MEDIAN MARKING DETAIL FOR SR 303 RAMPS E, H AND RAMPS F, G

PAVEMENT MARKING NOTES

1. SEE SHEET 812 FOR PAVEMENT MARKING LEGEND.
2. SEE SHEETS 845-847 FOR SR303 MARKING PLAN.





HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED JDL
CHECKED PRS

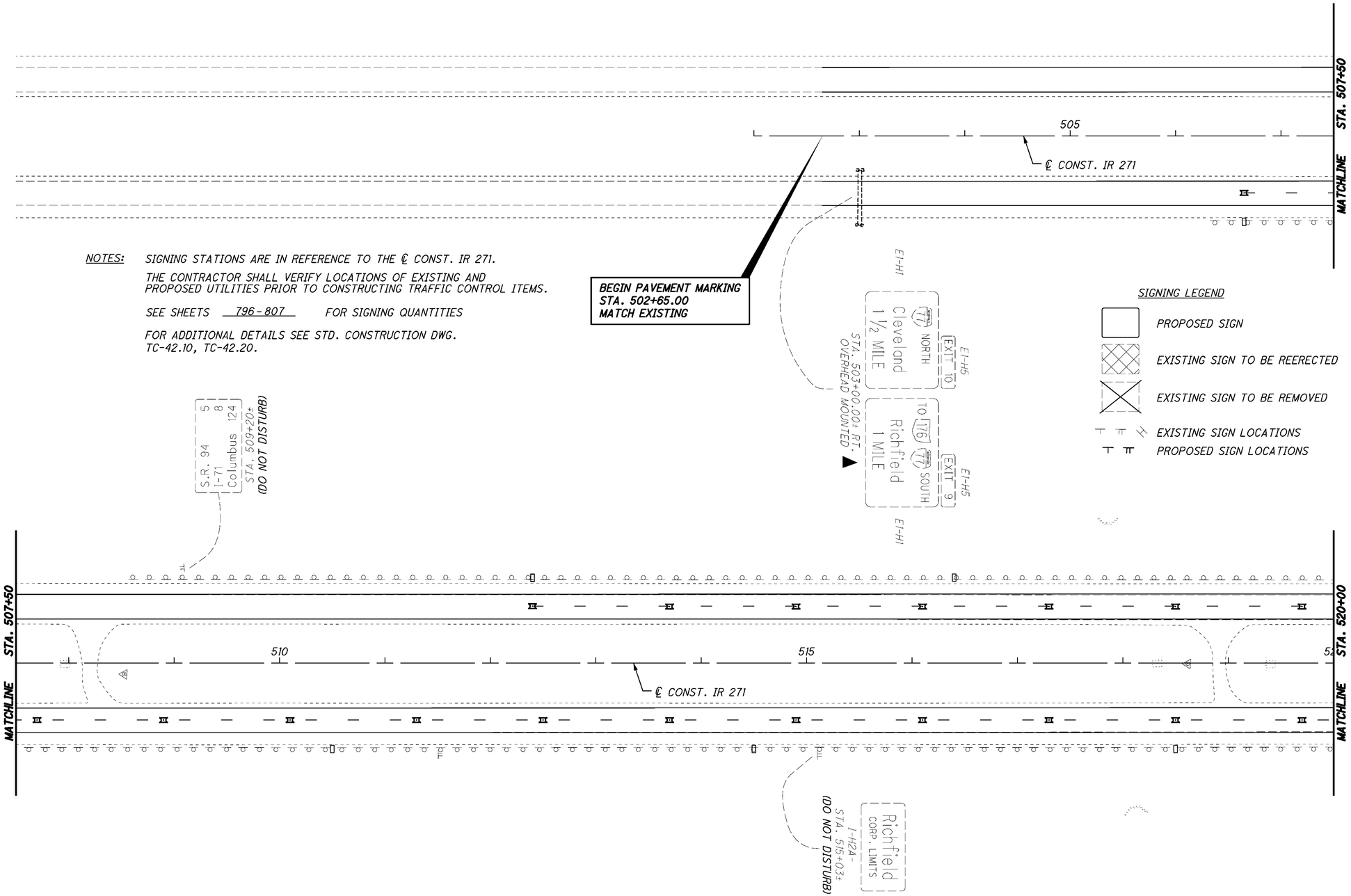
TRAFFIC CONTROL PLAN
SR 303 RAMPS

SUM-271-2.33

825
1195

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▲ A SPEED INFO DEVICE(S) IS MOUNTED TO THIS SIGN SUPPORT.
SEE SHEET 32 FOR ADDITIONAL INFORMATION.



NOTES: SIGNING STATIONS ARE IN REFERENCE TO THE ℄ CONST. IR 271.

THE CONTRACTOR SHALL VERIFY LOCATIONS OF EXISTING AND PROPOSED UTILITIES PRIOR TO CONSTRUCTING TRAFFIC CONTROL ITEMS.

SEE SHEETS 796-807 FOR SIGNING QUANTITIES

FOR ADDITIONAL DETAILS SEE STD. CONSTRUCTION DWG. TC-42.10, TC-42.20.

SIGNING LEGEND

- PROPOSED SIGN
- EXISTING SIGN TO BE REERECTED
- EXISTING SIGN TO BE REMOVED
- EXISTING SIGN LOCATIONS
- PROPOSED SIGN LOCATIONS

HORIZONTAL SCALE IN FEET
0 25 50 100

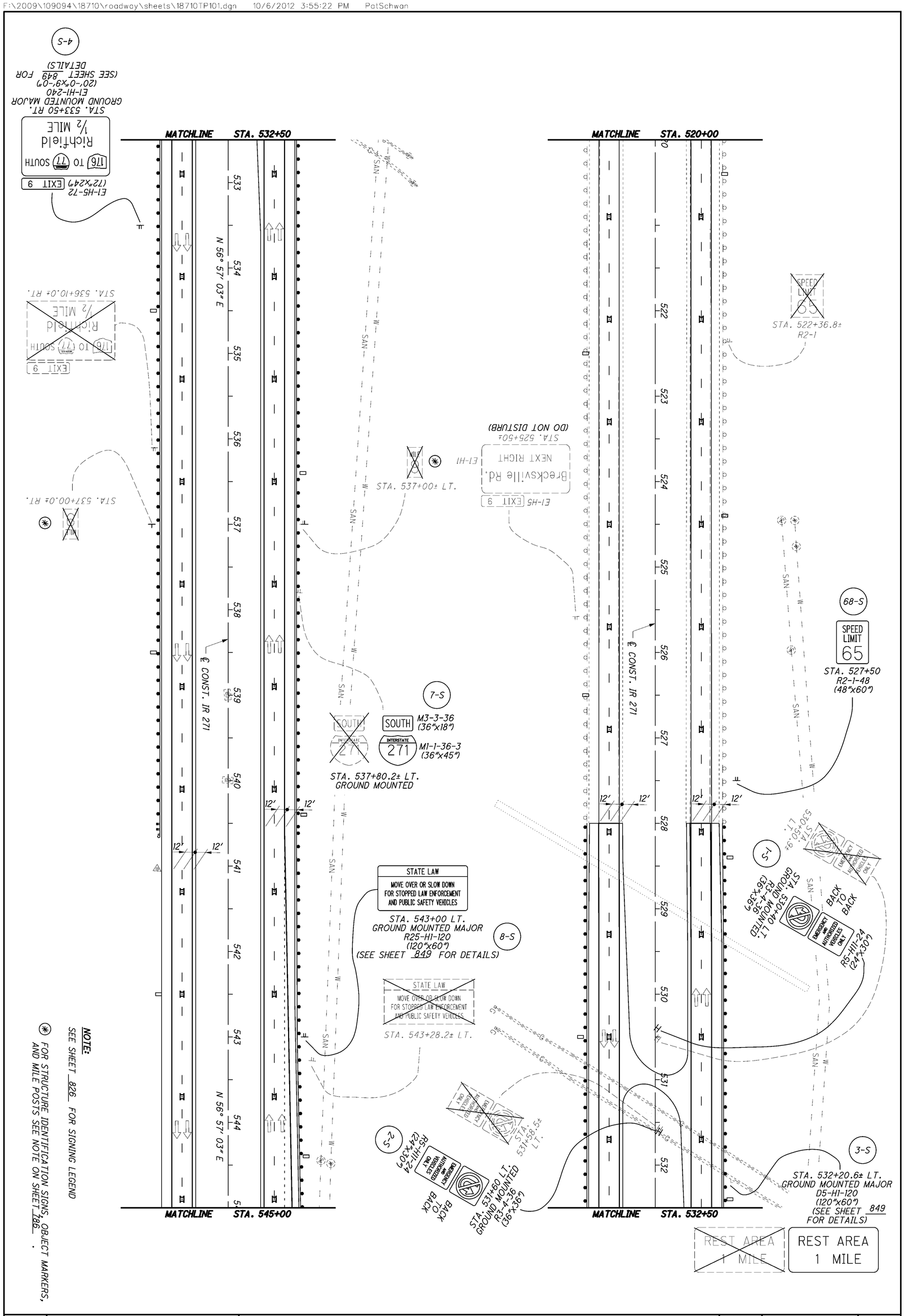
CALCULATED JDL
CHECKED MF

SIGNING PLAN
STA. 495+00 TO STA. 520+00

SUM-271-2.33

826
1195

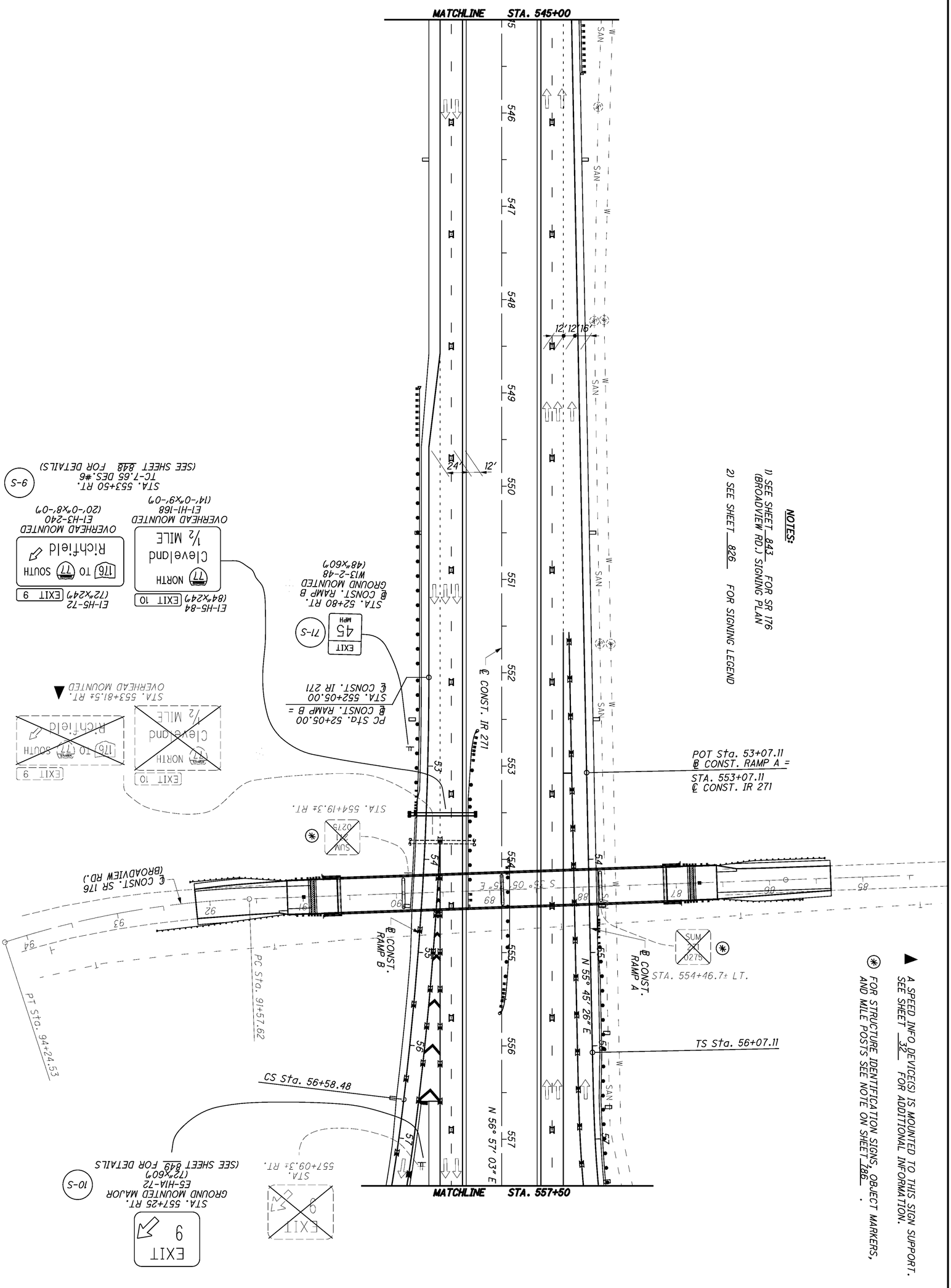
F:\2009\109094\18710\roadway\sheets\18710TP100.dgn 10/7/2012 11:29:40 AM Jeremy.oy



NOTE:
SEE SHEET 826 FOR SIGNING LEGEND

℗ FOR STRUCTURE IDENTIFICATION SIGNS, OBJECT MARKERS, AND MILE POSTS SEE NOTE ON SHEET 186 .

827 / 1195	SUM-271-2.33	SIGNING PLAN STA. 520+00 TO STA. 545+00	CALCULATED JDL / CHECKED MF	0 50 / 25 100 HORIZONTAL SCALE IN FEET



828 / 1195	SUM-271-2.33	SIGNING PLAN STA. 545+00 TO STA. 557+50	CALCULATED JDL CHECKED MF	0 50 25 100 HORIZONTAL SCALE IN FEET

NOTE:

1) SEE SHEET 844 FOR CR 17 (BRECKSVILLE RD.) SIGNING PLAN

2) SEE SHEET 826 FOR SIGNING LEGEND

3) SIGN # 71 & 72 NOT USED

(*) FOR STRUCTURE IDENTIFICATION SIGNS, OBJECT MARKERS, AND MILE POSTS SEE NOTE ON SHEET 786 .

STA. 557+50 — STA. 160+00

MATCHLINE — MATCHLINE

℄ CONST. IR 271

℄ CONST. CR 17 (BRECKSVILLE RD.)

℄ CONST. RAMP A

℄ CONST. RAMP B

SRS Sta. 61+46.83

SC Sta. 58+07.11

CS Sta. 59+46.83

SC Sta. 63+46.83

PT Sta. 65+91.17

SC Sta. 59+58.48

PT Sta. 60+66.10

PI Sta. 60+86.33

POT Sta. 54+22.77

N 69° 54' 03" E

N 89° 55' 45" E

EQUATION: Sta 156+00.00 AH = Sta 156+09.70 BK

STA. 558+90 LT. GROUND MOUNTED W4-1R-48 (48"x48")

STA. 558+77.4± LT.

STA. 66+05.00± LT. (70-S)

STA. 66+05.3± LT. ℄ CONST. RAMP A GROUND MOUNTED R5-1H0D-36 (36"x36")

STA. 565+54.3, LT±

STA. 159+57.0 LT. GROUND MOUNTED MAJOR I-H2A-72 (72"x36") (SEE SHEET 850 FOR DETAILS)

STA. 156+02.28± LT. SOUTH M3-3-36 (36"x18") INTERSTATE 271 M1-1-36-3 (36"x45")

STA. 156+00.00± LT. GROUND MOUNTED (13-S)

STA. 159+69.4± LT.

STA. 564+06.5, RT.

STA. 563+46.34 RT. STA. 563+50 RT. GROUND MOUNTED MAJOR E1-H2-288 (3-BEAM) (24'-0"x11'-0") (SEE SHEET 850 FOR DETAILS) (12-S)

STA. 57+80.00 LT. ℄ CONST. RAMP B GROUND MOUNTED W/REFLECTORIZED POST W1-8R-36 (36"x48")

STA. 62+60 RT. ℄ CONST. RAMP B GROUND MOUNTED W/REFLECTORIZED POSTS

STA. 62+60 LT. ℄ CONST. RAMP B GROUND MOUNTED W/REFLECTORIZED POSTS

STA. 61+00.0 RT. ℄ CONST. RAMP B GROUND MOUNTED MAJOR (SEE SIGN DETAIL) (76-S)

STA. 61+00.0 LT. ℄ CONST. RAMP B GROUND MOUNTED W/REFLECTORIZED POSTS R5-1A-42 (42"x30") (75-S)

STA. 60+41.6± LT.

STA. 60+42.1± RT.

STA. 62+43.8± RT.

STA. 60+00.0 LT. ℄ CONST. RAMP B GROUND MOUNTED W3-5-48 (48"x48") SHIFT-24 (24"x24") (74-S)

STA. 558+30.8± LT.

BLACK ON YELLOW

EXISTING MAST ARM (DO NOT DISTURB)

EXISTING PULLBOX

EXISTING CONTROL BOX (DO NOT DISTURB)

EXISTING PULLBOX (DO NOT DISTURB)

EXISTING MAST ARM (DO NOT DISTURB)

EXISTING PULLBOX

EX. OVERHEAD ELECTRIC LINES (69kV)

Richfield CORP LIMITS (14-S)

STA. 156+69.4± LT.

STA. 564+29.4± LT.

STA. 565+54.3, LT±

PROHIBITED PEDESTRIANS FARM MACHINERY BICYCLES MOPEDS OR MOTOR DRIVEN CYCLES LESS THAN 4 WHEELS

ONE WAY R6-1R-36 (36"x12")

DO NOT ENTER R5-1-36 (36"x36")

WRONG WAY

SUM 029

SOUTH INTERSTATE 271

TO 80 Ohio Turnpike NEXT RIGHT EXIT 10

EI-H5-84 (84"x24")

SIGN DETAIL (76-S)

STA. 61+00.0 RT. ℄ CONST. RAMP B GROUND MOUNTED W/REFLECTORIZED POSTS R5-1A-42 (42"x30")

WRONG WAY

BACK TO BACK

M4-5-24 (WHITE (24"x12") ON BLUE) TO

M3-3-30 (WHITE (30"x15") ON BLUE) SOUTH

M1-1-30-2 (30"x30") INTERSTATE 77

M6-1R-21 (WHITE (21"x15") ON BLUE)

M4-5-24 (BLACK (24"x12") ON WHITE) TO

M1-5-30-3 (37.5"x30") 176

M6-1R-21 (WHITE (21"x15") ON BLACK)

D3-H3-132 (132"x24") Brecksville Road

D1-H5A-132 (132"x24") ⇦ Brecksville 7

STA. 61+00.0 RT. ℄ CONST. RAMP B GROUND MOUNTED MAJOR (SEE SHEET 854 FOR DETAILS)

CALCULATED JDL

CHECKED MF

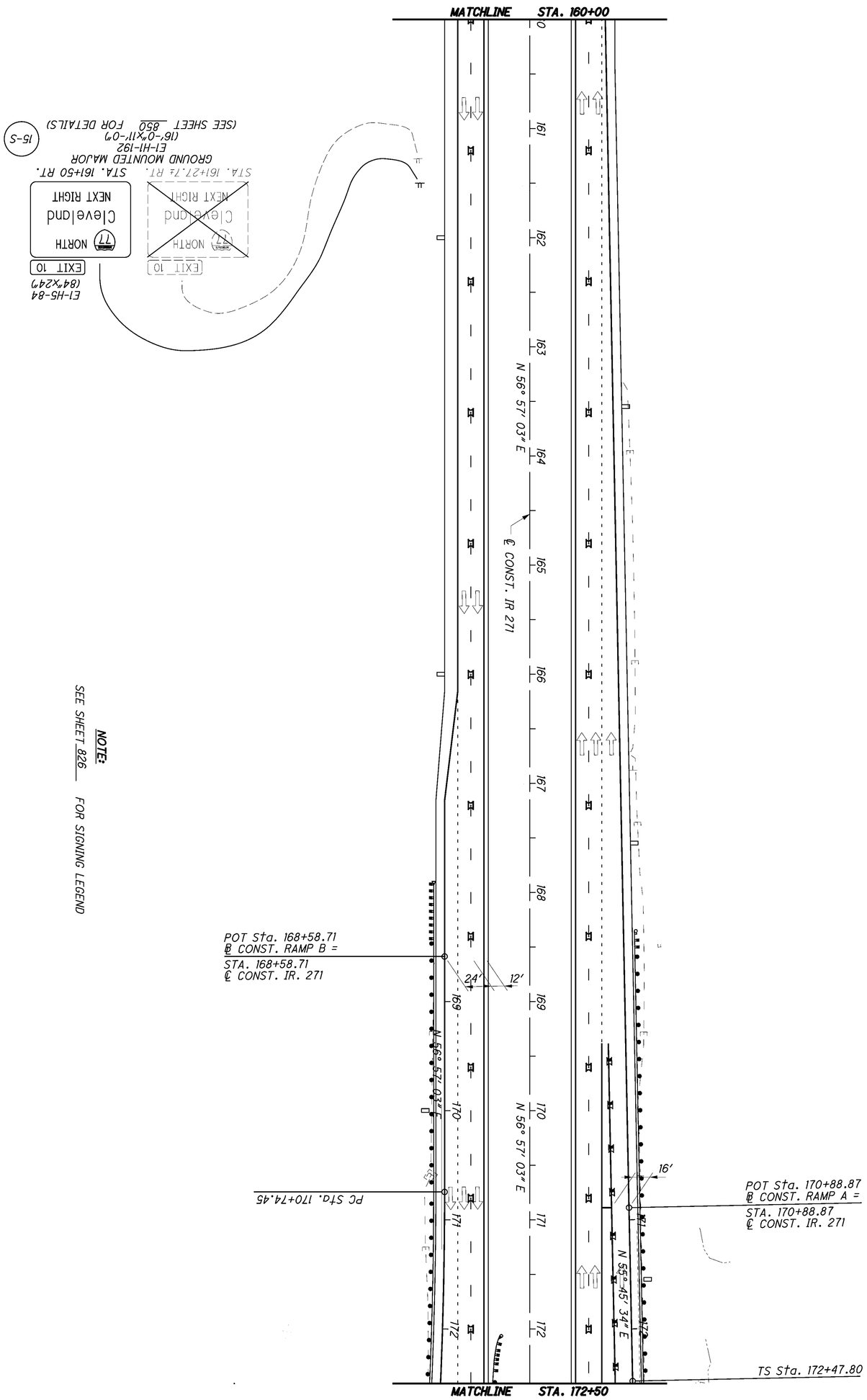
HORIZONTAL SCALE IN FEET 0 25 50 100

SIGNING PLAN STA. 557+50 TO STA. 160+00

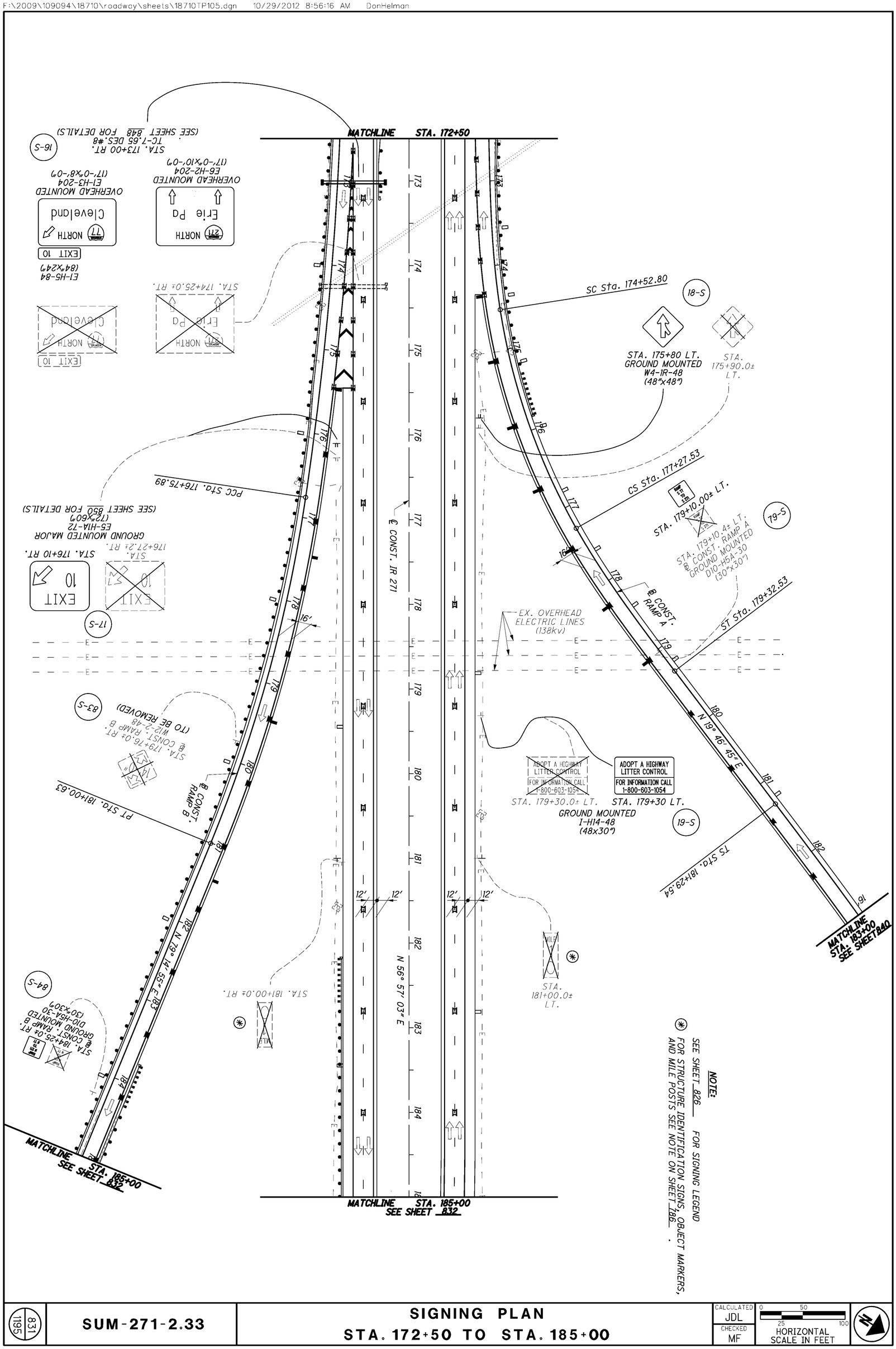
SUM-271-2.33

829 1195

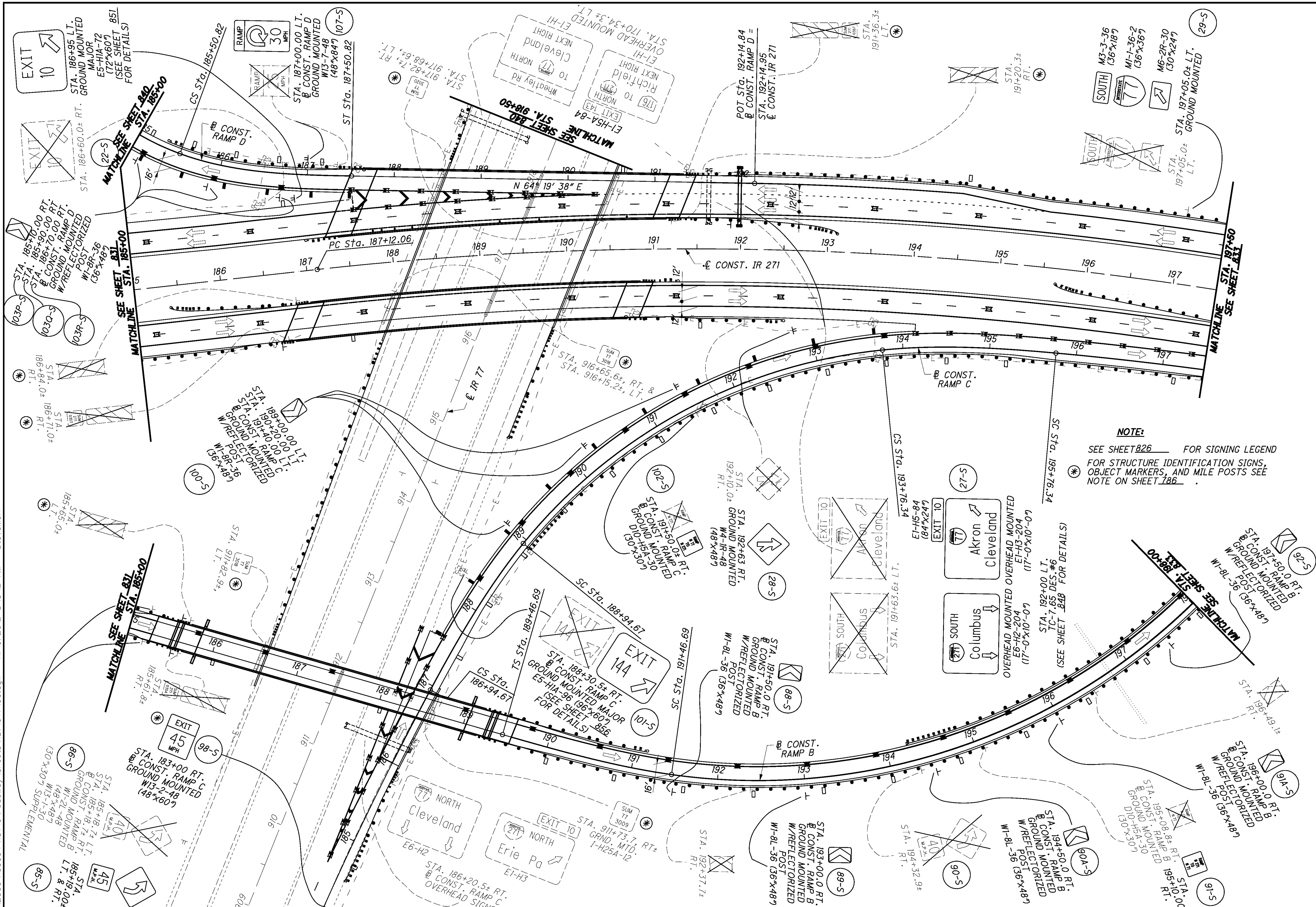
F:\2009\1090941\18710\roadway\sheets\18710TP103.dgn 11/16/2012 8:06:25 AM SteveMorr



830 / 1195	SUM-271-2.33	SIGNING PLAN STA. 160+00 TO STA. 172+50	CALCULATED JDL CHECKED MF	0 50 25 100 HORIZONTAL SCALE IN FEET



831 / 1195	SUM-271-2.33	SIGNING PLAN STA. 172+50 TO STA. 185+00	CALCULATED JDL CHECKED MF	0 50 100 HORIZONTAL SCALE IN FEET



NOTE:

SEE SHEET 826 FOR SIGNING LEGEND

(*) FOR STRUCTURE IDENTIFICATION SIGNS, OBJECT MARKERS, AND MILE POSTS SEE NOTE ON SHEET 786 .

HORIZONTAL SCALE IN FEET (0 25 50 100)

CALCULATED JDL
CHECKED MF

SIGNING PLAN
STA. 185+00 TO STA. 197+50

SUM-271-2.33

F:\2009\109094\18710\roadway\sheets\18710TP106.dgn 11/16/2012 8:13:12 AM SteveMorr

SEE SHEET 841 STA. 208+00 MATCHLINE

SEE SHEET 832 STA. 197+50 MATCHLINE

SEE SHEET 838 STA. 198+00 MATCHLINE

16'

96-S

STA. 205+00 RT.
℄ CONST. RAMP B
GROUND MOUNTED
W/REFLECTORIZED POST
W1-8L-36
(36"x48")

95-S

STA. 203+50 RT.
℄ CONST. RAMP B
GROUND MOUNTED
W/REFLECTORIZED POST
W1-8L-36
(36"x48")

94-S

STA. 200+50 RT.
℄ CONST. RAMP B
GROUND MOUNTED
W/REFLECTORIZED POST
W1-8L-36
(36"x48")

94A-S

STA. 202+00 RT.
℄ CONST. RAMP B
GROUND MOUNTED
W/REFLECTORIZED POST
W1-8L-36
(36"x48")

93-S

STA. 199+00 RT.
℄ CONST. RAMP B
GROUND MOUNTED
W/REFLECTORIZED POST
W1-8L-36
(36"x48")

30-S

ST Sta. 207+07.97

CS Sta. 205+07.97

PT Sta. 198+48.32
℄ CONST. RAMP C
STA. 198+53.15
℄ CONST. IR 271

PT Sta. 203+01.00

℄ CONST. IR 271

N 80° 16' 08" E

EXISTING LIGHT POLE
STA. 203+18.71, 91.33' RT.

STA. 199+83.0± LT.

STA. 199+83.5± RT.

STA. 198+19.0± RT.

STA. 198+17.0± RT.

STA. 198+66.5± RT.

198 199 200 201 202 203 204 205 206 207 208 209

STA. 210+00

12'

16'

▲ A SPEED INFO DEVICE(S) IS MOUNTED TO THIS SIGN SUPPORT. SEE SHEET 32 FOR ADDITIONAL INFORMATION.

⊛ FOR STRUCTURE IDENTIFICATION SIGNS, OBJECT MARKERS, AND MILE POSTS SEE NOTE ON SHEET 186 .

NOTE:

SEE SHEET 826 FOR SIGNING LEGEND

N

0 25 50 100 HORIZONTAL SCALE IN FEET

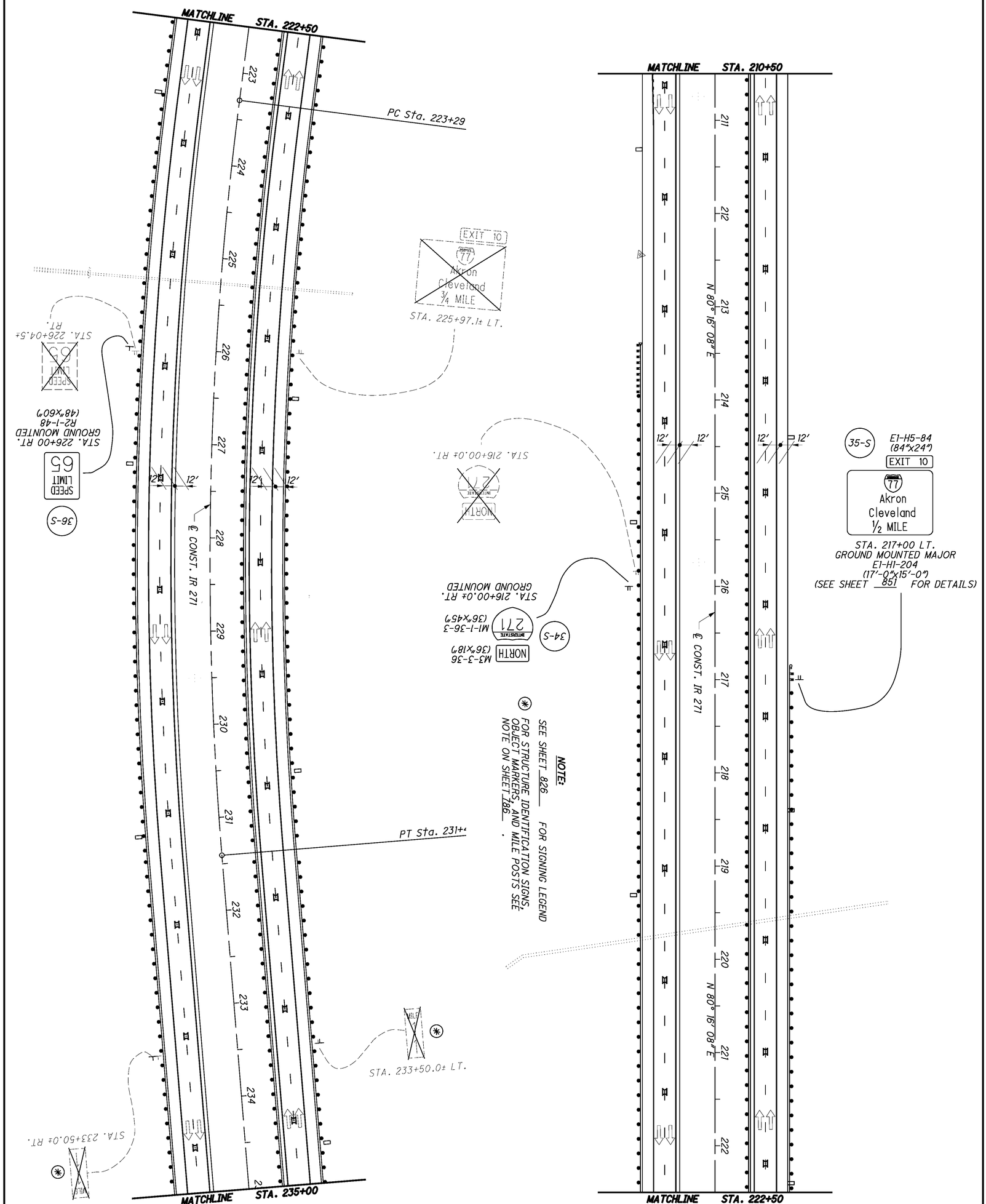
CALCULATED JDL
CHECKED MF

SIGNING PLAN
STA. 197+50 TO STA. 210+00

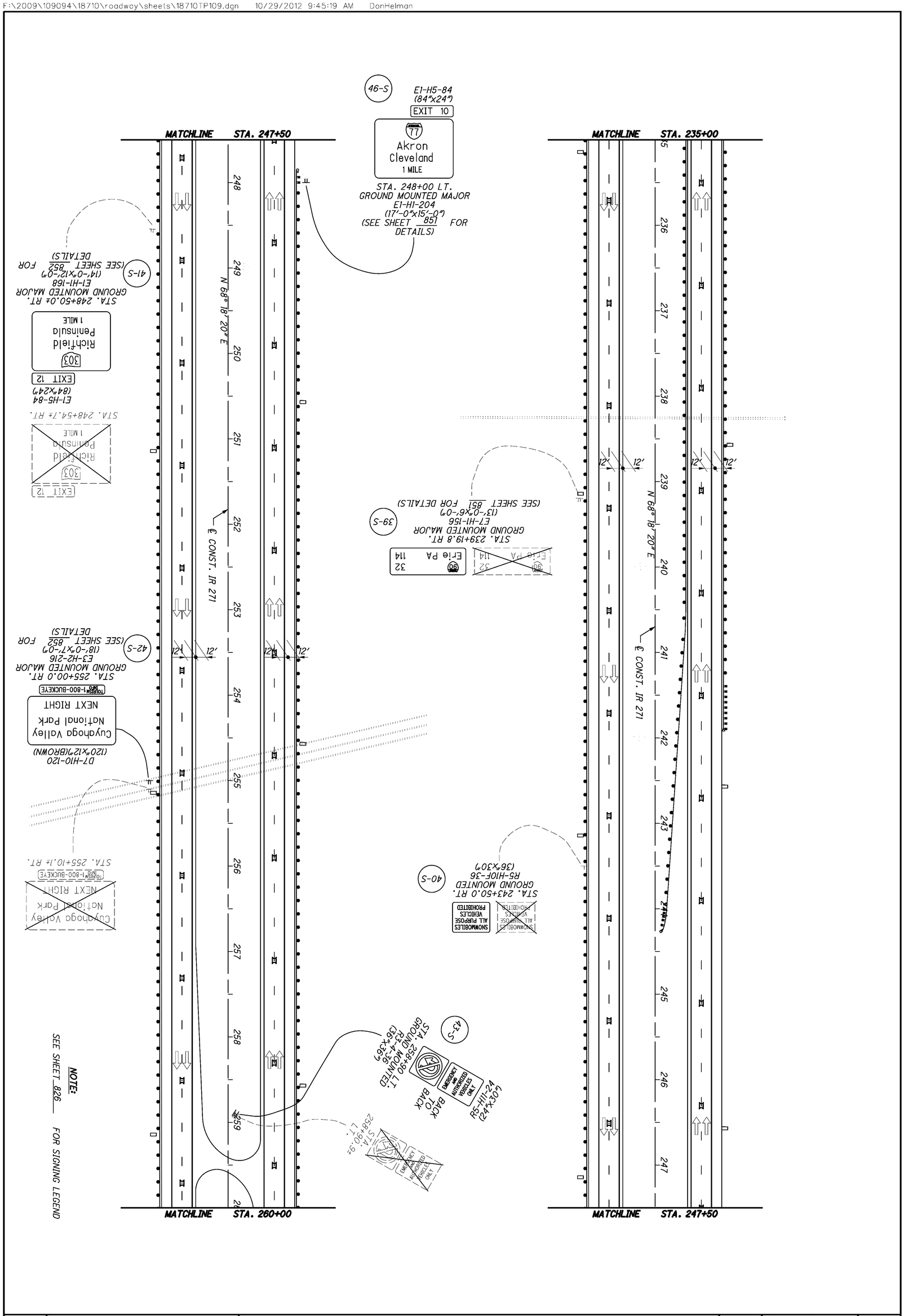
SUM-271-2.33

833
1195

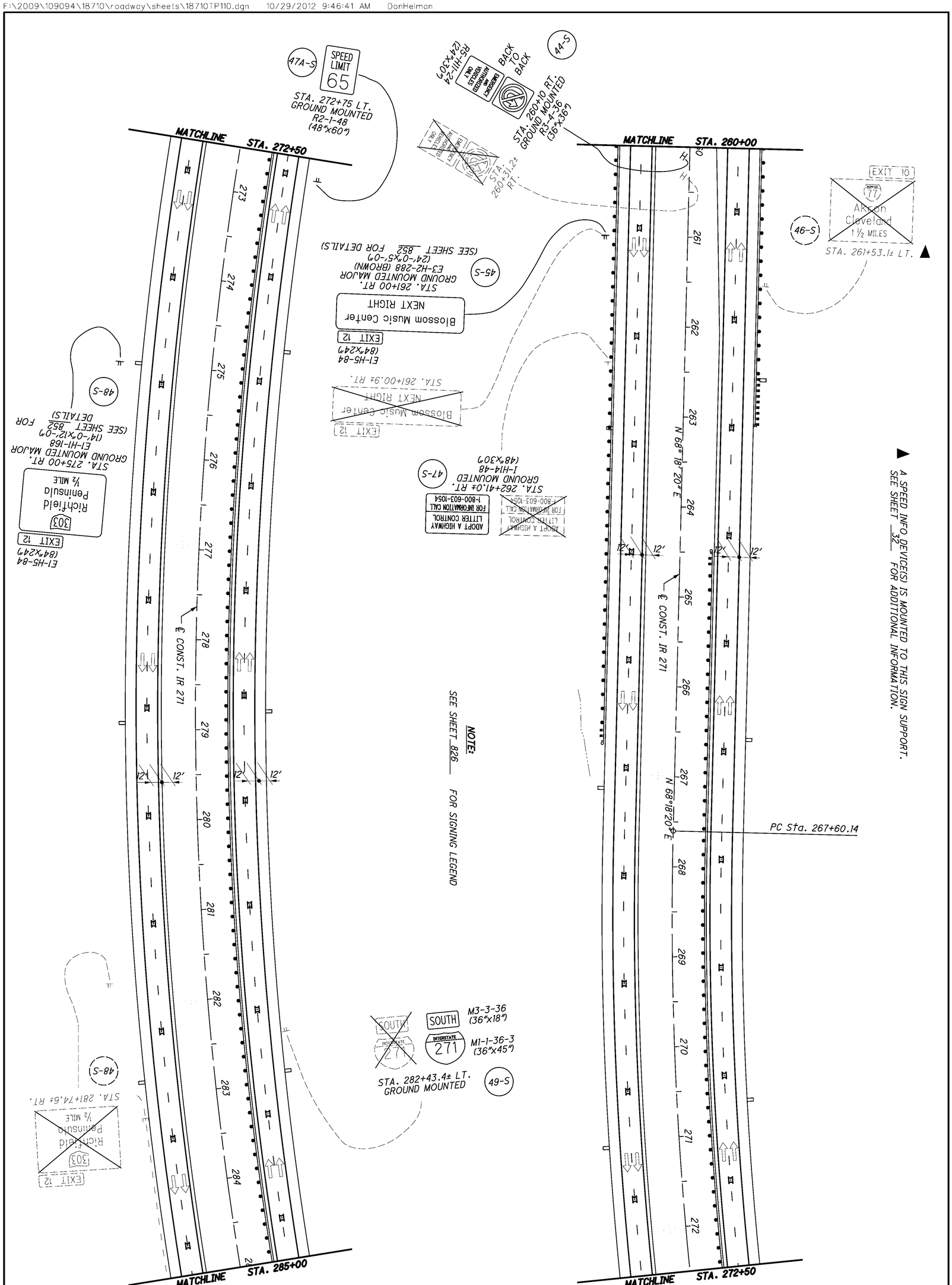
\\REL6\Current\2009\109094\18710\roadway\sheets\18710TP107.dgn 11/2/2012 8:40:45 AM SteveMorr



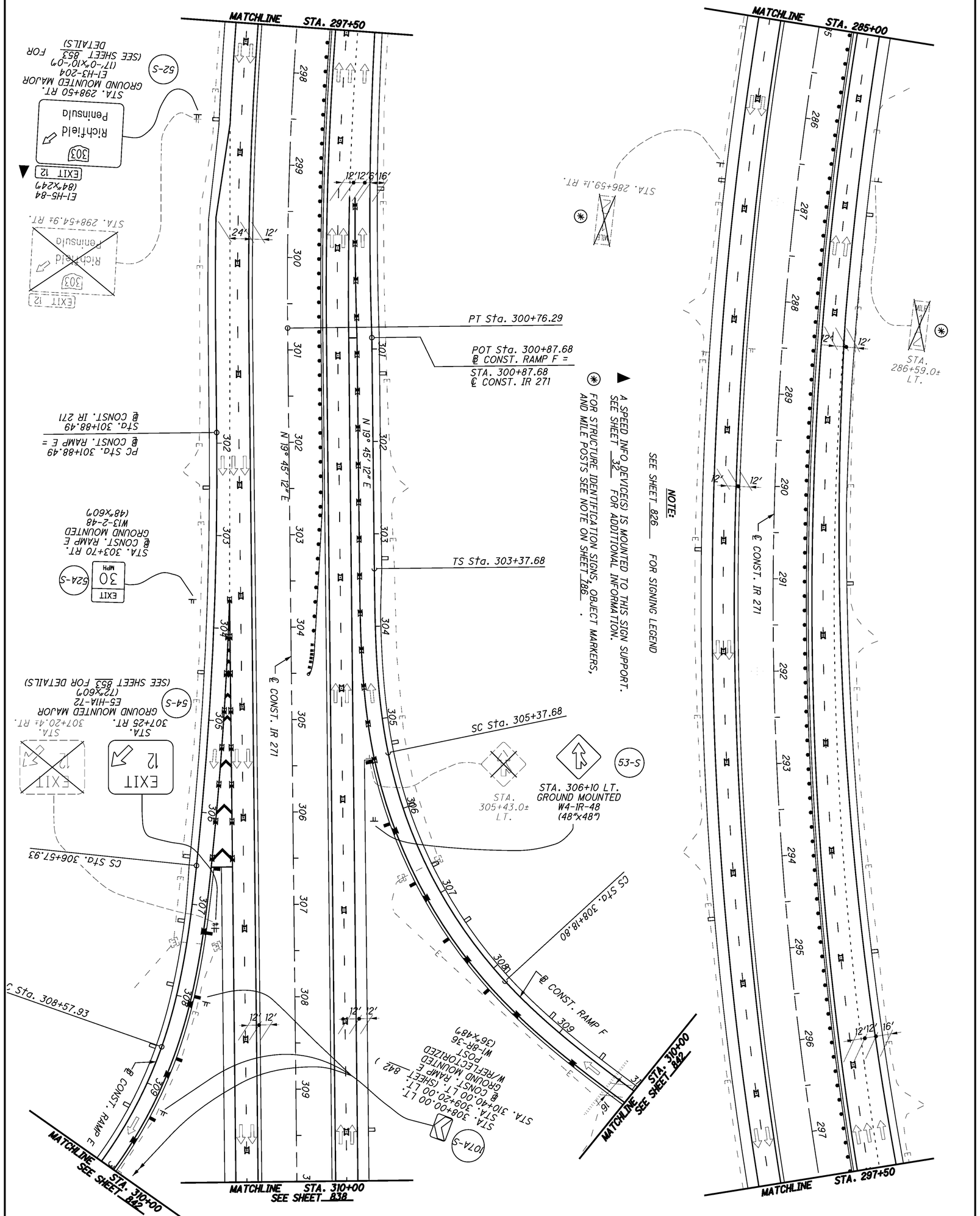
834 / 1195	SUM-271-2.33	SIGNING PLAN STA. 210+00 TO STA. 235+00	CALCULATED JDL CHECKED MF	0 50 25 100 HORIZONTAL SCALE IN FEET



835 / 1195	SUM-271-2.33	SIGNING PLAN STA. 235+00 TO STA. 260+00	CALCULATED JDL CHECKED MF	0 50 25 100 HORIZONTAL SCALE IN FEET



836 / 1195	SUM-271-2.33	SIGNING PLAN STA. 260+00 TO STA. 285+00	CALCULATED JDL CHECKED MF	0 50 25 100 HORIZONTAL SCALE IN FEET

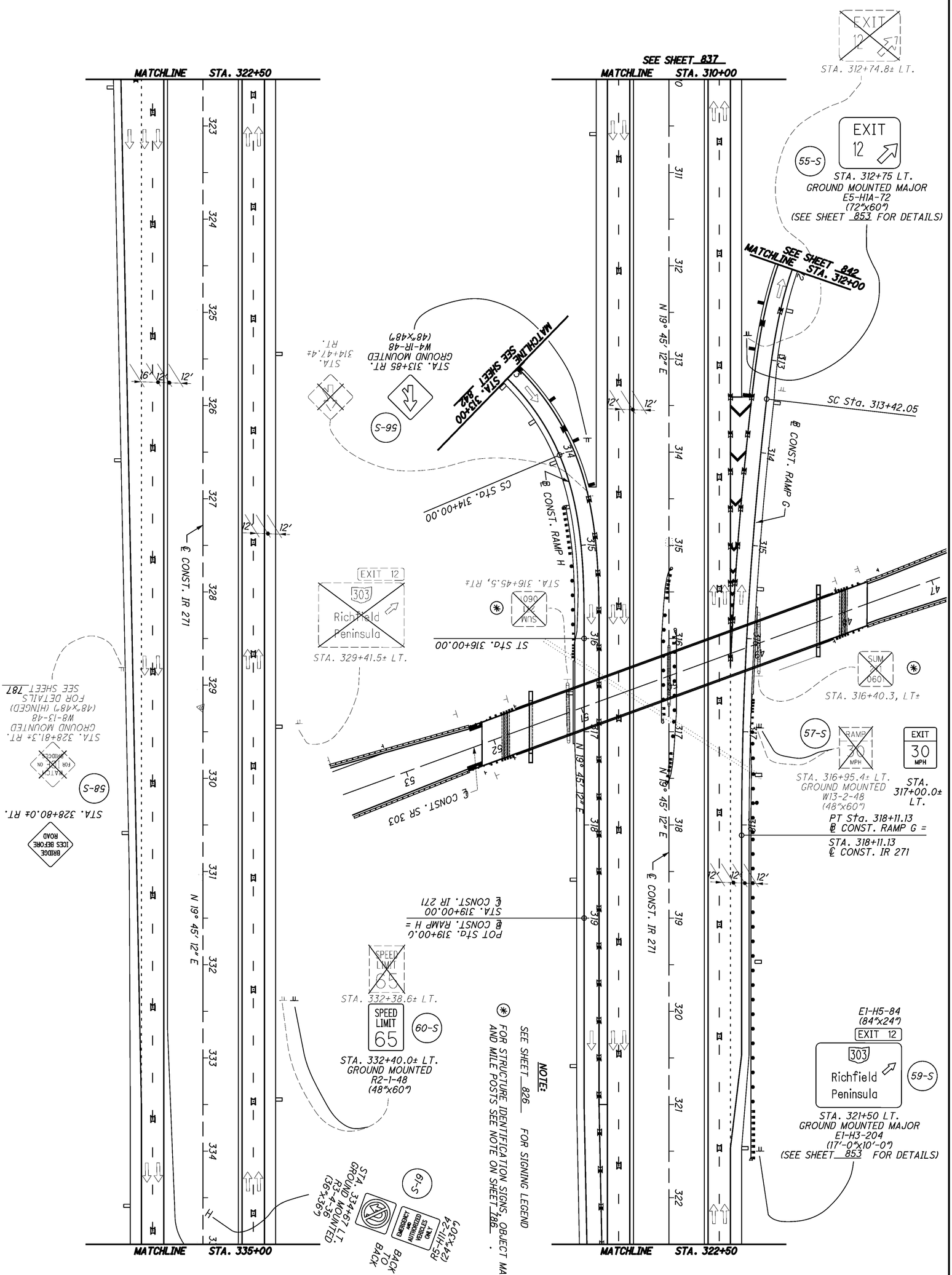


NOTE:
SEE SHEET 826 FOR SIGNING LEGEND

▲ A SPEED INFO. DEVICE(S) IS MOUNTED TO THIS SIGN SUPPORT. SEE SHEET 32 FOR ADDITIONAL INFORMATION.

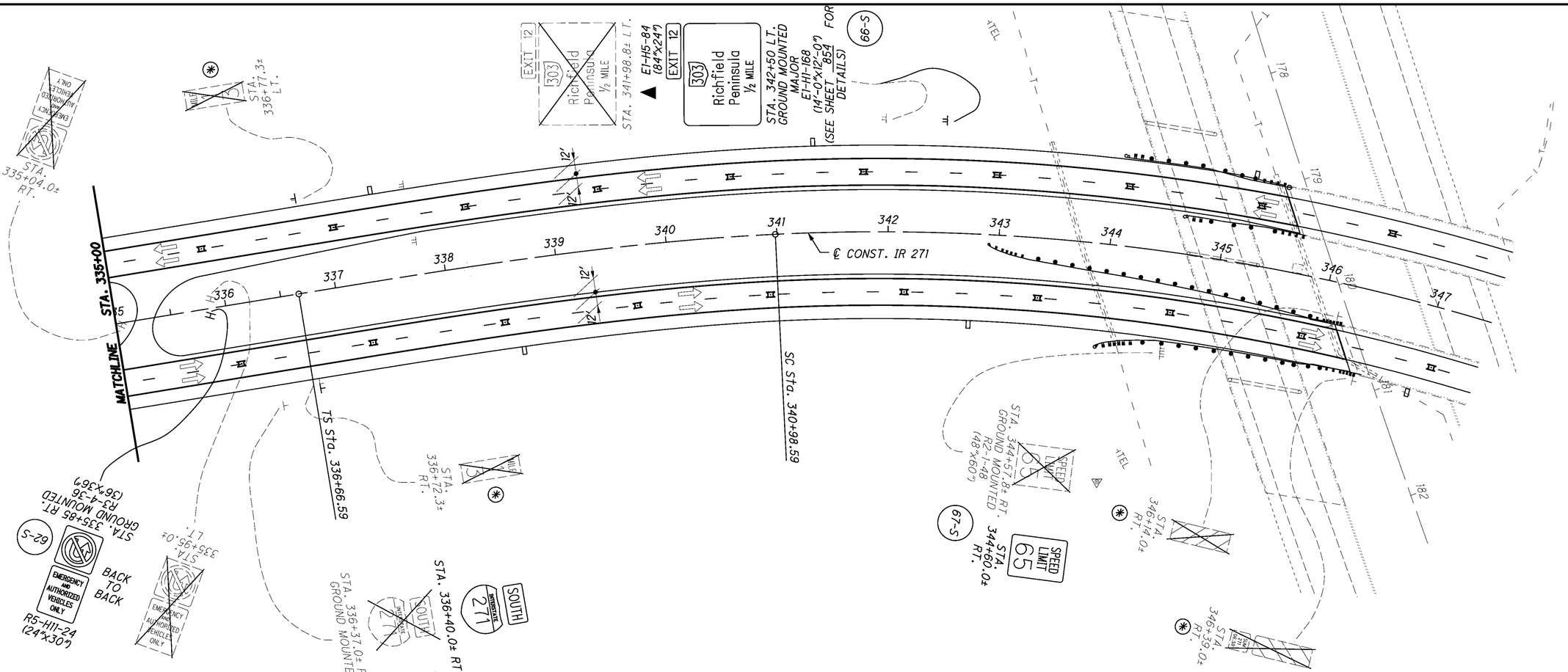
✱ FOR STRUCTURE IDENTIFICATION SIGNS, OBJECT MARKERS, AND MILE POSTS SEE NOTE ON SHEET 186 .

837 / 1195	SUM-271-2.33	SIGNING PLAN STA. 285+00 TO STA. 310+00	CALCULATED JDL CHECKED MF	0 50 25 100 HORIZONTAL SCALE IN FEET



NOTE:
℗ FOR STRUCTURE IDENTIFICATION SIGNS, OBJECT MARKERS, AND MILE POSTS SEE NOTE ON SHEET 786 . SEE SHEET 826 FOR SIGNING LEGEND

838 (1195)	SUM-271-2.33	SIGNING PLAN STA. 310+00 TO STA. 335+00	CALCULATED JDL CHECKED MF	0 50 25 100 HORIZONTAL SCALE IN FEET



▲ *A SPEED INFO DEVICE(S) IS MOUNTED TO THIS SIGN SUPPORT. SEE SHEET 32 FOR ADDITIONAL INFORMATION.*

⊛ *FOR STRUCTURE IDENTIFICATION SIGNS, OBJECT MARKERS, AND MILE POSTS SEE NOTE ON SHEET 786 .*

NOTE:

SEE SHEET 826 FOR SIGNING LEGEND

HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED JDL
CHECKED MF

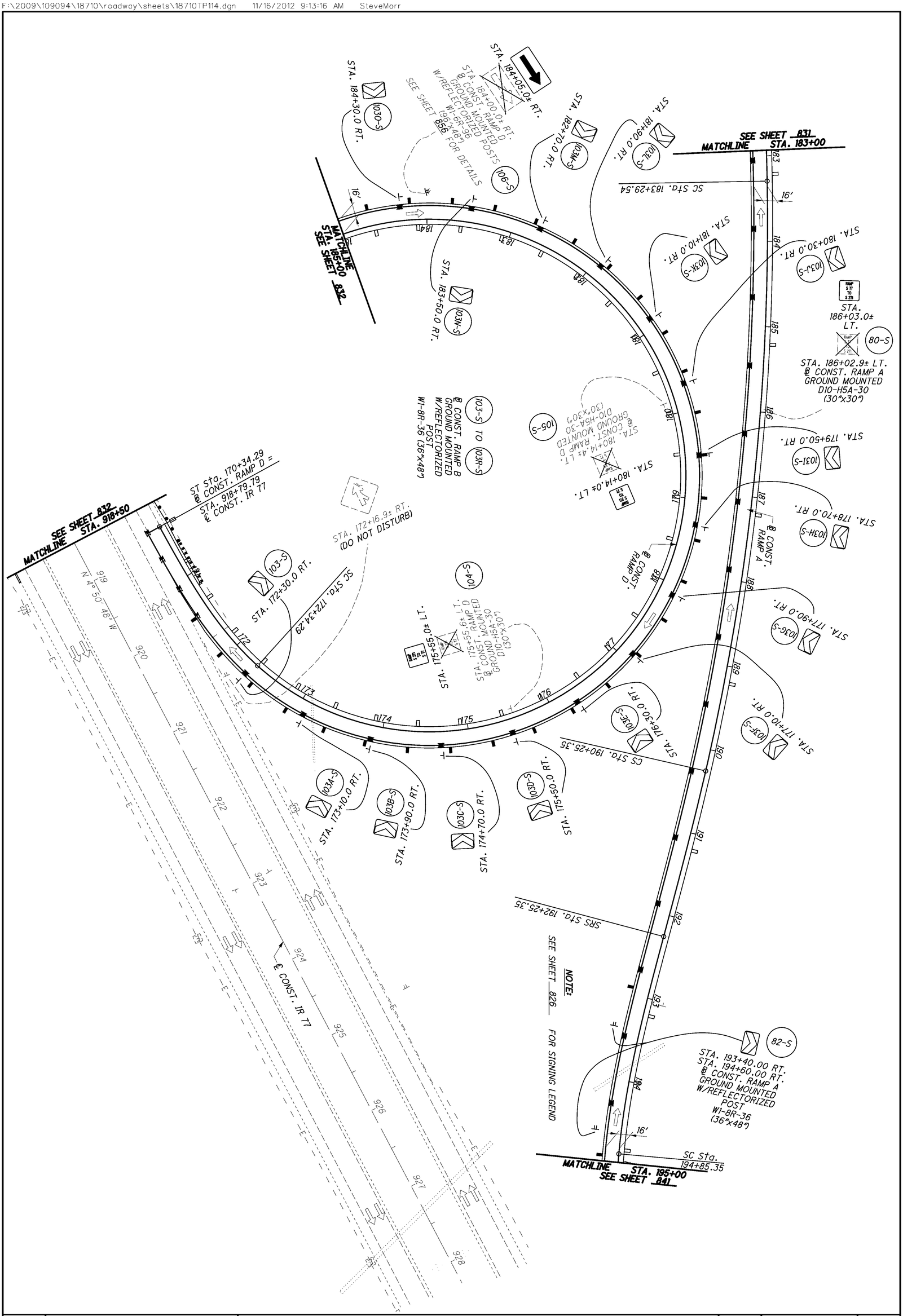
SIGNING PLAN
STA. 335+00 TO STA. 360+00

SUM-271-2.33

839
1195

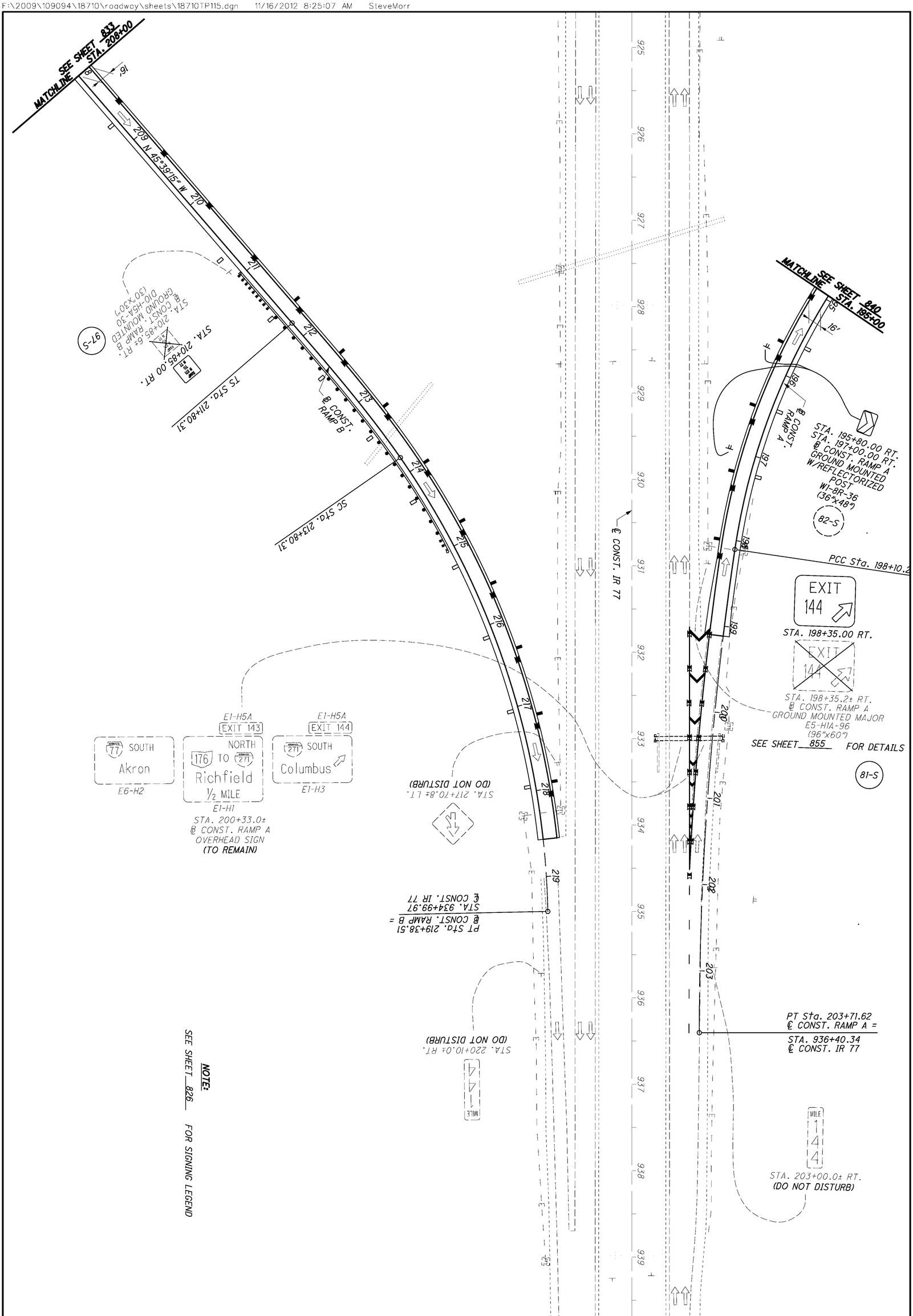
F:\2009\109094\18710\roadway\sheets\18710TP113.dgn 10/29/2012 10:01:18 AM DonHelman

F:\2009\109094\18710\roadway\sheets\18710TP114.dgn 11/16/2012 9:13:16 AM SteveMorr



840 / 1195	SUM-271-2.33	SIGNING PLAN IR 77 RAMPS	CALCULATED JDL CHECKED MF	0 50 25 100 HORIZONTAL SCALE IN FEET

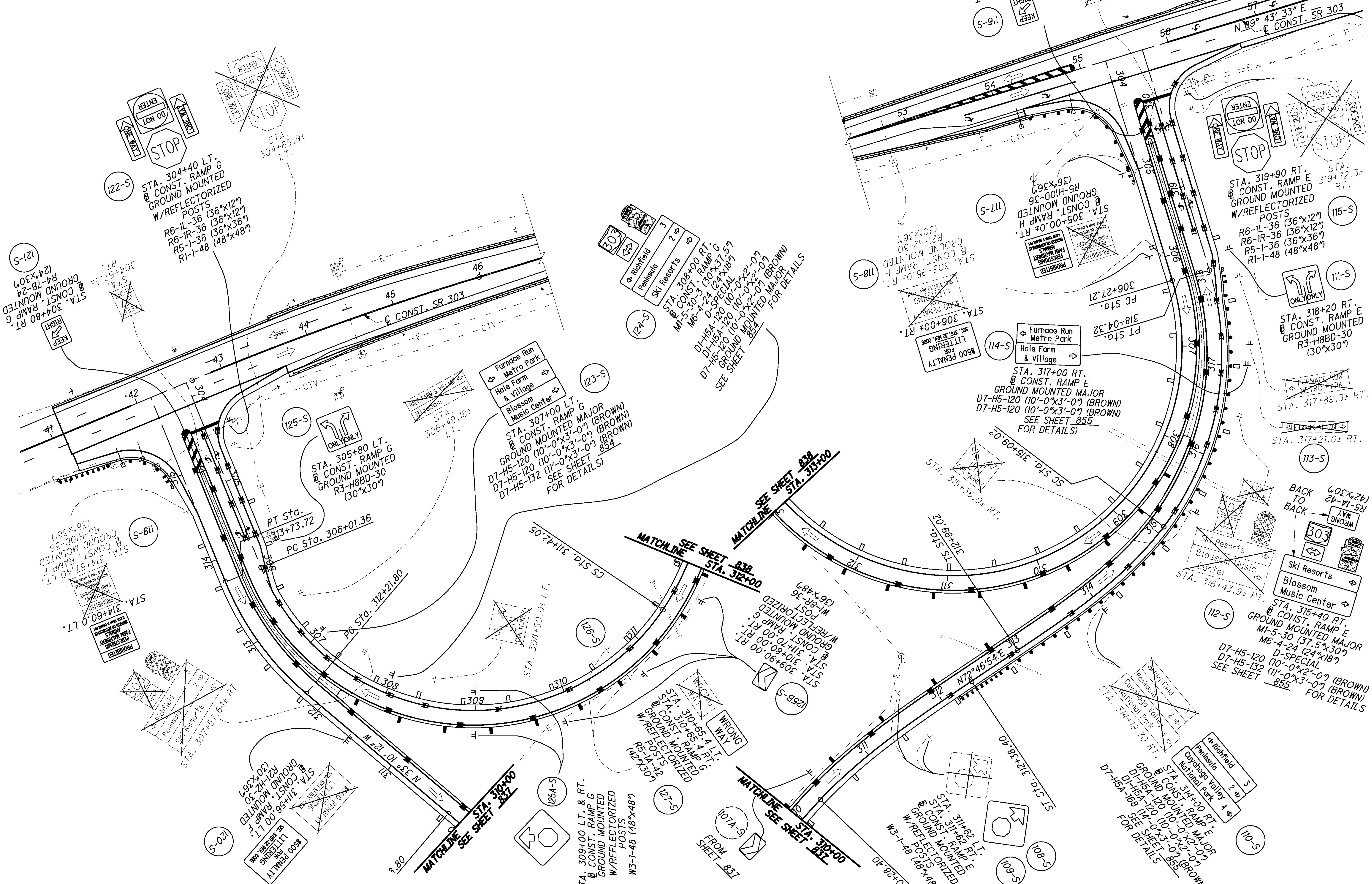
F:\2009\109094\18710\roadway\sheets\18710TP115.dgn 11/16/2012 8:25:07 AM SteveMorr



841 / 1195	SUM-271-2.33	SIGNING PLAN IR 77 RAMPS	CALCULATED JDL CHECKED MF	0 50 25 100 HORIZONTAL SCALE IN FEET

NOTE:

SEE SHEET 845-847 FOR SR 303 SIGNING PLAN
SEE SHEET 826 FOR SIGNING LEGEND



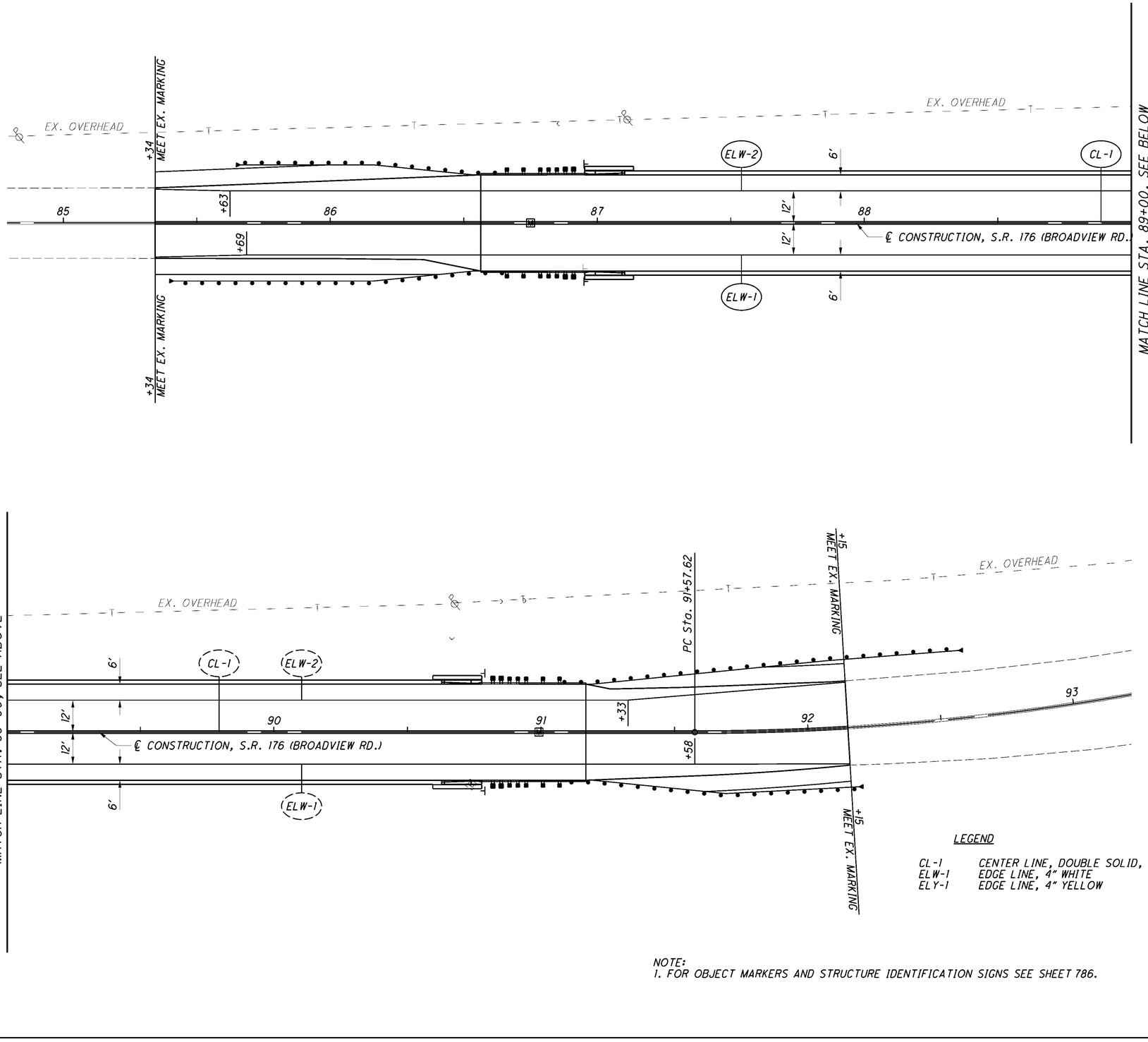
HORIZONTAL SCALE IN FEET (0 25 50 100)

CALCULATED JDL
CHECKED MF

SIGNING PLAN
SR 303 RAMPS

SUM-271-2.33

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CURVE DATA
P.I.= Sta. 92+91.95
D = 15° 59′ 59″ (LT)
Dc = 5° 59′ 40″
R = 955.81′
T = 134.33′
L = 266.91′
E = 9.39′
C = 266.04′
C.B. = S 43° 05′ 34″ E
E_{MAX} = 0.080

LEGEND

CL-1	CENTER LINE, DOUBLE SOLID, 4″ YELLOW	PROPOSED SIGN
ELW-1	EDGE LINE, 4″ WHITE	EXISTING SIGN
ELY-1	EDGE LINE, 4″ YELLOW	EXISTING SIGN TO BE REMOVED

NOTE:
1. FOR OBJECT MARKERS AND STRUCTURE IDENTIFICATION SIGNS SEE SHEET 786.

HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED DO
CHECKED PEK

SIGNING AND PAVEMENT MARKING PLAN - S.R. 176 (BROADVIEW ROAD)

SUM-271-2.33

843
1195

P:\Land Development Projects\503-110 SUM-271-0233 (Richland Engineering)\roadway\sheets\18710TP001.dgn 11/12/2012 11:36:33 AM CECUSER

NOTE:
1. SEE SHEET 815 & 829 FOR RAMP A & B SIGNING AND PAVEMENT MARKING PLAN.
2. FOR OBJECT MARKERS AND STRUCTURE IDENTIFICATION SIGNS SEE SHEET 786.

RAMP B
MEET EX. MARKING
POT Sta. 63+10.82
N 0° 04' 15" W
℄ CONSTRUCTION, C.R. 17 (BRECKSVILLE RD.)
MATCH LINE STA. 60+50, SEE BELOW
MATCH LINE STA. 60+50, SEE ABOVE
KINROSS LAKES PKWY.
I.R. 271 NB
I.R. 271 SB
EX. OVERHEAD TELECOM.
EX. OVERHEAD ELEC.
RAMP A
N 69° 54' 03" E
POT Sta. 67+19.78
N 0° 04' 15" W
(DND)
ABANDONED 18" G
12" SAN. FM
16" W
20" G
8" G
UNK

TR-1, IM-1, CL-1, CL-2, CL-3, ELW-1, ELW-2, ELY-1

R-1, R-2, R-3, R-4

S-1: M1-1-24-3, M3-3-24, 271 INTERSTATE, SOUTH
S-2: M1-1-24-3, M3-3-24, 271 INTERSTATE, SOUTH, M6-1L-30, COLUMBUS 125, D1-h4-72, STA. 63+80, RT.
S-3: M1-1-24-3, M3-3-24, 271 INTERSTATE, SOUTH, M6-1R-30, COLUMBUS 125, D1-h4-72, STA. 63+40, LT.

BRECKSVILLE RD. TO 176 INTERSTATE NORTH TO 77

LEGEND

CL-1	CENTER LINE, DOUBLE SOLID, 4" YELLOW
ELW-1	EDGE LINE, 4" WHITE
ELY-1	EDGE LINE, 4" YELLOW
IM-1	ISLAND MARKING, YELLOW
TR-1	TRANSVERSE LINE, 24" YELLOW

PROPOSED SIGN
EXISTING SIGN
EXISTING SIGN TO BE REMOVED

N
HORIZONTAL SCALE IN FEET 0 10 20 40
CALCULATED PEK CHECKED TLH

PAVEMENT MARKING PLAN
SIGNING AND PAVEMENT MARKING PLAN
C.R. 17 (BRECKSVILLE ROAD)

SUM-271-2.33

844
1195

P:\Land Development Projects\503-110 SUM-271-0233 (Richland Engineering)\roadway\sheets\18710TP002.dgn 11/12/2012 11:37:50 AM CECUSER

LEGEND

CL-1	CENTER LINE, DOUBLE SOLID, 4" YELLOW
ELW-1	EDGE LINE, 4" WHITE
ELY-1	EDGE LINE, 4" YELLOW
SL-1	STOP LINE, 24" WHITE
LL-1	LANE LINE, 4" WHITE
DL-1	DOTTED LINE, 4" WHITE
CH-1	CHANNELIZING LINE, 12" WHITE
LA-1	LANE ARROW
IM-1	ISLAND MARKING, YELLOW
▪	RPM

PROPOSED SIGN

EXISTING SIGN

EXISTING SIGN TO BE REMOVED

EX. E/P

MEET EX. MARKING

℄ CONSTRUCTION, S.R. 303

N 83° 56' 23" E

N 89° 43' 33" E

MATCH LINE STA. 42+00, SEE BELOW

MATCH LINE STA. 47+50, SEE SHEET 846

MATCH LINE STA. 42+00, SEE ABOVE

MEET EX. MARKING (TYP.)

PRIVATE SIGN (DND)

PRIVATE SIGN (REMOVE & RESET) STA. 46+53, LT.

SPEED LIMIT 45 (DND)

S-1 WEST 303 M3-4-24 M1-H5-3-24 STA. 41+40, LT.

R-1 WEST 303

S-2 LEFT LANE ENDS W9-1L-30 STA. 41+00, RT.

S-3 E1-H1 9.0' x 17.0' (2) STA. 41+60, RT. INTERSTATE 271 South Columbus

INTERSTATE 271 South Columbus

R-2 INTERSTATE 271 South Columbus E.O.I.

S-4 WEST 303 EAST M2-H4-108 STA. 42+60, LT.

R-3 WEST 303 EAST

S-5 SPEED LIMIT 45 R2-1-30 STA. 44+00, LT.

R-4 SPEED LIMIT 45

R-5 BOSTON TOWNSHIP LIMIT BOSTON TOWNSHIP LIMIT

S-6

S-7 W4-2L-30 STA. 43+50, RT.

S-8 SPEED LIMIT 45 R2-1-30 STA. 45+00, RT.

S-9 BOSTON TOWNSHIP LIMIT I-H2E-48 STA. 46+60, RT.

R-6

R-7

NOTES:
1. SEE SHEET 825 & 842 FOR RAMP F & G SIGNING AND PAVEMENT MARKING PLAN.
2. SEE SHEET 857 FOR OVERHEAD SIGN DETAIL.

RAMP F

RAMP G

PC Sta. 42+65.38

PT Sta. 45+98.64

CONSTRUCTION, S.R. 303

37 38 39 40 41 43 44 45 46 47

+13 +39 +60 +87 +45 +66 +79 +92 +50

12'

LL-1 LL-2 LL-3 LL-4 ELW-1 ELW-2 CL-1 CL-2 CH-1 CTV

HORIZONTAL SCALE IN FEET

0 10 20 40

CALCULATED DO

CHECKED PEK

SIGNING AND PAVEMENT MARKING PLAN
S.R. 303 STA. 36+50 TO STA. 47+50

SUM-271-2.33

845
1195

P:\Land Development Projects\503-110 SUM-271-0233 (Richland Engineering)\roadway\sheets\18710TP003.dgn 11/12/2012 9:55:56 AM CECUSER

NOTES:
1. SEE SHEET 825 & 842 FOR RAMP E & H SIGNING AND PAVEMENT MARKING PLAN.
2. SEE SHEET 857 FOR OVERHEAD SIGN DETAIL.
3.FOR OBJECT MARKERS AND STRUCTURE IDENTIFICATION SIGNS SEE SHEET 786.

MATCH LINE STA. 47+50, SEE SHEET 845

MATCH LINE STA. 53+00, SEE BELOW

℄ CONSTRUCTION, S.R. 303

N 89° 43' 33" E

12'

ELW-1 CL-1 ELW-2 TR-1 CL-2

R-1 R-2 R-3 R-4

S-2 M2-H3-48 STA. 52+21, LT.

M2-H3-48 STA. 47+50, RT. S-1

LEGEND

CL-1	CENTER LINE, DOUBLE SOLID, 4" YELLOW
ELW-1	EDGE LINE, 4" WHITE
ELY-1	EDGE LINE, 4" YELLOW
SL-1	STOP LINE, 24" WHITE
LL-1	LANE LINE, 4" WHITE
DL-1	DOTTED LINE, 4" WHITE
CH-1	CHANNELIZING LINE, 12" WHITE
LA-1	LANE ARROW
IM-1	ISLAND MARKING, YELLOW
TR-1	TRANVERSE LINES, 24" YELLOW
▪	RPM

PROPOSED SIGN

EXISTING SIGN

EXISTING SIGN TO BE REMOVED

R-5 S-4 M2-H4 STA. 55+65, LT.

S-6 R3-H8BA-30 (REMOVE & RESET EXISTING SIGNS TO PROPOSED NO. 3 POSTS) STA. 57+97, LT.

MATCH LINE STA. 53+00, SEE ABOVE

MATCH LINE STA. 58+50, SEE SHEET 847

TR-1 IM-1 ELW-1 LA-4 CH-2 SL-1

CL-2 CH-1 LA-1 ELW-2 LA-2 LA-3 LL-1 ELW-3 CL-3 CL-4 SL-2

RAMP H RAMP E

R-6 S-3 R3-H8BB-30 STA. 53+14, RT.

R-7 S-5 E1-H1 8.0' x 7.0' (2) STA. 54+20, RT.

MAJOR ROAD

(DND)

MEET EX. MARKING

WEIGHT LIMIT 15 TONS

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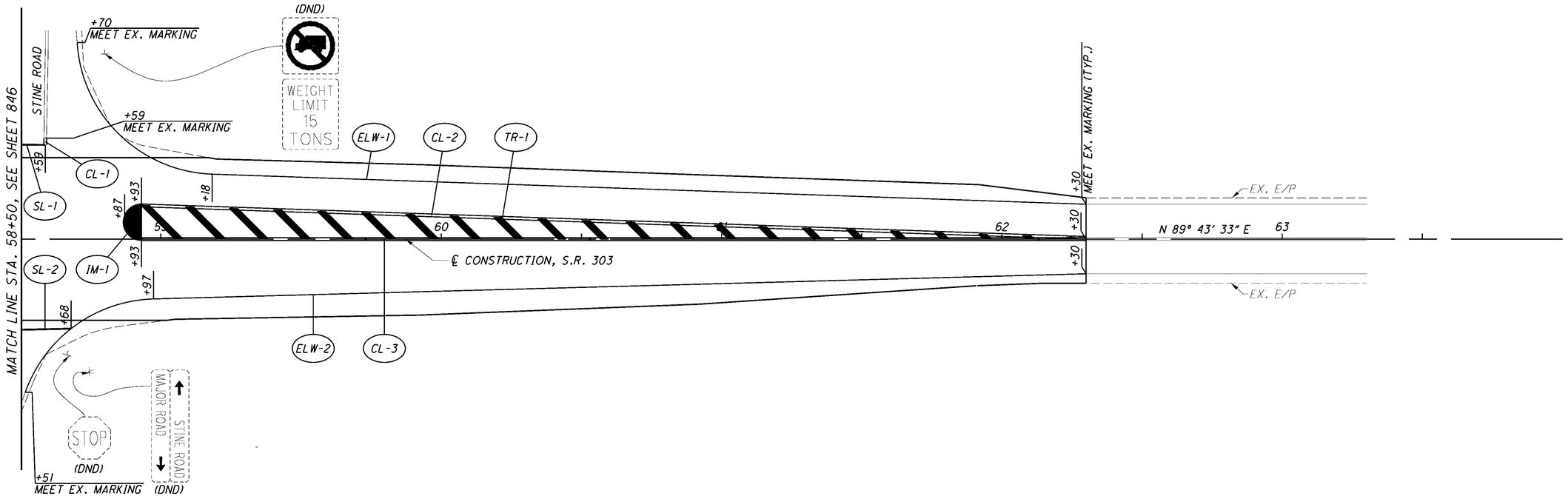
HORIZONTAL SCALE IN FEET

CALCULATED DO CHECKED PEK

SIGNING AND PAVEMENT MARKING PLAN S.R. 303 STA. 47+50 TO STA. 58+50

SUM-271-2.33

846
1195



LEGEND

CL-1	CENTER LINE, DOUBLE SOLID, 4" YELLOW
ELW-1	EDGE LINE, 4" WHITE
ELY-1	EDGE LINE, 4" YELLOW
SL-1	STOP LINE, 24" WHITE
LL-1	LANE LINE, 4" WHITE
DL-1	DOTTED LINE, 4" WHITE
CH-1	CHANNELIZING LINE, 12" WHITE
LA-1	LANE ARROW
IM-1	ISLAND MARKING, YELLOW
TR-1	TRANSVERSE LINE, 24" YELLOW
▪	RPM

PROPOSED SIGN

EXISTING SIGN

EXISTING SIGN TO BE REMOVED

HORIZONTAL SCALE IN FEET
0 10 20 40

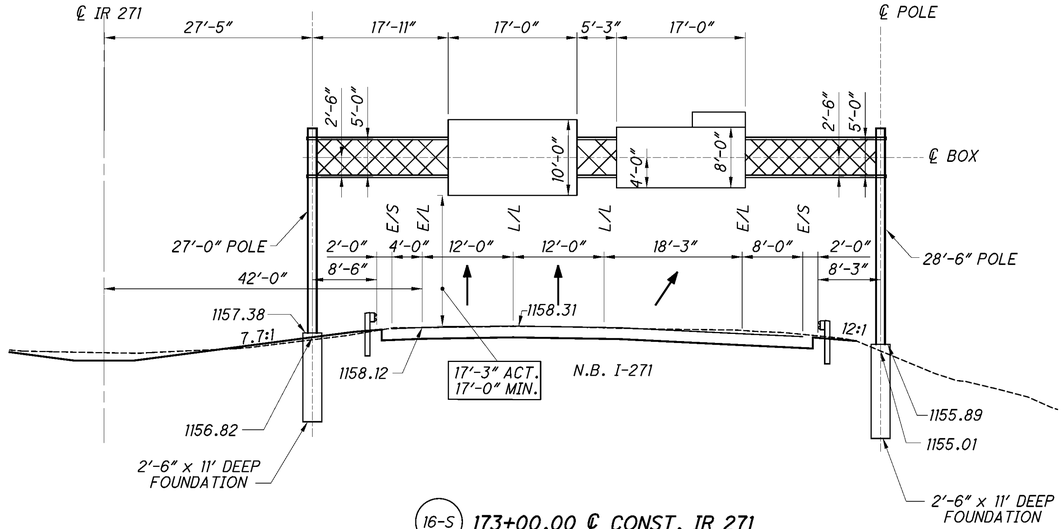
CALCULATED DO
CHECKED PEK

SIGNING AND PAVEMENT MARKING PLAN
S.R. 303 STA. 58+50 TO STA. 64+00

SUM-271-2.33

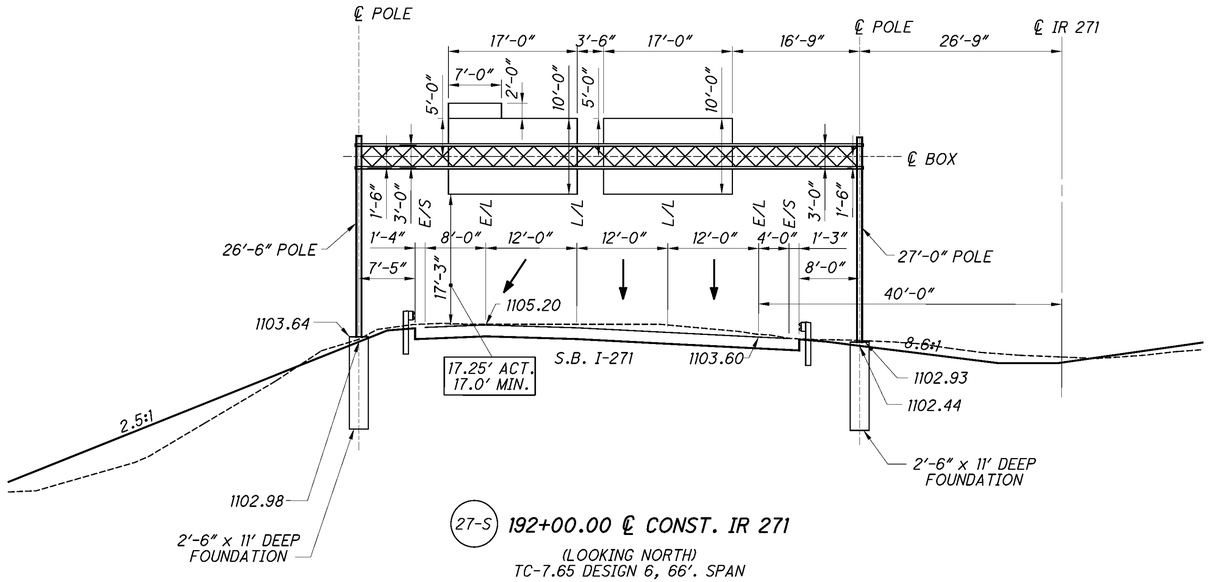
847
1195

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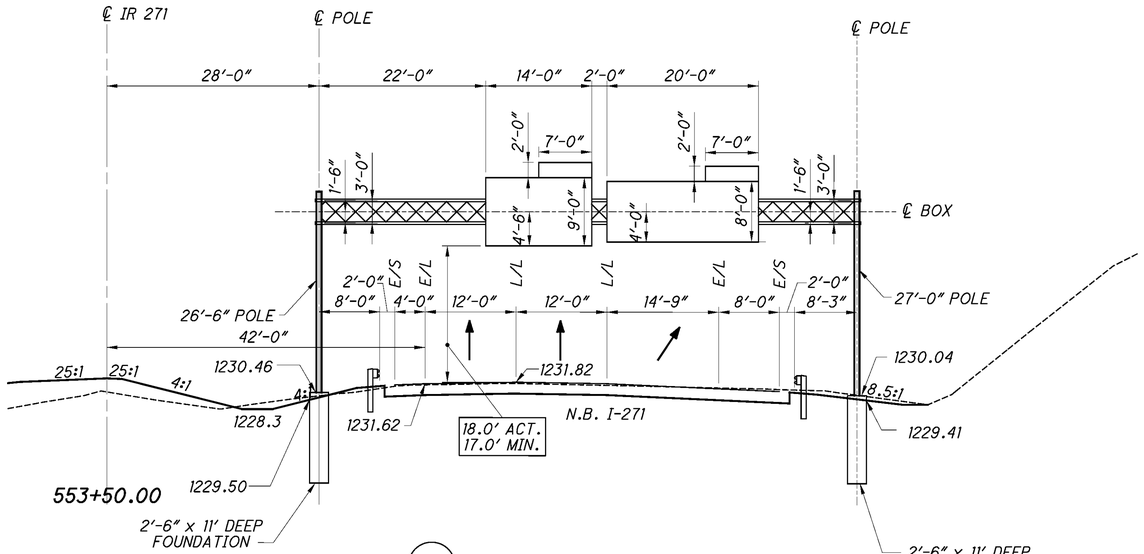
16-S **173+00.00 ℄ CONST. IR 271**

(LOOKING NORTH)
TC-7.65 DESIGN 8, 75′. SPAN



27-S **192+00.00 ℄ CONST. IR 271**

(LOOKING NORTH)
TC-7.65 DESIGN 6, 66′. SPAN



9-S **553+50.00 ℄ CONST. IR 271**

(LOOKING NORTH)
TC-7.65 DESIGN 6, 71′ SPAN

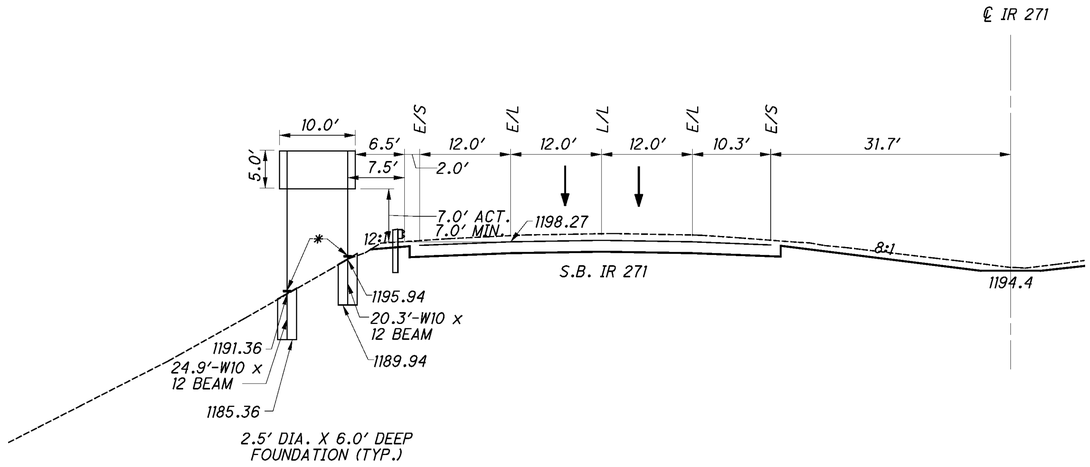
CALCULATED JL
CHECKED DW

TRAFFIC CONTROL DETAILS
OVERHEAD TRUSS TC-7.65

SUM-271-2.33

848
1195

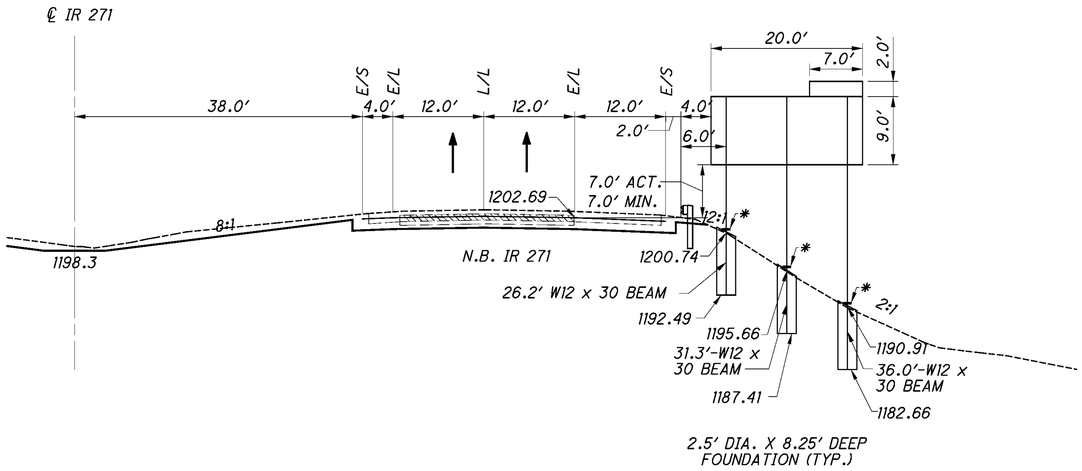
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3-S

1198.27

532+20.60



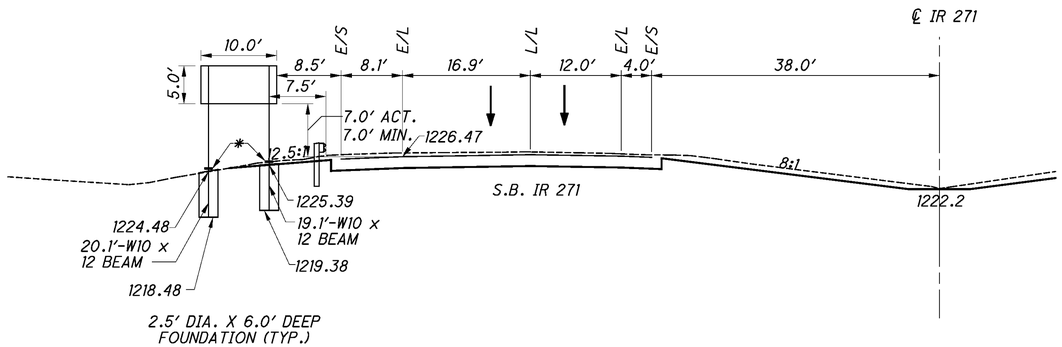
4-S

1202.69

533+50.00

LEGEND

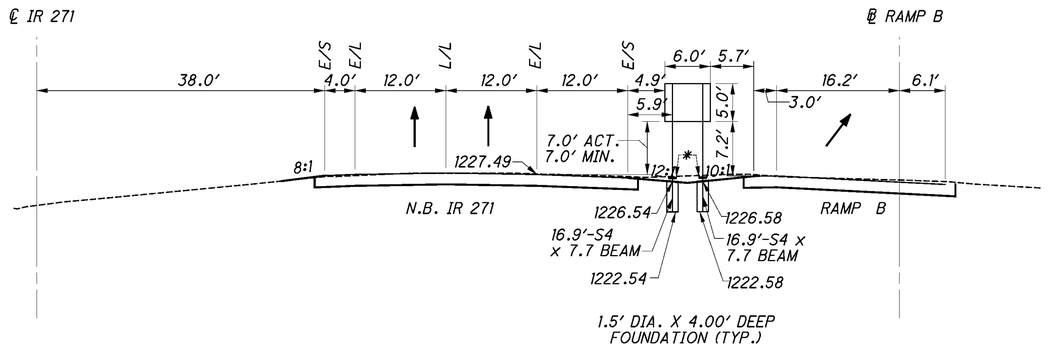
E/S - EDGE OF SHOULDER
E/L - EDGE LINE
L/L - LANE LINE
CH/L - CHANNELIZING LINE
* - BREAKAWAY BEAM CONNECTION



8-S

1226.55

543+00.00



10-S

1227.49

557+25.00

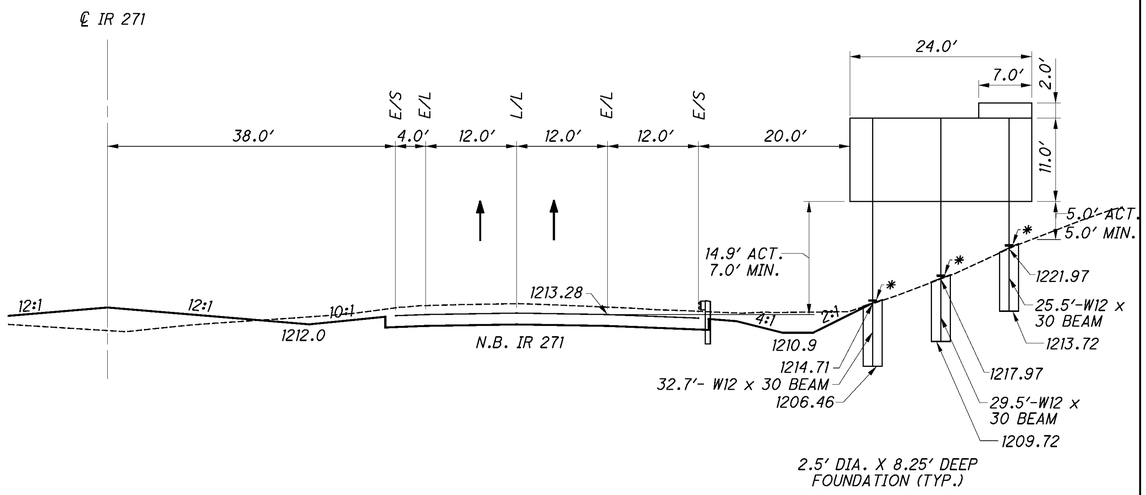
CALCULATED JL
CHECKED DW

TRAFFIC CONTROL DETAILS
GROUND MOUNTED BEAM SUPPORTS

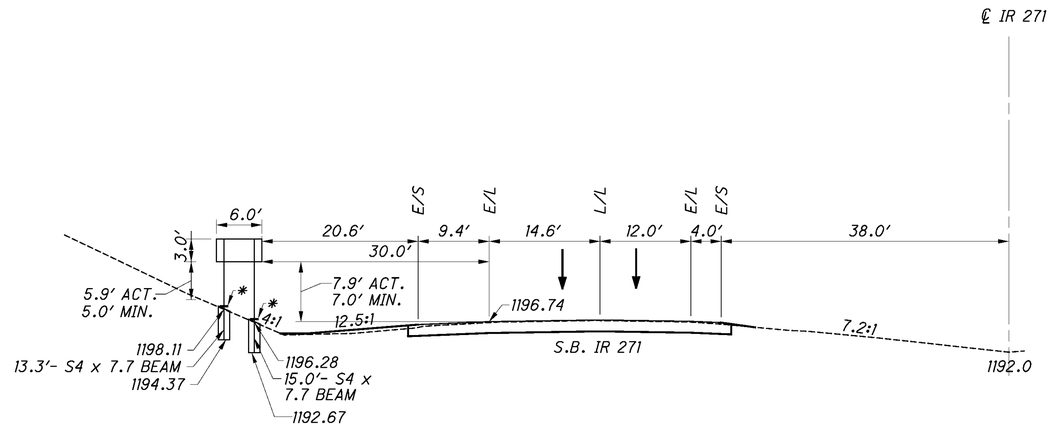
SUM-271-2.33

849
1195

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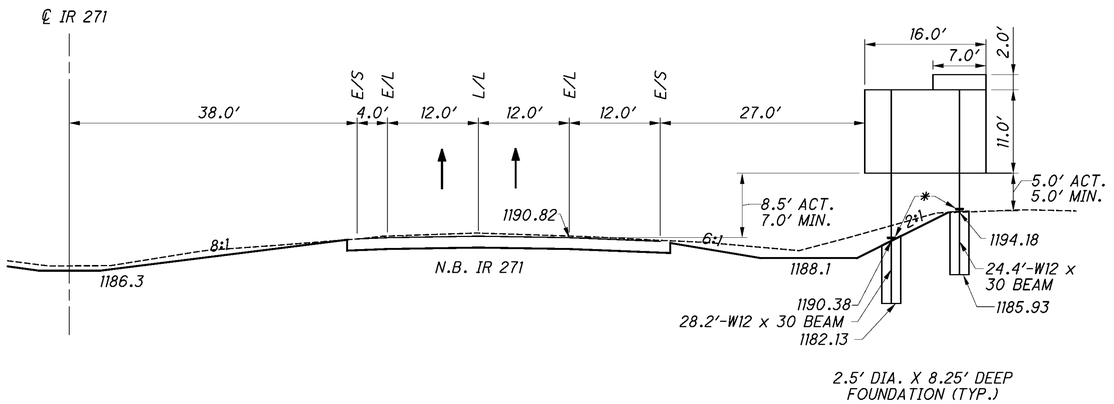
12-S 1213.28
563+50.00



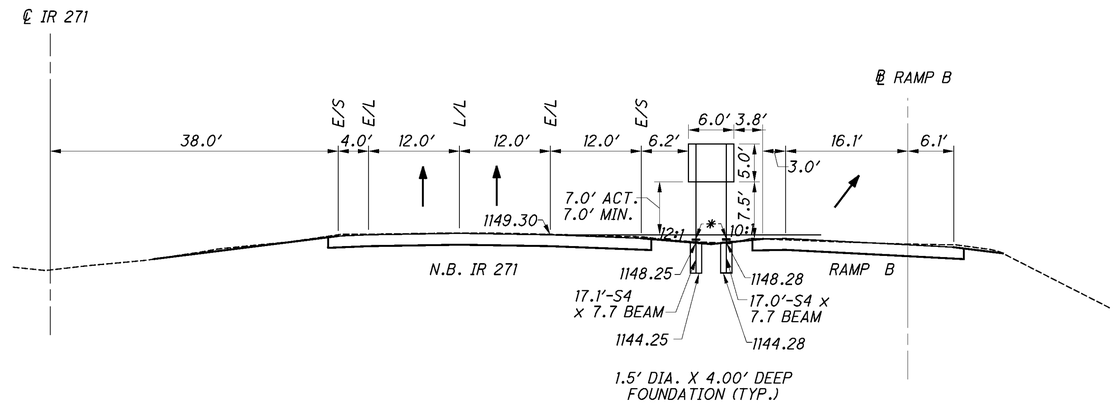
14-S 1196.40
159+57.00 R 2

LEGEND

E/S - EDGE OF SHOULDER
E/L - EDGE LINE
L/L - LANE LINE
CH/L - CHANNELIZING LINE
* - BREAKAWAY BEAM CONNECTION



15-S 1190.82
161+50.00 R 2



17-S 1149.30
176+10.00

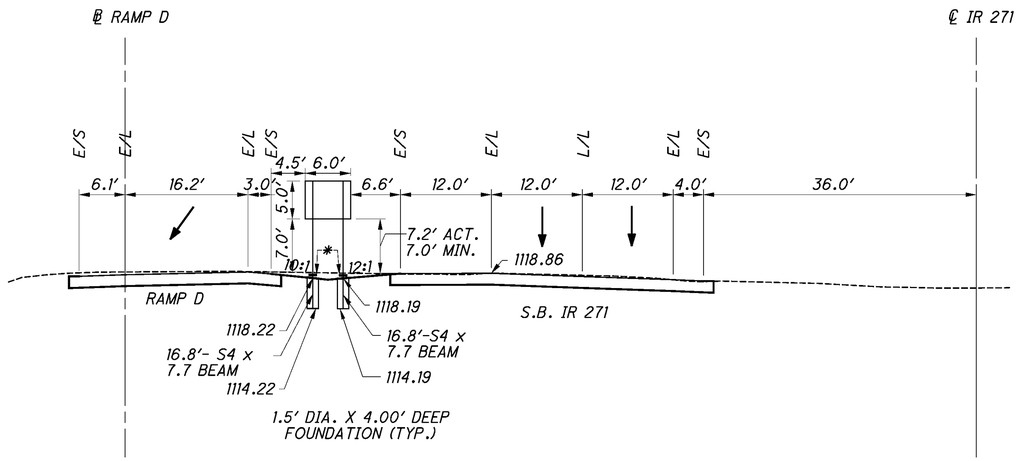
CALCULATED JL
CHECKED DW

TRAFFIC CONTROL DETAILS
GROUND MOUNTED BEAM SUPPORTS

SUM-271-2.33

850
1195

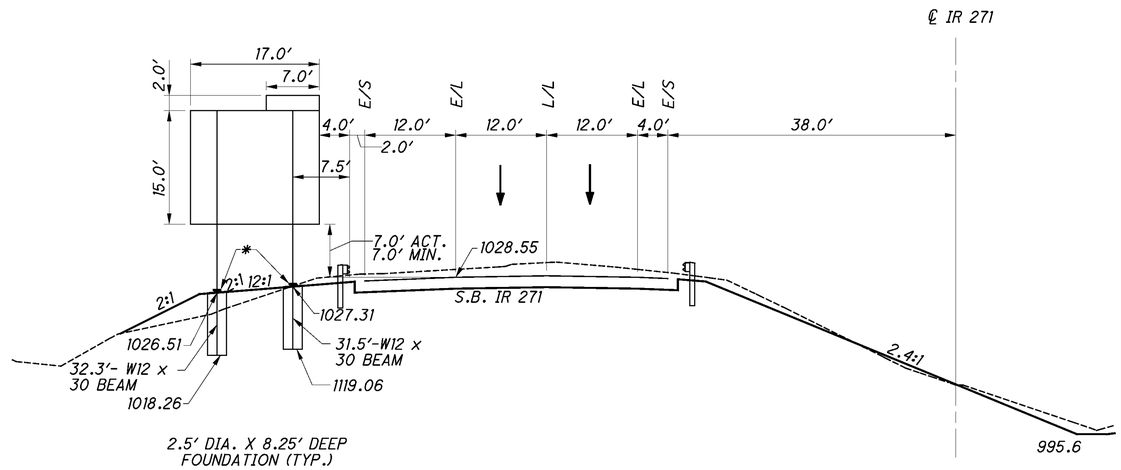
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22-S

1118.01

186+95.00



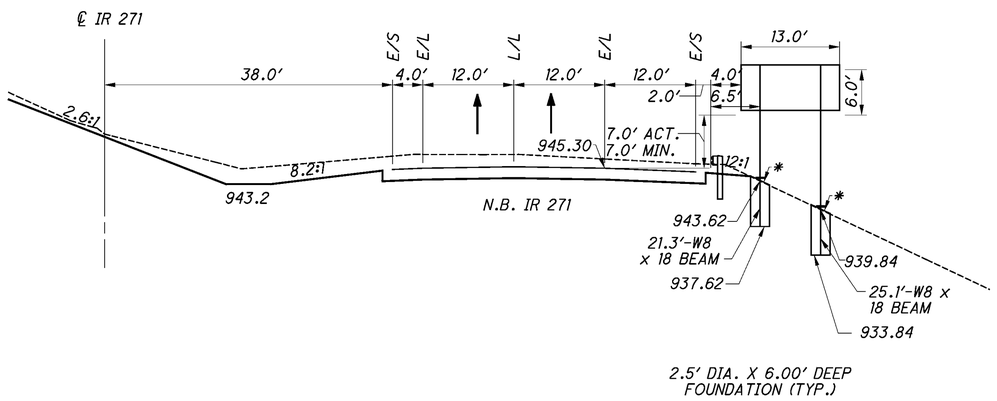
35-S

1028.55

217+00.00 R 2

LEGEND

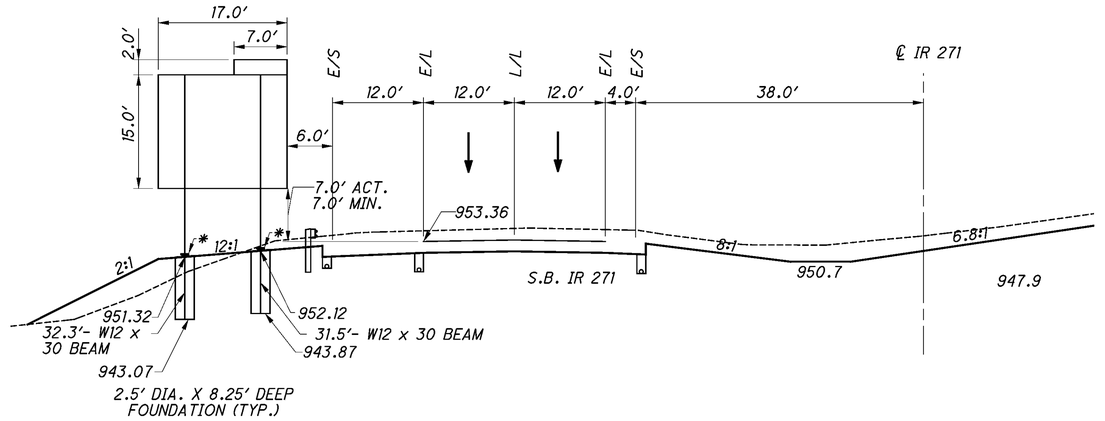
E/S - EDGE OF SHOULDER
E/L - EDGE LINE
L/L - LANE LINE
CH/L - CHANNELIZING LINE
* - BREAKAWAY BEAM CONNECTION



39-S

945.30

239+19.80 R 2



46-S

953.36

248+00.00 R 2

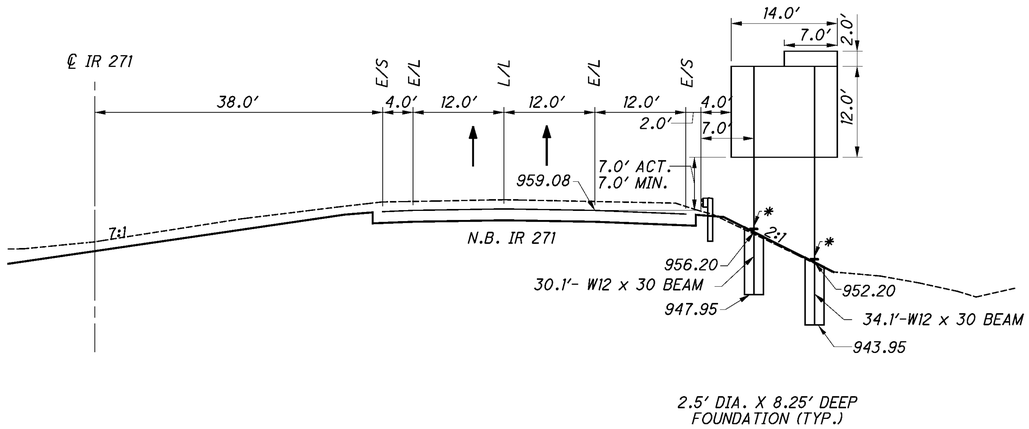
CALCULATED JL
CHECKED DW

TRAFFIC CONTROL DETAILS
GROUND MOUNTED BEAM SUPPORTS

SUM-271-2.33

851
1195

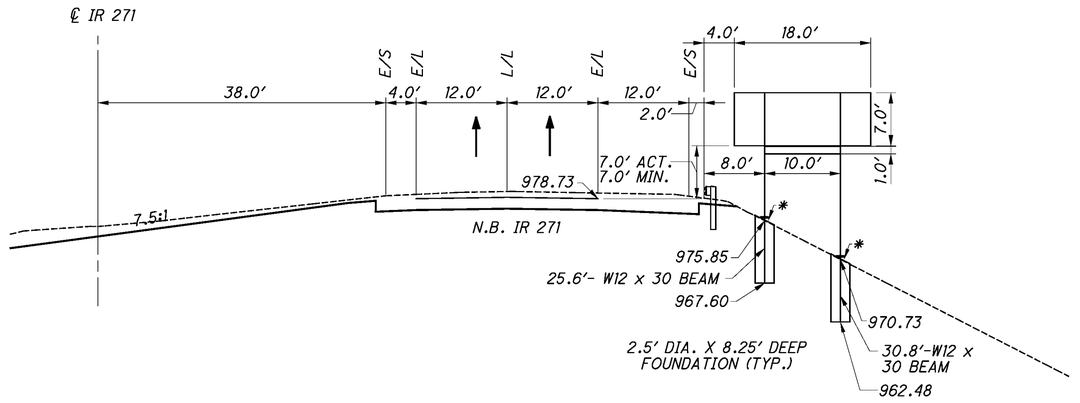
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41-S

959.08

248+50.00 R 2



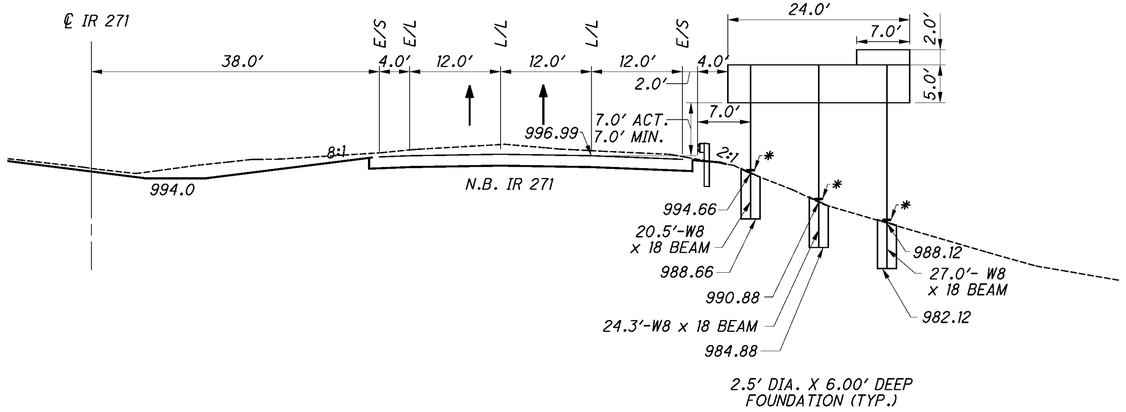
42-S

978.73

255+00.00 R 2

LEGEND

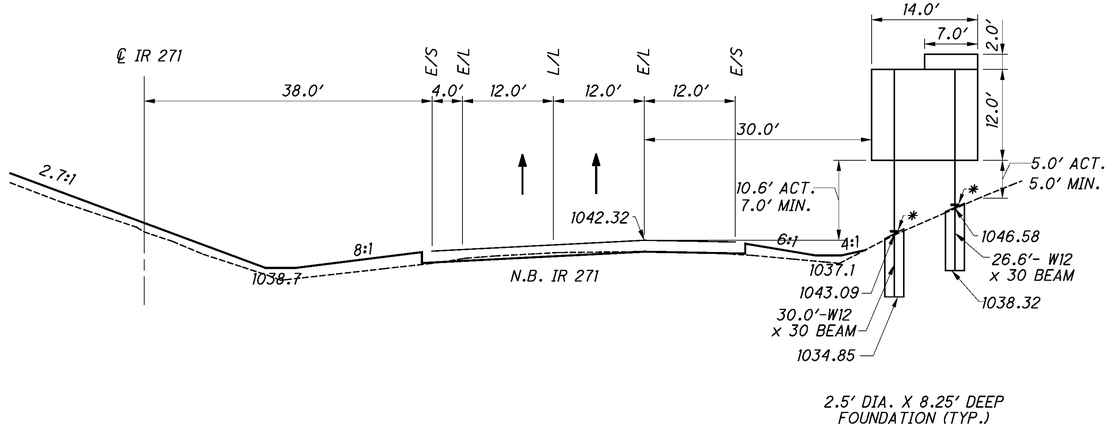
E/S - EDGE OF SHOULDER
E/L - EDGE LINE
L/L - LANE LINE
CH/L - CHANNELIZING LINE
* - BREAKAWAY BEAM CONNECTION



45-S

996.99

261+00.00 R 2



48-S

1041.09

275+00.00 R 2

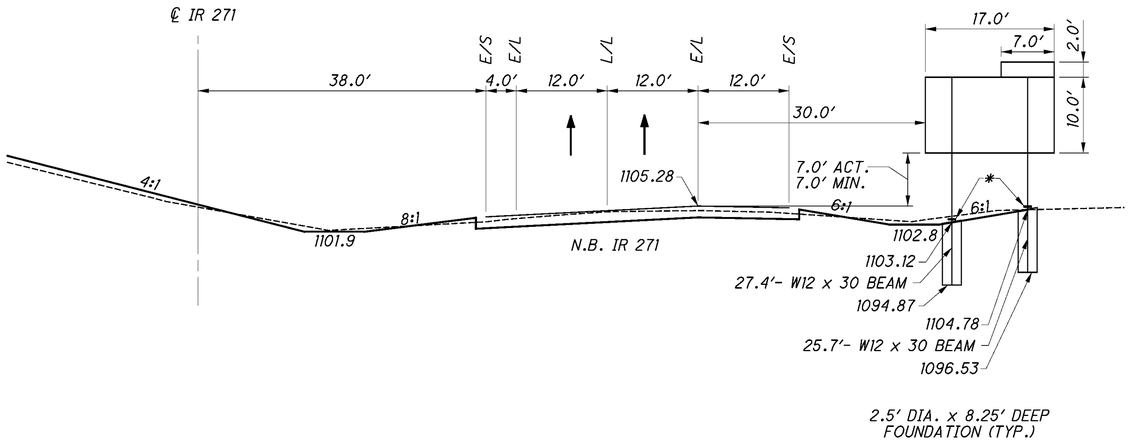
CALCULATED JL
CHECKED DW

TRAFFIC CONTROL DETAILS
GROUND MOUNTED BEAM SUPPORTS

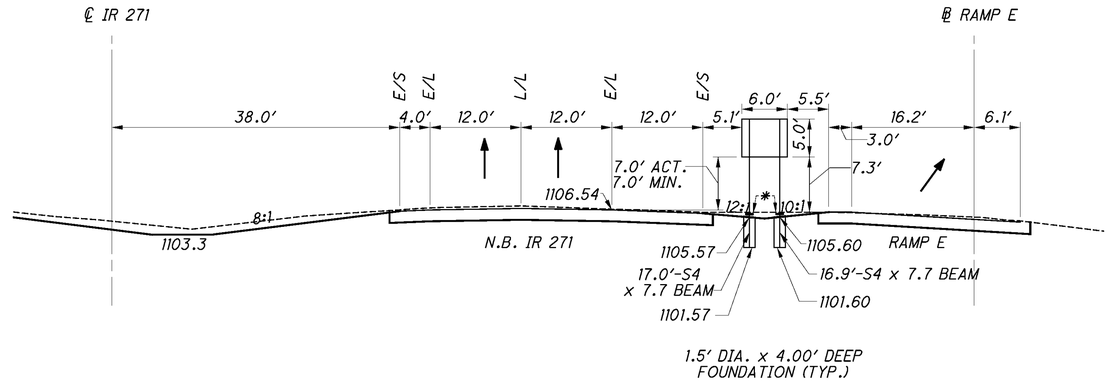
SUM-271-2.33

852
1195

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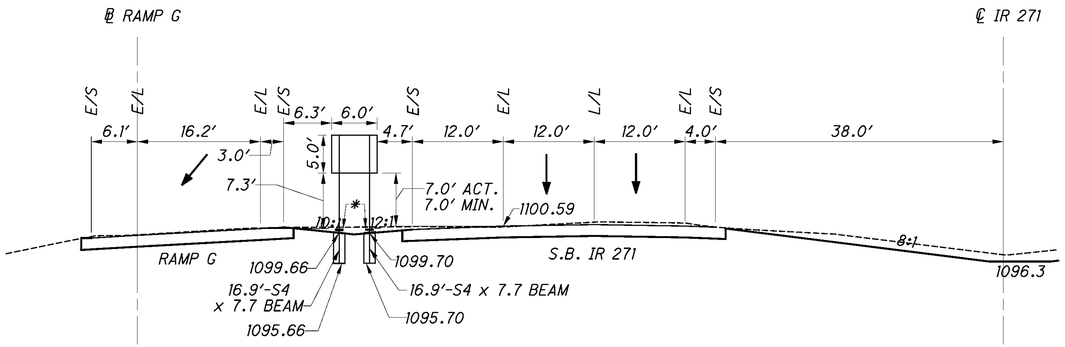
52-S 1105.28
298+50.00 R 2



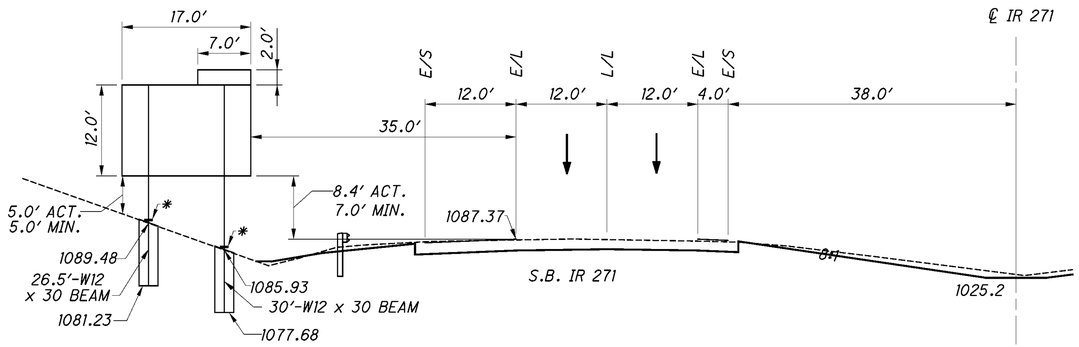
54-S 1106.54
307+25.00

LEGEND

E/S - EDGE OF SHOULDER
E/L - EDGE LINE
L/L - LANE LINE
CH/L - CHANNELIZING LINE
* - BREAKAWAY BEAM CONNECTION



55-S 1100.59
312+75.00



59-S 1087.37
321+50.00 R 2

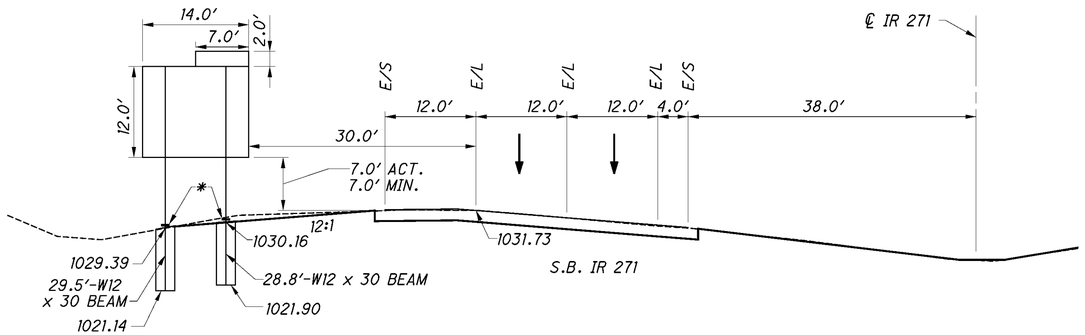
CALCULATED JL
CHECKED DW

TRAFFIC CONTROL DETAILS
GROUND MOUNTED BEAM SUPPORTS

SUM-271-2.33

853
1195

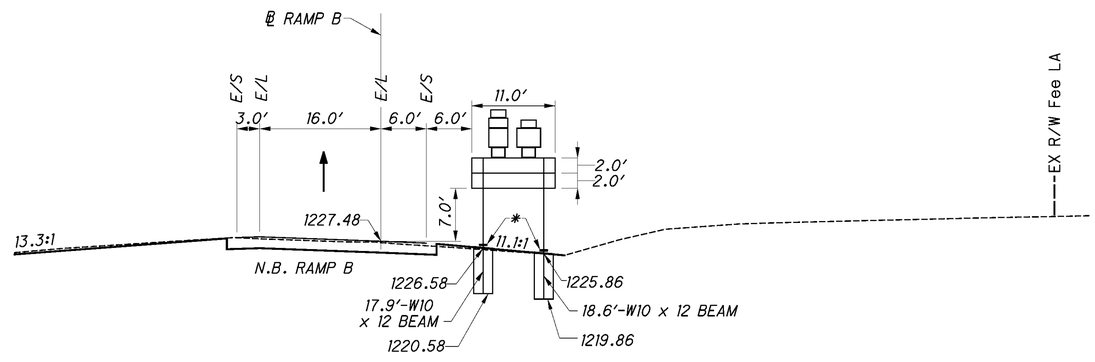
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2.5′ DIA. x 8.25′ DEEP
FOUNDATION (TYP.)

66-S

1031.73
342+50.00



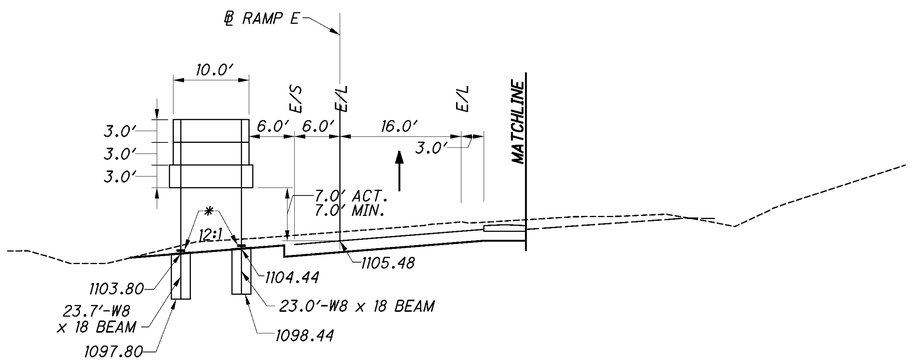
2.5′ DIA. X 6.0′ DEEP
FOUNDATION (TYP.)

76-S

1227.48
61+00.00
RAMP B

LEGEND

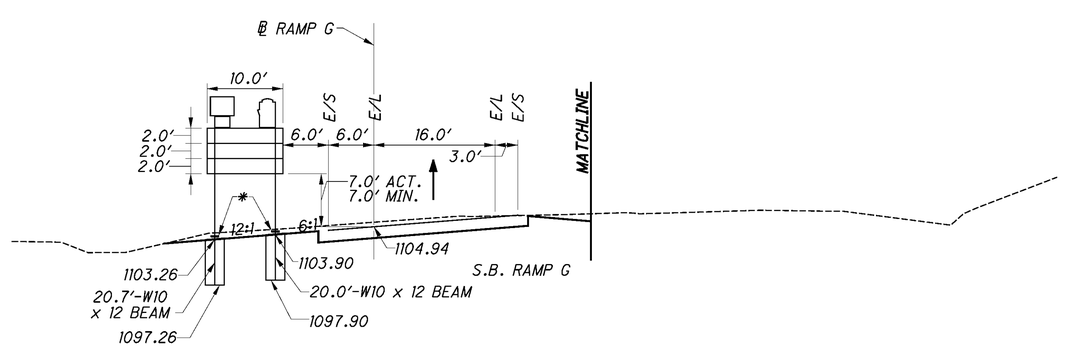
E/S - EDGE OF SHOULDER
E/L - EDGE LINE
L/L - LANE LINE
CH/L - CHANNELIZING LINE
* - BREAKAWAY BEAM CONNECTION



2.5′ DIA. X 6.0′ DEEP
FOUNDATION (TYP.)

123-S

1105.48
307+00.00
RAMP G



2.5′ DIA. X 6.0′ DEEP
FOUNDATION (TYP.)

124-S

1104.94
308+00.00
RAMP G

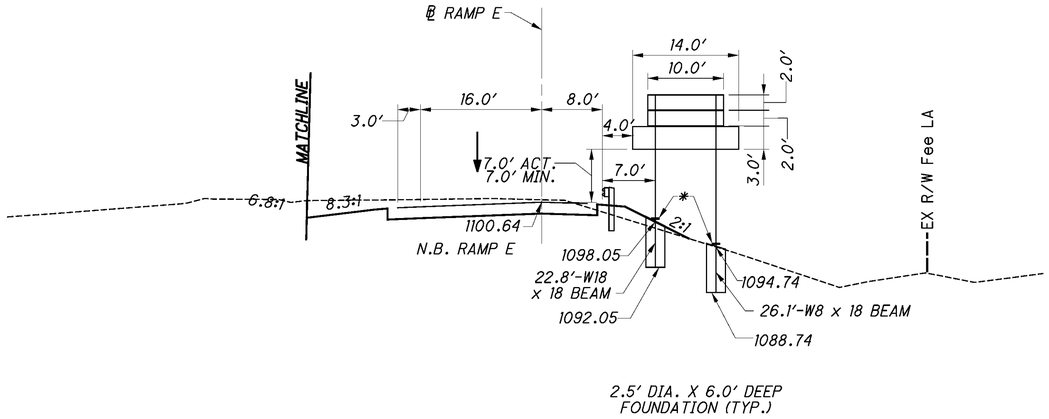
CALCULATED JL
CHECKED DW

TRAFFIC CONTROL DETAILS
GROUND MOUNTED BEAM SUPPORTS

SUM-271-2.33

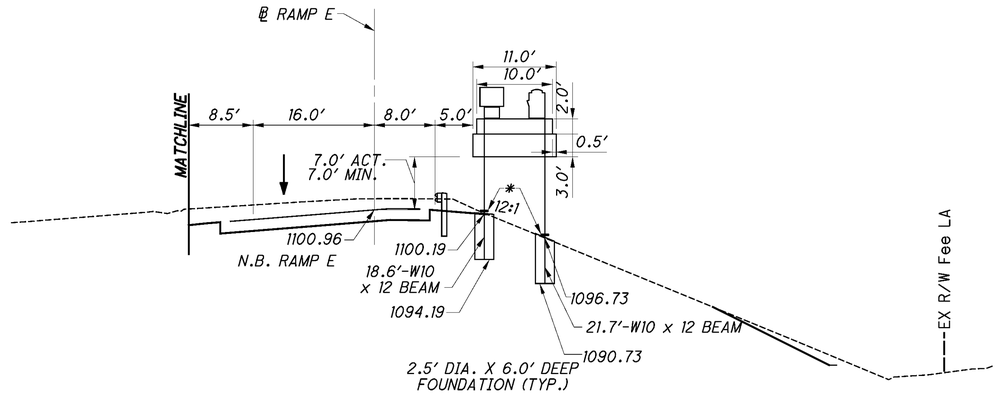
854
1195

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110-S

1100.64
314+00.00
RAMP E

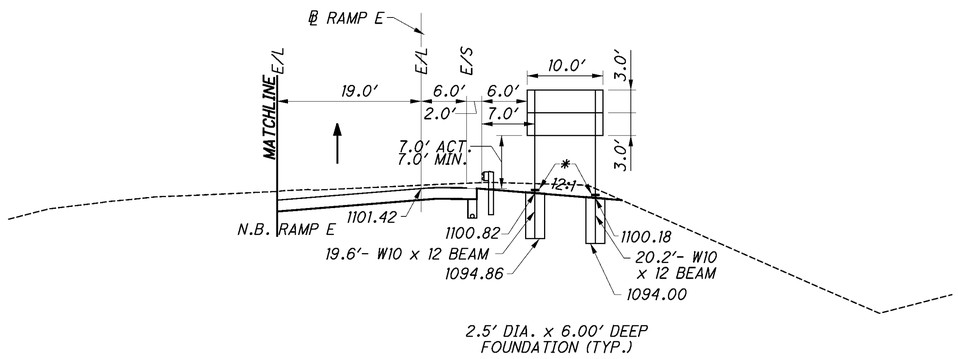


112-S

1100.96
315+40.00
RAMP E

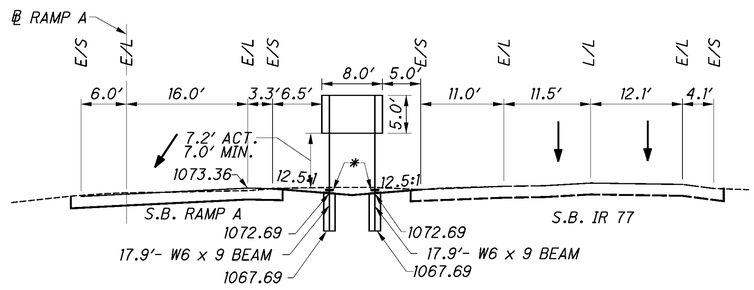
LEGEND

E/S - EDGE OF SHOULDER
E/L - EDGE LINE
L/L - LANE LINE
CH/L - CHANNELIZING LINE
* - BREAKAWAY BEAM CONNECTION



114-S

1101.42
317+00.00
RAMP E



81-S

1073.36
198+35.15
RAMP A

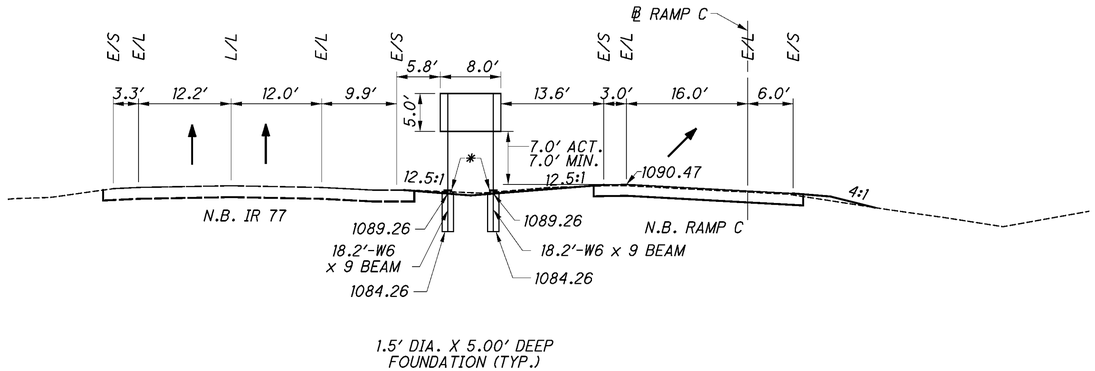
TRAFFIC CONTROL DETAILS
GROUND MOUNTED BEAM SUPPORTS

CALCULATED JL
CHECKED DW

SUM-271-2.33

855
1195

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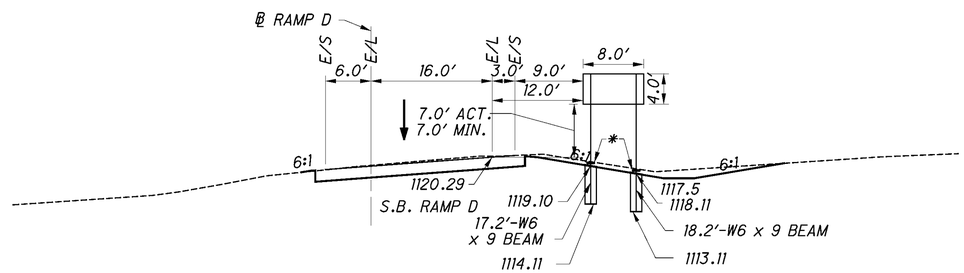
1.5′ DIA. X 5.00′ DEEP FOUNDATION (TYP.)

101-S

1090.47

188+30.50

RAMP C



1.5′ DIA. X 5.00′ DEEP FOUNDATION (TYP.)

106-S

1119.09

184+00.00

℄ RAMP D

LEGEND

E/S - EDGE OF SHOULDER
E/L - EDGE LINE
L/L - LANE LINE
CH/L - CHANNELIZING LINE
* - BREAKAWAY BEAM CONNECTION

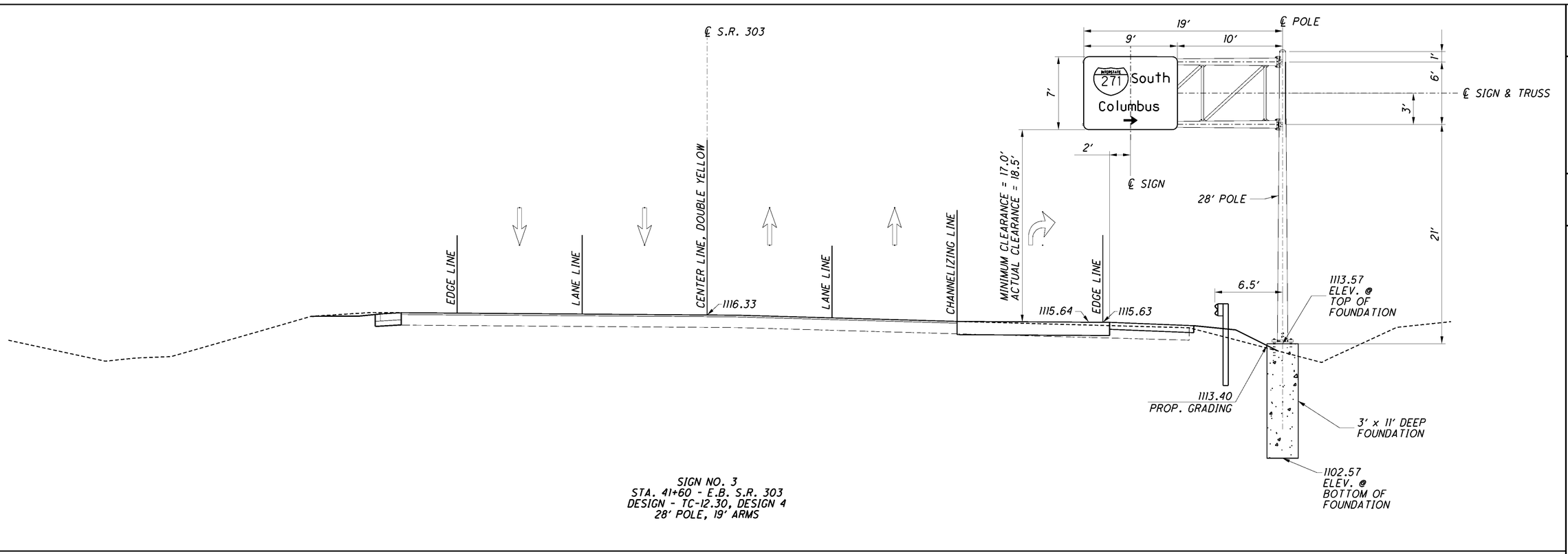
TRAFFIC CONTROL DETAILS
GROUND MOUNTED BEAM SUPPORTS

CALCULATED JL
CHECKED DW

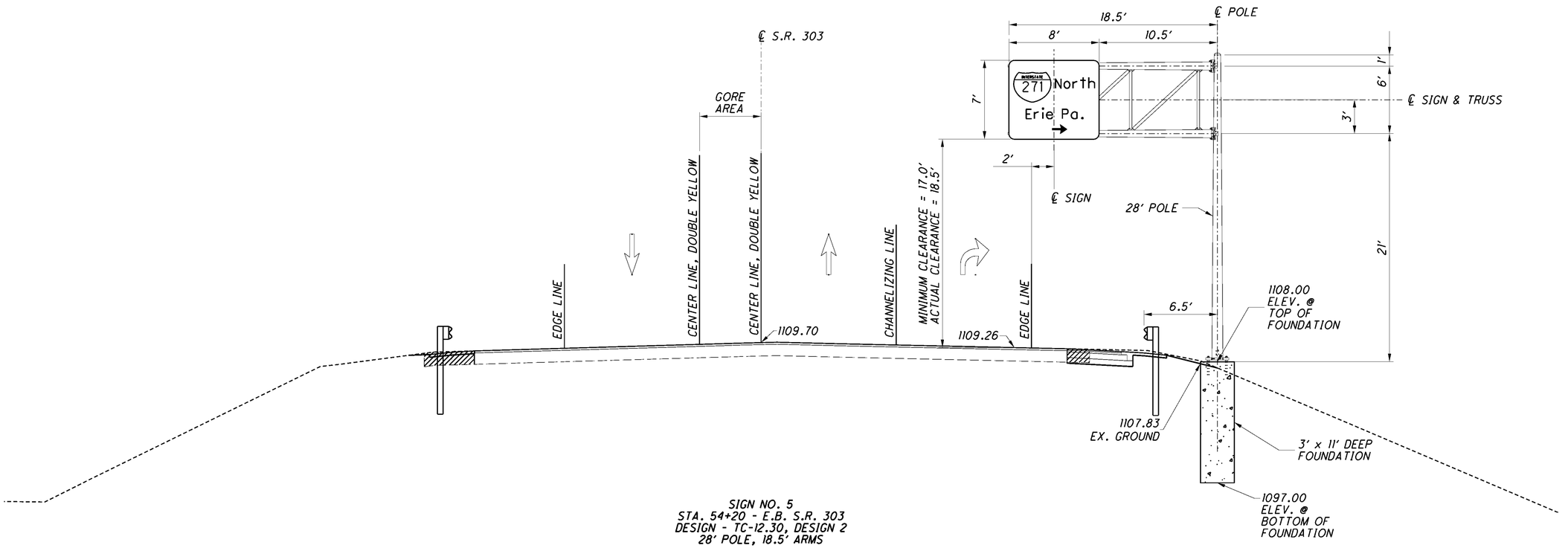
SUM-271-2.33

856
1195

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SIGN NO. 3
STA. 41+60 - E.B. S.R. 303
DESIGN - TC-12.30, DESIGN 4
28' POLE, 19' ARMS



SIGN NO. 5
STA. 54+20 - E.B. S.R. 303
DESIGN - TC-12.30, DESIGN 2
28' POLE, 18.5' ARMS

HORIZONTAL SCALE IN FEET
0 2.5 5 10

CALCULATED DO
CHECKED PEK

SIGN ELEVATION DETAILS
STA. 41+60 AND STA. 54+20

SUM-271-2.33

857
1195

P:\Land Development Projects\503-110 SUM-271-0233 (Richland Engineering)\roadway\sheets\18710TD001.dgn 11/9/2012 12:33:00 PM Paul Keiffer

CALCULATED JDL
CHECKED JAB

GENERAL

THE POWER SUPPLY AGENCY FOR THIS PROJECT IS:

OHIO EDISON DISTRIBUTION
1910 WEST MARKET STREET
BUILDING #1
AKRON, OH 44313
ATTN: DAVID MILLER PH.
(330) 436-4055

POWER SERVICE: 480 VOLT AND 120/240 VOLT, 3-WIRE, SINGLE PHASE, GROUNDED NEUTRAL. THIS PROJECT HAS BEEN DESIGNED ON THE BASIS OF 5% VOLTAGE DROP WITH A MAXIMUM UNIFORMITY RATIO OF 3.0 TO 1.0 FOR HIGH MAST UNITS.

THE CONTRACTOR SHALL PAY ALL ELECTRICAL ENERGY CHARGES FOR NEW POWER SERVICES ESTABLISHED BY THIS PROJECT. UPON COMPLETION OF THIS PROJECT, POWER SERVICE ELECTRICAL ENERGY ACCOUNTS SHALL BE TRANSFERRED TO MAINTAINING AGENCY. THIS SHALL INCLUDE NEW POWER SERVICE ESTABLISHED BY THIS PROJECT AS WELL AS REASSIGNMENT OF EXISTING SERVICE DUE TO WORK PERFORMED BY THIS PROJECT.

ITEM 625 - LIGHTING, MISC.: REMOVAL OF INTERCHANGE LIGHTING

THIS ITEM SHALL INCLUDE THE REMOVAL OF THE REMAINING INTERCHANGE LIGHTING ITEMS AT SR 303 WHICH WILL INCLUDE FOUNDATIONS, PULL BOXES, AND POWER SERVICES. THE DISTRIBUTION CABLE AND UNDERGROUND CONDUIT SHALL BE DISCONNECTED AND ABANDONED IN PLACE. THE LUMINAIRE AND TOWERS WERE REMOVED WITH AN EARLIER PROJECT. ALL ITEMS SHALL BE REMOVED PER CMS 625.21 AND DISPOSED OF BY THE CONTRACTOR. FOR INFORMATION ABOUT THE EXISTING INTERCHANGE LIGHTING SEE PLAN SET SUM-271-6.01. THE COST TO REMOVE THE ITEMS LISTED ABOVE SHALL BE INCLUDED IN THE LUMP SUM COST FOR ITEMS 625 - LIGHTING, MISC.: REMOVAL OF INTERCHANGE LIGHTING AND SHALL INCLUDE ALL LABOR, MATERIALS, EQUIPMENT AND PERMITS TO PERFORM THE ITEMS OF WORK.

LUMINAIRE, HIGH MAST, AS PER PLAN

THE LUMINAIRE ARRAYS AND ASSOCIATED ILLUMINATION TEST AREAS SPECIFIED IN CMS 725.21 ARE HEREBY WAIVED. INSTEAD, THE LUMINAIRES FOR HIGH-MAST LIGHTING SHALL MEET THE FOLLOWING REQUIREMENTS:

LUMINAIRES FOR HIGH-MAST LIGHTING UNITS WITH SYMMETRIC DISTRIBUTION SHALL BE HOLOPHANE "HMST" WITH PHOTOMETRIC DISTRIBUTION 36383, GENERAL ELECTRIC "HM" WITH PHOTOMETRIC DISTRIBUTION 6312, OR COOPER "HMX" WITH PHOTOMETRIC DISTRIBUTION HMX40SXXDW, OR EQUAL AS APPROVED BY THE ENGINEER.

LUMINAIRES FOR HIGH-MAST LIGHTING UNITS WITH ASYMMETRIC DISTRIBUTION SHALL BE HOLOPHANE "HMST" WITH PHOTOMETRIC DISTRIBUTION 46973, GENERAL ELECTRIC "HM" WITH PHOTOMETRIC DISTRIBUTION 7349, OR COOPER "HMC" WITH PHOTOMETRIC DISTRIBUTION HMC40SXX3D, OR EQUAL AS APPROVED BY THE ENGINEER.

IN ADDITION, OTHER LUMINAIRES WILL BE CONSIDERED IF THE DESIGNED INTENSITY AND UNIFORMITY ARE PROVIDED USING THE DESIGNED POLE LOCATIONS AND THE DESIGNED NUMBER AND TYPE OF FIXTURES PER POLE.

ITEM 625, LUMINAIRE, UNDERPASS, AS PER PLAN

IN ADDITION TO THE REQUIREMENTS OF ODOT'S CONSTRUCTION AND MATERIAL SPECIFICATIONS, LUMINAIRES FOR UNDERPASS LIGHTING UNITS SHALL BE AS FOLLOWS:

LUMINAIRES FOR UNDERPASS LIGHTING UNITS SHALL BE AMERICAN ELECTRIC "SIDELIGHT SERIES 582" WITH PHOTOMETRIC DISTRIBUTION 581_075_CA_120 FOR 70W AND 581_105_CA_120 FOR 100W, GENERAL ELECTRIC "VERSAFLOOD II WALLIGHTER" WITH PHOTOMETRIC DISTRIBUTION 2871 FOR 70W AND 8578 FOR 100W,HOLOPHANE "WALLPACK IV" TEST WITH PHOTOMETRIC DISTRIBUTION 55121 FOR 70W AND 55120 FOR 100W, OR EQUAL AS APPROVED BY THE ENGINEER.

LUMINAIRES FOR UNDERPASS LIGHTING UNIT WHICH ARE WALL MOUNTED SHALL BE FURNISHED WITH AN INTEGRAL FUSE HOLDER AND 10-AMPERE FUSES.

PAYMENT WILL BE MADE AT THE UNIT PRICE BID UNDER CMS ITEM 625, "LUMINAIRE, UNDERPASS, AS PER PLAN (ADD SUPPLEMENTAL DESCRIPTION)" FOR EACH LUMINAIRE WHICH SHALL BE FULL COMPENSATION FOR ALL LABOR, MATERIALS AND INCIDENTALS REQUIRED TO COMPLETE THIS ITEM IN A SATISFACTORY AND WORKMANLIKE MANNER.

LAMPS

HIGH PRESSURE SODIUM LAMPS SHALL BE GENERAL ELECTRIC "LUCALOX," OSRAM SYLVANIA "LUMALUX," PHILIPS "CERAMALUX," OR EQUAL APPROVED BY THE ENGINEER.

CONDUIT EXPANSION AND DEFLECTION

EXPANSION FITTINGS SHALL BE OZ TYPE AX, CROUSE HINDS TYPE XJG, APPLETON TYPE AX, OR EQUAL APPROVED BY THE ENGINEER. EACH EXPANSION FITTING SHALL PROVIDE EITHER 4 OR 8 INCHES TOTAL MOVEMENT AS SPECIFIED BY THE PLAN DETAILS AND SHALL HAVE AN EXTERNAL COPPER BONDING JUMPER, UNLESS SPECIFIED OTHERWISE BY THE PLAN DETAILS.

DEFLECTION COUPLINGS SHALL BE OZ TYPE DX, CROUSE HINDS TYPE XD, APPLETON TYPE DF, OR EQUAL APPROVED BY THE ENGINEER. EACH DEFLECTION COUPLING SHALL HAVE AN EXTERNAL COPPER BONDING JUMPER, UNLESS SPECIFIED OTHERWISE BY THE PLAN DETAILS.

ITEM 625, POWER SERVICE, AS PER PLAN

IN ADDITION TO THE REQUIREMENTS OF THE SPECIFICATIONS, THE FOLLOWING IS ADDED.

THE POWER SUPPLYING AGENCY FOR THIS PROJECT IS:

OHIO EDISON DISTRIBUTION
1910 WEST MARKET STREET
BUILDING #1
AKRON, OH 44313
ATTN: DAVID MILLER PH.
(330) 436-4055

THE ENGINEER SHALL ENSURE THAT EACH POWER SERVICE ELECTRICAL ENERGY ACCOUNT IS IN THE NAME OF AND THAT THE BILLING ADDRESS IS TO THE MAINTAINING AGENCY NOTED IN THE PLANS. THIS SHALL BE DONE NOT ONLY FOR EACH NEW POWER SERVICE ESTABLISHED BY THIS PROJECT BUT ALSO FOR EACH EXISTING POWER SERVICE, SINCE THERE MAY BE A REASSIGNMENT OF THE RESPONSIBILITY FOR AN EXISTING SERVICE AS A RESULT OF THE WORK PERFORMED BY THIS PROJECT.

PAYMENT WILL BE MADE AT THE UNIT BID PRICE FOR EACH CMS ITEM 625, "POWER SERVICE, AS PER PLAN" WHICH SHALL BE FULL COMPENSATION FOR ALL LABOR, MATERIALS AND INCIDENTALS REQUIRED TO COMPLETE THIS ITEM IN A SATISFACTORY AND WORKMANLIKE MANNER.

PADLOCKS AND KEYS

PADLOCKS FURNISHED SHALL BE EITHER BRASS OR BRONZE, EQUAL TO MASTER NO. 4BKA OR WILSON BOHANNAN 660A, AND SHALL BE KEYED IN ACCORDANCE WITH CMS 631.06. PAYMENT SHALL BE INCLUDED IN THE BID FOR THE ITEM(S) BEING LOCKED.

ITEM 625, SERVICE TO UNDERPASS LIGHTING

THIS ITEM SHALL CONSIST OF PROVIDING COMPLETE ELECTRICAL SERVICE EXCEPT FOR LUMINAIRES AND STRUCTURE GROUNDING, FOR AN UNDERPASS LIGHTING SYSTEM. THE INSTALLATION WORK SHALL INCLUDE CONDUITS, CONDUIT GROUNDING, GROUND RODS, MOUNTING, FITTINGS, JUNCTION BOXES, CABLES, FUSIBLE DISCONNECT SWITCH, AND ALL INCIDENTALS NECESSARY TO COMPLETE, READY FOR USE, THE SERVICES AS SPECIFIED HEREIN AND AS SHOWN ON THE UNDERPASS LIGHTING DETAILS.

THE PRICE FOR EACH ITEM 625 - "SERVICE TO UNDERPASSLIGHTING, SHALL INCLUDE PAYMENT FOR ALL EQUIPMENT, LABOR AND MATERIALS NECESSARY TO COMPLETE THE WORK AS SPECIFIED. COMPONENT PARTS NOT SPECIFICALLY MENTIONED BUT REQUIRED FOR SATISFACTORY OPERATION OF THIS ITEM SHALL BE PROVIDED AND CONSIDERED PAID FOR AS PART OF THIS ITEM.

LIGHTING NOTES

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LEGEND

HIGH MAST TOWER, W/4-400 WATT HPS HIGH MAST LUMINAIRE, SYMMETERICAL DISTRIBUTION

HIGH MAST TOWER, W/4-400 WATT HPS HIGH MAST LUMINAIRE, ASYMMETERICAL DISTRIBUTION

CONTROL CENTER/POWER SERVICES

PHOTOMETRIC FOOT PRINT REPRESENTING 0.25 FC FOR 4-400 WATT HPS HIGH MAST LUMINAIRES, SYMMETRICAL DISTRIBUTION

PHOTOMETRIC FOOT PRINT REPRESENTING 0.25 FC FOR 4-400 WATT HPS HIGH MAST LUMINAIRES, ASYMMETRICAL DISTRIBUTION

PHOTOMETRIC FOOT PRINT REPRESENTING 0.25 FC FOR 70 AND 100 WATT HPS, UNDERPASS LUMINAIRE

SHEET 868

SHEET 869

SHEET 870

SHEET 874

SHEET 875

SHEET 876

SHEET 873

SHEET 871

SHEET 872

EQUATION:
STA 566+09.70 BK =
STA 566+00.00 AH

OVERHEAD TRANSMISION LINES

OVERHEAD POWER LINES

NOTE:
1) FOR UNDERPASS LIGHTING SEE SHEETS 877 TO 879

STA. 908+50 TO 908+67 ℄ CONST. IR 77
CONTROL CENTERS A, B AND C

PT STA. 203+01.00

CALCULATED JDL
CHECKED JAB

I-77 AND I-271 INTERCHANGE
LIGHTING SCHEMATIC

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SHEET NUMBER												ITEM	ITEM EXT.	FUNDING PARTICIPATION			GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
		858		861	862	863	864	865	866	867				01/IMS/PV	02/BRO/BR	03/IMS/BR				
				21	54	12	24	12	36	6		625	00480	165			165	EACH	CONNECTION, UNFUSED PERMANENT	
							3	6				625	13100	9			9	EACH	LIGHT TOWER, BBBB90	
				9	5	9		9				625	13200	32			32	EACH	LIGHT TOWER, BBBB100	
				1	2			1				625	13204	4			4	EACH	LIGHT TOWER, BBBB110	
				10	7	9	3	16				625	15200	45			45	EACH	LIGHT TOWER FOUNDATION, 36" X 25' DEEP	
									1207	72		625	23200	1,279			1,279	FT	NO. 4 AWG 5000 VOLT DISTRIBUTION CABLE	
				1242	2757	1410	4344	378				625	23300	10,131			10,131	FT	NO. 2 AWG 5000 VOLT DISTRIBUTION CABLE	
									1660	1181		625	24320	2,841			2,841	FT	1-1/2" DUCT CABLE WITH THREE NO. 4 AWG 5000 VOLT CABLES	
				5572	6094	3503	1414	7975	310			625	24330	24,868			24,868	FT	1-1/2" DUCT CABLE WITH THREE NO. 2 AWG 5000 VOLT CABLES	
									178			625	25400	178			178	FT	CONDUIT, 2", 725.04	
						225	80					625	25500	305			305	FT	CONDUIT, 3", 725.04	
							40					625	25600	40			40	FT	CONDUIT, 4", 725.04	
				174	408		200	106	273			625	25900	1,161			1,161	FT	CONDUIT, JACKED OR DRILLED UNDER PAVEMENT, 3"	
							128					625	25900	128			128	FT	CONDUIT, JACKED OR DRILLED UNDER PAVEMENT, 4"	
				32	12	32	12	32				625	26261	120			120	EACH	LUMINAIRE, HIGH MAST, SYMETRIC, 400 WATT, HPS, 480 VOLT, AS PER PLAN	858
				8	16	4		32				625	26261	60			60	EACH	LUMINAIRE, HIGH MAST, ASYMETRIC, 400 WATT, HPS, 480 VOLT, AS PER PLAN	858
									6	2		625	27501	8			8	EACH	LUMINAIRE, UNDERPASS, 70 WATT, AS PER PLAN	858
									8			625	27501	8			8	EACH	LUMINAIRE, UNDERPASS, 100 WATT, AS PER PLAN	858
				5422	5934	3488	1504	7815	2018	1151		625	29000	27,332			27,332	FT	TRENCH	
				3	9	2	6	4	12			625	30706	36			36	EACH	PULL BOX, 725.08, 24"	
										36		625	31510	36			36	EACH	PULL BOX REMOVED	
				20	14	18	9	32				625	32000	93			93	EACH	GROUND ROD	
									3	2		625	33000	5			5	EACH	STRUCTURE GROUNDING SYSTEM	
							3					625	34001	3			3	EACH	POWER SERVICE, AS PER PLAN	858
				5422	5934	3488	1504	7815	2018	1151		625	36000	27,332			27,332	FT	PLASTIC CAUTION TAPE	
									8	2		625	37100	10			10	EACH	SERVICE TO UNDERPASS LIGHTING	
										35		625	75400	35			35	EACH	LIGHT POLE REMOVED	
										35		625	75506	35			35	EACH	LUMINAIRE REMOVED	
										1		625	75510	1			1	EACH	POWER SERVICE REMOVED	
										34		625	75522	34			34	EACH	LUMINAIRE SUPPORT FOUNDATION REMOVED	
										1		625	75800	1			1	EACH	DISCONNECT CIRCUIT	
		LUMP										625	98200	LUMP			LUMP		LIGHTING, MISC.: REMOVAL OF INTERCHANGE LIGHTING	858

CALCULATED JDL
CHECKED JAB

LIGHTING GENERAL SUMMARY

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REFERENCE NO.	SHEET No.	STATION			STATION			LENGTH	625																						
									CONNECTION, UNFUSED PERMANENT	LIGHT TOWER, BBBB90	LIGHT TOWER, BBBB100	LIGHT TOWER, BBBB110	LIGHT TOWER FOUNDATION, 36" X 25' DEEP	NO. 4 AWG 5000 VOLT DISTRIBUTION CABLE	NO. 2 AWG 5000 VOLT DISTRIBUTION CABLE	1-1/2" DUCT CABLE WITH THREE NO. 4 AWG 5000 VOLT CABLES	1-1/2" DUCT CABLE WITH THREE NO. 2 AWG 5000 VOLT CABLES	CONDUIT, 2", 725.04	CONDUIT, 3", 725.04	CONDUIT, 4", 725.04	CONDUIT, JACKED OR DRILLED UNDER PAVEMENT		LUMINAIRE, HIGH MAST, SYMETRIC, 400 WATT, HPS, 480 VOLT, AS PER PLAN	LUMINAIRE, HIGH MAST, ASYMETRIC, 400 WATT, HPS, 480 VOLT, AS PER PLAN	LUMINAIRE, UNDERPASS, AS PER PLAN	LUMINAIRE, UNDERPASS, AS PER PLAN	TRENCH	PULL BOX, 725.08, 24"	GROUND ROD	STRUCTURE GROUNDING SYSTEM	POWER SERVICE, AS PER PLAN	PLASTIC CAUTION TAPE	SERVICE TO UNDERPASS LIGHTING
		STATION	OFFSET	BL	STATION	OFFSET	BL	FT	EACH	EACH	EACH	EACH	EACH	FT.	FT.	FT.	FT.	FT.	FT.	3"	4"	EACH	EACH	70W	100W	FT.	EACH	EACH	EACH	EACH	FT.	EACH
A1-1	868	159+25.00	8.00 LT	CL IR 271							1		1									4						2			
C1-1	868-869	159+25.00	8.00 LT	CL IR 271	162+75.00	8.00 LT	CL IR 271	350									360									350					350	
SHEET 868 TOTALS											1		1				360					4				350		2			350	
A1-2	869	162+75.00	8.00 LT	CL IR 271							1		1									4						2			
C1-2	869	162+75.00	8.00 LT	CL IR 271	166+25.00	8.00 LT	CL IR 271	350									360									350					350	
A1-3	869	166+25.00	8.00 LT	CL IR 271							1		1									4						2			
C1-3	869	166+25.00	8.00 LT	CL IR 271	169+75.00	8.00 LT	CL IR 271	350									360									350					350	
A1-4	869	169+75.00	8.00 LT	CL IR 271							1		1									4						2			
C1-4	869-870	169+75.00	8.00 LT	CL IR 271	173+25.00	8.00 LT	CL IR 271	350									360									350					350	
SHEET 869 TOTALS											3		3				1080					12				1050		6			1050	
A1-5	870	173+25.00	8.00 LT	CL IR 271							1		1									4						2			
C1-5	870	173+25.00	8.00 LT	CL IR 271	183+30.00	13.00 LT	CL IR 271	1005									1015									1005					1005	
A2-6	870	176+75.00	8.00 LT	CL IR 271							1		1									4						2			
C2-1	870	176+75.00	8.00 LT	CL IR 271	180+25.00	8.00 LT	CL IR 271	350									360									350					350	
A2-7	870	180+25.00	8.00 LT	CL IR 271							1		1									4						2			
C2-2	870	180+25.00	8.00 LT	CL IR 271	183+30.00	13.00 LT	CL IR 271	305									315									305					305	
C2-3	870	183+30.00	13.00 LT	CL IR 271	183+75.00	8.00 LT	CL IR 271	45									55									45					45	
A2-8	870	183+75.00	8.00 LT	CL IR 271							1		1									4						2			
C2-4	870-871	183+75.00	8.00 LT	CL IR 271	187+25.00	8.00 LT	CL IR 271	350									360									350					350	
A3-30	870	179+25.00	96.00 RT	BL RAMP A							1		1										4					2			
C3-9	870-874	179+25.00	96.00 RT	BL RAMP A	183+25.00	96.00 RT	BL RAMP A	400									410									400					400	
C3-11	870-874	183+00.00	27.50 RT	BL RAMP D	183+30.00	86.50 LT	CL IR 271	251									261									251					251	
PB-21	870	183+30.00	86.50 LT	CL IR 271					3																		1					
C3-12	870	183+30.00	86.50 LT	CL IR 271	183+30.00	13.00 LT	CL IR 271	74							252					74											
PB-1	870	183+30.00	13.00 LT	CL IR 271					9																		1					
C1-6	870	183+30.00	13.00 LT	CL IR 271	183+30.00	86.50 RT	CL IR 271	100							330					100											
C2-5	870	183+30.00	13.00 LT	CL IR 271	183+30.00	86.50 RT	CL IR 271	100							330																
C3-13	870	183+30.00	13.00 LT	CL IR 271	183+30.00	86.50 RT	CL IR 271	100							330																
A2-34	870	183+30.00	96.00 LT	BL RAMP B								1	1										4					2			
C2-6	870	183+30.00	96.00 LT	BL RAMP B	183+30.00	86.50 RT	CL IR 271	146									156									146					146	
PB-2	870	183+30.00	86.50 RT	CL IR 271					9																		1					
C1-7	870-871	183+30.00	86.50 RT	CL IR 271	913+75.00	105.00 LT	CL IR77	390									400									390					390	
C2-7	870-871	183+30.00	86.50 RT	CL IR 271	913+75.00	105.00 LT	CL IR77	390									400									390					390	
C3-14	870-871	183+30.00	86.50 RT	CL IR 271	913+75.00	105.00 LT	CL IR77	390									400									390					390	
SHEET 870 TOTALS									21		5	1	6		1242		4132			174		16	8			4022	3	12			4022	
TOTALS CARRIED TO LIGHTING GENERAL SUMMARY									21		9	1	10		1242		5572			174		32	8			5422	3	20			5422	

CALCULATED JDL
CHECKED JAB

LIGHTING SUBSUMMARY

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LIGHTING SUBSUMMARY

CALCULATED JDL CHECKED JAB

REFERENCE NO.	SHEET No.	STATION	OFFSET	BL	STATION	OFFSET	BL	LENGTH	625 CONNECTION, UNFUSED PERMANENT	LIGHT TOWER, BBBB90	LIGHT TOWER, BBBB100	LIGHT TOWER, BBBB110	LIGHT TOWER FOUNDATION, 36" X 25' DEEP	NO. 4 AWG 5000 VOLT DISTRIBUTION CABLE	NO. 2 AWG 5000 VOLT DISTRIBUTION CABLE	1-1/2" DUCT CABLE WITH THREE NO. 4 AWG 5000 VOLT CABLES	1-1/2" DUCT CABLE WITH THREE NO. 2 AWG 5000 VOLT CABLES	CONDUIT, 2", 725.04	CONDUIT, 3", 725.04	CONDUIT, 4", 725.04	CONDUIT, JACKED OR DRILLED UNDER PAVEMENT 3"	CONDUIT, JACKED OR DRILLED UNDER PAVEMENT 4"	LUMINAIRE, HIGH MAST, SYMETRIC, 400 WATT, HPS, 480 VOLT, AS PER PLAN	LUMINAIRE, HIGH MAST, ASYMETRIC, 400 WATT, HPS, 480 VOLT, AS PER PLAN	LUMINAIRE, UNDERPASS, AS PER PLAN 70W	LUMINAIRE, UNDERPASS, AS PER PLAN 100W	TRENCH	PULL BOX, 725.08, 24"	GROUND ROD	STRUCTURE GROUNDING SYSTEM	POWER SERVICE, AS PER PLAN	PLASTIC CAUTION TAPE	SERVICE TO UNDERPASS LIGHTING
		STATION	OFFSET	BL	STATION	OFFSET	BL	FT	EACH	EACH	EACH	EACH	EACH	FT.	FT.	FT.	FT.	FT.	FT.	FT.	FT.	FT.	EACH	EACH	EACH	EACH	FT.	EACH	EACH	EACH	EACH	FT.	EACH
PB-3	871	913+75.00	105.00 LT	CL IR77					9																			1					
C1-8	871	913+75.00	105.00 LT	CL IR77	913+75.00	28.00 LT	CL IR77	77							261						77												
C2-8	871	913+75.00	105.00 LT	CL IR77	913+75.00	28.00 LT	CL IR77	77							261																		
C3-15	871	913+75.00	105.00 LT	CL IR77	913+75.00	28.00 LT	CL IR77	77							261																		
PB-4	871	913+75.00	28.00 LT	CL IR77					9																			1					
C1-9	871-873	913+75.00	28.00 LT	CL IR77	908+72.00	28.00 LT	CL IR77	503									513											503				503	
C2-9	871-873	913+75.00	28.00 LT	CL IR77	908+72.00	28.00 LT	CL IR77	503									513											503				503	
C3-16	871-873	913+75.00	28.00 LT	CL IR77	908+72.00	28.00 LT	CL IR77	503									513											503				503	
C4-17	871-873	913+75.00	28.00 LT	CL IR77	908+72.00	28.00 LT	CL IR77	503									513											503				503	
A2-9	871	187+25.00	8.00 LT	CL IR 271							1		1										4						2				
A4-10	871	190+75.00	8.00 LT	CL IR 271								1	1										4						2				
C4-6	871	190+75.00	8.00 LT	CL IR 271	194+25.00	8.00 LT	CL IR 271	350									360											350				350	
A4-11	871	194+25.00	8.00 LT	CL IR 271							1		1										4						2				
C4-7	871	194+25.00	8.00 LT	CL IR 271	197+40.00	12.00 LT	CL IR 271	316									326											316				316	
C6-3	871-872	205+00.00	110.00 LT	BL RAMP B	197+40.00	86.00 LT	CL IR 271	185									195											185				185	
PB-22	871	197+40.00	86.00 LT	CL IR 271					3																				1				
C6-4	871	197+40.00	86.00 LT	CL IR 271	197+40.00	12.00 LT	CL IR 271	74							252						74												
PB-8	871	197+40.00	12.00 LT	CL IR 271					6																				1				
C4-12	871	197+40.00	12.00 LT	CL IR 271	197+40.00	115.00 RT	CL IR 271	127							411						127												
C6-5	871	197+40.00	12.00 LT	CL IR 271	197+40.00	115.00 RT	CL IR 271	127							411																		
PB-9	871	197+40.00	115.00 RT	CL IR 271					6																				1				
C4-13	871	197+40.00	115.00 RT	CL IR 271	189+00.00	20.00 RT	BL RAMP C	825									835											825				825	
B6-37	871	198+75.00	110.00 LT	BL RAMP B							1		1										4						2				
C6-6	871	198+75.00	110.00 LT	BL RAMP B	197+40.00	115.00 RT	CL IR 271	128									138											128				128	
C6-7	871	197+40.00	115.00 RT	CL IR 271	191+50.00	22.50 RT	BL RAMP C	582									592											582				582	
B6-41	871	191+50.00	120.00 RT	BL RAMP C								1	1										4						2				
C6-8	871	191+50.00	120.00 RT	BL RAMP C	191+50.00	22.50 RT	BL RAMP C	98									108											98				98	
PB-23	871	191+50.00	22.50 RT	BL RAMP C					3																				1				
C6-9	871	191+50.00	22.50 RT	BL RAMP C	189+00.00	20.00 RT	BL RAMP C	251									261											251				251	
B6-36	871	194+50.00	105.00 LT	BL RAMP B							1		1										4						2				
C6-10	871	194+50.00	105.00 LT	BL RAMP B	190+75.00	96.00 LT	BL RAMP B	321									331											321				321	
B6-35	871	190+75.00	96.00 LT	BL RAMP B							1		1										4						2				
C6-11	871	190+75.00	96.00 LT	BL RAMP B	189+00.00	20.00 RT	BL RAMP C	185									195											185				185	
PB-10	871	189+00.00	20.00 RT	BL RAMP C					6																				1				
C4-14	871	189+00.00	20.00 RT	BL RAMP C	914+20.00	93.00 RT	CL IR77	65							225						65												
C6-12	871	189+00.00	20.00 RT	BL RAMP C	914+20.00	93.00 RT	CL IR77	65							225																		
PB-11	871	914+20.00	93.00 RT	CL IR77					6																				1				
C4-15	871	914+20.00	93.00 RT	CL IR77	914+20.00	28.00 RT	CL IR77	65							225						65												
C6-13	871	914+20.00	93.00 RT	CL IR77	914+20.00	28.00 RT	CL IR77	65							225																		
PB-12	871	914+20.00	28.00 RT	CL IR77					6																				1				
C4-16	871-873	914+20.00	28.00 RT	CL IR77	913+75.00	28.00 LT	CL IR77	98									108											98				98	
C6-14	871-873	914+20.00	28.00 RT	CL IR77	908+67.00	8.00 LT	CL IR77	583									593											583				583	
SHEET 871 TOTALS CARRIED TO LIGHTING GENERAL SUMMARY									54		5	2	7		2757		6094				408		12	16			5934	9	14			5934	

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REFERENCE NO.	SHEET No.	STATION	OFFSET	BL	STATION	OFFSET	BL	LENGTH	625																							
									CONNECTION, UNFUSED PERMANENT	LIGHT TOWER, BBBB90	LIGHT TOWER, BBBB100	LIGHT TOWER, BBBB110	LIGHT TOWER FOUNDATION, 36" X 25' DEEP	NO. 4 AWG 5000 VOLT DISTRIBUTION CABLE	NO. 2 AWG 5000 VOLT DISTRIBUTION CABLE	1-1/2" DUCT CABLE WITH THREE NO. 4 AWG 5000 VOLT CABLES	1-1/2" DUCT CABLE WITH THREE NO. 2 AWG 5000 VOLT CABLES	CONDUIT, 2", 725.04	CONDUIT, 3", 725.04	CONDUIT, 4", 725.04	CONDUIT, JACKED OR DRILLED UNDER PAVEMENT		LUMINAIRE, HIGH MAST, SYMETRIC, 400 WATT, HPS, 480 VOLT, AS PER PLAN	LUMINAIRE, HIGH MAST, ASYMETRIC, 400 WATT, HPS, 480 VOLT, AS PER PLAN	LUMINAIRE, UNDERPASS, AS PER PLAN	LUMINAIRE, UNDERPASS, AS PER PLAN	TRENCH	PULL BOX, 725.08, 24"	GROUND ROD	STRUCTURE GROUNDING SYSTEM	POWER SERVICE, AS PER PLAN	PLASTIC CAUTION TAPE	SERVICE TO UNDERPASS LIGHTING
																				3"	4"	70W	100W									
		STATION	OFFSET	BL	STATION	OFFSET	BL	FT	EACH	EACH	EACH	EACH	EACH	FT.	FT.	FT.	FT.	FT.	FT.	FT.	FT.	EACH	EACH	EACH	EACH	FT.	EACH	EACH	EACH	EACH	FT.	EACH
B7-22	871	919+00.00	8.00 LT	CL IR77							1		1									4						2				
C7-5	871	919+00.00	8.00 LT	CL IR77	910+25.00	8.00 LT	CL IR77	875									885									875					875	
B7-20	871	910+25.00	8.00 LT	CL IR77							1		1									4						2				
C7-6	871-873	910+25.00	8.00 LT	CL IR77	908+67.00	8.00 LT	CL IR77	158									168									158					158	
B8-21	871	914+00.00	8.00 LT	CL IR77							1		1									4						2				
C8-4	871	914+00.00	8.00 LT	CL IR77	908+67.00	8.00 LT	CL IR77	533									543									533					533	
SHEET	871	TOTALS						=			3		3				1596					12				1566		6			1566	
C4-8	872-871	197+40.00	12.00 LT	CL IR 271	197+75.00	8.00 LT	CL IR 271	36									46									36					36	
A4-12	872	197+75.00	8.00 LT	CL IR 271							1		1									4						2				
C4-9	872	197+75.00	8.00 LT	CL IR 271	197+88.00	30.25 RT	CL IR 271	41									51									41					41	
C4-5	872-871	197+40.00	12.00 LT	CL IR 271	197+88.00	30.25 RT	CL IR 271	64									74									64					64	
PB-15	872	197+88.00	30.25 RT	CL IR 271					6																		1					
C4-4	872	197+88.00	30.25 RT	CL IR 271	200+13.00	30.25 RT	CL IR 271	225							705				225							95					95	
C4-10	872	197+88.00	30.25 RT	CL IR 271	200+13.00	30.25 RT	CL IR 271	225							705																	
PB-16	872	200+13.00	30.25 RT	CL IR 271					6																		1					
C4-11	872	200+13.00	30.25 RT	CL IR 271	201+25.00	8.00 LT	CL IR 271	118									128									118					118	
A4-13	872	201+25.00	8.00 LT	CL IR 271							1		1									4						2				
C4-3	872	200+13.00	30.25 RT	CL IR 271	204+75.00	8.00 LT	CL IR 271	467									477									467					467	
A4-14	872	204+75.00	8.00 LT	CL IR 271							1		1									4						2				
C4-2	872	204+75.00	8.00 LT	CL IR 271	208+25.00	8.00 LT	CL IR 271	350									360									350					350	
A4-15	872	208+25.00	8.00 LT	CL IR 271							1		1									4						2				
C4-1	872	208+25.00	8.00 LT	CL IR 271	211+75.00	8.00 LT	CL IR 271	350									360									350					350	
A4-16	872	211+75.00	8.00 LT	CL IR 271							1		1									4						2				
B6-38	872	205+00.00	110.00 LT	BL RAMP B							1		1										4					2				
C6-2	872-875	205+00.00	110.00 LT	BL RAMP B	209+00.00	96.00 LT	BL RAMP B	401									411									401					401	
SHEET	872	TOTALS							12		6		6		1410		1907		225			20	4			1922	2	12			1922	
TOTALS CARRIED TO LIGHTING GENERAL SUMMARY									12		9		9		1410		3503		225			32	4			3488	2	18			3488	

CALCULATED JDL
CHECKED JAB

LIGHTING SUBSUMMARY

SUM-271-2.33

863
1195

F:\2009\109094\18710\roadway\sheets\18710LS003.dgn 10/30/2012 9:15:58 AM SteveMorr

REFERENCE NO.	SHEET No.	STATION			STATION			LENGTH	625																						
									CONNECTION, UNFUSED PERMANENT	LIGHT TOWER, BBBB90	LIGHT TOWER, BBBB100	LIGHT TOWER, BBBB110	LIGHT TOWER FOUNDATION, 36" X 25' DEEP	NO. 4 AWG 5000 VOLT DISTRIBUTION CABLE	NO. 2 AWG 5000 VOLT DISTRIBUTION CABLE	1-1/2" DUCT CABLE WITH THREE NO. 4 AWG 5000 VOLT CABLES	1-1/2" DUCT CABLE WITH THREE NO. 2 AWG 5000 VOLT CABLES	CONDUIT, 2", 725.04	CONDUIT, 3", 725.04	CONDUIT, 4", 725.04	CONDUIT, JACKED OR DRILLED UNDER PAVEMENT		LUMINAIRE, HIGH MAST, SYMETRIC, 400 WATT, HPS, 480 VOLT, AS PER PLAN	LUMINAIRE, HIGH MAST, ASYMETRIC, 400 WATT, HPS, 480 VOLT, AS PER PLAN	LUMINAIRE, UNDERPASS, AS PER PLAN	LUMINAIRE, UNDERPASS, AS PER PLAN	TRENCH	PULL BOX, 725.08, 24"	GROUND ROD	STRUCTURE GROUNDING SYSTEM	POWER SERVICE, AS PER PLAN	PLASTIC CAUTION TAPE	SERVICE TO UNDERPASS LIGHTING
		STATION	OFFSET	BL	STATION	OFFSET	BL	FT	EACH	EACH	EACH	EACH	EACH	FT.	FT.	FT.	FT.	FT.	FT.	3"	4"	EACH	EACH	70W	100W	FT.	EACH	EACH	EACH	EACH	FT.	EACH
PB-5	873	908+72.00	28.00 LT	CL IR77					12																		1				
C1-10	873	908+72.00	28.00 LT	CL IR77	908+72.00	100.00 RT	CL IR77	128							414						128										
C2-10	873	908+72.00	28.00 LT	CL IR77	908+72.00	100.00 RT	CL IR77	128							414																
C3-17	873	908+72.00	28.00 LT	CL IR77	908+72.00	100.00 RT	CL IR77	128							414																
C4-18	873	908+72.00	28.00 LT	CL IR77	908+72.00	100.00 RT	CL IR77	128							414																
PB-6	873	908+72.00	100.00 RT	CL IR77																							1				
C1-11	873	908+72.00	100.00 RT	CL IR77	908+72.00	140.00 RT	CL IR77	40							165					40						40					40	
C2-11	873	908+72.00	100.00 RT	CL IR77	908+72.00	140.00 RT	CL IR77	40							165																
C3-18	873	908+72.00	100.00 RT	CL IR77	908+72.00	140.00 RT	CL IR77	40							165																
C4-19	873	908+72.00	100.00 RT	CL IR77	908+72.00	140.00 RT	CL IR77	40							165																
CC-A	873	908+72.00	140.00 RT	CL IR77																								1		1	
B8-17	873	900+00.00	8.00 LT	CL IR77						1			1									4					2				
C8-6	873	900+00.00	8.00 LT	CL IR77	907+00.00	8.00 LT	CL IR77	700									710									700					700	
B8-19	873	907+00.00	8.00 LT	CL IR77						1			1									4					2				
C8-5	873	907+00.00	8.00 LT	CL IR77	908+67.00	8.00 LT	CL IR77	167									177									167					167	
B7-18	873	903+50.00	8.00 LT	CL IR77						1			1									4					2				
C7-7	873	903+50.00	8.00 LT	CL IR77	908+67.00	8.00 LT	CL IR77	517									527									517					517	
PB-24	873	908+67.00	8.00 LT	CL IR77					9																		1				
C6-15	873	908+67.00	8.00 LT	CL IR77	908+67.00	100.00 RT	CL IR77	108							354						108										
C7-8	873	908+67.00	8.00 LT	CL IR77	908+67.00	100.00 RT	CL IR77	108							354																
C8-7	873	908+67.00	8.00 LT	CL IR77	908+67.00	100.00 RT	CL IR77	108							354																
PB-25	873	908+67.00	100.00 RT	CL IR77																							1				
C6-16	873	908+67.00	100.00 RT	CL IR77	908+67.00	140.00 RT	CL IR77	40							165				40							40					40	
C7-9	873	908+67.00	100.00 RT	CL IR77	908+67.00	140.00 RT	CL IR77	40							165																
C8-8	873	908+67.00	100.00 RT	CL IR77	908+67.00	140.00 RT	CL IR77	40							165																
CC-B	873	908+67.00	140.00 RT	CL IR77																								1		1	
PB-40	873	908+50.00	8.00 RT	CL IR77					3																		1				
C9-15	873	908+50.00	8.00 RT	CL IR77	908+50.00	100.00 RT	CL IR77	92							306						92										
PB-41	873	908+50.00	100.00 RT	CL IR77																							1				
C9-16	873	908+50.00	100.00 RT	CL IR77	908+50.00	140.00 RT	CL IR77	40							165				40							40					40	
CC-C	873	908+50.00	140.00 RT	CL IR77																								1		1	
TOTALS CARRIED TO LIGHTING GENERAL SUMMARY									24	3			3		4344		1414		80	40	200	128	12			1504	6	9		3	1504	

CALCULATED JDL CHECKED JAB

LIGHTING SUBSUMMARY

SUM-271-2.33

864
1195

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REFERENCE NO.	SHEET No.	STATION	OFFSET	BL	STATION	OFFSET	BL	LENGTH	625																									
									CONNECTION, UNFUSED PERMANENT	LIGHT TOWER, BBBB90	LIGHT TOWER, BBBB100	LIGHT TOWER, BBBB110	LIGHT TOWER FOUNDATION, 36" X 25' DEEP	NO. 4 AWG 5000 VOLT DISTRIBUTION CABLE	NO. 2 AWG 5000 VOLT DISTRIBUTION CABLE	1-1/2" DUCT CABLE WITH THREE NO. 4 AWG 5000 VOLT CABLES	1-1/2" DUCT CABLE WITH THREE NO. 2 AWG 5000 VOLT CABLES	CONDUIT, 2", 725.04	CONDUIT, 3", 725.04	CONDUIT, 4", 725.04	CONDUIT, JACKED OR DRILLED UNDER PAVEMENT		LUMINAIRE, HIGH MAST, SYMETRIC, 400 WATT, HPS, 480 VOLT, AS PER PLAN	LUMINAIRE, HIGH MAST, ASYMETRIC, 400 WATT, HPS, 480 VOLT, AS PER PLAN	LUMINAIRE, UNDERPASS, AS PER PLAN	LUMINAIRE, UNDERPASS, AS PER PLAN						PLASTIC CAUTION TAPE	SERVICE TO UNDERPASS LIGHTING
		STATION	OFFSET	BL	STATION	OFFSET	BL	FT	EACH	EACH	EACH	EACH	EACH	FT.	FT.	FT.	FT.	FT.	FT.	3" FT.	4" FT.	EACH	EACH	70W EACH	100W EACH	FT.	EACH	EACH	EACH	EACH	FT.	EACH
A3-31	874	183+25.00	96.00 RT	BL RAMP A							1		1										4					2					
C3-10	874	183+25.00	96.00 RT	BL RAMP A	183+00.00	27.50 RT	BL RAMP D	192										202								192					192	
A3-33	874	194+75.00	96.00 RT	BL RAMP A							1		1										4					2					
C3-1	874	194+75.00	96.00 RT	BL RAMP A	190+75.00	96.00 RT	BL RAMP A	400										410								400					400	
A3-32	874	190+75.00	96.00 RT	BL RAMP A							1		1										4					2					
C3-2	874	190+75.00	96.00 RT	BL RAMP A	176+15.00	27.50 RT	BL RAMP D	97										107								97					97	
PB-17	874	176+15.00	27.50 RT	BL RAMP D					3																		1						
C3-3	874	176+15.00	27.50 RT	BL RAMP D	176+15.00	36.00 LT	BL RAMP D	64								222					64												
A3-42	874	174+50.00	120.00 LT	BL RAMP D							1		1										4					2					
C3-4	874	174+50.00	120.00 LT	BL RAMP D	176+15.00	36.00 LT	BL RAMP D	145										155								145					145	
PB-18	874	176+15.00	36.00 LT	BL RAMP D					3																		1						
C3-5	874	176+15.00	36.00 LT	BL RAMP D	179+00.00	83.50 LT	BL RAMP D	224										234								224					224	
A3-43	874	179+00.00	83.50 LT	BL RAMP D							1		1										4					2					
C3-6	874	179+00.00	83.50 LT	BL RAMP D	183+00.00	14.50 LT	BL RAMP D	315										325								315					315	
A3-44	874	183+50.00	120.00 LT	BL RAMP D								1	1										4					2					
C3-7	874	183+50.00	120.00 LT	BL RAMP D	183+00.00	14.50 LT	BL RAMP D	117										127								117					117	
PB-19	874	183+00.00	14.50 LT	BL RAMP D					3																		1						
C3-8	874	183+00.00	14.50 LT	BL RAMP D	183+00.00	27.50 RT	BL RAMP D	42								156					42												
PB-20	874	183+00.00	27.50 RT	BL RAMP D					3																		1						
C8-4	874-871	914+00.00	8.00 LT	CL IR77	923+25.00	8.00 LT	CL IR77	925										935								925					925	
B8-23	874	923+25.00	8.00 LT	CL IR77						1			1										4					2					
C8-3	874-875	923+25.00	8.00 LT	CL IR77	930+50.00	8.00 LT	CL IR77	725										735								725					725	
C7-4	874-871	919+00.00	8.00 LT	CL IR77	927+00.00	8.00 LT	CL IR77	800										810								800					800	
B7-24	874	927+00.00	8.00 LT	CL IR77						1			1										4					2					
	SHEET	874	TOTALS					=	12	2	5	1	8		378			4040			106		8	24			3940	4	16			3940	
B6-39	875	209+00.00	96.00 LT	BL RAMP B							1		1											4				2					
C6-1	875	209+00.00	96.00 LT	BL RAMP B	212+50.00	96.00 LT	BL RAMP B	350										360								350					350	
B6-40	875	212+50.00	96.00 LT	BL RAMP B							1		1											4				2					
C7-3	875-874	927+00.00	8.00 LT	CL IR77	934+00.00	8.00 LT	CL IR77	700										710								700					700	
B7-26	875	934+00.00	8.00 LT	CL IR77							1		1										4					2					
B8-25	875	930+50.00	8.00 LT	CL IR77							1		1										4					2					
C8-2	875	930+50.00	8.00 LT	CL IR77	937+50.00	8.00 LT	CL IR77	700										710								700					700	
B8-27	875	937+50.00	8.00 LT	CL IR77						1			1										4					2					
	SHEET	875	TOTALS					=		1	4		5					1780					12	8			1750		10			1750	
C7-2	876-875	934+00.00	8.00 LT	CL IR77	941+00.00	8.00 LT	CL IR77	700										710								700					700	
B7-28	876	941+00.00	8.00 LT	CL IR77						1			1										4					2					
C7-1	876	941+00.00	8.00 LT	CL IR77	948+25.00	8.00 LT	CL IR77	725										735								725					725	
B7-30	876	948+25.00	8.00 LT	CL IR77						1			1										4					2					
C8-1	876	937+50.00	8.00 LT	CL IR77	944+50.00	8.00 LT	CL IR77	700										710								700					700	
B8-29	876	944+50.00	8.00 LT	CL IR77						1			1										4					2					
	SHEET	876	TOTALS					=		3			3					2155					12				2125		6			2125	
TOTALS CARRIED TO LIGHTING GENERAL SUMMARY									12	6	9	1	16		378			7975			106		32	32			7815	4	32			7815	

CALCULATED JDL
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LIGHTING SUBSUMMARY

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1195

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REFERENCE NO.	SHEET No.	STATION	OFFSET	BL	STATION	OFFSET	BL	LENGTH	625 CONNECTION, UNFUSED PERMANENT	LIGHT TOWER, BBBB90	LIGHT TOWER, BBBB100	LIGHT TOWER, BBBB110	LIGHT TOWER FOUNDATION, 36" X 25' DEEP	NO. 4 AWG 5000 VOLT DISTRIBUTION CABLE	NO. 2 AWG 5000 VOLT DISTRIBUTION CABLE	1-1/2" DUCT CABLE WITH THREE NO. 4 AWG 5000 VOLT CABLES	1-1/2" DUCT CABLE WITH THREE NO. 2 AWG 5000 VOLT CABLES	CONDUIT, 2", 725.04	CONDUIT, 3", 725.04	CONDUIT, 4", 725.04	CONDUIT, JACKED OR DRILLED UNDER PAVEMENT		LUMINAIRE, HIGH MAST, SYMETRIC, 400 WATT, HPS, 480 VOLT, AS PER PLAN	LUMINAIRE, HIGH MAST, ASYMETRIC, 400 WATT, HPS, 480 VOLT, AS PER PLAN	LUMINAIRE, UNDERPASS, AS PER PLAN		LUMINAIRE, UNDERPASS, AS PER PLAN		TRENCH	PULL BOX, 725.08, 24"	GROUND ROD	STRUCTURE GROUNDING SYSTEM	POWER SERVICE, AS PER PLAN	PLASTIC CAUTION TAPE	SERVICE TO UNDERPASS LIGHTING
																					3"	4"			70W	100W									
		STATION	OFFSET	BL	STATION	OFFSET	BL	FT	EACH	EACH	EACH	EACH	EACH	FT.	FT.	FT.	FT.	FT.	FT.	FT.	FT.	FT.	EACH	EACH	EACH	EACH	FT.	EACH	EACH	EACH	EACH	FT.	EACH
C9-14	877-873	908+50.00	8.00 RT	CL IR77	911+50.00	8.00 RT	CL IR77	300									310										300					300	
PB-39	877	911+50.00	8.00 RT	CL IR77					3					35				20									15	1		1		15	1
C9-50	877	911+82.00	1.50 LT	CL IR77																						1						
C9-51	877	911+75.00	1.50 RT	CL IR77																						1						
C9-13	877	911+50.00	8.00 RT	CL IR77	914+50.00	8.00 RT	CL IR77	300								310											300					300	
PB-38	877	914+50.00	8.00 RT	CL IR77					3																			1					
C9-12	877	914+50.00	8.00 RT	CL IR77	914+50.00	105.00 LT	CL IR77	113						369							113												
PB-32	877	914+50.00	105.00 LT	CL IR77					3																			1					
C9-7	877	914+50.00	8.00 RT	CL IR77	914+50.00	93.00 RT	CL IR77	85						285							85												
PB-35	877	914+50.00	93.00 RT	CL IR77					3																			1					
C9-4	877	914+50.00	93.00 RT	CL IR77	189+50.00	15.00 RT	BL RAMP C	75						255							75												
PB-28	877	189+50.00	15.00 RT	BL RAMP C					3																			1					
C9-3	877	189+50.00	15.00 RT	BL RAMP C	187+13.00	18.50 RT	BL RAMP C	238								248											238					238	
PB-29	877	187+13.00	18.50 RT	BL RAMP C					3					43				28									23	1				23	1
C9-52	877	911+87.69	111.32 RT	CL IR77																					1							
	SHEET	877	TOTALS					=	18					987		558	310	48			273				1	2	876	6		1		876	2
C9-9	878-877	916+05.00	8.00 RT	CL IR77	914+50.00	8.00 RT	CL IR77	155								165											155					155	
PB-37	878	916+05.00	8.00 RT	CL IR77					3					40				25									20	1		1		20	1
C9-54	878	916+24.30	1.50 LT	CL IR77																						1						
C9-55	878	916+47.52	1.50 RT	CL IR77																						1						
C9-8	878	916+05.00	8.00 RT	CL IR77	917+50.00	8.00 RT	CL IR77	145								155											145					145	
PB-36	878	917+50.00	8.00 RT	CL IR77					3					25				10									5	1		1		5	1
C9-60	878	917+51.22	1.50 LT	CL IR77																						1						
C9-61	878	917+83.25	1.50 LT	CL IR77																						1						
C9-62	878	917+54.20	1.50 RT	CL IR77																						1						
C9-63	878	917+86.20	1.50 RT	CL IR77																						1						
C9-11	878-877	914+50.00	105.00 LT	CL IR77	915+61.66	102.66 LT	CL IR77	112								122											112					112	
PB-31	878	915+61.66	102.66 LT	CL IR77					3					30				15									10	1				10	1
C9-53	878	915+89.88	104.95 LT	CL IR77																					1							
C9-10	878	915+61.66	102.66 LT	CL IR77	917+77.69	108.50 LT	CL IR77	217								227											217					217	
PB-30	878	917+77.69	108.50 LT	CL IR77					3					33				18									13	1				13	1
C9-59	878	917+54.03	105.05 RT	CL IR77																					1							
C9-58	878	917+14.71	105.05 RT	CL IR77																					1							
C9-6	878-877	914+50.00	93.00 RT	CL IR77	916+34.93	89.96 RT	CL IR77	185								195											185					185	
PB-34	878	916+34.93	89.96 RT	CL IR77					3					47				32									27	1				27	1
C9-56	878	916+61.90	80.08 RT	CL IR77																					1							
C9-5	878	916+34.93	89.96 RT	CL IR77	918+62.00	84.50 RT	CL IR77	228								238											228					228	
PB-33	878	918+62.00	84.50 RT	CL IR77					3					45				30									25	1				25	1
C9-64	878	917+88.29	80.05 RT	CL IR77																					1							
	SHEET	878	TOTALS					=	18					220		1102		130							5	6	1142	6		2		1142	6
TOTALS CARRIED TO LIGHTING GENERAL SUMMARY									36					1207		1660	310	178			273				6	8	2018	12		3		2018	8

CALCULATED JDL
CHECKED JAB

LIGHTING SUBSUMMARY

SUM-271-2.33

866
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LIGHTING SUBSUMMARY

REFERENCE NO.	SHEET No.	STATION	OFFSET	BL	STATION	OFFSET	BL	LENGTH	625																							
									CONNECTION, UNFUSED PERMANENT	LIGHT TOWER, BBBB90	LIGHT TOWER, BBBB100	LIGHT TOWER, BBBB110	LIGHT TOWER FOUNDATION, 36" X 25' DEEP	NO. 4 AWG 5000 VOLT DISTRIBUTION CABLE	NO. 2 AWG 5000 VOLT DISTRIBUTION CABLE	1-1/2" DUCT CABLE WITH THREE NO. 4 AWG 5000 VOLT CABLES	1-1/2" DUCT CABLE WITH THREE NO. 2 AWG 5000 VOLT CABLES	CONDUIT, 2", 725.04	CONDUIT, 3", 725.04	CONDUIT, 4", 725.04	CONDUIT, JACKED OR DRILLED UNDER PAVEMENT		LUMINAIRE, HIGH MAST, SYMETRIC, 400 WATT, HPS, 480 VOLT, AS PER PLAN	LUMINAIRE, HIGH MAST, ASYMETRIC, 400 WATT, HPS, 480 VOLT, AS PER PLAN	LUMINAIRE, UNDERPASS, AS PER PLAN	LUMINAIRE, UNDERPASS, AS PER PLAN	TRENCH	PULL BOX, 725.08, 24"	GROUND ROD	STRUCTURE GROUNDING SYSTEM	POWER SERVICE, AS PER PLAN	PLASTIC CAUTION TAPE	SERVICE TO UNDERPASS LIGHTING
																				3"	4"			70W	100W							
		STATION	OFFSET	BL	STATION	OFFSET	BL	FT	EACH	EACH	EACH	EACH	EACH	FT.	FT.	FT.	FT.	FT.	FT.	FT.	FT.	EACH	EACH	EACH	EACH	FT.	EACH	EACH	EACH	EACH	FT.	EACH
C9-2	879-877	189+50.00	15.00 RT	BL RAMP C	200+60.00	28.00 LT	BL RAMP B	909								919										909					909	
PB-27	879	200+60.00	28.00 LT	BL RAMP B					3					42		27										22			1		22	1
C9-46	879	201+27.46	33.92 LT	BL RAMP B																				1								
C9-1	879	200+60.00	28.00 LT	BL RAMP B	202+70.00	28.00 LT	BL RAMP B	210								220										210					210	
PB-26	879	202+70.00	28.00 LT	BL RAMP B					3					30		15										10			1		10	1
C9-47	879	202+37.21	34.77 LT	BL RAMP B																				1								
SHEET 878 TOTALS CARRIED TO LIGHTING GENERAL SUMMARY								=	6					72		1181								2		1151			2		1151	2

LIGHTING REMOVAL SUBSUMMARY

DESCRIPTION	625						
	PULL BOX REMOVED	LIGHT POLE REMOVED	LUMINAIRE REMOVED	POWER SERVICE REMOVED	LUMINAIRE SUPPORT FOUNDATION REMOVED	DISCONNECT CIRCUIT	
	EACH	EACH	EACH	EACH	EACH	EACH	
REMOVAL QUANTITIES FROM SHEET 869	1	4	4		4		
REMOVAL QUANTITIES FROM SHEET 870	6	3	3		3		
REMOVAL QUANTITIES FROM SHEET 871	14	10	10		9		
REMOVAL QUANTITIES FROM SHEET 872	1	3	3		3		
REMOVAL QUANTITIES FROM SHEET 873	4	8	8	1	8	1	
REMOVAL QUANTITIES FROM SHEET 874	4						
REMOVAL QUANTITIES FROM SHEET 875	6	3	3		3		
REMOVAL QUANTITIES FROM SHEET 876		4	4		4		
TOTALS CARRIED TO LIGHTING GENERAL SUMMARY	36	35	35	1	34	1	

CALCULATED JDL
CHECKED JAB

LIGHTING SUBSUMMARY AND LIGHTING REMOVAL SUBSUMMARY

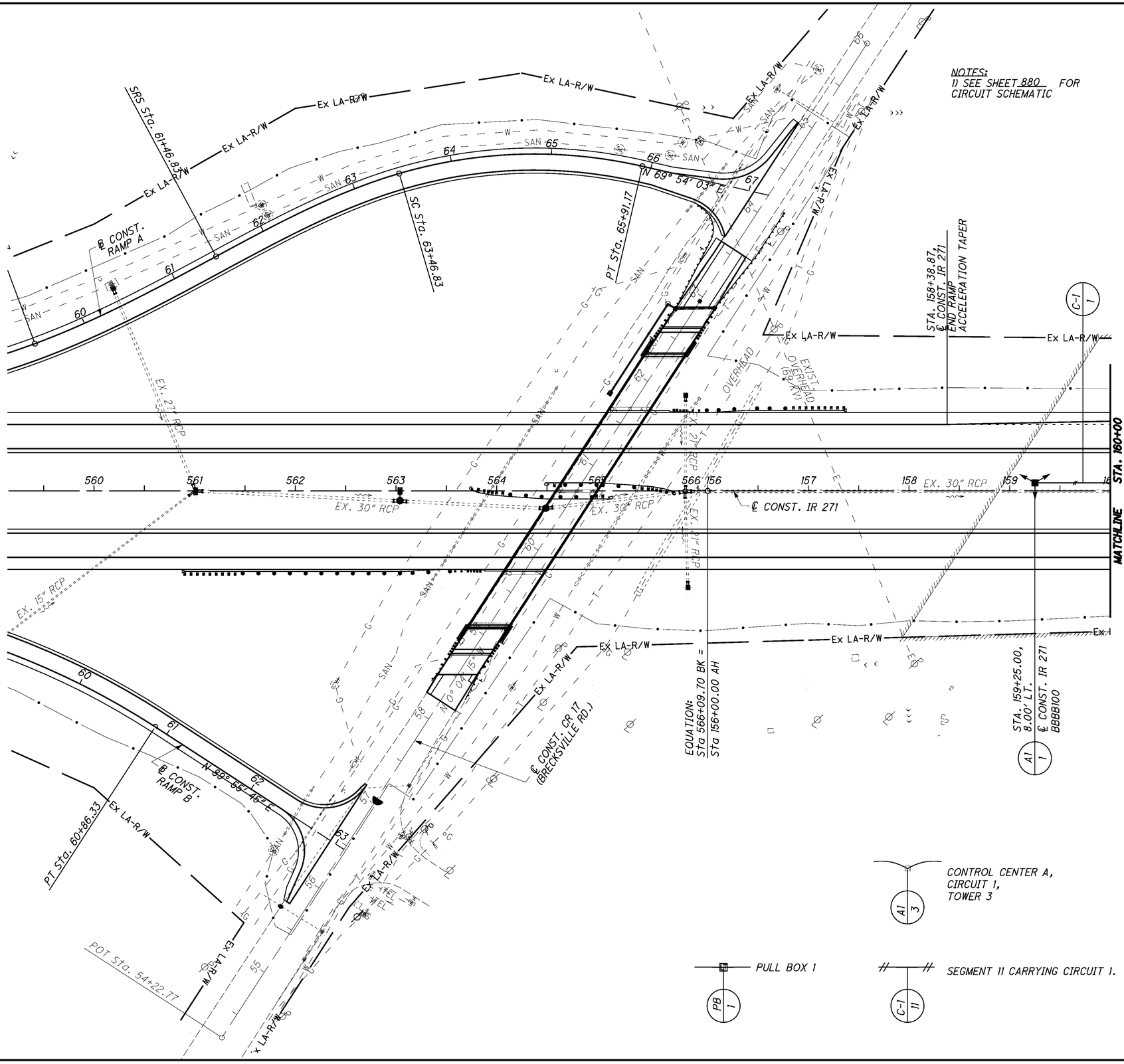
SUM-271-2.33

867
1195

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LIGHTING SYMBOL LEGEND

- PROPOSED HIGH MAST TOWER, W/4-400 WATT HPS LUMINAIRES (SYMETRICAL)
- LIGHT TOWER W/4-400 WATT HPS LUMINAIRES (ASYMMETRIC)
- PROPOSED PULL BOX (24", 725.08)
- EXISTING PULL BOX
- EXISTING UTILITY POLE
- EXISTING LIGHT POLE, LUMINAIRE, AND FOUNDATION
- EXISTING UTILITY POLE WITH CONVENTIONAL LUMINAIRE, OWNERSHIP AS SHOWN, LAMP WATTAGE UNKNOWN
- PROPOSED UNDERPASS LUMINAIRE, 70 OR 100 WATT HPS
- EXISTING POWER SERVICE, 480 VOLT, 2 WIRE, GROUNDED NEUTRAL
- PROPOSED POWER SERVICE, 480 OR 120 VOLT, 3 WIRE, GROUND NEUTRAL
- STRUCTURE GROUNDING SYSTEM
- SYMBOL WITH "X" INDICATES ITEM TO BE REMOVED
- PROPOSED 480 VOLT LIGHTING CIRCUIT DIRECT BURIAL (1 1/2" DUCT CABLE W/3 NO. 2 CONDUCTORS, 5,000 VOLT CABLE
- PROPOSED 120 VOLT LIGHTING CIRCUIT (1 1/2" DUCT CABLE W/3 NO. 4 OR NO. 2 CONDUCTORS, 5,000 VOLT CABLE AS NOTED)
- PROPOSED LIGHTING CIRCUIT (S), IN 3" OR 4" CONDUIT, JACKED OR DRILLED UNDER PAVEMENT
- PROPOSED LIGHTING CIRCUIT (S), IN 3" OR 4" CONDUIT
- PROPOSED LIGHTING CIRCUIT IN 3" CONDUIT IN STRUCTURE PARAPET
- EXISTING TELEPHONE POLE
- EXISTING TELEPHONE
- EXISTING ELECTRIC LINE (UNDERGROUND UNLESS OTHERWISE NOTED)
- EXISTING GAS LINE
- EXISTING SANITARY SEWER LINE
- EXISTING WATER LINE



HORIZONTAL SCALE IN FEET: 0 25 50 100

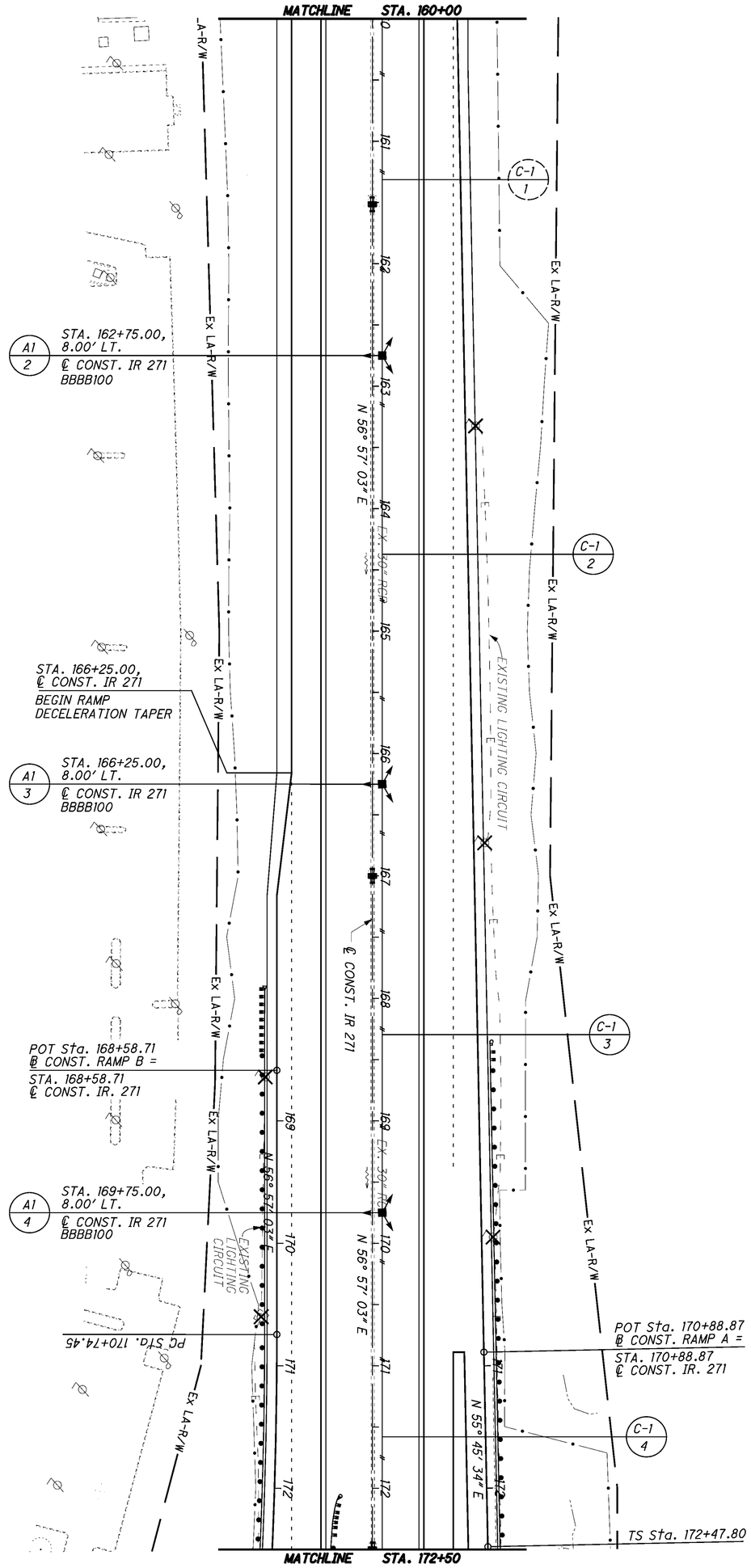
CALCULATED JDL CHECKED JAB

LIGHTING PLAN
STA. 545+00 TO STA. 160+00

SUM-271-2.33

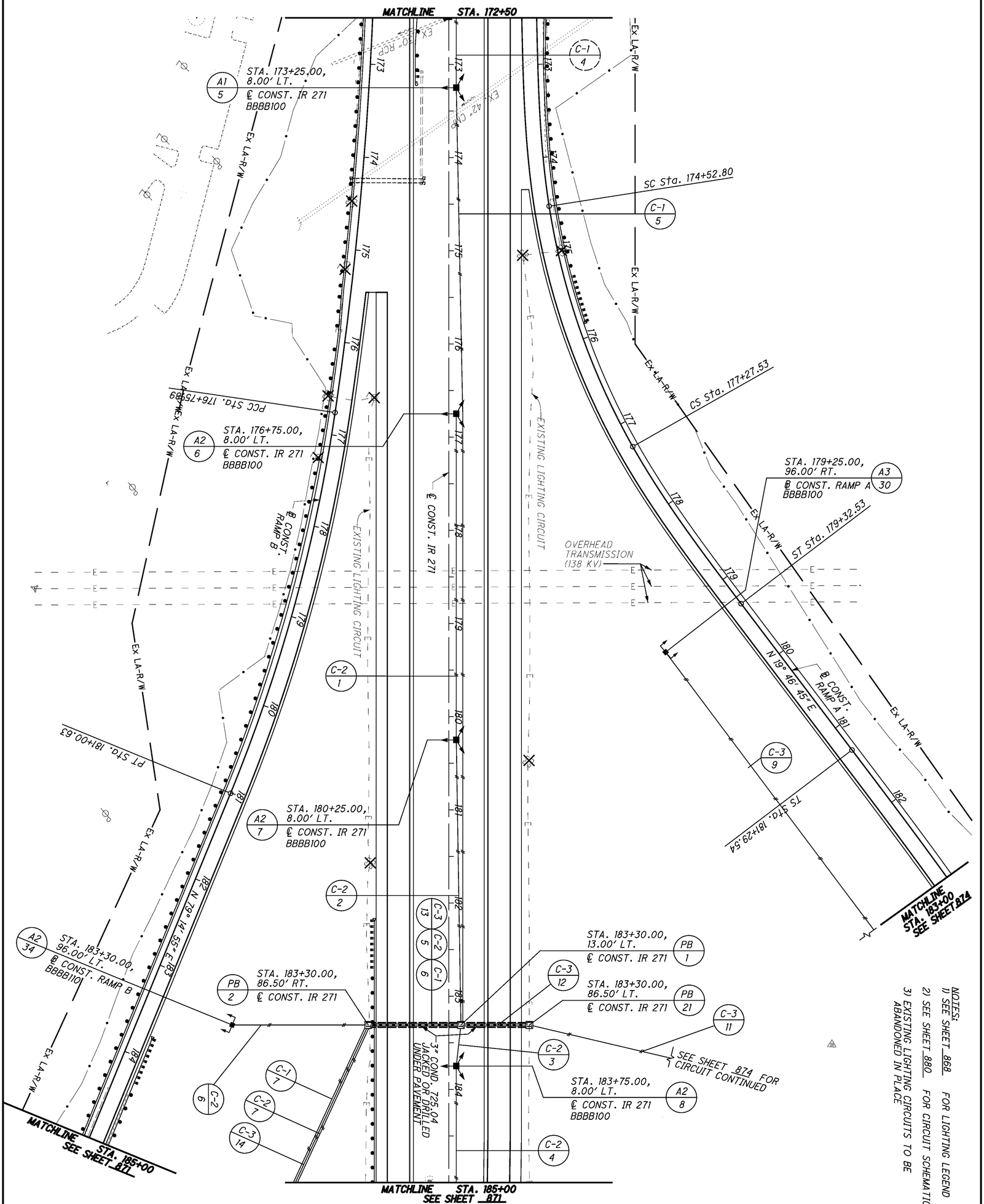
868
1195

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NOTES:
1) SEE SHEET 868 FOR LIGHTING LEGEND
2) SEE SHEET 880 FOR CIRCUIT SCHEMATIC
3) EXISTING LIGHTING CIRCUITS TO BE ABANDONED IN PLACE

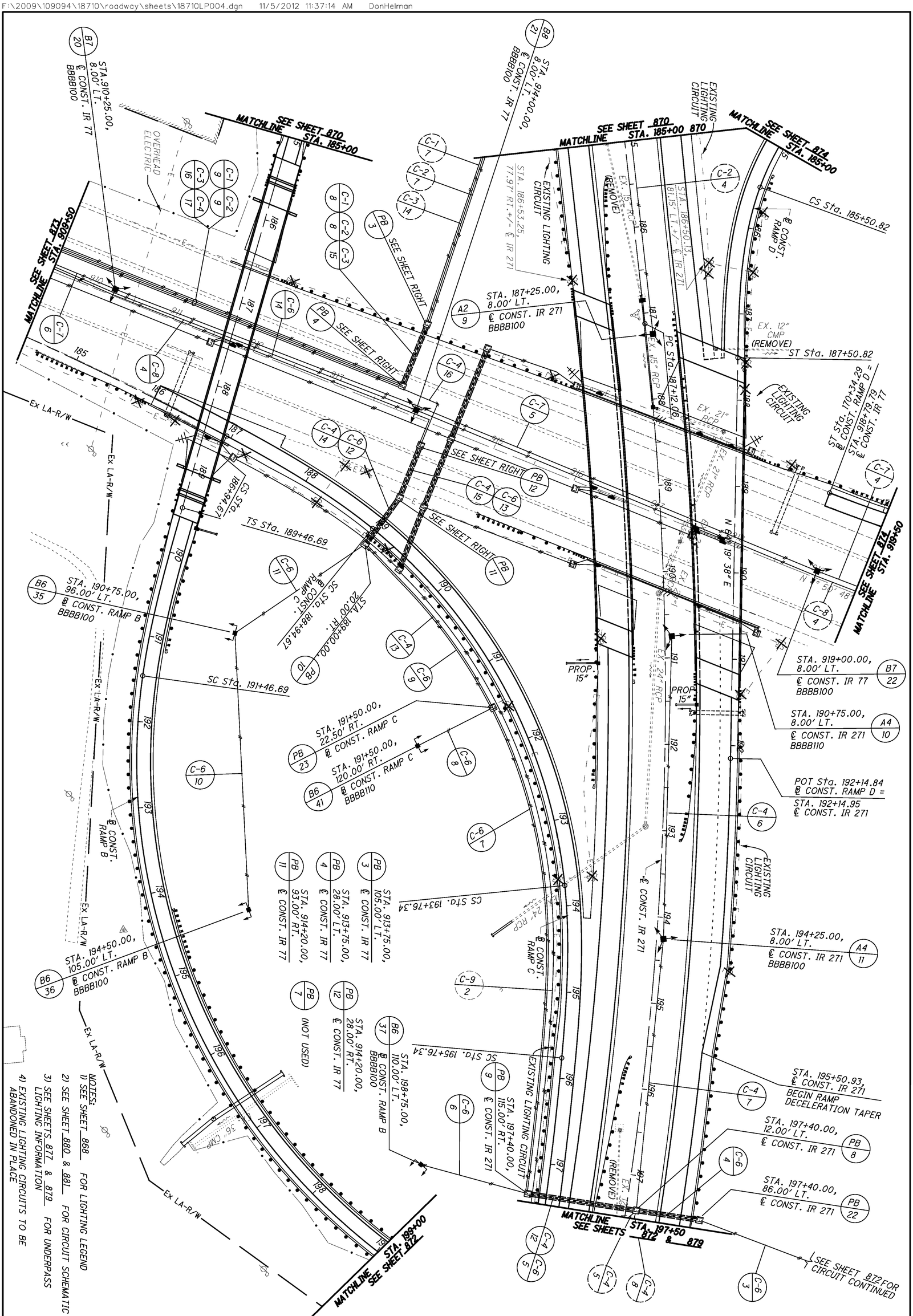
869 / 1195	SUM-271-2.33	LIGHTING PLAN STA. 160+00 TO STA. 172+50	CALCULATED JDL / CHECKED JAB	0 50 25 100 HORIZONTAL SCALE IN FEET



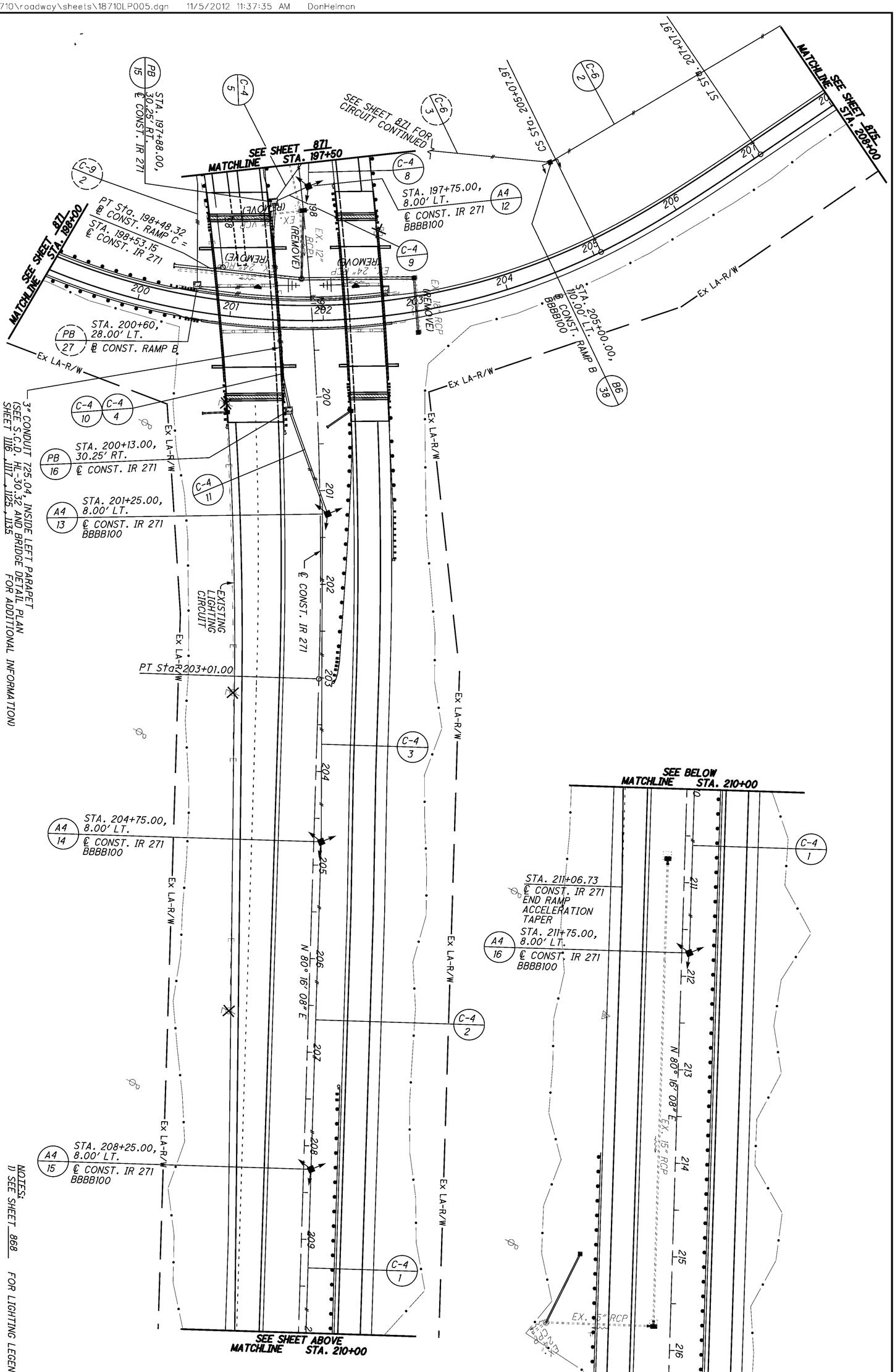
NOTES:
1) SEE SHEET 868 FOR LIGHTING LEGEND
2) SEE SHEET 880 FOR CIRCUIT SCHEMATIC
3) EXISTING LIGHTING CIRCUITS TO BE ABANDONED IN PLACE

1195 870	SUM-271-2.33	LIGHTING PLAN STA. 172+50 TO STA. 185+00	CALCULATED JDL / CHECKED JAB	0 50 25 100 HORIZONTAL SCALE IN FEET

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1195 / 871	SUM-271-2.33	LIGHTING PLAN STA. 185+00 TO STA. 197+50	CALCULATED JDL CHECKED JAB	0 50 25 100 HORIZONTAL SCALE IN FEET



NOTES:
1) SEE SHEET 868 FOR LIGHTING LEGEND
2) SEE SHEET 880 & 881 FOR CIRCUIT SCHEMATIC
3) SEE SHEETS 877 & 879 FOR UNDERPASS LIGHTING INFORMATION
4) EXISTING LIGHTING CIRCUITS TO BE ABANDONED IN PLACE

872 / 1195

SUM-271-2.33

LIGHTING PLAN
STA. 197+50 TO STA. 210+50

CALCULATED JDL
CHECKED JAB

0 25 50 100
HORIZONTAL SCALE IN FEET

CC A — STA. 908+72.00, 140.00' RT. ℄ IR 77

CC B — STA. 908+67.00, 140.00' RT. ℄ IR 77

CC C — STA. 908+50.00, 140.00' RT. ℄ IR 77

PB 6 — STA. 908+72.00, 100.00' RT. ℄ IR 77

PB 25 — STA. 908+67.00, 100.00' RT. ℄ IR 77

PB 41 — STA. 908+50.00, 100.00' RT. ℄ IR 77

PB 13 — NOT USED

PB 14 — NOT USED

NOTES:

1) SEE SHEET 868 FOR LIGHTING LEGEND

2) SEE SHEET 880 & 881 FOR CIRCUIT SCHEMATIC

3) SEE SHEETS 877 & 879 FOR UNDERPASS LIGHTING INFORMATION

4) EXISTING LIGHTING CIRCUITS TO BE ABANDONED IN PLACE

HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED JDL
CHECKED JAB

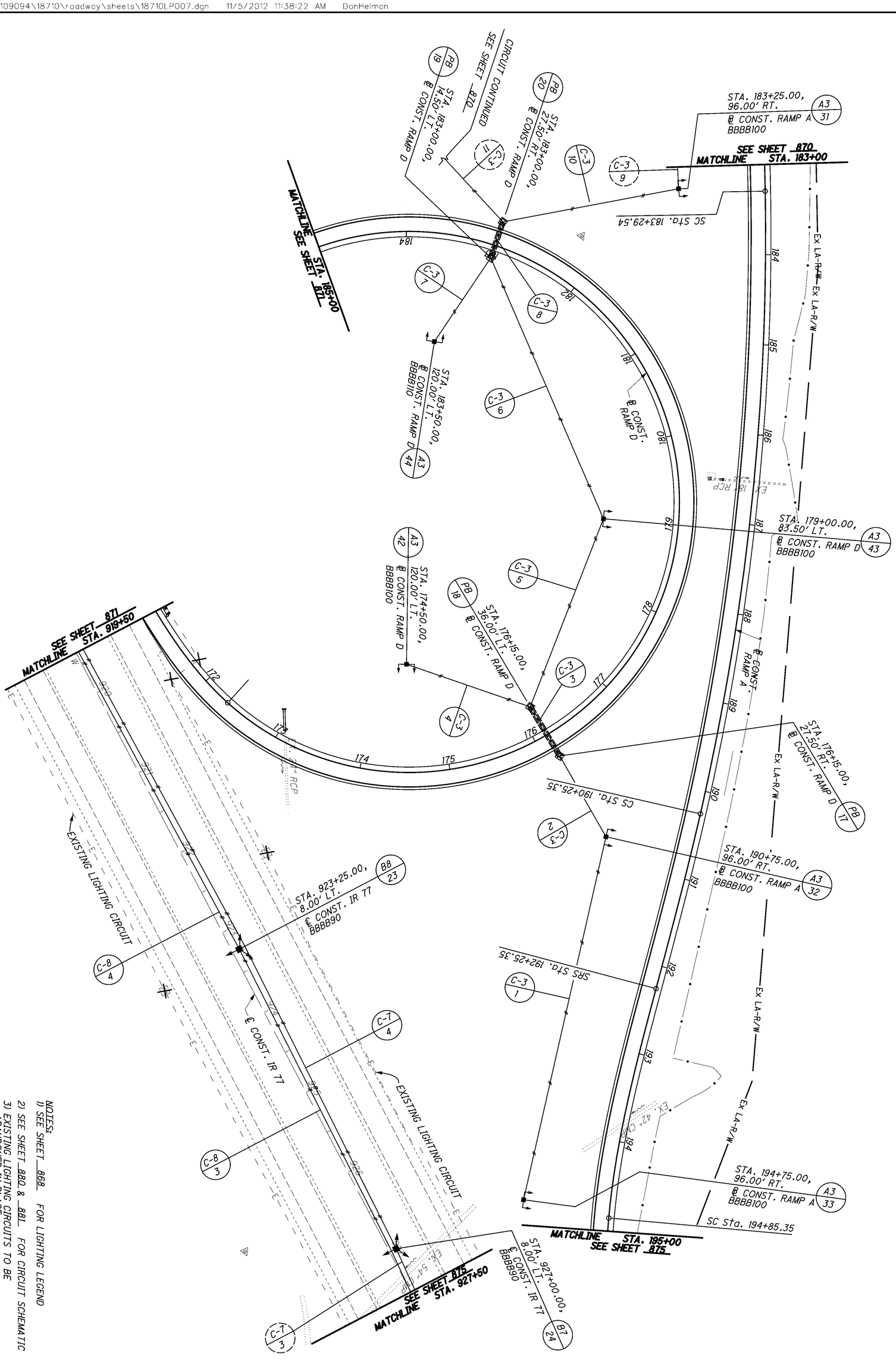
LIGHTING PLAN
STA. 902+00 TO STA. 909+50

SUM-271-2.33

873
1195

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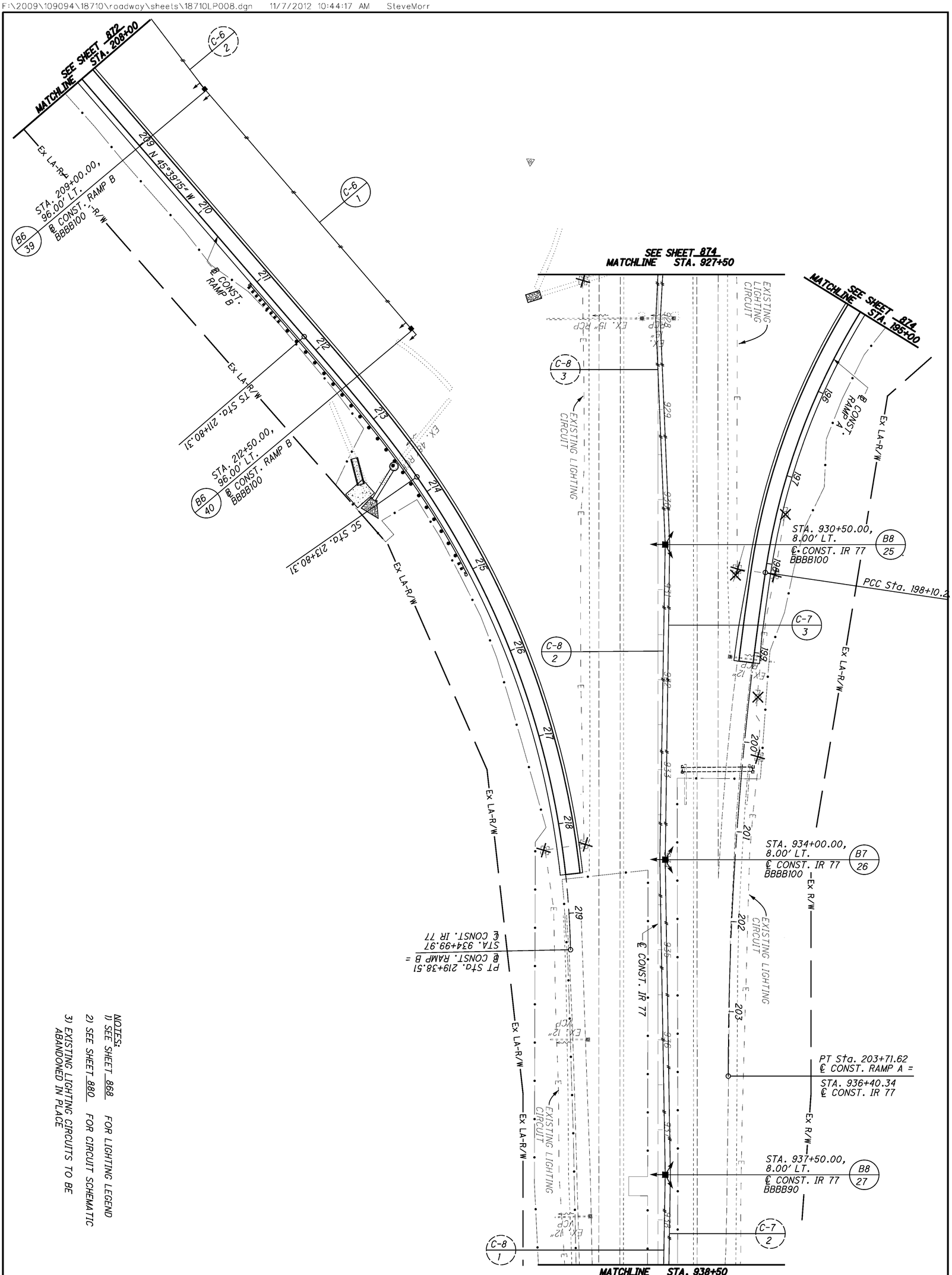
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NOTES:
1) SEE SHEET 868 FOR LIGHTING LEGEND
2) SEE SHEET 880 & 881 FOR CIRCUIT SCHEMATIC
3) EXISTING LIGHTING CIRCUITS TO BE ABANDONED IN PLACE

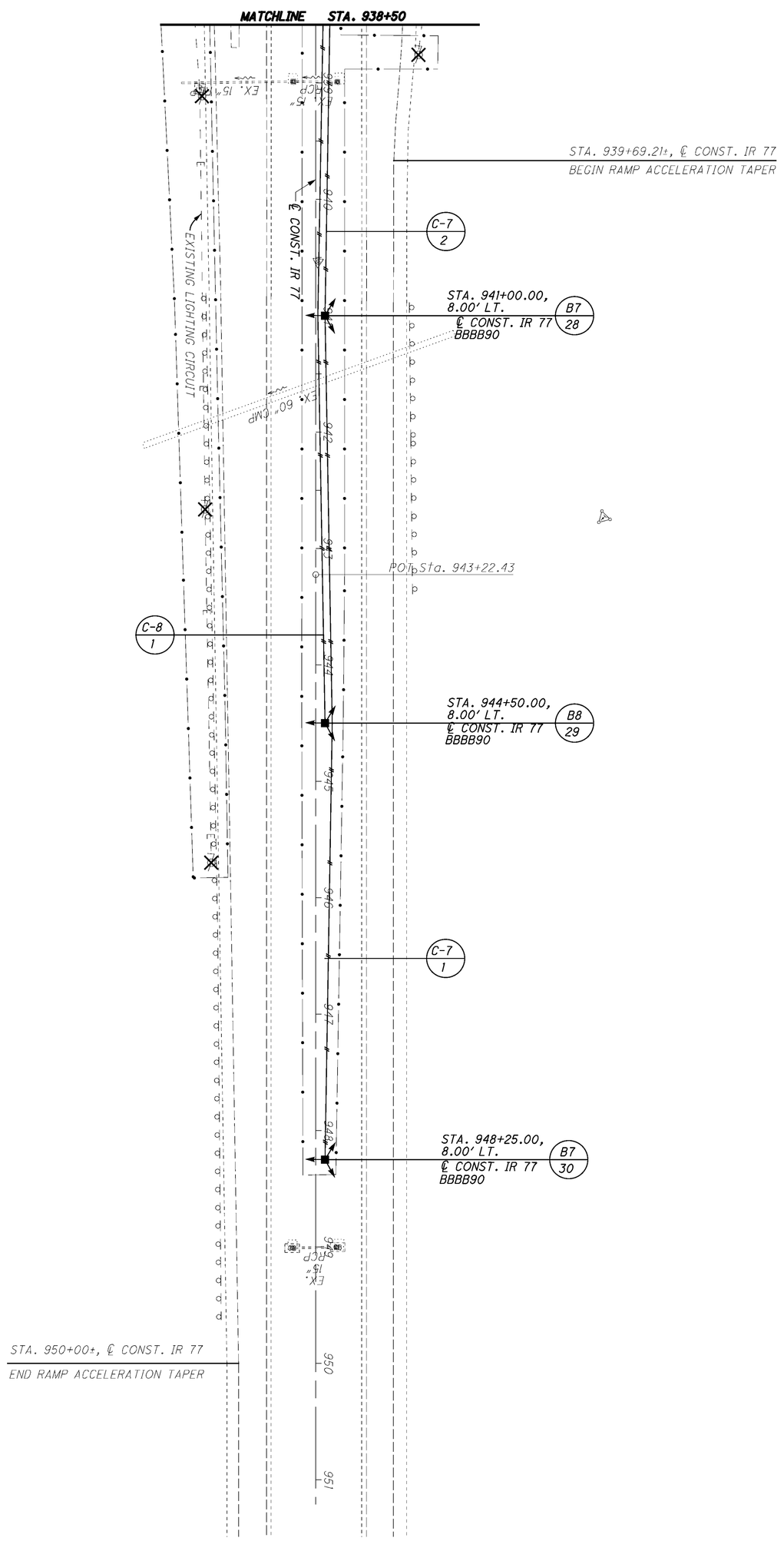
1195 874	SUM-271-2.33	LIGHTING PLAN STA. 919+00 TO STA. 927+50	CALCULATED JDL CHECKED JAB	0 50 25 100 HORIZONTAL SCALE IN FEET

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NOTES:
1) SEE SHEET 868 FOR LIGHTING LEGEND
2) SEE SHEET 880 FOR CIRCUIT SCHEMATIC
3) EXISTING LIGHTING CIRCUITS TO BE ABANDONED IN PLACE

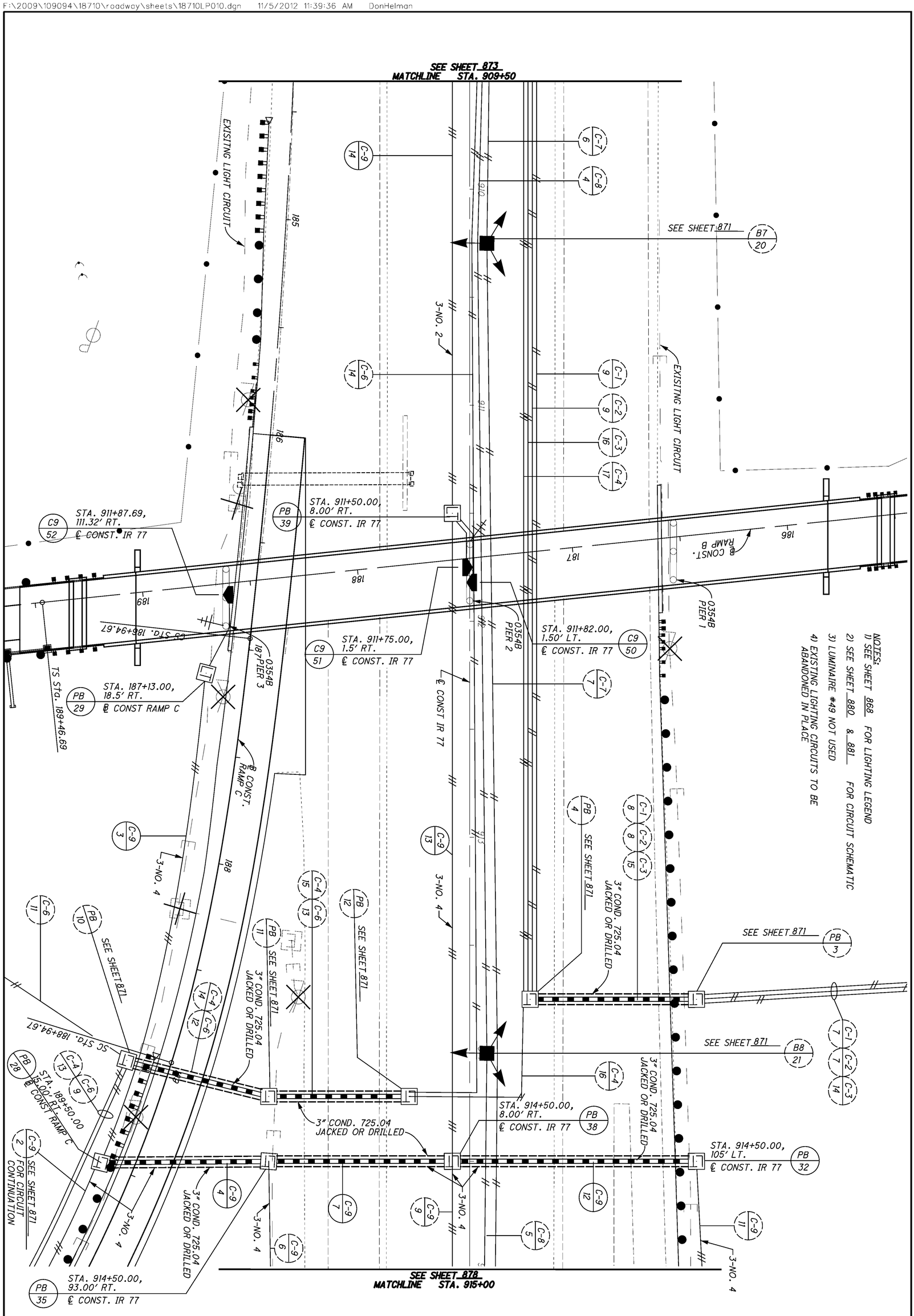
875 / 1195	SUM-271-2.33	LIGHTING PLAN STA. 927+50 TO STA. 938+50	CALCULATED JDL / CHECKED JAB	0 50 / 25 100 HORIZONTAL SCALE IN FEET



NOTES:
1) SEE SHEET 868 FOR LIGHTING LEGEND
2) SEE SHEET 880 FOR CIRCUIT SCHEMATIC
3) EXISTING LIGHTING CIRCUITS TO BE ABANDONED IN PLACE

876 / 1195	SUM-271-2.33	LIGHTING PLAN STA. 938+50 TO STA. 943+00	CALCULATED JDL CHECKED JAB	0 50 25 100 HORIZONTAL SCALE IN FEET

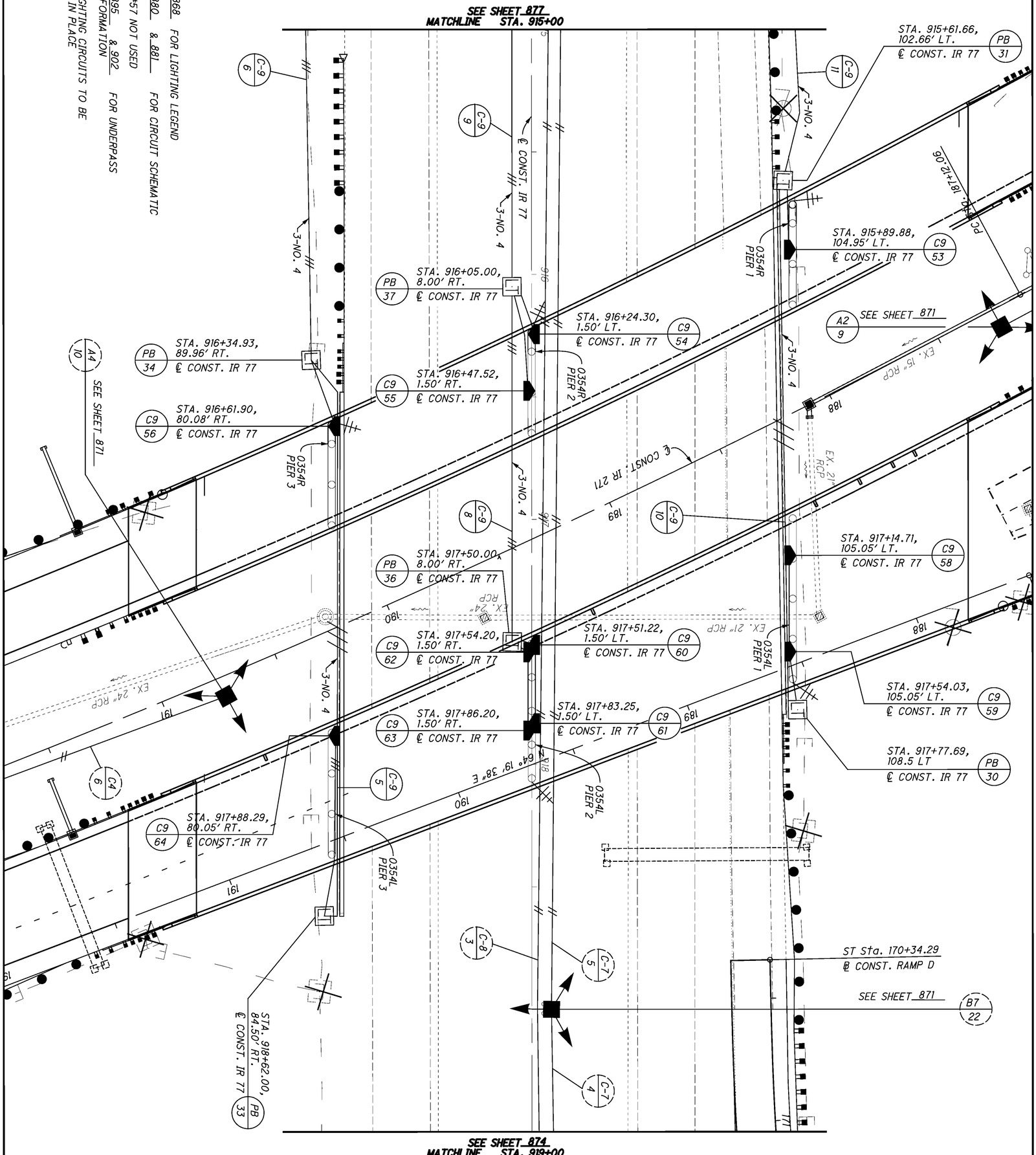
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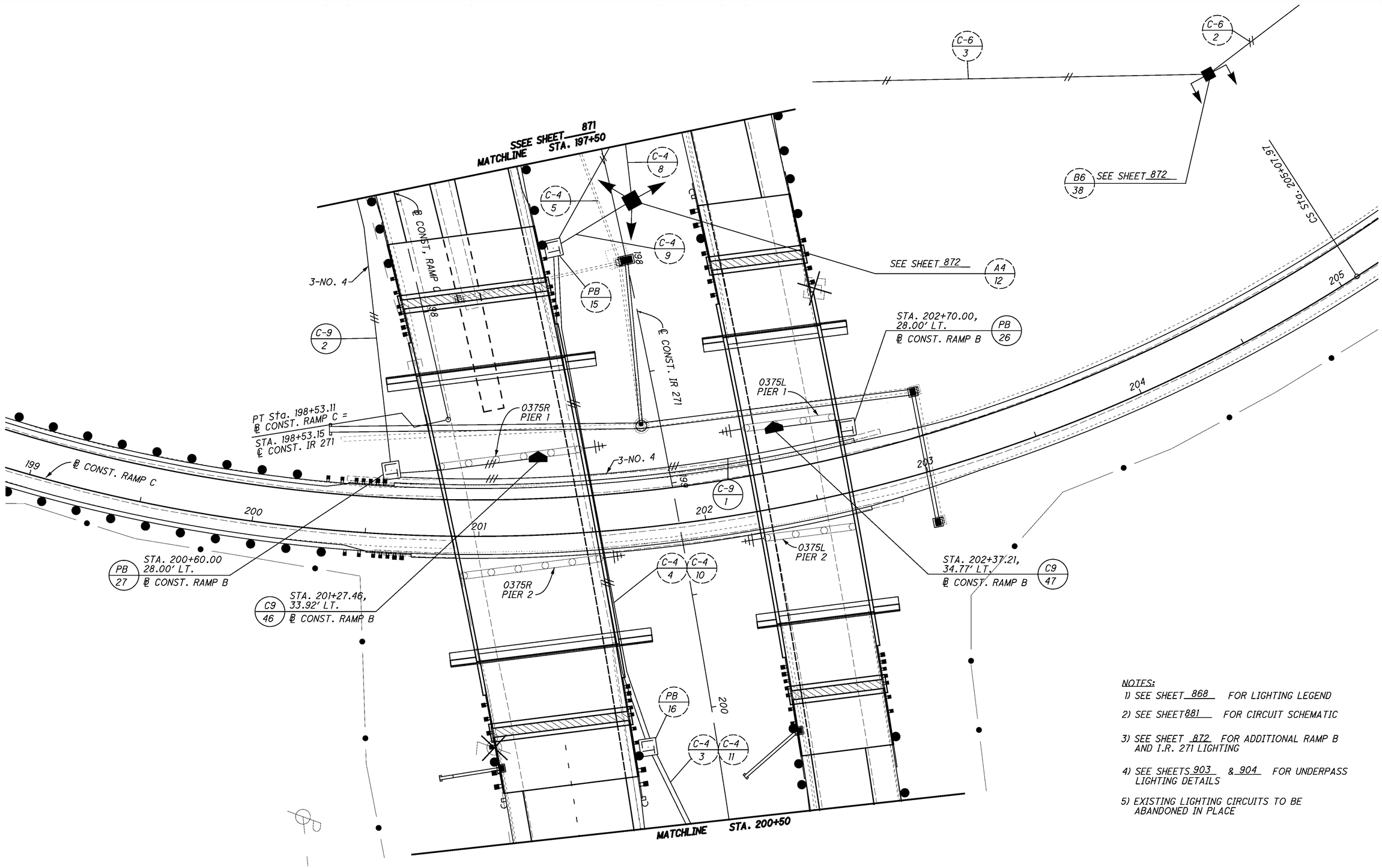
877 / 1195	SUM-271-2.33	LIGHTING PLAN STA. 909+50 TO STA. 915+00	CALCULATED JDL CHECKED JAB	0 20 10 40 HORIZONTAL SCALE IN FEET

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NOTES:
1) SEE SHEET 868 FOR LIGHTING LEGEND
2) SEE SHEET 880 & 881 FOR CIRCUIT SCHEMATIC
3) LUMINAIRE #57 NOT USED
4) SEE SHEET 895 & 902 FOR UNDERPASS LIGHTING INFORMATION
5) EXISTING LIGHTING CIRCUITS TO BE ABANDONED IN PLACE



878 / 1195	SUM-271-2.33	LIGHTING PLAN STA. 915+00 TO STA. 919+00	CALCULATED JDL CHECKED JAB	0 20 10 40 HORIZONTAL SCALE IN FEET	N



NOTES:

1) SEE SHEET 868 FOR LIGHTING LEGEND
2) SEE SHEET 881 FOR CIRCUIT SCHEMATIC
3) SEE SHEET 872 FOR ADDITIONAL RAMP B AND I.R. 271 LIGHTING
4) SEE SHEETS 903 & 904 FOR UNDERPASS LIGHTING DETAILS
5) EXISTING LIGHTING CIRCUITS TO BE ABANDONED IN PLACE

HORIZONTAL SCALE IN FEET
0 10 20 40

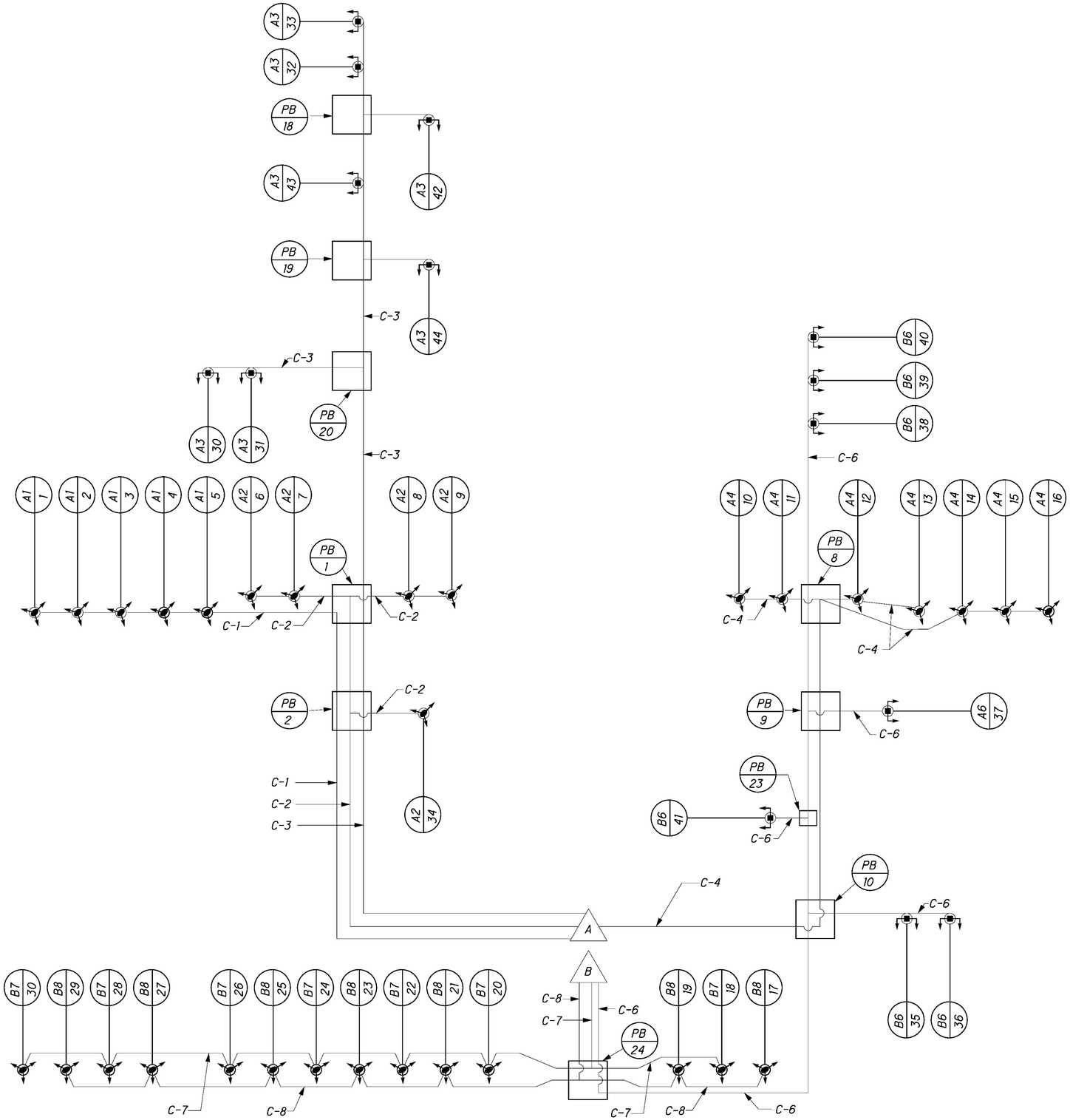
CALCULATED JDL
CHECKED JAB

LIGHTING PLAN
STA. 197+50 TO STA. 200+50

SUM-271-2.33

879
1195

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NOTE:

1) SEE SHEET 882 FOR POWER SERVICE DATA

2) CIRCUIT 5 (NOT USED)

LIGHTING SYMBOL LEGEND

HIGH MAST TOWER, W/4-400 WATT HPS HIGH MAST LUMINAIRE, SYMMETERICAL DISTRIBUTION

HIGH MAST TOWER, W/4-400 WATT HPS HIGH MAST LUMINAIRE, ASYMMETERICAL DISTRIBUTION

A1 3 — CONTROL CENTER A, CIRCUIT 1, TOWER 3

B — CONTROL CENTER B

CIRCUIT SCHEMATIC

CALCULATED JDL
CHECKED JAB

SUM-271-2.33

880
1195

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NOTE:

1) LUMINAIRES 45,48,49, AND 57 NOT USED
2) SEE SHEET 882 FOR POWER SERVICE DATA

LIGHTING SYMBOL LEGEND

- 70 — PROPOSED UNDERPASS LUMINAIRE, 70 WATT HPS
- 100 — PROPOSED UNDERPASS LUMINAIRE, 100 WATT HPS
- C9 / 40 — CONTROL CENTER C, CIRCUIT 9, UNDERPASS LUMINAIRE
- C — CONTROL CENTER C

CALCULATED JDL
CHECKED JAB

CIRCUIT SCHEMATIC

SUM-271-2.33

881
1195

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PROPOSED POWER SERVICE DATA

POWER SERVICE	LINE VOLTAGE (VOLTS)	CONNECTED LOAD (KVA)	SERVICE ENTRANCE CABLE (AWG)	ENCLOSURE RATING (AMPS)	CIRCUIT NO.	CIRCUIT LOAD (AMPS)	CIRCUIT FUSE SIZE (AMPS)	CIRCUIT CABLE SIZE (AMPS)	MAINTAINING AGENCY
CC-A	480	50.7	2/0	200	1	22.0	30	2	ODOT
					2	22.0	30	2	
					3	30.8	60	2	
					4	30.8	60	2	
CC-B	480	44.4	2/0	200	6	30.8	60	2	ODOT
					7	30.8	60	2	
					8	30.8	60	2	
CC-C	120	1.8	2/0	60	9	15.2	30	2	ODOT

CIRCUIT 5 (NOT USED)

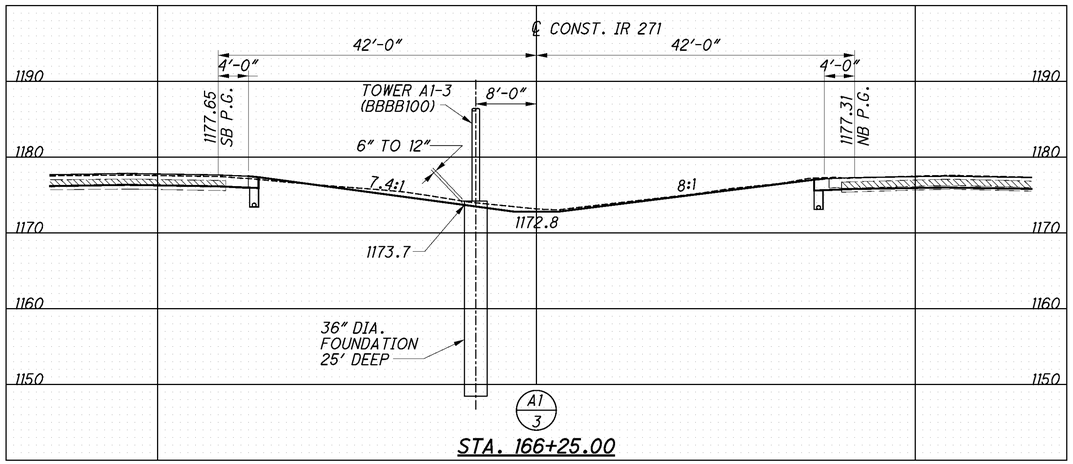
CALCULATED JDL
CHECKED DAW

POWER SERVICE

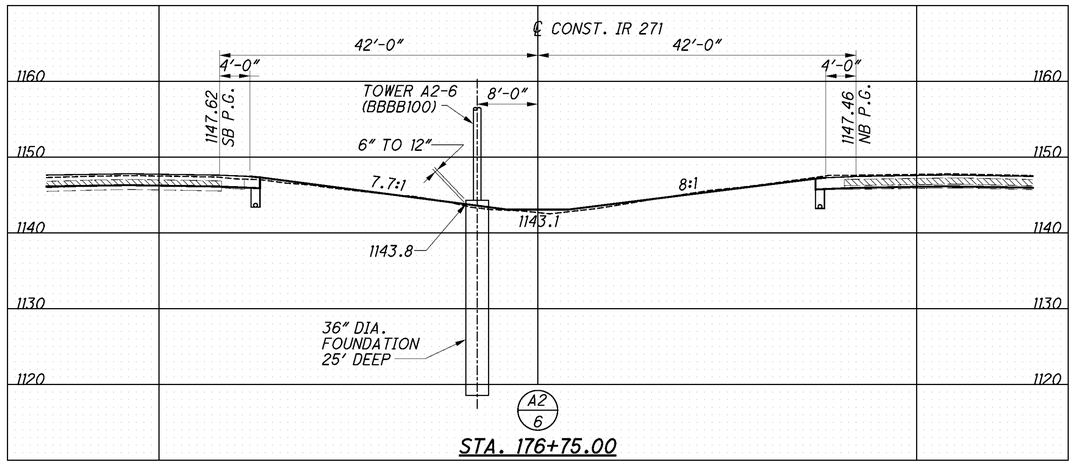
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882
1195

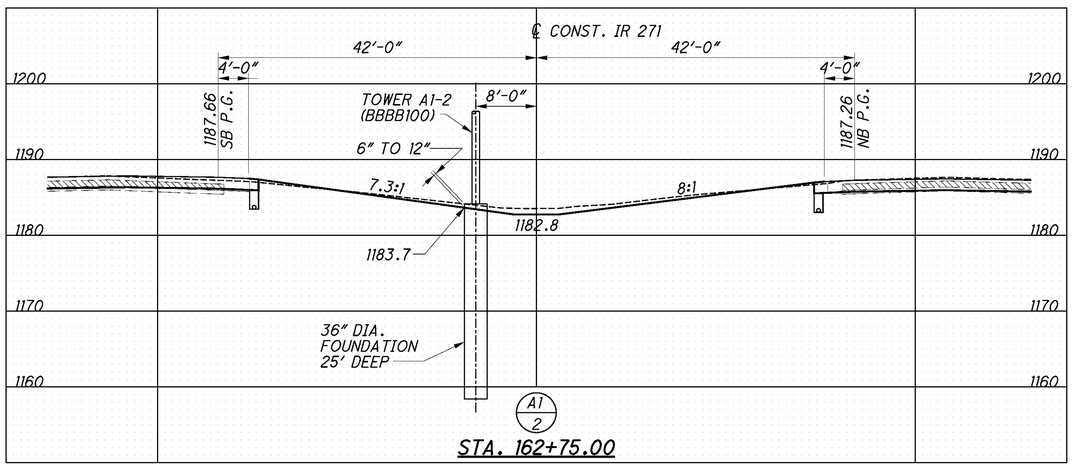
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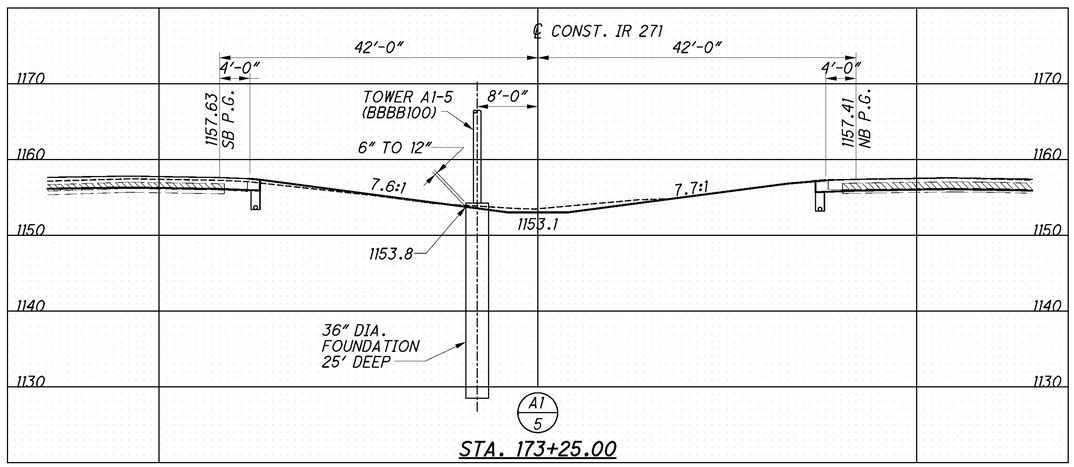
STA. 166+25.00



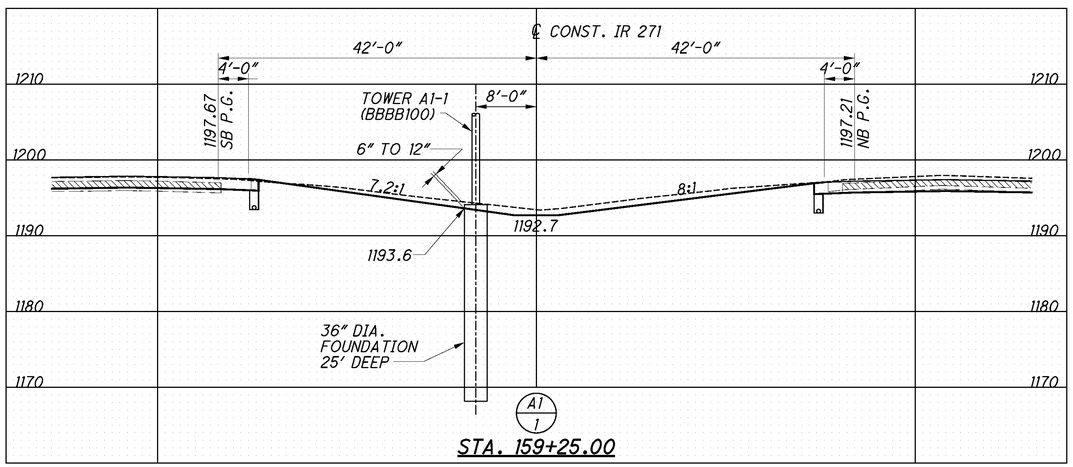
STA. 176+75.00



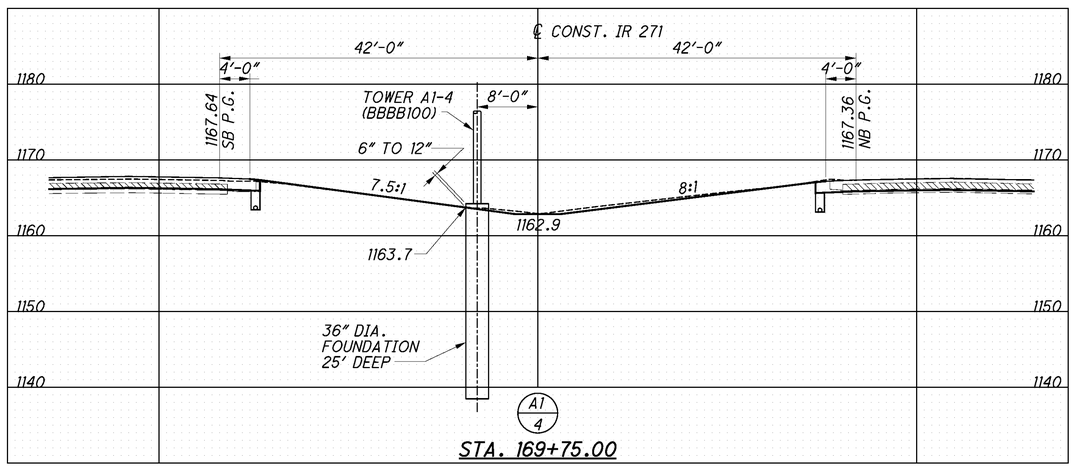
STA. 162+75.00



STA. 173+25.00



STA. 159+25.00



STA. 169+75.00

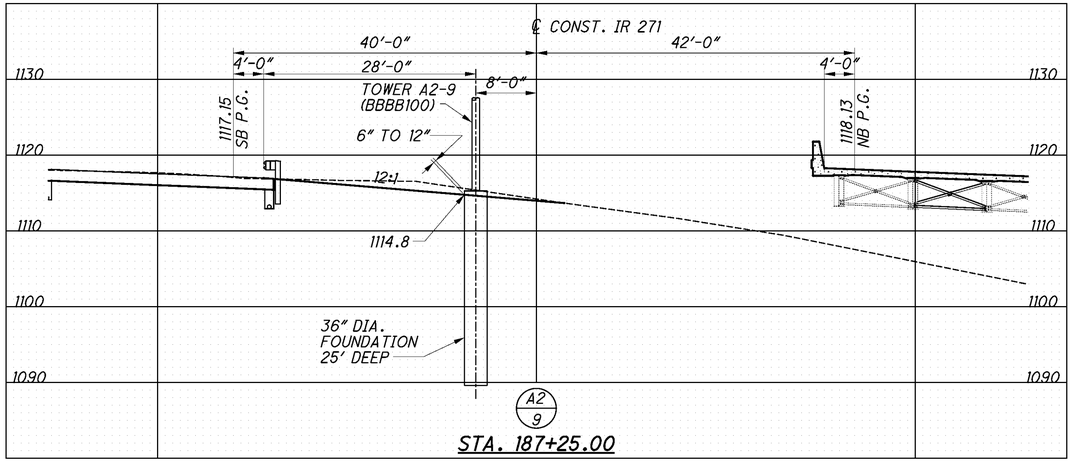
CALCULATED MAF
CHECKED JDL

I.R. 271 - LIGHTING SECTIONS
STA. 159+25.00 TO STA. 176+75.00

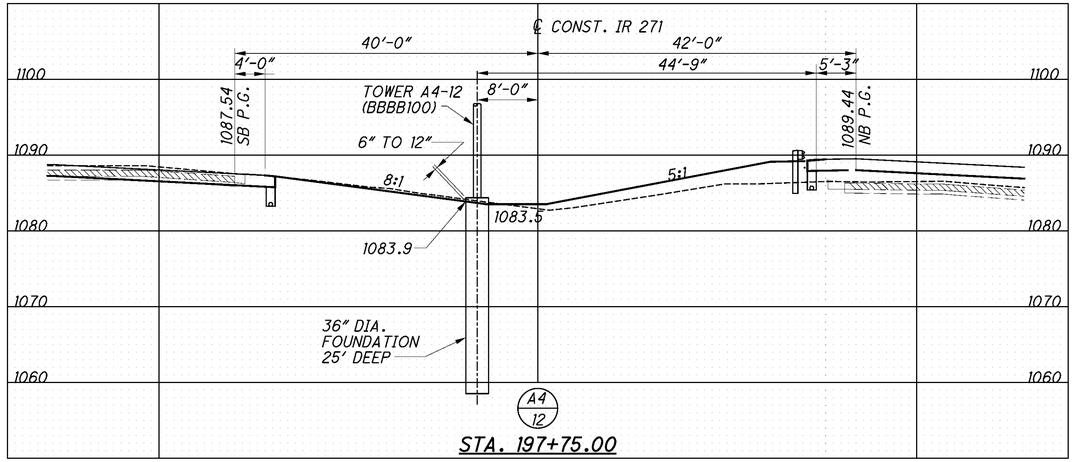
SUM-271-2.33

883
1195

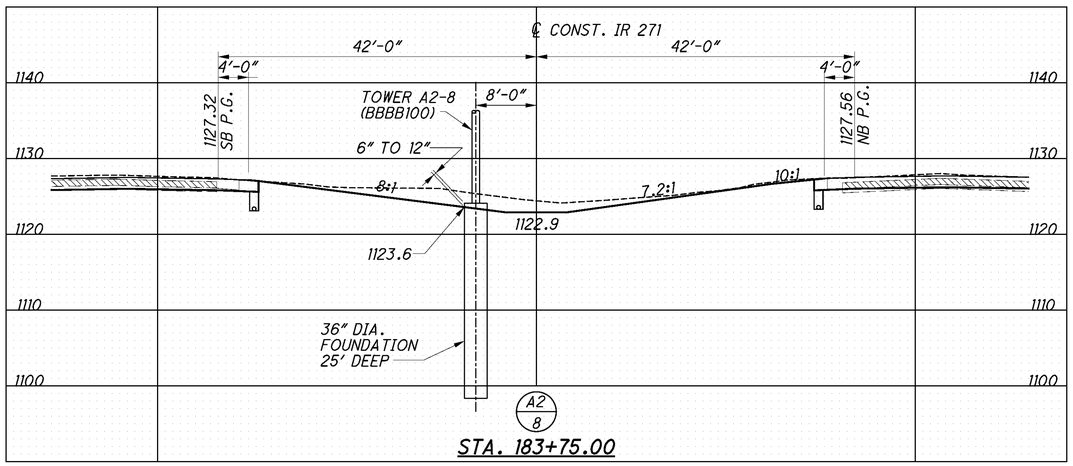
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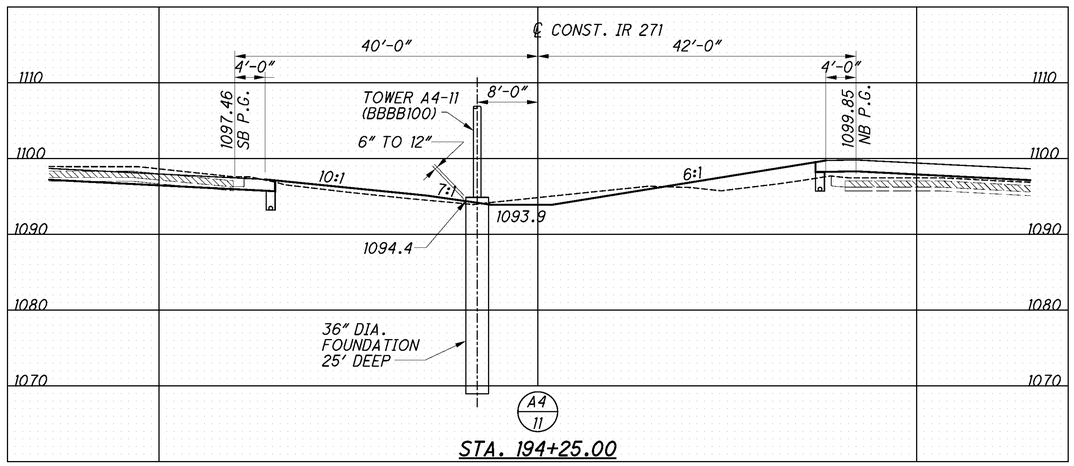
STA. 187+25.00



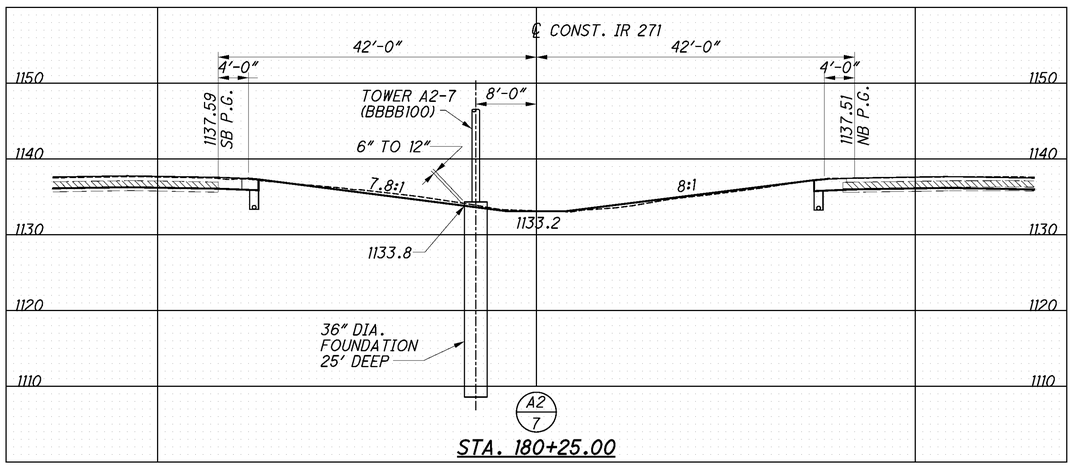
STA. 197+75.00



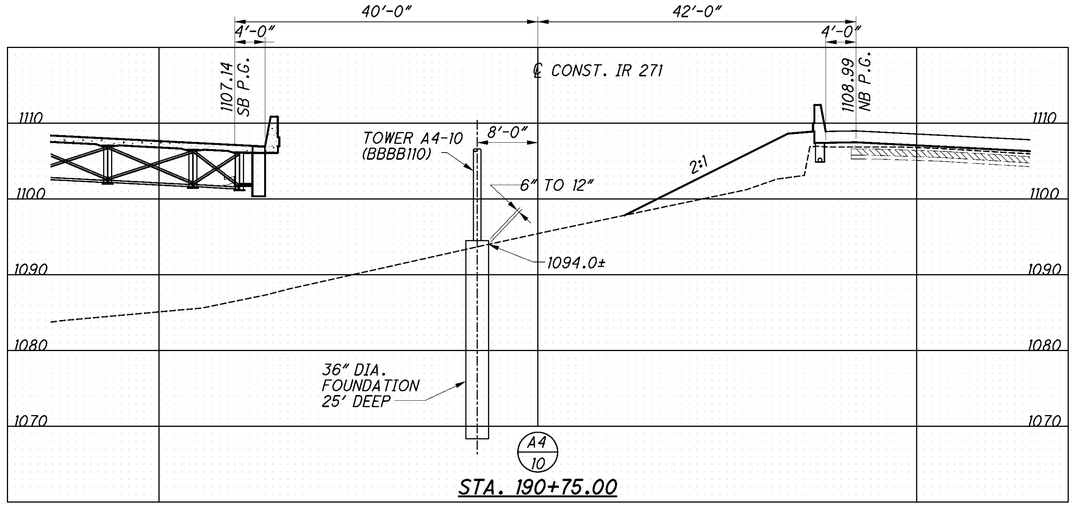
STA. 183+75.00



STA. 194+25.00



STA. 180+25.00



STA. 190+75.00

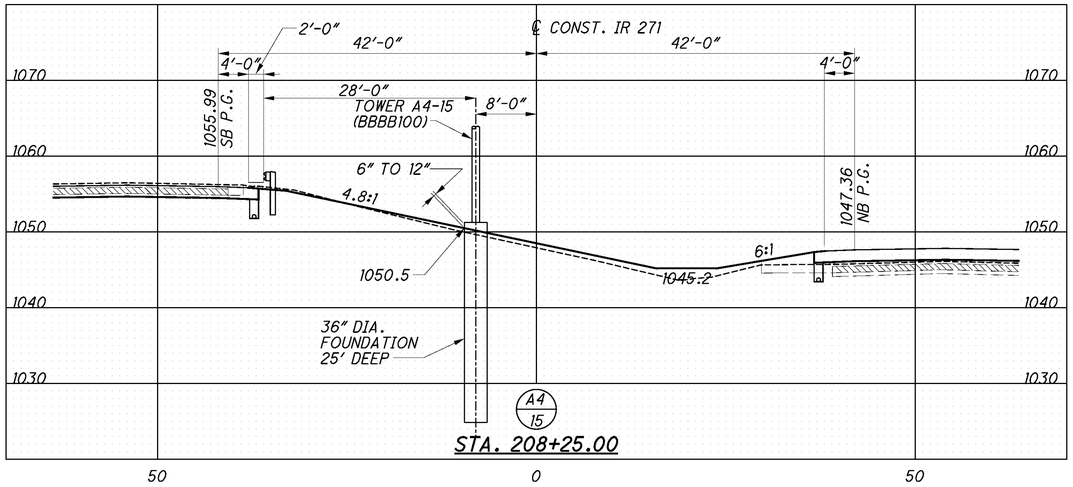
CALCULATED MAF
CHECKED JDL

I.R. 271 - LIGHTING SECTIONS
STA. 180+25.00 TO STA. 197+75.00

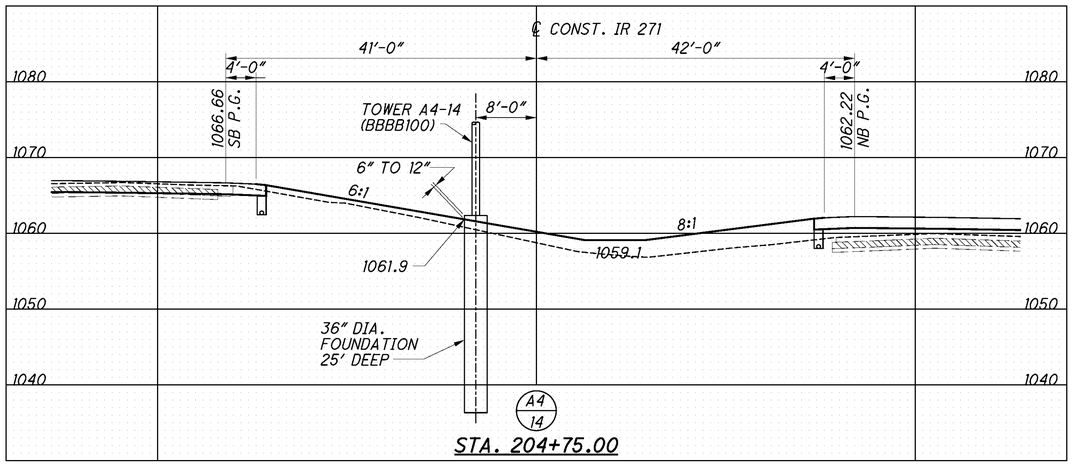
SUM-271-2.33

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1195

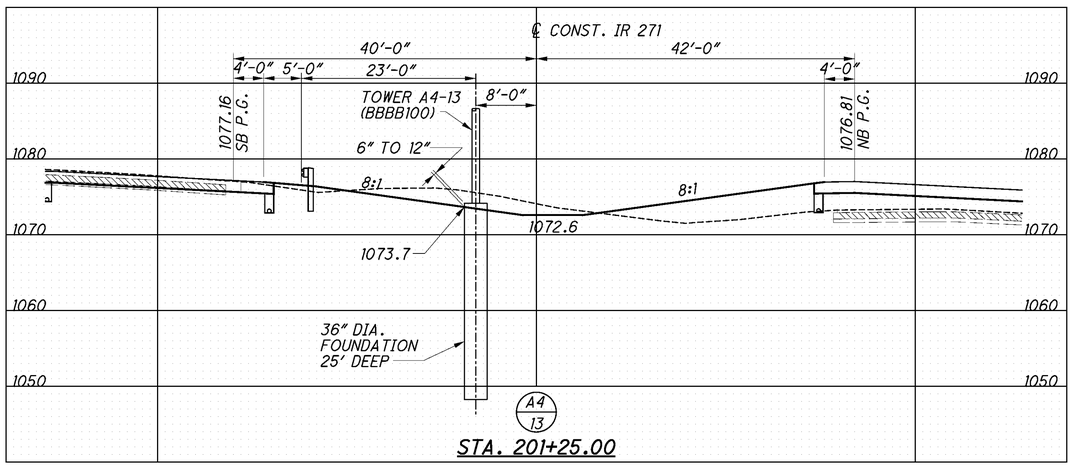
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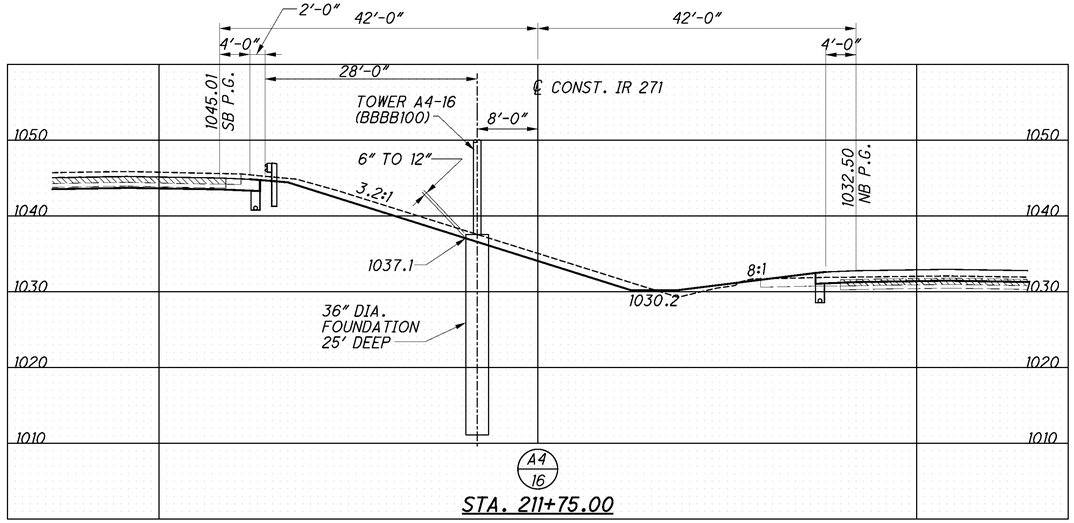
STA. 208+25.00



STA. 204+75.00



STA. 201+25.00



STA. 211+75.00

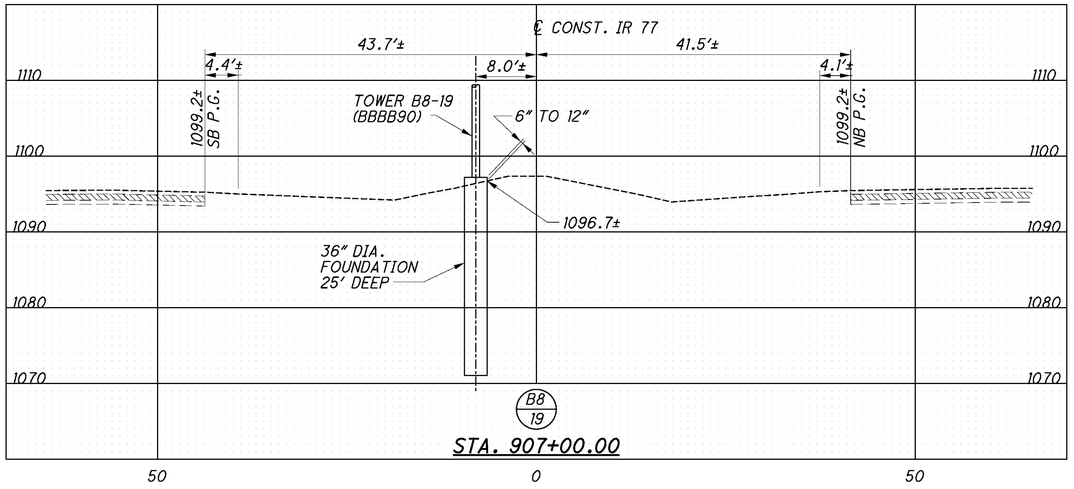
CALCULATED MAF
CHECKED JDL

I.R. 271 - LIGHTING SECTIONS
STA. 201+25.00 TO STA. 211+75.00

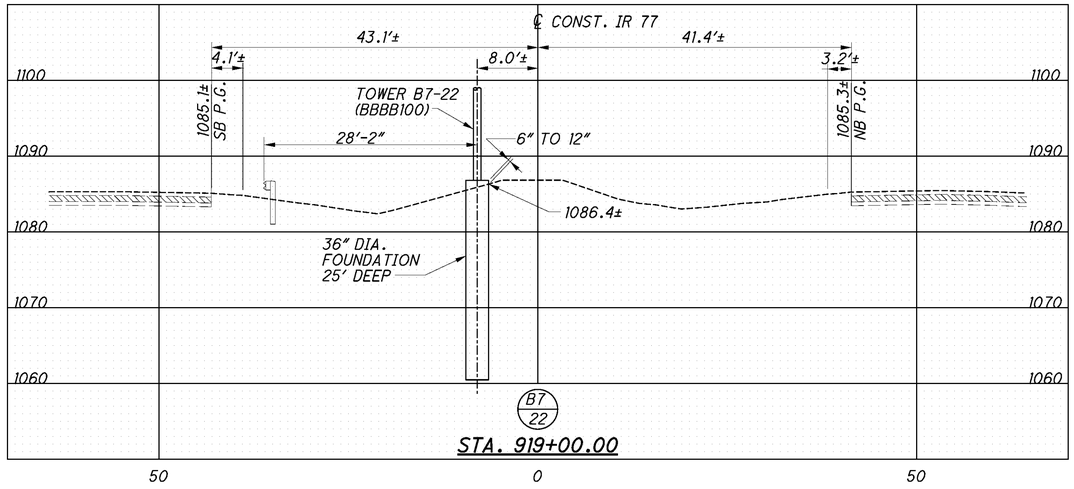
SUM-271-2.33

885
1195

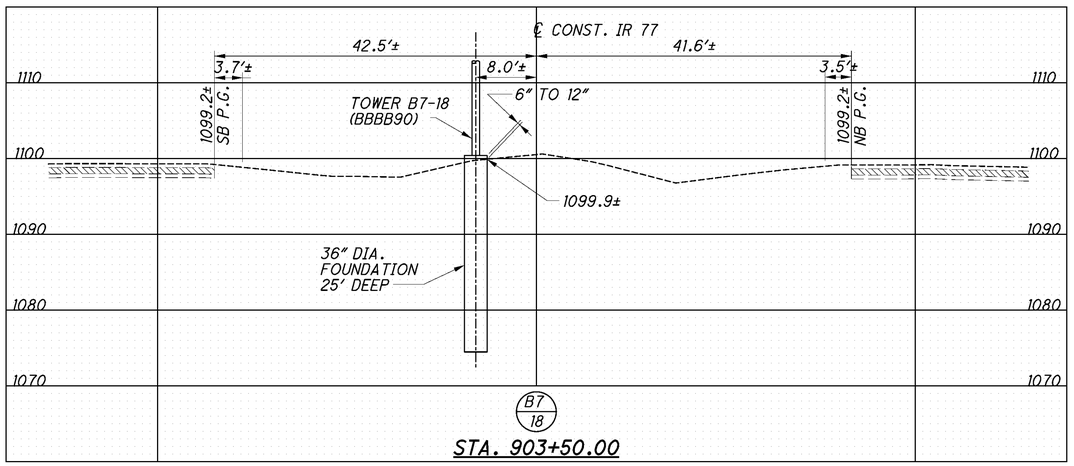
F:\2009\109094\18710\roadway\sheets\18710LE003.dgn 10/6/2012 4:26:32 PM PatSchwan



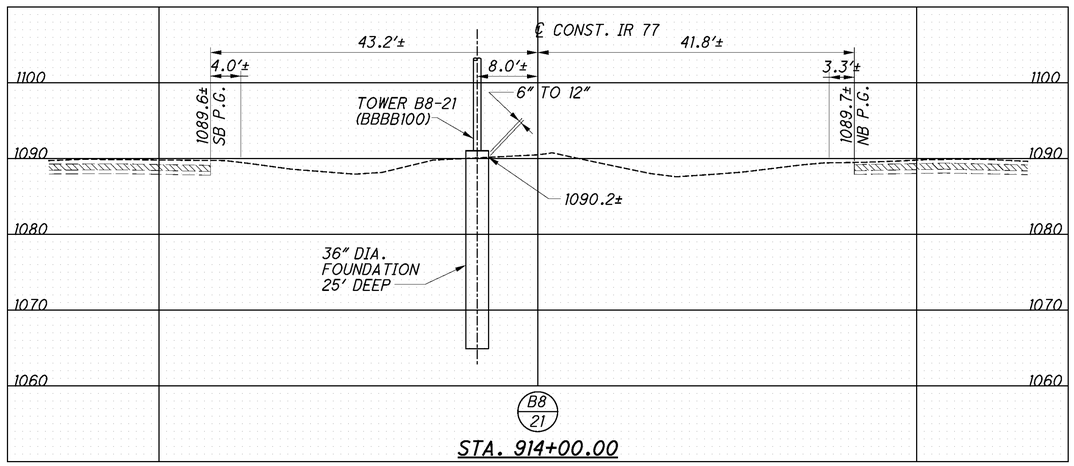
STA. 907+00.00



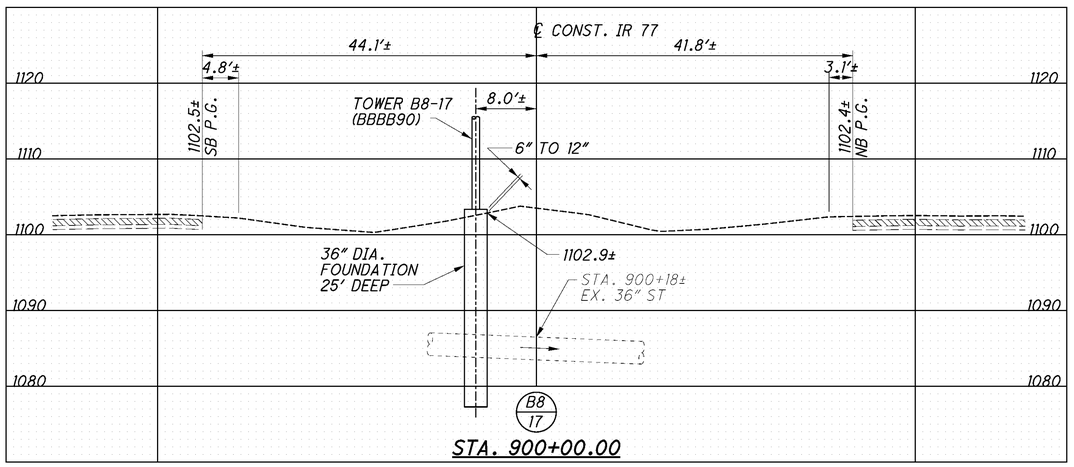
STA. 919+00.00



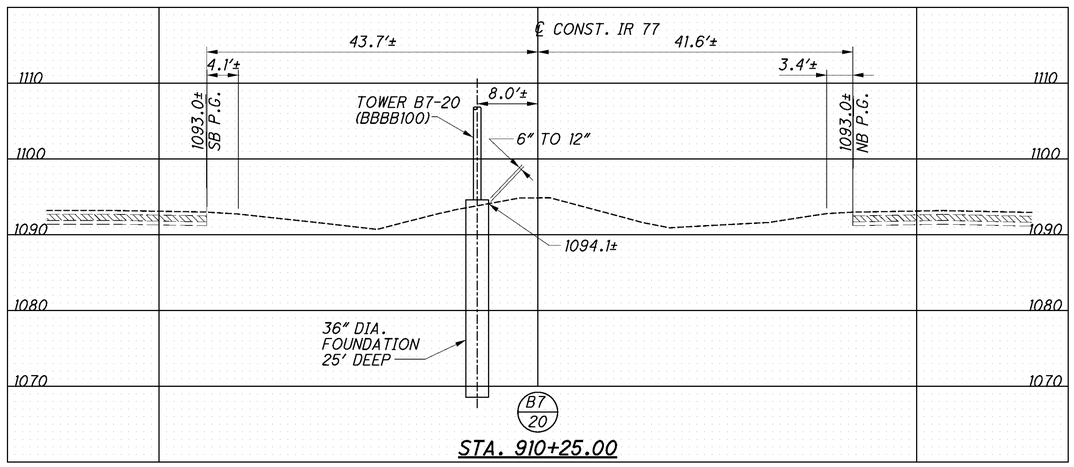
STA. 903+50.00



STA. 914+00.00



STA. 900+00.00



STA. 910+25.00

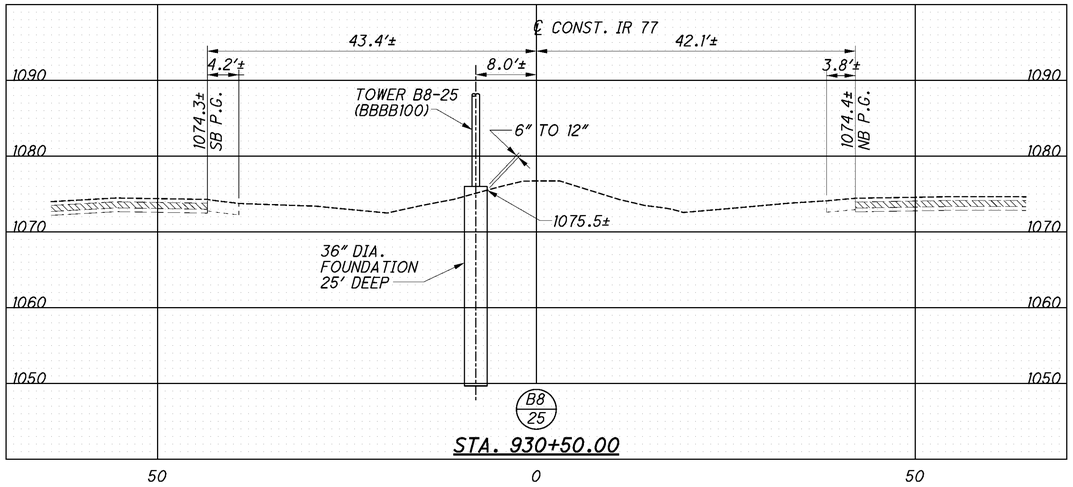
I.R. 77 - LIGHTING SECTIONS
STA. 900+00.00 TO STA. 920+00.00

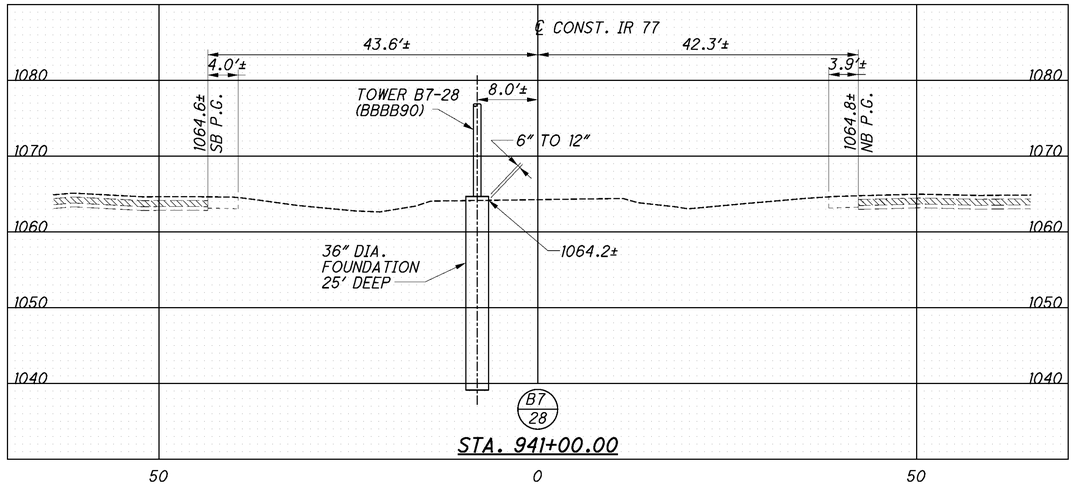
SUM-271-2.33

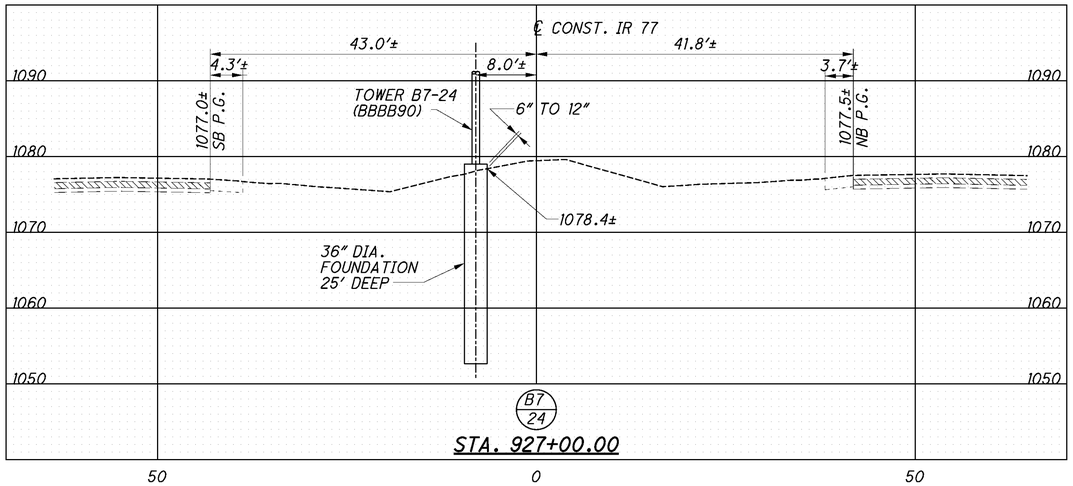
886
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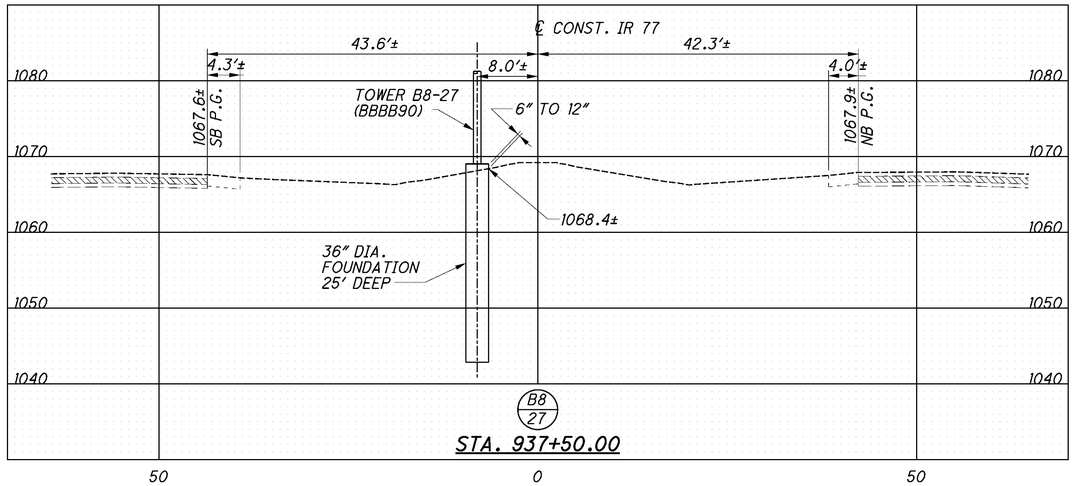
CALCULATED MAF
CHECKED JDL

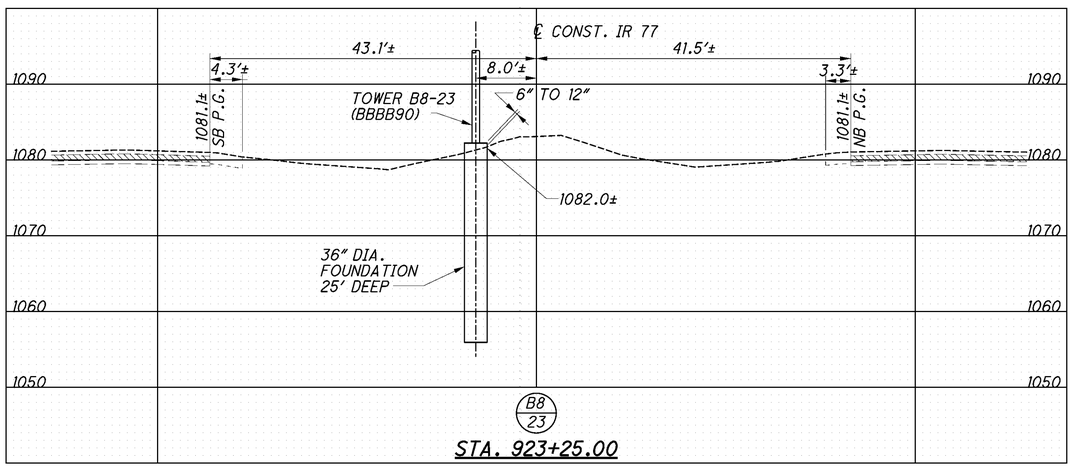
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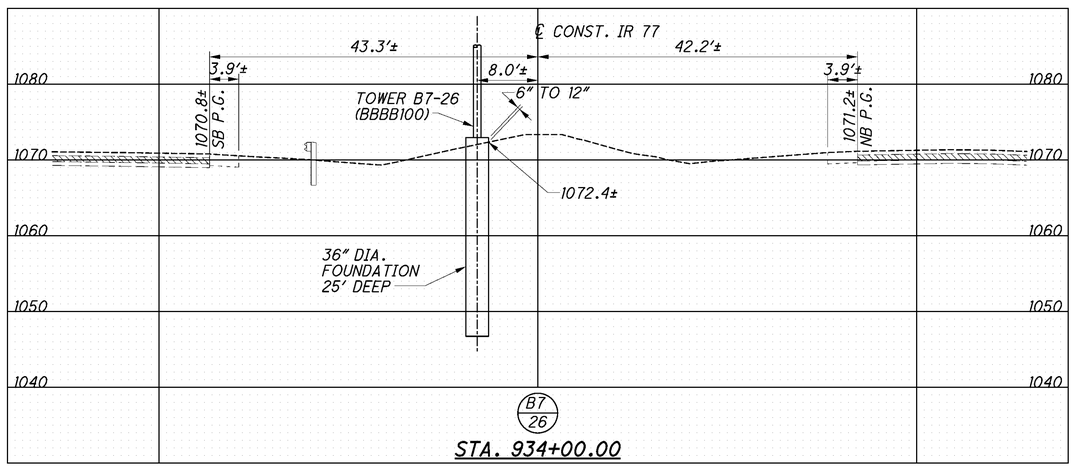












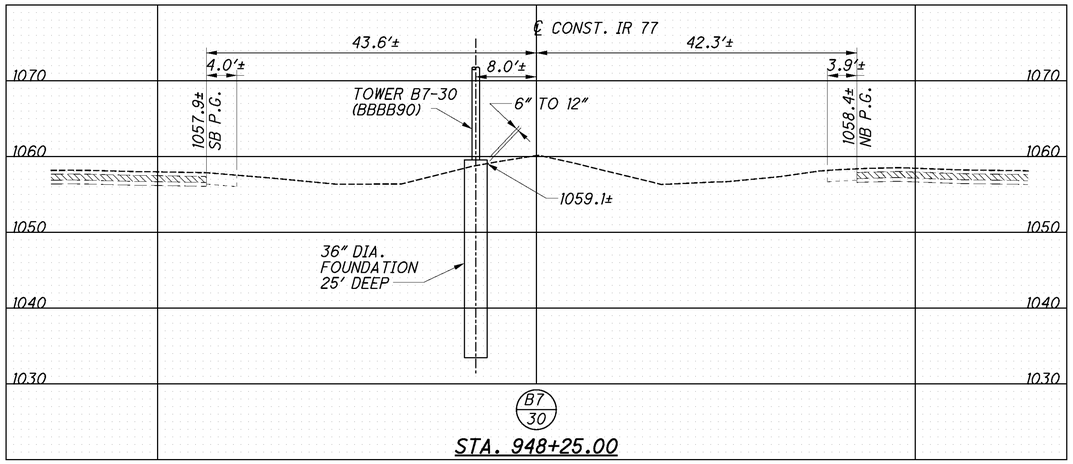
CALCULATED MAF
CHECKED JDL

I.R. 77 - LIGHTING SECTIONS
STA. 923+50.00 TO STA. 941+00.00

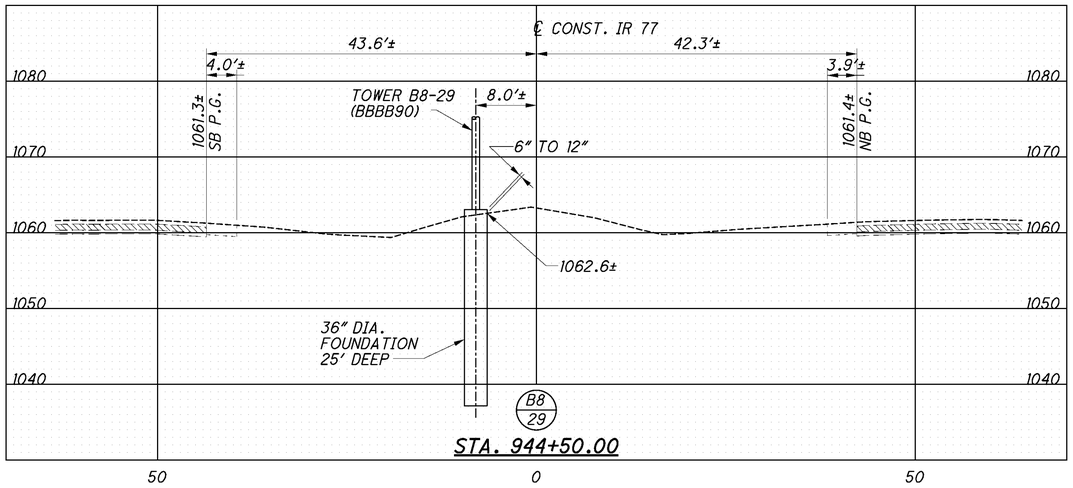
SUM-271-2.33

887
1195

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STA. 948+25.00



STA. 944+50.00

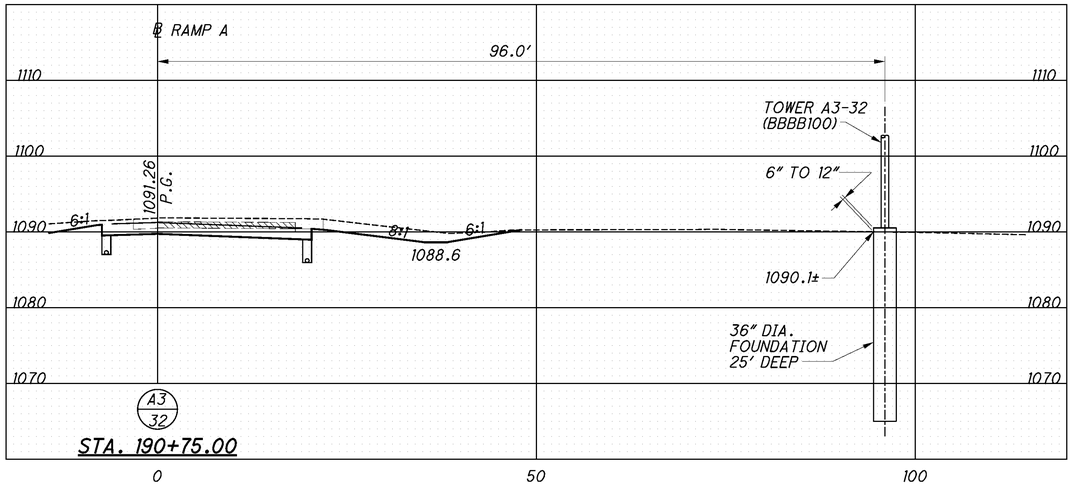
I.R. 77 - LIGHTING SECTIONS
STA. 944+50.00 TO STA. 948+25.00

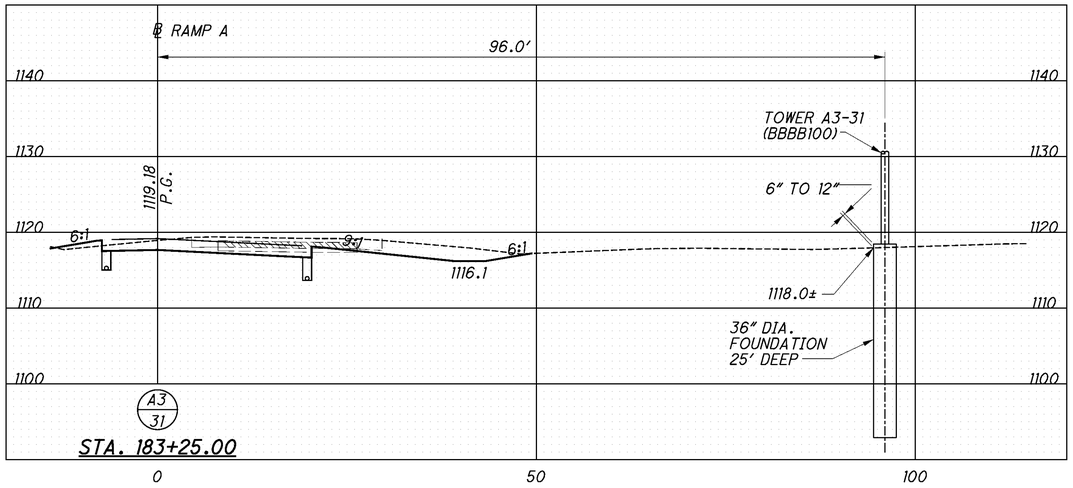
CALCULATED MAF
CHECKED JDL

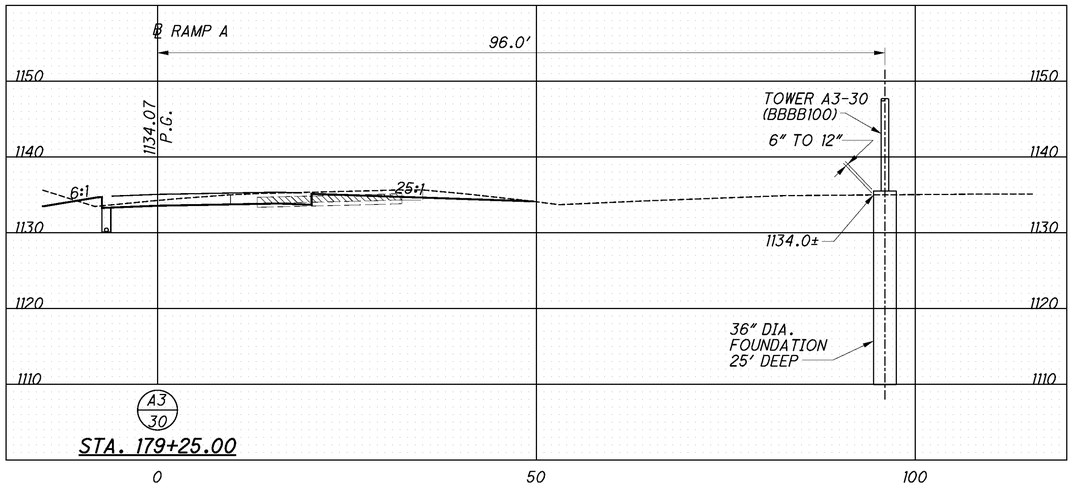
SUM-271-2.33

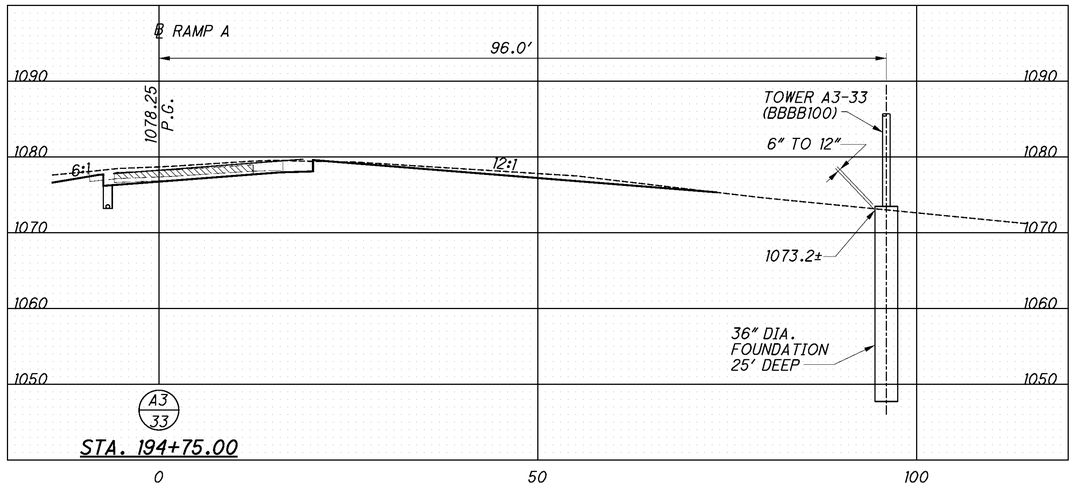
888
1195

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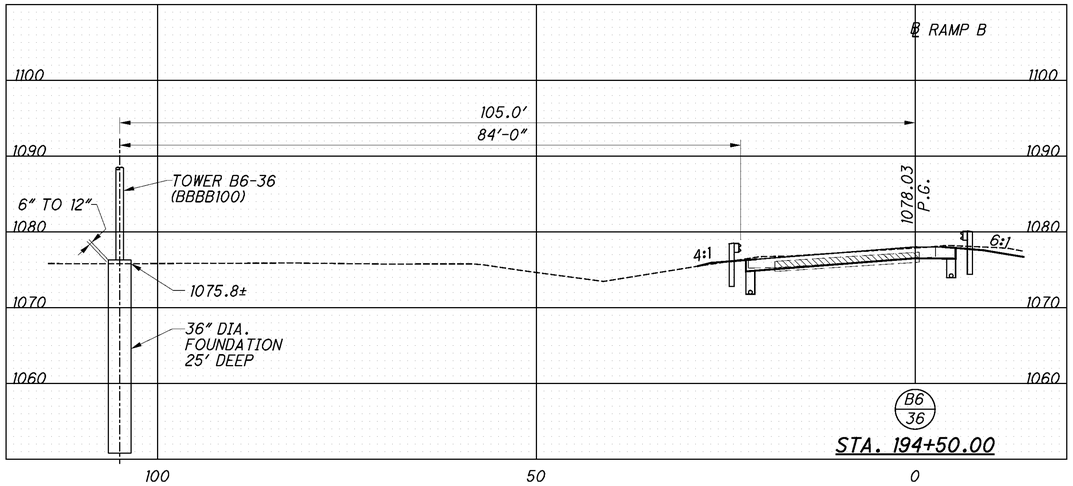
CALCULATED MAF
CHECKED JDL

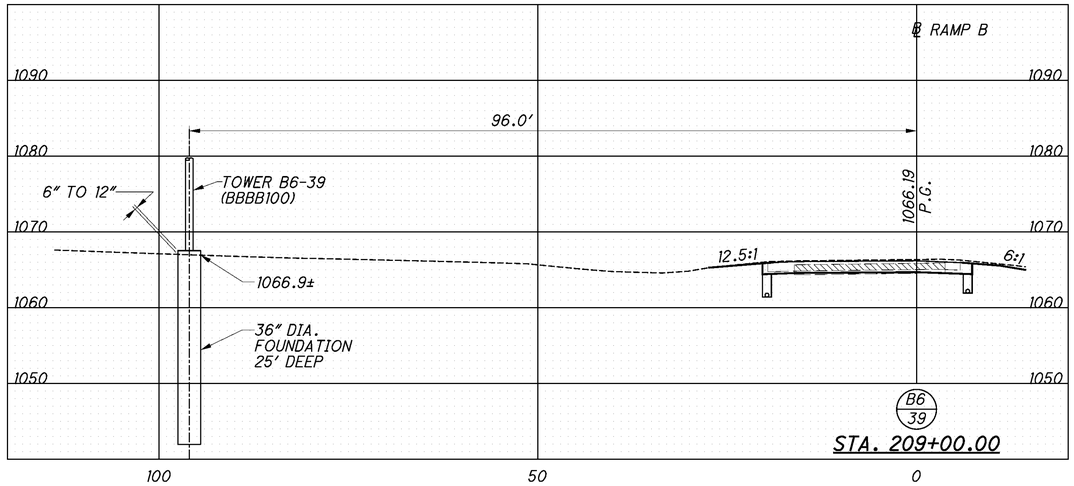
RAMP A - LIGHTING SECTIONS
STA. 179+25.00 TO STA. 194+75.00

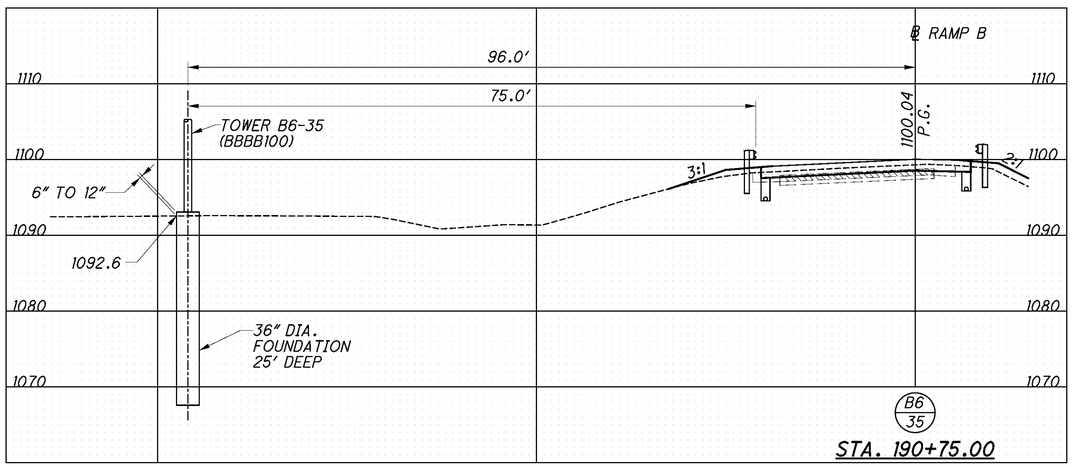
SUM-271-2.33

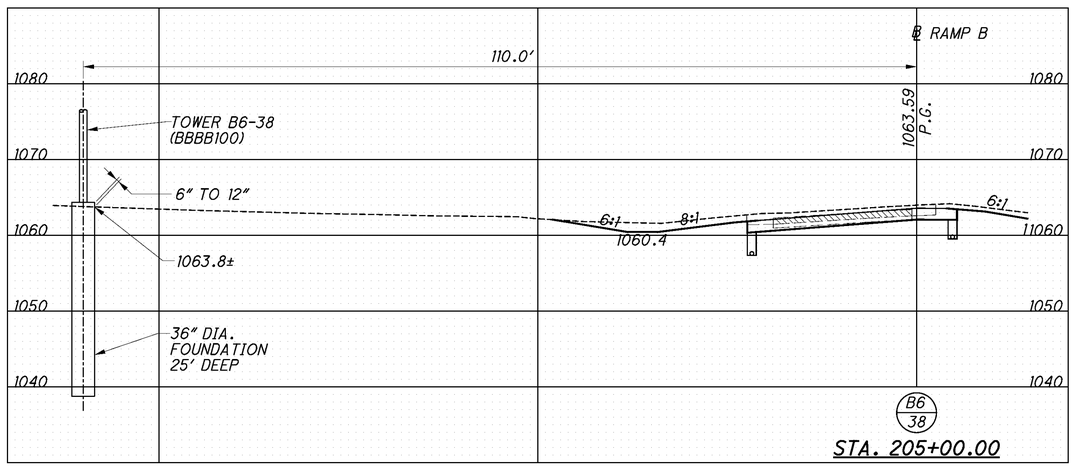
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1195

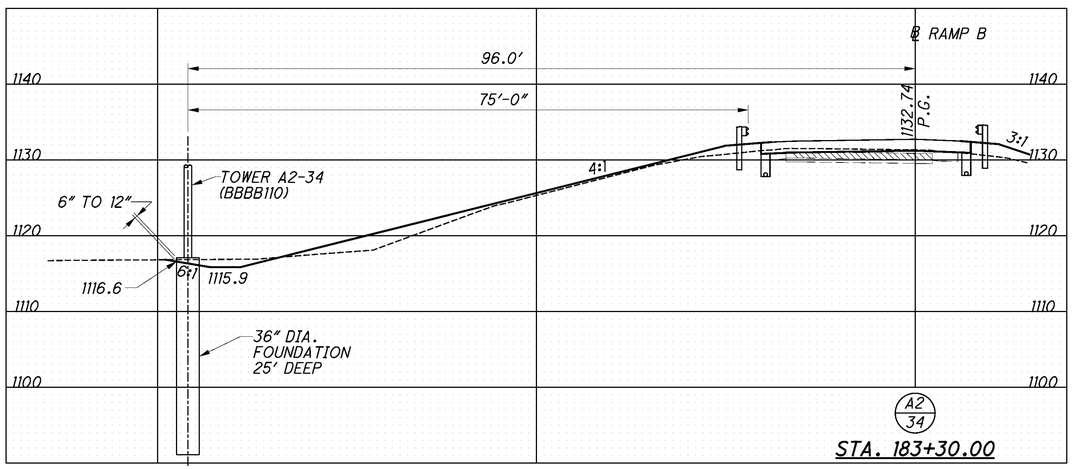
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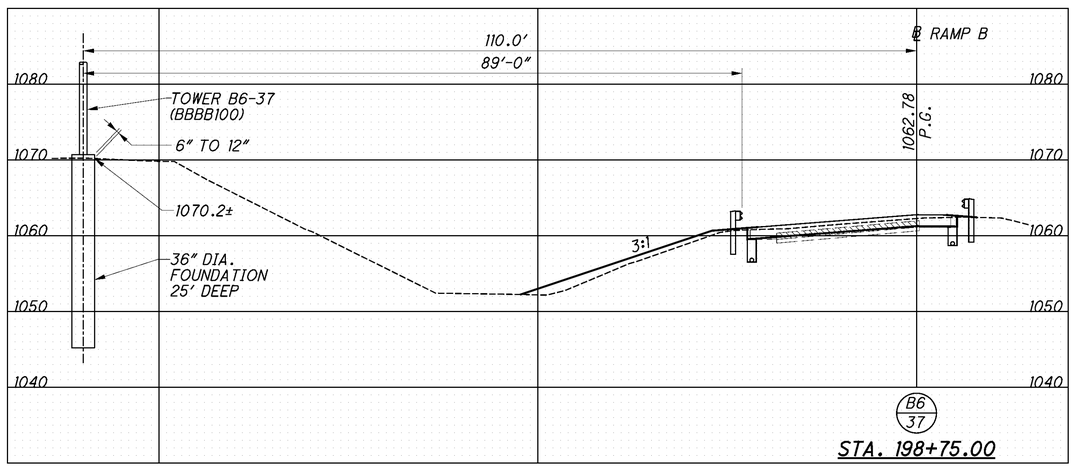












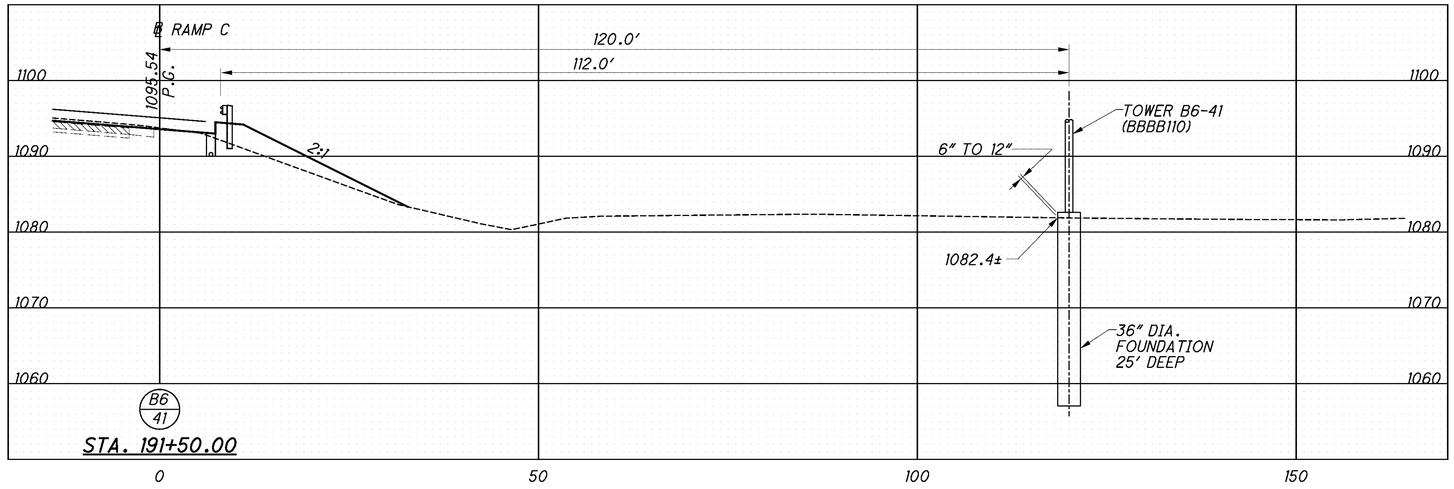
CALCULATED MAF
CHECKED JDL

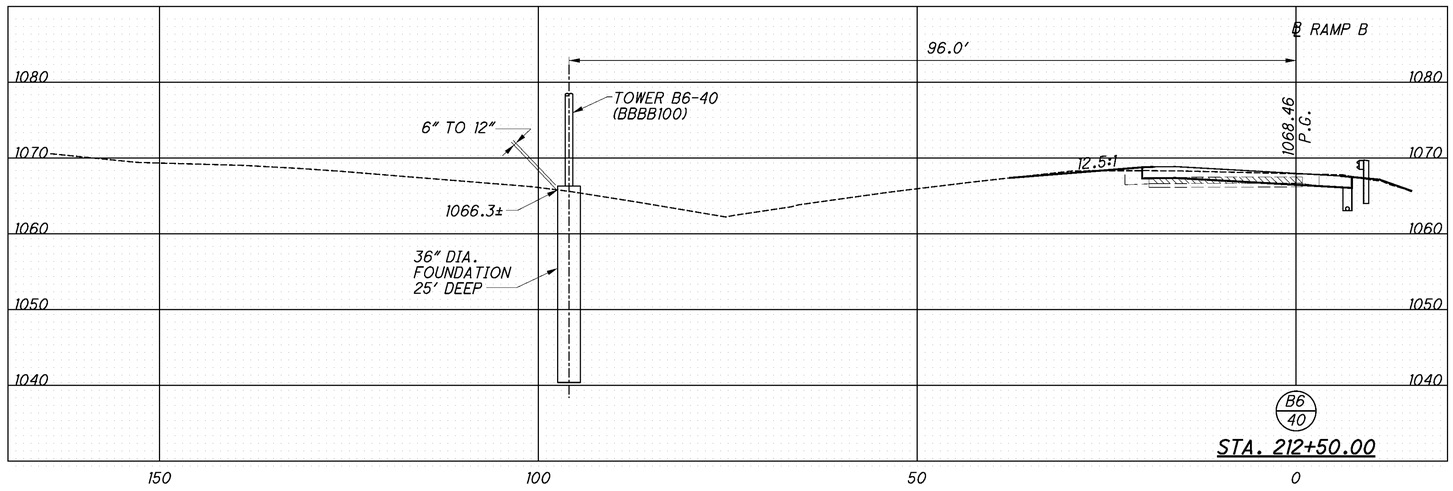
RAMP B - LIGHTING SECTIONS
STA. 183+30.00 TO STA. 209+00.00

SUM-271-2.33

890
1195

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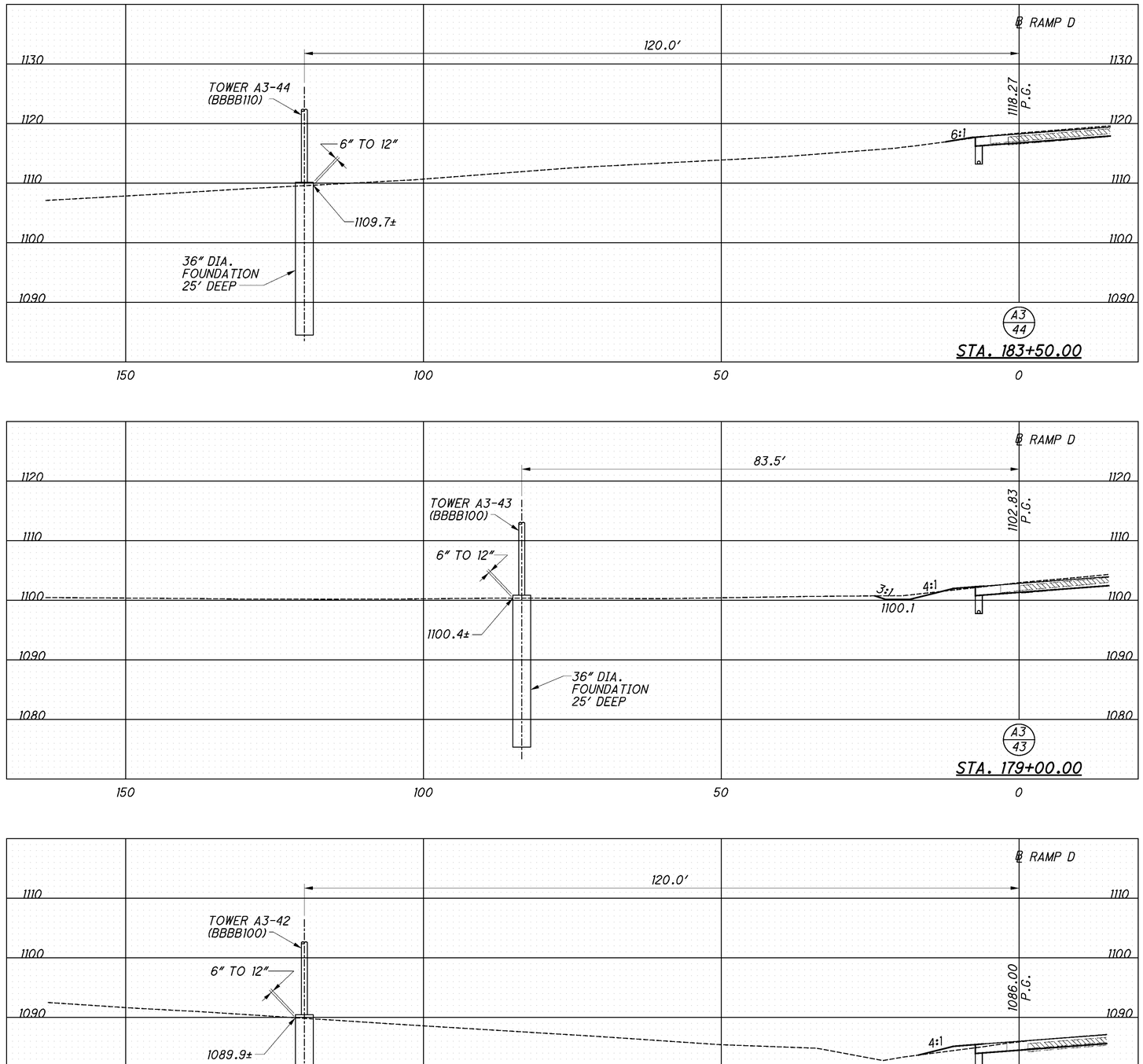
CALCULATED MAF
CHECKED JDL

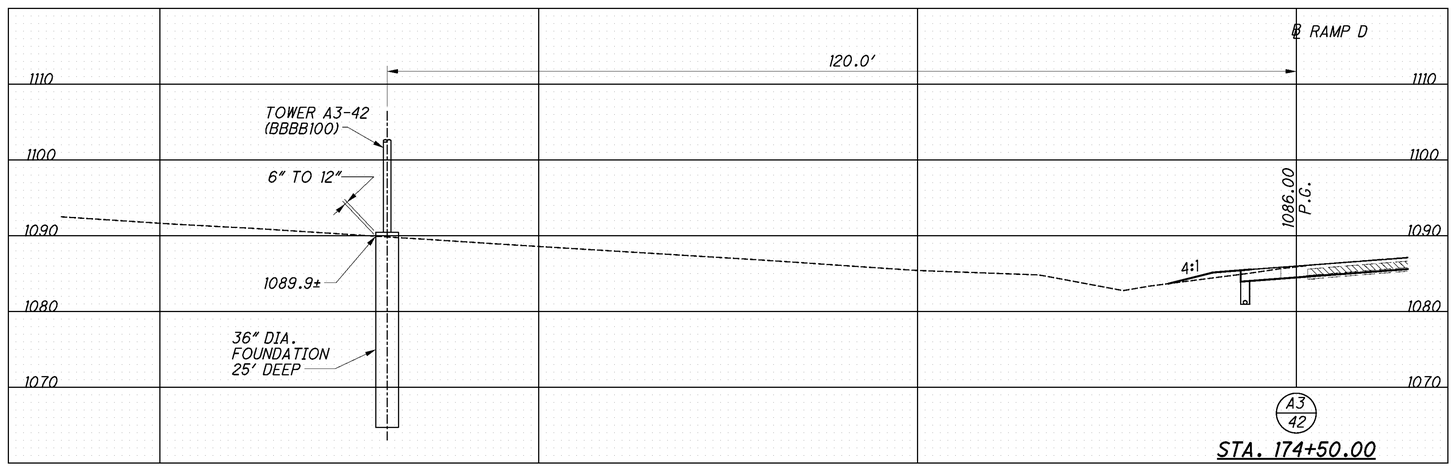
RAMPS B & C - LIGHTING SECTIONS
RAMP B STA. 212+50.00 & RAMP C STA. 191+50.00

SUM-271-2.33

891
1195

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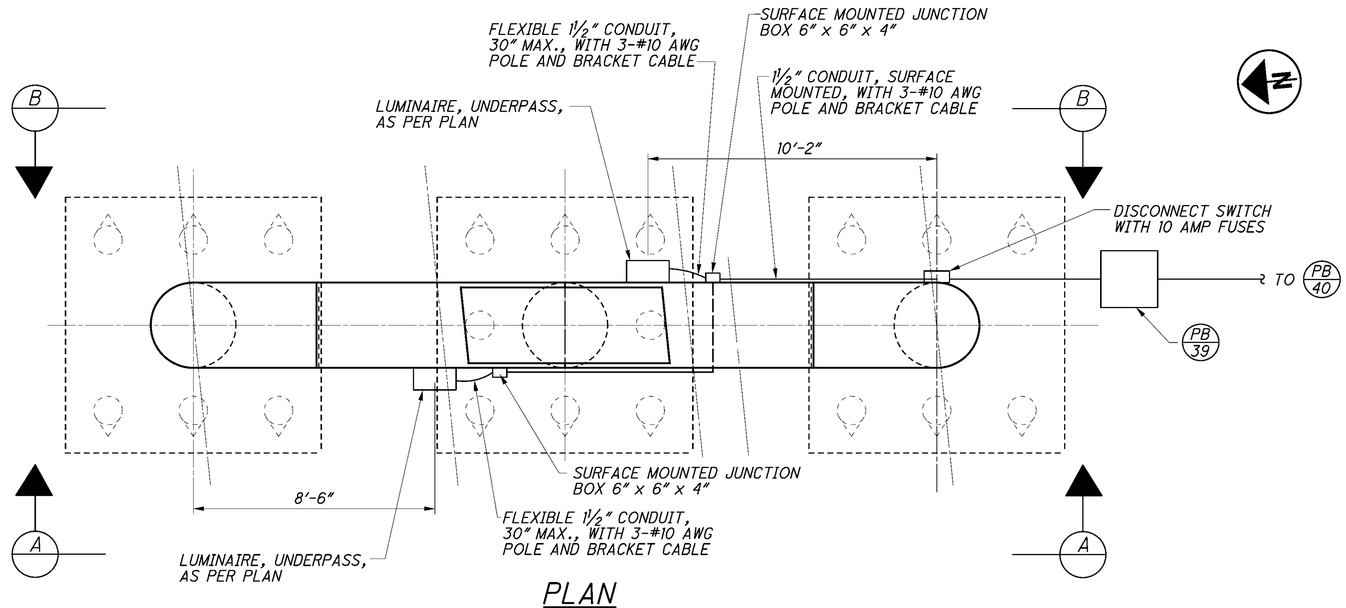
CALCULATED MAF
CHECKED JDL

RAMP D - LIGHTING SECTIONS
STA. 174+50.00 TO STA. 183+50.00

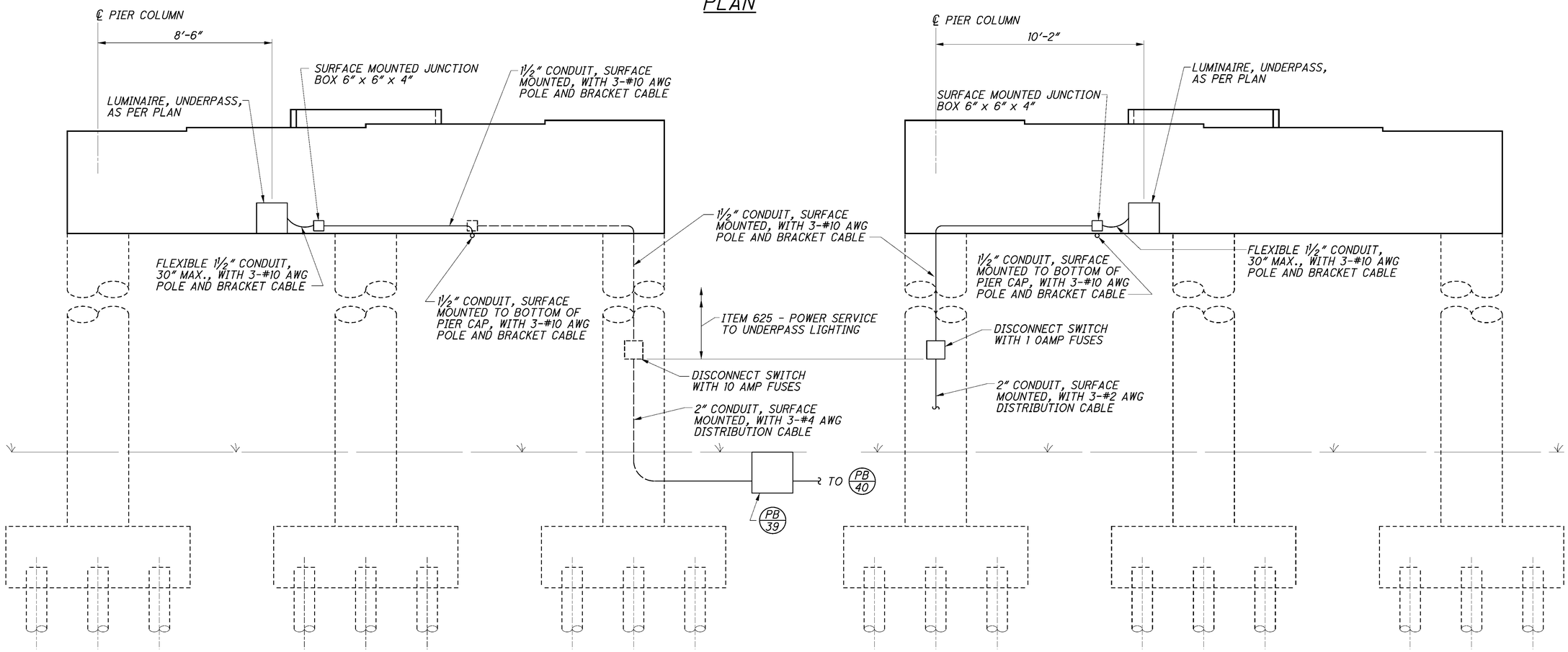
SUM-271-2.33

892
1195

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PLAN



SECTION A-A

SECTION B-B

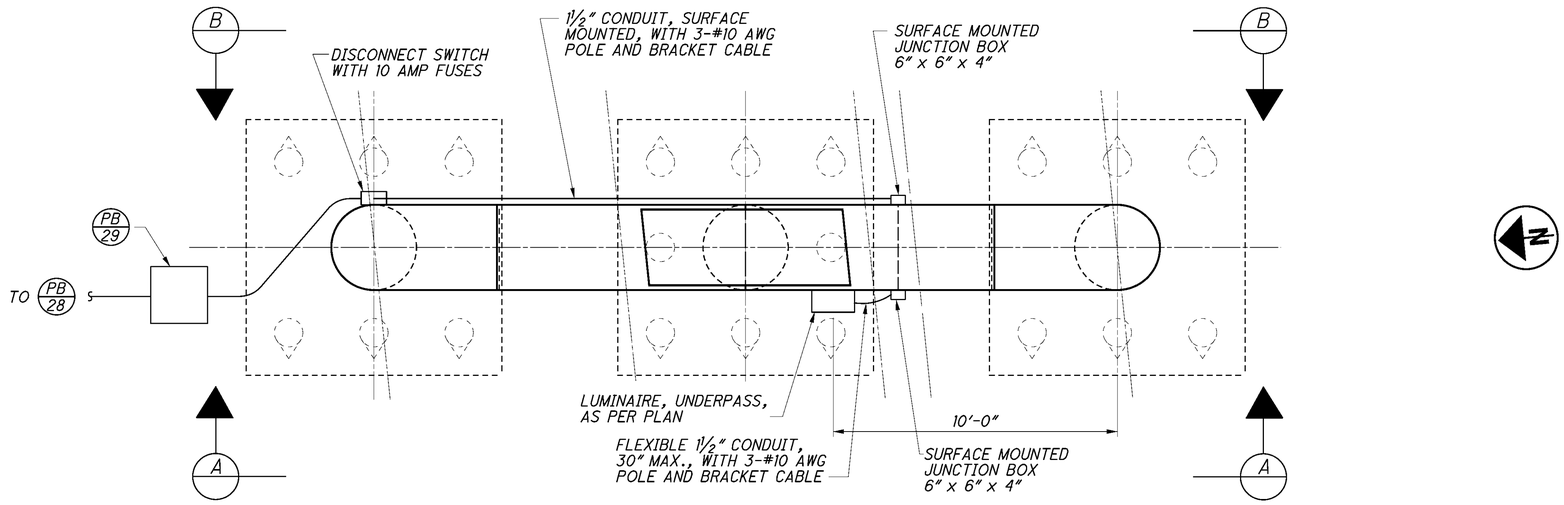
CALCULATED JDL
CHECKED MAF

UNDERPASS LIGHTING DETAILS - 0354B - PIER 2

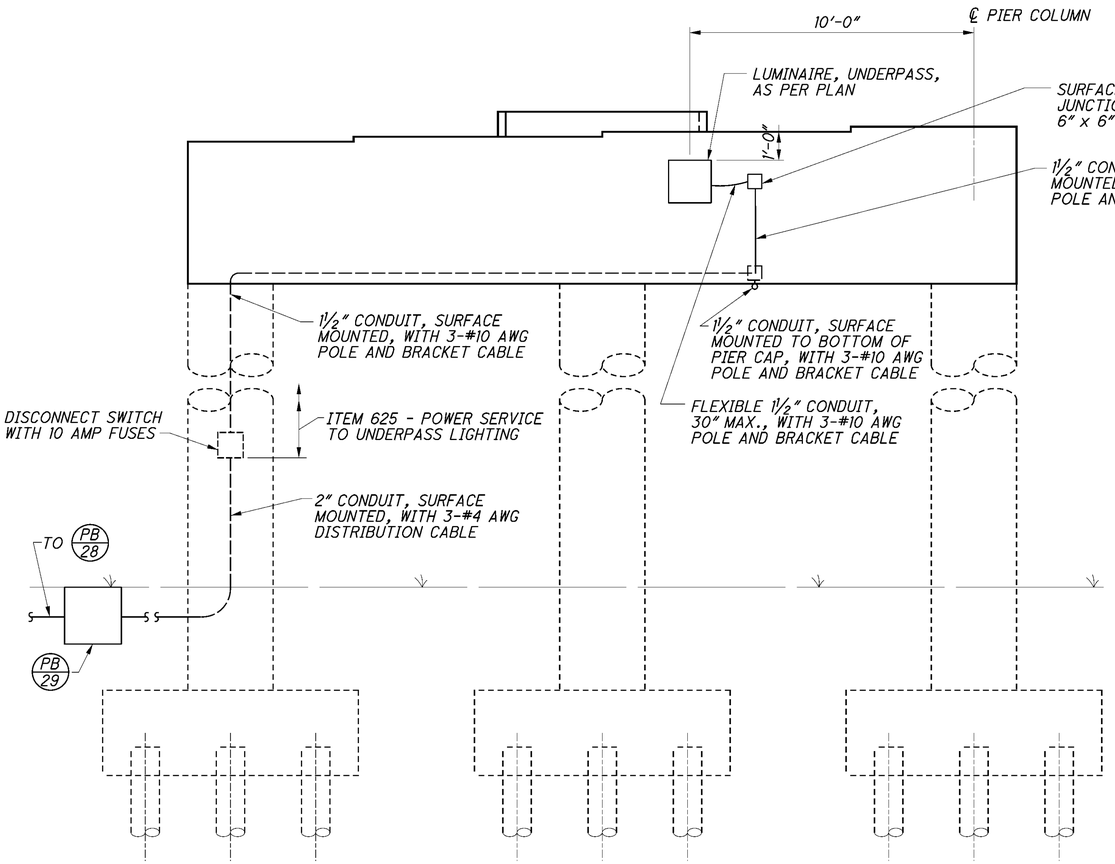
SUM-271-2.33

893
1195

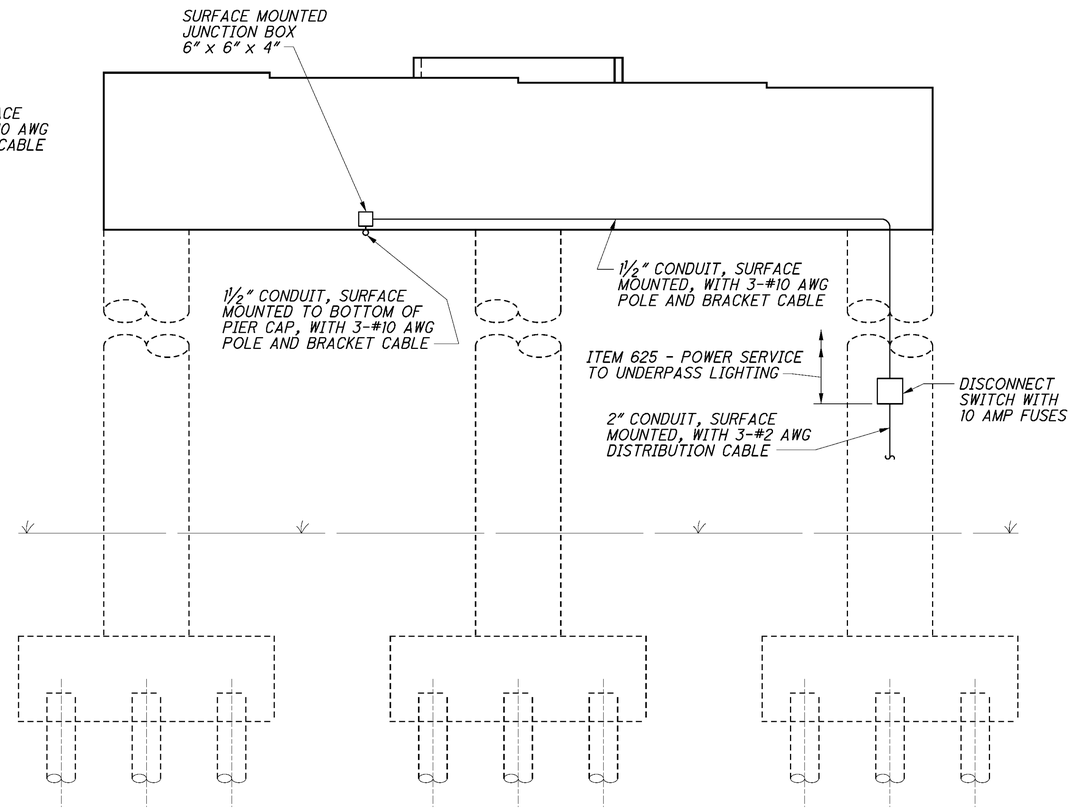
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PLAN



SECTION A-A



SECTION B-B

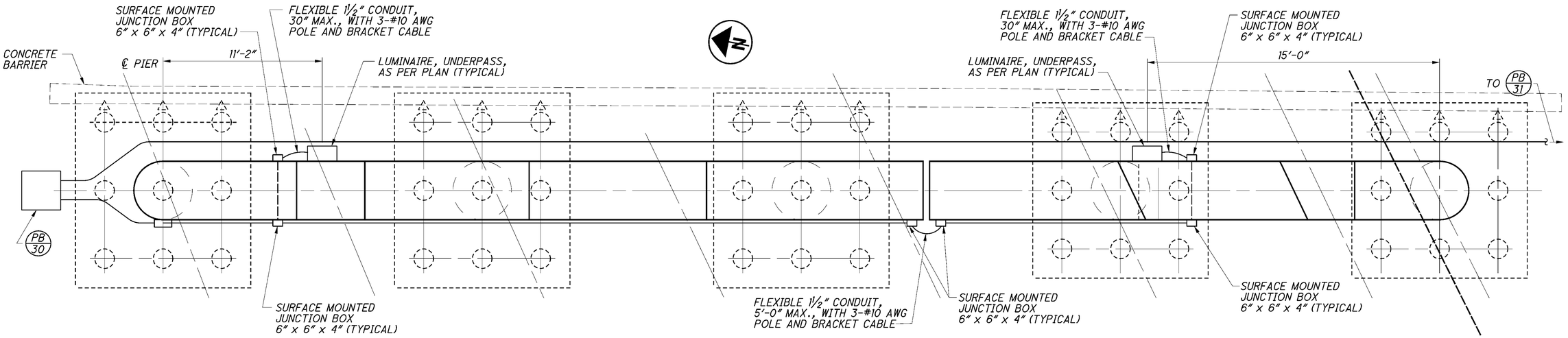
CALCULATED JDL
CHECKED MAF

UNDERPASS LIGHTING DETAILS - 0354B - PIER 3

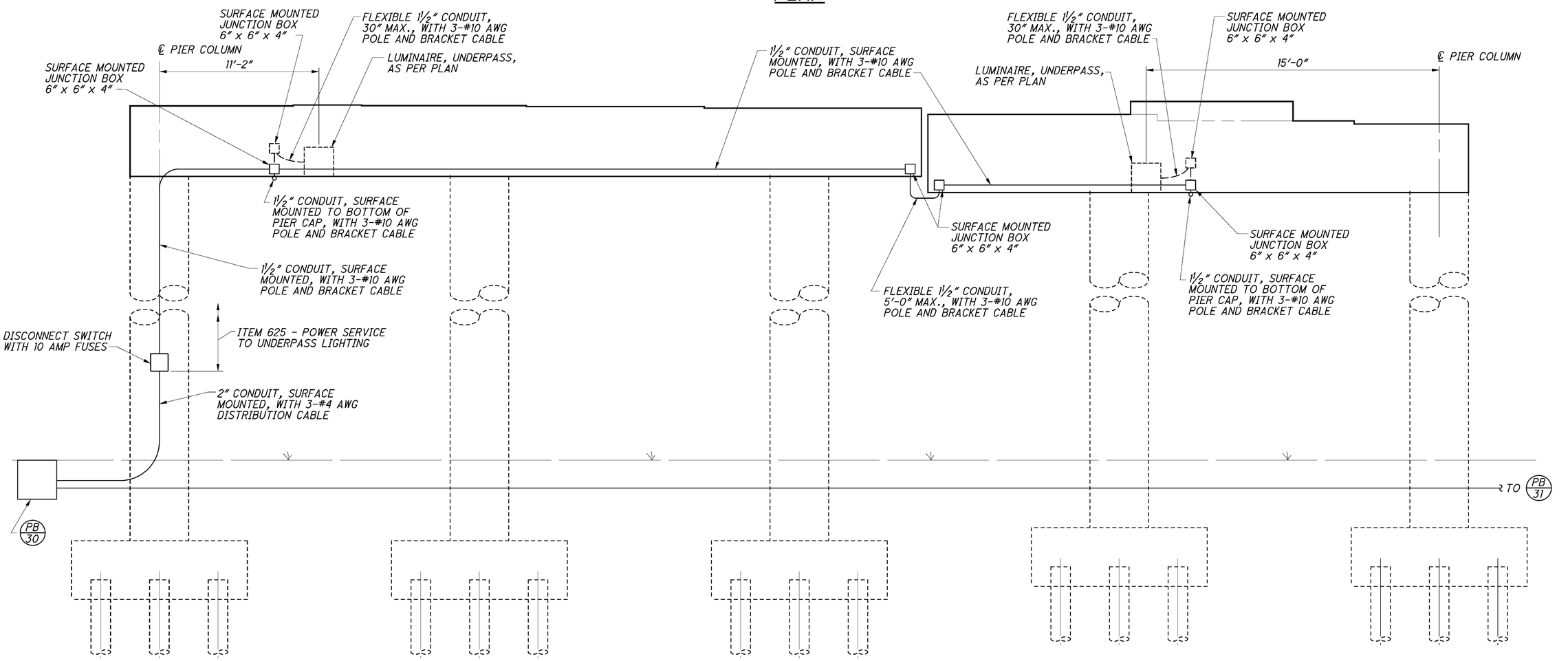
SUM-271-2.33

894
1195

F:\2009\109094\18710\roadway\sheets\18710LD004.DGN 10/6/2012 4:29:55 PM PatSchwan



PLAN



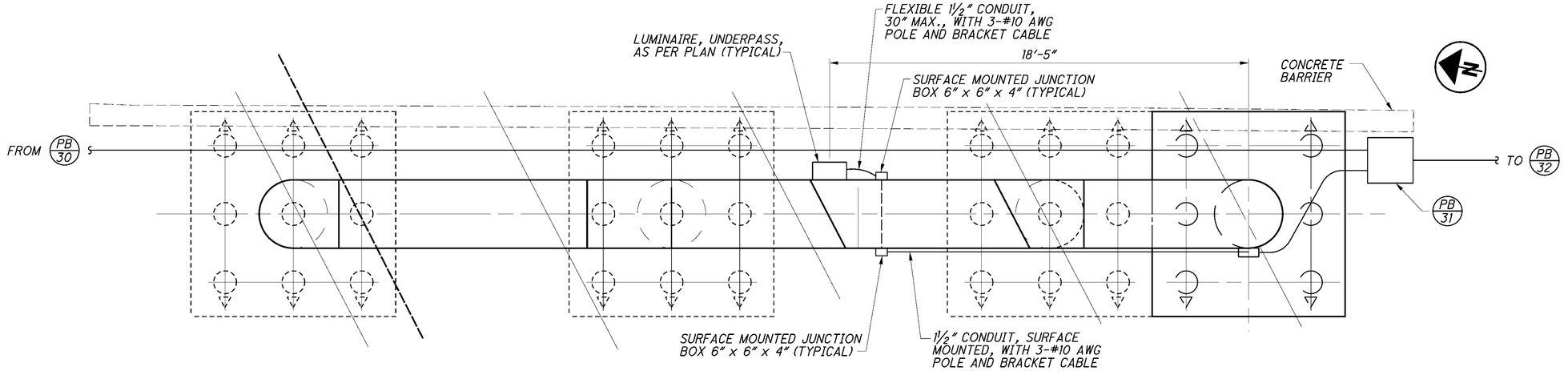
ELEVATION

CALCULATED JDL
CHECKED MAF

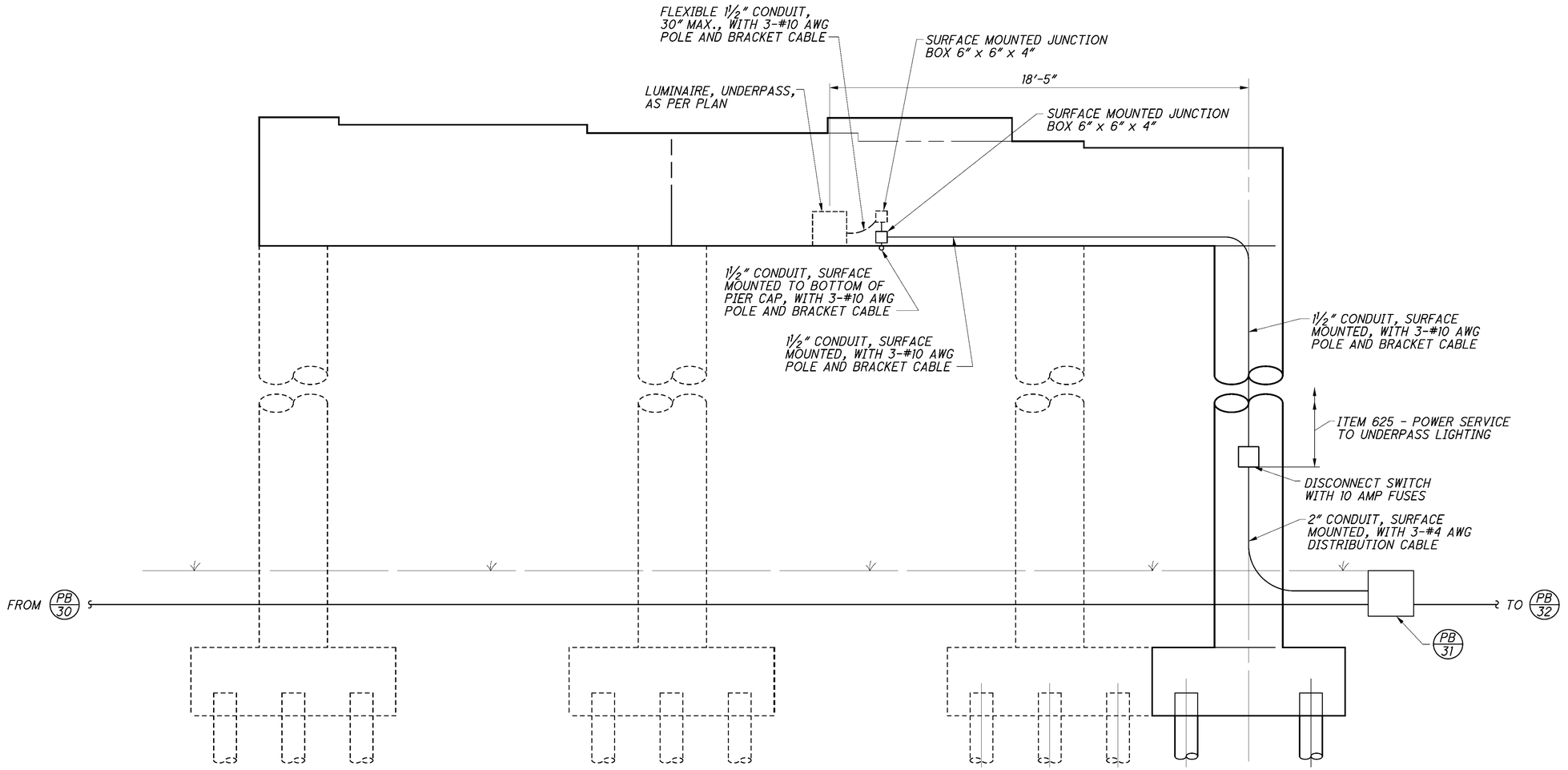
UNDERPASS LIGHTING DETAILS - 0354L - PIER 1

SUM-271-2.33

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PLAN



ELEVATION

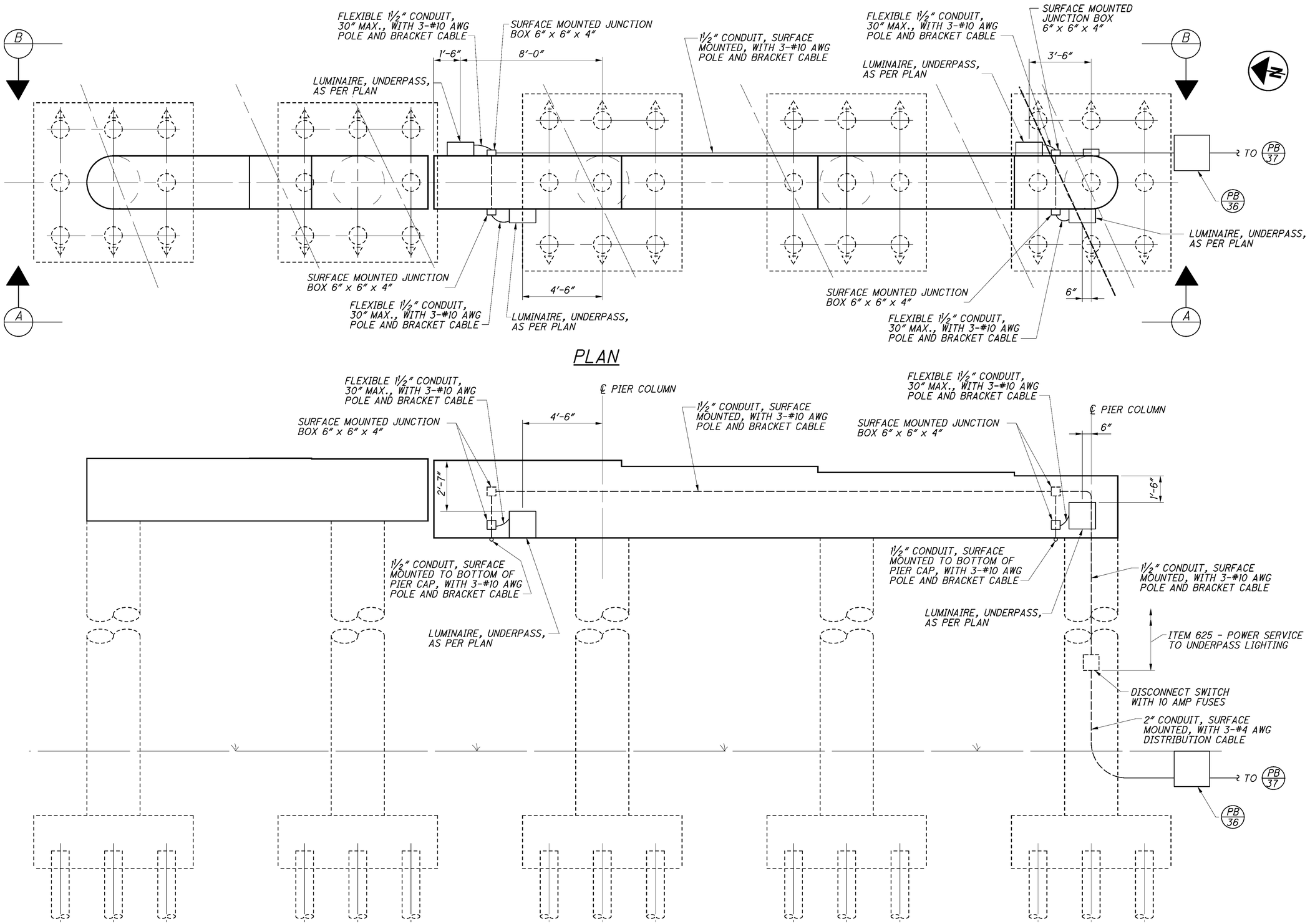
CALCULATED JDL
CHECKED MAF

UNDERPASS LIGHTING DETAILS - 0354R - PIER 1

SUM-271-2.33

896
1195

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SECTION A-A FOR SECTION B-B SEE SHEET 898

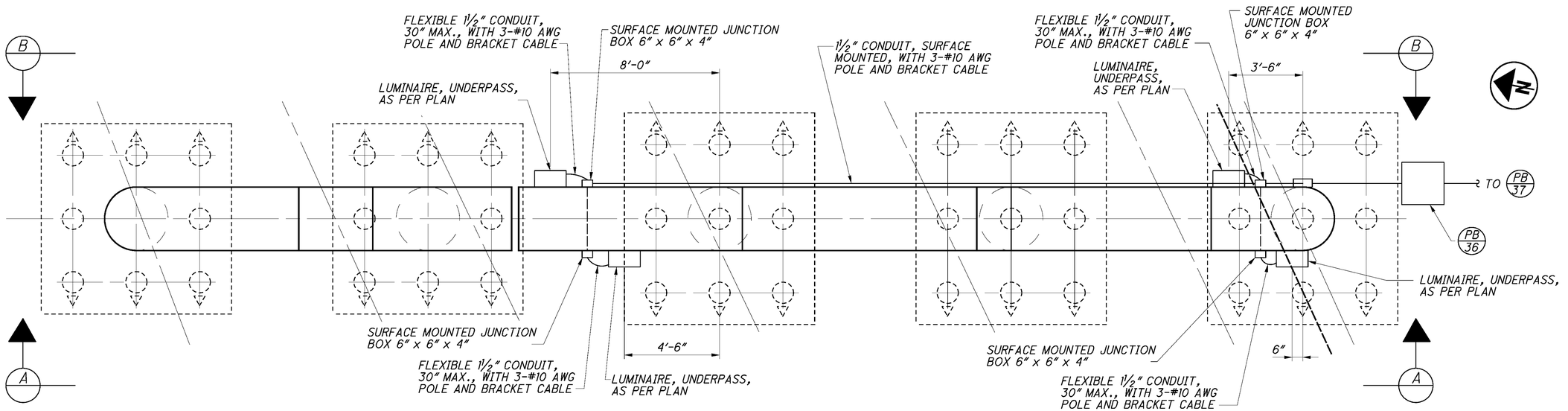
CALCULATED JDL
CHECKED MAF

UNDERPASS LIGHTING DETAILS-1 - 0354L - PIER 2

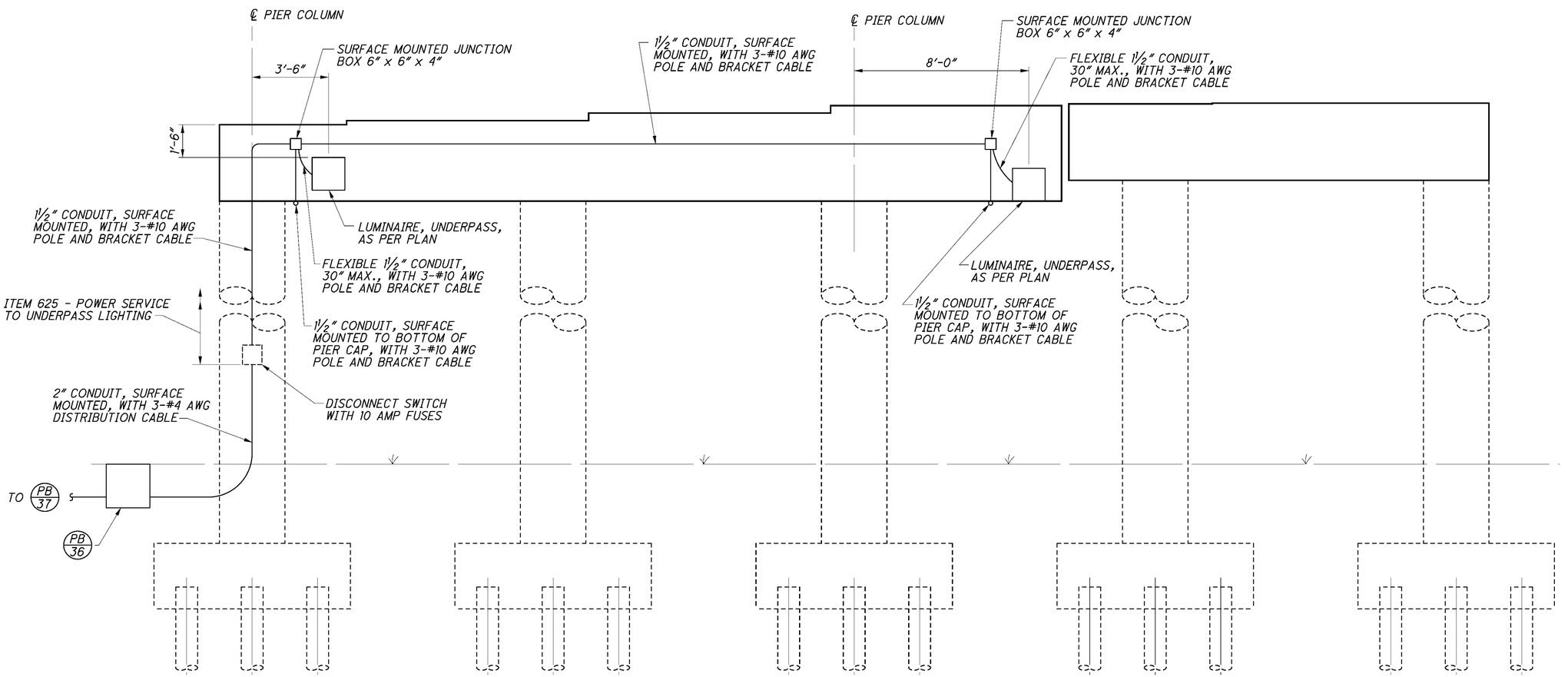
SUM-271-2.33

897
1195

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PLAN



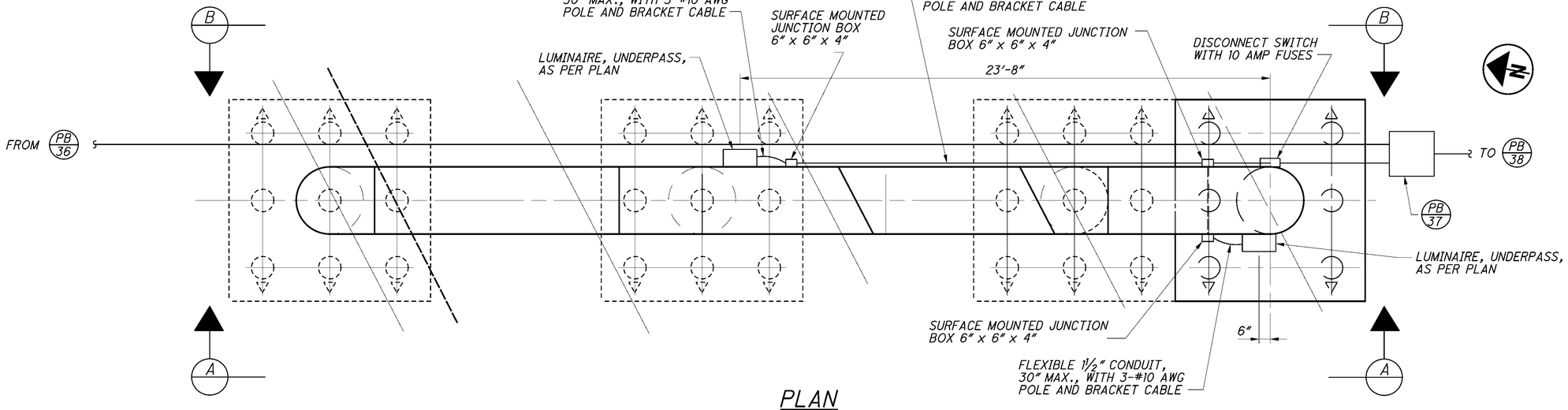
SECTION B-B FOR SECTION A-A SEE SHEET 897

CALCULATED JDL
CHECKED MAF

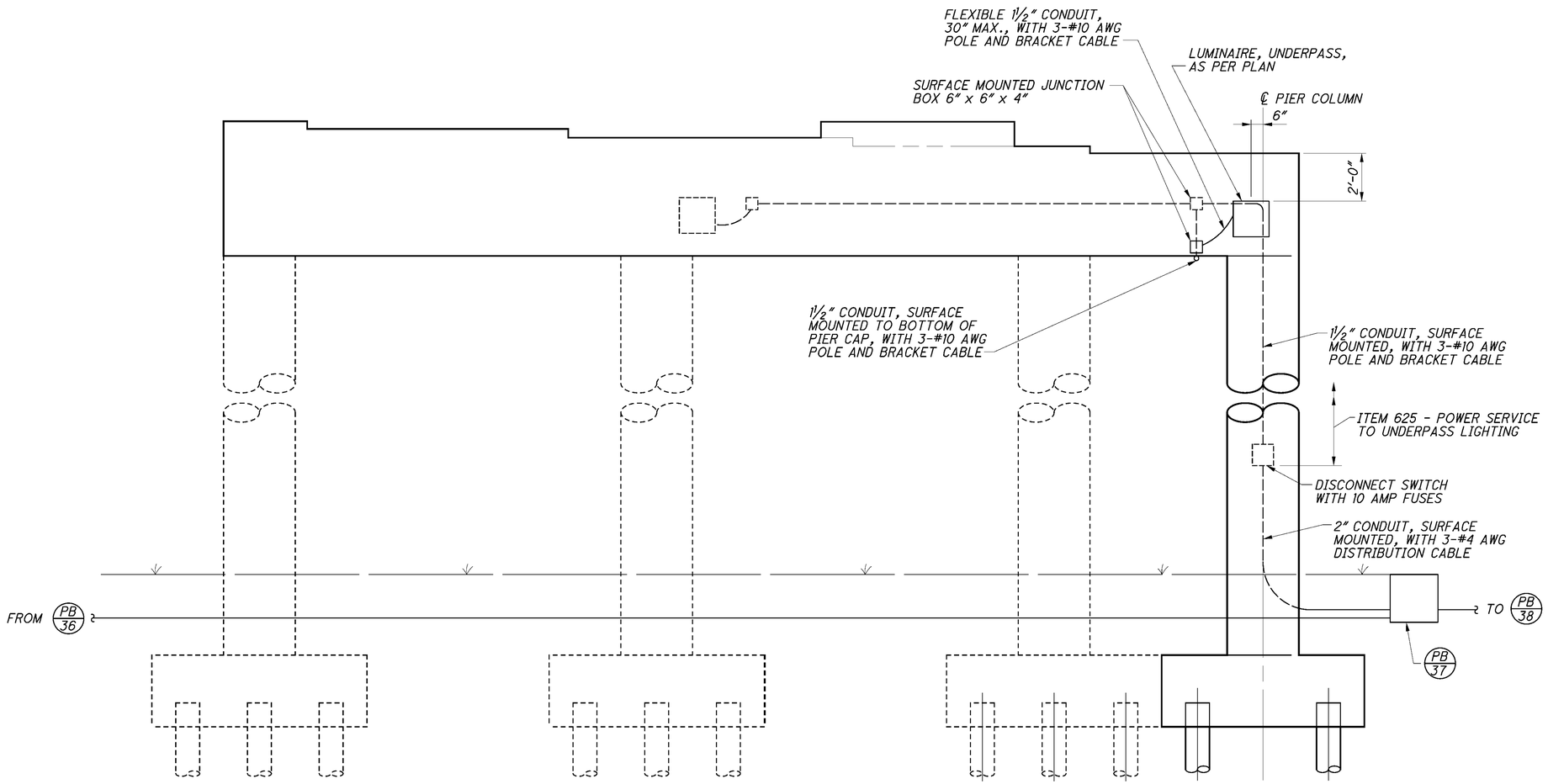
UNDERPASS LIGHTING DETAILS-2 - 0354L - PIER 2

SUM-271-2.33

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PLAN



SECTION A-A FOR SECTION B-B SEE SHEET 900

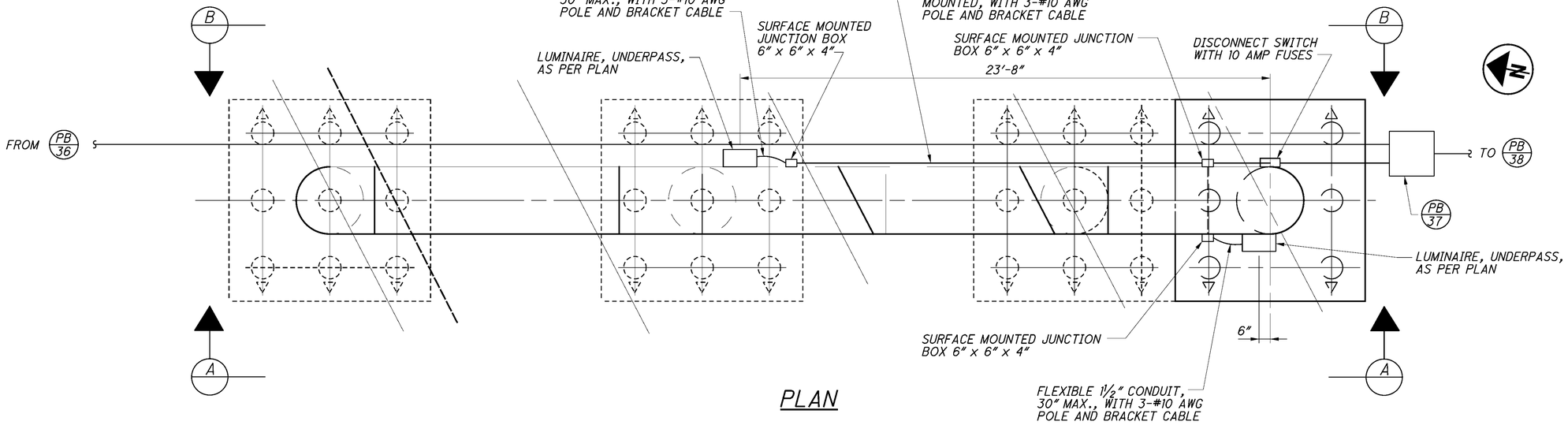
CALCULATED JDL
CHECKED MAF

UNDERPASS LIGHTING DETAILS-1 - 0354R - PIER 2

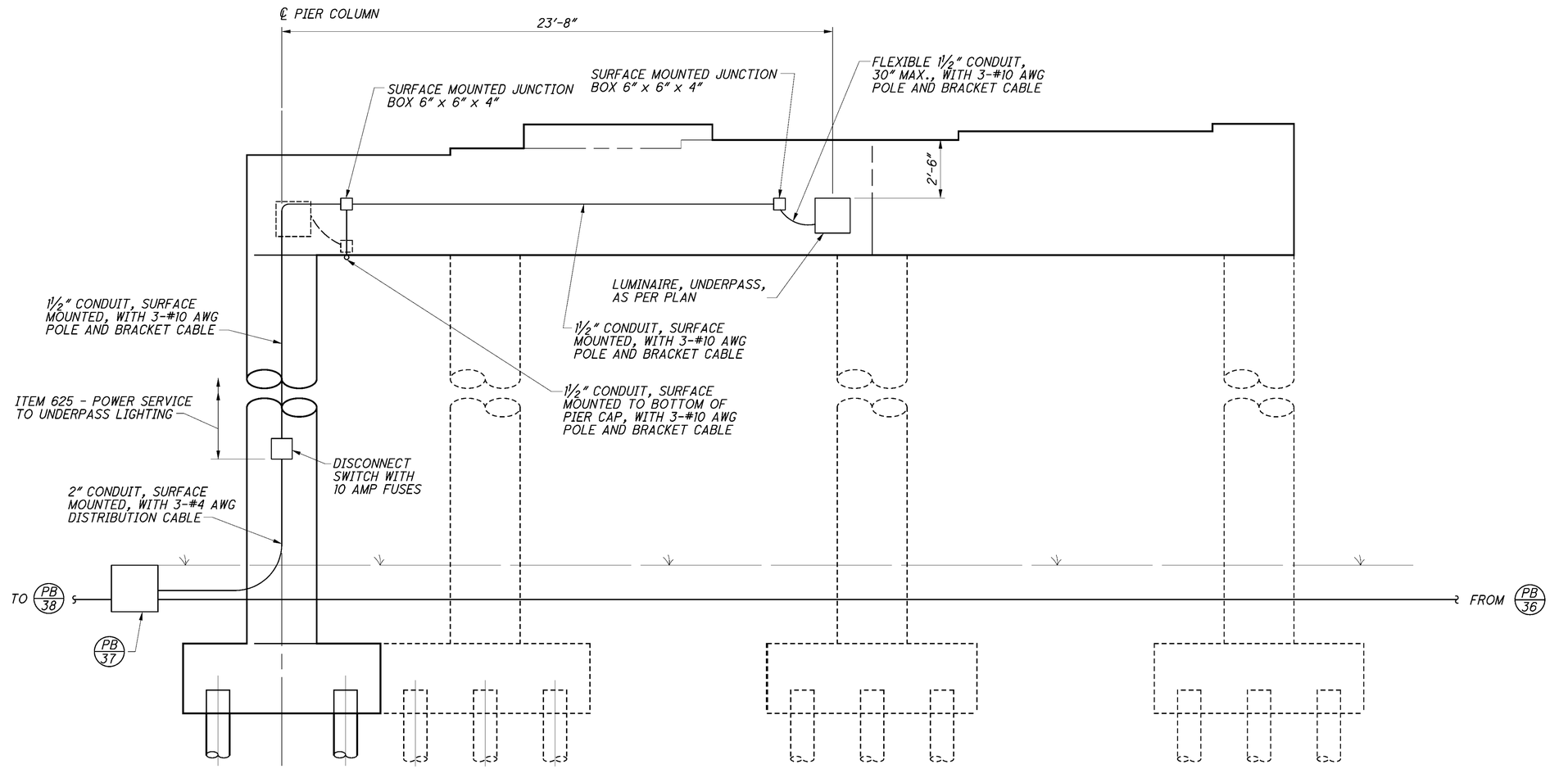
SUM-271-2.33

899
1195

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PLAN



SECTION B-B FOR SECTION A-A SEE SHEET 899

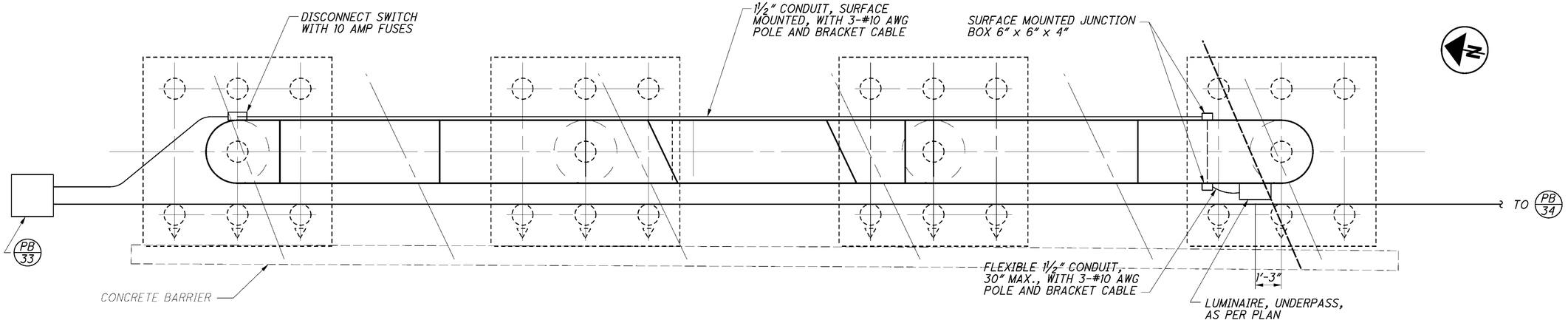
CALCULATED JDL
CHECKED MAF

UNDERPASS LIGHTING DETAILS-2 - 0354R - PIER 2

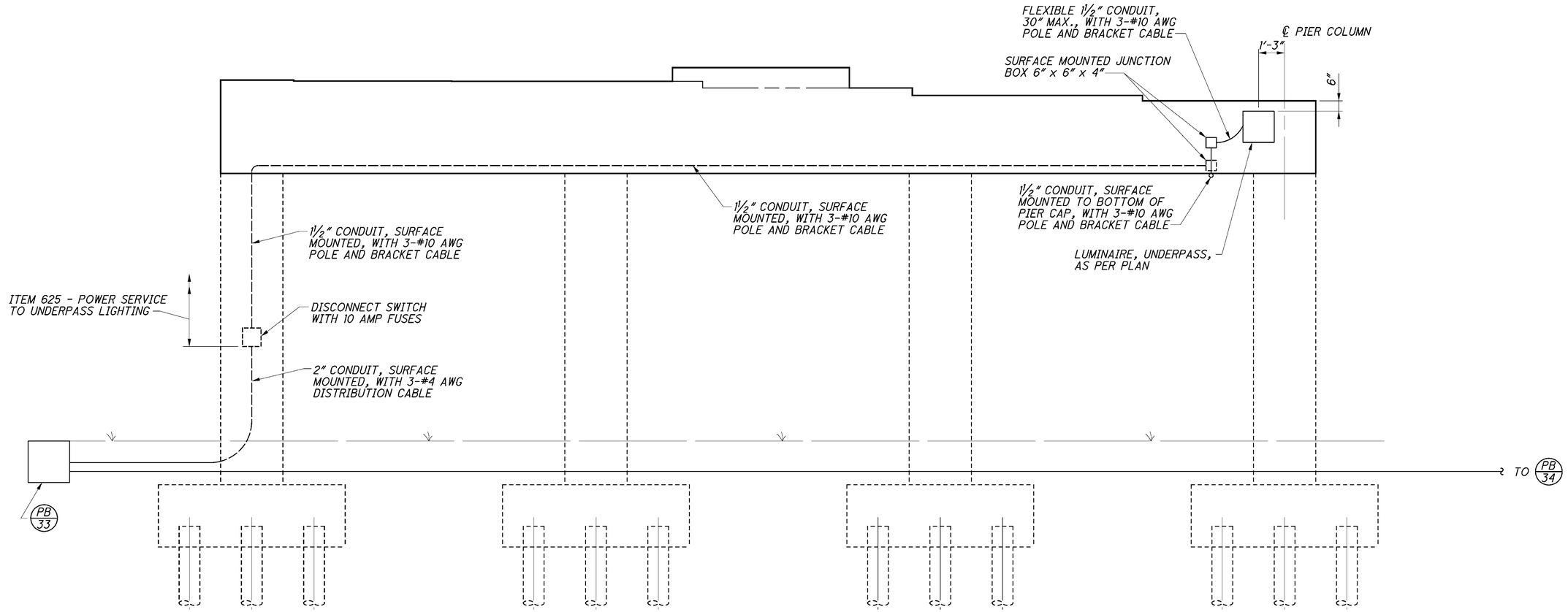
SUM-271-2.33

900
1195

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PLAN



ELEVATION

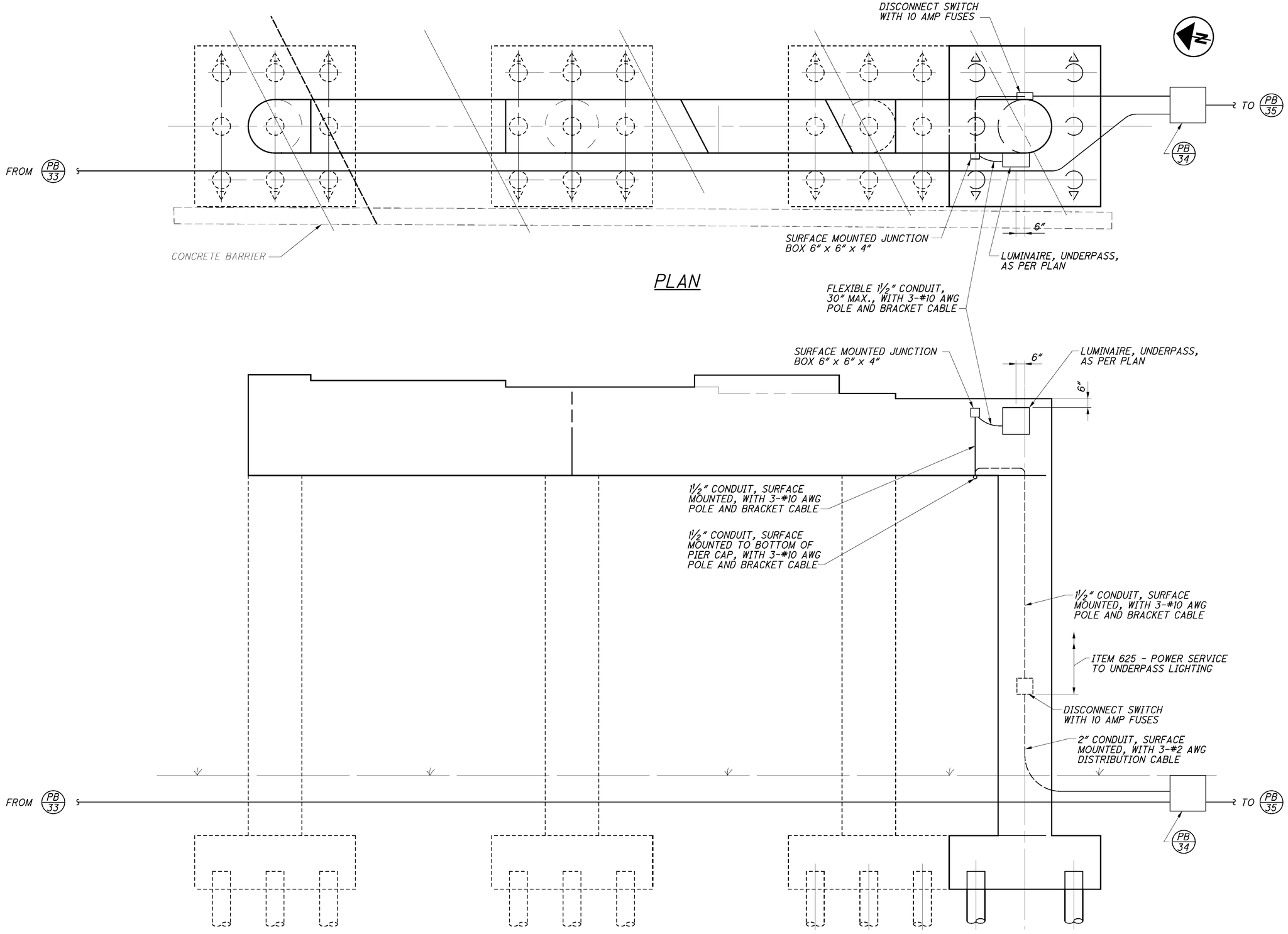
CALCULATED JDL
CHECKED MAF

UNDERPASS LIGHTING DETAILS - 0354L - PIER 3

SUM-271-2.33

901
1195

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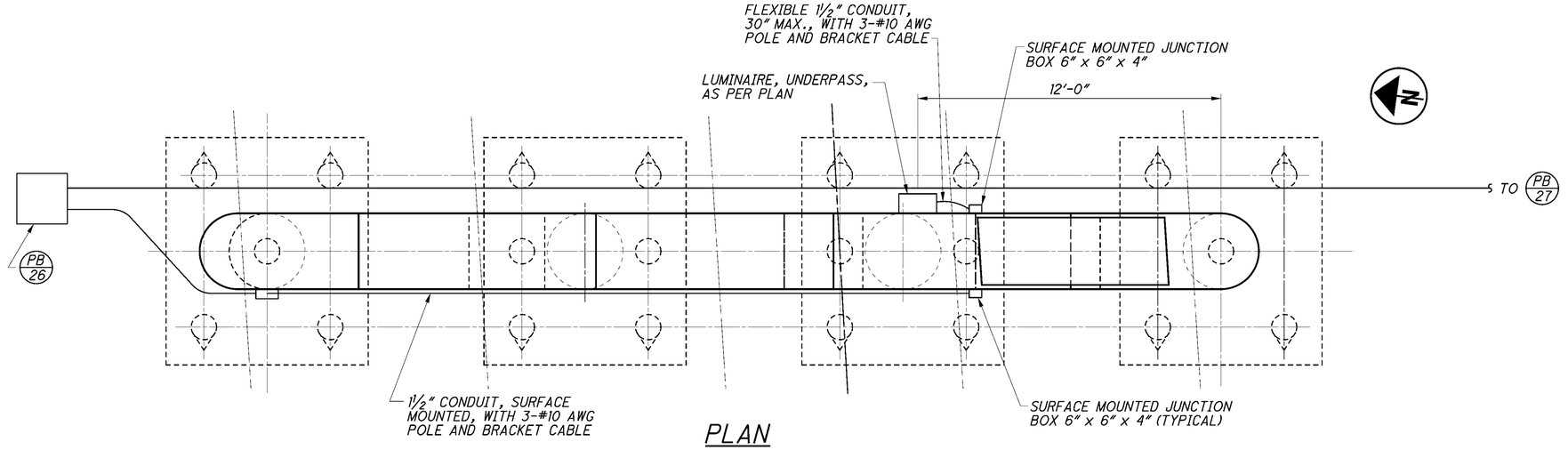
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UNDERPASS LIGHTING DETAILS - 0354R - PIER 3

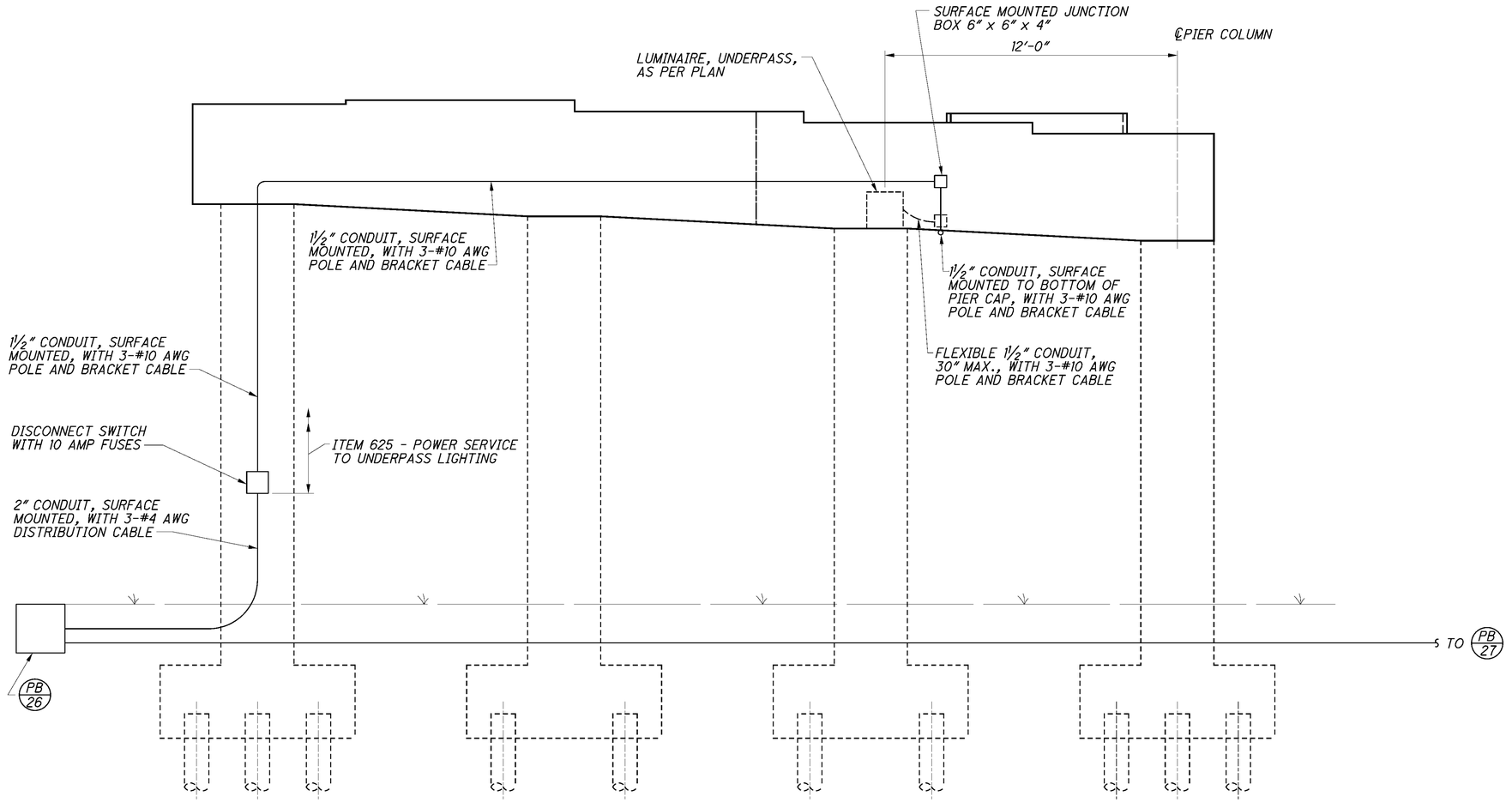
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PLAN



ELEVATION

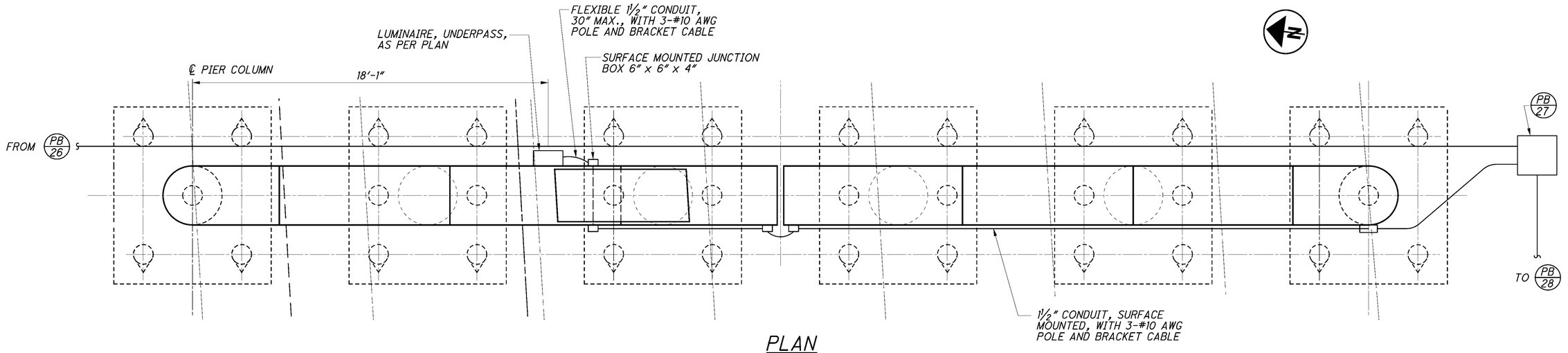
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UNDERPASS LIGHTING DETAILS - 0375L - PIER 1

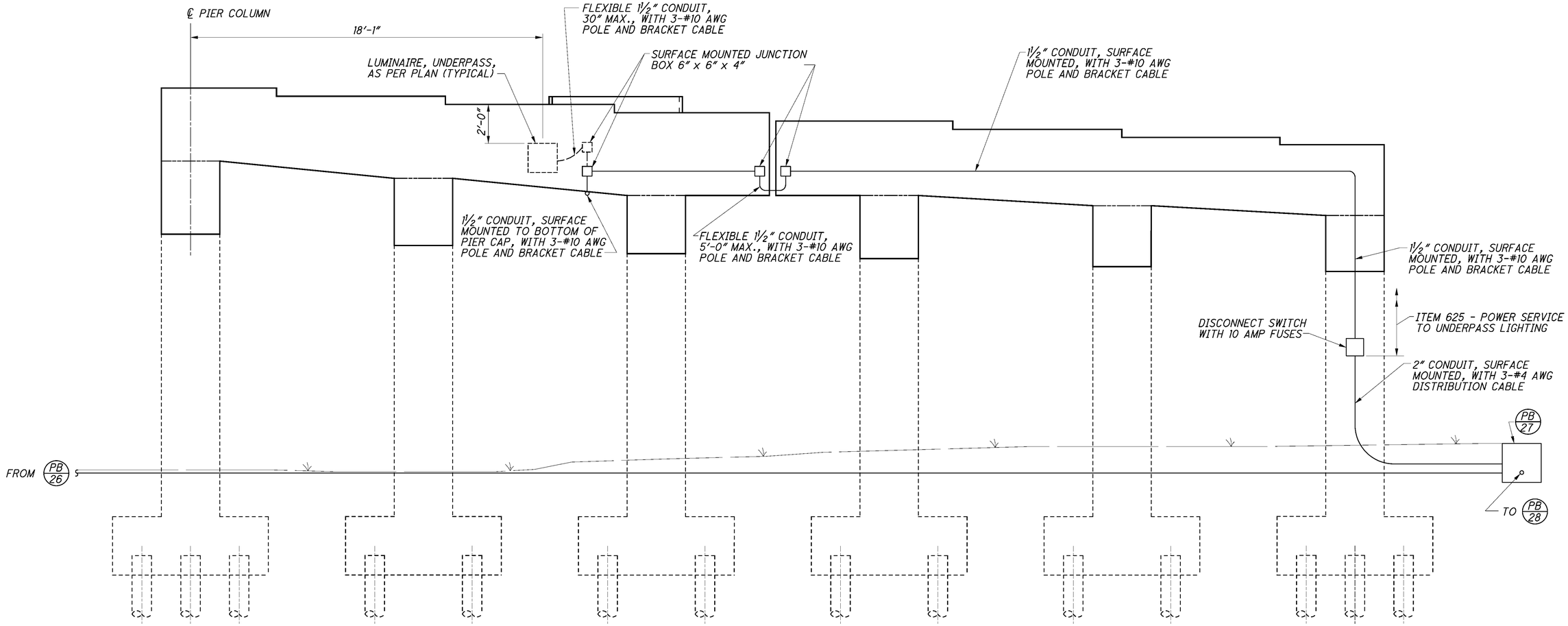
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PLAN



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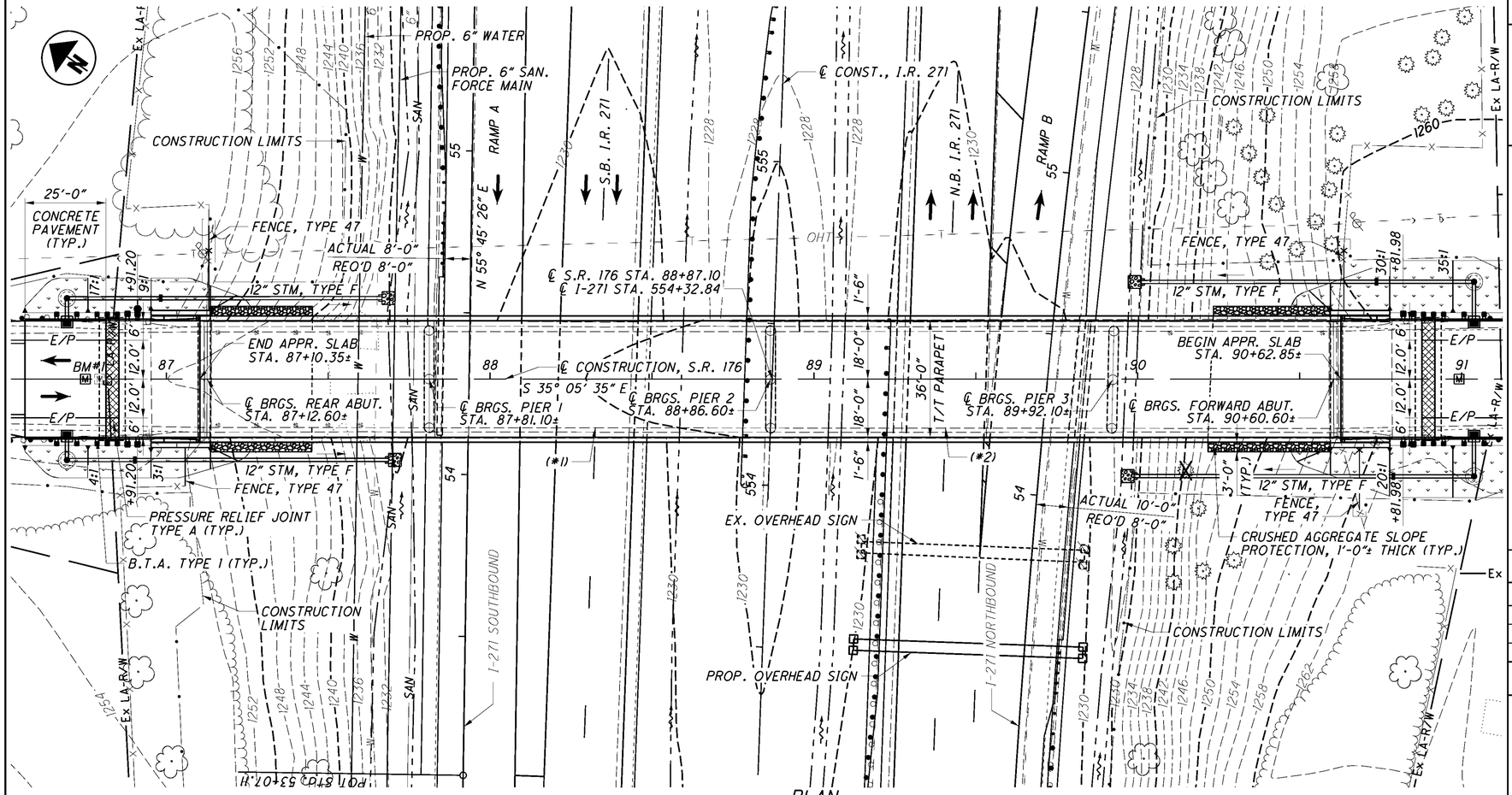
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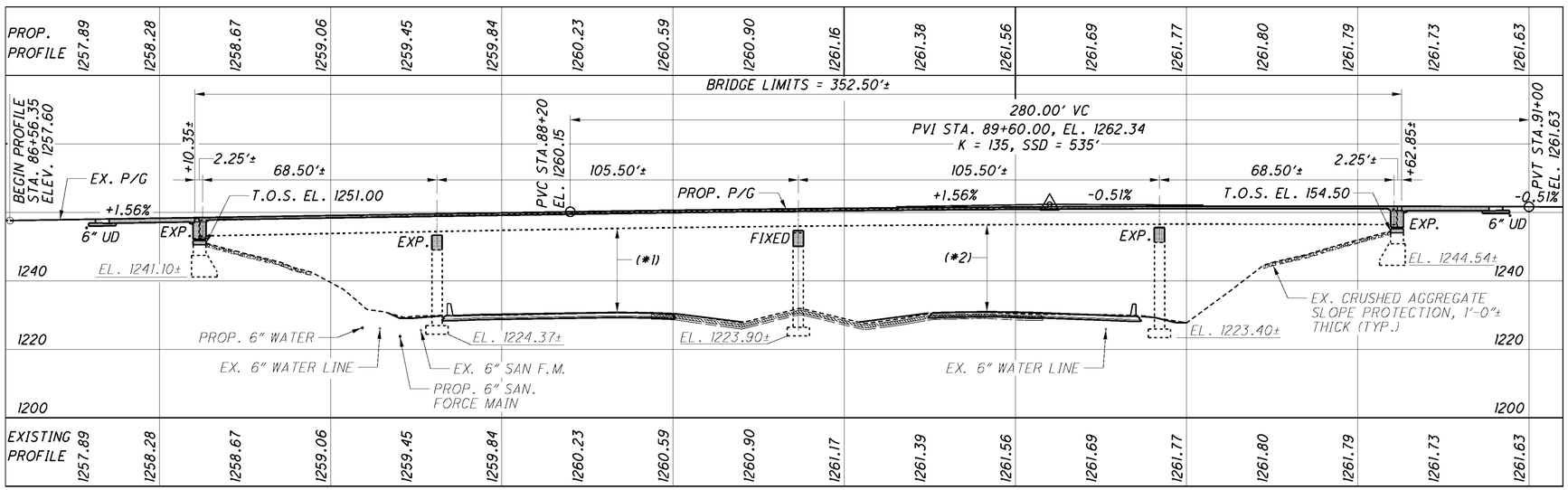
UNDERPASS LIGHTING DETAILS - 0375R - PIER 1

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ELEVATION ALONG S.R. 176 PROFILE GRADE

BENCHMARK DATA

SVM40: STA. 88+89.46 ELEV. 1229.64 OFFSET 67.24 LT. (CMON FD)
SVM41: STA. 88+85.89 ELEV. 1231.62 OFFSET 32.75 RT. (CMON FD)
SV7102: STA. 85+13.99 ELEV. 1253.58 OFFSET 26.18' LT. (5/8 REBAR WITH BM CAP)
SV7103: STA. 92+65.56 ELEV. 1260.55 OFFSET 23.28' RT. (5/8 REBAR WITH BM CAP)

FOR ADDITIONAL BENCHMARK INFORMATION SEE ROADWAY PLAN SHEETS 674/1195 AND 675/1195

NOTES

1. EARTHWORK LIMITS SHOWN ARE APPROXIMATE. ACTUAL SLOPES SHALL CONFORM TO PLAN CROSS SECTIONS.

PROPOSED WORK NOTE: SEE SHEET 2/29 .

ASBESTOS NOTE: SEE SHEET 2/29 .

DESIGN TRAFFIC:

2015 ADT = 5160 2015 ADTT = 206
2035 ADT = 5590 2035 ADTT = 224
DIRECTIONAL DISTRIBUTION = 55%

LEGEND

* - REQUIRED MINIMUM VERTICAL CLEARANCE
X - TREE REMOVAL

VERTICAL CLEARANCE	(*1)	(*2)
EXISTING	23'-2 3/8"	24'-3 5/8"
PROPOSED	23'-2 1/2"	25'-1 1/2"
REQUIRED	16'-6"	16'-6"

EXISTING STRUCTURE

TYPE: CONTINUOUS WELDED STEEL PLATE GIRDER WITH REINFORCED CONCRETE DECK AND SUBSTRUCTURE
SPANS: 68'-6"±, 105'-6"±, 105'-6"±, 68'-6"±
ROADWAY: 32'-10" F/F PARAPETS
LOADING: CF 400 (57)
SKEW: NONE
APPROACH SLABS: 25'-0" LONG (AS-1-54)
ALIGNMENT: TANGENT
WEARING SURFACE: 3.1" SUPERPLASTICIZED DENSE CONCRETE (SDC)
STRUCTURAL FILE NUMBER: 7707746
DATE BUILT: 1970
DISPOSITION: REMOVE DECK AND SCUPPERS; MODIFY ABUTMENTS AND PIER CAPS.

PROPOSED STRUCTURE

PROPOSED WORK: REUSED CONTINUOUS WELDED STEEL PLATE GIRDERS WITH NEW COMPOSITE REINFORCED CONCRETE DECK ON MODIFIED CAP-AND-COLUMN PIERS & MODIFIED SEMI INTEGRAL ABUTMENTS.
SPANS: 68'-6"±, 105'-6"±, 105'-6"±, 68'-6"±
ROADWAY: 36'-0" TOE/TOE PARAPETS
LOADING: HS-20 (CASE II) WITH 60 PSF FWS.
SKEW: NONE
APPROACH SLABS: 25'-0" LONG (AS-1-81)
ALIGNMENT: TANGENT
WEARING SURFACE: 1" MONOLITHIC CONCRETE
CROWN: 0.016 (SUPERELEVATED AFTER STA. 89+50)
COORDINATES: LATITUDE 41°13'19" N.
LONGITUDE 81°38'29" W.

DESIGN AGENCY
COLUMBUS ENGINEERING CONSULTANTS, INC.
840 MICHIGAN AVENUE, COLUMBUS, OH 43215
TEL:(614)228-3500

DESIGNED SS/YSJ | DRAWN CEC | REVIEWED JJ | DATE 09/12
CHECKED JH | REVISED | STRUCTURE FILE NUMBER 7707746

SUMMIT COUNTY
STA. 87+10.35±
STA. 90+62.85±

SITE PLAN
BRIDGE NO. SUM-176-0106
S.R. 176 OVER I.R. 271

SUM-271-2.33
PID No. 18710

1 / 29

905/1195

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REFER TO THE FOLLOWING STANDARD BRIDGE DRAWINGS:

AS-1-81	REVISED	07-19-02
BR-1	REVISED	07-19-02
SICD-1-96	REVISED	07-19-02

DESIGN SPECIFICATIONS:

THIS STRUCTURE CONFORMS TO "STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, 17TH EDITION, 2002, INCLUDING THE INTERIM SPECIFICATIONS AND THE 2004 O.D.O.T BRIDGE DESIGN MANUAL.

DESIGN LOADING:

HS-20 (CASE II)
FUTURE WEARING SURFACE (FWS) OF 60 PSF.

DESIGN DATA:

CONCRETE CLASS HP - COMPRESSIVE STRENGTH 4500 P.S.I. (SUPERSTRUCTURE)
CONCRETE CLASS C - COMPRESSIVE STRENGTH 4000 P.S.I. (SUBSTRUCTURE)

REINFORCING STEEL - ASTM A615, OR A996
GRADE 60 MINIMUM YIELD STRENGTH 60,000 P.S.I.

DECK PROTECTION METHOD:

EPOXY COATED REINFORCING STEEL
2 1/2" CONCRETE COVER
SEALING OF CONCRETE SURFACES

MONOLITHIC WEARING SURFACE:

MONOLITHIC WEARING SURFACE IS ASSUMED, FOR DESIGN PURPOSES, TO BE 1" THICK.

PROPOSED WORK:

1. THE WORK WILL BE PERFORMED IN ONE STAGE, S.R. 176 WILL BE CLOSED AND TRAFFIC DETOURED DURING CONSTRUCTION. FOR MAINTENANCE OF TRAFFIC DETAILS SEE ROADWAY PLANS.

2. REMOVE EXISTING RAILING, CONCRETE DECK, APPROACH SLABS AND END CROSSFRAMES. REMOVE EXISTING SCUPPERS (TOTAL OF 10) AND GRIND SMOOTH CONNECTION TO GIRDER.

3. REMOVE EXISTING ABUTMENT BACKWALLS AND BREASTWALLS TO ELEVATIONS SHOWN IN THE PLANS. REMOVE EXISTING ABUTMENT WINGWALLS TO TOP OF FOOTING.

4. RAISE SUPERSTRUCTURE UNIFORMLY BY SHOWN IN THE PLANS.

5. REPLACE ABUTMENT BEARINGS WITH NEW ELASTOMERIC BEARINGS.

6. CONSTRUCT NEW WINGWALLS, AND CONVERT EXISTING ABUTMENTS INTO SEMI-INTEGRAL ABUTMENTS.

7. CUT OFF EXISTING 6" CMP DRAIN IN ABUTMENTS AND CAP ENDS. ADD POROUS BACKFILL WITH FILTER FABRIC AND PIPE TO COLLECT AND DISCHARGE DRAINAGE BEHIND ABUTMENTS.

8. REMOVE EXISTING PIER CAPS AND CONSTRUCT NEW PIER CAPS.

9. REFURBISH AND RESET EXISTING PIER BEARINGS. BEARING ANCHOR RODS SHALL BE CAST INTO THE CONCRETE PIER CAPS.

10. REUSE EXISTING CONTINUOUS WELDED STEEL PLATE GIRDERS AND CROSSFRAMES. PLACE NEW WIDENED CONCRETE DECK AND NEW CONCRETE PARAPETS. THE GIRDERS SHALL BE MADE COMPOSITE WITH THE PROPOSED REINFORCED CONCRETE DECK.

11. CONSTRUCT NEW FULL WIDTH APPROACH SLABS. PLACE NEW CONCRETE PARAPETS, PARAPET TRANSITIONS AND CURBS ON NEWLY CONSTRUCTED APPROACH SLABS.

12. CONSTRUCT PRESSURE RELIEF JOINTS (TYPE A) AND ADDITIONAL 25.00 FT. CONCRETE PAVEMENT ADJACENT TO APPROACH SLABS AS SHOWN IN THE PLANS. COSTS ASSOCIATED WITH THESE CONCRETE PAVEMENTS AND PRESSURE RELIEF JOINTS ARE INCLUDED IN ROADWAY QUANTITIES FOR PAYMENT.

13. PATCH SPALLED AND DELAMINATED CONCRETE SURFACES AND SEAL CONCRETE CRACKS ON PIER COLUMNS AND ABUTMENT BREASTWALLS. ESTIMATED PATCHING AT ABUTMENTS IS 12.0 SQ. FT., ESTIMATED PATCHING AT PIERS IS 170.5 SQ. FT. AND ESTIMATED SEALING OF CONCRETE CRACKS AT ABUTMENT IS 10.0 FT.

14. PERFORM CLEARING AND GRUBBING TO REMOVE ALL VEGETATION WITHIN 15 FEET OF THE STRUCTURE.

15. REPAIR EXISTING CRUSHED AGGREGATE SLOPE PROTECTION AT ABUTMENTS AS SHOWN IN THE PLANS. THE COST OF THIS WORK IS INCLUDED IN ROADWAY QUANTITIES FOR PAYMENT.

16. PAINT EXISTING STRUCTURAL STEELS USING OZEU COATING SYSTEM, AND SEAL EXPOSED SUBSTRUCTURE AND PARAPETS WITH EPOXY-URETHANE.

17. UPGRADE APPROACH RAILING TO CURRENT STANDARDS, AND COMPLETE OTHER ITEMS OF WORK SPECIFIED IN THE PLANS TO COMPLETE THE REHABILITATION.

ITEM 202, PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN:

DESCRIPTION: THIS WORK CONSIST OF THE REMOVAL OF EXISTING STRUCTURE COMPONENTS AS DETAILED IN THE PLANS AND AS DIRECTED BY THE ENGINEER. THE REMOVAL SHALL INCLUDE BUT NOT NECESSARILY BE LIMITED TO THE FOLLOWING:

1. EXISTING BRIDGE DECK, INCLUDING CONCRETE DECK SLAB, DECK CONCRETE OVERLAY AND RAILING.
2. EXISTING ABUTMENT BACKWALLS, AND EXISTING ABUTMENT BREASTWALLS AND WINGWALLS AT ELEVATIONS SHOWN IN THE PLANS.
3. EXISTING ABUTMENT BEARINGS.
4. EXISTING STEEL END DAMS AND SLIDING PLATE EXPANSION JOINTS.
5. EXISTING END CROSSFRAMES.
6. EXISTING SCUPPERS, INCLUDING SUPPORTS.
7. MISCELLANEOUS ITEMS THAT ARE NOT SHOWN TO BE INCORPORATED INTO THE FINAL CONSTRUCTION AND ARE DIRECTED TO BE REMOVED BY THE ENGINEER.

THE PROVISIONS OF ITEM 202 APPLY EXCEPT AS SPECIFIED BY THE FOLLOWING NOTES. PERFORM WORK CAREFULLY DURING DECK REMOVALS TO PROTECT PORTIONS OF SUCH SYSTEMS THAT ARE TO BE SALVAGED AND INCORPORATED INTO THE PROPOSED STRUCTURE. THE USE OF EXPLOSIVES, HEADACHE BALLS, AND/OR HOE RAM TYPE OF EQUIPMENT IS PROHIBITED. SUBMIT CONSTRUCTION PLANS ACCORDING TO CMS 501.05.
PROTECTION OF STEEL SUPPORT SYSTEMS: BEFORE DECK SLAB CUTTING IS PERMITTED, DRAW THE OUTLINE OF PRIMARY STEEL MEMBERS IN CONTACT WITH THE BOTTOM OF THE DECK ON THE SURFACE OF DECK. DRILL SMALL DIAMETER PILOT HOLES 2 INCHES OUTSIDE THESE LINES TO CONFIRM THE LOCATION OF FLANGE EDGES. DECK CUTS OVER OR WITHIN 2 INCHES OF FLANGE EDGES SHALL NOT EXTEND LOWER THAN THE BOTTOM LAYER OF DECK SLAB REINFORCING STEEL. CUTS MADE OUTSIDE 2 INCHES OF FLANGE EDGES MAY EXTEND THE FULL DEPTH OF THE DECK. PERFORM WORK CAREFULLY DURING CUTTING OF THE DECK SLAB TO AVOID DAMAGING STEEL MEMBERS THAT ARE TO BE INCORPORATED INTO THE PROPOSED STRUCTURE. REPLACE OR REPAIR STEEL MEMBERS DAMAGED BY THE DECK SLAB CUTTING OPERATIONS AT NO COST TO THE PROJECT. AT LEAST 7 DAYS BEFORE PERFORMING REPAIR WORK, SUBMIT A PROPOSED REPAIR PLAN, DEVELOPED BY AN OHIO REGISTERED PROFESSIONAL ENGINEER TO THE ENGINEER. OBTAIN THE ENGINEER'S APPROVAL BEFORE PERFORMING REPAIR.

REMOVAL METHODS: THE CONTRACTOR MAY REMOVE CONCRETE BY CUTTING AND BY MEANS OF HAND OPERATED PNEUMATIC HAMMERS EMPLOYING POINTED OR BLUNTED CHISEL TYPE TOOLS. FOR REMOVALS OVER STRUCTURAL MEMBERS (STEEL GIRDERS), THE CONTRACTOR MAY USE A HAMMER HEAVIER THAN 35 POUNDS BUT NOT TO EXCEED 90 POUNDS UNLESS APPROVED BY THE ENGINEER. REMOVAL METHODS OVER STRUCTURAL MEMBERS SHALL ENSURE ADEQUATE DEPTH CONTROL AND PREVENT NICKING OR GOUGING THE PRIMARY STRUCTURAL MEMBERS.

DUE TO THE POSSIBLE PRESENCE OF ATTACHMENTS (E.G. FINISHING MACHINE, SCUPPER AND FORM SUPPORTS, ETC.) TO EXISTING STRUCTURAL MEMBERS, PERFORM WORK CAREFULLY DURING DECK REMOVAL TO AVOID DAMAGING STRUCTURAL MEMBERS THAT ARE TO REMAIN. REPLACE OR REPAIR STRUCTURAL MEMBERS DAMAGED BY THE REMOVAL OPERATIONS AT NO COST TO THE PROJECT. AT LEAST 7 DAYS BEFORE PERFORMING REPAIR WORK, SUBMIT A PROPOSED REPAIR PLAN, DEVELOPED BY AN OHIO REGISTERED PROFESSIONAL ENGINEER TO THE ENGINEER. OBTAIN THE ENGINEER'S APPROVAL BEFORE PERFORMING REPAIR.

EXISTING WELDED ATTACHMENTS: REMOVE EXISTING WELDED ATTACHMENTS (e.g. FINISHING MACHINE AND FORM SUPPORTS; AND SUPPORTS FOR SCUPPERS AND BULB ANGLES WHICH ARE TO BE REMOVED) LOCATED IN THE DESIGNATED TENSION PORTIONS OF THE TOP FLANGES OF EXISTING STEEL MEMBERS AND GRIND THE FLANGE SURFACES SMOOTH. CAREFULLY GRIND PARALLEL TO THE FLANGES.

SUBSTRUCTURE CONCRETE REMOVAL: REMOVE CONCRETE BY MEANS OF APPROVED PNEUMATIC HAMMERS EMPLOYING POINTED AND BLUNT CHISEL TOOLS. HYDRAULIC HOE-RAM TYPE HAMMERS WILL NOT BE PERMITTED. THE WEIGHT OF THE HAMMER SHALL NOT BE MORE THAN 35 POUNDS FOR REMOVAL WITHIN 18 INCHES OF PORTIONS TO BE PRESERVED. OUTSIDE THE 18 INCH LIMIT, THE CONTRACTOR MAY USE HAMMERS NOT EXCEEDING 90 POUNDS UPON THE APPROVAL OF THE ENGINEER. DO NOT PLACE PNEUMATIC HAMMERS IN DIRECT CONTACT WITH REINFORCING STEEL THAT IS TO BE RETAINED IN THE REBUILT STRUCTURE.

CUT LINE CONSTRUCTION JOINT PREPARATION: SAW CUT BOUNDARIES OF PROPOSED CONCRETE REMOVALS 1" DEEP. REMOVE CONCRETE TO A ROUGH SURFACE. LEAVE THE EXISTING REINFORCING STEEL, IF REQUIRED IN THE PLANS, IN PLACE. INSTALL DOWEL BARS IF SPECIFIED. PRIOR TO CONCRETE PLACEMENT ABRASIVELY CLEAN JOINT SURFACES AND EXISTING EXPOSED REINFORCEMENT TO REMOVE LOOSE AND DISINTEGRATED CONCRETE AND LOOSE RUST. THOROUGHLY CLEAN THE JOINT SURFACE AND EXPOSED REINFORCEMENT OF ALL DIRT, DUST, RUST OR OTHER FOREIGN MATERIAL BY THE USE OF WATER, AIR UNDER PRESSURE, OR OTHER METHODS THAT PRODUCE SATISFACTORY RESULTS. EXISTING REINFORCING STEEL DOES NOT HAVE TO HAVE A BRIGHT STEEL FINISH, BUT REMOVE ALL PACK AND LOOSE RUST. THOROUGHLY DRENCH EXISTING CONCRETE SURFACES WITH CLEAN WATER AND ALLOW TO DRY TO A DAMP CONDITION BEFORE PLACING CONCRETE.

DRILLING HOLES IN STRUCTURAL STEEL: DRILL 2" DIA. HOLES IN STRUCTURAL STEEL AT ABUTMENT END DIAPHRAGMS AS SHOWN IN THE PLAN. FLAME CUTTING OF HOLES IS NOT PERMITTED. THE COST SHALL BE INCLUDED WITH ITEM 202, PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN FOR PAYMENT.

MEASUREMENT & PAYMENT: THE DEPARTMENT WILL MEASURE THE QUANTITY OF REMOVALS ON A LUMP SUM BASIS. THE DEPARTMENT WILL PAY FOR THE ACCEPTED QUANTITIES OF REMOVALS AT THE CONTRACT PRICE FOR ITEM 202, PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN.

EXISTING STRUCTURE PLANS:

EXISTING STRUCTURE PLANS MAY BE VIEWED BY PROSPECTIVE BIDDERS AT THE OHIO DEPARTMENT OF TRANSPORTATION, DISTRICT 4 OFFICE, 2088 S. ARLINGTON RD. AKRON, OHIO 44306. PHONE: (330) 786-2232

EXISTING STRUCTURE VERIFICATION:

DETAILS AND DIMENSIONS SHOWN ON THESE PLANS PERTAINING TO THE EXISTING STRUCTURE HAVE BEEN OBTAINED FROM PLANS OF THE EXISTING STRUCTURE AND FROM FIELD OBSERVATIONS AND MEASUREMENTS. CONSEQUENTLY, THEY ARE INDICATIVE OF THE EXISTING STRUCTURE AND THE PROPOSED WORK BUT THEY SHALL BE CONSIDERED TENTATIVE AND APPROXIMATE. THE CONTRACTOR IS REFERRED TO CMS SECTIONS 102.05, 105.02, AND 513.04.

BASE CONTRACT BID PRICES UPON A RECOGNITION OF THE UNCERTAINTIES DESCRIBED ABOVE AND UPON A PREBID EXAMINATION OF THE EXISTING STRUCTURE. HOWEVER, THE DEPARTMENT WILL PAY FOR ALL PROJECT WORK BASED UPON ACTUAL DETAILS AND DIMENSIONS THAT HAVE BEEN VERIFIED IN THE FIELD.

INSPECTION OF EXISTING STRUCTURAL STEEL:

THE ENGINEER WILL VISUALLY INSPECT ALL EXISTING BUTT-WELDED SPLICES AND/OR TOP FLANGE COVER PLATE FILLET WELDS TO ENSURE THE WELDS, PLATES AND BEAMS OR GIRDERS ARE FREE OF DEFECTS AND CRACKS. IF NECESSARY, REMOVE ALL DECK SLAB HAUNCH FORMS IMMEDIATELY ADJACENT TO SUCH WELDS THAT MAY INTERFERE WITH THE ENGINEER'S INSPECTION. THE INSPECTION WILL NOT TAKE PLACE UNTIL THE TOP FLANGES ARE CLEANED ACCORDING TO CMS 511.10, BUT IT WILL BE DONE BEFORE THE DECK SLAB REINFORCEMENT IS INSTALLED. THE DEPARTMENT WILL PAY FOR THE COST ASSOCIATED WITH THIS INSPECTION WITH ITEM 511, CLASS HP CONCRETE, BRIDGE DECK, AS PER PLAN. THE ENGINEER WILL REPORT ALL CRACKS FOUND TO THE OFFICE OF CONSTRUCTION ADMINISTRATION, BRIDGE CONSTRUCTION SPECIALIST, ALONG WITH SPECIFIC INFORMATION ON LOCATION OF THE CRACKS, LENGTH, AND DEPTH SO AN EVALUATION AND REPAIR OR REPLACEMENT RECOMMENDATION CAN BE MADE.

ASBESTOS NOTIFICATION:

AN ASBESTOS SURVEY WAS CONDUCTED ON THE I 271 BRIDGES AND WAS COMPLETED IN NOVEMBER OF 2005 BY A CERTIFIED ASBESTOS HAZARD EVALUATION SPECIALIST FROM MICHAEL BAKER, JR., INC. THE SURVEY DID NOT IDENTIFY ANY ASBESTOS-CONTAINING MATERIAL (ACM) ON THE BRIDGES.

IF UNIDENTIFIED ACM IS ENCOUNTERED DURING THE DECK REPLACEMENT OF THE BRIDGE, REMOVAL AND DISPOSAL OF ACM MUST COMPLY WITH THE OHIO ADMINISTRATIVE CODE, THE OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA) REGULATIONS, AND THE NATIONAL EMISSION STANDARD FOR HAZARDOUS AIR POLLUTANTS (NESHAP) STANDARDS FOR ASBESTOS.

A COPY OF THE OHIO ENVIRONMENTAL PROTECTION AGENCY (OEPA) NOTIFICATION OF DEMOLITION AND RENOVATION FORM WITH SECTIONS I-VII AND XVI COMPLETED IS INCLUDED WITH THE BID PACKAGE. THE CONTRACTOR WILL COMPLETE SECTIONS VIII-XIII OF THE SIGNED FORM AND SUBMIT THE COMPLETED FORM TO THE LOCAL AIR AUTHORITY AT LEAST TEN (10) DAYS PRIOR TO DEMOLITION OF THE BRIDGE. THE CONTRACTOR WILL PROVIDE A COPY OF THE COMPLETED FORM TO THE ENGINEER. THE LOCAL AIR AUTHORITY IS:

AKRON REGIONAL AIR QUALITY MANAGEMENT DISTRICT
146 S. HIGH ST. SUITE 904
AKRON, OHIO 44308
LYNN M. MALCOLM, ADMINISTRATOR
(330) 375-2480
FAX (330) 375-2402

THE CONTRACTOR SHALL FURNISH ALL LABOR, EQUIPMENT, AND MATERIALS NECESSARY TO COMPLETE, SUBMIT, AND COMPLY WITH THE OEPA NOTIFICATION FORM AS STATED ABOVE. PAYMENTS OF THIS WORK SHALL BE INCIDENTALS TO ITEM 202, PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN.

DECK PLACEMENT DESIGN ASSUMPTIONS:

THE FOLLOWING ASSUMPTIONS OF CONSTRUCTION MEANS AND METHODS WERE MADE FOR THE ANALYSIS AND DESIGN OF THE SUPERSTRUCTURE. THE CONTRACTOR IS RESPONSIBLE FOR THE DESIGN OF THE FALSEWORK SUPPORT SYSTEM WITHIN THESE PARAMETERS AND WILL ASSUME RESPONSIBILITY FOR SUPERSTRUCTURE ANALYSIS FOR DEVIATION FROM THESE DESIGN ASSUMPTIONS.

AN EIGHT WHEEL FINISHING MACHINE WITH A MAXIMUM WHEEL LOAD OF 1.0 KIPS FOR A TOTAL MACHINE LOAD OF 7.6 KIPS.

A MINIMUM OUT-TO-OUT WHEEL SPACING AT EACH END OF THE MACHINE OF 103".

A MAXIMUM SPACING OF OVERHANG FALSEWORK BRACKETS OF 48 IN.

A MAXIMUM DISTANCE FROM THE CENTERLINE OF THE FASCIA GIRDER TO THE FACE OF THE SAFETY HANDRAIL OF 65".

DESIGN AGENCY
COLUMBUS ENGINEERING CONSULTANTS, INC.
840 MICHIGAN AVENUE, COLUMBUS, OH 43215 TEL:(614)228-3500

DESIGNED SS/YSJ | DRAWN CEC | REVIEWED JJ | DATE 09/12 | CHECKED JH | REVISED | STRUCTURE FILE NUMBER 7707746

GENERAL NOTES - I
BRIDGE NO. SUM-176-0106
S.R. 176 OVER I.R. 271

SUM-271-2.33
PID No. 18710

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ITEM 503, UNCLASSIFIED EXCAVATION INCLUDING ROCK, AS PER PLAN:

UNCLASSIFIED EXCAVATION SHALL BE IN ACCORDANCE WITH CMS ITEM 503, THE BACKFILL MATERIAL SHALL BE PLACED AND COMPACTED IN 6" LIFTS. EXCAVATION OF EXISTING POROUS BACKFILL SHALL BE INCLUDED IN THIS ITEM.

ITEM 509 - REINFORCING STEEL, REPLACEMENT OF EXISTING REINFORCING STEEL, AS PER PLAN:

REPLACE ALL EXISTING REINFORCING BARS DEEMED BY THE ENGINEER TO BE UNUSABLE BECAUSE OF CORROSION. THE DEPARTMENT WILL MEASURE THE REPLACEMENT REINFORCING STEEL BY THE NUMBER OF POUNDS ACCEPTED IN PLACE. AN ESTIMATE OF 100 LB HAS BEEN INCLUDED IN THE ESTIMATED QUANTITIES FOR THE ABOVE ITEM OF WORK.

REPLACE ALL EXISTING REINFORCING STEEL BARS WHICH ARE TO BE INCORPORATED INTO THE NEW WORK AND ARE DEEMED BY THE ENGINEER TO BE MADE UNUSABLE BY CONCRETE REMOVAL OPERATIONS WITH NEW EPOXY COATED REINFORCING STEEL OF THE SAME SIZE AT NO COST TO THE DEPARTMENT.

ITEM 511 - CLASS HP CONCRETE, BRIDGE DECK, AS PER PLAN
ITEM 511 - CLASS HP CONCRETE, BRIDGE DECK (PARAPET), AS PER PLAN
ITEM 511 - CLASS HP CONCRETE, SUPERSTRUCTURE, AS PER PLAN
ITEM 511 - CLASS HP CONCRETE, TEST SLAB

GENERAL REQUIREMENTS:

THE PROVISION OF ITEM 511 SHALL APPLY EXCEPT AS NOTED BELOW.

MIX OPTIONS:

ALL SUPERSTRUCTURE, BRIDGE DECK, APPROACH SLABS AND PARAPET CONCRETE SHALL BE THIS MIX (HP4, AS PER PLAN).

THE FOLLOWING PROPORTIONS WILL BE USED AS A STARTING MIX DESIGN:

CONCRETE TABLE
QUANTITIES PER CUBIC YARD
AGGREGATES (SSD)

MIX HP4, AS PER PLAN (GGBF SLAG + MICROSILICA)									
AGGREGATE TYPE	FINE AGGRE. (LB)	#8 COARSE AGGRE. (LB)*	#57 COARSE AGGRE. (LB)	TOTAL (LB)	CEMENT CONTENT (LB)	GGBF SLAG (LB)	MICRO-SILICA (LB)	MAX. W/CM RATIO	AIR CONTENT ±2%
GRAVEL	1370	650	790	2810	440	190	30	0.42	6
LIMESTONE	1370	655	800	2820	440	190	30	0.42	6
SLAG	1370	570	695	2635	440	190	30	0.42	6

* ALL COARSE AGGREGATE SHALL HAVE AN ABSORPTION OF 1.00% OR GREATER AS DEFINED PER ASTM C127.

TEMPORARY LATERAL SUPPORTS FOR DECK CONCRETE POURING:

INSTALLATION OF TEMPORARY LATERAL SUPPORTS FOR DECK CONCRETE POURING SHOULD BE INCLUDED WITH ITEM 511 - CLASS HP CONCRETE, BRIDGE DECK, AS PER PLAN, FOR PAYMENT. PLACE A TOP STEEL TIE-ROD AND BOTTOM TIMBER BLOCK FOR GIRDER FLANGES TO INCREASE LATERAL STABILITY DURING DECK CONCRETE POURING. THESE TEMPORARY LATERAL SUPPORTS SHOULD BE PLACED IN THE MIDDLE OF EXISTING INTERMEDIATE CROSSFRAMES IN THE TWO EXTERIOR BAYS THROUGHOUT ALL SPANS. THE TIMBER BLOCK SHOULD BE INSTALLED TIGHT-FIT TO GIRDER WEB. THE MINIMUM CROSS-SECTION AREA OF THE TOP STEEL TIE-ROD SHOULD BE 1 SQ. IN. AND THAT OF THE BOTTOM TIMBER BLOCK SHOULD BE 20 SQ. IN. THE MINIMUM YIELD STRENGTH OF THE STEEL TIE-ROD SHOULD BE 60 KSI.

BASIS OF PAYMENT:

PAYMENT FOR THE ABOVE COMPLETED AND ACCEPTED QUANTITIES WILL BE MADE AT THE CONTRACT BID PRICE FOR:

ITEM	UNITS	DESCRIPTION
511E50001	CU YD	CLASS HP CONCRETE, BRIDGE DECK, AS PER PLAN
511E50101	CU YD	CLASS HP CONCRETE, BRIDGE DECK (PARAPET), AS PER PLAN
511E51001	CU YD	CLASS HP CONCRETE, SUPERSTRUCTURE, AS PER PLAN
511E52000	LUMP	CLASS HP CONCRETE, TEST SLAB

ITEM 512 - CONCRETE REPAIR BY EPOXY INJECTION, AS PER PLAN

PREPARE CONCRETE SURFACES AND REPAIR ANY CRACKS IN THE REMAINING PORTION OF THE ABUTMENTS AND PIERS. REPAIRING AREAS THAT ARE CRACKED WILL BE DESIGNATED BY THE PROJECT ENGINEER. THE CMS 512 PROCESS WILL BE USED TO REPAIR THESE AREAS.

THE CONTRACTOR SHALL PROVIDE THE ENGINEER WITH ALL NECESSARY EQUIPMENT TO INSPECT THIS WORK. THE DEPARTMENT WILL MEASURE THE REPAIR CRACKS BY THE NUMBER OF FEET.

ITEM 514 - FIELD PAINTING STRUCTURAL STEEL, FINISH COAT, AS PER PLAN:

THE FINISH COAT COLOR FOR THE STRUCTURAL STEEL SHALL BE FEDERAL COLOR NUMBER 15526, LIGHT BLUE. THE PROVISIONS OF 514 SHALL APPLY. PAYMENT SHALL BE MADE PER SQUARE FOOT FOR SURFACE AREA COATED TO SPECIFICATION UNDER ITEM 514, FIELD PAINTING STRUCTURAL STEEL, FINISH COAT, AS PER PLAN.

ITEM 516 - SEMI-INTEGRAL ABUTMENT EXPANSION JOINT SEAL, AS PER PLAN:

INSTALL A 3 FOOT WIDE NEOPRENE SHEET AT LOCATIONS SHOWN IN THE PLANS. SECURE THE NEOPRENE SHEETING TO THE CONCRETE WITH 1 ¼" X #10 GAGE (LENGTH X SHANK DIAMETER) GALVANIZED BUTTON HEAD SPIKES THROUGH A 1 INCH OUTSIDE DIAMETER, #10 GAGE GALVANIZED WASHER. MAXIMUM FASTENER SPACING IS 9 INCHES. USE OF OTHER SIMILAR GALVANIZED DEVICES, WHICH WILL NOT DAMAGE EITHER THE NEOPRENE OR THE CONCRETE, WILL BE SUBJECT TO THE APPROVAL OF THE ENGINEER.

CENTER THE NEOPRENE STRIPS ON ALL JOINTS. FOR HORIZONTAL JOINTS, SECURE THE HORIZONTAL NEOPRENE STRIP BY USING A SINGLE LINE OF FASTENERS, STARTING AT 6 INCHES ±, FROM THE TOP OF NEOPRENE STRIP. FOR THE VERTICAL JOINTS SECURE THE VERTICAL NEOPRENE STRIP BY USING A SINGLE VERTICAL LINE OF FASTENERS, STARTING AT 6 INCHES ±, FROM THE VERTICAL EDGE OF THE NEOPRENE STRIP NEAREST TO THE CENTERLINE OF ROADWAY. FOR VERTICAL JOINTS, INSTALL 2 ADDITIONAL FASTENERS AT 6 INCHES, CENTER TO CENTER, ACROSS THE TOP OF THE NEOPRENE STRIP ON THE SAME SIDE OF THE VERTICAL JOINT AS THE SINGLE VERTICAL ROW OF FASTENERS IS LOCATED.

THE VERTICAL NEOPRENE STRIPS SHALL COMPLETELY OVERLAP THE HORIZONTAL STRIPS. LAP LENGTHS OF THE HORIZONTAL STRIPS THAT ARE NOT VULCANIZED OR ADHESIVE BONDED, SHALL BE AT LEAST 1 FOOT IN LENGTH, OR 6 INCHES IN LENGTH IF THE LAP IS VULCANIZED OR ADHESIVE BONDED. NO LAPS ARE ACCEPTABLE IN VERTICALLY INSTALLED NEOPRENE STRIPS.

THE NEOPRENE SHEETING SHALL BE 3/32" THICK GENERAL PURPOSE, HEAVY-DUITY NEOPRENE SHEET WITH NYLON FABRIC REINFORCEMENT. THE SHEETING SHALL BE "FAIRPRENE NUMBER NN-0003", BY E. I. DUPONT DE NEMOURS AND COMPANY, INC., "WINGPRENE" BY THE GOODYEAR TIRE AND RUBBER COMPANY, OR AN APPROVED ALTERNATE. THE NEOPRENE SHEETING SHALL CONFORM TO THE FOLLOWING:

DESCRIPTION OF TEST	ASTM METHOD	REQUIREMENT
THICKNESS, INCHES	D 751	0.094 +/- 0.01
BREAKING STRENGTH, GRAB LBS, MINIMUM (LONG. X TRANS.)	D 751	700 X 700
ADHESIVE STRIP, 1" WIDE X 2" LONG, LBS. MINIMUM	D 751	9
BURST STRENGTH PSI, MINIMUM	D 751	1400
HEAT AGING 70 HOURS AT 212°F, 180° BEND WITHOUT CRACKING	D 2136	NO CRACKING OF COATING
LOW TEMP. BRITTLENESS, 1 HR, AT -40°F, BEND AROUND 1/4 INCH MANDREL	D 2136	NO CRACKING OF COATING

METHOD OF MEASUREMENT: THE DEPARTMENT WILL MEASURE THE TOTAL LENGTH OF JOINT TO BE SEALED BY THE NUMBER OF FEET.

BASIS OF PAYMENT: THE DEPARTMENT WILL PAY FOR ACCEPTED QUANTITIES AT THE CONTRACT PRICE FOR ITEM 516, SEMI-INTEGRAL ABUTMENT EXPANSION JOINT SEAL, AS PER PLAN.

ITEM 516 - REFURBISH BEARING DEVICES, AS PER PLAN:

THIS ITEM SHALL INCLUDE ALL WORK NECESSARY TO PROPERLY ALIGN BRIDGE BEARINGS AS WELL AS THEIR CLEANING AND PAINTING. INCLUDED SHALL BE THE DISASSEMBLY OF THE BEARINGS, HAND TOOL CLEANING (GRINDING IF NECESSARY), PAINTING ACCORDING TO ITEM 514, REPLACEMENT OF ANY DAMAGED SHEET LEAD WITH PERFORMED BEARING PADS (711.21), INSTALLATION OF ANY NECESSARY STEEL SHIMS OF THE SAME SIZE AS THE BEARING TO PROVIDE A SNUG FIT, REALIGNMENT OF THE UPPER BEARING PLATE BY REMOVING EXISTING WELDS AND REWELDING SO THAT THE BEARINGS ARE VERTICALLY ALIGNED AT 60°F (15° C), LUBRICATING SLIDING SURFACES, AND REASSEMBLY OF THE BEARING. ASSURE ALL BEARINGS ARE SHIMMED ADEQUATELY AND THAT NO BEAMS AND/OR BEARING DEVICES ARE "FLOATING". AT NO ADDITIONAL COST TO THE STATE, THE CONTRACTOR MAY INSTALL NEW BEARINGS OF THE SAME TYPE AS THE EXISTING IN PLACE OF REFURBISHING THE BEARINGS. ALL WORK SHALL BE TO THE SATISFACTION OF THE ENGINEER. PAYMENT FOR ALL OF THE ABOVE DESCRIBED LABOR AND MATERIALS WILL BE MADE AT THE CONTRACT PRICE BID FOR ITEM 516 - REFURBISH BEARING DEVICES, AS PER PLAN.

THIS ITEM INCLUDES INSTALLING NEW ANCHOR RODS AS WELL. ANCHOR RODS SHALL BE ASTM A572/A709 GRADE 50 STEEL, GALVANIZED ACCORDING TO CMS 711.02. ANCHOR RODS SHALL BE CAST INTO PIER CAP CONCRETE.

ITEM 516, JACKING AND TEMPORARY SUPPORT OF SUPERSTRUCTURE, AS PER PLAN:

THIS WORK CONSISTS OF RAISING EXISTING STRUCTURE TO THE DIMENSIONS AND REQUIREMENTS DEFINED IN THE PROJECT PLANS. THE SUPERSTRUCTURE SHALL BE RAISED UNIFORMLY BY 0.2 FOOT. THE REQUIRED JACKING LOADS AT ABUTMENTS = 7.25 KIPS, PIER 1 & 3 = 34.50 KIPS AND PIER 2 = 47.50 KIPS.

SUBMIT CONSTRUCTION PLANS IN ACCORDANCE WITH CMS 501.05.

THE DEPARTMENT WILL MEASURE THIS WORK ON A LUMP SUM BASIS.

THE DEPARTMENT WILL PAY FOR THE ACCEPTED QUANTITIES AT THE CONTRACT PRICE FOR ITEM 516, JACKING AND TEMPORARY SUPPORT OF SUPERSTRUCTURE, AS PER PLAN.

ITEM 518, NON-PERFORATED CORRUGATED PLASTIC PIPE, INCLUDING SPECIALS, AS PER PLAN:

ANIMAL GUARDS SHALL BE PROVIDED AT THE OUTLET OF THE DRAINAGE PIPES. THE STEEL BOLTS OR RODS FOR THE ANIMAL GUARDS SHALL BE GALVANIZED PER CMS 711.02. SEE STANDARD DRAWING DM-1.1 FOR ADDITIONAL DETAILS AND NOTES. THE ANIMAL GUARDS AND CRUSHED AGGREGATE SLOPE PROTECTION, 601.06, AT END OF DRAINAGE PIPE (12" DEEP) ARE INCIDENTAL TO ITEM 518, 6" NON-PERFORATED CORRUGATED PLASTIC PIPE, INCLUDING SPECIALS, AS PER PLAN.

ITEM 519, PATCHING CONCRETE STRUCTURE, AS PER PLAN:

PRIOR TO THE SURFACE CLEANING SPECIFIED IN CMS 519.04 AND WITHIN 24 HOURS OF PLACING PATCHING MATERIAL, BLAST CLEAN ALL SURFACES TO BE PATCHED INCLUDING ALL EXPOSED REINFORCING STEEL. ACCEPTABLE METHODS INCLUDE HIGH-PRESSURE WATER BLASTING WITH OR WITHOUT ABRASIVES IN THE WATER, ABRASIVE BLASTING WITH CONTAINMENT, OR VACUUM ABRASIVE BLASTING.

THE ESTIMATED QUANTITY OF PATCHING REQUIRED IS BASED ON FIELD MEASUREMENTS OF ABOVE GROUND DETERIORATION AND A CONTINGENCY QUANTITY OF 20 SQUARE FEET FOR THE BRIDGE. THE CONTRACTOR SHALL EXCAVATE REPAIR AREAS THAT EXTEND TO THE EXISTING GROUND LINE. THE ENGINEER SHALL DETERMINE THE EXTENT OF BELOW GROUND REPAIR BASED ON THE CONTRACTOR'S EXCAVATION.

THE CONTRACTOR SHALL INCLUDE THIS EXCAVATION, PERFORMED IN ACCORDANCE WITH ITEM 503, IN THE UNIT PRICE BID FOR ITEM 519, PATCHING OF CONCRETE STRUCTURE, AS PER PLAN.

ITEM 526, REINFORCED CONCRETE APPROACH SLAB (T=15"), AS PER PLAN:

THE PROVISIONS OF CMS 526 SHALL APPLY EXCEPT AS NOTED BELOW.

CLASS HP CONCRETE, MIX HP4, AS PER PLAN, SHALL BE THE ONLY MIX DESIGN OPTION. THE PROPORTIONS FOR THE STARTING MIX DESIGN SHALL BE AS SHOWN FOR ITEM 511 - CLASS HP CONCRETE, BRIDGE DECK, AS PER PLAN.

THE PARAPETS WILL BE CARRIED ONTO THE APPROACH SLABS AND TRANSITIONED ON THE APPROACH SLABS AS DETAILED IN THE PLANS. QUANTITIES FOR THE SEALING OF CONCRETE SURFACES ARE INCLUDED WITH ITEM 512 - SEALING OF CONCRETE SURFACES (EPOXY-URETHANE) FOR PAYMENT. QUANTITIES OF CONCRETE AND REINFORCING STEEL FOR THE PARAPETS, CURBS AND APPROACH SLABS ARE INCLUDED WITH THIS ITEM FOR PAYMENT.

ITEM SPECIAL - STRUCTURE, MISC.: CUT AND CAP 6" CMP DRAIN:

THE EXISTING 6" CMP DRAIN AT THE ABUTMENTS SHALL BE CUT OFF AT THE ABUTMENTS AS SHOWN ON THE ABUTMENT REMOVAL DETAILS. THE DRAIN PIPES SHALL BE FILLED WITH GROUT, CAPPED OR ANY OTHER MEANS APPROVED BY THE ENGINEER TO PLUG THE PIPES.

ALL LABOR, EQUIPMENT, MATERIALS AND INCIDENTALS NECESSARY TO COMPLETE THIS WORK SHALL BE INCLUDED WITH ITEM SPECIAL - STRUCTURE, MISC.: CUT AND CAP 6" CMP DRAIN FOR PAYMENT.

ITEM 607 - VANDAL PROTECTION FENCE, 6 FOOT STRAIGHT, COATED FABRIC:

THIS ITEM SHALL BE AS PER THE DETAILS IN THE PLAN WITH THE APPLICABLE PORTIONS OF STANDARD DRAWING VPF-1-90 AND THE MANUFACTURER'S RECOMMENDATIONS.

THE ANCHORS SHALL BE CAST IN PLACE WITH 7" MINIMUM EMBEDMENT OR INSTALLED IN THREADED FERRULE CONCRETE INSERTS. THE INSERTS SHALL BE APPROVED BY THE DIRECTOR.

THE COLOR OF THE FENCE FABRIC, RAIL, POSTS, PLATES, TIE WIRES, AND ADDITIONAL VISUAL HARDWARE AND CAULK SHALL BE BLACK.

PAYMENT FOR ALL OF THE ABOVE SHALL BE AT THE UNIT PRICE BID PER LINEAR FOOT FOR ITEM 607 - VANDAL PROTECTION FENCE 6 FOOT STRAIGHT, COATED FABRIC WHICH SHALL INCLUDE ALL LABOR, EQUIPMENT, MATERIALS, AND INCIDENTALS NECESSARY TO COMPLETE THE ABOVE WORK.

DESIGN AGENCY
COLUMBUS ENGINEERING CONSULTANTS, INC.
840 MICHIGAN AVENUE, COLUMBUS, OH 43215
TEL:(614)228-3500

DESIGNED	DRAWN	REVIEWED	DATE
SS/YSJ	CEC	JJ	09/12
CHECKED	REVISED	STRUCTURE FILE NUMBER	
JH		7707746	

GENERAL NOTES - II
BRIDGE NO. SUM-176-0106
S.R. 176 OVER I.R. 271

SUM-271-2.33
PID No. 18710

ABBREVIATIONS:

THE FOLLOWING ABBREVIATIONS HAVE BEEN USED THROUGHOUT THESE PLANS TO INDICATE THE DESIGNATIONS CONTAINED IN THE LEGEND BELOW:

AASHTO - AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS
ABUT. - ABUTMENT
ADT - AVERAGE DAILY TRAFFIC
ADTT - AVERAGE DAILY TRUCK TRAFFIC
A.P.P. - AS PER PLAN
APPR. - APPROACH
APPROX. - APPROXIMATE
ASTM - AMERICAN SOCIETY OF TESTING AND MATERIALS
℄ - BASELINE
B.F. - BACK FACE
BOT. - BOTTOM
BRGS. - BEARINGS
B.T.A. - BRIDGE TERMINAL ASSEMBLY
BTWN. - BETWEEN

℄ - CENTERLINE
C.B. - CATCH BASIN
C/C - CENTER TO CENTER
CIP - CAST-IN-PLACE
C.J. - CONSTRUCTION JOINT
CLR. - CLEARANCE
CMS - CONSTRUCTION AND MATERIAL SPECIFICATIONS
CONC. - CONCRETE
CONN. - CONNECTION
CONST. - CONSTRUCTION
CU YD - CUBIC YARD
CVN - CHARPY V-NOTCH

DEFL. - DEFLECTION
DIA. - DIAMETER
DIM. - DIMENSION
DWG. - DRAWING

EB - EASTBOUND
E.F. - EACH FACE
E/P - EDGE OF PAVEMENT
E/S - EDGE OF SHOULDER
EL. - ELEVATION
EQ. - EQUAL
EX. - EXISTING
EXP. - EXPANSION
EXT. - EXTENSION

F.A. - FORWARD ABUTMENT
F.F. - FRONT FACE
F.S. - FIELD SPLICE
FT/FT - FOOT PER FOOT
FTG. - FOOTING
FWD. - FORWARD

GEN. - GENERAL
GR - GUARDRAIL
HMWM - HIGH MOLECULAR WEIGHT METHACRYLATE
HORZ. - HORIZONTAL
HPC - HIGH PERFORMANCE CONCRETE
HW - HIGH WATER

INV. - INVERT
IR - INTERSTATE ROUTE
LB - POUNDS
LF - LEFT FORWARD
LT. - LEFT
LOC. - LOCATION

MAX. - MAXIMUM
MC - MECHANICAL CONNECTORS
MIN. - MINIMUM
MISC. - MISCELLANEOUS
MOT - MAINTENANCE OF TRAFFIC
MSE - MECHANICALLY STABILIZED EARTH

NB - NORTHBOUND
N.P.C.P.P. - NON-PERFORATED CORRUGATED PLASTIC PIPE
NO./# - NUMBER
N.T.S. - NOT TO SCALE
OHWM = ORDINARY HIGH WATER MARK
O/O - OUT TO OUT
PC - POINT OF CURVATURE
P.C.P.P - PERFORATED CORRUGATED PLASTIC PIPE
P.E.J.F. - PREFORMED EXPANSION JOINT FILLER
P.G. - PROFILE GRADE
PI - POINT OF INTERSECTION
PROP. - PROPOSED
PT - POINT OF TANGENCY
PVC - POINT OF VERTICAL CURVATURE
PVI - POINT OF VERTICAL INTERSECTION
PVT - POINT OF VERTICAL TANGENCY
R. - RADIUS
R.A. - REAR ABUTMENT
REQ'D - REQUIRED
RF - RIGHT FORWARD
RT. - RIGHT
R/W - RIGHT OF WAY

SAN. - SANITARY
SB - SOUTHBOUND
SER. - SERIES
S.O. - SERIES OF
SPA. - SPACES OR SPACING
S.R. - STATE ROUTE
STA. - STATION
STD. - STANDARD
STM. - STORM
STR. - STRAIGHT

TBM - TEMPORARY BENCH MARK
TEMP. - TEMPORARY
T.O.S. - TOP OF SLOPE
T/PARAPET - TOE OF PARAPET
T/T - TOE TO TOE
TYP. - TYPICAL
U.G. - UNDERGROUND
VAR. - VARIES
VC - VERTICAL CURVE
VERT. - VERTICAL
W/O - WITHOUT

COMPUTED BY : SS DATE : 09/12
CHECKED BY : YSJ DATE : 09/12

ESTIMATED QUANTITIES

ITEM	ITEM EXT.	FUNDING PARTICIPATION 02\BRO\BR	FUNDING PARTICIPATION 02\BRO\BR \RICH	TOTAL	UNIT	DESCRIPTION	ABUTS.	PIER	SUPER	GEN	SEE SHEET NO.
202	11203	LUMP		LUMP		PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN				LUMP	2/29
202	22900	182		182	SQ YD	APPROACH SLAB REMOVED				182	
503	11100	LUMP		LUMP		COFFERDAMS AND EXCAVATION BRACING				LUMP	
503	21321	LUMP		LUMP		UNCLASSIFIED EXCAVATION INCLUDING ROCK, AS PER PLAN	LUMP				3/29
509	10000	135181	9931	145112	POUND	EPOXY COATED REINFORCING STEEL	8802	7341	128969		
509	20001	100		100	POUND	REINFORCING STEEL, REPLACEMENT OF EXISTING REINFORCING STEEL, AS PER PLAN				100	3/29
510	10000	268		268	EACH	DOWEL HOLES WITH NONSHRINK, NONMETALLIC GROUT	268				
511	43200	47		47	CU YD	CLASS C CONCRETE, PIER		47			
511	45700	93		93	CU YD	CLASS C CONCRETE, ABUTMENT	93				
511	50001	388	32	420	CU YD	CLASS HP CONCRETE, BRIDGE DECK, AS PER PLAN			420		3/29
511	50101	82		82	CU YD	CLASS HP CONCRETE, BRIDGE DECK (PARAPET), AS PER PLAN			82		3/29
511	51001	60		60	CU YD	CLASS HP CONCRETE, SUPERSTRUCTURE, AS PER PLAN			60		3/29
511	52000	LUMP		LUMP		CLASS HP CONCRETE, TEST SLAB				LUMP	
512	10100	1134		1134	SQ YD	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)	56	313	718	47*	
512	10601	10		10	FT	CONCRETE REPAIR BY EPOXY INJECTION, AS PER PLAN	10				3/29
512	74000	188		188	SQ YD	REMOVAL OF EXISTING COATINGS FROM CONCRETE SURFACES (SEE PROPOSAL NOTE)		188			
513	20000	2890		2890	EACH	WELDED STUD SHEAR CONNECTORS			2890		
514	00050	29048		29048	SQ FT	SURFACE PREPARATION OF EXISTING STRUCTURAL STEEL			29048		
514	00056	29048		29048	SQ FT	FIELD PAINTING OF EXISTING STRUCTURAL STEEL, PRIME COAT			29048		
514	00060	29048		29048	SQ FT	FIELD PAINTING STRUCTURAL STEEL, INTERMEDIATE COAT			29048		
514	00067	29048		29048	SQ FT	FIELD PAINTING STRUCTURAL STEEL, FINISH COAT, AS PER PLAN			29048		3/29
514	00504	29		29	MAN HOUR	GRINDING FINS, TEARS, SLIVERS ON EXISTING STRUCTURAL STEEL			29		
514	10000	15		15	EACH	FINAL INSPECTION REPAIR			15		
516	13900	95		95	SQ FT	2" PREFORMED EXPANSION JOINT FILLER	95				
516	14021	106		106	FT	SEMI-INTEGRAL ABUTMENT EXPANSION JOINT SEAL, AS PER PLAN	106				3/29
516	44201	10		10	EACH	ELASTOMERIC BEARING (1'-0" X 1'-4" X 4.00") WITH INTERNAL LAMINATES AND LOAD PLATE (1'-1" X 1'-5" X 1 ½") (NEOPRENE), AS PER PLAN	10				24/29
516	45305	15		15	EACH	REFURBISH BEARING DEVICE, AS PER PLAN		15			3/29 & 25/29
516	47001	LUMP		LUMP		JACKING AND TEMPORARY SUPPORT OF SUPERSTRUCTURE, AS PER PLAN			LUMP		3/29
518	21200	68		68	CU YD	POROUS BACKFILL WITH FILTER FABRIC	68				
518	40000	100		100	FT	6" PERFORATED CORRUGATED PLASTIC PIPE	100				
518	40011	100		100	FT	6" NON-PERFORATED CORRUGATED PLASTIC PIPE, INCLUDING SPECIALS, AS PER PLAN	100				3/29 & 8/29
519	11101	203		203	SQ FT	PATCHING CONCRETE STRUCTURE, AS PER PLAN	12	171		20	3/29
526	25001	196	16	212	SQ YD	REINFORCED CONCRETE APPROACH SLAB (T=15"), AS PER PLAN				212	3/29
SPECIAL	53000400	6		6	EACH	STRUCTURE, MISC.: CUT AND CAP 6" CMP DRAIN	6				3/29
607	39900	690		690	FT	VANDAL PROTECTION FENCE, 6' STRAIGHT, COATED FABRIC			690		3/29 & 23/29

* - INCLUDES APPROACH SLAB PARAPET QUANTITIES

DESIGN AGENCY
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TEL:(614)228-3500

DATE 09/12
REVIEWED JJ
STRUCTURE FILE NUMBER 7707746
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REVISED
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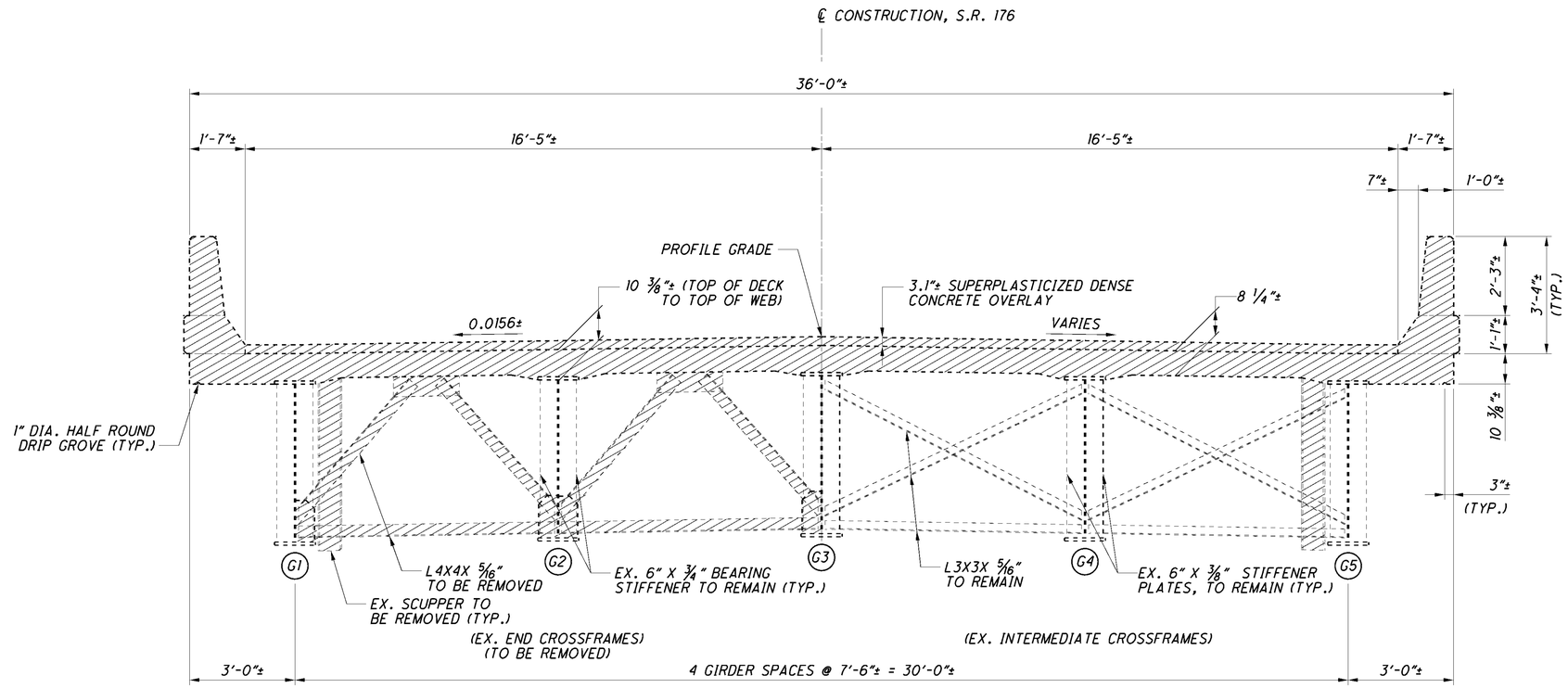
ESTIMATED QUANTITIES
BRIDGE NO. SUM-176-0106
S.R. 176 OVER I.R. 271

SUM-271-2.33
PID No. 18710

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EXISTING DECK REMOVAL

LEGEND:

G4 EXISTING GIRDER NUMBER

REMOVAL

EXISTING DECK REMOVAL DETAILS
BRIDGE NO. SUM-176-0106
S.R. 176 OVER I.R. 271

SUM-271-2.33
PID No. 18710

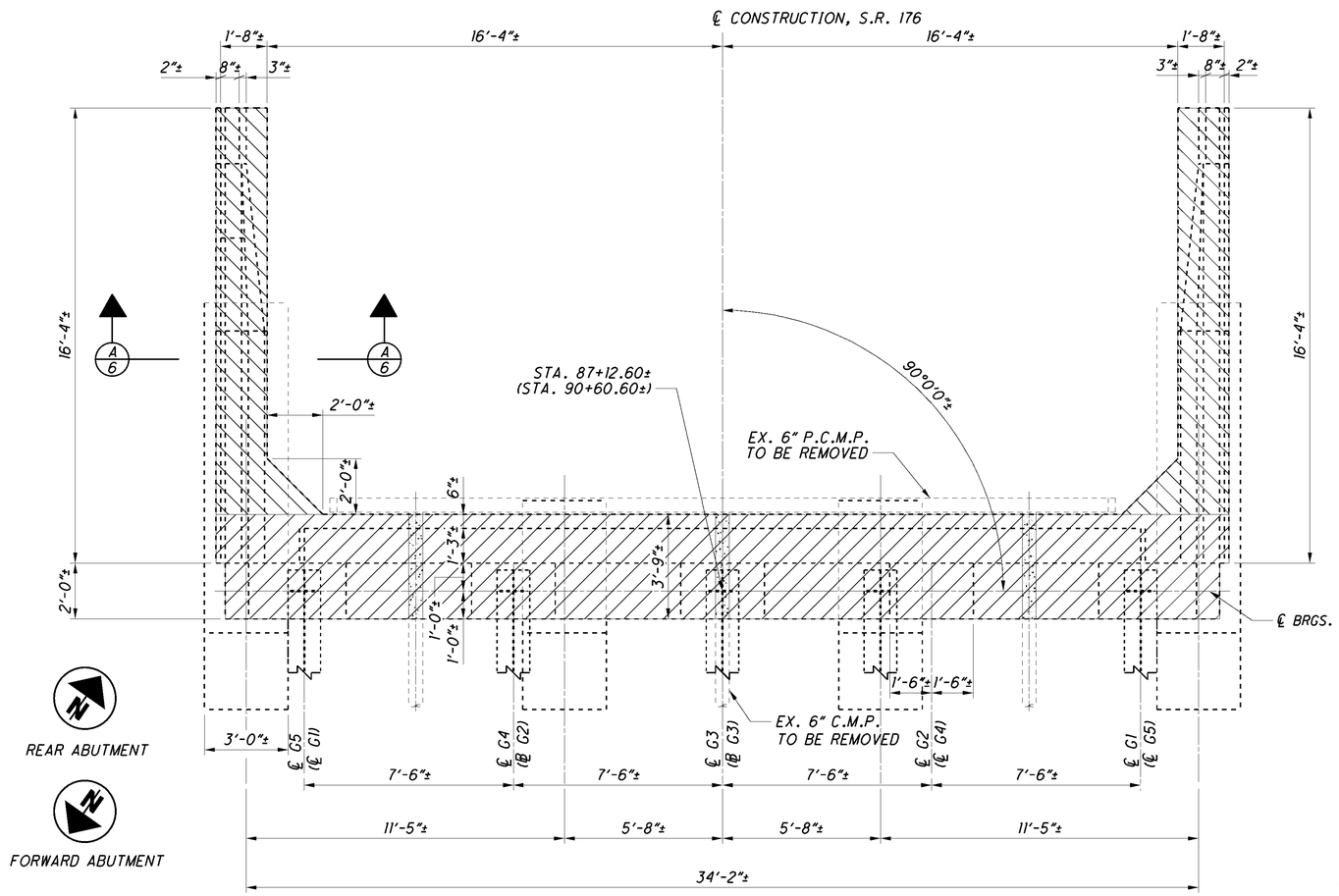
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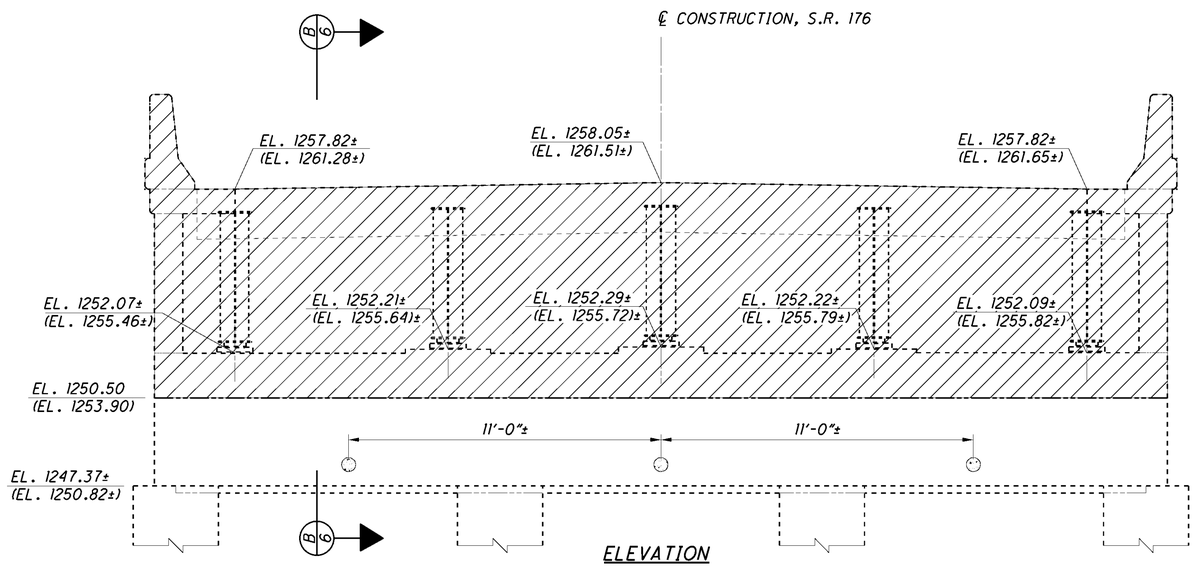
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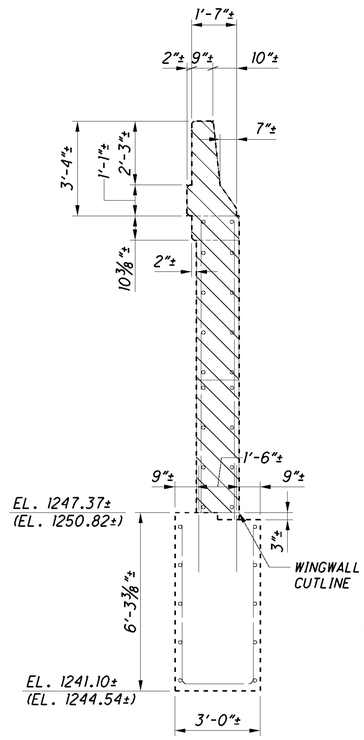
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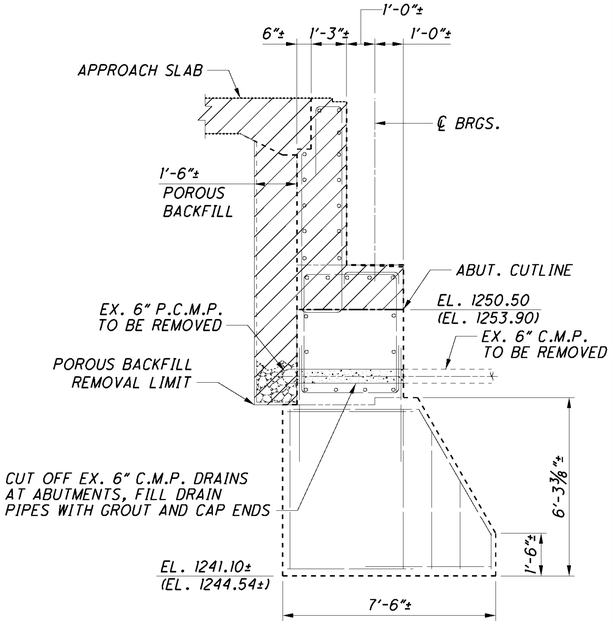
PLAN



ELEVATION



SECTION A-A



SECTION B-B

NOTES:

1. STATION, ELEVATION, & BEAM NUMBERS SHOWN IN ( ) ARE FOR FORWARD ABUTMENT.

2. REMOVE EXISTING 6" PCMP AND CUT OFF EXISTING 6" CMP DRAIN AT ABUTMENTS AS SHOWN. THE DRAIN PIPES SHALL BE FILLED WITH GROUT AND CAPPED.

ALL LABOR, EQUIPMENT, MATERIALS AND INCIDENTALS NECESSARY TO COMPLETE THIS WORK SHALL BE INCLUDED WITH ITEM SPECIAL - STRUCTURE, MISC.: CUT AND CAP 6" CMP DRAIN FOR PAYMENT.

3. THE COST OF REMOVING EXISTING ABUTMENT BEARINGS SHALL BE INCLUDED WITH ITEM 202, PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN, FOR PAYMENT.

LEGEND:

- ABUTMENT REMOVAL TO ELEVATIONS SHOWN
- WINGWALL REMOVAL TO TOP OF FOOTING
- FILL WITH GROUT

DESIGN AGENCY
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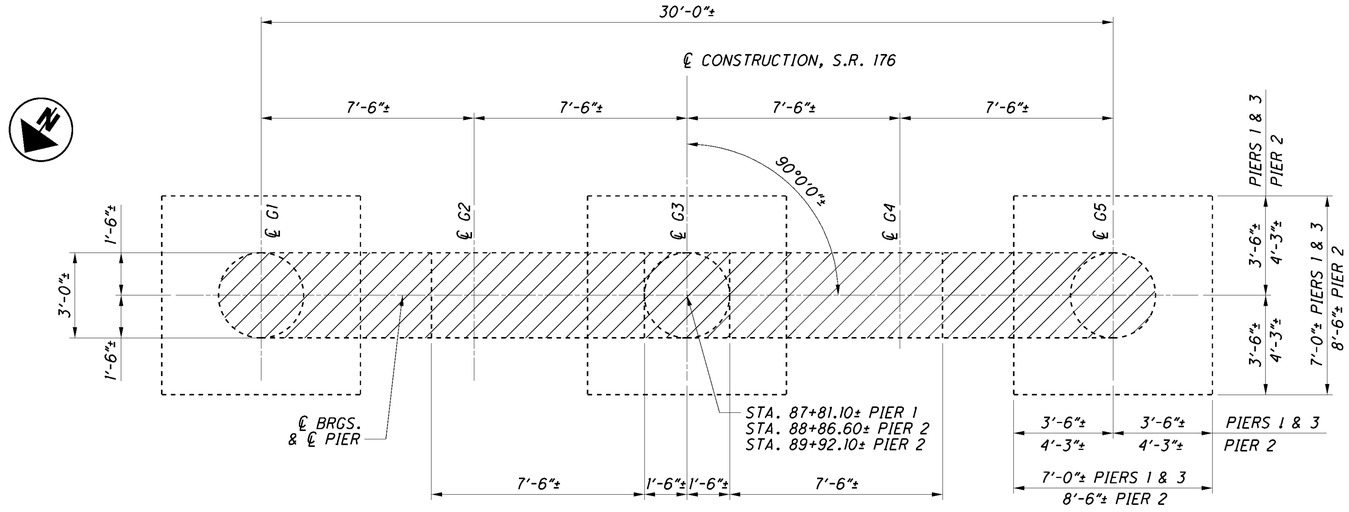
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CHECKED	REVISED	STRUCTURE FILE NUMBER	
JH		7707746	

ABUTMENT REMOVAL DETAILS

BRIDGE NO. SUM-176-0106
S.R. 176 OVER I.R. 271

SUM-271-2.33
PID No. 18710

P:\Land Development Projects\503-110 SUM-271-0233 (Richland Engineering)\structures\SUM-176-0109C\sheets\0176_0106CRE002.dgn 11/8/2012 2:33:41 PM Seon Jeng



PLAN

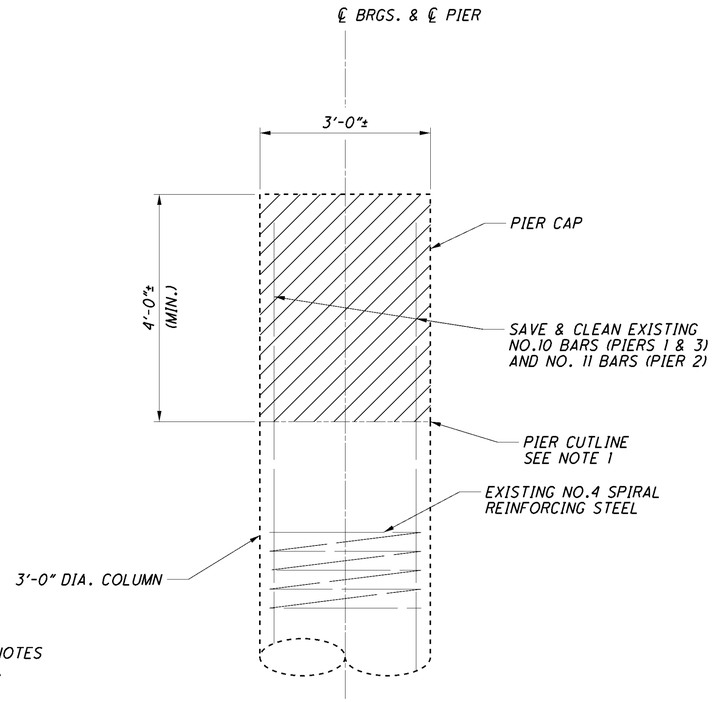
LEGEND:

(G3) - EX. GIRDER NUMBER

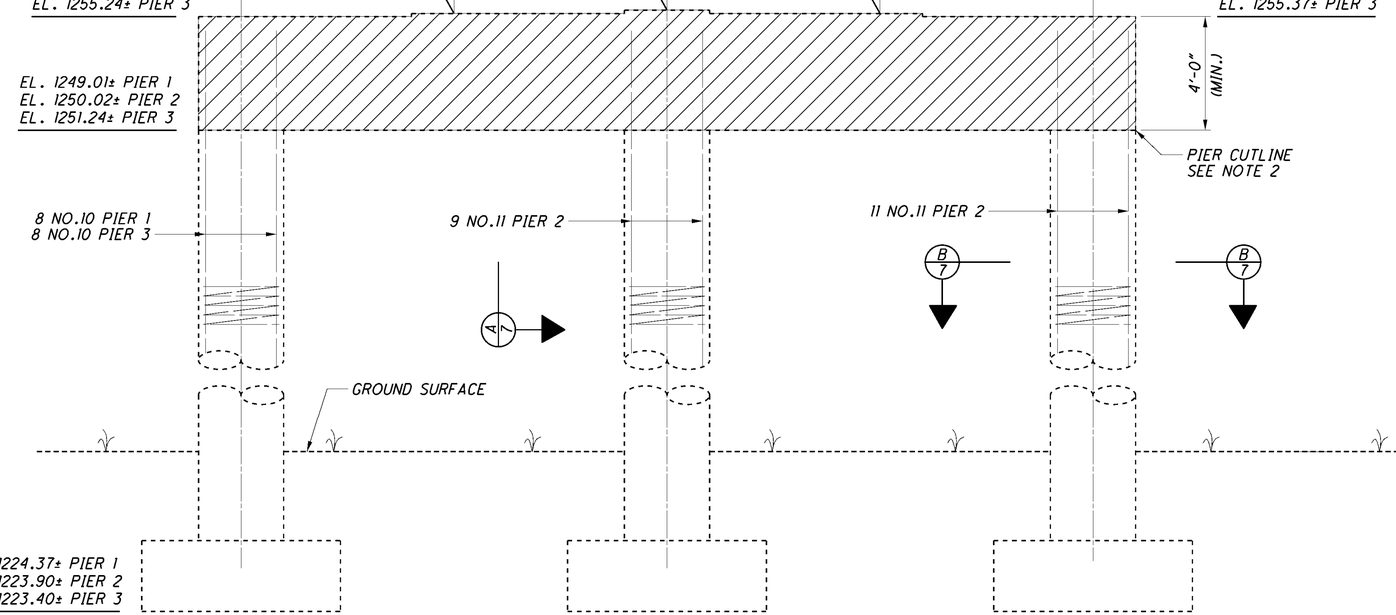
- REMOVAL

NOTES:

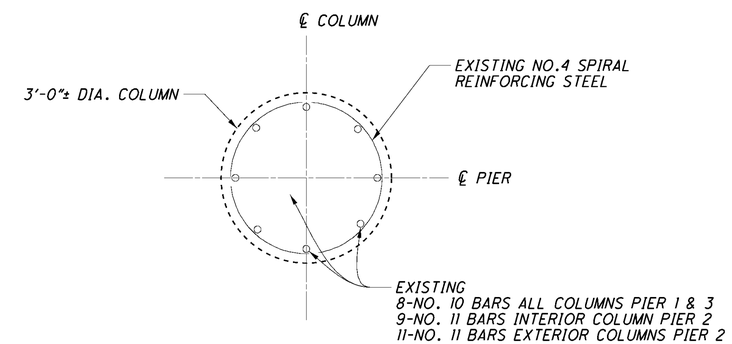
1. REMOVE PIER CAP TO TOP OF COLUMNS, SEE GENERAL NOTES FOR CUTLINE CONSTRUCTION JOINT PREPARATION NOTE.



SECTION A-A



ELEVATION



SECTION B-B

DESIGN AGENCY
COLUMBUS ENGINEERING CONSULTANTS, INC.
840 MICHIGAN AVENUE, COLUMBUS, OH 43215
TEL:(614)228-3500

DESIGNED	DRAWN	REVIEWED	DATE
SS/YSJ	CEC	JJ	09/12
CHECKED	REVISED	STRUCTURE FILE NUMBER	
JH		7707746	

PIER REMOVAL DETAILS
BRIDGE NO. SUM-176-0106
S.R. 176 OVER I.R. 271

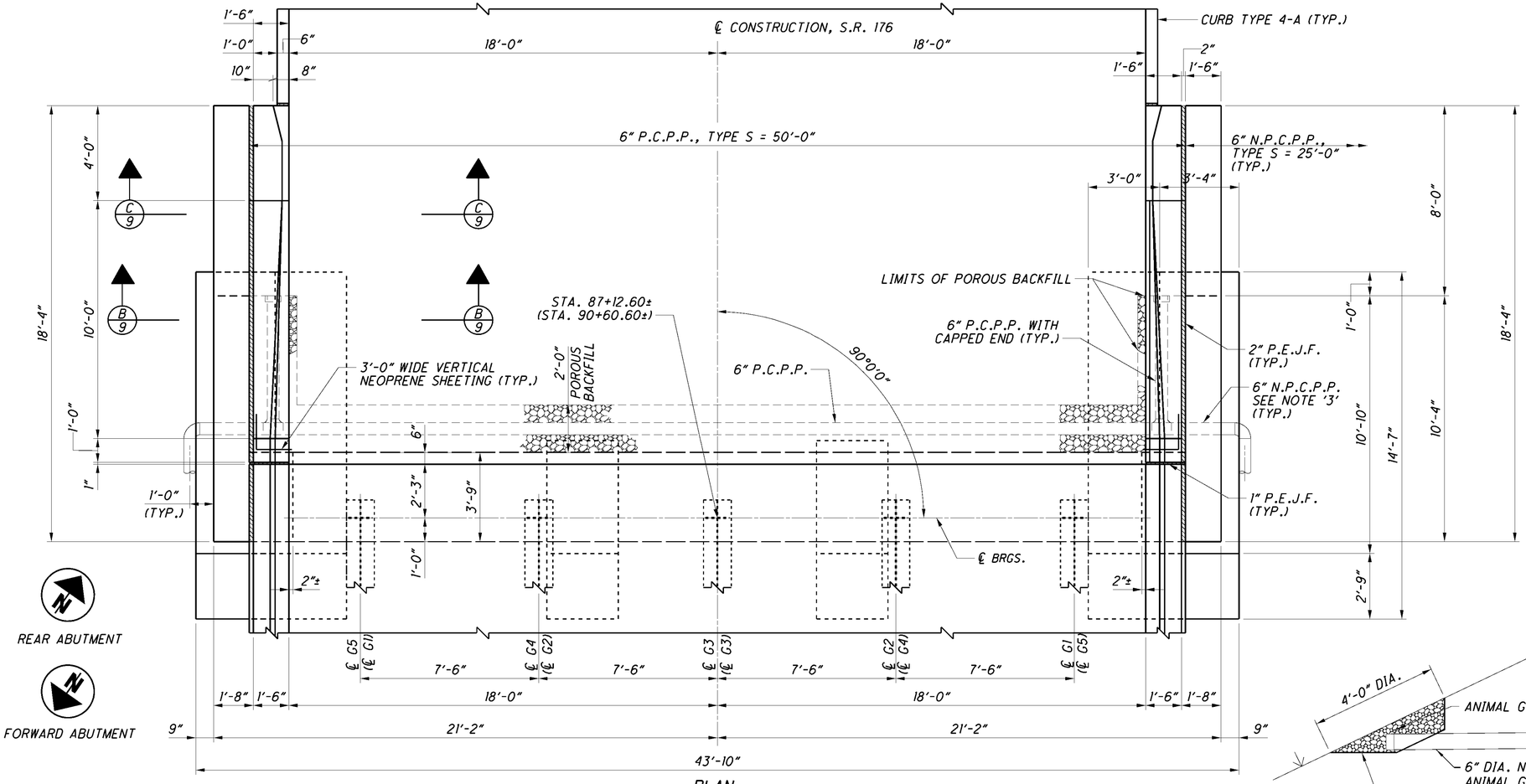
SUM-271-2.33
PID No. 18710

7 / 29

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1195

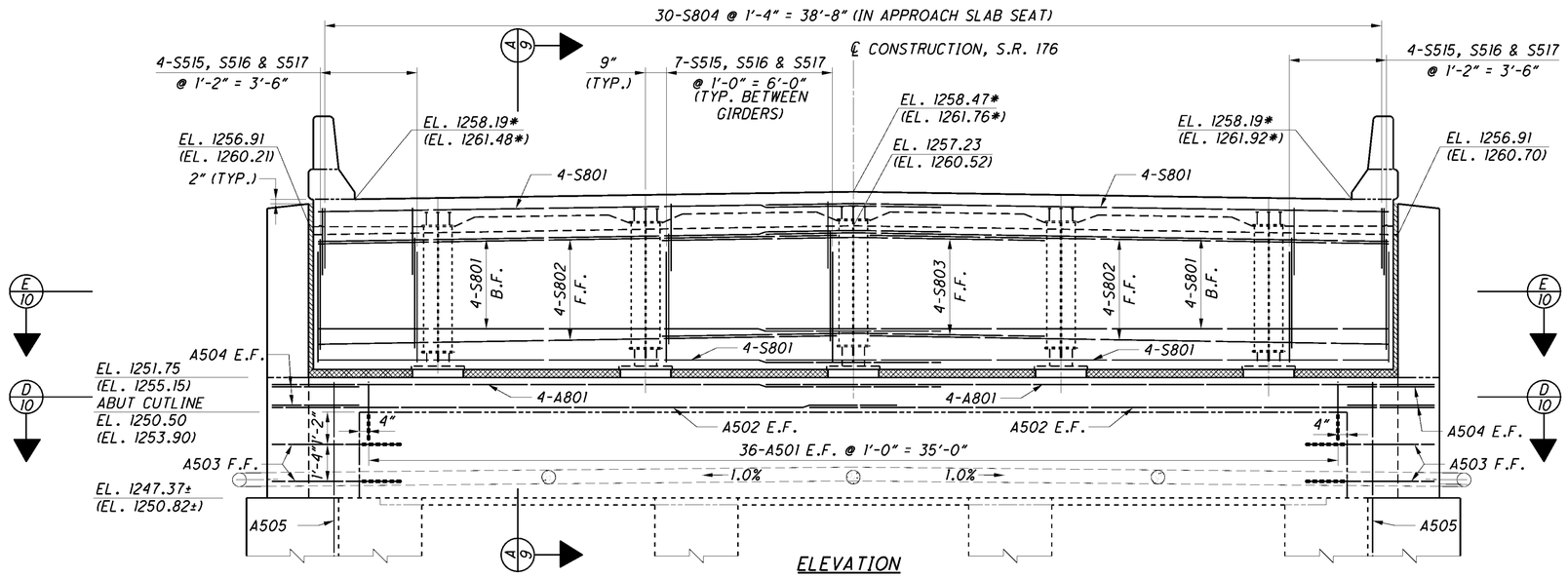
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P:\Land Development Projects\503-110 SUM-271-0233 (Richland Engineering)\structures\SUM-176-0109C\sheets\0176_0106CAR001.dgn 11/8/2012 2:34:24 PM Sean Jeng



LEGEND:

F.F. = FRONT FACE
B.F. = BACK FACE
E.F. = EACH FACE
P.E.J.F. = PREFORMED EXPANSION JOINT FILLER
P.C.P.P. = PERFORATED CORRUGATED POLYETHYLENE PIPE
N.P.C.P.P = NON-PERFORATED CORRUGATED POLYETHYLENE PIPE



ELEVATION

TERMINATION OF 6" N.P.C.P.P. DETAIL

NOTES:

1. ELEVATIONS, STATIONS & GIRDER NUMBERS SHOWN IN ( ) ARE FOR FORWARD ABUTMENT.
2. FOR TOP OF WINGWALL ELEVATIONS, SEE SHEET 11/29 .
3. 6" DIA. N.P.C.P.P. AT ENDS CONNECTED TO PERFORATED PIPE AND PIPE OUTLET AS SHOWN IN PIPE TERMINATION DETAILS.
4. MINIMUM LAP LENGTH:
   LAP NO. 5 BAR 3'-2"
   LAP NO.6 BAR 3'-10"
   LAP NO. 8 BAR 6'-4"

* - ELEVATIONS GIVEN AT ℄ BEARINGS.

DESIGN AGENCY
COLUMBUS ENGINEERING CONSULTANTS, INC.
840 MICHIGAN AVENUE, COLUMBUS, OH 43215
TEL:(614)228-3500

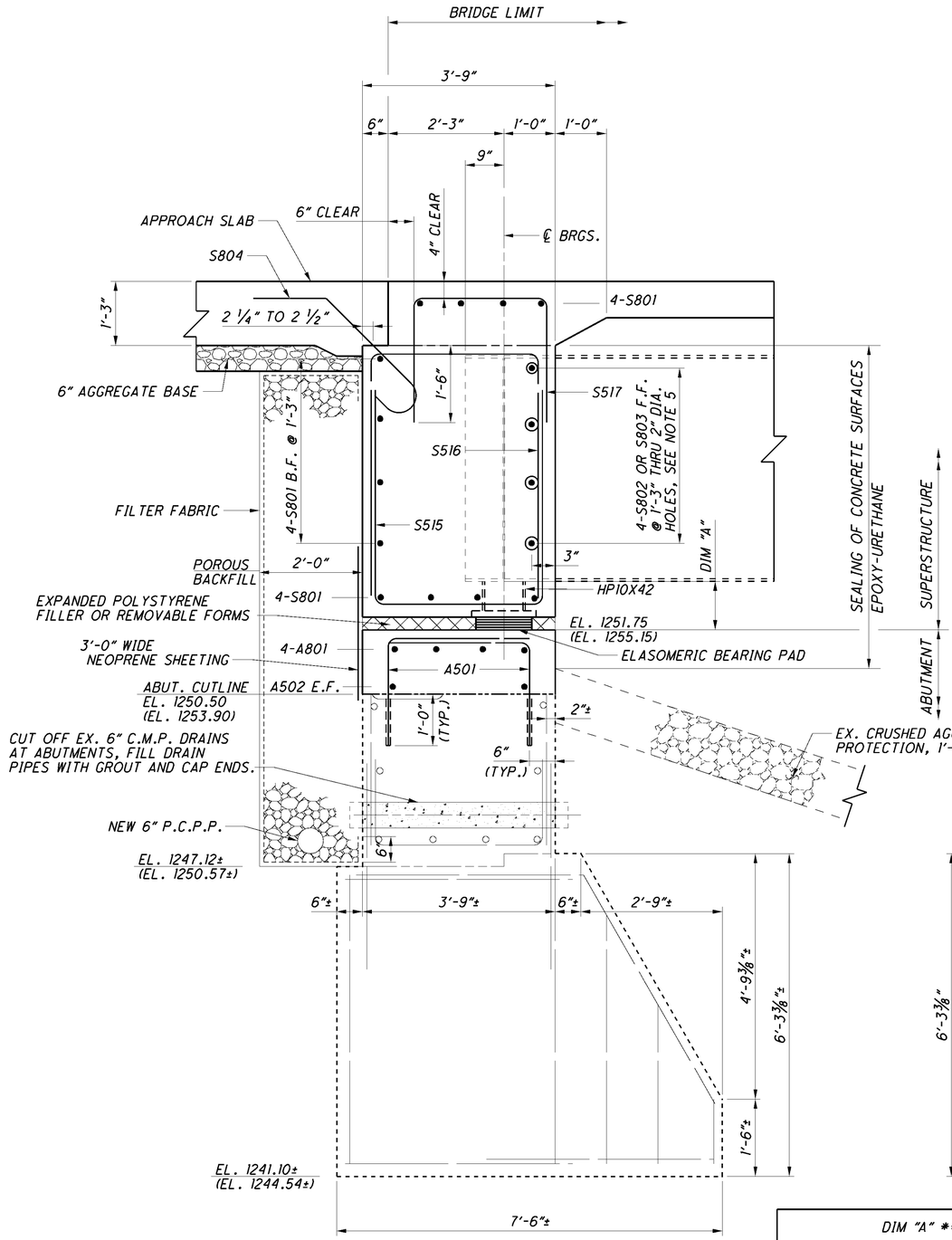
DESIGNED	DRAWN	REVIEWED	DATE
SS/YSJ	CEC	JJ	09/12
CHECKED	REVISED	STRUCTURE FILE NUMBER	
JH		7707746	

PROPOSED ABUTMENT DETAILS - I
BRIDGE NO. SUM-176-0106
S.R. 176 OVER I.R. 271

SUM-271-2.33
PID No. 18710

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1195



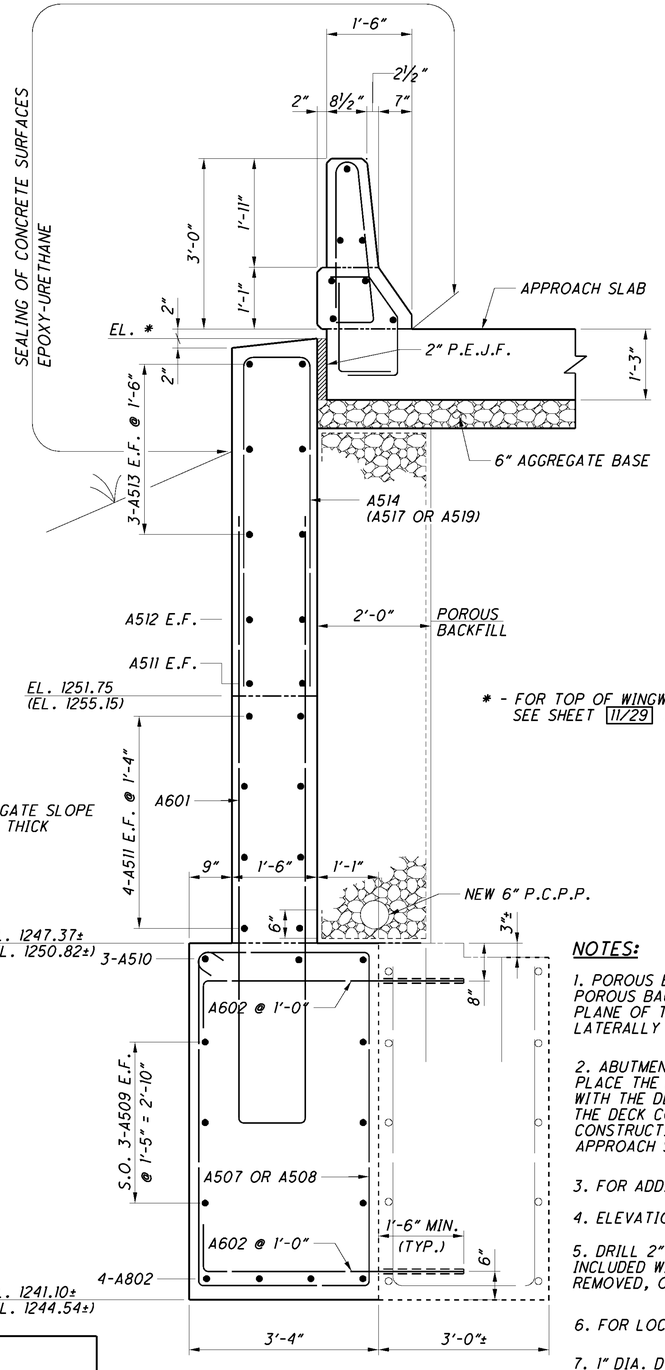
SECTION A-A

LEGEND:

F.F. = FRONT FACE
B.F. = BACK FACE
E.F. = EACH FACE
P.E.J.F. = PREFORMED EXPANSION JOINT FILLER
P.C.P.P. = PERFORATED CORRUGATED POLYETHYLENE PIPE
N.P.C.P.P = NON-PERFORATED CORRUGATED POLYETHYLENE PIPE

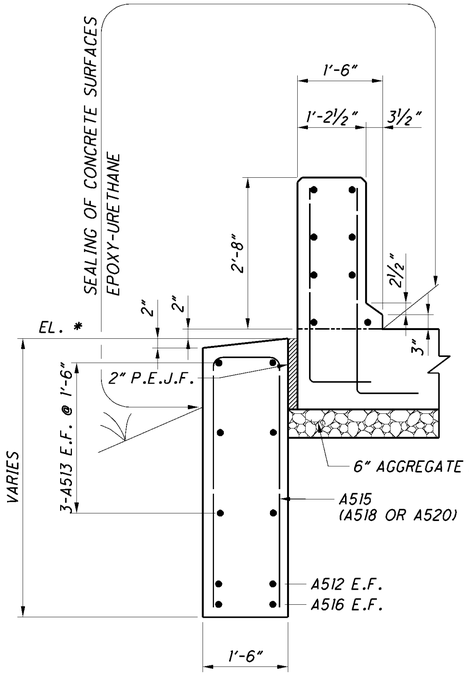
DIM "A" **		
GIRDER NO.	REAR ABUT.	FWD. ABUT.
1	11"	10 9/16"
2	1'-0 1/2"	1'-0 3/4"
3	1'-1 3/8"	1'-1 11/16"
4	1'-0 3/8"	1'-2 5/8"
5	10 3/4"	1'-2 15/16"

** - DIM "A" GIVEN AT ℄ BEARINGS.



SECTION B-B

* - FOR TOP OF WINGWALL ELEVATIONS, SEE SHEET 11/29 .



SECTION C-C

LEGEND:

- PLUG WITH GROUT

NOTES:

1. POROUS BACKFILL:
POROUS BACKFILL WITH FILTER FABRIC, 2'-0" SHALL EXTEND UP TO THE PLANE OF THE SUBGRADE, TO 1'-0" BELOW THE EMBANKMENT SURFACE, AND LATERALLY TO THE END OF THE WINGWALLS.

2. ABUTMENT DIAPHRAGM CONCRETE:
PLACE THE DIAPHRAGM CONCRETE ENCASING THE STRUCTURAL MEMBER ENDS WITH THE DECK CONCRETE OR AT LEAST 48 HOURS BEFORE PLACEMENT OF THE DECK CONCRETE. IF PLACED SEPARATELY, LOCATE THE HORIZONTAL CONSTRUCTION JOINT BETWEEN THE DIAPHRAGM AND DECK CONCRETE AT THE APPROACH SLAB SEAT.

3. FOR ADDITIONAL DETAILS, REFER TO STANDARD DWG. SICD-1-96.

4. ELEVATIONS SHOWN IN ( ) ARE FOR FORWARD ABUTMENT.

5. DRILL 2" DIA. HOLES IN STRUCTURAL STEEL, THE COST SHALL BE INCLUDED WITH THE UNIT BID PRICE FOR ITEM 202, PORTION OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN, FOR PAYMENT.

6. FOR LOCATION OF SECTIONS A-A, B-B & C-C, SEE SHEET 8/29 .

7. 1" DIA. DOWEL HOLES INTO EXISTING CONCRETE MAY BE MOVED 1" AS REQUIRED TO AVOID DRILLING INTO EXISTING REINFORCING STEEL.

8. MINIMUM LAP LENGTHS:
LAP NO. 5 BARS 3'-2"
LAP NO. 8 BARS 6'-4"

DESIGN AGENCY
COLUMBUS ENGINEERING CONSULTANTS, INC.
840 MICHIGAN AVENUE, COLUMBUS, OH 43215
TEL:(614)228-3500

DESIGNED SS/YSJ | DRAWN CEC | REVIEWED JJ | DATE 09/12 | CHECKED JH | REVISED | STRUCTURE FILE NUMBER 7707746

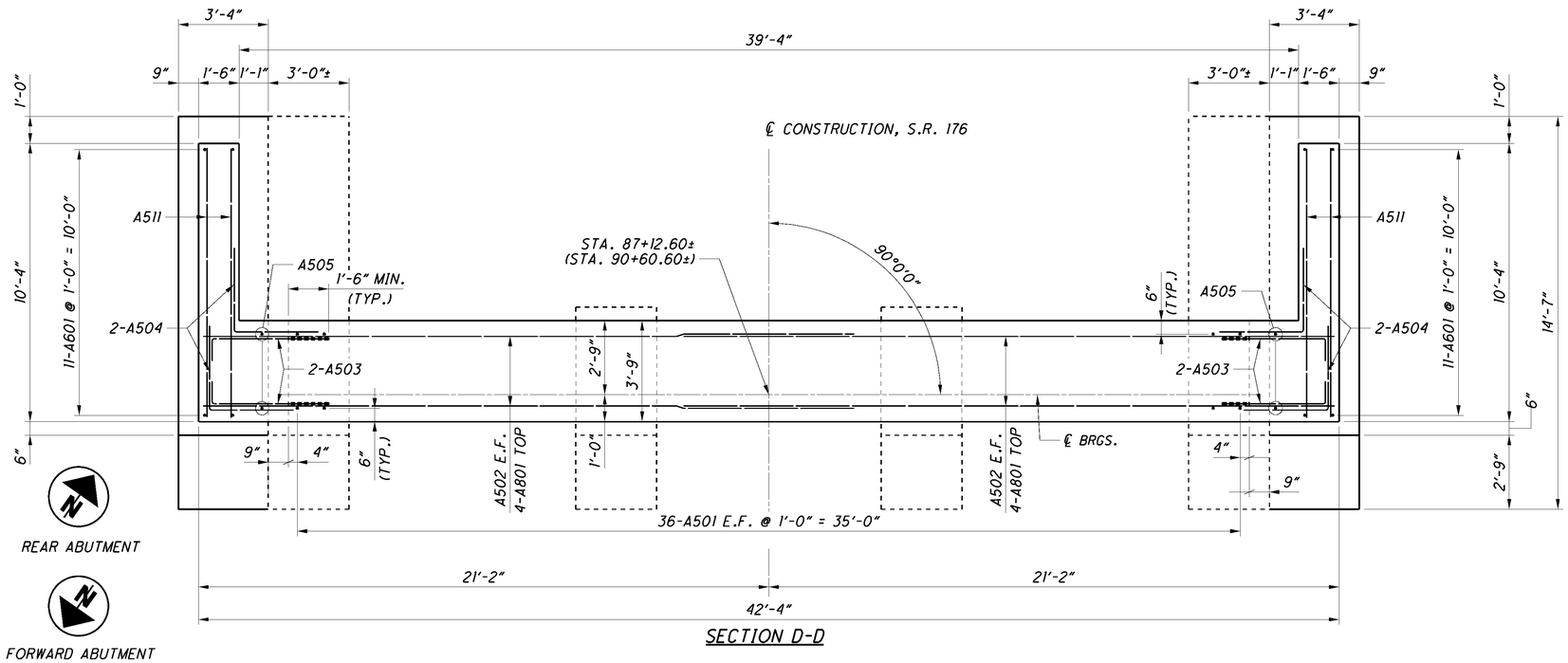
PROPOSED ABUTMENT DETAILS - II
BRIDGE NO. SUM-176-0106
S.R. 176 OVER I.R. 271

SUM-271-2.33
PID No. 18710

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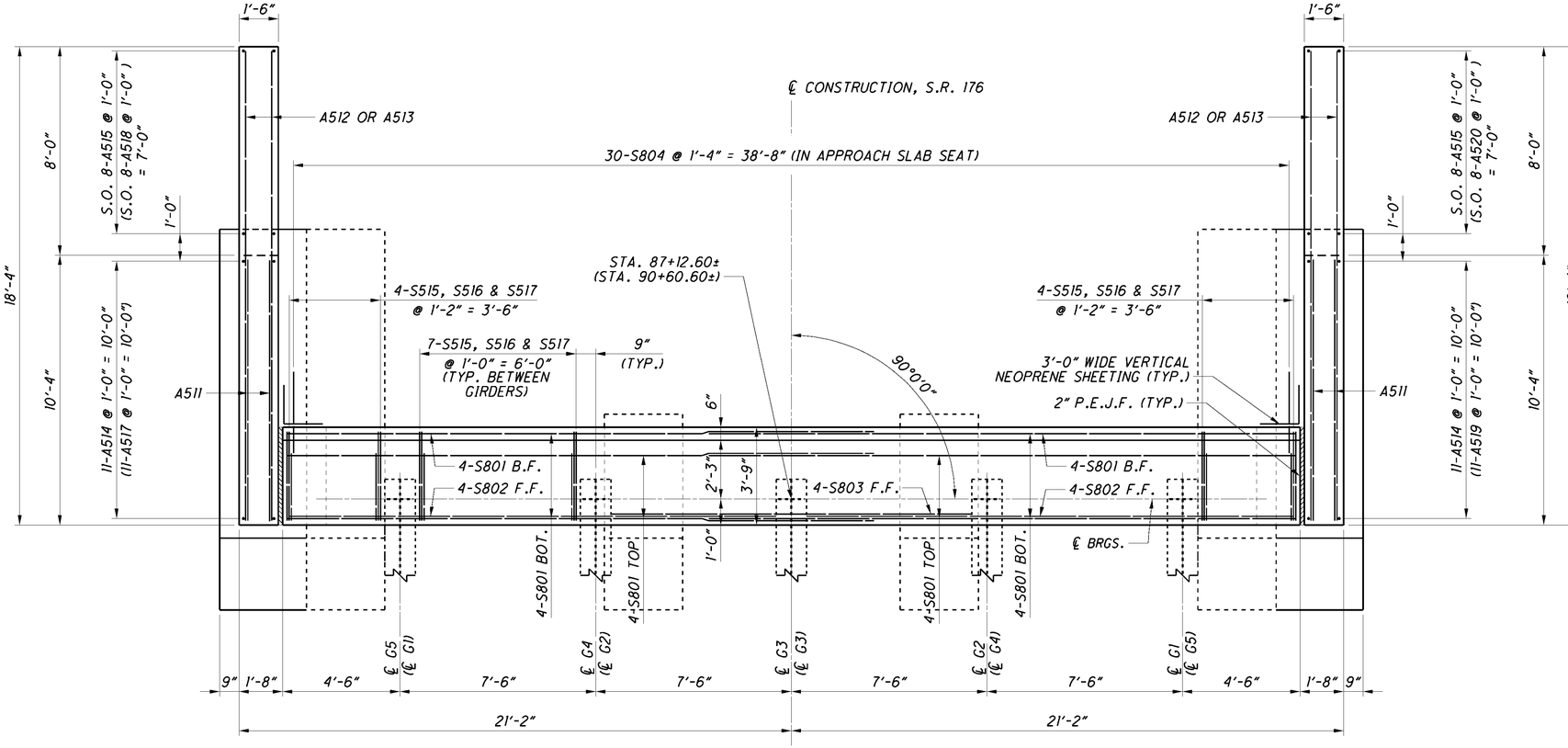
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SECTION D-D

REAR ABUTMENT

FORWARD ABUTMENT



SECTION E-E

NOTES:

1. FOR LOCATION OF SECTIONS D-D & E-E, SEE SHEET 8/29.
2. STATIONS & GIRDER NUMBERS SHOWN IN ( ) ARE FOR FORWARD ABUTMENT.
3. 1" DIA. DOWEL HOLES INTO EXISTING CONCRETE MAY BE MOVED 1" AS REQUIRED TO AVOID DRILLING INTO EXISTING REINFORCING STEEL.
4. MINIMUM LAP LENGTH:
   LAP NO. 5 BAR 3'-2"
   LAP NO.6 BAR 3'-10"
   LAP NO. 8 BAR 6'-4"

LEGEND:

F.F. = FRONT FACE
B.F. = BACK FACE
E.F. = EACH FACE
P.E.J.F. = PREFORMED EXPANSION JOINT FILLER
C.P.P. = CORRUGATED POLYETHYLENE PIPE
N.P.C.P.P = NON-PERFORATED CORRUGATED POLYETHYLENE PIPE

DESIGN AGENCY
COLUMBUS ENGINEERING CONSULTANTS, INC.
840 MICHIGAN AVENUE, COLUMBUS, OH 43215
TEL:(614)228-3500

DESIGNED	DRAWN	REVIEWED	DATE
SS/YSJ	CEC	JJ	09/12
CHECKED	REVISED	STRUCTURE FILE NUMBER	
JH		7707746	

PROPOSED ABUTMENT DETAILS - III

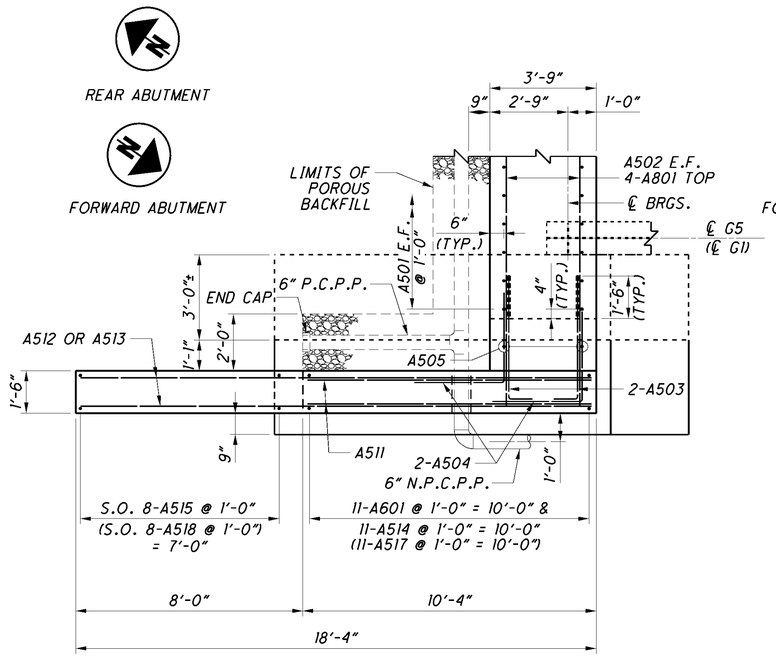
BRIDGE NO. SUM-176-0106
S.R. 176 OVER I.R. 271

SUM-271-2.33
PID No. 18710

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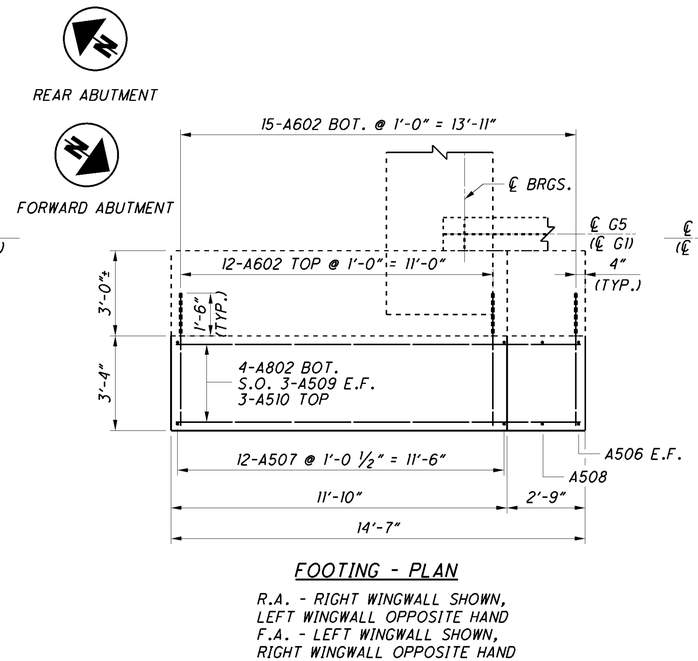
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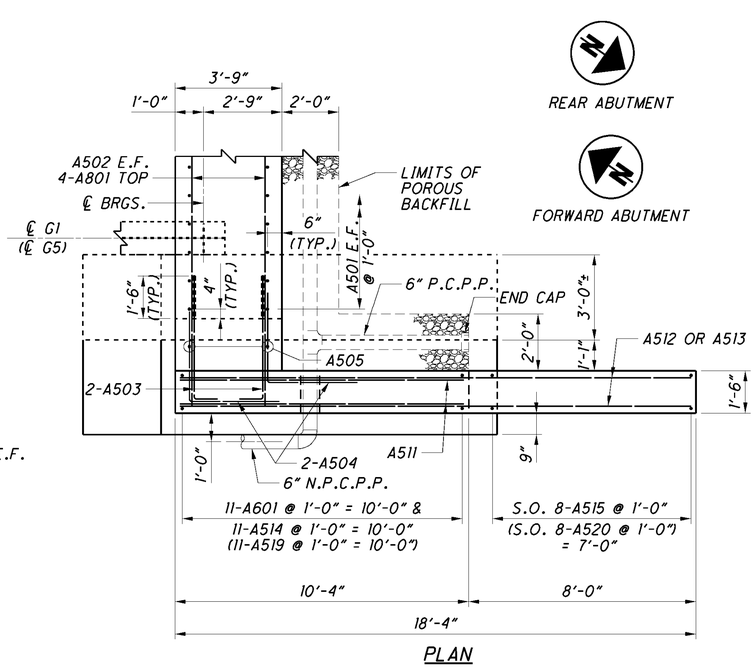
PLAN

REAR ABUTMENT - RIGHT WINGWALL
FORWARD ABUTMENT - LEFT WINGWALL



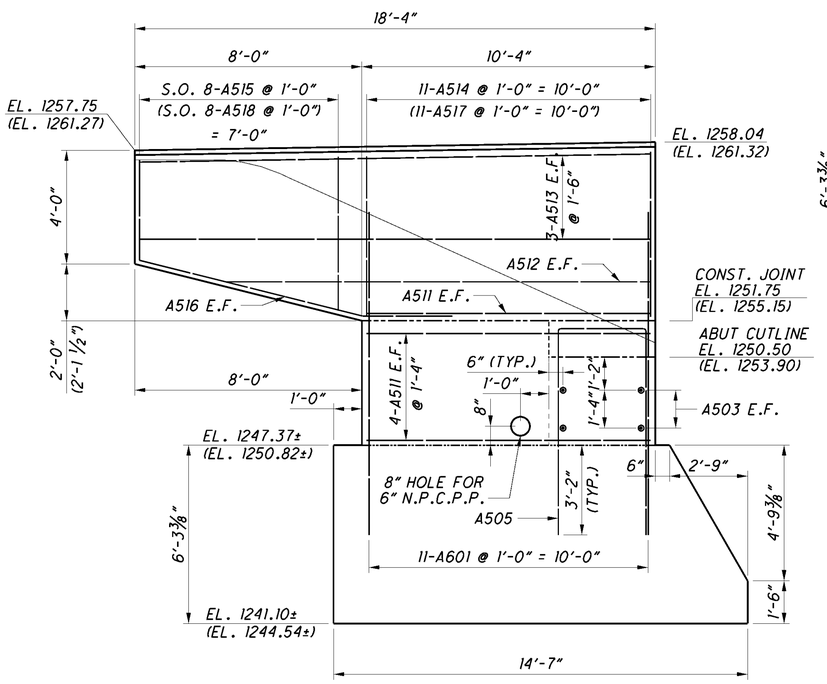
FOOTING - PLAN

R.A. - RIGHT WINGWALL SHOWN,
LEFT WINGWALL OPPOSITE HAND
F.A. - LEFT WINGWALL SHOWN,
RIGHT WINGWALL OPPOSITE HAND



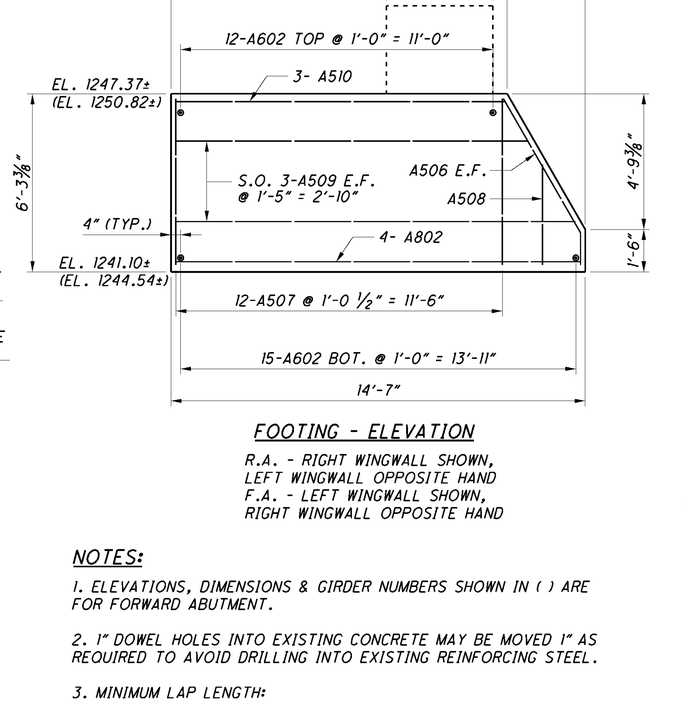
PLAN

REAR ABUTMENT - LEFT WINGWALL
FORWARD ABUTMENT - RIGHT WINGWALL



ELEVATION

REAR ABUTMENT - RIGHT WINGWALL
FORWARD ABUTMENT - LEFT WINGWALL



FOOTING - ELEVATION

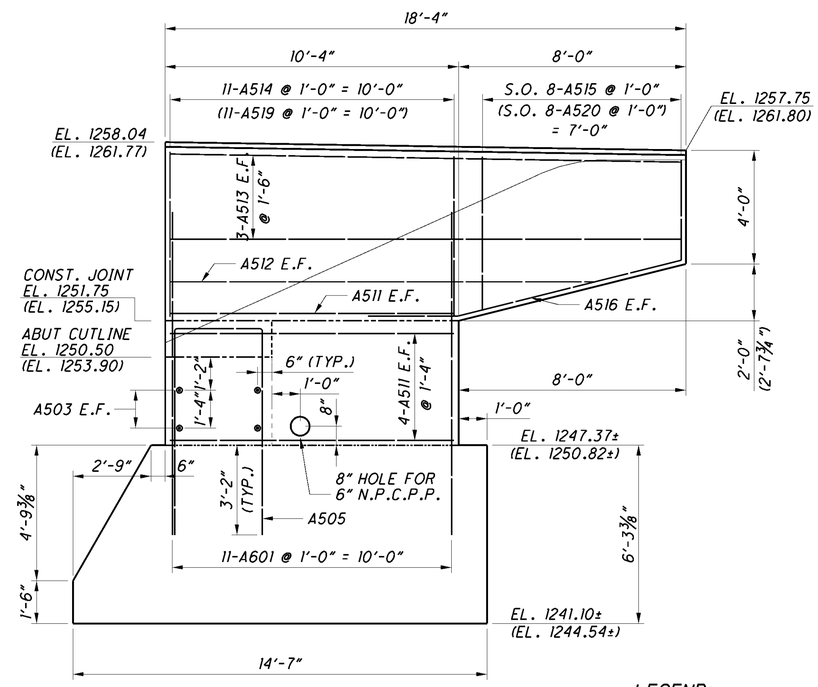
R.A. - RIGHT WINGWALL SHOWN,
LEFT WINGWALL OPPOSITE HAND
F.A. - LEFT WINGWALL SHOWN,
RIGHT WINGWALL OPPOSITE HAND

NOTES:

1. ELEVATIONS, DIMENSIONS & GIRDER NUMBERS SHOWN IN ( ) ARE FOR FORWARD ABUTMENT.

2. 1" DOWEL HOLES INTO EXISTING CONCRETE MAY BE MOVED 1" AS REQUIRED TO AVOID DRILLING INTO EXISTING REINFORCING STEEL.

3. MINIMUM LAP LENGTH:
   LAP NO. 5 BAR 3'-2"
   LAP NO. 6 BAR 3'-10"
   LAP NO. 8 BAR 6'-4"



ELEVATION

REAR ABUTMENT - LEFT WINGWALL
FORWARD ABUTMENT - RIGHT WINGWALL

LEGEND:

F.F. = FRONT FACE
B.F. = BACK FACE
E.F. = EACH FACE

PROPOSED WINGWALL DETAILS

BRIDGE NO. SUM-176-0106
S.R. 176 OVER I.R. 271

SUM-271-2.33
PID No. 18710

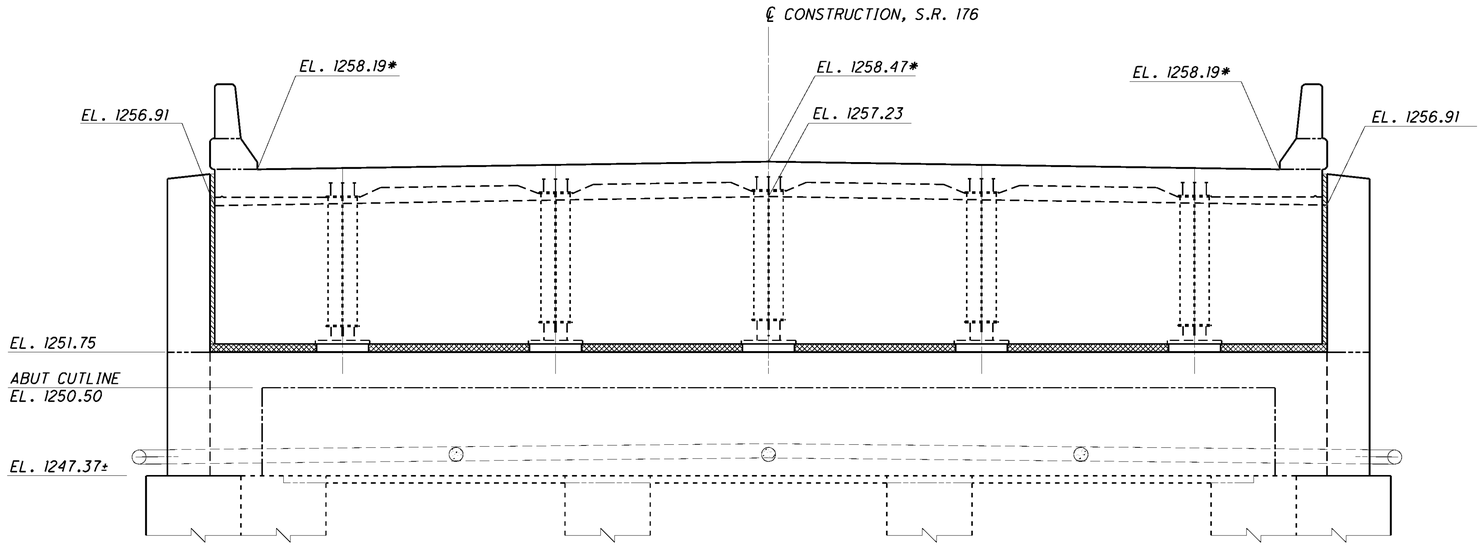
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DESIGN AGENCY
COLUMBUS ENGINEERING CONSULTANTS, INC.
840 MICHIGAN AVENUE, COLUMBUS, OH 43215
TEL:(614)228-3500

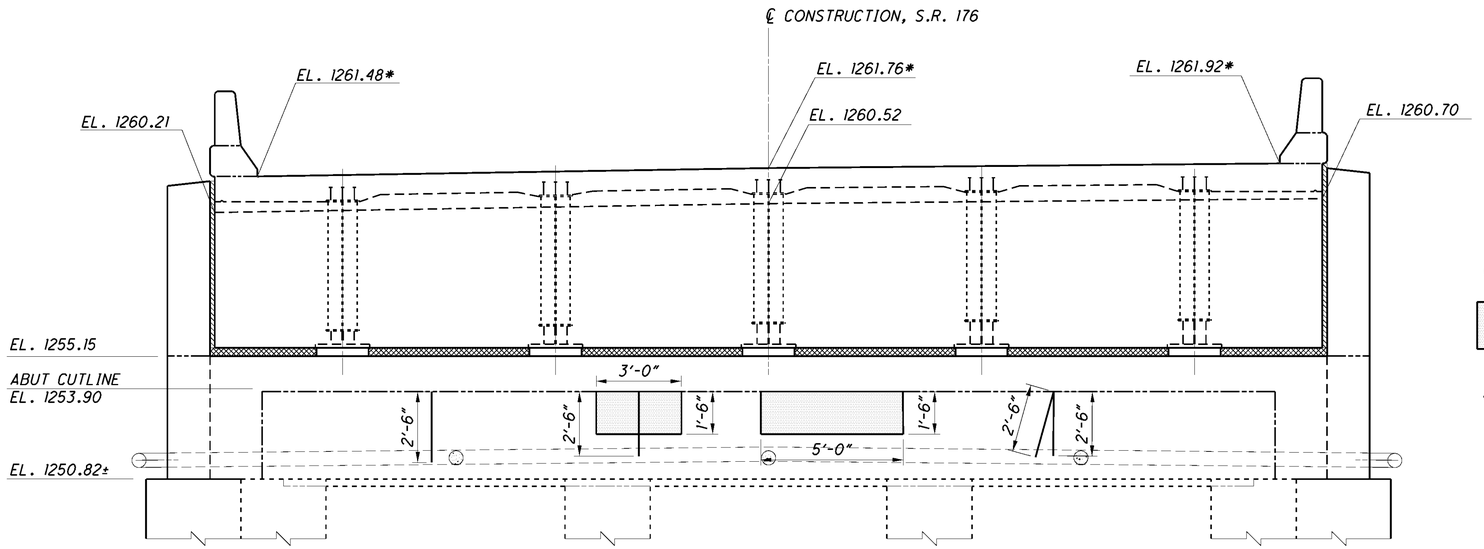
DESIGNED	DRAWN	REVIEWED	DATE
SS/YSJ	CEC	JJ	09/12
CHECKED	REVISED	STRUCTURE FILE NUMBER	
JH		7707746	

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REAR ABUTMENT

ESTIMATED PATCHING OF CONCRETE AREA = 0.0 SQ. FT.
ESTIMATED CONCRETE REPAIR BY EPOXY-INJECTION LENGTH = 0.0 FT.



FORWARD ABUTMENT

ESTIMATED PATCHING OF CONCRETE AREA = 12.0 SQ. FT.
ESTIMATED CONCRETE REPAIR BY EPOXY-INJECTION LENGTH = 10.0 FT.

LEGEND:

- PATCHING CONCRETE STRUCTURE, PER ITEM 519, AS PER PLAN.
- CONCRETE REPAIR BY EPOXY INJECTION, PER ITEM 512.
* - ELEVATIONS GIVEN AT ℄ BEARINGS

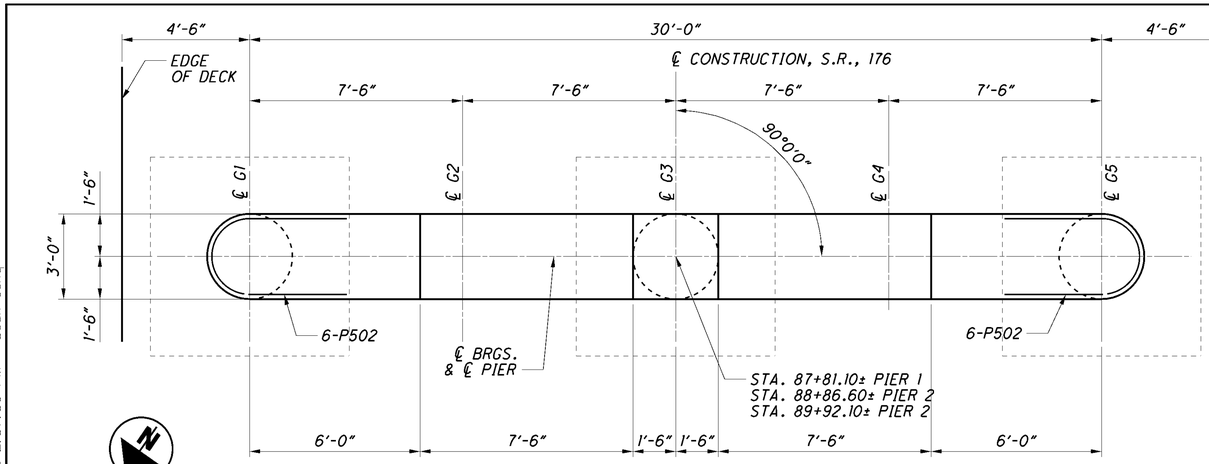
DESIGN AGENCY
COLUMBUS ENGINEERING CONSULTANTS, INC.
840 MICHIGAN AVENUE, COLUMBUS, OH 43215
TEL:(614)228-3500

DESIGNED	DRAWN	REVIEWED	DATE
SS/YSJ	CEC	JJ	09/12
CHECKED	REVISED	STRUCTURE FILE NUMBER	
JH		7707746	

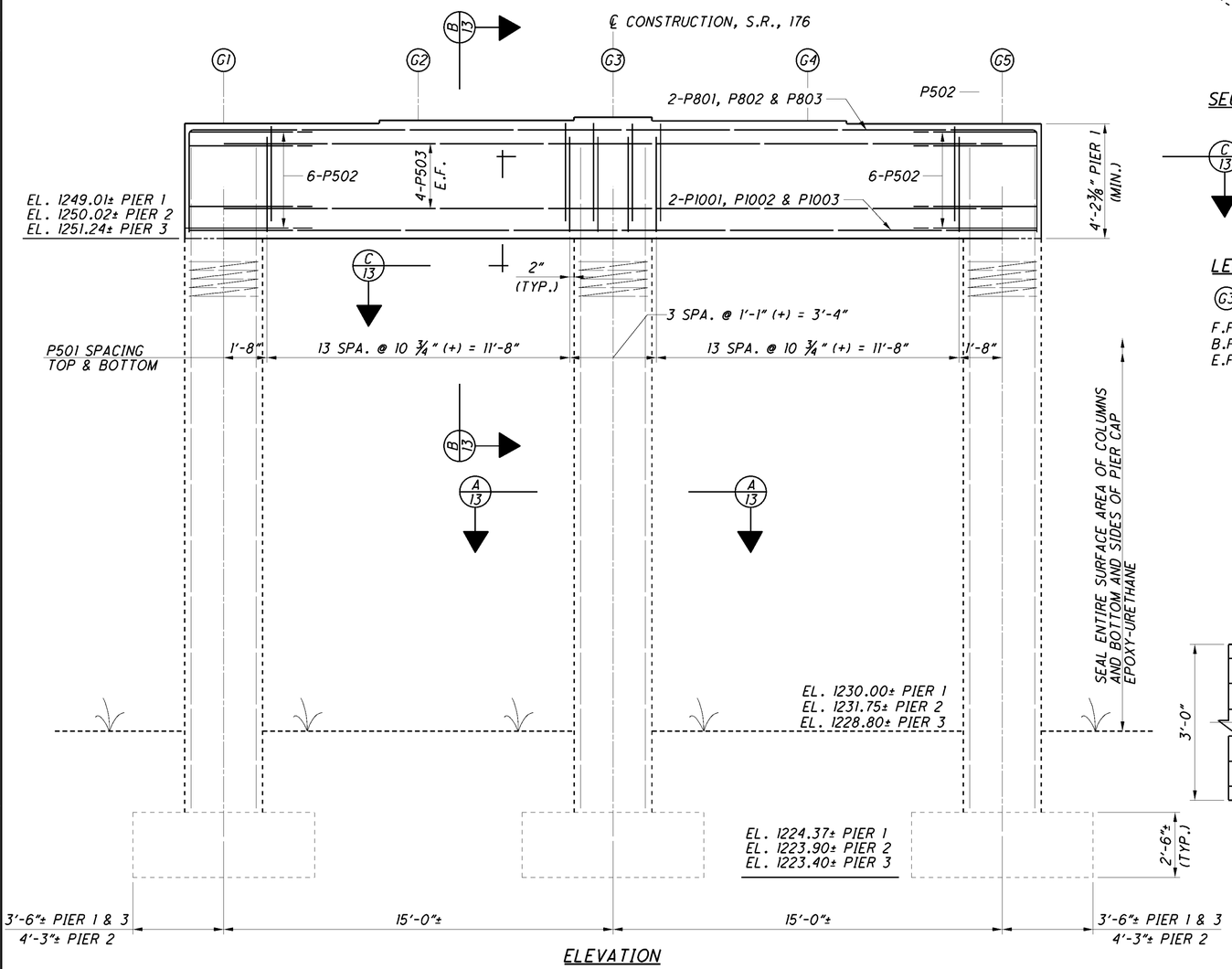
PATCHING DETAILS - ABUTMENTS
BRIDGE NO. SUM-176-0106
S.R. 176 OVER I.R. 271

SUM-271-2.33
PID No. 18710

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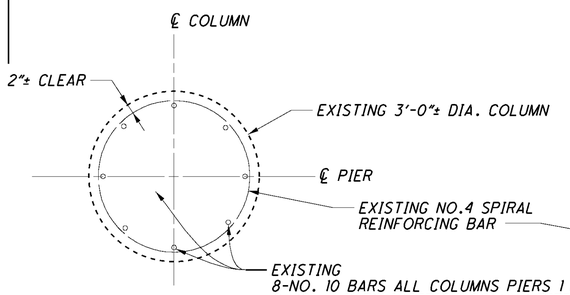
PLAN



ELEVATION

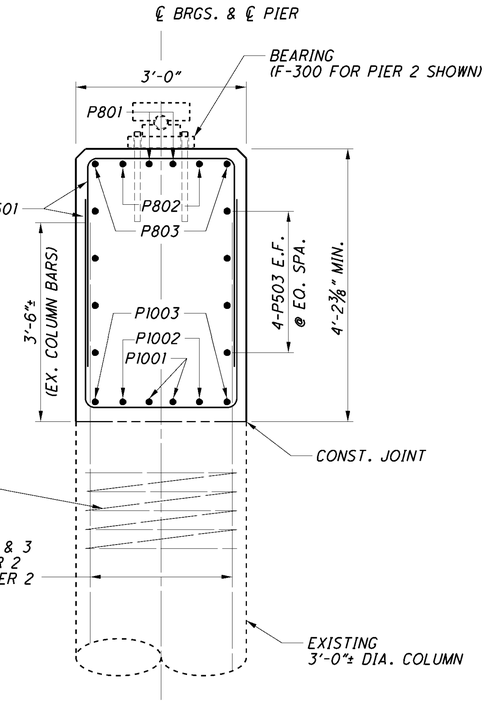
EDGE OF DECK

GIRDER SEAT ELEVATIONS					
GIRDER NO.	G1	G2	G3	G4	G5
PIER NO. 1	1253.22	1253.34	1253.46	1253.32	1253.21
PIER NO. 2	1254.25	1254.34	1254.44	1254.33	1254.22
PIER NO. 3	1255.44	1255.54	1255.68	1255.60	1255.57



SECTION A-A

C/13



SECTION B-B

LEGEND:

(G3) - EXISTING GIRDER NUMBER

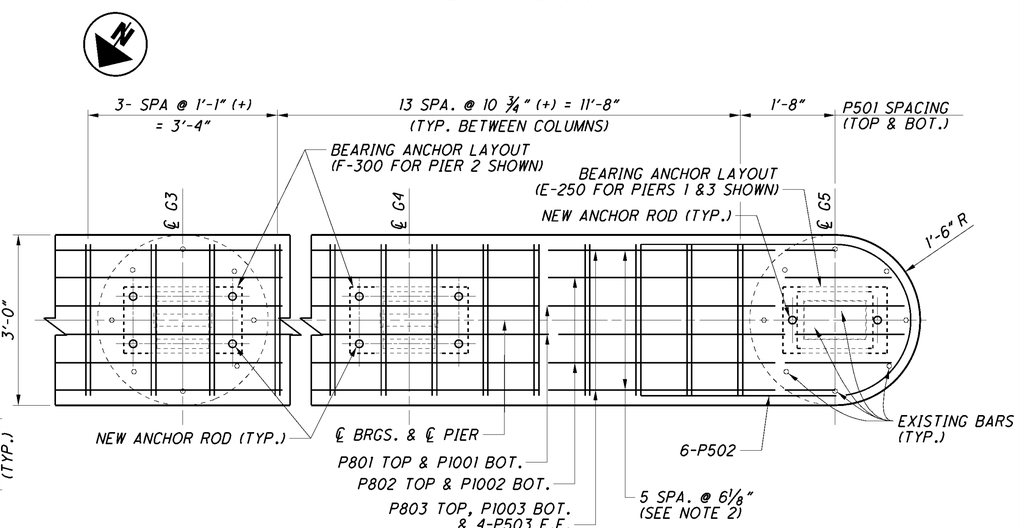
F.F. = FRONT FACE
B.F. = BACK FACE
E.F. = EACH FACE

NOTES:

1. FOR PIER BEARING ANCHOR DETAILS, SEE SHEET 25/29 .

2. BRIDGE SEAT REINFORCING, SETTING ANCHORS:
BEARING ANCHOR RODS SHOULD BE CAST IN CONCRETE. CONTRACTOR SHOULD CAUTIOUSLY PLACE REINFORCING STEEL IN THE VICINITY OF THE BRIDGE SEAT TO AVOID INTERFERENCE WITH BARING ANCHOR RODS.

3. MINIMUM LAP LENGTHS:
LAP NO. 5 BARS 3'-2"
LAP NO. 8 BARS 6'-4"
LAP NO. 10 BARS 10'-3"



SECTION C-C

DESIGN AGENCY
COLUMBUS ENGINEERING CONSULTANTS, INC.
840 MICHIGAN AVENUE, COLUMBUS, OH 43215
TEL:(614)228-3500

DESIGNED	DRAWN	REVIEWED	DATE
SS/YSJ	CEC	JJ	09/12
CHECKED	REVISED	STRUCTURE FILE NUMBER	
JH		7707746	

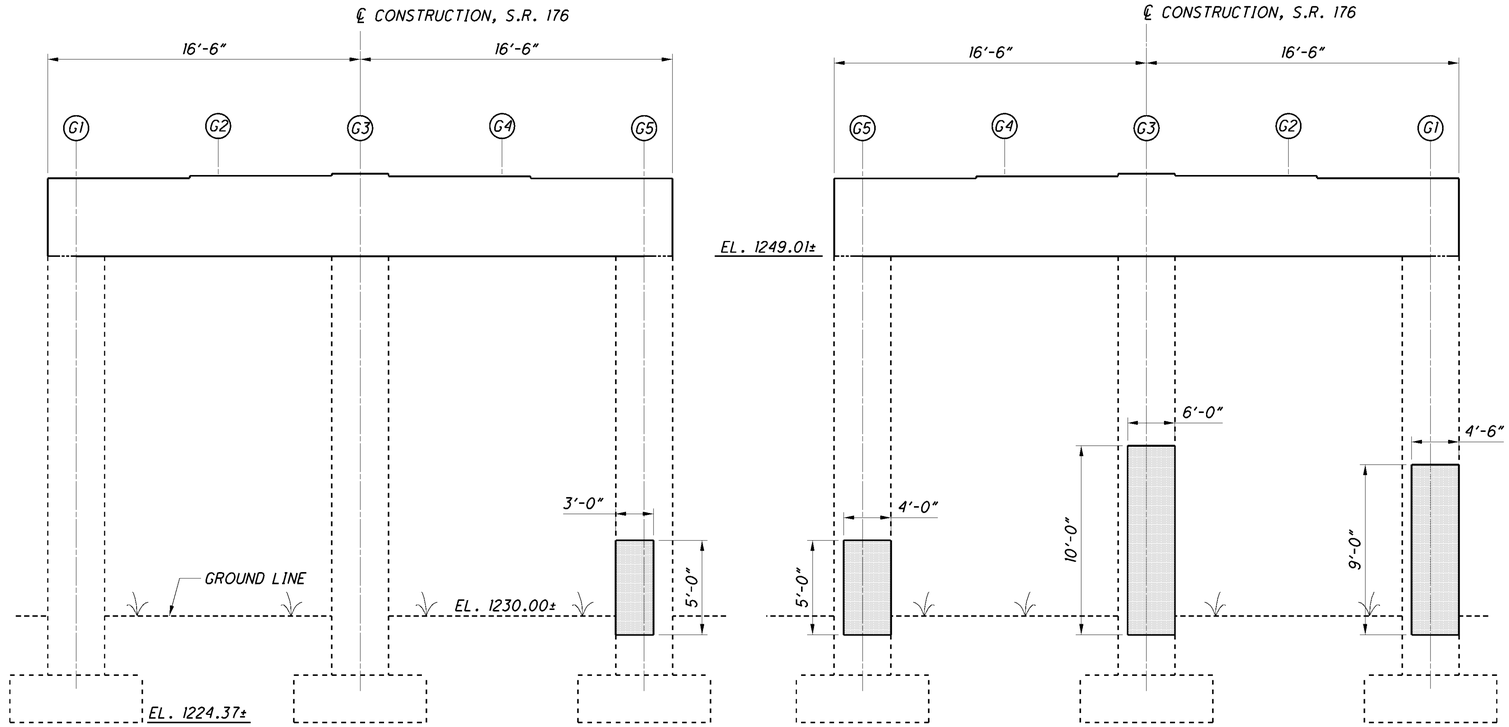
MODIFIED PIER DETAILS
BRIDGE NO. SUM-176-0106
S.R. 176 OVER I.R. 271

SUM-271-2.33
PID No. 18710

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ELEVATION - PIER 1
LOOKING SOUTH

ELEVATION - PIER 1
LOOKING NORTH

ESTIMATED PATCHING OF CONCRETE AREA = 135.50 SQ. FT.

LEGEND:

(G3) - EXISTING GIRDER NUMBER

- PATCHING CONCRETE STRUCTURE, PER ITEM 519, AS PER PLAN.

DESIGN AGENCY
COLUMBUS ENGINEERING CONSULTANTS, INC.
840 MICHIGAN AVENUE, COLUMBUS, OH 43215
TEL:(614)228-3500

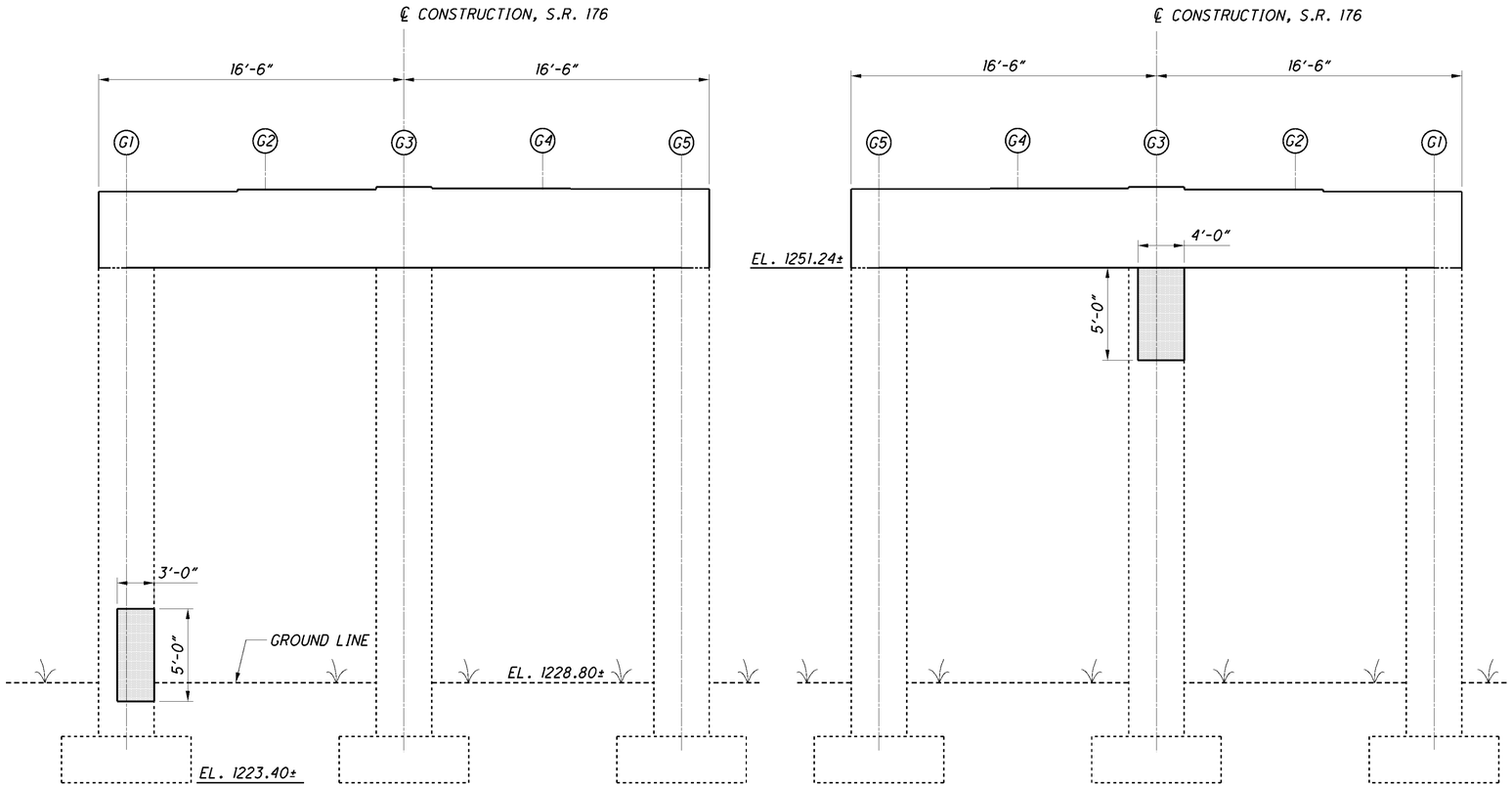
DESIGNED	DRAWN	REVIEWED	DATE
SS/YSJ	CEC	JJ	09/12
CHECKED	REVISED	STRUCTURE FILE NUMBER	
JH		7707746	

PATCHING DETAILS - PIER 1

BRIDGE NO. SUM-176-0106
S.R. 176 OVER I.R. 271

SUM-271-2.33
PID No. 18710

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ELEVATION - PIER 3
LOOKING SOUTH

ELEVATION - PIER 3
LOOKING NORTH

ESTIMATED PATCHING OF CONCRETE AREA = 35.0 SQ. FT.

LEGEND:

(G3) - EXISTING GIRDER NUMBER

- PATCHING CONCRETE STRUCTURE, PER ITEM 519, AS PER PLAN.

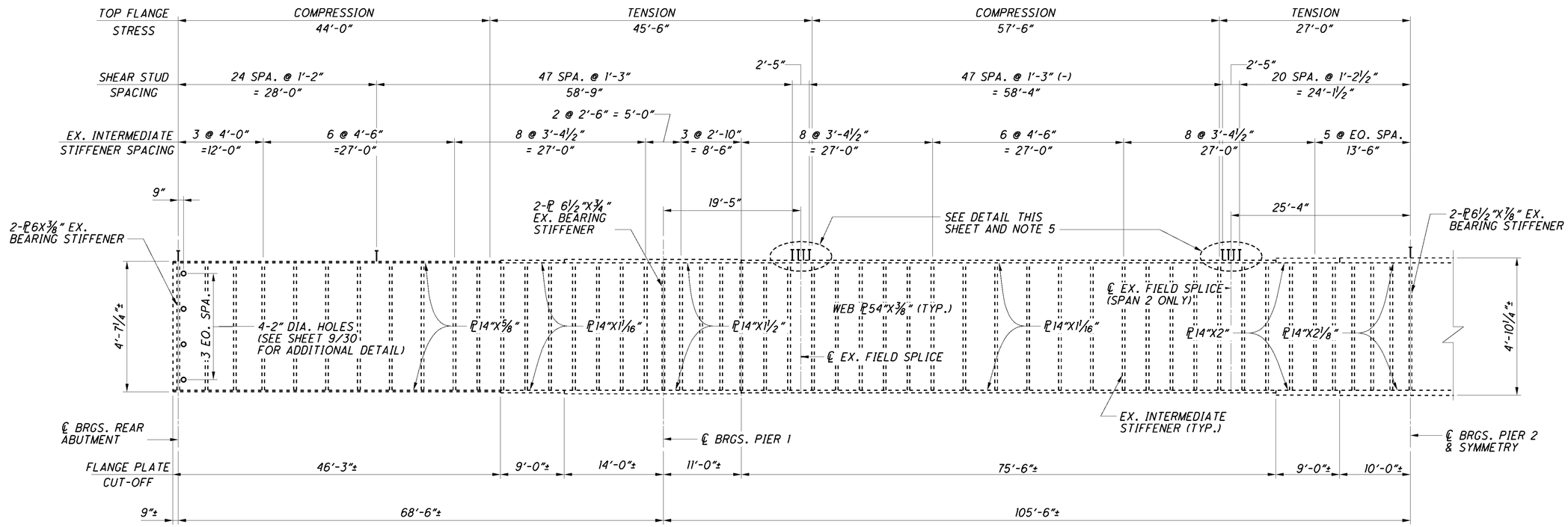
DESIGN AGENCY
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840 MICHIGAN AVENUE, COLUMBUS, OH 43215
TEL:(614)228-3500

DESIGNED	DRAWN	REVIEWED	DATE
SS/YSJ	CEC	JJ	09/12
CHECKED	REVISED	STRUCTURE FILE NUMBER	
JH		7707746	

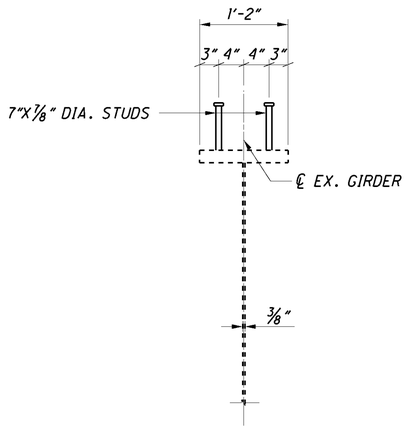
PATCHING DETAILS - PIER 3
BRIDGE NO. SUM-176-0106
S.R. 176 OVER I.R. 271

SUM-271-2.33
PID No. 18710

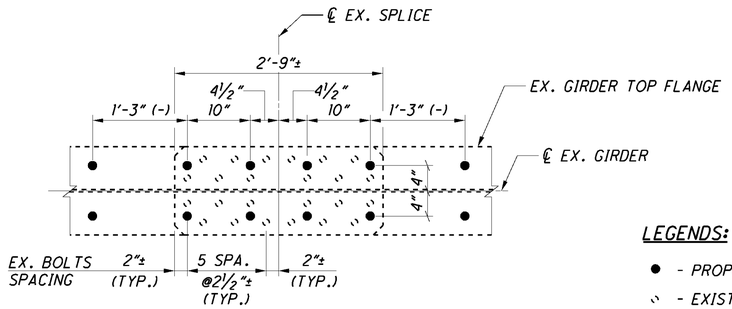
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EXISTING HALF GIRDER ELEVATION



SHEAR CONNECTOR DETAIL



SHEAR CONNECTOR AT EXISTING SPLICE DETAIL

LEGENDS:

- ● - PROPOSED SHEAR STUD
- ○ - EXISTING BOLT

NOTES:

1. ALL EXISTING DIMENSIONS ARE ±.
2. ALL EXISTING GIRDERS ARE LONGITUDINALLY SYMMETRICAL ABOUT ℄ PIER 2.
3. ALL EXISTING INTERMEDIATE STIFFENERS ARE 6"X⅜" PLATES AT BOTH SIDES OF WEB PLATE.
4. WELD ATTACHMENT OF SUPPORTS FOR CONCRETE DECK FINISHING MACHINE TO THE AREAS OF THE EXTERIOR GIRDER FLANGES DESIGNATED "COMPRESSION". DO NOT WELD ATTACHMENTS TO AREAS DESIGNATED "TENSION". FILLET WELDS TO COMPRESSION FLANGES SHALL BE AT LEAST 1" FROM EDGE OF FLANGE, BE NO MORE THAN 2" LONG, AND BE AT LEAST ¼" THICK FOR THICKNESS UP TO ¾" OR 5/16" FOR GREATER THAN ¾" THICK.
5. SHEAR STUDS AT EXISTING FLANGE SPLICES SHALL BE INSTALLED AS THE SPACING SHOWN ON DETAIL THIS SHEET. CONTRACTOR SHALL EXERCISE CAUTION TO PLACE THE PROPOSED SHEAR STUDS TO AVOID CONFLICTS WITH EXISTING SPLICE WELDS OR BOLTS. SHEAR STUD SPACING OVER EXISTING FLANGE SPLICES AND THICKNESS CHANGES MAY BE ADJUSTED ±2" TO AVOID SPLICE WELDS OR BOLTS.

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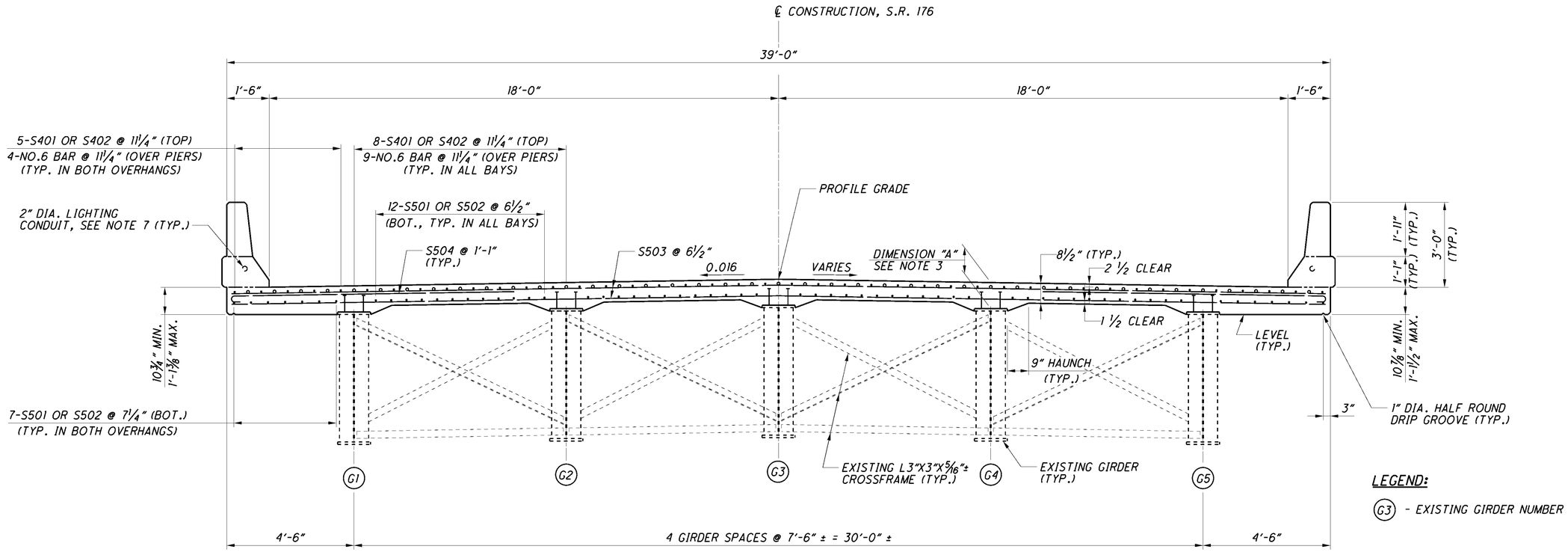
EXISTING GIRDER ELEVATION
BRIDGE NO. SUM-176-0106
S.R. 176 OVER I.R. 271

SUM-271-2.33
PID No. 18710

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TYPICAL TRANSVERSE SECTION

LEGEND:

(G3) - EXISTING GIRDER NUMBER

DIMENSION "A" TABLE *					
	G1	G2	G3	G4	G5
℄ BRGS., R.A.	11 5⁄8"	11 ½"	12 ⅛"	11 5⁄8"	11 ¾"
0.25 L	11 7⁄8"	11 ¾"	12 ¼"	11 7⁄8"	12"
0.50 L	12"	12"	12 ¼"	12 ¼"	12 ¼"
0.75 L	11 3⁄8"	11 3⁄8"	11 ½"	11 5⁄8"	11 5⁄8"
℄ BRGS., PIER 1	10 ¾"	10 ¾"	10 ¾"	11"	10 7⁄8"
0.25 L	12 ½"	12 3⁄8"	12 7⁄8"	12 7⁄8"	12 ¾"
0.50 L	12 7⁄8"	12 ½"	13 ¼"	13 ¼"	13"
0.75 L	12 ⅛"	12 ⅛"	12 7⁄8"	12 ¾"	12 ¼"
℄ BRGS., PIER 2	10 3⁄8"	10 ¾"	11 ⅛"	10 7⁄8"	10 ¾"
0.25 L	11 5⁄8"	11 7⁄8"	11 7⁄8"	12"	11 ½"
0.50 L	11 3⁄8"	11"	11"	11 ⅛"	11 ½"
0.75 L	12"	12"	12"	12 ¾"	12 ¼"
℄ BRGS., PIER 3	10 ½"	10 5⁄8"	10 ½"	10 ¾"	10 ½"
0.25 L	11 ¼"	10 7⁄8"	11 ½"	11 ½"	11 3⁄8"
0.50 L	11 7⁄8"	11 ½"	12 ⅛"	11 7⁄8"	11 7⁄8"
0.75 L	11 5⁄8"	11 ¼"	11 7⁄8"	11 ¼"	11 ½"
℄ BRGS., R.A.	10 5⁄8"	9 7⁄8"	10 3⁄8"	10 ¼"	10 ¾"

* L= SPAN LENGTH.

SUPERELEVATION TABLE				
LEFT SIDE	CENTERLINE		RIGHT SIDE	REMARKS
CROSS SLOPE	STATION	PROFILE GRADE	CROSS SLOPE	
-0.016	89+50.00	1261.56	-0.016	BEGIN SUPERELEVATION
-0.016	89+75.00	1261.69	-0.010	
-0.016	90+00.00	1261.77	-0.005	
-0.016	90+25.00	1261.80	0.000	1/2 LEVEL
-0.016	90+50.00	1261.79	+0.006	
-0.016	90+62.85	1261.78	+0.009	BEGIN APP. SLAB
-0.019	90+75.00	1261.73	+0.009	
-0.022	90+87.85	1261.70	+0.010	END APP. SLAB

NOTES:

1. DECK SLAB CONCRETE QUANTITY:
THE ESTIMATED QUANTITY OF DECK SLAB CONCRETE IS BASED ON THE CONSTANT DECK SLAB THICKNESS, AS SHOWN, PLUS THE QUANTITY OF CONCRETE THAT FORMS EACH GIRDER HAUNCH. THE ESTIMATE ASSUMES A CONSTANT AVERAGE HAUNCH THICKNESS OF 3⅛" INCHES AND A CONSTANT HAUNCH WIDTH OUTSIDE THE EDGE OF EACH GIRDER FLANGE OF 9 INCHES. DEVIATE FROM THIS HAUNCH THICKNESS AS NECESSARY TO PLACE THE DECK SURFACE AT THE FINISH GRADE. THE ALLOWABLE TOLERANCE FROM THE HAUNCH WIDTH OUTSIDE THE EDGE OF EACH GIRDER FLANGE IS ±3 INCHES.

2. THE HAUNCH THICKNESS IS MEASURED AT THE CENTERLINE OF THE GIRDER FROM THE SURFACE OF THE DECK TO THE TOP OF THE TOP FLANGE MINUS THE DECK SLAB THICKNESS. THE AREA OF ALL EMBEDDED STEEL PLATES HAS BEEN DEDUCTED FROM THE HAUNCH QUANTITY IN ACCORDANCE WITH 511.24.

3. DIMENSION "A" TABLE SHOWS THE COMBINED THICKNESS OF THE DECK AND THE HAUNCH ALONG EACH GIRDER.

4. REFER TO GENERAL NOTES ON SHEET 3/29 FOR TEMPORARY LATERAL SUPPORTS FOR DECK CONCRETE POURING AND PAYMENT.

5. FOR PARAPET REINFORCING DETAILS SEE SHEET 23/29 AND STANDARD BRIDGE DRAWING BR-1.

6. FOR BAR STAGGER DIAGRAM OVER PIERS SEE SHEET 18/29.

7. 2" DIA. LIGHTING CONDUIT SHALL BE INCLUDED WITH ROADWAY ITEMS FOR PAYMENT. FOR ADDITIONAL NOTES AND DETAILS, SEE STANDARD DRAWING HL-30.32.

8. MINIMUM LAP LENGTHS:
LAP NO. 4 BARS 2'-7"
LAP NO. 5 BARS 3'-2"
LAP NO. 6 BARS 3'-10"

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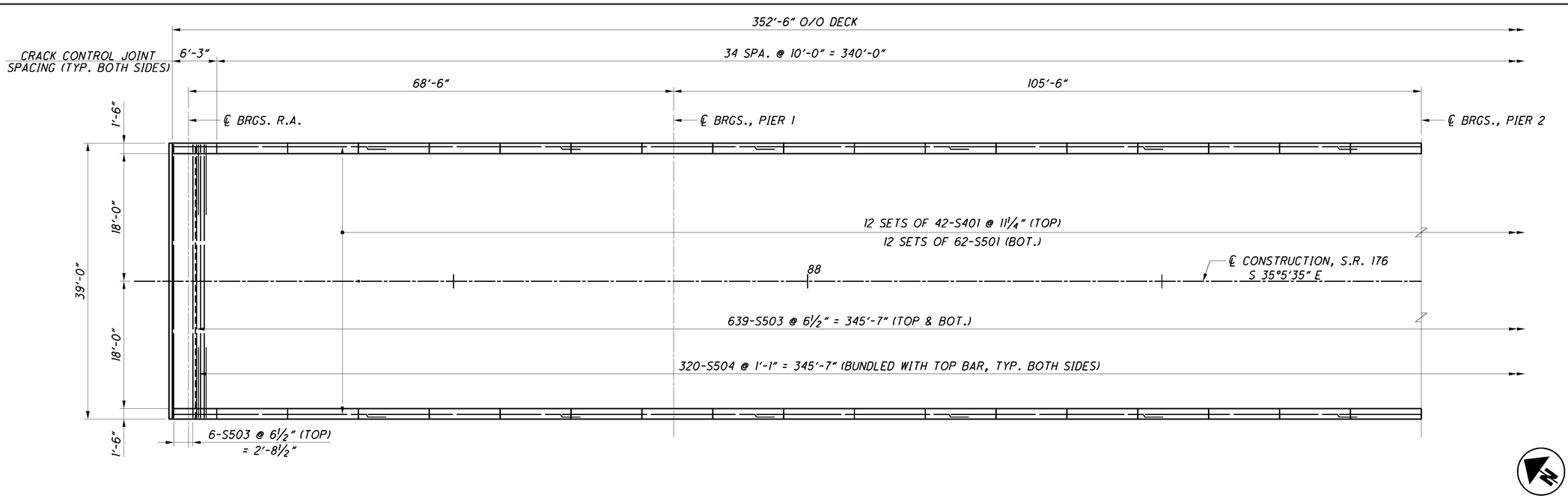
TRANSVERSE SECTION
BRIDGE NO. SUM-176-0106
S.R. 176 OVER I.R. 271

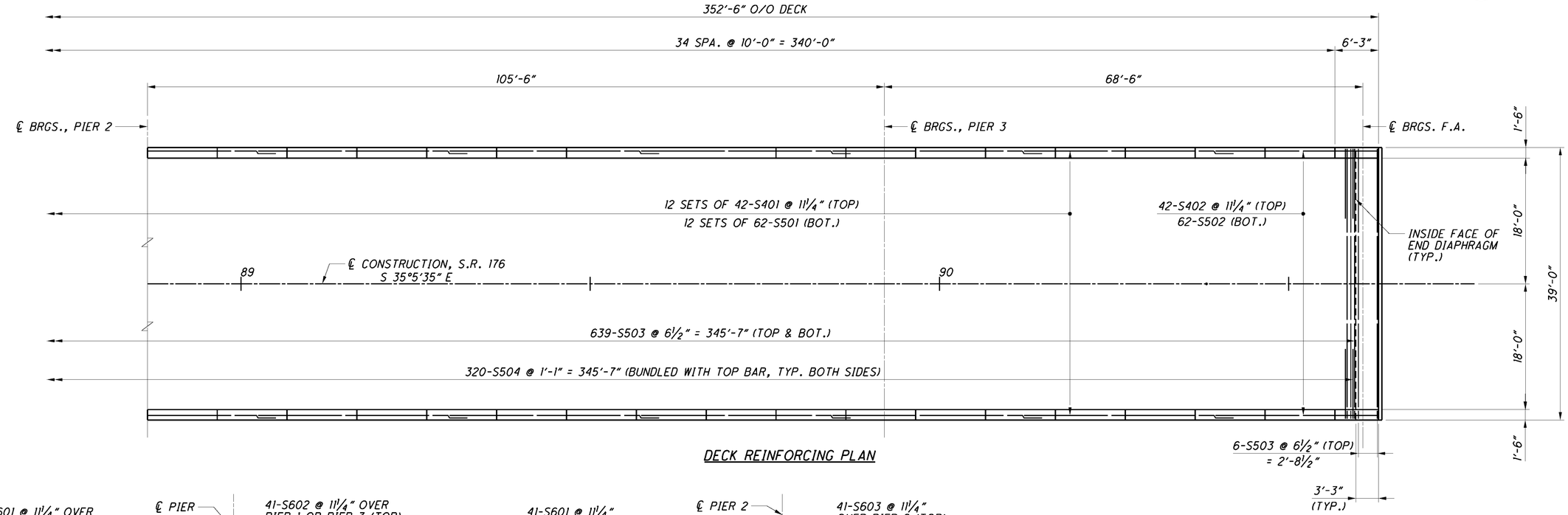
SUM-271-2.33
PID No. 18710

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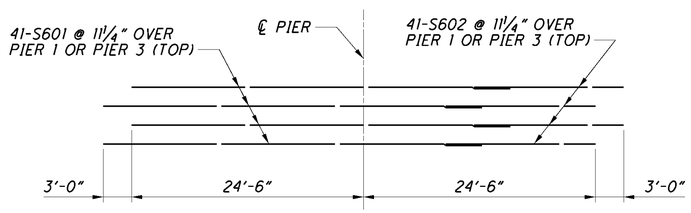
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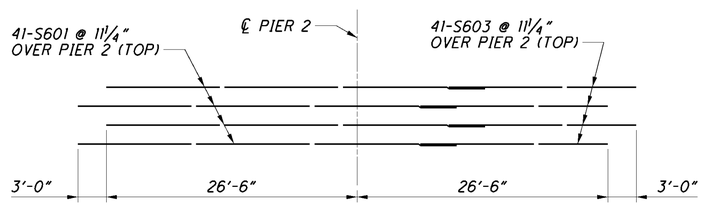




DECK REINFORCING PLAN



BAR STAGGER DIAGRAM OVER PIER 1 AND 3



BAR STAGGER DIAGRAM OVER PIER 2

NOTES:

1. FOR TRANSVERSE SECTION AND NOTES, SEE SHEET 17/29.
2. FOR PARAPET REINFORCING DETAILS, SEE SHEET 23/29.
3. MINIMUM LAP LENGTHS:
   LAP NO. 4 BARS 2'-7".
   LAP NO. 5 BARS 3'-2".
   LAP NO. 6 BARS 3'-10".

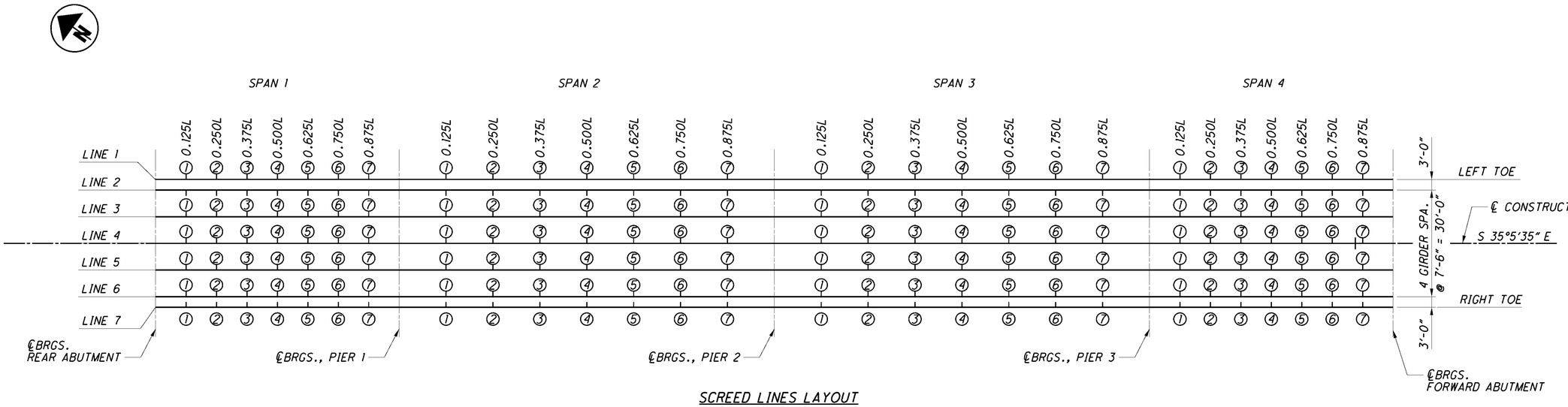
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DECK REINFORCING DETAILS
BRIDGE NO. SUM-176-0106
S.R. 176 OVER I.R. 271

SUM-271-2.33
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SCREED LINES LAYOUT

1. REFER TO SHEET 17/24 FOR SUPERELEVATION TABLE.
2. FOR SCREED LINE ELEVATIONS, SEE SHEET 20/29 .
3. FOR TOP OF HAUNCH ELEVATIONS, SEE SHEET 21/29 .
4. FOR FINAL DECK SURFACE ELEVATIONS, SEE SHEET 22/29 .
5. L = SPAN LENGTH.

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SS		7707746	

SCREED LINES LAYOUT
BRIDGE NO. SUM-176-0106
S.R. 176 OVER I.R. 271

SUM-271-2.33
PID No. 18710

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SCREED ELEVATIONS TABLE

		LINE 1 (LEFT TOE)		LINE 4 (G3, P/G)		LINE 7 (RIGHT TOE)	
SPAN NO.	LOCATION	STATION	ELEVATION	STATION	ELEVATION	STATION	ELEVATION
SPAN NO.1	0.00 L	87+12.60	1258.19	87+12.60	1258.47	87+12.60	1258.19
	0.13 L	87+21.16	1258.33	87+21.16	1258.62	87+21.16	1258.33
	0.25 L	87+29.73	1258.47	87+29.73	1258.76	87+29.73	1258.47
	0.38 L	87+38.29	1258.61	87+38.29	1258.89	87+38.29	1258.61
	0.50 L	87+46.85	1258.74	87+46.85	1259.02	87+46.85	1258.74
	0.63 L	87+55.41	1258.87	87+55.41	1259.15	87+55.41	1258.87
	0.75 L	87+63.98	1258.99	87+63.98	1259.28	87+63.98	1258.99
	0.88 L	87+72.54	1259.12	87+72.54	1259.41	87+72.54	1259.12
SPAN NO.2	0.00 L	87+81.10	1259.26	87+81.10	1259.54	87+81.10	1259.26
	0.13 L	87+94.29	1259.47	87+94.29	1259.76	87+94.29	1259.47
	0.25 L	88+07.48	1259.70	88+07.48	1259.99	88+07.48	1259.70
	0.38 L	88+20.66	1259.92	88+20.66	1260.21	88+20.66	1259.92
	0.50 L	88+33.85	1260.13	88+33.85	1260.41	88+33.85	1260.13
	0.63 L	88+47.04	1260.30	88+47.04	1260.59	88+47.04	1260.30
	0.75 L	88+60.23	1260.46	88+60.23	1260.74	88+60.23	1260.46
	0.88 L	88+73.41	1260.60	88+73.41	1260.89	88+73.41	1260.60
SPAN NO.3	0.00 L	88+86.60	1260.74	88+86.60	1261.03	88+86.60	1260.74
	0.13 L	88+99.79	1260.88	88+99.79	1261.17	88+99.79	1260.88
	0.25 L	89+12.98	1261.02	89+12.98	1261.30	89+12.98	1261.02
	0.38 L	89+26.16	1261.15	89+26.16	1261.43	89+26.16	1261.15
	0.50 L	89+39.35	1261.26	89+39.35	1261.54	89+39.35	1261.26
	0.63 L	89+52.54	1261.34	89+52.54	1261.62	89+52.54	1261.34
	0.75 L	89+65.73	1261.39	89+65.73	1261.67	89+65.73	1261.45
	0.88 L	89+78.91	1261.43	89+78.91	1261.71	89+78.91	1261.53
SPAN NO.4	0.00 L	89+92.10	1261.46	89+92.10	1261.74	89+92.10	1261.61
	0.13 L	90+00.66	1261.48	90+00.66	1261.76	90+00.66	1261.67
	0.25 L	90+09.23	1261.50	90+09.23	1261.78	90+09.23	1261.72
	0.38 L	90+17.79	1261.52	90+17.79	1261.80	90+17.79	1261.77
	0.50 L	90+26.35	1261.53	90+26.35	1261.81	90+26.35	1261.82
	0.63 L	90+34.91	1261.53	90+34.91	1261.81	90+34.91	1261.86
	0.75 L	90+43.48	1261.53	90+43.48	1261.81	90+43.48	1261.89
	0.88 L	90+52.04	1261.51	90+52.04	1261.79	90+52.04	1261.91
	1.00 L	90+60.60	1261.48	90+60.60	1261.76	90+60.60	1261.92

NOTES:

1. REFER TO SHEET 17/24 FOR SUPERELEVATION TABLE.
2. SEE SHEET 19/29 FOR ELEVATION LINES LOCATION.
3. SCREED ELEVATIONS SHOWN REPRESENT THE THEORETICAL DECK SURFACE LOCATION PRIOR TO DEFLECTIONS CAUSED BY DECK PLACEMENT AND OTHER ANTICIPATED DEAD LOADS.
4. L = SPAN LENGTH.

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SCREED ELEVATIONS
BRIDGE NO. SUM-176-0106
S.R. 176 OVER I.R. 271

SUM-271-2.33
PID No. 18710

20/29

924
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TOP OF HAUNCH ELEVATION TABLE

		LINE 2 (G1)		LINE 3 (G2)		LINE 4 (G3, P/G)		LINE 5 (G4)		LINE 6 (G5)	
SPAN NO.	LOCATION	STATION	ELEVATION	STATION	ELEVATION	STATION	ELEVATION	STATION	ELEVATION	STATION	ELEVATION
SPAN NO.1	0.00 L	87+12.60	1257.53	87+12.60	1257.65	87+12.60	1257.77	87+12.60	1257.65	87+12.60	1257.53
	0.13 L	87+21.16	1257.67	87+21.16	1257.79	87+21.16	1257.91	87+21.16	1257.79	87+21.16	1257.67
	0.25 L	87+29.73	1257.81	87+29.73	1257.93	87+29.73	1258.05	87+29.73	1257.93	87+29.73	1257.81
	0.38 L	87+38.29	1257.95	87+38.29	1258.07	87+38.29	1258.18	87+38.29	1258.07	87+38.29	1257.95
	0.50 L	87+46.85	1258.08	87+46.85	1258.20	87+46.85	1258.32	87+46.85	1258.20	87+46.85	1258.08
	0.63 L	87+55.41	1258.21	87+55.41	1258.32	87+55.41	1258.44	87+55.41	1258.32	87+55.41	1258.21
	0.75 L	87+63.98	1258.33	87+63.98	1258.45	87+63.98	1258.57	87+63.98	1258.45	87+63.98	1258.33
	0.88 L	87+72.54	1258.46	87+72.54	1258.58	87+72.54	1258.70	87+72.54	1258.58	87+72.54	1258.46
SPAN NO.2	0.00 L	87+81.10	1258.59	87+81.10	1258.71	87+81.10	1258.83	87+81.10	1258.71	87+81.10	1258.59
	0.13 L	87+94.29	1258.81	87+94.29	1258.93	87+94.29	1259.05	87+94.29	1258.93	87+94.29	1258.81
	0.25 L	88+07.48	1259.03	88+07.48	1259.15	88+07.48	1259.28	88+07.48	1259.15	88+07.48	1259.03
	0.38 L	88+20.66	1259.26	88+20.66	1259.38	88+20.66	1259.50	88+20.66	1259.38	88+20.66	1259.26
	0.50 L	88+33.85	1259.46	88+33.85	1259.58	88+33.85	1259.70	88+33.85	1259.58	88+33.85	1259.46
	0.63 L	88+47.04	1259.64	88+47.04	1259.76	88+47.04	1259.88	88+47.04	1259.76	88+47.04	1259.64
	0.75 L	88+60.23	1259.80	88+60.23	1259.92	88+60.23	1260.03	88+60.23	1259.92	88+60.23	1259.80
	0.88 L	88+73.41	1259.94	88+73.41	1260.06	88+73.41	1260.18	88+73.41	1260.06	88+73.41	1259.94
SPAN NO.3	0.00 L	88+86.60	1260.08	88+86.60	1260.20	88+86.60	1260.32	88+86.60	1260.20	88+86.60	1260.08
	0.13 L	88+99.79	1260.22	88+99.79	1260.34	88+99.79	1260.46	88+99.79	1260.34	88+99.79	1260.22
	0.25 L	89+12.98	1260.36	89+12.98	1260.48	89+12.98	1260.60	89+12.98	1260.48	89+12.98	1260.36
	0.38 L	89+26.16	1260.49	89+26.16	1260.60	89+26.16	1260.72	89+26.16	1260.60	89+26.16	1260.49
	0.50 L	89+39.35	1260.60	89+39.35	1260.71	89+39.35	1260.83	89+39.35	1260.71	89+39.35	1260.60
	0.63 L	89+52.54	1260.68	89+52.54	1260.79	89+52.54	1260.91	89+52.54	1260.79	89+52.54	1260.68
	0.75 L	89+65.73	1260.73	89+65.73	1260.85	89+65.73	1260.96	89+65.73	1260.87	89+65.73	1260.77
	0.88 L	89+78.91	1260.77	89+78.91	1260.88	89+78.91	1261.00	89+78.91	1260.93	89+78.91	1260.85
SPAN NO.4	0.00 L	89+92.10	1260.80	89+92.10	1260.91	89+92.10	1261.03	89+92.10	1260.98	89+92.10	1260.93
	0.13 L	90+00.66	1260.82	90+00.66	1260.94	90+00.66	1261.05	90+00.66	1261.01	90+00.66	1260.97
	0.25 L	90+09.23	1260.84	90+09.23	1260.96	90+09.23	1261.07	90+09.23	1261.05	90+09.23	1261.02
	0.38 L	90+17.79	1260.86	90+17.79	1260.97	90+17.79	1261.09	90+17.79	1261.08	90+17.79	1261.07
	0.50 L	90+26.35	1260.87	90+26.35	1260.98	90+26.35	1261.10	90+26.35	1261.10	90+26.35	1261.11
	0.63 L	90+34.91	1260.87	90+34.91	1260.99	90+34.91	1261.10	90+34.91	1261.12	90+34.91	1261.14
	0.75 L	90+43.48	1260.86	90+43.48	1260.98	90+43.48	1261.10	90+43.48	1261.13	90+43.48	1261.17
	0.88 L	90+52.04	1260.85	90+52.04	1260.96	90+52.04	1261.08	90+52.04	1261.13	90+52.04	1261.18
	1.00 L	90+60.60	1260.82	90+60.60	1260.94	90+60.60	1261.06	90+60.60	1261.12	90+60.60	1261.18

NOTES:

1. REFER TO SHEET 17/24 FOR SUPERELEVATION TABLE.
2. SEE SHEET 19/29 FOR ELEVATION LINES LOCATION.
3. TOP OF HAUNCH ELEVATIONS SHOWN REPRESENT THE THEORETICAL LOCATION OF THE BOTTOM OF THE DECK ABOVE THE GIRDER HAUNCH PRIOR TO DEFLECTIONS CAUSED BY DECK PLACEMENT AND OTHER ANTICIPATED DEAD LOADS.
4. L = SPAN LENGTH.

DESIGN AGENCY
COLUMBUS ENGINEERING CONSULTANTS, INC.
840 MICHIGAN AVENUE, COLUMBUS, OH 43215
TEL:(614)228-3500

DESIGNED JH/YSJ | DRAWN CEC | REVIEWED JJ | DATE 09/12
CHECKED SS | REVISED | STRUCTURE FILE NUMBER 7707746

TOP OF HAUNCH ELEVATIONS
BRIDGE NO. SUM-176-0106
S.R. 176 OVER I.R. 271

SUM-271-2.33
PID No. 18710

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FINAL DECK SURFACE ELEVATION TABLE

		LINE 1 (LEFT TOE)		LINE 2 (G1)		LINE 3 (G2)		LINE 4 (G3, P/G)		LINE 5 (G4)		LINE 6 (G5)		LINE 7 (RIGHT TOE)	
SPAN NO.	LOCATION	STATION	ELEVATION	STATION	ELEVATION	STATION	ELEVATION	STATION	ELEVATION	STATION	ELEVATION	STATION	ELEVATION	STATION	ELEVATION
SPAN NO.1	0.00 L	87+12.60	1258.19	87+12.60	1258.23	87+12.60	1258.35	87+12.60	1258.47	87+12.60	1258.35	87+12.60	1258.23	87+12.60	1258.19
	0.13 L	87+21.16	1258.32	87+21.16	1258.37	87+21.16	1258.49	87+21.16	1258.61	87+21.16	1258.49	87+21.16	1258.37	87+21.16	1258.32
	0.25 L	87+29.73	1258.45	87+29.73	1258.50	87+29.73	1258.62	87+29.73	1258.74	87+29.73	1258.62	87+29.73	1258.50	87+29.73	1258.45
	0.38 L	87+38.29	1258.59	87+38.29	1258.64	87+38.29	1258.76	87+38.29	1258.88	87+38.29	1258.76	87+38.29	1258.64	87+38.29	1258.59
	0.50 L	87+46.85	1258.72	87+46.85	1258.77	87+46.85	1258.89	87+46.85	1259.01	87+46.85	1258.89	87+46.85	1258.77	87+46.85	1258.72
	0.63 L	87+55.41	1258.85	87+55.41	1258.90	87+55.41	1259.02	87+55.41	1259.14	87+55.41	1259.02	87+55.41	1258.90	87+55.41	1258.85
	0.75 L	87+63.98	1258.99	87+63.98	1259.04	87+63.98	1259.16	87+63.98	1259.28	87+63.98	1259.16	87+63.98	1259.04	87+63.98	1258.99
	0.88 L	87+72.54	1259.12	87+72.54	1259.17	87+72.54	1259.29	87+72.54	1259.41	87+72.54	1259.29	87+72.54	1259.17	87+72.54	1259.12
SPAN NO.2	0.00 L	87+81.10	1259.26	87+81.10	1259.30	87+81.10	1259.42	87+81.10	1259.54	87+81.10	1259.42	87+81.10	1259.30	87+81.10	1259.26
	0.13 L	87+94.29	1259.46	87+94.29	1259.51	87+94.29	1259.63	87+94.29	1259.75	87+94.29	1259.63	87+94.29	1259.51	87+94.29	1259.46
	0.25 L	88+07.48	1259.66	88+07.48	1259.71	88+07.48	1259.83	88+07.48	1259.95	88+07.48	1259.83	88+07.48	1259.71	88+07.48	1259.66
	0.38 L	88+20.66	1259.88	88+20.66	1259.92	88+20.66	1260.04	88+20.66	1260.16	88+20.66	1260.04	88+20.66	1259.92	88+20.66	1259.88
	0.50 L	88+33.85	1260.08	88+33.85	1260.12	88+33.85	1260.24	88+33.85	1260.36	88+33.85	1260.24	88+33.85	1260.12	88+33.85	1260.08
	0.63 L	88+47.04	1260.26	88+47.04	1260.30	88+47.04	1260.42	88+47.04	1260.54	88+47.04	1260.42	88+47.04	1260.30	88+47.04	1260.26
	0.75 L	88+60.23	1260.44	88+60.23	1260.48	88+60.23	1260.60	88+60.23	1260.72	88+60.23	1260.60	88+60.23	1260.48	88+60.23	1260.44
	0.88 L	88+73.41	1260.60	88+73.41	1260.64	88+73.41	1260.76	88+73.41	1260.88	88+73.41	1260.76	88+73.41	1260.64	88+73.41	1260.60
SPAN NO.3	0.00 L	88+86.60	1260.74	88+86.60	1260.79	88+86.60	1260.91	88+86.60	1261.03	88+86.60	1260.91	88+86.60	1260.79	88+86.60	1260.74
	0.13 L	88+99.79	1260.88	88+99.79	1260.92	88+99.79	1261.04	88+99.79	1261.16	88+99.79	1261.04	88+99.79	1260.92	88+99.79	1260.88
	0.25 L	89+12.98	1261.00	89+12.98	1261.04	89+12.98	1261.16	89+12.98	1261.28	89+12.98	1261.16	89+12.98	1261.04	89+12.98	1261.00
	0.38 L	89+26.16	1261.10	89+26.16	1261.16	89+26.16	1261.27	89+26.16	1261.39	89+26.16	1261.27	89+26.16	1261.16	89+26.16	1261.10
	0.50 L	89+39.35	1261.20	89+39.35	1261.25	89+39.35	1261.37	89+39.35	1261.49	89+39.35	1261.37	89+39.35	1261.25	89+39.35	1261.20
	0.63 L	89+52.54	1261.29	89+52.54	1261.33	89+52.54	1261.45	89+52.54	1261.57	89+52.54	1261.45	89+52.54	1261.34	89+52.54	1261.29
	0.75 L	89+65.73	1261.36	89+65.73	1261.40	89+65.73	1261.52	89+65.73	1261.64	89+65.73	1261.54	89+65.73	1261.45	89+65.73	1261.41
	0.88 L	89+78.91	1261.41	89+78.91	1261.46	89+78.91	1261.58	89+78.91	1261.70	89+78.91	1261.62	89+78.91	1261.55	89+78.91	1261.52
SPAN NO.4	0.00 L	89+92.10	1261.46	89+92.10	1261.51	89+92.10	1261.62	89+92.10	1261.74	89+92.10	1261.69	89+92.10	1261.63	89+92.10	1261.61
	0.13 L	90+00.66	1261.48	90+00.66	1261.53	90+00.66	1261.64	90+00.66	1261.76	90+00.66	1261.72	90+00.66	1261.68	90+00.66	1261.67
	0.25 L	90+09.23	1261.50	90+09.23	1261.54	90+09.23	1261.66	90+09.23	1261.78	90+09.23	1261.75	90+09.23	1261.73	90+09.23	1261.72
	0.38 L	90+17.79	1261.51	90+17.79	1261.56	90+17.79	1261.67	90+17.79	1261.79	90+17.79	1261.78	90+17.79	1261.77	90+17.79	1261.76
	0.50 L	90+26.35	1261.51	90+26.35	1261.56	90+26.35	1261.68	90+26.35	1261.80	90+26.35	1261.80	90+26.35	1261.80	90+26.35	1261.80
	0.63 L	90+34.91	1261.51	90+34.91	1261.56	90+34.91	1261.68	90+34.91	1261.80	90+34.91	1261.81	90+34.91	1261.83	90+34.91	1261.84
	0.75 L	90+43.48	1261.51	90+43.48	1261.56	90+43.48	1261.67	90+43.48	1261.79	90+43.48	1261.82	90+43.48	1261.86	90+43.48	1261.87
	0.88 L	90+52.04	1261.50	90+52.04	1261.55	90+52.04	1261.66	90+52.04	1261.78	90+52.04	1261.83	90+52.04	1261.88	90+52.04	1261.90
	1.00 L	90+60.60	1261.48	90+60.60	1261.53	90+60.60	1261.65	90+60.60	1261.76	90+60.60	1261.83	90+60.60	1261.89	90+60.60	1261.92

NOTES:

1. REFER TO SHEET 17/24 FOR SUPERELEVATION TABLE.
2. SEE SHEET 19/29 FOR ELEVATION LINES LOCATION.
3. FINAL DECK ELEVATIONS SHOWN REPRESENT THE DECK SURFACE LOCATION AFTER ALL ANTICIPATED DEAD LOAD DEFLECTIONS HAVE OCCURRED.
4. L = SPAN LENGTH.

DESIGN AGENCY
COLUMBUS ENGINEERING CONSULTANTS, INC.
840 MICHIGAN AVENUE, COLUMBUS, OH 43215
TEL:(614)228-3500

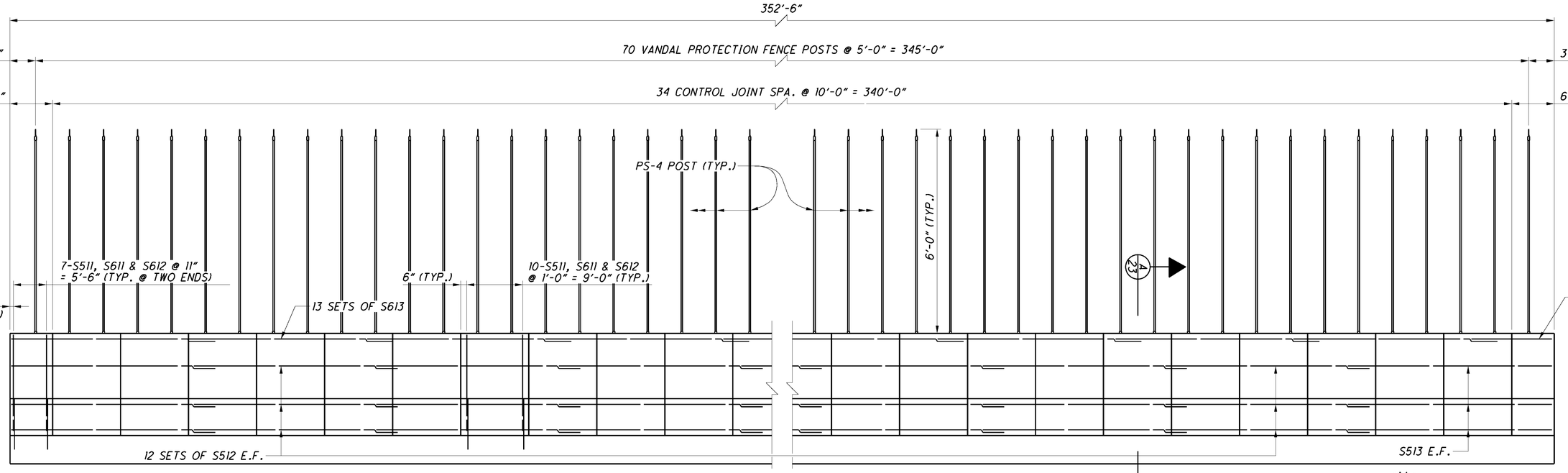
DESIGNED JH/YSJ | DRAWN CEC | REVIEWED JJ | DATE 09/12 | CHECKED SS | REVISED | STRUCTURE FILE NUMBER 7707746

FINAL DECK SURFACE ELEVATIONS
BRIDGE NO. SUM-176-0106
S.R. 176 OVER I.R. 271

SUM-271-2.33
PID No. 18710

926
1195

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PARAPET REINFORCING DETAILS

(RIGHT PARAPET SHOWN, LEFT PARAPET SIMILAR)

NOTES:

1. FOR TRANSVERSE SECTION AND NOTES, SEE SHEET 17/29.

2. THE PROPOSED VANDAL PROTECTION FENCE SHALL BE AS PER THE DETAILS IN THE PLAN WITH THE APPLICABLE PORTION OF STANDARD DRAWING VPF-1-90 AND THE MANUFACTURER'S RECOMMENDATION.

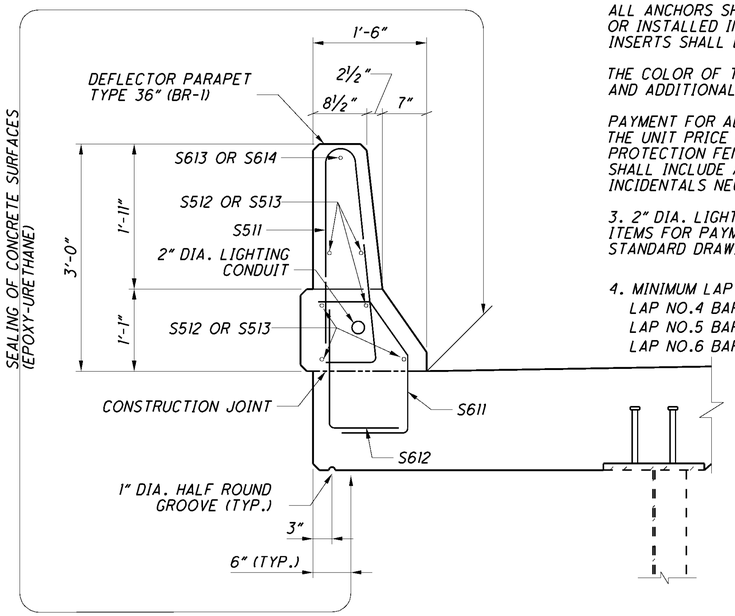
ALL ANCHORS SHALL BE CAST IN PLACE WITH 7" MINIMUM EMBEDMENT OR INSTALLED IN THREADED FERRULE CONCRETE INSERTS. THE INSERTS SHALL BE APPROVED BY THE DIRECTOR.

THE COLOR OF THE FENCE FABRIC, RAIL, POSTS, PLATES, TIEWIRES, AND ADDITIONAL VISUAL HARDWARE AND CAULK SHALL BE BLACK.

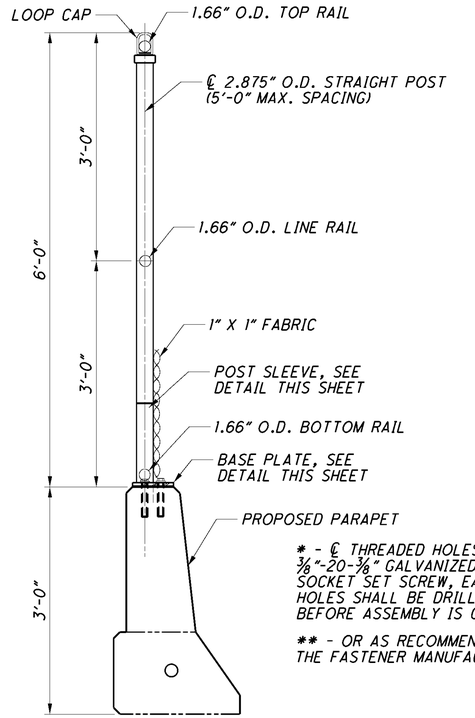
PAYMENT FOR ALL OF THE ABOVE INCLUDING PAINTING SHALL BE AT THE UNIT PRICE BID PER LINEAR FOOT FOR ITEM 607, VANDAL PROTECTION FENCE, 6 FOOT STRAIGHT, COATED FABRIC WHICH SHALL INCLUDE ALL LABOR, EQUIPMENT, MATERIALS, AND INCIDENTALS NECESSARY TO COMPLETE THE ABOVE WORK.

3. 2" DIA. LIGHTING CONDUIT SHALL BE INCLUDED WITH ROADWAY ITEMS FOR PAYMENT. FOR ADDITIONAL NOTES AND DETAILS, SEE STANDARD DRAWING HL-30.32.

4. MINIMUM LAP LENGTHS:
   LAP NO.4 BARS 2'-7".
   LAP NO.5 BARS 3'-2".
   LAP NO.6 BARS 3'-10".



SECTION A-A

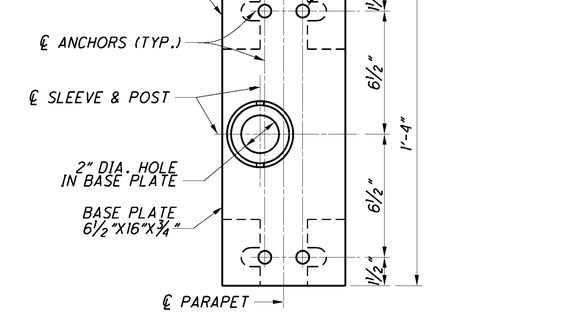


* - ℄ THREADED HOLES FOR ONE ⅜"-20-⅜" GALVANIZED HEXAGON SOCKET SET SCREW, EACH SIDE. HOLES SHALL BE DRILLED AND TAPPED BEFORE ASSEMBLY IS GALVANIZED.

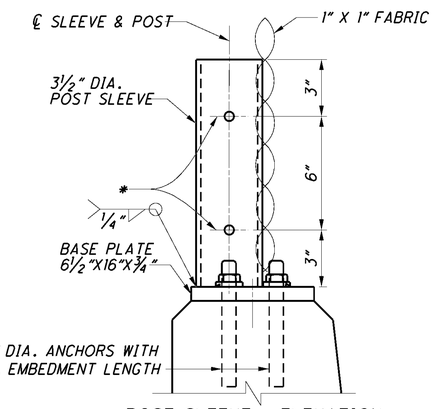
** - OR AS RECOMMENDED BY THE FASTENER MANUFACTURER.

POST SECTION PS-4

(6'-0" STRAIGHT FENCE)



PLAN BP-5



POST SLEEVE - ELEVATION

DESIGN AGENCY
COLUMBUS ENGINEERING CONSULTANTS, INC.
840 MICHIGAN AVENUE, COLUMBUS, OH 43215
TEL:(614)228-3500

DESIGNED	DRAWN	REVIEWED	DATE
JH/YSJ	CEC	JJ	09/12
CHECKED	REVISED	STRUCTURE FILE NUMBER	
SS		7707746	

RAILING AND VANDAL FENCE DETAILS

BRIDGE NO. SUM-176-0106
S.R. 176 OVER I.R. 271

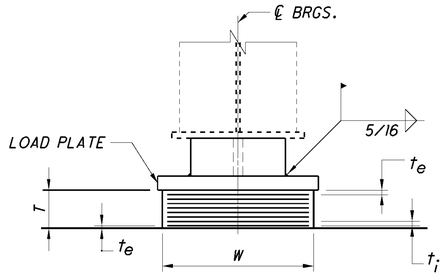
SUM-271-2.33
PID No. 18710

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LAMINATED ELASTOMERIC BEARINGS									
LOCATION	BEARING DIMENSIONS						STEEL LOAD PLATE	REACTIONS		MAXIMUM
	L	W	ti	te	T	N	LENGTH X WIDTH X THICKNESS	DL	LL	DESIGN LOAD
REAR ABUTMENT (EXP.)	1'-0"	1'-4"	0.42"	0.23"	4.00"	8	1'-1" X 1'-5" X 1 ½"	78 k	45 k	123 k
FORWARD ABUTMENT (EXP.)	1'-0"	1'-4"	0.42"	0.23"	4.00"	8	1'-1" X 1'-5" X 1 ½"	78 k	45 k	123 k

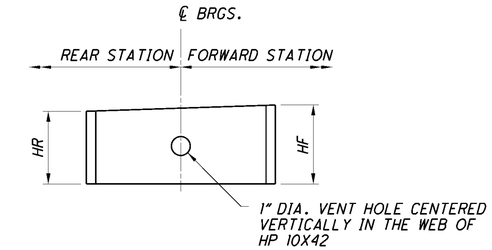
ti = THICKNESS OF INTERNAL LAYER
te = THICKNESS OF EXTERNAL LAYER
T = TOTAL THICKNESS OF ELASTOMERIC BEARING

N = NO. OF STEEL LAMINATES
INTERNAL STEEL LAMINATE THICKNESS = 0.0747"
DUROMETER OF ELASTOMER = 50 DUROMETER
LOAD PLATE THICKNESS IS MEASURED AT ℄ BEARINGS.

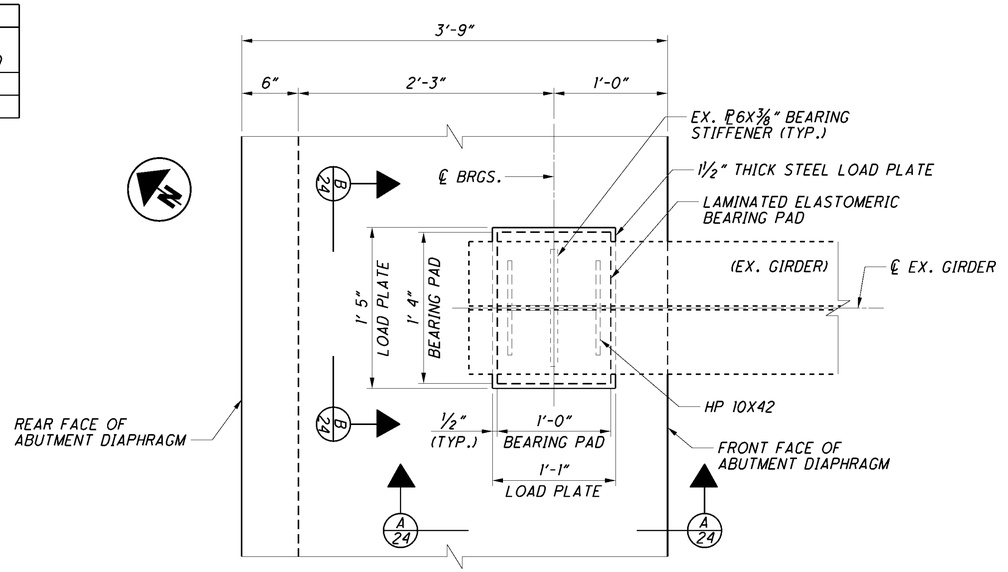


LAMINATED ELASTOMERIC EXPANSION BEARING

BEVEL HP10X42 HEIGHT				
	REAR ABUT.		FWD. ABUT.	
GIRDER NO.	HR	HF	HF	HR
1	5 7/16"	5 9/16"	5 1/16"	5 1/16"
2	6 15/16"	7 1/16"	7 1/4"	7 1/4"
3	7 3/4"	7 15/16"	8 3/16"	8 3/16"
4	6 13/16"	6 15/16"	9 1/8"	9 1/8"
5	5 7/16"	5 5/16"	9 7/16"	9 7/16"

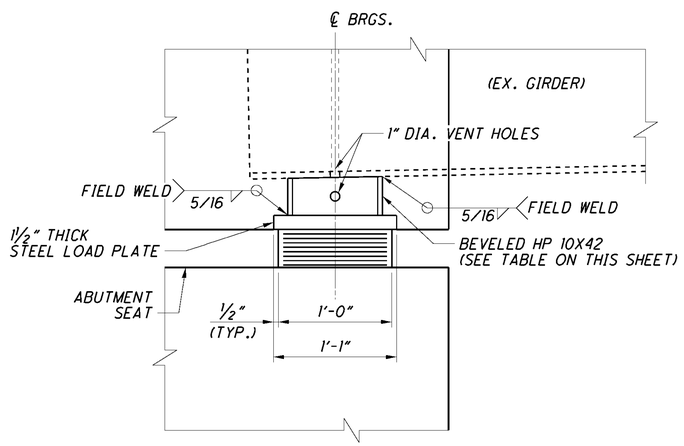


BEVEL HP10X42 DETAIL AT ABUTMENTS

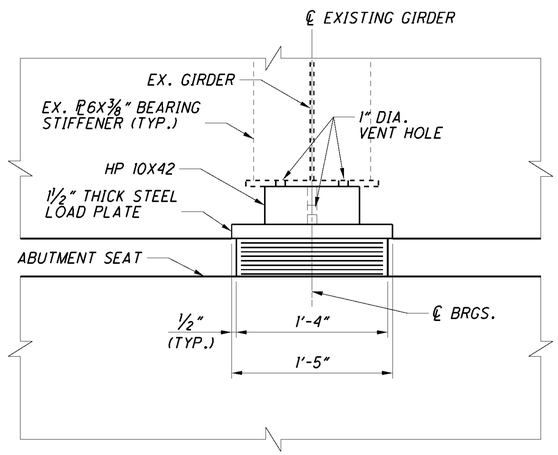


PLAN - ABUTMENT BEARING

(REAR ABUTMENT SHOWN, FORWARD ABUTMENT SIMILAR)



VIEW A-A



VIEW B-B

NOTES:

1. LOAD PLATE:
THE STEEL LOAD PLATE AND HP 10x42 PEDESTALS SHALL BE ASTM A572/A709 GRADE 50 STEEL. SURFACE PREPARATION AND PRIMING SHALL BE DONE IN THE SHOP AND BE INCLUDED IN THE PRICE BID FOR THE BEARINGS. FIELD COATS SHALL BE INCLUDED IN THE BID PRICE OF ITEM 514, FIELD PAINTING STRUCTURAL STEEL, AS PER PLAN, FOR PAYMENT.

THE STEEL LOAD PLATE SHALL BE BONDED BY VULCANIZATION TO THE ELASTOMER DURING THE MOLDING PROCESS.

WELDING OF THE LOAD PLATE TO THE SUPERSTRUCTURE SHALL BE CONTROLLED SO THAT THE PLATE TEMPERATURE AT THE ELASTOMER BONDED SURFACE SHALL NOT EXCEED 300°F AS DETERMINED BY THE USE OF PYROMETRIC STICKS OR OTHER TEMPERATURE MONITORING DEVICES.

HP 10x42 PEDESTAL:
SHOP MARK HP SECTIONS WITH THE FOLLOWING INFORMATION:
BEAM NUMBER, SUBSTRUCTURE UNIT & FORWARD STATION DIRECTION.

2. BEARING REPOSITIONING:
IF THE BEARING IS INSTALLED AT AN AMBIENT TEMPERATURE HIGHER THAN 80°F OR LOWER THAN 40°F AND THE BEARING SHEAR DEFLECTION EXCEEDS 1/6 OF THE BEARING HEIGHT AT 60°F±10°F, RAISE THE BEAMS OR GIRDERS TO ALLOW THE BEARINGS TO RETURN TO THEIR UNDEFORMED SHAPE AT 60°F±10°F.

3. ELASTOMERIC BEARINGS:
THE ELASTOMER SHALL HAVE A HARDNESS OF 50 DUROMETER. THE BEARINGS WERE DESIGNED UNDER DIVISION I, SECTION 14.6.6 (METHOD A) OF THE AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES.

4. BASIS OF PAYMENT:
THE UNIT BID PRICE INCLUDES ALL MATERIALS, LABOR, SHOP COATING, TESTING AND INCIDENTALS NECESSARY TO FURNISH AND INSTALL LAMINATED ELASTOMERIC BEARINGS INCLUDING STEEL LOAD PLATES AND HP 10X42 PEDESTALS. PAYMENT WILL BE INCLUDED WITH ITEM 516, ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE), AS PER PLAN.

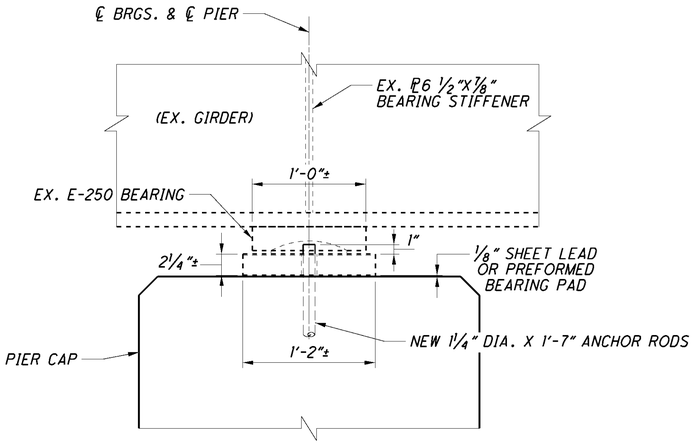
DESIGN AGENCY
COLUMBUS ENGINEERING CONSULTANTS, INC.
840 MICHIGAN AVENUE, COLUMBUS, OH 43215
TEL:(614)228-3500

DESIGNED JH/YSJ | DRAWN CEC | REVIEWED JJ | DATE 09/12 | CHECKED SS | REVISED | STRUCTURE FILE NUMBER 7707746

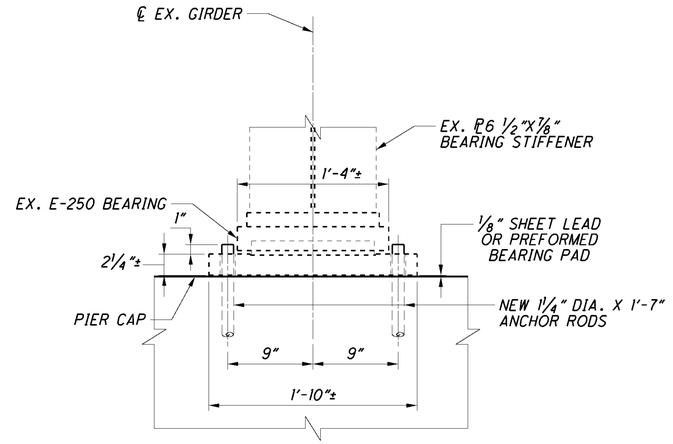
BEARING DETAILS - ABUTMENTS
BRIDGE NO. SUM-176-0106
S.R. 176 OVER I.R. 271

SUM-271-2.33
PID No. 18710

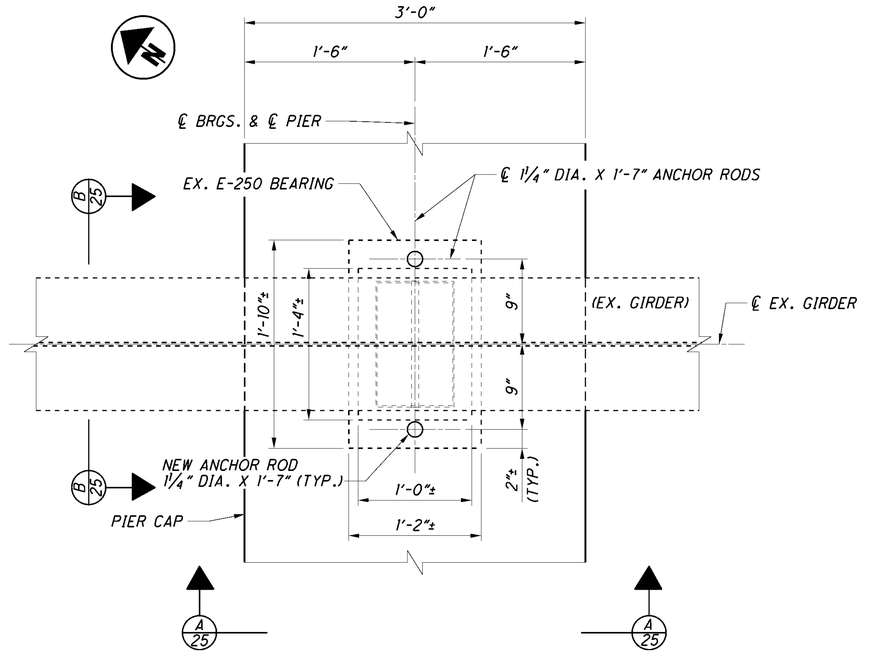
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VIEW A-A



VIEW B-B



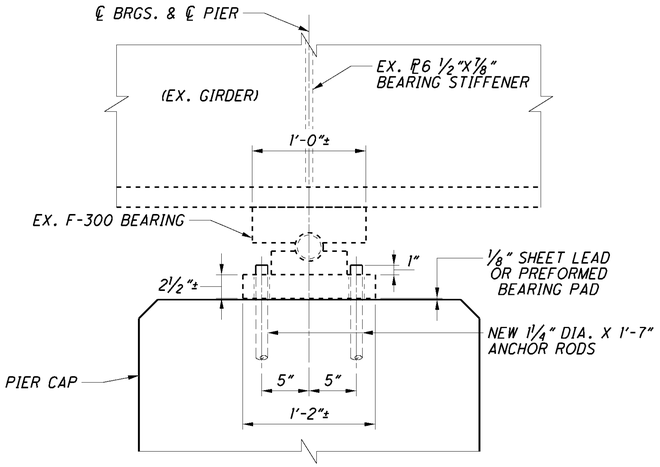
EXPANSION BEARING DETAILS

(PIERS 1 &3)

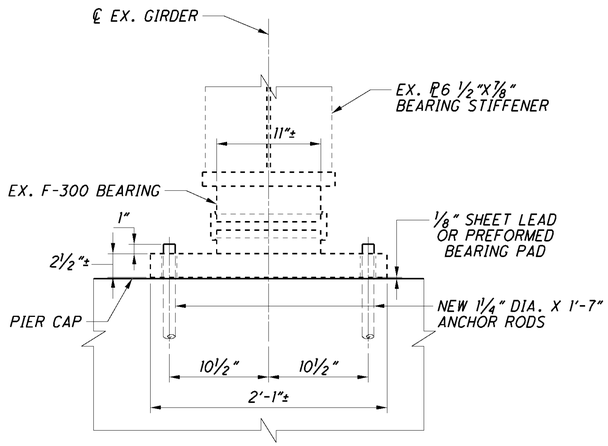
NOTES:

1. ANCHOR RODS SHALL BE ASTM A572/A709 GRADE 50 STEEL, GALVANIZED ACCORDING TO CMS 711.02. ANCHOR RODS SHALL BE CAST INTO PIER CAP CONCRETE. THE COST FOR ANCHOR ROD MATERIAL AND INSTALLATION ARE INCLUDED IN THE CONTRACT BID PRICE FOR ITEM 516 - REFURBISH BEARING DEVICE, AS PER PLAN.

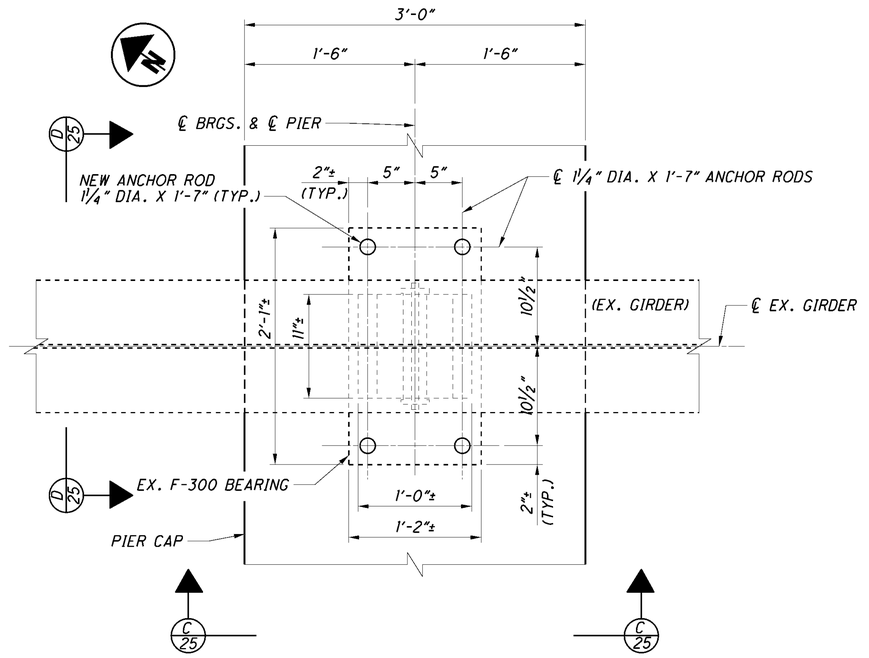
2. THE COST INCLUDING ALL LABOR, MATERIAL, EQUIPMENT AND INCIDENTALS NECESSARY TO REFURBISH AND RESET EXISTING BEARING DEVICES AS DETAILED IN THE PLANS ARE INCLUDED IN THE CONTRACT BID PRICE FOR ITEM 516 - REFURBISH BEARING DEVICE, AS PER PLAN.



VIEW C-C



VIEW D-D



FIX BEARING DETAILS

(PIER 2)

DESIGN AGENCY
COLUMBUS ENGINEERING CONSULTANTS, INC.
840 MICHIGAN AVENUE, COLUMBUS, OH 43215
TEL:(614)228-3500

DESIGNED	DRAWN	REVIEWED	DATE
SS/YSJ	CEC	JJ	09/12
CHECKED	REVISED	STRUCTURE FILE NUMBER	
JH		7707746	

BEARING DETAILS - PIERS

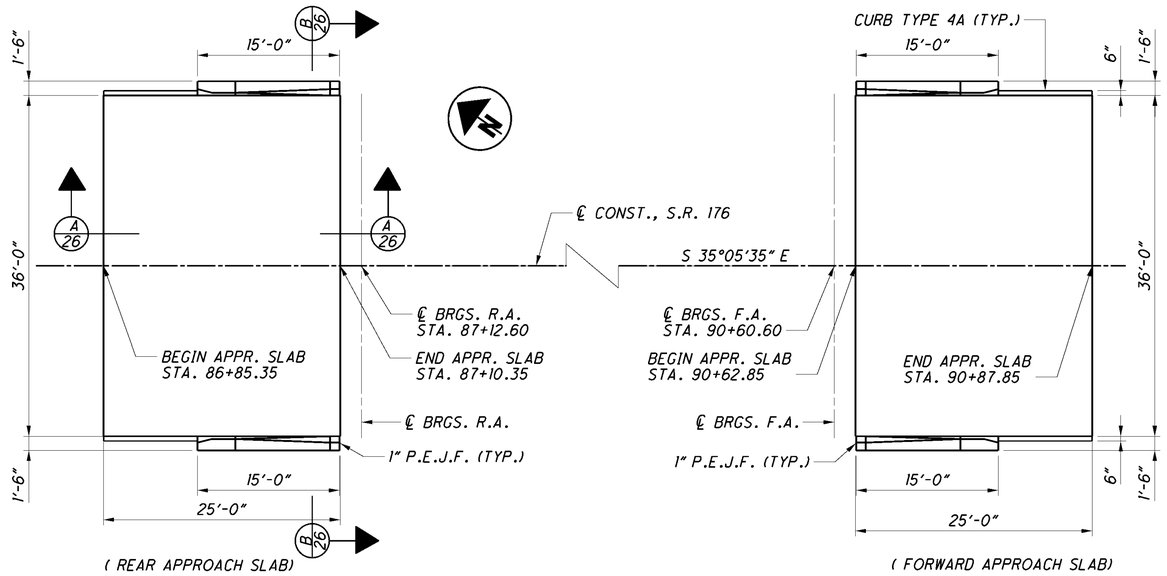
BRIDGE NO. SUM-176-0106
S.R. 176 OVER I.R. 271

SUM-271-2.33
PID No. 18710

25 / 29

929
1195

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APPROACH SLAB PLAN

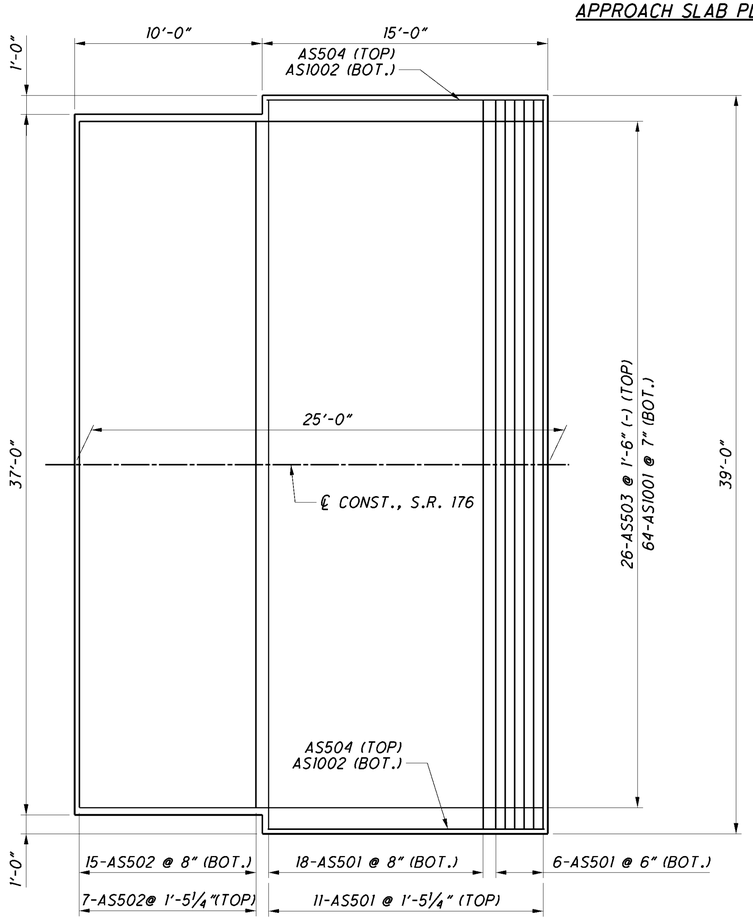
TOP OF APPROACH SLAB ELEVATIONS AND CROSS SLOPE

APPROACH SLAB	LOCATION	LEFT SIDE			PROFILE GRADE		RIGHT SIDE		
		STATION	PARAPET TOE ELEVATION	CROSS SLOPE	STATION	ELEVATION	STATION	PARAPET TOE ELEVATION	CROSS SLOPE
REAR	0.0 L	86+85.35	1257.76	-0.016	86+85.35	1258.05	86+85.35	1257.76	-0.016
	0.5 L	86+97.85	1257.96	-0.016	86+97.85	1258.24	86+97.85	1257.96	-0.016
	1.0 L	87+10.35	1258.15	-0.016	87+10.35	1258.44	87+10.35	1258.15	-0.016
FORWARD	0.0 L	90+62.85	1261.47	-0.016	90+62.85	1261.76	90+62.85	1261.92	0.0090
	0.5 L	90+75.35	1261.38	-0.019	90+75.35	1261.72	90+75.35	1261.89	0.0095
	1.0 L	90+87.85	1261.28	-0.022	90+87.85	1261.68	90+87.85	1261.86	0.0100

* L = APPROACH SLAB LENGTH

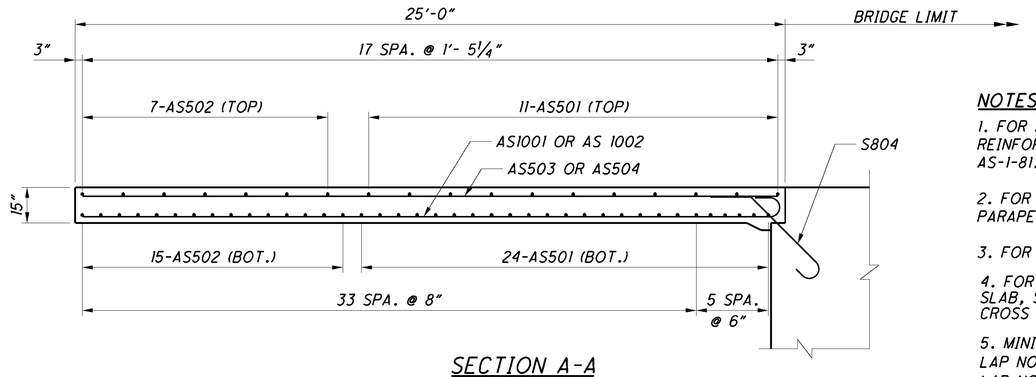
REINFORCING STEEL LIST TABLE

MARK	NO.	LENGTH	WEIGHT	TYPE	A	B	C	D	INCR.
APPROACH SLAB (FOR INFORMATION ONLY)									
AS501	70	38'-6"	2811	STR					
AS502	44	36'-6"	1675	STR					
AS503	52	24'-6"	1329	STR					
AS504	4	14'-6"	61	STR					
								A	
AS1001	128	25'-11"	14275	16	24'-6"				
AS1002	4	15'-11"	274	16	14'-6"				
		TOTAL = 20425 LB						TYPE-16	



APPROACH SLAB REINFORCING DETAILS

(REAR APPROACH SLAB SHOWN, FORWARD APPROACH SLAB SIMILAR)



SECTION A-A

NOTES:

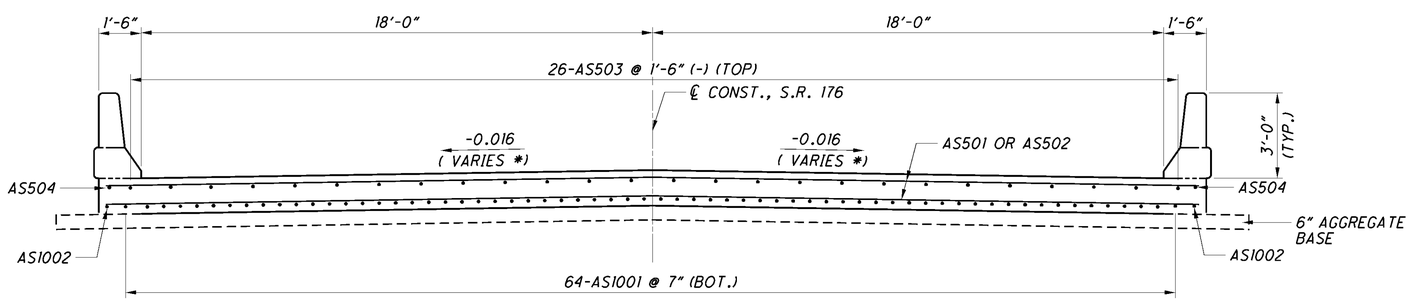
1. FOR ADDITIONAL DETAILS NOTES & APPROACH SLAB REINFORCING, REFERENCE IS MADE TO STD. DRAWING AS-1-81.

2. FOR NOTES & ADDITIONAL DETAILS OF THE CONCRETE PARAPET, REFERENCE IS MADE TO STD. DRAWING BR-1.

3. FOR PARAPET TRANSITION DETAILS SEE SHEET 27/29 .

4. FOR VARYING CROSS SLOPES IN FORWARD APPROACH SLAB, SEE TOP OF APPROACH SLAB ELEVATIONS AND CROSS SLOPE TABLE ON THIS SHEET.

5. MINIMUM LAP LENGTHS:
LAP NO.4 BARS 2'-7".
LAP NO.5 BARS 3'-2".
LAP NO.6 BARS 3'-10".



SECTION B-B

(CROSS SLOPES SHOWN IN ( ) ARE FOR FORWARD APPROACH SLAB)
(* SEE NOTE 4)

DESIGN AGENCY
COLUMBUS ENGINEERING CONSULTANTS, INC.
840 MICHIGAN AVENUE, COLUMBUS, OH 43215
TEL:6614228-3500

DESIGNED JH/YSJ | DRAWN CEC | REVIEWED JJ | DATE 09/12
CHECKED SS | REVISED | STRUCTURE FILE NUMBER 7707746

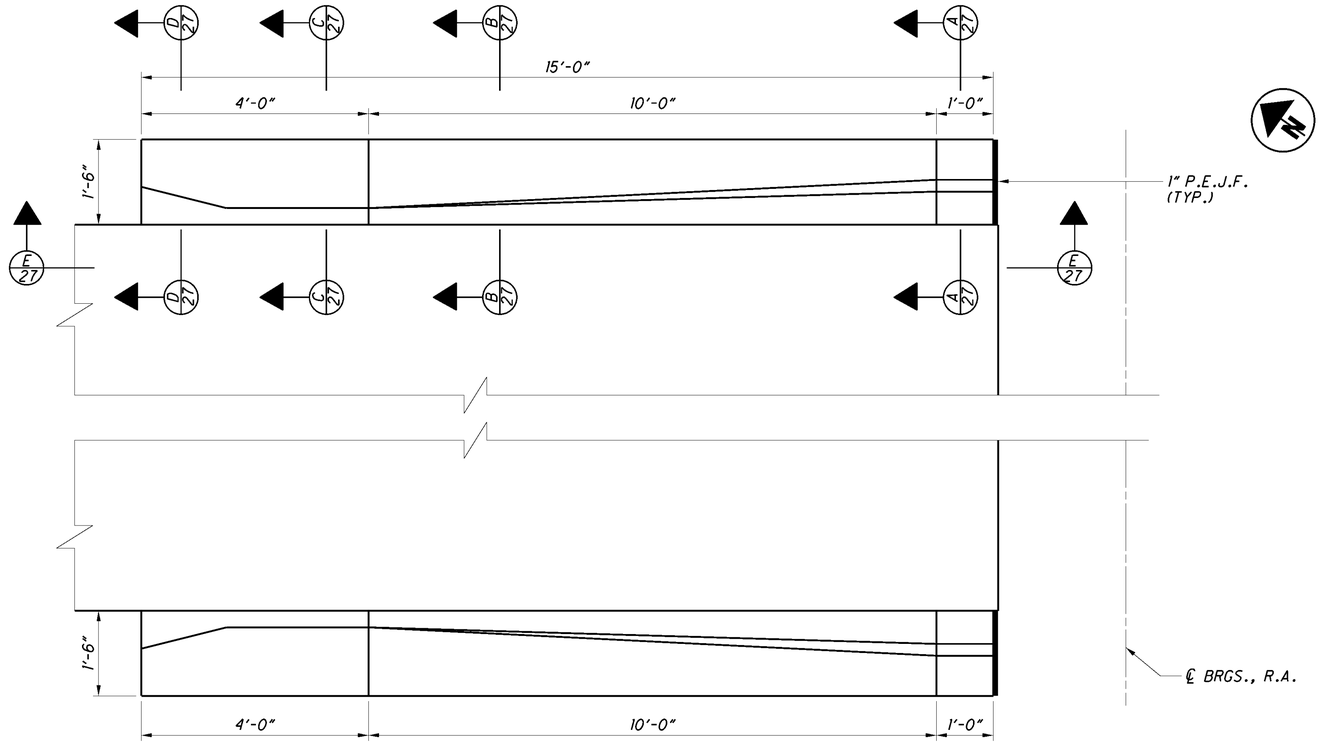
APPROACH SLAB DETAILS
BRIDGE NO. SUM-176-0106
S.R. 176 OVER I.R. 271

SUM-271-2.33
PID No. 18710

26/29

930
1195

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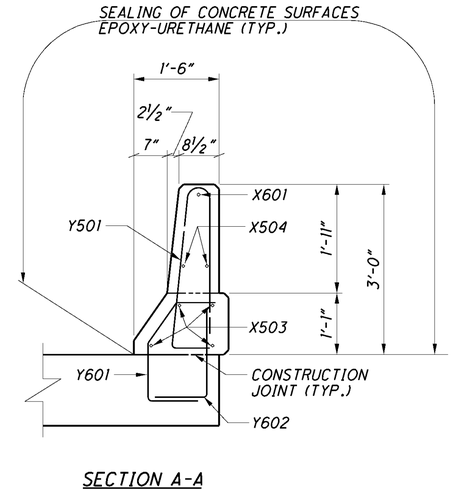


APPROACH SLAB PARAPET PLAN

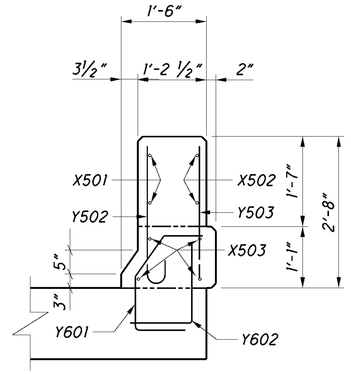
(REAR APPROACH SHOWN, FORWARD APPROACH SIMILAR)
(SEE STD. DWG. BR-1 FOR ADDITIONAL DETAILS)

LEGEND

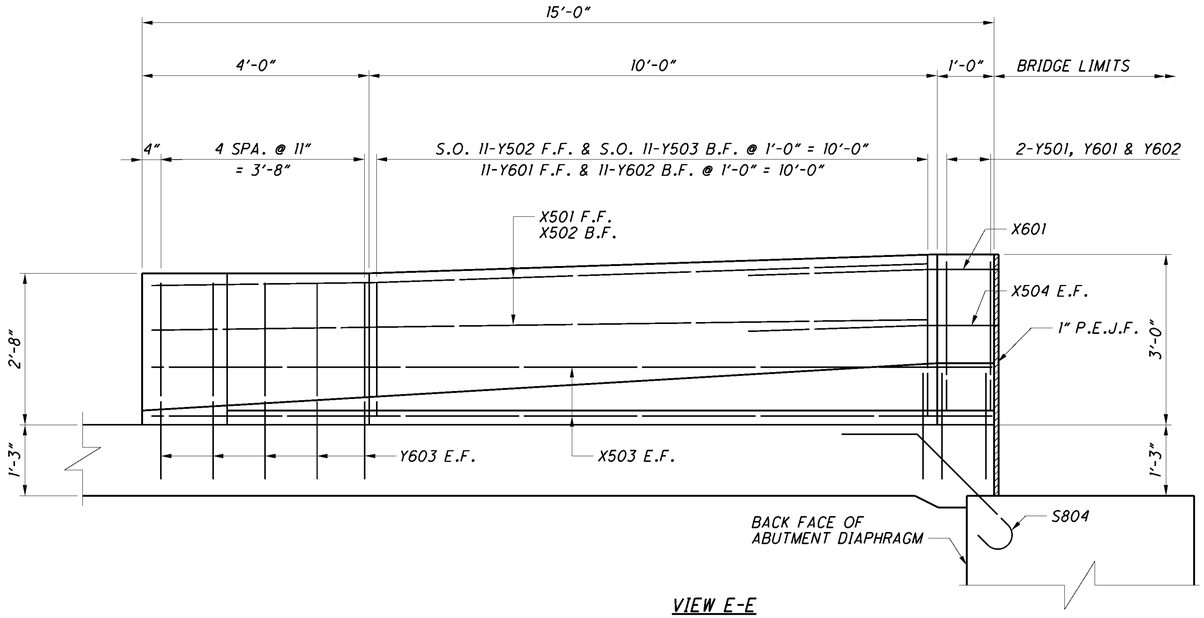
F.F. - FRONT FACE
B.F. - BACK FACE
E.F. - EACH FACE
S.O. - SERIES OF



SECTION A-A

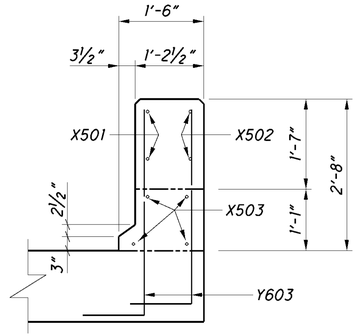


SECTION B-B

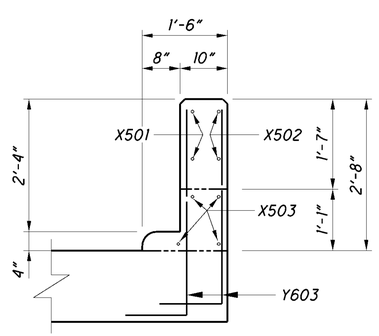


VIEW E-E

(PARAPETS ON FORWARD APPROACH SLAB ARE SIMILAR)



SECTION C-C



SECTION D-D

DESIGN AGENCY
COLUMBUS ENGINEERING CONSULTANTS, INC.
840 MICHIGAN AVENUE, COLUMBUS, OH 43215
TEL:(614)228-3500

DESIGNED	DRAWN	REVIEWED	DATE
JH/YSJ	CEC	JJ	09/12
CHECKED	REVISED	STRUCTURE FILE NUMBER	
SS		7707746	

APPROACH SLAB PARAPET DETAILS
BRIDGE NO. SUM-176-0106
S.R. 176 OVER I.R. 271

SUM-271-2.33
PID No. 18710

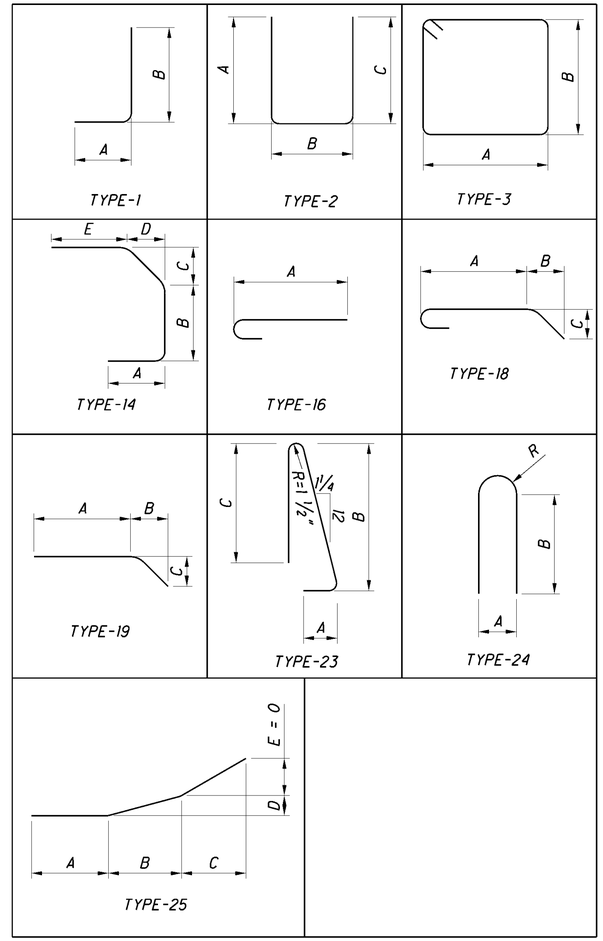
27 / 29

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1195

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MARK	NUMBER			LENGTH	WEIGHT	TYPE	DIMENSIONS						
	REAR	FORWARD	TOTAL				A	B	C	D	E	R	INC
ABUTMENTS													CALCULATED: SS CHECKED: JH
A501	72	72	144	4'-11"	738	1	3'-0"	2'-1"					
A502	4	4	8	22'-7"	188	STR							
A503	8	8	16	5'-4"	89	1	0'-10"	4'-8"					
A504	8	8	16	6'-2"	103	1	3'-2"	3'-2"					
A505	2	2	4	17'-8"	74	2	7'-5"	3'-1"	7'-5"				
A506	4	4	8	6'-8"	56	19	1'-2"	4'-9"	2'-9"				
A507	24	24	48	18'-4"	918	3	3'-0"	5'-10"					
A508	2	2	4	13'-8"	57	3	3'-0"	3'-6"					
	4	4	8	12'-5"									
A509	S.O.	S.O.	S.O.	TO	332	STR							0'-10"
	3	3	3	14'-1"									
A510	6	6	12	11'-6"	144	STR							
A511	20	20	40	10'-0"	417	STR							
A512	4	4	8	15'-0"	125	STR							
A513	12	12	24	18'-0"	451	STR							
A514	22		22	12'-5"	285	2	5'-9"	1'-2"	5'-9"				
	2		2	7'-11"			3'-6"		3'-6"				
A515	S.O.		S.O.	TO	164	2	TO	1'-2"	TO				0'-3 1/4"
	8		8	11'-9"			5'-5"		5'-5"				
A516	4	4	8	11'-3"	94	19	3'-2"	7'-10"	2'-0"				
A517		11	11	12'-3"	141	2	5'-8"	1'-2"	5'-8"				
		1	1	7'-11"			3'-6"		3'-6"				
A518		S.O.	S.O.	TO	82	2	TO	1'-2"	TO				0'-3 1/4"
		8	8	11'-9"			5'-5"		5'-5"				
A519		11	11	13'-1"	150	2	6'-1"	1'-2"	6'-1"				
		1	1	7'-11"			3'-6"		3'-6"				
A520		S.O.	S.O.	TO	86	2	TO	1'-2"	TO				0'-4"
		8	8	12'-7"			5'-10"		5'-10"				
A601	22	22	44	23'-10"	1575	2	11'-6"	1'-2"	11'-6"				
A602	54	54	108	5'-6"	892	1	1'-0"	4'-8"					
A801	8	8	16	24'-2"	1032	STR							
A802	8	8	16	14'-3"	609	STR							
				SUB-TOTAL =	8802 LB								

BENDING DIAGRAMS



NOTES:

FOR NOTES, SEE SHEET 29/29.

DESIGN AGENCY
COLUMBUS ENGINEERING CONSULTANTS, INC.
840 MICHIGAN AVENUE, COLUMBUS, OH 43215
TEL:(614)228-3500

DESIGNED JH/YSJ | DRAWN CEC | REVIEWED JJ | DATE 09/12
CHECKED SS | REVISED | STRUCTURE FILE NUMBER 7707746

REINFORCING STEEL LIST - I
BRIDGE NO. SUM-176-0106
S.R. 176 OVER I.R. 271

SUM-271-2.33
PID No. 18710

28/29

932
1195

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MARK	NUMBER	LENGTH	WEIGHT	TYPE	DIMENSIONS						
					A	B	C	D	E	R	INC
PIERS											CALCULATED: SS CHECKED: JH
P501	180	9'-11"	1862	2	3'-9"	2'-8"	3'-9"				
P502	36	11'-0"	413	24	2'-8"	3'-5"				1'-4"	
P503	24	30'-0"	751	STR							
P801	6	40'-0"	641	2	4'-0"	32'-5"	4'-0"				
P802	6	39'-7"	634	2	4'-0"	32'-0"	4'-0"				
P803	6	37'-7"	602	2	4'-0"	30'-0"	4'-0"				
P1001	6	32'-5"	837	STR							
P1002	6	32'-0"	826	STR							
P1003	6	30'-0"	775	STR							
	SUB-TOTAL =		7341 LB								

MARK	NUMBER	LENGTH	WEIGHT	TYPE	DIMENSIONS						
					A	B	C	D	E	R	INC
SUPERSTRUCTURE											CALCULATED: JH CHECKED: SS
S401	504	30'-0"	10085	STR							
S402	42	23'-2"	649	STR							
S501	744	30'-0"	23280	STR							
S502	62	30'-2"	1951	STR							
S503	1290	38'-8"	52025	STR							
S504	640	11'-0"	7343	16	10'-5"						
S511	708	6'-0"	4431	23	0'-8"	2'-9"	2'-6"			1 ½"	
S512	144	30'-0"	4506	STR							
S513	12	30'-2"	378	STR							
S515	72	11'-2"	839	2	4'-0"	3'-5"	4'-0"				
S516	72	11'-2"	839	2	4'-0"	3'-5"	4'-0"				
S517	72	7'-2"	538	2	2'-5"	2'-7"	2'-5"				
S601	123	40'-0"	7390	STR							
S602	82	15'-10"	1950	STR							
S603	41	19'-10"	1221	STR							
S611	708	2'-10"	3013	14	0'-10½"	0'-7"	0'-8½"	0'-6"	0'-9"		
S612	708	2'-5"	2569	1	1'-1"	1'-6"					
S613	26	30'-0"	1172	STR							
S614	2	12'-0"	36	STR							
S801	48	22'-6"	2884	STR							
S802	16	18'-9"	801	STR							
S803	8	13'-10"	295	STR							
S804	60	4'-10"	774	18	2'-8"	1'-0"	1'-0"				
	SUB-TOTAL =		128969 LB								

MARK	NUMBER			LENGTH	WEIGHT	TYPE	DIMENSIONS						
	REAR	FORWARD	TOTAL				A	B	C	D	E	R	INC
APPROACH SLAB PARAPETS (FOR INFORMATION ONLY)													CALCULATED: JH CHECKED: SS
X501	4	4	8	13'-10"	115	25	10'-0"	2'-5"	1'-5"	0'-1"	0'-5"		
X502	4	4	8	13'-10"	115	STR							
X503	8	8	16	14'-10"	248	STR							
X504	4	4	8	4'-6"	38	STR							
Y501	4	4	8	6'-0"	50	23	0'-8"	2'-9"	2'-6"			1 ½"	
	2	2	4	2'-11"			2'-4"						
Y502	S.O.	S.O.	S.O.	TO	142	16	TO						⅜"
	11	11	11	3'-3"			2'-8"						
	2	2	4	2'-4"									
Y503	S.O.	S.O.	S.O.	TO	115	STR							⅜"
	11	11	11	2'-8"									
X601	2	2	4	4'-6"	27	STR							
Y601	26	26	52	3'-3"	254	14	0'-10½"	1'-0"	0'-8½"	0'-6"	0'-9"		
Y602	26	26	52	2'-10"	221	1	1'-1"	1'-11"					
Y603	20	20	40	4'-3"	256	1	3'-5"	1'-0"					
			SUB-TOTAL =		1581 LB								

NOTES:

1. THE BAR SIZE NUMBER IS SPECIFIED ON THE PLANS IN THE BAR MARK COLUMN. THE FIRST DIGIT WHERE THREE DIGITS ARE USED, AND THE FIRST TWO DIGITS WHERE FOUR ARE USED, INDICATES THE BAR SIZE NUMBER. FOR EXAMPLE, S501 IS A NO. 5 BAR. BAR DIMENSIONS SHOWN ARE OUT TO OUT UNLESS OTHERWISE NOTED. R INDICATES INSIDE RADIUS, UNLESS OTHERWISE NOTED.

2. ALL REINFORCING STEEL SHALL BE EPOXY COATED.

3. "STR" IN THE TYPE COLUMN INDICATES STRAIGHT BARS.

4. S.O. DENOTES SERIES OF.

5. REFER TO C.M.S. SECTION 509.05 FOR STANDARD BEND DIMENSIONS.

6. ALL REINFORCING STEEL CLEARANCES ARE 2" UNLESS OTHERWISE NOTED.

DESIGN AGENCY
COLUMBUS ENGINEERING CONSULTANTS, INC.
840 MICHIGAN AVENUE, COLUMBUS, OH 43215
TEL:(614)228-3500

DESIGNED JH/YSJ | DRAWN CEC | REVIEWED JJ | DATE 09/12 | CHECKED SS | REVISED | STRUCTURE FILE NUMBER 7707746

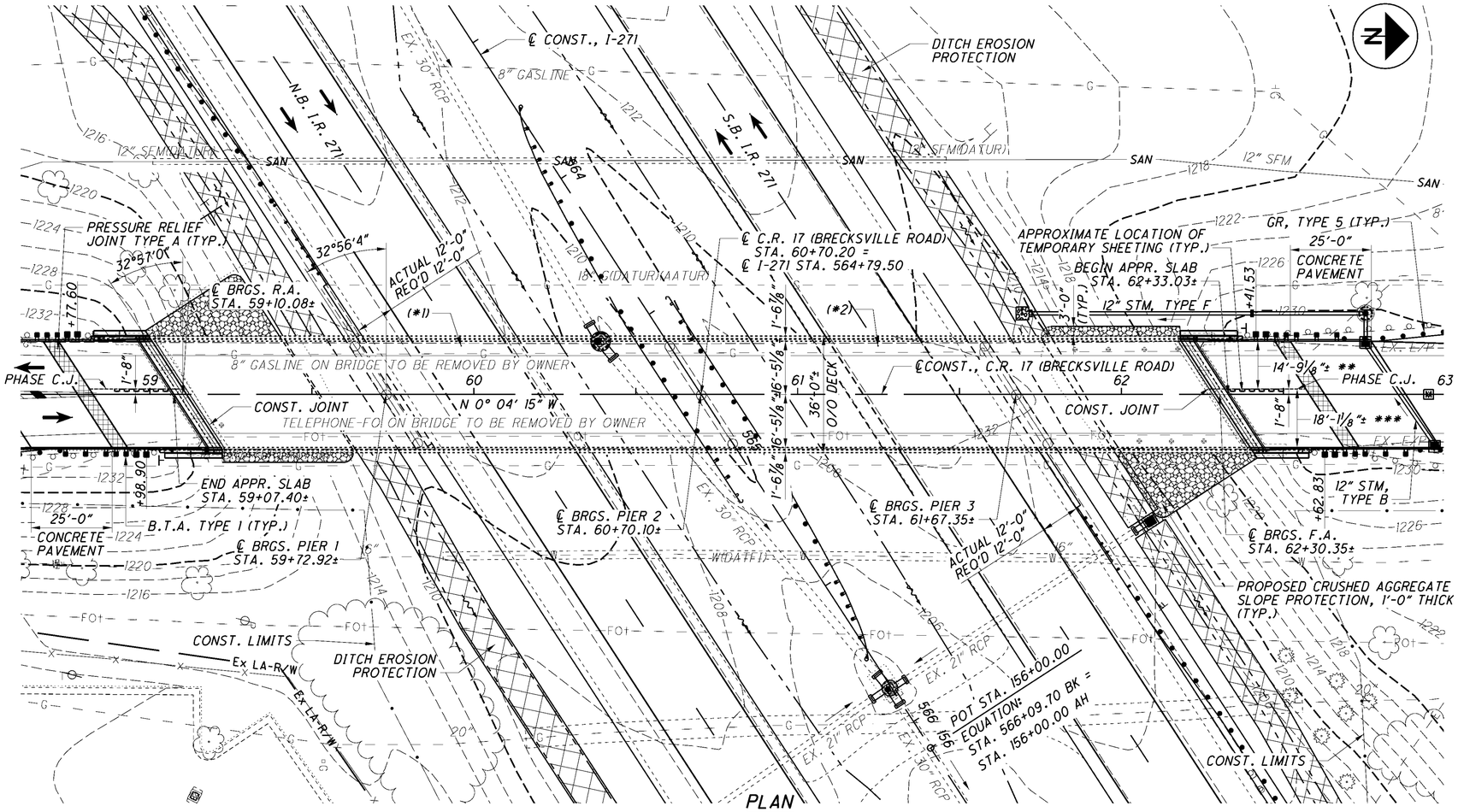
REINFORCING STEEL LIST - II

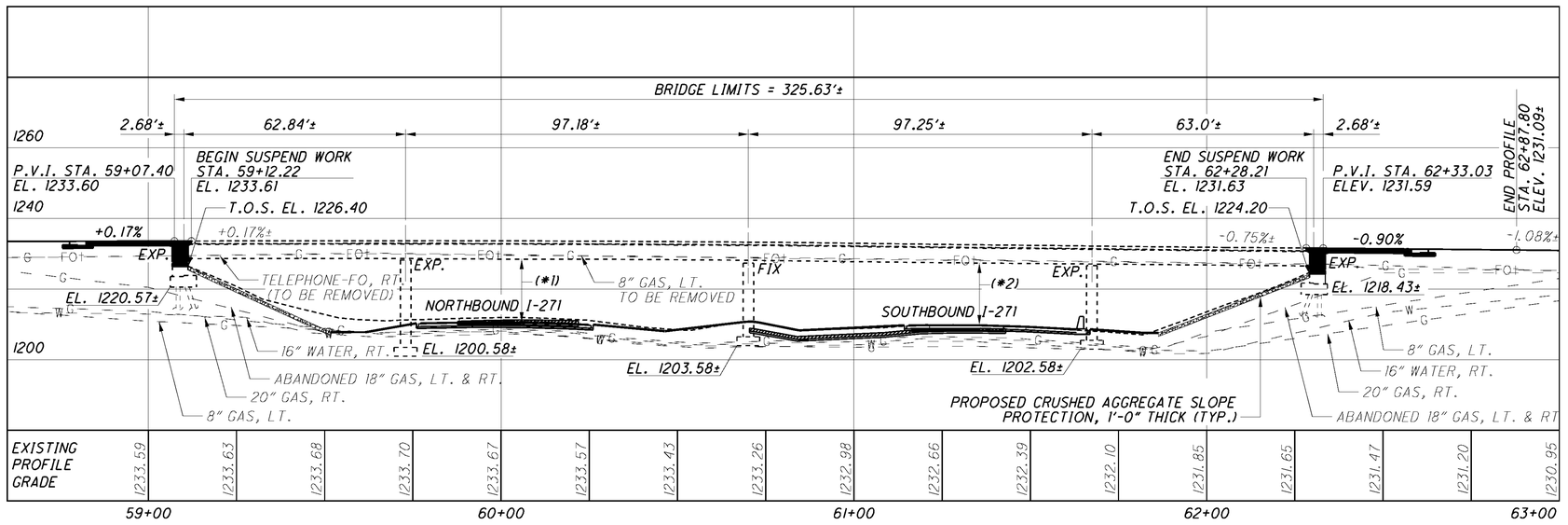
BRIDGE NO. SUM-176-0106
S.R. 176 OVER I.R. 271

SUM-271-2.33
PID No. 18710

933/1195

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ELEVATION ALONG C.R. 17 (BRECKSVILLE ROAD) PROFILE GRADE

BENCHMARK DATA

SVM32: STA. 62+92.85 ELEV. 1194.13 OFFSET 343.18' RT. (CMON FD)
SV7104: STA. 63+66.16 ELEV. 1229.56 OFFSET 26.69' RT. (5/8 REBAR WITH BM CAP)
SV7105: STA. 58+01.67 ELEV. 1232.54 OFFSET 18.80' LT. (5/8 REBAR WITH BM CAP)

FOR ADDITIONAL BENCHMARK INFORMATION SEE ROADWAY PLAN SHEETS 679/1195 AND 680/1195

NOTES

1. EARTHWORK LIMITS SHOWN ARE APPROXIMATE. ACTUAL SLOPES SHALL CONFORM TO PLAN CROSS SECTIONS.

PROPOSED WORK NOTE: SEE SHEET 2/25 .

ASBESTOS NOTE: SEE SHEET 2/25 .

DESIGN TRAFFIC:

2015 ADT = 9790 2015 ADTT = 392
2035 ADT = 10340 2035 ADTT = 414
DIRECTIONAL DISTRIBUTION = 55%

LEGEND

* REQUIRED MINIMUM VERTICAL CLEARANCE
** PHASE 1 CONSTRUCTION
*** PHASE 2 CONSTRUCTION

VERTICAL CLEARANCE TABLE

	(*1)	(*2)
EXISTING	15'-9¼"	16'-11¼"
PROPOSED	17'-0 ½"	16'-10 ½"
REQUIRED	16'-6"	16'-6"

EXISTING STRUCTURE

TYPE: 4-SPAN CONTINUOUS WELDED STEEL PLATE GIRDER WITH REINFORCED CONCRETE DECK AND SUBSTRUCTURE
SPANS: 62'-10"±, 97'-2"±, 97'-3"±, 63'-0"±
ROADWAY: 32'-10" F/F PARAPETS
LOADING: CF 2000 (57)
SKEW: 32°57'00" RF
APPROACH SLABS: 25'-0" LONG (AS-1-54)
ALIGNMENT: TANGENT
WEARING SURFACE: 1" INTEGRAL CONCRETE (MONOLITHIC)
CROWN: 3/16" / FT.
STRUCTURAL FILE NUMBER: 7708858
DATE BUILT: 1968
DISPOSITION: REUSE SUPERSTRUCTURE & SUBSTUCTURE

PROPOSED STRUCTURE

TYPE: 4-SPAN CONTINUOUS WELDED STEEL PLATE GIRDER WITH REINFORCED CONCRETE DECK ON CAP-AND COLUMN PIERS AND MODIFIED SEMI-INTEGRAL ABUTMENTS
SPANS: 62'-10"±, 97'-2"±, 97'-3"±, 63'-0"±
ROADWAY: 32'-10" F/F PARAPETS
LOADING: HS20
SKEW: 32°57'00" RF
APPROACH SLABS: 25'-0" LONG (AS-1-81)
ALIGNMENT: TANGENT
WEARING SURFACE: 1" INTEGRAL CONCRETE (MONOLITHIC)
CROWN: 3/16" / FT.
STRUCTURAL FILE NUMBER: 7708858
COORDINATES: LATITUDE 41°13'25" N
LONGITUDE 81°38'17" W

DESIGN AGENCY
COLUMBUS ENGINEERING CONSULTANTS, INC.
840 MICHIGAN AVENUE, COLUMBUS, OH 43215
TEL:(614)228-3500

DESIGNED SS/YSJ | DRAWN CEC | REVIEWED JJ | DATE 09/12 | CHECKED JH | REVISED | STRUCTURE FILE NUMBER 7708858

SUMMIT COUNTY
STA. 59+07.40±
STA. 62+33.03±

SITE PLAN
BRIDGE NO. SUM-271-0294
C.R. 17 (BRECKSVILLE ROAD) OVER I.R. 271

SUM-271-2.33
PID No. 18710

1 / 25

934/1195

REFER TO THE FOLLOWING STANDARD DRAWINGS:

AS-1-81	REVISED	07-19-02
BR-1	REVISED	07-19-02
GSD-1-96	REVISED	07-19-02
SICD-1-96	REVISED	07-19-02

DESIGN SPECIFICATIONS:

THIS STRUCTURE CONFORMS TO "STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPIRATION OFFICIALS, 17TH EDITION, 2002, INCLUDING THE INTERIM SPECIFICATIONS AND THE 2004 O.D.O.T. BRIDGE DESIGN MANUAL.

DESIGN LOADING:

HS20

DESIGN DATA:

CONCRETE CLASS HP - COMPRESSIVE STRENGTH 4,500 P.S.I. (SUPERSTRUCTURE)
CONCRETE CLASS C - COMPRESSIVE STRENGTH 4,000 P.S.I. (SUBSTRUCTURE)

REINFORCING STEEL - ASTM A615 OR A996
GRADE 60 MINIMUM YIELD STRENGTH 60,000 P.S.I.

PROPOSED STRUCTURAL STEEL - ASTM A709 GRADE 50
YIELD STRENGTH 50,000 P.S.I.
EXISTING STRUCTURAL STEEL - ASTM A-36 YIELD STRENGTH 36,000 P.S.I.

DECK PROTECTION METHOD:

SEALING OF CONCRETE SURFACES

PROPOSED WORK:

1. REMOVE ABUTMENT END CROSSFRAMES & EXPANSION JOINT SYSTEMS.
2. REPLACE ABUTMENT STEEL BEARINGS WITH NEW ELASTOMERIC BEARINGS.
3. CONVERT EXISTING ABUTMENTS INTO SEMI-INTEGRAL ABUTMENTS.
4. REPLACE DETERIORATED INTERMEDIATE CROSSFRAMES.
5. PATCH SPALLED AND DELAMINATED CONCRETE SURFACES.
6. FIBER WRAP PIER 2 CAP.
7. EXTEND EXISTING SCUPPERS.
8. PAINT STRUCTURAL STEEL.
9. CONSTRUCT NEW APPROACH SLABS.
10. UPGRADE APPROACH RAILING TO CURRENT STANDARDS.
11. SEAL EXPOSED SUBSTRUCTURE & PARAPET SURFACES WITH EPOXY-URETHANE.

PROPOSED CONSTRUCTION SEQUENCE:

1. THE WORK WILL BE PERFORMED IN PHASES USING PART-WIDTH CONSTRUCTION. SEQUENCE POINTS 2 THROUGH 10 SHALL BE PERFORMED IN PHASES WITHIN PHASE CONSTRUCTION LIMITS AS SPECIFIED IN PLANS. PHASE 1 WILL MAINTAIN TEMPORARY SIGNALIZED ONE LANE TWO WAY TRAFFIC ON THE RIGHT SIDE OF THE BRIDGE, AND PHASE 2 WILL MAINTAIN TEMPORARY SIGNALIZED ONE LANE TWO WAY TRAFFIC ON THE LEFT SIDE OF BRIDGE. FOR MORE DETAILS REFER TO MAINTENANCE OF TRAFFIC SHEETS.

2. REMOVE EXISTING RAILING ON APPROACH SLABS, EXISTING APPROACH SLABS AND 2.50 FEET OF EXISTING DECK AT ABUTMENT EXPANSION JOINTS.

3. REMOVE EXISTING END CROSSFRAMES AND ABUTMENT EXPANSION JOINT SYSTEMS. ABRASIVE BLAST EXISTING BEAM ENDS TO SOUND BASE METAL.

4. REMOVE EXISTING ABUTMENT BACKWALLS, BREASTWALLS AND WINGWALLS TO ELEVATIONS SHOWN IN THE PLANS.

5. CONSTRUCT NEW WINGWALLS, MODIFY EXISTING ABUTMENT BEAM SEATS AND CONVERT EXISTING ABUTMENTS INTO SEMI-INTEGRAL ABUTMENTS.

6. CUT OFF EXISTING 6" CMP DRAIN IN ABUTMENTS AND CAP ENDS. ADD POROUS BACKFILL WITH FILTER FABRIC AND PIPE TO COLLECT AND DISCHARGE DRAINAGE BEHIND ABUTMENTS.

7. REFURBISH AND RESET EXISTING PIER BEARINGS.

8. CONSTRUCT NEW FULL WIDTH APPROACH SLABS. PLACE NEW CONCRETE PARAPETS, PARAPET TRANSITIONS AND CURBS ON NEWLY CONSTRUCTED APPROACH SLAB.

9. CONSTRUCT 25.0 FT. CONCRETE PAVEMENTS ADJACENT TO APPROACH SLABS. CONSTRUCT PRESSURE RELIEF JOINTS (TYPE A) BETWEEN APPROACH SLABS AND ROADWAY CONCRETE PAVEMENTS. COSTS ASSOCIATED WITH THESE CONCRETE PAVEMENTS AND PRESSURE RELIEF JOINTS ARE INCLUDED IN ROADWAY QUANTITIES FOR PAYMENT.

10. FIBER WRAP PIER 2 CAP. ESTIMATED FIBER-WRAPPING AREA IS 430.00 SQ. FT.10. REPLACE ALL DETERIORATED INTERMEDIATE CROSSFRAMES IDENTIFIED BY ODOT CONSTRUCTION ENGINEERS WITH NEW CROSSFRAMES.

12. PATCH SPALLED AND DELAMINATED CONCRETE SURFACES AND SEAL CONCRETE CRACKS. ESTIMATED PATCHING AREA AT PIERS IS 91.0 SQ. FT., AND ESTIMATED SEALING OF CONCRETE CRACKS IS 20.0 FT.

13. PERFORM CLEARING AND GRUBBING TO REMOVE ALL VEGETATION WITHIN 15 FEET OF THE STRUCTURE.

14. EXTEND EXISTING SCUPPERS 8".

15. PAINT STRUCTURAL STEELS USING OZEU COATING SYSTEM, AND SEAL EXPOSED SUBSTRUCTURE AND PARAPETS WITH EPOXY-URETHANE.

16. PLACE NEW CRUSHED AGGREGATE SLOPE PROTECTION AT ABUTMENTS.

17. UPGRADE APPROACH RAILING TO CURRENT STANDARDS, AND COMPLETE OTHER ITEMS OF WORK SPECIFIED IN THE PLANS TO COMPLETE THE REHABILITATION.

ITEM 202, PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN:

DESCRIPTION: THIS WORK CONSIST OF THE REMOVAL OF EXISTING STRUCTURE COMPONENTS AS DETAILED IN THE PLANS AND AS DIRECTED BY THE ENGINEER. THE REMOVAL SHALL INCLUDE BUT NOT NECESSARILY BE LIMITED TO THE FOLLOWING:

1. PORTION OF EXISTING BRIDGE DECK, INCLUDING CONCRETE PARAPETS.
2. EXISTING ABUTMENT BACKWALLS, AND EXISTING ABUTMENT BREASTWALLS AND WINGWALLS TO ELEVATIONS SHOWN IN THE PLANS.
3. EXISTING STEEL END DAMS AND SLIDING PLATE EXPANSION JOINTS.
4. EXISTING END CROSSFRAMES.
5. MISCELLANEOUS ITEMS THAT ARE NOT SHOWN TO BE INCORPORATED INTO THE FINAL CONSTRUCTION AND ARE DIRECTED TO BE REMOVED BY THE ENGINEER.

THE PROVISIONS OF ITEM 202 APPLY EXCEPT AS SPECIFIED BY THE FOLLOWING NOTES. PERFORM WORK CAREFULLY DURING DECK REMOVALS TO PROTECT PORTIONS OF SUCH SYSTEMS THAT ARE TO BE SALVAGED AND INCORPORATED INTO THE PROPOSED STRUCTURE. THE USE OF EXPLOSIVES, HEADACHE BALLS, AND/OR HOE RAM TYPE OF EQUIPMENT IS PROHIBITED. SUBMIT CONSTRUCTION PLANS ACCORDING TO CMS 501.05.

PROTECTION OF STEEL SUPPORT SYSTEMS: BEFORE DECK SLAB CUTTING IS PERMITTED, DRAW THE OUTLINE OF PRIMARY STEEL MEMBERS IN CONTACT WITH THE BOTTOM OF THE DECK ON THE SURFACE OF DECK. DRILL SMALL DIAMETER PILOT HOLES 2 INCHES OUTSIDE THESE LINES TO CONFIRM THE LOCATION OF FLANGE EDGES. DECK CUTS OVER OR WITHIN 2 INCHES OF FLANGE EDGES SHALL NOT EXTEND LOWER THAN THE BOTTOM LAYER OF DECK SLAB REINFORCING STEEL. CUTS MADE OUTSIDE 2 INCHES OF FLANGE EDGES MAY EXTEND THE FULL DEPTH OF THE DECK. PERFORM WORK CAREFULLY DURING CUTTING OF THE DECK SLAB TO AVOID DAMAGING STEEL MEMBERS THAT ARE TO BE INCORPORATED INTO THE PROPOSED STRUCTURE. REPLACE OR REPAIR STEEL MEMBERS DAMAGED BY THE DECK SLAB CUTTING OPERATIONS AT NO COST TO THE PROJECT. AT LEAST 7 DAYS BEFORE PERFORMING REPAIR WORK, SUBMIT A PROPOSED REPAIR PLAN, DEVELOPED BY AN OHIO REGISTERED PROFESSIONAL ENGINEER TO THE ENGINEER. OBTAIN THE ENGINEER'S APPROVAL BEFORE PERFORMING REPAIR.

REMOVAL METHODS: THE CONTRACTOR MAY REMOVE CONCRETE BY CUTTING AND BY MEANS OF HAND OPERATED PNEUMATIC HAMMERS EMPLOYING POINTED OR BLUNTED CHISEL TYPE TOOLS. FOR REMOVALS OVER STRUCTURAL MEMBERS (STEEL GIRDERS), THE CONTRACTOR MAY USE A HAMMER HEAVIER THAN 35 POUNDS BUT NOT TO EXCEED 90 POUNDS UNLESS APPROVED BY THE ENGINEER. REMOVAL METHODS OVER STRUCTURAL MEMBERS SHALL ENSURE ADEQUATE DEPTH CONTROL AND PREVENT NICKING OR GOUGING THE PRIMARY STRUCTURAL MEMBERS.

DUE TO THE POSSIBLE PRESENCE OF ATTACHMENTS (E.G. FINISHING MACHINE, SCUPPER AND FORM SUPPORTS, ETC.) TO EXISTING STRUCTURAL MEMBERS, PERFORM WORK CAREFULLY DURING DECK REMOVAL TO AVOID DAMAGING STRUCTURAL MEMBERS THAT ARE TO REMAIN. REPLACE OR REPAIR STRUCTURAL MEMBERS DAMAGED BY THE REMOVAL OPERATIONS AT NO COST TO THE PROJECT. AT LEAST 7 DAYS BEFORE PERFORMING REPAIR WORK, SUBMIT A PROPOSED REPAIR PLAN, DEVELOPED BY AN OHIO REGISTERED PROFESSIONAL ENGINEER TO THE ENGINEER. OBTAIN THE ENGINEER'S APPROVAL BEFORE PERFORMING REPAIR.

EXISTING WELDED ATTACHMENTS: REMOVE EXISTING WELDED ATTACHMENTS (e.g. FINISHING MACHINE AND FORM SUPPORTS; AND SUPPORTS FOR SCUPPERS AND BULB ANGLES WHICH ARE TO BE REMOVED) LOCATED IN THE DESIGNATED TENSION PORTIONS OF THE TOP FLANGES OF EXISTING STEEL MEMBERS AND GRIND THE FLANGE SURFACES SMOOTH. CAREFULLY GRIND PARALLEL TO THE FLANGES.

SUBSTRUCTURE CONCRETE REMOVAL: REMOVE CONCRETE BY MEANS OF APPROVED PNEUMATIC HAMMERS EMPLOYING POINTED AND BLUNT CHISEL TOOLS. HYDRAULIC HOE-RAM TYPE HAMMERS WILL NOT BE PERMITTED. THE WEIGHT OF THE HAMMER SHALL NOT BE MORE THAN 35 POUNDS FOR REMOVAL WITHIN 18 INCHES OF PORTIONS TO BE PRESERVED. OUTSIDE THE 18 INCH LIMIT, THE CONTRACTOR MAY USE HAMMERS NOT EXCEEDING 90 POUNDS UPON THE APPROVAL OF THE ENGINEER. DO NOT PLACE PNEUMATIC HAMMERS IN DIRECT CONTACT WITH REINFORCING STEEL THAT IS TO BE RETAINED IN THE REBUILT STRUCTURE.

CUT LINE CONSTRUCTION JOINT PREPARATION: SAW CUT BOUNDARIES OF PROPOSED CONCRETE REMOVALS 1" DEEP. REMOVE CONCRETE TO A ROUGH SURFACE. LEAVE THE EXISTING REINFORCING STEEL, IF REQUIRED IN THE PLANS, IN PLACE. INSTALL DOWEL BARS IF SPECIFIED. PRIOR TO CONCRETE PLACEMENT ABRASIVELY CLEAN JOINT SURFACES AND EXISTING EXPOSED REINFORCEMENT TO REMOVE LOOSE AND DISINTEGRATED CONCRETE AND LOOSE RUST. THOROUGHLY CLEAN THE JOINT SURFACE AND EXPOSED REINFORCEMENT OF ALL DIRT, DUST, RUST OR OTHER FOREIGN MATERIAL BY THE USE OF WATER, AIR UNDER PRESSURE, OR OTHER METHODS THAT PRODUCE SATISFACTORY RESULTS. EXISTING REINFORCING STEEL DOES NOT HAVE TO HAVE A BRIGHT STEEL FINISH, BUT REMOVE ALL PACK AND LOOSE RUST. THOROUGHLY DRENCH EXISTING CONCRETE SURFACES WITH CLEAN WATER AND ALLOW TO DRY TO A DAMP CONDITION BEFORE PLACING CONCRETE.

MEASUREMENT & PAYMENT: THE DEPARTMENT WILL MEASURE THE QUANTITY OF REMOVALS ON A LUMP SUM BASIS. THE DEPARTMENT WILL PAY FOR THE ACCEPTED QUANTITIES OF REMOVALS AT THE CONTRACT PRICE FOR ITEM 202, PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN.

EXISTING STRUCTURE PLANS:

EXISTING STRUCTURE PLANS MAY BE VIEWED BY PROSPECTIVE BIDDERS AT THE OHIO DEPARTMENT OF TRANSPORTATION, DISTRICT 4 OFFICE, 2088 S. ARLINGTON RD. AKRON, OHIO 44306. PHONE: (330) 786-2232

EXISTING STRUCTURE VERIFICATION:

DETAILS AND DIMENSIONS SHOWN ON THESE PLANS PERTAINING TO THE EXISTING STRUCTURE HAVE BEEN OBTAINED FROM PLANS OF THE EXISTING STRUCTURE AND FROM FIELD OBSERVATIONS AND MEASUREMENTS. CONSEQUENTLY, THEY ARE INDICATIVE OF THE EXISTING STRUCTURE AND THE PROPOSED WORK BUT THEY SHALL BE CONSIDERED TENTATIVE AND APPROXIMATE. THE CONTRACTOR IS REFERRED TO CMS SECTIONS 102.05, 105.02, AND 513.04.

BASE CONTRACT BID PRICES UPON A RECOGNITION OF THE UNCERTAINTIES DESCRIBED ABOVE AND UPON A PREBID EXAMINATION OF THE EXISTING STRUCTURE. HOWEVER, THE DEPARTMENT WILL PAY FOR ALL PROJECT WORK BASED UPON ACTUAL DETAILS AND DIMENSIONS THAT HAVE BEEN VERIFIED IN THE FIELD.

ASBESTOS NOTIFICATION:

AN ASBESTOS SURVEY WAS CONDUCTED ON THE I 271 BRIDGES AND WAS COMPLETED IN NOVEMBER OF 2005 BY A CERTIFIED ASBESTOS HAZARD EVALUATION SPECIALIST FROM MICHAEL BAKER, JR., INC. THE SURVEY DID NOT IDENTIFY ANY ASBESTOS-CONTAINING MATERIAL (ACM) ON THE BRIDGES.

IF UNIDENTIFIED ACM IS ENCOUNTERED DURING THE DECK REPLACEMENT OF THE BRIDGE, REMOVAL AND DISPOSAL OF ACM MUST COMPLY WITH THE OHIO ADMINISTRATIVE CODE, THE OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA) REGULATIONS, AND THE NATIONAL EMISSION STANDARD FOR HAZARDOUS AIR POLLUTANTS (NESHAP) STANDARDS FOR ASBESTOS.

A COPY OF THE OHIO ENVIRONMENTAL PROTECTION AGENCY (OEPA) NOTIFICATION OF DEMOLITION AND RENOVATION FORM WITH SECTIONS I-VII AND XVI COMPLETED IS INCLUDED WITH THE BID PACKAGE. THE CONTRACTOR WILL COMPLETE SECTIONS VIII-XIII OF THE SIGNED FORM AND SUBMIT THE COMPLETED FORM TO THE LOCAL AIR AUTHORITY AT LEAST TEN (10) DAYS PRIOR TO DEMOLITION OF THE BRIDGE. THE CONTRACTOR WILL PROVIDE A COPY OF THE COMPLETED FORM TO THE ENGINEER. THE LOCAL AIR AUTHORITY IS:

AKRON REGIONAL AIR QUALITY MANAGEMENT DISTRICT
146 S. HIGH ST. SUITE 904
AKRON, OHIO 44308
LYNN M. MALCOLM, ADMINISTRATOR
(330) 375-2480
FAX (330) 375-2402

THE CONTRACTOR SHALL FURNISH ALL LABOR, EQUIPMENT, AND MATERIALS NECESSARY TO COMPLETE, SUBMIT, AND COMPLY WITH THE OEPA NOTIFICATION FORM AS STATED ABOVE. PAYMENTS OF THIS WORK SHALL BE INCIDENTALS TO ITEM 202, PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN.

ITEM 503, COFFERDAMS AND EXCAVATION BRACING, AS PER PLAN:

TEMPORARY SHEET PILING SHALL BE PERFORMED IN ACCORDANCE WITH ITEM 503 AND DRIVEN TO SUPPORT THE SIDES OF EXCAVATION DURING ABUTMENT REMOVAL AND RECONSTRUCTION.

SHEET PILING AT EXISTING ABUTMENT SHALL BEGIN BEHIND THE ABUTMENT FOOTING AND EXTEND APPROXIMATELY 20 FEET. SHEET PILING SHALL BE ASTM A709, GRADE 50 STEEL. IT SHALL BE DRIVEN TO A MINIMUM EMBEDMENT OF 13.50 FEET AND HAVE A MINIMUM SECTION MODULUS OF 10.50 CU. INCH PER FOOT OF WALL.

ALL SHEET PILING SHALL BE REMOVED WHEN BACKFILLING IS COMPLETE. THIS WORK SHALL BE INCLUDED WITH ITEM 503, COFFERDAMS AND EXCAVATION BRACING, AS PER PLAN, FOR PAYMENT.

DESIGN AGENCY
COLUMBUS ENGINEERING CONSULTANTS, INC.
840 MICHIGAN AVENUE, COLUMBUS, OH 43215
TEL:(614)228-3500

DESIGNED AJB/YSJ | DRAWN CEC | CHECKED SS | REVIEWED JJ | DATE 09/12 | REVISED | STRUCTURE FILE NUMBER 7708858

GENERAL NOTES - I
BRIDGE NO. SUM-271-0294
C.R. 17 (BRECKSVILLE RD.) OVER I.R. 271

SUM-271-2.33
PID No. 18710

935
1195

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P:\Land Development Projects\503-110 SUM-271-0233 (Richland Engineering)\structures\SUM-271-0294C\sheets\271_0294CGN002.dgn 11/8/2012 2:56:25 PM Sean Jerq

ITEM 503, UNCLASSIFIED EXCAVATION, AS PER PLAN:

UNCLASSIFIED EXCAVATION SHALL BE IN ACCORDANCE WITH CMS ITEM 503, THE BACKFILL MATERIAL SHALL BE PLACED AND COMPACTED IN 6" LIFTS. EXCAVATION OF EXISTING POROUS BACKFILL SHALL BE INCLUDED IN THIS ITEM.

ITEM 509 - REINFORCING STEEL, REPLACEMENT OF EXISTING REINFORCING STEEL, AS PER PLAN:

REPLACE ALL EXISTING REINFORCING BARS DEEMED BY THE ENGINEER TO BE UNUSABLE BECAUSE OF CORROSION. THE DEPARTMENT WILL MEASURE THE REPLACEMENT REINFORCING STEEL BY THE NUMBER OF POUNDS ACCEPTED IN PLACE.

AN ESTIMATE OF 100 LB HAS BEEN INCLUDED IN THE ESTIMATED QUANTITIES FOR THE ABOVE ITEM OF WORK.

REPLACE ALL EXISTING REINFORCING STEEL BARS WHICH ARE TO BE INCORPORATED INTO THE NEW WORK AND ARE DEEMED BY THE ENGINEER TO BE MADE UNUSABLE BY CONCRETE REMOVAL OPERATIONS WITH NEW EPOXY COATED REINFORCING STEEL OF THE SAME SIZE AT NO COST TO THE DEPARTMENT.

ITEM 511 - CLASS HP CONCRETE, BRIDGE DECK, AS PER PLAN
ITEM 511 - CLASS HP CONCRETE, BRIDGE DECK (PARAPET), AS PER PLAN
ITEM 511 - CLASS HP CONCRETE, SUPERSTRUCTURE, AS PER PLAN

GENERAL REQUIREMENTS:

THE PROVISION OF ITEM 511 SHALL APPLY EXCEPT AS NOTED BELOW.

MIX OPTIONS:

ALL SUPERSTRUCTURE, BRIDGE DECK, APPROACH SLABS AND PARAPET CONCRETE SHALL BE THIS MIX (HP4, AS PER PLAN).

THE FOLLOWING PROPORTIONS WILL BE USED AS A STARTING MIX DESIGN:

CONCRETE TABLE
QUANTITIES PER CUBIC YARD
AGGREGATES (SSD)

MIX HP4, AS PER PLAN (GGBF SLAG + MICROSILICA)									
AGGREGATE TYPE	FINE AGGRE. (LB)	#8 COARSE AGGRE. (LB)*	#57 COARSE AGGRE. (LB)	TOTAL (LB)	CEMENT CONTENT (LB)	GGBF SLAG (LB)	MICRO-SILICA (LB)	MAX. W/CM RATIO	AIR CONTENT ±2%
GRAVEL	1370	650	790	2810	440	190	30	0.42	6
LIMESTONE	1370	655	800	2820	440	190	30	0.42	6
SLAG	1370	570	695	2635	440	190	30	0.42	6

* ALL COARSE AGGREGATE SHALL HAVE AN ABSORPTION OF 1.00% OR GREATER AS DEFINED PER ASTM C127.

BASIS OF PAYMENT:

PAYMENT FOR THE ABOVE COMPLETED AND ACCEPTED QUANTITIES WILL BE MADE AT THE CONTRACT BID PRICE FOR:

ITEM	UNITS	DESCRIPTION
511E50001	CU YD	CLASS HP CONCRETE, BRIDGE DECK, AS PER PLAN
511E50101	CU YD	CLASS HP CONCRETE, BRIDGE DECK (PARAPET), AS PER PLAN
511E51001	CU YD	CLASS HP CONCRETE, SUPERSTRUCTURE, AS PER PLAN

ITEM 512 - CONCRETE REPAIR BY EPOXY INJECTION, AS PER PLAN:

PREPARE CONCRETE SURFACES AND REPAIR ANY CRACKS IN THE REMAINING PORTION OF THE ABUTMENTS AND PIERS. REPAIRING AREAS THAT ARE CRACKED WILL BE DESIGNATED BY THE PROJECT ENGINEER. THE CMS 512 PROCESS WILL BE USED TO REPAIR THESE AREAS.

AN ESTIMATE OF 20.00 FT HAS BEEN INCLUDED IN THE ESTIMATED QUANTITIES FOR THIS ITEM OF WORK.

THE CONTRACTOR SHALL PROVIDE THE ENGINEER WITH ALL NECESSARY EQUIPMENT TO INSPECT THIS WORK. THE DEPARTMENT WILL MEASURE THE REPAIR CRACKS BY THE NUMBER OF FEET.

ITEM 512, SPECIAL - URETHANE TOP COAT SEALER:

URETHANE TOP COAT SEALER SHALL BE AS PER ITEM 512. THE COLOR OF THE URETHANE TOP COAT SEALER SHALL BE FEDERAL COLOR NUMBER 17778, LIGHT NEUTRAL. THE URETHANE TOP COAT SEALER SHALL BE APPLIED OVER THE FIBER WRAP EPOXY COATING PER THE NOTE FOR:

ITEM 530, SPECIAL - STRUCTURE, MISC.: COMPOSITE FIBER WRAP SYSTEM

PAYMENT FOR ALL OF THE ABOVE SHALL BE AT THE UNIT PRICE BID PER SQUARE YARD FOR ITEM 512, SPECIAL - URETHANE TOP COAT SEALER WHICH SHALL INCLUDE ALL LABOR, EQUIPMENT, MATERIALS, AND INCIDENTALS NECESSARY TO COMPLETE THE ABOVE WORK.

ITEM 513 - STRUCTURAL STEEL, MISC.: BEAM END TREATMENT:

ABRASIVE BLAST EXISTING BEAM END TO SOUND BASE METAL AND DRILL 2" DIA. HOLES IN THE STRUCTURAL STEEL AT ABUTMENT DIAPHRAGMS, THE COST SHALL BE INCLUDED IN THE UNIT BID PRICE FOR ITEM 513, STRUCTURAL STEEL, MISC.: BEAM END TREATMENT FOR PAYMENT.

ITEM 513 - STRUCTURAL STEEL, MISC.: REPLACEMENT OF DETERIORATED INTERMEDIATE CROSSFRAMES:

REPLACE ALL DETERIORATED INTERMEDIATE CROSSFRAMES DEEMED BY THE ENGINEER TO BE UNUSABLE BECAUSE OF CORROSION. THE DEPARTMENT WILL MEASURE THE REPLACEMENT INTERMEDIATE CROSSFRAMES BY THE NUMBER OF EACH ACCEPTED IN PLACE.

AN ESTIMATE OF 12 EACH HAS BEEN INCLUDED IN THE ESTIMATED QUANTITIES FOR THE ABOVE ITEM FOR THE BRIDGE.

ITEM 514 - FIELD PAINTING STRUCTURAL STEEL, FINISH COAT, AS PER PLAN:

THE FINISH COAT COLOR SHALL BE FEDERAL COLOR NUMBER 15526, LIGHT BLUE.

THE PROVISIONS OF 514 SHALL APPLY. PAYMENT SHALL BE MADE PER SQUARE FOOT FOR SURFACE AREA COATED TO SPECIFICATION UNDER ITEM 514 - FIELD PAINTING STRUCTURAL STEEL, FINISH COAT, AS PER PLAN.

ITEM 516 - SEMI-INTEGRAL ABUTMENT EXPANSION JOINT SEAL, AS PER PLAN:

INSTALL A 3 FOOT WIDE NEOPRENE SHEET AT LOCATIONS SHOWN IN THE PLANS. SECURE THE NEOPRENE SHEETING TO THE CONCRETE WITH 1 ¼" X #10 GAGE (LENGTH X SHANK DIAMETER) GALVANIZED BUTTON HEAD SPIKES THROUGH A 1 INCH OUTSIDE DIAMETER, #10 GAGE GALVANIZED WASHER. MAXIMUM FASTENER SPACING IS 9 INCHES. USE OF OTHER SIMILAR GALVANIZED DEVICES, WHICH WILL NOT DAMAGE EITHER THE NEOPRENE OR THE CONCRETE, WILL BE SUBJECT TO THE APPROVAL OF THE ENGINEER.

CENTER THE NEOPRENE STRIPS ON ALL JOINTS. FOR HORIZONTAL JOINTS, SECURE THE HORIZONTAL NEOPRENE STRIP BY USING A SINGLE LINE OF FASTENERS, STARTING AT 6 INCHES ±, FROM THE TOP OF NEOPRENE STRIP. FOR THE VERTICAL JOINTS SECURE THE VERTICAL NEOPRENE STRIP BY USING A SINGLE VERTICAL LINE OF FASTENERS, STARTING AT 6 INCHES ±, FROM THE VERTICAL EDGE OF THE NEOPRENE STRIP NEAREST TO THE CENTERLINE OF ROADWAY. FOR VERTICAL JOINTS, INSTALL 2 ADDITIONAL FASTENERS AT 6 INCHES, CENTER TO CENTER, ACROSS THE TOP OF THE NEOPRENE STRIP ON THE SAME SIDE OF THE VERTICAL JOINT AS THE SINGLE VERTICAL ROW OF FASTENERS IS LOCATED.

THE VERTICAL NEOPRENE STRIPS SHALL COMPLETELY OVERLAP THE HORIZONTAL STRIPS. LAP LENGTHS OF THE HORIZONTAL STRIPS THAT ARE NOT VULCANIZED OR ADHESIVE BONDED, SHALL BE AT LEAST 1 FOOT IN LENGTH, OR 6 INCHES IN LENGTH IF THE LAP IS VULCANIZED OR ADHESIVE BONDED. NO LAPS ARE ACCEPTABLE IN VERTICALLY INSTALLED NEOPRENE STRIPS.

THE NEOPRENE SHEETING SHALL BE 3/32" THICK GENERAL PURPOSE, HEAVY-DUITY NEOPRENE SHEET WITH NYLON FABRIC REINFORCEMENT. THE SHEETING SHALL BE "FAIRPRENE NUMBER NN-0003", BY E. I. DUPONT DE NEMOURS AND COMPANY, INC., "WINGPRENE" BY THE GOODYEAR TIRE AND RUBBER COMPANY, OR AN APPROVED ALTERNATE. THE NEOPRENE SHEETING SHALL CONFORM TO THE FOLLOWING:

DESCRIPTION OF TEST	ASTM METHOD	REQUIREMENT
THICKNESS, INCHES	D 751	0.094 +/- 0.01
BREAKING STRENGTH, GRAB LBS, MINIMUM (LONG. X TRANS.)	D 751	700 X 700
ADHESIVE STRIP, 1" WIDE X 2" LONG, LBS. MINIMUM	D 751	9
BURST STRENGTH PSI, MINIMUM	D 751	1400
HEAT AGING 70 HOURS AT 212°F, 180° BEND WITHOUT CRACKING	D 2136	NO CRACKING OF COATING
LOW TEMP. BRITTLENESS, 1 HR, AT -40°F, BEND AROUND 1/4 INCH MANDREL	D 2136	NO CRACKING OF COATING

METHOD OF MEASUREMENT: THE DEPARTMENT WILL MEASURE THE TOTAL LENGTH OF JOINT TO BE SEALED BY THE NUMBER OF FEET.

BASIS OF PAYMENT: THE DEPARTMENT WILL PAY FOR ACCEPTED QUANTITIES AT THE CONTRACT PRICE FOR ITEM 516, SEMI-INTEGRAL ABUTMENT EXPANSION JOINT SEAL, AS PER PLAN.

ITEM 516 - REFURBISHING BEARING DEVICES, AS PER PLAN:

THIS ITEM SHALL INCLUDE ALL WORK NECESSARY TO PROPERLY ALIGN BRIDGE BEARINGS AS WELL AS THEIR CLEANING AND PAINTING. INCLUDED SHALL BE THE DISASSEMBLY OF THE BEARINGS, HAND TOOL CLEANING (GRINDING IF NECESSARY), PAINTING ACCORDING TO ITEM 514, REPLACEMENT OF ANY DAMAGED SHEET LEAD WITH PERFORMED BEARING PADS (711.21), INSTALLATION OF ANY NECESSARY STEEL SHIMS OF THE SAME SIZE AS THE BEARING TO PROVIDE A SNUG FIT, REALIGNMENT OF THE UPPER BEARING PLATE BY REMOVING EXISTING WELDS AND REWELDING SO THAT THE BEARINGS ARE VERTICALLY ALIGNED AT 60°F (15° C), LUBRICATING SLIDING SURFACES, AND REASSEMBLY OF THE BEARING. ASSURE ALL BEARINGS ARE SHIMMED ADEQUATELY AND THAT NO BEAMS AND/OR BEARING DEVICES ARE "FLOATING", AT NO ADDITIONAL COST TO THE STATE, THE CONTRACTOR MAY INSTALL NEW BEARINGS OF THE SAME TYPE AS THE EXISTING IN PLACE OF REFURBISHING THE BEARINGS. ALL WORK SHALL BE TO THE SATISFACTION OF THE ENGINEER. PAYMENT FOR ALL OF THE ABOVE DESCRIBED LABOR AND MATERIALS WILL BE MADE AT THE CONTRACT PRICE BID FOR ITEM 516 - REFURBISH BEARING DEVICES, AS PER PLAN.

ITEM 516, JACKING AND TEMPORARY SUPPORT OF SUPERSTRUCTURE, AS PER PLAN:

THIS WORK CONSISTS OF RAISING EXISTING STRUCTURE TO REPLACE OR REFURBISH EXISTING BEARINGS.

SUBMIT CONSTRUCTION PLANS IN ACCORDANCE WITH CMS 501.05.

IF DURING THE JACKING OPERATIONS, CRACKING OF THE CONCRETE SUPERSTRUCTURE, SEPARATION OF THE CONCRETE DECK FROM THE STEEL GIRDERS, OR OTHER DAMAGE TO THE STRUCTURE IS VISUALLY OBSERVED, IMMEDIATELY CEASE THE JACKING OPERATION AND INSTALL SUPPORTS TO THE SATISFACTION OF THE ENGINEER. ANALYZE THE DAMAGE AND SUBMIT A METHOD OF CORRECTION TO THE ENGINEER FOR APPROVAL. EPOXY INJECT ALL BEAMS THAT SEPARATE FROM THE DECK FOR THE DISTANCE OF THE SEPARATION ACCORDANCE WITH CMS 512.07. THE DEPARTMENT WILL NOT PAY FOR THE COST OF THIS EPOXY INJECTION OR OTHER REQUIRED REPAIRS. THE BRIDGE BEARINGS SHALL BE FULLY SEATED AT ALL CONTACT AREAS. IF FULL SEATING IS NOT ATTAINED, SUBMIT A REPAIR PLAN TO THE ENGINEER. THE DEPARTMENT WILL NOT PAY FOR THE REPAIR COSTS TO ENSURE FULL SEATING ON BEARINGS.

THIS WORK INCLUDES RAISING AND SUPPORTING THE GIRDERS WHILE THE BEARINGS ARE REFURBISHED AND ABUTMENT BEAM SEATS ARE MODIFIED. GIRDERS G3, G4 AND G5 WILL SUPPORT THE PARTIAL WIDTH DECK DURING PHASE 1. GIRDERS G1 AND G2 WILL SUPPORT PARTIAL WIDTH DECK DURING PHASE 2.

THE FOLLOWING TABLES REPRESENT ESTIMATED UNFACTORED DEAD LOAD AND LIVE LOAD DURING EACH PHASE OF CONSTRUCTION. THE LOAD GIVEN ARE SERVICE REACTIONS AT THE BEARINGS; THESE ARE NOT REQUIRED JACKING FORCES. THE CONTRACTOR IS LIMITED TO RAISING THE GIRDERS ¼" AT ALL SUPPORTS.

PHASE 1 TEMPORARY SUPPORT

	GIRDER REACTION (UNFACTORED) *			
	GIRDER G1 (KIPS)		GIRDER G2 (KIPS)	
	DL	LL+I	DL	LL+I
REAR ABUTMENT	48	15	50	15
PIER 1	109	21	115	21
PIER 2	129	22	138	22
PIER 3	109	21	116	21
FORWARD ABUTMENT	48	15	51	15

PHASE 2 TEMPORARY SUPPORT

	GIRDER REACTION (UNFACTORED) *					
	GIRDER G3 (KIPS)		GIRDER G4 (KIPS)		GIRDER G5 (KIPS)	
	DL	LL+I	DL	LL+I	DL	LL+I
REAR ABUTMENT	55	15	47	15	48	15
PIER 1	115	21	115	21	109	21
PIER 2	132	22	139	22	128	22
PIER 3	114	21	116	21	109	21
FORWARD ABUTMENT	51	15	53	15	44	15

* - DEAD LOAD REACTION DUE TO THE WEIGHT OF STEEL, CONCRETE DECK AND CONCRETE PARAPETS. MAXIMUM LL+I.

THE DEPARTMENT WILL MEASURE THIS WORK ON A LUM SUM BASIS.

THE DEPARTMENT WILL PAY FOR THE ACCEPTED QUANTITIES AT THE CONTRACT PRICE FOR ITEM 516, JACKING AND TEMPORARY SUPPORT OF SUPERSTRUCTURE, AS PER PLAN.

DESIGN AGENCY
COLUMBUS ENGINEERING CONSULTANTS, INC.
840 MICHIGAN AVENUE, COLUMBUS, OH 43215
TEL:(614)228-3500

DESIGNED	DRAWN	REVIEWED	DATE
AJB/YSJ	CEC	JJ	09/12
CHECKED	REVISED	STRUCTURE FILE NUMBER	
SS		7708858	

GENERAL NOTES - II
BRIDGE NO. SUM-271-0294
C.R. 17 (BRECKSVILLE RD.) OVER I.R. 271

SUM-271-2.33
PID No. 18710

ITEM 518, 6" NON-PERFORATED CORRUGATED PLASTIC PIPE, INCLUDING SPECIALS, AS PER PLAN:

ANIMAL GUARDS SHALL BE PROVIDED AT THE OUTLET OF THE DRAINAGE PIPES. THE STEEL BOLTS OR RODS FOR THE ANIMAL GUARDS SHALL BE GALVANIZED PER CMS 711.02. SEE STANDARD DRAWING DM-1.1 FOR ADDITIONAL DETAILS AND NOTES.

THE ANIMAL GUARDS AND CRUSHED AGGREGATE SLOPE PROTECTION, 601.06, AT END OF DRAINAGE PIPE (12" DEEP) ARE INCIDENTAL TO ITEM 518, 6" NON-PERFORATED CORRUGATED PLASTIC PIPE, INCLUDING SPECIALS, AS PER PLAN.

ITEM 519, PATCHING CONCRETE STRUCTURE, AS PER PLAN:

PRIOR TO THE SURFACE CLEANING SPECIFIED IN CMS 519.04 AND WITHIN 24 HOURS OF PLACING PATCHING MATERIAL, BLAST CLEAN ALL SURFACES TO BE PATCHED INCLUDING ALL EXPOSED REINFORCING STEEL. ACCEPTABLE METHODS INCLUDE HIGH-PRESSURE WATER BLASTING WITH OR WITHOUT ABRASIVES IN THE WATER, ABRASIVE BLASTING WITH CONTAINMENT, OR VACUUM ABRASIVE BLASTING.

THE ESTIMATED QUANTITY OF PATCHING REQUIRED IS BASED ON FIELD MEASUREMENTS OF ABOVE GROUND DETERIORATION AND AN ESTIMATED QUANTITY OF 20 SQUARE FEET FOR FUTURE DETERIORATION FOR THE BRIDGE. THE CONTRACTOR SHALL EXCAVATE REPAIR AREAS THAT EXTEND TO THE EXISTING GROUND LINE. THE ENGINEER SHALL DETERMINE THE EXTENT OF BELOW GROUND REPAIR BASED ON THE CONTRACTOR'S EXCAVATION.

THE CONTRACTOR SHALL INCLUDE THIS EXCAVATION, PERFORMED IN ACCORDANCE WITH ITEM 503, IN THE UNIT PRICE BID FOR ITEM 519, PATCHING OF CONCRETE STRUCTURE, AS PER PLAN.

ITEM 526, REINFORCED CONCRETE APPROACH SLAB (T=15"), AS PER PLAN:

THE PROVISIONS OF CMS 526 SHALL APPLY EXCEPT AS NOTED BELOW.

CLASS HP CONCRETE, MIX HP4, AS PER PLAN, SHALL BE THE ONLY MIX DESIGN OPTION. THE PROPORTIONS FOR THE STARTING MIX DESIGN SHALL BE AS SHOWN FOR ITEM 511 - CLASS HP CONCRETE, BRIDGE DECK, AS PER PLAN.

THE PARAPETS WILL BE CARRIED ONTO THE APPROACH SLABS AND TRANSITIONED ON THE APPROACH SLABS AS DETAILED IN THE PLANS. QUANTITIES FOR THE SEALING OF CONCRETE SURFACES ARE INCLUDED WITH ITEM 512 - SEALING OF CONCRETE SURFACES (EPOXY-URETHANE) FOR PAYMENT. QUANTITIES OF CONCRETE AND REINFORCING STEEL FOR THE PARAPETS, CURBS AND APPROACH SLABS ARE INCLUDED WITH THIS ITEM FOR PAYMENT.

ITEM SPECIAL - STRUCTURE, MISC.: CUT AND CAP 6" CMP DRAIN:

THE EXISTING 6" CMP DRAIN AT THE ABUTMENTS SHALL BE CUT OFF AT THE ABUTMENTS AS SHOWN ON THE ABUTMENT REMOVAL DETAILS. THE DRAIN PIPES SHALL BE FILLED WITH GROUT, CAPPED OR ANY OTHER MEANS APPROVED BY THE ENGINEER TO PLUG THE PIPES.

ALL LABOR, EQUIPMENT, MATERIALS AND INCIDENTALS NECESSARY TO COMPLETE THIS WORK SHALL BE INCLUDED WITH ITEM SPECIAL - STRUCTURE, MISC.: CUT AND CAP 6" CMP DRAIN FOR PAYMENT.

ITEM 530, SPECIAL - STRUCTURE MISC.: COMPOSITE FIBER WRAP SYSTEM:

DESCRIPTION:

THIS WORK SHALL CONSIST OF PROVIDING AND INSTALLING A FIBER WRAP PIER CAP PREPARATION, WRAPPING THE PIER CAP, AND ALL INCIDENTALS NECESSARY TO COMPLETE.

THE INSTALLATION SHALL BE PER THE MANUFACTURER'S REQUIREMENTS.

MATERIALS:

SUPPLIERS SHALL HAVE A MINIMUM OF 10 INSTALLATIONS AND FURNISH CERTIFIED TEST REPORTS INCLUDING 1000 HOUR TESTS FOR 140°F WATER, SALT WATER, ALKALINE SOIL, OZONE, AND EFFERVESCENCE IN ADDITION TO THE REQUIREMENTS LISTED BELOW.

THE FABRIC FOR THE COMPOSITE CASING SHALL BE CONTINUOUS FILAMENT WOVEN FABRIC. PRIMARY FIBERS FOR THE FABRIC SHALL BE (E) ELECTRICAL GLASS FIBERS. THE FIBER SHALL HAVE A MINIMUM NOMINAL THICKNESS OF 0.05 INCHES. THE MINIMUM WEIGHT OF THE FABRIC SHALL BE 27.0 OUNCES PER SQUARE YARD.

THE EPOXY SHALL BE AS SUPPLIED BY THE MANUFACTURER TO MEET THE COMPOSITE STRENGTH GIVEN BELOW. POLYESTER RESIN SHALL NOT BE ALLOWED AS A SUBSTITUTE FOR EPOXY RESIN.

THE COMPOSITE OF THE FIBER WRAPPED PIER CAP CASING SYSTEM SHALL CONFORM TO THE FOLLOWING REQUIREMENTS:

PROPERTY	REQUIREMENTS	ASTM TEST METHOD
ULTIMATE TENSILE STRENGTH, PSI. MIN. IN PRIMARY FIBER DIRECTION.	60,000 PSI	D3039, AVERAGE OF 7, 1" BY 10" NORMALIZED TO 0.80" THICK 0.01" PER MINUTE TESTING SPEED.
ULTIMATE TENSILE STRENGTH, PSI. MIN. IN ORTHOGONAL FIBER DIRECTION.	3,000 PSI	D3039, AVERAGE OF 7, 1" BY 10" NORMALIZED TO 0.80" THICK 0.01" PER MINUTE TESTING SPEED.
TENSILE STRENGTH (MIN. AFTER TEST) 1000 HOURS EXPOSURE TO 100% HUMIDITY.	60,000 PSI	C581
TENSILE STRENGTH (MIN. AFTER TEST) 1000 HOURS EXPOSURE TO OZONE.	60,000 PSI	D1149 EXCEPT NOT UNDER STRESS DURING OZONE EXPOSURE.
TENSILE STRENGTH (MIN. AFTER TEST) 1000 HOURS EXPOSURE TO ALKALI.	60,000 PSI	D3083 USING SOIL BURIAL - WATER CONTENT OF 73% +/- 3%.
TENSILE STRENGTH (MIN. AFTER TEST) 1000 HOURS EXPOSURE TO SALT WATER.	60,000 PSI	C581 AND D1141 OMITTING ADDITION OF HEAVY METAL REAGENTS.
TENSILE STRENGTH (MIN. AFTER TEST) 1000 HOURS EXPOSURE AT 140°F.	60,000 PSI	D3045
TENSILE STRENGTH (MIN. AFTER TEST) ULTRAVIOLET (UV) EXPOSURE.	60,000 PSI	G154 USING FS40 UV-B BULBS FOR A MIN. 40 CYCLES. THE CYCLE SHALL BE 4 HOURS OF CONDENSATE EXPOSURE AT 40°C.
ELONGATION: PERCENT, MIN. PERCENT, MAX.	1.7% 5.0%	
TENSILE MODULUS, PSI MIN. OF PRIMARY FIBERS.	3,000,000	D3039
VISUAL DEFECTS	ACCEPTANCE LEVEL III	D2563
COEFFICIENT OF THERMAL EXPANSION IN THE PRIMARY DIRECTION.	4,300,000 PPM/DEG. F (+15%)	D696

SURFACE PREPARATION:

THE SURFACE TO RECEIVE THE COMPOSITE WRAP SHALL BE FREE FROM FINS, SHARP EDGES, AND PROTRUSIONS THAT WILL CAUSE VOIDS BEHIND THE CASING OR THAT, IN THE OPINION OF THE ENGINEER, WILL DAMAGE THE FIBER. IF FIBERS ARE TO WRAP AROUND CORNERS OF RECTANGLE CROSS-SECTIONS, THE CORNERS SHALL BE ROUNDED TO A 1/2 INCH RADIUS. THIS WILL HELP PREVENT STRESS CONCENTRATIONS IN THE FIBER WRAP AND VOIDS BETWEEN THE FIBER WRAP AND THE CONCRETE. IN ADDITION THE SURFACE SHALL BE SMOOTH AND FREE OF VOIDS OR UNDULATIONS THAT WOULD PREVENT FULL CONTACT BETWEEN THE CONCRETE AND THE FIBER WRAP.

THE CONTACT SURFACE OF THE CONCRETE SHALL BE COMPLETE DRY AT THE TIME OF APPLICATION OF THE COMPOSITE. ALL CONCRETE SHALL BE CURED ACCORDING TO C&MS 511 PRIOR TO INSTALLATION OF THE COMPOSITE.

ADDITIONALLY, SHOULD THERE ARE CONDUITS AND/OR DOWNSPOUTS ATTACHED TO THE PIER CAP TO RECEIVE FIBER WRAP, THE CONTRACTOR MUST MAINTAIN THE SAME SERVICE PROVIDED WHILE DISCONNECTING THE CONDUIT. RECONNECT THE CONDUIT AFTER THE APPLICATION OF THE URETHANE TOP COAT.

COMPOSITE APPLICATION:

THE AMBIENT TEMPERATURE AND THE TEMPERATURE OF THE EPOXY RESIN COMPONENTS SHALL BE BETWEEN 55°F AND 95°F AT THE TIME OF MIXING. THE COMPOSITE SHALL BE APPLIED WHEN THE RELATIVE HUMIDITY IS LESS THAN 85% AND THE SURFACE TEMPERATURE IS MORE THAN 5°F ABOVE THE DEW POINT. APPLICATION SHALL BEGIN WITHIN ONE HOUR AFTER THE BATCH HAS BEEN MIXED.

THE COMPONENTS OF THE EPOXY RESIN SHALL BE MIXED WITH A MECHANICAL MIXER AND APPLIED UNIFORMLY TO THE FIBER AT A RATE THAT WILL INSURE COMPLETE SATURATION OF THE FABRIC.

THE FABRIC/EPOXY COMPOSITE SHALL BE APPLIED TO THE SURFACE OF THE PIER CAP BY WRAPPING USING METHODS THAT PRODUCE A UNIFORM FORCE THAT IS DISTRIBUTED ACROSS THE ENTIRE WIDTH OF THE FABRIC. THE PRIMARY FIBERS OF THE FABRIC SHALL NOT DEVIATE FROM A VERTICAL LINE MORE THAN 1/2" PER FOOT. ENTRAPPED AIR SHALL BE RELEASED OR ROLLED OUT BEFORE THE EPOXY SETS.

SUCCESSIVE LAYERS OF COMPOSITE MATERIALS SHALL BE PLACED BEFORE POLYMERIZATION OF THE PREVIOUS LAYER OF EPOXY IS TOO DRY TO ACHIEVE ADEQUATE BOND BETWEEN LAYERS. IF POLYMERIZATION DOES OCCUR BETWEEN LAYERS, THE SURFACE MUST BE ROUGHENED USING A LIGHT ABRASIVE THAT WILL NOT DAMAGE THE FIBER.

THE FINAL LAYER OF EPOXY SHALL BE APPLIED TO THE FINAL LAYER OF FABRIC, WITH CARE TAKEN TO INSURE COATING OF ALL EDGES AND SEAMS. SPACES BETWEEN BANDS OF FABRIC SHALL BE FILLED WITH EPOXY THICKENED AS DIRECTED BY THE MANUFACTURER.

A FINAL INSPECTION SHALL BE PERFORMED ON THE FIBER WRAPPED PIER CAP AFTER THE EPOXY SETS YET PRIOR TO THE APPLICATION OF THE URETHANE TOP COAT. ALL DEFECTS (INCLUDING BUBBLES, DELAMINATIONS, AND FABRIC TEARS) MORE THAN 1 SQUARE INCH OF THE SURFACE AREA, OR AS SPECIFIED BY THE PROJECT ENGINEER, SHALL BE REPAIRED AS SUCH:

1. SMALL DEFECTS (ON THE ORDER OF 6" DIAMETER) SHALL BE INJECTED OR BACK FILLED WITH EPOXY.

2. BUBBLES LESS THAN 12" INCH DIAMETER SHALL BE REPAIRED BY INJECTING WITH EPOXY. TWO HOLES SHALL BE DRILLED INTO THE BUBBLE TO ALLOW INJECTION OF THE EPOXY AND ESCAPE OF ENTRAPPED AIR.

3. BUBBLES, DELAMINATIONS AND FABRIC TEARS GREATER THAN 12" DIAMETER SHALL BE REPAIRED BY REMOVING AND REAPPLYING THE REQUIRED NUMBER OF LAYER OF THE COMPOSITE AND THE REQUIRED FINISH COATINGS. ALL REPAIRS SHALL BE APPROVED BY THE PROJECT ENGINEER.

COATING SYSTEM APPLICATION:

A FINAL URETHANE COATING IS REQUIRED TO PROTECT THE FIBERS FROM THE ELEMENTS SPECIFICALLY UV RADIATION AND TO GIVE THE FINAL AESTHETIC EFFECT.

AFTER 96 HOURS FROM THE FINAL APPLICATION OF EPOXY, IF THE FINAL EPOXY COAT IS COMPLETELY POLYMERIZED, THE EXTERIOR SURFACE OF THE COMPOSITE WRAP SHALL BE CLEANED AND ROUGHENED BY A LIGHT ABRASIVE. CARE SHOULD BE TAKEN DURING THE ROUGHENING PROCESS SO THAT THE FIBERS ARE NOT DAMAGES. ALL CLEANED AND ROUGHENED SURFACES SHALL BE DRY BEFORE APPLYING THE URETHANE COATING.

MEASUREMENT AND PAYMENT:

THE DEPARTMENT WILL MEASURE THE AREA OF COMPOSITE FIBER WRAP SYSTEM BY THE NUMBER OF SQUARE FEET OF PIER CAP AREA FIBER WRAPPED.

THE COST INCLUDING ALL LABOR, MATERIALS, AND EQUIPMENT NECESSARY TO PROVIDE AND INSTALL A FIBER WRAP PIER CAP CASING SYSTEM USING HIGH STRENGTH, HYBRID FIBER/EPOXY COMPOSITES FIELD APPLIED TO THE PIER CAP, INCLUDING ERECTION OF SCAFFOLDING, CLEANING, SURFACE PREPARATION, WRAPPING THE PIER CAP, AND ALL INCIDENTALS NECESSARY TO COMPLETE THE INSTALLATION PER THE MANUFACTURER'S REQUIREMENTS SHALL BE AT THE UNIT PRICE BID PER SQUARE FOOT FOR ITEM 530, SPECIAL - STRUCTURE, MISC.: COMPOSITE FIBER WRAP SYSTEM.

THE URETHANE FINISH COAT WILL BE PAID FOR WITH ITEM 512, SPECIAL - URETHANE TOP COAT SEALER.

DESIGN AGENCY
COLUMBUS ENGINEERING CONSULTANTS, INC.
840 MICHIGAN AVENUE, COLUMBUS, OH 43215
TEL:(614)228-3500

DESIGNED AJB/YSJ | DRAWN CEC | REVIEWED JJ | DATE 09/12 | CHECKED SS | REVISED | STRUCTURE FILE NUMBER 7708858

GENERAL NOTES - III

BRIDGE NO. SUM-271-0294
C.R. 17 (BRECKSVILLE RD.) OVER I.R. 271

SUM-271-2.33
PID No. 18710

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ABBREVIATIONS:

THE FOLLOWING ABBREVIATIONS HAVE BEEN USED THROUGHOUT THESE PLANS TO INDICATE THE DESIGNATIONS CONTAINED IN THE LEGEND BELOW:

AASHTO - AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS
ABUT. - ABUTMENT
ADT - AVERAGE DAILY TRAFFIC
ADTT - AVERAGE DAILY TRUCK TRAFFIC
A.P.P. - AS PER PLAN
APPR. - APPROACH
APPROX. - APPROXIMATE
ASTM - AMERICAN SOCIETY OF TESTING AND MATERIALS
℄ - BASELINE
B.F. - BACK FACE
BOT. - BOTTOM
BRGS. - BEARINGS
B.T.A. - BRIDGE TERMINAL ASSEMBLY
BTWN. - BETWEEN

℄ - CENTERLINE
C.B. - CATCH BASIN
C/C - CENTER TO CENTER
CIP - CAST-IN-PLACE
C.J. - CONSTRUCTION JOINT
CLR. - CLEARANCE
CMS - CONSTRUCTION AND MATERIAL SPECIFICATIONS
CONC. - CONCRETE
CONN. - CONNECTION
CONST. - CONSTRUCTION
CU YD - CUBIC YARD
CVN - CHARPY V-NOTCH

DEFL. - DEFLECTION
DIA. - DIAMETER
DIM. - DIMENSION
DWG. - DRAWING

EB - EASTBOUND
E.F. - EACH FACE
E/P - EDGE OF PAVEMENT
E/S - EDGE OF SHOULDER
EL. - ELEVATION
EQ. - EQUAL
EX. - EXISTING
EXP. - EXPANSION
EXT. - EXTENSION

F.A. - FORWARD ABUTMENT
F.F. - FRONT FACE
F.S. - FIELD SPLICE
FT/FT - FOOT PER FOOT
FTG. - FOOTING
FWD. - FORWARD

GEN. - GENERAL
GR - GUARDRAIL
HMWM - HIGH MOLECULAR WEIGHT METHACRYLATE
HORZ. - HORIZONTAL
HPC - HIGH PERFORMANCE CONCRETE
HW - HIGH WATER

INV. - INVERT
IR - INTERSTATE ROUTE
LB - POUNDS
LF - LEFT FORWARD
LT. - LEFT
LOC. - LOCATION

MAX. - MAXIMUM
MC - MECHANICAL CONNECTORS
MIN. - MINIMUM
MISC. - MISCELLANEOUS
MOT - MAINTENANCE OF TRAFFIC
MSE - MECHANICALLY STABILIZED EARTH

NB - NORTHBOUND
N.P.C.P.P. - NON-PERFORATED CORRUGATED PLASTIC PIPE
NO./# - NUMBER
N.T.S. - NOT TO SCALE
OHWM = ORDINARY HIGH WATER MARK
O/O - OUT TO OUT
PC - POINT OF CURVATURE
P.C.P.P - PERFORATED CORRUGATED PLASTIC PIPE
P.E.J.F. - PREFORMED EXPANSION JOINT FILLER
P.G. - PROFILE GRADE
PI - POINT OF INTERSECTION
PROP. - PROPOSED
PT - POINT OF TANGENCY
PVC - POINT OF VERTICAL CURVATURE
PVI - POINT OF VERTICAL INTERSECTION
PVT - POINT OF VERTICAL TANGENCY
R. - RADIUS
R.A. - REAR ABUTMENT
REQ'D - REQUIRED
RF - RIGHT FORWARD
RT. - RIGHT
R/W - RIGHT OF WAY

SAN. - SANITARY
SB - SOUTHBOUND
SER. - SERIES
S.O. - SERIES OF
SPA. - SPACES OR SPACING
S.R. - STATE ROUTE
STA. - STATION
STD. - STANDARD
STM. - STORM
STR. - STRAIGHT

TBM - TEMPORARY BENCH MARK
TEMP. - TEMPORARY
T.O.S. - TOP OF SLOPE
T/PARAPET - TOE OF PARAPET
T/T - TOE TO TOE
TYP. - TYPICAL
U.G. - UNDERGROUND
VAR. - VARIES
VC - VERTICAL CURVE
VERT. - VERTICAL
W/O - WITHOUT

COMPUTED BY : SS DATE : 09/12
CHECKED BY : YSJ DATE : 09/12

ESTIMATED QUANTITIES (FUNDING PARTICICPATION; 03/BRO/BR)

ITEM	ITEM EXT.	TOTAL	UNIT	DESCRIPTION	ABUTS.	PIER	SUPER	GEN	SEE SHEET NO.
202	11203	LUMP		PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN				LUMP	2/25
202	22900	178	SQ YD	APPROACH SLAB REMOVED				178	
503	11101	LUMP		COFFERDAMS AND EXCAVATION BRACING, AS PER PLAN				LUMP	2/25
503	21301	LUMP		UNCLASSIFIED EXCAVATION, AS PER PLAN	LUMP				3/25
509	10000	13524	POUND	EPOXY COATED REINFORCING STEEL	5189		8335		
509	20001	100	POUND	REINFORCING STEEL, REPLACEMENT OF EXISTING REINFORCING STEEL, AS PER PLAN			100		3/25
510	10000	266	EACH	DOWEL HOLES WITH NONSHRINK, NONMETALLIC GROUT	266				
511	45700	47	CU YD	CLASS C CONCRETE, ABUTMENT	47				
511	50001	11	CU YD	CLASS HP CONCRETE, BRIDGE DECK, AS PER PLAN			11		3/25
511	50101	3	CU YD	CLASS HP CONCRETE, BRIDGE DECK (PARAPET), AS PER PLAN			3		3/25
511	51001	61	CU YD	CLASS HP CONCRETE, SUPERSTRUCTURE, AS PER PLAN			61		3/25
512	10100	1044	SQ YD	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)	56	223	716	49	
512	10601	20	FT	CONCRETE REPAIR BY EPOXY INJECTION, AS PER PLAN				20	3/25
512	33000	5	SQ YD	TYPE 2 WATERPROOFING	5				
SPECIAL	51271500	48	SQ YD	URETHANE TOP COAT SEALER		48			3/25
512	74000	871	SQ YD	REMOVAL OF EXISTING COATINGS FROM CONCRETE SURFACES (SEE PROPOSAL NOTE)		223	648		
513	95020	LUMP		STRUCTURAL STEEL, MISC.: BEAM END TREATMENT			LUMP		3/25
513	95030	12	EACH	STRUCTURAL STEEL, MISC.: REPLACEMENT OF DETERIORATED INTERMEDIATE CROSSFRAMES			12		3/25 & 18/25
514	00050	24864	SQ FT	SURFACE PREPARATION OF EXISTING STRUCTURAL STEEL			24864		
514	00056	25237	SQ FT	FIELD PAINTING OF EXISTING STRUCTURAL STEEL, PRIME COAT			25237		
514	00060	25237	SQ FT	FIELD PAINTING STRUCTURAL STEEL, INTERMEDIATE COAT			25237		
514	00067	25237	SQ FT	FIELD PAINTING STRUCTURAL STEEL, FINISH COAT, AS PER PLAN			25237		3/25
514	00504	27	MAN HOUR	GRINDING FINS, TEARS, SLIVERS ON EXISTING STRUCTURAL STEEL			27		
514	10000	14	EACH	FINAL INSPECTION REPAIR			14		
516	13900	115	SQ FT	2" PREFORMED EXPANSION JOINT FILLER	115				
516	14021	107	FT	SEMI-INTEGRAL ABUTMENT EXPANSION JOINT SEAL, AS PER PLAN	107				3/25
516	44201	10	EACH	ELASTOMERIC BEARING (10" X 1'-4" X 3.25") WITH INTERNAL LAMINATES AND LOAD PLATE (11" X 1'-5" X 1 ½") (NEOPRENE), AS PER PLAN	10				20/25
516	45305	15	EACH	REFURBISH BEARING DEVICE, AS PER PLAN		15			3/25
516	47001	LUMP		JACKING AND TEMPORARY SUPPORT OF SUPERSTRUCTURE, AS PER PLAN			LUMP		3/25
518	12900	10	EACH	SCUPPER, LENGTHENING			10		
518	21200	49	CU YD	POROUS BACKFILL WITH FILTER FABRIC	49				
518	40000	86	FT	6" PERFORATED CORRUGATED PLASTIC PIPE	86				
518	40011	115	FT	6" NON-PERFORATED CORRUGATED PLASTIC PIPE, INCLUDING SPECIALS, AS PER PLAN	115				4/25 & 12/25
519	11101	91	SQ FT	PATCHING CONCRETE STRUCTURE, AS PER PLAN		91			4/25
526	25001	195	SQ YD	REINFORCED CONCRETE APPROACH SLAB (T=15"), AS PER PLAN				195	4/25
SPECIAL	53000400	6	EACH	STRUCTURE, MISC.: CUT AND CAP 6" CMP DRAIN	6				4/25
SPECIAL	53000600	433	SQ FT	STRUCTURE, MISC.: COMPOSITE FIBER WRAP SYSTEM		433			4/25 & 16/25

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DESIGNED SS/YSJ | DRAWN CEC | REVIEWED JJ | DATE 09/12 | CHECKED JH | REVISED | STRUCTURE FILE NUMBER 7708858

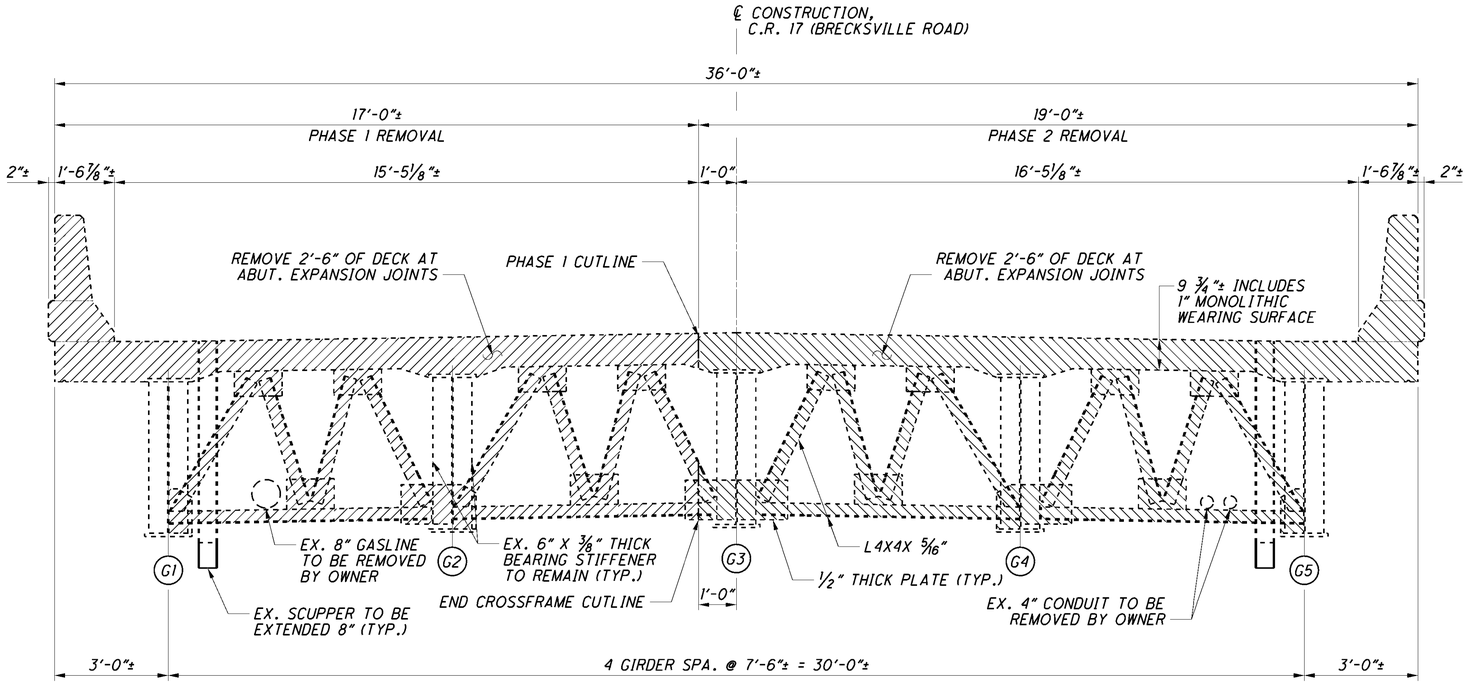
ESTIMATED QUANTITIES
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END CROSSFRAME REMOVAL DETAIL

NOTES:

1. FOR DECK AND PARAPET REMOVAL LIMITS, SEE SHEET 8/25 .
2. FOR SCUPPER DETAILS, SEE SHEET 18/25 .

LEGEND:

- PHASE 1 REMOVAL
- PHASE 2 REMOVAL
- (G3) - EXISTING GIRDER NUMBER

DESIGN AGENCY
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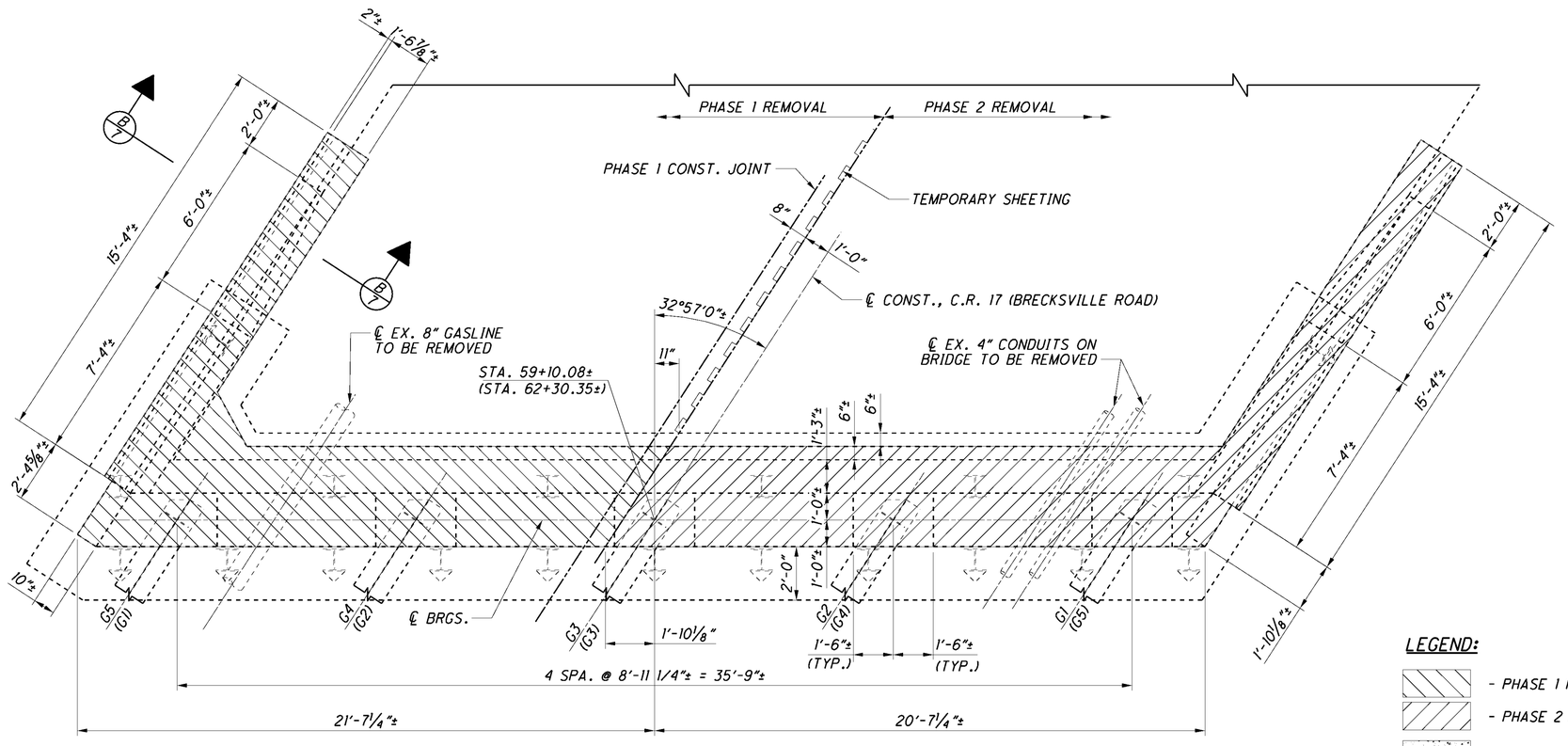
END CROSSFRAMES REMOVAL DETAILS
BRIDGE NO. SUM-271-0294
C.R. 17 (BRECKSVILLE RD.) OVER I.R. 271

SUM-271-2.33
PID No. 18710

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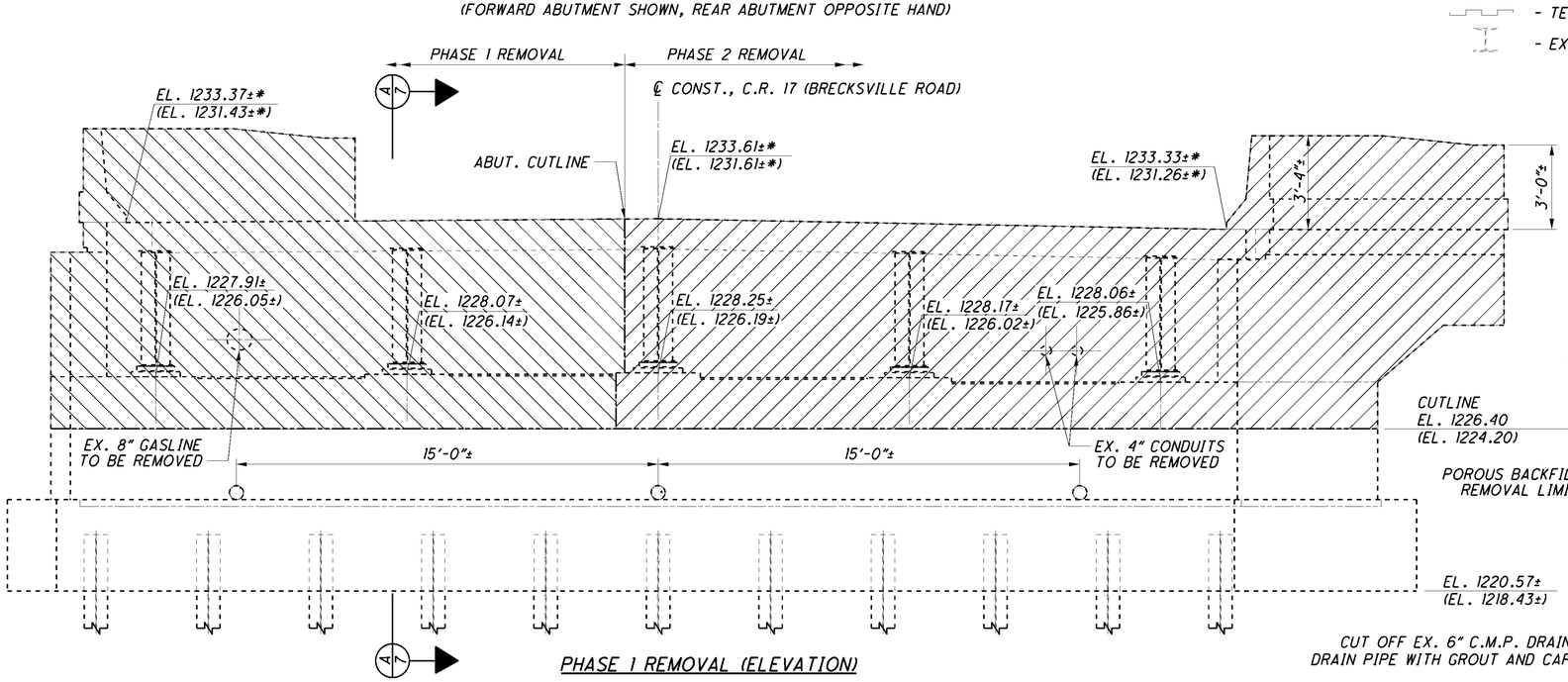
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PHASE 1 REMOVAL (PLAN)

(FORWARD ABUTMENT SHOWN, REAR ABUTMENT OPPOSITE HAND)



PHASE 1 REMOVAL (ELEVATION)

(FORWARD ABUTMENT SHOWN, REAR ABUTMENT OPPOSITE HAND)

* - ELEVATIONS ARE GIVEN AT ℄ BEARINGS

FORWARD ABUTMENT

REAR ABUTMENT

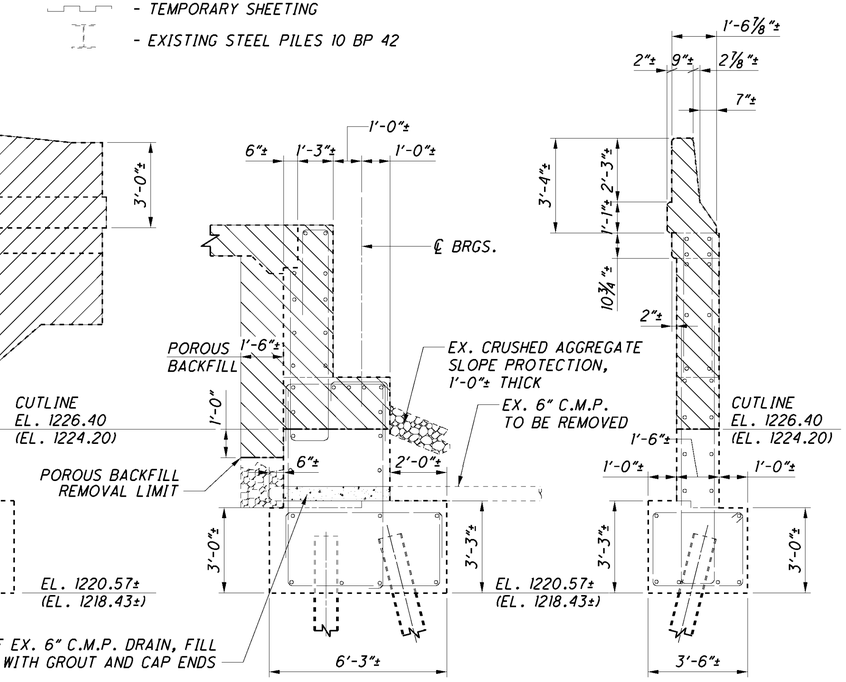
NOTES:

1. ALL EXISTING DIMENSIONS ARE ± UNLESS NOTED OTHERWISE.
2. ELEVATIONS, STATIONS AND GIRDER NUMBERS SHOWN IN ( ) ARE FOR FORWARD ABUTMENT.
3. CUT OFF EXISTING 6" C.M.P. DRAIN AT ABUTMENTS AS SHOWN. THE DRAIN PIPES SHALL BE FILLED WITH GROUT AND CAPPED.

   ALL LABOR, EQUIPMENT, MATERIALS AND INCIDENTALS NECESSARY TO COMPLETE THIS WORK SHALL BE INCLUDED WITH ITEM SPECIAL - STRUCTURE, MISC.: CUT AND CAP 6" CMP DRAIN FOR PAYMENT.
4. THE COST OF REMOVING EXISTING ABUTMENT BEARINGS SHALL BE INCLUDED WITH ITEM 202, PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN, FOR PAYMENT.

LEGEND:

- PHASE 1 REMOVAL
- PHASE 2 REMOVAL
- FILL WITH GROUT
- TEMPORARY SHEETING
- EXISTING STEEL PILES 10 BP 42



SECTION A-A

SECTION B-B

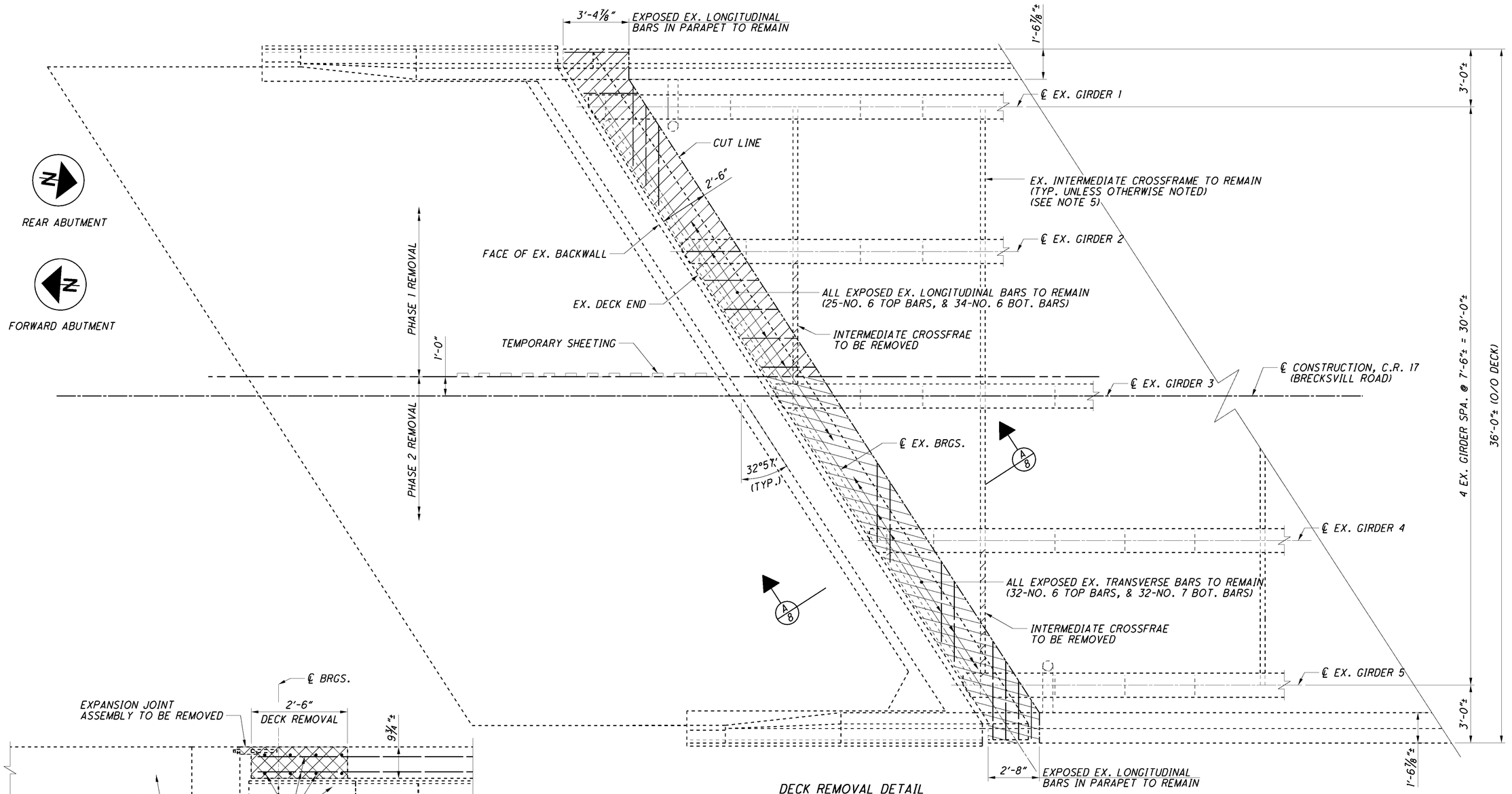
DESIGN AGENCY
COLUMBUS ENGINEERING CONSULTANTS, INC.
840 MICHIGAN AVENUE, COLUMBUS, OH 43215
TEL:(614)228-3500

DESIGNED	DRAWN	REVIEWED	DATE
AJB/YSJ	CEC	JJ	09/12
CHECKED	REVISED	STRUCTURE FILE NUMBER	
SS		7708858	

ABUTMENT REMOVAL DETAILS
BRIDGE NO. SUM-271-0294
C.R. 17 (BRECKSVILLE RD.) OVER I.R. 271

SUM-271-2.33
PID No. 18710

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SECTION A-A

(* MEASURED ALONG ℄ GIRDER)

DECK REMOVAL DETAIL

(REAR ABUTMENT SHOWN, FORWARD ABUTMENT OPPOSITE HAND)

LEGEND

- PHASE 1 DECK REMOVAL
- PHASE 2 DECK REMOVAL
- TEMPORARY SHEETING

NOTES:

1. LOCATIONS OF ALL EXISTING REINFORCING BARS ARE APPROXIMATE.
2. THE EXISTING DECK, BETWEEN THE CUT LINE TO THE END OF THE DECK (2'-6" WIDE), SHALL BE REMOVED TO THE TOPS OF THE EXISTING GIRDERS. ALL EXPOSED TRANSVERSE AND LONGITUDINAL BARS SHALL BE LEFT IN PLACE UNDAMAGED.
3. SEE SHEET 7/25 FOR PHASE REMOVAL DETAILS.
4. SEE SECTION A-A FOR LIMIT OF BEAM END ABRASIVE BLAST. THE COST SHALL BE INCLUDED IN THE BID PRICE FOR ITEM 513, STRUCTURAL STEEL, MISC.: BEAM END TREATMENT FOR PAYMENT. SEE SHEET 3/25 FOR FURTHER NOTES.
5. REMOVE EXISTING END CROSSFRAMES AND THE TWO INTERMEDIATE CROSSFRAMES WITHIN THE PROPOSED END DIAPHRAGM LIMITS, AS NOTED ON PLAN. THE COST OF THIS REMOVAL SHALL BE INCLUDED WITH ITEM 202, PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN.
6. SEE GENERAL NOTES ON SHEET 3/25 , FOR INTERMEDIATE CROSSFRAMES THAT NEED TO BE REPLACED.

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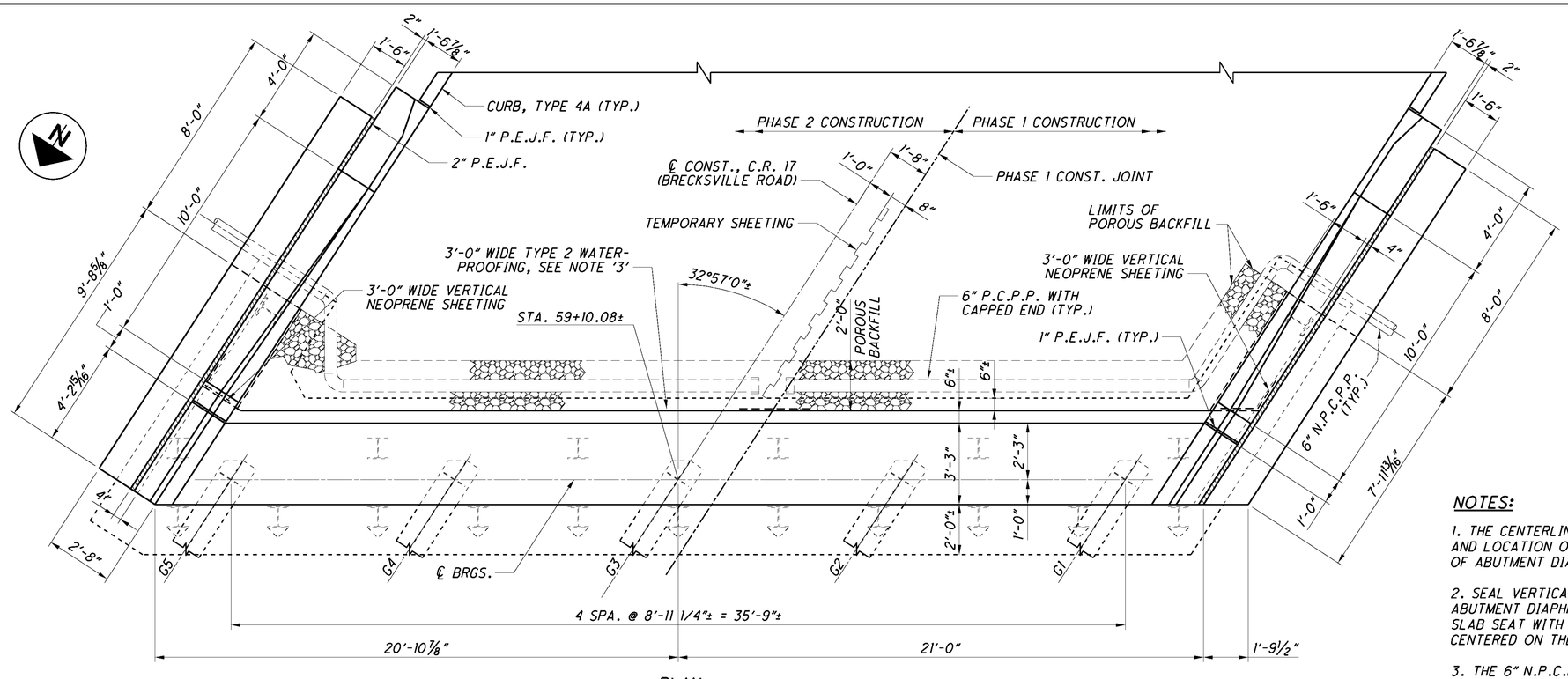
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JH/YSJ	CEC	JJ	09/12
CHECKED	REVISED	STRUCTURE FILE NUMBER	
SS		7708858	

DECK REMOVAL DETAILS

BRIDGE NO. SUM-271-0294
C.R. 17 (BRECKSVILLE RD.) OVER I.R. 271

SUM-271-2.33
PID No. 18710

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PLAN

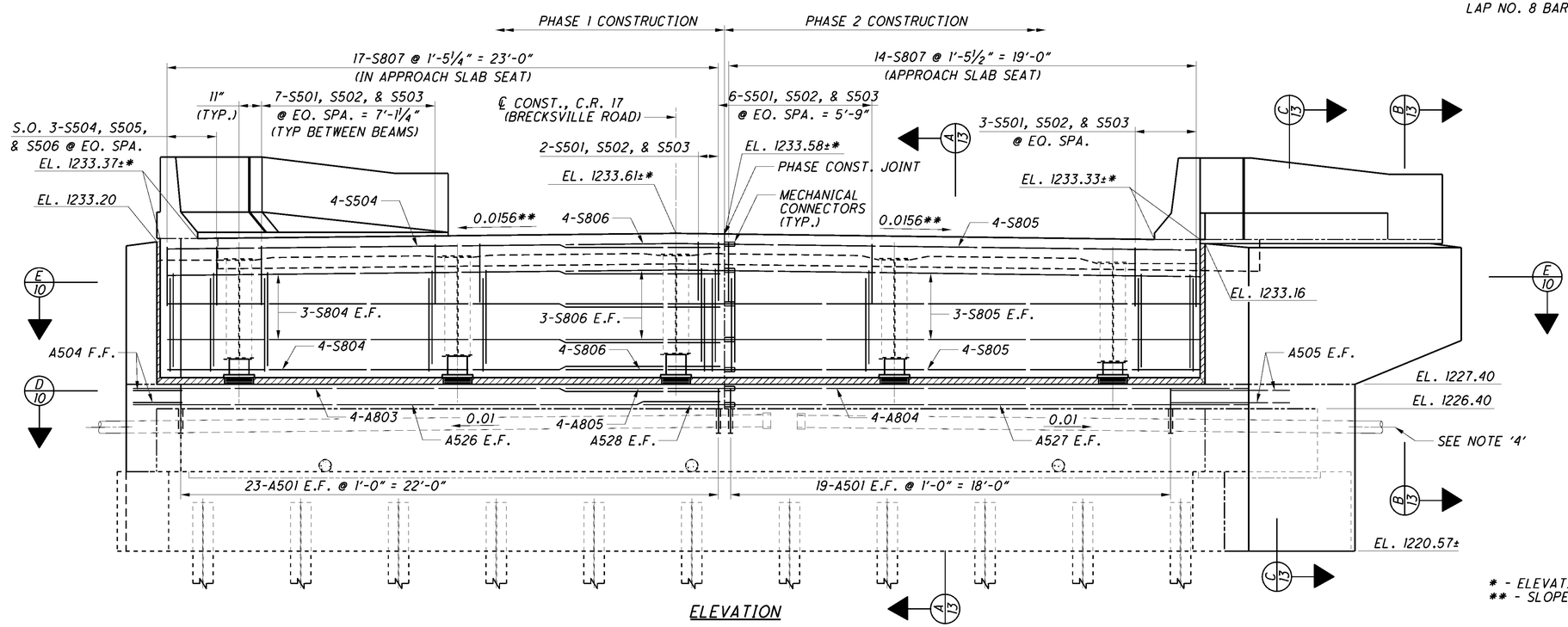
NOTES:

1. THE CENTERLINE OF CONSTRUCTION, PHASE CONSTRUCTION JOINT, AND LOCATION OF THE BEAMS ARE PROJECTED FROM THE FRONT FACE OF ABUTMENT DIAPHRAGM IN THE PLAN VIEW.

2. SEAL VERTICAL PHASE CONSTRUCTION JOINT ON BACKSIDE OF ABUTMENT DIAPHRAGMS FROM BEAM SEAT CUTLINE TO THE APPROACH SLAB SEAT WITH TYPE 2 WATERPROOFING MATERIAL, 3'-0" WIDE CENTERED ON THE JOINT.

3. THE 6" N.P.C.P.P. AT END CONNECTED TO PERFORATED C.P.P. AND OUTLET AS SHOWN IN PIPE TERMINATION DETAIL ON SHEET 12/25 .

4. MINIMUM LAP LENGTHS:
   LAP NO. 5 BARS 3'-2"
   LAP NO. 8 BARS 6'-4"



ELEVATION

LEGEND:

- TEMPORARY SHEETING
- EXISTING STEEL PILES 10 BP 42

* - ELEVATIONS ARE GIVEN AT ℄ BEARINGS
** - SLOPE GRADE IS GIVEN PERPENDICULAR TO ℄ CONSTRUCTION

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DESIGNED	DRAWN	REVIEWED	DATE
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SS		7708858	

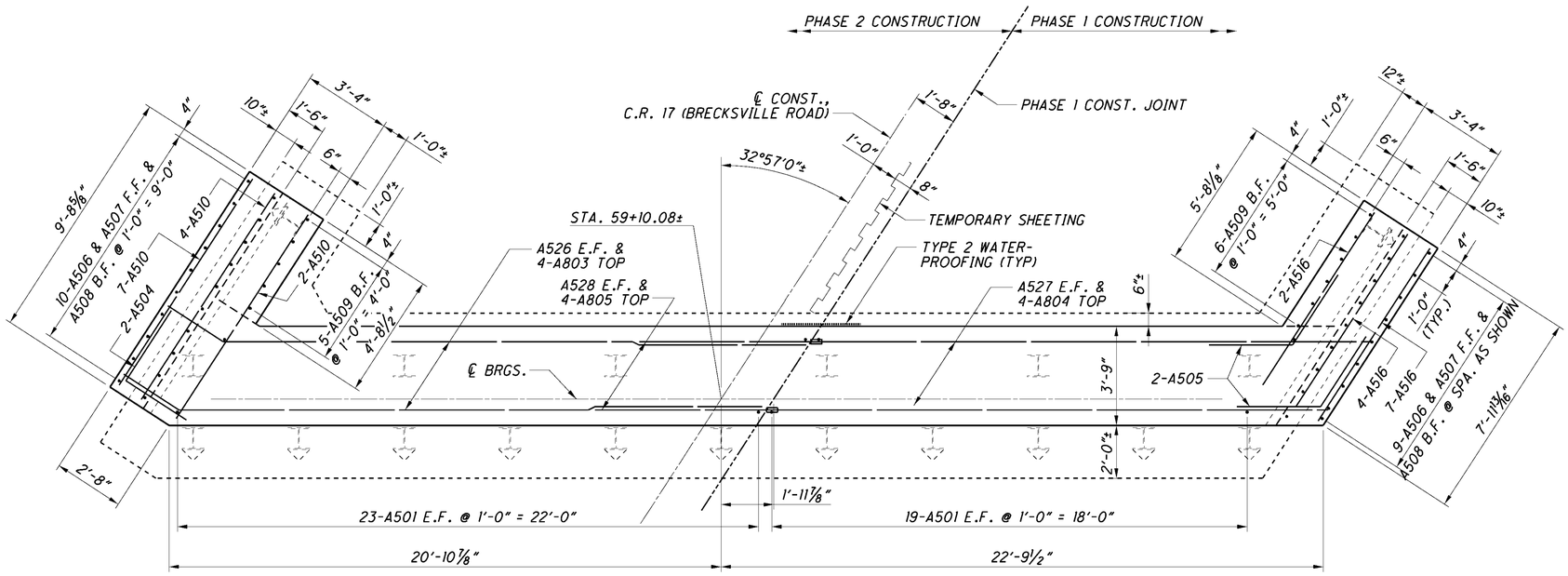
REAR ABUTMENT DETAILS - I
BRIDGE NO. SUM-271-0294
C.R. 17 (BRECKSVILLE RD.) OVER I.R. 271

SUM-271-2.33
PID No. 18710

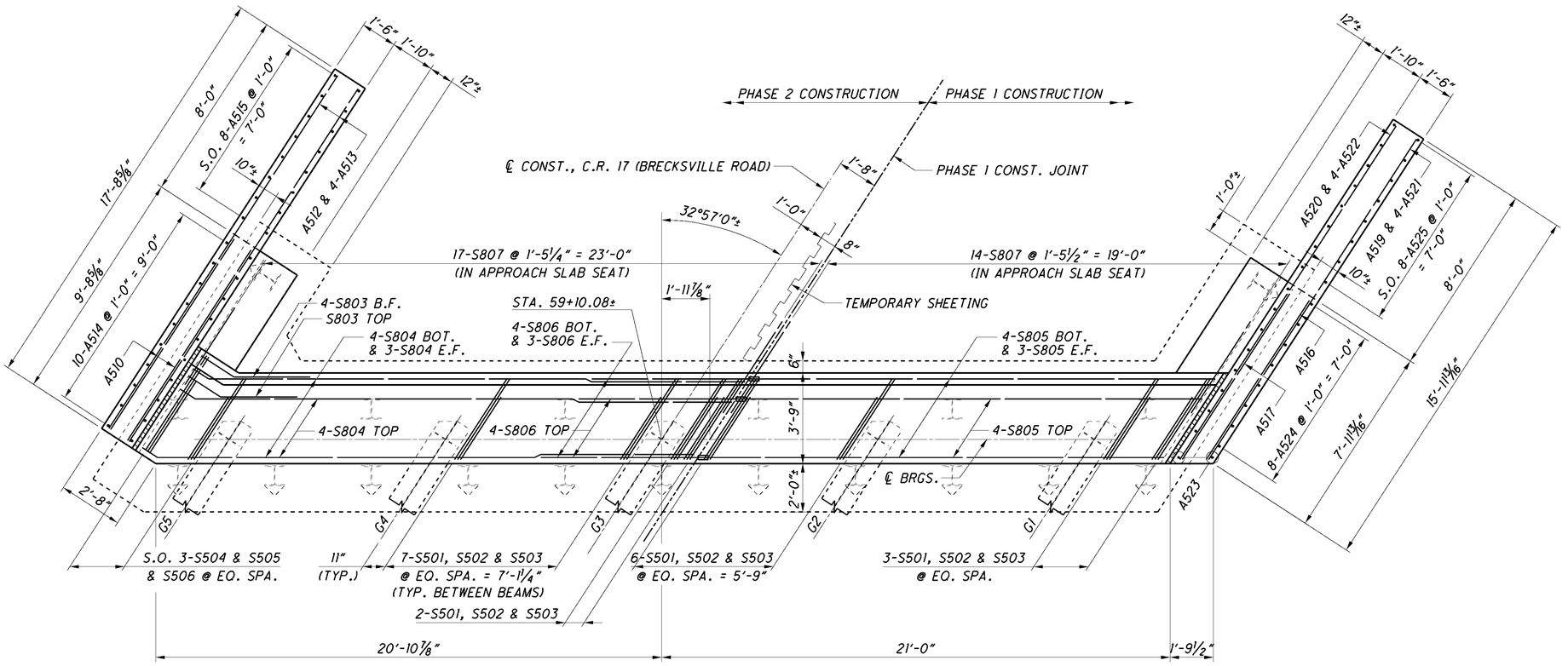
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SECTION D-D



SECTION E-E

NOTES:

1. FOR WINGWALL REINFORCING DETAILS SEE SHEET 14/25.
2. FOR LOCATIONS OF SECTIONS D-D, & E-E, SEE SHEET 9/25.
3. MINIMUM LAP LENGTHS:
   LAP NO. 5 BARS 3'-2"
   LAP NO. 8 BARS 6'-4"

LEGEND:

- TEMPORARY SHEETING
- EXISTING STEEL PILES 10 BP 42

ABBREVIATIONS:

F.F. = FRONT FACE
B.F. = BACK FACE
E.F. = EACH FACE

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AJB/YSJ	CEC	JJ	09/12
CHECKED	REVISED	STRUCTURE FILE NUMBER	
SS		7708858	

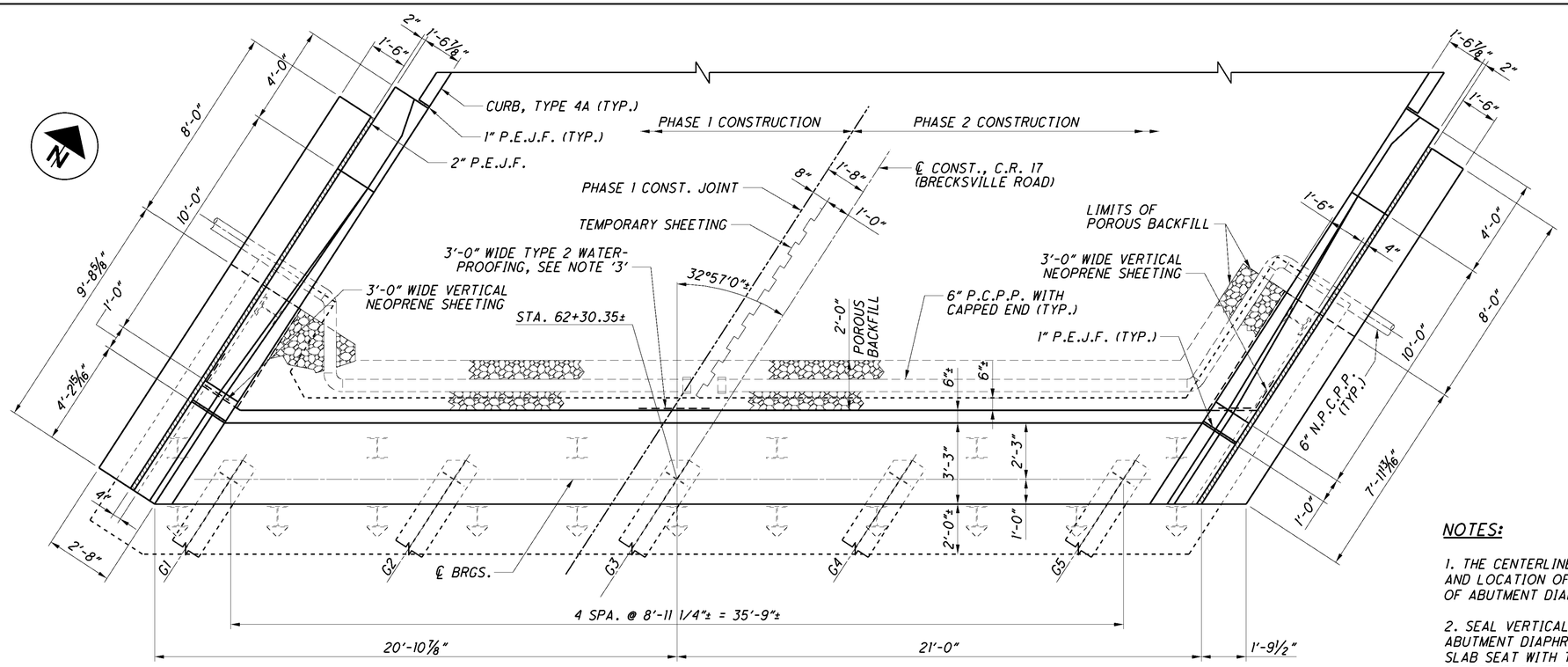
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BRIDGE NO. SUM-271-0294
C.R. 17 (BRECKSVILLE RD.) OVER I.R. 271

SUM-271-2.33
PID No. 18710

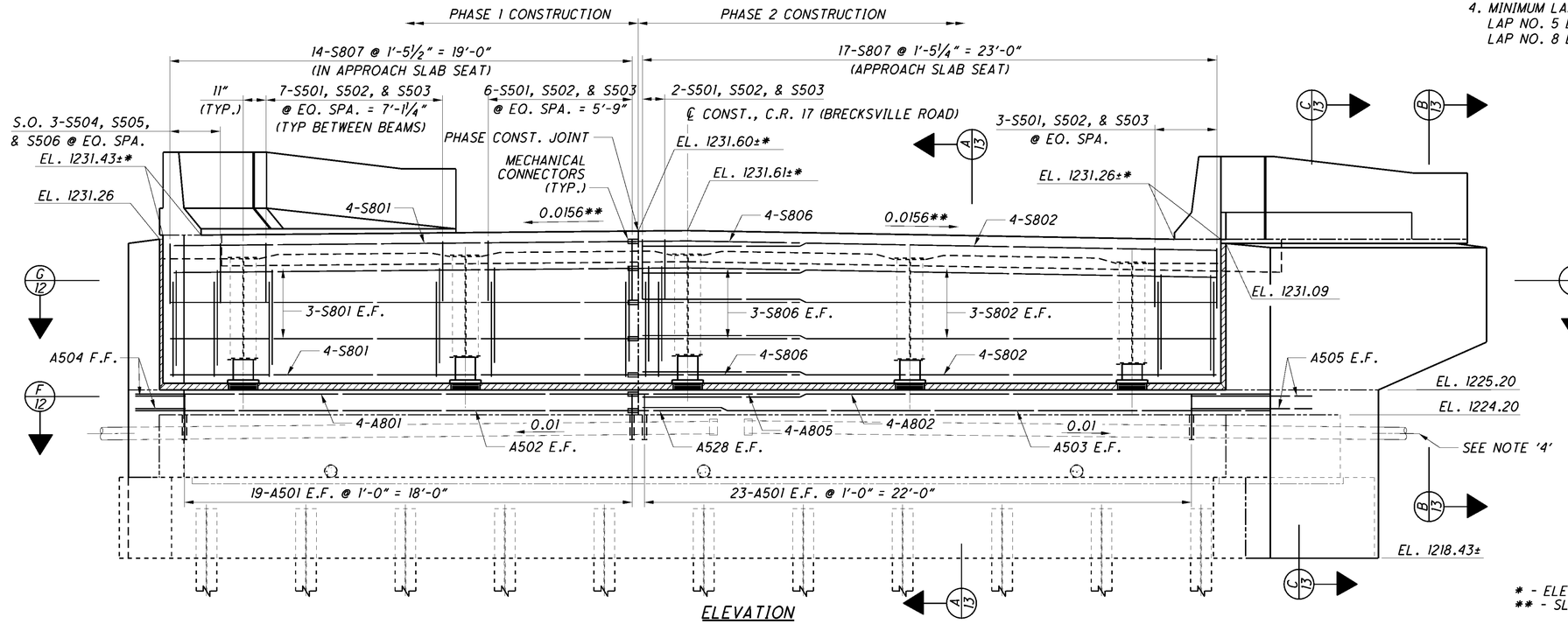
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PLAN



ELEVATION

NOTES:

1. THE CENTERLINE OF CONSTRUCTION, PHASE CONSTRUCTION JOINT, AND LOCATION OF THE BEAMS ARE PROJECTED FROM THE FRONT FACE OF ABUTMENT DIAPHRAGM IN THE PLAN VIEW.

2. SEAL VERTICAL PHASE CONSTRUCTION JOINT ON BACKSIDE OF ABUTMENT DIAPHRAGMS FROM BEAM SEAT CUTLINE TO THE APPROACH SLAB SEAT WITH TYPE 2 WATERPROOFING MATERIAL, 3'-0" WIDE CENTERED ON THE JOINT.

3. THE 6" N.P.C.P.P. AT END CONNECTED TO PERFORATED C.P.P. AND OUTLET AS SHOWN IN PIPE TERMINATION DETAIL ON SHEET 12/25 .

4. MINIMUM LAP LENGTHS:
   LAP NO. 5 BARS 3'-2"
   LAP NO. 8 BARS 6'-4"

LEGEND:

- TEMPORARY SHEETING
- EXISTING STEEL PILES 10 BP 42

* - ELEVATIONS ARE GIVEN AT ℄ BEARINGS
** - SLOPE GRADE IS GIVEN PERPENDICULAR TO ℄ CONSTRUCTION

DESIGN AGENCY
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TEL:(614)228-3500

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FORWARD ABUTMENT DETAILS - I

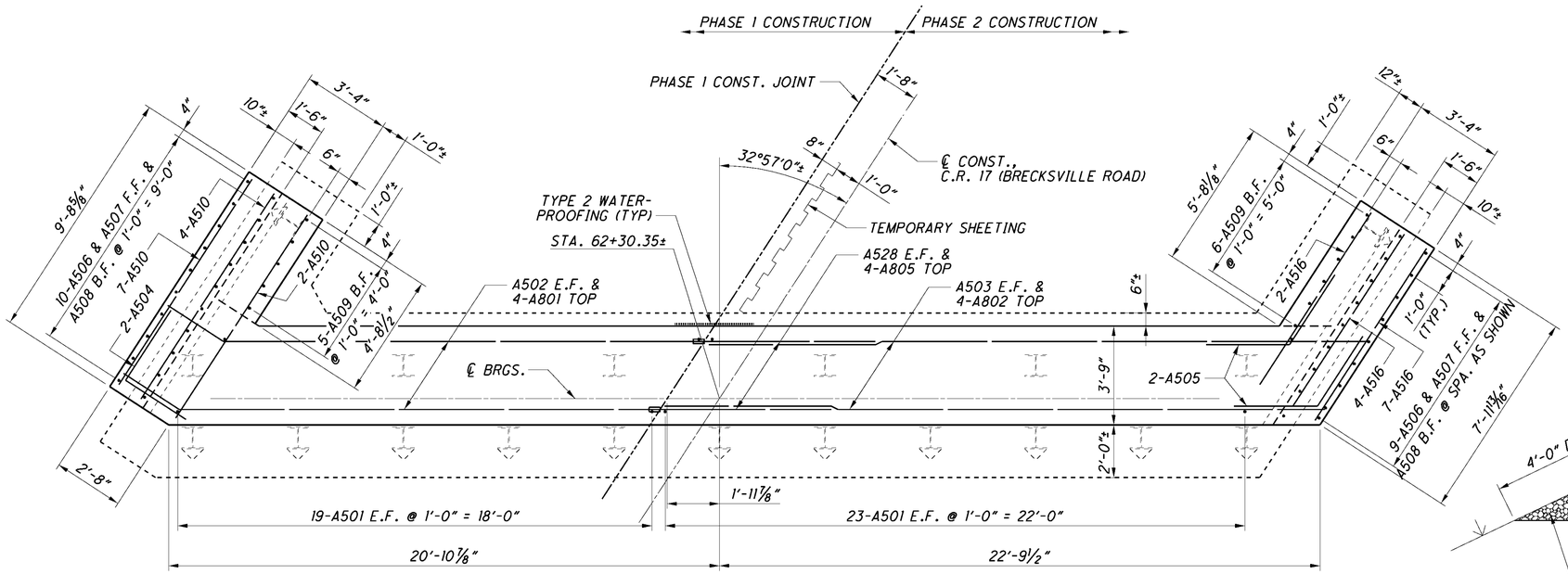
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C.R. 17 (BRECKSVILLE RD.) OVER I.R. 271

SUM-271-2.33
PID No. 18710

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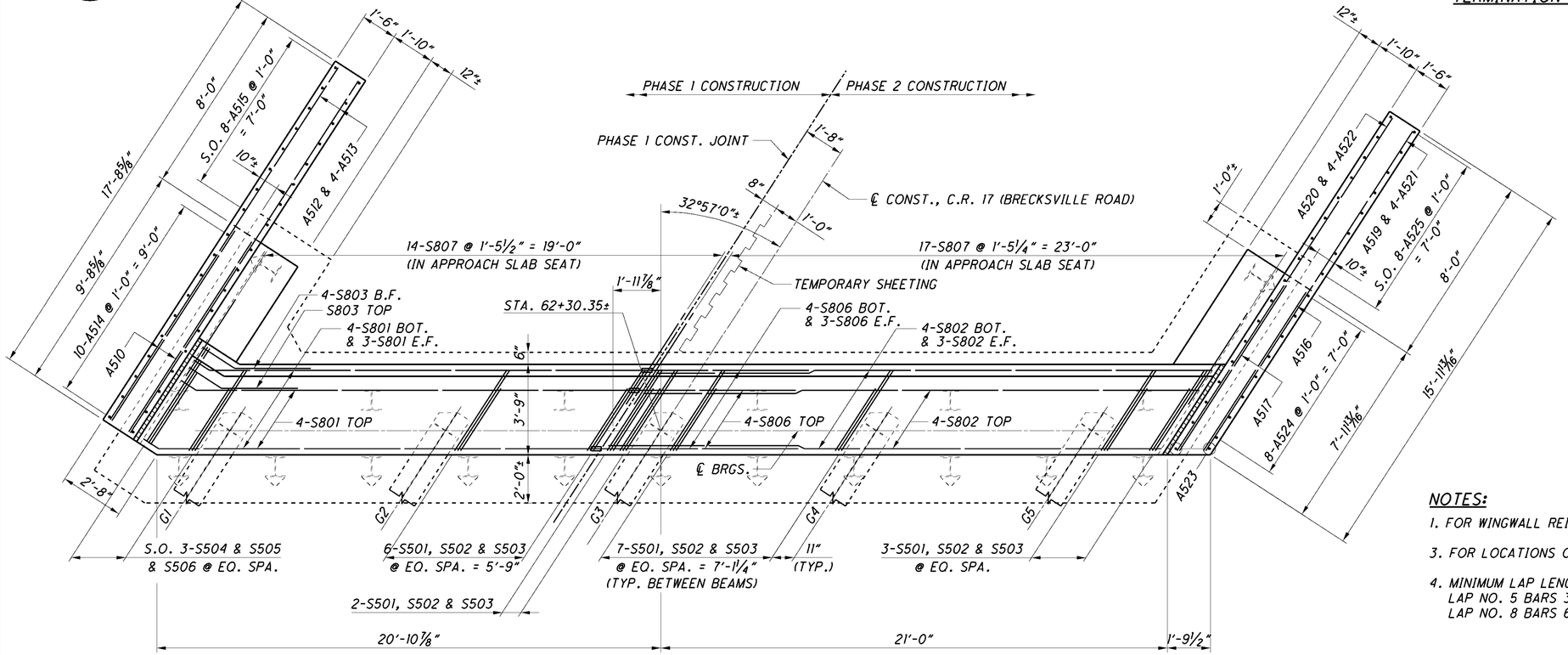
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SECTION F-F

TERMINATION OF 6" N.P.C.P.P. DETAIL



SECTION G-G

LEGEND:

- TEMPORARY SHEETING
- EXISTING STEEL PILES 10 BP 42

ABBREVIATIONS:

F.F. = FRONT FACE
B.F. = BACK FACE
E.F. = EACH FACE

NOTES:

1. FOR WINGWALL REINFORCING DETAILS SEE SHEET 14/25.
3. FOR LOCATIONS OF SECTIONS F-F, & G-G, SEE SHEET 11/25.
4. MINIMUM LAP LENGTHS:
   LAP NO. 5 BARS 3'-2"
   LAP NO. 8 BARS 6'-4"

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CHECKED	REVISED	STRUCTURE FILE NUMBER	
SS		7708858	

FORWARD ABUTMENT DETAILS - II
BRIDGE NO. SUM-271-0294
C.R. 17 (BRECKSVILLE RD.) OVER I.R. 271

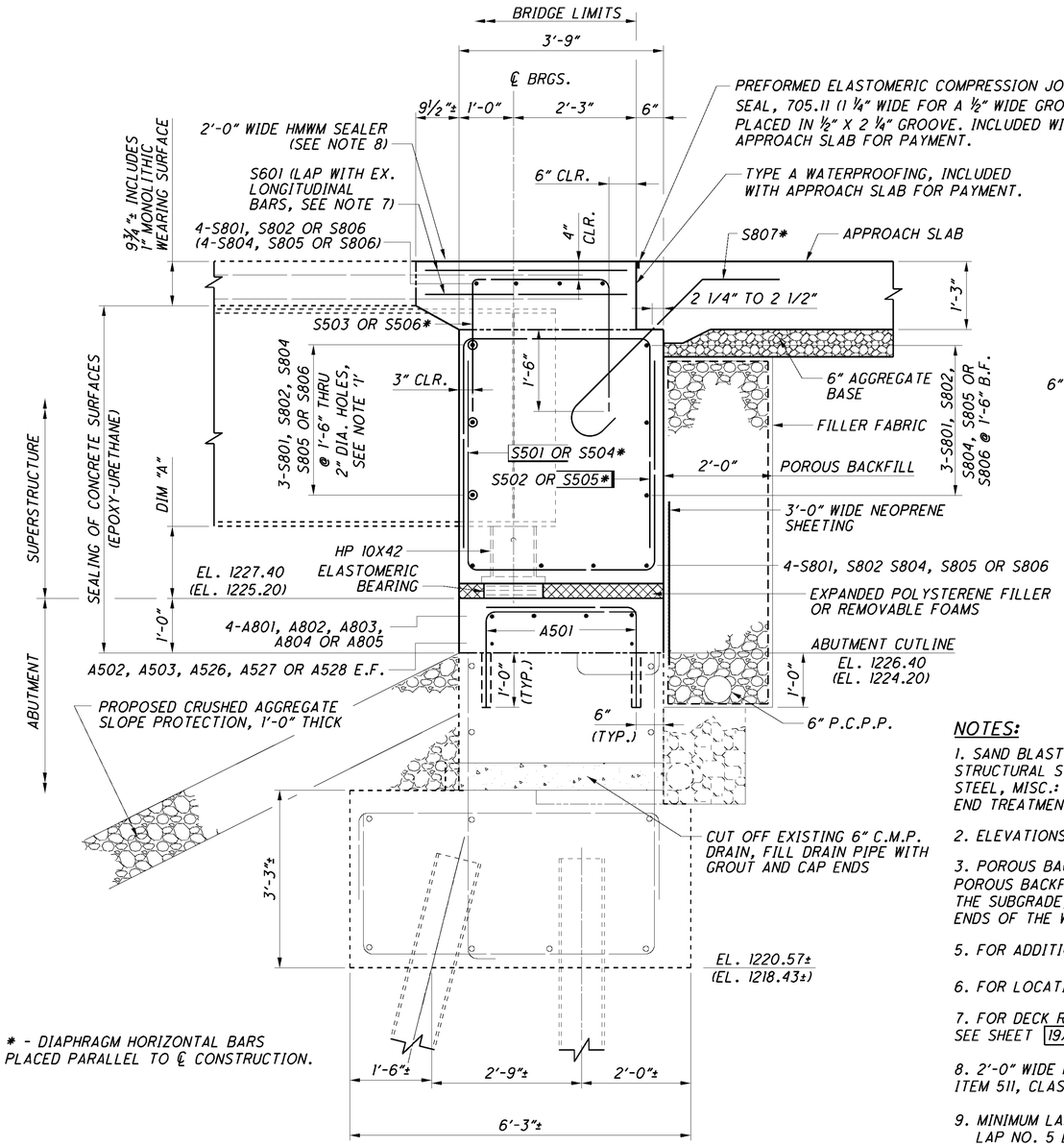
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PID No. 18710

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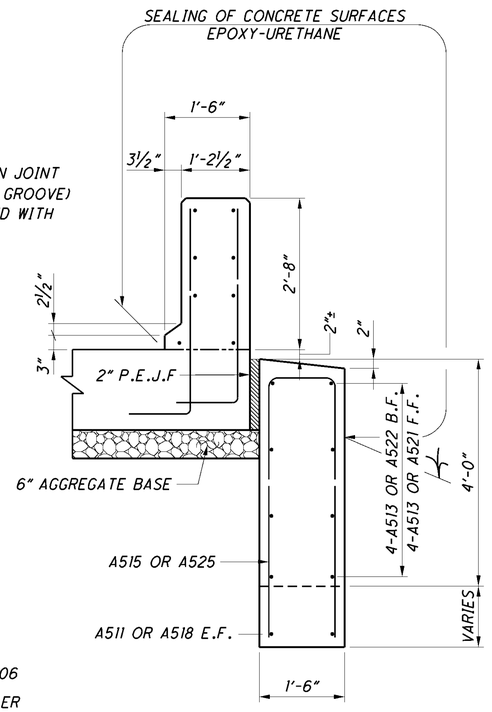
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DIM "A" TABLE					
LOCATION	G1	G2	G3	G4	G5
REAR ABUTMENT	1'-0 3/8"	1'-1 13/16"	1'-2 11/16"	1'-0 1/2"	10 5/8"
FORWARD ABUTMENT	1'-2 5/8"	1'-3 3/4"	1'-4 3/8"	1'-2 5/16"	1'-0 3/8"

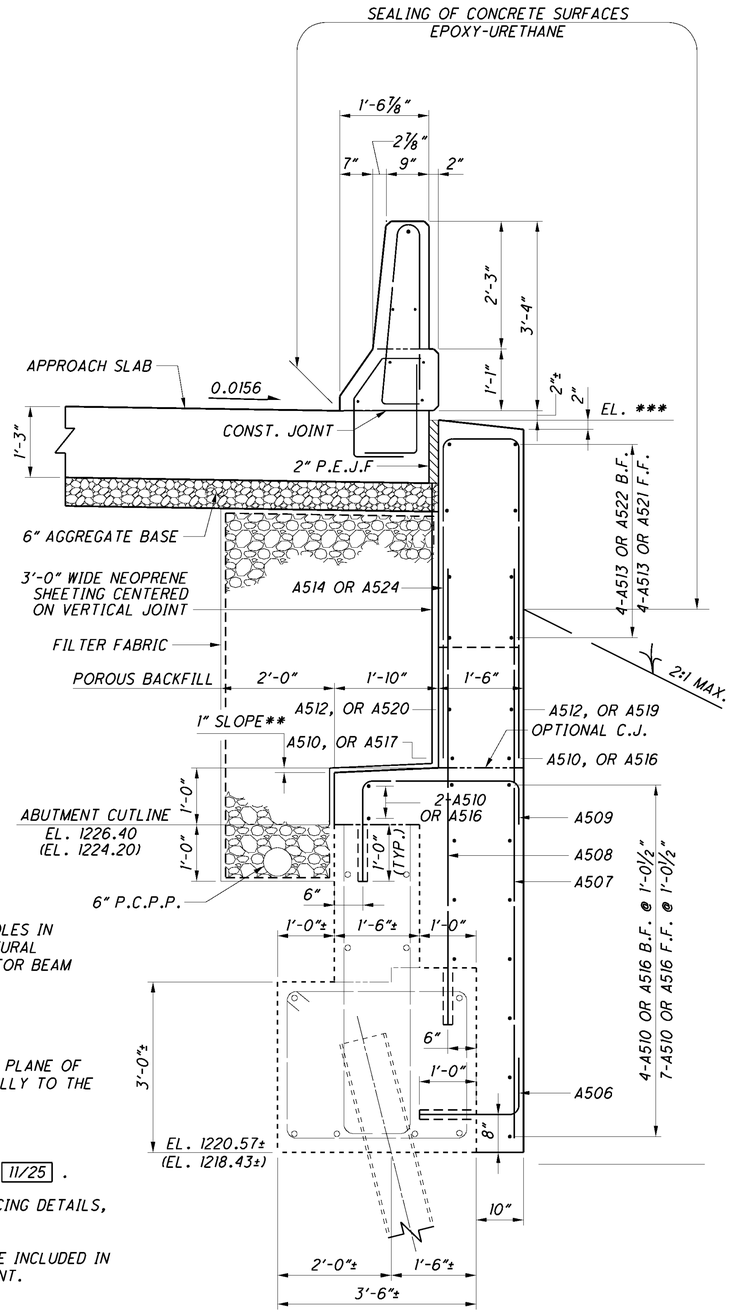


SECTION A-A

* - DIAPHRAGM HORIZONTAL BARS PLACED PARALLEL TO ℄ CONSTRUCTION.



SECTION B-B



SECTION C-C

NOTES:

1. SAND BLAST BEAM ENDS TO SOUND BASE METAL AND DRILL 2" DIA. HOLES IN STRUCTURAL STEEL, THE COST SHALL BE INCLUDED IN ITEM 513, STRUCTURAL STEEL, MISC.: BEAM END TREATMENT FOR PAYMENT. SEE SHEET 8/25 FOR BEAM END TREATMENT LIMITS.
2. ELEVATIONS SHOWN IN ( ) ARE FOR FORWARD ABUTMENT.
3. POROUS BACKFILL:
   POROUS BACKFILL WITH FILTER FABRIC, 2'-0" SHALL EXTEND UP TO THE PLANE OF THE SUBGRADE, TO 1'-0" BELOW THE EMBANKMENT SURFACE, AND LATERALLY TO THE ENDS OF THE WINGWALLS.
5. FOR ADDITIONAL DETAILS, REFER TO STANDARD DWG. SICD-1-96.
6. FOR LOCATION OF SECTIONS A-A, B-B & C-C, SEE SHEETS 9/25 & 11/25 .
7. FOR DECK REMOVAL DETAILS, SEE SHEET 8/25, FOR DECK REINFORCING DETAILS, SEE SHEET 19/25 .
8. 2'-0" WIDE HMWM SEALER ALONG DECK CONSTRUCTION JOINT SHALL BE INCLUDED IN ITEM 511, CLASS HP CONCRETE, BRIDGE DECK, AS PER PLAN, FOR PAYMENT.
9. MINIMUM LAP LENGTHS:
   LAP NO. 5 BARS 3'-2"
   LAP NO. 8 BARS 6'-4"

ABBREVIATIONS:

F.F. = FRONT FACE
B.F. = BACK FACE
E.F. = EACH FACE
P.C.P.P. = PERFORATED CORRUGATED POLYETHYLENE PIPE
NON-P.C.P.P. = NON-PERFORATED CORRUGATED POLYETHYLENE PIPE

** - SLOPE SHALL EXTEND FROM THE WINGWALL END TO THE BACK FACE OF ABUTMENT DIAPHRAGM.

*** - FOR TOP OF WINGWALL ELEVATIONS, SEE SHEET 14/25 .

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CHECKED SS | REVISED | STRUCTURE FILE NUMBER 7708858

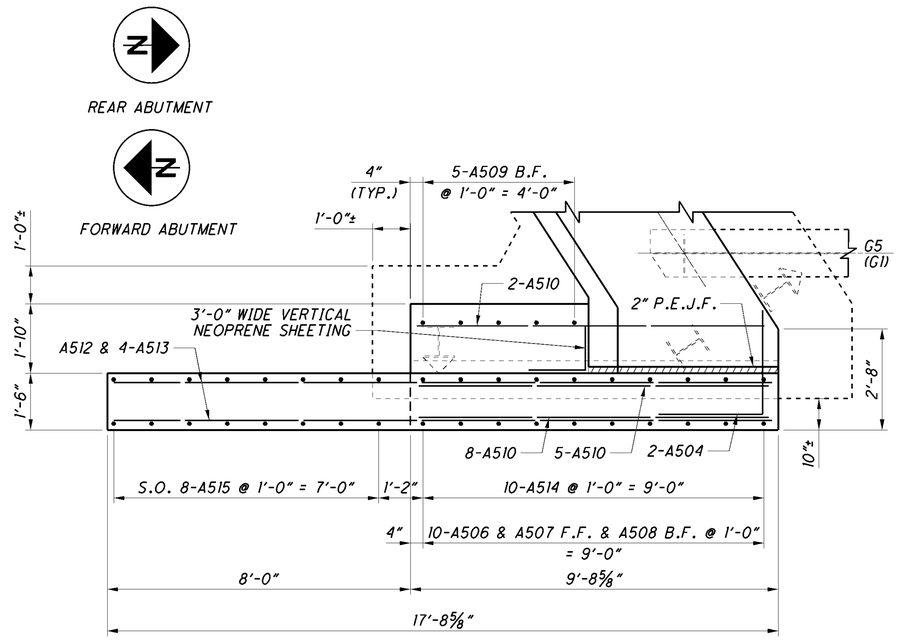
PROPOSED ABUTMENT SECTIONS
BRIDGE NO. SUM-271-0294
C.R. 17 (BRECKSVILLE RD.) OVER I.R. 271

SUM-271-2.33
PID No. 18710

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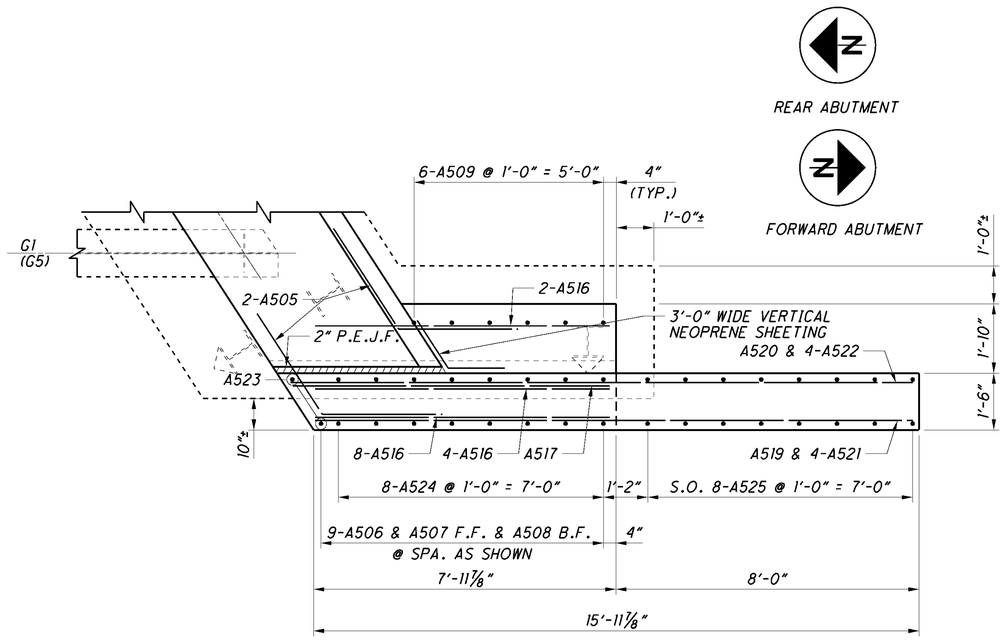
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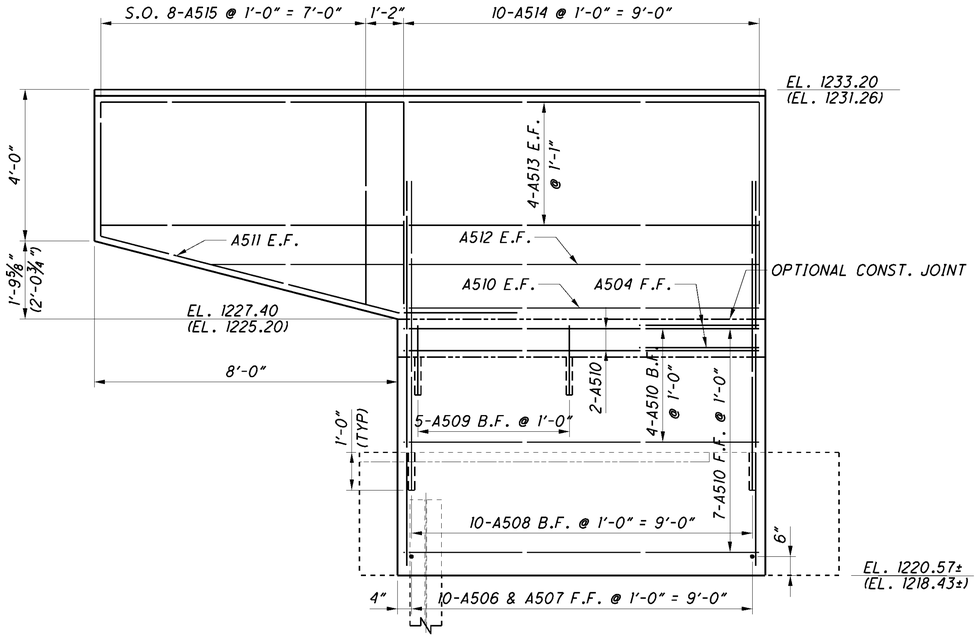
PLAN

RIGHT WINGWALL - REAR ABUTMENT
LEFT WINGWALL - FORWARD ABUTMENT



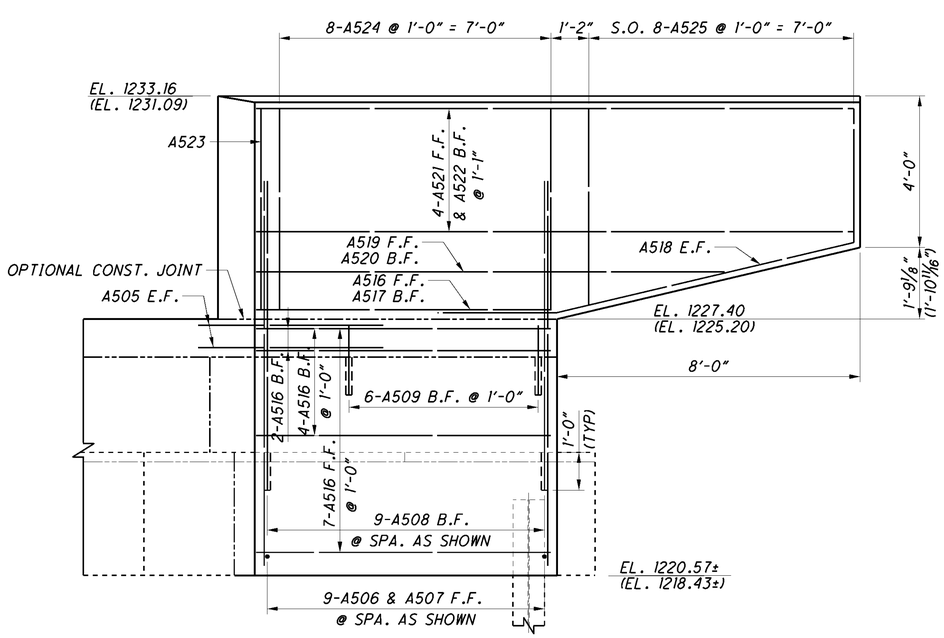
PLAN

LEFT WINGWALL - REAR ABUTMENT
RIGHT WINGWALL - FORWARD ABUTMENT



ELEVATION

RIGHT WINGWALL - REAR ABUTMENT
LEFT WINGWALL - FORWARD ABUTMENT



ELEVATION

LEFT WINGWALL - REAR ABUTMENT
RIGHT WINGWALL - FORWARD ABUTMENT

NOTES:

1. ELEVATIONS, DIMENSIONS AND GIRDER NUMBERS SHOWN IN ( ) ARE FOR FORWARD ABUTMENT.

2. MINIMUM LAP LENGTHS:
   LAP NO. 5 BARS 3'-2"

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TEL:(614)228-3500

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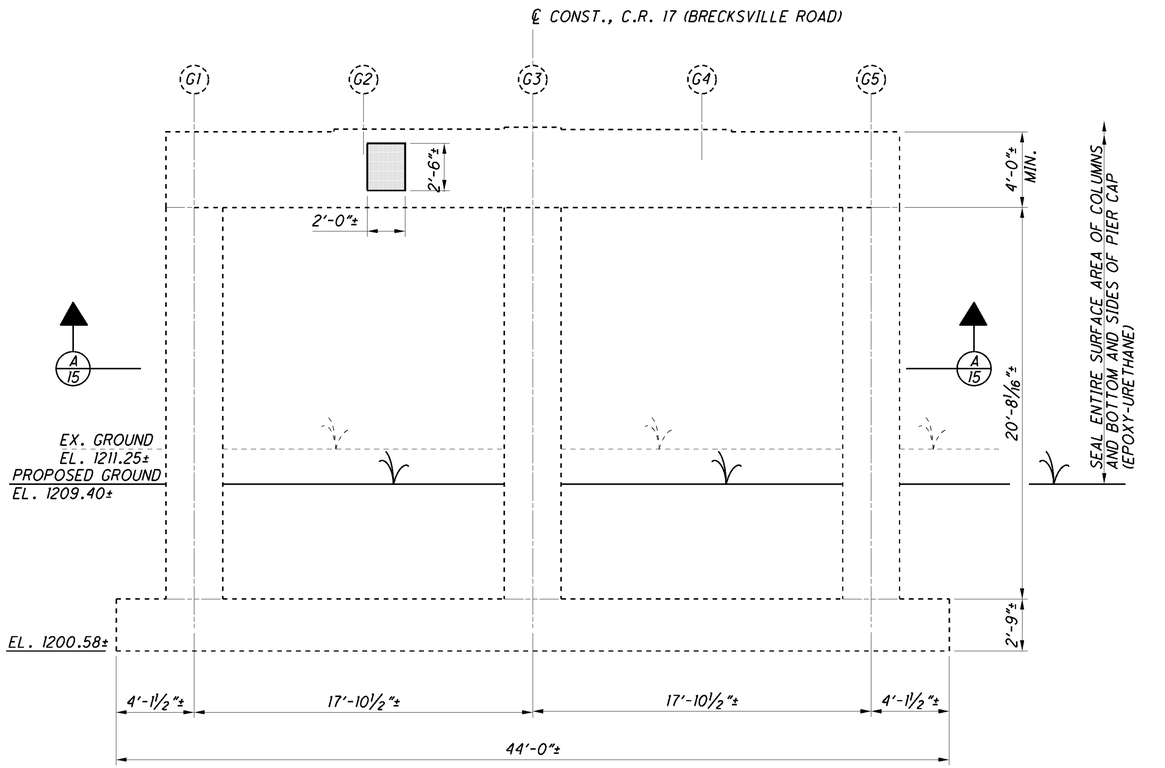
PROPOSED WINGWALL DETAILS
BRIDGE NO. SUM-271-0294
C.R. 17 (BRECKSVILLE RD.) OVER I.R. 271

SUM-271-2.33
PID No. 18710

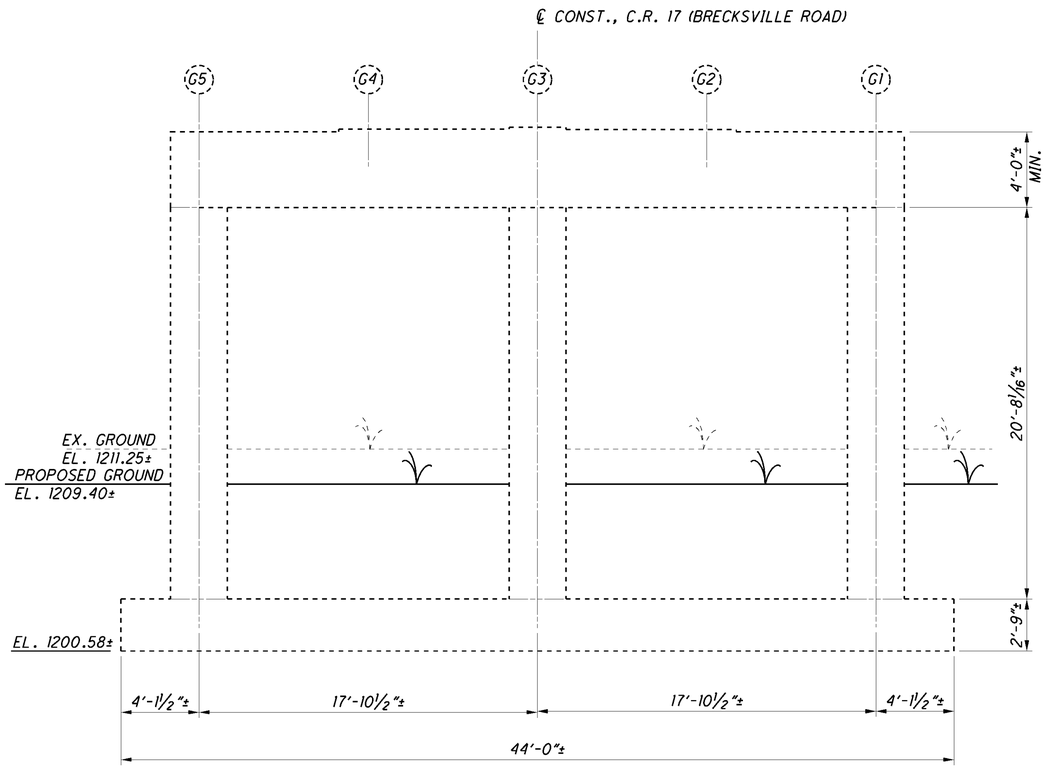
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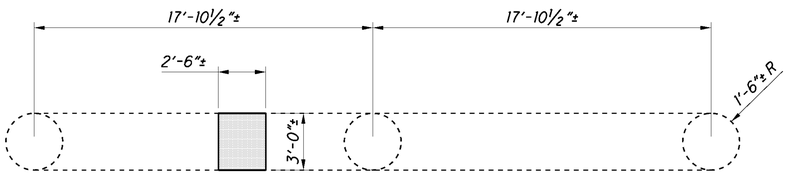
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ELEVATION - PIER 1
LOOKING NORTH



ELEVATION - PIER 1
LOOKING SOUTH



VIEW A-A
(BOTTOM OF PIER CAP)

ESTIMATED PATCHING OF CONCRETE AREA IS 12.5 SQ. FT.

LEGEND:

(G3) - EXISTING GIRDER NUMBER

- PATCHING CONCRETE STRUCTURE, PER ITEM 519.

NOTE:

ALL EXISTING DIMENSIONS AND ELEVATIONS ARE ±.

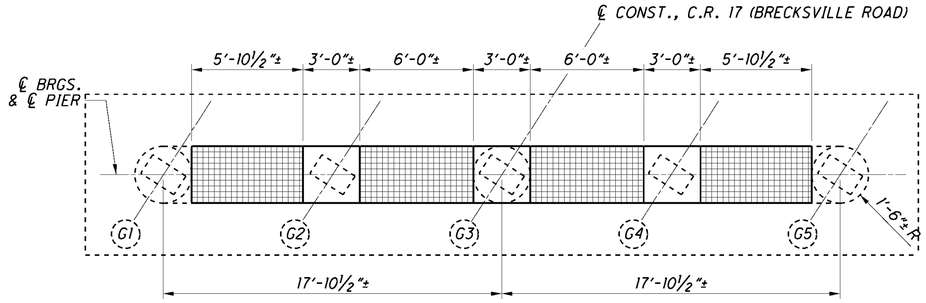
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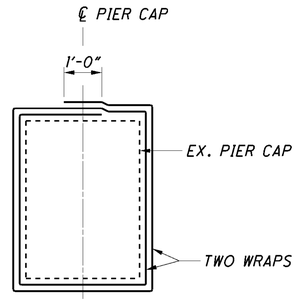
DESIGNED	DRAWN	REVIEWED	DATE
AJB/YSJ	CEC	JJ	09/12
CHECKED	REVISED	STRUCTURE FILE NUMBER	
SS		7708858	

PATCHING DETAILS - PIER 1
BRIDGE NO. SUM-271-0294
C.R. 17 (BRECKSVILLE RD.) OVER I.R. 271

SUM-271-2.33
PID No. 18710



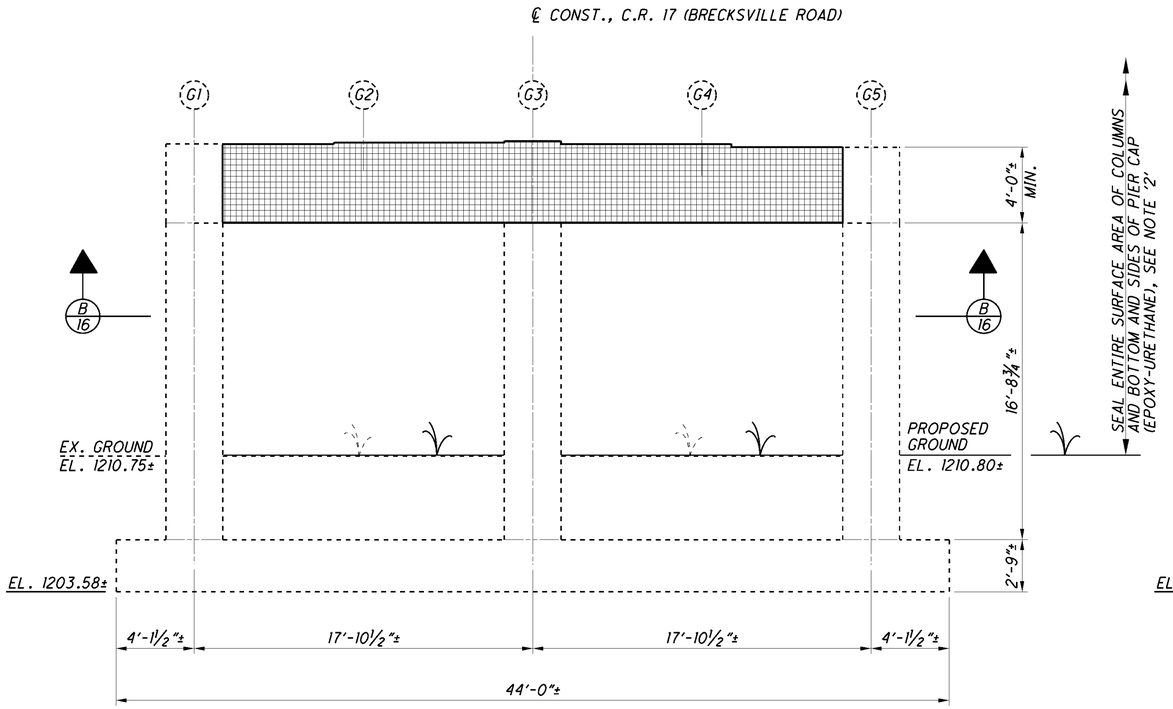
PLAN - PIER 2



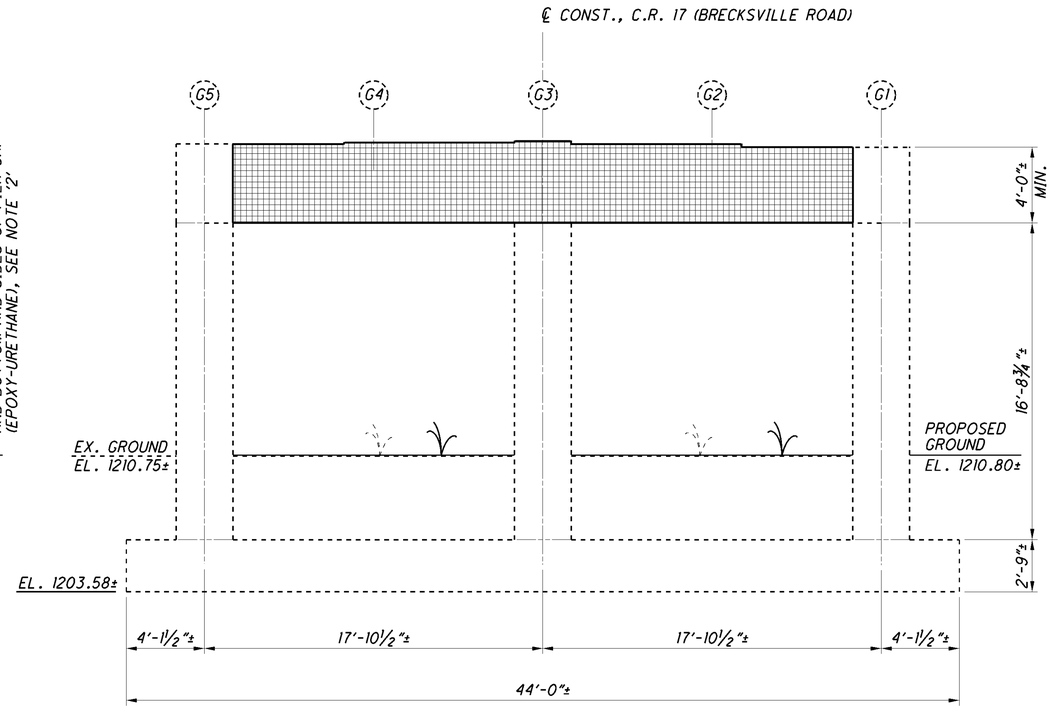
FIBER WRAP CASING DETAIL

NOTE:

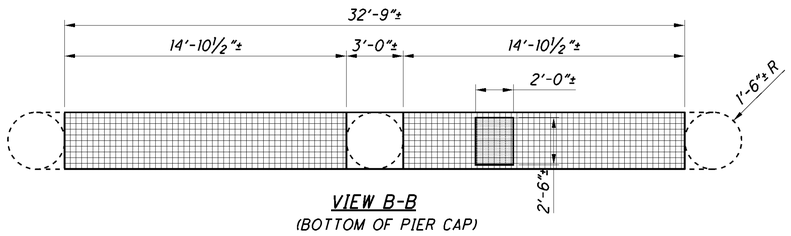
1. ALL EXISTING DIMENSIONS AND ELEVATIONS ARE ±.
2. FOR FIBER WRAP SYSTEM COATING NOTES AND REQUIREMENTS, SEE GENERAL NOTES ON SHEETS 3/25 & 4/25 .
3. THE COMPLETED SURFACE OF FIBER-WRAPPED PIER CAP SHALL BE APPLIED WITH SAME COLOR OF THE EPOXY-URETHANE COATING THAT IS APPLIED ON THE PIER COLUMNS.
4. FOR ADDITIONAL NOTES, SEE FIBER WRAP GENERAL NOTES ON SHEET 4/25 .



ELEVATION - PIER 2
LOOKING NORTH



ELEVATION - PIER 2
LOOKING SOUTH



VIEW B-B
(BOTTOM OF PIER CAP)

ESTIMATED PATCHING OF CONCRETE AREA IS 5.0 SQ. FT.

ESTIMATED FIBER-WRAPPING AREA IS 433 SQ. FT.

LEGEND:

(G3) - EXISTING GIRDER NUMBER

- PATCHING CONCRETE STRUCTURE, PER ITEM 519.

- FIBER-WRAPPING PIER CAP

DESIGN AGENCY
COLUMBUS ENGINEERING CONSULTANTS, INC.
840 MICHIGAN AVENUE, COLUMBUS, OH 43215
TEL:(614)228-3500

DESIGNED	DRAWN	REVIEWED	DATE
AJB/YSJ	CEC	JJ	09/12
CHECKED	REVISED	STRUCTURE FILE NUMBER	
SS		7708858	

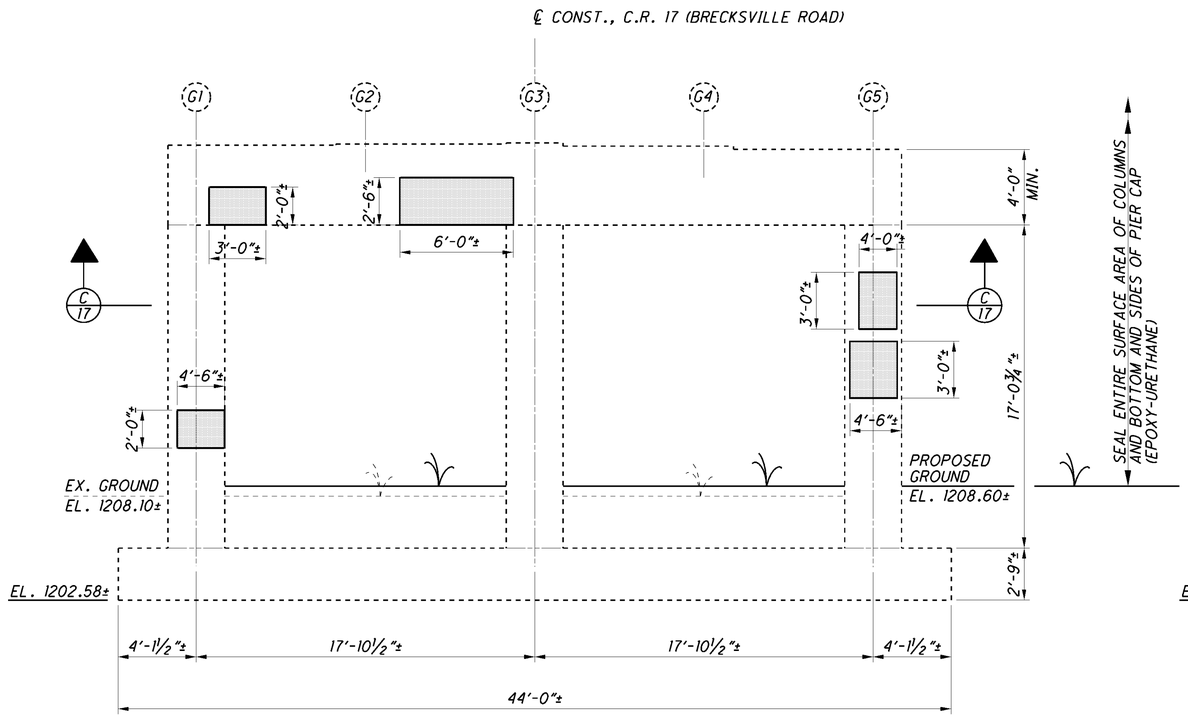
PATCHING DETAILS - PIER 2
BRIDGE NO. SUM-271-0294
C.R. 17 (BRECKSVILLE RD.) OVER I.R. 271

SUM-271-2.33
PID No. 18710

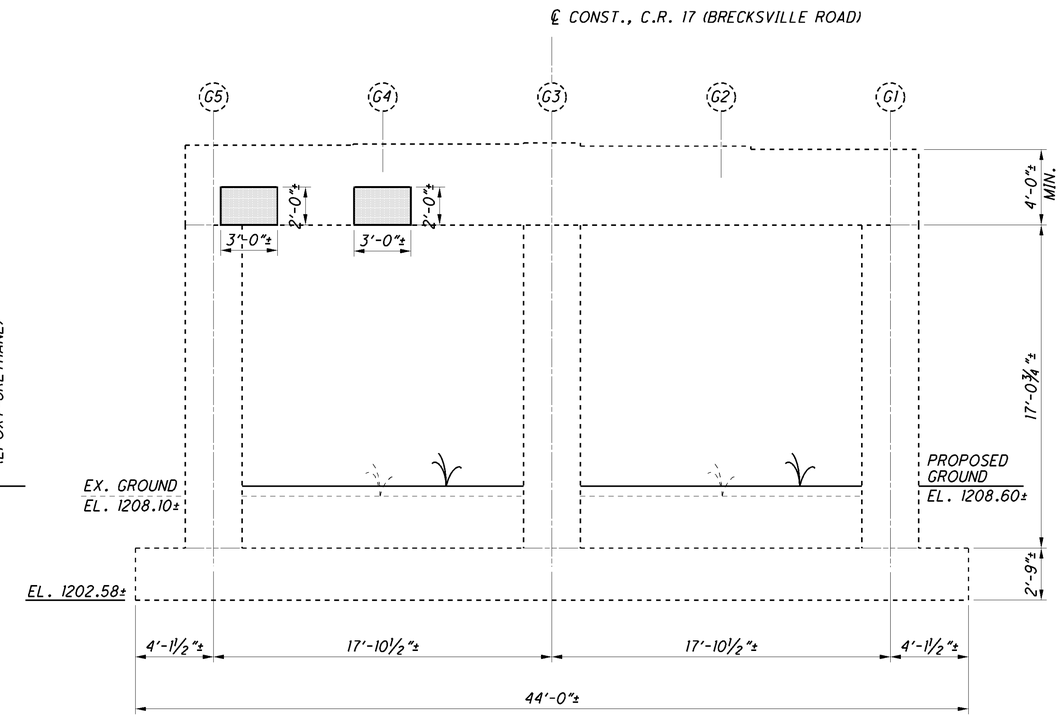
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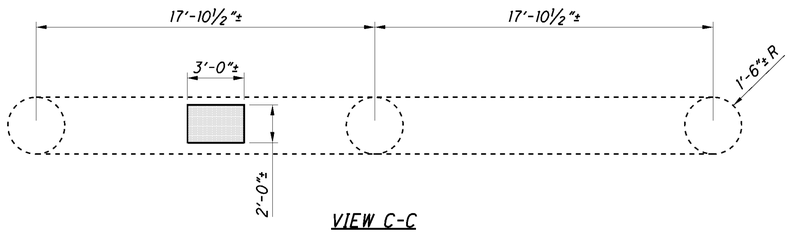
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ELEVATION - PIER 3
LOOKING NORTH



ELEVATION - PIER 3
LOOKING SOUTH



VIEW C-C
(BOTTOM OF PIER CAP)

ESTIMATED PATCHING OF CONCRETE AREA IS 73.5 SQ. FT.

NOTE:
ALL EXISTING DIMENSIONS AND ELEVATIONS ARE ±.

LEGEND:

(G3) - EXISTING GIRDER NUMBER

- PATCHING CONCRETE STRUCTURE, PER ITEM 519.

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840 MICHIGAN AVENUE, COLUMBUS, OH 43215
TEL:(614)228-3500

DESIGNED	DRAWN	REVIEWED	DATE
AJB/YSJ	CEC	JJ	09/12
CHECKED	REVISED	STRUCTURE FILE NUMBER	
SS		7708858	

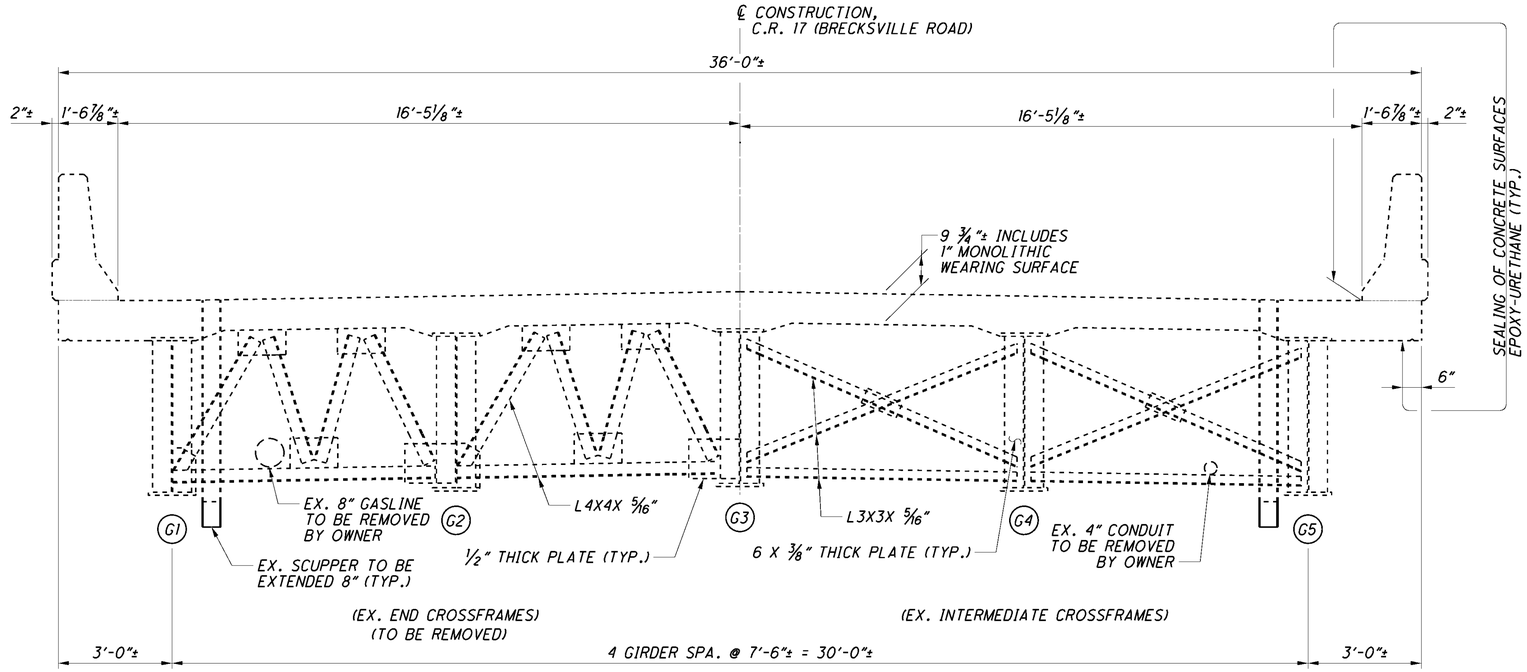
PATCHING DETAILS - PIER 3
BRIDGE NO. SUM-271-0294
C.R. 17 (BRECKSVILLE RD.) OVER I.R. 271

SUM-271-2.33
PID No. 18710

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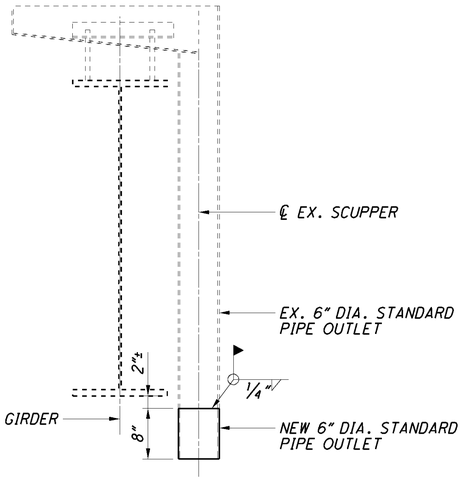
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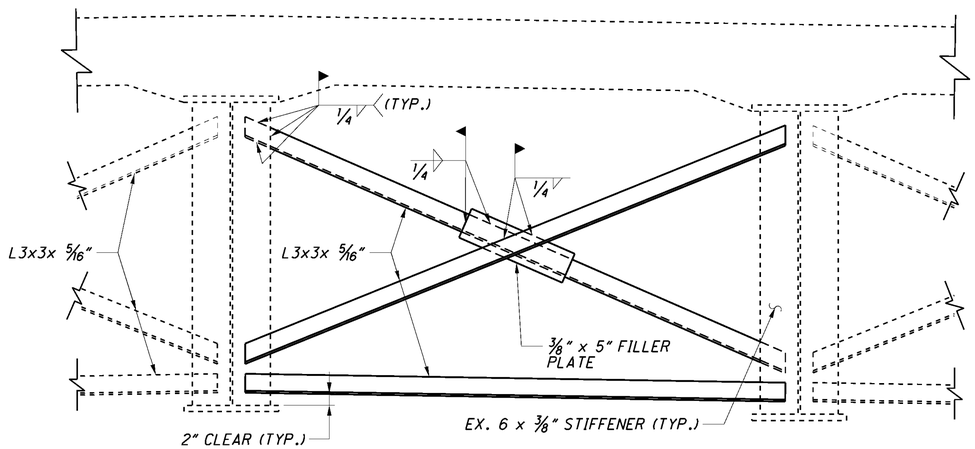


EXISTING TRANSVERSE SECTION

EXISTING SCUPPER LOCATION			
STATION	OFFSET	STATION	OFFSET
59+04.12±	14.0'± LT.	59+23.20±	14.0'± RT.
61+85.63±	14.0'± LT.	62+05.52±	14.0'± RT.
61+95.96±	14.0'± LT.	62+15.43±	14.0'± RT.
62+07.08±	14.0'± LT.	62+25.42±	14.0'± RT.
62+17.41±	14.0'± LT.	62+37.40±	14.0'± RT.



SCUPPER DETAILS



INTERMEDIATE CROSSFRAME DETAILS

NOTES:

1. REPLACE ALL DETERIORATED INTERMEDIATE CROSS FRAMES. FOR NOTES, SEE GENERAL NOTES ON SHEET 3/25.
2. ALL INTERMEDIATE CROSSFRAME MATERIAL SHALL BE A709 GRADE 50.
3. FOR ADDITIONAL NOTES AND DETAILS OF INTERMEDIATE CROSSFRAMES, SEE STANDARD BRIDGE DRAWING GSD-1-96.
4. FOR ADDITIONAL SCUPPER DETAILS, SEE STANDARD BRIDGE DRAWING GSD-1-96.

LEGEND:

(G3) - EXISTING GIRDER NUMBER

DESIGN AGENCY
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TEL:(614)228-3500

DESIGNED	DRAWN	REVIEWED	DATE
SS/YSJ	CEC	JJ	09/12
CHECKED	REVISED	STRUCTURE FILE NUMBER	
JH		7708858	

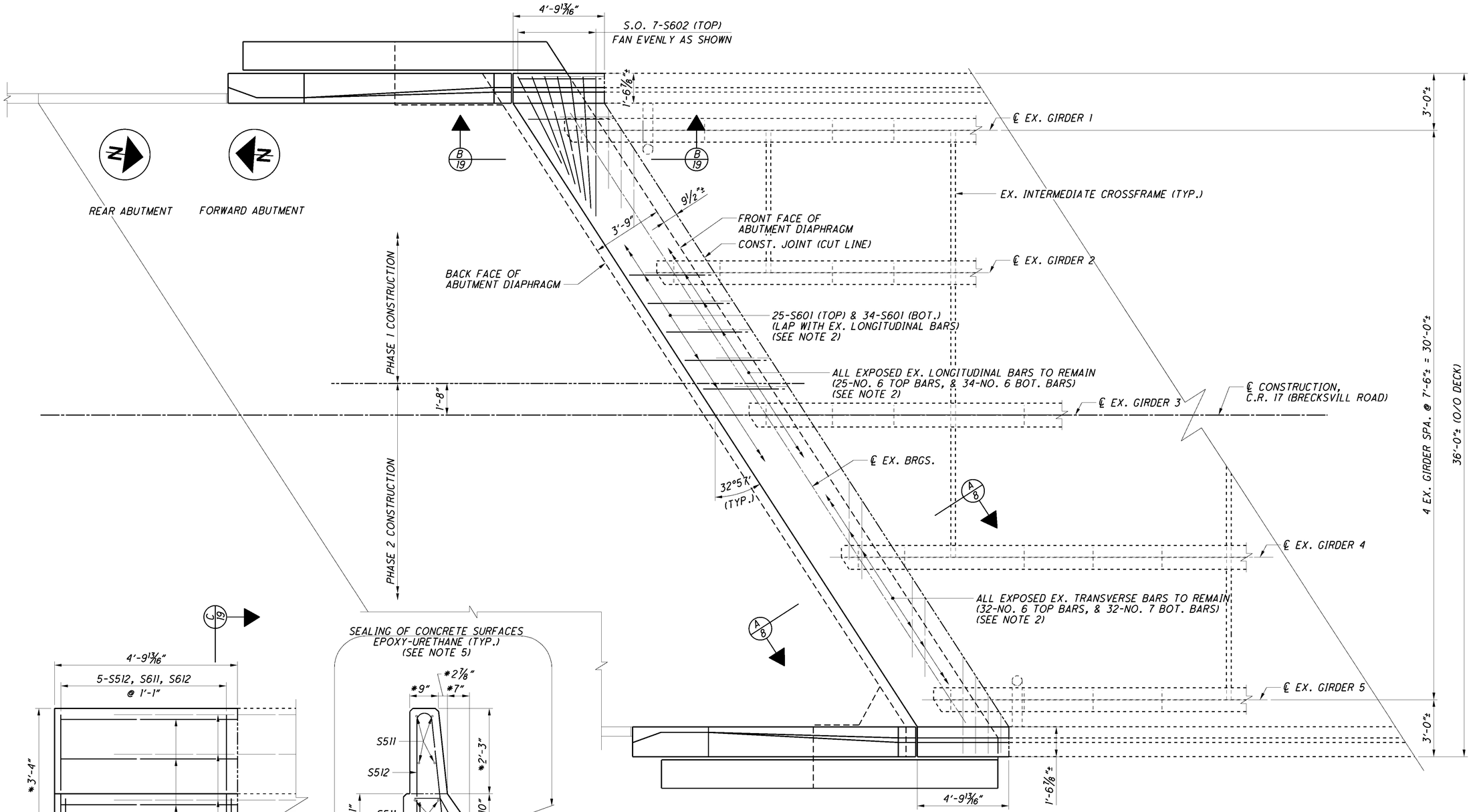
EXISTING TRANSVERSE SECTION
BRIDGE NO. SUM-271-0294
C.R. 17 (BRECKSVILLE RD.) OVER I.R. 271

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DECK REINFORCING DETAIL

(REAR ABUTMENT SHOWN, FORWARD ABUTMENT OPPOSITE HAND)

VIEW B-B - PARAPET ELEVATION

(LEFT PARAPET SHOWN, RIGHT PARAPET SIMILAR)

SECTION C-C

(* MATCH EXISTING PARAPET AND DECK DIMENSIONS)

NOTES:

1. LOCATIONS OF ALL EXISTING REINFORCING BARS ARE APPROXIMATE.
2. ALL EXPOSED EXISTING LONGITUDINAL AND TRANSVERSE BARS SHALL BE CLEANED, STRAIGHTEN AND SECURED IN NEW DECK. LAP EXISTING LONGITUDINAL BARS WITH NEW NO. 6 BARS THAT ANCHOR INTO NEW ABUTMENT DIAPHRAGM.
3. SEE SHEETS 21/25 AND 22/25 FOR APPROACH SLAB AND APPROACH SLAB PARAPET DETAILS.
4. SEE SHEETS 7/25 FOR ABUTMENT STAGE CONSTRUCTION DETAILS.
5. SEALING OF CONCRETE SURFACE SHALL APPLY TO THE FULL LENGTH OF BOTH PARAPETS ON DECK.

DESIGN AGENCY
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TEL:(614)228-3500

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JH/YSJ	CEC	JJ	09/12
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SS		7708858	

DECK REINFORCING DETAILS
BRIDGE NO. SUM-271-0294
C.R. 17 (BRECKSVILLE RD.) OVER I.R. 271

SUM-271-2.33
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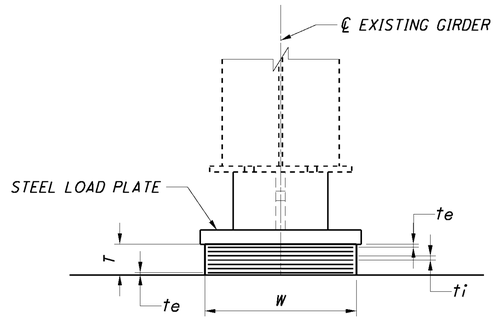
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LAMINATED ELASTOMERIC BEARINGS									
LOCATION	BEARING DIMENSIONS						STEEL LOAD PLATE	REACTIONS		MAXIMUM
	L	W	ti	te	T	N	LENGTH X WIDTH X THICKNESS	DL	LL	DESIGN LOAD
REAR ABUTMENT (EXP.)	10"	1'-4"	3/8"	1/4"	3 1/4"	7	11" X 1'-5" X 1 1/2"	80 k	42 k	122 k
FORWARD ABUTMENT (EXP.)	10"	1'-4"	3/8"	1/4"	3 1/4"	7	11" X 1'-5" X 1 1/2"	80 k	42 k	122 k

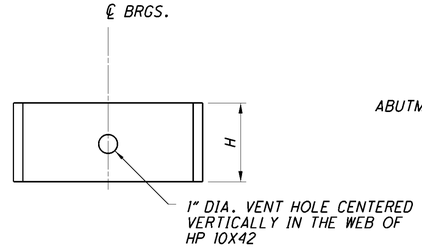
ti = THICKNESS OF INTERNAL LAYER
te = THICKNESS OF EXTERNAL LAYER
T = TOTAL THICKNESS OF ELASTOMERIC BEARING

N = NO. OF STEEL LAMINATES
INTERNAL STEEL LAMINATE THICKNESS = 0.0747"
DUROMETER OF ELASTOMER = 50 DUROMETER
LOAD PLATE THICKNESS IS MEASURED AT ℄ BEARINGS.

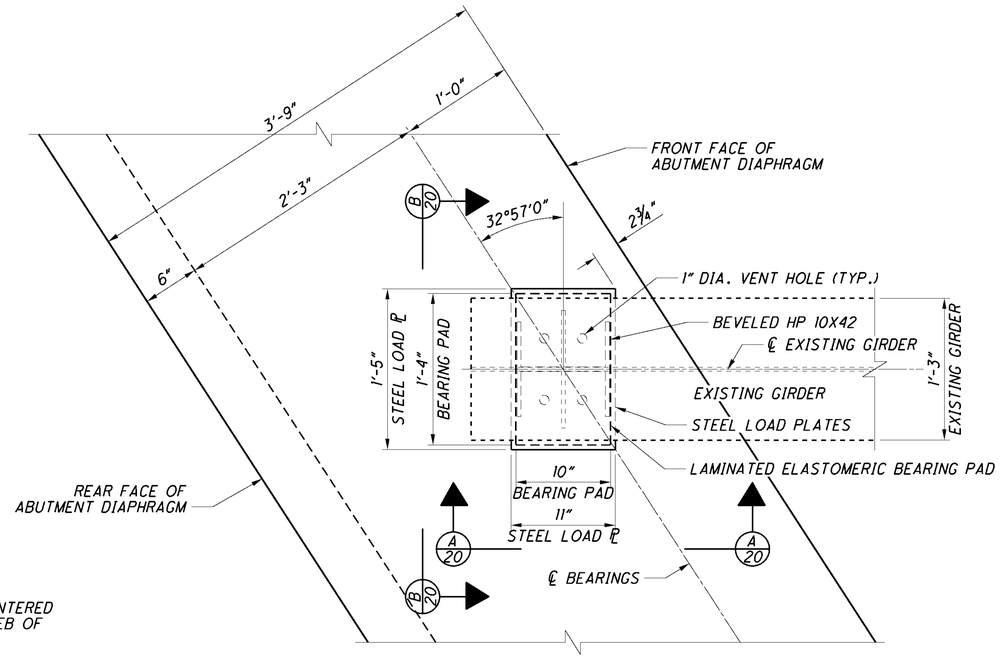


LAMINATED ELASTOMERIC EXPANSION BEARING

BEVEL HP10X42 HEIGHT		
GIRDER NO.	REAR ABUT.	FWD. ABUT.
	H	H
1	7 5/8"	9 7/8"
2	9"	11"
3	9 15/16"	11 5/8"
4	7 3/4"	9 9/16"
5	5 7/8"	7 5/8"



HP10X42 DETAIL



PLAN - ABUTMENT BEARING

(REAR ABUTMENT SHOWN, FORWARD ABUTMENT SIMILAR)

NOTES:

1. BEARING COMPONENT STEEL:
THE STEEL LOAD PLATE AND HP10x42 PEDESTALS SHALL BE ASTM A709 GRADE 50 STEEL. SURFACE PREPARATION AND PRIMING SHALL BE DONE IN THE SHOP AND BE INCLUDED IN THE PRICE BID FOR THE BEARINGS.

THE STEEL LOAD PLATE SHALL BE BONDED BY VULCANIZATION TO THE ELASTOMER DURING THE MOLDING PROCESS.

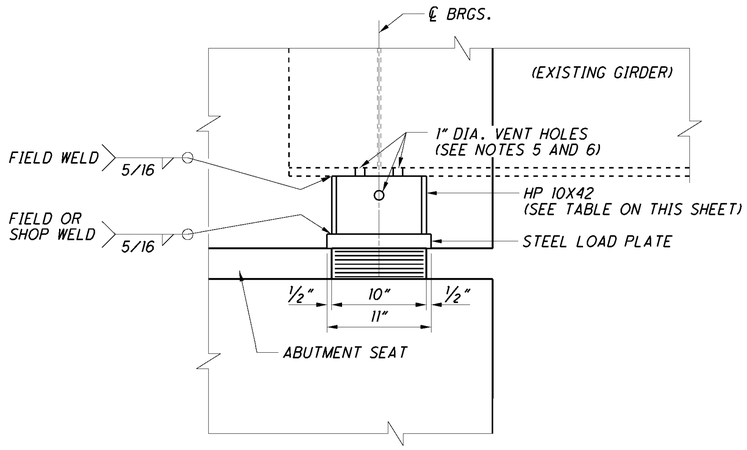
2. SHOP MARK BEARING PADS, LOAD PLATES, AND HP10X42 SECTIONS WITH THE FOLLOWING INFORMATION:
GIRDER NUMBER & SUBSTRUCTURE UNIT.

3. BEARING REPOSITIONING:
IF THE BEARING IS INSTALLED AT AN AMBIENT TEMPERATURE HIGHER THAN 80°F OR LOWER THAN 40°F AND THE BEARING SHEAR DEFLECTION EXCEEDS 1/6 OF THE BEARING HEIGHT AT 60°F±10°F, RAISE THE BEAMS OR GIRDERS TO ALLOW THE BEARINGS TO RETURN TO THEIR UNDEFORMED SHAPE AT 60°F±10°F.

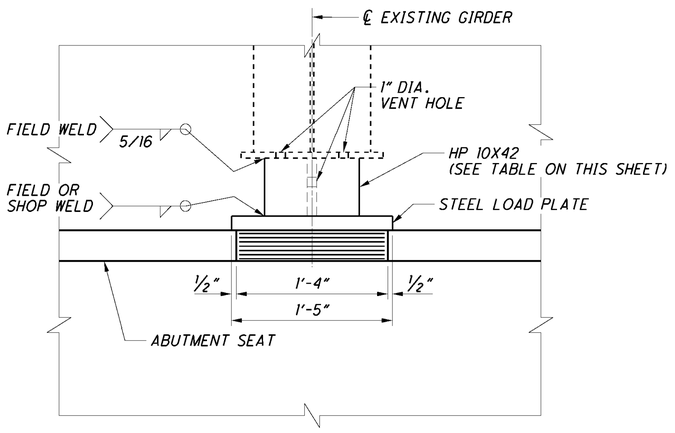
4. ELASTOMERIC BEARINGS:
THE ELASTOMER SHALL HAVE A HARDNESS OF 50 DUROMETER. THE BEARINGS WERE DESIGNED UNDER DIVISION I, SECTION 14.6.6 (METHOD A) OF THE AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES.

5. BASIS OF PAYMENT:
THE UNIT BID PRICE INCLUDES ALL MATERIALS, LABOR, SHOP COATING, TESTING AND INCIDENTALS NECESSARY TO FURNISH AND INSTALL LAMINATED ELASTOMERIC BEARINGS INCLUDING STEEL LOAD PLATES, HP10X42 PEDESTALS AND VENT HOLES. PAYMENT WILL BE INCLUDED WITH ITEM 516, ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE), AS PER PLAN.

6. FLAME CUTTING IS NOT PERMITTED FOR CREATING VENT HOLES.



VIEW A-A



VIEW B-B

DESIGN AGENCY
COLUMBUS ENGINEERING CONSULTANTS, INC.
840 MICHIGAN AVENUE, COLUMBUS, OH 43215 TEL:(614)228-3500

DESIGNED AJB/YSJ | DRAWN CEC | CHECKED SS | REVIEWED JJ | DATE 09/12 | STRUCTURE FILE NUMBER 7708858 | REVISED

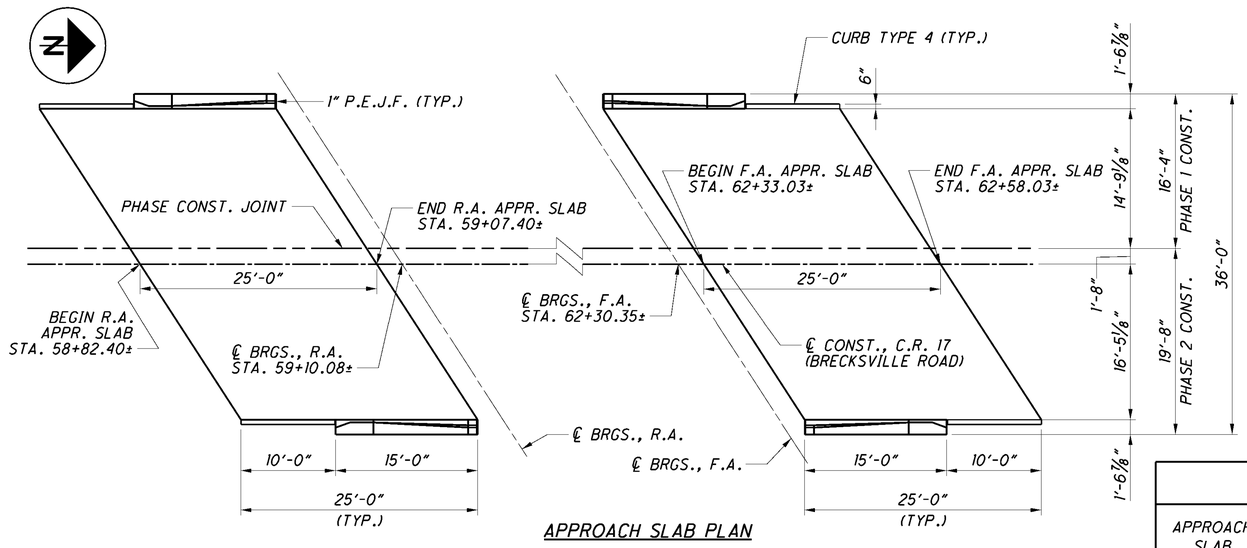
ABUTMENT BEARING DETAILS
BRIDGE NO. SUM-271-0294
C.R. 17 (BRECKSVILLE RD.) OVER I.R. 271

SUM-271-2.33
PID No. 18710

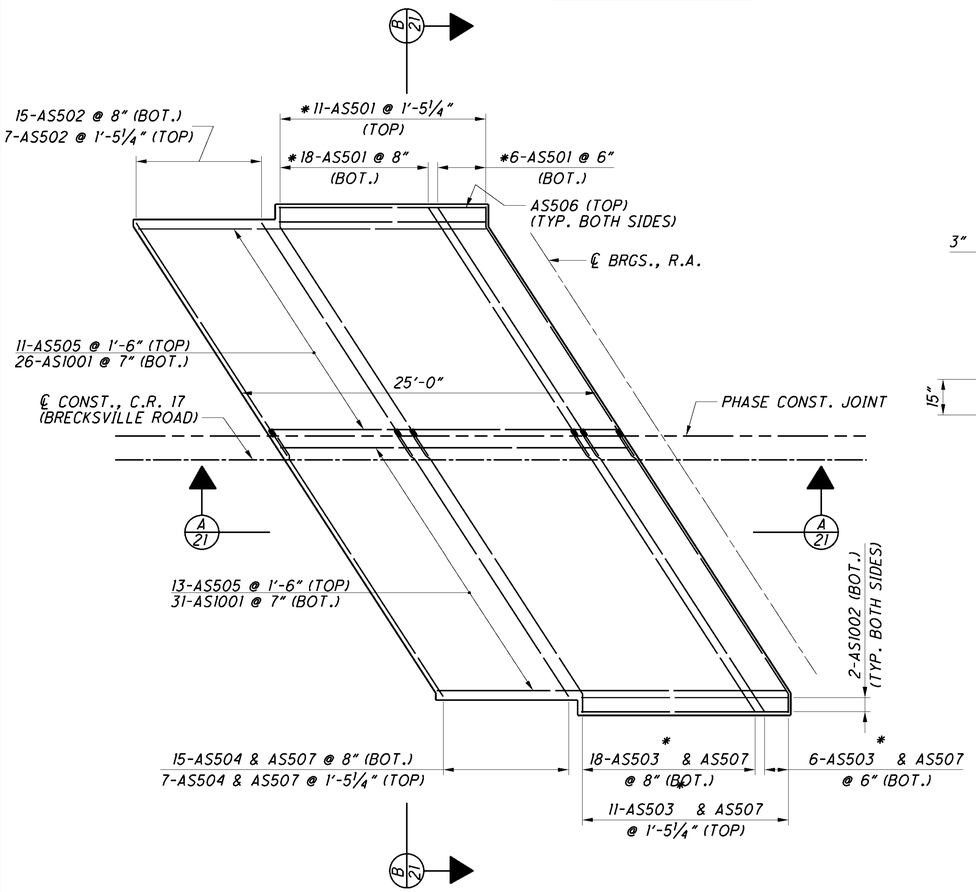
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APPROACH SLAB PLAN

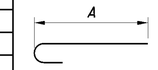


APPROACH SLAB REINFORCING DETAILS

(REAR APPROACH SLAB SHOWN, FORWARD APPROACH OPPOSITE HAND)
(* FIELD BEND AS NEEDED)

REINFORCING STEEL LIST TABLE (FOR INFORMATION ONLY)

MARK	NO.	LENGTH	WEIGHT	TYPE	A	B	C	D	INCR.
APPROACH SLAB (FOR INFORMATION ONLY)									
**AS501	70	19'-2"	1399	STR					
**AS502	44	17'-10"	818	STR					
AS503	70	23'-0"	1679	STR					
AS504	44	21'-8"	994	STR					
AS505	48	24'-6"	1227	STR					
AS506	4	14'-6"	61	STR					
**AS507	114	3'-4"	396	STR					
AS1001	114	25'-11"	12713	16	24'-6"				
AS1002	8	15'-11"	548	16	14'-6"				
		TOTAL = 19835 LB							

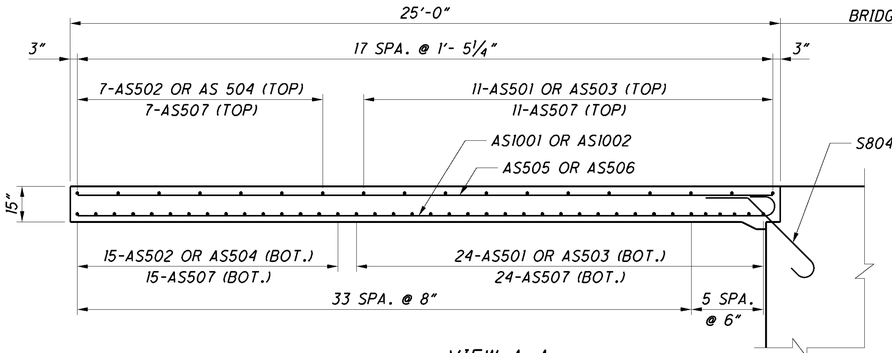


** - INDICATES BARS REQUIRING MECHANICAL CONNECTORS. THE LENGTH SHOWN IN THE TABLE ARE THE NOMINAL LENGTH MEASURED TO THE PHASE CONSTRUCTION JOINT. ADJUSTMENT IN THE LENGTH OF THE BARS DUE TO MECHANICAL SPLICING SHALL BE MADE PRIOR TO THE FABRICATION.

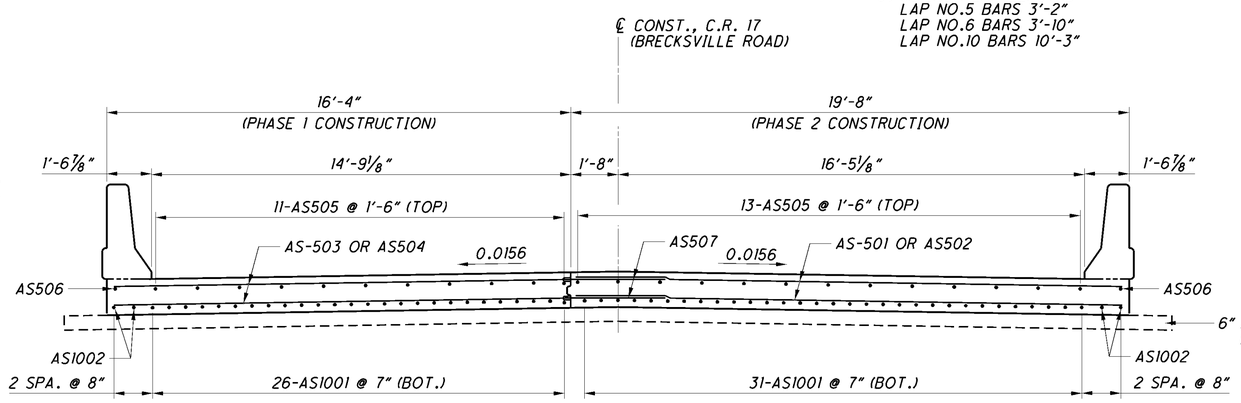
TOP OF APPROACH SLAB ELEVATIONS

APPROACH SLAB	LOCATION	LEFT TOE OF PARAPET		CONSTRUCTION JOINT		PROFILE GRADE		RIGHT TOE OF PARAPET	
		STATION	ELEVATION	STATION	ELEVATION	STATION	ELEVATION	STATION	ELEVATION
REAR	0.0 L	58+71.75±	1233.28±	58+81.32±	1233.53±	58+82.40±	1233.56±	58+93.05±	1233.32±
	0.5 L	58+84.25±	1233.30±	58+93.82±	1233.55±	58+94.90±	1233.58±	59+05.55±	1233.34±
	1.0 L	58+96.75±	1233.33±	59+06.32±	1233.57±	59+07.40±	1233.60±	59+18.05±	1233.36±
FORWARD	0.0 L	62+22.38±	1231.41±	62+31.95±	1231.57±	62+33.03±	1231.59±	62+43.68±	1231.24±
	0.5 L	62+34.88±	1231.32±	62+44.45±	1231.46±	62+45.53±	1231.48±	62+56.18±	1231.13±
	1.0 L	62+47.38±	1231.20±	62+56.95±	1231.35±	62+58.03±	1231.37±	62+68.68±	1231.01±

L = APPROACH SLAB LENGTH



VIEW A-A



VIEW B-B

NOTES:

1. FOR ADDITIONAL DETAILS NOTES & APPROACH SLAB REINFORCING, REFERENCE IS MADE TO STD. DRAWING AS-1-81.
2. FOR NOTES & ADDITIONAL DETAILS OF THE CONCRETE PARAPET, REFERENCE IS MADE TO STD. DRAWING BR-1,
3. FOR PARAPET TRANSITION DETAILS SEE SHEET 22/25 .
4. THE COST INCLUDING ALL LABOR, EQUIPMENT, MATERIALS (CONCRETE, REINFORCING STEEL, JOINT FILLERS, JOINT SEALERS, AND JOINT SEALS), AND INCIDENTALS NECESSARY TO CONSTRUCT APPROACH SLABS, PARAPETS AND CURBS ARE INCLUDED IN THE UNIT BID PRICE FOR ITEM 526, REINFORCED CONCRETE APPROACH SLAB, AS PER PLAN, FOR PAYMENT.
5. MINIMUM LAP LENGTHS:
   LAP NO.5 BARS 3'-2"
   LAP NO.6 BARS 3'-10"
   LAP NO.10 BARS 10'-3"

DESIGN AGENCY
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840 MICHIGAN AVENUE, COLUMBUS, OH 43215
TEL:(614)228-3500

DESIGNED JH/YSJ | DRAWN CEC | CHECKED SS | REVIEWED JJ | DATE 09/12 | STRUCTURE FILE NUMBER 7708858

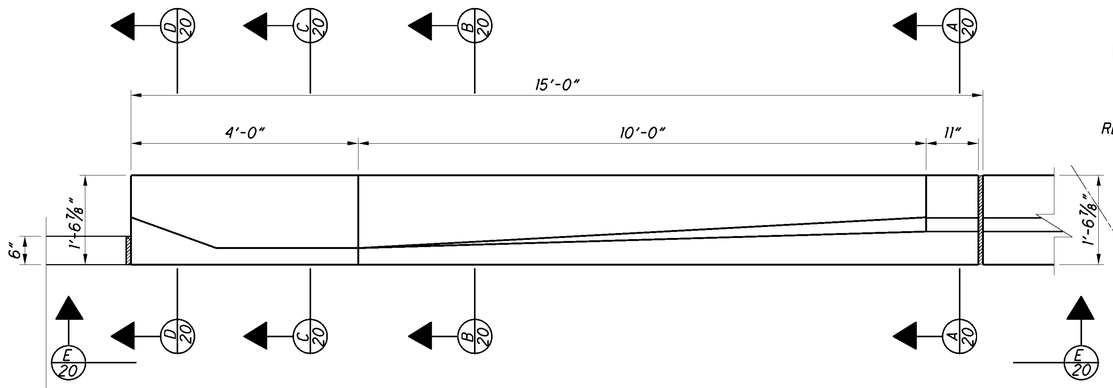
APPROACH SLAB DETAILS
BRIDGE NO. SUM-271-0294
C.R. 17 (BRECKSVILLE RD.) OVER I.R. 271

SUM-271-2.33
PID No. 18710

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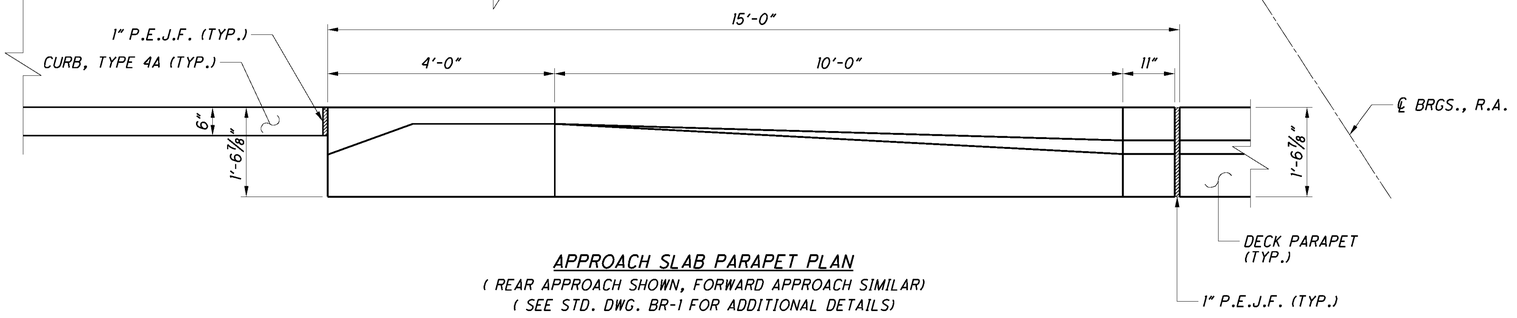
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REAR ABUTMENT

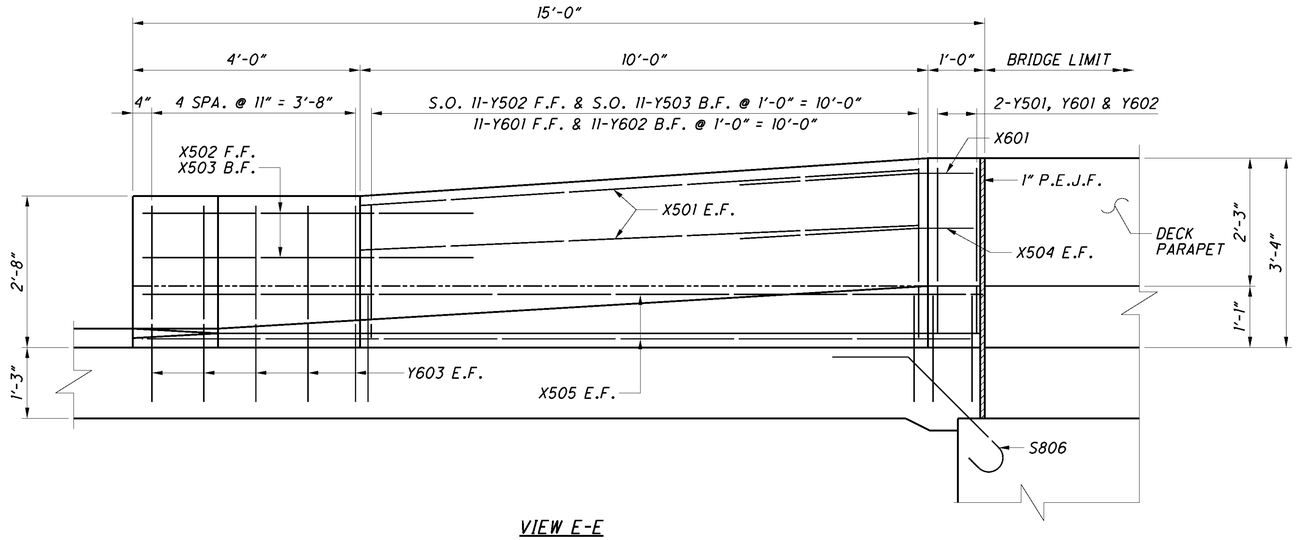
FORWARD ABUTMENT



APPROACH SLAB PARAPET PLAN

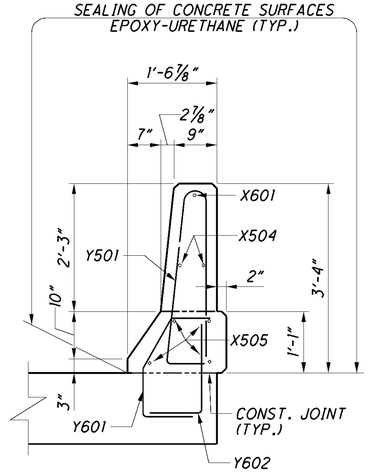
(REAR APPROACH SHOWN, FORWARD APPROACH SIMILAR)

(SEE STD. DWG. BR-1 FOR ADDITIONAL DETAILS)



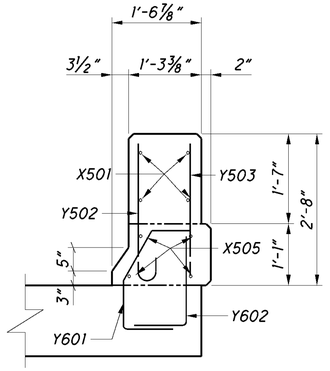
VIEW E-E

SEALING OF CONCRETE SURFACES EPOXY-URETHANE (TYP.)

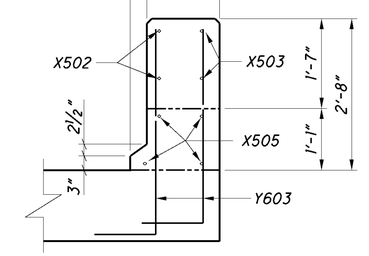


VIEW A-A

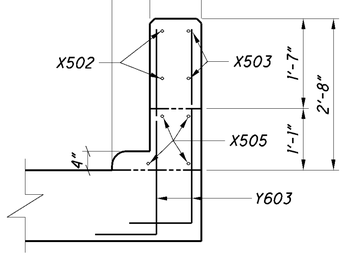
(ALL DIMENSIONS MATCH EXISTING DECK PARAPET DIMENSIONS)



VIEW B-B



VIEW C-C



VIEW D-D

NOTES:

1. THE COST INCLUDING ALL LABOR, EQUIPMENT, MATERIALS (CONCRETE, REINFORCING STEEL, JOINT FILLERS, JOINT SEALERS, AND JOINT SEALS), AND INCIDENTALS NECESSARY TO CONSTRUCT APPROACH SLABS, PARAPETS AND CURBS ARE INCLUDED IN THE UNIT BID PRICE FOR ITEM 526, REINFORCED CONCRETE APPROACH SLAB, AS PER PLAN, FOR PAYMENT.

2. THE COST FOR SEALING OF CONCRETE SURFACES OF APPROACH SLAB PARAPETS SHALL BE INCLUDED IN THE BID PRICE OF ITEM 512, SEALING OF CONCRETE SURFACES (EPOXY-URETHANE) FOR PAYMENT.

3. MINIMUM LAP LENGTHS:
   LAP NO.5 BARS 3'-2".
   LAP NO.6 BARS 3'-10".

LEGEND

F.F. - FRONT FACE
B.F. - BACK FACE
E.F. - EACH FACE
S.O. - SERIES OF

DESIGN AGENCY
COLUMBUS ENGINEERING CONSULTANTS, INC.
840 MICHIGAN AVENUE, COLUMBUS, OH 43215
TEL:(614)228-3500

DESIGNED	DRAWN	REVIEWED	DATE
JH/YSJ	CEC	JJ	09/12
CHECKED	REVISED	STRUCTURE FILE NUMBER	
SS		7708858	

APPROACH SLAB PARAPET DETAILS

BRIDGE NO. SUM-271-0294

C.R. 17 (BRECKSVILLE RD.) OVER I.R. 271

SUM-271-2.33

PID No. 18710

22 / 25

955
1195

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REINFORCING STEEL LIST

MARK	NUMBER			LENGTH	WEIGHT	TYPE	DIMENSIONS						
	REAR	FORWARD	TOTAL				A	B	C	D	E	R	INC
ABUTMENTS													CALCULATED: SS CHECKED: JH
PHASE 1 CONSTRUCTION													
A501	38	38	76	4'-5"	350	1	2'-9"	1'-10"					
*A502		2	2	20'-8"	43	19	18'-3"	2'-1"	1'-4"				
A504		2	2	5'-4"	11	1	2'-9"	2'-9"					
A505	4		4	6'-4"	26	19	3'-2"	1'-9"	2'-8"				
A506	9	10	19	2'-6"	50	1	1'-8"	1'-0"					
A507	9	10	19	10'-2"	201	STR							
A508	9	10	19	8'-2"	162	STR							
A509	6	5	11	5'-2"	59	2	1'-9"	2'-8"	1'-0"				
A510		15	15	9'-3"	145	STR							
A511		2	2	11'-3"	23	19	3'-2"	7'-10"	2'-0"				
A512		2	2	14'-6"	30	STR							
A513		8	8	17'-5"	145	STR							
A514		10	10	11'-7"	121	2	5'-4"	1'-2"	5'-4"				
		1	1	7'-11"			3'-6"		3'-6"				
A515		S.O.	S.O.	TO	80	2	TO	1'-2"	TO				0'-2 3/4"
		8	8	11'-3"			5'-2"		5'-2"				
A516	14		14	7'-9"	113	STR							
A517	1		1	8'-5"	9	STR							
A518	2		2	11'-2"	23	19	3'-2"	7'-10"	1'-10"				
A519	1		1	12'-6"	13	STR							
A520	1		1	13'-1"	14	STR							
A521	4		4	15'-9"	66	STR							
A522	4		4	16'-5"	68	STR							
A523	1		1	11'-9"	12	2	5'-4"	1'-4"	5'-4"				
A524	8		8	11'-7"	97	2	5'-4"	1'-2"	5'-4"				
	1		1	7'-11"			3'-6"		3'-6"				
A525	S.O.		S.O.	TO	79	2	TO	1'-2"	TO				0'-2 3/4"
	8		8	11'-1"			5'-1"		5'-1"				
*A527	2		2	21'-3"	44	STR							
*A801		4	4	20'-8"	221	19	18'-3"	2'-1"	1'-4"				
*A804	4		4	21'-3"	227	STR							
				SUB-TOTAL =	2432 LB								

MARK	NUMBER			LENGTH	WEIGHT	TYPE	DIMENSIONS						
	REAR	FORWARD	TOTAL				A	B	C	D	E	R	INC
ABUTMENTS													CALCULATED: SS CHECKED: JH
PHASE 2 CONSTRUCTION													
A501	46	46	92	4'-5"	424	1	2'-9"	1'-10"					
A503		2	2	25'-1"	52	STR							
A504	2		2	5'-4"	11	1	2'-9"	2'-9"					
A505		4	4	6'-4"	26	19	3'-2"	1'-9"	2'-8"				
A506	10	9	19	2'-6"	50	1	1'-8"	1'-0"					
A507	10	9	19	10'-2"	201	STR							
A508	10	9	19	8'-2"	162	STR							
A509	5	6	11	5'-2"	59	2	1'-9"	2'-8"	1'-0"				
A510	15		15	9'-3"	145	STR							
A511	2		2	11'-3"	23	19	3'-2"	7'-10"	2'-0"				
A512	2		2	14'-6"	30	STR							
A513	8		8	17'-5"	145	STR							
A514	10		10	11'-7"	121	2	5'-4"	1'-2"	5'-4"				
	1		1	7'-11"			3'-6"		3'-6"				
A515	S.O.		S.O.	TO	80	2	TO	1'-2"	TO				0'-2 3/4"
	8		8	11'-3"			5'-2"		5'-2"				
A516		14	14	7'-9"	113	STR							
A517		1	1	8'-5"	9	STR							
A518		2	2	11'-2"	23	19	3'-2"	7'-10"	1'-10"				
A519		1	1	12'-6"	13	STR							
A520		1	1	13'-1"	14	STR							
A521		4	4	15'-9"	66	STR							
A522		4	4	16'-5"	68	STR							
A523		1	1	11'-9"	12	2	5'-4"	1'-4"	5'-4"				
A524		8	8	11'-7"	97	2	5'-4"	1'-2"	5'-4"				
		1	1	7'-11"			3'-6"		3'-6"				
A525		S.O.	S.O.	TO	79	2	TO	1'-2"	TO				0'-2 3/4"
		8	8	11'-1"			5'-1"		5'-1"				
A526	2		2	24'-6"	51	19	22'-1"	2'-1"	1'-4"				
*A528	2	2	4	3'-4"	14	STR							
A802		4	4	25'-1"	268	STR							
A803	4		4	24'-6"	262	19	22'-1"	2'-1"	1'-4"				
*A805	4	4	8	6'-6"	139	STR							
				SUB-TOTAL =	2757 LB								
				TOTAL =	5189 LB								

NOTES:

1. FOR NOTES AND BENDING DIAGRAMS, SEE SHEET 25/25 .

DESIGN AGENCY
COLUMBUS ENGINEERING CONSULTANTS, INC.
840 MICHIGAN AVENUE, COLUMBUS, OH 43215
TEL:(614)228-3500

REVIEWED JJ | DATE 09/12 | STRUCTURE FILE NUMBER 7708858
DRAWN CEC | REVISED
DESIGNED AJB/YSJ | CHECKED SS

REINFORCING STEEL LIST - I - 1
BRIDGE NO. SUM-271-0294
C.R. 17 (BRECKSVILLE RD.) OVER I.R. 271

SUM-271-2.33
PID No. 18710

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REINFORCING STEEL LIST

MARK	NUMBER	LENGTH	WEIGHT	TYPE	DIMENSIONS						
					A	B	C	D	E	R	INC
SUPERSTRUCTURE											CALCULATED: SS CHECKED: JH
PHASE 1 CONSTRUCTION:											
S501	29	11'-6"	348	2	3'-10"	4'-1"	3'-10"				
S502	29	11'-6"	348	2	3'-10"	4'-1"	3'-10"				
S503	29	7'-10"	237	2	2'-6"	3'-1"	2'-6"				
	1	11'-6"				4'-1"					
S504	S.O.	TO	37	2	3'-10"	TO	3'-10"				0'-3 ½"
	3	12'-1"				4'-8"					
	1	11'-6"				4'-1"					
S505	S.O.	TO	37	2	3'-10"	TO	3'-10"				0'-3 ½"
	3	12'-1"				4'-8"					
	1	7'-10"				3'-1"					
S506	S.O.	TO	25	2	2'-6"	TO	2'-6"				0'-3"
	3	8'-4"				3'-7"					
S511	16	4'-7"	76	STR							
S512	10	6'-6"	68	23	0'-8"	3'-0"	2'-9"				
S601	56	4'-4"	363	STR							
	1	5'-2"									
S602	S.O.	TO	66	STR							0'-4"
	7	7'-4"									
S611	10	2'-8"	40	1	1'-1"	1'-9"					
S612	10	3'-3"	49	14	0'-10"	1'-0"	0'-6"	0'-9"			
*S801	14	19'-1"	713	19	18'-4"	0'-8"	0'-5"				
S803	5	4'-8"	62	19	3'-2"	1'-4"	0'-10"				
*S805	14	19'-3"	720	STR							
S807	28	5'-9"	430	18	3'-7"	1'-0"	1'-0"				
	SUB-TOTAL =		3619 LB								

MARK	NUMBER	LENGTH	WEIGHT	TYPE	DIMENSIONS						
					A	B	C	D	E	R	INC
SUPERSTRUCTURE											CALCULATED: SS CHECKED: JH
PHASE 2 CONSTRUCTION:											
S501	35	11'-6"	420	2	3'-10"	4'-1"	3'-10"				
S502	35	11'-6"	420	2	3'-10"	4'-1"	3'-10"				
S503	35	7'-10"	286	2	2'-6"	3'-1"	2'-6"				
	1	11'-6"				4'-1"					
S504	S.O.	TO	37	2	3'-10"	TO	3'-10"				0'-3 ½"
	3	12'-1"				4'-8"					
	1	11'-6"				4'-1"					
S505	S.O.	TO	37	2	3'-10"	TO	3'-10"				0'-3 ½"
	3	12'-1"				4'-8"					
	1	7'-10"				3'-1"					
S506	S.O.	TO	25	2	2'-6"	TO	2'-6"				0'-3"
	3	8'-4"				3'-7"					
S511	16	4'-7"	76	STR							
S512	10	6'-6"	68	23	0'-8"	3'-0"	2'-9"				
S601	62	4'-4"	402	STR							
	1	5'-2"									
S602	S.O.	TO	66	STR							0'-4"
	7	7'-4"									
S611	10	2'-8"	40	1	1'-1"	1'-9"					
S612	10	3'-3"	49	14	0'-10"	1'-0"	0'-6"	0'-9"			
				14							
S802	14	23'-1"	863	STR							
S803	5	4'-8"	62	19	3'-2"	1'-4"	0'-10"				
S804	14	22'-11"	857	19	22'-2"	0'-8"	0'-5"				
*S806	28	6'-6"	486	STR							
S807	34	5'-9"	522	18	3'-7"	1'-0"	1'-0"				
	SUB-TOTAL =		4716 LB								
	TOTAL =		8335 LB								

NOTES:

1. FOR NOTES AND BENDING DIAGRAMS, SEE SHEET 25/25.

DESIGN AGENCY
COLUMBUS ENGINEERING CONSULTANTS, INC.
840 MICHIGAN AVENUE, COLUMBUS, OH 43215
TEL:(614)228-3500

DESIGNED AJB/YSJ
DRAWN CEC
CHECKED SS
REVIEWED JJ
DATE 09/12
STRUCTURE FILE NUMBER 7708858
REVISED

REINFORCING STEEL LIST - II
BRIDGE NO. SUM-271-0294
C.R. 17 (BRECKSVILLE RD.) OVER I.R. 271

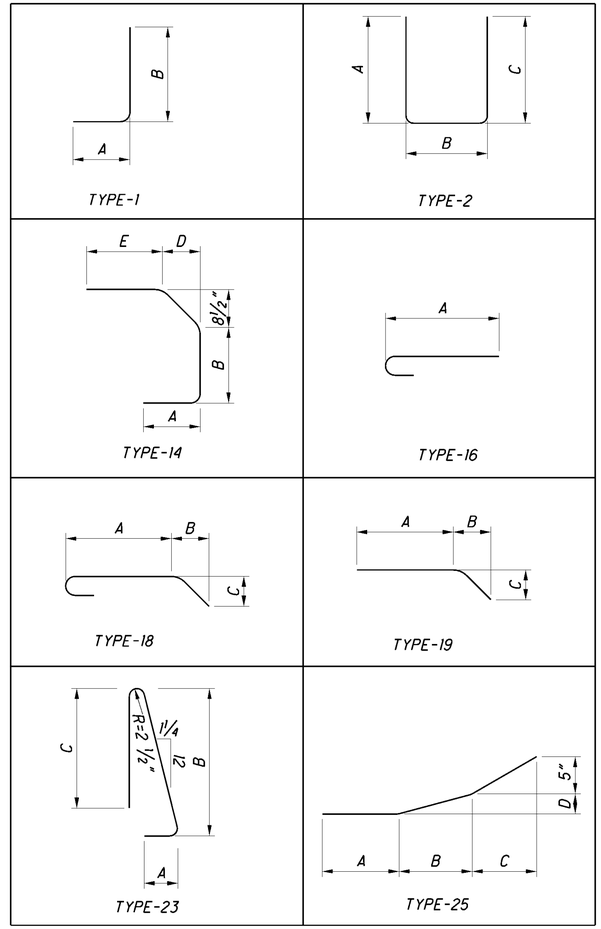
SUM-271-2.33
PID No. 18710

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REINFORCING STEEL LIST

MARK	NUMBER			LENGTH	WEIGHT	TYPE	DIMENSIONS						
	REAR	FORWARD	TOTAL				A	B	C	D	E	R	INC
APPROACH SLAB PARAPETS (FOR INFORMATION ONLY)													CALCULATED: SS CHECKED: JH
PHASE 1 CONSTRUCTION:													
X501	4	4	8	9'-10"	82	STR							
X502	2	2	4	5'-10"	24	25	1'-11"	2'-5"	1'-5"	0'-1 ½"			
X503	2	2	4	5'-10"	24	STR							
X504	2	2	4	4'-6"	19	STR							
X505	4	4	8	14'-8"	122	STR							
Y501	2	2	4	6'-6"	27	23	0'-8"	3'-0"	2'-9"				
	1	1	2	2'-11"			2'-4"						
Y502	S.O.	S.O.	S.O.	TO	75	16	TO						3/8"
	11	11	11	3'-7"			3'-0"						
	1	1	2	2'-4"									
Y503	S.O.	S.O.	S.O.	TO	61	STR							3/8"
	11	11	11	3'-0"									
X601	1	1	2	4'-6"	14	STR							
Y601	13	13	26	3'-3"	127	14	0'-10"	1'-0"	0'-6"	0'-9"			
Y602	13	13	26	2'-6"	98	1	0'-11"	1'-9"					
Y603	10	10	20	4'-3"	128	1	3'-5"	1'-0"					
				SUB-TOTAL =	801 LB								
PHASE 2 CONSTRUCTION:													
X501	4	4	8	9'-10"	82	STR							
X502	2	2	4	5'-10"	24	25	1'-11"	2'-5"	1'-5"	0'-1 ½"			
X503	2	2	4	5'-10"	24	STR							
X504	2	2	4	4'-6"	19	STR							
X505	4	4	8	14'-8"	122	STR							
Y501	2	2	4	6'-6"	27	23	0'-8"	3'-0"	2'-9"				
	1	1	2	2'-11"			2'-4"						
Y502	S.O.	S.O.	S.O.	TO	75	16	TO						3/8"
	11	11	11	3'-7"			3'-0"						
	1	1	2	2'-4"									
Y503	S.O.	S.O.	S.O.	TO	61	STR							3/8"
	11	11	11	3'-0"									
X601	1	1	2	4'-6"	14	STR							
Y601	13	13	26	3'-3"	127	14	0'-10"	1'-0"	0'-6"	0'-9"			
Y602	13	13	26	2'-6"	98	1	0'-11"	1'-9"					
Y603	10	10	20	4'-3"	128	1	3'-5"	1'-0"					
				SUB-TOTAL =	801 LB								

BENDING DIAGRAMS



NOTES:

1. THE BAR SIZE NUMBER IS SPECIFIED ON THE PLANS IN THE BAR MARK COLUMN. THE FIRST DIGIT WHERE THREE DIGITS ARE USED, AND THE FIRST TWO DIGITS WHERE FOUR ARE USED, INDICATES THE BAR SIZE NUMBER. FOR EXAMPLE, S501 IS A NO. 5 BAR. BAR DIMENSIONS SHOWN ARE OUT TO OUT UNLESS OTHERWISE NOTED. R INDICATES INSIDE RADIUS, UNLESS OTHERWISE NOTED.

2. ALL REINFORCING STEEL SHALL BE EPOXY COATED.

3. "STR" IN THE TYPE COLUMN INDICATES STRAIGHT BARS.

4. S.O. DENOTES SERIES OF.

5. REFER TO C.M.S. SECTION 509.05 FOR STANDARD BEND DIMENSIONS.

6. ALL REINFORCING STEEL CLEARANCES ARE 2" UNLESS OTHERWISE NOTED.

* - INDICATES BARS REQUIRING MECHANICAL CONNECTORS. THE LENGTH SHOWN IN THE TABLE ARE THE NOMINAL LENGTH MEASURED TO THE PHASE CONSTRUCTION JOINT. ADJUSTMENT IN THE LENGTH OF THE BARS DUE TO MECHANICAL SPLICING SHALL BE MADE PRIOR TO THE FABRICATION.

DESIGN AGENCY
COLUMBUS ENGINEERING CONSULTANTS, INC.
840 MICHIGAN AVENUE, COLUMBUS, OH 43215
TEL:(614)228-3500

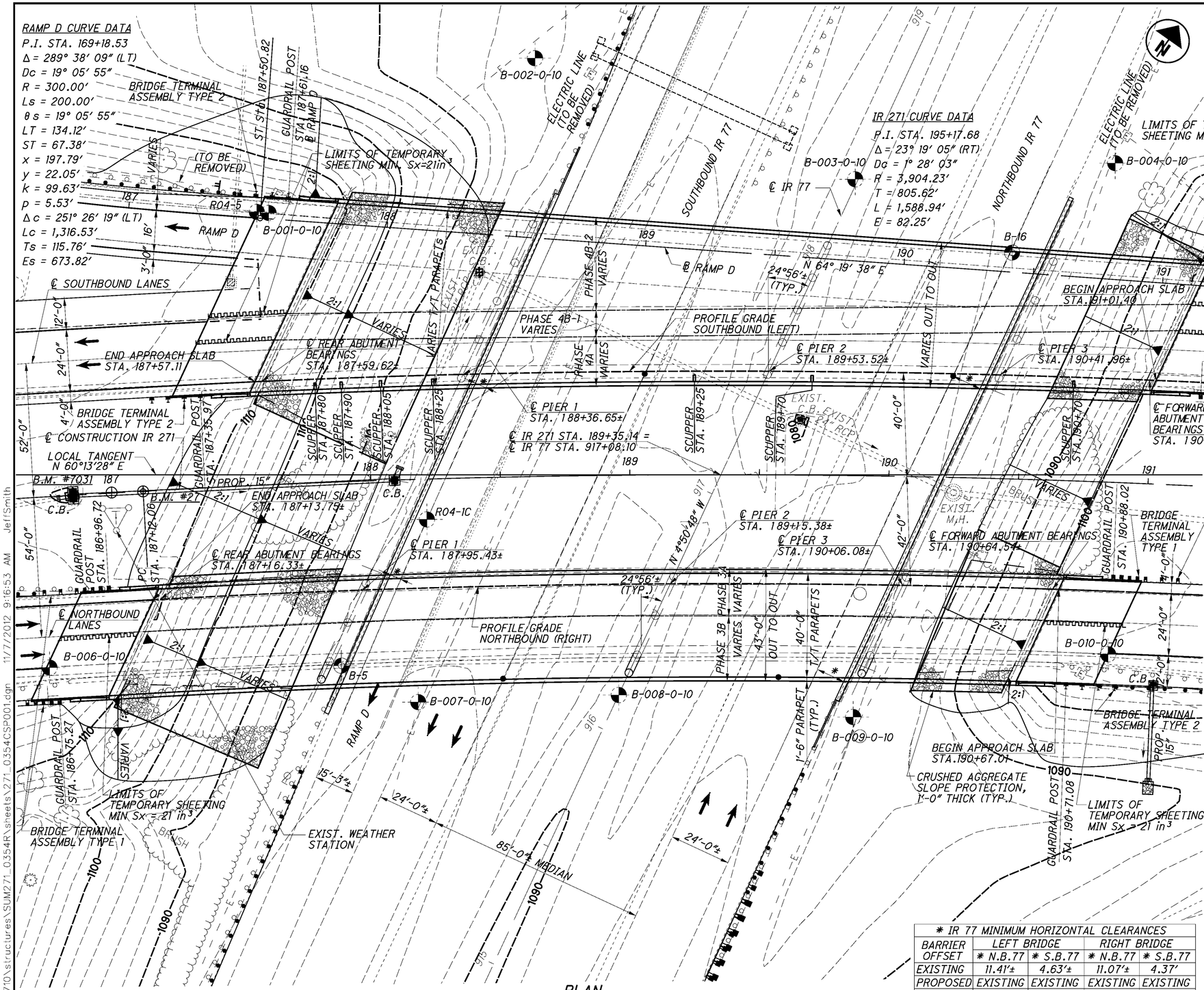
DESIGNED JH/YSJ | DRAWN CEC | REVIEWED JJ | DATE 09/12 | CHECKED SS | REVISED | STRUCTURE FILE NUMBER 7708858

REINFORCING STEEL LIST - III

BRIDGE NO. SUM-271-0294
C.R. 17 (BRECKSVILLE RD.) OVER I.R. 271

SUM-271-2.33
PID No. 18710

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RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

DESIGNED	DRAWN	REVIEWED	DATE
ALP	TWH	DAP	10/5/12
CHECKED	REVISED	STRUCTURE FILE NUMBER	
BLN		L7708815/R7708890	

0354R
STA. 187+13.75±
STA. 190+67.01±

0354L
STA. 187+57.11±
STA. 191+01.40±

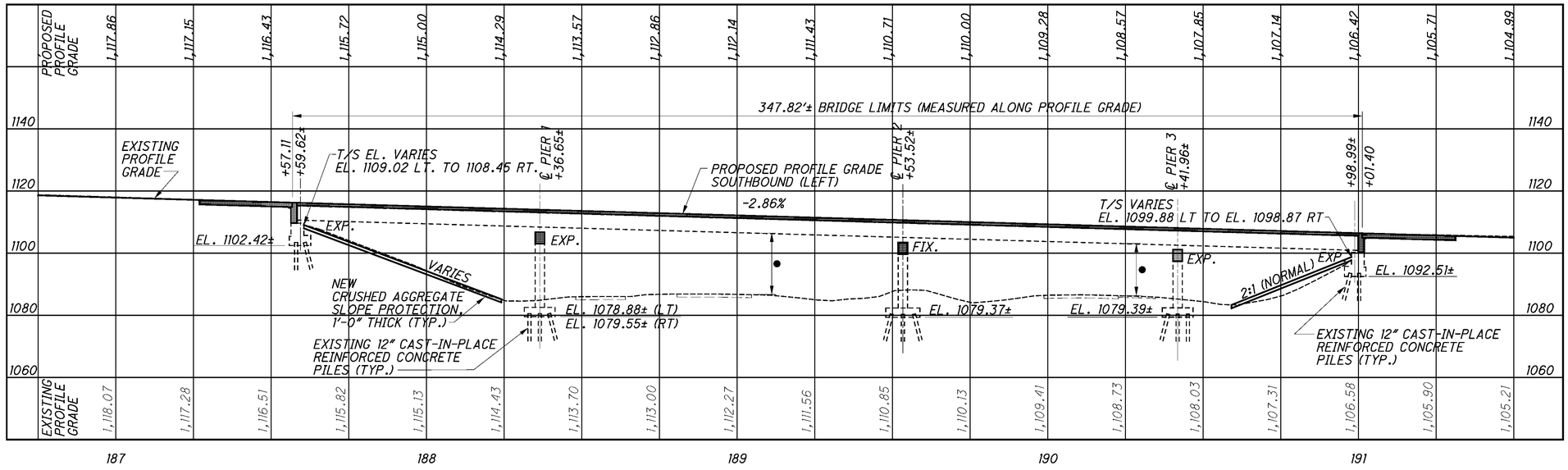
SITE PLAN - 1
BRIDGE NO. SUM-271-0354 L&R
IR 271 OVER IR 77

SUM-271-2.33
PID No. 18710

1/106

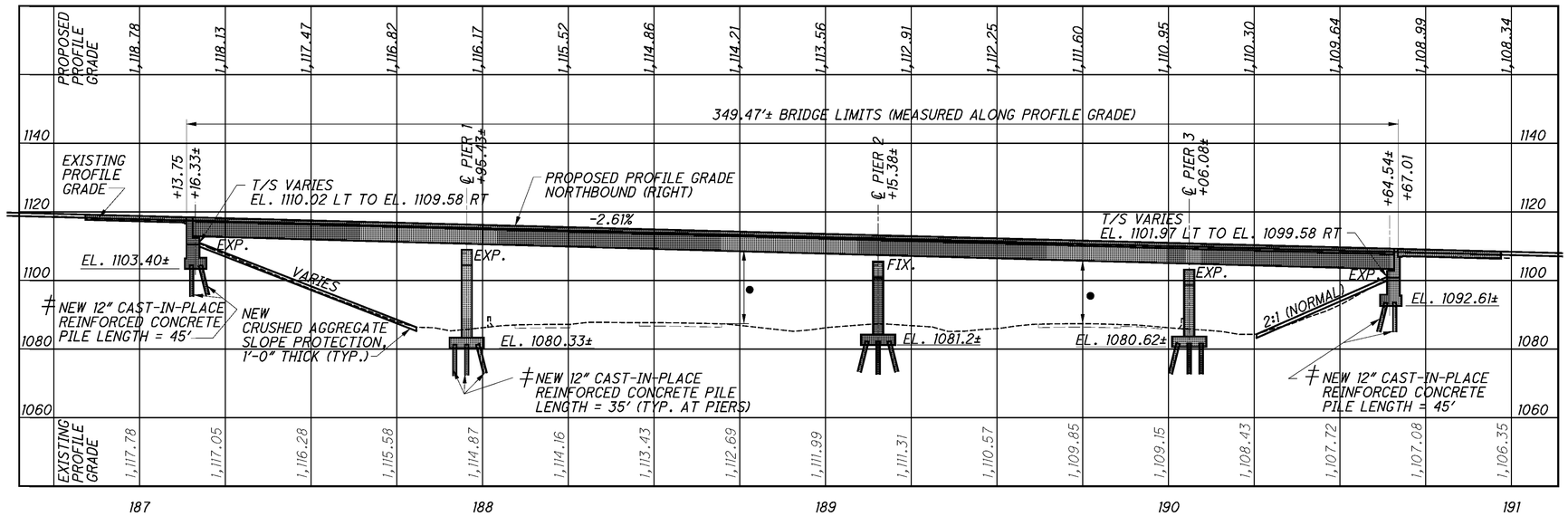
959
1195

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ELEVATION

(ALONG SOUTHBOUND, LEFT PROFILE GRADE)



ELEVATION

(ALONG NORTHBOUND, RIGHT PROFILE GRADE)

NEW ABUTMENTS AND PIERS EXTENSION
RIGHT SIDE NORTHBOUND STRUCTURE.
SEE SITE PLAN-1 FOR LOCATION.

LEGEND

- ● MINIMUM VERTICAL CLEARANCE
- ≠ NEW ABUTMENT, PIER AND GIRDER WITH NEW 12" CAST-IN-PLACE REINFORCED CONCRETE PILES FOR WIDENED PORTION ONLY.

NOTE

VERTICAL CLEARANCES: SEE SHEET 1/106.

ADDITIONAL NOTES: SEE SHEET 1/106.

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

REVIEWED	DAP
DATE	10/5/12
STRUCTURE FILE NUMBER	L7708815/R7708890
DRAWN	TWH
REVISED	
DESIGNED	ALP
CHECKED	BLN

0354R
STA. 187+13.75±
STA. 190+67.01±

0354L
STA. 187+57.11±
STA. 191+01.40±

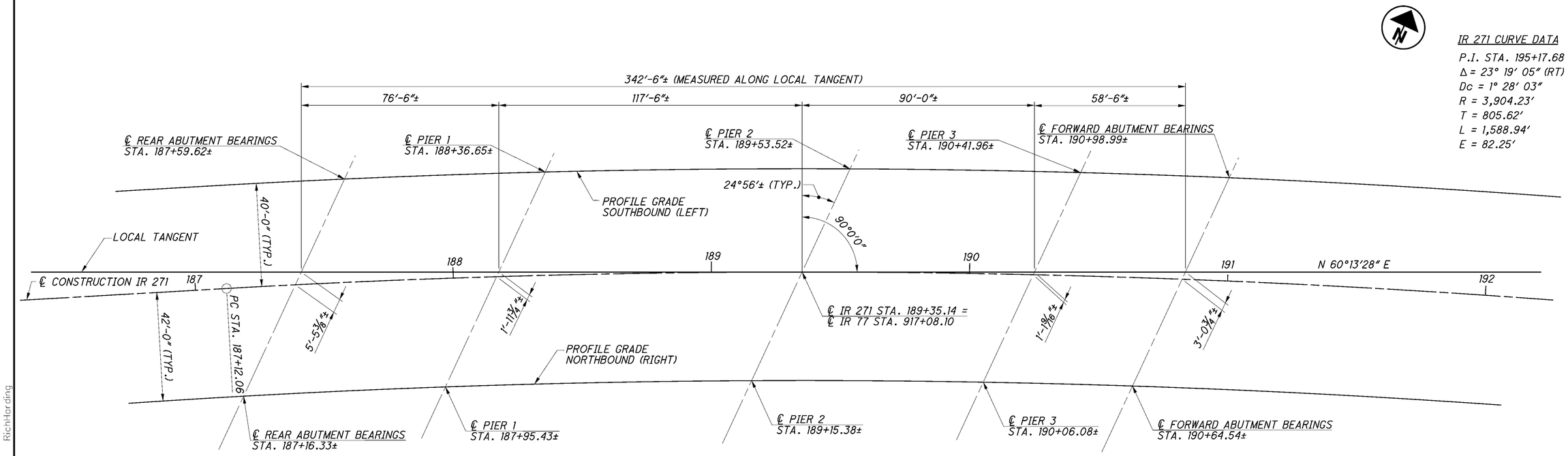
SITE PLAN - 2
BRIDGE NO. SUM-271-0354 L&R
IR 271 OVER IR 77

SUM-271-2.33
PID No. 18710

2 / 106

960
1195

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IR 271 CURVE DATA

P.I. STA. 195+17.68
Δ = 23° 19' 05" (RT)
Dc = 1° 28' 03"
R = 3,904.23'
T = 805.62'
L = 1,588.94'
E = 82.25'

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RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

DESIGNED	DRAWN	REVIEWED	DATE
ALP	TWH	DAP	10/5/12
CHECKED	REVISED	STRUCTURE FILE NUMBER	
BLN		L7708815/R7708890	

STRUCTURE LAYOUT DIAGRAM

BRIDGE NO. SUM-271-0354 L&R
IR 271 OVER IR 77

SUM-271-2.33
PID No. 18710

STANDARD DRAWINGS AND SUPPLEMENTAL SPECIFICATIONS

REFER TO THE FOLLOWING STANDARD BRIDGE DRAWINGS:

AS-1-81 REVISED 7-19-02
DM-1.1 REVISED 7-20-12
EXJ-4-87 REVISED 7-19-02
GSD-1-96 REVISED 7-19-02
RB-1-55 REVISED 2-02-59
SBR-1-99 REVISED 7-19-02

AND TO THE FOLLOWING SUPPLEMENTAL SPECIFICATION(S):

NONE

DESIGN SPECIFICATIONS

THIS STRUCTURE CONFORMS TO "STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, 2002, INCLUDING THE INTERIM SPECIFICATIONS AND THE 2004 ODOT BRIDGE DESIGN MANUAL WITH UPDATES.

DESIGN LOADING

SUPERSTRUCTURE:
DESIGN LOADING: HS25, CASE I AND THE ALTERNATE MILITARY LOADING.

FUTURE WEARING SURFACE (FWS) OF 60 POUNDS PER SQUARE FOOT.

SUBSTRUCTURE:
DESIGN LOADING: HS20

DESIGN DATA

CONCRETE CLASS HP - COMPRESSIVE STRENGTH 4500 PSI (SUPERSTRUCTURE)

CONCRETE CLASS C - COMPRESSIVE STRENGTH 4000 PSI (SUBSTRUCTURE)

REINFORCING STEEL - ASTM A615 OR A996, GRADE 60, MINIMUM YIELD STRENGTH 60,000 PSI. SPIRAL REINFORCEMENT MAY BE PLAIN BARS, ASTM A82 OR A615.

STRUCTURAL STEEL - EXISTING: A36 - MINIMUM YIELD STRENGTH 36,000 PSI
PROPOSED: ASTM A709 GRADE 50, MINIMUM YIELD STRENGTH 50,000 PSI

DECK PROTECTION METHOD

EPOXY COATED REINFORCING STEEL AND 2½" CONCRETE COVER.

MONOLITHIC WEARING SURFACE

MONOLITHIC WEARING SURFACE IS ASSUMED, FOR DESIGN PURPOSES, TO BE 1 INCH THICK.

EXISTING STRUCTURE VERIFICATION

DETAILS AND DIMENSIONS SHOWN ON THESE PLANS PERTAINING TO THE EXISTING STRUCTURE HAVE BEEN OBTAINED FROM PLANS OF THE EXISTING STRUCTURE AND FROM FIELD OBSERVATIONS AND MEASUREMENTS. CONSEQUENTLY, THEY ARE INDICATIVE OF THE EXISTING STRUCTURE AND THE PROPOSED WORK BUT THEY SHALL BE CONSIDERED TENTATIVE AND APPROXIMATE. THE CONTRACTOR IS REFERRED TO CMS SECTIONS 102.05, 105.02 AND 513.04.

BASE CONTRACT BID PRICES UPON A RECOGNITION OF THE UNCERTAINTIES DESCRIBED ABOVE AND UPON A PREBID EXAMINATION OF THE EXISTING STRUCTURE. HOWEVER, THE DEPARTMENT WILL PAY FOR ALL PROJECT WORK BASED UPON ACTUAL DETAILS AND DIMENSIONS WHICH HAVE BEEN VERIFIED IN THE FIELD.

ESTIMATED QUANTITIES

THE CONTRACTOR SHALL NOT ORDER MATERIALS OR PERFORM WORK LISTED IN THE GENERAL SUMMARY FOR ITEMS DESIGNATED BY PLAN NOTE TO BE USED "BY THE ENGINEER" UNLESS AUTHORIZED BY THE ENGINEER. THE ACTUAL WORK LOCATIONS AND QUANTITIES USED AT THE ENGINEER'S DISCRETION SHALL BE MADE A MATTER OF RECORD BY INCORPORATION INTO THE FINAL CHANGE ORDER GOVERNING THE COMPLETION OF THIS PROJECT.

EXISTING STRUCTURE PLANS

EXISTING STRUCTURE PLANS MAY BE VIEWED BY PROSPECTIVE BIDDERS AT THE ODOT DISTRICT 4 OFFICE, AKRON, OHIO.

MAINTENANCE OF TRAFFIC:

SEE MAINTENANCE OF TRAFFIC PLANS FOR PHASES OF CONSTRUCTION AND DETAILS FOR MAINTAINING IR 271 AND IR 77 TRAFFIC DURING CONSTRUCTION.

PROPOSED WORK

RIGHT BRIDGE

1. THE WORK WILL BE PERFORMED IN STAGES USING PART-WIDTH CONSTRUCTION.
2. PROVIDE TEMPORARY SUPPORTS FOR THE PIER CAP BENEATH THE INTERIOR GIRDER AT PIERS 1, 2 AND 3 TO SUPPORT TRAFFIC.
3. REMOVE EXISTING DECK, CROSSFRAMES IN BAY 2, AND BEARINGS. REMOVE CROSSFRAMES AT BEND POINTS. REMOVE EXISTING SCUPPERS AND GRIND SMOOTH CONNECTION TO GIRDER.
4. REMOVE EXISTING ABUTMENT BACKWALLS AND WINGWALLS, MODIFY EXISTING SEATS AND CONSTRUCT NEW WIDENED ABUTMENTS WITH TURNED BACK WINGWALLS.
5. CUT OFF EXISTING 6" CMP DRAINS IN ABUTMENTS AND CAP ENDS. ADD POROUS BACKFILL WITH FILTER FABRIC AND PIPE TO COLLECT AND DISCHARGE DRAINAGE BEHIND ABUTMENTS.
6. REMOVE EXISTING PIER CAPS. WIDEN PIERS BY ADDING A COLUMN. CONSTRUCT NEW PIER CAPS.
7. RAISE ABUTMENT AND PIER SEATS TO ACCOMMODATE RAISING THE BRIDGE TO MEET VERTICAL CLEARANCE REQUIREMENTS. TEMPORARY SUPPORT AND JACKING WILL BE REQUIRED AT ALL GIRDER LINES TO RAISE THE BRIDGE.
8. REFURBISH AND PAINT EXISTING STEEL BEARINGS AND REUSE. INSTALL NEW BEARINGS AT NEW GIRDER LINES.
9. REUSE CONTINUOUS WELDED STEEL PLATE GIRDERS AND CROSSFRAMES. PLACE NEW CONTINUOUS WELDED STEEL PLATE GIRDER LINE AND NEW CROSSFRAMES IN BAYS 2 AND 4. PLACE NEW CROSSFRAMES AT BEND POINTS. INSTALL TEMPERATURE SENSORS IN DECK AND CONNECT TO WEATHER STATION. PLACE NEW WIDENED CONCRETE DECK AND NEW SINGLE SLOPE CONCRETE PARAPETS. THE GIRDER SHALL BE COMPOSITE WITH THE REINFORCED CONCRETE DECK. THE CHANGE IN CROSS-SLOPE FROM THE EXISTING TO THE PROPOSED WILL BE ACCOMMODATED IN THE HAUNCH.
10. INSTALL NEW EXPANSION JOINTS AT THE ABUTMENTS. THE STRIP SEAL SHALL BE LONG ENOUGH TO BE CONTINUOUS ACROSS THE BRIDGE DECK INCLUDING THE WIDENED PORTION.
11. CONSTRUCT NEW FULL WIDTH APPROACH SLABS. PLACE NEW CONCRETE PARAPET AND CURBS ON NEW APPROACH SLABS AND TURNED BACK WINGWALLS.
12. PATCH SPALLED AND DELAMINATED CONCRETE SURFACES ON PIERS AND ABUTMENT BREASTWALLS.
13. SEAL EXPOSED SUBSTRUCTURE AND PARAPETS WITH EPOXY-URETHANE.
14. PERFORM CLEARING AND GRUBBING TO REMOVE ALL VEGETATION WITHIN 15 FEET OF THE STRUCTURE.
15. PLACE NEW CRUSHED AGGREGATE SLOPE PROTECTION ON THE ABUTMENT SLOPES.
16. ADD CATCH BASIN AT THE FORWARD END OF THE BRIDGE.
17. UPGRADE APPROACH GUARDRAIL TO CURRENT STANDARDS.
18. PAINT EXISTING STRUCTURAL STEEL WITH SYSTEM OZEU.
19. INSTALL LIGHTING AT PIERS.

LEFT BRIDGE

1. THE WORK WILL BE PERFORMED IN STAGES USING PART-WIDTH CONSTRUCTION. THE PROPOSED CENTERLINE OF LANES IS SHIFTED 2'-0" TO THE INSIDE FROM THE LOCATION OF THE EXISTING CENTERLINE OF LANES.
2. PROVIDE TEMPORARY SUPPORT FOR THE PIER CAP BENEATH GIRDER E AT PIER 1, BENEATH GIRDER F AT PIER 2, AND BENEATH GIRDER E AT PIER 3 FOR PHASE 4A. PROVIDE TEMPORARY SUPPORT FOR THE PIER CAP BENEATH GIRDER E AT PIER 1, BENEATH GIRDER G AT PIER 2 AND BENEATH GIRDER G AT PIER 3 FOR PHASE 4B-1. PROVIDE TEMPORARY SUPPORT FOR THE PIER CAP BENEATH GIRDER E AT PIER 1 AND BENEATH GIRDER E AT PIER 3 FOR PHASE 4B-2.
3. REMOVE EXISTING DECK. PROVIDE TEMPORARY SUPPORTS FOR GIRDERS IN EACH PHASE AT PIERS AND ABUTMENTS. REMOVE BEARINGS IN EACH PHASE FOR REFURBISHING. REMOVE EXISTING SCUPPERS AND GRIND SMOOTH CONNECTION TO GIRDER.
4. REMOVE EXISTING ABUTMENT BACKWALLS AND WINGWALLS AND CONSTRUCT NEW ABUTMENT BACKWALLS AND MODIFIED TURNED BACK WINGWALLS.
5. CUT OFF EXISTING 6" CMP DRAINS IN ABUTMENTS AND CAP ENDS. ADD POROUS BACKFILL WITH FILTER FABRIC AND PIPE TO COLLECT AND DISCHARGE DRAINAGE BEHIND ABUTMENTS.
6. REMOVE EXISTING PIER CAPS. CONSTRUCT NEW PIER CAPS.
7. TEMPORARY SUPPORT AND JACKING WILL BE REQUIRED AT ALL GIRDER LINES TO CONSTRUCT NEW PIER CAPS AND TO REFURBISH BEARINGS.
8. REFURBISH AND PAINT EXISTING STEEL BEARINGS AND REUSE.
9. REUSE CONTINUOUS WELDED STEEL PLATE GIRDERS AND CROSSFRAMES. INSTALL TEMPERATURE SENSORS IN DECK AND CONNECT TO WEATHER STATION. PLACE NEW WIDENED CONCRETE DECK AND NEW SINGLE SLOPE CONCRETE PARAPETS. THE GIRDERS SHALL BE COMPOSITE WITH THE REINFORCED CONCRETE DECK. THE CHANGE IN CROSS-SLOPE FROM THE EXISTING TO THE PROPOSED WILL BE ACCOMMODATED IN THE HAUNCH.
10. INSTALL NEW EXPANSION JOINTS AT THE ABUTMENTS. THE STRIP SEAL SHALL BE LONG ENOUGH TO BE CONTINUOUS ACROSS THE BRIDGE DECK.
11. CONSTRUCT NEW FULL WIDTH APPROACH SLABS. PLACE NEW CONCRETE PARAPET AND CURBS ON NEW APPROACH SLABS AND TURNED BACK WINGWALLS.
12. PATCH SPALLED AND DELAMINATED CONCRETE SURFACES ON PIERS AND ABUTMENT BREASTWALLS. ESTIMATED PATCHING AT ABUTMENTS IS 30 SQUARE FEET AND ESTIMATED PATCHING AT PIERS IS 20 SQUARE FEET.
13. SEAL EXPOSED SUBSTRUCTURE AND PARAPETS WITH EPOXY-URETHANE.
14. PERFORM CLEARING AND GRUBBING TO REMOVE ALL VEGETATION WITHIN 15 FEET OF THE STRUCTURE.
15. PLACE NEW CRUSHED AGGREGATE SLOPE PROTECTION ON THE ABUTMENT SLOPES.
16. ADD CATCH BASIN AT THE FORWARD END OF THE BRIDGE.
17. UPGRADE APPROACH GUARDRAIL TO CURRENT STANDARDS.
18. PAINT EXISTING STRUCTURAL STEEL WITH SYSTEM OZEU.
19. INSTALL LIGHTING AT PIERS.

GENERAL NOTES CONTINUED: SEE SHEET 5/106.

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

DESIGNED	DRAWN	REVIEWED	DATE
ALP	TWH	DAP	10/5/12
CHECKED	REVISED	STRUCTURE FILE NUMBER	
BLN		L7708815/R7708890	

GENERAL NOTES - 1
BRIDGE NO. SUM-271-0354 L&R
IR 271 OVER IR 77

SUM-271-2.33
PID No. 18710

962
1195

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ITEM 202 - PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN

DESCRIPTION: THIS WORK CONSISTS OF THE REMOVAL OF CONCRETE DECKS INCLUDING SIDEWALKS, PARAPETS, RAILINGS, DECK JOINTS AND OTHER APPURTENANCES FROM STEEL SUPPORTING SYSTEMS (BEAMS, CROSS FRAMES, ETC.). THE PROVISIONS OF ITEM 202 APPLY EXCEPT AS SPECIFIED BY THE FOLLOWING NOTES. PERFORM WORK CAREFULLY DURING DECK REMOVALS TO PROTECT PORTIONS OF SUCH SYSTEMS THAT ARE TO BE SALVAGED AND INCORPORATED INTO THE PROPOSED STRUCTURE. THE USE OF EXPLOSIVES, HEADACHE BALLS AND/OR HOE RAM TYPE OF EQUIPMENT IS PROHIBITED. SUBMIT CONSTRUCTION PLANS ACCORDING TO CMS 501.05.

PROTECTION OF STEEL SUPPORT SYSTEMS: BEFORE DECK SLAB CUTTING IS PERMITTED, DRAW THE OUTLINE OF PRIMARY STEEL MEMBERS IN CONTACT WITH THE BOTTOM OF THE DECK ON THE SURFACE OF DECK. DRILL SMALL DIAMETER PILOT HOLES 2 INCHES OUTSIDE THESE LINES TO CONFIRM THE LOCATION OF FLANGE EDGES. DECK CUTS OVER OR WITHIN 2 INCHES OF FLANGE EDGES SHALL NOT EXTEND LOWER THAN THE BOTTOM LAYER OF DECK SLAB REINFORCING STEEL. CUTS MADE OUTSIDE 2 INCHES OF FLANGE EDGES MAY EXTEND THE FULL DEPTH OF THE DECK. PERFORM WORK CAREFULLY DURING CUTTING OF THE DECK SLAB TO AVOID DAMAGING STEEL MEMBERS THAT ARE TO BE INCORPORATED INTO THE PROPOSED STRUCTURE. REPLACE OR REPAIR STEEL MEMBERS DAMAGED BY THE DECK SLAB CUTTING OPERATIONS AT NO COST TO THE PROJECT. AT LEAST 7 DAYS BEFORE PERFORMING REPAIR WORK, SUBMIT A PROPOSED REPAIR PLAN, DEVELOPED BY AN OHIO REGISTERED PROFESSIONAL ENGINEER TO THE DIRECTOR. OBTAIN THE DIRECTOR'S APPROVAL BEFORE PERFORMING REPAIR.

REMOVAL METHODS: THE CONTRACTOR MAY REMOVE CONCRETE BY CUTTING AND BY MEANS OF HAND OPERATED PNEUMATIC HAMMERS EMPLOYING POINTED OR BLUNTED CHISEL TYPE TOOLS. FOR REMOVALS OVER STRUCTURAL MEMBERS (STEEL GIRDER), THE CONTRACTOR MAY USE A HAMMER HEAVIER THAN 35 POUNDS BUT NOT TO EXCEED 90 POUNDS UNLESS APPROVED BY THE ENGINEER. REMOVAL METHODS OVER STRUCTURAL MEMBERS SHALL ENSURE ADEQUATE DEPTH CONTROL AND PREVENT NICKING OR GOUGING THE PRIMARY STRUCTURAL MEMBERS.

DUE TO THE POSSIBLE PRESENCE OF ATTACHMENTS (E.G., FINISHING MACHINE, SCUPPER AND FORM SUPPORTS, ETC.) TO EXISTING STRUCTURAL MEMBERS, PERFORM WORK CAREFULLY DURING DECK REMOVAL TO AVOID DAMAGING STRUCTURAL MEMBERS THAT ARE TO REMAIN. REPLACE OR REPAIR STRUCTURAL MEMBERS DAMAGED BY THE REMOVAL OPERATIONS AT NO COST TO THE PROJECT. AT LEAST 7 DAYS BEFORE PERFORMING REPAIR WORK, SUBMIT PROPOSED REPAIR PLANS, DEVELOPED BY AN OHIO REGISTERED PROFESSIONAL ENGINEER TO THE DIRECTOR. OBTAIN THE DIRECTOR'S APPROVAL BEFORE PERFORMING REPAIR.

EXISTING WELDED ATTACHMENTS: REMOVE EXISTING WELDED ATTACHMENTS (E.G., FINISHING MACHINE AND FORM SUPPORTS; AND SUPPORTS FOR SCUPPERS AND BULB ANGLES WHICH ARE TO BE REMOVED) LOCATED IN THE DESIGNATED TENSION PORTIONS OF THE TOP FLANGES OF EXISTING STEEL MEMBERS AND GRIND THE FLANGE SURFACES SMOOTH. CAREFULLY GRIND PARALLEL TO THE FLANGES.

CUT LINE CONSTRUCTION JOINT PREPARATION: SAW CUT BOUNDARIES OF PROPOSED CONCRETE REMOVALS 1 INCH DEEP. REMOVE CONCRETE TO A ROUGH SURFACE. LEAVE THE EXISTING REINFORCING STEEL, IF REQUIRED IN THE PLANS, IN PLACE. INSTALL DOWEL BARS IF SPECIFIED. PRIOR TO CONCRETE PLACEMENT ABRASIVELY CLEAN JOINT SURFACES AND EXISTING EXPOSED REINFORCEMENT TO REMOVE LOOSE AND DISINTEGRATED CONCRETE AND LOOSE RUST. THOROUGHLY CLEAN THE JOINT SURFACE AND EXPOSED REINFORCEMENT OF ALL DIRT, DUST, RUST OR OTHER FOREIGN MATERIAL BY THE USE OF WATER, AIR UNDER PRESSURE, OR OTHER METHODS THAT PRODUCE SATISFACTORY RESULTS. EXISTING REINFORCING STEEL DOES NOT HAVE TO HAVE A BRIGHT STEEL FINISH, BUT REMOVE ALL PACK AND LOOSE RUST. THOROUGHLY DRENCH EXISTING CONCRETE SURFACES WITH CLEAN WATER AND ALLOW TO DRY TO A DAMP CONDITION BEFORE PLACING CONCRETE.

SUBSTRUCTURE CONCRETE REMOVAL: REMOVE CONCRETE BY MEANS OF APPROVED PNEUMATIC HAMMERS EMPLOYING POINTED AND BLUNT CHISEL TOOLS. HYDRAULIC HOE-RAM TYPE HAMMERS WILL NOT BE PERMITTED. THE WEIGHT OF THE HAMMER SHALL NOT BE MORE THAN 35 POUNDS FOR REMOVAL WITHIN 18 INCHES OF PORTIONS TO BE PRESERVED. OUTSIDE THE 18 INCH LIMIT, THE CONTRACTOR MAY USE HAMMERS NOT EXCEEDING 90 POUNDS UPON THE APPROVAL OF THE ENGINEER. DO NOT PLACE PNEUMATIC HAMMERS IN DIRECT CONTACT WITH REINFORCING STEEL THAT IS TO BE RETAINED IN THE REBUILT STRUCTURE.

MEASUREMENT & PAYMENT: THE DEPARTMENT WILL MEASURE THE QUANTITY OF REMOVALS ON A LUMP SUM BASIS. THE DEPARTMENT WILL PAY FOR THE ACCEPTED QUANTITIES OF REMOVALS AT THE CONTRACT PRICE FOR ITEM 202 - PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN.

ITEM 202 - WEARING COURSE REMOVED, AS PER PLAN

THIS ITEM SHALL INCLUDE THE REMOVAL OF ASPHALT WEARING COURSE ON THE APPROACH SLABS AND BRIDGE DECKS. THE COST OF ALL LABOR, MATERIALS AND EQUIPMENT NECESSARY TO REMOVE THE ASPHALT WEARING COURSE SHALL BE INCLUDED WITH ITEM 202 - WEARING COURSE REMOVED, AS PER PLAN FOR PAYMENT.

ASBESTOS NOTIFICATION:

AN ASBESTOS SURVEY WAS CONDUCTED ON THE IR 271 BRIDGES AND WAS COMPLETED IN NOVEMBER OF 2005 BY A CERTIFIED ASBESTOS HAZARD EVALUATION SPECIALIST FROM MICHAEL BAKER, JR., INC. THE SURVEY DID NOT IDENTIFY ANY ASBESTOS-CONTAINING MATERIAL (ACM) ON THE BRIDGES.

IF UNIDENTIFIED ACM IS ENCOUNTERED DURING THE DECK REPLACEMENT OF THE BRIDGE, REMOVAL AND DISPOSAL OF ACM MUST COMPLY WITH THE OHIO ADMINISTRATIVE CODE, THE OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA) REGULATIONS, AND THE NATIONAL EMISSION STANDARD FOR HAZARDOUS AIR POLLUTANTS (NESHAP) STANDARDS FOR ASBESTOS.

A COPY OF THE OHIO ENVIRONMENTAL PROTECTION AGENCY (OEPA) NOTIFICATION OF DEMOLITION AND RENOVATION FORM WITH SECTIONS I-VII AND XVI COMPLETED IS INCLUDED WITH THE BID PACKAGE. THE CONTRACTOR WILL COMPLETE SECTIONS VIII-XIII OF THE SIGNED FORM AND SUBMIT THE COMPLETED FORM TO THE LOCAL AIR AUTHORITY AT LEAST TEN (10) DAYS PRIOR TO DEMOLITION OF THE BRIDGE. THE CONTRACTOR WILL PROVIDE A COPY OF THE COMPLETED FORM TO THE ENGINEER. THE LOCAL AIR AUTHORITY IS:

AKRON REGIONAL AIR QUALITY MANAGEMENT DISTRICT
146 S. HIGH ST. SUITE 904
AKRON, OHIO 44308
LYNN M. MALCOLM, ADMINISTRATOR
(330) 375-2480
FAX (330) 375-2402

PILE DESIGN LOADS (ULTIMATE BEARING VALUE)

THE ULTIMATE BEARING VALUE IS 70 TONS PER PILE FOR THE ABUTMENT PILES.
THE ULTIMATE BEARING VALUE IS 70 TONS PER PILE FOR THE PIER PILES.

RIGHT BRIDGE ABUTMENT PILES:
6 PILES 50 FEET LONG, ORDER LENGTH
1 DYNAMIC LOAD TESTING ITEM

RIGHT BRIDGE PIER PILES:
18 PILES 40 FEET LONG, ORDER LENGTH
1 DYNAMIC LOAD TESTING ITEM

ITEM 503 - COFFERDAMS AND EXCAVATION BRACING, AS PER PLAN

TEMPORARY SHEET PILING SHALL BE PERFORMED IN ACCORDANCE WITH ITEM 503 AND DRIVEN TO SUPPORT THE ROADWAY EMBANKMENT DURING CONSTRUCTION OF IR 271.

SHEET PILING AT THE ABUTMENTS SHALL BEGIN BEHIND THE EXISTING ABUTMENT FOOTING AND EXTEND APPROXIMATELY 30 FEET. IT SHALL BE DRIVEN TO A MINIMUM DEPTH OF 10 FEET BELOW THE BOTTOM OF FOOTING ELEVATION OF THE ABUTMENT AND HAVE A MINIMUM SECTION MODULUS OF 21 IN^3 PER FOOT OF WALL. SHEET PILING SHALL HAVE A MINIMUM YIELD STRENGTH OF 50,000 PSI.

ALL SHEET PILING SHALL BE REMOVED WHEN BACKFILLING IS COMPLETE. THIS WORK SHALL BE INCLUDED WITH ITEM 503 - COFFERDAMS AND EXCAVATION BRACING, AS PER PLAN, FOR PAYMENT.

ITEM 509 - REINFORCING STEEL, REPLACEMENT OF EXISTING REINFORCING STEEL, AS PER PLAN

REPLACE ALL EXISTING REINFORCING BARS DEEMED BY THE ENGINEER TO BE UNUSABLE BECAUSE OF CORROSION. THE DEPARTMENT WILL MEASURE THE REPLACEMENT REINFORCING STEEL BY THE NUMBER OF POUNDS ACCEPTED IN PLACE.

REPLACE ALL EXISTING REINFORCING STEEL BARS WHICH ARE TO BE INCORPORATED INTO THE NEW WORK AND ARE DEEMED BY THE ENGINEER TO BE MADE UNUSABLE BY CONCRETE REMOVAL OPERATIONS WITH NEW EPOXY COATED REINFORCING STEEL OF THE SAME SIZE AT NO COST TO THE DEPARTMENT.

ITEM 511-CLASS HP CONCRETE, BRIDGE DECK, AS PER PLAN

ITEM 511-CLASS HP CONCRETE, BRIDGE DECK (PARAPET), AS PER PLAN

THE PROVISIONS OF ITEM 511 SHALL APPLY EXCEPT AS NOTED BELOW.

MIX OPTIONS: ALL SUPERSTRUCTURE, BRIDGE DECK, APPROACH SLABS AND PARAPET CONCRETE SHALL BE THIS MIX (HP4, AS PER PLAN). THE FOLLOWING PROPORTIONS WILL BE USED AS A STARTING MIX DESIGN.

CONCRETE TABLE
QUANTITIES PER CUBIC YARD
AGGREGATES (SSD)
MIX 4, AS PER PLAN (GGBF SLAG + MICROSILICA)

AGG TYPE	FINE AGG (LB)	#8 COARSE AGG (LB)	#57 COARSE AGG (LB)	TOTAL (LB)	CEMENT CONTENT	GGBF SLAG (LB)	MICRO SILICA (LB)	MAX WATER TO CEMENTITIOUS RATIO	AIR CONTENT +/- 2%
GRAVEL	1370	650	790	2810	440	190	30	0.42	6
LIMESTONE	1370	655	800	2820	440	190	30	0.42	6
SLAG	1370	570	695	2635	440	190	30	0.42	6

* ALL COARSE AGGREGATE SHALL HAVE AN ABSORPTION OF 1.00% OR GREATER AS DEFINED PER ASTM C127

BASIS OF PAYMENT: PAYMENT FOR THE ABOVE COMPLETED AND ACCEPTED QUANTITIES WILL BE MADE AT THE CONTRACT BID PRICE FOR:

ITEM 511 - CLASS HP CONCRETE, BRIDGE DECK, AS PER PLAN, CU YD

ITEM 511 - CLASS HP CONCRETE, BRIDGE DECK (PARAPET), AS PER PLAN, CU YD

INSPECTION OF EXISTING STRUCTURAL STEEL

THE ENGINEER WILL VISUALLY INSPECT ALL EXISTING BUTT-WELDED SPLICES AND/OR TOP FLANGE COVER PLATE FILLET WELDS TO ENSURE THE WELDS, PLATES AND GIRDERS ARE FREE OF DEFECTS AND CRACKS. IF NECESSARY, REMOVE ALL DECK SLAB HAUNCH FORMS IMMEDIATELY ADJACENT TO SUCH WELDS THAT MAY INTERFERE WITH THE ENGINEER'S INSPECTION. THE INSPECTION WILL NOT TAKE PLACE UNTIL THE TOP FLANGES ARE CLEANED ACCORDING TO 511.10, BUT IT WILL BE DONE BEFORE THE DECK SLAB REINFORCEMENT IS INSTALLED. THE DEPARTMENT WILL PAY FOR THE COST ASSOCIATED WITH THIS INSPECTION WITH ITEM 511 - CLASS HP CONCRETE, BRIDGE DECK, AS PER PLAN. THE ENGINEER WILL REPORT ALL CRACKS FOUND TO THE OFFICE OF CONSTRUCTION ADMINISTRATION, BRIDGE CONSTRUCTION SPECIALIST, ALONG WITH SPECIFIC INFORMATION ON LOCATION OF THE CRACKS, LENGTH AND DEPTH SO AN EVALUATION AND REPAIR OR REPLACEMENT RECOMMENDATION CAN BE MADE.

GENERAL NOTES CONTINUED: SEE SHEET 6/106.

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

DESIGNED ALP | DRAWN TWH | REVIEWED DAP | DATE 10/5/12
CHECKED BLN | REVISED | STRUCTURE FILE NUMBER L7708815/R7708890

GENERAL NOTES - 2
BRIDGE NO. SUM-271-0354 L&R
IR 271 OVER IR 77

SUM-271-2.33
PID No. 18710

963
1195

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DECK PLACEMENT DESIGN ASSUMPTIONS:

THE FOLLOWING ASSUMPTIONS OF CONSTRUCTION MEANS AND METHODS WERE MADE FOR THE ANALYSIS AND DESIGN OF THE SUPERSTRUCTURE. THE CONTRACTOR IS RESPONSIBLE FOR THE DESIGN OF THE FALSEWORK SUPPORT SYSTEM WITHIN THESE PARAMETERS AND WILL ASSUME RESPONSIBILITY FOR SUPERSTRUCTURE ANALYSIS FOR DEVIATION FROM THESE DESIGN ASSUMPTIONS.

RIGHT BRIDGE:

AN EIGHT WHEEL FINISHING MACHINE WITH A MAXIMUM WHEEL LOAD OF 0.95 KIPS FOR A TOTAL MACHINE LOAD OF 7.6 KIPS.

A MINIMUM OUT-TO-OUT WHEEL SPACING AT EACH END OF THE MACHINE OF 103".

A MAXIMUM SPACING OF OVERHANG FALSEWORK BRACKETS OF 48 IN.

A MAXIMUM DISTANCE FROM THE CENTERLINE OF THE FASCIA GIRDER TO THE FACE OF THE SAFETY HANDRAIL OF 65".

LEFT BRIDGE:

AN EIGHT WHEEL FINISHING MACHINE WITH A MAXIMUM WHEEL LOAD OF 1.09 KIPS FOR A TOTAL MACHINE LOAD OF 8.73 KIPS.

A MINIMUM OUT-TO-OUT WHEEL SPACING AT EACH END OF THE MACHINE OF 103".

A MAXIMUM SPACING OF OVERHANG FALSEWORK BRACKETS OF 48 IN.

A MAXIMUM DISTANCE FROM THE CENTERLINE OF THE FASCIA GIRDER TO THE FACE OF THE SAFETY HANDRAIL OF 65".

ITEM 514 - FIELD PAINTING STRUCTURAL STEEL, FINISH COAT, AS PER PLAN

THE COLOR OF THE FINISH COAT SHALL BE THE LIGHT BLUE COLOR MEETING FEDERAL COLOR STANDARD NUMBER 15526.

ITEM 516 - REFURBISHING BEARING DEVICES, AS PER PLAN

THIS ITEM SHALL INCLUDE ALL WORK NECESSARY TO PROPERLY ALIGN BRIDGE BEARINGS AS WELL AS THEIR CLEANING AND PAINTING. INCLUDED SHALL BE THE DISASSEMBLY OF THE BEARINGS, HAND TOOL CLEANING (GRINDING IF NECESSARY), PAINTING ACCORDING TO ITEM 514, REPLACEMENT OF ANY DAMAGED SHEET LEAD WITH PREFORMED BEARING PADS (711.21), INSTALLATION OF ANY NECESSARY STEEL SHIMS OF THE SAME SIZE AS THE BEARINGS TO PROVIDE A SNUG FIT, REALIGNMENT OF THE UPPER BEARING PLATE BY REMOVING EXISTING WELDS AND REWELDING SO THAT THE BEARINGS ARE VERTICALLY ALIGNED AT 60 DEGREES F, LUBRICATING SLIDING SURFACES, AND REASSEMBLY OF THE BEARINGS. ASSURE ALL BEARINGS ARE SHIMMED ADEQUATELY AND THAT NO GIRDER AND/OR BEARING DEVICES ARE "FLOATING". AT NO ADDITIONAL COST TO THE STATE, THE CONTRACTOR MAY INSTALL NEW BEARINGS OF THE SAME TYPE AS THE EXISTING IN PLACE OF REFURBISHING THE BEARINGS. ALL WORK SHALL BE TO THE SATISFACTION OF THE ENGINEER. PAYMENT FOR ALL OF THE ABOVE DESCRIBED LABOR AND MATERIALS WILL BE MADE AT THE CONTRACT PRICE BID FOR ITEM 516 - REFURBISH BEARING DEVICES, AS PER PLAN.

ITEM 516 - JACKING AND TEMPORARY SUPPORT OF SUPERSTRUCTURE, AS PER PLAN

THIS WORK CONSISTS OF RAISING OR RE-POSITIONING EXISTING STRUCTURES TO THE DIMENSIONS AND REQUIREMENTS DEFINED IN THE PROJECT PLANS. THIS WORK ALSO CONSISTS OF SUPPORTING EXISTING GIRDERS AND PIER CAPS DURING PHASE CONSTRUCTION.

SUBMIT CONSTRUCTION PLANS IN ACCORDANCE WITH CMS 501.05.

IF, DURING THE JACKING OPERATIONS, CRACKING OF THE CONCRETE SUPERSTRUCTURE, SEPARATION OF THE CONCRETE DECK FROM THE STEEL STRINGER, OR OTHER DAMAGE TO THE STRUCTURE IS VISUALLY OBSERVED, IMMEDIATELY CEASE THE JACKING OPERATION AND INSTALL SUPPORTS TO THE SATISFACTION OF THE ENGINEER. ANALYZE THE DAMAGE AND SUBMIT A METHOD OF CORRECTION TO THE ENGINEER FOR APPROVAL. EPOXY INJECT ALL BEAMS THAT SEPARATE FROM THE DECK FOR THE DISTANCE OF THE SEPARATION IN ACCORDANCE WITH CMS 512.07. THE DEPARTMENT WILL NOT PAY FOR THE COST OF THIS EPOXY INJECTION OR OTHER REQUIRED REPAIRS. THE BRIDGE BEARINGS SHALL BE FULLY SEATED AT ALL CONTACT AREAS. IF FULL SEATING IS NOT ATTAINED, SUBMIT A REPAIR PLAN TO THE ENGINEER. THE DEPARTMENT WILL NOT PAY FOR THE REPAIR COSTS TO ENSURE FULL SEATING ON BEARINGS.

THIS WORK INCLUDES RAISING AND SUPPORTING THE BEAMS WHILE THE BEARINGS ARE REFURBISHED AND PIER CAPS ARE REPLACED. BEAMS E AND F WILL SUPPORT THE PARTIAL WIDTH DECK DURING PHASES 4A, 4B-1 AND 4B-2. THE WORK ALSO INCLUDES SUPPORTING THE PIER CAP BENEATH GIRDER LINES WHILE A PORTION OF THE CAP IS BEING REPLACED. SEE BRIDGE PART-WIDTH CONSTRUCTION TRANSVERSE SECTIONS IN THE MAINTENANCE OF TRAFFIC DRAWINGS SHEETS 54, 55, 60, 64-67, AND 72-77 FOR LOCATIONS. THE FOLLOWING TABLES REPRESENT ESTIMATED UNFACTORED DEAD LOAD AND LIVE LOAD (PLUS IMPACT) REACTIONS TO BE SUPPORTED DURING EACH PHASE OF CONSTRUCTION. THE LOADS GIVEN ARE SERVICE REACTIONS AT THE BEARINGS; THESE ARE NOT REQUIRED JACKING FORCES. THE CONTRACTOR IS LIMITED TO RAISING THE GIRDERS ¼" FOR THE SOUTHBOUND BRIDGE. GIRDERS J AND K SHALL BE RAISED SIMULTANEOUSLY, AND SHALL MAINTAIN VERTICAL ALIGNMENT. THE CONTRACTOR IS LIMITED TO A VERTICAL DIFFERENTIAL OF ¼". GIRDERS L AND M SHALL BE RAISED SIMULTANEOUSLY, AND SHALL MAINTAIN VERTICAL ALIGNMENT. THE CONTRACTOR IS LIMITED TO A VERTICAL DIFFERENTIAL OF ¼".

PHASE 3A TEMPORARY SUPPORT

	GIRDER REACTION (UNFACTORED)					
	* GIRDER J (KIPS)		* GIRDER K (KIPS)		** GIRDER L (KIPS)	
	DL	LL+I	DL	LL+I	DL	LL+I
REAR ABUTMENT	5	0	5	0	-	-
PIER 1	30	0	30	0	208	106
PIER 2	30	0	30	0	206	108
PIER 3	14	0	14	0	134	89
FORWARD ABUTMENT	4	0	4	0	-	-

PHASE 3B TEMPORARY SUPPORT

	GIRDER REACTION (UNFACTORED)					
	** GIRDER K (KIPS)		* GIRDER L (KIPS)		* GIRDER M (KIPS)	
	DL	LL+I	DL	LL+I	DL	LL+I
REAR ABUTMENT	-	-	5	0	5	0
PIER 1	226	103	30	0	30	0
PIER 2	223	106	30	0	30	0
PIER 3	148	88	14	0	14	0
FORWARD ABUTMENT	-	-	4	0	4	0

* DEAD LOAD REACTION DUE TO THE WEIGHT OF THE STEEL ONLY.

** DEAD LOAD REACTION DUE TO THE WEIGHT OF THE STEEL, CONCRETE DECK AND CONCRETE PARAPETS. MAXIMUM LL+I.

*** DEAD LOAD REACTION DUE TO THE WEIGHT OF THE STEEL, CONCRETE DECK AND CONCRETE PARAPETS. LL+I ADJUSTED FOR PARTIAL DISTRIBUTION TO GIRDER.

THE DEPARTMENT WILL MEASURE THIS WORK ON A LUMP SUM BASIS.

THE DEPARTMENT WILL PAY FOR THE ACCEPTED QUANTITIES AT THE CONTRACT PRICE FOR ITEM 516 - JACKING AND TEMPORARY SUPPORT OF SUPERSTRUCTURE, AS PER PLAN.

PHASE 4A TEMPORARY SUPPORT

	GIRDER REACTION (UNFACTORED)			
	** GIRDER E (KIPS)		*** GIRDER F (KIPS)	
	DL	LL+I	DL	LL+I
REAR ABUTMENT	-	-	36	4
PIER 1	-	-	154	9
PIER 2	-	-	152	13
PIER 3	146	117	105	13
FORWARD ABUTMENT	-	-	31	11

	GIRDER REACTION (UNFACTORED)				
	* GIRDER G (KIPS)		* GIRDER H (KIPS)		
	DL	LL+I	DL	LL+I	UPLIFT
REAR ABUTMENT	9	4	4	2	2
PIER 1	50	9	23	4	-
PIER 2	56	13	18	4	-
PIER 3	25	13	8	5	8
FORWARD ABUTMENT	9	11	3	3	7

PHASE 4B-1 TEMPORARY SUPPORT

	GIRDER REACTION (UNFACTORED)			
	** GIRDER D (KIPS)		*** GIRDER E (KIPS)	
	DL	LL+I	DL	LL+I
REAR ABUTMENT	-	-	32	5
PIER 1	-	-	143	12
PIER 2	-	-	156	12
PIER 3	169	192	96	42
FORWARD ABUTMENT	-	-	32	59

	GIRDER REACTION (UNFACTORED)			
	** GIRDER F (KIPS)		*** GIRDER G (KIPS)	
	DL	LL+I	DL	LL+I
REAR ABUTMENT	31	32	-	-
PIER 1	145	60	-	-
PIER 2	145	59	177	106
PIER 3	98	44	123	100
FORWARD ABUTMENT	29	56	-	-

PHASE 4B-2 TEMPORARY SUPPORT

	GIRDER REACTION (UNFACTORED)			
	* GIRDER A (KIPS)		* GIRDER B (KIPS)	
	DL	LL+I	DL	LL+I
REAR ABUTMENT	8	2	6	1
PIER 1	23	2	20	2
PIER 2	27	7	-	-
PIER 3	16	9	-	-
FORWARD ABUTMENT	4	1	-	-

	GIRDER REACTION (UNFACTORED)				
	* GIRDER C (KIPS)		* GIRDER D (KIPS)		
	DL	LL+I	DL	LL+I	UPTURN
REAR ABUTMENT	4	2	9	7	1
PIER 1	22	3	47	13	-
PIER 2	37	8	51	14	-
PIER 3	-	-	15	4	-
FORWARD ABUTMENT	-	-	6	1	-

	GIRDER REACTION (UNFACTORED)			
	*** GIRDER E (KIPS)		** GIRDER F (KIPS)	
	DL	LL+I	DL	LL+I
REAR ABUTMENT	28	43	-	-
PIER 1	128	81	-	-
PIER 2	128	75	-	-
PIER 3	81	37	129	117
FORWARD ABUTMENT	23	10	-	-

GENERAL NOTES CONTINUED: SEE SHEET 7/106.

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

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GENERAL NOTES - 3
BRIDGE NO. SUM-271-0354 L&R
IR 271 OVER IR 77

SUM-271-2.33
PID No. 18710

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ITEM 518 - 6" NON-PERFORATED CORRUGATED PLASTIC PIPE, INCLUDING SPECIALS, AS PER PLAN

ANIMAL GUARDS SHALL BE PROVIDED AT THE OUTLET OF THE DRAINAGE PIPES. THE STEEL BOLTS OR RODS FOR THE ANIMAL GUARDS SHALL BE GALVANIZED PER CMS 711.02. SEE STANDARD DRAWING DM-1.1 FOR ADDITIONAL DETAILS AND NOTES. THE ANIMAL GUARDS AND ROCK CHANNEL PROTECTION, TYPE C ARE INCIDENTAL TO ITEM 518 - 6" NON-PERFORATED CORRUGATED PLASTIC PIPE, INCLUDING SPECIALS, AS PER PLAN.

ITEM 519 - PATCHING CONCRETE STRUCTURE, AS PER PLAN

PRIOR TO THE SURFACE CLEANING SPECIFIED IN 519.04 AND WITHIN 24 HOURS OF PLACING PATCHING MATERIAL, BLAST CLEAN ALL ABUTMENT AND PIER SURFACES TO BE PATCHED INCLUDING ALL EXPOSED REINFORCING STEEL. ACCEPTABLE METHODS INCLUDE HIGH-PRESSURE WATER BLASTING WITH OR WITHOUT ABRASIVES IN THE WATER, ABRASIVE BLASTING WITH CONTAINMENT, OR VACUUM ABRASIVE BLASTING.

THE ESTIMATED QUANTITY OF PATCHING REQUIRED IS BASED ON FIELD MEASUREMENTS OF ABOVE GROUND DETERIORATION AND A CONTINGENCY QUANTITY OF 50 SQUARE FEET PER BRIDGE. THE CONTRACTOR SHALL EXCAVATE REPAIR AREAS THAT EXTEND TO THE EXISTING GROUND LINE. THE ENGINEER SHALL DETERMINE THE EXTENT OF BELOW GROUND REPAIR BASED ON THE CONTRACTOR'S EXCAVATION.

THE CONTRACTOR SHOULD INCLUDE THIS EXCAVATION, PERFORMED IN ACCORDANCE WITH ITEM 503, IN THE UNIT PRICE BID FOR ITEM 519 - PATCHING OF CONCRETE STRUCTURE, AS PER PLAN.

ITEM 526 - REINFORCED CONCRETE APPROACH SLABS (T=17"), AS PER PLAN

THE PROVISIONS OF CMS 526 SHALL APPLY EXCEPT AS NOTED BELOW.

CLASS HP CONCRETE, MIX 4, AS PER PLAN, SHALL BE THE ONLY MIX DESIGN OPTION. THE PROPORTIONS FOR THE STARTING MIX DESIGN SHALL BE AS SHOWN FOR ITEM 511 - CLASS HP CONCRETE, BRIDGE DECK, AS PER PLAN.

THE PARAPETS WILL BE CARRIED ONTO THE APPROACH SLABS AND TRANSITIONED ON THE APPROACH SLABS AS DETAILED IN THE PLANS. QUANTITIES FOR THE SEALING OF CONCRETE SURFACES ARE INCLUDED WITH ITEM 512 - SEALING OF CONCRETE SURFACES (EPOXY-URETHANE) FOR PAYMENT. QUANTITIES OF CONCRETE AND REINFORCING STEEL FOR THE PARAPETS AND APPROACH SLABS ARE INCLUDED WITH THIS ITEM FOR PAYMENT.

ITEM SPECIAL - STRUCTURE, MISC.: CUT AND CAP 6" CMP DRAIN

THE EXISTING 6" CMP DRAINS AT THE ABUTMENTS SHALL BE CUT OFF AT THE ABUTMENTS AS SHOWN ON THE ABUTMENT REMOVAL DETAILS. THE DRAIN PIPES SHALL BE FILLED WITH GROUT, CAPPED OR ANY OTHER MEANS APPROVED BY THE ENGINEER TO PLUG THE PIPES.

ALL LABOR, EQUIPMENT, MATERIALS AND INCIDENTALS NECESSARY TO COMPLETE THIS WORK SHALL BE INCLUDED WITH ITEM SPECIAL - STRUCTURE, MISC.: CUT AND CAP 6" CMP DRAIN FOR PAYMENT.

INDEX OF SHEETS 1/106

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GENERAL NOTES - 4

BRIDGE NO. SUM-271-0354 L&R
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ESTIMATED QUANTITIES (FUNDING PARTICIPATION; 05/IMS/BR)

CALCULATED dht DATED 10/2012
CHECKED ALP/JLS DATED 10/2012

ITEM	ITEM EXT.	LEFT STRUCTURE (SOUTHBOUND) TOTAL	RIGHT STRUCTURE (NORTHBOUND) TOTAL	UNIT	DESCRIPTION	LEFT STRUCTURE (SOUTHBOUND)				RIGHT STRUCTURE (NORTHBOUND)				SEE SHEET
						SUPER	ABUTS.	PIERS	GEN'L	SUPER	ABUTS.	PIERS	GEN'L	
202	11203	LUMP	LUMP		PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN				LUMP				LUMP	5/106
202	22900	274	204	SQ YD	APPROACH SLAB REMOVED				274				204	
202	23501	2507		SQ YD	WEARING COURSE REMOVED, AS PER PLAN	2233			274					5/106
503	11101	LUMP	LUMP		COFFERDAMS AND EXCAVATION BRACING, AS PER PLAN				LUMP				LUMP	5/106
503	21100	29	228	CU YD	UNCLASSIFIED EXCAVATION		29				155	73		
505	11100		LUMP		PILE DRIVING EQUIPMENT MOBILIZATION								LUMP	
507	00500		900	FT	12" CAST-IN-PLACE REINFORCED CONCRETE PILES, DRIVEN						270	630		
507	00550		1020	FT	12" CAST-IN-PLACE REINFORCED CONCRETE PILES, FURNISHED						300	720		
509	10000	290,046	205,237	POUND	EPOXY COATED REINFORCING STEEL	260,343	8528	21,175		168,475	10,543	26,219		
509	20001	1250	650	POUND	REINFORCING STEEL, REPLACEMENT OF EXISTING REINFORCING STEEL, AS PER PLAN		543	651	56		209	425	16	5/106
510	10000	60	220	EACH	DOWEL HOLES WITH NONSHRINK, NONMETALLIC GROUT		60				148	72		
511	41000	77	93	CU YD	CLASS C CONCRETE, PIER ABOVE FOOTINGS			77				93		
511	44100	82	94	CU YD	CLASS C CONCRETE, ABUTMENT NOT INCLUDING FOOTING		82				94			
511	46500		51	CU YD	CLASS C CONCRETE, FOOTING						25	26		
511	50001	729	478	CU YD	CLASS HP CONCRETE, BRIDGE DECK, AS PER PLAN	729				478				5/106 6/106
511	50101	107	110	CU YD	CLASS HP CONCRETE, BRIDGE DECK (PARAPET), AS PER PLAN	107				110				5/106 6/106
511	52000	LUMP	LUMP		CLASS HP CONCRETE, TEST SLAB				LUMP				LUMP	
512	10100	1436	1335	SQ YD	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)	764	163	433	76	763	124	372	76	
512	33000	7	10	SQ YD	TYPE 2 WATERPROOFING		7				10			
512	74000	220	136	SQ YD	REMOVAL OF EXISTING COATINGS FROM CONCRETE SURFACES (SEE PROPOSAL NOTE)			220			7	129		
513	10280		118,700	POUND	STRUCTURAL STEEL MEMBERS, LEVEL 4					118,700				
513	20000	6996	4676	EACH	WELDED STUD SHEAR CONNECTORS	6996				4676				
514	00050	48,900	27,200	SQ FT	SURFACE PREPARATION OF EXISTING STRUCTURAL STEEL	48,900				27,200				
514	00056	44,100	24,500	SQ FT	FIELD PAINTING OF EXISTING STRUCTURAL STEEL, PRIME COAT	44,100				24,500				
514	00060	44,100	30,600	SQ FT	FIELD PAINTING STRUCTURAL STEEL, INTERMEDIATE COAT	44,100				30,600				
514	00067	44,100	30,600	SQ FT	FIELD PAINTING STRUCTURAL STEEL, FINISH COAT, AS PER PLAN	44,100				30,600				6/106
514	00504	42	24	MANHOUR	GRINDING FINS, TEARS, SLIVERS ON EXISTING STRUCTURAL STEEL	42				24				
514	10000	88	63	EACH	FINAL INSPECTION REPAIR	88				63				
516	11211	139	94	FT	STRUCTURAL EXPANSION JOINT INCLUDING ELASTOMERIC STRIP SEAL, AS PER PLAN		139				94			68/106
516	13900	64	73	SQ FT	2" PREFORMED EXPANSION JOINT FILLER		64				73			
516	45304	35	20	EACH	REFURBISH BEARING DEVICE	35				20				
516	46000		1	EACH	BEARING DEVICE, BOLSTER					1				
516	46200		4	EACH	BEARING DEVICE, ROCKER					4				
516	47001	LUMP	LUMP		JACKING AND TEMPORARY SUPPORT OF SUPERSTRUCTURE, AS PER PLAN				LUMP				LUMP	6/106
518	12300	7		EACH	SCUPPERS, INCLUDING SUPPORTS	7								
518	21200	135	99	CU YD	POROUS BACKFILL WITH FILTER FABRIC		135				99			
518	40000	152	107	FT	6" PERFORATED CORRUGATED PLASTIC PIPE		152				107			
518	40011	151	147	FT	6" NON-PERFORATED CORRUGATED PLASTIC PIPE, INCLUDING SPECIALS, AS PER PLAN		151				147			7/106
519	11101	100	77	SQ FT	PATCHING CONCRETE STRUCTURE, AS PER PLAN		30	20	50		8	19	50	7/106
523	20000		2	EACH	DYNAMIC LOAD TESTING						1	1		
526	30001	420	280	SQ YD	REINFORCED CONCRETE APPROACH SLABS (T=17"), AS PER PLAN				420				280	7/106
SPECIAL	53000400	10	6	EACH	STRUCTURE, MISC.: CUT AND CAP 6" CMP DRAIN		10				6			7/106

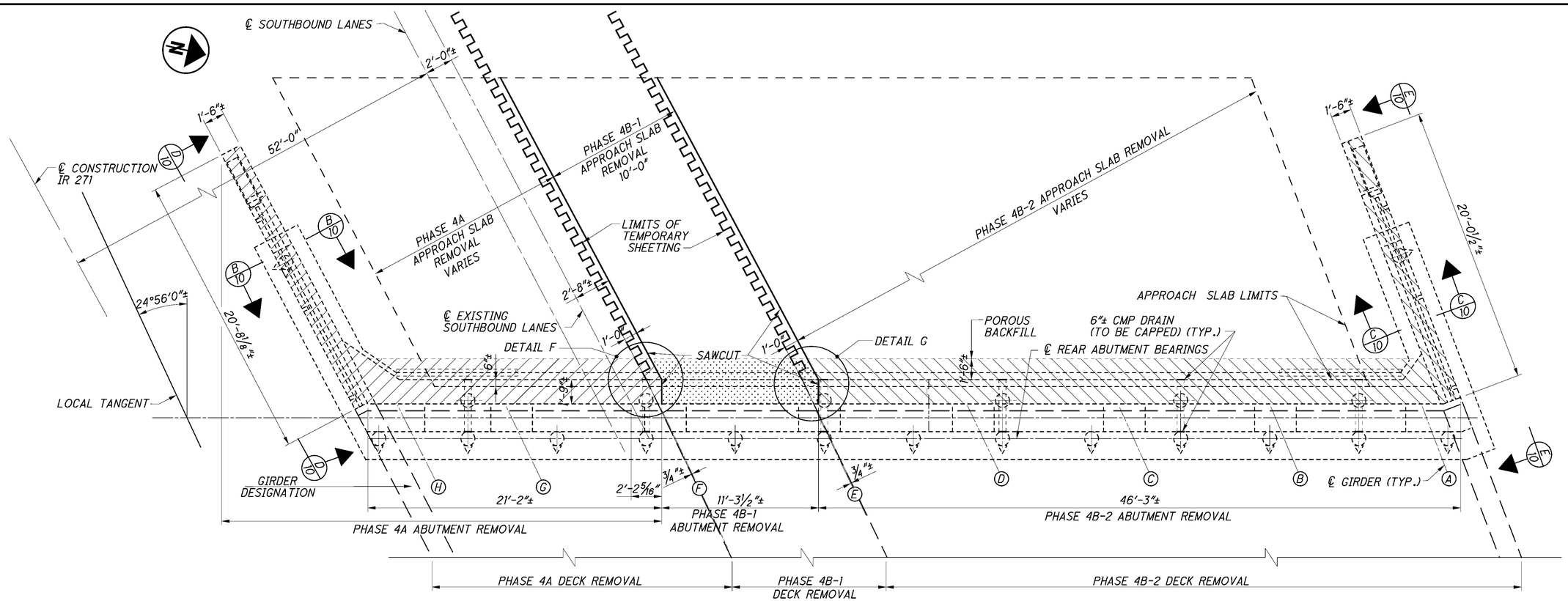
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ESTIMATED QUANTITIES
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IR 271 OVER IR 77

SUM-271-2.33
PID No. 18710

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LEGEND

INDICATES MATERIALS TO BE REMOVED DURING PHASE 4A REMOVAL AND INCLUDED WITH ITEM 202 - PORTIONS OF STRUCTURE REMOVED, AS PER PLAN, FOR PAYMENT.

INDICATES MATERIALS TO BE REMOVED DURING PHASE 4B-1 REMOVAL AND INCLUDED WITH ITEM 202 - PORTIONS OF STRUCTURE REMOVED, AS PER PLAN, FOR PAYMENT.

INDICATES MATERIALS TO BE REMOVED DURING PHASE 4B-2 REMOVAL AND INCLUDED WITH ITEM 202 - PORTIONS OF STRUCTURE REMOVED, AS PER PLAN, FOR PAYMENT.

INDICATES PORTIONS OF ABUTMENT TO BE PATCHED AND INCLUDED WITH ITEM 519 - PATCHING CONCRETE STRUCTURE, AS PER PLAN FOR PAYMENT. THE SOUNDING OF THE CONCRETE WAS PERFORMED ON AUGUST 24, 2012.

* CUT EXISTING VERTICAL #6 BARS AS NEEDED TO MAINTAIN MINIMUM 2" CLEARANCE TO PROPOSED APPROACH SLAB SEAT.

NOTES

MATERIALS SHOWN ARE EXISTING UNLESS OTHERWISE NOTED.

DETAILS F & G: SEE SHEET 10/106.

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
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BLN		L770815	

REAR ABUTMENT REMOVAL DETAILS - SOUTHBOUND BRIDGE - 1

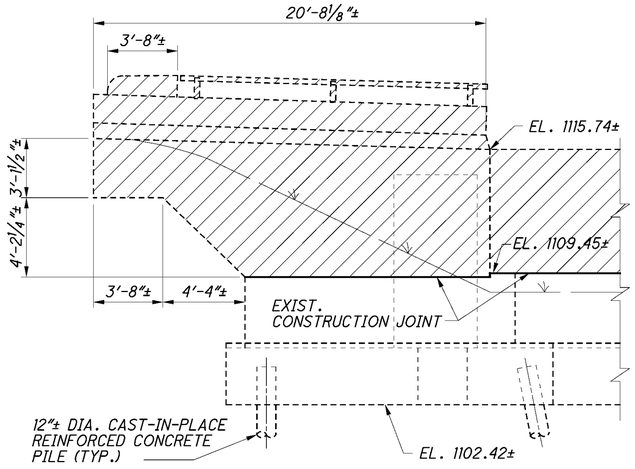
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PID No. 18710

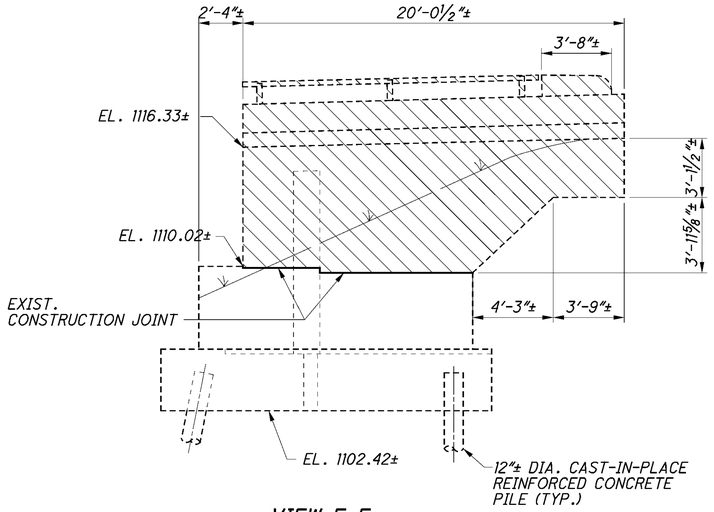
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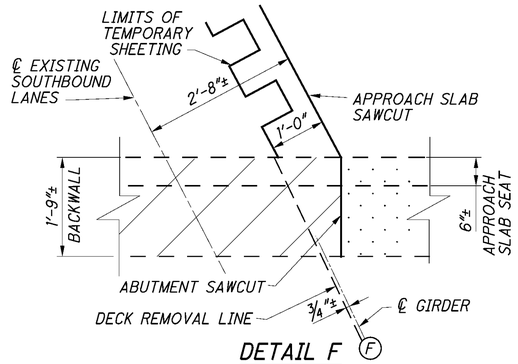
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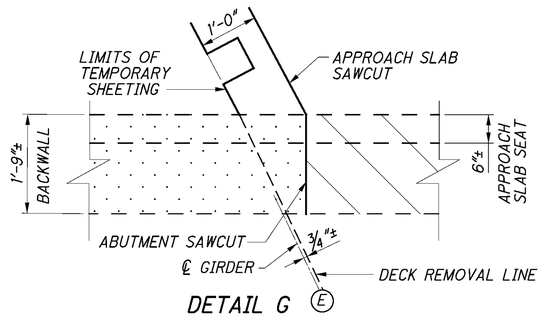
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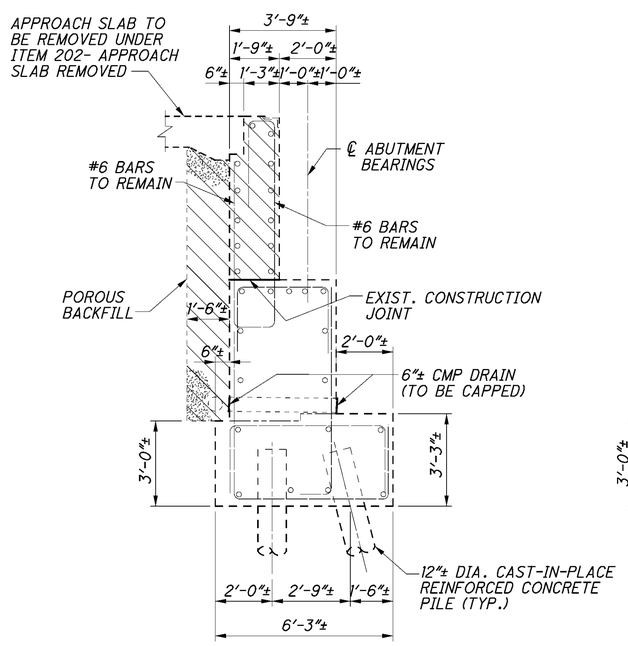
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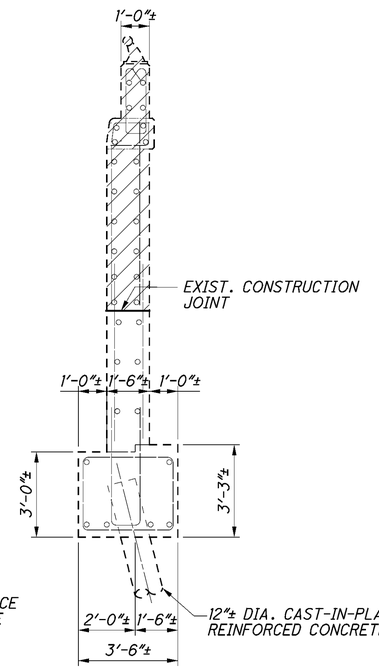
DETAIL F



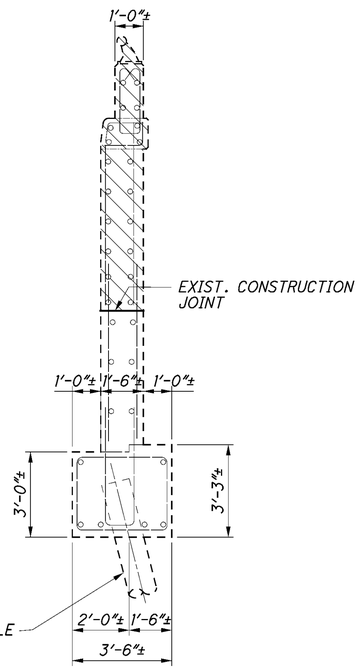
DETAIL G



SECTION A-A



SECTION B-B



SECTION C-C

LEGEND

INDICATES MATERIALS TO BE REMOVED DURING PHASE 4A REMOVAL AND INCLUDED WITH ITEM 202 - PORTIONS OF STRUCTURE REMOVED, AS PER PLAN, FOR PAYMENT.

INDICATES MATERIALS TO BE REMOVED DURING PHASE 4B-1 REMOVAL AND INCLUDED WITH ITEM 202 - PORTIONS OF STRUCTURE REMOVED, AS PER PLAN, FOR PAYMENT.

INDICATES MATERIALS TO BE REMOVED DURING PHASE 4B-2 REMOVAL AND INCLUDED WITH ITEM 202 - PORTIONS OF STRUCTURE REMOVED, AS PER PLAN, FOR PAYMENT.

NOTES

MATERIALS SHOWN ARE EXISTING UNLESS OTHERWISE NOTED.

SECTIONS A-A, B-B & C-C: FOR LOCATIONS SEE SHEET 9/106.

VIEWS D-D & E-E: FOR LOCATIONS SEE SHEET 9/106.

DETAILS F & G: FOR LOCATIONS SEE SHEET 9/106.

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

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REAR ABUTMENT REMOVAL DETAILS - SOUTHBOUND BRIDGE - 2

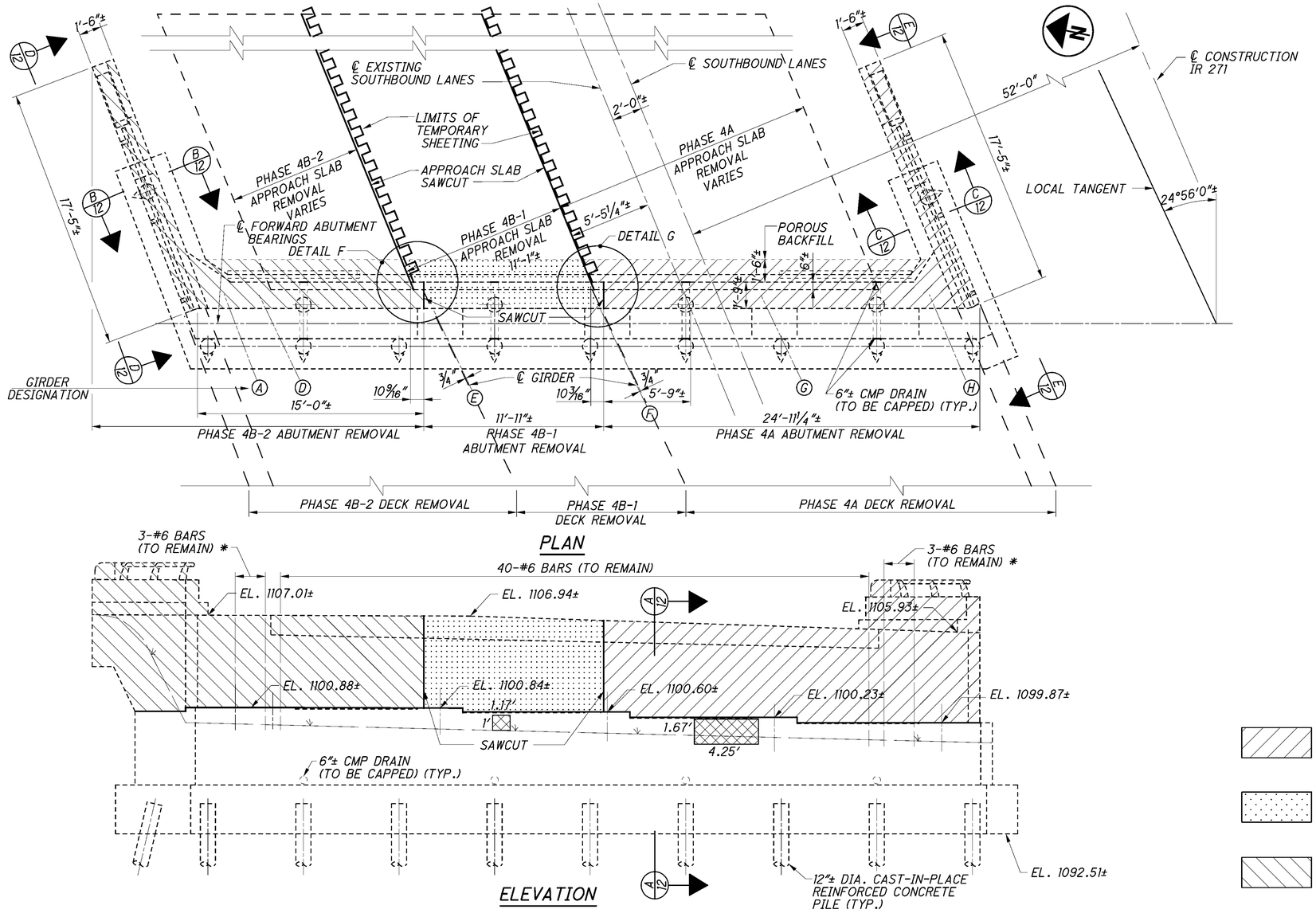
BRIDGE NO. SUM-271-0354 L
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PID No. 18710

10/106

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LEGEND

- INDICATES MATERIALS TO BE REMOVED DURING PHASE 4A REMOVAL AND INCLUDED WITH ITEM 202 - PORTIONS OF STRUCTURE REMOVED, AS PER PLAN, FOR PAYMENT.
- INDICATES MATERIALS TO BE REMOVED DURING PHASE 4B-1 REMOVAL AND INCLUDED WITH ITEM 202 - PORTIONS OF STRUCTURE REMOVED, AS PER PLAN, FOR PAYMENT.
- INDICATES MATERIALS TO BE REMOVED DURING PHASE 4B-2 REMOVAL AND INCLUDED WITH ITEM 202 - PORTIONS OF STRUCTURE REMOVED, AS PER PLAN, FOR PAYMENT.
- INDICATES PORTIONS OF ABUTMENT TO BE PATCHED AND INCLUDED WITH ITEM 519 - PATCHING CONCRETE STRUCTURE, AS PER PLAN FOR PAYMENT. THE SOUNDING OF THE CONCRETE WAS PERFORMED ON AUGUST 24, 2012.

* CUT EXISTING VERTICAL #6 BARS AS NEEDED TO MAINTAIN MINIMUM 2" CLEARANCE TO PROPOSED APPROACH SLAB SEAT.

NOTES

MATERIALS SHOWN ARE EXISTING UNLESS OTHERWISE NOTED.

DETAILS F & G: SEE SHEET 12/106.

RichHarding

F:\2009\109094\18710\structures\SUM271_0354L\sheets\271_0354LRE003.dgn 10/7/2012 7:32:13 AM

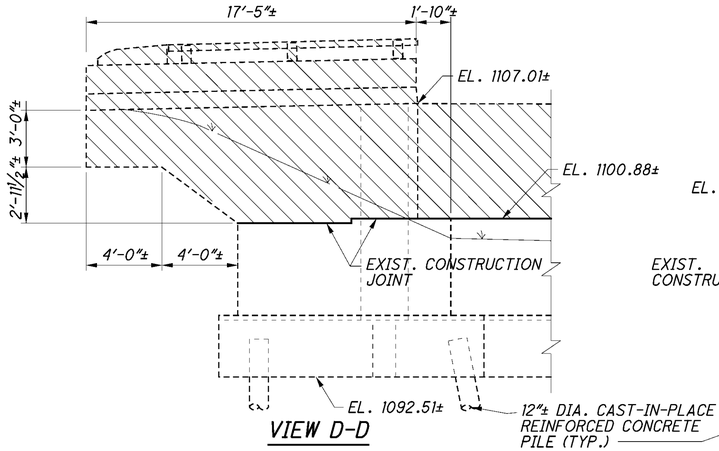
RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

DESIGNED	DRAWN	REVIEWED	DATE
ALP	TWH	DAP	10/5/12
CHECKED	REVISED	STRUCTURE FILE NUMBER	
BLN		L7708815	

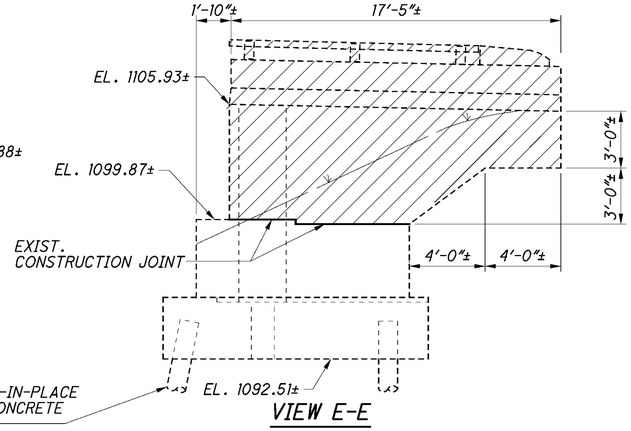
FORWARD ABUTMENT REMOVAL DETAILS - SOUTHBOUND BRIDGE - 1

BRIDGE NO. SUM-271-0354 L
IR 271 OVER IR 77

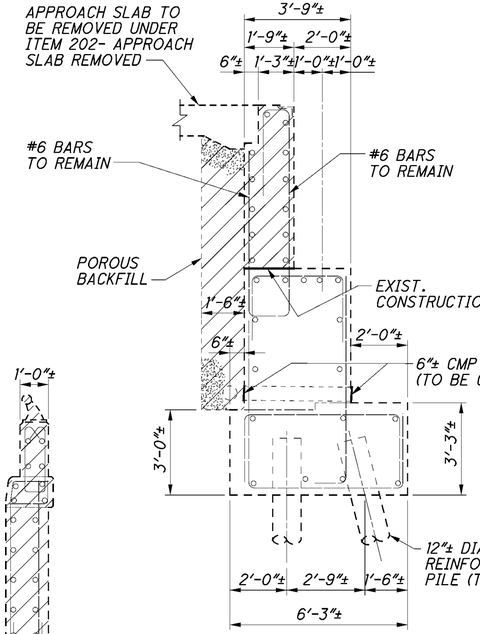
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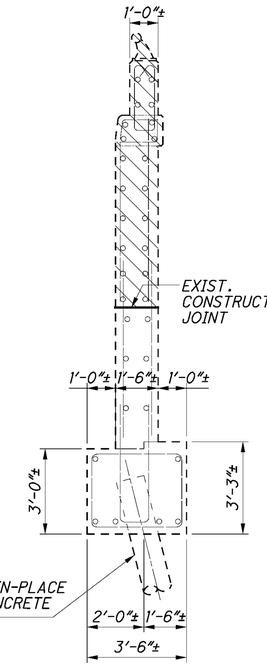
VIEW D-D



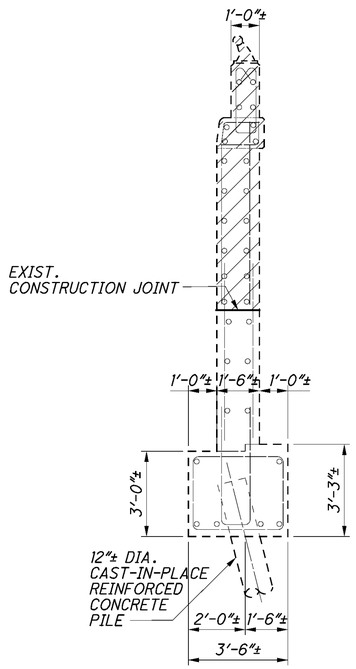
VIEW E-E



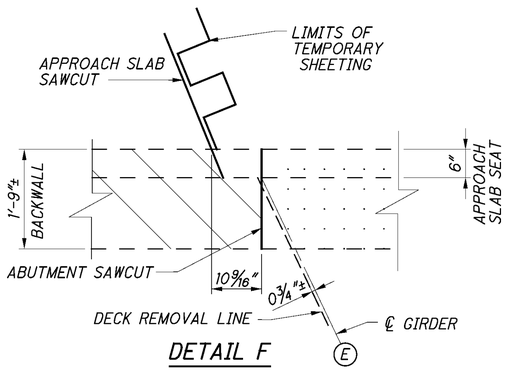
SECTION A-A



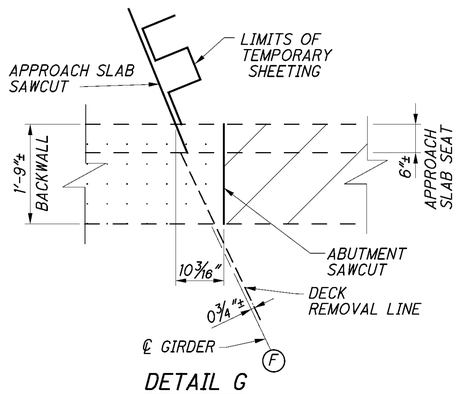
SECTION B-B



SECTION C-C



DETAIL F



DETAIL G

LEGEND

INDICATES MATERIALS TO BE REMOVED DURING PHASE 4A REMOVAL AND INCLUDED WITH ITEM 202 - PORTIONS OF STRUCTURE REMOVED, AS PER PLAN, FOR PAYMENT.

INDICATES MATERIALS TO BE REMOVED DURING PHASE 4B-1 REMOVAL AND INCLUDED WITH ITEM 202 - PORTIONS OF STRUCTURE REMOVED, AS PER PLAN, FOR PAYMENT.

INDICATES MATERIALS TO BE REMOVED DURING PHASE 4B-2 REMOVAL AND INCLUDED WITH ITEM 202 - PORTIONS OF STRUCTURE REMOVED, AS PER PLAN, FOR PAYMENT.

NOTES

MATERIALS SHOWN ARE EXISTING UNLESS OTHERWISE NOTED.

SECTIONS A-A, B-B & C-C: FOR LOCATIONS SEE SHEET 11/106.

VIEWS D-D & E-E: FOR LOCATIONS SEE SHEET 11/106.

DETAILS F & G: FOR LOCATIONS SEE SHEET 11/106.

RICHLAND ENGINEERING LIMITED
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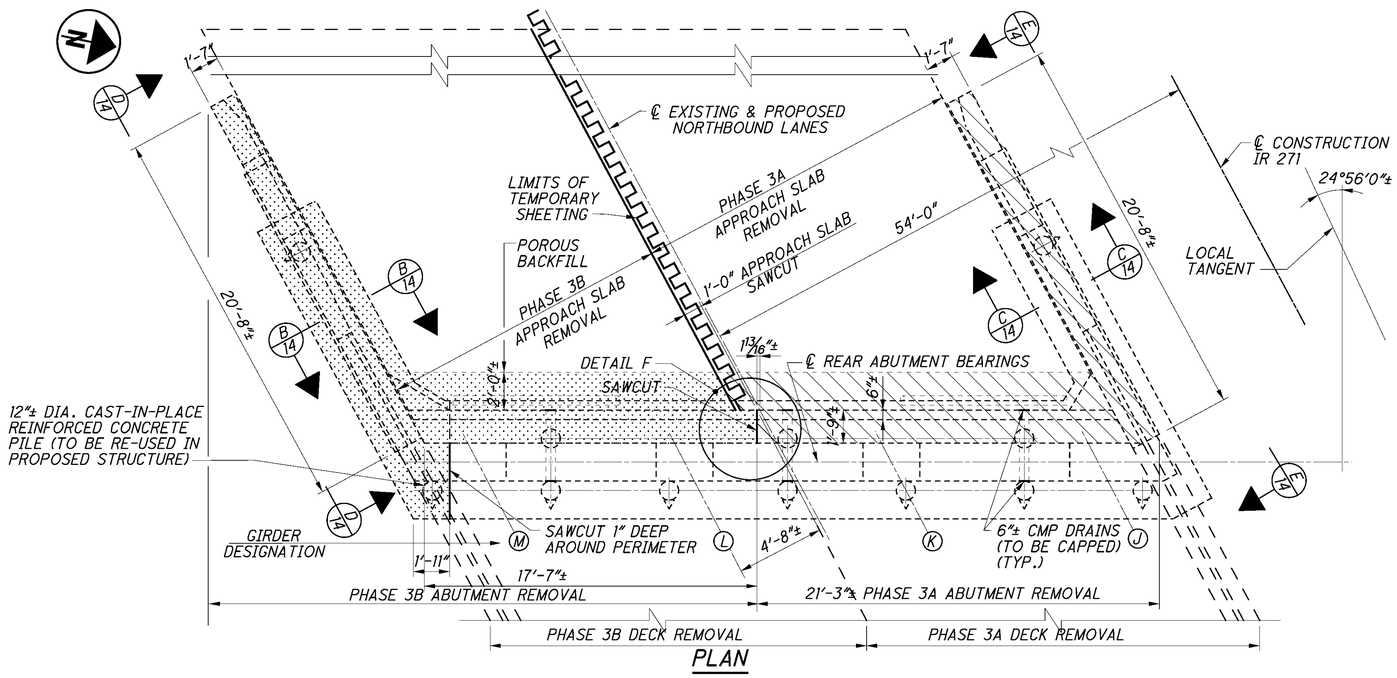
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ALP	TWH	DAP	10/5/12
CHECKED	REVISED	STRUCTURE FILE NUMBER	
BLN		L7708815	

FORWARD ABUTMENT REMOVAL DETAILS - SOUTHBOUND BRIDGE - 2

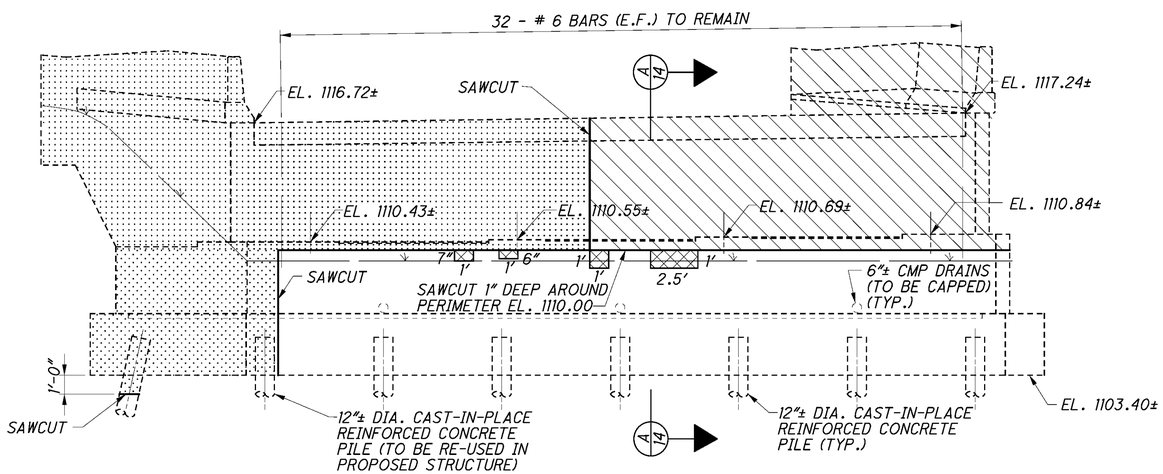
BRIDGE NO. SUM-271-0354 L
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SUM-271-2.33
PID No. 18710

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PLAN



ELEVATION

LEGEND

INDICATES MATERIALS TO BE REMOVED DURING PHASE 3A REMOVAL AND INCLUDED WITH ITEM 202 - PORTIONS OF STRUCTURE REMOVED, AS PER PLAN, FOR PAYMENT.

INDICATES MATERIALS TO BE REMOVED DURING PHASE 3B REMOVAL AND INCLUDED WITH ITEM 202 - PORTIONS OF STRUCTURE REMOVED, AS PER PLAN, FOR PAYMENT.

INDICATES PORTIONS OF ABUTMENT TO BE PATCHED AND INCLUDED WITH ITEM 519 - PATCHING CONCRETE STRUCTURE, AS PER PLAN FOR PAYMENT. THE SOUNDING OF THE CONCRETE WAS PERFORMED ON AUGUST 24, 2012.

NOTES

MATERIALS SHOWN ARE EXISTING UNLESS OTHERWISE NOTED.

DETAIL F: SEE SHEET 14/106.

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

DESIGNED	DRAWN	REVIEWED	DATE
ALP	TWH	DAP	10/5/12
CHECKED	REVISED	STRUCTURE FILE NUMBER	
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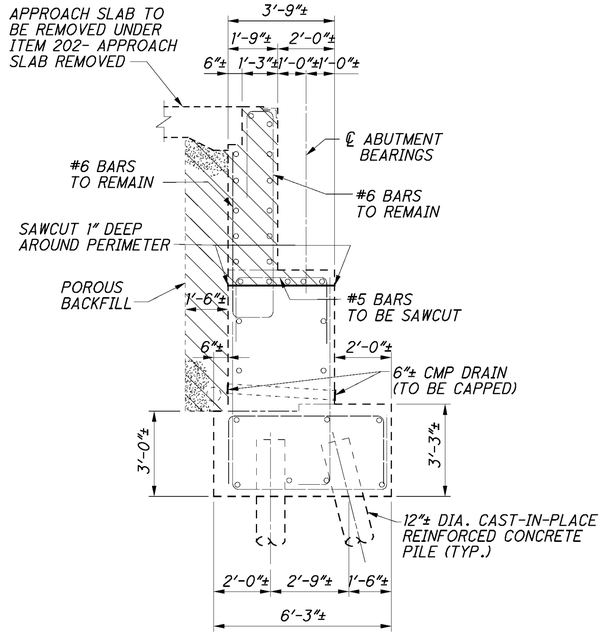
REAR ABUTMENT REMOVAL DETAILS - NORTHBOUND BRIDGE - 1
BRIDGE NO. SUM-271-0354 R
IR 271 OVER IR 77

SUM-271-2.33
PID No. 18710

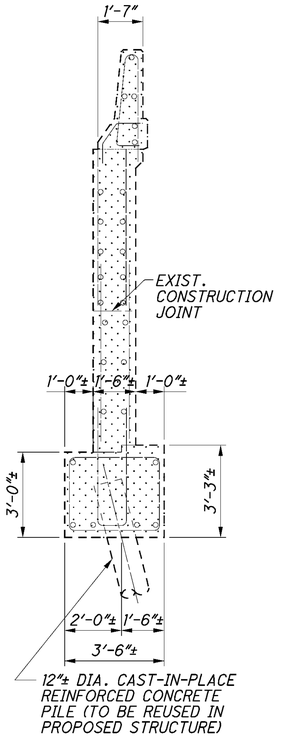
13/106

971/1195

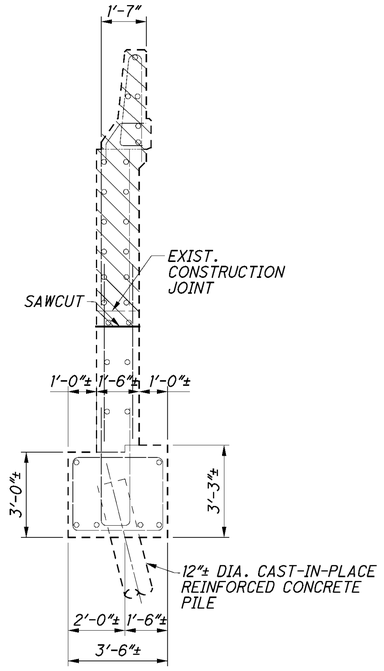
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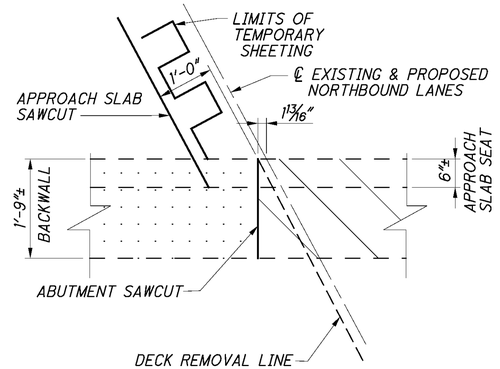
SECTION A-A



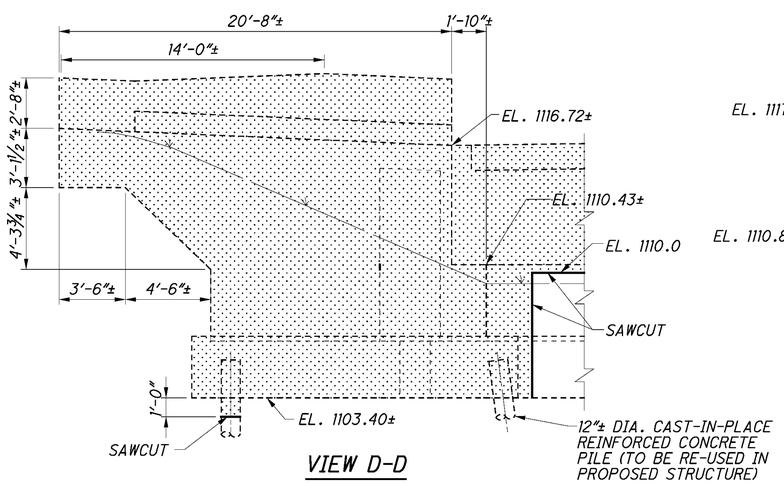
SECTION B-B



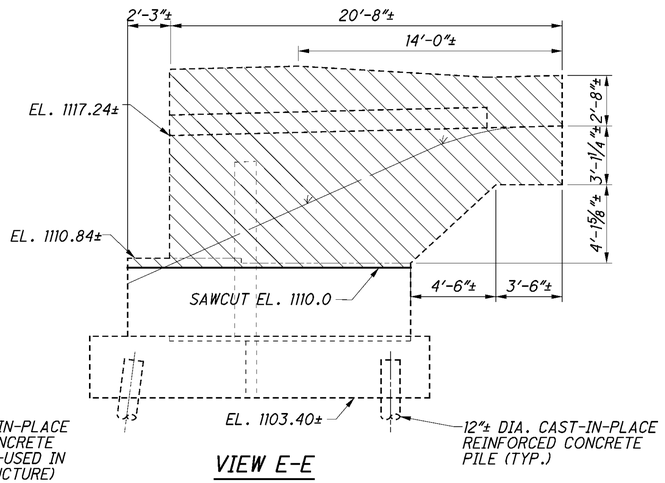
SECTION C-C



DETAIL F



VIEW D-D



VIEW E-E

LEGEND

INDICATES MATERIALS TO BE REMOVED DURING PHASE 3A REMOVAL AND INCLUDED WITH ITEM 202 - PORTIONS OF STRUCTURE REMOVED, AS PER PLAN, FOR PAYMENT.

INDICATES MATERIALS TO BE REMOVED DURING PHASE 3B REMOVAL AND INCLUDED WITH ITEM 202 - PORTIONS OF STRUCTURE REMOVED, AS PER PLAN, FOR PAYMENT.

NOTES

MATERIALS SHOWN ARE EXISTING UNLESS OTHERWISE NOTED.

SECTIONS A-A, B-B & C-C: FOR LOCATIONS SEE SHEET 13/106.

VIEWS D-D & E-E: FOR LOCATIONS SEE SHEET 13/106.

DETAIL F: FOR LOCATION SEE SHEET 13/106.

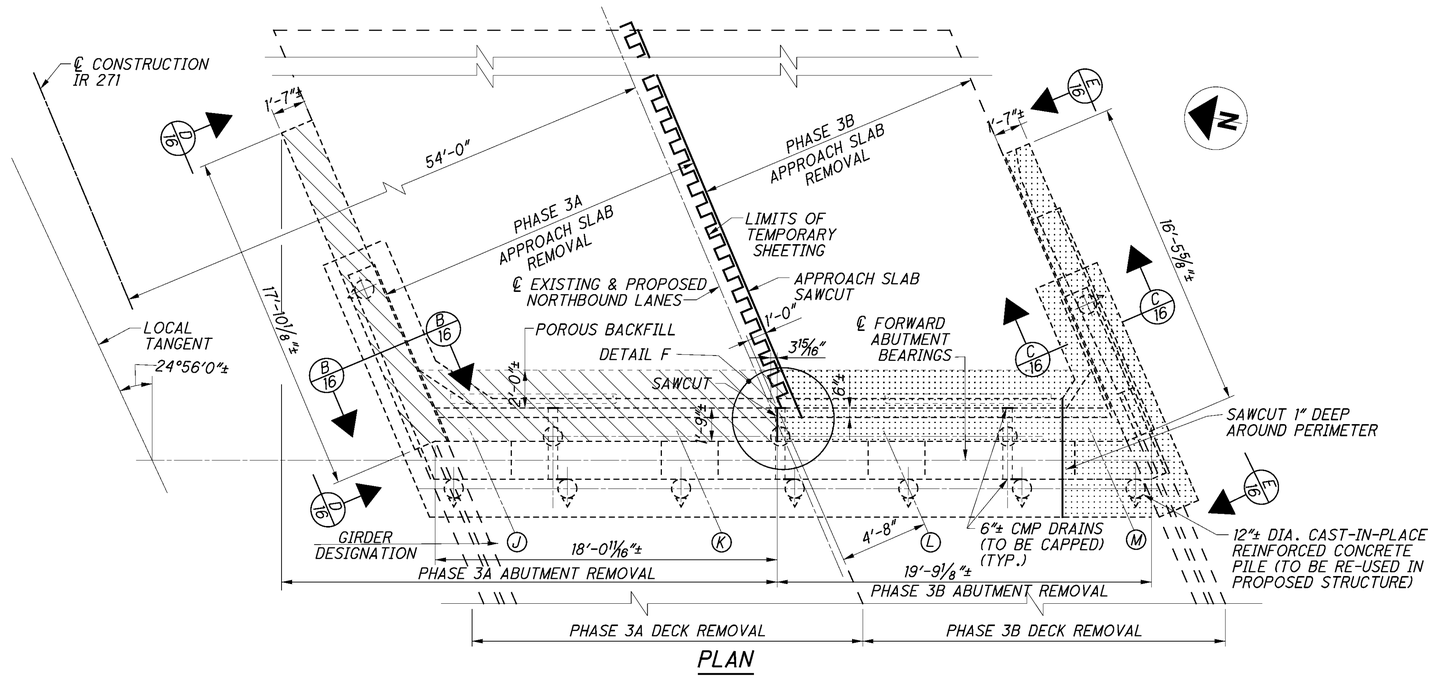
RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

DESIGNED	DRAWN	REVIEWED	DATE
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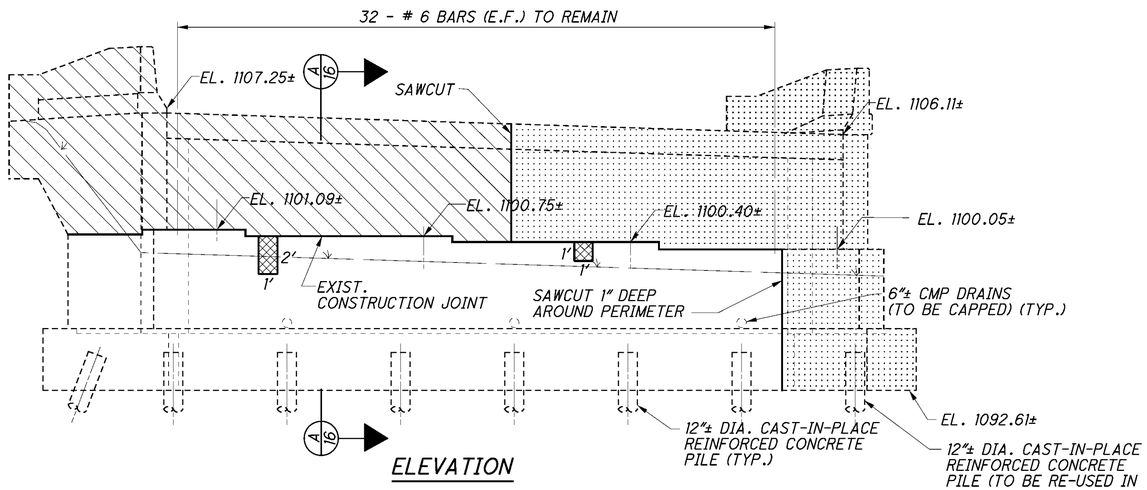
REAR ABUTMENT REMOVAL DETAILS - NO. 2
BRIDGE NO. SUM-271-0354 R
IR 271 OVER IR 77

SUM-271-2.33
PID No. 18710

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PLAN



ELEVATION

LEGEND

INDICATES MATERIALS TO BE REMOVED DURING PHASE 3A REMOVAL AND INCLUDED WITH ITEM 202 - PORTIONS OF STRUCTURE REMOVED, AS PER PLAN, FOR PAYMENT.

INDICATES MATERIALS TO BE REMOVED DURING PHASE 3B REMOVAL AND INCLUDED WITH ITEM 202 - PORTIONS OF STRUCTURE REMOVED, AS PER PLAN, FOR PAYMENT.

INDICATES ITEM 519 - PATCHING CONCRETE STRUCTURE, AS PER PLAN.

NOTES

MATERIALS SHOWN ARE EXISTING UNLESS OTHERWISE NOTED.

DETAIL F: SEE SHEET 16/106.

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

DESIGNED	DRAWN	REVIEWED	DATE
ALP	TWH	DAP	10/5/12
CHECKED	REVISED	STRUCTURE FILE NUMBER	
BLN		R7708890	

FORWARD ABUTMENT REMOVAL DETAILS - NORTHBOUND BRIDGE - 1

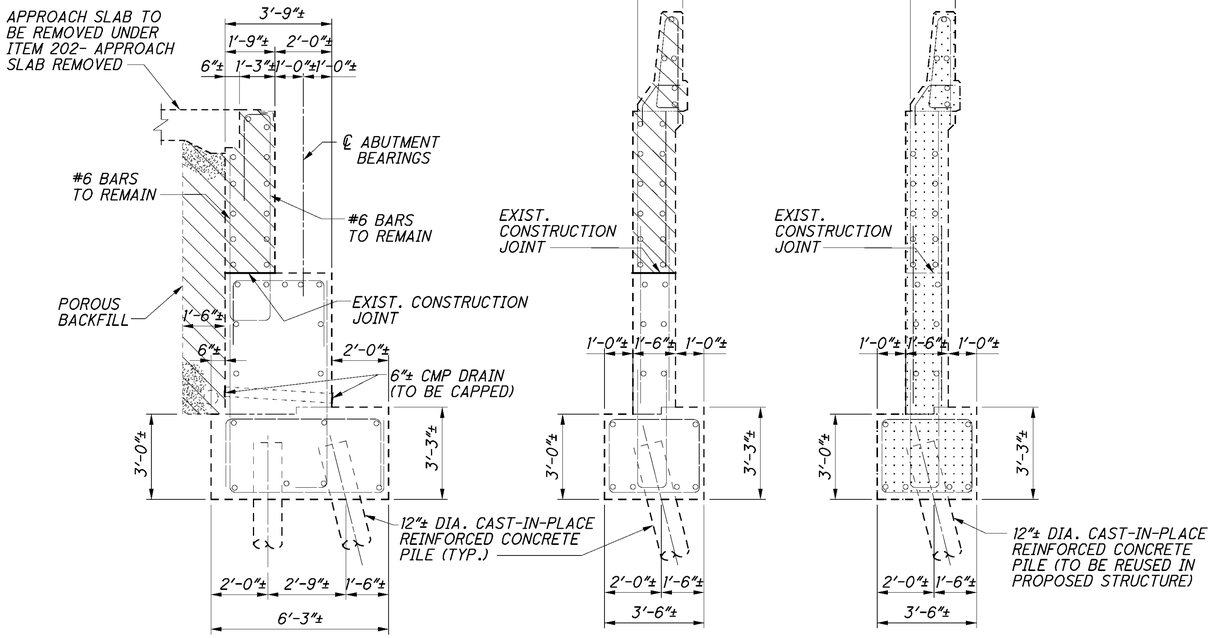
BRIDGE NO. SUM-271-0354 R
IR 271 OVER IR 77

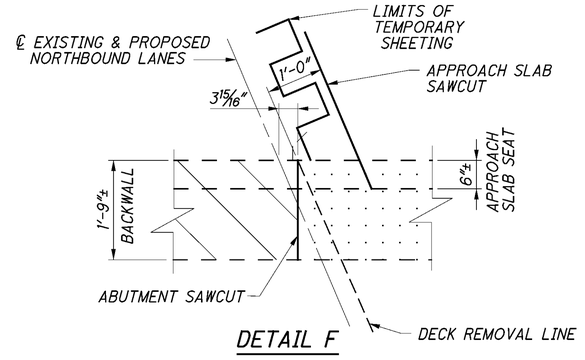
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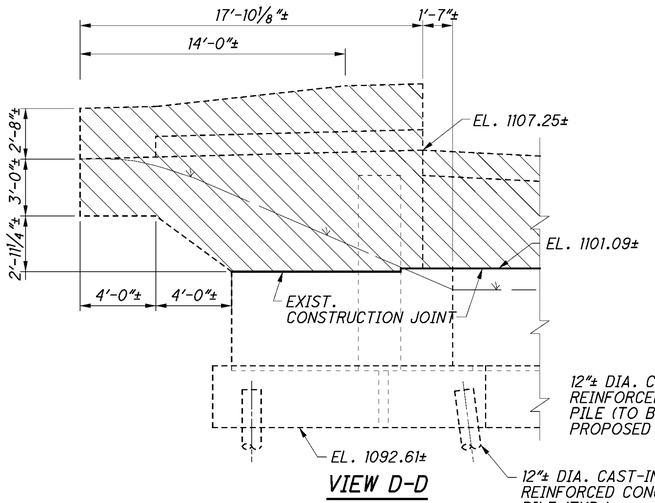
15/106

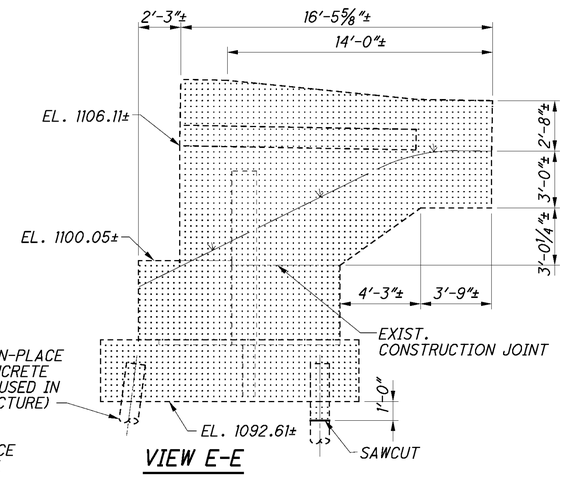
973/1195

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LEGEND

INDICATES MATERIALS TO BE REMOVED DURING PHASE 3A REMOVAL AND INCLUDED WITH ITEM 202 - PORTIONS OF STRUCTURE REMOVED, AS PER PLAN, FOR PAYMENT.

INDICATES MATERIALS TO BE REMOVED DURING PHASE 3B REMOVAL AND INCLUDED WITH ITEM 202 - PORTIONS OF STRUCTURE REMOVED, AS PER PLAN, FOR PAYMENT.

NOTES

MATERIALS SHOWN ARE EXISTING UNLESS OTHERWISE NOTED.

SECTIONS A-A, B-B & C-C: FOR LOCATIONS SEE SHEET 15/106.

VIEWS D-D & E-E: FOR LOCATIONS SEE SHEET 15/106.

DETAIL F: FOR LOCATION SEE SHEET 15/106.

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

DESIGNED	DRAWN	REVIEWED	DATE
ALP	TWH	DAP	10/5/12
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BLN		R7710890	

FORWARD ABUTMENT REMOVAL DETAILS - NORTHBOUND BRIDGE - 2

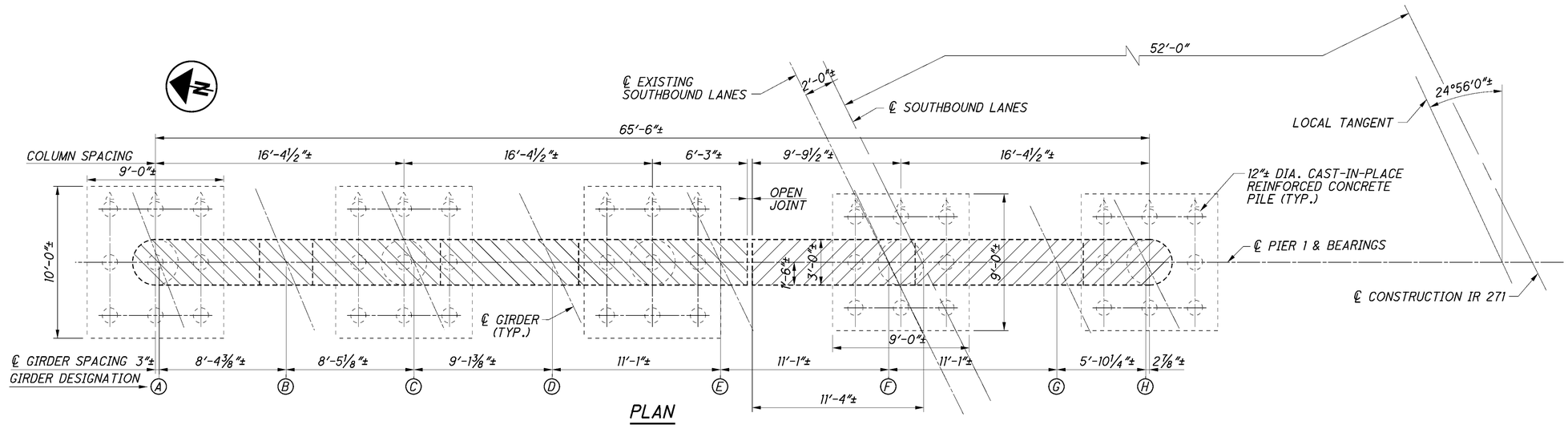
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SUM-271-2.33
PID No. 18710

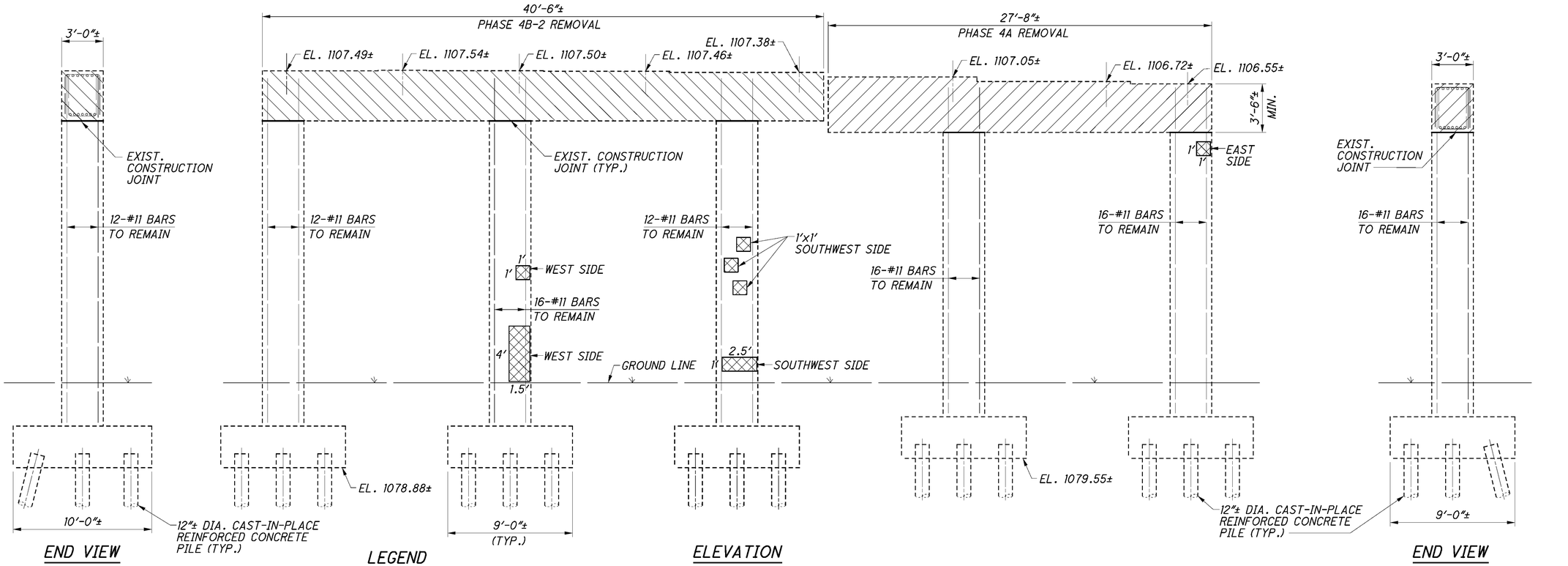
16/106

974
1195

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PLAN



END VIEW

ELEVATION

END VIEW

LEGEND

INDICATES MATERIALS TO BE REMOVED DURING PHASE 4A REMOVAL AND INCLUDED WITH ITEM 202 - PORTIONS OF STRUCTURE REMOVED, AS PER PLAN, FOR PAYMENT.

INDICATES MATERIALS TO BE REMOVED DURING PHASE 4B-2 REMOVAL AND INCLUDED WITH ITEM 202 - PORTIONS OF STRUCTURE REMOVED, AS PER PLAN, FOR PAYMENT.

INDICATES PORTIONS OF PIER TO BE PATCHED AND INCLUDED WITH ITEM 519 - PATCHING CONCRETE STRUCTURE, AS PER PLAN FOR PAYMENT. THE SOUNDING OF THE CONCRETE WAS PERFORMED ON AUGUST 24, 2012.

NOTES

MATERIALS SHOWN ARE EXISTING UNLESS OTHERWISE NOTED.

FOR PHASE CONSTRUCTION DETAILS, TEMPORARY SUPPORT LOCATIONS AND MAINTENANCE OF TRAFFIC DETAILS SEE SHEETS 54, 65, 72 AND 75.

ITEM 516 - JACKING AND TEMPORARY SUPPORT OF SUPERSTRUCTURE, AS PER PLAN: SEE SHEET 6/106.

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

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CHECKED	REVISED	STRUCTURE FILE NUMBER	
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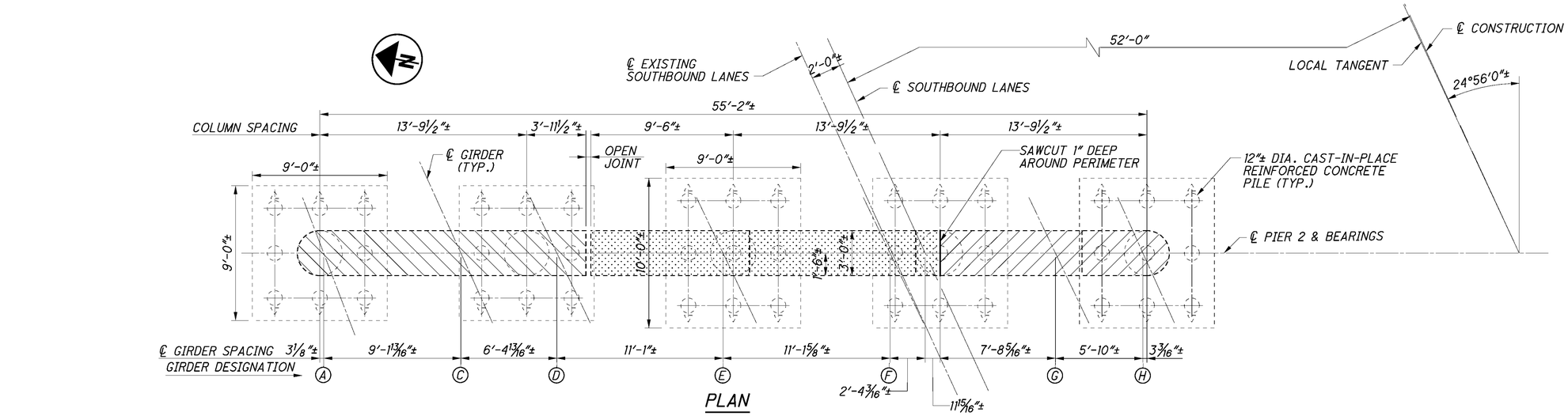
PIER 1 REMOVAL DETAILS - SOUTHBOUND BRIDGE
BRIDGE NO. SUM-271-0354 L
IR 271 OVER IR 77

SUM-271-2.33
PID No. 18710

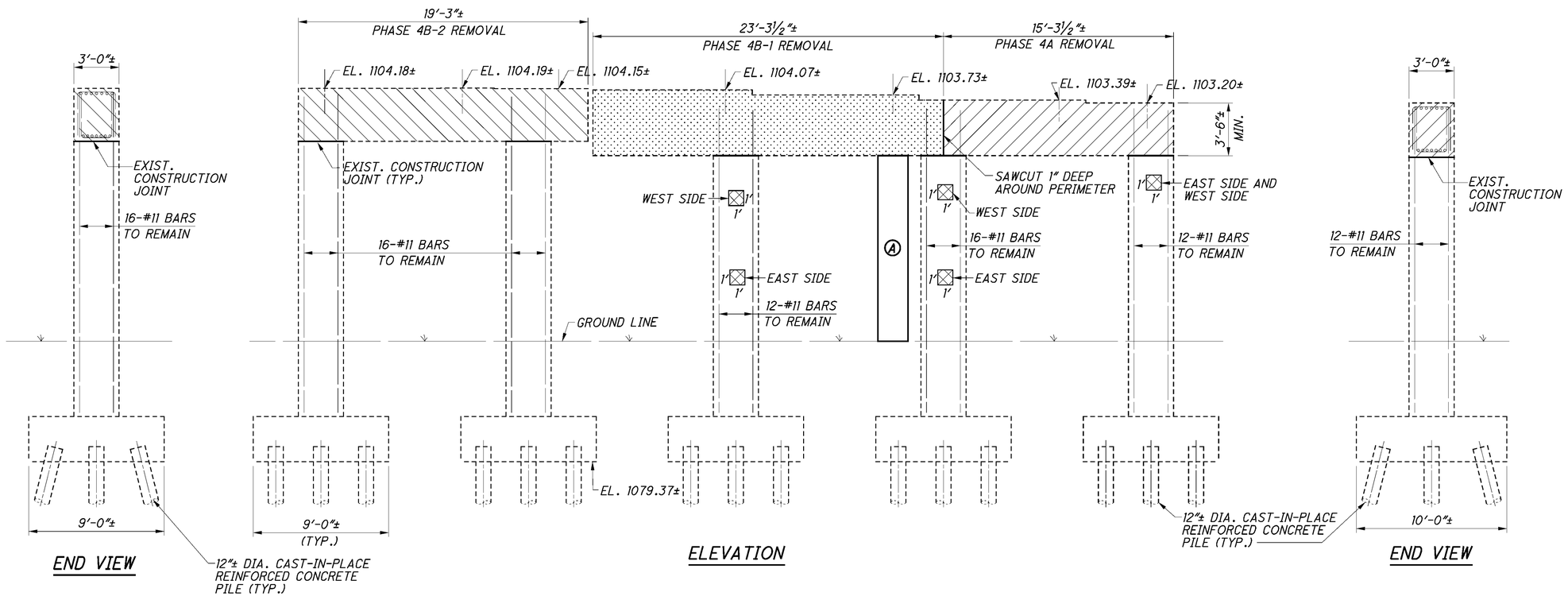
17/106

975
1195

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PLAN



END VIEW

ELEVATION

END VIEW

LEGEND

INDICATES MATERIALS TO BE REMOVED DURING PHASE 4A REMOVAL AND INCLUDED WITH ITEM 202 - PORTIONS OF STRUCTURE REMOVED, AS PER PLAN, FOR PAYMENT.

INDICATES MATERIALS TO BE REMOVED DURING PHASE 4B-2 REMOVAL AND INCLUDED WITH ITEM 202 - PORTIONS OF STRUCTURE REMOVED, AS PER PLAN, FOR PAYMENT.

INDICATES MATERIALS TO BE REMOVED DURING PHASE 4B-1 REMOVAL AND INCLUDED WITH ITEM 202 - PORTIONS OF STRUCTURE REMOVED, AS PER PLAN, FOR PAYMENT.

INDICATES PORTIONS OF PIER TO BE PATCHED AND INCLUDED WITH ITEM 519 - PATCHING CONCRETE STRUCTURE, AS PER PLAN FOR PAYMENT. THE SOUNDING OF THE CONCRETE WAS PERFORMED ON AUGUST 24, 2012.

Ⓐ TEMPORARY SUPPORT DURING PHASE 4A CONSTRUCTION

NOTES

MATERIALS SHOWN ARE EXISTING UNLESS OTHERWISE NOTED.

FOR PHASE CONSTRUCTION DETAILS, TEMPORARY SUPPORT LOCATIONS AND MAINTENANCE OF TRAFFIC DETAILS SEE SHEETS 54, 66, 73 AND 76.

ITEM 516 - JACKING AND TEMPORARY SUPPORT OF SUPERSTRUCTURE, AS PER PLAN: SEE SHEET 6/106.

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

DESIGNED	DRAWN	REVIEWED	DATE
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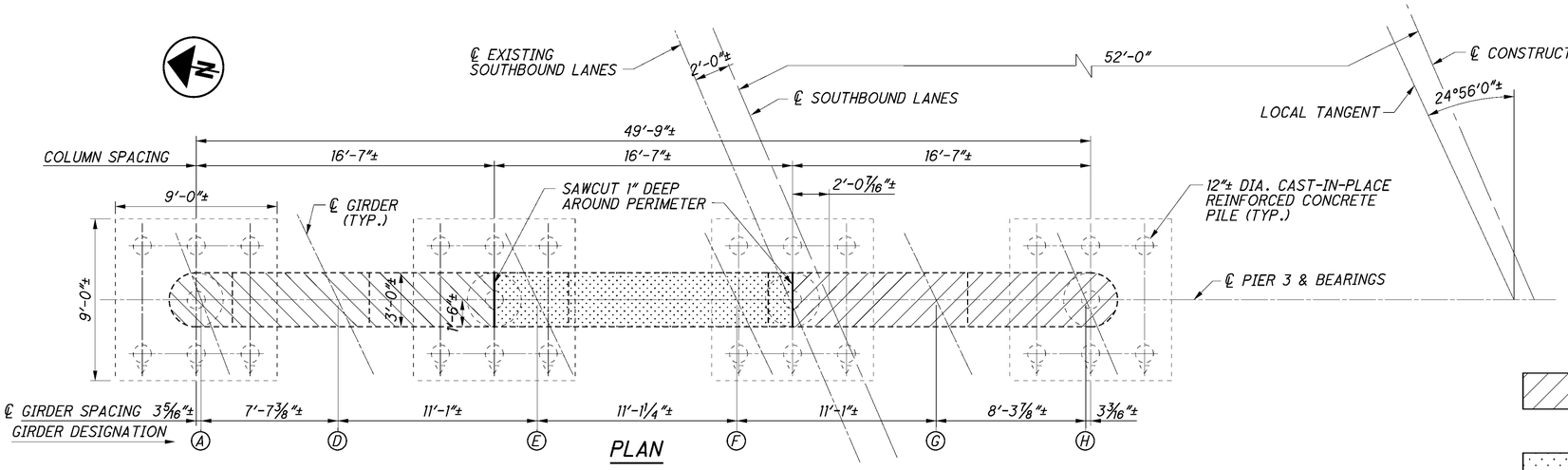
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BRIDGE NO. SUM-271-0354 L
IR 271 OVER IR 77

SUM-271-2.33
PID No. 18710

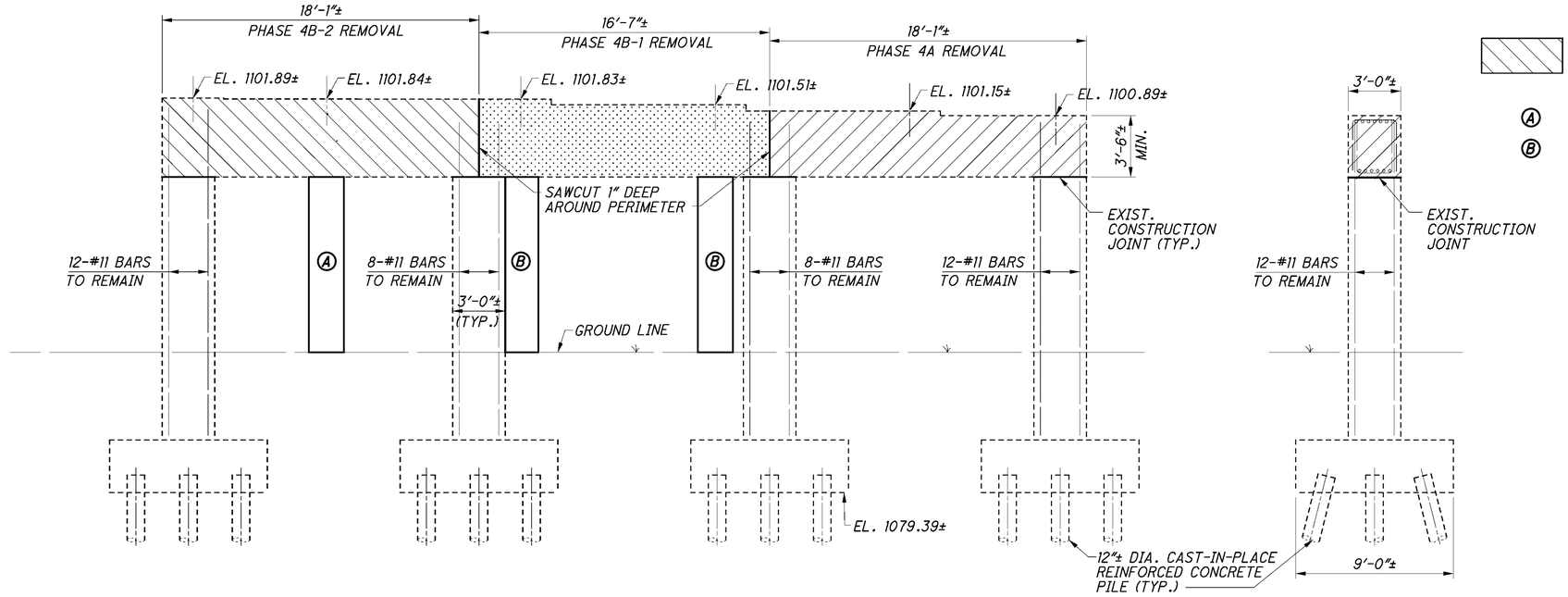
18/106

976
1195

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PLAN



ELEVATION

END VIEW

LEGEND

- INDICATES MATERIALS TO BE REMOVED DURING PHASE 4A REMOVAL AND INCLUDED WITH ITEM 202 - PORTIONS OF STRUCTURE REMOVED, AS PER PLAN, FOR PAYMENT.
- INDICATES MATERIALS TO BE REMOVED DURING PHASE 4B-1 REMOVAL AND INCLUDED WITH ITEM 202 - PORTIONS OF STRUCTURE REMOVED, AS PER PLAN, FOR PAYMENT.
- INDICATES MATERIALS TO BE REMOVED DURING PHASE 4B-2 REMOVAL AND INCLUDED WITH ITEM 202 - PORTIONS OF STRUCTURE REMOVED, AS PER PLAN, FOR PAYMENT.
- (A) TEMPORARY SUPPORT DURING PHASE 4B-1 CONSTRUCTION
- (B) TEMPORARY SUPPORT DURING PHASE 4A CONSTRUCTION

NOTES

MATERIALS SHOWN ARE EXISTING UNLESS OTHERWISE NOTED.

FOR PHASE CONSTRUCTION DETAILS, TEMPORARY SUPPORT LOCATIONS AND MAINTENANCE OF TRAFFIC DETAILS SEE SHEETS 54, 67, 74 AND 77.

ITEM 516 - JACKING AND TEMPORARY SUPPORT OF SUPERSTRUCTURE, AS PER PLAN: SEE SHEET 6/106.

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

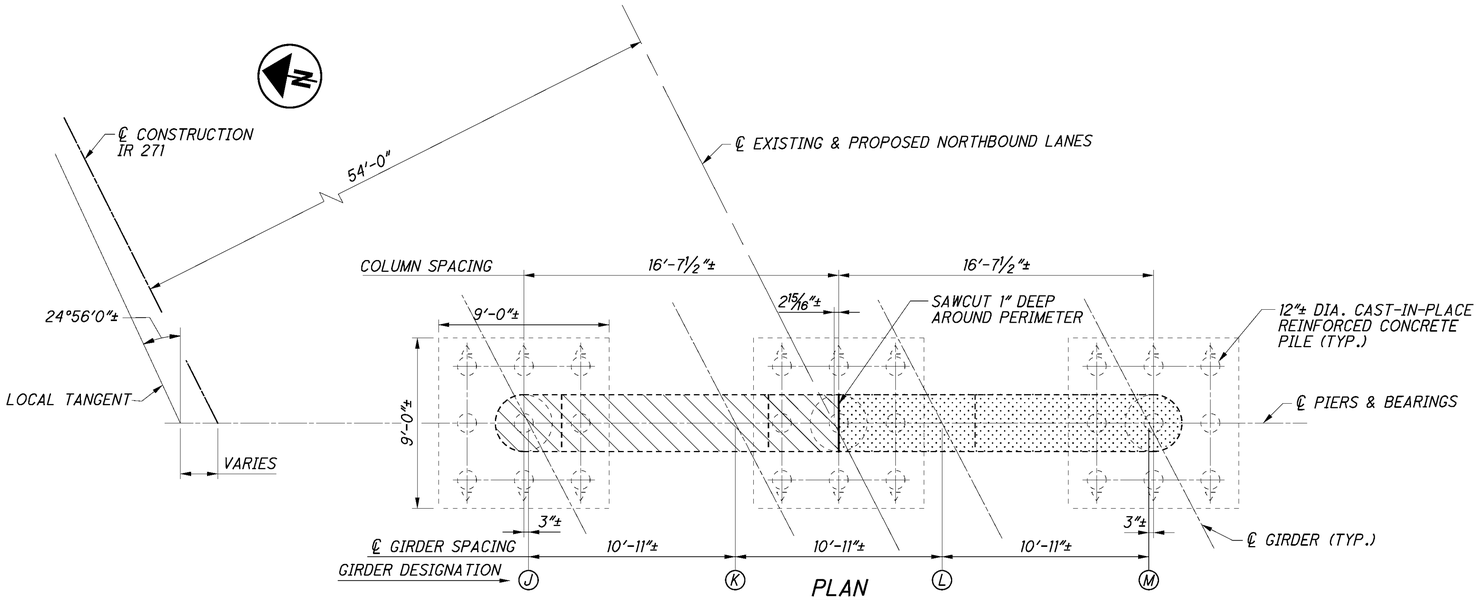
DESIGNED ALP | DRAWN TWH | REVIEWED DAP | DATE 10/5/12
CHECKED BLN | REVISED | STRUCTURE FILE NUMBER L7708815

PIER 3 REMOVAL DETAILS - SOUTHBOUND BRIDGE

BRIDGE NO. SUM-271-0354 L
IR 271 OVER IR 77

SUM-271-2.33
PID No. 18710

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LEGEND

INDICATES MATERIALS TO BE REMOVED DURING PHASE 3A REMOVAL AND INCLUDED WITH ITEM 202 - PORTIONS OF STRUCTURE REMOVED, AS PER PLAN, FOR PAYMENT.

INDICATES MATERIALS TO BE REMOVED DURING PHASE 3B REMOVAL AND INCLUDED WITH ITEM 202 - PORTIONS OF STRUCTURE REMOVED, AS PER PLAN, FOR PAYMENT.

INDICATES PORTIONS OF PIERS TO BE PATCHED AND INCLUDED WITH ITEM 519 - PATCHING CONCRETE STRUCTURE, AS PER PLAN FOR PAYMENT. THE SOUNDING OF THE CONCRETE WAS PERFORMED ON AUGUST 24, 2012.

(A) TEMPORARY SUPPORT DURING PHASE 3A CONSTRUCTION.

NOTES

MATERIALS SHOWN ARE EXISTING UNLESS OTHERWISE NOTED.

FOR PHASE CONSTRUCTION DETAILS, TEMPORARY SUPPORT LOCATIONS AND MAINTENANCE OF TRAFFIC DETAILS SEE SHEETS 55, 60 AND 64.

ITEM 516 - JACKING AND TEMPORARY SUPPORT OF SUPERSTRUCTURE, AS PER PLAN: SEE SHEET 6/106.

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

DESIGNED ALP | DRAWN TWH | REVIEWED DAP | DATE 10/5/12
CHECKED BLN | REVISED | STRUCTURE FILE NUMBER R7708890

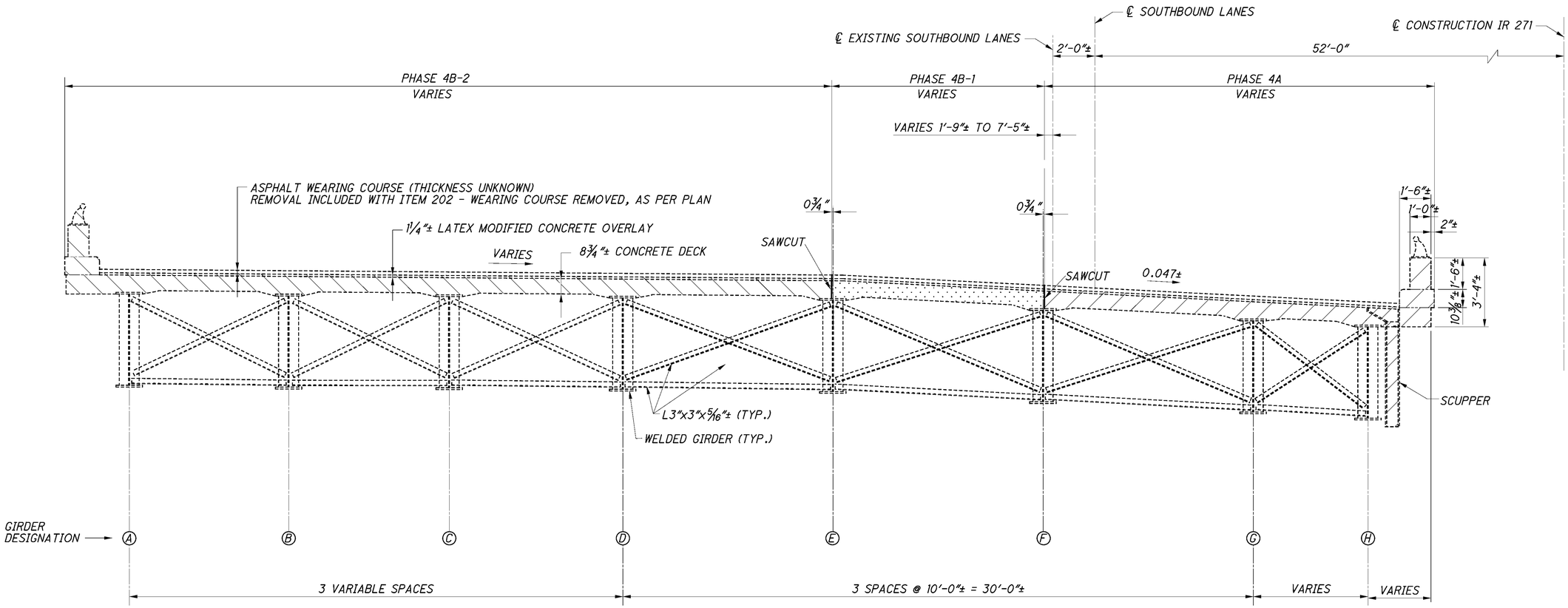
PIER REMOVAL DETAILS - NORTHBOUND BRIDGE
BRIDGE NO. SUM-271-0354 R
IR 271 OVER IR 77

SUM-271-2.33
PID No. 18710

20/106

978
1195

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SUM-271-0354L
TRANSVERSE SECTION

(SPAN 1 SHOWN)
(SPANS 2, 3 AND 4 SIMILAR)

LEGEND

INDICATES MATERIALS TO BE REMOVED DURING PHASE 4A REMOVAL AND INCLUDED WITH ITEM 202 - PORTIONS OF STRUCTURE REMOVED, AS PER PLAN, FOR PAYMENT.

INDICATES MATERIALS TO BE REMOVED DURING PHASE 4B-1 REMOVAL AND INCLUDED WITH ITEM 202 - PORTIONS OF STRUCTURE REMOVED, AS PER PLAN, FOR PAYMENT.

INDICATES MATERIALS TO BE REMOVED DURING PHASE 4B-2 REMOVAL AND INCLUDED WITH ITEM 202 - PORTIONS OF STRUCTURE REMOVED, AS PER PLAN, FOR PAYMENT.

NOTES

MATERIALS SHOWN ARE EXISTING UNLESS OTHERWISE NOTED.

FOR PHASE CONSTRUCTION DETAILS, TEMPORARY SUPPORT LOCATIONS AND MAINTENANCE OF TRAFFIC DETAILS SEE SHEETS 54, 65-67 AND 72-77.

ITEM 516 - JACKING AND TEMPORARY SUPPORT OF SUPERSTRUCTURE, AS PER PLAN: SEE SHEET 6/106.

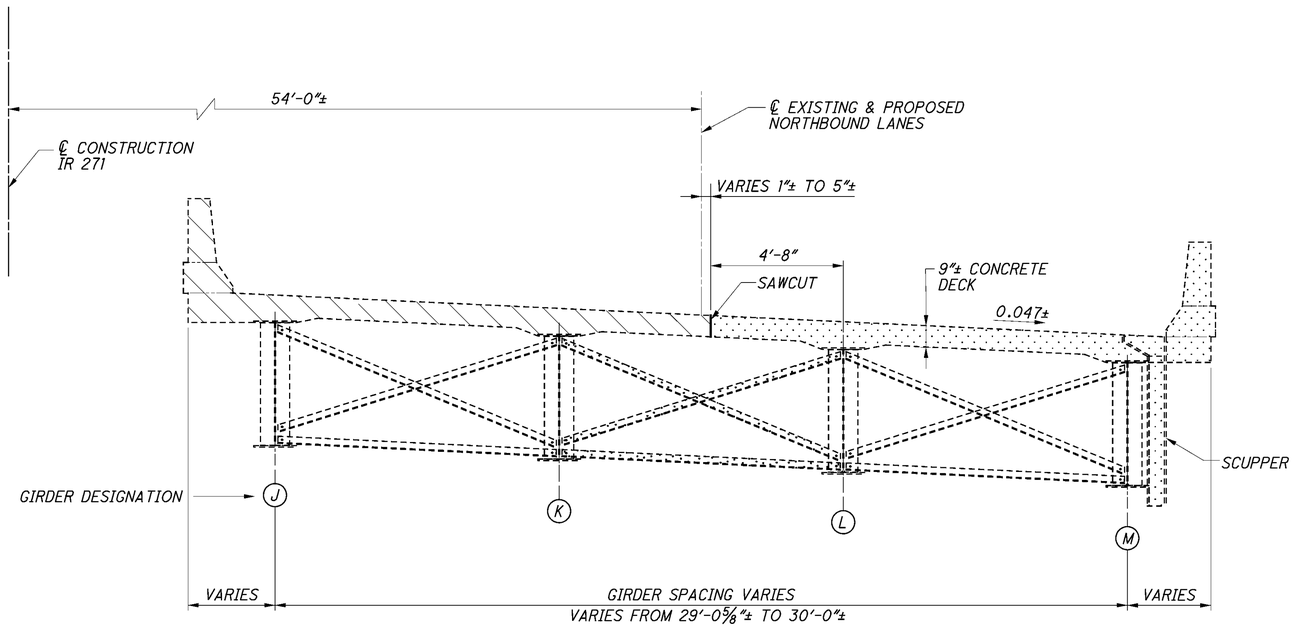
RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

REVIEWED DAP DATE 10/5/12
STRUCTURE FILE NUMBER L7708815
DRAWN TWH REVISED
DESIGNED ALP CHECKED BLN

SUPERSTRUCTURE REMOVAL DETAILS - SOUTHBOUND BRIDGE
BRIDGE NO. SUM-271-0354 L
IR 271 OVER IR 77

SUM-271-2.33
PID No. 18710

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TRANSVERSE SECTION

LEGEND

INDICATES MATERIALS TO BE REMOVED DURING PHASE 3A REMOVAL AND INCLUDED WITH ITEM 202 - PORTIONS OF STRUCTURE REMOVED, AS PER PLAN, FOR PAYMENT.

INDICATES MATERIALS TO BE REMOVED DURING PHASE 3B REMOVAL AND INCLUDED WITH ITEM 202 - PORTIONS OF STRUCTURE REMOVED, AS PER PLAN, FOR PAYMENT.

NOTES

MATERIALS SHOWN ARE EXISTING UNLESS OTHERWISE NOTED.

FOR PHASE CONSTRUCTION DETAILS, TEMPORARY SUPPORT LOCATIONS AND MAINTENANCE OF TRAFFIC DETAILS SEE SHEETS 55, 60 AND 64

ITEM 516 - JACKING AND TEMPORARY SUPPORT OF SUPERSTRUCTURE, AS PER PLAN: SEE SHEET 6/106.

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

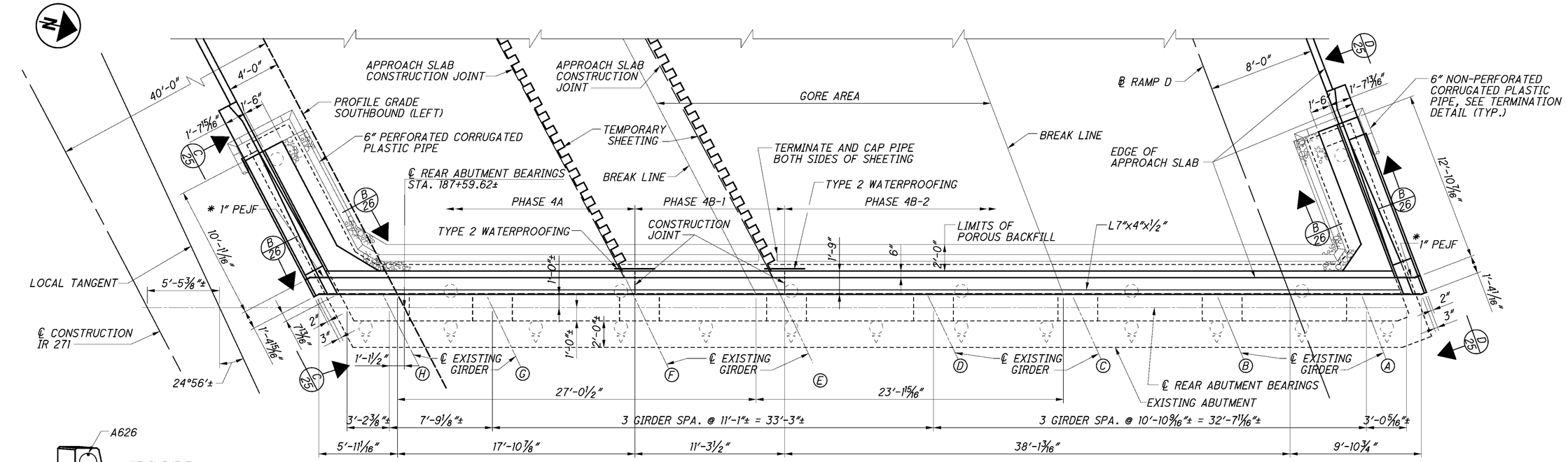
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ALP	TWH	DAP	10/5/12
CHECKED	REVISED	STRUCTURE FILE NUMBER	
BLN		R7708890	

SUPERSTRUCTURE REMOVAL DETAILS - NORTHBOUND BRIDGE

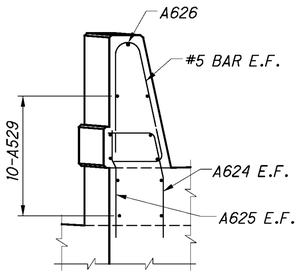
BRIDGE NO. SUM-271-0354 R
IR 271 OVER IR 77

SUM-271-2.33
PID No. 18710

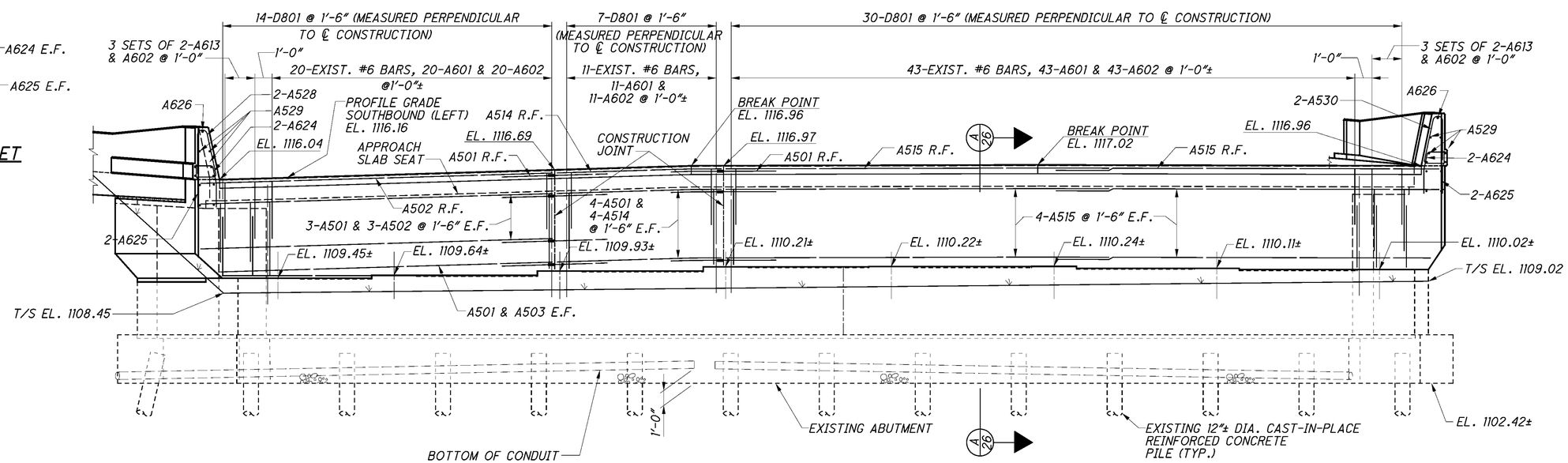
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PLAN



TYPICAL PARAPET DETAIL



ELEVATION

LEGEND

- INDICATES EXISTING 12"± DIA. CAST-IN-PLACE REINFORCED CONCRETE PILES.
- INDICATES EXISTING 12"± DIA. CAST-IN-PLACE REINFORCED CONCRETE PILES BATTERED 1:4± IN THE DIRECTION SHOWN.
- * INCLUDED WITH APPROACH SLAB FOR PAYMENT

NOTES

MATERIALS SHOWN ARE NEW UNLESS OTHERWISE NOTED.

PIPE TERMINATION DETAILS: SEE SHEET 26/106.

NOTATION: PEJF - PREFORMED EXPANSION JOINT FILLER.

ADDITIONAL NOTES: SEE SHEET 27/106.

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

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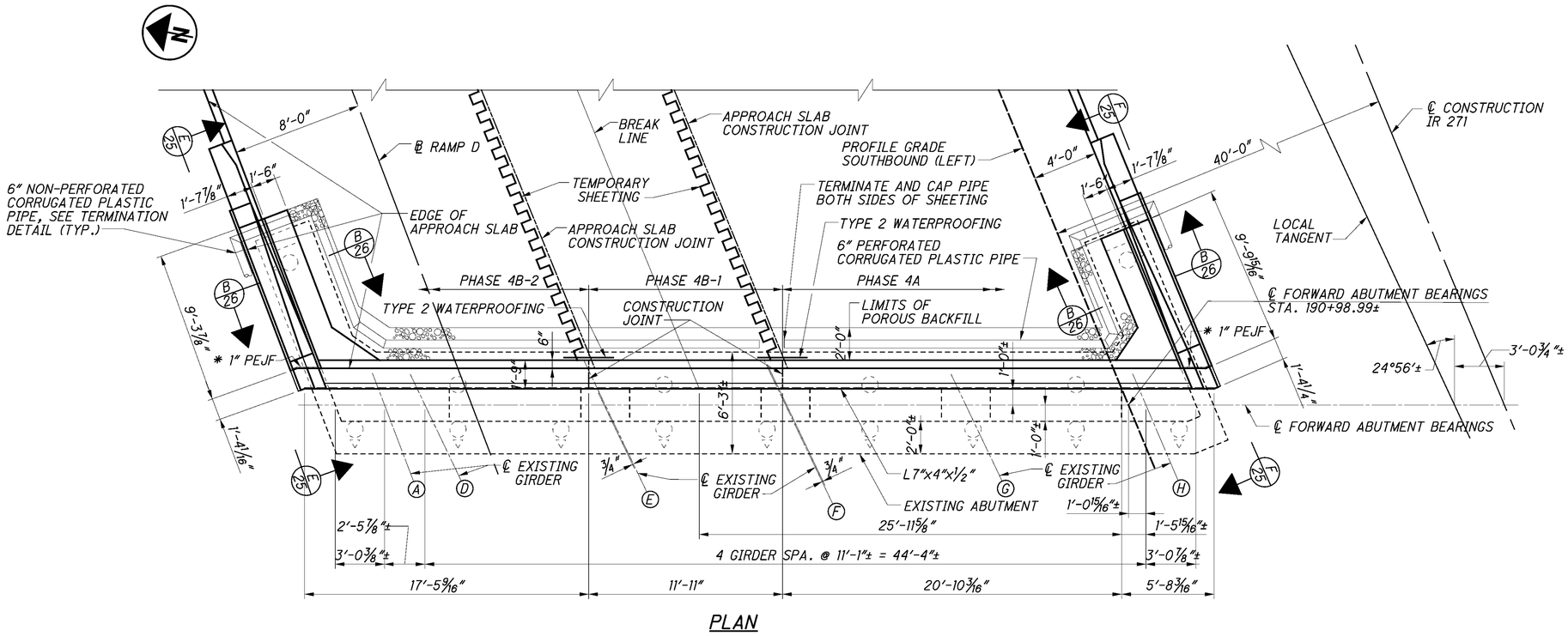
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BRIDGE NO. SUM-271-0354 L
IR 271 OVER IR 77

SUM-271-2.33
PID No. 18710

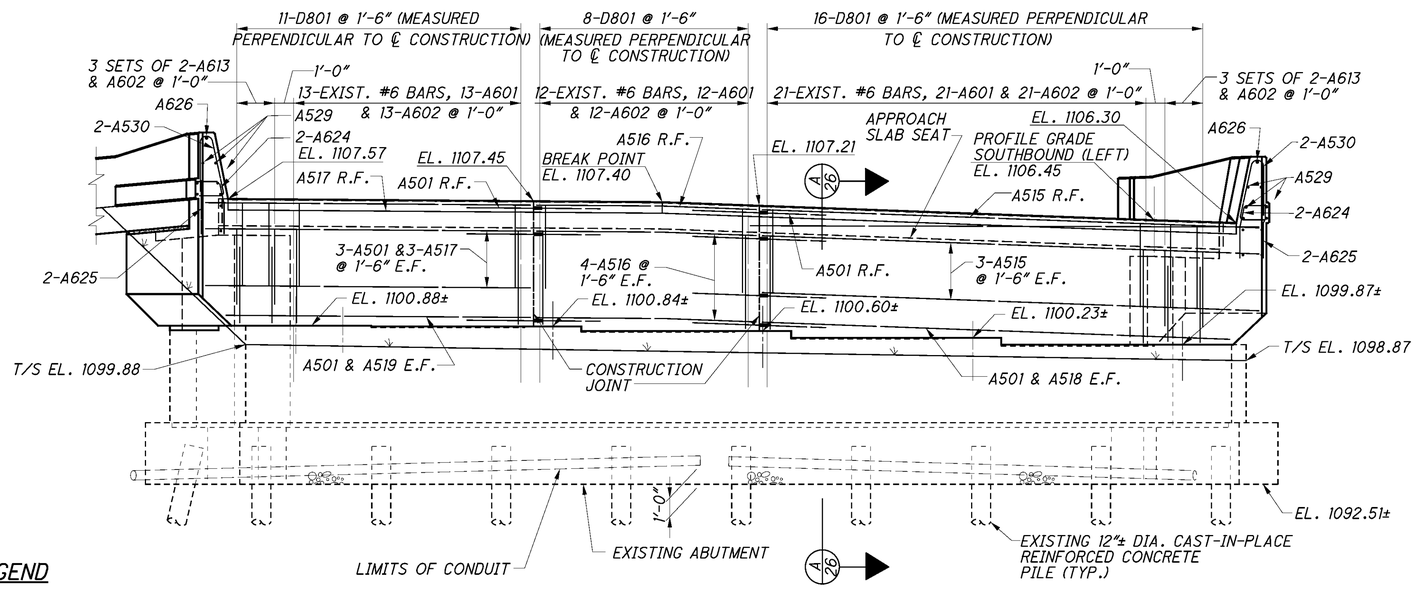
23/106

981/1195

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PLAN



ELEVATION

LEGEND

- INDICATES EXISTING 12"± DIA. CAST-IN-PLACE REINFORCED CONCRETE PILES.
- INDICATES EXISTING 12"± DIA. CAST-IN-PLACE REINFORCED CONCRETE PILES BATTERED 1:4± IN THE DIRECTION SHOWN.
- * INCLUDED WITH APPROACH SLAB FOR PAYMENT.

NOTES

MATERIALS SHOWN ARE NEW UNLESS OTHERWISE NOTED.

NOTATION: PEJF - PREFORMED EXPANSION JOINT FILLER.

PIPE TERMINATION DETAILS: SEE SHEET 26/106.

TYPICAL PARAPET DETAIL: SEE SHEET 23/106.

ADDITIONAL NOTES: SEE SHEET 27/106.

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

DESIGNED	DRAWN	REVIEWED	DATE
ALP	TWH	DAP	10/5/12
CHECKED	REVISED	STRUCTURE FILE NUMBER	
BLN		L7708815	

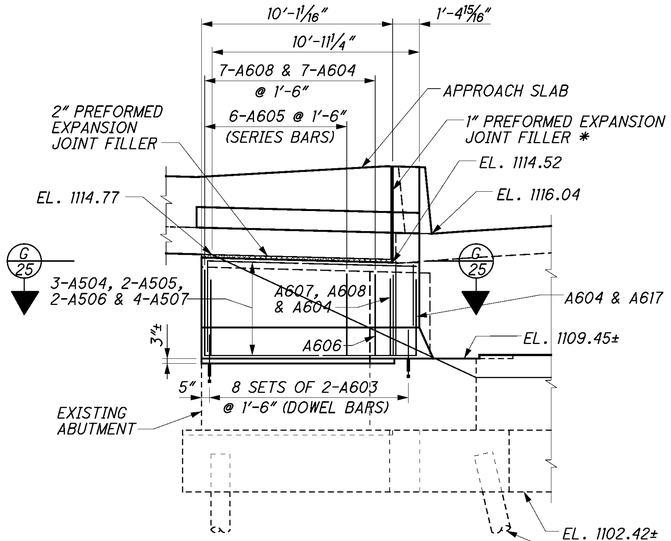
FORWARD ABUTMENT - SOUTHBOUND
BRIDGE NO. SUM-271-0354 L
IR 271 OVER IR 77

SUM-271-2.33
PID No. 18710

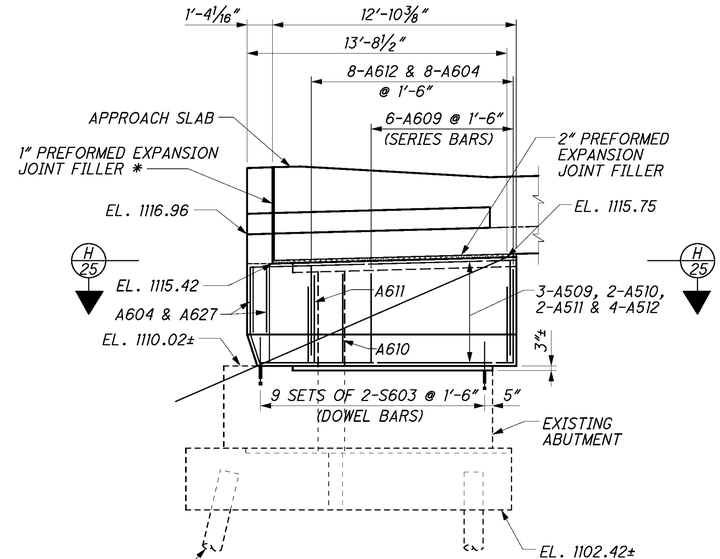
24/106

982/1195

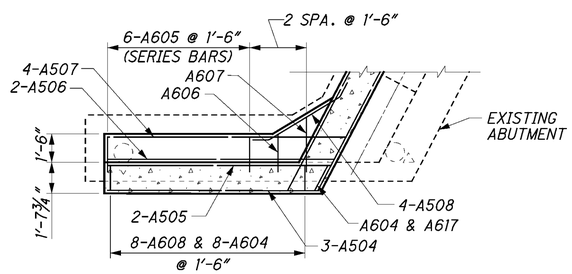
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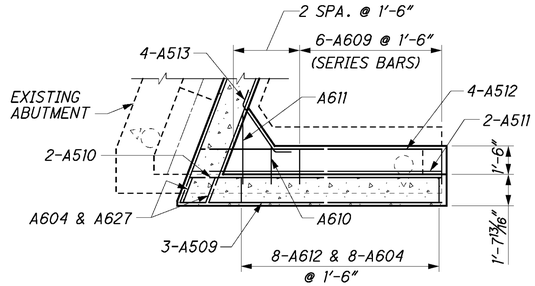
VIEW C-C



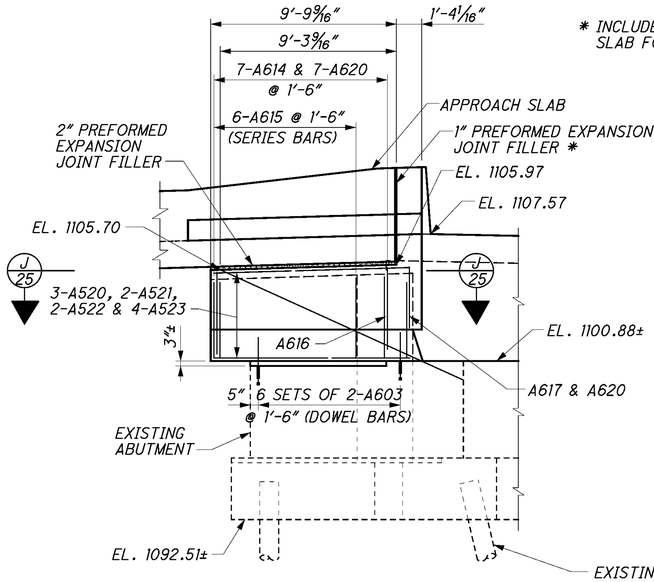
VIEW D-D



SECTION G-G

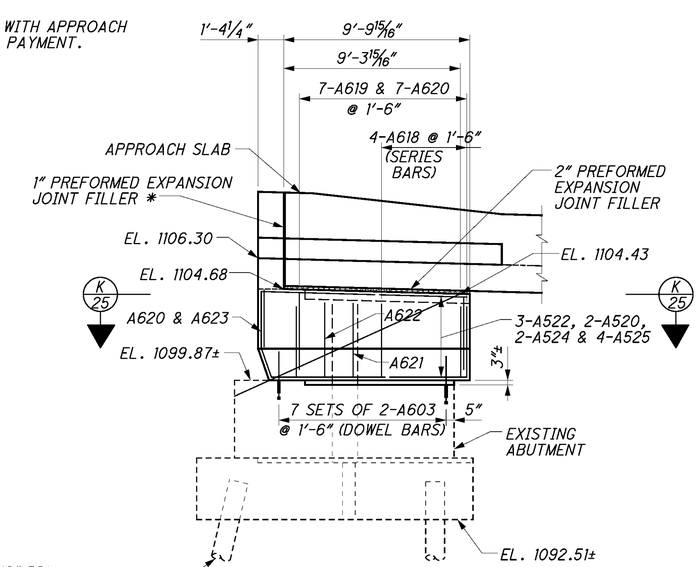


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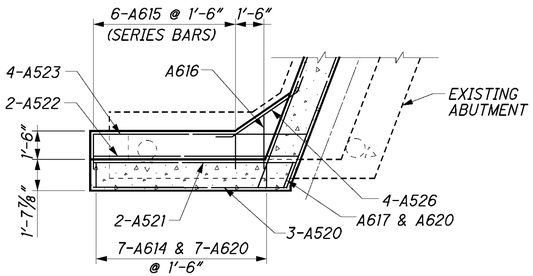


VIEW E-E

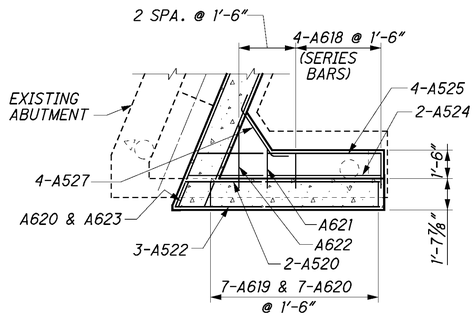
* INCLUDED WITH APPROACH SLAB FOR PAYMENT.



VIEW F-F



SECTION J-J



SECTION K-K

LEGEND

* INCLUDED WITH APPROACH SLAB FOR PAYMENT.

NOTES

MATERIALS: SHOWN ARE NEW UNLESS OTHERWISE NOTED.

VIEWS C-C & D-D: FOR LOCATIONS SEE SHEET 23/106.

VIEWS E-E & F-F: FOR LOCATIONS SEE SHEET 24/106.

ADDITIONAL NOTES: SEE SHEET 27/106.

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

DESIGNED ALP | DRAWN TWH | REVIEWED DAP | DATE 10/5/12
CHECKED BLN | REVISED | STRUCTURE FILE NUMBER L7708815

ABUTMENT DETAILS - SOUTHBOUND BRIDGE - 1

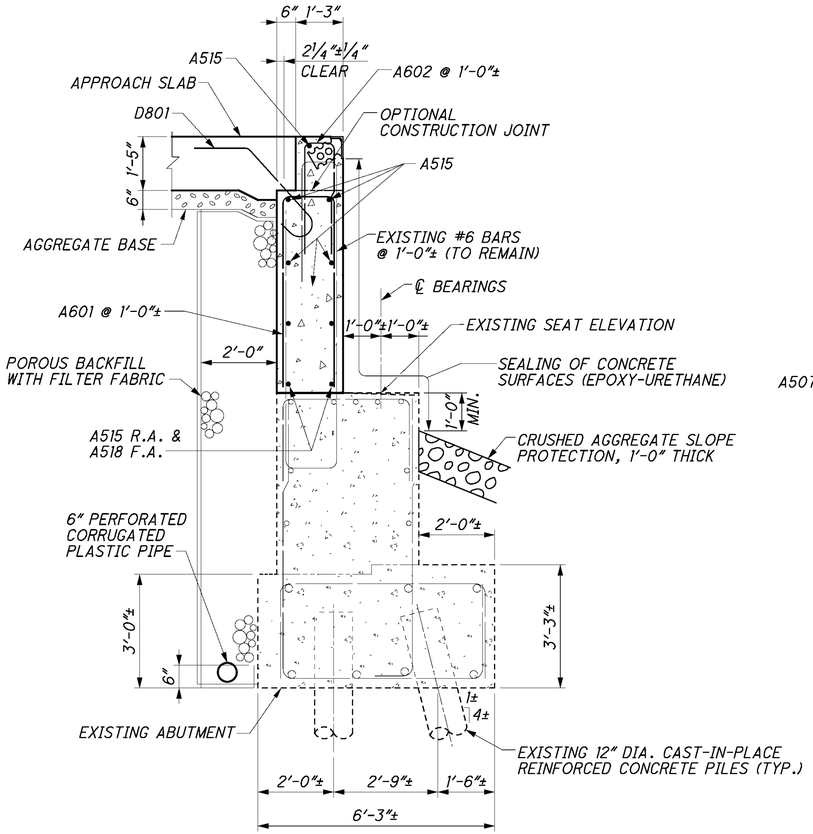
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PID No. 18710

BRIDGE NO. SUM-271-0354 L
IR 271 OVER IR 77

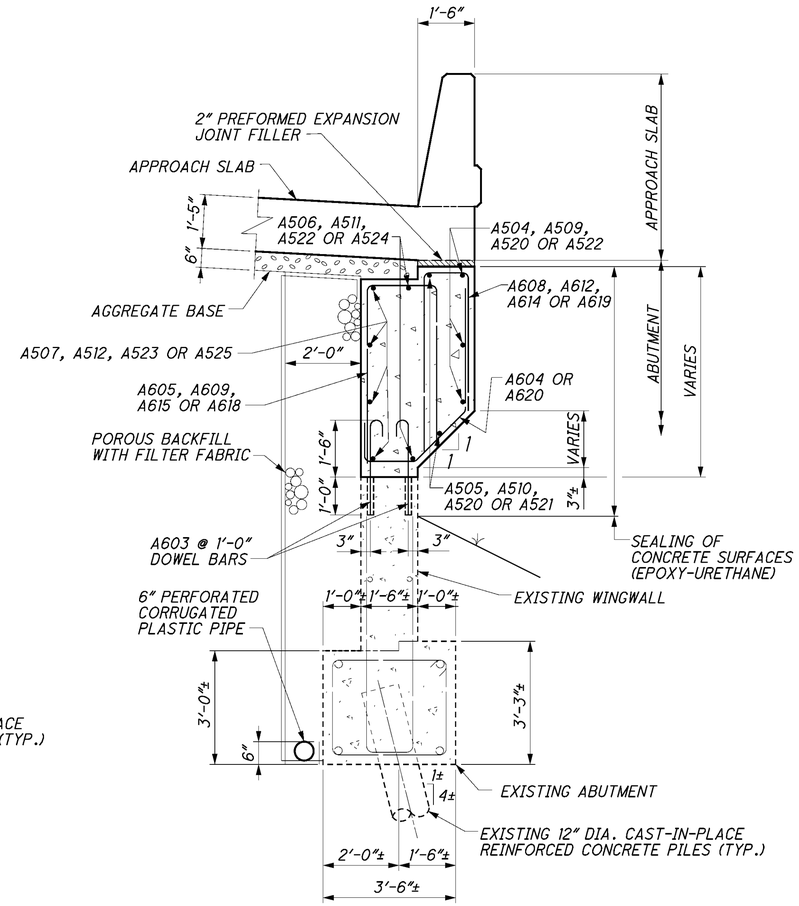
25/106

983
1195

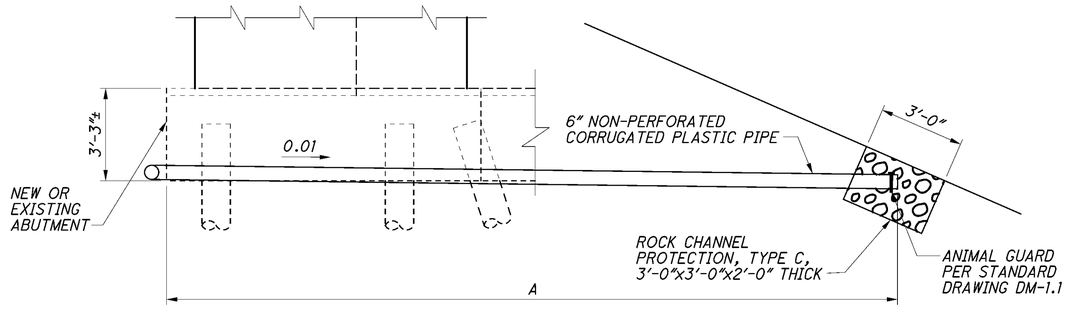
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SECTION A-A



SECTION B-B



TERMINATION OF 6" NON-PERFORATED CORRUGATED PLASTIC PIPE

DIMENSION A			
REAR ABUTMENT		FORWARD ABUTMENT	
NORTH	SOUTH	NORTH	SOUTH
34'-0"	34'-0"	29'-0"	34'-0"

NOTES

MATERIALS: SHOWN ARE NEW UNLESS OTHERWISE NOTED.

SECTION A-A & B-B: FOR LOCATIONS SEE SHEETS 23/106 & 24/106.

ADDITIONAL NOTES: SEE SHEET 27/106.

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

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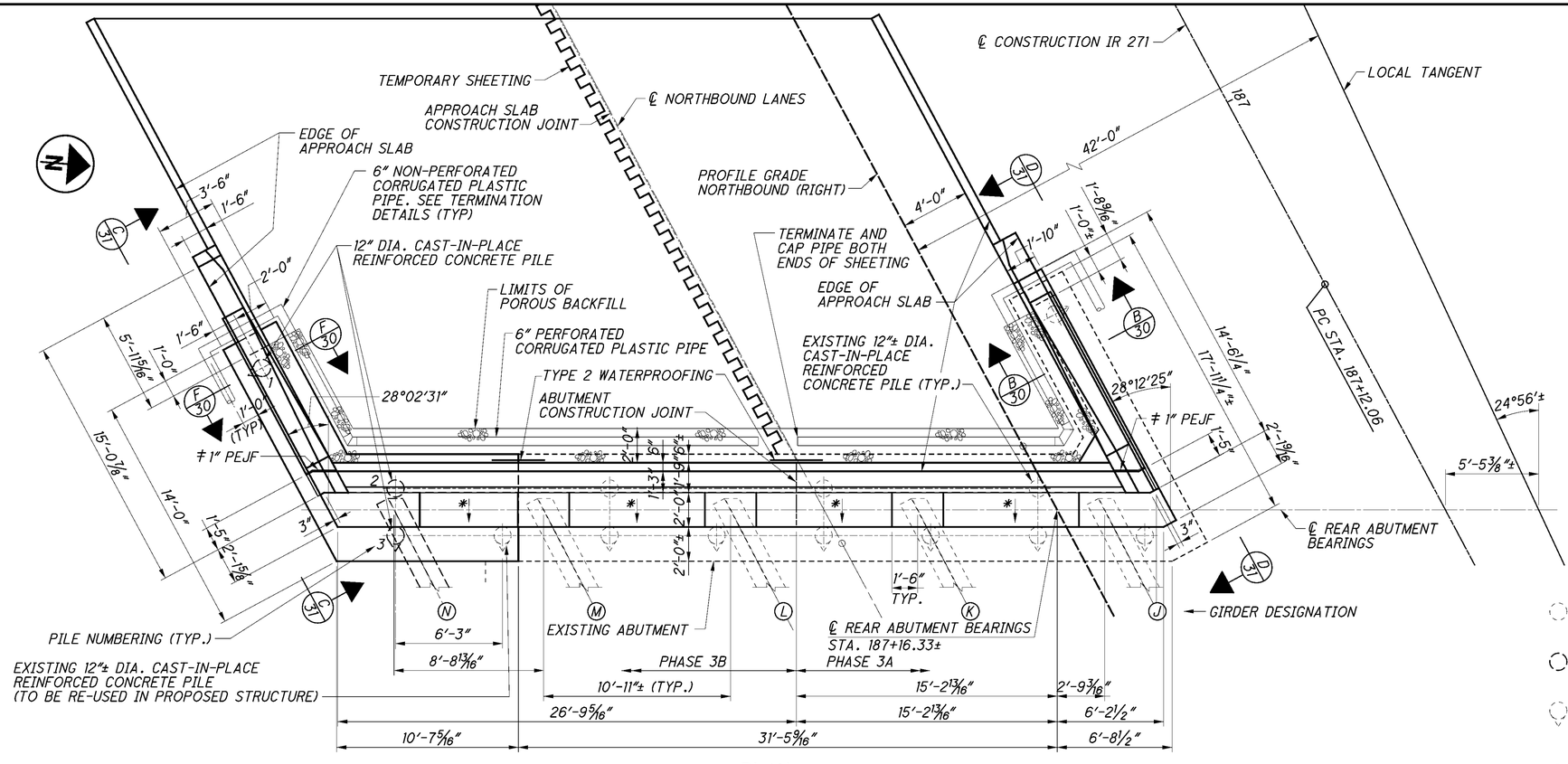
ABUTMENT DETAILS - SOUTHBOUND BRIDGE - 2
BRIDGE NO. SUM-271-0354 L
IR 271 OVER IR 77

SUM-271-2.33
PID No. 18710

26/106

984
1195

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LEGEND

- INDICATES EXISTING 12"± DIA. CAST-IN-PLACE REINFORCED CONCRETE PILES.
- INDICATES PROPOSED 12" DIA. CAST-IN-PLACE REINFORCED CONCRETE PILES.
- INDICATES EXISTING 12"± DIA. CAST-IN-PLACE REINFORCED CONCRETE PILES BATTERED 1:4± IN THE DIRECTION SHOWN.
- INDICATES PROPOSED 12" DIA. CAST-IN-PLACE REINFORCED CONCRETE PILES BATTERED 1:4 IN THE DIRECTION SHOWN.
- * ¾" SLOPE BETWEEN BEAM SEATS.
- ** ELEVATIONS GIVEN AT ℄ REAR ABUTMENT BEARINGS.
- ≠ INCLUDED WITH APPROACH SLAB FOR PAYMENT.

NOTES

MATERIALS SHOWN ARE NEW UNLESS OTHERWISE NOTED.

REINFORCING STEEL SPLICE LENGTHS SHALL BE 2'-6" FOR VERTICAL #5 BARS, 3'-6" FOR HORIZONTAL #5 BARS, 3'-10' FOR VERTICAL #6 BARS AND 4'-5" FOR HORIZONTAL #6 BARS.

POROUS BACKFILL WITH FILTER FABRIC 2 FEET THICK SHALL EXTEND UP TO THE PLANE OF THE SUBGRADE TO 1 FOOT BELOW THE EMBANKMENT SURFACE, AND LATERALLY TO THE ENDS OF THE WINGWALLS.

TYPE 2 WATERPROOFING IS TO BE 3'-0" WIDE, CENTERED ON THE CONSTRUCTION JOINT AND SEALED FROM THE TOP OF THE FOOTING TO THE HORIZONTAL JOINT BETWEEN EXISTING AND PROPOSED CONCRETE. TYPE 2 WATERPROOFING IS TO BE 3'-0" WIDE, CENTERED ON THE CONSTRUCTION JOINT AND SEALED FROM THE HORIZONTAL JOINT BETWEEN THE EXISTING AND PROPOSED CONCRETE TO THE APPROACH SLAB SEAT FOR THE PHASE CONSTRUCTION JOINT.

PIPE TERMINATION DETAILS: SEE SHEET 30/106.

TYPICAL PARAPET DETAIL: SEE SHEET 23/106.

REAR ABUTMENT FOOTING DETAIL: SEE SHEET 29/106.

NOTATION: R.F. - REAR FACE
F.F. - FRONT FACE
E.F. - EACH FACE
PEJF - PREFORMED EXPANSION JOINT FILLER

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

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BLN		R7708890	

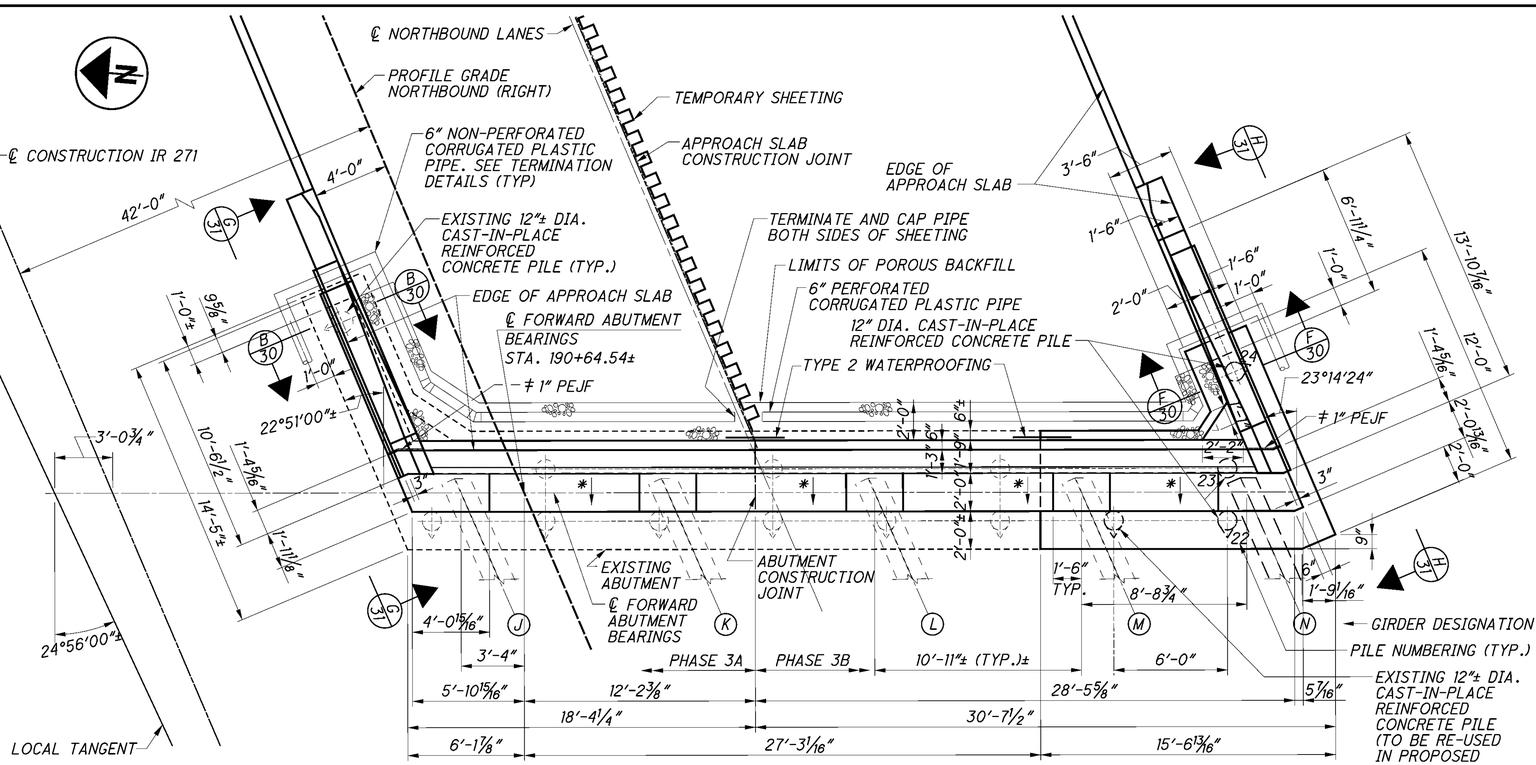
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BRIDGE NO. SUM-271-0354 R
IR 271 OVER IR 77

SUM-271-2.33
PID No. 18710

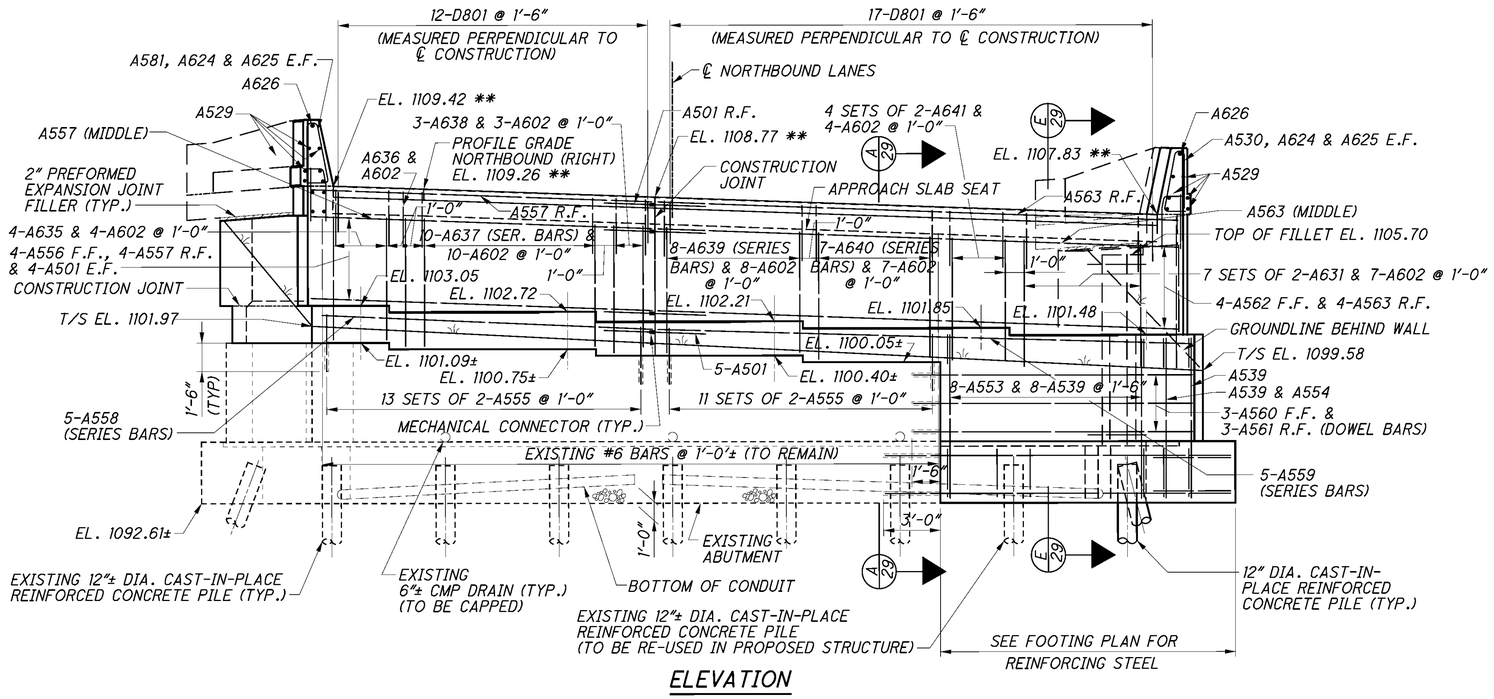
27/106

985/1195

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PLAN



ELEVATION

LEGEND

- INDICATES EXISTING 12″± DIA. CAST-IN-PLACE REINFORCED CONCRETE PILES.
- INDICATES PROPOSED 12″ DIA. CAST-IN-PLACE REINFORCED CONCRETE PILES.
- INDICATES EXISTING 12″± DIA. CAST-IN-PLACE REINFORCED CONCRETE PILES BATTERED 1:4± IN THE DIRECTION SHOWN.
- INDICATES PROPOSED 12″ DIA. CAST-IN-PLACE REINFORCED CONCRETE PILES BATTERED 1:4 IN THE DIRECTION SHOWN.
- * 3/4″ SLOPE BETWEEN BEAM SEATS.
- ** ELEVATIONS GIVEN AT ℄ FORWARD ABUTMENT BEARINGS.
- ≠ INCLUDED WITH ITEM APPROACH SLAB FOR PAYMENT.

NOTES

MATERIALS ARE NEW UNLESS OTHERWISE NOTED.

PIPE TERMINATION DETAILS: SEE SHEET 30/106.

TYPICAL PARAPET DETAIL: SEE SHEET 23/106.

FORWARD ABUTMENT FOOTING DETAIL: SEE SHEET 29/106.

ADDITIONAL NOTES: SEE SHEET 27/106.

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

DESIGNED ALP | DRAWN TWH | CHECKED BLN | REVIEWED DAP | DATE 10/5/12 | REVISED | STRUCTURE FILE NUMBER R7708890

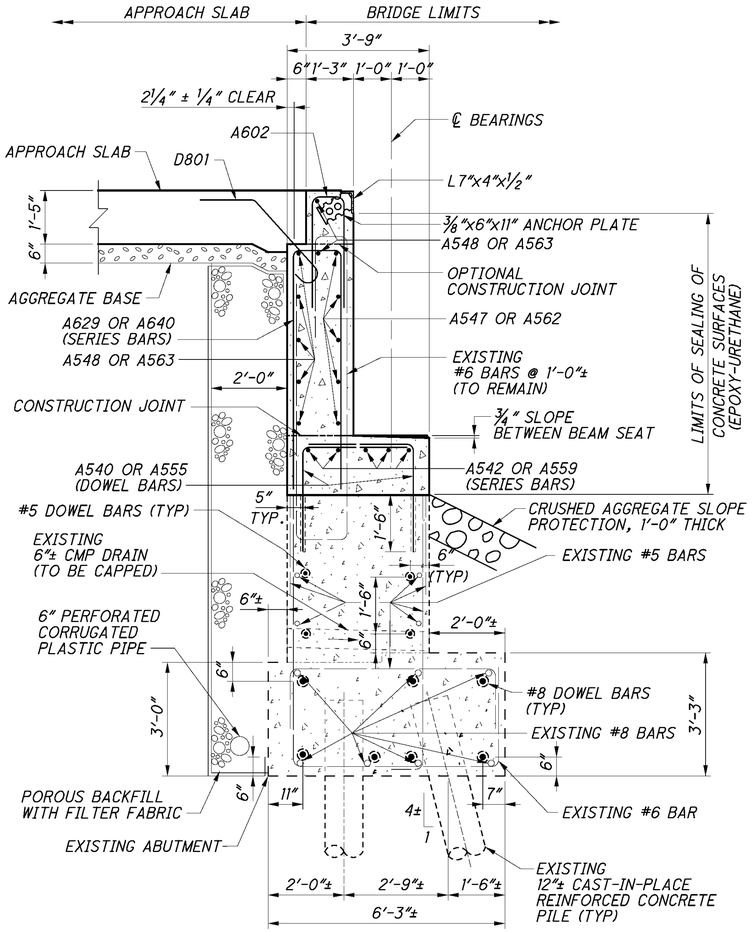
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BRIDGE NO. SUM-271-0354 R
IR 271 OVER IR 77

SUM-271-2.33
PID No. 18710

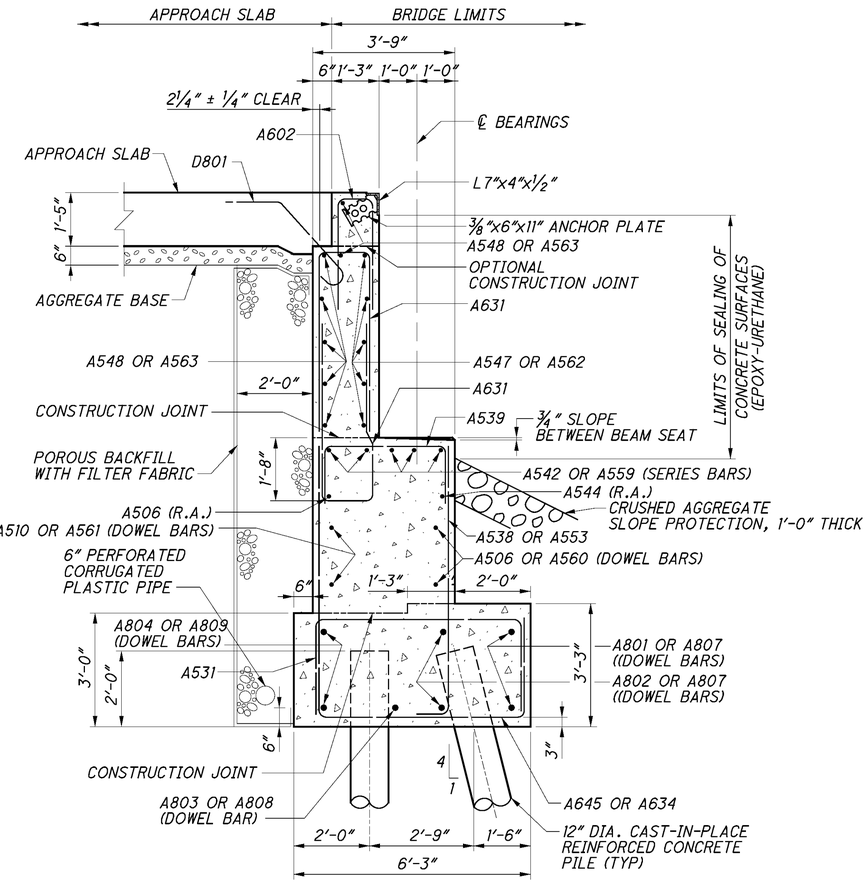
28/106

986/1195

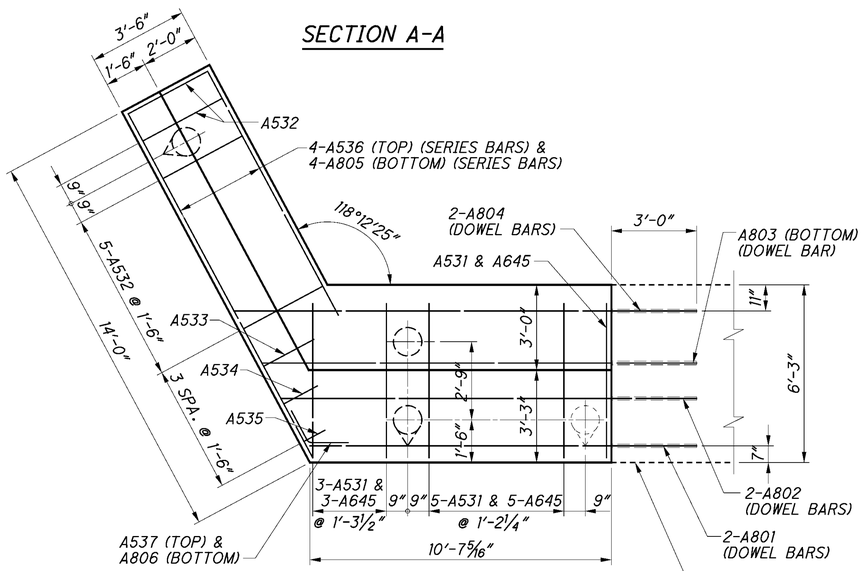
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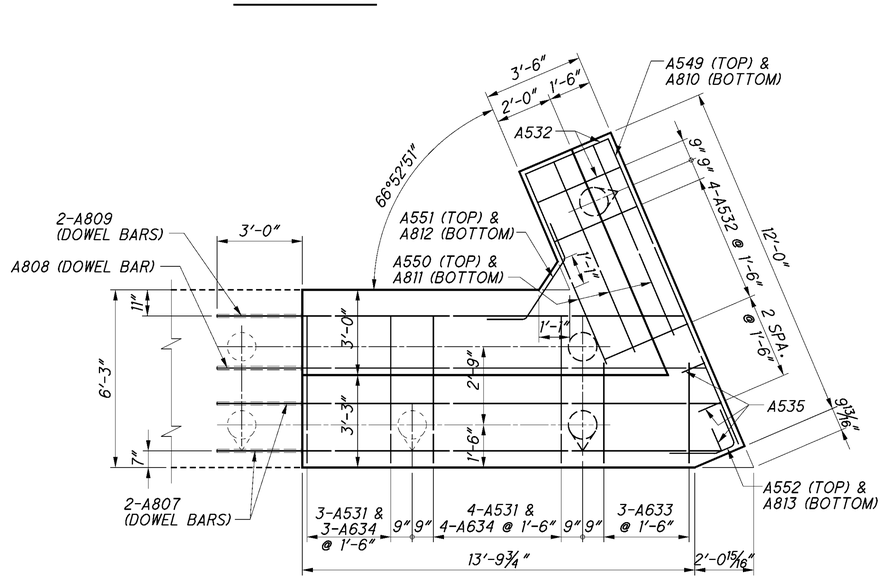
SECTION A-A



SECTION E-E



REAR ABUTMENT FOOTING



FORWARD ABUTMENT FOOTING

NOTES

MATERIAL ARE NEW UNLESS OTHERWISE NOTED.

SECTIONS A-A & E-E: FOR LOCATIONS SEE SHEETS 27/106 THROUGH 28/106.

ADDITIONAL NOTES: SEE SHEET 27/106.

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

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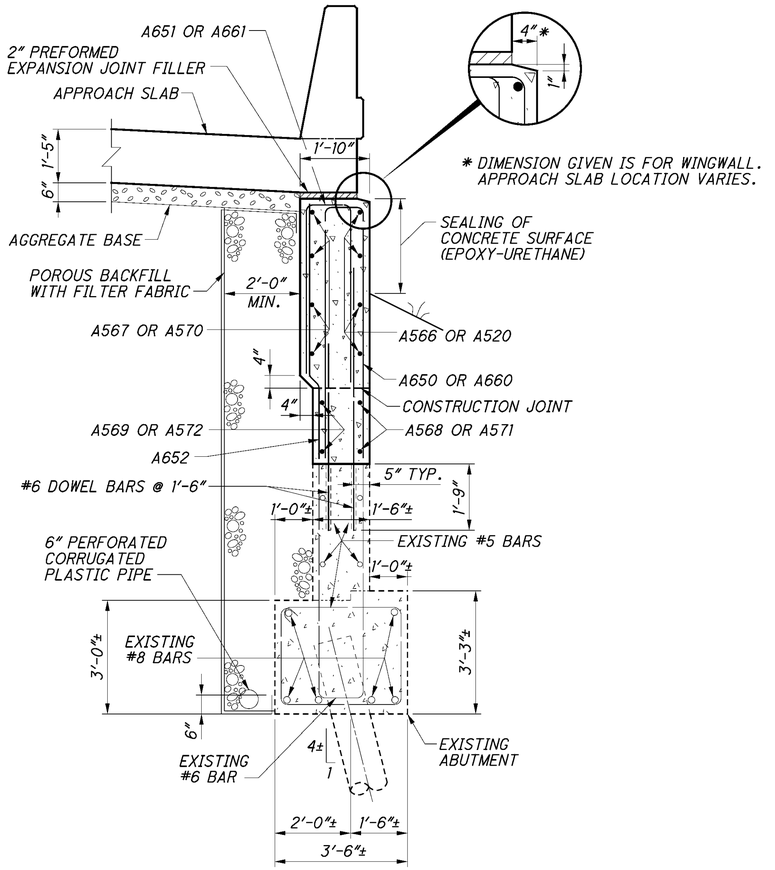
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BRIDGE NO. SUM-271-0354 R
IR 271 OVER IR 77

SUM-271-2.33
PID No. 18710

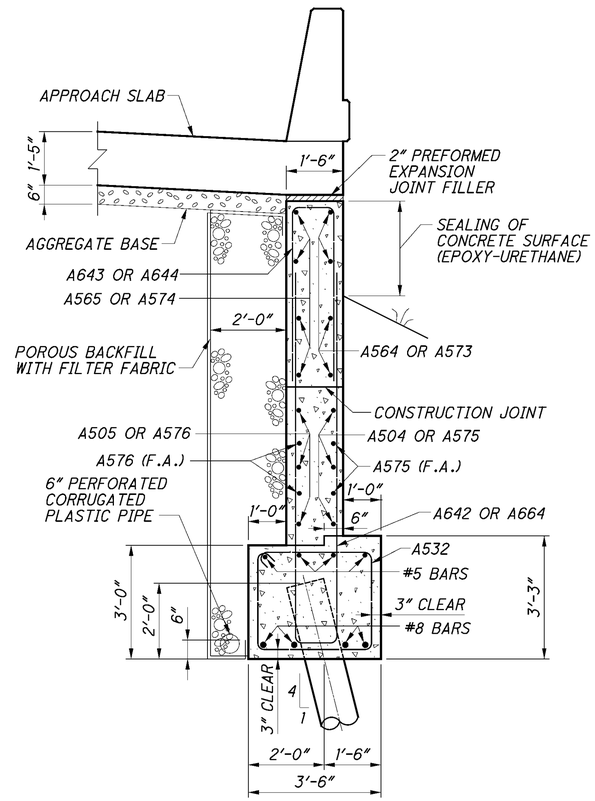
29/106

987
1195

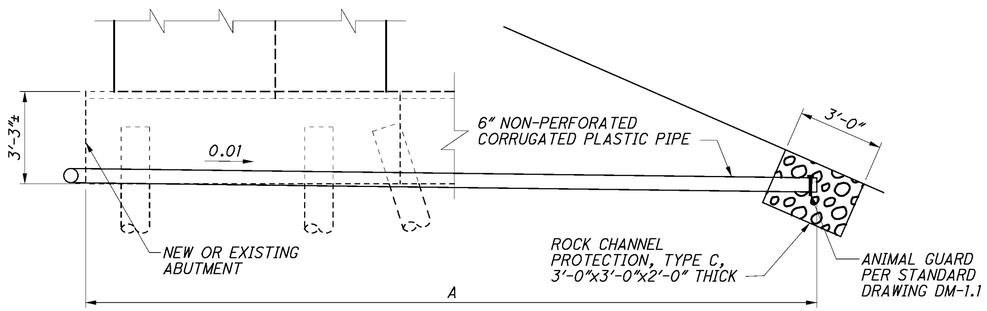
F:\2009\109094\18710\structures\SUM271_0354R\streets\271_0354RAR003.dgn 10/8/2012 2:15:20 PM JeffSmith



SECTION B-B



SECTION F-F



TERMINATION OF 6" NON-PERFORATED CORRUGATED PLASTIC PIPE

DIMENSION A			
REAR ABUTMENT		FORWARD ABUTMENT	
NORTH	SOUTH	NORTH	SOUTH
34'-0"	32'-0"	34'-0"	27'-0"

NOTES

TEERMINATION OF 6" NON-PERFORATED CORRUGATED PIPE: FOR LOCATIONS SEE SHEET 27/106 THROUGH 28/106.

SECTIONS B-B & F-F: FOR LOCATIONS SEE SHEET 27/106 THROUGH 28/106.

ADDITIONAL NOTES: SEE SHEET 27/106.

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

DESIGNED	DRAWN	REVIEWED	DATE
ALP	KH	DAP	10/5/12
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BLN		R7708890	

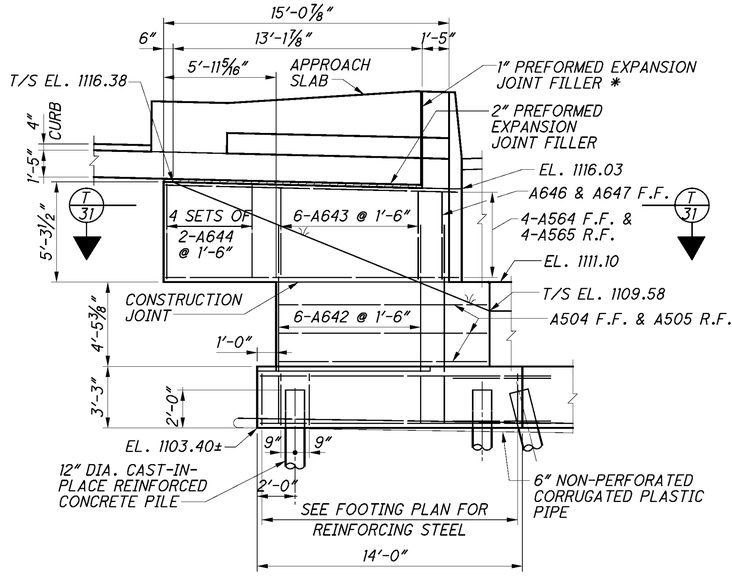
ABUTMENT DETAILS - NORTHBOUND BRIDGE - 2
BRIDGE NO. SUM-271-0354 R
IR 271 OVER IR 77

SUM-271-2.33
PID No. 18710

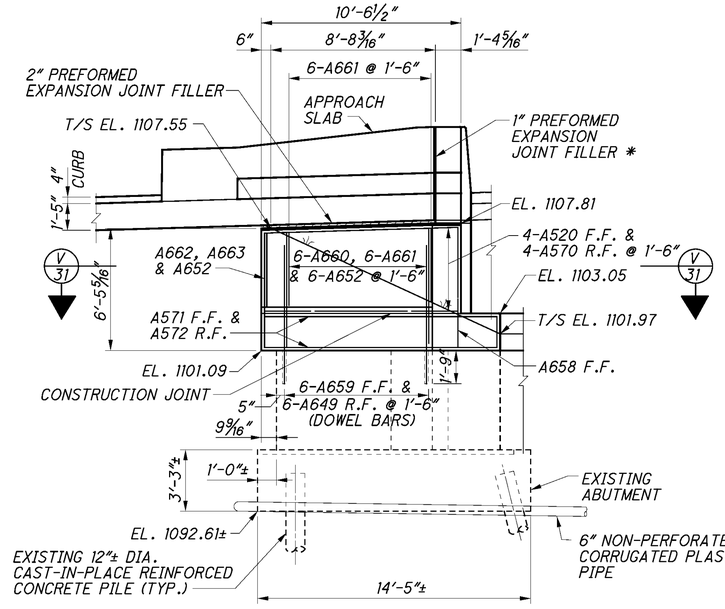
30/106

988
1195

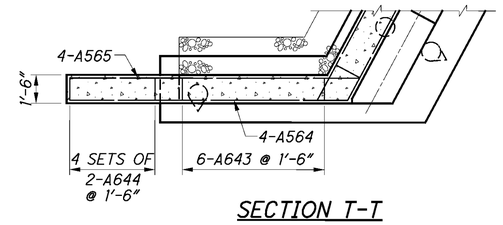
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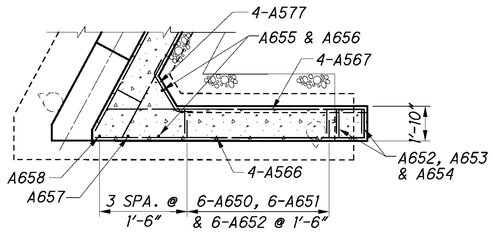
VIEW C-C



VIEW G-G

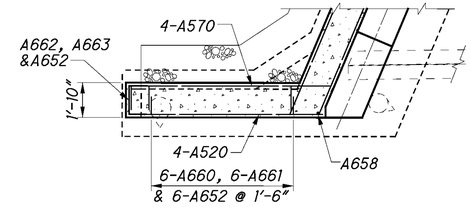


SECTION T-T

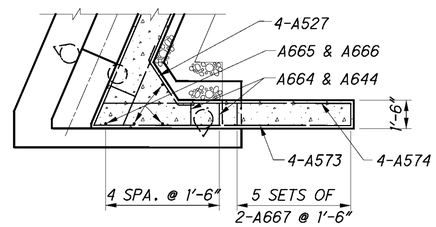


SECTION U-U

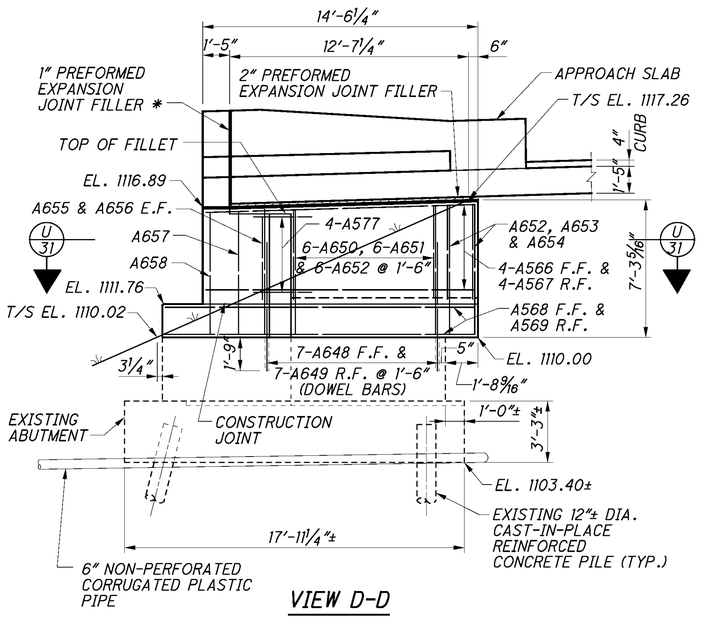
* INCLUDED WITH APPROACH SLAB FOR PAYMENT.



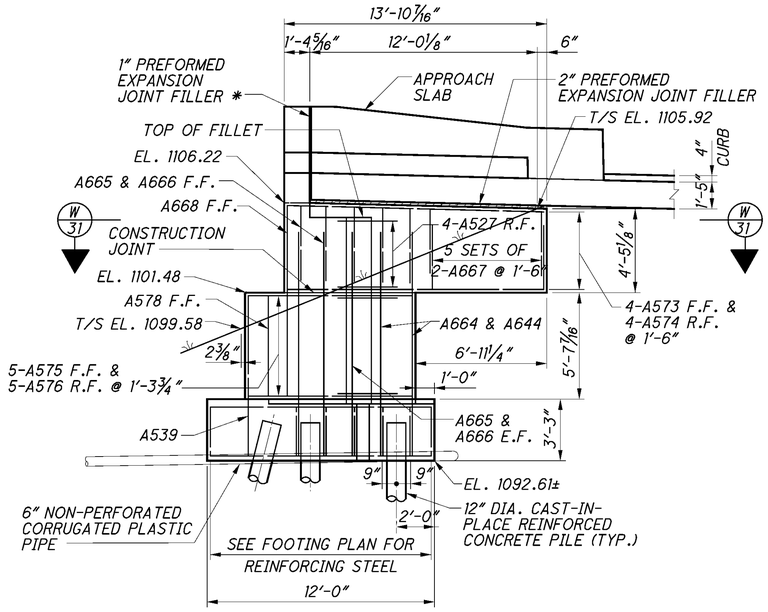
SECTION V-V



SECTION W-W



VIEW D-D



VIEW H-H

NOTES

MATERIALS *ARE NEW UNLESS OTHERWISE NOTED.*

VIEWS C-C, D-D, G-G & H-H: *FOR LOCATIONS SEE SHEET* 27/106 *THROUGH* 28/106.

ADDITIONAL NOTES: *SEE SHEET* 27/106.

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

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ALP	KH	DAP	10/5/12
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BLN		R7708890	

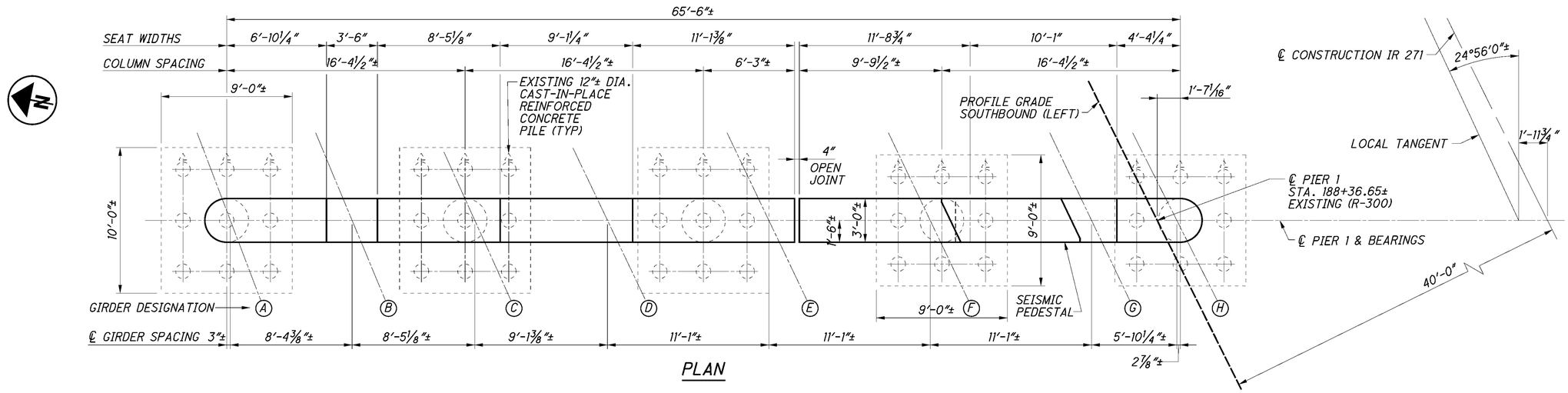
ABUTMENT DETAILS - NORTHBOUND BRIDGE - 3
BRIDGE NO. SUM-271-0354 R
IR 271 OVER IR 77

SUM-271-2.33
PID No. 18710

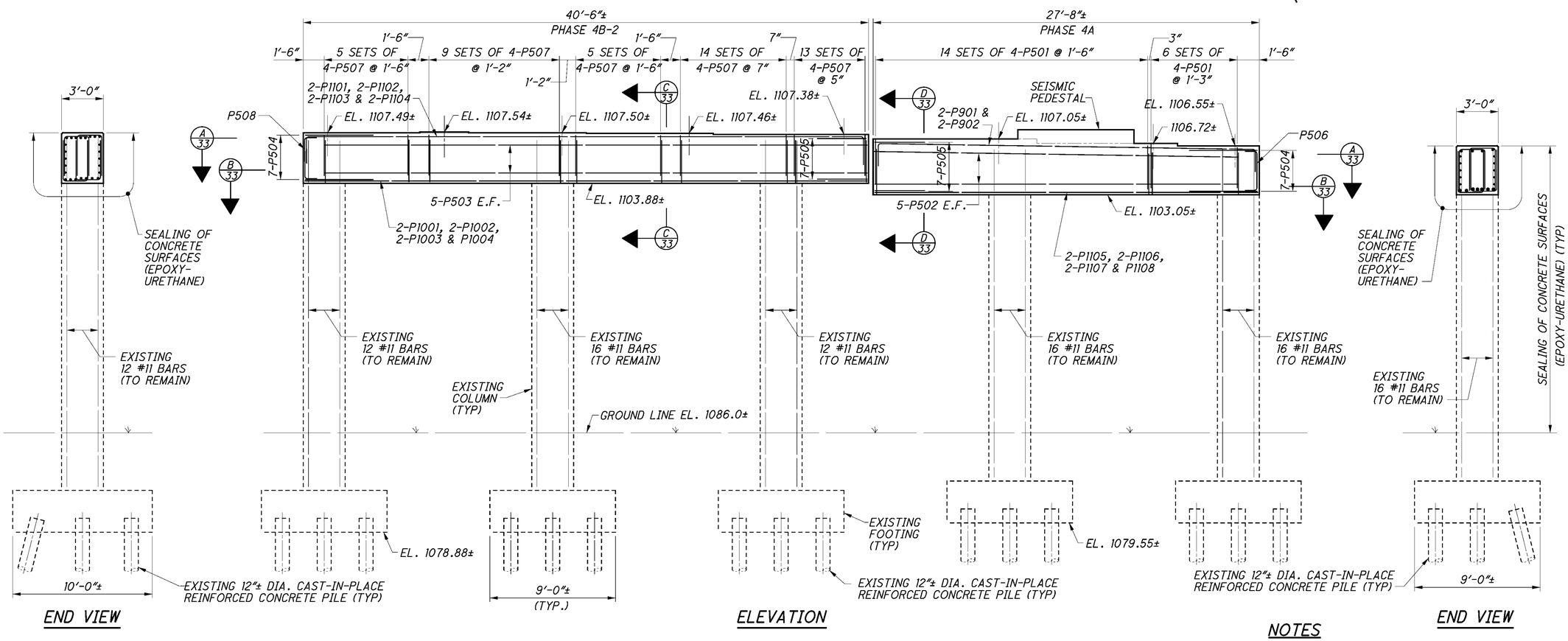
31/106

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1195

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PLAN



END VIEW

ELEVATION

END VIEW

LEGEND

INDICATES EXISTING 12"± DIA. CAST-IN-PLACE REINFORCED CONCRETE PILES.

INDICATES EXISTING 12"± DIA. CAST-IN-PLACE REINFORCED CONCRETE PILES BATTERED 1:4± IN THE DIRECTION SHOWN.

NOTES

MATERIALS SHOWN ARE NEW UNLESS OTHERWISE NOTED.

UNDERPASS LIGHTING DETAILS: SEE SHEET 895.

REINFORCING STEEL SPLICE LENGTHS SHALL BE 2'-6" FOR VERTICAL #5 BARS, 3'-6" FOR HORIZONTAL #5 BARS, 7'-3" FOR HORIZONTAL #8 BARS, 9'-2" FOR HORIZONTAL #9 BARS, 10'-3" FOR HORIZONTAL #10 BARS AND 12'-7" FOR HORIZONTAL #11 BARS.

SEISMIC PEDESTAL DETAILS: SEE SHEET 34/106.

RICHLAND ENGINEERING LIMITED
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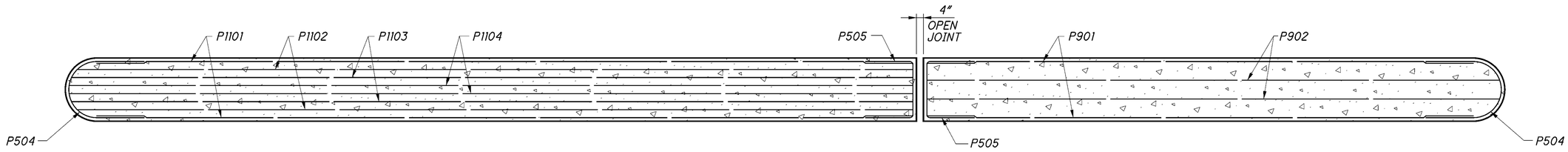
PIER 1 - SOUTHBOUND BRIDGE
BRIDGE NO. SUM-271-0354 L
IR 271 OVER IR 77

SUM-271-2.33
PID No. 18710

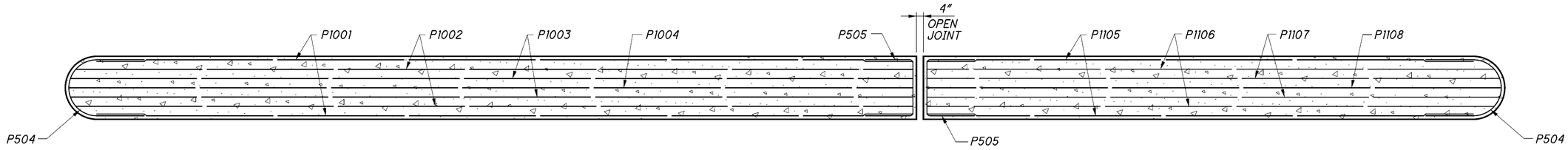
32/106

990
1195

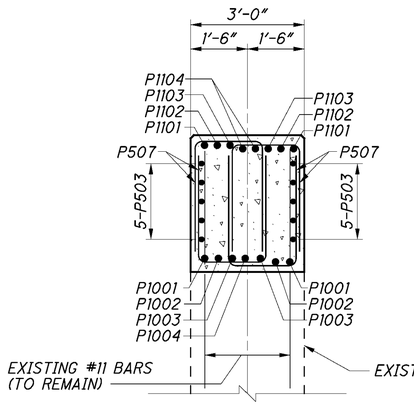
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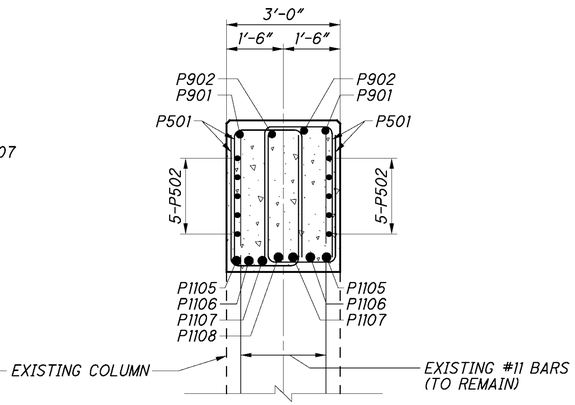
SECTION A-A



SECTION B-B



SECTION C-C



SECTION D-D

NOTES

MATERIALS *SHOWN ARE NEW UNLESS OTHERWISE NOTED.*

SECTIONS A-A, B-B, C-C & D-D: *FOR LOCATIONS SEE SHEET* 32/106.

ADDITIONAL NOTES: *SEE SHEET* 32/106.

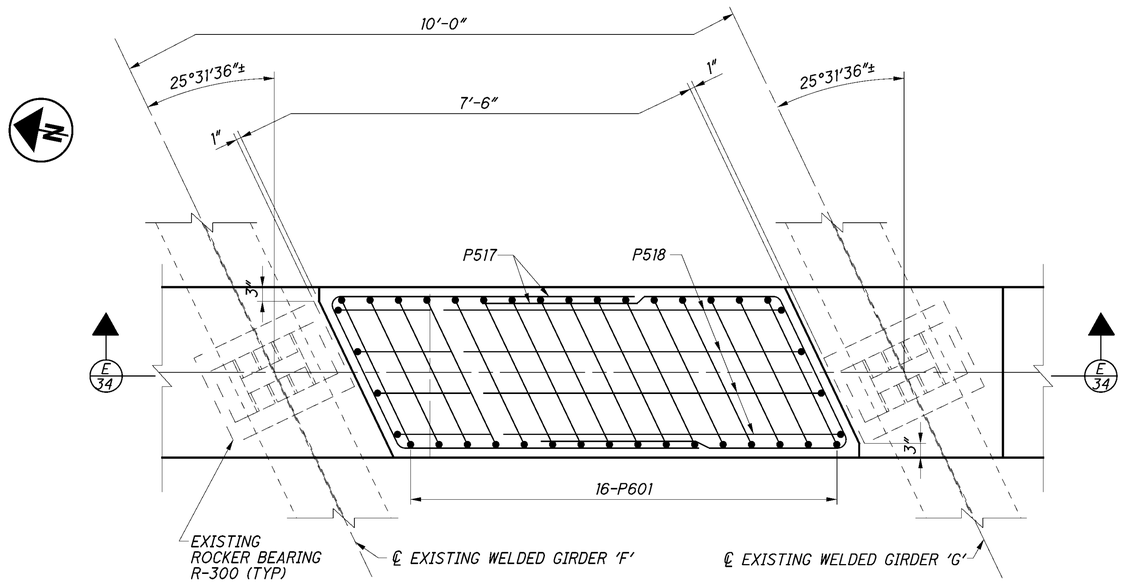
RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

DESIGNED	DRAWN	REVIEWED	DATE
ALP	SCB	DAP	10/5/12
CHECKED	REVISED	STRUCTURE FILE NUMBER	
BLN		L7708815	

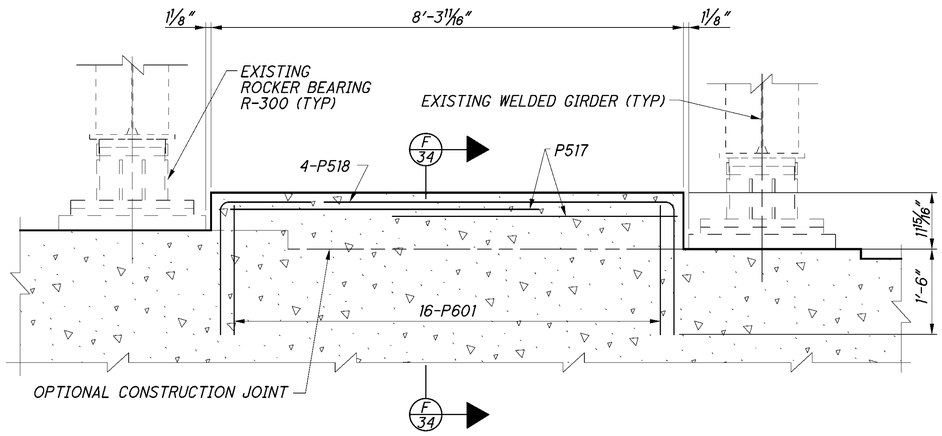
PIER 1 DETAILS - SOUTHBOUND BRIDGE - 1
BRIDGE NO. SUM-271-0354 L
IR 271 OVER IR 77

SUM-271-2.33
PID No. 18710

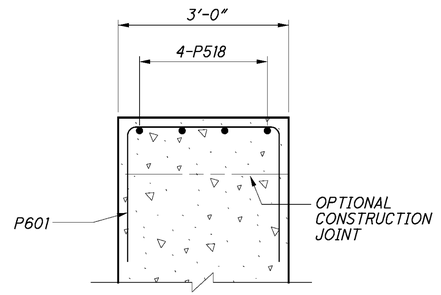
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SEISMIC PEDESTAL



SECTION E-E



SECTION F-F

NOTES

MATERIALS SHOWN ARE NEW UNLESS OTHERWISE NOTED.

SEIMSIC PEDESTAL: FOR LOCATION SEE SHEET 32/106.

ADDITIONAL NOTES: SEE SHEET 32/106.

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

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ALP	SCB	DAP	10/5/12
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BLN		L1710815	

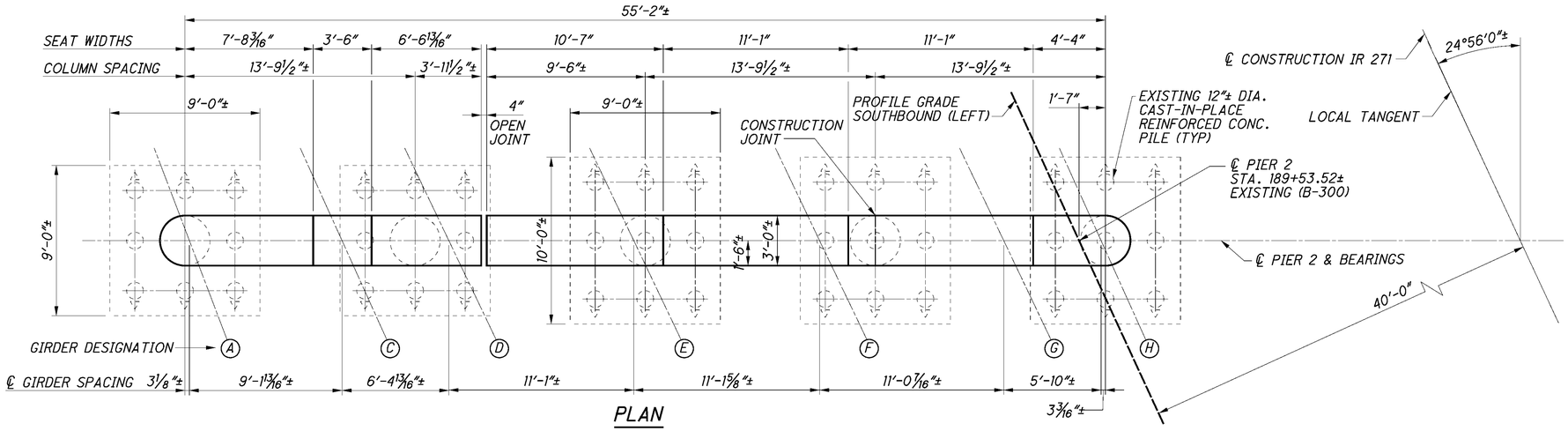
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BRIDGE NO. SUM-271-0354 L
IR 271 OVER IR 77

SUM-271-2.33
PID No. 18710

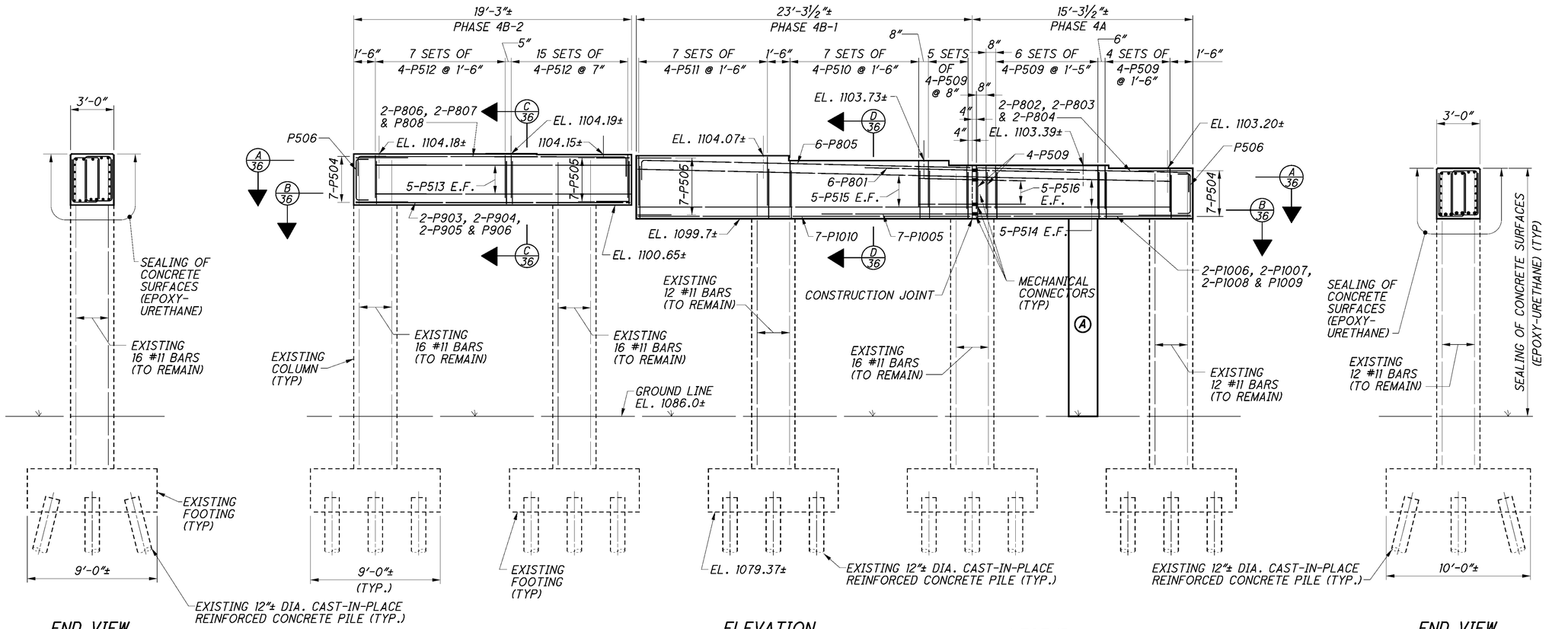
34/106

992/1195

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PLAN



END VIEW

ELEVATION

END VIEW

LEGEND

- INDICATES EXISTING 12"± DIA. CAST-IN-PLACE REINFORCED CONCRETE PILES.
- INDICATES EXISTING 12"± DIA. CAST-IN-PLACE REINFORCED CONCRETE PILES BATTERED 1:4± IN THE DIRECTION SHOWN.
- (A) TEMPORARY SUPPORT DURING PHASE 4B-1 CONSTRUCTION

NOTES

MATERIALS SHOWN ARE NEW UNLESS OTHERWISE NOTED.

UNDERPASS LIGHTING DETAILS: SEE SHEETS 897 AND 898

BEARING ANCHOR PLAN: SEE SHEET 37/106.

ADDITIONAL NOTES: SEE SHEET 32/106.

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

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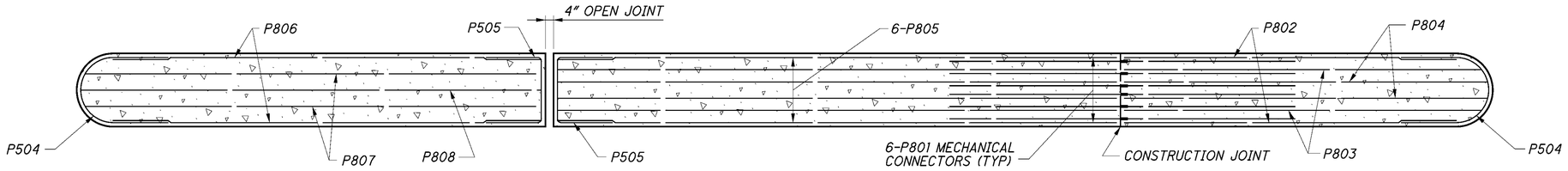
PIER 2 - SOUTHBOUND BRIDGE
BRIDGE NO. SUM-271-0354 L
IR 271 OVER IR 77

SUM-271-2.33
PID No. 18710

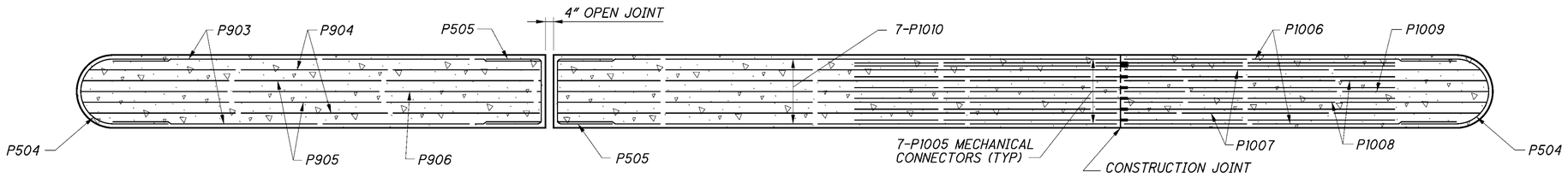
35/106

993/1195

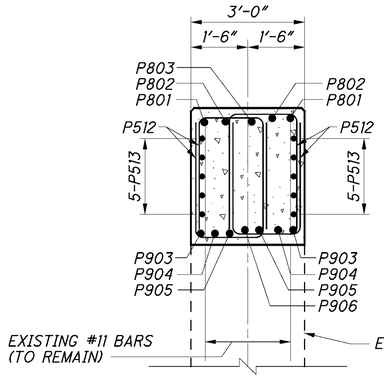
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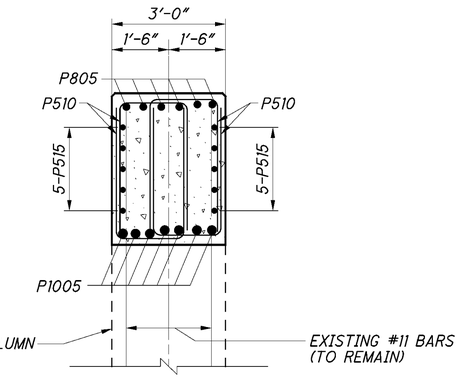
SECTION A-A



SECTION B-B



SECTION C-C



SECTION D-D

NOTES

MATERIALS SHOWN ARE NEW UNLESS OTHERWISE NOTED.

SECTIONS A-A, B-B, C-C & D-D: FOR LOCATIONS SEE SHEET 35/106.

ADDITIONAL NOTES: SEE SHEET 32/106.

RICHLAND ENGINEERING LIMITED
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MANSFIELD, OHIO 44902

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CHECKED	REVISED	STRUCTURE FILE NUMBER	
BLN		L7708815	

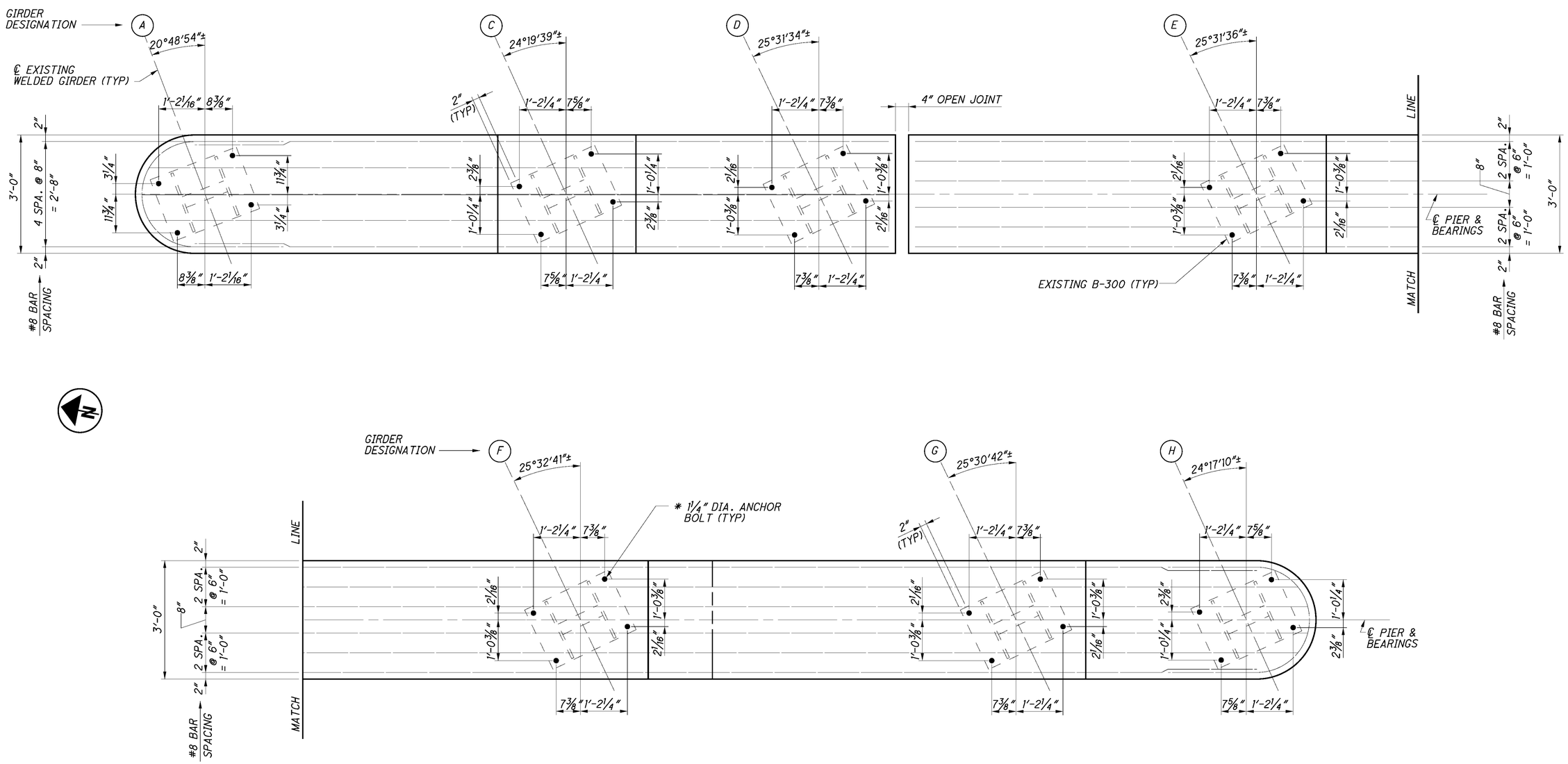
PIER 2 DETAILS - SOUTHBOUND BRIDGE - 1
BRIDGE NO. SUM-271-0354 L
IR 271 OVER IR 77

SUM-271-2.33
PID No. 18710

36/106

994
1195

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BEARING ANCHOR PLAN

LEGEND

* 1¼" x 1'-8" SWEDGE ANCHOR BOLTS WITH WASHERS AND 1⅝" DIA. HOLES TO BE INCLUDED WITH ITEM 511 - CLASS C CONCRETE, PIER ABOVE FOOTING FOR PAYMENT. SEE STANDARD DRAWING RB-1-55 FOR ADDITIONAL INFORMATION.

NOTES

MATERIALS SHOWN ARE NEW UNLESS OTHERWISE NOTED.

BRIDGE SEAT REINFORCING, SETTING ANCHORS: ACCURATELY PLACE REINFORCING STEEL IN THE VICINITY OF THE BRIDGE SEAT TO AVOID INTERFERENCE WITH THE DRILLING OF BEARING ANCHOR HOLES OR THE PRE-SETTING OF BEARING ANCHORS.

ADDITIONAL NOTES: SEE SHEET 32/106.

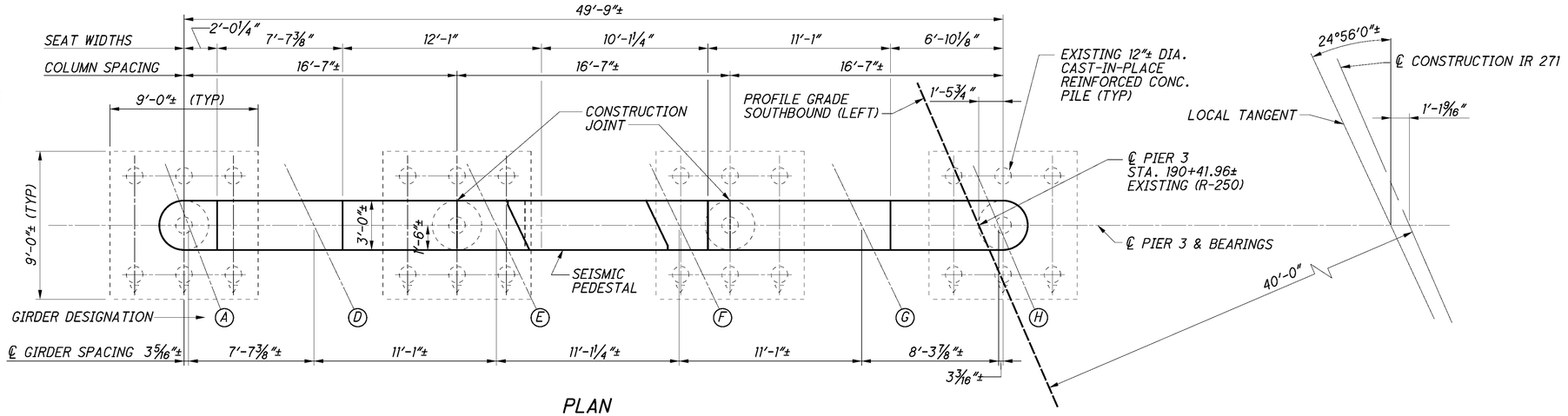
RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

DESIGNED ALP | DRAWN SCB | REVIEWED DAP | DATE 10/5/12
CHECKED BLN | REVISED | STRUCTURE FILE NUMBER L7708815

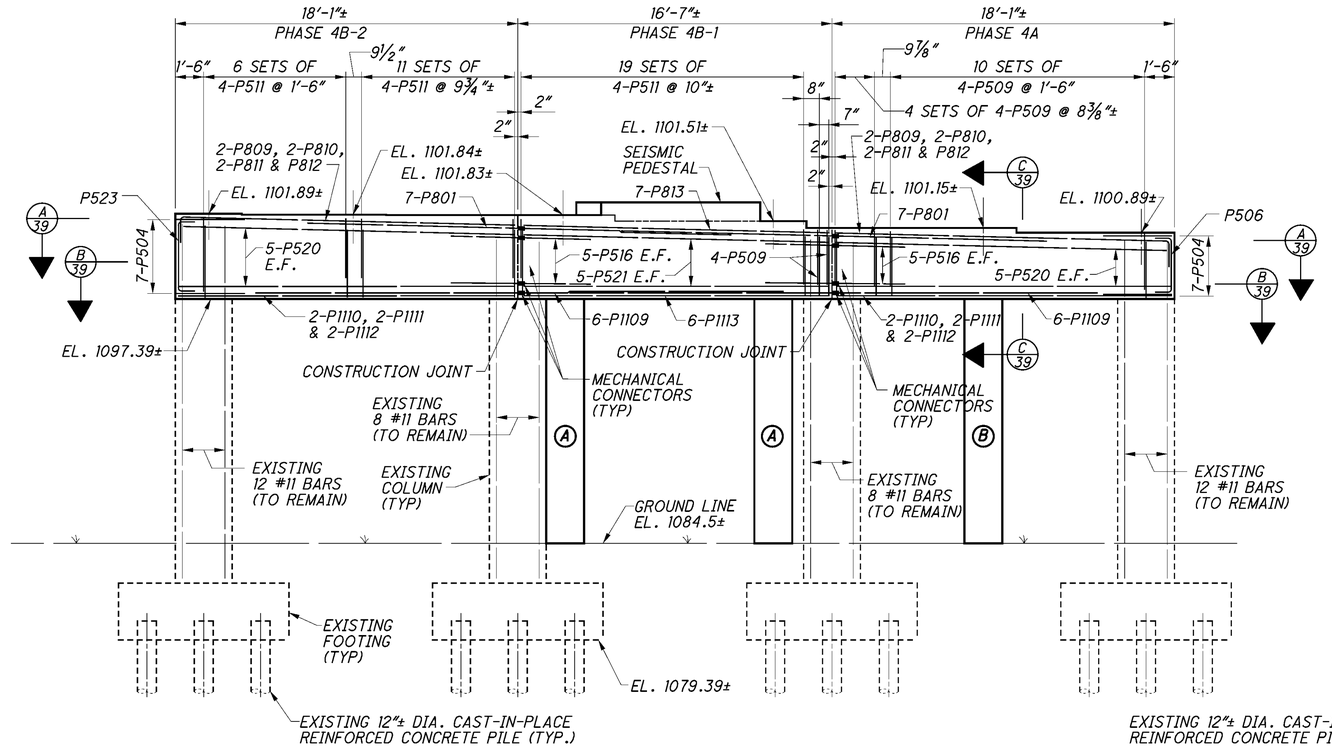
PIER 2 DETAILS - SOUTHBOUND BRIDGE - 2
BRIDGE NO. SUM-271-0354 L
IR 271 OVER IR 77

SUM-271-2.33
PID No. 18710

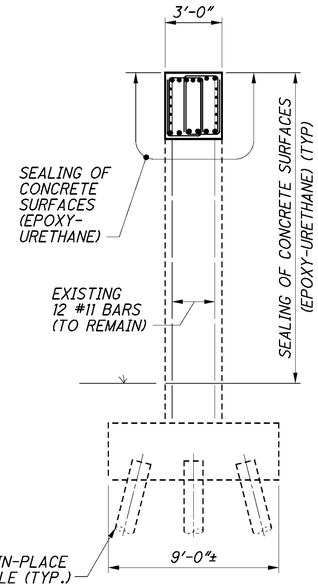
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PLAN



ELEVATION



END VIEW

LEGEND

- INDICATES EXISTING 12"± DIA. CAST-IN-PLACE REINFORCED CONCRETE PILES.
- INDICATES EXISTING 12"± DIA. CAST-IN-PLACE REINFORCED CONCRETE PILES BATTERED 1:4± IN THE DIRECTION SHOWN.
- (A) TEMPORARY SUPPORT DURING PHASE 4B-2 CONSTRUCTION
- (B) TEMPORARY SUPPORT DURING PHASE 4B-1 CONSTRUCTION

NOTES

MATERIALS SHOWN ARE NEW UNLESS OTHERWISE NOTED.

UNDERPASS LIGHTING DETAILS: SEE SHEET 901.

SEISMIC PEDESTAL DETAILS: SEE SHEET 40/106.

ADDITIONAL NOTES: SEE SHEET 32/106.

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

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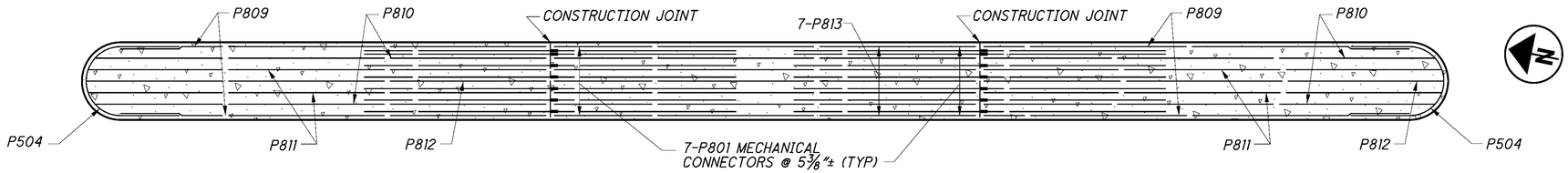
PIER 3 - SOUTHBOUND BRIDGE
BRIDGE NO. SUM-271-0354 L
IR 271 OVER IR 77

SUM-271-2.33
PID No. 18710

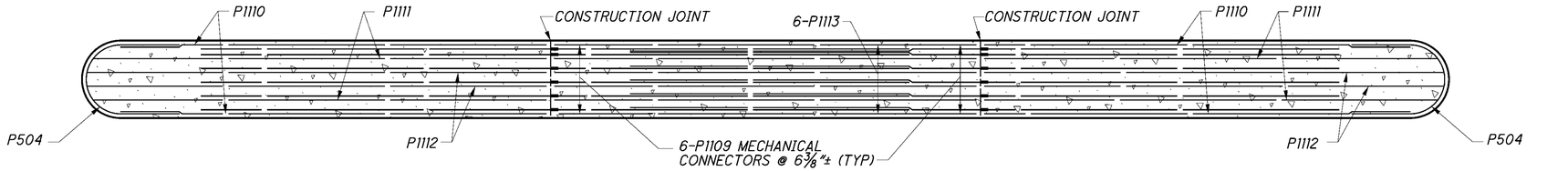
38/106

996/1195

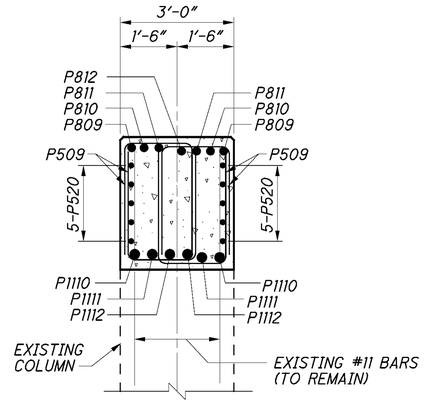
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SECTION A-A



SECTION B-B



SECTION C-C

NOTES

MATERIALS SHOWN ARE NEW UNLESS OTHERWISE NOTED.

SECTIONS A-A, B-B & C-C: FOR LOCATIONS SEE SHEET 38/106.

ADDITIONAL NOTES: SEE SHEET 32/106.

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

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CHECKED BLN | REVISED | STRUCTURE FILE NUMBER L7708815

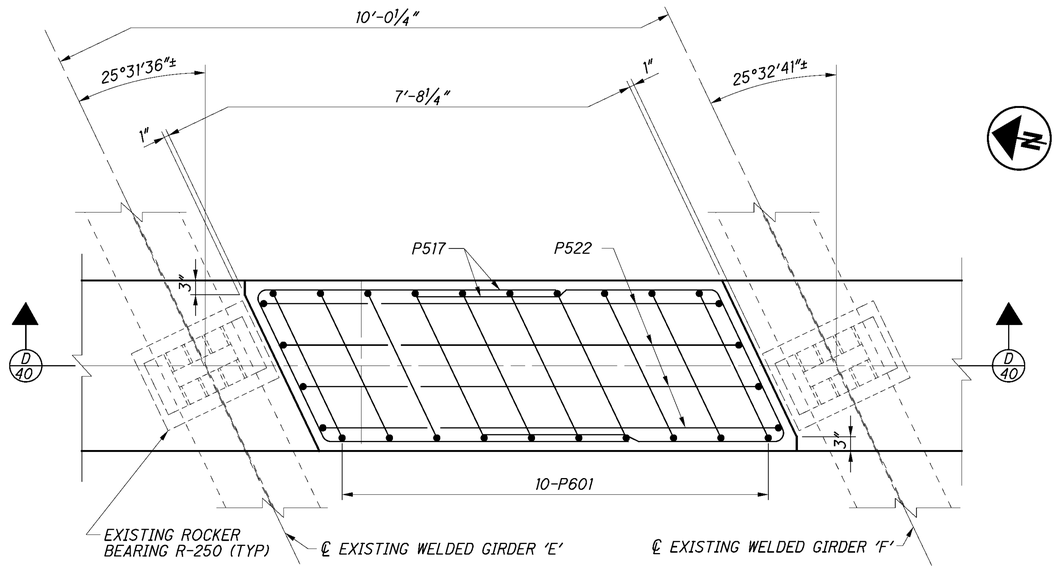
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BRIDGE NO. SUM-271-0354 L
IR 271 OVER IR 77

SUM-271-2.33
PID No. 18710

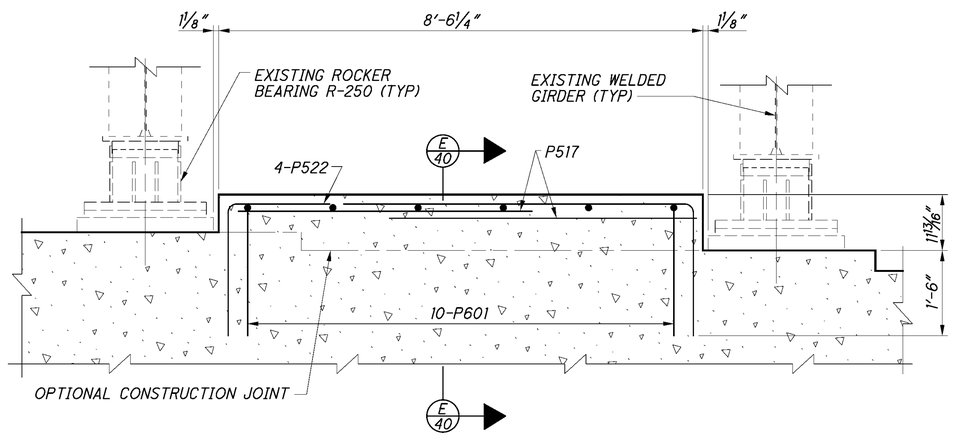
39/106

997
1195

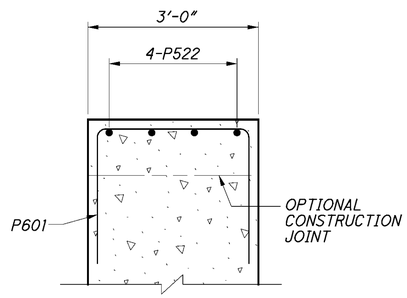
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SEISMIC PEDESTAL



SECTION D-D



SECTION E-E

NOTES

MATERIALS *SHOWN ARE NEW UNLESS OTHERWISE NOTED.*

SEIMSIC PEDESTAL: *FOR LOCATION SEE SHEET* 38/106.

ADDITIONAL NOTES: *SEE SHEET* 32/106.

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

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BLN		L7708815	

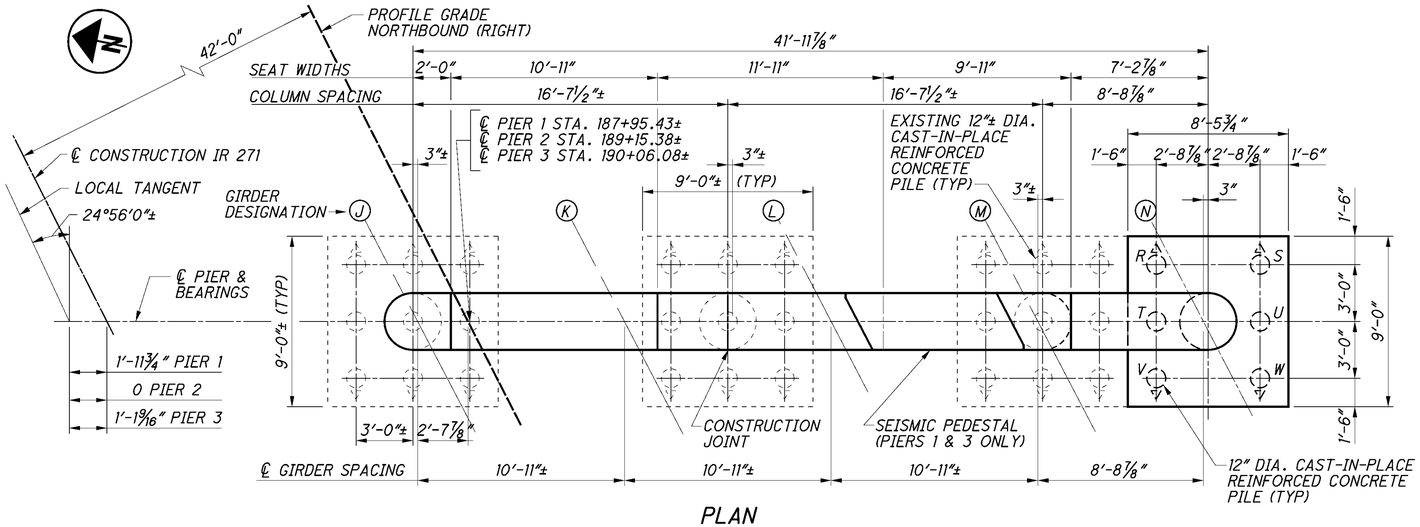
PIER 3 DETAILS - SOUTHBOUND BRIDGE - 2
BRIDGE NO. SUM-271-0354 L
IR 271 OVER IR 77

SUM-271-2.33
PID No. 18710

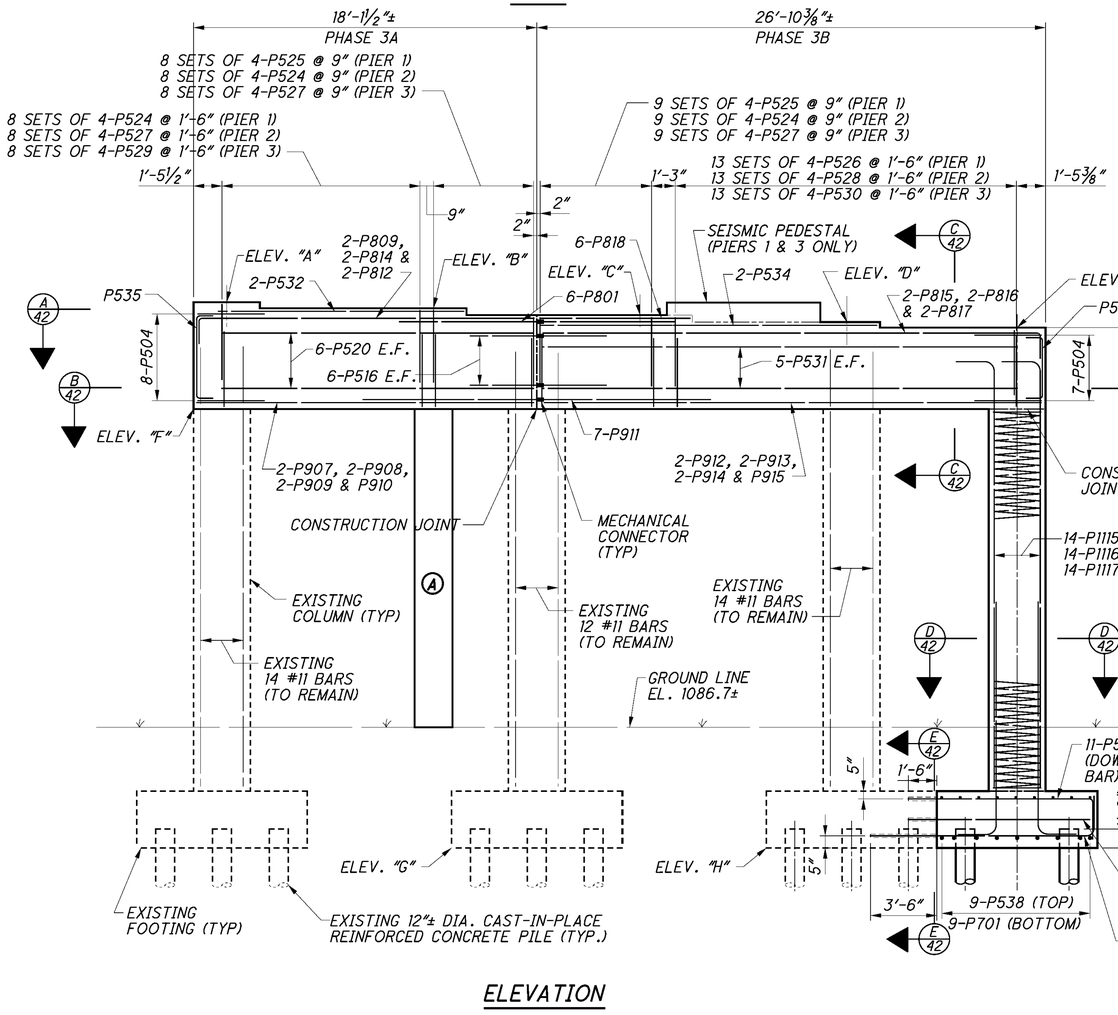
40/106

998
1195

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PLAN



ELEVATION

END VIEW

PILE NUMBERS			
LOCATION	PIER 1	PIER 2	PIER 3
R	4	10	16
S	5	11	17
T	6	12	18
U	7	13	19
V	8	14	20
W	9	15	21

ELEVATION TABLE			
LOCATION	PIER 1	PIER 2	PIER 3
A	1109.02	1106.05	1103.95
B	1108.78	1105.68	1103.60
C	1108.41	1105.27	1103.13
D	1108.09	1104.93	1102.78
E	1107.87	1104.62	1102.43
F	1103.50±	1100.05±	1097.62±
G	1080.33±	1081.20±	1080.62±
H	1080.33±	1081.20±	1080.62±

LEGEND

- INDICATES EXISTING 12"± DIA. CAST-IN-PLACE REINFORCED CONCRETE PILES.
- INDICATES PROPOSED 12" DIA. CAST-IN-PLACE REINFORCED CONCRETE PILES.
- INDICATES EXISTING 12"± DIA. CAST-IN-PLACE REINFORCED CONCRETE PILES BATTERED 1:4± IN THE DIRECTION SHOWN.
- INDICATES PROPOSED 12" DIA. CAST-IN-PLACE REINFORCED CONCRETE PILES BATTERED 1:4 IN THE DIRECTION SHOWN.
- (A) TEMPORARY SUPPORT DURING PHASE 3B CONSTRUCTION

NOTES

MATERIALS SHOWN ARE NEW UNLESS OTHERWISE NOTED.

UNDERPASS LIGHTING DETAILS: SEE SHEETS 896, 899, 900 AND 902.

REINFORCING STEEL SPLICE LENGTHS SHALL BE 2'-6" FOR VERTICAL #5 BARS, 3'-6" FOR HORIZONTAL #5 BARS, 4'-11" FOR VERTICAL #7 BARS, 7'-3" FOR HORIZONTAL #8 BARS, 8'-1" FOR HORIZONTAL #9 BARS, AND 12'-8" FOR VERTICAL #11 BARS.

SEISMIC PEDESTAL DETAILS: SEE SHEET 43/106.

BEARING ANCHOR PLAN: SEE SHEET 43/106.

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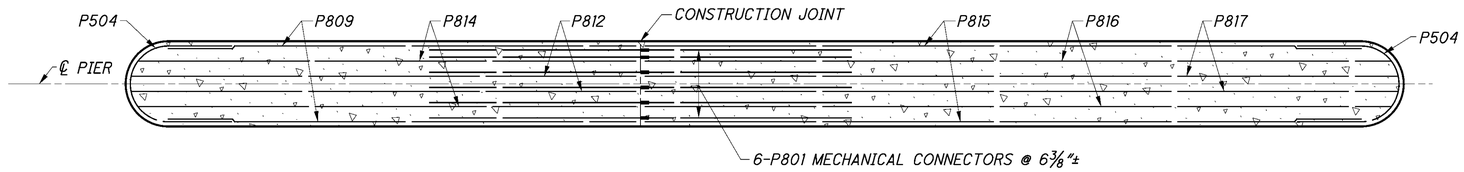
PIERS - NORTHBOUND BRIDGE
BRIDGE NO. SUM-271-0354 R
IR 271 OVER IR 77

SUM-271-2.33
PID No. 18710

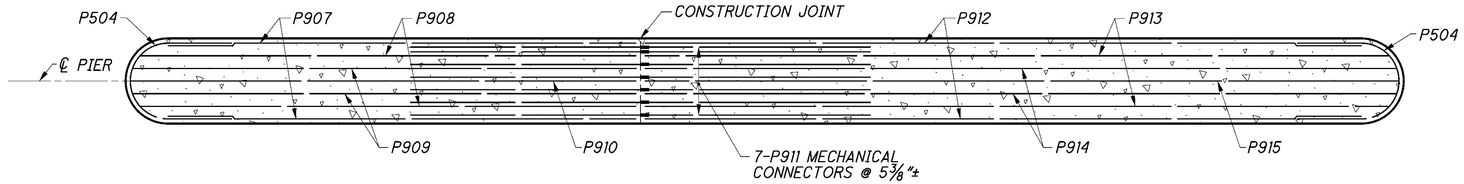
41/106

999
1195

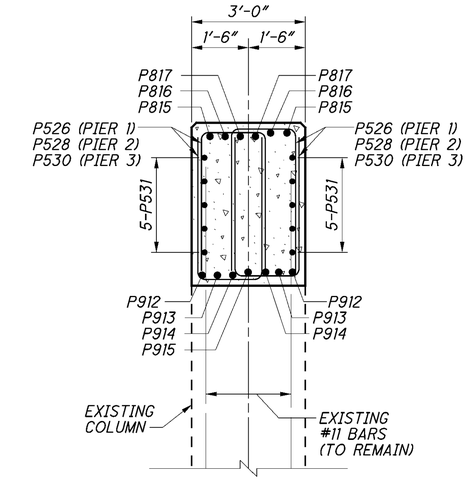
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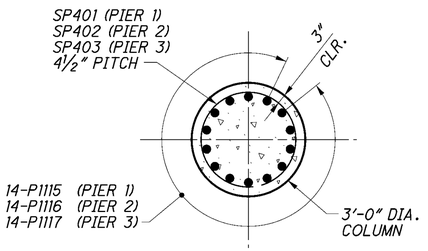
SECTION A-A



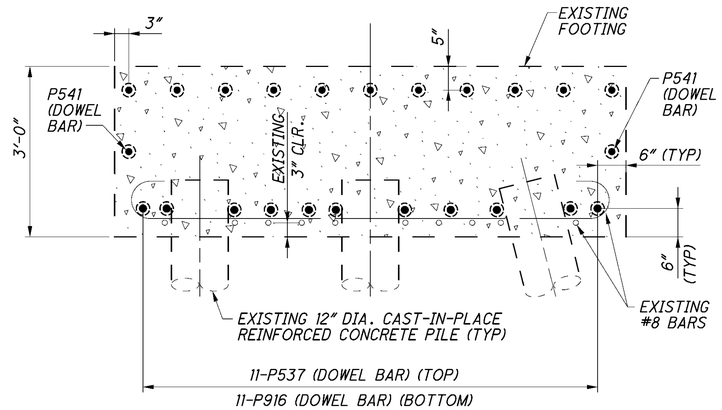
SECTION B-B



SECTION C-C



SECTION D-D



SECTION E-E

NOTES

MATERIALS SHOWN ARE NEW UNLESS OTHERWISE NOTED.

SECTIONS A-A, B-B, C-C, D-D & E-E: FOR LOCATIONS SEE SHEET 41/106.

ADDITIONAL NOTES: SEE SHEET 41/106.

RICHLAND ENGINEERING LIMITED
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BLN		R7708890	

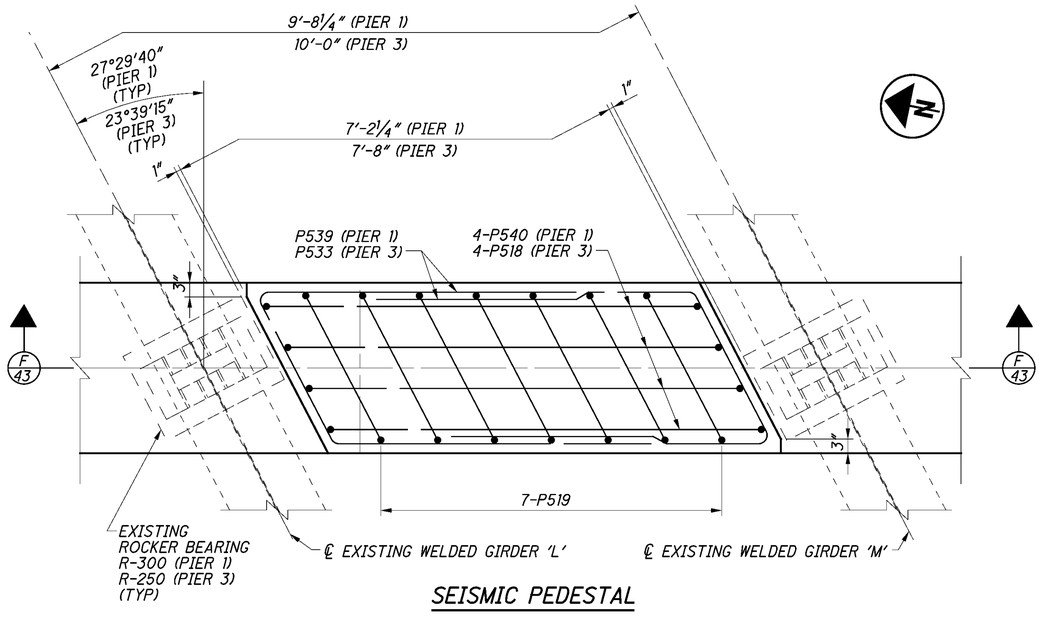
PIER DETAILS - NORTHBOUND BRIDGE - 1
BRIDGE NO. SUM-271-0354 R
IR 271 OVER IR 77

SUM-271-2.33
PID No. 18710

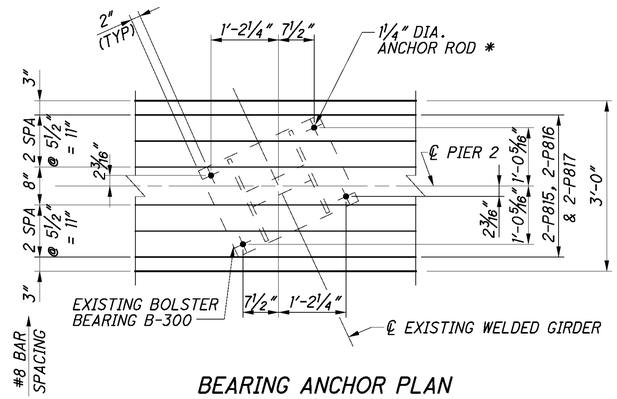
42/106

1000/1195

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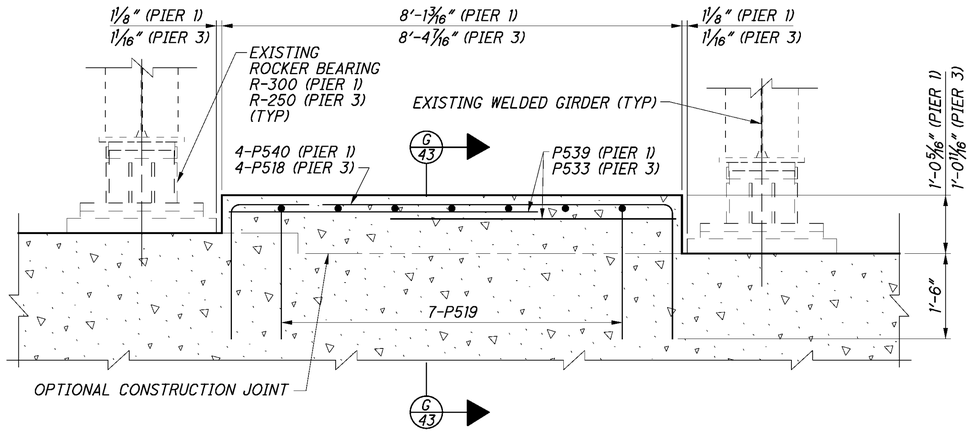


SEISMIC PEDESTAL

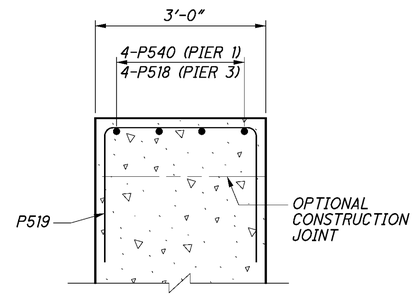


BEARING ANCHOR PLAN

(PIER 2 ONLY)



SECTION F-F



SECTION G-G

LEGEND

* 1¼" x 1'-8" SWEDGE ANCHOR BOLTS WITH WASHERS AND 1⅝" DIA. HOLES TO BE INCLUDED WITH ITEM 511 - CLASS C CONCRETE, PIER ABOVE FOOTING FOR PAYMENT. SEE STANDARD DRAWING RB-1-5S FOR ADDITIONAL INFORMATION.

NOTES

MATERIALS SHOWN ARE NEW UNLESS OTHERWISE NOTED.

BRIDGE SEAT REINFORCING, SETTING ANCHORS: ACCURATELY PLACE REINFORCING STEEL IN THE VICINITY OF THE BRIDGE SEAT TO AVOID INTERFERENCE WITH THE DRILLING OF BEARING ANCHOR HOLES OR THE PRE-SETTING OF BEARING ANCHORS.

SEIMSIC PEDESTAL: FOR LOCATION SEE SHEET 41/106.

ADDITIONAL NOTES: SEE SHEET 41/106.

RICHLAND ENGINEERING LIMITED
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PIER DETAILS - NORTHBOUND BRIDGE - 2

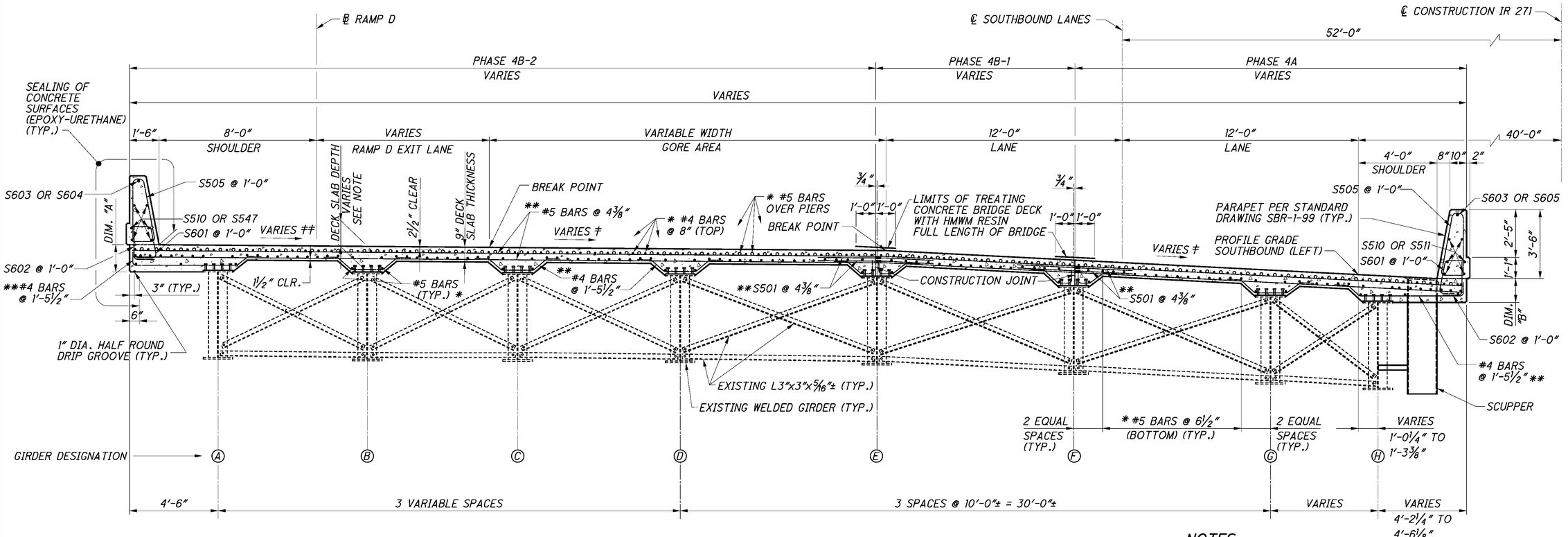
BRIDGE NO. SUM-271-0354 R
IR 271 OVER IR 77

SUM-271-2.33
PID No. 18710

43/106

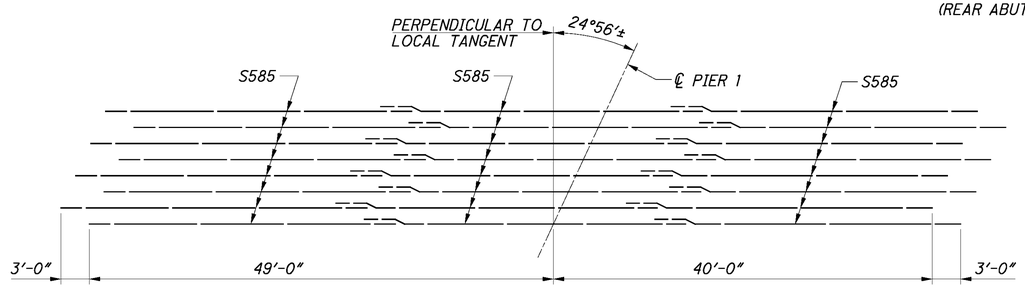
1001/1195

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TRANSVERSE SECTION A-A

(REAR ABUTMENT TO END GIRDER B)



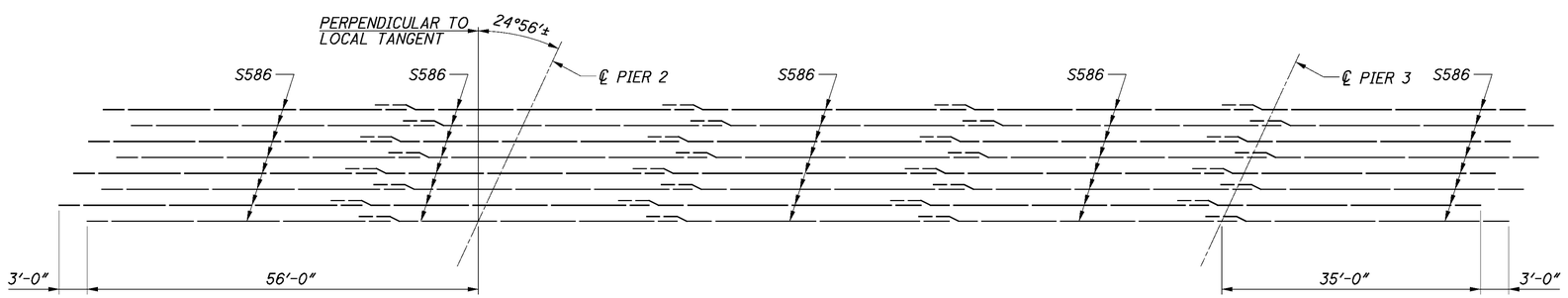
STAGGER OF S585 BARS OVER PIER 1

* SEE SLAB PLAN FOR NUMBER OF BARS, BAR LENGTHS AND BAR SPACING.

** TRANSVERSE BARS ARE PLACED PARALLEL TO GIRDER LINES D, E AND F.

‡ CROSS SLOPE IS PERPENDICULAR TO ℄ CONSTRUCTION IR 271. SEE SUPERELEVATION TABLES.

‡‡ CROSS SLOPE IS PERPENDICULAR TO ℄ RAMP D. SEE SUPERELEVATION TABLES.



STAGGER OF S586 BARS OVER PIERS 2 & 3

NOTES

MATERIALS SHOWN ARE NEW UNLESS OTHERWISE NOTED.

DECK SLAB CONCRETE QUANTITY: THE ESTIMATED QUANTITY OF DECK SLAB CONCRETE IS BASED ON THE CONSTANT DECK SLAB THICKNESS, AS SHOWN, PLUS THE QUANTITY OF CONCRETE THAT FORMS EACH GIRDER HAUNCH. THE ESTIMATE ASSUMES AN AVERAGE CONSTANT HAUNCH THICKNESS AT THE CENTERLINE OF GIRDER OF 8" FOR GIRDER A, 7¾" FOR GIRDER B, 7" FOR GIRDER C, 6¾" FOR GIRDER D, 6⅜" FOR GIRDER E, 6⅛" FOR GIRDER F, 5⅞" FOR GIRDER G, 5½" FOR GIRDER H, AND A CONSTANT HAUNCH WIDTH OUTSIDE THE EDGE OF EACH GIRDER FLANGE OF 9 INCHES. DEVIATE FROM THIS HAUNCH THICKNESS AS NECESSARY TO PLACE THE DECK SURFACE AT THE FINISHED GRADE. THE ALOWABLE TOLERANCE FOR THE HAUNCH WIDTH OUTSIDE THE EDGE OF GIRDER FLANGE IS ±3 INCHES.

THE HAUNCH THICKNESS WAS MEASURED AT THE CENTERLINE OF THE GIRDER FROM THE SURFACE OF THE DECK TO THE BOTTOM OF THE TOP FLANGE MINUS THE DECK SLAB THICKNESS. THE AREA OF ALL EMBEDDED PLATES HAS BEEN DEDUCTED FROM THE HAUNCH QUANTITY IN ACCORDANCE WITH 511.24.

REINFORCING STEEL SPLICE LENGTHS SHALL BE 2'-0" FOR HORIZONTAL #4 BARS, 2'-6" FOR VERTICAL #5 BARS, 2'-9" FOR HORIZONTAL #5 BARS, 3'-0" FOR VERTICAL #6 BARS AND 3'-3" FOR HORIZONTAL #6 BARS..

PHASE CONSTRUCTION DETAILS: SEE SHEETS 54 THROUGH 77 FOR MAINTENANCE OF TRAFFIC DETAILS AND NOTES.

TRANSVERSE SECTION A-A: FOR LOCATION SEE SHEETS 69/106, 72/106 AND 75/106.

REINFORCING DETAILS AT HAUNCHES: SEE SHEET 75/106 THROUGH 77/106.

DECK CONTOUR MAP: SEE SHEET 91/106.

DIMENSIONS "A" AND "B": SEE TABLE ON SHEET 46/106.

HAUNCH DEPTH DIMENSIONS: SEE SHEET 92/106.

SCUPPER DETAILS: SEE SHEET 48/106 AND STANDARD DRAWING CSD-1-96.

SUPERELEVATION TABLES: SEE SHEETS 700 AND 717 .

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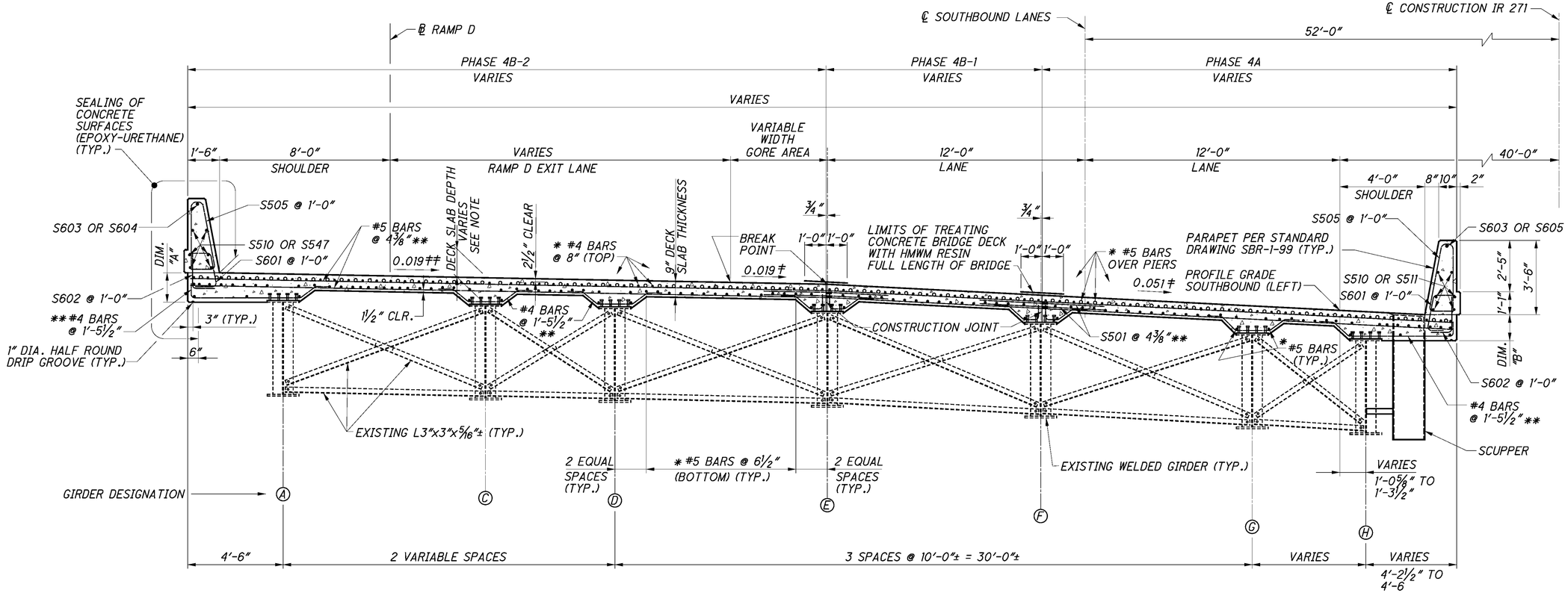
DESIGNED ALP | DRAWN KH | REVIEWED DAP | DATE 10/5/12 | STRUCTURE FILE NUMBER L7708815 | CHECKED BLN | REVISED

TRANSVERSE SECTION - SOUTHBOUND BRIDGE - 1

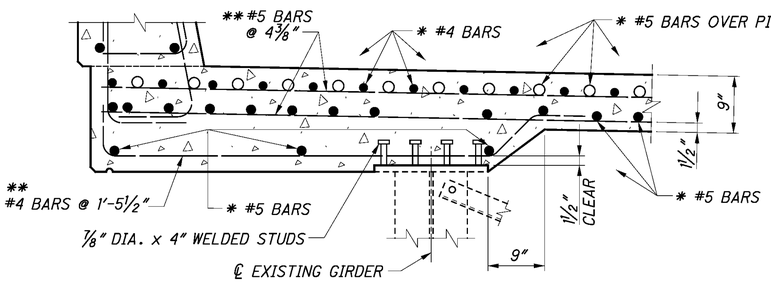
BRIDGE NO. SUM-271-0354 L
IR 271 OVER IR 77

SUM-271-2.33
PID No. 18710

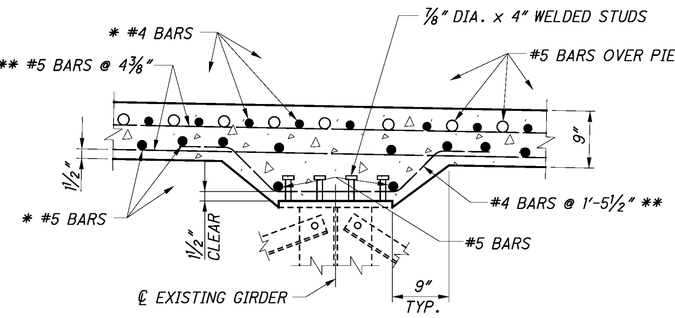
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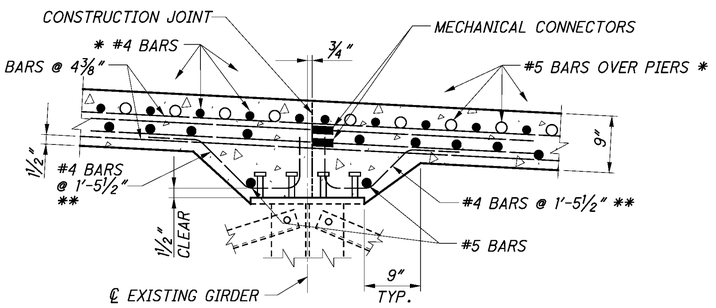
TRANSVERSE SECTION B-B
(END GIRDER B TO END GIRDER C)



FASCIA GIRDER SECTION



INTERIOR GIRDER SECTION



INTERIOR GIRDER SECTION AT CONSTRUCTION JOINT

* SEE SLAB PLAN FOR NUMBER OF BARS, BAR LENGTHS AND BAR SPACING.

** TRANSVERSE BARS ARE PLACED PARALLEL TO GIRDER LINES D, E AND F.

‡ CROSS SLOPE IS PERPENDICULAR TO ℄ CONSTRUCTION IR 271.

‡‡ CROSS SLOPE IS PERPENDICULAR TO ℄ RAMP D.

NOTES

MATERIALS SHOWN ARE NEW UNLESS OTHERWISE NOTED.

TRANSVERSE SECTION B-B: FOR LOCATION SEE SHEETS 70/106, 73/106 AND 76/106.

DIMENSIONS "A" AND "B": SEE TABLE ON SHEET 46/106.

ADDITIONAL NOTES: SEE SHEET 44/106.

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ALP	KH	DAP	10/5/12
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BLN		L7708815	

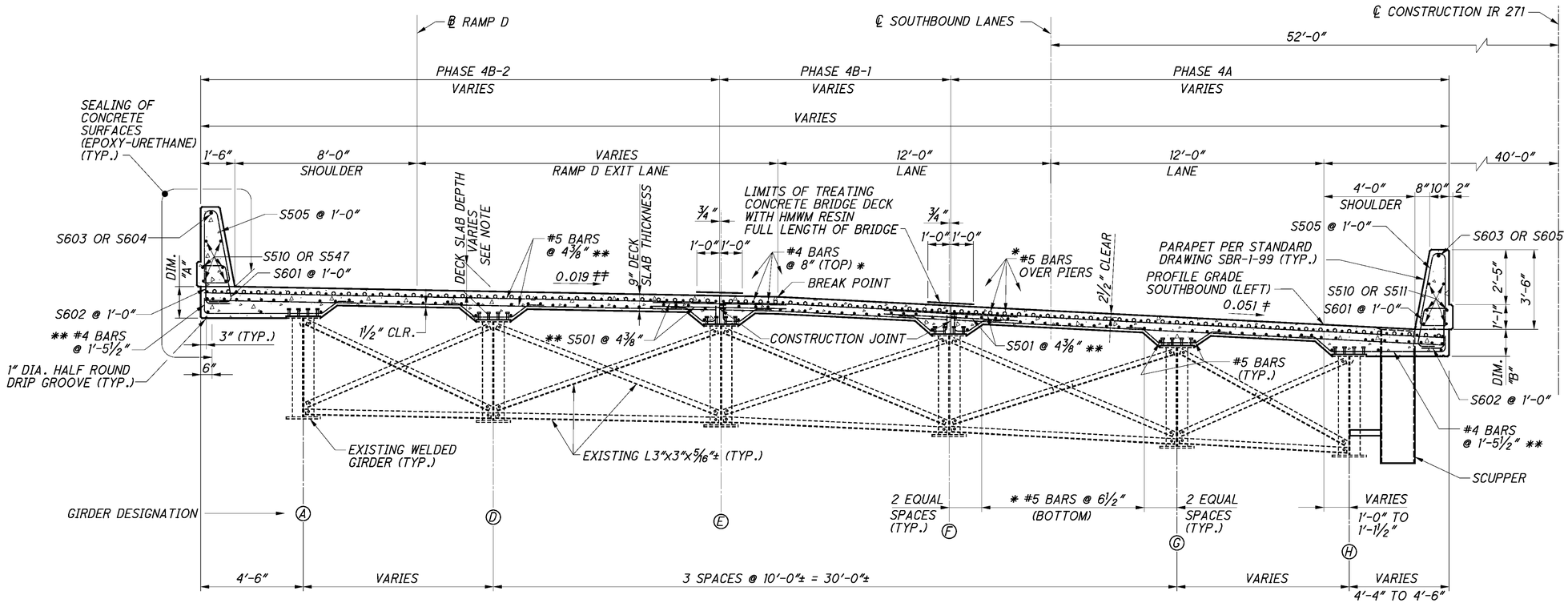
TRANSVERSE SECTION - SOUTHBOUND BRIDGE - 2
BRIDGE NO. SUM-271-0354 L
IR 271 OVER IR 77

SUM-271-2.33
PID No. 18710

45/106

1003
1195

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TRANSVERSE SECTION C-C

(END GIRDER C TO FORWARD ABUTMENT)

DECK CANTILEVER THICKNESS TABLE																			
	SPAN 1									SPAN 2									
	R.A.	⅛	¼	⅜	½	⅝	¾	⅞	PIER 1	⅛	SPLICE	¼	⅜	½	⅝	¾	SPLICE	⅞	PIER 2
DIMENSION "A"	19¼"	17¼"	17⅞"	18⅜"	18½"	18½"	18½"	18⅜"	18⅛"	17¼"	16⅝"	16⅝"	18⅛"	20½"	19¼"	18¼"	16⅞"	17¾"	17½"
DIMENSION "B"	13⅝"	13⅛"	12⅝"	12⅛"	11¾"	11¾"	11¾"	11¾"	12¾"	12¾"	12¾"	12"	11¾"	11⅞"	14¼"	15⅜"	13½"	13¾"	13⅛"

DECK CANTILEVER THICKNESS TABLE																
	SPAN 3									SPAN 4						
	⅛	¼	⅜	½	⅝	¾	SPLICE	⅞	PIER 3	⅛	¼	⅜	½	⅝	¾	⅞	F.A.
DIMENSION "A"	17⅞"	17¾"	17⅝"	17½"	17⅜"	17⅛"	16⅜"	16⅝"	17⅛"	17⅝"	17⅝"	17½"	17½"	17¼"	17"	16¾"	16⅜"
DIMENSION "B"	12¾"	12⅜"	12¼"	12⅝"	12⅞"	13¼"	13⅜"	12¾"	12¾"	12¾"	12⅞"	12⅞"	13"	13⅛"	13⅛"	13¼"	12½"

* SEE SLAB PLAN FOR NUMBER OF BARS, BAR LENGTHS AND BAR SPACING.

** TRANSVERSE BARS ARE PLACED PARALLEL TO GIRDER LINES D, E AND F.

‡ CROSS SLOPE IS PERPENDICULAR TO ℄ CONSTRUCTION IR 271.

‡‡ CROSS SLOPE IS PERPENDICULAR TO ℄ RAMP D.

NOTES

MATERIALS SHOWN ARE NEW UNLESS OTHERWISE NOTED.

TRANSVERSE SECTION C-C: FOR LOCATION SEE SHEETS 71/106, 74/106 AND 77/106.

ADDITIONAL NOTES: SEE SHEET 44/106.

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29 NORTH PARK STREET
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ALP	JLS	DAP	10/5/12
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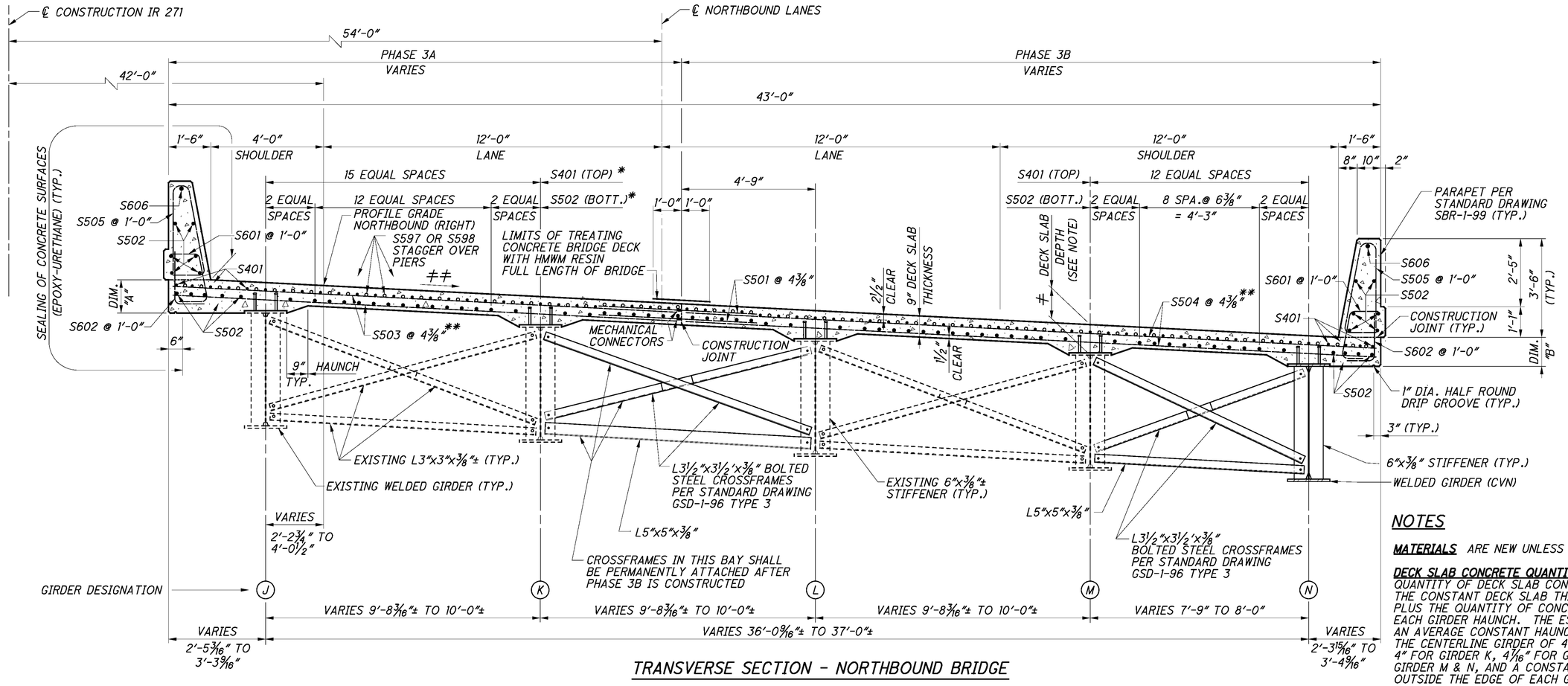
TRANSVERSE SECTION - SOUTHBOUND BRIDGE - 3
BRIDGE NO. SUM-271-0354 L
IR 271 OVER IR 77

SUM-271-2.33
PID No. 18710

46/106

1004
1195

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TRANSVERSE SECTION - NORTHBOUND BRIDGE

* TYPICAL BETWEEN EXISTING BEAMS.

** DIMENSIONS MEASURED ALONG LEFT EDGE OF DECK. BARS PLACED RADIALLY.

≠ HAUNCH DEPTH DIMENSION VARIES OVER EACH GIRDER. SEE TABLE FOR ESTIMATED HAUNCHES AT SPAN ⅛ POINTS.

≠≠ VARIES - SEE SUPERELEVATION TABLE

SUPERELEVATION TABLE	
STATION	**SUPERELEVATION**
186+50.00	0.0278
187+89.46	0.051
191+50.00	0.051

DECK CANTILEVER THICKNESS TABLE

	SPAN 1									SPAN 2								
	R.A.	**⅛**	**¼**	**⅜**	**½**	**⅝**	**¾**	**⅞**	**PIER 1**	**⅛**	**SPLICE**	**¼**	**⅜**	**½**	**⅝**	**¾**	**SPLICE**	**⅞**	**PIER 2**
DIMENSION "A"	15⅜"	15¼"	15³⁄16"	15⅛"	15⅛"	15³⁄16"	15⅛"	14⅝"	15¹⁵⁄16"	15"	14⅞"	14½"	14½"	14¹³⁄16"	14⅝16"	14⅞"	14⅞16"	14⅞"	14⅛16"
DIMENSION "B"	13¹³⁄16"	13¹³⁄16"	13¾"	13¾"	13¾"	13¾"	13¾"	13¹³⁄16"	13⅞"	13¹⁵⁄16"	14"	13¹⁵⁄16"	13¹³⁄16"	13¹³⁄16"	13¾"	13¹³⁄16"	13¹³⁄16"	13¹³⁄16"	13¹¹⁄16"

DECK CANTILEVER THICKNESS TABLE

	SPAN 3									SPAN 4							
	⅛	**¼**	**⅜**	**½**	**⅝**	**¾**	**SPLICE**	**⅞**	**PIER 3**	**⅛**	**¼**	**⅜**	**½**	**⅝**	**¾**	**⅞**	**F.A.**
DIMENSION "A"	16⁵⁄16"	15¹¹⁄16"	15¹⁄16"	14⅜"	13¹¹⁄16"	13¹¹⁄16"	13¹⁵⁄16"	13⁹⁄16"	13⁵⁄16"	13⅝"	13⅜"	13⅞16"	13⅞16"	13⅞16"	13⅝16"	13¼"	13⅛"
DIMENSION "B"	13⅝"	13⁹⁄16"	13⁹⁄16"	13⁹⁄16"	13⅝"	13⅝"	13¹¹⁄16"	13⅝"	13⁹⁄16"	13⁹⁄16"	13½"	13½"	13½"	13½"	13½"	13⁹⁄16"	13⁹⁄16"

NOTES

MATERIALS ARE NEW UNLESS OTHERWISE NOTED.

DECK SLAB CONCRETE QUANTITY: THE ESTIMATED QUANTITY OF DECK SLAB CONCRETE IS BASED ON THE CONSTANT DECK SLAB THICKNESS, AS SHOWN, PLUS THE QUANTITY OF CONCRETE THAT FORMS EACH GIRDER HAUNCH. THE ESTIMATE ASSUMES AN AVERAGE CONSTANT HAUNCH THICKNESS AT THE CENTERLINE GIRDER OF 4⅛16" FOR GIRDER J, 4" FOR GIRDER K, 4⅛16" FOR GIRDER L, 4" FOR GIRDER M & N, AND A CONSTANT HAUNCH WIDTH OUTSIDE THE EDGE OF EACH GIRDER FLANGE OF 9 INCHES. DEVIATE FROM THIS HAUNCH THICKNESS AS NECESSARY TO PLACE THE DECK SURFACE AT THE FINISHED GRADE. THE ALLOWABLE TOLERANCE FOR THE HAUNCH WIDTH OUTSIDE THE EDGE OF EACH GIRDER FLANGE IS ±3 INCHES.

THE HAUNCH THICKNESS WAS MEASURED AT THE CENTERLINE OF THE GIRDER FROM THE SURFACE OF THE DECK TO THE BOTTOM OF THE TOP FLANGE MINUS THE DECK SLAB THICKNESS. THE AREA OF ALL EMBEDDED STEEL PLATES HAS BEEN DEDUCTED FROM THE HAUNCH QUANTITY IN ACCORDANCE WITH 511.24.

REINFORCING STEEL SPLICE LENGTHS SHALL BE 2'-0" FOR HORIZONTAL #4 BARS, 2'-6" FOR VERTICAL #5 BARS, 2'-9" FOR HORIZONTAL #5 BARS, 3'-0' FOR VERTICAL #6 BARS AND 3'-3' FOR HORIZONTAL #6 BARS.

CVN: WHERE A SHAPE OR PLATE IS DESIGNATED (CVN), FURNISH MATERIAL THAT MEETS THE MINIMUM NOTCH TOUGHNESS REQUIREMENTS AS SPECIFIED IN 711.01.

GENERAL STEEL DETAILS: SEE STANDARD DRAWING GSD-1-96.

PHASE CONSTRUCTION DETAILS: SEE SHEETS 55 THROUGH 64 FOR MAINTENANCE OF TRAFFIC DETAILS AND NOTES.

CROSSFRAMES AT BEND POINTS: FOR DETAILS SEE SHEET 59/106.

HAUNCH DEPTH DIMENSIONS: SEE SHEET 92/106.

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

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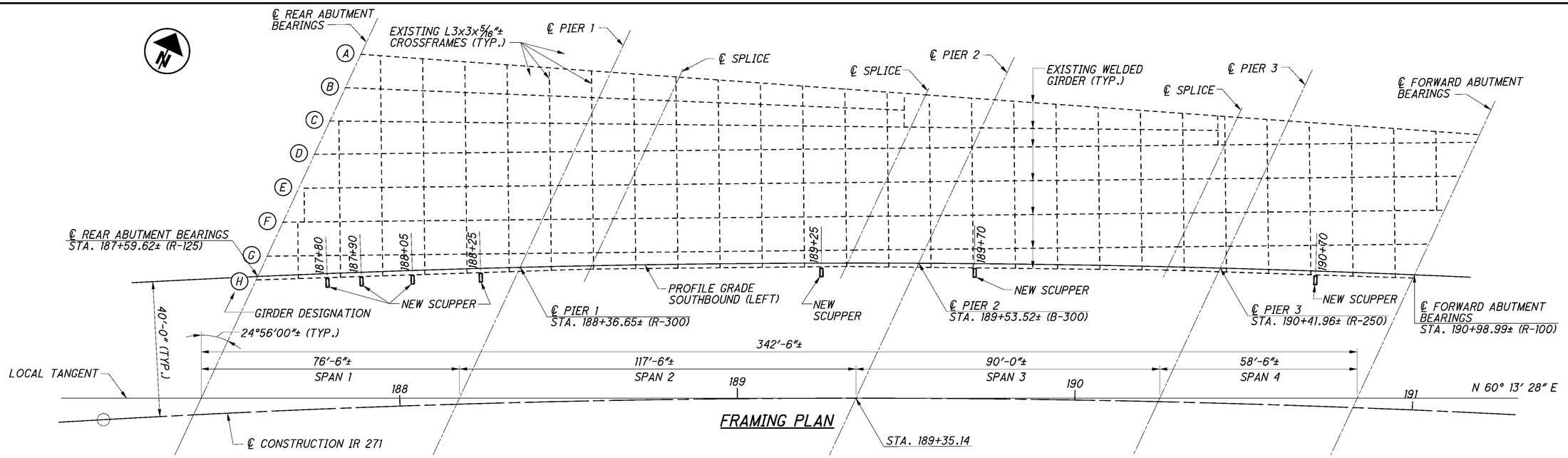
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BRIDGE NO. SUM-271-0354 R
IR 271 OVER IR 77

SUM-271-2.33
PID No. 18710

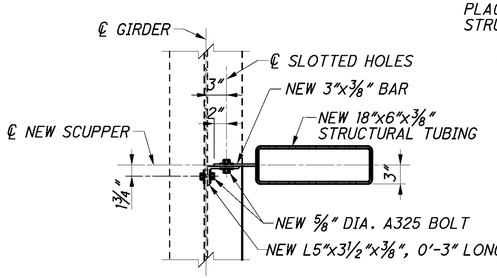
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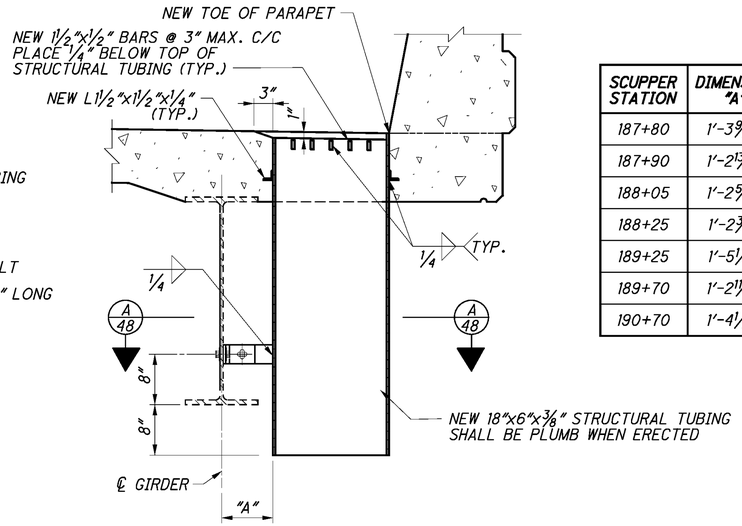
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FRAMING PLAN



SECTION A-A



SCUPPER ELEVATION

SCUPPER STATION	DIMENSION "A"
187+80	1'-3 9/16"±
187+90	1'-2 13/16"±
188+05	1'-2 5/16"±
188+25	1'-2 3/4"±
189+25	1'-5 1/4"±
189+70	1'-2 11/16"±
190+70	1'-4 1/16"±

LEGEND

(A) - INDICATES GIRDER DESIGNATION

NOTES

MATERIALS SHOWN ARE EXISTING UNLESS OTHERWISE NOTED.

GEOMETRIC LAYOUT PLAN SOUTHBOUND BRIDGE: SEE SHEET 50/106.

WELDED GIRDER ELEVATIONS: SEE SHEETS 52/106 THROUGH 55/106.

SCUPPER: FOR ADDITIONAL NOTES AND DETAILS SEE STANDARD DRAWING GSD-1-96.

ADDITIONAL NOTES: SEE SHEET 44/106.

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

DESIGNED ALP | DRAWN JLS | REVIEWED DAP | DATE 10/5/12
CHECKED BLN | REVISED | STRUCTURE FILE NUMBER L7708815

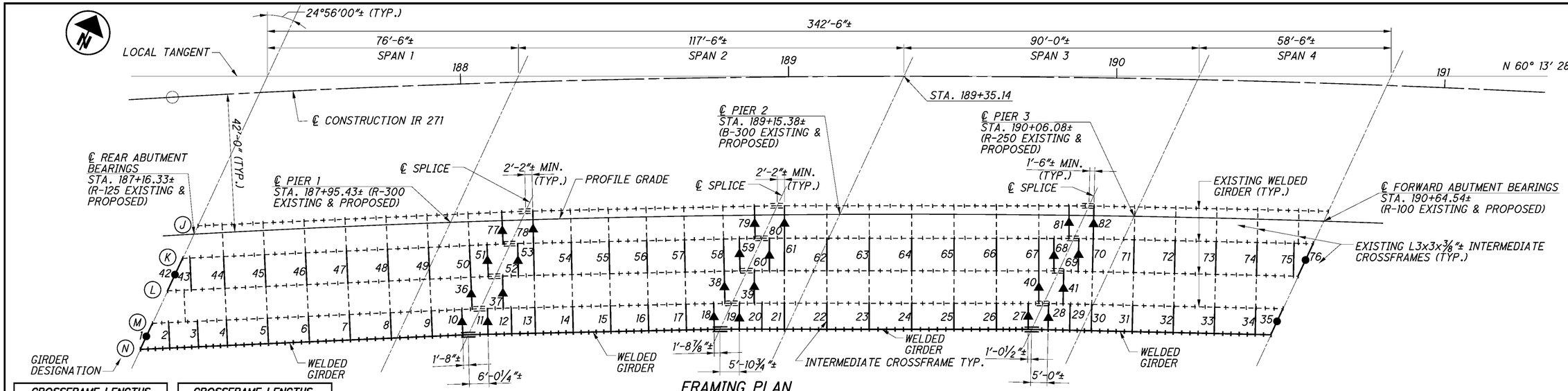
FRAMING PLAN - SOUTHBOUND BRIDGE
BRIDGE NO. SUM-271-0354 L
IR 271 OVER IR 77

SUM-271-2.33
PID No. 18710

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FRAMING PLAN

CROSSFRAME LENGTHS	
CROSSFRAME	CROSSFRAME LENGTH C/C GIRDER
1	8'-8 7/8"
2	7'-9"
3	7'-9"
4	7'-9"
5	7'-9"
6	7'-9"
7	7'-9"
8	7'-9"
9	7'-9"
10	7'-9"
11	7'-10"
12	7'-10"
13	7'-10"
14	7'-10"
15	7'-10"
16	7'-10"
17	7'-10"
18	7'-10"
19	7'-10 15/16"
20	7'-10 15/16"
21	7'-10 15/16"
22	7'-10 15/16"
23	7'-10 15/16"
24	7'-10 15/16"
25	7'-10 15/16"
26	7'-10 15/16"
27	7'-10 15/16"
28	7'-11 13/16"
29	7'-11 13/16"
30	7'-11 13/16"
31	7'-11 13/16"
32	7'-11 13/16"
33	7'-11 13/16"
34	7'-11 13/16"
35	8'-8 3/4"
36	9'-8 3/16"±
37	9'-9 1/2"±
38	9'-9 1/2"±
39	9'-10 13/16"±
40	9'-10 13/16"±
41	10'-0"±

CROSSFRAME LENGTHS	
CROSSFRAME	CROSSFRAME LENGTH C/C GIRDER
42	10'-10 15/16"±
43	9'-8 3/16"±
44	9'-8 3/16"±
45	9'-8 3/16"±
46	9'-8 3/16"±
47	9'-8 3/16"±
48	9'-8 3/16"±
49	9'-8 3/16"±
50	9'-8 3/16"±
51	9'-8 3/16"±
52	9'-9 3/16"±
53	9'-9 3/16"±
54	9'-9 3/16"±
55	9'-9 3/16"±
56	9'-9 3/16"±
57	9'-9 3/16"±
58	9'-9 3/16"±
59	9'-9 3/16"±
60	9'-10 3/16"±
61	9'-10 3/16"±
62	9'-10 3/16"±
63	9'-10 3/16"±
64	9'-10 3/16"±
65	9'-10 3/16"±
66	9'-10 3/16"±
67	9'-10 3/16"±
68	9'-10 3/16"±
69	10'-0"±
70	10'-0"±
71	10'-0"±
72	10'-0"±
73	10'-0"±
74	10'-0"±
75	10'-0"±
76	10'-11"±
77	9'-8 1/4"±
78	9'-9 3/16"±
79	9'-9 3/16"±
80	9'-10 13/16"±
81	9'-10 13/16"±
82	10'-0"±

	NEW CROSSFRAME SPACING ALONG GIRDER		
GIRDER	BEGIN CROSSFRAME	END CROSSFRAME	CROSSFRAME SPACING
N	1	2	8'-10 1/8"±
N	2	3	8'-10 1/8"±
N	3	4	8'-10 1/8"±
N	4	5	12'-6"±
N	5	6	12'-6"±
N	6	7	12'-6"±
N	7	8	12'-6"±
N	8	9	12'-6"±
N	9	10	9'-3 5/8"±
N	10	SPLICE	1'-8"±
N	SPLICE	11	6'-0 1/4"±
N	11	12	7'-2 11/16"±
N	12	13	7'-2 11/16"±
N	13	14	11'-6 1/16"±
N	14	15	11'-6 1/16"±
N	15	16	11'-6 1/16"±
N	16	17	11'-6 1/16"±
N	17	18	8'-5 13/16"±
N	18	SPLICE	1'-8 3/4"±
N	SPLICE	19	5'-10 3/4"±
N	19	20	6'-10 7/16"±
N	20	21	6'-10 7/16"±
N	21	22	12'-11 1/16"±
N	22	23	12'-11 1/16"±
N	23	24	12'-11 1/16"±
N	24	25	12'-11 1/16"±
N	25	26	12'-11 1/16"±
N	26	27	9'-8 7/16"±
N	27	SPLICE	1'-0 1/2"±
N	SPLICE	28	5'-0"±
N	28	29	6'-6 13/16"±
N	29	30	6'-6 13/16"±
N	30	31	12'-6"±
N	31	32	12'-6"±
N	32	33	12'-6"±
N	33	34	12'-6"±
N	34	35	4'-10 1/4"±
M	36	SPLICE	2'-6"±
M	SPLICE	37	6'-11 13/16"±
M	38	SPLICE	2'-2 1/16"±

	NEW CROSSFRAME SPACING ALONG GIRDER		
GIRDER	BEGIN CROSSFRAME	END CROSSFRAME	CROSSFRAME SPACING
M	SPLICE	39	6'-9 7/16"±
M	40	SPLICE	1'-6"±
M	SPLICE	41	5'-10 5/16"±
L	42	43	7'-2 1/2"±
L	43	44	10'-3 1/16"±
L	44	45	12'-6"±
L	45	46	12'-6"±
L	46	47	12'-6"±
L	47	48	12'-6"±
L	48	49	12'-6"±
L	49	50	12'-6"±
L	50	51	5'-4 7/16"±
L	51	SPLICE	2'-2"±
L	SPLICE	52	6'-11 13/16"±
L	52	53	4'-9 13/16"±
L	53	54	11'-6 1/16"±
L	54	55	11'-6 1/16"±
L	55	56	11'-6 1/16"±
L	56	57	11'-6 1/16"±
L	57	58	11'-10 7/8"±
L	58	59	4'-9 13/16"±
L	59	SPLICE	2'-2"±
L	SPLICE	60	6'-9 3/16"±
L	60	61	4'-7 3/16"±
L	61	62	12'-11 1/16"±
L	62	63	12'-11 1/16"±
L	63	64	12'-11 1/16"±
L	64	65	12'-11 1/16"±
L	65	66	12'-11 1/16"±
L	66	67	12'-11 1/16"±
L	67	68	4'-7 3/16"±
L	68	SPLICE	1'-6"±
L	SPLICE	69	5'-10 5/16"±
L	69	70	4'-4 5/16"±
L	70	71	12'-6"±
L	71	72	12'-6"±
L	72	73	12'-6"±
L	73	74	12'-6"±
L	74	75	11'-2 13/16"±
L	75	76	1'-6"±

	NEW CROSSFRAME SPACING ALONG GIRDER		
GIRDER	BEGIN CROSSFRAME	END CROSSFRAME	CROSSFRAME SPACING
K	77	SPLICE	2'-3 7/16"±
K	SPLICE	78	6'-11 13/16"±
K	79	SPLICE	2'-2"±
K	SPLICE	80	6'-9 3/16"±
K	81	SPLICE	1'-6"±
K	SPLICE	82	5'-10 5/16"±

LEGEND

——— - INDICATES NEW INTERMEDIATE CROSSFRAME

—●— - INDICATES NEW END CROSSFRAME

—▲— - INDICATES NEW CROSSFRAME AT BEND POINT

NOTES

NEW STEEL IS TO BE ASTM A709, GRADE 50.

GIRDER ERECTION PROCEDURE: CROSSFRAMES IN THE BAY BETWEEN GIRDERS M AND N SHALL BE CONNECTED PRIOR TO SPLICING ADDITIONAL SEGMENTS OF GIRDER N.

MATERIALS SHOWN ARE NEW UNLESS OTHERWISE NOTED.

GEOMETRIC LAYOUT PLAN NORTHBOUND BRIDGE: SEE SHEET 51/106.

INTERMEDIATE CROSSFRAME DETAILS: SEE SHEET 47/106.

END CROSSFRAMES DETAILS: SEE SHEETS 66/106 AND 67/106.

CROSSFRAMES AT BEND POINTS: FOR DETAILS SEE SHEET 59/106.

BEARING DETAILS: SEE STANDARD DRAWING RB-1-55.

WELDED GIRDER ELEVATIONS: SEE SHEETS 57/106 THROUGH 59/106.

ADDITIONAL NOTES: SEE SHEET 47/106.

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MANSFIELD, OHIO 44902

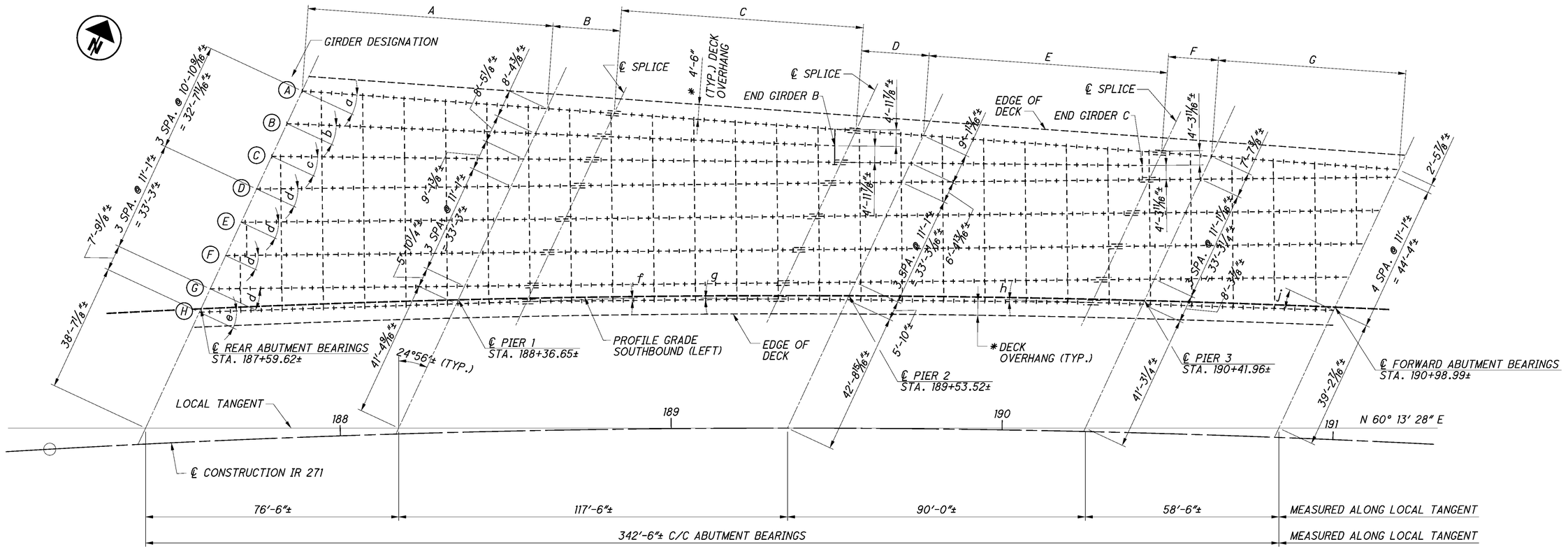
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FRAMING PLAN - NORTHBOUND BRIDGE
BRIDGE NO. SUM-271-0354 R
IR 271 OVER IR 77

SUM-271-2.33
PID No. 18710

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GEOMETRIC LAYOUT PLAN - SOUTHBOUND BRIDGE

DECK OVERHANG DIMENSIONS - RIGHT SIDE																	
R.A. BRGS.	SPAN 1							PIER 1	SPAN 2								
	⅛	¼	⅜	½	⅝	¾	⅞		⅛	SPLICE	¼	⅜	½	⅝	¾	SPLICE	⅞
4'-6 1/16"±	4'-4¾"±	4'-3 11/16"±	4'-2 15/16"±	4'-2½"±	4'-2 5/16"±	4'-2 7/16"±	4'-2 13/16"±	4'-3½"±	4'-5⅛"±	4'-6 1/16"±	4'-5 3/16"±	4'-4 3/16"±	4'-3 13/16"±	4'-4⅛"±	4'-5⅛"±	4'-6"±	4'-5⅛"±

DECK OVERHANG DIMENSIONS - RIGHT SIDE																	
PIER 2	SPAN 3							PIER 3	SPAN 4							F.A. BRGS.	
	⅛	¼	⅜	½	⅝	¾	SPLICE	⅞		⅛	¼	⅜	½	⅝	¾	⅞	
4'-3⅝"±	4'-2 15/16"±	4'-2 9/16"±	4'-2⅝"±	4'-3 1/16"±	4'-3⅛"±	4'-5 1/16"±	4'-6"±	4'-5 5/16"±	4'-4⅝"±	4'-4¼"±	4'-4 1/16"±	4'-4"±	4'-4⅛"±	4'-4⅜"±	4'-4¾"±	4'-5 5/16"±	4'-6 1/16"±

TABLE OF DIMENSIONS											
GIRDER LINE	A	B	A+B	C	D	E	D+E	F	G	F+G
A	74'-2⅝"±	20'-3 15/16"±	94'-6 9/16"±	73'-2⅞"±	20'-5⅛"±	72'-2⅜"±	92'-7⅝"±	15'-1 1/16"±	56'-9 3/16"±	71'-10⅝"±
B	75'-1 13/16"±	20'-7"±	95'-8 13/16"±	69'-11½"±	-	-	-	-	-	-
C	76'-1 9/16"±	20'-10 3/16"±	96'-11¾"±	75'-1½"±	20'-11½"±	70'-0 7/16"±	90'-11 15/16"	-	-	-
D	76'-10½"±	21'-0⅝"±	97'-11⅛"±	75'-10 5/16"±	21'-1 5/16"±	74'-9⅜"±	95'-11 5/16"±	15'-7⅞"±	58'-9 7/16"±	74'-5 5/16"±
E	76'-10½"±	21'-0⅝"±	97'-11⅛"±	75'-10 5/16"±	21'-1 5/16"±	74'-9⅜"±	95'-11 5/16"±	15'-7⅞"±	58'-9 7/16"±	74'-5 5/16"±
F	76'-10½"±	21'-0⅝"±	97'-11⅛"±	75'-10 5/16"±	21'-1 5/16"±	74'-9 9/16"±	95'-11½"±	15'-7⅞"±	58'-9 9/16"±	74'-5 5/16"±
G	76'-10½"±	21'-0⅝"±	97'-11⅛"±	75'-10 5/16"±	21'-1 5/16"±	74'-9 5/16"±	95'-11¼"±	15'-7⅞"±	58'-9 9/16"±	74'-5 5/16"±
H	77'-8 9/16"±	21'-3⅞"±	99'-0"±	75'-10¼"±	20'-11 7/16"±	74'-0 1/16"±	94'-11⅞"	15'-4¼"±	57'-7⅞"±	73'-0⅛"±

* THE DECK OVERHANG DIMENSION IS THE DIMENSION MEASURED FROM THE FASCIA GIRDER TO THE OUTSIDE OF THE DECK PERPENDICULAR TO THE GIRDER AT ⅛ POINTS OF THE SPAN MEASURED ALONG THE CENTERLINE OF THE FASCIA GIRDER.

≠ DIMENSIONS a THRU d ARE CONSISTENT ALONG THE LENGTH OF THE SOUTHBOUND BRIDGE.

TABLE OF ANGLES ≠	
LOCATION	ANGLE
a	20° 49' 49"±
b	22° 37' 23"±
c	24° 19' 39"±
d	25° 31' 36"±
e	26° 47' 47"±
f	1° 16' 20"±
g	1° 14' 17"±
h	1° 13' 02"±
j	23° 04' 08"±

NOTES

FRAMING PLAN SOUTHBOUND BRIDGE: SEE SHEET 48/106.

ADDITIONAL NOTES: SEE SHEET 44/106.

NOTATION: R.A. - REAR ABUTMENT
F.A. - FORWARD ABUTMENT

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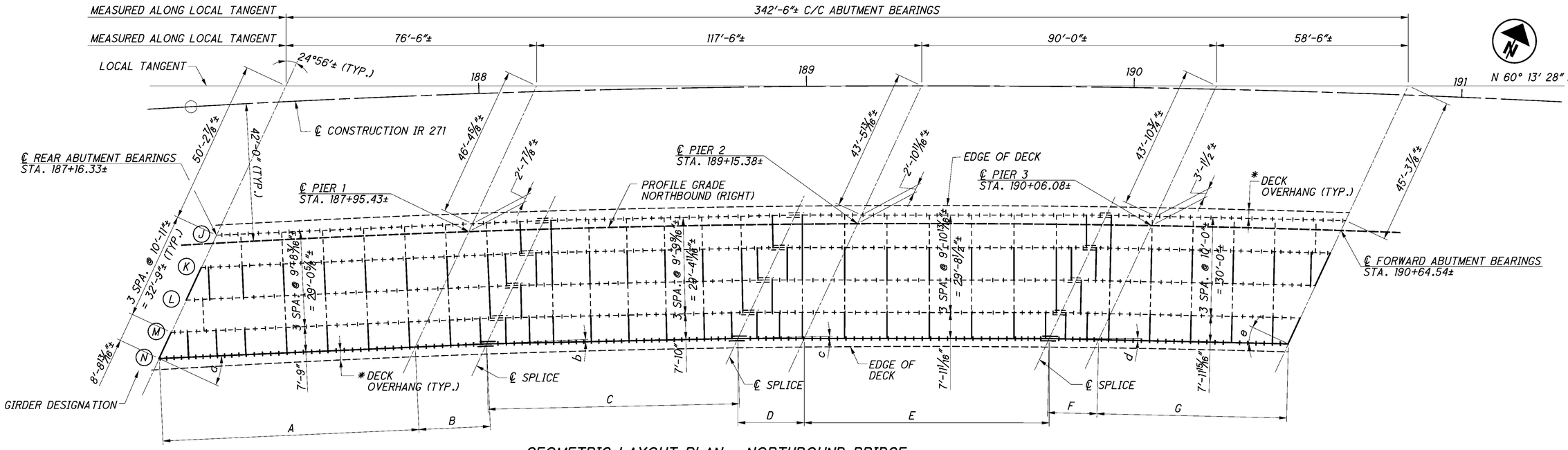
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GEOMETRIC LAYOUT PLAN - SOUTHBOUND BRIDGE
BRIDGE NO. SUM-271-0354 L
IR 271 OVER IR 77

SUM-271-2.33
PID No. 18710

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GEOMETRIC LAYOUT PLAN - NORTHBOUND BRIDGE

* THE DECK OVERHANG DIMENSION IS THE DIMENSION MEASURED FROM THE FASCIA GIRDER TO THE OUTSIDE OF THE DECK PERPENDICULAR TO THE GIRDER AT 1/8 POINTS OF THE SPAN MEASURED ALONG THE CENTERLINE OF THE FASCIA GIRDER.

DECK OVERHANG DIMENSIONS

SIDE	R.A. BRGS.	SPAN 1							PIER 1	SPAN 2								
		1/8	1/4	3/8	1/2	5/8	3/4	7/8		1/8	SPLICE	1/4	3/8	1/2	5/8	3/4	SPLICE	7/8
LEFT	3'-0 3/4"±	3'-1 7/8"±	3'-2 3/4"±	3'-3 5/16"±	3'-3 9/16"±	3'-3 1/2"±	3'-3 1/8"±	3'-2 1/2"±	3'-1 9/16"±	2'-11 5/8"±	2'-10 7/16"±	2'-11 1/8"±	2'-11 13/16"±	2'-11 7/8"±	2'-11 1/4"±	2'-9 15/16"±	2'-8 3/4"±	2'-9 5/16"±
RIGHT	3'-4 9/16"±	3'-3 1/8"±	3'-1 11/16"±	3'-0 9/16"±	2'-11 11/16"±	2'-11 3/16"±	2'-10 15/16"±	2'-11"±	2'-11 5/16"±	3'-0 7/16"±	3'-1 3/16"±	3'-0 1/16"±	2'-10 7/16"±	2'-9 9/16"±	2'-9 5/16"±	2'-9 13/16"±	2'-10 1/2"±	2'-9 9/16"±

DECK OVERHANG DIMENSIONS

SIDE	PIER 2	SPAN 3							PIER 3	SPAN 4							F.A. BRGS.
		1/8	1/4	3/8	1/2	5/8	3/4	SPLICE 7/8		1/8	1/4	3/8	1/2	5/8	3/4	7/8	
LEFT	2'-10 5/8"±	2'-11 1/8"±	2'-11 1/4"±	2'-11"±	2'-10 5/16"±	2'-9 5/16"±	2'-7 1/8"±	2'-6 11/16"± 2'-7"±	2'-7 3/4"±	2'-8"±	2'-8 1/16"±	2'-8"±	2'-7 3/4"±	2'-7 3/8"±	2'-6 13/16"±	2'-6 1/16"±	2'-5 3/16"±
RIGHT	2'-7 1/16"±	2'-6 5/16"±	2'-5 9/16"±	2'-5 1/4"±	2'-5 5/16"±	2'-5 3/4"±	2'-6 9/16"±	2'-7 3/8"± 2'-6 13/16"±	2'-5 1/2"±	2'-4 1/8"±	2'-4 3/8"±	2'-4 1/16"±	2'-3 15/16"±	2'-3 15/16"±	2'-4 1/8"±	2'-4 1/2"±	2'-5"±

TABLE OF DIMENSIONS

GIRDER LINE	A	B	A+B	C	D	E	D+E	F	G	F+G
J	78'-2 7/16"±	21'-9 9/16"±	100'-0"±	76'-8 9/16"±	20'-3 1/16"±	74'-8 15/16"±	95'-0"±	15'-1"±	57'-10 15/16"±	72'-11 15/16"±
K	78'-2 7/16"±	21'-9 9/16"±	100'-0"±	76'-8 9/16"±	20'-3 1/16"±	74'-8 15/16"±	95'-0"±	15'-1"±	57'-10 15/16"±	72'-11 15/16"±
L	78'-2 7/16"±	21'-9 9/16"±	100'-0"±	76'-8 9/16"±	20'-3 1/16"±	74'-8 15/16"±	95'-0"±	15'-1"±	57'-10 15/16"±	72'-11 15/16"±
M	78'-2 7/16"±	21'-9 9/16"±	100'-0"±	76'-8 9/16"±	20'-3 1/16"±	74'-8 15/16"±	95'-0"±	15'-1"±	57'-10 15/16"±	72'-11 15/16"±
N	78'-2 7/16"±	21'-9 9/16"±	100'-0"±	76'-8 9/16"±	20'-3 1/16"±	74'-8 15/16"±	95'-0"±	15'-1"±	57'-10 15/16"±	72'-11 15/16"±

TABLE OF ANGLES GIRDER J THRU N

LOCATION	ANGLE
a	27° 29' 40"±
b	1° 18' 51"±
c	1° 16' 37"±
d	1° 14' 57"±
e	23° 39' 15"±

NOTES

FRAMING PLAN NORTHBOUND BRIDGE: SEE SHEET 49/106.

ADDITIONAL NOTES: SEE SHEET 47/106.

NOTATION: R.A. - REAR ABUTMENT
F.A. - FORWARD ABUTMENT

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

DESIGNED	DRAWN	REVIEWED	DATE
ALP	JLS	DAP	10/5/12
CHECKED	REVISED	STRUCTURE FILE NUMBER	
BLN		R7708890	

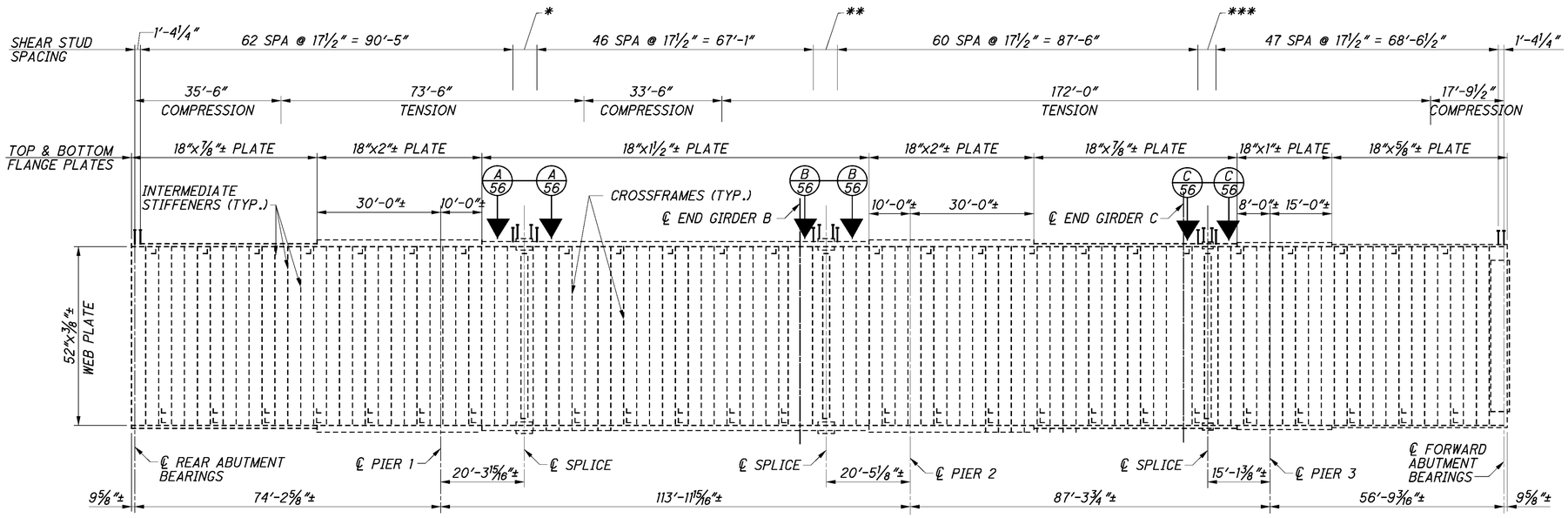
GEOMETRIC LAYOUT PLAN - NORTHBOUND BRIDGE
BRIDGE NO. SUM-271-0354 R
IR 271 OVER IR 77

SUM-271-2.33
PID No. 18710

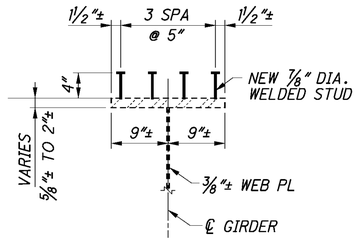
51/106

1009
1195

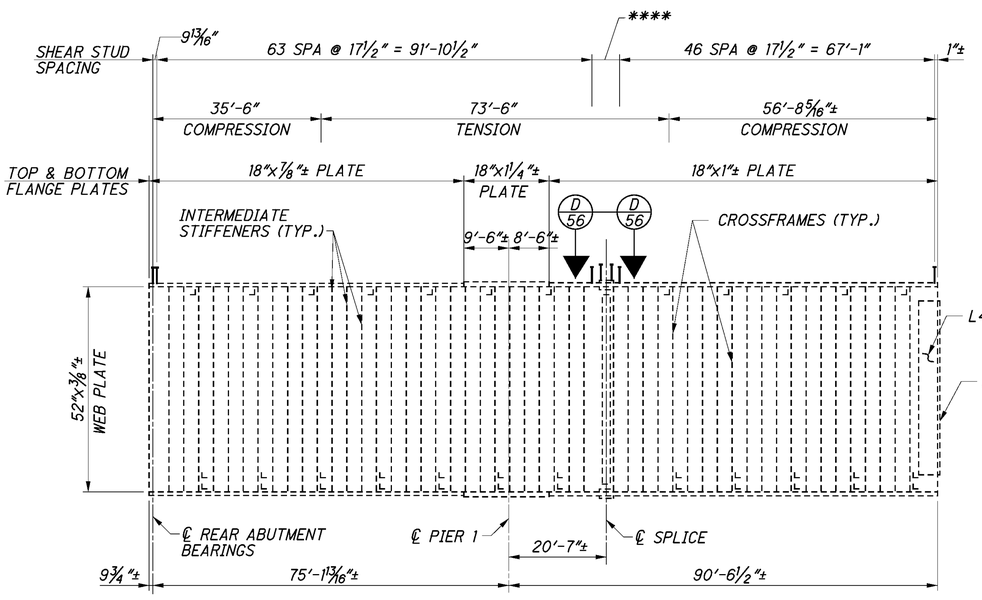
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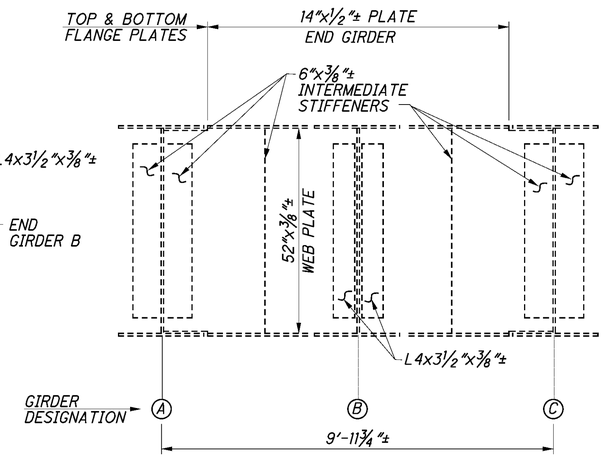
EXISTING GIRDER A ELEVATION



TYPICAL SECTION



EXISTING GIRDER B ELEVATION



EXISTING END GIRDER B ELEVATION

LEGEND

* SEE VIEW A-A FOR STAGGERED SPACING IN THIS AREA

** SEE VIEW B-B FOR STAGGERED SPACING IN THIS AREA

*** SEE VIEW C-C FOR STAGGERED SPACING IN THIS AREA

**** SEE VIEW D-D FOR STAGGERED SPACING IN THIS AREA

NOTES

MATERIALS SHOWN ARE EXISTING UNLESS OTHERWISE NOTED.

WELD ATTACHMENT OF SUPPORTS FOR CONCRETE DECK FINISHING MACHINE TO AREAS OF THE FASCIA STRINGER FLANGES DESIGNATED "COMPRESSION". DO NOT WELD ATTACHMENTS TO AREAS DESIGNATED "TENSION". FILLET WELDS TO COMPRESSION FLANGES SHALL BE AT LEAST 1" FROM EDGE OF FLANGE, BE NO MORE THAN 2" LONG, AND BE AT LEAST ¼" FOR THICKNESSES UP TO ¾" OR 5⁄16" FOR GREATER THAN ¾" THICK.

FRAMING PLAN SOUTHBOUND BRIDGE: SEE SHEET 48/106.

ADDITIONAL NOTES: SEE SHEET 44/106.

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

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BLN		L7708815	

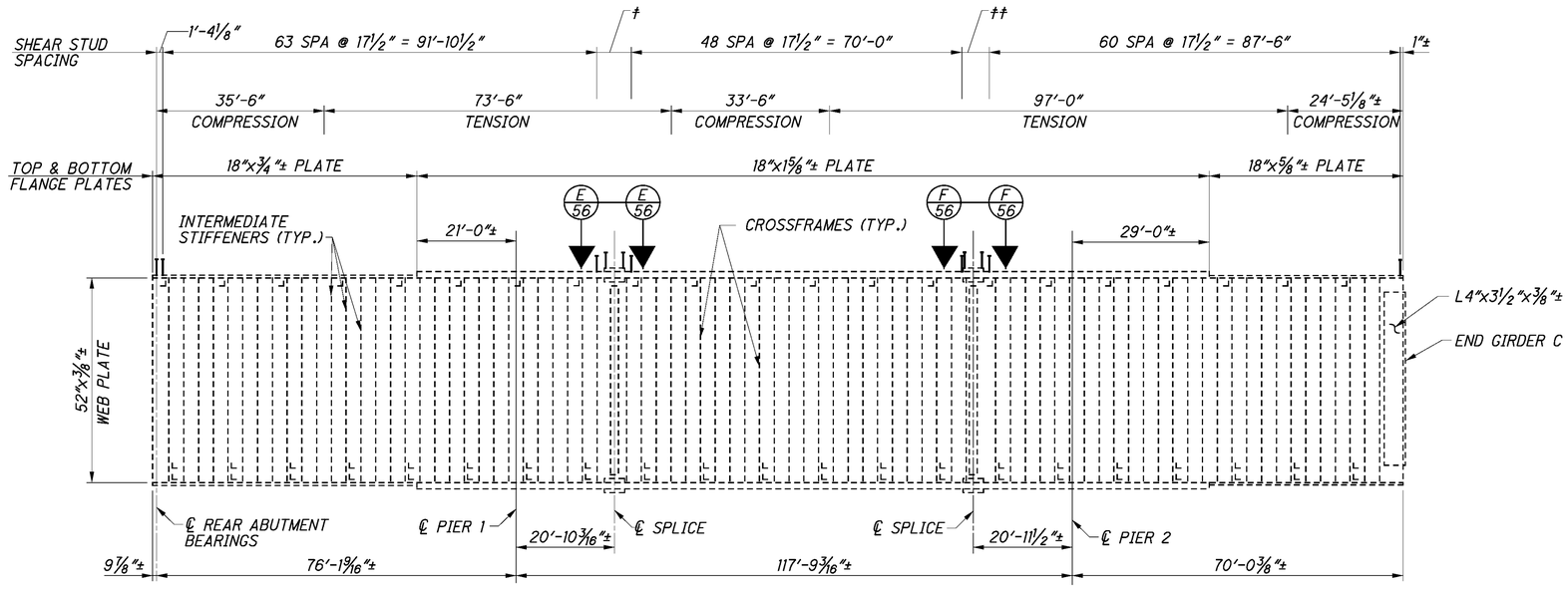
GIRDER ELEVATION - SOUTHBOUND BRIDGE - 1
BRIDGE NO. SUM-271-0354 L
IR 271 OVER IR 77

SUM-271-2.33
PID No. 18710

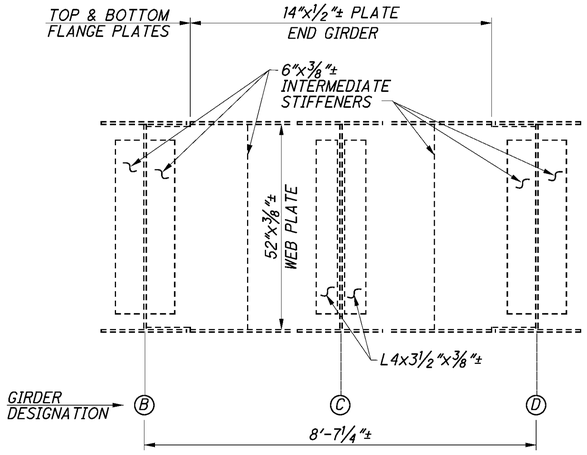
52/106

1010
1195

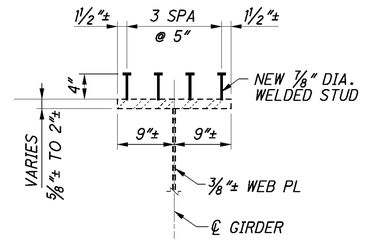
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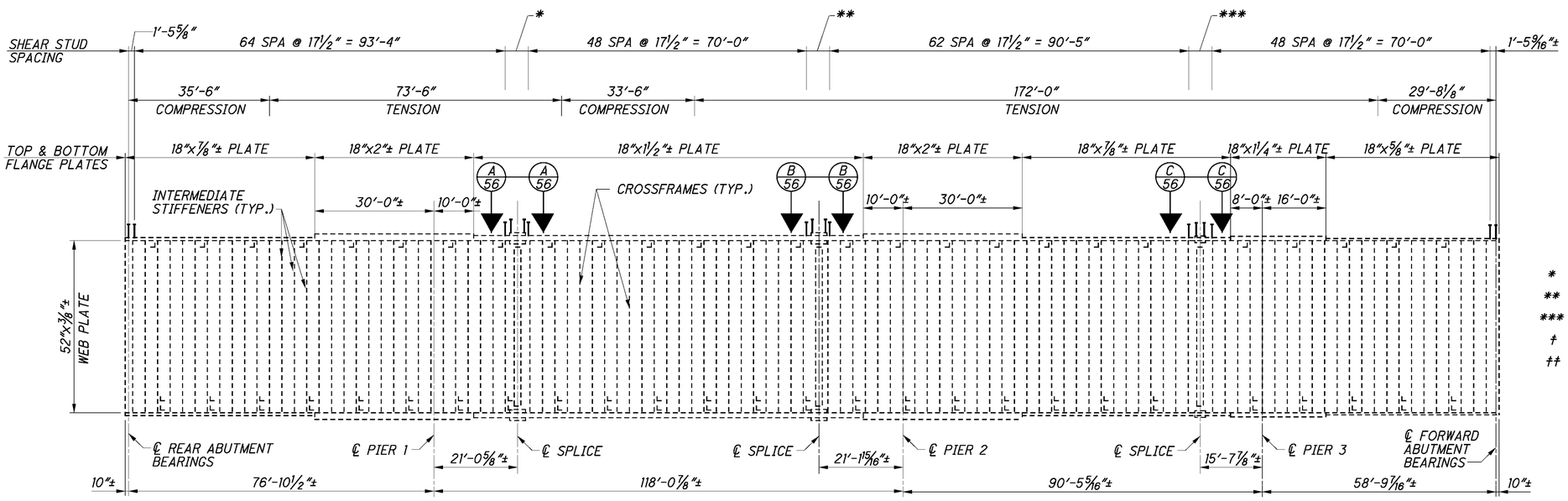
EXISTING GIRDER C ELEVATION



EXISTING END GIRDER C ELEVATION



TYPICAL SECTION



EXISTING GIRDER D ELEVATION

LEGEND

*	SEE VIEW A-A FOR STAGGERED SPACING IN THIS AREA
**	SEE VIEW B-B FOR STAGGERED SPACING IN THIS AREA
***	SEE VIEW C-C FOR STAGGERED SPACING IN THIS AREA
†	SEE VIEW D-D FOR STAGGERED SPACING IN THIS AREA
††	SEE VIEW E-E FOR STAGGERED SPACING IN THIS AREA

NOTES

MATERIALS SHOWN ARE EXISTING UNLESS OTHERWISE NOTED.

FRAMING PLAN SOUTHBOUND BRIDGE: SEE SHEET 48/106.

ADDITIONAL NOTES: SEE SHEET 52/106.

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
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BLN		L7708815	

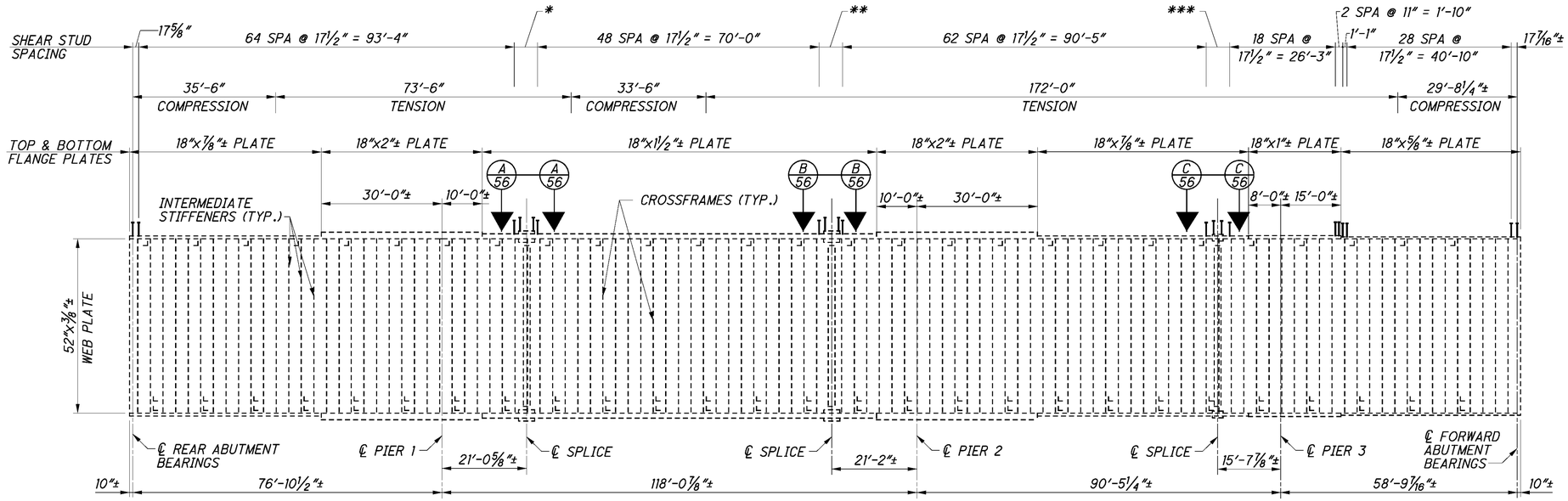
GIRDER ELEVATION - SOUTHBOUND BRIDGE - 2
BRIDGE NO. SUM-271-0354 L
IR 271 OVER IR 77

SUM-271-2.33
PID No. 18710

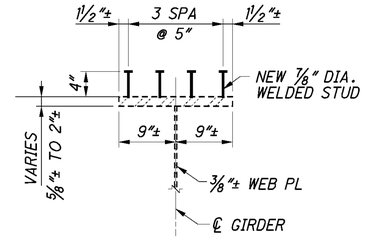
53/106

1011/1195

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EXISTING GIRDER E ELEVATION



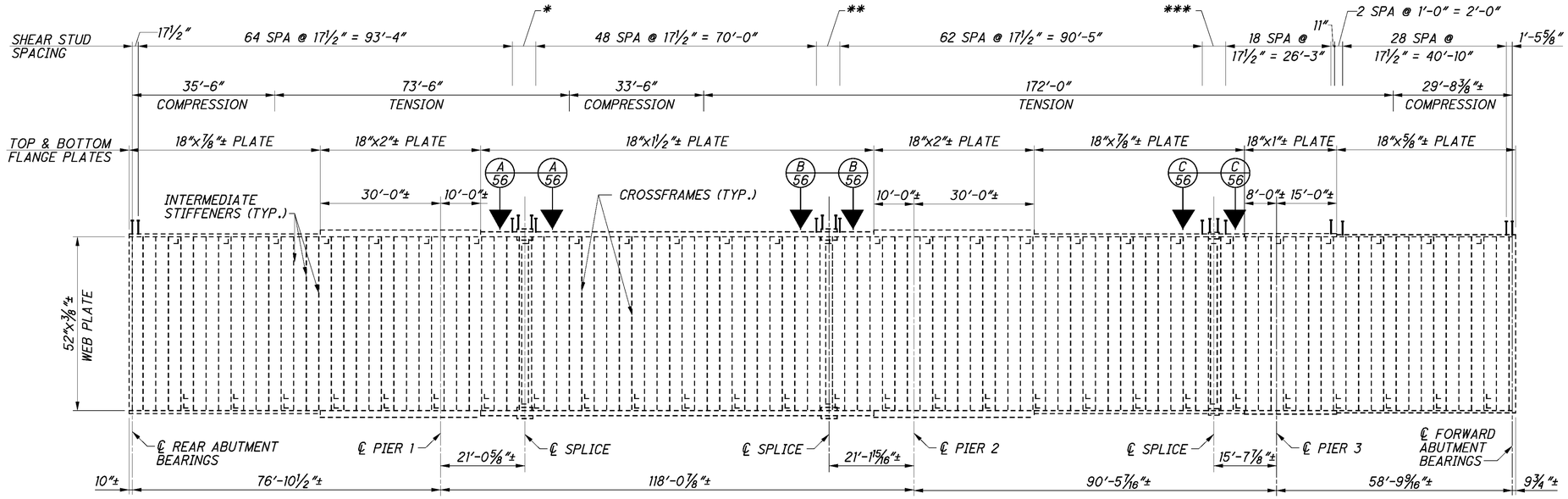
TYPICAL SECTION

LEGEND

* SEE VIEW A-A FOR STAGGERED SPACING IN THIS AREA

** SEE VIEW B-B FOR STAGGERED SPACING IN THIS AREA

*** SEE VIEW C-C FOR STAGGERED SPACING IN THIS AREA



EXISTING GIRDER F & G ELEVATION

NOTES

MATERIALS SHOWN ARE EXISTING UNLESS OTHERWISE NOTED.

FRAMING PLAN SOUTHBOUND BRIDGE: SEE SHEET 48/106.

ADDITIONAL NOTES: SEE SHEET 52/106.

RICHLAND ENGINEERING LIMITED
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CHECKED	REVISED	STRUCTURE FILE NUMBER	
BLN		L7708815	

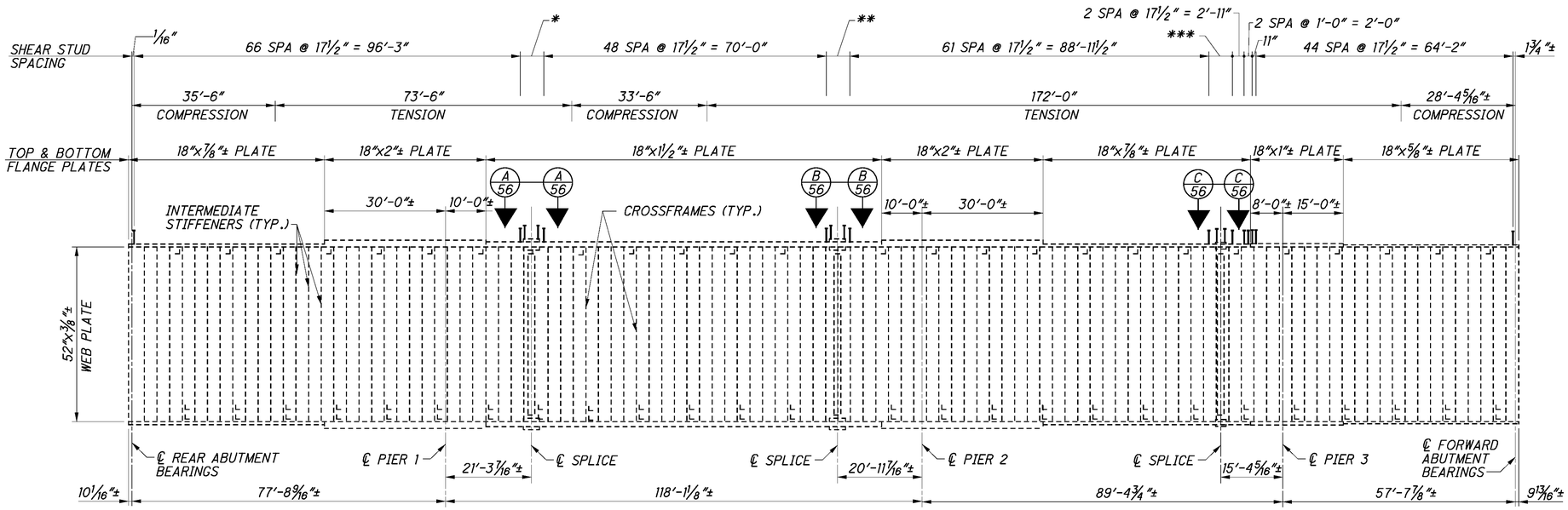
BRIDGE - 3

GIRDER ELEVATION - SOUTHBOUND BRIDGE

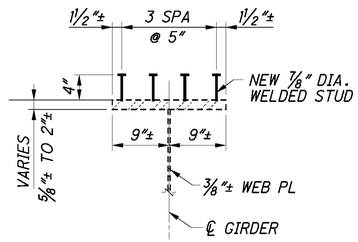
BRIDGE NO. SUM-271-0354 L
IR 271 OVER IR 77

SUM-271-2.33
PID No. 18710

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EXISTING GIRDER H ELEVATION



TYPICAL SECTION

LEGEND

* SEE VIEW A-A FOR STAGGERED SPACING IN THIS AREA

** SEE VIEW B-B FOR STAGGERED SPACING IN THIS AREA

*** SEE VIEW C-C FOR STAGGERED SPACING IN THIS AREA

NOTES

MATERIALS SHOWN ARE EXISTING UNLESS OTHERWISE NOTED.

FRAMING PLAN SOUTHBOUND BRIDGE: SEE SHEET 48/106.

ADDITIONAL NOTES: SEE SHEET 52/106.

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
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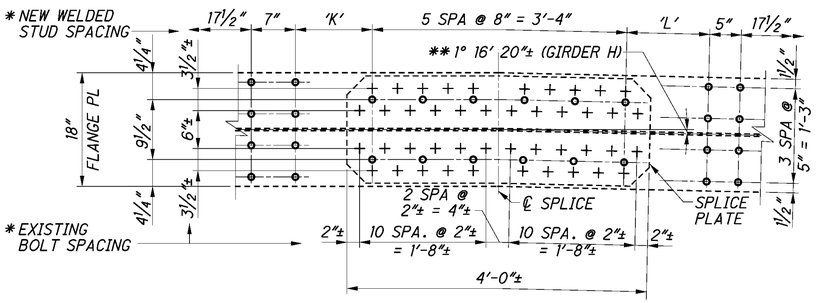
GIRDER ELEVATION - SOUTHBOUND BRIDGE - 4
BRIDGE NO. SUM-271-0354 L
IR 271 OVER IR 77

SUM-271-2.33
PID No. 18710

55/106

1013/1195

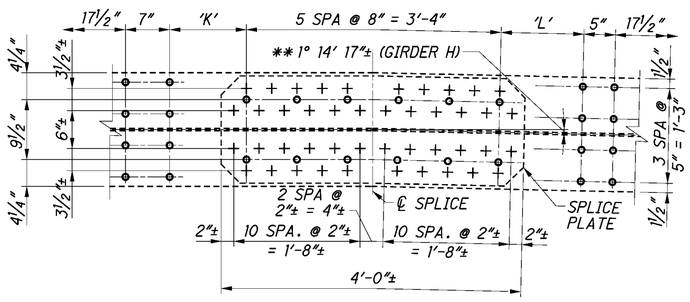
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VIEW A-A

(GIRDERS A, D, E, F, G & H)

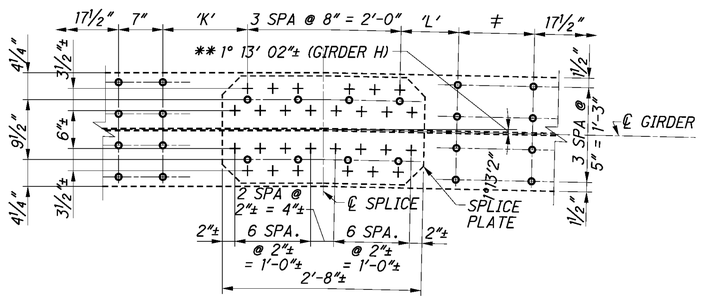
VIEW A-A		
GIRDER	DIM. 'K'	DIM. 'L'
A	6 5/16"	11 11/16"
D	10 9/16"	7 7/16"
E	10 1/2"	7 1/2"
F	10 5/8"	7 3/8"
G	10 5/8"	7 3/8"
H	5 15/16"	12 1/16"



VIEW B-B

(GIRDERS A, D, E, F, G & H)

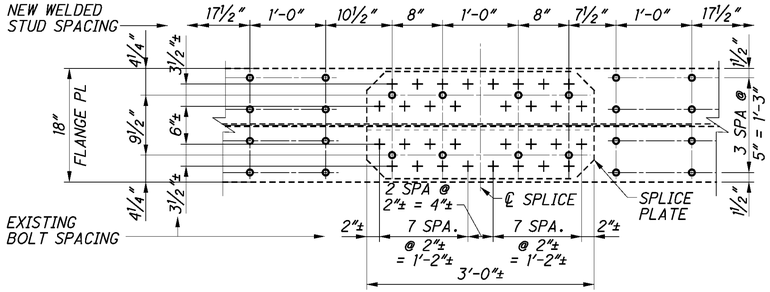
VIEW B-B		
GIRDER	DIM. 'K'	DIM. 'L'
A	10 3/16"	7 13/16"
D	10 7/8"	7 1/8"
E	10 3/4"	7 1/4"
F	10 15/16"	7 1/16"
G	10 15/16"	7 1/16"
H	6 3/16"	11 13/16"



VIEW C-C

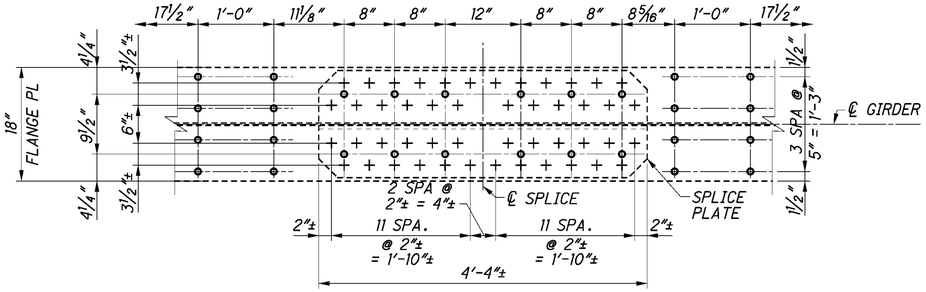
(GIRDERS A, D, E, F, G & H)

VIEW C-C		
GIRDER	DIM. 'K'	DIM. 'L'
A	9 11/16"	11 13/16"
D	15 1/4"	11 3/4"
E	15 1/8"	11 7/8"
F	15 7/16"	11 9/16"
G	15 7/16"	11 9/16"
H	16 9/16"	10 7/16"



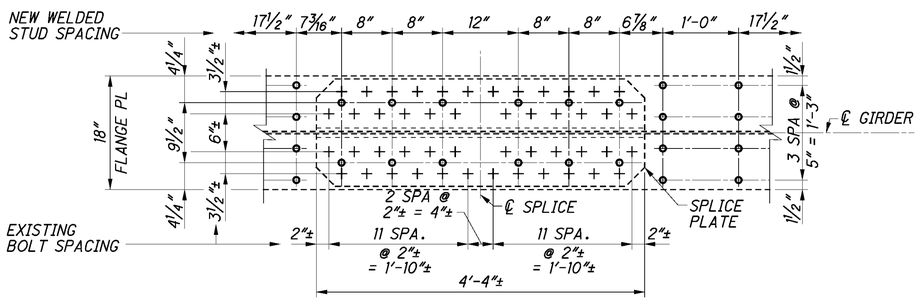
VIEW D-D

(GIRDER B)



VIEW E-E

(GIRDER C)



VIEW F-F

(GIRDER C)

LEGEND

- ⊕ INDICATES NEW ⅞" DIA. WELDED SHEAR STUD.
- \+ INDICATES EXISTING 1"± DIA. BOLTS.
- ≠ 17½" - GIRDER A; 12" - GIRDERS D, E, F, G AND H
- * DIMENSIONS ARE GIVEN ALONG ℄ GIRDER.
- ** DEFLECTION OF GIRDERS A, D, E, F & G IS 0°.

NOTES

MATERIALS SHOWN ARE EXISTING UNLESS OTHERWISE NOTED.

GIRDER ELEVATIONS: SEE SHEETS 52/106 THROUGH 55/106.

VIEWS A-A, B-B & C-C: FOR LOCATIONS SEE SHEETS 52/106 THROUGH 55/106.

VIEW D-D: FOR LOCATIONS SEE SHEET 52/106.

VIEWS E-E & F-F: FOR LOCATIONS SEE SHEET 53/106.

ADDITIONAL NOTES: SEE SHEET 52/106.

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MANSFIELD, OHIO 44902

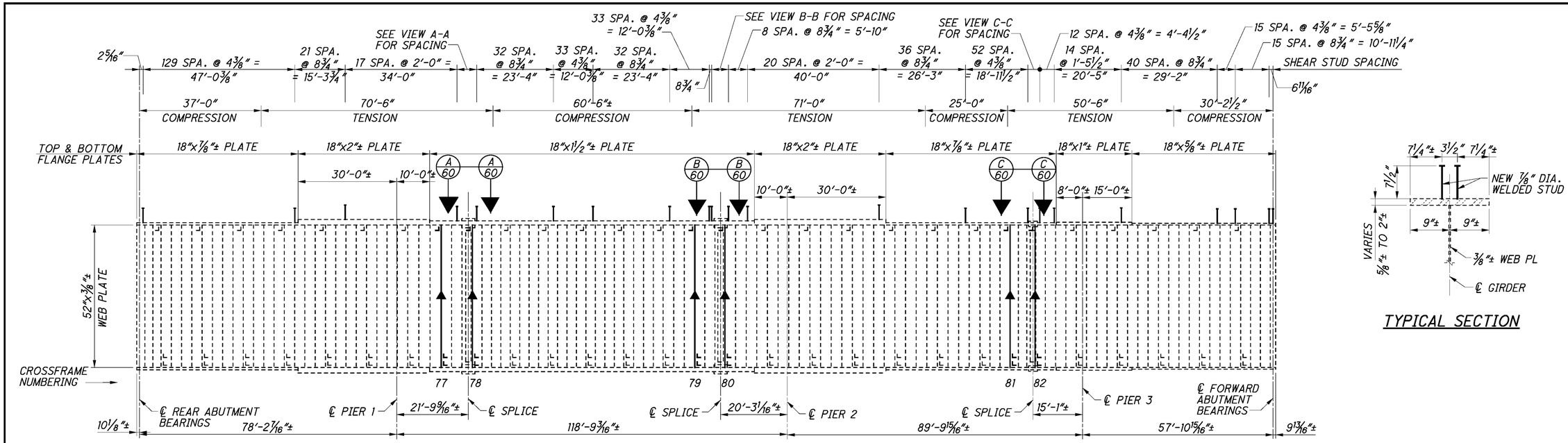
DESIGNED ALP | DRAWN SCB | CHECKED BLN | REVIEWED DAP | DATE 10/5/12 | REVISED | STRUCTURE FILE NUMBER L7708815

GIRDER DETAILS - SOUTHBOUND BRIDGE

BRIDGE NO. SUM-271-0354 L
IR 271 OVER IR 77

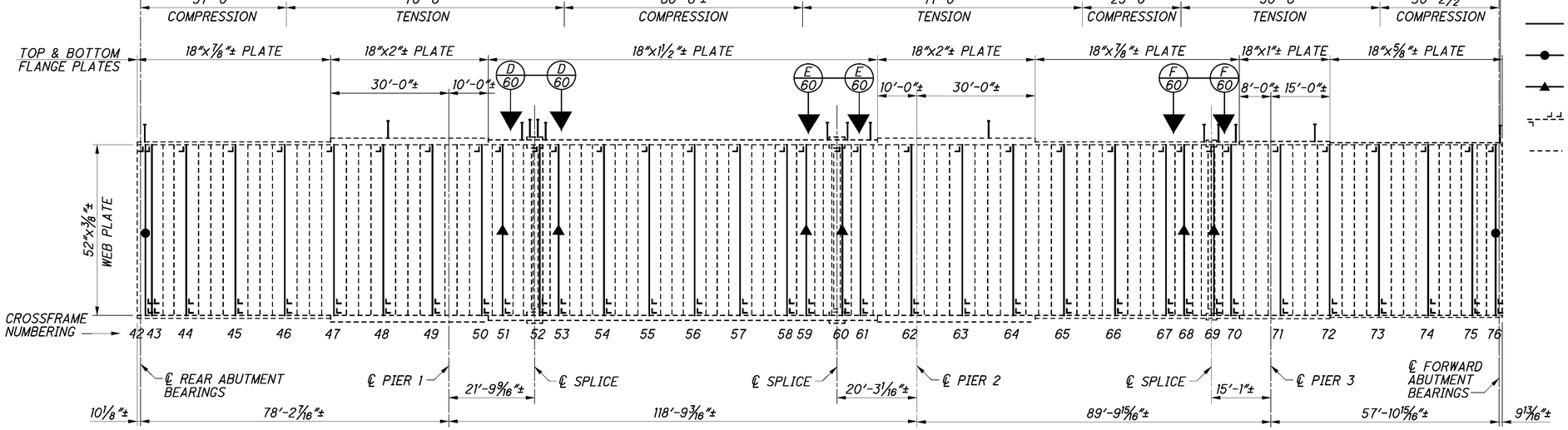
SUM-271-2.33
PID No. 18710

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EXISTING GIRDER J ELEVATION

TYPICAL SECTION



EXISTING GIRDER K ELEVATION

LEGEND

- ——— - INDICATES NEW INTERMEDIATE CROSSFRAME
- —●— - INDICATES NEW END CROSSFRAME
- —▲— - INDICATES NEW CROSSFRAME AT BEND POINT
- ┬-·-·-┬ - INDICATES EXISTING CROSSFRAME
- ----- - INDICATES EXISTING INTERMEDIATE STIFFENER

NOTES

MATERIALS SHOWN ARE EXISTING UNLESS OTHERWISE NOTED.

FRAMING PLAN NORTHBOUND BRIDGE: SEE SHEET 49/106.

NEW CROSSFRAMES: FOR SPACING AND LOCATIONS SEE SHEET 49/106.

INTERMEDIATE CROSSFRAME DETAILS: SEE SHEET 47/106.

END CROSSFRAMES DETAILS: SEE SHEETS 66/106 AND 67/106.

CROSSFRAMES AT BEND POINTS: FOR DETAILS SEE SHEET 59/106.

WELD ATTACHMENT OF SUPPORTS FOR CONCRETE DECK FINISHING MACHINE TO AREAS OF THE FASCIA STRINGER FLANGES DESIGNATED "COMPRESSION".DO NOT WELD ATTACHMENTS TO AREAS DESIGNATED "TENSION". FILLET WELDS TO COMPRESSION FLANGES SHALL BE AT LEAST 1" FROM EDGE OF FLANGE, BE NO MORE THAN 2" LONG, AND BE AT LEAST 1/4" FOR THICKNESSES UP TO 3/4" OR 5/16" FOR GREATER THAN 3/4" THICK.

SHEAR STUDS MAY BE MOVED UP TO 1 INCH TO AVOID TOP FLANGE PLATE ENDS.

ADDITIONAL NOTES: SEE SHEET 47/106.

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
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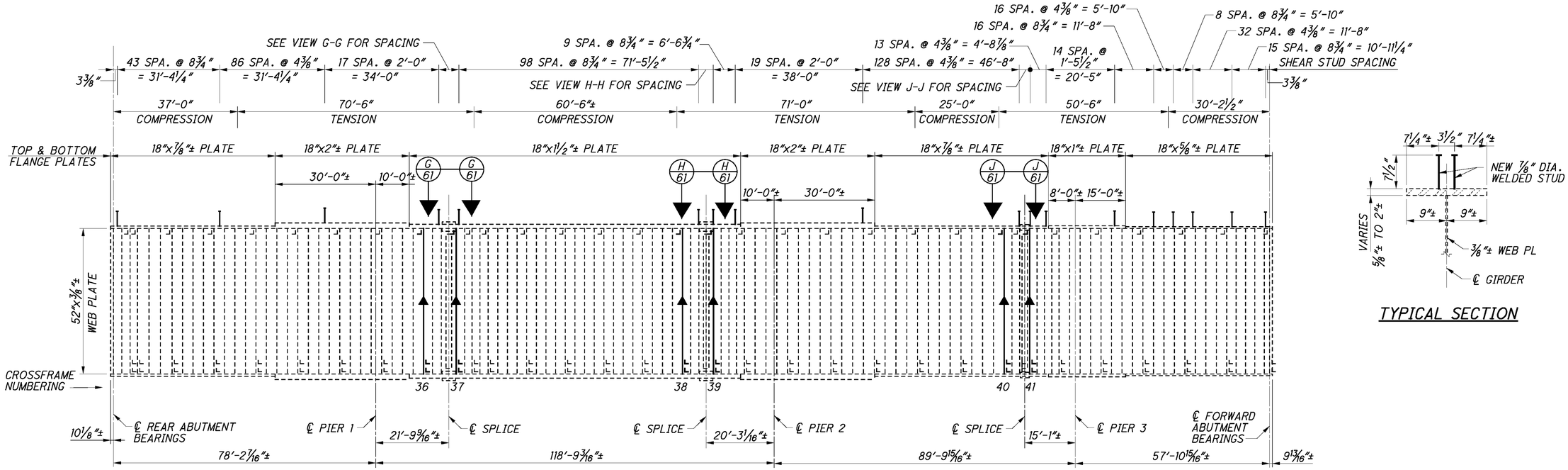
GIRDER ELEVATION - NORTHBOUND BRIDGE - 1
BRIDGE NO. SUM-271-0354 R
IR 271 OVER IR 77

SUM-271-2.33
PID No. 18710

57/106

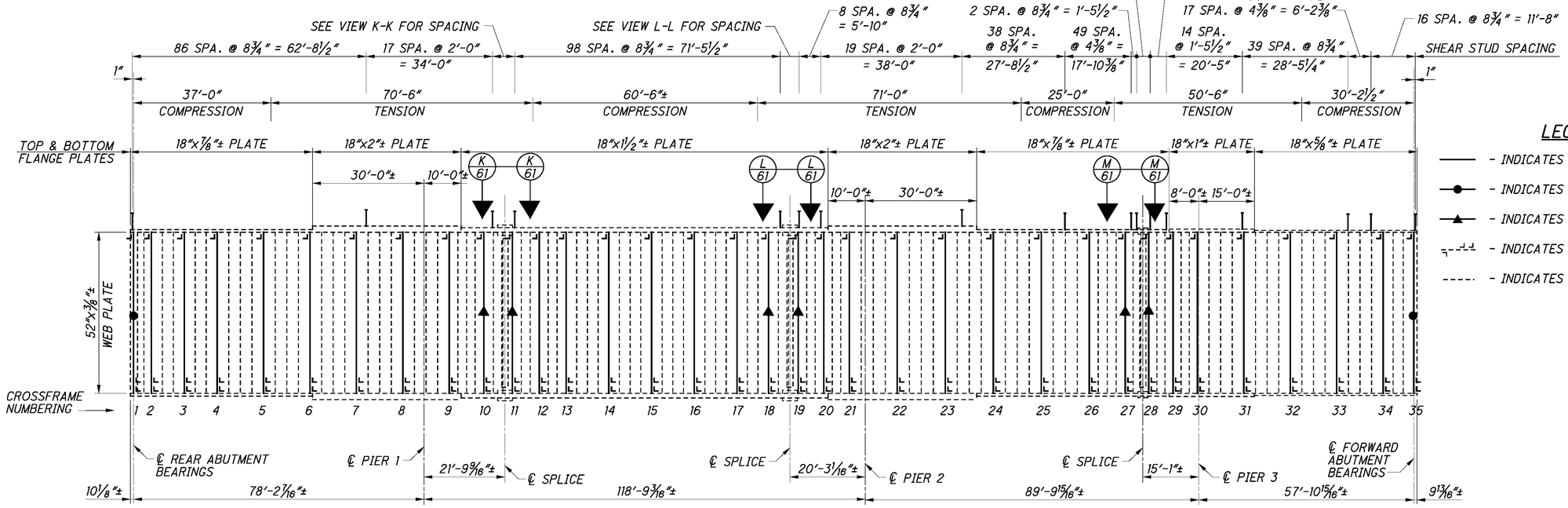
1015
1195

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EXISTING GIRDER L ELEVATION

TYPICAL SECTION



EXISTING GIRDER M ELEVATION

LEGEND

- ——— - INDICATES NEW INTERMEDIATE CROSSFRAME
- ——●—— - INDICATES NEW END CROSSFRAME
- ——▲—— - INDICATES NEW CROSSFRAME AT BEND POINT
- ——┴—— - INDICATES EXISTING CROSSFRAME
- - - - - - - INDICATES EXISTING INTERMEDIATE STIFFENER

NOTES

MATERIALS SHOWN ARE EXISTING UNLESS OTHERWISE NOTED.

FRAMING PLAN NORTHBOUND BRIDGE: SEE SHEET 49/106.

NEW CROSSFRAMES: FOR SPACING AND LOCATIONS SEE SHEET 49/106.

INTERMEDIATE CROSSFRAME DETAILS: SEE SHEET 47/106.

END CROSSFRAMES DETAILS: SEE SHEETS 66/106 AND 67/106.

CROSSFRAMES AT BEND POINTS: FOR DETAILS SEE SHEET 59/100.

SHEAR STUDS MAY BE MOVED UP TO 1 INCH TO AVOID TOP FLANGE PLATE ENDS.

ADDITIONAL NOTES: SEE SHEET 57/106.

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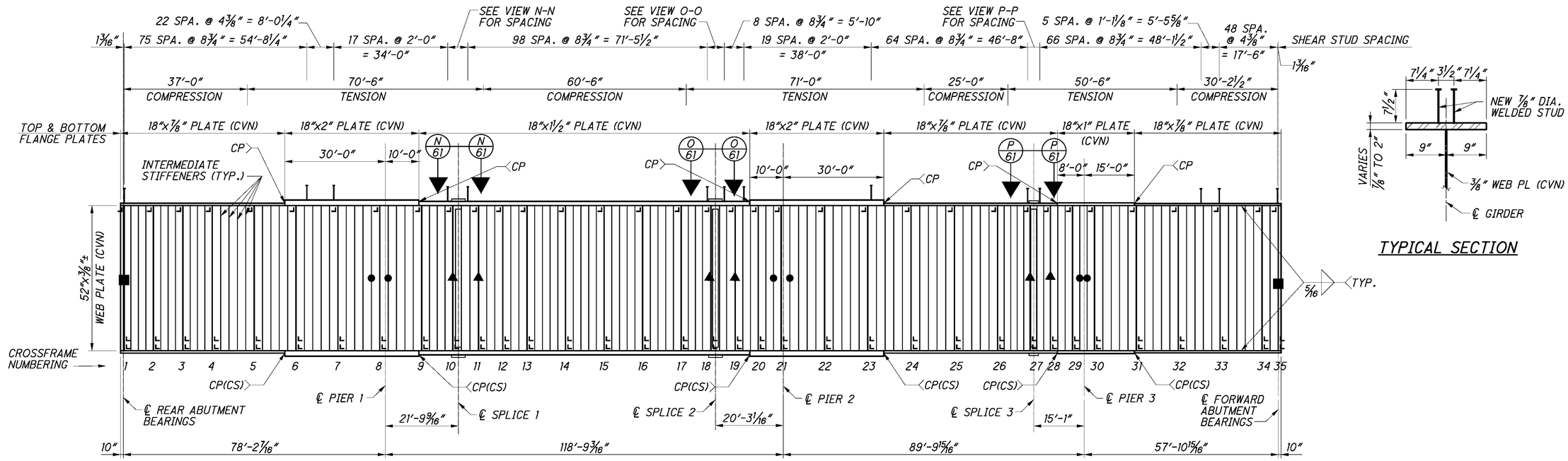
GIRDER ELEVATION - NORTHBOUND BRIDGE
BRIDGE NO. SUM-271-0354 R
IR 271 OVER IR 77

SUM-271-2.33
PID No. 18710

58/106

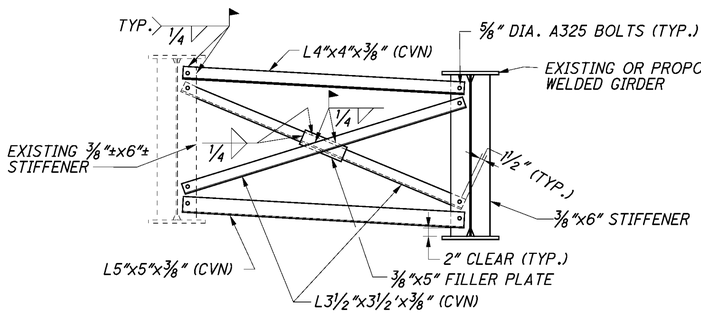
1016
1195

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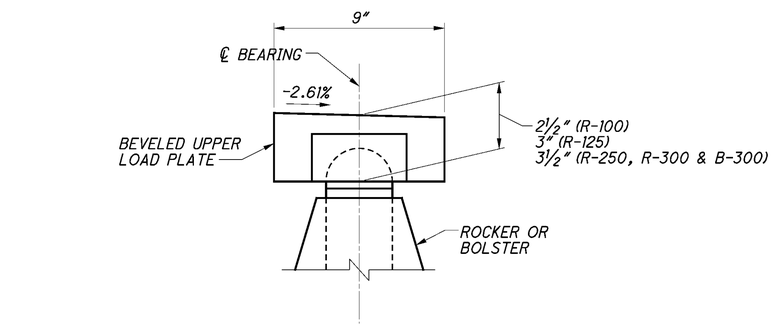


PROPOSED GIRDER N ELEVATION

TYPICAL SECTION



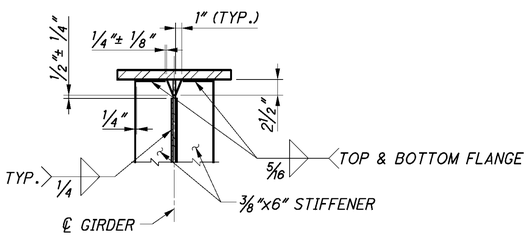
CROSSFRAMES AT BEND POINTS



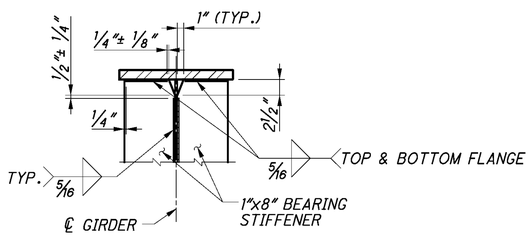
BEVELED LOAD PLATE DETAIL

LEGEND

- INDICATES NEW INTERMEDIATE CROSSFRAME
- INDICATES NEW END CROSSFRAME WITH BEARING STIFFENER EACH SIDE OF WEB
- INDICATES NEW CROSSFRAME AT BEND POINT
- INDICATES NEW INTERMEDIATE STIFFENER
- INDICATES NEW BEARING STIFFENER



INTERMEDIATE STIFFENER TYPICAL WELD AND CORNER CLIP DETAIL



BEARING STIFFENER TYPICAL WELD AND CORNER CLIP DETAIL

NOTES

MATERIALS SHOWN ARE NEW ASTM A709, GRADE 50 UNLESS OTHERWISE NOTED.

CVN: WHERE A SHAPE OR PLATE IS DESIGNATED (CVN), FURNISH MATERIAL THAT MEETS THE MINIMUM NOTCH TOUGHNESS REQUIREMENTS AS SPECIFIED IN 711.01.

FRAMING PLAN NORTHBOUND BRIDGE: SEE SHEET 49/106.

INTERMEDIATE CROSSFRAME DETAILS: SEE SHEET 47/106.

END CROSSFRAMES DETAILS: SEE SHEETS 66/106 AND 67/106.

CROSSFRAMES AT BEND POINTS: FOR LOCATIONS SEE SHEET 49/106.

INTERMEDIATE STIFFENERS: INTERMEDIATE STIFFENER PL 3/8"x6". SPACE EQUALLY BETWEEN CROSSFRAMES AS SHOWN IN ELEVATION.

SPLICE 1, 2 & 3 DETAILS: SEE SHEET 60/106.

SHEAR STUDS MAY BE MOVED UP TO 1 INCH TO AVOID TOP FLANGE PLATE ENDS.

ADDITIONAL NOTES: SEE SHEET 57/106.

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

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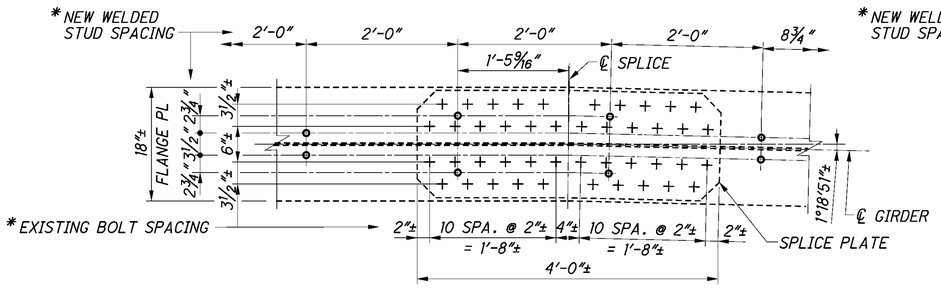
GIRDER ELEVATION - NORTHBOUND BRIDGE - 3
BRIDGE NO. SUM-271-0354 R
IR 271 OVER IR 77

SUM-271-2.33
PID No. 18710

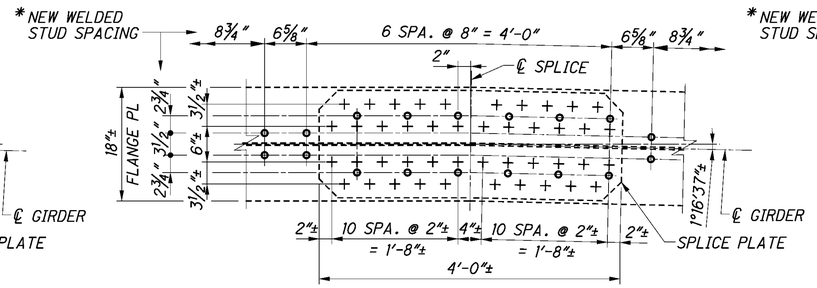
59/106

1017
1195

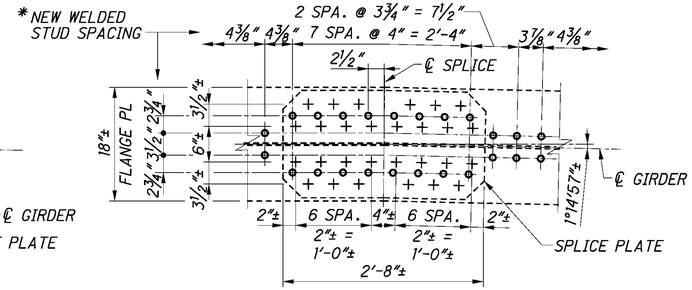
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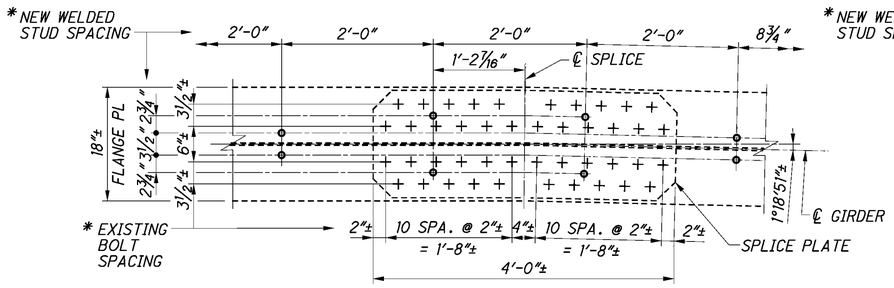
VIEW A-A



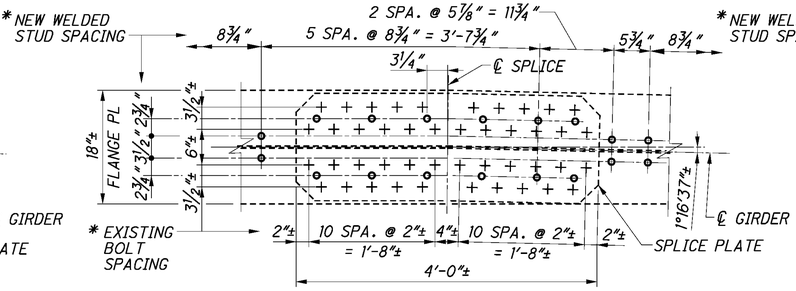
VIEW B-B



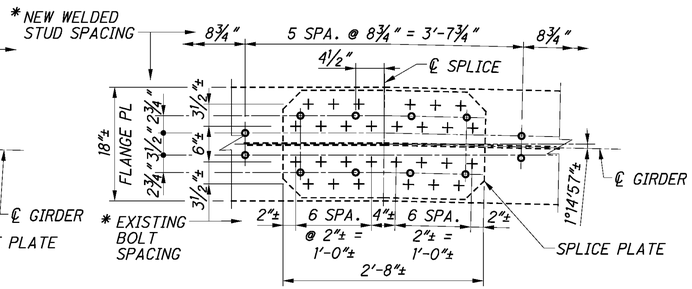
VIEW C-C



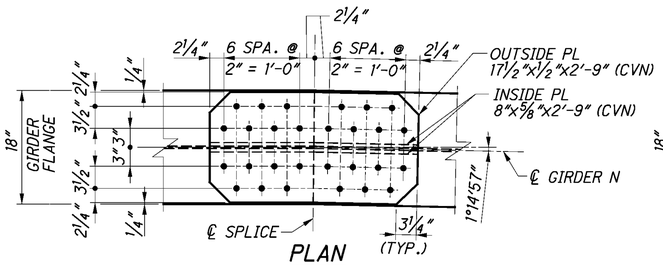
VIEW D-D



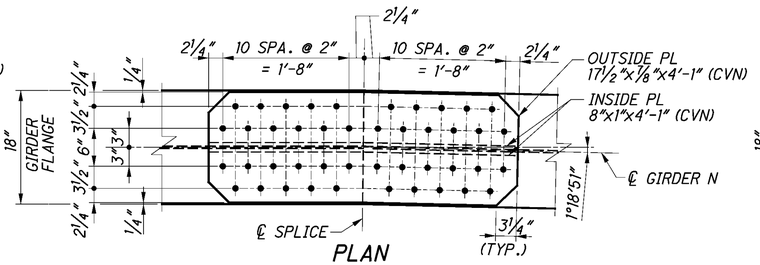
VIEW E-E



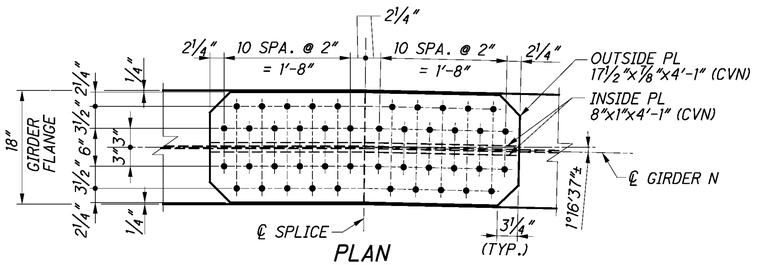
VIEW F-F



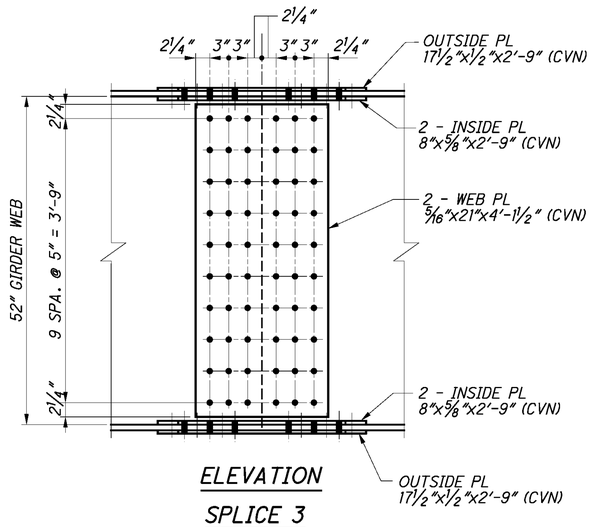
PLAN
SPLICE 3



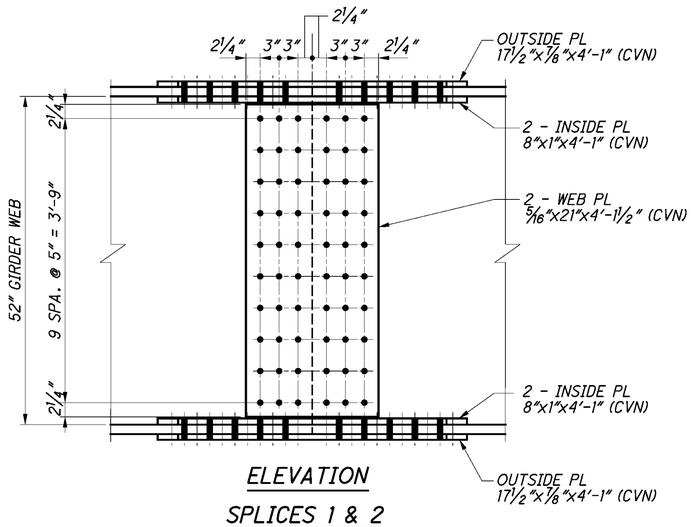
PLAN
SPLICE 1



PLAN
SPLICE 2



ELEVATION
SPLICE 3



ELEVATION
SPLICES 1 & 2

LEGEND

- ⊕ INDICATES NEW ⅞" DIA. WELDED SHEAR STUD
- ● INDICATES NEW 1⅛" DIA. , TYPE 1, GALVANIZED HIGH STRENGTH BOLT, ASTM A325.
- \+ INDICATES EXISTING 1"± DIA. BOLTS
- * HORIZONTAL DIMENSIONS ARE ALONG ℄ GIRDER

NOTES

GIRDER ELEVATIONS: SEE SHEETS 57/106 THROUGH 59/106.

HIGH STRENGTH BOLTS SHALL BE 1⅛" DIA. A325, TYPE 1, GALVANIZED WITH 1³⁄₁₆" HOLES UNLESS OTHERWISE NOTED.

VIEWS A-A THRU F-F: FOR LOCATIONS SEE SHEET 57/106.

SPLICE 1, SPLICE 2 AND SPLICE 3: FOR LOCATIONS SEE SHEET 59/106.

ADDITIONAL NOTES: SEE SHEET 57/106.

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

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BLN		R7708890	

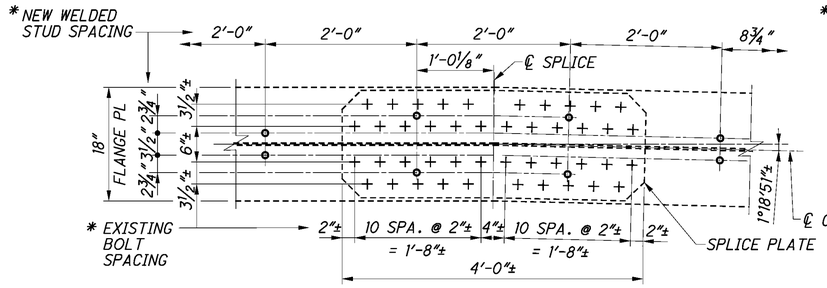
GIRDER DETAILS - NORTHBOUND BRIDGE - 1
BRIDGE NO. SUM-271-0354 R
IR 271 OVER IR 77

SUM-271-2.33
PID No. 18710

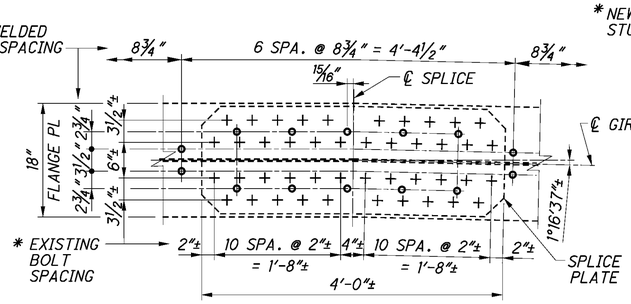
60/106

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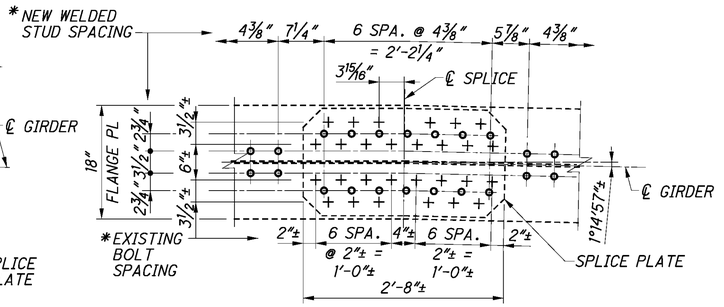
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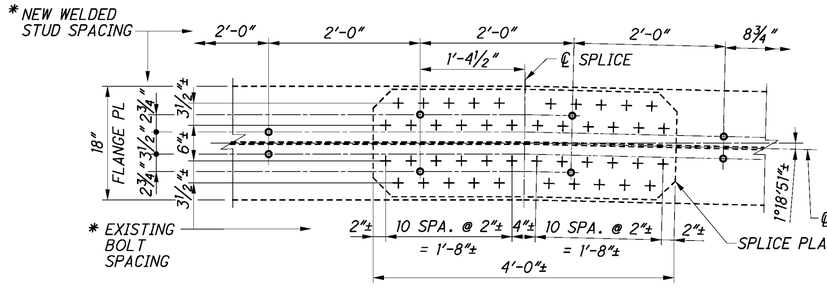
VIEW G-G



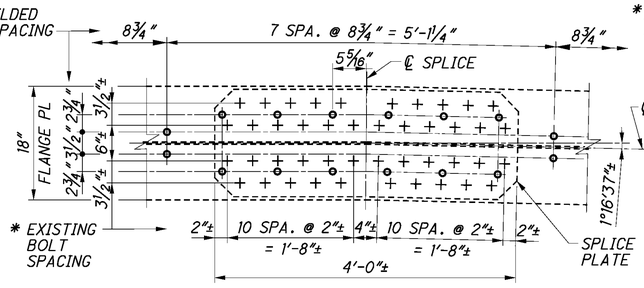
VIEW H-H



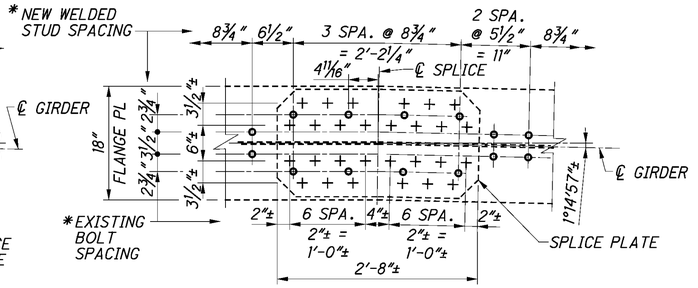
VIEW J-J



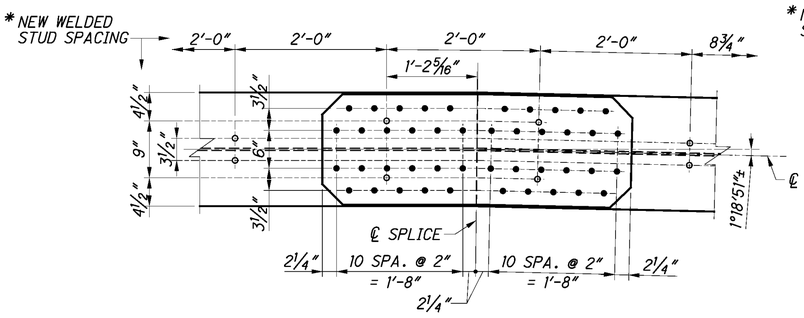
VIEW K-K



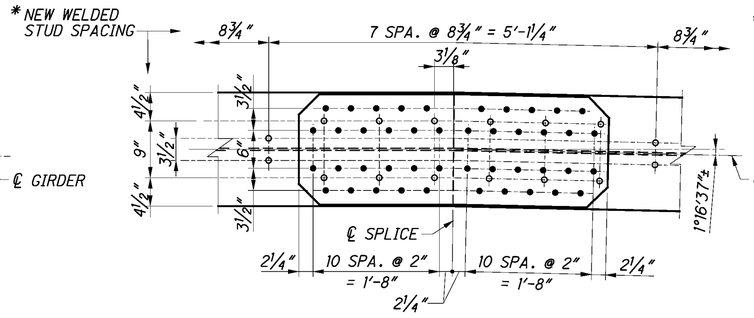
VIEW L-L



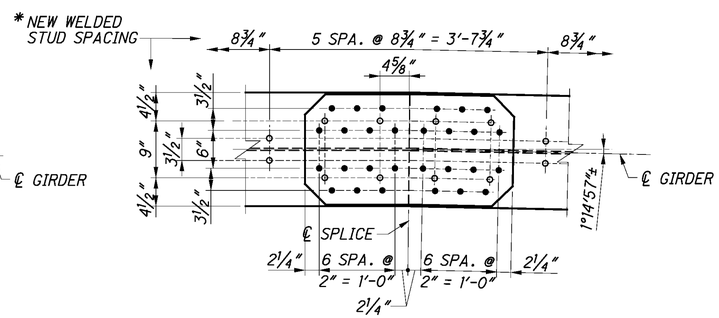
VIEW M-M



VIEW N-N



VIEW O-O



VIEW P-P

LEGEND

- ⊕ INDICATES NEW ⅞" DIA. WELDED SHEAR STUD
- ● INDICATES NEW 1⅛" DIA. , TYPE 1, GALVANIZED HIGH STRENGTH BOLT, ASTM A325.
- \+ INDICATES EXISTING 1"± DIA. BOLTS
- * HORIZONTAL DIMENSIONS ARE ALONG ℄ GIRDER

NOTES

GIRDER ELEVATIONS: SEE SHEETS 57/106 THROUGH 59/106 .

VIEWS G-G THRU M-M: FOR LOCATIONS SEE SHEET 58/106.

VIEWS N-N, O-O & P-P: FOR LOCATIONS SEE SHEET 59/106.

ADDITIONAL NOTES: SEE SHEET 57/106.

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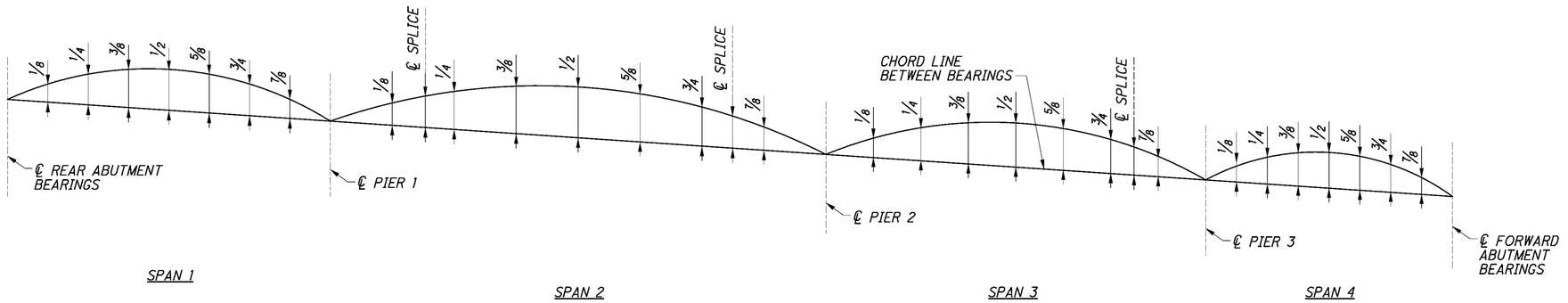
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ALP	TWH	DAP	10/5/12
CHECKED	REVISED		STRUCTURE FILE NUMBER
BLN			R7708890

GIRDER DETAILS - NORTHBOUND BRIDGE - 2

BRIDGE NO. SUM-271-0354 R
IR 271 OVER IR 77

SUM-271-2.33
PID No. 18710

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CAMBER DIAGRAM - NORTHBOUND GIRDER N

DEFLECTION AND CAMBER TABLE - NORTHBOUND GIRDER N

	SPAN 1									SPAN 2								
	R.A.	1/8	1/4	3/8	1/2	5/8	3/4	7/8	PIER 1	1/8	SPLICE	1/4	3/8	1/2	5/8	3/4	SPLICE	7/8	PIER 2
DEFLECTION DUE TO WEIGHT OF STEEL	0	0"	0	0	0	0	0	0	0	1/8"	1/16"	1/8"	3/16"	1/4"	1/4"	1/8"	1/8"	1/16"	0
DEFLECTION DUE TO REMAINING DEAD LOAD	0	1/8"	1/4"	1/4"	1/4"	1/8"	1/16"	0	0	3/8"	1/4"	5/8"	13/16"	1 1/16"	1 5/16"	5/8"	3/8"	1/4"	0
ADJUSTMENT FOR HORIZONTAL CURVE	0	0	0	- 1/16"	- 1/16"	- 1/16"	- 1/16"	- 1/16"	0	1/16"	1/8"	1/16"	0	0	0	1/16"	1/8"	1/16"	0
REQUIRED SHOP CAMBER	0	1/8"	1/4"	3/16"	3/16"	1/16"	0	- 1/16"	0	9/16"	7/16"	13/16"	1"	1 5/16"	1 3/16"	13/16"	5/8"	3/8"	0

NOTE: POSITIVE VALUES INDICATE CAMBER ABOVE CHORD LINE BETWEEN BEARINGS.

DEFLECTION AND CAMBER TABLE - NORTHBOUND GIRDER N

	SPAN 3										SPAN 4							
	PIER 2	1/8	1/4	3/8	1/2	5/8	3/4	SPLICE	7/8	PIER 3	1/8	1/4	3/8	1/2	5/8	3/4	7/8	F.A.
DEFLECTION DUE TO WEIGHT OF STEEL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DEFLECTION DUE TO REMAINING DEAD LOAD	0	0	1/16"	1/8"	1/4"	1/4"	3/16"	1/8"	1/16"	0	0	1/16"	1/16"	1/8"	1/8"	1/8"	1/16"	0
ADJUSTMENT FOR HORIZONTAL CURVE	0	- 1/16"	- 1/16"	- 1/16"	- 1/16"	0	0	1/16"	1/16"	0	0	- 1/16"	- 1/16"	- 1/16"	- 1/16"	- 1/16"	0	0
REQUIRED SHOP CAMBER	0	- 1/16"	0	1/16"	3/16"	1/4"	3/16"	3/16"	1/8"	0	0	0	0"	1/16"	1/16"	1/16"	1/16"	0

NOTE: POSITIVE VALUES INDICATE CAMBER ABOVE CHORD LINE BETWEEN BEARINGS.

NOTES

GIRDER N ELEVATION: SEE SHEET 59/106.

RICHLAND ENGINEERING LIMITED
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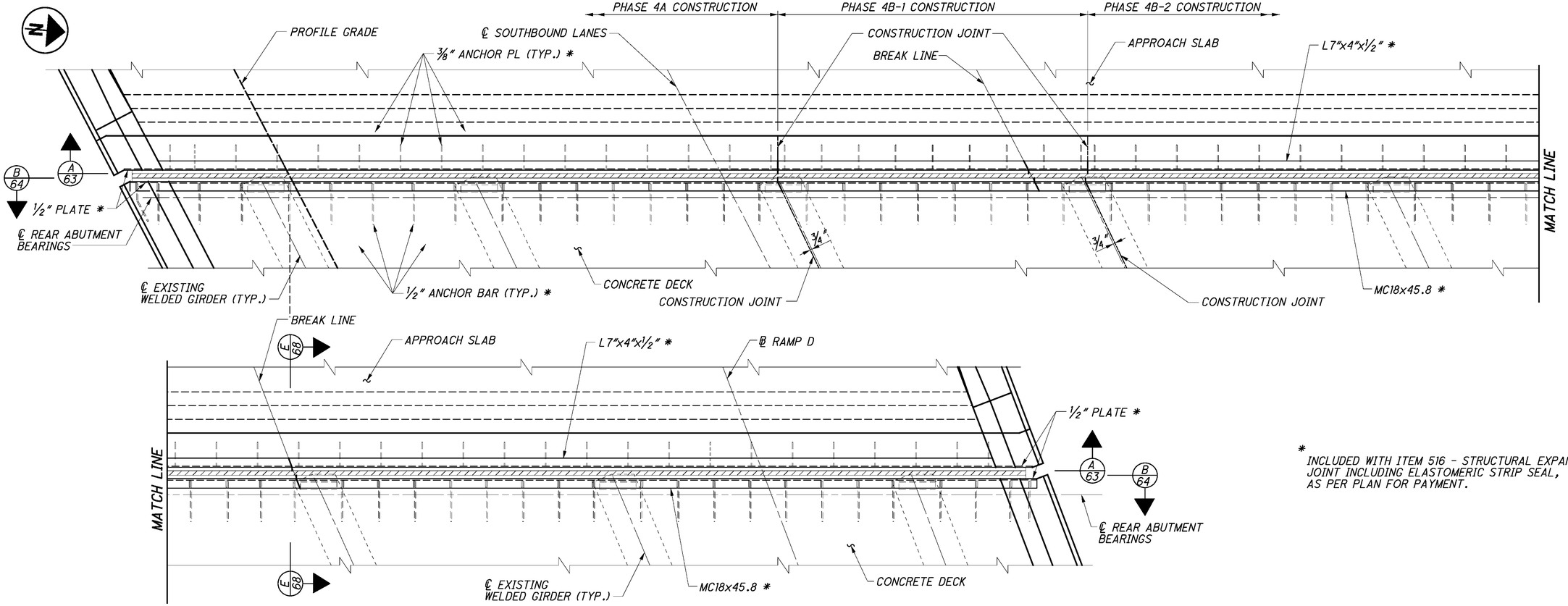
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CHECKED BLN | REVISED | STRUCTURE FILE NUMBER R7708890

CAMBER DIAGRAM - NORTHBOUND BRIDGE
BRIDGE NO. SUM-271-0354 R
IR 271 OVER IR 77

SUM-271-2.33
PID No. 18710

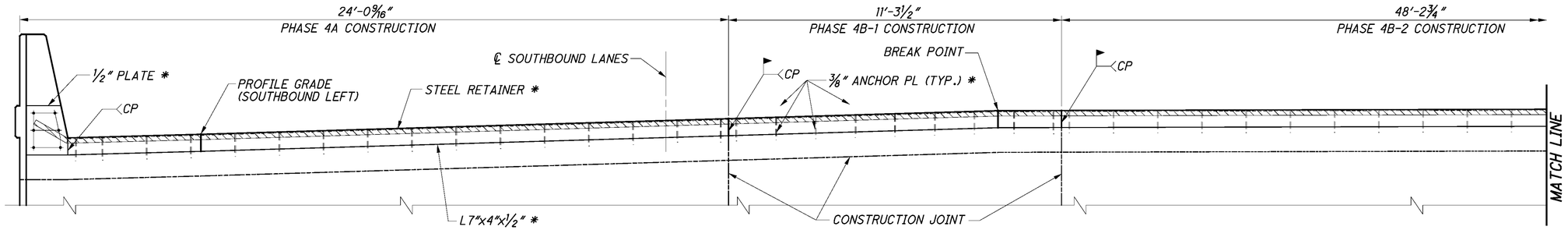
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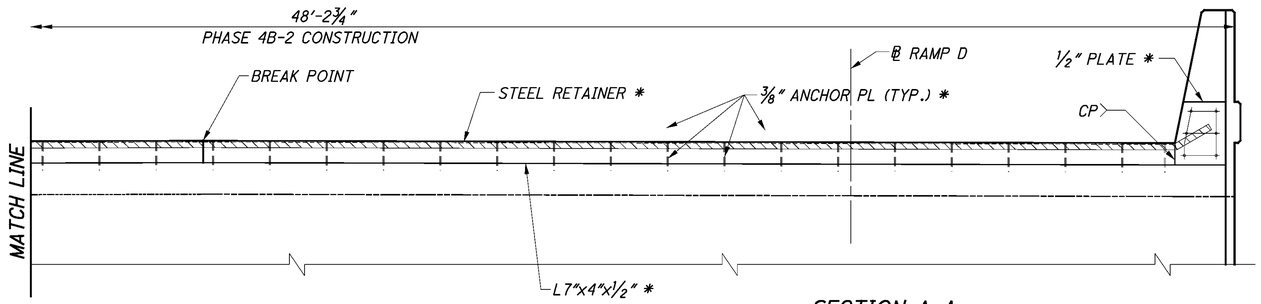
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PLAN

* INCLUDED WITH ITEM 516 - STRUCTURAL EXPANSION JOINT INCLUDING ELASTOMERIC STRIP SEAL, AS PER PLAN FOR PAYMENT.





SECTION A-A

NOTES

MATERIALS SHOWN ARE NEW UNLESS OTHERWISE NOTED.

ADDITIONAL NOTES: SEE SHEET 68/106.

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

DESIGNED	DRAWN	REVIEWED	DATE
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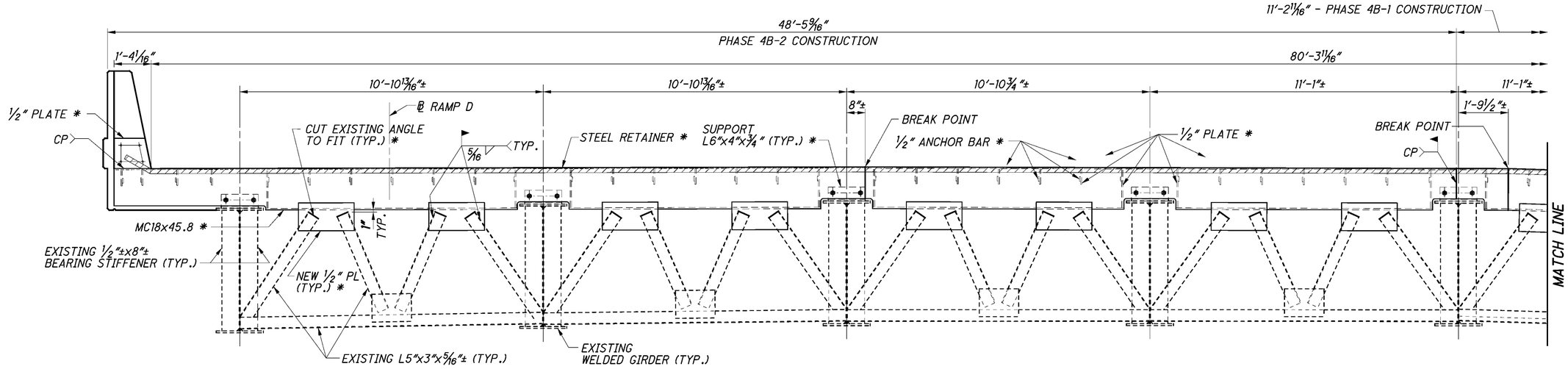
REAR ABUTMENT EXPANSION JOINT - SOUTHBOUND BRIDGE - 1
BRIDGE NO. SUM-271-0354 L
IR 271 OVER IR 77

SUM-271-2.33
PID No. 18710

63/106

1021
1195

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SECTION B-B

* INCLUDED WITH ITEM 516 - STRUCTURAL EXPANSION JOINT INCLUDING ELASTOMERIC STRIP SEAL, AS PER PLAN FOR PAYMENT.

NOTES

MATERIALS SHOWN ARE NEW UNLESS OTHERWISE NOTED.

SECTION B-B: FOR LOCATION SEE SHEET 63/106.

ADDITIONAL NOTES: SEE SHEET 68/106.

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

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CHECKED	REVISED	STRUCTURE FILE NUMBER	
BLN		L7708815	

REAR ABUTMENT EXPANSION JOINT - SOUTHBOUND BRIDGE - 2

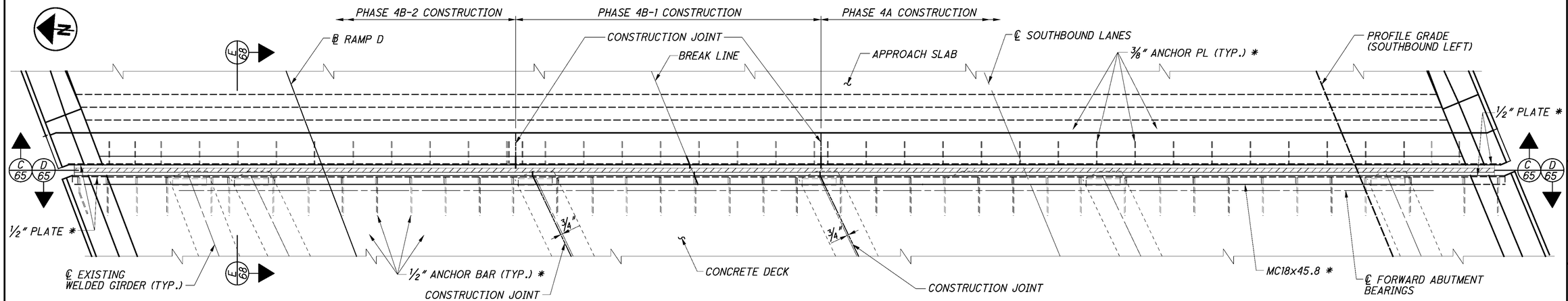
BRIDGE NO. SUM-271-0354 L
IR 271 OVER IR 77

SUM-271-2.33
PID No. 18710

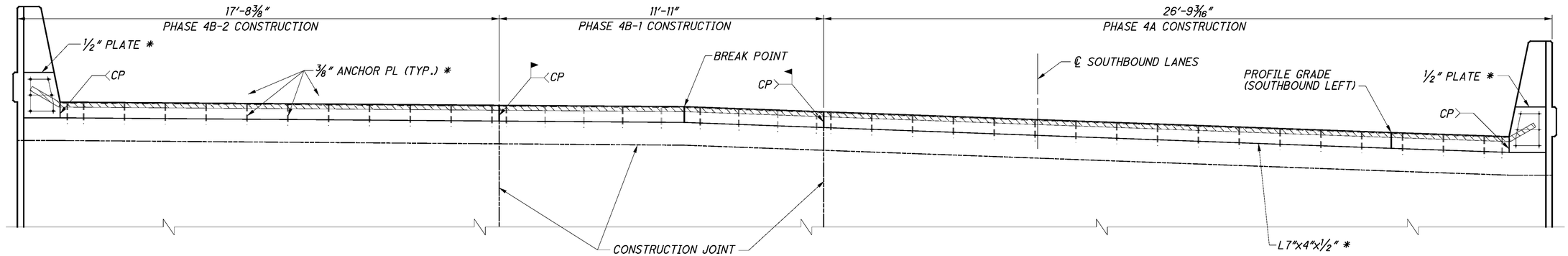
64/106

1022
1195

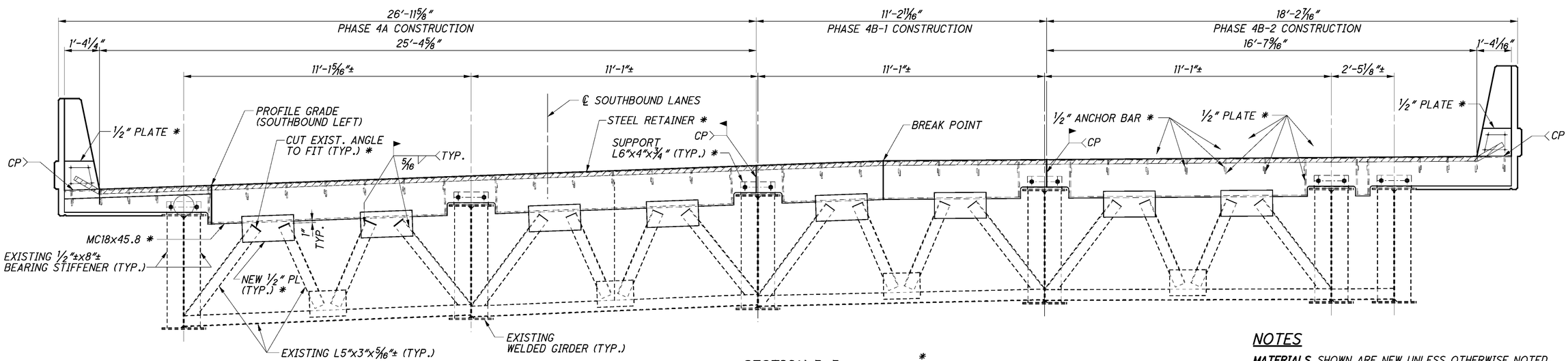
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PLAN



SECTION C-C



SECTION D-D

* INCLUDED WITH ITEM 516 - STRUCTURAL EXPANSION JOINT INCLUDING ELASTOMERIC STRIP SEAL, AS PER PLAN FOR PAYMENT.

NOTES

MATERIALS SHOWN ARE NEW UNLESS OTHERWISE NOTED.

ADDITIONAL NOTES: SEE SHEET 68/106.

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

DESIGNED	DRAWN	REVIEWED	DATE
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CHECKED	REVISED	STRUCTURE FILE NUMBER	
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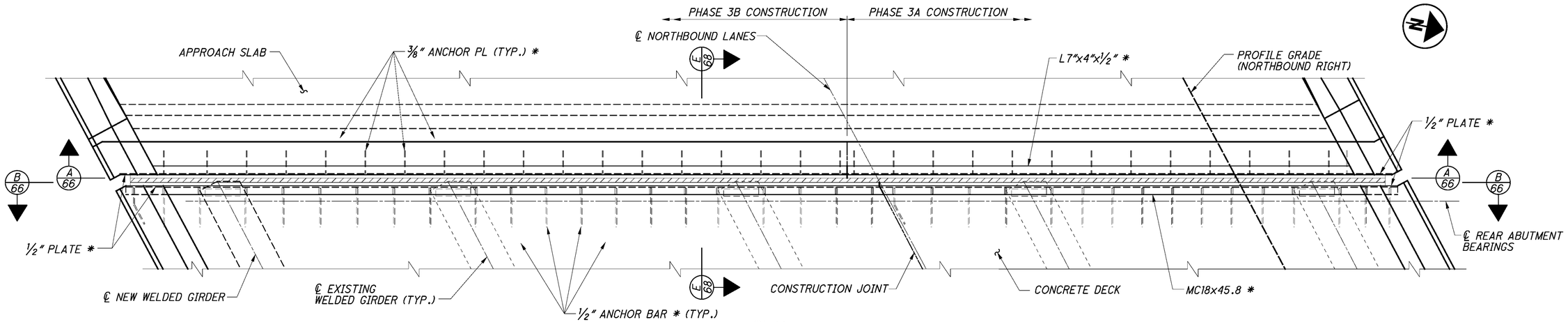
FORWARD ABUTMENT EXPANSION JOINT - SOUTHBOUND BRIDGE
BRIDGE NO. SUM-271-0354 L
IR 271 OVER IR 77

SUM-271-2.33
PID No. 18710

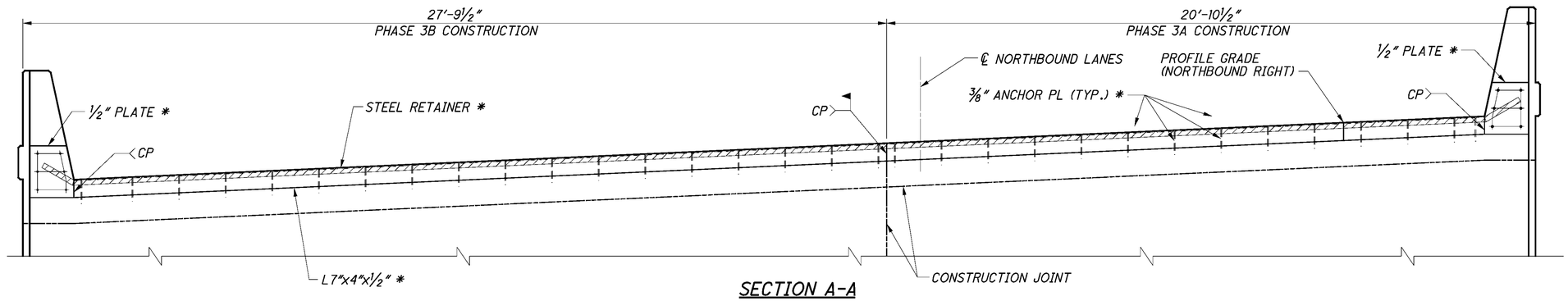
65/106

1023
1195

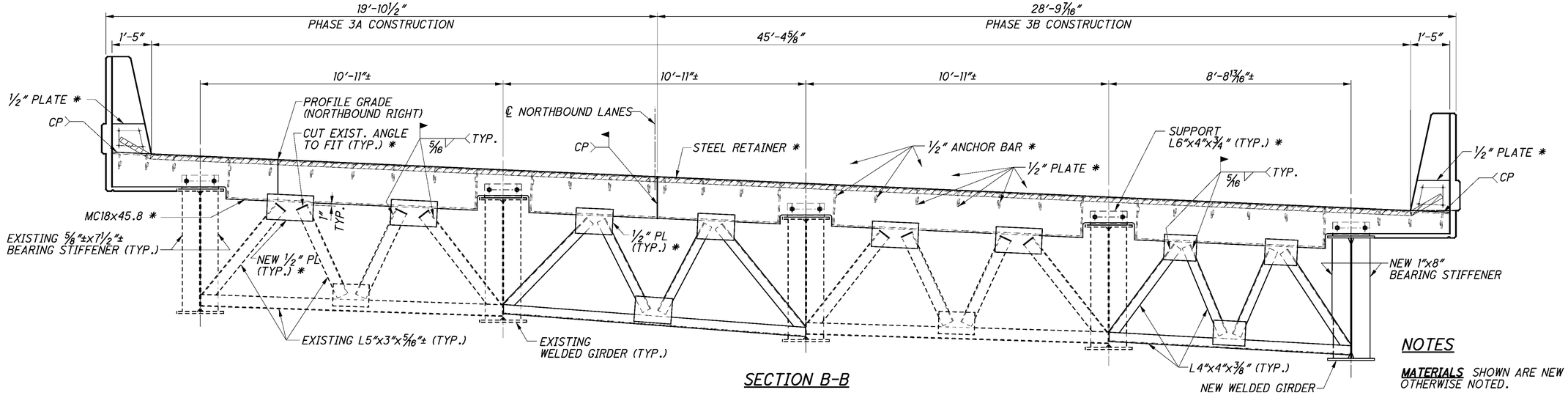
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PLAN



SECTION A-A



SECTION B-B

* INCLUDED WITH ITEM 516 - STRUCTURAL EXPANSION JOINT INCLUDING ELASTOMERIC STRIP SEAL, AS PER PLAN FOR PAYMENT.

NOTES

MATERIALS SHOWN ARE NEW UNLESS OTHERWISE NOTED.

ADDITIONAL NOTES: SEE SHEET 68/106.

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

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CHECKED	REVISED	STRUCTURE FILE NUMBER	
BLN		R7708890	

REAR ABUTMENT EXPANSION JOINT - NORTHBOUND BRIDGE

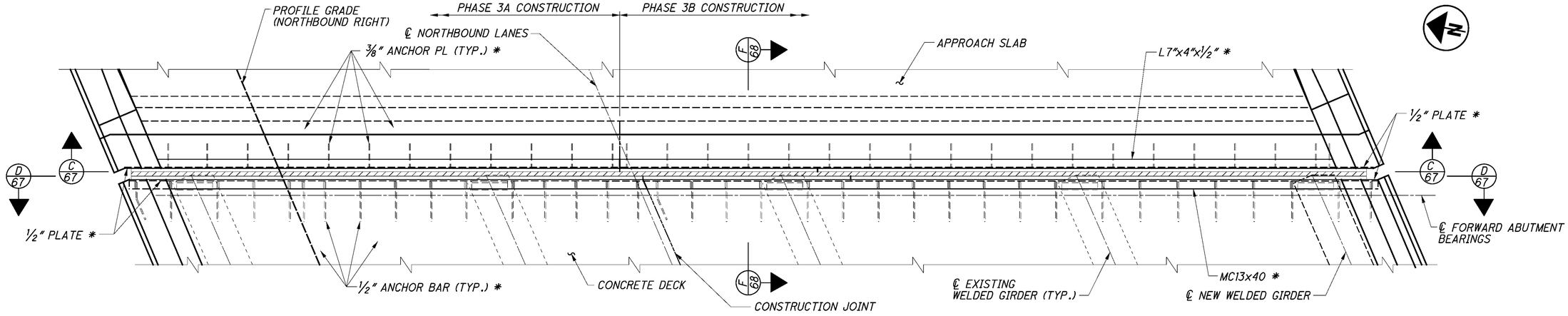
BRIDGE NO. SUM-271-0354 R
IR 271 OVER IR 77

SUM-271-2.33
PID No. 18710

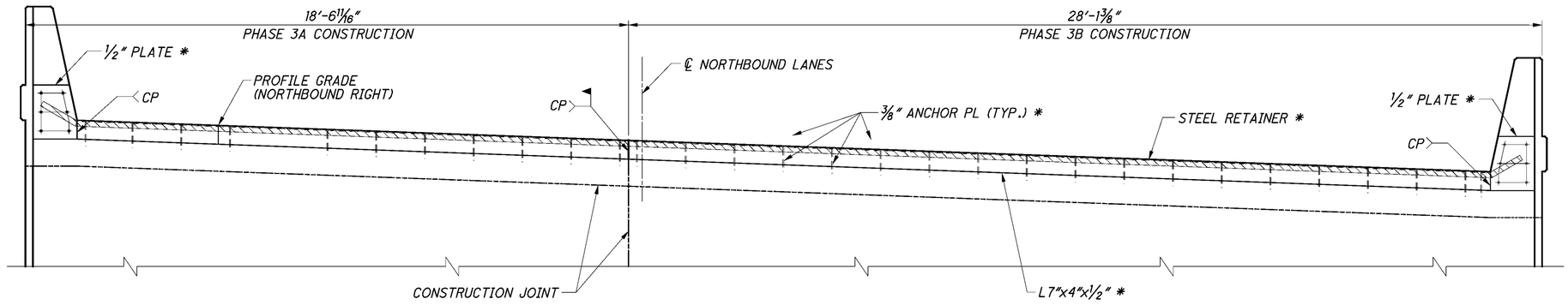
66/106

1024
1195

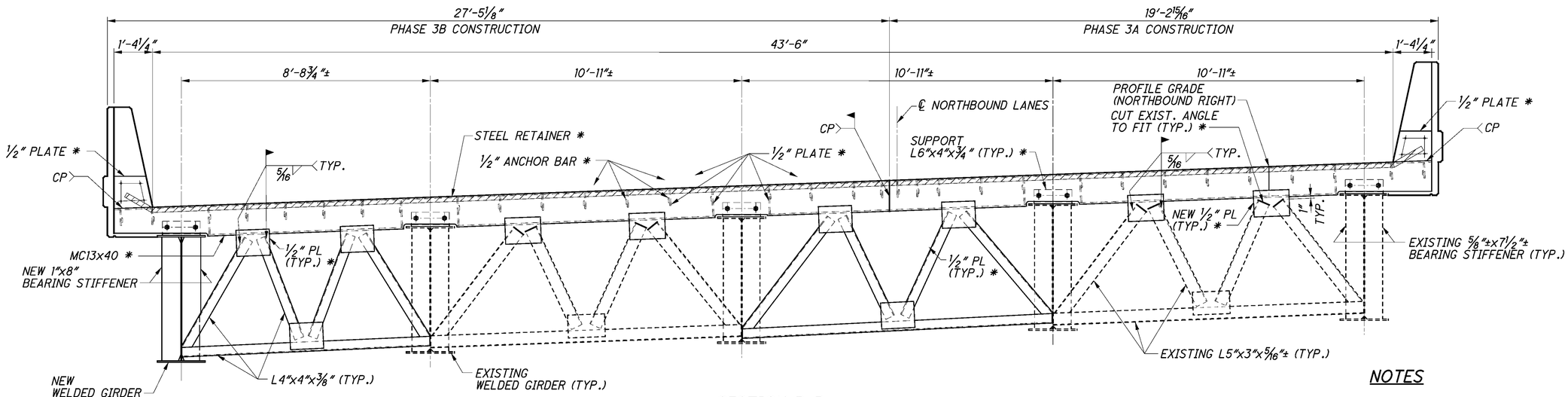
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PLAN



SECTION C-C



SECTION D-D

* INCLUDED WITH ITEM 516 - STRUCTURAL EXPANSION JOINT INCLUDING ELASTOMERIC STRIP SEAL, AS PER PLAN FOR PAYMENT.

NOTES

MATERIALS SHOWN ARE NEW UNLESS OTHERWISE NOTED.

ADDITIONAL NOTES: SEE SHEET 68/106.

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

DESIGNED	DRAWN	REVIEWED	DATE
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BLN		R7708890	

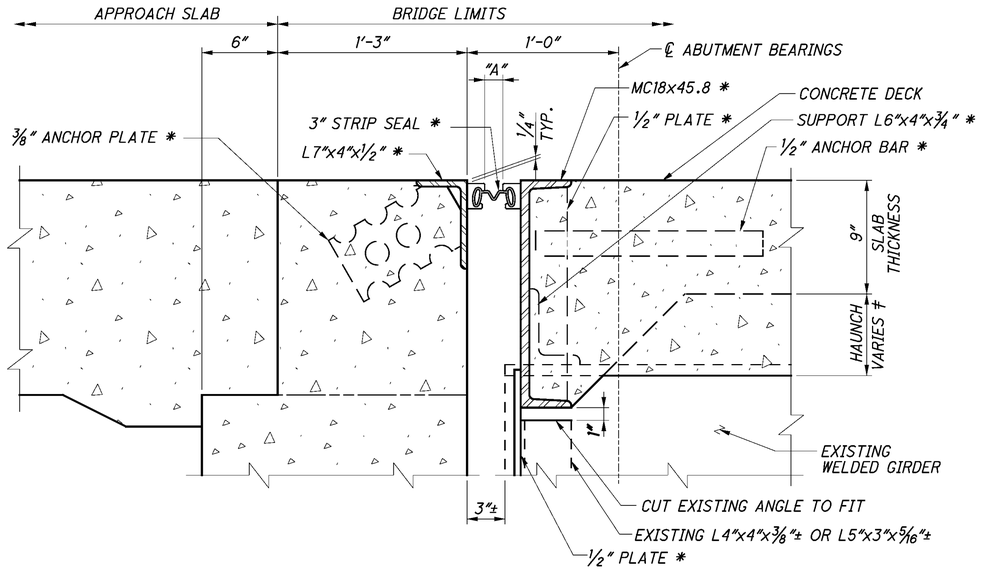
FORWARD ABUTMENT EXPANSION JOINT - NORTHBOUND BRIDGE
BRIDGE NO. SUM-271-0354 R
IR 271 OVER IR 77

SUM-271-2.33
PID No. 18710

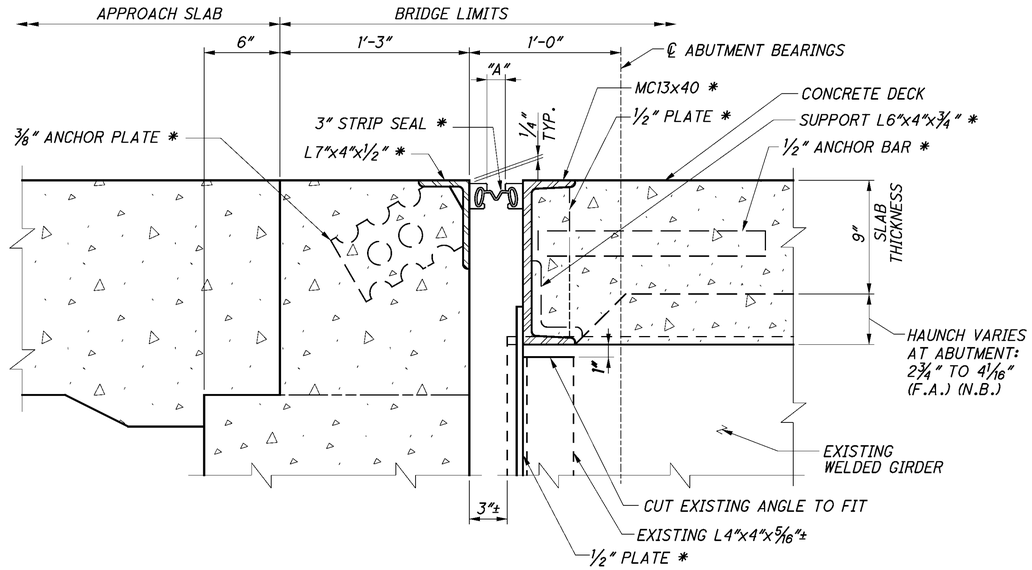
67/106

1025
1195

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SECTION E-E



SECTION F-F

≠ HAUNCH VARIES AT ABUTMENT:
6 1/4" TO 9 15/16" (R.A.) (S.B.)
5 3/8" TO 6 3/4" (F.A.) (S.B.)
3 15/16" TO 5 5/8" (R.A.) (N.B.)

* INCLUDED WITH ITEM 516 - STRUCTURAL EXPANSION JOINT INCLUDING ELASTOMERIC STRIP SEAL, AS PER PLAN FOR PAYMENT.

SOUTHBOUND BRIDGE (LEFT)		
JOINT SETTING TABLE		
TEMPERATURE	DIMENSION "A"	
	REAR ABUTMENT	FORWARD ABUTMENT
30°	1.96"	1.90"
40°	1.80"	1.80"
50°	1.67"	1.67"
60°	1.54"	1.60"
70°	1.40"	1.50"
80°	1.25"	1.40"
90°	1.17"	1.25"

NORTHBOUND BRIDGE (RIGHT)		
JOINT SETTING TABLE		
TEMPERATURE	DIMENSION "A"	
	REAR ABUTMENT	FORWARD ABUTMENT
30°	2.00"	1.90"
40°	1.80"	1.80"
50°	1.60"	1.70"
60°	1.50"	1.60"
70°	1.40"	1.50"
80°	1.30"	1.40"
90°	1.10"	1.30"

NOTES

MATERIALS SHOWN ARE NEW UNLESS OTHERWISE NOTED.

NOTATION: R.A. - REAR ABUTMENT
F.A. - FORWARD ABUTMENT
S.B. - SOUTHBOUND
N.B. - NORTHBOUND

ITEM 516 - STRUCTURAL EXPANSION JOINT INCLUDING ELASTOMERIC STRIP SEAL, AS PER PLAN: DURING INSTALLATION OF SUPPORT/ ARMOR FOR THE SUPERSTRUCTURE SIDE OF THE JOINT SEAL, OBSERVE THE SEATING OF GIRDERS ON BEARINGS TO ASSURE THAT POSITIVE BEARING IS MAINTAINED.

SECTION E-E: FOR LOCATIONS SEE SHEETS 63/106, 65/106 AND 66/106.

SECTION F-F: FOR LOCATION SEE SHEET 67/106.

END CROSSFRAME DETAILS: SEE STANDARD DRAWING GSD-1-96.

ADDITIONAL DIMENSIONS AND DETAILS: SEE STANDARD DRAWING EXJ-4-87.

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ABUTMENT EXPANSION JOINT DETAILS
BRIDGE NO. SUM-271-0354 L&R
IR 271 OVER IR 77

SUM-271-2.33
PID No. 18710

1026
1195

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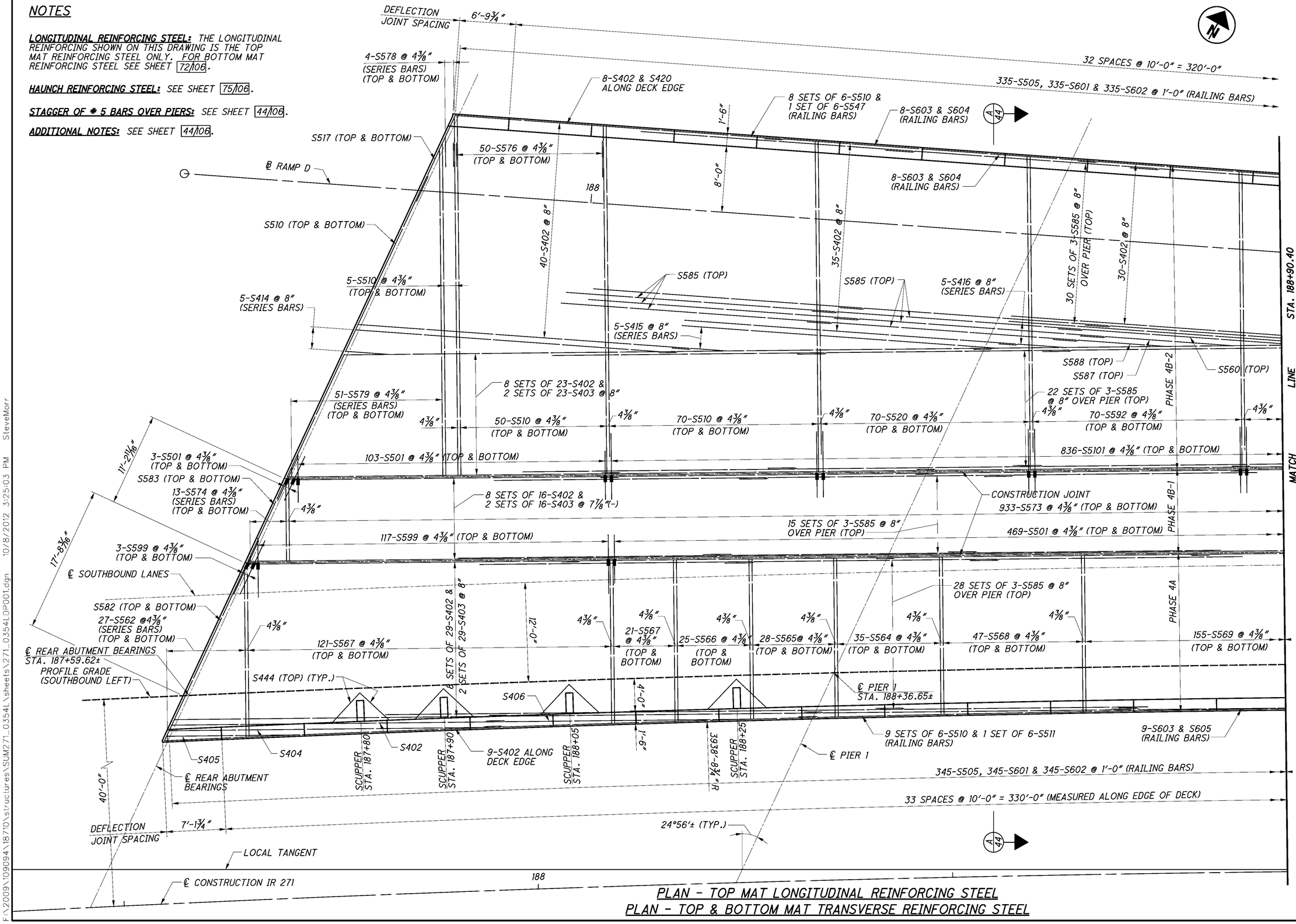
NOTES

LONGITUDINAL REINFORCING STEEL: THE LONGITUDINAL REINFORCING SHOWN ON THIS DRAWING IS THE TOP MAT REINFORCING STEEL ONLY. FOR BOTTOM MAT REINFORCING STEEL SEE SHEET 72/106.

HAUNCH REINFORCING STEEL: SEE SHEET 75/106.

STAGGER OF # 5 BARS OVER PIERS: SEE SHEET 44/106.

ADDITIONAL NOTES: SEE SHEET 44/106.



PLAN - TOP MAT LONGITUDINAL REINFORCING STEEL
PLAN - TOP & BOTTOM MAT TRANSVERSE REINFORCING STEEL

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

DESIGNED	DRAWN	REVIEWED	DATE
ALP	JLS	DAP	10/5/12
CHECKED	REVISED	STRUCTURE FILE NUMBER	
BLN		L7708815	

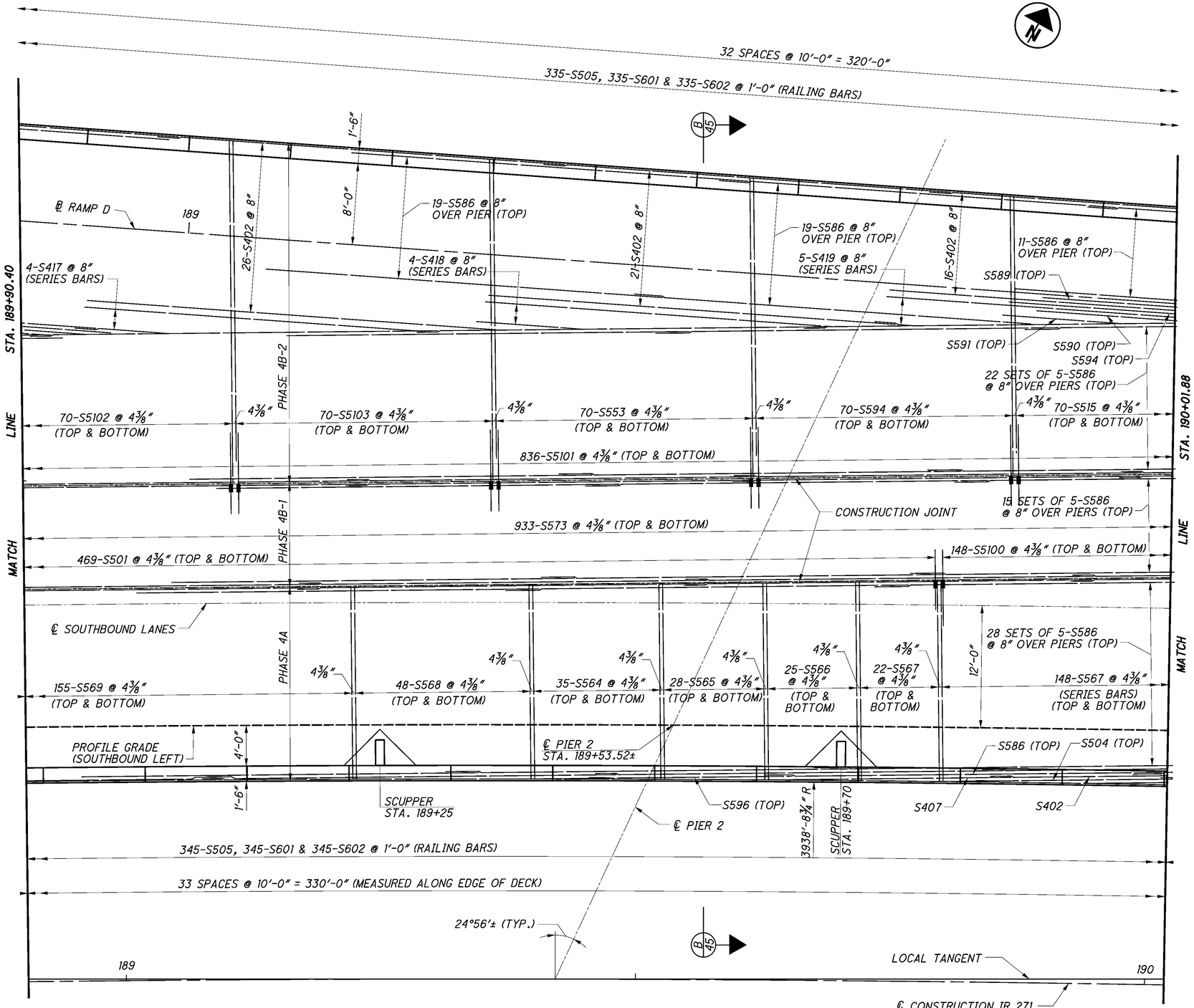
SLAB PLAN - SOUTHBOUND BRIDGE - 1
BRIDGE NO. SUM-271-0354 L
IR 271 OVER IR 77

SUM-271-2.33
PID No. 18710

69/106

1027
1195

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PLAN - TOP MAT LONGITUDINAL REINFORCING STEEL
PLAN - TOP & BOTTOM MAT TRANSVERSE REINFORCING STEEL

NOTES

LONGITUDINAL REINFORCING STEEL: *THE LONGITUDINAL REINFORCING SHOWN ON THIS DRAWING IS THE TOP MAT REINFORCING STEEL ONLY. FOR BOTTOM MAT REINFORCING STEEL SEE SHEET 73/106.*

HAUNCH REINFORCING STEEL: *SEE SHEET 76/106.*

STAGGER OF # 5 BARS OVER PIERS: *SEE SHEET 44/106.*

ADDITIONAL NOTES: *SEE SHEET 44/106.*

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
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DESIGNED	DRAWN	REVIEWED	DATE
ALP	JLS	DAP	10/5/12
CHECKED	REVISED	STRUCTURE FILE NUMBER	
BLN		L7708815	

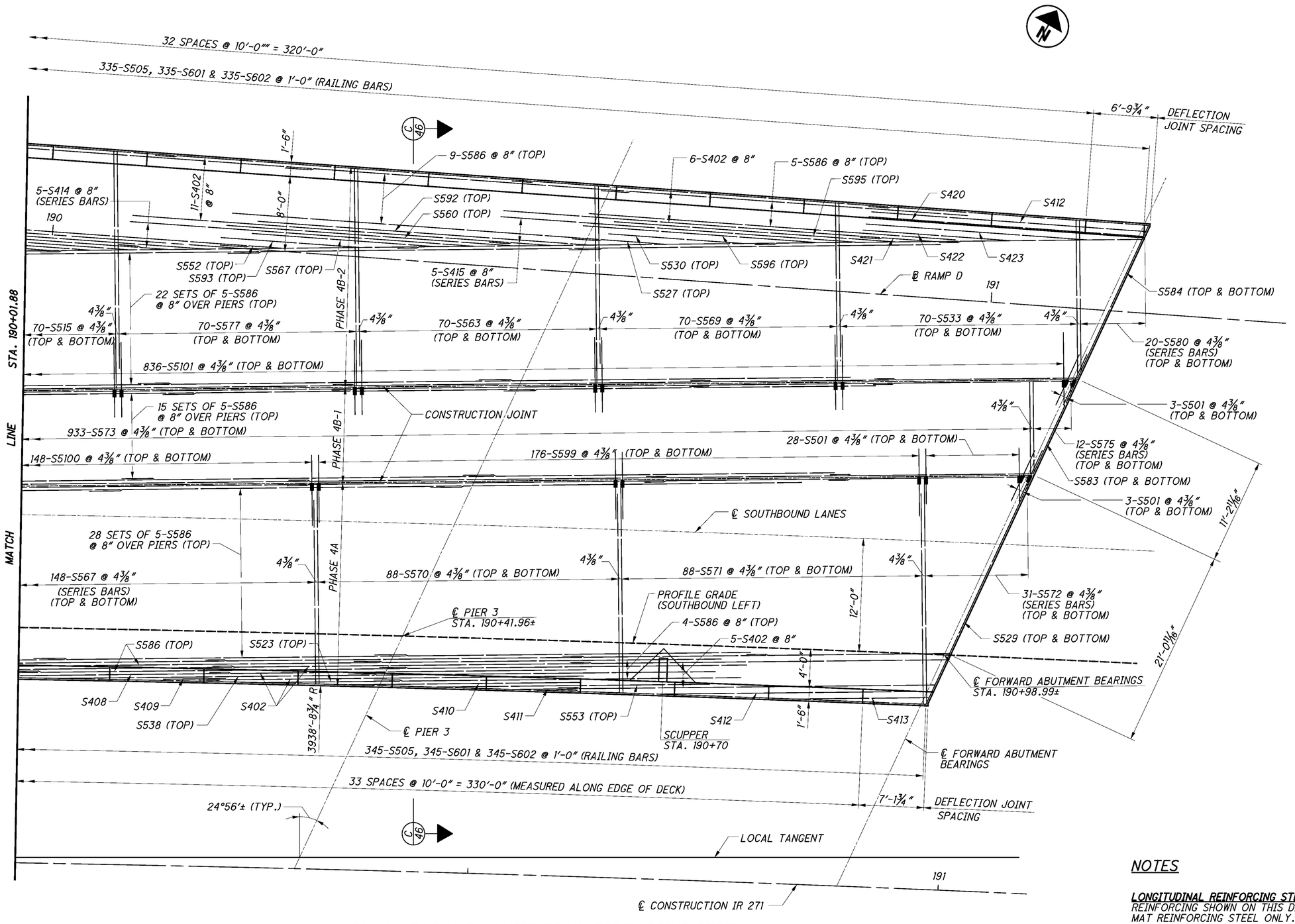
SLAB PLAN - SOUTHBOUND BRIDGE - 2
BRIDGE NO. SUM-271-0354 L
IR 271 OVER IR 77

SUM-271-2.33
PID No. 18710

70/106

1028
1195

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PLAN - TOP MAT LONGITUDINAL REINFORCING STEEL
PLAN - TOP & BOTTOM MAT TRANSVERSE REINFORCING STEEL

NOTES

LONGITUDINAL REINFORCING STEEL: THE LONGITUDINAL REINFORCING SHOWN ON THIS DRAWING IS THE TOP MAT REINFORCING STEEL ONLY. FOR BOTTOM MAT REINFORCING STEEL SEE SHEET 74/106.

HAUNCH REINFORCING STEEL: SEE SHEET 77/106.

STAGGER OF # 5 BARS OVER PIERS: SEE SHEET 44/106.

ADDITIONAL NOTES: SEE SHEET 44/106.

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
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SLAB PLAN - SOUTHBOUND BRIDGE - 3
BRIDGE NO. SUM-271-0354 L
IR 271 OVER IR 77

SUM-271-2.33
PID No. 18710

71/106

1029
1195

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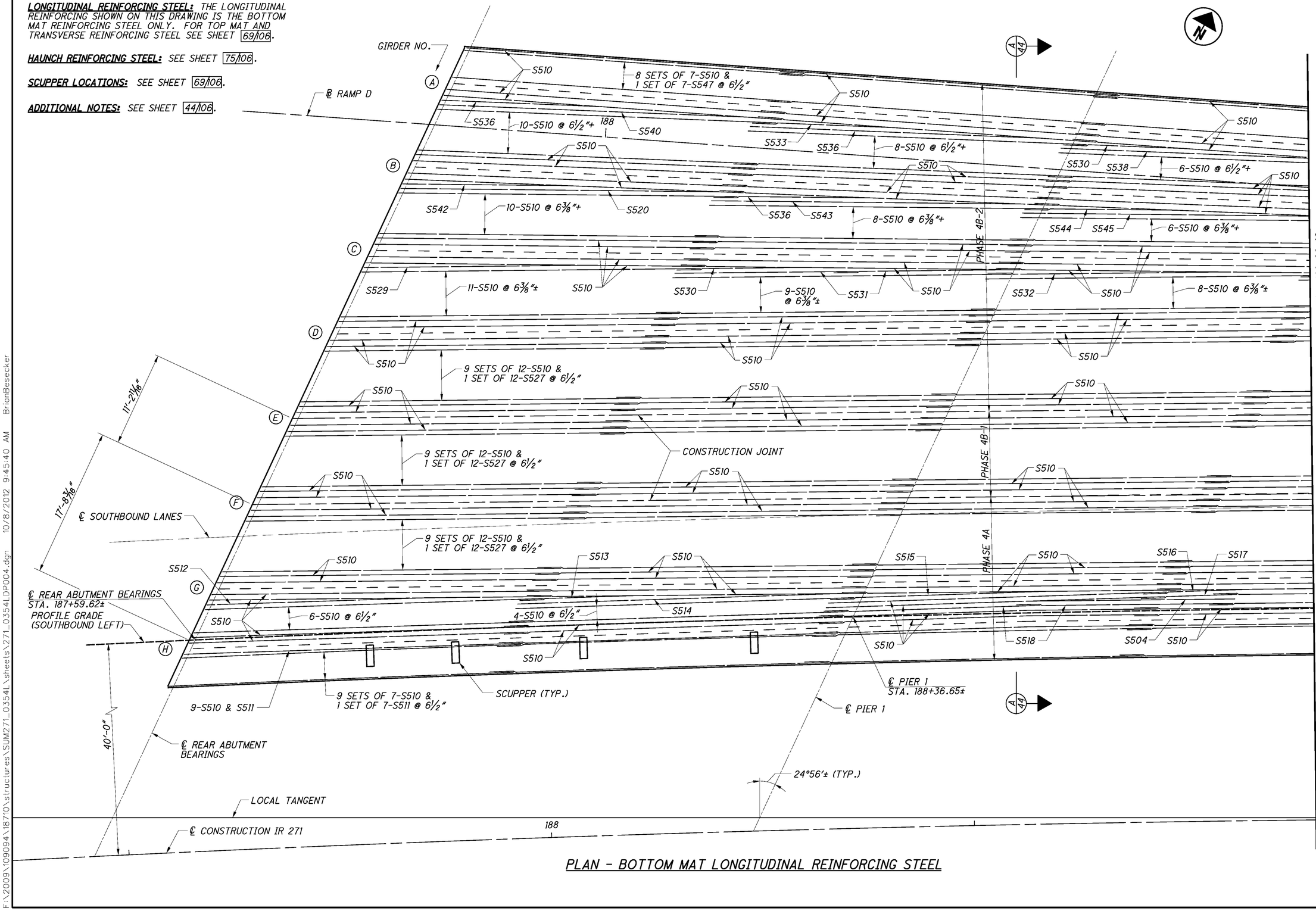
NOTES

LONGITUDINAL REINFORCING STEEL: THE LONGITUDINAL REINFORCING SHOWN ON THIS DRAWING IS THE BOTTOM MAT REINFORCING STEEL ONLY. FOR TOP MAT AND TRANSVERSE REINFORCING STEEL SEE SHEET 69/106.

HAUNCH REINFORCING STEEL: SEE SHEET 75/106.

SCUPPER LOCATIONS: SEE SHEET 69/106.

ADDITIONAL NOTES: SEE SHEET 44/106.



PLAN - BOTTOM MAT LONGITUDINAL REINFORCING STEEL

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

DESIGNED	DRAWN	REVIEWED	DATE
ALP	JLS	DAP	10/5/12
CHECKED	REVISED	STRUCTURE FILE NUMBER	
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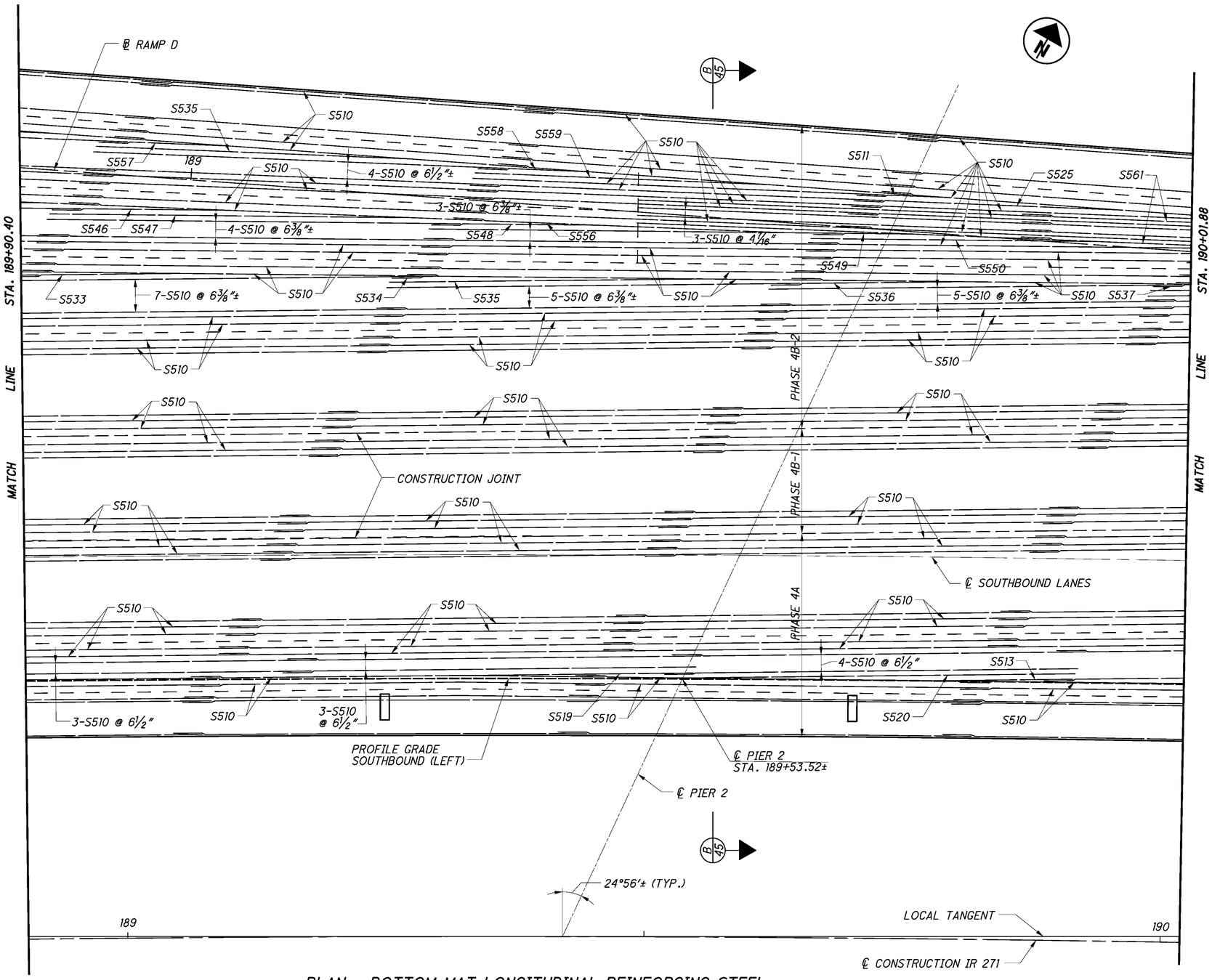
SLAB PLAN - SOUTHBOUND BRIDGE - 4
BRIDGE NO. SUM-271-0354 L
IR 271 OVER IR 77

SUM-271-2.33
PID No. 18710

72/106

1030
1195

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PLAN - BOTTOM MAT LONGITUDINAL REINFORCING STEEL

NOTES

LONGITUDINAL REINFORCING STEEL: *THE LONGITUDINAL REINFORCING SHOWN ON THIS DRAWING IS THE BOTTOM MAT REINFORCING STEEL ONLY. FOR TOP MAT AND TRANSVERSE REINFORCING STEEL SEE SHEET* 70/106.

HAUNCH REINFORCING STEEL: *SEE SHEET* 76/106.

SCUPPER LOCATIONS: *SEE SHEET* 70/106.

ADDITIONAL NOTES: *SEE SHEET* 44/106.

RICHLAND ENGINEERING LIMITED
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CHECKED	REVISED	STRUCTURE FILE NUMBER	
BLN		L7708815	

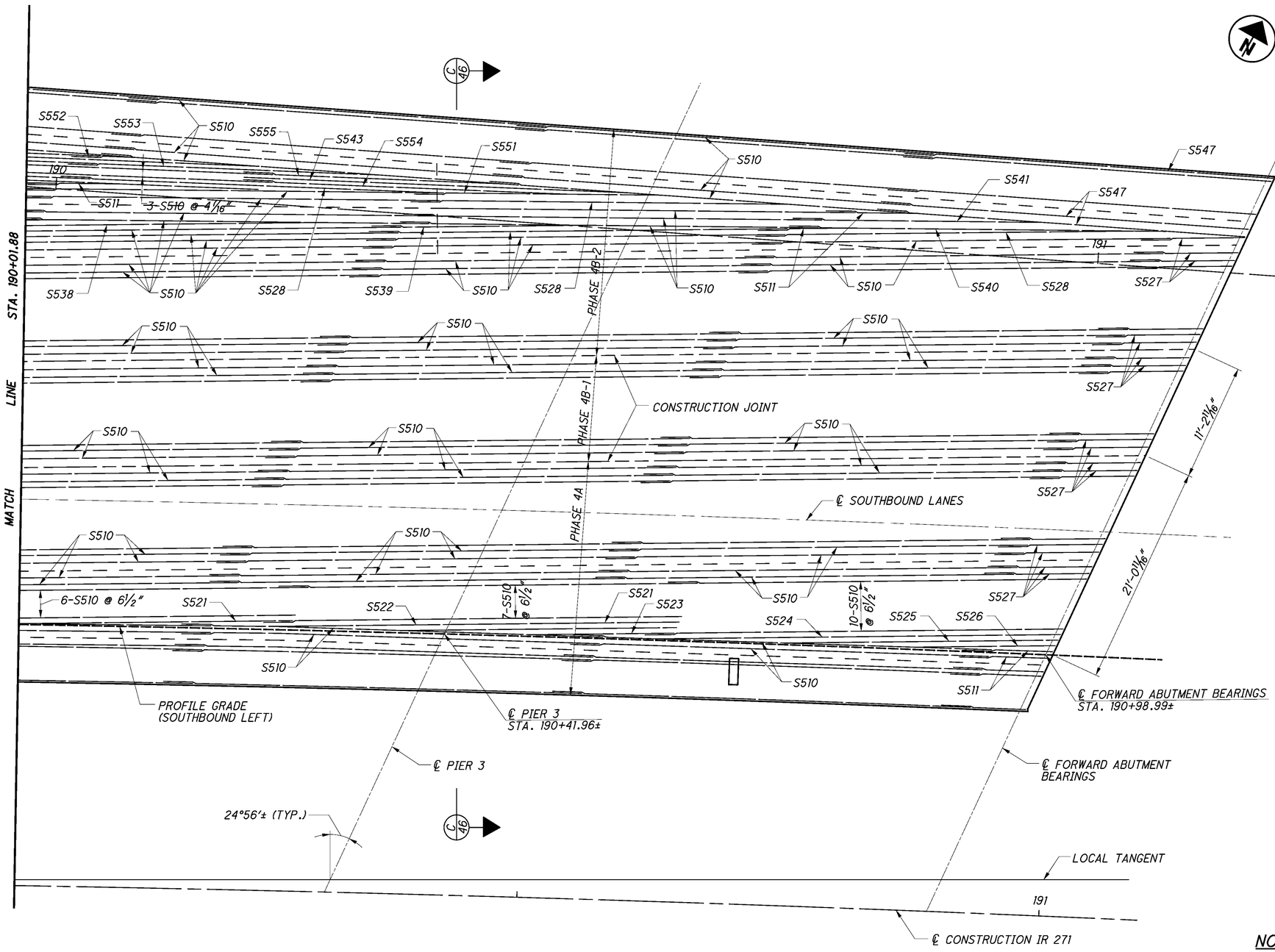
SLAB PLAN - SOUTHBOUND BRIDGE - 5
BRIDGE NO. SUM-271-0354 L
IR 271 OVER IR 77

SUM-271-2.33
PID No. 18710

73/106

1031
1195

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PLAN - BOTTOM MAT LONGITUDINAL REINFORCING STEEL

NOTES

LONGITUDINAL REINFORCING STEEL: *THE LONGITUDINAL REINFORCING SHOWN ON THIS DRAWING IS THE BOTTOM MAT REINFORCING STEEL ONLY. FOR TOP MAT AND TRANSVERSE REINFORCING STEEL SEE SHEET 71/106.*

HAUNCH REINFORCING STEEL: *SEE SHEET 77/106.*

SCUPPER LOCATIONS: *SEE SHEET 71/106.*

ADDITIONAL NOTES: *SEE SHEET 44/106.*

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SLAB PLAN - SOUTHBOUND BRIDGE - 6 OF 6
BRIDGE NO. SUM-271-0354 L
IR 271 OVER IR 77

SUM-271-2.33
PID No. 18710

74/106

1032
1195

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NOTES

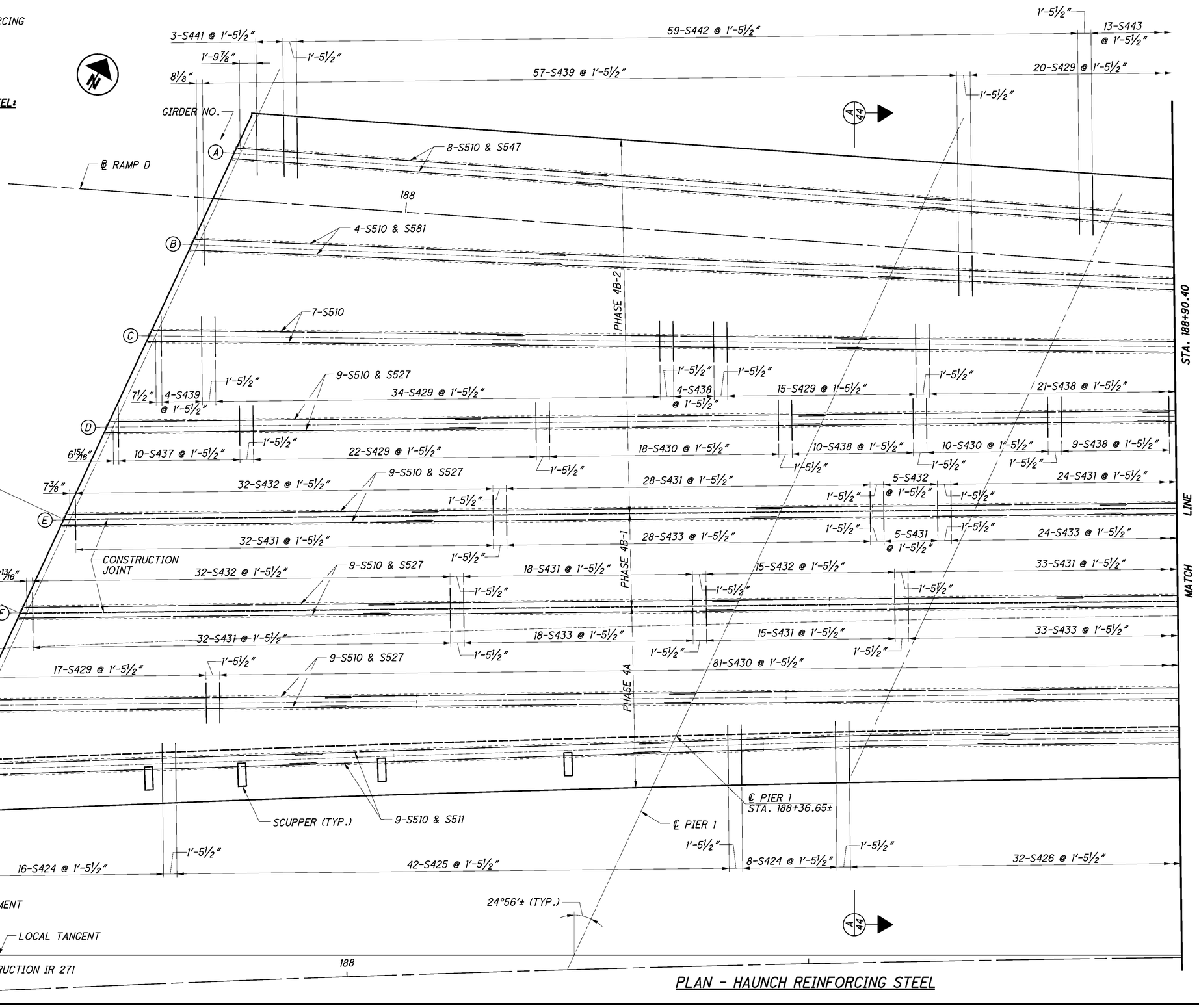
HAUNCH REINFORCING STEEL: *THE REINFORCING SHOWN ON THIS DRAWING IS THE HAUNCH REINFORCING STEEL ONLY.*

BOTTOM MAT REINFORCING STEEL: *SEE SHEET 72/106.*

TOP MAT & TRANSVERSE REINFORCING STEEL: *SEE SHEET 69/106.*

SCUPPER LOCATIONS: *SEE SHEET 69/106.*

ADDITIONAL NOTES: *SEE SHEET 44/106.*



PLAN - HAUNCH REINFORCING STEEL

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29 NORTH PARK STREET
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BLN		L7708815	

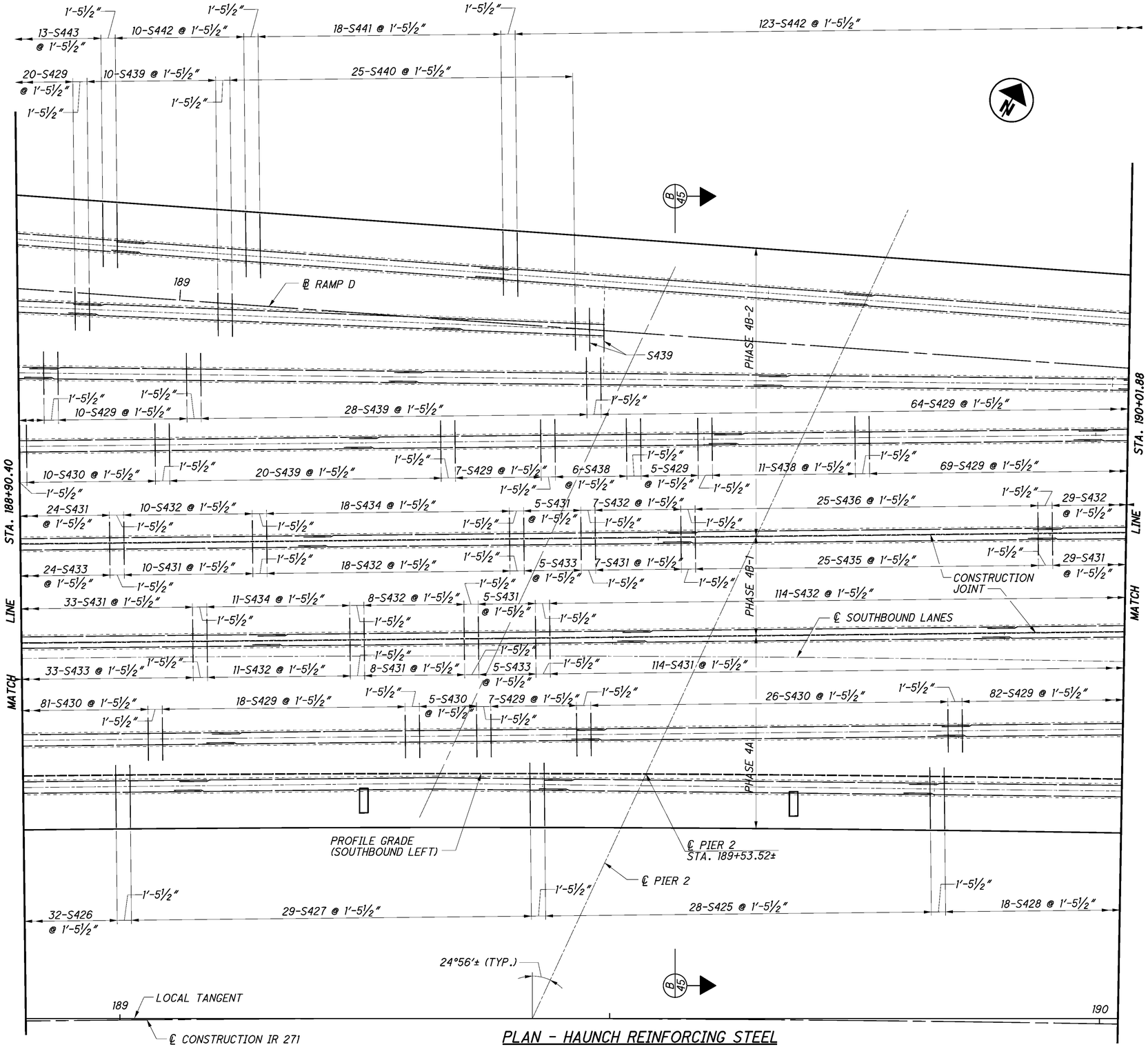
SLAB PLAN - SOUTHBOUND BRIDGE - 7
BRIDGE NO. SUM-271-0354 L
IR 271 OVER IR 77

SUM-271-2.33
PID No. 18710

75/106

1033
1195

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PLAN - HAUNCH REINFORCING STEEL

NOTES

HAUNCH REINFORCING STEEL: THE REINFORCING SHOWN ON THIS DRAWING IS THE HAUNCH REINFORCING STEEL ONLY.

BOTTOM MAT REINFORCING STEEL: SEE SHEET 73/106.

TOP MAT & TRANSVERSE REINFORCING STEEL: SEE SHEET 70/106.

SCUPPER LOCATIONS: SEE SHEET 70/106.

ADDITIONAL NOTES: SEE SHEET 44/106.

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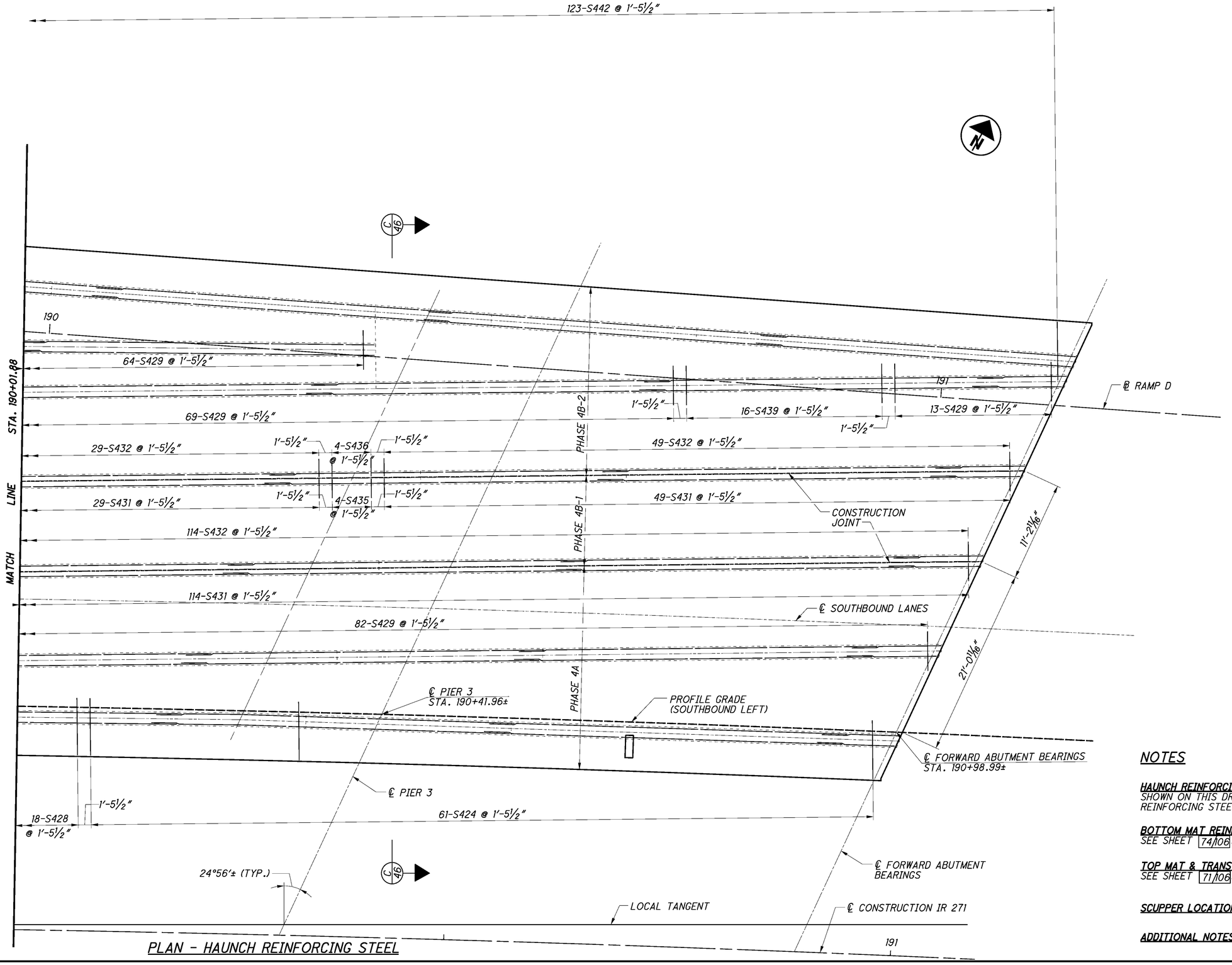
SLAB PLAN - SOUTHBOUND BRIDGE - 8
BRIDGE NO. SUM-271-0354 L
IR 271 OVER IR 77

SUM-271-2.33
PID No. 18710

76/106

1034/1195

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PLAN - HAUNCH REINFORCING STEEL

NOTES

HAUNCH REINFORCING STEEL: THE REINFORCING SHOWN ON THIS DRAWING IS THE HAUNCH REINFORCING STEEL ONLY.

BOTTOM MAT REINFORCING STEEL: SEE SHEET 74/106.

TOP MAT & TRANSVERSE REINFORCING STEEL: SEE SHEET 71/106.

SCUPPER LOCATIONS: SEE SHEET 71/106.

ADDITIONAL NOTES: SEE SHEET 44/106.

RICHLAND ENGINEERING LIMITED
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CHECKED	REVISED	STRUCTURE FILE NUMBER	
BLN		L7708815	

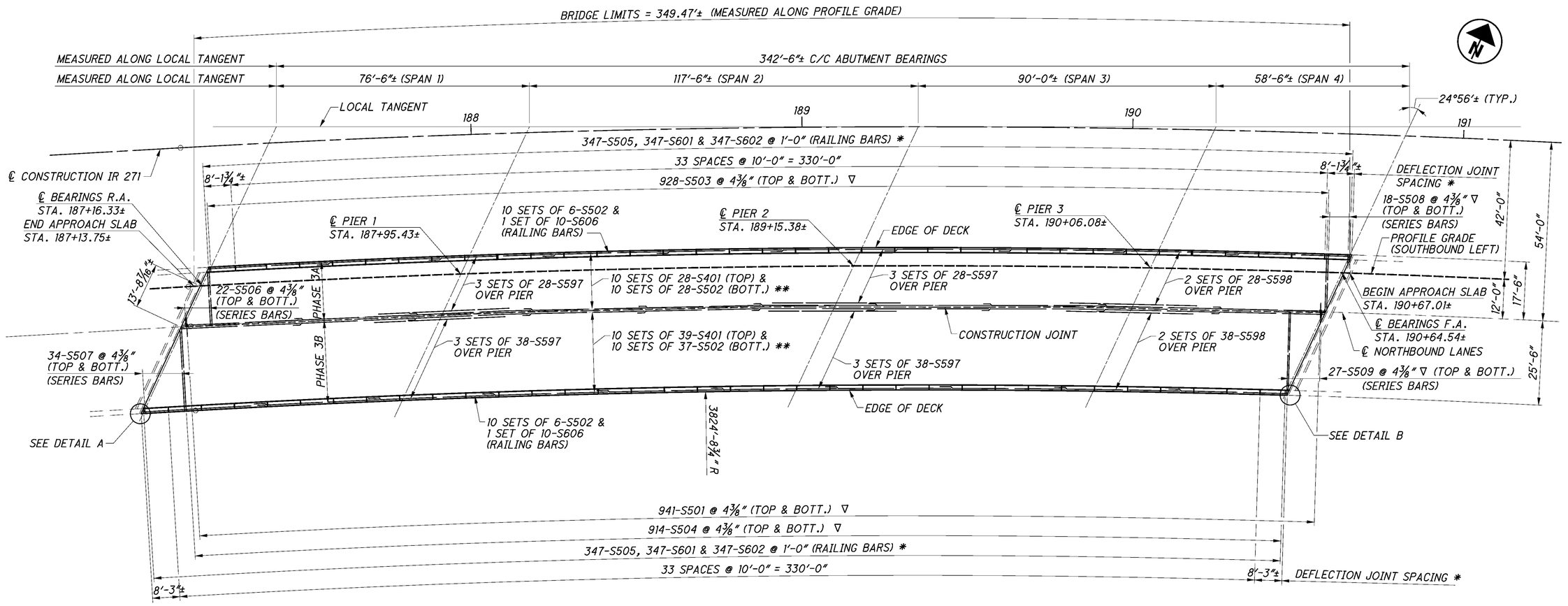
SLAB PLAN - SOUTHBOUND BRIDGE - SHEET 9 OF 9
BRIDGE NO. SUM-271-0354 L
IR 271 OVER IR 77

SUM-271-2.33
PID No. 18710

77/106

1035/1195

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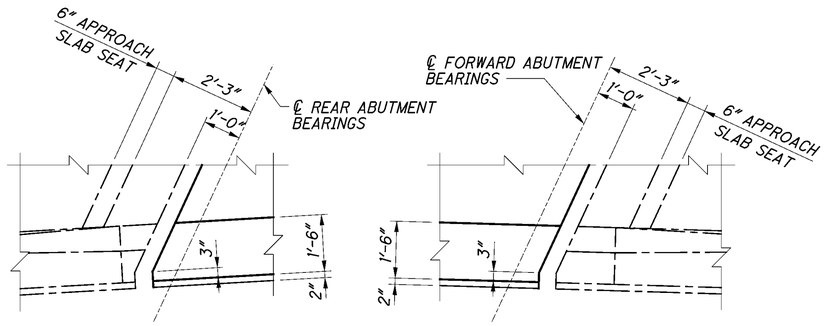


SLAB PLAN - NORTHBOUND BRIDGE

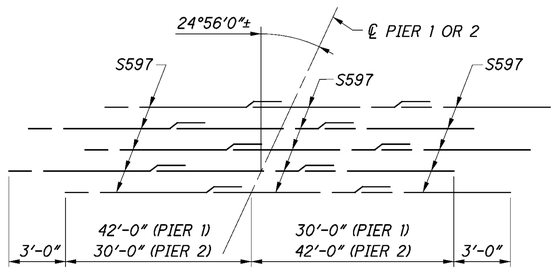
* MEASURED ALONG EDGE OF DECK,

** SEE TRANSVERSE SECTION FOR SPACING.

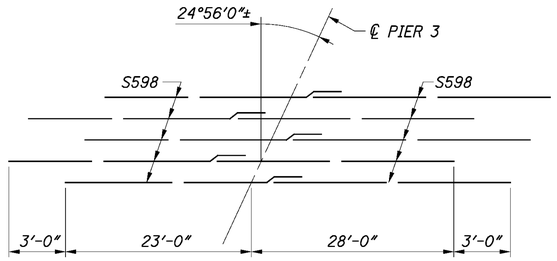
▽ DIMENSIONS MEASURED ALONG LEFT EDGE OF DECK. BARS PLACED RADIALLY.



DETAIL A DETAIL B



STAGGER OF S597 BARS OVER PIERS 1 AND 2



STAGGER OF S598 BARS OVER PIER 3

NOTES

TRANSVERSE SECTION: SEE SHEET 47/106.

ADDITIONAL NOTES: SEE SHEET 47/106.

NOTATION:
R.A. - REAR ABUTMENT
F.A. - FORWARD ABUTMENT

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SLAB PLAN - NORTHBOUND BRIDGE
BRIDGE NO. SUM-271-0354 R
IR 271 OVER IR 77

SUM-271-2.33
PID No. 18710

1036
1195

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FINAL DECK SURFACE ELEVATION TABLE

SPAN POINT		R.A. BRGS.	SPAN 1							PIER 1	SPAN 2									PIER 2
			1/8	1/4	3/8	1/2	5/8	3/4	7/8		1/8	SPLICE	1/4	3/8	1/2	5/8	3/4	SPLICE	7/8	
CURB LINE	STATIONS	187+93.67	188+02.65	188+11.63	188+20.62	188+29.61	188+38.61	188+47.61	188+56.61	188+65.62	188+79.47	188+85.37	188+93.32	189+07.18	189+21.05	189+34.92	189+48.80	189+56.66	189+62.01	189+76.58
	OFFSETS	107.33' LEFT	106.34' LEFT	105.37' LEFT	104.43' LEFT	103.5' LEFT	102.6' LEFT	101.72' LEFT	100.86' LEFT	100.02' LEFT	98.77' LEFT	98.26' LEFT	97.57' LEFT	96.43' LEFT	95.33' LEFT	94.28' LEFT	93.29' LEFT	92.75' LEFT	92.39' LEFT	91.44' LEFT
	A	1116.96	1116.78	1116.58	1116.36	1116.12	1115.87	1115.62	1115.36	1115.10	1114.68	1114.50	1114.25	1113.83	1113.41	1112.99	1112.58	1112.34	1112.18	1111.74
	B																			
	C																			
	D																			
	E																			
	F																			
GIRDER A	STATIONS	187+92.25	188+01.23	188+10.22	188+19.22	188+28.21	188+37.22	188+46.22	188+55.23	188+64.25	188+78.10	188+84.01	188+91.96	189+05.83	189+19.71	189+33.59	189+47.48	189+55.35	189+61.38	189+75.28
	OFFSETS	104.47' LEFT	103.48' LEFT	102.51' LEFT	101.56' LEFT	100.63' LEFT	99.73' LEFT	98.84' LEFT	97.98' LEFT	97.13' LEFT	95.88' LEFT	95.36' LEFT	94.68' LEFT	93.53' LEFT	92.43' LEFT	91.37' LEFT	90.37' LEFT	89.83' LEFT	89.42' LEFT	88.52' LEFT
	A	1116.96	1116.77	1116.57	1116.34	1116.10	1115.84	1115.59	1115.34	1115.07	1114.65	1114.47	1114.23	1113.81	1113.39	1112.97	1112.55	1112.32	1112.14	1111.72
	B																			
	C																			
	D																			
	E																			
	F																			
GIRDER B	STATIONS	187+87.42	187+96.57	188+05.71	188+14.87	188+24.02	188+33.18	188+42.34	188+51.50	188+60.67	188+74.73	188+80.76	188+88.81	189+02.91	189+17.01	189+31.11	189+45.22	*189+49.13	-	-
	OFFSETS	94.78' LEFT	94.06' LEFT	93.36' LEFT	92.68' LEFT	92.02' LEFT	91.39' LEFT	90.78' LEFT	90.19' LEFT	89.62' LEFT	88.79' LEFT	88.45' LEFT	88.01' LEFT	87.28' LEFT	86.61' LEFT	85.98' LEFT	85.41' LEFT	85.27' LEFT	-	-
	A	1116.98	1116.76	1116.54	1116.30	1116.05	1115.78	1115.53	1115.27	1115.01	1114.60	1114.42	1114.18	1113.76	1113.35	1112.93	1112.51	1112.40	-	-
	B																		-	-
	C																		-	-
	D																		-	-
	E																		-	-
	F																		-	-

FINAL DECK SURFACE ELEVATION TABLE

SPAN POINT		SPAN 3								PIER 3	SPAN 4							F.A. BRGS.
		1/8	1/4	3/8	1/2	5/8	3/4	SPLICE	7/8		1/8	1/4	3/8	1/2	5/8	3/4	7/8	
CURB LINE	STATIONS	189+87.22	189+97.87	190+08.53	190+19.18	190+29.84	190+40.51	190+47.06	190+51.17	190+61.83	190+68.77	190+75.70	190+82.64	190+89.58	190+96.52	191+03.46	191+10.40	191+17.34
	OFFSETS	90.79' LEFT	90.17' LEFT	89.57' LEFT	89.01' LEFT	88.47' LEFT	87.97' LEFT	87.68' LEFT	87.5' LEFT	87.06' LEFT	86.79' LEFT	86.53' LEFT	86.29' LEFT	86.06' LEFT	85.84' LEFT	85.63' LEFT	85.44' LEFT	85.26' LEFT
	A	1111.42	1111.11	1110.79	1110.47	1110.15	1109.84	1109.64	1109.52	1109.20	1109.00	1108.79	1108.59	1108.39	1108.18	1107.98	1107.77	1107.57
	B																	
	C																	
	D																	
	E																	
	F																	
GIRDER A	STATIONS	189+85.94	189+96.59	190+07.25	190+17.92	190+28.58	190+39.25	190+45.81	190+50.77	190+60.60	190+67.54	190+74.48	190+81.43	190+88.37	190+95.31	191+02.26	191+09.21	191+16.15
	OFFSETS	87.86' LEFT	87.24' LEFT	86.64' LEFT	86.07' LEFT	85.53' LEFT	85.02' LEFT	84.73' LEFT	84.51' LEFT	84.11' LEFT	83.83' LEFT	83.58' LEFT	83.33' LEFT	83.1' LEFT	82.87' LEFT	82.67' LEFT	82.47' LEFT	82.29' LEFT
	A	1111.40	1111.08	1110.76	1110.45	1110.13	1109.81	1109.62	1109.47	1109.18	1108.98	1108.77	1108.57	1108.36	1108.16	1107.95	1107.75	1107.55
	B																	
	C																	
	D																	
	E																	
	F																	
GIRDER B	STATIONS	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	OFFSETS	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	B	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	C	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	D	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	E	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	F	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

LEGEND

A - FINAL DECK SURFACE ELEVATION
B - BOTTOM OF BEAM ELEVATION BEFORE DECK REMOVAL
C - BOTTOM OF BEAM ELEVATION AFTER DECK REMOVAL
D - REBOUND = C-B
E - SCREED ELEVATION = A+D
F - TOP OF HAUNCH ELEVATION = E-9"
* - STATION, OFFSET AND ELEVATION ARE GIVEN AT THE END OF THE BEAM.

NOTES

FINAL DECK SURFACE ELEVATIONS SHOWN REPRESENT THE DECK SURFACE LOCATION AFTER ALL ANTICIPATED DEAD LOAD DEFLECTIONS HAVE OCCURRED.

DECK ELEVATIONS ARE TAKEN BETWEEN ℄ BEARINGS. A LINE CONNECTING EIGHTH POINTS OF THE FASCIA GIRDERS AND EXTENDING TO THE EDGES OF THE DECK DEFINES THE EIGHTH POINTS AT EACH DECK ELEVATION LOCATION.

SURVEY BOTTOM OF EXISTING GIRDERS AT THE LOCATIONS SHOWN IN THE TABLE PRIOR TO DECK REMOVAL AND AFTER DECK REMOVAL DURING THE APPROPRIATE PHASE OF CONSTRUCTION. COMPUTE THE AMOUNT OF REBOUND FOR THESE BEAMS BY SUBTRACTING THE ELEVATIONS AFTER REMOVAL (C) FROM THE ELEVATIONS BEFORE REMOVAL (B). ADD THE REBOUND TO THE FINAL DECK SURFACE ELEVATIONS TO DETERMINE THE DECK SCREED ELEVATIONS. USE REBOUND OF CLOSEST BEAM TO DETERMINE OTHER DECK SCREED ELEVATIONS. THE COST OF SURVEYING IS CONSIDERED INCIDENTAL TO THE DECK CONSTRUCTION AND SHALL BE INCLUDED WITH ITEM 511 - CLASS HP CONCRETE, BRIDGE DECK, AS PER PLAN.

DECK ELEVATION LOCATIONS: SEE SHEETS 87/106 THROUGH 89/106.

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

DESIGNED ALP | DRAWN SCB | REVIEWED DAP | DATE 10/5/12
CHECKED BLN | REVISED | STRUCTURE FILE NUMBER L7708815

DECK ELEVATION TABLES - SOUTHBOUND BRIDGE - 1
BRIDGE NO. SUM-271-0354 L
IR 271 OVER IR 77

SUM-271-2.33
PID No. 18710

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FINAL DECK SURFACE ELEVATION TABLE

SPAN POINT		R.A. BRGS.	SPAN 1							PIER 1	SPAN 2									PIER 2
			1/8	1/4	3/8	1/2	5/8	3/4	7/8		1/8	SPLICE	1/4	3/8	1/2	5/8	3/4	SPLICE	7/8	
GIRDER C	STATIONS	187+82.57	187+91.87	188+01.18	188+10.48	188+19.79	188+29.10	188+38.42	188+47.73	188+57.05	188+71.32	188+77.46	188+85.62	188+99.93	189+14.25	189+28.58	189+42.90	189+51.05	189+57.24	189+71.59
	OFFSETS	85.1' LEFT	84.64' LEFT	84.2' LEFT	83.78' LEFT	83.39' LEFT	83.02' LEFT	82.67' LEFT	82.35' LEFT	82.05' LEFT	81.63' LEFT	81.46' LEFT	81.26' LEFT	80.95' LEFT	80.69' LEFT	80.48' LEFT	80.33' LEFT	80.27' LEFT	80.23' LEFT	80.19' LEFT
	A	1117.01	1116.77	1116.53	1116.28	1116.02	1115.75	1115.48	1115.22	1114.95	1114.54	1114.36	1114.13	1113.71	1113.30	1112.89	1112.47	1112.24	1112.06	1111.65
	B																			
	C																			
	D																			
	E																			
	F																			
BREAKPOINT	STATIONS	187+82.25	187+91.28	188+00.31	188+09.35	188+18.39	188+27.44	188+36.49	188+45.54	188+54.60	188+68.46	188+74.46	188+82.37	188+96.30	189+10.25	189+24.20	189+38.16	189+46.15	189+52.15	189+66.18
	OFFSETS	84.47' LEFT	83.45' LEFT	82.46' LEFT	81.49' LEFT	80.54' LEFT	79.61' LEFT	78.7' LEFT	77.81' LEFT	76.95' LEFT	75.67' LEFT	75.13' LEFT	74.43' LEFT	73.24' LEFT	72.11' LEFT	71.02' LEFT	69.99' LEFT	69.42' LEFT	69' LEFT	68.06' LEFT
	A	1117.02	1116.77	1116.53	1116.28	1116.01	1115.74	1115.46	1115.19	1114.91	1114.49	1114.31	1114.07	1113.65	1113.23	1112.81	1112.39	1112.15	1111.97	1111.55
	B																			
	C																			
	D																			
	E																			
	F																			
GIRDER D	STATIONS	187+77.69	187+87.12	187+96.54	188+05.97	188+15.40	188+24.82	188+34.25	188+43.68	188+53.11	188+67.54	188+73.77	188+82.00	188+96.49	189+10.98	189+25.47	189+39.96	189+48.23	189+54.46	189+68.99
	OFFSETS	75.42' LEFT	75.15' LEFT	74.89' LEFT	74.66' LEFT	74.46' LEFT	74.27' LEFT	74.11' LEFT	73.98' LEFT	73.86' LEFT	73.73' LEFT	73.69' LEFT	73.66' LEFT	73.64' LEFT	73.67' LEFT	73.76' LEFT	73.9' LEFT	74.01' LEFT	74.1' LEFT	74.35' LEFT
	A	1116.99	1116.74	1116.49	1116.24	1115.98	1115.71	1115.44	1115.17	1114.90	1114.48	1114.30	1114.07	1113.65	1113.24	1112.83	1112.42	1112.19	1112.01	1111.60
	B																			
	C																			
	D																			
	E																			
	F																			

FINAL DECK SURFACE ELEVATION TABLE

SPAN POINT		SPAN 3								PIER 3	SPAN 4							F.A. BRGS.
		1/8	1/4	3/8	1/2	5/8	3/4	SPLICE	7/8		1/8	1/4	3/8	1/2	5/8	3/4	7/8	
GIRDER C	STATIONS	189+82.55	189+93.52	190+04.49	190+15.46	190+26.43	190+37.40	*190+40.20	-	-	-	-	-	-	-	-	-	-
	OFFSETS	80.19' LEFT	80.22' LEFT	80.29' LEFT	80.38' LEFT	80.51' LEFT	80.67' LEFT	80.71' LEFT	-	-	-	-	-	-	-	-	-	-
	A	1111.34	1111.02	1110.71	1110.40	1110.09	1109.78	1109.70	-	-	-	-	-	-	-	-	-	-
	B								-	-	-	-	-	-	-	-	-	-
	C								-	-	-	-	-	-	-	-	-	-
	D								-	-	-	-	-	-	-	-	-	-
	E								-	-	-	-	-	-	-	-	-	-
	F								-	-	-	-	-	-	-	-	-	-
BREAKPOINT	STATIONS	189+76.88	189+87.58	189+98.29	190+09.00	190+19.71	190+30.43	190+37.07	190+41.20	190+52.16	190+59.26	190+66.35	190+73.43	190+80.51	190+87.59	190+94.66	191+01.72	191+08.78	
	OFFSETS	67.38' LEFT	66.73' LEFT	66.11' LEFT	65.51' LEFT	64.95' LEFT	64.42' LEFT	64.1' LEFT	64' LEFT	64' LEFT	64' LEFT	64' LEFT	64' LEFT	64' LEFT	64' LEFT	64' LEFT	64' LEFT	64' LEFT	
	A	1111.23	1110.92	1110.60	1110.28	1109.96	1109.65	1109.45	1109.33	1109.02	1108.81	1108.61	1108.41	1108.21	1108.00	1107.80	1107.60	1107.40	
	B																		
	C																		
	D																		
	E																		
	F																		
GIRDER D	STATIONS	189+80.07	189+91.16	190+02.24	190+13.32	190+24.41	190+35.49	190+42.32	190+46.57	190+57.66	190+64.86	190+72.06	190+79.26	190+86.46	190+93.65	191+00.85	191+08.04	191+15.23	
	OFFSETS	74.58' LEFT	74.84' LEFT	75.13' LEFT	75.46' LEFT	75.81' LEFT	76.2' LEFT	76.46' LEFT	76.62' LEFT	77.08' LEFT	77.4' LEFT	77.73' LEFT	78.07' LEFT	78.43' LEFT	78.8' LEFT	79.18' LEFT	79.58' LEFT	79.99' LEFT	
	A	1111.29	1110.98	1110.67	1110.36	1110.05	1109.74	1109.55	1109.43	1109.12	1108.92	1108.72	1108.52	1108.32	1108.12	1107.93	1107.73	1107.53	
	B																		
	C																		
	D																		
	E																		
	F																		

LEGEND

A - FINAL DECK SURFACE ELEVATION
B - BOTTOM OF BEAM ELEVATION BEFORE DECK REMOVAL
C - BOTTOM OF BEAM ELEVATION AFTER DECK REMOVAL
D - REBOUND = C-B
E - SCREED ELEVATION = A+D
F - TOP OF HAUNCH ELEVATION = E-9"
* - STATION, OFFSET AND ELEVATION ARE GIVEN AT THE END OF THE BEAM.

NOTES

DECK ELEVATION LOCATIONS: SEE SHEETS 87/106 THROUGH 89/106.

ADDITIONAL NOTES: SEE SHEET 79/106.

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

DESIGNED ALP | DRAWN SCB | REVIEWED DAP | DATE 10/5/12
CHECKED BLN | REVISED | STRUCTURE FILE NUMBER L7708815

DECK ELEVATION TABLES - SOUTHBOUND BRIDGE - 2
BRIDGE NO. SUM-271-0354 L
IR 271 OVER IR 77

SUM-271-2.33
PID No. 18710

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FINAL DECK SURFACE ELEVATION TABLE

SPAN POINT		R.A. BRGS.	SPAN 1							PIER 1	SPAN 2									PIER 2
			1/8	1/4	3/8	1/2	5/8	3/4	7/8		1/8	SPLICE	1/4	3/8	1/2	5/8	3/4	SPLICE	7/8	
CONSTRUCTION JOINT	STATIONS	187+72.74	187+82.18	187+91.63	188+01.08	188+10.53	188+20.03	188+29.46	188+38.90	188+48.34	188+62.77	188+69.05	188+77.26	188+91.78	189+06.31	189+20.84	189+35.36	189+43.69	189+49.91	189+64.51
	OFFSETS	65.63' LEFT	65.34' LEFT	65.08' LEFT	64.84' LEFT	64.63' LEFT	64.42' LEFT	64.25' LEFT	64.1' LEFT	63.98' LEFT	63.83' LEFT	63.78' LEFT	63.74' LEFT	63.7' LEFT	63.71' LEFT	63.79' LEFT	63.91' LEFT	64.01' LEFT	64.09' LEFT	64.33' LEFT
	A	1116.96	1116.71	1116.46	1116.20	1115.93	1115.66	1115.39	1115.12	1114.85	1114.42	1114.24	1114.01	1113.59	1113.17	1112.76	1112.35	1112.12	1111.94	1111.53
	B																			
	C																			
	D																			
	E																			
	F																			
GIRDER E	STATIONS	187+72.70	187+82.15	187+91.60	188+01.05	188+10.50	188+19.95	188+29.40	188+38.86	188+48.31	188+62.74	188+69.02	188+77.23	188+91.75	189+06.28	189+20.81	189+35.33	189+43.66	189+49.89	189+64.48
	OFFSETS	65.57' LEFT	65.28' LEFT	65.02' LEFT	64.78' LEFT	64.56' LEFT	64.36' LEFT	64.19' LEFT	64.04' LEFT	63.91' LEFT	63.77' LEFT	63.72' LEFT	63.67' LEFT	63.64' LEFT	63.65' LEFT	63.72' LEFT	63.85' LEFT	63.95' LEFT	64.03' LEFT	64.26' LEFT
	A	1116.96	1116.71	1116.46	1116.20	1115.93	1115.67	1115.39	1115.12	1114.84	1114.42	1114.24	1114.00	1113.59	1113.17	1112.76	1112.35	1112.12	1111.94	1111.53
	B																			
	C																			
	D																			
	E																			
	F																			
BREAKPOINT	STATIONS	187+71.91	187+81.50	187+91.09	188+00.66	188+10.22	188+19.77	188+29.31	188+38.84	188+48.35	188+62.85	188+69.16	188+77.38	188+91.93	189+06.44	189+20.93	189+35.40	189+43.69	189+49.87	189+64.36
	OFFSETS	64' LEFT	64' LEFT	64' LEFT	64' LEFT	64' LEFT	64' LEFT	64' LEFT	64' LEFT	64' LEFT	64' LEFT	64' LEFT	64' LEFT	64' LEFT	64' LEFT	64' LEFT	64' LEFT	64' LEFT	64' LEFT	64' LEFT
	A	1116.95	1116.71	1116.45	1116.19	1115.93	1115.66	1115.39	1115.12	1114.85	1114.43	1114.25	1114.02	1113.60	1113.18	1112.77	1112.36	1112.12	1111.94	1111.53
	B																			
	C																			
	D																			
	E																			
	F																			

FINAL DECK SURFACE ELEVATION TABLE

SPAN POINT		SPAN 3								PIER 3	SPAN 4							F.A. BRGS.
		1/8	1/4	3/8	1/2	5/8	3/4	SPLICE	7/8		1/8	1/4	3/8	1/2	5/8	3/4	7/8	
CONSTRUCTION JOINT	STATIONS	189+75.66	189+86.73	189+97.83	190+08.94	190+20.05	190+31.15	190+38.02	190+42.27	190+53.41	190+60.63	190+67.85	190+75.06	190+82.28	190+89.49	190+96.70	191+03.91	191+11.12
	OFFSETS	64.64' LEFT	64.79' LEFT	65.07' LEFT	65.38' LEFT	65.72' LEFT	66.1' LEFT	66.35' LEFT	66.51' LEFT	66.96' LEFT	67.27' LEFT	67.59' LEFT	67.92' LEFT	68.27' LEFT	68.63' LEFT	69.01' LEFT	69.4' LEFT	69.8' LEFT
	A	1111.22	1110.90	1110.59	1110.28	1109.97	1109.66	1109.47	1109.35	1109.04	1108.84	1108.64	1108.44	1108.24	1108.04	1107.84	1107.64	1107.45
	B																	
	C																	
	D																	
	E																	
	F																	
GIRDER E	STATIONS	189+75.59	189+86.70	189+97.81	190+08.91	190+20.02	190+31.12	190+38.00	190+42.24	190+53.38	190+60.60	190+67.82	190+75.04	190+82.25	190+89.46	190+96.68	191+03.89	191+11.10
	OFFSETS	64.48' LEFT	64.73' LEFT	65' LEFT	65.32' LEFT	65.66' LEFT	66.04' LEFT	66.28' LEFT	66.45' LEFT	66.89' LEFT	67.2' LEFT	67.52' LEFT	67.86' LEFT	68.21' LEFT	68.57' LEFT	68.94' LEFT	69.33' LEFT	69.74' LEFT
	A	1111.22	1110.90	1110.59	1110.28	1109.97	1109.66	1109.47	1109.35	1109.04	1108.84	1108.64	1108.44	1108.24	1108.04	1107.84	1107.64	1107.44
	B																	
	C																	
	D																	
	E																	
	F																	
BREAKPOINT	STATIONS	189+75.38	189+86.38	189+97.36	190+08.34	190+19.30	190+30.25	190+37.02	-	-	-	-	-	-	-	-	-	-
	OFFSETS	64' LEFT	64' LEFT	64' LEFT	64' LEFT	64' LEFT	64' LEFT	64' LEFT	-	-	-	-	-	-	-	-	-	-
	A	1111.21	1110.90	1110.58	1110.27	1109.96	1109.64	1109.45	-	-	-	-	-	-	-	-	-	-
	B								-	-	-	-	-	-	-	-	-	-
	C								-	-	-	-	-	-	-	-	-	-
	D								-	-	-	-	-	-	-	-	-	-
	E								-	-	-	-	-	-	-	-	-	-
	F								-	-	-	-	-	-	-	-	-	-

LEGEND

A - FINAL DECK SURFACE ELEVATION
B - BOTTOM OF BEAM ELEVATION BEFORE DECK REMOVAL
C - BOTTOM OF BEAM ELEVATION AFTER DECK REMOVAL
D - REBOUND = C-B
E - SCREED ELEVATION = A+D
F - TOP OF HAUNCH ELEVATION = E-9"

NOTES

DECK ELEVATION LOCATIONS: SEE SHEETS 87/106 THROUGH 89/106.

ADDITIONAL NOTES: SEE SHEET 79/106.

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

DESIGNED ALP | DRAWN SCB | REVIEWED DAP | DATE 10/5/12
CHECKED BLN | REVISED | STRUCTURE FILE NUMBER L7708815

DECK ELEVATION TABLES - SOUTHBOUND BRIDGE - 3
BRIDGE NO. SUM-271-0354 L
IR 271 OVER IR 77

SUM-271-2.33
PID No. 18710

F:\2009\109094\18710\structures\SUM271_0354L\sheets\271_0354LSD010.dgn 10/7/2012 9:01:04 AM RichHarding

FINAL DECK SURFACE ELEVATION TABLE

SPAN POINT		R.A. BRGS.	SPAN 1							PIER 1	SPAN 2									PIER 2
			1/8	1/4	3/8	1/2	5/8	3/4	7/8		1/8	SPLICE	1/4	3/8	1/2	5/8	3/4	SPLICE	7/8	
GIRDER F	STATIONS	187+67.69	187+77.16	187+86.63	187+96.10	188+05.58	188+15.05	188+24.53	188+34.00	188+43.48	188+57.92	188+64.25	188+72.43	188+86.99	189+01.54	189+16.10	189+30.66	189+39.05	189+45.26	189+59.93
	OFFSETS	55.73' LEFT	55.43' LEFT	55.15' LEFT	54.9' LEFT	54.66' LEFT	54.46' LEFT	54.27' LEFT	54.11' LEFT	53.97' LEFT	53.81' LEFT	53.75' LEFT	53.69' LEFT	53.62' LEFT	53.61' LEFT	53.65' LEFT	53.75' LEFT	53.83' LEFT	53.91' LEFT	54.14' LEFT
	A	1116.67	1116.41	1116.15	1115.87	1115.59	1115.31	1115.03	1114.75	1114.47	1114.05	1113.87	1113.63	1113.21	1112.80	1112.38	1111.97	1111.73	1111.56	1111.15
	B																			
	C																			
	D																			
	E																			
	F																			
CONSTRUCTION JOINT	STATIONS	187+67.66	187+77.13	187+86.60	187+96.07	188+05.55	188+15.02	188+24.50	188+33.97	188+43.45	188+57.89	188+64.22	188+72.40	188+86.96	189+01.51	189+16.07	189+30.63	189+39.02	189+45.23	189+59.90
	OFFSETS	55.67' LEFT	55.37' LEFT	55.09' LEFT	54.83' LEFT	54.6' LEFT	54.39' LEFT	54.21' LEFT	54.05' LEFT	53.91' LEFT	53.75' LEFT	53.69' LEFT	53.63' LEFT	53.56' LEFT	53.55' LEFT	53.59' LEFT	53.69' LEFT	53.77' LEFT	53.85' LEFT	54.07' LEFT
	A	1116.67	1116.41	1116.14	1115.87	1115.59	1115.31	1115.03	1114.75	1114.47	1114.05	1113.87	1113.63	1113.21	1112.79	1112.38	1111.97	1111.73	1111.56	1111.15
	B																			
	C																			
	D																			
	E																			
	F																			
GIRDER G	STATIONS	187+62.65	187+72.14	187+81.64	187+91.13	188+00.63	188+10.13	188+19.63	188+29.13	188+38.63	188+53.08	188+59.45	188+67.61	188+82.21	188+96.81	189+11.41	189+26.01	189+34.46	189+40.66	189+55.39
	OFFSETS	45.89' LEFT	45.58' LEFT	45.29' LEFT	45.02' LEFT	44.78' LEFT	44.56' LEFT	44.36' LEFT	44.19' LEFT	44.04' LEFT	43.86' LEFT	43.79' LEFT	43.73' LEFT	43.65' LEFT	43.63' LEFT	43.67' LEFT	43.76' LEFT	43.84' LEFT	43.9' LEFT	44.1' LEFT
	A	1116.35	1116.07	1115.79	1115.51	1115.23	1114.95	1114.67	1114.39	1114.11	1113.68	1113.50	1113.26	1112.84	1112.42	1112.01	1111.59	1111.36	1111.18	1110.77
	B																			
	C																			
	D																			
	E																			
	F																			

FINAL DECK SURFACE ELEVATION TABLE

SPAN POINT		SPAN 3								PIER 3	SPAN 4							F.A. BRGS.
		1/8	1/4	3/8	1/2	5/8	3/4	SPLICE	7/8		1/8	1/4	3/8	1/2	5/8	3/4	7/8	
GIRDER F	STATIONS	189+71.06	189+82.20	189+93.34	190+04.47	190+15.60	190+26.73	190+33.65	190+37.89	190+49.08	190+56.32	190+63.55	190+70.79	190+78.02	190+85.26	190+92.49	190+99.72	191+06.95
	OFFSETS	54.35' LEFT	54.59' LEFT	54.86' LEFT	55.16' LEFT	55.5' LEFT	55.87' LEFT	56.12' LEFT	56.27' LEFT	56.71' LEFT	57.01' LEFT	57.32' LEFT	57.65' LEFT	57.99' LEFT	58.34' LEFT	58.71' LEFT	59.09' LEFT	59.49' LEFT
	A	1110.84	1110.54	1110.23	1109.93	1109.63	1109.33	1109.14	1109.03	1108.73	1108.54	1108.35	1108.16	1107.97	1107.78	1107.59	1107.41	1107.22
	B																	
	C																	
	D																	
	E																	
	F																	
CONSTRUCTION JOINT	STATIONS	189+71.03	189+82.17	189+93.31	190+04.44	190+15.58	190+26.71	190+33.63	190+37.86	190+49.05	190+56.29	190+63.53	190+70.76	190+78.00	190+85.23	190+92.46	190+99.69	191+06.92
	OFFSETS	54.28' LEFT	54.52' LEFT	54.8' LEFT	55.1' LEFT	55.44' LEFT	55.81' LEFT	56.05' LEFT	56.21' LEFT	56.65' LEFT	56.95' LEFT	57.26' LEFT	57.59' LEFT	57.93' LEFT	58.28' LEFT	58.65' LEFT	59.03' LEFT	59.42' LEFT
	A	1110.84	1110.54	1110.23	1109.93	1109.63	1109.33	1109.14	1109.03	1108.73	1108.54	1108.35	1108.16	1107.97	1107.78	1107.59	1107.40	1107.22
	B																	
	C																	
	D																	
	E																	
	F																	
GIRDER G	STATIONS	189+66.55	189+77.71	189+88.86	190+00.02	190+11.18	190+22.33	190+29.29	190+33.51	190+44.75	190+52.01	190+59.27	190+66.52	190+73.77	190+81.03	190+88.28	190+95.53	191+02.77
	OFFSETS	44.29' LEFT	44.51' LEFT	44.77' LEFT	45.05' LEFT	45.37' LEFT	45.72' LEFT	45.95' LEFT	46.1' LEFT	46.53' LEFT	46.82' LEFT	47.13' LEFT	47.44' LEFT	47.78' LEFT	48.12' LEFT	48.48' LEFT	48.86' LEFT	49.24' LEFT
	A	1110.46	1110.15	1109.85	1109.54	1109.24	1108.94	1108.75	1108.64	1108.34	1108.15	1107.95	1107.76	1107.57	1107.38	1107.19	1107.00	1106.82
	B																	
	C																	
	D																	
	E																	
	F																	

LEGEND

A - FINAL DECK SURFACE ELEVATION
B - BOTTOM OF BEAM ELEVATION BEFORE DECK REMOVAL
C - BOTTOM OF BEAM ELEVATION AFTER DECK REMOVAL
D - REBOUND = C-B
E - SCREED ELEVATION = A+D
F - TOP OF HAUNCH ELEVATION = E-9"

NOTES

DECK ELEVATION LOCATIONS: SEE SHEETS 87/106 THROUGH 89/106.

ADDITIONAL NOTES: SEE SHEET 79/106.

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

DESIGNED ALP | DRAWN SCB | REVIEWED DAP | DATE 10/5/12
CHECKED BLN | REVISED | STRUCTURE FILE NUMBER L7708815

DECK ELEVATION TABLES - SOUTHBOUND BRIDGE - 4
BRIDGE NO. SUM-271-0354 L
IR 271 OVER IR 77

SUM-271-2.33
PID No. 18710

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FINAL DECK SURFACE ELEVATION TABLE

SPAN POINT		R.A. BRGS.	SPAN 1							PIER 1	SPAN 2									PIER 2
			1/8	1/4	3/8	1/2	5/8	3/4	7/8		1/8	SPLICE	1/4	3/8	1/2	5/8	3/4	SPLICE	7/8	
PROFILE GRADE	STATIONS	187+59.62	187+69.29	187+78.95	187+88.60	187+98.23	188+07.85	188+17.46	188+27.06	188+36.65	188+51.20	188+57.61	188+65.81	188+80.46	188+95.08	189+09.68	189+24.25	189+32.70	189+38.86	189+53.52
	OFFSETS	40' LEFT	40' LEFT	40' LEFT	40' LEFT	40' LEFT	40' LEFT	40' LEFT	40' LEFT	40' LEFT	40' LEFT	40' LEFT	40' LEFT	40' LEFT	40' LEFT	40' LEFT	40' LEFT	40' LEFT	40' LEFT	40' LEFT
	A	1116.16	1115.88	1115.61	1115.33	1115.06	1114.78	1114.51	1114.23	1113.96	1113.54	1113.36	1113.12	1112.70	1112.29	1111.87	1111.45	1111.21	1111.03	1110.61
	B																			
	C																			
	D																			
	E																			
	F																			
GIRDER H	STATIONS	187+59.11	187+68.72	187+78.34	187+87.96	187+97.58	188+07.20	188+16.82	188+26.44	188+36.06	188+50.67	188+57.13	188+65.29	188+79.90	188+94.52	189+09.13	189+23.75	189+32.24	189+38.36	189+52.98
	OFFSETS	39' LEFT	38.89' LEFT	38.81' LEFT	38.75' LEFT	38.71' LEFT	38.69' LEFT	38.7' LEFT	38.74' LEFT	38.79' LEFT	38.93' LEFT	39' LEFT	38.93' LEFT	38.85' LEFT	38.82' LEFT	38.84' LEFT	38.93' LEFT	39' LEFT	38.93' LEFT	38.8' LEFT
	A	1116.13	1115.85	1115.57	1115.29	1115.01	1114.73	1114.46	1114.18	1113.91	1113.50	1113.32	1113.08	1112.66	1112.24	1111.82	1111.41	1111.17	1110.99	1110.57
	B																			
	C																			
	D																			
	E																			
	F																			
CURB LINE	STATIONS	187+57.55	187+67.24	187+76.91	187+86.57	187+96.22	188+05.85	188+15.47	188+25.08	188+34.68	188+49.24	188+55.67	188+63.86	188+78.53	188+93.17	189+07.79	189+22.38	189+30.85	189+37.01	189+51.70
	OFFSETS	36' LEFT	36' LEFT	36' LEFT	36' LEFT	36' LEFT	36' LEFT	36' LEFT	36' LEFT	36' LEFT	36' LEFT	36' LEFT	36' LEFT	36' LEFT	36' LEFT	36' LEFT	36' LEFT	36' LEFT	36' LEFT	36' LEFT
	A	1116.04	1115.75	1115.47	1115.19	1114.91	1114.63	1114.36	1114.08	1113.81	1113.39	1113.21	1112.97	1112.56	1112.14	1111.72	1111.30	1111.06	1110.88	1110.46
	B																			
	C																			
	D																			
	E																			
	F																			

FINAL DECK SURFACE ELEVATION TABLE

SPAN POINT		SPAN 3								PIER 3	SPAN 4							F.A. BRGS.
		1/8	1/4	3/8	1/2	5/8	3/4	SPLICE	7/8		1/8	1/4	3/8	1/2	5/8	3/4	7/8	
PROFILE GRADE	STATIONS	189+64.61	189+75.68	189+86.74	189+97.79	190+08.82	190+19.84	190+26.72	190+30.88	190+41.97	190+49.11	190+56.25	190+63.39	190+70.52	190+77.65	190+84.77	190+91.88	190+98.99
	OFFSETS	40' LEFT	40' LEFT	40' LEFT	40' LEFT	40' LEFT	40' LEFT	40' LEFT	40' LEFT	40' LEFT	40' LEFT	40' LEFT	40' LEFT	40' LEFT	40' LEFT	40' LEFT	40' LEFT	40' LEFT
	A	1110.30	1109.98	1109.66	1109.35	1109.03	1108.72	1108.52	1108.40	1108.08	1107.88	1107.68	1107.47	1107.27	1107.06	1106.86	1106.66	1106.45
	B																	
	C																	
	D																	
	E																	
	F																	
GIRDER H	STATIONS	189+64.04	189+75.11	189+86.17	189+97.24	190+08.30	190+19.36	190+26.29	190+30.43	190+41.49	190+48.63	190+55.76	190+62.90	190+70.04	190+77.17	190+84.31	190+91.44	190+98.58
	OFFSETS	38.74' LEFT	38.72' LEFT	38.72' LEFT	38.75' LEFT	38.82' LEFT	38.92' LEFT	39' LEFT	38.96' LEFT	38.89' LEFT	38.86' LEFT	38.84' LEFT	38.83' LEFT	38.84' LEFT	38.86' LEFT	38.9' LEFT	38.94' LEFT	39' LEFT
	A	1110.25	1109.93	1109.62	1109.30	1108.99	1108.68	1108.48	1108.36	1108.04	1107.84	1107.63	1107.43	1107.22	1107.02	1106.82	1106.62	1106.41
	B																	
	C																	
	D																	
	E																	
	F																	
CURB LINE	STATIONS	189+62.80	189+73.89	189+84.96	189+96.02	190+07.06	190+18.09	190+24.99	190+29.14	190+40.25	190+47.41	190+54.56	190+61.70	190+68.84	190+75.98	190+83.10	190+90.23	190+97.34
	OFFSETS	36' LEFT	36' LEFT	36' LEFT	36' LEFT	36' LEFT	36' LEFT	36' LEFT	36' LEFT	36' LEFT	36' LEFT	36' LEFT	36' LEFT	36' LEFT	36' LEFT	36' LEFT	36' LEFT	36' LEFT
	A	1110.14	1109.83	1109.51	1109.19	1108.88	1108.56	1108.37	1108.25	1107.93	1107.73	1107.52	1107.32	1107.11	1106.91	1106.70	1106.50	1106.30
	B																	
	C																	
	D																	
	E																	
	F																	

LEGEND

A - FINAL DECK SURFACE ELEVATION
B - BOTTOM OF BEAM ELEVATION BEFORE DECK REMOVAL
C - BOTTOM OF BEAM ELEVATION AFTER DECK REMOVAL
D - REBOUND = C-B
E - SCREED ELEVATION = A+D
F - TOP OF HAUNCH ELEVATION = E-9"

NOTES

DECK ELEVATION LOCATIONS: SEE SHEETS 87/106 THROUGH 89/106.

ADDITIONAL NOTES: SEE SHEET 79/106.

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

DESIGNED ALP | DRAWN SCB | REVIEWED DAP | DATE 10/5/12
CHECKED BLN | REVISED | STRUCTURE FILE NUMBER L7708815

DECK ELEVATION TABLES - SOUTHBOUND BRIDGE - 5
BRIDGE NO. SUM-271-0354 L
IR 271 OVER IR 77

SUM-271-2.33
PID No. 18710

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FINAL DECK SURFACE ELEVATION TABLE

SPAN POINT		R.A. BRGS.	SPAN 1							PIER 1	SPAN 2									PIER 2
			1/8	1/4	3/8	1/2	5/8	3/4	7/8		1/8	SPLICE	1/4	3/8	1/2	5/8	3/4	SPLICE	7/8	
CURB LINE	STATIONS	187+18.49	187+28.33	187+38.25	187+48.15	187+58.05	187+67.93	187+77.79	187+87.65	187+97.49	188+12.39	188+19.36	188+27.36	188+42.38	188+57.37	188+72.34	188+87.27	188+96.75	189+02.24	189+17.28
	OFFSETS	38' Right	38' Right	38' Right	38' Right	38' Right	38' Right	38' Right	38' Right	38' Right	38' Right	38' Right	38' Right	38' Right	38' Right	38' Right	38' Right	38' Right	38' Right	38' Right
	A	1118.45	1118.20	1117.95	1117.69	1117.44	1117.19	1116.94	1116.69	1116.43	1116.05	1115.86	1115.65	1115.26	1114.87	1114.48	1114.09	1113.84	1113.70	1113.31
	B																			
	C																			
	D																			
	E																			
	F																			
GIRDER J	STATIONS	187+17.65	187+27.45	187+37.33	187+47.22	187+57.11	187+66.99	187+76.88	187+86.76	187+96.65	188+11.65	188+18.67	188+26.64	188+41.64	188+56.64	188+71.63	188+86.63	188+96.15	189+01.62	189+16.62
	OFFSETS	39.56' Right	39.65' Right	39.72' Right	39.77' Right	39.79' Right	39.79' Right	39.76' Right	39.71' Right	39.63' Right	39.46' Right	39.37' Right	39.42' Right	39.49' Right	39.49' Right	39.44' Right	39.33' Right	39.23' Right	39.28' Right	39.39' Right
	A	1118.41	1118.15	1117.90	1117.64	1117.39	1117.13	1116.88	1116.63	1116.37	1115.99	1115.81	1115.60	1115.21	1114.81	1114.43	1114.04	1113.80	1113.65	1113.25
	B																			
	C																			
	D																			
	E																			
	F																			
PROFILE GRADE	STATIONS	187+16.33	187+26.19	187+36.12	187+46.04	187+55.94	187+65.83	187+75.71	187+85.58	187+95.43	188+10.36	188+17.33	188+25.34	188+40.38	188+55.39	188+70.38	188+85.33	188+94.82	189+00.32	189+15.38
	OFFSETS	42' Right	42' Right	42' Right	42' Right	42' Right	42' Right	42' Right	42' Right	42' Right	42' Right	42' Right	42' Right	42' Right	42' Right	42' Right	42' Right	42' Right	42' Right	42' Right
	A	1118.35	1118.09	1117.83	1117.57	1117.31	1117.06	1116.80	1116.54	1116.28	1115.89	1115.71	1115.50	1115.11	1114.72	1114.33	1113.94	1113.69	1113.55	1113.15
	B																			
	C																			
	D																			
	E																			
	F																			

FINAL DECK SURFACE ELEVATION TABLE

SPAN POINT		SPAN 3								PIER 3	SPAN 4							F.A. BRGS.
		1/8	1/4	3/8	1/2	5/8	3/4	SPLICE	7/8		1/8	1/4	3/8	1/2	5/8	3/4	7/8	
CURB LINE	STATIONS	189+28.64	189+39.98	189+51.31	189+62.62	189+73.92	189+85.20	189+92.60	189+96.51	190+07.87	190+15.19	190+22.50	190+29.81	190+37.11	190+44.41	190+51.70	190+58.98	190+66.26
	OFFSETS	38' Right	38' Right	38' Right	38' Right	38' Right	38' Right	38' Right	38' Right	38' Right	38' Right	38' Right	38' Right	38' Right	38' Right	38' Right	38' Right	38' Right
	A	1113.01	1112.72	1112.42	1112.12	1111.83	1111.54	1111.34	1111.24	1110.94	1110.75	1110.56	1110.37	1110.18	1109.99	1109.80	1109.61	1109.42
	B																	
	C																	
	D																	
	E																	
	F																	
GIRDER J	STATIONS	189+27.96	189+39.31	189+50.65	189+61.99	189+73.33	189+84.68	189+92.13	189+96.02	190+07.36	190+14.67	190+21.99	190+29.30	190+36.61	190+43.92	190+51.23	190+58.55	190+65.86
	OFFSETS	39.43' Right	39.44' Right	39.42' Right	39.36' Right	39.27' Right	39.15' Right	39.06' Right	39.08' Right	39.14' Right	39.17' Right	39.17' Right	39.17' Right	39.15' Right	39.11' Right	39.07' Right	39.01' Right	38.93' Right
	A	1112.96	1112.66	1112.36	1112.07	1111.78	1111.49	1111.30	1111.20	1110.90	1110.71	1110.52	1110.32	1110.14	1109.95	1109.76	1109.57	1109.38
	B																	
	C																	
	D																	
	E																	
	F																	
PROFILE GRADE	STATIONS	189+26.75	189+38.11	189+49.45	189+60.77	189+72.09	189+83.38	189+90.80	189+94.70	190+06.08	190+13.41	190+20.73	190+28.05	190+35.36	190+42.66	190+49.96	190+57.25	190+64.54
	OFFSETS	42' Right	42' Right	42' Right	42' Right	42' Right	42' Right	42' Right	42' Right	42' Right	42' Right	42' Right	42' Right	42' Right	42' Right	42' Right	42' Right	42' Right
	A	1112.86	1112.56	1112.26	1111.97	1111.67	1111.38	1111.19	1111.08	1110.79	1110.59	1110.40	1110.21	1110.02	1109.83	1109.64	1109.45	1109.26
	B																	
	C																	
	D																	
	E																	
	F																	

LEGEND

A - FINAL DECK SURFACE ELEVATION
B - BOTTOM OF BEAM ELEVATION BEFORE DECK REMOVAL
C - BOTTOM OF BEAM ELEVATION AFTER DECK REMOVAL
D - REBOUND = C-B
E - SCREED ELEVATION = A+D
F - TOP OF HAUNCH ELEVATION = E-9"

NOTES

TOP OF HAUNCH ELEVATIONS FOR NEW GIRDER SHOWN REPRESENT THE THEORETICAL LOCATION OF THE BOTTOM OF THE DECK ABOVE THE BEAM HAUNCH PRIOR TO DEFLECTIONS CAUSED BY DECK PLACEMENT AND OTHER ANTICIPATED DEAD LOADS.

DECK ELEVATIONS ARE TAKEN BETWEEN ℄ BEARINGS. A LINE CONNECTING EIGHTH POINTS OF THE FASCIA GIRDERS AND EXTENDING TO THE EDGES OF THE DECK DEFINES THE EIGHTH POINTS AT EACH DECK ELEVATION LOCATION.

FINAL DECK SURFACE ELEVATIONS FOR THE NEW GIRDER SHOWN REPRESENT THE DECK SURFACE LOCATION AFTER ALL ANTICIPATED DEAD LOAD DEFLECTIONS HAVE OCCURRED.

DECK ELEVATIONS ARE TAKEN BETWEEN ℄ BEARINGS. A LINE CONNECTING EIGHTH POINTS OF THE FASCIA GIRDERS AND EXTENDING TO THE EDGES OF THE DECK DEFINES THE EIGHTH POINTS AT EACH DECK ELEVATION LOCATION.

SURVEY BOTTOM OF EXISTING GIRDERS AT THE LOCATIONS SHOWN IN THE TABLE PRIOR TO DECK REMOVAL AND AFTER DECK REMOVAL DURING THE APPROPRIATE PHASE OF CONSTRUCTION. COMPUTE THE AMOUNT OF REBOUND FOR THESE BEAMS BY SUBTRACTING THE ELEVATIONS AFTER REMOVAL (C) FROM THE ELEVATIONS BEFORE REMOVAL (B). ADD THE REBOUND TO THE FINAL DECK SURFACE ELEVATIONS TO DETERMINE THE DECK SCREED ELEVATIONS. USE REBOUND OF CLOSEST BEAM TO DETERMINE OTHER DECK SCREED ELEVATIONS. THE COST OF SURVEYING IS CONSIDERED INCIDENTAL TO THE DECK CONSTRUCTION AND SHALL BE INCLUDED WITH ITEM 511 - CLASS HP CONCRETE, BRIDGE DECK, AS PER PLAN.

SCREED ELEVATIONS SHOWN REPRESENT THE THEORETICAL DECK SURFACE LOCATION PRIOR TO DEFLECTIONS CAUSED BY DECK PLACEMENT AND OTHER ANTICIPATED DEAD LOADS.

DECK ELEVATIONS ARE TAKEN BETWEEN ℄ BEARINGS. A LINE CONNECTING EIGHTH POINTS OF THE FASCIA GIRDERS AND EXTENDING TO THE EDGES OF THE DECK DEFINES THE EIGHTH POINTS AT EACH DECK ELEVATION LOCATION.

DECK ELEVATION LOCATIONS: SEE SHEET 90/106.

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

DESIGNED ALP | DRAWN BB | REVIEWED DAP | DATE 10/5/12
CHECKED BLN | REVISED | STRUCTURE FILE NUMBER R7708890

DECK ELEVATION TABLES - NORTHBOUND BRIDGE - 1
BRIDGE NO. SUM-271-0354 R
IR 271 OVER IR 77

SUM-271-2.33
PID No. 18710

1042
1195

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FINAL DECK SURFACE ELEVATION TABLE

SPAN POINT		R.A. BRGS.	SPAN 1							PIER 1	SPAN 2									PIER 2
			1/8	1/4	3/8	1/2	5/8	3/4	7/8		1/8	SPLICE	1/4	3/8	1/2	5/8	3/4	SPLICE	7/8	
GIRDER K	STATIONS	187+12.43	187+22.28	187+32.19	187+42.09	187+52.00	187+61.91	187+71.82	187+81.73	187+91.64	188+06.67	188+13.71	188+21.71	188+36.74	188+51.77	188+66.81	188+81.84	188+91.39	188+96.88	189+11.91
	OFFSETS	49.18' Right	49.29' Right	49.38' Right	49.44' Right	49.47' Right	49.48' Right	49.46' Right	49.42' Right	49.36' Right	49.21' Right	49.12' Right	49.19' Right	49.27' Right	49.29' Right	49.26' Right	49.16' Right	49.08' Right	49.14' Right	49.26' Right
	A	1118.18	1117.90	1117.63	1117.36	1117.08	1116.81	1116.54	1116.27	1116.01	1115.62	1115.44	1115.23	1114.84	1114.44	1114.05	1113.66	1113.42	1113.27	1112.87
	B																			
	C																			
	D																			
	E																			
	F																			
C.J.	STATIONS	187+09.80	187+19.64	187+29.55	187+39.47	187+49.39	187+59.31	187+69.23	187+79.15	187+89.07	188+04.13	188+11.15	188+19.15	188+34.21	188+49.26	188+64.32	188+79.37	188+88.91	188+94.40	189+09.45
	OFFSETS	54.08' Right	54.2' Right	54.29' Right	54.35' Right	54.39' Right	54.41' Right	54.4' Right	54.37' Right	54.31' Right	54.17' Right	54.14' Right	54.21' Right	54.3' Right	54.34' Right	54.31' Right	54.23' Right	54.2' Right	54.26' Right	54.4' Right
	A	1118.06	1117.78	1117.50	1117.22	1116.94	1116.66	1116.38	1116.10	1115.82	1115.44	1115.25	1115.04	1114.64	1114.25	1113.86	1113.47	1113.22	1113.08	1112.68
	B																			
	C																			
	D																			
	E																			
	F																			
GIRDER L	STATIONS	187+07.27	187+17.08	187+27.01	187+36.94	187+46.88	187+56.81	187+66.74	187+76.67	187+86.60	188+01.67	188+08.73	188+16.74	188+31.82	188+46.89	188+61.96	188+77.04	188+86.61	188+92.11	189+07.18
	OFFSETS	58.8' Right	58.92' Right	59.02' Right	59.09' Right	59.14' Right	59.16' Right	59.16' Right	59.13' Right	59.08' Right	58.95' Right	58.87' Right	58.94' Right	59.04' Right	59.08' Right	59.07' Right	59' Right	58.92' Right	58.99' Right	59.13' Right
	A	1117.96	1117.67	1117.38	1117.09	1116.80	1116.51	1116.22	1115.94	1115.65	1115.26	1115.08	1114.86	1114.47	1114.07	1113.68	1113.29	1113.04	1112.89	1112.49
	B																			
	C																			
	D																			
	E																			
	F																			

FINAL DECK SURFACE ELEVATION TABLE

SPAN POINT		SPAN 3								PIER 3	SPAN 4							F.A. BRGS.
		1/8	1/4	3/8	1/2	5/8	3/4	SPLICE	7/8		1/8	1/4	3/8	1/2	5/8	3/4	7/8	
GIRDER K	STATIONS	189+23.28	189+34.66	189+46.03	189+57.40	189+68.77	189+80.14	189+87.61	189+91.51	190+02.89	190+10.22	190+17.55	190+24.88	190+32.21	190+39.54	190+46.87	190+54.21	190+61.54
	OFFSETS	49.32' Right	49.34' Right	49.33' Right	49.29' Right	49.22' Right	49.11' Right	49.02' Right	49.05' Right	49.12' Right	49.15' Right	49.17' Right	49.17' Right	49.16' Right	49.13' Right	49.1' Right	49.04' Right	48.98' Right
	A	1112.57	1112.28	1111.98	1111.69	1111.39	1111.10	1110.91	1110.81	1110.51	1110.31	1110.12	1109.93	1109.74	1109.55	1109.36	1109.17	1108.98
	B																	
	C																	
	D																	
	E																	
	F																	
C.J.	STATIONS	189+20.84	189+32.23	189+43.61	189+55.00	189+66.39	189+77.78	189+85.23	189+89.14	190+00.53	190+07.87	190+15.21	190+22.55	190+29.89	190+37.23	190+44.58	190+51.92	190+59.26
	OFFSETS	54.46' Right	54.49' Right	54.49' Right	54.45' Right	54.39' Right	54.29' Right	54.25' Right	54.28' Right	54.36' Right	54.4' Right	54.42' Right	54.42' Right	54.42' Right	54.39' Right	54.36' Right	54.31' Right	54.25' Right
	A	1112.38	1112.08	1111.78	1111.48	1111.19	1110.90	1110.71	1110.60	1110.30	1110.11	1109.91	1109.72	1109.53	1109.34	1109.15	1108.96	1108.77
	B																	
	C																	
	D																	
	E																	
	F																	
GIRDER L	STATIONS	189+18.58	189+29.98	189+41.38	189+52.78	189+64.19	189+75.59	189+83.07	189+86.99	189+98.39	190+05.74	190+13.09	190+20.44	190+27.79	190+35.14	190+42.49	190+49.84	190+57.19
	OFFSETS	59.2' Right	59.24' Right	59.24' Right	59.21' Right	59.15' Right	59.06' Right	58.98' Right	59.02' Right	59.1' Right	59.14' Right	59.16' Right	59.17' Right	59.17' Right	59.15' Right	59.12' Right	59.08' Right	59.02' Right
	A	1112.19	1111.89	1111.60	1111.30	1111.00	1110.71	1110.52	1110.42	1110.11	1109.92	1109.73	1109.54	1109.34	1109.15	1108.96	1108.77	1108.58
	B																	
	C																	
	D																	
	E																	
	F																	

LEGEND

A - FINAL DECK SURFACE ELEVATION
B - BOTTOM OF BEAM ELEVATION BEFORE DECK REMOVAL
C - BOTTOM OF BEAM ELEVATION AFTER DECK REMOVAL
D - REBOUND = C-B
E - SCREED ELEVATION = A+D
F - TOP OF HAUNCH ELEVATION = E-9"

NOTES

DECK ELEVATION LOCATIONS: SEE SHEET 90/106.

ADDITIONAL NOTES: SEE SHEET 84/106.

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

DESIGNED ALP | DRAWN BB | CHECKED BLN | REVIEWED DAP | DATE 10/5/12 | REVISED | STRUCTURE FILE NUMBER R7708890

DECK ELEVATION TABLES - NORTHBOUND BRIDGE - 2
BRIDGE NO. SUM-271-0354 R
IR 271 OVER IR 77

SUM-271-2.33
PID No. 18710

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FINAL DECK SURFACE ELEVATION TABLE

SPAN POINT		R.A. BRGS.	SPAN 1							PIER 1	SPAN 2								PIER 2
			1/8	1/4	3/8	1/2	5/8	3/4	7/8		1/8	SPLICE	1/4	3/8	1/2	5/8	3/4	SPLICE	7/8	
GIRDER M	STATIONS	187+02.11	187+11.87	187+21.82	187+31.77	187+41.72	187+51.68	187+61.63	187+71.58	187+81.53	187+96.65	188+03.72	188+11.76	188+26.87	188+41.98	188+57.09	188+72.20	188+81.80	188+87.31	189+02.42
	OFFSETS	68.42' Right	68.54' Right	68.65' Right	68.74' Right	68.8' Right	68.83' Right	68.84' Right	68.83' Right	68.79' Right	68.68' Right	68.61' Right	68.7' Right	68.81' Right	68.87' Right	68.87' Right	68.82' Right	68.75' Right	68.83' Right	68.99' Right
	A	1117.76	1117.45	1117.15	1116.84	1116.53	1116.23	1115.92	1115.62	1115.32	1114.89	1114.71	1114.50	1114.10	1113.70	1113.30	1112.91	1112.67	1112.52	1112.12
	B																			
	C																			
	D																			
	E																			
	F																			
GIRDER N	STATIONS	186+97.98	187+07.75	187+17.64	187+27.61	187+37.58	187+47.55	187+57.52	187+67.49	187+77.46	187+92.60	187+99.69	188+07.75	188+22.89	188+38.03	188+53.17	188+68.32	188+77.93	188+83.46	188+98.60
	OFFSETS	76.12' Right	76.24' Right	76.36' Right	76.46' Right	76.53' Right	76.57' Right	76.59' Right	76.59' Right	76.56' Right	76.46' Right	76.4' Right	76.5' Right	76.63' Right	76.7' Right	76.72' Right	76.68' Right	76.62' Right	76.7' Right	76.88' Right
	A	1117.57	1117.26	1116.94	1116.62	1116.29	1115.97	1115.65	1115.33	1115.01	1114.54	1114.36	1114.15	1113.75	1113.35	1112.96	1112.56	1112.31	1112.17	1111.77
	E	1118.45	1118.21	1117.97	1117.72	1117.46	1117.20	1116.94	1116.69	1116.43	1116.08	1115.88	1115.71	1115.33	1114.96	1114.56	1114.14	1113.88	1113.72	1113.31
	F	1117.66	1117.42	1117.17	1116.91	1116.65	1116.39	1116.13	1115.88	1115.62	1115.27	1115.08	1114.90	1114.52	1114.15	1113.75	1113.34	1113.08	1112.92	1112.50
CURB LINE	STATIONS	186+96.97	187+06.82	187+16.75	187+26.77	187+36.79	187+46.79	187+56.77	187+66.74	187+76.70	187+91.80	187+98.87	188+06.97	188+22.19	188+37.37	188+52.53	188+67.66	188+77.26	188+82.82	188+98.05
	OFFSETS	78' Right	78' Right	78' Right	78' Right	78' Right	78' Right	78' Right	78' Right	78' Right	78' Right	78' Right	78' Right	78' Right	78' Right	78' Right	78' Right	78' Right	78' Right	78' Right
	A	1117.57	1117.26	1116.94	1116.62	1116.29	1115.97	1115.65	1115.33	1115.01	1114.54	1114.36	1114.15	1113.75	1113.35	1112.96	1112.56	1112.31	1112.17	1111.77
	E	1117.57	1117.27	1116.96	1116.64	1116.31	1115.99	1115.66	1115.33	1115.01	1114.58	1114.38	1114.20	1113.82	1113.44	1113.03	1112.62	1112.35	1112.19	1111.77
	F	1116.86	1116.55	1116.24	1115.92	1115.60	1115.27	1114.95	1114.63	1114.31	1113.88	1113.69	1113.50	1113.12	1112.74	1112.33	1111.92	1111.65	1111.49	1111.06

FINAL DECK SURFACE ELEVATION TABLE

SPAN POINT		SPAN 3								PIER 3	SPAN 4							F.A. BRGS.
		1/8	1/4	3/8	1/2	5/8	3/4	SPLICE	7/8		1/8	1/4	3/8	1/2	5/8	3/4	7/8	
GIRDER M	STATIONS	189+13.85	189+25.28	189+36.72	189+48.15	189+59.58	189+71.01	189+78.51	189+82.44	189+93.87	190+01.24	190+08.61	190+15.98	190+23.34	190+30.71	190+38.08	190+45.45	190+52.82
	OFFSETS	69.07' Right	69.13' Right	69.14' Right	69.13' Right	69.08' Right	69' Right	68.93' Right	68.97' Right	69.07' Right	69.12' Right	69.15' Right	69.17' Right	69.17' Right	69.16' Right	69.14' Right	69.11' Right	69.06' Right
	A	1111.81	1111.51	1111.21	1110.91	1110.62	1110.32	1110.13	1110.03	1109.72	1109.53	1109.34	1109.14	1108.95	1108.76	1108.57	1108.38	1108.19
	B																	
	C																	
	D																	
	E																	
	F																	
GIRDER N	STATIONS	189+10.05	189+21.51	189+32.96	189+44.42	189+55.87	189+67.33	189+74.85	189+78.78	189+90.23	189+97.62	190+05.00	190+12.39	190+19.77	190+27.16	190+34.54	190+41.93	190+49.31
	OFFSETS	76.97' Right	77.03' Right	77.06' Right	77.06' Right	77.02' Right	76.95' Right	76.89' Right	76.93' Right	77.04' Right	77.09' Right	77.13' Right	77.16' Right	77.17' Right	77.17' Right	77.15' Right	77.12' Right	77.08' Right
	A	1111.47	1111.17	1110.87	1110.57	1110.27	1109.97	1109.78	1109.68	1109.38	1109.18	1108.99	1108.80	1108.60	1108.41	1108.22	1108.02	1107.83
	E	1113.01	1112.72	1112.43	1112.14	1111.85	1111.55	1111.35	1111.25	1110.94	1110.75	1110.57	1110.38	1110.19	1110.00	1109.81	1109.62	1109.42
	F	1112.21	1111.91	1111.62	1111.34	1111.05	1110.75	1110.56	1110.45	1110.15	1109.96	1109.77	1109.58	1109.40	1109.21	1109.02	1108.83	1108.63
CURB LINE	STATIONS	189+09.56	189+21.05	189+32.52	189+43.97	189+55.41	189+66.84	189+74.34	189+78.29	189+89.80	189+97.21	190+04.61	190+12.01	190+19.40	190+26.79	190+34.17	190+41.54	190+48.91
	OFFSETS	78' Right	78' Right	78' Right	78' Right	78' Right	78' Right	78' Right	78' Right	78' Right	78' Right	78' Right	78' Right	78' Right	78' Right	78' Right	78' Right	78' Right
	A	1111.47	1111.17	1110.87	1110.57	1110.27	1109.97	1109.78	1109.68	1109.38	1109.18	1108.99	1108.80	1108.60	1108.41	1108.22	1108.02	1107.83
	E	1111.47	1111.17	1110.88	1110.59	1110.29	1109.99	1109.79	1109.68	1109.38	1109.18	1108.99	1108.80	1108.61	1108.42	1108.23	1108.03	1107.83
	F	1110.76	1110.46	1110.16	1109.88	1109.58	1109.28	1109.08	1108.97	1108.66	1108.47	1108.28	1108.09	1107.90	1107.70	1107.51	1107.32	1107.12

LEGEND

A - FINAL DECK SURFACE ELEVATION
B - BOTTOM OF BEAM ELEVATION BEFORE DECK REMOVAL
C - BOTTOM OF BEAM ELEVATION AFTER DECK REMOVAL
D - REBOUND = C-B
E - SCREED ELEVATION = A+D
F - TOP OF HAUNCH ELEVATION = E-9"

NOTES

DECK ELEVATION LOCATIONS: SEE SHEET 90/106.

ADDITIONAL NOTES: SEE SHEET 84/106.

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

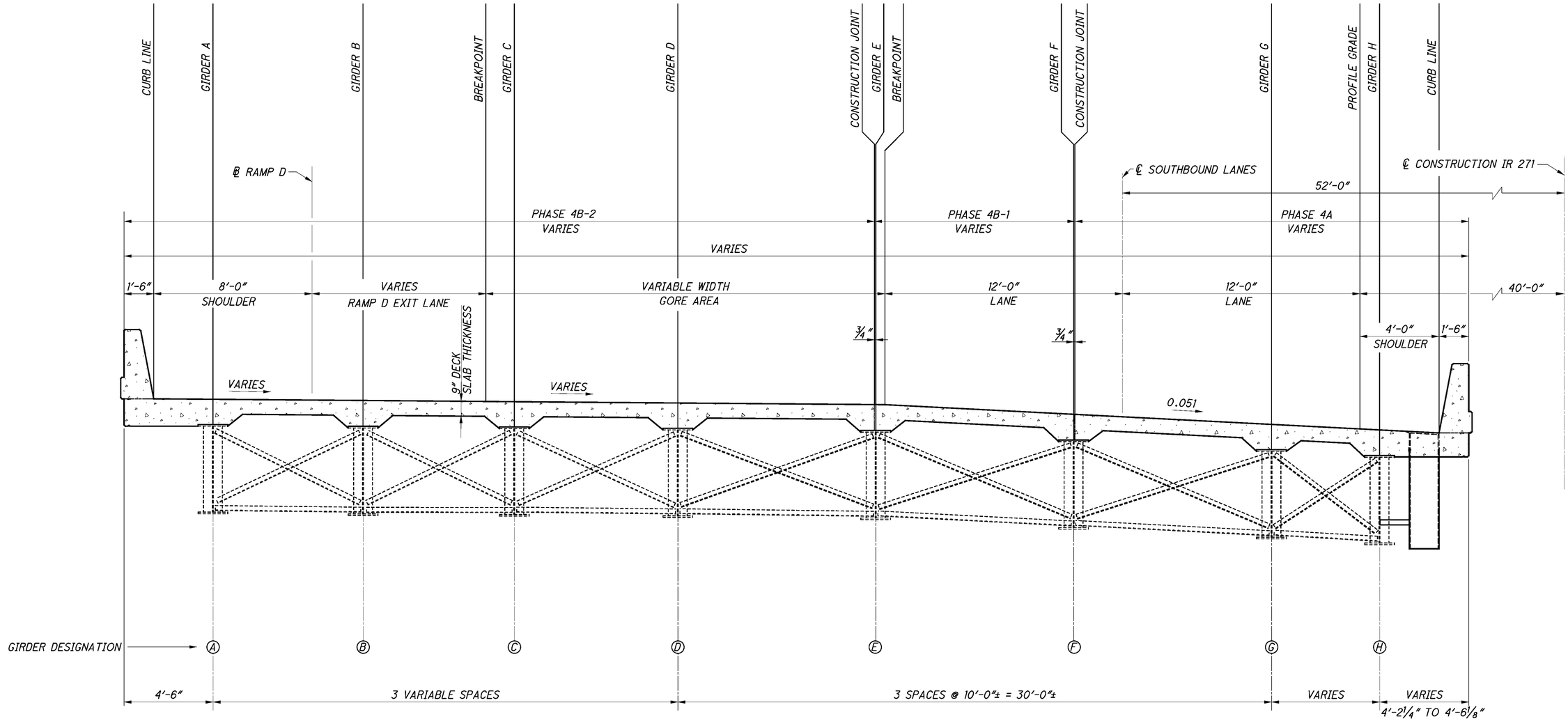
DESIGNED ALP | DRAWN BB | REVIEWED DAP | DATE 10/5/12
CHECKED BLN | REVISED | STRUCTURE FILE NUMBER R7708890

DECK ELEVATION TABLES - NORTHBOUND BRIDGE - 3
BRIDGE NO. SUM-271-0354 R
IR 271 OVER IR 77

SUM-271-2.33
PID No. 18710

1044
1195

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DECK ELEVATION LOCATIONS - SOUTHBOUND BRIDGE

(SECTION A-A)

NOTES

DECK ELEVATION TABLES: SEE SHEETS 79/106 THROUGH 83/106.

SECTION A-A: FOR LOCATION SEE SHEETS 69/106, 72/106, AND 75/106

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
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DESIGNED	DRAWN	REVIEWED	DATE
ALP	SCB	DAP	10/5/12
CHECKED	REVISED	STRUCTURE FILE NUMBER	
BLN		L7708815	

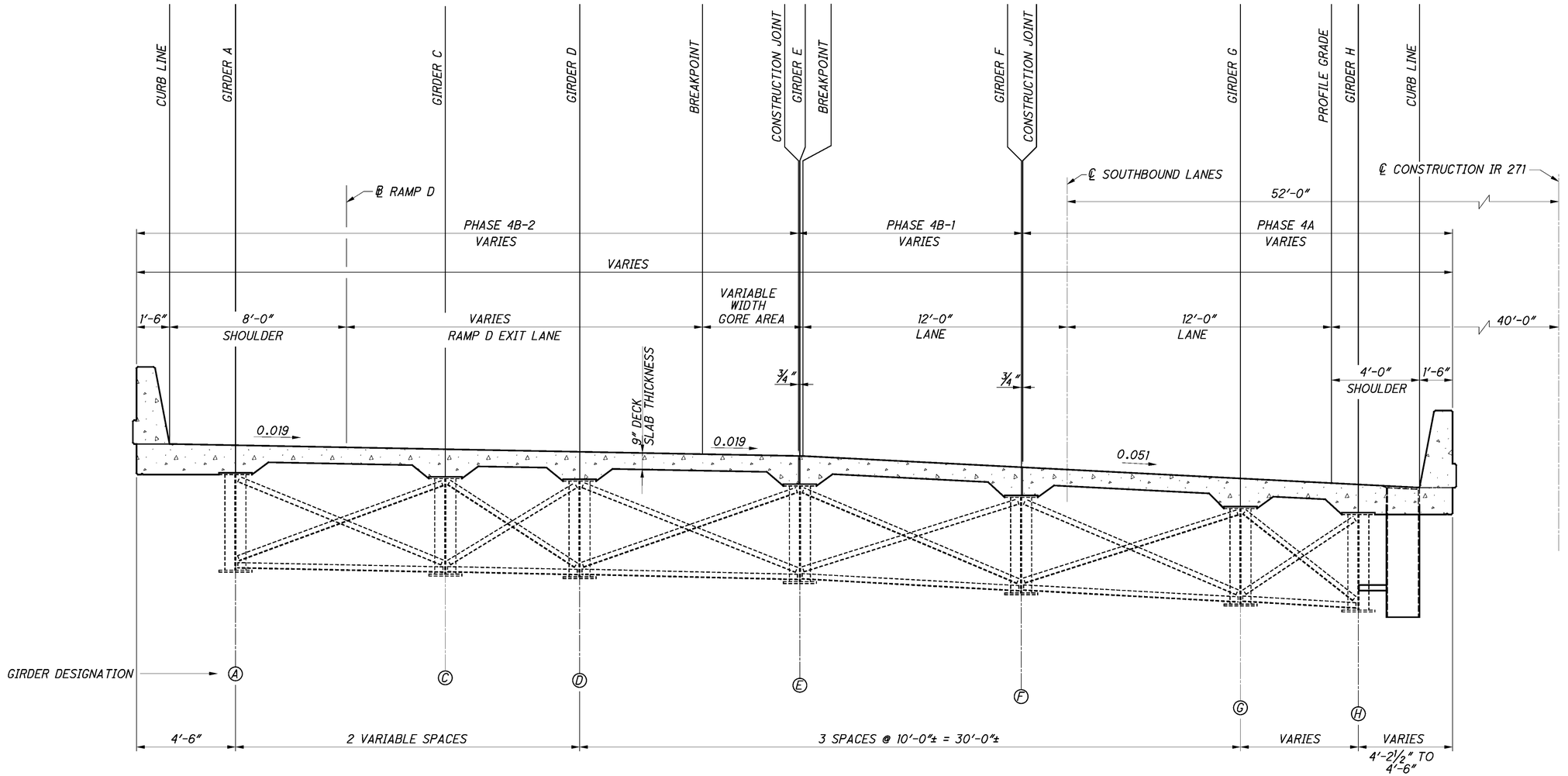
DECK ELEVATION LOCATIONS - SOUTHBOUND BRIDGE - 1
BRIDGE NO. SUM-271-0354 L
IR 271 OVER IR 77

SUM-271-2.33
PID No. 18710

87/106

1045
1195

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DECK ELEVATION LOCATIONS - SOUTHBOUND BRIDGE

(SECTION B-B)

NOTES

DECK ELEVATION TABLES: SEE SHEETS 79/106 THROUGH 83/106.

SECTION B-B: FOR LOCATION SEE SHEETS 70/106, 73/106, AND 76/106.

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

DESIGNED	DRAWN	REVIEWED	DATE
ALP	SCB	DAP	10/5/12
CHECKED	REVISED	STRUCTURE FILE NUMBER	
BLN		L7708815	

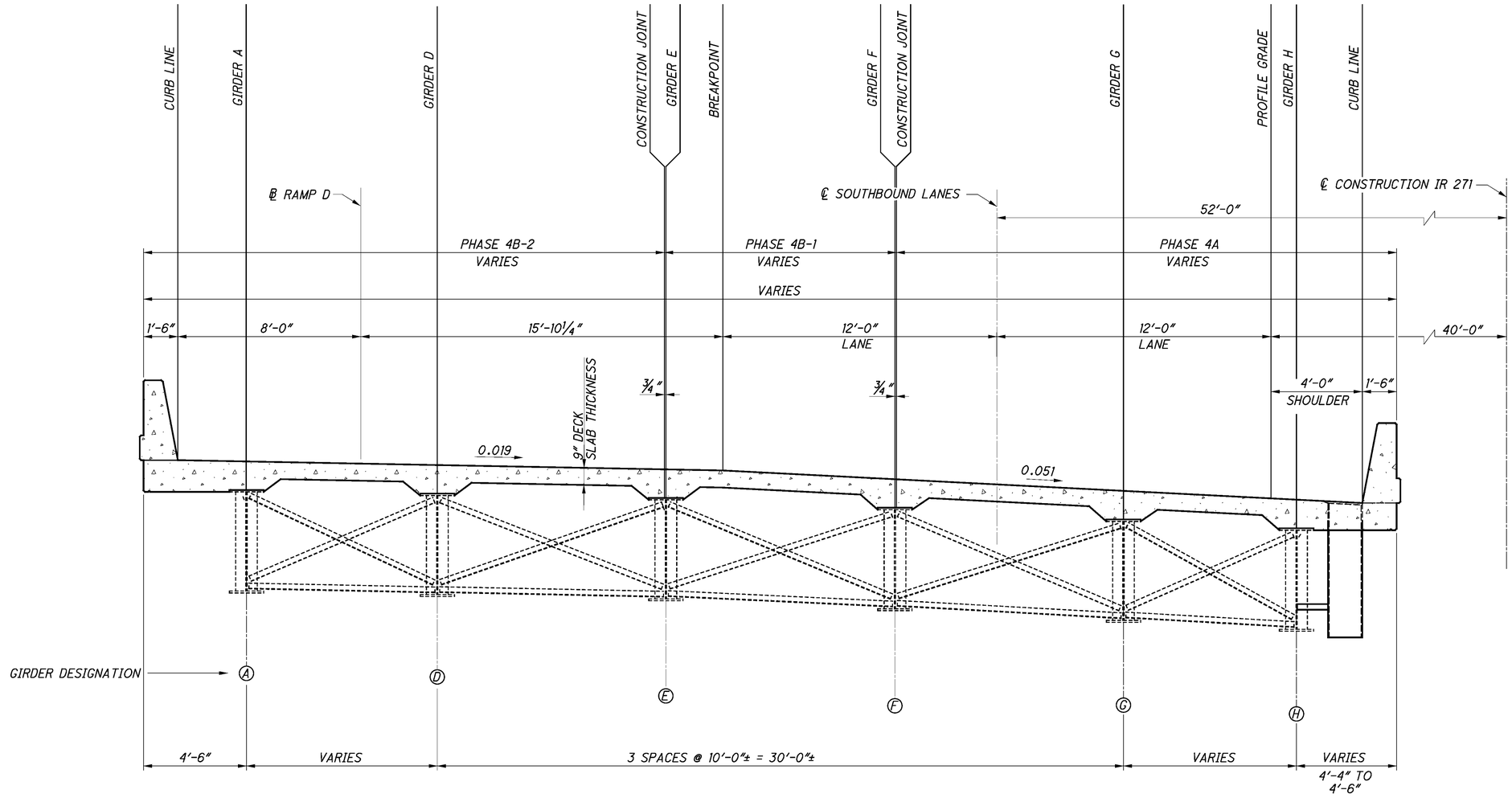
DECK ELEVATION LOCATIONS - SOUTHBOUND BRIDGE - 2
BRIDGE NO. SUM-271-0354 L
IR 271 OVER IR 77

SUM-271-2.33
PID No. 18710

88/106

1046
1195

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DECK ELEVATION LOCATIONS - SOUTHBOUND BRIDGE

(SECTION C-C)

NOTES

DECK ELEVATION TABLES: SEE SHEETS 79/106 THROUGH 83/106.

SECTION C-C: FOR LOCATION SEE SHEETS 71/106, 74/106, AND 77/106.

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

DESIGNED	DRAWN	REVIEWED	DATE
ALP	SCB	DAP	10/5/12
CHECKED	REVISED	STRUCTURE FILE NUMBER	
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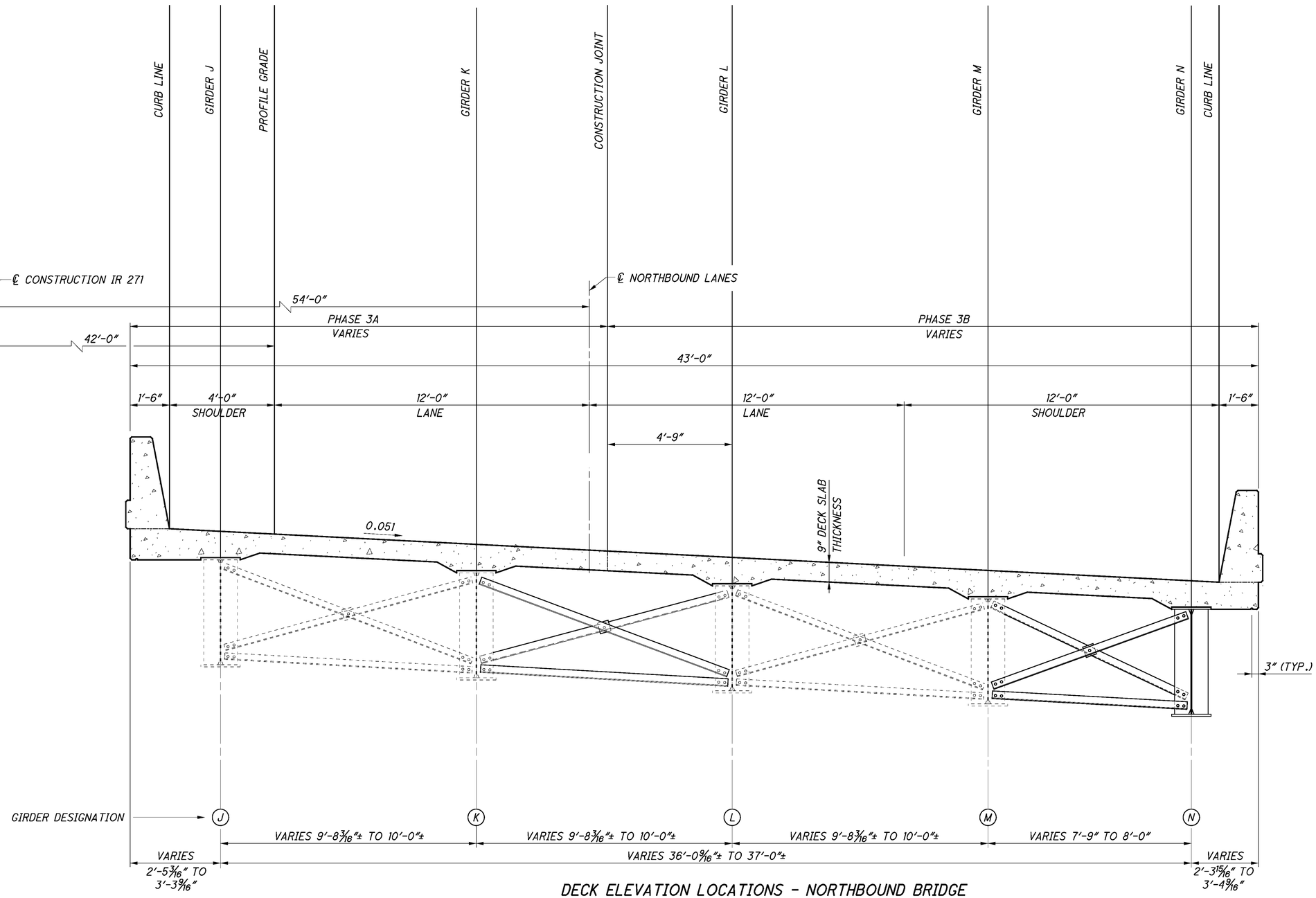
DECK ELEVATION LOCATIONS - SOUTHBOUND BRIDGE - 3
BRIDGE NO. SUM-271-0354 L
IR 271 OVER IR 77

SUM-271-2.33
PID No. 18710

89/106

1047
1195

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DECK ELEVATION LOCATIONS - NORTHBOUND BRIDGE

NOTES

DECK ELEVATION TABLES: SEE SHEETS 84/106 THROUGH 86/106.

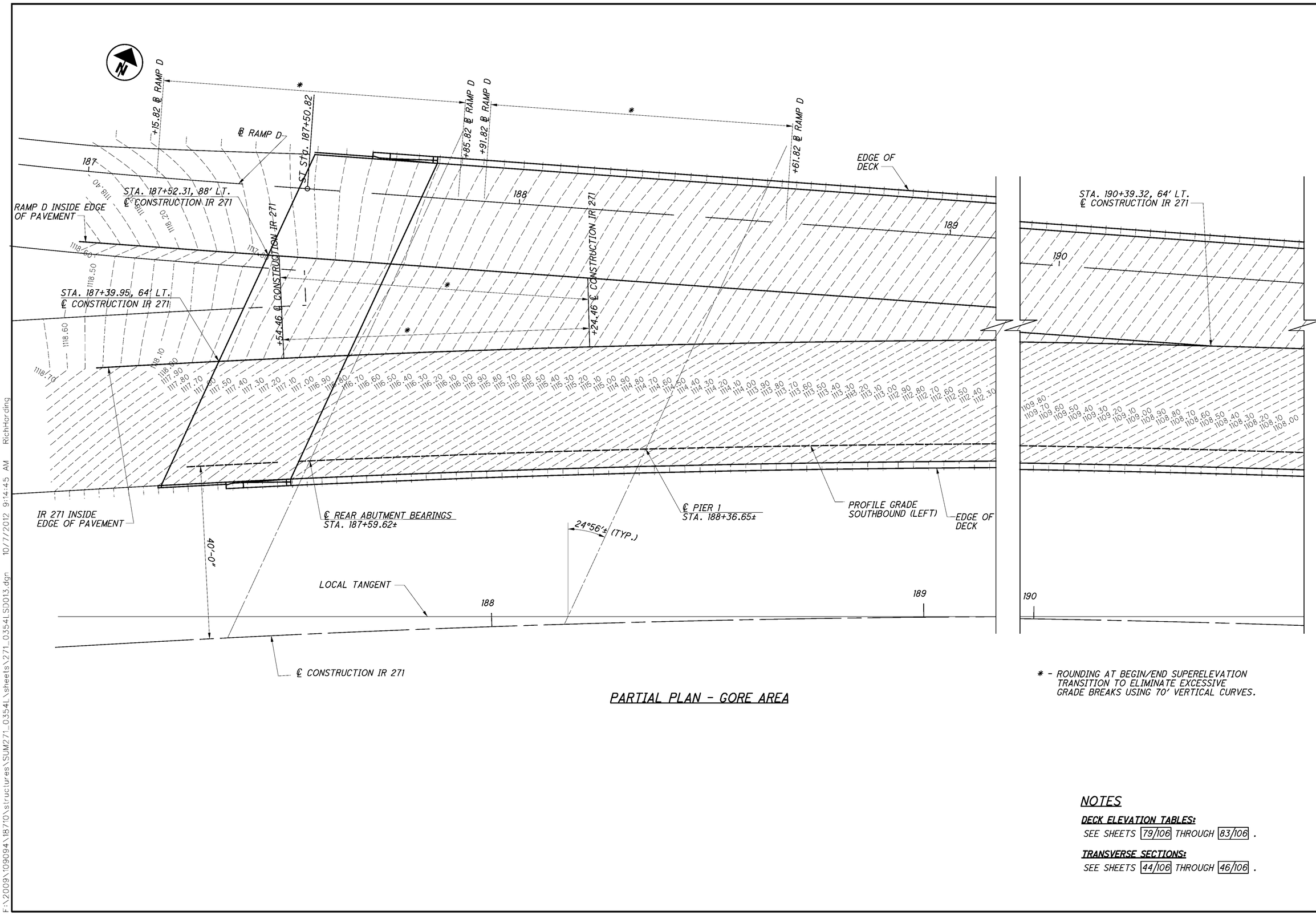
RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

DESIGNED ALP | DRAWN SCB | REVIEWED DAP | DATE 10/5/12
CHECKED BLN | REVISED | STRUCTURE FILE NUMBER R7708890

DECK ELEVATION LOCATIONS - NORTHBOUND BRIDGE
BRIDGE NO. SUM-271-0354 R
IR 271 OVER IR 77

SUM-271-2.33
PID No. 18710

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PARTIAL PLAN - GORE AREA

* - ROUNDING AT BEGIN/END SUPERELEVATION TRANSITION TO ELIMINATE EXCESSIVE GRADE BREAKS USING 70' VERTICAL CURVES.

NOTES

DECK ELEVATION TABLES:
SEE SHEETS 79/106 THROUGH 83/106 .

TRANSVERSE SECTIONS:
SEE SHEETS 44/106 THROUGH 46/106 .

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

DESIGNED	DRAWN	REVIEWED	DATE
ALP	RB	DAP	10/5/12
CHECKED	REVISED	STRUCTURE FILE NUMBER	
BLN		L770815	

DECK CONTOUR MAP - SOUTHBOUND BRIDGE
BRIDGE NO. SUM-271-0354 L
IR 271 OVER IR 77

SUM-271-2.33
PID No. 18710

91/106

1049
1195

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HAUNCH DEPTHS AT CENTERLINE GIRDER LEFT BRIDGE

SPAN 1

	R.A.	1/8	1/4	3/8	1/2	5/8	3/4	7/8	PIER 1
GIRDER A	9 15/16"	7 13/16"	8 1/16"	8 3/4"	8 5/8"	8 13/16"	8 13/16"	8 11/16"	8 1/16"
GIRDER B	8 3/8"	7 1/16"	7 9/16"	7 9/16"	7 1/16"	7 1/16"	7 5/16"	7 5/8"	7 7/8"
GIRDER C	7 5/16"	6 1/2"	6 1/4"	6 1/2"	6 5/8"	6 9/16"	6 5/8"	6 1/8"	7 1/8"
GIRDER D	7 1/16"	6 11/16"	6 5/16"	6 1/4"	6 3/16"	6"	5 13/16"	6 3/16"	6 5/8"
GIRDER E	6 1/8"	6 5/8"	6 3/8"	6 1/4"	6 1/4"	6 1/4"	6 3/16"	6 1/16"	6 1/8"
GIRDER F	6 5/16"	6 1/8"	6 13/16"	6 3/16"	6 3/8"	6 3/16"	6"	5 13/16"	6 1/2"
GIRDER G	6 1/2"	6"	5 1/16"	4 15/16"	4 9/16"	4 5/8"	4 1/16"	4 3/4"	5 1/8"
GIRDER H	6 1/4"	5 3/4"	5 5/16"	4 13/16"	4 7/16"	4 7/16"	4 3/8"	4 3/8"	5 1/2"

HAUNCH DEPTHS AT CENTERLINE GIRDER LEFT BRIDGE

SPAN 2

	1/8	SPLICE	1/4	3/8	1/2	5/8	3/4	SPLICE	7/8
GIRDER A	7 1/2"	6 15/16"	6 7/8"	8 3/4"	10 13/16"	9 3/8"	8 1/2"	7 1/4"	8"
GIRDER B	6 7/8"	6 13/16"	6 11/16"	7 1/2"	10 1/16"	9 3/8"	8 1/16"	7 11/16"	-
GIRDER C	5 15/16"	6 1/16"	6 9/16"	6 13/16"	9 3/8"	9 1/16"	8 11/16"	7 1/8"	7 13/16"
GIRDER D	5 9/16"	5 5/8"	5 7/8"	5 1/8"	7 5/16"	9 1/8"	7 3/4"	6 1/16"	6 7/8"
GIRDER E	6 1/2"	5 1/2"	5 1/4"	5 1/16"	7 1/16"	9 1/2"	7 15/16"	6 3/16"	7 1/16"
GIRDER F	6 1/16"	5"	4 1/2"	4 9/16"	5 3/4"	8 1/16"	7 9/16"	5 3/8"	7 3/16"
GIRDER G	5 1/8"	4 15/16"	5"	4 9/16"	4 13/16"	7 1/2"	7 1/8"	5 1/16"	7"
GIRDER H	5 9/16"	4 3/4"	4 7/8"	4 1/16"	4 9/16"	7"	8 1/16"	5 1/2"	6 1/2"

HAUNCH DEPTHS AT CENTERLINE GIRDER LEFT BRIDGE

SPAN 3

	PIER 2	1/8	1/4	3/8	1/2	5/8	3/4	SPLICE	7/8
GIRDER A	7 13/16"	8 1/8"	8 1/16"	7 15/16"	7 13/16"	7 5/8"	7 3/8"	6 11/16"	7"
GIRDER B	-	-	-	-	-	-	-	-	-
GIRDER C	7 5/16"	7 3/16"	6 13/16"	6 1/2"	6 1/2"	6 5/8"	6 5/16"	6 1/8"	-
GIRDER D	6 3/4"	7 1/8"	7 1/16"	6 15/16"	7"	7 1/16"	7 3/16"	6 3/4"	7 3/16"
GIRDER E	6 3/4"	7"	7"	6 13/16"	6 11/16"	6 11/16"	6 11/16"	5 7/8"	6 5/16"
GIRDER F	6 1/2"	6 7/8"	7 1/4"	7 1/8"	7 1/16"	6 5/16"	6 13/16"	5 13/16"	6 5/16"
GIRDER G	5 7/8"	6"	6 3/16"	6 1/8"	5 15/16"	6"	6 5/16"	6 1/16"	5 7/8"
GIRDER H	5 7/8"	5 7/16"	5"	4 7/8"	5 1/4"	5 5/8"	6"	5 11/16"	5 5/8"

HAUNCH DEPTHS AT CENTERLINE GIRDER LEFT BRIDGE

SPAN 4

	PIER 3	1/8	1/4	3/8	1/2	5/8	3/4	7/8	F.A.
GIRDER A	7 1/2"	8"	7 7/8"	7 13/16"	7 3/4"	7 9/16"	7 5/16"	7"	6 3/4"
GIRDER B	-	-	-	-	-	-	-	-	-
GIRDER C	-	-	-	-	-	-	-	-	-
GIRDER D	7"	7 1/8"	7 3/16"	7 1/8"	7 1/8"	7 1/16"	6 15/16"	6 3/4"	6 5/8"
GIRDER E	6 1/4"	6 1/8"	6 1/8"	6 5/16"	6 1/2"	6 3/4"	6 5/8"	6 5/16"	6"
GIRDER F	6 3/8"	6 7/16"	6 1/2"	6 9/16"	6 11/16"	6 13/16"	7"	6 5/8"	5 7/8"
GIRDER G	5 3/4"	5 7/8"	6"	6 1/8"	6 1/4"	6 3/8"	6 1/2"	6 3/8"	5 3/4"
GIRDER H	5 7/16"	5 1/2"	5 9/16"	5 11/16"	5 3/4"	5 13/16"	5 15/16"	6 1/16"	5 7/8"

HAUNCH DEPTHS AT CENTERLINE GIRDER RIGHT BRIDGE

SPAN 1

	R.A.	1/8	1/4	3/8	1/2	5/8	3/4	7/8	PIER 1
GIRDER J	5 5/8"	5 7/16"	5 5/16"	5 3/16"	5 1/8"	5 1/8"	5 1/16"	4 5/8"	5 15/16"
GIRDER K	4 13/16"	4 1/2"	4 5/16"	4 1/8"	4"	4 1/8"	4 5/16"	4 1/8"	4 1/2"
GIRDER L	4 3/4"	4 1/2"	4 5/16"	4 3/8"	4 3/8"	4 1/16"	4 1/2"	4 3/16"	4 1/16"
GIRDER M	3 15/16"	4"	4"	4 1/8"	4 5/16"	4 1/16"	4 3/8"	4 3/8"	4 1/2"
GIRDER N	4"	4"	4"	4"	4"	4"	4"	4"	4"

HAUNCH DEPTHS AT CENTERLINE GIRDER RIGHT BRIDGE

SPAN 2

	1/8	SPLICE	1/4	3/8	1/2	5/8	3/4	SPLICE	7/8
GIRDER J	5 1/8"	5 1/16"	4 7/8"	4 9/16"	4 15/16"	4 11/16"	4 5/8"	4 11/16"	4 3/4"
GIRDER K	4 5/8"	4 5/8"	4 1/4"	3 7/8"	4 5/16"	4 1/4"	4 1/8"	4 5/16"	4 3/16"
GIRDER L	5 3/16"	5 5/16"	4 15/16"	4 1/4"	4 5/8"	4 13/16"	4 9/16"	4 7/16"	4 1/16"
GIRDER M	4 9/16"	4 5/16"	4 1/4"	4 1/16"	4 1/4"	4 1/2"	4 1/8"	4 11/16"	4 1/2"
GIRDER N	4"	4"	4"	4"	4"	4"	4"	4"	4"

HAUNCH DEPTHS AT CENTERLINE GIRDER RIGHT BRIDGE

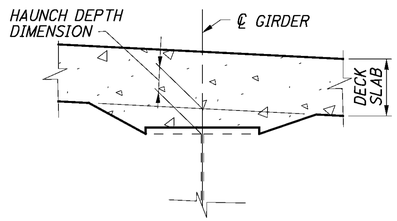
SPAN 3

	PIER 2	1/8	1/4	3/8	1/2	5/8	3/4	SPLICE	7/8
GIRDER J	4 3/16"	6 7/16"	5 13/16"	5 1/4"	4 9/16"	3 15/16"	4"	4 1/4"	3 7/8"
GIRDER K	4"	6 3/16"	5 3/4"	5 1/16"	4 7/16"	3 13/16"	3 9/16"	3 13/16"	3 1/2"
GIRDER L	4 1/16"	6 5/16"	6 11/16"	5 15/16"	5 5/16"	4 3/4"	4 1/4"	4 1/16"	4 3/16"
GIRDER M	4"	5 1/2"	6 3/8"	5 11/16"	5"	4 5/16"	3 11/16"	3 13/16"	3 9/16"
GIRDER N	4"	4"	4"	4"	4"	4"	4"	4"	4"

HAUNCH DEPTHS AT CENTERLINE GIRDER RIGHT BRIDGE

SPAN 4

	PIER 3	1/8	1/4	3/8	1/2	5/8	3/4	7/8	F.A.
GIRDER J	3 5/8"	3 15/16"	3 11/16"	3 11/16"	3 3/4"	3 3/4"	3 11/16"	3 5/8"	3 9/16"
GIRDER K	3 1/4"	3 1/2"	3 1/16"	3"	3"	3"	3"	2 7/8"	2 3/4"
GIRDER L	4 1/16"	4 1/2"	4 1/4"	4 1/16"	4 3/16"	4 1/4"	4 3/8"	4 1/4"	4 1/16"
GIRDER M	3 9/16"	4 1/8"	4"	3 7/8"	3 15/16"	4"	4 1/8"	4 1/8"	3 11/16"
GIRDER N	4"	4"	4"	4"	4"	4"	4"	4"	4"



HAUNCH DETAIL

NOTES

HAUNCH DEPTHS SHOWN ARE ESTIMATES BASED ON EXISTING BOTTOM OF BEAM ELEVATIONS. DEVIATE FROM THESE HAUNCH DEPTHS AS NECESSARY TO PLACE THE DECK SURFACE AT THE FINISHED GRADE.

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

DESIGNED ALP | DRAWN TWH | CHECKED BLN | REVIEWED DAP | DATE 10/5/12

STRUCTURE FILE NUMBER L7708815/R7708890

REVISED

HAUNCH DETAILS

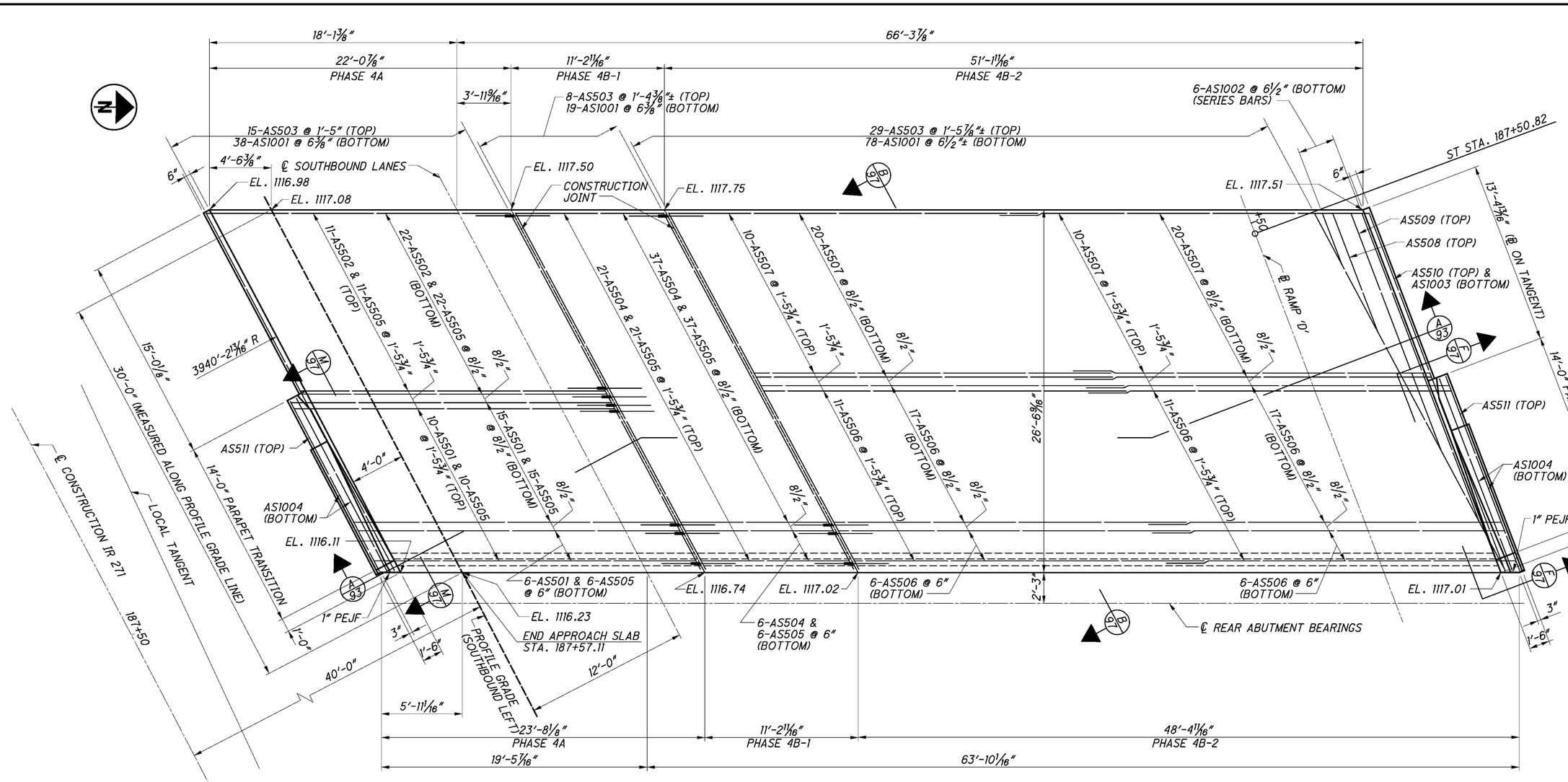
BRIDGE NO. SUM-271-0354 L&R
IR 271 OVER IR 77

SUM-271-2.33

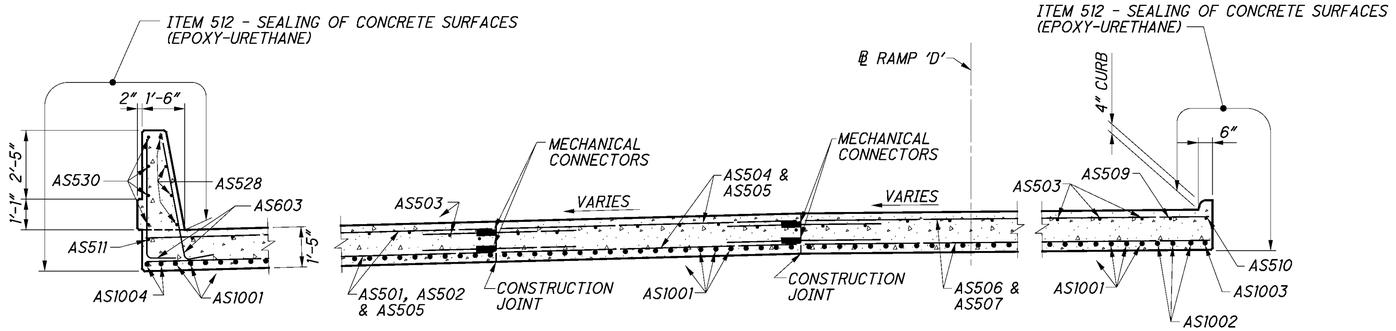
PID No. 18710

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REAR APPROACH SLAB - SOUTHBOUND BRIDGE



SECTION A-A

NOTES

NOTATION: *PEJF - PREFORMED EXPANSION JOINT FILLER.*

PARAPET TRANSITION DETAILS: *SEE SHEET 97/106.*

ADDITIONAL DETAILS: *SEE STANDARD DRAWING AS-1-81.*

REINFORCING STEEL SPLICE LENGTHS *SHALL BE 2'-9" FOR #5 BARS.*

ADDITIONAL NOTES: *SEE SHEET 97/106.*

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

DESIGNED	DRAWN	REVIEWED	DATE
ALP	JLS	DAP	10/5/12
CHECKED	REVISED	STRUCTURE FILE NUMBER	
BLN		L7708815	

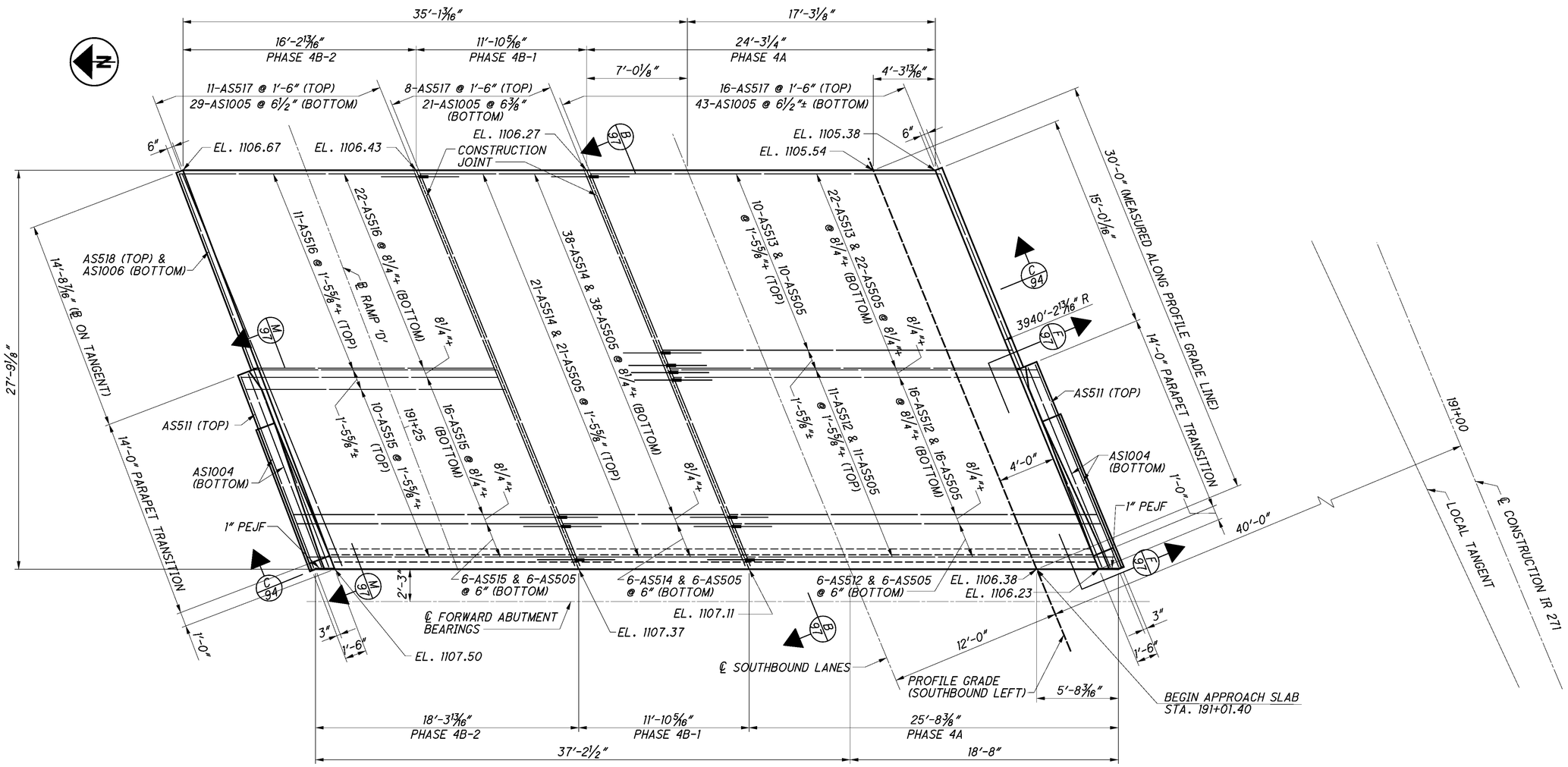
REAR APPROACH SLAB - SOUTHBOUND BRIDGE
BRIDGE NO. SUM-271-0354 L
IR 271 OVER IR 77

SUM-271-2.33
PID No. 18710

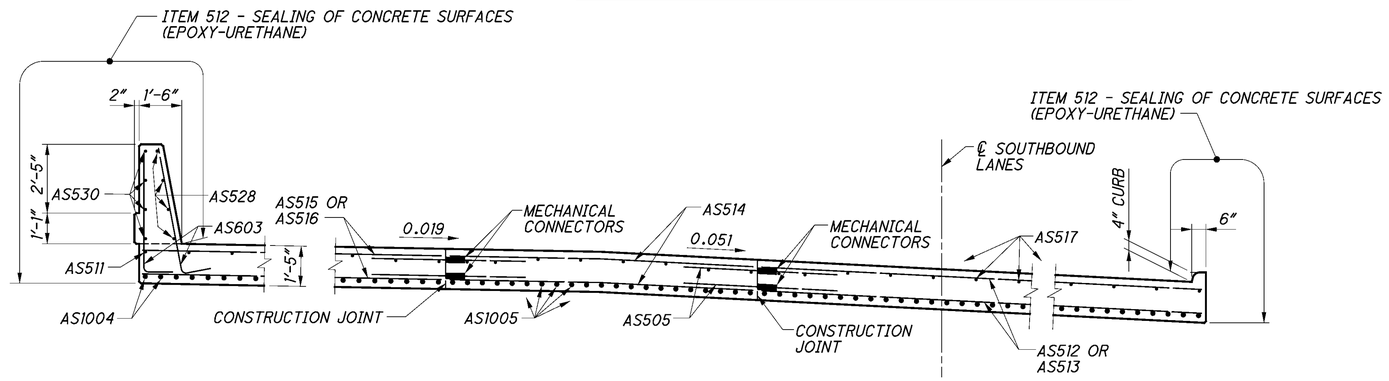
93/106

1051/1195

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FORWARD APPROACH SLAB - SOUTHBOUND BRIDGE



SECTION C-C

NOTES

ADDITIONAL NOTES: SEE SHEET 93/106.

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

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CHECKED	REVISED	STRUCTURE FILE NUMBER	
BLN		L770815	

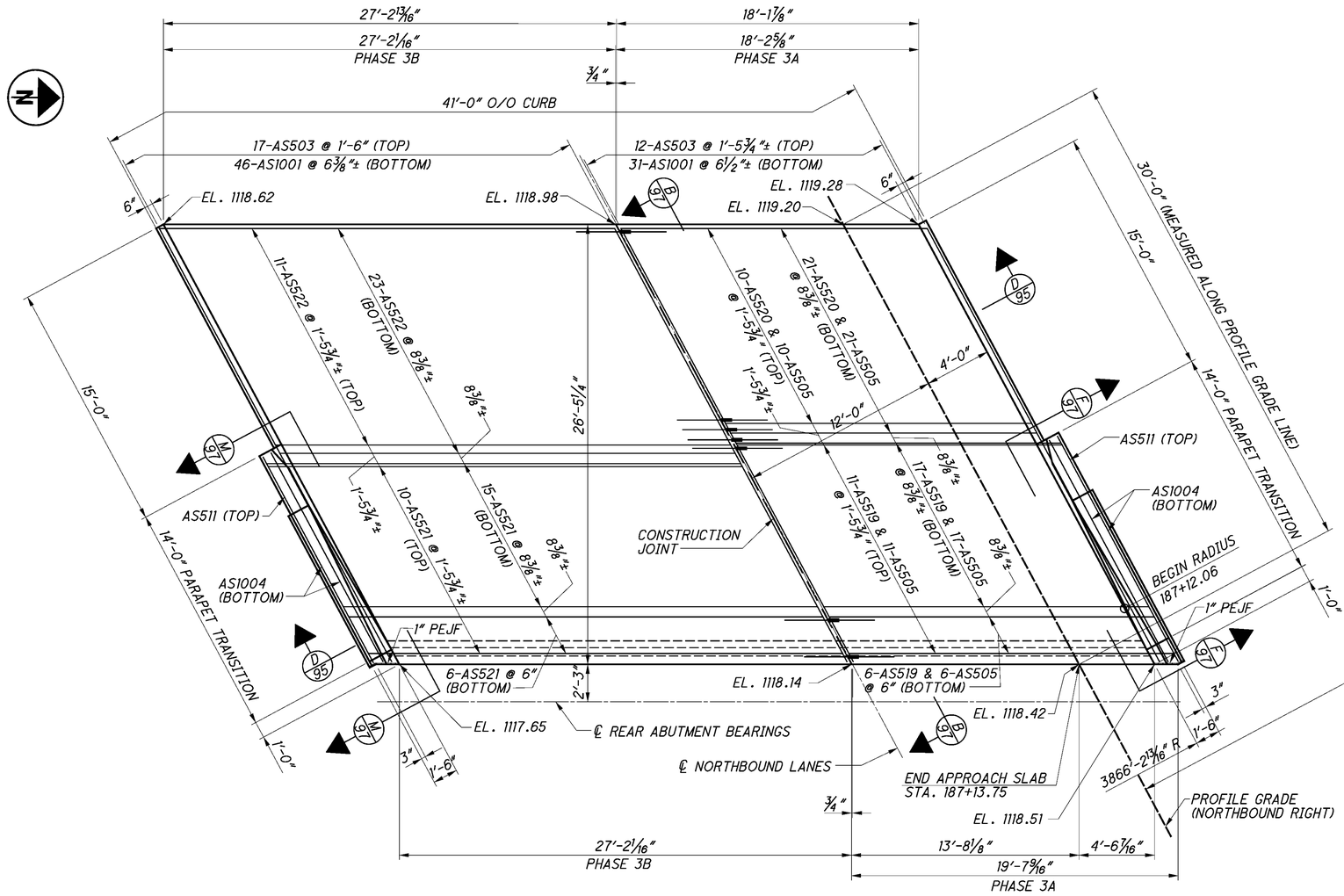
FORWARD APPROACH SLAB - SOUTHBOUND BRIDGE
BRIDGE NO. SUM-271-0354 L
IR 271 OVER IR 77

SUM-271-2.33
PID No. 18710

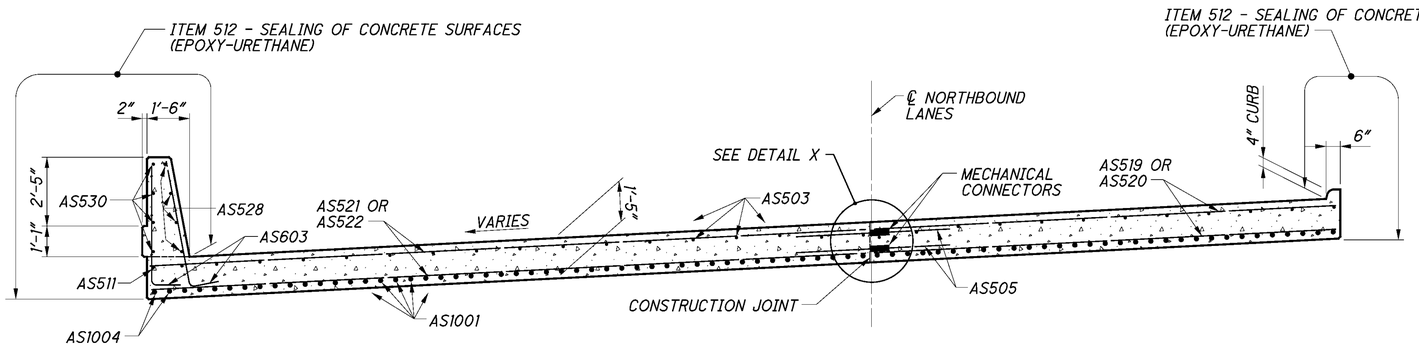
94/106

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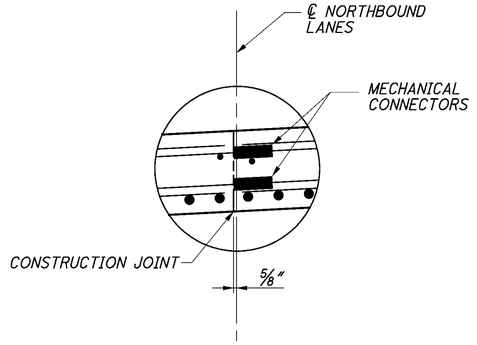
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REAR APPROACH SLAB - NORTHBOUND BRIDGE



SECTION D-D



DETAIL X

NOTES

CROSS SLOPE: FOR SUPERELEVATION TABLE SEE SHEET 47/106.

ADDITIONAL NOTES: SEE SHEET 93/106.

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

DESIGNED	DRAWN	REVIEWED	DATE
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CHECKED	REVISED	STRUCTURE FILE NUMBER	
BLN		R7708890	

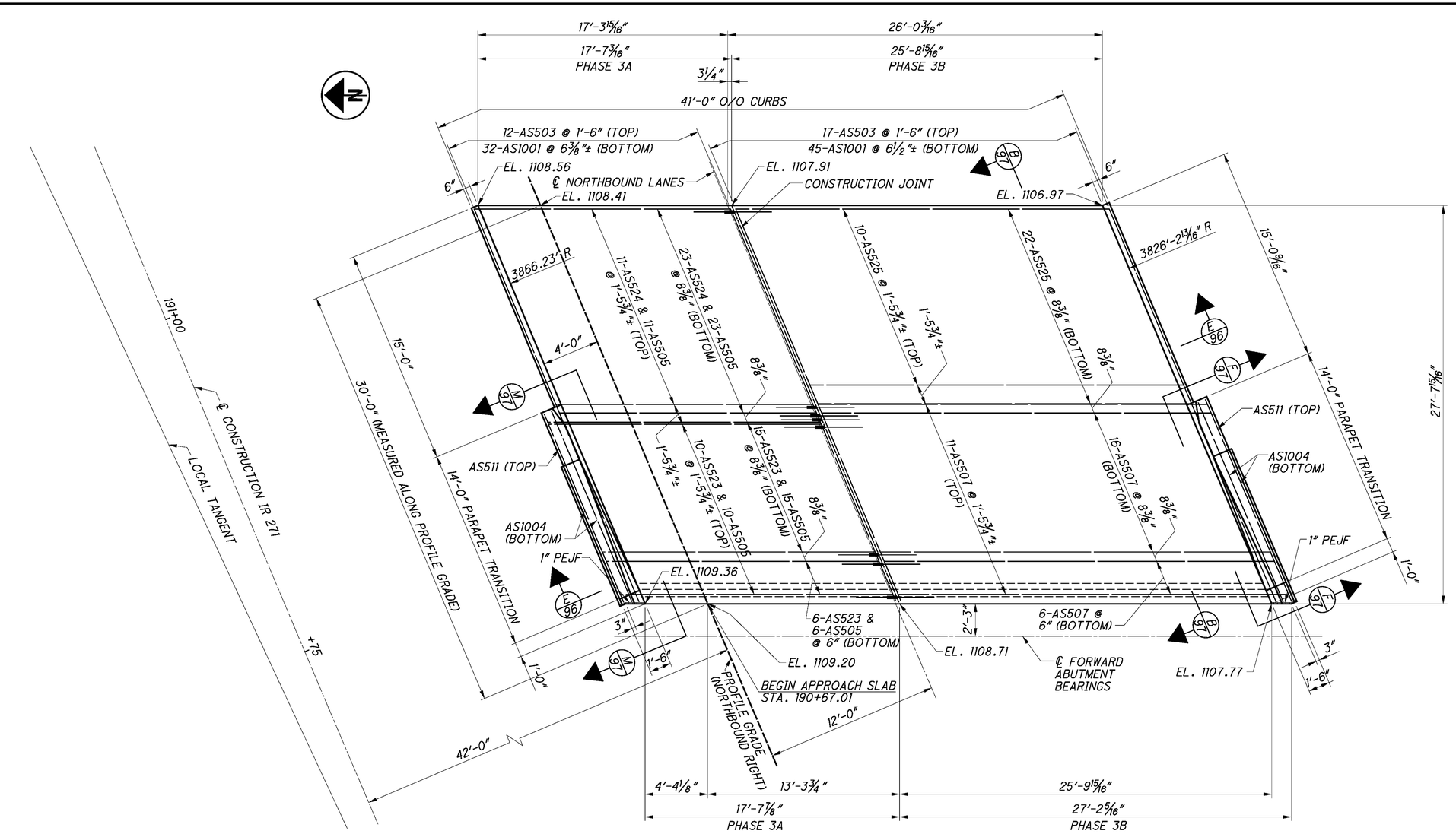
REAR APPROACH SLAB - NORTHBOUND BRIDGE
BRIDGE NO. SUM-271-0354
IR 271 OVER IR 77

SUM-271-2.33
PID No. 18710

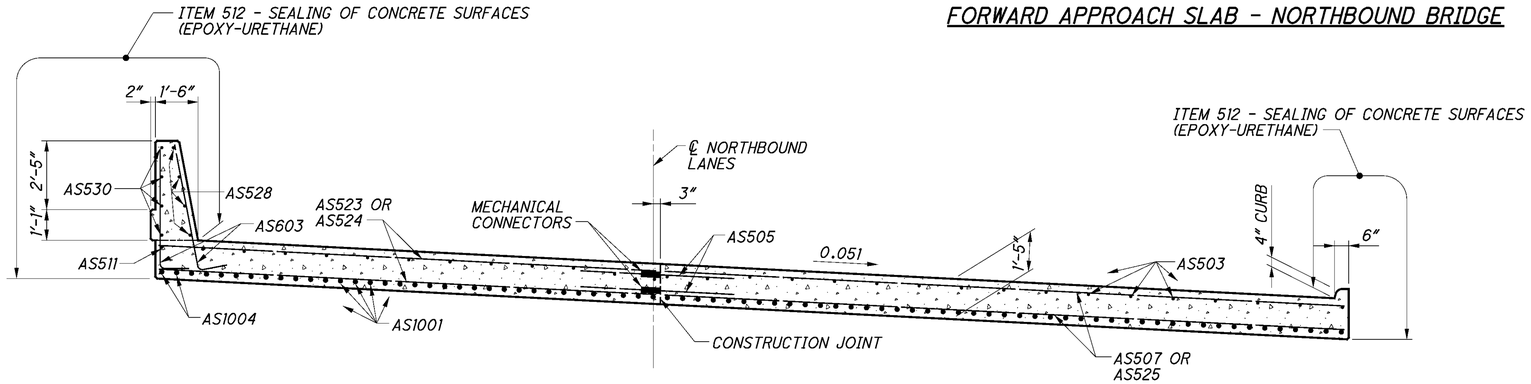
95/106

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FORWARD APPROACH SLAB - NORTHBOUND BRIDGE



SECTION E-E

NOTES

ADDITIONAL NOTES: SEE SHEET 93/106.

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

DESIGNED	DRAWN	REVIEWED	DATE
ALP	JLS	DAP	10/5/12
CHECKED	REVISED	STRUCTURE FILE NUMBER	
BLN		R7708890	

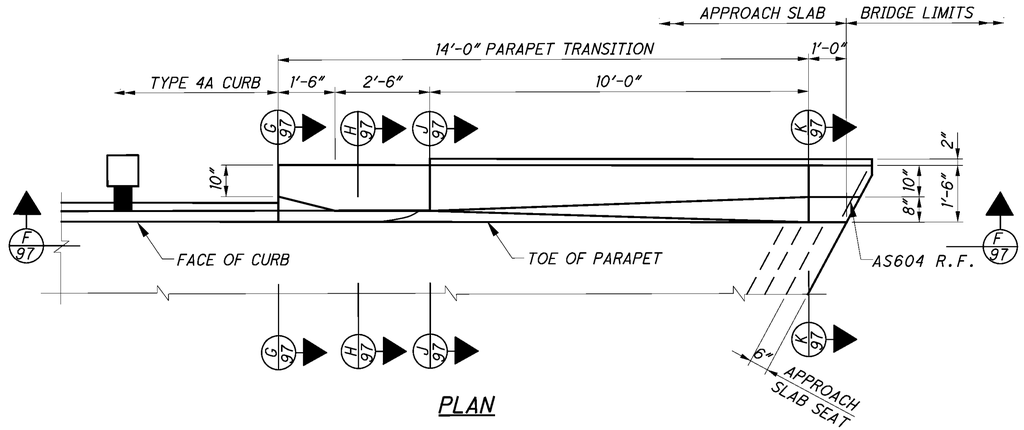
FORWARD APPROACH SLAB - NORTHBOUND BRIDGE
BRIDGE NO. SUM-271-0354 R
IR 271 OVER IR 77

SUM-271-2.33
PID No. 18710

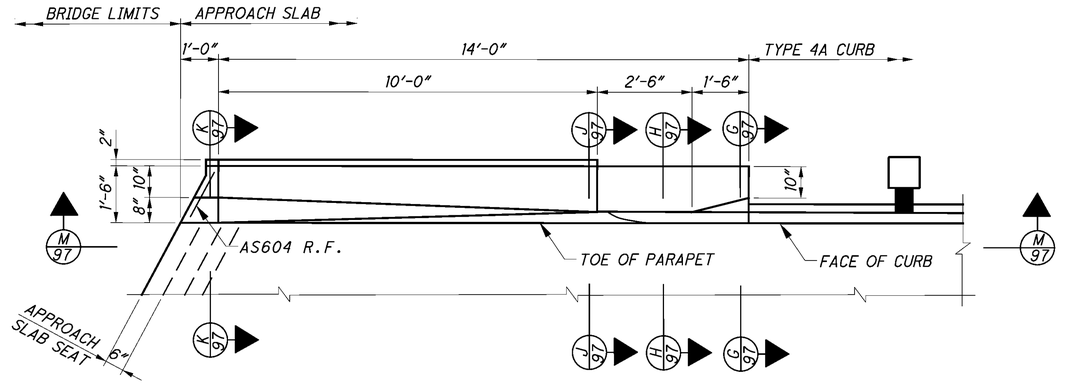
96/106

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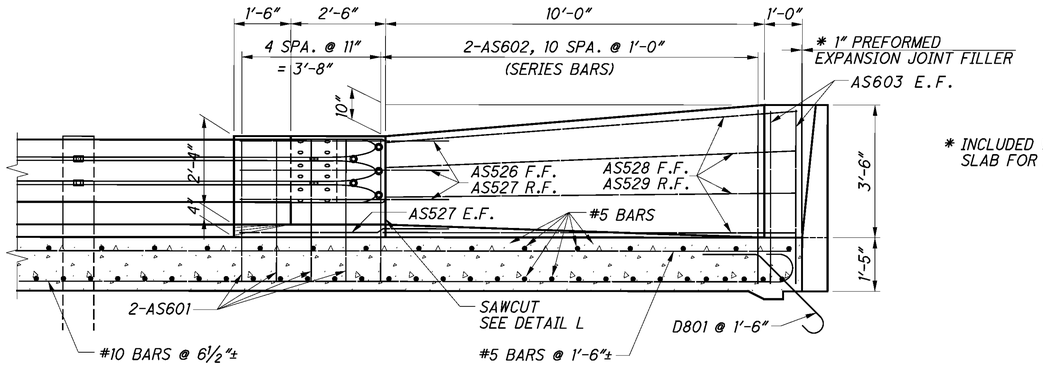
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PLAN

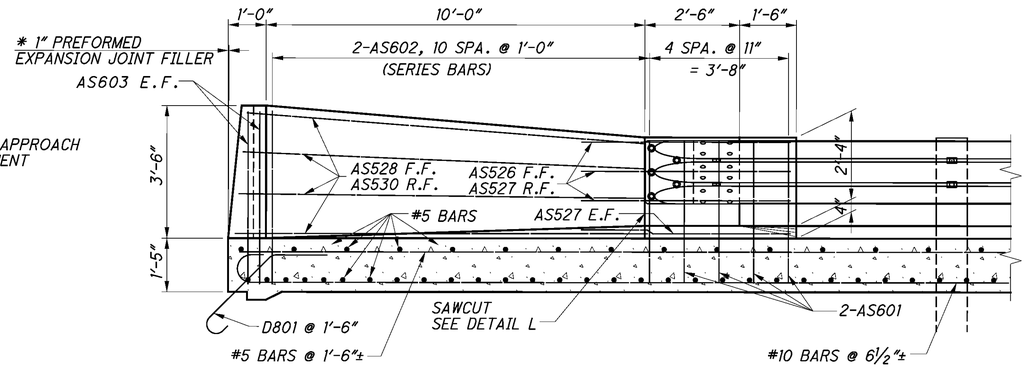


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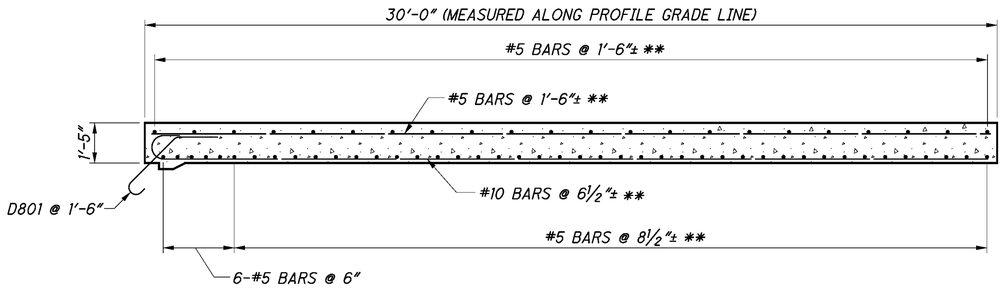
SECTION F-F

* INCLUDED WITH APPROACH SLAB FOR PAYMENT

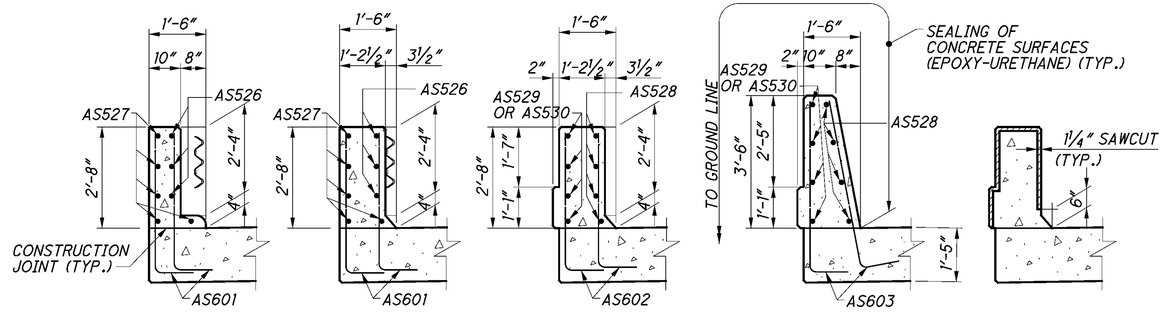


SECTION M-M

** REINFORCING STEEL SPACING VARIES SLIGHTLY. SEE INDIVIDUAL APPROACH SLAB PLAN SHEETS FOR ACTUAL SPACING.



SECTION B-B



SECTION G-G SECTION H-H SECTION J-J SECTION K-K DETAIL L

NOTES

CONCRETE PARAPETS: AS SOON AS A CONCRETE SAW CAN BE OPERATED WITHOUT DAMAGING THE FRESHLY PLACED CONCRETE, SAWCUT 1¼" DEEP CONTROL JOINTS INTO THE PERIMETER OF THE CONCRETE PARAPET STARTING AND ENDING AT THE ELEVATION OF THE CONCRETE DECK. PLACE THE SAWCUTS AT A MINIMUM OF 6 FEET AND A MAXIMUM OF 10 FEET CENTERS. USE AN EDGE GUIDE, FENCE, OR JIG TO ENSURE THAT THE CUT JOINT IS STRAIGHT, TRUE, AND ALIGNED ON ALL FACES OF THE PARAPET. THE JOINT WIDTH SHALL BE THE WIDTH OF THE SAW BLADE, A NOMINAL WIDTH OF ¼". SEAL THE PERIMETER OF THE DEFLECTION CONTROL JOINT TO A MINIMUM DEPTH OF 1 INCH WITH A POLYURETHANE OR POLYMERIC MATERIAL CONFORMING TO ASTM C920, TYPE S. LEAVE THE BOTTOM ½" OF THE INSIDE AND OUTSIDE FACE UNSEALED TO ALLOW WATER TO ESCAPE.

BRIDGE TERMINAL ASSEMBLIES: SEE STANDARD CONSTRUCTION DRAWINGS GR 3.1 AND GR 3.2.

ADDITIONAL RAILING DETAILS SEE STANDARD DRAWING SBR-1-99.

SECTION B-B & FF: FOR LOCATIONS SEE SHEETS 93/106 THROUGH 96/106.

NOTATION:
F.F. - FRONT FACE
R.F. - REAR FACE
E.F. - EACH FACE

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

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CHECKED	REVISED	STRUCTURE FILE NUMBER	
BLN		L7708815/R7708890	

APPROACH SLAB DETAILS
BRIDGE NO. SUM-271-0354 L&R
IR 271 OVER IR 77

SUM-271-2.33
PID No. 18710

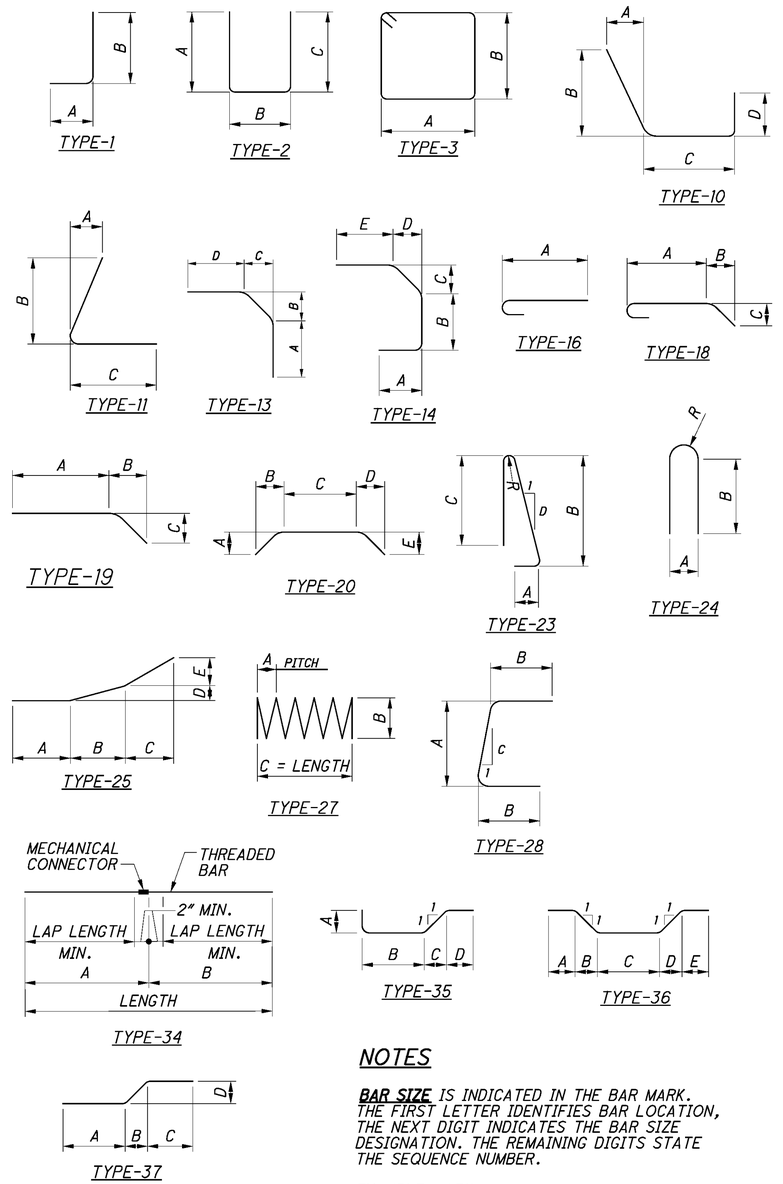
97/106

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MARK	NUMBER				TOTAL	LENGTH	SOUTHBOUND WEIGHT	NORTHBOUND WEIGHT	TYPE	DIMENSIONS						
	SOUTHBOUND		NORTHBOUND							A	B	C	D	E	R	INC
	R.A.	F.A.	R.A.	F.A.												
ABUTMENTS														CALCULATED / CHECKED	JLS / KH	DATE 5/12 / DATE 10/12
A501	18	18	17	14	67	7′-4″	275 *	237 *	34	3′-8″	3′-8″					
A502	7				7	23′-10″	174		STR							
A503	2				2	21′-11″	46		STR							
A504	3		3		6	11′-2″	35	35	STR							
A505	2		3		5	11′-9″	25	37	STR							
A506	2		3		5	11′-11″	25	37	STR							
A507	4				4	12′-7″	52		STR							
A508	4				4	5′-4″	22		20	0′-5¼″	0′-8½″	3′-10″	0′-8½″	0′-5¼″		
A509	3				3	13′-9″	43		STR							
A510	2		2		4	13′-3″	28	28	STR							
A511	2				2	13′-2″	27		STR							
A512	4				4	12′-8″	53		STR							
A513	4				4	4′-6″	19		20	0′-8¼″	0′-5¾″	3′-0″	0′-5¾″	0′-8¼″		
A514	9				9	10′-11″	102		STR							
A515	18	7			25	25′-9″	671		STR							
A516		9			9	11′-7″	109		STR							
A517		7			7	17′-5″	127		STR							
A518		2			2	24′-0″	50		STR							
A519		2			2	15′-8″	33		STR							
A520		5		4	9	10′-2″	53	42	STR							
A521		2			2	10′-8″	22		STR							
A522		5			5	10′-9″	56		STR							
A523		4			4	11′-3″	47		STR							
A524		2			2	10′-1″	21		STR							
A525		4			4	9′-7″	40		STR							
A526		4			4	5′-3″	22		20	0′-5¾″	0′-8¼″	3′-8″	0′-8¼″	0′-5¾″		
A527		4		4	8	4′-2″	17	17	20	0′-8¼″	0′-5½″	2′-7″	0′-5½″	0′-8¼″		
A528	2				2	7′-9″	16		23	1′-3″	3′-2″	3′-0″	4.65		3¾″	
A529	20	20	20	20	80	1′-0″	42	42	STR							
A530	2	4		2	8	7′-8″	48	16	23	1′-2″	3′-2″	3′-0″	4.90		3¾″	
A531			9	7	16	10′-2″		170	2	2′-6″	5′-5″	2′-6″				
A532			7	6	13	12′-1″		164	3	3′-2″	2′-7″					
A533			1		1	6′-4″		7	2	2′-0″	2′-7″	2′-0″				
A534			1		1	5′-0″		5	2	1′-4″	2′-7″	1′-4″				
A535			1	3	4	4′-0″		17	2	0′-10″	2′-7″	0′-10″				
A536			1 SER OF 4		1 SER OF 4	9′-9″ TO 13′-9″		49	STR							1′-4″
A537			1		1	1′-7″		2	19	0′-10″	0′-4¾″	0′-8¾″				
A538			9		9	8′-0″		75	1	0′-10″	7′-3″					
A539			9	10	19	8′-4″		165	2	2′-6″	3′-5″	2′-6″				
A540			30		30	5′-3″		164	1	2′-10″	2′-6″					
A541			20		20	5′-8″		118	1	2′-10″	2′-11″					
A542			1 SER OF 5		1 SER OF 5	26′-7″ TO 28′-2″		143	STR							4¾″
A543			1 SER OF 5		1 SER OF 5	20′-3″ TO 21′-10″		110	STR							4¾″
A544			1		1	10′-4″		11	STR							
A545			5		5	20′-10″		109	STR							
A546			7		7	20′-1″		147	STR							
A547			5		5	27′-7″		144	STR							
A548			7		7	28′-4″		207	STR							
SUB-TOTAL THIS SHEET							2,300	2,270								

BENDING DIAGRAMS



* WEIGHT DOES NOT INCLUDE WEIGHT OF MECHANICAL CONNECTOR.

NOTES

BAR SIZE IS INDICATED IN THE BAR MARK. THE FIRST LETTER IDENTIFIES BAR LOCATION, THE NEXT DIGIT INDICATES THE BAR SIZE DESIGNATION. THE REMAINING DIGITS STATE THE SEQUENCE NUMBER.

EXAMPLE: A511
A = LOCATION OF THE BAR IN STRUCTURE (ABUTMENT)
5 = BAR SIZE DESIGNATION
11 = SEQUENCE NUMBER

BAR DIMENSIONS SHOWN ARE OUT TO OUT UNLESS OTHERWISE INDICATED. R INDICATES INSIDE RADIUS, UNLESS OTHERWISE NOTED.

ALL REINFORCING STEEL TO BE EPOXY COATED, PER CMS 709.00.

NOTATION: R.A. - REAR ABUTMENT
F.A. - FORWARD ABUTMENT

ABUTMENT REINFORCING STEEL CONTINUED:
SEE SHEET 99/106 .

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

DESIGNED ALP | DRAWN KH | REVIEWED DAP | DATE 10/5/12
CHECKED BLN | REVISED | STRUCTURE FILE NUMBER L7708815/R7708890

REINFORCING STEEL LIST - 1
BRIDGE NO. SUM-271-0354 L&R
IR 271 OVER IR 77

SUM-271-2.33
PID No. 18710

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MARK	NUMBER					LENGTH	SOUTHBOUND WEIGHT	NORTHBOUND WEIGHT	TYPE	DIMENSIONS						
	SOUTHBOUND		NORTHBOUND		TOTAL					A	B	C	D	E	R	INC
	R.A.	F.A.	R.A.	F.A.												
ABUTMENTS (CONTINUED)														CALCULATED JLS CHECKED KH		DATE 5/12 DATE 10/12
A549				1	1	11′-8″		12	STR							
A550				3	3	7′-3″		23	STR							
A551				1	1	3′-9″		4	20	0′-8 3/8″	0′-5 1/2″	2′-4″	0′-5 1/2″	0′-8 3/8″		
A552				1	1	2′-1″		2	10	0′-9 1/8″	0′-4″	0′-8″	0′-10″			
A553				8	8	9′-2″		76	1	0′-10″	8′-5″					
A554				1	1	4′-3″		4	1	0′-10″	2′-6″					
A555				48	48	5′-7″		280	1	2′-0 1/2″	3′-1″					
A556				4	4	18′-4″		76	STR							
A557				6	6	18′-11″		118	STR							
A558				1 SER OF 5	1 SER OF 5	17′-10″ TO 19′-3″		97	STR							4 1/4″
A559				1 SER OF 5	1 SER OF 5	27′-1″ TO 28′-7″		145	STR							4 1/2″
A560				3	3	15′-1″		47	STR							
A561				3	3	13′-10″		43	STR							
A562				4	4	27′-9″		116	STR							
A563				6	6	27′-1″		169	STR							
A564			4		4	14′-8″		61	STR							
A565			4		4	15′-3″		64	STR							
A566			4		4	14′-2″		59	STR							
A567			4		4	13′-7″		57	STR							
A568			2		2	16′-3″		34	STR							
A569			2		2	15′-10″		33	STR							
A570				4	4	10′-7″		44	STR							
A571				2	2	12′-2″		25	STR							
A572				2	2	12′-9″		27	STR							
A573				4	4	13′-6″		56	STR							
A574				4	4	13′-0″		54	STR							
A575				5	5	8′-8″		45	STR							
A576				5	5	8′-3″		43	STR							
A577			4		4	3′-7″		15	20	0′-8 1/2″	0′-5 1/8″	2′-0 1/2″	0′-5 1/8″	0′-8 1/2″		
A578				1	1	5′-3″		5	STR							
A579			2		2	7′-7″		16	23	1′-2″	3′-2″	3′-0″	4.63		0′-3 1/4″	
A580			2		2	7′-9″		16	23	1′-3″	3′-2″	3′-0″	4.63		0′-3 1/8″	
A581				2	2	7′-7″		16	23	1′-2″	3′-2″	3′-0″	4.63		0′-3 1/2″	
A601	74	46			120	11′-1″	1998		2	5′-0″	1′-5″	5′-0″				
A602	80	52	45	44	221	6′-5″	1272	858	2	2′-11″	0′-11″	2′-11″				
A603	34	26			60	3′-2″	285		16	2′-6″						
A604	19				19	7′-3″	207		14	1′-0″	1′-2″	1′-7″	1′-7″	3′-2″		
A605	1 SER OF 6				1 SER OF 6	9′-6″ TO 10′-0″	88		2	4′-3″ TO 4′-6″	1′-8″	3′-11″ TO 4′-2″				5/8″-
A606	1				1	9′-10″	15		2	4′-3″	2′-0″	3′-11″				
A607	1				1	10′-6″	16		2	4′-2″	2′-10″	3′-10″				
A608	8				8	8′-4″	100		2	3′-2″	1′-2″	4′-4″				
A609	1 SER OF 6				1 SER OF 6	10′-4″ TO 10′-8″	95		2	4′-8″ TO 4′-10″	1′-8″	4′-4″ TO 4′-6″				3/8″+
A610	1				1	10′-5″	16		2	4′-7″	1′-11″	4′-3″				
A611	1				1	12′-3″	18		2	4′-7″	3′-9″	4′-3″				
SUB-TOTAL THIS SHEET							4,110	2,740								

NOTES

BENDING DIAGRAMS: SEE SHEET 98/106.

ABUTMENT REINFORCING STEEL CONTINUED: SEE SHEET 100/106.

ADDITIONAL NOTES: SEE SHEET 98/106.

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

REVIEWED DAP DATE 10/5/12
STRUCTURE FILE NUMBER L7708815/R7708890
DRAWN KH REVISED
DESIGNED ALP CHECKED BLN

REINFORCING STEEL LIST - 2
BRIDGE NO. SUM-271-0354 L&R
IR 271 OVER IR 77

SUM-271-2.33
PID No. 18710

99/106

1057
1195

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MARK	NUMBER				TOTAL	LENGTH	SOUTHBOUND WEIGHT	NORTHBOUND WEIGHT	TYPE	DIMENSIONS						
	SOUTHBOUND		NORTHBOUND							A	B	C	D	E	R	INC
	R.A.	F.A.	R.A.	F.A.												
ABUTMENTS (CONTINUED)														CALCULATED / CHECKED	JLS / KH	DATE 5/12 / DATE 10/12
A612	8				8	9'-2"	110		2	3'-6"	1'-3"	4'-9"				
A613	12	12			24	9'-1"	327		2	4'-0"	1'-5"	4'-0"				
A614		7			7	7'-8"	81		2	2'-10"	1'-2"	4'-0"				
A615		1 SER OF 6			1 SER OF 6	8'-11" TO 9'-5"	83		2	3'-11" TO 4'-2"	1'-8"	3'-8" TO 3'-11"				5/8"-
A616		1			1	10'-8"	16		2	4'-3"	2'-10"	3'-11"				
A617	1	1			2	4'-1"	12		1	1'-5"	2'-10"					
A618		1 SER OF 4			1 SER OF 4	8'-4" TO 8'-8"	51		2	3'-8" TO 3'-10"	1'-8"	3'-4" TO 3'-6"				11/16"-
A619		7			7	7'-0"	74		2	2'-6"	1'-2"	3'-8"				
A620		16			16	6'-7"	158		14	1'-0"	1'-2"	1'-7"	1'-7"	2'-6"		
A621		1			1	9'-1"	14		2	3'-10"	2'-1"	3'-6"				
A622		1			1	10'-5"	16		2	3'-10"	3'-5"	3'-6"				
A623		1			1	3'-9"	6		1	1'-5"	2'-6"					
A624	4	4	4	4	16	3'-9"	45	45	13	2'-0"	0'-9"	0'-2"	1'-1"			
A625	4	4	4	4	16	2'-9"	33	33	STR							
A626	2	2	2	2	8	1'-0"	6	6	STR							
A627	2				2	4'-9"	14		1	1'-5"	3'-6"					
A628			1 SER OF 18		1 SER OF 18	13'-3" TO 14'-3"		372	2	6'-1" TO 6'-7"	1'-5"	6'-1" TO 6'-7"				3/8"-
A629			8		8	13'-2"		158	2	6'-0"	1'-5"	6'-0"				
A630			8		8	13'-6"		162	2	6'-2"	1'-5"	6'-2"				
A631			22	14	36	10'-11"		590	2	4'-11"	1'-5"	4'-11"				
A632			1		1	14'-7"		22	2	6'-8"	1'-7"	6'-8"				
A633				3	3	9'-3"		42	2	3'-6"	2'-7"	3'-6"				
A634				7	7	16'-1"		169	2	8'-5"	5'-5"	2'-7"				
A635				4	4	13'-9"		83	2	6'-4"	1'-5"	6'-4"				
A636				1	1	13'-11"		21	2	6'-7"	1'-5"	6'-3"				
A637				1 SER OF 10	1 SER OF 10	13'-7" TO 14'-3"		209	2	6'-3" TO 6'-7"	1'-5"	6'-3" TO 6'-7"				7/16"+
A638				3	3	14'-1"		63	2	6'-6"	1'-5"	6'-6"				
A639				1 SER OF 8	1 SER OF 8	13'-7" TO 14'-1"		166	2	6'-3" TO 6'-6"	1'-5"	6'-3" TO 6'-6"				7/16"-
A640				1 SER OF 7	1 SER OF 7	13'-9" TO 14'-3"		147	2	6'-4" TO 6'-7"	1'-5"	6'-4" TO 6'-7"				1/2"
A641				8	8	10'-7"		127	2	4'-9"	1'-5"	4'-9"				
A642			6		6	22'-4"		201	2	10'-9"	1'-2"	10'-9"				
A643			6		6	10'-0"		90	2	4'-7"	1'-2"	4'-7"				
A644			8	2	10	8'-10"		133	2	4'-0"	1'-2"	4'-0"				
A645			9		9	14'-11"		202	2	7'-3"	5'-5"	2'-7"				
A646			1		1	6'-10"		10	STR							
A647			1		1	4'-7"		7	STR							
A648			7		7	7'-2"		75	STR							
A649			7	6	13	5'-2"		101	STR							
A650			6		6	13'-11"		125	2	6'-8"	0'-11"	6'-8"				
A651			6		6	10'-1"		91	2	4'-7"	1'-3"	4'-7"				
A652			8	7	15	5'-5"		122	37	3'-2"	0'-4 3/4"	0'-4 3/4"	1'-9"			
A653			2		2	11'-8"		35	2	5'-6"	1'-2"	5'-6"				
SUB-TOTAL (THIS SHEET)							1,046	3,280								

NOTES

BENDING DIAGRAMS: SEE SHEET 98/106.

ABUTMENT REINFORCING STEEL CONTINUED: SEE SHEET 101/106.

ADDITIONAL NOTES: SEE SHEET 98/106.

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

REVIEWED DAP DATE 10/5/12
DRAWN KH REVISED
DESIGNED ALP CHECKED BLN
STRUCTURE FILE NUMBER L7708815/R7708890

REINFORCING STEEL LIST - 3
BRIDGE NO. SUM-271-0354 L&R
IR 271 OVER IR 77

SUM-271-2.33
PID No. 18710

100/106

1058/1195

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MARK	NUMBER					LENGTH	SOUTHBOUND WEIGHT	NORTHBOUND WEIGHT	TYPE	DIMENSIONS						
	SOUTHBOUND		NORTHBOUND		TOTAL											
	R.A.	F.A.	R.A.	F.A.						A	B	C	D	E	R	INC
ABUTMENTS (CONTINUED)														CALCULATED JLS CHECKED KH		DATE 5/12 DATE 10/12
A654			2		2	9′-10″		30	2	4′-4″	1′-6″	4′-4″				
A655			2		2	6′-0″		18	STR							
A656			2		2	4′-4″		13	STR							
A657			1		1	6′-6″		10	STR							
A658			1	1	2	6′-4″		19	STR							
A659				6	6	7′-4″		66	STR							
A660				6	6	12′-9″		115	2	6′-1″	0′-11″	6′-1″				
A661				6	6	8′-11″		80	2	4′-0″	1′-3″	4′-0″				
A662				1	1	12′-10″		19	2	6′-0″	1′-2″	6′-0″				
A663				1	1	8′-8″		13	2	3′-10′	1′-6″	3′-10″				
A664				2	2	24′-6″		74	2	11′-10″	1′-2″	11′-10″				
A665				4	4	12′-8″		76	1	1′-0″	11′-10″					
A666				4	4	4′-0″		24	STR							
A667				10	10	7′-8″		115	2	3′-5″	1′-2″	3′-5″				
A668				1	1	10′-0″		15								
A801			2		2	13′-7″		73	STR							
A802			2		2	14′-7″		78	STR							
A803			1		1	15′-3″		41	STR							
A804			2		2	16′-3″		87	STR							
A805			1 SER OF 4		1 SER OF 4	9′-9″ TO 13′-9″		125	STR							1′-4″
A806			1		1	2′-6″		7	19	1′-4″	0′-7½″	1′-21/8″				
A807				4	4	17′-8″		189	STR							
A808				1	1	17′-2″		46	STR							
A809				2	2	16′-5″		88	STR							
A810				1	1	11′-8″		31	STR							
A811				3	3	7′-3″		58	STR							
A812				1	1	4′-7″		12	20	1′-1⅜″	0′-8¾″	2′-4″	0′-8¾″	1′-1⅜″		
A813				1	1	2′-11″		8	10	1′-2⅝″	0′-6½″	0′-8″	1′-4″			
D801	51	35	29	29	144	4′-8″	1072	723	18	2′-10″	1′-5″	1′-5″				
SUB-TOTAL (THIS SHEET)							1,072	2,253								
SUB-TOTAL (FROM SHEET 98/106)							2,300	2,270								
SUB-TOTAL (FROM SHEET 99/106)							4,110	2,740								
SUB-TOTAL (FROM SHEET 100/106)							1,046	3,280								
GRAND TOTAL							8,528	10,543								

NOTES

BENDING DIAGRAMS: SEE SHEET 98/106.

ADDITIONAL NOTES: SEE SHEET 98/106.

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

REVIEWED DAP DATE 10/5/12
STRUCTURE FILE NUMBER L7708815/R7708890
DRAWN KH REVISED
DESIGNED ALP CHECKED BLN

REINFORCING STEEL LIST - 4
BRIDGE NO. SUM-271-0354 L&R
IR 271 OVER IR 77

SUM-271-2.33
PID No. 18710

101/106

1059
1195

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MARK	NUMBER							LENGTH	SOUTHBOUND WEIGHT	NORTHBOUND WEIGHT	TYPE	DIMENSIONS						
	SOUTHBOUND			NORTHBOUND			TOTAL					A	B	C	D	E	R	INC
	PIER 1	PIER 2	PIER 3	PIER 1	PIER 2	PIER 3												
PIERS																CALCULATED / CHECKED	JLS / TWH	DATE 5/12 / DATE 9/12
SP401				1			1	436'-3"		291	27	4½	2'-6"	20'-0"				
SP402					1		1	346'-10"		232	27	4½	2'-6"	15'-8"				
SP403						1	1	308'-1"		206	27	4½	2'-6"	13'-10"				
P501	80						80	7'-8"	640		2	3'-1"	1'-9"	3'-1"				
P502	10						10	26'-0"	271		STR							
P503	10						10	38'-10"	405		STR							
P504	14	14	14	15	15	15	87	11'-2"	469	503	24	2'-8"	3'-6"				1'-4"	
P505	14	14					28	9'-5"	275		2	3'-6"	2'-8"	3'-6"				
P506	1	2	1				4	4'-7"	19		2	0'-10"	3'-2"	0'-10"				
P507	184						184	7'-4"	1407		2	2'-11"	1'-9"	2'-11"				
P508	1						1	4'-8"	5		2	0'-10"	3'-3"	0'-10"				
P509		68	64				132	7'-6"	1033		2	3'-0"	1'-9"	3'-0"				
P510		28					28	7'-10"	229		2	3'-2"	1'-9"	3'-2"				
P511		28	144				172	8'-2"	1465		2	3'-4"	1'-9"	3'-4"				
P512		88					88	7'-2"	658		2	2'-10"	1'-9"	2'-10"				
P513		10					10	17'-7"	183		STR							
P514		10					10	13'-7"	142		STR							
P515		10					10	22'-11"	239		STR							
P516		10	20	12	12	12	66	7'-4"	229 *	275 *	34	3'-8"	3'-8"					
P517	2		2				4	14'-5"	60		28	2'-8"	5'-10"	2.09				
P518	4					4	8	12'-4"	51	51	2	2'-4"	7'-11"	2'-4"				
P519				7		7	14	7'-4"		107	2	2'-4"	2'-11"	2'-4"				
P520			20	12	12	12	56	16'-5"	342	616	STR							
P521			10				10	16'-3"	169		STR							
P522			4				4	12'-7"	52		2	2'-4"	8'-2"	2'-4"				
P523			1				1	5'-7"	6		2	0'-10"	4'-2"	0'-10"				
P524				32	68		100	9'-4"		973	2	3'-11"	1'-9"	3'-11"				
P525				68			68	9'-0"		638	2	3'-9"	1'-9"	3'-9"				
P526				52			52	8'-4"		452	2	3'-5"	1'-9"	3'-5"				
P527					32	68	100	9'-8"		1008	2	4'-1"	1'-9"	4'-1"				
P528					52		52	8'-8"		470	2	3'-7"	1'-9"	3'-7"				
P529						32	32	10'-0"		334	2	4'-3"	1'-9"	4'-3"				
P530						52	52	8'-10"		479	2	3'-8"	1'-9"	3'-8"				
P531				10	10	10	30	25'-2"		787	STR							
P532				2	2	2	6	12'-9"		80	STR							
P533						2	2	14'-4"		30	28	2'-8"	5'-10"	2.28				
P534				2	2	2	6	17'-9"		111	STR							
P535				1	1	1	3	6'-7"		21	2	0'-10"	5'-2"	0'-10"				
P536				1	1	1	3	5'-5"		17	2	0'-10"	4'-0"	0'-10"				
P537				11	11	11	33	12'-0"		413	1	2'-4"	9'-9"					
P538				9	9	9	27	13'-1"		368	2	2'-4"	8'-8"	2'-4"				
P539				2			2	14'-3"		30	28	2'-8"	5'-10"	1.92				
P540				4			4	12'-2"		51	2	2'-4"	7'-9"	2'-4"				
P541				2	2	2	6	9'-9"		61	STR							
P601	16		10				26	7'-3"	283		2	2'-4"	2'-11"	2'-4"				
P701				9	9	9	27	13'-0"		717	2	2'-4"	8'-8"	2'-4"				
P801		6	14	6	6	6	38	14'-10"	792 *	713 *	34	7'-5"	7'-5"					
P802		2					2	14'-9"	79		1	1'-4"	13'-7"					
P803		2					2	15'-10"	85		1	1'-4"	14'-8"					
P804		2					2	16'-1"	86		1	1'-4"	14'-11"					
P805		6					6	24'-1"	386		1	1'-4"	22'-11"					
P806		2					2	19'-10"	106		2	1'-4"	17'-7'	1'-4"				
P807		2					2	20'-11"	112		2	1'-4"	18'-8"	1'-4"				
P808		1					1	21'-2"	57		2	1'-4"	18'-11"	1'-4"				
P809			4	2	2	2	10	17'-7"	188	282	1	1'-4"	16'-5"					
P810			4				4	18'-7"	198		1	1'-4"	17'-5"					
P811			4				4	18'-10"	201		1	1'-4"	17'-8"					
P812			2	2	2	2	8	18'-11"	101	303	1	1'-4"	17'-9"					
P813			7				7	16'-3"	304		STR							
SUB-TOTAL (THIS SHEET)									11,327	10,619								

* WEIGHT DOES NOT INCLUDE WEIGHT OF MECHANICAL CONNECTOR.

NOTES

BENDING DIAGRAMS: SEE SHEET 98/106 .

PIER REINFORCING STEEL CONTINUED:
SEE SHEET 103/106 .

ADDITIONAL NOTES: SEE SHEET 98/106 .

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

DESIGNED ALP | DRAWN SCB | REVIEWED DAP | DATE 10/5/12
CHECKED BLN | REVISED | STRUCTURE FILE NUMBER L7708815/R7708890

REINFORCING STEEL LIST - 5
BRIDGE NO. SUM-271-0354 L&R
IR 271 OVER IR 77

SUM-271-2.33
PID No. 18710

102/106

1060
1195

RichHarding
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MARK	NUMBER						TOTAL	LENGTH	SOUTHBOUND WEIGHT	NORTHBOUND WEIGHT	TYPE	DIMENSIONS						
	SOUTHBOUND			NORTHBOUND								A	B	C	D	E	R	INC
	PIER 1	PIER 2	PIER 3	PIER 1	PIER 2	PIER 3												
PIERS (CONTINUED)																CALCULATED / CHECKED	JLS / TWH	DATE 5/12 / DATE 9/12
P814				2	2	2	6	18'-8"		299	1	1'-4"	17'-6"					
P815				2	2	2	6	26'-4"		422	1	1'-4"	25'-2"					
P816				2	2	2	6	27'-5"		439	1	1'-4"	26'-3"					
P817				2	2	2	6	27'-8"		443	1	1'-4"	26'-6"					
P818				6	6	6	18	7'-11"		380	STR							
P901	2						2	28'-7"	194		2	1'-7"	26'-0"	1'-7"				
P902	2						2	29'-10"	203		2	1'-7"	27'-3"	1'-7"				
P903		2					2	17'-7"	120		STR							
P904		2					2	18'-7"	126		STR							
P905		2					2	18'-10"	128		STR							
P906		1					1	18'-11"	64		STR							
P907				2	2	2	6	16'-5"		335	STR							
P908				2	2	2	6	17'-5"		355	STR							
P909				2	2	2	6	17'-8"		360	STR							
P910				1	1	1	3	17'-9"		181	STR							
P911				7	7	7	21	16'-6"		1178 *	34	8'-3"	8'-3"					
P912				2	2	2	6	25'-2"		513	STR							
P913				2	2	2	6	26'-2"		534	STR							
P914				2	2	2	6	26'-5"		539	STR							
P915				1	1	1	3	26'-6"		270	STR							
P916				11	11	11	33	13'-1"		1468	1	1'-7"	11'-9"					
P1001	2						2	38'-10"	334		STR							
P1002	2						2	39'-10"	343		STR							
P1003	2						2	40'-1"	345		STR							
P1004	1						1	40'-2"	173		STR							
P1005		7					7	20'-10"	628 *		34	10'-5"	10'-5"					
P1006		2					2	13'-7"	117		STR							
P1007		2					2	14'-7"	126		STR							
P1008		2					2	14'-10"	128		STR							
P1009		1					1	14'-11"	64		STR							
P1010		7					7	22'-11"	690		STR							
P1101	2						2	42'-2"	448		2	2'-0"	38'-10"	2'-0"				
P1102	2						2	43'-1"	458		2	2'-0"	39'-9"	2'-0"				
P1103	2						2	43'-4"	460		2	2'-0"	40'-0"	2'-0"				
P1104	2						2	43'-5"	461		2	2'-0"	40'-1"	2'-0"				
P1105	2						2	26'-0"	276		STR							
P1106	2						2	27'-0"	287		STR							
P1107	2						2	27'-3"	290		STR							
P1108	1						1	27'-4"	145		STR							
P1109			12				12	25'-6"	1626 *		34	12'-9"	12'-9"					
P1110			4				4	16'-5"	349		STR							
P1111			4				4	17'-6"	372		STR							
P1112			4				4	17'-8"	375		STR							
P1113			6				6	16'-3"	518		STR							
P1114				14	14	14	42	14'-2"		3161	1	2'-0"	12'-6"					
P1115				14			14	24'-8"		1835	1	2'-0"	23'-0"					
P1116					14		14	20'-4"		1512	1	2'-0"	18'-8"					
P1117						14	14	18'-6"		1376	1	2'-0"	16'-10"					
SUB-TOTAL (THIS SHEET)									9,848	15,600								
SUB-TOTAL (FROM SHEET 102/106)									11,327	10,619								
GRAND TOTAL									21,175	26,219								

* WEIGHT DOES NOT INLCUDE WEIGHT OF MECHANICAL CONNECTOR.

NOTES

BENDING DIAGRAMS: SEE SHEET 98/106 .

ADDITIONAL NOTES: SEE SHEET 98/106 .

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

DESIGNED ALP | DRAWN SCB | REVIEWED DAP | DATE 10/5/12
CHECKED BLN | REVISED | STRUCTURE FILE NUMBER L7708815/R7708890

REINFORCING STEEL LIST - 6
BRIDGE NO. SUM-271-0354 L&R
IR 271 OVER IR 77

SUM-271-2.33
PID No. 18710

103/106

1061
1195

RichHarding
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MARK	NUMBER			LENGTH	SOUTH-BOUND WEIGHT	NORTH-BOUND WEIGHT	TYPE	DIMENSIONS					
	SOUTH-BOUND	NORTH-BOUND	TOTAL					A	B	C	D	E	INC
SUPERSTRUCTURE											CALCULATED CHECKED	JLS SCB,KH	DATE 5/12 DATE 10/12
S401		670	670	36′-6″		16,336	STR						
S402	756		756	40′-0″	20,200		STR						
S403	136		136	21′-7″	1961		STR						
S404	1		1	39′-2″	26		STR						
S405	1		1	15′-7″	10		STR						
S406	1		1	32′-0″	21		STR						
S407	1		1	24′-0″	16		STR						
S408	1		1	30′-6″	20		STR						
S409	1		1	6′-8″	4		STR						
S410	1		1	24′-7″	16		STR						
S411	1		1	7′-0″	5		STR						
S412	2		2	29′-1″	39		STR						
S413	1		1	14′-8″	10		STR						
S414	2 SR OF 5		2 SR OF 5	5′-4″ to 37′-0″	141		STR						7′-11″
S415	2 SR OF 5		2 SR OF 5	6′-7″ to 38′-3″	150		STR						7′-11″
S416	1 SR OF 5		1 SR OF 5	7′-11″ to 39′-7″	79		STR						7′-11″
S417	1 SR OF 4		1 SR OF 4	9′-3″ to 33′-0″	56		STR						7′-11″
S418	1 SR OF 4		1 SR OF 4	10′-7″ to 34′-4″	60		STR						7′-11″
S419	1 SR OF 5		1 SR OF 5	4′-0″ TO 35′-8″	66		STR						7′-11″
S420	2		2	29′-4″	39		STR						
S421	1		1	7′-11″	5		STR						
S422	1		1	15′-9″	11		STR						
S423	1		1	23′-7″	16		STR						
S424	85		85	7′-1″	402		35	0′-8″	5′-0″	0′-7¾″	0′-8″		
S425	70		70	6′-11″	323		35	0′-8″	5′-0″	0′-6″	0′-8″		
S426	32		32	7′-1″	151		35	0′-8″	5′-2″	0′-6″	0′-8″		
S427	29		29	7′-3″	140		35	0′-8″	5′-2″	0′-7¾″	0′-8″		
S428	18		18	6′-11″	83		35	0′-8″	4′-10″	0′-7¾″	0′-8″		
S429	383		383	4′-3″	1087		36	0′-8″	0′-8″	1′-5″	0′-6″	0′-8″	
S430	150		150	3′-9″	376		36	0′-8″	0′-6″	1′-5″	0′-4″	0′-8″	
S431	414		414	2′-6″	691		35	0′-8″	0′-7″	0′-6″	0′-8″		
S432	330		330	2′-8″	588		35	0′-8″	0′-7″	0′-8″	0′-8″		
S433	113		113	2′-3″	170		35	0′-8″	0′-7″	0′-4″	0′-8″		
S434	29		29	2′-10″	55		35	0′-8″	0′-7″	0′-9″	0′-8″		
S435	29		29	2′-4″	45		35	0′-8″	0′-7″	0′-5″	0′-8″		
S436	29		29	2′-7″	50		35	0′-8″	0′-7″	0′-7″	0′-8″		
S437	10		10	4′-4″	29		36	0′-8″	0′-8½″	1′-5″	0′-6½″	0′-8″	
S438	61		61	4′-0″	163		36	0′-8″	0′-7″	1′-5″	0′-5″	0′-8″	
S439	137		137	4′-7″	419		36	0′-8″	0′-9″	1′-5″	0′-8″	0′-8″	
S440	25		25	4′-10″	81		36	0′-8″	0′-10″	1′-5″	0′-9″	0′-8″	
S441	21		21	7′-4″	103		35	0′-8″	5′-1″	0′-9″	0′-8″		
SUB-TOTAL					27,907	16,336							

MARK	NUMBER			LENGTH	SOUTH-BOUND WEIGHT	NORTH-BOUND WEIGHT	TYPE	DIMENSIONS				
	SOUTH-BOUND	NORTH-BOUND	TOTAL					A	B	C	D	INC.
SUPERSTRUCTURE (CONTINUED)										CALCULATED CHECKED	JLS SCB,KH	DATE 5/12 DATE 10/12
S442	192		192	7′-2″	919		35	0′-8″	5′-1″	0′-7¾″	0′-8″	
S443	13		13	7′-0″	61		35	0′-8″	5′-1″	0′-6″	0′-8″	
S444	14		14	5′-0″	47		STR					
S501	1218	1882	3100	5′-10″	7410 *	11,450 *	34	2′-11″	2′-11″			
S502		770	770	37′-2″		29,849	STR					
S503		1856	1856	17′-4″		33,554	STR					
S504	2	1828	1830	24′-9″	52	47,188	STR					
S505	680	694	1374	7′-5″	5260	5369	23	1′-1″	3′-2″	3′-0″	5.25	R = 2¾″
S506		2 SR OF 22	2 SR OF 22	2′-0″ TO 16′-3″		419	STR					0′-8⅛″-
S507		2 SR OF 34	2 SR OF 34	2′-0″ TO 24′-4″		934	STR					0′-8⅛″-
S508		2 SR OF 18	2 SR OF 18	2′-0″ TO 16′-6″		347	STR					0′-10¼″-
S509		2 SR OF 27	2 SR OF 27	2′-0″ TO 24′-2″		737	STR					0′-10¼″-
S510	1335		1335	40′-0″	55,696		STR					
S511	22		22	8′-9″	201		STR					
S512	1		1	25′-11″	27		STR					
S513	2		2	13′-5″	28		STR					
S514	1		1	38′-1″	40		STR					
S515	141		141	25′-2″	3701		STR					
S516	1		1	13′-0″	14		STR					
S517	3		3	11′-4″	35		STR					
S518	2		2	25′-8″	54		STR					
S519	1		1	22′-0″	23		STR					
S520	142		142	37′-10″	5603		STR					
S521	2		2	26′-4″	55		STR					
S522	1		1	39′-3″	41		STR					
S523	2		2	13′-10″	29		STR					
S524	1		1	38′-7″	40		STR					
S525	2		2	26′-2″	55		STR					
S526	1		1	13′-8″	14		STR					
S527	60		60	10′-0″	626		STR					
S528	3		3	36′-2″	113		STR					
S529	3		3	26′-8″	83		STR					
S530	3		3	14′-11″	47		STR					
S531	2		2	21′-7″	45		STR					
S532	1		1	28′-7″	30		STR					
S533	142		142	16′-9″	2481		STR					
S534	1		1	5′-0″	5		STR					
S535	2		2	30′-6″	64		STR					
SUB-TOTAL					82,899	129,847						
SUB-TOTAL THIS SHEET					110,806	146,183						

* WEIGHT DOES NOT INCLUDE THE WEIGHT OF THE MECHANICAL CONNECTOR.

NOTES

BENDING DIAGRAMS: SEE SHEET 98/106.

ADDITIONAL NOTES: SEE SHEET 98/106.

SUPERSTRUCTURE REINFORCING STEEL CONTINUED: SEE SHEET 105/106.

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

DATE 10/5/12
REVIEWED DAP
STRUCTURE FILE NUMBER L7708815/R7708890
DRAWN JLS
REVISED
DESIGNED ALP
CHECKED BLN

REINFORCING STEEL LIST - 7
BRIDGE NO. SUM-271-0354 L&R
IR 271 OVER IR 77

SUM-271-2.33
PID No. 18710

104/106

1062
1195

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MARK	NUMBER			LENGTH	SOUTH-BOUND WEIGHT	NORTH-BOUND WEIGHT	TYPE	DIMENSIONS					
	SOUTH-BOUND	NORTH-BOUND	TOTAL					A	B	C	D	E	INC
SUPERSTRUCTURE (CONTINUED)											CALCULATED CHECKED	JLS SCB,KH	DATE 5/12 DATE 10/12
S536	4		4	18′-9″	78		STR						
S537	2		2	6′-11″	14		STR						
S538	3		3	32′-5″	101		STR						
S539	1		1	20′-7″	21		STR						
S540	2		2	36′-5″	76		STR						
S541	1		1	24′-0″	25		STR						
S542	1		1	19′-5″	20		STR						
S543	2		2	36′-10″	77		STR						
S544	1		1	17′-10″	19		STR						
S545	1		1	36′-0″	38		STR						
S546	1		1	17′-0″	18		STR						
S547	18		18	35′-4″	663		STR						
S548	1		1	16′-2″	17		STR						
S549	1		1	9′-7″	10		STR						
S550	1		1	27′-10″	29		STR						
S551	1		1	23′-8″	25		STR						
S552	2		2	6′-6″	14		STR						
S553	142		142	29′-5″	4357		STR						
S554	1		1	31′-0″	32		STR						
S555	1		1	24′-11″	26		STR						
S556	1		1	32′-1″	33		STR						
S557	1		1	12′-10″	13		STR						
S558	1		1	10′-9″	11		STR						
S559	1		1	28′-4″	30		STR						
S560	2		2	30′-0″	63		STR						
S561	2		2	38′-9″	81		STR						
S562	2 SR OF 27		2 SR OF 27	0′-9″ TO 20′-3″	591		STR						0′-9″
S563	140		140	21′-0″	3066		STR						
S564	140		140	19′-2″	2799		STR						
S565	112		112	19′-4″	2258		STR						
S566	100		100	19′-6″	2034		STR						
S567	625		625	19′-8″	12,820		STR						
S568	190		190	19′-0″	3765		STR						
S569	450		450	18′-10″	8839		STR						
S570	176		176	21′-3″	3901		STR						
S571	176		176	22′-6″	4130		STR						
S572	2 SR OF 31		2 SR OF 31	1′-0″ TO 23′-11″	806		STR						0′-9⅛″+
S573	1866		1866	9′-10″	19,138		STR						
S574	2 SR OF 13		2 SR OF 13	0′-7″ TO 9′-9″	140		STR						0′-9⅛″+
S575	2 SR OF 12		2 SR OF 12	1′-2″ TO 9′-7″	135		STR						0′-9³⁄₁₆″
				SUB-TOTAL	70,313	0							

MARK	NUMBER			LENGTH	SOUTH-BOUND WEIGHT	NORTH-BOUND WEIGHT	TYPE	DIMENSIONS				
	SOUTH-BOUND	NORTH-BOUND	TOTAL					A	B	C	D	INC.
SUPERSTRUCTURE (CONTINUED)										CALCULATED CHECKED	JLS SCB,KH	DATE 5/12 DATE 10/12
S576	100		100	6′-2″	643		STR					
S577	140		140	23′-1″	3371		STR					
S578	2 SR OF 4		2 SR OF 4	3′-8″ TO 5′-11″	40		STR					0′-9″
S579	2 SR OF 51		2 SR OF 51	1′-2″ TO 39′-4″	2154		STR					0′-9⅛″–
S580	2 SR OF 20		2 SR OF 20	0′-11″ TO 16′-0″	353		STR					0′-9½″+
S581	2		2	17′-0″	35		STR					
S582	2		2	23′-6″	49		STR					
S583	4		4	10′-11″	46		STR					
S584	2		2	17′-11″	37		STR					
S585	291		291	32′-6″	9864		STR					
S586	395		395	39′-0″	16,067		STR					
S587	1		1	18′-6″	19		STR					
S588	1		1	13′-6″	14		STR					
S589	1		1	32′-3″	34		STR					
S590	1		1	16′-7″	17		STR					
S591	1		1	11′-9″	12		STR					
S592	141		141	35′-8″	5245		STR					
S593	1		1	14′-9″	15		STR					
S594	141		141	27′-3″	4007		STR					
S595	1		1	30′-3″	32		STR					
S596	2		2	25′-6″	53		STR					
S597		396	396	26′-10″		11,083	STR					
S598		132	132	28′-5″		3912	STR					
S599	592		592	7′-1″	4374 *		34	4′-2″	2′-11″			
S5100	296		296	7′-5″	2290 *		34	4′-6″	2′-11″			
S5101	1672		1672	7′-11″	13,806 *		34	2′-11″	5′-0″			
S5102	140		140	33′-7″	4904		STR					
S5103	140		140	31′-6″	4600		STR					
S601	680	694	1374	3′-5″	3490	3562	28	1′-7″	1′-1″	5.25		
S602	680	694	1374	2′-6″	2553	2606	1	1′-1″	1′-7″			
S603	17		17	40′-0″	1021		STR					
S604	1		1	39′-3″	59		STR					
S605	1		1	13′-2″	20		STR					
S606		20	20	37′-7″		1129	STR					
				SUB-TOTAL	79,224	22,292						
				SUB-TOTAL THIS SHEET	149,537	22,292						
				SUB-TOTAL FROM SHEET 104/106	110,806	146,183						
				GRAND TOTAL SUPERSTRUCTURE	260,343	168,475						

* WEIGHT DOES NOT INCLUDE THE WEIGHT OF THE MECHANICAL CONNECTOR.

NOTES

BENDING DIAGRAMS: SEE SHEET 98/106.

ADDITIONAL NOTES: SEE SHEET 98/106.

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

DESIGNED ALP | CHECKED BLN
DRAWN KH | REVISED
REVIEWED DAP | DATE 10/5/12
STRUCTURE FILE NUMBER L7708815/R7708890

REINFORCING STEEL LIST - 8
BRIDGE NO. SUM-271-0354 L&R
IR 271 OVER IR 77

SUM-271-2.33
PID No. 18710

105/106

1063
1195

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MARK	NUMBER			LENGTH	SOUTH-BOUND WEIGHT	NORTH-BOUND WEIGHT	TYPE	DIMENSIONS					
	SOUTH-BOUND	NORTH-BOUND	TOTAL					A	B	C	D	E	INC
APPROACH SLABS													
AS501	31		31	23'-6"	760		STR						
AS502	33		33	22'-3"	766		STR						
AS503	52	58	110	29'-6"	1600	1785	STR						
AS504	64		64	10'-10"	723		STR						
AS505	258	130	388	5'-10"	1570 *	791 *	STR	2'-11"	2'-11"				
AS506	68		68	26'-7"	1885		STR						
AS507	60	33	93	27'-0"	1690	929	STR						
AS508	1		1	9'-4"	10		STR						
AS509	1		1	18'-8"	19		STR						
AS510	1		1	25'-1"	26		STR						
AS511	4	4	8	14'-8"	61	61	STR						
AS512	33		33	25'-6"	878		STR						
AS513	32		32	24'-4"	812		STR						
AS514	65		65	11'-6"	780		STR						
AS515	32		32	18'-1"	604		STR						
AS516	33		33	16'-6"	568		STR						
AS517	35		35	29'-5"	1074		STR						
AS518	1		1	29'-3"	31		STR						
AS519		34	34	19'-7"		694	STR						
AS520		31	31	18'-5"		595	STR						
AS521		31	31	28'-6"		921	STR						
AS522		34	34	27'-4"		969	STR						
AS523		31	31	18'-11"		612	STR						
AS524		34	34	17'-10"		632	STR						
AS525		32	32	25'-11"		865	STR						
AS526	12	12	24	5'-6"	69	69	25	1'-8"	2'-5"	1'-4¼"	1½"	5"	
AS527	20	20	40	5'-6"	115	115	STR						
AS528	16	16	32	11'-0"	184	184	STR						
AS529	8	8	16	11'-8"	97	97	STR						
AS530	8	8	16	10'-2"	85	85	STR						
AS601	32	32	64	4'-7"	220	220	1	1'-0"	3'-9"				
AS602	8 SER OF 11	8 SER OF 11	16 SER OF 11	4'-7" TO 5'-5"	661	661	1	1'-0"	3'-9" TO 4'-7"				1"
AS603	16	16	32	5'-5"	130	130	1	1'-0"	4'-7"				
AS604	4	4	8	5'-9"	35	35	1	1'-4"	4'-7"				
AS1001	135	154	289	30'-11"	17960	20487	16	29'-6"					
AS1002	1 SER OF 6		1 SER OF 6	4'-1" TO 24'-6"	389		STR						4'-1"
AS1003	1		1	27'-11"	120		STR						
AS1004	8	8	16	14'-8"	505	505	STR						
AS1005	93		93	30'-10"	12339		16	29'-5"					
AS1006	1		1	30'-8"	132		16	29'-3"					
TOTAL					46,898 **	31,442 **							

CALCULATED JLS DATE 5/12
CHECKED TWH DATE 9/12

* WEIGHT DOES NOT INCLUDE WEIGHT OF MECHANICAL CONNECTOR.

** REINFORCING STEEL WEIGHT SHOWN FOR INFORMATION ONLY. REINFORCING STEEL INCLUDED WITH ITEM 526 - REINFORCED CONCRETE APPROACH SLABS (T=17"), AS PER PLAN FOR PAYMENT.

NOTES

BENDING DIAGRAMS: SEE SHEET 98/106.

ADDITIONAL NOTES: SEE SHEET 98/106.

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

DESIGNED ALP | DRAWN KH | REVIEWED DAP | DATE 10/5/12
CHECKED BLN | REVISED | STRUCTURE FILE NUMBER L7708815/R7708890

REINFORCING STEEL LIST - 9

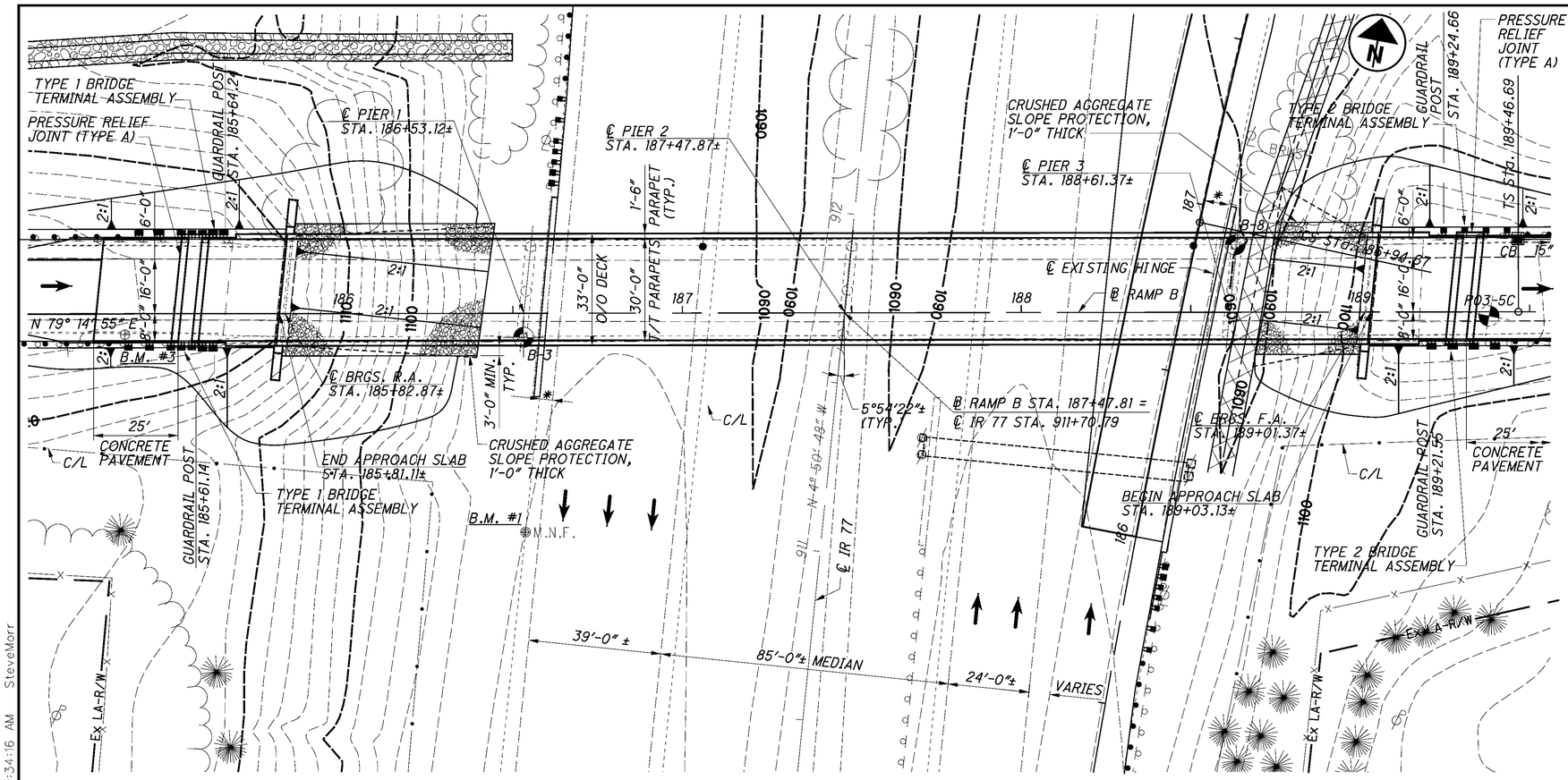
BRIDGE NO. SUM-271-0354 L&R
IR 271 OVER IR 77

SUM-271-2.33
PID No. 18710

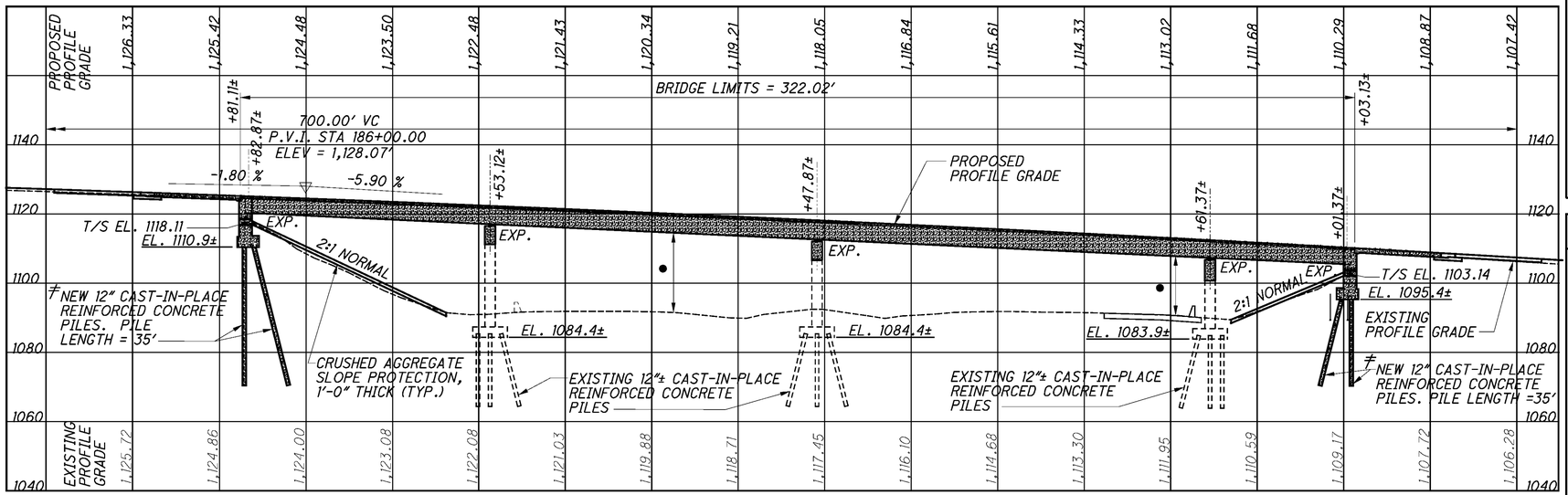
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PLAN



ELEVATION
(ALONG ℄ RAMP B)

≠ NEW ABUTMENT WITH NEW 12" CAST-IN-PLACE REINFORCED CONCRETE PILES FOR WIDENED PORTION AND NEW STRAIGHT WINGWALLS ONLY.

BENCHMARK DATA

BM #1 STA. 188+31.65, ELEV. 1091.85, OFFSET 104.33', RT
BM #60 STA.186+53.81, ELEV. 1091.80, OFFSET 64.65', RT

FOR ADDITIONAL BENCHMARK INFORMATION SEE ROADWAY PLAN SHEET 580 .

NOTES

EARTHWORK LIMITS SHOWN ARE APPROXIMATE. ACTUAL SLOPES SHALL CONFORM TO PLAN CROSS SECTIONS.

PROPOSED WORK NOTE: SEE SHEET 2/30.

ASBESTOS NOTE: SEE SHEET 2/30.

DESIGN TRAFFIC:
2015 ADT = 3370 2015 ADTT = 506
2035 ADT = 4500 2035 ADTT = 675
DIRECTIONAL DISTRIBUTION = 1.00

LEGEND

- 2005 SOIL BORING LOCATIONS
- ORIGINAL 1965 SOIL BORING LOCATIONS
- MINIMUM VERTICAL CLEARANCE

S.B. - SOUTHBOUND
N.B. - NORTHBOUND

MIN. VERT. CLEARANCES		
	● S.B.	● N.B.
EXISTING	22.43±	15.62±
PROPOSED	23.12'	17.02'
REQUIRED	16.50'	16.50'

* IR 77 MIN. HORIZ. CLEARANCES		
BARRIER OFFSET	* S.B.	* N.B.
EXISTING	3.91'±	7.69'±
PROPOSED	EXISTING	8.00'
REQUIRED	8'	8'

EXISTING STRUCTURE

TYPE: CONTINUOUS WELDED PLATE GIRDERS WITH HINGE, WITH REINFORCED CONCRETE DECK AND SUBSTRUCTURE.
SPANS: 69'-9"±, 94'-9"±, 113'-6"±, 39'-6"± C/C BEARINGS
ROADWAY: 26'-10¼"± T/T PARAPET
LOADING: C.F. 2000
SKEW: 5°54'22"± L.F.
APPROACH SLABS: 25' LONG (AS-1-54)
ALIGNMENT: TANGENT
WEARING SURFACE: 3"± ASPHALT CONCRETE OVERLAY
SUPERELEVATION: 0.016
STRUCTURE FILE NUMBER: 7708882
DATE BUILT: 1969, NEW DECK 1986
DISPOSITION: REMOVE SUPERSTRUCTURE, REUSE SUBSTRUCTURE

PROPOSED STRUCTURE

PROPOSED WORK: NEW CONTINUOUS WELDED STEEL GIRDER COMPOSITE WITH REINFORCED CONCRETE DECK ON REUSED SEMI-INTEGRAL MODIFIED ABUTMENTS AND REUSED PIERS.
SPANS: 70'-3"±; 94'-9"±; 113'-6"±; 40'-0"± C/C BEARINGS
ROADWAY: 30'-0" T/T PARAPET
LOADING: NEW SUPERSTRUCTURE - HS25 CASE II, THE ALTERNATE MILITARY AND 60 PSF FUTURE WEARING SURFACE. EXISTING SUBSTRUCTURE - HS20-44, THE ALTERNATE MILITARY AND 60 PSF FUTURE WEARING SURFACE.
SKEW: 5°54'22"± L.F.
APPROACH SLABS: 25'-0" LONG (AS-1-81)
ALIGNMENT: TANGENT
WEARING SURFACE: MONOLITHIC CONCRETE
SUPERELEVATION: 0.016
COORDINATES: LATITUDE 41°13'40" N
LONGITUDE 81°37'35" W

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

DESIGNED ALP | DRAWN KH | CHECKED KAK | REVIEWED DAP | DATE 10/5/12 | REVISED | STRUCTURE FILE NUMBER 7708882

SUMMIT COUNTY
STA. 185+81.11
STA. 189+03.13

SITE PLAN
BRIDGE NO. SUM-271-0354B
RAMP B OVER IR 77

SUM-271-2.33
PID No. 18710

1 / 30

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STANDARD DRAWINGS AND SUPPLEMENTAL SPECIFICATIONS

REFER TO THE FOLLOWING STANDARD BRIDGE DRAWINGS:

AS-1-81 REVISED 7-19-02, SHEETS 1 AND 2 OF 3
DM-1.1 REVISED 1-21-11
GSD-1-96 REVISED 7-19-02
SBR-1-99 REVISED 7-19-02
SICD-1-96 REVISED 7-19-02

AND TO THE FOLLOWING SUPPLEMENTAL SPECIFICATION(S):

NONE

DESIGN SPECIFICATIONS

THIS STRUCTURE CONFORMS TO "STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, 2002, INCLUDING THE INTERIM SPECIFICATIONS AND THE 2004 ODOT BRIDGE DESIGN MANUAL WITH UPDATES.

SPECIAL DESIGN SPECIFICATIONS: THIS BRIDGE REQUIRED THE USE OF A TWO-DIMENSIONAL MODEL USING THE GRILLAGE DESIGN METHOD TO ANALYZE THE STRUCTURE. THE COMPUTER PROGRAM USED FOR STRUCTURAL ANALYSIS WAS MDX. THE BRIDGE COMPONENTS DESIGNED BY THIS METHOD AND THE LIVE LOAD DISTRIBUTION FACTORS USED WERE:

COMPONENTS: GIRDERS AND CROSSFRAMES.
DEAD LOAD DISTRIBUTION: THE INITIAL DEAD LOAD (GIRDER SELF-WEIGHT), WEIGHT OF STIFFENERS AND CROSSFRAMES, AND WEIGHT OF CONCRETE DECK AND HAUNCHES) WAS DISTRIBUTED TO THE GIRDERS USING SIMPLE DISTRIBUTION. THE COMPOSITE DEAD LOAD (WEIGHT OF PARAPETS AND FUTURE WEARING SURFACE ALLOWANCE) WAS APPLIED EQUALLY TO EACH GIRDER.

LIVE LOAD DISTRIBUTION FACTORS: THE DESIGN PROGRAM DISTRIBUTED THE LIVE LOADS BASED ON BOTH LONGITUDINAL AND LATERAL STIFFNESSES. THE LIVE LOAD DISTRIBUTION VARIES ALONG THE LENGTH AND WIDTH OF THE STRUCTURE.

DESIGN LOADING

SUPERSTRUCTURE:
DESIGN LOADING: HS25, CASE II AND THE ALTERNATE MILITARY LOADING.

FUTURE WEARING SURFACE (FWS) OF 60 POUNDS PER SQUARE FOOT.

SUBSTRUCTURE:
DESIGN LOADING: HS20-44 AND THE ALTERNATE MILITARY LOADING.
FUTURE WEARING SURFACE (FWS) OF 60 POUNDS PER SQUARE FOOT.

DESIGN DATA

CONCRETE CLASS HP - COMPRESSIVE STRENGTH 4500 PSI (SUPERSTRUCTURE)

CONCRETE CLASS C - COMPRESSIVE STRENGTH 4000 PSI (SUBSTRUCTURE)

REINFORCING STEEL - ASTM A615 OR A996, GRADE 60, MINIMUM YIELD STRENGTH 60,000 PSI. SPIRAL REINFORCEMENT MAY BE PLAIN BARS, ASTM A82 OR A615.

STRUCTURAL STEEL - PROPOSED: ASTM A709 GRADE 50, MINIMUM YIELD STRENGTH 50,000 PSI.

DECK PROTECTION METHOD

EPOXY COATED REINFORCING STEEL AND 2½" CONCRETE COVER.

MONOLITHIC WEARING SURFACE

MONOLITHIC WEARING SURFACE IS ASSUMED, FOR DESIGN PURPOSES, TO BE 1 INCH THICK.

EXISTING STRUCTURE VERIFICATION

DETAILS AND DIMENSIONS SHOWN ON THESE PLANS PERTAINING TO THE EXISTING STRUCTURE HAVE BEEN OBTAINED FROM PLANS OF THE EXISTING STRUCTURE AND FROM FIELD OBSERVATIONS AND MEASUREMENTS. CONSEQUENTLY, THEY ARE INDICATIVE OF THE EXISTING STRUCTURE AND THE PROPOSED WORK BUT THEY SHALL BE CONSIDERED TENTATIVE AND APPROXIMATE. THE CONTRACTOR IS REFERRED TO CMS SECTIONS 102.05, 105.02 AND 513.04.

BASE CONTRACT BID PRICES UPON A RECOGNITION OF THE UNCERTAINTIES DESCRIBED ABOVE AND UPON A PREBID EXAMINATION OF THE EXISTING STRUCTURE. HOWEVER, THE DEPARTMENT WILL PAY FOR ALL PROJECT WORK BASED UPON ACTUAL DETAILS AND DIMENSIONS WHICH HAVE BEEN VERIFIED IN THE FIELD.

ESTIMATED QUANTITIES

THE CONTRACTOR SHALL NOT ORDER MATERIALS OR PERFORM WORK LISTED IN THE GENERAL SUMMARY FOR ITEMS DESIGNATED BY PLAN NOTE TO BE USED "BY THE ENGINEER" UNLESS AUTHORIZED BY THE ENGINEER. THE ACTUAL WORK LOCATIONS AND QUANTITIES USED AT THE ENGINEER'S DISCRETION SHALL BE MADE A MATTER OF RECORD BY INCORPORATION INTO THE FINAL CHANGE ORDER GOVERNING THE COMPLETION OF THIS PROJECT.

EXISTING STRUCTURE PLANS

EXISTING STRUCTURE PLANS MAY BE VIEWED BY PROSPECTIVE BIDDERS AT THE ODOT DISTRICT 4 OFFICE, AKRON, OHIO.

MAINTENANCE OF TRAFFIC:

SEE MAINTENANCE OF TRAFFIC PLANS FOR PHASES OF CONSTRUCTION AND DETAILS FOR MAINTAINING IR 271 AND IR 77 TRAFFIC DURING CONSTRUCTION. RAMP B WILL BE CLOSED DURING CONSTRUCTION.

PROPOSED WORK

1. THE WORK WILL BE PERFORMED FULL WIDTH. RAMP B WILL BE CLOSED TO TRAFFIC DURING CONSTRUCTION.
2. REMOVE EXISTING DECK, STEEL GIRDERS, CROSSFRAMES, AND BEARINGS.
3. REMOVE EXISTING ABUTMENT BACKWALL, WINGWALLS AND POROUS BACKFILL; MODIFY EXISTING SEATS AND CONSTRUCT NEW WIDENED SEMI-INTEGRAL ABUTMENTS WITH STRAIGHT WINGWALLS.
4. CUT OFF EXISTING 6" CMP DRAINS IN ABUTMENTS, AND CAP OR PLUG. ADD POROUS BACKFILL WITH FILTER FABRIC AND PIPE TO COLLECT AND DISCHARGE DRAINAGE BEHIND ABUTMENTS.
5. REMOVE EXISTING PIER CAPS. CONSTRUCT NEW PIER CAPS.
6. RAISE ABUTMENT AND PIER SEATS TO ACCOMMODATE RAISING THE BRIDGE TO MEET VERTICAL CLEARANCE REQUIREMENTS AND NEW BEARINGS HEIGHTS.
7. REPLACE EXISTING STEEL BEARINGS WITH NEW ELASTOMERIC BEARINGS.
8. PLACE NEW CONTINUOUS WELDED STEEL PLATE GIRDERS, NEW CROSSFRAMES, NEW WIDENED CONCRETE DECK, NEW COUNTERWEIGHT AT FORWARD ABUTMENT AND NEW SINGLE SLOPE CONCRETE PARAPETS. THE BEAMS SHALL BE COMPOSITE WITH THE REINFORCED CONCRETE DECK.
9. FIELD PAINT INTERMEDIATE AND FINISH COAT ON STEELWORK.
10. CONSTRUCT NEW FULL WIDTH APPROACH SLABS. PLACE NEW CONCRETE PARAPET AND CURBS ON NEW APPROACH SLABS.
11. CONSTRUCT 25' LONG SECTION OF CONCRETE PAVEMENT ADJACENT TO APPROACH SLABS. CONSTRUCT PRESSURE RELIEF JOINT (TYPE A) BETWEEN APPROACH SLAB AND CONCRETE PAVEMENT.
12. PATCH SPALLED AND DELAMINATED CONCRETE SURFACES ON PIERS AND ABUTMENT BREASTWALLS.
13. SEAL EXPOSED SUBSTRUCTURE, PARAPETS AND SEMI-INTEGRAL BLOCKS WITH EPOXY-URETHANE.
14. PERFORM CLEARING AND GRUBBING TO REMOVE ALL VEGETATION WITHIN 15 FEET OF THE STRUCTURE.
15. PLACE NEW CRUSHED AGGREGATE SLOPE PROTECTION ON THE ABUTMENT SLOPES.
16. ADD CATCH BASIN AT THE FORWARD END OF THE BRIDGE.
17. UPGRADE APPROACH GUARDRAIL TO CURRENT STANDARDS.

ASBESTOS NOTIFICATION:

AN ASBESTOS SURVEY WAS CONDUCTED ON THE RAMP B BRIDGE AND WAS COMPLETED IN NOVEMBER OF 2005 BY A CERTIFIED ASBESTOS HAZARD EVALUATION SPECIALIST FROM MICHAEL BAKER, JR., INC. THE SURVEY DID NOT IDENTIFY ANY ASBESTOS-CONTAINING MATERIAL (ACM) ON THE BRIDGE.

IF UNIDENTIFIED ACM IS ENCOUNTERED DURING THE DECK REPLACEMENT OF THE BRIDGE, REMOVAL AND DISPOSAL OF ACM MUST COMPLY WITH THE OHIO ADMINISTRATIVE CODE, THE OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA) REGULATIONS, AND THE NATIONAL EMISSION STANDARD FOR HAZARDOUS AIR POLLUTANTS (NESHAP) STANDARDS FOR ASBESTOS.

A COPY OF THE OHIO ENVIRONMENTAL PROTECTION AGENCY (OEPA) NOTIFICATION OF DEMOLITION AND RENOVATION FORM WITH SECTIONS I-VII AND XVI COMPLETED IS INCLUDED WITH THE BID PACKAGE. THE CONTRACTOR WILL COMPLETE SECTIONS VIII-XIII OF THE SIGNED FORM AND SUBMIT THE COMPLETED FORM TO THE LOCAL AIR AUTHORITY AT LEAST TEN (10) DAYS PRIOR TO DEMOLITION OF THE BRIDGE. THE CONTRACTOR WILL PROVIDE A COPY OF THE COMPLETED FORM TO THE ENGINEER. THE LOCAL AIR AUTHORITY IS:

AKRON REGIONAL AIR QUALITY MANAGEMENT DISTRICT
146 S. HIGH ST. SUITE 904
AKRON, OHIO 44308
LYNN M. MALCOLM, ADMINISTRATOR
(330) 375-2480
FAX (330) 375-2402

ITEM 202 - PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN

THIS ITEM SHALL INCLUDE THE ELEMENTS INDICATED IN THE PLANS AND GENERAL NOTES THAT ARE NOT SEPARATELY LISTED FOR PAYMENT, EXCEPT FOR ASPHALT WEARING COURSE REMOVAL. ITEMS TO BE REMOVED INCLUDE ALL EXISTING MATERIALS BEING REPLACED BY NEW CONSTRUCTION AND MISCELLANEOUS ITEMS THAT ARE NOT SHOWN TO BE INCORPORATED INTO THE FINAL CONSTRUCTION AND ARE DIRECTED TO BE REMOVED BY THE ENGINEER. THE USE OF EXPLOSIVES, HEADACHE BALLS AND/OR HOE-RAMS WILL NOT BE PERMITTED. THE METHOD OF REMOVAL AND THE WEIGHT OF HAMMER SHALL BE APPROVED BY THE ENGINEER. PERFORM ALL WORK IN A MANNER THAT WILL NOT CUT, ELONGATE OR DAMAGE THE EXISTING REINFORCING STEEL TO BE PRESERVED. CHIPPING HAMMERS SHALL NOT BE HEAVIER THAN THE NOMINAL 90-POUND CLASS. PNEUMATIC HAMMERS SHALL NOT BE PLACED IN DIRECT CONTACT WITH REINFORCING STEEL THAT IS TO BE RETAINED IN THE REBUILT STRUCTURE. SUBMIT CONSTRUCTION PLANS ACCORDING TO CMS 501.05.

CUT LINE CONSTRUCTION JOINT PREPARATION: SAW CUT BOUNDARIES OF PROPOSED CONCRETE REMOVALS 1 INCH DEEP. REMOVE CONCRETE TO A ROUGH SURFACE. LEAVE THE EXISTING REINFORCING STEEL, IF REQUIRED IN THE PLANS, IN PLACE. INSTALL DOWEL BARS IF SPECIFIED. PRIOR TO CONCRETE PLACEMENT ABRASIVELY CLEAN JOINT SURFACES AND EXISTING EXPOSED REINFORCEMENT TO REMOVE LOOSE AND DISINTEGRATED CONCRETE AND LOOSE RUST. THOROUGHLY CLEAN THE JOINT SURFACE AND EXPOSED REINFORCEMENT OF ALL DIRT, DUST, RUST OR OTHER FOREIGN MATERIAL BY THE USE OF WATER, AIR UNDER PRESSURE, OR OTHER METHODS THAT PRODUCE SATISFACTORY RESULTS. EXISTING REINFORCING STEEL DOES NOT HAVE TO HAVE A BRIGHT STEEL FINISH, BUT REMOVE ALL PACK AND LOOSE RUST. THOROUGHLY DRENCH EXISTING CONCRETE SURFACES WITH CLEAN WATER AND ALLOW TO DRY TO A DAMP CONDITION BEFORE PLACING CONCRETE.

SUBSTRUCTURE CONCRETE REMOVAL: REMOVE CONCRETE BY MEANS OF APPROVED PNEUMATIC HAMMERS EMPLOYING POINTED AND BLUNT CHISEL TOOLS. HYDRAULIC HOE-RAM TYPE HAMMERS WILL NOT BE PERMITTED. THE WEIGHT OF THE HAMMER SHALL NOT BE MORE THAN 35 POUNDS FOR REMOVAL WITHIN 18 INCHES OF PORTIONS TO BE PRESERVED. OUTSIDE THE 18 INCH LIMIT, THE CONTRACTOR MAY USE HAMMERS NOT EXCEEDING 90 POUNDS UPON THE APPROVAL OF THE ENGINEER. DO NOT PLACE PNEUMATIC HAMMERS IN DIRECT CONTACT WITH REINFORCING STEEL THAT IS TO BE RETAINED IN THE REBUILT STRUCTURE.

MEASUREMENT & PAYMENT: THE DEPARTMENT WILL MEASURE THE QUANTITY OF REMOVALS ON A LUMP SUM BASIS. THE DEPARTMENT WILL PAY FOR THE ACCEPTED QUANTITIES OF REMOVALS AT THE CONTRACT PRICE FOR ITEM 202 - PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN.

GENERAL NOTES CONTINUED: SEE SHEET 3/30.

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

DESIGNED ALP | DRAWN KH | REVIEWED DAP | DATE 10/5/12
CHECKED BLN | REVISED | STRUCTURE FILE NUMBER 7708882

GENERAL NOTES - 1
BRIDGE NO. SUM-271-0354B
RAMP B OVER IR 77

SUM-271-2.33
PID No. 18710

1066
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ITEM 202 - WEARING COURSE REMOVED, AS PER PLAN

THIS ITEM SHALL INCLUDE THE REMOVAL OF ASPHALT WEARING COURSE ON THE APPROACH SLABS AND BRIDGE DECKS. THE COST OF ALL LABOR, MATERIALS AND EQUIPMENT NECESSARY TO REMOVE THE ASPHALT WEARING COURSE SHALL BE INCLUDED WITH ITEM 202 - WEARING COURSE REMOVED, AS PER PLAN FOR PAYMENT.

PILE DESIGN LOADS (ULTIMATE BEARING VALUE)

THE ULTIMATE BEARING VALUE IS 80 TONS PER PILE FOR THE ABUTMENT PILES.

ABUTMENT PILES:
20 PILES 40 FEET LONG, ORDER LENGTH
1 DYNAMIC LOAD TESTING ITEM

ITEM 509 - REINFORCING STEEL, REPLACEMENT OF EXISTING REINFORCING STEEL, AS PER PLAN

REPLACE ALL EXISTING REINFORCING BARS DEEMED BY THE ENGINEER TO BE UNUSABLE BECAUSE OF CORROSION. THE DEPARTMENT WILL MEASURE THE REPLACEMENT REINFORCING STEEL BY THE NUMBER OF POUNDS ACCEPTED IN PLACE.

REPLACE ALL EXISTING REINFORCING STEEL BARS WHICH ARE TO BE INCORPORATED INTO THE NEW WORK AND ARE DEEMED BY THE ENGINEER TO BE MADE UNUSABLE BY CONCRETE REMOVAL OPERATIONS WITH NEW EPOXY COATED REINFORCING STEEL OF THE SAME SIZE AT NO COST TO THE DEPARTMENT.

ITEM 511-CLASS HP CONCRETE, BRIDGE DECK, AS PER PLAN

ITEM 511-CLASS HP CONCRETE, BRIDGE DECK (PARAPET), AS PER PLAN

THE PROVISIONS OF ITEM 511 SHALL APPLY EXCEPT AS NOTED BELOW.

MIX OPTIONS: ALL SUPERSTRUCTURE, BRIDGE DECK, APPROACH SLABS AND PARAPET CONCRETE SHALL BE THIS MIX (HP4, AS PER PLAN). THE FOLLOWING PROPORTIONS WILL BE USED AS A STARTING MIX DESIGN.

CONCRETE TABLE
QUANTITIES PER CUBIC YARD
AGGREGATES (SSD)
MIX 4, AS PER PLAN (GGBF SLAG + MICROSILICA)

	FINE AGG (LB)	#8 COARSE AGG (LB) *	#57 COARSE AGG (LB) *	TOTAL (LB)	CEMENT CONTENT (LB)	GGBF SLAG (LB)	MICRO SILICA (LB)	MAX WATER TO CEMENTITIOUS RATIO	AIR CONTENT +/- 2%
AGG TYPE									
GRAVEL	1370	650	790	2810	440	190	30	0.42	6
LIMESTONE	1370	655	800	2820	440	190	30	0.42	6
SLAG	1370	570	695	2635	440	190	30	0.42	6

* ALL COARSE AGGREGATE SHALL HAVE AN ABSORPTION OF 1.00% OR GREATER AS DEFINED PER ASTM C127

BASIS OF PAYMENT: PAYMENT FOR THE ABOVE COMPLETED AND ACCEPTED QUANTITIES WILL BE MADE PER CUBIC YARD AT THE CONTRACT BID PRICE FOR:

ITEM 511 - CLASS HP CONCRETE, BRIDGE DECK, AS PER PLAN

ITEM 511 - CLASS HP CONCRETE, BRIDGE DECK (PARAPET), AS PER PLAN

DECK PLACEMENT DESIGN ASSUMPTIONS:

THE FOLLOWING ASSUMPTIONS OF CONSTRUCTION MEANS AND METHODS WERE MADE FOR THE ANALYSIS AND DESIGN OF THE SUPERSTRUCTURE. THE CONTRACTOR IS RESPONSIBLE FOR THE DESIGN OF THE FALSEWORK SUPPORT SYSTEM WITHIN THESE PARAMETERS AND WILL ASSUME RESPONSIBILITY FOR SUPERSTRUCTURE ANALYSIS FOR DEVIATION FROM THESE DESIGN ASSUMPTIONS.

AN EIGHT WHEEL FINISHING MACHINE WITH A MAXIMUM WHEEL LOAD OF 0.95 KIPS FOR A TOTAL MACHINE LOAD OF 7.6 KIPS.

A MINIMUM OUT-TO-OUT WHEEL SPACING AT EACH END OF THE MACHINE OF 103".

A MAXIMUM SPACING OF OVERHANG FALSEWORK BRACKETS OF 48 IN.

A MAXIMUM DISTANCE FROM THE CENTERLINE OF THE FASCIA GIRDER TO THE FACE OF THE SAFETY HANDRAIL OF 65".

ITEM 514 - FIELD PAINTING STRUCTURAL STEEL, FINISH COAT, AS PER PLAN

THE COLOR OF THE FINISH COAT SHALL BE FEDERAL COLOR NUMBER 15256, LIGHT BLUE.

ITEM 518 - 6" NON-PERFORATED CORRUGATED PLASTIC PIPE, INCLUDING SPECIALS, AS PER PLAN

ANIMAL GUARDS SHALL BE PROVIDED AT THE OUTLET OF THE DRAINAGE PIPES. THE STEEL BOLTS OR RODS FOR THE ANIMAL GUARDS SHALL BE GALVANIZED PER CMS 711.02. SEE STANDARD DRAWING DM-1.1 FOR ADDITIONAL DETAILS AND NOTES. THE ANIMAL GUARDS AND ROCK CHANNEL PROTECTION, TYPE C ARE INCIDENTAL TO ITEM 518, 6" NON-PERFORATED CORRUGATED PLASTIC PIPE, INCLUDING SPECIALS, AS PER PLAN.

ITEM 519 - PATCHING CONCRETE STRUCTURE, AS PER PLAN

PRIOR TO THE SURFACE CLEANING SPECIFIED IN 519.04 AND WITHIN 24 HOURS OF PLACING PATCHING MATERIAL, BLAST CLEAN ALL PIER SURFACES TO BE PATCHED INCLUDING ALL EXPOSED REINFORCING STEEL. ACCEPTABLE METHODS INCLUDE HIGH-PRESSURE WATER BLASTING WITH OR WITHOUT ABRASIVES IN THE WATER, ABRASIVE BLASTING WITH CONTAINMENT, OR VACUUM ABRASIVE BLASTING.

THE ESTIMATED QUANTITY OF PATCHING REQUIRED IS BASED ON FIELD MEASUREMENTS OF ABOVE GROUND DETERIORATION AND A CONTINGENCY QUANTITY OF 25 SQUARE FEET. THE CONTRACTOR SHALL EXCAVATE REPAIR AREAS THAT EXTEND TO THE EXISTING GROUND LINE. THE ENGINEER SHALL DETERMINE THE EXTENT OF BELOW GROUND REPAIR BASED ON THE CONTRACTOR'S EXCAVATION.

THE CONTRACTOR SHOULD INCLUDE THIS EXCAVATION, PERFORMED IN ACCORDANCE WITH ITEM 503, IN THE UNIT PRICE BID FOR ITEM 519 - PATCHING OF CONCRETE STRUCTURE, AS PER PLAN.

ITEM 526, REINFORCED CONCRETE APPROACH SLAB (T=15"), AS PER PLAN

THE PROVISIONS OF CMS 526 SHALL APPLY EXCEPT AS NOTED BELOW.

CLASS HP CONCRETE, MIX 4, AS PER PLAN, SHALL BE THE ONLY MIX DESIGN OPTION. THE PROPORTIONS FOR THE STARTING MIX DESIGN SHALL BE AS SHOWN FOR ITEM 511 - CLASS HP CONCRETE, BRIDGE DECK, AS PER PLAN.

THE PARAPETS WILL BE CARRIED ONTO THE APPROACH SLABS AND TRANSITIONED ON THE APPROACH SLABS AS DETAILED IN THE PLANS. QUANTITIES FOR THE SEALING OF CONCRETE SURFACES ARE INCLUDED WITH ITEM 512 - SEALING OF CONCRETE SURFACES (EPOXY-URETHANE) FOR PAYMENT. QUANTITIES OF CONCRETE AND REINFORCING STEEL FOR THE PARAPETS AND APPROACH SLABS ARE INCLUDED WITH THIS ITEM FOR PAYMENT.

ITEM SPECIAL - STRUCTURE, MISC.: CUT AND CAP 6" CMP DRAIN

THE EXISTING 6" CMP DRAINS AT THE ABUTMENTS SHALL BE CUT OFF AT THE ABUTMENTS AS SHOWN ON THE ABUTMENT REMOVAL DETAILS. THE DRAIN PIPES SHALL BE FILLED WITH GROUT, CAPPED OR ANY OTHER MEANS APPROVED BY THE ENGINEER TO PLUG THE PIPES.

ALL LABOR, EQUIPMENT, MATERIALS AND INCIDENTALS NECESSARY TO COMPLETE THIS WORK SHALL BE INCLUDED WITH ITEM SPECIAL - STRUCTURE, MISC.: CUT AND CAP 6" CMP DRAIN FOR PAYMENT. PAYMENT SHALL BE PER EACH.

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

DESIGNED ALP | DRAWN KH | REVIEWED DAP | DATE 10/5/12
CHECKED BLN | REVISED | STRUCTURE FILE NUMBER 7708882

GENERAL NOTES - 2
BRIDGE NO. SUM-271-0354B
RAMP B OVER IR 77

SUM-271-2.33
PID No. 18710

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ESTIMATED QUANTITIES (FUNDING PARTICIPATION; 04/BRO/BR)

CALCULATED GJR DATED 5/12
CHECKED KAK DATED 10/12

ITEM	ITEM EXT.	TOTAL	UNIT	DESCRIPTION	SUPER	ABUTS.	PIERS	GEN'L	SEE SHEET
202	11203	LUMP		PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN				LUMP	2 / 30
202	22900	89	SQ YD	APPROACH SLAB REMOVED				89	
202	23501	1040	SQ YD	WEARING COURSE REMOVED, AS PER PLAN				1040	3 / 30
503	11100	LUMP		COFFERDAMS AND EXCAVATION BRACING				LUMP	
503	21100	187	CU YD	UNCLASSIFIED EXCAVATION		187			
505	11100	LUMP		PILE DRIVING EQUIPMENT MOBILIZATION				LUMP	
507	00500	700	FT	12" CAST-IN-PLACE REINFORCED CONCRETE PILES, DRIVEN		700			
507	00550	800	FT	12" CAST-IN-PLACE REINFORCED CONCRETE PILES, FURNISHED		800			
509	10000	125,391	POUND	EPOXY COATED REINFORCING STEEL	111,988	7,521	5,882		
509	20001	200	POUND	REINFORCING STEEL, REPLACEMENT OF EXISTING REINFORCING STEEL, AS PER PLAN				200	3 / 30
510	10000	144	EACH	DOWEL HOLES WITH NONSHRINK, NONMETALLIC GROUT		144			
511	41000	57	CU YD	CLASS C CONCRETE, PIER ABOVE FOOTINGS			57		
511	44100	65	CU YD	CLASS C CONCRETE, ABUTMENT NOT INCLUDING FOOTING		65			
511	46500	39	CU YD	CLASS C CONCRETE, FOOTING		39			
511	50001	386	CU YD	CLASS HP CONCRETE, BRIDGE DECK, AS PER PLAN	386				3 / 30
511	50101	102	CU YD	CLASS HP CONCRETE, BRIDGE DECK (PARAPET), AS PER PLAN	102				3 / 30
511	52000	LUMP		CLASS HP CONCRETE, TEST SLAB				LUMP	
512	10100	1,073	SQ YD	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)	747	50	276		
512	33000	5	SQ YD	TYPE 2 WATERPROOFING		5			
512	74000	138	SQ YD	REMOVAL OF EXISTING COATINGS FROM CONCRETE SURFACES (SEE PROPOSAL NOTE)			138		
513	10280	279,176	POUND	STRUCTURAL STEEL MEMBERS, LEVEL 4	279,176				
513	20000	4,562	EACH	WELDED STUD SHEAR CONNECTORS	4,562				
514	00060	17,566	SQ FT	FIELD PAINTING STRUCTURAL STEEL, INTERMEDIATE COAT	17,566				
514	00067	17,566	SQ FT	FIELD PAINTING STRUCTURAL STEEL, FINISH COAT, AS PER PLAN	17,566				3 / 30
514	10000	9	EACH	FINAL INSPECTION REPAIR	9				
516	13900	65	SQ FT	2" PREFORMED EXPANSION JOINT FILLER	65				
516	14020	82	FT	SEMI-INTEGRAL ABUTMENT EXPANSION JOINT SEAL		82			
516	44201	4	EACH	ELASTOMERIC BEARING (3.68"x11¼"x15") WITH INTERNAL LAMINATES AND LOAD PLATE (1.5"x12¾"x16") (NEOPRENE), AS PER PLAN	4				20 / 30
516	44201	4	EACH	ELASTOMERIC BEARING (3.68"x10½"x15") WITH INTERNAL LAMINATES AND LOAD PLATE (1.5"x13"x16") (NEOPRENE), AS PER PLAN	4				20 / 30
516	44201	4	EACH	ELASTOMERIC BEARING (3.286"x11¼"x16½") WITH INTERNAL LAMINATES AND LOAD PLATE (2.5625"x12¼"x17½") (NEOPRENE), AS PER PLAN	4				21 / 30
516	44201	4	EACH	ELASTOMERIC BEARING (3.286"x11¼"x16½") WITH INTERNAL LAMINATES AND LOAD PLATE (2.75"x12¼"x17½") (NEOPRENE), AS PER PLAN	4				21 / 30
516	44201	4	EACH	ELASTOMERIC BEARING (3.286"x12½"x16¾") WITH INTERNAL LAMINATES AND LOAD PLATE (2.6875"x13½"x17¾") (NEOPRENE), AS PER PLAN	4				21 / 30
518	21200	98	CU YD	POROUS BACKFILL WITH FILTER FABRIC		98			
518	40000	121	FT	6" PERFORATED CORRUGATED PLASTIC PIPE		121			
518	40011	76	FT	6" NON-PERFORATED CORRUGATED PLASTIC PIPE, INCLUDING SPECIALS, AS PER PLAN		76			3 / 30
519	11101	74	SQ FT	PATCHING CONCRETE STRUCTURE, AS PER PLAN			74		3 / 30
523	20000	1	EACH	DYNAMIC LOAD TESTING		1			
526	25001	179	SQ YD	REINFORCED CONCRETE APPROACH SLABS (T=15"), AS PER PLAN				179	3/30 & 30/30
SPECIAL	53000400	12	EACH	STRUCTURE, MISC.: CUT AND CAP 6" CMP DRAIN		12			3 / 30

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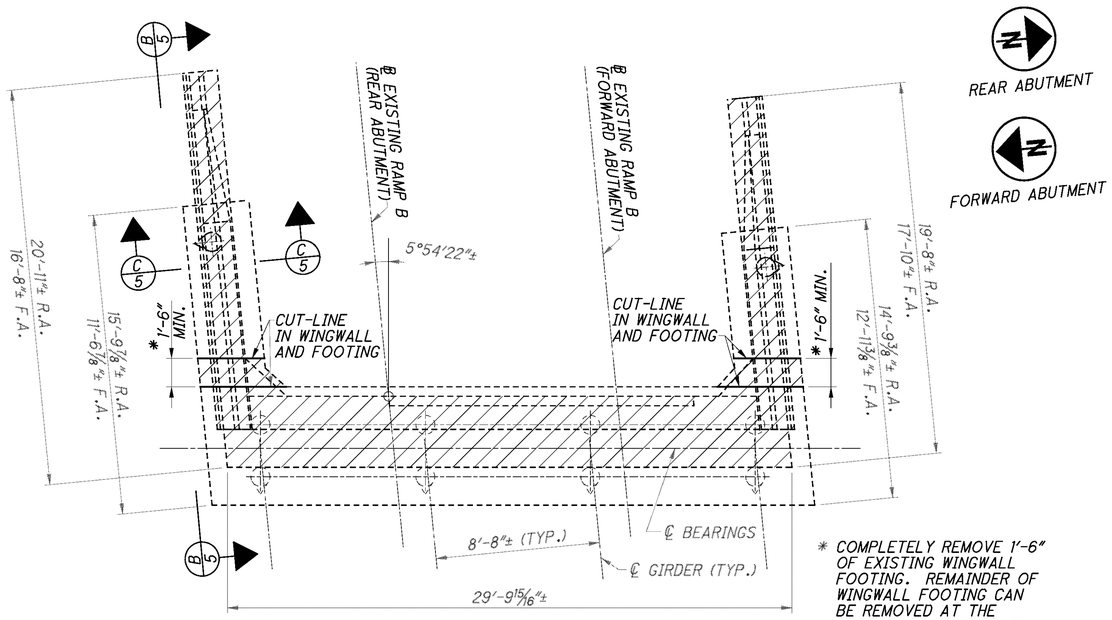
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ESTIMATED QUANTITIES
BRIDGE NO. SUM-271-0354B
RAMP B OVER IR 77

SUM-271-2.33
PID No. 18710

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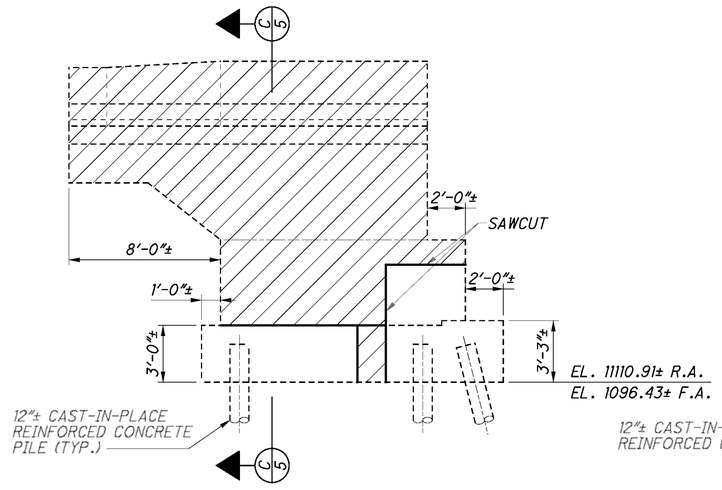


PLAN

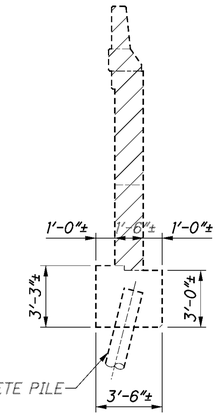
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FORWARD ABUTMENT

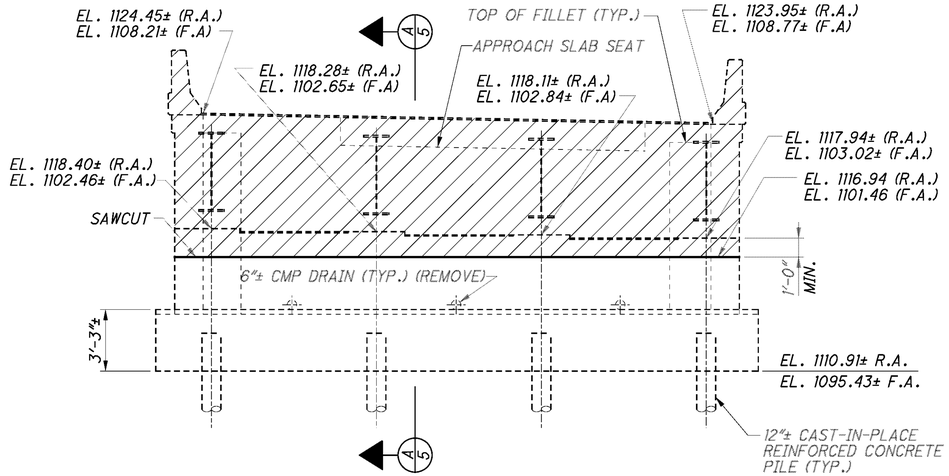
* COMPLETELY REMOVE 1'-6" OF EXISTING WINGWALL FOOTING. REMAINDER OF WINGWALL FOOTING CAN BE REMOVED AT THE CONTRACTOR'S EXPENSE.



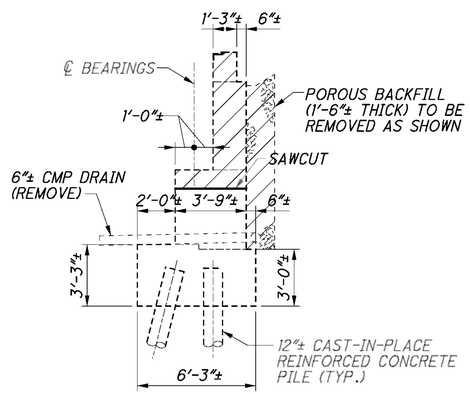
VIEW B-B



SECTION C-C



ELEVATION



SECTION A-A

LEGEND

INDICATES MATERIALS TO BE REMOVED WITH ITEM 202 - PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN, FOR PAYMENT.

NOTES

MATERIALS SHOWN ARE EXISTING UNLESS OTHERWISE NOTED.

ITEM SPECIAL - STRUCTURE, MISC.: CUT AND CAP 6" CMP DRAIN:
SEE GENERAL NOTE SHEET 3/30.

NOTATION: R.A. - REAR ABUTMENT
F.A. - FORWARD ABUTMENT

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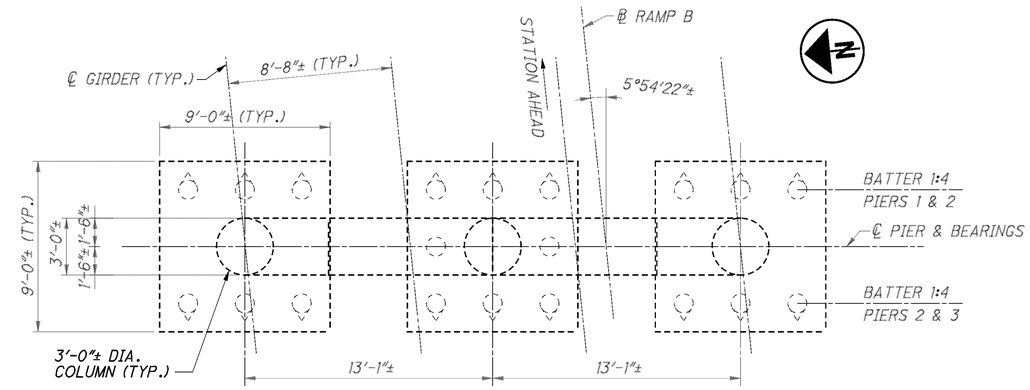
DESIGNED KAK | DRAWN KH | REVIEWED DAP | DATE 10/5/12
CHECKED BLN | REVISED | STRUCTURE FILE NUMBER 7708882

EXISTING ABUTMENT REMOVAL DETAILS

BRIDGE NO. SUM-271-0354B
RAMP B OVER IR 77

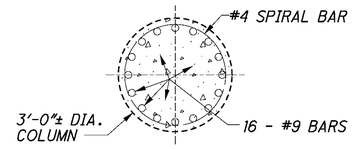
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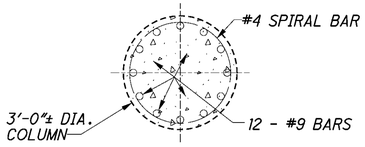


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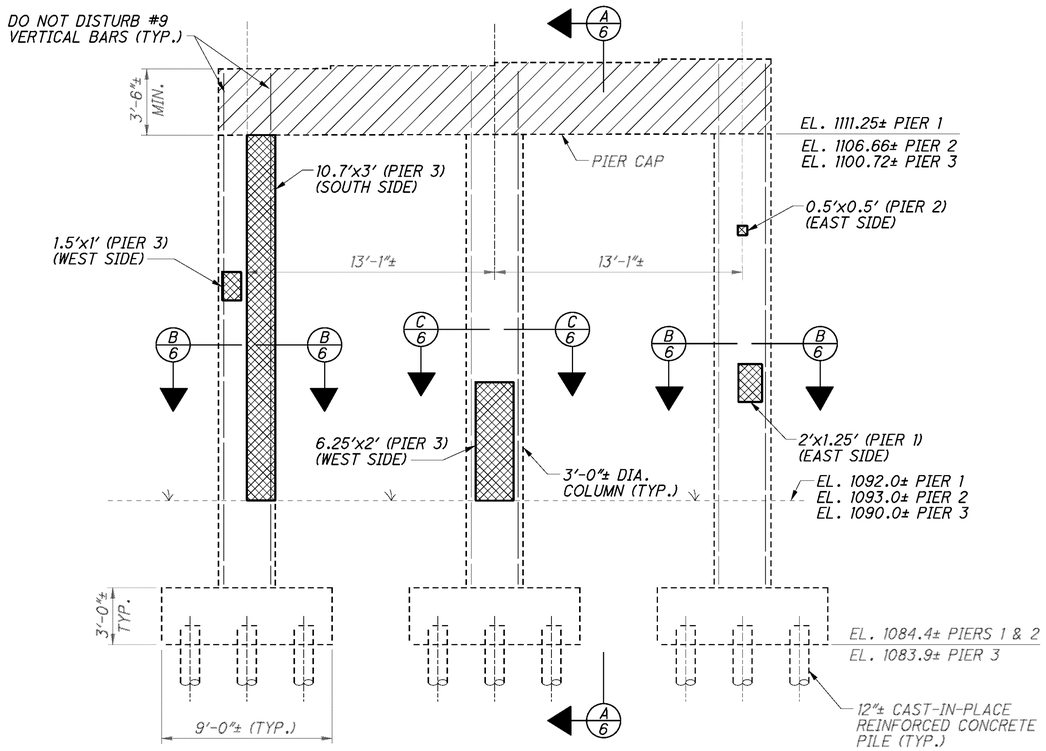
(PIER 1 AS SHOWN)



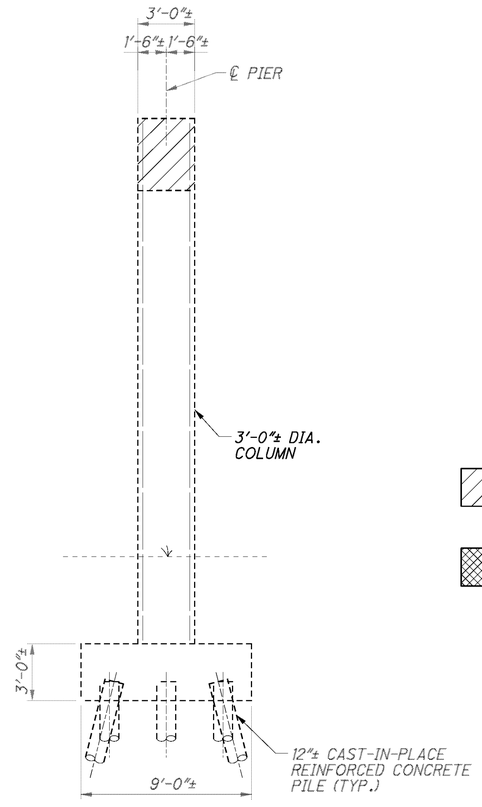
SECTION B-B



SECTION C-C



ELEVATION



SECTION A-A

LEGEND

INDICATES MATERIALS TO BE REMOVED AND INCLUDED WITH ITEM 202 - PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN, FOR PAYMENT.

INDICATES PORTIONS OF PIERS TO BE PATCHED AND INCLUDED WITH ITEM 519 - PATCHING CONCRETE STRUCTURE, AS PER PLAN FOR PAYMENT. THE SOUNDING OF THE CONCRETE WAS PERFORMED ON AUGUST 24, 2012.

NOTES

MATERIALS SHOWN ARE EXISTING UNLESS OTHERWISE NOTED.

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

DESIGNED	DRAWN	REVIEWED	DATE
KAK	KH	DAP	10/5/12
CHECKED	REVISED	STRUCTURE FILE NUMBER	
BLN		7708882	

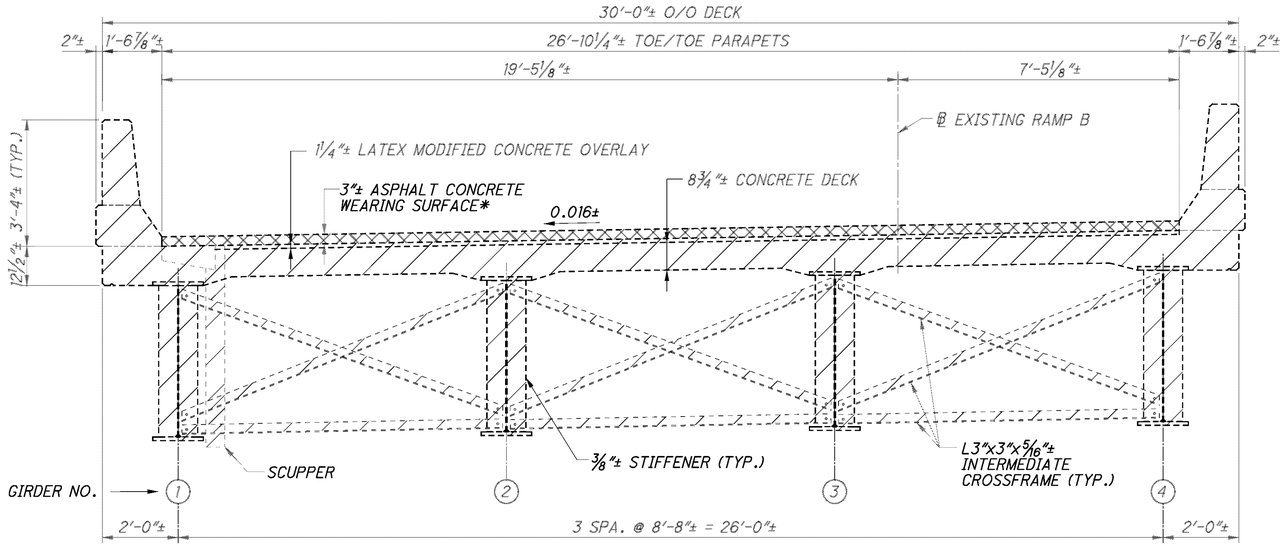
PIER REMOVAL
BRIDGE NO. SUM-271-0354B
RAMP B OVER IR 77

SUM-271-2.33
PID No. 18710

6 / 30

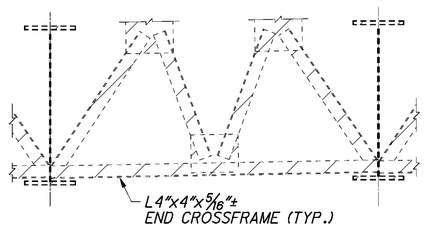
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TRANSVERSE SECTION

*ASPHALT CONCRETE REMOVAL INCLUDED WITH ITEM 202 - WEARING COURSE REMOVED, AS PER PLAN



END CROSSFRAME

LEGEND

INDICATES MATERIALS TO BE REMOVED INCLUDED WITH ITEM 202 - PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN, FOR PAYMENT.

INDICATES MATERIALS TO BE REMOVED INCLUDED WITH ITEM 202 - WEARING COURSE REMOVED, AS PER PLAN

NOTES

MATERIALS SHOWN ARE EXISTING UNLESS OTHERWISE NOTED.

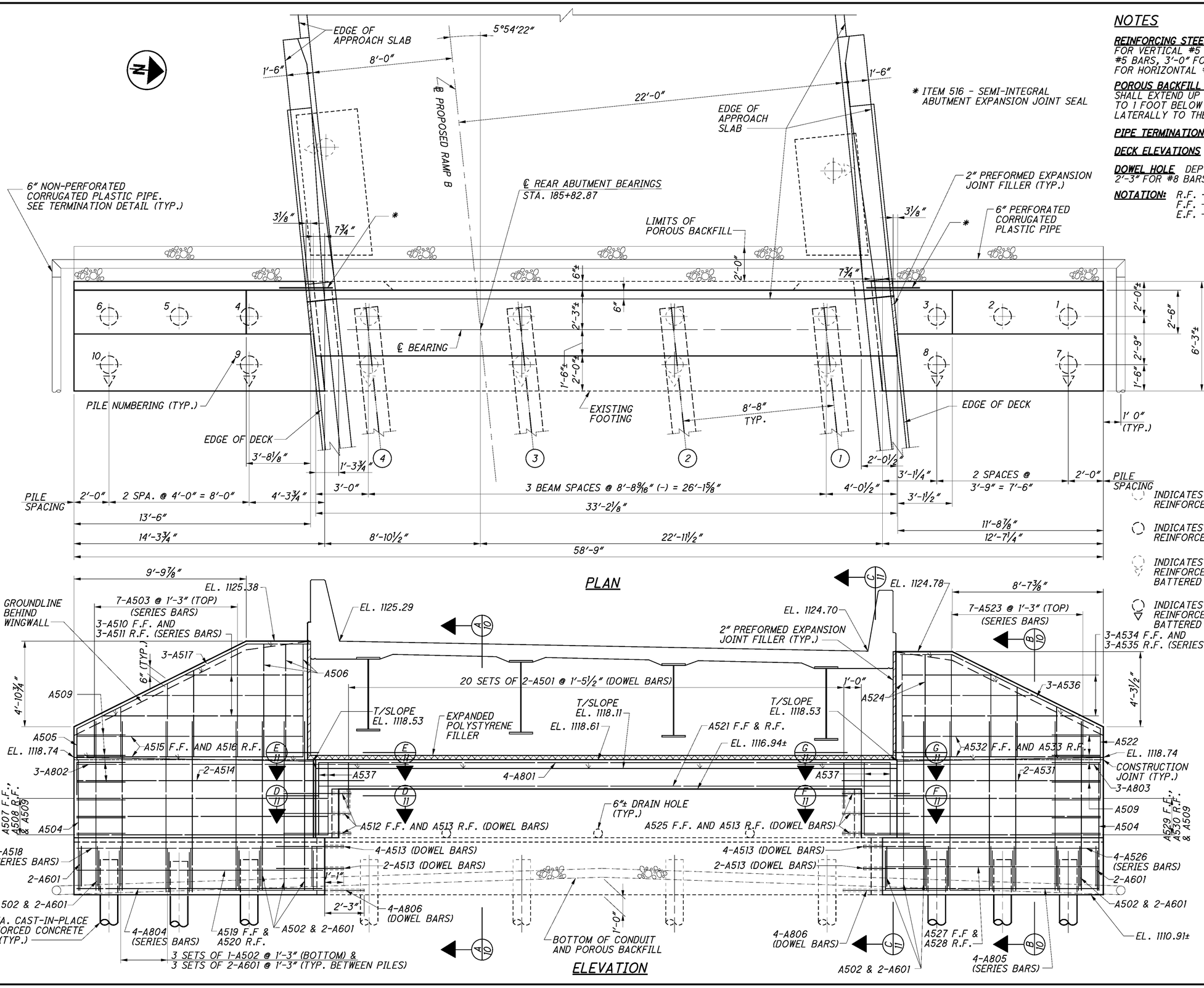
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CHECKED BLN | REVISED | STRUCTURE FILE NUMBER 7708882

SUPERSTRUCTURE REMOVAL
BRIDGE NO. SUM-271-0354B
RAMP B OVER IR 77

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PID No. 18710

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NOTES

REINFORCING STEEL SPLICE LENGTHS SHALL BE 2'-0" FOR VERTICAL #5 BARS, 2'-9" FOR HORIZONTAL #5 BARS, 3'-0" FOR VERTICAL #6 BARS AND 5'-10" FOR HORIZONTAL #8 BARS.

POROUS BACKFILL WITH FILTER FABRIC 2 FEET THICK SHALL EXTEND UP TO THE PLANE OF THE SUBGRADE TO 1 FOOT BELOW THE EMBANKMENT SURFACE, AND LATERALLY TO THE ENDS OF THE WINGWALLS.

PIPE TERMINATION DETAILS: SEE SHEET 11/30.

DECK ELEVATIONS GIVEN AT CENTERLINE OF BEARINGS.

DOWEL HOLE DEPTH SHALL BE 1'-1" FOR #5 BARS AND 2'-3" FOR #8 BARS.

NOTATION: R.F. - REAR FACE
F.F. - FRONT FACE
E.F. - EACH FACE

LEGEND

- INDICATES EXISTING 12" DIA. CAST-IN-PLACE REINFORCED CONCRETE PILES.
- INDICATES PROPOSED 12" DIA. CAST-IN-PLACE REINFORCED CONCRETE PILES.
- INDICATES EXISTING 12" DIA. CAST-IN-PLACE REINFORCED CONCRETE PILES BATTERED 1:4± IN THE DIRECTION SHOWN.
- INDICATES PROPOSED 12" DIA. CAST-IN-PLACE REINFORCED CONCRETE PILES BATTERED 1:4 IN THE DIRECTION SHOWN.

RICHLAND ENGINEERING LIMITED
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DESIGNED	DRAWN	REVIEWED	DATE
KAK	RB	DAP	10/5/12
CHECKED	REVISED	STRUCTURE FILE NUMBER	
BLN		7708882	

REAR ABUTMENT

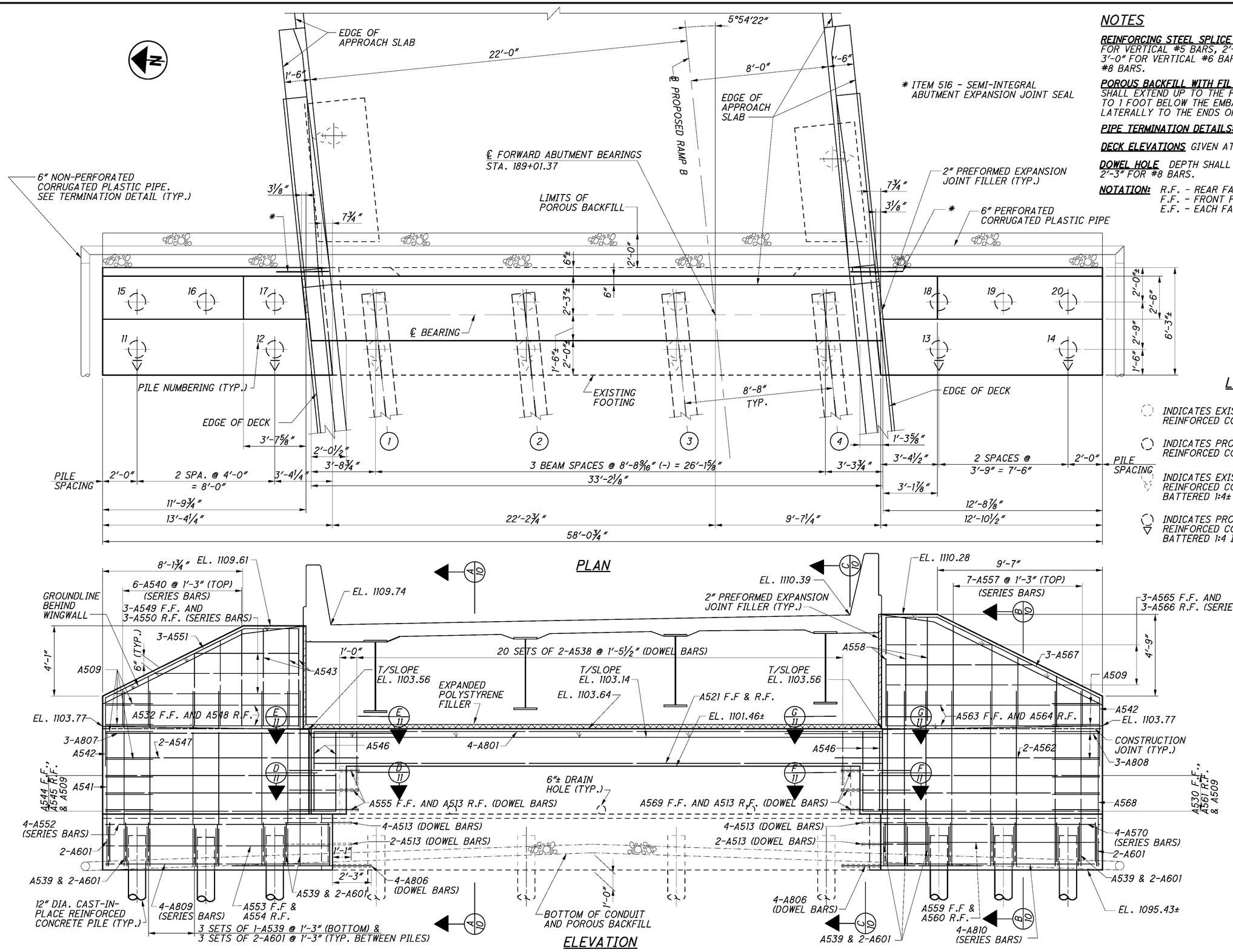
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PID No. 18710

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NOTES

REINFORCING STEEL SPLICE LENGTHS SHALL BE 2'-0" FOR VERTICAL #5 BARS, 2'-9" FOR HORIZONTAL #5 BARS, 3'-0" FOR VERTICAL #6 BARS AND 5'-10" FOR HORIZONTAL #8 BARS.

POROUS BACKFILL WITH FILTER FABRIC 2 FEET THICK SHALL EXTEND UP TO THE PLANE OF THE SUBGRADE TO 1 FOOT BELOW THE EMBANKMENT SURFACE, AND LATERALLY TO THE ENDS OF THE WINGWALLS.

PIPE TERMINATION DETAILS: SEE SHEET 11/30.

DECK ELEVATIONS GIVEN AT CENTERLINE OF BEARINGS.

DOWEL HOLE DEPTH SHALL BE 1'-1" FOR #5 BARS AND 2'-3" FOR #8 BARS.

NOTATION: R.F. - REAR FACE
F.F. - FRONT FACE
E.F. - EACH FACE

LEGEND

- INDICATES EXISTING 12" DIA. CAST-IN-PLACE REINFORCED CONCRETE PILES.
- INDICATES PROPOSED 12" DIA. CAST-IN-PLACE REINFORCED CONCRETE PILES.
- INDICATES EXISTING 12" DIA. CAST-IN-PLACE REINFORCED CONCRETE PILES BATTERED 1:4± IN THE DIRECTION SHOWN.
- INDICATES PROPOSED 12" DIA. CAST-IN-PLACE REINFORCED CONCRETE PILES BATTERED 1:4 IN THE DIRECTION SHOWN.

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MANSFIELD, OHIO 44902

DESIGNED KAK | DRAWN RB | REVIEWED DAP | DATE 10/5/12
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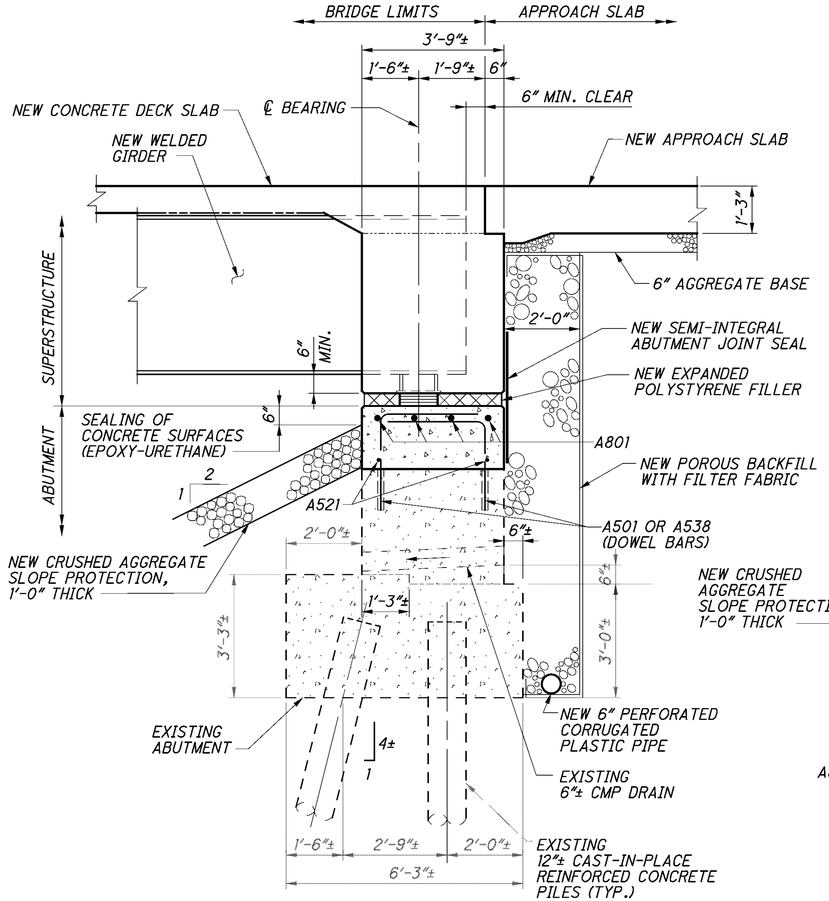
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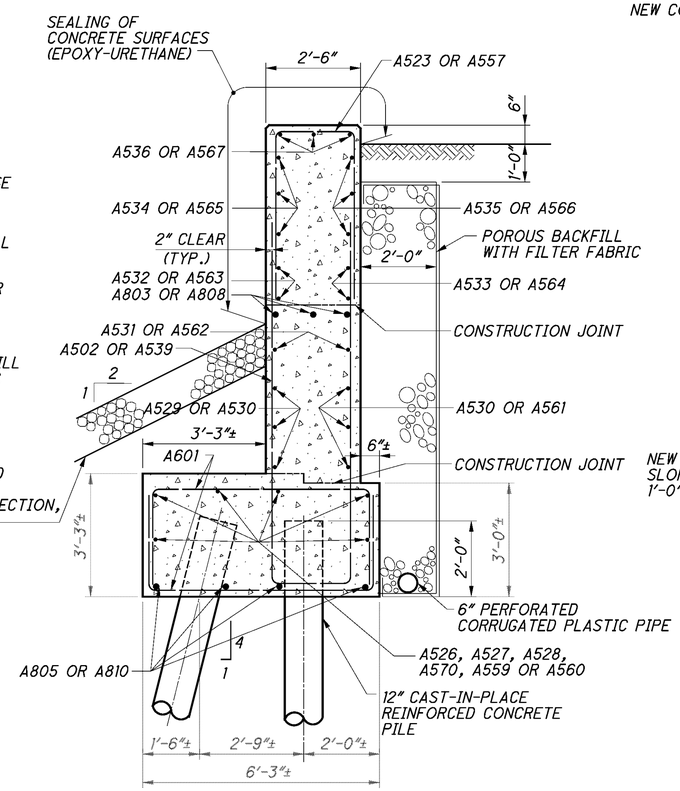
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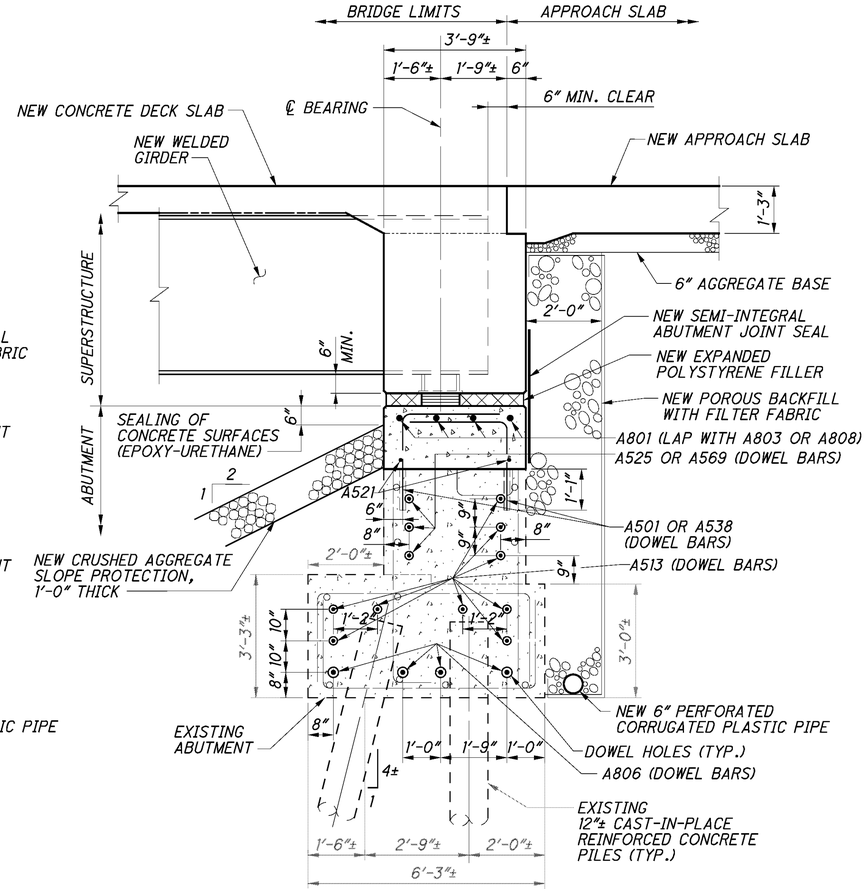
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SECTION A-A



SECTION B-B



SECTION C-C

(DOWEL LOCATIONS IN EXISTING ABUTMENT)

NOTES

REINFORCING STEEL SPLICE LENGTHS SHALL BE 2'-0" FOR VERTICAL #5 BARS, 2'-9" FOR HORIZONTAL #5 BARS, 3'-0" FOR VERTICAL #6 BARS AND 5'-10" FOR HORIZONTAL #8 BARS.

FOR SECTIONS A-A, B-B AND C-C: SEE SHEETS 8/30 AND 9/30.

ITEM SPECIAL - STRUCTURE, MISC.: CUT AND CAP 6" CMP DRAIN: SEE GENERAL NOTE SHEET 3/30.

SEE SUPERSTRUCTURE DETAILS FOR ADDITIONAL SEALING ON SEMI-INTEGRAL BLOCK.

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
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DESIGNED	DRAWN	REVIEWED	DATE
KAK	TWH	DAP	10/5/12
CHECKED	REVISED		STRUCTURE FILE NUMBER
BLN			77018882

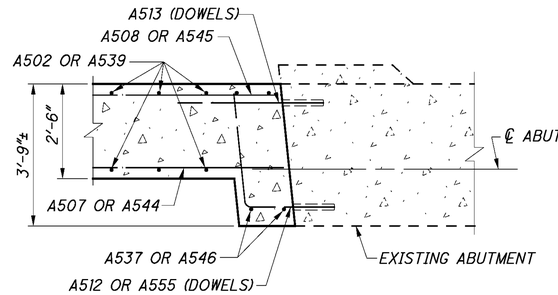
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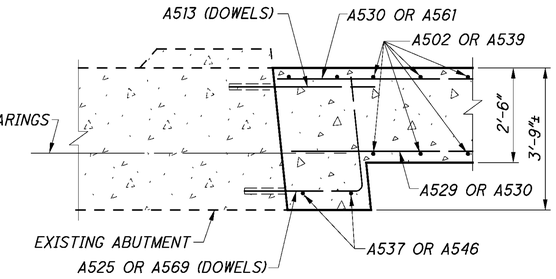
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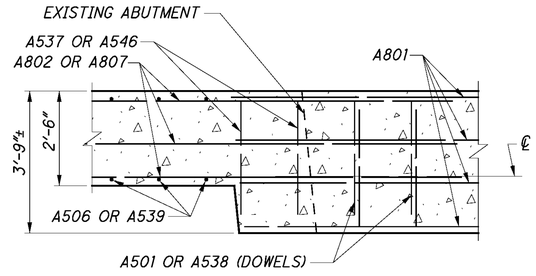
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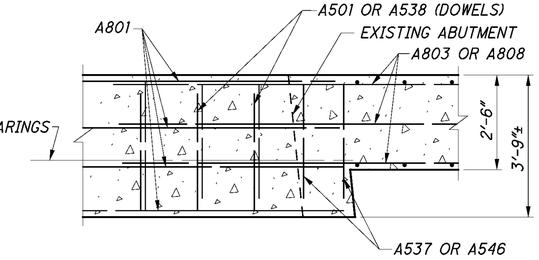
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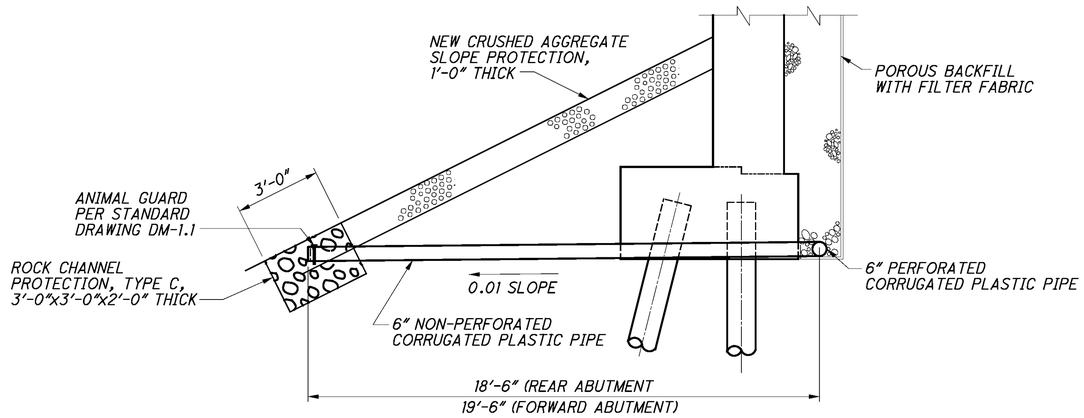
SECTION F-F



SECTION E-E



SECTION G-G



TERMINATION OF 6" NON-PERFORATED CORRUGATED PLASTIC PIPE

NOTES

TERMINATION OF 6" NON-PERFORATED CORRUGATED PLASTIC PIPE: FOR LOCATIONS SEE SHEETS 9/30 AND 10/30.

SECTIONS D-D, E-E, F-F & G-G: FOR LOCATION SEE SHEETS 8/30 AND 9/30.

ADDITIONAL NOTES: SEE SHEET 12/30.

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

DESIGNED KAK | DRAWN RB | REVIEWED DAP | DATE 10/5/12
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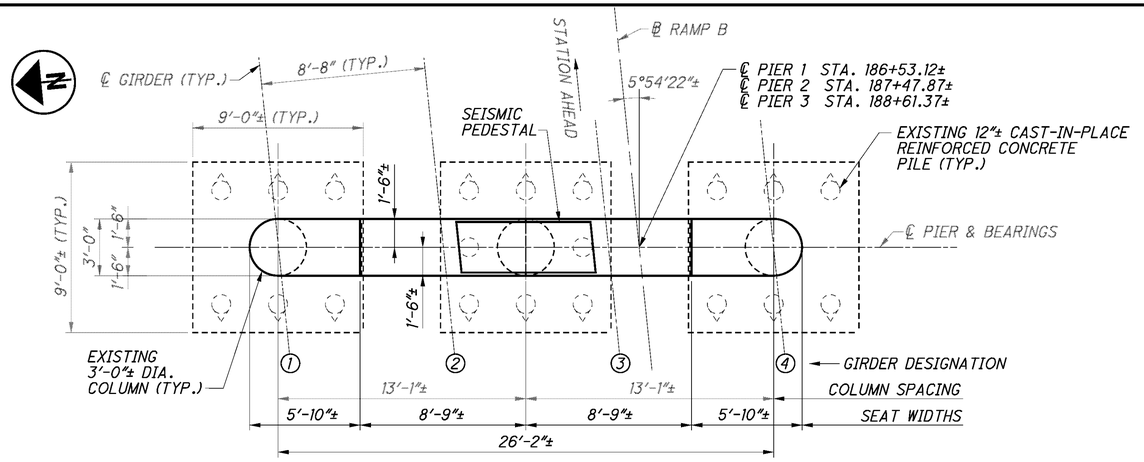
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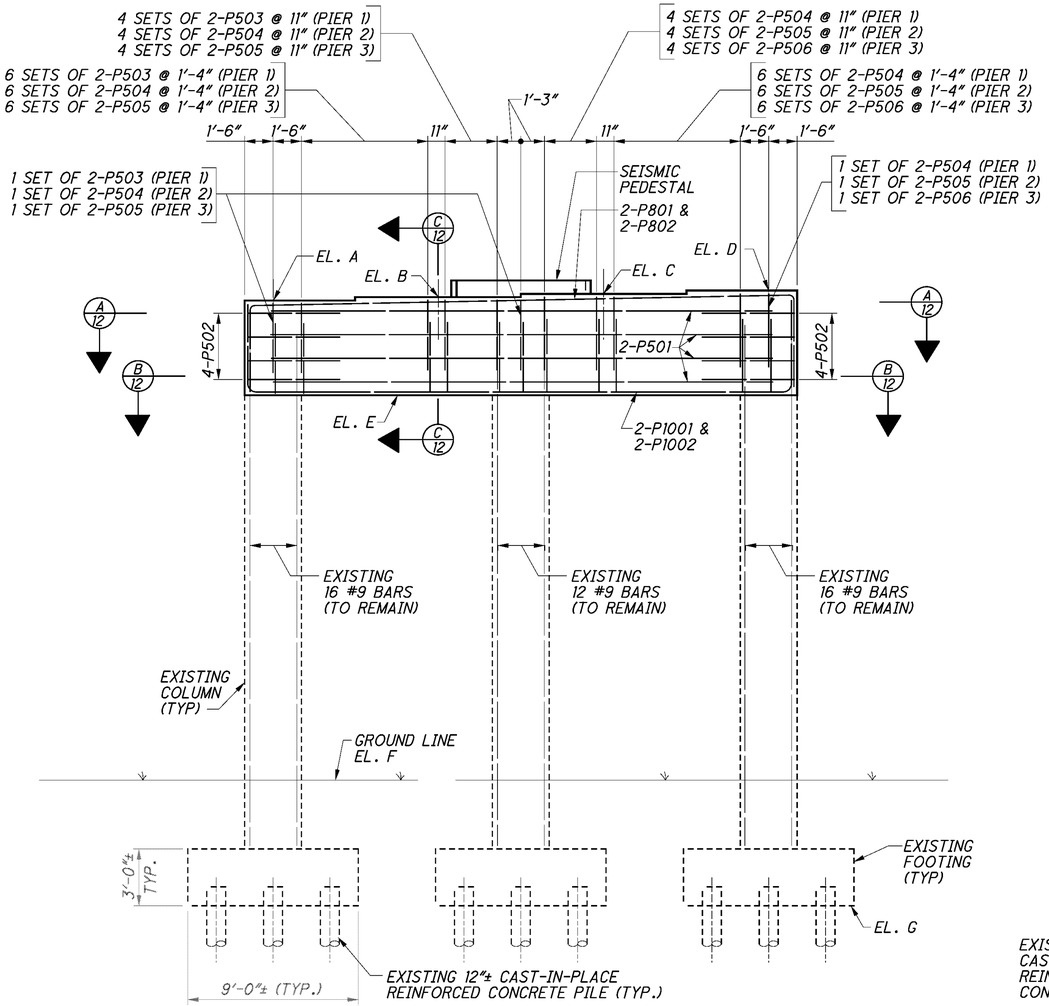
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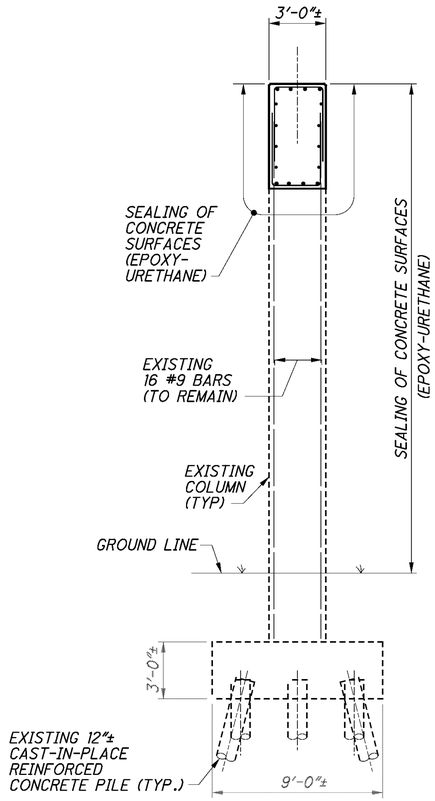
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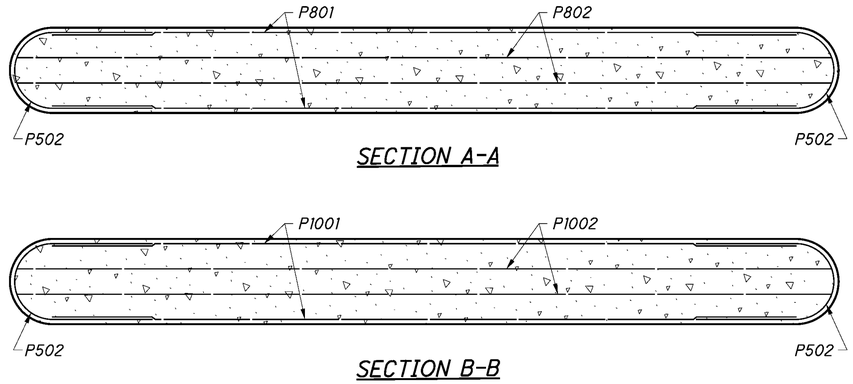
PLAN



ELEVATION

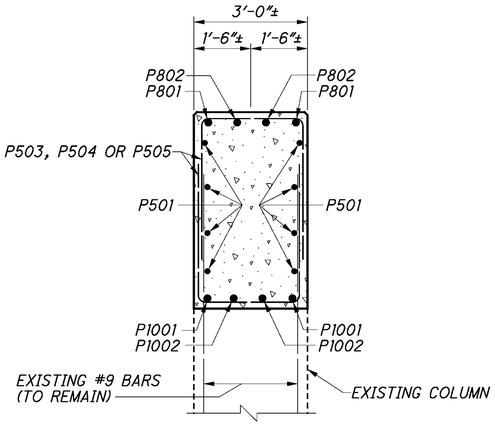


END VIEW



SECTION A-A

SECTION B-B



SECTION C-C

ELEVATION TABLE

LOCATION	PIER 1	PIER 2	PIER 3
A	1116.42	1112.14	1106.43
B	1116.60	1112.33	1106.62
C	1116.77	1112.51	1106.80
D	1116.95	1112.69	1106.99
E	1111.25±	1106.66±	1100.72±
F	1092.0±	1093.0±	1090.0±
G	1084.4±	1084.4±	1083.9±

LEGEND

INDICATES EXISTING 12"± DIA. CAST-IN-PLACE REINFORCED CONCRETE PILES BATTERED 1:4± IN THE DIRECTION SHOWN.

INDICATES EXISTING 12"± DIA. CAST-IN-PLACE REINFORCED CONCRETE PILES.

NOTES

MATERIALS SHOWN ARE NEW UNLESS OTHERWISE NOTED.

REINFORCING STEEL SPLICE LENGTHS SHALL BE 2'-6" FOR #5 VERTICAL BARS AND 3'-6" FOR #5 HORIZONTAL BARS.

SEISMIC PEDESTAL DETAILS: SEE SHEET 13/30.

PIER LIGHTING DETAILS: SEE LIGHTING SHEET 893 AND 894 .

RICHLAND ENGINEERING LIMITED
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MANSFIELD, OHIO 44902

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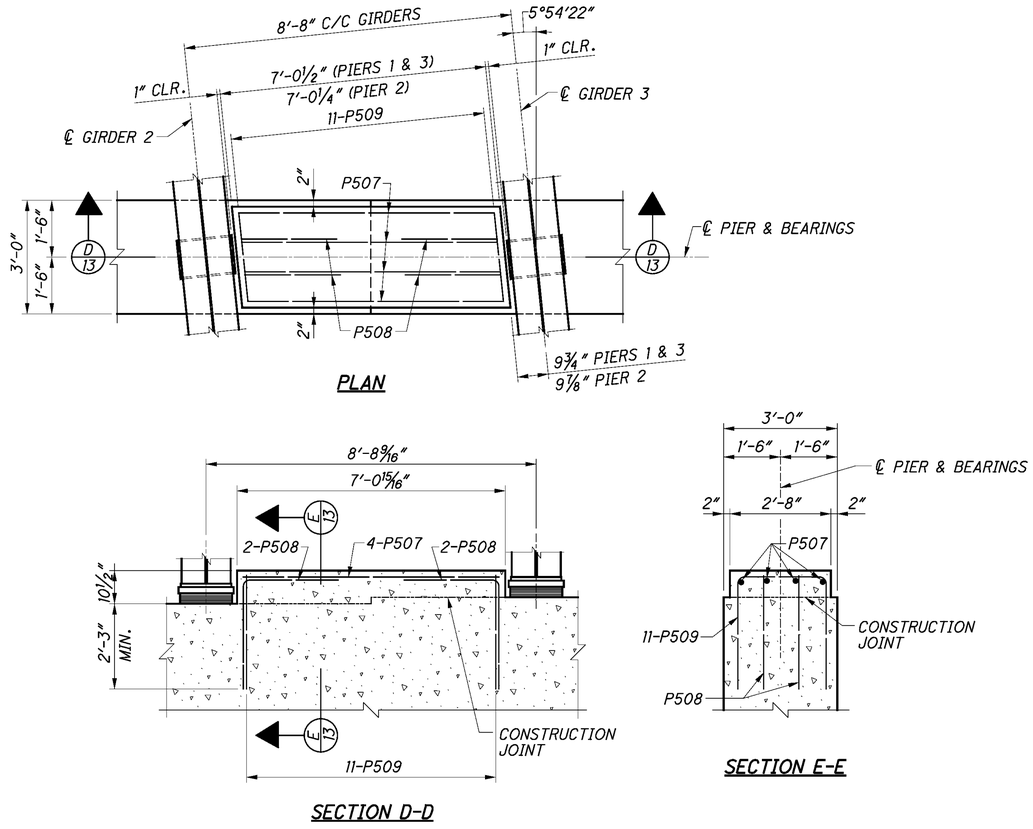
PIERS
BRIDGE NO. SUM-271-0354B
RAMP B OVER IR 77

SUM-271-2.33
PID No. 18710

12 / 30

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PLAN

SECTION D-D

SECTION E-E

SEISMIC PEDESTAL DETAILS

NOTES

ADDITIONAL NOTES: SEE SHEET 12/30.

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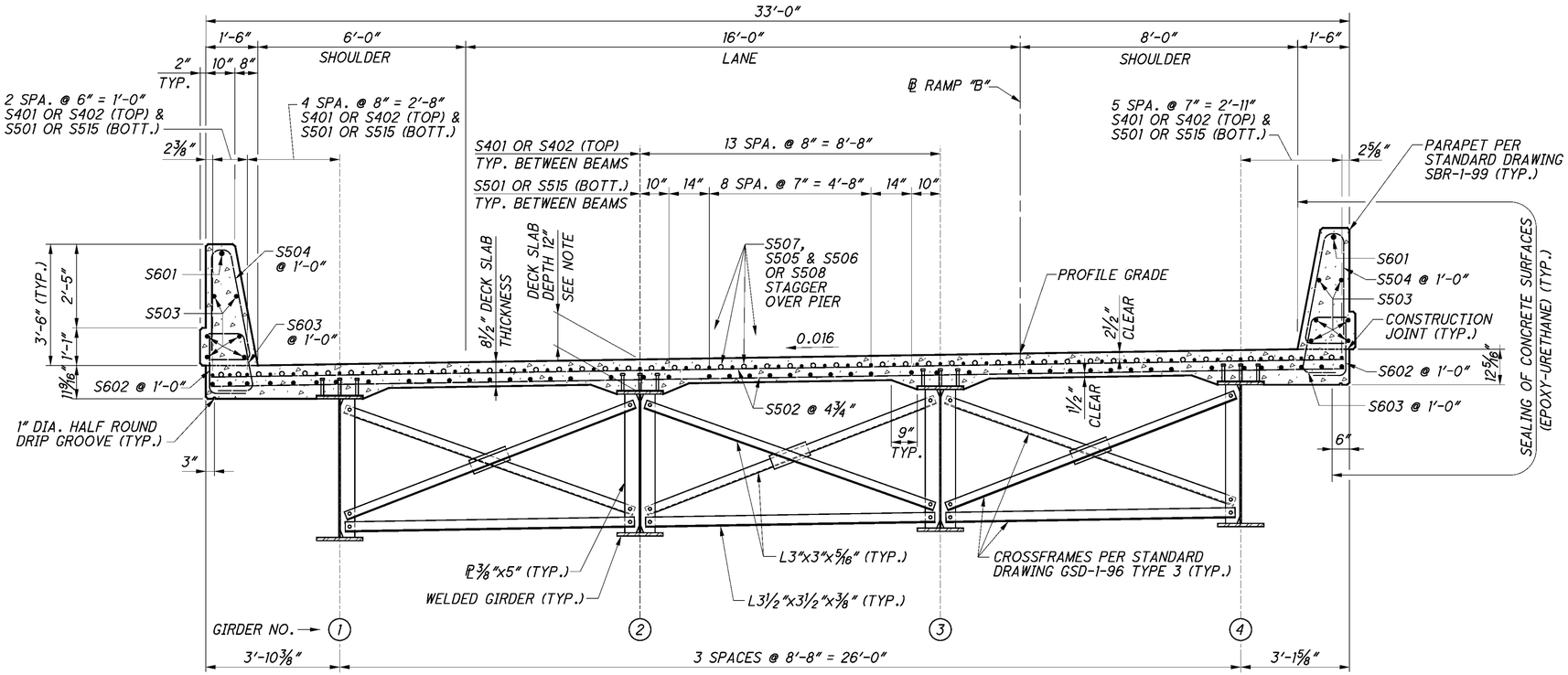
PIER DETAILS
BRIDGE NO. SUM-271-0354B
RAMP B OVER IR 77

SUM-271-2.33
PID No. 18710

13 / 30

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TRANSVERSE SECTION

NOTES

DECK SLAB CONCRETE QUANTITY: *THE ESTIMATED QUANTITY OF DECK SLAB CONCRETE IS BASED ON THE CONSTANT DECK SLAB THICKNESS, AS SHOWN, PLUS THE QUANTITY OF CONCRETE THAT FORMS EACH GIRDER HAUNCH. THE ESTIMATE ASSUMES A CONSTANT HAUNCH THICKNESS OF 3½ INCHES AND A CONSTANT HAUNCH WIDTH OUTSIDE THE EDGE OF EACH GIRDER FLANGE OF 9 INCHES. DEVIATE FROM THIS HAUNCH THICKNESS AS NECESSARY TO PLACE THE DECK SURFACE AT THE FINISHED GRADE. THE ALLOWABLE TOLERANCE FOR THE HAUNCH WIDTH OUTSIDE THE EDGE OF GIRDER FLANGE IS ±3 INCHES.*

THE HAUNCH THICKNESS WAS MEASURED AT THE CENTERLINE OF THE GIRDER FROM THE SURFACE OF THE DECK TO THE BOTTOM OF THE TOP FLANGE MINUS THE DECK SLAB THICKNESS. THE AREA OF ALL EMBEDDED PLATES HAS BEEN DEDUCTED FROM THE HAUNCH QUANTITY IN ACCORDANCE WITH 511.24.

REINFORCING STEEL SPLICE LENGTHS *SHALL BE 2'-5" FOR #4 BARS, 2'-6" FOR #5 DECK SLAB BARS, 3'-6" FOR #5 RAILING AND COUNTERWEIGHT BARS, AND 4'-2" FOR #6 RAILING BARS.*

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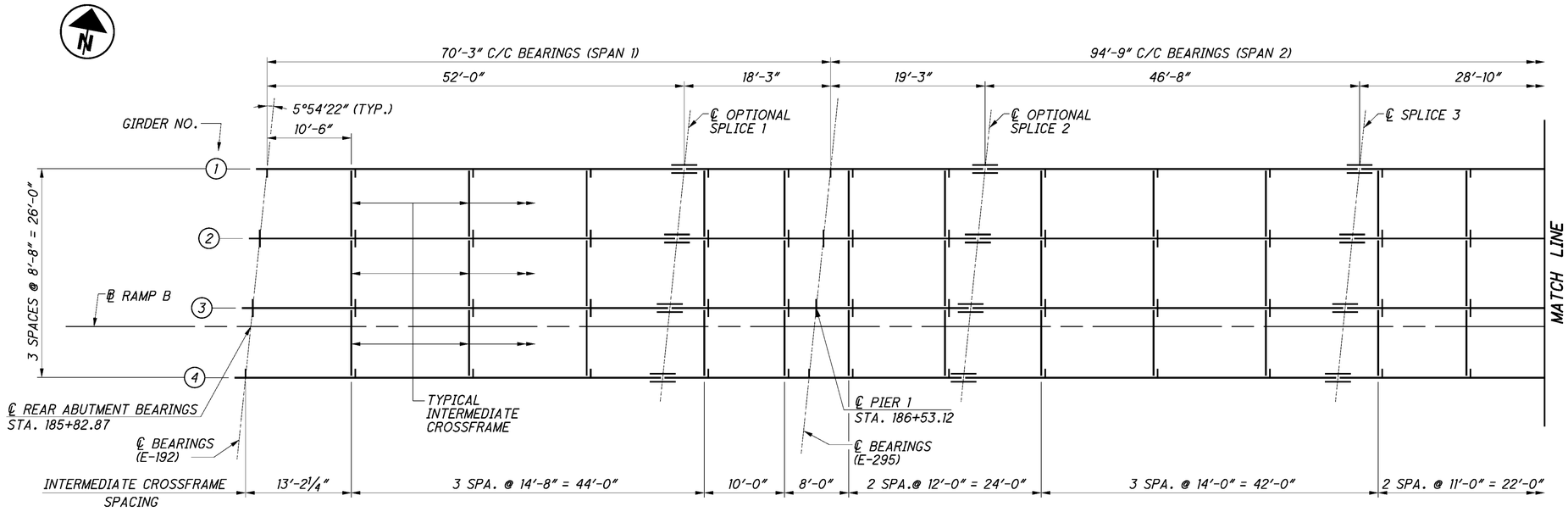
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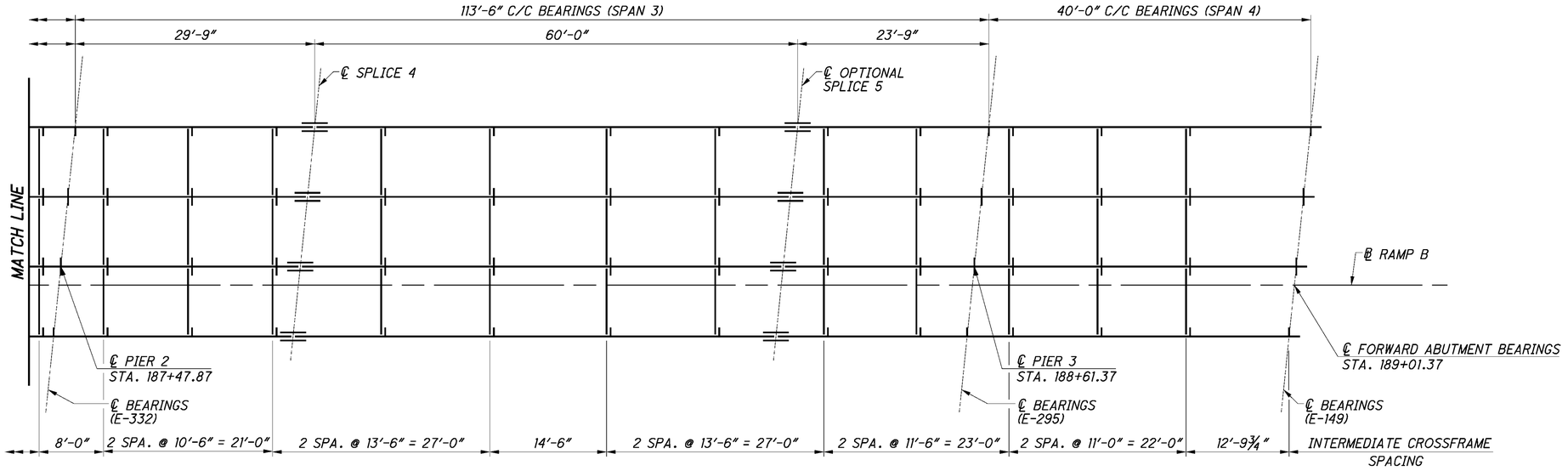
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FRAMING PLAN

NOTES

NEW STEEL IS TO BE ASTM A709, GRADE 50.

BEARING DETAILS: SEE SHEETS 20/30 AND 21/30.

TRANSVERSE SECTION: SEE SHEET 14/30.

GIRDER ELEVATION: SEE SHEET 16/30.

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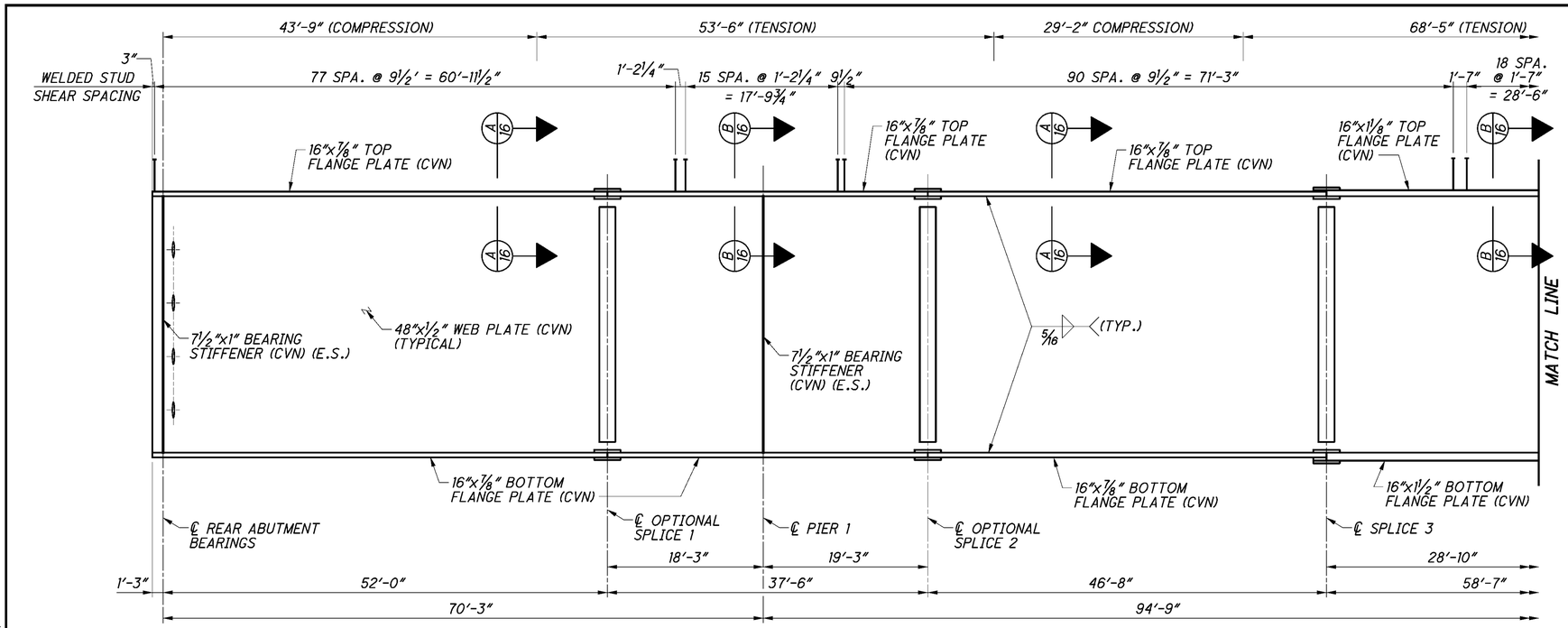
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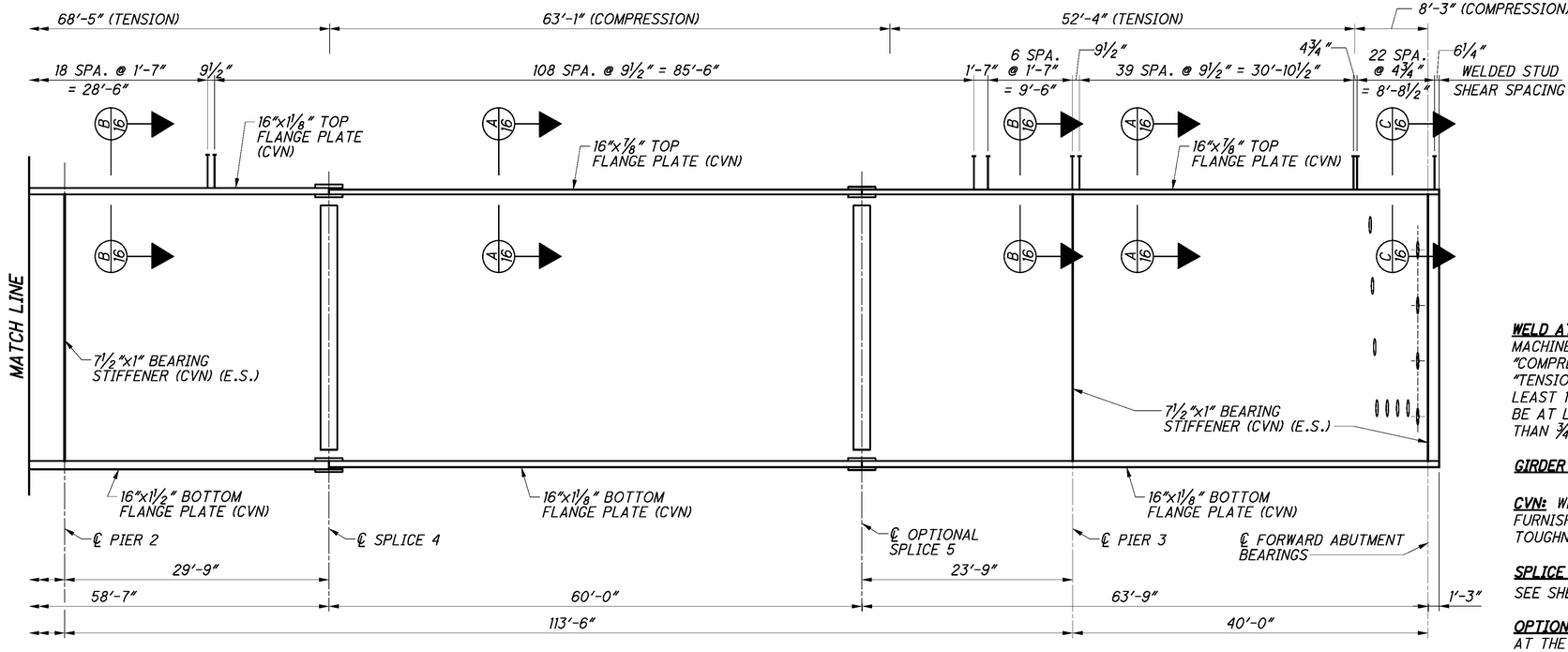
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PID No. 18710

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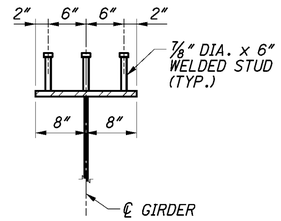
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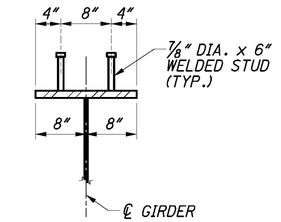




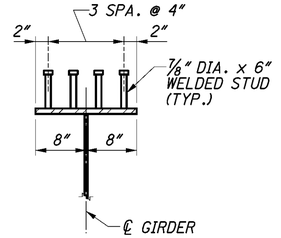
GIRDER ELEVATION



SECTION A-A



SECTION B-B



SECTION C-C

NOTES

WELD ATTACHMENT OF SUPPORTS FOR CONCRETE DECK FINISHING MACHINE TO AREAS OF THE FASCIA STRINGER FLANGES DESIGNATED "COMPRESSION". DO NOT WELD ATTACHMENTS TO AREAS DESIGNATED "TENSION". FILLET WELDS TO COMPRESSION FLANGES SHALL BE AT LEAST 1" FROM EDGE OF FLANGE, BE NO MORE THAN 2" LONG, AND BE AT LEAST ¼" FOR THICKNESSES UP TO ¾" OR 5/16" FOR GREATER THAN ¾" THICK.

GIRDER END DETAILS: SEE SHEET 17/30.

CVN: WHERE A SHAPE OR PLATE IS DESIGNATED (CVN), FURNISH MATERIAL THAT MEETS THE MINIMUM NOTCH TOUGHNESS REQUIREMENTS AS SPECIFIED IN 711.01.

SPLICE DETAILS AND SHEAR STUD SPACING AT SPLICE PLATES: SEE SHEET 18/30.

OPTIONAL FIELD SPLICES: SPLICES 1, 2 AND 5 CAN BE ELIMINATED AT THE OPTION OF THE CONTRACTOR.

NOTATION: E.S. - EACH SIDE

ADDITIONAL NOTES: SEE SHEET 15/30.

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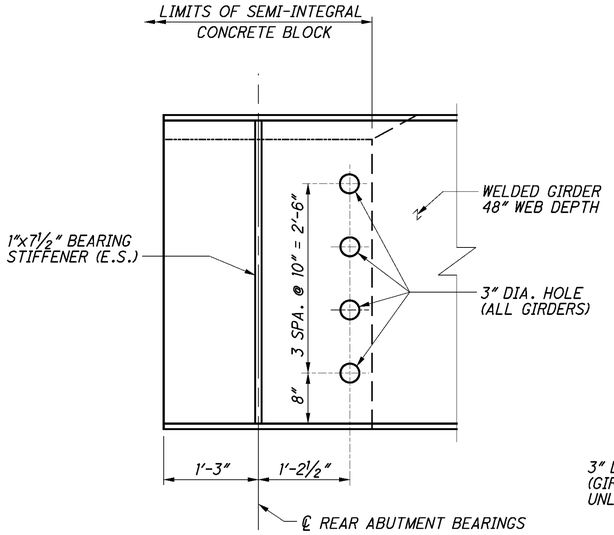
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BRIDGE NO. SUM-271-0354B
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SUM-271-2.33
PID No. 18710

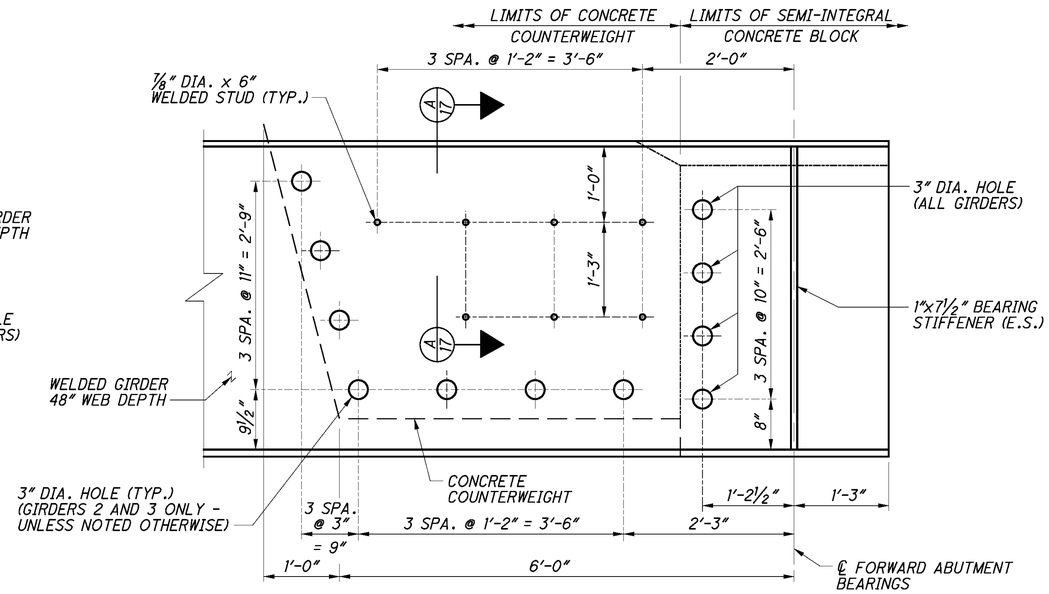
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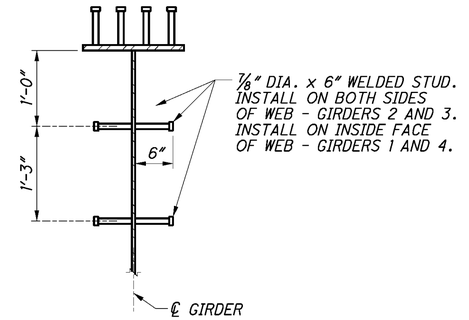
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REAR ABUTMENT

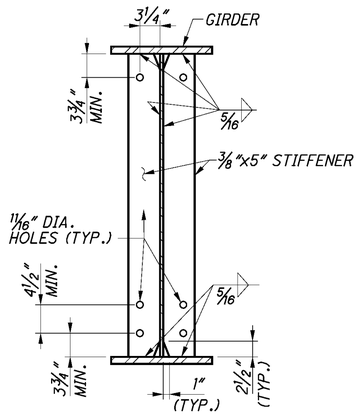


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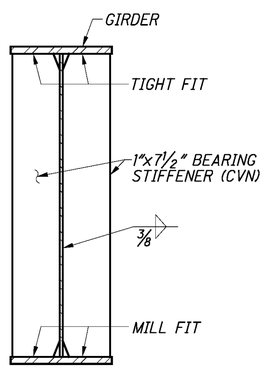


SECTION A-A

GIRDER END DETAILS



STIFFENER DETAIL
AT CROSSFRAMES



BEARING STIFFENER

NOTES

GIRDER ELEVATION: SEE SHEET 16/30.

ADDITIONAL NOTES: SEE SHEET 15/30.

NOTATION: E.S. - EACH SIDE

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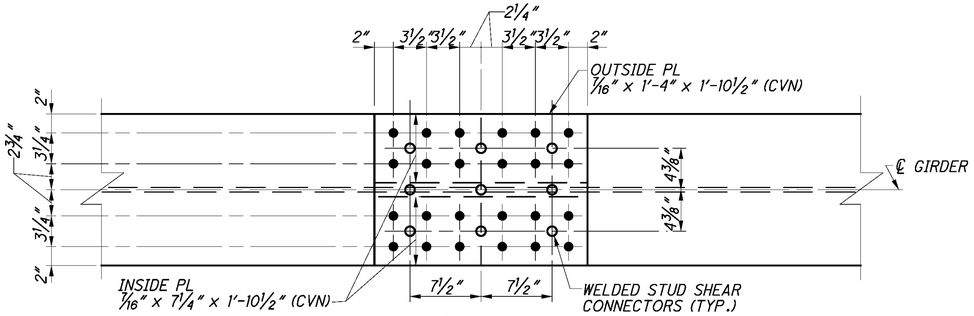
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RAMP B OVER IR 77

SUM-271-2.33
PID No. 18710

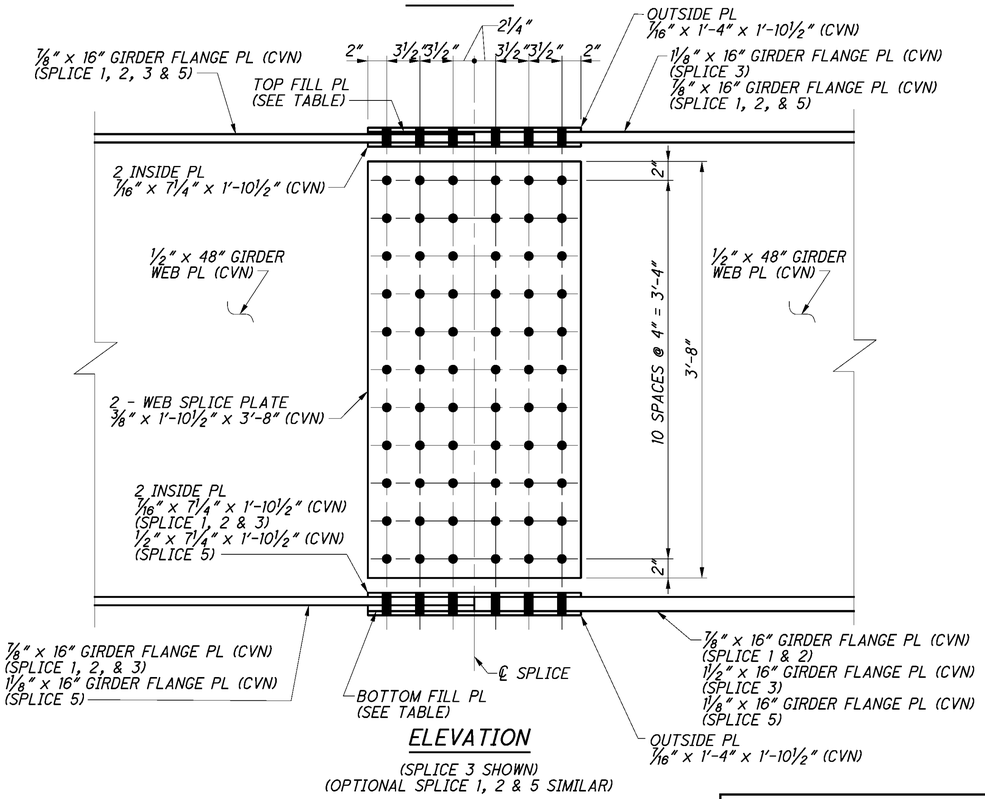
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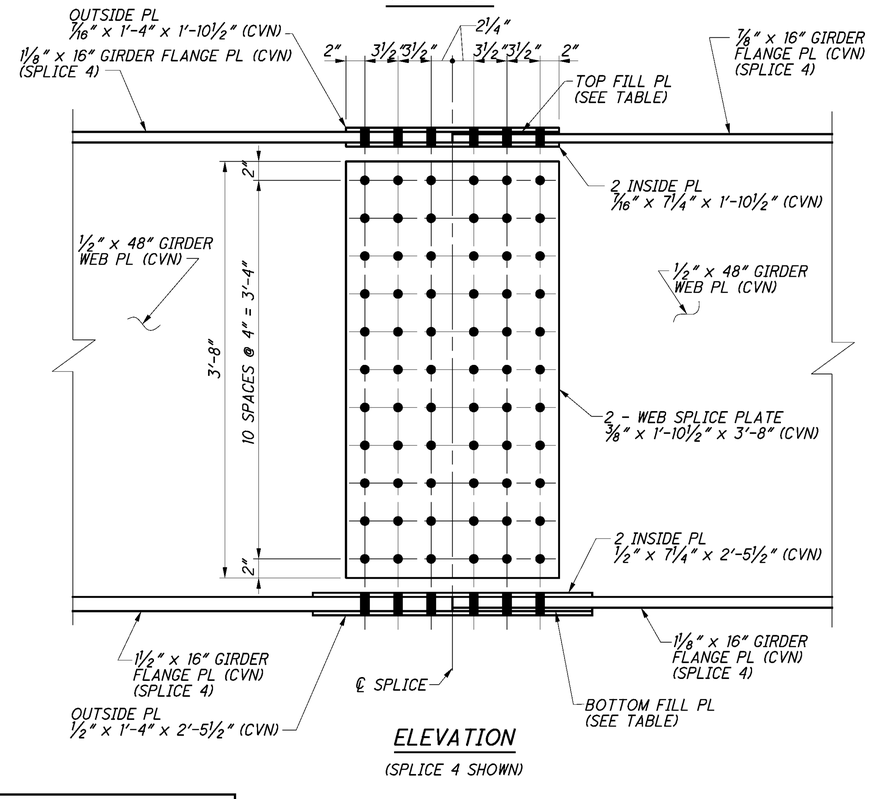
TOP VIEW



ELEVATION

(SPLICE 3 SHOWN)
(OPTIONAL SPLICE 1, 2 & 5 SIMILAR)

BOTTOM VIEW

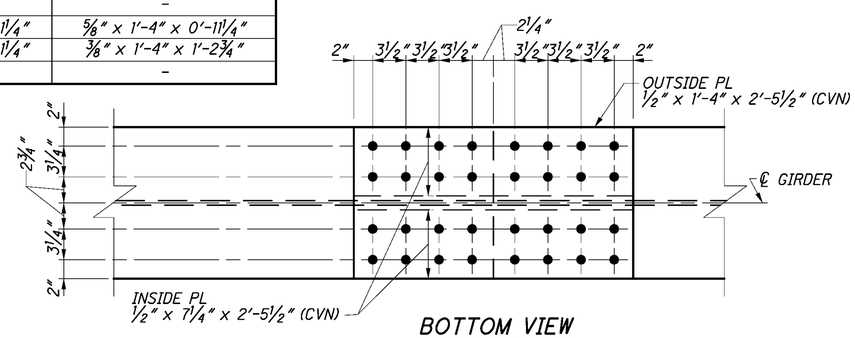


ELEVATION

(SPLICE 4 SHOWN)

SPLICE FILL PLATE TABLE

SPLICE NO.	TOP PLATE DIMENSION	BOTTOM PLATE DIMENSION
1	-	-
2	-	-
3	¼" x 1'-4" x 0'-11¼"	⅝" x 1'-4" x 0'-11¼"
4	¼" x 1'-4" x 0'-11¼"	⅜" x 1'-4" x 1'-2¾"
5	-	-



BOTTOM VIEW

LEGEND

- INDICATES 1" DIAMETER, TYPE 1 HIGH STRENGTH BOLT, ASTM A325.

NOTES

HIGH STRENGTH BOLTS SHALL BE 1" DIAMETER GALVANIZED A325, TYPE 1.

GIRDER ELEVATION: SEE SHEET 16/30.

SPLICE LOCATIONS: SEE SHEET 15/30.

OPTIONAL FIELD SPLICES: SPLICES 1, 2 AND 5 CAN BE ELIMINATED AT THE OPTION OF THE CONTRACTOR.

ADDITIONAL NOTES: SEE SHEET 15/30.

CVN: WHERE A SHAPE OR PLATE IS DESIGNATED (CVN), FURNISH MATERIAL THAT MEETS THE MINIMUM NOTCH TOUGHNESS REQUIREMENTS AS SPECIFIED IN 711.01.

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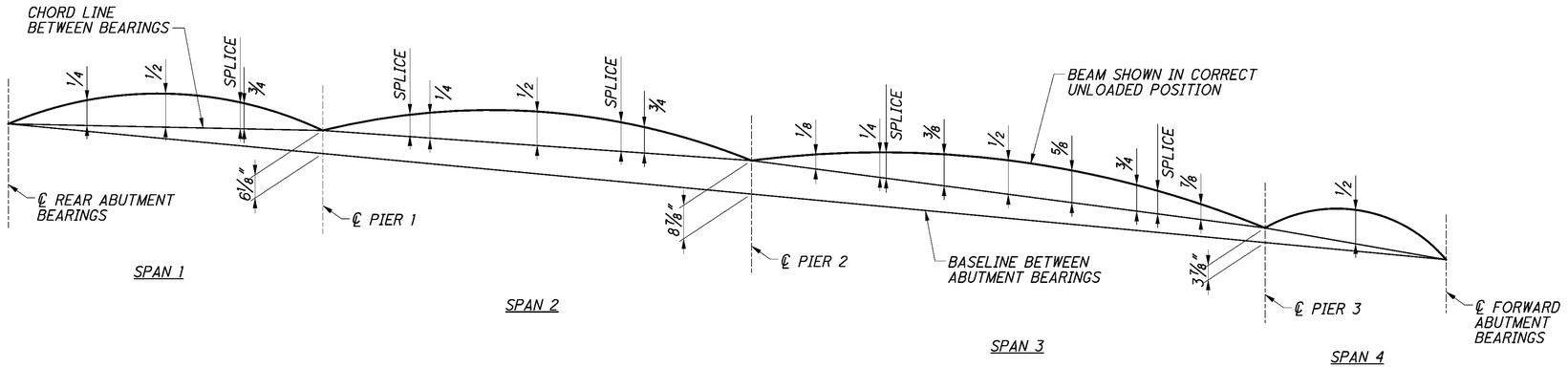
GIRDER DETAILS - 2
BRIDGE NO. SUM-271-0354B
RAMP B OVER IR 77

SUM-271-2.33
PID No. 18710

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CAMBER DIAGRAM

(ALL CHORDS REFERENCED TO TOP OF WEB)

DEFLECTION AND CAMBER TABLE

	SPAN 1				SPAN 2					SPAN 3									SPAN 4
	1/4	1/2	OPTIONAL SPLICE	3/4	OPTIONAL SPLICE	1/4	1/2	SPLICE	3/4	1/8	1/4	SPLICE	3/8	1/2	5/8	3/4	OPTIONAL SPLICE	7/8	1/2
DEFLECTION DUE TO WEIGHT OF STEEL	1/16"	1/16"	1/16"	1/16"	1/16"	1/16"	1/16"	1/16"	0"	1/16"	3/16"	3/16"	5/16"	5/16"	5/16"	3/16"	3/16"	1/8"	0"
DEFLECTION DUE TO REMAINING DEAD LOAD	3/8"	7/16"	1/4"	3/16"	3/16"	1/4"	3/8"	3/16"	1/16"	7/16"	1 1/16"	1 1/8"	1 3/16"	1 13/16"	1 11/16"	1 3/16"	1"	9/16"	- 1/8"
ADJUSTMENT FOR VERTICAL CURVE	5/16"	7/16"	5/16"	5/16"	1/2"	9/16"	13/16"	11/16"	9/16"	1/2"	7/8"	7/8"	1 1/16"	1 1/8"	1 1/16"	7/8"	3/4"	1/2"	1/8"
REQUIRED SHOP CAMBER	3/4"	15/16"	5/8"	9/16"	3/4"	7/8"	1 1/4"	15/16"	5/8"	1"	2 1/8"	2 3/16"	2 15/16"	3 1/4"	3 1/16"	2 1/4"	1 15/16"	1 3/16"	0"

NOTES

GIRDER ELEVATION: SEE SHEET 16/30.

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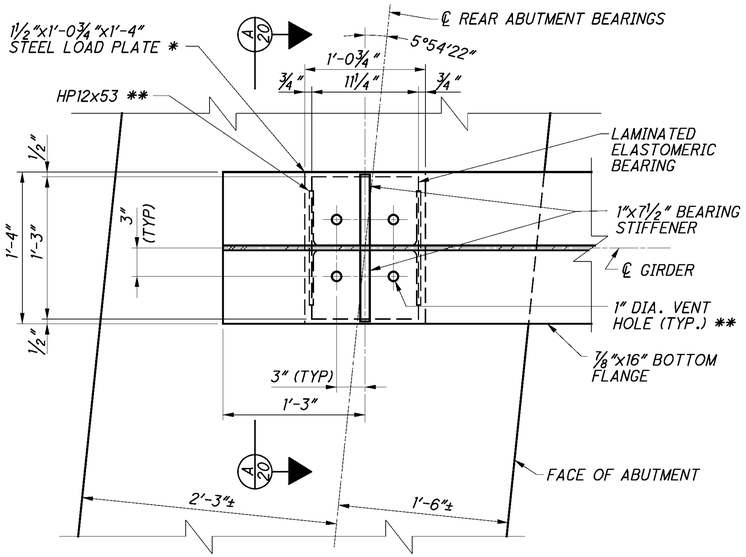
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BRIDGE NO. SUM-271-0354B
RAMP B OVER IR 77

SUM-271-2.33
PID No. 18710

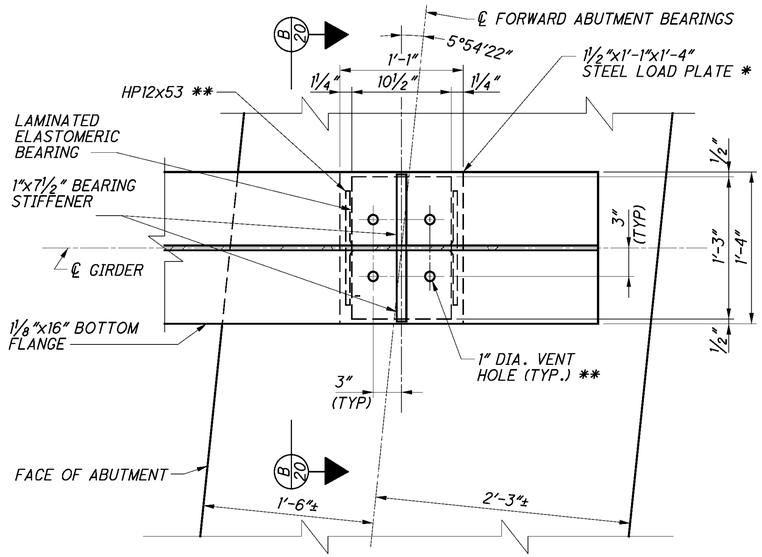
19 / 30

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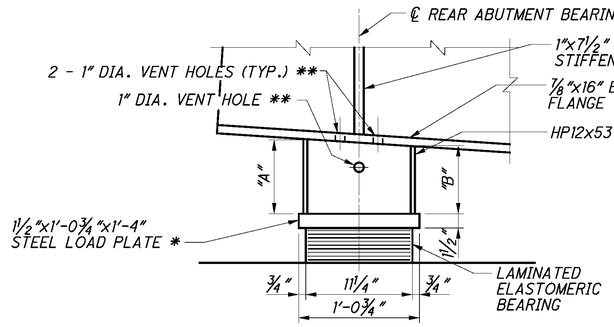


PLAN

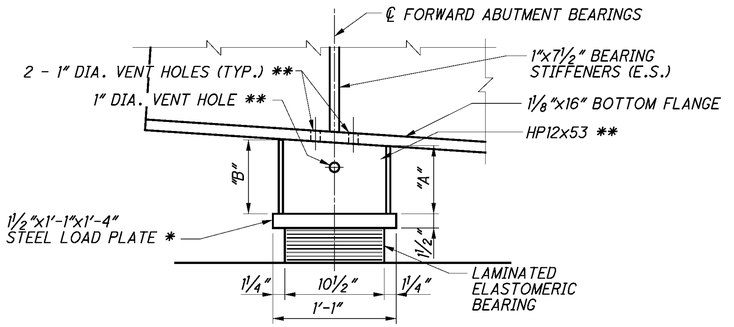


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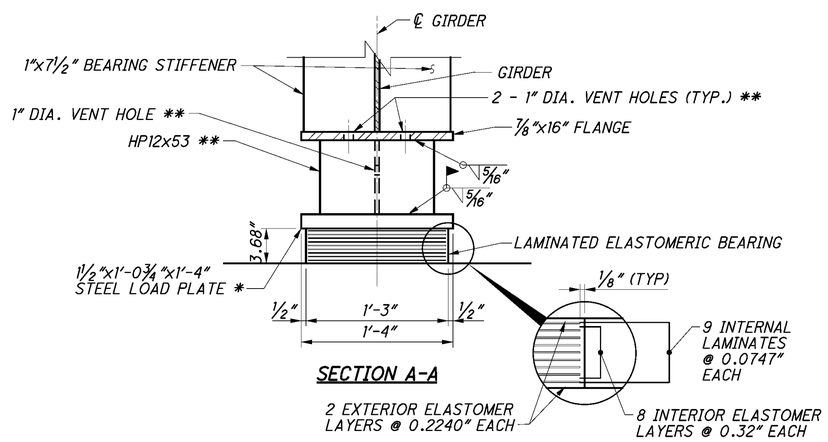
STOOL HEIGHT DIMENSIONS				
	DIMENSION "A"		DIMENSION "B"	
	R.A.	F.A.	R.A.	F.A.
BEAM 1	7.75"	7.15"	7.25"	7.84"
BEAM 2	9.82"	9.43"	9.32"	10.11"
BEAM 3	11.89"	11.70"	11.39"	12.38"
BEAM 4	13.95"	13.97"	13.45"	14.65"



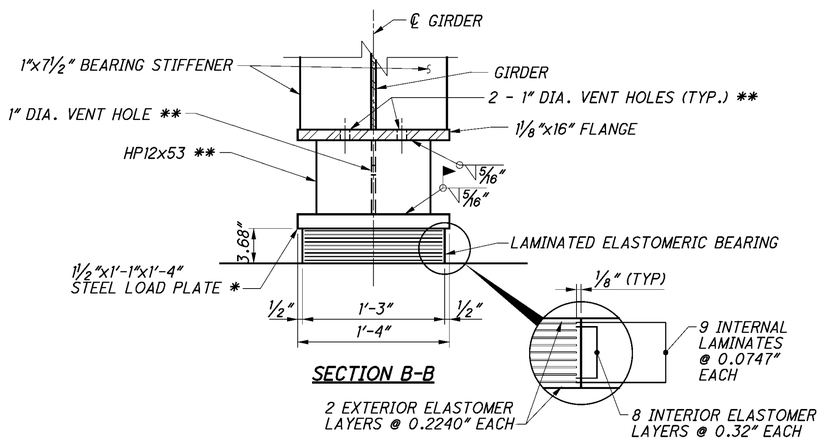
ELEVATION



ELEVATION



SECTION A-A



SECTION B-B

LAMINATED ELASTOMERIC BEARING E-192 (3.68"x11¼"x15")
(EXPANSION) (REAR ABUTMENT)

DEAD LOAD REACTION	=	126 K
LIVE LOAD REACTION	=	66 K
TOTAL	=	192 K

* INCLUDED WITH BEARING FOR PAYMENT
** INCLUDED WITH BEAM FOR PAYMENT

LAMINATED ELASTOMERIC BEARING E-149 (3.68"x10½"x15")
(EXPANSION) (FORWARD ABUTMENT)

DEAD LOAD REACTION	=	88 K
LIVE LOAD REACTION	=	61 K
TOTAL	=	149 K

NOTES

HP12x53 STEEL SHAPE INCLUDED WITH BEAM FOR PAYMENT. HP12x53 STEEL SHAPE IS ASTM A572/A709, GRADE 50 STEEL. SHOP MARK HP SECTIONS WITH THE FOLLOWING INFORMATION: BEAM NUMBER, SUBSTRUCTURE UNIT AND FORWARD STATION DIRECTION.

STEEL LOAD PLATE SHALL BE BONDED BY VULCANIZATION TO THE ELASTOMER DURING THE MOLDING PROCESS.

WELDING OF THE LOAD PLATE TO THE SUPERSTRUCTURE SHALL BE CONTROLLED SO THAT THE PLATE TEMPERATURE AT THE ELASTOMER BONDED SURFACE SHALL NOT EXCEED 300°F AS DETERMINED BY THE USE OF PYROMETRIC STICKS OR OTHER TEMPERATURE MONITORING DEVICES.

BEARING REPOSITIONING: IF THE STEEL IS ERECTED AT AN AMBIENT TEMPERATURE HIGHER THAN 80°F OR LOWER THAN 40°F AND THE BEARING SHEAR DEFLECTION EXCEEDS ⅛ OF THE BEARING HEIGHT AT 60°F(±) 10°F, RAISE THE BEAMS TO ALLOW THE BEARINGS TO RETURN TO THEIR UNDEFORMED SHAPE AT 60°F (±) 10°F.

ELASTOMERIC BEARINGS: THE ELASTOMER SHALL HAVE A HARDNESS OF 50 DUROMETER. THE BEARINGS WERE DESIGNED UNDER DIVISION I, SECTION 14.6.6 (METHOD A) OF THE AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES.

NOTATION:
R.A. - REAR ABUTMENT
F.A. - FORWARD ABUTMENT

ADDITIONAL NOTES: SEE SHEET 15/30.

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

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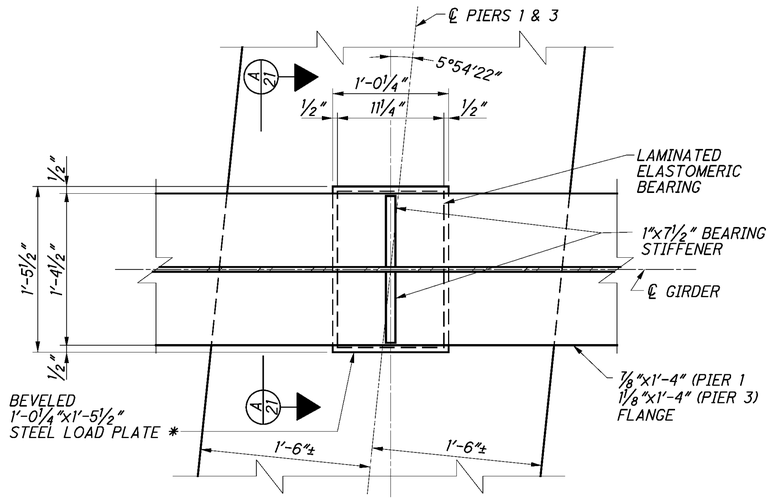
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RAMP B OVER IR 77

SUM-271-2.33
PID No. 18710

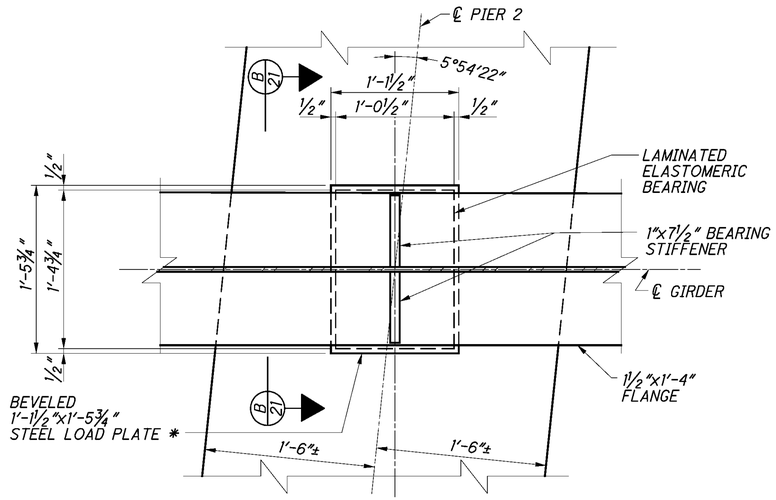
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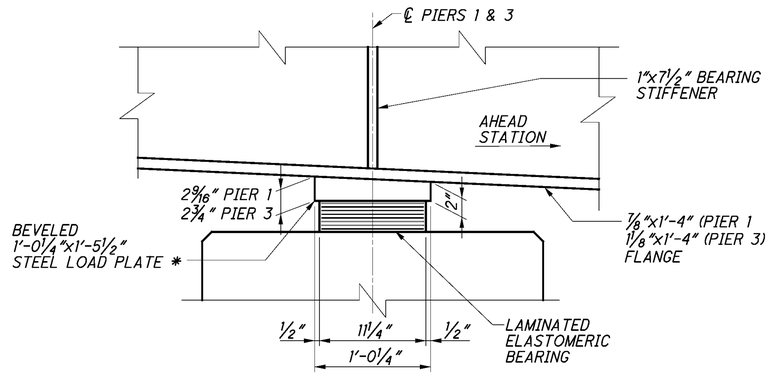
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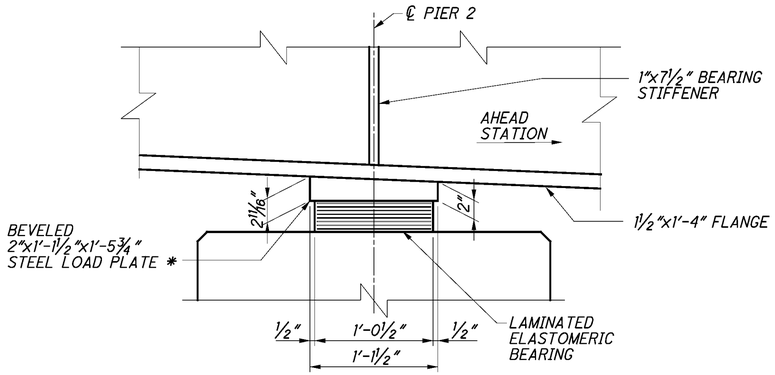
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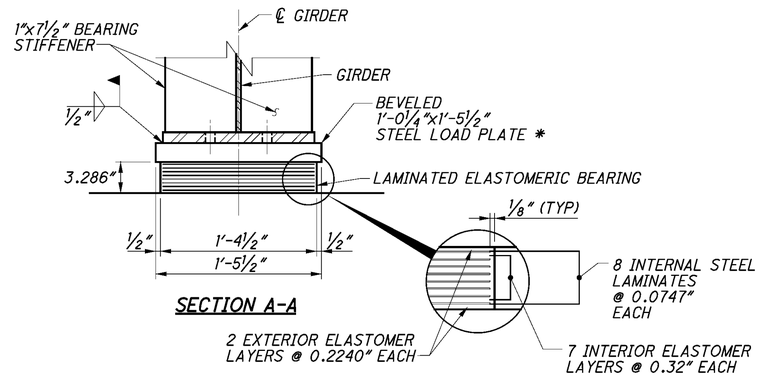
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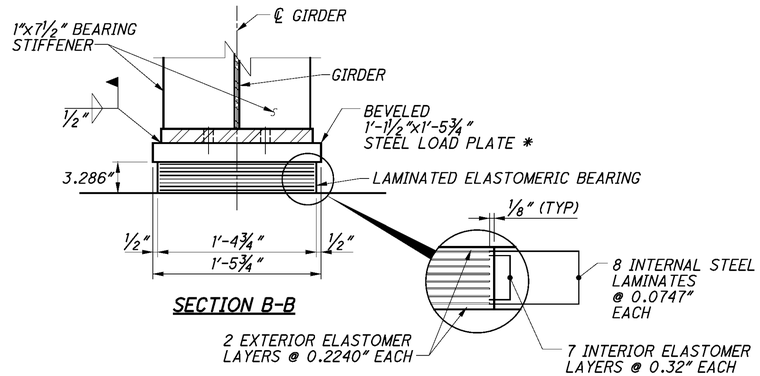
ELEVATION



ELEVATION



SECTION A-A



SECTION B-B

LAMINATED ELASTOMERIC BEARING E-295 (3.286"x11¼"x16½")

(EXPANSION) (PIERS 1 & 3)

DEAD LOAD REACTION	=	197 K
LIVE LOAD REACTION	=	98 K
TOTAL	=	295 K

* INCLUDED WITH BEARING FOR PAYMENT

LAMINATED ELASTOMERIC BEARING E-332 (3.286"x12½"x16¾")

(EXPANSION) (PIER 2)

DEAD LOAD REACTION	=	228 K
LIVE LOAD REACTION	=	104 K
TOTAL	=	332 K

NOTES

ADDITIONAL NOTES: SEE SHEET 20/30.

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

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BLN		7708882	

BEARING DETAILS - 2

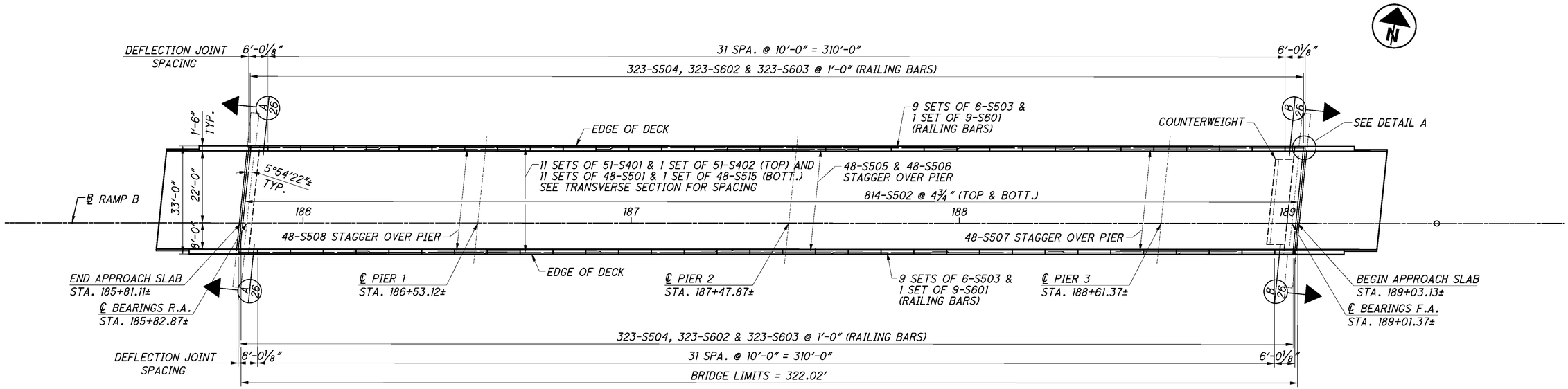
BRIDGE NO. SUM-271-0354B
RAMP B OVER IR 77

SUM-271-2.33
PID No. 18710

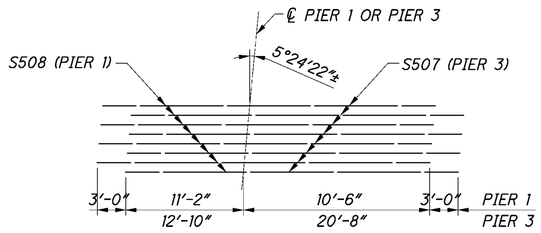
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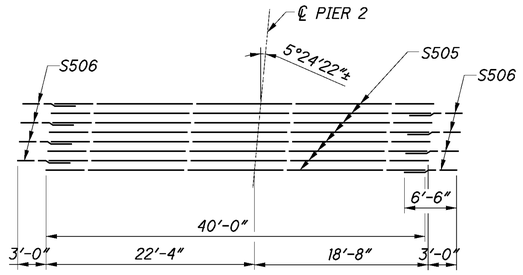
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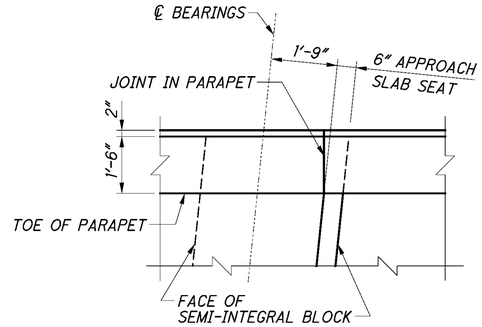
SLAB PLAN



STAGGER OF S508 BARS OVER PIER 1
STAGGER OF S507 BARS OVER PIER 3



STAGGER OF S505 & S506 BARS OVER PIER 2



DETAIL A

NOTES

TRANSVERSE SECTION: SEE SHEET 14/30.

COUNTERWEIGHT DETAILS: SEE SHEET 26/30.

REINFORCING STEEL LAP LENGTH: SEE SHEET 14/30.

ADDITIONAL NOTES: SEE SHEET 14/30.

NOTATION: R.A. - REAR ABUTMENT
F.A. - FORWARD ABUTMENT

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

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SLAB PLAN
BRIDGE NO. SUM-271-0354B
RAMP B OVER IR 77

SUM-271-2.33
PID No. 18710

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TOP OF HAUNCH ELEVATION TABLE

SPAN POINT	R.A. BRGS.	SPAN 1				PIER 1	SPAN 2					PIER 2
		1/4	1/2	OPTIONAL SPLICE	3/4		OPTIONAL SPLICE	1/4	1/2	SPLICE	3/4	
	STATIONS	STATIONS	STATIONS	STATIONS	STATIONS	STATIONS	STATIONS	STATIONS	STATIONS	STATIONS	STATIONS	STATIONS
	ELEVATIONS	ELEVATIONS	ELEVATIONS	ELEVATIONS	ELEVATIONS	ELEVATIONS	ELEVATIONS	ELEVATIONS	ELEVATIONS	ELEVATIONS	ELEVATIONS	ELEVATIONS
BEAM 1	185+84.90	186+02.46	186+20.03	186+36.90	186+37.59	186+55.15	186+74.40	186+78.84	187+02.53	187+21.07	187+26.21	187+49.90
	1124.03	1123.40	1122.71	1122.02	1121.99	1121.25	1120.45	1120.26	1119.24	1118.39	1118.14	1117.03
BEAM 2	185+84.00	186+01.57	186+19.13	186+36.00	186+36.69	186+54.25	186+73.51	186+77.94	187+01.63	187+20.17	187+25.32	187+49.00
	1124.21	1123.57	1122.89	1122.20	1122.16	1121.42	1120.63	1120.44	1119.41	1118.56	1118.32	1117.21
BEAM 3	185+83.11	186+00.67	186+18.23	186+35.11	186+35.80	186+53.36	186+72.61	186+77.05	187+00.73	187+19.28	187+24.42	187+48.11
	1124.38	1123.74	1123.06	1122.37	1122.34	1121.60	1120.80	1120.62	1119.59	1118.74	1118.50	1117.39
BEAM 4	185+82.21	185+99.77	186+17.34	186+34.21	186+34.90	186+52.46	186+71.71	186+76.15	186+99.84	187+18.38	187+23.52	187+47.21
	1124.55	1123.92	1123.24	1122.55	1122.51	1121.78	1120.98	1120.80	1119.77	1118.92	1118.68	1117.57

TOP OF HAUNCH ELEVATION TABLE

SPAN POINT	SPAN 3									PIER 3	SPAN 4	F.A. BRGS.
	1/8	1/4	SPLICE	3/8	1/2	5/8	3/4	OPTIONAL SPLICE	7/8		1/2	
	STATIONS	STATIONS	STATIONS	STATIONS	STATIONS	STATIONS	STATIONS	STATIONS	STATIONS	STATIONS	STATIONS	STATIONS
	ELEVATIONS	ELEVATIONS	ELEVATIONS	ELEVATIONS	ELEVATIONS	ELEVATIONS	ELEVATIONS	ELEVATIONS	ELEVATIONS	ELEVATIONS	ELEVATIONS	ELEVATIONS
BEAM 1	187+64.09	187+78.28	187+79.65	187+92.46	188+06.65	188+20.84	188+35.03	188+39.65	188+49.21	188+63.40	188+83.40	189+03.40
	1116.39	1115.75	1115.69	1115.10	1114.40	1113.67	1112.89	1112.64	1112.09	1111.29	1110.19	1109.08
BEAM 2	187+63.19	187+77.38	187+78.75	187+91.57	188+05.75	188+19.94	188+34.13	188+38.75	188+48.32	188+62.50	188+82.50	189+02.50
	1116.57	1115.94	1115.87	1115.28	1114.59	1113.85	1113.08	1112.82	1112.28	1111.47	1110.37	1109.27
BEAM 3	187+62.30	187+76.48	187+77.86	187+90.67	188+04.86	188+19.05	188+33.23	188+37.85	188+47.42	188+61.61	188+81.61	189+01.61
	1116.75	1116.12	1116.06	1115.46	1114.77	1114.04	1113.26	1113.01	1112.47	1111.66	1110.56	1109.46
BEAM 4	187+61.40	187+75.59	187+76.96	187+89.77	188+03.96	188+18.15	188+32.34	188+36.96	188+46.52	188+60.71	188+80.71	189+00.71
	1116.94	1116.30	1116.24	1115.65	1114.96	1114.22	1113.45	1113.19	1112.65	1111.85	1110.75	1109.65

SCREED ELEVATION TABLE

SPAN POINT	R.A. BRGS.	SPAN 1				PIER 1	SPAN 2					PIER 2
		1/4	1/2	OPTIONAL SPLICE	3/4		OPTIONAL SPLICE	1/4	1/2	SPLICE	3/4	
	STATIONS	STATIONS	STATIONS	STATIONS	STATIONS	STATIONS	STATIONS	STATIONS	STATIONS	STATIONS	STATIONS	STATIONS
	ELEVATIONS	ELEVATIONS	ELEVATIONS	ELEVATIONS	ELEVATIONS	ELEVATIONS	ELEVATIONS	ELEVATIONS	ELEVATIONS	ELEVATIONS	ELEVATIONS	ELEVATIONS
CURB LINE	185+85.15	186+02.71	186+20.27	186+37.14	186+37.83	186+55.40	186+74.65	186+79.08	187+02.77	187+21.31	187+26.46	187+50.15
	1124.70	1124.06	1123.37	1122.68	1122.65	1121.91	1121.11	1120.92	1119.90	1119.04	1118.80	1117.69
PROFILE GRADE	185+82.87	186+00.43	186+18.00	186+34.87	186+35.56	186+53.12	186+72.37	186+76.81	187+00.50	187+19.04	187+24.18	187+47.87
	1125.13	1124.50	1123.82	1123.13	1123.09	1122.35	1121.56	1121.37	1120.35	1119.50	1119.26	1118.15
CURB LINE	185+82.04	185+99.60	186+17.17	186+34.04	186+34.73	186+52.29	186+71.55	186+75.98	186+99.67	187+18.21	187+23.35	187+47.04
	1125.29	1124.66	1123.98	1123.29	1123.25	1122.52	1121.72	1121.54	1120.51	1119.67	1119.42	1118.32

SCREED ELEVATION TABLE

SPAN POINT	SPAN 3									PIER 3	SPAN 4	F.A. BRGS.
	1/8	1/4	SPLICE	3/8	1/2	5/8	3/4	OPTIONAL SPLICE	7/8		1/2	
	STATIONS	STATIONS	STATIONS	STATIONS	STATIONS	STATIONS	STATIONS	STATIONS	STATIONS	STATIONS	STATIONS	STATIONS
	ELEVATIONS	ELEVATIONS	ELEVATIONS	ELEVATIONS	ELEVATIONS	ELEVATIONS	ELEVATIONS	ELEVATIONS	ELEVATIONS	ELEVATIONS	ELEVATIONS	ELEVATIONS
CURB LINE	187+64.33	187+78.52	187+79.89	187+92.71	188+06.90	188+21.08	188+35.27	188+39.89	188+49.46	188+63.65	188+83.65	189+03.65
	1117.05	1116.41	1116.35	1115.75	1115.06	1114.33	1113.55	1113.29	1112.75	1111.94	1110.84	1109.74
PROFILE GRADE	187+62.06	187+76.25	187+77.62	187+90.43	188+04.62	188+18.81	188+33.00	188+37.61	188+47.18	188+61.37	188+81.37	189+01.37
	1117.51	1116.88	1116.81	1116.22	1115.53	1114.80	1114.02	1113.76	1113.22	1112.42	1111.32	1110.22
CURB LINE	187+61.23	187+75.42	187+76.79	187+89.60	188+03.79	188+17.98	188+32.17	188+36.79	188+46.35	188+60.54	188+80.54	189+00.54
	1117.68	1117.04	1116.98	1116.39	1115.70	1114.97	1114.19	1113.94	1113.40	1112.59	1111.49	1110.39

NOTES

TOP OF HAUNCH ELEVATIONS *SHOWN REPRESENT THE THEORETICAL LOCATION OF THE BOTTOM OF THE DECK ABOVE THE BEAM HAUNCH PRIOR TO DEFLECTIONS CAUSED BY DECK PLACEMENT AND OTHER ANTICIPATED DEAD LOADS.*

SCREED ELEVATIONS *SHOWN REPRESENT THE THEORETICAL DECK SURFACE LOCATION PRIOR TO DEFLECTIONS CAUSED BY DECK PLACEMENT AND OTHER ANTICIPATED DEAD LOADS.*

NOTATION: *R.A. - REAR ABUTMENT*
F.A. - FORWARD ABUTMENT

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

DESIGNED KAK | DRAWN KH | REVIEWED DAP | DATE 10/5/12
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DECK ELEVATION TABLE - 1
BRIDGE NO. SUM-271-0354B
RAMP B OVER IR 77

SUM-271-2.33
PID No. 18710

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FINISH DECK SURFACE ELEVATION TABLE

SPAN POINT	R.A. BRGS.	SPAN 1				PIER 1	SPAN 2					PIER 2
		1/4	1/2	OPTIONAL SPLICE	3/4		OPTIONAL SPLICE	1/4	1/2	SPLICE	3/4	
	STATIONS	STATIONS	STATIONS	STATIONS	STATIONS	STATIONS	STATIONS	STATIONS	STATIONS	STATIONS	STATIONS	STATIONS
	ELEVATIONS	ELEVATIONS	ELEVATIONS	ELEVATIONS	ELEVATIONS	ELEVATIONS	ELEVATIONS	ELEVATIONS	ELEVATIONS	ELEVATIONS	ELEVATIONS	ELEVATIONS
CURB LINE	185+85.15	186+02.71	186+20.27	186+37.14	186+37.83	186+55.40	186+74.65	186+79.08	187+02.77	187+21.31	187+26.46	187+50.15
	1124.70	1124.03	1123.34	1122.66	1122.63	1121.91	1121.09	1120.90	1119.86	1119.03	1118.79	1117.69
BEAM 1	185+84.90	186+02.46	186+20.03	186+36.90	186+37.59	186+55.15	186+74.40	186+78.84	187+02.53	187+21.07	187+26.21	187+49.90
	1124.74	1124.07	1123.39	1122.71	1122.68	1121.96	1121.14	1120.95	1119.91	1119.08	1118.84	1117.74
BEAM 2	185+84.00	186+01.57	186+19.13	186+36.00	186+36.69	186+54.25	186+73.51	186+77.94	187+01.63	187+20.17	187+25.32	187+49.00
	1124.92	1124.25	1123.56	1122.88	1122.85	1122.13	1121.32	1121.13	1120.09	1119.26	1119.02	1117.92
BEAM 3	185+83.11	186+00.67	186+18.23	186+35.11	186+35.80	186+53.36	186+72.61	186+77.05	187+00.73	187+19.28	187+24.42	187+48.11
	1125.09	1124.42	1123.73	1123.06	1123.03	1122.31	1121.50	1121.31	1120.27	1119.44	1119.20	1118.10
PROFILE GRADE	185+82.87	186+00.43	186+18.00	186+34.87	186+35.56	186+53.12	186+72.37	186+76.81	187+00.50	187+19.04	187+24.18	187+47.87
	1125.13	1124.47	1123.78	1123.10	1123.08	1122.35	1121.54	1121.35	1120.32	1119.48	1119.25	1118.15
BEAM 4	185+82.21	185+99.77	186+17.34	186+34.21	186+34.90	186+52.46	186+71.71	186+76.15	186+99.84	187+18.38	187+23.52	187+47.21
	1125.26	1124.59	1123.91	1123.23	1123.21	1122.48	1121.67	1121.48	1120.45	1119.62	1119.38	1118.28
CURB LINE	185+82.04	185+99.60	186+17.17	186+34.04	186+34.73	186+52.29	186+71.55	186+75.98	186+99.67	187+18.21	187+23.35	187+47.04
	1125.29	1124.63	1123.94	1123.27	1123.24	1122.52	1121.71	1121.52	1120.48	1119.65	1119.42	1118.32

FINISH DECK SURFACE ELEVATION TABLE

SPAN POINT	SPAN 3									PIER 3	SPAN 4	F.A. BRGS.
	1/8	1/4	SPLICE	3/8	1/2	5/8	3/4	OPTIONAL SPLICE	1/8		1/2	
	STATIONS	STATIONS	STATIONS	STATIONS	STATIONS	STATIONS	STATIONS	STATIONS	STATIONS	STATIONS	STATIONS	STATIONS
	ELEVATIONS	ELEVATIONS	ELEVATIONS	ELEVATIONS	ELEVATIONS	ELEVATIONS	ELEVATIONS	ELEVATIONS	ELEVATIONS	ELEVATIONS	ELEVATIONS	ELEVATIONS
CURB LINE	187+64.33	187+78.52	187+79.89	187+92.71	188+06.90	188+21.08	188+35.27	188+39.89	188+49.46	188+63.65	188+83.65	189+03.65
	1117.01	1116.32	1116.26	1115.62	1114.91	1114.19	1113.45	1113.21	1112.70	1111.94	1110.85	1109.74
BEAM 1	187+64.09	187+78.28	187+79.65	187+92.46	188+06.65	188+20.84	188+35.03	188+39.65	188+49.21	188+63.40	188+83.40	189+03.40
	1117.06	1116.37	1116.31	1115.67	1114.96	1114.24	1113.50	1113.26	1112.75	1112.00	1110.91	1109.79
BEAM 2	187+63.19	187+77.38	187+78.75	187+91.57	188+05.75	188+19.94	188+34.13	188+38.75	188+48.32	188+62.50	188+82.50	189+02.50
	1117.24	1116.56	1116.49	1115.86	1115.15	1114.42	1113.69	1113.45	1112.94	1112.18	1111.09	1109.98
BEAM 3	187+62.30	187+76.48	187+77.86	187+90.67	188+04.86	188+19.05	188+33.23	188+37.85	188+47.42	188+61.61	188+81.61	189+01.61
	1117.43	1116.74	1116.67	1116.04	1115.33	1114.61	1113.87	1113.63	1113.13	1112.37	1111.28	1110.17
PROFILE GRADE	187+62.06	187+76.25	187+77.62	187+90.43	188+04.62	188+18.81	188+33.00	188+37.61	188+47.18	188+61.37	188+81.37	189+01.37
	1117.47	1116.79	1116.72	1116.09	1115.38	1114.66	1113.92	1113.68	1113.18	1112.42	1111.33	1110.22
BEAM 4	187+61.40	187+75.59	187+76.96	187+89.77	188+03.96	188+18.15	188+32.34	188+36.96	188+46.52	188+60.71	188+80.71	189+00.71
	1117.61	1116.92	1116.85	1116.22	1115.51	1114.79	1114.06	1113.82	1113.31	1112.56	1111.47	1110.36
CURB LINE	187+61.23	187+75.42	187+76.79	187+89.60	188+03.79	188+17.98	188+32.17	188+36.79	188+46.35	188+60.54	188+80.54	189+00.54
	1117.64	1116.96	1116.89	1116.26	1115.55	1114.83	1114.09	1113.85	1113.35	1112.59	1111.50	1110.39

NOTES

FINAL DECK SURFACE ELEVATIONS *SHOWN REPRESENT THE DECK SURFACE LOCATION AFTER ALL ANTICIPATED DEAD LOAD DEFLECTIONS HAVE OCCURED.*

NOTATION: *R.A. - REAR ABUTMENT*
F.A. - FORWARD ABUTMENT

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

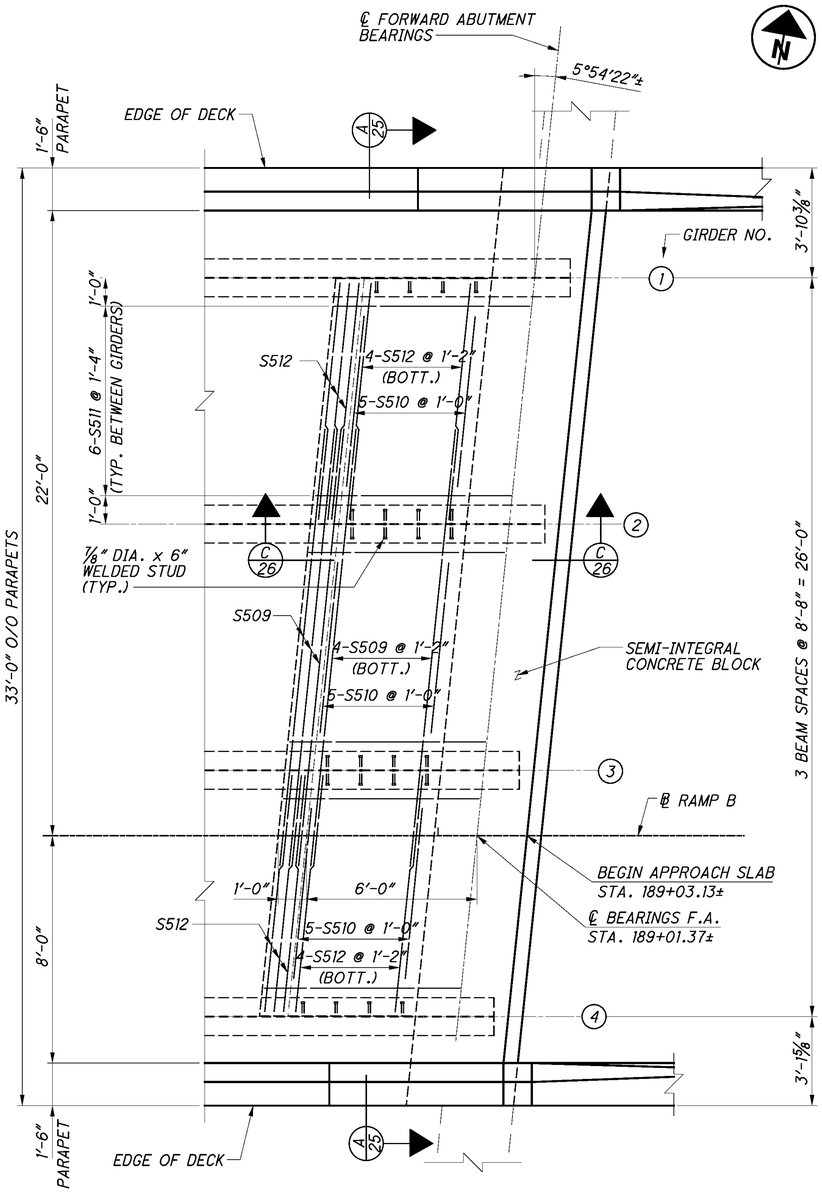
DESIGNED KAK | DRAWN KH | REVIEWED DAP | DATE 10/5/12 | CHECKED BLN | REVISED | STRUCTURE FILE NUMBER 7708882

DECK ELEVATION TABLE - 2
BRIDGE NO. SUM-271-0354B
RAMP B OVER IR 77

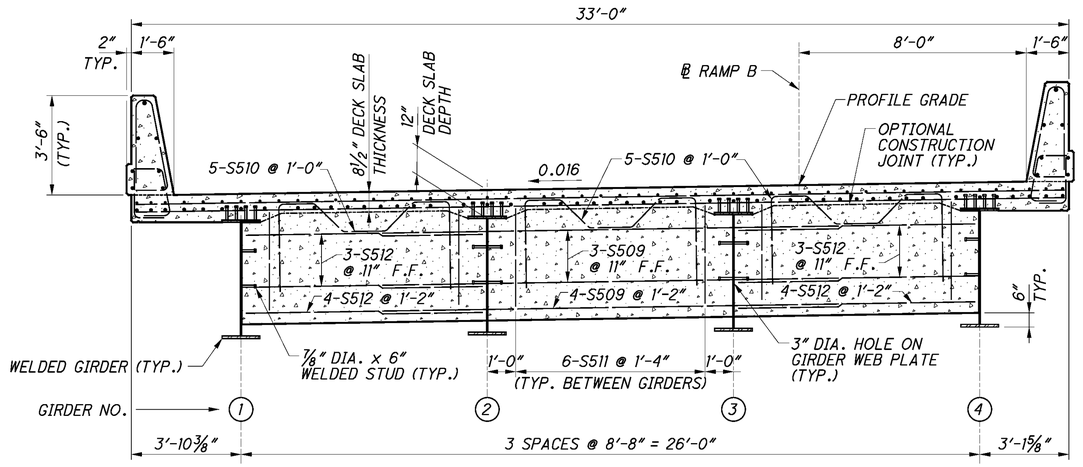
SUM-271-2.33
PID No. 18710

1088
1195

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CONCRETE COUNTERWEIGHT PLAN



SECTION A-A

NOTES

TRANSVERSE SECTION: *SEE SHEET 14/30.*

SEMI-INTEGRAL BLOCK REINFORCING DETAILS: *SEE SHEET 26/30.*

NOTATION: *F.A. - FORWARD ABUTMENT*

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

DESIGNED	DRAWN	REVIEWED	DATE
KAK	KH	DAP	10/5/12
CHECKED	REVISED		STRUCTURE FILE NUMBER
BLN			7708882

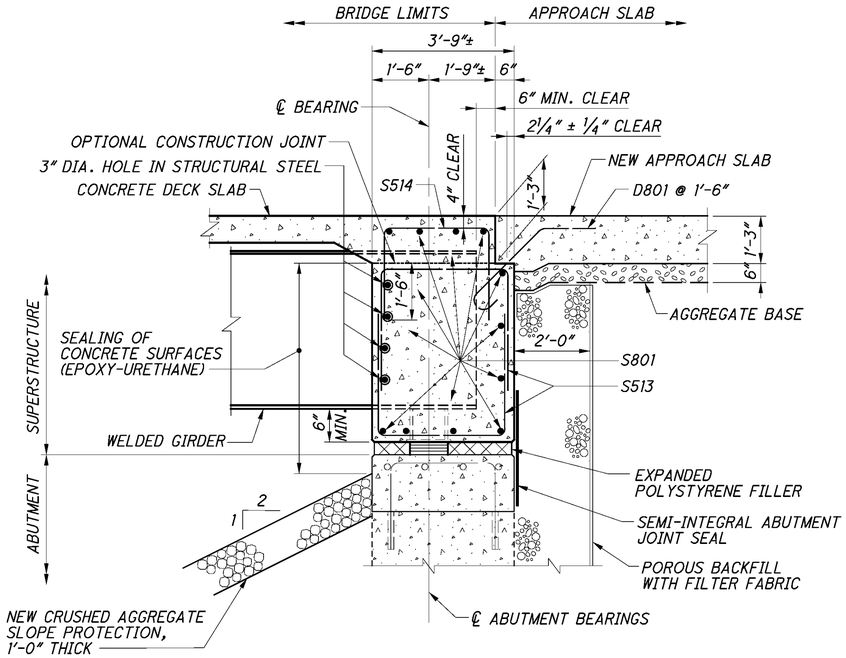
SUPERSTRUCTURE DETAILS - 1
BRIDGE NO. SUM-271-0354B
RAMP B OVER IR 77

SUM-271-2.33
PID No. 18710

25/30

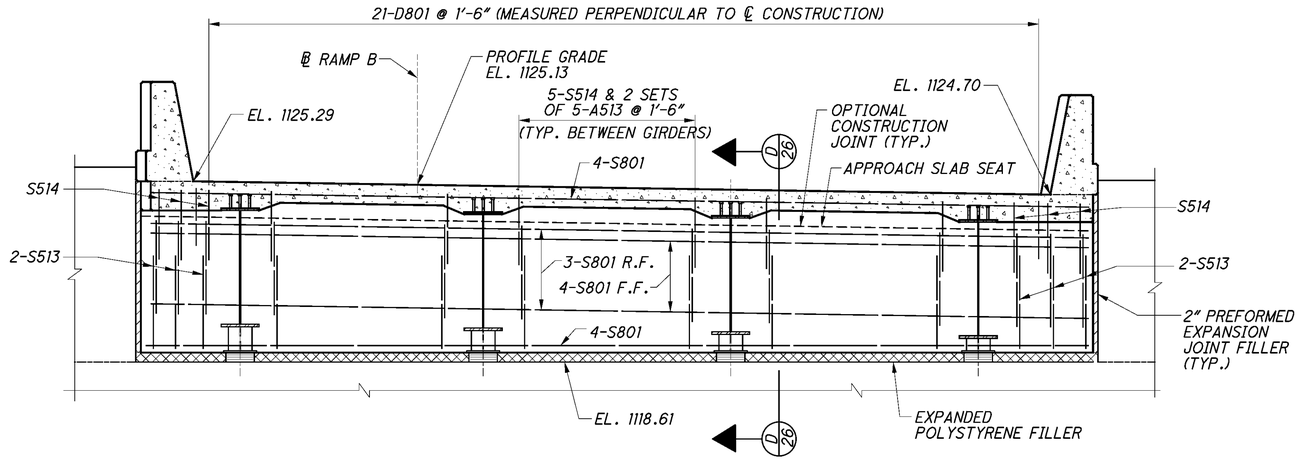
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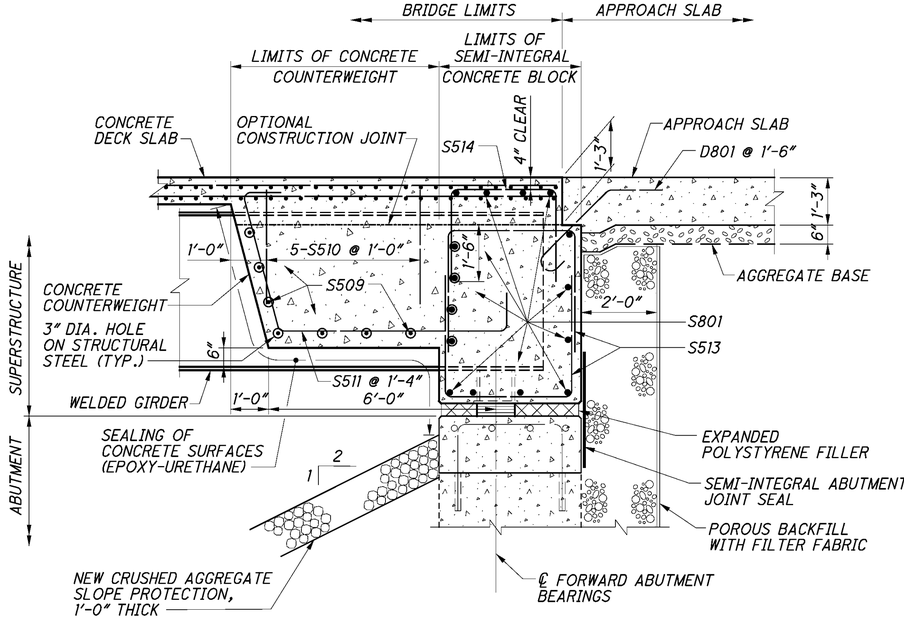
SECTION D-D

(DECK REINFORCING NOT SHOWN)



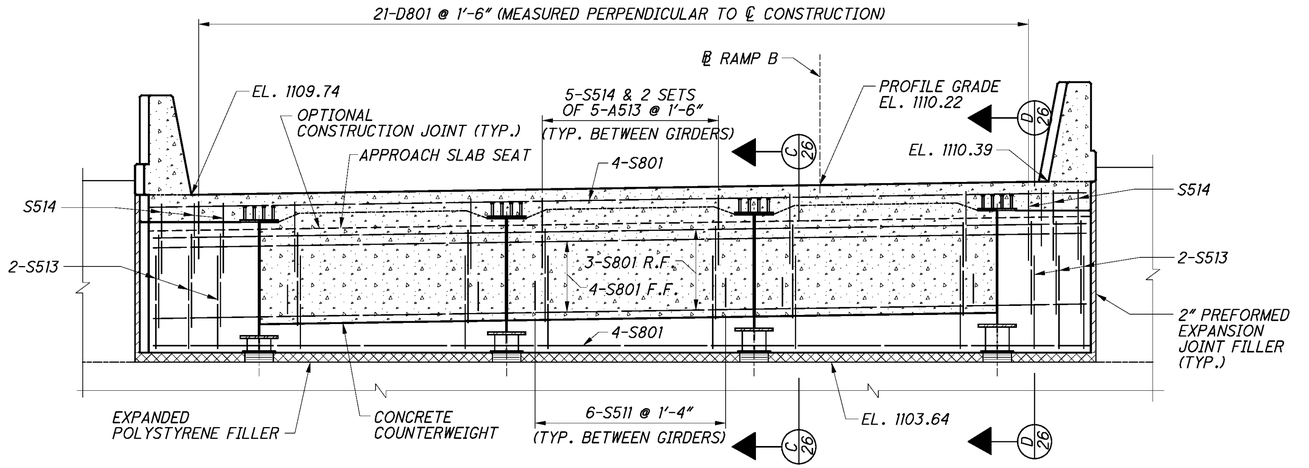
SECTION A-A

(DECK REINFORCING NOT SHOWN)



SECTION C-C

(SEE SECTION D-D FOR DIMENSIONS AND DETAILS NOT SHOWN)



SECTION B-B

(DECK REINFORCING NOT SHOWN)

NOTES

ABUTMENT DIAPHRAGM AND COUNTERWEIGHT CONCRETE: PLACE THE DIAPHRAGM AND COUNTERWEIGHT CONCRETE ENCASING THE STRUCTURAL MEMBER ENDS WITH THE DECK CONCRETE OR AT LEAST 48 HOURS BEFORE PLACEMENT OF THE DECK CONCRETE. IF PLACED SEPARATELY, LOCATE THE HORIZONTAL CONSTRUCTION JOINT BETWEEN THE DIAPHRAGM AND DECK CONCRETE AT THE APPROACH SLAB SEAT.

SECTIONS A-A & B-B: FOR LOCATION SEE SHEET 22/30.

SECTION C-C: FOR LOCATION SEE ALSO SHEET 25/30.

ELEVATIONS SHOWN ARE TAKEN AT CENTERLINE OF BEARING.

ADDITIONAL DETAILS: SEE STANDARD DRAWING SICD-1-96.

ADDITIONAL NOTES: SEE SHEET 14/20.

NOTATION: F.F - FRONT FACE
R.F. - REAR FACE

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

DESIGNED KAK | DRAWN KH | REVIEWED DAP | DATE 10/5/12
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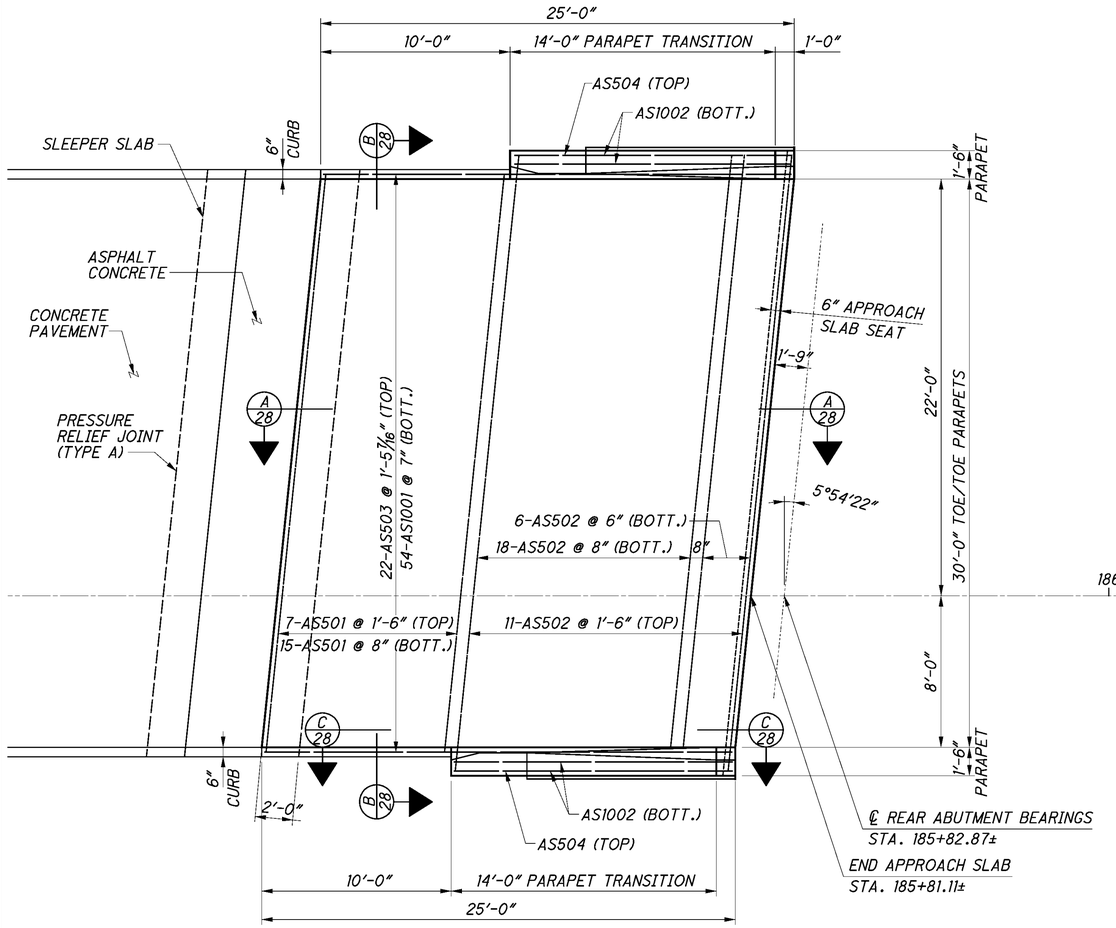
SUPERSTRUCTURE DETAILS - 2
BRIDGE NO. SUM-271-0354B
RAMP B OVER IR 77

SUM-271-2.33
PID No. 18710

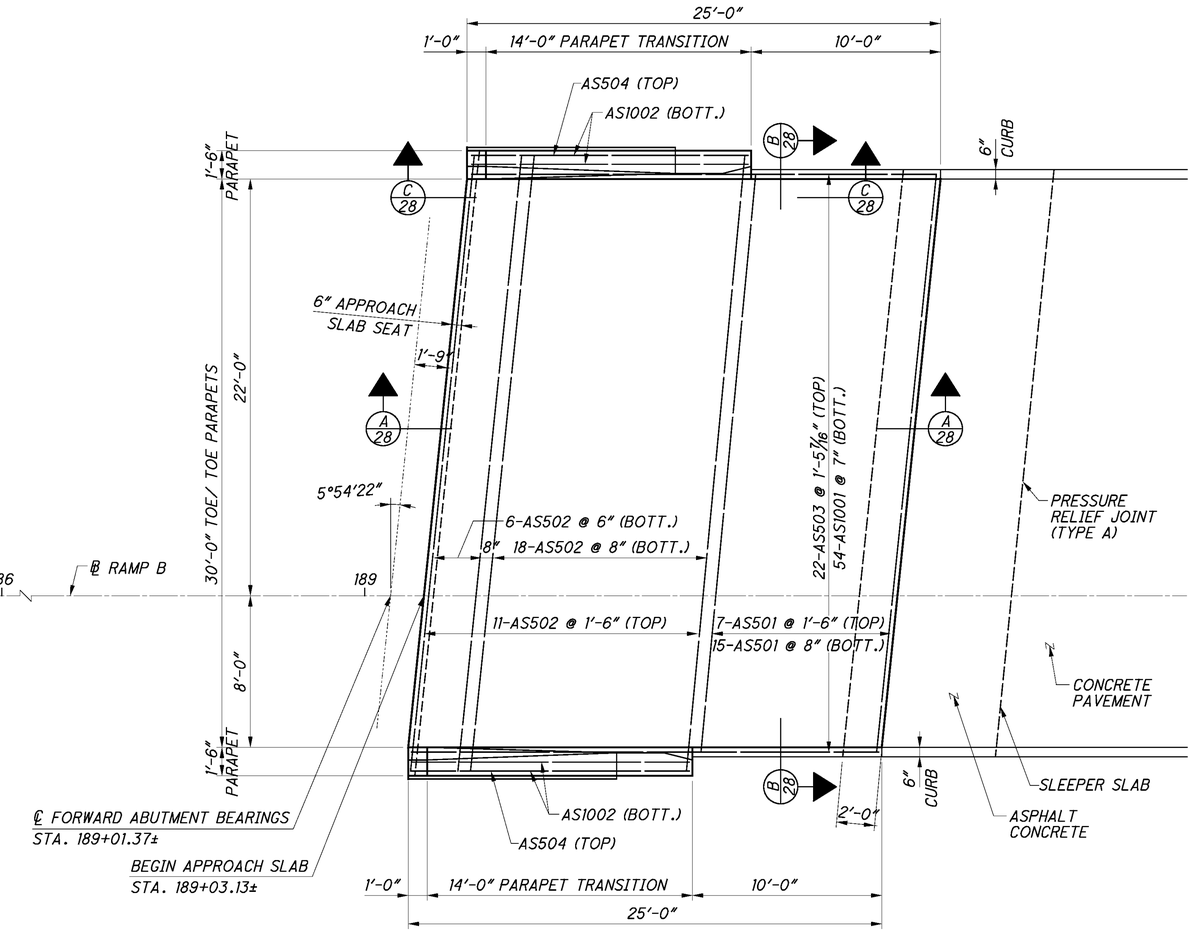
26 / 30

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1195

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REAR APPROACH SLAB PLAN



FORWARD APPROACH SLAB PLAN

NOTES

PARAPET TRANSITION DETAILS: SEE SHEET 28/30.

ADDITIONAL DETAILS: SEE STANDARD DRAWING AS-1-81.

REINFORCING STEEL SPLICE LENGTHS SHALL BE 2'-9" FOR #5 BARS.

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
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CHECKED BLN | REVISED | STRUCTURE FILE NUMBER 7708882

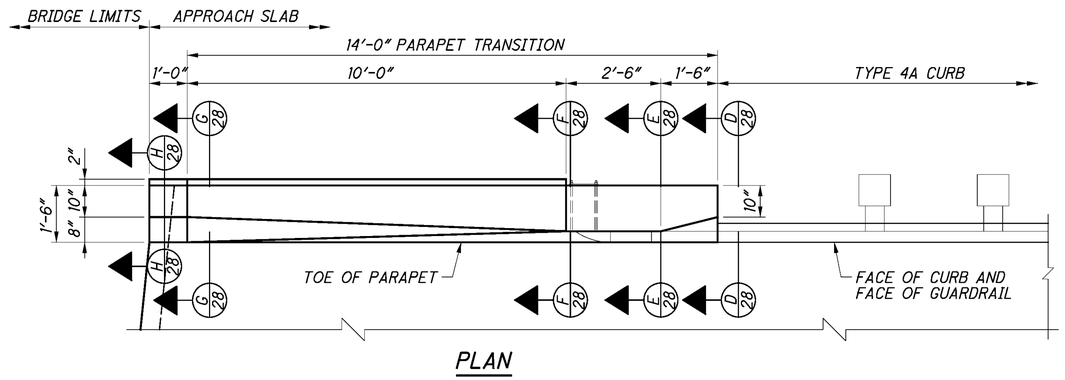
APPROACH SLAB
BRIDGE NO. SUM-271-0354B
RAMP B OVER IR 77

SUM-271-2.33
PID No. 18710

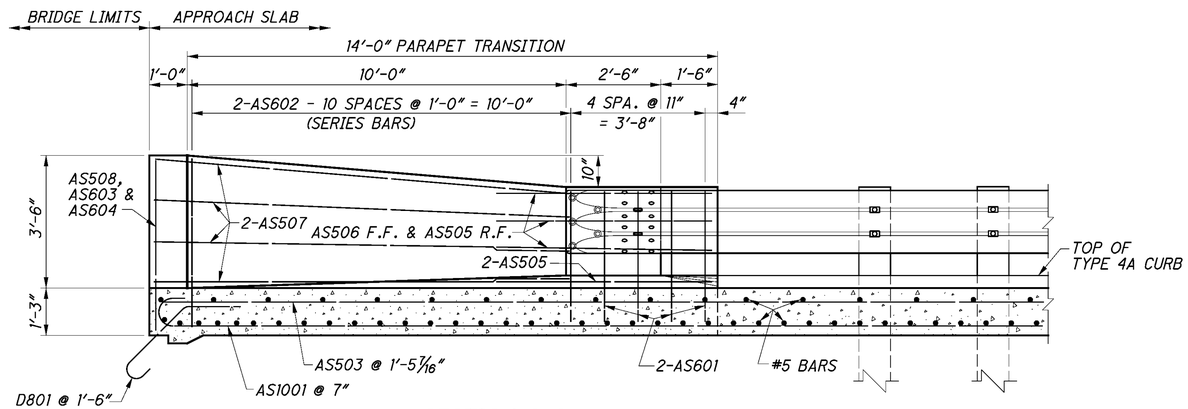
27/30

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1195

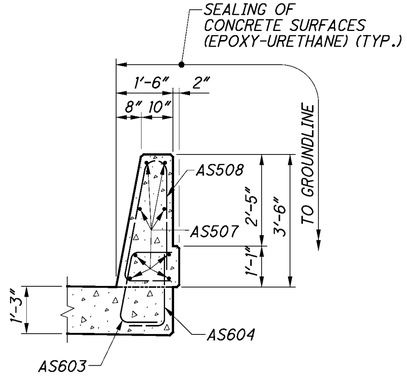
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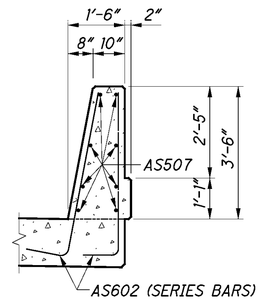
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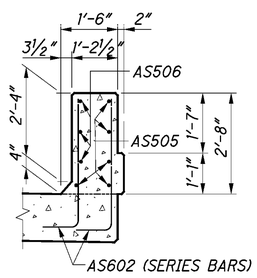
SECTION C-C



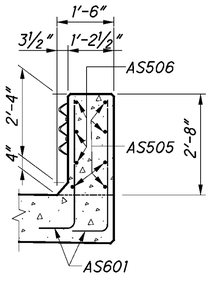
SECTION H-H



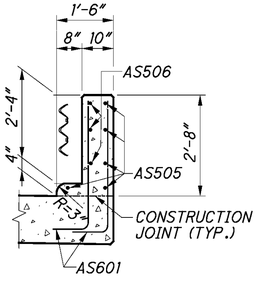
SECTION G-G



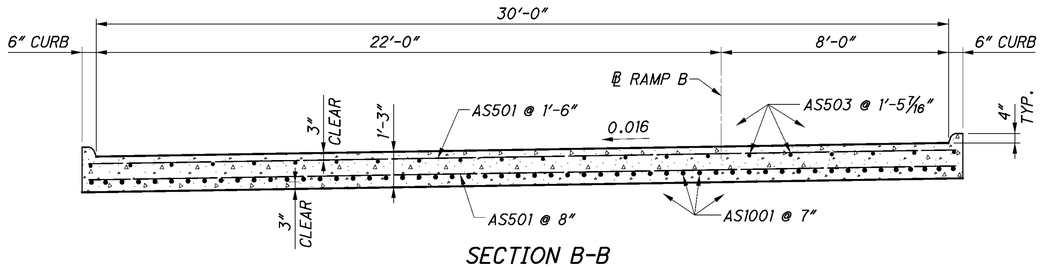
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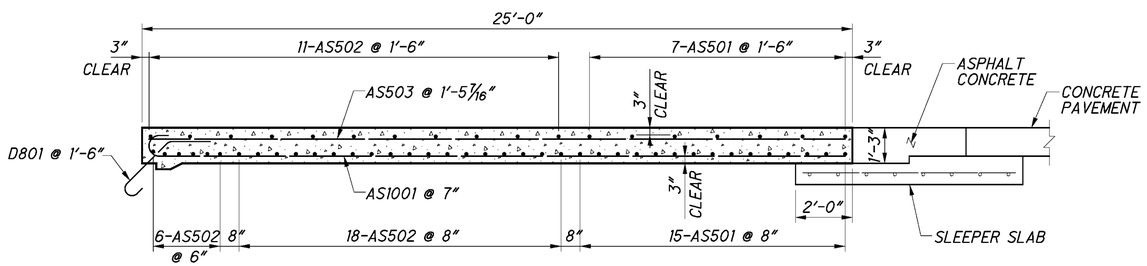
SECTION E-E



SECTION D-D



SECTION B-B



SECTION A-A

NOTES

CONCRETE PARAPETS: AS SOON AS A CONCRETE SAW CAN BE OPERATED WITHOUT DAMAGING THE FRESHLY PLACED CONCRETE, SAWCUT 1¼" DEEP CONTROL JOINTS INTO THE PERIMETER OF THE CONCRETE PARAPET STARTING AND ENDING AT THE ELEVATION OF THE CONCRETE DECK. PLACE THE SAWCUTS AT A MINIMUM OF 6 FEET AND A MAXIMUM OF 10 FEET CENTERS. USE AN EDGE GUIDE, FENCE, OR JIG TO ENSURE THAT THE CUT JOINT IS STRAIGHT, TRUE, AND ALIGNED ON ALL FACES OF THE PARAPET. THE JOINT WIDTH SHALL BE THE WIDTH OF THE SAW BLADE, A NOMINAL WIDTH OF ¼". SEAL THE PERIMETER OF THE DEFLECTION CONTROL JOINT TO A MINIMUM DEPTH OF 1 INCH WITH A POLYURETHANE OR POLYMERIC MATERIAL CONFORMING TO ASTM C920, TYPE S. LEAVE THE BOTTOM ½" OF THE INSIDE AND OUTSIDE FACE UNSEALED TO ALLOW WATER TO ESCAPE.

BRIDGE TERMINAL ASSEMBLIES: SEE STANDARD CONSTRUCTION DRAWINGS GR-3.1 AND GR-3.2.

ADDITIONAL RAILING DETAILS SEE STANDARD DRAWING SBR-1-99.

SECTIONS A-A, B-B, & C-C: FOR LOCATIONS SEE SHEET 27/30.

NOTATION: F.F. - FRONT FACE
R.F. - REAR FACE
E.F. - EACH FACE

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

DESIGNED	DRAWN	REVIEWED	DATE
KAK	KH	DAP	10/5/12
CHECKED	REVISED	STRUCTURE FILE NUMBER	
BLN		7708882	

APPROACH SLAB DETAILS
BRIDGE NO. SUM-271-0354B
RAMP B OVER IR 77

SUM-271-2.33
PID No. 18710

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MARK	NUMBER			LENGTH	WEIGHT	TYPE	DIMENSIONS						
	REAR	FORWARD	TOTAL				A	B	C	D	E	R	INC
ABUTMENTS												CALCULATED SJK CHECKED KAK	DATE 5/12 DATE 10/12
A501	40		40	5′-2″	216	1	2′-9″	2′-7″					
A502	20		20	21′-1″	440	2	9′-7″	2′-2″	9′-7″				
A503	1 SR OF 7		1 SR OF 7	6′-1″ TO 14′-3″	74	2	2′-1″ TO 6′-2″	2′-2″	2′-1″ TO 6′-2″				0′-8 1/8″+
A504	2		2	16′-9″	35	2	7′-5″	2′-2″	7′-5″				
A505	1		1	9′-7″	10	2	3′-10″	2′-2″	3′-10″				
A506	3		3	15′-1″	47	2	6′-7″	2′-2″	6′-7″				
A507	3		3	14′-7″	46	STR							
A508	3		3	14′-4″	45	STR							
A509	14	14	28	7′-9″	226	2	2′-11″	2′-2″	2′-11″				
A510	1 SR OF 3		1 SR OF 3	7′-0″ TO 11′-8″	29	STR							2′-4″
A511	1 SR OF 3		1 SR OF 3	6′-8″ TO 11′-5″	28	STR							2′-4 1/2″
A512	3		3	5′-3″	16	19	3′-1″	0′-3″	2′-3″				
A513	18	18	36	3′-11″	148	STR							
A514	2		2	16′-0″	33	STR							
A515	2		2	13′-1″	27	STR							
A516	2		2	12′-10″	27	STR							
A517	3		3	14′-0″	44	19	10′-10″	2′-10″	1′-5″				
A518	1 SR OF 4		1 SR OF 4	13′-4″ TO 13′-11″	57	STR							0′-2 5/16″+
A519	1		1	13′-11″	15	STR							
520	1		1	13′-4″	14	STR							
A521	2	2	4	32′-10″	136	STR							
A522	1		1	9′-9″	10	2	3′-11″	2′-2″	3′-11″				
A523	1 SR OF 7		1 SR OF 7	6′-1″ TO 13′-7″	72	2	2′-1″ TO 5′-10″	2′-2″	2′-1″ TO 5′-10″				0′-7 1/2″
A524	2		2	13′-7″	28	2	5′-10″	2′-2″	5′-10″				
A525	3		3	5′-11″	19	11	0′-4″	3′-0″	3′-1″				
A526	1 SR OF 4		1 SR OF 4	12′-3″ TO 12′-10″	52	STR							0′-2 5/16″+
A527	1		1	12′-3″	13	STR							
A528	1		1	12′-10″	13	STR							
A529	3		3	13′-7″	43	STR							
A530	3	3	6	13′-10″	86	STR							
A531	2		2	14′-11″	31	STR							
A532	2	2	4	11′-5″	48	STR							
A533	2		2	11′-7″	24	STR							
A534	1 SR OF 3		1 SR OF 3	5′-3″ TO 9′-11″	24	STR							2′-4″
A535	1 SR OF 3		1 SR OF 3	5′-6″ TO 10′-2″	25	STR							2′-4″
A536	3		3	12′-5″	39	19	9′-6″	2′-7″	1′-4″				
A537	4		4	11′-4″	47	2	4′-1″	3′-5″	4′-1″				
A538		40	40	5′-8″	236	1	2′-9″	3′-1″					
A539		19	19	22′-1″	438	2	10′-1″	2′-2″	10′-1″				
A540		1 SR OF 6	1 SR OF 6	6′-1″ TO 13′-1″	60	2	2′-1″ TO 5′-7″	2′-2″	2′-1″ TO 5′-7″				0′-8 3/8″+
A541		1	1	17′-5″	18	2	7′-9″	2′-2″	7′-9″				
A542		2	2	9′-11″	21	2	4′-0″	2′-2″	4′-0″				
A543		3	3	13′-1″	41	2	5′-7″	2′-2″	5′-7″				
A544		3	3	13′-8″	43	STR							
A545		3	3	13′-5″	42	STR							
A546		4	4	12′-4″	51	2	4′-7″	3′-5″	4′-7″				
A547		2	2	14′-7″	30	STR							

MARK	NUMBER			LENGTH	WEIGHT	TYPE	DIMENSIONS						
	REAR	FORWARD	TOTAL				A	B	C	D	E	R	INC
ABUTMENTS												CALCULATED SJK CHECKED KAK	DATE 5/12 DATE 10/12
A548		2	2	11′-1″	23	STR							
A549		1 SR OF 3	1 SR OF 3	6′-3″ TO 10′-11″	27	STR							2′-4″
A550		1 SR OF 3	1 SR OF 3	6′-0″ TO 10′-8″	26	STR							2′-4″
A551		3	3	12′-2″	38	19	9′-0″	2′-10″	1′-5″				
A552		1 SR OF 4	1 SR OF 4	12′-4″ TO 13′-0″	53	STR							0′-2 5/8″+
A553		1	1	13′-0″	14	STR							
A554		1	1	12′-4″	13	STR							
A555		3	3	5′-11″	19	19	3′-1″	0′-4″	2′-11″				
A557		1 SR OF 7	1 SR OF 7	6′-1″ TO 13′-7″	72	2	2′-1″ TO 5′-10″	2′-2″	2′-1″ TO 5′-10″				0′-7 1/2″
A558		3	3	14′-7″	46	2	6′-4″	2′-2″	6′-4″				
A559		1	1	12′-6″	13	STR							
A560		1	1	13′-2″	14	STR							
A561		3	3	14′-1″	44	STR							
A562		2	2	15′-9″	33	STR							
A563		2	2	12′-5″	26	STR							
A564		2	2	12′-7″	26	STR							
A565		1 SR OF 3	1 SR OF 3	6′-2″ TO 10′-11″	27	STR							2′-4 1/2″
		1 SR	1 SR	6′-5″									
A566		OF	OF	TO	27	STR							2′-4″
		3	3	11′-1″									
A567		3	3	13′-7″	43	19	10′-7″	2′-8″	1′-4″				
A568		1	1	17′-7″	18	2	7′-10″	2′-2″	7′-10″				
A569		3	3	5′-3″	16	11	0′-4″	3′-1″	2′-4″				
A570		1 SR OF 4	1 SR OF 4	12′-6″ TO 13′-2″	54	STR							0′-2 5/16″+
A601	44	42	86	10′-9″	1389	2	2′-7″	5′-11″	2′-7″				
A801	4	4	8	32′-10″	702	STR							
A802	3		3	19′-4″	155	STR							
A803	3		3	18′-0″	144	STR							
A804	1 SR OF 4		1 SR OF 4	13′-4″ TO 13′-11″	146	STR							0′-2 5/16″+
A805	1 SR OF 4		1 SR OF 4	12′-3″ TO 12′-10″	134	STR							0′-2 5/16″+
A806	8	8	16	8′-1″	346	STR							
A807		3	3	17′-10″	143	STR							
A808		3	3	18′-10″	151	STR							
A809		1 SR OF 4	1 SR OF 4	12′-4″ TO 13′-0″	135	STR							0′-2 5/8″+
A810		1 SR OF 4	1 SR OF 4	12′-6″ TO 13′-2″	137	STR							0′-2 5/8″+
				TOTAL	7521								

NOTES

BENDING DIAGRAMS: SEE SHEET 30/30.

ADDITIONAL NOTES: SEE SHEET 30/30.

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

DESIGNED KAK | DRAWN KH | REVIEWED DAP | DATE 10/5/12
CHECKED BLN | REVISED | STRUCTURE FILE NUMBER 7708882

REINFORCING STEEL LIST - 1

BRIDGE NO. SUM-271-0354B
RAMP B OVER IR 77

SUM-271-2.33
PID No. 18710

29/30

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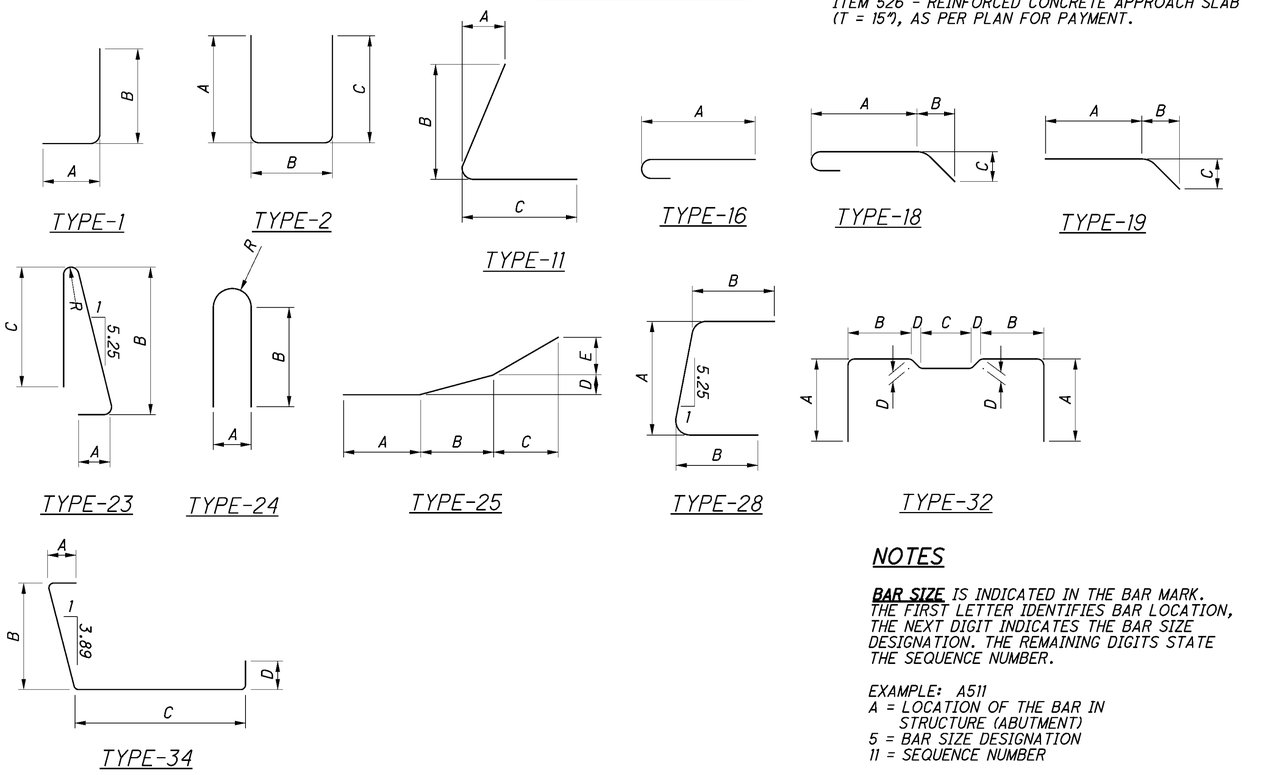
MARK	NUMBER TOTAL	LENGTH	WEIGHT	TYPE	DIMENSIONS A	B	C	D	E	R	INC
PIER										CALCULATED SJK DATE 5/12 CHECKED KH DATE 9/12	
P501	24	26'-2"	655	STR							
P502	24	10'-9"	269	24	2'-6"	3'-5"				1'-2 3/8"	
P503	24	9'-9"	244	2	3'-8"	2'-8"	3'-8"				
P504	46	10'-1"	484	2	3'-10"	2'-8"	3'-10"				
P505	46	10'-5"	500	2	4'-0'	2'-8"	4'-0"				
P506	22	10'-9"	247	2	4'-2"	2'-8"	4'-2"				
P507	12	6'-8"	83	STR							
P508	12	5'-5"	68	1	3'-0"	2'-6"					
P509	33	8'-1"	278	2	3'-0"	2'-4"	3'-0"				
P801	6	35'-5"	567	2	4'-10"	26'-2"	4'-10"				
P802	6	37'-11"	607	2	4'-10"	28'-8"	4'-10"				
P1001	6	35'-2"	908	2	4'-10"	26'-2"	4'-10"				
P1002	6	37'-8"	972	2	4'-10"	28'-8"	4'-10"				
TOTAL			5882								

MARK	NUMBER REAR	FORWARD	TOTAL	LENGTH	WEIGHT	TYPE	DIMENSIONS A	B	C	D	E	R	INC
APPROACH SLAB											CALCULATED KH DATE 5/11 CHECKED KAK DATE 5/12		
AS501	22	22	44	30'-8"	1407	STR							
AS502	35	35	70	32'-8"	2385	STR							
AS503	22	22	44	24'-6"	1124	STR							
AS504	2	2	4	14'-8"	61	STR							
AS505	10	10	20	5'-6"	115	STR							
AS506	6	6	12	5'-7"	70	25	1'-8"	2'-5"	1'-5"	0'-1 1/2"	0'-5"		
AS507	16	16	32	11'-0"	367	STR							
AS508	2	2	4	7'-5"	31	23	1'-1"	3'-2"	3'-0"			0'-2 3/4"	
AS601	16	16	32	4'-4"	208	1	1'-1"	3'-5"					
AS602	2 SR OF 11	2 SR OF 11	4 SR OF 11	4'-4" TO 5'-2"	314	1	1'-1"	3'-5" TO 4'-3"					0'-1"
AS603	2	2	4	3'-9"	23	28	1'-11"	1'-1"					
AS604	2	2	4	2'-10"	17	1	1'-1"	1'-11"					
AS1001	54	54	108	25'-11"	12044	16	24'-6"						
AS1002	4	4	8	16'-1"	554	16	14'-8"						
				TOTAL	18,720 *								

* REINFORCING STEEL WEIGHT SHOWN FOR INFORMATIONAL PURPOSES ONLY. REINFORCING STEEL INCLUDED WITH ITEM 526 - REINFORCED CONCRETE APPROACH SLAB (T = 15"), AS PER PLAN FOR PAYMENT.

MARK	NUMBER TOTAL	LENGTH	WEIGHT	TYPE	DIMENSIONS A	B	C	D	E	R	INC
SUPERSTRUCTURE										CALCULATED KH DATE 5/11 CHECKED KAK DATE 9/12	
S401	561	30'-0"	11,242	STR							
S402	51	18'-4"	625	STR							
S501	528	30'-0"	16,521	STR							
S502	1628	32'-10"	55,751	STR							
S503	108	38'-10"	4374	STR							
S504	646	7'-5"	4997	23	1'-1"	3'-2"	3'-0"			0'-2 3/4"	
S505	48	40'-0"	2003	STR							
S506	48	6'-6"	325	STR							
S507	48	36'-6"	1827	STR							
S508	48	24'-8"	1235	STR							
S509	7	15'-5"	113	STR							
S510	15	12'-4"	193	32	3'-0"	1'-3"	1'-6"	1'-0"			
S511	18	11'-6"	216	34	1'-0"	3'-9"	6'-0"	1'-0"			
S512	14	8'-4"	122	STR							
S513	84	9'-8"	847	2	3'-3"	3'-5"	3'-3"				
S514	42	7'-6"	329	2	2'-5"	2'-11"	2'-5"				
S515	48	19'-3"	964	STR							
S601	18	39'-6"	1068	STR							
S602	646	2'-8"	2587	1	1'-1"	1'-9"					
S603	646	3'-7"	3477	28	1'-9"	1'-1"					
S801	30	32'-10"	2630	STR							
D801	42	4'-10"	542	18	2'-8"	1'-0"	1'-0"				
TOTAL			111,988								

BENDING DIAGRAMS



NOTES

BAR SIZE IS INDICATED IN THE BAR MARK. THE FIRST LETTER IDENTIFIES BAR LOCATION, THE NEXT DIGIT INDICATES THE BAR SIZE DESIGNATION. THE REMAINING DIGITS STATE THE SEQUENCE NUMBER.

EXAMPLE: A511
A = LOCATION OF THE BAR IN STRUCTURE (ABUTMENT)
5 = BAR SIZE DESIGNATION
11 = SEQUENCE NUMBER

BAR DIMENSIONS SHOWN ARE OUT TO OUT UNLESS OTHERWISE INDICATED. R INDICATES INSIDE RADIUS, UNLESS OTHERWISE NOTED.

ALL REINFORCING STEEL TO BE EPOXY COATED, PER CMS 709.00.

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

DESIGNED KAK | DRAWN KH | REVIEWED DAP | DATE 10/5/12
CHECKED BLN | REVISED | STRUCTURE FILE NUMBER 7708882

REINFORCING STEEL LIST - 2

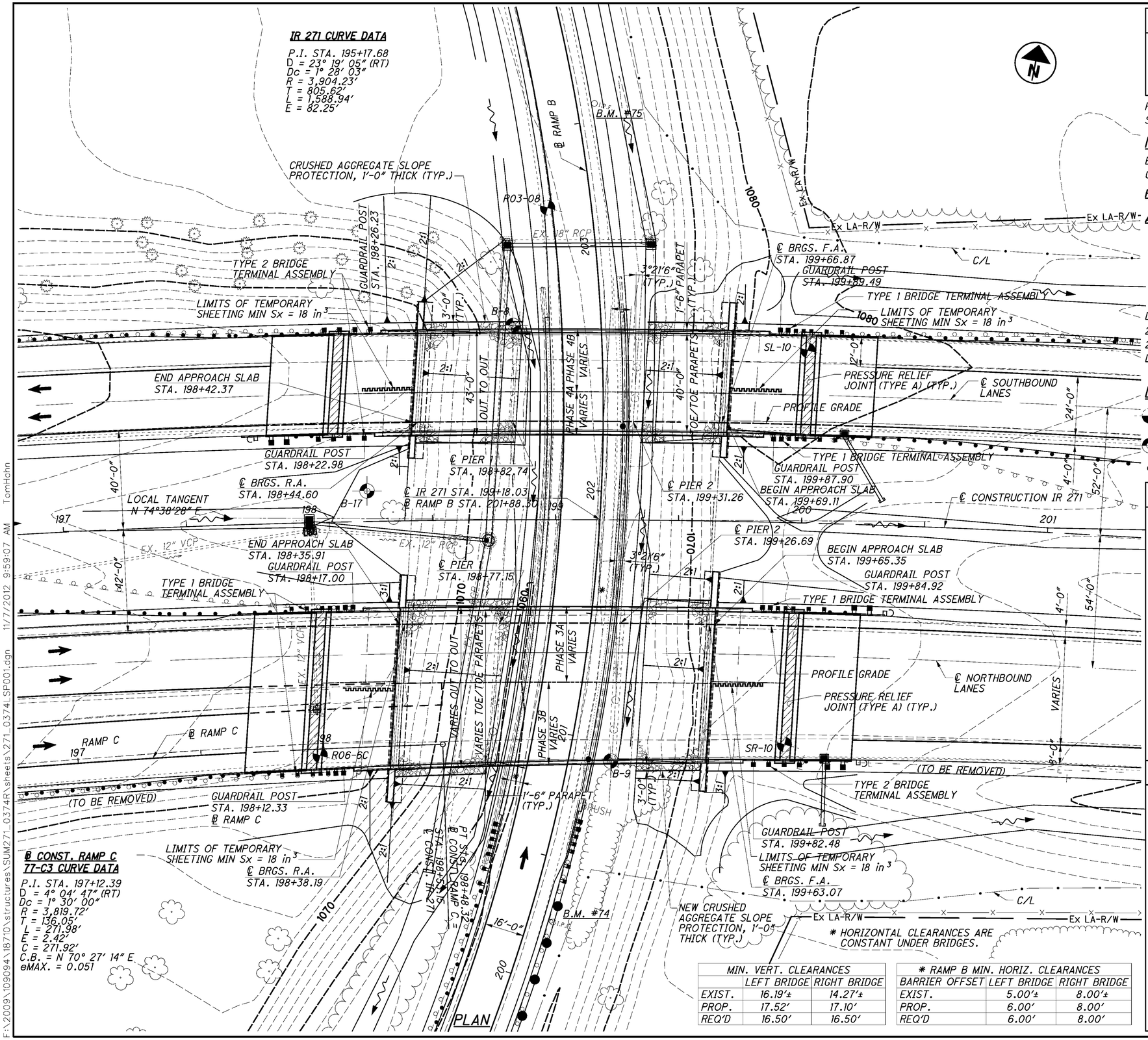
BRIDGE NO. SUM-271-0354B
RAMP B OVER IR 77

SUM-271-2.33
PID No. 18710

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MIN. VERT. CLEARANCES		
	LEFT BRIDGE	RIGHT BRIDGE
EXIST.	16.19'±	14.27'±
PROP.	17.52'	17.10'
REQ'D	16.50'	16.50'

* RAMP B MIN. HORIZ. CLEARANCES		
BARRIER OFFSET	LEFT BRIDGE	RIGHT BRIDGE
EXIST.	5.00'±	8.00'±
PROP.	6.00'	8.00'
REQ'D	6.00'	8.00'

BENCHMARK DATA

BM #74 STA. 198+98.91, ELEV. 1061.29, OFFSET 163.45' RT
BM #75 STA. 199+15.13, ELEV. 1063.11, OFFSET 169.22' LT

FOR ADDITIONAL BENCHMARK INFORMATION. SEE ROADWAY PLAN SHEET 301.

NOTES

EARTHWORK LIMITS SHOWN ARE APPROXIMATE. ACTUAL SLOPES SHALL CONFORM TO PLAN CROSS SECTIONS.

PROPOSED WORK NOTE: SEE SHEET 4/58.

ASBESTOS NOTE: SEE SHEET 5/58.

DESIGN TRAFFIC:
2015 ADT = 38220 2015 ADTT = 6880
2035 ADT = 42340 2035 ADTT = 7621
DIRECTIONAL DISTRIBUTION = 0.60

LEGEND

- 2005 AND 2010 SOIL BORING LOCATIONS
- ORIGINAL 1965 SOIL BORING LOCATION
- MINIMUM VERTICAL CLEARANCE

EXISTING STRUCTURE

TYPE: CONTINUOUS STEEL BEAM WITH REINFORCED CONCRETE DECK AND SUBSTRUCTURE.
SPANS: 38'-6"±, 49'-0"±, 36'-0"± C/C BEARINGS ALONG LOCAL TANGENT
ROADWAY: 38'-0"± (LEFT) / VARIES (RIGHT) TOE/TOE PARAPETS
LOADING: CF 2000
SKEW: 3°21'06"± L.F. TO LOCAL TANGENT
APPROACH SLABS: 25'-0"± LONG (AS-1-54 LEFT, SPECIAL RIGHT)
ALIGNMENT: 1°28'00"± CURVE RIGHT
WEARING SURFACE: ASPHALT CONCRETE
SUPERELEVATION: 0.047± FT/FT LT. / 0.047± FT/FT RT.
STRUCTURE FILE NUMBER: 7708912 (LEFT) / 7708947 (RIGHT)
DATE BUILT: 1971
DISPOSITION: REMOVE SUPERSTRUCTURE, REUSE SUBSTRUCTURE.

PROPOSED STRUCTURE

PROPOSED WORK: NEW CONTINUOUS GALVANIZED STEEL BEAM SUPERSTRUCTURE COMPOSITE WITH REINFORCED CONCRETE DECK ON MODIFIED REUSED SEMI-INTEGRAL ABUTMENTS AND REUSED PIERS.
SPANS: 38'-6"±, 49'-0"±, 36'-0"± C/C BEARINGS ALONG LOCAL TANGENT
ROADWAY: 40'-0" (LEFT) / VARIES (RIGHT) TOE/TOE PARAPET
LOADING: HS25 CASE I, ALTERNATE MILITARY AND 60 PSF FUTURE WEARING SURFACE
SKEW: 3°21'06" L.F. TO LOCAL TANGENT
APPROACH SLABS: 30'-0" LONG (AS-1-81)
ALIGNMENT: 1°28'03" CURVE RIGHT
WEARING SURFACE: MONOLITHIC CONCRETE
SUPERELEVATION: 0.051
COORDINATES: LATITUDE 41°13'45" N
LONGITUDE 81°37'25" W

STA. 198+42.37 LT.
STA. 199+69.11 LT.
STA. 198+35.91 RT.
STA. 199+65.35 RT.

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

DESIGNED KAK | DRAWN JLS | REVIEWED DAP | DATE 10/5/12
CHECKED BLN | REVISED | STRUCTURE FILE NUMBER L7708912/R7708947

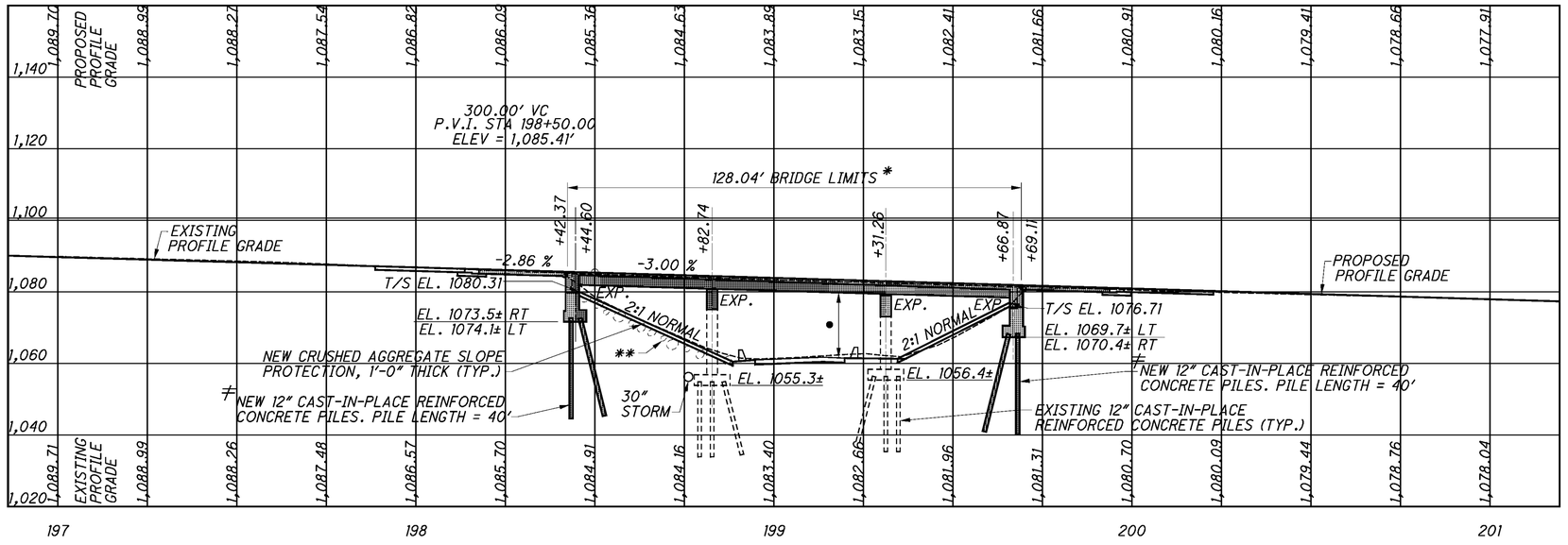
SITE PLAN - 1
BRIDGE NO. SUM-271-0375 L&R
IR 271 OVER RAMP B

SUM-271-2.33
PID No. 18710

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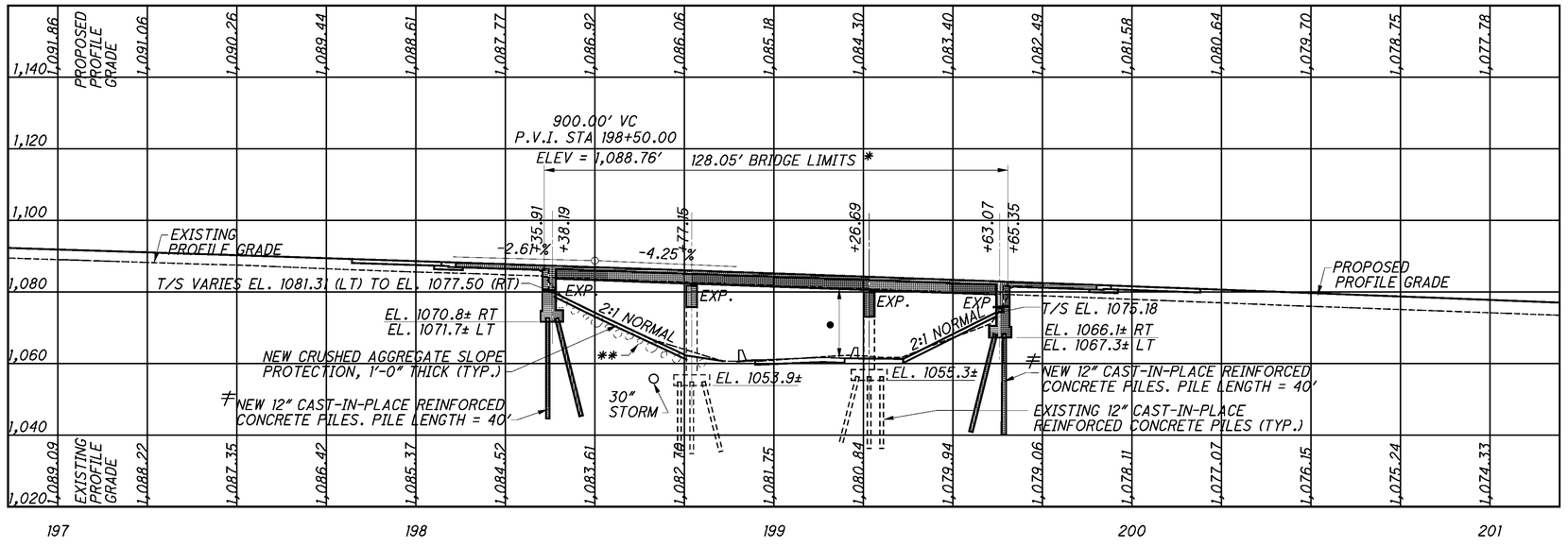
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ELEVATION

(ALONG SOUTHBOUND LEFT PROFILE GRADE)



ELEVATION

(ALONG NORTHBOUND RIGHT PROFILE GRADE)

LEGEND

≠ NEW ABUTMENT WITH NEW 12" CAST-IN-PLACE REINFORCED CONCRETE PILES FOR NEW STRAIGHT WINGWALLS ONLY.

• MINIMUM VERTICAL CLEARANCE.

* BRIDGE LIMITS SHOWN ARE TAKEN ALONG THE PROFILE GRADE. STATIONING SHOWN IS TAKEN ALONG ℄ CONSTRUCTION IR 271.

** EXISTING ROCK CHANNEL PROTECTION, 2'± THICK, TO REMAIN.

NOTES

VERTICAL CLEARANCES: SEE SHEET 1/58.

STA. 198+42.37 LT.
STA. 199+69.11 LT.
STA. 198+35.91 RT.
STA. 199+65.35 RT.

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

DESIGNED	DRAWN	REVIEWED	DATE
KAK	JLS	DAP	10/5/12
CHECKED	REVISED	STRUCTURE FILE NUMBER	
BLN		L7708912/RT708947	

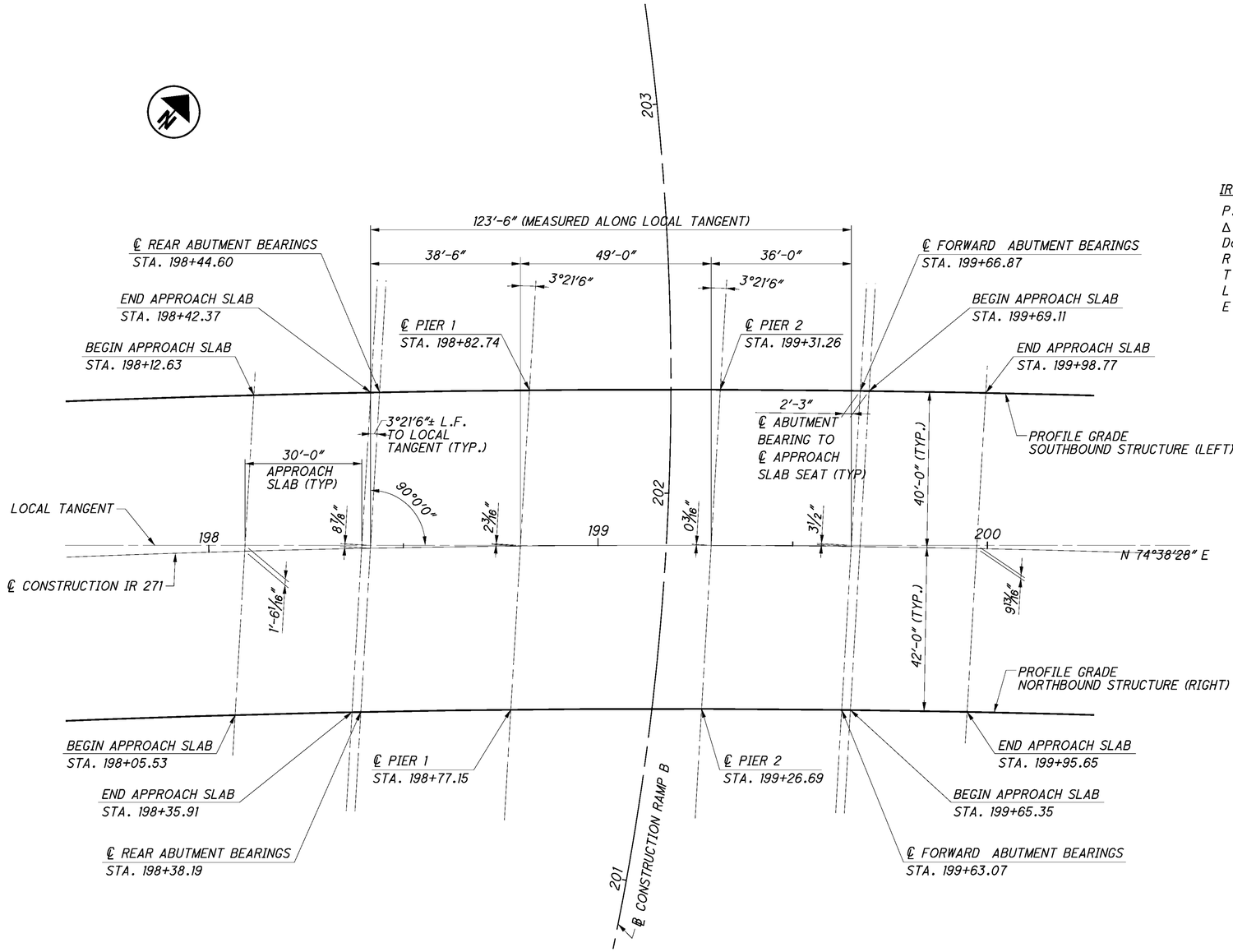
SITE PLAN - 2
BRIDGE NO. SUM-271-0375 L&R
IR 271 OVER RAMP B

SUM-271-2.33
PID No. 18710

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IR 271 CURVE DATA

P.I. STA. 195+17.68
Δ = 23° 19' 05" (RT)
Dc = 1° 28' 03"
R = 3,904.23'
T = 805.62'
L = 1,588.94'
E = 82.25'

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RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

DESIGNED	DRAWN	REVIEWED	DATE
KAK	RB	DAP	10/5/12
CHECKED	REVISED	STRUCTURE FILE NUMBER	
BLN		L7708912/R7708947	

STRUCTURE LAYOUT DIAGRAM
BRIDGE NO. SUM-271-0375 L&R
IR 271 ORVER RAMP B

SUM-271-2.33
PID No. 18710

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1195

STANDARD DRAWINGS AND SUPPLEMENTAL SPECIFICATIONS

REFER TO THE FOLLOWING STANDARD BRIDGE DRAWINGS:

AS-1-81 REVISED 7-19-02
DM-1.1 REVISED 1-21-11
GSD-1-96 REVISED 7-19-02
SBR-1-99 REVISED 7-19-02
SICD-1-96 REVISED 7-19-02

AND TO THE FOLLOWING SUPPLEMENTAL SPECIFICATION(S):

NONE

DESIGN SPECIFICATIONS

THIS STRUCTURE CONFORMS TO "STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, 2002, INCLUDING THE INTERIM SPECIFICATIONS AND THE 2004 ODOT BRIDGE DESIGN MANUAL WITH UPDATES.

DESIGN LOADING

DESIGN LOADING: HS25, CASE I AND THE ALTERNATE MILITARY LOADING.

FUTURE WEARING SURFACE (FWS) OF 60 POUNDS PER SQUARE FOOT.

DESIGN DATA

CONCRETE CLASS HP - COMPRESSIVE STRENGTH 4500 PSI (SUPERSTRUCTURE)

CONCRETE CLASS C - COMPRESSIVE STRENGTH 4000 PSI (SUBSTRUCTURE)

REINFORCING STEEL - ASTM A615 OR A996, GRADE 60, MINIMUM YIELD STRENGTH 60,000 PSI. SPIRAL REINFORCEMENT MAY BE PLAIN BARS, ASTM A82 OR A615.

STRUCTURAL STEEL - ASTM A709 GRADE 50, MINIMUM YIELD STRENGTH 50,000 PSI

DECK PROTECTION METHOD

EPOXY COATED REINFORCING STEEL AND 2½" CONCRETE COVER.

MONOLITHIC WEARING SURFACE

MONOLITHIC WEARING SURFACE IS ASSUMED, FOR DESIGN PURPOSES, TO BE 1 INCH THICK.

EXISTING STRUCTURE VERIFICATION

DETAILS AND DIMENSIONS SHOWN ON THESE PLANS PERTAINING TO THE EXISTING STRUCTURE HAVE BEEN OBTAINED FROM PLANS OF THE EXISTING STRUCTURE AND FROM FIELD OBSERVATIONS AND MEASUREMENTS. CONSEQUENTLY, THEY ARE INDICATIVE OF THE EXISTING STRUCTURE AND THE PROPOSED WORK BUT THEY SHALL BE CONSIDERED TENTATIVE AND APPROXIMATE. THE CONTRACTOR IS REFERRED TO CMS SECTIONS 102.05, 105.02 AND 513.04.

BASE CONTRACT BID PRICES UPON A RECOGNITION OF THE UNCERTAINTIES DESCRIBED ABOVE AND UPON A PREBID EXAMINATION OF THE EXISTING STRUCTURE. HOWEVER, THE DEPARTMENT WILL PAY FOR ALL PROJECT WORK BASED UPON ACTUAL DETAILS AND DIMENSIONS WHICH HAVE BEEN VERIFIED IN THE FIELD.

ESTIMATED QUANTITIES

THE CONTRACTOR SHALL NOT ORDER MATERIALS OR PERFORM WORK LISTED IN THE GENERAL SUMMARY FOR ITEMS DESIGNATED BY PLAN NOTE TO BE USED "BY THE ENGINEER" UNLESS AUTHORIZED BY THE ENGINEER. THE ACTUAL WORK LOCATIONS AND QUANTITIES USED AT THE ENGINEER'S DISCRETION SHALL BE MADE A MATTER OF RECORD BY INCORPORATION INTO THE FINAL CHANGE ORDER GOVERNING THE COMPLETION OF THIS PROJECT.

EXISTING STRUCTURE PLANS

EXISTING STRUCTURE PLANS MAY BE VIEWED BY PROSPECTIVE BIDDERS AT THE ODOT DISTRICT 4 OFFICE, AKRON, OHIO.

MAINTENANCE OF TRAFFIC:

SEE MAINTENANCE OF TRAFFIC PLANS FOR PHASES OF CONSTRUCTION AND DETAILS FOR MAINTAINING IR 271 AND RAMP B TRAFFIC DURING CONSTRUCTION.

PROPOSED WORK

1. THE WORK WILL BE PERFORMED IN STAGES USING PART-WIDTH CONSTRUCTION.
2. PROVIDE TEMPORARY SUPPORTS FOR THE PIER CAP BENEATH THE GIRDERS AT PIERS TO SUPPORT TRAFFIC DURING PHASE 4A FOR THE LEFT BRIDGE.
3. REMOVE THE EXISTING CONCRETE DECK, STEEL BEAMS, CROSSFRAMES, AND BEARINGS.
4. REMOVE EXISTING ABUTMENT BACKWALLS AND WINGWALLS, MODIFY EXISTING SEATS AND CONSTRUCT NEW WIDENED SEMI-INTEGRAL ABUTMENTS WITH STRAIGHT WINGWALLS.
5. CUT OFF EXISTING 6" CORRUGATED METAL PIPE AT FACE OF ABUTMENT AND CAP ENDS. ADD POROUS BACKFILL WITH FILTER FABRIC AND PIPE TO COLLECT AND DISCHARGE DRAINAGE AT ABUTMENTS.
6. REMOVE EXISTING PIER CAPS. CONSTRUCT NEW PIER CAPS.
7. RAISE ABUTMENT AND PIER SEATS TO ACCOMMODATE RAISING THE BRIDGE TO MEET VERTICAL CLEARANCE REQUIREMENTS AND NEW BEARING HEIGHTS. TEMPORARY SUPPORT AND JACKING WILL BE REQUIRED AT ALL GIRDER LINES TO RAISE THE RIGHT BRIDGE.
8. REPLACE EXISTING STEEL BEARINGS WITH NEW ELASTOMERIC BEARINGS.
9. PLACE NEW CONTINUOUS GALVANIZED ROLLED STEEL BEAMS, NEW CROSSFRAMES, NEW WIDENED CONCRETE DECK AND NEW SINGLE SLOPE CONCRETE PARAPETS. THE BEAMS SHALL BE COMPOSITE WITH THE REINFORCED CONCRETE DECK.
10. PAINT GALVANIZED STEEL FASCIA BEAMS.
11. CONSTRUCT NEW FULL WIDTH APPROACH SLABS WITH NEW PARAPETS AND CURBS.
12. CONSTRUCT 25' LONG SECTION OF CONCRETE PAVEMENT ADJACENT TO APPROACH SLABS. CONSTRUCT TYPE A PRESSURE RELIEF JOINT BETWEEN APPROACH SLABS AND CONCRETE PAVEMENT.
13. PATCH SPALLED AND DELAMINATED CONCRETE SURFACES ON PIERS AND ABUTMENT BREASTWALLS.
14. SEAL EXPOSED SUBSTRUCTURE AND PARAPETS WITH EPOXY-URETHANE.
15. PERFORM CLEARING AND GRUBBING TO REMOVE ALL VEGETATION WITHIN 15 FEET OF THE STRUCTURE.
16. PLACE NEW CRUSHED AGGREGATE SLOPE PROTECTION ON THE ABUTMENT SLOPES.
17. ADD CATCH BASIN AT THE FORWARD END OF THE BRIDGE.
18. UPGRADE APPROACH GUARDRAIL TO CURRENT STANDARDS.

ITEM 202 - PORTIONS OF STRUCTURE REMOVED OVER 20 FOOT SPAN, AS PER PLAN

THIS ITEM SHALL INCLUDE THE ELEMENTS INDICATED IN THE PLANS AND GENERAL NOTES THAT ARE NOT SEPARATELY LISTED FOR PAYMENT, EXCEPT FOR WEARING COURSE REMOVED. ITEMS TO BE REMOVED INCLUDE ALL EXISTING MATERIALS BEING REPLACED BY NEW CONSTRUCTION AND MISCELLANEOUS ITEMS THAT ARE NOT SHOWN TO BE INCORPORATED INTO THE FINAL CONSTRUCTION AND ARE DIRECTED TO BE REMOVED BY THE ENGINEER. THE USE OF EXPLOSIVES, HEADACHE BALLS AND/OR HOE-RAMS WILL NOT BE PERMITTED. THE METHOD OF REMOVAL AND THE WEIGHT OF HAMMER SHALL BE APPROVED BY THE ENGINEER. PERFORM ALL WORK IN A MANNER THAT WILL NOT CUT, ELONGATE OR DAMAGE THE EXISTING REINFORCING STEEL TO BE PRESERVED. CHIPPING HAMMERS SHALL NOT BE HEAVIER THAN THE NOMINAL 90-POUND CLASS. PNEUMATIC HAMMERS SHALL NOT BE PLACED IN DIRECT CONTACT WITH REINFORCING STEEL THAT IS TO BE RETAINED IN THE REBUILT STRUCTURE. SUBMIT CONSTRUCTION PLANS ACCORDING TO CMS 501.05.

CUT LINE CONSTRUCTION JOINT PREPARATION: SAW CUT BOUNDARIES OF PROPOSED CONCRETE REMOVALS 1 INCH DEEP. REMOVE CONCRETE TO A ROUGH SURFACE. LEAVE THE EXISTING REINFORCING STEEL, IF REQUIRED IN THE PLANS, IN PLACE. INSTALL DOWEL BARS IF SPECIFIED. PRIOR TO CONCRETE PLACEMENT ABRASIVELY CLEAN JOINT SURFACES AND EXISTING EXPOSED REINFORCEMENT TO REMOVE LOOSE AND DISINTEGRATED CONCRETE AND LOOSE RUST. THOROUGHLY CLEAN THE JOINT SURFACE AND EXPOSED REINFORCEMENT OF ALL DIRT, DUST, RUST OR OTHER FOREIGN MATERIAL BY THE USE OF WATER, AIR UNDER PRESSURE, OR OTHER METHODS THAT PRODUCE SATISFACTORY RESULTS. EXISTING REINFORCING STEEL DOES NOT HAVE TO HAVE A BRIGHT STEEL FINISH, BUT REMOVE ALL PACK AND LOOSE RUST. THOROUGHLY DRENCH EXISTING CONCRETE SURFACES WITH CLEAN WATER AND ALLOW TO DRY TO A DAMP CONDITION BEFORE PLACING CONCRETE.

SUBSTRUCTURE CONCRETE REMOVAL: REMOVE CONCRETE BY MEANS OF APPROVED PNEUMATIC HAMMERS EMPLOYING POINTED AND BLUNT CHISEL TOOLS. HYDRAULIC HOE-RAM TYPE HAMMERS WILL NOT BE PERMITTED. THE WEIGHT OF THE HAMMER SHALL NOT BE MORE THAN 35 POUNDS FOR REMOVAL WITHIN 18 INCHES OF PORTIONS TO BE PRESERVED. OUTSIDE THE 18 INCH LIMIT, THE CONTRACTOR MAY USE HAMMERS NOT EXCEEDING 90 POUNDS UPON THE APPROVAL OF THE ENGINEER. DO NOT PLACE PNEUMATIC HAMMERS IN DIRECT CONTACT WITH REINFORCING STEEL THAT IS TO BE RETAINED IN THE REBUILT STRUCTURE.

MEASUREMENT & PAYMENT: THE DEPARTMENT WILL MEASURE THE QUANTITY OF REMOVALS ON A LUMP SUM BASIS. THE DEPARTMENT WILL PAY FOR THE ACCEPTED QUANTITIES OF REMOVALS AT THE CONTRACT PRICE FOR ITEM 202 - PORTIONS OF STRUCTURE REMOVED OVER 20 FOOT SPAN, AS PER PLAN.

ITEM 202 - WEARING COURSE REMOVED, AS PER PLAN

THIS ITEM SHALL INCLUDE THE REMOVAL OF ASPHALT WEARING COURSE ON THE APPROACH SLABS AND BRIDGE DECKS. THE COST OF ALL LABOR, MATERIALS AND EQUIPMENT NECESSARY TO REMOVE THE ASPHALT WEARING COURSE SHALL BE INCLUDED WITH ITEM 202 - WEARING COURSE REMOVED, AS PER PLAN FOR PAYMENT.

GENERAL NOTES CONTINUED: SEE SHEET 5/58.

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

DESIGNED KAK | DRAWN SJK | REVIEWED DAP | DATE 10/5/12
CHECKED BLN | REVISED | STRUCTURE FILE NUMBER L7708912/R7708947

GENERAL NOTES - 1
BRIDGE NO. SUM-271-0375 L&R
IR 271 OVER RAMP B

SUM-271-2.33
PID No. 18710

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1195

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ASBESTOS NOTIFICATION:

AN ASBESTOS SURVEY WAS CONDUCTED ON THE IR 271 BRIDGES AND WAS COMPLETED IN NOVEMBER OF 2005 BY A CERTIFIED ASBESTOS HAZARD EVALUATION SPECIALIST FROM MICHAEL BAKER, JR., INC. THE SURVEY DID NOT IDENTIFY ANY ASBESTOS-CONTAINING MATERIAL (ACM) ON THE BRIDGES.

IF UNIDENTIFIED ACM IS ENCOUNTERED DURING THE DECK REPLACEMENT OF THE BRIDGE, REMOVAL AND DISPOSAL OF ACM MUST COMPLY WITH THE OHIO ADMINISTRATIVE CODE, THE OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA) REGULATIONS, AND THE NATIONAL EMISSION STANDARD FOR HAZARDOUS AIR POLLUTANTS (NESHAP) STANDARDS FOR ASBESTOS.

A COPY OF THE OHIO ENVIRONMENTAL PROTECTION AGENCY (OEPA) NOTIFICATION OF DEMOLITION AND RENOVATION FORM WITH SECTIONS I-VII AND XVI COMPLETED IS INCLUDED WITH THE BID PACKAGE. THE CONTRACTOR WILL COMPLETE SECTIONS VIII-XIII OF THE SIGNED FORM AND SUBMIT THE COMPLETED FORM TO THE LOCAL AIR AUTHORITY AT LEAST TEN (10) DAYS PRIOR TO DEMOLITION OF THE BRIDGE. THE CONTRACTOR WILL PROVIDE A COPY OF THE COMPLETED FORM TO THE ENGINEER. THE LOCAL AIR AUTHORITY IS:

AKRON REGIONAL AIR QUALITY MANAGEMENT DISTRICT
146 S. HIGH ST. SUITE 904
AKRON, OHIO 44308
LYNN M. MALCOLM, ADMINISTRATOR
(330) 375-2480
FAX (330) 375-2402

PILE DESIGN LOADS (ULTIMATE BEARING VALUE)

THE ULTIMATE BEARING VALUE IS 55 TONS PER PILE FOR THE SUM-271-0375L (SOUTHBOUND BRIDGE) ABUTMENT PILES.
THE ULTIMATE BEARING VALUE IS 70 TONS PER PILE FOR THE SUM-271-0375R (NORTHBOUND BRIDGE) ABUTMENT PILES

0375 LEFT BRIDGE ABUTMENT PILES:
15 PILES 45 FEET LONG, ORDER LENGTH
1 DYNAMIC LOAD TESTING ITEM

0375 RIGHT BRIDGE PIER PILES:
16 PILES 45 FEET LONG, ORDER LENGTH
1 DYNAMIC LOAD TESTING ITEM

ITEM 503 - COFFERDAMS AND EXCAVATION BRACING, AS PER PLAN

TEMPORARY SHEET PILING SHALL BE PERFORMED IN ACCORDANCE WITH ITEM 503 AND DRIVEN TO SUPPORT THE ROADWAY EMBANKMENT DURING CONSTRUCTION OF IR 271.

SHEET PILING AT THE ABUTMENTS SHALL BEGIN BEHIND THE EXISTING ABUTMENT FOOTING AND EXTEND APPROXIMATELY 20 FEET. IT SHALL BE DRIVEN TO A MINIMUM DEPTH OF 20 FEET BELOW THE BOTTOM OF FOOTING ELEVATION OF THE ABUTMENT AND HAVE A MINIMUM SECTION MODULUS OF 18 IN^3 PER FOOT OF WALL. SHEET PILING SHALL HAVE A MINIMUM YIELD STRENGTH OF 50,000 PSI.

ALL SHEET PILING SHALL BE REMOVED WHEN BACKFILLING IS COMPLETE. THIS WORK SHALL BE INCLUDED WITH ITEM 503 - COFFERDAMS AND EXCAVATION BRACING, AS PER PLAN, FOR PAYMENT.

ITEM 509 - REINFORCING STEEL, REPLACEMENT OF EXISTING REINFORCING STEEL, AS PER PLAN

REPLACE ALL EXISTING REINFORCING BARS DEEMED BY THE ENGINEER TO BE UNUSABLE BECAUSE OF CORROSION. THE DEPARTMENT WILL MEASURE THE REPLACEMENT REINFORCING STEEL BY THE NUMBER OF POUNDS ACCEPTED IN PLACE.

REPLACE ALL EXISTING REINFORCING STEEL BARS WHICH ARE TO BE INCORPORATED INTO THE NEW WORK AND ARE DEEMED BY THE ENGINEER TO BE MADE UNUSABLE BY CONCRETE REMOVAL OPERATIONS WITH NEW EPOXY COATED REINFORCING STEEL OF THE SAME SIZE AT NO COST TO THE DEPARTMENT.

ITEM 511-CLASS HP CONCRETE, BRIDGE DECK, AS PER PLAN

ITEM 511-CLASS HP CONCRETE, BRIDGE DECK (PARAPET), AS PER PLAN

THE PROVISIONS OF ITEM 511 SHALL APPLY EXCEPT AS NOTED BELOW.

MIX OPTIONS: ALL SUPERSTRUCTURE, BRIDGE DECK, APPROACH SLABS AND PARAPET CONCRETE SHALL BE THIS MIX (HP4, AS PER PLAN). THE FOLLOWING PROPORTIONS WILL BE USED AS A STARTING MIX DESIGN.

CONCRETE TABLE
QUANTITIES PER CUBIC YARD
AGGREGATES (SSD)
MIX 4, AS PER PLAN (GGBF SLAG + MICROSILICA)

AGG TYPE	FINE AGG (LB)	#8 COARSE AGG (LB)	#57 COARSE AGG (LB)	TOTAL (LB)	CEMENT CONTENT	GGBF SLAG (LB)	MICRO SILICA (LB)	MAX WATER TO CEMENTITIOUS RATIO	AIR CONTENT +/- 2%
GRAVEL	1370	650	790	2810	440	190	30	0.42	6
LIMESTONE	1370	655	800	2820	440	190	30	0.42	6
SLAG	1370	570	695	2635	440	190	30	0.42	6

* ALL COARSE AGGREGATE SHALL HAVE AN ABSORPTION OF 1.00% OR GREATER AS DEFINED PER ASTM C127

BASIS OF PAYMENT: PAYMENT FOR THE ABOVE COMPLETED AND ACCEPTED QUANTITIES WILL BE MADE AT THE CONTRACT BID PRICE FOR:

ITEM 511 - CLASS HP CONCRETE, BRIDGE DECK, AS PER PLAN, CU YD

ITEM 511 - CLASS HP CONCRETE, BRIDGE DECK (PARAPET), AS PER PLAN, CU YD

DECK PLACEMENT DESIGN ASSUMPTIONS:

THE FOLLOWING ASSUMPTIONS OF CONSTRUCTION MEANS AND METHODS WERE MADE FOR THE ANALYSIS AND DESIGN OF THE SUPERSTRUCTURE. THE CONTRACTOR IS RESPONSIBLE FOR THE DESIGN OF THE FALSEWORK SUPPORT SYSTEM WITHIN THESE PARAMETERS AND WILL ASSUME RESPONSIBILITY FOR SUPERSTRUCTURE ANALYSIS FOR DEVIATION FROM THESE DESIGN ASSUMPTIONS.

RIGHT BRIDGE:

AN EIGHT WHEEL FINISHING MACHINE WITH A MAXIMUM WHEEL LOAD OF 0.95 KIPS FOR A TOTAL MACHINE LOAD OF 7.6 KIPS.

A MINIMUM OUT-TO-OUT WHEEL SPACING AT EACH END OF THE MACHINE OF 103".

A MAXIMUM SPACING OF OVERHANG FALSEWORK BRACKETS OF 48 IN.

A MAXIMUM DISTANCE FROM THE CENTERLINE OF THE FASCIA GIRDER TO THE FACE OF THE SAFETY HANDRAIL OF 65".

LEFT BRIDGE:

AN EIGHT WHEEL FINISHING MACHINE WITH A MAXIMUM WHEEL LOAD OF 1.09 KIPS FOR A TOTAL MACHINE LOAD OF 8.73 KIPS.

A MINIMUM OUT-TO-OUT WHEEL SPACING AT EACH END OF THE MACHINE OF 103".

A MAXIMUM SPACING OF OVERHANG FALSEWORK BRACKETS OF 48 IN.

A MAXIMUM DISTANCE FROM THE CENTERLINE OF THE FASCIA GIRDER TO THE FACE OF THE SAFETY HANDRAIL OF 65".

GENERAL NOTES CONTINUED: SEE SHEET 6/58.

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

DESIGNED KAK | DRAWN SJK | REVIEWED DAP | DATE 10/5/12
CHECKED BLN | REVISED | STRUCTURE FILE NUMBER L1708912/R1708947

GENERAL NOTES - 2
BRIDGE NO. SUM-271-0375 L&R
IR 271 OVER RAMP B

SUM-271-2.33
PID No. 18710

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ITEM 513 - STRUCTURAL STEEL MEMBERS, LEVEL 3, AS PER PLAN

1. DESCRIPTION

IN ADDITION TO THE REQUIREMENTS OF CMS 513, THIS ITEM SHALL CONSIST OF FURNISHING ALL NECESSARY LABOR, MATERIALS AND EQUIPMENT TO CLEAN AND GALVANIZE ALL STRUCTURAL STEEL SURFACES, AS SPECIFIED HEREIN. THE GALVANIZED COATING SYSTEM MAY BE APPLIED BY A GALVANIZER NOT QUALIFIED AS A FABRICATION SHOP UNDER SUPPLEMENTAL SPECIFICATION 1078, BUT THE APPROVED FABRICATOR OF THE STRUCTURAL STEEL SHALL BE RESPONSIBLE FOR THE QUALITY OF THE APPLIED GALVANIZED COATING SYSTEM AND ANY REPAIRS, REFABRICATING, ADDITIONAL LAYDOWNS REQUIRED TO ASSURE THE FABRICATED STEEL MEETS ALL REQUIREMENTS OF THIS SPECIFICATION. SECTIONS 513.27 AND 513.28 SHALL NOT APPLY.

THIS ITEM SHALL ALSO INCLUDE GALVANIZING, PER 711.02 OF ALL NUTS, WASHERS, BOLTS, AND ANCHOR BOLTS.

ANY SHEAR STUDS, SECTION 513.22, SHALL BE INSTALLED IN THE FIELD AFTER THE DECKING OR OTHER WALKING/WORKING SURFACE HAS BEEN INSTALLED. REMOVE THE GALVANIC COATING BY GRINDING AT EACH CONNECTOR LOCATION PRIOR TO WELDING.

2. PRE-FABRICATION MEETING

IN ADDITION TO THE PRE-FABRICATION MEETING REQUIREMENTS UNDER 513.07, BOTH THE FABRICATORS QUALITY CONTROL SPECIALIST, (QCS) AND GALVANIZED COATING APPLICATOR SHALL BE PRESENT AND DISCUSS METHODS OF OPERATION, QUALITY CONTROL, INCLUDING REPAIRS, TRANSPORTATION, ERECTION METHODS TO ACCOMPLISH ALL PHASES OF THE PREPARATION AND COATING WORK REQUIRED BY THIS SPECIFICATION.

3. QUALITY CONTROL

QUALITY CONTROL SPECIALIST

THE QCPS (QUALITY CONTROL PAINT SPECIALIST) REQUIRED UNDER SS1078, IS RESPONSIBLE FOR ALL QUALITY CONTROL REQUIREMENTS OF THIS SPECIFICATION. THE QCPS SHALL HAVE THE TESTING EQUIPMENT SPECIFIED IN 514.05.

QUALITY CONTROL POINTS (QCP)

QUALITY CONTROL POINTS (QCP) ARE POINTS IN TIME WHEN ONE PHASE OF THE WORK IS COMPLETE AND READY FOR INSPECTION BY THE FABRICATOR'S QCPS AND THE DEPARTMENT'S QA REPRESENTATIVE. THE NEXT OPERATIONAL STEP MUST NOT PROCEED UNLESS THE QCP HAS BEEN ACCEPTED OR QA INSPECTION WAIVED BY THE DEPARTMENT'S QA REPRESENTATIVE. AT THESE POINTS THE FABRICATOR MUST AFFORD ACCESS TO INSPECT ALL AFFECTED SURFACES. IF INSPECTION INDICATES A DEFICIENCY, THAT PHASE OF THE WORK MUST BE CORRECTED IN ACCORDANCE WITH THESE SPECIFICATIONS PRIOR TO BEGINNING THE NEXT PHASE OF WORK. DISCOVERY OF DEFECTIVE WORK OR MATERIAL AFTER A QUALITY CONTROL POINT IS PAST OR FAILURE OF THE FINAL PRODUCT BEFORE FINAL ACCEPTANCE, MUST NOT IN ANY WAY PREVENT REJECTION OR OBLIGATE THE DEPARTMENT TO FINAL ACCEPTANCE.

QUALITY CONTROL POINTS	
QUALITY CONTROL POINTS (QCP)	**PURPOSE**
1. SOLVENT CLEANING	REMOVE ASPHALTIC CEMENT, OIL, GREASE, SALT, DIRT, ETC.
2. GRINDING EDGES	REMOVE SHARP CORNERS PER AWS.
3. ABRASIVE BLASTING	BLAST SURFACES, INCLUDING REPAIR FINS, TEARS, SLIVERS OR SHARP EDGES.
4. GALVANIZING	CHECK COATING THICKNESS.
5. FAYING SURFACE CLEANING	CHECK FAYING SURFACE ROUGHNESS, CHECK BOLT HOLE CLEARANCE. CHECK FOR OTHER FIELD CONNECTIONS UNIFORM COATING THICKNESS.
6. SECOND LAY DOWN	CHECK SWEEP AND CAMBER TOLERANCES OF EACH STRUCTURAL MEMBER.
7. FIELD REPAIR OF DAMAGED AREAS	CHECK FOR DAMAGED AREAS AFTER ERECTION OF STRUCTURE. PERFORM DAMAGE REPAIRS.
8. FINAL REVIEW	CLEAN STRUCTURE AS PER QCP#1. VISUALLY INSPECT SYSTEM FOR ACCEPTANCE.

A. SOLVENT CLEANING (QCP #1)

THE STEEL MUST BE SOLVENT CLEANED WHERE NECESSARY TO REMOVE ALL TRACES OF ASPHALTIC CEMENT, OIL, GREASE, DIESEL FUEL DEPOSITS, AND OTHER SOLUBLE CONTAMINANTS PER SSPC-SP1 SOLVENT CLEANING. UNDER NO CIRCUMSTANCES MUST ANY ABRASIVE BLASTING BE DONE TO AREAS WITH ASPHALTIC CEMENT, OIL, GREASE, OR DIESEL FUEL DEPOSITS. STEEL MUST BE ALLOWED TO DRY BEFORE BLAST CLEANING BEGINS. THE QCPS SHALL INSPECT AND DOCUMENT THAT THE CLEANING CONFORMS TO SSPC-SP1 AND PROVIDE A COVER LETTER LISTING EACH MAIN MEMBER INSPECTED.

B. GRINDING EDGES (QCP #2)

ALL CORNERS OF THERMALLY CUT OR SHEARED EDGES MUST HAVE A 1/16 INCH RADIUS OR EQUIVALENT FLAT SURFACE AT A SUITABLE ANGLE. THERMALLY CUT MATERIAL THICKER THAN 1 1/2 INCH MUST HAVE THE SIDES GROUND TO REMOVE THE HEAT EFFECTED ZONE, AS NECESSARY TO ACHIEVE THE SPECIFIED SURFACE CLEANING. THE QCPS MUST VISUALLY INSPECT AND DOCUMENT THAT THE GRINDING CONFORMS TO THIS SPECIFICATION AND PROVIDE A COVER LETTER LISTING EACH MAIN MEMBER INSPECTED.

C. ABRASIVE BLASTING (QCP #3)

BEAMS AND GIRDERS MUST BE PREPARED BY THE FABRICATOR TO STEEL STRUCTURES PAINTING COUNCIL (SSPC) GRADE SIX (6) COMMERCIAL BLAST CLEANING PRIOR TO GALVANIZING. ALL MATERIAL MUST BE FREE OF PAINT MARKS. SECONDARY ANGLE, PLATES, BARS AND SHAPES NEED NOT BE BLAST CLEANED.

ABRASIVES MUST ALSO BE CHECKED FOR OIL CONTAMINATION BEFORE USE. A SMALL SAMPLE OF ABRASIVES MUST BE ADDED TO ORDINARY TAP WATER. ANY DETECTION OF AN OIL FILM ON THE SURFACE OF THE WATER MUST BE CAUSE FOR REJECTION. THE QCPS MUST PERFORM AND RECORD THIS TEST AT THE START OF EACH SHIFT.

ALL FINS, TEARS, SLIVERS AND BURRED OR SHARP EDGES THAT ARE PRESENT ON ANY STEEL MEMBER OR THAT APPEAR AFTER THE BLASTING OPERATION MUST BE CONDITIONED PER ASTM A6. WELDING REPAIRS MUST ONLY BE PERFORMED BY THE SS 1078 FABRICATOR.

THE QCPS MUST VISUALLY INSPECT AND DOCUMENT THAT THE BLAST CONFORMS TO SSPC-SP6, THAT ALL CONDITIONING IS PERFORMED PER ASTM A6 AND PROVIDE A COVER LETTER LISTING EACH MAIN MEMBER INSPECTED.

D. GALVANIZING (QCP #4)

GALVANIZE PER 711.02 AND THIS SPECIFICATION. COATING THICKNESS MUST BE A MINIMUM OF 4 MILS MEASURED AS SPECIFIED.

MATERIAL MUST BE FREE OF IMPERFECTIONS OR DEPRESSIONS CAUSED BY MATERIAL HANDLING. THE FABRICATOR, GALVANIZER AND ERECTOR MUST USE LIFTING CLAMPS OR SOFTENERS FOR HANDLING. PRIOR TO GALVANIZING, SURFACE IMPERFECTIONS MAY BE REPAIRED BY THE FABRICATOR IN CONFORMANCE WITH ASTM A6. IMPERFECTIONS GREATER THAN THE LIMITS ALLOWED BY ASTM A6 MUST BE DOCUMENTED. REPAIR OR REPLACEMENT OF THIS MEMBER WILL BE AT THE DISCRETION OF THE DEPARTMENT.

ALL DAMAGED GALVANIZING MUST BE REPAIRED IN ACCORDANCE WITH ASTM A780, METHOD A1 OR A3.

DOCUMENTATION OF COATING THICKNESS MUST BE PERFORMED BY THE QCPS. THE QCPS MUST RECORD THE GAGE READINGS AND PROVIDE A COVER LETTER LISTING EACH MAIN MEMBER INSPECTED.

E. FAYING SURFACE CLEANING (QCP #5)

AREAS OF FIELD CONNECTIONS MUST HAVE A UNIFORM GALVANIZED COATING THICKNESS FREE OF LOCAL EXCESSIVE ROUGHNESS WHICH WOULD PREVENT SPLICE PLATES, BEARINGS OR OTHER FIELD CONNECTIONS FROM MAKING INTIMATE CONTACT.

FAYING SURFACES OF THE BOLTED SPLICES MUST BE ROUGHENED IN THE SHOP AFTER GALVANIZING BY HAND WIRE BRUSHING. POWER WIRE BRUSHING IS NOT PERMITTED. ALL FIELD SPLICE BOLT HOLES MUST BE FREE OF ZINC BUILD UP. AFTER GALVANIZING, EACH MUST BE CHECKED IN THE SHOP BY USING A DRIFT PIN WITH A DIAMETER 1/16 INCH GREATER THAN THE DIAMETER OF THE BOLT TO BE USED IN THAT HOLE. CONSIDERATION WILL BE GIVEN TO OTHER METHODS OF TREATING THE FAYING SURFACES IF A WRITTEN REQUEST IS SUBMITTED TO THE OFFICE OF STRUCTURAL ENGINEERING (OSE) IN ACCORDANCE WITH CMS 108.05.

INSPECTION OF THE ROUGHENING OF THE FAYING SURFACES AND CHECKING OF HOLES WITH DRIFT PINS MUST BE PERFORMED BY THE QCPS. ACCEPTANCE OF THE FAYING SURFACES AND HOLES SHALL BE DOCUMENTED BY THE QCPS.

F. SECOND LAY DOWN (QCP #6)

AFTER GALVANIZING, MATERIALS MUST BE PLACED IN A SECOND SHOP ASSEMBLY PER CMS SECTION 513.24 TO CHECK ALIGNMENT OF HOLES, SWEEP AND CAMBER AGAINST THE FABRICATORS ORIGINAL RECORDED LAY DOWN DIMENSIONS. THIS SHOP ASSEMBLY MAY BE PERFORMED AT THE GALVANIZERS FACILITY, BY THE FABRICATORS PERSONNEL, IF APPROVED BY THE OSE. THE SECOND LAY DOWN MAY BE WAIVED BY THE OSE IF THE FABRICATOR RECORDS INDIVIDUAL BEAM CAMBERS AND SWEEPS DURING THE FIRST LAY DOWN, AND THE NEW INDIVIDUAL BEAM CAMBERS AND SWEEPS, AFTER GALVANIZING, COMPARED TO THE FIRST LAY DOWN ARE WITHIN THE FOLLOWING TOLERANCES:

BEARING POINTS AFTER GALVANIZING, MUST BE WITHIN +/- 1/8 INCH OF THE APPROVED SHOP DRAWING LAY DOWN.

CAMBER POINTS AFTER GALVANIZING MUST BE + 1/4 INCH OR -0 INCH FROM THE FIRST LAY DOWN.

SWEEP POINTS AFTER GALVANIZING MUST BE +/- 3/8 INCH FROM THE FIRST LAY DOWN.

INDIVIDUAL BEAMS THAT EXCEED THE LISTED TOLERANCES MUST BE PLACED WITH AT LEAST TWO ADJACENT BEAMS IN LAY DOWN FOR CHECKING AGAINST THE RECORDED SHOP ASSEMBLY RECORDS PER 513.04. DOCUMENTATION OF THE SECOND LAY DOWN OR INDIVIDUAL MEMBER CAMBERS MUST BE RECORDED BY THE QCPS PER 513.24.

ITEM 513 - STRUCTURAL STEEL MEMBERS, LEVEL 3, AS PER PLAN CONTINUED: SEE SHEET 7/58.

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ITEM 513 - STRUCTURAL STEEL MEMBERS, LEVEL 3, AS PER PLAN

G. FIELD REPAIR OF DAMAGED AREAS (QCP #7)

MATERIAL MUST BE FREE OF IMPERFECTIONS OR DEPRESSIONS CAUSED BY MATERIAL HANDLING. THE CONTRACTOR MUST USE LIFTING CLAMPS OR SOFTENERS FOR HANDLING. IMPERFECTIONS MAY BE REPAIRED BY GRINDING AS ALLOWED BY ASTM A6 BY THE CONTRACTOR. IMPERFECTIONS THAT ARE GREATER THAN THE GRINDING LIMITS ALLOWED BY ASTM A6, MUST BE DOCUMENTED. REPAIR OR REPLACEMENT OF THIS MEMBER WILL BE AT THE DISCRETION OF THE OSE.

ALL DAMAGED GALVANIZING MUST BE REPAIRED IN ACCORDANCE WITH ASTM A780, METHOD A1 OR A3.

DAMAGED GALVANIZING WHICH WILL BE INACCESSIBLE FOR REPAIR AFTER ERECTION MUST BE REPAIRED PRIOR TO ERECTION.

IN ORDER TO MINIMIZE DAMAGE TO THE GALVANIZED STEEL, CONCRETE SPLATTER AND FORM LEAKAGE MUST BE WASHED FROM THE SURFACE OF THE STEEL SHORTLY AFTER THE CONCRETE IS PLACED AND BEFORE IT IS DRY. IF THE CONCRETE DRIES, IT MUST BE REMOVED.

TEMPORARY ATTACHMENTS, SUPPORTS FOR SCAFFOLDING AND FINISHING MACHINE OR FORMS MUST NOT DAMAGE THE COATING SYSTEM. IN PARTICULAR, SUFFICIENT SIZE SUPPORT PADS MUST BE USED ON THE FASCIAS WHERE BRACING IS USED.

DOCUMENTATION OF GALVANIZING REPAIRS MUST BE PERFORMED BY THE QCPS BY A COVER LETTER LISTING EACH MAIN MEMBER INSPECTED.

H. FINAL REVIEW (QCP #8)

AFTER THE ERECTION WORK HAS BEEN COMPLETED, INCLUDING ALL CONNECTIONS AND THE APPROVED REPAIR OF ANY DAMAGED BEAMS, GIRDERS OR OTHER STEEL MEMBERS, AND THE DECK HAS BEEN PLACED. THE CONTRACTOR AND ENGINEER MUST INSPECT THE STRUCTURE FOR DAMAGE COATING (QCP #8.) DAMAGED AREAS MUST BE REPAIRED BY QCPS #7. AT THE COMPLETION OF THE CONSTRUCTION, THE GALVANIZING MUST BE UNDAMAGED AND THE SURFACES FREE FROM GREASE, OIL, CHALK MARKS, PAINT, CONCRETE SPLATTER OR OTHER SILAGE. SUCH SILAGE WILL BE REMOVED BY SOLVENT CLEANING PRE SSPC-SP1 (QCP #1).

DOCUMENTATION OF FINAL REVIEW MUST BE PERFORMED BY THE QCPS BY A COVER LETTER LISTING EACH MAIN MEMBER INSPECTED.

4. TESTING EQUIPMENT

THE FABRICATOR MUST PROVIDE THE QCPS INSPECTOR THE TESTING EQUIPMENT SPECIFIED IN 514.05 AND THE FOLLOWING TESTING EQUIPMENT IN GOOD WORKING ORDER FOR THE DURATION OF THE PROJECT. ONE (POSITECTOR 2000 OR 6000, QUANIX 2200, OR ELCOMETER A345FBII) AND THE CALIBRATION PLATES, 38-200 MM AND 250-625 MM (1.5 - 8 MILS AND 10-25 MILS) AS PER THE NBS CALIBRATION STANDARDS IN ACCORDANCE WITH ASTM D-1186.

5. COATING THICKNESS

GALVANIZED THICKNESS MUST BE DETERMINED BY USE OF TYPE 2 MAGNETIC GAGE IN ACCORDANCE WITH THE FOLLOWING:

FIVE SEPARATE SPOT MEASUREMENTS MUST BE MADE, SPACED EVENLY OVER ONE (1) RANDOMLY SELECTED, 100 SQUARE FEET OF SURFACE AREA ON EACH STRUCTURAL MEMBER. THREE GAGE READINGS MUST BE MADE FOR EACH SPOT MEASUREMENT. THE PROBE MUST BE MOVED A DISTANCE OF 1 TO 3 INCHES FOR EACH NEW GAGE READING. ANY UNUSUALLY HIGH OR LOW GAGE READING THAT CANNOT BE REPEATED CONSISTENTLY MUST BE DISCARDED. THE AVERAGE (MEAN) OF THE 3 GAGE READINGS MUST BE USED AS THE SPOT MEASUREMENT. THE AVERAGE OF FIVE SPOT MEASUREMENTS FOR EACH SUCH 100 SQUARE FOOT AREA MUST NOT BE LESS THAN THE SPECIFIED THICKNESS. NO SINGLE SPOT MEASUREMENT IN ANY 100 SQUARE FOOT AREA MUST BE LESS THAN 80% OF THE SPECIFIED MINIMUM THICKNESS. ANY ONE OF 3 READINGS WHICH ARE AVERAGED TO PRODUCE EACH SPOT MEASUREMENT, MAY UNDER-RUN OR OVER-RUN BY A GREATER AMOUNT. THE 5 SPOT MEASUREMENTS MUST BE MADE FOR ONE (1) RANDOMLY SELECTED, 100 SQUARE FEET OF AREA ON EACH STRUCTURAL MEMBER. ALL SPLICE MATERIAL AND SECONDARY MEMBERS MUST HAVE AT LEAST ONE SPOT MEASURED ON EACH PIECE. THE PROBE MUST BE MOVED SO THAT ONE READING IS TAKEN AT EACH END AND MIDDLE OF THE PIECE FOR A TOTAL OF THREE READINGS.

THE QCPS MUST INSPECT AND PROVIDE DOCUMENTATION OF ACTUAL DATA, THE GALVANIZED THICKNESS CHECKS WERE PERFORMED PER SPECIFICATION AND THE COATING THICKNESS MEETS SPECIFICATION REQUIREMENTS.

6. HANDLING AND SHIPPING

REASONABLE CARE MUST BE EXERCISED IN HANDLING GALVANIZED STEEL DURING SHIPPING, ERECTION, AND SUBSEQUENT CONSTRUCTION OF THE BRIDGE. THE STEEL MUST BE INSULATED FROM THE BINDING CHAINS BY SOFTENERS. HOOKS AND SLINGS USED TO HOIST THE STEEL MUST BE PADDED. DIAPHRAGMS AND SIMILAR PIECES MUST BE SPACED IN SUCH A WAY THAT NO RUBBING WILL OCCUR DURING SHIPPING THAT MAY DAMAGE THE GALVANIZING. THE STEEL MUST BE STORED ON PALLETS AT THE JOB SITE, OR BY OTHER MEANS, SO THAT IT DOES NOT REST ON THE GROUND OR SO THAT COMPONENTS DO NOT FALL OR REST ON EACH OTHER.

7. SAFETY REQUIREMENTS AND PRECAUTIONS

THE CONTRACTOR MUST MEET THE SAFETY REQUIREMENTS OF THE OHIO INDUSTRIAL COMMISSION AND THE OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA).

8. SCAFFOLDING

RUBBER ROLLERS, OR OTHER PROTECTIVE DEVICES MEETING THE APPROVAL OF THE ENGINEER, MUST BE USED ON SCAFFOLD FASTENINGS. METAL ROLLERS OR CLAMPS AND OTHER TYPES OF FASTENINGS WHICH WILL MAR OR DAMAGE COATING SURFACES MUST NOT BE USED.

9. INSPECTION ACCESS FOR FIELD REPAIR

IN ADDITION TO THE REQUIREMENTS OF 105.10 THE CONTRACTOR MUST FURNISH, ERECT, AND MOVE SCAFFOLDING AND OTHER APPROPRIATE EQUIPMENT, TO PERMIT THE INSPECTOR THE OPPORTUNITY TO INSPECT (CLOSELY OBSERVE), ALL AFFECTED SURFACES. THIS OPPORTUNITY MUST BE PROVIDED TO THE INSPECTOR DURING ALL PHASES OF THE WORK AND CONTINUE FOR A PERIOD OF AT LEAST TEN (10) WORKING DAYS AFTER THE TOUCH-UP WORK HAS BEEN COMPLETED. INSPECTION ACCESS SHALL BE IN ACCORDANCE WITH 514.10.

10. PROTECTION OF PERSONS AND PROPERTY

THE CONTRACTOR MUST INSTALL AND MAINTAIN SUITABLE SHIELDS OR ENCLOSURES TO PREVENT DAMAGE TO ADJACENT BUILDINGS, PARKED CARS, TRUCKS, BOATS, OR VEHICLES TRAVELING ON, OVER, OR UNDER STRUCTURES HAVING GALVANIZED REPAIRS. THEY MUST BE SUITABLY ANCHORED AND REINFORCED TO PREVENT INTERFERING WITH NORMAL TRAFFIC OPERATIONS IN THE OPEN LANES. PAYMENT FOR THE SHIELDS MUST BE INCLUDED AS INCIDENTAL TO THE APPLICABLE FIELD COATING OPERATION. WORK MUST BE SUSPENDED WHEN DAMAGE TO ADJACENT BUILDINGS, MOTOR VEHICLES, BOATS, OR OTHER PROPERTY IS OCCURRING.

WHEN OR WHERE ANY DIRECT OR INDIRECT DAMAGE OR INJURY IS DONE TO PUBLIC OR PRIVATE PROPERTY, THE CONTRACTOR MUST RESTORE, AT HIS OWN EXPENSE, SUCH PROPERTY, TO A CONDITION SIMILAR OR EQUAL TO THAT EXISTING BEFORE SUCH DAMAGE OR INJURY WAS DONE.

11. POLLUTION CONTROL

THE CONTRACTOR MUST TAKE ALL NECESSARY PRECAUTIONS TO COMPLY WITH POLLUTION CONTROL LAWS, RULES OR REGULATIONS OF FEDERAL, STATE OR LOCAL AGENCIES.

12. METHOD OF MEASUREMENT

THE COST OF ALL LABOR, MATERIALS AND EQUIPMENT NECESSARY TO GALVANIZE AND TO FABRICATE THE STRUCTURAL STEEL IN ACCORDANCE WITH 513 AND PERFORM ANY NECESSARY FIELD REPAIR SHALL BE INCLUDED IN THIS 513 STRUCTURAL STEEL, AS PER PLAN ITEM.

13. BASIS OF PAYMENT

PAYMENT WILL BE INCLUDED WITH CONTRACT PRICES FOR THE APPLICABLE PLAN ITEM:

ITEM 513 - STRUCTURAL STEEL MEMBERS, LEVEL 3, AS PER PLAN

GENERAL NOTES CONTINUED: SEE SHEET 8/58.

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SUM-271-2.33
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ITEM 514 - FIELD PAINTING, MISC.: BRUSH-OFF BLASTING GALVANIZED STEEL MEMBERS FOR TOP COAT

WORK UNDER THIS ITEM INCLUDES THE SURFACE PREPARATION REQUIREMENTS FOR PAINTING THE GALVANIZED STEEL BRIDGE FASCIA MEMBERS. THESE MEMBERS INCLUDE THE EXTERIOR OF THE WEB AND BOTTOM FLANGE OF THE FASCIA GIRDERS.

THE PROVISIONS OF 514 SHALL APPLY EXCEPT THAT THE GALVANIZED MEMBERS INCLUDED IN THIS NOTE WILL RECEIVE A BRUSH-OFF BLAST (SSPC-SP7) TO TEXTURE THE GALVANIZED SURFACE FOR A TOP URETHANE COAT.

PAYMENT SHALL BE MADE PER SQUARE FOOT FOR SURFACE AREA PREPARED TO THIS SPECIFICATION UNDER ITEM 514 - FIELD PAINTING, MISC.: BRUSH-OFF BLASTING GALVANIZED STEEL MEMBERS FOR TOP COAT.

ITEM 514 - FIELD PAINTING, MISC.: TOP URETHANE COAT FOR GALVANIZED STEEL MEMBERS

WORK UNDER THIS ITEM INCLUDES THE APPLICATION OF A URETHANE TOP COAT TO GALVANIZED STEEL FASCIA MEMBERS ON THE BRIDGE. THESE MEMBERS INCLUDE THE EXTERIOR OF THE WEB AND BOTTOM FLANGE OF THE FASCIA GIRDERS.

AFTER THE GALVANIZED SURFACE HAS BEEN TEXTURED AS DETAILED ELSEWHERE IN THESE PLANS, THE CONTRACTOR SHALL PAINT AN APPROXIMATELY 10 TO 20-SQUARE FOOT TEST SECTION. THE PAINTED SURFACE SHALL PROVIDE THE FOLLOWING APPEARANCE:

COMPLETELY HIDE THE COLOR OF THE GALVANIZING; DEVELOP THE UNIFORM COLOR SPECIFIED; DEVELOP A UNIFORM SURFACE FREE FROM RUNS, SAGS AND DRIPS. AFTER THE ENGINEER AND THE CONTRACTOR AGREE THE SELECTED TEST SECTION WAS PAINTED PER THE CONTRACT, PHOTOGRAPH THE TEST SECTION. THESE PHOTOGRAPHS BECOME THE JOB SITE, TOP COAT OVER GALVANIZING - VISUAL STANDARD.

APPLY THE TOP COAT PER 514. THE TOP COAT COLOR SHALL BE FEDERAL COLOR NUMBER 15526, LIGHT BLUE.

THE QUALITY CONTROL SPECIALIST SHALL COMPARE THE PRODUCTION PAINTING APPLICATION TO THE JOB SITE, TOP COAT OVER GALVANIZING - VISUAL STANDARD. AREAS FOUND NOT TO MATCH THE VISUAL STANDARD SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.

PRIOR TO PERFORMING A REPAIR, DE-GLOSS PREVIOUSLY PAINTED SURFACES BY UNIFORM SANDING WITH 150 GRIT SAND PAPER OR BRUSH OFF BLASTING PER SSPC-SP7 AND CLEAN THE SURFACE AS NECESSARY TO ACHIEVE A DUST FREE SURFACE PRIOR TO REPAIRING THE PAINT. VERIFY THAT THE SURFACE IS DUST FREE; DUST QUALITY RATING 0, 1 OR 2 PER ISO 8502-3 PRIOR TO REPAINTING.

PAYMENT FOR THE ABOVE DESCRIBED WORK SHALL BE MADE PER SQUARE FOOT UNDER ITEM 514 - FIELD PAINTING, MISC.: TOP URETHANE COAT FOR GALVANIZED STEEL MEMBERS.

ITEM 516 - JACKING AND TEMPORARY SUPPORT OF SUPERSTRUCTURE, AS PER PLAN

THIS WORK CONSISTS OF SUPPORTING THE EXISTING SUM-271-0375L (SOUTHBOUND BRIDGE) PIER CAPS DURING PHASE CONSTRUCTION.

SUBMIT CONSTRUCTION PLANS IN ACCORDANCE WITH CMS 501.05.

THE WORK INCLUDES SUPPORTING THE PIER CAP BENEATH EXISTING GIRDER 3 WHILE A PORTION OF THE CAP IS BEING REPLACED. SEE MAINTENANCE OF TRAFFIC DRAWINGS FOR LOCATIONS. THE FOLLOWING TABLE REPRESENT ESTIMATED UNFACTORED DEAD LOAD AND LIVE LOAD (PLUS IMPACT) REACTIONS TO BE SUPPORTED. THE LOADS GIVEN ARE SERVICE REACTIONS AT THE BEARINGS; THESE ARE NOT REQUIRED JACKING FORCES.

PHASE 2A TEMPORARY SUPPORT - LEFT BRIDGE

	GIRDER REACTION (UNFACTORED) * BEAM 3 (KIPS)	
	DL	LL+I
PIER 1	60	20
PIER 2	60	20

* DEAD LOAD REACTION DUE TO THE WEIGHT OF THE STEEL, CONCRETE DECK AND CONCRETE PARAPETS. LL+I ADJUSTED FOR PARTIAL DISTRIBUTION TO GIRDER.

THE DEPARTMENT WILL MEASURE THIS WORK ON A LUMP SUM BASIS.

THE DEPARTMENT WILL PAY FOR THE ACCEPTED QUANTITIES AT THE CONTRACT PRICE FOR ITEM 516 - JACKING AND TEMPORARY SUPPORT OF SUPERSTRUCTURE, AS PER PLAN

GENERAL NOTES CONTINUED: SEE SHEET 9/58.

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ITEM 518, 6" NON-PERFORATED CORRUGATED PLASTIC PIPE, INCLUDING SPECIALS, AS PER PLAN

ANIMAL GUARDS SHALL BE PROVIDED AT THE OUTLET OF THE DRAINAGE PIPES. THE STEEL BOLTS OR RODS FOR THE ANIMAL GUARDS SHALL BE GALVANIZED PER CMS 711.02. SEE STANDARD DRAWING DM-1.1 FOR ADDITIONAL DETAILS AND NOTES. THE ANIMAL GUARDS AND ROCK CHANNEL PROTECTION, TYPE C ARE INCIDENTAL TO ITEM 518, 6" NON-PERFORATED CORRUGATED PLASTIC PIPE, INCLUDING SPECIALS, AS PER PLAN.

ITEM 519, PATCHING CONCRETE STRUCTURE, AS PER PLAN

PRIOR TO THE SURFACE CLEANING SPECIFIED IN 519.04 AND WITHIN 24 HOURS OF PLACING PATCHING MATERIAL, BLAST CLEAN ALL ABUTMENT AND PIER SURFACES TO BE PATCHED INCLUDING ALL EXPOSED REINFORCING STEEL. ACCEPTABLE METHODS INCLUDE HIGH-PRESSURE WATER BLASTING WITH OR WITHOUT ABRASIVES IN THE WATER, ABRASIVE BLASTING WITH CONTAINMENT, OR VACUUM ABRASIVE BLASTING.

THE ESTIMATED QUANTITY OF PATCHING REQUIRED IS BASED ON FIELD MEASUREMENTS OF ABOVE GROUND DETERIORATION AND A CONTINGENCY QUANTITY OF 20 SQUARE FEET PER BRIDGE. THE CONTRACTOR SHALL EXCAVATE REPAIR AREAS THAT EXTEND TO THE EXISTING GROUND LINE. THE ENGINEER SHALL DETERMINE THE EXTENT OF BELOW GROUND REPAIR BASED ON THE CONTRACTOR'S EXCAVATION.

THE CONTRACTOR SHOULD INCLUDE THIS EXCAVATION, PERFORMED IN ACCORDANCE WITH ITEM 503, IN THE UNIT PRICE BID FOR ITEM 519, PATCHING OF CONCRETE STRUCTURE, AS PER PLAN.

ITEM 526, REINFORCED CONCRETE APPROACH SLAB (T=17"), AS PER PLAN

THE PROVISIONS OF CMS 526 SHALL APPLY EXCEPT AS NOTED BELOW.

CLASS HP CONCRETE, MIX 4, AS PER PLAN, SHALL BE THE ONLY MIX DESIGN OPTION. THE PROPORTIONS FOR THE STARTING MIX DESIGN SHALL BE AS SHOWN FOR ITEM 511 - CLASS HP CONCRETE, BRIDGE DECK, AS PER PLAN.

THE PARAPETS WILL BE CARRIED ONTO THE APPROACH SLABS AND TRANSITIONED ON THE APPROACH SLABS AS DETAILED IN THE PLANS. QUANTITIES OF CONCRETE, REINFORCING STEEL AND SEALING OF CONCRETE SURFACES FOR THE PARAPETS AND APPROACH SLABS ARE INCLUDED WITH THIS ITEM FOR PAYMENT.

ITEM SPECIAL - STRUCTURE, MISC.: CUT AND CAP 6" CMP DRAIN

THE EXISTING 6" CMP DRAINS AT THE ABUTMENTS SHALL BE CUT OFF AT THE ABUTMENTS AS SHOWN ON THE ABUTMENT REMOVAL DETAILS. THE DRAIN PIPES SHALL BE FILLED WITH GROUT, CAPPED OR ANY OTHER MEANS APPROVED BY THE ENGINEER TO PLUG THE PIPES.

ALL LABOR, EQUIPMENT, MATERIALS AND INCIDENTALS NECESSARY TO COMPLETE THIS WORK SHALL BE INCLUDED WITH ITEM SPECIAL - STRUCTURE, MISC.: CUT AND CAP 6" CMP DRAIN FOR PAYMENT.

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

DESIGNED	DRAWN	REVIEWED	DATE
KAK	SJK	DAP	10/5/12
CHECKED	REVISED	STRUCTURE FILE NUMBER	
BLN		L7708912/R7708947	

GENERAL NOTES - 6
BRIDGE NO. SUM-271-0375 L&R
IR 271 OVER RAMP B

SUM-271-2.33
PID No. 18710

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ESTIMATED QUANTITIES (FUNDING PARTICIPATION; 04/BRO/BR)

CALCULATED GJR,KH DATED 5/12
CHECKED SJK,TWH DATED 10/12

ITEM	ITEM EXT.	LEFT STRUCTURE (S.B.B.) TOTAL	RIGHT STRUCTURE (N.B.B.) TOTAL	UNIT	DESCRIPTION	LEFT STRUCTURE (SOUTHBOUND)				RIGHT STRUCTURE (NORTHBOUND)				SEE SHEET
						SUPER	ABUTS.	PIERS	GEN'L	SUPER	ABUTS.	PIERS	GEN'L	
202	11203	LUMP	LUMP		PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN				LUMP				LUMP	4/58
202	22900	134	284	SQ YD	APPROACH SLAB REMOVED				134				284	
202	23501	689	1165	SQ YD	WEARING COURSE REMOVED, AS PER PLAN	555			134	881			284	4/58
503	11101	LUMP	LUMP		COFFERDAMS AND EXCAVATION BRACING, AS PER PLAN				LUMP				LUMP	5/58
503	21100	148	319	CU YD	UNCLASSIFIED EXCAVATION		148				319			
505	11100	LUMP	LUMP		PILE DRIVING EQUIPMENT MOBILIZATION				LUMP				LUMP	
507	00500	600	640	FT	12" CAST-IN-PLACE REINFORCED CONCRETE PILES, DRIVEN		600				640			
507	00550	675	720	FT	12" CAST-IN-PLACE REINFORCED CONCRETE PILES, FURNISHED		675				720			
509	10000	80,311	116,032	POUND	EPOXY COATED REINFORCING STEEL	66,543	6,733	7,035		93,384	10,324	12,324		
509	20001	200	200	POUND	REINFORCING STEEL, REPLACEMENT OF EXISTING REINFORCING STEEL, AS PER PLAN				200				200	5/58
510	10000	178	224	EACH	DOWEL HOLES WITH NONSHRINK, NONMETALLIC GROUT		178				224			
511	41000	42	72	CU YD	CLASS C CONCRETE, PIER ABOVE FOOTINGS			42				72		
511	44100	54	135	CU YD	CLASS C CONCRETE, ABUTMENT NOT INCLUDING FOOTING		54				135			
511	46500	29	39	CU YD	CLASS C CONCRETE, FOOTING		29				39			
511	50001	202	291	CU YD	CLASS HP CONCRETE, BRIDGE DECK, AS PER PLAN	202				291				5/58
511	50101	41	41	CU YD	CLASS HP CONCRETE, BRIDGE DECK (PARAPET), AS PER PLAN	41				41				5/58
511	52000	LUMP	LUMP		CLASS HP CONCRETE, TEST SLAB				LUMP				LUMP	
512	10100	590	739	SQ YD	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)	325	45	220		347	69	323		
512	33000	6	7	SQ YD	TYPE 2 WATERPROOFING		6				7			
512	74000	150	170	SQ YD	REMOVAL OF EXISTING COATINGS FROM CONCRETE SURFACES (SEE PROPOSAL NOTE)				150			170		
513	10261	91,700	142,800	POUND	STRUCTURAL STEEL MEMBERS, LEVEL 3, AS PER PLAN	91,700				142,800				6/58 & 7/58
513	20000	3090	4656	EACH	WELDED STUD SHEAR CONNECTORS	3090				4656				
514	27700	1,080	1,107	SQ FT	FIELD PAINTING , MISC.: BRUSH OFF BLASTING, GAVANIZED STEEL MEMBERS FOR TOP COAT	1,080				1,107				8/58
514	27700	1,080	1,107	SQ FT	FIELD PAINTING, MISC.: TOP URETHANE COAT FOR GALVANIZED STEEL MEMBERS	1,080				1,107				8/58
516	13900	46	44	SQ FT	2" PREFORMED EXPANSION JOINT FILLER	46				44				
516	14020	116	136	FT	SEMI-INTEGRAL ABUTMENT EXPANSION JOINT SEAL		116				136			
516	44101	10	16	EACH	ELASTOMERIC BEARING (2.75"x8 1/4"x12 1/4") WITH INTERNAL LAMINATES AND LOAD PLATE (1.5"x9 1/4"x20 1/4") (NEOPRENE), AS PER PLAN	10				16				39/58
516	44201	10	16	EACH	ELASTOMERIC BEARING (3.034"x9 3/8"x13 7/8") WITH INTERNAL LAMINATES AND LOAD PLATE (1.5"x10 3/8"x21 7/8") (NEOPRENE), AS PER PLAN	10				16				39/58
516	47001	LUMP			JACKING AND TEMPORARY SUPPORT OF SUPERSTRUCTURE, AS PER PLAN				LUMP					8/58
518	21200	92	172	CU YD	POROUS BACKFILL WITH FILTER FABRIC		92				172			
518	40000	127	189	FT	6" PERFORATED CORRUGATED PLASTIC PIPE		127				189			
518	40011	69	84	FT	6" NON-PERFORATED CORRUGATED PLASTIC PIPE, INCLUDING SPECIALS, AS PER PLAN		69				84			9/58
519	11101	20	20	SQ FT	PATCHING CONCRETE STRUCTURE, AS PER PLAN				20				20	9/58
523	20000	1	1	EACH	DYNAMIC LOAD TESTING				1				1	
526	30001	277	424	SQ YD	REINFORCED CONCRETE APPROACH SLAB (T=17"), AS PER PLAN				277				424	9/58
SPECIAL	53000400	7	12	EACH	STRUCTURE, MISC.: CUT AND CAP 6" CMP DRAINS	7				12				9/58

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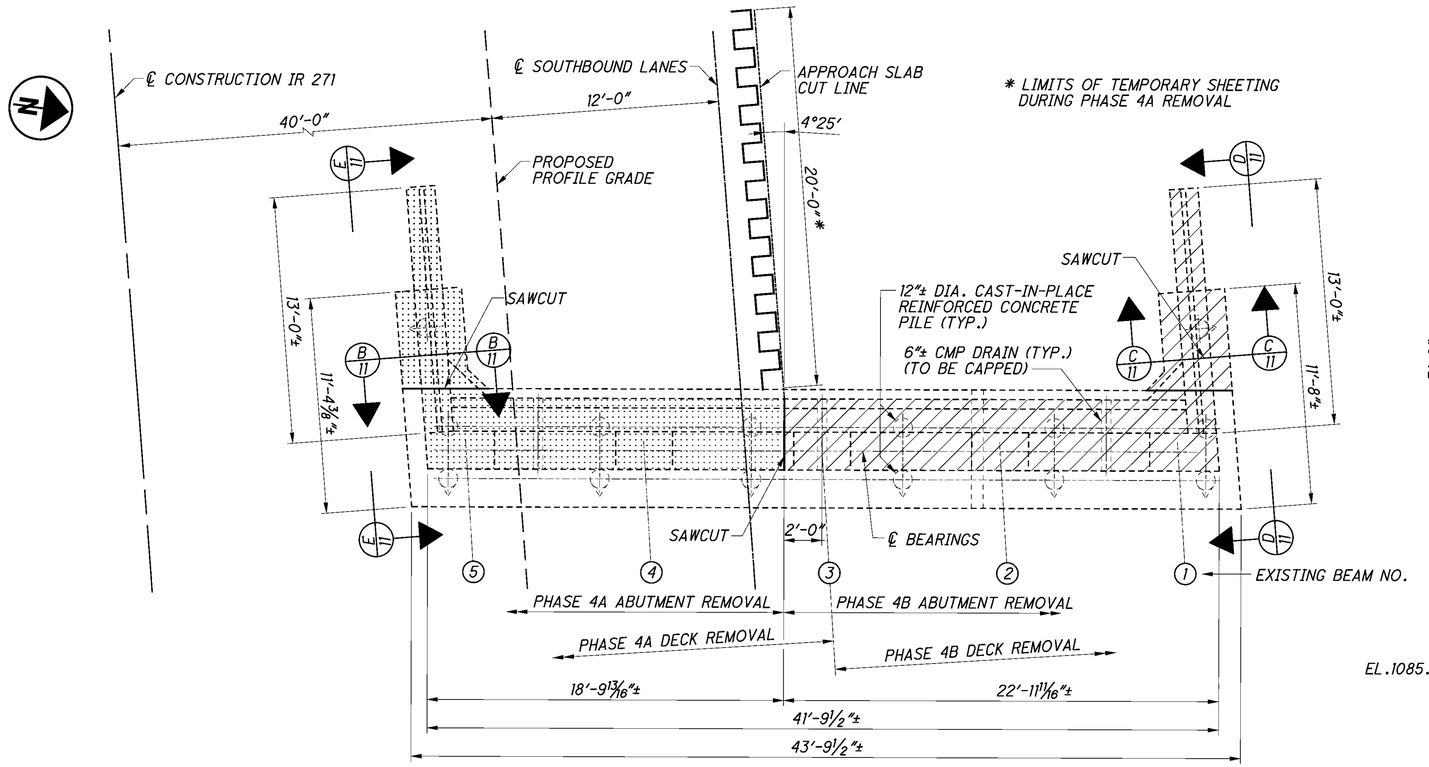
DESIGNED KAK | DRAWN SJK | CHECKED BLN | REVISED
REVIEWED DAP | DATE 10/5/12
STRUCTURE FILE NUMBER L7708912/R7708947

ESTIMATED QUANTITIES
BRIDGE NO. SUM-271-0375 L&R
IR 271 OVER RAMP B

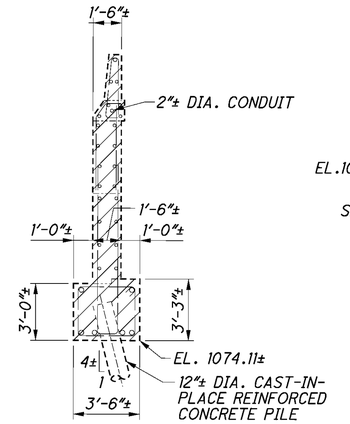
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PID No. 18710

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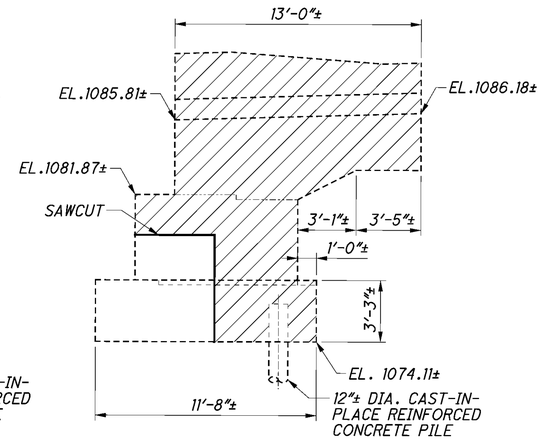
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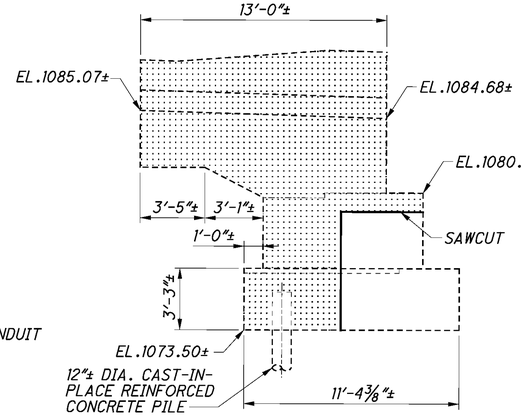
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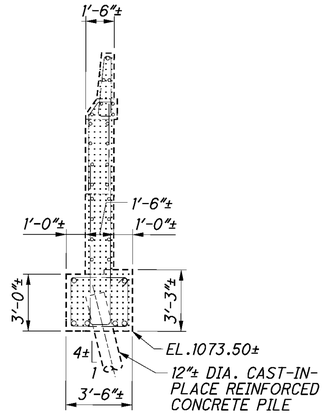
SECTION C-C



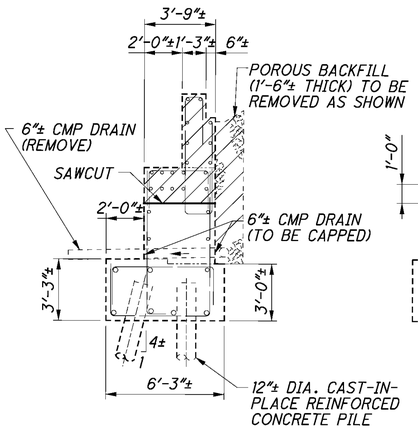
VIEW D-D



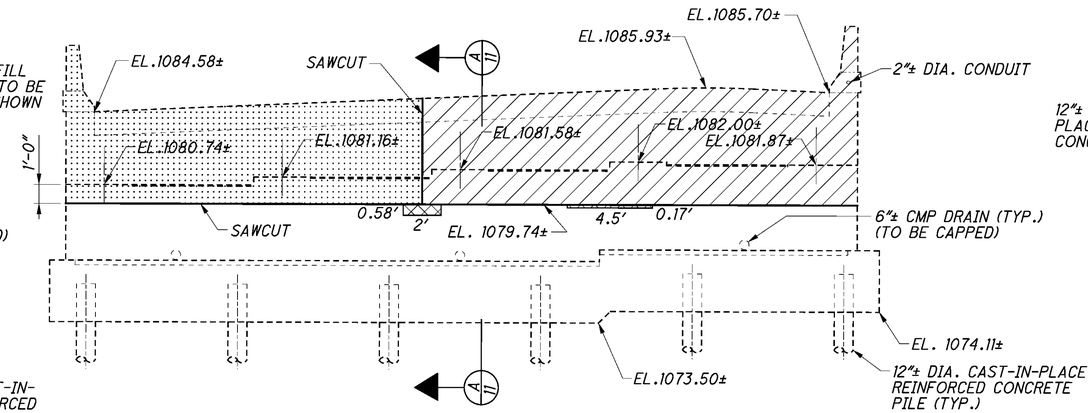
VIEW E-E



SECTION B-B



SECTION A-A



ELEVATION

LEGEND

INDICATES MATERIALS TO BE REMOVED DURING PHASE 4A REMOVAL AND INCLUDED WITH ITEM 202 - PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN, FOR PAYMENT.

INDICATES MATERIALS TO BE REMOVED DURING PHASE 4B REMOVAL AND INCLUDED WITH ITEM 202 - PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN, FOR PAYMENT.

INDICATES PORTIONS OF ABUTMENT TO BE PATCHED AND INCLUDED WITH ITEM 519 - PATCHING CONCRETE STRUCTURE, AS PER PLAN FOR PAYMENT. THE SOUNDING OF THE CONCRETE WAS PERFORMED ON AUGUST 24, 2012.

NOTES

MATERIALS SHOWN ARE EXISTING UNLESS OTHERWISE NOTED.

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

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BLN		L7708912	

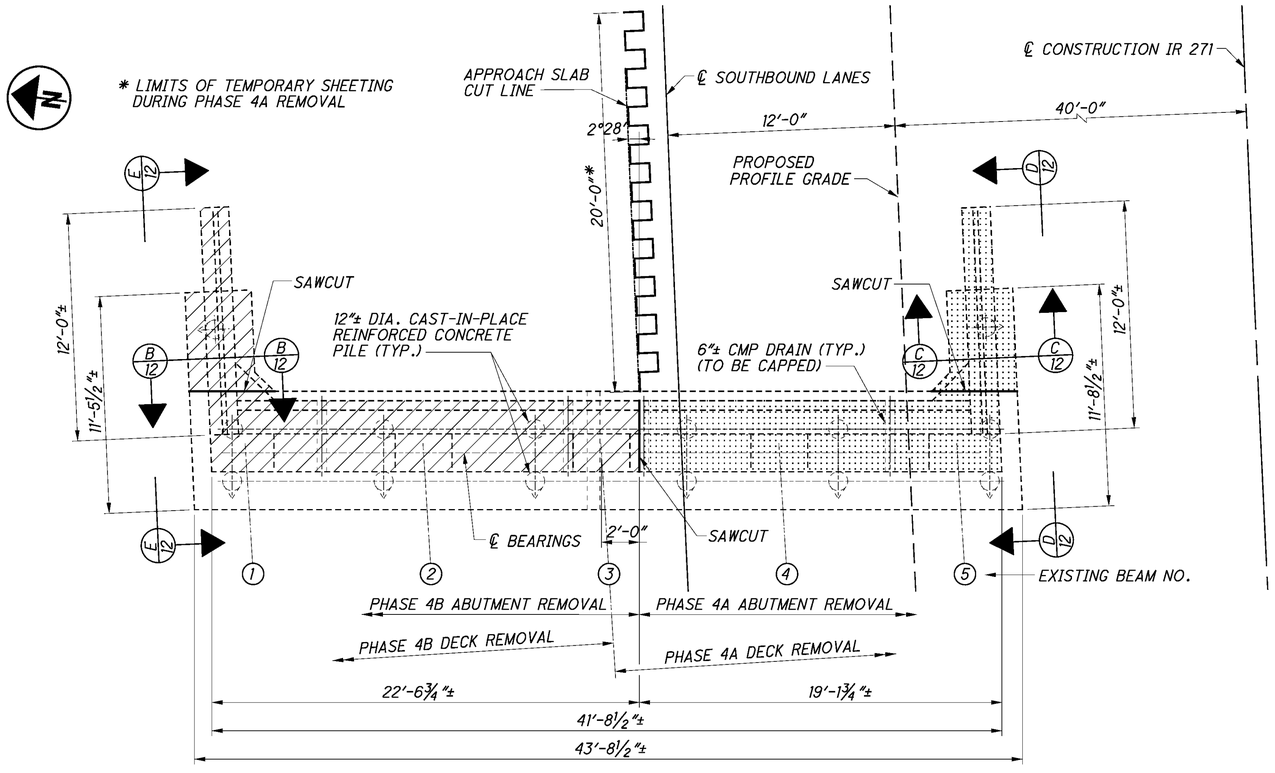
REAR ABUTMENT REMOVAL DETAILS SOUTHBOUND BRIDGE

BRIDGE NO. SUM-271-0375 L
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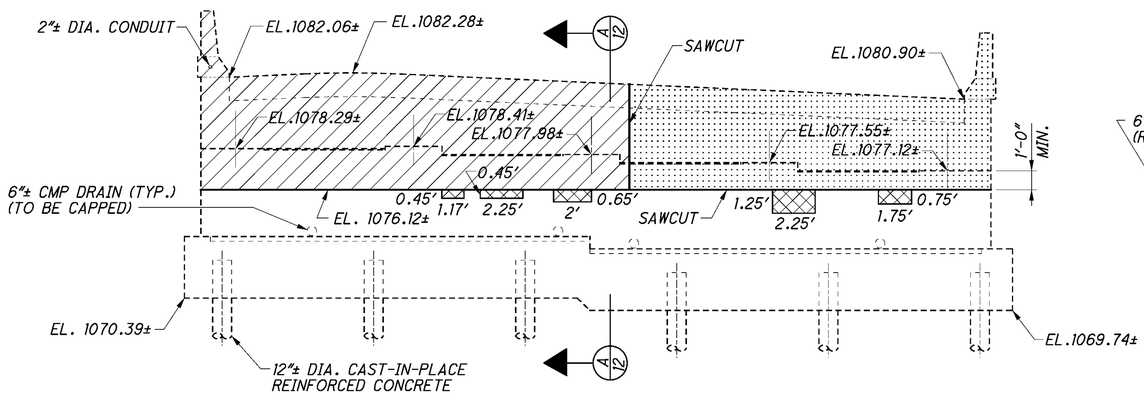
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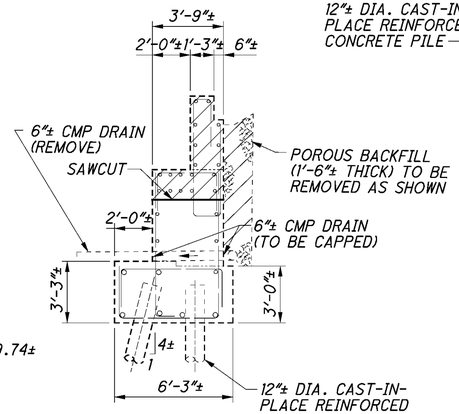
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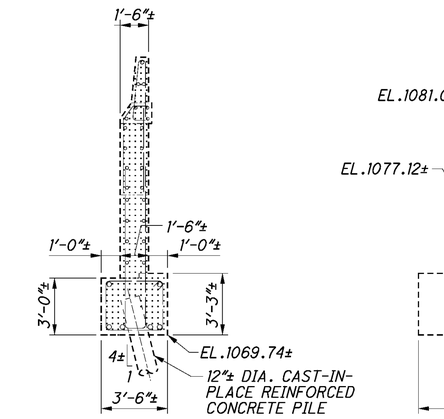
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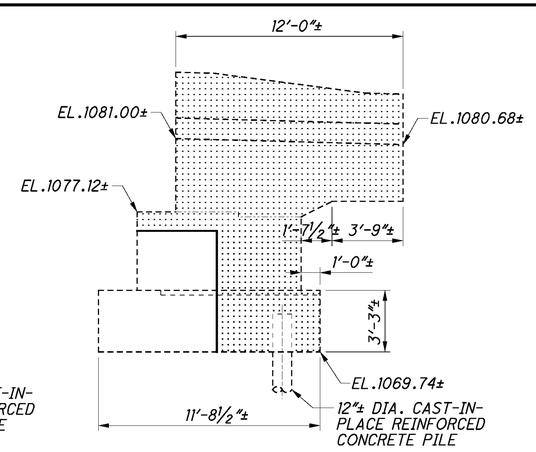
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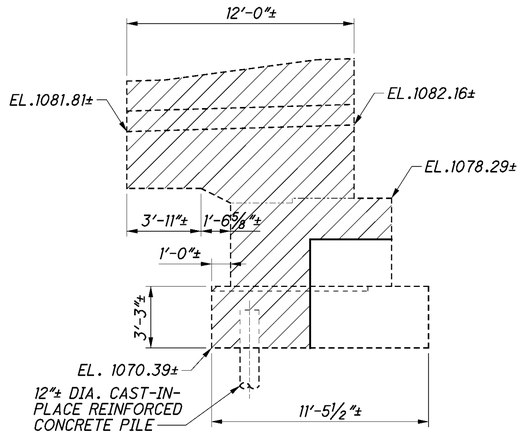
SECTION A-A



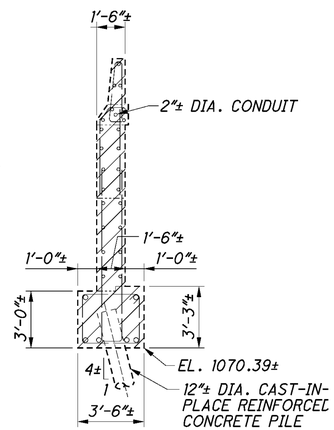
SECTION C-C



VIEW D-D



VIEW E-E



SECTION B-B

LEGEND

INDICATES MATERIALS TO BE REMOVED DURING PHASE 4A REMOVAL AND INCLUDED WITH ITEM 202 - PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN, FOR PAYMENT.

INDICATES MATERIALS TO BE REMOVED DURING PHASE 4B REMOVAL AND INCLUDED WITH ITEM 202 - PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN, FOR PAYMENT.

INDICATES PORTIONS OF ABUTMENT TO BE PATCHED AND INCLUDED WITH ITEM 519 - PATCHING CONCRETE STRUCTURE, AS PER PLAN FOR PAYMENT. THE SOUNDING OF THE CONCRETE WAS PERFORMED ON AUGUST 24, 2012.

NOTES

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RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

DESIGNED	DRAWN	REVIEWED	DATE
KAK	KH	DAP	10/5/12
CHECKED	REVISED	STRUCTURE FILE NUMBER	
BLN		L7708912	

FORWARD ABUTMENT REMOVAL DETAILS SOUTHBOUND BRIDGE

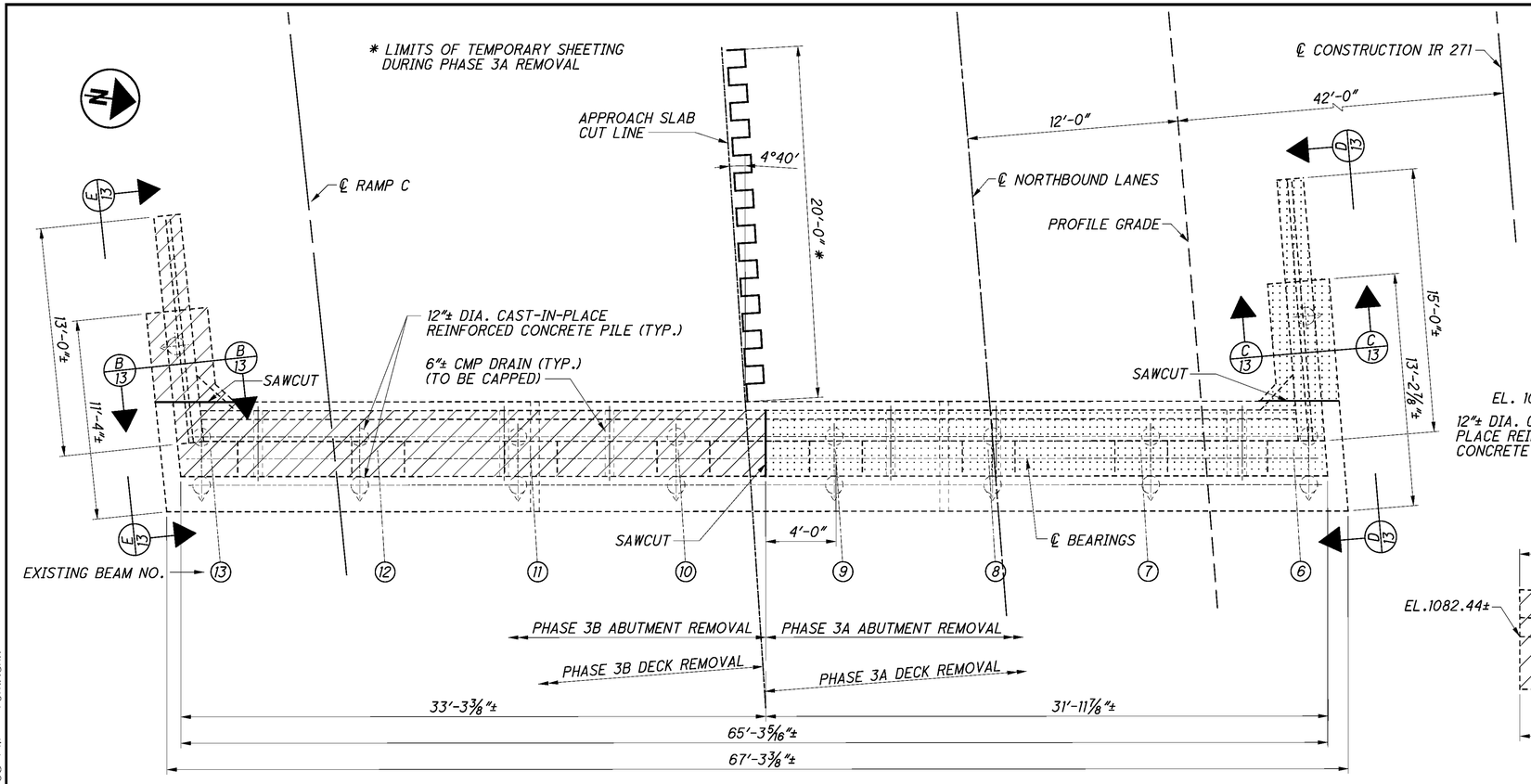
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PID No. 18170

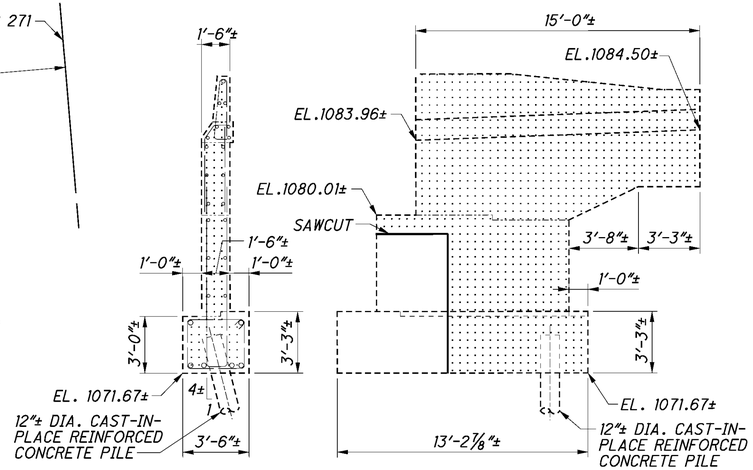
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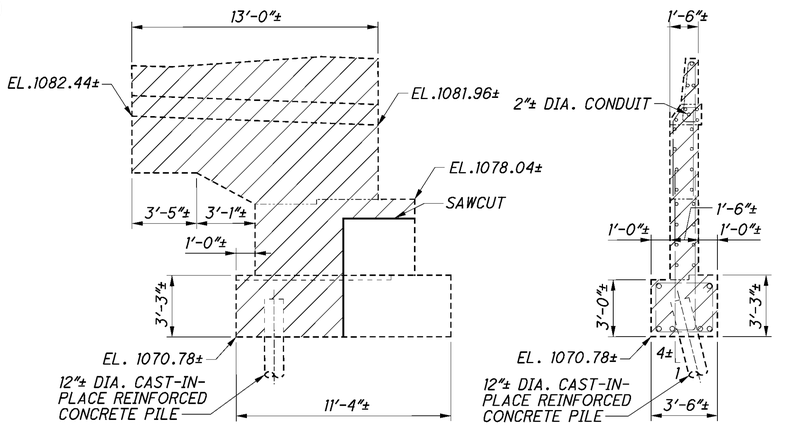


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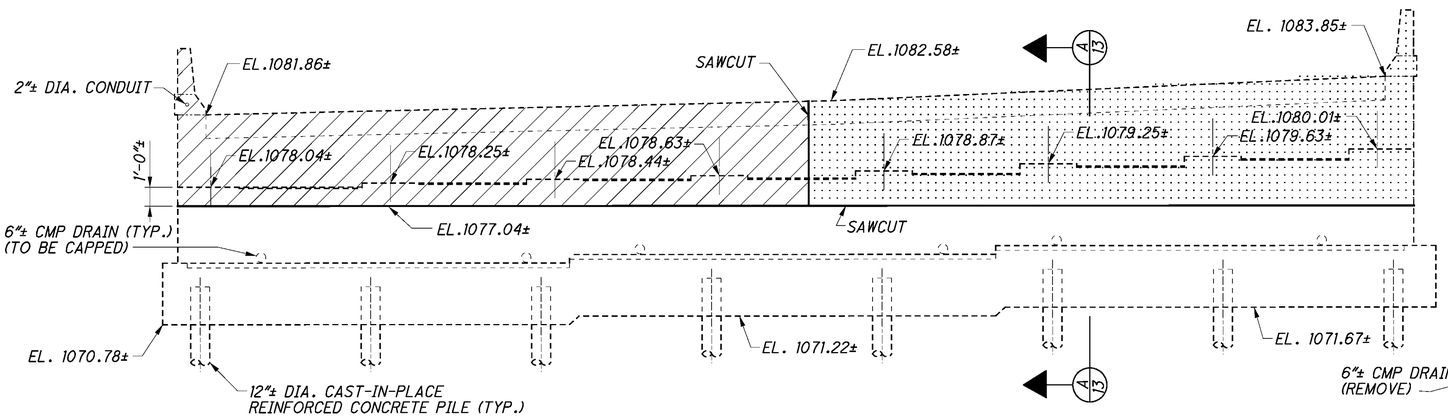
SECTION C-C

VIEW D-D

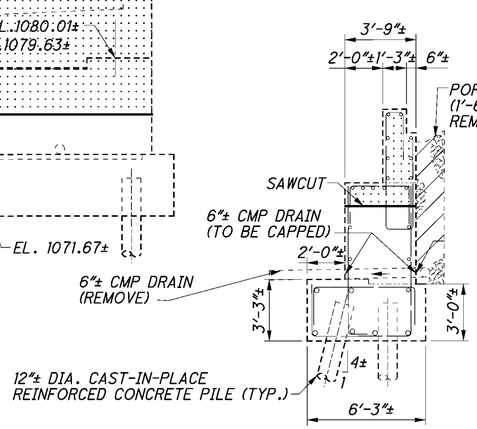


VIEW E-E

SECTION B-B



ELEVATION



SECTION A-A

LEGEND

INDICATES MATERIALS TO BE REMOVED DURING PHASE 3A REMOVAL AND INCLUDED WITH ITEM 202 - PORTIONS OF STRUCTURE REMOVED, AS PER PLAN, FOR PAYMENT.

INDICATES MATERIALS TO BE REMOVED DURING PHASE 3B REMOVAL AND INCLUDED WITH ITEM 202 - PORTIONS OF STRUCTURE REMOVED, AS PER PLAN, FOR PAYMENT.

NOTES

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RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

DESIGNED KAK | DRAWN KH | REVIEWED DAP | DATE 10/5/12
CHECKED BLN | REVISED | STRUCTURE FILE NUMBER R7708947

REAR ABUTMENT REMOVAL DETAILS- NORTHBOUND BRIGDE

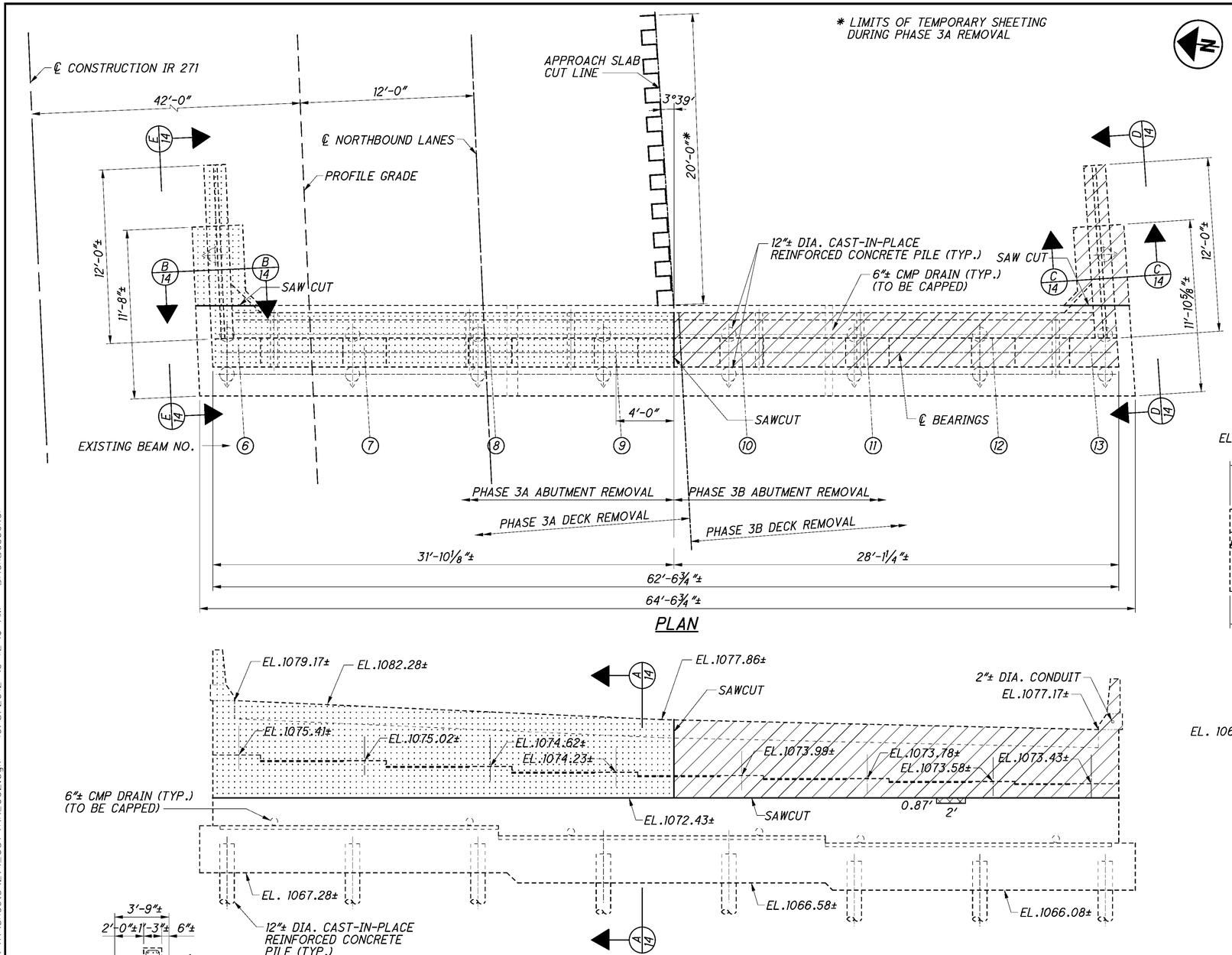
BRISDGE NO. SUM-271-0375 R
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LEGEND

INDICATES MATERIALS TO BE REMOVED DURING PHASE 3A REMOVAL AND INCLUDED WITH ITEM 202 - PORTIONS OF STRUCTURE REMOVED, AS PER PLAN, FOR PAYMENT.

INDICATES MATERIALS TO BE REMOVED DURING PHASE 3B REMOVAL AND INCLUDED WITH ITEM 202 - PORTIONS OF STRUCTURE REMOVED, AS PER PLAN, FOR PAYMENT.

INDICATES PORTIONS OF ABUTMENT TO BE PATCHED AND INCLUDED WITH ITEM 519 - PATCHING CONCRETE STRUCTURE, AS PER PLAN FOR PAYMENT. THE SOUNDING OF THE CONCRETE WAS PERFORMED ON AUGUST 24, 2012.

NOTES

MATERIALS SHOWN ARE EXISTING UNLESS OTHERWISE NOTED.

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

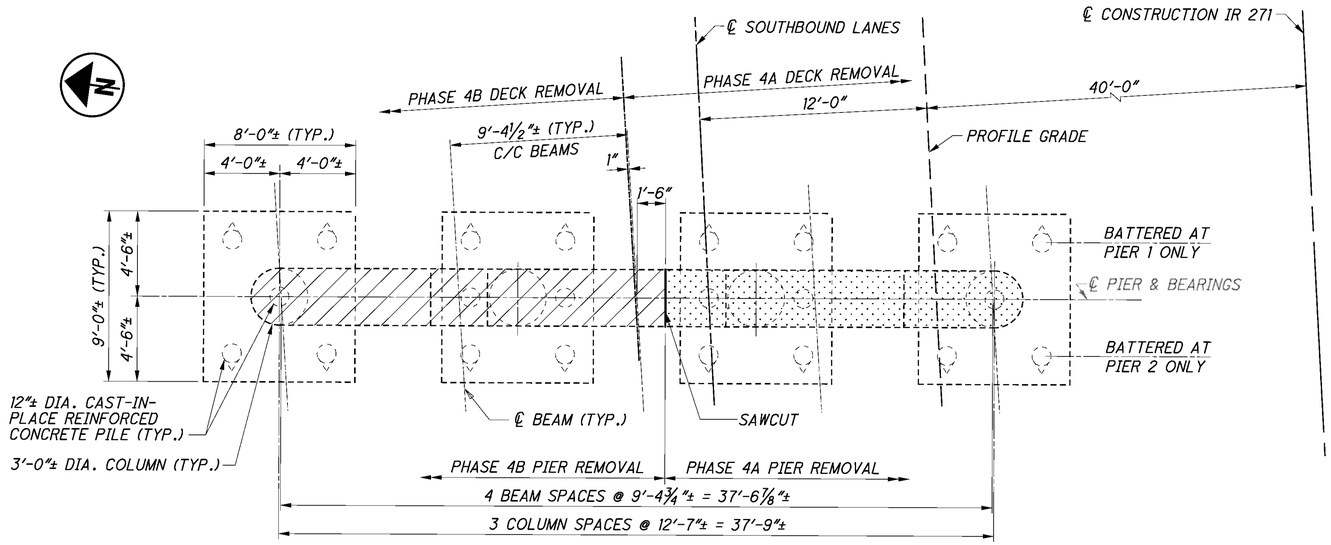
DESIGNED KAK | DRAWN KH | CHECKED BLN | REVISED | REVIEWED DAP | DATE 10/5/12 | STRUCTURE FILE NUMBER R7708947

FORWARD ABUTMENT REMOVAL DETAILS NORTHBOUND BRIGDE

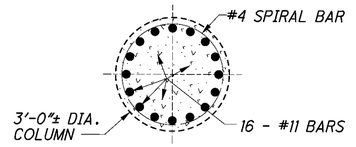
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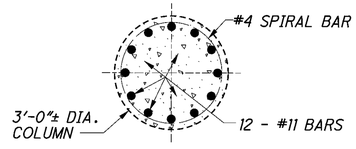
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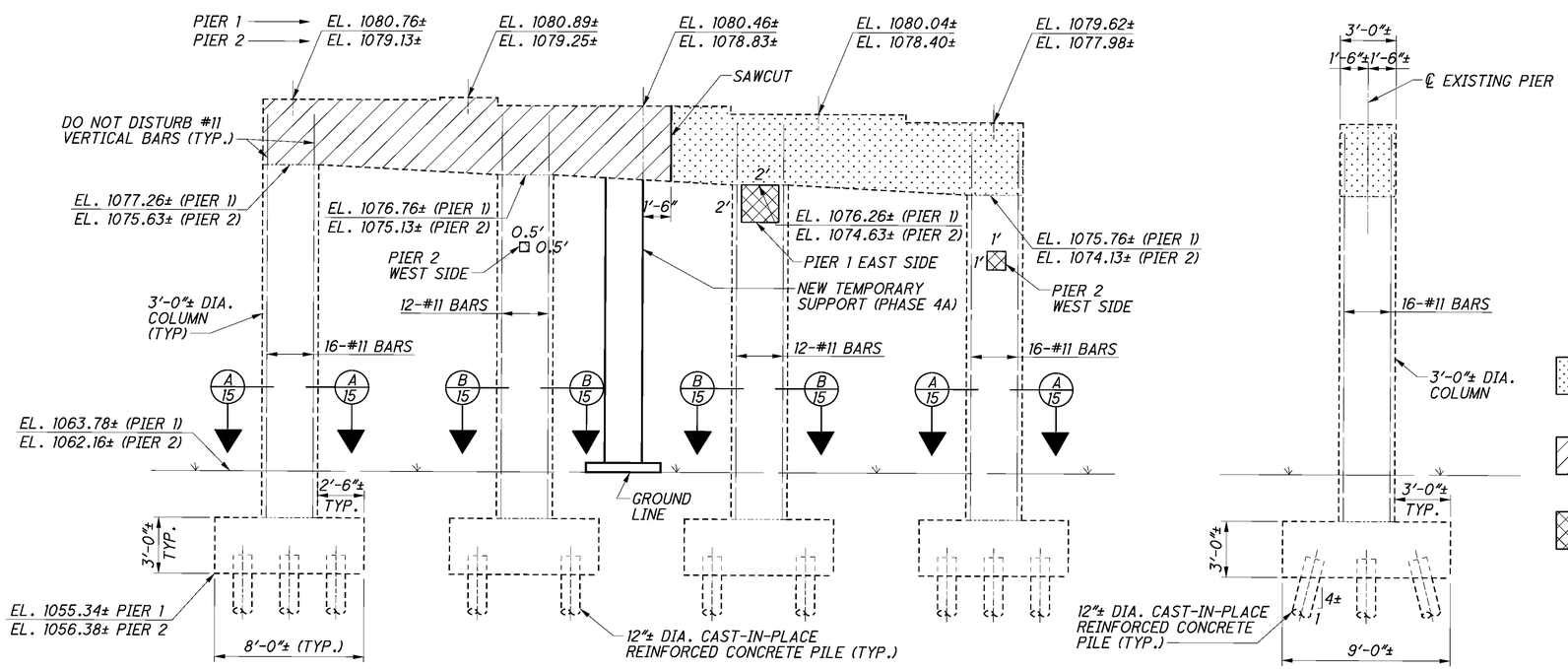
PLAN



SECTION A-A



SECTION B-B



ELEVATION

END VIEW

LEGEND

INDICATES MATERIALS TO BE REMOVED DURING PHASE 4A REMOVAL AND INCLUDED WITH ITEM 202 - PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN, FOR PAYMENT.

INDICATES MATERIALS TO BE REMOVED DURING PHASE 4B REMOVAL AND INCLUDED WITH ITEM 202 - PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN, FOR PAYMENT.

INDICATES PORTIONS OF PIERS TO BE PATCHED AND INCLUDED WITH ITEM 519 - PATCHING CONCRETE STRUCTURE, AS PER PLAN FOR PAYMENT. THE SOUNDING OF THE CONCRETE WAS PERFORMED ON AUGUST 24, 2012.

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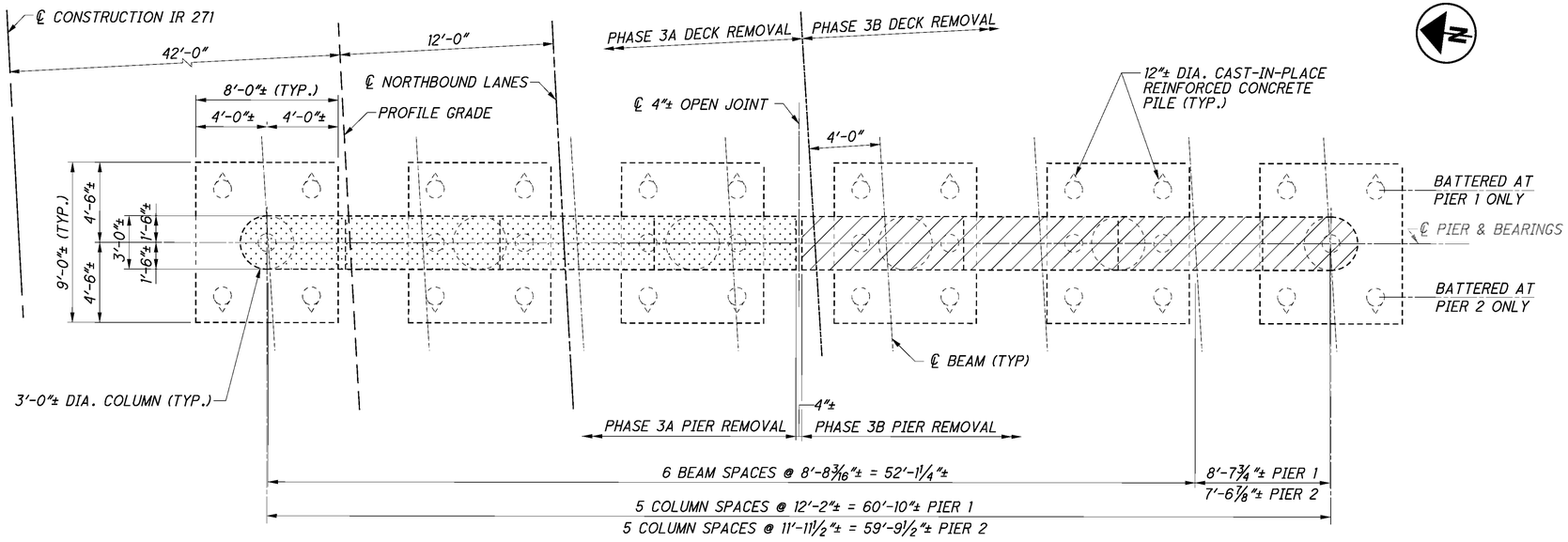
PIER REMOVAL DETAILS - SOUTHBOUND BRIDGE

BRIDGE NO. SUM-271-0375 L
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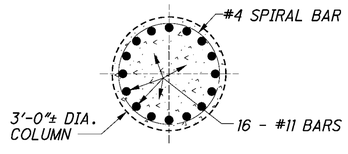
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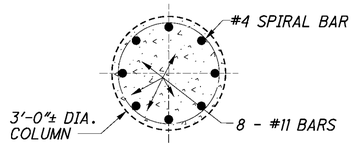
BrianBeecker
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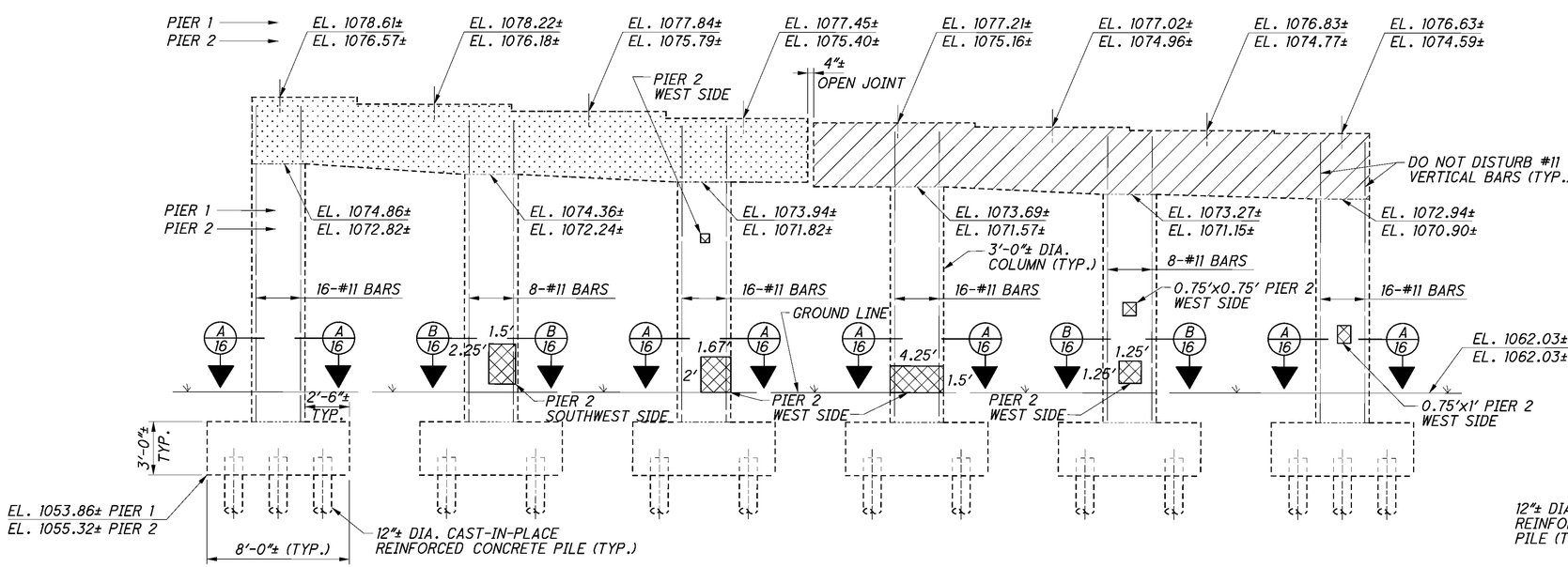
PLAN



SECTION A-A



SECTION B-B



ELEVATION

END VIEW

LEGEND

INDICATES MATERIALS TO BE REMOVED DURING PHASE 3A REMOVAL AND INCLUDED WITH ITEM 202 - PORTIONS OF STRUCTURE REMOVED OVER 20 FOOT SPAN, AS PER PLAN, FOR PAYMENT.

INDICATES MATERIALS TO BE REMOVED DURING PHASE 3B REMOVAL AND INCLUDED WITH ITEM 202 - PORTIONS OF STRUCTURE REMOVED OVER 20 FOOT SPAN, AS PER PLAN, FOR PAYMENT.

INDICATES PORTIONS OF PIERS TO BE PATCHED AND INCLUDED WITH ITEM 519 - PATCHING CONCRETE STRUCTURE, AS PER PLAN. THE SOUNDING OF THE CONCRETE WAS PERFORMED ON AUGUST 24, 2012.

NOTES

MATERIALS SHOWN ARE EXISTING UNLESS OTHERWISE NOTED.

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

DESIGNED KAK | DRAWN KH | CHECKED BLN | REVIEWED DAP | DATE 10/5/12 | REVISED | STRUCTURE FILE NUMBER R7708947

PIER REMOVAL DETAILS - NORTHBOUND BRIDGE

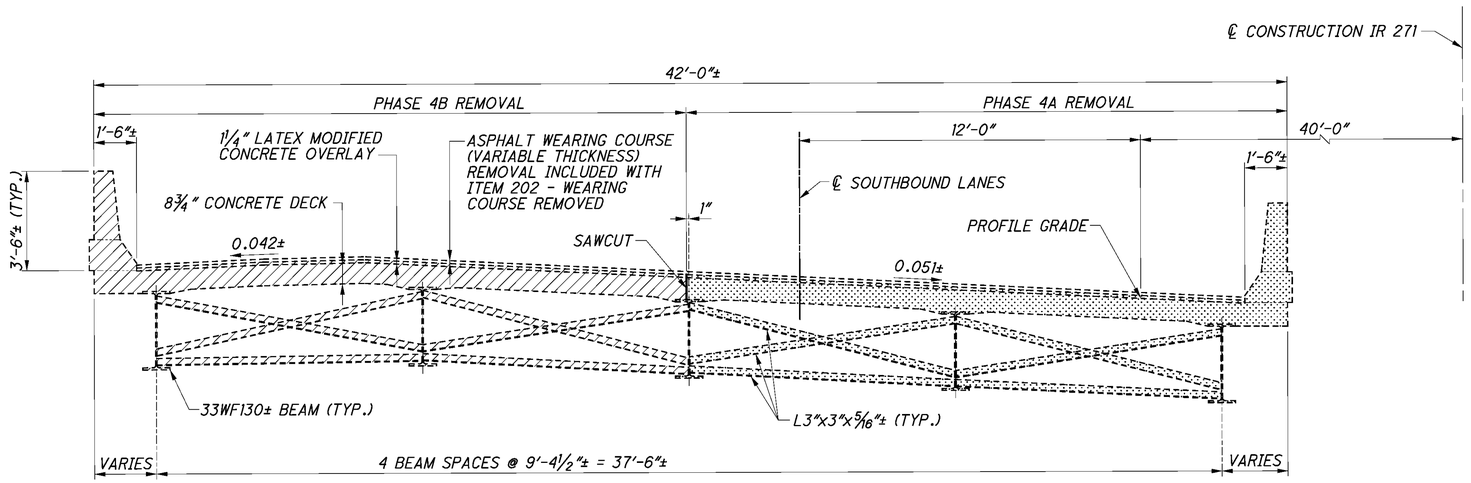
BRIDGE NO. SUM-271-0375 R
IR 271 OVER RAMP B

SUM-271-2.33
PID No. 18710

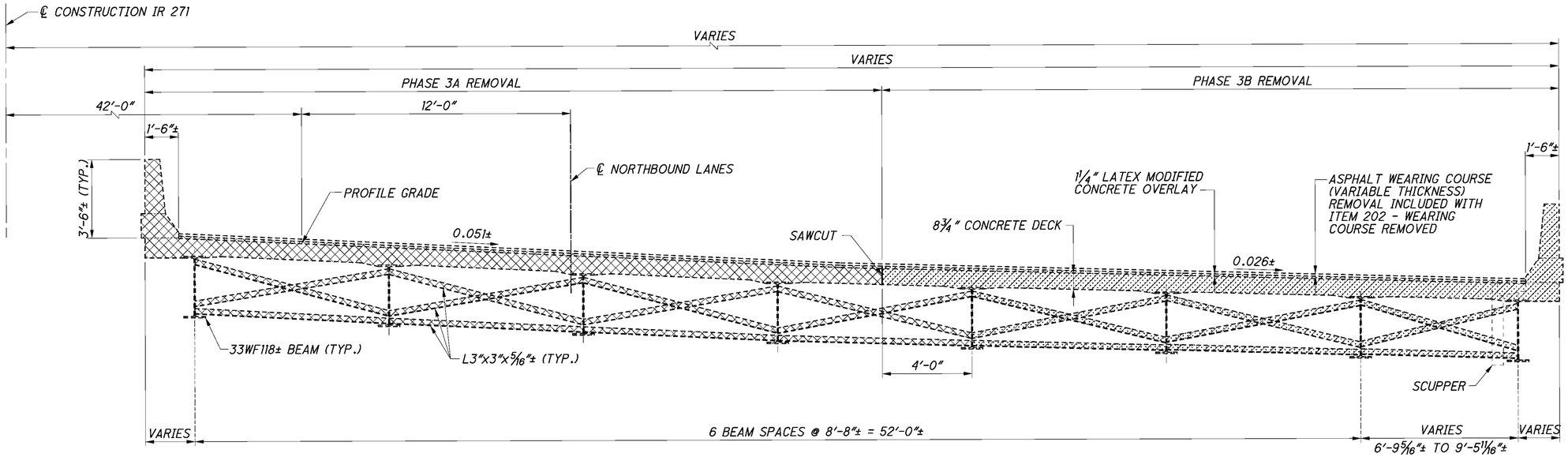
16 / 58

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BrianBesecker
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TRANSVERSE SECTION - SOUTHBOUND STRUCTURE



TRANSVERSE SECTION - NORTHBOUND STRUCTURE

LEGEND

- INDICATES MATERIALS TO BE REMOVED DURING PHASE 3A REMOVAL AND INCLUDED WITH ITEM 202 - PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN, FOR PAYMENT.
- INDICATES MATERIALS TO BE REMOVED DURING PHASE 3B REMOVAL AND INCLUDED WITH ITEM 202 - PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN, FOR PAYMENT.
- INDICATES MATERIALS TO BE REMOVED DURING PHASE 4A REMOVAL AND INCLUDED WITH ITEM 202 - PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN, FOR PAYMENT.
- INDICATES MATERIALS TO BE REMOVED DURING PHASE 4B REMOVAL AND INCLUDED WITH ITEM 202 - PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN, FOR PAYMENT.

NOTES

MATERIALS SHOWN ARE EXISTING UNLESS OTHERWISE NOTED.

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

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CHECKED BLN | REVISED | STRUCTURE FILE NUMBER L7708912/R7708947

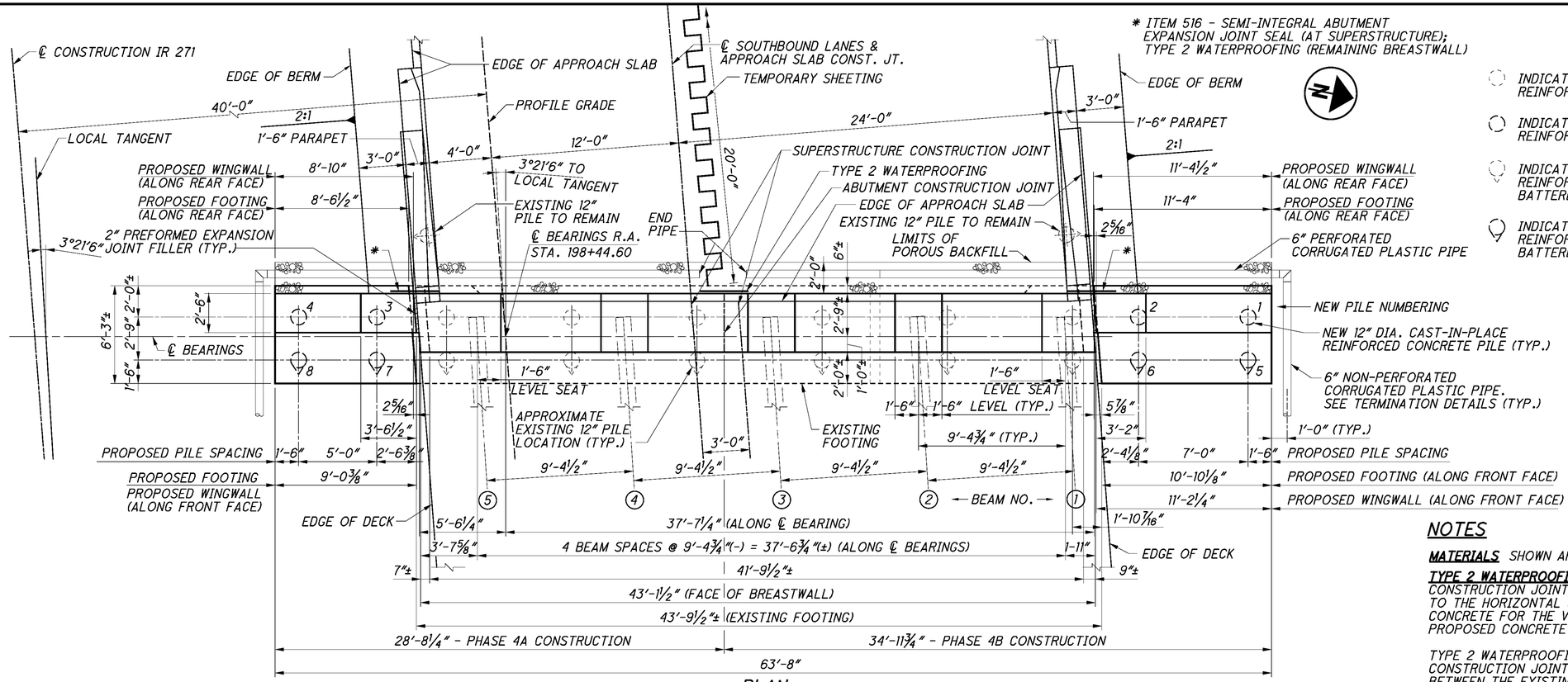
SUPERSTRUCTURE REMOVAL DETAILS
BRIDGE NO. SUM-271-0375 L&R
IR 271 OVER RAMP B

SUM-271-2.33
PID No. 18710

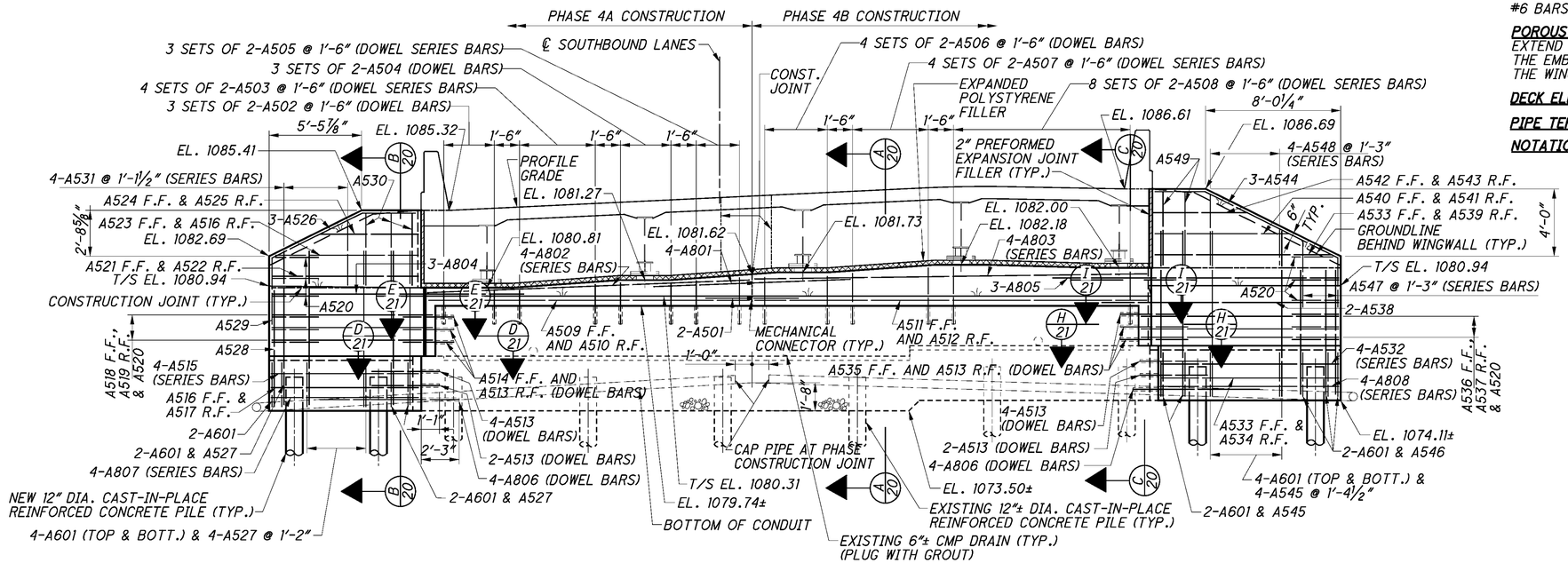
17 / 58

1111
1195

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PLAN



ELEVATION

LEGEND

- INDICATES EXISTING 12"± DIA. CAST-IN-PLACE REINFORCED CONCRETE PILES.
- INDICATES PROPOSED 12" DIA. CAST-IN-PLACE REINFORCED CONCRETE PILES.
- INDICATES EXISTING 12"± DIA. CAST-IN-PLACE REINFORCED CONCRETE PILES BATTERED 1:4± IN THE DIRECTION SHOWN.
- INDICATES PROPOSED 12" DIA. CAST-IN-PLACE REINFORCED CONCRETE PILES BATTERED 1:4 IN THE DIRECTION SHOWN.

NOTES

MATERIALS SHOWN ARE NEW UNLESS OTHERWISE NOTED.

TYPE 2 WATERPROOFING IS TO BE 3'-0" WIDE, CENTERED ON THE CONSTRUCTION JOINT AND SEALED FROM THE TOP OF THE FOOTING TO THE HORIZONTAL JOINT BETWEEN THE EXISTING AND PROPOSED CONCRETE FOR THE VERTICAL JOINTS BETWEEN EXISTING AND PROPOSED CONCRETE.

TYPE 2 WATERPROOFING IS TO BE 3'-0" WIDE, CENTERED ON THE CONSTRUCTION JOINT AND SEALED FROM THE HORIZONTAL JOINT BETWEEN THE EXISTING AND PROPOSED CONCRETE TO THE SUPERSTRUCTURE SEAT FOR THE PHASE CONSTRUCTION.

REINFORCING STEEL SPLICE LENGTHS SHALL BE 2'-0" FOR VERTICAL #5 BARS, 2'-9" FOR HORIZONTAL #5 BARS, 3'-0" FOR VERTICAL #6 BARS AND 5'-10" FOR HORIZONTAL #8 BARS.

POROUS BACKFILL WITH FILTER FABRIC 2 FEET THICK SHALL EXTEND UP TO THE PLANE OF THE SUBGRADE TO 1 FOOT BELOW THE EMBANKMENT SURFACE, AND LATERALLY TO THE ENDS OF THE WINGWALLS.

DECK ELEVATIONS GIVEN AT CENTERLINE OF BEARING.

PIPE TERMINATION DETAILS: SEE SHEET 21/58.

NOTATION: R.F. - REAR FACE
F.F. - FRONT FACE
E.F. - EACH FACE
C-I-P R.C. - CAST-IN-PLACE REINFORCED CONCRETE

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

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KAK	KH	DAP	10/5/12
CHECKED	REVISED	STRUCTURE FILE NUMBER	
BLN		L7708912	

REAR ABUTMENT - SOUTHBOUND BRIDGE

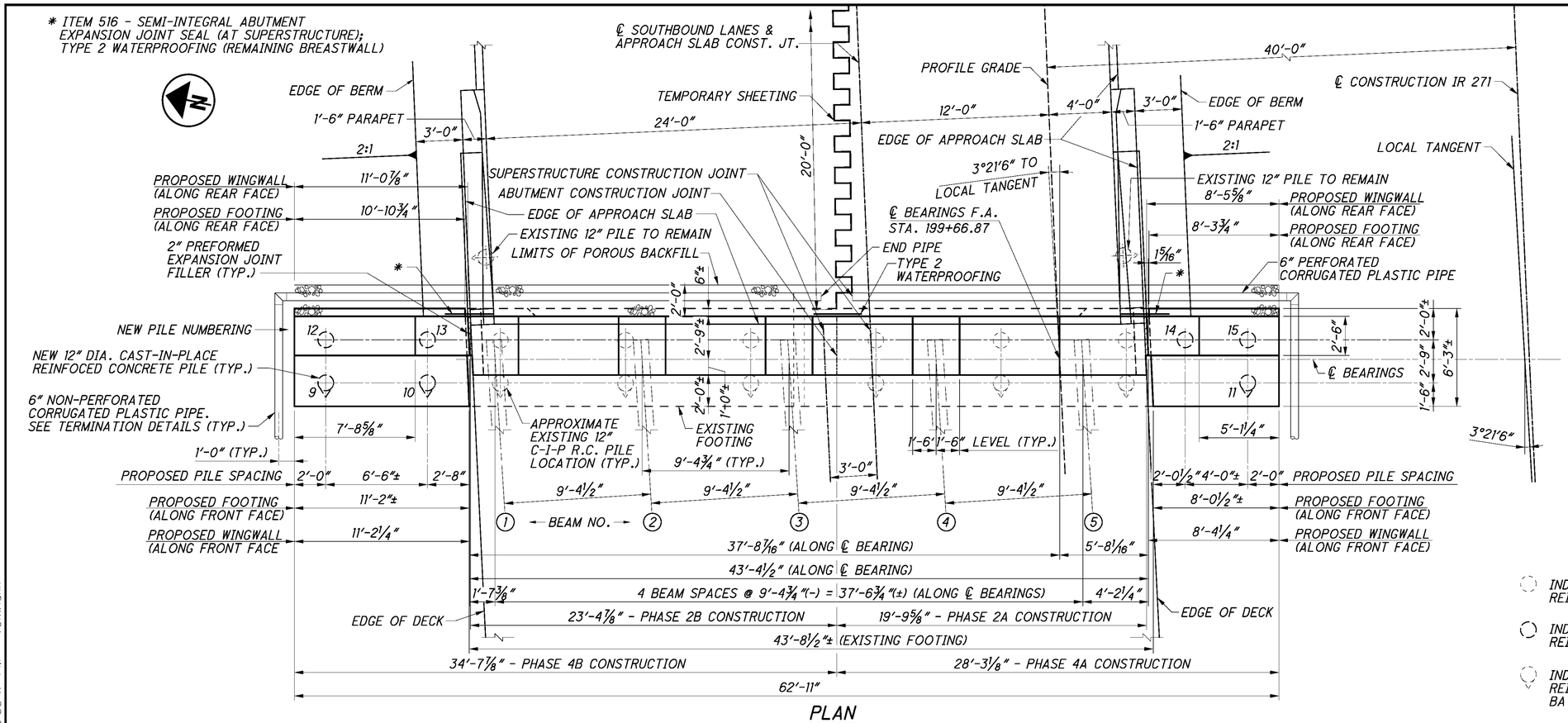
BRIDGE NO. SUM-271-0375 L
IR 271 OVER RAMP B

SUM-271-2.33
PID No. 18710

18 / 58

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LEGEND

- INDICATES EXISTING 12"± DIA. CAST-IN-PLACE REINFORCED CONCRETE PILES.
- INDICATES PROPOSED 12" DIA. CAST-IN-PLACE REINFORCED CONCRETE PILES.
- INDICATES EXISTING 12"± DIA. CAST-IN-PLACE REINFORCED CONCRETE PILES BATTERED 1:4± IN THE DIRECTION SHOWN.
- INDICATES PROPOSED 12" DIA. CAST-IN-PLACE REINFORCED CONCRETE PILES BATTERED 1:4 IN THE DIRECTION SHOWN.

NOTES

PIPE TERMINATION DETAILS: SEE SHEET 21/58.

DOWEL HOLE DEPTHS SHALL BE 1'-1" FOR #5 BARS, AND 2'-3" FOR #8 BARS.

ADDITIONAL NOTES: SEE SHEET 18/58.

NOTATION: R.F. - REAR FACE
F.F. - FRONT FACE
E.F. - EACH FACE
C-I-P R.C. - CAST-IN-PLACE REINFORCED CONCRETE

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

DESIGNED KAK | DRAWN KH | CHECKED BLN | REVIEWED DAP | DATE 10/5/12 | REVISED | STRUCTURE FILE NUMBER L7708912

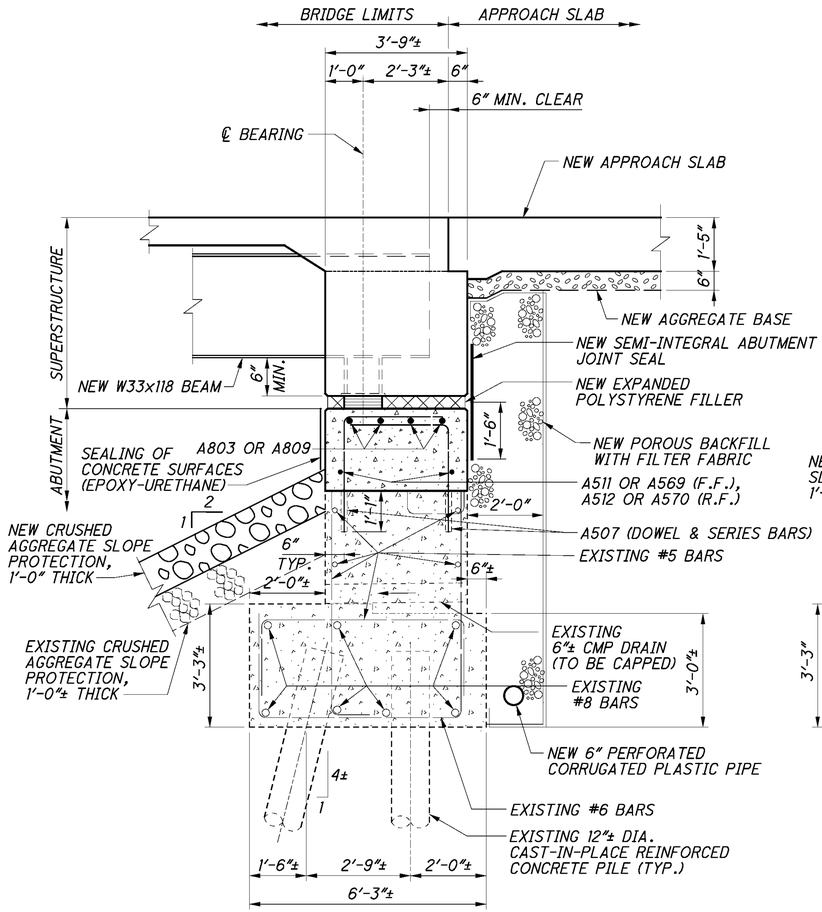
FORWARD ABUTMENT - SOUTHBOUND BRIDGE
BRIDGE NO. SUM-271-0375 L
IR 271 OVER RAMP B

SUM-271-2.33
PID No. 18710

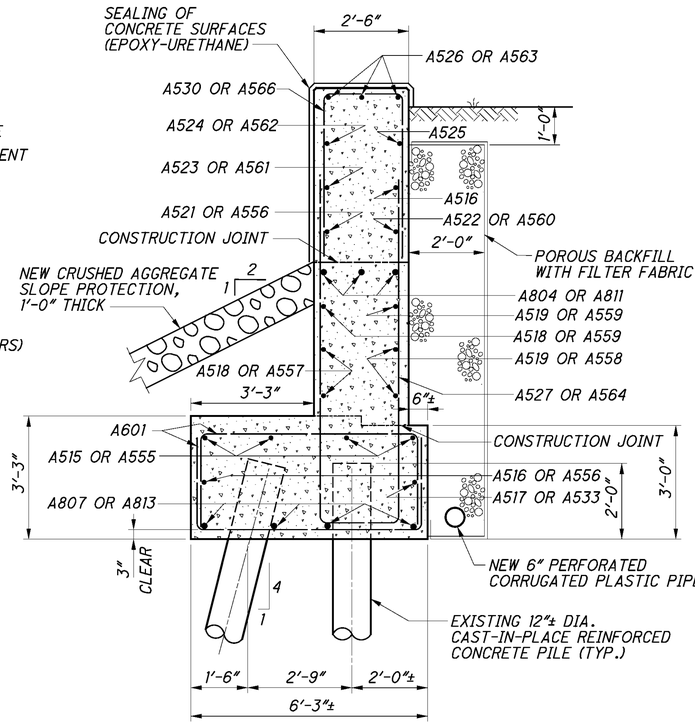
19 / 58

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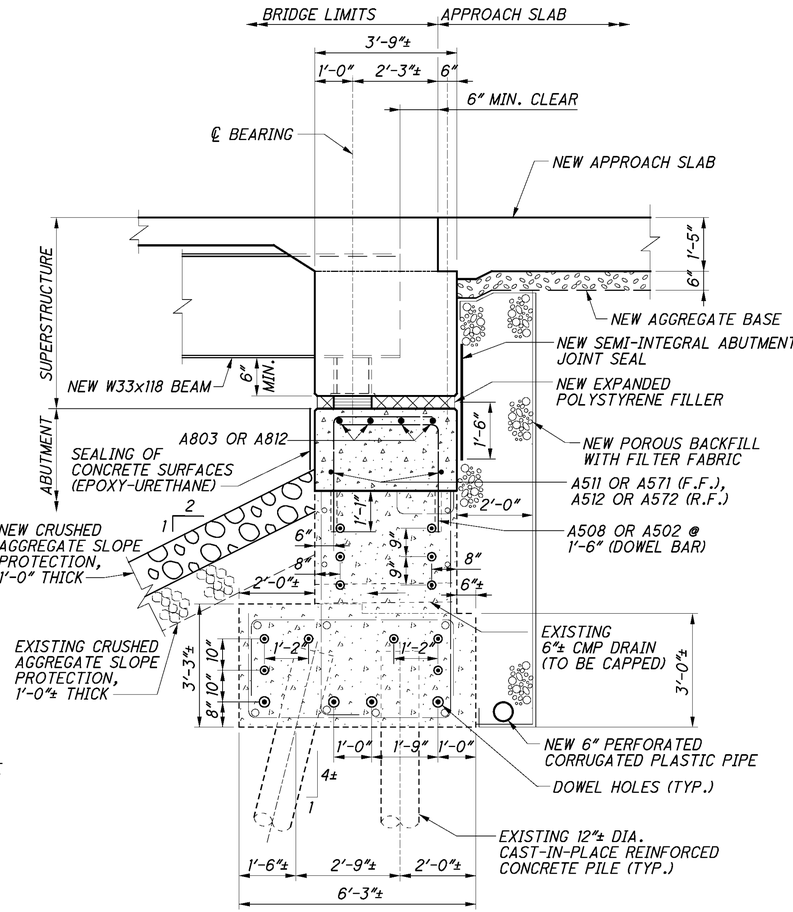
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SECTION A-A



SECTION B-B



SECTION C-C

(DOWEL LOCATION ON EXISTING ABUTMENT)

NOTES

MATERIALS *SHOWN ARE NEW UNLESS OTHERWISE NOTED.*

ADDITIONAL NOTES: *SEE SHEET* 18/58.

FOR SECTIONS A-A, B-B AND C-C: *SEE SHEETS* 18/58 *AND* 19/58.

ITEM SPECIAL - STRUCTURE, MISC.: CUT AND CAP 6" CMP DRAIN
SEE GENERAL NOTE SHEET 9/58.

SEE SUPERSTRUCTURE DETAILS *FOR ADDITIONAL SEALING ON SEMI-INTEGRAL BLOCK.*

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MANSFIELD, OHIO 44902

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KAK	KH	DAP	10/5/12
CHECKED	REVISED	STRUCTURE FILE NUMBER	
BLN		L7708912	

ABUTMENT DETAILS - 1 - SOUTHBOUND BRIDGE

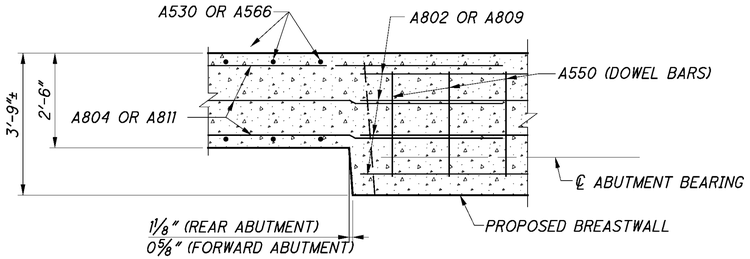
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IR 271 OVER RAMP B

SUM-271-2.33
PID No. 18170

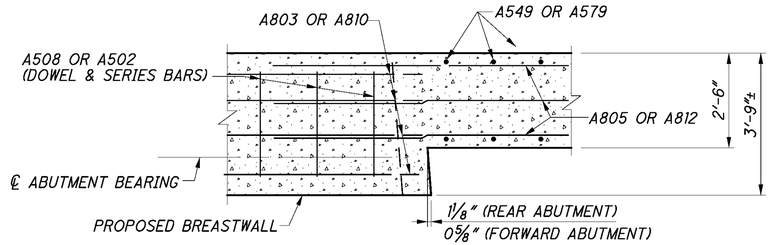
20 / 58

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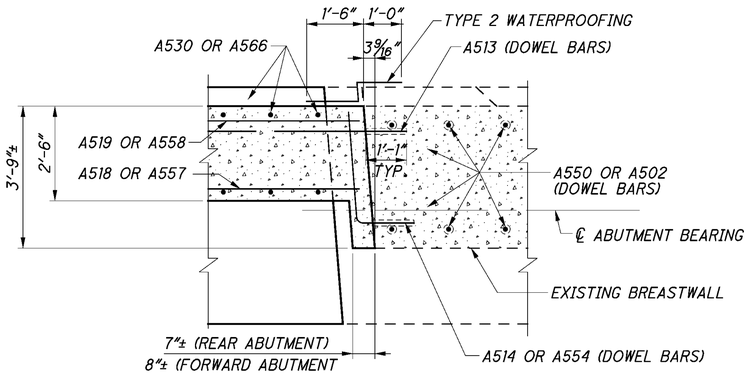
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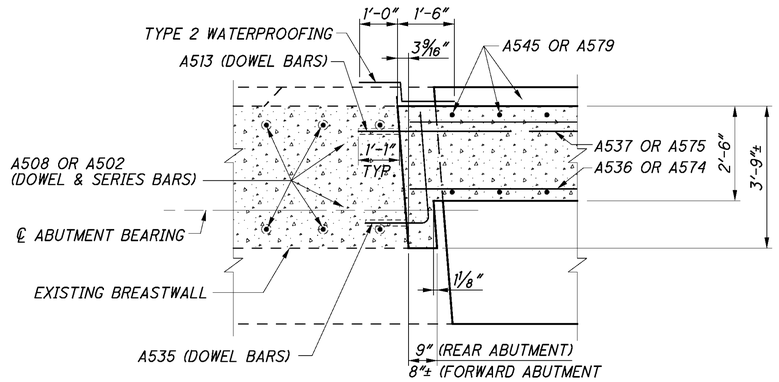
SECTION E-E



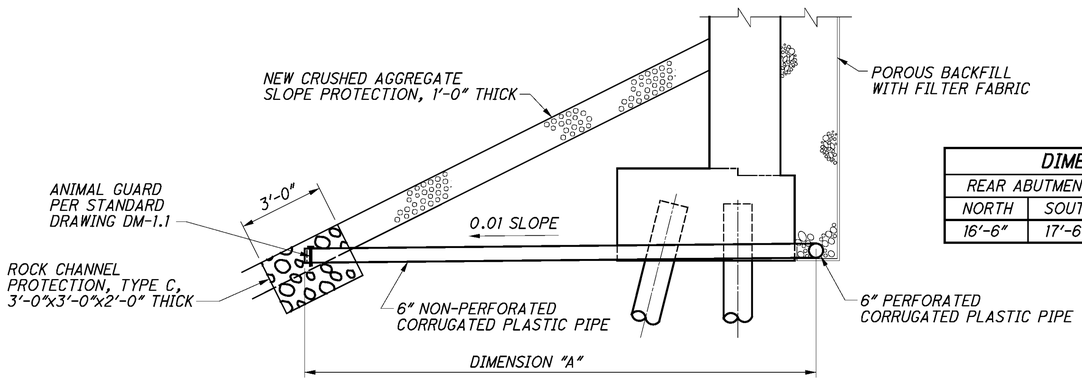
SECTION I-I



SECTION D-D



SECTION H-H



DIMENSION "A"			
REAR ABUTMENT		FORWARD ABUTMENT	
NORTH	SOUTH	NORTH	SOUTH
16'-6"	17'-6"	16'-6"	17'-9"

TERMINATION OF 6" NON-PERFORATED CORRUGATED PLASTIC PIPE

NOTES

SECTIONS D-D, E-E, H-H AND I-I
FOR LOCATIONS SEE SHEETS 18/58 AND 19/58.

TERMINATION OF 6" NON-PERFORATED CORRUGATED PLASTIC PIPE:
FOR LOCATIONS SEE SHEETS 18/58 AND 19/58.

ADDITIONAL NOTES: SEE SHEET 18/58.

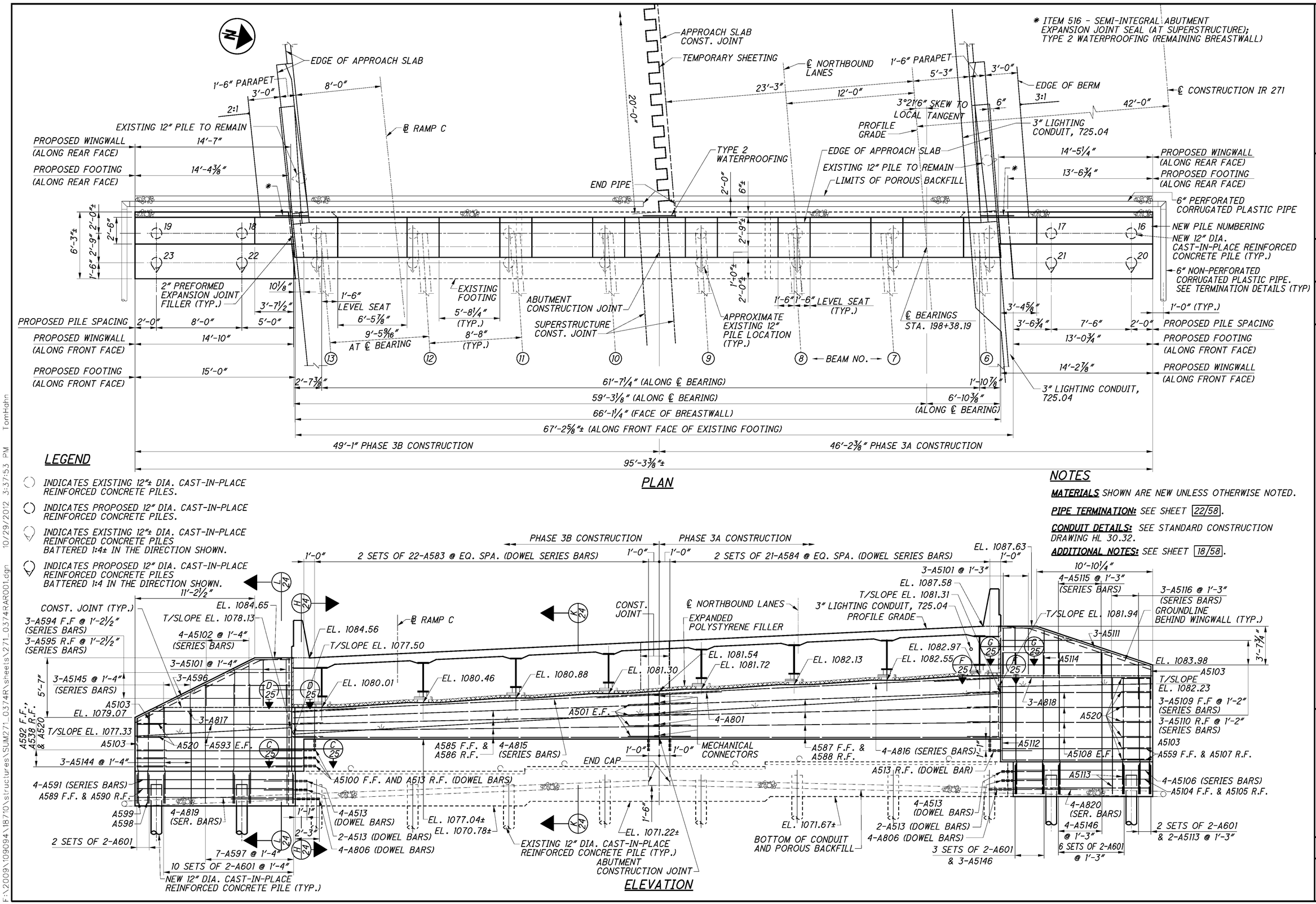
RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

DESIGNED	DRAWN	REVIEWED	DATE
KAK	KH	DAP	10/5/12
CHECKED	REVISED	STRUCTURE FILE NUMBER	
BLN		L7708912	

ABUTMENT DETAILS - 2 - SOUTHBOUND BRIDGE
BRIDGE NO. SUM-271-0375 L
IR 271 OVER RAMP B

SUM-271-2.33
PID No. 18710

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PLAN

LEGEND

- INDICATES EXISTING 12"± DIA. CAST-IN-PLACE REINFORCED CONCRETE PILES.
- INDICATES PROPOSED 12" DIA. CAST-IN-PLACE REINFORCED CONCRETE PILES.
- INDICATES EXISTING 12"± DIA. CAST-IN-PLACE REINFORCED CONCRETE PILES BATTERED 1:4± IN THE DIRECTION SHOWN.
- INDICATES PROPOSED 12" DIA. CAST-IN-PLACE REINFORCED CONCRETE PILES BATTERED 1:4 IN THE DIRECTION SHOWN. 11'-2½"

ELEVATION

NOTES

MATERIALS SHOWN ARE NEW UNLESS OTHERWISE NOTED.

PIPE TERMINATION: SEE SHEET 22/58.

CONDUIT DETAILS: SEE STANDARD CONSTRUCTION DRAWING HL 30.32.

ADDITIONAL NOTES: SEE SHEET 18/58.

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

DESIGNED KAK | DRAWN SJK | CHECKED BLN | REVIEWED DAP | DATE 10/5/12 | REVISED | STRUCTURE FILE NUMBER R7708947

REAR ABUTMENT - NORTHBOUND BRIDGE

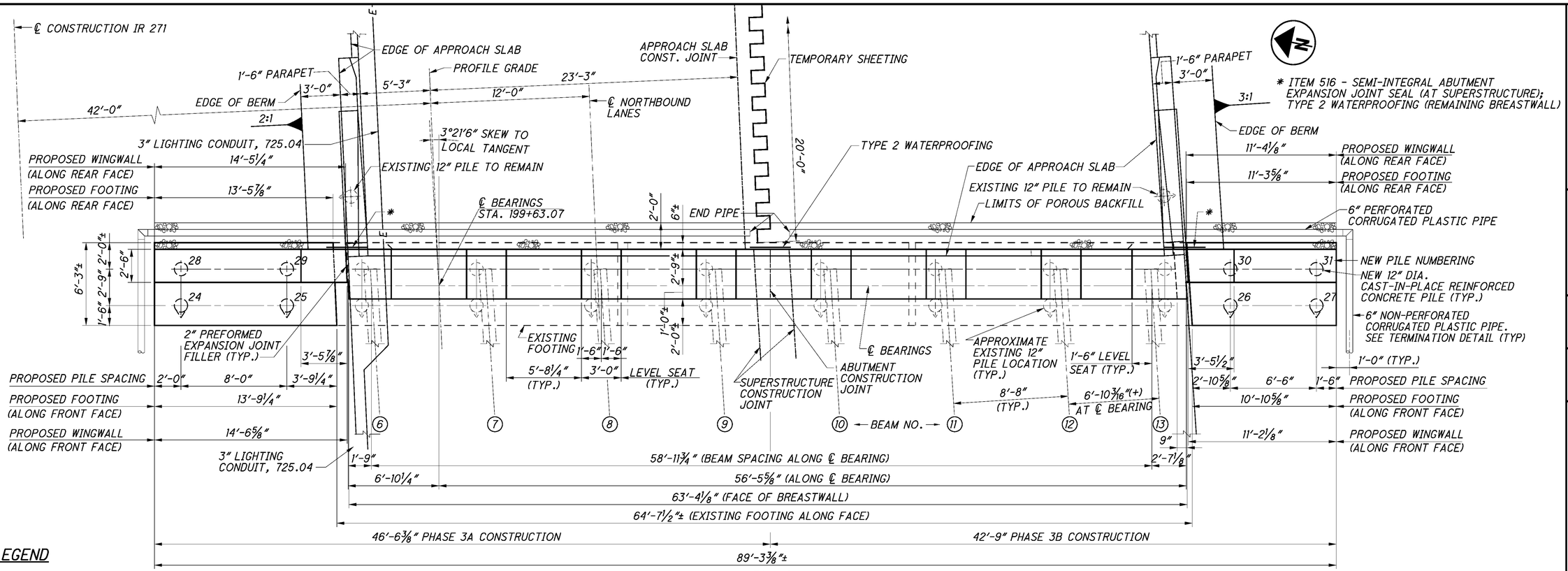
BRIDGE NO. SUM-271-0375 R
IR 271 OVER RAMP B

SUM-271-2.33
PID No. 18710

22 / 58

1116
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PLAN

LEGEND

- INDICATES EXISTING 12"± DIA. CAST-IN-PLACE REINFORCED CONCRETE PILES.
- INDICATES PROPOSED 12" DIA. CAST-IN-PLACE REINFORCED CONCRETE PILES.
- INDICATES EXISTING 12"± DIA. CAST-IN-PLACE REINFORCED CONCRETE PILES BATTERED 1:4± IN THE DIRECTION SHOWN.
- INDICATES PROPOSED 12" DIA. CAST-IN-PLACE REINFORCED CONCRETE PILES BATTERED 1:4 IN THE DIRECTION SHOWN.

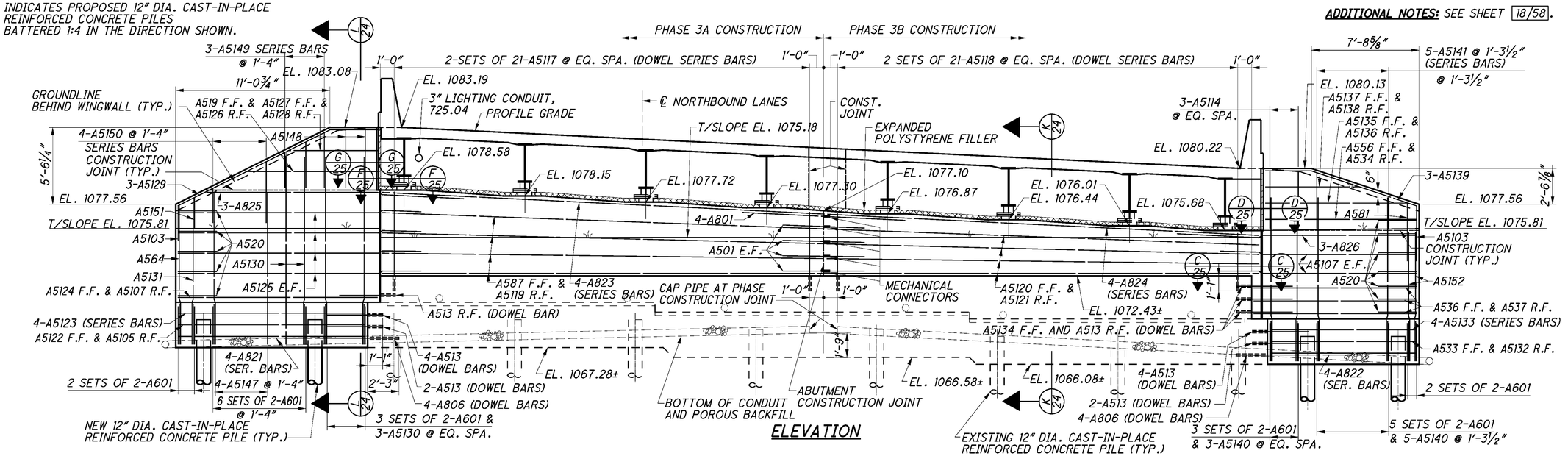
NOTES

MATERIALS SHOWN ARE NEW UNLESS OTHERWISE NOTED.

PIPE TERMINATION: SEE SHEET 22/58.

CONDUIT DETAILS: SEE SHEET 22/58.

ADDITIONAL NOTES: SEE SHEET 18/58.



ELEVATION

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

DESIGNED KAK | DRAWN SJK | REVIEWED DAP | DATE 10/5/12
CHECKED BLN | REVISED | STRUCTURE FILE NUMBER RT708947

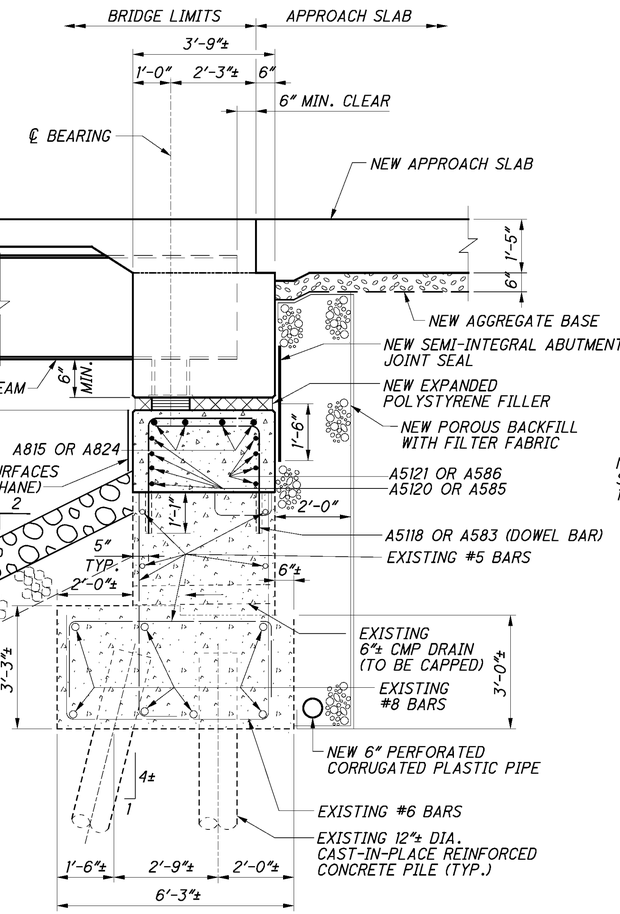
FORWARD ABUTMENT - NORTHBOUND BRIDGE
BRIDGE NO. SUM-271-0375 R
IR 271 OVER RAMP B

SUM-271-2.33
PID No. 18710

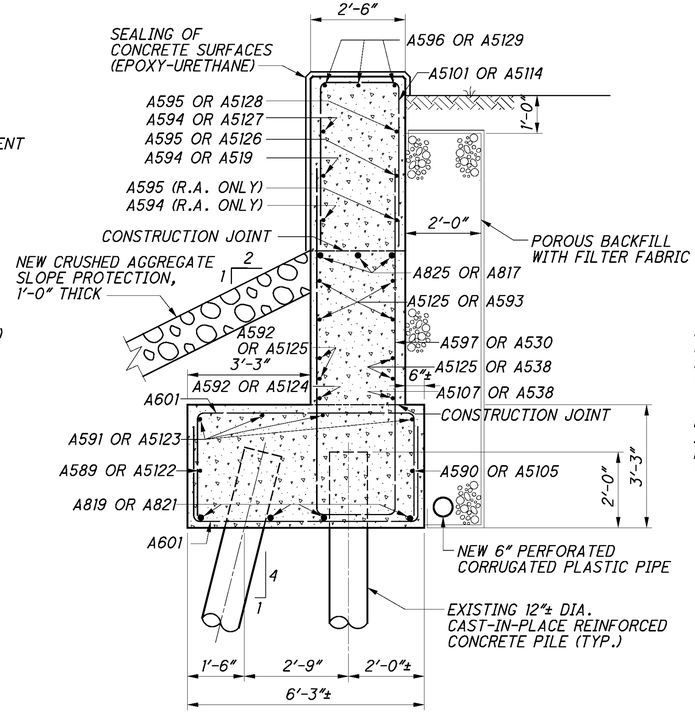
23 / 58

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1195

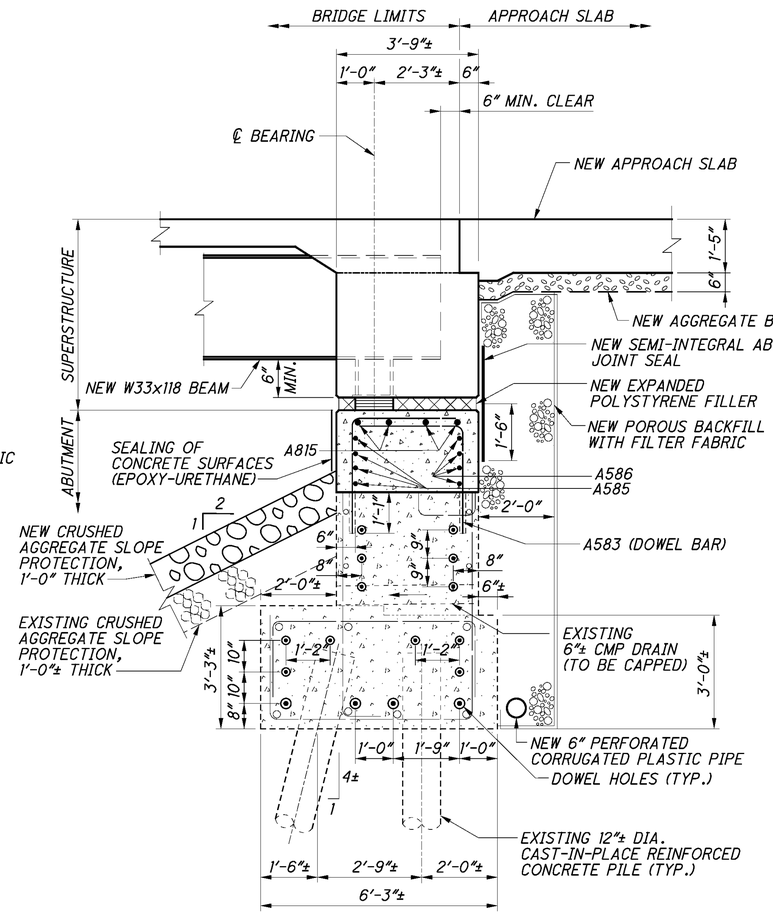
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SECTION K-K



SECTION L-L



SECTION H-H

NOTES

FOR SECTION H-H: SEE SHEET 22/58.

FOR SECTIONS K-K AND L-L: SEE SHEETS 22/58 AND 23/58 .

MATERIALS SHOWN ARE NEW UNLESS OTHERWISE NOTED.

LIGHTING DETAILS: SEE SHEET $LDQ01$

ADDITIONAL NOTES: SEE SHEET 18/58.

RICHLAND ENGINEERING LIMITED
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MANSFIELD, OHIO 44902

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KAK	KH	DAP	10/5/12
CHECKED	REVISED	STRUCTURE FILE NUMBER	
BLN		R7T08947	

ABUTMENT DETAILS - 1 - NORTHBOUND BRIDGE

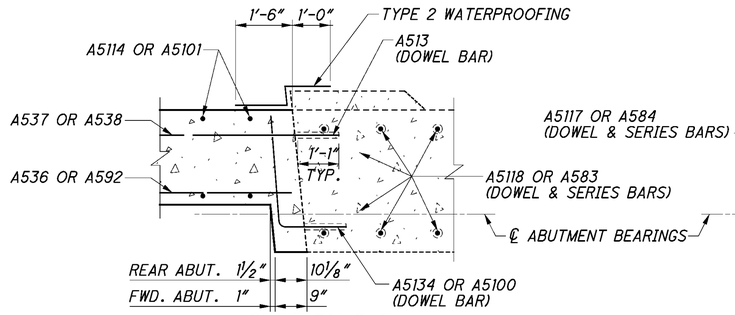
BRIDGE NO. SUM-271-0375 R
IR 271 OVER RAMP B

SUM-271-2.33
PID No. 18710

24/58

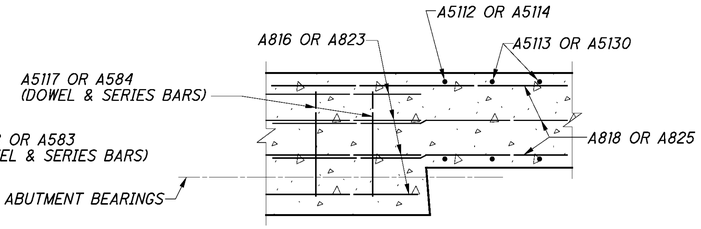
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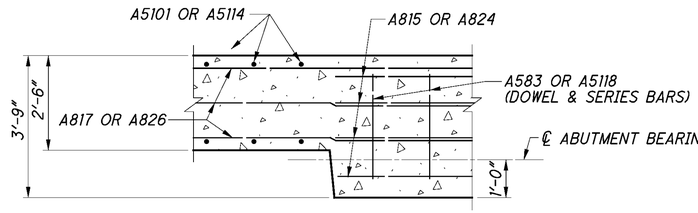
SECTION C-C

REAR ABUTMENT
(FORWARD ABUTMENT OPPOSITE HAND)



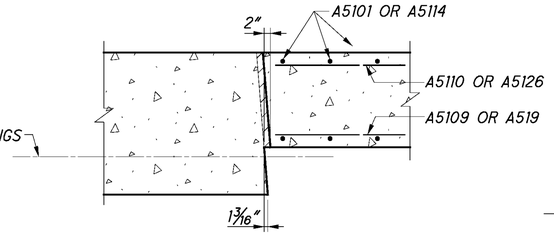
SECTION F-F

REAR ABUTMENT
(FORWARD ABUTMENT OPPOSITE HAND)



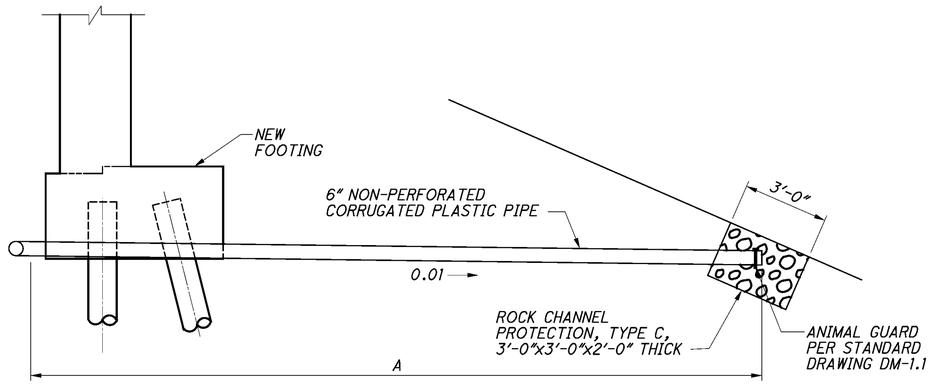
SECTION D-D

REAR ABUTMENT
(FORWARD ABUTMENT OPPOSITE HAND)



SECTION G-G

REAR ABUTMENT
(FORWARD ABUTMENT OPPOSITE HAND)



TERMINATION OF 6" NON-PERFORATED CORRUGATED PLASTIC PIPE

	DIMENSION A			
	REAR ABUTMENT		FORWARD ABUTMENT	
	NORTH	SOUTH	NORTH	SOUTH
NORTHBOUND BRIDGE	24'-6"	16'-9"	19'-6"	23'-0"

NOTES

FOR SECTIONS C-C, D-D AND F-F AND G-G:
SEE SHEETS 22/58 AND 23/58 .

TERMINATION OF 6" NON-PERFORATED CORRUGATED PLASTIC PIPE:
FOR LOCATIONS SEE SHEETS 22/58 AND 23/58.

ADDITIONAL NOTES: SEE SHEET 18/58.

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

DESIGNED	DRAWN	REVIEWED	DATE
KAK	KH	DAP	10/5/12
CHECKED	REVISED	STRUCTURE FILE NUMBER	
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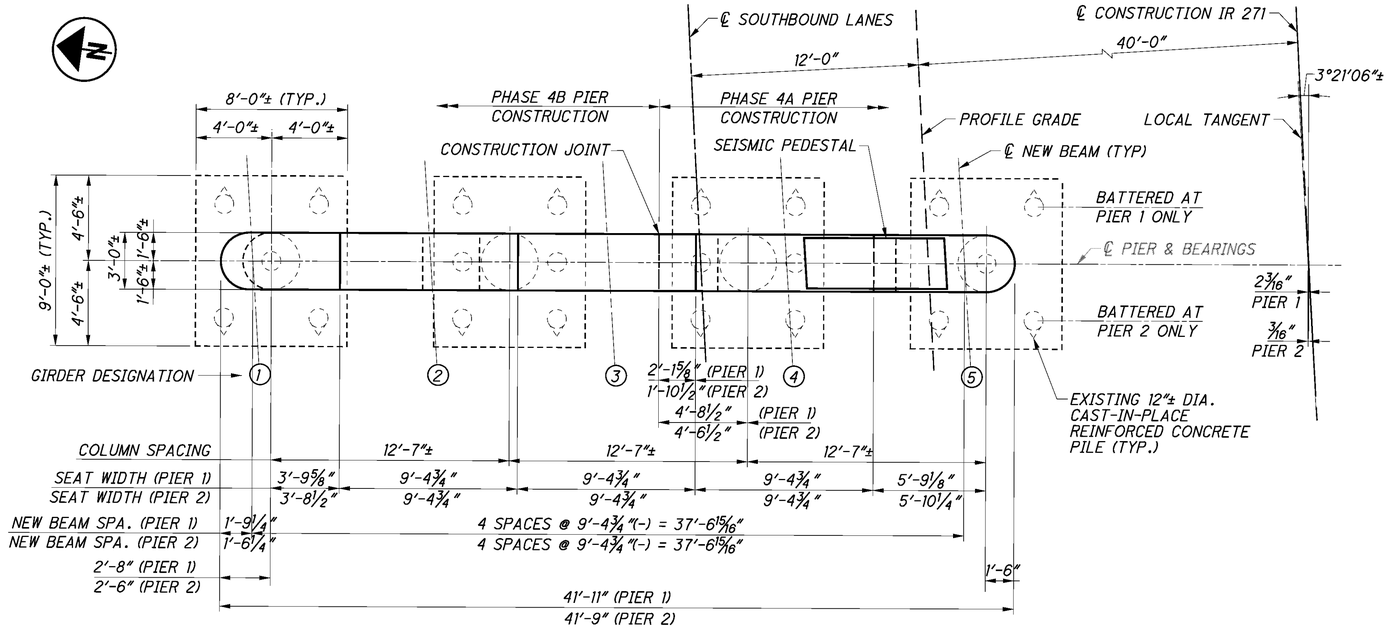
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BRIDGE NO. SUM-271-0375 R
IR 271 OVER RAMP B

SUM-271-2.33
PID No. 18710

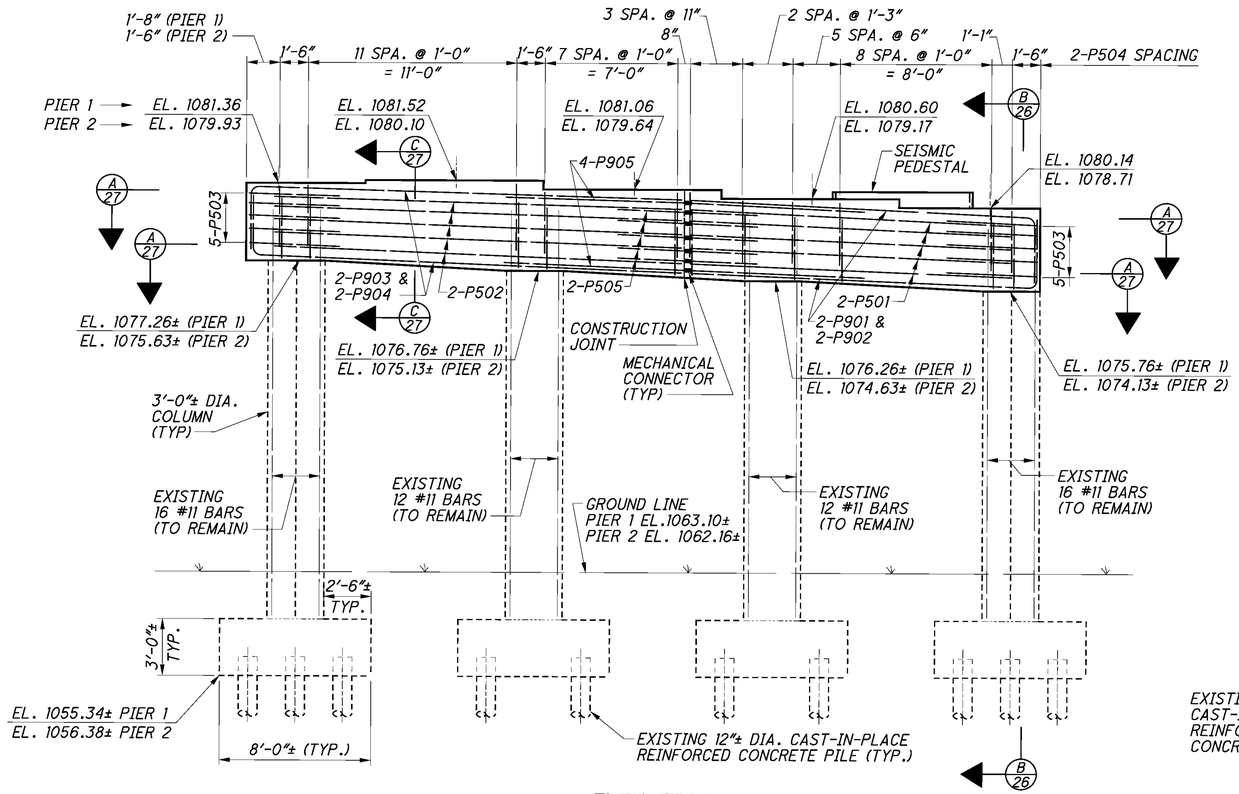
25/58

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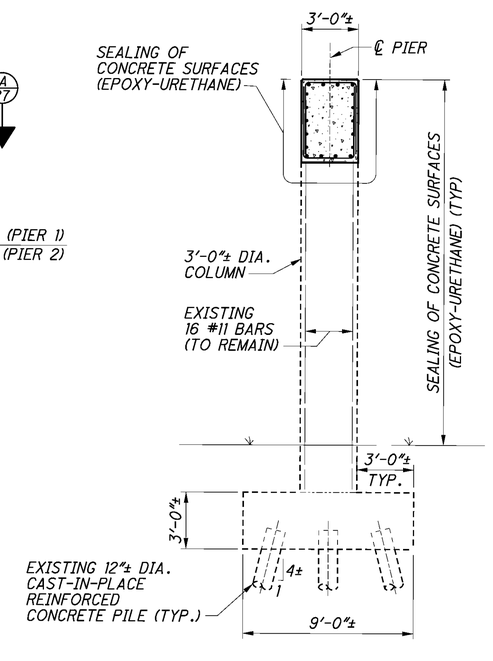
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PLAN



ELEVATION



SECTION B-B

LEGEND

- INDICATES EXISTING 12"± DIA. CAST-IN-PLACE REINFORCED CONCRETE PILES.
- INDICATES EXISTING 12"± DIA. CAST-IN-PLACE REINFORCED CONCRETE PILES BATTERED 1:4± IN THE DIRECTION SHOWN.

NOTES

MATERIALS SHOWN ARE NEW UNLESS OTHERWISE NOTED.

REINFORCING STEEL SPLICE LENGTHS SHALL BE 2'-6" FOR VERTICAL #5 BARS, 3'-6" FOR HORIZONTAL #5 BARS, AND 9'-3" FOR HORIZONTAL #9 BARS.

SEISMIC PEDESTAL DETAILS: SEE SHEET 27/58.

BRIDGE PIER LIGHTING: SEE DETAILS ON SHEET 903 .

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

DESIGNED KAK | DRAWN SCB | REVIEWED DAP | DATE 10/5/12
CHECKED BLN | REVISED | STRUCTURE FILE NUMBER L7708912

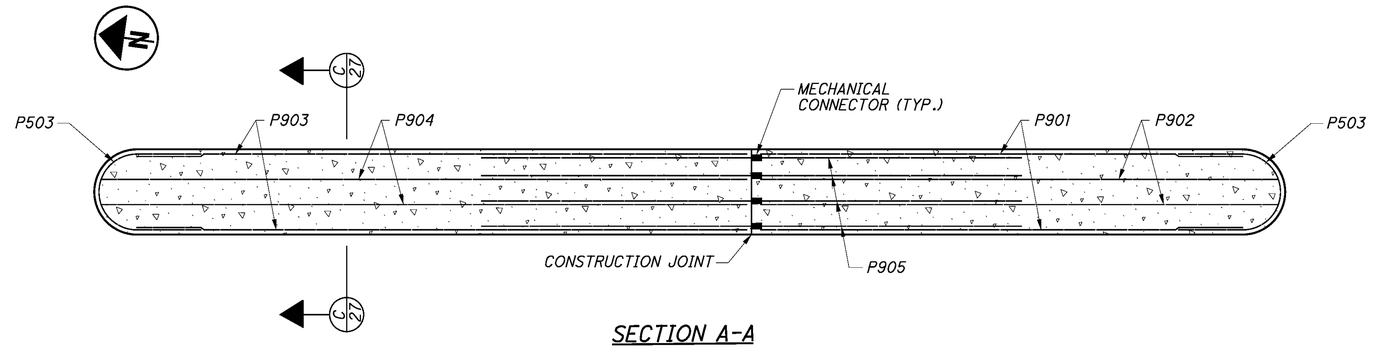
PIERS 1 & 2 - SOUTHBOUND BRIDGE
BRIDGE NO. SUM-271-0375 L
IR 271 OVER RAMP B

SUM-271-2.33
PID No. 18710

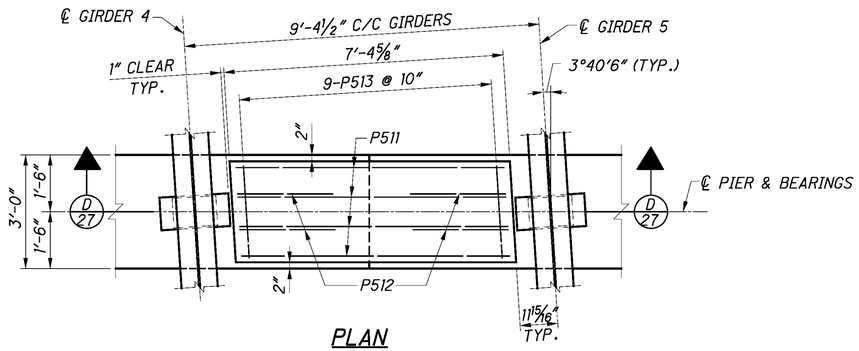
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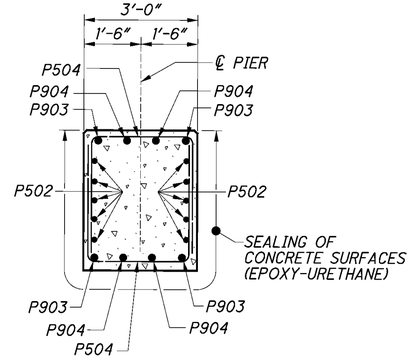
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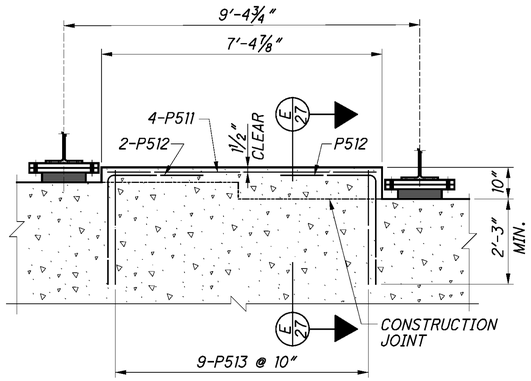
SECTION A-A



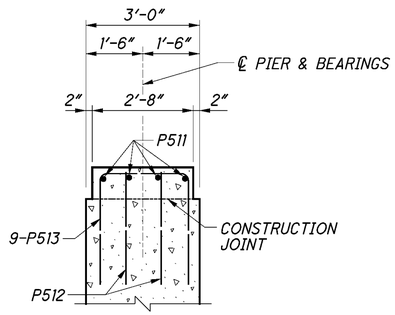
PLAN



SECTION C-C



SECTION D-D



SECTION E-E

SEISMIC PEDESTAL DETAILS

NOTES

MATERIALS SHOWN ARE NEW UNLESS OTHERWISE NOTED.

FOR SECTIONS A-A & C-C: SEE SHEET 26/58.

ADDITIONAL NOTES: SEE SHEET 26/58.

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

DESIGNED KAK | DRAWN SCB | CHECKED BLN | REVISED | REVIEWED DAP | DATE 10/5/12 | STRUCTURE FILE NUMBER L7708912

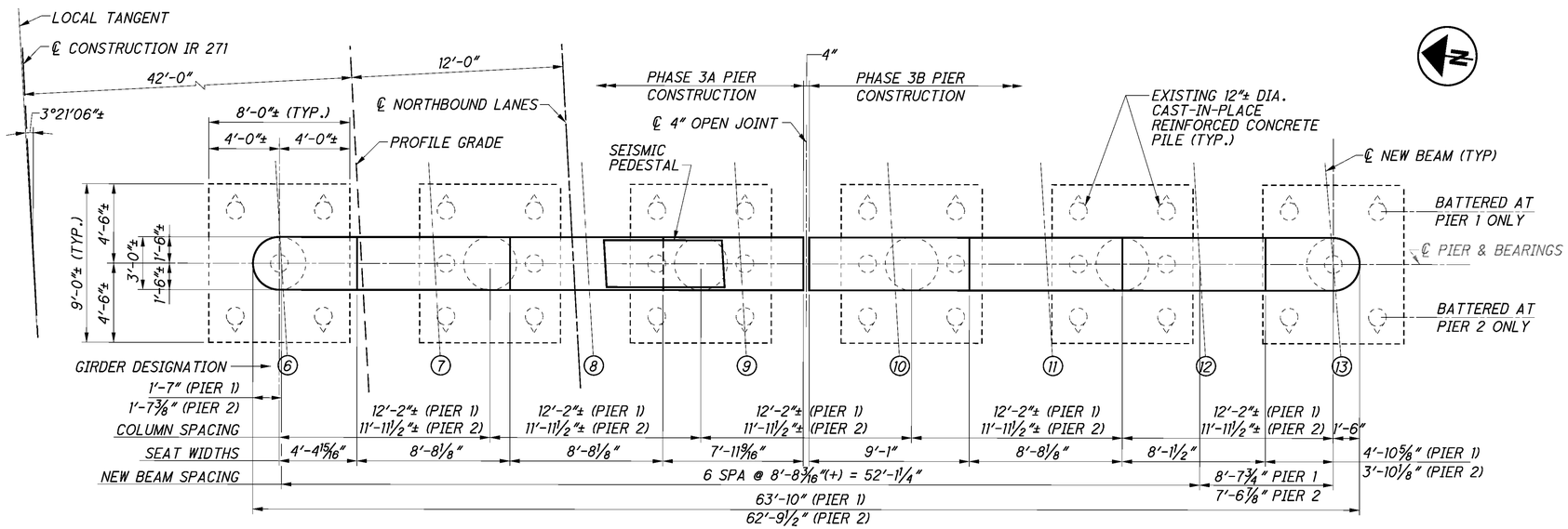
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BRIDGE NO. SUM-271-0375 L
IR 271 OVER RAMP B

SUM-271-2.33
PID No. 18710

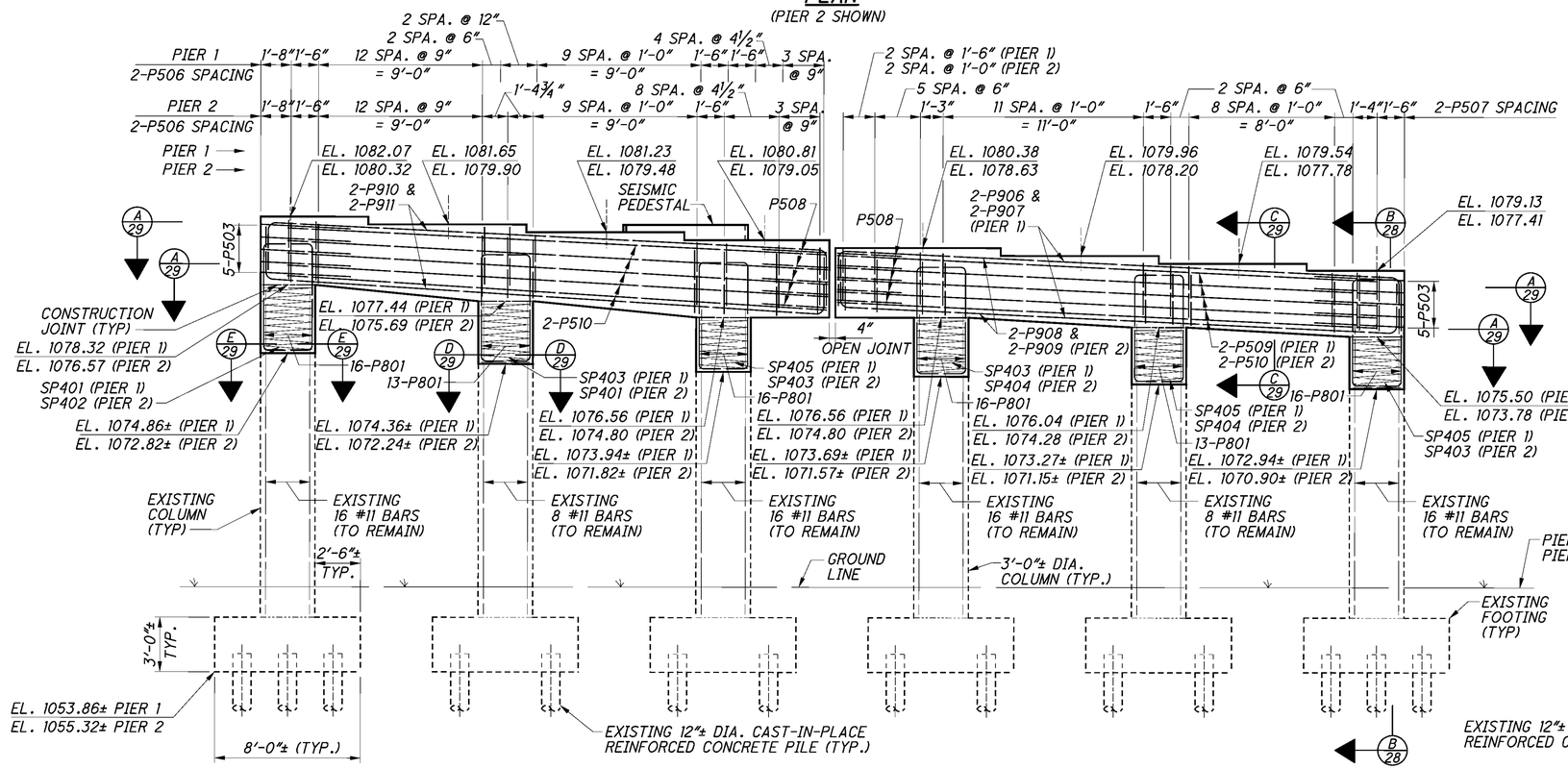
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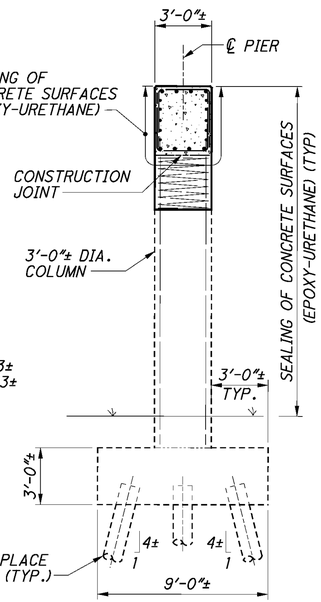
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PLAN
(PIER 2 SHOWN)



ELEVATION



SECTION B-B

LEGEND

INDICATES EXISTING 12"± DIA. CAST-IN-PLACE REINFORCED CONCRETE PILES.

INDICATES EXISTING 12"± DIA. CAST-IN-PLACE REINFORCED CONCRETE PILES BATTERED 1:4± IN THE DIRECTION SHOWN.

NOTES

MATERIALS SHOWN ARE NEW UNLESS OTHERWISE NOTED.

SEIMIC PEDESTAL DETAILS: SEE SHEET 29/58.

BRIDGE PIER LIGHTING: SEE DETAILS ON SHEET 904.

ADDITIONAL NOTES: SEE SHEET 26/58.

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

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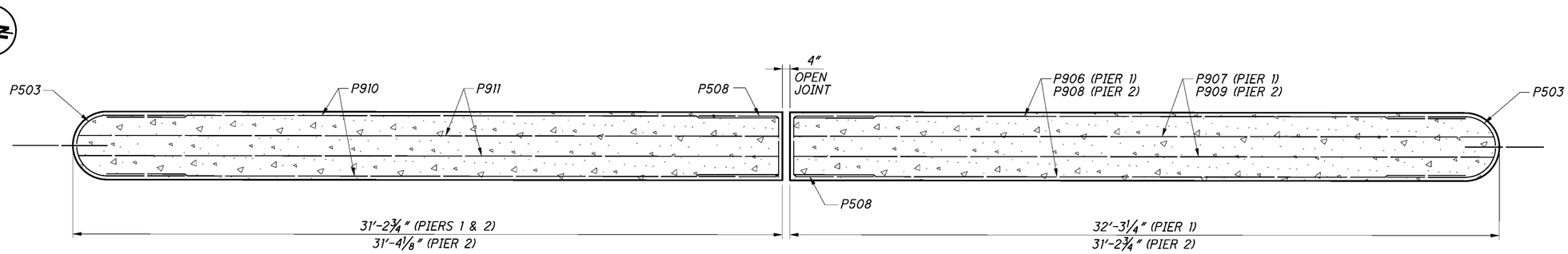
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BRISDGE NO. SUM-271-0375 R
IR 271 OVER RAMP B

SUM-271-2.33
PID No. 18710

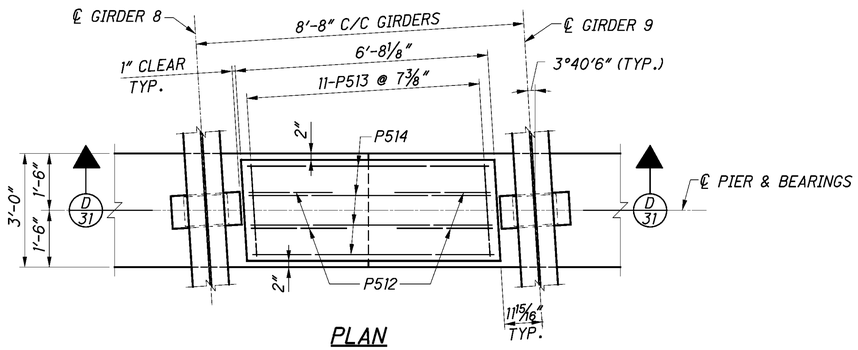
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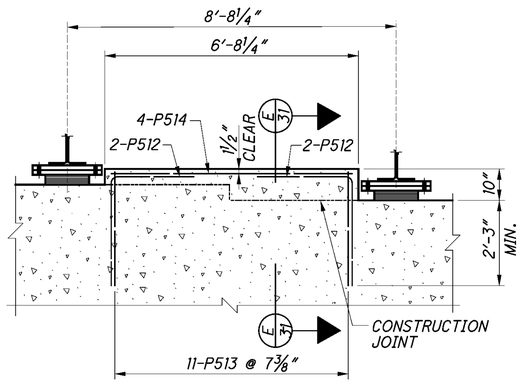
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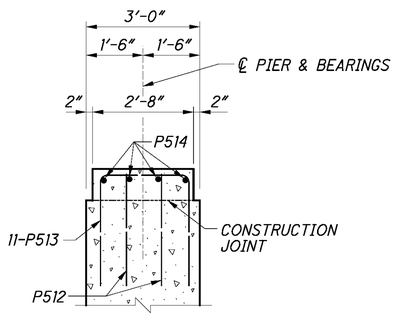
SECTION A-A



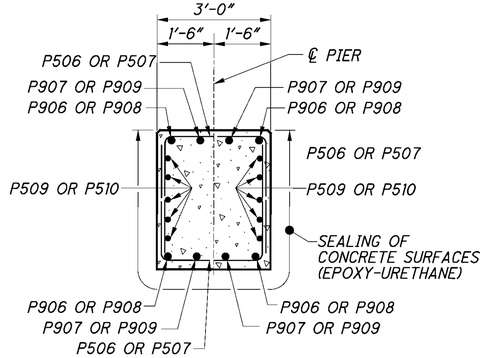
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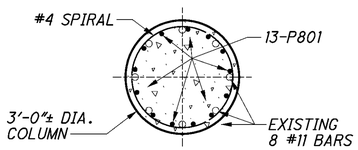
SECTION D-D



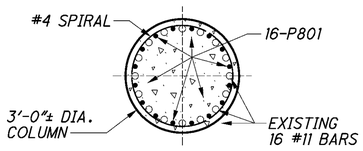
SECTION E-E



SECTION C-C



SECTION D-D



SECTION E-E

SEISMIC PEDESTAL DETAILS

NOTES

MATERIALS *SHOWN ARE NEW UNLESS OTHERWISE NOTED.*

ADDITIONAL NOTES: *SEE SHEET* 26/58.

RICHLAND ENGINEERING LIMITED
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MANSFIELD, OHIO 44902

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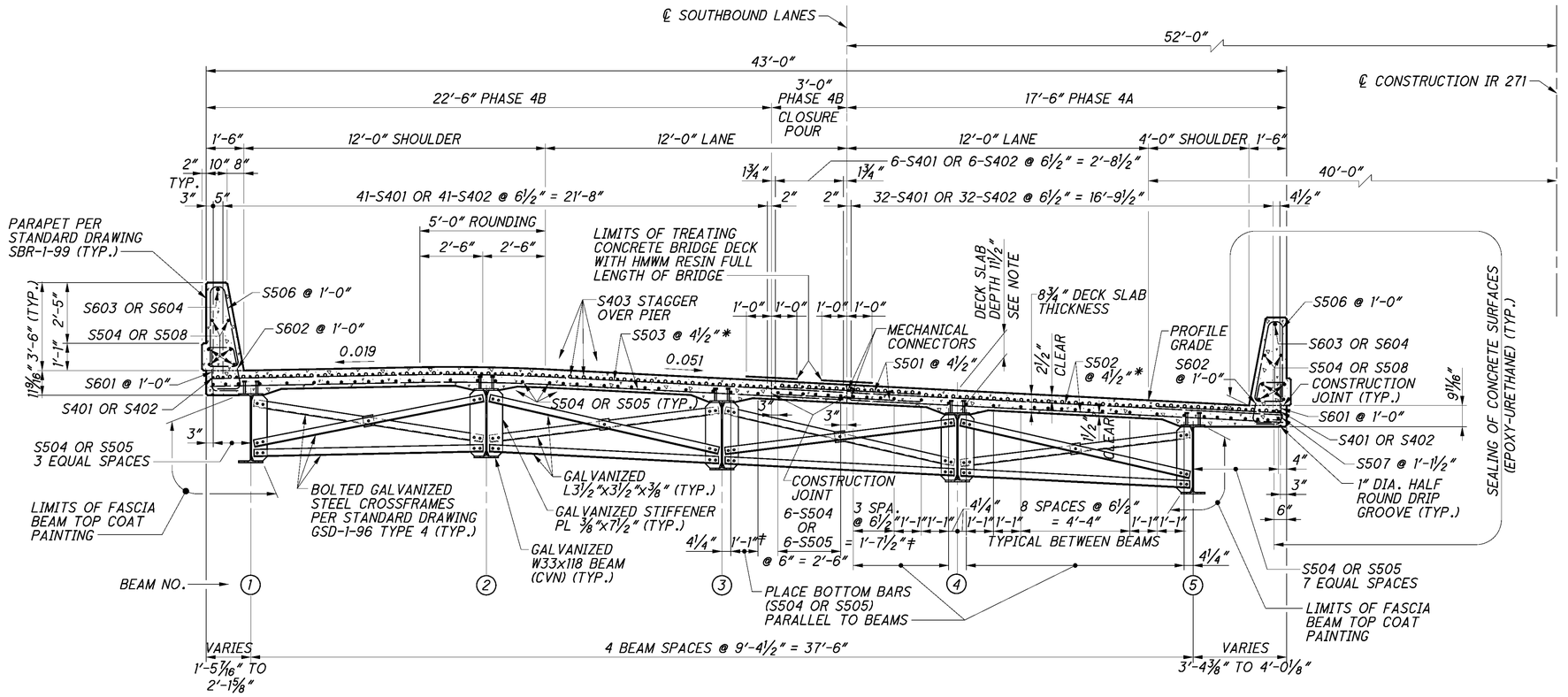
PIER DETAILS - NORTHBOUND BRIDGE
BRISDGE NO. SUM-271-0375 R
IR 271 OVER RAMP B

SUM-271-2.33
PID No. 18710

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TRANSVERSE SECTION - SOUTHBOUND BRIDGE

* TRANSVERSE BARS TO BE PLACED PARALLEL TO ABUTMENT SKEW, SPACING SHOWN IS ALONG CENTERLINE BEAM.

‡ FIELD CURVE BARS CLOSEST TO CONSTRUCTION JOINT TO PROVIDE 2" MIN. CLEAR WITH FORMS.

NOTE: LONGITUDINAL BARS ARE TO BE PLACED RADIALLY (PARALLEL TO CENTERLINE SOUTHBOUND LANES) UNLESS OTHERWISE NOTED.

NOTES

DECK SLAB CONCRETE QUANTITY: THE ESTIMATED QUANTITY OF DECK SLAB CONCRETE IS BASED ON THE CONSTANT DECK SLAB THICKNESS, AS SHOWN, PLUS THE QUANTITY OF CONCRETE THAT FORMS EACH BEAM/GIRDER HAUNCH. THE ESTIMATE ASSUMES A CONSTANT HAUNCH THICKNESS OF 2¾ INCHES AND A CONSTANT HAUNCH WIDTH OUTSIDE THE EDGE OF EACH BEAM/GIRDER FLANGE OF 9 INCHES. DEVIATE FROM THIS HAUNCH THICKNESS AS NECESSARY TO PLACE THE DECK SURFACE AT THE FINISHED GRADE. THE ALLOWABLE TOLERANCE FOR THE HAUNCH WIDTH OUTSIDE THE EDGE OF EACH BEAM/GIRDER FLANGE IS ±3 INCHES.

THE HAUNCH THICKNESS WAS MEASURED AT THE CENTERLINE OF THE BEAM/GIRDER, FROM THE SURFACE OF THE DECK TO THE BOTTOM OF THE TOP FLANGE MINUS THE DECK SLAB THICKNESS. THE AREA OF ALL EMBEDDED STEEL PLATES HAS BEEN DEDUCTED FROM THE HAUNCH QUANTITY IN ACCORDANCE WITH 511.24.

REINFORCING STEEL SPLICE LENGTHS SHALL BE 2'-1" FOR #4 BARS, 2'-6" FOR #5 DECK BARS, 3'-6" FOR #5 RAILING BARS, 4'-2" FOR #6 RAILING BARS AND 7'-3" FOR #8 BARS.

DECK OVERHANG DIMENSIONS: SHOWN ARE TAKEN FROM THE EDGE OF THE DECK PERPENDICULAR TO THE FASCIA BEAM. MAXIMUM AND MINIMUM DIMENSIONS ARE AT OR BETWEEN THE ABUTMENT BEARINGS.

CVN: WHERE A SHAPE OR PLATE IS DESIGNATED (CVN), FURNISH MATERIAL THAT MEETS THE MINIMUM NOTCH TOUGHNESS REQUIREMENTS AS SPECIFIED IN 711.01.

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

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BLN		L7708912	

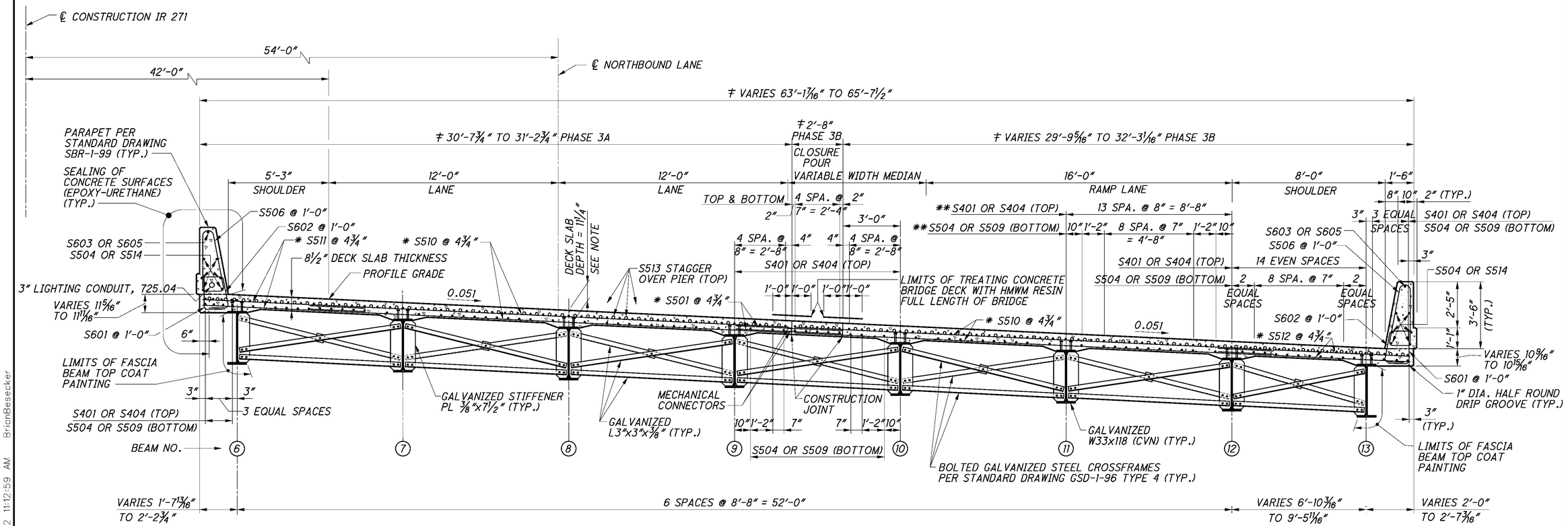
TRANSVERSE SECTION - SOUTHBOUND BRIDGE

BRIDGE NO. SUM-271-0375 L
IR 271 OVER RAMP B

SUM-271-2.33
PID No. 18710

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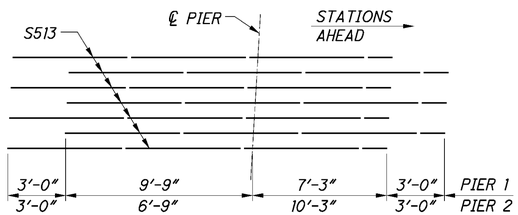
TRANSVERSE SECTION - NORTHBOUND BRIDGE

* TRANSVERSE BARS TO BE PLACED PARALLEL TO ABUTMENT SKEW, SPACING SHOWN IS ALONG CENTERLINE OF BEAMS 6-12.

** TYPICAL SPACING FOR ALL 8'-8" BAYS UNLESS NOTED.

≠ DIMENSIONS MEASURED PERPENDICULAR TO INTERIOR BEAMS.

NOTE: LONGITUDINAL BARS ARE TO BE PLACED PARALLEL TO BEAMS.



STAGGER OF S513 BARS OVER PIERS

NOTES

DECK SLAB CONCRETE QUANTITY: THE ESTIMATED QUANTITY OF DECK SLAB CONCRETE IS BASED ON THE CONSTANT DECK SLAB THICKNESS, AS SHOWN, PLUS THE QUANTITY OF CONCRETE THAT FORMS EACH BEAM/GIRDER HAUNCH. THE ESTIMATE ASSUMES A CONSTANT HAUNCH THICKNESS OF 2 3/4 INCHES AND A CONSTANT HAUNCH WIDTH OUTSIDE THE EDGE OF EACH BEAM/GIRDER FLANGE OF 9 INCHES. DEVIATE FROM THIS HAUNCH THICKNESS AS NECESSARY TO PLACE THE DECK SURFACE AT THE FINISHED GRADE. THE ALLOWABLE TOLERANCE FOR THE HAUNCH WIDTH OUTSIDE THE EDGE OF EACH BEAM/GIRDER FLANGE IS ±3 INCHES.

THE HAUNCH THICKNESS WAS MEASURED AT THE CENTERLINE OF THE BEAM/GIRDER, FROM THE SURFACE OF THE DECK TO THE BOTTOM OF THE TOP FLANGE MINUS THE DECK SLAB THICKNESS. THE AREA OF ALL EMBEDDED STEEL PLATES HAS BEEN DEDUCTED FROM THE HAUNCH QUANTITY IN ACCORDANCE WITH 511.24.

DECK OVERHANG DIMENSIONS: SHOWN ARE TAKEN FROM THE EDGE OF THE DECK PERPENDICULAR TO THE FASCIA BEAM. MAXIMUM AND MINIMUM DIMENSIONS ARE AT OR BETWEEN THE ABUTMENT BEARINGS.

REINFORCING STEEL SPLICE LENGTHS SHALL BE 2'-5" FOR #4 BARS, 2'-6" FOR #5 DECK BARS, 3'-6" FOR #5 RAILING BARS, 4'-2" FOR #6 RAILING BARS AND 7'-3" FOR #8 BARS.

LIGHTING CONDUIT DETAILS: SEE STANDARD CONSTRUCTION DRAWING HL30.32. PAYMENT INCLUDED WITH LIGHTING PLAN; SEE SHEET 872 .

ADDITIONAL NOTES: SEE SHEET 30/58.

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

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BLN		RT708947	

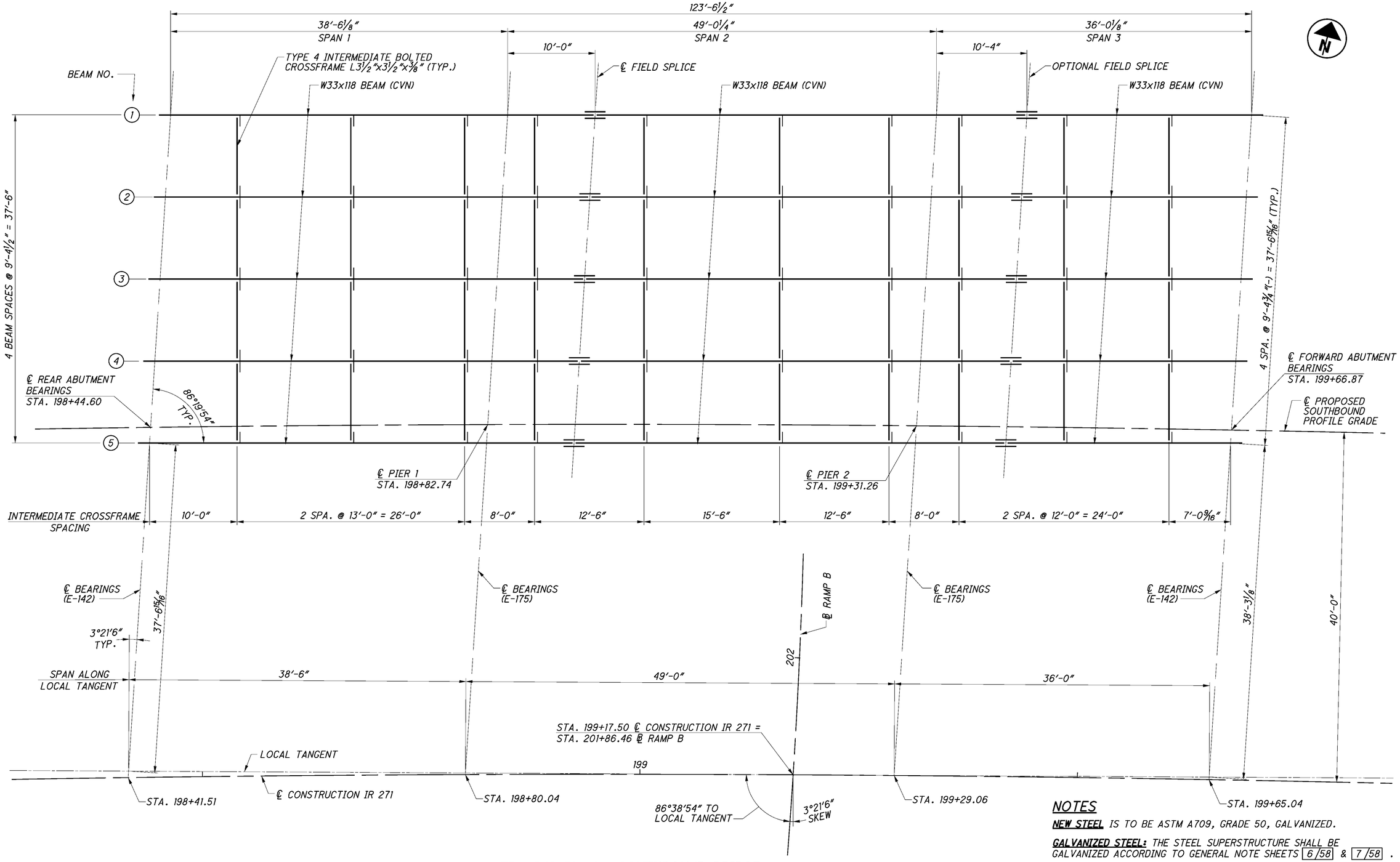
TRANSVERSE SECTION - NORTHBOUND BRIDGE
BRIDGE NO. SUM-271-0375 R
IR 271 OVER RAMP B

SUM-271-2.33
PID No. 18710

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FRAMING PLAN - SOUTHBOUND BRIDGE

NOTES

NEW STEEL IS TO BE ASTM A709, GRADE 50, GALVANIZED.

GALVANIZED STEEL: THE STEEL SUPERSTRUCTURE SHALL BE GALVANIZED ACCORDING TO GENERAL NOTE SHEETS 6/58 & 7/58 .

BEAM DETAILS: SEE SHEET 34/58.

BEARING DETAILS: SEE SHEET 39/58.

TRANSVERSE SECTION: SEE SHEET 31/58.

CVN: WHERE A SHAPE OR PLATE IS DESIGNATED (CVN), FURNISH MATERIAL THAT MEETS THE MINIMUM NOTCH TOUGHNESS REQUIREMENTS AS SPECIFIED IN 711.01.

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

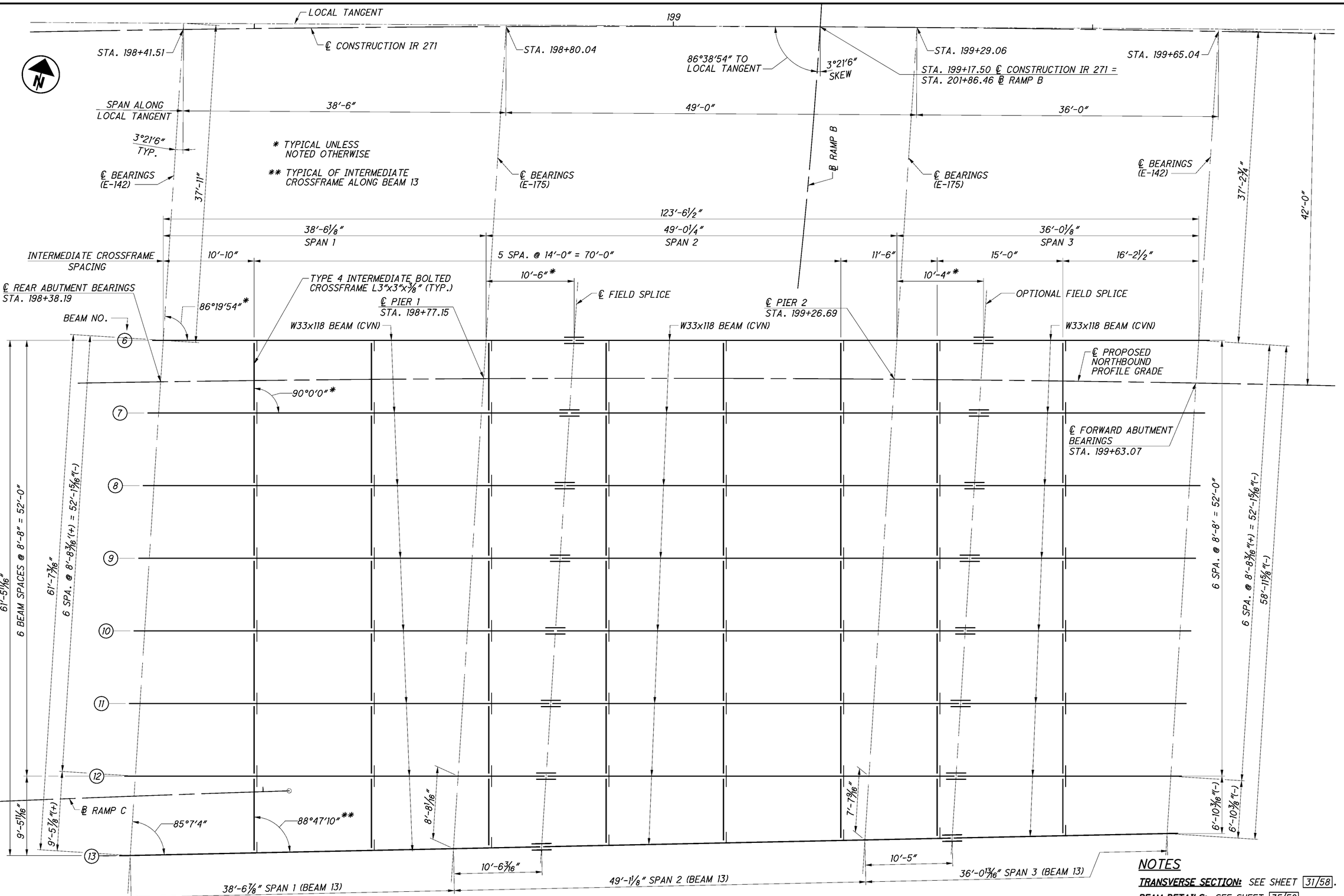
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BLN		L7708912	

FRAMING PLAN - SOUTHBOUND BRIDGE

BRIDGE NO. SUM-271-0375 L
IR 271 OVER RAMP B

SUM-271-2.33
PID No. 18710

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FRAMING PLAN - NORTHBOUND BRIDGE

NOTES

TRANSVERSE SECTION: SEE SHEET 31/58.

BEAM DETAILS: SEE SHEET 35/58.

BEARING DETAILS: SEE SHEET 39/58.

ADDITIONAL NOTES: SEE SHEET 32/58.

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

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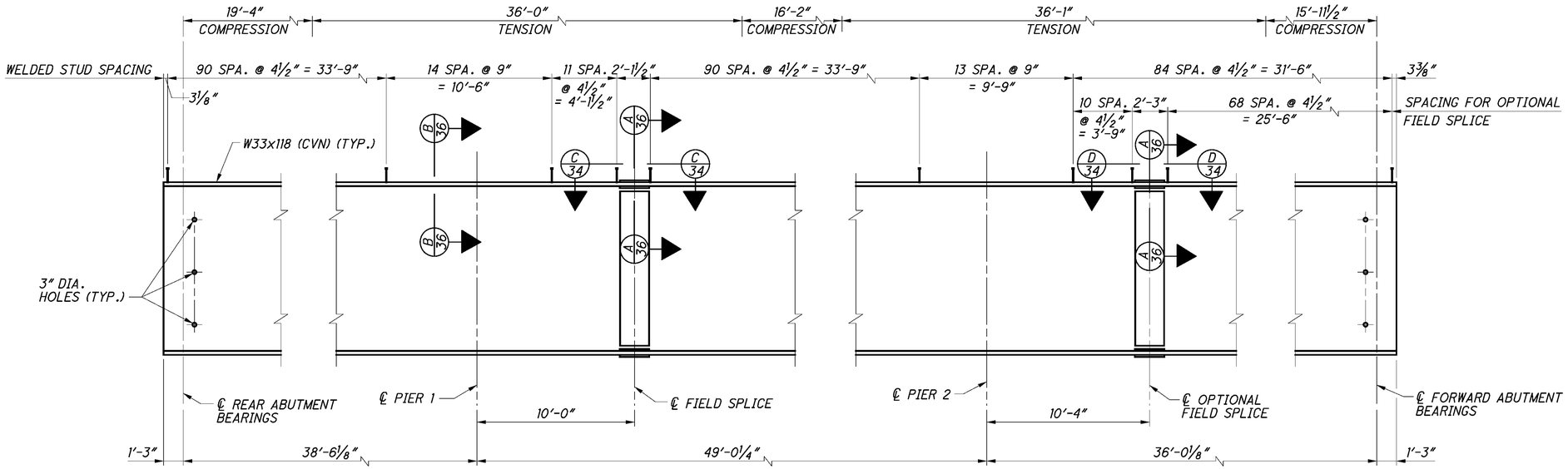
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BRIDGE NO. SUM-271-0375 R
IR 271 OVER RAMP B

SUM-271-2.33
PID No. 18710

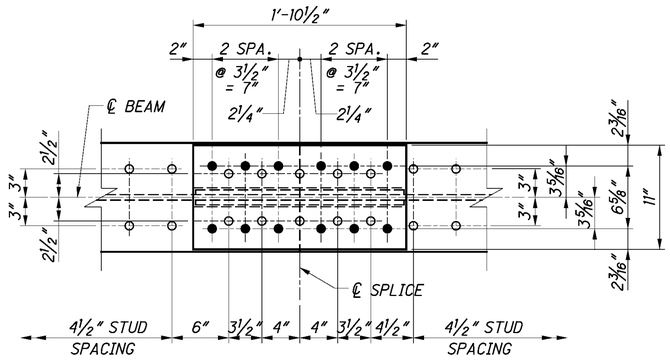
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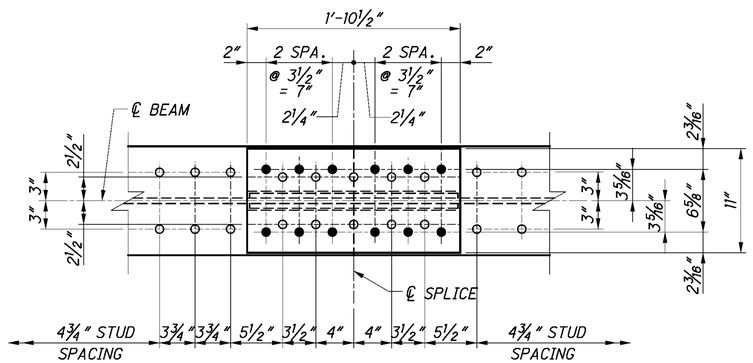
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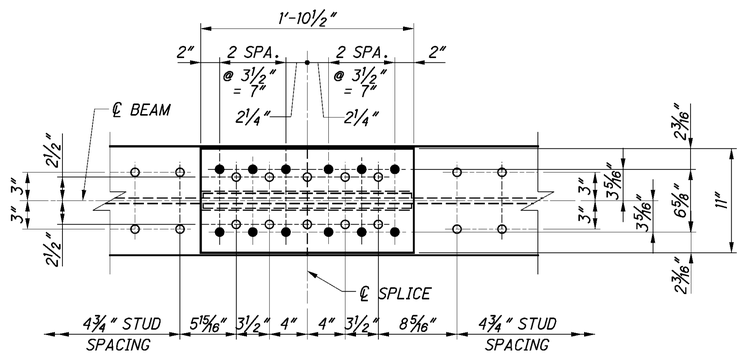
ELEVATION - BEAMS 1 THROUGH 5 - SOUTHBOUND BRIDGE



VIEW C-C



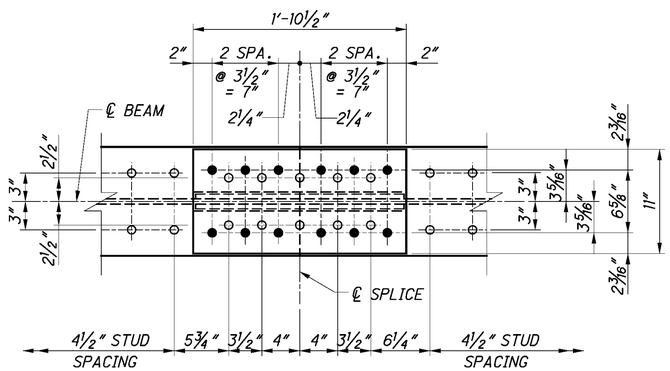
VIEW E-E



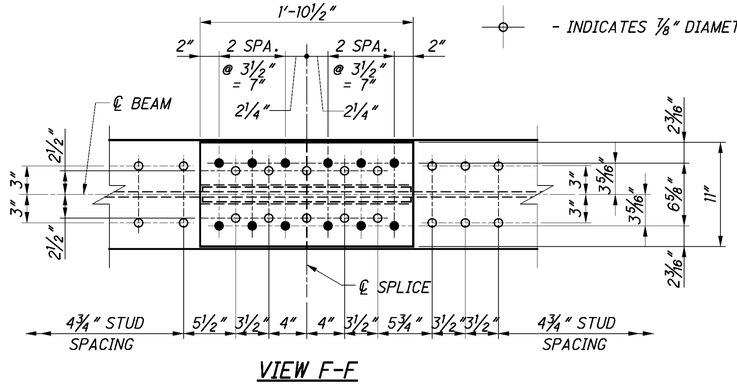
VIEW G-G

LEGEND

- INDICATES 1" DIAMETER, TYPE 1, GALVANIZED, HIGH STRENGTH BOLT, ASTM A325.
- INDICATES ⅞" DIAMETER WELDED STUD.



VIEW D-D



VIEW F-F

NOTES

WELD ATTACHMENT OF SUPPORTS FOR CONCRETE DECK FINISHING MACHINE TO AREAS OF THE FASCIA STRINGER FLANGES DESIGNATED "COMPRESSION". DO NOT WELD ATTACHMENTS TO AREAS DESIGNATED "TENSION". FILLET WELDS TO COMPRESSION FLANGES SHALL BE AT LEAST 1" FROM EDGE OF FLANGE, BE NO MORE THAN 2" LONG, AND BE AT LEAST ¼" FOR THICKNESSES UP TO ¾" OR ⅝" FOR GREATER THAN ¾" THICK. REMOVE THE GALVANIC COATING BY GRINDING AT EACH CONNECTOR LOCATION PRIOR TO WELDING.

WELDED SHEAR CONNECTORS: INSTALL SHEAR CONNECTORS AFTER THE DECKING OR OTHER WALKING/WORKING SURFACE HAS BEEN INSTALLED. REMOVE THE GALVANIC COATING BY GRINDING AT EACH CONNECTOR LOCATION PRIOR TO WELDING.

CVN: WHERE A SHAPE OR PLATE IS DESIGNATED (CVN), FURNISH MATERIAL THAT MEETS THE MINIMUM NOTCH TOUGHNESS REQUIREMENTS AS SPECIFIED IN 711.01.

VIEWS E-E, F-F & G-G: FOR LOCATIONS SEE SHEET 35/58.

BEAM END DETAIL: SEE SHEET 36/58.

ADDITIONAL NOTES: SEE SHEET 32/58.

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
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SOUTHBOUND BEAM ELEVATIONS AND GENERAL BEAM DETAILS

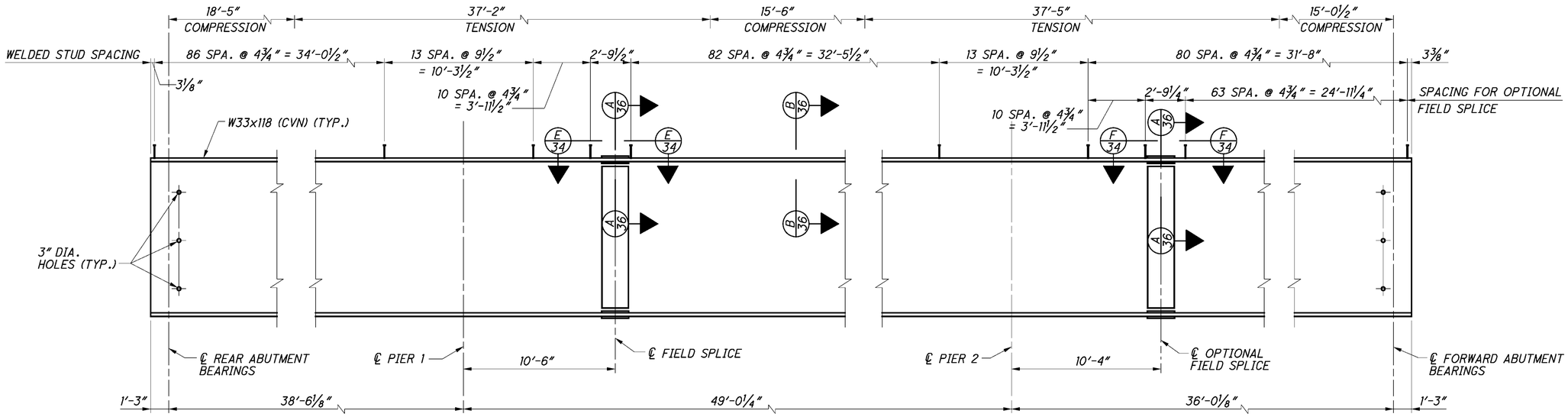
BRIDGE NO. SUM-271-0375 L&R
IR 271 OVER RAMP B

SUM-271-2.33
PID No. 18710

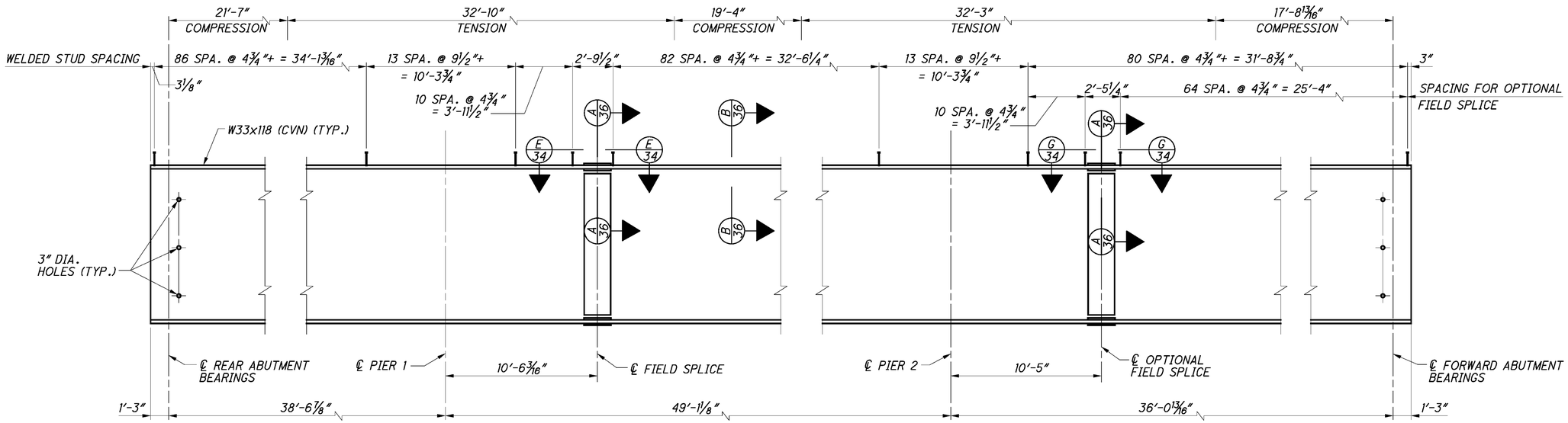
34/58

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ELEVATION - BEAMS 6 THROUGH 12 - NORTHBOUND BRIDGE



ELEVATION - BEAM 13 - NORTHBOUND BRIDGE

NOTES

ADDITIONAL NOTES: SEE SHEET 32/58 AND 34/58.

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BLN		R7708947	

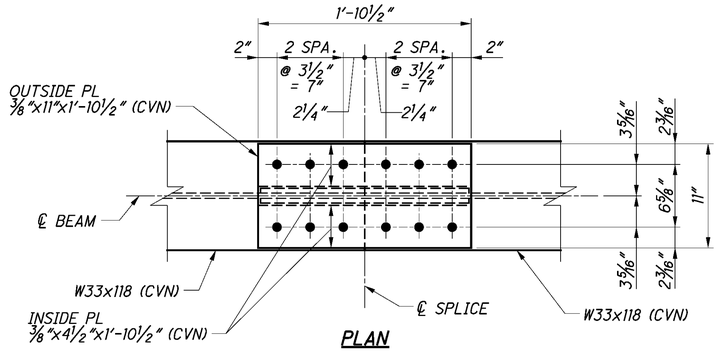
BEAM ELEVATIONS - NORTHBOUND BRIDGE
BRIDGE NO. SUM-271-0375 R
IR 271 OVER RAMP B

SUM-271-2.33
PID No. 18710

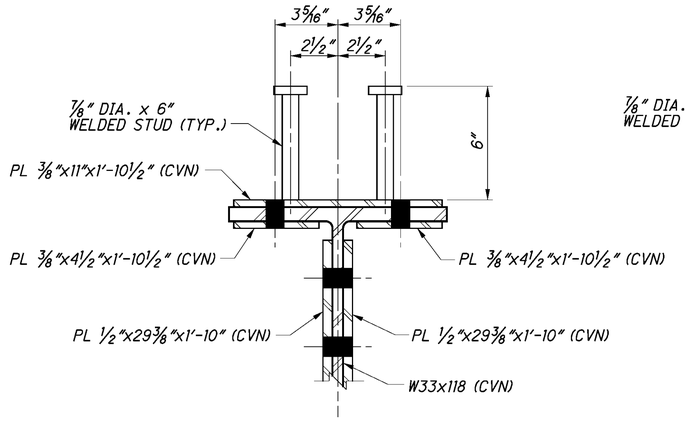
35/58

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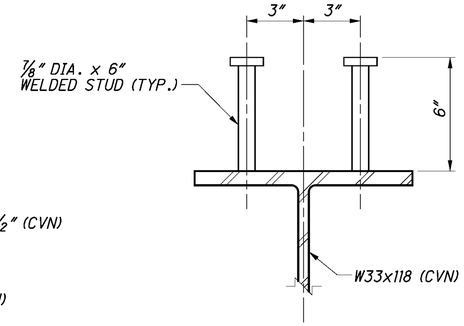
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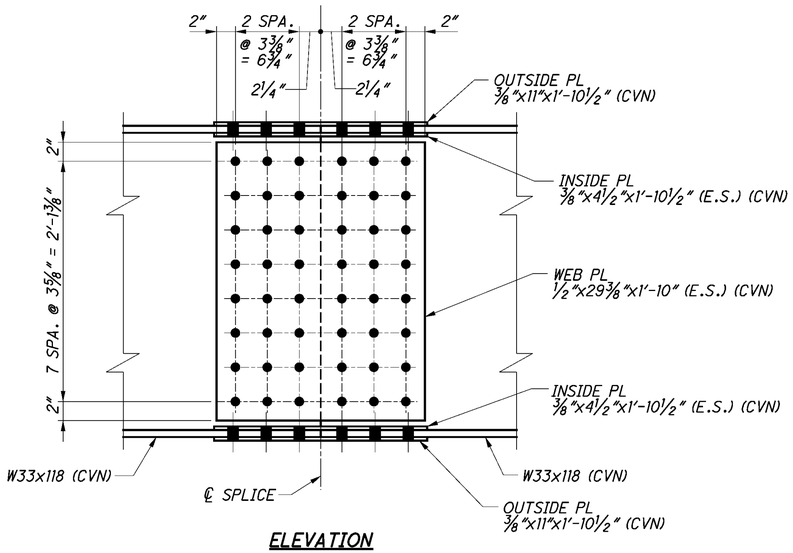
PLAN



SECTION A-A



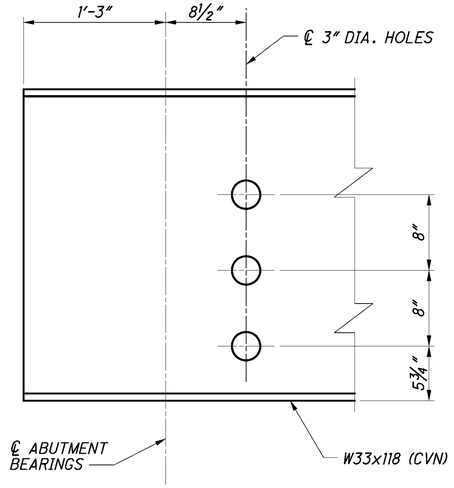
SECTION B-B



ELEVATION

SPLICE DETAILS

(WELDED STUD ARRANGEMENT ON TOP FLANGE VARIES. SEE INDIVIDUAL DETAILS)



BEAM END DETAIL

NOTES

HIGH STRENGTH BOLTS SHALL BE 1" DIAMETER, GALVANIZED, A325, TYPE 1. ALL HOLES OVERSIZED TO 1⅛" BECAUSE OF GALVANIZING.

SECTIONS A-A & B-B: FOR LOCATIONS SEE SHEETS 34/58 & 35/58.

ADDITIONAL NOTES: SEE SHEET 32/58 AND 34/58.

NOTATION: E.S. - EACH SIDE

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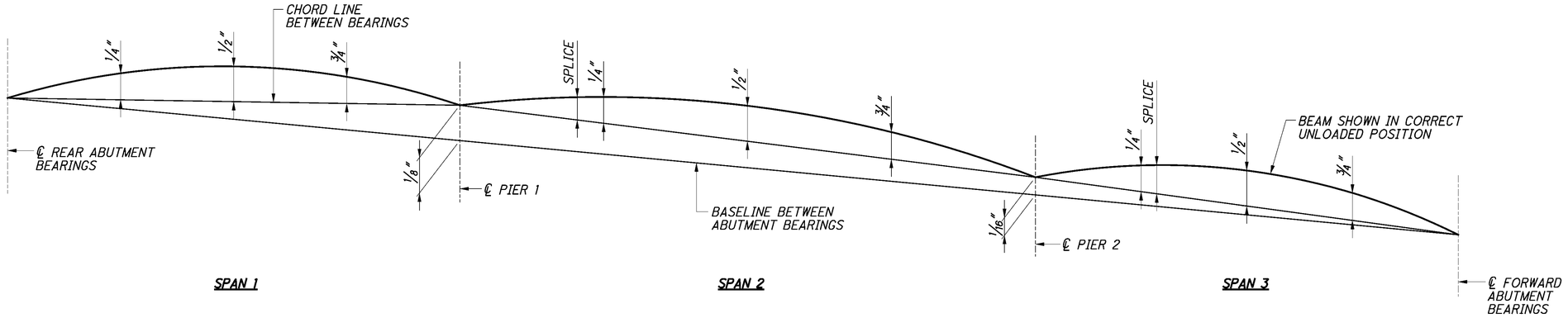
BEAM DETAILS
BRIDGE NO. SUM-271-0375 L&R
IR 271 OVER RAMP B

SUM-271-2.33
PID No. 18710

36/58

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CAMBER DIAGRAM
SOUTHBOUND BRIDGE

DEFLECTION AND CAMBER TABLE

	SPAN 1			SPAN 2				SPAN 3			
	1/4	1/2	3/4	SPLICE	1/4	1/2	3/4	1/4	SPLICE	1/2	3/4
DEFLECTION DUE TO WEIGHT OF STEEL	0"	0"	0"	0"	0"	0"	0"	0"	0"	0"	0"
DEFLECTION DUE TO REMAINING DEAD LOAD	1/8"	1/8"	1/16"	1/16"	1/8"	3/16"	1/8"	0"	1/16"	1/16"	1/16"
ADJUSTMENT FOR VERTICAL CURVE	0"	0"	0"	0"	0"	0"	0"	0"	0"	0"	0"
REQUIRED SHOP CAMBER	1/8"	1/8"	1/16"	1/16"	1/8"	3/16"	1/8"	0"	1/16"	1/16"	1/16"

NOTES

BEAM ELEVATION: SEE SHEET 34/58.

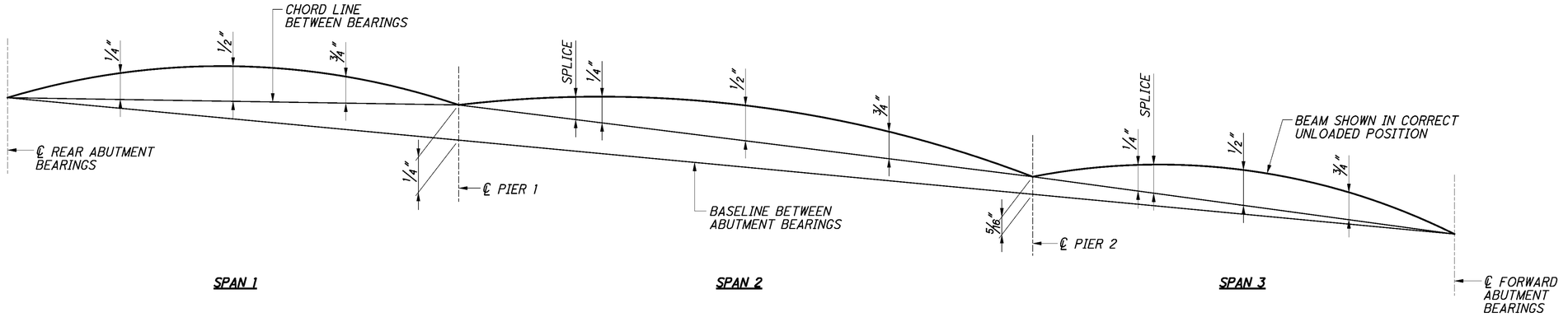
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DESIGNED KAK | DRAWN SJK | REVIEWED DAP | DATE 10/5/12
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CAMBER DIAGRAM - SOUTHBOUND BRIDGE
BRIDGE NO. SUM-271-0375 L
IR 271 OVER RAMP B

SUM-271-2.33
PID No. 18710



CAMBER DIAGRAM
NORTHBOUND BRIDGE

DEFLECTION AND CAMBER TABLE - PLAN BEAM 6

	SPAN 1			SPAN 2				SPAN 3			
	1/4	1/2	3/4	SPLICE	1/4	1/2	3/4	1/4	SPLICE	1/2	3/4
DEFLECTION DUE TO WEIGHT OF STEEL	0"	0"	0"	0"	0"	0"	0"	0"	0"	0"	0"
DEFLECTION DUE TO REMAINING DEAD LOAD	1/16"	1/16"	1/16"	1/16"	1/8"	3/16"	1/8"	0"	0"	1/16"	1/16"
ADJUSTMENT DUE TO VERTICAL CURVE	0"	1/16"	0"	1/16"	1/16"	1/16"	1/16"	0"	0"	1/16"	0"
REQUIRED SHOP CAMBER	1/16"	1/16"	1/16"	1/8"	3/16"	1/4"	3/16"	0"	0"	1/8"	1/16"

DEFLECTION AND CAMBER TABLE - PLAN BEAMS 7-11

	SPAN 1			SPAN 2				SPAN 3			
	1/4	1/2	3/4	SPLICE	1/4	1/2	3/4	1/4	SPLICE	1/2	3/4
DEFLECTION DUE TO WEIGHT OF STEEL	0"	0"	0"	0"	0"	0"	0"	0"	0"	0"	0"
DEFLECTION DUE TO REMAINING DEAD LOAD	1/8"	1/8"	1/16"	1/16"	1/8"	3/16"	1/8"	0"	0"	1/16"	1/16"
ADJUSTMENT DUE TO VERTICAL CURVE	0"	1/16"	0"	1/16"	1/16"	1/16"	1/16"	0"	0"	1/16"	0"
REQUIRED SHOP CAMBER	1/8"	3/16"	1/16"	1/8"	3/16"	1/4"	3/16"	0"	0"	1/8"	1/16"

DEFLECTION AND CAMBER TABLE - PLAN BEAM 12

	SPAN 1			SPAN 2				SPAN 3			
	1/4	1/2	3/4	SPLICE	1/4	1/2	3/4	1/4	SPLICE	1/2	3/4
DEFLECTION DUE TO WEIGHT OF STEEL	0"	0"	0"	0"	0"	0"	0"	0"	0"	0"	0"
DEFLECTION DUE TO REMAINING DEAD LOAD	1/8"	1/8"	1/16"	1/16"	1/8"	3/16"	1/8"	0"	0"	1/16"	1/16"
ADJUSTMENT DUE TO VERTICAL CURVE	0"	1/16"	0"	1/16"	1/16"	1/16"	1/16"	0"	0"	1/16"	0"
REQUIRED SHOP CAMBER	1/8"	3/16"	1/16"	1/8"	3/16"	1/4"	3/16"	0"	0"	1/8"	1/16"

DEFLECTION AND CAMBER TABLE - PLAN BEAM 13

	SPAN 1			SPAN 2				SPAN 3			
	1/4	1/2	3/4	SPLICE	1/4	1/2	3/4	1/4	SPLICE	1/2	3/4
DEFLECTION DUE TO WEIGHT OF STEEL	0"	0"	0"	0"	0"	0"	0"	0"	0"	0"	0"
DEFLECTION DUE TO REMAINING DEAD LOAD	1/16"	1/8"	1/16"	1/16"	1/16"	1/8"	1/16"	0"	0"	1/16"	1/16"
ADJUSTMENT DUE TO VERTICAL CURVE	0"	1/16"	0"	1/16"	1/16"	1/16"	1/16"	0"	0"	1/16"	0"
REQUIRED SHOP CAMBER	1/16"	3/16"	1/16"	1/8"	1/8"	3/16"	1/8"	0"	0"	1/8"	1/16"

NOTES

BEAM ELEVATION: SEE SHEET 35/58.

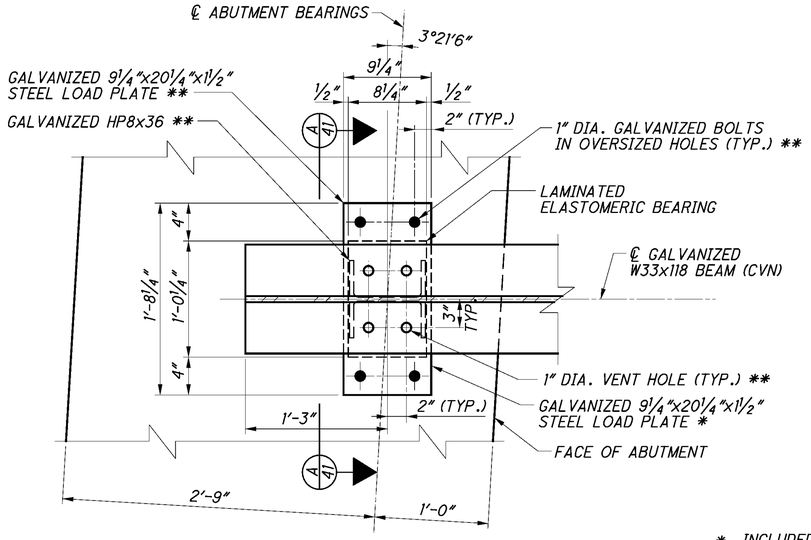
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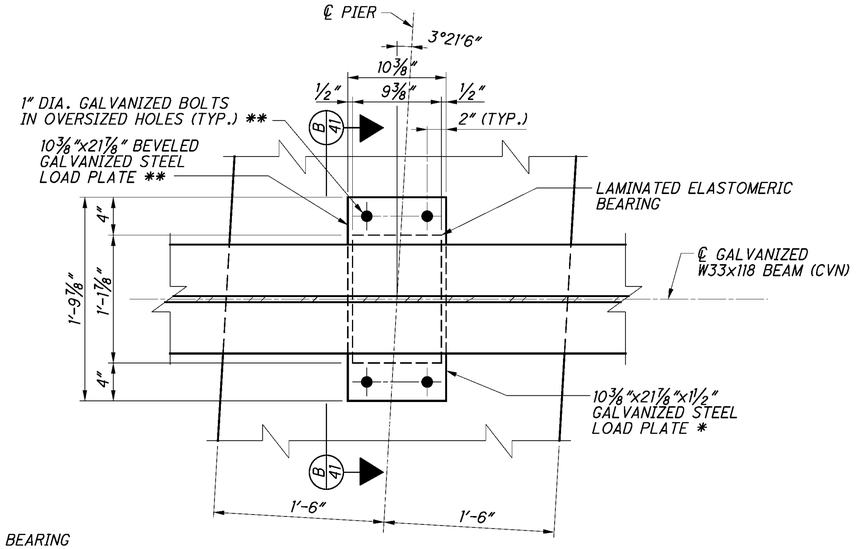
CAMBER DIAGRAM - NORTHBOUND BRIDGE
BRIDGE NO. SUM-271-0375 R
IR 271 OVER RAMP B

SUM-271-2.33
PID No. 18710

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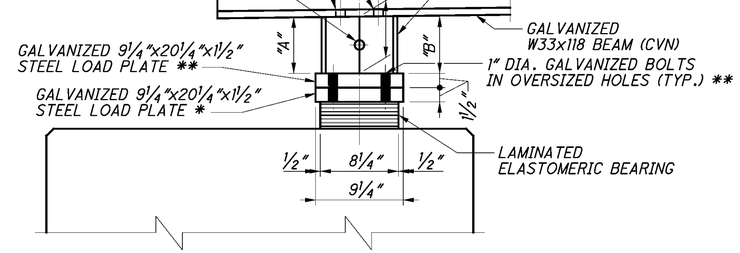
PLAN



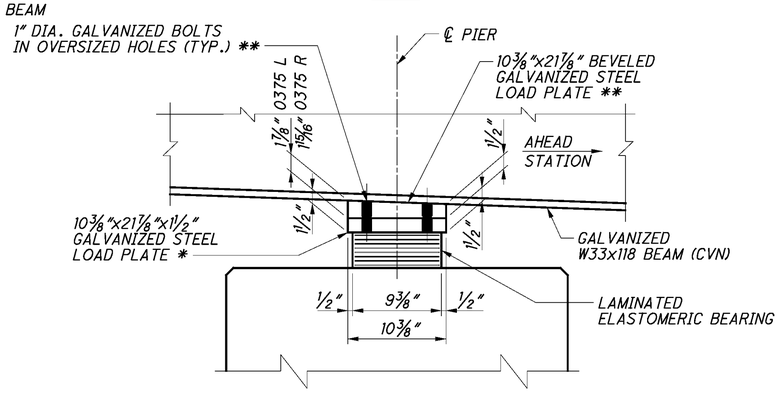
PLAN

* INCLUDED WITH BEARING FOR PAYMENT.

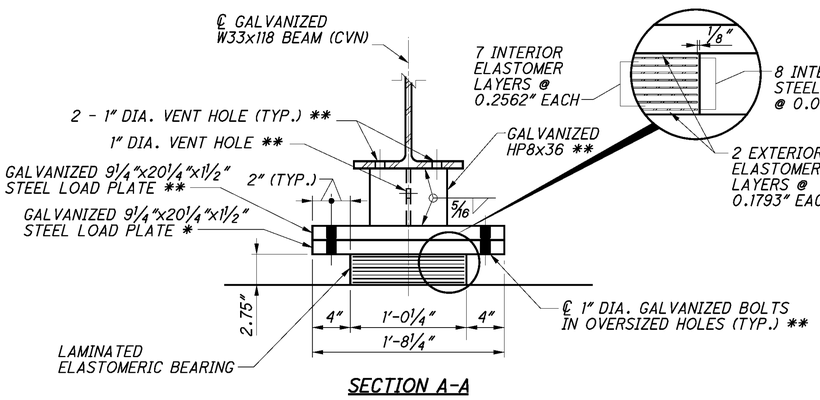
** INCLUDED WITH BEAM FOR PAYMENT.



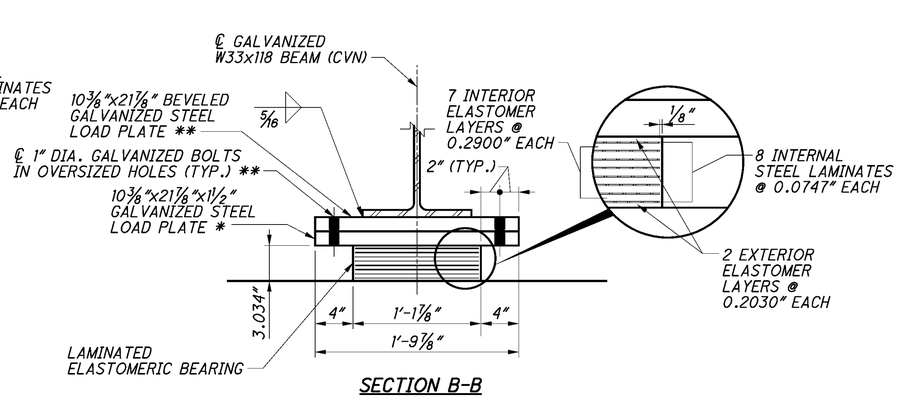
ELEVATION



ELEVATION



SECTION A-A



SECTION B-B

LAMINATED ELASTOMERIC BEARING E-142 (2.75"x8¼"x12¼") (EXPANSION) (ABUTMENTS)

DEAD LOAD REACTION	=	83 K
LIVE LOAD REACTION	=	59 K
TOTAL	=	142 K

LAMINATED ELASTOMERIC BEARING E-175 (3.034"x9⅜"x13⅞") (EXPANSION) (PIERS)

DEAD LOAD REACTION	=	97 K
LIVE LOAD REACTION	=	78 K
TOTAL	=	175 K

STOOL HEIGHT DIMENSIONS				
	DIMENSION "A"		DIMENSION "B"	
	R.A.	F.A.	R.A.	F.A.
SOUTHBOUND BRIDGE	6.15"	5.84"	5.84"	6.15"
NORTHBOUND BRIDGE	6.15"	5.84"	5.84"	6.15"

DIMENSION "A" IS POSITIONED TO BACK SIDE OF ℄ BEARING
DIMENSION "B" IS POSITIONED TO SPAN SIDE OF ℄ BEARING

NOTES

EXPOSED STEEL BEARING COMPONENTS SHALL BE GALVANIZED ACCORDING TO 711.02.

ALL BEARINGS SHALL BE MARKED PRIOR TO SHIPPING. THE MARKS SHALL INCLUDE THE BEARING LOCATION AND DIRECTIONAL ARROW POINTING UPSTATION. ALL MARKS SHALL BE PERMANENT AND BE VISABLE AFTER THE BEARING IS INSTALLED.

BEVELED HP8x36 STEEL SHAPE INCLUDED WITH BEAM FOR PAYMENT. HP8x36 STEEL SHAPE AND LOAD PLATE ARE ASTM A572/A709, GRADE 50 STEEL GALVANIZED. ALL WELDING SHALL BE COMPLETED PRIOR TO GALVANIZING.

BEARING REPOSITIONING: IF THE STEEL IS ERECTED AT AN AMBIENT TEMPERATURE HIGHER THAN 80°F OR LOWER THAN 40°F AND THE BEARING SHEAR DEFLECTION EXCEEDS ⅛ OF THE BEARING HEIGHT AT 60°F(±) 10°F, RAISE THE BEAMS TO ALLOW THE BEARINGS TO RETURN TO THEIR UNDEFORMED SHAPE AT 60°F (±) 10°F.

ELASTOMERIC BEARINGS: THE ELASTOMER SHALL HAVE A HARDNESS OF 50 DUROMETER. THE BEARINGS WERE DESIGNED UNDER DIVISION I, SECTION 14.6.5 (METHOD B) OF THE AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES.

CONNECTION BOLTS SHALL BE 1" DIAMETER A325, GALVANIZED, UNLESS OTHERWISE NOTED.

TOP STEEL LOAD PLATES SHALL BE WELDED TO THE BEAMS/ HP8x36 STEEL SHAPE PRIOR TO GALVANIZING.

BOTTOM STEEL LOAD PLATE SHALL BE BONDED BY VULCANIZATION TO THE ELASTOMER DURING THE MOLDING PROCESS.

CVN: WHERE A SHAPE OR PLATE IS DESIGNATED (CVN), FURNISH MATERIAL THAT MEETS THE MINIMUM NOTCH TOUGHNESS REQUIREMENTS AS SPECIFIED IN 711.01.

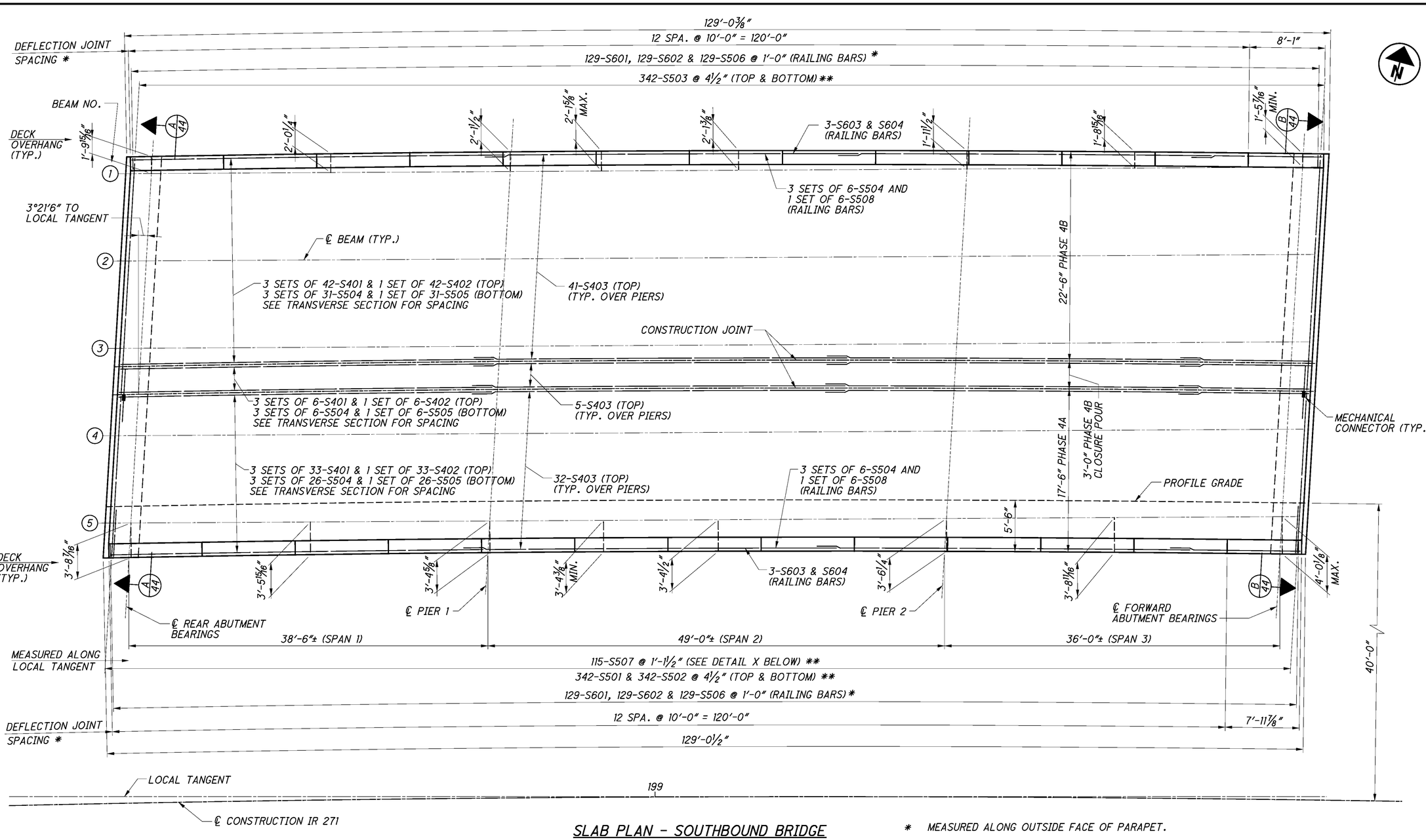
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MANSFIELD, OHIO 44902

DESIGNED KAK | DRAWN KH | CHECKED BLN | REVIEWED DAP | DATE 10/5/12 | REVISED | STRUCTURE FILE NUMBER L7708912/RT708947

BEARING DETAILS
BRIDGE NO. SUM-271-0375 L&R
IR 271 OVER RAMP B

SUM-271-2.33
PID No. 18710

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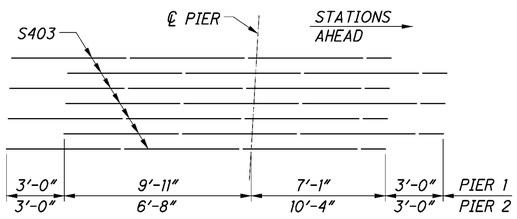


SLAB PLAN - SOUTHBOUND BRIDGE

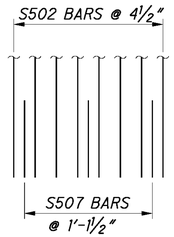
* MEASURED ALONG OUTSIDE FACE OF PARAPET.

** MEASURED ALONG CENTERLINE OF BEAM.

NOTE: DECK OVERHANG DIMENSIONS ARE TAKEN AT ℄ BEARINGS AND AT MIDSPAN AND ARE MEASURED PERPENDICULAR TO ℄ BEAMS.



STAGGER OF S403 BARS OVER PIERS



DETAIL X

NOTES

TRANSVERSE SECTION: SEE SHEET 30/58.

RICHLAND ENGINEERING LIMITED
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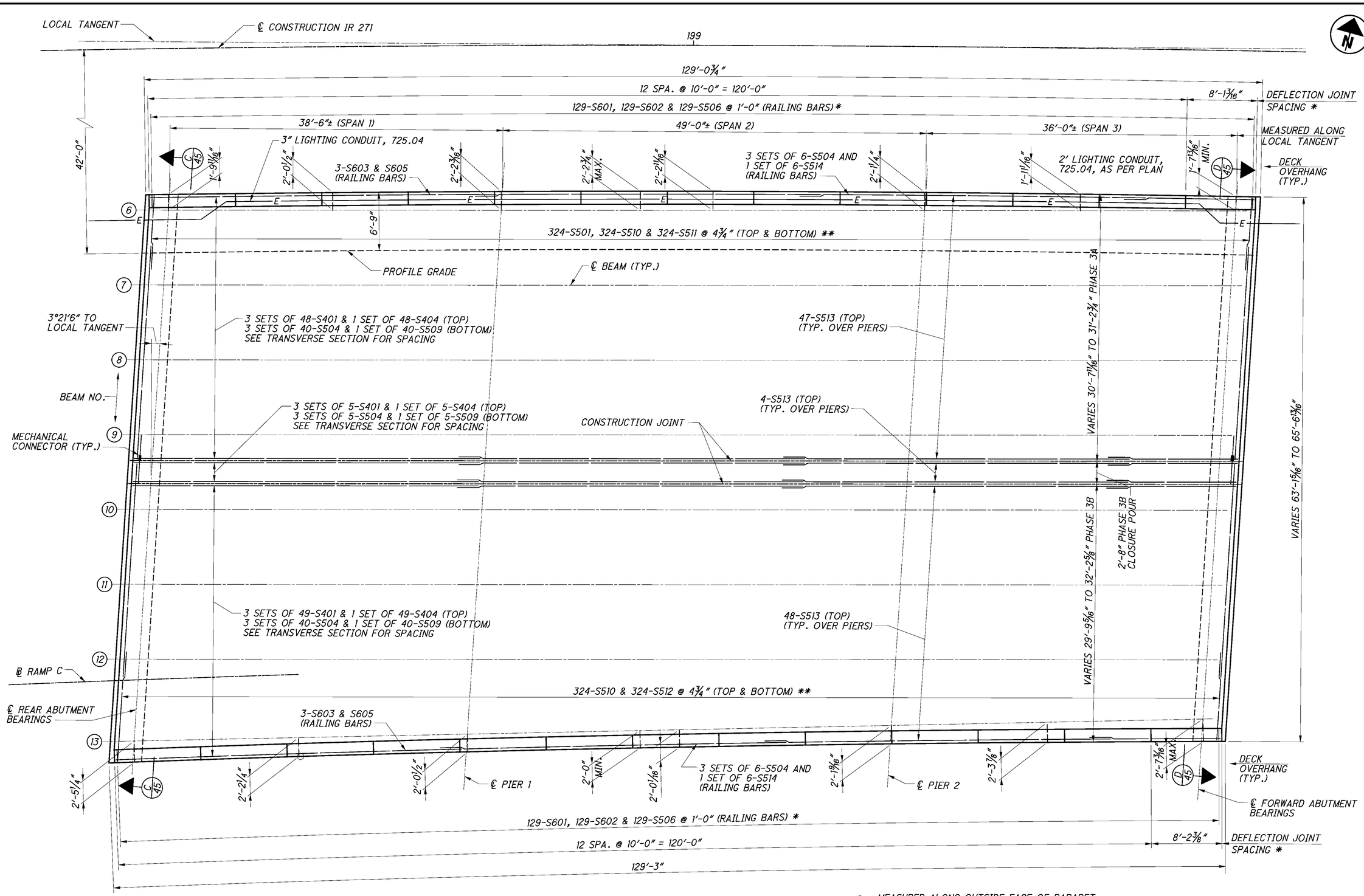
SLAB PLAN - SOUTHBOUND BRIDGE
BRIDGE NO. SUM-271-0375 L
IR 271 OVER RAMP B

SUM-271-2.33
PID No. 18710

40/58

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1195

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SLAB PLAN - NORTHBOUND BRIDGE

* MEASURED ALONG OUTSIDE FACE OF PARAPET.

** MEASURED ALONG CENTERLINE OF BEAM.

NOTE: DECK OVERHANG DIMENSIONS ARE TAKEN AT ℄ BEARINGS AND AT MIDSPAN AND ARE MEASURED PERPENDICULAR TO ℄ BEAMS.

NOTES

TRANSVERSE SECTION: SEE SHEET 31/58.

STAGGER BARS OVER PIER: SEE DETAIL SHEET 31/58.

RICHLAND ENGINEERING LIMITED
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BLN		R77108947	

SLAB PLAN - NORTHBOUND BRIDGE
BRIDGE NO. SUM-271-0375 R
IR 271 ORVER RAMP B

SUM-271-2.33
PID No. 18710

41 / 58

1135
1195

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TOP OF HAUNCH ELEVATION TABLE

SPAN POINT	R.A. BRGS.	SPAN 1			PIER 1	SPAN 2				PIER 2	SPAN 3				F.A. BRGS.
		1/4	1/2	3/4		SPLICE	1/4	1/2	3/4		1/4	SPLICE	1/2	3/4	
	STATIONS	STATIONS	STATIONS	STATIONS	STATIONS	STATIONS	STATIONS	STATIONS	STATIONS	STATIONS	STATIONS	STATIONS	STATIONS	STATIONS	STATIONS
	ELEVATIONS	ELEVATIONS	ELEVATIONS	ELEVATIONS	ELEVATIONS	ELEVATIONS	ELEVATIONS	ELEVATIONS	ELEVATIONS	ELEVATIONS	ELEVATIONS	ELEVATIONS	ELEVATIONS	ELEVATIONS	ELEVATIONS
BEAM 1	198+47.31	198+56.75	198+66.19	198+75.64	198+85.09	198+94.90	198+97.11	199+09.13	199+21.15	199+33.18	199+42.01	199+43.31	199+50.84	199+59.67	199+68.50
	1085.88	1085.62	1085.34	1085.06	1084.78	1084.50	1084.44	1084.09	1083.72	1083.35	1083.09	1083.06	1082.83	1082.57	1082.29
BEAM 2	198+46.60	198+56.07	198+65.53	198+75.00	198+84.47	198+94.30	198+96.52	199+08.57	199+20.62	199+32.67	199+41.52	199+42.83	199+50.38	199+59.23	199+68.08
	1086.07	1085.80	1085.51	1085.23	1084.94	1084.66	1084.60	1084.25	1083.89	1083.52	1083.27	1083.23	1083.01	1082.76	1082.48
BEAM 3	198+45.89	198+55.38	198+64.87	198+74.36	198+83.85	198+93.71	198+95.93	199+08.01	199+20.09	199+32.17	199+41.04	199+42.35	199+49.91	199+58.79	199+67.66
	1085.61	1085.34	1085.06	1084.77	1084.48	1084.20	1084.14	1083.78	1083.42	1083.06	1082.80	1082.77	1082.55	1082.29	1082.03
BEAM 4	198+45.18	198+54.69	198+64.20	198+73.71	198+83.23	198+93.11	198+95.34	199+07.44	199+19.55	199+31.66	199+40.55	199+41.87	199+49.45	199+58.34	199+67.23
	1085.16	1084.88	1084.60	1084.31	1084.02	1083.74	1083.67	1083.32	1082.96	1082.60	1082.34	1082.31	1082.08	1081.83	1081.56
BEAM 5	198+44.46	198+54.00	198+63.53	198+73.07	198+82.60	198+92.50	198+94.74	199+06.88	199+19.01	199+31.15	199+40.06	199+41.38	199+48.98	199+57.89	199+66.81
	1084.70	1084.42	1084.14	1083.85	1083.56	1083.28	1083.21	1082.86	1082.50	1082.13	1081.87	1081.84	1081.62	1081.36	1081.10

SCREED ELEVATION TABLE

SPAN POINT	R.A. BRGS.	SPAN 1			PIER 1	SPAN 2				PIER 2	SPAN 3				F.A. BRGS.
		1/4	1/2	3/4		SPLICE	1/4	1/2	3/4		1/4	SPLICE	1/2	3/4	
	STATIONS	STATIONS	STATIONS	STATIONS	STATIONS	STATIONS	STATIONS	STATIONS	STATIONS	STATIONS	STATIONS	STATIONS	STATIONS	STATIONS	STATIONS
	ELEVATIONS	ELEVATIONS	ELEVATIONS	ELEVATIONS	ELEVATIONS	ELEVATIONS	ELEVATIONS	ELEVATIONS	ELEVATIONS	ELEVATIONS	ELEVATIONS	ELEVATIONS	ELEVATIONS	ELEVATIONS	ELEVATIONS
CURB LINE	198+47.33	198+56.78	198+66.23	198+75.68	198+85.13	198+94.94	198+97.15	199+09.16	199+21.18	199+33.20	199+42.02	199+43.33	199+50.85	199+59.67	199+68.50
	1086.61	1086.34	1086.06	1085.78	1085.50	1085.21	1085.15	1084.80	1084.44	1084.07	1083.81	1083.78	1083.56	1083.29	1083.02
BREAK POINT	198+46.61	198+56.09	198+65.56	198+75.03	198+84.50	198+94.34	198+96.55	199+08.60	199+20.65	199+32.69	199+41.54	199+42.84	199+50.38	199+59.23	199+68.07
	1086.81	1086.54	1086.26	1085.98	1085.70	1085.41	1085.35	1085.00	1084.64	1084.27	1084.01	1083.97	1083.75	1083.49	1083.22
LEFT CONSTRUCTION JOINT	198+45.74	198+55.25	198+64.75	198+74.24	198+83.74	198+93.60	198+95.83	199+07.91	199+19.99	199+32.07	199+40.94	199+42.25	199+49.81	199+58.68	199+67.55
	1086.25	1085.98	1085.70	1085.42	1085.13	1084.85	1084.79	1084.43	1084.07	1083.70	1083.44	1083.40	1083.18	1082.92	1082.65
RIGHT CONSTRUCTION JOINT	198+45.52	198+55.02	198+64.53	198+74.04	198+83.54	198+93.41	198+95.64	199+07.73	199+19.82	199+31.91	199+40.79	199+42.10	199+49.67	199+58.54	199+67.42
	1086.10	1085.83	1085.55	1085.27	1084.98	1084.70	1084.64	1084.29	1083.92	1083.55	1083.29	1083.26	1083.03	1082.77	1082.50
PROFILE GRADE	198+44.60	198+54.14	198+63.67	198+73.21	198+82.74	198+92.64	198+94.87	199+07.00	199+19.13	199+31.26	199+40.16	199+41.48	199+49.07	199+57.97	199+66.87
	1085.52	1085.25	1084.97	1084.68	1084.40	1084.11	1084.05	1083.70	1083.33	1082.96	1082.70	1082.66	1082.44	1082.17	1081.90
CURB LINE	198+44.29	198+53.84	198+63.39	198+72.93	198+82.48	198+92.38	198+94.62	199+06.76	199+18.90	199+31.04	199+39.95	199+41.27	199+48.87	199+57.78	199+66.69
	1085.32	1085.05	1084.77	1084.49	1084.20	1083.91	1083.85	1083.50	1083.13	1082.76	1082.50	1082.47	1082.24	1081.97	1081.70

FINISH DECK SURFACE ELEVATION TABLE

SPAN POINT	R.A. BRGS.	SPAN 1			PIER 1	SPAN 2				PIER 2	SPAN 3				F.A. BRGS.
		1/4	1/2	3/4		SPLICE	1/4	1/2	3/4		1/4	SPLICE	1/2	3/4	
	STATIONS	STATIONS	STATIONS	STATIONS	STATIONS	STATIONS	STATIONS	STATIONS	STATIONS	STATIONS	STATIONS	STATIONS	STATIONS	STATIONS	STATIONS
	ELEVATIONS	ELEVATIONS	ELEVATIONS	ELEVATIONS	ELEVATIONS	ELEVATIONS	ELEVATIONS	ELEVATIONS	ELEVATIONS	ELEVATIONS	ELEVATIONS	ELEVATIONS	ELEVATIONS	ELEVATIONS	ELEVATIONS
CURB LINE	198+47.33	198+56.78	198+66.23	198+75.68	198+85.13	198+94.94	198+97.15	199+09.16	199+21.18	199+33.20	199+42.02	199+43.33	199+50.85	199+59.67	199+68.50
	1086.61	1086.33	1086.05	1085.77	1085.50	1085.21	1085.14	1084.79	1084.43	1084.07	1083.81	1083.77	1083.55	1083.29	1083.02
BEAM 1	198+47.31	198+56.75	198+66.19	198+75.64	198+85.09	198+94.90	198+97.11	199+09.13	199+21.15	199+33.18	199+42.01	199+43.31	199+50.84	199+59.67	199+68.50
	1086.61	1086.34	1086.06	1085.79	1085.51	1085.22	1085.16	1084.80	1084.44	1084.08	1083.82	1083.78	1083.55	1083.29	1083.02
BREAK POINT	198+46.61	198+56.09	198+65.56	198+75.03	198+84.50	198+94.34	198+96.55	199+08.60	199+20.65	199+32.69	199+41.54	199+42.84	199+50.38	199+59.23	199+68.07
	1086.81	1086.53	1086.25	1085.97	1085.70	1085.41	1085.34	1084.98	1084.63	1084.27	1084.01	1083.97	1083.74	1083.48	1083.22
BEAM 2	198+46.60	198+56.07	198+65.53	198+75.00	198+84.47	198+94.30	198+96.52	199+08.57	199+20.62	199+32.67	199+41.52	199+42.83	199+50.38	199+59.23	199+68.08
	1086.80	1086.52	1086.23	1085.95	1085.67	1085.38	1085.31	1084.96	1084.61	1084.25	1084.00	1083.96	1083.74	1083.48	1083.21
BEAM 3	198+45.89	198+55.38	198+64.87	198+74.36	198+83.85	198+93.71	198+95.93	199+08.01	199+20.09	199+32.17	199+41.04	199+42.35	199+49.91	199+58.79	199+67.66
	1086.34	1086.06	1085.77	1085.49	1085.21	1084.92	1084.85	1084.50	1084.14	1083.79	1083.53	1083.49	1083.27	1083.02	1082.76
LEFT CONSTRUCTION JOINT	198+45.74	198+55.25	198+64.75	198+74.24	198+83.74	198+93.60	198+95.83	199+07.91	199+19.99	199+32.07	199+40.94	199+42.25	199+49.81	199+58.68	199+67.55
	1086.25	1085.97	1085.69	1085.41	1085.13	1084.84	1084.77	1084.42	1084.06	1083.70	1083.44	1083.40	1083.17	1082.91	1082.65
RIGHT CONSTRUCTION JOINT	198+45.52	198+55.02	198+64.53	198+74.04	198+83.54	198+93.41	198+95.64	199+07.73	199+19.82	199+31.91	199+40.79	199+42.10	199+49.67	199+58.54	199+67.42
	1086.10	1085.82	1085.54	1085.26	1084.98	1084.69	1084.63	1084.27	1083.91	1083.55	1083.29	1083.25	1083.03	1082.76	1082.50
BEAM 4	198+45.18	198+54.69	198+64.20	198+73.71	198+83.23	198+93.11	198+95.34	199+07.44	199+19.55	199+31.66	199+40.55	199+41.87	199+49.45	199+58.34	199+67.23
	1085.88	1085.60	1085.32	1085.03	1084.75	1084.46	1084.39	1084.04	1083.68	1083.33	1083.07	1083.03	1082.81	1082.55	1082.29
PROFILE GRADE	198+44.60	198+54.14	198+63.67	198+73.21	198+82.74	198+92.64	198+94.87	199+07.00	199+19.13	199+31.26	199+40.16	199+41.48	199+49.07	199+57.97	199+66.87
	1085.52	1085.24	1084.96	1084.68	1084.40	1084.10	1084.04	1083.68	1083.32	1082.96	1082.70	1082.66	1082.43	1082.17	1081.90
BEAM 5	198+44.46	198+54.00	198+63.53	198+73.07	198+82.60	198+92.50	198+94.74	199+06.88	199+19.01	199+31.15	199+40.06	199+41.38	199+48.98	199+57.89	199+66.81
	1085.43	1085.14	1084.86	1084.57	1084.29	1084.00	1083.93	1083.58	1083.22	1082.86	1082.60	1082.57	1082.34	1082.09	1081.83
CURB LINE	198+44.29	198+53.84	198+63.39	198+72.93	198+82.48	198+92.38	198+94.62	199+06.76	199+18.90	199+31.04	199+39.95	199+41.27	199+48.87	199+57.78	199+66.69
	1085.32	1085.04	1084.76	1084.48	1084.20	1083.91	1083.84	1083.48	1083.12	1082.76	1082.50	1082.46	1082.23	1081.97	1081.70

NOTES

NOTATION:
R.A. - REAR ABUTMENT
F.A. - FORWARD ABUTMENT

TOP OF HAUNCH ELEVATIONS SHOWN REPRESENT THE THEORETICAL LOCATION OF THE BOTTOM OF THE DECK ABOVE THE BEAM HAUNCH PRIOR TO DEFLECTIONS CAUSED BY DECK PLACEMENT AND OTHER ANTICIPATED DEAD LOADS.

SCREED ELEVATIONS SHOWN REPRESENT THE THEORETICAL DECK SURFACE LOCATION PRIOR TO DEFLECTIONS CAUSED BY DECK PLACEMENT AND OTHER ANTICIPATED DEAD LOADS.

FINAL DECK SURFACE ELEVATIONS SHOWN REPRESENT THE DECK SURFACE LOCATION AFTER ALL ANTICIPATED DEAD LOAD DEFLECTIONS HAVE OCCURED.

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

DESIGNED KAK | DRAWN SJK | REVIEWED DAP | DATE 10/5/12
CHECKED BLN | REVISED | STRUCTURE FILE NUMBER L7708912

DECK ELEVATION TABLE - SOUTHBOUND BRIDGE
BRIDGE NO. SUM-271-0375
IR 271 OVER RAMP B

SUM-271-2.33
PID No. 18710

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TOP OF HAUNCH ELEVATION TABLE

SPAN POINT	R.A. BRGS.	SPAN 1			PIER 1	SPAN 2				PIER 2	SPAN 3				F.A. BRGS.
		1/4	1/2	3/4		SPLICE	1/4	1/2	3/4		1/4	SPLICE	1/2	3/4	
	STATIONS	STATIONS	STATIONS	STATIONS	STATIONS	STATIONS	STATIONS	STATIONS	STATIONS	STATIONS	STATIONS	STATIONS	STATIONS	STATIONS	STATIONS
	ELEVATIONS	ELEVATIONS	ELEVATIONS	ELEVATIONS	ELEVATIONS	ELEVATIONS	ELEVATIONS	ELEVATIONS	ELEVATIONS	ELEVATIONS	ELEVATIONS	ELEVATIONS	ELEVATIONS	ELEVATIONS	ELEVATIONS
BEAM 6	198+38.58	198+48.30	198+58.02	198+67.74	198+77.46	198+87.66	198+89.84	199+02.21	199+14.58	199+26.96	199+36.05	199+37.39	199+45.13	199+54.22	199+63.31
	1086.85	1086.52	1086.18	1085.84	1085.50	1085.14	1085.07	1084.64	1084.20	1083.76	1083.44	1083.39	1083.12	1082.80	1082.47
BEAM 7	198+37.89	198+47.63	198+57.37	198+67.12	198+76.86	198+87.10	198+89.26	199+01.66	199+14.06	199+26.46	199+35.57	199+36.93	199+44.68	199+53.79	199+62.90
	1086.44	1086.11	1085.77	1085.42	1085.08	1084.72	1084.65	1084.22	1083.78	1083.33	1083.01	1082.96	1082.69	1082.37	1082.04
BEAM 8	198+37.20	198+46.96	198+56.72	198+66.49	198+76.25	198+86.53	198+88.68	199+01.11	199+13.54	199+25.97	199+35.10	199+36.47	199+44.23	199+53.36	199+62.49
	1086.02	1085.69	1085.35	1085.00	1084.66	1084.30	1084.23	1083.80	1083.36	1082.91	1082.59	1082.54	1082.27	1081.95	1081.62
BEAM 9	198+36.50	198+46.28	198+56.07	198+65.86	198+75.64	198+85.96	198+88.10	199+00.56	199+13.02	199+25.47	199+34.62	199+36.00	199+43.77	199+52.92	199+62.07
	1085.60	1085.27	1084.93	1084.58	1084.23	1083.88	1083.81	1083.38	1082.93	1082.48	1082.16	1082.11	1081.84	1081.52	1081.19
BEAM 10	198+35.80	198+45.61	198+55.41	198+65.22	198+75.03	198+85.39	198+87.52	199+00.00	199+12.49	199+24.97	199+34.14	199+35.54	199+43.32	199+52.49	199+61.66
	1085.18	1084.85	1084.51	1084.16	1083.81	1083.46	1083.39	1082.95	1082.51	1082.06	1081.74	1081.69	1081.42	1081.09	1080.76
BEAM 11	198+35.09	198+44.92	198+54.75	198+64.59	198+74.42	198+84.82	198+86.93	198+99.44	199+11.96	199+24.47	199+33.66	199+35.07	199+42.86	199+52.05	199+61.24
	1084.77	1084.43	1084.09	1083.74	1083.39	1083.03	1082.97	1082.53	1082.09	1081.63	1081.31	1081.26	1080.99	1080.67	1080.33
BEAM 12	198+34.39	198+44.24	198+54.09	198+63.95	198+73.80	198+84.24	198+86.34	198+98.88	199+11.43	199+23.97	199+33.18	199+34.60	199+42.39	199+51.61	199+60.82
	1084.35	1084.02	1083.67	1083.32	1082.97	1082.61	1082.54	1082.11	1081.66	1081.21	1080.89	1080.84	1080.57	1080.24	1079.91
BEAM 13	198+33.61	198+43.50	198+53.40	198+63.29	198+73.18	198+83.68	198+85.77	198+98.35	199+10.94	199+23.52	199+32.77	199+34.20	199+42.01	199+51.25	199+60.49
	1083.89	1083.56	1083.23	1082.89	1082.55	1082.20	1082.13	1081.71	1081.27	1080.84	1080.52	1080.47	1080.21	1079.89	1079.57

SCREED ELEVATION TABLE

SPAN POINT	R.A. BRGS.	SPAN 1			PIER 1	SPAN 2				PIER 2	SPAN 3				F.A. BRGS.
		1/4	1/2	3/4		SPLICE	1/4	1/2	3/4		1/4	SPLICE	1/2	3/4	
	STATIONS	STATIONS	STATIONS	STATIONS	STATIONS	STATIONS	STATIONS	STATIONS	STATIONS	STATIONS	STATIONS	STATIONS	STATIONS	STATIONS	STATIONS
	ELEVATIONS	ELEVATIONS	ELEVATIONS	ELEVATIONS	ELEVATIONS	ELEVATIONS	ELEVATIONS	ELEVATIONS	ELEVATIONS	ELEVATIONS	ELEVATIONS	ELEVATIONS	ELEVATIONS	ELEVATIONS	ELEVATIONS
CURB LINE	198+38.61	198+48.33	198+58.06	198+67.79	198+77.51	198+87.71	198+89.88	199+02.26	199+14.62	199+26.99	199+36.07	199+37.42	199+45.16	199+54.24	199+63.32
	1087.58	1087.25	1086.92	1086.58	1086.24	1085.89	1085.82	1085.39	1084.95	1084.50	1084.17	1084.12	1083.85	1083.52	1083.19
PROFILE GRADE	198+38.19	198+47.93	198+57.67	198+67.41	198+77.15	198+87.37	198+89.54	199+01.92	199+14.31	199+26.69	199+35.79	199+37.14	199+44.88	199+53.98	199+63.07
	1087.32	1087.00	1086.67	1086.33	1085.98	1085.63	1085.56	1085.13	1084.69	1084.24	1083.91	1083.86	1083.59	1083.26	1082.93
LEFT CONSTRUCTION JOINT	198+36.26	198+46.05	198+55.84	198+65.64	198+75.43	198+85.76	198+87.89	199+00.36	199+12.83	199+25.29	199+34.45	199+35.84	199+43.61	199+52.77	199+61.92
	1086.16	1085.83	1085.49	1085.14	1084.79	1084.44	1084.37	1083.93	1083.49	1083.04	1082.72	1082.67	1082.40	1082.07	1081.74
RIGHT CONSTRUCTION JOINT	198+36.04	198+45.84	198+55.64	198+65.44	198+75.24	198+85.59	198+87.72	199+00.19	199+12.66	199+25.14	199+34.30	199+35.69	199+43.47	199+52.63	199+61.79
	1086.04	1085.70	1085.36	1085.01	1084.67	1084.31	1084.24	1083.80	1083.36	1082.91	1082.59	1082.54	1082.27	1081.94	1081.61
CURB LINE	198+33.53	198+43.44	198+53.34	198+63.24	198+73.14	198+83.64	198+85.74	198+98.32	199+10.91	199+23.49	199+32.73	199+34.16	199+41.96	199+51.20	199+60.43
	1084.56	1084.23	1083.91	1083.57	1083.24	1082.89	1082.82	1082.39	1081.96	1081.52	1081.20	1081.15	1080.88	1080.55	1080.22

FINISH DECK SURFACE ELEVATION TABLE

SPAN POINT	R.A. BRGS.	SPAN 1			PIER 1	SPAN 2				PIER 2	SPAN 3				F.A. BRGS.
		1/4	1/2	3/4		SPLICE	1/4	1/2	3/4		1/4	SPLICE	1/2	3/4	
	STATIONS	STATIONS	STATIONS	STATIONS	STATIONS	STATIONS	STATIONS	STATIONS	STATIONS	STATIONS	STATIONS	STATIONS	STATIONS	STATIONS	STATIONS
	ELEVATIONS	ELEVATIONS	ELEVATIONS	ELEVATIONS	ELEVATIONS	ELEVATIONS	ELEVATIONS	ELEVATIONS	ELEVATIONS	ELEVATIONS	ELEVATIONS	ELEVATIONS	ELEVATIONS	ELEVATIONS	ELEVATIONS
CURB LINE	198+38.61	198+48.33	198+58.06	198+67.79	198+77.51	198+87.71	198+89.88	199+02.26	199+14.62	199+26.99	199+36.07	199+37.42	199+45.16	199+54.24	199+63.32
	1087.58	1087.25	1086.91	1086.58	1086.24	1085.88	1085.81	1085.37	1084.94	1084.50	1084.17	1084.12	1083.84	1083.52	1083.19
BEAM 6	198+38.58	198+48.30	198+58.02	198+67.74	198+77.46	198+87.66	198+89.84	199+02.21	199+14.58	199+26.96	199+36.05	199+37.39	199+45.13	199+54.22	199+63.31
	1087.56	1087.22	1086.89	1086.55	1086.21	1085.85	1085.77	1085.34	1084.90	1084.47	1084.14	1084.10	1083.82	1083.50	1083.18
PROFILE GRADE	198+38.19	198+47.93	198+57.67	198+67.41	198+77.15	198+87.37	198+89.54	199+01.92	199+14.31	199+26.69	199+35.79	199+37.14	199+44.88	199+53.98	199+63.07
	1087.32	1086.99	1086.66	1086.32	1085.98	1085.63	1085.55	1085.12	1084.68	1084.24	1083.91	1083.86	1083.59	1083.26	1082.93
BEAM 7	198+37.89	198+47.63	198+57.37	198+67.12	198+76.86	198+87.10	198+89.26	199+01.66	199+14.06	199+26.46	199+35.57	199+36.93	199+44.68	199+53.79	199+62.90
	1087.14	1086.81	1086.47	1086.13	1085.78	1085.43	1085.35	1084.91	1084.48	1084.04	1083.72	1083.67	1083.40	1083.08	1082.75
BEAM 8	198+37.20	198+46.96	198+56.72	198+66.49	198+76.25	198+86.53	198+88.68	199+01.11	199+13.54	199+25.97	199+35.10	199+36.47	199+44.23	199+53.36	199+62.49
	1086.73	1086.39	1086.05	1085.71	1085.36	1085.00	1084.93	1084.49	1084.05	1083.62	1083.29	1083.25	1082.97	1082.65	1082.32
BEAM 9	198+36.50	198+46.28	198+56.07	198+65.86	198+75.64	198+85.96	198+88.10	199+00.56	199+13.02	199+25.47	199+34.62	199+36.00	199+43.77	199+52.92	199+62.07
	1086.31	1085.97	1085.63	1085.29	1084.94	1084.58	1084.51	1084.07	1083.63	1083.19	1082.87	1082.82	1082.55	1082.22	1081.90
LEFT CONSTRUCTION JOINT	198+36.26	198+46.05	198+55.84	198+65.64	198+75.43	198+85.76	198+87.89	199+00.36	199+12.83	199+25.29	199+34.45	199+35.84	199+43.61	199+52.77	199+61.92
	1086.16	1085.82	1085.48	1085.14	1084.79	1084.43	1084.36	1083.92	1083.48	1083.04	1082.72	1082.67	1082.39	1082.07	1081.74
RIGHT CONSTRUCTION JOINT	198+36.04	198+45.84	198+55.64	198+65.44	198+75.24	198+85.59	198+87.72	199+00.19	199+12.66	199+25.14	199+34.30	199+35.69	199+43.47	199+52.63	199+61.79
	1086.04	1085.69	1085.35	1085.01	1084.67	1084.30	1084.23	1083.79	1083.35	1082.91	1082.59	1082.54	1082.26	1081.94	1081.61
BEAM 10	198+35.80	198+45.61	198+55.41	198+65.22	198+75.03	198+85.39	198+87.52	199+00.00	199+12.49	199+24.97	199+34.14	199+35.54	199+43.32	199+52.49	199+61.66
	1085.89	1085.55	1085.21	1084.87	1084.52	1084.16	1084.08	1083.65	1083.21	1082.77	1082.44	1082.39	1082.12	1081.79	1081.47
BEAM 11	198+35.09	198+44.92	198+54.75	198+64.59	198+74.42	198+84.82	198+86.93	198+99.44	199+11.96	199+24.47	199+33.66	199+35.07	199+42.86	199+52.05	199+61.24
	1085.47	1085.13	1084.79	1084.45	1084.10	1083.74	1083.66	1083.22	1082.78	1082.34	1082.02	1081.97	1081.69	1081.37	1081.04
BEAM 12	198+34.39	198+44.24	198+54.09	198+63.95	198+73.80	198+84.24	198+86.34	198+98.88	199+11.43	199+23.97	199+33.18	199+34.60	199+42.39	199+51.61	199+60.82
	1085.06	1084.71	1084.37	1084.03	1083.68	1083.32	1083.24	1082.80	1082.36	1081.92	1081.59	1081.54	1081.27	1080.94	1080.62
BEAM 13	198+33.61	198+43.50	198+53.40	198+63.29	198+73.18	198+83.68	198+85.77	198+98.35	199+10.94	199+23.52	199+32.77	199+34.20	199+42.01	199+51.25	199+60.49
	1084.60	1084.27	1083.93	1083.60	1083.26	1082.91	1082.83	1082.41	1081.98	1081.55	1081.23	1081.18	1080.91	1080.60	1080.28
CURB LINE	198+33.53	198+43.44	198+53.34	198+63.24	198+73.14	198+83.64	198+85.74	198+98.32	199+10.91	199+23.49	199+32.73	199+34.16	199+41.96	199+51.20	199+60.43
	1084.56	1084.23	1083.90	1083.57	1083.24	1082.88	1082.81	1082.38	1081.95	1081.52	1081.20	1081.15	1080.87	1080.55	1080.22

NOTES

NOTATION:
R.A. - REAR ABUTMENT
F.A. - FORWARD ABUTMENT

TOP OF HAUNCH ELEVATIONS SHOWN REPRESENT THE THEORETICAL LOCATION OF THE BOTTOM OF THE DECK ABOVE THE BEAM HAUNCH PRIOR TO DEFLECTIONS CAUSED BY DECK PLACEMENT AND OTHER ANTICIPATED DEAD LOADS.

SCREED ELEVATIONS SHOWN REPRESENT THE THEORETICAL DECK SURFACE LOCATION PRIOR TO DEFLECTIONS CAUSED BY DECK PLACEMENT AND OTHER ANTICIPATED DEAD LOADS.

FINAL DECK SURFACE ELEVATIONS SHOWN REPRESENT THE DECK SURFACE LOCATION AFTER ALL ANTICIPATED DEAD LOAD DEFLECTIONS HAVE OCCURED.

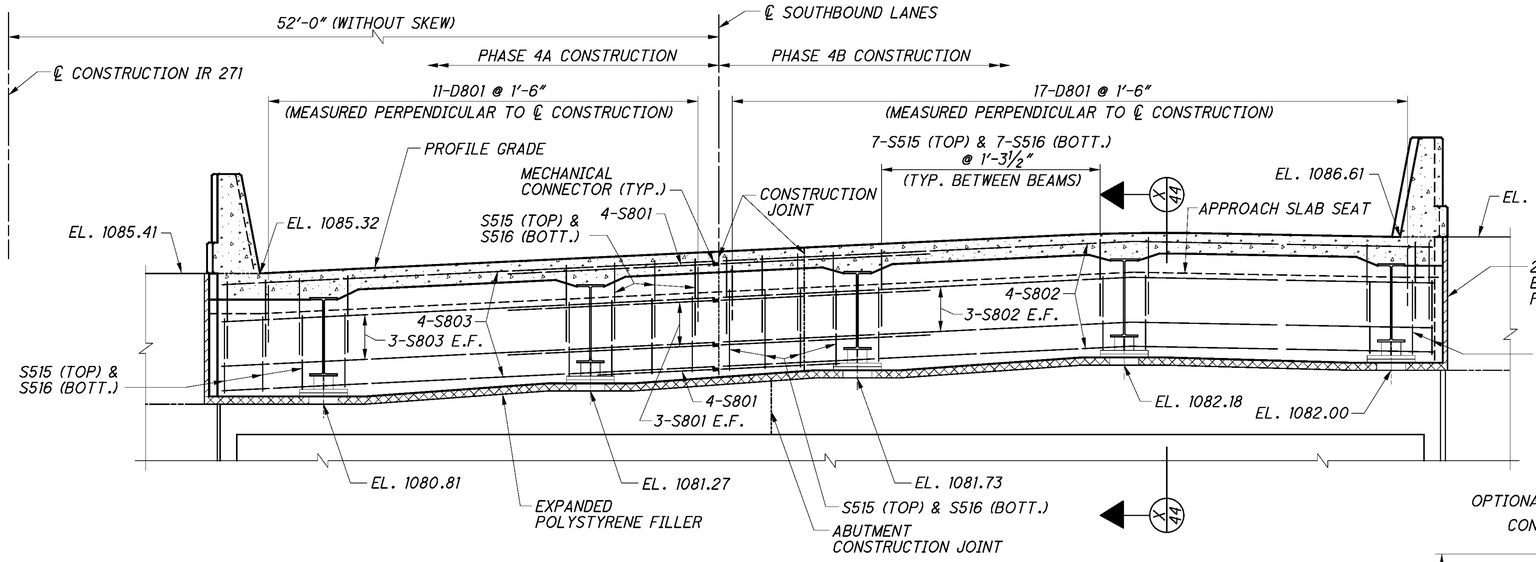
RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

DESIGNED KAK | DRAWN SJK | REVIEWED DAP | DATE 10/5/12
CHECKED BLN | REVISED | STRUCTURE FILE NUMBER R7708947

DECK ELEVATION TABLE - NORTHBOUND BRIDGE
BRIDGE NO. SUM-271-0375 R
IR 271 OVER RAMP B

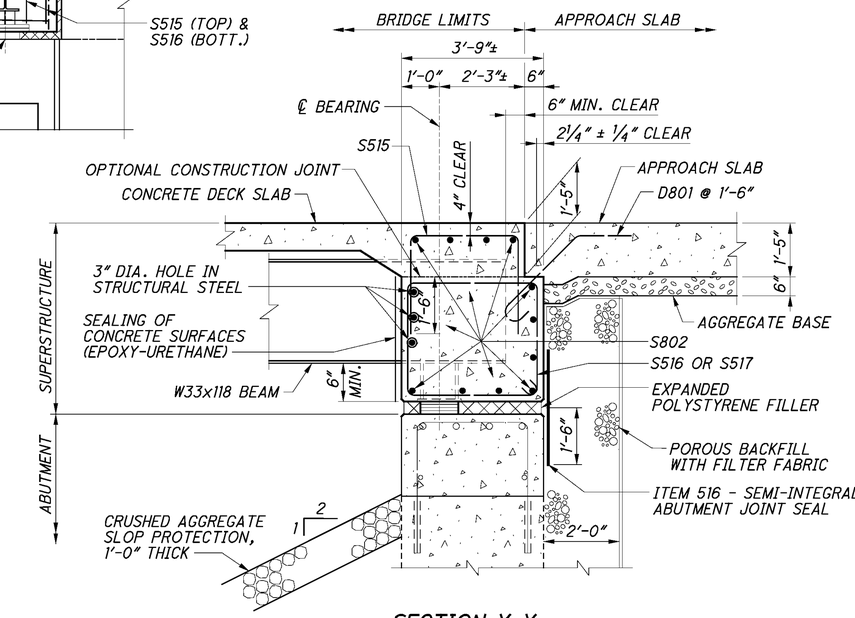
SUM-271-2.33
PID No. 18710

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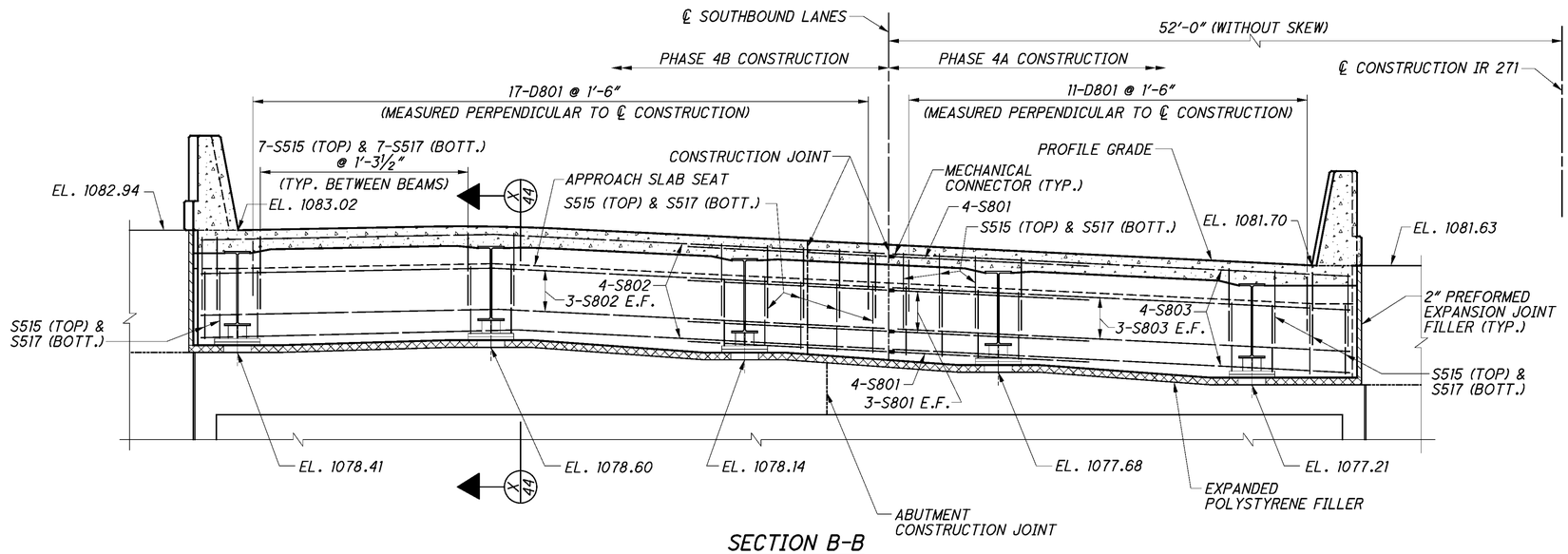


SECTION A-A

(DECK REINFORCING NOT SHOWN)



SECTION X-X



SECTION B-B

(DECK REINFORCING NOT SHOWN)

NOTES

ABUTMENT DIAPHRAGM CONCRETE, PHASED CONSTRUCTION: *PLACE THE DIAPHRAGM CONCRETE ENCASING THE STRUCTURAL MEMBER ENDS OF AN INDIVIDUAL PHASE WITH THE DECK CONCRETE OR AT LEAST 48 HOURS BEFORE PLACEMENT OF THE DECK CONCRETE. IF PLACED SEPARATELY, LOCATE THE HORIZONTAL CONSTRUCTION JOINT BETWEEN THE DIAPHRAGM AND DECK CONCRETE AT THE APPROACH SLAB SEAT. PLACE CLOSURE POUR CONCRETE IN THE DIAPHRAGM AND DECK CONCURRENTLY.*

SECTIONS A-A & B-B: *FOR LOCATION SEE SHEET 40/58.*

ELEVATIONS *SHOWN ARE TAKEN AT CENTERLINE OF BEARING.*

ADDITIONAL DETAILS: *SEE STANDARD DRAWING SICD-1-96.*

NOTATION: *F.F - FRONT FACE*
R.F. - REAR FACE
E.F. - EACH FACE

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

DESIGNED	DRAWN	REVIEWED	DATE
KAK	KH	DAP	10/5/12
CHECKED	REVISED		STRUCTURE FILE NUMBER
BLN			L7708912

SUPERSTRUCTURE DETAILS - SOUTHBOUND BRIDGE

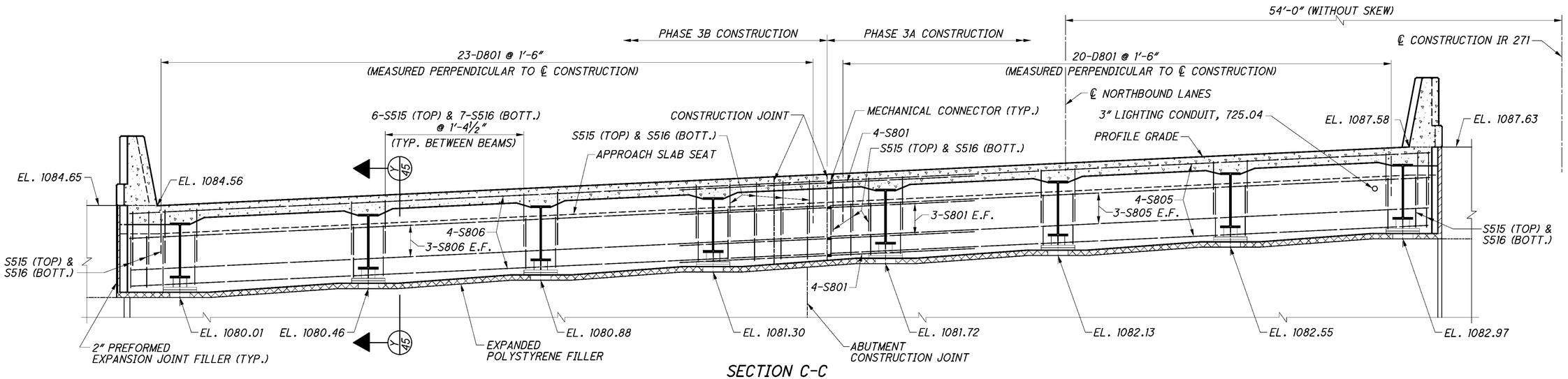
BRIDGE NO. SUM-271-0375 L
IR 271 OVER RAMP B

SUM-271-2.33
PID No. 18710

44/58

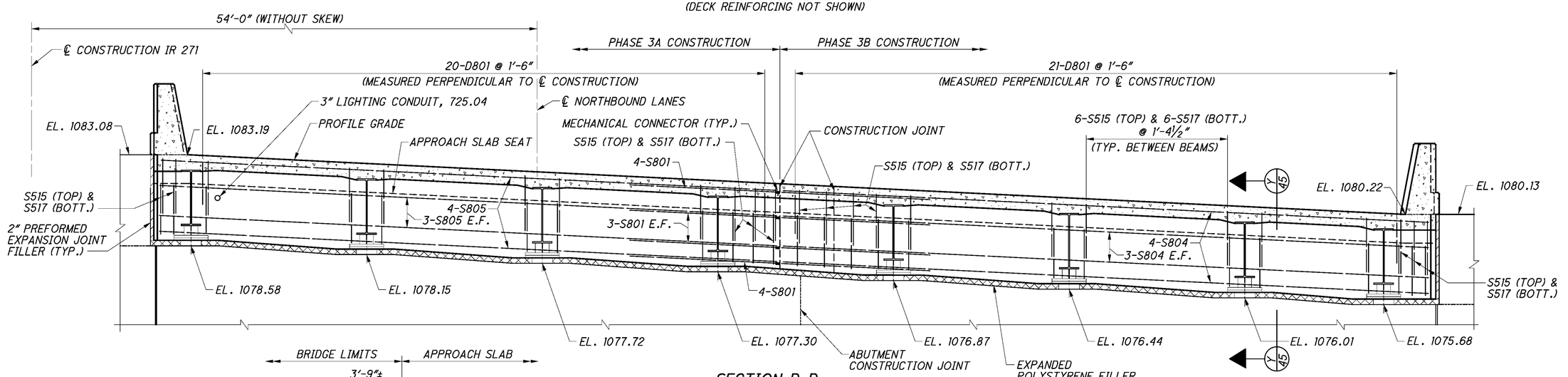
1138
1195

F:\2009\109094\18710\structures\SUM271_0374L\sheets\271_0374LSD006.dgn 10/8/2012 11:28:44 AM BrianBesecker



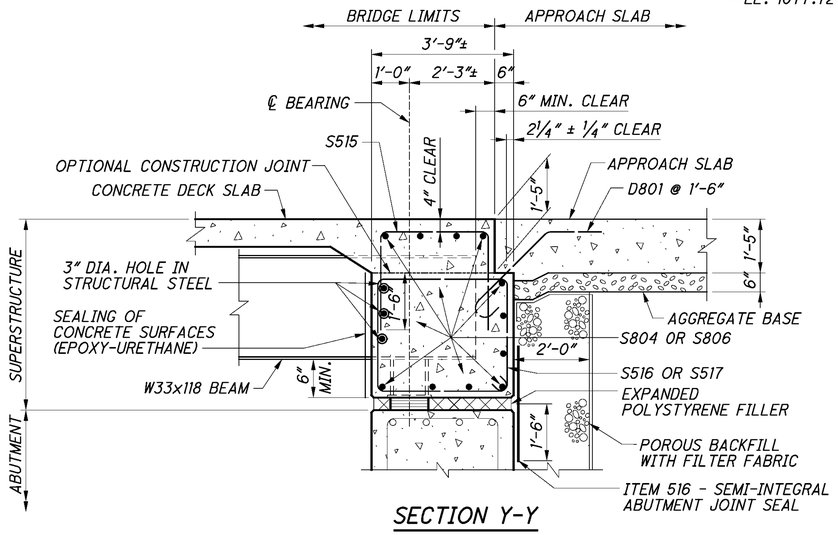
SECTION C-C

(DECK REINFORCING NOT SHOWN)



SECTION D-D

(DECK REINFORCING NOT SHOWN)



SECTION Y-Y

NOTES

SECTIONS C-C & D-D: FOR LOCATION SEE SHEET 41/58.

ELEVATIONS SHOWN ARE TAKEN AT CENTERLINE OF BEARING.

ADDITIONAL DETAILS: SEE STANDARD DRAWING SICD-1-96.

ADDITIONAL NOTES: SEE SHEET 44/58.

NOTATION: F.F - FRONT FACE
R.F. - REAR FACE
E.F. - EACH FACE

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

DESIGNED KAK | DRAWN KH | CHECKED BLN | REVIEWED DAP | DATE 10/5/12 | REVISED | STRUCTURE FILE NUMBER R7708947

SUPERSTRUCTURE DETAILS - NORTHBOUND BRIDGE

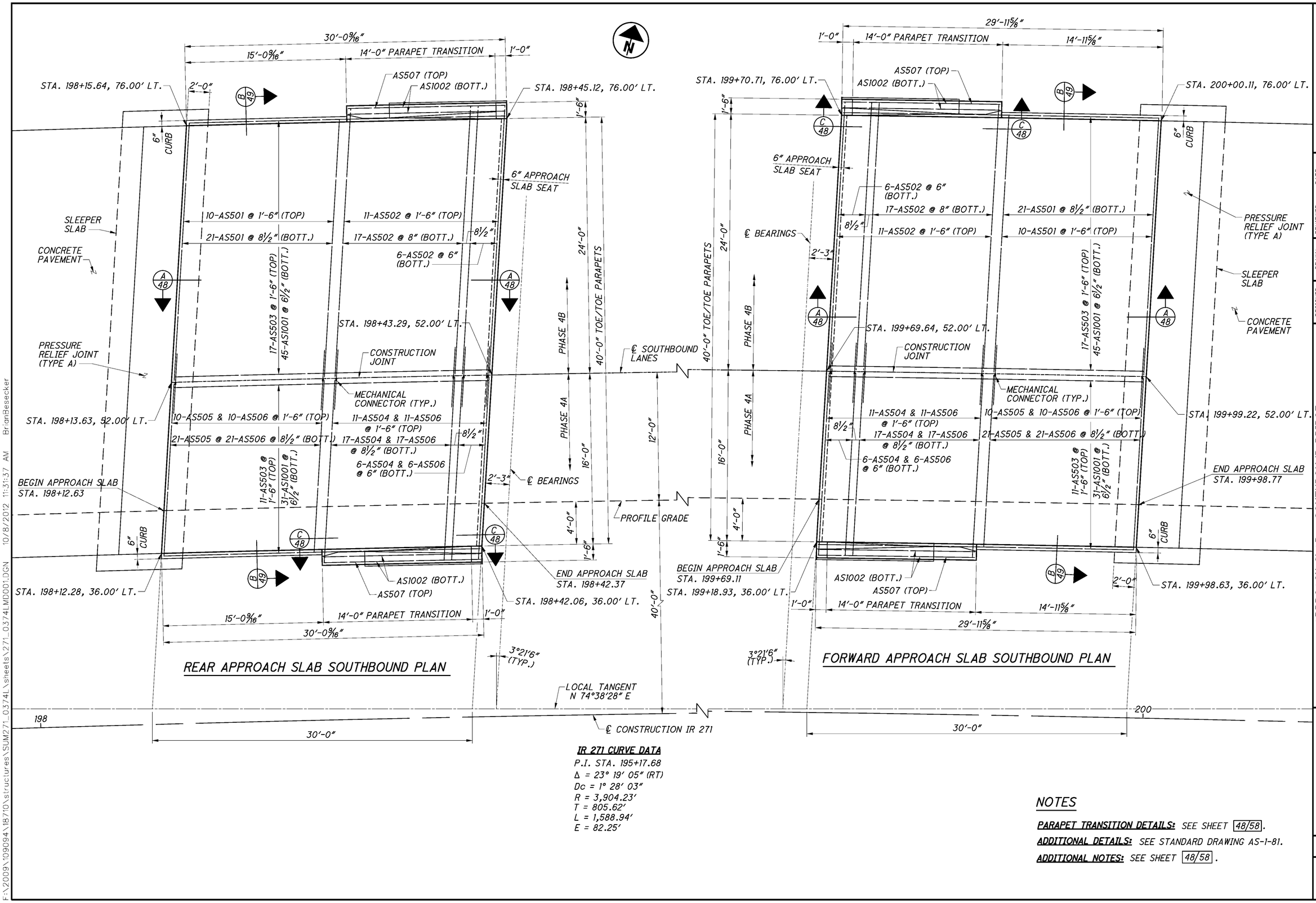
BRIDGE NO. SUM-271-0375 R
IR 271 OVER RAMP B

SUM-271-2.33
PID No. 18710

45/58

1139
1195

BrianBesecker
10/8/2012 11:29:46 AM
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IR 271 CURVE DATA

P.I. STA. 195+17.68
Δ = 23° 19' 05" (RT)
Dc = 1° 28' 03"
R = 3,904.23'
T = 805.62'
L = 1,588.94'
E = 82.25'

NOTES

PARAPET TRANSITION DETAILS: SEE SHEET 48/58.
ADDITIONAL DETAILS: SEE STANDARD DRAWING AS-1-81.
ADDITIONAL NOTES: SEE SHEET 48/58.

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

DESIGNED	DRAWN	REVIEWED	DATE	STRUCTURE FILE NUMBER
KAK	KH	DAP	10/5/12	L7708912
CHECKED	REVISED			
BLN				

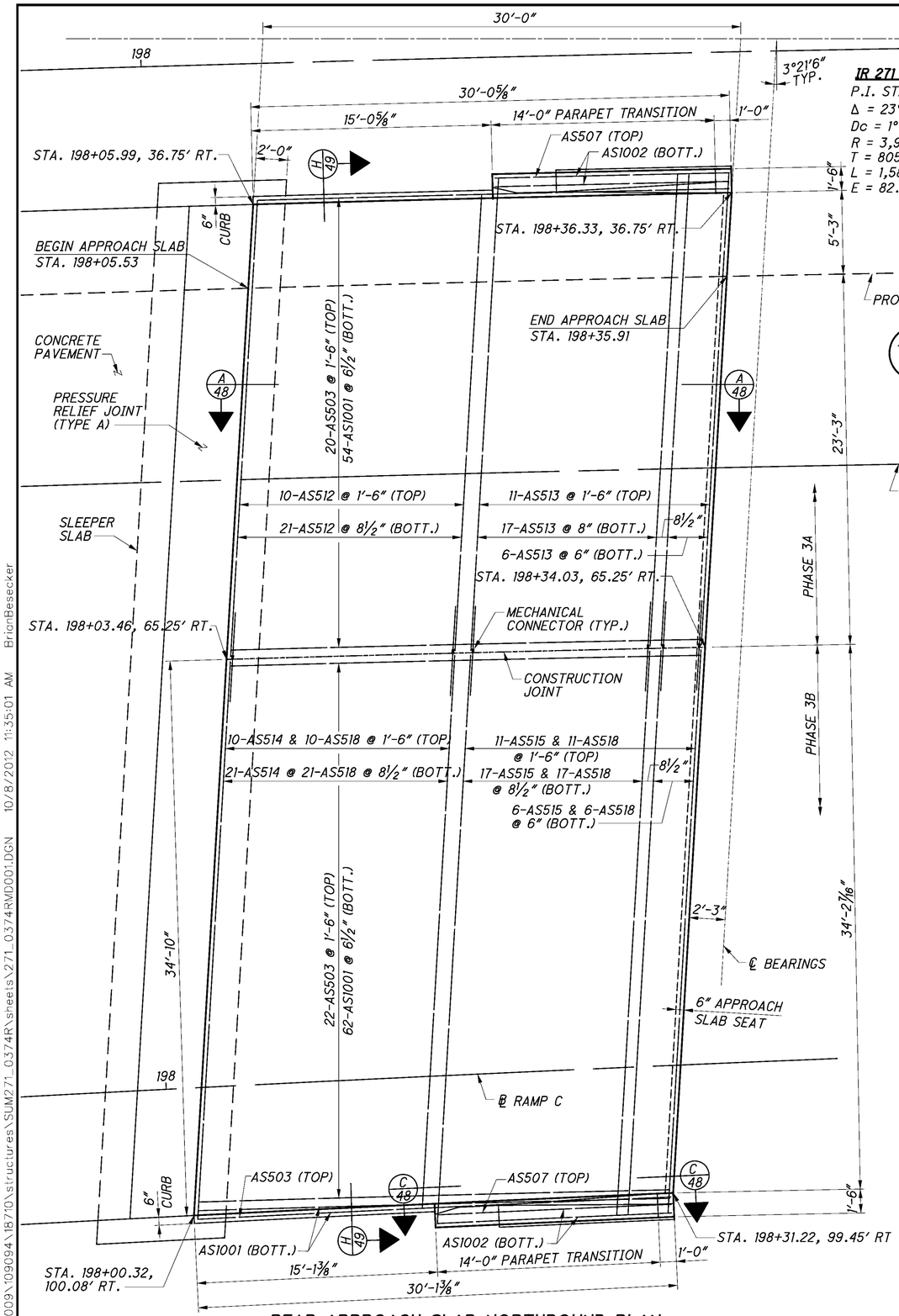
APPROACH SLAB - SOUTHBOUND BRIDGE
BRIDGE NO. SUM-271-0375 L
IR 271 OVER RAMP B

SUM-271-2.33
PID No. 18710

46/58

1140
1195

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REAR APPROACH SLAB NORTHBOUND PLAN

FORWARD APPROACH SLAB NORTHBOUND PLAN

NOTES

PARAPET TRANSITION DETAILS: SEE SHEET 48/58.

ADDITIONAL DETAILS: SEE STANDARD DRAWING AS-1-81.

ADDITIONAL NOTES: SEE SHEET 48/58.

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

DESIGNED	DRAWN	REVIEWED	DATE
KAK	KH	DAP	10/5/12
CHECKED	REVISED	STRUCTURE FILE NUMBER	
BLN		R7T08947	

APPROACH SLAB - NORTHBOUND BRIDGE

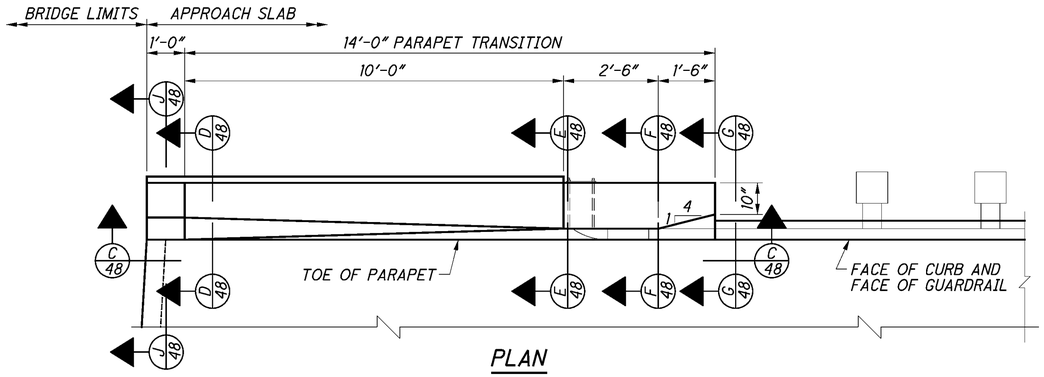
BRIDGE NO. SUM-271-0375 R
IR 271 OVER RAMP B

SUM-271-2.33
PID No. 18710

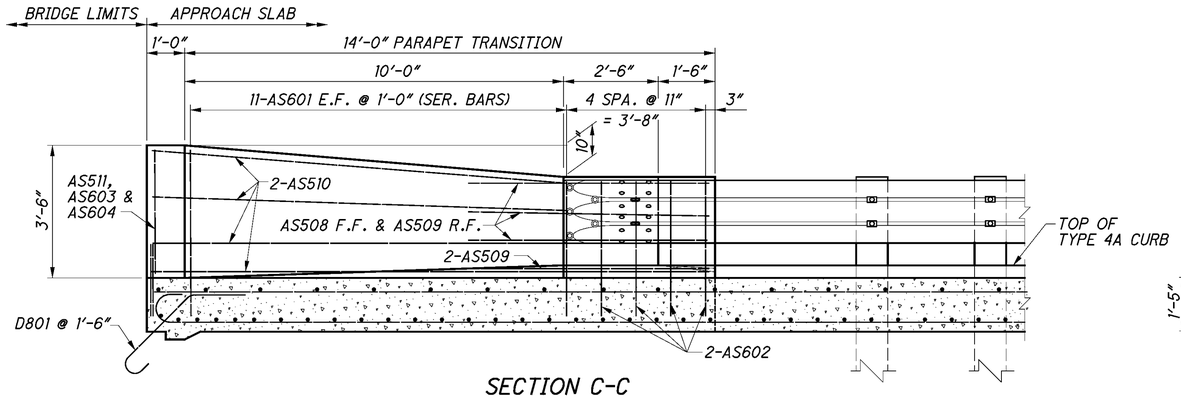
47/58

1141
1195

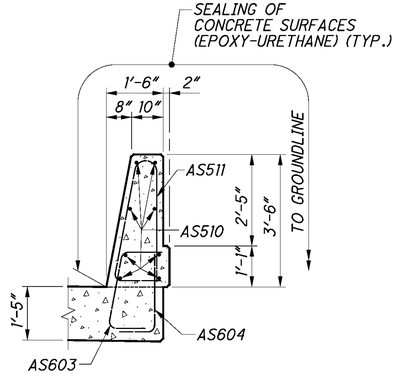
F:\2009\109094\18710\structures\SUM271_0374R\sheets\271_0374RMD001.DGN 10/8/2012 11:35:01 AM BrianBesecker



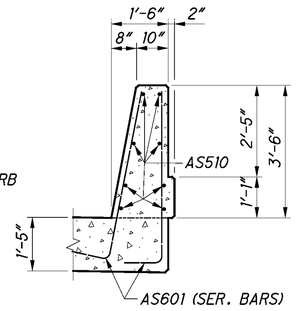
PLAN



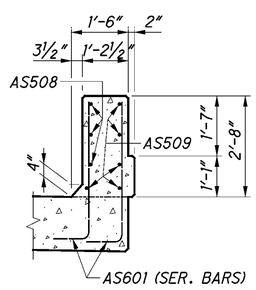
SECTION C-C



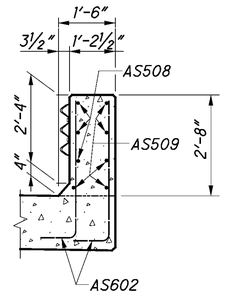
SECTION J-J



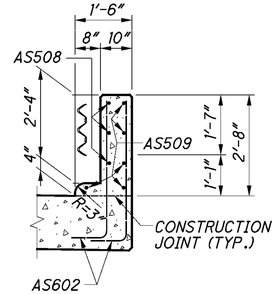
SECTION D-D



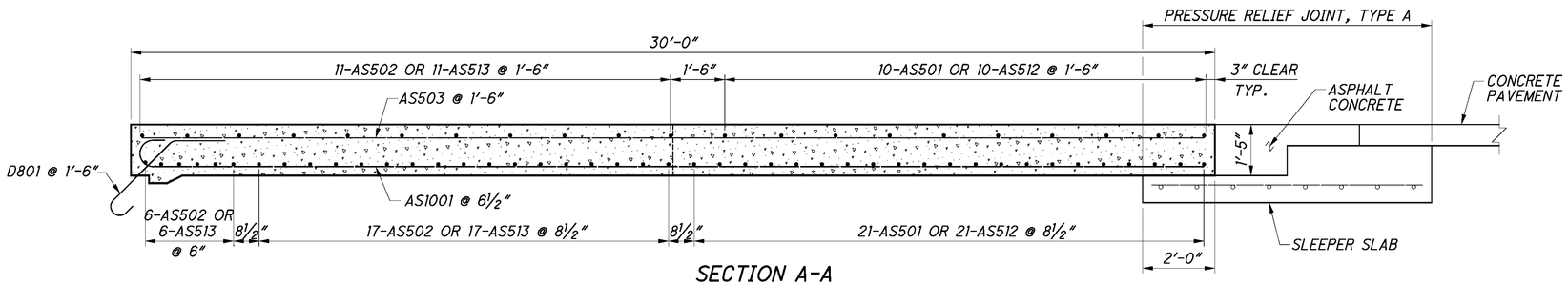
SECTION E-E



SECTION F-F



SECTION G-G



SECTION A-A

NOTES

FOR ADDITIONAL RAILING DETAILS SEE STANDARD CONSTRUCTION DRAWING SBR-1-99.

FOR BRIDGE TERMINAL ASSEMBLY SEE STANDARD CONSTRUCTION DRAWING GR-3.1 AND GR-3.2.

SECTIONS A-A & C-C: FOR LOCATIONS SEE SHEET 46/58 & 47/58.

NOTATION: F.F. - FRONT FACE
R.F. - REAR FACE

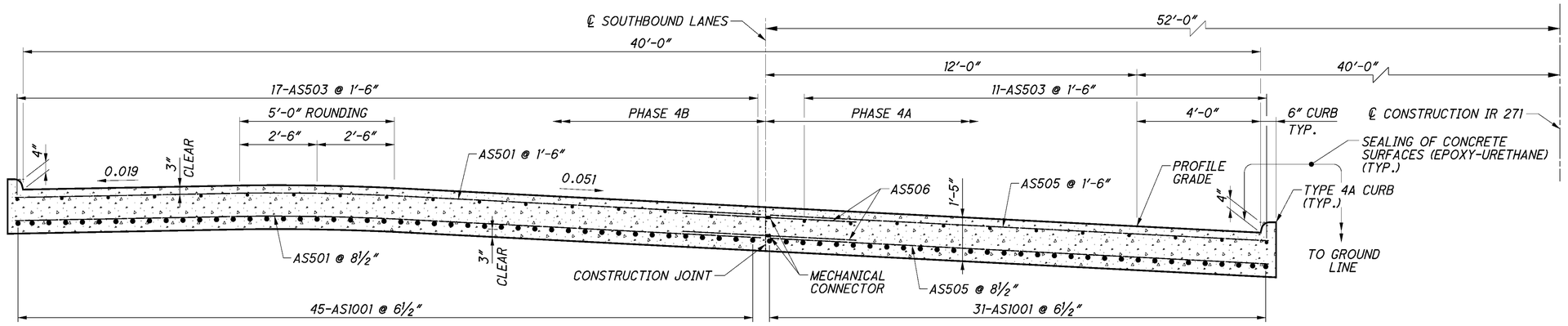
RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

DESIGNED KAK | DRAWN KH | REVIEWED DAP | DATE 10/5/12
CHECKED BLN | REVISED | STRUCTURE FILE NUMBER L7708912/R7708947

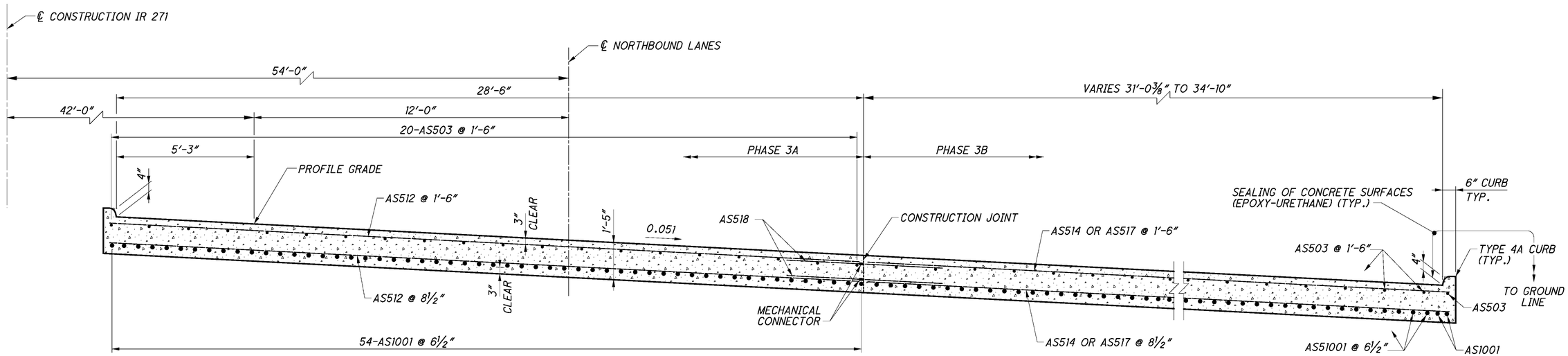
APPROACH SLAB DETAILS - 1
BRIDGE NO. SUM-271-0375 L&R
IR 271 OVER RAMP B

SUM-271-2.33
PID No. 18710

...ts\271 0374 MD002.dgn 10/8/2012 11:36:23 AM BrianBesecker



SECTION B-B



SECTION H-H

NOTES

FOR BRIDGE TERMINAL ASSEMBLY SEE STANDARD CONSTRUCTION DRAWING GR-3.1 AND GR-3.2.

SECTION B-B: FOR LOCATIONS SEE SHEET 46/58.

SECTION H-H: FOR LOCATIONS SEE SHEET 47/58.

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

DESIGNED	DRAWN	REVIEWED	DATE
KAK	KH	DAP	10/5/12
CHECKED	REVISED	STRUCTURE FILE NUMBER	
BLN		L7708912/R7708947	

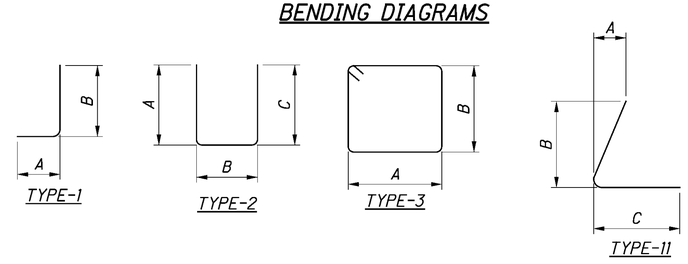
APPROACH SLAB DETAILS - 2
BRIDGE NO. SUM-271-0375 L&R
IR 271 OVER RAMP B

SUM-271-2.33
PID No. 18710

F:\2009\109094\18710\structures\SUM271_0374R\sheets\271_0374RMD002.dgn 10/8/2012 11:37:44 AM BrianBesecker

MARK	NUMBER				TOTAL	LENGTH	SOUTHBOUND WEIGHT	NORTHBOUND WEIGHT	TYPE	DIMENSIONS						
	SOUTHBOUND		NORTHBOUND							A	B	C	D	E	R	INC
	R.A.	F.A.	R.A.	F.A.												
ABUTMENTS														CALCULATED SJK DATE 5/12 CHECKED KAK DATE 9/12		
A501	2	2	8	8	20	5′-10″	24	98	34	2′-11″	2′-11″					
A502	6	6			12	4′-7″	57		1	2′-0″	2′-9″					
A503	2 SR OF 4				2 SR OF 4	4′-7″ TO 4′-11″	40		1	2′-0″ TO 2′-4″	2′-9″					0′-1 5/16″ (+)
A504	6	4			10	5′-0″	52		1	2′-5″	2′-9″					
A505	2 SR OF 3				2 SR OF 3	5′-1″ TO 5′-4″	33		1	2′-6″ TO 2′-9″	2′-9″					0′-1 1/2″
A506	8	6			14	5′-5″	79		1	2′-10″	2′-9″					
A507	2 SR OF 4	2 SR OF 4			4 SR OF 4	5′-7″ TO 5′-11″	96		1	3′-0″ TO 3′-4″	2′-9″					0′-1 5/16″ (+)
A508	2 SR OF 8				2 SR OF 8	5′-8″ TO 5′-11″	97		1	3′-1″ TO 3′-4″	2′-9″					0′-0 3/8″ (+)
A509	1				1	19′-1″	20		STR							
A510	1				1	19′-4″	20		STR							
A511	1				1	23′-4″	24		STR							
A512	1				1	23′-1″	24		STR							
A513	18	18	16	16	68	4′-0″	150	134	STR							
A514	3				3	4′-6″	14		19	3′-1″	0′-1″	1′-6″				
A515	1 SR OF 4				1 SR OF 4	8′-2″ TO 8′-8″	35		STR							0′-2″
A516	2	1			3	8′-2″	26		STR							
A517	1				1	8′-8″	9		STR							
A518	3				3	9′-5″	29		STR							
A519	3			1	4	9′-3″	39	10	STR							
A520	12	12	12	12	48	7′-9″	194	194	2	2′-11″	2′-2″	2′-11″				
A521	1				1	8′-8″	9		STR							
A522	1				1	8′-6″	9		STR							
A523	1				1	8′-4″	9		STR							
A524	1				1	5′-10″	6		STR							
A525	1	1			2	5′-8″	12		STR							
A526	3				3	9′-2″	29		19	6′-0″	2′-10″	1′-5″				
A527	7				7	20′-3″	148		2	9′-2″	2′-2″	9′-2″				
A528	1				1	15′-7″	16		2	6′-10″	2′-2″	6′-10″				
A529	1	1			2	9′-11″	21		2	4′-0″	2′-2″	4′-0″				
A530	3				3	10′-5″	33		2	4′-3″	2′-2″	4′-3″				
A531	1 SR OF 4				1 SR OF 4	5′-11″ TO 9′-7″	32		2	2′-0″ TO 3′-10″	2′-2″	2′-0″ TO 3′-10″				0′-7 5/16″ (+)
A532	1 SR OF 4				1 SR OF 4	10′-6″ TO 11′-0″	45		STR							0′-2″
A533	2	1		1	4	10′-6″	33	11	STR							
A534	1			1	2	11′-0″	11	11	STR							
A535	3	3			6	5′-7″	34		11	0′-1″	2′-8″	3′-1″				
A536	3			3	6	11′-9″	74	37	STR							
A537	3			3	6	11′-11″	75	37	STR							
A538	2		3		5	15′-1″	31	47	STR							
SUB-TOTAL THIS SHEET							1,667	579								

BENDING DIAGRAMS



NOTES

BAR SIZE IS INDICATED IN THE BAR MARK. THE FIRST LETTER IDENTIFIES BAR LOCATION, THE NEXT DIGIT INDICATES THE BAR SIZE DESIGNATION. THE REMAINING DIGITS STATE THE SEQUENCE NUMBER.

EXAMPLE: A511
A = LOCATION OF THE BAR IN STRUCTURE (ABUTMENT)
5 = BAR SIZE DESIGNATION
11 = SEQUENCE NUMBER

BAR DIMENSIONS SHOWN ARE OUT TO OUT UNLESS OTHERWISE INDICATED. R INDICATES INSIDE RADIUS, UNLESS OTHERWISE NOTED.

ALL REINFORCING STEEL TO BE EPOXY COATED, PER CMS 709.00.

NOTATION: R.A. - REAR ABUTMENT
F.A. - FORWARD ABUTMENT

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

DESIGNED KAK | DRAWN KH | REVIEWED DAP | DATE 10/5/12
CHECKED BLN | REVISED | STRUCTURE FILE NUMBER L7708912/R7708947

REINFORCING STEEL LIST - 1
BRIDGE NO. SUM-271-0375 L&R
IR 271 OVER RAMP B

SUM-271-2.33 PID No. 18710

50/58

1144
1195

F:\2009\109094\18710\structures\SUM271_0374L\sheets\271_0374LRL001.dgn 10/9/2012 8:15:47 AM JoeKirk

MARK	NUMBER					LENGTH	SOUTHBOUND WEIGHT	NORTHBOUND WEIGHT	TYPE	DIMENSIONS						
	SOUTHBOUND		NORTHBOUND		TOTAL					A	B	C	D	E	R	INC
	R.A.	F.A.	R.A.	F.A.												
ABUTMENTS (CONTINUED)														CALCULATED SJK DATE 5/12 CHECKED KAK DATE 9/12		
A539	1				1	10′-8″	11		STR							
A540	1	1			2	7′-11″	17		STR							
A541	1	2			3	8′-1″	25		STR							
A542	1	1			2	5′-5″	11		STR							
A543	1				1	5′-7″	6		STR							
A544	3				3	11′-10″	37		19	8′-10″	2′-8″	1′-4″				
A545	6				6	21′-7″	135		2	9′-10″	2′-2″	9′-10″				
A546	3				3	16′-7″	52		2	7′-4″	2′-2″	7′-4″				
A547	1 SR OF 3				1 SR OF 3	7′-9″ TO 9′-11″	28		2	2′-11″ TO 4′-0″	2′-2″	2′-11″ TO 4′-0″				0′-6 1/2″
A548	1 SR OF 4				1 SR OF 4	6′-1″ TO 10′-3″	34		2	2′-1″ TO 4′-2″	2′-2″	2′-1″ TO 4′-2″				0′-8 5/16″ (+)
A549	2				2	10′-7″	22		2	4′-4″	2′-2″	4′-4″				
A550		2 SR OF 6			2 SR OF 6	5′-9″ TO 5′-11″	73		1	3′-2″ TO 3′-4″	2′-9″					0′-0 1/2″
A551		4			4	6′-0″	25		1	3′-5″	2′-9″					
A552		2 SR OF 3			2 SR OF 3	5′-2″ TO 5′-4″	33		1	2′-7″ TO 2′-9″	2′-9″					0′-1″
A553		2 SR OF 5			2 SR OF 5	4′-7″ TO 5′-0″	50		1	2′-0″ TO 2′-5″	2′-9″					0′-1 1/4″
A554		3			3	4′-7″	14		19	3′-1″	0′-1″	1′-7″				
A555		1 SR OF 4			1 SR OF 4	10′-6″ TO 10′-10″	45		STR							0′-1 5/16″ (+)
A556		2		1	3	10′-10″	23	11	STR							
A557		3			3	11′-8″	37		STR							
A558		3			3	11′-7″	36		STR							
A559		2			2	13′-11″	29		STR							
A560		1			1	10′-9″	11		STR							
A561		1			1	8′-3″	9		STR							
A562		1			1	5′-9″	6		STR							
A563		3			3	11′-8″	37		19	8′-6″	2′-10″	1′-5″				
A564		6		1	7	21′-9″	136	23	2	9′-11″	2′-2″	9′-11″				
A565		3			3	17′-1″	53		2	7′-7″	2′-2″	7′-7″				
A566		3			3	10′-3″	32		2	4′-2″	2′-2″	4′-2″				
A567		1 SR OF 3			1 SR OF 3	6′-3″ TO 9′-1″	24		2	2′-2″ TO 3′-7″	2′-2″	2′-2″ TO 3′-7″				0′-8 1/2″
A568		1 SR OF 3			1 SR OF 3	8′-11″ TO 11′-5″	32		2	3′-6″ TO 4′-9″	2′-2″	3′-6″ TO 4′-9″				0′-7 1/2″
A569		1			1	22′-11″	24		STR							
A570		1			1	23′-0″	24		STR							
A571		1			1	19′-5″	20		STR							
A572		1			1	19′-3″	20		STR							
A573		1 SR OF 4			1 SR OF 4	7′-8″ TO 7′-11″	33		STR							0′-1″
SUB-TOTAL THIS SHEET							1,204	34								

NOTES

BENDING DIAGRAMS: SEE SHEET 50/58.

ADDITIONAL NOTES: SEE SHEET 50/58.

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

DESIGNED	DRAWN	REVIEWED	DATE
KAK	KH	DAP	10/5/12
CHECKED	REVISED	STRUCTURE FILE NUMBER	
BLN		L7708912/R7708947	

REINFORCING STEEL LIST - 2
BRIDGE NO. SUM-271-0375 L&R
IR 271 OVER RAMP B

SUM-271-2.33
PID No. 18710

51/58

1145
1195

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MARK	NUMBER					LENGTH	SOUTHBOUND WEIGHT	NORTHBOUND WEIGHT	TYPE	DIMENSIONS						
	SOUTHBOUND		NORTHBOUND		TOTAL					A	B	C	D	E	R	INC
	R.A.	F.A.	R.A.	F.A.												
ABUTMENTS (CONTINUED)														CALCULATED SJK CHECKED KAK		DATE 5/12 DATE 9/12
A574		3			3	8′-10″	28		STR							
A575		3			3	8′-11″	28		STR							
A576		2			2	8′-0″	17		STR							
A577		1			1	5′-4″	6		STR							
A578		3			3	8′-7″	27		19	5′-7″	2′-8″	1′-4″				
A579		7			7	20′-9″	151		2	9′-5″	2′-2″	9′-5″				
A580		1			1	15′-11″	17		2	7′-0″	2′-2″	7′-0″				
A581		3		1	4	10′-1″	32	11	2	4′-1″	2′-2″	4′-1″				
A582		1 SR OF 3			1 SR OF 3	6′-5″ TO 8′-11″	24		2	2′-3″ TO 3′-6″	2′-2″	2′-3″ TO 3′-6″				0′-7 1/2″
A583			2 SR OF 22		2 SR OF 22	6′-4″ TO 7′-10″		325	1	2′-9″	3′-9″ TO 5′-3″					0′-0 7/8″ (-)
A584			2 SR OF 21		2 SR OF 21	7′-11″ TO 9′-4″		378	1	2′-9″	5′-4″ TO 6′-9″					0′-0 3/4″ (+)
A585			4		4	33′-9″		141	STR							
A586			4		4	34′-0″		142	STR							
A587			4	4	8	31′-6″		263	STR							
A588			4		4	31′-3″		130	STR							
A589			1		1	14′-7″		15	STR							
A590			1		1	14′-1″		15	STR							
A591			1 SR OF 4		1 SR OF 4	14′-1″ TO 14′-7″		60	STR							0′-2″
A592			3		3	15′-4″		48	STR							
A593			4		4	17′-5″		73	STR							
A594			1 SR OF 3		1 SR OF 3	5′-8″ TO 10′-6″		25	STR							2′-5″
A595			1 SR OF 3		1 SR OF 3	5′-5″ TO 10′-3″		25	STR							2′-5″
A596			3		3	15′-4″		48	19	3′-0″	11′-1″	5′-6″				
A597			7		7	24′-1″		176	2	11′-1″	2′-2″	11′-1″				
A598			1		1	18′-11″		20	2	8′-6″	2′-2″	8′-6″				
A599			1		1	17′-9″		19	2	7′-11″	2′-2″	7′-11″				
A5100			3		3	4′-9″		15	19	3′-1″	0′-2″	1′-9″				
A5101			6		6	10′-5″		65	2	4′-3″	2′-2″	4′-3″				
A5102			1 SR OF 4		1 SR OF 4	5′-11″ TO 9′-11″		33	2	2′-0″ TO 4′-0″	2′-2″	2′-0″ TO 4′-0″				0′-8″
A5103			5		5	7′-11″		41	2	3′-0″	2′-2″	3′-0″				
A5104			1		1	12′-9″		13	STR							
A5105			1	1	2	13′-2″		28	STR							
A5106			1 SR OF 4		1 SR OF 4	12′-9″ TO 13′-2″		54	STR							0′-1 5/8″ (+)
A5107			2	5	7	14′-1″		103	STR							
A5108			8		8	17′-0″		142	STR							
SUB-TOTAL THIS SHEET							330	2,408								

NOTES

BENDING DIAGRAMS: SEE SHEET 50/58.

ADDITIONAL NOTES: SEE SHEET 50/58.

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

DESIGNED KAK | DRAWN KH | REVIEWED DAP | DATE 10/5/12
CHECKED BLN | REVISED | STRUCTURE FILE NUMBER L7708912/R7708947

REINFORCING STEEL LIST - 3
BRIDGE NO. SUM-271-0375 L&R
IR 271 OVER RAMP B

SUM-271-2.33
PID No. 18710

52/58

1146
1195

F:\2009\109094\18710\structures\SUM271_0374L\sheets\271_0374LRL006.dgn 10/9/2012 8:18:24 AM JoeKirk

MARK	NUMBER					LENGTH	SOUTHBOUND WEIGHT	NORTHBOUND WEIGHT	TYPE	DIMENSIONS						
	SOUTHBOUND		NORTHBOUND		TOTAL											
	R.A.	F.A.	R.A.	F.A.						A	B	C	D	E	R	INC
ABUTMENTS														CALCULATED SJK DATE 5/12 CHECKED KAK DATE 9/12		
A5109			1 SR OF 3		1 SR OF 3	6′-8″ TO 13′-7″		32	STR							3′-5 ½″
A5110			1 SR OF 3		1 SR OF 3	6′-10″ TO 13′-9″		32	STR							3′-5 ½″
A5111			3		3	14′-4″		45	19	3′-1″	10′-8″	3′-7″				
A5112			1		1	17′-3″		18	2	7′-8″	2′-2″	7′-8″				
A5113			2		2	23′-7″		49	2	10′-10″	2′-2″	10′-10″				
A5114			1	3	4	10′-1″		42	2	4′-1″	2′-2″	4′-1″				
A5115			1 SR OF 4		1 SR OF 4	6′-5″ TO 9′-1″		33	2	2′-3″ TO 3′-7″	2′-2″	2′-3″ TO 3′-7″				0′-5 5/16″ (+)
A5116			1 SR OF 3		1 SR OF 3	8′-9″ TO 10′-5″		30	2	3′-5″ TO 4′-3″	2′-2″	3′-5″ TO 4′-3″				0′-5″
A5117				2 SR OF 21	2 SR OF 21	8′-1″ TO 9′-7″		387	1	2′-9″	5′-6″ TO 7′-0″					0′-0 7/8″ (+)
A5118				2 SR OF 21	2 SR OF 21	6′-7″ TO 8′-0″		321	1	2′-9″	4′-0″ TO 5′-5″					0′-0 7/8″ (-)
A5119				4	4	31′-8″		132	STR							
A5120				4	4	31′-1″		130	STR							
A5121				4	4	30′-11″		129	STR							
A5122				1	1	13′-5″		14	STR							
A5123				1 SR OF 4	1 SR OF 4	13′-2″ TO 13′-5″		55	STR							0′-1″
A5124				1	1	14′-2″		15	STR							
A5125				8	8	17′-4″		145	STR							
A5126				1	1	9′-2″		10	STR							
A5127				1	1	6′-3″		7	STR							
A5128				1	1	6′-2″		6	STR							
A5129				3	3	15′-4″		48	19	3′-2″	10′-11″	5′-5″				
A5130				5	5	23′-7″		123	2	10′-10″	2′-2″	10′-10″				
A5131				1	1	28′-7″		30	2	13′-4″	2′-2″	13′-4″				
A5132				1	1	10′-11″		11	STR							
A5133				1 SR OF 4	1 SR OF 4	10′-6″ TO 10′-11″		45	STR							0′-1 5/8″ (+)
A5134				3	3	4′-7″		14	11	0′-2″	3′-1″	1′-8″				
A5135				1	1	10′-3″		11	STR							
A5136				1	1	10′-4″		11	STR							
A5137				1	1	6′-9″		7	STR							
A5138				1	1	6′-11″		7	STR							
A5139				3	3	11′-3″		35	19	3′-3″	7′-7″	2′-6″				
A5140				8	8	24′-11″		208	2	11′-6″	2′-2″	11′-6″				
A5141				1 SR OF 5	1 SR OF 5	6′-5″ TO 9′-9″		42	2	2′-3″ TO 3′-11″	2′-2″	2′-3″ TO 3′-11″				0′-5″
A5142		1			1	7′-8″	8		STR							
SUB-TOTAL THIS SHEET							8	2,224								

NOTES

BENDING DIAGRAMS: SEE SHEET 50/58.

ADDITIONAL NOTES: SEE SHEET 50/58.

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

DESIGNED	DRAWN	REVIEWED	DATE
KAK	KH	DAP	10/5/12
CHECKED	REVISED	STRUCTURE FILE NUMBER	
BLN		L7708912/R7708947	

REINFORCING STEEL LIST - 4
BRIDGE NO. SUM-271-0375 L&R
IR 271 OVER RAMP B

SUM-271-2.33
PID No. 18710

53/58

1147/1195

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MARK	NUMBER					LENGTH	SOUTHBOUND WEIGHT	NORTHBOUND WEIGHT	TYPE	DIMENSIONS						
	SOUTHBOUND		NORTHBOUND		TOTAL					A	B	C	D	E	R	INC
	R.A.	F.A.	R.A.	F.A.												
ABUTMENTS (CONTINUED)														CALCULATED SJK DATE 5/12 CHECKED KAK DATE 9/12		
A5144			3		3	19′-5″		61	2	8′-9″	2′-2″	8′-9″				
			1 SR		1 SR	6′-11″				2′-6″		2′-6″				
A5145			OF		OF	TO		26		TO	2′-2″	TO				0′-7½″
			3		3	9′-5″				3′-9″		3′-9″				
A5146			7		7	28′-3″		206	2	13′-2″	2′-2″	13′-2″				
A5147				4	4	23′-7″		99	2	10′-10″	2′-2″	10′-10″				
A5148				2	2	10′-3″		22	2	4′-2″	2′-2″	4′-2″				
A5149				1 SR OF 3	1 SR OF 3	6′-11″ TO 9′-9″		26	2	2′-6″ TO 3′-11″	2′-2″	2′-6″ TO 3′-11″				0′-8½″
A5150				1 SR OF 4	1 SR OF 4	6′-9″ TO 10′-7″		36	2	2′-5″ TO 4′-4″	2′-2″	2′-5″ TO 4′-4″				0′-7⅝″(+)
A5151				1	1	6′-3″		7	2	2′-2″	2′-2″	2′-2″				
A5152				2	2	20′-3″		42	2	9′-2″	2′-2″	9′-2″				
A601	34	34	46	42	156	10′-9″	1098	1421	2	2′-7″	5′-11″	2′-7″				
A801	4	4	4	4	16	12′-0″	256	256	34	6′-0″	6′-0″					
A802	1 SR OF 4				1 SR OF 4	19′-1″ TO 19′-4″	205		STR							0′-1″
A803	1 SR OF 4				1 SR OF 4	23′-1″ TO 23′-4″	248		STR							0′-1″
A804	3				3	15′-2″	121		STR							
A805	3				3	17′-4″	139		STR							
A806	8	8	8	8	32	8′-3″	352	352	STR							
A807	1 SR OF 4				1 SR OF 4	8′-2″ TO 8′-8″	90		STR							0′-2″
A808	1 SR OF 4				1 SR OF 4	10′-6″ TO 11′-0″	115		STR							0′-2″
A809		1 SR OF 4			1 SR OF 4	22′-11″ TO 23′-0″	245		STR							0′-0 5⁄16″ (+)
A810		1 SR OF 4			1 SR OF 4	19′-3″ TO 19′-5″	206		STR							0′-0⅝″ (+)
A811		3			3	17′-1″	137		STR							
A812		3			3	14′-4″	115		STR							
A813		1 SR OF 4			1 SR OF 4	10′-6″ TO 10′-10″	114		STR							0′-1 5⁄16″ (+)
A814		1 SR OF 4			1 SR OF 4	7′-8″ TO 7′-11″	83		STR							0′-1″
A815			1 SR OF 4		1 SR OF 4	33′-9″ TO 34′-0″		362	STR							0′-1″
A816			1 SR OF 4		1 SR OF 4	31′-3″ TO 31′-6″		335	STR							0′-1″
SUB-TOTAL THIS SHEET							3,524	3,251								

NOTES

BENDING DIAGRAMS: SEE SHEET 50/58.

ADDITIONAL NOTES: SEE SHEET 50/58.

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

REVIEWED DAP DATE 10/5/12
STRUCTURE FILE NUMBER L7708912/R7708947
DRAWN KH REVISED
DESIGNED KAK CHECKED BLN

REINFORCING STEEL LIST - 5
BRIDGE NO. SUM-271-0375 L&R
IR 271 OVER RAMP B

SUM-271-2.33
PID No. 18710

54/58

1148
1195

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MARK	NUMBER				TOTAL	LENGTH	SOUTHBOUND WEIGHT	NORTHBOUND WEIGHT	TYPE	DIMENSIONS						
	SOUTHBOUND		NORTHBOUND							A	B	C	D	E	R	INC
	R.A.	F.A.	R.A.	F.A.												
ABUTMENTS (CONTINUED)														CALCULATED SJK DATE 5/12 CHECKED KAK DATE 9/12		
A817			3		3	20'-6"		164	STR							
A818			3		3	20'-4"		163	STR							
A819			1 SR OF 4		1 SR OF 4	14'-1" TO 14'-7"		153	STR							0'-2"
A820			1 SR OF 4		1 SR OF 4	12'-9" TO 13'-2"		138	STR							0'-1 5/8" (+)
A821				1 SR OF 4	1 SR OF 4	13'-2" TO 13'-5"		142	STR							0'-1"
A822				1 SR OF 4	1 SR OF 4	10'-6" TO 10'-11"		114	STR							0'-1 5/8" (+)
A823				1 SR OF 4	1 SR OF 4	31'-6" TO 31'-8"		337	STR							0'-0 5/8" (+)
A824				1 SR OF 4	1 SR OF 4	30'-11" TO 31'-1"		331	STR							0'-0 5/8" (+)
A825				3	3	18'-6"		148	STR							
A826				3	3	17'-2"		138	STR							
SUB-TOTAL THIS SHEET							0	1,828								
SUB-TOTAL FROM SHEET 50/58							1,667	579								
SUB-TOTAL FROM SHEET 51/58							1,204	34								
SUB-TOTAL FROM SHEET 52/58							330	2,408								
SUB-TOTAL FROM SHEET 53/58							8	2,224								
SUB-TOTAL FROM SHEET 54/58							3,524	3,251								
ABUTMENTS TOTAL							6,733	10,324								

NOTES

BENDING DIAGRAMS: SEE SHEET 50/58.

ADDITIONAL NOTES: SEE SHEET 50/58.

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

REVIEWED DAP DATE 10/5/12
STRUCTURE FILE NUMBER L7708912/R7708947
DRAWN KH REVISED
DESIGNED KAK CHECKED BLN

REINFORCING STEEL LIST - 6
BRIDGE NO. SUM-271-0375 L&R
IR 271 OVER RAMP B

SUM-271-2.33
PID No. 18710

55/58

1149
1195

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MARK	NUMBER					LENGTH	SOUTHBOUND WEIGHT	NORTHBOUND WEIGHT	TYPE	DIMENSIONS						
	SOUTHBOUND		NORTHBOUND		TOTAL					A	B	C	D	E	R	INC
	PIER 1	PIER 2	PIER 1	PIER 2												
PIERS														CALCULATED CHECKED	KH KAK	DATE 5/12 DATE 9/12
P501	10	10			20	17′-0″	355		STR							
P502	10	10			20	21′-8″	452		STR							
P503	10	10	10	10	40	10′-9″	224	224	24	2′-6″	3′-5″				1′-2 3/8″	
P504	86	86			172	9′-7″	1719		2	3′-7″	2′-8″	3′-7″				
P505	10	10			16	7′-6″	156 *		34	3′-9″	3′-9″					
P506			72	74	146	8′-7″		1307	2	3′-1″	2′-8″	3′-1″				
P507			70	70	140	8′-5″		1229	2	3′-0″	2′-8″	3′-0″				
P508			10	10	20	9′-5″		196	2	3′-6″	2′-8″	3′-6″				
P509			10		10	30′-7″		319	STR							
P510			10	20	30	29′-7″	309	617	STR							
P511	4	4			8	7′-1″	59		STR							
P512	4	4	4	4	16	5′-5″	45	45	1	3′-0″	2′-6″					
P513	9	9	11	11	40	8′-1″	152	185	2	3′-0″	2′-4″	3′-0″				
P514			4	4	8	6′-4″		53	STR							
P801			90	90	180	8′-1″		3885	2	1′-4″	5′-10″	1′-4″				
P901	4	4			8	20′-8″	562		1	17′-2″	3′-9″					
P902	4	4			8	21′-10″	594		1	18′-4″	3′-9″					
P903	4	4			8	24′-8″	671		1	21′-4″	3′-7″					
P904	4	4			8	25′-10″	703		1	22′-6″	3′-7″					
P905	8	8			16	19′-0″	1034 *		34	9′-5″	9′-7″					
P906			4		4	36′-4″		494	2	3′-3″	30′-5″	3′-3″				
P907			4		4	37′-6″		510	2	3′-3″	31′-7″	3′-3″				
P908				4	4	34′-10″		474	2	3′-0″	29′-5″	3′-0″				
P909				4	4	36′-0″		490	2	3′-0″	30′-7″	3′-0″				
P910			4	4	8	35′-5″		963	2	3′-2″	29′-8″	3′-2″				
P911			4	4	8	36′-7″		995	2	3′-2″	30′-10″	3′-2″				
SP401			1	1	2	94′-7″		126	27	0′-4 1/2″	2′-8″	3′-2″				
SP402				1	1	100′-1″		67	27	0′-4 1/2″	2′-8″	3′-5″				
SP403			2	2	4	85′-4″		228	27	0′-4 1/2″	2′-8″	2′-9″				
SP404				2	2	89′-1″		119	27	0′-4 1/2″	2′-8″	2′-11″				
SP405			3		3	79′-10″		160	27	0′-4 1/2″	2′-8″	2′-6″				
					TOTAL		7035	12,324								

* WEIGHT DOES NOT INCLUDE THE WEIGHT OF THE MECHANICAL CONNECTOR.

NOTES

BENDING DIAGRAMS: SEE SHEET 50/58.

ADDITIONAL NOTES: SEE SHEET 50/58.

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

DESIGNED KAK | DRAWN KH | REVIEWED DAP | DATE 10/5/12
CHECKED BLN | REVISED | STRUCTURE FILE NUMBER L7708912/R7708947

REINFORCING STEEL LIST - 7
BRIDGE NO. SUM-271-0375 L&R
IR 271 OVER RAMP B

SUM-271-2.33
PID No. 18710

56/58

1150
1195

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MARK	NUMBER			LENGTH	SOUTH-BOUND WEIGHT	NORTH-BOUND WEIGHT	TYPE	DIMENSIONS				
	SOUTH-BOUND	NORTH-BOUND	TOTAL					A	B	C	R	INC
SUPERSTRUCTURE										CALCULATED KH DATE 5/12 CHECKED GJR DATE 9/12		
S401	243	306	549	40'-0"	6493	8176	STR					
S402	81		81	16'-5"	888		STR					
S403	156		156	20'-0"	2084		STR					
S404		102	102	17'-7"		1198	STR					
S501	684	648	1332	5'-7"	3983 *	3774 *	34	2'-11"	2'-8"			
S502	684		684	17'-3"	12,306		STR					
S503	684		684	25'-3"	18,014		STR					
S504	225	291	516	40'-0"	9387	12,141	STR					
S505	63		63	17'-9"	1166		STR					
S506	258	258	516	7'-5"	1996	1996	23	1'-1"	3'-2"	3'-0"	0'-2 3/4"	
S507	114		114	5'-7"	664		16	5'-0"				
S508	12		12	21'-9"	272		STR					
S509		85	85	17'-11"		1588	STR					
S510		1296	1296	25'-0"		33,793	STR					
S511		648	648	8'-10"		5970	STR					
S512		648	648	12'-6"		8448	STR					
S513		198	198	20'-0"		4130	STR					
S514		12	12	21'-11"		274	STR					
S515	66	96	162	7'-10"	539	784	2	2'-7"	2'-11"	2'-7"		
S516	33	48	81	12'-8"	436	634	3	2'-7"	3'-5"			
S517	33	48	81	12'-4"	425	617	3	2'-5"	3'-5"			
S601	258	258	516	2'-8"	1033	1033	1	1'-1"	1'-9"			
S602	258	258	516	3'-7"	1389	1389	28	1'-9"	1'-1"			
S603	6	6	12	40'-0"	360	360	STR					
S604	2		2	24'-5"	73		STR					
S605		2	2	24'-7"		74	STR					
S801	28	28	56	14'-10"	1109 *	1109 *	34	7'-5"	7'-5"			
S802	28		28	25'-3"	1888		STR					
S803	28		28	17'-3"	1290		STR					
S804		14	14	32'-2"		1202	STR					
S805		28	28	30'-5"		2274	STR					
S806		14	14	34'-9"		1299	STR					
D801	56	84	140	5'-0"	748	1121	18	2'-10"	1'-0"	1'-0"		
				TOTAL	66,543	93,384						

* WEIGHT DOES NOT INCLUDE THE WEIGHT OF THE MECHANICAL CONNECTOR.

NOTES

BENDING DIAGRAMS: SEE SHEET 50/58.

ADDITIONAL NOTES: SEE SHEET 50/58.

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

REVIEWED DAP DATE 10/5/12
STRUCTURE FILE NUMBER L7708912/R7708947

DRAWN KH REVISED
DESIGNED KAK CHECKED BLN

REINFORCING STEEL LIST - 8
BRIDGE NO. SUM-271-0375 L&R
IR 271 OVER RAMP B

SUM-271-2.33
PID No. 18710

57/58

1151
1195

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MARK	NUMBER					LENGTH	SOUTHBOUND WEIGHT	NORTHBOUND WEIGHT	TYPE	DIMENSIONS						
	SOUTHBOUND		NORTHBOUND		TOTAL					A	B	C	D	E	R	INC
	REAR	FORWARD	REAR	FORWARD												
APPROACH SLABS														CALCULATED CHECKED	KH TWH	DATE 4/11 DATE 9/12
AS501	31	31			62	24′-2″	1563		STR							
AS502	34	34			68	25′-2″	1784		STR							
AS503	28	28	43	41	140	29′-6″	1723	2585	STR							
AS504	34	34			68	17′-2″	1218		STR							
AS505	31	31			62	16′-2″	1045		STR							
AS506	65	65			130	5′-7″	757 *		34	2′-11″	2′-8″					
AS507	2	2	2	2	8	14′-8″	61	61	STR							
AS508	6	6	6	6	24	5′-7″	69	69	25	1′-8″	2′-5″	1′-5″	0′-1 ½″	0′-5″		
AS509	10	10	10	10	40	5′-6″	115	115	STR							
AS510	16	16	16	16	64	11′-0″	367	367	STR							
AS511	2	2	2	2	8	7′-5″	31	31	23	1′-1″	3′-2″	3′-0″			0′-2 ¾″	
AS512			31	31	62	28′-9″		1859	STR							
AS513			34	34	68	29′-9″		2110	STR							
AS514			31		31	34′-9″		1124	STR							
AS515			34		34	35′-9″		1268	STR							
AS516				34	34	32′-9″		1161	STR							
AS517				31	31	31′-9″		1027	STR							
AS518			65	65	130	5′-11″		802 *	34	2′-11″	3′-0″					
AS601	2 SR OF 11	2 SR OF 11	2 SR OF 11	2 SR OF 11	8 SR OF 11	4′-6″ TO 5′-4″	325	325	1	1′-0″	3′-8″ TO 4′-6″					0′-1″
AS602	16	16	16	16	64	4′-6″	216	216	1	1′-0″	3′-8″					
AS603	2	2	2	2	8	3′-11″	24	24	28	2′-1″	1′-1″					
AS604	2	2	2	2	8	3′-0″	18	18	1	1′-1″	2′-1″					
AS1001	76	76	118	113	383	30′-11″	20221	30731	16	29′-6″						
AS1002	4	4	4	4	16	16′-1″	554	554	16	14′-8″						
APPROACH SLABS TOTAL							30,091 **	44,447 **								

* WEIGHT DOES NOT INCLUDE WEIGHT OF MECHANICAL CONNECTOR

** REINFORCING STEEL WEIGHT SHOWN FOR INFORMATIONAL PURPOSES ONLY. REINFORCING STEEL INCLUDED WITH ITEM 526 - REINFORCED CONCRETE APPROACH SLAB (T = 17"), AS PER PLAN FOR PAYMENT.

NOTES

BENDING DIAGRAMS: SEE SHEET 50/58.

ADDITIONAL NOTES: SEE SHEET 50/58.

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

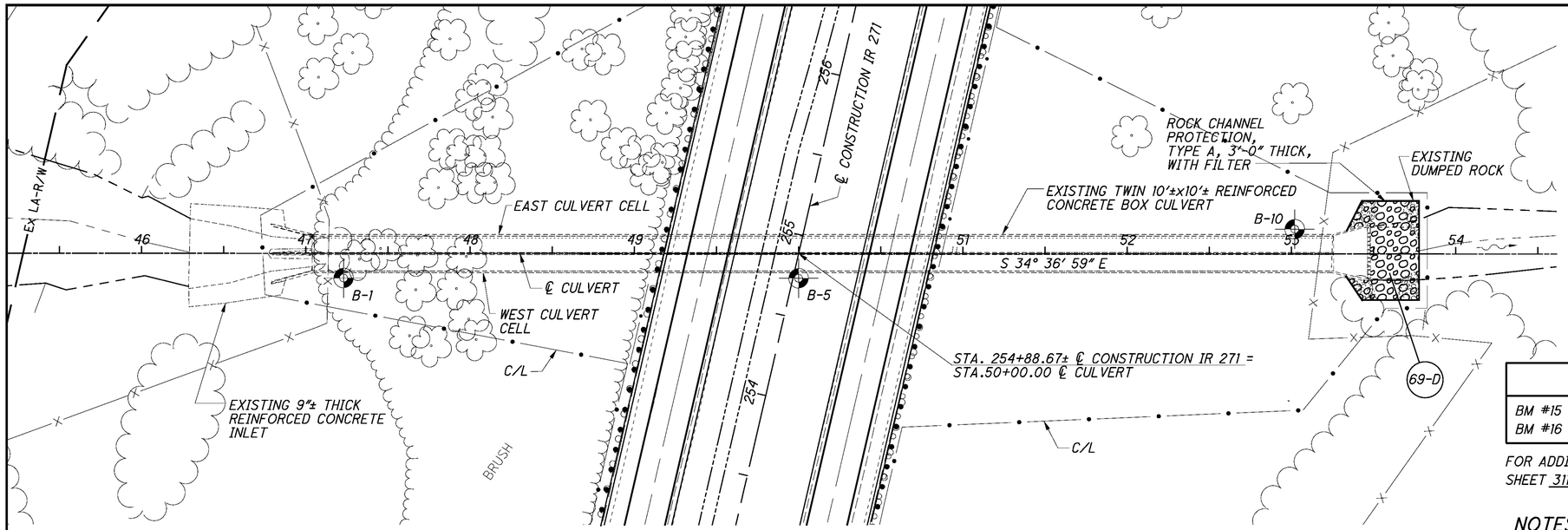
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STRUCTURE FILE NUMBER L7708912/R7708947
DRAWN KH REVISED
DESIGNED KAK CHECKED BLN

REINFORCING STEEL LIST - 9
BRIDGE NO. SUM-271-0375 L&R
IR 271 OVER RAMP B

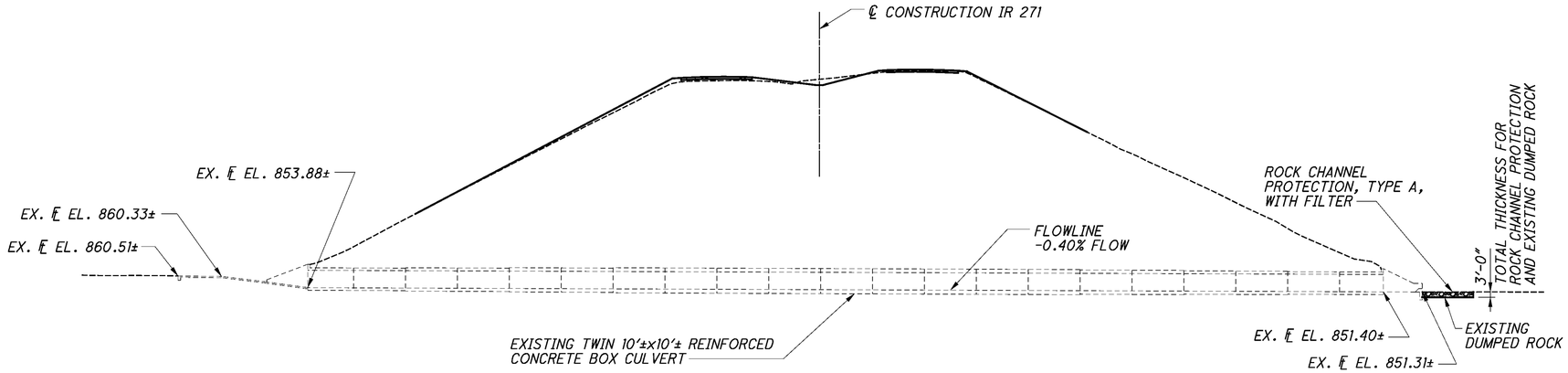
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PID No. 18710

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GENERAL PLAN



ELEVATION

LEGEND

ORIGINAL 1965 SOIL BORING LOCATIONS

BENCHMARK DATA

BM #15 STA. 260+96.34, ELEV. 994.52, OFFSET 0.06', RT.
BM #16 STA. 256+53.20, ELEV. 978.95, OFFSET 0.02', RT.

FOR ADDITIONAL BENCHMARK INFORMATION. SEE ROADWAY PLAN SHEET 311.

NOTES

EARTHWORK LIMITS SHOWN ARE APPROXIMATE. ACTUAL SLOPES SHALL CONFORM TO PLAN CROSS SECTIONS.

DESIGN TRAFFIC:
2015 ADT = 38,200 2015 ADTT = 6876
2035 ADT = 42,340 2035 ADTT = 7621
DIRECTIONAL DISTRIBUTION = 0.60

EXISTING HYDRAULIC DATA

DRAINAGE AREA = 11.43 SQ. MILES
Q (50) = 3000 CFS

THE 50 YEAR ESTIMATED HIGH WATER ELEVATION IS AT EL. 866.36±.

EXISTING STRUCTURE

TYPE: 10'x10' TWIN REINFORCED CONCRETE BOX CULVERT
SPAN: 23'-4"± O/O CULVERT WALLS
LENGTH: 620'-0"±
SKEW: 13°00'± R.F.
HEIGHT OF FILL: 117'±
APPROACH SLABS: NONE
ALIGNMENT: TANGENT
STRUCTURE FILE NUMBER: 7708971
DATE BUILT: 1971
DISPOSITION: TO REMAIN

PROPOSED STRUCTURE

PROPOSED WORK: CONCRETE REPAIR PATCH SPALLED AND DELAMINATED AREAS. EPOXY INJECT CRACKS.
TYPE: 10'x10' TWIN REINFORCED CONCRETE BOX CULVERT
SPAN: 23'-4"± O/O CULVERT WALLS
LENGTH: 620'-0"±
SKEW: 13°00'± R.F.
HEIGHT OF FILL: 117'±
APPROACH SLABS: NONE
ALIGNMENT: TANGENT

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

DESIGNED ALP | DRAWN JLS | CHECKED BLN | REVIEWED DAP | DATE 10/5/12 | STRUCTURE FILE NUMBER 7708971

GENERAL PLAN
STRUCTURE NO. SUM-271-0483
IR 271 OVER FURNACE RUN

SUM-271-2.33
PID No. 18710

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STANDARD DRAWINGS AND SUPPLEMENTAL SPECIFICATIONS

REFER TO THE FOLLOWING STANDARD BRIDGE DRAWINGS:

NONE

REFER TO THE FOLLOWING SUPPLEMENTAL SPECIFICATIONS:

NONE

PROPOSED WORK

1. PATCH SPALLED AND DELAMINATED CONCRETE AREAS ON INTERIOR AND EXTERIOR SURFACES OF BOX CULVERT.
2. EPOXY-INJECT CRACKS IN CONCRETE OF BOX CULVERT.
3. PLACE ROCK CHANNEL PROTECTION ON TOP OF EXISTING DUMPED ROCK AT CULVERT OUTLET. SEE SHEET 7/8 FOR PAYMENT. THE TOTAL THICKNESS OF THE ROCK CHANNEL PROTECTION, TYPE A AND THE EXISTING DUMPED ROCK SHALL BE 3'-0".

EXISTING STRUCTURE VERIFICATION

DETAILS AND DIMENSIONS SHOWN ON THESE PLANS PERTAINING TO THE EXISTING STRUCTURE HAVE BEEN OBTAINED FROM PLANS OF THE EXISTING STRUCTURE AND FROM FIELD OBSERVATIONS AND MEASUREMENTS. CONSEQUENTLY, THEY ARE INDICATIVE OF THE EXISTING STRUCTURE AND THE PROPOSED WORK BUT THEY SHALL BE CONSIDERED TENTATIVE AND APPROXIMATE. THE CONTRACTOR IS REFERRED TO CMS SECTIONS 102.05, 105.02 AND 513.04.

BASE CONTRACT BID PRICES UPON A RECOGNITION OF THE UNCERTAINTIES DESCRIBED ABOVE AND UPON A PREBID EXAMINATION OF THE EXISTING STRUCTURE. HOWEVER, THE DEPARTMENT WILL PAY FOR ALL PROJECT WORK BASED UPON ACTUAL DETAILS AND DIMENSIONS WHICH HAVE BEEN VERIFIED IN THE FIELD.

ESTIMATED QUANTITIES

THE CONTRACTOR SHALL NOT ORDER MATERIALS OR PERFORM WORK LISTED IN THE GENERAL SUMMARY FOR ITEMS DESIGNATED BY PLAN NOTE TO BE USED "BY THE ENGINEER" UNLESS AUTHORIZED BY THE ENGINEER. THE ACTUAL WORK LOCATIONS AND QUANTITIES USED AT THE ENGINEER'S DISCRETION SHALL BE MADE A MATTER OF RECORD BY INCORPORATION INTO THE FINAL CHANGE ORDER GOVERNING THE COMPLETION OF THIS PROJECT.

EXISTING STRUCTURE PLANS

EXISTING STRUCTURE PLANS MAY BE VIEWED BY PROSPECTIVE BIDDERS AT THE ODOT DISTRICT 4 OFFICE, AKRON, OHIO.

ITEM 519 - PATCHING CONCRETE STRUCTURE, AS PER PLAN

PRIOR TO THE SURFACE CLEANING SPECIFIED IN 519.04 AND WITHIN 24 HOURS OF PLACING PATCHING MATERIAL, BLAST CLEAN ALL CULVERT SURFACES TO BE PATCHED INCLUDING ALL EXPOSED REINFORCING STEEL. ACCEPTABLE METHODS INCLUDE HIGH-PRESSURE WATER BLASTING WITH OR WITHOUT ABRASIVES IN THE WATER, ABRASIVE BLASTING WITH CONTAINMENT, OR VACUUM ABRASIVE BLASTING.

THE ESTIMATED QUANTITY OF PATCHING REQUIRED IS BASED ON FIELD MEASUREMENTS OF EXPOSED DETERIORATION AND A CONTINGENCY QUANTITY OF 20 SQUARE FEET FOR THE EAST CULVERT CELL AND 200 SQUARE FEET FOR THE WEST CULVERT CELL.

PAYMENT FOR ALL OF THE ABOVE DESCRIBED LABOR AND MATERIALS WILL BE MADE AT THE CONTRACT PRICE BID FOR ITEM 519 - PATCHING CONCRETE STRUCTURE, AS PER PLAN.

ESTIMATED QUANTITIES (FUNDING PARTICIPATION; 05/IMS/BR)

CALCULATED KH DATED 5/12
CHECKED ALP DATED 5/12

ITEM	ITEM EXT.	TOTAL	UNIT	DESCRIPTION	GEN'L	SEE SHEET
503	11100	LUMP		COFFERDAMS AND EXCAVATION BRACING	LUMP	
512	10600	51	FT	CONCRETE REPAIR BY EPOXY INJECTION	51	
519	11101	1755	SQ FT	PATCHING CONCRETE STRUCTURE, AS PER PLAN	1755	2/5

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

REVIEWED DAP DATE 10/5/12
STRUCTURE FILE NUMBER 7708971
DRAWN SJK REVISED
DESIGNED ALP CHECKED BLN

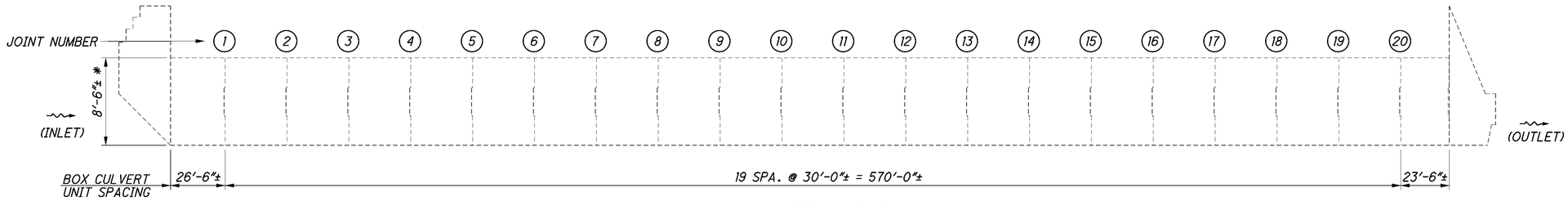
GENERAL NOTES & ESTIMATED QUANTITIES
STRUCTURE NO. SUM-271-0483
IR 271 OVER FURNACE RUN

SUM-271-2.33
PID No. 18710

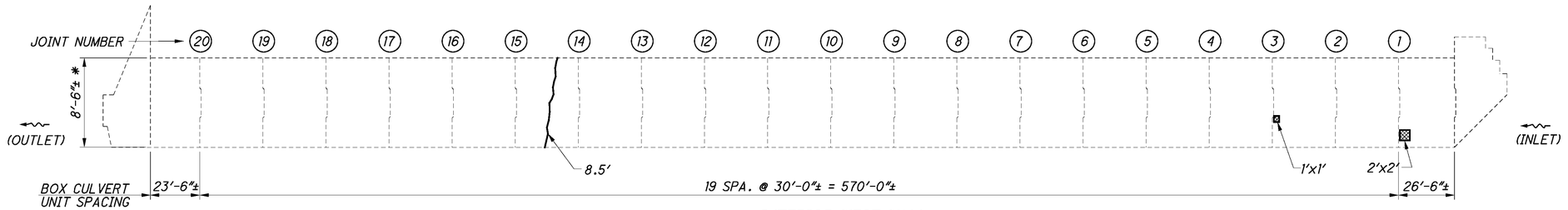
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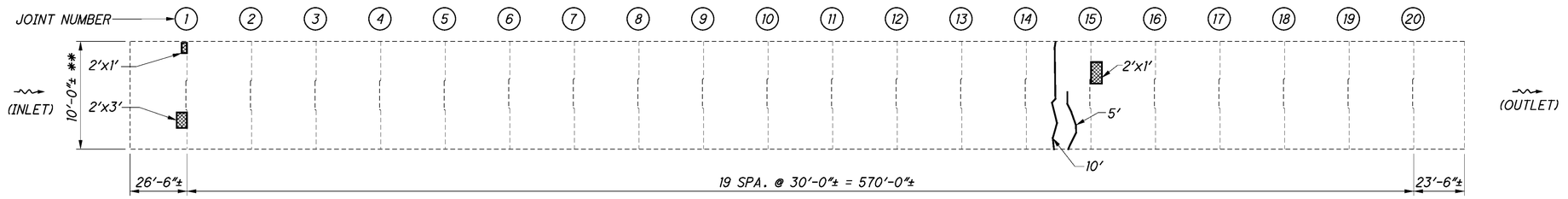
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INTERIOR EAST WALL



INTERIOR WEST WALL



INTERIOR CEILING DETAIL

EAST CULVERT CELL

LEGEND

- ▩ - INDICATES PORTIONS OF CULVERT TO BE PATCHED AND INCLUDED WITH ITEM 519 - PATCHING CONCRETE STRUCTURE, AS PER PLAN FOR PAYMENT. THE SOUNDING OF THE CONCRETE WAS PERFORMED ON AUGUST 24, 2012.
- ~~~ - INDICATES PORTIONS OF CULVERT TO BE REPAIRED BY EPOXY-INJECTION AND INCLUDED WITH ITEM 512 - CONCRETE REPAIR BY EPOXY-INJECTION.
- * - DIMENSION GIVEN IS ON VERTICAL FACE BETWEEN FILLETS.
- ** - DIMENSION GIVEN IS O/O CEILING INCLUDING FILLETS.

NOTES:

DRAWING NOT TO SCALE. HEIGHT TO LENGTH SCALE = 5:1

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

DESIGNED ALP | DRAWN SJK | REVIEWED DAP | DATE 10/5/12
CHECKED BLN | REVISED | STRUCTURE FILE NUMBER 7708971

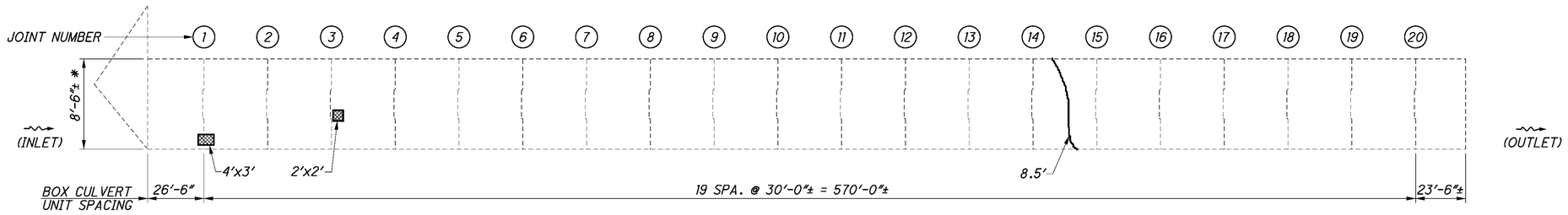
EAST CULVERT
STRUCTURE NO. SUM-271-0483
IR 271 OVER FURNACE RUN

SUM-271-2.33
PID No. 18710

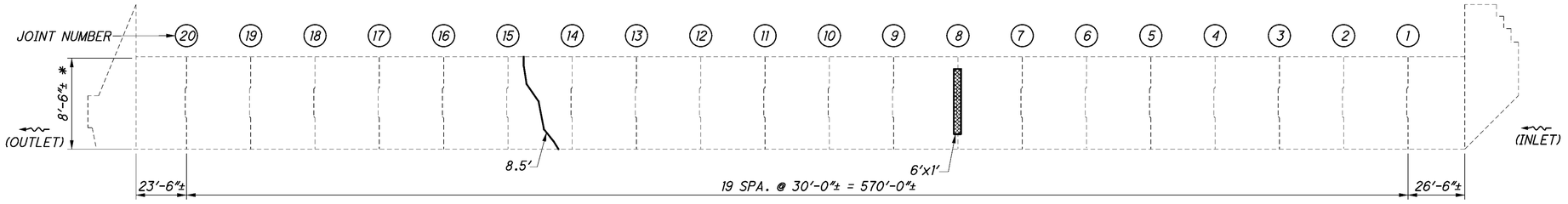
3 / 5

1155
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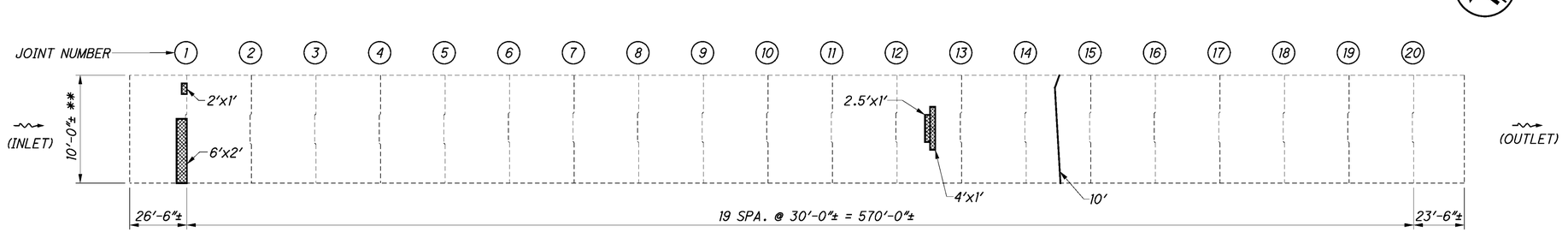
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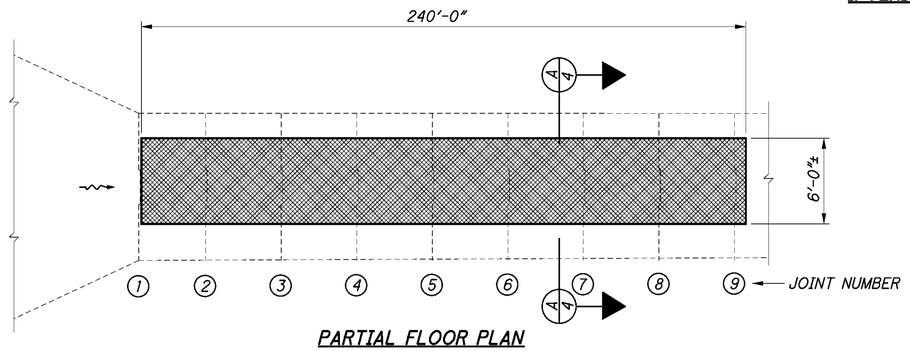
INTERIOR EAST WALL



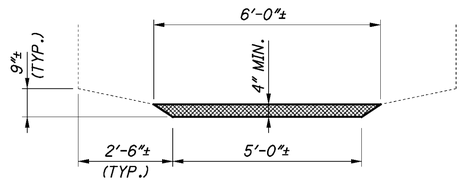
INTERIOR WEST WALL



INTERIOR CEILING DETAIL



PARTIAL FLOOR PLAN



SECTION A-A

PROVIDE MINIMUM 2" COVER TO EXISTING REINFORCING

LEGEND

- ▨ - INDICATES PORTIONS OF CULVERT TO BE PATCHED AND INCLUDED WITH ITEM 519 - PATCHING CONCRETE STRUCTURE, AS PER PLAN FOR PAYMENT. THE SOUNDING OF THE CONCRETE WAS PERFORMED ON AUGUST 24, 2012.
- ~~~ - INDICATES PORTIONS OF CULVERT TO BE REPAIRED BY EPOXY-INJECTION AND INCLUDED WITH ITEM 512 - CONCRETE REPAIR BY EPOXY-INJECTION.
- * - DIMENSION GIVEN IS ON VERTICAL FACE BETWEEN FILLETS.
- ** - DIMENSION GIVEN IS O/O CEILING INCLUDING FILLETS.

WEST CULVERT CELL

NOTES:

DRAWING NOT TO SCALE. HEIGHT TO LENGTH SCALE = 5:1

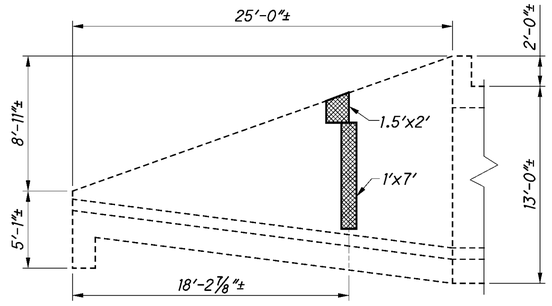
RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

DESIGNED ALP | DRAWN SJK | REVIEWED DAP | DATE 10/5/12
CHECKED BLN | REVISED | STRUCTURE FILE NUMBER 7708971

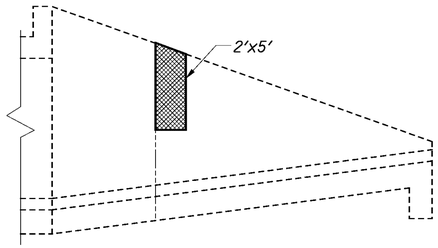
WEST CULVERT
STRUCTURE NO. SUM-271-0483
IR 271 OVER FURNACE RUN

SUM-271-2.33
PID No. 18710

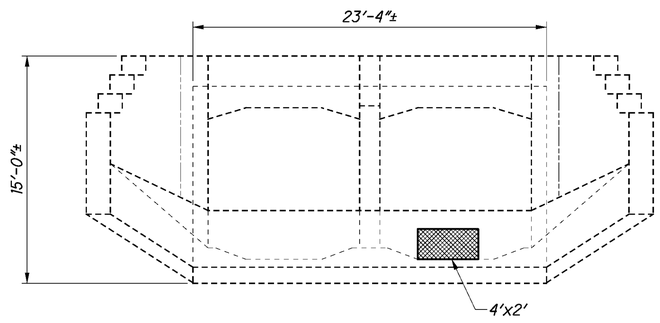
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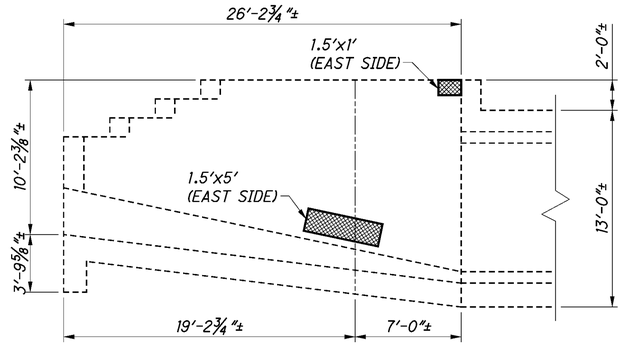
INLET MIDDLE WALL (WEST SIDE)



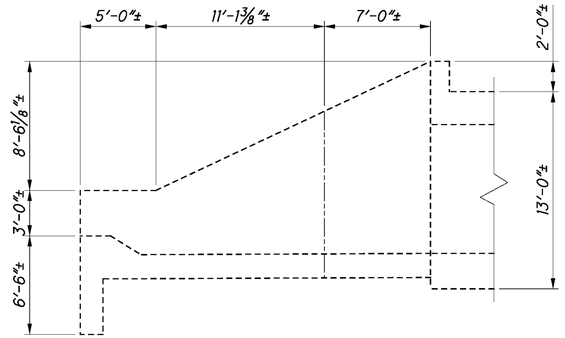
INLET MIDDLE WALL (EAST SIDE)



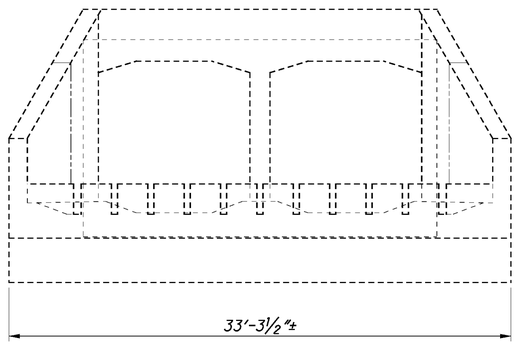
INLET



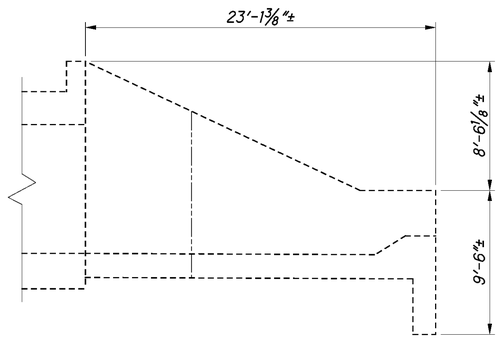
INLET OUTER WALL
(EAST SHOWN)
(WEST OPPOSITE HAND)



OUTLET WALL WEST



OUTLET



OUTLET WALL EAST

EXTERIOR HEADWALLS

LEGEND

- INDICATES PORTIONS OF CULVERT TO BE PATCHED AND INCLUDED WITH ITEM 519 - PATCHING CONCRETE STRUCTURE, AS PER PLAN FOR PAYMENT. THE SOUNDING OF THE CONCRETE WAS PERFORMED ON AUGUST 24, 2012.

- INDICATES PORTIONS OF CULVERT TO BE REPAIRED BY EPOXY-INJECTION AND INCLUDED WITH ITEM 512 - CONCRETE REPAIR BY EPOXY-INJECTION.

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

DESIGNED ALP | DRAWN SJK | REVIEWED DAP | DATE 10/5/12
CHECKED BLN | REVISED | STRUCTURE FILE NUMBER 7708971

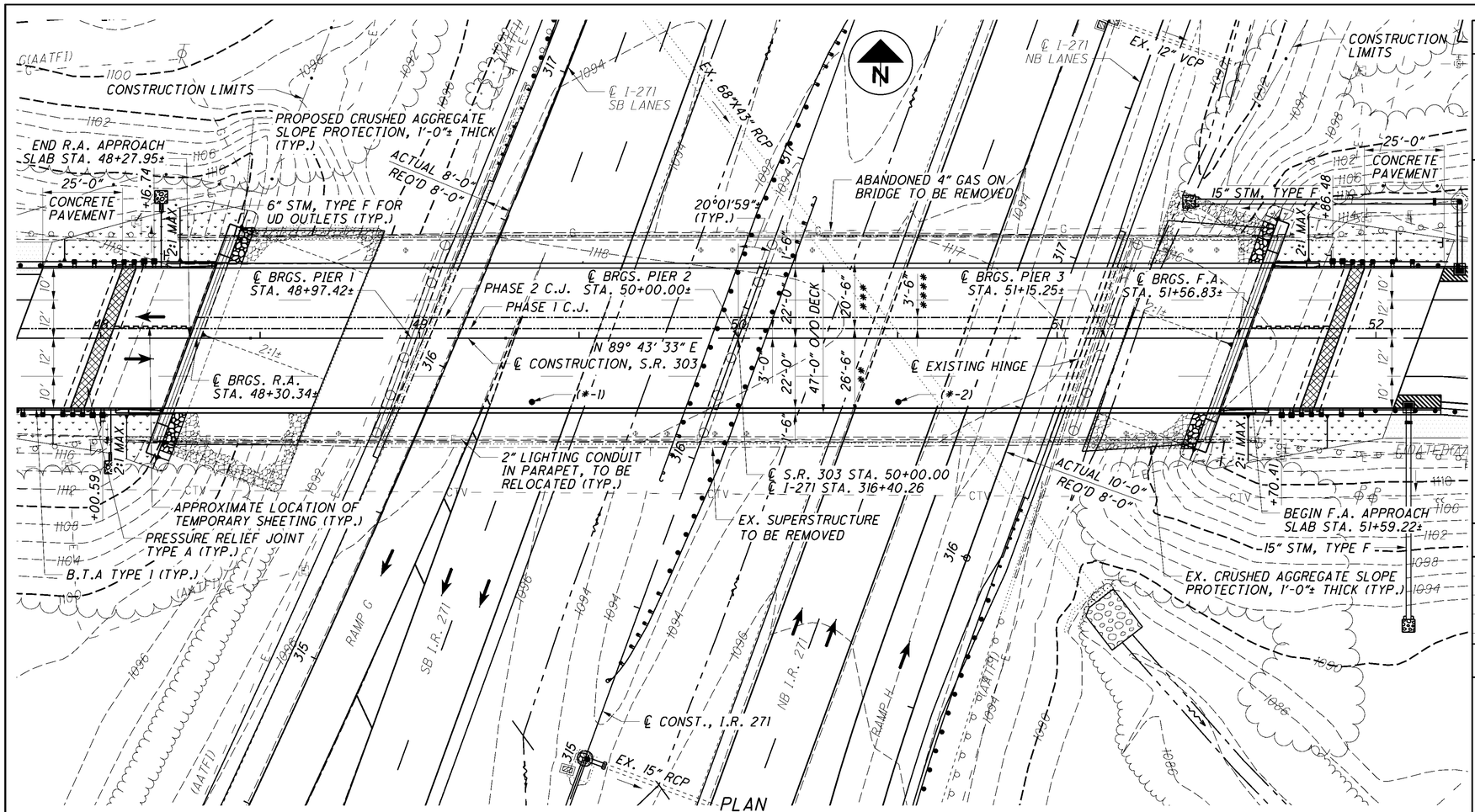
HEADWALL DETAILS
STRUCTURE NO. SUM-271-0483
IR 271 OVER FURNACE RUN

SUM-271-2.33
PID No. 18710

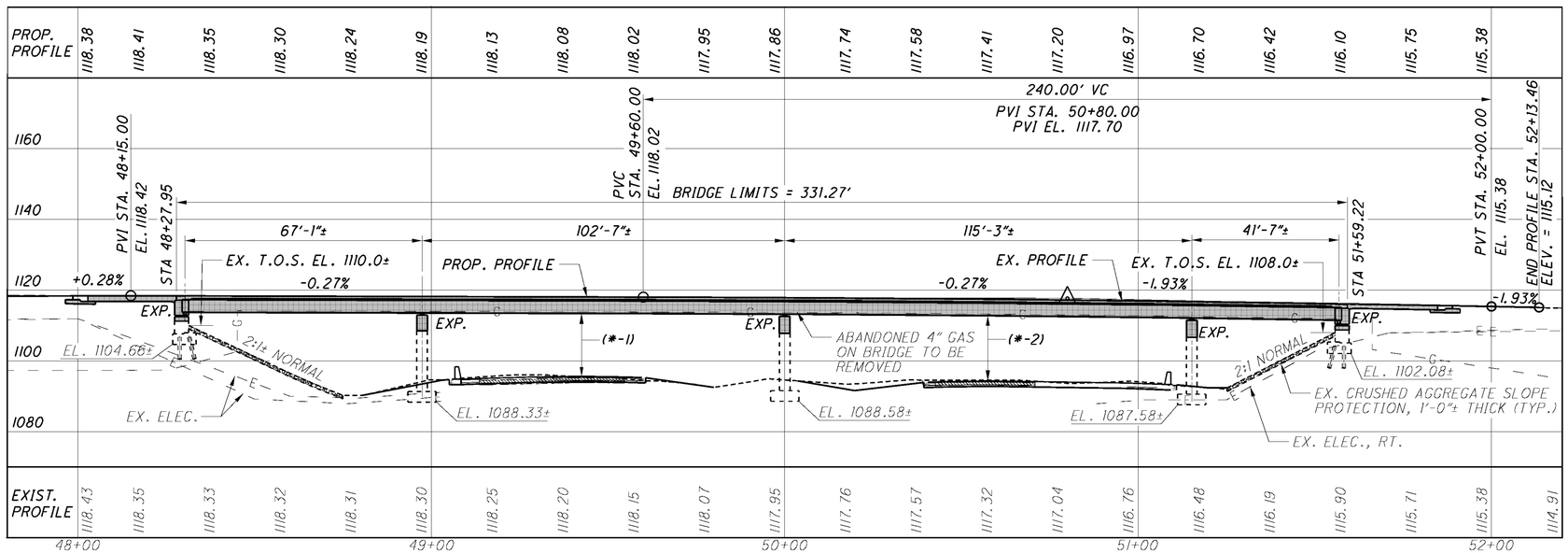
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PLAN



ELEVATION ALONG S.R. 303 PROFILE GRADE

BENCHMARK DATA

SV50: STA. 51+84.18 ELEV. 1114.61 OFFSET 36.41' RT. (IPIN)

SV51: STA. 48+18.43 ELEV. 1117.29 OFFSET 35.04' LT. (IPIN)

SV7108: STA. 40+93.06 ELEV. 1117.41 OFFSET 46.19' LT. (5/8 REBAR WITH BM CAP)

SV7107: STA. 61+98.20 ELEV. 1068.25 OFFSET 24.58' RT. (5/8 REBAR WITH BM CAP)

FOR ADDITIONAL BENCHMARK INFORMATION SEE ROADWAY PLAN SHEETS 687/1195 THRU 690/1195

NOTES

1. EARTHWORK LIMITS SHOWN ARE APPROXIMATE. ACTUAL SLOPES SHALL CONFORM TO PLAN CROSS SECTIONS.

PROPOSED WORK NOTE: SEE SHEET 3/38 .

ASBESTOS NOTE: SEE SHEET 4/38 .

DESIGN TRAFFIC:

2015 ADT = 9230 2015 ADTT = 462

2035 ADT = 10230 2029 ADTT = 512

DIRECTIONAL DISTRIBUTION = 55%

LEGEND

* - REQUIRED MINIMUM VERTICAL CLEARANCE

** - PHASE 1 CONSTRUCTION

*** - PHASE 2 CONSTRUCTION

**** - CLOSURE POUR

MIN. VERTICAL CLEARANCE TABLE

	(*-1)	(*-2)
EXISTING	16'-3¾"	16'-6¼"
PROPOSED	17'-0"	17'-9"
REQUIRED	16'-6"	16'-6"

EXISTING STRUCTURE

TYPE: CONTINUOUS WELDED STEEL PLATE GIRDER WITH REINFORCED CONCRETE DECK AND SUBSTRUCTURE

SPANS: 67'-0"±, 102'-6"±, 114'-9"±, 42'-0"± C/C BEARINGS

ROADWAY: 61'-9" TOE/TOE PARAPETS

LOADING: CF 400

SKEW: 20°01'59" L.F.

APPROACH SLABS: 25'-0" LONG (AS-1-54)

ALIGNMENT: TANGENT

WEARING SURFACE: 2" LATEX MODIFIED CONCRETE OVERLAY

CROWN: 3/16" / FT.

STRUCTURAL FILE NUMBER: 7709900

DATE BUILT: 1971

DISPOSITION: REMOVE SUPERSTRUCTURE AND REUSE SUBSTRUCTURE

PROPOSED STRUCTURE

PROPOSED WORK: NEW CONTINUOUS WELDED STEEL PLATE GIRDER A709, GRADE 50, WITH COMPOSITE REINFORCED CONCRETE DECK ON MODIFIED CAP-AND-COLUMN PIERS AND MODIFIED SEMI-INTEGRAL ABUTMENTS

SPANS: 67'-1"±, 102'-7"±, 115'-3"±, 41'-7"± C/C BEARINGS

ROADWAY: 44'-0" TOE/TOE PARAPETS

LOADING: SUPERSTRUCTURE - HS25 (CASE II), ALTERNATE MILITARY AND 60 PSF FUTURE WEARING SURFACE
SUBSTRUCTURE - HS20

SKEW: 20°01'59" L.F.

APPROACH SLABS: 25'-0" LONG (AS-1-81)

ALIGNMENT: TANGENT

WEARING SURFACE: 1" MONOLITHIC CONCRETE

CROWN: 0.016

COORDINATES: LATITUDE 41°14'43" N.
LONGITUDE 81°35'25" W.

DESIGN AGENCY
COLUMBUS ENGINEERING CONSULTANTS, INC.
840 MICHIGAN AVENUE, COLUMBUS, OH 43215
TEL:(614)228-3500

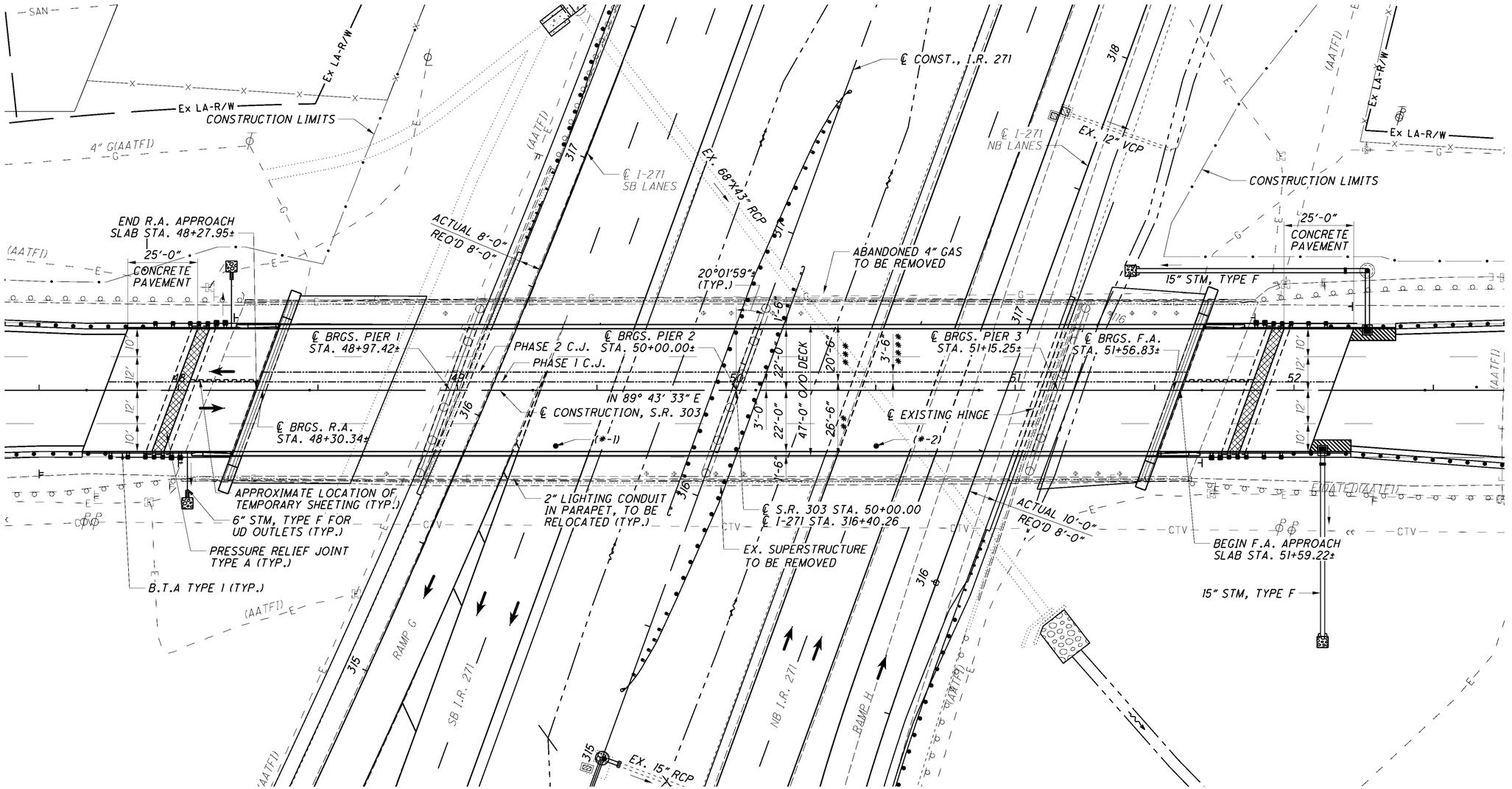
DESIGNED SS/YSJ | DRAWN CEC | REVIEWED JJ | DATE 09/12

CHECKED JH | REVISED | STRUCTURE FILE NUMBER 7709900

SUMMIT COUNTY
STA. 48+27.95±
STA. 51+59.22±

SITE PLAN
BRIDGE NO. SUM-303-0502
S.R. 303 OVER I.R. 271

SUM-271-2.33
PID No. 18710



GENERAL PLAN

LEGEND:

#- MIN. VERTICAL CLEARANCE LOCATION
- PHASE 1 CONSTRUCTION
- PHASE 2 CONSTRUCTION
- CLOSURE POUR

DESIGN AGENCY
COLUMBUS ENGINEERING CONSULTANTS, INC.
840 MICHIGAN AVENUE, COLUMBUS, OH 43215
TEL:(614)228-3500

DESIGNED	DRAWN	REVIEWED	DATE
SS/YSJ	CEC	JJ	09/12
CHECKED	REVISED	STRUCTURE FILE NUMBER	
JH		7709900	

SUMMIT COUNTY
STA. 48+27.95±
STA. 51+59.22±

GENERAL PLAN
BRIDGE NO. SUM-303-0502
S.R. 303 OVER I.R. 271

SUM-271-2.33
PID No. 18710

REFER TO THE FOLLOWING STANDARD BRIDGE DRAWINGS:

A-1-69	REVISED	07-19-02
AS-1-81	REVISED	07-19-02
BR-1	REVISED	07-19-02
DM-1.1	REVISED	01-21-11
GSD-1-96	REVISED	07-19-02
HL-30.32	DATED	04-17-09
SICD-1-96	REVISED	07-19-02

DESIGN SPECIFICATIONS:

THIS STRUCTURE CONFORMS TO "STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, 17TH EDITION, 2002, INCLUDING THE INTERIM SPECIFICATIONS AND THE 2004 O.D.O.T BRIDGE DESIGN MANUAL.

DESIGN LOADING:

SUPERSTRUCTURE - HS25 (CASE II) AND THE ALTERNATE MILITARY LOADING.
FUTURE WEARING SURFACE (FWS) OF 60 PSF.
SUBSTRUCTURE - HS20

DESIGN DATA:

CONCRETE CLASS HP - COMPRESSIVE STRENGTH 4500 P.S.I. (SUPERSTRUCTURE)
CONCRETE CLASS C - COMPRESSIVE STRENGTH 4000 P.S.I. (SUBSTRUCTURE)

REINFORCING STEEL - ASTM A615, OR A996
GRADE 60 MINIMUM YIELD STRENGTH 60,000 P.S.I.

STRUCTURAL STEEL - ASTM A709, GRADE 50 - YIELD STRENGTH 50,000 P.S.I.

DECK PROTECTION METHOD:

EPOXY COATED REINFORCING STEEL
2 1/2" CONCRETE COVER
SEALING OF CONCRETE SURFACES

PROPOSED WORK:

1. THE WORK WILL BE PERFORMED IN PHASES USING PART-WIDTH CONSTRUCTION. PHASE I WILL MAINTAIN TRAFFIC ON THE LEFT SIDE AND PHASE 2 WILL MAINTAIN TRAFFIC ON THE RIGHT SIDE. FOR MORE DETAILS REFER TO MAINTENANCE OF TRAFFIC SHEETS.

2. REMOVE EXISTING RAILING, CONCRETE DECK, STEEL BEAMS AND CROSSFRAMES.

3. REMOVE EXISTING ABUTMENT BACKWALLS, AND EXISTING ABUTMENT BEAM SEATS TO ELEVATIONS SHOWN IN THE PLANS.

4. REMOVE EXISTING ABUTMENT WINGWALLS AND STEAM FILLETS TO THE TOP OF FOOTING.

5. REPLACE ABUTMENT ROCKER BEARINGS WITH NEW ELASTOMERIC BEARINGS.

6. MODIFY EXISTING ABUTMENT BEAM SEATS AND CONVERT EXISTING ABUTMENTS INTO SEMI-INTEGRAL ABUTMENTS WITH STRAIGHT WINGWALLS.

7. CUT OFF EXISTING 6" CMP DRAINS IN ABUTMENTS AND CAP ENDS. ADD POROUS BACKFILL WITH FILTER FABRIC AND PIPE TO COLLECT AND DISCHARGE DRAINAGE BEHIND ABUTMENTS.

8. REMOVE EXISTING PIER CAPS, AND REMOVE EXISTING OUTER PIER COLUMNS TO A MINIMUM OF 1' BELOW FINISHED GRADE.

9. CONSTRUCT NEW PIER CAPS AS DETAILED IN THE PLANS.

10. REPLACE EXISTING PIER ROCKER/BOLSTER BEARINGS WITH NEW ELASTOMERIC BEARINGS.

11. PLACE NEW CONTINUOUS WELDED STEEL PLATE GIRDERS A709 GRADE 50, NEW CROSSFRAMES, CONCRETE COUNTERWEIGHT, NEW CONCRETE DECK AND NEW CONCRETE PARAPETS. THE GIRDERS SHALL BE MADE COMPOSITE WITH THE REINFORCED CONCRETE DECK.

12. CONSTRUCT NEW FULL WIDTH APPROACH SLABS, PLACE NEW CONCRETE PARAPETS, PARAPET TRANSITIONS AND CURBS ON NEW APPROACH SLABS.

13. CONSTRUCT 25.0 FT. CONCRETE PAVEMENTS ADJACENT TO APPROACH SLABS. CONSTRUCT PRESSURE RELIEF JOINTS (TYPE A) BETWEEN APPROACH SLABS AND ROADWAY CONCRETE PAVEMENTS. COSTS ASSOCIATED WITH THESE CONCRETE PAVEMENTS AND PRESSURE RELIEF JOINTS ARE INCLUDED IN ROADWAY QUANTITIES FOR PAYMENT.

14. PATCH SPALLED AND DELAMINATED CONCRETE SURFACES AND SEAL CONCRETE CRACKS ON ABUTMENT BREASTWALLS. ESTIMATED PATCHING IS 9.5 SQUARE FEET AND ESTIMATED SEALING OF CONCRETE CRACKS IS 11.5 FEET.

15. PERFORM CLEARING AND GRUBBING TO REMOVE ALL VEGETATION WITHIN 15 FEET OF THE STRUCTURE.

16. REPAIR EXISTING CRUSHED AGGREGATE SLOPE PROTECTION AT ABUTMENT SLOPES.

17. PAINT STRUCTURAL STEEL AND SEAL EXPOSED SUBSTRUCTURE AND PARAPETS WITH EPOXY-URETHANE.

18. UPGRADE APPROACH RAILING TO CURRENT STANDARDS, AND COMPLETE OTHER ITEMS OF WORK SPECIFIED IN THE PLANS TO FINISH THE REHABILITATION.

ITEM 202, PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN:

THIS ITEM SHALL INCLUDE THE ELEMENTS INDICATED IN THE PLANS AND GENERAL NOTES AND THAT ARE NOT SEPARATELY LISTED FOR PAYMENT. ITEMS TO BE REMOVED INCLUDE ALL EXISTING MATERIALS BEING REPLACED BY NEW CONSTRUCTION AND MISCELLANEOUS ITEMS THAT ARE NOT SHOWN TO BE INCORPORATED INTO THE FINAL CONSTRUCTION AND ARE DIRECTED TO BE REMOVED BY THE ENGINEER. THE USE OF EXPLOSIVES, HEADACHE BALLS AND/OR HOE-RAMS WILL NOT BE PERMITTED. THE METHOD OF REMOVAL AND THE WEIGHT OF HAMMER SHALL BE APPROVED BY THE ENGINEER. PERFORM ALL WORK IN A MANNER THAT WILL NOT CUT, ELONGATE OR DAMAGE THE EXISTING REINFORCING STEEL TO BE PRESERVED. CHIPPING HAMMERS SHALL NOT BE HEAVIER THAN THE NOMINAL 90-POUND CLASS. PNEUMATIC HAMMERS SHALL NOT BE PLACED IN DIRECT CONTACT WITH REINFORCING STEEL THAT IS TO BE RETAINED IN THE REBUILT STRUCTURE. SUBMIT CONSTRUCTION PLANS ACCORDING TO CMS 501.05.

SUBSTRUCTURE CONCRETE REMOVAL: REMOVE CONCRETE BY MEANS OF APPROVED PNEUMATIC HAMMERS EMPLOYING POINTED AND BLUNT CHISEL TOOLS. HYDRAULIC HOE-RAM TYPE HAMMERS WILL NOT BE PERMITTED. THE WEIGHT OF THE HAMMER SHALL NOT BE MORE THAN 35 POUNDS FOR REMOVAL WITHIN 18 INCHES OF PORTIONS TO BE PRESERVED. OUTSIDE THE 18 INCH LIMIT, THE CONTRACTOR MAY USE HAMMERS NOT EXCEEDING 90 POUNDS UPON THE APPROVAL OF THE ENGINEER. DO NOT PLACE PNEUMATIC HAMMERS IN DIRECT CONTACT WITH REINFORCING STEEL THAT IS TO BE RETAINED IN THE REBUILT STRUCTURE.

CUT LINE CONSTRUCTION JOINT PREPARATION: SAW CUT BOUNDARIES OF PROPOSED CONCRETE REMOVALS 1" DEEP. REMOVE CONCRETE TO A ROUGH SURFACE. LEAVE THE EXISTING REINFORCING STEEL, IF REQUIRED IN THE PLANS, IN PLACE. INSTALL DOWEL BARS IF SPECIFIED. PRIOR TO CONCRETE PLACEMENT ABRASIVELY CLEAN JOINT SURFACES AND EXISTING EXPOSED REINFORCEMENT TO REMOVE LOOSE AND DISINTEGRATED CONCRETE AND LOOSE RUST. THOROUGHLY CLEAN THE JOINT SURFACE AND EXPOSED REINFORCEMENT OF ALL DIRT, DUST, RUST OR OTHER FOREIGN MATERIAL BY THE USE OF WATER, AIR UNDER PRESSURE, OR OTHER METHODS THAT PRODUCE SATISFACTORY RESULTS. EXISTING REINFORCING STEEL DOES NOT HAVE TO HAVE A BRIGHT STEEL FINISH, BUT REMOVE ALL PACK AND LOOSE RUST. THOROUGHLY DRENCH EXISTING CONCRETE SURFACES WITH CLEAN WATER AND ALLOW TO DRY TO A DAMP CONDITION BEFORE PLACING CONCRETE.

MEASUREMENT & PAYMENT: THE DEPARTMENT WILL MEASURE THE QUANTITY OF REMOVAL ON A LUMP SUM BASIS. THE DEPARTMENT WILL PAY FOR THE ACCEPTED QUANTITIES OF REMOVALS AT THE CONTRACT PRICE FOR ITEM 202, PORTION OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN.

EXISTING STRUCTURE VERIFICATION:

DETAILS AND DIMENSIONS SHOWN ON THESE PLANS PERTAINING TO THE EXISTING STRUCTURE HAVE BEEN OBTAINED FROM PLANS OF THE EXISTING STRUCTURE AND FROM FIELD OBSERVATIONS AND MEASUREMENTS. CONSEQUENTLY, THEY ARE INDICATIVE OF THE EXISTING STRUCTURE AND THE PROPOSED WORK BUT THEY SHALL BE CONSIDERED TENTATIVE AND APPROXIMATE. THE CONTRACTOR IS REFERRED TO CMS SECTIONS 102.05, 105.02, AND 513.04.

BASE CONTRACT BID PRICES UPON A RECOGNITION OF THE UNCERTAINTIES DESCRIBED ABOVE AND UPON A PREBID EXAMINATION OF THE EXISTING STRUCTURE. HOWEVER, THE DEPARTMENT WILL PAY FOR ALL PROJECT WORK BASED UPON ACTUAL DETAILS AND DIMENSIONS THAT HAVE BEEN VERIFIED IN THE FIELD.

EXISTING STRUCTURE PLANS:

EXISTING STRUCTURE PLANS MAY BE VIEWED BY PROSPECTIVE BIDDERS AT THE OHIO DEPARTMENT OF TRANSPORTATION, DISTRICT 4 OFFICE, 2088 S. ARLINGTON RD. AKRON, OHIO 44306. PHONE: (330) 786-2232

MONOLITHIC WEARING SURFACE:

MONOLITHIC WEARING SURFACE IS ASSUMED, FOR DESIGN PURPOSES, TO BE 1" THICK.

DECK PLACEMENT DESIGN ASSUMPTIONS:

THE FOLLOWING ASSUMPTIONS OF CONSTRUCTION MEANS AND METHODS WERE MADE FOR THE ANALYSIS AND DESIGN OF THE SUPERSTRUCTURE. THE CONTRACTOR IS RESPONSIBLE FOR THE DESIGN OF THE FALSEWORK SUPPORT SYSTEM WITHIN THESE PARAMETERS AND WILL ASSUME RESPONSIBILITY FOR SUPERSTRUCTURE ANALYSIS FOR DEVIATION FROM THESE DESIGN ASSUMPTIONS.

AN EIGHT WHEEL FINISHING MACHINE WITH A MAXIMUM WHEEL LOAD OF 1.0 KIPS FOR A TOTAL MACHINE LOAD OF 7.6 KIPS.

A MINIMUM OUT-TO-OUT WHEEL SPACING AT EACH END OF THE MACHINE OF 103".

A MAXIMUM SPACING OF OVERHANG FALSEWORK BRACKETS OF 48 IN.

A MAXIMUM DISTANCE FROM THE CENTERLINE OF THE FASCIA GIRDER TO THE FACE OF THE SAFETY HANDRAIL OF 65".

ITEM 503, COFFERDAMS AND EXCAVATION BRACING, AS PER PLAN:

THE DESIGN SHOWN ON THE PLANS FOR TEMPORARY SUPPORT OF EXCAVATION IS ONE REPRESENTATIVE DESIGN THAT MAY BE USED TO CONSTRUCT THE PROJECT. THE CONTRACTOR MAY CONSTRUCT THE DESIGN SHOWN ON THE PLANS OR PREPARE AN ALTERNATE DESIGN TO SUPPORT THE SIDES OF EXCAVATION. IF CONSTRUCTING AN ALTERNATE DESIGN FOR TEMPORARY SUPPORT OF EXCAVATION, PREPARE AND PROVIDE PLANS IN ACCORDANCE WITH C&MS 501.05. THE DEPARTMENT WILL PAY FOR THE TEMPORARY SUPPORT OF EXCAVATION AT THE CONTRACT LUMP SUM PRICE FOR COFFERDAMS AND EXCAVATION BRACING. NO ADDITIONAL PAYMENT WILL BE MADE FOR PROVIDING AN ALTERNATE DESIGN.

ITEM 503, UNCLASSIFIED EXCAVATION, AS PER PLAN:

UNCLASSIFIED EXCAVATION SHALL BE IN ACCORDANCE WITH CMS ITEM 503, THE BACKFILL MATERIAL SHALL BE PLACED AND COMPACTED IN 6" LIFTS. EXCAVATION OF EXISTING POROUS BACKFILL SHALL BE INCLUDED IN THIS ITEM.

ITEM 509 - REINFORCING STEEL, REPLACEMENT OF EXISTING REINFORCING STEEL, AS PER PLAN:

REPLACE ALL EXISTING REINFORCING BARS DEEMED BY THE ENGINEER TO BE UNUSABLE BECAUSE OF CORROSION. THE DEPARTMENT WILL MEASURE THE REPLACEMENT REINFORCING STEEL BY THE NUMBER OF POUNDS ACCEPTED IN PLACE.

AN ESTIMATE OF 100 LB HAS BEEN INCLUDED IN THE ESTIMATED QUANTITIES FOR THE ABOVE ITEM OF WORK.

REPLACE ALL EXISTING REINFORCING STEEL BARS WHICH ARE TO BE INCORPORATED INTO THE NEW WORK AND ARE DEEMED BY THE ENGINEER TO BE MADE UNUSABLE BY CONCRETE REMOVAL OPERATIONS WITH NEW EPOXY COATED REINFORCING STEEL OF THE SAME SIZE AT NO COST TO THE DEPARTMENT.

ITEM 511 - CLASS HP CONCRETE, BRIDGE DECK, AS PER PLAN
ITEM 511 - CLASS HP CONCRETE, BRIDGE DECK (PARAPET), AS PER PLAN
ITEM 511 - CLASS HP CONCRETE, SUPERSTRUCTURE, AS PER PLAN
ITEM 511 - CLASS HP CONCRETE, TEST SLAB

GENERAL REQUIREMENTS:
THE PROVISION OF ITEM 511 SHALL APPLY EXCEPT AS NOTED BELOW.

MIX OPTIONS:
ALL SUPERSTRUCTURE, BRIDGE DECK, APPROACH SLABS AND PARAPET CONCRETE SHALL BE THIS MIX (HP4, AS PER PLAN).

THE FOLLOWING PROPORTIONS WILL BE USED AS A STARTING MIX DESIGN:

CONCRETE TABLE
QUANTITIES PER CUBIC YARD
AGGREGATES (SSD)

MIX HP4, AS PER PLAN (GGBF SLAG + MICROSILICA)									
AGGREGATE TYPE	FINE AGGRE. (LB)	#8 COARSE AGGRE. (LB)*	#57 COARSE AGGRE. (LB)	TOTAL (LB)	CEMENT CONTENT (LB)	GGBF SLAG (LB)	MICRO-SILICA (LB)	MAX. W/CM RATIO	AIR CONT. ±2%
GRAVEL	1370	650	790	2810	440	190	30	0.42	6
LIMESTONE	1370	655	800	2820	440	190	30	0.42	6
SLAG	1370	570	695	2635	440	190	30	0.42	6

* ALL COARSE AGGREGATE SHALL HAVE AN ABSORPTION OF 1.00% OR GREATER AS DEFINED PER ASTM C127.

BASIS OF PAYMENT:
PAYMENT FOR THE ABOVE COMPLETED AND ACCEPTED QUANTITIES WILL BE MADE AT THE CONTRACT BID PRICE FOR:

ITEM	UNITS	DESCRIPTION
511E50001	CU YD	CLASS HP CONCRETE, BRIDGE DECK, AS PER PLAN
511E50101	CU YD	CLASS HP CONCRETE, BRIDGE DECK (PARAPET), AS PER PLAN
511E51001	CU YD	CLASS HP CONCRETE, SUPERSTRUCTURE, AS PER PLAN
511E52000	LUMP	CLASS HP CONCRETE, TEST SLAB

ITEM 512 - CONCRETE REPAIR BY EPOXY INJECTION, AS PER PLAN

PREPARE CONCRETE SURFACES AND REPAIR ANY CRACKS IN THE REMAINING PORTION OF THE ABUTMENTS AND PIERS. REPAIRING AREAS THAT ARE CRACKED WILL BE DESIGNATED BY THE PROJECT ENGINEER. THE CMS 512 PROCESS WILL BE USED TO REPAIR THESE AREAS.

THE CONTRACTOR SHALL PROVIDE THE ENGINEER WITH ALL NECESSARY EQUIPMENT TO INSPECT THIS WORK. THE DEPARTMENT WILL MEASURE THE REPAIR CRACKS BY THE NUMBER OF FEET.

DESIGN AGENCY
COLUMBUS ENGINEERING CONSULTANTS, INC.
840 MICHIGAN AVENUE, COLUMBUS, OH 43215
TEL:(614)228-3500

DESIGNED SS/YSJ | DRAWN CEC | REVIEWED JJ | DATE 09/12 | CHECKED JH | REVISED | STRUCTURE FILE NUMBER 7709900

GENERAL NOTES - 1
BRIDGE NO. SUM-303-0502
S.R. 303 OVER I.R. 271

SUM-271-2.33
PID No. 18710

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P:\Land Development Projects\503-110 SUM-271-0233 (Richland Engineering)\structures\SUM-303-0502C\sheets\303_0502CGN001.dgn 11/8/2012 3:17:10 PM Sean Jeng

ITEM 514 - FIELD PAINTING STRUCTURAL STEEL, FINISH COAT, AS PER PLAN:

THE FINISH COAT COLOR SHALL BE FEDERAL COLOR NUMBER 15526, LIGHT BLUE.

THE PROVISIONS OF 514 SHALL APPLY. PAYMENT SHALL BE MADE PER SQUARE FOOT FOR SURFACE AREA COATED TO SPECIFICATION UNDER ITEM 514 - FIELD PAINTING STRUCTURAL STEEL, FINISH COAT, AS PER PLAN.

ITEM 516 - SEMI-INTEGRAL ABUTMENT EXPANSION JOINT SEAL, AS PER PLAN:

INSTALL A 3 FOOT WIDE NEOPRENE SHEET AT LOCATIONS SHOWN IN THE PLANS. SECURE THE NEOPRENE SHEETING TO THE CONCRETE WITH 1 ¼" X #10 GAGE (LENGTH X SHANK DIAMETER) GALVANIZED BUTTON HEAD SPIKES THROUGH A 1 INCH OUTSIDE DIAMETER, #10 GAGE GALVANIZED WASHER. MAXIMUM FASTENER SPACING IS 9 INCHES. USE OF OTHER SIMILAR GALVANIZED DEVICES, WHICH WILL NOT DAMAGE EITHER THE NEOPRENE OR THE CONCRETE, WILL BE SUBJECT TO THE APPROVAL OF THE ENGINEER.

CENTER THE NEOPRENE STRIPS ON ALL JOINTS. FOR HORIZONTAL JOINTS, SECURE THE HORIZONTAL NEOPRENE STRIP BY USING A SINGLE LINE OF FASTENERS, STARTING AT 6 INCHES ±, FROM THE TOP OF NEOPRENE STRIP. FOR THE VERTICAL JOINTS SECURE THE VERTICAL NEOPRENE STRIP BY USING A SINGLE VERTICAL LINE OF FASTENERS, STARTING AT 6 INCHES ±, FROM THE VERTICAL EDGE OF THE NEOPRENE STRIP NEAREST TO THE CENTERLINE OF ROADWAY. FOR VERTICAL JOINTS, INSTALL 2 ADDITIONAL FASTENERS AT 6 INCHES, CENTER TO CENTER, ACROSS THE TOP OF THE NEOPRENE STRIP ON THE SAME SIDE OF THE VERTICAL JOINT AS THE SINGLE VERTICAL ROW OF FASTENERS IS LOCATED.

THE VERTICAL NEOPRENE STRIPS SHALL COMPLETELY OVERLAP THE HORIZONTAL STRIPS. LAP LENGTHS OF THE HORIZONTAL STRIPS THAT ARE NOT VULCANIZED OR ADHESIVE BONDED, SHALL BE AT LEAST 1 FOOT IN LENGTH, OR 6 INCHES IN LENGTH IF THE LAP IS VULCANIZED OR ADHESIVE BONDED. NO LAPS ARE ACCEPTABLE IN VERTICALLY INSTALLED NEOPRENE STRIPS.

THE NEOPRENE SHEETING SHALL BE 3/32" THICK GENERAL PURPOSE, HEAVY-DUITY NEOPRENE SHEET WITH NYLON FABRIC REINFORCEMENT. THE SHEETING SHALL BE "FAIRPRENE NUMBER NN-0003", BY E. I. DUPONT DE NEMOURS AND COMPANY, INC., "WINGPRENE" BY THE GOODYEAR TIRE AND RUBBER COMPANY, OR AN APPROVED ALTERNATE. THE NEOPRENE SHEETING SHALL CONFORM TO THE FOLLOWING:

DESCRIPTION OF TEST	ASTM METHOD	REQUIREMENT
THICKNESS, INCHES	D 751	0.094 +/- 0.01
BREAKING STRENGTH, GRAB LBS, MINIMUM (LONG. X TRANS.)	D 751	700 X 700
ADHESIVE STRIP, 1" WIDE X 2" LONG, LBS. MINIMUM	D 751	9
BURST STRENGTH PSI, MINIMUM	D 751	1400
HEAT AGING 70 HOURS AT 212°F, 180° BEND WITHOUT CRACKING	D 2136	NO CRACKING OF COATING
LOW TEMP. BRITTLENESS, 1 HR, AT -40°F, BEND AROUND 1/4 INCH MANDREL	D 2136	NO CRACKING OF COATING

METHOD OF MEASUREMENT: THE DEPARTMENT WILL MEASURE THE TOTAL LENGTH OF JOINT TO BE SEALED BY THE NUMBER OF FEET.

BASIS OF PAYMENT: THE DEPARTMENT WILL PAY FOR ACCEPTED QUANTITIES AT THE CONTRACT PRICE FOR ITEM 516, SEMI-INTEGRAL ABUTMENT EXPANSION JOINT SEAL, AS PER PLAN.

ITEM 518, 6" NON-PERFORATED CORRUGATED PLASTIC PIPE, INCLUDING SPECIALS, AS PER PLAN:

ANIMAL GUARDS SHALL BE PROVIDED AT THE OUTLET OF THE DRAINAGE PIPES. THE STEEL BOLTS OR RODS FOR THE ANIMAL GUARDS SHALL BE GALVANIZED PER CMS 711.02. SEE STANDARD DRAWING DM-1.1 FOR ADDITIONAL DETAILS AND NOTES. THE ANIMAL GUARDS AND CRUSHED AGGREGATE SLOPE PROTECTION, 601.06, AT END OF DRAINAGE PIPE (12" DEEP) ARE INCIDENTAL TO ITEM 518, 6" NON-PERFORATED CORRUGATED PLASTIC PIPE, INCLUDING SPECIALS, AS PER PLAN.

ITEM 519, PATCHING CONCRETE STRUCTURE, AS PER PLAN:

PRIOR TO THE SURFACE CLEANING SPECIFIED IN CMS 519.04 AND WITHIN 24 HOURS OF PLACING PATCHING MATERIAL, BLAST CLEAN ALL ABUTMENT AND PIER SURFACES TO BE PATCHED INCLUDING ALL EXPOSED REINFORCING STEEL. ACCEPTABLE METHODS INCLUDE HIGH-PRESSURE WATER BLASTING WITH OR WITHOUT ABRASIVES IN THE WATER, ABRASIVE BLASTING WITH CONTAINMENT, OR VACUUM ABRASIVE BLASTING.

THE ESTIMATED QUANTITY OF PATCHING REQUIRED IS BASED ON FIELD MEASUREMENTS OF ABOVE GROUND DETERIORATION AND A CONTINGENCY QUANTITY OF 20 SQUARE FEET FOR THE BRIDGE. THE CONTRACTOR SHALL EXCAVATE REPAIR AREAS THAT EXTEND TO THE EXISTING GROUND LINE. THE ENGINEER SHALL DETERMINE THE EXTENT OF BELOW GROUND REPAIR BASED ON THE CONTRACTOR'S EXCAVATION.

THE CONTRACTOR SHALL INCLUDE THIS EXCAVATION, PERFORMED IN ACCORDANCE WITH ITEM 503, IN THE UNIT PRICE BID FOR ITEM 519, PATCHING OF CONCRETE STRUCTURE, AS PER PLAN.

ITEM 526, REINFORCED CONCRETE APPROACH SLAB (T=15"), AS PER PLAN:

THE PROVISIONS OF CMS 526 SHALL APPLY EXCEPT AS NOTED BELOW.

CLASS HP CONCRETE, MIX HP4, AS PER PLAN, SHALL BE THE ONLY MIX DESIGN OPTION. THE PROPORTIONS FOR THE STARTING MIX DESIGN SHALL BE AS SHOWN FOR ITEM 511 - CLASS HP CONCRETE, BRIDGE DECK, AS PER PLAN.

THE PARAPETS WILL BE CARRIED ONTO THE APPROACH SLABS AND TRANSITIONED ON THE APPROACH SLABS AS DETAILED IN THE PLANS. QUANTITIES FOR THE SEALING OF CONCRETE SURFACES ARE INCLUDED WITH ITEM 512 - SEALING OF CONCRETE SURFACES (EPOXY-URETHANE) FOR PAYMENT. QUANTITIES OF CONCRETE AND REINFORCING STEEL FOR THE PARAPETS, CURBS AND APPROACH SLABS ARE INCLUDED WITH THIS ITEM FOR PAYMENT.

ITEM SPECIAL - STRUCTURE, MISC.: CUT AND CAP 6" CMP DRAIN:

THE EXISTING 6" CMP DRAIN AT THE ABUTMENTS SHALL BE CUT OFF AT THE ABUTMENTS AS SHOWN ON THE ABUTMENT REMOVAL DETAILS. THE DRAIN PIPES SHALL BE FILLED WITH GROUT, CAPPED OR ANY OTHER MEANS APPROVED BY THE ENGINEER TO PLUG THE PIPES.

ALL LABOR, EQUIPMENT, MATERIALS AND INCIDENTALS NECESSARY TO COMPLETE THIS WORK SHALL BE INCLUDED WITH ITEM SPECIAL - STRUCTURE, MISC.: CUT AND CAP 6" CMP DRAIN FOR PAYMENT.

ASBESTOS NOTIFICATION:

AN ASBESTOS SURVEY WAS CONDUCTED ON THE I 271 BRIDGES AND WAS COMPLETED IN NOVEMBER OF 2005 BY A CERTIFIED ASBESTOS HAZARD EVALUATION SPECIALIST FROM MICHAEL BAKER, JR., INC. THE SURVEY DID NOT IDENTIFY ANY ASBESTOS-CONTAINING MATERIAL (ACM) ON THE BRIDGES.

IF UNIDENTIFIED ACM IS ENCOUNTERED DURING THE DECK REPLACEMENT OF THE BRIDGE, REMOVAL AND DISPOSAL OF ACM MUST COMPLY WITH THE OHIO ADMINISTRATIVE CODE, THE OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA) REGULATIONS, AND THE NATIONAL EMISSION STANDARD FOR HAZARDOUS AIR POLLUTANTS (NESHAP) STANDARDS FOR ASBESTOS.

A COPY OF THE OHIO ENVIRONMENTAL PROTECTION AGENCY (OEPA) NOTIFICATION OF DEMOLITION AND RENOVATION FORM WITH SECTIONS I-VII AND XVI COMPLETED IS INCLUDED WITH THE BID PACKAGE. THE CONTRACTOR WILL COMPLETE SECTIONS VIII-XIII OF THE SIGNED FORM AND SUBMIT THE COMPLETED FORM TO THE LOCAL AIR AUTHORITY AT LEAST TEN (10) DAYS PRIOR TO DEMOLITION OF THE BRIDGE. THE CONTRACTOR WILL PROVIDE A COPY OF THE COMPLETED FORM TO THE ENGINEER. THE LOCAL AIR AUTHORITY IS:

AKRON REGIONAL AIR QUALITY MANAGEMENT DISTRICT
146 S. HIGH ST. SUITE 904
AKRON, OHIO 44308
LYNN M. MALCOLM, ADMINISTRATOR
(330) 375-2480
FAX (330) 375-2402

THE CONTRACTOR SHALL FURNISH ALL LABOR, EQUIPMENT, AND MATERIALS NECESSARY TO COMPLETE, SUBMIT, AND COMPLY WITH THE OEPA NOTIFICATION FORM. PAYMENT OF THIS WORK SHALL BE INCIDENTALS TO ITEM 202 - PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN.

ABBREVIATIONS:

THE FOLLOWING ABBREVIATIONS HAVE BEEN USED THROUGHOUT THESE PLANS TO INDICATE THE DESIGNATIONS CONTAINED IN THE LEGEND BELOW:

AASHTO - AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS
ABUT. - ABUTMENT
ADT - AVERAGE DAILY TRAFFIC
ADTT - AVERAGE DAILY TRUCK TRAFFIC
A.P.P. - AS PER PLAN
APPR. - APPROACH
APPROX. - APPROXIMATE
ASTM - AMERICAN SOCIETY OF TESTING AND MATERIALS

℄ - BASELINE
B.F. - BACK FACE
BOT. - BOTTOM
BRGS. - BEARINGS
B.T.A. - BRIDGE TERMINAL ASSEMBLY
BTWN. - BETWEEN

℄ - CENTERLINE
C.B. - CATCH BASIN
C/C - CENTER TO CENTER
CIP - CAST-IN-PLACE
C.J. - CONSTRUCTION JOINT
CLR. - CLEARANCE
CMS - CONSTRUCTION AND MATERIAL SPECIFICATIONS
CONC. - CONCRETE
CONN. - CONNECTION
CONST. - CONSTRUCTION
CU YD - CUBIC YARD
CVN - CHARPY V-NOTCH

DEFL. - DEFLECTION
DIA. - DIAMETER
DIM. - DIMENSION
DWG. - DRAWING

EB - EASTBOUND
E.F. - EACH FACE
E/P - EDGE OF PAVEMENT
E/S - EDGE OF SHOULDER
EL. - ELEVATION
EQ. - EQUAL
EX. - EXISTING
EXP. - EXPANSION
EXT. - EXTENSION

F.A. - FORWARD ABUTMENT
F.F. - FRONT FACE
F.S. - FIELD SPLICE
FT/FT - FOOT PER FOOT
FTG. - FOOTING
FWD. - FORWARD

GEN. - GENERAL
GR - GUARDRAIL
HMWM - HIGH MOLECULAR WEIGHT METHACRYLATE
HORZ. - HORIZONTAL
HPC - HIGH PERFORMANCE CONCRETE

HW - HIGH WATER
INV. - INVERT
IR - INTERSTATE ROUTE

LB - POUNDS
LF - LEFT FORWARD
LT. - LEFT
LOC. - LOCATION

MAX. - MAXIMUM
MC - MECHANICAL CONNECTORS
MIN. - MINIMUM
MISC. - MISCELLANEOUS
MOT - MAINTENANCE OF TRAFFIC
MSE - MECHANICALLY STABILIZED EARTH

NB - NORTHBOUND
N.C.P.P. - NON-PERFORATED CORRUGATED PLASTIC PIPE
NO./# - NUMBER
N.T.S. - NOT TO SCALE
OHWM = ORDINARY HIGH WATER MARK
O/O - OUT TO OUT
PC - POINT OF CURVATURE
P.C.P.P - PERFORATED CORRUGATED PLASTIC PIPE
P.E.J.F. - PREFORMED EXPANSION JOINT FILLER
P.G. - PROFILE GRADE
PI - POINT OF INTERSECTION
PROP. - PROPOSED
PT - POINT OF TANGENCY
PVC - POINT OF VERTICAL CURVATURE
PVI - POINT OF VERTICAL INTERSECTION
PVT - POINT OF VERTICAL TANGENCY
R. - RADIUS
R.A. - REAR ABUTMENT
REQ'D - REQUIRED
RF - RIGHT FORWARD
RT. - RIGHT
R/W - RIGHT OF WAY

SAN. - SANITARY
SB - SOUTHBOUND
SER. - SERIES
S.O. - SERIES OF
SPA. - SPACES OR SPACING
S.R. - STATE ROUTE
STA. - STATION
STD. - STANDARD
STM. - STORM
STR. - STRAIGHT

TBM - TEMPORARY BENCH MARK
TEMP. - TEMPORARY
T.O.S. - TOP OF SLOPE
T/PARAPET - TOE OF PARAPET
T/T - TOE TO TOE
TYP. - TYPICAL

U.G. - UNDERGROUND
VAR. - VARIES
VC - VERTICAL CURVE
VERT. - VERTICAL
W/O - WITHOUT

DESIGN AGENCY
COLUMBUS ENGINEERING CONSULTANTS, INC.
840 MICHIGAN AVENUE, COLUMBUS, OH 43215
TEL:(614)228-3500

DESIGNED SS/YSJ | DRAWN CEC | REVIEWED JJ | DATE 09/12 | CHECKED JH | REVISED | STRUCTURE FILE NUMBER 7709900

GENERAL NOTES - II
BRIDGE NO. SUM-303-0502
S.R. 303 OVER I.R. 271

SUM-271-2.33
PID No. 18710

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COMPUTED BY : SS DATE : 02/13
CHECKED BY : YSJ DATE : 02/13

ESTIMATED QUANTITIES (FUNDING PARTICIPATION; 06/IMS/BR)

ITEM	ITEM EXT.	TOTAL	UNIT	DESCRIPTION	ABUTS.	PIER	SUPER	GEN	SEE SHEET NO.
202	11203	LUMP		PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN				LUMP	3/38
202	22900	336	SQ YD	APPROACH SLAB REMOVED				336	
503	11101	LUMP		COFFERDAMS AND EXCAVATION BRACING, AS PER PLAN				LUMP	3/38
503	21301	LUMP		UNCLASSIFIED EXCAVATION, AS PER PLAN	LUMP				3/38
509	10000	200363	POUND	EPOXY COATED REINFORCING STEEL	5394	20042	174927		
509	20001	100	POUND	REINFORCING STEEL, REPLACEMENT OF EXISTING REINFORCING STEEL, AS PER PLAN				100	3/38
510	10000	296	EACH	DOWEL HOLES WITH NONSHRINK, NONMETALLIC GROUT	296				
511	43200	92	CU YD	CLASS C CONCRETE, PIER		92			
511	45700	64	CU YD	CLASS C CONCRETE, ABUTMENT	64				
511	50001	470	CU YD	CLASS HP CONCRETE, BRIDGE DECK, AS PER PLAN			470		3/38
511	50101	76	CU YD	CLASS HP CONCRETE, BRIDGE DECK (PARAPET), AS PER PLAN			76		3/38
511	51001	161	CU YD	CLASS HP CONCRETE, SUPERSTRUCTURE, AS PER PLAN			161		3/38
511	52000	LUMP		CLASS HP CONCRETE, TEST SLAB				LUMP	
512	10100	1187	SQ YD	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)	78	375	687	47*	
512	10601	12	FT	CONCRETE REPAIR BY EPOXY INJECTION, AS PER PLAN	12				3/38
512	33000	4	SQ YD	TYPE 2 WATERPROOFING	4				
512	74000	179	SQ YD	REMOVAL OF EXISTING COATINGS FROM CONCRETE SURFACES (SEE PROPOSAL NOTE)	14	165			
513	10280	412006	POUND	STRUCTURAL STEEL MEMBERS, LEVEL 4			412006		
513	20000	5037	EACH	WELDED STUD SHEAR CONNECTORS			5037		
514	00060	21932	SQ FT	FIELD PAINTING STRUCTURAL STEEL, INTERMEDIATE COAT			21932		
514	00067	21932	SQ FT	FIELD PAINTING STRUCTURAL STEEL, FINISH COAT, AS PER PLAN			21932		4/38
514	10000	14	EACH	FINAL INSPECTION REPAIR			14		
516	13900	91	SQ FT	2" PREFORMED EXPANSION JOINT FILLER	91				
516	14021	131	FT	SEMI-INTEGRAL ABUTMENT EXPANSION JOINT SEAL, AS PER PLAN	131				4/38
516	44101	5	EACH	ELASTOMERIC BEARING (1'-1" X 2'-6" X 2.51") WITH INTERNAL LAMINATES AND LOAD PLATE (1'-2" X 2'-7" X 2") (NEOPRENE), AS PER PLAN		5			32/38
516	44201	5	EACH	ELASTOMERIC BEARING (1'-2" X 2'-0" X 3.0") WITH INTERNAL LAMINATES AND LOAD PLATE (1'-3" X 2'-1" X 2") (NEOPRENE), AS PER PLAN		5			31/38
516	44201	5	EACH	ELASTOMERIC BEARING (1'-2" X 2'-2" X 3.0") WITH INTERNAL LAMINATES AND LOAD PLATE (1'-3" X 2'-3" X 2") (NEOPRENE), AS PER PLAN		5			31/38
516	44301	10	EACH	ELASTOMERIC BEARING (1'-1" X 1'-7" X 4.0") WITH INTERNAL LAMINATES, LOAD PLATES (1'-2" X 1'-8" X 2") AND MASONRY PLATES (1'-2" X 2'-5" X 1") (NEOPRENE), AS PER PLAN	10				30/38
518	21200	108	CU YD	POROUS BACKFILL WITH FILTER FABRIC	108				
518	40000	160	FT	6" PERFORATED CORRUGATED PLASTIC PIPE	160				
518	40011	50	FT	6" NON-PERFORATED CORRUGATED PLASTIC PIPE, INCLUDING SPECIALS, AS PER PLAN	50				4/38
519	11101	30	SQ FT	PATCHING CONCRETE STRUCTURE, AS PER PLAN	10			20	4/38
526	25001	257	SQ YD	REINFORCED CONCRETE APPROACH SLAB (T=15"), AS PER PLAN				257	4/38
SPECIAL	53000400	10	EACH	STRUCTURE, MISC.: CUT AND CAP 6" CMP DRAIN	10				4/38

* - INCLUDES APPROACH SLAB PARAPET QUANTITIES

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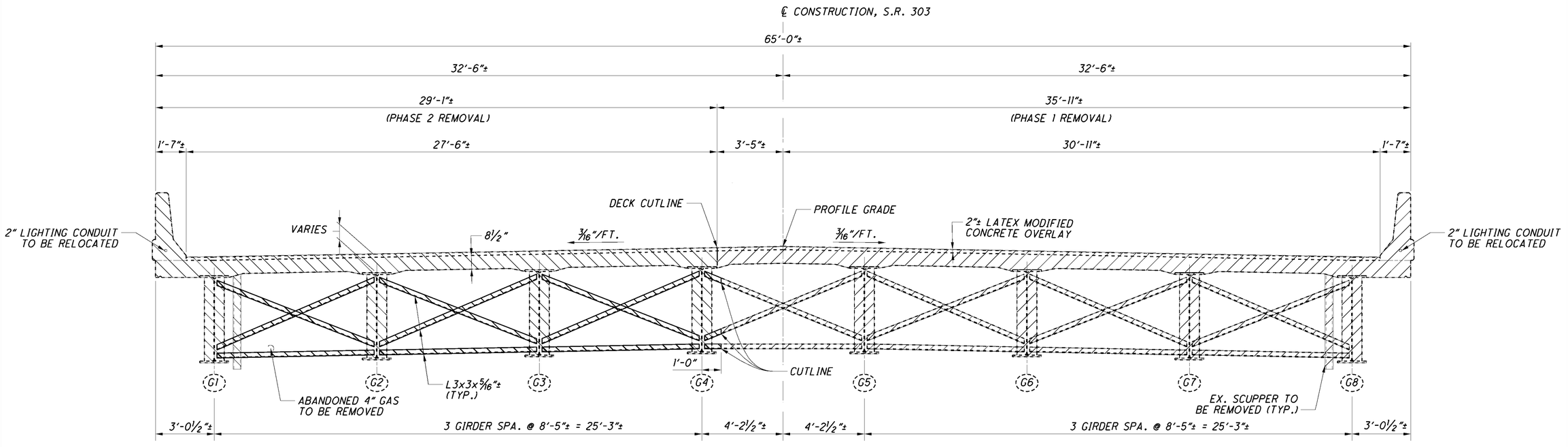
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CHECKED JH | REVISED | STRUCTURE FILE NUMBER 7709900

ESTIMATED QUANTITIES
BRIDGE NO. SUM-303-0502
S.R. 303 OVER I.R. 271

SUM-271-2.33
PID No. 18710

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SUPERSTRUCTURE REMOVAL DETAILS

NOTE:

1. FOR DECK REMOVAL AND CONSTRUCTION SEQUENCE DETAILS, SEE MAINTENANCE OF TRAFFIC TYPICAL SECTIONS IN ROADWAY SHEETS.

LEGEND:

- ▨ - PHASE 1 REMOVAL
- ▨ - PHASE 2 REMOVAL
- (G8) - EXISTING GIRDER NO.

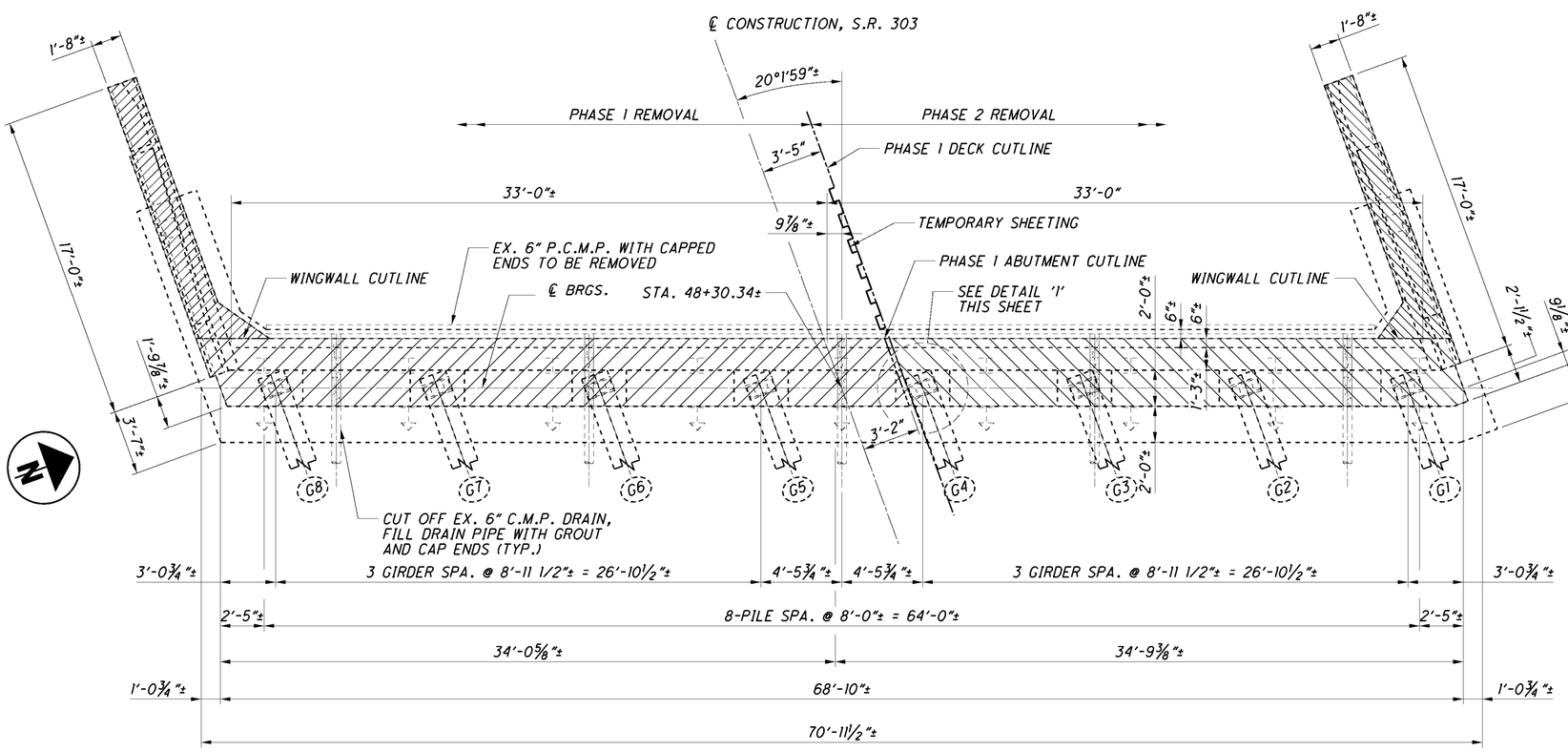
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840 MICHIGAN AVENUE, COLUMBUS, OH 43215
TEL:(614)228-3500

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SS/YSJ	CEC	JJ	09/12
CHECKED	REVISED	STRUCTURE FILE NUMBER	
JH		7709900	

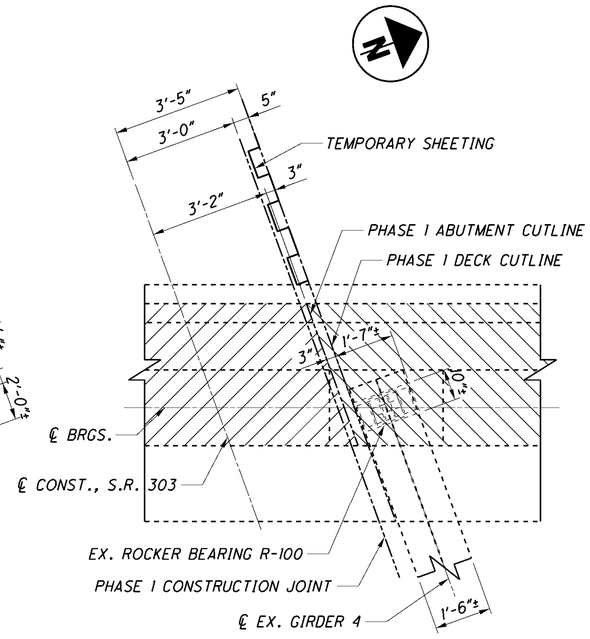
SUPERSTRUCTURE REMOVAL DETAILS
BRIDGE NO. SUM-303-0502
S.R. 303 OVER I.R. 271

SUM-271-2.33
PID No. 18710

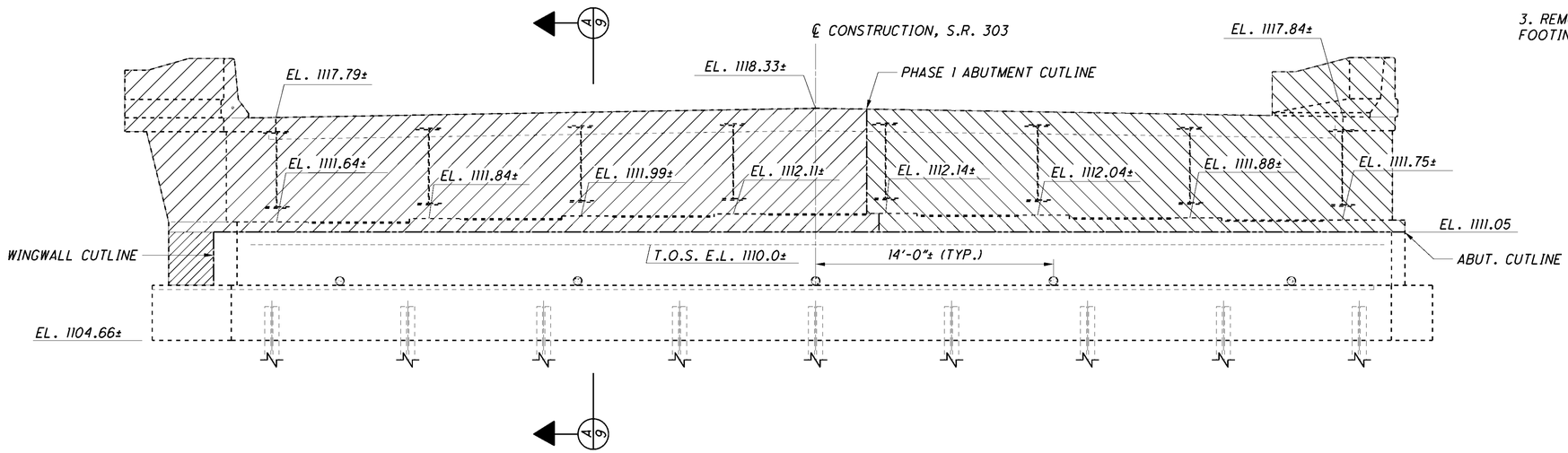
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PLAN



DETAIL '1'



ELEVATION

NOTES:

1. ALL EXISTING DIMENSIONS ARE ± UNLESS NOTED OTHERWISE.
2. REMOVE EXISTING ABUTMENT BACKWALL AND BEAM SEATS IN PHASES TO ELEVATION 1111.05.
3. REMOVE EXISTING WINGWALLS AND STEAM FILLETS TO TOP OF FOOTING AS SHOWN.

LEGEND:

- PHASE 1 REMOVAL TO ELEVATION SHOWN
- PHASE 1 REMOVAL TO TOP OF FOOTING
- PHASE 2 REMOVAL TO ELEVATION SHOWN
- PHASE 2 REMOVAL TO TOP OF FOOTING
- FILL WITH GROUT
- (G8) - EX. GIRDER NO.

SYMBOLS:

- EX. VERTICAL PILES
- EX. PILES BATTERED AT 1:4

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840 MICHIGAN AVENUE, COLUMBUS, OH 43215
TEL:(614)228-3500

DESIGNED	DRAWN	REVIEWED	DATE
SS/YSJ	CEC	JJ	09/12
CHECKED	REVISED	STRUCTURE FILE NUMBER	
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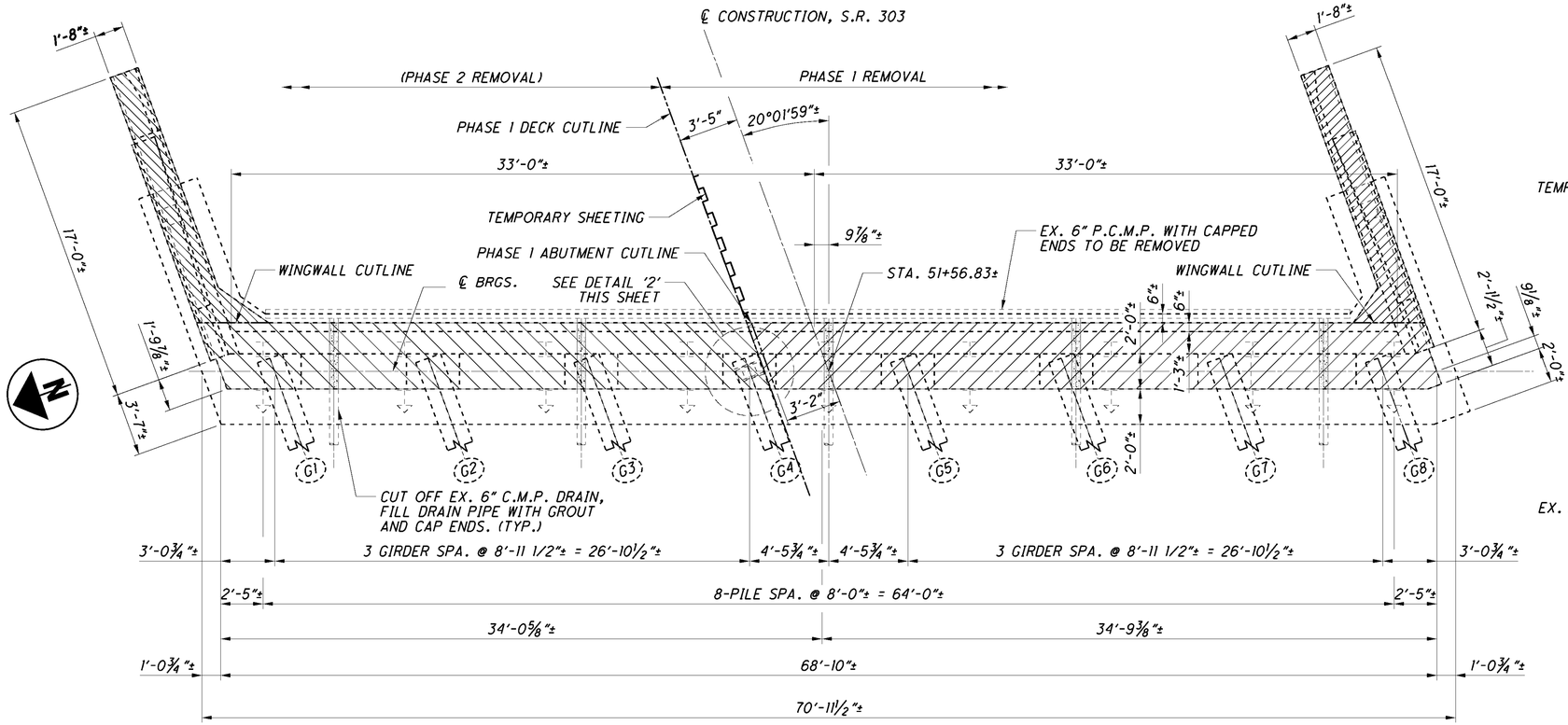
REAR ABUTMENT REMOVAL DETAILS
BRIDGE NO. SUM-303-0502
S.R. 303 OVER I.R. 271

SUM-271-2.33
PID No. 18710

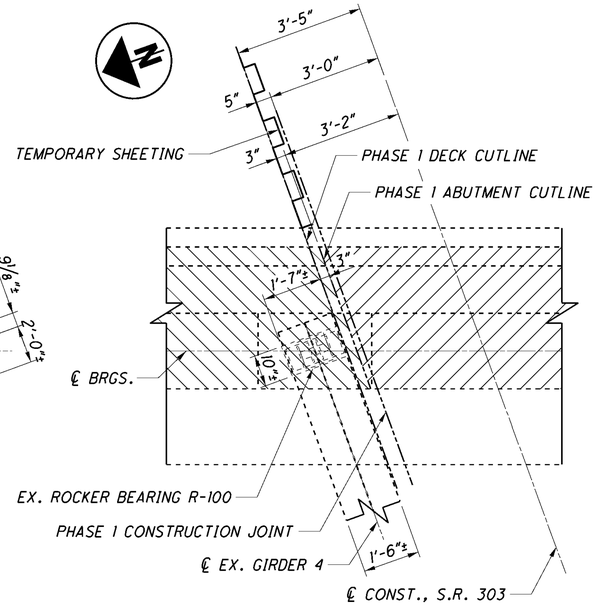
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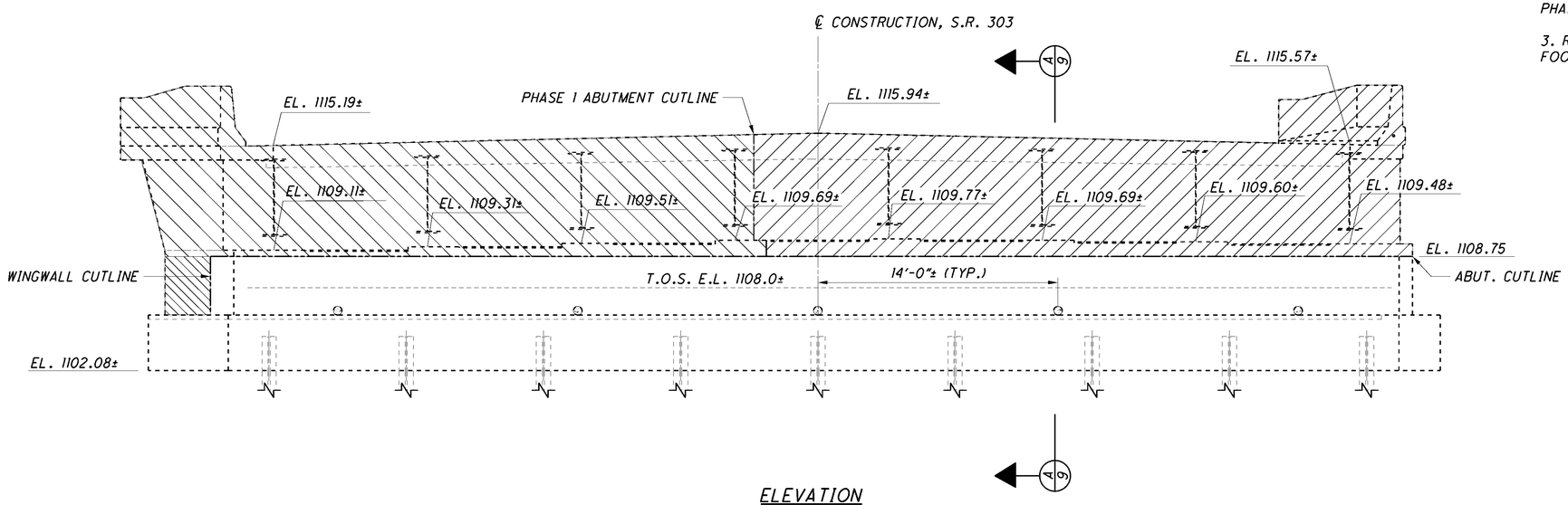
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PLAN



DETAIL '2'



ELEVATION

NOTES:

1. ALL EXISTING DIMENSIONS ARE ± UNLESS NOTED OTHERWISE.
2. REMOVE EXISTING ABUTMENT BACKWALL AND BEAM SEATS IN PHASES TO ELEVATION 1108.75.
3. REMOVE EXISTING WINGWALLS AND STEAM FILLETS TO TOP OF FOOTING AS SHOWN.

LEGEND:

- PHASE 1 REMOVAL TO ELEVATION SHOWN
- PHASE 1 REMOVAL TO TOP OF FOOTING
- PHASE 2 REMOVAL TO ELEVATION SHOWN
- PHASE 2 REMOVAL TO TOP OF FOOTING
- FILL WITH GROUT
- (G8) - EX. GIRDER NO.

SYMBOLS:

- EX. VERTICAL PILES
- EX. PILES BATTERED AT 1:4

DESIGN AGENCY
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TEL:(614)228-3500

DESIGNED	DRAWN	REVIEWED	DATE
SS/YSJ	CEC	JJ	09/12
CHECKED	REVISED	STRUCTURE FILE NUMBER	
JH		7709900	

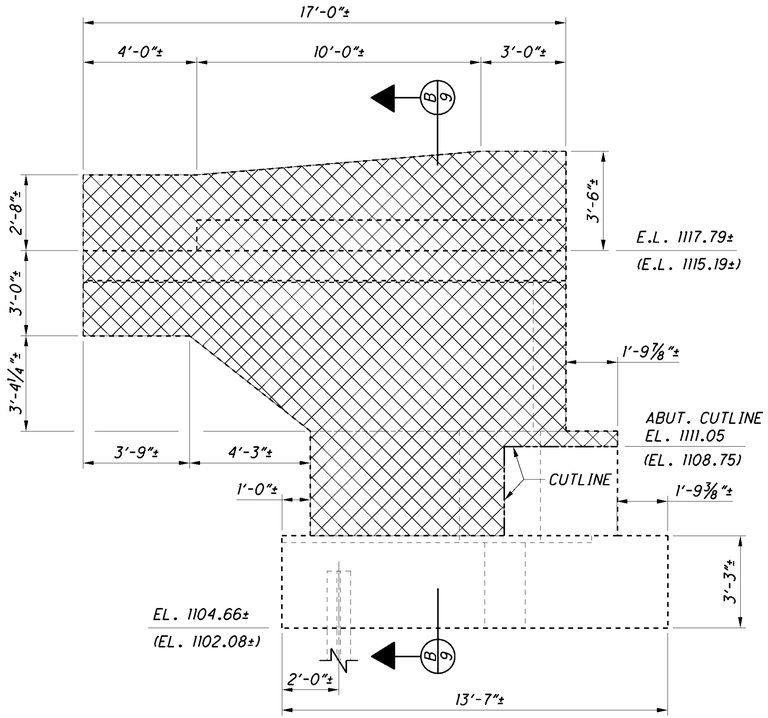
FORWARD ABUTMENT REMOVAL DETAILS
BRIDGE NO. SUM-303-0502
S.R. 303 OVER I.R. 271

SUM-271-2.33
PID No. 18710

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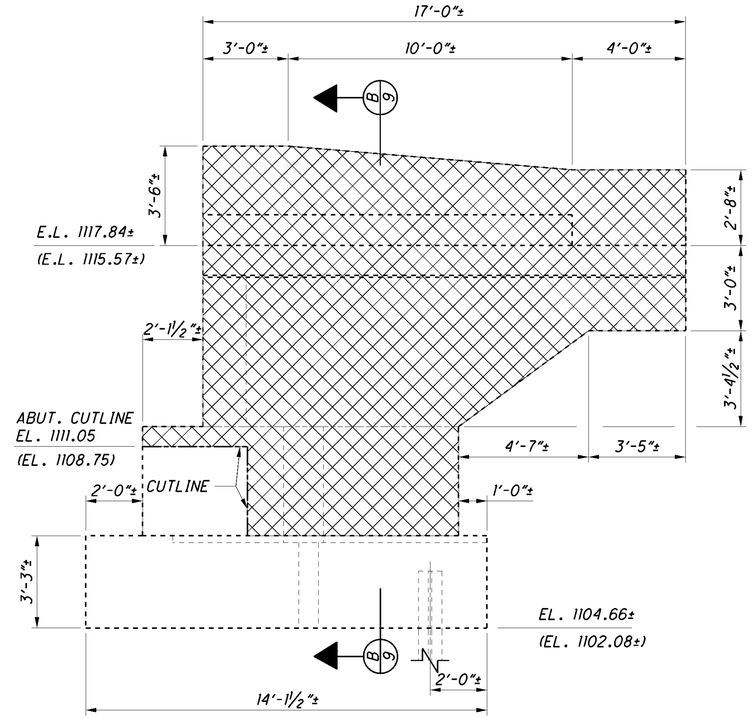
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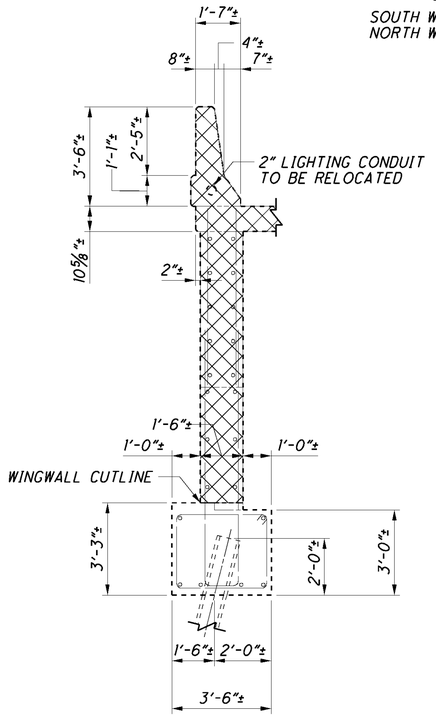
ELEVATION - WINGWALL

SOUTH WINGWALL - REAR ABUTMENT (PHASE 1)
NORTH WINGWALL - FORWARD ABUTMENT (PHASE 2)

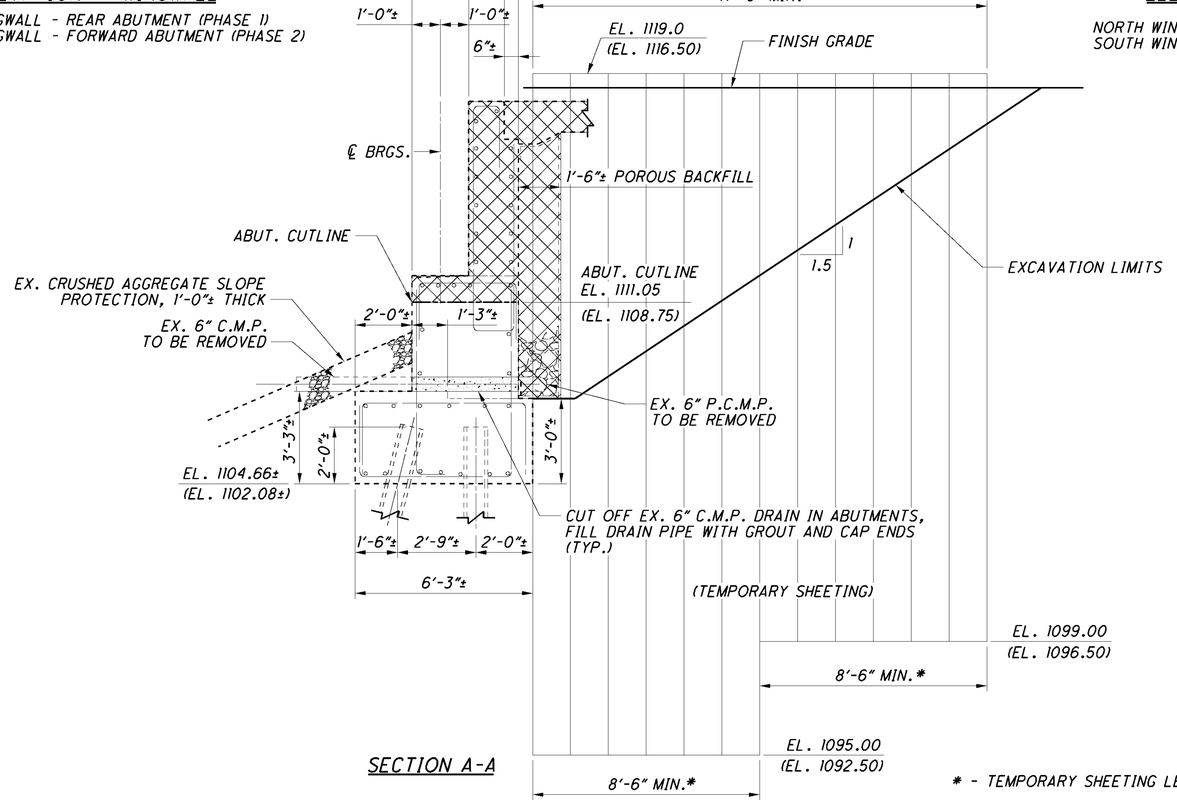


ELEVATION - WINGWALL

NORTH WINGWALL - REAR ABUTMENT (PHASE 2)
SOUTH WINGWALL - FORWARD ABUTMENT (PHASE 1)



SECTION B-B



SECTION A-A

NOTES:

1. ALL EXISTING DIMENSIONS ARE ± UNLESS NOTED OTHERWISE.
2. ELEVATIONS SHOWN IN ( ) ARE FOR FORWARD ABUTMENT.
3. FOR LOCATION OF SECTION A-A, SEE SHEETS 7/38 & 8/38.
4. THE MINIMUM SECTION MODULUS FOR THE TEMPORARY SHEETING SHALL BE 10.5 CU IN/FT.
5. REMOVE EXISTING 6" P.C.M.P. AND CUT OFF EXISTING 6" C.M.P. DRAIN AT ABUTMENTS AS SHOWN. THE DRAIN PIPES SHALL BE FILLED WITH GROUT AND CAPPED.

ALL LABOR, EQUIPMENT, MATERIALS AND INCIDENTALS NECESSARY TO COMPLETE THIS WORK SHALL BE INCLUDED WITH ITEM SPECIAL - STRUCTURE, MISC.: CUT AND CAP 6" CMP DRAIN FOR PAYMENT.

6. THE COST OF REMOVING EXISTING ABUTMENT BEARINGS SHALL BE INCLUDED WITH ITEM 202, PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN, FOR PAYMENT.

LEGEND:

- REMOVAL
- FILL WITH GROUT

* - TEMPORARY SHEETING LENGTH MEASURED ALONG CENTERLINE CONSTRUCTION

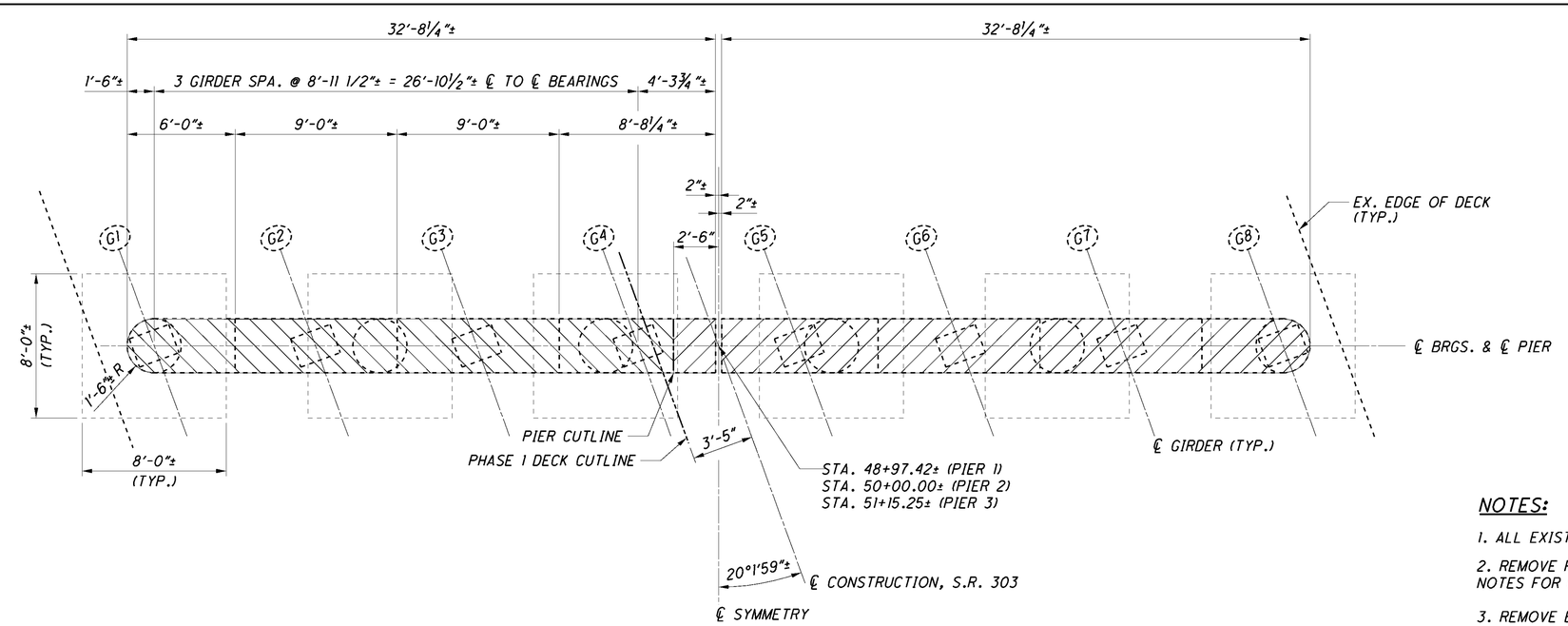
DESIGN AGENCY
COLUMBUS ENGINEERING CONSULTANTS, INC.
840 MICHIGAN AVENUE, COLUMBUS, OH 43215
TEL:(614)228-3500

DESIGNED	DRAWN	REVIEWED	DATE
SS/YSJ	CEC	JJ	09/12
CHECKED	REVISED	STRUCTURE FILE NUMBER	
JH		7709900	

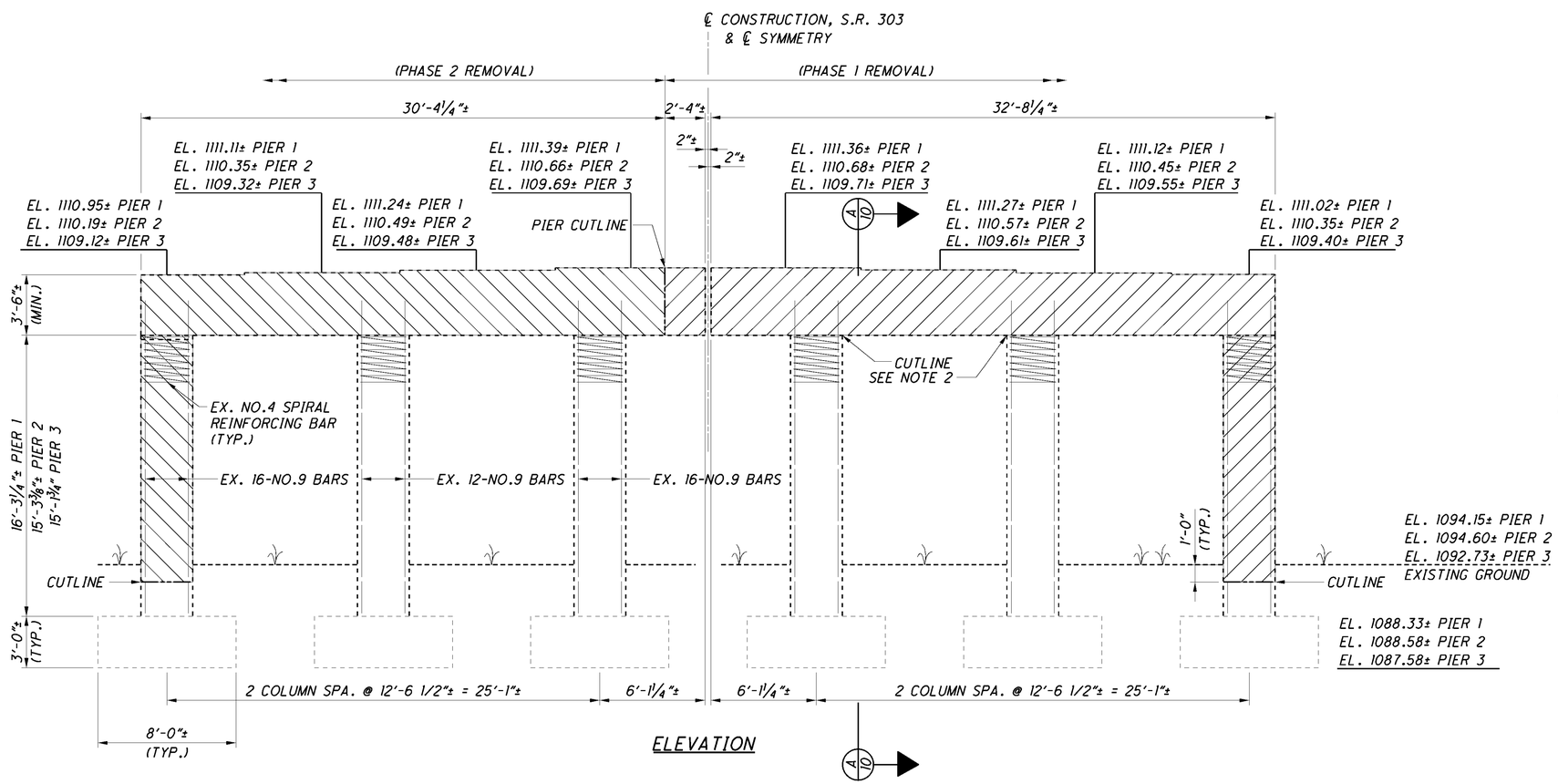
ABUTMENT REMOVAL DETAILS
BRIDGE NO. SUM-303-0502
S.R. 303 OVER I.R. 271

SUM-271-2.33
PID No. 18710

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PLAN



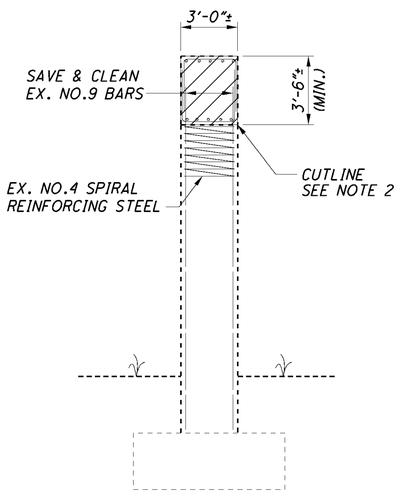
ELEVATION

NOTES:

1. ALL EXISTING DIMENSIONS ARE ± UNLESS NOTED OTHERWISE.
2. REMOVE PIER CAP TO TOP OF COLUMNS, SEE GENERAL NOTES FOR CUTLINE CONSTRUCTION JOINT PREPARATION NOTE.
3. REMOVE EXTERIOR COLUMNS TO 1'-0" BELOW FINISH GRADE.

LEGEND:

- PHASE 1 REMOVAL
- PHASE 2 REMOVAL
- (G8) - EX. GIRDER NO.



SECTION A-A

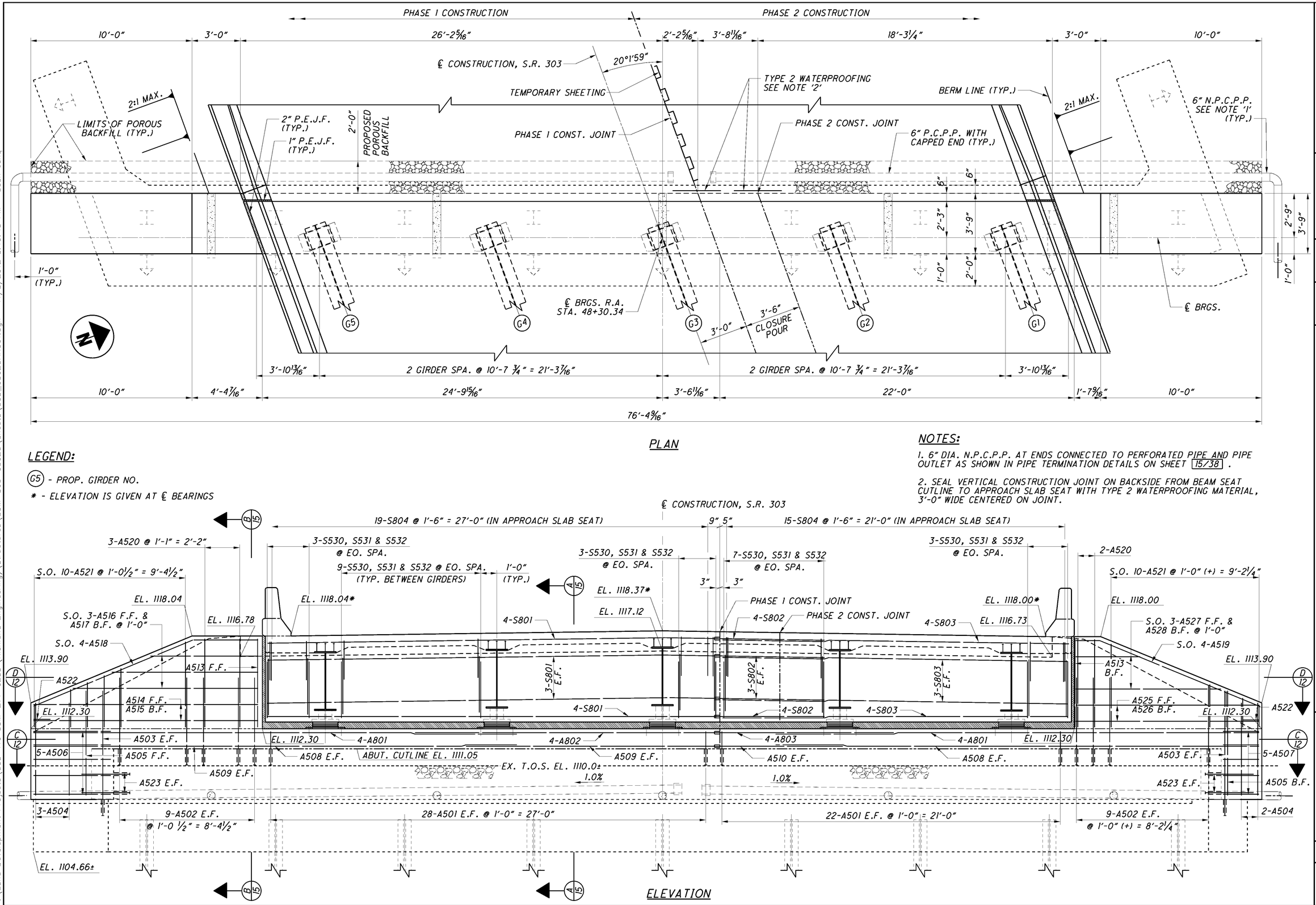
DESIGN AGENCY
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840 MICHIGAN AVENUE, COLUMBUS, OH 43215
TEL:(614)228-3500

DESIGNED	DRAWN	REVIEWED	DATE
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CHECKED	REVISED	STRUCTURE FILE NUMBER	
JH		7709900	

PIER REMOVAL DETAILS
BRIDGE NO. SUM-303-0502
S.R. 303 OVER I.R. 271

SUM-271-2.33
PID No. 18710

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PLAN

NOTES:

1. 6" DIA. N.P.C.P.P. AT ENDS CONNECTED TO PERFORATED PIPE AND PIPE OUTLET AS SHOWN IN PIPE TERMINATION DETAILS ON SHEET 15/38 .

2. SEAL VERTICAL CONSTRUCTION JOINT ON BACKSIDE FROM BEAM SEAT CUTLINE TO APPROACH SLAB SEAT WITH TYPE 2 WATERPROOFING MATERIAL, 3'-0" WIDE CENTERED ON JOINT.

LEGEND:

(G5) - PROP. GIRDER NO.

* - ELEVATION IS GIVEN AT ℄ BEARINGS

ELEVATION

DESIGN AGENCY
COLUMBUS ENGINEERING CONSULTANTS, INC.
840 MICHIGAN AVENUE, COLUMBUS, OH 43215
TEL:(614)228-3500

DESIGNED	DRAWN	REVIEWED	DATE
SS/YSJ	CEC	JJ	09/12
CHECKED	REVISED	STRUCTURE FILE NUMBER	
JH		7709900	

REAR ABUTMENT DETAILS - I

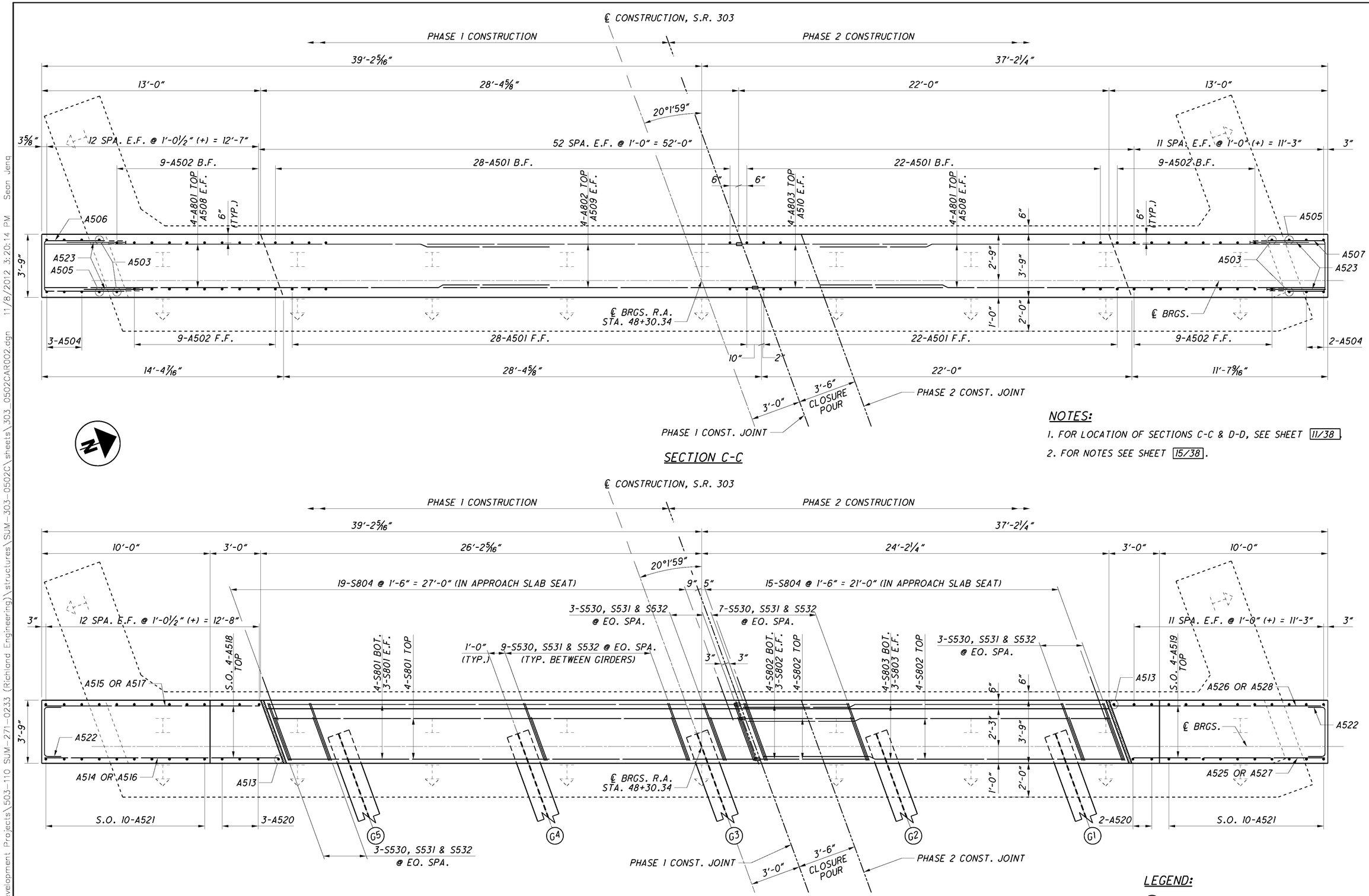
BRIDGE NO. SUM-303-0502
S.R. 303 OVER I.R. 271

SUM-271-2.33
PID No. 18710

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SECTION C-C

NOTES:

1. FOR LOCATION OF SECTIONS C-C & D-D, SEE SHEET 11/38.
2. FOR NOTES SEE SHEET 15/38.

SECTION D-D

LEGEND:

(G5) - PROP. GIRDER NO.

DESIGN AGENCY
COLUMBUS ENGINEERING CONSULTANTS, INC.
840 MICHIGAN AVENUE, COLUMBUS, OH 43215
TEL:(614)228-3500

DESIGNED SS/YSJ | DRAWN CEC | REVIEWED JJ | DATE 09/12 | CHECKED JH | REVISED | STRUCTURE FILE NUMBER 7709900

REAR ABUTMENT DETAILS - II
BRIDGE NO. SUM-303-0502
S.R. 303 OVER I.R. 271

SUM-271-2.33
PID No. 18710

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(PHASE 2 CONSTRUCTION) (PHASE 1 CONSTRUCTION)

10'-0" 3'-0" 23'-4 3/8" 2'-9 15/16" 24'-2 1/4" 3'-0" 10'-0"

PHASE 1 CONST. JOINT
TEMPORARY SHEETING
20°1'59"
BERM LINE (TYP.)
2:1 MAX.
LIMITS OF POROUS BACKFILL (TYP.)
2" P.E.J.F. (TYP.)
1" P.E.J.F. (TYP.)
TYPE 2 WATERPROOFING SEE NOTE '2'
PHASE 2 CONST. JOINT
℄ BRGS. F.A. STA. 51+56.83
2'-0" PROPOSED POROUS BACKFILL
6" P.C.P.P. WITH CAPPED END (TYP.)
6" N.P.C.P.P. SEE NOTE '1' (TYP.)
6" 6"
2'-3" 3'-9"
1'-0" 2'-0"
2'-9" 3'-9" 1'-0"
1'-0" (TYP.)
G1 G2 G3 G4 G5
CLOSURE POUR 3'-6"
3'-0"
℄ CONSTRUCTION, S.R. 303
℄ BRGS.

3'-10 13/16" 2 GIRDER SPA. @ 10'-7 3/4" = 21'-3 7/16" 2 GIRDER SPA. @ 10'-7 3/4" = 21'-3 7/16" 3'-10 13/16"

10'-0" 4'-4 7/16" 19'-0" 3'-8 11/16" 2'-1 3/16" 25'-6 1/16" 1'-7 9/16" 10'-0"

76'-4 9/16"

PLAN

LEGEND:

(G5) - PROP. GIRDER NO.

* - ELEVATION IS GIVEN AT ℄ BEARINGS

NOTES:

1. 6" DIA. N.P.C.P.P. AT ENDS CONNECTED TO PERFORATED PIPE AND PIPE OUTLET AS SHOWN IN PIPE TERMINATION DETAILS ON SHEET 15/38 .

2. SEAL VERTICAL CONSTRUCTION JOINT ON BACKSIDE FROM BEAM SEAT CUTLINE TO APPROACH SLAB SEAT WITH TYPE 2 WATERPROOFING MATERIAL, 3'-0" WIDE CENTERED ON JOINT.

℄ CONSTRUCTION, S.R. 303

15-S804 @ 1'-6" = 21'-0" (IN APPROACH SLAB SEAT) 5" 9" 19-S804 @ 1'-6" = 27'-0" (IN APPROACH SLAB SEAT)

3-A520 @ 1'-1" = 2'-2"
3-S530, S531 & S532 @ EQ. SPA.
7-S530, S531 & S532 @ EQ. SPA.
3-S530, S531 & S532 @ EQ. SPA.
3-S530, S531 & S532 @ EQ. SPA.
2-A529
S.O. 10-A521 @ 1'-0½" = 9'-4½"
3" 3"
1'-0" (TYP.)
9-S530, S531 & S532 @ EQ. SPA. (TYP. BETWEEN GIRDERS)
S.O. 10-A530 @ 1'-0" (+) = 9'-2¼"
EL. 1115.66
EL. 1115.66*
EL. 1116.15*
EL. 1115.93*
EL. 1115.93
PHASE 1 CONST. JOINT
PHASE 2 CONST. JOINT
EL. 1114.90
EL. 1114.67
EL. 1114.39
4-S803
4-S802
4-S801
S.O. 3-A516 F.F. & A517 B.F. @ 1'-0"
S.O. 3-A527 F.F. & A528 B.F. @ 1'-0"
S.O. 4-A518
S.O. 4-A519
EL. 1111.60
A522
A513 F.F.
3-S803 E.F.
3-S802 E.F.
3-S801 E.F.
A524 B.F.
EL. 1111.60
F 14
A514 F.F. A515 B.F.
A525 F.F. A526 B.F.
EL. 1110.00
4-S803
4-S802
4-S801
A522
EL. 1110.00
E 14
A503 E.F.
EL. 1110.00
4-A801
4-A805
4-A804
4-A801
EL. 1110.00
5-A506
A505 F.F.
A508 E.F.
ABUT. CUTLINE EL. 1108.75
A512 E.F.
A511 E.F.
EX. T.O.S. E.L. 1108.0±
A508 E.F.
5-A507
A503 E.F.
1.0%
1.0%
A523 E.F.
A523 E.F.
A505 B.F.
3-A504
9-A502 E.F. @ 1'-0½" = 8'-4½"
22-A501 E.F. @ 1'-0" = 21'-0"
28-A501 E.F. @ 1'-0" = 27'-0"
9-A502 E.F. @ 1'-0" (+) = 8'-2¼"
2-A504
EL. 1102.08±
B 15
A 15

ELEVATION

DESIGN AGENCY
COLUMBUS ENGINEERING CONSULTANTS, INC.
840 MICHIGAN AVENUE, COLUMBUS, OH 43215
TEL:(614)228-3500

DESIGNED	DRAWN	REVIEWED	DATE
SS/YSJ	CEC	JJ	09/12
CHECKED	REVISED	STRUCTURE FILE NUMBER	
JH		7709900	

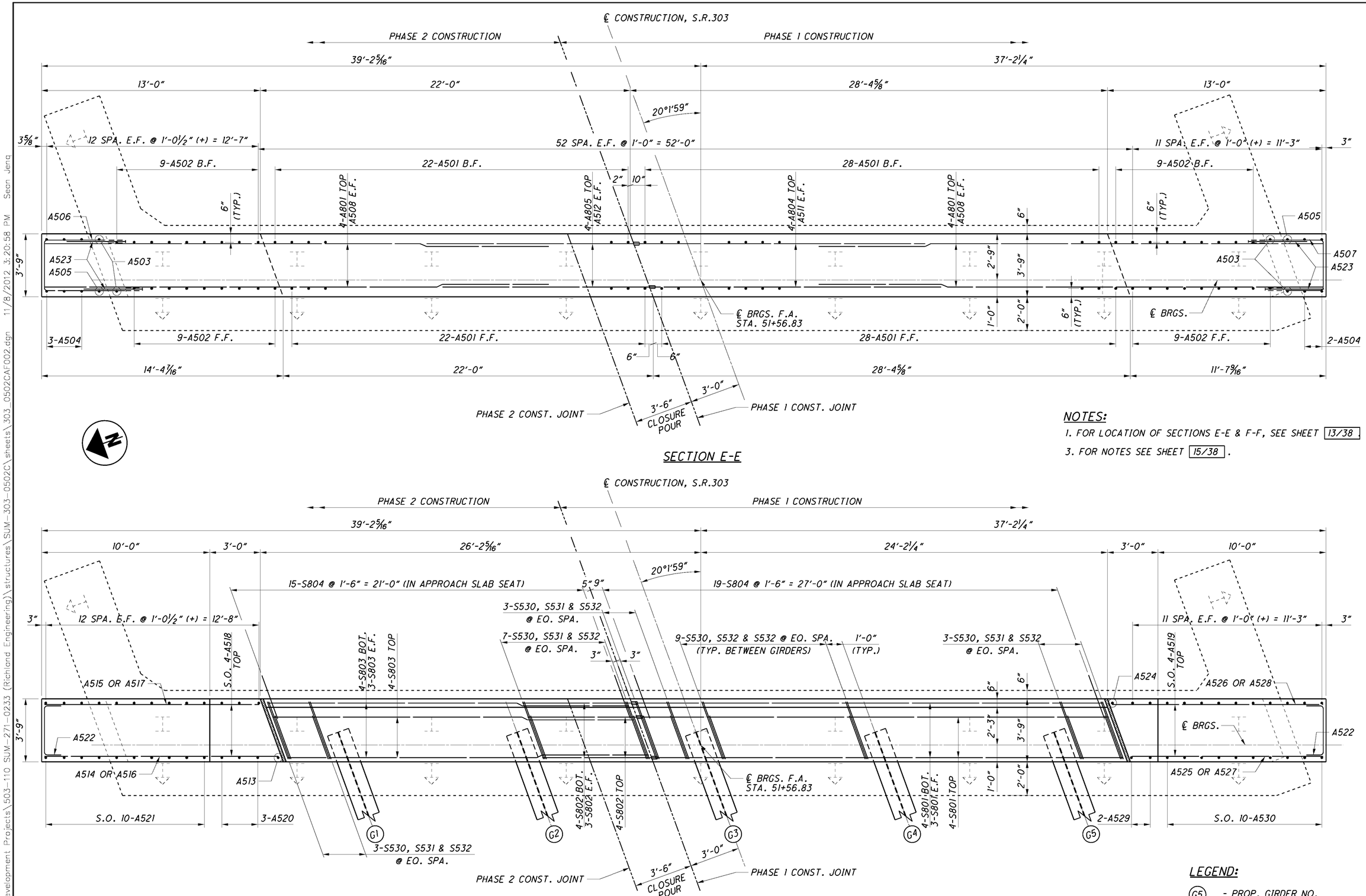
FORWARD ABUTMENT DETAILS - I

BRIDGE NO. SUM-303-0502
S.R. 303 OVER I.R. 271

SUM-271-2.33
PID No. 18710

13 / 38

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SECTION E-E

NOTES:

1. FOR LOCATION OF SECTIONS E-E & F-F, SEE SHEET 13/38
3. FOR NOTES SEE SHEET 15/38 .

SECTION F-F

LEGEND:

(G5) - PROP. GIRDER NO.

DESIGN AGENCY
COLUMBUS ENGINEERING CONSULTANTS, INC.
840 MICHIGAN AVENUE, COLUMBUS, OH 43215
TEL:(614)228-3500

DESIGNED	DRAWN	REVIEWED	DATE
SS/YSJ	CEC	JJ	09/12
CHECKED	REVISED	STRUCTURE FILE NUMBER	
JH		7709900	

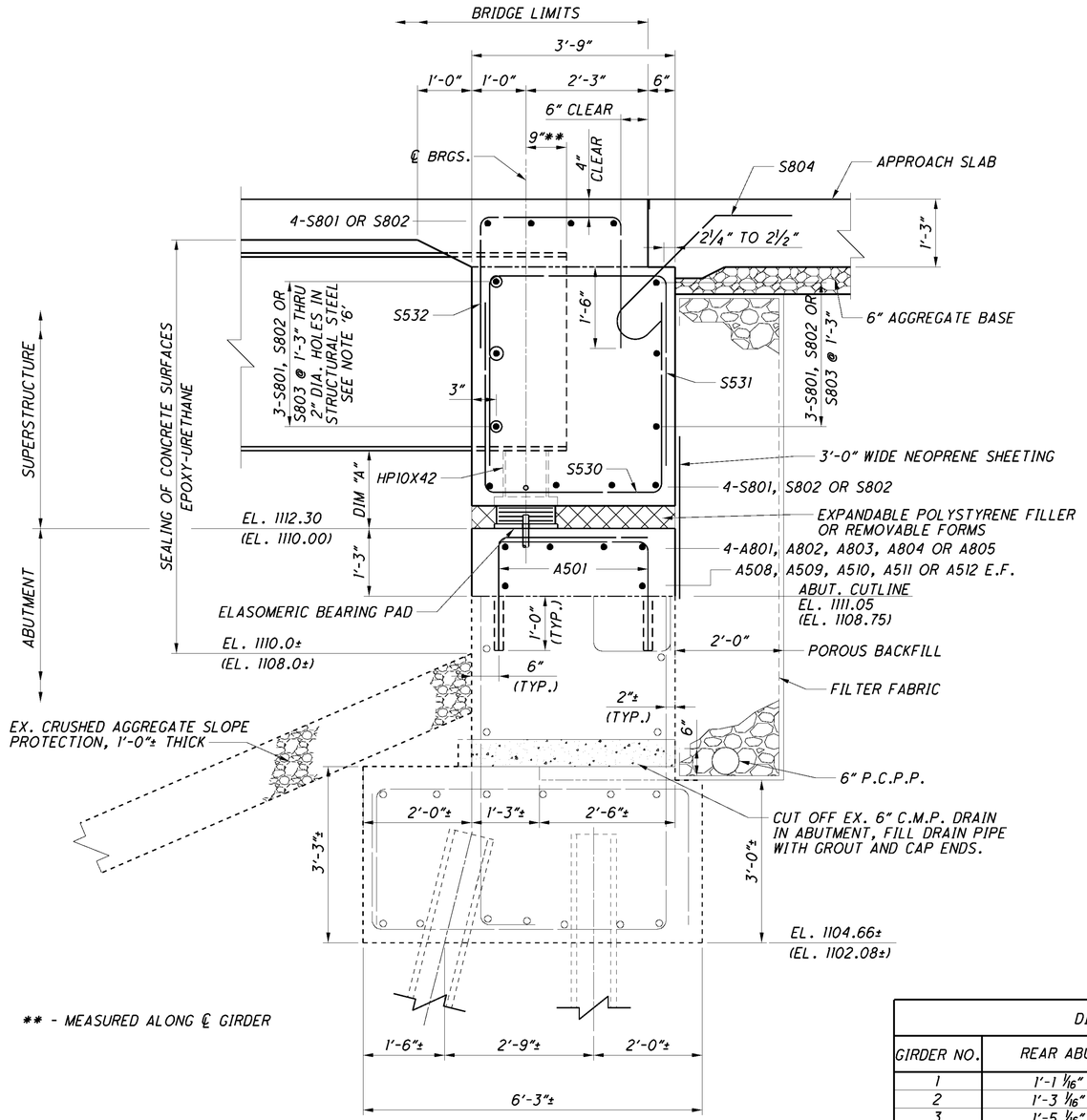
FORWARD ABUTMENT DETAILS - II
BRIDGE NO. SUM-303-0502
S.R. 303 OVER I.R. 271

SUM-271-2.33
PID No. 18710

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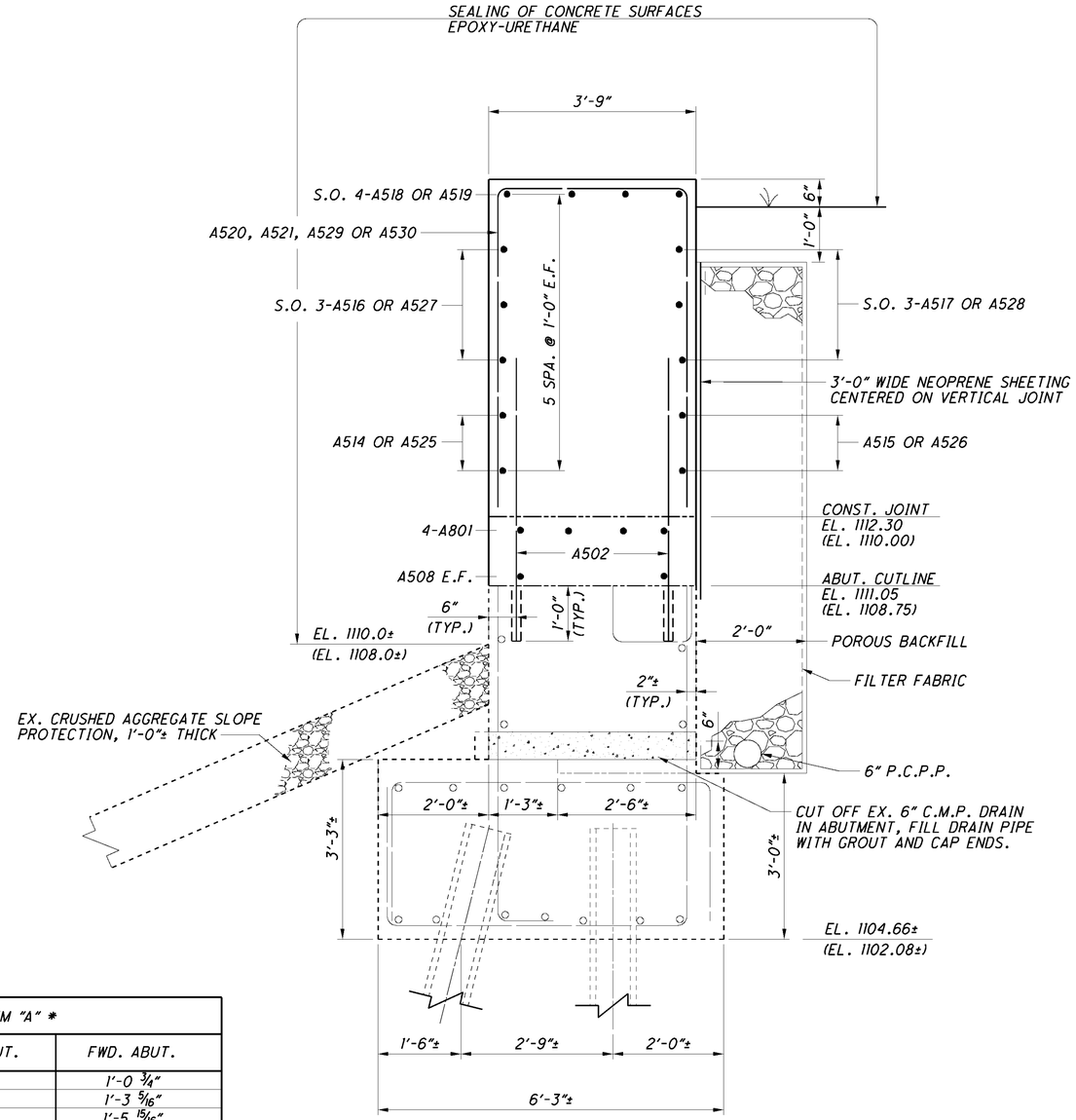


** - MEASURED ALONG ℄ GIRDER

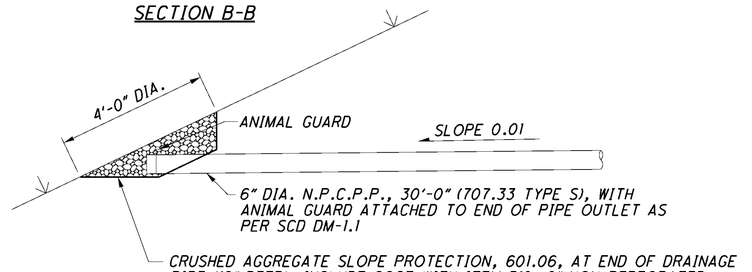
SECTION A-A

DIM "A" *		
GIRDER NO.	REAR ABUT.	FWD. ABUT.
1	1'-1 1/16"	1'-0 3/4"
2	1'-3 1/16"	1'-3 5/16"
3	1'-5 1/16"	1'-5 15/16"
4	1'-3 5/16"	1'-4 3/4"
5	1'-1 9/16"	1'-3 9/16"

* - DIM "A" GIVEN AT ℄ BEARINGS.



SECTION B-B



TERMINATION OF 6" N.P.C.P.P. DETAIL

NOTES:

1. POROUS BACKFILL:
POROUS BACKFILL WITH FILTER FABRIC, 2'-0" SHALL EXTEND UP TO THE PLANE OF THE SUBGRADE, TO 1'-0" BELOW THE EMBANKMENT SURFACE, AND LATERALLY TO THE END OF THE WINGWALLS.

2. ABUTMENT DIAPHRAGM CONCRETE, PHASED CONSTRUCTION:
PLACE THE DIAPHRAGM CONCRETE ENCASING THE STRUCTURAL MEMBER ENDS OF AN INDIVIDUAL PHASE WITH THE DECK CONCRETE OR AT LEAST 48 HOURS BEFORE PLACEMENT OF THE DECK CONCRETE. IF PLACED SEPARATELY, LOCATE THE HORIZONTAL CONSTRUCTION JOINT BETWEEN THE DIAPHRAGM AND DECK CONCRETE AT THE APPROACH SLAB SEAT. PLACE CLOSURE POUR CONCRETE IN THE DIAPHRAGM AND DECK CONCURRENTLY.

3. ELEVATIONS SHOWN IN ( ) ARE FOR FORWARD ABUTMENT.

4. FOR LOCATION OF SECTIONS A-A & B-B, SEE SHEETS 11/38 & 13/38.

5. FOR ADDITIONAL DETAILS, REFER TO STANDARD DWG. SICD-1-96.

6. DRILL 2" DIA. HOLES IN STRUCTURAL STEEL, THE COST INCLUDED WITH THE UNIT BID PRICE FOR ITEM 202, PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN, FOR PAYMENT.

7. 1" DOWEL HOLES INTO EXISTING CONCRETE MAY BE MOVED 1" AS REQUIRED TO AVOID DRILLING INTO EXISTING REINFORCING STEEL.

8. MINIMUM LAP LENGTHS:
LAP NO. 5 BARS 3'-2"
LAP NO. 8 BARS 6'-4"

DESIGN AGENCY
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840 MICHIGAN AVENUE, COLUMBUS, OH 43215
TEL:(614)228-3500

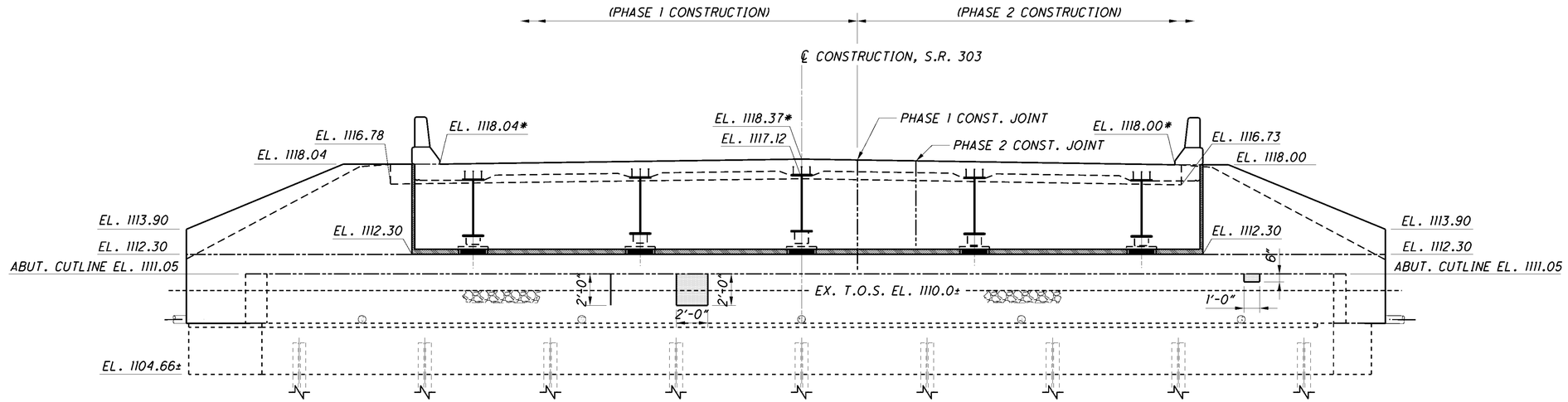
DESIGNED SS/YSJ | DRAWN CEC | REVIEWED JJ | DATE 09/12 | CHECKED JH | REVISED | STRUCTURE FILE NUMBER 7709900

PROPOSED ABUTMENT SECTIONS

BRIDGE NO. SUM-303-0502
S.R. 303 OVER I.R. 271

SUM-271-2.33
PID No. 18710

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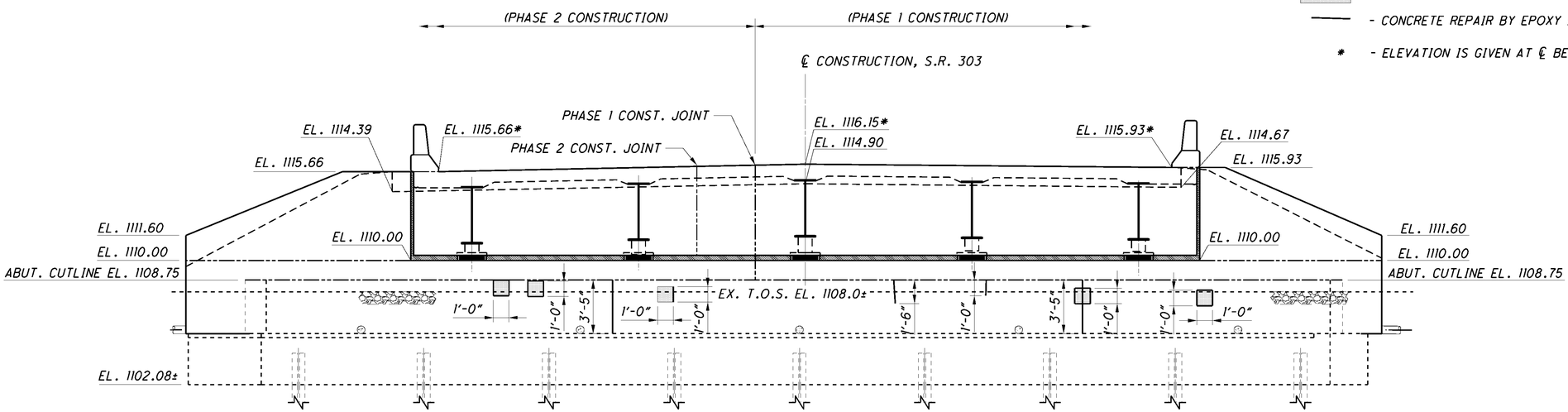


REAR ABUTMENT - ELEVATION

ESTIMATED PATCHING OF CONCRETE AREA = 4.5 SQ. FT.
ESTIMATED CONCRETE REPAIR BY EPOXY INJECTION LENGTH = 2.0 FT.

LEGEND:

- PATCHING CONCRETE SUBSTRUCTURE, PER ITEM 519
- CONCRETE REPAIR BY EPOXY INJECTION, PER ITEM 512
- * - ELEVATION IS GIVEN AT ℄ BEARINGS



FORWARD ABUTMENT - ELEVATION

ESTIMATED PATCHING OF CONCRETE AREA = 5.0 SQ. FT.
ESTIMATED CONCRETE REPAIR BY EPOXY INJECTION LENGTH = 10.0 FT.

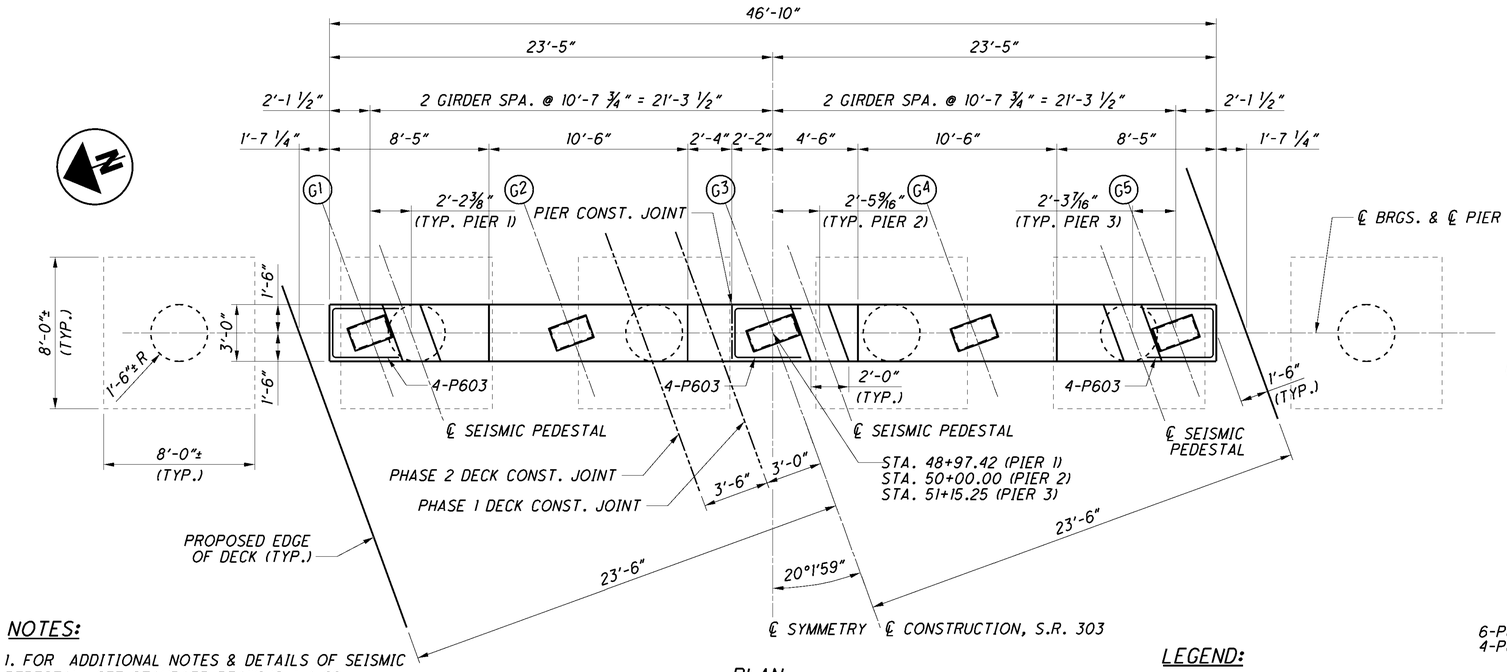
DESIGN AGENCY
COLUMBUS ENGINEERING CONSULTANTS, INC.
840 MICHIGAN AVENUE, COLUMBUS, OH 43215
TEL:(614)228-3500

DESIGNED	DRAWN	REVIEWED	DATE
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CHECKED	REVISED	STRUCTURE FILE NUMBER	
JH		7709900	

PATCHING DETAILS - ABUTMENTS
BRIDGE NO. SUM-303-0502
S.R. 303 OVER I.R. 271

SUM-271-2.33
PID No. 18710

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PLAN

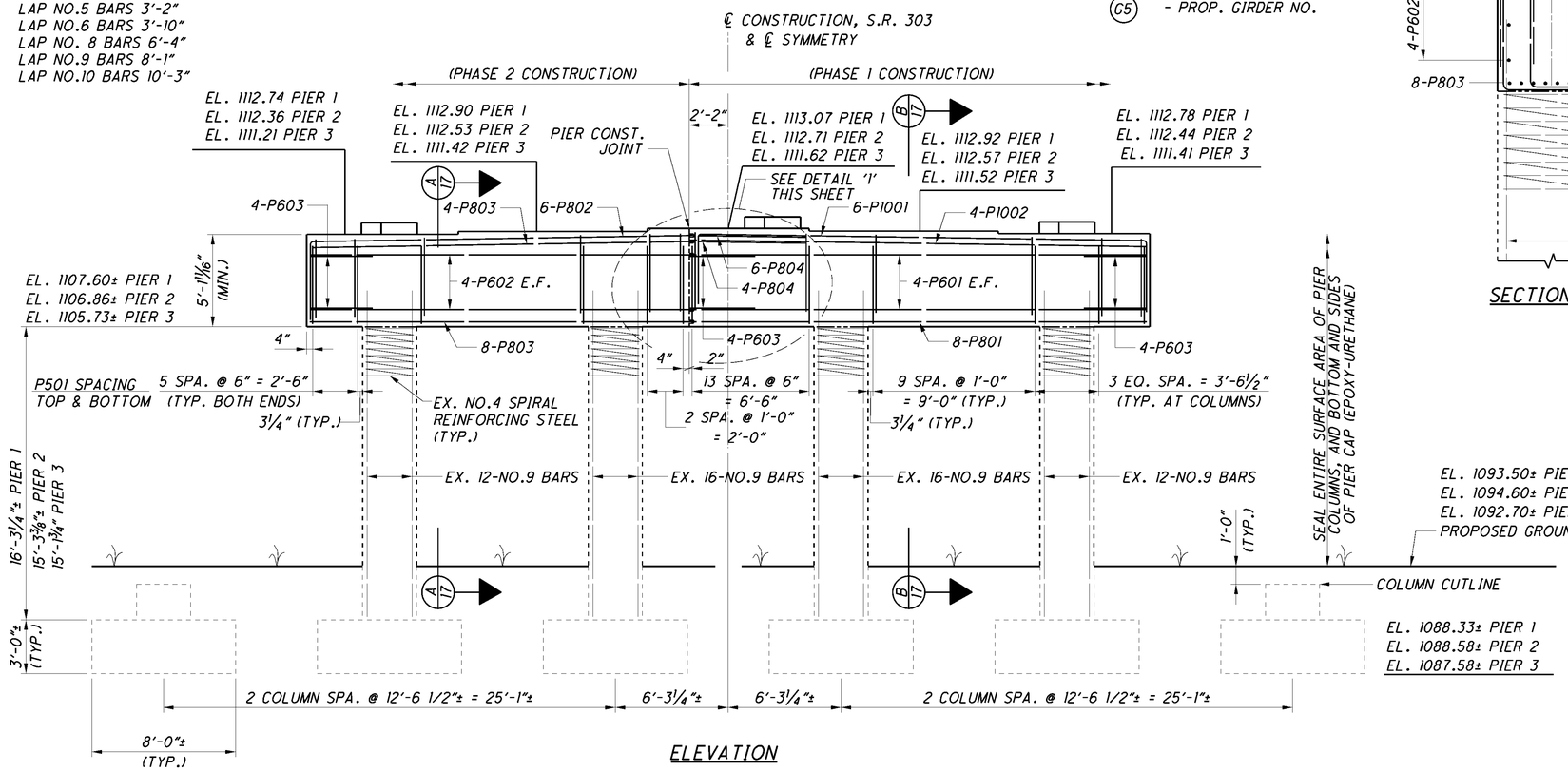
NOTES:

1. FOR ADDITIONAL NOTES & DETAILS OF SEISMIC PEDESTAL, SEE STANDARD DRAWING A-1-69.

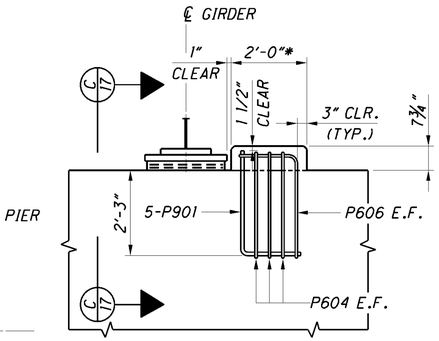
2. MINIMUM LAP LENGTH:
   LAP NO.5 BARS 3'-2"
   LAP NO.6 BARS 3'-10"
   LAP NO. 8 BARS 6'-4"
   LAP NO.9 BARS 8'-1"
   LAP NO.10 BARS 10'-3"

LEGEND:

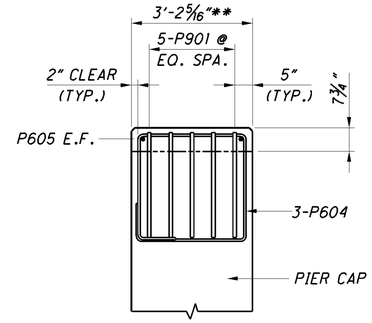
- NEW CONCRETE
- (G5) - PROP. GIRDER NO.



ELEVATION

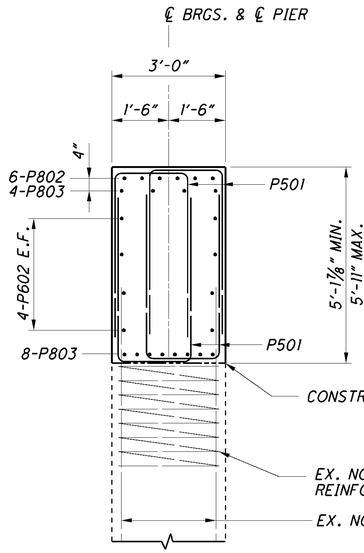


FRONT VIEW OF SEISMIC PEDESTAL

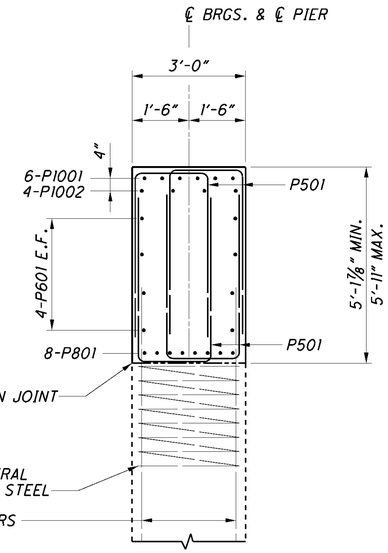


SECTION C-C

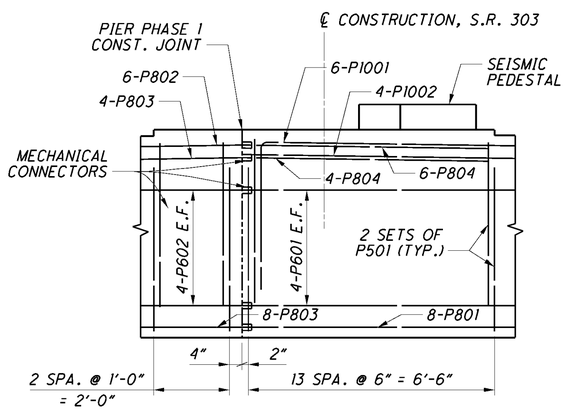
* - MEASURED ALONG ℄ PIER
** - MEASURED ALONG ℄ GIRDER



SECTION A-A



SECTION B-B



DETAIL '1'

DESIGN AGENCY
COLUMBUS ENGINEERING CONSULTANTS, INC.
840 MICHIGAN AVENUE, COLUMBUS, OH 43215
TEL:(614)228-3500

DESIGNED	DRAWN	REVIEWED	DATE
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CHECKED	REVISED	STRUCTURE FILE NUMBER	
JH		7709900	

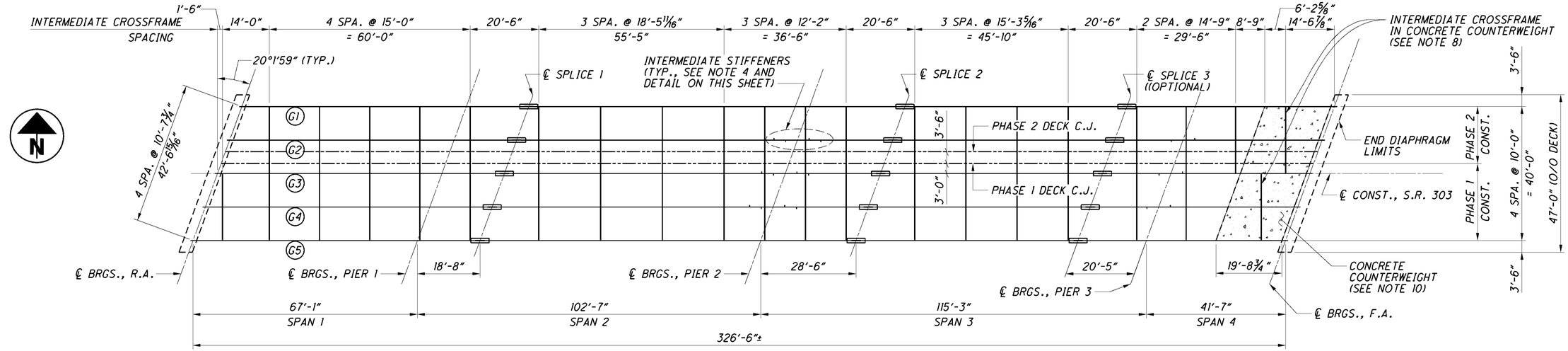
MODIFIED PIER DETAILS
BRIDGE NO. SUM-303-0502
S.R. 303 OVER I.R. 271

SUM-271-2.33
PID No. 18710

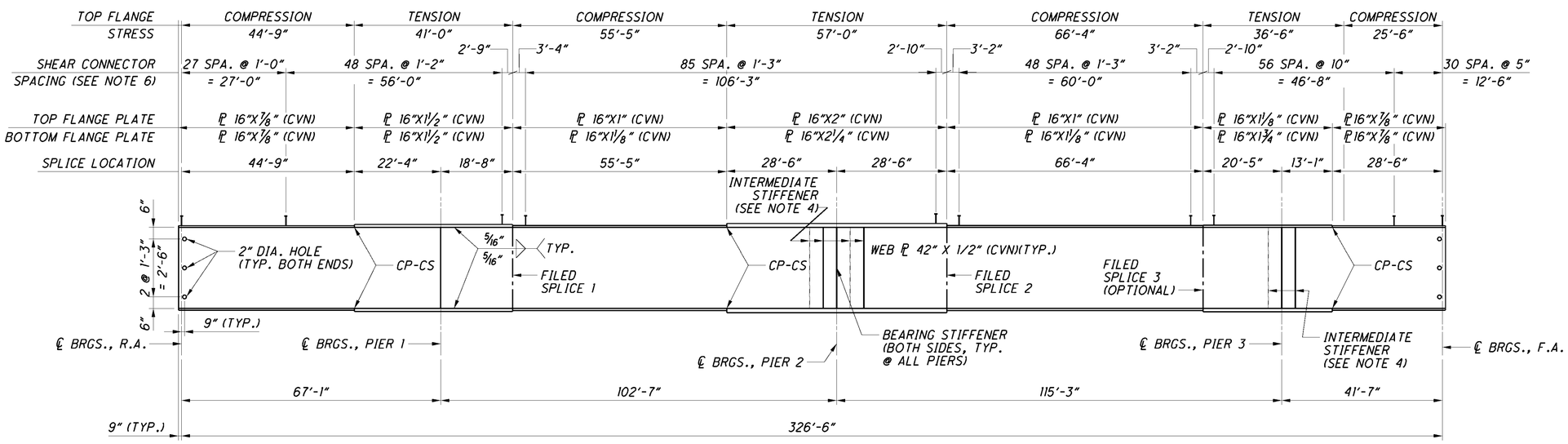
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FRAMING PLAN



TYPICAL GIRDER ELEVATION

NOTES:

1. ALL SUPERSTRUCTURE STEEL SHALL BE ASTM A709, GRADE 50.

2. CHARPY V-NOTCH TOUGHNESS REQUIREMENT:
ALL GIRDER AND CROSSFRAME COMPONENTS DESIGNATED (CVN) SHALL MEET MINIMUM NOTCH TOUGHNESS REQUIREMENTS AS SPECIFIED IN 711.01 OF CMS.

3. WELDED ATTACHMENT:
WELDED ATTACHMENT OF SUPPORTS FOR CONCRETE DECK FINISHING MACHINE MAY BE MADE TO AREAS OF THE FLANGES DESIGNATED "COMPRESSION". ATTACHMENTS SHALL NOT BE MADE TO AREAS DESIGNATED "TENSION" . FILLET WELDS TO COMPRESSION FLANGES SHALL BE NOT CLOSER THAN 1" FROM EDGE OF THE FLANGE, BE NOT MORE THAN 2" LONG AND BE NOT SMALLER THAN THE MINIMUM SIZE REQUIRED BY AASHTO.

4. INTERMEDIATE STIFFENERS ARE TO BE ADDED FOR INTERIOR GIRDERS (G2, G3 AND G4) AT PIER 2 AND PIER 3 ON ALTERNATIVE SIDES OF THE WEB. SEE DETAIL ON THIS SHEET FOR STIFFENER NUMBER AND LOCATION DETAILS.

5. SEE SHEET 20/38 , FOR BEARING STIFFENER AND INTERMEDIATE STIFFENER DETAIL.

6. SEE SHEET 19/38 FOR SHEAR CONNECTOR SPACING DETAIL AT SPLICES.

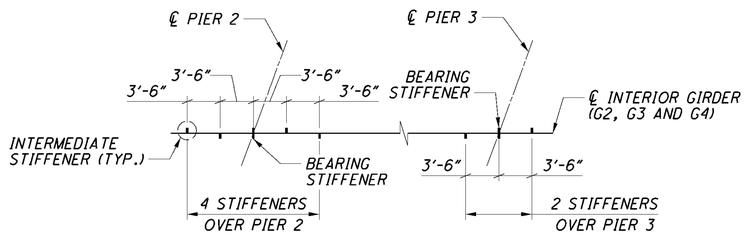
7. SHEAR STUDS AT EXISTING FLANGE SPLICES SHALL BE INSTALLED AS THE SPACING SHOWN ON DETAIL ON SHEET 19/38 . CONTRACTOR SHALL EXERCISE CAUTION TO PLACE THE PROPOSED SHEAR STUDS TO AVOID CONFLICTS WITH EXISTING SPLICE WELDS OR BOLTS. SHEAR STUD SPACING OVER EXISTING FLANGE SPLICES AND THICKNESS CHANGES MAY BE ADJUSTED ±2" TO AVOID SPLICE WELDS OR BOLTS.

8. SEE SHEET 20/38 FOR INTERMEDIATE CROSSFRAME DETAILS.

9. INTERMEDIATE CROSSFRAMES BETWEEN G2 AND G3 SHALL BE INSTALLED AFTER PHASE 2 DECK HAS BEEN POURED, AND BEFORE THE CLOSURE POUR.

10. FOR CONCRETE COUNTERWEIGHT REINFORCING DETAILS, SEE SHEET 24/38 .

11. CP - INDICATES COMPLETE JOINT PENETRATION
CS - INDICATES BUTT WELD



INTERMEDIATE STIFFENER LOCATION
(FOR GIRDERS 2, 3 AND 4)

DESIGN AGENCY
COLUMBUS ENGINEERING CONSULTANTS, INC.
840 MICHIGAN AVENUE, COLUMBUS, OH 43215
TEL:(614)228-3500

DESIGNED JH/YSJ | DRAWN CEC | REVIEWED JJ | DATE 09/12 | STRUCTURE FILE NUMBER 7709900 | CHECKED SS | REVISED

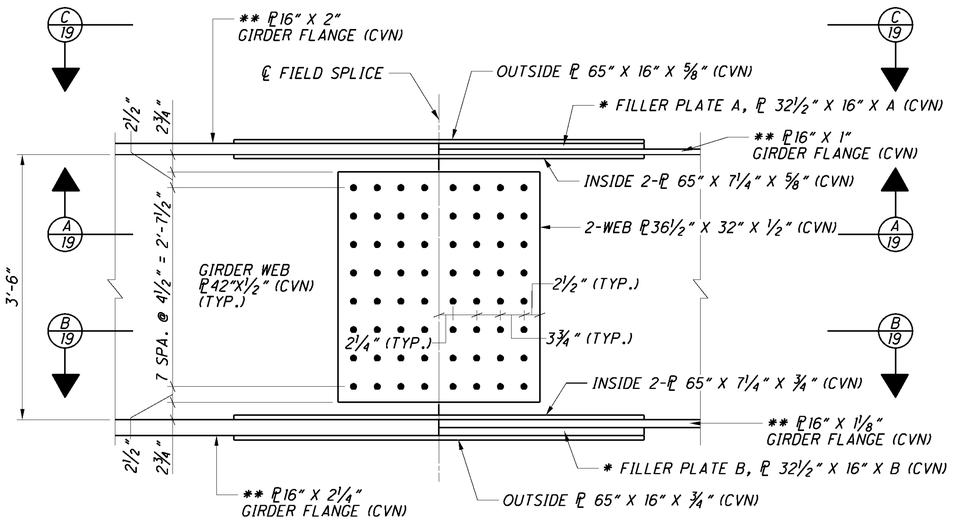
FRAMING SYSTEM
BRIDGE NO. SUM-303-0502
S.R. 303 OVER I.R. 271

SUM-271-2.33
PID No. 18710

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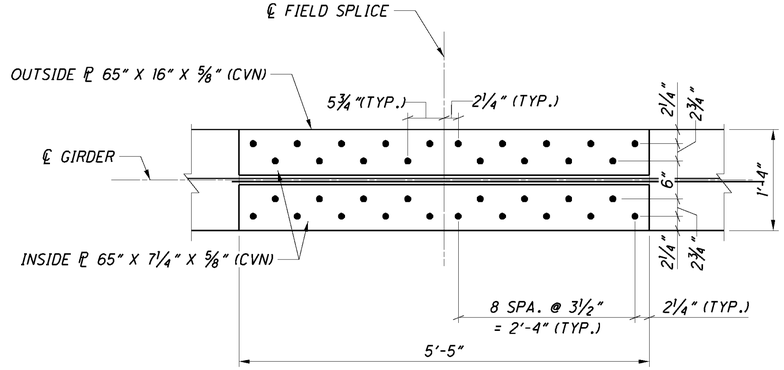
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WEB SPLICE

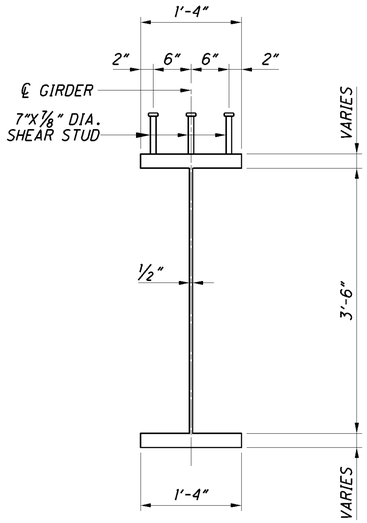
(** FILED SPLICE 2 SHOWN, OTHER FIELD SPLICES SIMILAR)

* FILLER PLATE THICKNESS			
FILLER PLATE	FILED SPLICE 1	FILED SPLICE 2	FILED SPLICE 3
A	½"	1"	⅛"
B	⅜"	1⅛"	⅝"

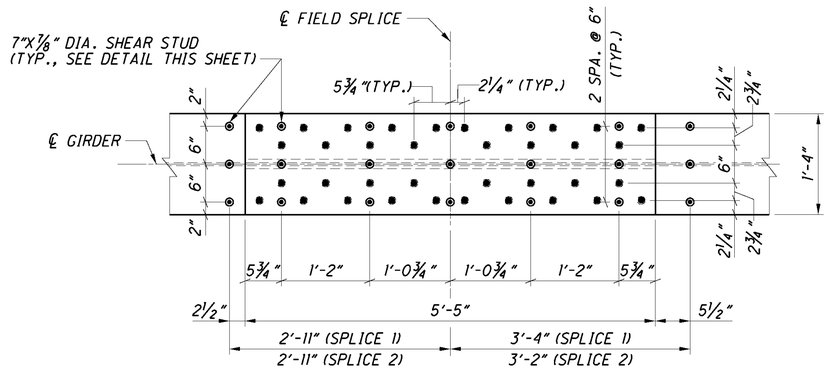


VIEW A-A - TOP FLANGE SPLICE

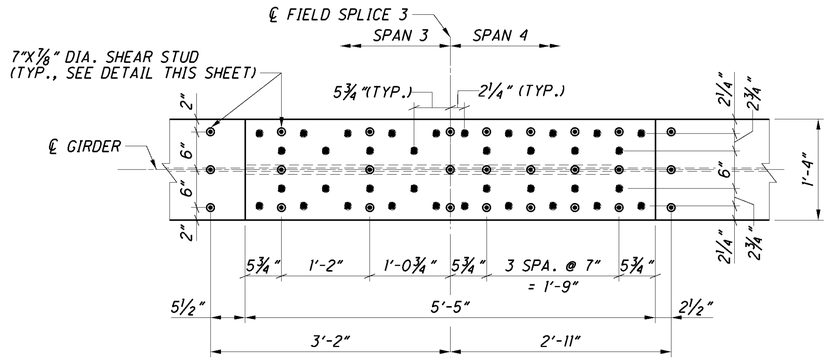
(WEB SPLICE PLATE NOT SHOWN)



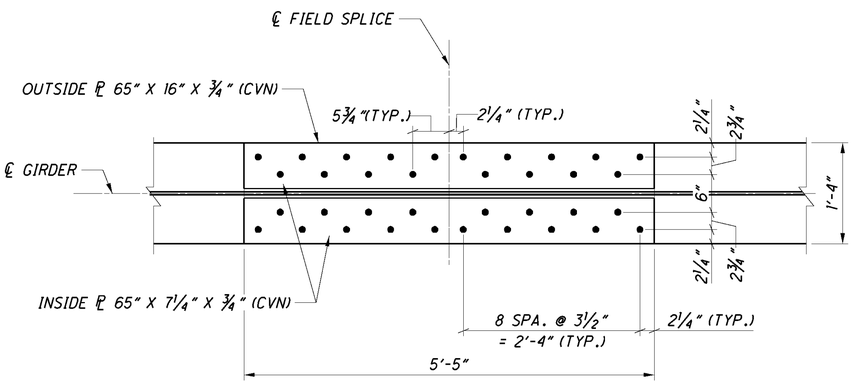
SHEAR CONNECTOR DETAIL



VIEW C-C - SHEAR STUD LAYOUT FOR SPLICES 1 AND 2



VIEW C-C - SHEAR STUD LAYOUT FOR SPLICE 3



VIEW B-B - BOTTOM FLANGE SPLICE

(WEB SPLICE PLATE NOT SHOWN)

LEGEND:

- ● 1⅛" DIA., TYPE III HIGH STRENGTH BOLT
- ⊛ 7"X⅞" DIA. SHEAR STUD ON GIRDER TOP FLANGE

NOTES:

1. ALL BOLTS IN FIELD SPLICES SHALL BE 1 ⅛" DIA, ASTM A-325 TYPE 1, GALVANIZED HIGH STRENGTH BOLTS WITH 1 1/16" HOLES.

2. CHARPY V-NOTCH TOUGHNESS REQUIREMENT: WHERE A SHAPE OR PLATE IS DESIGNATED (CVN), THE MATERIAL SHALL MEET MINIMUM NOTCH TOUGHNESS REQUIREMENTS AS SPECIFIED IN 711.01 OF CMS.

3. FOR GIRDER ELEVATION, FIELD SPLICE LOCATIONS, AND SHEAR CONNECTOR LOCATIONS, SEE SHEET 18/38.

DESIGN AGENCY
COLUMBUS ENGINEERING CONSULTANTS, INC.
840 MICHIGAN AVENUE, COLUMBUS, OH 43215
TEL:(614)228-3500

DESIGNED	DRAWN	REVIEWED	DATE
JH/YSJ	CEC	JJ	09/12
CHECKED	REVISED	STRUCTURE FILE NUMBER	
SS		7709900	

SPLICE AND SHEAR CONNECTOR DETAILS

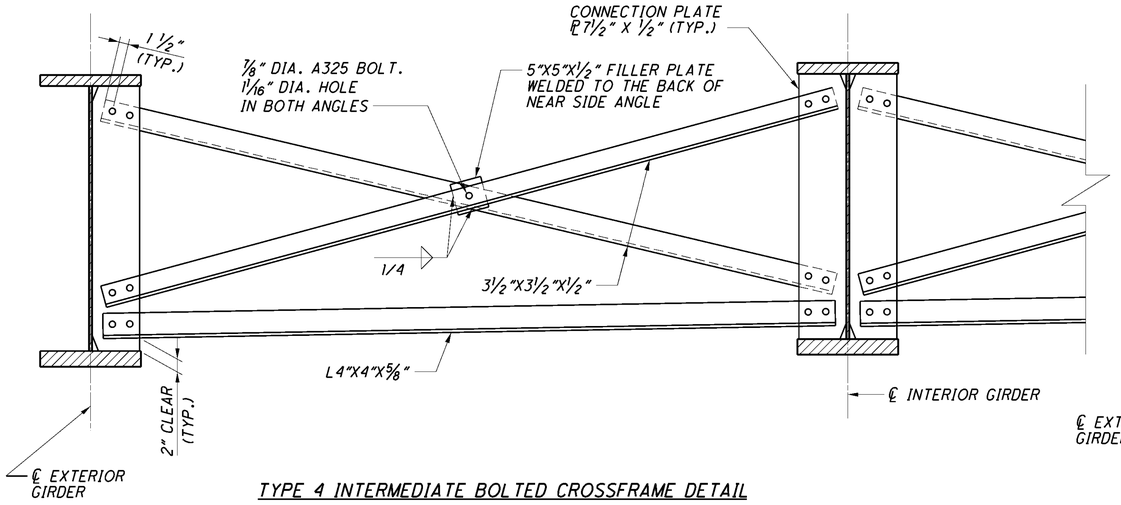
BRIDGE NO. SUM-303-0502
S.R. 303 OVER I.R. 271

SUM-271-2.33
PID No. 18710

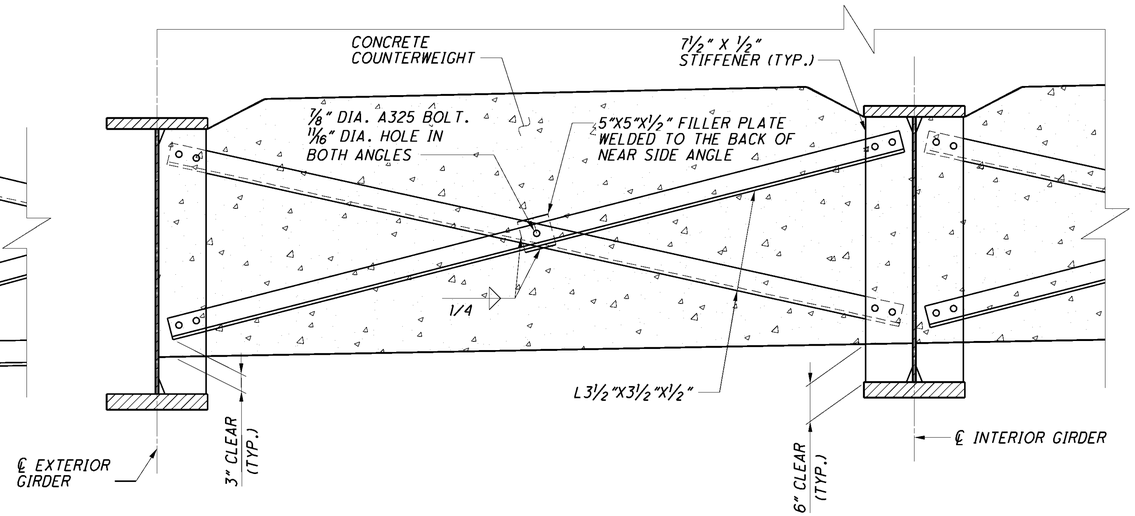
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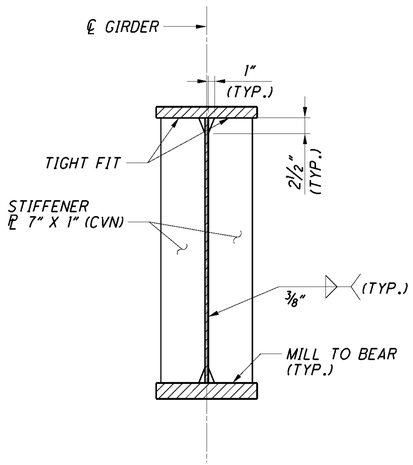
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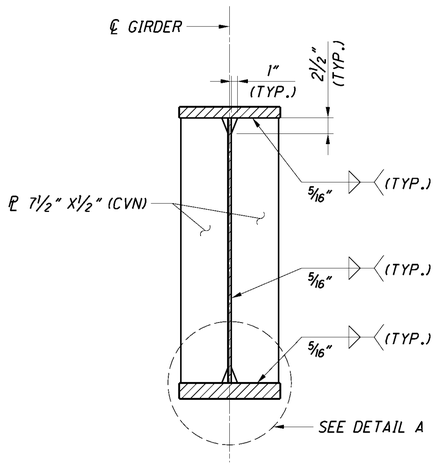
TYPE 4 INTERMEDIATE BOLTED CROSSFRAME DETAIL



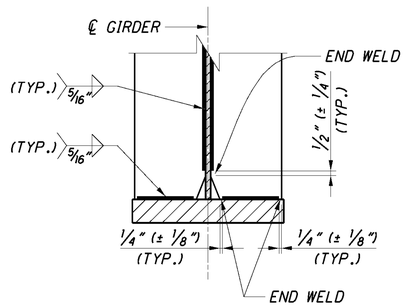
INTERMEDIATE BOLTED CROSSFRAME IN CONCRETE COUNTERWEIGHT (SPAN 4)



BEARING STIFFENER AND INTERMEDIATE STIFFENER DETAIL



CROSSFRAME CONNECTION PLATE



DETAIL A

CONNECTION PLATE DETAIL

(LEFT CONNECTION PLATE SHOWN RIGHT CONNECTION PLATE SIMILAR)

NOTES:

1. FOR LOCATIONS OF INTERMEDIATE CROSSFRAMES AND CROSSFRAMES IN CONCRETE COUNTERWEIGHT, SEE SHEET 18/38.

2. FOR LOCATIONS OF BEARING STIFFENERS AND INTERMEDIATE STIFFENERS, SEE SHEET 18/38.

3. FOR FURTHER GENERAL STEEL DETAILS, SEE STANDARD DRAWING GSD-1-96.

4. CVN: WHEN A SHAPE OR PLATE IS DESIGNATED (CVN), FURNISH MATERIAL THAT MEETS THE MINIMUM NOTCH TOUGHNESS REQUIREMENTS AS SPECIFIED IN 711.01 .

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DESIGN AGENCY
COLUMBUS ENGINEERING CONSULTANTS, INC.
840 MICHIGAN AVENUE, COLUMBUS, OH 43215 TEL:(614)228-3500

DESIGNED	DRAWN	REVIEWED	DATE
JH/YSJ	CEC	JJ	09/12
CHECKED	REVISED	STRUCTURE FILE NUMBER	
SS		7709900	

INTERMEDIATE CROSSFRAME AND STIFFENER PLATE DETAILS

BRIDGE NO. SUM-303-0502
S.R. 303 OVER I.R. 271

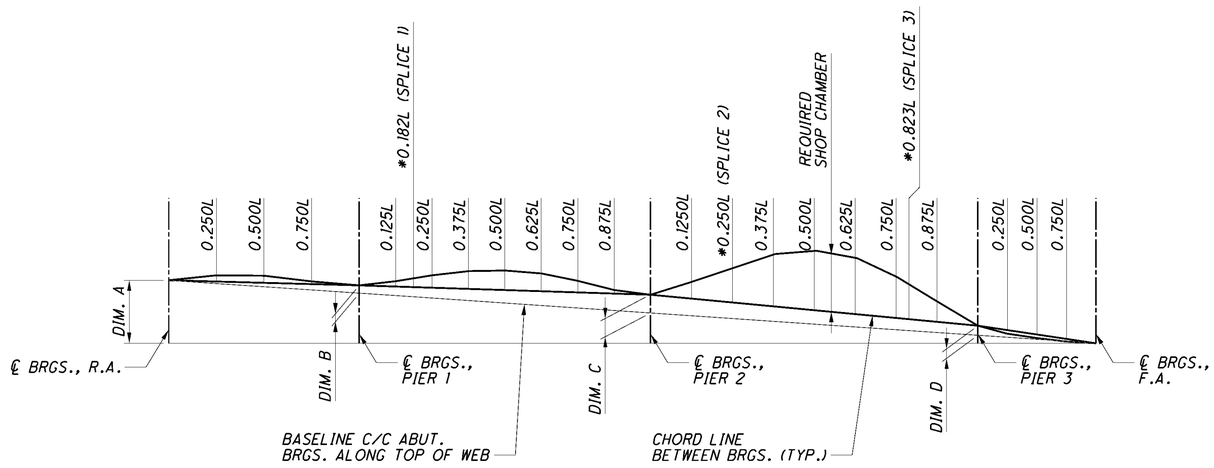
SUM-271-2.33
PID No. 18710

DEFLECTION AND CAMBER

GIRDER 1	SPAN 1			SPAN 2								SPAN 3								SPAN 4		
	0.250L	0.500L	0.750L	0.125L	*0.182L	0.250L	0.375L	0.500L	0.625L	0.750L	0.875L	0.125L	*0.250L	0.375L	0.500L	0.625L	0.750L	*0.823L	0.875L	0.250L	0.500L	0.750L
DEFLECTION DUE TO WEIGHT OF STEEL	1/16"	1/16"	0"	1/16"	1/16"	1/16"	1/8"	1/8"	1/8"	1/16"	0"	1/16"	3/16"	5/16"	3/8"	3/8"	1/4"	3/16"	1/8"	-1/16"	-1/16"	0"
DEFLECTION DUE TO REMAINING DEAD LOAD	5/16"	3/8"	3/16"	3/16"	5/16"	1/2"	11/16"	11/16"	1/2"	3/16"	0"	7/16"	1"	1 5/8"	1 7/8"	1 3/4"	1 1/4"	7/8"	1/2"	-1/8"	-1/8"	-1/16"
ADJUSTMENT DUE TO VERTICAL CURVE	0"	0"	0"	1/8"	1/4"	1/4"	3/8"	7/16"	9/16"	1/2"	5/16"	5/8"	1 1/16"	1 5/16"	1 3/8"	1 5/16"	1 1/16"	15/16"	5/8"	1/8"	3/16"	1/8"
TOTAL CAMBER	3/8"	7/16"	3/16"	3/8"	5/8"	13/16"	1 3/16"	1 1/4"	1 3/16"	3/4"	5/16"	1 1/8"	2 1/4"	3 1/4"	3 5/8"	3 7/16"	2 9/16"	2"	1 1/4"	-1/16"	0"	1/16"
GIRDER 2	**SPAN 1**			**SPAN 2**								**SPAN 3**								**SPAN 4**		
	0.250L	0.500L	0.750L	0.125L	*0.182L	0.250L	0.375L	0.500L	0.625L	0.750L	0.875L	0.125L	*0.250L	0.375L	0.500L	0.625L	0.750L	*0.823L	0.875L	0.250L	0.500L	0.750L
DEFLECTION DUE TO WEIGHT OF STEEL	1/16"	1/16"	0"	1/16"	1/16"	1/16"	1/8"	1/8"	1/8"	1/16"	0"	1/16"	3/16"	5/16"	3/8"	3/8"	1/4"	3/16"	1/8"	-1/16"	-1/16"	0"
DEFLECTION DUE TO REMAINING DEAD LOAD	5/16"	3/8"	3/16"	3/16"	5/16"	1/2"	11/16"	3/4"	9/16"	1/4"	0"	3/8"	1 1/16"	1 5/8"	1 15/16"	1 13/16"	1 1/4"	7/8"	9/16"	-1/8"	-1/16"	0"
ADJUSTMENT DUE TO VERTICAL CURVE	0"	0"	0"	1/8"	3/16"	3/16"	5/16"	3/8"	1/2"	7/16"	5/16"	5/8"	1 1/16"	1 5/16"	1 3/8"	1 5/16"	1 1/16"	15/16"	5/8"	1/8"	3/16"	1/8"
TOTAL CAMBER	7/16"	7/16"	3/16"	3/8"	9/16"	3/4"	1 1/8"	1 1/4"	1 3/16"	3/4"	5/16"	1 1/16"	2 5/16"	3 1/4"	3 11/16"	3 1/2"	2 9/16"	2"	1 5/16"	-1/16"	1/16"	1/8"
GIRDER 3	**SPAN 1**			**SPAN 2**								**SPAN 3**								**SPAN 4**		
	0.250L	0.500L	0.750L	0.125L	*0.182L	0.250L	0.375L	0.500L	0.625L	0.750L	0.875L	0.125L	*0.250L	0.375L	0.500L	0.625L	0.750L	*0.823L	0.875L	0.250L	0.500L	0.750L
DEFLECTION DUE TO WEIGHT OF STEEL	1/16"	1/16"	0"	1/16"	1/16"	1/16"	1/8"	1/8"	1/8"	1/16"	0"	1/16"	3/16"	5/16"	3/8"	3/8"	1/4"	3/16"	1/8"	-1/16"	-1/16"	0"
DEFLECTION DUE TO REMAINING DEAD LOAD	5/16"	3/8"	3/16"	3/16"	5/16"	1/2"	11/16"	3/4"	9/16"	1/4"	0"	3/8"	1 1/16"	1 11/16"	1 15/16"	1 13/16"	1 1/4"	7/8"	9/16"	-1/8"	-1/16"	0"
ADJUSTMENT DUE TO VERTICAL CURVE	0"	0"	0"	1/16"	1/8"	3/16"	1/4"	5/16"	7/16"	7/16"	1/4"	5/8"	1 1/16"	1 5/16"	1 3/8"	1 5/16"	1 1/16"	15/16"	5/8"	1/8"	3/16"	1/8"
TOTAL CAMBER	7/16"	7/16"	3/16"	5/16"	1/2"	3/4"	1 1/16"	1 3/16"	1 1/8"	3/4"	1/4"	1 1/16"	2 5/16"	3 5/16"	3 11/16"	3 1/2"	2 9/16"	2"	1 5/16"	-1/16"	1/16"	1/8"
GIRDER 4	**SPAN 1**			**SPAN 2**								**SPAN 3**								**SPAN 4**		
	0.250L	0.500L	0.750L	0.125L	*0.182L	0.250L	0.375L	0.500L	0.625L	0.750L	0.875L	0.125L	*0.250L	0.375L	0.500L	0.625L	0.750L	*0.823L	0.875L	0.250L	0.500L	0.750L
DEFLECTION DUE TO WEIGHT OF STEEL	1/16"	1/16"	0"	1/16"	1/16"	1/16"	1/8"	1/8"	1/8"	1/16"	0"	1/16"	3/16"	5/16"	3/8"	3/8"	1/4"	3/16"	1/8"	-1/16"	-1/16"	0"
DEFLECTION DUE TO REMAINING DEAD LOAD	5/16"	3/8"	3/16"	3/16"	5/16"	1/2"	11/16"	3/4"	9/16"	1/4"	0"	3/8"	1 1/16"	1 11/16"	1 15/16"	1 13/16"	1 1/4"	13/16"	9/16"	-1/8"	-1/16"	0"
ADJUSTMENT DUE TO VERTICAL CURVE	0"	0"	0"	1/16"	1/8"	1/8"	3/16"	1/4"	5/16"	3/8"	1/4"	5/8"	1 1/16"	1 5/16"	1 3/8"	1 5/16"	1 1/16"	15/16"	5/8"	1/8"	3/16"	1/8"
TOTAL CAMBER	7/16"	7/16"	3/16"	5/16"	1/2"	11/16"	1"	1 1/8"	1"	11/16"	1/4"	1 1/16"	2 5/16"	3 5/16"	3 11/16"	3 1/2"	2 9/16"	1 15/16"	1 5/16"	-1/16"	1/16"	1/8"
GIRDER 5	**SPAN 1**			**SPAN 2**								**SPAN 3**								**SPAN 4**		
	0.250L	0.500L	0.750L	0.125L	*0.182L	0.250L	0.375L	0.500L	0.625L	0.750L	0.875L	0.125L	*0.250L	0.375L	0.500L	0.625L	0.750L	*0.823L	0.875L	0.250L	0.500L	0.750L
DEFLECTION DUE TO WEIGHT OF STEEL	1/16"	1/16"	0"	1/16"	1/16"	1/16"	1/8"	1/8"	1/8"	1/16"	0"	1/16"	3/16"	5/16"	3/8"	3/8"	1/4"	3/16"	1/8"	-1/16"	-1/16"	0"
DEFLECTION DUE TO REMAINING DEAD LOAD	5/16"	3/8"	3/16"	3/16"	5/16"	1/2"	11/16"	11/16"	1/2"	3/16"	0"	7/16"	1"	1 5/8"	1 7/8"	1 3/4"	1 1/4"	13/16"	9/16"	-1/8"	-1/8"	-1/16"
ADJUSTMENT DUE TO VERTICAL CURVE	0"	0"	0"	1/16"	1/8"	1/8"	3/16"	1/4"	1/4"	5/16"	1/4"	5/8"	1 1/16"	1 5/16"	1 3/8"	1 5/16"	1 1/16"	15/16"	5/8"	1/8"	3/16"	1/8"
TOTAL CAMBER	3/8"	7/16"	3/16"	5/16"	1/2"	11/16"	1"	1 1/16"	7/8"	9/16"	1/4"	1 1/8"	2 1/4"	3 1/4"	3 5/8"	3 7/16"	2 9/16"	1 15/16"	1 5/16"	-1/16"	0"	1/16"

L = SPAN LENGTH.

* INDICATES SPLICE LOCATION. LOCATION FOR SPLICES 2 IN SPAN 3 IS APPROXIMATED AS 0.250L .



CAMBER AND BLOCKING DIAGRAM

(* INDICATES SPLICE LOCATION)

BLOCKING DIMENSIONS				
	A	B	C	D
GIRDER 1	2'-3 7/8"	2 15/16"	6 3/4"	3 1/4"
GIRDER 2	2'-3 1/4"	2 13/16"	6 3/8"	3 3/16"
GIRDER 3	2'-2 5/8"	2 11/16"	6 3/8"	3 3/16"
GIRDER 4	2'-2"	2 9/16"	6 3/16"	3 1/8"
GIRDER 5	2'-1 1/2"	2 7/16"	5 15/16"	3 1/16"

NOTES:

1. BLOCKING DIAGRAM DIMENSIONS MEASURED ALONG TOP OF WEB.

2. POSITIVE TOTAL CAMBER VALUES INDICATE CAMBER ABOVE CHORD LINE BETWEEN BEARINGS.

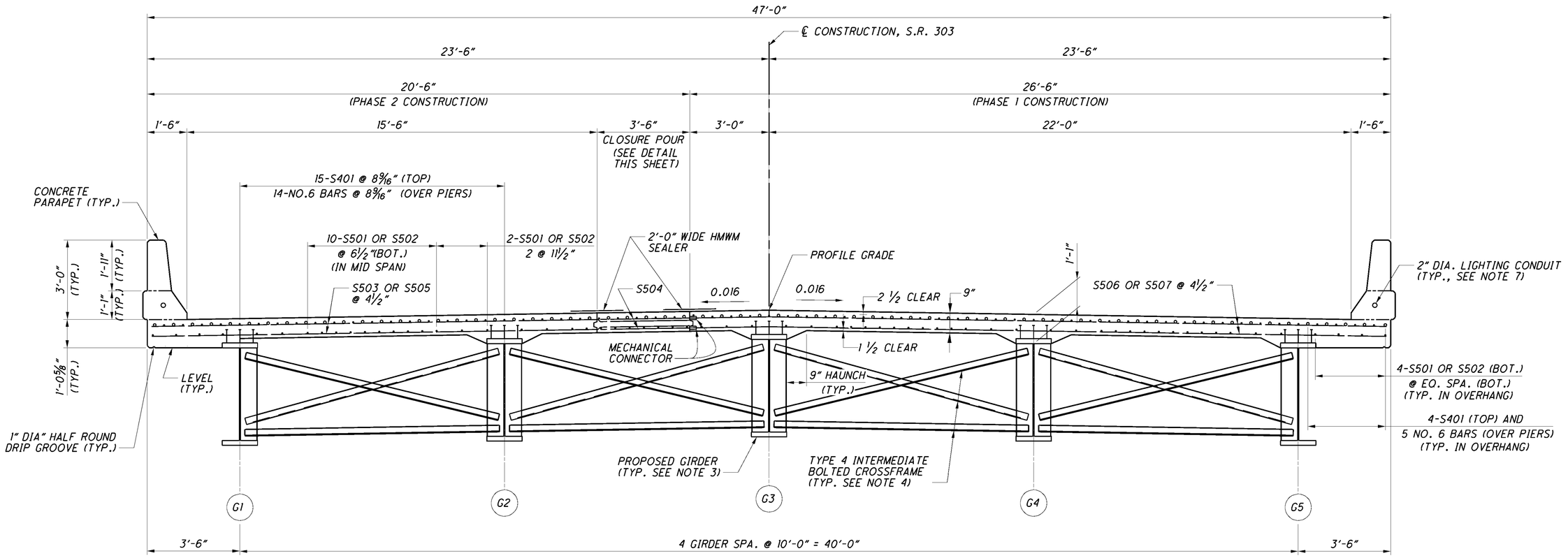
DESIGN AGENCY
COLUMBUS ENGINEERING CONSULTANTS, INC.
840 MICHIGAN AVENUE, COLUMBUS, OH 43215
TEL:(614)228-3500

DESIGNED JH/YSJ | DRAWN CEC | REVIEWED JJ | DATE 09/12 | CHECKED SS | REVISED | STRUCTURE FILE NUMBER 7709900

CAMBER DIAGRAM
BRIDGE NO. SUM-303-0502
S.R. 303 OVER I.R. 271

SUM-271-2.33
PID No. 18710

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TYPICAL TRANSVERSE SECTION

NOTES:

1. DECK SLAB CONCRETE QUANTITY:
THE ESTIMATED QUANTITY OF DECK SLAB CONCRETE IS BASED ON THE CONSTANT DECK SLAB THICKNESS, AS SHOWN, PLUS THE QUANTITY OF CONCRETE THAT FORMS EACH GIRDER HAUNCH. THE ESTIMATE ASSUMES A CONSTANT AVERAGE HAUNCH THICKNESS OF 2 5/8" INCHES AND A CONSTANT HAUNCH WIDTH OUTSIDE THE EDGE OF EACH GIRDER FLANGE OF 9 INCHES. DEVIATE FROM THIS HAUNCH THICKNESS AS NECESSARY TO PLACE THE DECK SURFACE AT THE FINISH GRADE. THE ALLOWABLE TOLERANCE FROM THE HAUNCH WIDTH OUTSIDE THE EDGE OF EACH GIRDER FLANGE IS ±3 INCHES.

2. THE HAUNCH THICKNESS IS MEASURED AT THE CENTERLINE OF THE GIRDER FROM THE SURFACE OF THE DECK TO THE TOP OF THE TOP FLANGE MINUS THE DECK SLAB THICKNESS. THE AREA OF ALL EMBEDDED STEEL PLATES HAS BEEN DEDUCTED FROM THE HAUNCH QUANTITY IN ACCORDANCE WITH 511.24.

3. FOR BUILT-UP DIMENSIONS AND DETAILS OF PROPOSED GIRDERS, SEE SHEET 18/38 .

4. FOR LOCATION AND DETAIL OF INTERMEDIATE CROSSFRAMES, SEE SHEETS 18/38 AND 20/38 . SEE STANDARD DRAWING GSD-1-96 FOR GENERAL STEEL DETAILS.

5. FOR PARAPET REINFORCING DETAILS SEE SHEET 29/38 AND STANDARD BRIDGE DRAWING BR-1 .

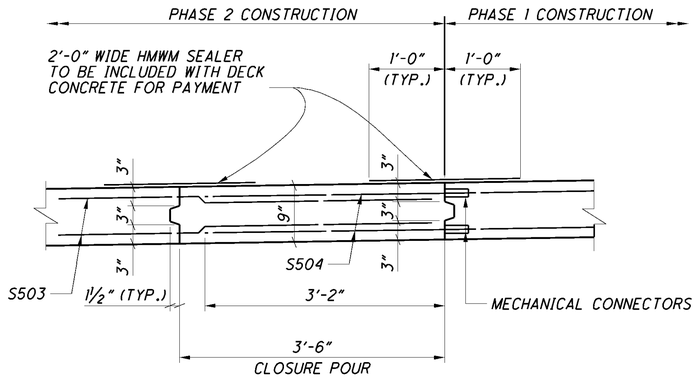
6. ADDITIONAL NO. 6 BARS SHALL BE PLACED OVER EACH PIER. SEE SHEET 23/38 FOR BAR STAGGER DIAGRAMS .

7. 2" DIA. LIGHTING CONDUIT SHALL BE INCLUDED WITH ROADWAY ITEMS FOR PAYMENT. FOR ADDITIONAL NOTES AND DETAILS, SEE STANDARD DRAWING HL-30.32

8. MINIMUM LAP LENGTHS:
LAP NO.4 BARS 2'-7".
LAP NO.5 BARS 3'-2".
LAP NO.6 BARS 3'-10".

LEGEND

(G3) - PROPOSED GIRDER NUMBER



PHASE CONSTRUCTION JOINT DETAIL

(LONGITUDINAL BARS NOT SHOWN)

DESIGN AGENCY
COLUMBUS ENGINEERING CONSULTANTS, INC.
840 MICHIGAN AVENUE, COLUMBUS, OH 43215
TEL:(614)228-3500

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JH/YSJ	CEC	JJ	09/12
CHECKED	REVISED	STRUCTURE FILE NUMBER	
SS		7709900	

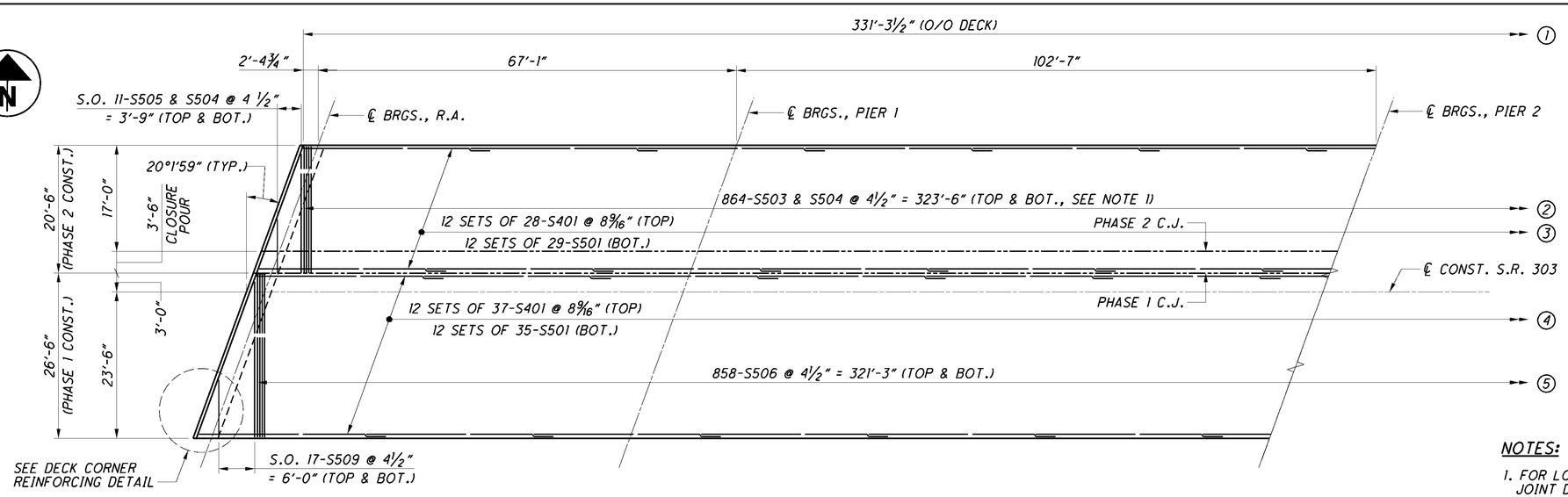
TRANSVERSE SECTION
BRIDGE NO. SUM-303-0502
S.R. 303 OVER I.R. 271

SUM-271-2.33
PID No. 18710

22 / 38

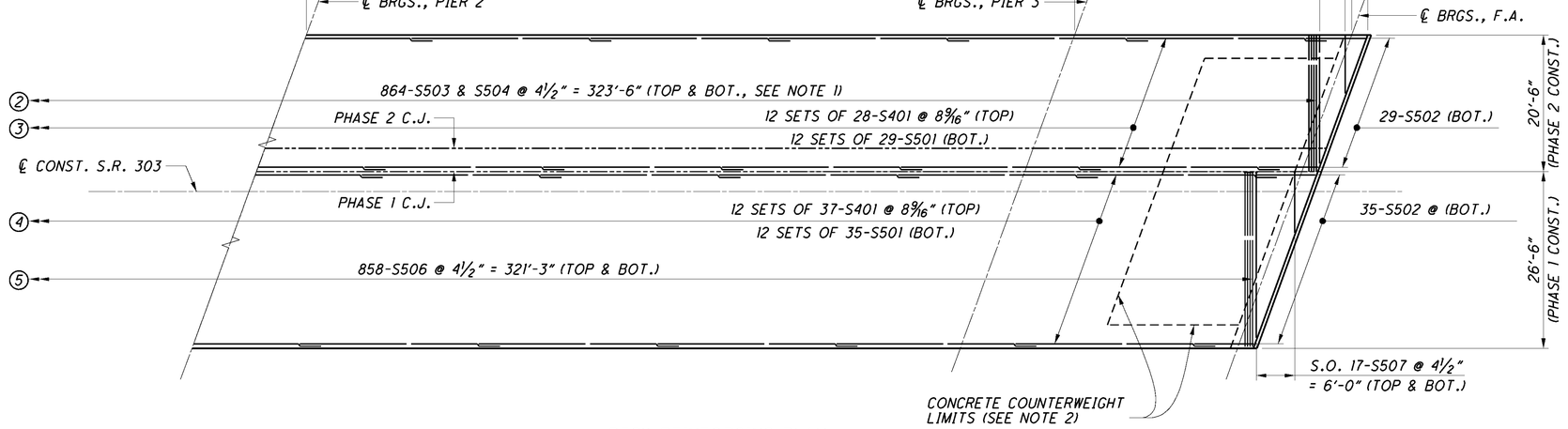
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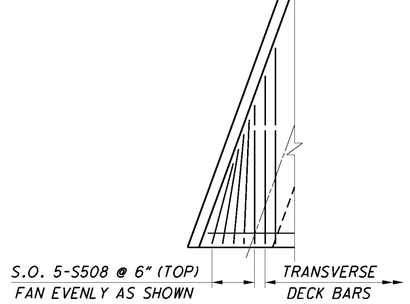


NOTES:

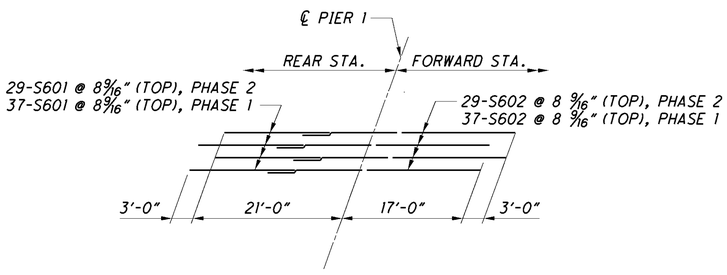
1. FOR LOCATION OF S504, SEE PHASE CONSTRUCTION JOINT DETAIL ON SHEET 22/38 .
2. FOR REINFORCING DETAILS OF CONCRETE COUNTERWEIGHT, SEE SHEET 24/38 .



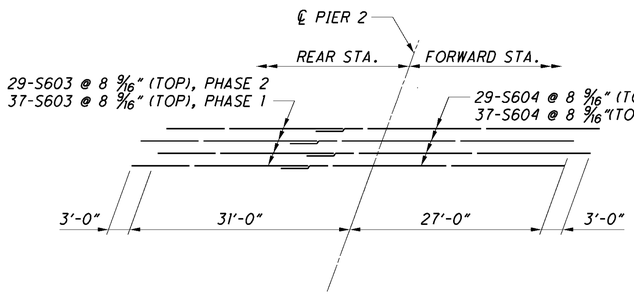
DECK REINFORCING PLAN



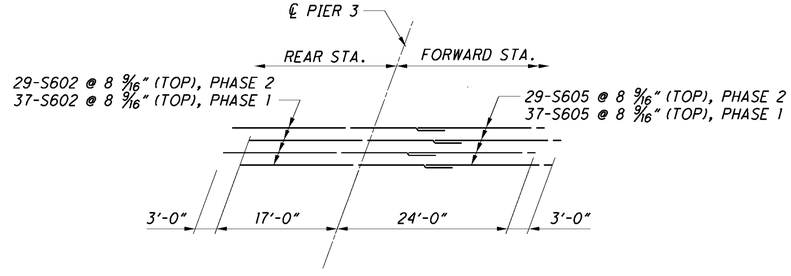
DECK CORNER REINFORCING
(TYP. @ 4 LOCATIONS)



BAR STAGGER DIAGRAM OVER PIER 1



BAR STAGGER DIAGRAM OVER PIER 2



BAR STAGGER DIAGRAM OVER PIER 3

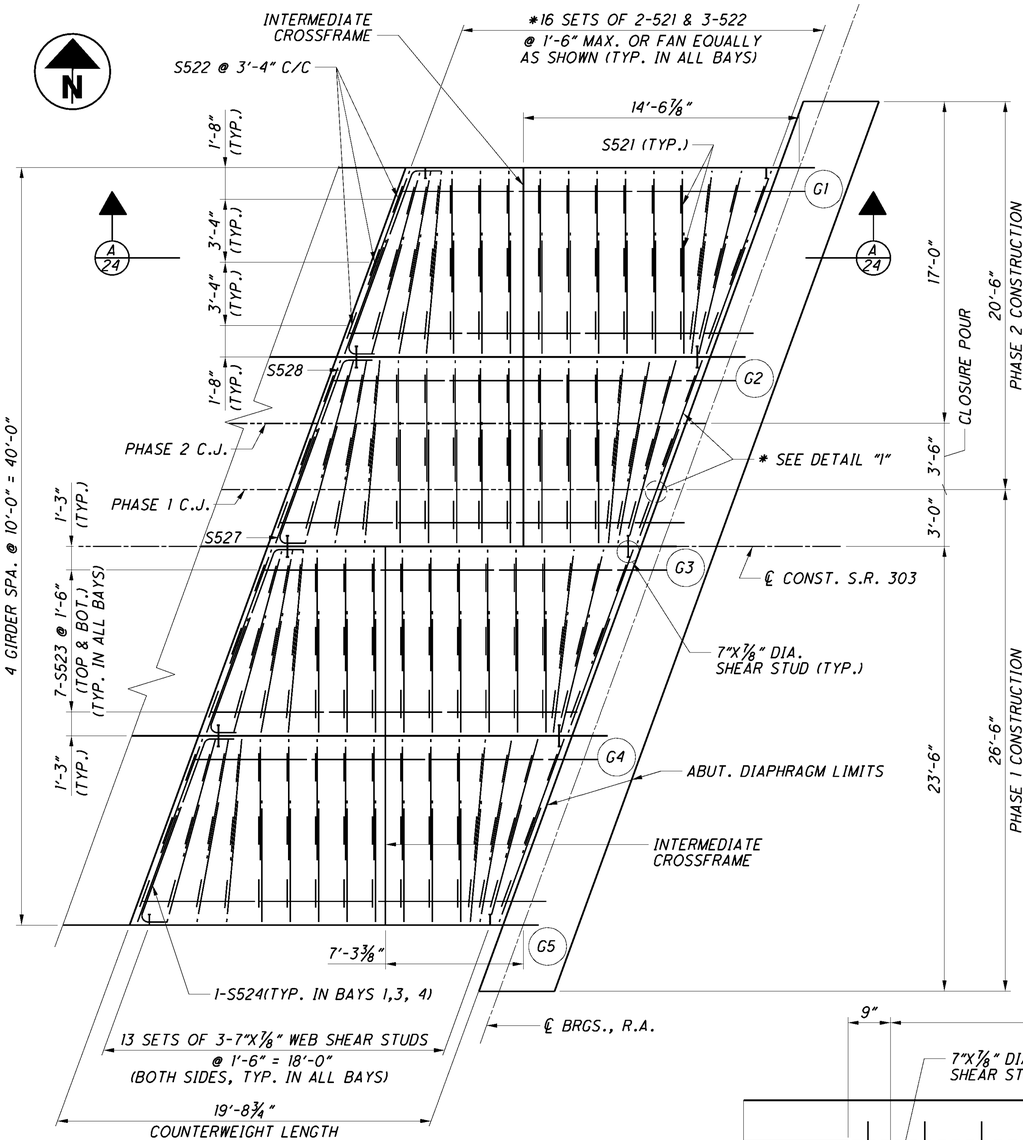
DESIGN AGENCY
COLUMBUS ENGINEERING CONSULTANTS, INC.
840 MICHIGAN AVENUE, COLUMBUS, OH 43215
TEL:(614)228-3500

DESIGNED	DRAWN	REVIEWED	DATE
JH/YSJ	CEC	JJ	09/12
CHECKED	REVISED	STRUCTURE FILE NUMBER	
SS		7709900	

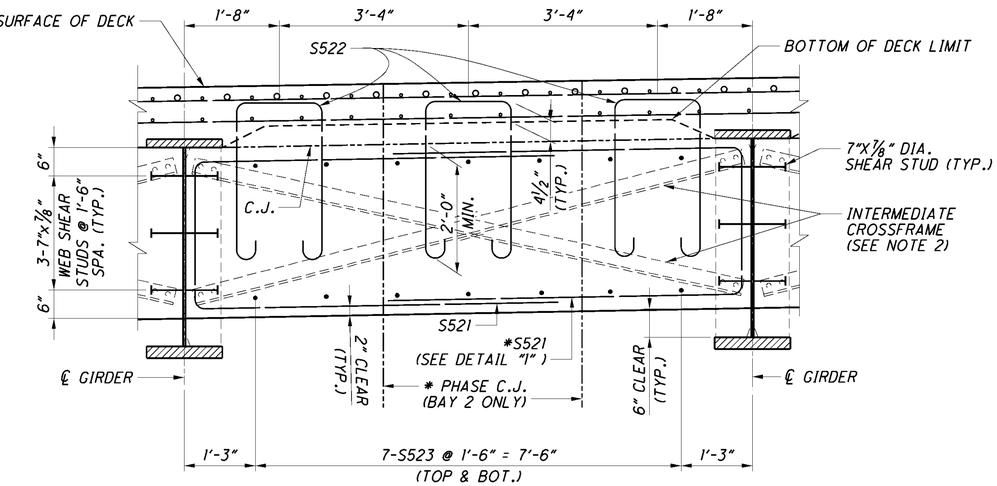
DECK REINFORCING DETAILS
BRIDGE NO. SUM-303-0502
S.R. 303 OVER I.R. 271

SUM-271-2.33
PID No. 18710

P:\Land Development Projects\503-110 SUM-271-0233 (Richland Engineering)\structures\SUM-303-0502C\sheets\303_0502CDP001.dgn 11/8/2012 3:26:32 PM Sean Jerq



REINFORCING PLAN



SECTION B-B
(*TYP. IN ALL BAYS)

LEGEND

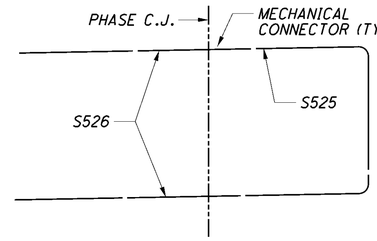
(G3) - PROPOSED GIRDER NUMBER

NOTES:

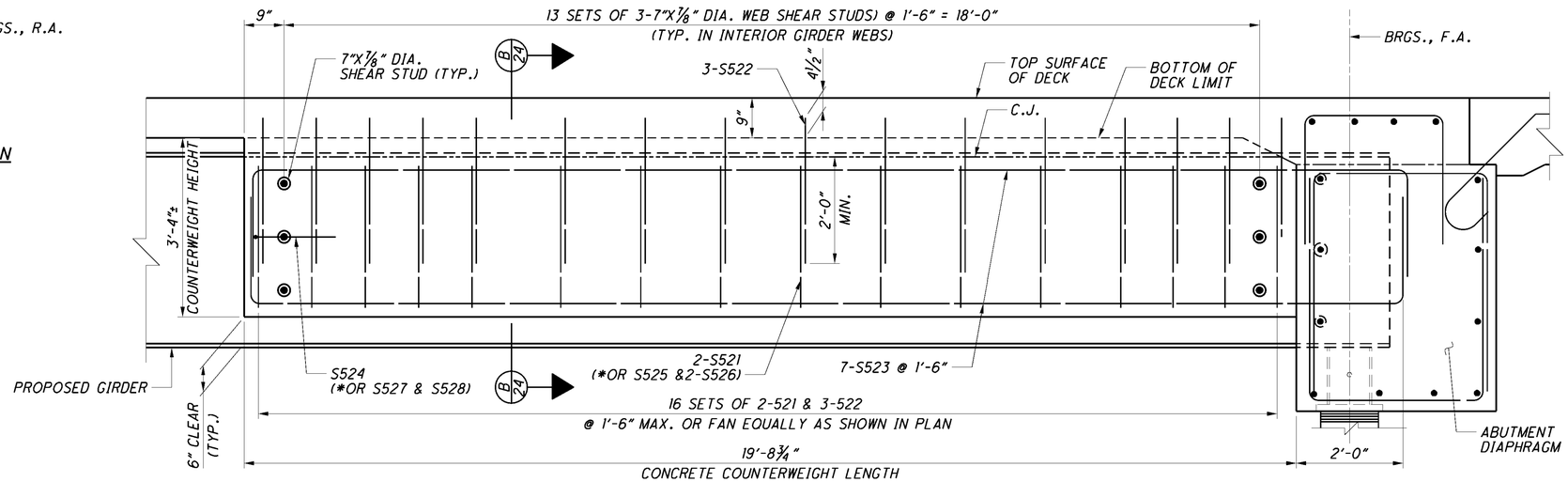
1. FOR LOCATION OF THE CONCRETE COUNTERWEIGHT, SEE FRAMING PLAN ON SHEET 18/38.

2. FOR DETAIL OF INTERMEDIATE CROSSFRAME IN THE CONCRETE COUNTERWEIGHT, SEE SHEET 20/38.

* BAY 2 SHALL BE PHASE CONSTRUCTED, WHERE ONE S521 IS REPLACED WITH S525, S526 (TOP & BOT.) AND MECHANICAL CONNECTORS, AS SHOWN IN DETAIL 1.



DETAIL "I"
(* FOR BAY 2 ONLY)



SECTION A-A
(TYP. IN ALL BAYS, INTERMEDIATE CROSSFRAME NOT SHOWN)

DESIGN AGENCY
COLUMBUS ENGINEERING CONSULTANTS, INC.
840 MICHIGAN AVENUE, COLUMBUS, OH 43215
TEL:(614)228-3500

DESIGNED	DRAWN	REVIEWED	DATE
JH/YSJ	CEC	JJ	09/12
CHECKED	REVISED	STRUCTURE FILE NUMBER	
SS		7709900	

CONCRETE COUNTERWEIGHT DETAILS

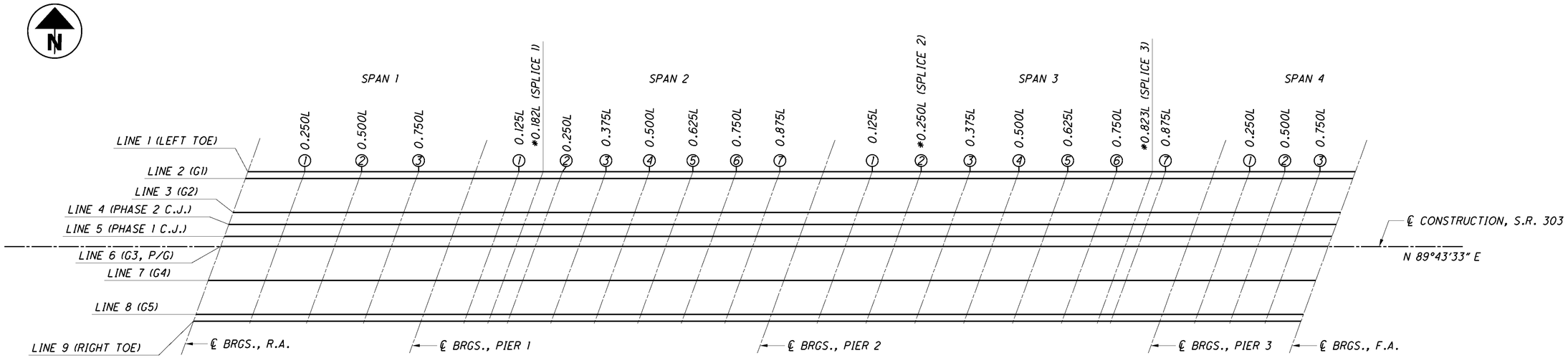
BRIDGE NO. SUM-303-0502
S.R. 303 OVER I.R. 271

SUM-271-2.33
PID No. 18710

24 / 38

1181
1195

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SCREED LINES LAYOUT

* INDICATES SPLICE LOCATION. LOCATION FOR SPLICES 2 IN SPAN 3 IS APPROXIMATED AS 0.250L .

NOTES:

1. FOR SCREED LINE ELEVATIONS, SEE SHEET 26/38 .
2. FOR TOP OF HAUNCH ELEVATIONS, SEE SHEET 27/38.
3. FOR FINAL DECK SURFACE ELEVATIONS, SEE SHEET 28/38 .
4. L = SPAN LENGTH.

DESIGN AGENCY
COLUMBUS ENGINEERING CONSULTANTS, INC.
840 MICHIGAN AVENUE, COLUMBUS, OH 43215
TEL:(614)228-3500

DESIGNED	DRAWN	REVIEWED	DATE
JH/YSJ	CEC	JJ	09/12
CHECKED	REVISED	STRUCTURE FILE NUMBER	
SS		7709900	

SCREED LINES LAYOUT
BRIDGE NO. SUM-303-0502
S.R. 303 OVER I.R. 271

SUM-271-2.33
PID No. 18710

25 / 38

1182
1195

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SCREED ELEVATION TABLE

		LINE 1 (LEFT TOE)		LINE 4 (PHASE 2 C.J.)		LINE 5 (PHASE 1 C.J.)		LINE 6 (G3, P/G)		LINE 9 (RIGHT TOE)	
SPAN NO.	LOCATION	STATION	ELEVATION	STATION	ELEVATION	STATION	ELEVATION	STATION	ELEVATION	STATION	SCREED
SPAN NO.1	0.000 L	48+38.36	1118.00	48+32.71	1118.26	48+31.43	1118.32	48+30.34	1118.37	48+22.32	1118.04
	0.250 L	48+55.13	1117.98	48+49.48	1118.24	48+48.20	1118.30	48+47.11	1118.35	48+39.09	1118.02
	0.500 L	48+71.90	1117.94	48+66.25	1118.20	48+64.98	1118.26	48+63.88	1118.31	48+55.86	1117.98
	0.750 L	48+88.67	1117.87	48+83.02	1118.14	48+81.75	1118.20	48+80.65	1118.25	48+72.63	1117.92
SPAN NO.2	0.000 L	49+05.45	1117.82	48+99.79	1118.08	48+98.52	1118.14	48+97.42	1118.19	48+89.40	1117.86
	0.125 L	49+18.27	1117.80	49+12.62	1118.06	49+11.34	1118.12	49+10.25	1118.17	49+02.22	1117.84
(SPLICE 1)	*0.182 L	49+24.11	1117.80	48+18.46	1118.05	49+17.18	1118.11	49+16.09	1118.16	49+08.07	1117.84
	0.250 L	49+31.09	1117.79	49+25.44	1118.05	49+24.16	1118.11	49+23.07	1118.16	49+15.05	1117.83
	0.375 L	49+43.91	1117.78	49+38.26	1118.04	49+36.98	1118.10	49+35.89	1118.15	49+27.87	1117.82
	0.500 L	49+56.73	1117.75	49+51.08	1118.01	49+49.80	1118.07	49+48.71	1118.12	49+40.69	1117.79
	0.625 L	49+69.55	1117.69	49+63.90	1117.95	49+62.63	1118.01	49+61.53	1118.06	49+53.51	1117.73
	0.750 L	49+82.38	1117.61	49+76.72	1117.88	49+75.45	1117.95	49+74.35	1118.00	49+66.33	1117.67
	0.875 L	49+95.20	1117.54	49+89.55	1117.81	49+88.27	1117.87	49+87.18	1117.93	49+79.15	1117.61
SPAN NO.3	0.000 L	50+08.02	1117.46	50+02.37	1117.74	50+01.09	1117.81	50+00.00	1117.86	49+91.98	1117.55
	0.125 L	50+22.43	1117.40	50+16.77	1117.69	50+15.50	1117.75	50+14.40	1117.81	50+06.38	1117.50
(SPLICE 2)	*0.250 L	50+36.83	1117.35	50+31.18	1117.64	50+29.90	1117.71	50+28.81	1117.76	50+20.79	1117.47
	0.375 L	50+51.24	1117.28	50+45.59	1117.57	50+44.31	1117.64	50+43.22	1117.70	50+35.20	1117.41
	0.500 L	50+65.65	1117.17	50+59.99	1117.47	50+58.72	1117.54	50+57.62	1117.60	50+49.60	1117.32
	0.625 L	50+80.05	1117.01	50+74.40	1117.32	50+73.12	1117.39	50+72.03	1117.45	50+64.01	1117.18
	0.750 L	50+94.46	1116.79	50+88.81	1117.11	50+87.53	1117.18	50+86.44	1117.24	50+78.41	1116.97
(SPLICE 3)	*0.823 L	51+02.87	1116.58	50+97.22	1116.92	50+95.94	1116.99	50+94.85	1117.05	50+86.83	1116.81
	0.875 L	51+08.86	1116.54	51+03.21	1116.87	51+01.94	1116.94	51+00.84	1117.00	50+92.82	1116.74
SPAN NO.4	0.000 L	51+23.27	1116.31	51+17.62	1116.63	51+16.34	1116.71	51+15.25	1116.77	51+07.23	1116.52
	0.250 L	51+33.67	1116.15	51+28.01	1116.48	51+26.74	1116.55	51+25.64	1116.61	51+17.62	1116.37
	0.500 L	51+44.06	1115.99	51+38.41	1116.33	51+37.13	1116.40	51+36.04	1116.47	51+28.02	1116.23
	0.750 L	51+54.46	1115.83	51+48.81	1116.17	51+47.53	1116.25	51+46.44	1116.31	51+38.41	1116.08
	1.000 L	51+64.85	1115.66	51+59.20	1116.01	51+57.93	1116.08	51+56.83	1116.15	51+48.81	1115.93

* INDICATES SPLICE LOCATION. LOCATION FOR SPLICES 2 IN SPAN 3 IS APPROXIMATED AS 0.250L .

NOTES:

1. SEE SHEET 25/38 FOR SCREED LINES LOCATION.

2. SCREED ELEVATIONS SHOWN REPRESENT THE THEORETICAL DECK SURFACE LOCATION PRIOR TO DEFLECTIONS CAUSED BY DECK PLACEMENT AND OTHER ANTICIPATED DEAD LOADS.

3. L = SPAN LENGTH.

DESIGN AGENCY
COLUMBUS ENGINEERING CONSULTANTS, INC.
840 MICHIGAN AVENUE, COLUMBUS, OH 43215
TEL:(614)228-3500

DESIGNED JH/YSJ | DRAWN CEC | CHECKED SS | REVIEWED JJ | DATE 09/12 | REVISED | STRUCTURE FILE NUMBER 7709900

SCREED ELEVATIONS
BRIDGE NO. SUM-303-0502
S.R. 303 OVER I.R. 271

SUM-271-2.33
PID No. 18710

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TOP OF HAUNCH ELEVATION TABLE

		LINE 2 (G1)		LINE 3 (G2)		LINE 6 (G3, P/G)		LINE 7 (G4)		LINE 8 (G5)	
SPAN NO.	LOCATION	STATION	ELEVATION	STATION	ELEVATION	STATION	ELEVATION	STATION	ELEVATION	STATION	ELEVATION
SPAN NO.1	0.000 L	48+37.63	1117.28	48+33.99	1117.45	48+30.34	1117.62	48+26.69	1117.47	48+23.05	1117.32
	0.250 L	48+54.40	1117.26	48+50.76	1117.43	48+47.11	1117.60	48+43.46	1117.45	48+39.82	1117.30
	0.500 L	48+71.17	1117.22	48+67.53	1117.39	48+63.88	1117.56	48+60.24	1117.41	48+56.59	1117.26
	0.750 L	48+87.94	1117.16	48+84.30	1117.33	48+80.65	1117.50	48+77.01	1117.35	48+73.36	1117.20
SPAN NO.2	0.000 L	49+04.72	1117.10	49+01.07	1117.27	48+97.42	1117.44	48+93.78	1117.29	48+90.13	1117.14
	0.125 L	49+17.54	1117.08	49+13.89	1117.25	49+10.25	1117.42	49+06.60	1117.27	49+02.95	1117.12
(SPLICE 1)	*0.182L	49+23.38	1117.08	49+19.74	1117.24	49+16.09	1117.41	49+12.44	1117.26	49+08.80	1117.12
	0.250 L	49+30.36	1117.07	49+26.71	1117.24	49+23.07	1117.41	49+19.42	1117.26	49+15.77	1117.11
	0.375 L	49+43.18	1117.06	49+39.54	1117.23	49+35.89	1117.40	49+32.24	1117.25	49+28.60	1117.10
	0.500 L	49+56.00	1117.03	49+52.36	1117.20	49+48.71	1117.37	49+45.06	1117.22	49+41.42	1117.07
	0.625 L	49+68.83	1116.97	49+65.18	1117.14	49+61.53	1117.31	49+57.89	1117.16	49+54.24	1117.01
	0.750 L	49+81.65	1116.90	49+78.00	1117.07	49+74.35	1117.25	49+70.71	1117.10	49+67.06	1116.95
	0.875 L	49+94.47	1116.82	49+90.82	1117.00	49+87.18	1117.18	49+83.53	1117.03	49+79.88	1116.89
SPAN NO.3	0.000 L	50+07.29	1116.75	50+03.64	1116.93	50+00.00	1117.11	49+96.35	1116.97	49+92.71	1116.83
	0.125 L	50+21.70	1116.69	50+18.05	1116.87	50+14.40	1117.06	50+10.76	1116.92	50+07.11	1116.78
(SPLICE 2)	*0.250 L	50+36.10	1116.64	50+32.46	1116.83	50+28.81	1117.01	50+25.16	1116.88	50+21.52	1116.75
	0.375 L	50+50.51	1116.56	50+46.86	1116.76	50+43.22	1116.95	50+39.57	1116.82	50+35.92	1116.69
	0.500 L	50+64.92	1116.46	50+61.27	1116.66	50+57.62	1116.85	50+53.98	1116.73	50+50.33	1116.60
	0.625 L	50+79.32	1116.30	50+75.68	1116.50	50+72.03	1116.70	50+68.38	1116.57	50+64.74	1116.45
	0.750 L	50+93.73	1116.08	50+90.08	1116.28	50+86.44	1116.49	50+82.79	1116.37	50+79.14	1116.25
(SPLICE 3)	*0.823L	51+02.14	1118.89	50+98.50	1116.09	50+94.85	1116.30	50+91.20	1116.18	50+87.56	1116.07
	0.875 L	51+08.13	1115.84	51+04.49	1116.04	51+00.84	1116.25	50+97.20	1116.13	50+93.55	1116.02
SPAN NO.4	0.000 L	51+22.54	1115.60	51+18.89	1115.81	51+15.25	1116.02	51+11.60	1115.91	51+07.96	1115.80
	0.250 L	51+32.94	1115.44	51+29.29	1115.65	51+25.64	1115.86	51+22.00	1115.76	51+18.35	1115.65
	0.500 L	51+43.33	1115.28	51+39.69	1115.50	51+36.04	1115.72	51+32.39	1115.61	51+28.75	1115.50
	0.750 L	51+53.73	1115.13	51+50.08	1115.34	51+46.44	1115.56	51+42.79	1115.46	51+39.14	1115.35
	1.000 L	51+64.12	1114.96	51+60.48	1115.18	51+56.83	1115.40	51+53.19	1115.30	51+49.54	1115.20

* INDICATES SPLICE LOCATION. LOCATION FOR SPLICES 2 IN SPAN 3 IS APPROXIMATED AS 0.250L .

NOTES:

1. SEE SHEET 25/38 FOR SCREED LINES LOCATION.

2. TOP OF HAUNCH ELEVATIONS SHOWN REPRESENT THE THEORETICAL LOCATION OF THE BOTTOM OF THE DECK ABOVE THE GIRDER HAUNCH PRIOR TO DEFLECTIONS CAUSED BY DECK PLACEMENT AND OTHER ANTICIPATED DEAD LOADS.

3. L = SPAN LENGTH.

DESIGN AGENCY
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840 MICHIGAN AVENUE, COLUMBUS, OH 43215
TEL:(614)228-3500

DESIGNED JH/YSJ | DRAWN CEC | REVIEWED JJ | DATE 09/12 | CHECKED SS | REVISED | STRUCTURE FILE NUMBER 7709900

TOP OF HAUNCH ELEVATIONS
BRIDGE NO. SUM-303-0502
S.R. 303 OVER I.R. 271

SUM-271-2.33
PID No. 18710

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FINAL DECK SURFACE ELEVATION TABLE

		LINE 1 (LEFT TOE)		LINE 2 (G1)		LINE 3 (G2)		LINE 4 (PHASE 2 C.J.)		LINE 5 (PHASE 1 C.J.)		LINE 6 (G3, P/G)		LINE 7 (G4)		LINE 8 (G5)		LINE 9 (RIGHT TOE)	
SPAN NO.	LOCATION	STATION	ELEVATION	STATION	ELEVATION	STATION	ELEVATION	STATION	ELEVATION	STATION	ELEVATION	STATION	ELEVATION	STATION	ELEVATION	STATION	ELEVATION	STATION	ELEVATION
SPAN NO.1	0.000 L	48+38.36	1118.00	48+37.63	1118.03	48+33.99	1118.20	48+32.71	1118.26	48+31.43	1118.32	48+30.34	1118.37	48+26.69	1118.22	48+23.05	1118.07	48+22.32	1118.04
	0.250 L	48+55.13	1117.96	48+54.40	1117.99	48+50.76	1118.16	48+49.48	1118.22	48+48.20	1118.28	48+47.11	1118.33	48+43.46	1118.18	48+39.82	1118.03	48+39.09	1118.00
	0.500 L	48+71.90	1117.91	48+71.17	1117.94	48+67.53	1118.11	48+66.25	1118.17	48+64.98	1118.23	48+63.88	1118.28	48+60.24	1118.13	48+56.59	1117.98	48+55.86	1117.95
	0.750 L	48+88.67	1117.86	48+87.94	1117.90	48+84.30	1118.07	48+83.02	1118.13	48+81.75	1118.19	48+80.65	1118.24	48+77.01	1118.09	48+73.36	1117.94	48+72.63	1117.91
SPAN NO.2	0.000 L	49+05.45	1117.82	49+04.72	1117.85	49+01.07	1118.02	48+99.79	1118.08	48+98.52	1118.14	48+97.42	1118.19	48+93.78	1118.04	48+90.13	1117.89	48+89.40	1117.86
	0.125 L	49+18.27	1117.78	49+17.54	1117.82	49+13.89	1117.99	49+12.62	1118.05	49+11.34	1118.11	49+10.25	1118.16	49+06.60	1118.01	49+02.95	1117.86	49+02.22	1117.83
(SPLICE 1)	*0.182 L	49+24.11	1117.76	49+23.38	1117.80	49+19.74	1117.97	49+18.46	1118.03	49+17.18	1118.09	49+16.09	1118.14	49+12.44	1117.99	49+08.80	1117.84	49+08.07	1117.81
	0.250 L	49+31.09	1117.75	49+30.36	1117.78	49+26.71	1117.95	49+25.44	1118.01	49+24.16	1118.07	49+23.07	1118.12	49+19.42	1117.97	49+15.77	1117.82	49+15.05	1117.79
	0.375 L	49+43.91	1117.72	49+43.18	1117.75	49+39.54	1117.92	49+38.26	1117.98	49+36.98	1118.04	49+35.89	1118.09	49+32.24	1117.94	49+28.60	1117.79	49+27.87	1117.76
	0.500 L	49+56.73	1117.68	49+56.00	1117.71	49+52.36	1117.88	49+51.08	1117.94	49+49.80	1118.00	49+48.71	1118.05	49+45.06	1117.90	49+41.42	1117.75	49+40.69	1117.72
	0.625 L	49+69.55	1117.64	49+68.83	1117.68	49+65.18	1117.85	49+63.90	1117.91	49+62.63	1117.97	49+61.53	1118.02	49+57.89	1117.87	49+54.24	1117.72	49+53.51	1117.69
	0.750 L	49+82.38	1117.59	49+81.65	1117.63	49+78.00	1117.80	49+76.72	1117.87	49+75.45	1117.93	49+74.35	1117.98	49+70.71	1117.83	49+67.06	1117.68	49+66.33	1117.65
	0.875 L	49+95.20	1117.53	49+94.47	1117.57	49+90.82	1117.75	49+89.55	1117.81	49+88.27	1117.87	49+87.18	1117.93	49+83.53	1117.78	49+79.88	1117.64	49+79.15	1117.61
SPAN NO.3	0.000 L	50+08.02	1117.46	50+07.29	1117.50	50+03.64	1117.68	50+02.37	1117.74	50+01.09	1117.81	50+00.00	1117.86	49+96.35	1117.72	49+92.71	1117.58	49+91.98	1117.55
	0.125 L	50+22.43	1117.37	50+21.70	1117.41	50+18.05	1117.59	50+16.77	1117.66	50+15.50	1117.72	50+14.40	1117.77	50+10.76	1117.64	50+07.11	1117.50	50+06.38	1117.47
(SPLICE 2)	*0.250 L	50+36.83	1117.26	50+36.10	1117.30	50+32.46	1117.49	50+31.18	1117.55	50+29.90	1117.62	50+28.81	1117.67	50+25.16	1117.54	50+21.52	1117.41	50+20.79	1117.38
	0.375 L	50+51.24	1117.14	50+50.51	1117.18	50+46.86	1117.37	50+45.59	1117.44	50+44.31	1117.50	50+43.22	1117.56	50+39.57	1117.43	50+35.92	1117.30	50+35.20	1117.27
	0.500 L	50+65.65	1117.00	50+64.92	1117.04	50+61.27	1117.24	50+59.99	1117.30	50+58.72	1117.37	50+57.62	1117.43	50+53.98	1117.30	50+50.33	1117.18	50+49.60	1117.15
	0.625 L	50+80.05	1116.85	50+79.32	1116.89	50+75.68	1117.09	50+74.40	1117.16	50+73.12	1117.23	50+72.03	1117.29	50+68.38	1117.16	50+64.74	1117.04	50+64.01	1117.02
	0.750 L	50+94.46	1116.68	50+93.73	1116.72	50+90.08	1116.93	50+88.81	1117.00	50+87.53	1117.07	50+86.44	1117.13	50+82.79	1117.01	50+79.14	1116.89	50+78.41	1116.87
(SPLICE 3)	*0.823 L	51+02.87	1116.58	51+02.14	1116.62	50+98.50	1116.82	50+97.22	1116.89	50+95.94	1116.97	50+94.85	1117.03	50+91.20	1116.91	50+87.56	1116.79	50+86.83	1116.77
	0.875 L	51+08.86	1116.50	51+08.13	1116.54	51+04.49	1116.75	51+03.21	1116.82	51+01.94	1116.89	51+00.84	1116.96	50+97.20	1116.84	50+93.55	1116.73	50+92.82	1116.70
SPAN NO.4	0.000 L	51+23.27	1116.31	51+22.54	1116.35	51+18.89	1116.56	51+17.62	1116.63	51+16.34	1116.71	51+15.25	1116.77	51+11.60	1116.66	51+07.96	1116.55	51+07.23	1116.52
	0.250 L	51+33.67	1116.16	51+32.94	1116.20	51+29.29	1116.41	51+28.01	1116.49	51+26.74	1116.56	51+25.64	1116.63	51+22.00	1116.52	51+18.35	1116.41	51+17.62	1116.39
	0.500 L	51+44.06	1116.00	51+43.33	1116.04	51+39.69	1116.26	51+38.41	1116.34	51+37.13	1116.41	51+36.04	1116.48	51+32.39	1116.37	51+28.75	1116.26	51+28.02	1116.24
	0.750 L	51+54.46	1115.84	51+53.73	1115.88	51+50.08	1116.10	51+48.81	1116.18	51+47.53	1116.25	51+46.44	1116.32	51+42.79	1116.21	51+39.14	1116.11	51+38.41	1116.09
	1.000 L	51+64.85	1115.66	51+64.12	1115.71	51+60.48	1115.93	51+59.20	1116.01	51+57.93	1116.08	51+56.83	1116.15	51+53.19	1116.05	51+49.54	1115.95	51+48.81	1115.93

* INDICATES SPLICE LOCATION. LOCATION FOR SPLICES 2 IN SPAN 3 IS APPROXIMATED AS 0.250L .

NOTES:

1. SEE SHEET 25/38 FOR SCREED LINES LOCATION.
2. FINAL DECK ELEVATIONS SHOWN REPRESENT THE DECK SURFACE LOCATION AFTER ALL ANTICIPATED DEAD LOAD DEFLECTIONS HAVE OCCURRED.
3. L = SPAN LENGTH.

DESIGN AGENCY
COLUMBUS ENGINEERING CONSULTANTS, INC.
840 MICHIGAN AVENUE, COLUMBUS, OH 43215
TEL:(614)228-3500

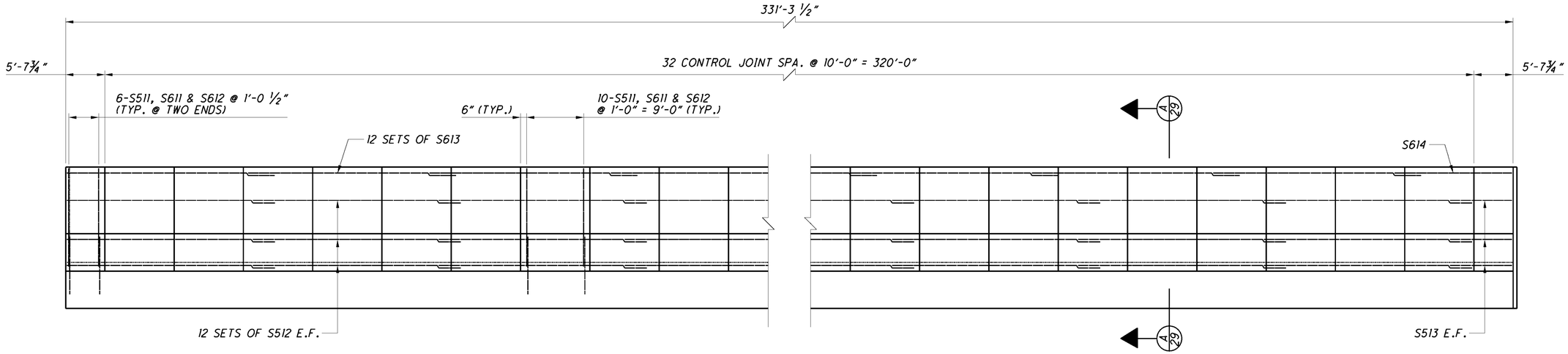
DESIGNED JH/YSJ | DRAWN CEC | REVIEWED JJ | DATE 09/12 | CHECKED SS | REVISED | STRUCTURE FILE NUMBER 7709900

FINAL DECK SURFACE ELEVATIONS
BRIDGE NO. SUM-303-0502
S.R. 303 OVER I.R. 271

SUM-271-2.33
PID No. 18710

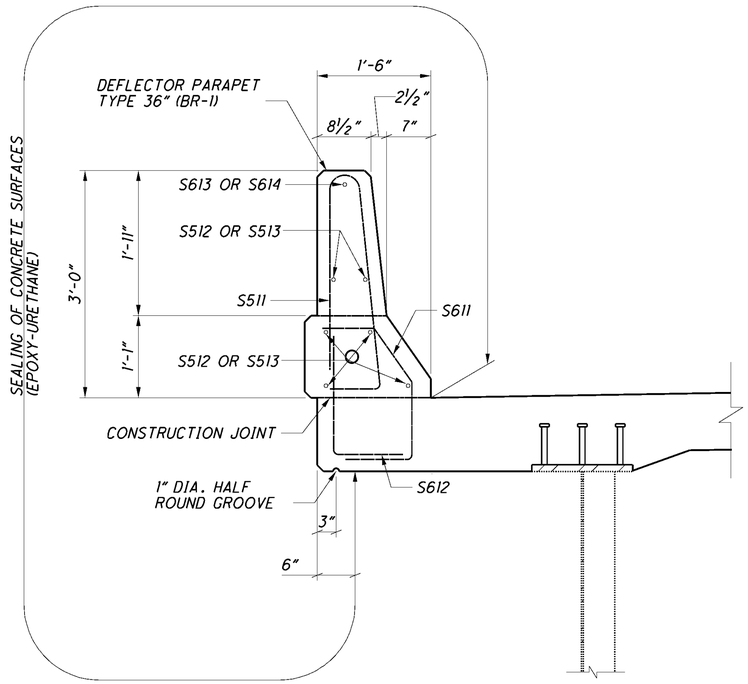
1185
1195

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PARAPET REINFORCING DETAILS

(RIGHT PARAPET SHOWN, LEFT PARAPET SIMILAR)



VIEW A-A

NOTES:

1. FOR TRANSVERSE SECTION AND NOTES, SEE SHEET 22/38 .

2. MINIMUM LAP LENGTHS:
LAP NO.4 BARS 2'-7".
LAP NO.5 BARS 3'-2".
LAP NO.6 BARS 3'-10".

DESIGN AGENCY
COLUMBUS ENGINEERING CONSULTANTS, INC.
840 MICHIGAN AVENUE, COLUMBUS, OH 43215
TEL:(614)228-3500

DESIGNED JH/YSJ | DRAWN CEC | REVIEWED JJ | DATE 09/12
CHECKED SS | REVISED | STRUCTURE FILE NUMBER 7709900

RAILING DETAILS
BRIDGE NO. SUM-303-0502
S.R. 303 OVER I.R. 271

SUM-271-2.33
PID No. 18710

29 / 38

1186
1195

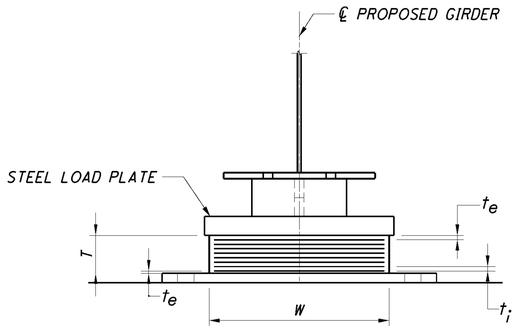
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LAMINATED ELASTOMERIC BEARINGS

LOCATION	BEARING DIMENSIONS						STEEL LOAD PLATE	STEEL MASONRY PLATE	REACTIONS		MAXIMUM
	L	W	ti	te	T	N	LENGTH X WIDTH X THICKNESS	LENGTH X WIDTH X THICKNESS	DL	LL	DESIGN LOAD
REAR ABUTMENT (EXP.)	1'-1"	1'-7"	0.42"	0.23"	4.00"	8	PL 1'-2" X 1'-8" X 2"	PL 1'-2" X 2'-5" X 1"	97 k	69 k	166 k
FORWARD ABUTMENT (EXP.)	1'-1"	1'-7"	0.42"	0.23"	4.00"	8	PL 1'-2" X 1'-8" X 2"	PL 1'-2" X 2'-5" X 1"	125 k	69 k	194 k

ti = THICKNESS OF INTERNAL LAYER
te = THICKNESS OF EXTERNAL LAYER
T = TOTAL THICKNESS OF ELASTOMERIC BEARING

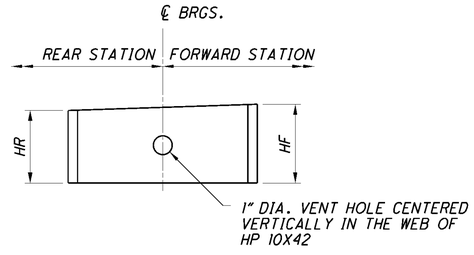
N = NO. OF STEEL LAMINATES
INTERNAL STEEL LAMINATE THICKNESS = 0.0747"
DUROMETER OF ELASTOMER = 50 DUROMETER
LOAD PLATE THICKNESS IS MEASURED AT ℄ BEARINGS.



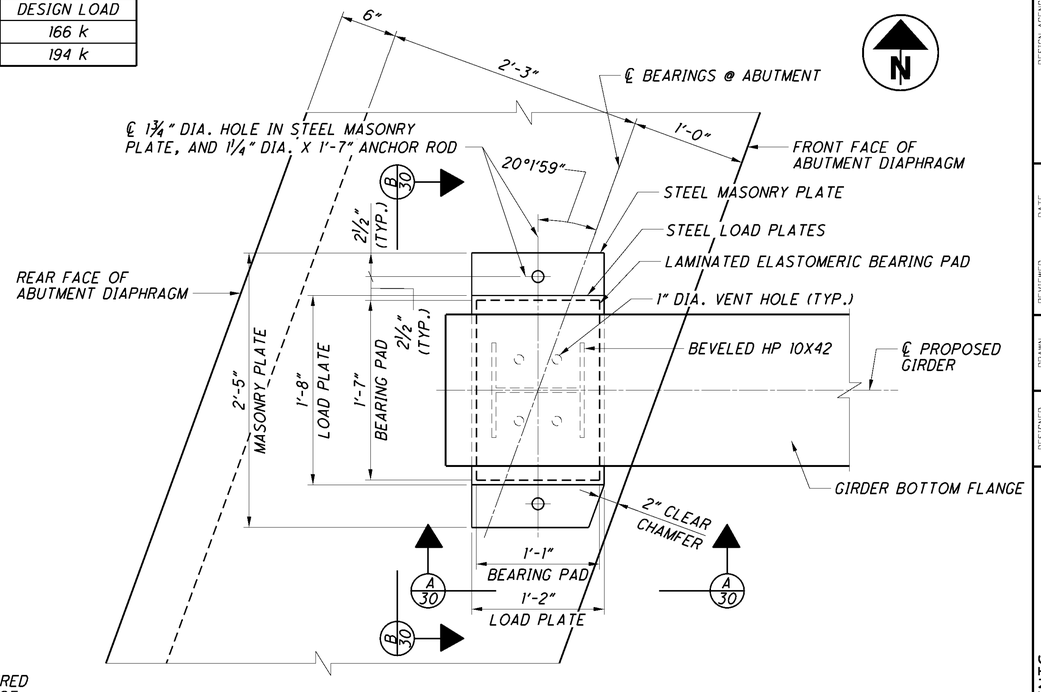
LAMINATED ELASTOMERIC EXPANSION BEARING

GIRDER NO.	BEVEL HP10X42 HEIGHT			
	REAR ABUT.		FWD. ABUT.	
	HR	HF	HF	HR
1	6 1/16"	6 1/16"	5 15/16"	5 3/4"
2	8 1/16"	8 1/16"	8 3/16"	8 3/8"
3	10 1/16"	10 1/16"	11 1/8"	11"
4	8 5/16"	8 5/16"	9 15/16"	9 13/16"
5	6 9/16"	6 9/16"	8 13/16"	8 5/8"

* - HP BLOCK HEIGHT INCREASED BY 1/8" AT FORWARD ABUTMENT TO COMPENSATE FOR THE VERTICAL DEFORMATION OF THE BEARINGS.



BEVEL HP10X42 DETAIL AT ABUTMENTS



PLAN - ABUTMENT BEARING

(REAR ABUTMENT SHOWN, FORWARD ABUTMENT SIMILAR)

NOTES:

1. BEARING COMPONENT STEEL:
THE STEEL LOAD PLATE, STEEL MASONRY PLATE AND HP10x42 PEDESTALS SHALL BE ASTM A709 GRADE 50 STEEL. SURFACE PREPARATION AND PRIMING SHALL BE DONE IN THE SHOP AND BE INCLUDED IN THE PRICE BID FOR THE BEARINGS. FIELD COATS SHALL BE INCLUDED IN THE PRICE BID FOR ITEM 514, FIELD PAINTING STRUCTURAL STEEL, AS PER PLAN FOR PAYMENT.

THE STEEL LOAD PLATE AND STEEL MASONRY PLATE SHALL BE BONDED BY VULCANIZATION TO THE ELASTOMER DURING THE MOLDING PROCESS.

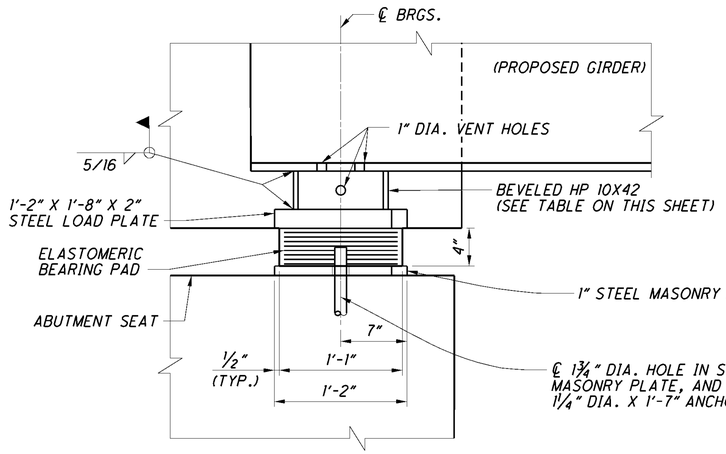
THE 1 ¼" DIA. X 1'-7" ANCHOR ROD SHALL BE ASTM A709, GRADE 50 STEEL GALVANIZED ACCORDING TO CMS 711.02. INSTALL ANCHOR ROD PER CMS 510.

2. SHOP MARK BEARING PADS, LOAD PLATES, MASONRY PLATE AND HP10X42 SECTIONS WITH THE FOLLOWING INFORMATION:
GIRDER NUMBER, SUBSTRUCTURE UNIT & FORWARD STATION DIRECTION.

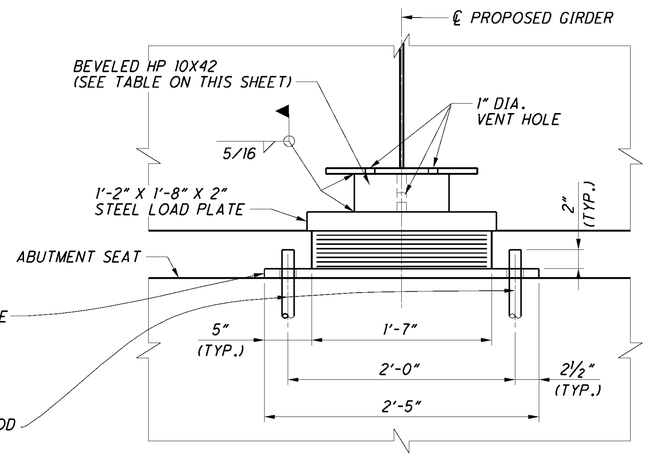
3. BEARING REPOSITIONING:
IF THE BEARING IS INSTALLED AT AN AMBIENT TEMPERATURE HIGHER THAN 80°F OR LOWER THAN 40°F AND THE BEARING SHEAR DEFLECTION EXCEEDS 1/6 OF THE BEARING HEIGHT AT 60°F±10°F, RAISE THE BEAMS OR GIRDERS TO ALLOW THE BEARINGS TO RETURN TO THEIR UNDEFORMED SHAPE AT 60°F±10°F.

4. ELASTOMERIC BEARINGS:
THE ELASTOMER SHALL HAVE A HARDNESS OF 50 DUROMETER. THE BEARINGS WERE DESIGNED UNDER DIVISION I, SECTION 14.6.6 (METHOD A) OF THE AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES.

5. BASIS OF PAYMENT:
THE UNIT BID PRICE INCLUDES ALL MATERIALS, LABOR, SHOP COATING, TESTING AND INCIDENTALS NECESSARY TO FURNISH AND INSTALL LAMINATED ELASTOMERIC BEARINGS INCLUDING STEEL LOAD PLATES, MASONRY PLATES AND HP10X42 PEDESTALS. PAYMENT WILL BE INCLUDED WITH ITEM 516, ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE), AS PER PLAN.



VIEW A-A



VIEW B-B

DESIGN AGENCY
COLUMBUS ENGINEERING CONSULTANTS, INC.
840 MICHIGAN AVENUE, COLUMBUS, OH 43215
TEL:(614)228-3500

DESIGNED JH/YSJ | DRAWN CEC | REVIEWED JJ | DATE 09/12 | STRUCTURE FILE NUMBER 7709900 | CHECKED SS | REVISED

BEARING DETAILS - ABUTMENTS

BRIDGE NO. SUM-303-0502
S.R. 303 OVER I.R. 271

SUM-271-2.33
PID No. 18710

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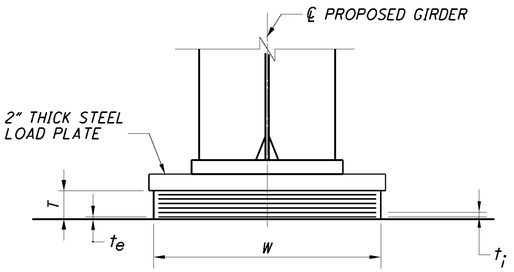
1187
1195

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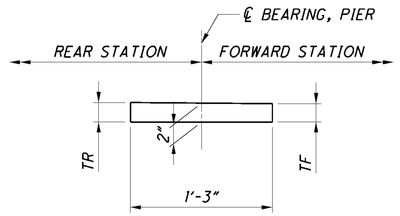
LAMINATED ELASTOMERIC BEARINGS									
LOCATION	BEARING DIMENSIONS						STEEL LOAD PLATE	REACTIONS		MAXIMUM
	L	W	ti	te	T	N	LENGTH X WIDTH X THICKNESS	DL	LL	DESIGN LOAD
PIER 1 (EXP.)	1'-2"	2'-0"	0.42"	0.23"	3.00"	6	℄ 1'-3" X 2'-1" X 2"	218 k	109 k	327 k
PIER 3 (EXP.)	1'-2"	2'-2"	0.42"	0.23"	3.00"	6	℄ 1'-3" X 2'-3" X 2"	245 k	109 k	354 k

ti = THICKNESS OF INTERNAL LAYER
te = THICKNESS OF EXTERNAL LAYER
T = TOTAL THICKNESS OF ELASTOMERIC BEARING

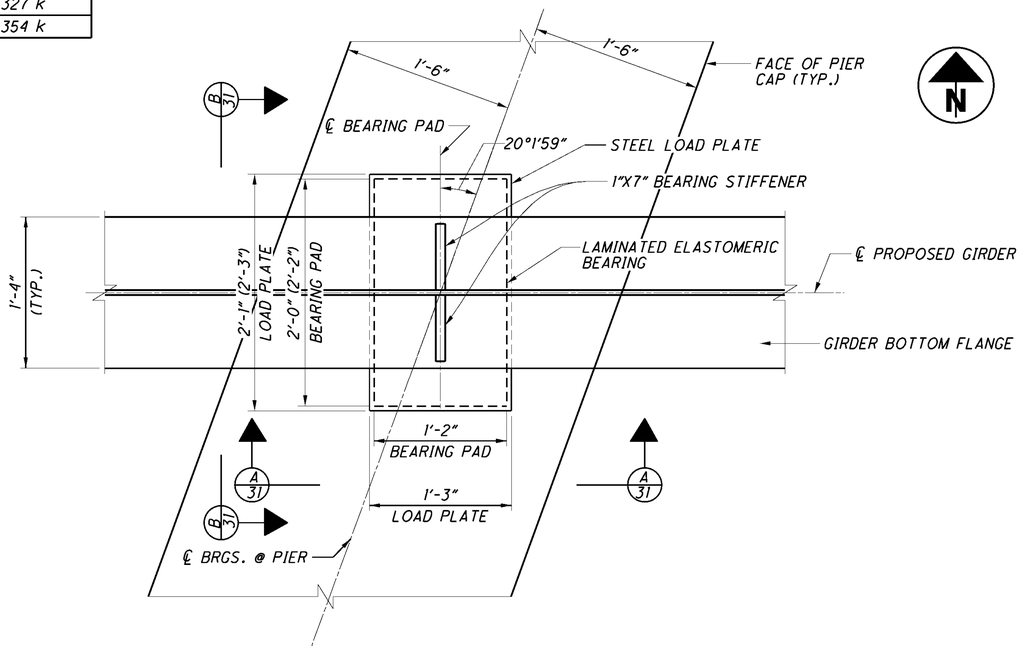
N = NO. OF STEEL LAMINATES
INTERNAL STEEL LAMINATE THICKNESS = 0.0747"
DUROMETER OF ELASTOMER = 50 DUROMETER
LOAD PLATE THICKNESS IS MEASURED AT ℄ BEARINGS.



LAMINATED ELASTOMERIC EXPANSION BEARING

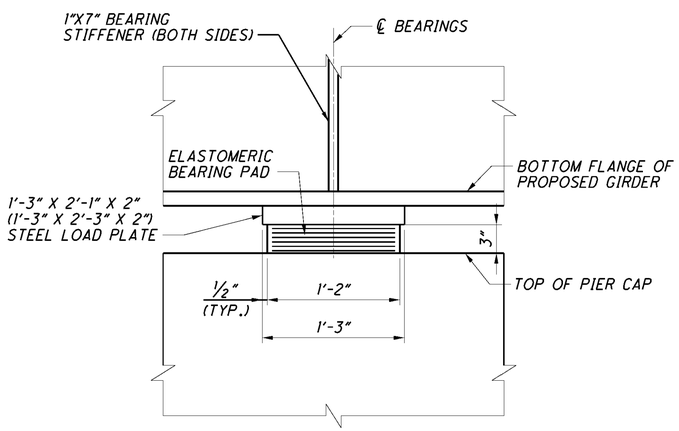


DETAIL 1
(PIER 3 ONLY)

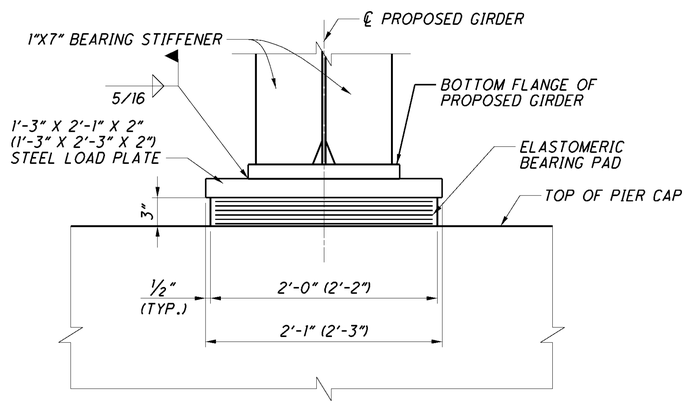


BEARING PLAN

BEVEL LOAD PLATE THICKNESS		
SUPPORT	TR	TF
PIER 3	2 1/8"	1 7/8"



VIEW A-A



VIEW B-B

NOTES:

1. FOR BEARING NOTES, SEE SHEET 30/38 .

2. FOR PIER SEAT ELEVATIONS AT THE CENTERLINE OF BEARINGS, SEE SHEET 17/38 .

3. SHOP MARK BEARING PADS AND LOAD PLATES WITH THE FOLLOWING INFORMATION:
GIRDER NUMBER, SUBSTRUCTURE UNIT & FORWARD STATION DIRECTION.

DESIGN AGENCY
COLUMBUS ENGINEERING CONSULTANTS, INC.
840 MICHIGAN AVENUE, COLUMBUS, OH 43215
TEL:(614)228-3500

DESIGNED JH/YSJ | DRAWN CEC | REVIEWED JJ | DATE 09/12
CHECKED SS | REVISED | STRUCTURE FILE NUMBER 7709900

BEARING DETAILS - PIERS 1 & 3
BRIDGE NO. SUM-303-0502
S.R. 303 OVER I.R. 271

SUM-271-2.33
PID No. 18710

31 / 38

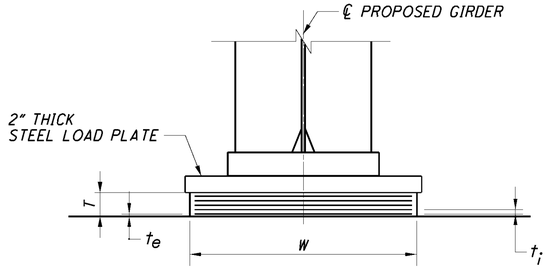
1188
1195

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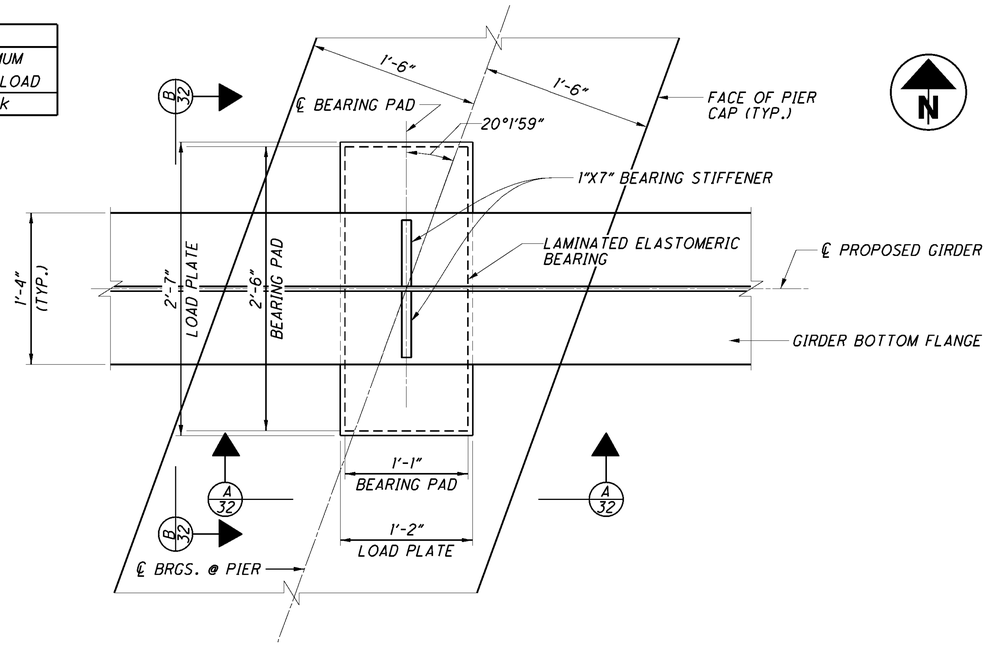
LAMINATED ELASTOMERIC BEARINGS									
LOCATION	BEARING DIMENSIONS						STEEL LOAD PLATE	REACTIONS		MAXIMUM
	L	W	ti	te	T	N	LENGTH X WIDTH X THICKNESS	DL	LL	DESIGN LOAD
PIER 2 (EXP.)	1'-1"	2'-6"	0.42"	0.23"	2.51"	5	℄ 1'-2" X 2'-7" X 2"	262 k	119 k	381 k

ti = THICKNESS OF INTERNAL LAYER
te = THICKNESS OF EXTERNAL LAYER
T = TOTAL THICKNESS OF ELASTOMERIC BEARING

N = NO. OF STEEL LAMINATES
INTERNAL STEEL LAMINATE THICKNESS = 0.0747"
DUROMETER OF ELASTOMER = 50 DUROMETER
LOAD PLATE THICKNESS IS MEASURED AT ℄ BEARINGS.



LAMINATED ELASTOMERIC EXPANSION BEARING



BEARING PLAN

VIEW A-A

VIEW B-B

NOTES:

1. FOR BEARING NOTES, SEE SHEET 30/38 .

2. FOR PIER SEAT ELEVATIONS AT THE CENTERLINE OF BEARINGS, SEE SHEET 17/38 .

3. SHOP MARK BEARING PADS AND LOAD PLATES WITH THE FOLLOWING INFORMATION:
GIRDER NUMBER, SUBSTRUCTURE UNIT & FORWARD STATION DIRECTION.

DESIGN AGENCY
COLUMBUS ENGINEERING CONSULTANTS, INC.
840 MICHIGAN AVENUE, COLUMBUS, OH 43215
TEL:(614)228-3500

DESIGNED JH/YSJ | DRAWN CEC | REVIEWED JJ | DATE 09/12 | CHECKED SS | REVISED | STRUCTURE FILE NUMBER 7709900

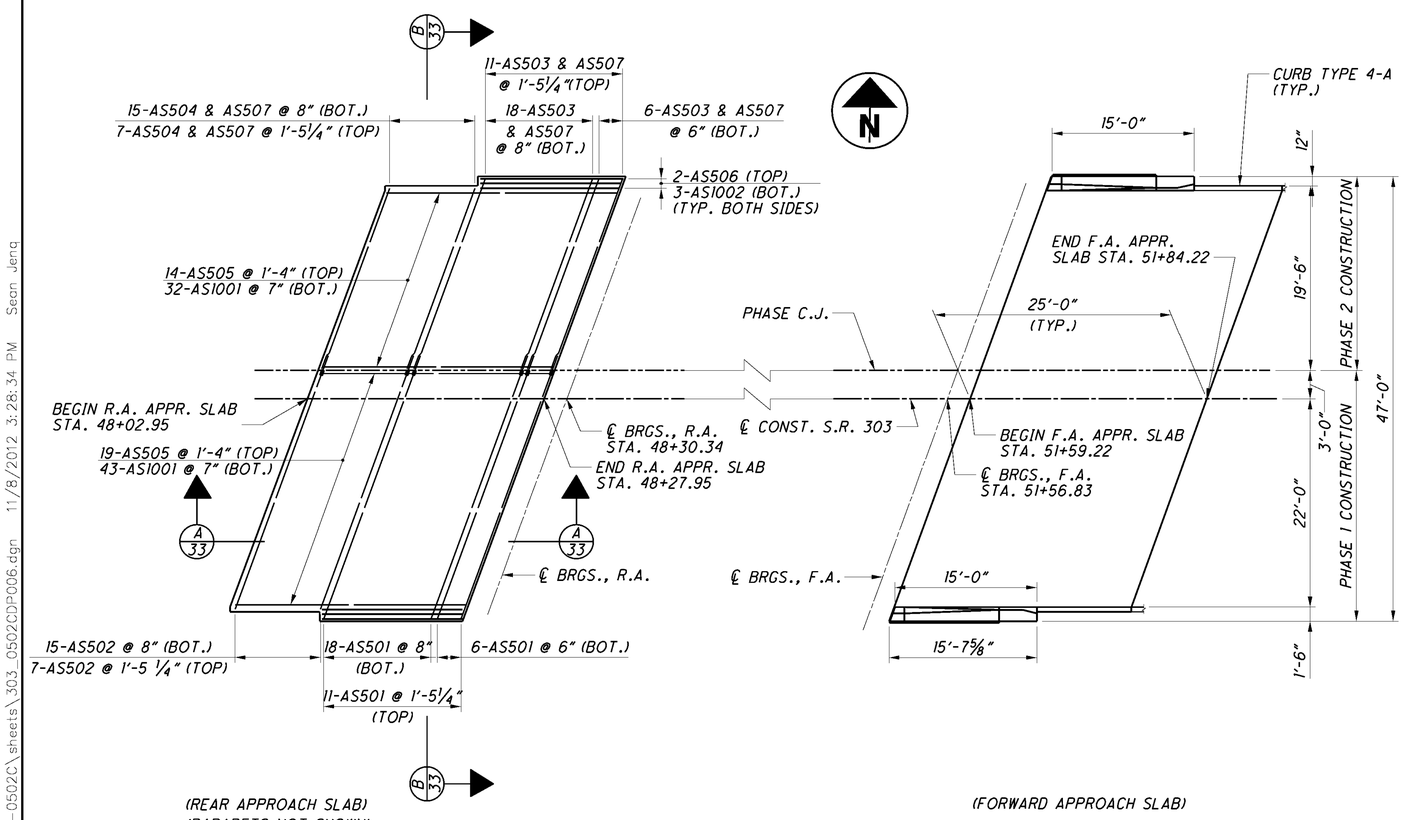
BEARING DETAILS - PIER 2
BRIDGE NO. SUM-303-0502
S.R. 303 OVER I.R. 271

SUM-271-2.33
PID No. 18710

32 / 38

1189
1195

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APPROACH SLAB PLAN

(REAR APPROACH SLAB REINFORCEMENT SHOWN, FORWARD APPROACH SLAB OPPOSITE HAND)

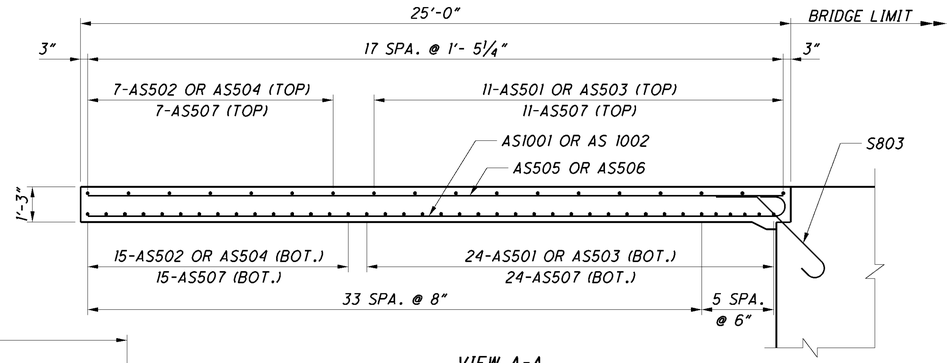
TOP OF APPROACH SLAB ELEVATIONS

APPROACH SLAB	LOCATION	LEFT TOE OF PARAPET		PROFILE GRADE		RIGHT TOE OF PARAPET	
		STATION	ELEVATION	STATION	ELEVATION	STATION	ELEVATION
REAR	0.0 L	48+10.97	1118.06	48+02.95	1118.39	47+94.93	1118.01
	0.5 L	48+23.47	1118.04	48+15.45	1118.41	48+07.43	1118.05
	1.0 L	48+35.97	1118.00	48+27.95	1118.38	48+19.93	1118.05
FORWARD	0.0 L	51+67.24	1115.62	51+59.22	1116.11	51+51.20	1115.89
	0.5 L	51+79.74	1115.40	51+57.72	1115.90	51+63.70	1115.68
	1.0 L	51+92.24	1115.18	51+84.22	1115.68	51+76.20	1115.47

L = APPROACH SLAB LENGTH

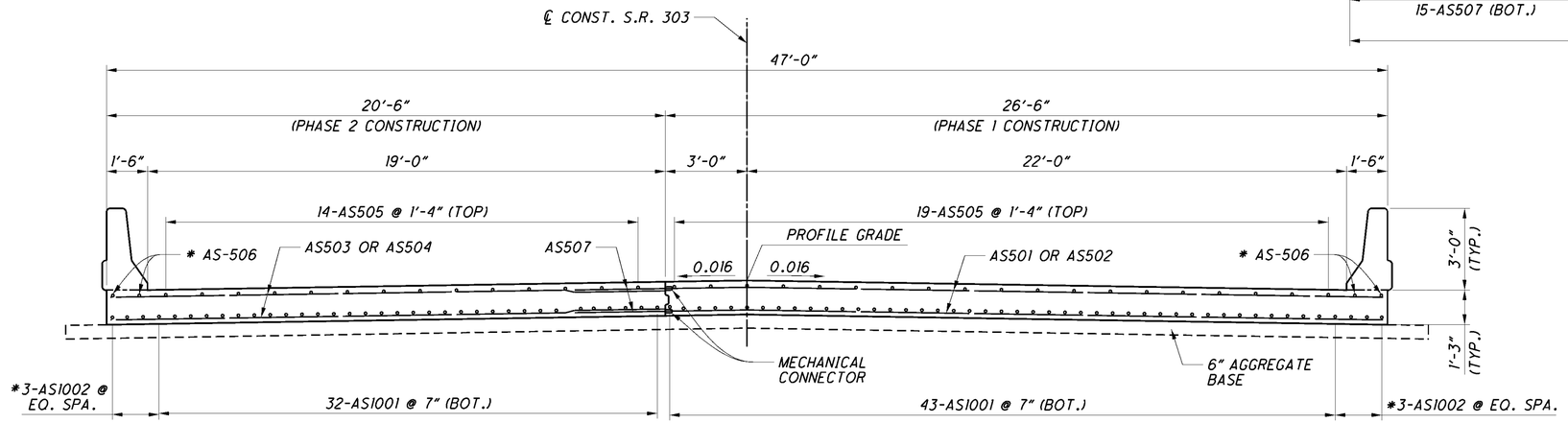
REINFORCING STEEL LIST TABLE (FOR INFORMATION ONLY)

MARK	NO.	LENGTH	WEIGHT	TYPE	A	B	C	D	INCR.
APPROACH SLAB (FOR INFORMATION ONLY)									
**AS501	70	28'-0"	2044	STR					
**AS502	44	26'-11"	1235	STR					
AS503	70	21'-6"	1570	STR					
AS504	44	20'-5"	937	STR					
AS505	66	24'-6"	1687	STR					
AS506	8	15'-0"	125	STR					
**AS507	114	3'-4"	396	STR					
AS1001	150	25'-11"	16728	16	24'-6"				
AS1002	12	16'-5"	848	16	15'-0"				
		TOTAL = 25570 LB							



** - INDICATES BARS REQUIRING MECHANICAL CONNECTORS. THE LENGTH SHOWN IN THE TABLE ARE THE NOMINAL LENGTH MEASURED TO THE PHASE CONSTRUCTION JOINT. ADJUSTMENT IN THE LENGTH OF THE BARS DUE TO MECHANICAL SPLICING SHALL BE MADE PRIOR TO THE FABRICATION.

VIEW A-A



VIEW B-B

(* FILED CUT AS NEEDED)

NOTES:

1. FOR ADDITIONAL DETAILS NOTES & APPROACH SLAB REINFORCING, REFERENCE IS MADE TO STD. DRAWING AS-1-81.

2. FOR NOTES & ADDITIONAL DETAILS OF THE CONCRETE PARAPET, REFERENCE IS MADE TO STD. DRAWING BR-1,

3. FOR PARAPET TRANSITION DETAILS SEE SHEET 34/38 .

4. THE COST INCLUDING ALL LABOR, EQUIPMENT, MATERIALS (CONCRETE, REINFORCING STEEL, JOINT FILLERS, JOINT SEALERS, AND JOINT SEALS), AND INCIDENTALS NECESSARY TO CONSTRUCT APPROACH SLABS, PARAPETS AND CURBS ARE INCLUDED IN THE UNIT BID PRICE FOR ITEM 526, REINFORCED CONCRETE APPROACH SLAB, AS PER PLAN, FOR PAYMENT.

5. MINIMUM LAP LENGTHS:
   LAP NO.5 BARS 3'-2"
   LAP NO.6 BARS 3'-10"
   LAP NO.10 BARS 10'-3"

DESIGN AGENCY
COLUMBUS ENGINEERING CONSULTANTS, INC.
840 MICHIGAN AVENUE, COLUMBUS, OH 43215
TEL:(614)228-3500

DESIGNED JH/YSJ | DRAWN CEC | REVIEWED JJ | DATE 09/12 | CHECKED SS | REVISED | STRUCTURE FILE NUMBER 7709900

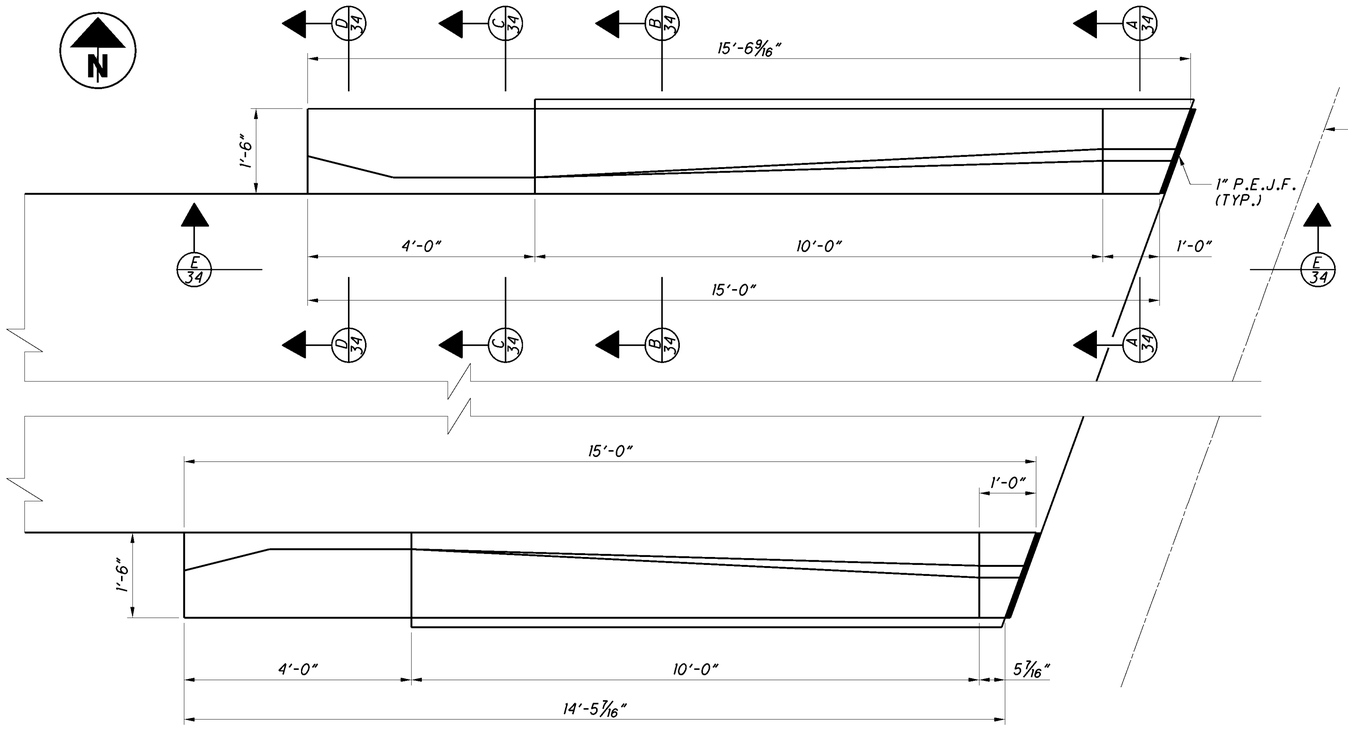
APPROACH SLAB DETAILS
BRIDGE NO. SUM-303-0502
S.R. 303 OVER I.R. 271

SUM-271-2.33
PID No. 18710

33 / 38

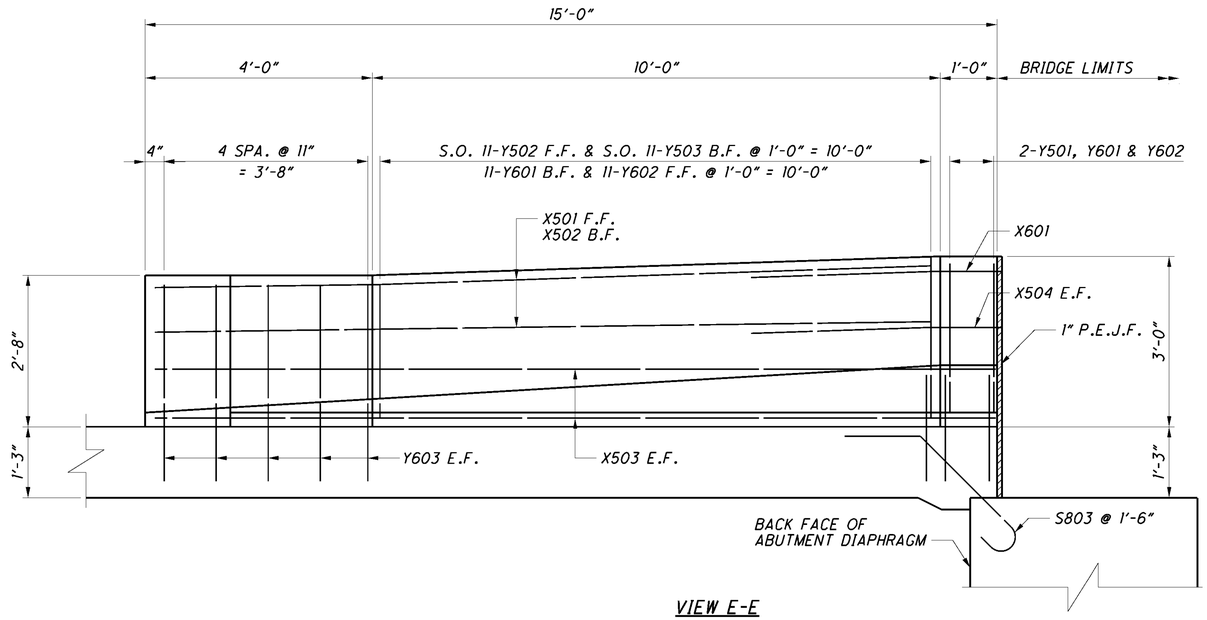
1190
1195

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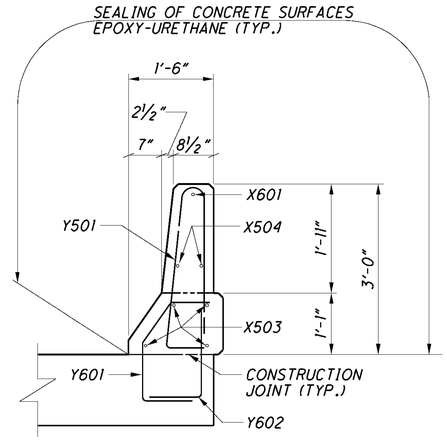
APPROACH SLAB PARAPET PLAN

(REAR APPROACH SHOWN, FORWARD APPROACH SIMILAR)
(SEE STD. DWG. BR-1 FOR ADDITIONAL DETAILS)

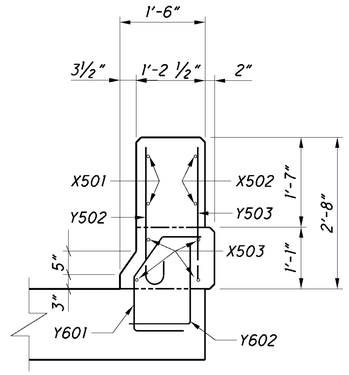


VIEW E-E

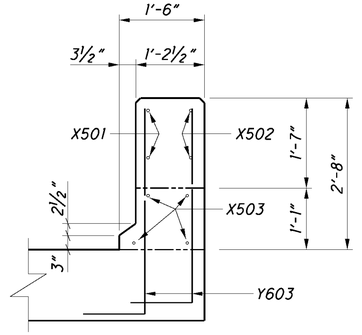
(PARAPETS ON FORWARD APPROACH SLAB ARE SIMILAR)



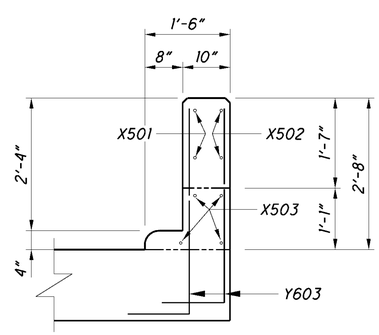
SECTION A-A



SECTION B-B



SECTION C-C



SECTION D-D

NOTES:

1. THE COST INCLUDING ALL LABOR, EQUIPMENT, MATERIALS (CONCRETE, REINFORCING STEEL, JOINT FILLERS, JOINT SEALERS, AND JOINT SEALS), AND INCIDENTALS NECESSARY TO CONSTRUCT APPROACH SLABS, PARAPETS AND CURBS ARE INCLUDED IN THE UNIT BID PRICE FOR ITEM 526, REINFORCED CONCRETE APPROACH SLAB, AS PER PLAN, FOR PAYMENT.

2. THE COST FOR SEALING OF CONCRETE SURFACES OF APPROACH SLAB PARAPETS IS INCLUDED IN THE BID PRICE OF ITEM 512, SEALING OF CONCRETE SURFACES (EPOXY-URETHANE) FOR PAYMENT.

3. MINIMUM LAP LENGTHS:
   LAP NO.5 BARS 3'-2".
   LAP NO.6 BARS 3'-10".

LEGEND

F.F. - FRONT FACE
B.F. - BACK FACE
E.F. - EACH FACE
S.O. - SERIES OF

DESIGN AGENCY
COLUMBUS ENGINEERING CONSULTANTS, INC.
840 MICHIGAN AVENUE, COLUMBUS, OH 43215
TEL:(614)228-3500

DESIGNED JH/YSJ | DRAWN CEC | REVIEWED JJ | DATE 09/12 | CHECKED SS | REVISED | STRUCTURE FILE NUMBER 7709900

APPROACH SLAB PARAPET DETAILS
BRIDGE NO. SUM-303-0502
S.R. 303 OVER I.R. 271

SUM-271-2.33
PID No. 18710

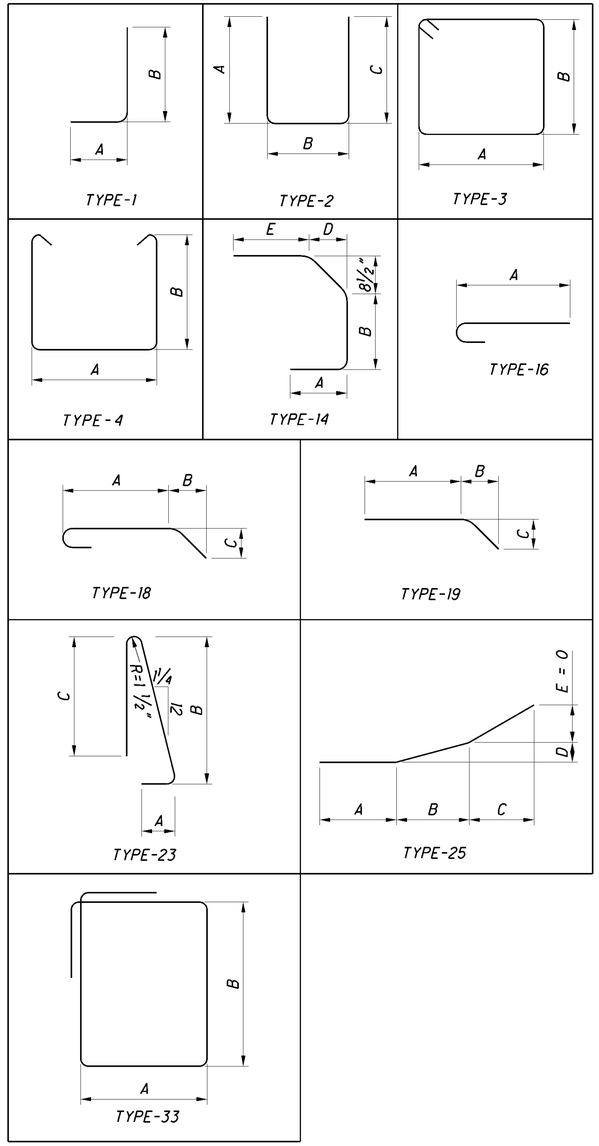
34 / 38

1191
1195

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MARK	NUMBER			LENGTH	WEIGHT	TYPE	DIMENSIONS						
	REAR	FORWARD	TOTAL				A	B	C	D	E	R	INC
ABUTMENTS													CALCULATED: SS CHECKED: JH
PHASE I CONSTRUCTION													
A501	56	56	112	4'-8"	545	1	2'-9"	2'-1"					
A502	18	18	36	5'-5"	203	STR							
A503	2	2	4	7'-9"	32	STR							
A504	3	2	5	14'-4"	75	2	5'-9"	3'-1"	5'-9"				
A505	1	1	2	6'-6"	14	STR							
A506	5		5	11'-0"	57	2	3'-7"	3'-0"	4'-8"				
A507		5	5	8'-4"	43	2	2'-3"	3'-0"	3'-4"				
A508	2	2	4	30'-0"	125	STR							
*A509	2		2	15'-6"	32	STR							
*A511		2	2	14'-3"	30	STR							
A513	1		1	8'-10"	9	1	3'-7"	5'-5"					
A514	2		2	13'-11"	29	STR							
A515	2		2	12'-9"	27	STR							
	1		1	6'-8"									
A516	S.O.		S.O.	TO	28	STR							2'-5"
	3		3	11'-6"									
	1		1	5'-6"									
A517	S.O.		S.O.	TO	25	STR							2'-5"
	3		3	10'-4"									
	1		1	13'-6"			2'-11"						
A518	S.O.		S.O.	TO	59	19	TO	9'-10"	4'-0"				0'-4 3/4"
	4		4	14'-8"			4'-1"						
		1	1	12'-4"			1'-7"						
A519		S.O.	S.O.	TO	54	19	TO	9'-11"	4'-1"				0'-4 3/4"
		4	4	13'-6"			2'-9"						
A520	3		3	14'-0"	44	2	5'-5"	3'-5"	5'-5"				
	1		1	6'-0"			1'-5"		1'-5"				
A521	S.O.		S.O.	TO	103	2	TO	3'-5"	TO				0'-5"
	10		10	13'-8"			5'-3"		5'-3"				
A522	1	1	2	5'-1"	11	2	1'-0"	3'-4"	1'-0"				
A523	4	4	8	3'-6"	29	STR							
A524		1	1	9'-1"	9	1	3'-7"	5'-8"					
A525		2	2	11'-5"	24	STR							
A526		2	2	12'-7"	26	STR							
		1	1	4'-2"									
A527		S.O.	S.O.	TO	21	STR							2'-5"
		3	3	9'-0"									
		1	1	5'-4"									
A528		S.O.	S.O.	TO	24	STR							2'-5 1/2"
		3	3	10'-3"									
A529		2	2	14'-6"	30	2	5'-8"	3'-5"	5'-8"				
		1	1	6'-0"			1'-5"		1'-5"				
A530		S.O.	S.O.	TO	104	2	TO	3'-5"	TO				0'-5 1/4"
		10	10	14'-0"			5'-5"		5'-5"				
A801	4	4	8	30'-0"	641	STR							
*A802	4		4	18'-9"	200	STR							
*A804		4	4	17'-5"	186	STR							
				SUB-TOTAL =	2839 LB								

BENDING DIAGRAMS



NOTES:

FOR NOTES, SEE SHEET 38/38 .

* - INDICATES BARS REQUIRING MECHANICAL CONNECTORS. THE LENGTH SHOWN IN THE TABLE ARE THE NOMINAL LENGTH MEASURED TO THE PHASE CONSTRUCTION JOINT. ADJUSTMENT IN THE LENGTH OF THE BARS DUE TO MECHANICAL SPLICING SHALL BE MADE PRIOR TO THE FABRICATION.

DESIGN AGENCY
COLUMBUS ENGINEERING CONSULTANTS, INC.
840 MICHIGAN AVENUE, COLUMBUS, OH 43215
TEL:(614)228-3500

DESIGNED JH/YSJ | DRAWN CEC | REVIEWED JJ | DATE 09/12
CHECKED SS | REVISED | STRUCTURE FILE NUMBER 7709900

REINFORCING STEEL LIST - I
BRIDGE NO. SUM-303-0502
S.R. 303 OVER I.R. 271

SUM-271-2.33
PID No. 18710

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MARK	NUMBER			LENGTH	WEIGHT	TYPE	DIMENSIONS						
	REAR	FORWARD	TOTAL				A	B	C	D	E	R	INC
ABUTMENTS													CALCULATED: SS CHECKED: JH
PHASE 2 CONSTRUCTION													
A501	44	44	88	4'-8"	428	1	2'-9"	2'-1"					
A502	18	18	36	5'-5"	203	STR							
A503	2	2	4	7'-9"	32	STR							
A504	2	3	5	14'-4"	75	2	5'-9"	3'-1"	5'-9"				
A505	1	1	2	6'-6"	14	STR							
A506		5	5	11'-0"	57	2	3'-7"	3'-0"	4'-8"				
A507	5		5	8'-4"	43	2	2'-3"	3'-0"	3'-4"				
A508	2	2	4	30'-0"	125	STR							
*A510	2		2	7'-10"	16	STR							
*A512		2	2	9'-3"	19	STR							
A513	1	1	2	8'-10"	18	1	3'-7"	5'-5"					
A514		2	2	13'-11"	29	STR							
A515		2	2	12'-9"	27	STR							
		1	1	6'-8"									
A516		S.O.	S.O.	TO	28	STR							2'-5"
		3	3	11'-6"									
		1	1	5'-6"									
A517		S.O.	S.O.	TO	25	STR							2'-5"
		3	3	10'-4"									
	1		1	13'-6"			2'-11"						
A518	S.O.		S.O.	TO	59	19	TO	9'-10"	4'-0"				0'-4 3/4"
	4		4	14'-8"			4'-1"						
		1	1	12'-4"			1'-7"						
A519		S.O.	S.O.	TO	54	19	TO	9'-11"	4'-1"				0'-4 3/4"
		4	4	13'-6"			2'-9"						
A520	2	3	5	14'-0"	73	2	5'-5"	3'-5"	5'-5"				
	1	1	2	6'-0"			1'-5"		1'-5"				
A521	S.O.	S.O.	S.O.	TO	205	2	TO	3'-5"	TO				0'-5"
	10	10	10	13'-8"			5'-3"		5'-3"				
A522	1	1	2	5'-1"	11	2	1'-0"	3'-4"	1'-0"				
A523	4	4	8	3'-6"	29	STR							
A525	2		2	11'-5"	24	STR							
A526	2		2	12'-7"	26	STR							
	1		1	4'-2"									
A527	S.O.		S.O.	TO	21	STR							2'-5"
	3		3	9'-0"									
	1		1	5'-4"									
A528	S.O.		S.O.	TO	24	STR							2'-5 1/2"
	3		3	10'-3"									
A801	4	4	8	30'-0"	641	STR							
*A803	4		4	11'-0"	117	STR							
*A805		4	4	12'-4"	132	STR							
				SUB-TOTAL =	2555 LB								
				TOTAL =	5394 LB								

MARK	NUMBER	LENGTH	WEIGHT	TYPE	DIMENSIONS						
					A	B	C	D	E	R	INC
PIERS											
PHASE 1 CONSTRUCTION											
P501	408	10'-5"	4433	2	4'-4"	2'-0"	4'-4"				
*P601	24	25'-5"	916	STR							
P603	24	9'-3"	333	2	3'-6"	2'-7"	3'-6"				
P604	18	12'-6"	338	33	2'-10"	2'-10"					
P605	12	4'-2"	75	1	1'-7"	2'-9"					
*P801	24	25'-5"	1629	STR							
*P804	30	6'-6"	521	STR							
P901	30	4'-1"	416	1	1'-7"	2'-9"					
P1001	18	32'-6"	2517	2	4'-0"	25'-2"	4'-0"				
P1002	12	25'-3"	1304	STR							
PHASE 2 CONSTRUCTION											
P501	276	10'-5"	2999	2	4'-4"	2'-0"	4'-4"				
*P602	24	21'-1"	760	STR							
P603	12	9'-3"	167	2	3'-6"	2'-7"	3'-6"				
P604	9	12'-6"	169	33	2'-10"	2'-10"					
P605	6	4'-2"	38	1	1'-7"	2'-9"					
*P802	18	24'-10"	1193	1	4'-0"	21'-0"					
*P803	36	21'-1"	2026	STR							
P901	15	4'-1"	208	1	1'-7"	2'-9"					
	SUB-TOTAL =		20042 LB								

* - INDICATES BARS REQUIRING MECHANICAL CONNECTORS. THE LENGTH SHOWN IN THE TABLE ARE THE NOMINAL LENGTH MEASURED TO THE PHASE CONSTRUCTION JOINT. ADJUSTMENT IN THE LENGTH OF THE BARS DUE TO MECHANICAL SPLICING SHALL BE MADE PRIOR TO THE FABRICATION.

NOTES:

FOR NOTES, SEE SHEET 38/38.

DESIGN AGENCY
COLUMBUS ENGINEERING CONSULTANTS, INC.
840 MICHIGAN AVENUE, COLUMBUS, OH 43215
TEL:(614)228-3500

DESIGNED JH/YSJ | DRAWN CEC | REVIEWED JJ | DATE 09/12 | CHECKED SS | REVISED | STRUCTURE FILE NUMBER 7709900

REINFORCING STEEL LIST - II

BRIDGE NO. SUM-303-0502
S.R. 303 OVER I.R. 271

SUM-271-2.33
PID No. 18710

1193
1195

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MARK	NUMBER	LENGTH	WEIGHT	TYPE	DIMENSIONS						
					A	B	C	D	E	R	INC
SUPERSTRUCTURE											CALCULATED: SS CHECKED: JH
PHASE 1 CONSTRUCTION:											
S401	444	30'-0"	8898	STR							
S501	420	30'-0"	13142	STR							
S502	35	8'-11"	326	STR							
*S506	1716	26'-4"	47130	STR							
	2	9'-2"									
*S507	S.O.	TO	604	STR							0'-11
	17	24'-11"									
	2	3'-11"									
S508	S.O.	TO	54	STR							0'-7"
	5	6'-6"									
	2	9'-2"									
S509	S.O.	TO	604	STR							0'-11
	17	24'-11"									
S511	332	5'-11"	2049	23	0'-8"	2'-9"	2'-6"				
S512	72	30'-0"	2253	STR							
S513	6	9'-0"	56	STR							
S521	64	15'-0"	1001	2	6'-4"	2'-7"	6'-4"				
S522	112	7'-11"	925	4	1'-6"	2'-10"					
S523	32	25'-5"	848	2	2'-0"	21'-8"	2'-0"				
S524	2	13'-0"	27	2	1'-6"	10'-3"	1'-6"				
*S525	16	8'-4"	139	2	3'-0"	2'-7"	3'-0"				
*S527	1	4'-4"	5	1	1'-6"	3'-0"					
S530	48	10'-8"	534	2	3'-8"	3'-7"	3'-8"				
S531	48	10'-8"	534	2	3'-8"	3'-7"	3'-8"				
S532	48	7'-4"	367	2	2'-5"	2'-9"	2'-5"				
S601	37	14'-10"	824	STR							
S602	74	30'-0"	3334	STR							
S603	37	24'-10"	1380	STR							
S604	37	40'-0"	2223	STR							
S605	37	17'-10"	991	STR							
S611	332	2'-11"	1454	14	0'-10"	0'-8"	0'-6"	0'-9"			
S612	332	2'-2"	1080	1	0'-11"	1'-5"					
S613	12	30'-0"	541	STR							
S614	1	16'-11"	25	STR							
*S801	28	28'-0"	2093	STR							
S804	38	4'-11"	499	18	2'-9"	1'-0"	1'-0"				

MARK	NUMBER	LENGTH	WEIGHT	TYPE	DIMENSIONS						
					A	B	C	D	E	R	INC
SUPERSTRUCTURE											CALCULATED: SS CHECKED: JH
PHASE 2 CONSTRUCTION:											
S401	336	30'-0"	6733	STR							
S501	348	30'-0"	10889	STR							
S502	29	8'-11"	270	STR							
S503	1728	20'-3"	36497	STR							
*S504	1750	3'-2"	5780	STR							
	2	8'-6"									
S505	S.O.	TO	316	STR							1'-0"
	11	19'-0"									
	2	3'-11"									
S508	S.O.	TO	54	STR							0'-7"
	5	6'-6"									
	2	8'-6"									
S510	S.O.	TO	316	STR							1'-0"
	11	19'-0"									
S511	332	5'-11"	2049	23	0'-8"	2'-9"	2'-6"				
S512	72	30'-0"	2253	STR							
S513	6	9'-0"	56	STR							
S521	48	15'-0"	751	2	6'-4"	2'-7"	6'-4"				
S522	80	7'-11"	661	4	1'-6"	2'-10"					
S523	24	25'-5"	636	2	2'-0"	21'-8"	2'-0"				
S524	1	13'-0"	14	2	1'-6"	10'-3"	1'-6"				
*S526	32	3'-4"	111	STR							
*S528	1	8'-7"	9	1	1'-6"	7'-3"					
S530	38	10'-8"	423	2	3'-8"	3'-7"	3'-8"				
S531	38	10'-8"	423	2	3'-8"	3'-7"	3'-8"				
S532	38	7'-4"	291	2	2'-5"	2'-9"	2'-5"				
S601	29	14'-10"	646	STR							
S602	58	30'-0"	2613	STR							
S603	29	24'-10"	1082	STR							
S604	29	40'-0"	1742	STR							
S605	29	17'-10"	777	STR							
S611	332	2'-11"	1454	14	0'-10"	0'-8"	0'-6"	0'-9"			
S612	332	2'-2"	1080	1	0'-11"	1'-5"					
S613	12	30'-0"	541	STR							
S614	1	16'-11"	25	STR							
*S802	28	6'-6"	486	STR							
S803	28	21'-7"	1615	STR							
S804	30	4'-11"	394	18	2'-9"	1'-0"	1'-0"				
	SUB-TOTAL =		174927 LB								

* - INDICATES BARS REQUIRING MECHANICAL CONNECTORS. THE LENGTH SHOWN IN THE TABLE ARE THE NOMINAL LENGTH MEASURED TO THE PHASE CONSTRUCTION JOINT. ADJUSTMENT IN THE LENGTH OF THE BARS DUE TO MECHANICAL SPLICING SHALL BE MADE PRIOR TO THE FABRICATION.

NOTES:

FOR NOTES, SEE SHEET 38/38.

DESIGN AGENCY
COLUMBUS ENGINEERING CONSULTANTS, INC.
840 MICHIGAN AVENUE, COLUMBUS, OH 43215
TEL:(614)228-3500

DESIGNED JH/YSJ | DRAWN CEC | REVIEWED JJ | DATE 09/12
CHECKED SS | REVISED | STRUCTURE FILE NUMBER 7709900

REINFORCING STEEL LIST - III

BRIDGE NO. SUM-303-0502
S.R. 303 OVER I.R. 271

SUM-271-2.33
PID No. 18710

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MARK	NUMBER			LENGTH	WEIGHT	TYPE	DIMENSIONS						
	REAR	FORWARD	TOTAL				A	B	C	D	E	R	INC
APPROACH SLAB PARAPETS (FOR INFORMATION ONLY)													CALCULATED: SS CHECKED: JH
PHASE 1 CONSTRUCTION:													
X501	2	2	4	13'-10"	58	25	10'-0"	2'-5"	1'-5"	0'-1"	0'-5"		
X502	2	2	4	13'-10"	58	STR							
X503	4	4	8	14'-10"	124	STR							
X504	2	2	4	4'-6"	19	STR							
Y501	2	2	4	5'-11"	25	23	0'-8"	2'-9"	2'-6"			1 1/2"	
	1	1	2	2'-11"			2'-4"						
Y502	S.O.	S.O.	S.O.	TO	71	16	TO						3/8"
	11	11	11	3'-3"			2'-8"						
	1	1	2	2'-4"									
Y503	S.O.	S.O.	S.O.	TO	58	STR							3/8"
	11	11	11	2'-8"									
X601	1	1	2	4'-6"	14	STR							
Y601	13	13	26	3'-3"	127	14	0'-10"	1'-0"	0'-8"	0'-6"	0'-9"		
Y602	13	13	26	2'-10"	111	1	1'-1"	1'-11"					
Y603	10	10	20	4'-3"	128	1	3'-5"	1'-0"					
			SUB-TOTAL =		793								
PHASE 2 CONSTRUCTION:													
X501	2	2	4	13'-10"	58	25	10'-0"	2'-5"	1'-5"	0'-1"	0'-5"		
X502	2	2	4	13'-10"	58	STR							
X503	4	4	8	14'-10"	124	STR							
X504	2	2	4	4'-6"	19	STR							
Y501	2	2	4	5'-11"	25	23	0'-8"	2'-9"	2'-6"			1 1/2"	
	1	1	2	2'-11"			2'-4"						
Y502	S.O.	S.O.	S.O.	TO	71	16	TO						3/8"
	11	11	11	3'-3"			2'-8"						
	1	1	2	2'-4"									
Y503	S.O.	S.O.	S.O.	TO	58	STR							3/8"
	11	11	11	2'-8"									
X601	1	1	2	4'-6"	14	STR							
Y601	13	13	26	3'-3"	127	14	0'-10"	1'-0"	0'-8"	0'-6"	0'-9"		
Y602	13	13	26	2'-10"	111	1	1'-1"	1'-11"					
Y603	10	10	20	4'-3"	128	1	3'-5"	1'-0"					
			SUB-TOTAL =		793								

NOTES:

1. THE BAR SIZE NUMBER IS SPECIFIED ON THE PLANS IN THE BAR MARK COLUMN. THE FIRST DIGIT WHERE THREE DIGITS ARE USED, AND THE FIRST TWO DIGITS WHERE FOUR ARE USED, INDICATES THE BAR SIZE NUMBER. FOR EXAMPLE, S501 IS A NO. 5 BAR. BAR DIMENSIONS SHOWN ARE OUT TO OUT UNLESS OTHERWISE NOTED. R INDICATES INSIDE RADIUS, UNLESS OTHERWISE NOTED.

2. ALL REINFORCING STEEL SHALL BE EPOXY COATED.

3. "STR" IN THE TYPE COLUMN INDICATES STRAIGHT BARS.

4. S.O. DENOTES SERIES OF.

5. REFER TO C.M.S. SECTION 509.05 FOR STANDARD BEND DIMENSIONS.

6. ALL REINFORCING STEEL CLEARANCES ARE 2" UNLESS OTHERWISE NOTED.

* - INDICATES BARS REQUIRING MECHANICAL CONNECTORS. THE LENGTH SHOWN IN THE TABLE ARE THE NOMINAL LENGTH MEASURED TO THE PHASE CONSTRUCTION JOINT. ADJUSTMENT IN THE LENGTH OF THE BARS DUE TO MECHANICAL SPLICING SHALL BE MADE PRIOR TO THE FABRICATION.

DESIGN AGENCY
COLUMBUS ENGINEERING CONSULTANTS, INC.
840 MICHIGAN AVENUE, COLUMBUS, OH 43215
TEL:(614)228-3500

DESIGNED JH/YSJ | DRAWN CEC | REVIEWED JJ | DATE 09/12 | CHECKED SS | REVISED | STRUCTURE FILE NUMBER 7709900

REINFORCING STEEL LIST - IV

BRIDGE NO. SUM-303-0502
S.R. 303 OVER I.R. 271

SUM-271-2.33
PID No. 18710

38 / 38

1195
1195

P:\Land Development Projects\503-110 SUM-271-0233 (Richland Engineering)\structures\SUM-303-0502C\sheets\303_0502CRL004.dgn 11/8/2012 3:36:34 PM Sean Jeng

INDRODUCTION

THIS REPORT CONSISTS OF THE SOILS INVESTIGATION OF APPROXIMATELY 4.26 MILES OF MAINLINE I-271 AND 10 RAMPS. THE PROJECT BEGINS AT SLM 2.33 AND EXTENDS TO SLM 6.59 NB/SLM 6.56 SB. THE PROJECT INCLUDES THE PARTIAL INTERCHANGE AT I-271 AND BRECKSVILLE ROAD AND THE FULL INTERCHANGES AT I-271 AND I-77 AND AT I-271 AND SR 303.

MAXIMUM PROPOSED CUTS AND FILL EMBANKMENTS ARE SHOWN IN THE PROJECT INDEX ON THIS SHEET.

GEOLOGY AND OBSERVATIONS OF THE PROJECT

THE ENTIRE PROJECT SITE LIES ON THE KILLBUCK-GLACIATED PITTSBURGH PLATEAU THAT IS CHARACTERIZED BY RIDGES AND FLAT UPLANDS GENERALLY ABOVE 1200 FEET IN ELEVATION. THIS REGION IS TYPICALLY COVERED WITH THIN DRIFT AND IS DISSECTED BY STEEP VALLEY; VALLEY SEGMENTS ALTERNATE BETWEEN BROAD DRIFT-FILLED AND NARROW ROCK-WALLED REACHES. GEOLOGY OF THE SITE CONSISTS OF THIN TO THICK WISCONSIN-AGE CLAY TO LOAM TILL OVER MISSISSIPPIAN-AGE AND PENNSYLVANIAN-AGE SHALES AND SANDSTONES.

EXPLORATION

EXPLORATORY BORINGS WERE MADE BY MEANS OF A DIETRICH D-25 TRAILER-MOUNTED DRILL RIG, A SIMCO TRUCK-MOUNTED DRILL RIG, AND AN ACKER AD II TRUCK-MOUNTED DRILL RIG, USING 1.25-INCH SOLID STEM AUGERS AND 2.25-INCH INSIDE DIAMETER, CONTINUOUS FLIGHT HOLLOW STEM AUGERS.

INVESTIGATIONAL FINDINGS

MATERIALS ENCOUNTERED ON THE PROJECT SITE CONSISTED OF 69.7% FINE-GRAINED, 18.6% COARSE-GRAINED SOIL, AND 11.7% ROCK. THE FINE-GRAINED SOILS CONSISTED OF 31% SANDY SILT (A-4a), 1% SILT (A-4b), 33% SILT AND CLAY (A-6a), 3% SILTY CLAY (A-6b), AND 1% CLAY (A-7-6). THE COARSE-GRAINED SOILS CONSISTED OF 5% GRAVEL/ROCK FRAGMENTS (A-1-a), 6% GRAVEL/ROCK FRAGMENTS WITH SAND (A-1-b), 1% FINE SAND (A-3), 2% COARSE AND FINE SAND (A-3a), 4% GRAVEL/ROCK FRAGMENTS WITH SAND AND SILT (A-2-4), AND 1% GRAVEL/ROCK FRAGMENTS WITH SAND, SILT AND CLAY (A-2-6)

FOR MAINLINE I-271 SOUTHBOUND (LEFT OF CENTERLINE):

BEDROCK WAS ENCOUNTERED BETWEEN APPROXIMATE STATIONS 550+00 AND 558+00, AND CONSISTED OF BROWN SANDSTONE. BEDROCK ENCOUNTERED BETWEEN APPROXIMATE STATIONS 270+00 AND 341+00 CONSISTED PRIMARILY OF GRAY SHALE WITH BROWN SANDSTONE AT TWO LOCATIONS.

BETWEEN APPROXIMATE STATIONS 270+00 AND 341+00 BEDROCK WAS ENCOUNTERED WITHIN 24 INCHES OF PAVEMENT AT SEVEN (7) TEST BORING LOCATIONS. IN ADDITION, BEDROCK WAS ENCOUNTERED WITHIN 30 INCHES OF THE BOTTOM OF THE SHOULDER PAVEMENT AND MOST LIKELY WITHIN 24 INCHES OF THE BOTTOM OF THE DRIVING LANE PAVEMENT ADJACENT TO THE SHOULDER BORINGS.

FOR MAINLINE I-271 NORTHBOUND (RIGHT OF CENTERLINE):

BEDROCK WAS ENCOUNTERED BETWEEN STATIONS 550+00 AND 558+00, AND CONSISTED OF BROWN SANDSTONE. BEDROCK ENCOUNTERED BETWEEN APPROXIMATE STATIONS 270+00 AND 341+00 CONSISTED PRIMARILY OF GRAY SHALE WITH BROWN SANDSTONE ENCOUNTERED AT ONE LOCATION.

BEDROCK WAS ENCOUNTERED WITHIN 24.0 INCHES OF THE BOTTOM OF PAVEMENT BETWEEN APPROXIMATE STATIONS 550+00 AND 558+00. BEDROCK WAS ENCOUNTERED WITHIN 24 INCHES OF THE BOTTOM OF PAVEMENT AT FIVE (5) TEST BORING LOCATIONS BETWEEN APPROXIMATE STATIONS 270+00 AND 341+00. IN ADDITION, BEDROCK WAS ENCOUNTERED WITHIN 30 INCHES OF THE BOTTOM OF THE SHOULDER PAVEMENT AND MOST LIKELY WITHIN 24 INCHES OF THE BOTTOM OF THE DRIVING LANE PAVEMENT AT FOUR LOCATIONS.

FOR THE RAMP LOCATIONS:

SANDSTONE BEDROCK WSA ENCOUNTERED IN TEST BORING R1-1 AND R1-2C EACH AT A DEPTH OF 3.0 FEET BELOW THE SURFACE OF THE PAVEMENT AND ONLY 22 INCHES AND 20 INCHES RESPECTIVELY BELOW THE BOTTOM OF THE CONCRETE PAVEMENT

SHALE BEDROCK WAS ENCOUNTERED IN TEST BORINGS R7-1C AND IN R7-2 AT DEPTHS OF 2.8 AND 2.5 FEET RESPECTIVELY, BELOW THE SURFACE OF THE PAVEMENT AND ONLY 19 INCHES AND 16 INCHES RESPECTIVELY BELOW THE BOTTOM OF THE CONCRETE PAVEMENT

GRAY SHALE WAS ENCOUNTERED IN TEST BORINGS R8-4C AT A DEPTH OF 2.0 FEET BELOW THE SURFACE OF THE PAVEMENT AND ONLY 10 INCHES BELOW THE BOTTOM OF THE CONCRETE PAVEMENT

LEGEND FOR PROJECT AVERAGE RESULTS OF TESTS - 322 SAMPLES TESTED

DESCRIPTION	ODOT CLASS	% AGG.	% C.S	% F.S	% SILT	% CLAY	LIQUID LIMIT	PLASTICITY INDEX	WATER CONTENT	SAMPLES TESTED
GRAVEL	A-1-a(0)	74	10	9	--	7*	NP	NP	8	16
GRAVEL WITH SAND	A-1-b(0)	40	22	25	--	14*	NP	NP	12	21
FINE SAND	A-3(0)	27	20	46	--	8*	NP	NP	12	4
COARSE AND FINE SAND	A-3a(0)	20	18	43	10	11	NP	NP	10	7
GRAVEL WITH SAND AND SILT	A-2-4(0)	40	10	22	18	14	21	8	10	16
GRAVEL WITH SAND, SILT AND CLAY	A-2-6(0)	35	16	18	--	30*	32	13	11	5
SANDY SILT	A-4a(5)	15	10	16	31	29	25	8	13	113
SILT	A-4b(8)	7	2	9	59	23	23	8	12	3
SILT AND CLAY	A-6a(6)	14	8	13	--	64*	31	12	15	119
SILTY CLAY	A-6b(10)	7	6	12	--	75*	37	18	18	14
ELASTIC CLAY	A-7-5	--	--	--	--	--	--	--	--	--
CLAY	A-7-6(11)	7	5	9	48	37	44	23	17	4
RANDOM FILL								VISUAL CLASSIFICATION		
WEATHERED SHALE								VISUAL CLASSIFICATION		
MUDSTONE								VISUAL CLASSIFICATION		
SHALE								VISUAL CLASSIFICATION		
SANDSTONE								VISUAL CLASSIFICATION		
LIMESTONE								VISUAL CLASSIFICATION		
VARIOUS OTHER MATERIAL								VISUAL CLASSIFICATION		

SOD AND/OR TOP SOIL = X = APPROXIMATE DEPTH

BERM MATERIAL

AUGER BORING - PLAN VIEW

DRIVE SAMPLE AND/OR CORE BORING - PLAN VIEW

ROADWAY OR AUGER BORING PLOTTED TO VERTICAL SCALE ONLY

DRIVE SAMPLE AND/OR CORE BORING PLOTTED TO VERTICAL SCALE ONLY

● WATER CONTENT NEARLY EQUAL TO OR GREATER THAN LIQUID LIMIT

⊖ INDICATES A NON-PLASTIC MATERIAL WITH A HIGH WATER CONTENT

W FREE WATER

STATIC WATER LEVEL

X / Y / Z or X-Y-Z — NUMBER OF BLOWS FOR STANDARD PENETRATION TEST
X = NUMBER OF BLOWS FOR FIRST 6 INCHES
Y = NUMBER OF BLOWS FOR SECOND 6 INCHES
Z = NUMBER OF BLOWS FOR THIRD 6 INCHES

NOTE: FIGURES BESIDE BORINGS INDICATE WATER CONTENT IN PERCENT. e.g. 15

*SILT AND CLAY COMBINED

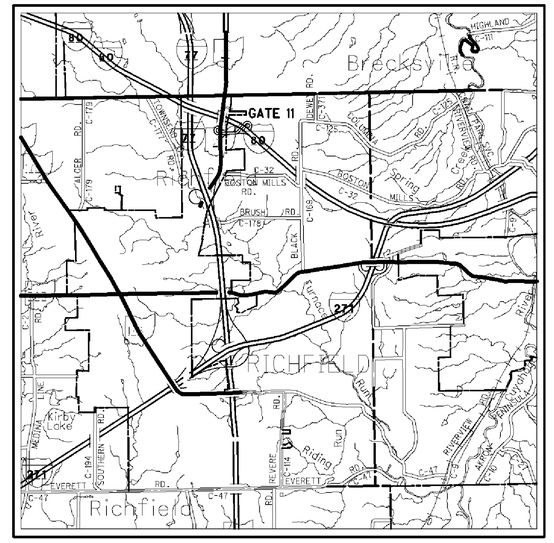
GRAY SHALE WAS ENCOUNTERED IN TEST BORINGS R9-2C, R9-3, AND R9-4C AT A DEPTH OF 4.0 FEET BELOW THE SURFACE OF THE PAVEMENT, AND IN TEST BORING R9-5 AT A DEPTH OF 2.2 FEET BELOW THE SURFACE OF THE PAVEMENT. THE SHALE BEDROCK ENCOUNTERED AT TEST BORING R9-5 LIES ONLY 13 INCHES BELOW THE BOTTOM OF THE CONCRETE PAVEMENT.

GRAY SHALE BEDROCK WAS ENCOUNTERED IN TEST BORING R10-3C AT A DEPTH OF 1.8 FEET BELOW THE SURFACE OF THE PAVEMENT, AND IN TEST BORING R10-4 AT A DEPTH OF 3.7 FEET BELOW THE SURFACE OF THE PAVEMENT. THE SHALE BEDROCK ENCOUNTERED IN TEST BORING R10-3C LIES ONLY 8 INCHES BELOW THE BOTTOM OF THE CONCRETE PAVEMENT. THE SHALE BEDROCK ENCOUNTERED IN TEST BORING R10-4 LIES MORE THAN 24 INCHES BELOW THE BOTTOM OF PAVEMENT.

SILT WAS ENCOUNTERED IN TEST BORING SL-5C AT 2.0 FEET BELOW EXISTING SUBGRADE, AND IN TEST BORING SR-2C AT 1.9 FEET BELOW EXISTING SUBGRADE.

NOTE

ALL AVAILABLE SOIL AND BEDROCK INFORMATION WHICH CAN BE CONVENIENTLY SHOWN ON THE SOIL PROFILE SHEETS HAS BEEN SO REPORTED. ADDITIONAL SUBSURFACE INVESTIGATIONS; SOIL TESTS AND BEDROCK BORINGS MAY HAVE BEEN MADE TO STUDY SOME SPECIAL ASPECT OF THE PROJECT. COPIES OF THIS DATA, IF ANY MAY BE INSPECTED IN THE DISTRICT DEPUTY DIRECTORS OFFICE. THE OFFICE OF MATERIALS MANAGEMENT AT 1600 WEST BROAD STREET, THE OFFICE OF ROADWAY ENGINEERING OR THE OFFICE OF STRUCTURAL ENGINEERING AT AT 1980 WEST BROAD STREET, COLUMBUS, OHIO 43223.



LOCATION MAP

LATITUDE: 81°36'50" LONGITUDE: 41°13'52"

SCALE IN MILES

0 1 2 3 4

Recon - S.M. - 11/2005
Drilling - 11/2005
Drafting - N.S - 4/18/2006

PRIME ENGINEERING & ARCHITECTURE, INC. AKRON (330) 668-4421 COLUMBUS (614) 891-2626

CALCULATED SM | CHECKED FB | DATE 04/18/06 | REVIEWED BM | DRAWN JJ

SOIL PROFILE

SUMMIT COUNTY
SUM-271-2.33

1 / 37

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SUMMARY OF SOIL TEST DATA SOUTH BOUND

NOTE: NP SHOWN IN LIQUID LIMIT AND PLASTICITY INDEX COLUMNS INDICATES THAT THE MATERIAL IS NON-PLASTIC

Station & Offset	Depth From	Depth To	% Agg.	% C.S.	% F.S.	% Silt	% Clay	L.L	P.I.	% W.C.	ODOT Class
532+00.40	1.5	3.0	17	8	28	21	25	21	7	12	A-4a**
67.33' LT	3.0	5.0	11	11	26	26	26	21	6	12	A-4a
(PL-01C)											
536+00.72	1.9	3.0	21	13	35	--	31*	NP	NP	12	A-2-4**
72.70' LT	3.0	5.0	39	6	43	--	13*	NP	NP	11	A-2-4
(SL-01)											
540+12.03	1.5	3.0	6	15	25	24	30	21	6	14	A-4a**
66.04' LT	3.0	5.0	6	9	34	24	27	21	7	11	A-4a
(PL-02)											
543+99.08	1.5	3.0	3	5	15	--	77*	38	19	18	A-6b**
80.09' LT	3.0	5.0	6	8	15	--	70*	33	15	12	A-6a
(SL-02C)											
547+99.17	1.5	2.8	22	15	40	--	23*	28	11	11	A-2-6**
79.70' LT	2.8	3.0	Brown COARSE AND FINE SAND							--	VISUAL
(PL-03)	3.0	5.0	20	15	50	--	15*	NP	NP	11	A-3a
551+98.18	0.8	1.5	Brown COARSE AND FINE SAND							--	VISUAL**
95.84' LT	1.5	3.0	20	11	40	--	29*	NP	NP	7	A-3a
(SL-03)											
556+02.42	0.5	1.5	Brown SANDSTONE FRAGS WITH SAND							--	VISUAL**
67.34' LT	1.5	1.9	45	10	30	8	7	NP	NP	9	A-1-b
(PL-04C)	1.9	3.0	Brown SANDSTONE FRAGS AND SLAG WITH SAND							--	VISUAL
	3.0	3.5	44	16	28	--	13*	NP	NP	20	A-1-b
	3.5	3.7	Brown SANDSTONE							--	VISUAL
559+98.94	1.5	3.0	Gray SILT AND CLAY							7	VISUAL**
72.89' LT	3.0	5.0	8	4	3	--	84*	38	15	12	A-6a
(SL-04)											
564+02.94	1.5	3.0	13	8	22	30	27	22	8	21	A-4a**
65.00' LT	3.0	3.2	Gray, plastic SANDY SILT							--	VISUAL
(PL-05)	3.2	5.0	6	6	14	--	74*	31	13	16	A-6a
158+02.80	1.0	1.5	Gray SLAG WITH SAND							--	VISUAL**
73.76' LT	1.5	3.0	35	39	19	--	7*	NP	NP	45	A-1-b
(SL-05C)	3.0	5.0	13	3	8	54	21	20	6	8	A-4b
161+99.88	1.5	2.9	7	8	15	34	36	27	10	14	A-4a**
64.92' LT	2.9	3.0	Gray, plastic SANDY SILT							--	VISUAL
(PL-06)	3.0	5.0	13	12	29	26	20	19	6	9	A-4a
166+01.61	1.5	3.0	1	20	27	--	51*	40	12	25	A-6a**
87.61' LT	3.0	5.0	11	6	16	--	67*	33	14	25	A-6a
(SL-06)											
169+05.92	1.5	3.0	17	10	14	--	59*	26	11	11	A-6a**
66.06' LT	3.0	5.0	8	11	16	--	65*	32	14	14	A-6a
(PL-07C)											
175+15.53	1.8	3.0	5	9	19	39	29	25	10	13	A-4a**
73.52' LT	3.0	3.2	Brown, plastic SANDY SILT							--	VISUAL
(SL-07)	3.2	5.0	9	11	19	--	61*	28	11	11	A-6a
178+00.83	1.5	3.0	7	6	15	34	38	27	10	14	A-4a**
64.58' LT	3.0	3.1	Brown, plastic SANDY SILT							--	VISUAL
(PL-08)	3.1	5.0	11	11	27	22	30	25	9	10	A-4a

SUMMARY OF SOIL TEST DATA SOUTH BOUND

NOTE: NP SHOWN IN LIQUID LIMIT AND PLASTICITY INDEX COLUMNS INDICATES THAT THE MATERIAL IS NON-PLASTIC

Station & Offset	Depth From	Depth To	% Agg.	% C.S.	% F.S.	% Silt	% Clay	L.L	P.I.	% W.C.	ODOT Class
181+99.75	0.8	1.5	Brown SILT AND CLAY							--	VISUAL**
73.59' LT	1.5	3.0	12	4	11	--	72*	27	12	12	A-6a
(SL-08C)	3.0	5.0	7	2	9	44	37	28	10	14	A-4a
186+02.63	1.5	3.0	8	9	19	--	64*	28	12	14	A-6a**
63.43' LT	3.0	5.0	11	11	21	30	28	24	8	12	A-4a
(PL-09)											
191+95.89	0.2	1.5	12	16	16	24	31	24	8	12	A-4a**
6.94' LT	1.5	2.2	Brown, plastic SANDY SILT							--	VISUAL
(SL-09)	2.2	3.0	8	8	15	--	69*	29	12	15	A-6a
	3.0	5.0	7	10	19	--	64*	27	11	13	A-6a
196+01.87	1.3	1.5	Brown COARSE AND FINE SAND							--	VISUAL**
64.86' LT	1.5	2.6	17	12	58	--	13*	NP	NP	14	A-3a
(PL-10C)	2.6	3.0	Brown SILT AND CLAY							--	VISUAL
	3.0	5.0	2	7	21	--	69*	27	11	14	A-6a
200+00.73	1.2	1.5	Brown SILTY CLAY							--	VISUAL**
70.19' LT	1.5	3.0	7	8	15	--	70*	28	11	15	A-6a
(SL-10)	3.0	5.0	5	8	18	--	69*	28	12	15	A-6a
204+03.96	1.5	3.0	4	7	31	48	10	NP	NP	17	A-4a**
64.33' LT	3.0	3.1	Brown, non-plastic SANDY SILT							--	VISUAL
(PL-11)	3.1	5.0	6	8	22	--	64*	27	11	13	A-6a
208+01.24	1.6	3.0	8	7	17	32	36	24	7	14	A-4a**
74.18' LT	3.0	5.0	8	13	19	28	32	26	9	13	A-4a
(SL-11C)											
211+99.92	1.5	3.0	4	9	18	--	69*	26	11	13	A-6a**
65.00' LT	3.0	3.3	Brown SILT AND CLAY							--	VISUAL
(PL-12)	3.3	5.0	6	8	22	35	29	21	8	10	A-4a
216+01.59	1.8	3.0	61	9	10	--	19*	NP	NP	8	A-1-b**
73.29' LT	3.0	5.0	55	9	10	--	25*	NP	NP	9	A-1-b
(SL-12)											
219+99.38	1.4	1.5	Brown FINE SAND							--	VISUAL**
64.48' LT	1.5	2.3	38	10	46	--	6*	NP	NP	14	A-3
(PL-13C)	2.3	3.0	Gray SILT AND CLAY							--	VISUAL
	3.0	5.0	21	10	10	--	59*	33	12	16	A-6a
224+00.83	1.1	1.5	Brown SILT AND CLAY							--	VISUAL**
73.18' LT	1.5	3.0	35	8	4	--	53*	32	12	11	A-6a
(SL-13)	3.0	5.0	6	9	13	--	73*	29	12	14	A-6a
228+00.68	1.9	3.0	13	7	13	--	67*	36	20	15	A-6b**
64.59' LT	3.0	3.2	Mottled brown and gray SILTY CLAY							--	VISUAL
(PL-14)	3.2	5.0	14	9	10	--	67*	30	12	14	A-6a
229+41.50	0.8	1.5	White and light brown SLAG AND SANDSTONE FRAGMENTS							--	VISUAL**
72.80' LT	1.5	3.0	White and light brown SLAG AND SANDSTONE FRAGMENTS							20	VISUAL
(SL-13AC)	3.0	5.0	31	9	8	29	23	28	10	12	A-4a
232+01.48	1.8	3.0	31	12	15	23	19	23	9	11	A-4a**
72.43' LT	3.0	3.7	Gray, plastic SANDY SILT							--	VISUAL
(SL-14C)	3.7	5.0	40	8	9	--	43*	29	13	9	A-6a

PRIME ENGINEERING & ARCHITECTURE, INC.
ATLANTA: (770) 491-0303

CALCULATED SM | CHECKED FB
DATE 04/18/06
REVIEWED BM
DRAWN JJ

SOIL PROFILE

SUMMIT COUNTY
SUM-271-2.33

2 | 37

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SUMMARY OF SOIL TEST DATA SOUTH BOUND

NOTE: NP SHOWN IN LIQUID LIMIT AND PLASTICITY INDEX COLUMNS INDICATES THAT THE MATERIAL IS NON-PLASTIC

Station & Offset	Depth From	Depth To	% Agg.	% C.S.	% F.S.	% Silt	% Clay	L.L	P.I.	% W.C.	ODOT Class
236+02.29	1.5	3.0	15	7	12	--	66*	30	12	14	A-6a**
63.34' LT	3.0	5.0	13	8	14	--	65*	31	12	13	A-6a
(PL-15)											
239+88.24	1.5	3.0	10	6	11	34	39	28	10	13	A-4a**
71.97' LT	3.0	5.0	10	9	14	--	68*	30	12	13	A-6a
(SL-15)											
244+00.69	1.9	3.0	39	17	10	--	34*	32	12	11	A-2-6**
63.92' LT	3.0	3.9	Gray ROCK FRAGMENTS WITH SAND, SILT AND CLAY							--	VISUAL
(PL-16C)	3.9	5.0	36	12	9	--	44*	32	13	10	A-6a
247+99.03	1.5	3.0	40	10	10	--	40*	29	11	13	A-6a**
72.46' LT	3.0	5.0	41	7	8	--	44*	28	11	13	A-6a
(SL-16)											
251+96.74	1.6	3.0	9	9	9	--	73*	34	15	13	A-6a**
64.34' LT	Mottled brown and dk brown SILT AND CLAY	3.2								--	VISUAL
(PL-17)	3.2	5.0	18	11	15	26	30	25	10	9	A-4a
256+02.70	1.5	3.0	39	12	12	--	37*	NP	NP	14	A-4a**
71.68' LT	3.0	3.1	Gray, non-plastic SANDY SILT							--	VISUAL
(SL-17C)	3.1	5.0	21	8	15	28	28	26	8	13	A-4a
260+07.69	1.5	3.0	27	8	7	--	59*	33	13	12	A-6a**
61.82' LT	3.0	5.0	17	7	13	--	62*	33	14	17	A-6a
(PL-18)											
264+03.50	1.1	1.5	Brown SILT AND CLAY							--	VISUAL**
73.59' LT	1.5	3.0	15	6	10	--	69*	30	11	13	A-6a
(SL-18)	3.0	5.0	11	9	10	--	70*	29	11	12	A-6a
268+00.76	1.7	3.0	39	15	7	--	39*	NP	NP	10	A-4a**
63.69' LT	3.0	3.4	Gray, non-plastic SANDY SILT							--	VISUAL
(PL-19C)	3.4	5.0	14	6	9	47	24	23	6	11	A-4a
272+00.10	1.5	3.0	33	9	23	21	14	NP	NP	7	A-2-4**
71.20' LT	3.0	3.6	42	7	21	19	10	NP	NP	5	A-2-4
(SL-19)	3.6	4.2	Gray SHALE							--	VISUAL
	4.2	5.0	Gray SHALE							--	VISUAL
276+01.78	1.5	3.0	Gray SHALE							9	VISUAL**
62.93' LT	3.0	5.0	Gray SHALE							8	VISUAL
(PL-20)											
280+02.03	1.5	2.5	12	10	13	--	64*	29	12	14	A-6a**
70.41' LT	2.5	3.0	Gray SHALE							--	VISUAL
(SL-20C)	3.0	4.1	Gray SHALE							8	VISUAL
284+00.04	1.6	3.0	60	8	5	--	26*	NP	NP	8	A-2-4**
61.81' LT	3.0	5.0	51	14	7	--	28*	NP	NP	7	A-2-4
(PL-21)											
288+04.17	1.5	3.0	40	7	5	27	21	31	11	11	A-6a**
71.79' LT	3.0	3.1	Gray SILT AND CLAY, "and" rock fragments							--	VISUAL
(SL-21)	3.1	5.0	40	14	6	24	17	27	7	10	A-4a
292+01.44	1.3	1.5	Brown FINE SAND							--	VISUAL**
61.80' LT	1.5	2.3	25	21	47	--	7*	NP	NP	13	A-3
(PL-22C)	2.3	3.0	Gray SILT AND CLAY							--	VISUAL
	3.0	5.0	11	6	12	--	71*	30	13	12	A-6a

SUMMARY OF SOIL TEST DATA SOUTH BOUND

NOTE: NP SHOWN IN LIQUID LIMIT AND PLASTICITY INDEX COLUMNS INDICATES THAT THE MATERIAL IS NON-PLASTIC

Station & Offset	Depth From	Depth To	% Agg.	% C.S.	% F.S.	% Silt	% Clay	L.L	P.I.	% W.C.	ODOT Class
296+63.17	1.5	3.0	32	8	7	--	52*	32	14	13	A-6a**
88.64' LT	3.0	5.0	9	6	15	--	70*	37	17	16	A-6b
(SL-22)											
299+00.14	1.5	2.9	33	16	6	--	45*	32	11	13	A-6a**
60.81' LT	2.9	3.0	Gray ROCK FRAGMENTS WITH SAND, SILT AND CLAY							--	VISUAL
(PL-23)	3.0	3.2	36	19	12	--	33*	36	13	10	A-2-6
	3.2	5.0	Gray SHALE							--	VISUAL
303+99.28	1.5	2.5	Gray SHALE							--	VISUAL**
73.52' LT											
(SL-23C)											
307+99.77	1.6	3.0	13	6	12	--	69*	30	12	12	A-6a**
62.65' LT	3.0	5.0	9	8	13	37	34	29	12	13	A-6a
(PL-24)											
312+00.30	1.5	3.0	71	11	12	--	7*	NP	NP	7	A-1-a**
73.26' LT	3.0	3.2	80	8	6	--	6*	NP	NP	6	A-1-a
(SL-24)	3.2	3.5	Brown, plastic SANDY SILT							--	VISUAL
	3.5	5.0	21	9	13	29	28	26	10	14	A-4a
315+45.33	1.2	1.5	Gray SHALE FRAGMENTS WITH SAND							--	VISUAL**
62.79' LT	1.5	2.5	76	3	14	--	7*	NP	NP	9	A-1-a
(PL-25C)	2.5	3.0	Gray, SHALE							--	VISUAL
	3.0	5.0	Gray, SHALE							--	VISUAL
319+99.97	1.5	3.0	69	8	11	--	12*	NP	NP	8	A-1-a**
81.57' LT	3.0	3.3	Brown ROCK FRAGMENTS							--	VISUAL
(SL-25)	3.3	4.0	6	9	21	--	64*	32	11	17	A-6a
	4.0	4.2	Gray SHALE							--	VISUAL
322+00.02	1.5	3.0	10	11	16	--	63*	30	13	12	A-6a**
79.38' LT	3.0	5.0	21	9	12	--	58*	31	13	14	A-6a
(SL-25A)											
324+01.10	1.6	3.0	Gray SHALE							--	VISUAL**
62.62' LT	3.0	3.1	Gray SHALE							--	VISUAL
(PL-26)											
325+08.15	0.3	1.5	21	11	14	--	54*	28	11	13	A-6a**
82.73' LT	1.5	2.5	Gray SILT AND CLAY							--	VISUAL
(SL-26A)	2.5	2.7	Gray SHALE							--	VISUAL
	2.7	2.9	Gray SHALE							--	VISUAL
327+56.26	1.5	3.0	26	8	11	--	55*	31	13	13	A-6a**
83.49' LT	3.0	3.5	38	10	7	25	20	27	8	12	A-4a
(SL-26C)	3.5	3.8	Brown SANDSTONE							--	VISUAL
332+00.21	1.5	3.0	21	23	22	--	34*	30	12	13	A-2-6**
64.44' LT	3.0	3.2	Mottled brown and gray SS FRAGS W/SAND, SILT AND CLAY							--	VISUAL
(PL-27)	3.2	4.0	38	8	5	27	22	30	10	9	A-4a
	4.0	4.2	Gray SHALE							--	VISUAL
336+00.67	1.5	2.5	Gray SHALE							10	VISUAL**
73.50' LT											
(SL-27)											
340+77.44	1.5	3.0	15	8	12	--	65*	30	12	17	A-6a**
64.39' LT	3.0	3.4	Brown SILT AND CLAY							11	VISUAL
(PL-28C)	3.4	5.0	Gray SHALE							--	VISUAL

PRIME ENGINEERING & ARCHITECTURE, INC.
AKRON: (330) 434-9421 CLEVELAND: (216) 839-0515

CALCULATED SM | CHECKED FB
DATE 04/18/06
REVIEWED BM
DRAWN JJ

SOIL PROFILE

SUMMIT COUNTY
SUM-271-2.33

SUMMARY OF SOIL TEST DATA NORTH BOUND

NOTE: NP SHOWN IN LIQUID LIMIT AND PLASTICITY INDEX COLUMNS INDICATES THAT THE MATERIAL IS NON-PLASTIC

Station & Offset	Depth From	Depth To	% Agg.	% C.S.	% F.S.	% Silt	% Clay	L.L	P.I.	% W.C.	ODOT Class
531+99.02	1.5	3.0	9	9	19	30	32	24	9	11	A-4a**
64.00' RT	3.0	3.2	Brown, plastic SANDY SILT							--	VISUAL
(PR-01C)	3.2	5.0	17	9	21	--	53*	33	14	12	A-6a
535+97.33	1.7	3.0	19	6	23	25	27	26	9	12	A-4a**
72.25' RT	3.0	5.0	28	8	17	24	23	25	7	10	A-4a
(SR-01)											
540+10.55	1.6	3.0	28	2	8	42	20	20	6	10	A-4a**
62.54' RT	3.0	5.0	4	7	43	22	24	21	6	9	A-4a
(PR-02)											
543+98.73	1.3	1.5	Brown, plastic SANDY SILT							--	VISUAL**
73.59' RT	1.5	3.0	14	11	29	24	22	19	5	10	A-4a
(SR-02C)	3.0	3.2	Brown, plastic SANDY SILT							--	VISUAL
	3.2	5.0	9	2	5	55	29	25	9	13	A-4b
548+00.24	1.6	3.0	13	12	20	--	56*	28	11	11	A-6a**
61.50' RT	3.0	4.0	Brown SILT AND CLAY							--	VISUAL
(PR-03)	4.0	5.0	35	8	27	--	30*	NP	NP	8	A-2-4
551+99.96	1.7	2.0	38	7	35	--	20*	NP	NP	10	A-2-4**
84.79' RT	2.0	2.5	Brown SANDSTONE							--	VISUAL
(SR-03)											
556+00.25	1.3	1.5	Brown COARSE AND FINE SAND							--	VISUAL**
63.67' RT	1.5	2.5	21	15	39	11	14	NP	NP	11	A-3a
(PR-04C)	2.5	3.0	Brown SANDSTONE FRAGMENTS WITH SAND AND SILT							--	VISUAL
	3.0	5.0	36	9	27	--	29*	NP	NP	11	A-2-4
559+99.75	1.7	3.0	30	9	27	18	16	NP	NP	13	A-2-4**
75.05' RT	3.0	3.4	Brown ROCK FRAGMENTS WITH SAND AND SILT							--	VISUAL
(SR-04)	3.4	5.0	43	28	22	--	8*	NP	NP	6	A-1-b
563+97.96	1.5	3.0	7	7	14	--	72*	30	11	15	A-6a**
64.43' RT	3.0	3.5	Brown SILT AND CLAY							--	VISUAL
(PR-05)	3.5	5.0	49	19	17	--	15*	NP	NP	13	A-1-b
157+99.37	0.6	1.0	Brown, plastic SANDY SILT							--	VISUAL**
73.59' RT	1.0	3.0	11	10	16	36	28	23	8	10	A-4a
(SR-05C)	3.0	5.0	9	8	17	31	36	26	10	15	A-4a
161+98.68	1.6	3.0	12	10	17	28	33	25	9	11	A-4a**
63.40' RT	3.0	5.0	5	5	11	49	30	27	9	15	A-4a
(PR-06)											
165+99.20	1.6	3.0	7	8	14	--	70*	32	13	13	A-6a
72.76' RT	3.0	5.0	10	9	18	--	63*	28	11	12	A-6a
(SR-06)											
170+00.56	1.7	3.0	12	8	16	32	33	25	9	9	A-4a**
62.65' RT	3.0	3.2	Gray, plastic SANDY SILT							--	VISUAL
(PR-07C)	3.2	5.0	7	10	20	--	62*	29	12	14	A-6a
175+00.05	1.5	3.0	8	8	24	28	31	23	7	13	A-4a**
74.84' RT	3.0	5.0	11	13	21	29	27	25	10	11	A-4a
(SR-07)											
178+00.39	1.6	3.0	41	7	14	--	37*	24	8	9	A-4a**
60.63' RT	3.0	3.4	Gray, plastic SANDY SILT							--	VISUAL
(PR-08)	3.4	5.0	3	7	15	--	75*	36	16	18	A-6b

SUMMARY OF SOIL TEST DATA NORTH BOUND

NOTE: NP SHOWN IN LIQUID LIMIT AND PLASTICITY INDEX COLUMNS INDICATES THAT THE MATERIAL IS NON-PLASTIC

Station & Offset	Depth From	Depth To	% Agg.	% C.S.	% F.S.	% Silt	% Clay	L.L	P.I.	% W.C.	ODOT Class
181+99.18	1.6	3.0	24	9	16	26	25	25	10	11	A-4a**
74.12' RT	3.0	5.0	14	12	22	30	22	25	9	10	A-4a
(SR-08C)											
186+00.30	1.6	3.0	6	9	17	--	68*	28	11	15	A-6a**
63.78' RT	3.0	3.4	Brown SILT AND CLAY							--	VISUAL
(PR-09)	3.4	5.0	12	12	20	29	27	24	8	10	A-4a
191+98.33	1.7	3.0	2	6	16	46	30	27	10	14	A-4a**
72.12' RT	3.0	5.0	3	8	14	--	74*	30	12	14	A-6a
(SR-09)											
195+97.98	1.9	3.0	4	8	23	--	65*	28	12	13	A-6a**
62.49' RT	3.0	5.0	3	7	21	--	69*	31	14	16	A-6a
(PR-10C)											
199+95.25	1.7	3.0	58	16	18	--	8*	NP	NP	10	A-1-a**
90.13' RT	3.0	5.0	85	6	5	--	5*	NP	NP	6	A-1-a
(SR-10)											
203+99.08	1.6	3.0	5	5	13	--	78*	28	11	12	A-6a**
62.66' RT	3.0	5.0	1	3	6	--	90*	31	13	19	A-6a
(PR-11)											
208+00.33	1.5	3.0	0	5	12	--	83*	30	11	19	A-6a**
77.92' RT	3.0	5.0	4	5	12	--	80*	33	13	19	A-6a
(SR-11C)											
211+98.85	1.8	3.0	13	20	19	--	48*	33	10	23	A-4a**
65.45' RT	3.0	3.2	Dark brown, plastic SANDY SILT							--	VISUAL
(PR-12)	3.2	5.0	3	1	4	--	93*	46	24	25	A-7-6
215+97.53	1.5	3.0	50	29	17	--	4*	NP	NP	15	A-1-a**
72.88' RT	3.0	3.1	Dark brown, ROCK FRAGMENTS							--	VISUAL
(SR-12)	3.1	5.0	12	8	13	--	67*	27	11	13	A-6a
219+98.30	1.7	3.0	16	13	29	--	41*	30	12	13	A-6a**
64.87' RT	3.0	3.3	Brown SILT AND CLAY							--	VISUAL
(PR-13C)	3.3	5.0	58	10	8	--	24*	NP	NP	12	A-1-b
224+01.07	1.5	2.5	20	10	12	29	30	28	10	16	A-4a**
72.19' RT	2.5	3.0	38	15	8	--	39*	32	11	10	A-6a
(SR-13)	3.0	5.0	16	9	11	--	63*	35	15	14	A-6a
227+99.87	1.5	3.0	28	10	9	--	53*	32	13	11	A-6a**
61.55' RT	3.0	5.0	9	9	28	--	54*	36	13	15	A-6a
(PR-14)											
232+00.53	1.5	3.0	14	10	13	--	63*	36	19	15	A-6b**
73.15' RT	3.0	3.5	22	9	11	28	29	33	14	13	A-6a
(SR-14C)											
235+98.96	1.5	3.0	33	8	9	--	49*	31	13	12	A-6a**
65.44' RT	3.0	4.0	32	20	40	--	8*	NP	NP	11	A-1-b
(PR-15)	4.0	5.0	32	11	10	--	47*	33	13	13	A-6a
239+83.64	1.5	3.0	8	22	14	26	31	25	8	13	A-4a**
72.68' RT	3.0	5.0	8	9	12	36	34	27	9	14	A-4a
(SR-15)											

PRIME ENGINEERING & ARCHITECTURE, INC.
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DRAWN	REVIEWED	DATE	CALCULATED	CHECKED
JJ	BM	04/18/06	SM	FB

SOIL PROFILE

SUMMIT COUNTY
SUM-271-2.33

SUMMARY OF SOIL TEST DATA NORTH BOUND

NOTE: NP SHOWN IN LIQUID LIMIT AND PLASTICITY INDEX COLUMNS INDICATES THAT THE MATERIAL IS NON-PLASTIC

Station & Offset	Depth From	Depth To	% Agg.	% C.S.	% F.S.	% Silt	% Clay	L.L	P.I.	% W.C.	ODOT Class
244+02.82	1.4	1.5	Brown, plastic SANDY SILT							--	VISUAL**
66.11' RT	1.5	3.0	19	14	21	12	34	24	8	16	A-4a
(PR-16C)	3.0	3.2	Brown, plastic SANDY SILT							--	VISUAL
	3.2	4.0	30	8	10	--	52*	31	13	13	A-6a
	4.0	5.0	4	4	6	43	43	28	9	17	A-4a
248+01.22	1.5	3.0	17	13	13	--	57*	31	12	15	A-6a**
72.84' RT	3.0	5.0	24	9	9	--	58*	32	12	15	A-6a
(SR-16)											
251+97.58	1.5	3.0	10	7	13	36	34	27	9	14	A-4a**
61.78' RT	3.0	3.2	Mottled brown and dark brown, plastic SANDY SILT							--	VISUAL
(PR-17)	3.2	5.0	21	10	23	31	15	NP	NP	10	A-4a
255+96.28	1.5	3.0	19	10	10	36	24	27	10	13	A-4a**
73.07' RT	3.0	5.0	48	10	9	--	32*	NP	NP	11	A-2-4
(SR-17C)											
260+03.92	1.6	3.0	58	8	8	--	26*	35	15	12	A-2-6**
65.79' RT	3.0	3.4	Gray ROCK FRAGMENTS WITH SAND, SILT AND CLAY							--	VISUAL
(PR-18)	3.4	5.0	31	7	8	--	54*	NP	NP	12	A-4a
264+00.11	1.5	3.0	18	11	14	28	30	26	10	13	A-4a**
74.35' RT	3.0	5.0	8	8	12	--	72*	30	13	12	A-6a
(SR-18)											
267+98.59	1.5	3.0	38	10	10	--	42*	29	11	9	A-6a**
65.63' RT	3.0	3.2	Brown SILT AND CLAY							--	VISUAL
(PR-19C)	3.2	5.0	29	12	10	--	49*	NP	NP	11	A-4a
271+97.24	1.5	3.0	23	13	23	22	18	20	6	8	A-4a**
74.57' RT	3.0	3.9	Brown SANDSTONE							--	VISUAL
(SR-19)											
275+98.16	1.5	3.0	35	9	11	--	46*	30	12	11	A-6a**
65.27' RT	3.0	3.5	Gray SILT AND CLAY							--	VISUAL
(PR-20)	3.5	5.0	47	9	7	--	37*	NP	NP	9	A-4a
279+99.67	1.1	1.5	Gray SILT AND CLAY							--	VISUAL**
74.95' RT	1.5	3.0	19	11	13	--	57*	29	11	12	A-6a
(SR-20C)	3.0	3.4	49	20	10	--	21*	NP	NP	14	A-1-b
	3.4	3.7	Gray SANDSTONE							--	VISUAL
283+99.51	1.5	3.0	5	6	9	44	36	29	11	14	A-6a**
63.36' RT	3.0	3.1	Mottled brown and gray SILT AND CLAY							--	VISUAL
(PR-21)	3.1	3.5	27	8	9	30	26	29	10	11	A-4a
	3.5	3.7	Gray SANDSTONE							--	VISUAL
288+03.21	1.6	3.0	11	9	12	33	34	29	10	15	A-4a**
74.49' RT	3.0	3.4	Gray SHALE							9	VISUAL
(SR-21)											
291+99.59	1.6	3.0	13	12	15	--	60*	28	12	11	A-6a**
66.49' RT	3.0	5.0	12	6	1	--	81*	36	13	13	A-6a
(PR-22C)											
296+02.54	1.5	3.0	32	10	9	26	23	27	8	10	A-4a**
74.66' RT	3.0	5.0	13	12	17	32	25	22	8	11	A-4a
(SR-22)											
298+96.46	1.6	3.0	8	9	14	--	69*	31	13	12	A-6a**
66.67' RT	3.0	3.2	Brown SILT AND CLAY							--	VISUAL
(PR-23)	3.2	5.0	6	7	15	--	72*	36	18	16	A-6b

SUMMARY OF SOIL TEST DATA NORTH BOUND

NOTE: NP SHOWN IN LIQUID LIMIT AND PLASTICITY INDEX COLUMNS INDICATES THAT THE MATERIAL IS NON-PLASTIC

Station & Offset	Depth From	Depth To	% Agg.	% C.S.	% F.S.	% Silt	% Clay	L.L	P.I.	% W.C.	ODOT Class
303+94.42	1.4	1.5	Gray SHALE							--	VISUAL**
90.09' RT											
(SR-23C)											
307+98.93	1.5	3.0	20	6	10	--	63*	32	11	15	A-6a**
64.18' RT	3.0	5.0	1	2	8	--	89*	35	13	18	A-6a
(PR-24)											
311+98.74	1.2	1.5	Brown CLAY							--	VISUAL**
74.48' RT	1.5	3.0	13	5	10	--	73*	42	21	18	A-7-6
(SR-24)	3.0	5.0	27	12	13	--	48*	34	14	15	A-6a
315+53.19	1.5	3.0	32	5	7	--	57*	36	13	14	A-6a**
63.71' RT	3.0	5.0	23	7	13	--	57*	37	15	18	A-6a
(PR-25C)											
319+00.56	0.9	1.5	Brown COARSE AND FINE SAND							--	VISUAL**
99.03' RT	1.5	3.0	Brown COARSE AND FINE SAND							--	VISUAL
(SR-25)	3.0	4.5	Gray SHALE							--	VISUAL
	4.5	5.0	Gray SHALE							--	VISUAL
323+99.65	1.5	3.0	22	34	38	--	5*	NP	NP	10	A-1-b**
65.15' RT	3.0	3.8	Brown ROCK FRAGMENTS WITH SAND							12	VISUAL
(PR-26)	3.8	5.0	Gray SHALE							--	VISUAL
327+99.85	1.9	3.0	38	13	17	--	32*	NP	NP	14	A-2-4**
77.96' RT	3.0	4.2	13	12	16	30	28	24	9	16	A-4a
(SR-26C)	4.2	4.7	Gray SHALE							--	VISUAL
	4.7	5.0	Gray SHALE							--	VISUAL
332+00.56	1.5	1.6	Brown SHALE							--	VISUAL**
64.19' RT											
(PR-27)											
336+02.38	1.5	2.3	18	16	23	--	44*	29	12	15	A-6a**
73.60' RT	2.3	3.0	Gray SHALE							--	VISUAL
(SR-27)	3.0	3.1	Gray SHALE							--	VISUAL
339+27.89	1.6	3.0	24	14	14	--	48*	29	11	14	A-6a**
66.64' RT	3.0	4.0	Gray SILT AND CLAY							--	VISUAL
(PR-28)	4.0	4.2	Gray SHALE							--	VISUAL
340+76.96	1.5	2.0	Gray SHALE							--	VISUAL**
73.96' RT											
(SR-28C)											

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SUMMARY OF SOIL TEST DATA RAMP-1

NOTE: NP SHOWN IN LIQUID LIMIT AND PLASTICITY INDEX COLUMNS INDICATES THAT THE MATERIAL IS NON-PLASTIC

Station & Offset	Depth From	Depth To	% Agg.	% C.S.	% F.S.	% Silt	% Clay	L.L	P.I.	% W.C.	ODOT Class
549+96.50	1.2	1.5	Brown SANDSTONE FRAGMENTS WITH SAND							--	VISUAL
76.08' RT	1.5	3.0	22	30	36	--	13*	NP	NP	12	A-1-b**
(R01-1)	3.0	5.0	30	7	37	12	14	NP	NP	15	A-2-4
58+86.14	2.1	3.0	21	4	15	31	28	28	10	13	A-4a**
1.71' RT	3.0	5.0	Gray SANDSTONE							--	VISUAL
(R01-2C)											
53+08.60	1.9	3.0	9	13	17	29	33	22	7	15	A-4a**
5.56' RT	3.0	5.0	4	12	18	31	34	22	9	14	A-4a
(R01-3)											

SUMMARY OF SOIL TEST DATA RAMP-2

NOTE: NP SHOWN IN LIQUID LIMIT AND PLASTICITY INDEX COLUMNS INDICATES THAT THE MATERIAL IS NON-PLASTIC

Station & Offset	Depth From	Depth To	% Agg.	% C.S.	% F.S.	% Silt	% Clay	L.L	P.I.	% W.C.	ODOT Class
53+75.76	1.1	1.5	Brown GRAVEL AND ROCK FRAGMENTS WITH SAND							--	VISUAL**
00.79' LT	1.5	2.4	33	22	36	--	9*	NP	NP	8	A-1-b
(R02-1C)	2.4	3.0	Dark gray, plastic SANDY SILT							--	VISUAL
	3.0	5.0	4	5	10	36	44	26	10	14	A-4a
60+36.41	1.9	3.0	9	5	11	--	75*	32	14	15	A-6a**
1.55' RT	3.0	5.0	4	4	11	--	80*	38	17	13	A-6b
(R02-2)											
66+02.45	1.5	3.0	5	7	12	--	75*	30	12	16	A-6a**
00.70' RT	3.0	5.0	7	7	12	--	74*	31	13	13	A-6a
(R02-3)											

SUMMARY OF SOIL TEST DATA RAMP-3

NOTE: NP SHOWN IN LIQUID LIMIT AND PLASTICITY INDEX COLUMNS INDICATES THAT THE MATERIAL IS NON-PLASTIC

Station & Offset	Depth From	Depth To	% Agg.	% C.S.	% F.S.	% Silt	% Clay	L.L	P.I.	% W.C.	ODOT Class
168+56.61	1.5	3.0	7	7	16	34	36	29	9	17	A-4a**
76.22' RT	3.0	5.0	9	5	15	--	71*	36	15	15	A-6a
(R03-1C)											
173+37.25	1.5	3.0	14	11	16	26	33	26	10	13	A-4a**
00.63' LT	3.0	5.0	8	8	18	--	66*	30	13	16	A-6a
(R03-2)											
177+93.10	1.5	3.0	9	11	18	26	36	25	9	12	A-4a**
00.71' LT	3.0	5.0	9	9	17	29	36	25	7	15	A-4a
(R03-3C)											
183+50.28	1.2	1.5	Brown GRAVEL							--	VISUAL**
2.65' RT	1.5	2.4	77	8	7	--	8*	NP	NP	6	A-1-a
(R03-4)	2.4	3.0	Brown SILT AND CLAY							--	VISUAL
	3.0	5.0	2	5	14	--	80*	32	14	19	A-6a
189+38.11	1.2	1.5	Brown GRAVEL							--	VISUAL**
2.07' RT	1.5	2.4	77	7	6	--	9*	NP	NP	6	A-1-a
(R03-5C)	2.4	3.0	Brown SILT AND CLAY							--	VISUAL
	3.0	5.0	2	4	13	--	80*	31	12	18	A-6a
193+21.83	1.5	3.0	12	14	30	20	24	19	7	11	A-4a**
16.00' LT	3.0	5.0	20	11	17	--	53*	28	11	13	A-6a
(R03-6)											
198+05.83	1.5	3.0	6	5	8	--	81*	29	12	17	A-6a**
15.82' LT	3.0	5.0	10	11	13	31	35	27	10	14	A-4a
(R03-7C)											

SUMMARY OF SOIL TEST DATA RAMP-3

NOTE: NP SHOWN IN LIQUID LIMIT AND PLASTICITY INDEX COLUMNS INDICATES THAT THE MATERIAL IS NON-PLASTIC

Station & Offset	Depth From	Depth To	% Agg.	% C.S.	% F.S.	% Silt	% Clay	L.L	P.I.	% W.C.	ODOT Class
203+95.95	1.3	1.5	Brown COARSE AND FINE SAND							--	VISUAL**
17.28' LT	1.5	2.3	20	25	40	--	14*	NP	NP	12	A-3a
(R03-8)	2.3	3.0	Gray SHALE FRAGMENTS WITH SAND AND SILT							--	VISUAL
	3.0	5.0	52	12	10	--	26*	NP	NP	10	A-2-4
207+68.85	1.1	1.5	Brown COARSE AND FINE SAND							--	VISUAL**
13.39' LT	1.5	1.8	16	30	38	8	8	NP	NP	5	A-3a
(R03-9C)	1.8	3.0	Brown SANDSTONE FRAGS W/SAND (SS BEDROCK)							--	VISUAL
	3.0	5.0	29	30	33	--	8*	NP	NP	4	A-1-b
211+80.26	1.9	3.0	11	19	19	23	29	24	8	8	A-4a**
18.11' LT	3.0	5.0	2	23	25	22	29	23	9	8	A-4a
(R03-10)											
215+89.34	1.9	3.0	6	9	15	35	35	25	8	15	A-4a**
1.65' RT	3.0	5.0	6	6	11	36	40	29	10	15	A-4a
(R03-11C)											
219+74.33	1.9	3.0	7	8	15	37	33	25	8	14	A-4a**
00.67' RT	3.0	5.0	7	7	10	48	28	24	7	13	A-4a
(R03-12)											
940+94.10	1.9	3.0	9	10	16	32	34	27	10	14	A-4a**
81.51' RT	3.0	5.0	10	12	19	24	34	25	10	15	A-4a
(R03-13C)											

SUMMARY OF SOIL TEST DATA RAMP-4

NOTE: NP SHOWN IN LIQUID LIMIT AND PLASTICITY INDEX COLUMNS INDICATES THAT THE MATERIAL IS NON-PLASTIC

Station & Offset	Depth From	Depth To	% Agg.	% C.S.	% F.S.	% Silt	% Clay	L.L	P.I.	% W.C.	ODOT Class
167+97.85	0.9	1.5	Brown GRAVEL							--	VISUAL**
3.12' LT	1.5	1.8	84	7	6	--	4*	NP	NP	6	A-1-a
(R04-1)	1.8	3.0	Gray, plastic SANDY SILT							--	VISUAL
	3.0	5.0	11	9	13	34	34	24	8	14	A-4a
174+33.69	0.9	1.5	Brown FINE SAND							--	VISUAL**
1.40' RT	1.5	2.3	22	22	49	--	7*	NP	NP	14	A-3
(R04-2C)	2.3	3.0	Brown SILT AND CLAY							--	VISUAL
	3.0	5.0	10	11	20	--	59*	29	12	17	A-6a
178+96.63	1.0	1.5	Brown GRAVEL							--	VISUAL**
2.73' LT	1.5	3.0	74	9	7	--	11*	NP	NP	7	A-1-a
(R04-3)	3.0	5.0	81	7	5	--	7*	NP	NP	6	A-1-a
183+37.70	1.5	3.0	15	16	26	20	22	30	8	16	A-4a**
1.99' LT	3.0	3.1	Brown, plastic SANDY SILT							--	VISUAL
(R04-4C)	3.1	5.0	2	5	13	--	79*	36	15	24	A-6a
187+49.50	0.4	1.5	Brown SLAG AND GRAVEL							--	VISUAL**
00.43' LT	1.5	2.3	74	12	8	--	6*	NP	NP	11	A-1-a
(R04-5)	2.3	3.0	Brown SILT AND CLAY							--	VISUAL
	3.0	5.0	9	6	12	--	73*	32	11	20	A-6a
194+53.93	1.3	1.5	Brown COARSE AND FINE SAND							--	VISUAL**
74.73' LT	1.5	2.4	26	21	36	--	17*	NP	NP	12	A-3a
(R04-6C)	2.4	3.0	Gray, plastic SANDY SILT							--	VISUAL
	3.0	5.0	4	14	26	31	25	20	5	12	A-4a

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SUMMARY OF SOIL TEST DATA RAMP-5

NOTE: NP SHOWN IN LIQUID LIMIT AND PLASTICITY INDEX COLUMNS INDICATES THAT THE MATERIAL IS NON-PLASTIC

Station & Offset	Depth From	Depth To	% Agg.	% C.S.	% F.S.	% Silt	% Clay	L.L	P.I.	% W.C.	ODOT Class
170+21.56	1.9	3.0	29	9	13	25	24	27	10	12	A-4a**
87.73' LT	3.0	5.0	16	13	17	27	26	27	10	11	A-4a
(R05-1)											
178+59.34	0.4	1.5	Brown GRAVEL							--	VISUAL**
0.08' RT	1.5	1.9	73	10	8	--	8*	NP	NP	7	A-1-a
(R05-2C)	1.9	2.0	Brown, plastic SANDY SILT							--	VISUAL
	2.0	2.5	9	6	10	34	41	26	8	17	A-4a
	2.5	3.0	Brown and gray SILT AND CLAY							--	VISUAL
	3.0	5.0	16	9	23	--	52*	29	11	16	A-6a
184+08.25	2.0	3.0	10	8	16	29	37	26	10	15	A-4a**
1.61' RT	3.0	3.5	Gray, plastic SANDY SILT							--	VISUAL
(R05-3)	3.5	5.0	4	8	22	--	65*	32	14	16	A-6a
189+58.07	0.6	1.5	Brown SANDSTONE FRAGMENTS WITH SAND							--	VISUAL**
1.47' RT	1.5	1.9	26	26	40	--	8*	NP	NP	12	A-1-b
(R05-4C)	1.9	2.0	Gray, plastic SANDY SILT							--	VISUAL
	2.0	3.0	9	7	17	35	32	24	8	15	A-4a
	3.0	5.0	10	10	15	31	33	23	8	15	A-4a
193+91.57	1.8	3.0	8	8	15	--	68*	29	11	17	A-6a**
1.86' RT	3.0	5.0	1	2	10	--	87*	32	12	23	A-6a
(R05-5)											
197+95.47	1	1.5	Brown SANDSTONE FRAGMENTS WITH SAND							--	VISUAL**
0.02' RT	1.5	2.1	30	27	36	--	8*	NP	NP	11	A-1-b
(R05-6C)	2.1	2.5	Gray, plastic SANDY SILT							--	VISUAL
	2.5	3.0	9	10	16	32	33	22	8	11	A-4a
	3.0	5.0	8	10	17	38	27	21	7	10	A-4a
202+18.43	1.6	2.0	Brown FINE SAND							--	VISUAL**
2.42' RT	2.0	2.5	22	27	41	--	10*	NP	NP	7	A-3
(R05-7)	2.5	3.5	8	9	15	35	33	24	8	11	A-4a
	3.5	5.0	12	11	16	34	27	22	8	11	A-4a
938+40.06	1.7	2.0	Brown SANDSTONE FRAGMENTS WITH SAND							--	VISUAL**
73.48' LT	2.0	2.5	30	25	36	--	9*	NP	NP	11	A-1-b
(R05-8C)	2.5	3.5	5	7	19	37	33	22	8	12	A-4a
	3.5	5.0	13	8	23	27	29	25	9	14	A-4a

SUMMARY OF SOIL TEST DATA RAMP-6

NOTE: NP SHOWN IN LIQUID LIMIT AND PLASTICITY INDEX COLUMNS INDICATES THAT THE MATERIAL IS NON-PLASTIC

Station & Offset	Depth From	Depth To	% Agg.	% C.S.	% F.S.	% Silt	% Clay	L.L	P.I.	% W.C.	ODOT Class
905+28.13	1.5	3.0	5	7	12	39	37	26	9	16	A-4a**
86.37' RT	3.0	5.0	16	8	15	33	28	27	10	16	A-4a
(R06-1)											
184+54.84	2.0	3.0	9	5	10	--	76*	28	12	15	A-6a**
5.13' RT	3.0	5.0	4	6	12	--	78*	30	11	17	A-6a
(R06-2C)											
187+67.80	1.3	1.5	Brown GRAVEL WITH SAND AND SILT							--	VISUAL**
1.57' RT	1.5	2.8	51	7	7	--	35*	NP	NP	8	A-2-4
(R06-3)	2.8	3.0	Brown GRAVEL							--	VISUAL
	3.0	5.0	83	8	5	--	4*	NP	NP	14	A-1-a
190+63.56	1.5	3.0	7	9	15	30	39	26	10	15	A-4a**
3.25' RT	3.0	5.0	9	8	16	34	33	25	9	11	A-4a
(R06-4C)											

SUMMARY OF SOIL TEST DATA RAMP-6

NOTE: NP SHOWN IN LIQUID LIMIT AND PLASTICITY INDEX COLUMNS INDICATES THAT THE MATERIAL IS NON-PLASTIC

Station & Offset	Depth From	Depth To	% Agg.	% C.S.	% F.S.	% Silt	% Clay	L.L	P.I.	% W.C.	ODOT Class
193+84.53	0.6	1.5	Black ASPHALT AND ROCK FRAGMENTS WITH SAND							--	VISUAL**
2.60' RT	1.5	2.3	29	25	22	14	11	NP	NP	7	A-1-b
(R06-5)	2.3	3.0	Brown CLAY							--	VISUAL
	3.0	5.0	4	7	18	--	71*	47	31	13	A-7-6
198+03.25	1.9	3.0	7	4	7	--	83*	29	11	19	A-6a**
2.72' RT	3.0	3.3	Brown SILT AND CLAY							--	VISUAL
(R06-6C)	3.3	5.0	2	4	8	--	86*	34	16	20	A-6b
202+07.85	1.8	3.0	3	2	3	28	65	36	16	23	A-6b**
83.46' RT	3.0	5.0	2	2	5	--	91*	37	17	20	A-6b
(R06-7)											

SUMMARY OF SOIL TEST DATA RAMP-7

NOTE: NP SHOWN IN LIQUID LIMIT AND PLASTICITY INDEX COLUMNS INDICATES THAT THE MATERIAL IS NON-PLASTIC

Station & Offset	Depth From	Depth To	% Agg.	% C.S.	% F.S.	% Silt	% Clay	L.L	P.I.	% W.C.	ODOT Class
300+17.30	1.9	2.8	30	11	11	25	23	NP	NP	15	A-4a**
73.85' RT	2.8	3.0	Gray SHALE							--	VISUAL
(R07-1C)	3.0	5.0	Gray SHALE							--	VISUAL
304+85.43	1.2	1.5	Brown GRAVEL AND ROCK FRAGMENTS WITH SAND							--	VISUAL**
0.32' RT	1.5	2.5	46	14	15	--	25*	NP	NP	15	A-1-b
(R07-2)	2.5	3.0	Gray SHALE							--	VISUAL
	3.0	5.0	Gray SHALE							--	VISUAL
309+68.47	1.8	3.0	5	5	14	--	76*	39	18	24	A-6b**
1.37' RT	3.0	5.0	13	11	14	--	63*	38	17	17	A-6b
(R07-3C)											
314+70.82	1.9	3.0	5	8	13	--	74*	33	14	19	A-6a**
21.99' RT	3.0	5.0	8	6	14	--	71*	33	12	23	A-6a
(R07-4)											
319+56.77	1.1	1.5	Brown GRAVEL WITH SAND							--	VISUAL**
26.45' RT	1.5	2.2	40	26	25	--	8*	NP	NP	10	A-1-b
(R07-5C)	2.2	3.0	Brown SILT AND CLAY							--	VISUAL
	3.0	5.0	28	13	11	--	48*	33	11	16	A-6a

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SUMMARY OF SOIL TEST DATA RAMP-8

NOTE: NP SHOWN IN LIQUID LIMIT AND PLASTICITY INDEX COLUMNS INDICATES THAT THE MATERIAL IS NON-PLASTIC

Station & Offset	Depth From	Depth To	% Agg.	% C.S.	% F.S.	% Silt	% Clay	L.L	P.I.	% W.C.	ODOT Class
319+37.60	1.9	3.0	10	8	9	39	34	26	6	14	A-4a**
24.17' LT	3.0	5.0	11	8	9	38	34	27	7	15	A-4a
(R08-1)											
309+63.85	1.8	3.0	6	9	20	--	64*	30	12	20	A-6a**
0.34' LT	3.0	3.1	Brown SILT AND CLAY							--	VISUAL
(R08-2C)	3.1	5.0	44	7	13	--	37*	NP	NP	15	A-4a
315+03.32	1.1	1.5	Brown GRAVEL							--	VISUAL**
1.86' RT	1.5	2.0	73	8	9	--	9*	NP	NP	8	A-1-a
(R08-3)	2.0	3.0	White and light gray GRANULATED SLAG							--	VISUAL
	3.0	5.0	White and light gray GRANULATED SLAG							49	VISUAL
319+93.19	2.0	3.0	Gray SHALE							--	VISUAL**
87.73' RT	3.0	5.0	Gray SHALE							--	VISUAL
(R08-4C)											
325+16.87	1.9	2.9	9	12	24	26	28	20	7	15	A-4a**
78.72' RT	2.9	3.0	Gray, non-plastic SILT							--	VISUAL
(R08-5)	3.0	5.0	0	0	13	67	20	NP	NP	14	A-4b

SUMMARY OF SOIL TEST DATA RAMP-9

NOTE: NP SHOWN IN LIQUID LIMIT AND PLASTICITY INDEX COLUMNS INDICATES THAT THE MATERIAL IS NON-PLASTIC

Station & Offset	Depth From	Depth To	% Agg.	% C.S.	% F.S.	% Silt	% Clay	L.L	P.I.	% W.C.	ODOT Class
314+72.49	1.1	1.5	Brown GRAVEL WITH SAND AND SILT							--	VISUAL**
30.13' RT	1.5	3.0	36	16	23	--	25*	21	8	11	A-2-4
(R09-1)	3.0	5.0	6	10	17	--	67*	30	11	15	A-6a
311+92.09	2.0	3.0	15	9	11	--	65*	31	12	15	A-6a**
2.51' RT	3.0	4.0	17	20	13	--	50*	34	12	15	A-6a
(R09-2C)	4.0	4.8	Gray SHALE							--	VISUAL
	4.8	5.0	Gray SHALE							--	VISUAL
318+37.76	1.9	3.0	42	13	9	--	37*	NP	NP	12	A-4a**
75.52' LT	3.0	3.2	Brown, non-plastic SANDY SILT							--	VISUAL
(R09-3)	3.2	4.0	7	5	4	48	37	41	17	12	A-7-6
	4.0	5.0	Gray SHALE							--	VISUAL
323+56.98	1.9	3.0	12	9	12	--	67*	29	12	14	A-6a**
75.28' LT	3.0	4.0	36	11	7	28	18	28	9	13	A-4a
(R09-4C)	4.0	4.2	Gray SHALE							--	VISUAL
328+59.48	1.9	2.0	8	8	14	--	70*	31	11	17	A-6a**
76.08' RT	2.0	2.2	Gray SHALE							--	VISUAL
(R09-5)											

SUMMARY OF SOIL TEST DATA RAMP-10

NOTE: NP SHOWN IN LIQUID LIMIT AND PLASTICITY INDEX COLUMNS INDICATES THAT THE MATERIAL IS NON-PLASTIC

Station & Offset	Depth From	Depth To	% Agg.	% C.S.	% F.S.	% Silt	% Clay	L.L	P.I.	% W.C.	ODOT Class
295+09.61	2.0	3.0	20	6	10	--	64*	31	12	14	A-6a**
77.32' LT	3.0	5.0	13	10	7	--	70*	33	12	14	A-6a
(R10-1C)											
300+18.15	1.7	3.0	18	7	12	34	30	26	9	12	A-4a**
89.30' LT	3.0	5.0	9	7	13	36	34	27	9	14	A-4a
(R10-2)											
304+54.67	1.8	3.0	Gray SHALE							--	VISUAL**
1.58' RT	3.0	4.3	Gray SHALE							--	VISUAL
(R10-3C)											
309+71.15	1.7	3.0	38	11	6	24	21	19	7	12	A-4a**
0.20' LT	3.0	3.2	Brown, plastic SANDY SILT							--	VISUAL
(R10-4)	3.2	3.7	61	13	7	--	18*	NP	NP	8	A-1-b
	3.7	4.8	Gray SHALE							--	VISUAL
314+14.74	1.5	3.0	11	10	12	--	67*	31	12	12	A-6a**
18.79' LT	3.0	5.0	16	9	12	--	62*	35	14	16	A-6a
(R10-5C)											

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HORIZONTAL SCALE IN FEET
0' 100' 200'

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SOIL PROFILE

SUMMIT COUNTY
SUM-271-2.33

HORIZONTAL SCALE IN FEET
0' 100' 200'

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SOIL PROFILE

SUMMIT COUNTY
SUM-271-2.33

HORIZONTAL SCALE IN FEET
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SOIL PROFILE

SUMMIT COUNTY
SUM-271-2.33

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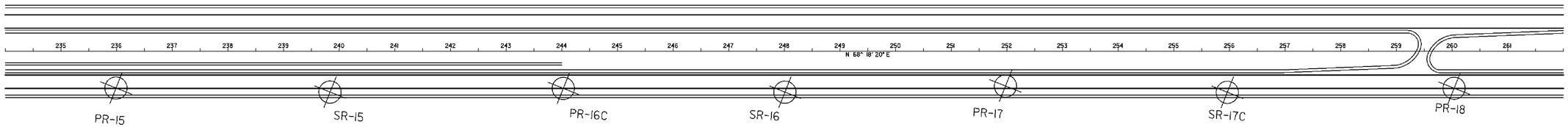
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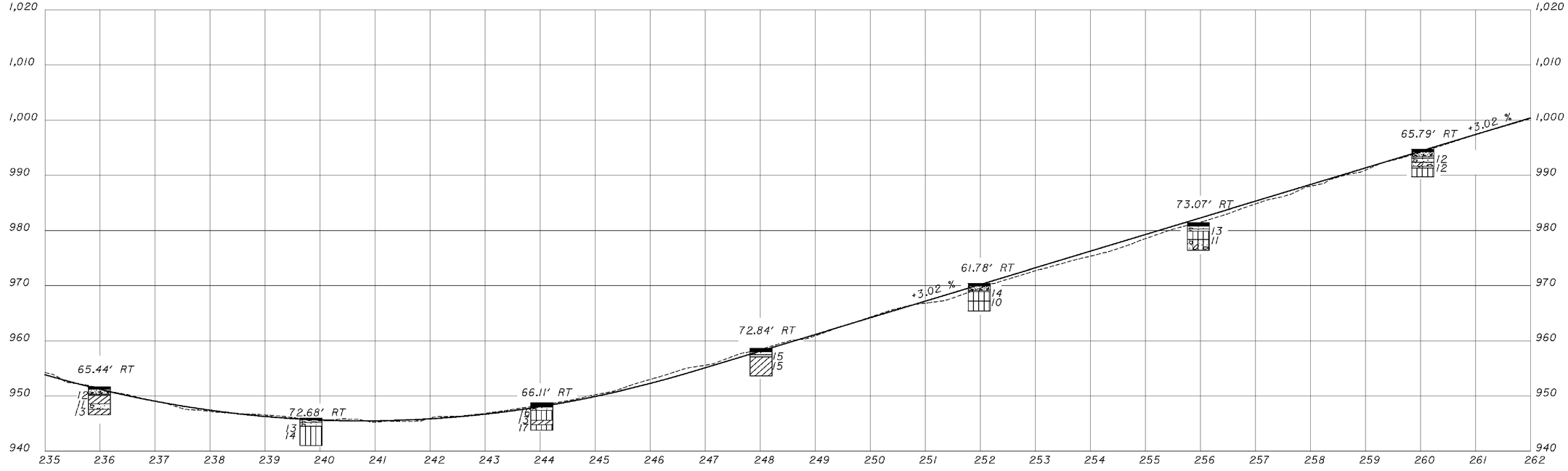
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SOIL PROFILE

SUMMIT COUNTY
SUM-271-2.33





HORIZONTAL SCALE IN FEET
0' 100' 200'

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SOIL PROFILE

SUMMIT COUNTY
SUM-271-2.33

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HORIZONTAL SCALE IN FEET
0' 100' 200'

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SOIL PROFILE

SUMMIT COUNTY
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SOIL PROFILE

SUMMIT COUNTY
SUM-271-2.33

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HORIZONTAL SCALE IN FEET
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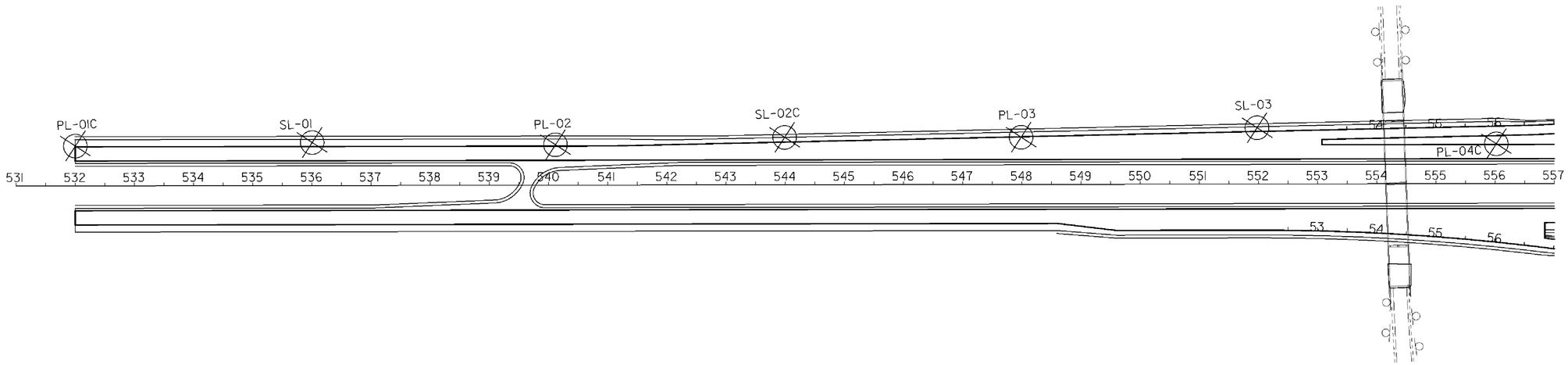
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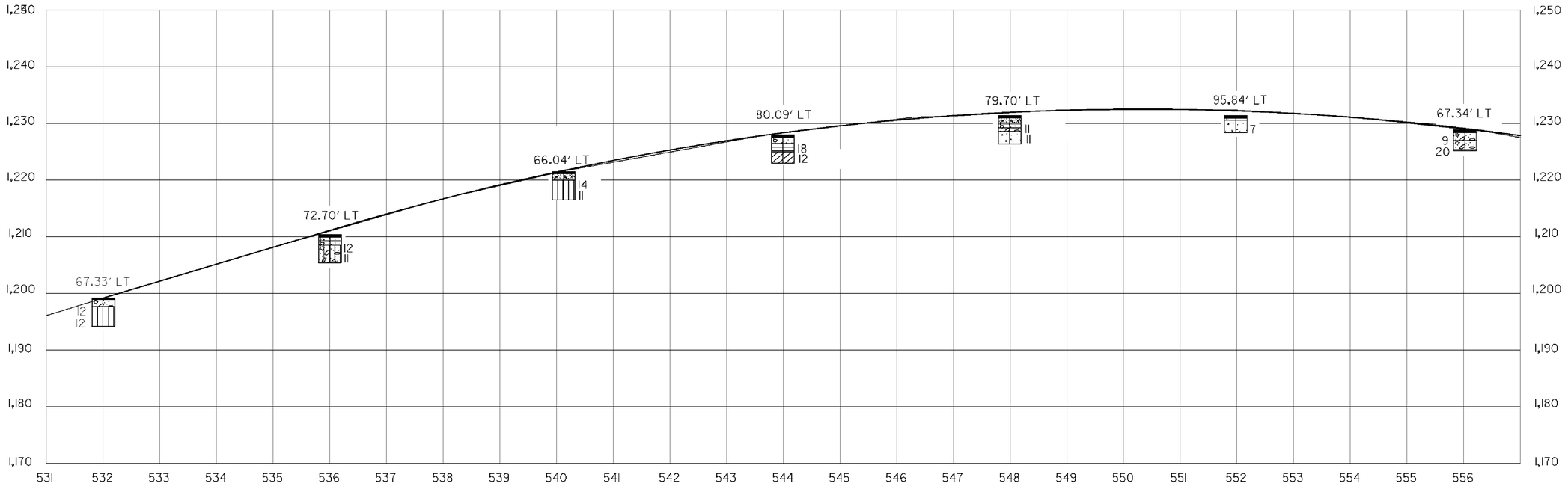
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SUMMIT COUNTY
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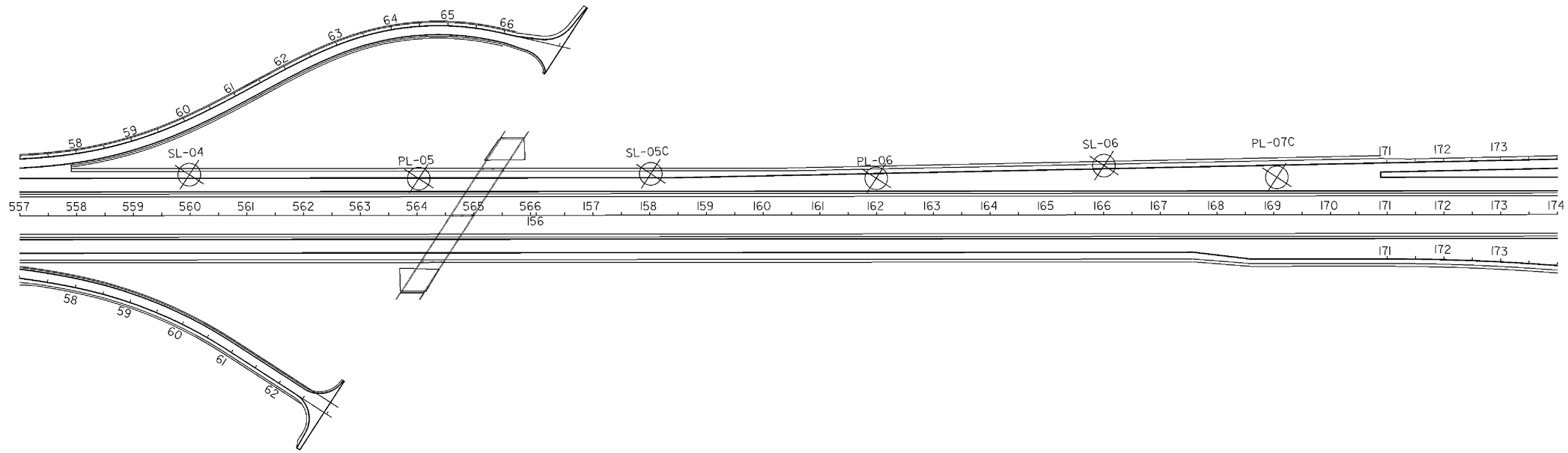
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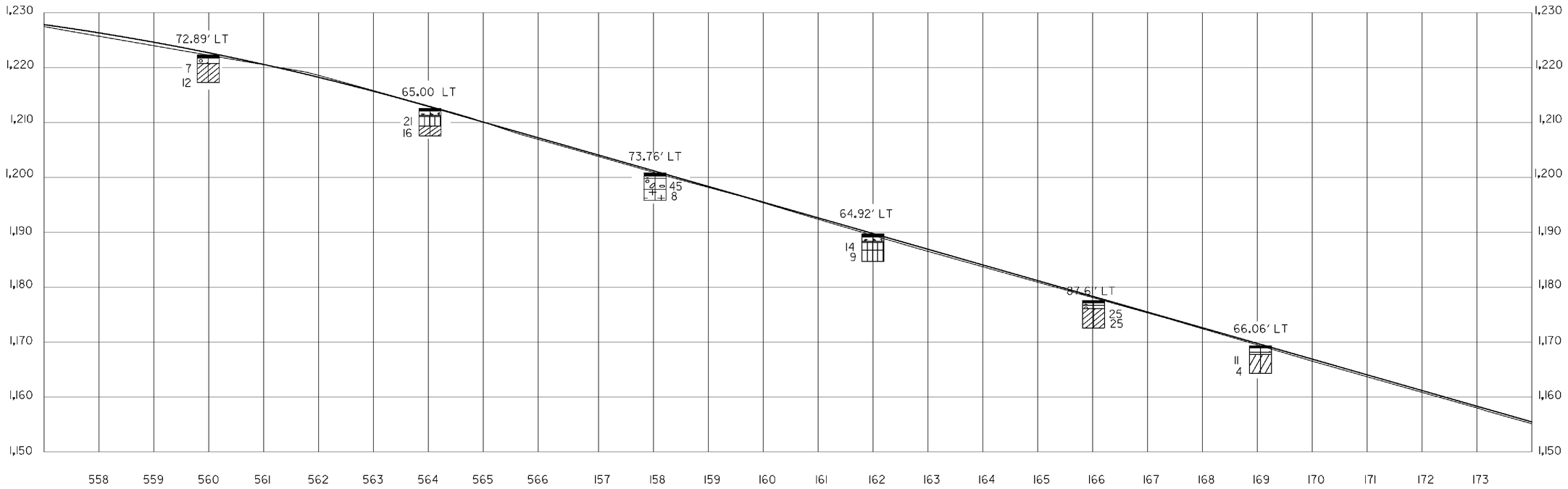
SOIL PROFILE

SUMMIT COUNTY
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HORIZONTAL SCALE IN FEET
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SOIL PROFILE

SUMMIT COUNTY
SUM-271-2.33

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HORIZONTAL SCALE IN FEET

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SOIL PROFILE

SUMMIT COUNTY
SUM-271-2.33

HORIZONTAL SCALE IN FEET
0' 100' 200'

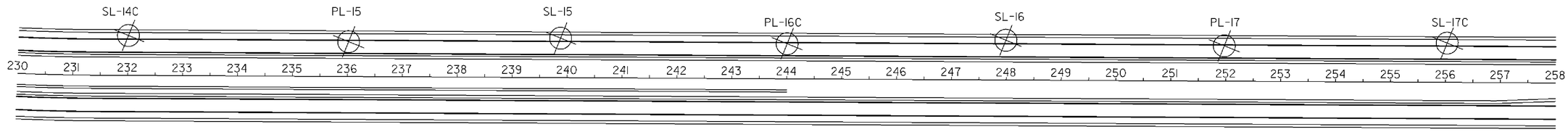
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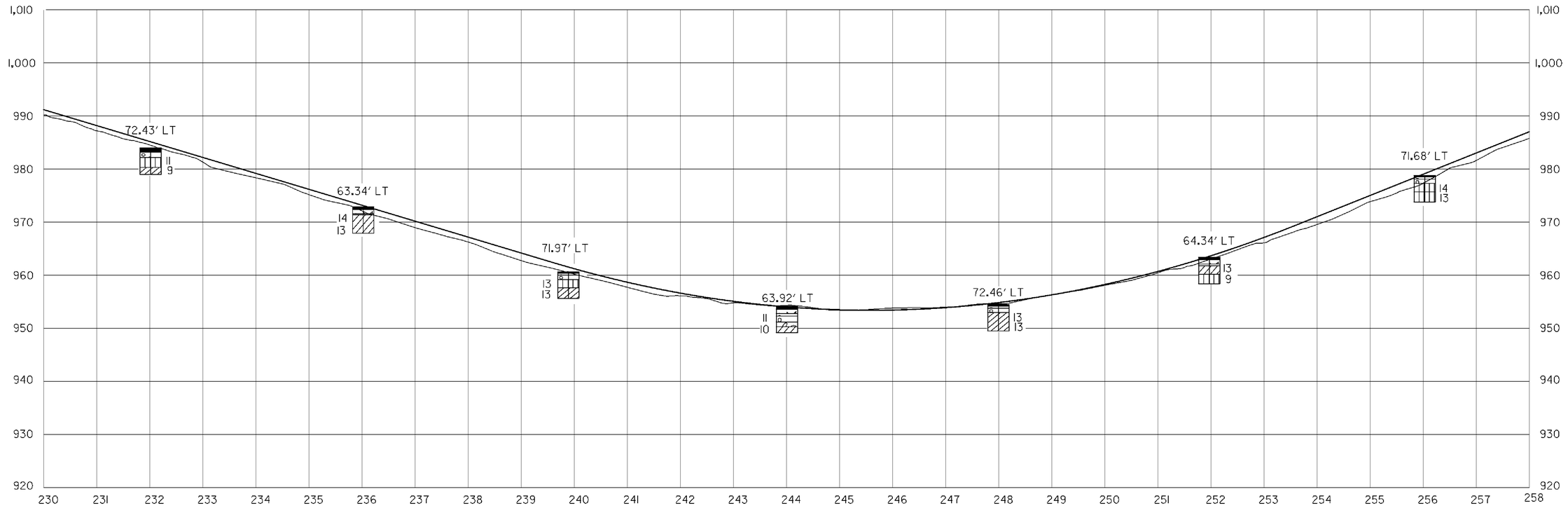
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SUMMIT COUNTY
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HORIZONTAL SCALE IN FEET
0' 100' 200'

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SOIL PROFILE

SUMMIT COUNTY
SUM-271-2.33

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0' 100' 200'

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SOIL PROFILE

SUMMIT COUNTY
SUM-271-2.33

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HORIZONTAL SCALE IN FEET
0' 100' 200'

DRAWN	REVIEWED	DATE	CALCULATED	CHECKED
JJ	SM	04/18/06	SM	FB

SOIL PROFILE

SUMMIT COUNTY
SUM-271-2.33

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HORIZONTAL SCALE IN FEET
0' 100' 200'

CALCULATED	CHECKED
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SOIL PROFILE

SUMMIT COUNTY
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SOIL PROFILE

SUMMIT COUNTY
SUM-271-2.33

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HORIZONTAL SCALE IN FEET

DRAWN	REVIEWED	DATE	CALCULATED	CHECKED
JJ	SM	04/18/06	SM	FB

SOIL PROFILE

SUMMIT COUNTY
SUM-271-2.33

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HORIZONTAL SCALE IN FEET
0' 100' 200'

DRAWN	REVIEWED	DATE	CALCULATED	CHECKED
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SOIL PROFILE

SUMMIT COUNTY
SUM-271-2.33

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SOIL PROFILE

SUMMIT COUNTY
SUM-271-2.33

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HORIZONTAL SCALE IN FEET
0' 100' 200'

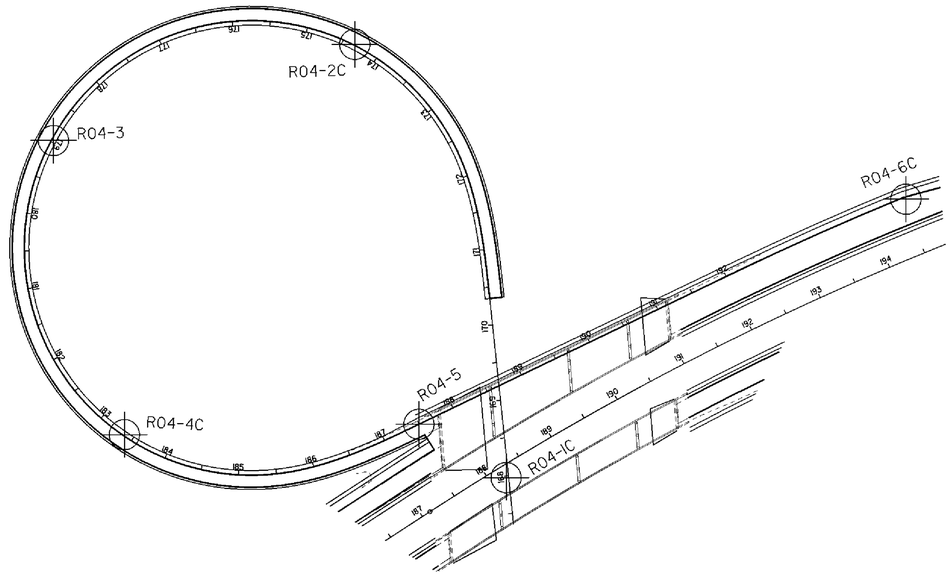
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SOIL PROFILE

SUMMIT COUNTY
SUM-271-2.33

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HORIZONTAL SCALE IN FEET
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SOIL PROFILE

SUMMIT COUNTY
SUM-271-2.33

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SOIL PROFILE

SUMMIT COUNTY
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SOIL PROFILE

SUMMIT COUNTY
SUM-271-2.33

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SOIL PROFILE

SUMMIT COUNTY
SUM-271-2.33

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HORIZONTAL SCALE IN FEET
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SOIL PROFILE

SUMMIT COUNTY
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JJ	SM	04/18/06	SM	FB

SOIL PROFILE

SUMMIT COUNTY
SUM-271-2.33

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0' 100' 200'
HORIZONTAL SCALE IN FEET

DRAWN	REVIEWED	DATE	CALCULATED	CHECKED
JJ	SM	04/18/06	SM	FB

SOIL PROFILE

SUMMIT COUNTY
SUM-271-2.33

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HORIZONTAL SCALE IN FEET
0' 100' 200'

DRAWN	REVIEWED	DATE	CALCULATED	CHECKED
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SOIL PROFILE

SUMMIT COUNTY
SUM-271-2.33

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PROJECT DESCRIPTION

THIS PROJECT, SUM-271-2.33, CONSISTS OF WIDENING OF THE I-271 SOUTHBOUND (SUM-271-0354L) BRIDGE, AS WELL AS THE I-271 NORTHBOUND (SUM-271-0354R) BRIDGE, OVER I-77 IN RICHFIELD TOWNSHIP, SUMMIT COUNTY, OHIO. THE PROJECT ALSO INCLUDES INSTALLATION OF APPROXIMATELY 31 HIGH MAST LIGHTS AND 12 CONVENTIONAL LIGHTS IN THE GENERAL PROJECT AREA.

GEOLOGY

THE PROJECT SITE LIES WITHIN THE KILLBUCK-GLACIATED PITTSBURGH PLATEAU OF THE GLACIATED ALLEGHENY PLATEAU PHYSIOGRAPHIC REGION OF OHIO. WITHIN THIS REGION, THE GEOLOGY INCLUDES THIN, CLAYEY WISCONSINAN-AGE GLACIAL TILL, OVERLYING BEDROCK BROADLY MAPPED AS MISSISSIPPIAN-AGE. THE BEDROCK CONSISTS OF THE WAVERLY AND MAXVILLE FORMATIONS THAT INCLUDE SHALE, SANDSTONE, AND LIMESTONE. WITHIN THE DEPTH OF BORINGS DRILLED FOR THIS EXPLORATION, ONLY SHALE FORMATIONS WERE ENCOUNTERED.

BASED ON DATA PUBLISHED IN THE USDA SOIL CONSERVATION SERVICE "SOIL SURVEY OF SUMMIT COUNTY, OHIO" (1990), THE SOIL TYPES IN THE IMMEDIATE SITE AREA ARE MAPPED AS CUT AND FILL, ALTHOUGH THE SURROUNDING SOILS ARE MAPPED AS RITTMAN SILT LOAM AND ELLSWORTH SILT LOAM. BOTH THE RITTMAN SILT LOAM SOILS AND ELLSWORTH SILT LOAM SOILS ARE CHARACTERIZED AS MODERATELY WELL DRAINED.

RECONNAISSANCE

ON NOVEMBER 25, 2009 AND MARCH 31, 2010, SITE RECONNAISSANCE VISITS WERE MADE. THE GENERAL PROJECT AREA IS PREDOMINANTLY RURAL, ALTHOUGH SOME BUSINESS DEVELOPMENT IS LOCATED WEST OF I-77 AND SOME RESIDENTIAL DEVELOPMENT IS LOCATED EAST OF I-77. THE EXISTING BRIDGES AND PAVEMENTS IN THE PROJECT AREA WERE OBSERVED TO BE IN GENERALLY GOOD CONDITION. A WET DRAINAGE FEATURE WAS OBSERVED AT THE CREST, ALONG THE SLOPE, AND AT THE TOE OF THE WESTERN SLOPE ALONG I-77, TO THE RIGHT OF SUM-271-0354R. IT APPEARED THAT COBBLES HAD BEEN PLACED ALONG THE SLOPE TO REDUCE EROSION. A WET DRAINAGE FEATURE WAS ALSO OBSERVED AT THE CREST, ALONG THE SLOPE, AND AT THE TOE OF THE WESTERN SLOPE ALONG I-77, TO THE LEFT OF RAMP B, LOCATED SOUTH OF THE MAINLINE I-271 BRIDGES. IT APPEARED THAT CONCRETE SLABS HAD BEEN PLACED ALONG THE SLOPE TO REDUCE EROSION. AT THE TIME OF THIS EXPLORATION, MILLING HAD BEEN PERFORMED TO REMOVE THE ASPHALT COVER OVER THE BRIDGE DECK IN THE NORTHERN SHOULDER FOR SUM-271-0374L (I-271 SOUTHBOUND OVER RAMP B).

SUBSURFACE EXPLORATION

AS PART OF THIS EXPLORATION, TWENTY (20) TEST BORINGS WERE DRILLED BY TTL ASSOCIATES, INC. DURING THE PERIOD FROM APRIL 5 THROUGH 24, 2010. THESE BORINGS ARE FULLY DESIGNATED AS BORINGS B-001-0-10 THROUGH B-020-0-10 IN ACCORDANCE WITH ODOT PROTOCOL, BUT THE -0-10 PORTION OF THE NOMENCLATURE IS GENERALLY OMITTED FOR EASE OF IDENTIFICATION IN THE DISCUSSIONS BELOW. THE BORING DESIGNATED B-005-0-10 ENCOUNTERED AUGER REFUSAL AT A DEPTH OF 1.5 FEET, AND WAS RELOCATED, DESIGNATED B-005-1-10, AND EXTENDED AS PLANNED. THE BORINGS WERE DRILLED WITH ATV-MOUNTED AND TRUCK-MOUNTED ROTARY DRILLING RIGS UTILIZING $3\frac{1}{4}$-INCH I.D. HOLLOW-STEM AUGERS TO ADVANCE THE BOREHOLES THROUGH SOIL. DURING AUGER ADVANCEMENT, DISTURBED (SPLIT-SPOON) SOIL SAMPLES WERE COLLECTED IN ACCORDANCE WITH THE STANDARD PENETRATION TEST (ASTM 1586) AT $2\frac{1}{2}$-FOOT INTERVALS TO A DEPTH OF 30 FEET AND AT 5-FOOT INTERVALS THEREAFTER. THE HAMMER SYSTEMS USED FOR THIS INVESTIGATION WERE LAST CALIBRATED ON DECEMBER 28, 2009. THE AVERAGE DRILL ROD ENERGY RATIO (ER) IS 66 PERCENT FOR THE ATV-MOUNTED DRILL RIG AND 68 PERCENT FOR THE TRUCK-MOUNTED DRILL RIG. UNDISTURBED (SHELBY TUBE) SOIL SAMPLES WERE OBTAINED AT THE DEPTHS SHOWN ON THE LOGS, IN ACCORDANCE WITH ASTM D 1587. WHERE BEDROCK WAS ENCOUNTERED, THE BORINGS WERE ADVANCED AND THE ROCK WAS SAMPLED USING A TYPE NX SERIES CORE BARREL IN ACCORDANCE WITH ASTM D 2113.

A PAVEMENT CORE WAS OBTAINED ON THE SUM-271-0374L STRUCTURE FOR I-271 SOUTHBOUND OVER RAMP B. AFTER PAVEMENT CORING WAS COMPLETED, PAVEMENT THICKNESS WAS MEASURED ALONG THE SIDEWALL OF THE COREHOLE. AT THE COREHOLE LOCATION $1\frac{1}{4}$ INCHES OF ASPHALT WAS ENCOUNTERED OVERLAYING THE CONCRETE BRIDGE DECK.

EXPLORATION FINDINGS

BRIDGE BORINGS

BORINGS B-001 THROUGH B-010 WERE PERFORMED IN THE GENERAL AREA OF THE PROPOSED BRIDGE WIDENINGS FOR THIS PROJECT. UNDERLYING THE SURFACE MATERIALS IN EACH OF THE BORINGS, EXCEPT BORINGS B-004 AND B-007, COHESIVE EXISTING FILL MATERIALS ASSOCIATED WITH GRADING FOR THE EXISTING ROADWAY AND EMBANKMENTS WERE ENCOUNTERED. IN BORINGS B-001, B-005-1, B-006, AND B-010, THE FILL MATERIALS WERE ENCOUNTERED TO DEPTHS RANGING FROM 21 TO $23\frac{1}{2}$ FEET BELOW EXISTING GRADE (APPROXIMATE ELEVS. 1094 TO 1093). IN THE REMAINING BORINGS, THE FILL MATERIALS WERE ENCOUNTERED TO DEPTHS RANGING FROM $3\frac{1}{2}$ TO $8\frac{1}{2}$ FEET (APPROXIMATE ELEVS. 1082 TO 1079). THE COHESIVE FILL MATERIALS CONSISTED OF SANDY SILT (ODOT A-4A), SILT AND CLAY (ODOT A-6A), OR SILTY CLAY (ODOT A-6B). TRACE ORGANICS WERE ENCOUNTERED IN SOME OF THE RECOVERED FILL SAMPLES, GENERALLY NEAR THE TRANSITION TO THE UNDERLYING NATIVE SOILS. UNDERLYING THE SURFACE MATERIALS IN BORINGS B-004 AND B-007, GRANULAR EXISTING FILL MATERIALS WERE ENCOUNTERED TO A DEPTH OF $3\frac{1}{2}$ FEET BELOW EXISTING GRADE (APPROXIMATE ELEVS. 1084 TO 1080). THE GRANULAR FILL MATERIALS CONSISTED OF COARSE AND FINE SAND (ODOT A-3A) WITH VARYING AMOUNTS OF SILT AND CLAY.

UNDERLYING THE SURFACE MATERIALS AND EXISTING FILL MATERIALS, THE NATIVE SUBSURFACE PROFILE CAN BE GENERALLY CHARACTERIZED BY TWO STRATA OF PREDOMINANTLY COHESIVE SOILS WITH VARYING STRENGTH AND MOISTURE CHARACTERISTICS, UNDERLAIN BY BEDROCK. INTERBEDDED GRANULAR SOILS WERE ENCOUNTERED WITHIN BOTH COHESIVE SOIL STRATA.

(CONTINUED ON PAGE 2.)

LEGEND

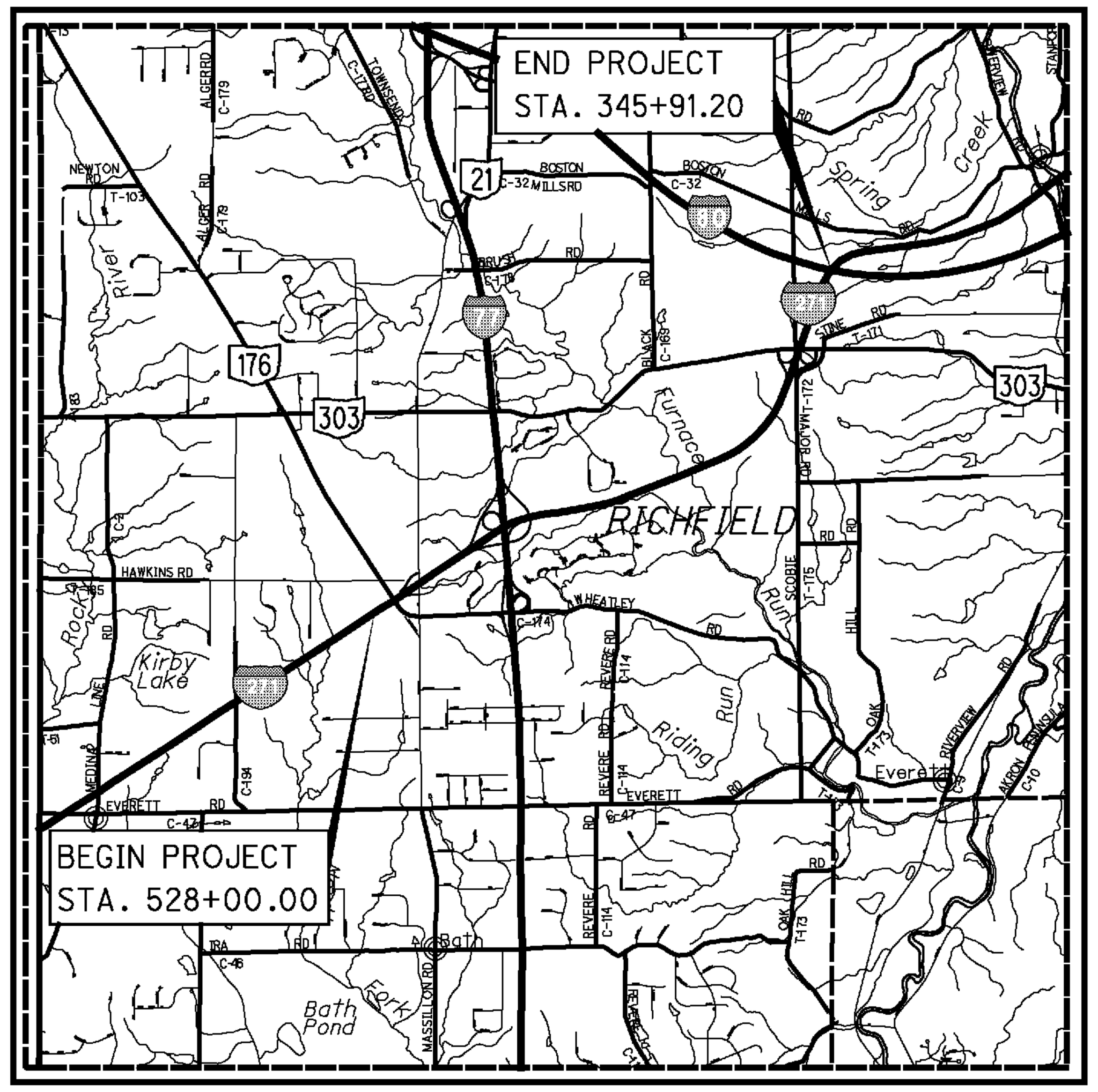
DESCRIPTION	ODOT CLASS	CLASSIFIED MECH.	CLASSIFIED VISUAL
GRAVEL AND/OR STONE FRAGS.	*A-1-a (0)*	*1*	*-*
GRAVEL AND/OR STONE FRAGS. WITH SAND	*A-1-b (0)*	*3*	*1*
GRAVEL AND/OR STONE FRAGS. WITH SAND AND SILT	*A-2-4 (0)*	*3*	*-*
FINE SAND	*A-3 (0)*	*1*	*5*
FINE SAND (EMBANKMENT FILL)	*A-3*	*-*	*3*
COARSE AND FINE SAND	*A-3a (0)*	*1*	*4*
COARSE AND FINE SAND (EMBANKMENT FILL)	*A-3a*	*-*	*3*
SANDY SILT	*A-4a (5)*	*34*	*70*
SANDY SILT (EMBANKMENT FILL)	*A-4a (5)*	*4*	*47*
SILT	*A-4b (7)*	*3*	*3*
SILT (EMBANKMENT FILL)	*A-4b (8)*	*2*	*3*
SILT AND CLAY	*A-6a (7)*	*18*	*31*
SILT AND CLAY (EMBANKMENT FILL)	*A-6a (8)*	*9*	*15*
SILTY CLAY	*A-6b (10)*	*1*	*-*
SILTY CLAY (EMBANKMENT FILL)	*A-6b (11)*	*3*	*4*
	TOTAL	*83*	*189*

TOPSOIL = X = APPROXIMATE THICKNESS	*VISUAL*
PAVEMENT OR BASE = X = APPROXIMATE THICKNESS	*VISUAL*
CONCRETE = X = APPROXIMATE THICKNESS	*VISUAL*
BOULDERS	*VISUAL*
WEATHERED SHALE	*VISUAL*
SHALE	*VISUAL*

BORING LOCATION - PLAN VIEW

DRIVE SAMPLE AND/OR ROCK CORE BORING PLOTTED TO VERTICAL SCALE ONLY. HORIZONTAL BAR INDICATES A CHANGE IN STRATIGRAPHY.

N_{60}	INDICATES STANDARDARD PENETRATION RESISTANCE NORMALIZED TO 60% DRILL ROD ENERGY RATIO.
WC	INDICATES WATER CONTENT IN PERCENT.
W—	INDICATES FREE WATER ELEVATION.
●	INDICATES A PLASTIC MATERIAL WITH A MOISTURE CONTENT EQUAL TO OR GREATER THAN THE LIQUID LIMIT MINUS 3.
⊖	INDICATES A NON-PLASTIC MATERIAL WITH A MOISTURE CONTENT GREATER THAN 25% OR GREATER THAN 19% WITH A WET APPEARANCE.
NI	INDICATES NOT INTACT.
NP	INDICATES A NON-PLASTIC SAMPLE.
NR	INDICATES NO RECOVERY.
SS	INDICATES A SPLIT SPOON SAMPLE, STANDARD PENETRATION TEST.
ST	INDICATES A SHELBY TUBE SAMPLE.
TR	INDICATES TOP OF ROCK.
RC	INDICATES A ROCK CORE SAMPLE.



LOCATION MAP

SCALE IN MILES

0 1/2 1 1 1/2 2

PARTICLE SIZE DEFINITIONS

BOULDERS	COBBLES	GRAVEL	COARSE SAND	FINE SAND	SILT	CLAY
	12″	3″	2.0 mm (No. 10 SIEVE)	0.42 mm (No. 40 SIEVE)	0.074 mm (No. 200 SIEVE)	0.005 mm

SPECIFICATIONS

THIS GEOTECHNICAL EXPLORATION WAS PERFORMED IN ACCORDANCE WITH THE STATE OF OHIO, DEPARTMENT OF TRANSPORTATION, OFFICE OF GEOTECHNICAL ENGINEERING, SPECIFICATIONS FOR GEOTECHNICAL EXPLORATIONS, DATED JANUARY 2009.

AVAILABLE INFORMATION

ALL AVAILABLE SOIL AND BEDROCK INFORMATION THAT CAN BE CONVENIENTLY SHOWN ON THE SOIL PROFILE SHEETS HAS BEEN SO REPORTED. ADDITIONAL SUBSURFACE EXPLORATIONS MAY HAVE BEEN MADE TO STUDY SOME SPECIAL ASPECT OF THE PROJECT. COPIES OF THIS DATA, IF ANY, MAY BE INSPECTED IN THE DISTRICT DEPUTY DIRECTOR'S OFFICE, THE OFFICE OF GEOTECHNICAL ENGINEERING AT 1600 WEST BROAD STREET, OR THE OFFICE OF STRUCTURAL ENGINEERING AT 1980 WEST BROAD STREET.

RECON. - CPI 11/25/09; TCN 03/31/10
DRILLING - TB/CW 04/05-24/10
DRAWN - CLW 05/27/11
REVIEWED - CPI 05/27/11

TTL associates inc

PID NO. **18710**

STRUCTURE FOUNDATION EXPLORATION
IR271

SUM-271-2.33

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EXPLORATION FINDINGS (CONT'D.)

STRATUM I CONSISTED OF PREDOMINANTLY STIFF TO VERY STIFF COHESIVE SOILS UNDERLYING THE FILL MATERIALS TO DEPTHS RANGING FROM 53½ TO 54 FEET (APPROXIMATE ELEVS. 1064 TO 1052) IN BORINGS B-001, B-005-1, B-006, AND B-010, AND TO DEPTHS RANGING FROM APPROXIMATELY 20½ TO 28½ FEET (APPROXIMATE ELEVS. 1064 TO 1055) IN THE REMAINING BORINGS. THE COHESIVE SOILS CONSISTED OF SANDY SILT (ODOT A-4A) WITH SOME CLAY AND VARYING AMOUNTS OF GRAVEL, SILT (ODOT A-4B) WITH SOME SAND AND VARYING AMOUNTS OF CLAY AND GRAVEL, OR SILT AND CLAY (ODOT A-6A) WITH VARYING AMOUNTS OF SAND AND GRAVEL. THE DRILLERS NOTED A 7-INCH ZONE OF APPARENT COBBLES AND/OR BOULDERS AT A DEPTH OF 20 FEET (APPROXIMATE ELEV. 1064) IN BORING B-002.

WITHIN THE PREDOMINANTLY COHESIVE STRATUM I SOILS, INTERBEDDED ZONES OF LOOSE TO MEDIUM DENSE GRANULAR SOILS WERE ENCOUNTERED IN 5 OF THE 10 BORINGS. THE GRANULAR SOILS CONSISTED OF GRAVEL (ODOT A-1-A) WITH SOME SAND, LITTLE SILT, AND TRACE CLAY, GRAVEL (ODOT A-1-B) WITH SAND, LITTLE SILT AND CLAY, FINE SAND (ODOT A-3) WITH VARYING AMOUNTS OF SILT AND GRAVEL, AS WELL AS COARSE AND FINE SAND (ODOT A-3A) WITH VARYING AMOUNTS OF SILT, CLAY, AND GRAVEL.

STRATUM II CONSISTED OF PREDOMINANTLY HARD COHESIVE SOILS UNDERLYING STRATUM I TO DEPTHS RANGING FROM 63½ TO 73½ FEET (APPROXIMATE ELEVS. 1049 TO 1043) IN BORINGS B-001, B-005-1, AND B-006, AND TO DEPTHS RANGING FROM APPROXIMATELY 35 TO 49½ FEET (APPROXIMATE ELEVS. 1054 TO 1034) IN THE REMAINING BORINGS, EXCEPT BORING B-010. THE COHESIVE SOILS CONSISTED OF SANDY SILT (ODOT A-4A) WITH VARYING AMOUNTS OF CLAY, GRAVEL, AND ROCK FRAGMENTS. AUGER REFUSAL WAS INITIALLY ENCOUNTERED ON COBBLES AND/OR A BOULDER AT A DEPTH OF APPROXIMATELY 32½ FEET IN BORING B-002. A 4-FOOT CORE RUN WAS PERFORMED, WHICH ENCOUNTERED APPROXIMATELY 1 FOOT OF COBBLE/BOULDER MATERIAL AND TRANSITIONED BACK INTO COHESIVE SOILS.

WITHIN THE PREDOMINANTLY COHESIVE STRATUM II SOILS, INTERBEDDED ZONES OF GENERALLY MEDIUM DENSE TO DENSE GRANULAR SOILS WERE ENCOUNTERED IN 5 OF THE 10 BORINGS. THE GRANULAR SOILS CONSISTED OF GRAVEL (ODOT A-1-B) WITH SAND AND VARYING AMOUNTS OF SILT AND CLAY, GRAVEL (ODOT A-2-4) WITH SAND, SILT, AND VARYING AMOUNTS OF CLAY, FINE SAND (ODOT A-3) WITH LITTLE GRAVEL AND TRACE SILT, OR COARSE AND FINE SAND (ODOT A-3A) WITH LITTLE CLAY AND GRAVEL.

UNDERLYING STRATUM I IN BORING B-010, AND STRATUM II IN EACH OF THE REMAINING BORINGS, EXCEPT BORING B-004, SEVERELY WEATHERED SHALE WAS ENCOUNTERED TO AUGER REFUSAL. THE THICKNESS OF THE SEVERELY WEATHERED SHALE ZONE VARIED FROM 0.8 FOOT TO APPROXIMATELY 13 FEET.

AUGER REFUSAL WAS ENCOUNTERED AT DEPTHS RANGING FROM APPROXIMATELY 64 TO 76½ FEET (APPROXIMATE ELEVS. 1044 TO 1042) IN BORINGS B-001, B-005-1, B-006, AND B-010, AND AT DEPTHS RANGING FROM APPROXIMATELY 39 TO 49½ FEET (APPROXIMATE ELEVS. 1045 TO 1034) IN THE REMAINING BORINGS. UPON ENCOUNTERING AUGER REFUSAL IN EACH OF THE BORINGS, ONE CORE RUN OF 5 FEET WAS PERFORMED. THE ROCK CONSISTED OF SLIGHTLY WEATHERED, STRONG SHALE. DISCONTINUITIES WERE CHARACTERIZED AS JOINTS, MOSTLY FRACTURED TO MODERATELY FRACTURED SPACING, WITH GENERALLY TIGHT APERTURE WIDTH.

GROUNDWATER WAS INITIALLY ENCOUNTERED DURING DRILLING IN ALL TEN BORINGS AT DEPTHS VARYING FROM 3½ TO 57 FEET BELOW EXISTING GRADE, BUT GENERALLY BETWEEN 23 AND 31 FEET. GROUNDWATER WAS OBSERVED UPON COMPLETION OF DRILLING OPERATIONS IN FOUR OF THE TEN BORINGS AT DEPTHS VARYING FROM 7 TO 27 FEET BELOW EXISTING GRADE.

LIGHT TOWER BORINGS

BORINGS B-011 THROUGH B-020 WERE PERFORMED SPECIFICALLY FOR THE PROPOSED LIGHT TOWERS FOR THIS PROJECT. THE LIGHT TOWER BORINGS ENCOUNTERED EXISTING FILL ASSOCIATED WITH GRADING FOR THE EXISTING ROADWAY AND EMBANKMENTS AT THE SITE, AS WELL AS THE UNDERLYING STRATUM I PREDOMINANTLY STIFF TO VERY STIFF COHESIVE SOILS AS DESCRIBED ABOVE FOR THE BRIDGE BORINGS. THE SOIL DESCRIPTIONS BELOW ARE BASED ON THE LIGHT TOWER BORINGS (B-011 THROUGH B-020) ONLY.

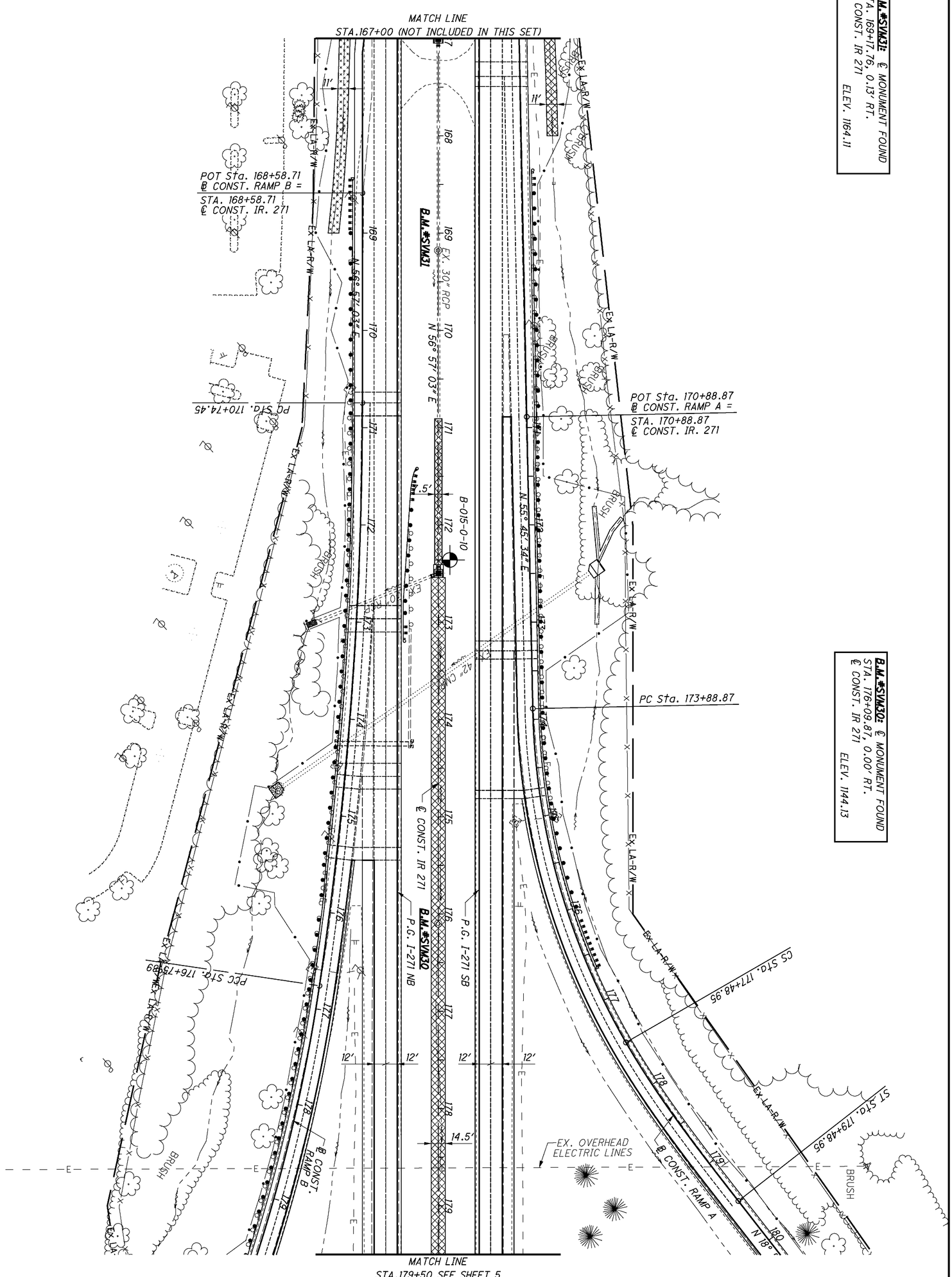
UNDERLYING THE SURFACE MATERIALS IN EACH OF THE BORINGS, COHESIVE EXISTING FILL MATERIALS ASSOCIATED WITH GRADING FOR THE EXISTING ROADWAY AND EMBANKMENTS WERE ENCOUNTERED. IN BORINGS B-011 THROUGH B-014, B-018, AND B-019, THE FILL MATERIALS WERE ENCOUNTERED TO RELATIVELY SHALLOW DEPTHS RANGING FROM 3½ TO 8½ FEET BELOW EXISTING GRADE (APPROXIMATE ELEVS. 1092 TO 1061). IN THE REMAINING BORINGS, THE FILL MATERIALS WERE ENCOUNTERED TO DEPTHS RANGING FROM 13½ FEET TO BORING TERMINATION AT A DEPTH OF 25 FEET (APPROXIMATE ELEVS. 1131 AND 1107 IN BORINGS B-015 AND B-016, RESPECTIVELY, AND APPROXIMATE ELEVS. 1071 AND 1081 IN BORINGS B-017 AND B-020, RESPECTIVELY). THE COHESIVE FILL MATERIALS CONSISTED OF SANDY SILT (ODOT A-4A), SILT (ODOT A-4B), SILT AND CLAY (ODOT A-6A), OR SILTY CLAY (ODOT A-6B).

UNDERLYING THE EXISTING FILL MATERIALS IN THE BORINGS, EXCEPT BORINGS B-015 AND B-016, STRATUM I PREDOMINANTLY STIFF TO VERY STIFF COHESIVE SOILS WERE ENCOUNTERED TO BORING TERMINATION AT A DEPTH OF 25 FEET (APPROXIMATE ELEVS. 1076 TO 1040). THE COHESIVE SOILS CONSISTED OF SANDY SILT (ODOT A-4A), SILT AND CLAY (ODOT A-6A), OR SILTY CLAY (ODOT A-6B).

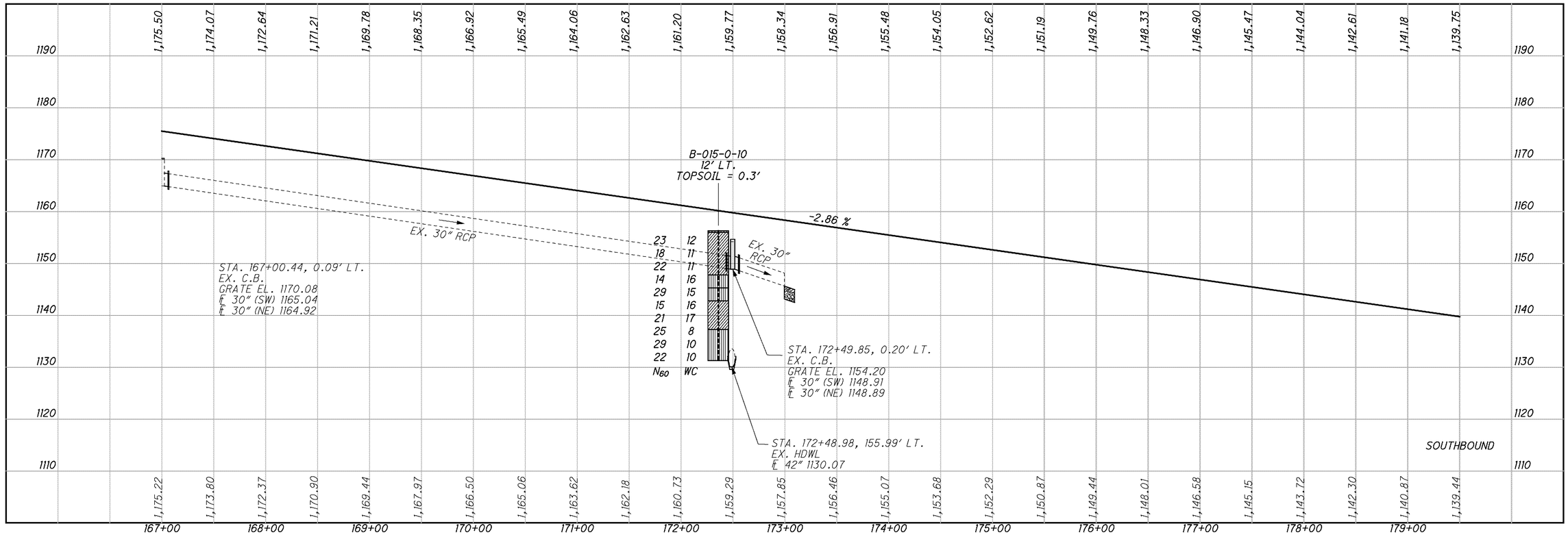
GROUNDWATER WAS NOT ENCOUNTERED DURING DRILLING NOR OBSERVED UPON COMPLETION OF DRILLING OPERATIONS IN ANY OF THE BORINGS PERFORMED SPECIFICALLY FOR LIGHT TOWERS.

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40/73	3/36	**SUM-271-2.33**	**STRUCTURE FOUNDATION EXPLORATION** **I-271 STA. 167+00 TO STA. 179+50**	CALCULATED CLW CHECKED CPI	0 50 25 100 HORIZONTAL SCALE IN FEET

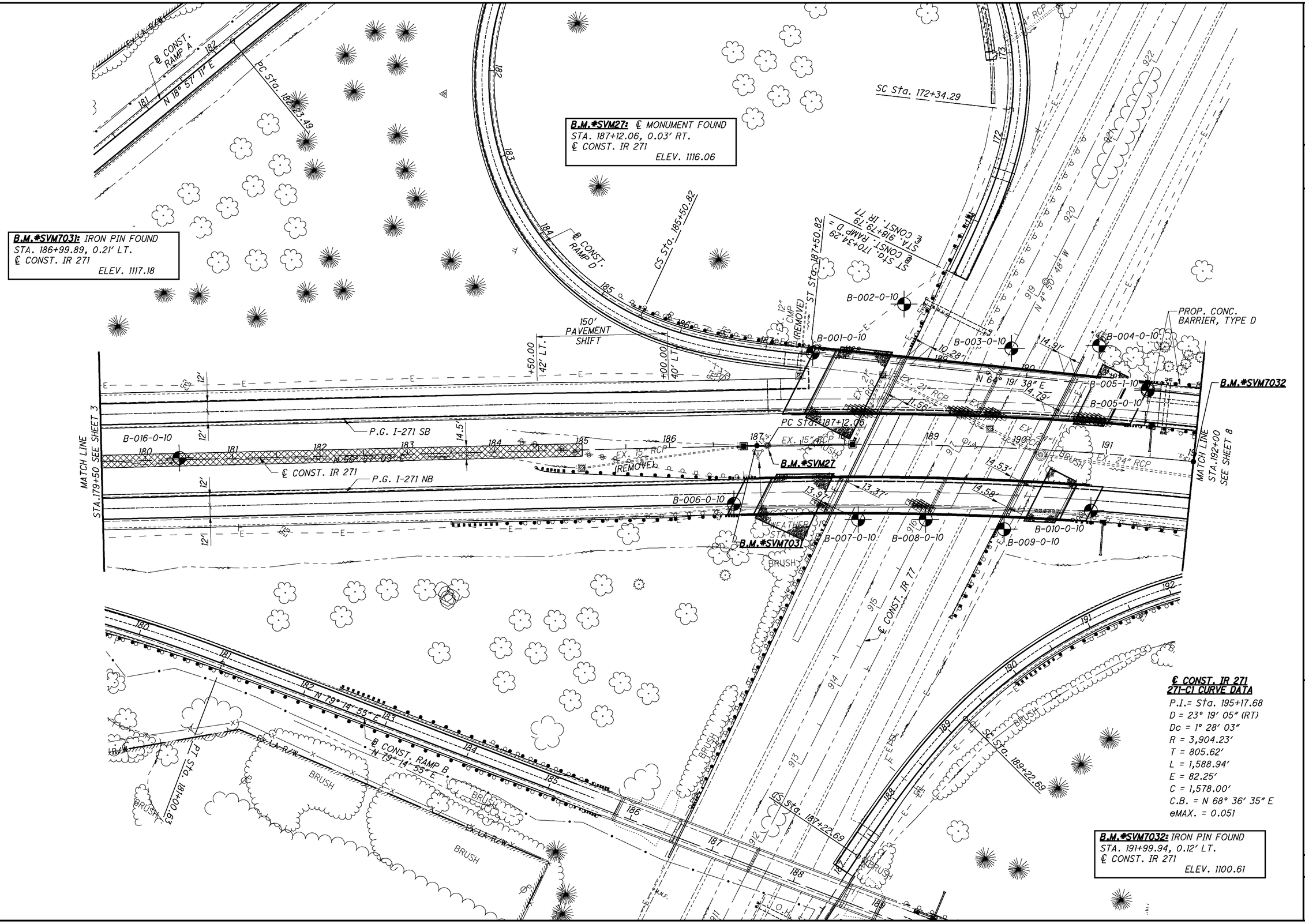


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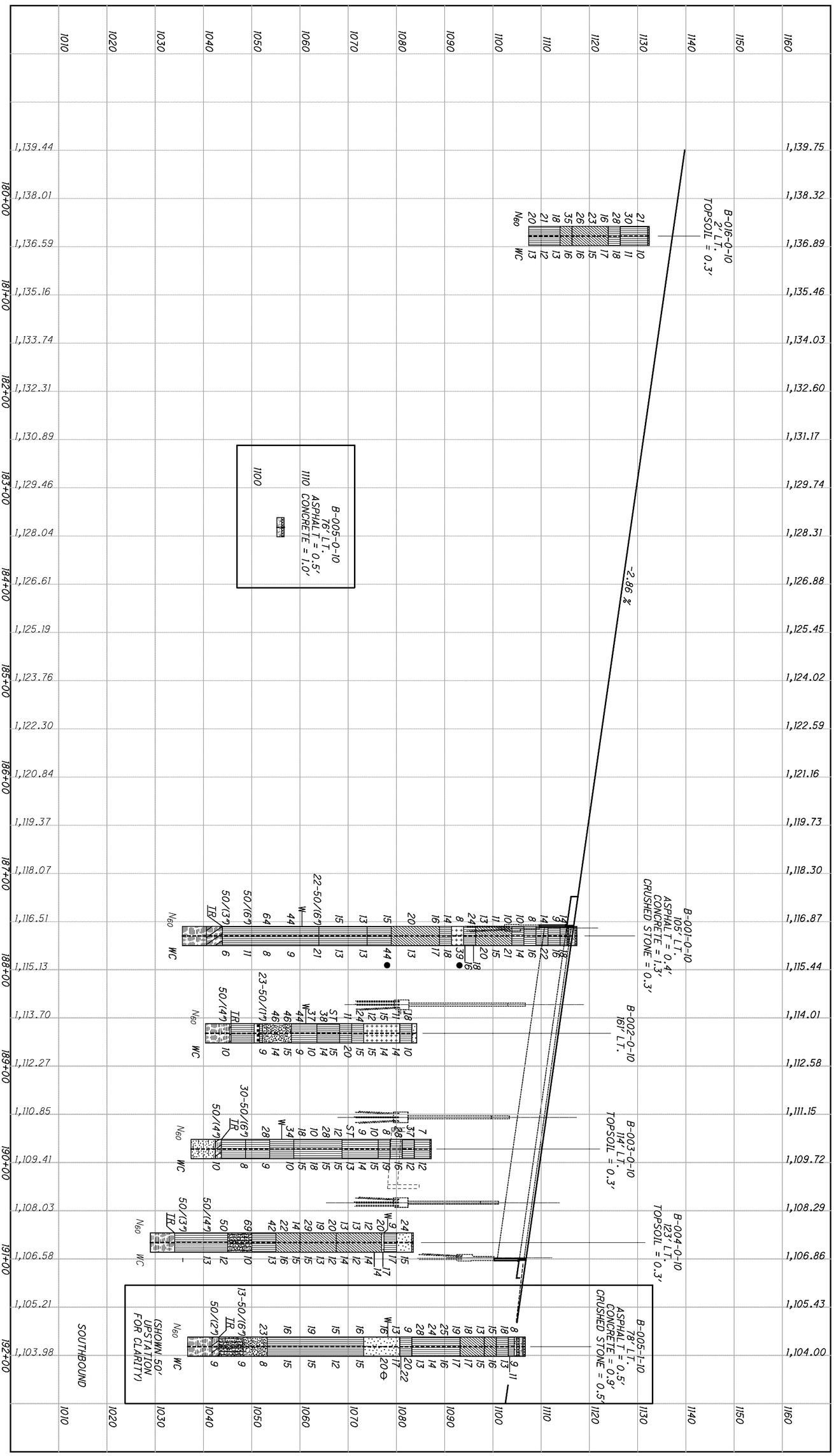
CALCULATED CLW
CHECKED CPI

STRUCTURE FOUNDATION EXPLORATION
I-271 STA. 167+00 TO STA. 179+50

SUM-271-2.33

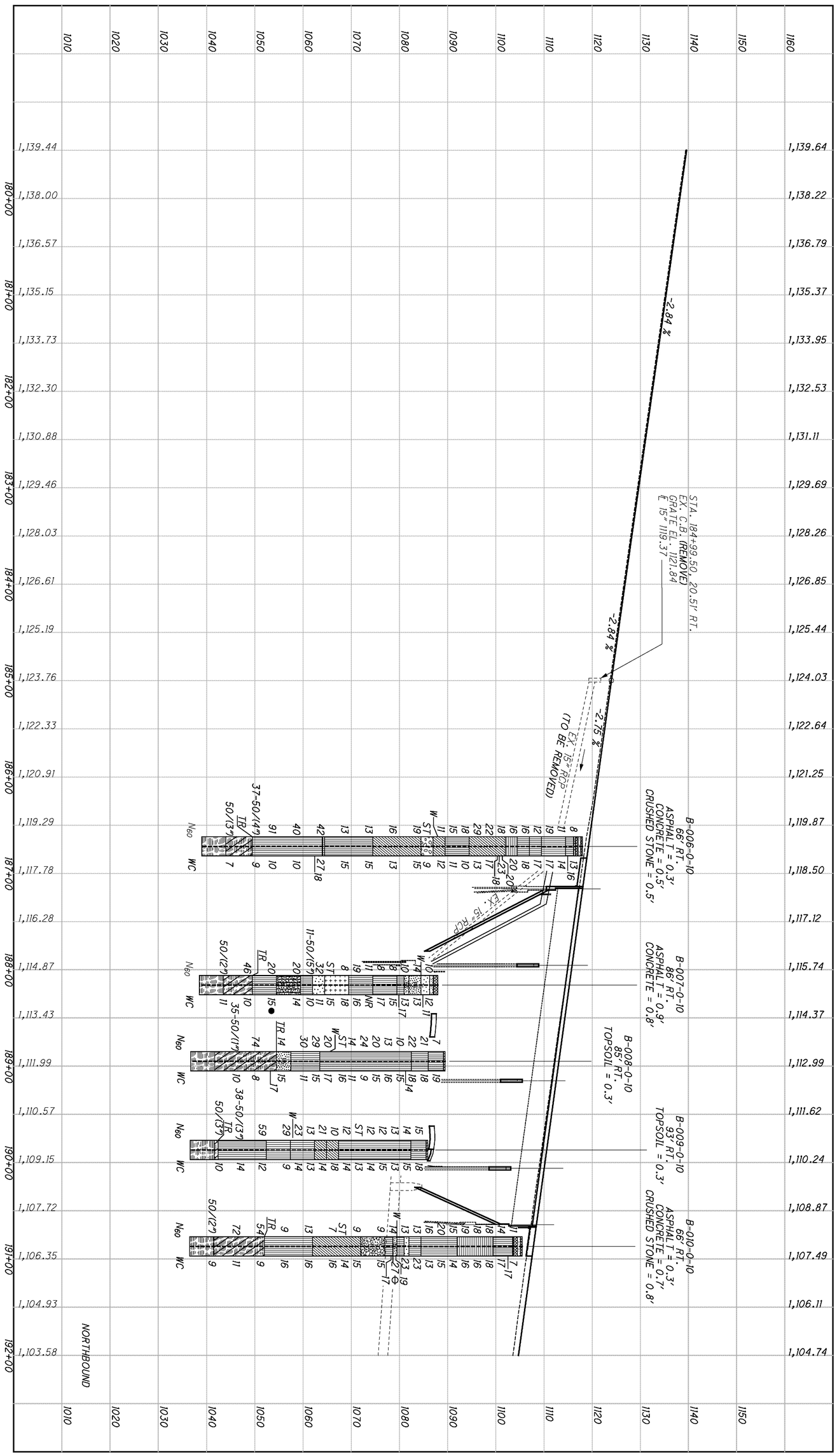

B.M.#SVM7031: IRON PIN FOUND
STA. 186+99.89, 0.21' LT.
℄ CONST. IR 271
ELEV. 1117.18
B.M.#SVM27: ℄ MONUMENT FOUND
STA. 187+12.06, 0.03' RT.
℄ CONST. IR 271
ELEV. 1116.06
B.M.#SVM7032: IRON PIN FOUND
STA. 191+99.94, 0.12' LT.
℄ CONST. IR 271
ELEV. 1100.61
℄ CONST. IR 271
271-C1 CURVE DATA
P.I.= Sta. 195+17.68
D = 23° 19' 05" (RT)
Dc = 1° 28' 03"
R = 3,904.23'
T = 805.62'
L = 1,588.94'
E = 82.25'
C = 1,578.00'
C.B. = N 68° 36' 35" E
eMAX. = 0.051
℄ CONST. RAMP A
N 18° 57' 11" E
PC Sta. 180+83.49
℄ CONST. RAMP D
CS Sta. 185+50.82
ST Sta. 187+50.82
SC Sta. 172+34.29
ST Sta. 170+34.29
℄ CONST. RAMP D = ℄ CONST. IR 77
ST Sta. 918+79.79
℄ CONST. IR 77
N 4° 50' 48" W
℄ CONST. RAMP B
N 79° 14' 55" E
PT Sta. 181+00.63
CS Sta. 189+22.69
℄ CONST. IR 271
N 64° 19' 38" E
PC STA. 187+12.06
150' PAVEMENT SHIFT
+50.00 42' LT.
+00.00 40' LT.
P.G. I-271 SB
P.G. I-271 NB
EX. 15" RCP REMOVED
EX. 21" RCP
EX. 24" RCP
EX. 12" CMP (REMOVE)
PROP. CONC. BARRIER, TYPE D
B-001-0-10
B-002-0-10
B-003-0-10
B-004-0-10
B-005-1-10
B-005-0-10
B-006-0-10
B-007-0-10
B-008-0-10
B-009-0-10
B-010-0-10
B-016-0-10
WEATHER STA.
BRUSH
EX. L.A. R/W
MATCH LINE STA.179+50 SEE SHEET 3
MATCH LINE STA.192+00 SEE SHEET 8
HORIZONTAL SCALE IN FEET
0 25 50 100
CALCULATED CLW
CHECKED CPI
STRUCTURE FOUNDATION EXPLORATION
I-271 STA. 179+50 TO STA. 192+00
SUM-271-2.33
5 / 36
42 / 73
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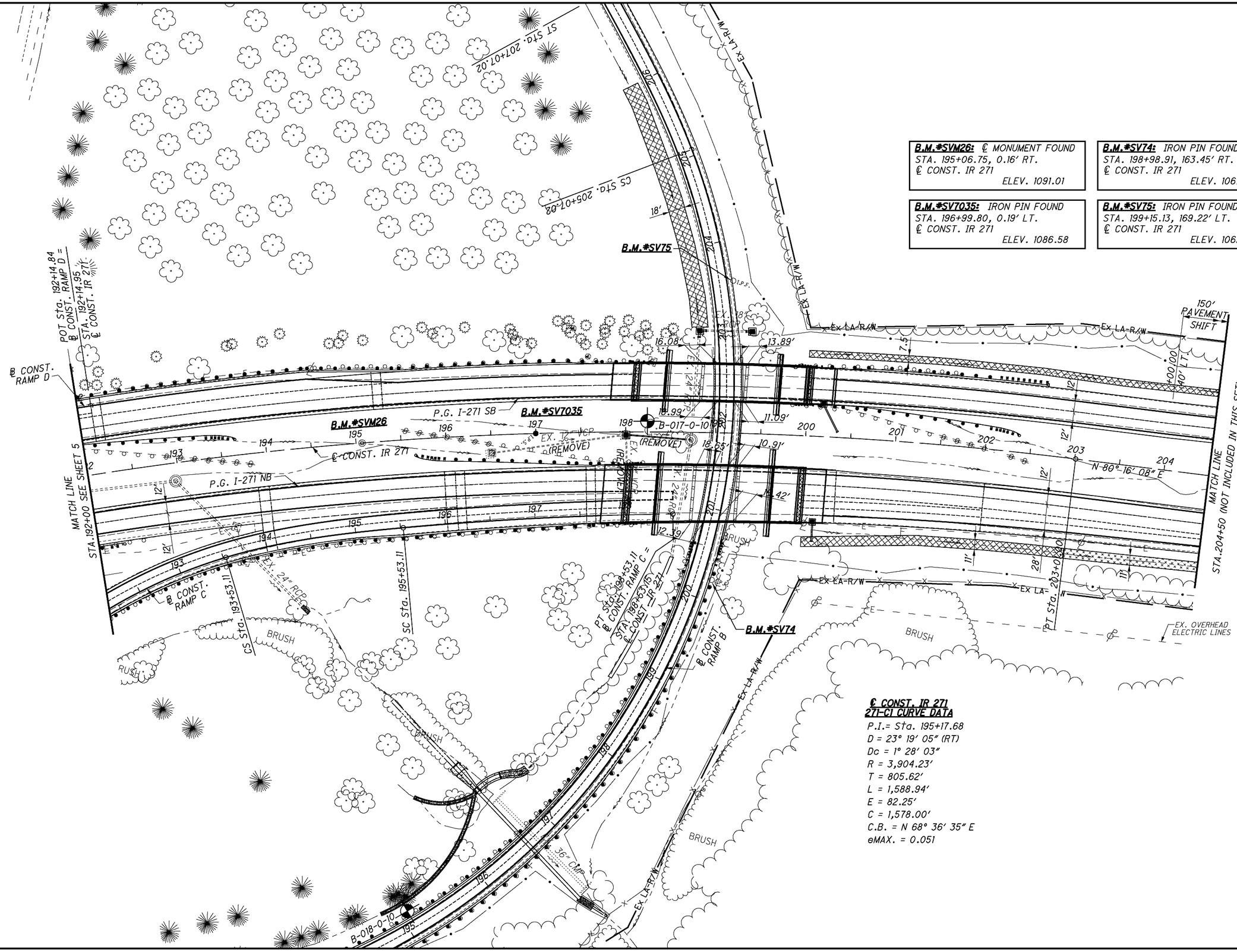


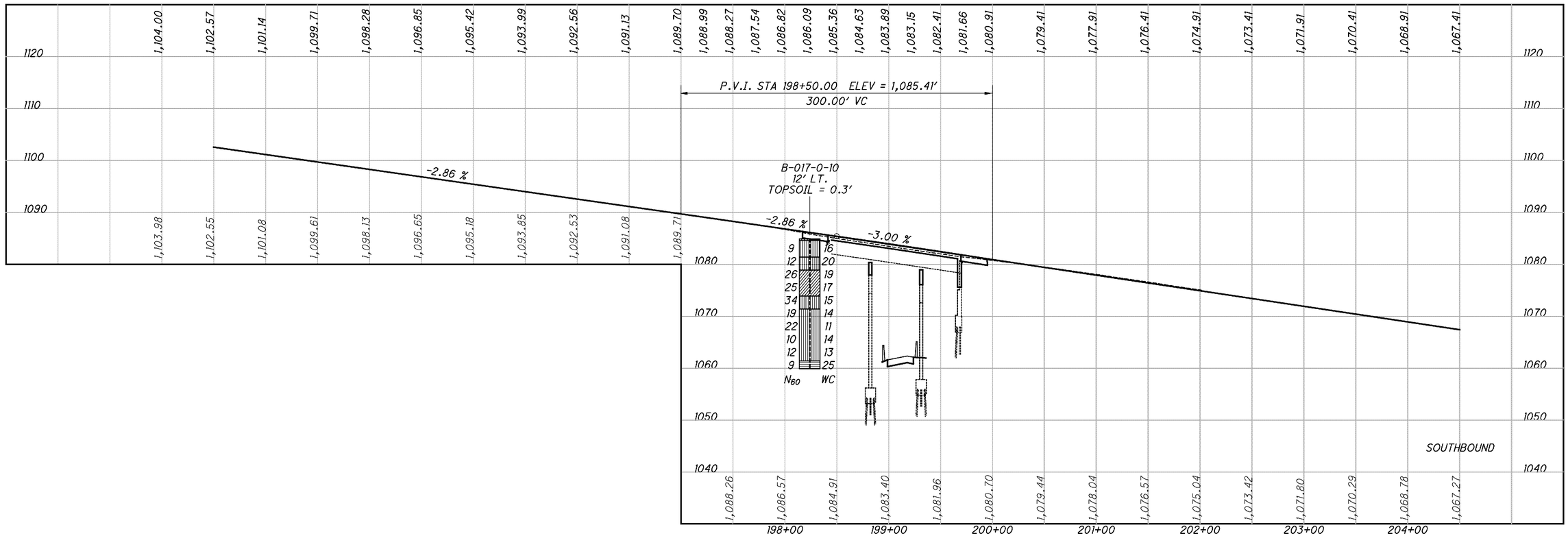
43/73	6/36	SUM-271-2.33	STRUCTURE FOUNDATION EXPLORATION I-271 STA. 179+50 TO STA. 192+00	CALCULATED CLW CHECKED CPI

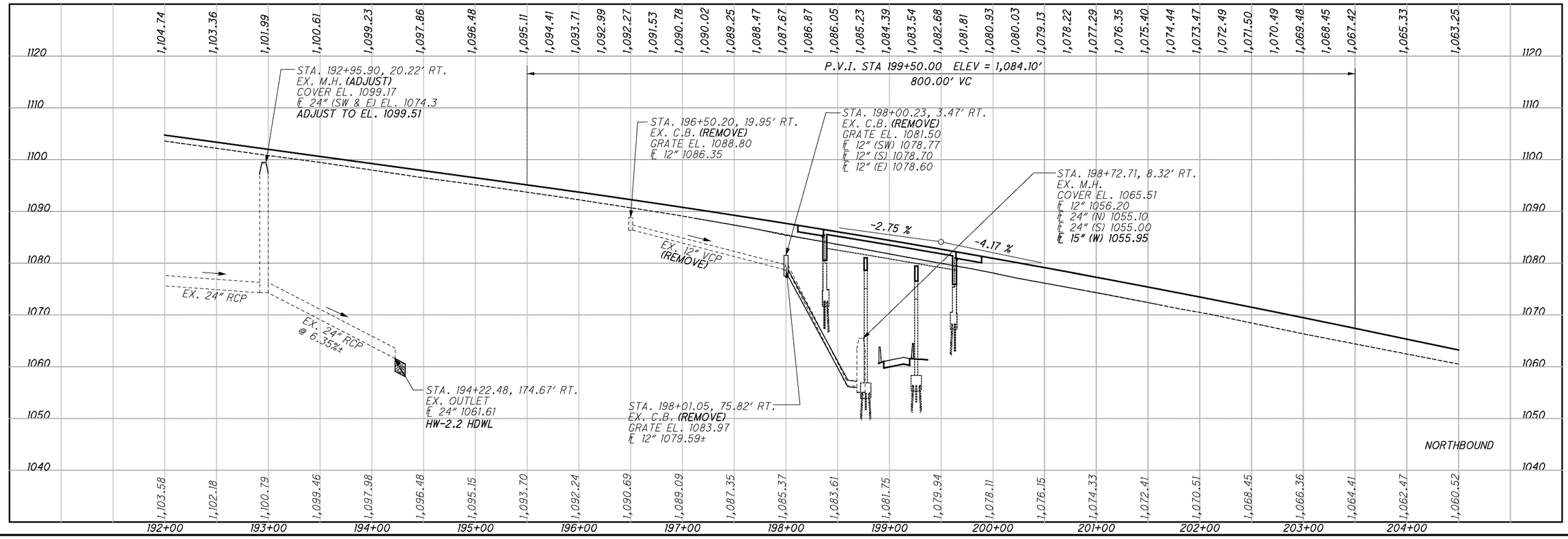
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44/73	7/36	SUM-271-2.33	STRUCTURE FOUNDATION EXPLORATION I-271 STA. 179+50 TO STA. 192+00	CALCULATED CLW CHECKED CPI


B.M.#SVM26: ℄ MONUMENT FOUND
STA. 195+06.75, 0.16' RT.
℄ CONST. IR 271
ELEV. 1091.01
B.M.#SV74: IRON PIN FOUND
STA. 198+98.91, 163.45' RT.
℄ CONST. IR 271
ELEV. 1061.29
B.M.#SV7035: IRON PIN FOUND
STA. 196+99.80, 0.19' LT.
℄ CONST. IR 271
ELEV. 1086.58
B.M.#SV75: IRON PIN FOUND
STA. 199+15.13, 169.22' LT.
℄ CONST. IR 271
ELEV. 1063.11
HORIZONTAL SCALE IN FEET
CALCULATED CLW
CHECKED CPI
STRUCTURE FOUNDATION EXPLORATION
I-271 STA. 192+00 TO STA. 204+50
SUM-271-2.33
8/36
45/73
℄ CONST. IR 271
271-C1 CURVE DATA
P.I.= Sta. 195+17.68
D = 23° 19' 05" (RT)
Dc = 1° 28' 03"
R = 3,904.23'
T = 805.62'
L = 1,588.94'
E = 82.25'
C = 1,578.00'
C.B. = N 68° 36' 35" E
eMAX. = 0.051
B.M.#SV75
B.M.#SVM26
B.M.#SV7035
B.M.#SV74
P.G. I-271 SB
P.G. I-271 NB
℄ CONST. IR 271
B-017-0-10
B-018-0-10
(REMOVE)
EX. 12" VCP
EX. 24" RCP
EX. 36" CMP
EX. 18" CMP
EX. 42" RCP
EX. 12" RCP
EX. 18" RCP
EX. 24" RCP
EX. 30" RCP
EX. 36" RCP
EX. 48" RCP
EX. 60" RCP
EX. 72" RCP
EX. LA-R/W
EX. OVERHEAD ELECTRIC LINES
BRUSH
MATCH LINE STA.192+00 SEE SHEET 5
MATCH LINE STA.204+50 (NOT INCLUDED IN THIS SET)
POT Sta. 192+14.84 ℄ CONST. RAMP D =
STA. 192+14.95 ℄ CONST. IR 271
℄ CONST. RAMP D
℄ CONST. RAMP C
℄ CONST. RAMP B
CS Sta. 193+53.11
SC Sta. 195+53.11
PT Sta. 198+53.11 ℄ CONST. RAMP C =
STA. 198+53.15 ℄ CONST. IR 271
PT Sta. 203+00.00
CS Sta. 207+07.02
SC Sta. 205+07.02
150' PAVEMENT SHIFT
100.00' LT.
N 80° 16' 08" E
I.P.F.
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STRUCTURE FOUNDATION EXPLORATION
I-271 STA. 192+00 TO STA. 204+50

CALCULATED CLW
CHECKED CPI

SUM-271-2.33

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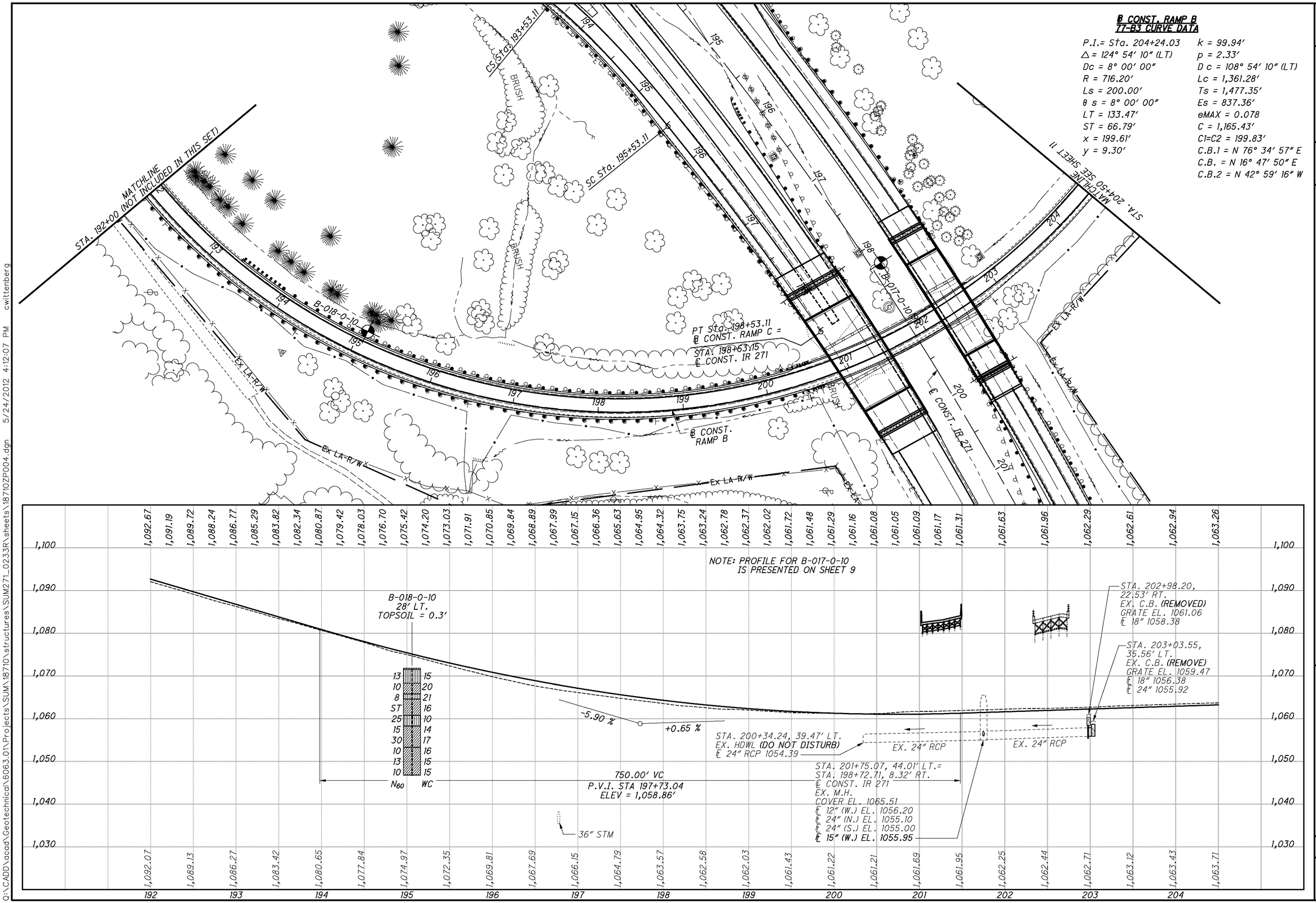
46 / 73

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B CONST. RAMP B
77-B3 CURVE DATA

P.I.= Sta. 204+24.03	k = 99.94′
△ = 124° 54′ 10″ (LT)	p = 2.33′
Dc = 8° 00′ 00″	D c = 108° 54′ 10″ (LT)
R = 716.20′	Lc = 1,361.28′
Ls = 200.00′	Ts = 1,477.35′
θ s = 8° 00′ 00″	Es = 837.36′
LT = 133.47′	eMAX = 0.078
ST = 66.79′	C = 1,165.43′
x = 199.61′	C1=C2 = 199.83′
y = 9.30′	C.B.1 = N 76° 34′ 57″ E
	C.B. = N 16° 47′ 50″ E
	C.B.2 = N 42° 59′ 16″ W



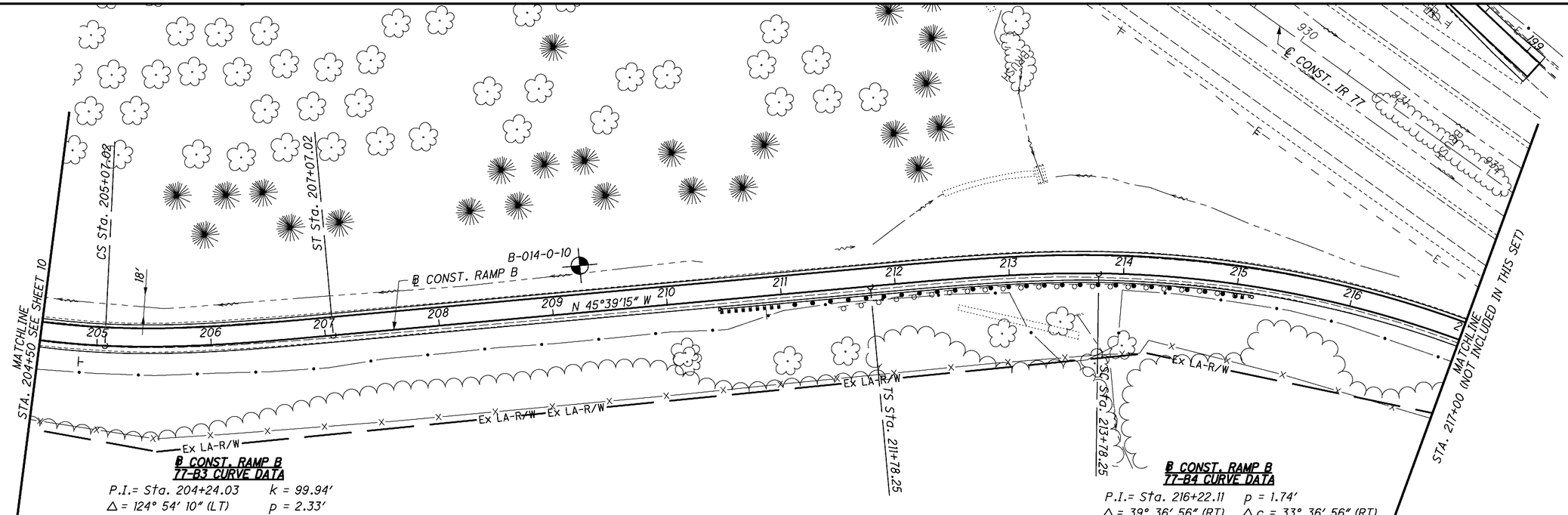
HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED CLW
CHECKED CPI

STRUCTURE FOUNDATION EXPLORATION
I-77 RAMP B STA. 192+00 TO STA. 204+50
SUM-271-2.33

10 / 36

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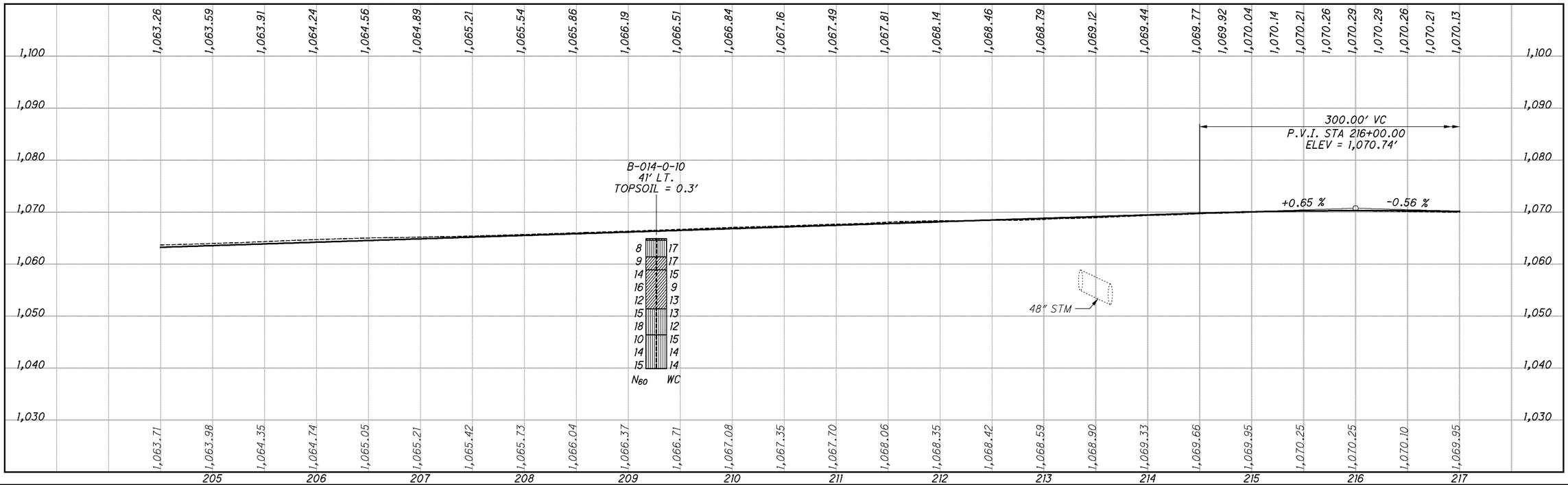


℄ CONST. RAMP B
77-B3 CURVE DATA

P.I.= Sta. 204+24.03	k = 99.94'
△ = 124° 54' 10" (LT)	p = 2.33'
Dc = 8° 00' 00"	D c = 108° 54' 10" (LT)
R = 716.20'	Lc = 1,361.28'
Ls = 200.00'	Ts = 1,477.35'
θ s = 8° 00' 00"	Es = 837.36'
LT = 133.47'	eMAX = 0.078
ST = 66.79'	C = 1,165.43'
x = 199.61'	C1=C2 = 199.83'
y = 9.30'	C.B.1 = N 76° 34' 57" E
	C.B. = N 16° 47' 50" E
	C.B.2 = N 42° 59' 16" W

℄ CONST. RAMP B
77-B4 CURVE DATA

P.I.= Sta. 216+22.11	p = 1.74'
△ = 39° 36' 56" (RT)	△ c = 33° 36' 56" (RT)
Dc = 6° 00' 00"	Lc = 560.26'
R = 954.93'	Ts1 = 441.80'
Ls = 200.00'	Ts2 = 346.68'
θ s = 6° 00' 00" (RT)	Es = 60.98'
LT = 133.41'	eMAX. = 0.080
ST = 66.74'	C = 199.90'
x = 199.78'	C = 552.26'
y = 6.98'	C.B.1 = N 43° 39' 15" W
k = 99.96'	C.B. = N 22° 50' 47" W



HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED CLW
CHECKED CPI

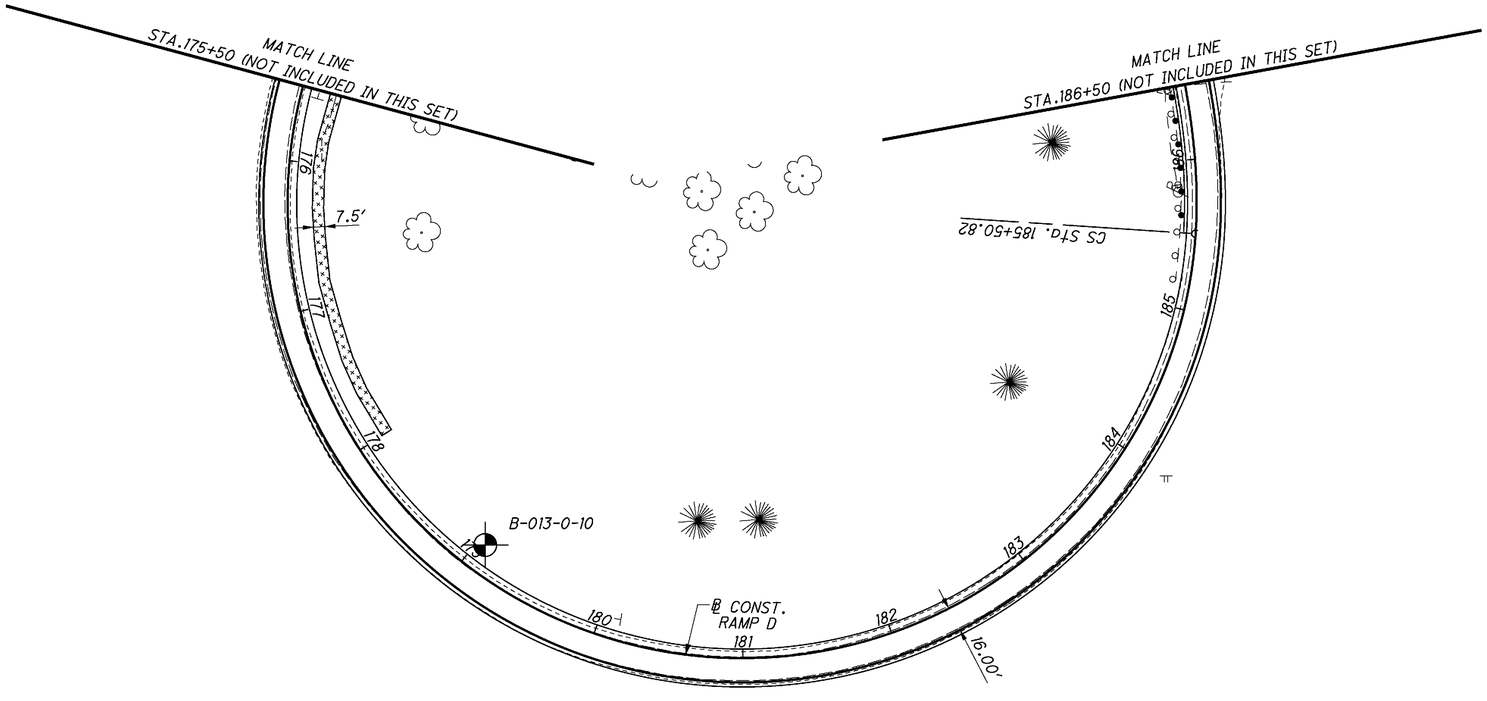
STRUCTURE FOUNDATION EXPLORATION
I-77 RAMP B STA. 204+50 TO STA. 217+00

SUM-271-2.33

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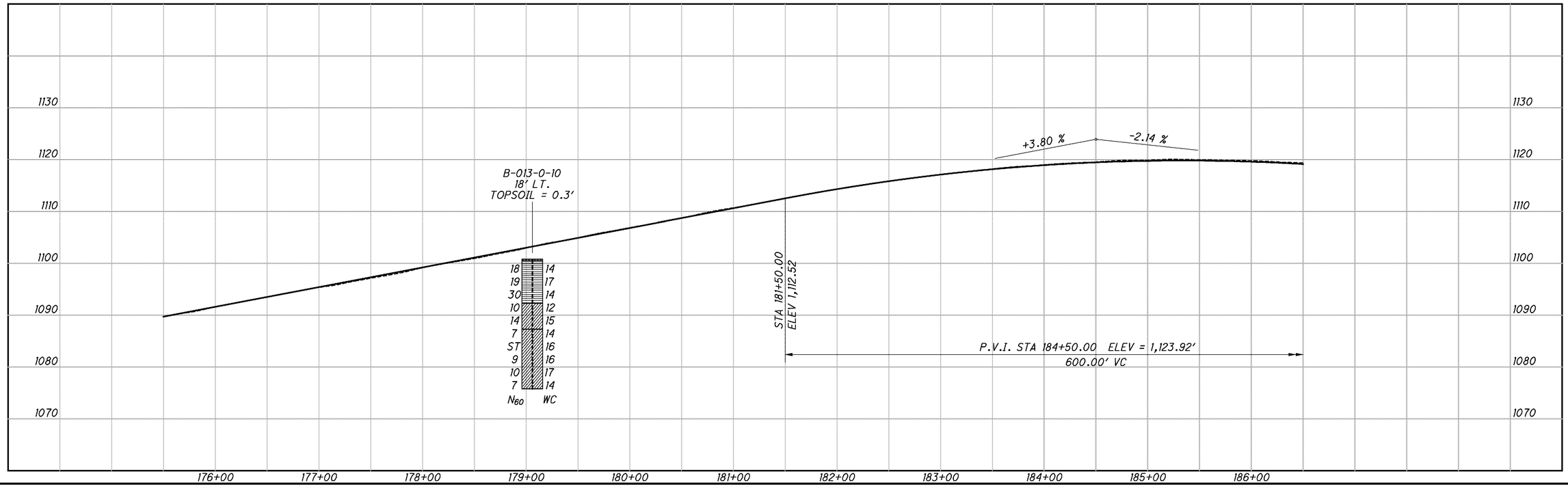
48 / 73

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℄ CONST. RAMP D
77-01 CURVE DATA

P.I.= Sta. 169+18.53
△= 289° 38′ 09″ (LT)
Dc = 19° 05′ 55″
R = 300.00′
Ls = 200.00′
θ s = 19° 05′ 55″ (LT)
LT = 134.12′
ST = 67.38′
x = 197.79′
y = 22.05′
k = 99.63′
p = 5.53′
△c = 251° 26′ 19″ (LT)
Lc = 1,316.53′
Ts = 115.76′
Es = 673.82′
eMAX. = 0.075
C = 487.13′
C1=C2 = 199.01′
C.B.1 = N 12° 23′ 50″ W
C.B. = S 29° 08′ 43″ W
C.B.2 = S 70° 41′ 15″ W



HORIZONTAL SCALE IN FEET
0 25 50 100
CALCULATED CLW
CHECKED CPI

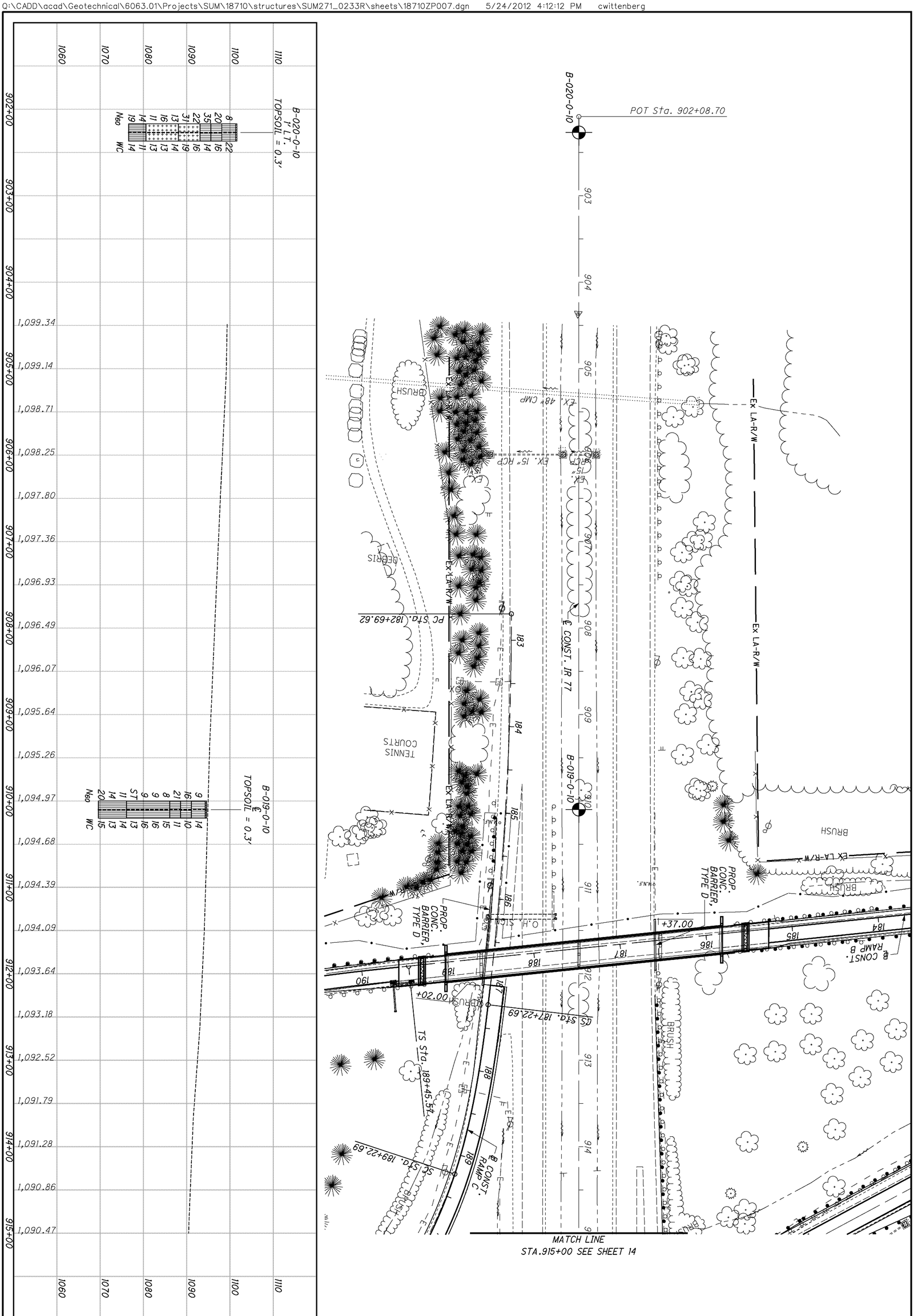
STRUCTURE FOUNDATION EXPLORATION
I-77 RAMP D STA. 175+50 TO STA. 186+50

SUM-271-2.33

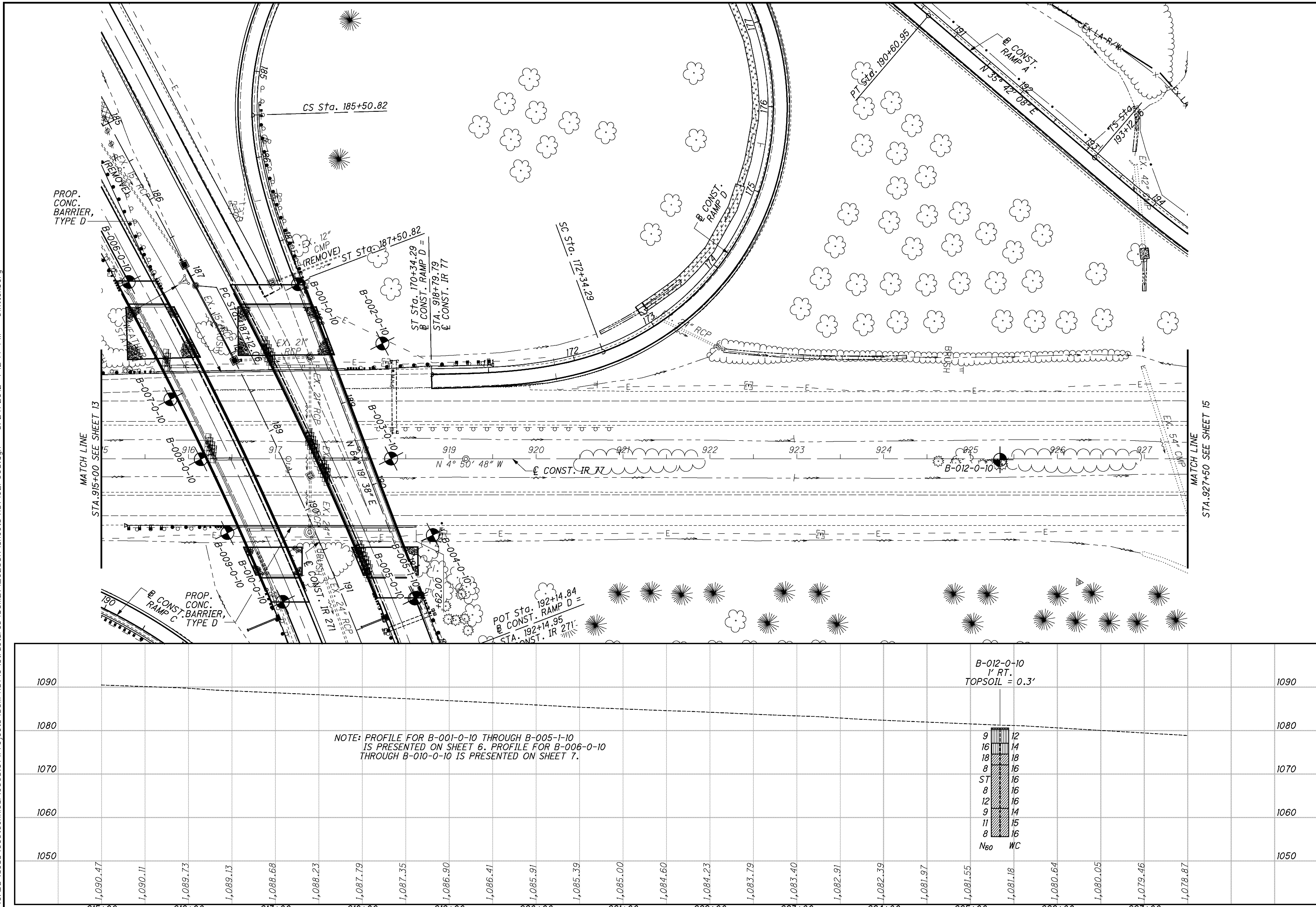
12 / 36
49 / 73

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50/73	13/36	SUM-271-2.33	STRUCTURE FOUNDATION EXPLORATION I-77 STA. 902+50 TO STA. 915+00	CALCULATED CLW CHECKED CPI	0 50 25 100 HORIZONTAL SCALE IN FEET



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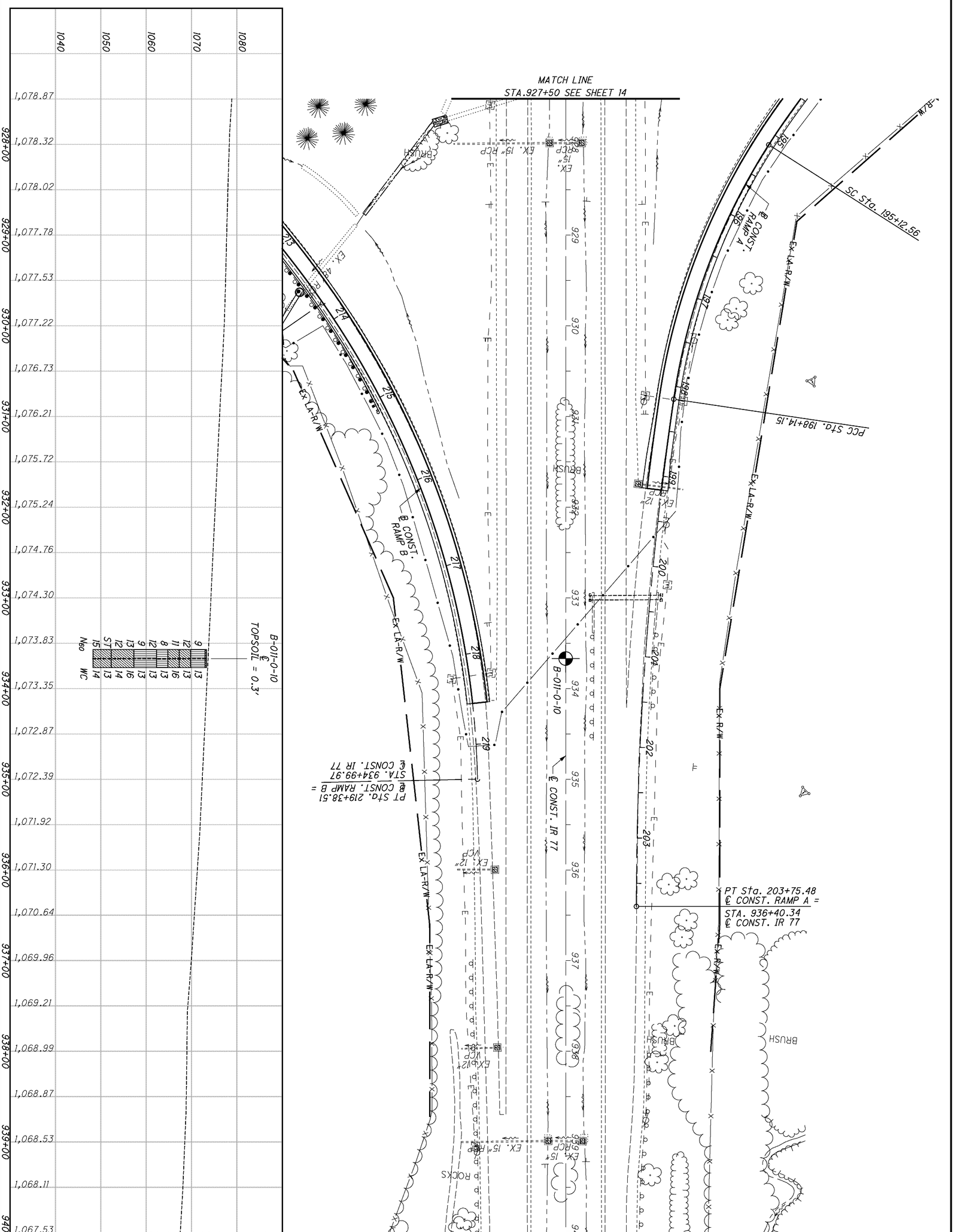
HORIZONTAL SCALE IN FEET 0 25 50 100

CALCULATED CLW
CHECKED CPI

STRUCTURE FOUNDATION EXPLORATION
I-77 STA. 915+00 TO STA. 927+50

SUM-271-2.33

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52/73	15/36	SUM-271-2.33	STRUCTURE FOUNDATION EXPLORATION I-77 STA. 927+50 TO STA. 940+00	CALCULATED CLW CHECKED CPI	0 50 25 100 HORIZONTAL SCALE IN FEET

PROJECT: SUM-271-02.33	DRILLING FIRM / OPERATOR: TTL / TB	DRILL RIG: CME 550X ATV	STATION / OFFSET: 187+65, 105 LT	EXPLORATION ID B-001-0-10
TYPE: BRIDGE WIDENING	SAMPLING FIRM / LOGGER: TTL / KKC	HAMMER: CME AUTOMATIC	ALIGNMENT: I-271	
PID: 18710 BR ID: SUM-271-2.33	DRILLING METHOD: 3.25" HSA	CALIBRATION DATE: 12/28/09	ELEVATION: 1117.4 (MSL) EOB: 81.8 ft.	PAGE 1 OF 2
START: 4/22/10 END: 4/23/10	SAMPLING METHOD: SPT / NX	ENERGY RATIO (%): 66	COORD: 570371.580 N, 2208541.350 E	

MATERIAL DESCRIPTION AND NOTES	ELEV. 1117.4	DEPTHS	SPT/ RQD	N_{60}	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%) GR	CS	FS	SI	CL	ATTERBERG LL	PL	PI	WC	ODOT CLASS (GI)	INST.
ASPHALT - 5 INCHES	1117.0																	
CONCRETE - 15 INCHES	1115.7																	
CRUSHED STONE - 4 INCHES	1115.4																	
STIFF, BROWN, **SANDY SILT**, SOME CLAY AND TRACE GRAVEL, **EMBANKMENT FILL** , MOIST	1113.9		4 4 9	14	67	SS-1	2.25	-	-	-	-	-	-	-	-	18	A-4a (V)	
STIFF TO VERY STIFF, BROWN, **SANDY SILT**, SOME CLAY AND TRACE GRAVEL, **EMBANKMENT FILL** , MOIST	1111.4		3 3 5	9	67	SS-2	>4.5	-	-	-	-	-	-	-	-	16	A-4a (V)	
STIFF, GRAY, **SANDY SILT**, SOME CLAY, **EMBANKMENT FILL** , MOIST	1108.9		5 6 7	14	11	SS-3	NI	-	-	-	-	-	-	-	-	22	A-4a (V)	
MEDIUM STIFF TO STIFF, BROWN, **SANDY SILT**, SOME CLAY, **EMBANKMENT FILL** , MOIST	1106.4		3 3 4	8	100	SS-4	1.75	-	-	-	-	-	-	-	-	16	A-4a (V)	
STIFF TO VERY STIFF, BROWN, **SANDY SILT**, SOME CLAY AND TRACE GRAVEL, **EMBANKMENT FILL** , MOIST	1103.9		4 4 5	10	100	SS-5	>4.5	-	-	-	-	-	-	-	-	14	A-4a (V)	
STIFF, BROWN/GRAY, **SILT AND CLAY**, SOME SAND AND TRACE GRAVEL, **EMBANKMENT FILL** , MOIST			3 4 5	10	100	SS-6	1.50	5	10	21	39	25	28	16	12	21	A-6a (7)	
@16.0'; STIFF TO VERY STIFF, GRAY, TRACE ROOT			4 5 5	11	100	SS-7	2.25	-	-	-	-	-	-	-	-	15	A-6a (V)	
@18.5'; BROWN	1096.4		4 5 7	13	100	SS-8	3.00	-	-	-	-	-	-	-	-	20	A-6a (V)	
VERY STIFF, GRAY, **SANDY SILT**, SOME CLAY, TRACE GRAVEL, AND ROOTS, **EMBANKMENT FILL** , MOIST			6 10 12	24	100	SS-9	4.00	-	-	-	-	-	-	-	-	18	A-4a (V)	
@21.5'; BROWN, TRACE ROOT HAIRS	1093.9						>4.5	-	-	-	-	-	-	-	-	16	A-4a (V)	
MEDIUM STIFF, BROWN, **SILT**, SOME SAND, LITTLE CLAY, AND TRACE GRAVEL, MOIST	1091.4		2 3 4	8	100	SS-10	0.75	1	4	18	58	19	26	16	10	39	A-4b (8)	
STIFF TO VERY STIFF, BROWN, **SANDY SILT**, SOME CLAY, MOIST	1088.9		3 6 7	14	100	SS-11	>4.5	-	-	-	-	-	-	-	-	18	A-4a (V)	
VERY STIFF TO HARD, BROWN, **SILT AND CLAY**, LITTLE SAND AND TRACE GRAVEL, MOIST			3 6 9	16	100	SS-12	>4.5	3	3	9	30	55	32	20	12	17	A-6a (9)	
@33.5'; VERY STIFF, GRAY	1078.9		4 7 11	20	72	SS-13	4.00	-	-	-	-	-	-	-	-	13	A-6a (V)	
STIFF TO VERY STIFF, GRAY, **SANDY SILT**, CLAY AND TRACE GRAVEL, WET	1073.9		5 6 8	15	100	SS-14	4.25	5	6	13	25	51	27	17	10	44	A-4a (8)	
STIFF, GRAY, **SANDY SILT**, SOME CLAY, MOIST			3 5 7	13	100	SS-15	1.00	-	-	-	-	-	-	-	-	13	A-4a (V)	
@48.5'; STIFF TO VERY STIFF	1063.9		2 6 8	15	100	SS-16	1.50	-	-	-	-	-	-	-	-	13	A-4a (V)	
HARD, GRAY, **SANDY SILT**, "AND" CLAY, TRACE GRAVEL, MOIST		W	22 50	-	100	SS-17	>4.5	5	7	14	29	45	26	16	10	21	A-4a (8)	
@58.5'; LITTLE SHALE FRAGMENTS			9 18 22	44	100	SS-18	>4.5	-	-	-	-	-	-	-	-	9	A-4a (V)	

STANDARD ODOT SOIL BORING LOG (11 X 17) - OH DOT.GDT - 5/21/12 12:13 - S:\PROJECTS\6063.01.GPJ

PID: 18710	BR ID: SUM-271-2.33	PROJECT: SUM-271-02.33	STATION / OFFSET: 187+65, 105 LT	START: 4/22/10	END: 4/23/10	PG 2 OF 2	B-001-0-10

MATERIAL DESCRIPTION AND NOTES	ELEV.	DEPTHS	SPT/ RQD	N_{60}	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%) GR	CS	FS	SI	CL	ATTERBERG LL	PL	PI	WC	ODOT CLASS (GI)	INST.
HARD, GRAY, **SANDY SILT**, "AND" CLAY, TRACE GRAVEL, MOIST *(continued)*	1055.9	62																
		63																
		64	15 18 40	64	100	SS-19	>4.5	-	-	-	-	-	-	-	-	8	A-4a (V)	
		65																
		66																
		67																
		68																
		69	50	-	100	SS-20	>4.5	-	-	-	-	-	-	-	-	11	A-4a (V)	
		70																
		71																
		72																
	1043.9	73																
VERY DENSE, GRAY, SEVERELY WEATHERED SHALE, MOIST		TR	50/3"	-	100	SS-21	NP	-	-	-	-	-	-	-	-	6	Rock (V)	
	1040.6	74																
		75																
		76																
SHALE, GRAY, SLIGHTLY WEATHERED, STRONG, JOINTS: FRACTURED TO MODERATELY FRACTURED, TIGHT; RQD 20%, REC 100%.		77																
		78																
		79	20		100	RC-1											CORE	
		80																
	1035.6	81																
		EOB																

STANDARD ODOT SOIL BORING LOG (11 X 17) - OH DOT.GDT - 5/21/12 12:13 - S:\PROJECTS\6063.01.GPJ

NOTES: AUGER REFUSAL ENCOUNTERED AT A DEPTH 76.8 FEET AND 5.0 FEET OF ROCK CORED.

ABANDONMENT METHODS, MATERIALS, QUANTITIES: POURED 4 BAGS BENTONITE CHIPS

PROJECT: SUM-271-02.33	DRILLING FIRM / OPERATOR: TTL / CHRIS WHITE	DRILL RIG: CME 550X ATV	STATION / OFFSET: 188+66, 161 LT
TYPE: BRIDGE WIDENING	SAMPLING FIRM / LOGGER: TTL / KKC	HAMMER: CME AUTOMATIC	ALIGNMENT: I-271
PID: 18710 BR ID: SUM-271-2.33	DRILLING METHOD: 3.25" HSA / NX	CALIBRATION DATE: 12/28/09	ELEVATION: 1084.2 (MSL) EOB: 43.8 ft.
START: 4/8/10 END: 4/8/10	SAMPLING METHOD: SPT / NX	ENERGY RATIO (%): 66	COORD: 570474.450 N, 2208600.910 E

EXPLORATION ID B-002-0-10

PAGE 1 OF 1

MATERIAL DESCRIPTION AND NOTES	ELEV.	DEPTHS	SPT/ RQD	N_{60}	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%) GR	CS	FS	SI	CL	ATTERBERG LL	PL	PI	WC	ODOT CLASS (GI)	INST.
BROWN, **COARSE AND FINE SAND**, SOME SILT AND GRAVEL, **EMBANKMENT FILL**	1084.2 / 1083.2																	
VERY STIFF, BROWN, **SANDY SILT**, SOME CLAY AND LITTLE GRAVEL, **EMBANKMENT FILL** , MOIST	1080.7		9 9 7	18	100	SS-1	>4.5	-	-	-	-	-	-	-	-	10	A-4a (V)	
STIFF TO VERY STIFF, GRAY, **SILT**, SOME CLAY AND SAND, TRACE GRAVEL, MOIST			5 5 5	11	89	SS-2	3.75	-	-	-	-	-	-	-	-	14	A-4b (V)	
@6.0'; VERY STIFF			4 7 7	15	100	SS-3	2.25	-	-	-	-	-	-	-	-	14	A-4b (V)	
@8.5'; STIFF TO VERY STIFF	1073.2		4 5 6	12	100	SS-4	UCS	8	8	12	51	21	26	18	8	15	A-4b (7)	
VERY STIFF, BROWN, **SANDY SILT**, SOME CLAY AND LITTLE GRAVEL, MOIST	1070.7		8 10 12	24	100	SS-5	2.75	-	-	-	-	-	-	-	-	15	A-4a (V)	
STIFF, GRAY, **SANDY SILT**, SOME CLAY AND LITTLE GRAVEL, MOIST	1068.2		3 4 6	11	100	SS-6	1.50	-	-	-	-	-	-	-	-	20	A-4a (V)	
VERY STIFF, BROWN/GRAY, **SANDY SILT**, SOME CLAY AND LITTLE GRAVEL, MOIST					79	ST-1	UCS	12	9	13	37	29	24	18	6	15	A-4a (6)	
@18.5'; GRAY			4 5 30	38	100	SS-7	2.00	-	-	-	-	-	-	-	-	14	A-4a (V)	
@20.0'; POSSIBLE COBBLES AND/OR BOULDER (7-INCH ZONE)	1063.5																	
HARD, BROWN, **SANDY SILT**, SOME CLAY AND LITTLE GRAVEL, MOIST		W	7 16 18	37	33	SS-8	4.00	25	8	23	36	8	20	16	4	10	A-4a (2)	
			11 15 25	44	100	SS-9	>4.5	-	-	-	-	-	-	-	-	9	A-4a (V)	
DENSE, BROWN, **GRAVEL AND STONE FRAGMENTS WITH SAND**, TRACE SILT, MOIST	1058.2		23 22 20	46	100	SS-10	NP	30	21	42	-	7	-	NP	NP	NP	15	A-1-b (0)
@28.5'; SOME SILT	1052.2		10 16 26	46	100	SS-11	NP	-	-	-	-	-	-	-	-	-	14	A-1-b (V)
HARD, GRAY, **SANDY SILT**, SOME CLAY AND LITTLE GRAVEL, MOIST	1051.6		23 50/1"	-	86	SS-12	NI	-	-	-	-	-	-	-	-	9	A-4a (V)	
GRAY, COBBLES AND/OR BOULDER	1050.5																	
GRAY, **SANDY SILT**, SOME GRAVEL AND CLAY, MOIST	1045.7				76	RC-1	-	-	-	-	-	-	-	-	-	-	A-4a (V)	
VERY DENSE, GRAY, SEVERELY WEATHERED SHALE, MOIST	1045.4	TR	50/4"	-	100	SS-13	NP	-	-	-	-	-	-	-	-	10	Rock (V)	
SHALE, GRAY, SLIGHTLY WEATHERED, STRONG, JOINTS: FRACTURED TO MODERATELY FRACTURED, TIGHT; RQD 23%, REC 100%.	1040.4	EOB	23		100	RC-2											CORE	

NOTES: AUGER REFUSAL ENCOUNTERED AT A DEPTH 38.8 FEET AND 5.0 FEET OF ROCK CORED.

ABANDONMENT METHODS, MATERIALS, QUANTITIES: POURED 2 BAGS BENTONITE CHIPS

STANDARD ODOT SOIL BORING LOG (11 X 17) - OH DOT.GDT - 5/21/12 12:14 - S:\PROJECTS\6063.01.GPJ

PROJECT: SUM-271-02.33	DRILLING FIRM / OPERATOR: TTL / CHRIS WHITE	DRILL RIG: CME 550X ATV	STATION / OFFSET: 189+86, 114 LT
TYPE: BRIDGE WIDENING	SAMPLING FIRM / LOGGER: TTL / KKC	HAMMER: CME AUTOMATIC	ALIGNMENT: I-271
PID: 18710 BR ID: SUM-271-2.33	DRILLING METHOD: 3.25" HSA / NX	CALIBRATION DATE: 12/28/09	ELEVATION: 1087.2 (MSL) EOB: 49.8 ft.
START: 4/7/10 END: 4/7/10	SAMPLING METHOD: SPT / NX	ENERGY RATIO (%): 66	COORD: 570495.270 N, 2208731.360 E

EXPLORATION ID B-003-0-10

PAGE 1 OF 1

MATERIAL DESCRIPTION AND NOTES	ELEV.	DEPTHS	SPT/ RQD	N_{60}	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%) GR	CS	FS	SI	CL	ATTERBERG LL	PL	PI	WC	ODOT CLASS (GI)	INST.
TOPSOIL - 4 INCHES	1086.9																	
MEDIUM STIFF TO STIFF, BROWN, **SANDY SILT**, SOME CLAY AND TRACE GRAVEL, **EMBANKMENT FILL** , MOIST	1083.7		3 3 3	7	100	SS-1	2.25	-	-	-	-	-	-	-	-	12	A-4a (V)	
HARD, BROWN, **SANDY SILT**, SOME CLAY, **EMBANKMENT FILL** , MOIST	1081.2		13 20 14	37	100	SS-2	>4.5	-	-	-	-	-	-	-	-	12	A-4a (V)	
VERY STIFF, GRAY, **SANDY SILT**, SOME CLAY, **EMBANKMENT FILL** , MOIST	1078.7	▼ 0 hr	13 13 12	28	100	SS-3	2.75	-	-	-	-	-	-	-	-	16	A-4a (V)	
MEDIUM STIFF TO STIFF, BROWN, **SANDY SILT**, SOME CLAY AND TRACE ROOT HAIRS, MOIST	1076.2		3 3 4	8	100	SS-4	4.00	-	-	-	-	-	-	-	-	19	A-4a (V)	
STIFF, GRAY, **SANDY SILT**, SOME CLAY AND TRACE GRAVEL, MOIST			4 5 4	10	100	SS-5	1.25	-	-	-	-	-	-	-	-	15	A-4a (V)	
			3 3 5	9	11	SS-6	2.00	-	-	-	-	-	-	-	-	14	A-4a (V)	
@16.0'; VERY STIFF, GRAY/BROWN	1068.7				58	ST-1	UCS	11	9	15	34	31	26	17	9	13	A-4a (6)	
STIFF TO VERY STIFF, GRAY, **SANDY SILT**, SOME CLAY AND TRACE GRAVEL, MOIST			4 5 6	12	100	SS-7	2.50	-	-	-	-	-	-	-	-	15	A-4a (V)	
@21.0'; VERY STIFF BROWN			8 11 14	28	100	SS-8	3.00	-	-	-	-	-	-	-	-	15	A-4a (V)	
@23.5'; STIFF GRAY			3 4 5	10	100	SS-9	1.00	-	-	-	-	-	-	-	-	18	A-4a (V)	
@26.0'; VERY STIFF	1058.7		5 7 9	18	100	SS-10	1.25	-	-	-	-	-	-	-	-	15	A-4a (V)	
HARD, BROWN/GRAY, **SANDY SILT**, SOME CLAY AND LITTLE GRAVEL, MOIST	1053.7	W	10 14 17	34	100	SS-11	UCS	19	11	24	42	4	18	16	2	10	A-4a (2)	
VERY STIFF TO HARD, GRAY, **SANDY SILT**, SOME CLAY AND LITTLE GRAVEL, MOIST	1048.7		7 9 16	28	100	SS-12	>4.5	-	-	-	-	-	-	-	-	9	A-4a (V)	
HARD, GRAY, **SANDY SILT**, SOME GRAVEL, TRACE CLAY, AND SHALE FRAGMENTS, MOIST	1043.7		30 50	-	100	SS-13	>4.5	21	17	25	32	5	20	14	6	8	A-4a (0)	
VERY DENSE, GRAY, SEVERELY WEATHERED SHALE, MOIST	1042.4	TR	50/4"	-	100	SS-14	NP	-	-	-	-	-	-	-	-	10	Rock (V)	
SHALE, GRAY, SLIGHTLY WEATHERED, STRONG, JOINTS: FRACTURED TO MODERATELY FRACTURED, TIGHT; RQD 33%, REC 100%.	1037.4	EOB	33		100	RC-1											CORE	

NOTES: AUGER REFUSAL ENCOUNTERED AT A DEPTH 44.8 FEET AND 5.0 FEET OF ROCK CORED.

ABANDONMENT METHODS, MATERIALS, QUANTITIES: POURED 3 BAGS BENTONITE CHIPS

STANDARD ODOT SOIL BORING LOG (11 X 17) - OH DOT.GDT - 5/21/12 12:14 - S:\PROJECTS\6063.01.GPJ

PROJECT: SUM-271-02.33	DRILLING FIRM / OPERATOR: TTL / CHRIS WHITE	DRILL RIG: CME 550X ATV	STATION / OFFSET: 190+83, 123 LT
TYPE: BRIDGE WIDENING	SAMPLING FIRM / LOGGER: TTL / KKC	HAMMER: CME AUTOMATIC	ALIGNMENT: I-271
PID: 18710 BR ID: SUM-271-2.33	DRILLING METHOD: 3.25" HSA / NX	CALIBRATION DATE: 12/28/09	ELEVATION: 1083.5 (MSL) EOB: 54.5 ft.
START: 4/5/10 END: 4/5/10	SAMPLING METHOD: SPT / NX	ENERGY RATIO (%): 66	COORD: 570550.480 N, 2208815.310 E

EXPLORATION ID B-004-0-10

PAGE 1 OF 1

MATERIAL DESCRIPTION AND NOTES	ELEV. 1083.5	DEPTHS	SPT/ RQD	N_{60}	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%) GR	CS	FS	SI	CL	ATTERBERG LL	PL	PI	WC	ODOT CLASS (GI)	INST.
TOPSOIL - 4 INCHES	1083.2																	
MEDIUM DENSE, BROWN, **COARSE AND FINE SAND**, SOME SILT, **EMBANKMENT FILL** , MOIST	1080.0		7 13 9	24	100	SS-1	NP	-	-	-	-	-	-	-	-	15	A-3a (V)	
STIFF TO VERY STIFF, GRAY, **SANDY SILT**, SOME CLAY AND TRACE GRAVEL, MOIST	1077.4		2 4 4	9	100	SS-2	3.25	-	-	-	-	-	-	-	-	17	A-4a (V)	
MEDIUM DENSE, GRAY, **COARSE AND FINE SAND**, LITTLE SILT AND CLAY, MOIST	1076.9	W	5 9 9	20	100	SS-3	NP	-	-	-	-	-	-	-	-	17	A-3a (V)	
							1.25	-	-	-	-	-	-	-	-	14	A-6a (V)	
STIFF TO VERY STIFF, GRAY, **SILT AND CLAY**, SOME GRAVEL AND LITTLE SAND, MOIST																		
@8.5'; STIFF			4 5 6	12	100	SS-4	1.00	-	-	-	-	-	-	-	-	14	A-6a (V)	
@11.0'; STIFF TO VERY STIFF			5 5 7	13	100	SS-5	UCS	28	7	11	25	29	27	15	12	12	A-6a (5)	
			4 5 7	13	100	SS-6	3.25	-	-	-	-	-	-	-	-	14	A-6a (V)	
	1067.5																	
VERY STIFF, GRAY, **SILT AND CLAY**, LITTLE SAND AND TRACE GRAVEL, MOIST			7 9 9	20	100	SS-7	1.25	-	-	-	-	-	-	-	-	12	A-6a (V)	
@18.5'; VERY STIFF TO HARD, BROWN			4 8 9	19	100	SS-8	UCS	6	7	12	42	33	26	14	12	13	A-6a (9)	
	1060.0	▼ 0 hr	10 11 15	29	100	SS-9	3.25	-	-	-	-	-	-	-	-	15	A-6a (V)	
STIFF TO VERY STIFF, BROWN, **SILT AND CLAY**, LITTLE SAND AND TRACE GRAVEL, MOIST			5 5 8	14	100	SS-10	3.75	-	-	-	-	-	-	-	-	15	A-6a (V)	
@26.0'; VERY STIFF, LITTLE GRAVEL, AND SHALE FRAGMENTS			7 7 13	22	100	SS-11	2.00	-	-	-	-	-	-	-	-	16	A-6a (V)	
	1055.0																	
HARD, BROWN, **SANDY SILT**, SOME CLAY, LITTLE GRAVEL, AND SHALE FRAGMENTS, MOIST	1050.0		9 15 23	42	67	SS-12	NI	17	12	25	38	8	17	16	1	13	A-4a (2)	
VERY DENSE, GRAY, **GRAVEL AND STONE FRAGMENTS WITH SAND AND SILT**, MOIST	1045.0		17 23 40	69	100	SS-13	NP	35	14	23	- 28 -		NP	NP	NP	10	A-2-4 (0)	
HARD, GRAY, **SANDY SILT**, SOME GRAVEL, TRACE CLAY, AND SHALE FRAGMENTS, MOIST			26 18 27	50	100	SS-14	3.25	27	19	13	38	3	24	16	8	12	A-4a (1)	
			50/4"	-	100	SS-15	>4.5	-	-	-	-	-	-	-	-	13	A-4a (V)	
	1034.0	TR	50/3"	-	67	SS-16	-	-	-	-	-	-	-	-	-	-		
SHALE, GRAY, SLIGHTLY WEATHERED, STRONG, JOINTS: FRACTURED TO MODERATELY FRACTURED, TIGHT; RQD 28%, REC 100%.	1029.0	EOB	28		100	RC-1											CORE	

NOTES: AUGER REFUSAL ENCOUNTERED AT A DEPTH 49.5 FEET AND 5.0 FEET OF ROCK CORED.

ABANDONMENT METHODS, MATERIALS, QUANTITIES: POURED 3 BAGS BENTONITE CHIPS

STANDARD ODOT SOIL BORING LOG (11 X 17) - OH DOT.GDT - 5/21/12 12:14 - S:\PROJECTS\6063.01.GPJ

PROJECT: SUM-271-02.33	DRILLING FIRM / OPERATOR: TTL / TB	DRILL RIG: CME 550X ATV	STATION / OFFSET: 191+41, 78 LT
TYPE: BRIDGE WIDENING	SAMPLING FIRM / LOGGER: TTL / KKC	HAMMER: CME AUTOMATIC	ALIGNMENT: I-271
PID: 18710 BR ID: SUM-271-2.33	DRILLING METHOD: 3.25" HSA	CALIBRATION DATE: 12/28/09	ELEVATION: 1106.7 (MSL) EOB: 70.0 ft.
START: 4/21/10 END: 4/22/10	SAMPLING METHOD: SPT / NX	ENERGY RATIO (%): 66	COORD: 570537.950 N, 2208889.160 E

EXPLORATION ID: B-005-1-10

MATERIAL DESCRIPTION AND NOTES	ELEV.	DEPTHS	SPT/ RQD	N_{60}	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%) GR	CS	FS	SI	CL	ATTERBERG LL	PL	PI	WC	ODOT CLASS (GI)	INST.
ASPHALT - 5.5 INCHES	1106.2																	
CONCRETE - 10.5 INCHES	1105.4																	
CRUSHED STONE - 6 INCHES	1104.9																	
LOOSE, BROWN, **FINE SAND**, **EMBANKMENT FILL**, MOIST	1104.4		3 3 4	8	78	SS-1	NP	-	-	-	-	-	-	-	-	9	A-3 (V)	
							2.75	-	-	-	-	-	-	-	-	11	A-4a (V)	
MEDIUM STIFF, BROWN, **SANDY SILT**, SOME CLAY AND TRACE GRAVEL, **EMBANKMENT FILL**, MOIST	1103.2																	
VERY STIFF, BROWN, **SANDY SILT**, SOME CLAY AND TRACE GRAVEL, **EMBANKMENT FILL**, MOIST	1100.7		6 7 9	18	44	SS-2	>4.5	-	-	-	-	-	-	-	-	13	A-4a (V)	
VERY STIFF TO HARD, BROWN, **SILT AND CLAY**, LITTLE SAND AND TRACE GRAVEL, **EMBANKMENT FILL**, MOIST	1098.2		7 7 7	15	67	SS-3	>4.5	-	-	-	-	-	-	-	-	16	A-6a (V)	
STIFF TO VERY STIFF, BROWN, **SILT AND CLAY**, LITTLE SAND AND GRAVEL, **EMBANKMENT FILL**, MOIST			4 6 6	13	78	SS-4	>4.5	6	4	13	36	41	29	18	11	15	A-6a (8)	
@11.0'; VERY STIFF, BROWN/GRAY	1093.2		7 8 8	18	89	SS-5	2.00	-	-	-	-	-	-	-	-	17	A-6a (V)	
VERY STIFF TO HARD, BROWN, **SANDY SILT**, WITH CLAY AND TRACE GRAVEL, **EMBANKMENT FILL**, MOIST			4 8 9	19	100	SS-6	>4.5	5	7	15	36	37	29	19	10	17	A-4a (8)	
			9 11 12	25	78	SS-7	>4.5	-	-	-	-	-	-	-	-	16	A-4a (V)	
			8 10 12	24	100	SS-8	>4.5	-	-	-	-	-	-	-	-	14	A-4a (V)	
			10 12 13	28	89	SS-9	>4.5	-	-	-	-	-	-	-	-	13	A-4a (V)	
	1083.2																	
MEDIUM STIFF TO STIFF, GRAY, **SANDY SILT**, SOME CLAY AND TRACE ROOT HAIRS, MOIST			2 3 5	9	100	SS-10	1.25	-	-	-	-	-	-	-	-	20	A-4a (V)	
	1080.7						0.75	-	-	-	-	-	-	-	-	22	A-4a (V)	
MEDIUM DENSE, GRAY, **COARSE AND FINE SAND**, LITTLE SILT AND GRAVEL, MOIST			3 5 7	13	100	SS-11	NP	12	32	41	- 15 -		NP	NP	NP	17	A-3a (0)	
@28.5'; WET		W	7 7 8	16	100	SS-12	NP	-	-	-	-	-	-	-	-	20	A-3a (V)	
	1073.2																	
VERY STIFF, GRAY, **SANDY SILT**, SOME CLAY AND LITTLE GRAVEL, MOIST			5 6 9	16	100	SS-13	3.25	-	-	-	-	-	-	-	-	15	A-4a (V)	
@38.5'; STIFF TO VERY STIFF, SOME GRAVEL			4 5 9	15	89	SS-14	UCS	20	9	14	35	22	24	17	7	12	A-4a (4)	
@43.5'; "AND" CLAY, TRACE GRAVEL			4 6 11	19	100	SS-15	1.50	6	11	15	34	34	25	15	10	15	A-4a (7)	
			5 6 9	16	100	SS-16	2.00	-	-	-	-	-	-	-	-	15	A-4a (V)	
	1053.2																	
VERY DENSE, GRAY, **GRAVEL AND STONE FRAGMENTS WITH SAND**, SOME SILT AND TRACE CLAY, MOIST			6 8 13	23	67	SS-17	NP	44	17	14	23	2	20	15	5	8	A-1-b (0)	
	1048.2																	
VERY DENSE, GRAY, **GRAVEL AND STONE FRAGMENTS WITH SAND AND SILT**, MOIST			13 50	-	100	SS-18	NP	31	13	29	- 27 -		NP	NP	NP	9	A-2-4 (0)	

STANDARD ODOT SOIL BORING LOG (11 X 17) - OH DOT.GDT - 5/21/12 12:14 - S:\PROJECTS\6063.01.GPJ

STRUCTURE FOUNDATION EXPLORATION
BRIDGE NO. SUM-271-0354

DRAWN CLW CHECKED CPI

TTL associates inc

PID: 18710 | BR ID: SUM-271-2.33 | PROJECT: SUM-271-02.33 | STATION / OFFSET: 191+41, 78 LT | START: 4/21/10 | END: 4/22/10 | PG 2 OF 2 | B-005-1-10

MATERIAL DESCRIPTION AND NOTES	ELEV. 1045.2	DEPTHS	SPT/ RQD	N_{60}	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%) GR	CS	FS	SI	CL	ATTERBERG LL	PL	PI	WC	ODOT CLASS (GI)	INST.
VERY DENSE, GRAY, **GRAVEL AND STONE FRAGMENTS WITH SAND AND SILT**, MOIST *(continued)*	1043.2	62																
		TR																
VERY DENSE, GRAY, SEVERELY WEATHERED SHALE, MOIST	1041.7	63	60/2"	-	100	SS-19	NP	-	-	-	-	-	-	-	-	9	Rock (V)	
		64																
		65																
SHALE, GRAY, SLIGHTLY WEATHERED, STRONG, JOINTS: FRACTURED TO MODERATELY FRACTURED, TIGHT; RQD 7%, REC 100%.		66																
		67	7		100	RC-1											CORE	
		68																
		69																
	1036.7	EOB 70																

NOTES: AUGER REFUSAL ENCOUNTERED AT A DEPTH OF 65.0 FEET AND 5.0 FEET OF ROCK CORED.

ABANDONMENT METHODS, MATERIALS, QUANTITIES: POURED 4 BAGS BENTONITE CHIPS

STANDARD ODOT SOIL BORING LOG (11 X 17) - OH DOT.GDT - 5/21/12 12:14 - S:\PROJECTS\6063.01.GPJ

PROJECT: SUM-271-02.33 | DRILLING FIRM / OPERATOR: TTL / TB | DRILL RIG: CME 550X ATV | STATION / OFFSET: 191+41, 76 LT | EXPLORATION ID B-005-0-10

TYPE: BRIDGE WIDENING | SAMPLING FIRM / LOGGER: TTL / KKC | HAMMER: CME AUTOMATIC | ALIGNMENT: I-271

PID: 18710 BR ID: SUM-271-2.33 | DRILLING METHOD: 3.25" HSA | CALIBRATION DATE: 12/28/09 | ELEVATION: 1106.7 (MSL) EOB: 1.5 ft. | PAGE 1 OF 1

START: 4/21/10 END: 4/21/10 | SAMPLING METHOD: SPT | ENERGY RATIO (%): 66 | COORD: 570535.950 N, 2208889.160 E

MATERIAL DESCRIPTION AND NOTES	ELEV. 1106.7	DEPTHS	SPT/ RQD	N_{60}	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%) GR	CS	FS	SI	CL	ATTERBERG LL	PL	PI	WC	ODOT CLASS (GI)	INST.
ASPHALT - 5.5 INCHES	1106.2																	
CONCRETE - 12.5 INCHES	1105.2	1																
		EOB																

NOTES: AUGER REFUSAL ENCOUNTERED AT 1.5 FEET WITHIN CONCRETE AND BORING WAS RELOCATED APPROXIMATELY 1.5 FEET NORTH.

ABANDONMENT METHODS, MATERIALS, QUANTITIES: NOT RECORDED

STANDARD ODOT SOIL BORING LOG (8.5 X 11) - OH DOT.GDT - 5/21/12 13:08 - S:\PROJECTS\6063.01.GPJ

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PROJECT: SUM-271-02.33	DRILLING FIRM / OPERATOR: TTL / TB	DRILL RIG: CME 550X ATV	STATION / OFFSET: 186+72, 66 RT	EXPLORATION ID B-006-0-10
TYPE: BRIDGE WIDENING	SAMPLING FIRM / LOGGER: TTL / KKC	HAMMER: CME AUTOMATIC	ALIGNMENT: I-271	
PID: 18710 BR ID: SUM-271-2.33	DRILLING METHOD: 3.25" HSA	CALIBRATION DATE: 12/28/09	ELEVATION: 1118.0 (MSL) EOB: 79.0 ft.	PAGE 1 OF 2
START: 4/19/10 END: 4/20/10	SAMPLING METHOD: SPT / ST / NX	ENERGY RATIO (%): 66	COORD: 570177.360 N, 2208555.060 E	

MATERIAL DESCRIPTION AND NOTES	ELEV.	DEPTHS	SPT/ RQD	N_{60}	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%) GR	CS	FS	SI	CL	ATTERBERG LL	PL	PI	WC	ODOT CLASS (GI)	INST.
ASPHALT - 4 INCHES	1118.0																	
CONCRETE - 6.5 INCHES	1117.7																	
CRUSHED STONE - 6.5 INCHES	1117.1																	
LOOSE, BROWN, **FINE SAND**, TRACE GRAVEL, **EMBANKMENT FILL** , MOIST	1116.6																	
MEDIUM STIFF, BROWN, **SANDY SILT**, SOME CLAY AND TRACE GRAVEL, **EMBANKMENT FILL** , MOIST	1116.2		3 3 4	8	78	SS-1	NP	-	-	-	-	-	-	-	-	13	A-3 (V)	
	1114.5						3.50	-	-	-	-	-	-	-	-	16	A-4a (V)	
STIFF TO VERY STIFF, BROWN, **SANDY SILT**, SOME CLAY AND LITTLE GRAVEL, **EMBANKMENT FILL** , MOIST			4 5 5	11	67	SS-2	3.50	-	-	-	-	-	-	-	-	14	A-4a (V)	
@6.0'; VERY STIFF			5 7 10	19	83	SS-3	2.75	-	-	-	-	-	-	-	-	17	A-4a (V)	
	1109.5																	
STIFF, GRAY, **SANDY SILT**, SOME CLAY, TRACE GRAVEL AND ROOT, **EMBANKMENT FILL** , MOIST			4 5 6	12	100	SS-4	2.00	-	-	-	-	-	-	-	-	17	A-4a (V)	
	1107.0																	
VERY STIFF TO HARD, BROWN/GRAY, **SANDY SILT**, SOME CLAY AND TRACE GRAVEL, **EMBANKMENT FILL** , MOIST			4 7 8	16	100	SS-5	>4.5	-	-	-	-	-	-	-	-	18	A-4a (V)	
	1104.5																	
VERY STIFF, BROWN, **SILTY CLAY**, SOME SAND AND TRACE ROOT HAIRS, **EMBANKMENT FILL** , MOIST			4 6 9	16	100	SS-6	3.75	0	10	16	28	46	36	18	18	20	A-6b (11)	
	1102.0																	
VERY STIFF TO HARD, BROWN, **SILT AND CLAY**, LITTLE SAND AND TRACE GRAVEL, **EMBANKMENT FILL** , MOIST			5 7 9	18	100	SS-7	UCS	1	1	9	38	51	32	19	13	20	A-6a (9)	
							3.25	-	-	-	-	-	-	-	-	23	A-6a (V)	
							>4.5	-	-	-	-	-	-	-	-	18	A-6a (V)	
			5 7 13	22	100	SS-8	>4.5	-	-	-	-	-	-	-	-	17	A-6a (V)	
			5 10 16	29	100	SS-9	>4.5	-	-	-	-	-	-	-	-	13	A-6a (V)	
	1094.5																	
VERY STIFF, GRAY, **SANDY SILT**, SOME CLAY AND GRAVEL, MOIST			4 7 9	18	100	SS-10	2.50	20	13	17	29	21	22	15	7	10	A-4a (3)	
			5 7 7	15	100	SS-11	3.25	-	-	-	-	-	-	-	-	11	A-4a (V)	
	1089.5																	
STIFF TO VERY STIFF, GRAY, **SILT AND CLAY**, LITTLE SAND AND TRACE GRAVEL, MOIST		W	2 4 6	11	100	SS-12	>4.5	-	-	-	-	-	-	-	-	12	A-6a (V)	
	1087.0																	
LOOSE, GRAY, **GRAVEL AND STONE FRAGMENTS**, SOME SAND,LITTLE SILT,AND TRACE CLAY, MOIST					38	ST-1	NP	56	17	15	11	1	NP	NP	NP	9	A-1-a (0)	
	1084.5																	
VERY STIFF, GRAY, **SILT AND CLAY**, LITTLE SAND AND TRACE GRAVEL, MOIST			5 7 10	19	100	SS-13	1.75	9	2	10	33	46	26	15	11	15	A-6a (8)	
			5 6 9	16	100	SS-14	2.25	-	-	-	-	-	-	-	-	13	A-6a (V)	
	1074.5																	
STIFF, GRAY, **SANDY SILT**, SOME CLAY AND LITTLE GRAVEL, MOIST			4 5 7	13	100	SS-15	NI	16	7	14	40	23	23	16	7	15	A-4a (6)	
@48.5'; TRACE GRAVEL			3 5 7	13	100	SS-16	1.00	-	-	-	-	-	-	-	-	15	A-4a (V)	
	1064.5																	
HARD, GRAY, **SANDY SILT**, SOME CLAY AND LITTLE GRAVEL, MOIST	1064.1		10 14 24	42	6	SS-17	2.25	-	-	-	-	-	-	-	-	27	A-4a (V)	
DENSE, GRAY, **FINE SAND**, TRACE GRAVEL, MOIST	1064.0						NP	-	-	-	-	-	-	-	-	18	A-3 (V)	
HARD, GRAY, **SANDY SILT**, SOME CLAY AND LITTLE GRAVEL, MOIST																		
@58.5'; TRACE CLAY			14 18 18	40	67	SS-18	2.50	15	14	26	36	9	20	13	7	10	A-4a (2)	

STANDARD ODOT SOIL BORING LOG (11 X 17) - OH DOT.GDT - 5/21/12 12:14 - S:\PROJECTS\6063.01.GPJ

PID: 18710	BR ID: SUM-271-2.33	PROJECT: SUM-271-02.33	STATION / OFFSET: 186+72, 66 RT	START: 4/19/10	END: 4/20/10	PG 2 OF 2	B-006-0-10

MATERIAL DESCRIPTION AND NOTES	ELEV. 1056.5	DEPTHS	SPT/ RQD	N_{60}	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%) GR	CS	FS	SI	CL	ATTERBERG LL	PL	PI	WC	ODOT CLASS (GI)	INST.
HARD, GRAY, **SANDY SILT**, SOME CLAY AND LITTLE GRAVEL, MOIST *(continued)*		62																
		63																
		64	27 36 47	91	100	SS-19	3.75	-	-	-	-	-	-	-	-	10	A-4a (V)	
		65																
		66																
		67																
		68																
	1049.5	TR																
VERY DENSE, GRAY, SEVERELY WEATHERED SHALE, SOME CLAY, MOIST		69	37 50/4"	-	100	SS-20	NP	-	-	-	-	-	-	-	-	9	Rock (V)	
		70																
		71																
		72																
		73																
@73.5'; TRACE CLAY	1044.0	74	50/3"	-	100	SS-21	NP	-	-	-	-	-	-	-	-	7	Rock (V)	
SHALE, GRAY, SLIGHTLY WEATHERED, STRONG, JOINTS: FRACTURED TO MODERATELY FRACTURED, TIGHT; RQD 23%, REC 93%.		75																
		76																
		77	23		93	RC-1											CORE	
		78																
	1039.0	EOB 79																

NOTES: AUGER REFUSAL ENCOUNTERED AT A DEPTH OF 74.0 FEET AND 5.0 FEET OF ROCK CORED.

ABANDONMENT METHODS, MATERIALS, QUANTITIES: POURED 4 BAGS BENTONITE CHIPS

STANDARD ODOT SOIL BORING LOG (11 X 17) - OH DOT.GDT - 5/21/12 12:14 - S:\PROJECTS\6063.01.GPJ

PROJECT: SUM-271-02.33	DRILLING FIRM / OPERATOR: TTL / TB	DRILL RIG: CME 75 TRUCK 111	STATION / OFFSET: 188+16, 86 RT
TYPE: BRIDGE WIDENING	SAMPLING FIRM / LOGGER: TTL / KKC	HAMMER: CME AUTOMATIC	ALIGNMENT: I-271
PID: 18710 BR ID: SUM-271-2.33	DRILLING METHOD: 3.25" HSA	CALIBRATION DATE: 12/28/09	ELEVATION: 1088.0 (MSL) EOB: 49.5 ft.
START: 4/24/10 END: 4/24/10	SAMPLING METHOD: SPT / ST / NX	ENERGY RATIO (%): 67.5	COORD: 570236.440 N, 2208685.160 E

EXPLORATION ID: B-007-0-10 | PAGE: 1 OF 1

MATERIAL DESCRIPTION AND NOTES	ELEV.	DEPTHS	SPT/ RQD	N_{60}	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%) GR	CS	FS	SI	CL	ATTERBERG LL	PL	PI	WC	ODOT CLASS (GI)	INST.
	1088.0																	
ASPHALT - 11 INCHES	1087.1																	
CONCRETE - 9 INCHES	1086.3		2 4 5	10	67	SS-1	NP	-	-	-	-	-	-	-	-	12	A-3a (V)	
LOOSE, BROWN, **COARSE AND FINE SAND**, LITTLE CLAY, **EMBANKMENT FILL** , MOIST @2.0'; SOME SILT	1084.5	W					NP	-	-	-	-	-	-	-	-	11	A-3a (V)	
MEDIUM DENSE, BROWN, **FINE SAND**, LITTLE GRAVEL, MOIST	1082.0		5 6 6	14	56	SS-2	NP	-	-	-	-	-	-	-	-	13	A-3 (V)	
LOOSE, BROWN, **FINE SAND**, LITTLE GRAVEL, MOIST	1081.0		5 4 5	10	100	SS-3	NP	-	-	-	-	-	-	-	-	13	A-3 (V)	
STIFF, GRAY, **SANDY SILT**, SOME CLAY AND TRACE GRAVEL, MOIST	1079.5						1.00	-	-	-	-	-	-	-	-	17	A-4a (V)	
MEDIUM STIFF, GRAY, **SANDY SILT**, SOME CLAY AND TRACE GRAVEL, MOIST			3 3 4	8	78	SS-4	UCS	14	8	15	40	23	25	17	8	15	A-4a (6)	
@11.0'; LITTLE GRAVEL	1074.5		3 3 4	8	100	SS-5	NI	-	-	-	-	-	-	-	-	17	A-4a (V)	
STIFF, GRAY, **SANDY SILT**, SOME CLAY AND TRACE GRAVEL, MOIST			3 5 5	11	0	SS-6	NR	-	-	-	-	-	-	-	-	-	A-4a (V)	
@16.0'; STIFF TO VERY STIFF	1069.5		5 7 10	19	78	SS-7	1.50	-	-	-	-	-	-	-	-	16	A-4a (V)	
MEDIUM STIFF, GRAY, **SILT**, SOME SAND,LITTLE CLAY,AND GRAVEL, MOIST	1064.5		3 3 4	8	100	SS-8	0.75	-	-	-	-	-	-	-	-	18	A-4b (V)	
					71	ST-1	UCS	11	8	17	53	11	21	14	7	15	A-4b (6)	
DENSE, GRAY, **COARSE AND FINE SAND**, LITTLE GRAVEL AND CLAY, MOIST	1062.0		8 13 15	32	67	SS-9	NP	-	-	-	-	-	-	-	-	11	A-3a (V)	
HARD, GRAY, **SANDY SILT**, SOME CLAY AND LITTLE GRAVEL, MOIST	1059.5		11 50/5"	-	100	SS-10	>4.5	-	-	-	-	-	-	-	-	10	A-4a (V)	
MEDIUM DENSE, GRAY, **GRAVEL AND STONE FRAGMENTS WITH SAND AND SILT**, TRACE CLAY, MOIST	1054.5		3 5 13	20	56	SS-11	NP	27	16	23	28	6	18	16	2	14	A-2-4 (0)	
STIFF TO VERY STIFF, GRAY, **SANDY SILT**, TRACE CLAY AND GRAVEL, MOIST	1049.5		4 8 10	20	100	SS-12	1.25	4	10	37	41	8	16	11	5	15	A-4a (3)	
VERY DENSE, GRAY, SEVERELY WEATHERED SHALE, TRACE CLAY, MOIST		TR	15 17 24	46	100	SS-13	NP	-	-	-	-	-	-	-	-	10	Rock (V)	
	1043.5		50/2"	-	100	SS-14	NP	-	-	-	-	-	-	-	-	11	Rock (V)	
SHALE, GRAY, SLIGHTLY WEATHERED, STRONG, JOINTS: FRACTURED TO MODERATELY FRACTURED, TIGHT; RQD 38%, REC 98%.	1038.5	EOB	38		98	RC-1											CORE	

NOTES: AUGER REFUSAL ENCOUNTERED AT A DEPTH OF 44.5 FEET AND 5.0 FEET OF ROCK CORED.

ABANDONMENT METHODS, MATERIALS, QUANTITIES: POURED 3 BAG BENTONITE CHIPS

STANDARD ODOT SOIL BORING LOG (11 X 17) - OH DOT.GDT - 5/21/12 12:14 - S:\PROJECTS\6063.01.GPJ

PROJECT: SUM-271-02.33	DRILLING FIRM / OPERATOR: TTL / CHRIS WHITE	DRILL RIG: CME 550X ATV	STATION / OFFSET: 188+95, 85 RT	EXPLORATION ID B-008-0-10
TYPE: BRIDGE WIDENING	SAMPLING FIRM / LOGGER: TTL / KKC	HAMMER: CME AUTOMATIC	ALIGNMENT: I-271	
PID: 18710 BR ID: SUM-271-2.33	DRILLING METHOD: 3.25" HSA / NX	CALIBRATION DATE: 12/28/09	ELEVATION: 1089.5 (MSL) EOB: 52.8 ft.	PAGE 1 OF 1
START: 4/7/10 END: 4/7/10	SAMPLING METHOD: SPT / NX	ENERGY RATIO (%): 66	COORD: 570277.260 N, 2208750.960 E	

MATERIAL DESCRIPTION AND NOTES	ELEV. 1089.5	DEPTHS	SPT/ RQD	N_{60}	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%) GR	CS	FS	SI	CL	ATTERBERG LL	PL	PI	WC	ODOT CLASS (GI)	INST.
TOPSOIL - 3 INCHES	1089.2																	
MEDIUM STIFF TO STIFF, BROWN, **SANDY SILT**, SOME CLAY AND TRACE ROOT HAIRS, **EMBANKMENT FILL** , MOIST	1086.0		2 2 4	7	61	SS-1	2.25	-	-	-	-	-	-	-	-	19	A-4a (V)	
VERY STIFF TO HARD, BROWN, **SANDY SILT**, SOME CLAY, **EMBANKMENT FILL** , MOIST	1082.5		12 10 9	21	100	SS-2	>4.5	-	-	-	-	-	-	-	-	18	A-4a (V)	
			8 9 11	22	100	SS-3	>4.5	-	-	-	-	-	-	-	-	18	A-4a (V)	
STIFF, BROWN, **SANDY SILT**, LITTLE SAND AND GRAVEL, MOIST		▼ 0 hr					2.50	-	-	-	-	-	-	-	-	14	A-4a (V)	
@8.5'; STIFF TO VERY STIFF, GRAY, TRACE GRAVEL			3 4 5	10	100	SS-4	UCS	10	8	12	34	36	27	18	9	15	A-4a (7)	
@11.0'; STIFF, LITTLE ROOT HAIRS			5 5 7	13	28	SS-5	1.25	-	-	-	-	-	-	-	-	16	A-4a (V)	
@13.5'; STIFF TO VERY STIFF			8 8 10	20	39	SS-6	2.00	-	-	-	-	-	-	-	-	15	A-4a (V)	
@16.0'; LITTLE GRAVEL			11 11 11	24	67	SS-7	1.50	-	-	-	-	-	-	-	-	9	A-4a (V)	
@18.5'; LITTLE SHALE FRAGMENTS			3 8 5	14	100	SS-8	>4.5	-	-	-	-	-	-	-	-	11	A-4a (V)	
@20.0'; BROWN/GRAY, TRACE GRAVEL					50	ST-1	UCS	11	6	10	32	41	28	19	9	16	A-4a (8)	
@23.5'; GRAY		▼	6 9 9	20	33	SS-9	1.00	-	-	-	-	-	-	-	-	17	A-4a (V)	
VERY STIFF TO HARD, GRAY, **SANDY SILT**, SOME SAND AND LITTLE GRAVEL, MOIST	1063.5		11 12 14	29	100	SS-10	NI	12	7	15	31	35	22	13	9	15	A-4a (6)	
@28.5; BROWN, TRACE GRAVEL			11 13 14	30	100	SS-11	>4.5	-	-	-	-	-	-	-	-	11	A-4a (V)	
MEDIUM DENSE, BROWN, **FINE SAND**, LITTLE GRAVEL AND TRACE SILT, MOIST	1057.5																	
@34.0'; WET	1054.5		3 5 8	14	100	SS-12	NP	10	29	53	-	8 -	NP	NP	NP	15	A-3 (0)	
		TR					NP	-	-	-	-	-	-	-	-	17	A-3 (V)	
VERY DENSE, GRAY, SEVERELY WEATHERED SHALE, MOIST			30 30 37	74	100	SS-13	NP	-	-	-	-	-	-	-	-	8	Rock (V)	
@43.5'; SOME CLAY	1041.7		35 50/1"	-	86	SS-14	NP	-	-	-	-	-	-	-	-	10	Rock (V)	
SHALE, GRAY, SLIGHTLY WEATHERED, STRONG, JOINTS: FRACTURED TO MODERATELY FRACTURED, TIGHT; RQD 20%, REC 100%.	1036.7	EOB	20		100	RC-1											CORE	

NOTES: AUGER REFUSAL ENCOUNTERED AT A DEPTH 47.8 FEET AND 5.0 FEET OF ROCK CORED.

ABANDONMENT METHODS, MATERIALS, QUANTITIES: POURED 3 BAGS BENTONITE CHIPS

STANDARD ODOT SOIL BORING LOG (11 X 17) - OH DOT.GDT - 5/21/12 12:14 - S:\PROJECTS\6063.01.GPJ

PROJECT: SUM-271-02.33	DRILLING FIRM / OPERATOR: TTL / CHRIS WHITE	DRILL RIG: CME 550X ATV	STATION / OFFSET: 189+87, 93 RT
TYPE: BRIDGE WIDENING	SAMPLING FIRM / LOGGER: TTL / KKC	HAMMER: CME AUTOMATIC	ALIGNMENT: I-271
PID: 18710 BR ID: SUM-271-2.33	DRILLING METHOD: 3.25" HSA / NX	CALIBRATION DATE: 12/28/09	ELEVATION: 1085.9 (MSL) EOB: 49.3 ft.
START: 4/6/10 END: 4/6/10	SAMPLING METHOD: SPT / NX	ENERGY RATIO (%): 66	COORD: 570314.800 N, 2208833.700 E

EXPLORATION ID B-009-0-10

PAGE 1 OF 1

MATERIAL DESCRIPTION AND NOTES	ELEV. 1085.9	DEPTHS	SPT/ RQD	N_{60}	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%) GR	CS	FS	SI	CL	ATTERBERG LL	PL	PI	WC	ODOT CLASS (GI)	INST.
TOPSOIL - 4 INCHES	1085.6																	
VERY STIFF, BROWN, **SANDY SILT**, SOME CLAY, TRACE GRAVEL, AND ROOT HAIRS, **EMBANKMENT FILL**, MOIST	1082.4		4 5 9	15	78	SS-1	3.75	-	-	-	-	-	-	-	-	18	A-4a (V)	
STIFF TO VERY STIFF, GRAY, **SANDY SILT**, SOME CLAY AND LITTLE GRAVEL, MOIST			7 7 6	14	100	SS-2	2.25	-	-	-	-	-	-	-	-	15	A-4a (V)	
@6.0'; TRACE GRAVEL			6 6 6	13	67	SS-3	2.50	-	-	-	-	-	-	-	-	13	A-4a (V)	
@8.5'; LITTLE GRAVEL			4 5 6	12	100	SS-4	2.00	-	-	-	-	-	-	-	-	15	A-4a (V)	
@11.0'; TRACE GRAVEL			6 5 6	12	100	SS-5	2.50	-	-	-	-	-	-	-	-	14	A-4a (V)	
					50	ST-1	UCS	19	10	14	31	26	24	17	7	13	A-4a (4)	
@16.0'; STIFF	1067.4		4 5 6	12	100	SS-6	1.25	-	-	-	-	-	-	-	-	14	A-4a (V)	
STIFF TO VERY STIFF, GRAY, **SILT AND CLAY**, LITTLE SAND AND TRACE GRAVEL, MOIST	1064.9		3 4 5	10	100	SS-7	3.75	2	6	11	32	49	29	17	12	18	A-6a (9)	
VERY STIFF TO HARD, GRAY, **SILT AND CLAY**, SOME SAND AND LITTLE GRAVEL, MOIST	1062.4		8 8 11	21	67	SS-8	>4.5	11	8	13	29	39	26	15	11	14	A-6a (7)	
STIFF TO VERY STIFF, GRAY, **SANDY SILT**, SOME CLAY AND LITTLE GRAVEL, MOIST			5 5 7	13	67	SS-9	4.00	-	-	-	-	-	-	-	-	13	A-4a (V)	
@26.0'; VERY STIFF, TRACE GRAVEL		▼ 0 hr	8 10 11	23	100	SS-10	UCS	7	7	17	49	20	24	14	10	14	A-4a (7)	
	1057.4	W																
VERY STIFF, GRAY, **SANDY SILT**, SOME CLAY AND LITTLE GRAVEL, MOIST	1052.4		8 11 15	29	100	SS-11	2.75	-	-	-	-	-	-	-	-	9	A-4a (V)	
HARD, GRAY, **SANDY SILT**, LITTLE CLAY AND GRAVEL, MOIST			19 29 25	59	100	SS-12	>4.5	15	20	13	36	16	24	17	7	12	A-4a (3)	
@38.5'; "AND" GRAVEL, TRACE CLAY	1042.4		38 50/3"	-	100	SS-13	NI	45	11	6	-	38 -	NP	NP	NP	14	A-4a (1)	
		TR	50/3"	-	100	SS-14	NP	-	-	-	-	-	-	-	-	10	Rock (V)	
VERY DENSE, GRAY, SEVERELY WEATHERED SHALE, TRACE CLAY, MOIST	1041.6																	
SHALE, GRAY, SLIGHTLY WEATHERED, STRONG, JOINTS: FRACTURED TO MODERATELY FRACTURED, TIGHT; RQD 18%, REC 92%.	1036.6	EOB	18		92	RC-1											CORE	

NOTES: AUGER REFUSAL ENCOUNTERED AT A DEPTH 44.3 FEET AND 5.0 FEET OF ROCK CORED.

ABANDONMENT METHODS, MATERIALS, QUANTITIES: POURED 3 BAGS BENTONITE CHIPS

STANDARD ODOT SOIL BORING LOG (11 X 17) - OH DOT.GDT - 5/21/12 12:14 - S:\PROJECTS\6063.01.GPJ

PROJECT: SUM-271-02.33	DRILLING FIRM / OPERATOR: TTL / TB	DRILL RIG: CME 550X ATV	STATION / OFFSET: 190+87, 66 RT
TYPE: BRIDGE WIDENING	SAMPLING FIRM / LOGGER: TTL / KKC	HAMMER: CME AUTOMATIC	ALIGNMENT: I-271
PID: 18710 BR ID: SUM-271-2.33	DRILLING METHOD: 3.25" HSA	CALIBRATION DATE: 12/28/09	ELEVATION: 1105.5 (MSL) EOB: 69.0 ft.
START: 4/20/10 END: 4/20/10	SAMPLING METHOD: SPT / ST / NX	ENERGY RATIO (%): 66	COORD: 570384.680 N, 2208907.050 E

EXPLORATION ID B-010-0-10

MATERIAL DESCRIPTION AND NOTES	ELEV.	DEPTHS	SPT/ RQD	N_{60}	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%) GR	CS	FS	SI	CL	ATTERBERG LL	PL	PI	WC	ODOT CLASS (GI)	INST.
ASPHALT - 3 INCHES	1105.2																	
CONCRETE - 8.5 INCHES	1104.5																	
CRUSHED STONE - 9.5 INCHES	1103.7																	
MEDIUM DENSE, BROWN, **FINE SAND**, LITTLE GRAVEL, **EMBANKMENT FILL** , MOIST	1103.5		4 5 5	11	67	SS-1	NP	-	-	-	-	-	-	-	-	7	A-3 (V)	
							NI	-	-	-	-	-	-	-	-	17	A-4a (V)	
STIFF TO VERY STIFF, BROWN, **SANDY SILT**, SOME CLAY AND TRACE GRAVEL, **EMBANKMENT FILL** , MOIST	1099.5		3 5 8	14	56	SS-2	3.75	-	-	-	-	-	-	-	-	17	A-4a (V)	
VERY STIFF, BROWN, **SILTY CLAY**, LITTLE SAND AND TRACE GRAVEL, **EMBANKMENT FILL** , MOIST			6 7 9	18	78	SS-3	2.75	3	4	9	37	47	34	17	17	18	A-6b (11)	
@8.5'; VERY STIFF TO HARD			4 6 10	18	78	SS-4	>4.5	-	-	-	-	-	-	-	-	16	A-6b (V)	
			7 8 9	19	89	SS-5	>4.5	-	-	-	-	-	-	-	-	16	A-6b (V)	
	1092.0																	
VERY STIFF, BROWN, **SANDY SILT**, SOME GRAVEL AND CLAY, **EMBANKMENT FILL** , MOIST			5 6 8	15	100	SS-6	4.00	24	6	12	36	22	25	18	7	14	A-4a (5)	
@16.0'; VERY STIFF TO HARD, TRACE GRAVEL			7 9 9	20	78	SS-7	>4.5	-	-	-	-	-	-	-	-	15	A-4a (V)	
@18.5'; VERY STIFF, TRACE ROOT AND ROOT HAIRS			8 8 7	16	89	SS-8	4.00	-	-	-	-	-	-	-	-	13	A-4a (V)	
	1084.5																	
STIFF, BROWN, **SANDY SILT**, SOME CLAY AND TRACE GRAVEL, MOIST			4 6 6	13	100	SS-9	1.00	-	-	-	-	-	-	-	-	23	A-4a (V)	
	1082.0																	
MEDIUM DENSE, BROWN, **COARSE AND FINE SAND**, SOME SILT, MOIST	1081.0		4 5 7	13	100	SS-10	NP	-	-	-	-	-	-	-	-	23	A-3a (V)	
							1.75	-	-	-	-	-	-	-	-	19	A-4a (V)	
STIFF, BROWN, **SANDY SILT**, SOME CLAY, MOIST	1079.5	W																
MEDIUM DENSE, GRAY, **FINE SAND**, TRACE SILT, WET	1078.7		4 6 7	14	100	SS-11	NP	-	-	-	-	-	-	-	-	27	A-3 (V)	
							2.75	-	-	-	-	-	-	-	-	17	A-4a (V)	
STIFF, GRAY, **SANDY SILT**, SOME CLAY, MOIST	1077.0																	
LOOSE, GRAY, **GRAVEL AND STONE FRAGMENTS WITH SAND**, LITTLE SILT AND CLAY, MOIST	1072.0		3 4 4	9	100	SS-12	NP	14	39	22	- 25 -		NP	NP	NP	15	A-1-b (0)	
STIFF, GRAY, **SILT AND CLAY**, SOME SAND AND LITTLE GRAVEL, MOIST			3 4 4	9	100	SS-13	1.25	-	-	-	-	-	-	-	-	15	A-6a (V)	
					50	ST-1	UCS	14	8	13	30	35	26	14	12	14	A-6a (7)	
@38.5'; MEDIUM STIFF			1 2 4	7	100	SS-14	0.75	-	-	-	-	-	-	-	-	16	A-6a (V)	
	1062.0																	
STIFF, GRAY, **SANDY SILT**, SOME CLAY AND TRACE GRAVEL, MOIST			4 5 7	13	100	SS-15	UCS	9	7	17	44	23	21	18	3	16	A-4a (6)	
			1 3 5	9	100	SS-16	1.00	-	-	-	-	-	-	-	-	16	A-4a (V)	
	1052.0																	
VERY DENSE, GRAY, SEVERELY WEATHERED SHALE, TRACE CLAY, MOIST			24 22 27	54	100	SS-17	NP	-	-	-	-	-	-	-	-	9	Rock (V)	
@58.5'; SOME SILT AND CLAY			19 22 43	72	100	SS-18	NP	-	-	-	-	-	-	-	-	11	Rock (V)	

STANDARD ODOT SOIL BORING LOG (11 X 17) - OH DOT.GDT - 5/21/12 12:14 - S:\PROJECTS\6063.01.GPJ

STRUCTURE FOUNDATION EXPLORATION
BRIDGE NO. SUM-271-0354

DRAWN CLW CHECKED CPI

TTL associates inc

PID: 18710	BR ID: SUM-271-2.33	PROJECT: SUM-271-02.33	STATION / OFFSET: 190+87, 66 RT	START: 4/20/10	END: 4/20/10	PG 2 OF 2	B-010-0-10

MATERIAL DESCRIPTION AND NOTES	ELEV.	DEPTHS	SPT/ RQD	N_{60}	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%) GR	CS	FS	SI	CL	ATTERBERG LL	PL	PI	WC	ODOT CLASS (GI)	INST.
VERY DENSE, GRAY, SEVERELY WEATHERED SHALE, TRACE CLAY, MOIST *(continued)*	1044.0	62																
		63																
@63.5'; TRACE SILT AND CLAY	1041.5	64	60/2"	-	100	SS-19	NP	-	-	-	-	-	-	-	-	9	Rock (V)	
SHALE, GRAY, SLIGHTLY WEATHERED, STRONG, JOINTS: FRACTURED TO HIGHLY FRACTURED, TIGHT; RQD 0%, REC 100%.		65																
		66	0		100	RC-1											CORE	
		67																
		68																
	1036.5	EOB 69																

NOTES: AUGER REFUSAL ENCOUNTERED AT A DEPTH OF 64.0 FEET AND 5.0 FEET OF ROCK CORED.

ABANDONMENT METHODS, MATERIALS, QUANTITIES: POURED 4 BAGS BENTONITE CHIPS

STANDARD ODOT SOIL BORING LOG (11 X 17) - OH DOT.GDT - 5/21/12 12:14 - S:\PROJECTS\6063.01.GPJ

PROJECT: SUM-271-02.33 | DRILLING FIRM / OPERATOR: TTL / TB | DRILL RIG: CME 550X ATV | STATION / OFFSET: 933+67, CL | EXPLORATION ID B-011-0-10
TYPE: BRIDGE WIDENING | SAMPLING FIRM / LOGGER: TTL / KKC | HAMMER: CME AUTOMATIC | ALIGNMENT: I-77
PID: 18710 BR ID: SUM-271-2.33 | DRILLING METHOD: 3.25" HSA | CALIBRATION DATE: 12/28/09 | ELEVATION: 1073.3 (MSL) EOB: 25.0 ft. | PAGE 1 OF 1
START: 4/15/10 END: 4/15/10 | SAMPLING METHOD: SPT / ST | ENERGY RATIO (%): 66 | COORD: 572023.690 N, 2208603.190 E

MATERIAL DESCRIPTION AND NOTES	ELEV. 1073.3	DEPTHS	SPT/ RQD	N_{60}	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%) GR	CS	FS	SI	CL	ATTERBERG LL	PL	PI	WC	ODOT CLASS (GI)	INST.
TOPSOIL - 3 INCHES	1073.0																	
STIFF TO VERY STIFF, GRAY, **SANDY SILT**, SOME CLAY AND TRACE GRAVEL, **EMBANKMENT FILL** , MOIST	1069.8		1 3 5	9	67	SS-1	>4.5	-	-	-	-	-	-	-	-	13	A-4a (V)	
STIFF TO VERY STIFF, GRAY, **SILT AND CLAY**, LITTLE SAND AND TRACE GRAVEL, **EMBANKMENT FILL** , MOIST	1067.3		6 5 6	12	78	SS-2	4.25	-	-	-	-	-	-	-	-	13	A-6a (V)	
STIFF TO VERY STIFF, GRAY, **SILT AND CLAY**, LITTLE SAND AND TRACE GRAVEL, MOIST	1064.8		4 5 5	11	100	SS-3	2.50	6	7	10	41	36	28	15	13	16	A-6a (9)	
MEDIUM STIFF TO STIFF, GRAY, **SANDY SILT**, SOME CLAY AND TRACE GRAVEL, MOIST	1062.3		3 3 4	8	100	SS-4	UCS	5	12	19	38	26	21	14	7	13	A-4a (6)	
STIFF, GRAY, **SANDY SILT**, SOME CLAY AND TRACE GRAVEL, MOIST @13.5'; STIFF TO VERY STIFF	1057.3		3 5 6	12	100	SS-5	2.00	-	-	-	-	-	-	-	-	13	A-4a (V)	
			3 3 5	9	100	SS-6	UCS	5	10	18	38	29	23	13	10	13	A-4a (6)	
STIFF TO VERY STIFF, GRAY, **SILT AND CLAY**, LITTLE SAND AND TRACE GRAVEL, MOIST	1052.3		4 6 6	13	67	SS-7	2.75	-	-	-	-	-	-	-	-	16	A-6a (V)	
			3 5 6	12	100	SS-8	2.50	-	-	-	-	-	-	-	-	14	A-6a (V)	
VERY STIFF, GRAY, **SILT AND CLAY**, LITTLE SAND AND TRACE GRAVEL, MOIST	1048.3				94	ST-1	UCS	14	6	12	26	42	26	14	12	13	A-6a (7)	
		EOB	4 6 8	15	44	SS-9	3.25	-	-	-	-	-	-	-	-	14	A-6a (V)	

NOTES: NONE
ABANDONMENT METHODS, MATERIALS, QUANTITIES: POURED 1 BAG BENTONITE CHIPS

PROJECT: SUM-271-02.33 | DRILLING FIRM / OPERATOR: TTL / TB | DRILL RIG: CME 550X ATV | STATION / OFFSET: 925+34, 1 RT | EXPLORATION ID B-012-0-10
TYPE: BRIDGE WIDENING | SAMPLING FIRM / LOGGER: TTL / KKC | HAMMER: CME AUTOMATIC | ALIGNMENT: I-77
PID: 18710 BR ID: SUM-271-2.33 | DRILLING METHOD: 3.25" HSA | CALIBRATION DATE: 12/28/09 | ELEVATION: 1080.6 (MSL) EOB: 25.0 ft. | PAGE 1 OF 1
START: 4/15/10 END: 4/15/10 | SAMPLING METHOD: SPT / ST | ENERGY RATIO (%): 66 | COORD: 571193.670 N, 2208674.050 E

MATERIAL DESCRIPTION AND NOTES	ELEV. 1080.6	DEPTHS	SPT/ RQD	N_{60}	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%) GR	CS	FS	SI	CL	ATTERBERG LL	PL	PI	WC	ODOT CLASS (GI)	INST.
TOPSOIL - 3 INCHES	1080.3																	
STIFF TO VERY STIFF, BROWN, **SANDY SILT**, SOME CLAY AND TRACE GRAVEL, **EMBANKMENT FILL** , MOIST	1077.1		3 4 4	9	78	SS-1	>4.5	-	-	-	-	-	-	-	-	12	A-4a (V)	
VERY STIFF TO HARD, BROWN, **SANDY SILT**, SOME CLAY AND TRACE GRAVEL, **EMBANKMENT FILL** , MOIST	1074.6		5 7 8	16	78	SS-2	>4.5	-	-	-	-	-	-	-	-	14	A-4a (V)	
VERY STIFF, GRAY, **SILT AND CLAY**, TRACE SAND AND GRAVEL, MOIST	1072.1		7 7 9	18	100	SS-3	UCS	3	3	4	43	47	31	20	11	18	A-6a (8)	
MEDIUM STIFF TO STIFF, GRAY, **SILT AND CLAY**, LITTLE SAND AND TRACE GRAVEL, MOIST @16.0'; STIFF	1062.1		3 3 4	8	100	SS-4	2.50	-	-	-	-	-	-	-	-	16	A-6a (V)	
					79	ST-1	UCS	8	4	9	27	52	28	15	13	16	A-6a (9)	
			3 3 4	8	33	SS-5	1.50	-	-	-	-	-	-	-	-	16	A-6a (V)	
			3 4 7	12	100	SS-6	1.00	-	-	-	-	-	-	-	-	16	A-6a (V)	
STIFF, GRAY, **SILT AND CLAY**, LITTLE SAND AND GRAVEL, MOIST	1055.6		2 4 4	9	100	SS-7	UCS	16	6	11	27	40	27	16	11	14	A-6a (7)	
			2 4 6	11	100	SS-8	1.50	-	-	-	-	-	-	-	-	15	A-6a (V)	
		EOB	2 3 4	8	89	SS-9	1.25	-	-	-	-	-	-	-	-	16	A-6a (V)	

NOTES: NONE
ABANDONMENT METHODS, MATERIALS, QUANTITIES: POURED 1 BAG BENTONITE CHIPS

STANDARD ODOT SOIL BORING LOG (8.5 X 11) - OH DOT.GDT - 5/21/12 13:08 - S:\PROJECTS\6063.01.GPJ

PROJECT: SUM-271-02.33 | DRILLING FIRM / OPERATOR: TTL / TB | DRILL RIG: CME 550X ATV | STATION / OFFSET: 179+06, 18 LT | EXPLORATION ID B-013-0-10
TYPE: BRIDGE WIDENING | SAMPLING FIRM / LOGGER: TTL / KKC | HAMMER: CME AUTOMATIC | ALIGNMENT: RAMP D | PAGE 1 OF 1
PID: 18710 BR ID: SUM-271-2.33 | DRILLING METHOD: 3.25" HSA | CALIBRATION DATE: 12/28/09 | ELEVATION: 1100.8 (MSL) EOB: 25.0 ft.
START: 4/15/10 END: 4/15/10 | SAMPLING METHOD: SPT / ST | ENERGY RATIO (%): 66 | COORD: 570729.310 N, 2208065.550 E

MATERIAL DESCRIPTION AND NOTES	ELEV.	DEPTHS	SPT/ RQD	N_{60}	REC (%)	SAMPLE ID	HP (tsf)	GR	CS	FS	SI	CL	LL	PL	PI	WC	ODOT CLASS (GI)	INST.
TOPSOIL - 4 INCHES	1100.8																	
VERY STIFF TO HARD, BROWN, **SILTY CLAY**, LITTLE SAND AND TRACE GRAVEL, **EMBANKMENT FILL** , MOIST	1100.5		4 7 9	18	56	SS-1	>4.5	-	-	-	-	-	-	-	-	14	A-6b (V)	
@3.5'; GRAY/BROWN			7 7 10	19	100	SS-2	>4.5	5	6	13	37	39	35	19	16	17	A-6b (10)	
@6.0'; HARD, BROWN/GRAY			7 12 15	30	100	SS-3	>4.5	-	-	-	-	-	-	-	-	14	A-6b (V)	
STIFF, BROWN/GRAY, **SILT AND CLAY**, SOME GRAVEL AND SAND, MOIST	1092.3		4 4 5	10	100	SS-4	UCS	25	10	14	24	27	24	13	11	12	A-6a (4)	
@11.0'; GRAY			4 6 7	14	100	SS-5	2.00	-	-	-	-	-	-	-	-	15	A-6a (V)	
MEDIUM STIFF TO STIFF, GRAY, **SILT AND CLAY**, LITTLE SAND AND TRACE GRAVEL, MOIST	1087.3		2 3 3	7	11	SS-6	2.75	-	-	-	-	-	-	-	-	14	A-6a (V)	
					92	ST-1	UCS	5	6	11	37	41	26	14	12	16	A-6a (9)	
@18.5'; STIFF			3 4 4	9	100	SS-7	1.00	-	-	-	-	-	-	-	-	16	A-6a (V)	
			3 4 5	10	100	SS-8	1.00	-	-	-	-	-	-	-	-	17	A-6a (V)	
@23.5'; MEDIUM STIFF	1075.8	EOB	2 3 3	7	100	SS-9	UCS	-	-	-	-	-	-	-	-	14	A-6a (V)	

NOTES: NONE
ABANDONMENT METHODS, MATERIALS, QUANTITIES: POURED 1 BAG BENTONITE CHIPS

PROJECT: SUM-271-02.33 | DRILLING FIRM / OPERATOR: TTL / TB | DRILL RIG: CME 550X ATV | STATION / OFFSET: 209+27, 41 LT | EXPLORATION ID B-014-0-10
TYPE: BRIDGE WIDENING | SAMPLING FIRM / LOGGER: TTL / KKC | HAMMER: CME AUTOMATIC | ALIGNMENT: RAMP B | PAGE 1 OF 1
PID: 18710 BR ID: SUM-271-2.33 | DRILLING METHOD: 3.25" HSA | CALIBRATION DATE: 12/28/09 | ELEVATION: 1064.9 (MSL) EOB: 25.0 ft.
START: 4/16/10 END: 4/16/10 | SAMPLING METHOD: SPT | ENERGY RATIO (%): 66 | COORD: 571305.350 N, 2209191.770 E

MATERIAL DESCRIPTION AND NOTES	ELEV.	DEPTHS	SPT/ RQD	N_{60}	REC (%)	SAMPLE ID	HP (tsf)	GR	CS	FS	SI	CL	LL	PL	PI	WC	ODOT CLASS (GI)	INST.
TOPSOIL - 4 INCHES	1064.9																	
MEDIUM STIFF TO STIFF, GRAY/BROWN, **SANDY SILT**, SOME CLAY AND TRACE GRAVEL, **EMBANKMENT FILL** , MOIST	1064.6		2 3 4	8	100	SS-1	>4.5	-	-	-	-	-	-	-	-	17	A-4a (V)	
STIFF TO VERY STIFF, GRAY, **SILT AND CLAY**, LITTLE SAND AND TRACE GRAVEL, MOIST	1061.4		3 4 4	9	67	SS-2	2.75	-	-	-	-	-	-	-	-	17	A-6a (V)	
STIFF TO VERY STIFF, GRAY, **SILT AND CLAY**, LITTLE SAND AND TRACE GRAVEL, MOIST	1058.9		4 6 7	14	100	SS-3	3.50	-	-	-	-	-	-	-	-	15	A-6a (V)	
@8.5'; VERY STIFF			6 9 6	16	100	SS-4	2.75	-	-	-	-	-	-	-	-	9	A-6a (V)	
@11.0'; STIFF TO VERY STIFF, SOME GRAVEL AND SAND	1051.4		3 5 6	12	100	SS-5	UCS	25	8	14	23	30	24	13	11	13	A-6a (4)	
VERY STIFF TO HARD, GRAY, **SANDY SILT**, SOME CLAY AND TRACE GRAVEL, MOIST	1046.4		3 6 8	15	100	SS-6	>4.5	8	9	14	36	33	24	15	9	13	A-4a (7)	
			4 8 8	18	100	SS-7	4.25	-	-	-	-	-	-	-	-	12	A-4a (V)	
STIFF, GRAY, **SANDY SILT**, WITH CLAY AND LITTLE GRAVEL, MOIST			3 4 5	10	100	SS-8	UCS	12	7	13	28	40	24	15	9	15	A-4a (7)	
@23.5'; VERY STIFF	1039.9	EOB	4 6 7	14	100	SS-9	1.25	-	-	-	-	-	-	-	-	14	A-4a (V)	
			3 5 9	15	100	SS-10	3.75	-	-	-	-	-	-	-	-	14	A-4a (V)	

NOTES: NONE
ABANDONMENT METHODS, MATERIALS, QUANTITIES: POURED 1 BAG BENTONITE CHIPS

STANDARD ODOT SOIL BORING LOG (8.5 X 11) - OH DOT.GDT - 5/21/12 13:08 - S:\PROJECTS\6063.01.GPJ

PROJECT: SUM-271-02.33 | DRILLING FIRM / OPERATOR: TTL / TB | DRILL RIG: CME 550X ATV | STATION / OFFSET: 172+36, 12 LT | EXPLORATION ID B-015-0-10
TYPE: BRIDGE WIDENING | SAMPLING FIRM / LOGGER: TTL / KKC | HAMMER: CME AUTOMATIC | ALIGNMENT: I-271 | PAGE 1 OF 1
PID: 18710 BR ID: SUM-271-2.33 | DRILLING METHOD: 3.25" HSA | CALIBRATION DATE: 12/28/09 | ELEVATION: 1156.3 (MSL) EOB: 25.0 ft.
START: 4/16/10 END: 4/16/10 | SAMPLING METHOD: SPT | ENERGY RATIO (%): 66 | COORD: 569458.900 N, 2207308.610 E

MATERIAL DESCRIPTION AND NOTES	ELEV. 1156.3	DEPTHS	SPT/ RQD	N_{60}	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%) GR	CS	FS	SI	CL	ATTERBERG LL	PL	PI	WC	ODOT CLASS (GI)	INST.
TOPSOIL - 4 Inches	1156.0																	
VERY STIFF TO HARD, BROWN, **SILT AND CLAY**, SOME SAND AND LITTLE GRAVEL, **EMBANKMENT FILL** , MOIST			4 8 13	23	100	SS-1	>4.5	-	-	-	-	-	-	-	-	12	A-6a (V)	
@3.5'; GRAY/BROWN			5 8 8	18	67	SS-2	>4.5	10	9	14	34	33	29	15	14	11	A-6a (8)	
	1147.8		7 10 10	22	100	SS-3	>4.5	-	-	-	-	-	-	-	-	11	A-6a (V)	
STIFF TO VERY STIFF, BROWN, **SANDY SILT**, SOME CLAY AND TRACE GRAVEL, **EMBANKMENT FILL** , MOIST			5 5 8	14	100	SS-4	>4.5	-	-	-	-	-	-	-	-	16	A-4a (V)	
	1145.3																	
VERY STIFF TO HARD, BROWN, **SANDY SILT**, SOME CLAY AND TRACE GRAVEL, **EMBANKMENT FILL** , MOIST			9 11 15	29	100	SS-5	>4.5	-	-	-	-	-	-	-	-	15	A-4a (V)	
	1142.8																	
VERY STIFF, BROWN, **SILT AND CLAY**, SOME SAND AND LITTLE GRAVEL, **EMBANKMENT FILL** , MOIST			4 5 9	15	100	SS-6	UCS	10	10	17	20	43	32	17	15	16	A-6a (8)	
@16.0'; GRAY/BROWN			7 9 10	21	100	SS-7	1.75	-	-	-	-	-	-	-	-	17	A-6a (V)	
	1137.3																	
VERY STIFF TO HARD, GRAY, **SANDY SILT**, SOME CLAY AND LITTLE GRAVEL, **EMBANKMENT FILL** , MOIST			9 11 12	25	100	SS-8	>4.5	-	-	-	-	-	-	-	-	8	A-4a (V)	
@21.0'; TRACE IRON OXIDE STAIN			9 11 15	29	100	SS-9	>4.5	13	8	20	36	23	19	14	5	10	A-4a (5)	
	1131.3	EOB	7 10 10	22	100	SS-10	>4.5	-	-	-	-	-	-	-	-	10	A-4a (V)	

NOTES: NONE

ABANDONMENT METHODS, MATERIALS, QUANTITIES: POURED 1 BAG BENTONITE CHIPS

PROJECT: SUM-271-02.33 | DRILLING FIRM / OPERATOR: TTL / TB | DRILL RIG: CME 550X ATV | STATION / OFFSET: 180+39, 2 LT | EXPLORATION ID B-016-0-10
TYPE: BRIDGE WIDENING | SAMPLING FIRM / LOGGER: TTL / KKC | HAMMER: CME AUTOMATIC | ALIGNMENT: I-271 | PAGE 1 OF 1
PID: 18710 BR ID: SUM-271-2.33 | DRILLING METHOD: 3.25" HSA | CALIBRATION DATE: 12/28/09 | ELEVATION: 1132.4 (MSL) EOB: 25.0 ft.
START: 4/16/10 END: 4/16/10 | SAMPLING METHOD: SPT | ENERGY RATIO (%): 66 | COORD: 569888.990 N, 2207987.130 E

MATERIAL DESCRIPTION AND NOTES	ELEV. 1132.4	DEPTHS	SPT/ RQD	N_{60}	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%) GR	CS	FS	SI	CL	ATTERBERG LL	PL	PI	WC	ODOT CLASS (GI)	INST.
TOPSOIL - 3 INCHES	1132.1																	
VERY STIFF, BROWN/GRAY, **SANDY SILT**, SOME CLAY AND LITTLE GRAVEL, **EMBANKMENT FILL** , MOIST			5 9 10	21	100	SS-1	2.00	14	16	21	28	21	23	14	9	10	A-4a (3)	
@3.5'; VERY STIFF TO HARD, BROWN, TRACE GRAVEL			7 10 17	30	100	SS-2	>4.5	-	-	-	-	-	-	-	-	11	A-4a (V)	
	1126.4																	
VERY STIFF TO HARD, BROWN, **SANDY SILT**, SOME CLAY AND TRACE GRAVEL, **EMBANKMENT FILL** , MOIST			9 14 11	28	100	SS-3	4.00	-	-	-	-	-	-	-	-	18	A-4a (V)	
	1123.9																	
VERY STIFF TO HARD, BROWN, **SILT AND CLAY**, LITTLE SAND AND TRACE GRAVEL, **EMBANKMENT FILL** , MOIST			5 7 8	16	100	SS-4	>4.5	-	-	-	-	-	-	-	-	17	A-6a (V)	
@13.5'; GRAY/BROWN			5 10 11	23	89	SS-5	UCS	9	8	12	24	47	29	18	11	15	A-6a (8)	
	1116.4		5 10 14	26	100	SS-6	>4.5	-	-	-	-	-	-	-	-	16	A-6a (V)	
HARD, GRAY, **SILT AND CLAY**, LITTLE SAND, TRACE GRAVEL, AND IRON OXIDE STAIN, **EMBANKMENT FILL** , MOIST			9 14 18	35	100	SS-7	>4.5	3	7	9	39	42	32	18	14	16	A-6a (10)	
	1113.9																	
VERY STIFF TO HARD, GRAY, **SANDY SILT**, SOME CLAY AND GRAVEL, **EMBANKMENT FILL** , MOIST			5 7 9	18	100	SS-8	>4.5	24	10	13	23	30	23	14	9	13	A-4a (4)	
			7 8 11	21	83	SS-9	4.00	-	-	-	-	-	-	-	-	12	A-4a (V)	
	1107.4	EOB	5 7 11	20	100	SS-10	>4.5	-	-	-	-	-	-	-	-	13	A-4a (V)	

NOTES: NONE

ABANDONMENT METHODS, MATERIALS, QUANTITIES: POURED 1 BAG BENTONITE CHIPS

STANDARD ODOT SOIL BORING LOG (8.5 X 11) - OH DOT.GDT - 5/21/12 13:08 - S:\PROJECTS\6063.01.GPJ

PROJECT: SUM-271-02.33 | DRILLING FIRM / OPERATOR: TTL / TB | DRILL RIG: CME 550X ATV | STATION / OFFSET: 198+24, 12 LT | EXPLORATION ID B-017-0-10
TYPE: BRIDGE WIDENING | SAMPLING FIRM / LOGGER: TTL / KKC | HAMMER: CME AUTOMATIC | ALIGNMENT: I-271 | PAGE 1 OF 1
PID: 18710 BR ID: SUM-271-2.33 | DRILLING METHOD: 3.25" HSA | CALIBRATION DATE: 12/28/09 | ELEVATION: 1084.9 (MSL) EOB: 25.0 ft.
START: 4/16/10 END: 4/16/10 | SAMPLING METHOD: SPT | ENERGY RATIO (%): 66 | COORD: 570732.500 N, 2209553.980 E

MATERIAL DESCRIPTION AND NOTES	ELEV. 1084.9	DEPTHS	SPT/ RQD	N_{60}	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%) GR	CS	FS	SI	CL	ATTERBERG LL	PL	PI	WC	ODOT CLASS (GI)	INST.
TOPSOIL - 4 INCHES	1084.6																	
STIFF TO VERY STIFF, BROWN, **SANDY SILT**, SOME CLAY, TRACE GRAVEL, AND ROOT HAIRS, **EMBANKMENT FILL** , MOIST	1081.4		3 4 4	9	56	SS-1	>4.5	-	-	-	-	-	-	-	-	16	A-4a (V)	
STIFF TO VERY STIFF, BROWN, **SANDY SILT**, SOME CLAY, TRACE GRAVEL, AND ROOT HAIRS, **EMBANKMENT FILL** , MOIST	1078.9		4 5 6	12	78	SS-2	>4.5	-	-	-	-	-	-	-	-	20	A-4a (V)	
VERY STIFF TO HARD, BROWN, **SILT AND CLAY**, LITTLE SAND AND TRACE GRAVEL, **EMBANKMENT FILL** , MOIST	1073.9		5 12 12	26	89	SS-3	>4.5	-	-	-	-	-	-	-	-	19	A-6a (V)	
			13 11 12	25	100	SS-4	UCS	1	3	13	24	59	30	18	12	17	A-6a (9)	
HARD, BROWN, **SANDY SILT**, SOME CLAY AND TRACE GRAVEL, **EMBANKMENT FILL** , MOIST	1071.4		10 15 16	34	100	SS-5	>4.5	-	-	-	-	-	-	-	-	15	A-4a (V)	
VERY STIFF, BROWN, **SANDY SILT**, LITTLE CLAY, MOIST			5 8 9	19	100	SS-6	1.50	-	-	-	-	-	-	-	-	14	A-4a (V)	
@16.0'; TRACE GRAVEL			6 9 11	22	100	SS-7	4.00	-	-	-	-	-	-	-	-	11	A-4a (V)	
@18.5'; STIFF, GRAY, SOME CLAY	1061.4		3 4 5	10	100	SS-8	UCS	5	8	16	39	32	23	16	7	14	A-4a (7)	
			3 4 7	12	100	SS-9	1.50	-	-	-	-	-	-	-	-	13	A-4a (V)	
MEDIUM STIFF TO STIFF, GRAY, **SILTY CLAY**, TRACE SAND, MOIST	1059.9	EOB	2 4 4	9	100	SS-10	0.75	0	0	1	36	63	32	16	16	25	A-6b (10)	

NOTES: NONE
ABANDONMENT METHODS, MATERIALS, QUANTITIES: POURED 1 BAG BENTONITE CHIPS

PROJECT: SUM-271-02.33 | DRILLING FIRM / OPERATOR: TTL / TB | DRILL RIG: CME 550X ATV | STATION / OFFSET: 195+06, 28 LT | EXPLORATION ID B-018-0-10
TYPE: BRIDGE WIDENING | SAMPLING FIRM / LOGGER: TTL / KKC | HAMMER: CME AUTOMATIC | ALIGNMENT: RAMP B | PAGE 1 OF 1
PID: 18710 BR ID: SUM-271-2.33 | DRILLING METHOD: 3.25" HSA | CALIBRATION DATE: 12/28/09 | ELEVATION: 1071.8 (MSL) EOB: 25.0 ft.
START: 4/16/10 END: 4/16/10 | SAMPLING METHOD: SPT / ST | ENERGY RATIO (%): 66 | COORD: 570133.010 N, 2209454.560 E

MATERIAL DESCRIPTION AND NOTES	ELEV. 1071.8	DEPTHS	SPT/ RQD	N_{60}	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%) GR	CS	FS	SI	CL	ATTERBERG LL	PL	PI	WC	ODOT CLASS (GI)	INST.
TOPSOIL - 3 INCHES	1071.5																	
STIFF, BROWN, **SANDY SILT**, SOME CLAY AND TRACE GRAVEL, **EMBANKMENT FILL** , MOIST	1068.3		3 6 6	13	89	SS-1	NI	-	-	-	-	-	-	-	-	15	A-4a (V)	
STIFF, BROWN, **SILT AND CLAY**, "AND" SAND, TRACE GRAVEL, MOIST	1065.8		3 4 5	10	100	SS-2	1.25	4	12	36	26	22	27	14	13	20	A-6a (4)	
MEDIUM STIFF, BROWN, **SANDY SILT**, SOME CLAY AND TRACE GRAVEL, MOIST	1064.6		3 3 4	8	100	SS-3	0.75	-	-	-	-	-	-	-	-	21	A-4a (V)	
@7.1', 1-INCH SAND SEAM					75	ST-1	UCS	12	4	7	26	51	32	18	14	16	A-6a (10)	
MEDIUM STIFF, BROWN, **SILT AND CLAY**, LITTLE GRAVEL AND SAND, MOIST	1060.8																	
STIFF TO VERY STIFF, BROWN, **SANDY SILT**, SOME CLAY AND TRACE GRAVEL, MOIST	1058.3		15 11 12	25	100	SS-4	1.75	-	-	-	-	-	-	-	-	10	A-4a (V)	
VERY STIFF, GRAY, **SILT AND CLAY**, SOME SAND AND TRACE GRAVEL, MOIST			5 6 8	15	100	SS-5	UCS	6	7	14	26	47	27	16	11	14	A-6a (8)	
@16.0; VERY STIFF TO HARD	1053.3		8 13 14	30	100	SS-6	3.25	-	-	-	-	-	-	-	-	17	A-6a (V)	
STIFF, GRAY, **SILT AND CLAY**, SOME SAND AND TRACE GRAVEL, MOIST			3 4 5	10	100	SS-7	UCS	6	5	12	36	41	27	16	11	16	A-6a (8)	
			4 5 7	13	100	SS-8	1.75	-	-	-	-	-	-	-	-	15	A-6a (V)	
	1046.8	EOB	2 4 5	10	100	SS-9	1.00	-	-	-	-	-	-	-	-	15	A-6a (V)	

NOTES: NONE
ABANDONMENT METHODS, MATERIALS, QUANTITIES: POURED 1 BAG BENTONITE CHIPS

STANDARD ODOT SOIL BORING LOG (8.5 X 11) - OH DOT.GDT - 5/21/12 13:08 - S:\PROJECTS\6063.01.GPJ

PROJECT: SUM-271-02.33 | DRILLING FIRM / OPERATOR: TTL / TB | DRILL RIG: CME 550X ATV | STATION / OFFSET: 910+10, CL | EXPLORATION ID B-019-0-10
TYPE: BRIDGE WIDENING | SAMPLING FIRM / LOGGER: TTL / KKC | HAMMER: CME AUTOMATIC | ALIGNMENT: I-77
PID: 18710 BR ID: SUM-271-2.33 | DRILLING METHOD: 3.25" HSA | CALIBRATION DATE: 12/28/09 | ELEVATION: 1094.6 (MSL) EOB: 25.0 ft. | PAGE 1 OF 1
START: 4/15/10 END: 4/15/10 | SAMPLING METHOD: SPT / ST | ENERGY RATIO (%): 66 | COORD: 569675.440 N, 2208801.840 E

MATERIAL DESCRIPTION AND NOTES	ELEV. 1094.6	DEPTHS	SPT/ RQD	N_{60}	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%) GR	CS	FS	SI	CL	ATTERBERG LL	PL	PI	WC	ODOT CLASS (GI)	INST.
TOPSOIL - 4 INCHES	1094.3																	
STIFF, BROWN, **SANDY SILT**, SOME CLAY, TRACE GRAVEL, AND ROOT HAIRS, **EMBANKMENT FILL** , MOIST	1091.1		2 2 6	9	78	SS-1	NI	-	-	-	-	-	-	-	-	14	A-4a (V)	
VERY STIFF TO HARD, GRAY, **SANDY SILT**, SOME CLAY AND TRACE GRAVEL, **EMBANKMENT FILL** , MOIST	1088.6		4 5 10	16	100	SS-2	>4.5	-	-	-	-	-	-	-	-	10	A-4a (V)	
VERY STIFF TO HARD, GRAY, **SANDY SILT**, SOME CLAY AND TRACE GRAVEL, **EMBANKMENT FILL** , MOIST	1086.1		7 9 10	21	67	SS-3	>4.5	-	-	-	-	-	-	-	-	11	A-4a (V)	
MEDIUM STIFF TO STIFF, GRAY, **SANDY SILT**, SOME CLAY AND LITTLE GRAVEL, MOIST			3 3 4	8	100	SS-4	UCS	14	8	13	31	34	26	16	10	15	A-4a (6)	
@11.0'; STIFF			3 4 4	9	33	SS-5	1.25	-	-	-	-	-	-	-	-	16	A-4a (V)	
			2 3 5	9	78	SS-6	2.25	-	-	-	-	-	-	-	-	16	A-4a (V)	
					75	ST-1	UCS	13	8	16	30	33	24	14	10	13	A-4a (6)	
STIFF TO VERY STIFF, GRAY, **SANDY SILT**, LITTLE CLAY AND GRAVEL, MOIST	1076.1		3 5 5	11	100	SS-7	3.50	-	-	-	-	-	-	-	-	14	A-4a (V)	
@21.0'; STIFF			4 6 7	14	100	SS-8	UCS	11	8	18	45	18	22	15	7	13	A-4a (6)	
@23.5'; VERY STIFF	1069.6	EOB	4 8 10	20	33	SS-9	2.50	-	-	-	-	-	-	-	-	15	A-4a (V)	

NOTES: NONE

ABANDONMENT METHODS, MATERIALS, QUANTITIES: POURED 1 BAG BENTONITE CHIPS

PROJECT: SUM-271-02.33 | DRILLING FIRM / OPERATOR: TTL / TB | DRILL RIG: CME 550X ATV | STATION / OFFSET: 902+27, 1 LT | EXPLORATION ID B-020-0-10
TYPE: BRIDGE WIDENING | SAMPLING FIRM / LOGGER: TTL / KKC | HAMMER: CME AUTOMATIC | ALIGNMENT: I-77
PID: 18710 BR ID: SUM-271-2.33 | DRILLING METHOD: 3.25" HSA | CALIBRATION DATE: 12/28/09 | ELEVATION: 1101.6 (MSL) EOB: 25.0 ft. | PAGE 1 OF 1
START: 4/15/10 END: 4/15/10 | SAMPLING METHOD: SPT | ENERGY RATIO (%): 66 | COORD: 568894.630 N, 2208867.350 E

MATERIAL DESCRIPTION AND NOTES	ELEV. 1101.6	DEPTHS	SPT/ RQD	N_{60}	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%) GR	CS	FS	SI	CL	ATTERBERG LL	PL	PI	WC	ODOT CLASS (GI)	INST.
TOPSOIL - 3 INCHES	1101.3																	
MEDIUM STIFF, BROWN, **SANDY SILT**, SOME CLAY AND TRACE GRAVEL, **EMBANKMENT FILL** , MOIST	1098.1		2 2 5	8	67	SS-1	3.50	-	-	-	-	-	-	-	-	22	A-4a (V)	
VERY STIFF TO HARD, BROWN, **SANDY SILT**, SOME CLAY, TRACE GRAVEL, AND CALCITE STAIN, **EMBANKMENT FILL** , MOIST	1095.6		4 8 10	20	100	SS-2	>4.5	-	-	-	-	-	-	-	-	16	A-4a (V)	
HARD, BROWN, **SANDY SILT**, SOME CLAY, TRACE GRAVEL, AND CALCITE STAIN, **EMBANKMENT FILL** , MOIST	1093.1		7 15 17	35	100	SS-3	>4.5	-	-	-	-	-	-	-	-	14	A-4a (V)	
VERY STIFF TO HARD, BROWN, **SILT**, SOME CLAY, LITTLE SAND, AND TRACE GRAVEL, **EMBANKMENT FILL** , MOIST			6 8 12	22	100	SS-4	>4.5	-	-	-	-	-	-	-	-	16	A-4b (V)	
@11.0'; HARD	1088.1		12 14 14	31	100	SS-5	>4.5	7	7	7	51	28	23	16	7	19	A-4b (8)	
STIFF TO VERY STIFF, BROWN/GRAY, **SILT**, SOME CLAY,LITTLE SAND,AND TRACE GRAVEL, **EMBANKMENT FILL** , MOIST			4 5 7	13	89	SS-6	UCS	2	5	11	50	32	24	16	8	14	A-4b (8)	
@16.0'; VERY STIFF GRAY			4 7 8	16	100	SS-7	3.50	-	-	-	-	-	-	-	-	13	A-4b (V)	
@18.5'; STIFF TO VERY STIFF	1080.6		3 4 6	11	100	SS-8	>4.5	-	-	-	-	-	-	-	-	13	A-4b (V)	
STIFF TO VERY STIFF, GRAY, **SANDY SILT**, SOME CLAY AND LITTLE GRAVEL, MOIST	1076.6	EOB	4 6 7	14	100	SS-9	UCS	19	7	16	36	22	23	14	9	11	A-4a (5)	
			4 7 10	19	100	SS-10	1.50	-	-	-	-	-	-	-	-	14	A-4a (V)	

NOTES: NONE

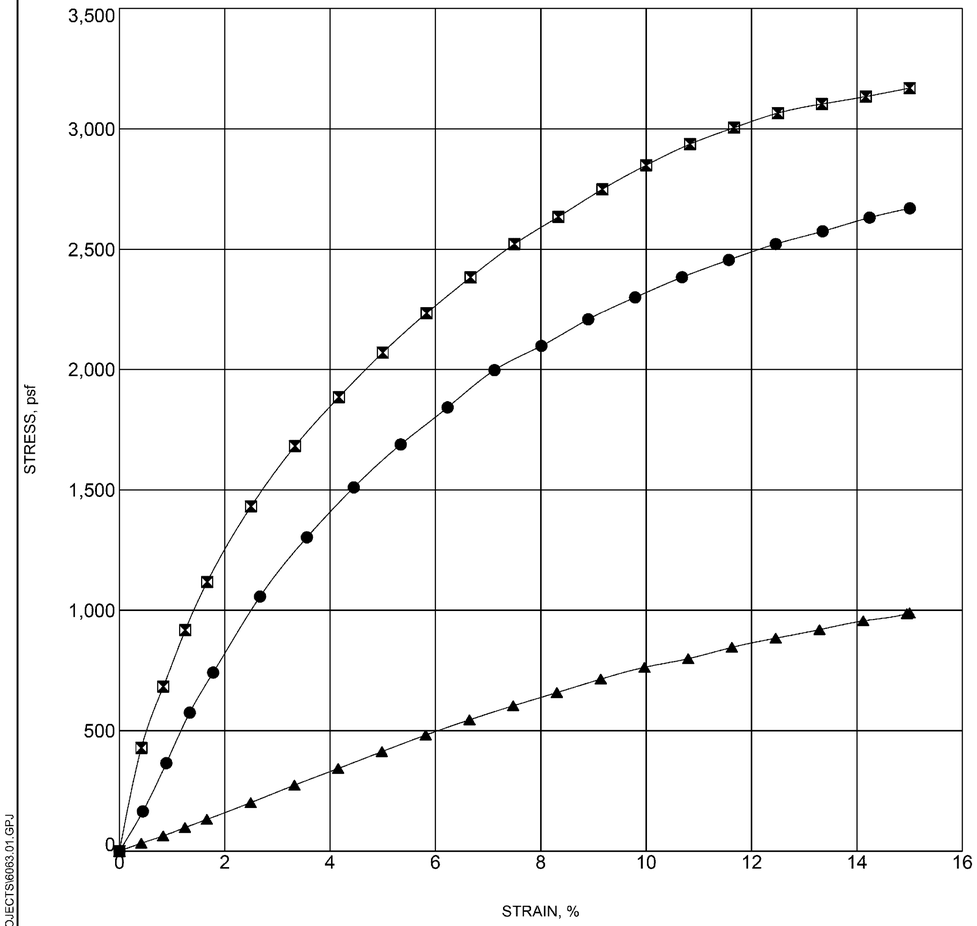
ABANDONMENT METHODS, MATERIALS, QUANTITIES: POURED 1 BAG BENTONITE CHIPS

STANDARD ODOT SOIL BORING LOG (8.5 X 11) - OH DOT.GDT - 5/21/12 13:08 - S:\PROJECTS\6063.01.GPJ

UNCONFINED COMPRESSION TEST

PROJECT SUM-271-2.33 **PID** 18710

OGE NUMBER N/A **PROJECT TYPE** Bridge Widening



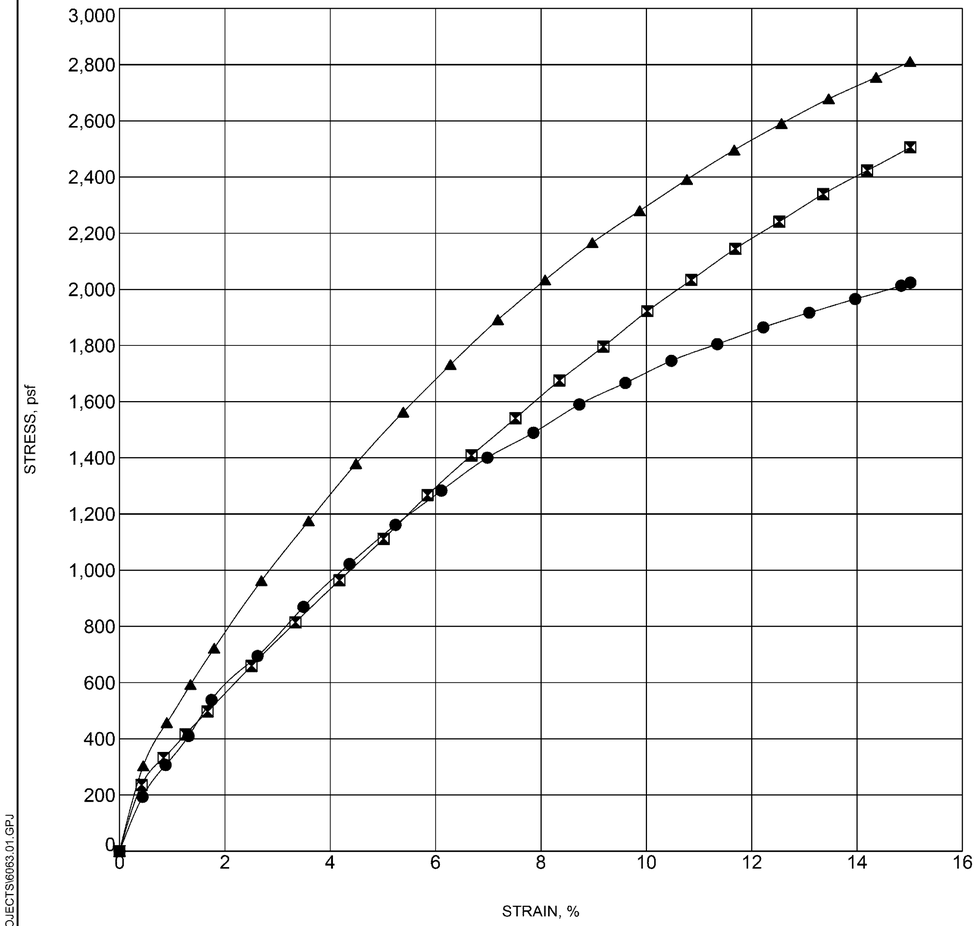
	Specimen Identification		Classification	γ_d	MC%
●	B-002-0-10	16.0	A-4a	120	15
⊠	B-003-0-10	16.0	A-4a	119	13
▲	B-007-0-10	21.0	A-4b	115	15

UNCONFINED - OH DOT.GDT - 5/16/11 14:06 - S:\PROJECTS\6063.01.GPJ

UNCONFINED COMPRESSION TEST

PROJECT SUM-271-2.33 **PID** 18710

OGE NUMBER N/A **PROJECT TYPE** Bridge Widening



	Specimen Identification		Classification	γ_d	MC%
●	B-008-0-10	20.0	A-4a	117	16
⊠	B-009-0-10	13.0	A-4a	120	13
▲	B-010-0-10	36.0	A-6a	118	14

UNCONFINED - OH DOT.GDT - 5/16/11 14:12 - S:\PROJECTS\6063.01.GPJ

DRAWN CLW CHECKED CPT

STRUCTURE FOUNDATION EXPLORATION
BRIDGE NO. SUM-271-0354

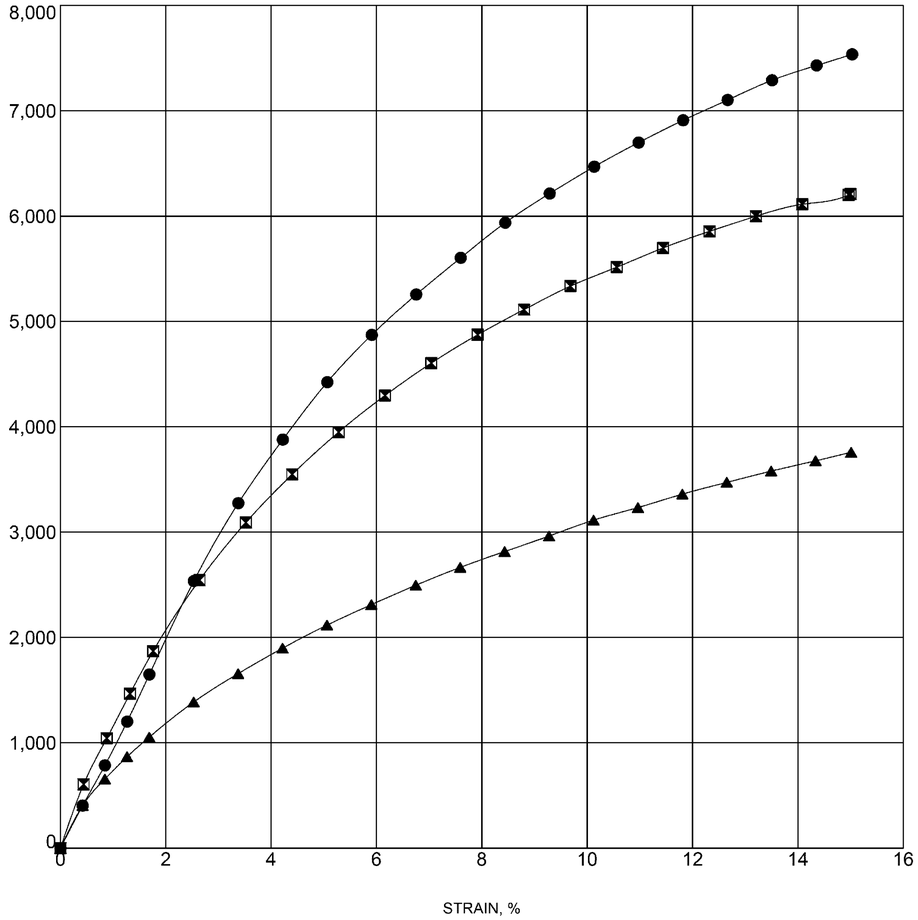
SUM-271-2.33

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UNCONFINED COMPRESSION TEST

PROJECT SUM-271-2.33 **PID** 18710

OGE NUMBER N/A **PROJECT TYPE** Bridge Widening



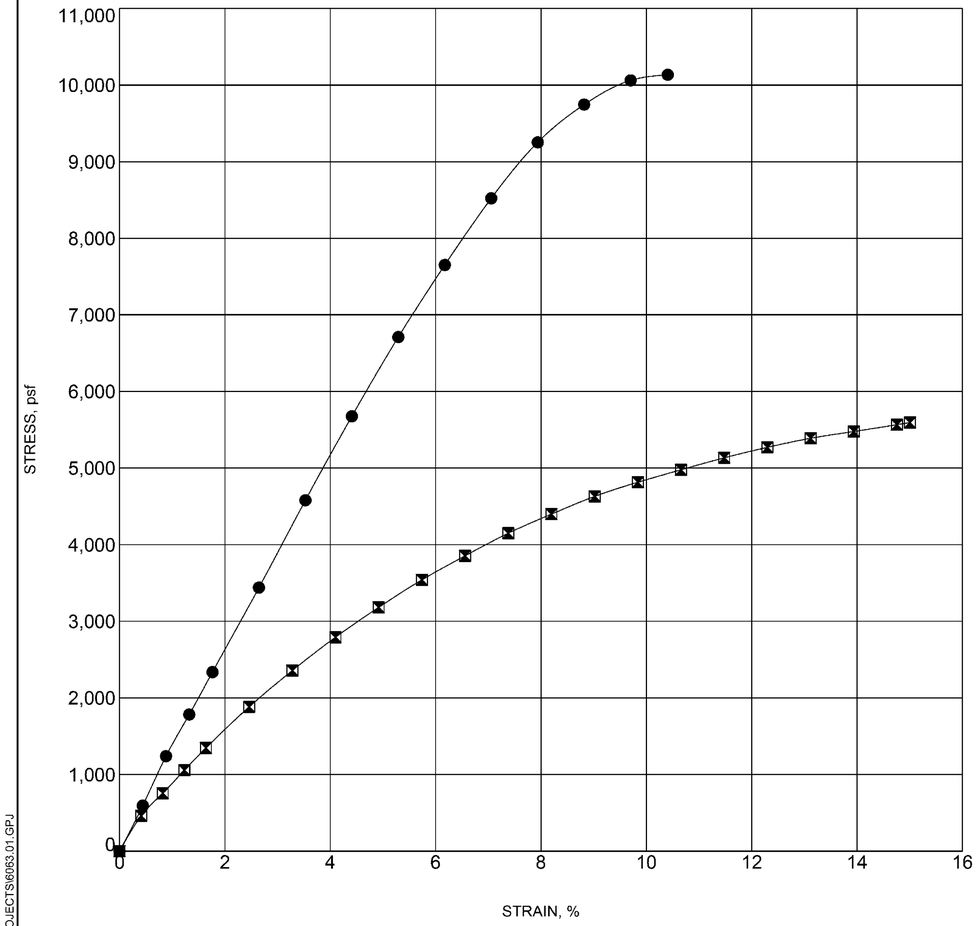
Specimen Identification		Classification	γ_d	MC%
●	B-011-0-10 21.0	A-6a	125	13
⊠	B-012-0-10 11.0	A-6a	113	16
▲	B-013-0-10 16.0	A-6a	116	16

UNCONFINED - OH DOT.GDT - 5/16/11 14:19 - S:\PROJECTS\60\63.01.GPJ

UNCONFINED COMPRESSION TEST

PROJECT SUM-271-2.33 **PID** 18710

OGE NUMBER N/A **PROJECT TYPE** Bridge Widening



Specimen Identification		Classification	γ_d	MC%
●	B-018-0-10 8.0	A-6a	113	16
⊠	B-019-0-10 16.0	A-4a	120	13

UNCONFINED - OH DOT.GDT - 5/16/11 14:21 - S:\PROJECTS\60\63.01.GPJ

STRUCTURE FOUNDATION EXPLORATION
IR271 HIGH MAST LIGHTING

SUM-271-2.33

DRAWN CLW CHECKED CPT

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