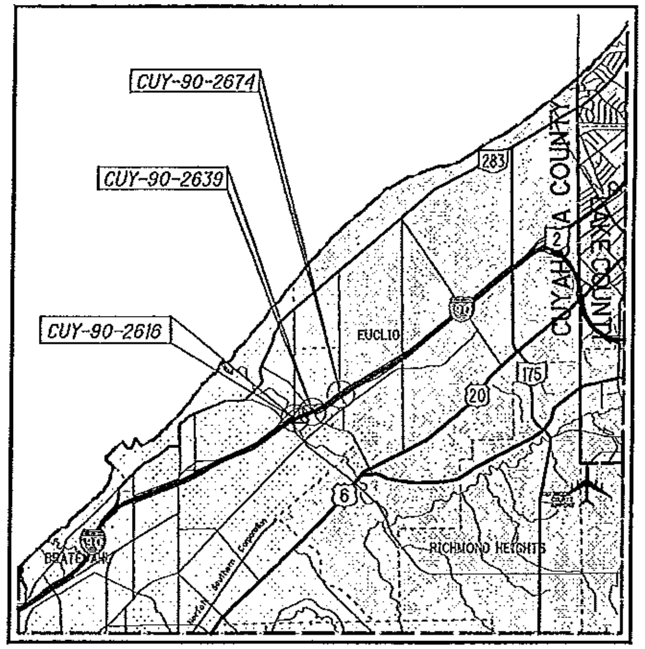


LOCATION MAP

LATITUDE: 41° 34' 41.6" LONGITUDE: 81° 32' 52.9"

SCALE IN MILES
0 1 2 3 4

N

PORTION TO BE IMPROVED
INTERSTATE HIGHWAY
FEDERAL ROUTES
STATE ROUTES
COUNTY & TOWNSHIP ROADS
OTHER ROADS

STATE OF OHIO
DEPARTMENT OF TRANSPORTATION

CUY-90-26.16/VAR

CITY OF CLEVELAND
CUYAHOGA COUNTY

INDEX OF SHEETS:

PROJECT DESCRIPTION

THIS PROJECT CONSISTS OF THE REHABILITATION OF THREE MAINLINE BRIDGES ON IR-90 OVER EAST 185TH STREET, NEFF ROAD AND EAST 200TH STREET IN THE CITY OF CLEVELAND, OHIO. THE PROJECT INCLUDES THE REPLACEMENT OF DECKS, APPROACH SLABS, BACK WALLS AND THE REPLACEMENT OF EXPANSION JOINTS. THE PROJECT ALSO INCLUDES THE RESURFACING OF 1.08 MILES OF I-90.

PROJECT EARTH DISTURBED AREA: 0.14 ACRES
ESTIMATED CONTRACTOR EARTH DISTURBED AREA: 0.53 ACRES
NOTICE OF INTENT EARTH DISTURBED AREA: N/A
(ROUTINE MAINTENANCE PROJECT)

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.

2016 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.

FEDERAL PROJECT NO. E100135
PID NO. 87628
CONSTRUCTION PROJECT NO.
RAILROAD INVOLVEMENT NONE

DESIGN DESIGNATION

CURRENT ADT (2017)	110,000
DESIGN YEAR ADT (2037)	123,000
DESIGN HOURLY VOLUME (2035)	11,000
DIRECTIONAL DISTRIBUTION	53%
TRUCKS (24 HOUR B&C)	4.5%
DESIGN SPEED	60
LEGAL SPEED	60
DESIGN FUNCTIONAL CLASSIFICATION: URBAN INTERSTATE	
NHS PROJECT	YES

DESIGN EXCEPTIONS

NONE

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 UNDERGROUND PROTECTION SERVICE CALL: 1-800-925-0988

PLAN PREPARED BY:

KS ASSOCIATES
KS Associates, Inc.
260 Burns Road, Suite 100
Elyria, OH 44035
P 440 365 4730
F 440 365 4790
www.ksassociates.com

ENGINEERS SEAL:
STATE OF OHIO
MICHAEL J. MALLOY
E-60048
REGISTERED PROFESSIONAL ENGINEER
SIGNED: [signature]
DATE: 12-7-2016

STANDARD CONSTRUCTION DRAWINGS														SUPPLEMENTAL SPECIFICATIONS	
BP-1.1	7/28/00	F-1.1	7/19/13	RM-3.1	7/19/13	HL-30.31	1/17/14	MT-101.70	1/17/14	A-1-69	7/19/02	800	7/21/17
BP-2.1	7/17/15	F-3.1	7/19/13	RM-4.1	7/21/17	HL-30.32	1/17/14	MT-101.90	7/17/15	AS-1-15	7/7/15	808	1/29/16
BP-2.2	7/18/08	F-3.2	7/18/14	RM-4.2	4/18/14			MT-102.10	7/18/14	AS-2-15	7/7/15	821	4/20/12
BP-3.1	7/18/14	F-3.3	7/19/13	RM-4.3	7/18/14	MT-95.30	7/15/16	MT-102.20	7/18/14	EXJ-4-87	7/19/02	832	1/17/14
BP-5.1	7/19/13	F-3.4	7/19/13	RM-4.4	7/18/14	MT-95.31	7/18/14	MT-102.30	10/16/15	GSD-1-96	7/19/02	908	1/29/15
BP-7.1	7/18/14			RM-4.5	7/18/14	MT-95.32	7/18/14	MT-104.10	10/16/15	PCB-91	1/18/13	921	4/20/12
BP-9.1	7/19/13	MGS-1.1	7/19/13	TC-18.24	1/17/14	MT-95.40	7/18/14	MT-105.10	7/19/13	RB-1-55	7/19/13		
BP-2.4	7-19-13	MGS-2.1	7/19/13	TC-18.26	1/17/14	MT-95.71	7/19/13	MT-110.10	7/19/13	SBR-1-13	1/17/14	SPECIAL PROVISIONS	
DM-1.1	1/15/16	MGS-3.1	7/18/14	TC-61.10	1/17/14	MT-98.20	7/19/13			SBR-2-13	1/17/14		
DM-1.3	7/18/14	MGS-3.2	1/18/13	TC-61.30	7/18/14	MT-98.29	7/19/13			SICD-1-96	7/18/14		
DM-2.1	1/18/13	MGS-4.2	7/19/13	TC-64.10	7/17/15	MT-98.30	7/18/14			SICD-2-14	7/18/14		
DM-4.1	1/15/16	MGS-4.3	1/18/13	TC-65.10	1/17/14	MT-99.20	7/19/13			VPF-1-90	7/17/15		
DM-4.2	7/20/12			TC-65.11	7/15/16	MT-99.30	1/16/15						
DM-4.3	1/15/16	CB-4.2	1/18/13	TC-71.10	7/16/16								
DM-4.4	1/15/16			TC-72.20	7/15/16								
		I-2.2	1/15/18										

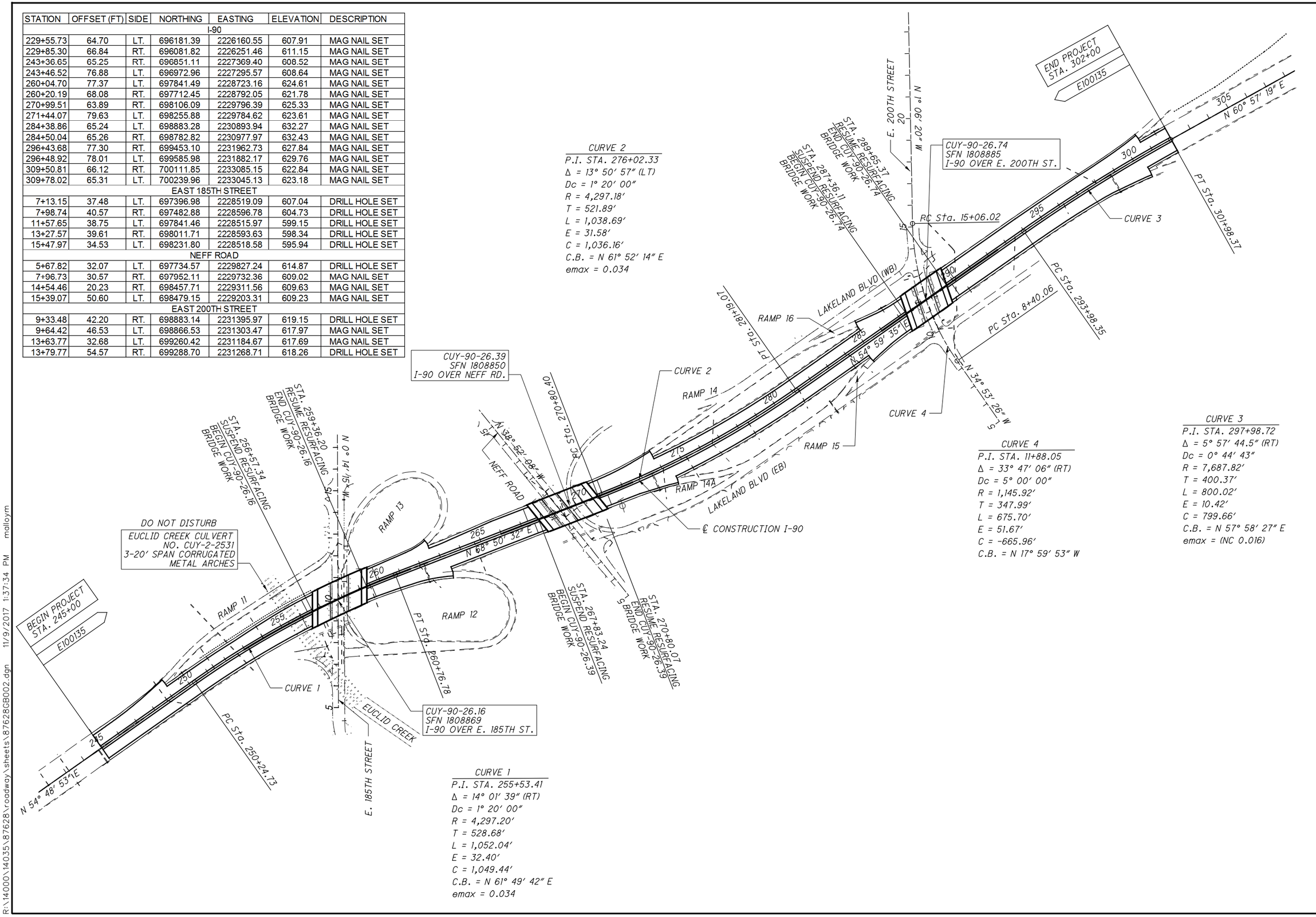
I HEREBY APPROVE THESE PLANS AND DECLARE THAT THE MAKING OF THIS IMPROVEMENT WILL NOT REQUIRE THE CLOSING TO TRAFFIC OF THE HIGHWAY EXCEPT FOR THE SERVICE RAMPS AS SHOWN ON SHEETS 12-68 AND THAT PROVISIONS FOR THE MAINTENANCE AND SAFETY OF TRAFFIC WILL BE AS SET FORTH ON THE PLANS AND ESTIMATES.

APPROVED [signature]
DATE 01-20-17 DISTRICT DEPUTY DIRECTOR

APPROVED [signature]
DATE 3-10-17 DIRECTOR, DEPARTMENT OF TRANSPORTATION

CUY-90-26.16/VAR

STATION	OFFSET (FT)	SIDE	NORTHING	EASTING	ELEVATION	DESCRIPTION
I-90						
229+55.73	64.70	LT.	696181.39	2226160.55	607.91	MAG NAIL SET
229+85.30	66.84	RT.	696081.82	2226251.46	611.15	MAG NAIL SET
243+36.65	65.25	RT.	696851.11	2227369.40	608.52	MAG NAIL SET
243+46.52	76.88	LT.	696972.96	2227295.57	608.64	MAG NAIL SET
260+04.70	77.37	LT.	697841.49	2228723.16	624.61	MAG NAIL SET
260+20.19	68.08	RT.	697712.45	2228792.05	621.78	MAG NAIL SET
270+99.51	63.89	RT.	698106.09	2229796.39	625.33	MAG NAIL SET
271+44.07	79.63	LT.	698255.88	2229784.62	623.61	MAG NAIL SET
284+38.86	65.24	LT.	698883.28	2230893.94	632.27	MAG NAIL SET
284+50.04	65.26	RT.	698782.82	2230977.97	632.43	MAG NAIL SET
296+43.68	77.30	RT.	699453.10	2231962.73	627.84	MAG NAIL SET
296+48.92	78.01	LT.	699585.98	2231882.17	629.76	MAG NAIL SET
309+50.81	66.12	RT.	700111.85	2233085.15	622.84	MAG NAIL SET
309+78.02	65.31	LT.	700239.96	2233045.13	623.18	MAG NAIL SET
EAST 185TH STREET						
7+13.15	37.48	LT.	697396.98	2228519.09	607.04	DRILL HOLE SET
7+98.74	40.57	RT.	697482.88	2228596.78	604.73	DRILL HOLE SET
11+57.65	38.75	LT.	697841.46	2228515.97	599.15	DRILL HOLE SET
13+27.57	39.61	RT.	698011.71	2228593.63	598.34	DRILL HOLE SET
15+47.97	34.53	LT.	698231.80	2228518.58	595.94	DRILL HOLE SET
NEFF ROAD						
5+67.82	32.07	LT.	697734.57	2229827.24	614.87	DRILL HOLE SET
7+96.73	30.57	RT.	697952.11	2229732.36	609.02	MAG NAIL SET
14+54.46	20.23	RT.	698457.71	2229311.56	609.63	MAG NAIL SET
15+39.07	50.60	LT.	698479.15	2229203.31	609.23	MAG NAIL SET
EAST 200TH STREET						
9+33.48	42.20	RT.	698883.14	2231395.97	619.15	DRILL HOLE SET
9+64.42	46.53	LT.	698866.53	2231303.47	617.97	MAG NAIL SET
13+63.77	32.68	LT.	699260.42	2231184.67	617.69	MAG NAIL SET
13+79.77	54.57	RT.	699288.70	2231268.71	618.26	DRILL HOLE SET



CURVE 2
P.I. STA. 276+02.33
Δ = 13° 50' 57" (LT)
Dc = 1° 20' 00"
R = 4,297.18'
T = 521.89'
L = 1,038.69'
E = 31.58'
C = 1,036.16'
C.B. = N 61° 52' 14" E
emax = 0.034

CURVE 4
P.I. STA. 11+88.05
Δ = 33° 47' 06" (RT)
Dc = 5° 00' 00"
R = 1,145.92'
T = 347.99'
L = 675.70'
E = 51.67'
C = -665.96'
C.B. = N 17° 59' 53" W

CURVE 3
P.I. STA. 297+98.72
Δ = 5° 57' 44.5" (RT)
Dc = 0° 44' 43"
R = 7,687.82'
T = 400.37'
L = 800.02'
E = 10.42'
C = 799.66'
C.B. = N 57° 58' 27" E
emax = (NC 0.016)

CURVE 1
P.I. STA. 255+53.41
Δ = 14° 01' 39" (RT)
Dc = 1° 20' 00"
R = 4,297.20'
T = 528.68'
L = 1,052.04'
E = 32.40'
C = 1,049.44'
C.B. = N 61° 49' 42" E
emax = 0.034

HORIZONTAL SCALE IN FEET
0 100 200 400

CALCULATED MJM
CHECKED ASW

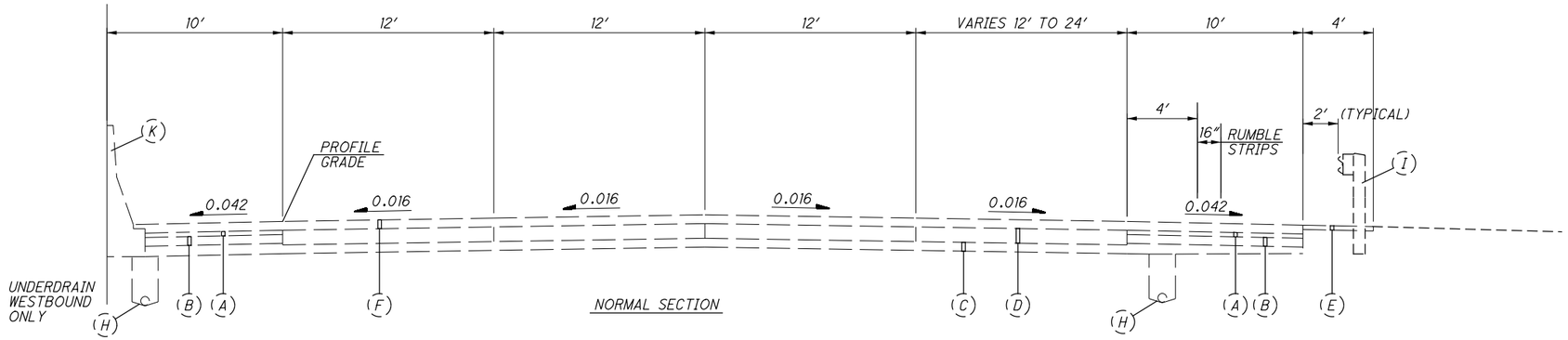
SCHEMATIC PLAN
I-90 STA. 240+00 TO STA. 310+00

CUY-90-26.16 / VAR

2
222

R:\14000\14035\87628\roadway\sheets\87628GB002.dgn 11/9/2017 1:37:34 PM malloym

℄ I-90 AND CONCRETE BARRIER (SYMMETRICAL @ ℄)

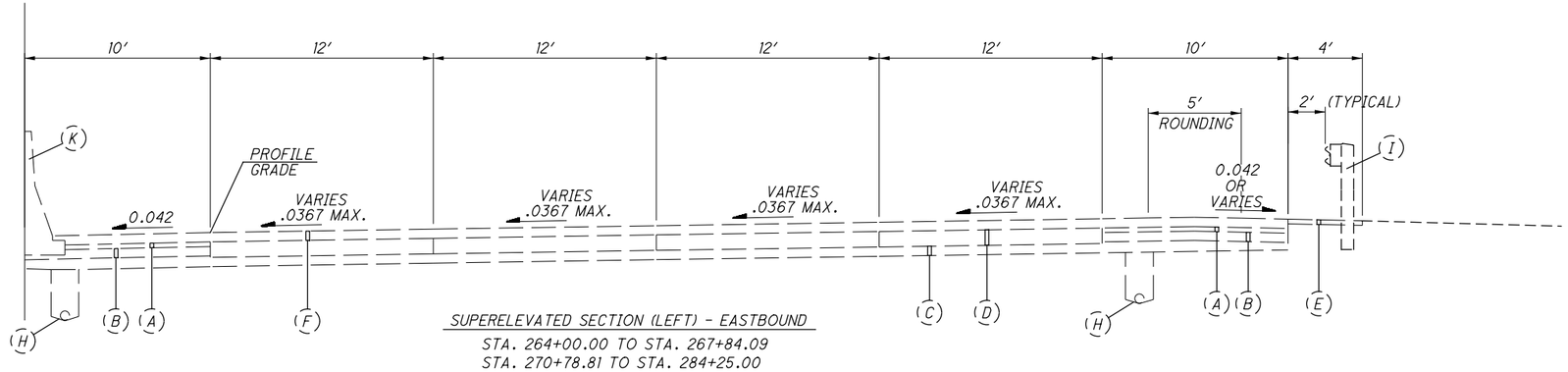


NORMAL SECTION

WESTBOUND
STA. 245+00.00 TO STA. 246+25.00
STA. 284+00.00 TO STA. 287+36.71
STA. 289+63.89 TO STA. 291+00.00

EASTBOUND
STA. 245+00.00 TO STA. 246+25.00
STA. 284+25.00 TO STA. 287+36.71
STA. 289+63.89 TO STA. 291+00.00

℄ I-90 AND CONCRETE BARRIER



SUPERELEVATED SECTION (LEFT) - EASTBOUND
STA. 264+00.00 TO STA. 267+84.09
STA. 270+78.81 TO STA. 284+25.00

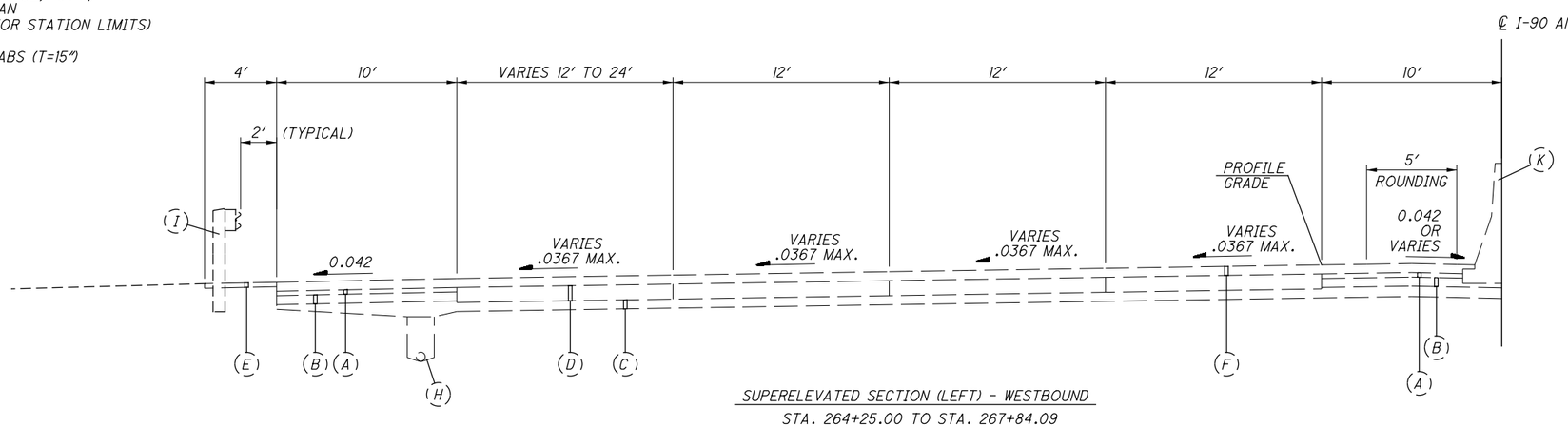
PROPOSED LEGEND

(1) ITEM 254 - PAVEMENT PLANING ASPHALT CONCRETE, 1 1/2″ AVG DEPTH
(2) ITEM 442 - ASPHALT CONCRETE SURFACE COURSE, 12.5MM, TYPE A (448), PG 776-22M, AS PER PLAN (T=1½″)
(3) ITEM 407 - NON-TRACKING TACK COAT
(4) ITEM 442 - ASPHALT CONCRETE INTERMEDIATE COURSE, 19MM, TYPE A (448) (T=VARIES), AS PER PLAN
(5) ITEM 606 - GUARDRAIL, TYPE MGS (SEE PLANS FOR STATION LIMITS)
(6) ITEM 526 - REINFORCED CONCRETE APPROACH SLABS (T=15″)
(7) ITEM 609 - CURB, TYPE 4-A
(8) ITEM 304 - 6″ AGGREGATE BASE
(9) ITEM 204 - SUBGRADE COMPACTION

EXISTING LEGEND

(A) BITUMINOUS AGGREGATE BASE
(B) AGGREGATE BASE - (5″±)
(C) SUBBASE - (6″±)
(D) REINFORCED CONCRETE PAVEMENT - (10″±)
(E) ASPHALT UNDER GUARDRAIL
(F) ASPHALT OVERLAY - (6″±)
(H) UNDERDRAIN
(I) GUARDRAIL
(K) CONCRETE BARRIER

℄ I-90 AND CONCRETE BARRIER

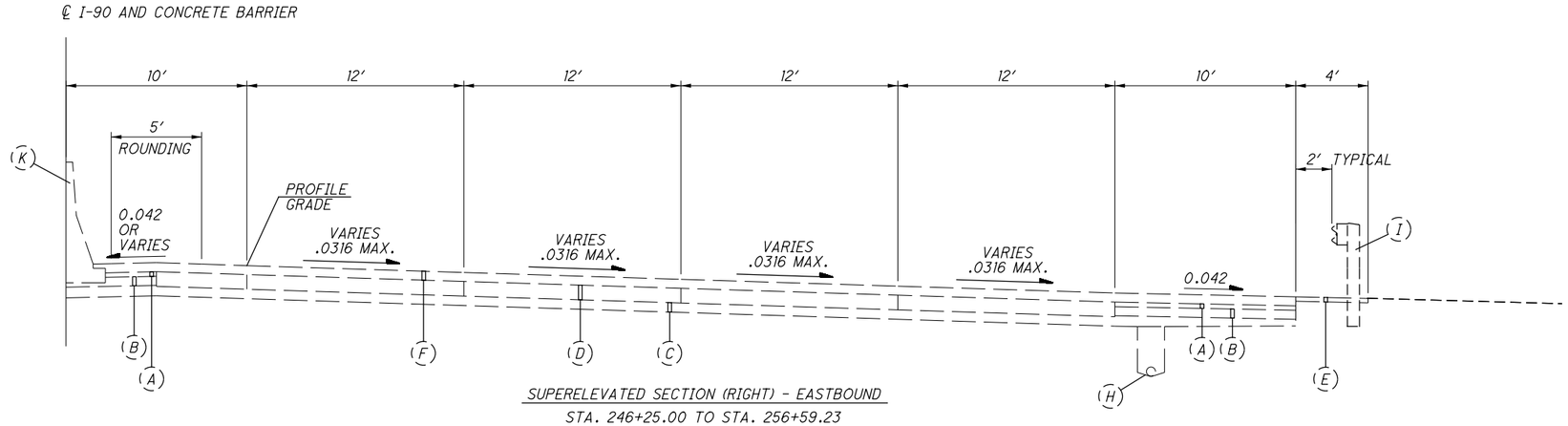


SUPERELEVATED SECTION (LEFT) - WESTBOUND
STA. 264+25.00 TO STA. 267+84.09
STA. 270+78.81 TO STA. 284+00.00
STA. 291+50.00 TO STA. 302+00.00

EXISTING TYPICAL SECTIONS-1

CUY-90-26.16/VAR

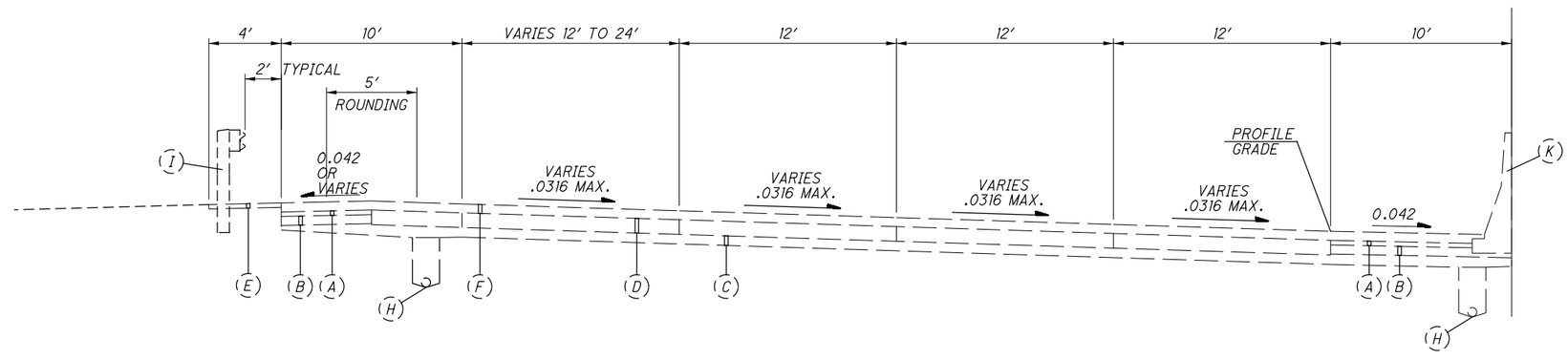
3
222



SUPERELEVATED SECTION (RIGHT) - EASTBOUND

STA. 246+25.00 TO STA. 256+59.23

STA. 259+33.69 TO STA. 264+00.00



SUPERELEVATED SECTION (RIGHT) - WESTBOUND

STA. 246+25.00 TO STA. 256+59.23

STA. 259+33.69 TO STA. 264+25.00

FOR LEGEND SEE SHEET 3

EXISTING TYPICAL SECTIONS-2

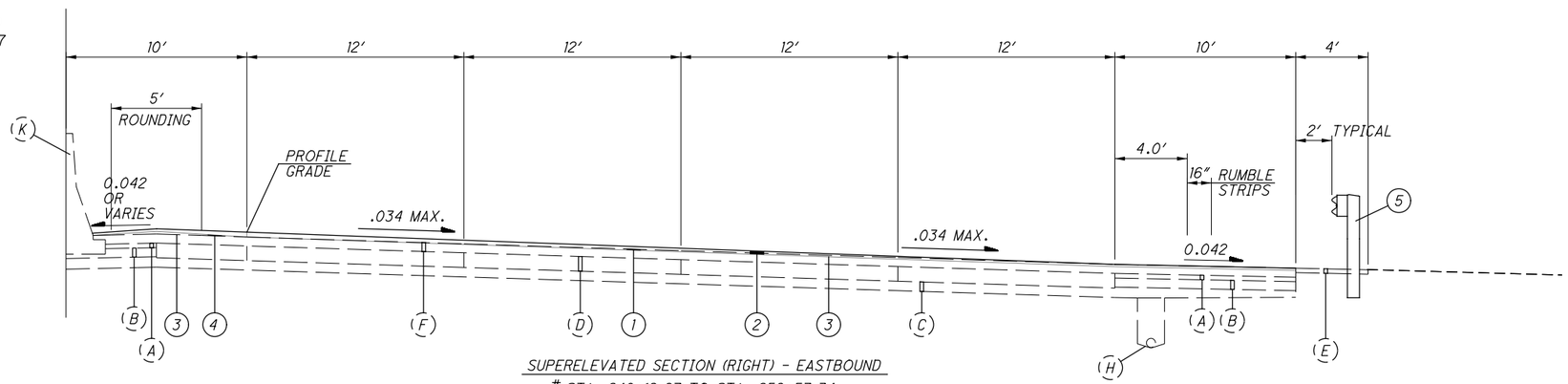
CUY-90-26.16/VAR

MEDIAN BARRIER REPLACEMENT
STA 253+00 TO STA 261+50
ITEM 622, CONCRETE BARRIER
SINGLE SLOPE, TYPE C1

STA 266+00 TO STA 272+50
ITEM 622, CONCRETE BARRIER
SINGLE SLOPE, TYPE B1

APPROACH SLAB AND BRIDGE LIMITS
CUY-90-26.16 STA. 256+57.34 TO STA. 259+36.20
CUY-90-26.39 STA. 267+83.24 TO STA. 270+80.07
CUY-90-26.74 STA. 287+36.11 TO STA. 289+65.37

℄ I-90 AND CONCRETE BARRIER

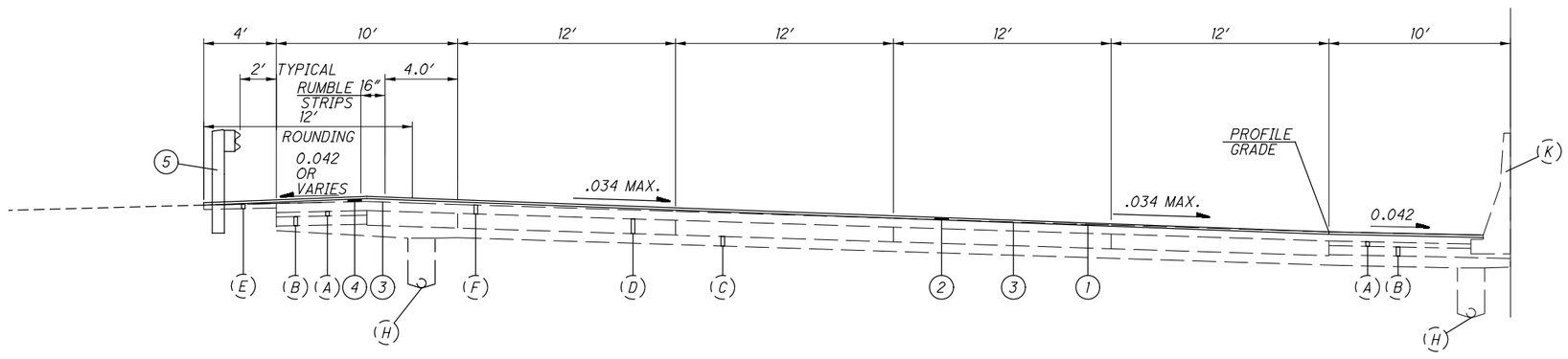


SUPERELEVATED SECTION (RIGHT) - EASTBOUND
STA. 248+12.67 TO STA. 256+57.34
STA. 259+36.20 TO STA. 262+88.84

TRANSITION FROM NORMAL CROWN TO FULL SUPER BETWEEN STA. 248+12.67 AND STA. 250+79.07. (SEE SUPERELEVATION TABLES, SHEET 91)

TRANSITION FROM FULL SUPER TO NORMAL CROWN BETWEEN STA. 260+22.44 AND STA. 262+88.84. (SEE SUPERELEVATION TABLES, SHEET 91)

℄ I-90 AND CONCRETE BARRIER



SUPERELEVATED SECTION (RIGHT) - WESTBOUND
STA. 248+12.67 TO STA. 256+57.34
STA. 259+36.20 TO STA. 262+88.84

FOR LEGEND SEE SHEET 3

* TRANSITION FROM NORMAL CROWN TO FULL SUPER BETWEEN STA. 248+12.67 AND STA. 250+79.07. (SEE SUPERELEVATION TABLES, SHEET 91)

** TRANSITION FROM FULL SUPER TO NORMAL CROWN BETWEEN STA. 260+22.44 AND STA. 262+88.84. (SEE SUPERELEVATION TABLES, SHEET 91)

TYPICAL SECTIONS - I-90 - 1

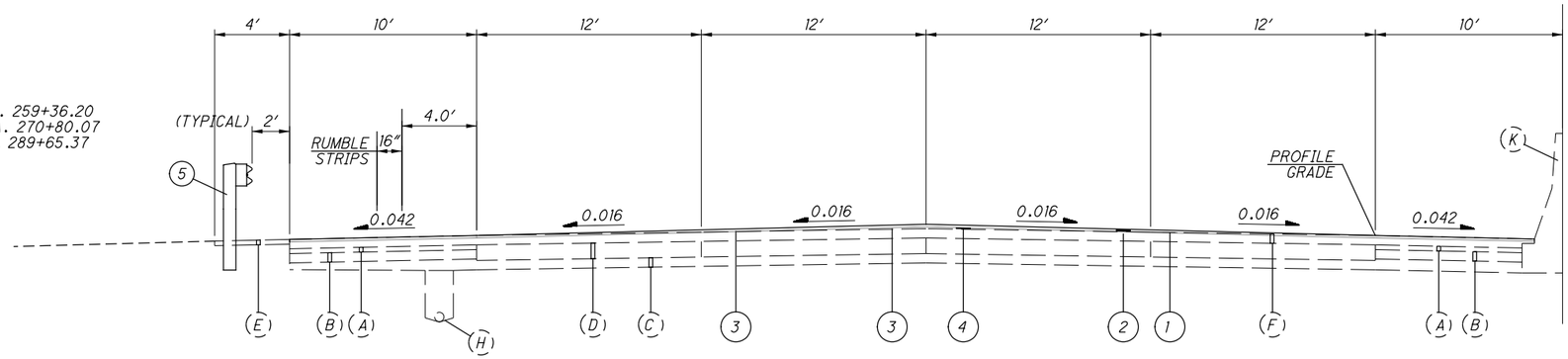
CUY-90-26.16/VAR

MEDIAN BARRIER REPLACEMENT
STA 253+00 TO STA 261+50
ITEM 622, CONCRETE BARRIER
SINGLE SLOPE, TYPE C1

STA 266+00 TO STA 272+50
ITEM 622, CONCRETE BARRIER
SINGLE SLOPE, TYPE B1

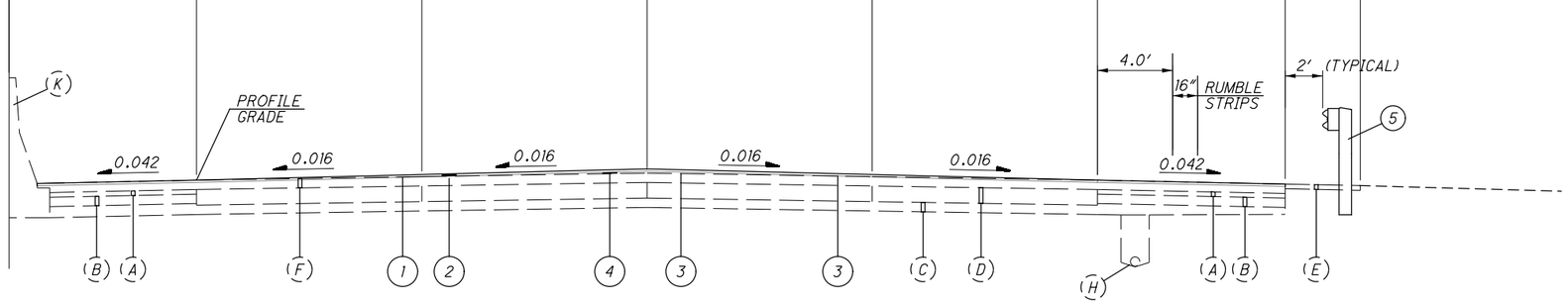
APPROACH SLAB AND BRIDGE LIMITS
CUY-90-26.16 STA. 256+57.34 TO STA. 259+36.20
CUY-90-26.39 STA. 267+83.24 TO STA. 270+80.07
CUY-90-26.74 STA. 287+36.11 TO STA. 289+65.37

℄ I-90 AND CONCRETE BARRIER



NORMAL SECTION - WESTBOUND
STA. 245+00.00 TO STA. 248+12.67
STA. 262+88.84 TO STA. 264+25.00
STA. 284+25.00 TO STA. 287+36.11 *
STA. 289+65.37 TO STA. 291+50.00 *

℄ I-90 AND CONCRETE BARRIER



NORMAL SECTION - EASTBOUND
STA. 245+00.00 TO STA. 248+12.67
STA. 262+88.84 TO STA. 264+00.00
STA. 284+25.00 TO STA. 287+36.11 *
STA. 289+65.37 TO STA. 291+50.00 *

FOR LEGEND SEE SHEET 3

* MATCH EXISTING AT APPROACH SLAB

TYPICAL SECTIONS - I-90 - 2

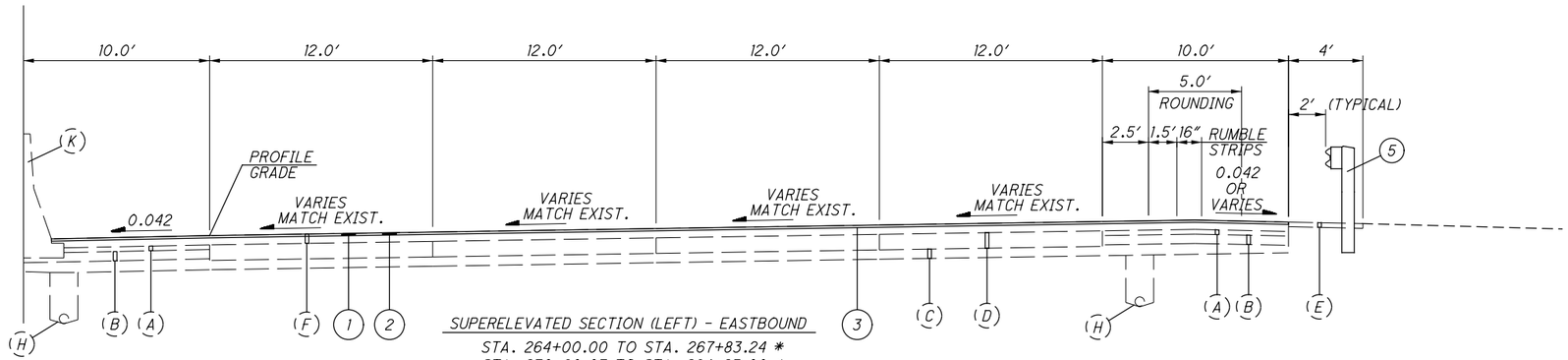
CUY-90-26.16/VAR

MEDIAN BARRIER REPLACEMENT
STA 253+00 TO STA 261+50
ITEM 622, CONCRETE BARRIER
SINGLE SLOPE, TYPE C1

STA 266+00 TO STA 272+50
ITEM 622, CONCRETE BARRIER
SINGLE SLOPE, TYPE B1

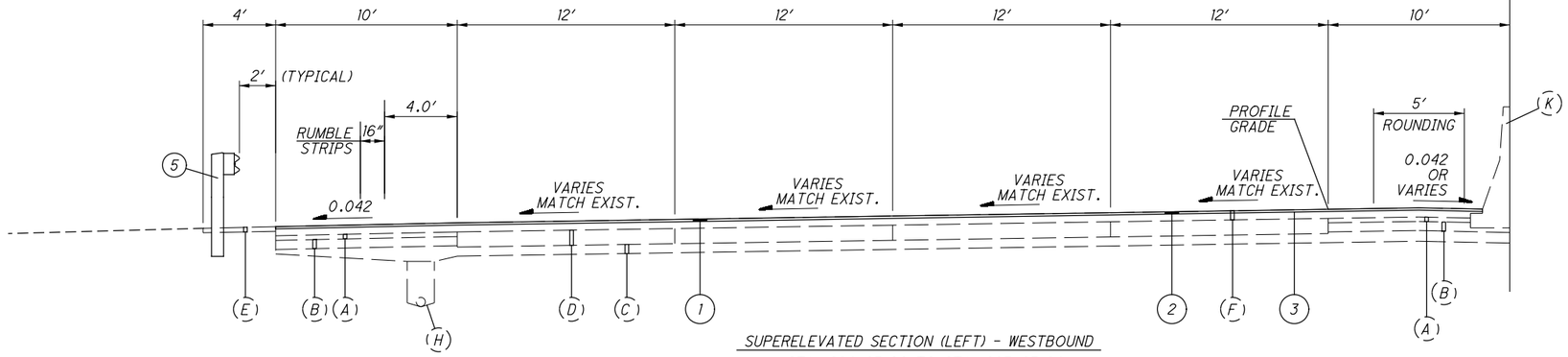
APPROACH SLAB AND BRIDGE LIMITS
CUY-90-26.16 STA. 256+57.34 TO STA. 259+36.20
CUY-90-26.39 STA. 267+83.24 TO STA. 270+80.07
CUY-90-26.74 STA. 287+36.11 TO STA. 289+65.37

℄ I-90 AND CONCRETE BARRIER



SUPERELEVATED SECTION (LEFT) - EASTBOUND
STA. 264+00.00 TO STA. 267+83.24 *
STA. 270+80.07 TO STA. 284+25.00 *
STA. 291+50.00 TO STA. 302+00.00

℄ I-90 AND CONCRETE BARRIER



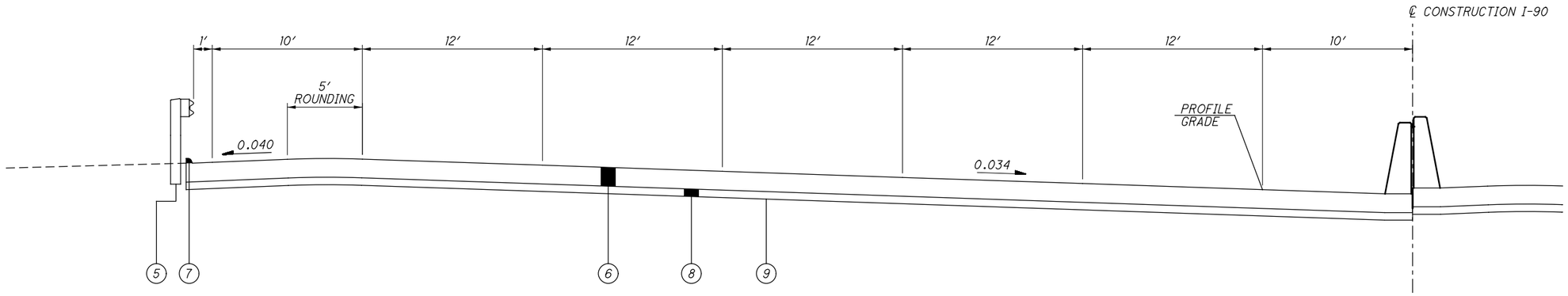
SUPERELEVATED SECTION (LEFT) - WESTBOUND
STA. 264+25.00 TO STA. 267+83.24 *
STA. 270+80.07 TO STA. 284+25.00 *
STA. 291+50.00 TO STA. 302+00.00

FOR LEGEND SEE SHEET 3

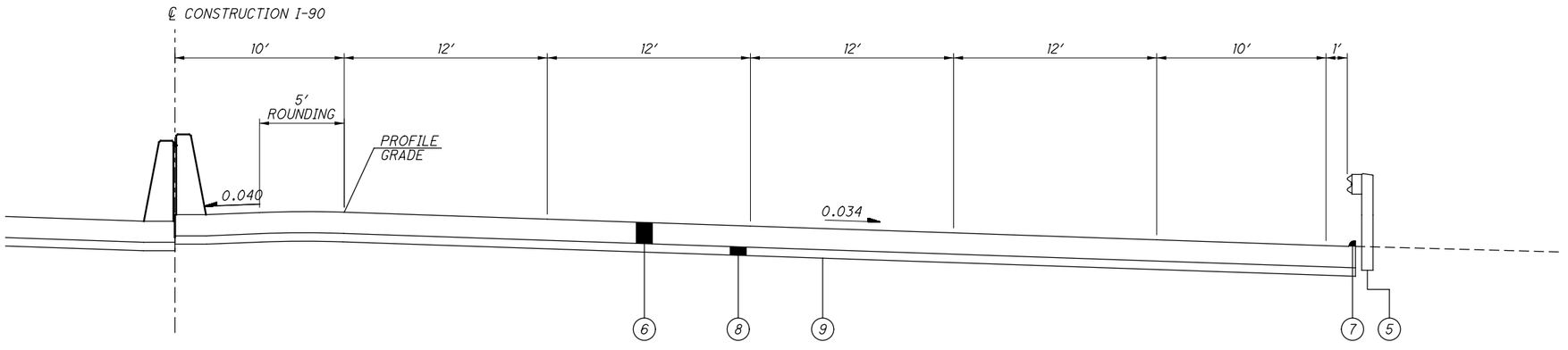
* MATCH EXISTING AT APPROACH SLAB

TYPICAL SECTIONS - I-90 - 3

CUY-90-26.16/VAR



WESTBOUND

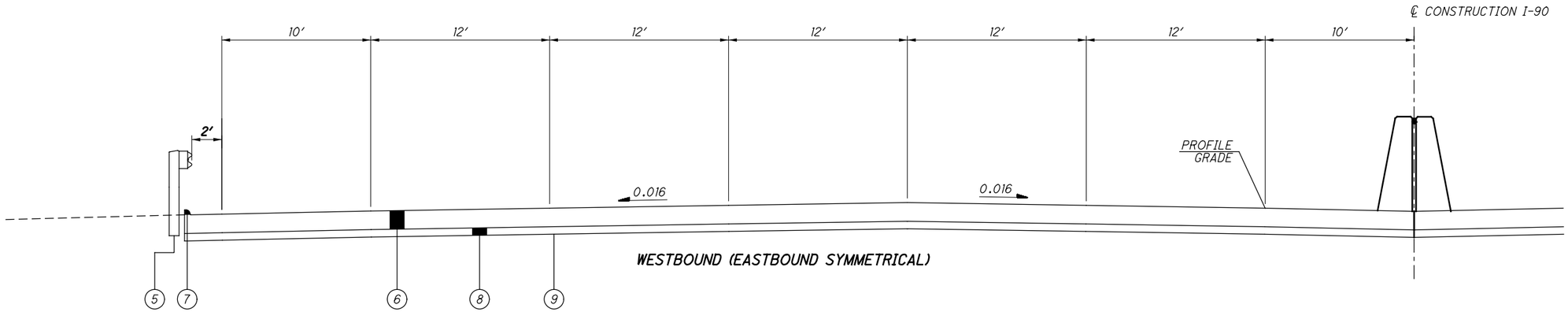


EASTBOUND

PROPOSED APPROACH SLAB SECTION - I-90 OVER EAST 185TH ST.

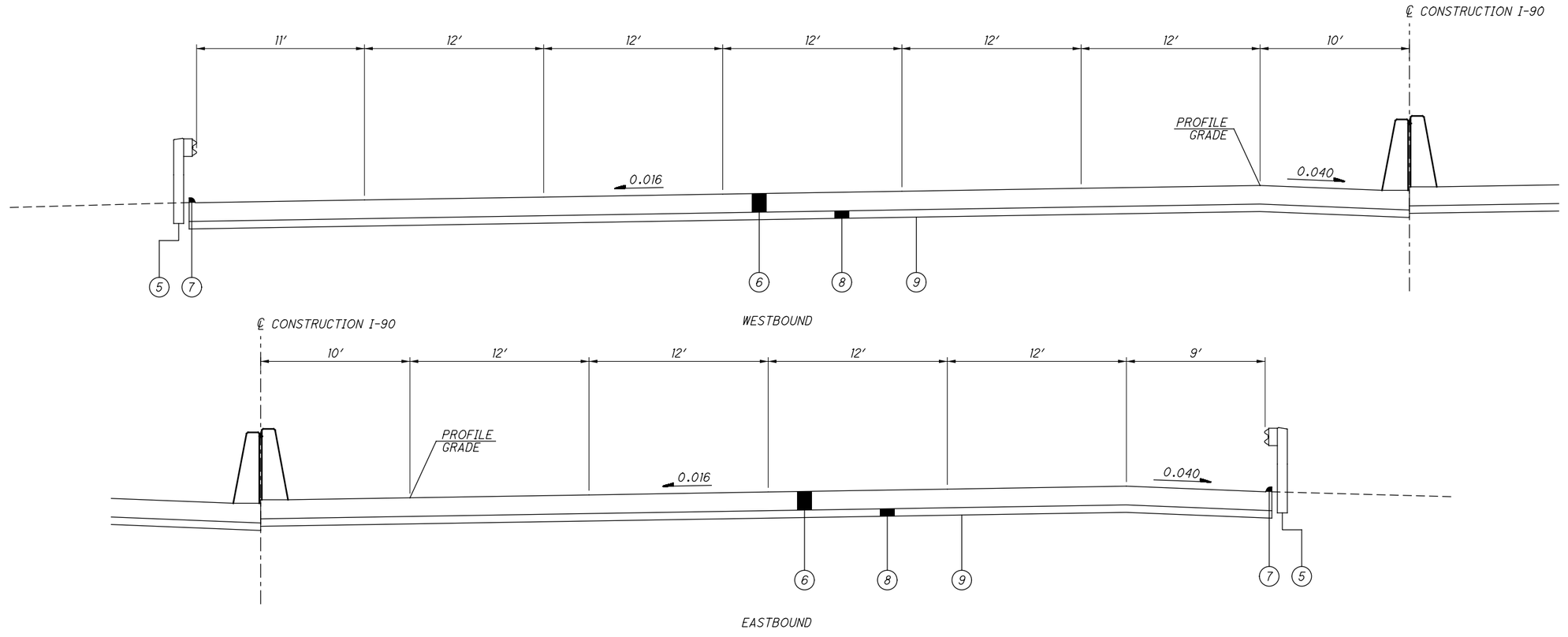
SECTION APPLIES:
STA. 256+57.34 TO STA. 256+84.58
STA. 259+09.03 TO STA. 259+36.20

FOR LEGEND SEE SHEET 3



PROPOSED APPROACH SLAB SECTION - I-90 OVER EAST 200TH ST.

SECTION APPLIES:
STA. 287+36.11 TO STA. 287+63.19
STA. 289+38.29 TO STA. 289+65.37



PROPOSED APPROACH SLAB SECTION - I-90 OVER NEFF ROAD

SECTION APPLIES:
STA. 267+83.24 TO STA. 268+10.34
STA. 270+52.97 TO STA. 270+80.07

FOR LEGEND SEE SHEET 3

CUY-90-26.16/VAR APPROACH SLAB SECTIONS-I-90 OVER NEFF RD AND E. 200TH ST

ROUNDING

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

UTILITIES

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

CITY OF CLEVELAND
DIVISION OF WATER
1201 LAKESIDE AVENUE
CLEVELAND, OHIO 44114
ATTN: FRED ROBERTS
(216) 664-2444 EXT. 5590

CITY OF CLEVELAND - DIVISION
OF WATER POLLUTION CONTROL
12302 KIRBY ROAD
CLEVELAND, OHIO 44108
ATTN: RACHID ZOGHAIB
(216) 664-3785

CITY OF CLEVELAND - DIVISION
OF PUBLIC POWER (MELP)
1300 LAKESIDE AVENUE
ATTN: CHRIS HIRZEL
(216) 664-3922, EXT. 115

NORTHEAST OHIO REGIONAL
SEWER DISTRICT (NEORSD)
3800 EUCLID AVENUE
CLEVELAND, OHIO 44115-2504
ATTN: MARY MACIEJOWSKI
(216) 881-6600, EXT. 6466

SPRINT NEXTEL CORPORATION
875 GREENTREE ROAD
SUITE 410, BUILDING 7
PITTSBURGH, PA 15220
ATTN: LUKE BRYAN
(412) 960-4071

TIME WARNER CABLE
7820 DIVISION DRIVE
MENTOR, OHIO 44060
ATTN: MATT HANNAH
(216) 575-8016, EXT. 2165551101

AT&T
13630 LORAIN AVE., 2ND FLOOR
CLEVELAND, OHIO 44111
ATTN: JAMES JANIS
(216) 476-6142

DOMINION EAST OHIO GAS CO.
320 SPRINGSIDE DRIVE
FAIRLAWN, OHIO 44333
ATTN: ED GOUBEAUX
(330) 664-2494

WINDSTREAM
560 TERNES AVENUE
ELYRIA, OHIO 44035
ATTN: GEOFFREY HAMM
(440) 329-4245

CITY OF EUCLID
585 EAST 222ND STREET
EUCLID, OHIO 44123
ATTN: JEREMIAH SWETEL
(216) 289-8188

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.

CLEARING AND GRUBBING

ALTHOUGH THERE ARE NO TREES OR STUMPS SPECIFICALLY MARKED FOR REMOVAL WITHIN THE LIMITS OF THE PROJECT, A LUMP SUM QUANTITY IS INCLUDED IN THE GENERAL SUMMARY FOR ITEM 201, CLEARING AND GRUBBING. ALL PROVISIONS AS SET FORTH IN THE SPECIFICATIONS UNDER THIS ITEM ARE INCLUDED IN THE LUMP SUM PRICE BID FOR ITEM 201, CLEARING AND GRUBBING.

SURVEYING PARAMETERS

USE THE FOLLOWING PROJECT CONTROL, VERTICAL POSITIONING, AND HORIZONTAL POSITIONING PARAMETERS FOR ALL SURVEYING: SEE TABLE ON SHEET 2 FOR ADDITIONAL INFORMATION.

PROJECT CONTROL

POSITIONING METHOD: ODOT VRS RTK GPS/CONVENTIONAL
MONUMENT TYPE: MAG NAILS / IRON PINS

VERTICAL POSITIONING

ORTHOMETRIC HEIGHT DATUM: NAVD 88
GEOID: GEOID 12A

HORIZONTAL POSITIONING

REFERENCE FRAME: NAD83 (2011)
ELLIPSOID: GRS80
MAP PROJECTION: LAMBERT CONFORMAL CONIC
COORDINATE SYSTEM: OHIO STATE PLANE, NORTH ZONE (3401)
COMBINED SCALE FACTOR: 0.999954668
ORIGIN OF COORDINATE
SYSTEM: (0,0)

USE THE POSITIONING METHODS AND MONUMENT TYPE USED IN THE ORIGINAL SURVEY TO RESTORE ALL MONUMENTS RELATED TO PRIMARY PROJECT CONTROL THAT ARE DAMAGED OR DESTROYED BY CONSTRUCTION ACTIVITIES. RESTORE THE DAMAGED OR DESTROYED MONUMENTS IN ACCORDANCE WITH SUPPLEMENTAL SPECIFICATION 823.

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

ITEM 623 - CONSTRUCTION LAYOUT STAKES AND SURVEYING, AS PER PLAN

IN ADDITION TO THE REQUIREMENTS OF THE CMS, THIS ITEM OF WORK WILL INCLUDE THE FOLLOWING ADDITIONAL REQUIREMENTS.

AN OHIO PROFESSIONAL SURVEYOR SHALL DETERMINE THE MINIMUM VERTICAL CLEARANCES OF ALL EXISTING AND NEW BRIDGES WITHIN THE PROJECT LIMITS AFTER COMPLETION OF ALL THE WORK, BUT PRIOR TO FINAL ACCEPTANCE OF THE PROJECT. AT A MINIMUM, MEASUREMENTS SHALL BE TAKEN ALONG THE CENTERLINE OF EACH FASCIA BEAM AT THE EDGE OF SHOULDERS, EDGE LINES, LANE LINES, AND CROWN OF THE ROADWAY BELOW. THE MEASUREMENTS SHALL BE DOCUMENTED ON THE ODOT VERTICAL CLEARANCE SURVEY FORM. THE FORM SHALL BEAR THE STAMP OR SEAL OF THE OHIO PROFESSIONAL SURVEYOR WHO HAS TAKEN THE MEASUREMENTS. THE OHIO PROFESSIONAL SURVEYOR SHALL SUBMIT THE COMPLETED FORM TO THE PROJECT ENGINEER AND THE DISTRICT BRIDGE MAINTENANCE ENGINEER PRIOR TO FINAL ACCEPTANCE OF THE PROJECT.

PAYMENT FOR ALL OF THE ABOVE WORK SHALL BE AT THE UNIT PRICE BID FOR ITEM 623 - CONSTRUCTION LAYOUT STAKES AND SURVEYING, AS PER PLAN, WHICH SHALL INCLUDE ALL LABOR, EQUIPMENT, MATERIALS AND INCIDENTALS NECESSARY TO COMPLETE THE ABOVE WORK.

EXISTING PLANS

EXISTING PLANS ENTITLED CUY-090-26.68, CUY-090-25.13, CUY-090-24.13, CUY-090-23.93, CUY-090-21.27 MAY BE INSPECTED IN THE ODOT DISTRICT 12 OFFICE IN CLEVELAND.

EXISTING PLANS ARE ALSO AVAILABLE ONLINE THROUGH THE FOLLOWING WEBSTIE: http://www.dot.state.oh.us/Divisions/ContractAdmin/Contracts/Pages/designfiles.aspx

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.

STAGING AREAS

THERE ARE NO SPECIFIC AREAS GIVEN IN THE PLANS FOR THE CONTRACTOR TO USE AS A STAGING AREA(S). IF THE CONTRACTOR WANTS TO USE AN AREA(S) FOR STAGING, REGARDLESS IF IT FALLS WITHIN THE PROJECT LIMITS OR NOT, THE CONTRACTOR IS TO CONTACT JILL POWERS AT 216-584-2195 AT DISTRICT 12 IN ORDER TO APPLY FOR A PERMIT PER SECTION 107.02 OF THE CMS.

IF A PERMIT IS GRANTED, ALL CONDITIONS OF THE PERMIT SHALL BE MET IN ADDITION TO THE REQUIREMENTS OF 104.04 OF THE CMS, AT NO ADDITIONAL COST TO THE STATE. IF THE PROJECT ENGINEER DEEMS THAT ALL THE CONDITIONS OF THE PERMIT WERE NOT MET, THEN 10% OF THE CONTRACT BID AMOUNT FOR MOBILIZATION SHALL BE WITHHELD UNTIL ALL THE CONDITIONS OF THE PERMIT ARE SATISFIED.

PROFILE AND ALIGNMENT

PLACE THE PROPOSED PAVEMENT TO FOLLOW THE ALIGNMENT AND PROFILE OF THE EXISTING PAVEMENT. PREVIOUS CONSTRUCTION PLANS, PROJECT NO. CUY-090-25.13, SHOWING THE ORIGINAL ALIGNMENT AND PROFILE, ARE AVAILABLE FOR INSPECTION AT THE ODOT DISTRICT 12 OFFICE OR ONLINE. PLACE THE PROPOSED ASPHALT CONCRETE OVERLAY VARYING IN THICKNESS FROM 0 INCHES AT THE CROWN TO 4 INCHES AT THE PAVEMENT EDGE AS SHOWN ON THE TYPICAL SECTIONS.

THE FOLLOWING QUANTITY HAS BEEN CARRIED TO THE GENERAL SUMMARY.

ITEM 442, ASPHALT CONCRETE INTERMEDIATE COURSE, 19 MM, TYPE A (448) AS PER PLAN 300 CY

ITEM 442 - ASPHALT CONCRETE SURFACE COURSE, 12.5MM, TYPE A (448), PG 76-22M, AS PR PLAN

THW COARSE VIRGIN AGGREGATE FOR THIS ITEM SHALL BE LIMITED TO A BLEND OF AIR COOLED BLAST FURNACE SLAG (ACBFS) OR TRAP ROCK FROM ONTERIO AND LIMESTONE. THE CONTRACTOR SHALL USE A MINIMUM 60% OF ACBFS OR TRAP ROCK FROM ONTERIO WITH LIMESTONE COMPRISING THE REMAINING PERCENTAGE. AT LEAST 50% OF THE FINE VIRGIN AGGREGATE FOR THIS ITEM SHALL BE LIMITED TO ACBFS OR TRAP ROCK FROM ONTERIO.

TABLE 442.02-2 APPLIES EXCEPT NO. 4 SEIVE REQUIREMENTS ARE 52 TO 62 TOTAL PERCENT PASSING.

WHEN ACBFS IS USED FOR A FRACTION OF THE COARSE AGGREGAE, PROVIDE A TOTAL ASPHALT BINDER CONTENT GREATER THAN OR EQUAL TO 6.2 PERCENT. IF ACBFS MAKES UP 100% OF THE COARSE AGGREGATE, APPLY THE BINDER CONTENT REQUIREMENTS OF C&MS 442.

FOR THIS ITEM, A THIRD ROLLER IS REQUIRED FOR MAINLINE PAVING OPERATIONS. THE ROLLER SHALL CONFORM TO THE REQUIREMENTS OF 401.13.

CONCRETE MEDIAN REMOVED, AS PER PLAN

DURING PHASE ONE, THE EXISTING CONCRETE MEDIAN BARRIER SHALL BE REMOVED TO A MINIMUM OF ONE INCH BELOW THE PAVEMENT SURFACE. THE CONTRACTOR IS PERMITTED TO REMOVE ALL OR A PORTION OF THE EXISTING MEDIAN BARRIER FOUNDATION PROVIDED THE VOID IS FILLED WITH CONCRETE MEETING THE REQUIREMENTS OF CMS 499, QC1.

DURING PHASE 6, THE CONTRACTOR SHALL REMOVE ANY REMAINING PORTION OF THE MEDIAN BARRIER FOUNDATION NECESSARY TO INSTALL THE CONCRETE BARRIER, END ANCHORAGES, MEDIAN DRAINAGE INLETS, OR BARRIER TRANSITIONS. ANY VOIDS CAUSED BY THE REMOVAL PROCESS SHALL BE FILLED WITH CONCRETE MEETING THE REQUIREMENTS OF CMS 499, QC1.

THE COST FOR ALL LABOR, EQUIPMENT, AND MATERIAL, INCLUDING CONCRETE, IS INCLUDED IN THE LINER FOOT COST BID FOR THIS ITEM.

ITEM 202, GUARDRAIL REMOVED, AS PER PLAN

THE REMOVAL OF ANCHOR ASSEMBLIES AND BRIDGE TERMINAL ASSEMBLIES SHALL BE INCLUDED IN THE CONTRACT BID PRICE PER LINEAL FOOT OF GUARDRAIL REMOVED. ALL REMOVALS SHALL BE IN ACCORDANCE WITH CMS ITEM 202.09.

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, BEAM SPLICE AS SHOWN IN AASHTO M 180-12, EXCEPT THE BEAM WASHERS ARE NOT TO BE USED. PAYMENT SHALL BE INCLUDED IN THE CONTRACT PRICE FOR THE RESPECTIVE GUARDRAIL ITEMS.

ITEM 606 - ANCHOR ASSEMBLY, MGS TYPE E

THIS ITEM SHALL CONSIST OF FURNISHING AND INSTALLING ANY OF THE GUARDRAIL END TERMINALS FOR TYPE MGS GUARDRAIL 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 APPROPRIATE DEPTH BELOW THE LEVEL LINE IN ORDER TO MAINTAIN THE FINISHED GUARDRAIL HEIGHT OF 31 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, MGS 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 607 - FENCE REBUILT, TYPE CL

CAREFULLY RECONDITION AND RE-ERECT FENCE AND COMPONENT PARTS AS DETAILED ON THE PLANS. DO NOT DAMAGE THE FENCE OR COMPONENT PARTS. ANY NEW PARTS WHICH ARE NEEDED, AS DETERMINED BY THE ENGINEER, WILL BE SUPPLIED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE STATE.

THE AMOUNT OF REBUILT FENCE TO BE PAID FOR WILL BE THE NUMBER OF FEET REBUILT, COMPLETE IN PLACE AND MEASURED AS PROVIDED FOR IN 607.09.

PAYMENT FOR THE ABOVE WILL BE PAID FOR AT THE CONTRACT PRICE PER FOOT FOR ITEM 607, FENCE REBUILT, TYPE CL.

FENCE LENGTHS

THE LENGTHS OF FENCE SHOWN IN THE PLANS ARE HORIZONTAL DIMENSIONS. MEASUREMENTS OF THE FINAL QUANTITIES WILL BE IN ACCORDANCE WITH ITEM 607.

CALCULATED ASW CHECKED MJM

GENERAL NOTES - 1

CUY-90-26.16 / VAR

PROTECTION OF RIGHT-OF-WAY LANDSCAPING

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.

SEEDING AND MULCHING

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

659, SOIL ANALYSIS TEST	2 EACH
659, TOPSOIL	183 CU. YD.
659, SEEDING AND MULCHING	1646 SQ. YD.
659, REPAIR SEEDING AND MULCHING	82 SQ. YD
659, INTER-SEEDING	82 SQ. YD.
659, COMMERCIAL FERTILIZER	0.22 TON
659, LIME	0.34 ACRES
659, WATER	9 M. GAL.
659, MOWING	4 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 611 - INLET NO. 3 FOR SINGLE SLOPE BARRIER, TYPE C1, AS PER PLAN

THE CONTRACTOR SHALL REMOVE THE EXITING INLET AND PLUG THE DRAINAGE PIPE TO REMAIN DURING PHASE 1. INSTALL NEW INLET INCLUDING CASTING DURING PHASE 6. THE MEDIAN INLET AT STA. 259+50.34 IS WITHIN THE APPROACH SLAB BARRIER TRANSITION EXTEND TRANSITION ONTO THE MEDIAN INLET TO PROVIDE A MINIMUM OF 15 FEET OF TRANSITION.

ITEM 622 CONCRETE BARRIER, END ANCHORAGE, REINFORCED, TYPE B1, AS PER PLAN
ITEM 622 CONCRETE BARRIER, END ANCHORAGE, REINFORCED, TYPE C1, AS PER PLAN

THE END ANCHORAGE SHALL BE AS PER SCD RM-4.3 AND USED AT THE LOCATIONS ADJACENT TO THE 20 FOOT BARRIER TRANSITIONS FROM THE EXISTING BARRIER, ON EACH SIDE OF MEDIAN DRAINAGE INLETS, AND ADJACENT TO APPROACH SLAB BARRIERS. FOR END ANCHORAGE LOCATIONS ADJACENT TO APPROACH SLAB BARRIERS, TRANSITION THE BARRIER OVER A MINIMUM OF 15 FEET TO MATCH THE APPROACH SLAB MEDIAN BARRIER. THE COST FOR PROVIDING THIS TRANSITION IS INCLUDE UNDER THIS ITEM.

THE END ANCHORAGE ADJACENT TO THE MEDIAN INLET AT 259+50.34 WILL ONLY BE 6.07 FEET LONG.

ENDANGERED SPECIES COMMITMENT

THE PROJECT IS WITHIN THE MIGRATION RANGE OF THE FEDERALLY ENDANGERED KIRTLAND'S WARBLER. IN ORDER TO AVOID IMPACTS TO ANY VEGETATION THAT THE KIRTLAND'S WARBLER WOULD USE AS HABITAT DURING MIGRATION, TREES AND WOODY VEGETATION THAT IS GREATER THAN 3-FEET TALL CANNOT BE REMOVED BETWEEN APRIL 22ND AND JUNE 1ST OR BETWEEN AUGUST 15TH AND OCTOBER 15TH.

ITEM SPECIAL - PIPE CLEANOUT

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

THE CONTRACTOR SHALL NOTIFY THE NORTHEAST OHIO REGIONAL SEWER DISTRICT (NEORSD) TEN (10) DAYS PRIOR TO PERFORMING THIS ITEM BELOW OR ADJACENT TO STRUCTURE CUY-90-2616 (I-90 OVER EAST 185TH STREET)

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.

ITEM 209 - DITCH CLEANOUT, AS PER PLAN

UPON COMPLETION OF THE BRIDGE ITEMS AND STABILIZATION OF THE SITE, THE CONTRACTOR SHALL REMOVE DEBRIS AND WATER BLAST THE TROUGHS AT THE TOE OF THE CONCRETE SLOPE PROTECTION FOR BOTH SIDES OF EACH BRIDGE.

PAYMENT FOR THE ABOVE SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM 209, DITCH CLEANOUT, AS PER PLAN, LINEAL FOOT AND SHALL INCLUDE CLEANING OUT THE DOWNSTREAM CATCHBASINS.

THE FOLLOWING QUANTITIES HAVE BEEN CARRIED TO THE GENERAL SUMMARY.

ITEM 209 - DITCH CLEANOUT, AS PER PLAN 990 FT

ITEM 601 - TIED CONCRETE BLOCK MAT, TYPE 2, AS PER PLAN

ALL WORK SHALL BE IN ACCORDANCE WITH STANDARD CONSTRUCTION DRAWING DM-4.1 WITH THE FOLLOWING EXCEPTIONS.

THE CONTRACTOR SHALL INSTALL THE TIED CONCRETE BLOCK MAT AT THE NORTHWEST CORNER OF THE E 185TH STREET BRIDGE UNDER THE EXISTING NOISE WALL. THIS ITEM INCLUDE THE NECESSARY EXCAVATION UNDER THE EXISTING NOISE WALL REQUIRED TO INSTALL THE FLUME. CONTRACTOR IS TO CONSTRUCT THE FLUME WITHOUT DAMAGING THE NOISE WALL.

THIS ITEM INCLUDE INCLUDES ALL MATERIAL, LABOR, AND EQUIPMENT NECESSARY TO INSTALL THE TIED CONCRETE BLOCK MAT, TYPE 2, AS PER PLAN.

ITEM SPECIAL - PRESSURE RELIEF JOINT, TYPE C

THIS ITEM SHALL INCLUDE ALL LABOR, EQUIPMENT, AND MATERIALS REQUIRED TO PROVIDE THE TYPE C PRESSURE RELIEF JOINTS SHALL BE INSTALLED AT THE LOCATIONS INDICATED IN THE PLANS AND AS PER ODOT STANDARD CONSTRUCTION DRAWING BP-2.4 DATED 07-19-2013. THIS WORK SHALL INCLUDE ALL INCIDENTAL ITEMS REQUIRED TO RESTORE THE SHOULDER AND CONNECT THE AGGREGATE DRAINS TO THE EXISTING UNDERGROUND SYSTEM. THIS TO THE BE PERFORMED PRIOR TO THE MEDIAN BARRIER AND FINAL RESURFACING WORK PERFORMED UNDER PHASE 6.

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

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 611 CONDUIT ITEM.

ITEM 625 - LIGHTING, MISC.: MAINTAIN UNDERPASS LIGHTING

THE CONTRACTOR SHALL MAINTAIN UNDERPASS LIGHTING E 185TH STREET, NEFF ROAD, AND E 200TH STREET FOR THE DURATION OF THIS PROJECT. AS PART OF THIS WORK, THE CONTRACTOR SHALL UPDATE THE UNDERPASS LIGHTING AT EACH LOCATION AS NECESSARY TO MAKE THE LIGHTING FULLY FUNCTIONAL. THIS ITEM MAY INCLUDE REPLACING BURNT-OUT UNDERPASS LIGHTING LAMPS, AND/OR REPLACING FIXTURES, WIRING, PHOTOMETRIC CONTROL, OR ANY OTHER WORK NECESSARY TO MAINTAIN A FULLY FUNCTIONAL UNDERPASS LIGHTING SYSTEM AT EACH LOCATION. THE LIGHTING SHALL BE MAINTAINED IN FULL WORKING ORDER FOR THE COMPLETE DURATION OF THE PROJECT, AND TURNED BACK OVER TO THE CITY OF CLEVELAND AT THE CONCLUSION OF CONSTRUCTION.

PAYMENT FOR THIS ITEM SHALL BE MADE AT THE UNIT COST BID FOR EACH UNDERPASS LIGHTING SYSTEM MAINTAINED, AND SHALL BE FULL COMPENSATION FOR ALL LABOR AND MATERIALS NECESSARY TO UPDATE AND MAINTAIN THE LIGHTING SYSTEM AS DESCRIBED ABOVE. PAYMENT FOR THE POWER CONSUMPTION AT THE EXISTING LIGHTING CONTROL CENTERS WILL CONTINUE TO BE PAID BY ODOT. A QUANTITY OF THREE EACH HAS BEEN CARRIED TO THE GENERAL SUMMARY FOR THIS PURPOSE.

ITEM 625 - LIGHTING, MISC.: STRUCTURAL GROUNDING

THE CONTRACTOR SHALL INSTALL STRUCTURAL GROUNDING TO CONNECT THE EXISTING STRUCTURAL GROUNDING SYSTEM TO THE NEW FASCIA BEAM "BEAM A'" AT THE FIXED PIER AT E. 185TH STREET.

THE CONTRACTOR SHALL NOT DAMAGE THE EXISTING STRUCTURAL GROUNDING SYSTEM.

PAYMENT FOR THIS ITEM SHALL INCLUDE FULL COMPENSATION FOR ALL LABOR, MATERIAL, AND EQUIPMENT NECESSARY TO CONNECT THE NEW BEAM TO THE EXISTING STRUCTURAL GROUNDING SYSTEM.

THE FOLLOWING QUANTITY HAS BEEN CARRIED TO THE GENERAL SUMMARY.

ITEM 625 - LIGHTING, MISC.: STRUCTURAL GROUNDING 1 EA

ITEM 625 - LIGHTING, MISC.: REPLACE CONDUIT IN PARAPET

THE CONTRACTOR SHALL REROUTE EXISTING LIGHTING CIRCUITS AT THE LOCATIONS LISTED BELOW. THIS WORK SHALL INCLUDE, BUT NOT BE LIMITED TO: DISCONNECTING THE EXISTING LIGHTING CIRCUIT AT EACH PULL BOX NEAREST TO (AND ON EACH SIDE) OF THE BRIDGE; CLEANING THE AFFECTED PULL BOXES; DISCONNECTING THE EXISTING CIRCUIT CABLES IN THE AFFECTED PULL BOXES; REMOVING AND DISPOSING OF EXISTING CABLES AND CONDUIT BETWEEN THE AFFECTED PULL BOXES; INSTALLING NEW CONDUIT FROM PULL BOX TO PULL BOX (ACROSS THE BRIDGE), INSTALLING 2-#4 DISTRIBUTION CABLES IN THE CONDUIT, AND SPLICING THE PROPOSED DISTRIBUTION CABLE TO EXISTING CIRCUIT CABLE AT EACH AFFECTED PULL BOX.

THE CONTRACTOR SHALL REROUTE EXISTING LIGHTING CIRCUITS AT THE FOLLOWING LOCATIONS:

* SOUTH PARAPET OF I-90 OVER E 185TH STREET (CUY-90-2616). APPROX CONDUIT LENGTH = 360'. INSTALL CONDUIT IN BRIDGE PARAPET PER STANDARD DRAWING HL-30.31;

* SOUTH PARAPET OF I-90 OVER NEFF ROAD (CUY-90-2639). APPROX CONDUIT LENGTH = 475'. INSTALL CONDUIT IN BRIDGE PARAPET PER STANDARD DRAWING HL-30.32;

* NORTH PARAPET OF I-90 OVER NEFF ROAD (CUY-90-2639). APPROX CONDUIT LENGTH = 505'. INSTALL CONDUIT IN BRIDGE PARAPET PER STANDARD DRAWING HL-30.32;

PAYMENT FOR THIS ITEM SHALL BE MADE AT THE UNIT COST BID FOR EACH CONDUIT INSTALLED IN THE PARAPET, WITH THE LIGHTING CIRCUIT FULLY RESTORED, AND SHALL BE FULL COMPENSATION FOR ALL LABOR AND MATERIALS NECESSARY TO RECONNECT THE LIGHTING CIRCUIT AS DESCRIBED. A QUANTITY OF THREE EACH HAS BEEN CARRIED TO THE ROADWAY GENERAL SUMMARY FOR THIS PURPOSE.

PERMITS - CITY OF CLEVELAND

IN THE CITY OF CLEVELAND, ALL PERMITS MUST BE OBTAINED FROM THE DIVISION OF ASSESSMENTS AND LICENSES PRIOR TO BEGINNING ANY WORK. PERMITS INCLUDE BUT ARE NOT LIMITED TO STREET OPENING PERMIT, OVERLOAD PERMIT, OBSTRUCTION PERMIT AND/OR SIDEWALK PERMIT AND MAY BE OBTAINED THROUGH THE FOLLOWING CONTACT.

TRAVIS EVANS
DEPARTMENT OF FINANCE
DIVISION OF ASSESSMENTS AND LICENSES
601 LAKESIDE AVENUE, ROOM 122
CLEVELAND, OHIO 44114
PHONE: (216) 664-2174
EMAIL: DALPERMITS@CITY.CLEVELAND.OH.US

ALL STREET OPENING REPAIRS, CURB REPAIRS AND/OR SIDEWALK REPAIRS INCIDENTAL TO THE PROJECT OR PARTOF THE PROJECT MUST BE PERFORMED IN ACCORDANCE TO CITY OF CLEVELAND STANDARDS. A COPY OF THE STANDARDS CAN BE OBTAINED FROM THE DIVISION OF ENGINEERING AND CONSTRUCTION BY CALLING (216) 664-2174.

ALL PERMITS, FEES, AND CHARGES SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AND THEIR ASSOCIATED COST SHALL BE INCLUDED IN THE CONTRACT UNIT PRICE BID FOR THE PERTINENT WORK ITEMS. FOR BIDDING PURPOSES, FEES AND CHARGES MAY BE OBTAINED FROM THE DIVISION OF ASSESSMENT AND LICENSES AT (216) 664-2174.

CALCULATED ASW CHECKED MJM

GENERAL NOTES - 2

CUY-90-26.16 / VAR

A+B BIDDING WITH MULTIPLE SECTIONS CONTRACT TABLE

USE THE FOLLOWING INFORMATION IN COMBINATION WITH THE PROPOSAL NOTE A + B BIDDING WITH MULTIPLE SECTIONS:

THE CONTRACTOR WILL BID THE NUMBER OF CALENDAR DAYS TO COMPLETE EACH CONTRACT SEGMENT AS LISTED IN THE PROPOSAL.

CONTRACT SEGMENT - LOCATION OF CRITICAL WORK	MINIMUM DAYS	MAXIMUM DAYS	INCENTIVE/ DISINCENTIVE $ PER DAY	MAXIMUM INCENTIVE $
MOT PHASE 2 E.B. CENTER SECTION	18	32	$5,000	$50,000
MOT PHASE 4 W.B. CENTER SECTION	18	32	$5,000	$50,000

INCENTIVE/DISINCENTIVE CONTRACT TABLE

THE DISINCENTIVE IS FOR THE WINTER SHUTDOWN PERIOD. ALL LANES AND RAMPS WITHIN THE PROJECT LIMITS SHALL REMAIN OPEN TO UNRESTRICTED TRAFFIC AS DEFINED UNDER PROPOSAL NOTE 121, INCENTIVE/DISINCENTIVE CONTRACT, BETWEEN THE DATES OF OCTOBER 15, 2018 AND APRIL 15, 2019 AND THE BETWEEN THE DATES OF OCTOBER 15, 2019 AND APRIL 15, 2020. ANY LANE RESTRICTIONS OR CLOSURE DURING THIS TIME PERIOD ARE SUBJECT THE DISINCENTIVE. NO INCENTIVE WILL BE PAID FOR IMPLEMENTATION OF UNRESTRICTED TRAFFIC.

DESCRIPTION OR LOCATION OF CRITICAL WORK	COMPLETION DATE	TIME PERIOD	DISINCENTIVE $ PER TIME PERIOD	INCENTIVE $ PER TIME PERIOD	MAXIMUM INCENTIVE
WINTER SHUTDOWN, ALL LANES AND RAMPS WITHIN THE PROJECT LIMITS, OPEN TO UNRESTRICTED TRAFFIC BETWEEN OCTOBER 15, 2018 AND APRIL 15, 2019 AND BETWEEN OCTOBER 15, 2019 AND APRIL 15,2020	OCTOBER 15, 2018	DAY	$5000	N/A	N/A
	OCTOBER 15, 2019	DAY	$5000	N/A	N/A

ITEM 614 - MAINTAINING TRAFFIC

THIS ITEM SHALL CONSIST OF MAINTENANCE OF TRAFFIC ON EXISTING ROADWAYS AND RAMPS 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. ALL RAMPS AND LANES ARE TO REMAIN OPENED TO TRAFFIC UNLESS OTHERWISE SPECIFIED IN THESE PLANS OR PERMITTED BY ODOT'S PERMITTED LANE CLOSURE TIMES.

2. SHORT-TERM SHOULDER CLOSURES ON I-90 ARE NOT PERMITTED BETWEEN THE HOURS OF 6AM TO 9AM AND 3PM TO 7PM.

3. ANY WORK (TRAFFIC PROTECTION, SIGN ERECTION, ETC.) OVER LIVE TRAFFIC BY THE CONTRACTOR THAT REDUCES THE EXISTING VERTICAL CLEARANCE IS PROHIBITED UNLESS 4 WEEKS ADVANCED NOTICE IS PROVIDED TO THE ENGINEER WITH NEW PROPOSED VERTICAL CLEARANCES. THE CONTRACTOR SHALL PROVIDE FIELD MEASUREMENTS BEFORE ALLOWING TRAFFIC UNDERNEATH. IF ANY WORK IS TO OCCUR BELOW 14'-6", THEN SIGNS ON THE STRUCTURE AND ADVANCE WARNING SIGNS SHALL BE INSTALLED A MINIMUM OF 2 WEEKS PRIOR TO PERFORMING SUCH WORK. SIGNING SHALL BE IN ACCORDANCE WITH THE "OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES" (OMUTCD) AND THE OHIO "TRAFFIC ENGINEERING MANUAL" (TEM). NO WORK OVER TRAFFIC SHALL OCCUR WITH A VERTICAL CLEARANCE LESS THAN 13'-10". LOWERING THE VERTICAL CLEARANCE DURING CONSTRUCTION IS CONSIDERED THE CONTRACTOR'S MEANS AND METHODS OF ACCOMPLISHING THE WORK, AND THEREFORE THE STATE IS NOT RESPONSIBLE FOR ANY DAMAGE FROM VEHICULAR IMPACTS THAT MAY RESULT, AS PER 107.10.

4. LANE CLOSURES MAY ONLY BE IMPLEMENTED AT THE TIMES PERMITTED BY ODOT'S, PERMITTED LANE CLOSURE WEB SITE, WHICH IS LOCATED ON ODOT'S WEB SITE AT:
http://www.dot.state.oh.us/districts/D12/HighwayManagement/Pages/PermittedLaneClosures.aspx

ALL NOTES ON THE PERMITTED LANE CLOSURE TIMES SHALL BE PART OF THE PROJECT. THE LATEST REVISION, 14 DAYS PRIOR TO THE BID DATE, WILL BE IN EFFECT FOR THIS JOB.

5. IT IS THE INTENT TO MINIMIZE THE IMPACT TO THE TRAVELING PUBLIC. LANE CLOSURES OR 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 C&MS 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.

WORK ZONE RESTRICTIONS

THE FOLLOWING RESTRICTIONS SHALL APPLY TO THIS PROJECT:
1) ASPHALT MILLING AND PLACING INTERMEDIATE COURSE SHALL BE PERFORMED UNDER THE SAME OPERATION, PRIOR TO OPENING THE PAVEMENT TO TRAFFIC.

2) WORK ZONE OR PERMANENT MARKINGS SHALL BE IN PLACE PRIOR TO OPENING THE ROADWAY TO TRAFFIC, INCLUDING EDGE LINES.

3) ALL RAMPS SHALL REMAIN OPEN TO TRAFFIC AT ALL TIMES, EXCEPT AS NOTED IN THE PLAN.

4) SHORT DURATION CLOSURES OF THE INTERSTATE ARE PERMISSIBLE, ONLY BETWEEN THE HOURS OF 12AM TO 5AM, AND THE DURATION IS LIMITED TO 15 MINUTES. THE MAINTENANCE OF TRAFFIC SHALL CONFORM TO THE PLAN INSERT SHEET, SHEET 66.

5) SHORT DURATION CLOSURE ON E.185, NEFF ROAD, AND E. 200TH ARE PERMISSIBLE, ONLY BETWEEN THE HOURS OF 12AM TO 5AM, AND THE DURATION IS LIMITED TO 15 MINUTES.

6) NO LANE CLOSURES ARE PERMITTED ON E.185, NEFF ROAD, AND E. 200TH WEEKDAYS FROM 6:00 AM TO 9:00 AM AND FROM 3:00 PM TO 7:00 PM. ONE LANE IN EACH DIRECTION SHALL REMAIN OPEN AT ALL TIMES OTHER THAN AS PERMITTED UNDER ITEM 5 ABOVE. ALL LANE CLOSURE SHALL BE PER THE OMUTCD OR APPROPRIATE ODOT STANDARD DRAWING.

7) THE RAMP LANE UNDER E. 185TH STREET MAY BE CLOSED WITHIN THE HOURS PERMITTED IN ITEM 6 ABOVE, PROVIDED DETOUR SIGNS ARE PLACED TO ALLOW THE I-90 EB EXIT RAMP TRAFFIC TO MAKE A RIGHT TURN ONTO E.185TH NB AND THE E. 185TH STREET NB DETOUR TO I-90 WB INSTALLED FOR PHASE 1 IS IN PLACE.

8) THE RAMP LANE UNDER NEFF ROAD SHALL NOT BE CLOSED DURING PHASE 1, 4, OR 5. THE RAMP MAY BE CLOSED WITHIN THE HOURS PERMITTED IN ITEM 6 ABOVE, IF TRAFFIC IS DETOURED ALONG NEFF ROAD SB TO SOUTH WATERLOO ROAD EB.

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.

DROPOFFS IN WORK ZONE

THE WEDGE TREATMENT AS DETAILED IN STANDARD DRAWING MT-101.90 WILL BE REQUIRED AND SHALL BE INCLUDED IN THE LUMP SUM BID PRICE FOR ITEM 614 - MAINTAINING TRAFFIC.

PAVEMENT WEDGE

TEMPORARY PAVEMENT WEDGES SHALL BE PROVIDED AT ALL TIMES WHERE TRAFFIC IS REQUIRED TO TRAVEL FROM OR ONTO A PAVEMENT SURFACE OF A DIFFERENT ELEVATION, AROUND MANHOLES, AT CATCH BASINS, ETC. THE MINIMUM SLOPE OF THE TEMPORARY PAVEMENT WEDGE SHALL BE 3:1 ALONG LONGITUDINAL JOINTS AND 120:1 AT TRANSVERSE JOINTS. THESE WEDGES SHALL BE REMOVED PRIOR TO PLACING THE SPECIFIED PAVEMENT COURSE. PAYMENT FOR ALL WORK, MATERIALS, ETC. ASSOCIATED WITH THIS ITEM SHALL BE PAID FOR UNDER ITEM 614 MAINTAINING TRAFFIC LUMP SUM.

RESTORATION OF PAVEMENT MARKINGS DURING CONSTRUCTION

FOLLOWING PHASE 1 AND PRIOR TO PHASE 2, THE CONTRACTOR SHALL RESTORE EXISTING PAVEMENT MARKING ON WB I-90. FOLLOWING PHASE 3 AND PRIOR TO PHASE 4, THE CONTRACTOR SHALL RESTORE EXISTING PAVEMENT MARKINGS ON EB I-90. THE FOLLOWING QUANTITIES HAVE BEEN CARRIED TO THE GENERAL SUMMARY FOR THIS PURPOSE:

ITEM 621 -RPM	340 EACH
ITEM 614 - WORK ZONE LANE LINE, CLASS I, 642 PAINT	6.89 MILE
ITEM 614 - WORK ZONE EDGE LINE, CLASS I, 642 PAINT	4.32 MILE
ITEM 614 - WORK ZONE CHANNELIZING LINE, CLASS I, 642 PAINT	3676 FT
ITEM 614 - WORK ZONE TRANSVERSE/DIAGONAL LINE, CLASS I, 642 PAINT	95 FT

SEQUENCE OF CONSTRUCTION

THE FOLLOWING SEQUENCE OF CONSTRUCTION IS ASSUMED FOR THIS PROJECT:

PRE-PHASE 1
PRIOR TO BEGINNING PHASE 1, THE CONTRACTOR SHALL INSTALL PAVEMENT FOR MAINTAINING TRAFFIC AT THE WESTBOUND ON-RAMP FROM E 185TH STREET (RAMP 11), FOR PURPOSES OF PERMITTING LEFT-TURNS FROM NB E 185TH ST TO WB I-90 IN PHASE 1.

PHASE 1
INSTALL TEMPORARY TRAFFIC CONTROL AS SHOWN IN THE PLANS, AND REPLACE THE CENTER SECTION OF EACH BRIDGE DECK. THIS WORK SHALL INCLUDE REMOVING THE EXISTING MEDIAN BARRIER, AND INSTALLATION OF TEMPORARY DRAINAGE PROVISIONS (E.G., SLOT DRAINS) AS SHOWN IN THE PLANS.

PHASE 2
RESTORE THE EXISTING PAVEMENT MARKINGS AND TRAFFIC CONTROL ON WB I-90. SHIFT EB I-90 TRAFFIC TO PROVIDE TWO LANES OF CONTRA-FLOW, AS SHOWN IN THE PLANS. CONSTRUCT THE MIDDLE PORTION OF THE EB I-90 BRIDGE DECKS.

PHASE 3
SHIFT EB-I-90 TRAFFIC TO THE NORTHMOST PORTION OF THE PAVEMENT, AND COMPLETE CONSTRUCTION OF THE EB BRIDGE DECKS.

WINTER SHUTDOWN
SHOULD THIS PROJECT EXTEND INTO MULTIPLE CONSTRUCTION SEASONS, THE PROJECT SHALL BE SHUT DOWN FOR THE PERIOD OF TIME BETWEEN OCTOBER 15 AND APRIL 15. DURING WHICH TIME PAVEMENT MARKINGS SHALL BE RESTORED TO ALLOW 4 - 12' LANES OF TRAVEL. SEE BRIDGE PHASE REMOVAL DETAILS FOR ADDITIONAL INFORMATION.
PHASE 4

SHIFT WB I-90 TRAFFIC TO PROVIDE TWO LANES OF CONTRA-FLOW, AS SHOWN IN THE PLANS. CONSTRUCT THE MIDDLE PORTION OF THE WB I-90 BRIDGE DECKS.

PHASE 5
SHIFT WB-I-90 TRAFFIC TO THE SOUTHMOST PORTION OF THE PAVEMENT, AND COMPLETE CONSTRUCTION OF THE WB BRIDGE DECKS.

PRE-PHASE 6:
RESURFACE WB I-90 AND INSTALL FINAL PAVEMENT MARKINGS, AS SHOWN IN THE TRAFFIC CONTROL PLANS ON WB I-90.

PHASE 6:
REPLACE THE MEDIAN BARRIER, AS NECESSARY. PROVIDE FINAL RESURFACING AND INSTALL ALL FINAL MARKINGS ON I-90.

CALCULATED MJH CHECKED KAE

MAINTENANCE OF TRAFFIC GENERAL NOTES - 1

CUY-90-26.16 / VAR

ITEM 614 - PORTABLE CHANGABLE MESSAGE SIGNS, AS PER PLAN

THE CONTRACTOR SHALL FURNISH, INSTALL, MAINTAIN AND REMOVE, WHEN NO LONGER NEEDED, A CHANGEABLE MESSAGE SIGN. THE SIGN SHALL BE OF A TYPE SHOWN ON A LIST OF APPROVED PCMS UNITS AVAILABLE ON THE OFFICE OF MATERIALS MANAGEMENT WEB PAGE. THE LIST CONTAINS CLASS A AND B UNITS WITH MINIMUM LEGIBILITY DISTANCES OF 800 FEET AND 650 FEET, RESPECTIVELY.

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. THE PCMS SHALL BE DELINEATED IN ACCORDANCE WITH C&MS 614.03.

THE PROBABLE PCMS LOCATIONS AND WORK LIMITS FOR THOSE LOCATIONS SHALL BE AS DIRECTED BY THE ENGINEER. 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 CONTRACTOR SHALL, AT THE DIRECTION OF THE ENGINEER, RELOCATE THE PCMS TO IMPROVE VISIBILITY OR ACCOMMODATE CHANGED CONDITIONS. WHEN NOT IN USE, THE PCMS SHALL BE TURNED OFF. ADDITIONALLY, WHEN NOT IN USE FOR EXTENDED PERIODS OF TIME, THE PCMS SHALL BE TURNED AWAY FROM ALL TRAFFIC.

THE ENGINEER SHALL BE PROVIDED ACCESS TO EACH SIGN UNIT AND SHALL BE PROVIDED WITH APPROPRIATE TRAINING AND OPERATION INSTRUCTIONS TO ENABLE ODOT PERSONNEL TO OPERATE AND TROUBLESHOOT THE UNIT, AND TO REVISE SIGN MESSAGES, IF NECESSARY.

THE CONTRACTOR SHALL IMPLEMENT A SYSTEM WHEREBY CHANGEABLE MESSAGES WILL BE IMPLEMENTED WITHIN 2 HOURS FOLLOWING TELEPHONE NOTIFICATION FROM THE PROJECT ENGINEER TO A DESIGNATED PHONE.

ALL MESSAGES TO BE DISPLAYED ON THE SIGN WILL BE PROVIDED BY THE ENGINEER. A LIST OF ALL REQUIRED PRE-PROGRAMMED MESSAGES WILL BE GIVEN TO THE CONTRACTOR AT THE PROJECT PRECONSTRUCTION CONFERENCE. THE SIGN SHALL HAVE THE CAPABILITY TO STORE UP TO 99 MESSAGES. 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. THREE-LINE PRESENTATION FORMATS WITH UP TO SIX MESSAGE PHASES SHALL BE SUPPORTED. 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, DEACTIVATED 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, ACTIVE CELLULAR PHONE AREAS, ALLOW REMOTE SIGN ACTIVATION, MESSAGE CHANGES, MESSAGE ADDITIONS AND REVISIONS TO TIME OF DAY PROGRAMS. THE SYSTEM SHALL ALSO PERMIT VERIFICATION OF CURRENT AND PROGRAMMED MESSAGES.

ITEM 614 - PORTABLE CHANGABLE MESSAGE SIGNS, AS PER PLAN (CONT.)

ONE REMOTE DATA INPUT DEVICE (LAPTOP COMPUTER PLUS MODEM OR EQUIVALENT) SHALL BE FURNISHED FOR USE BY THE DISTRICT TRAFFIC ENGINEER, OR EQUIVALENT, AND SHALL BE INSURED AGAINST THEFT.

THE PCMS UNIT SHALL BE MAINTAINED IN GOOD WORKING ORDER BY THE CONTRACTOR IN ACCORDANCE WITH THE PROVISIONS OF C&MS 614.07. 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. THE ENTIRE COST TO CONTROL TRAFFIC, ACCRUED BY THE DEPARTMENT DUE TO THE CONTRACTOR'S NONCOMPLIANCE, WILL BE DEDUCTED FROM MONEYS DUE, OR TO BECOME DUE THE CONTRACTOR ON HIS CONTRACT.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR 24-HOUR-PER-DAY OPERATION AND MAINTENANCE OF THESE SIGNS ON THE PROJECT FOR THE DURATION OF THE PHASES WHEN THE PLAN REQUIRES THEIR USE.

PAYMENT FOR THE ABOVE DESCRIBED ITEM SHALL BE AT THE CONTRACT UNIT PRICE. PAYMENT 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 - 24 SIGN MONTH

ITEM 614 MAINTAINING TRAFFIC - VERTICAL CLEARANCE RESTRICTIONS

ON E. 185TH ST., NEFF ROAD, AND E. 200TH ST., THE CONTRACTOR SHALL MAINTAIN A MINIMUM VERTICAL CLEARANCE OF 14'-6" AT ALL TIMES OVER OPEN LANES OF TRAFFIC.

ITEM 618 RUMBLE STRIPS, (ASPHALT CONCRETE), AS PER PLAN

WORK SHALL CONSIST OF THE FOLLOWING:

1. MILLING OF THE EXISTING SHOULDER RUMBLE STRIPS TO A MINIMUM DEPTH OF 1 ½" AND A MINIMUM WIDTH OF 6" WIDER THAN THE EXISTING RUMBLE STRIPS, WITHIN THE LIMITS THAT CONFLICT WITH MOT TRAFFIC PATTERNS THROUGHOUT THE PROJECT.

2. APPLY A TACK COAT CONFORMING TO ITEM 407 TO THE BOTTOM AND SIDES OF THE MILLED AREAS.

3. FILL THE MILLED AREA WITH ITEM 442 - ASPHALT CONCRETE SURFACE COURSE, 12.5MM, TYPE A (448), PG76-22M. THE CONTRACTOR SHALL BE RESPONSIBLE FOR HE REPAIR OF ANY ITEM 442 FAILURES OR SEPARATIONS.

PAYMENT WILL BE MADE FOR THE NUMBER OF LINEAR FEET OF RUMBLE STRIP REMOVED AND FILLED AS MEASURED IN THE FIELD.

THE FOLLOWING QUANTITY HAS BEEN CARRIED TO THE GENERAL SUMMARY:

ITEM 618 RUMBLE STRIPS, (ASPHALT CONCRETE), AS PER PLAN	17,368 FT

ITEM 614 - WORK ZONE IMPACT ATTENUATOR FOR 24" WIDE HAZARDS (UNIDIRECTIONAL)

THIS ITEM SHALL CONSIST OF FURNISHING AND INSTALLING A NON-GATING IMPACT ATTENUATOR. FURNISH AN IMPACT ATTENUATOR FROM THE OFFICE OF ROADWAY ENGINEERING'S APPROVED LIST FOR WORK ZONE IMPACT ATTENUATORS, FROM THE ROADWAY STANDARD'S WEB PAGE FOR ROADWAY STANDARDS APPROVED PRODUCTS.

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.

ITEM 611 - 12", SLOTTED DRAIN, TYPE 2, AS PER PLAN
ITEM 611 - 12", CONDUIT, TYPE B, AS PER PLAN

THESE ITEMS SHALL CONSIST OF TEMPORARY 12 INCH DIAMETER SLOTTED DRAIN ALUMINUM COATED STEEL CONDUIT 707.01 WITH 6 INCH TRAPEZOIDAL GALVANIZED SOLID BAR GRATE AS DETAILED ON STANDARD CONSTRUCTION DRAWING DM-1.3, AND AS APPROVED BY THE ENGINEER, AND TEMPORARY 12", CONDUIT, TYPE B FOR MAINTAINING TRAFFIC.

ALL COSTS FOR LABOR AND MATERIALS, INCLUDING CONNECTIONS, TYPE 2 BEDDING, AND BACKFILLING FOR BOTH THE SLOTTED DRAIN AND THE CONDUIT, TYPE B AS DETAILED ON STANDARD CONSTRUCTION DRAWING DM-1.3, AND ALL REMOVAL AND RESTORATION, FOR BOTH THE 12" SLOTTED DRAIN AND THE 12" CONDUIT, TYPE B INCLUDING BACKFILLING THE VOID AS DETAILED UNDER STANDARD CONSTRUCTION DRAWING DM-1.3, SHALL BE INCLUDED IN THE PRICE BID PER FOOT. THE FOLLOWING QUANTITIES HAVE BEEN CARRIED TO THE GENERAL SUMMARY FOR THIS PURPOSE.

ITEM 611 - 12" SLOTTED DRAIN, TYPE 2, AS PER PLAN	378 FEET
ITEM 611 - 12" CONDUIT TYPE B, AS PER PLAN	390 FEET

CALCULATED MJH CHECKED KAE

MAINTENANCE OF TRAFFIC GENERAL NOTES - 2

CUY-90-26.16/VAR

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 C&MS 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 TASK:

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

IN ADDITION TO THE REQUIREMENT OF C&MS 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) SHOULD BE PROVIDED FOR THE FOLLOWING TRAFFIC CONTROL TASKS:

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. 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.

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 CONTRACTOR. 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.

ITEM 614 - LAW ENFORCEMENT OFFICER (WITH PATROL CAR) FOR ASSISTANCE DURING CONSTRUCTION OPERATIONS (CONT.)

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 100 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 A LEO ARE INCLUDED WITH THE BID UNIT PRICE FOR ITEM 614, LAW ENFORCEMENT OFFICER WITH PATROL CAR FOR ASSISTANCE.

DELINEATION OF PORTABLE BARRIER

BARRIER REFLECTORS AND OBJECT MARKERS SHALL BE INSTALLED ON ALL PORTABLE BARRIER (PB) USED FOR TRAFFIC CONTROL AND ON PERMANENT CONCRETE BARRIER (INCLUDING BRIDGE PARAPETS) LOCATED WITHIN 5 FEET OF THE EDGE OF THE ADJACENT TRAVEL LANE.

BARRIER REFLECTORS SHALL CONFORM TO C&MS 626, EXCEPT THAT THE SPACING SHALL BE AS PER TRAFFIC SCD MT-101.70. OBJECT MARKERS AND THEIR INSTALLATION SHALL CONFORM TO C&MS 614.03 AND SCD MT-101.70. WHEN THE PB CONTAINS GLARE SCREEN, ONE SET OF THREE VERTICAL STRIPES OF SHEETING SHALL BE CONSIDERED EQUIVALENT TO AN OBJECT MARKER, ONE-WAY.

INCREASED BARRIER DELINEATION, AS SPECIFIED HEREIN, SHALL BE INSTALLED ON ALL PB AND CONCRETE PERMANENT BARRIER LOCATED WITHIN 5 FEET OF THE EDGE OF THE TRAVELED LANE ALONG TAPERS AND TRANSITION AREAS AND ALONG CURVES (OUTSIDE ONLY) WITH DEGREE OF CURVATURE GREATER THAN OR EQUAL TO 3 DEGREES.

THE INCREASED BARRIER DELINEATION SHALL CONSIST OF EITHER DELINEATION PANELS OR THE TRIPLE STACKING OF WORK ZONE BARRIER REFLECTORS.

DELINEATION PANELS SHALL CONSIST OF PANELS OF DELINEATION, APPROXIMATELY 34 INCHES LONG AND 6 INCHES WIDE AND SHALL BE "CRIMPED". PANELS SHALL BE INSTALLED AND SPACED PER TRAFFIC SCD MT-101.70.

TRIPLE-STACKED BARRIER REFLECTORS SHALL CONSIST OF ALIGNING THREE BARRIER REFLECTORS VERTICALLY, AT LOCATIONS WHERE A SINGLE BARRIER REFLECTOR WOULD BE OTHERWISE ATTACHED. THERE SHALL BE NO OPEN SPACE BETWEEN THE ADJACENT BARRIER REFLECTORS. THE TRIPLE-STACKED BARRIER REFLECTORS SHALL CONFORM TO C&MS 626, EXCEPT THAT THEY SHALL BE SPACED AND ALIGNED PER TRAFFIC SCD MT-101.70.

PAYMENT SHALL BE FULL COMPENSATION FOR ALL MATERIAL, LABOR, INCIDENTALS AND EQUIPMENT NECESSARY FOR FURNISHING, INSTALLING, MAINTAINING AND REMOVING EACH OF THE ABOVE ITEMS. ALONG RUNS OF INCREASED BARRIER DELINEATION WHERE THIS ITEM IS PROVIDED, THE QUANTITY SHALL BE MEASURED AS THE ENTIRE LENGTH OF THE RUN OF INCREASED BARRIER DELINEATION, INCLUDING THE SPACES BETWEEN THE INDIVIDUAL DELINEATION PANELS OR STACKS OF BARRIER REFLECTORS.

DELINEATION OF PERMANENT GUARDRAIL AND CONCRETE BARRIER

TYPE 2, ONE-WAY BARRIER REFLECTORS SHALL BE INSTALLED ON ALL GUARDRAIL LOCATED WITHIN 5 FEET OF THE EDGE OF THE ADJACENT TRAVEL LANE. TYPE 1, ONE-WAY BARRIER REFLECTORS SHALL BE INSTALLED ON ALL CONCRETE BARRIER (INCLUDING BRIDGE PARAPETS) LOCATED WITHIN 5 FEET OF THE EDGE OF THE ADJACENT TRAVEL LANE. BARRIER REFLECTORS SHALL CONFORM TO C&MS 626, AND THE SPACING SHALL BE APPROXIMATELY 50 FEET.

OBJECT MARKERS SHALL BE INSTALLED ON ALL PERMANENT GUARDRAIL AND CONCRETE BARRIER (INCLUDING BRIDGE PARAPETS) 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 MARKERS SHALL CONFORM TO C&MS 614.03 AND THE SPACING SHALL BE APPROXIMATELY 50 FEET.

THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN INCLUDED IN THE PLANS AND CARRIED TO THE GENERAL SUMMARY:

ITEM 614, BARRIER REFLECTOR, TYPE 2, ONE-WAY	20 EACH
ITEM 614, BARRIER REFLECTOR, TYPE 1, ONE-WAY	15 EACH
ITEM 614, OBJECT MARKER, ONE-WAY	35 EACH

PAYMENT SHALL BE FULL COMPENSATION FOR ALL MATERIAL, LABOR, INCIDENTALS AND EQUIPMENT NECESSARY FOR FURNISHING, INSTALLING, MAINTAINING AND REMOVING THE ABOVE ITEMS.

ITEM 622 - PORTABLE BARRIER, 50", AS PER PLAN
ITEM 622 - PORTABLE BARRIER, 50", BRIDGE MOUNTED,AS PER PLAN

THIS WORK SHALL CONSIST OF FURNISHING, MAINTAINING, AND SUBSEQUENTLY REMOVING A 50-INCH PORTABLE BARRIER AT THE LOCATIONS SHOWN ON THE PLANS. FOR DETAILS, SEE SCD RM-4.1.

PORTABLE STEEL BARRIER IS AN APPROVED ALTERNATIVE TO PORTABLE CONCRETE BARRIER. FOR INFORMATION ON APPROVED VENDORS, SEE THE APPROVED PRODUCTS LIST MAINTAINED BY THE OFFICE OF ROADWAY ENGINEERING.

PORTABLE 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 ROADWAY ENGINEERING WEBSITE.

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 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.

ON BRIDGE STRUCTURES AND APPROACH SLABS, THIS WORK SHALL CONSIST OF FURNISHING, MAINTAINING, AND SUBSEQUENTLY REMOVING A BRIDGE MOUNTED, 32-INCH, PORTABLE BARRIER WITH A GLARE SCREEN SYSTEM AS DETAILED ABOVE AT THE LOCATIONS SHOWN ON THE PLANS. FOR DETAILS, SEE SCD PCB-91.

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 BARRIER, 50", AS PER PLAN OR ITEM 622 - PORTABLE BARRIER, 50", BRIDGE MOUNTED,AS PER PLAN.

ITEM 622 - BARRIER, MISC.: MODIFY BARRIER

WHEN SPECIFIED IN THE PLANS, THE CONTRACTOR SHALL MAKE ADJUSTMENTS TO PORTABLE BARRIER TO PREVENT STORM WATER FROM PASSING UNDER THE BARRIER. THE METHOD AND EFFECTIVENESS SHALL BE APPROVED BY THE ENGINEER, PRIOR TO COMMENCING CONSTRUCTION WITHIN THE WORK ZONE.

PAYMENT FOR ITEM 614 "MAINTAINING TRAFFIC, MISC.: MODIFY PORTABLE BARRIER" SHALL BE MADE AT THE CONTRACT PRICE, INCLUDING ALL LABOR AND MATERIAL NECESSARY TO ADJUST THE BARRIER TO PREVENT WATER FLOW UNDER THE BARRIER.

CALCULATED MJH CHECKED KAE

MAINTENANCE OF TRAFFIC GENERAL NOTES - 3

CUY-90-26.16 / VAR

ITEM 614 - 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 SHALL 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 1-703-235-0500.

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.

A COPY OF EACH WTS'S 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 WTS CERTIFICATION CONTAINING THE DATE OF ISSUE AND SHALL BE FROM ANY OF THE APPROVED ORGANIZATIONS. AT THE TIME OF THE PRECONSTRUCTION CONFERENCE, THE WTS CERTIFICATION DATE OF ISSUE SHALL BE WITHIN THE 5 YEARS PRIOR TO THE ORIGINAL COMPLETION DATE OF THE PROJECT.

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. COORDINATE A TRAFFIC INCIDENT MANAGEMENT MEETING EACH YEAR BEFORE CONSTRUCTION WORK BEGINS WITH ODOT AND THE SAFETY FORCES THAT WILL RESPOND TO INCIDENTS ON THE PROJECT. ITEMS TO BE DISCUSSED WILL BE THE:
A. TRAFFIC INCIDENT MANAGEMENT PLAN (TIMP);
B. EMERGENCY RESPONSE AND NOTIFICATION;
C. PROJECT WORK/PHASING CONCERNS (E.G., RAMP CLOSURES); AND
D. RESPONDERS CONCERNS.

5. BE AWARE OF, AND COORDINATE IF NECESSARY, ALL TRAFFIC CONTROL OPERATIONS, INCLUDING THOSE OF SUBCONTRACTORS AND SUPPLIERS.

6. 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.

7. COORDINATE MEETINGS WITH ODOT PERSONNEL, LEOS AND OTHER APPLICABLE ENTITIES BEFORE EACH PLAN PHASE SWITCH TO DISCUSS WORK ZONE TRAFFIC CONTROL.

8. 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.

9. NOTIFY THE CONTRACTOR OF THE NEED FOR CLEANING AND MAINTENANCE OF ALL TRAFFIC CONTROL DEVICES, INCLUDING THE COVERING AND REMOVAL OF INAPPLICABLE SIGNS.

10. 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;

ITEM 614 - WORKSITE TRAFFIC SUPERVISOR (CONT.)

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.
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.

11. COMPLETE THE DEPARTMENT APPROVED LONG TERM INSPECTION FORM (CA-D-8) AFTER EACH INSPECTION AS REQUIRED IN # 10 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 CURRENT REVISION OF THE DEPARTMENT OF TRANSPORTATION CONSTRUCTION INSPECTION FORMS MANUAL.

12. VERIFY THAT ALL FLAGGING OPERATIONS ARE BEING CONDUCTED PER THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES.

13. 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.

14. IDENTIFY AND CONTACT ALL POSSIBLE RESPONSE PERSONNEL; PREPLAN AND KEEP AN UPDATED ROSTER WITH PHONE NUMBERS:
A. FEDERAL, STATE, AND LOCAL TRANSPORTATION AGENCIES (TRAFFIC MANAGEMENT CENTER);
B. REGIONAL, COUNTY OR LOCAL 911 DISPATCH; AND
C. TOWING AND RECOVERY PROVIDERS.

15. COMPLY WITH THE PROVISIONS OF OMUTCD CHAPTER 6I, CONTROL OF TRAFFIC THROUGH TRAFFIC INCIDENT MANAGEMENT AREAS.

16. PROPOSE A RESPONSE/ACTION PLAN TO:
A. ESTABLISH ALTERNATE ROUTE PLANS PER THE PROVIDED ODOT PLAYBOOK;
B. REMOVE TRAFFIC DEMAND FROM IMPACTED ROADWAY(S);
C. DIVERT TRAFFIC TO ROUTES THAT CAN ACCOMMODATE DEMANDS;
D. DETOUR TRAFFIC AWAY FROM SENSITIVE AREAS (SUCH AS SCHOOLS, HOSPITALS, ETC.);
E. DISCUSS METHODS OF DETERMINING A STAGING AREA FOR RESPONDERS WITHIN OR NEAR THE CONSTRUCTION ZONE; AND
F. DISCUSS METHODS OF DEVELOPING INGRESS AND EGRESS SITES WITHIN THE CONSTRUCTION ZONE. THE RESPONSE/ACTION PLAN SHALL BE SUBMITTED TO ODOT FOR ACCEPTANCE BEFORE THE CONTRACTOR'S FIRST DAY OF WORK.

17. PERFORM, AT A MINIMUM, THE FOLLOWING FUNCTIONS IN INCIDENT DETECTION AND VERIFICATION:
A. CALL 911/ NOTIFY TRAFFIC MANAGEMENT CENTER AND PROVIDE THE FOLLOWING:
I. LOCATION INCLUDING MILEPOST NUMBER AND DIRECTION OF TRAVEL.
II. NUMBER AND TYPE OF VEHICLES INVOLVED.
III. ESTIMATED EXTENT OF DAMAGE OR INJURY.
IV. ESTIMATED NUMBER OF PATIENTS INVOLVED.
V. ANY POTENTIAL HAZARDOUS CONDITIONS.
VI. THE PLACARD NUMBER ON ANY HAZARDOUS MATERIALS PLACARD FROM A SAFE DISTANCE.
B. INITIATE TRAFFIC MANAGEMENT / PROVIDE TRAFFIC CONTROL.
C. ASSIST MOTORIST WITH DISABLED VEHICLES.
D. RECOMMEND ROADWAY REPAIR NEEDS.
E. PROVIDE REPAIR RESOURCES.

18. ATTEND POST-INCIDENT DEBRIEFINGS IF REQUIRED.

ITEM 614 - WORKSITE TRAFFIC SUPERVISOR (CONT.)

THE DEPARTMENT WILL DEDUCT THE PRORATED DAILY AMOUNT OF 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:

THE FOLLOWING QUANTITY HAS BEEN CARRIED TO THE GENERAL SUMMARY FOR THIS ITEM:

ITEM 614 - WORKSITE TRAFFIC SUPERVISOR 16 MONTHS

ITEM 614 - WORKZONE RAISED PAVMENT MARKER, AS PER PLAN

WORK ZONE RAISED PAVEMENT MARKERS, AS PER PLAN, AND THEIR INSTALLATION SHALL CONFORM TO C&MS 614 OR C&MS 621 AS SPECIFIED HEREIN.
* RAISED PAVEMENT MARKERS IN USE DURING THE SNOW-PLOWING SEASON SHALL CONFORM TO 621. ITEM 621 RAISED PAVEMENT MARKERS SHALL NOT BE INSTALLED ON NEW BRIDGE DECK SURFACES.
* 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 OCTOBER 15 THROUGH APRIL 1. IF PROJECT DELAYS, NOT THE FAULT OF ODOT, CAUSE THE WORK TO EXTEND INTO THE SNOW-PLOWING SEASON, THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPLACING WORK ZONE RAISED PAVEMENT MARKERS (WZRPMS) CONFORMING TO C&MS 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 C&MS 621.08.

CALCULATED MJH CHECKED KAE

MAINTENANCE OF TRAFFIC GENERAL NOTES - 4

CUY-90-26.16/VAR

ITEM 614 - WORK ZONE SPEED ZONES (WZSZs)

THE FOLLOWING WORK ZONE SPEED ZONE (WZSZ) SPEED LIMIT REVISION(S) HAVE BEEN APPROVED FOR USE ON THIS PROJECT WHEN WORK ZONE CONDITIONS AND FACTORS ARE MET AS DESCRIBED BELOW:

WZSZ REVISION NUMBER	COUNTY & ROUTE	DIRECTION
WZ-65193	CUYAHOGA IR90	EB &WB

POTENTIAL WZSZ LOCATIONS SHALL HAVE AN ORIGINAL (PRE-CONSTRUCTION) POSTED SPEED LIMIT OF GREATER THAN OR EQUAL TO 55 MPH, A QUALIFYING WORK ZONE CONDITION OF AT LEAST 0.5 MILE IN LENGTH, AN EXPECTED WORK DURATION OF AT LEAST THREE HOURS, AND A WORK ZONE CONDITION IN PLACE THAT REDUCES THE EXISTING FUNCTIONALITY OF THE TRAVEL LANES OR SHOULDERS (I.E., LANE CLOSURE, LANE SHIFT, CROSSOVER, CONTRAFLOW AND/OR SHOULDER CLOSURE). THE LENGTH OF THE WORK ZONE CONDITION IS MEASURED FROM THE BEGINNING OF THE TAPER FOR THE SUBJECT WORK ZONE CONDITION IMPACTING THE TRAVEL LANES AND/OR SHOULDER TO THE END OF THE DOWNSTREAM TAPER, WHERE DRIVERS ARE RETURNED TO TYPICAL ALIGNMENT. AN EXPECTED WORK DURATION OF AT LEAST THREE HOURS IS REQUIRED TO BALANCE THE ADDITIONAL EXPOSURE CREATED BY INSTALLING AND REMOVING WZSZ SIGNING WITH THE TIME NEEDED TO COMPLETE THE WORK.

IF THE WORK ZONE MEETS THESE MINIMUM CRITERIA, IT SHALL BE ANALYZED FURTHER USING TABLE 1 (THIS SHEET) TO DETERMINE IF AND WHEN IT QUALIFIES FOR A SPEED LIMIT REDUCTION. DEPENDING ON THE ORIGINAL POSTED SPEED LIMIT, THE TYPE OF TEMPORARY TRAFFIC CONTROL USED, AND WHETHER OR NOT WORKERS ARE PRESENT, A WARRANTED WZSZ WILL VARY IN THE APPROVED SPEED LIMIT TO BE POSTED OVER TIME.

C&MS ITEM 614, PARAGRAPH 614.02(B), INDICATES THAT TWO DIRECTIONS OF A DIVIDIED HIGHWAY ARE CONSIDERED SEPARATE HIGHWAY SECTIONS. THEREFORE, IF THE WORK ON A MULTI-LANE DIVIDED HIGHWAY IS LIMITED TO ONLY ONE DIRECTION, A SPEED LIMIT REDUCTION IN THE DIRECTION OF THE WORK DOES NOT AUTOMATICALLY CONSTITUTE A SPEED LIMIT REDUCTION IN THE OPPOSITE
DIRECTION. EACH DIRECTION SHALL BE ANALYZED INDEPENDENTLY FROM EACH OTHER.

ALL WZSZS FLUCTUATE BETWEEN TWO APPROVED REDUCED SPEED LIMITS OR BETWEEN AN APPROVED REDUCED SPEED LIMIT AND THE ORIGINAL POSTED SPEED LIMIT. ONLY ONE OF TWO SIGNING STRATEGIES SHALL BE USED TO IMPLEMENT A WZSZ. THE PRIMARY SIGNING STRATEGY USES DIGITAL SPEED LIMIT (DSL) SIGN ASSEMBLIES. THE SECONDARY STRATEGY USES TEMPORARY FLATSHEET SPEED LIMIT SIGNS (R2-1) FOR WHEN THERE ARE NO DSL SIGN ASSEMBLIES ON THE APPROVED LIST, OR DSL SIGN ASSEMBLIES ARE NOT AVAILABLE.

WZSZS USING DSL SIGN ASSEMBLIES SHALL BE IN ACCORDANCE WITH THIS NOTE, SUPPLEMENTAL SPECIFICATION (SS) 808, AND TRAFFIC SCD MT-104.10. WZSZS USING TEMPORARY FLATSHEET SPEED LIMIT SIGNS SHALL BE IN ACCORDANCE WITH THIS NOTE AND SCD MT-104.10. ADDITIONALLY PAYMENT MAY BE REMOVED, OR A DISINCENTIVE APPLIED, FOR WZSZS USING TEMPORARY FLATSHEET SPEED LIMIT
SIGNS THE SAME AS DESCRIBED IN THE MOST RECENT PUBLICATION OF SS 808 IN REGARDS TO WZSZS USING DSL SIGN ASSEMBLIES (SEE SS 808.06 PARAGRAPHS 4 THROUGH 7, INCLUDING TABLE 1). ONLY ONE WARRANTED SPEED LIMIT APPLIES AT ANY ONE TIME; SPEED LIMIT REDUCTIONS ARE NOT CUMULATIVE. WZSZS SHALL NOT BE USED FOR MOVING/MOBILE ACTIVITIES, AS DEFINED IN OMUTCD PART 6.

WHEN LOOKING UP THE WARRANTED WORK ZONE SPEED LIMITS, ALWAYS USE THE ORIGINAL, PRECONSTRUCTION, POSTED SPEED LIMIT. DO NOT USE A PRIOR OR CURRENT WORK ZONE SPEED LIMIT AS A LOOK UP VALUE IN THE TABLE. POSITIVE PROTECTION IS GENERALLY REGARDED AS PORTABLE BARRIER OR OTHER RIGID BARRIER IN USE ALONG THE WORK AREA WITHIN THE SUBJECT WARRANTED WORK ZONE CONDITION. WITHOUT POSITIVE PROTECTION IS GENERALLY REGARDED AS
USING DRUMS, CONES, SHADOW VEHICLE, ETC., ALONG THE WORK AREA WITHIN THE SUBJECT WARRANTED WORK ZONE CONDITION. WORKERS ARE CONSIDERED AS BEING PRESENT WHEN ON-SITE, WORKING WITHIN THE SUBJECT WARRANTED WORK ZONE CONDITION. WHEN THE WORK ZONE CONDITION REDUCING THE EXISTING FUNCTIONALITY OF THE TRAVEL LANES OR SHOULDERS IS REMOVED, THE SPEED LIMIT DISPLAYED SHALL RETURN TO THE ORIGINAL POSTED SPEED LIMIT.

ITEM 614 - REPLACEMENT DRUMS

DRUMS FURNISHED BY THE CONTRACTOR IN ACCORDANCE WITH THE REQUIREMENTS OF THE PLANS, SPECIFICATIONS AND PROPOSAL WHICH BECOME DAMAGED BY TRAFFIC FOR REASONS BEYOND THE CONTROL OF THE CONTRACTOR SHALL BE REPLACED IN KIND WHEN ORDERED BY THE ENGINEER. REPLACEMENT DRUMS SHALL BE NEW.

ITEM 614 - REPLACEMENT DRUMS (CONT.)

PAYMENT FOR THE NEW DRUMS SHALL CONSIDERED INCIDENTAL TO THE LUMP SUM ITEM 614 MAINTAINING TRAFFIC. THIS INCLUDES THE COST FOR THE REPLACEMENT DRUM, AND SHALL ALSO INCLUDE THE COST OF REMOVING AND DISPOSING OF THE DAMAGED DRUM, AND PROVIDING AND MAINTAINING THE REPLACEMENT DRUM IN ACCORDANCE WITH THE CONTRACT REQUIREMENTS FOR THE ORIGINAL DRUM.

ITEM 614 - WORK ZONE SPEED ZONES (WZSZs) (CONT.)

TABLE 1: WARRANTED WORK ZONE SPEED LIMITS (MPH) FOR WORK ZONES ON HIGH-SPEED (GREATER OR EQUAL TO 55 MPH) MULTI-LANE HIGHWAYS

ORIGINAL POSTED SPEED LIMIT	WITH POSITIVE PROTECTION		WITHOUT POSITIVE PROTECTION	
	WORKERS PRESENT	WORKERS NOT PRESENT	WORKERS PRESENT	WORKERS NOT PRESENT
70	60	65	45	65
65	55	60	50	60
60	55	60	50	60
55	50	55	55	65

THE FOLLOWING ESTIMATED QUANTITY HAS BEEN CARRIED TO THE GENERAL SUMMARY:

ITEM 614, DIGITAL SPEED LIMIT (DSL) SIGN ASSEMBLY (ASSUMING 8 DSL SIGN ASSEMBLIES FOR 12 MONTHS) 96 SIGN MNTH

ITEM 614 - REPLACEMENT SIGN

FLATSHEET SIGNS FURNISHED BY THE CONTRACTOR IN ACCORDANCE WITH THE REQUIREMENTS OF THE PLANS, SPECIFICATIONS AND PROPOSAL WHICH BECOME DAMAGED BY TRAFFIC FOR REASONS BEYOND THE CONTROL OF THE CONTRACTOR SHALL BE REPLACED IN KIND WHEN ORDERED BY THE ENGINEER. REPLACEMENT SIGNS SHALL BE NEW. OTHER MATERIALS MAY BE IN USED, BUT GOOD, CONDITION SUBJECT TO APPROVAL BY THE ENGINEER.

PAYMENT FOR THE NEW SIGNS SHALL BE MADE AT THE CONTRACT PRICE PER EACH FOR ITEM 614, REPLACEMENT SIGN, AND SHALL INCLUDE THE COST OF REMOVING AND DISPOSING OF DAMAGED SIGNS, HARDWARE AND SUPPORTS, AND PROVIDING THE NECESSARY REPLACEMENT HARDWARE, SUPPORTS, ETC.

AN ESTIMATED QUANTITY OF 5 EACH HAS BEEN PROVIDED IN THE GENERAL SUMMARY.

ITEM 614 - WORK ZONE INCREASED PENALTIES SIGN

RH11-H5A-48 SIGNS SHALL BE FURNISHED, ERECTED, AND MAINTAINED IN GOOD CONDITION AND/OR REPALCED 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 SUPPORTSD MEETING CURRENT SAFETY CRITERIA.

UNCOVER OR PLACE WORK ZONE INCREASED PENALTIES SIGNS ONCE THE PAVEMENT SURFACE IS UNDER CONSTRUCTION FOR OVERLAY REMOVAL, PAVEMENT REPAIR, AND PLACEMENT OF INTERMEDIATE AND SURFACE COURSES. UNCOVER OR PLACE INCREASED PENALTIES SIGNS NO MORE THAN FOUR HOURS BEFORE THE ACTUAL START OF WORK. DO NOT COVER SIGNS WHEN LANES ARE RE-OPENED TO TRAFFIC SUBJECT TO THE PROVISIONS OF THE "SCHEDULE OF THROUGH LANES TO BE MAINTAINED." COVER OR REMOVE SIGNS BETWEEN OCTOBER 15 AND APRIL 1 EACH YEAR. REMOVE SIGNS ONCE ALL WORK REQUIRING LANE CLOSURES IS COMPLETE.

THE SIGNS SHALL BE DUAL MOUNTED. THE FIRST SIGN SHALL BE PLACED BETWEEN THE ROAD WORK AHEAD (W20-1) SIGN AND THE NEXT SIGN IN SEQUENCE. SIGNS SHALL BE ERECTED ON EACH ENTRANCE RAMP AND EVERY 2 MILES (3 KILOMETERS) THROUGH THE CONSTRUCTION WORK LIMITS.

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

ITEM 614 - WORK ZONE INCREASED PENALTIES SIGN (CONT.)

WORK ZONE INCREASED PENALTIES 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 RE-ERECTED AT ANOTHERLOCATION 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 6 EACH

LEGEND

TLL-XX	WORK ZONE LANE LINE
TEY-XX	WORK ZONE EDGE LINE (YELLOW)
TEW-XX	WORK ZONE EDGE LINE (WHITE)
TCV-XX	WORK ZONE CHEVRON MARKINGS
TCH-XX	WORK ZONE CHANNELIZING LINE
TDW-XX	WORK ZONE DOTTED LINE (WHITE)
TSL-XX	WORK ZONE STOP LINE
TCW-XX	WORK ZONE CROSSWALK LINE
PB-XX	PORTABLE BARRIER, 32"
PBM-XX	PORTABLE BARRIER (MODIFIED), 32" (SEE MAINTENANCE OF TRAFFIC GENERAL NOTES, SHEET 14)
PB50-XX	PORTABLE BARRIER, 50", AS PER PLAN
PB50M-XX	PORTABLE BARRIER (MODIFIED), 50", AS PER PLAN
IA-XX	IMPACT ATTENUATOR
PMT-XX	PAVEMENT FOR MAINTAINING TRAFFIC
	TYPE III BARRICADE
	DRUM - SPACE AT 80' ON TANGENTS, 50' ON TAPERS, AND 15' ON A TURN RADIUS, UNLESS OTHERWISE NOTED
	FLASHING ARROW PANEL
WORK ZONE SPEED LIMIT YY	DIGITAL SPEED LIMIT (DSL) SIGN ASSEMBLY (ORIGINAL POSTED SPEED = 60 MPH) (APPROVED WORK ZONE SPEED LIMIT = 55 MPH) ACTIVATE WHENEVER WORKERS ARE PRESENT
	TRAILER MOUNTED SIGN ASSEMBLY
	DIRECTION OF TRAVEL
	BRIDGE CONSTRUCTION ZONE
	ROAD CONSTRUCTION ZONE

CALCULATED MJH CHECKED KAE

MAINTENANCE OF TRAFFIC GENERAL NOTES - 5

CUY-90-26.16/VAR

16
222

SHEET NO.	PHASE	REF. NO.	DIR.	STATION FROM	STATION TO	DELINEATION FROM	DELINEATION TO	614											615	615			
										WORK ZONE RAISED PAVEMENT MARKER, AS PER PLAN	WORK ZONE LANE LINE, CLASS I, 642 PAINT	WORK ZONE EDGE LINE (YELLOW), CLASS I, 642 PAINT	WORK ZONE EDGE LINE (WHITE), CLASS I, 642 PAINT	WORK ZONE EDGE LINE (WHITE), CLASS I, 740.06, TYPE 1	WORK ZONE CHANNELIZING LINE, CLASS I, 642 PAINT	WORK ZONE DOTTED LINE (WHITE), CLASS I, 642 PAINT	WORK ZONE TRANSVERSE/ DIAGONAL LINE, CLASS I, 642 PAINT	WORK ZONE CROSSWALK LINE, CLASS I, 642 PAINT	ASPHALT CONCRTE FOR MAINTAINING TRAFFIC	ROADS FOR MAINTAINING TRAFFIC	PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A			
										EACH	MILE	MILE	MILE	MILE	FEET	FEET	FEET	FEET	CY	LUMP	SY			
19	PRE-PHASE 1	PMT-01		E 185TH ST																LUMP	127			
22-24	PHASE 1	TLL-01	EB	259+56	286+50						1.53													
22-24	|	TLL-02	WB	259+50	286+30						1.52													
21-25	|	TEY-01	EB	246+30	298+72	243+30	259+56			82		.99												
	|	TEY-01	EB			286+50	301+73			77														
21-25	|	TEY-02	WB	249+00	296+50	249+00	296+50			54		.90												
	|	TEY-02	WB			286+30	299+50			66														
21-22	|	TEW-01	EB	246+30	263+77	246+30	259+56			67			.33											
22-23	|	TEW-02	EB	263+29	274+75								.22											
23-24	|	TEW-03	EB	274+85	289+50								.28											
21-24	|	TEW-04	WB	249+00	286+30								.71											
21-22	|	TCH-01	EB	243+30	259+56	243+30	259+56			246					4878									
22	|	TCH-02	EB	262+55	263+29	262+55	263+29			8					148									
23	|	TCH-03	EB	274+08	274+85	274+08	274+85			8					154									
24-25	|	TCH-04	EB	286+50	301+73	286+50	301+73			231					4569									
21-22	|	TCH-05	WB	246+00	259+50	246+00	259+50			204					4050									
24-25	|	TCH-06	WB	286+30	299+50	286+30	299+50			198					3960									
22	|	TDW-01	EB	259+56	262+55											299								
23	|	TDW-02	EB	271+58	274+08											250								
24-25	|	TDW-03	EB	289+50	298+10											860								
25	|	TDW-04	WB	290+15	298+00											785								
27	↓	TCW-01	E 185TH ST (CADD MEASURED)															100						
29-33	PHASE 2	TEY-03	EB	246+30	293+00	246+30	301+75			278		.88												
29-33	|	TCH-07	EB	246+30	301+75	246+30	301+75			278					5545									
29-33	|	TCH-08	EB	246+30	298+72	246+30	298+72			263					5242									
30-32	|	TCH-09	EB	259+56	286+50										2694									
29	|	TCV-01	EB	246+30	254+70 (CADD MEASURED)													215						
29-30	|	PMT-02	M	253+00	261+50 (DEDUCT BRIDGE AND APPROACH SLABS)														54					
30-31	|	PMT-03	M	266+00	272+50 (DEDUCT BRIDGE AND APPROACH SLABS)														33					
32-33	↓	PMT-04	M	286+00	292+50 (DEDUCT BRIDGE AND APPROACH SLABS)														20					
36-37	PHASE 3	TEW-05	EB	246+30	262+66	246+30	259+00			64			.31											
37-38	|	TEW-06	EB	263+34	274+60	263+34	270+80			38			.21											
38-40	|	TEW-07	EB	274+80	298+11	274+80	293+00			91			.44											
36-40	|	TCH-10	EB	246+30	301+75	246+30	301+75			278					5545									
37	|	TCH-11	EB	261+39	263+34	261+39	263+34			20					390									
38	|	TCH-12	EB	273+08	274+80	273+08	274+80			18					344									
37	|	TDW-04	EB	259+00	261+39											239								
38	|	TDW-05	EB	270+80	273+08											228								
40	↓	TDW-06	EB	293+00	298+10											510								
42-46	PHASE 4	TEY-04	WB	249+05	296+50	246+05	299+50			268		.90												
42-45	|	TEW-08	WB	249+05	287+67	249+05	259+50			53			.73											
42-46	|	TCH-13	WB	246+05	299+50	246+05	259+50			68					5345									
	|	TCH-13				287+00	299+50			63														
42-46	|	TCH-14	WB	246+05	299+50	246+05	259+50			68					5345									
	|	TCH-14				287+00	299+50			63														
42-46	|	TCH-15	WB	250+25	296+50	250+25	296+50			232					4625									
42-46	|	TCH-16	WB	246+05	299+50	246+05	299+50			268					5345									
45-46	|	TDW-07	WB	289+95	297+36											741								
46	↓	TCV-2	WB	292+00	296+50 (CADD MEASURED)													150						
48-52	PHASE 5	TEW-09	WB	250+25	299+00	250+25	289+50			197			.92											
48-52	|	TCH-17	WB	250+25	296+50	250+25	296+50			232					4625									
51-52	↓	TDW-08	WB	289+50	297+35											785								
54-56	PHASE 6	TEY-04	WB	251+70	295+20									.82										
SUBTOTAL											3.05	3.67	4.15	.82										
TOTALS CARRIED TO GENERAL SUMMARY										4081	3.05 MI	7.82 MI		0.82 MI	62804	4697	365	100	107	LUMP	127			

CALCULATED MJH
CHECKED KAE

MAINTENANCE OF TRAFFIC SUBSUMMARY - 1

CUY-90-26.16/VAR

SHEET NO.	PHASE	REF. NO.	DIR.	STATION FROM	STATION TO	INCREASED BARRIER DELINEATION FROM	INCREASED BARRIER DELINEATION TO	614 INCREASED BARRIER DELINEATION	614 WORK ZONE IMPACT ATTENUATOR (UNIDIRECTIONAL)	614 BARRIER REFLECTOR, TYPE 1, ONE-WAY	614 OBJECT MARKER, ONE WAY	614	622 PORTABLE BARRIER, 32"	622 PORTABLE BARRIER, 50", AS PER PLAN	622 PORTABLE BARRIER, 32", BRIDGE MOUNTED	622 PORTABLE BARRIER, 50", BRIDGE MOUNTED, AS PER PLAN	622 PORTABLE BARRIER, "Y" CONNECTOR	622 BARRIER, MISC.: MODIFY BARRIER						
								FEET	EACH	EACH	EACH		FEET	FEET	FEET	FEET	EACH	FEET						
21	PHASE 1	IA-01	EB	251+26					1															
21-22	|	PBM-01	EB	251+26	261+56	251+26	259+56	830		5	5		830		140			1030						
22	|	IA-02	EB	265+90					1															
22-23	|	PB-02	EB	265+90	272+50	265+90	270+80	490		4	4		480		180									
24	|	IA-03	EB	285+20					1															
24-25	|	PB-03	EB	285+20	291+50	285+20	289+50	430		4	4		520		110									
22	|	IA-04	WB	262+36					1															
21-22	|	PB-04	WB	252+90	262+36	256+50	262+36	590		8	8		810		140									
23	|	IA-05	WB	274+20					1															
22-23	|	PBM-05	WB	266+00	274+20	268+00	274+20	620		5	5		640		180			820						
25	|	IA-06	WB	292+00					1															
24-25	↓	PB-06	WB	286+00	291+70	287+50	291+70	420		3	3		460		110									
29	PHASE 2	IA-07	EB	254+70					1								1							
29-30	|	PB-07	EB	254+70	259+10	254+70	259+10	880					600		280									
30	|	IA-08	EB	266+40					1								1							
30-31	|	PB-08	EB	266+40	270+80	266+40	270+80	880					520		360									
32	|	IA-09	EB	286+10					1								1							
32	|	PB-09	EB	285+90	289+50	285+90	289+50	720					500		220									
29-30	|	PB50M-10	WB	252+90	261+60	252+90	261+60	870						730		140		870						
30-31	|	PB50-11	WB	265+90	272+60	265+90	272+60	670						490		180								
32-33	↓	PB50-12	WB	285+90	291+60	285+90	291+60	570						460		110								
36	PHASE 3	IA-10	EB	253+57					1															
36-37	|	PB-13	EB	253+57	259+00	253+57	259+00	550					410		140									
37	|	IA-11	EB	266+10					1															
37-38	|	PB-14	EB	266+10	270+80	266+10	270+80	470					290		180									
39	|	IA-12	EB	284+90					1															
39	↓	PB-15	EB	284+90	289+50	284+90	289+50	460					350		110									
42-43	PHASE 4	PB50M-16	EB	253+00	261+60	253+00	261+60	860						720		140		860						
43	|	IA-13	WB	261+27					1								1							
43	|	PB-17	WB	256+90	261+27	256+90	261+27	880					600		280									
43-44	|	PB50M-18	EB	265+90	272+60	265+90	272+60	670						490		180		670						
44	|	IA-14	WB	272+20					1								1							
44	|	PB-19	WB	267+90	272+20	267+90	272+20	860					500		360									
45-46	|	PB50-20	EB	286+00	291+60	286+00	291+60	560						450		110								
46	|	IA-15	WB	291+10		291+10			1								1							
45-46	↓	PB-21	WB	287+50	291+10	287+50	291+10	720					500		220									
49	PHASE 5	PB-22	WB	257+00	262+70	257+00	262+70	570					430		140									
49	|	IA-16	WB	262+70					1															
50	|	PB-23	WB	267+80	273+90	267+80	273+90	610					430		180									
50	|	IA-17	WB	273+90					1															
51-52	|	PB-24	WB	287+50	292+40	287+50	292+40	490					380		110									
52	↓	IA-18	WB	292+40					1															
54	PHASE 6	IA-19	EB	252+50					1															
54	|	PB-25	EB	252+50	261+60	252+50	261+60	910					910											
54	|	PB-26	WB	252+90	262+00	252+90	262+00	910					910											
54	|	IA-20	WB	262+00					1															
55	|	IA-21	EB	265+50					1															
55	|	PB-27	EB	265+50	272+60	265+50	272+60	710					710											
55	|	PB-28	WB	265+90	273+00	265+90	273+00	710					710											
55	|	IA-22	WB	273+00					1															
56	|	IA-23	EB	285+50					1															
56	|	PB-29	EB	285+50	292+60	285+50	292+60	710					710											
56	|	PB-30	WB	285+90	293+00	285+90	293+00	710					710											
56	↓	IA-24	WB	293+00					1															
TOTALS CARRIED TO GENERAL SUMMARY								20330	24	29	29		13970	3340	3440	860	6	4250						

CALCULATED MJH
CHECKED KAE

MAINTENANCE OF TRAFFIC SUBSUMMARY - 2

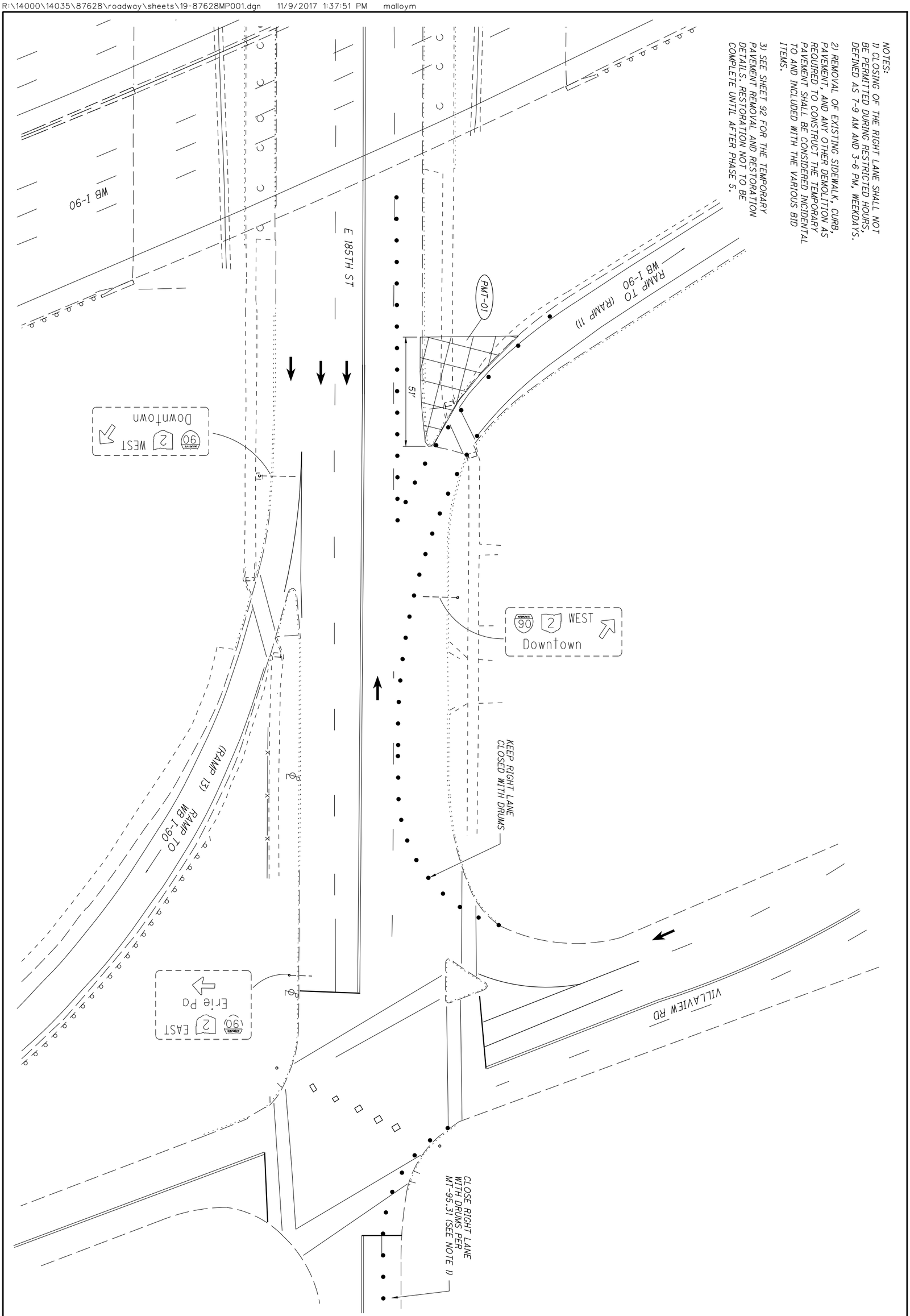
CUY-90-26.16/VAR

R:\14000\14035\87628\roadway\sheets\19-87628MP001.dgn 11/9/2017 1:37:51 PM malloym

NOTES:
1) CLOSING OF THE RIGHT LANE SHALL NOT BE PERMITTED DURING RESTRICTED HOURS, DEFINED AS 7-9 AM AND 3-6 PM, WEEKDAYS.

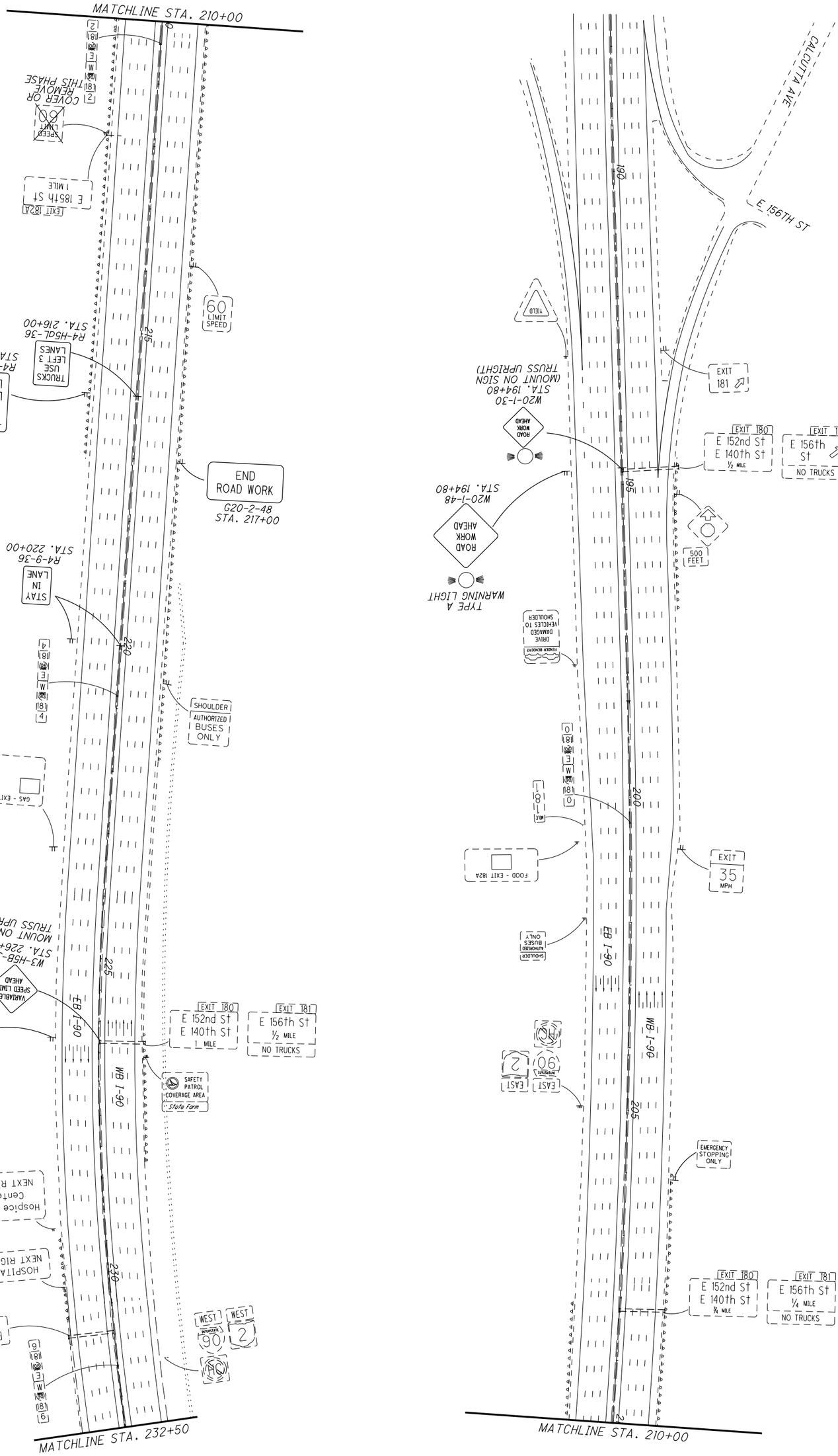
2) REMOVAL OF EXISTING SIDEWALK, CURB, PAVEMENT, AND ANY OTHER DEMOLITION AS REQUIRED TO CONSTRUCT THE TEMPORARY PAVEMENT SHALL BE CONSIDERED INCIDENTAL TO AND INCLUDED WITH THE VARIOUS BID ITEMS.

3) SEE SHEET 92 FOR THE TEMPORARY PAVEMENT REMOVAL AND RESTORATION DETAILS. RESTORATION NOT TO BE COMPLETE UNTIL AFTER PHASE 5.



19 / 222	CUY-90-26.16 / VAR	MAINTENANCE OF TRAFFIC PLAN PRE-PHASE 1 - TEMPORARY PAVEMENT	CALCULATED MJH CHECKED KAE	0 10 20 40 HORIZONTAL SCALE IN FEET

R:\14000\14035\87628\roadway\sheets\20-87628MP011.dgn 11/9/2017 1:37:51 PM malloym

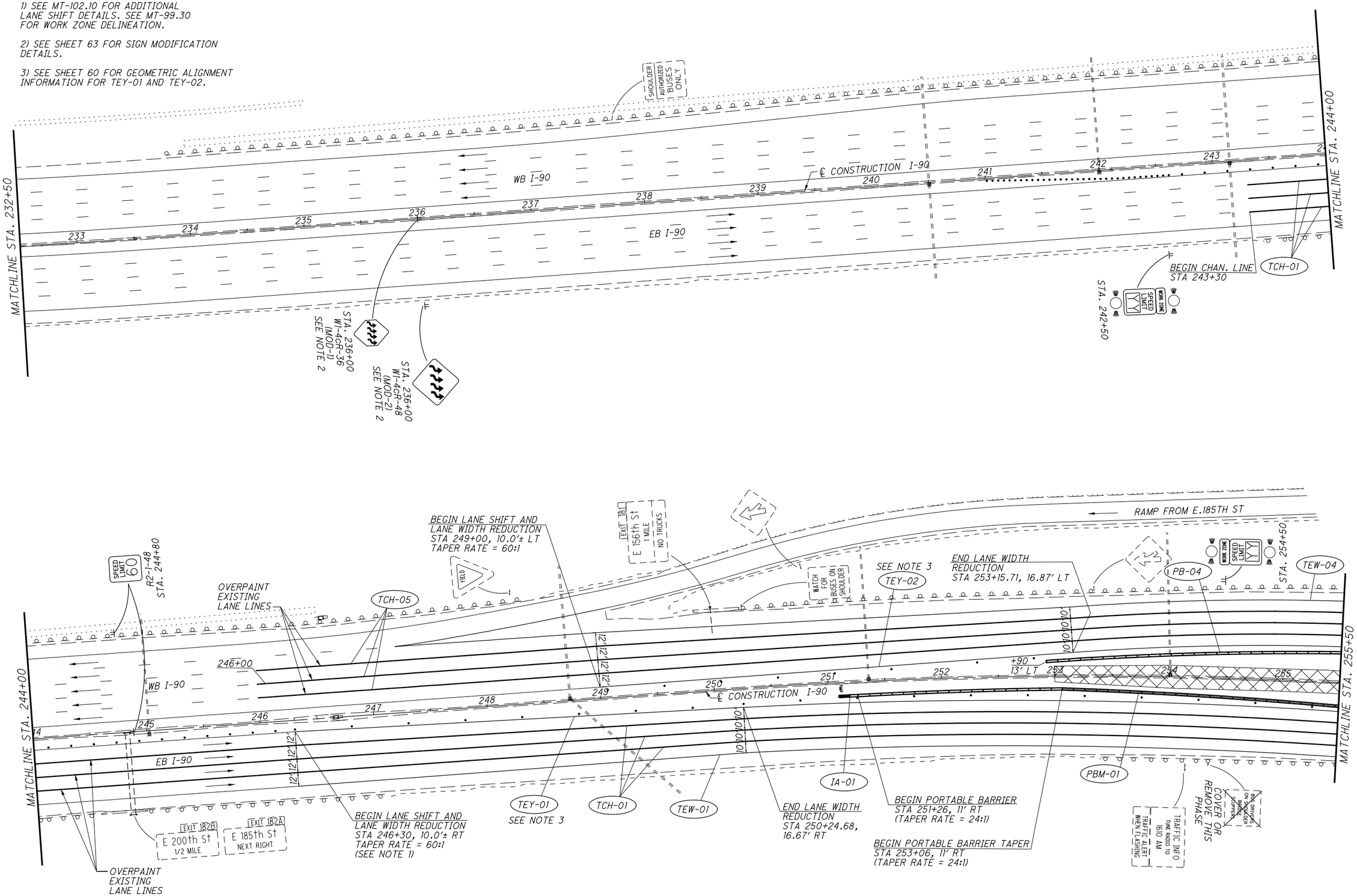


20 222	CUY-90-26.16/VAR	MAINTENANCE OF TRAFFIC PLAN - PHASE 1 LEAD-IN SIGNING ON EB I-90	CALCULATED MJH CHECKED KAE	0 80 40 160 HORIZONTAL SCALE IN FEET

NOTES:
1) SEE MT-102.10 FOR ADDITIONAL LANE SHIFT DETAILS. SEE MT-99.30 FOR WORK ZONE DELINEATION.

2) SEE SHEET 63 FOR SIGN MODIFICATION DETAILS.

3) SEE SHEET 60 FOR GEOMETRIC ALIGNMENT INFORMATION FOR TEY-01 AND TEY-02.



HORIZONTAL SCALE IN FEET
0 20 40 80

CALCULATED MJH
CHECKED KAE

MAINTENANCE OF TRAFFIC PLAN - PHASE 1
STA 232+50 TO STA 255+50

CUY-90-26.16 / VAR

TEMPORARY PAVEMENT PLACED IN SET-UP STEP TO ALLOW LEFT-TURNS FROM 185TH ST SEE SHEET 19 FOR CONSTRUCTION DETAILS

TYPE III BARRICADE

E 185TH ST

CLOSE RAMP

SHOULDER NOT OPENED TO BUSES ONLY

COVER OR REMOVE THIS PHASE

END LANE SHIFT
STA 256+50, 32.6' LT

BEGIN PORTABLE BARRIER TAPER
STA 259+50, 29.6' LT
(TAPER RATE = 18:1)

BEGIN LANE SHIFT
STA 260+80, 32.6' RT
(TAPER RATE = 60:1)

END PORTABLE BARRIER
STA 262+36, 11' LT

END LANE SHIFT
STA 264+16, 27.0' RT

BEGIN PORTABLE BARRIER
STA 266+00, 19' LT

MATCHLINE STA. 255+50

STA. 256+00

STA. 266+00

STA. 267+00

TCH-05
TEW-04
PB-04
IA-04
TEY-02
TLL-02
PBM-05
TCH-01
TEW-01
TLL-01
TDW-01
PBM-01

WB I-90

256
257
258
259
260
261
262
263
264
265
266

+56
10' RT

℄ CONSTRUCTION I-90

EB I-90

+55
+29

END LANE SHIFT
STA 256+56, 27.2' RT

END CHAN. LINE
STA 259+56

BEGIN LANE SHIFT
STA 259+56, 27.2' RT
(TAPER RATE = 10:1)

END LANE SHIFT
STA 260+77, 26.0' RT

EXIT 183
E 222nd St
3/4 MILE

EXIT 182B
E 200th St
1/4 MILE

EXIT 182A
E 185th St

TCH-02
TEW-02
TEY-01
IA-02
PB-02

MEET EXIST. EDGE LINE; STA 263+77

EXIT 182A

BEGIN PORTABLE BARRIER
STA 265+90, 12.33' RT
(TAPER = 18:1)

MATCHLINE STA. 267+00

SEE SHEET 27 FOR TRAFFIC CONTROL ON E 185TH ST

RAMP FROM EB I-90

℄ CONSTRUCTION I-90

8.7' 10' 10' 10' 10' 32.6' 27.2' 4' 10' 10' 10' 10' 2.4'

VARIES SEE BRIDGE PLANS

VARIES SEE BRIDGE PLANS

2' SHY

1' SHY (TYP.)

BRIDGE MOUNTED PORTABLE BARRIER

BRIDGE MOUNTED PORTABLE BARRIER, MODIFIED (SEE BRIDGE PHASE REMOVAL DETAILS SHEETS FOR ANCHORS)

SECTION 1-1
E. 185TH STREET BRIDGE

HORIZONTAL SCALE IN FEET
0 20 40 80

CALCULATED MJH
CHECKED KAE

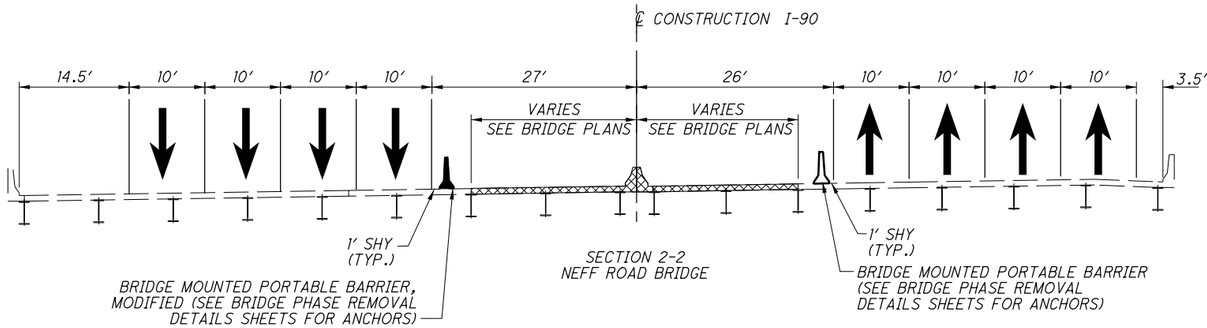
MAINTENANCE OF TRAFFIC PLAN - PHASE 1
STA 255+50 TO STA 267+00

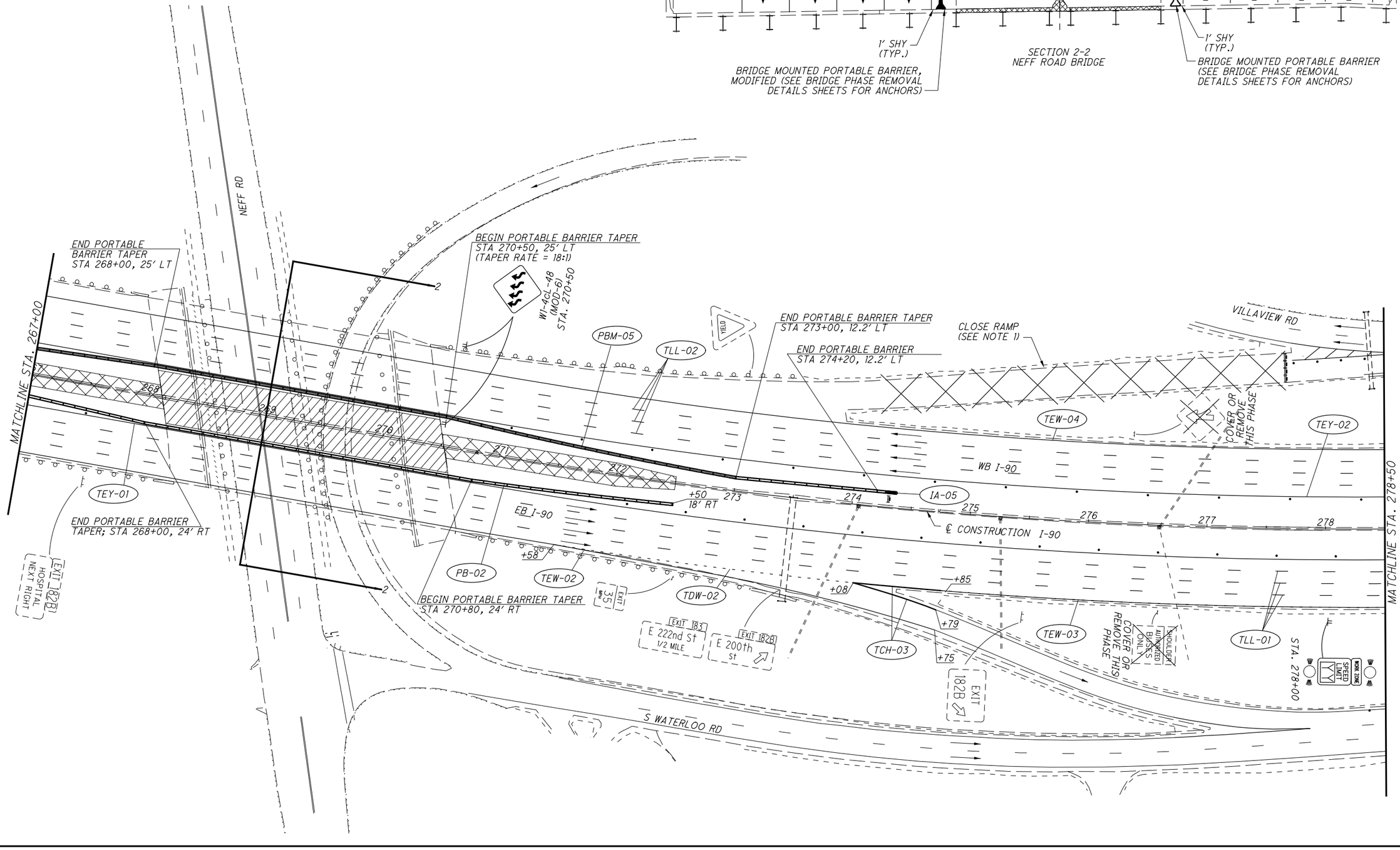
CUY-90-26.16/VAR

22
222

R:\14000\14035\87628\roadway\sheets\22-87628MP013.dgn 11/9/2017 1:37:53 PM malloym

NOTES:
1) SEE MT-98.29 FOR ADDITIONAL RAMP CLOSURE DETAILS. SEE SHEET 59 FOR DETOUR PLAN.





HORIZONTAL SCALE IN FEET
0 20 40 80

CALCULATED MJH
CHECKED KAE

MAINTENANCE OF TRAFFIC PLAN - PHASE 1
STA 267+00 TO STA 278+50

CUY-90-26.16 / VAR

23
222

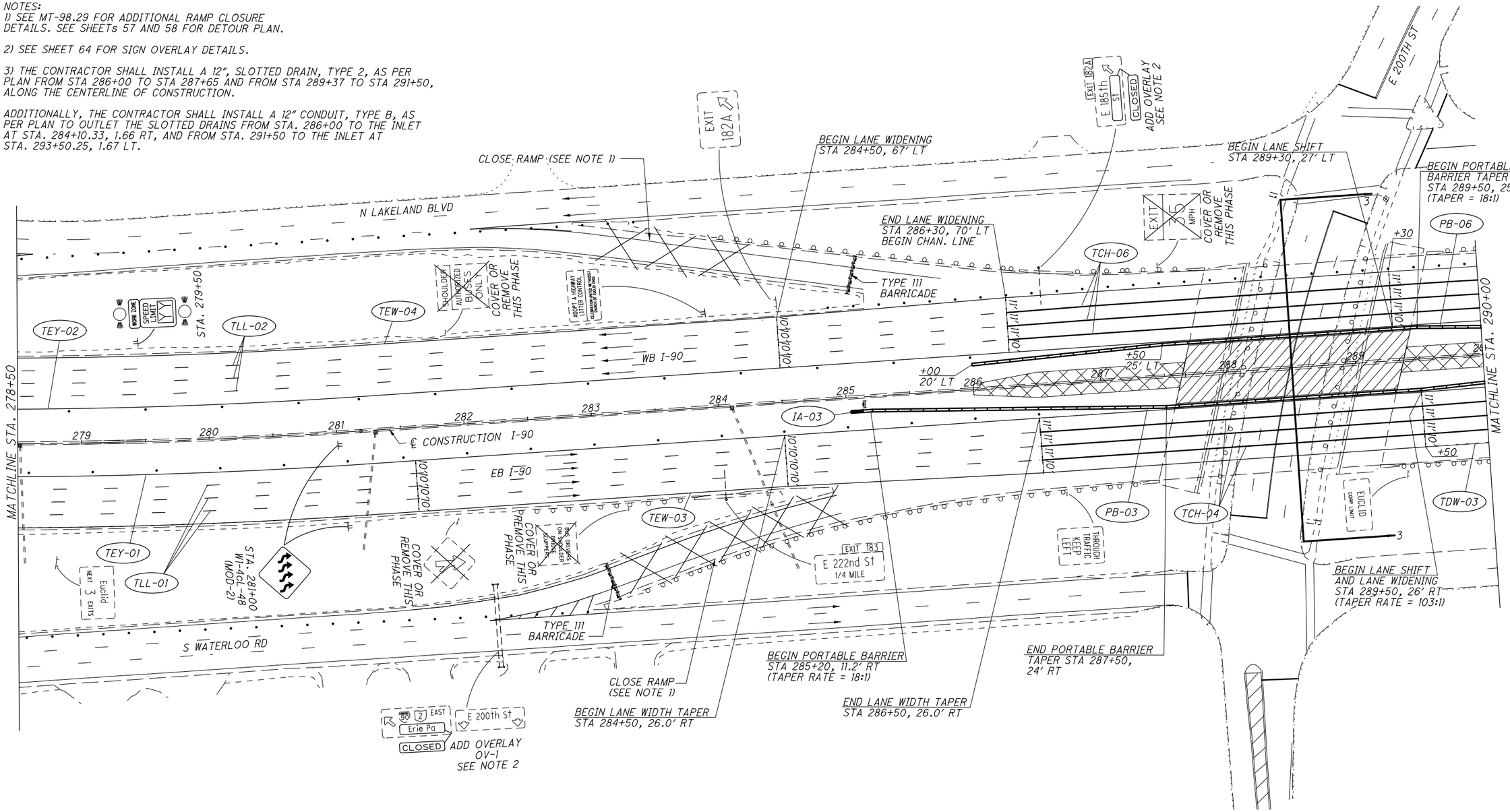
R:\14000\14035\87628\roadway\sheets\23-87628MP014.dgn 11/9/2017 1:37:53 PM malloym

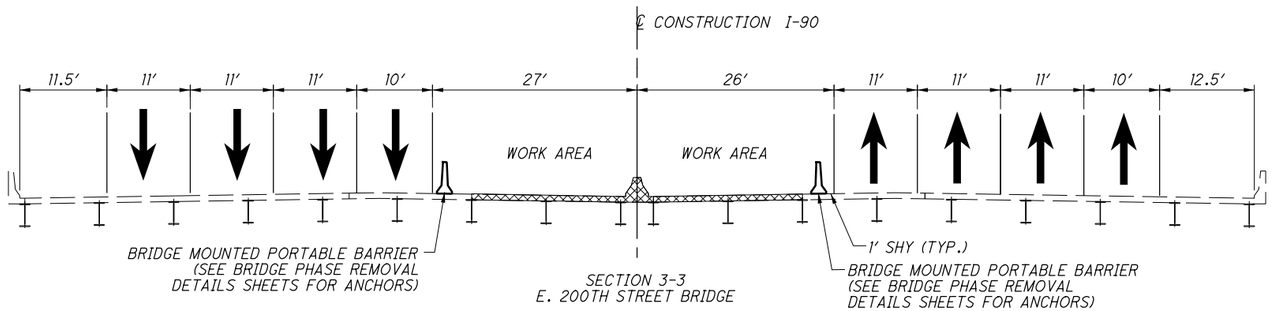
NOTES:
1) SEE MT-98.29 FOR ADDITIONAL RAMP CLOSURE DETAILS. SEE SHEETs 57 AND 58 FOR DETOUR PLAN.

2) SEE SHEET 64 FOR SIGN OVERLAY DETAILS.

3) THE CONTRACTOR SHALL INSTALL A 12", SLOTTED DRAIN, TYPE 2, AS PER PLAN FROM STA 286+00 TO STA 287+65 AND FROM STA 289+37 TO STA 291+50, ALONG THE CENTERLINE OF CONSTRUCTION.

ADDITIONALLY, THE CONTRACTOR SHALL INSTALL A 12" CONDUIT, TYPE B, AS PER PLAN TO OUTLET THE SLOTTED DRAINS FROM STA. 286+00 TO THE INLET AT STA. 284+10.33, 1.66 RT, AND FROM STA. 291+50 TO THE INLET AT STA. 293+50.25, 1.67 LT.





SECTION 3-3
E. 200TH STREET BRIDGE

HORIZONTAL SCALE IN FEET
0 20 40 80

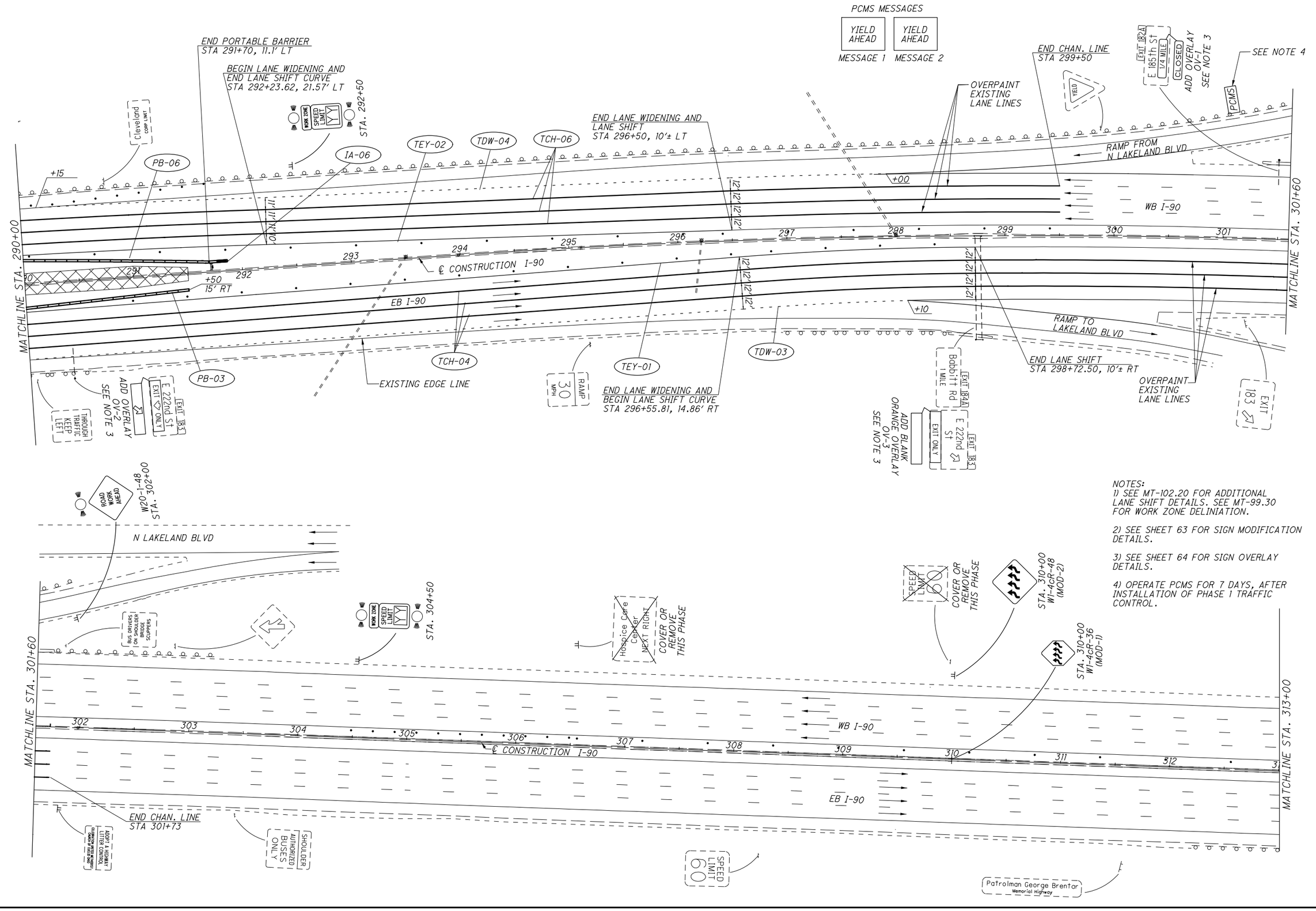
CALCULATED MJH
CHECKED KAE

MAINTENANCE OF TRAFFIC PLAN - PHASE 1
STA 278+50 TO STA 290+00

CUY-90-26.16/VAR

24
222

R:\14000\14035\87628\roadway\sheets\24-87628MP015.dgn 11/9/2017 1:37:54 PM malloym



NOTES:
1) SEE MT-102.20 FOR ADDITIONAL LANE SHIFT DETAILS. SEE MT-99.30 FOR WORK ZONE DELINIATION.

2) SEE SHEET 63 FOR SIGN MODIFICATION DETAILS.

3) SEE SHEET 64 FOR SIGN OVERLAY DETAILS.

4) OPERATE PCMS FOR 7 DAYS, AFTER INSTALLATION OF PHASE 1 TRAFFIC CONTROL.

HORIZONTAL SCALE IN FEET
0 20 40 80

CALCULATED M.JH
CHECKED KAE

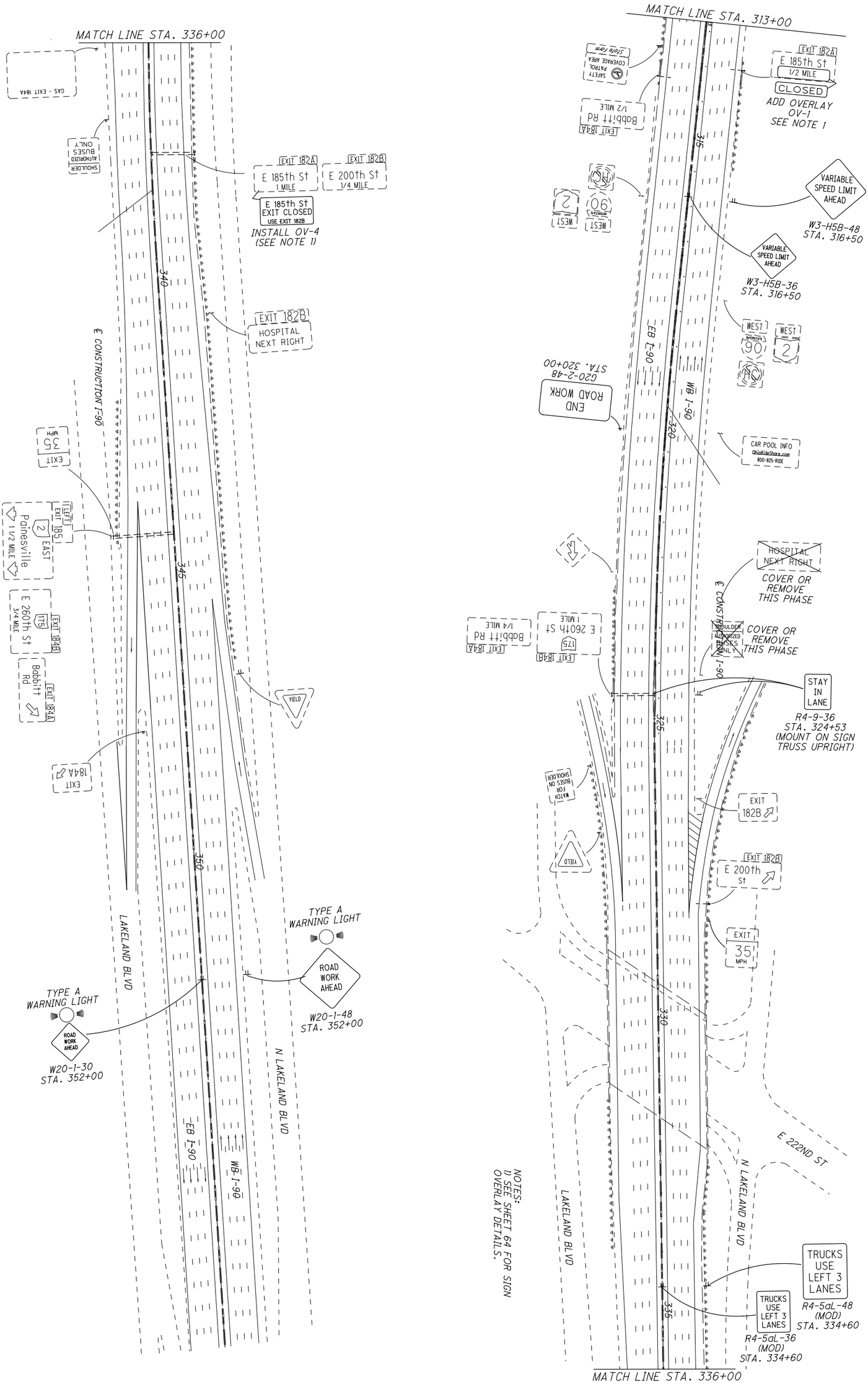
MAINTENANCE OF TRAFFIC PLAN - PHASE 1
STA 290+00 TO 313+00

CUY-90-26.16 / VAR

25
222

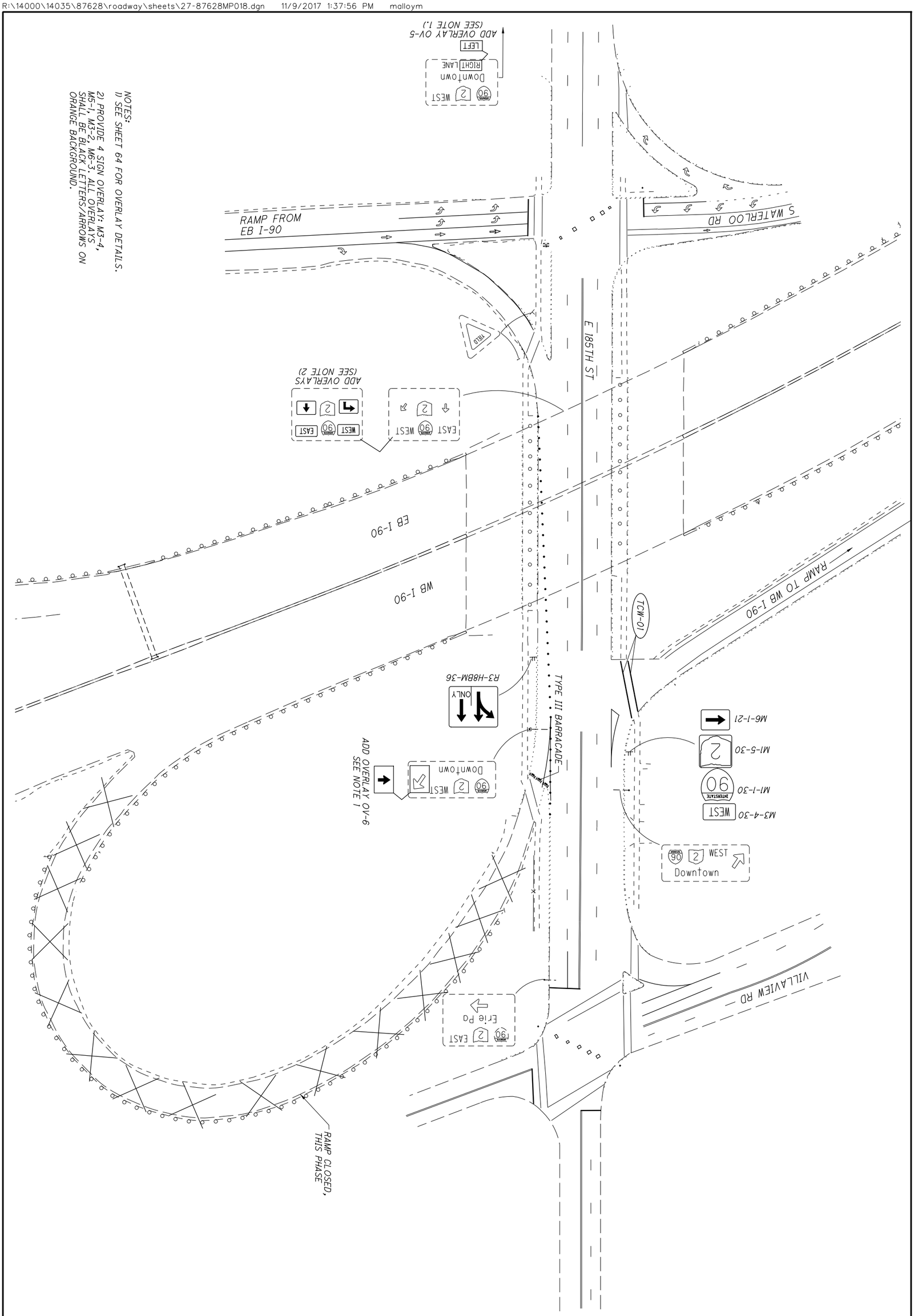
R:\14000\14035\87628\roadway\sheets\25-87628MP016.dgn 11/9/2017 1:37:55 PM malloym

R:\14000\14035\87628\roadway\sheets\26-87628MP017.dgn 11/9/2017 1:37:55 PM malloym



26 / 222	CUY-90-26.16/VAR	MAINTENANCE OF TRAFFIC PLAN - PHASE 1 LEAD-IN SIGNING - WB I-90	CALCULATED MJH CHECKED KAE	0 80 40 160 HORIZONTAL SCALE IN FEET

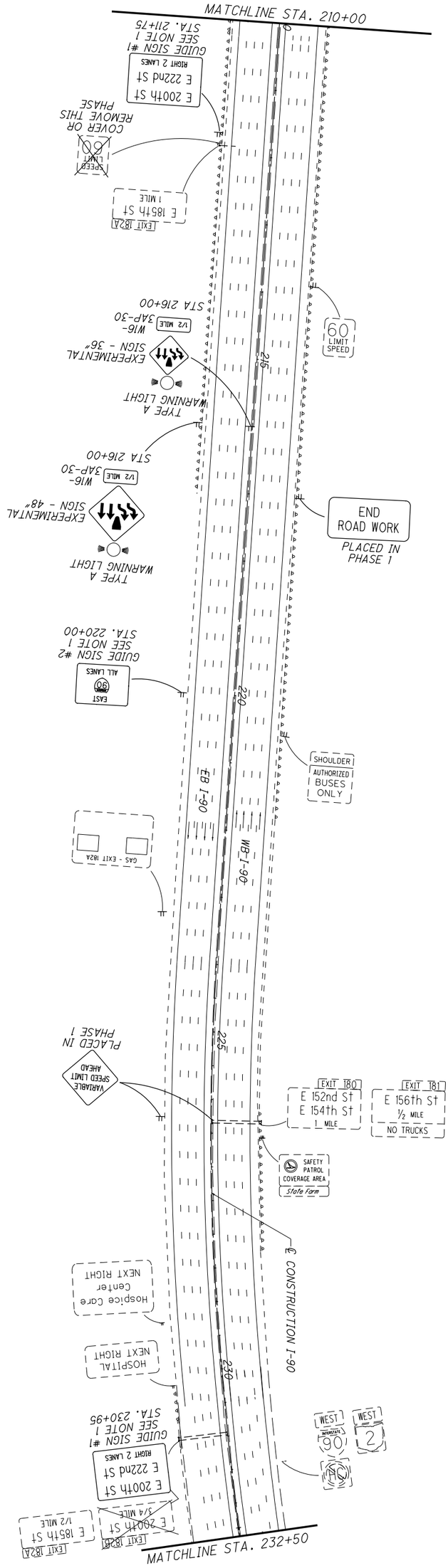
R:\14000\14035\87628\roadway\sheets\27-87628MP018.dgn 11/9/2017 1:37:56 PM malloym



27 / 222	CUY-90-26.16 / VAR	MAINTENANCE OF TRAFFIC PLAN - PHASE 1 TRAFFIC CONTROL ON E 185TH ST	CALCULATED MJH CHECKED KAE	0 40 20 80 HORIZONTAL SCALE IN FEET

R:\14000\14035\87628\roadway\sheets\28-87628MP021.dgn 11/9/2017 1:37:57 PM malloym

NOTES:
1) SEE SHEET 65 FOR SIGN FABRICATION DETAILS.

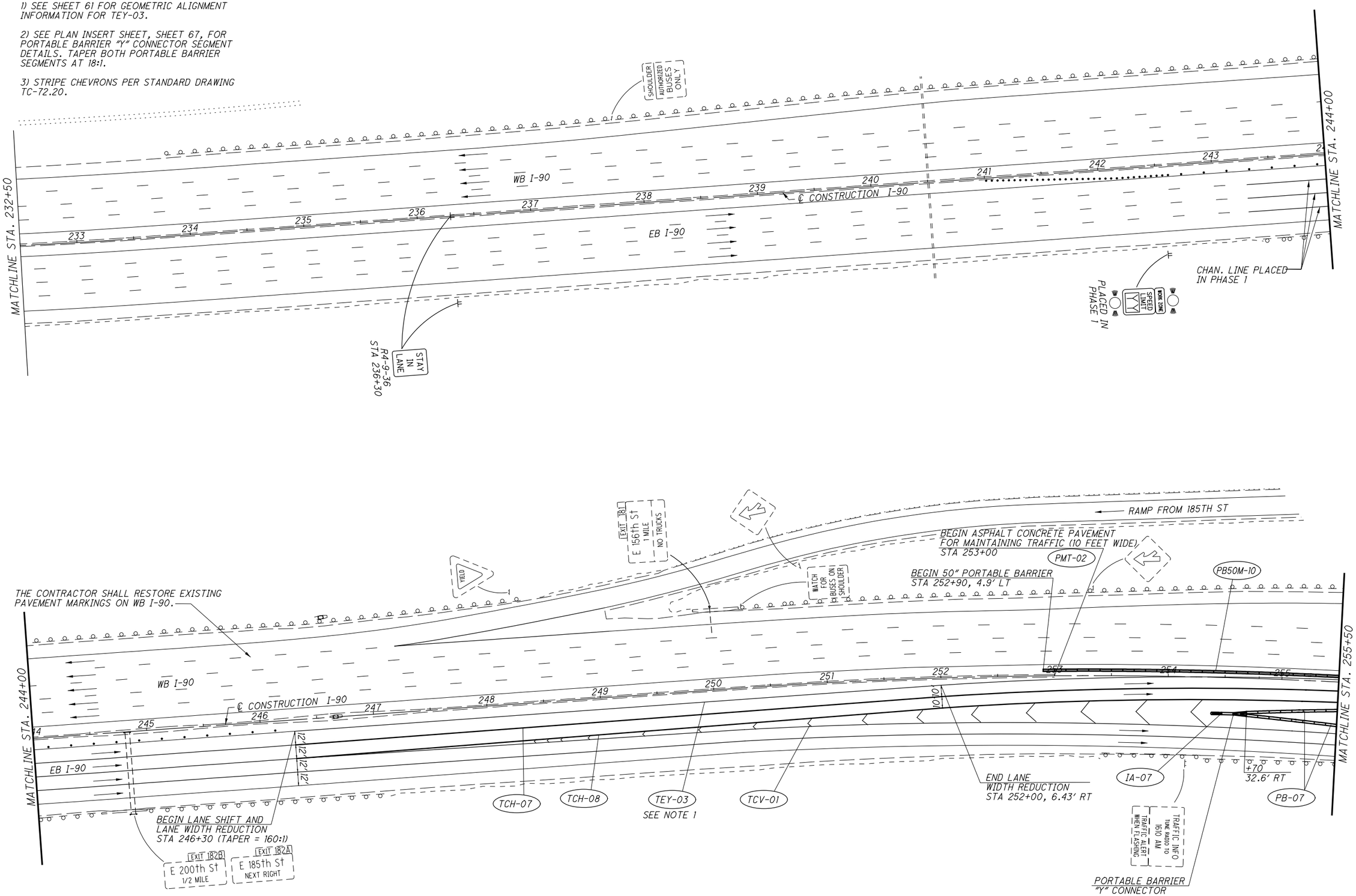


28 / 222	CUY-90-26.16/VAR	MAINTENANCE OF TRAFFIC PLAN - PHASE 2 LEAD-IN SIGNING ON EB I-90	CALCULATED MJH CHECKED KAE	0 80 40 160 HORIZONTAL SCALE IN FEET

NOTES:
1) SEE SHEET 61 FOR GEOMETRIC ALIGNMENT INFORMATION FOR TEY-03.

2) SEE PLAN INSERT SHEET, SHEET 67, FOR PORTABLE BARRIER "Y" CONNECTOR SEGMENT DETAILS. TAPER BOTH PORTABLE BARRIER SEGMENTS AT 18:1.

3) STRIPE CHEVRONS PER STANDARD DRAWING TC-72.20.



N

HORIZONTAL SCALE IN FEET
0 20 40 80

CALCULATED MJH
CHECKED KAE

MAINTENANCE OF TRAFFIC PLAN - PHASE 2
STA 232+50 TO STA 255+50

CUY-90-26.16 / VAR

29
222

R:\14000\14035\87628\roadway\sheets\29-87628MP022.dgn 11/9/2017 1:37:57 PM malloym

NOTES:
1) SEE SHEET 61 FOR GEOMETRIC ALIGNMENT INFORMATION FOR TEY-03.

2) SEE PLAN INSERT SHEET, SHEET 67, FOR PORTABLE BARRIER "Y" CONNECTOR SEGMENT DETAILS. TAPER BOTH PORTABLE BARRIER SEGMENTS AT 18:1.

THE CONTRACTOR SHALL RESTORE EXISTING TRAFFIC CONTROL ON E 185TH ST. RESTORED

E 185TH ST

SHOULDER AUTHORIZED BUSES ONLY

TEY-03

END LANE SHIFT
STA 256+50, 2.9' LT

BEGIN LANE SHIFT
STA 259+00, 2.9' LT

END 50" PORTABLE BARRIER

PB50M-10

TCH-07

TCH-08

YIELD

END LANE SHIFT
STA 263+10.39, 9.6' RT

REOPEN RAMP

BEGIN LANE SHIFT
STA 264+79.7, 9.6' RT

MATCHLINE STA. 255+50

℄ CONSTRUCTION I-90

256 257 258 259 260 261 262 263 264 265 266

10' 10' 10' 10' 10' 10' 10' 10' 10' 10' 10'

+10 +56 +60

PLACED IN PHASE 1

SPEED LIMIT 35 MPH WORK ZONE

END PORTABLE BARRIER TAPER
STA 256+50,
19.1' RT

PB-07

TCH-09

OVERPAINT TEMP. LANE LINE PLACED IN PHASE 1

END PORTABLE BARRIER TAPER
STA 256+50,
44.9' RT

END ASPHALT CONCRETE FOR MAINTAINING TRAFFIC (10 FEET WIDE)
STA. 261+50

PMT-02

25 MPH

EXIT 183
E 222nd St
3/4 MILE

EXIT 182B
E 200th St
1/4 MILE

EXIT 182A
E 185th St

EXIT 182A

WB I-90

EB I-90

EB I-90

PB50-11

BEGIN 50" PB
STA 265+90, 4.9' LT

PB-08

MATCHLINE STA. 267+00

BEGIN ASPHALT CONCRETE FOR MAINTAINING TRAFFIC (10 FEET WIDE)
STA. 266+00

PMT-03

IA-08

PORTABLE BARRIER "Y" CONNECTOR (SEE NOTE 1)

+40
35.4' RT

PLACED IN PHASE 1

SPEED LIMIT 35 MPH WORK ZONE

RAMP FROM EB I-90

SEE BRIDGE PHASE REMOVAL DETAILS SHEETS FOR PORTABLE BARRIER ANCHORS

℄ CONSTRUCTION I-90

10' 14' 12' 12' 12' 12' 4.1' 10' 17.1' 10' 4' 26.1' 10' 10' 2.4'

VARIES
SEE BRIDGE PLANS

PORTABLE BARRIER, 50", MODIFIED

1' SHY (TYP.)

BRIDGE MOUNTED PORTABLE BARRIER

BRIDGE MOUNTED PORTABLE BARRIER

SECTION 1-1
E. 185TH STREET BRIDGE

HORIZONTAL SCALE IN FEET
0 20 40 80

CALCULATED MJH
CHECKED KAE

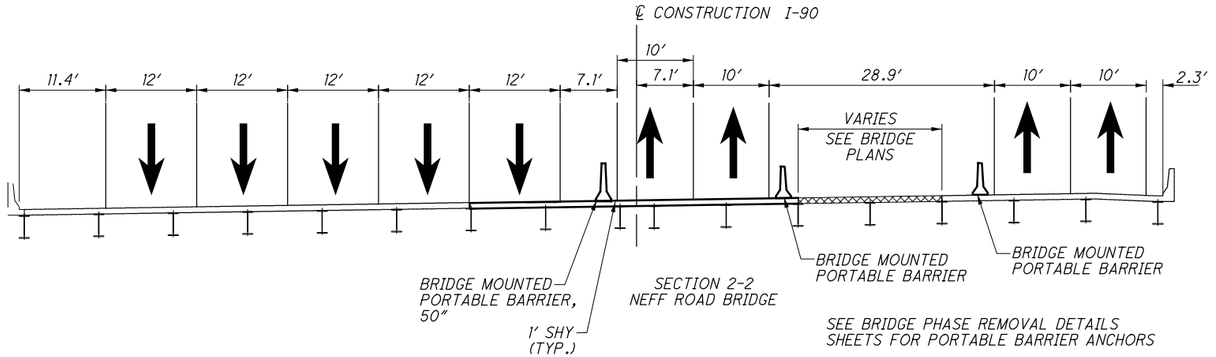
MAINTENANCE OF TRAFFIC PLAN - PHASE 2
STA 255+50 TO STA 267+00

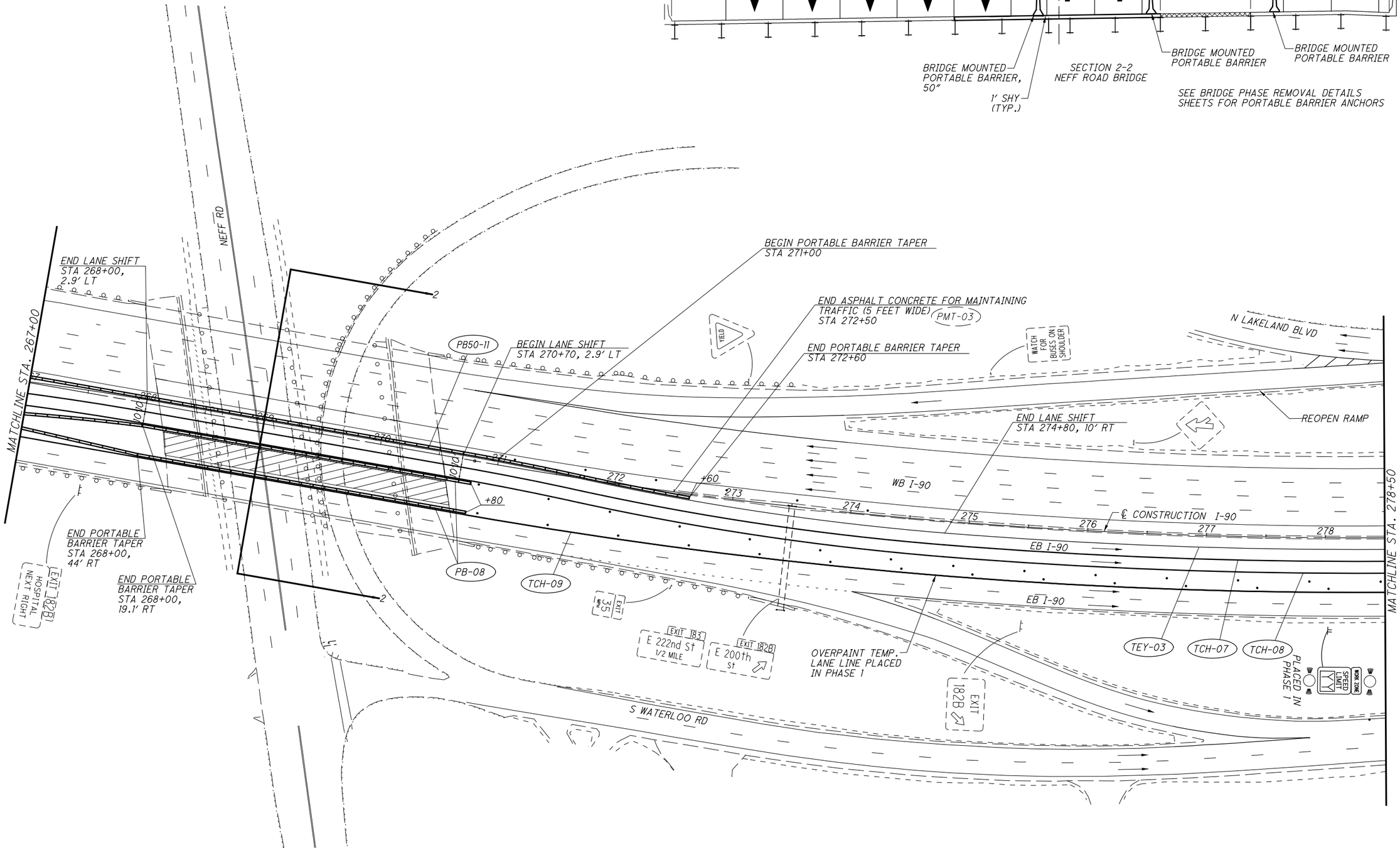
CUY-90-26.16 / VAR

30
222

R:\14000\14035\87628\roadway\sheets\30-87628MP023.dgn 11/9/2017 1:37:58 PM molloym

NOTES:
1) SEE SHEET 61 FOR GEOMETRIC ALIGNMENT INFORMATION FOR TEY-03.





N

HORIZONTAL SCALE IN FEET
0 20 40 80

CALCULATED MJH
CHECKED KAE

MAINTENANCE OF TRAFFIC PLAN - PHASE 2
STA 267+00 TO STA 278+50

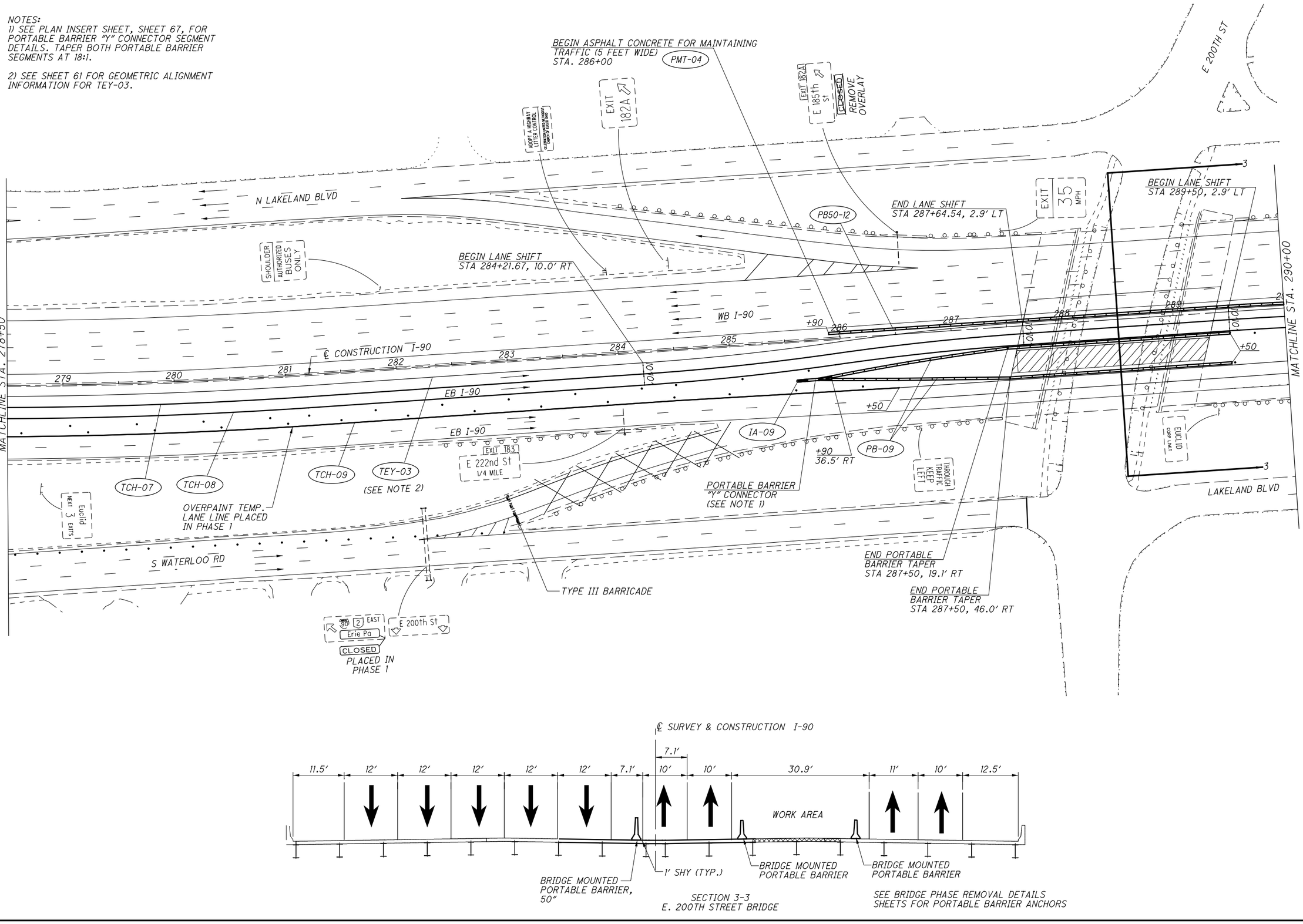
CUY-90-26.16 / VAR

31
222

R:\14000\14035\87628\roadway\sheets\31-87628MP024.dgn 11/9/2017 1:37:59 PM malloym

NOTES:
1) SEE PLAN INSERT SHEET, SHEET 67, FOR PORTABLE BARRIER "Y" CONNECTOR SEGMENT DETAILS. TAPER BOTH PORTABLE BARRIER SEGMENTS AT 18:1.

2) SEE SHEET 61 FOR GEOMETRIC ALIGNMENT INFORMATION FOR TEY-03.



SECTION 3-3
E. 200TH STREET BRIDGE

SEE BRIDGE PHASE REMOVAL DETAILS SHEETS FOR PORTABLE BARRIER ANCHORS

HORIZONTAL SCALE IN FEET
0 20 40 80

CALCULATED MJH
CHECKED KAE

MAINTENANCE OF TRAFFIC PLAN - PHASE 2
STA 278+50 TO STA 290+00

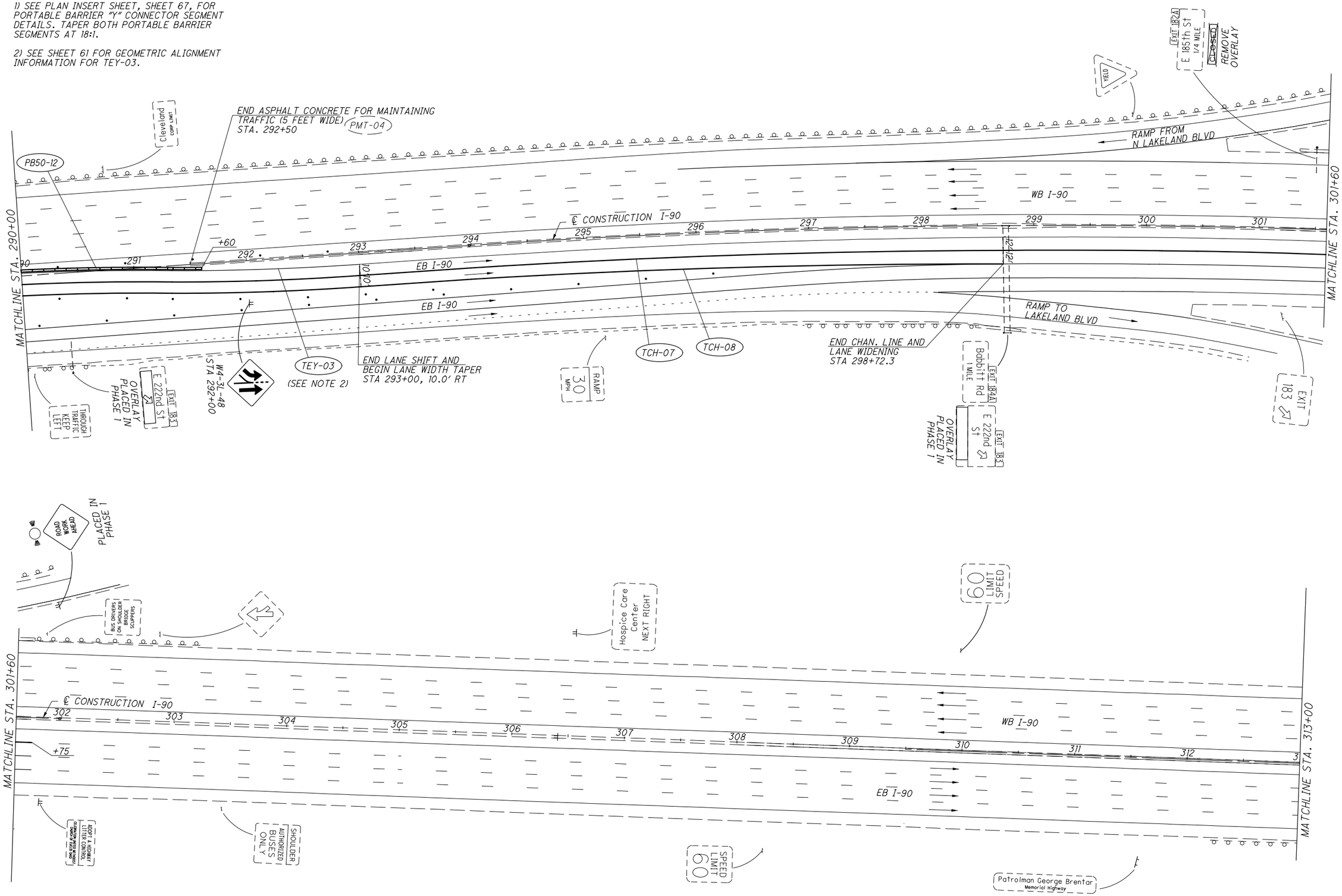
CUY-90-26.16/VAR

32
222

R:\14000\14035\87628\roadway\sheets\32-87628MP025.dgn 11/9/2017 1:37:59 PM molloym

NOTES:
1) SEE PLAN INSERT SHEET, SHEET 67, FOR PORTABLE BARRIER "Y" CONNECTOR SEGMENT DETAILS. TAPER BOTH PORTABLE BARRIER SEGMENTS AT 18:1.

2) SEE SHEET 61 FOR GEOMETRIC ALIGNMENT INFORMATION FOR TEY-03.



R:\14000\14035\87628\roadway\sheets\33-87628MP026.dgn 11/9/2017 1:38:00 PM malloym

N

0 20 40 80 HORIZONTAL SCALE IN FEET

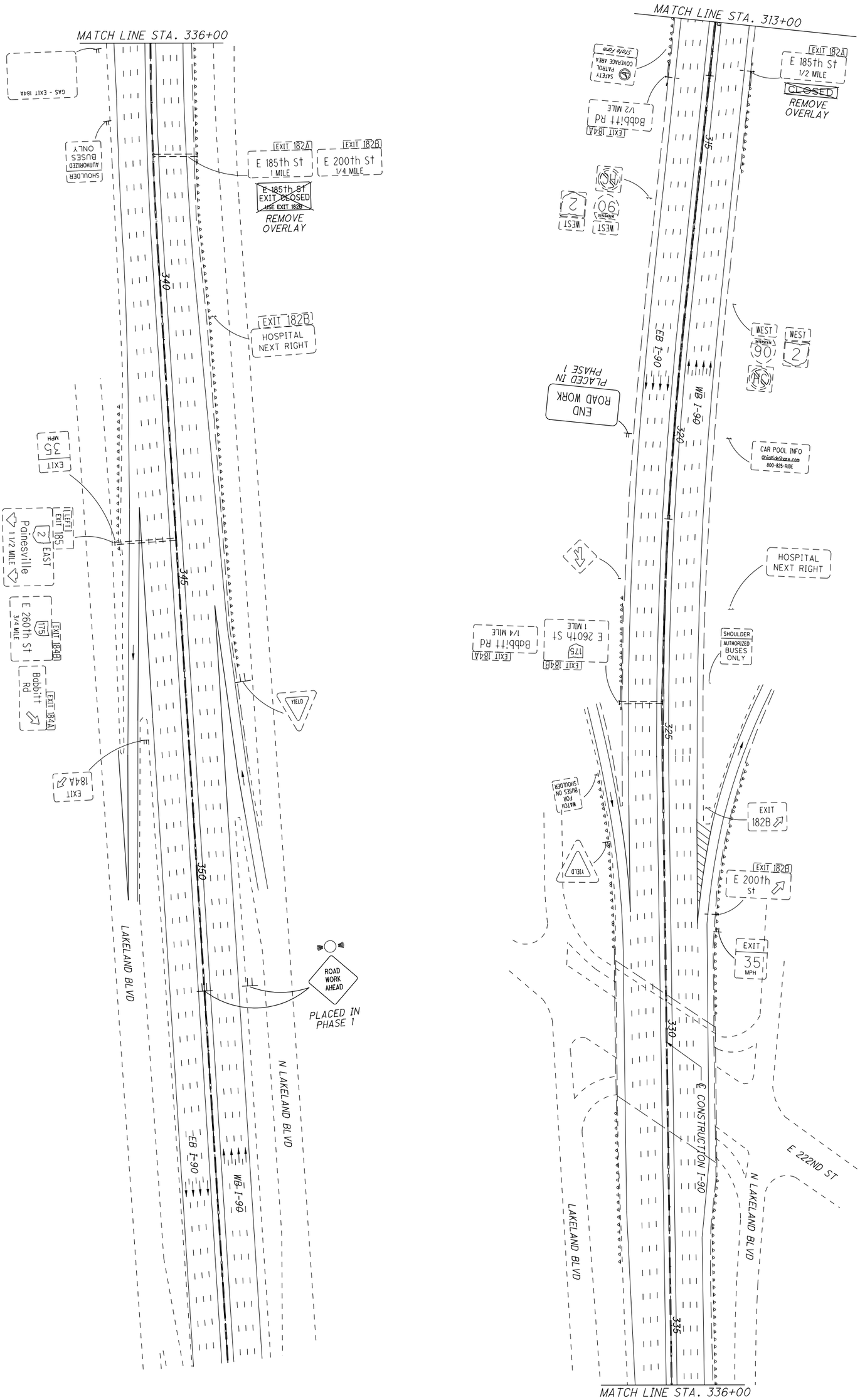
CALCULATED MJH CHECKED KAE

MAINTENANCE OF TRAFFIC PLAN - PHASE 2
STA 290+00 TO 313+00

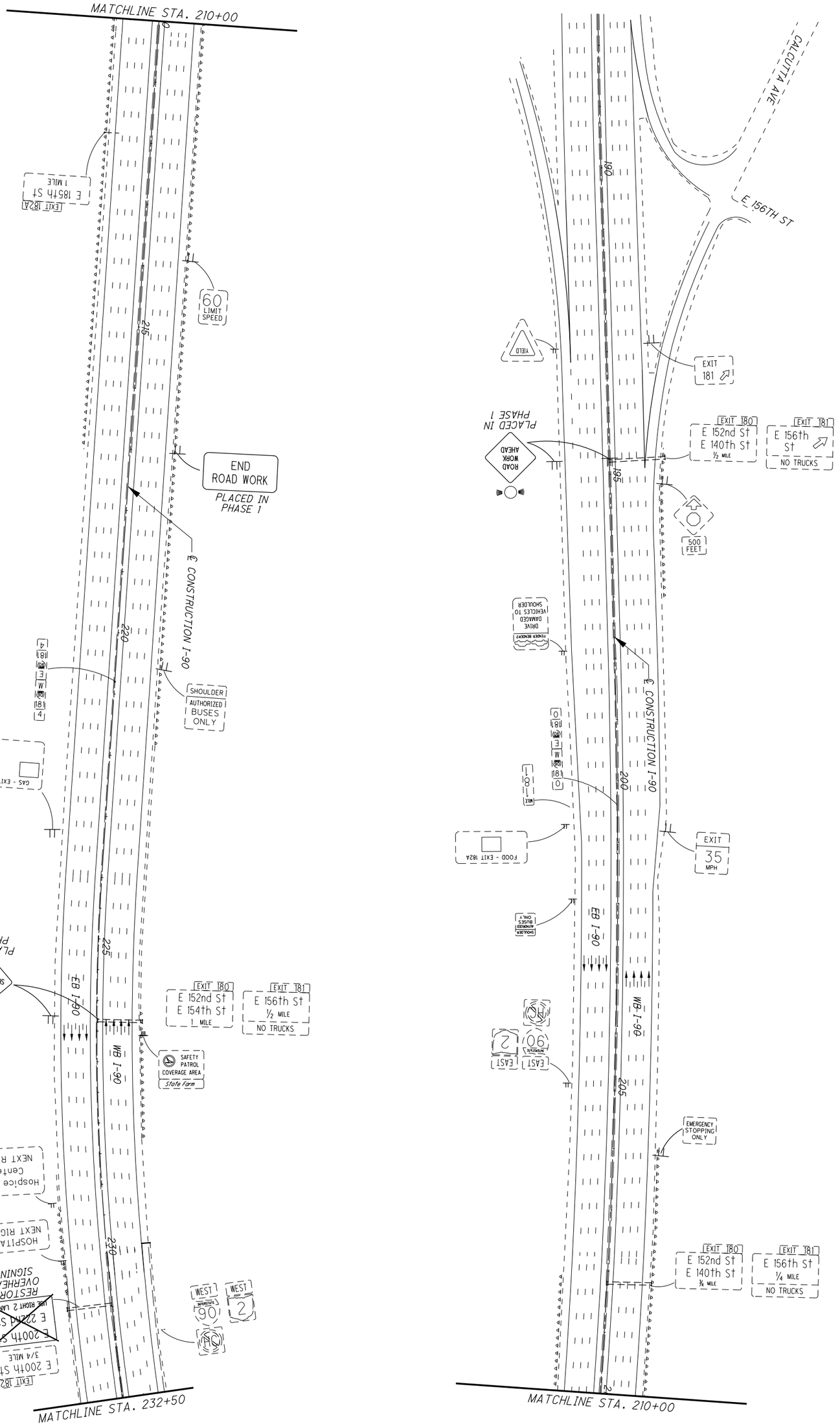
CUY-90-26.16/VAR

33
222

R:\14000\14035\87628\roadway\sheets\34-87628MP027.dgn 11/9/2017 1:38:01 PM malloym

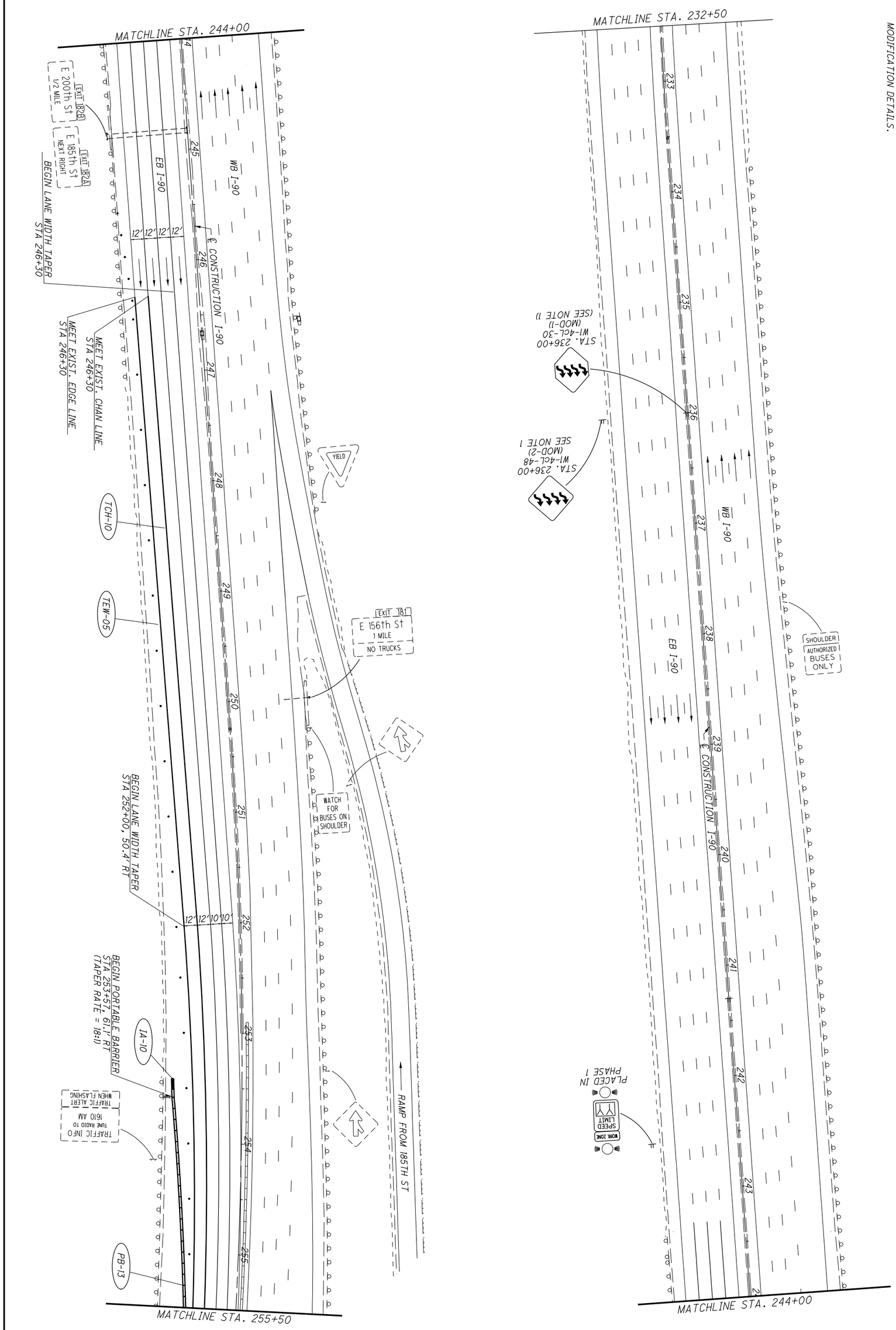


34 / 222	CUY-90-26.16/VAR	MAINTENANCE OF TRAFFIC PLAN - PHASE 2 LEAD-IN SIGNING - WB I-90	CALCULATED MJH CHECKED KAE	0 80 40 160 HORIZONTAL SCALE IN FEET



35 / 222	CUY-90-26.16 / VAR	MAINTENANCE OF TRAFFIC PLAN - PHASE 3 LEAD-IN SIGNING ON EB I-90	CALCULATED MJH CHECKED KAE	0 80 40 160 HORIZONTAL SCALE IN FEET

NOTES:
1) SEE SHEET 63 FOR SIGN MODIFICATION DETAILS.



CUY-90-26.16/VAR

MAINTENANCE OF TRAFFIC PLAN - PHASE 3
STA 232+50 TO STA 255+50

CALCULATED MJH
CHECKED KAE

0 20 40 80
HORIZONTAL SCALE IN FEET

NOTE:
1) STRIPE TCH-10 PARALLEL TO TEY-03 (STRIPED IN PHASE 2). TEW-05, TEW-06, AND TEW-07 SHALL BE STRIPED PARALLEL TO TCH-10, EXCEPT AS NOTED IN THE PLAN.

185TH ST

END LANE WIDTH TAPER
STA 256+50, 39.1' RT

END PORTABLE BARRIER TAPER
STA 256+50, 39.1' RT

SHOULDER AUTHORIZED BUSES ONLY

MATCHLINE STA. 255+50

STA 256+00

25 MPH

W13-1P -24

EXIT OPEN AHEAD

E5-H2B -48

PB-13

256 257 258 259 260 261 262 263 264 265 266

WB I-90

℄ CONSTRUCTION I-90

EB I-90

STA 259+00

E5-2-48

EXIT OPEN

END PORTABLE BARRIER
STA 259+00, 39.1' RT

TDW-04

TEW-05

+39

EXIT 183
E 222nd St
3/4 MILE

EXIT 182B
E 200th St
1/4 MILE

EXIT 182A
E 185th St

TCH-11

+66

+34

+25

TEW-06

TCH-10

IA-11

PB-14

STA 267+00

MATCHLINE STA. 267+00

YIELD

STA 265+90

SPEED LIMIT 25

EXIT 182A

BEGIN PORTABLE BARRIER
STA 266+10, 57.8' RT
(TAPER RATE = 18:1)

℄ CONSTRUCTION I-90

10'	14'	12.0'	12.0'	12.0'	12.0'	7.1'	2.9'	7.1'	10.0'	10.0'	10.0'	VARIES	VARIES SEE BRIDGE PLANS

PORTABLE BARRIER, 50", AS PER PLAN (PLACED IN PHASE 2)

1' SHY

SECTION 1-1
E. 185TH STREET BRIDGE

BRIDGE MOUNTED PORTABLE BARRIER

1' SHY

SEE BRIDGE PHASE REMOVAL DETAILS SHEETS FOR PORTABLE BARRIER ANCHORS

N

HORIZONTAL SCALE IN FEET
0 20 40 80

CALCULATED MJH
CHECKED KAE

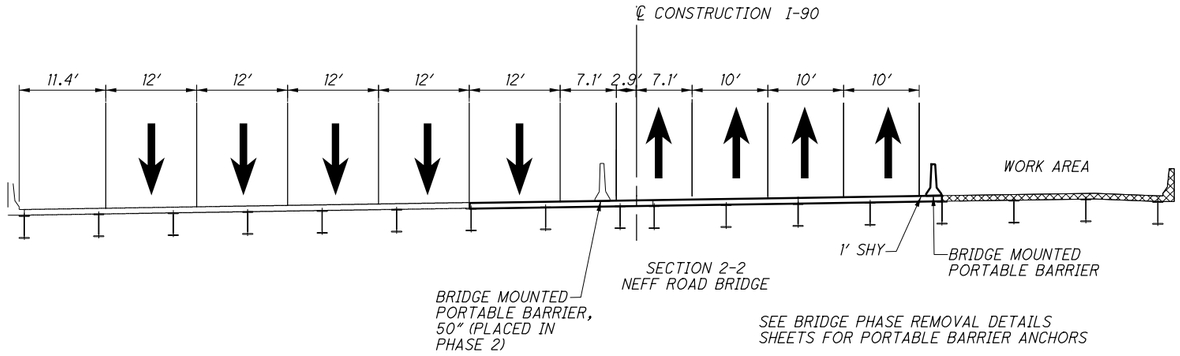
MAINTENANCE OF TRAFFIC PLAN - PHASE 3
STA 255+50 TO STA 267+00

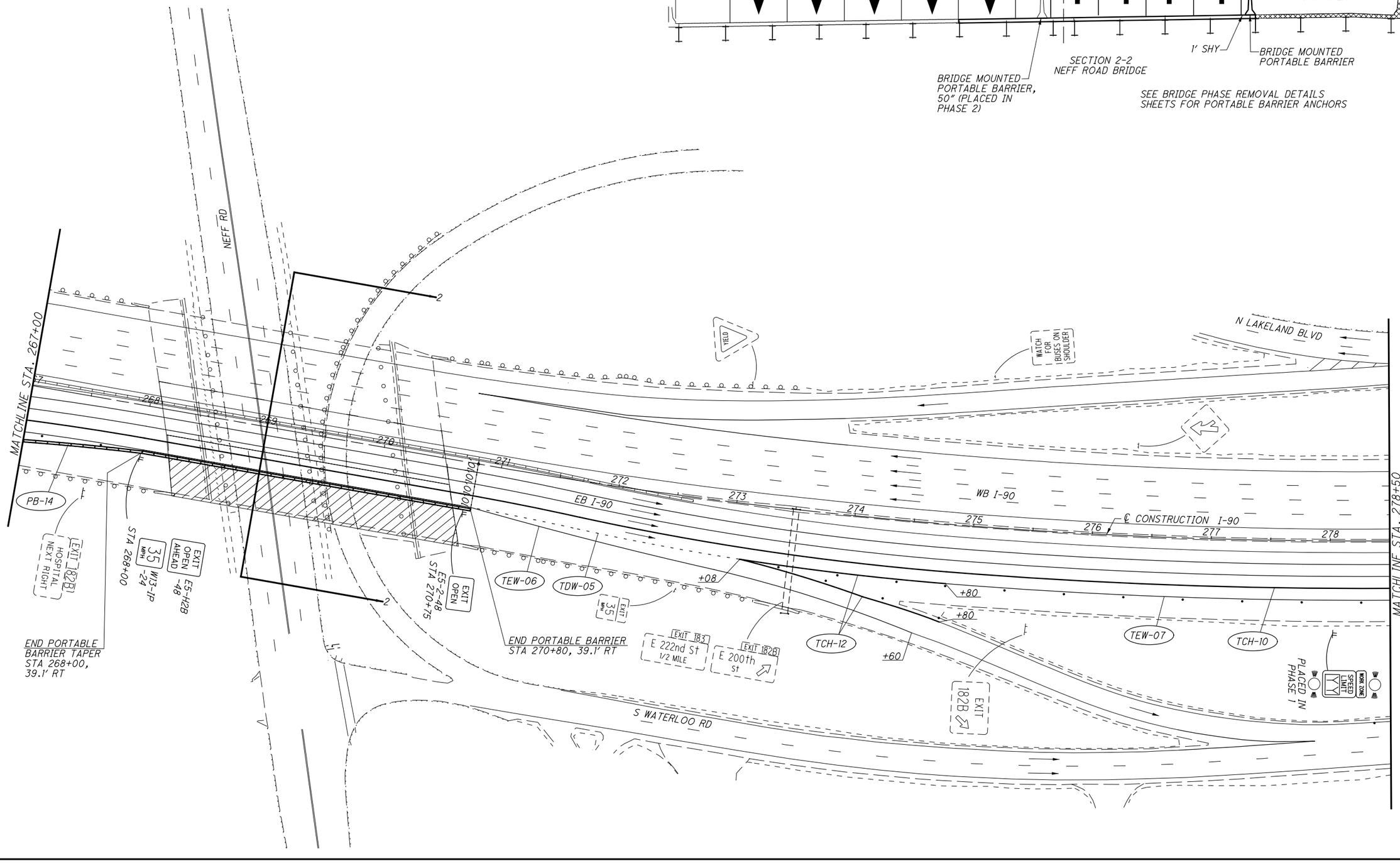
CUY-90-26.16 / VAR

37
222

R:\14000\14035\87628\roadway\sheets\37-87628MP033.dgn 11/9/2017 1:38:02 PM mdloym

NOTE:
1) STRIPE TCH-10 PARALLEL TO TEY-03 (STRIPED IN PHASE 2). TEW-05, TEW-06, AND TEW-07 SHALL BE STRIPED PARALLEL TO TCH-10, EXCEPT AS NOTED IN THE PLAN.





R:\14000\14035\87628\roadway\sheets\38-87628MP034.dgn 11/9/2017 1:38:03 PM malloym

N

HORIZONTAL SCALE IN FEET
0 20 40 80

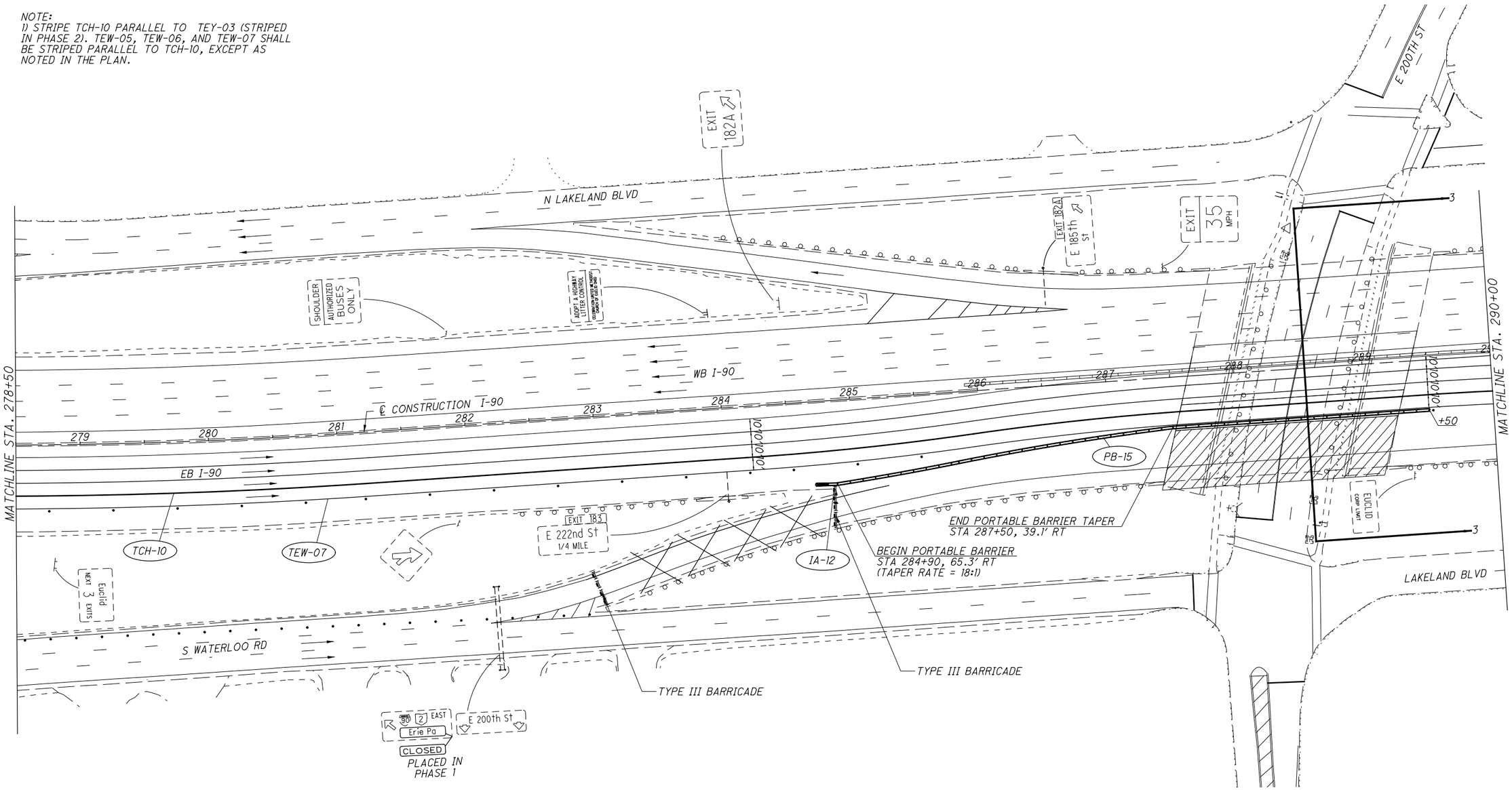
CALCULATED MJH
CHECKED KAE

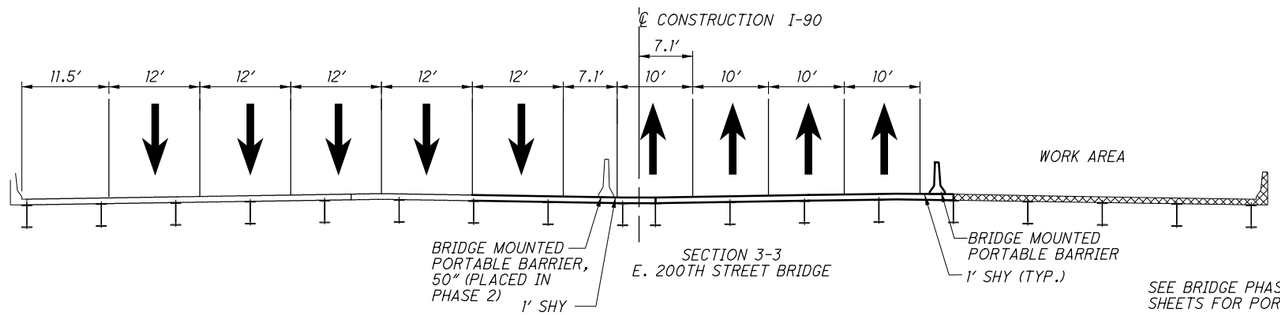
MAINTENANCE OF TRAFFIC PLAN - PHASE 3
STA 267+00 TO STA 278+50

CUY-90-26.16 / VAR

38
222

NOTE:
1) STRIPE TCH-10 PARALLEL TO TEY-03 (STRIPED IN PHASE 2). TEW-05, TEW-06, AND TEW-07 SHALL BE STRIPED PARALLEL TO TCH-10, EXCEPT AS NOTED IN THE PLAN.





SEE BRIDGE PHASE REMOVAL DETAILS SHEETS FOR PORTABLE BARRIER ANCHORS

HORIZONTAL SCALE IN FEET
0 20 40 80

CALCULATED MJH
CHECKED KAE

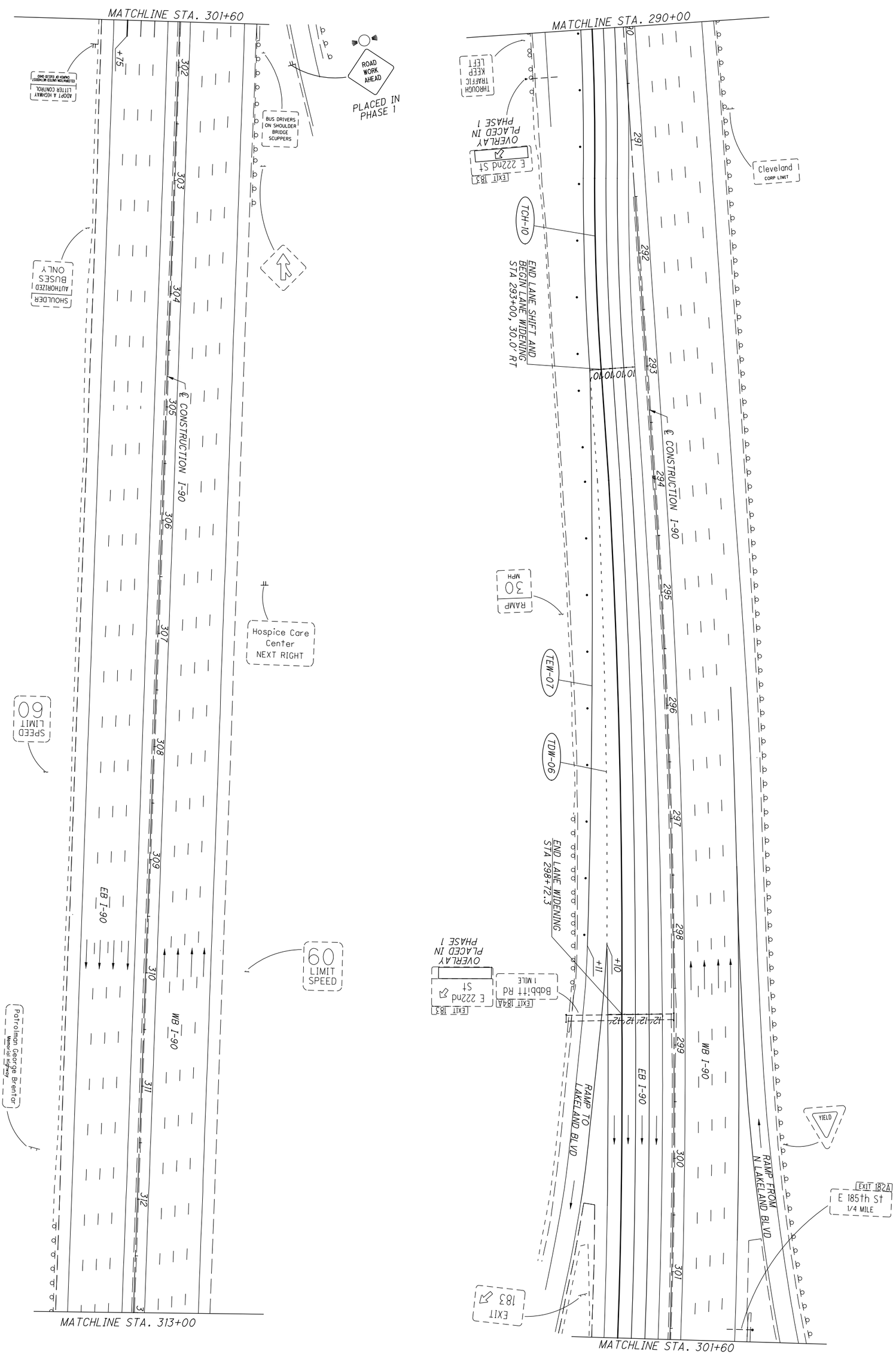
MAINTENANCE OF TRAFFIC PLAN - PHASE 3
STA 278+50 TO STA 290+00

CUY-90-26.16/VAR

39
222

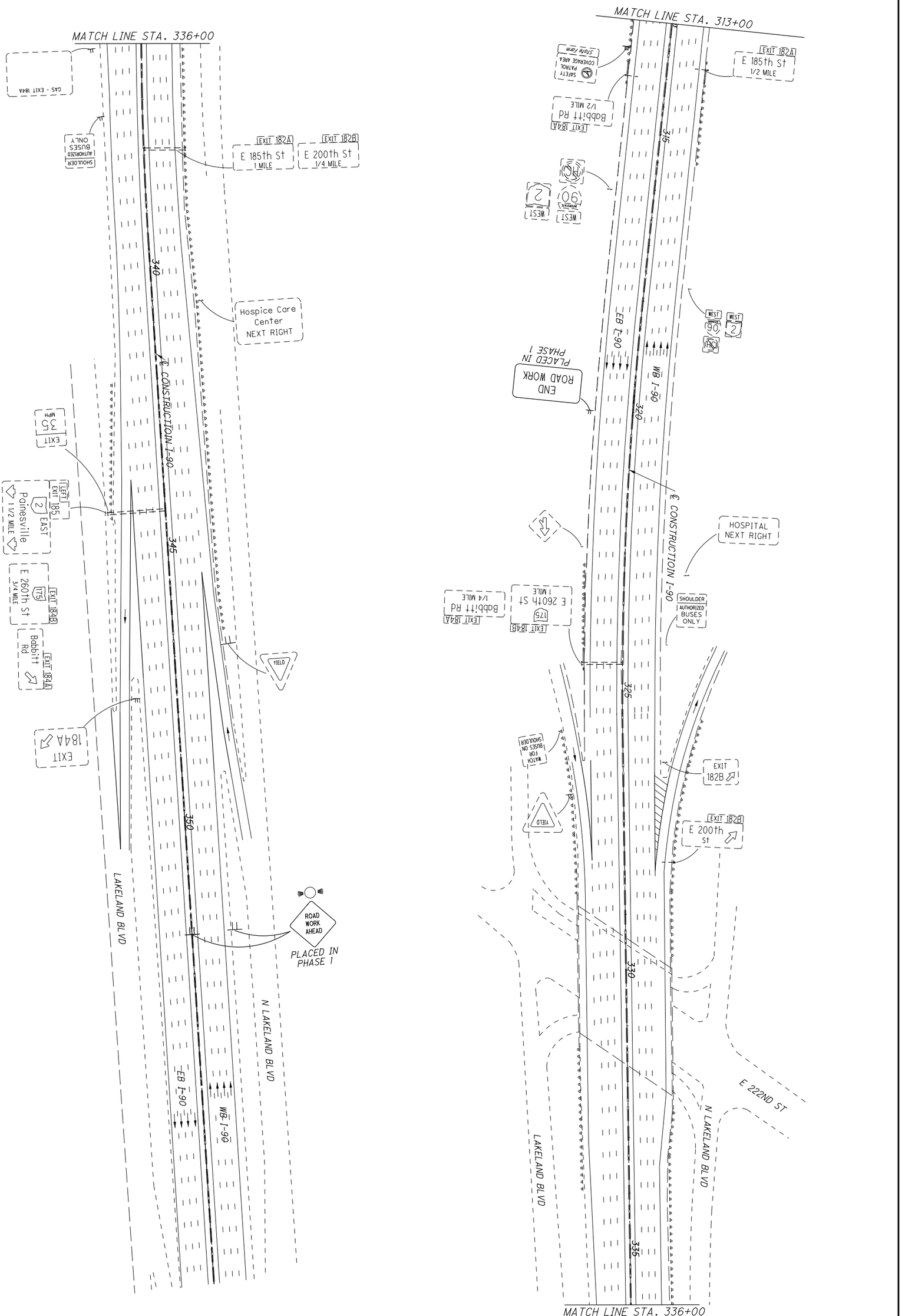
R:\14000\14035\87628\roadway\sheets\39-87628MP035.dgn 11/9/2017 1:38:04 PM malloym

R:\14000\14035\87628\roadway\sheets\40-87628MP036.dgn 11/9/2017 1:38:04 PM malloym



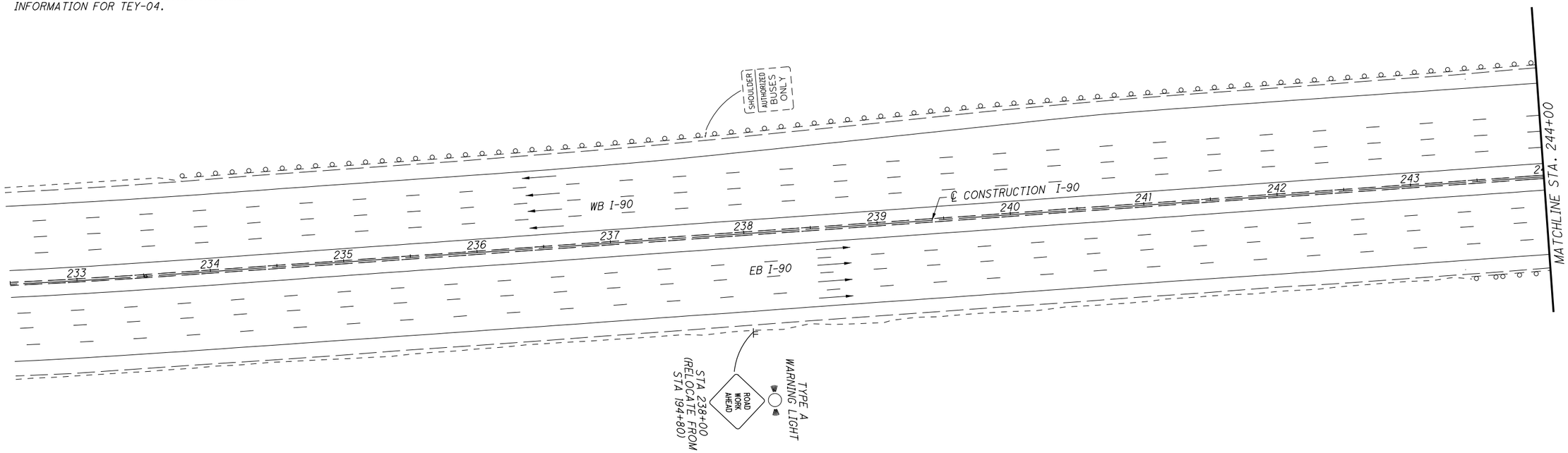
40 / 222	CUY-90-26.16 / VAR	MAINTENANCE OF TRAFFIC PLAN - PHASE 3 STA 290+00 TO 313+00	CALCULATED MJH CHECKED KAE	0 40 20 80 HORIZONTAL SCALE IN FEET

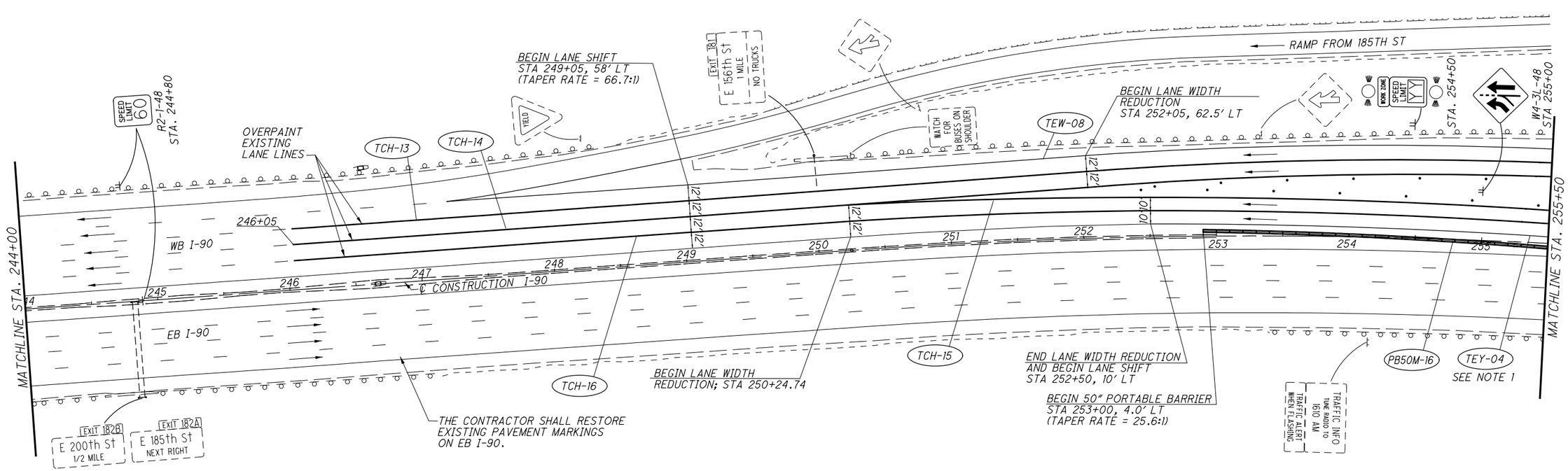
R:\14000\14035\87628\roadway\sheets\41-87628MP037.dgn 11/9/2017 1:38:05 PM malloym



41 / 222	CUY-90-26.16/VAR	MAINTENANCE OF TRAFFIC PLAN - PHASE 3 LEAD-IN SIGNING - WB I-90	CALCULATED MJH CHECKED KAE	0 40 80 160 HORIZONTAL SCALE IN FEET

NOTES:
1) SEE SHEET 62 FOR GEOMETRIC ALIGNMENT INFORMATION FOR TEY-04.





HORIZONTAL SCALE IN FEET
0 20 40 80

CALCULATED MJH
CHECKED KAE

MAINTENANCE OF TRAFFIC PLAN - PHASE 4
STA 232+50 TO STA 255+50

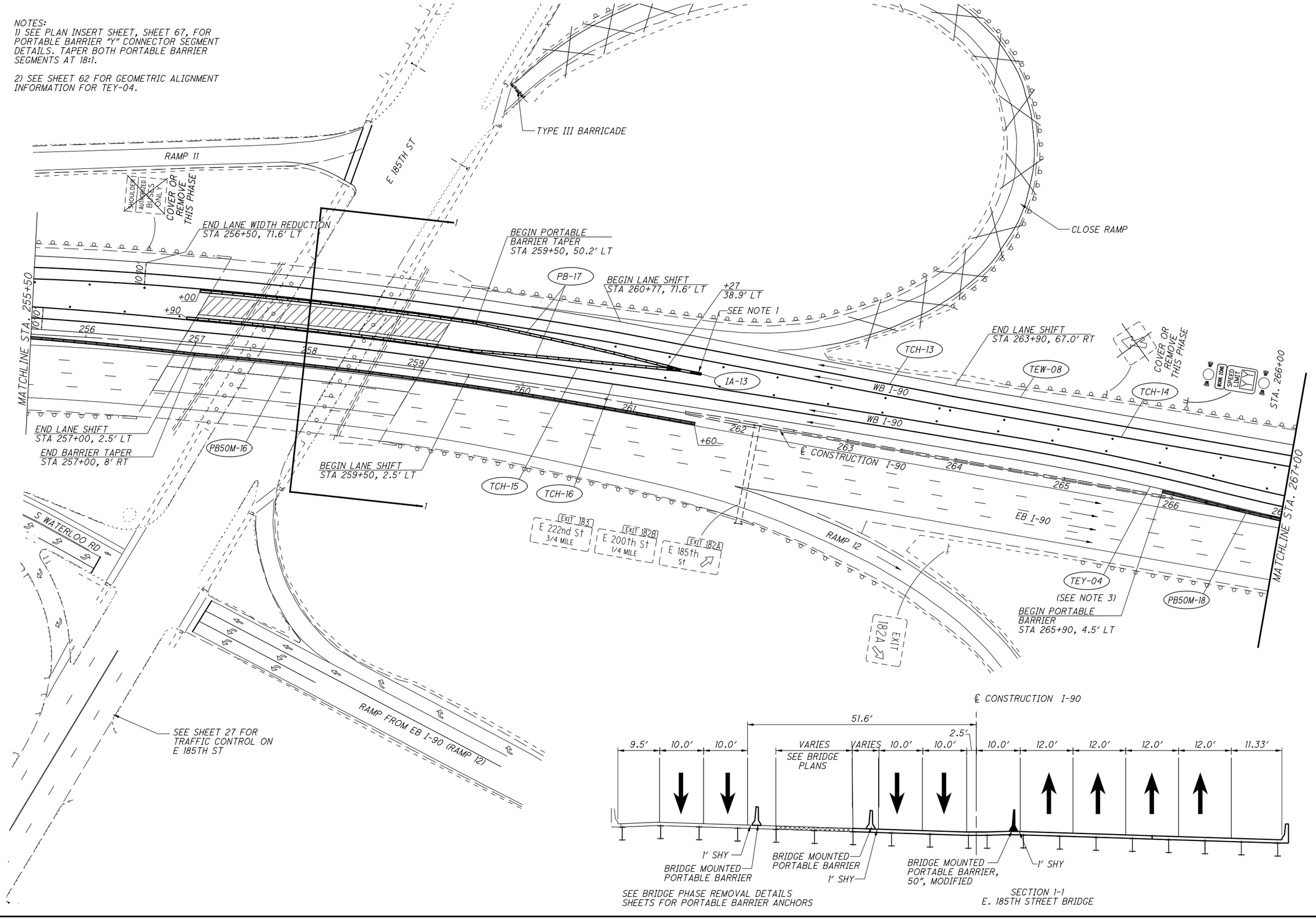
CUY-90-26.16 / VAR

42
222

R:\14000\14035\87628\roadway\sheets\42-87628MP042.dgn 11/9/2017 1:38:06 PM malloym

NOTES:
1) SEE PLAN INSERT SHEET, SHEET 67, FOR PORTABLE BARRIER "Y" CONNECTOR SEGMENT DETAILS. TAPER BOTH PORTABLE BARRIER SEGMENTS AT 18:1.

2) SEE SHEET 62 FOR GEOMETRIC ALIGNMENT INFORMATION FOR TEY-04.



SEE BRIDGE PHASE REMOVAL DETAILS SHEETS FOR PORTABLE BARRIER ANCHORS

SECTION 1-1
E. 185TH STREET BRIDGE

HORIZONTAL SCALE IN FEET
0 20 40 80

CALCULATED MJH
CHECKED KAE

MAINTENANCE OF TRAFFIC PLAN - PHASE 4
STA 255+50 TO STA 267+00

CUY-90-26.16/VAR

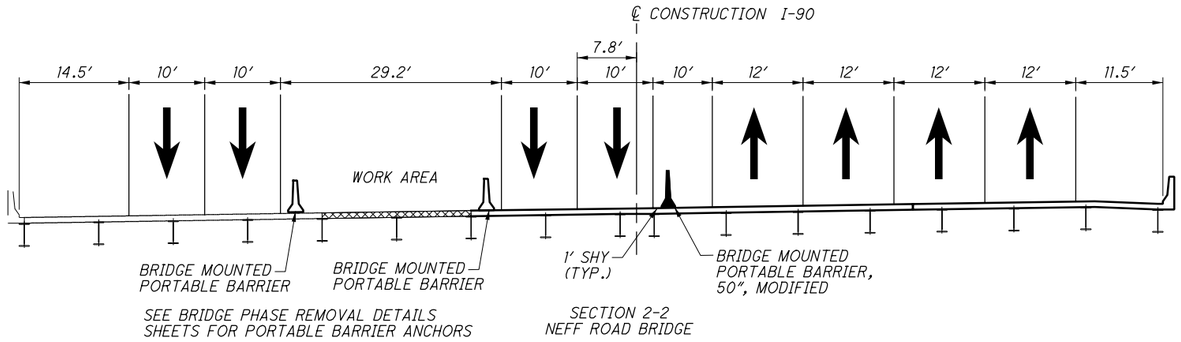
43
222

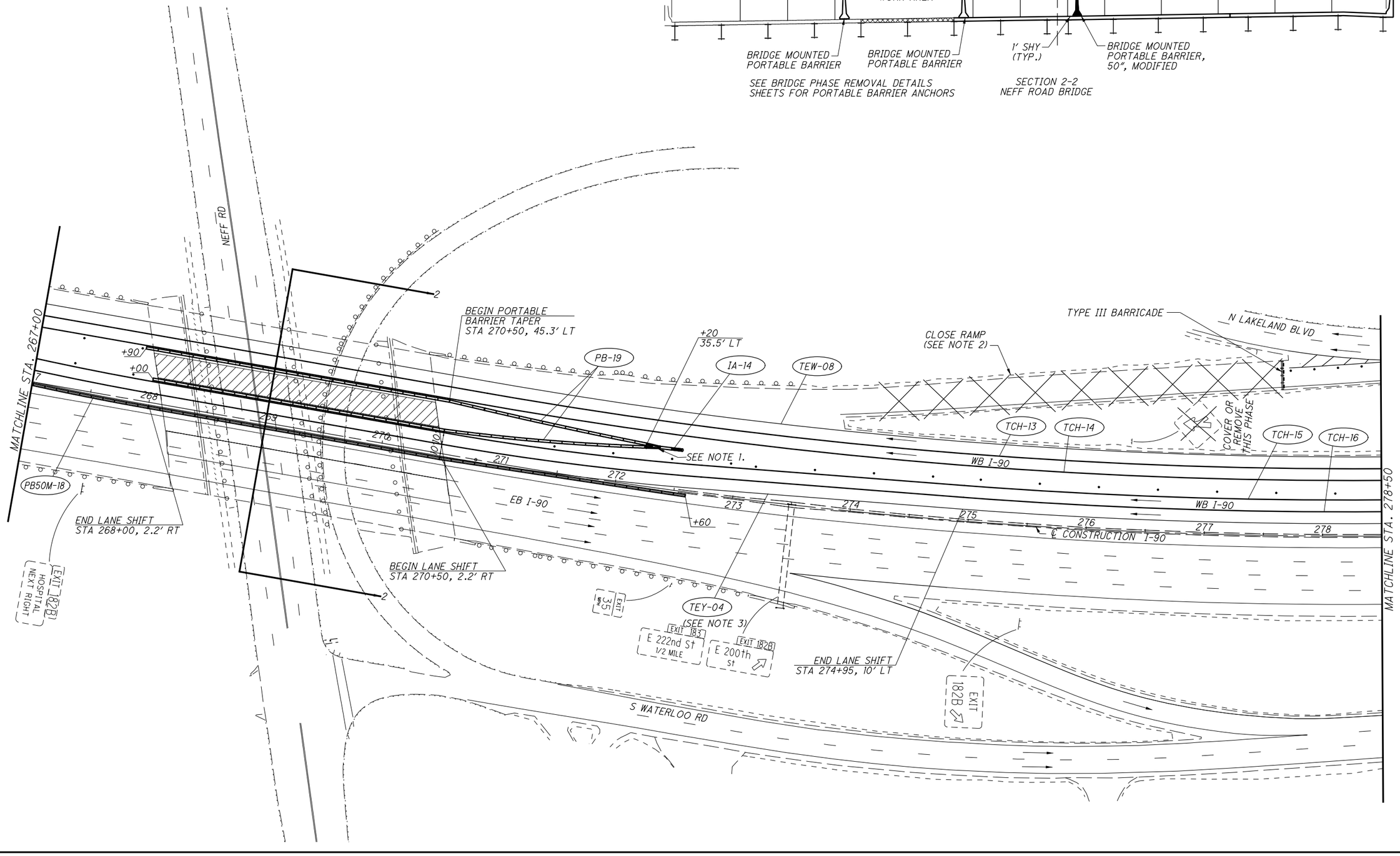
R:\14000\14035\87628\roadway\sheets\43-87628MP043.dgn 11/9/2017 1:38:06 PM malloym

NOTES:
1) SEE PLAN INSERT SHEET, SHEET 67, FOR PORTABLE BARRIER "Y" CONNECTOR SEGMENT DETAILS. TAPER BOTH PORTABLE BARRIER SEGMENTS AT 18:1.

2) SEE MT-98.29 FOR ADDITIONAL RAMP CLOSURE DETAILS. SEE SHEET 59 FOR DETOUR PLAN.

3) SEE SHEET 62 FOR GEOMETRIC ALIGNMENT INFORMATION FOR TEY-04.





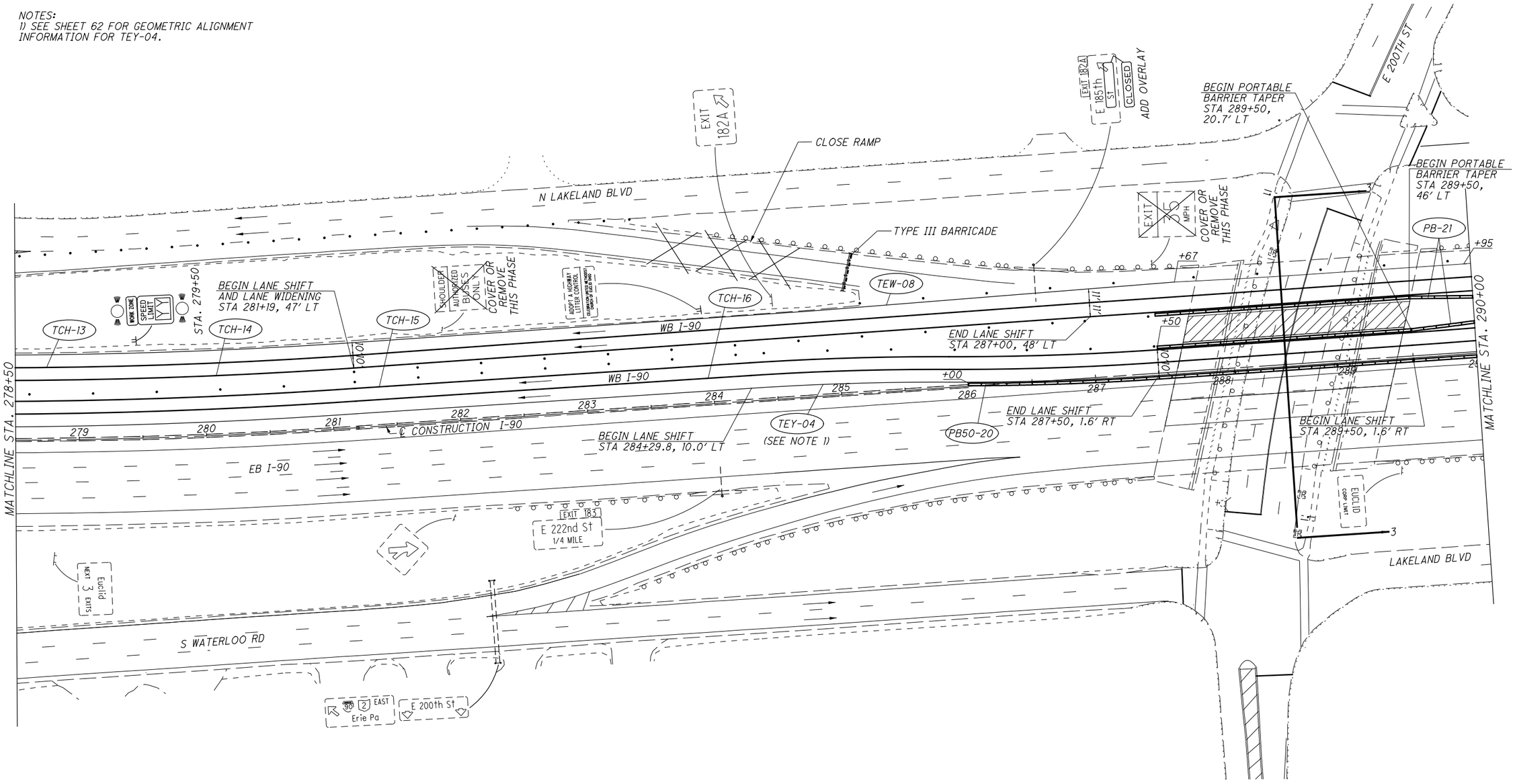
MAINTENANCE OF TRAFFIC PLAN - PHASE 4
STA 267+00 TO STA 278+50

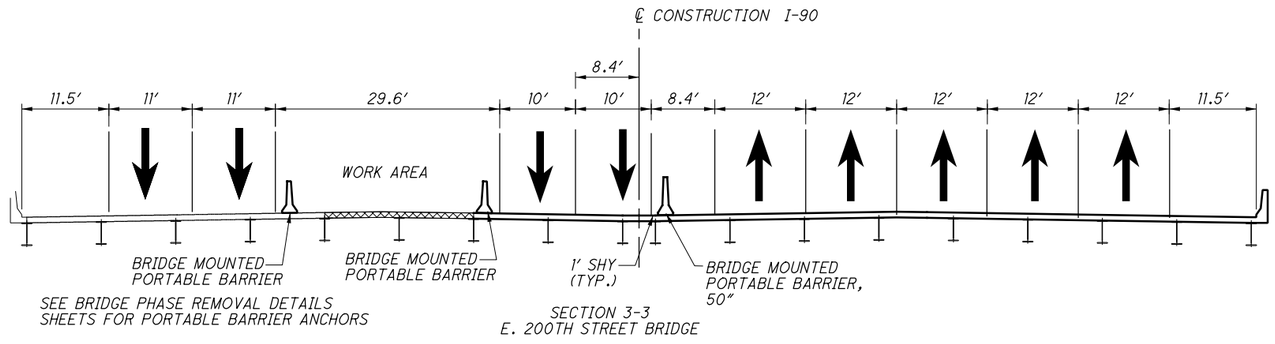
CALCULATED MJH
CHECKED KAE

HORIZONTAL SCALE IN FEET
0 20 40 80

CUY-90-26.16/VAR

NOTES:
1) SEE SHEET 62 FOR GEOMETRIC ALIGNMENT INFORMATION FOR TEY-04.





SEE BRIDGE PHASE REMOVAL DETAILS SHEETS FOR PORTABLE BARRIER ANCHORS

SECTION 3-3
E. 200TH STREET BRIDGE

HORIZONTAL SCALE IN FEET
0 20 40 80

CALCULATED MJH
CHECKED KAE

MAINTENANCE OF TRAFFIC PLAN - PHASE 4
STA 278+50 TO STA 290+00

CUY-90-26.16/VAR

45
222

R:\14000\14035\87628\roadway\sheets\45-87628MP045.dgn 11/9/2017 1:38:07 PM malloym

NOTES:
1) OPERATE PCMS FOR 7 DAYS, AFTER INSTALLATION OF PHASE 1 TRAFFIC CONTROL.

2) SEE PLAN INSERT SHEET, SHEET 67, FOR PORTABLE BARRIER "Y" CONNECTOR SEGMENT DETAILS. TAPER BOTH PORTABLE BARRIER SEGMENTS AT 18:1.

3) SEE SHEET 62 FOR GEOMETRIC ALIGNMENT INFORMATION FOR TEY-04.

PCMS MESSAGES

YIELD AHEAD | YIELD AHEAD

MESSAGE 1 MESSAGE 2

BEGIN LANE SHIFT AND LANE WIDENING STA 290+00, 59' LT

MATCHLINE STA. 290+00

PB-21

Cleveland CORP LIMIT

+10 34.1' LT

SEE NOTE 2

TCH-13

TCH-14

TCV-2

TDW-07

OVERPAINT EXISTING LANE LINES

END CHAN. LINE STA 299+50

+34

RAMP FROM N LAKELAND BLVD

EXIT 182A E 185th ST 1/4 MILE CLOSED ADD OVERLAY

SEE NOTE 1

PCMS

YIELD

11' 11' 12' 12' 12' 12'

WB I-90

290 291 292 293 294 295 296 297 298 299 300 301

℄ CONSTRUCTION I-90

MATCHLINE STA. 301+60

EB I-90

+60

IA-15

TEY-04 (SEE NOTE 3)

BEGIN LANE WIDTH TAPER; STA 292+00, 5.16' LT

TCH-15

TCH-16

END LANE SHIFT AND LANE WIDENING STA 296+50, 10' LT

RAMP TO LAKELAND BLVD

PB50-20

RAMP 30 MPH

EXIT 183 E 222nd St EXIT ONLY

THROUGH TRAFFIC KEEP LEFT

EXIT 184A Babbitt Rd 1 MILE

EXIT 184 E 222nd St EXIT ONLY

EXIT 183

W20-1-48 ROAD WORK AHEAD STA. 302+00

N LAKELAND BLVD

BUS DRIVERS ON SHOULDER USE CAUTION

WORK ZONE SPEED LIMIT

STA. 304+50

Hospice Care Center NEXT RIGHT

COVER OR REMOVE THIS PHASE

SPEED LIMIT 60

COVER OR REMOVE THIS PHASE

STAY IN LANE

R4-9-36 STA. 310+00

MATCHLINE STA. 301+60

302 303 304 305 306 307 308 309 310 311 312

℄ CONSTRUCTION I-90

WB I-90

EB I-90

MATCHLINE STA. 313+00

ADOPT A HIGHWAY LITTER CONTROL

SHOULDER AUTHORIZED BUSES ONLY

SPEED LIMIT 60

Patrolman George Brentar Memorial Highway

HORIZONTAL SCALE IN FEET 0 20 40 80

CALCULATED MJH CHECKED KAE

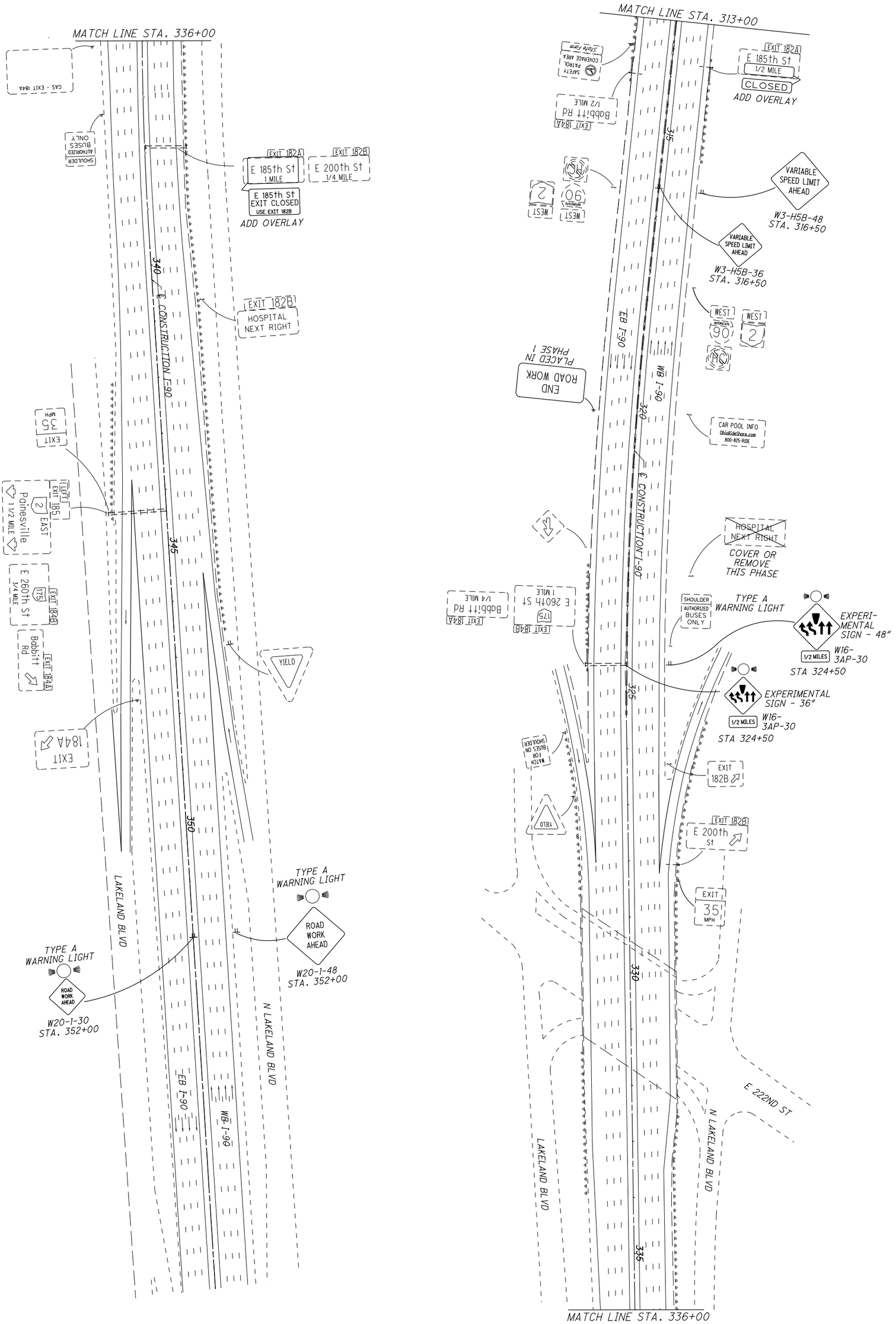
MAINTENANCE OF TRAFFIC PLAN - PHASE 4
STA 290+00 TO STA 313+00

CUY-90-26.16 / VAR

46 / 222

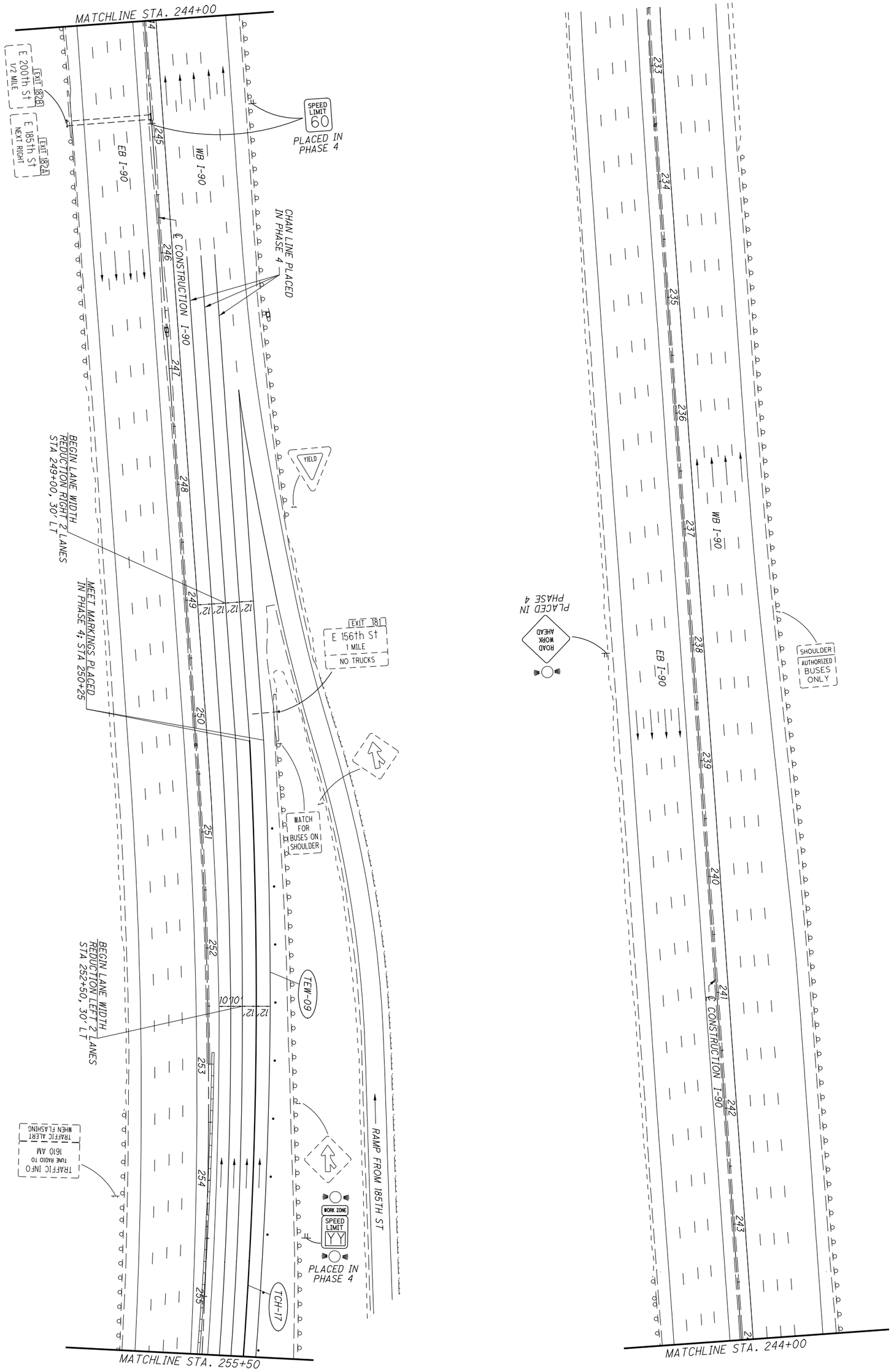
R:\14000\14035\87628\roadway\sheets\46-87628MP046.dgn 11/9/2017 1:38:08 PM malloym

R:\14000\14035\87628\roadway\sheets\47-87628MP047.dgn 11/9/2017 1:38:10 PM malloym



47 / 222	CUY-90-26.16/VAR	MAINTENANCE OF TRAFFIC PLAN - PHASE 4 LEAD-IN SIGNING - WB I-90	CALCULATED MJH CHECKED KAE	0 80 40 160 HORIZONTAL SCALE IN FEET

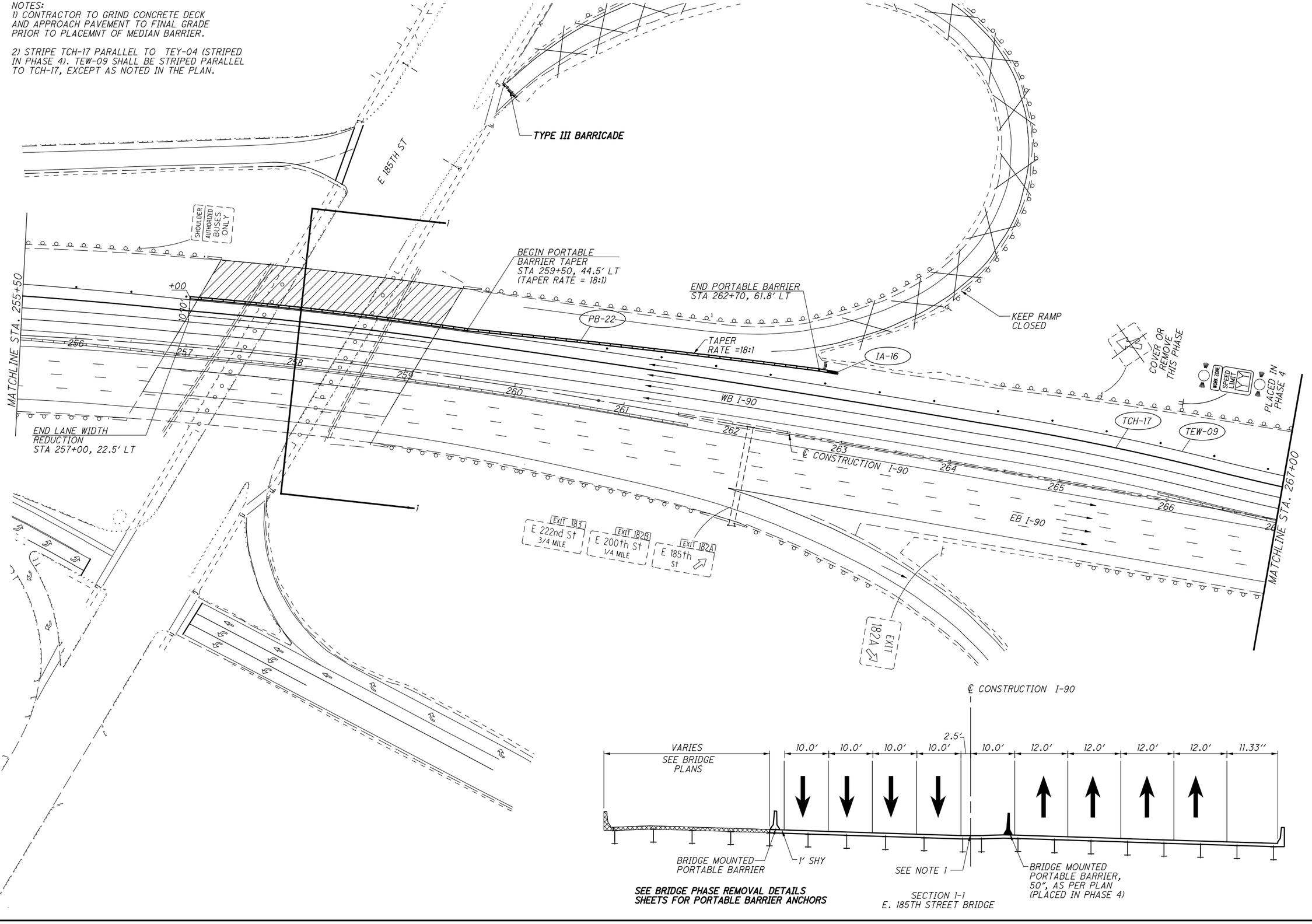
R:\14000\14035\87628\roadway\sheets\48-87628MP052.dgn 11/9/2017 1:38:11 PM malloym



48 / 222	CUY-90-26.16/VAR	MAINTENANCE OF TRAFFIC PLAN - PHASE 5 STA 232+50 TO STA 255+50	CALCULATED MJH CHECKED KAE	0 40 20 80 HORIZONTAL SCALE IN FEET

NOTES:
1) CONTRACTOR TO GRIND CONCRETE DECK AND APPROACH PAVEMENT TO FINAL GRADE PRIOR TO PLACEMNT OF MEDIAN BARRIER.

2) STRIPE TCH-17 PARALLEL TO TEY-04 (STRIPED IN PHASE 4). TEW-09 SHALL BE STRIPED PARALLEL TO TCH-17, EXCEPT AS NOTED IN THE PLAN.



SECTION 1-1
E. 185TH STREET BRIDGE

SEE BRIDGE PHASE REMOVAL DETAILS SHEETS FOR PORTABLE BARRIER ANCHORS

HORIZONTAL SCALE IN FEET
0 20 40 80

CALCULATED MJH
CHECKED KAE

MAINTENANCE OF TRAFFIC PLAN - PHASE 5
STA 255+50 TO STA 267+00

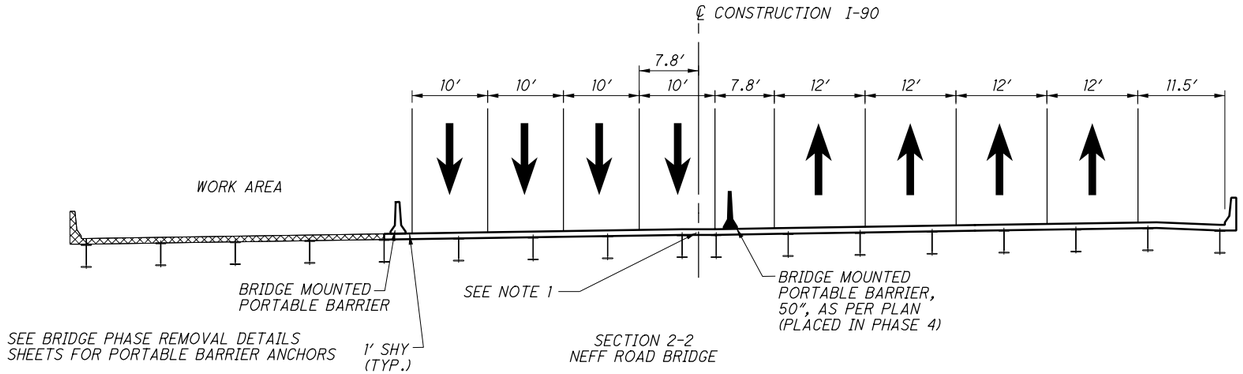
CUY-90-26.16/VAR

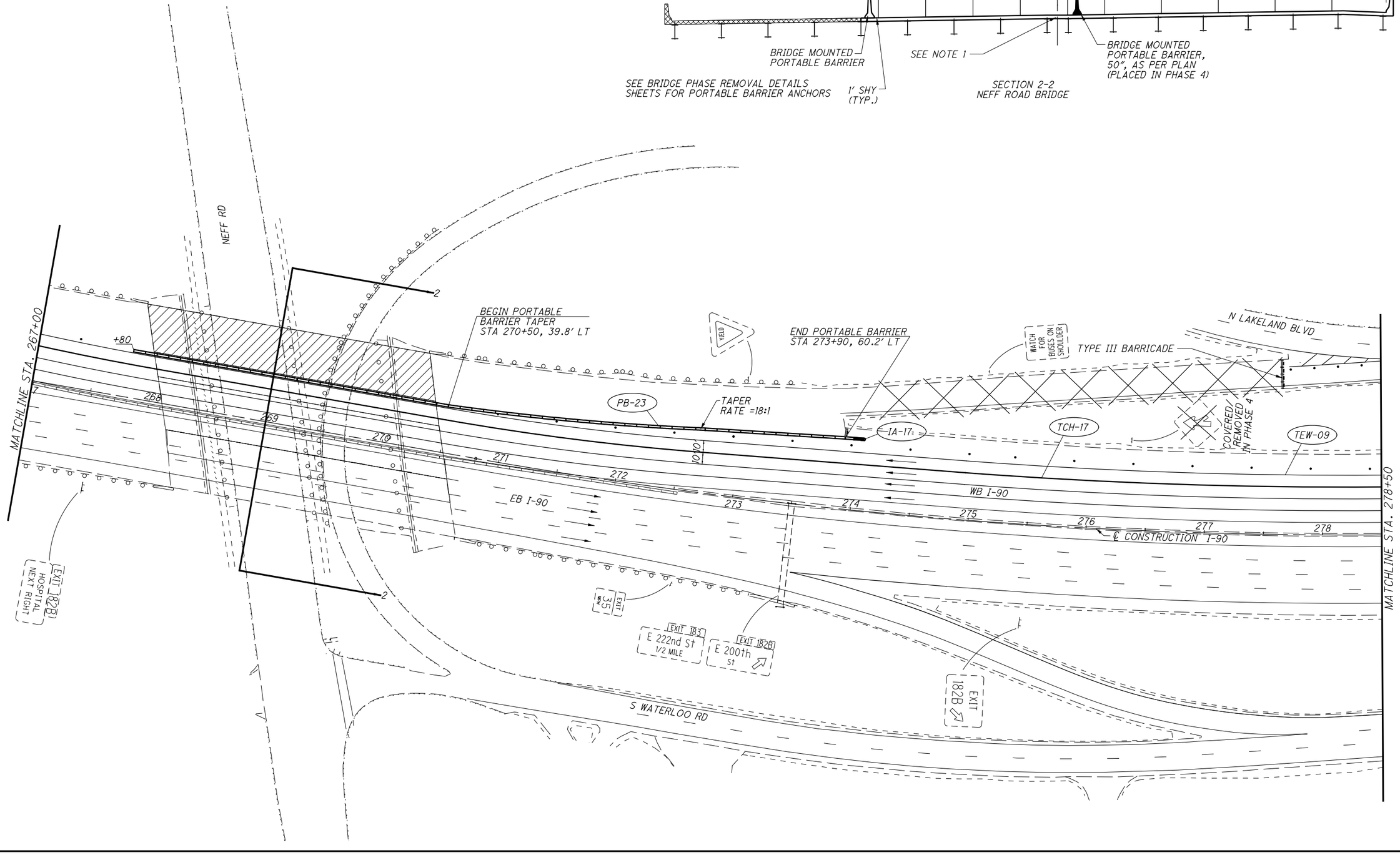
49
222

R:\14000\14035\87628\roadway\sheets\49-87628MP053.dgn 11/9/2017 1:38:11 PM malloym

NOTES:
1) CONTRACTOR TO GRIND CONCRETE DECK AND APPROACH PAVEMENT TO FINAL GRADE PRIOR TO PLACEMNT OF MEDIAN BARRIER.

2) STRIPE TCH-17 PARALLEL TO TEY-04 (STRIPED IN PHASE 4). TEW-09 SHALL BE STRIPED PARALLEL TO TCH-17, EXCEPT AS NOTED IN THE PLAN.





R:\14000\14035\87628\roadway\sheets\50-87628MP054.dgn 11/9/2017 1:38:12 PM malloym

HORIZONTAL SCALE IN FEET
0 20 40 80

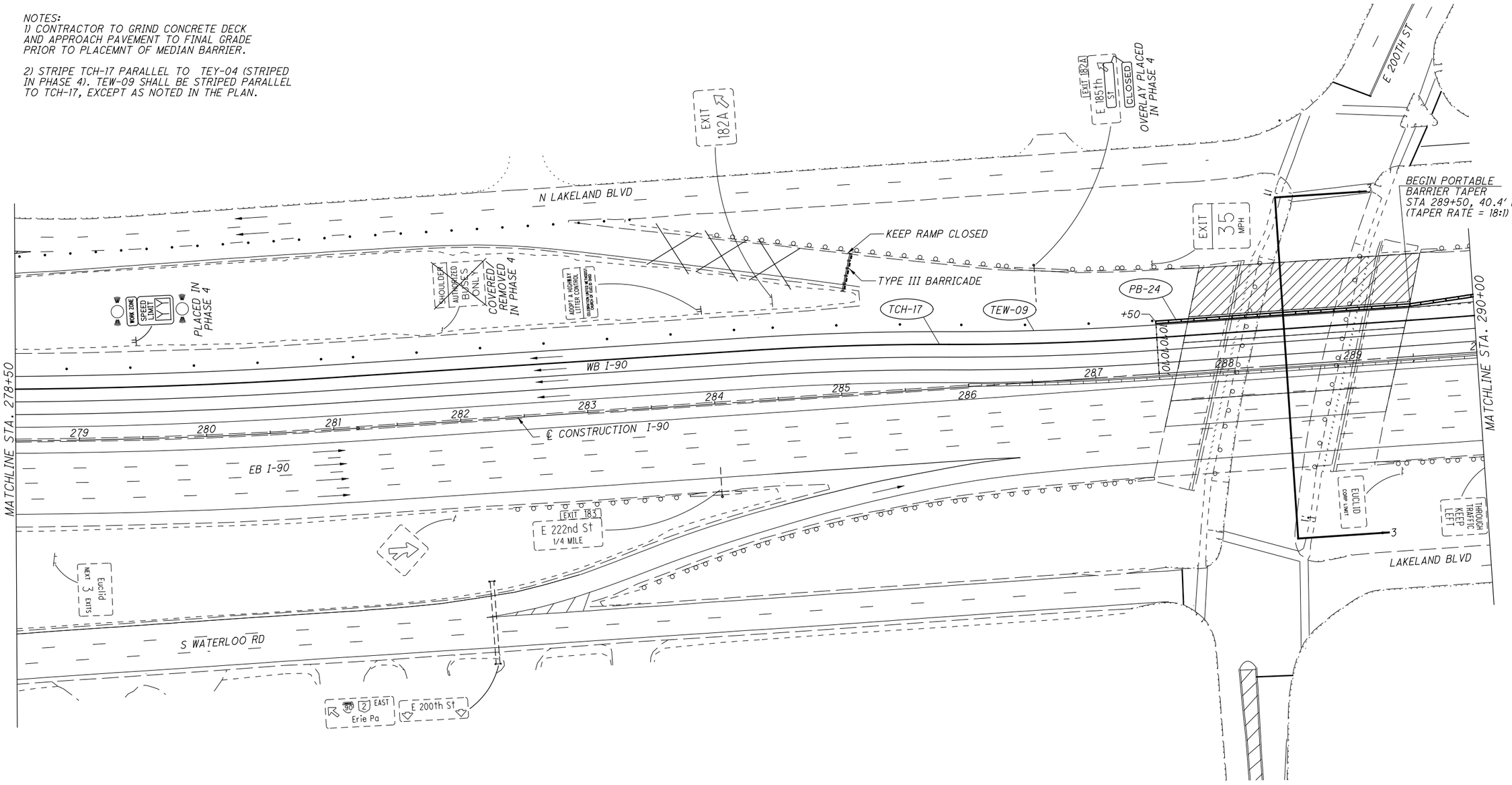
CALCULATED MJH
CHECKED KAE

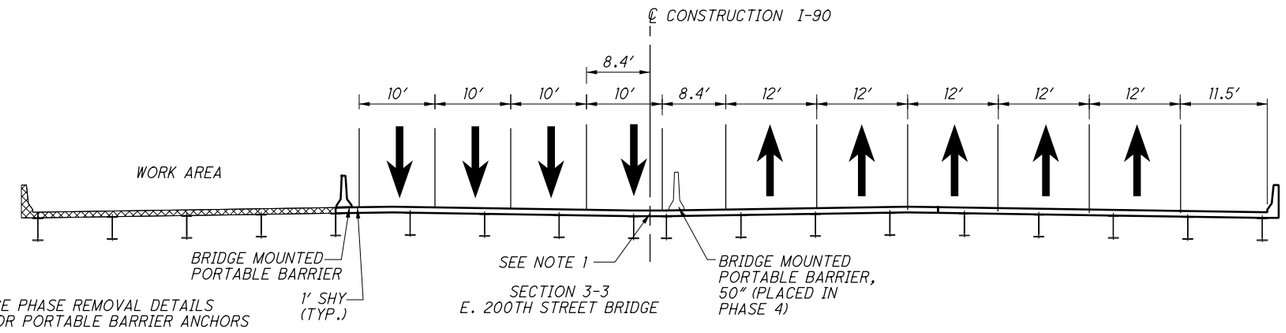
MAINTENANCE OF TRAFFIC PLAN - PHASE 5
STA 267+00 TO STA 278+50

CUY-90-26.16 / VAR

NOTES:
1) CONTRACTOR TO GRIND CONCRETE DECK AND APPROACH PAVEMENT TO FINAL GRADE PRIOR TO PLACEMNT OF MEDIAN BARRIER.

2) STRIPE TCH-17 PARALLEL TO TEY-04 (STRIPED IN PHASE 4). TEW-09 SHALL BE STRIPED PARALLEL TO TCH-17, EXCEPT AS NOTED IN THE PLAN.





HORIZONTAL SCALE IN FEET
0 20 40 80

CALCULATED MJH
CHECKED KAE

MAINTENANCE OF TRAFFIC PLAN - PHASE 5
STA 278+50 TO STA 290+00

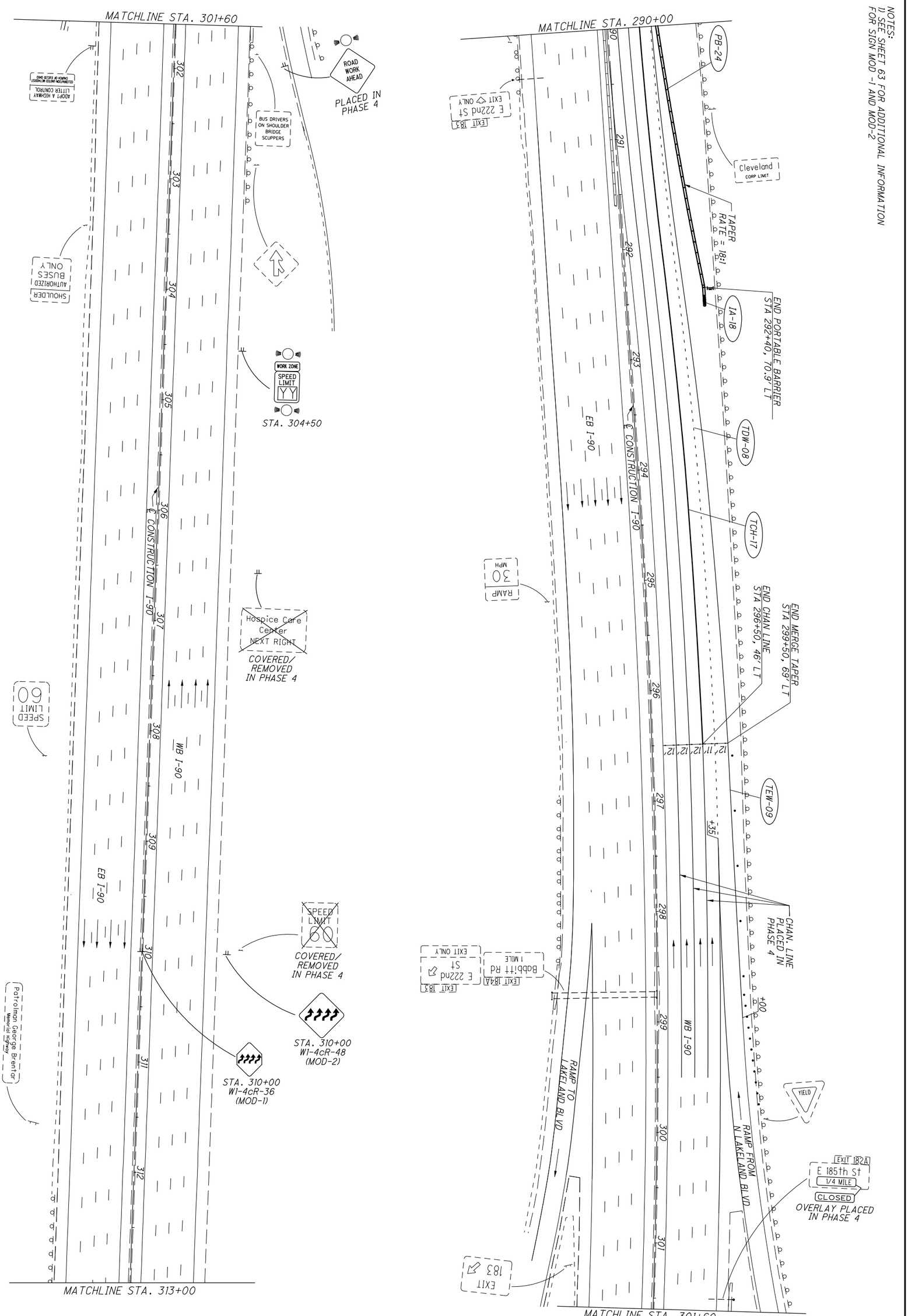
CUY-90-26.16/VAR

51
222

R:\14000\14035\87628\roadway\sheets\51-87628MP055.dgn 11/9/2017 1:38:12 PM malloym

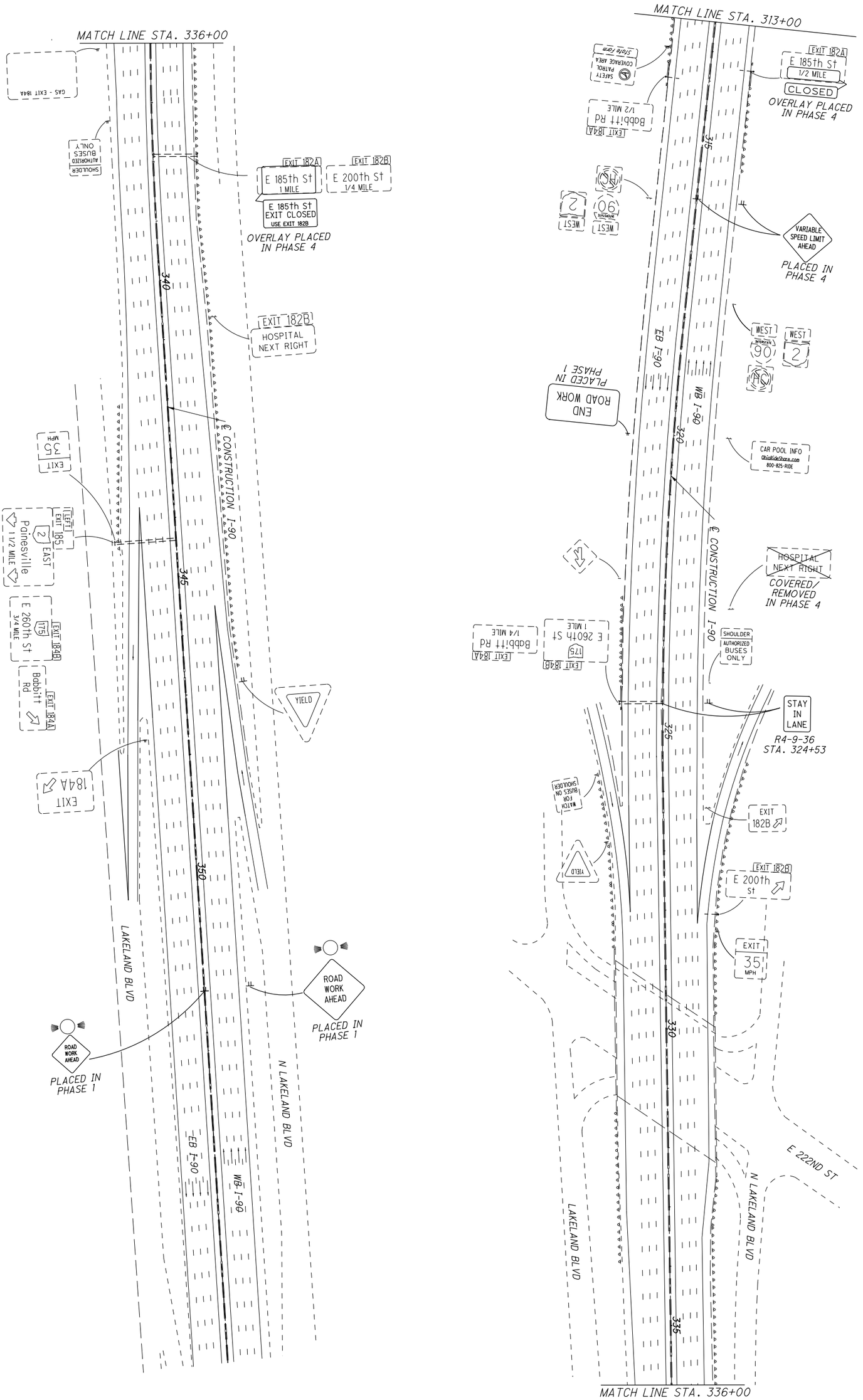
R:\14000\14035\87628\roadway\sheets\52-87628MP056.dgn 11/9/2017 1:38:13 PM malloym

NOTES:
1) SEE SHEET 63 FOR ADDITIONAL INFORMATION FOR SIGN MOD -1 AND MOD-2



52 / 222	CUY-90-26.16/VAR	MAINTENANCE OF TRAFFIC PLAN - PHASE 5 STA 290+00 TO STA 313+00	CALCULATED MJH CHECKED KAE	0 40 20 80 HORIZONTAL SCALE IN FEET

R:\14000\14035\87628\roadway\sheets\53-87628MP057.dgn 11/9/2017 1:38:14 PM malloym



53 / 222	CUY-90-26.16/VAR	MAINTENANCE OF TRAFFIC PLAN - PHASE 5 LEAD-IN SIGNING - WB I-90	CALCULATED MJH CHECKED KAE	0 80 40 160 HORIZONTAL SCALE IN FEET

NOTES:
1) SEE SHEET 62 FOR GEOMETRIC ALIGNMENT INFORMATION FOR TEY-04.

END LANE WIDTH TAPER
STA 252+90, 12' LT

BEGIN EDGE LINE
STA 251+70, 10' LT
(TAPER RATE = 60:1)

SHOULDER AUTHORIZED BUSES ONLY

TEY-04

PB-26

℄ CONSTRUCTION I-90

252 263 254 255 256 257 258 259 260 261 262 +60

IA-19

EB I-90

BEGIN PORTABLE BARRIER TAPER
STA 252+50, 5.2' RT
(TAPER RATE = 18:1)

END PORTABLE BARRIER TAPER
STA 253+00, 8' RT

TRAFFIC INFO
TUNE RADIO TO
1610 AM
TRAFFIC ALERT
WHEN FLASHING

E 185TH ST

END PORTABLE BARRIER TAPER
STA 262+00, 7.2' LT
(TAPER RATE = 18:1)

BEGIN PORTABLE BARRIER TAPER
STA 261+50, 10' LT

YIELD

WB I-90

PB-25

IA-20

MATCHINE STA. 263+00

EXIT 183
E 222nd St
3/4 MILE

EXIT 182B
E 200th St
1/4 MILE

EXIT 182A
E 185th St

℄ CONSTRUCTION I-90

11.33' 12' 12' 12' 12' 10' 12' 10' 12' 12' 12' 12' 11.33'

WORK AREA

1' SHY (TYP.)

SECTION 1-1
E. 185TH STREET BRIDGE

HORIZONTAL SCALE IN FEET
0 20 40 80

CALCULATED MJH
CHECKED KAE

MAINTENANCE OF TRAFFIC PLAN - PHASE 6
STA 251+50 TO STA 263+00

CUY-90-26.16/VAR

54
222

R:\14000\14035\87628\roadway\sheets\54-87628MP061.dgn 11/9/2017 1:38:14 PM malloym

NOTES:
1) SEE SHEET 62 FOR GEOMETRIC ALIGNMENT INFORMATION FOR TEY-04.

MATCHLINE STA. 263+00

TEY-04

264

265

+90

266

℄ CONSTRUCTION I-90

267

268

269

270

271

272

273

+60

274

IA-21

EB I-90

WB I-90

NEFF RD

BEGIN PORTABLE BARRIER TAPER
STA 265+50, 5.2' RT
(TAPER RATE = 18:1)

END PORTABLE BARRIER TAPER
STA 266+00, 8' RT

END PORTABLE BARRIER TAPER
STA 273+00, 7.2' LT

BEGIN PORTABLE BARRIER TAPER
STA 272+50, 10' LT
(TAPER RATE = 18:1)

PB-28

PB-27

IA-22

YIELD

EXIT 182A

EXIT 182B
HOSPITAL
NEXT RIGHT

EXIT 183
E 222nd St
1/2 MILE

EXIT 182B
E 200th St

S WATERLOO RD

BREAKLINE STA. 274+50

SECTION 2-2
NEFF ROAD BRIDGE

HORIZONTAL SCALE IN FEET
0 20 40 80

CALCULATED MJH
CHECKED KAE

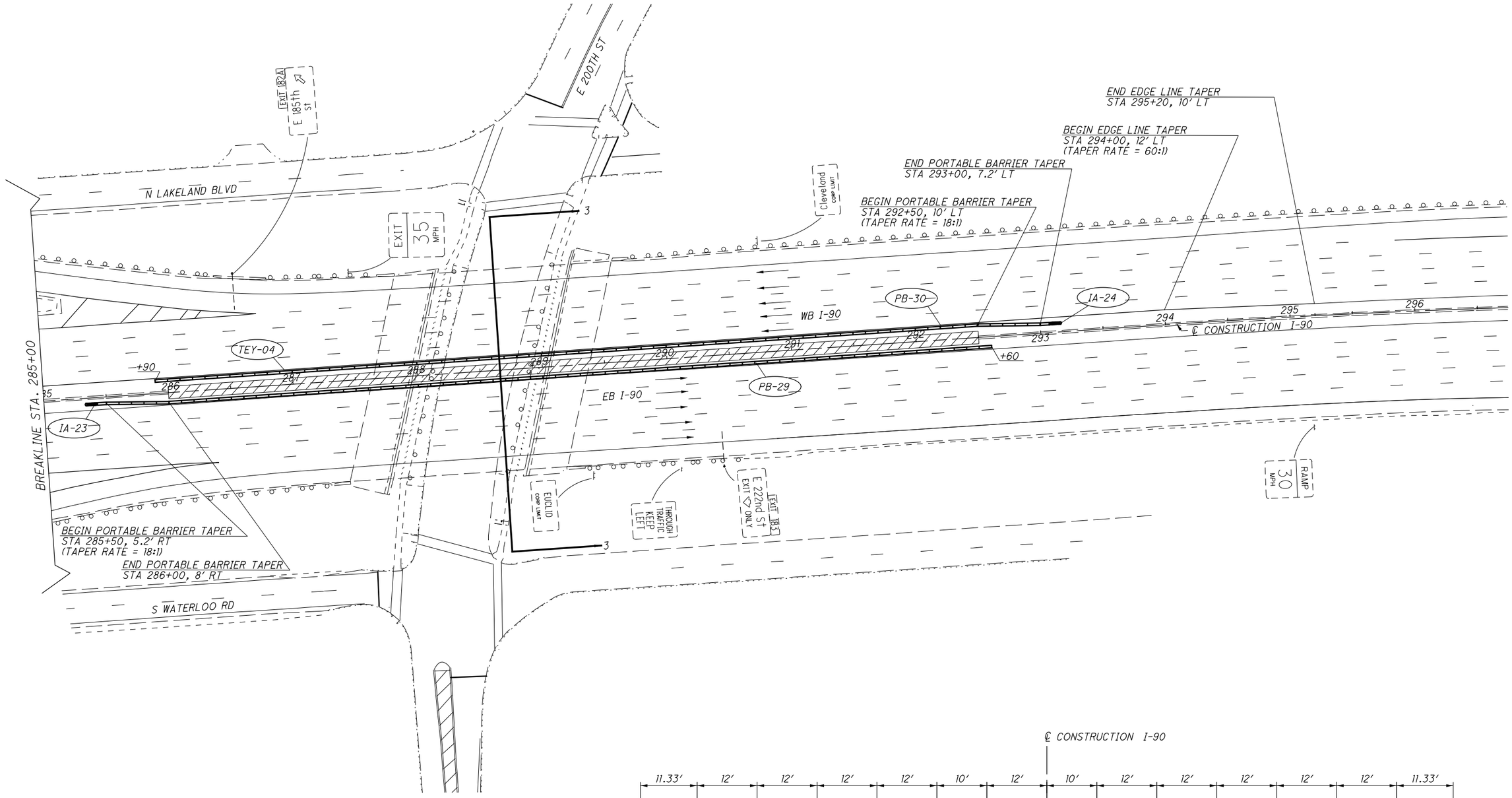
MAINTENANCE OF TRAFFIC PLAN - PHASE 6
STA 263+00 TO STA 274+50

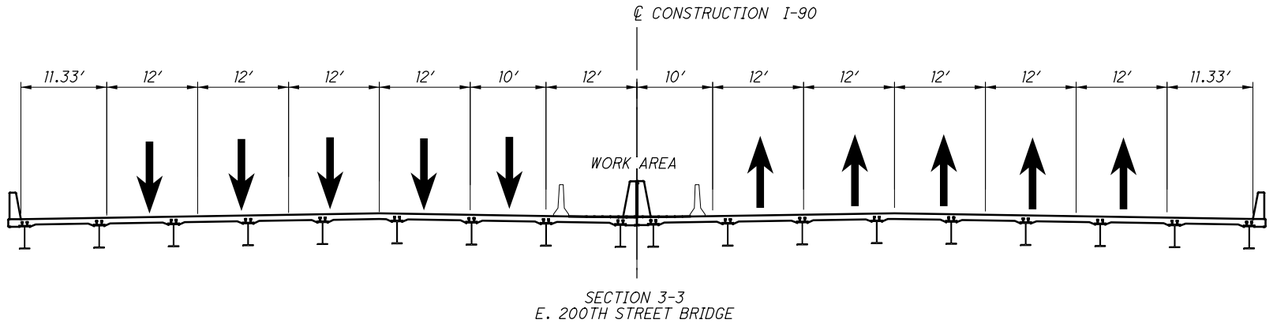
CUY-90-26.16/VAR

55
222

R:\14000\14035\87628\roadway\sheets\55-87628MP062.dgn 11/9/2017 1:38:15 PM malloym

NOTES:
1) SEE SHEET 62 FOR GEOMETRIC ALIGNMENT INFORMATION FOR TEY-04.





SECTION 3-3
E. 200TH STREET BRIDGE

HORIZONTAL SCALE IN FEET
0 20 40 80

CALCULATED MJH
CHECKED KAE

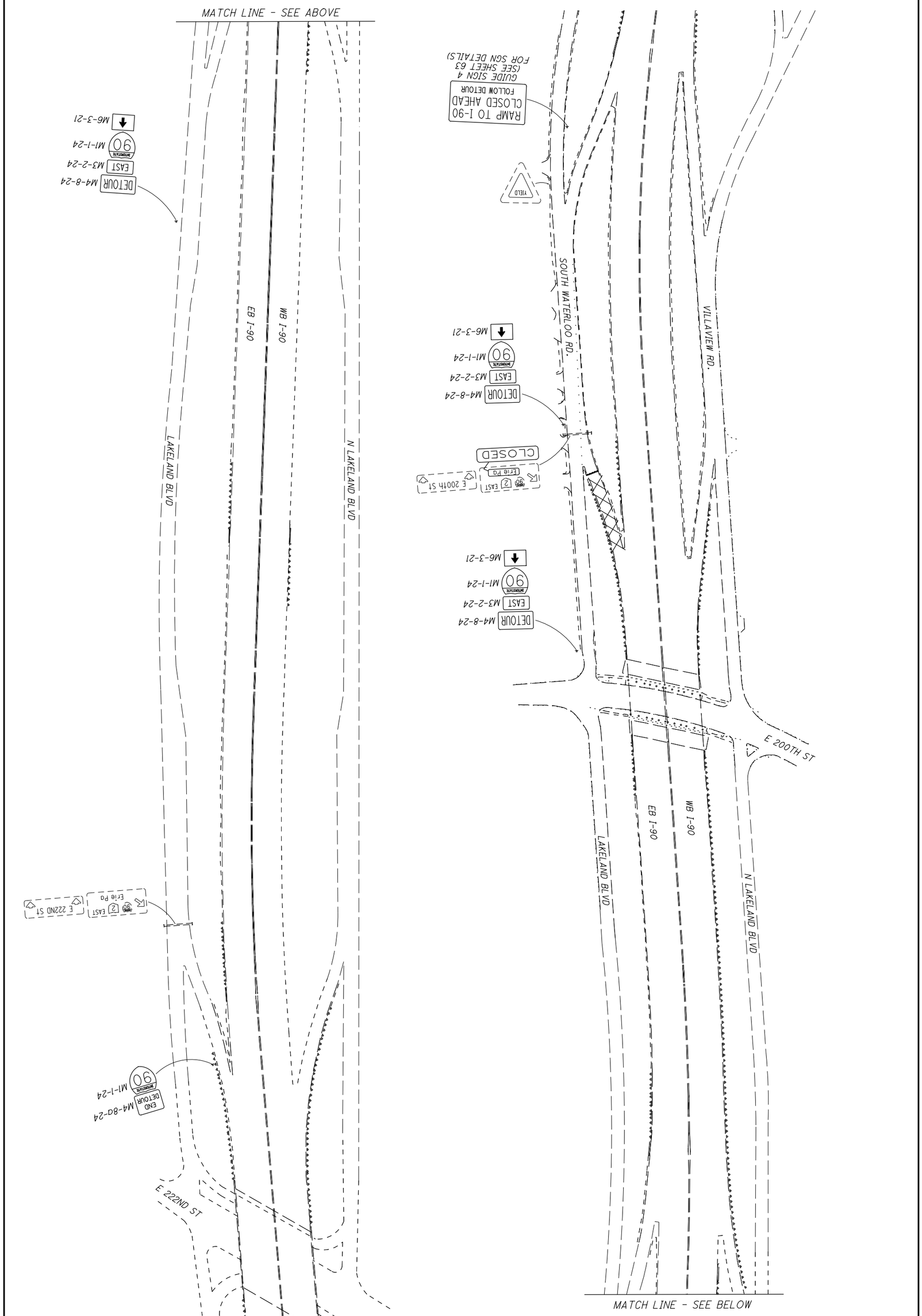
MAINTENANCE OF TRAFFIC PLAN - PHASE 6
STA 285+00 TO STA 296+50

CUY-90-26.16 / VAR

56
222

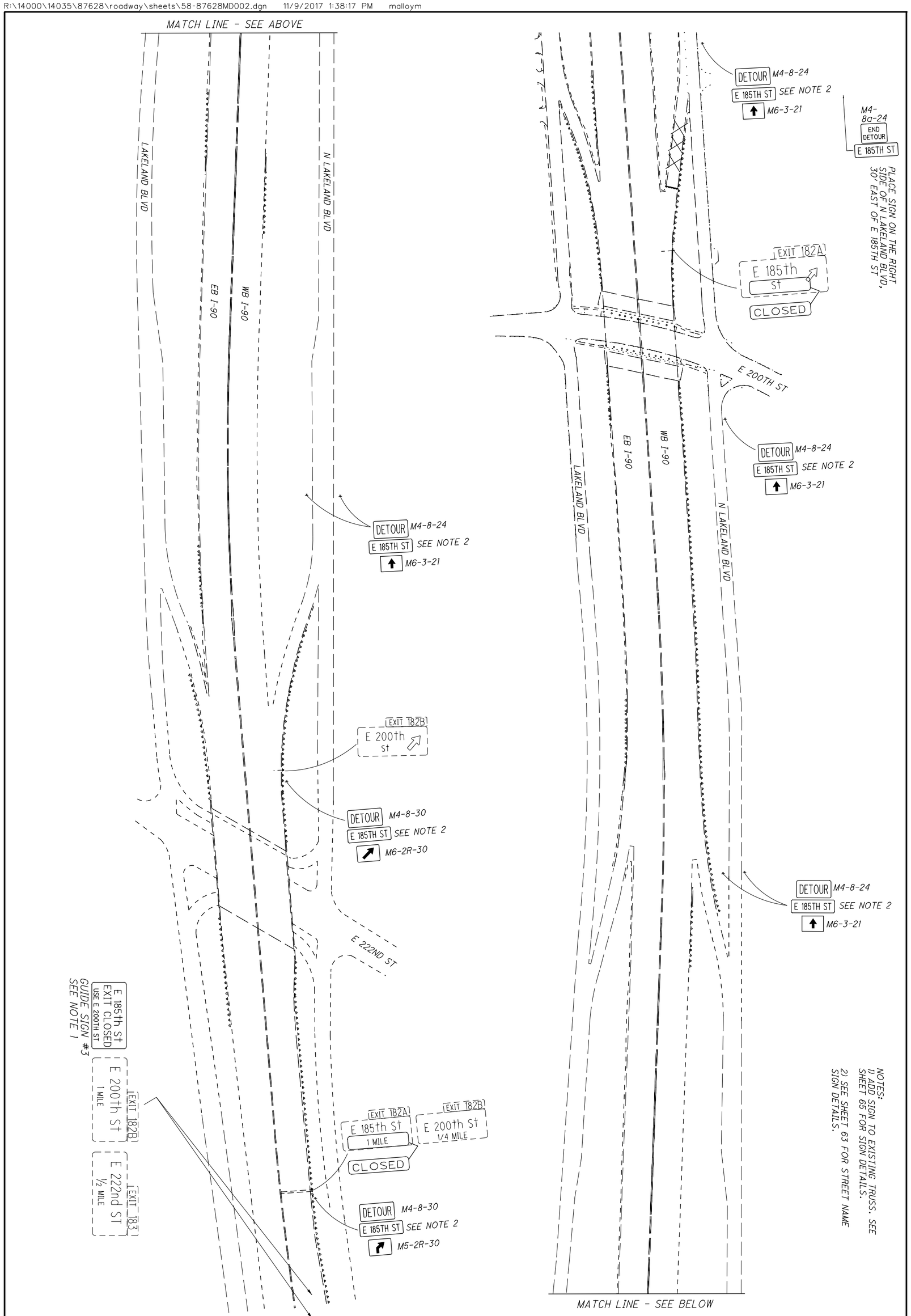
R:\14000\14035\87628\roadway\sheets\56-87628MP063.dgn 11/9/2017 1:38:15 PM malloym

R:\14000\14035\87628\roadway\sheets\57-87628MD001.dgn 11/9/2017 1:38:16 PM malloym



57 / 222	CUY-90-26.16/VAR	MAINTENANCE OF TRAFFIC PLAN - DETOUR #1 CLOSURE OF S WATERLOO RD RAMP TO EB I-90	CALCULATED MJH CHECKED KAE	0 100 50 200 HORIZONTAL SCALE IN FEET	N

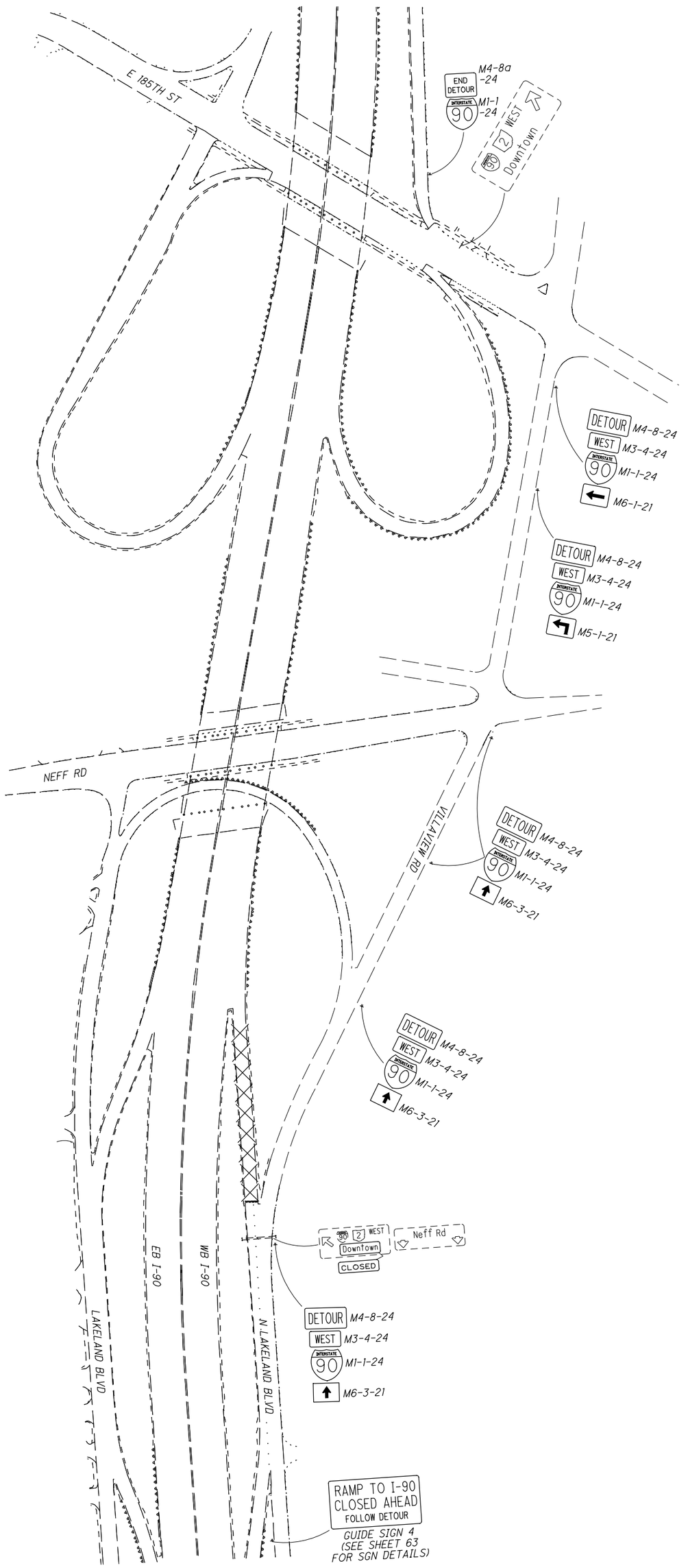
R:\14000\14035\87628\roadway\sheets\58-87628MD002.dgn 11/9/2017 1:38:17 PM malloym



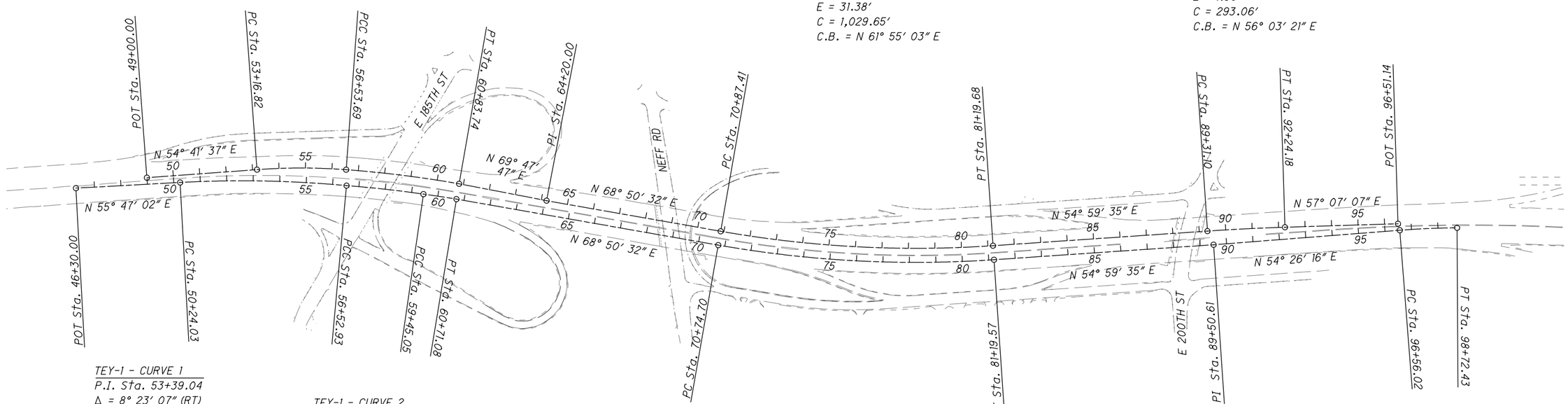
NOTES:
1) ADD SIGN TO EXISTING TRUSS. SEE SHEET 65 FOR SIGN DETAILS.
2) SEE SHEET 63 FOR STREET NAME SIGN DETAILS.

58 / 222	CUY-90-26.16/VAR	MAINTENANCE OF TRAFFIC PLAN - DETOUR #2 CLOSURE OF WB I-90 RAMP TO E 185TH ST	CALCULATED MJH CHECKED KAE	0 50 100 200 HORIZONTAL SCALE IN FEET

R:\14000\14035\87628\roadway\sheets\59-87628MD003.dgn 11/9/2017 1:38:17 PM malloym



59 / 222	CUY-90-26.16/VAR	MAINTENANCE OF TRAFFIC PLAN - DETOUR #3 CLOSURE OF N LAKELAND RAMP TO WB I-90	CALCULATED MJH CHECKED KAE	0 100 50 200 HORIZONTAL SCALE IN FEET



TEY-2 - CURVE 1
P.I. Sta. 54+85.56
Δ = 8° 27′ 29″ (RT)
Dc = 2° 30′ 39″
R = 2,282.00′
T = 168.74′
L = 336.87′
E = 6.23′
C = 336.56′
C.B. = N 58° 55′ 21″ E

TEY-2 - CURVE 2
P.I. Sta. 58+68.89
Δ = 5° 41′ 27″ (RT)
Dc = 1° 19′ 24″
R = 4,329.80′
T = 215.20′
L = 430.04′
E = 5.34′
C = 429.87′
C.B. = N 65° 59′ 48″ E

TEY-2 - CURVE 3
P.I. Sta. 76+06.02
Δ = 13° 50′ 57″ (LT)
Dc = 1° 20′ 30″
R = 4,270.20′
T = 518.61′
L = 1,032.17′
E = 31.38′
C = 1,029.65′
C.B. = N 61° 55′ 03″ E

TEY-2 - CURVE 4
P.I. Sta. 90+77.66
Δ = 2° 07′ 32″ (RT)
Dc = 0° 43′ 31″
R = 7,900.00′
T = 146.56′
L = 293.08′
E = 1.36′
C = 293.06′
C.B. = N 56° 03′ 21″ E

TEY-1 - CURVE 1
P.I. Sta. 53+39.04
Δ = 8° 23′ 07″ (RT)
Dc = 1° 20′ 00″
R = 4,297.16′
T = 315.01′
L = 628.90′
E = 11.53′
C = 628.34′
C.B. = N 59° 58′ 36″ E

TEY-1 - CURVE 2
P.I. Sta. 57+99.05
Δ = 3° 55′ 11″ (RT)
Dc = 1° 20′ 31″
R = 4,269.99′
T = 146.12′
L = 292.12′
E = 2.50′
C = 292.06′
C.B. = N 65° 11′ 29″ E

TEY-1 - CURVE 3
P.I. Sta. 60+08.07
Δ = 1° 41′ 26″ (RT)
Dc = 1° 20′ 29″
R = 4,271.66′
T = 63.02′
L = 126.03′
E = 0.46′
C = 126.03′
C.B. = N 67° 27′ 04″ E

TEY-1 - CURVE 4
P.I. Sta. 75+99.75
Δ = 13° 50′ 57″ (LT)
Dc = 1° 19′ 31″
R = 4,323.20′
T = 525.05′
L = 1,044.98′
E = 31.77′
C = 1,042.43′
C.B. = N 61° 55′ 03″ E

TEY-1 - CURVE 5
P.I. Sta. 97+64.27
Δ = 4° 08′ 00″ (RT)
Dc = 1° 54′ 35″
R = 3,000.00′
T = 108.26′
L = 216.42′
E = 1.95′
C = 216.37′
C.B. = N 56° 30′ 16″ E

HORIZONTAL SCALE IN FEET
0 40 80 160

CALCULATED MJH
CHECKED KAE

MAINTENANCE OF TRAFFIC PLAN - PHASE 1
EDGE LINE ALIGNMENTS

CUY-90-26.16/VAR

60
222

R:\14000\14035\87628\roadway\sheets\60-87628MD0004-Alignment-Phase-1.dgn 11/9/2017 1:38:18 PM malloym

POT Sta. 46+30.00

N 54° 48′ 56″ E

50

55

60

65

70

75

80

85

90

N 68° 45′ 32″ E

N 68° 50′ 32″ E

N 54° 59′ 35″ E

N 54° 59′ 35″ E

E 185TH ST

NEFF RD

E 200TH ST

PC Sta. 51+99.69

PCC Sta. 56+49.76

PCC Sta. 58+98.89

PRC Sta. 61+54.55

PT Sta. 63+12.69

PC Sta. 64+79.95

PRC Sta. 66+33.20

PT Sta. 67+97.81

PCC Sta. 70+70.58

PRC Sta. 71+73.98

PCC Sta. 74+83.91

PT Sta. 81+24.11

PC Sta. 84+24.48

PRC Sta. 85+95.72

PT Sta. 87+68.46

PC Sta. 89+53.13

PRC Sta. 91+36.93

PT Sta. 93+03.46

TEY-3 - CURVE 1
P.I. Sta. 54+25.08
Δ = 7° 49′ 00″ (RT)
Dc = 1° 44′ 12″
R = 3,298.99′
T = 225.38′
L = 450.07′
E = 7.69′
C = 449.72′
C.B. = N 58° 57′ 50″ E

TEY-3 - CURVE 2
P.I. Sta. 57+74.36
Δ = 3° 19′ 10″ (RT)
Dc = 1° 19′ 57″
R = 4,300.03′
T = 124.60′
L = 249.13′
E = 1.80′
C = 249.10′
C.B. = N 64° 48′ 41″ E

TEY-3 - CURVE 3
P.I. Sta. 60+26.85
Δ = 6° 18′ 42″ (RT)
Dc = 2° 28′ 07″
R = 2,320.85′
T = 127.96′
L = 255.66′
E = 3.52′
C = 255.53′
C.B. = N 69° 37′ 37″ E

TEY-3 - CURVE 4
P.I. Sta. 62+33.65
Δ = 4° 01′ 27″ (LT)
Dc = 2° 32′ 41″
R = 2,251.51′
T = 79.10′
L = 158.13′
E = 1.39′
C = 158.10′
C.B. = N 70° 46′ 15″ E

TEY-3 - CURVE 5
P.I. Sta. 65+56.61
Δ = 3° 50′ 52″ (LT)
Dc = 2° 30′ 39″
R = 2,282.00′
T = 76.65′
L = 153.25′
E = 1.29′
C = 153.22′
C.B. = N 66° 31′ 52″ E

TEY-3 - CURVE 6
P.I. Sta. 67+15.55
Δ = 4° 14′ 06″ (RT)
Dc = 2° 34′ 22″
R = 2,227.07′
T = 82.34′
L = 164.61′
E = 1.52′
C = 164.57′
C.B. = N 66° 43′ 29″ E

TEY-3 - CURVE 7
P.I. Sta. 71+22.29
Δ = 2° 34′ 25″ (RT)
Dc = 2° 29′ 20″
R = 2,302.00′
T = 51.71′
L = 103.40′
E = 0.58′
C = 103.39′
C.B. = N 70° 07′ 44″ E

TEY-3 - CURVE 8
P.I. Sta. 73+29.18
Δ = 7° 43′ 16″ (LT)
Dc = 2° 29′ 29″
R = 2,299.85′
T = 155.20′
L = 309.93′
E = 5.23′
C = 309.69′
C.B. = N 67° 18′ 39″ E

TEY-3 - CURVE 9
P.I. Sta. 78+04.60
Δ = 8° 27′ 26″ (LT)
Dc = 1° 19′ 16″
R = 4,337.18′
T = 320.68′
L = 640.20′
E = 11.84′
C = 639.62′
C.B. = N 59° 13′ 18″ E

TEY-3 - CURVE 10
P.I. Sta. 85+10.14
Δ = 4° 17′ 58″ (LT)
Dc = 2° 30′ 39″
R = 2,282.00′
T = 85.66′
L = 171.24′
E = 1.61′
C = 171.20′
C.B. = N 52° 50′ 36″ E

TEY-3 - CURVE 11
P.I. Sta. 86+82.13
Δ = 4° 17′ 58″ (RT)
Dc = 2° 29′ 20″
R = 2,301.95′
T = 86.41′
L = 172.74′
E = 1.62′
C = 172.70′
C.B. = N 52° 50′ 36″ E

TEY-3 - CURVE 12
P.I. Sta. 90+45.08
Δ = 4° 34′ 29″ (RT)
Dc = 2° 29′ 20″
R = 2,302.00′
T = 91.95′
L = 183.80′
E = 1.84′
C = 183.75′
C.B. = N 57° 16′ 49″ E

TEY-3 - CURVE 13
P.I. Sta. 92+20.23
Δ = 4° 10′ 52″ (LT)
Dc = 2° 30′ 39″
R = 2,282.00′
T = 83.30′
L = 166.53′
E = 1.52′
C = 166.49′
C.B. = N 56° 54′ 32″ E

HORIZONTAL SCALE IN FEET
0 40 80 160

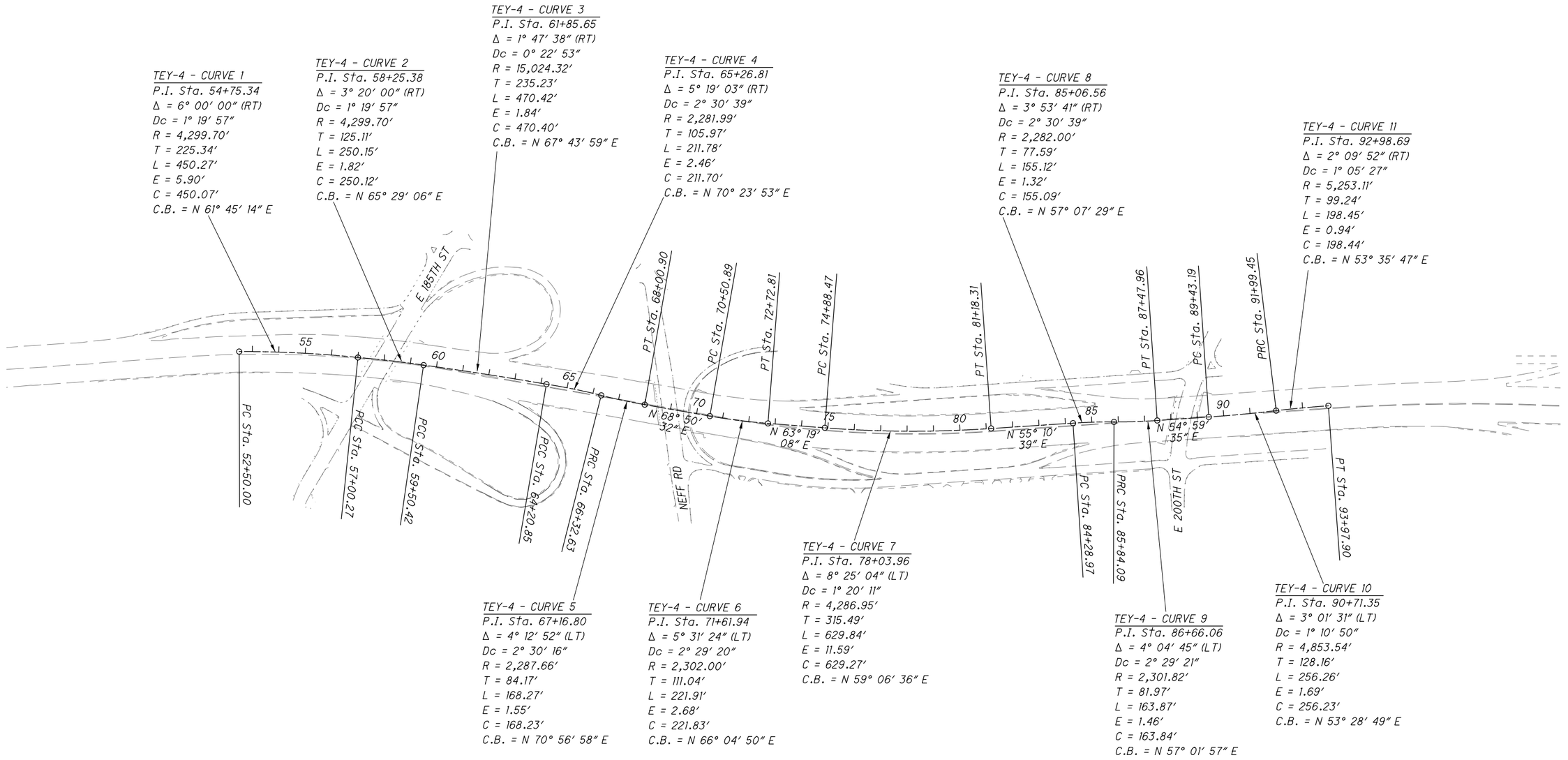
CALCULATED MJH
CHECKED KAE

MAINTENANCE OF TRAFFIC PLAN - PHASE 2
EDGE LINE ALIGNMENTS

CUY-90-26.16/VAR

61
222

R:\14000\14035\87628\roadway\sheets\61-87628MD005-Alignment-Phase-2.dgn 11/9/2017 1:38:19 PM malloym



0 40 80 160
HORIZONTAL SCALE IN FEET

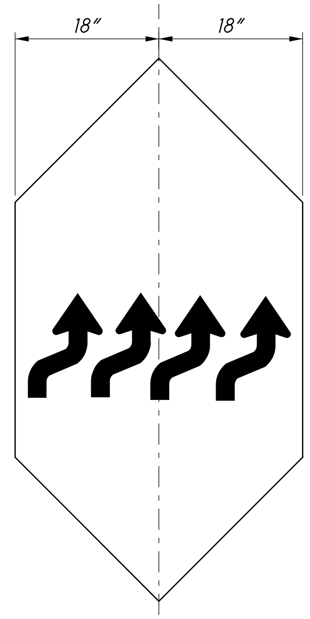
CALCULATED MJH
CHECKED KAE

MAINTENANCE OF TRAFFIC PLAN - PHASE 4
EDGE LINE ALIGNMENTS

CUY-90-26.16/VAR

62
222

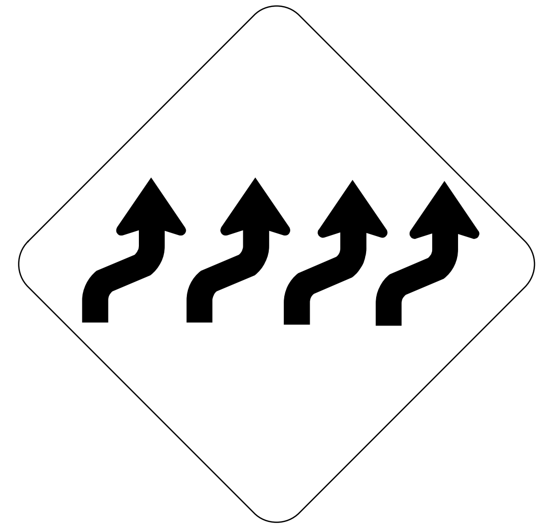
R:\14000\14035\87628\roadway\sheets\62-87628MD006-Alignment-Phase-4.dgn 11/9/2017 1:38:19 PM malloym



SIGN MOD-1
W1-4c-36

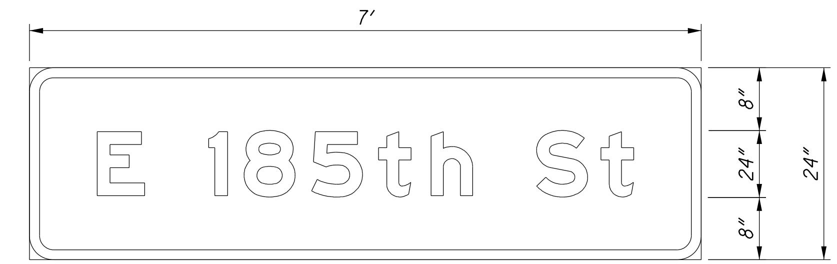
NOTES:
1) REDUCE W1-4b ARROW SIZE AND SPACING BY 30%.

2) CLIP SIGN EDGES TO PROVIDE 3' (MAX) WIDTH).



SIGN MOD-2
W1-4c-48

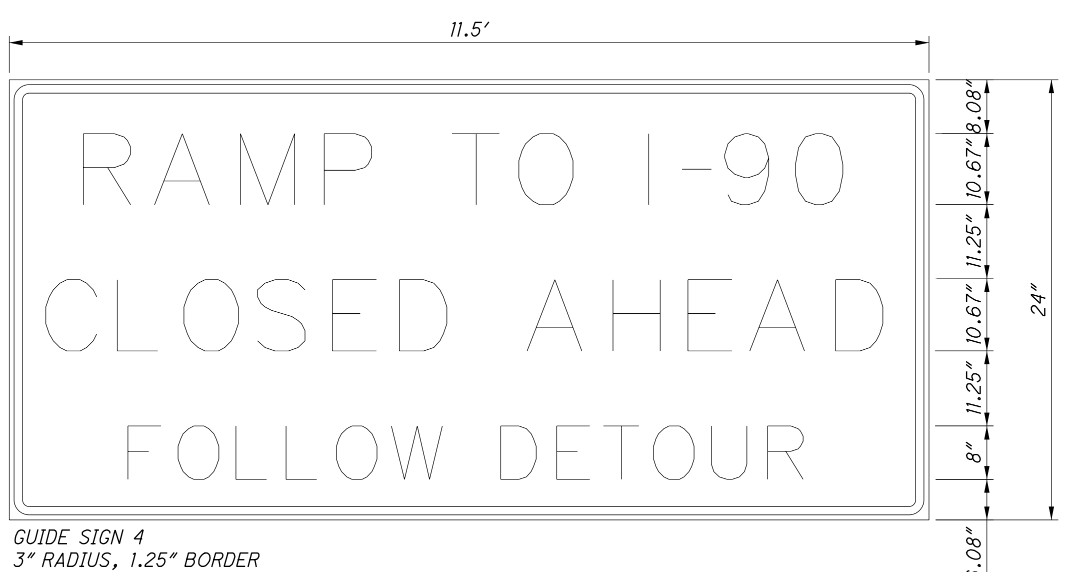
NOTES:
1) REDUCE W1-4b ARROW SIZE AND SPACING BY 30%.



3" RADIUS, 1.25" BORDER
WHITE LETTERS ON GREEN BACKGROUND
Type E Font

LETTER SPACING

	E		1		8		5		t		h		S		t	
8.46	5.94	8.00	2.38	2.05	6.38	2.05	6.37	2.00	4.07	2.51	5.20	8.00	6.38	1.68	4.07	8.46



GUIDE SIGN 4
3" RADIUS, 1.25" BORDER
BLACK LETTERS ON ORANGE BACKGROUND
Type E Font

LETTER SPACING

	R		A		M		P		T		O		I		-		9		0	
11.12	8.50	2.20	10.67	2.20	9.83	2.75	8.50	10.66	7.84	2.20	8.83	10.67	1.83	2.75	5.33	1.47	8.50	2.20	8.83	11.12

	C		L		O		S		E		D		A		H		E		A		D	
5.51	8.50	2.19	7.84	2.20	8.83	2.20	8.50	2.75	7.83	2.20	8.50	10.67	10.66	2.20	8.50	2.75	7.83	1.47	10.67	2.19	8.50	5.51

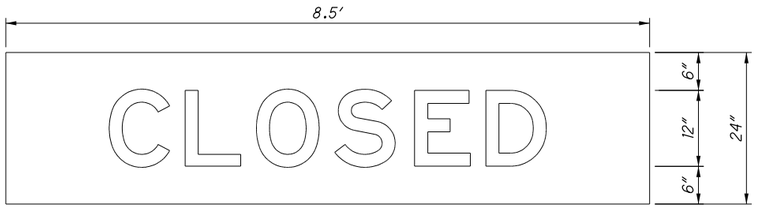
	F		O		L		L		O		W		D		E		T		O		U		R	
17.83	5.87	1.65	6.63	2.06	5.88	1.64	5.88	1.65	6.62	1.65	8.38	8.00	6.37	2.06	5.88	1.10	5.87	1.65	6.63	2.06	6.37	2.07	6.37	17.83

CALCULATED MJH
CHECKED KAE

MAINTENANCE OF TRAFFIC SIGNING DETAILS - 1

CUY-90-20.16 / VAR

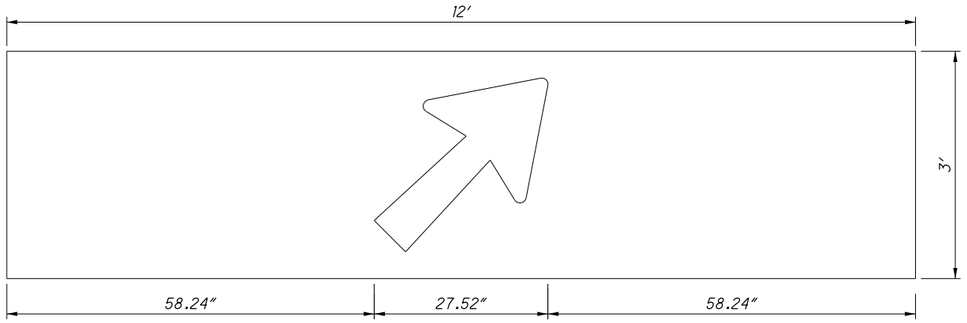
R:\14000\14035\87628\roadway\sheets\63-87628MD007-sign_1.dgn 11/9/2017 1:38:20 PM malloym



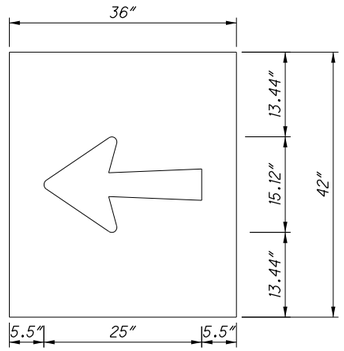
OV-1
NO BORDER
BLACK LETTERS ON ORANGE BACKGROUND
"CLOSED" Type E Font;
MANUFACTURE FOUR (4) OV-1 SIGNS

LETTER SPACING

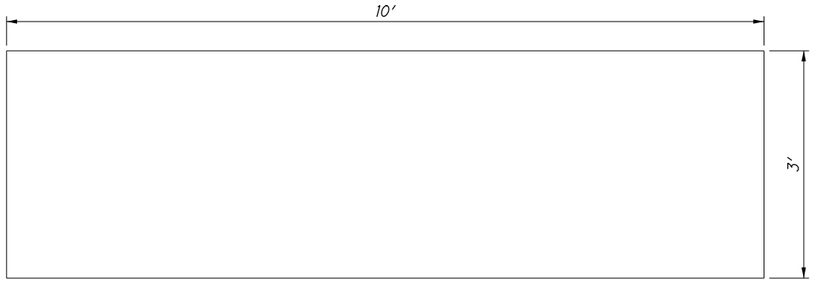
16.38	C 9.56	2.48	L 8.81	2.47	O 9.94	2.47	S 9.57	3.09	E 8.81	2.48	D 9.56	16.38



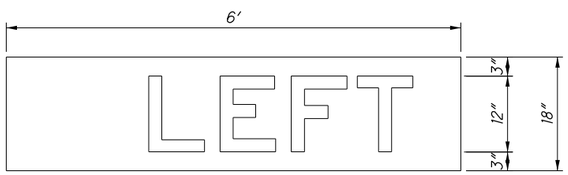
OV-2
BLACK ARROW ON ORANGE BACKGROUND
ARROW A-1 - 35: - 45°



OV-6
BLACK ARROW ON ORANGE BACKGROUND
ARROW A-4 - 25: - 180°

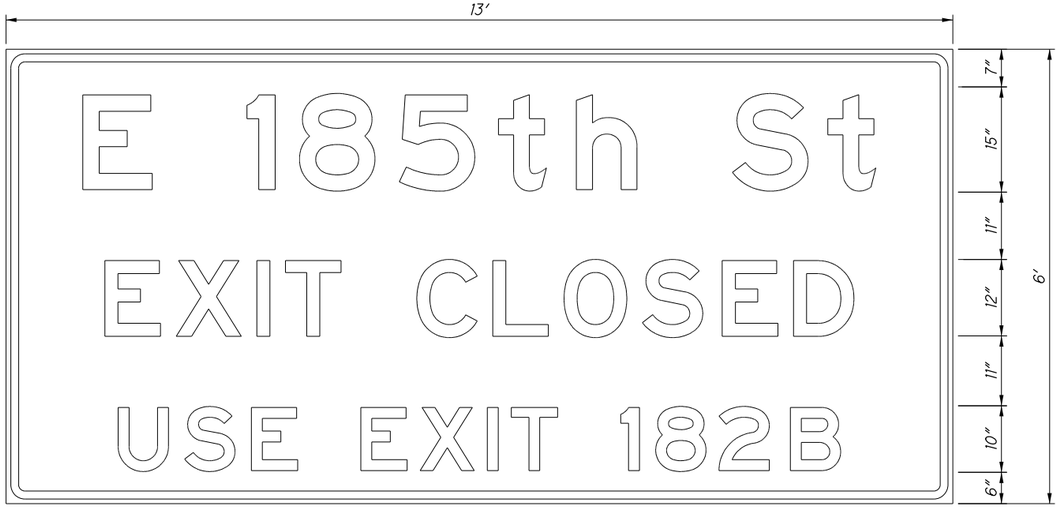


OV-3
BLANK ORANGE OVERLAY



OV-5
NO BORDER
BLACK LETTERS ON ORANGE BACKGROUND
"LEFT" Type E Font

22.58	L 8.81	2.47	E 8.82	2.47	F 8.81	1.65	T 8.81	7.58



OV-4
3″ RADIUS, 1.25″ BORDER, 0.75″ INDENT
BLACK LETTERS ON ORANGE BACKGROUND
"E 185th St" Type E Font;
"EXIT CLOSED" Type E Font;
"USE EXIT 182B" Type E Font

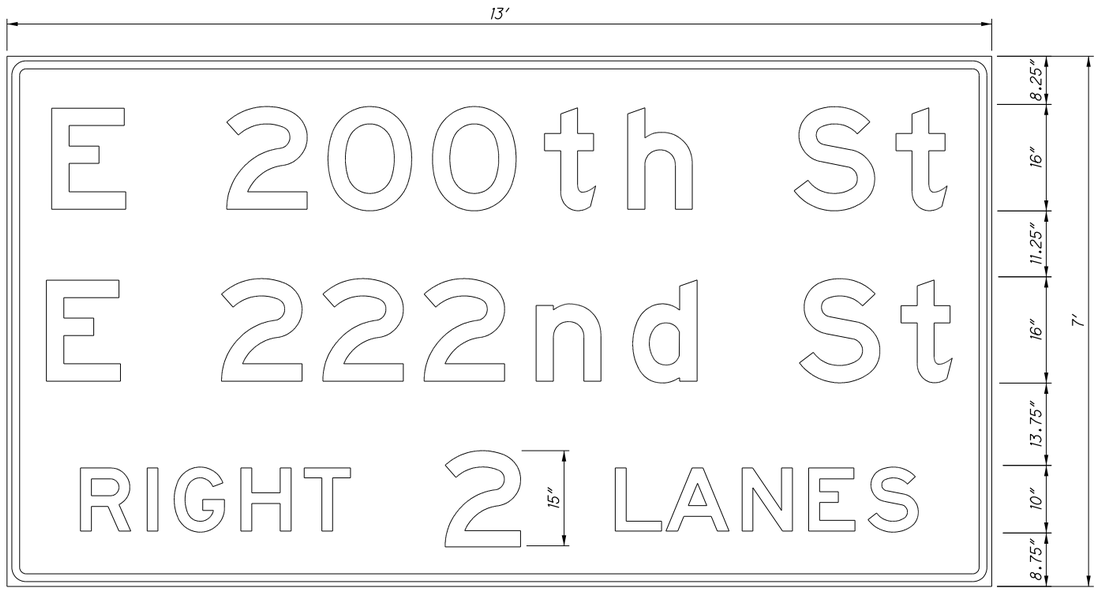
LETTER SPACING

12.16	E 11.02	15.00	1 4.45	3.87	8 11.95	3.87	5 11.95	3.75	t 7.63	4.71	h 9.75	15.00	S 11.95	3.15	t 7.63	12.16																				
15.67	E 8.81	2.48	X 10.31	2.47	I 2.07	2.47	T 8.81	12.00	C 9.56	2.48	L 8.81	2.47	O 9.94	2.47	S 9.57	3.09	E 8.81	2.48	D 9.56	15.67																
17.77	U 7.97	2.57	S 7.97	2.58	E 7.34	10.00	E 7.35	2.06	X 8.59	2.06	I 1.72	2.06	T 7.35	10.00	1 2.97	2.57	8 7.97	2.06	2 7.97	3.33	B 7.97	17.77														

CALCULATED MJH
CHECKED KAE

MAINTENANCE OF TRAFFIC SIGNING DETAILS - 2

CUY-90-20.16 / VAR



GUIDE SIGN #1
3" RADIUS, 1.25" BORDER, 0.75" INDENT
BLACK LETTERS ON ORANGE BACKGROUND
Type E Font
FABRICATE TWO (2) SIGNS

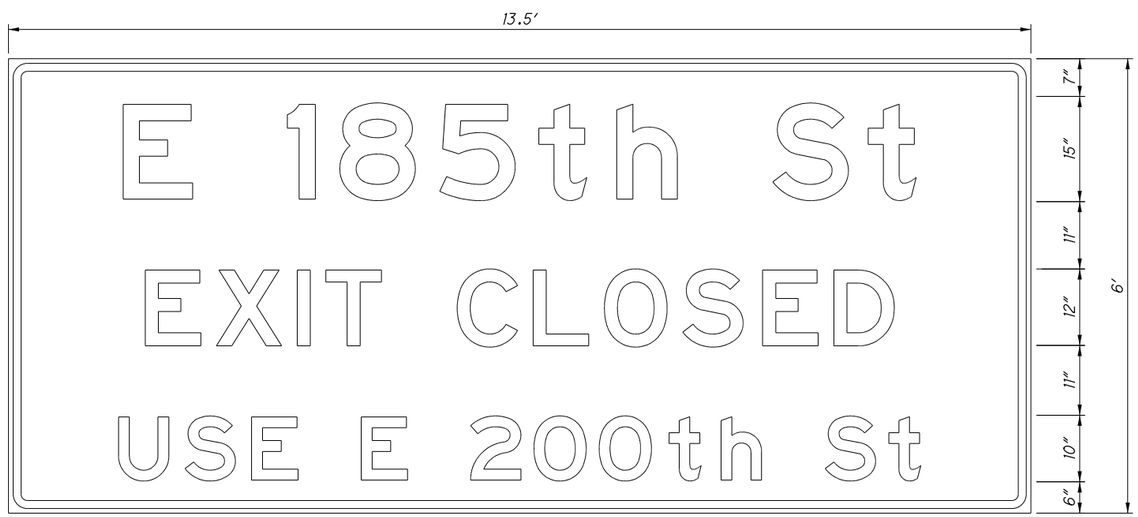
LETTER SPACING

7.05	E 11.75	16.00	2 12.75	3.30	0 13.25	3.29	0 13.25	4.50	t 8.14	5.03	h 10.40	16.00	S 12.75	3.36	t 8.13	7.05		
6.23	E 11.75	16.00	2 12.75	3.29	2 12.75	3.30	2 12.75	5.00	n 10.40	4.91	d 10.40	16.00	S 12.75	3.36	t 8.13	6.23		
11.63	R 7.97	2.58	I 1.72	2.58	G 7.97	2.57	H 7.97	2.06	T 7.35	15.00	2 11.95	15.00	L 7.34	0.69	A 10.00	2.06	N 7.97	2.58	E 7.35	2.06	S 7.97	11.63

GUIDE SIGN #2
3" RADIUS, 1.25" BORDER, 0.75" INDENT
BLACK LETTERS ON ORANGE BACKGROUND
Type E Font

LETTER SPACING

26.90	E 11.02	1.86	A 12.00	2.47	S 9.56	2.48	T 8.81	26.90										
33.00	36.00	33.00																
7.59	A 10.00	2.06	L 7.34	2.06	L 7.35	10.00	L 7.34	0.69	A 10.00	2.06	N 7.97	2.58	E 7.34	2.06	S 7.97	7.59		



GUIDE SIGN #3
3" RADIUS, 1.25" BORDER, 0.75" INDENT
BLACK LETTERS ON ORANGE BACKGROUND
Type E Font

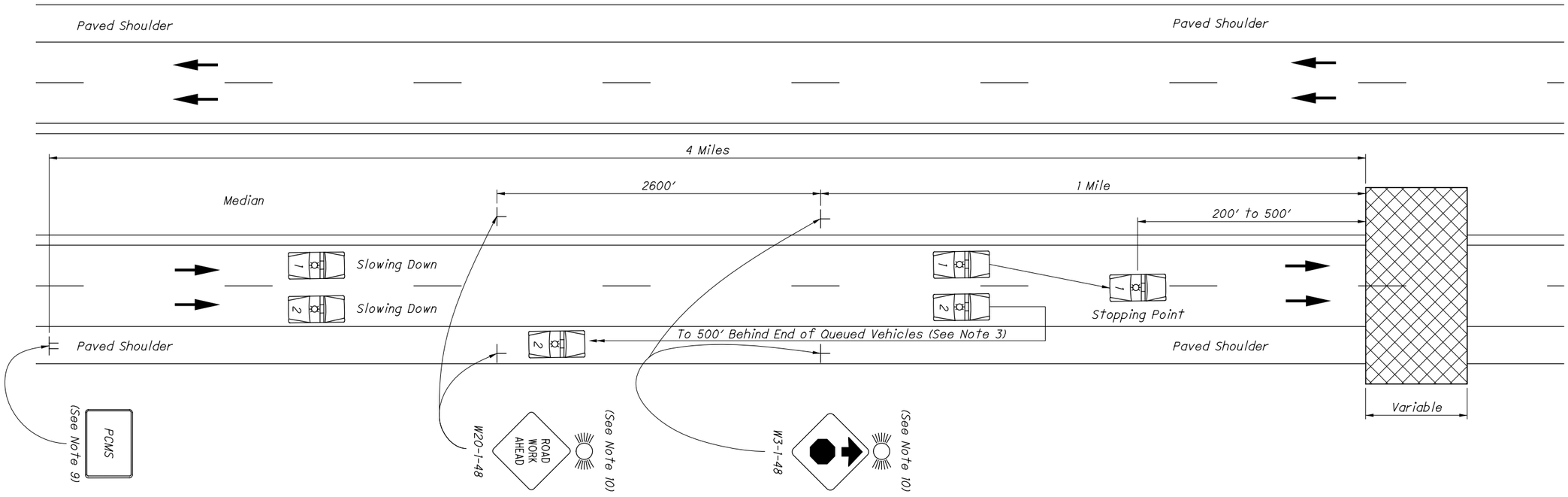
LETTER SPACING

18.16	E 11.02	15.00	1 4.45	3.87	8 11.95	3.87	5 11.95	3.75	t 7.63	4.71	h 9.75	15.00	S 11.95	3.15	t 7.63	18.16														
21.67	E 8.81	2.48	X 10.31	2.47	I 2.07	2.47	T 8.81	12.00	C 9.56	2.48	L 8.81	2.47	O 9.94	2.47	S 9.57	3.09	E 8.81	2.48	D 9.56	21.67										
17.44	U 7.97	2.57	S 7.97	2.58	E 7.34	10.00	E 7.35	10.00	2 7.97	2.06	O 8.28	2.06	O 8.28	2.81	t 5.09	3.14	h 6.50	10.00	S 7.97	2.10	t 5.08	17.44								

CALCULATED MJH
CHECKED KAE

MAINTENANCE OF TRAFFIC SIGNING DETAILS - 3

CUY-90-20.16 / VAR



LEGEND

WORK AREA

PATROL CAR

DIRECTION OF TRAFFIC

NOTES:

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 enforecement officers 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′, 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′ 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; and

   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 shall be provided during operation. The message sign shall be placed approximately 4 miles in advance of the closure or as directed by the Engineer. The message shall be ROAD CLOSED AHEAD (2 sec.), PREPARE TO STOP (2 sec.).

10. The Contractor shall erect and maintain 48″ 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.

THIS DRAWING REPLACES PIS 209960 DATED 07-20-2012.

OFFICE OF ROADWAY ENGINEERING

DESIGNED XXX REVIEWED XXX

REVISION DATE 07-18-2014 CHECKED CHECKED

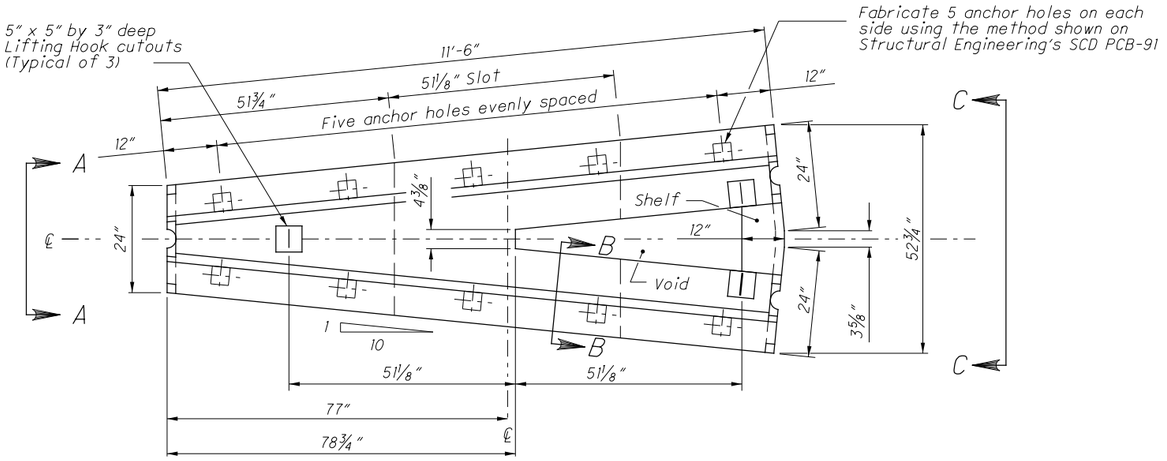
PLAN INSERT SHEET

SHORT-DURATION CLOSURE OF MULTI-LANE DIVIDED HIGHWAY

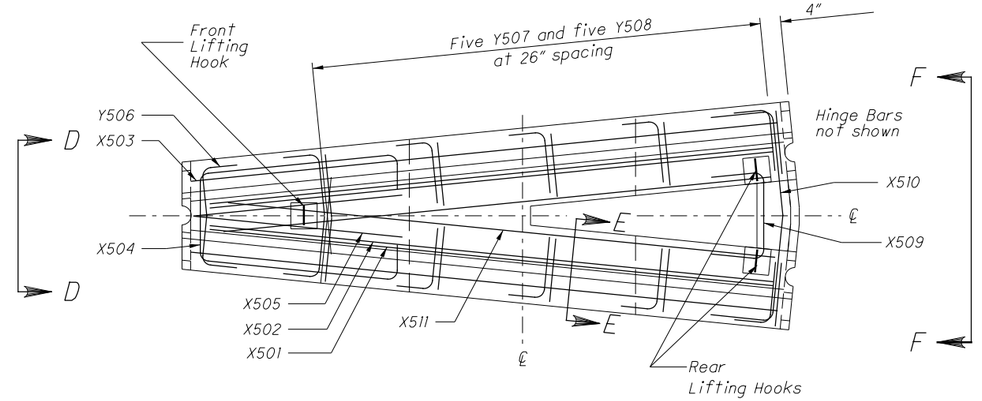
CUY-90-20.16 / VAR

1 / 1

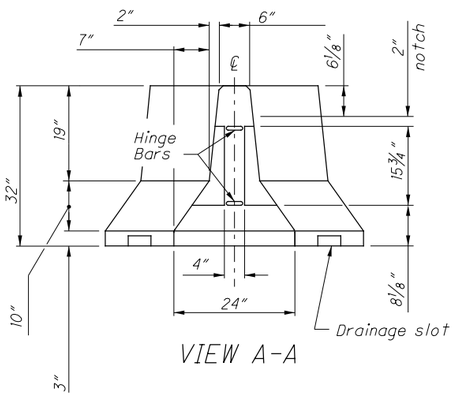
66
222



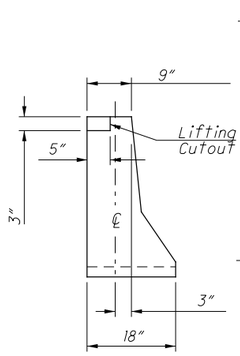
PLAN



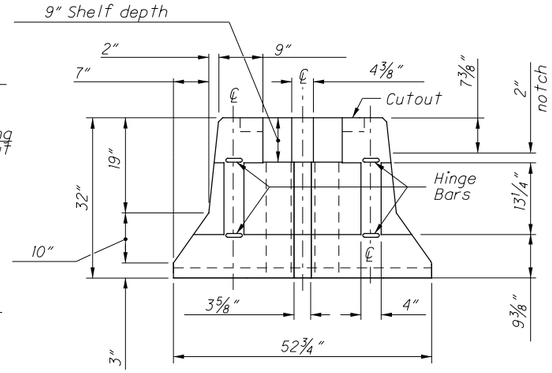
REINFORCING PLAN VIEW



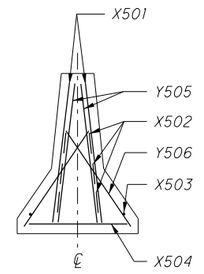
VIEW A-A



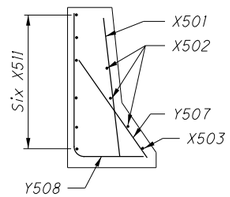
SECTION B-B



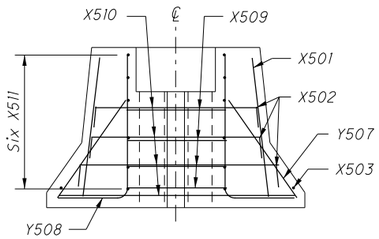
VIEW C-C



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.

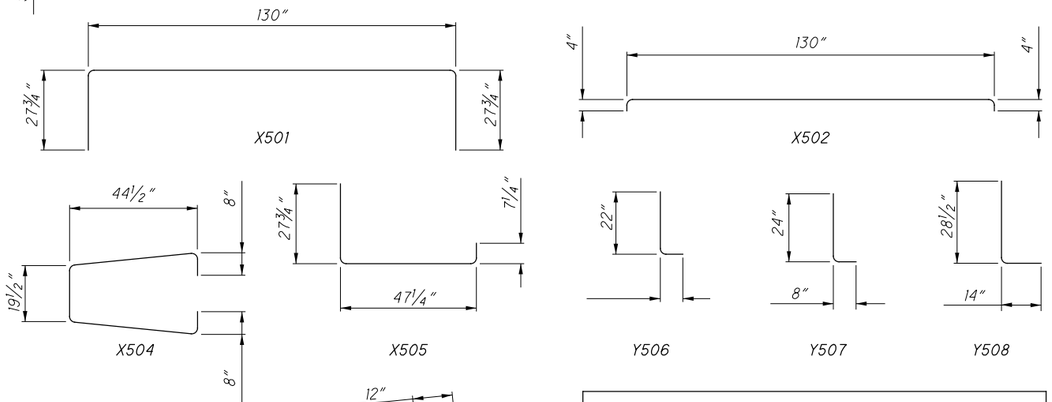
BARRIER DETAILS: Use SCD RM-4.2 for details not shown here, including the geometry of this pin and loop segment matches in every way the design of the end connections shown on the HINGED CONNECTION and JOINT CONNECTION Details (the alternate J-J Hooks connection design is permitted). Additionally, barrier 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

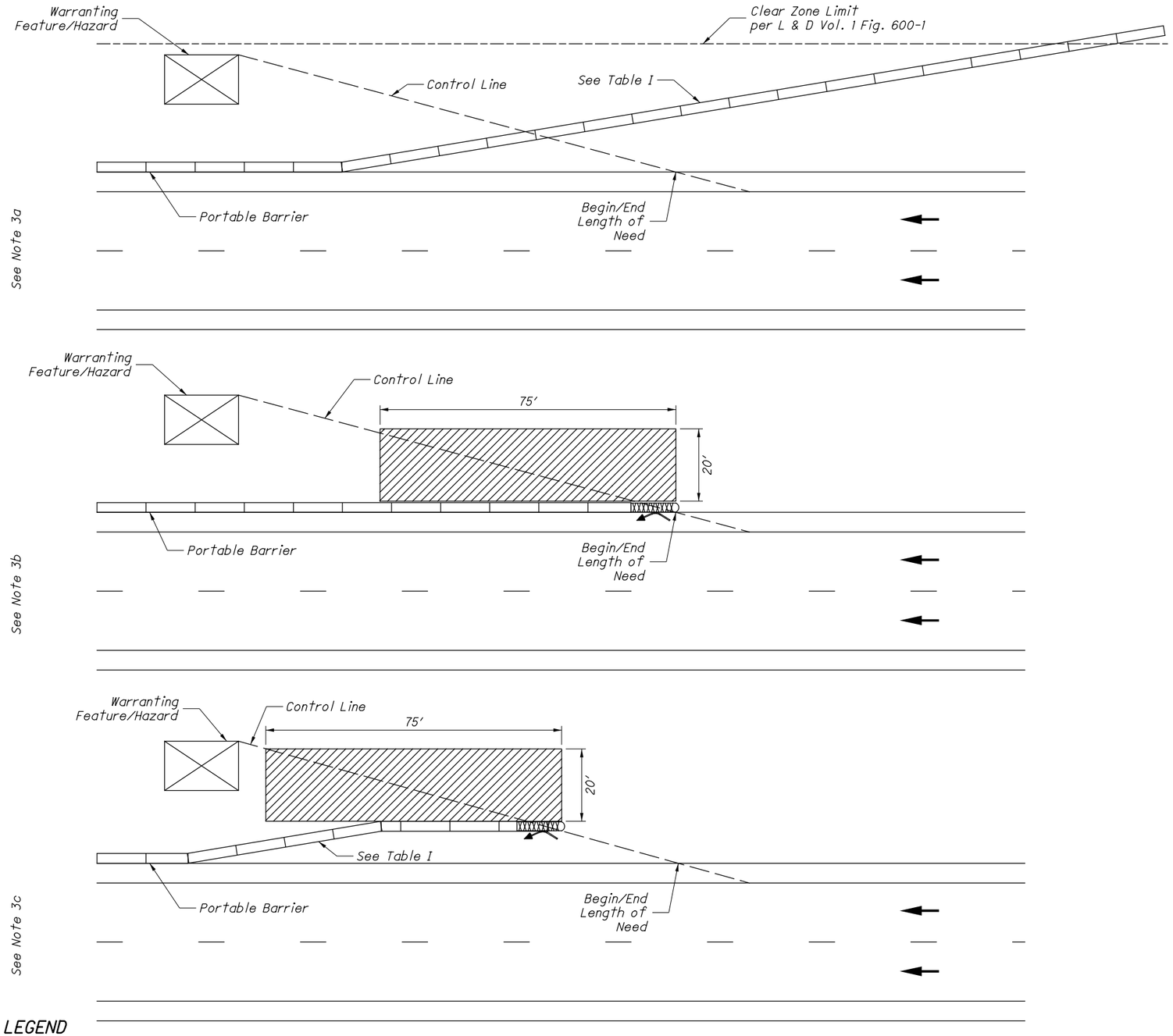
PCB "Y" CONNECTOR SEGMENT

CUY-90-20.16 / VAR

1 / 1

67 / 222

R:\14000\14035\87628\roadway\sheets\67-87628MD011-PIS.dgn 11/9/2017 1:38:23 PM malloym



LEGEND

- RECOVERY AREA
- PORTABLE BARRIER
- NON-GATING IMPACT ATTENUATOR
- DIRECTION OF TRAVEL

NOTES:

1. Attenuators shall be installed per the manufacturer's 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 portable barrier:

   a) Terminate flared section of portable barrier outside clear zone with tapered end only where cross slopes are 10:1 or flatter.
   b) Terminate portable barrier with an impact attenuator. A non-gating attenuator may be included in the length of need measurement.
   c) Flare a section of portable 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 portable barrier.

4. The Contractor shall submit documentation to the Engineer, 2 weeks prior to implementation, for acceptance when:

   a) Deviating from the three acceptable options for terminating portable barrier.

      Documentation shall explain any deviations and verify that the recovery area fulfills the manufacturer's 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 portable 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 manufacturer's specifications and and Note 2.

5. Gating impact attenuators shall not be used in gore locations or within the clear zone between bi-directional traffic.

TABLE I

SPEED LIMIT (MPH)	PB FLARE RATE MINIMUM
25	8:1
30	8:1
35	9:1
40	10:1
45	12:1
50	14:1
55	16:1
60	18:1
65	19:1
70	20:1

THIS DRAWING REPLACES PIS 2010175 DATED 7-20-2012.

OFFICE OF ROADWAY ENGINEERING

DESIGNED XXX REVIEWED XXX

REVISION DATE 07-19-2013 CHECKED CHECKED

PLAN INSERT SHEET

IMPACT ATTENUATOR PLACEMENT

PIS 2010175

1 / 1

68 / 222

SHEET NUM.												PART.		ITEM	ITEM EXT	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
10-11	12-16	17-18	71	72	74	92	95					01/IMS/ BR							
																		ROADWAY	
												LS		201	11000	LS		CLEARING AND GRUBBING	
			1,508									1,508		202	30501	1,508	FT	CONCRETE MEDIAN REMOVED, AS PER PLAN	10
			2,687									2,687		202	38001	2,687	FT	GUARDRAIL REMOVED, AS PER PLAN	10
				210								210		SPECIAL	20270110	210	FT	PIPE CLEANOUT, 24" AND UNDER	11
			120									120		202	75200	120	FT	FENCE REMOVED FOR REUSE	
					2,611							2,611		204	10000	2,611	SY	SUBGRADE COMPACTION	
990												990		209	10001	990	FT	DITCH CLEANOUT, AS PER PLAN	11
			2,500									2,500		606	15050	2,500	FT	GUARDRAIL, TYPE MGS	
			5									5		606	26150	5	EACH	ANCHOR ASSEMBLY, MGS TYPE E	
			2									2		606	26550	2	EACH	ANCHOR ASSEMBLY, MGS TYPE T	
			9									9		606	35002	9	EACH	MGS BRIDGE TERMINAL ASSEMBLY, TYPE 1	
			6									6		606	35102	6	EACH	MGS BRIDGE TERMINAL ASSEMBLY, TYPE 2	
			120									120		607	22000	120	FT	FENCE REBUILT, TYPE CL	
						180						180		608	10001	180	SF	4" CONCRETE WALK, AS PER PLAN	92
			324									324		622	10100	324	FT	CONCRETE BARRIER, SINGLE SLOPE, TYPE B1	
			697									697		622	10140	697	FT	CONCRETE BARRIER, SINGLE SLOPE, TYPE C1	
			6									6		622	10200	6	EACH	BARRIER TRANSITION	
			4									4		622	25007	4	EACH	CONCRETE BARRIER, END ANCHORAGE, REINFORCED, TYPE B1, AS PER PLAN	11
			11									11		622	25015	11	EACH	CONCRETE BARRIER, END ANCHORAGE, REINFORCED, TYPE C1, AS PER PLAN	11
																		EROSION CONTROL	
				440								440		601	21060	440	SY	TIED CONCRETE BLOCK MAT, TYPE 2	
				40								40		601	21061	40	SY	TIED CONCRETE BLOCK MAT, TYPE 2, AS PER PLAN	11
				20								20		601	37501	20	FT	PAVED GUTTER, TYPE 1-2, AS PER PLAN	93
2												2		659	00100	2	EACH	SOIL ANALYSIS TEST	
183												183		659	00300	183	CY	TOPSOIL	
1,646												1,646		659	10000	1,646	SY	SEEDING AND MULCHING	
						100						100		659	10001	100	SY	SEEDING AND MULCHING, AS PER PLAN	92
82												82		659	14000	82	SY	REPAIR SEEDING AND MULCHING	
82												82		659	15000	82	SY	INTER-SEEDING	
0.22												0.22		659	20000	0.22	TON	COMMERCIAL FERTILIZER	
0.34												0.34		659	31000	0.34	ACRE	LIME	
9												9		659	35000	9	MGAL	WATER	
4												4		659	40000	4	MSF	MOWING	
																		DRAINAGE	
				1								1		611	98701	1	EACH	INLET, SIDE DITCH, AS PER PLAN	93
				1								1		611	98634	1	EACH	CATCH BASIN RECONSTRUCTED TO GRADE	
				1		1						2		611	98650	2	EACH	CATCH BASIN FRAME AND GRATE	
				2								2		611	99111	2	EACH	INLET, NO. 3 FOR SINGLE SLOPE BARRIER, TYPE C1, AS PER PLAN	11
																		PAVEMENT	
					81,888							81,888		254	01000	81,888	SY	PAVEMENT PLANING, ASPHALT CONCRETE (1-1/2" AVG. DEPTH)	
					435							435		304	20000	435	CY	AGGREGATE BASE	
					6,551							6,551		407	20000	6,551	GAL	NON-TRACKING TACK COAT	
					3,412							3,412		442	20001	3,412	CY	ASPHALT CONCRETE SURFACE COURSE, 12.5 MM, TYPE A (448), AS PER PLAN (PG 76-22M)	10
300												300		442	20201	300	CY	ASPHALT CONCRETE INTERMEDIATE COURSE, 19 MM, TYPE A (448), AS PER PLAN (DEPTH VARIES)	10
					687							687		SPECIAL	45132000	687	FT	PRESSURE RELIEF JOINT, TYPE C	11
						88						88		609	16000	88	FT	CURB, TYPE 2-B	
					190							190		609	24510	190	FT	CURB, TYPE 4-C	
						13						13		609	54000	13	SY	6" CONCRETE TRAFFIC ISLAND	
																		LIGHTING	
3												3		625	98000	3	EACH	LIGHTING, MISC.: MAINTAIN UNDERPASS LIGHTING	11
3												3		625	98000	3	EACH	LIGHTING, MISC.: REPLACE CONDUIT IN PARAPET	11
1												1		625	98000	1	EACH	LIGHTING, MISC.: STRUCTURAL GROUNDING	11

CALCULATED CFE CHECKED ASW

GENERAL SUMMARY - 1

CUY-90-26.16 / VAR

SHEET NUM.												PART.		ITEM	ITEM EXT	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
10-11	12-16	17-18	71	72	74	92	95					01/IMS/ BR							
																		TRAFFIC CONTROL	
							4.32					4.32		618	40600	4.32	MILE	RUMBLE STRIPS, (ASPHALT CONCRETE)	
							340					340		621	00100	340	EACH	RPM	
			68									68		626	00102	68	EACH	BARRIER REFLECTOR, TYPE 1, ONE-WAY	
			32									32		626	00110	32	EACH	BARRIER REFLECTOR, TYPE 2, ONE-WAY	
						4						4		630	81100	4	SF	SIGN ERECTED, FLAT SHEET	
						1						1		630	86010	1	EACH	REMOVAL OF GROUND MOUNTED POST SUPPORT AND REERECTION	
							4					4		630	86320	4	EACH	REMOVAL OF STRUCTURE MOUNTED SIGN AND REERECTION	
							4.31					4.31		646	10010	4.31	MILE	EDGE LINE, 6"	
							6.44					6.44		646	10110	6.44	MILE	LANE LINE, 6"	
							3,220					3,220		646	10310	3,220	FT	CHANNELIZING LINE, 12"	
						38						38		646	10500	38	FT	CROSSWALK LINE	
							209					209		646	10620	209	FT	CHEVRON MARKING	
							2,331					2,331		646	20504	2,331	FT	DOTTED LINE, 6"	
							2,305					2,305		646	20510	2,305	FT	DOTTED LINE, 12"	
																		STRUCTURE REPAIR (SFN 1808869 – CUY-90-2616)	114
																		STRUCTURE REPAIR (SFN 1808850 – CUY-90-2639)	154
																		STRUCTURE REPAIR (SFN 1808885 – CUY-90-2674)	191
																		MAINTENANCE OF TRAFFIC	
	390											390		611	04401	390	FT	12" CONDUIT, TYPE B, AS PER PLAN	13
	378											378		611	97011	378	FT	SLOTTED DRAIN, TYPE 2, AS PER PLAN , 12"	13
	100											100		614	11110	100	HOUR	LAW ENFORCEMENT OFFICER WITH PATROL CAR FOR ASSISTANCE	
	16											16		614	11500	16	MNTH	WORKSITE TRAFFIC SUPERVISOR	
		20,030										20,030		614	11630	20,030	FT	INCREASED BARRIER DELINEATION	
		24										24		614	12336	24	EACH	WORK ZONE IMPACT ATTENUATOR (UNIDIRECTIONAL)	
	6											6		614	12484	6	EACH	WORK ZONE INCREASED PENALTIES SIGN	
	5											5		614	12500	5	EACH	REPLACEMENT SIGN	
		4,081										4,081		614	12801	4,081	EACH	WORK ZONE RAISED PAVEMENT MARKER, AS PER PLAN	15
	15	29										44		614	13310	44	EACH	BARRIER REFLECTOR, TYPE 1, ONE-WAY	
	20											20		614	13312	20	EACH	BARRIER REFLECTOR, TYPE 2, ONE-WAY	
	35	29										64		614	13350	64	EACH	OBJECT MARKER, ONE WAY	
	24											24		614	18601	24	SNMT	PORTABLE CHANGEABLE MESSAGE SIGN, AS PER PLAN	13
	96											96		614	18700	96	SNMT	DIGITAL SPEED LIMIT (DSL) SIGN ASSEMBLY	
	6.89	3.05										9.94		614	20100	9.94	MILE	WORK ZONE LANE LINE, CLASS I, 4", 642 PAINT	
	4.32	7.82										12.14		614	22100	12.14	MILE	WORK ZONE EDGE LINE, CLASS I, 4", 642 PAINT	
		0.82										0.82		614	22200	0.82	MILE	WORK ZONE EDGE LINE, CLASS I, 4", 740.06, TYPE I	
	3,676	62,804										66,480		614	23200	66,480	FT	WORK ZONE CHANNELIZING LINE, CLASS I, 8", 642 PAINT	
		4,697										4,697		614	24200	4,697	FT	WORK ZONE DOTTED LINE, CLASS I, 642 PAINT	
	95	365										460		614	25200	460	FT	WORK ZONE TRANSVERSE/DIAGONAL LINE, CLASS I, 642 PAINT	
		100										100		614	27200	100	FT	WORK ZONE CROSSWALK LINE, CLASS I, 642 PAINT	
		107										107		614	13000	107	CY	ASPHALT CONCRETE FOR MAINTAINING TRAFFIC	
												LS		615	10000	LS		ROADS FOR MAINTAINING TRAFFIC	
		127										127		615	20000	127	SY	PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A	
	17,368											17,368		618	40101	17,368	FT	RUMBLE STRIPS, (ASPHALT CONCRETE), AS PER PLAN	13
	340											340		621	00100	340	EACH	RPM	
		13,970										13,970		622	41000	13,970	FT	PORTABLE BARRIER, 32"	
		3,340										3,340		622	41011	3,340	FT	PORTABLE BARRIER, 50", AS PER PLAN	14
		3,440										3,440		622	41020	3,440	FT	PORTABLE BARRIER, 32", BRIDGE MOUNTED	
		860										860		622	41031	860	FT	PORTABLE BARRIER, 50", BRIDGE MOUNTED, AS PER PLAN	14
		6										6		622	41050	6	EACH	PORTABLE BARRIER, "Y" CONNECTOR	
		4,250										4,250		622	90000	4,250	FT	BARRIER, MISC.: MODIFY BARRIER	14
																		INCIDENTALS	
												LS		108	10000	LS		CPM PROGRESS SCHEDULE	
												LS		614	11000	LS		MAINTAINING TRAFFIC	
												30		619	16020	30	MNTH	FIELD OFFICE, TYPE C	
												LS		623	10001	LS		CONSTRUCTION LAYOUT STAKES AND SURVEYING, AS PER PLAN	10
												LS		624	10000	LS		MOBILIZATION	

CALCULATED CFE CHECKED ASW

GENERAL SUMMARY - 2

CUY-90-26.16 / VAR

REF. NO.	SHEET NO.	STATION FROM	STATION TO	SIDE	202 CONCRETE MEDIAN REMOVED, AS PER PLAN	202 GUARDRAIL REMOVED, AS PER PLAN	202 FENCE REMOVED FOR REUSE		606 GUARDRAIL, TYPE MGS	606 ANCHOR ASSEMLBY, MGS TYPE E	606 ANCHOR ASSEMBLY, MGS TYPE T	606 MGS BEIDGE TERMINAL ASSEMBLY, TYPE1	606 MGS BRIDGE TERMINAL ASSEMBLY, TYPE 2		607 FENCE REBUILT, TYPE CL	622 BARRIER TRANSITION	622 CONCRETE BARRIER, SINGLE SLOPE, TYPE B1	622 CONCRETE BARRIER, SINGLE SLOPE, TYPE C1	622 CONCRETE BARRIER, END ANCHORAGE, REINFORCED, TYPE B1, AS PER PLAN	622 CONCRETE BARRIER, END ANCHORAGE, REINFORCED, TYPE C1, AS PER PLAN	626 BARRIER REFLECTOR, TYPE 1, ONE-WAY	626 BARRIER REFLECTOR, TYPE 2, ONE-WAY
					FT	FT	FT		FT	EACH	EACH	EACH	EACH		FT	EACH	FT	FT	EACH	EACH	EACH	EACH
R-1A	77-79	253+00.00	256+84.58	M	384.58																	
R-1B	80-81	259+09.03	261+50.00	M	240.97																	
R-2A	84-85	266+00.00	268+10.34	M	210.34																	
R-2B	77-78	270+52.97	272+50.00	M	197.03																	
R-3A	77-78	286+00.00	287+63.19	M	163.19																	
R-3B	78-79	289+38.29	292+50.00	M	311.71																	
R-4	77-78	253+72.80	256+37.20	E.B.		264.5																
R-5	77-78	256+08.54	257+13.94	W.B.		105.5																
R-6	78-79	258+89.16	261+57.06	E.B.		268																
R-7	78-79	259+55.26	262+19.66	W.B.		264.5																
R-8	79-80	265+54.78	268+18.28	E.B.		263.5																
R-9	79-80	264+31.33	267+74.23	W.B.		343																
R-10	80-81,89	268+64.63	270+96.92	E.B.		232																
R-11	80-81	270+38.42	273+02.82	W.B.		264.5																
R-12	84,89	283+51.10	287+27.99	E.B.		377																
R-13	84	287+05.22	287+76.57	W.B.		71.5																
R-14	84	289+35.61	290+66.01	E.B.		130.5																
R-15	84	289+73.48	290+75.38	W.B.		102																
R-16/F-1	78	257+24.98		W.B.			10								10							
R-17/F-2	78	256+51.56		E.B.			10								10							
R-18/F-3	78	259+41.21		W.B.			10								10							
R-19/F-4	78	258+76.92		E.B.			10								10							
R-20/F-5	80	267+84.85		W.B.			10								10							
R-21/F-6	80	268+33.16		E.B.			10								10							
R-22/F-7	80	270+26.24		W.B.			10								10							
R-23/F-8	80	270+74.24		E.B.			10								10							
R-24/F-9	84	287+86.93		W.B.			10								10							
R-25/F-10	84	287+40.63		E.B.			10								10							
R-26/F-11	84	289+62.00		W.B.			10								10							
R-27/F-12	84	289+14.15		E.B.			10								10							
GR-1	77-78	253+72.80	256+37.20	E.B.					250	1		1										3
GR-2	77-78	256+08.54	257+13.94	W.B.					100				1									2
GR-3	78-79,88	258+89.16	261+57.06	E.B.					262.5			1	1									3
GR-4	78-79,88	259+55.26	262+19.66	W.B.					250	1		1										3
GR-5	79	265+54.78	268+18.28	E.B.					250	1		1										3
GR-6	79	264+31.33	267+74.23	W.B.					325		1		1									4
GR-7	80-81,89	268+64.63	270+96.92	E.B.					200			1	1									3
GR-8	80	270+38.42	273+02.82	W.B.					250	1		1										3
GR-9	84,89	283+51.10	287+27.99	E.B.					362.5	1		1										4
GR-10	84	287+05.22	287+76.57	W.B.					62.5			1	1									1
GR-11	84	289+35.61	290+66.01	E.B.					112.5		1		1									2
GR-12	84	289+73.48	290+75.38	W.B.					75			1										1
B-1A	77-79	253+00.00	256+59.33	M												1		279.33		4	13	
B-1B	77-79	259+34.27	261+50.00	M												1		160.73		3	13	
B-2A	80-81	266+00.00	267+85.11	M												1		135.11		2	11	
B-2B	80-81	270+78.20	272+50.00	M												1		121.8		2	11	
B-3A	84-85	286+00.00	287+37.96	M												1	87.96		2		10	
B-3B	84-85	289+63.52	292+50.00	M												1	236.48		2		10	
			SUBTOTALS THIS SHEET		1507.82	2686.50	120		2500.00	5	2	9	6		120	6	324.44	696.97	4	11	68	32
			TOTALS CARRIED TO GENERAL SUMMARY		1508	2687	120		2500	5	2	9	6		120	6	324	697	4	11	68	32

CALCULATED NAW
CHECKED ASW

ROADWAY SUBSUMMARY

CUY-90-26.16 / VAR

REF. NO.	SHEET NO.	STATION FROM	STATION TO	SIDE		SPECIAL SPECIAL- PIPE CLEANOUT, 24" AND UNDER		601 PAVED GUTTER, TYPE 1-2	601 TIED CONCRETE BLOCK MAT, TYPE 2	601 TIED CONCRETE BLOCK MAT, TYPE 2, AS PER PLAN		611 INLET, SIDE DITCH, AS PER PLAN	611 CATCH BASIN FRAME AND GRATE	611 CATCH BASIN RECONSTRUCTED TO GRADE	611 INLET NO. 3 FOR SINGLE SLOPE BARRIER, TYPE C1, AS PER PLAN							
						FT		FT	SQ. YD.	SQ. YD.		EACH	EACH	EACH	EACH							
D-1	77	254+01.15	254+01.15	W.B.											1							
D-2	78	258+00.20	258+22.71	W.B.		26																
D-3	78	258+59.40	258+22.71	W.B.		41																
D-4	78	259+50.34	259+50.34	W.B.											1							
D-5	80	268+36.17	268+60.93	W.B.		27																
D-6	80	269+44.51	269+48.90	E.B.		23		20				1										
D-7	80	270+18.84	269+75.72	E.B.		43							1	1								
D-8	84	288+00.33	288+22.44	W.B.		23																
D-9	84	289+01.05	288+75.10	E.B.		27																
EC-1	78	256+76.21	256+85.05	LT						40												
EC-2	78	256+00.06	256+09.21	RT					40													
EC-3	78	259+82.37	259+91.21	LT					40													
EC-4	78	259+18.91	259+28.07	RT					40													
EC-5	80	267+35.95	267+44.95	LT					40													
EC-6	80	267+81.68	267+90.68	RT					40													
EC-7	80	270+65.91	270+74.92	LT					40													
EC-8	81	271+16.93	271+25.79	RT					40													
EC-9	84	287+38.40	287+47.41	LT					40													
EC-10	84	286+91.51	287+00.52	RT					40													
EC-11	84	290+13.62	290+22.63	LT					40													
EC-12	84	289+67.11	289+76.11	RT					40													
SUBTOTALS THIS SHEET						210		20	440	40		1	1	1	2							
TOTALS CARRIED TO GENERAL SUMMARY						210		20	440	40		1	1	1	2							

CALCULATED CFE
CHECKED ASW

DRAINAGE SUBSUMMARY

CUY-90-26.16/VAR

REF. NO.	SHEET NO.	STATION FROM	STATION TO	SIDE	LENGTH	AVERAGE WIDTH	PAVEMENT SURFACE AREA (* DENOTES CADD MEASURED AREA)		254 1 1/2" PAVEMENT PLANING		442 1 1/2" ASPHALT CONCRETE SURFACE COURSE, 12.5 MM, TYPE A, AS PER PLAN	407 NON-TRACKING TACK COAT 0.08 GAL/SY)
		FROM	TO		FEET	FEET	SQ. FT.		SQ. YD.		CU. YD.	GAL.
	75	245+00	245+50	LT	50	80.83	4041.50		449.06		18.71	35.92
	75	245+50	246+00	LT			* 3931.80		436.87		18.20	34.95
	75	245+00	246+00	RT	100	66.83	6683.00		742.56		30.94	59.40
	76	246+00	249+10	LT			* 26153.84		2905.98		121.08	232.48
	76	249+10	251+00	LT	190	66.83	12697.70		1410.86		58.79	112.87
	76	246+00	251+00	RT	500	66.83	33415.00		3712.78		154.70	297.02
	77	251+00	253+00	LT	200	66.83	13366.00		1485.11		61.88	118.81
	77	253+00	255+90	LT			* 21873.81		2430.42		101.27	194.43
	77	255+90	256+00	LT	10	80	800.00		88.89		3.70	7.11
	77	251+00	256+00	RT	500	66.83	33415.00		3712.78		154.70	297.02
	78	256+00	256+57.34	LT	57.34	80	4587.20		509.69		21.24	40.78
	78	256+57.34	256+97	LT			* 1625.00		180.56		7.52	14.44
	78	259+36.20	261+00	LT			* 12092.91		1343.66		55.99	107.49
	78	256+00	256+23	RT	23	68	1564.00		173.78		7.24	13.90
	78	256+23	256+57.34	RT			* 1174.54		130.50		5.44	10.44
	78	259+36.20	261+00	RT			* 12747.68		1416.41		59.02	113.31
	79	261+00	262+65	LT			* 14629.50		1625.50		67.73	130.04
	79	262+65	263+15	LT	50	69.83	3491.50		387.94		16.16	31.04
	79	263+15	265+75	LT			* 19053.21		2117.02		88.21	169.36
	79	265+75	266+00	LT	25	78.83	1970.75		218.97		9.12	17.52
	79	261+00	263+29	RT			* 20034.32		2226.04		92.75	178.08
	79	263+29	266+00	RT	271	66.83	18110.93		2012.33		83.85	160.99
	80	266+00	267+58	LT	158	80	12640.00		1404.44		58.52	112.36
	80	267+58	267+83.24	LT			* 1032.31		114.70		4.78	9.18
	80	270+80.07	271+00	LT			* 2669.06		296.56		12.36	23.72
	80	266+00	267+83.24	RT	183.24	68	12460.32		1384.48		57.69	110.76
	80	267+83.24	268+05	RT			* 745.08		82.79		3.45	6.62
	80	270+80.07	271+00	RT			629.82		69.98		2.92	5.60
	81	271+00	273+86	LT			* 25535.12		2837.24		118.22	226.98
	81	273+86	276+00	LT	214	66.83	14301.62		1589.07		66.21	127.13
	81	271+00	274+46	RT			* 26390.57		2932.29		122.18	234.58
	81	274+46	276+00	RT	154	66.83	10291.82		1143.54		47.65	91.48
	82	276+00	281+00	LT	500	66.83	33415.00		3712.78		154.70	297.02
	82	276+00	281+00	RT	500	66.83	33415.00		3712.78		154.70	297.02
	83	281+00	285+19	LT	419	66.83	28001.77		3111.31		129.64	248.90
	83	285+19	286+00	LT			* 8244.24		916.03		38.17	73.28
	83	281+00	284+84	RT	384	66.83	25662.72		2851.41		118.81	228.11
	83	284+84	286+00	RT			* 10371.34		1152.37		48.02	92.19
	84	286+00	287+36.11	LT			* 12641.33		1404.59		58.52	112.37
	84	289+65.37	289+88	LT			* 914.16		101.57		4.23	8.13
	84	289+88	291+00	LT	112	80	8960.00		995.56		41.48	79.64
	84	286+00	287+36.11	RT			* 10134.81		1126.09		46.92	90.09
	84	289+42	289+65.37	RT			* 914.98		101.66		4.24	8.13
	84	289+65.37	291+00	RT	134.63	80	10770.40		1196.71		49.86	95.74
	85	291+00	292+50	LT	150	80	12000.00		1333.33		55.56	106.67
	85	292+50	295+85	LT	335	78.83	26408.05		2934.23		122.26	234.74
	85	295+85	296+00	LT			* 1184.54		131.62		5.48	10.53
			SUBTOTALS THIS SHEET						66,354.81		2,764.78	5,308.38
			TOTALS CARRIED TO NEXT SHEET						66,355		2,765	5,308

CALCULATED CFE
CHECKED ASW

PAVEMENT SUBSUMMARY - 1

CUY-90-26.16/VAR

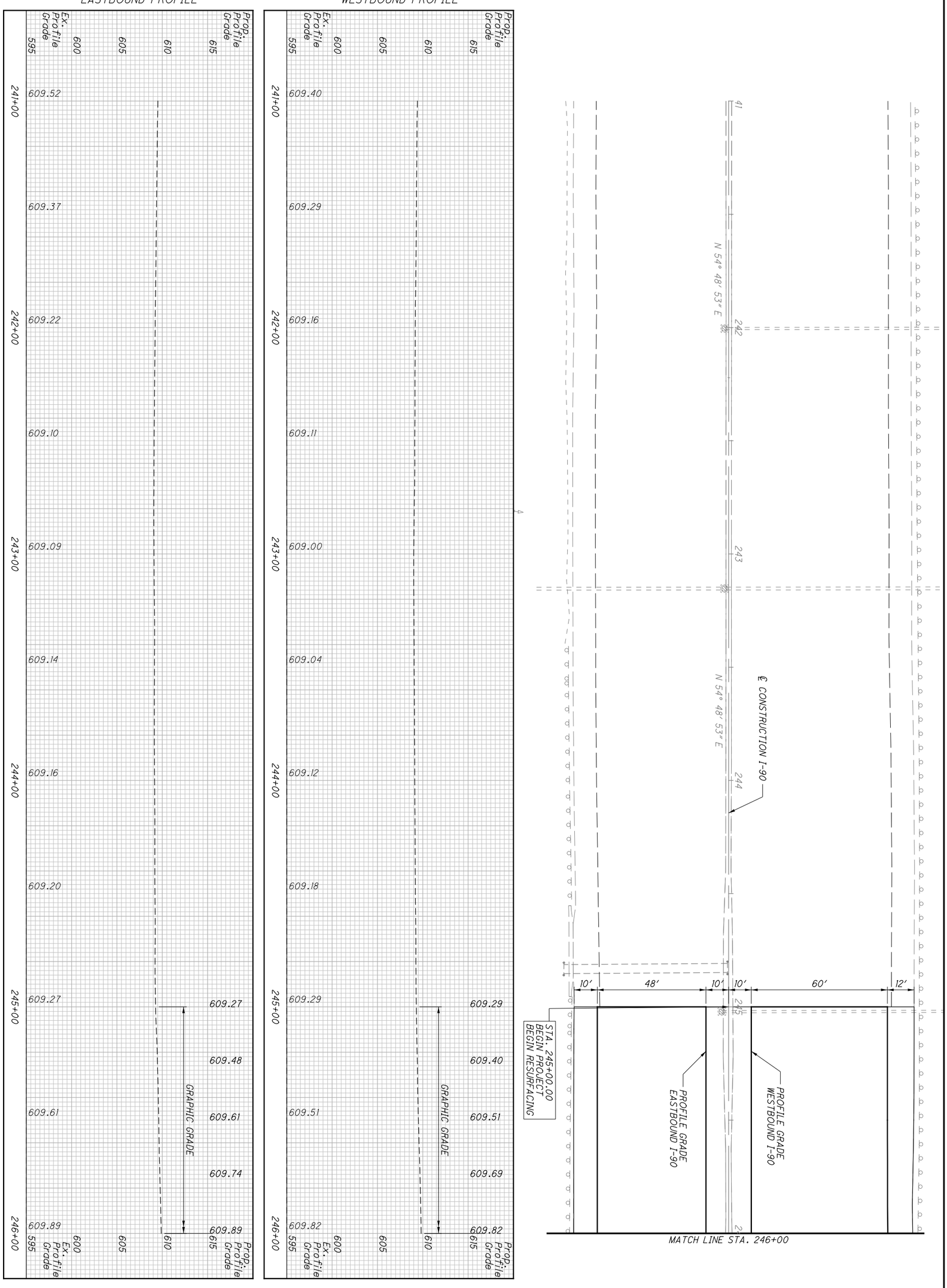
REF. NO.	SHEET NO.	STATION FROM	STATION TO	SIDE	LENGTH	AVERAGE WIDTH	PAVEMENT SURFACE AREA (* DENOTES CADD MEASURED AREA)	204 SUBGRADE COMPACTION UNDER APPROACH SLAB	254 PAVEMENT PLANING, ASPHALT CONCRETE (AVG. DEPTH 1 1/2")	304 AGGREGATE BASE	442 1 1/2" ASPHALT CONCRETE SURFACE COURSE, 12.5 MM, TYPE A, (448), AS PER PLAN	407 NON-TRACKING TACK COAT (0.08 GAL/SY)		609 CURB, TYPE 4-C		SPECIAL PRESSURE RELIEF JOINT, TYPE C						
		FROM	TO		FEET	FEET	SQ. FT.		SQ. YD.		CU. YD.	GAL.		FT								
	CONT'D																					
	85	291+00	292+50	RT	150	80	12000.00		1333		56	107										
	85	292+50	295+85	RT	335	78.83	26408.05		2934		122	235										
	85	295+85	296+00	RT			* 3572.42		397		17	32										
	86	296+00	300+71	LT			* 39994.10		4444		185	356										
	86	300+71	301+00	LT	29	66.83	1938.07		215		9	17										
	86	296+00	300+42	RT			* 38644.00		4294		179	344										
	86	300+42	301+00	RT	58	66.83	3876.14		431		18	34										
	87	301+00	302+00	LT	100	66.83	6683.00		743		31	59										
	87	301+00	302+00	RT	100	66.83	6683.00		743		31	59										
C-1	78	256+84.06	256+97.08	LT										13								
C-2	78	256+08.19	256+22.11	RT										14								
C-3	78	259+69.70	259+83.36	LT										14								
C-4	78	259+06.53	259+19.94	RT										13								
C-5	80	267+43.95	267+57.20	LT										13								
C-6	80	267+89.68	268+05.44	RT										16								
C-7	80	270+54.02	270+66.92	LT										13								
C-8	81	271+01.90	271+17.92	RT										16								
C-9	84	287+46.39	287+59.36	LT										13								
C-10	84	286+99.50	287+12.85	RT										13								
C-11	84	289+88.62	290+14.62	LT										26								
C-12	84	289+42.11	289+68.11	RT										26								
PRJ-1	78	256+02.62		RT												49						
PRJ-2	78	256+37.38		LT												61						
PRJ-3	78	259+57.09		RT												50						
PRJ-4	78	259+90.32		LT												62						
PRJ-5	80	267+35.73		LT												61						
PRJ-6	80	267+61.32		RT												49						
PRJ-7	81	271+01.92		LT												62						
PRJ-8	81	271+23.06		RT												49						
PRJ-9	84	286+91.09		RT												61						
PRJ-10	84	287+13.96		LT												62						
PRJ-11	84	289+87.69		RT												61						
PRJ-12	84	290+10.38		LT												60						
	78	256+57.34	256+84.58	LT/RT				422.5		70.5												
	78	259+09.03	259+36.20	LT/RT				422.5		70.5												
	80	287+36.11	287+63.19	LT/RT				433		72												
	80	289+38.29	289+65.37	LT/RT				433		72												
	84	267+83.24	268+10.34	LT/RT				450		75												
	84	270+52.97	270+80.07	LT/RT				450		75												
				SUBTOTALS THIS SHEET				2611	15,533.20	435	647.22	1,242.66		190.26		687						
				SUBTOTALS PREVIOUS SHEET					66,354.81		2,764.78	5,308.38										
				TOTALS CARRIED TO GENERAL SUMMARY				2611	81,888	435	3,412	6,551		190		687						

CALCULATED CFE CHECKED ASW

PAVEMENT SUBSUMMARY - 2

CUY-90-26.16 / VAR

74
222



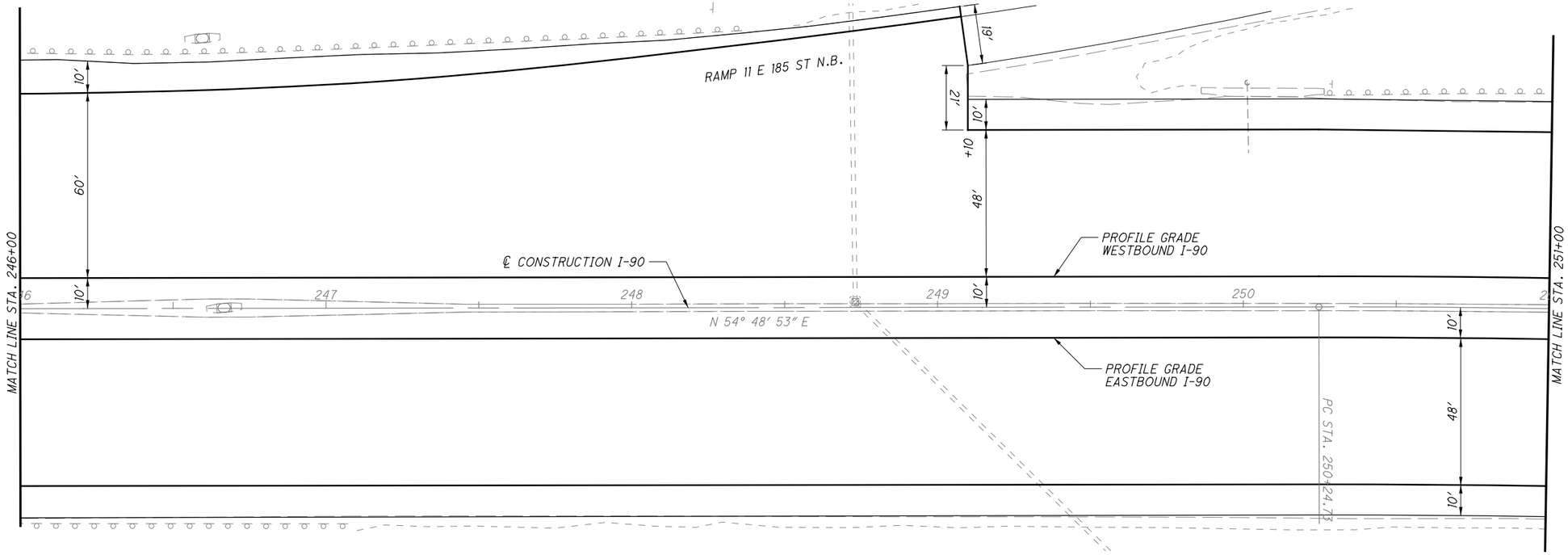
CUY-90-26.16/VAR

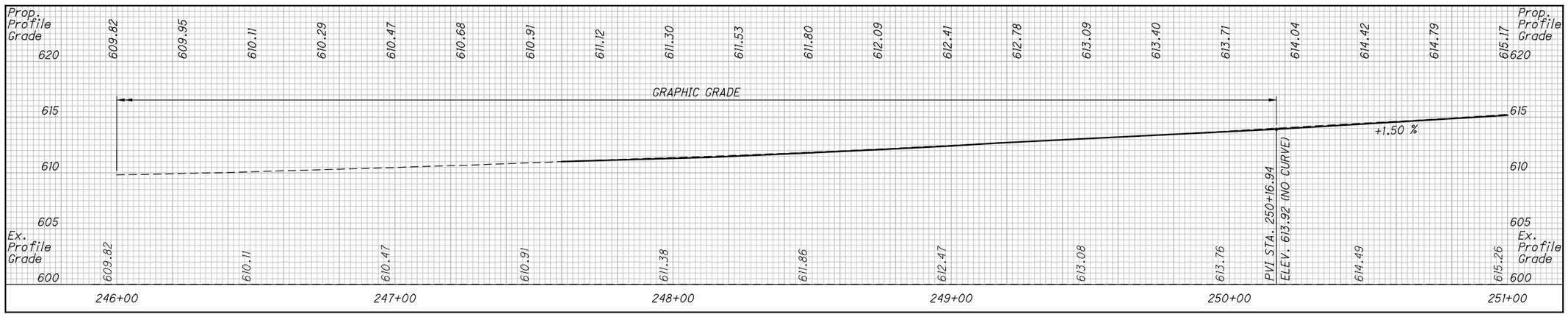
PLAN AND PROFILE
STA. 241+00 TO STA. 246+00

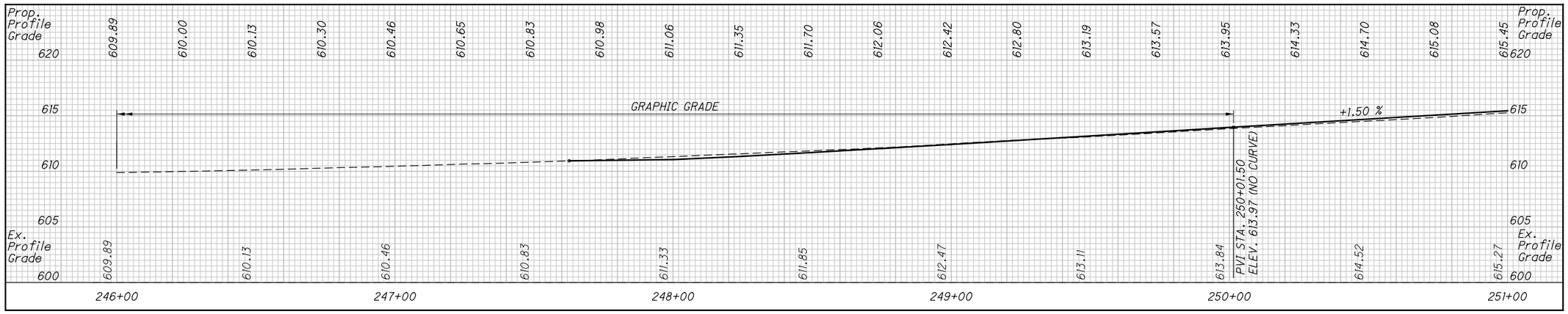
CALCULATED MTG
CHECKED ASW

0 10 20 40
HORIZONTAL SCALE IN FEET

P.I. STA. 255+53.41
Δ = 14° 01′ 39″ (RT)
Dc = 1° 20′ 00″
R = 4,297.20′
T = 528.68′
L = 1,052.04′
E = 32.40′
C = 1,049.44′
C.B. = N 61° 49′ 42″ E
emax = 0.034







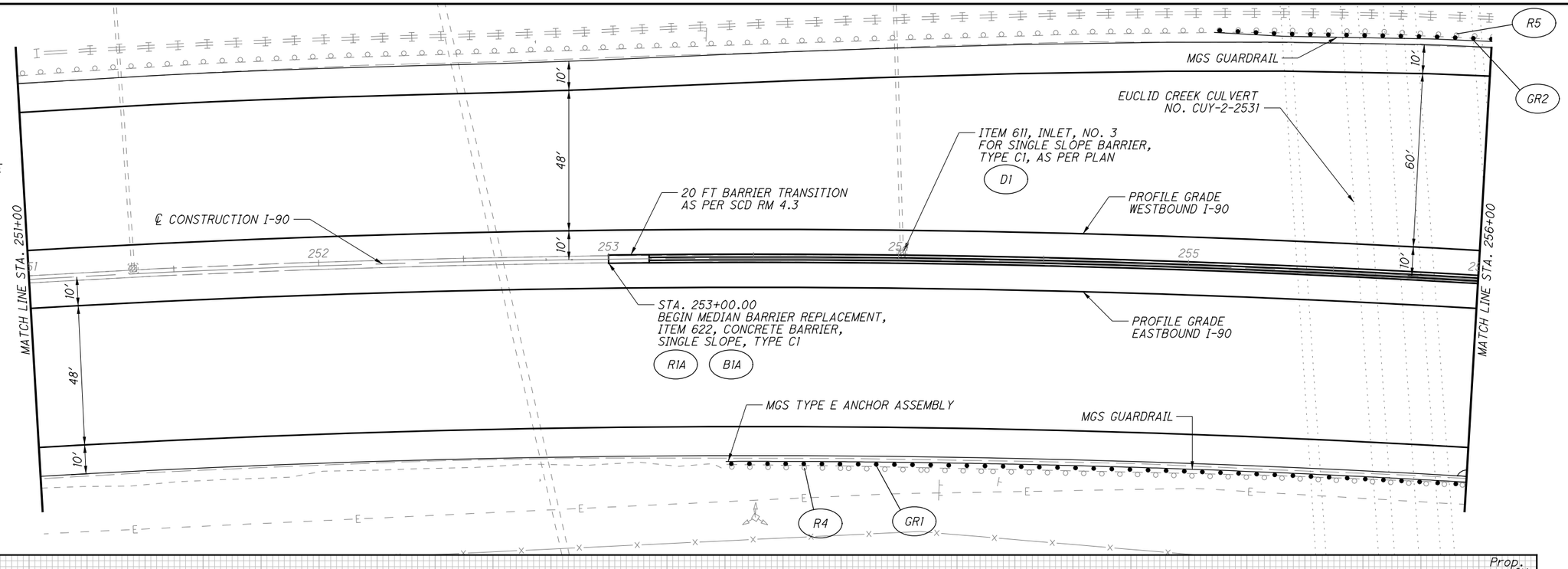
HORIZONTAL SCALE IN FEET
0 10 20 40

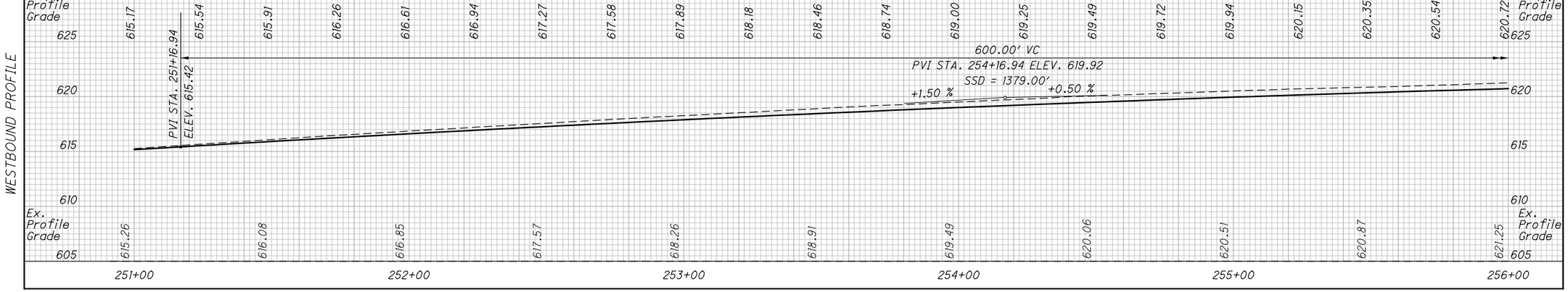
CALCULATED MTG
CHECKED ASW

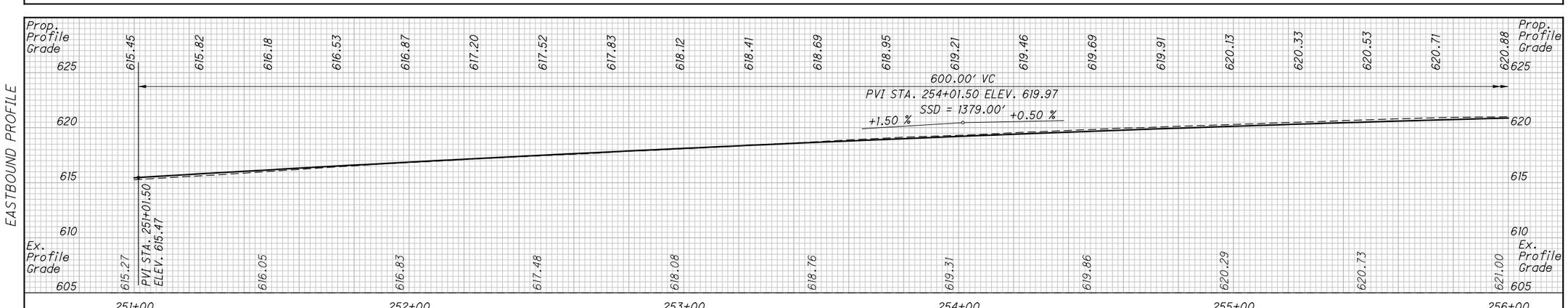
PLAN AND PROFILE
STA. 246+00 TO STA. 251+00

CUY-90-26.16/VAR

P.I. STA. 255+53.41
Δ = 14° 01′ 39″ (RT)
Dc = 1° 20′ 00″
R = 4,297.20′
T = 528.68′
L = 1,052.04′
E = 32.40′
C = 1,049.44′
C.B. = N 61° 49′ 42″ E
emax = 0.034







HORIZONTAL SCALE IN FEET
0 10 20 40

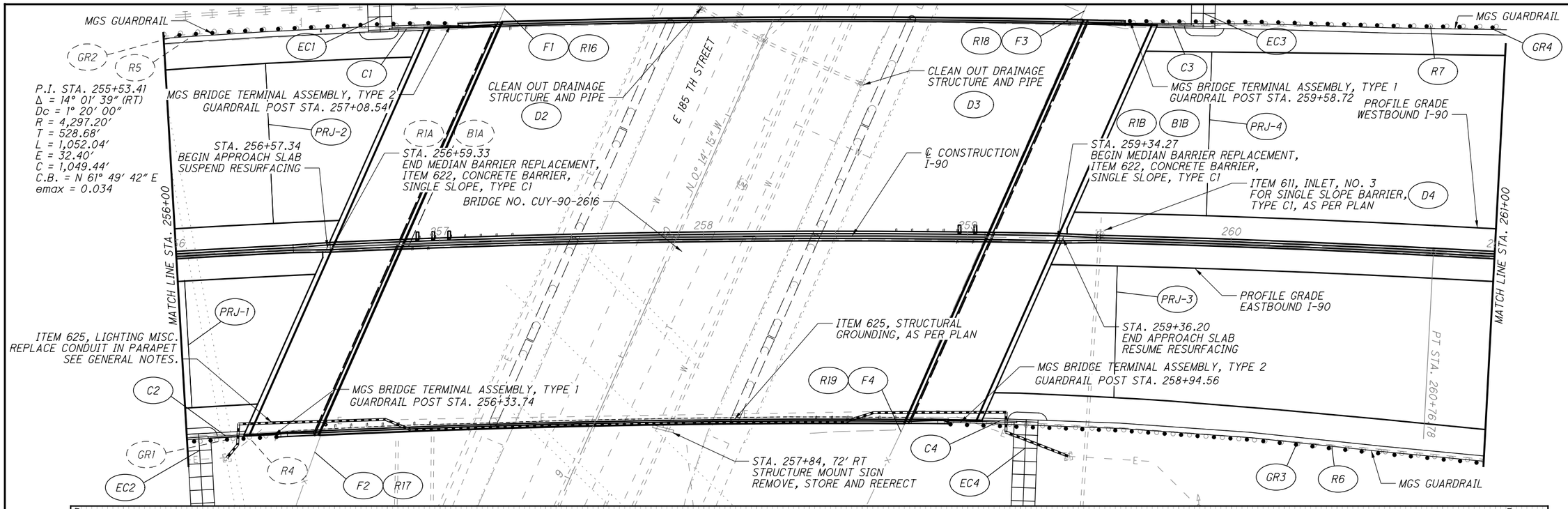
CALCULATED MTG
CHECKED ASW

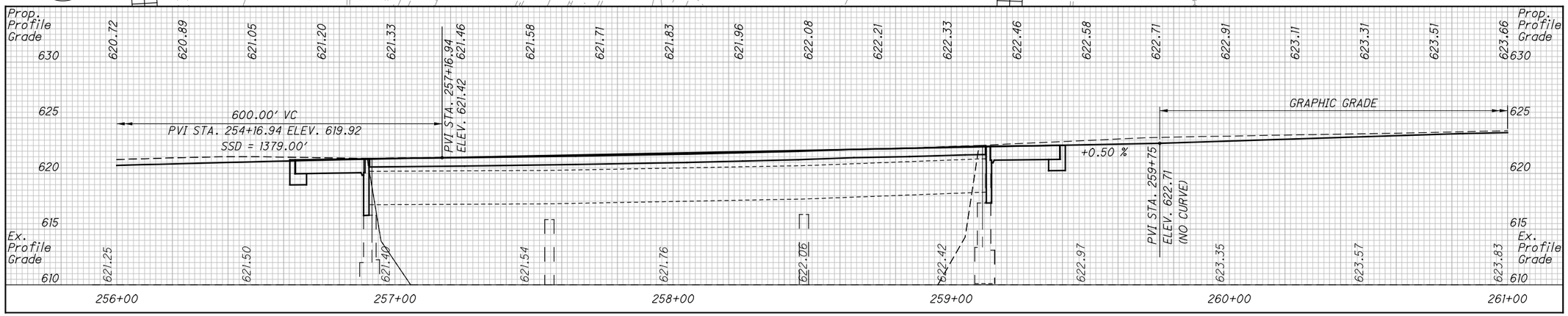
PLAN AND PROFILE
STA. 251+00 TO STA 256+00

CUY-90-26.16 / VAR

77
222

R:\14000\14035\87628\roadway\sheets\87628GP003.dgn 11/9/2017 1:38:50 PM malloym





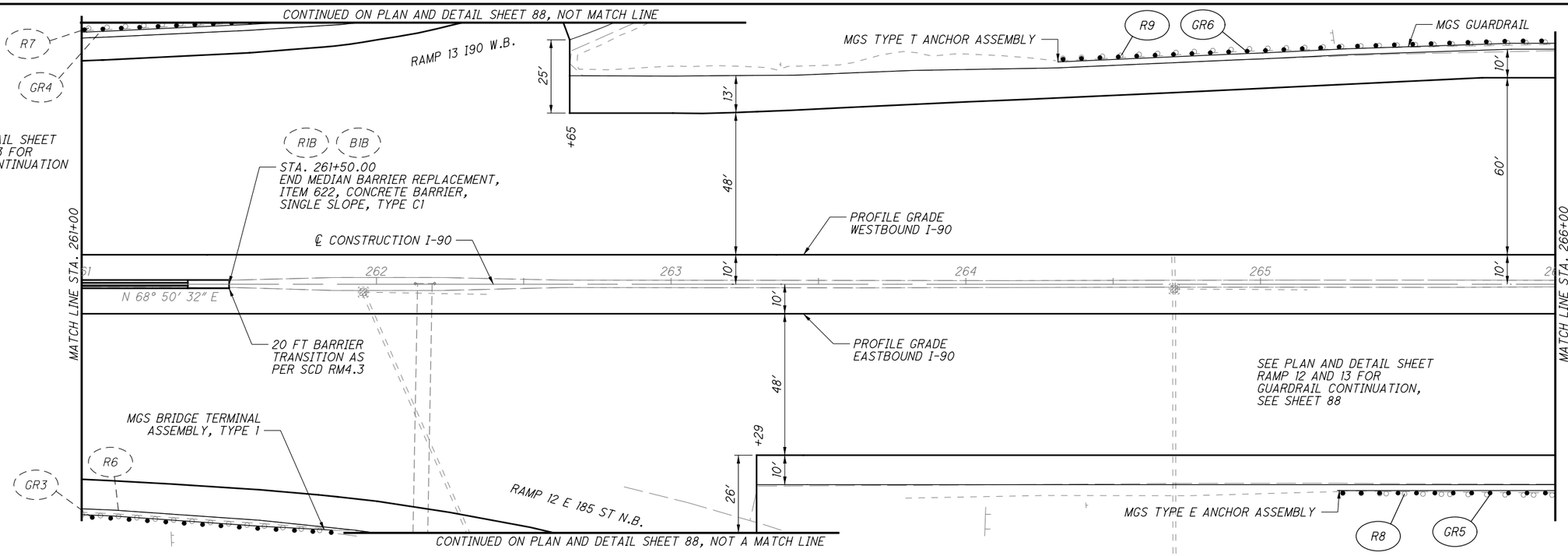
CALCULATED MTG
CHECKED ASW

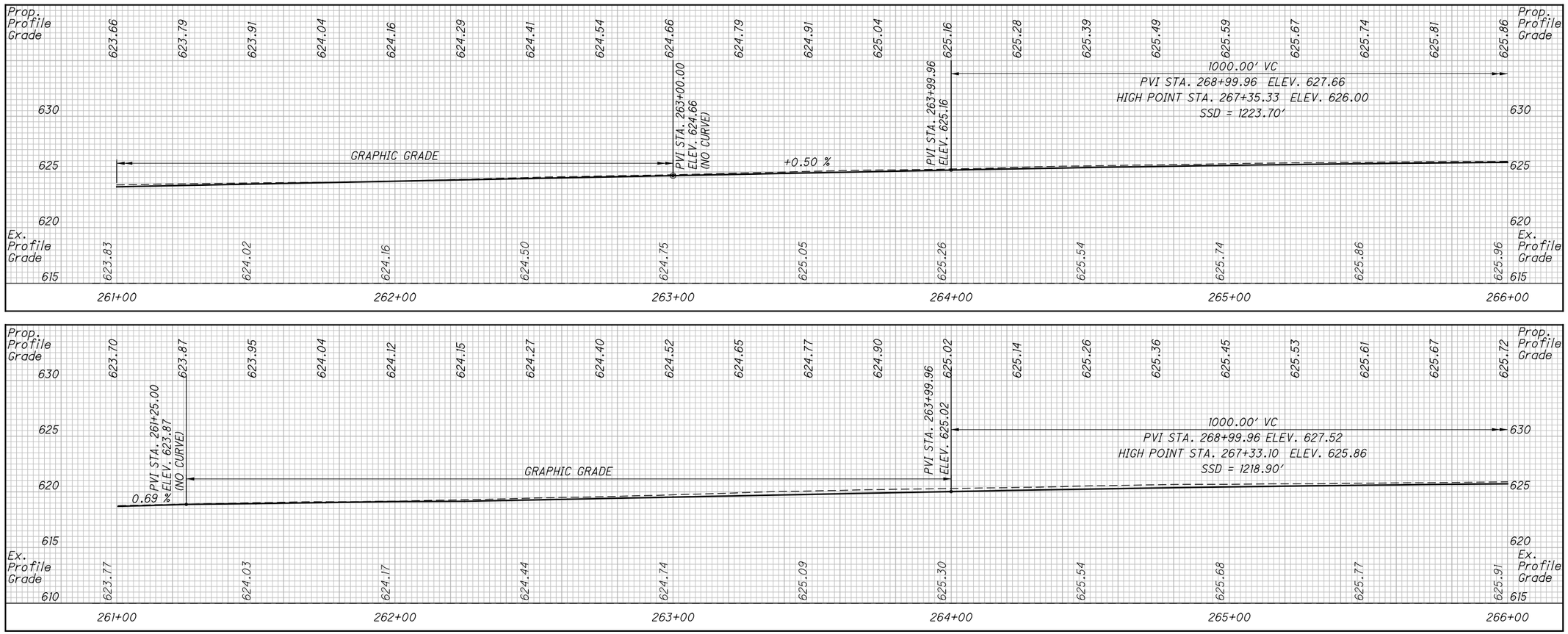
HORIZONTAL SCALE IN FEET
0 10 20 40

PLAN AND PROFILE
STA. 256+00 TO STA 261+00

CUY-90-26.16/VAR

78
222





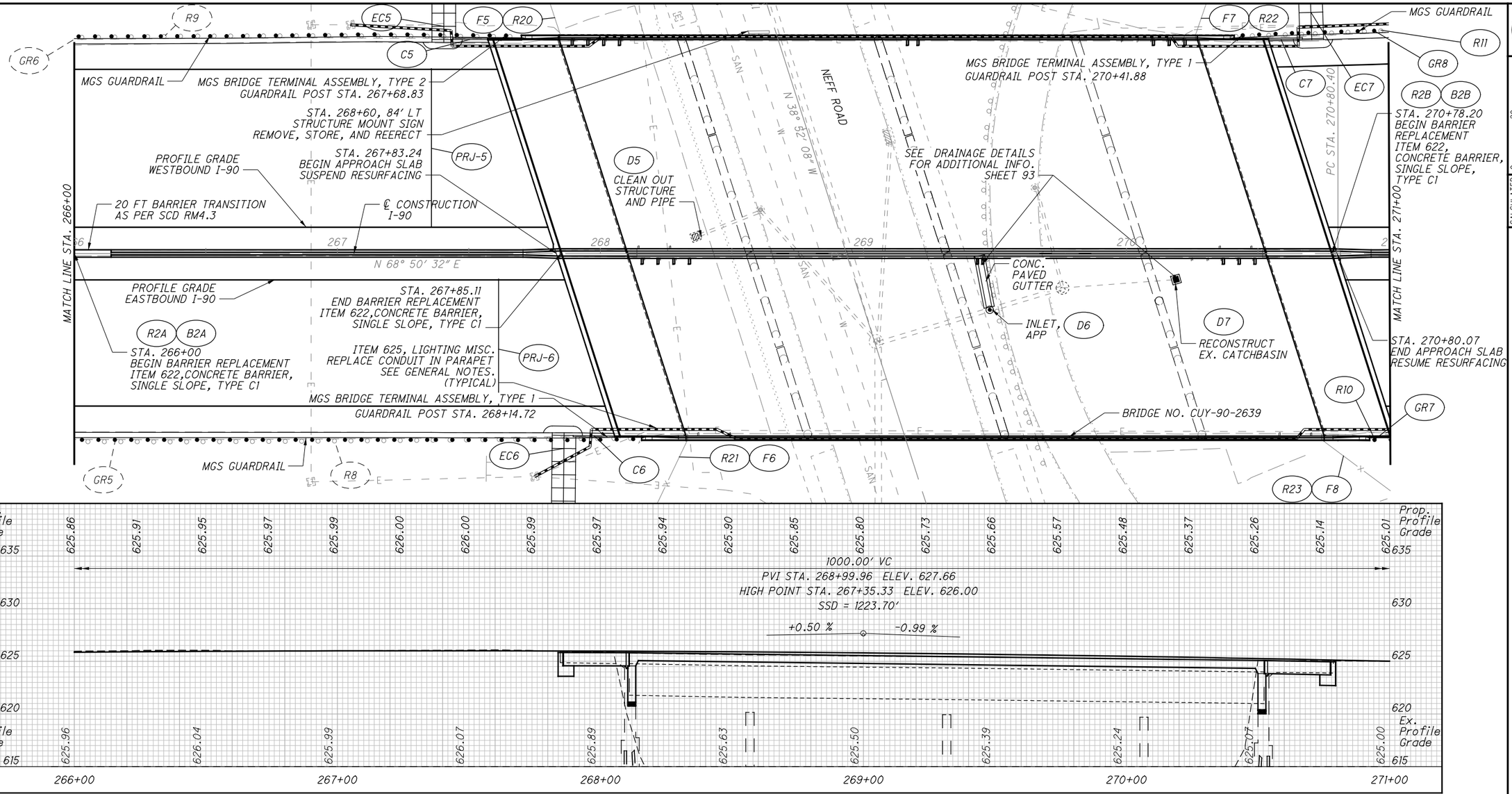
N

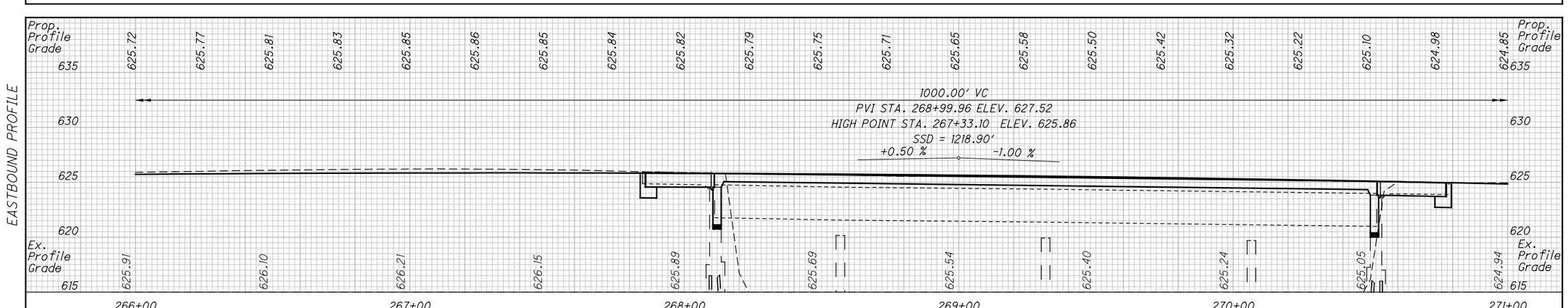
HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED MTG
CHECKED ASW

PLAN AND PROFILE
STA. 261+00 TO STA. 266+00

CUY-90-26.16 / VAR





HORIZONTAL SCALE IN FEET
0 10 20 40

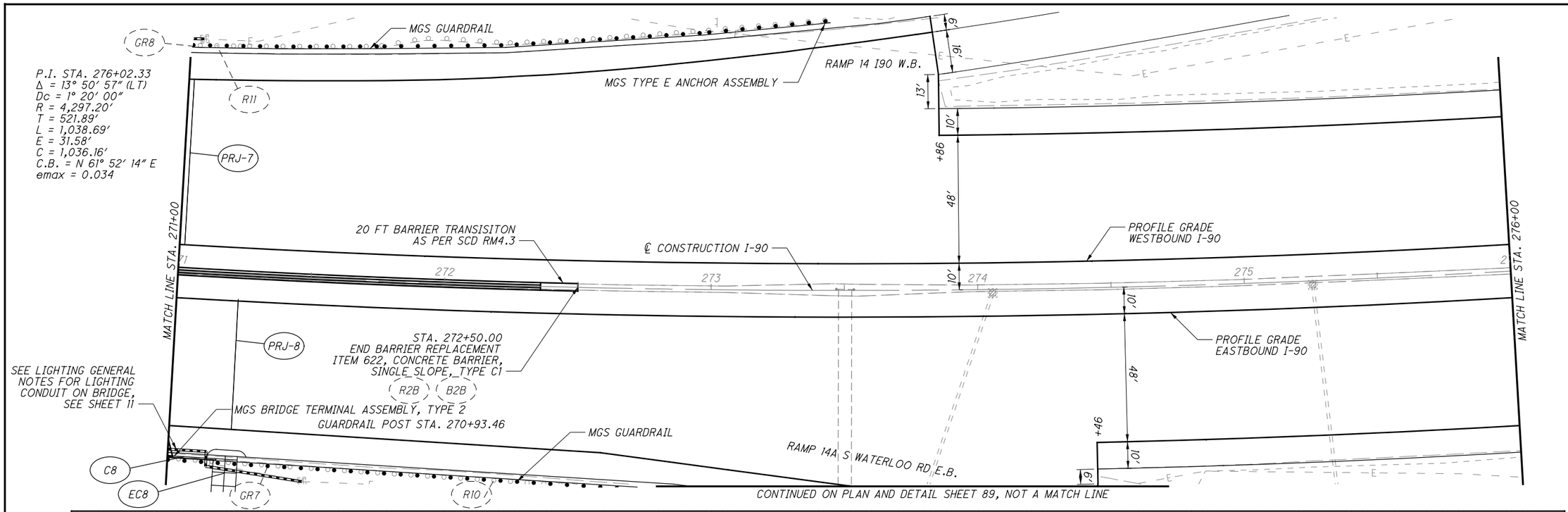
CALCULATED MTG
CHECKED ASW

PLAN AND PROFILE
STA. 266+00 TO STA 271+00

CUY-90-26.16/VAR

80
222

R:\14000\14035\87628\roadway\sheets\87628GP006.dgn 11/9/2017 1:38:54 PM malloym



R:\14000\14035\87628\roadway\sheets\87628GP007.dgn 11/9/2017 1:38:56 PM malloym

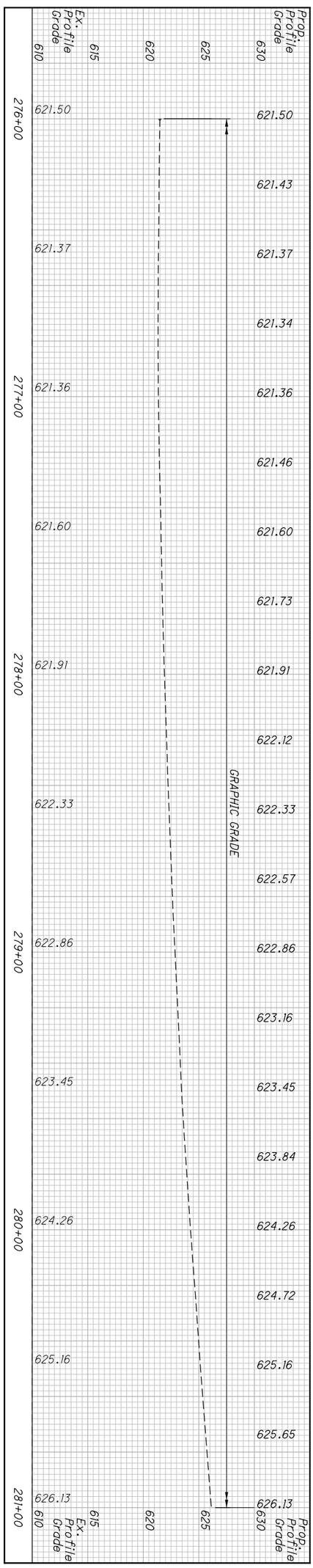
HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED MTG
CHECKED ASW

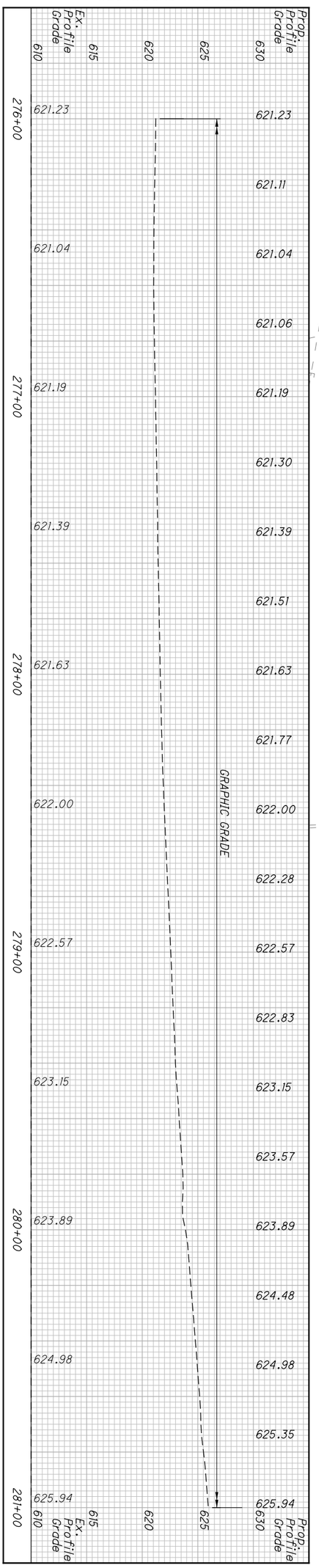
PLAN AND PROFILE
STA. 271+00 TO STA. 276+00

CUY-90-26.16/VAR

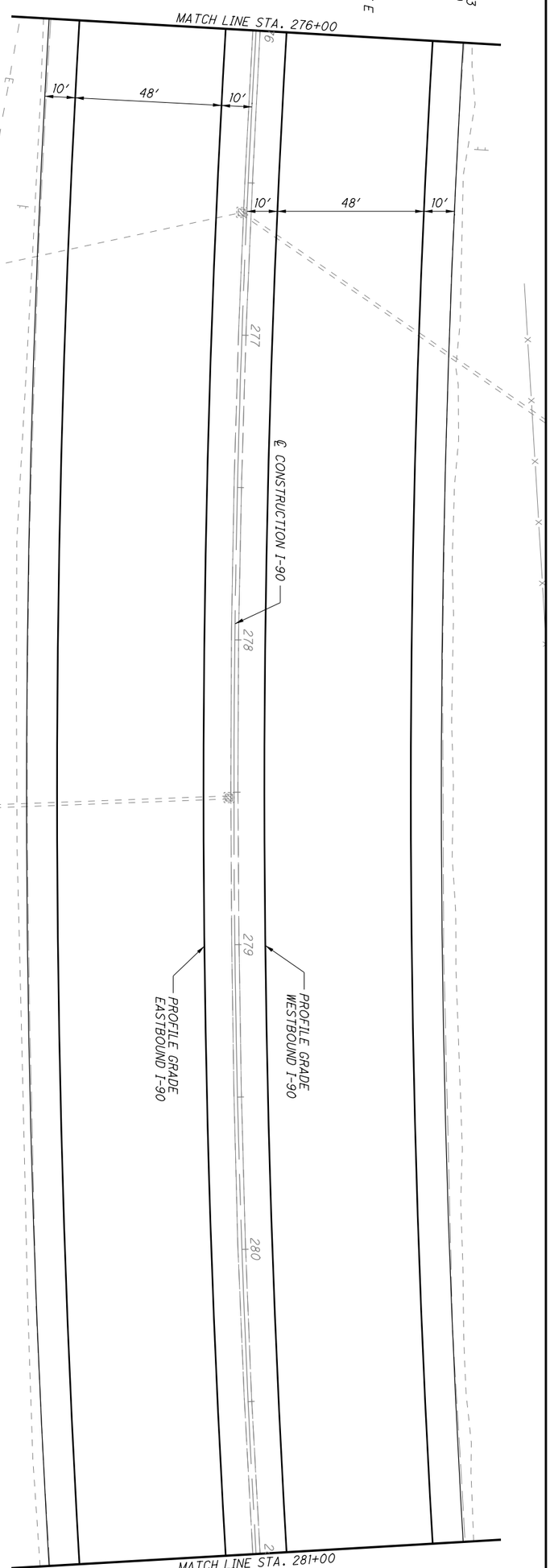
EASTBOUND PROFILE



WESTBOUND PROFILE



P.I. STA. 276+02.33
Δ = 13° 50' 57" (LT)
Dc = 1° 20' 00"
R = 4,297.20'
T = 521.89'
L = 1,038.69'
E = 31.58'
C = 1,036.16'
C.B. = N 61° 52' 14" E
emax = 0.034



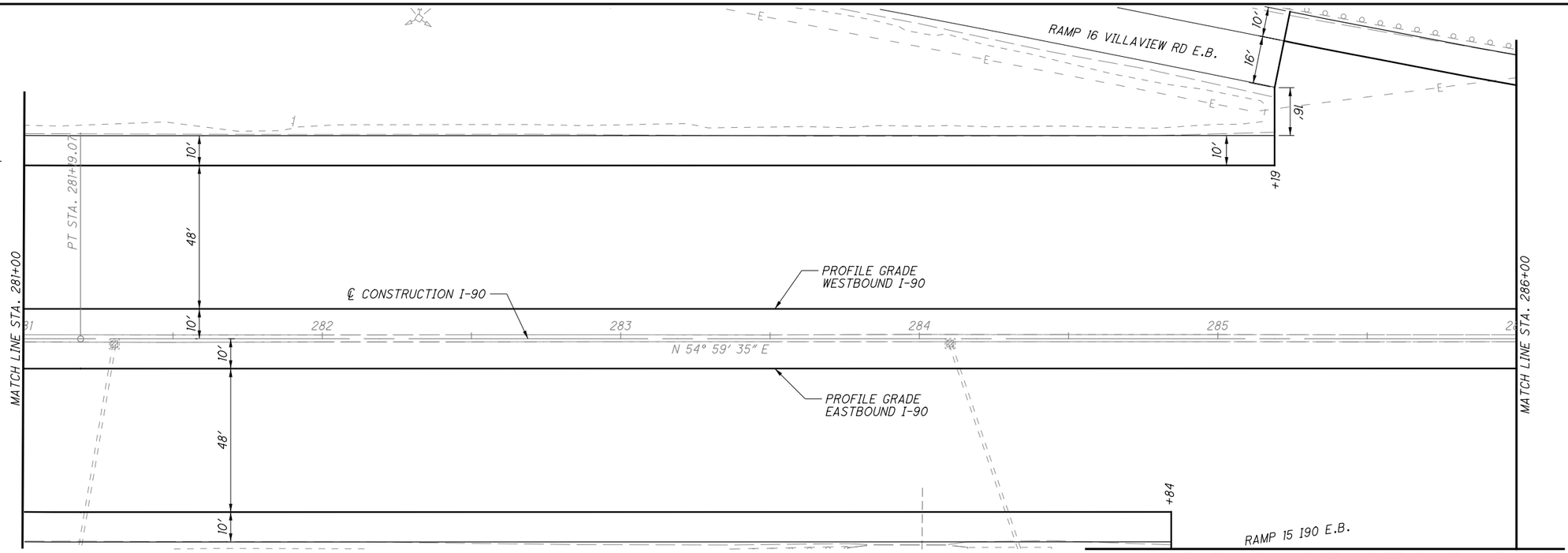
CUY-90-26.16/VAR

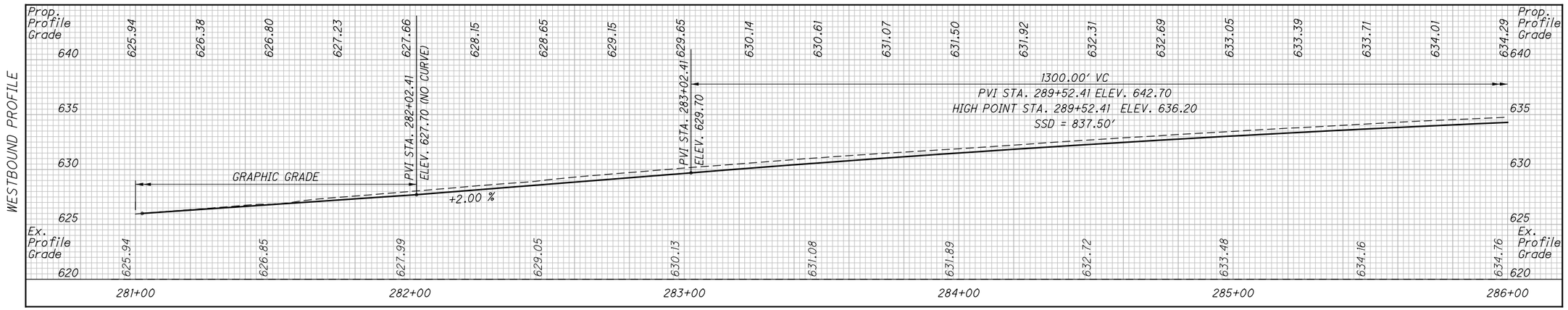
PLAN AND PROFILE
STA. 276+00 TO STA. 281+00

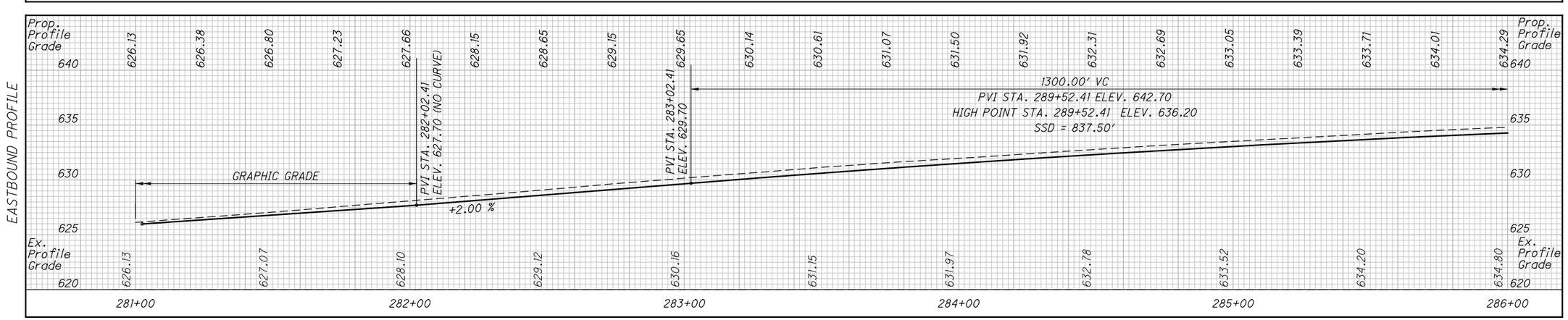
CALCULATED MTG
CHECKED ASW

0 10 20 40
HORIZONTAL SCALE IN FEET

P.I. STA. 276+02.33
Δ = 13° 50′ 57″ (LT)
Dc = 1° 20′ 00″
R = 4,297.20′
T = 521.89′
L = 1,038.69′
E = 31.58′
C = 1,036.16′
C.B. = N 61° 52′ 14″ E
emax = 0.034







HORIZONTAL SCALE IN FEET
0 10 20 40

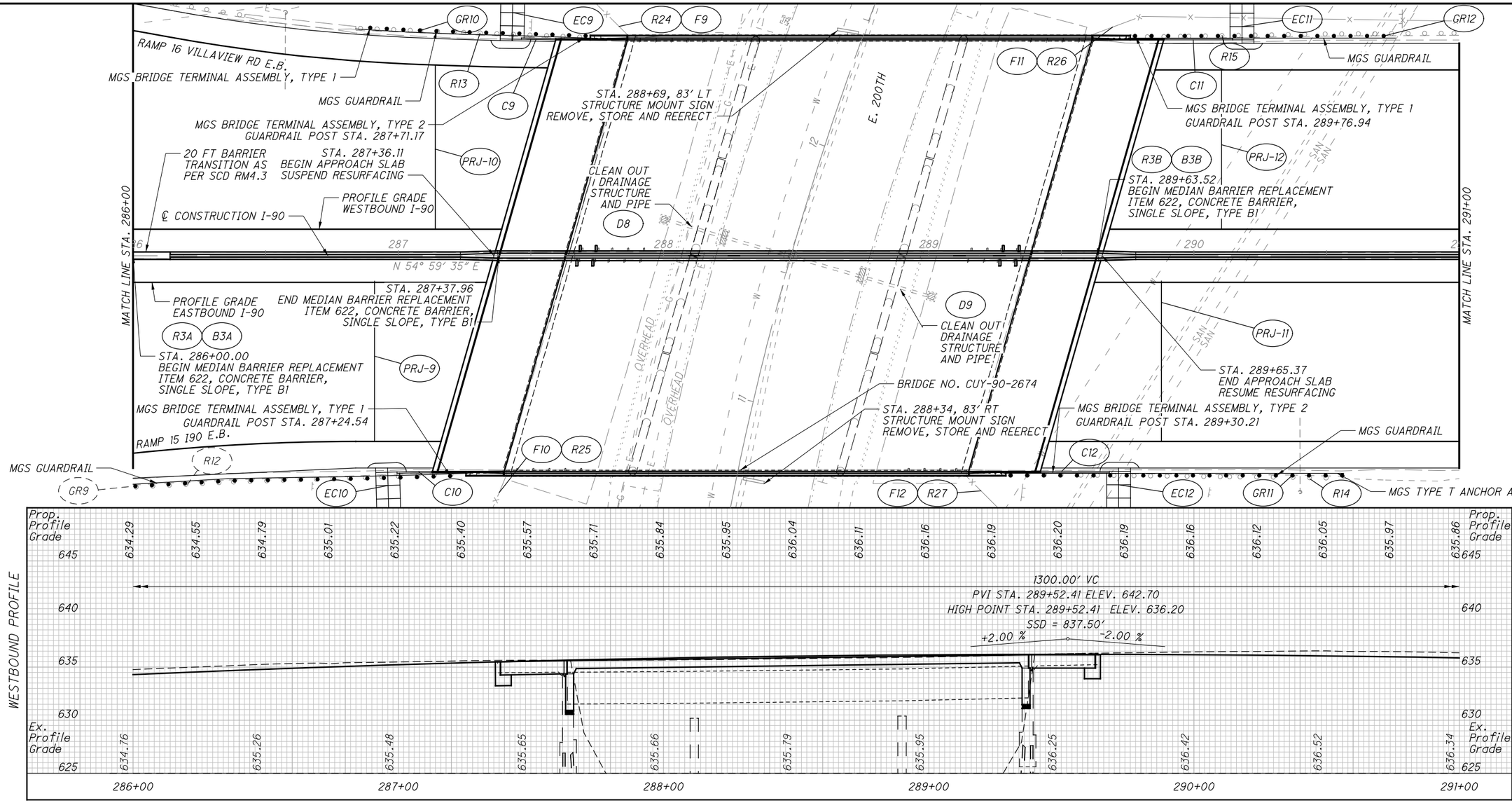
CALCULATED MTG
CHECKED ASW

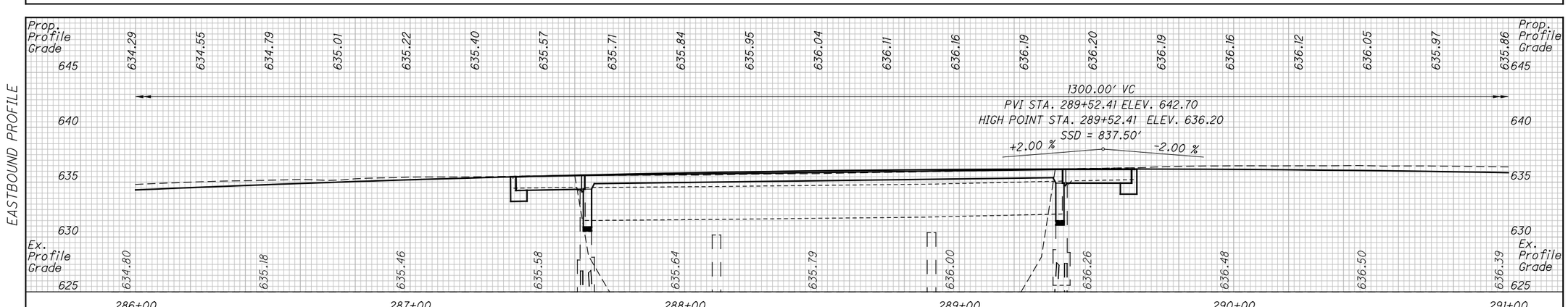
PLAN AND PROFILE
STA. 281+00 TO STA. 286+00

CUY-90-26.16/VAR

83
222

R:\14000\14035\87628\roadway\sheets\87628GP009.dgn 11/9/2017 1:38:57 PM malloym





HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED MTG
CHECKED ASW

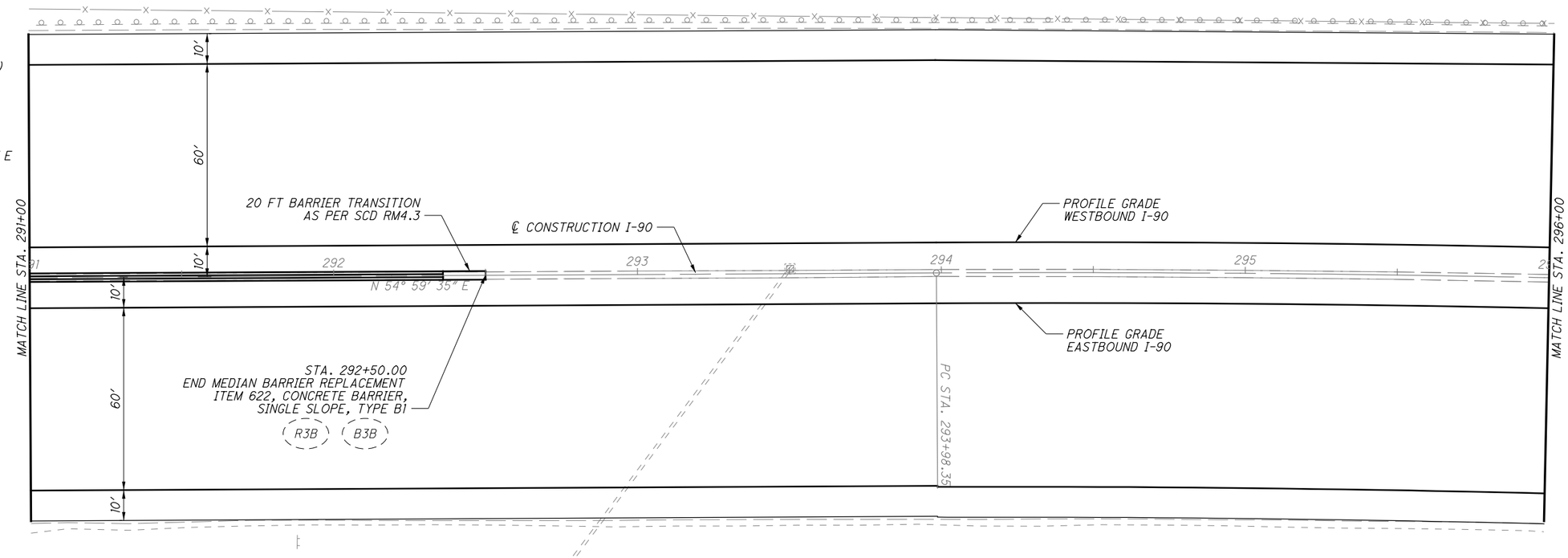
PLAN AND PROFILE
STA. 286+00 TO STA. 291+00

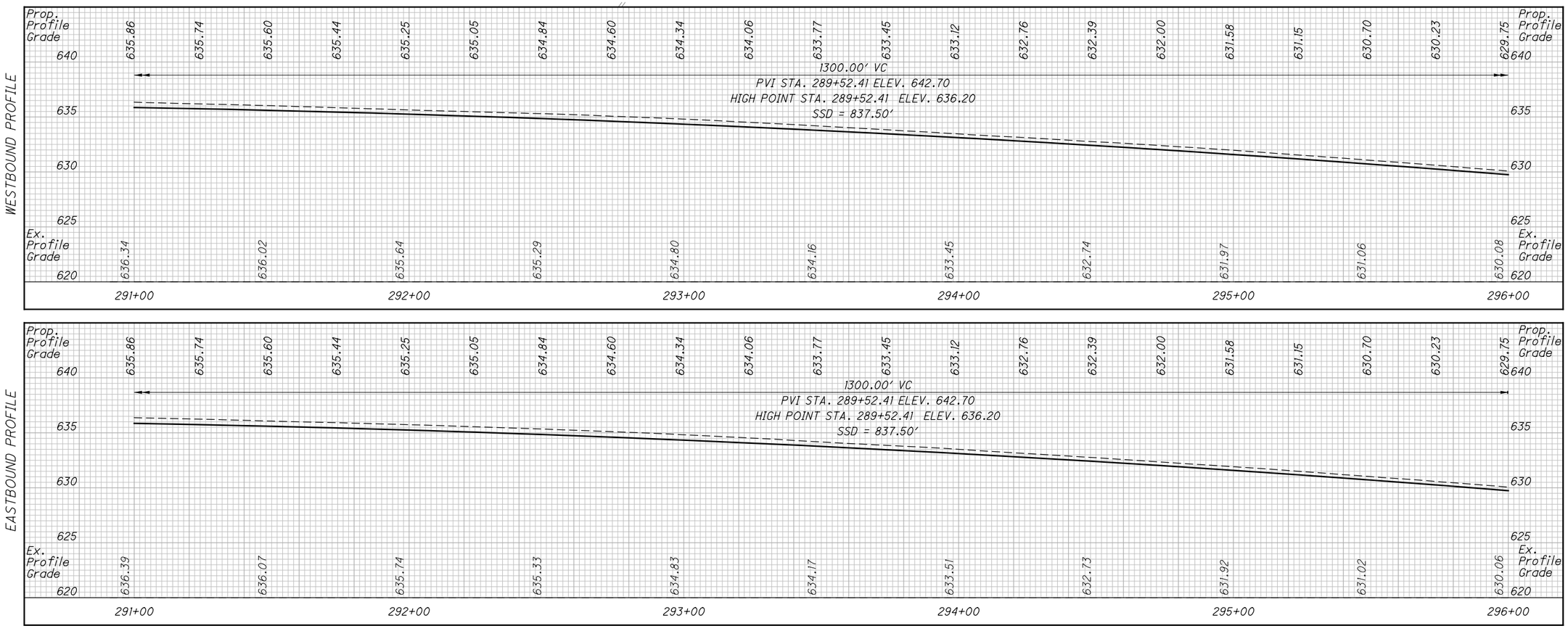
CUY-90-26.16 / VAR

84
222

R:\14000\14035\87628\roadway\sheets\87628GP010.dgn 11/9/2017 1:38:59 PM malloym

P.I. STA. 297+98.72
Δ = 5° 57′ 44.5″ (RT)
Dc = 0° 44′ 43″
R = 7,687.82′
T = 400.37′
L = 800.02′
E = 10.42′
C = 799.66′
C.B. = N 57° 58′ 27″ E
emax = (NC 0.016)





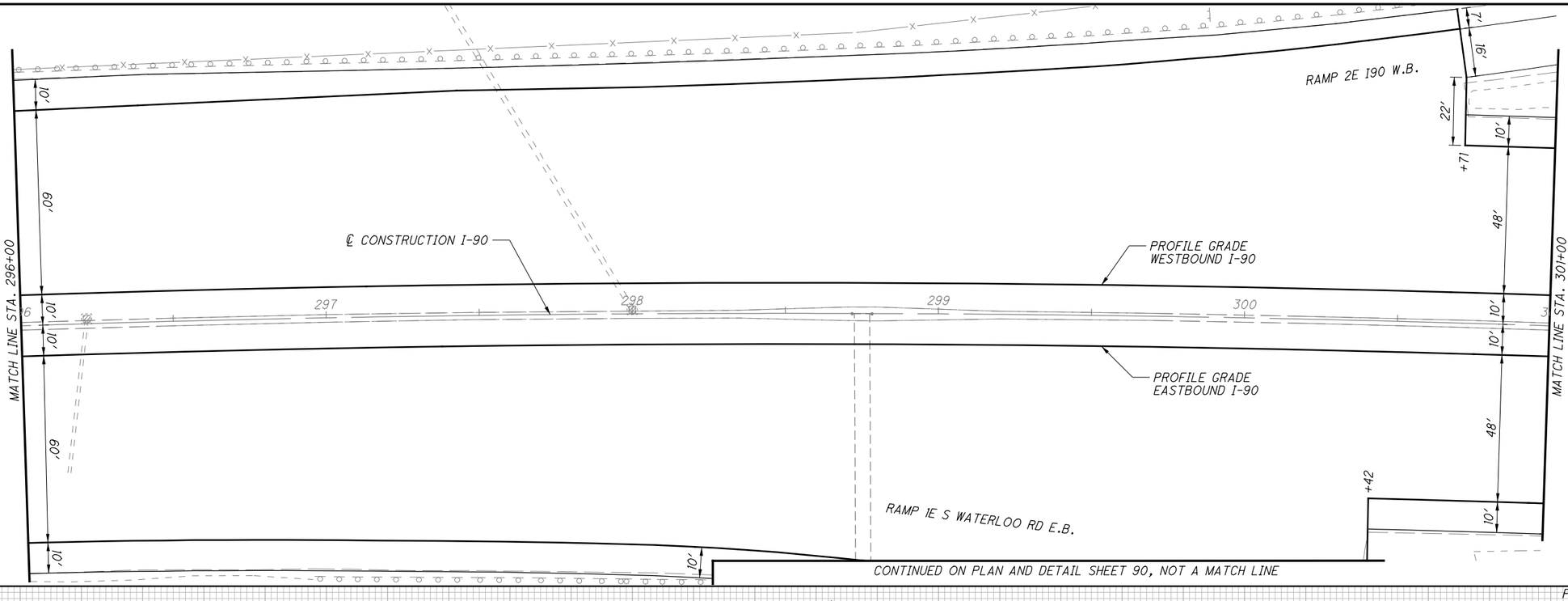
HORIZONTAL SCALE IN FEET
0 10 20 40

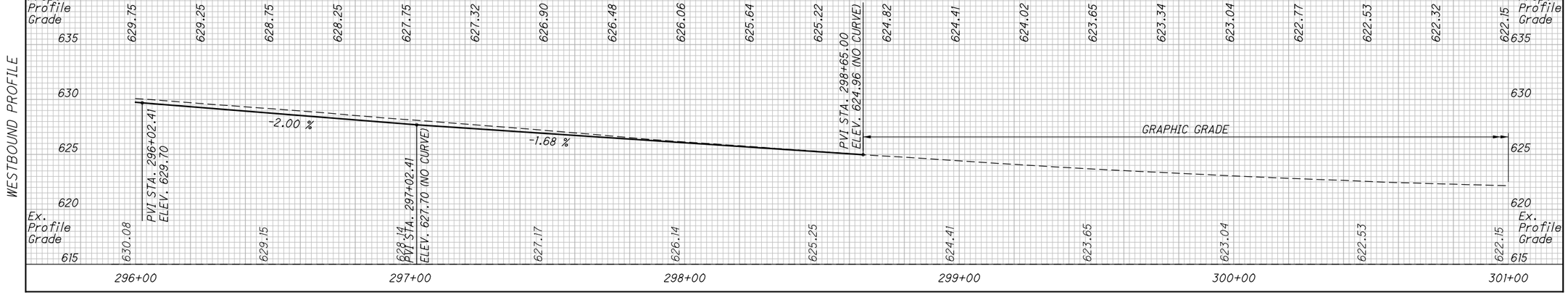
CALCULATED MTG
CHECKED ASW

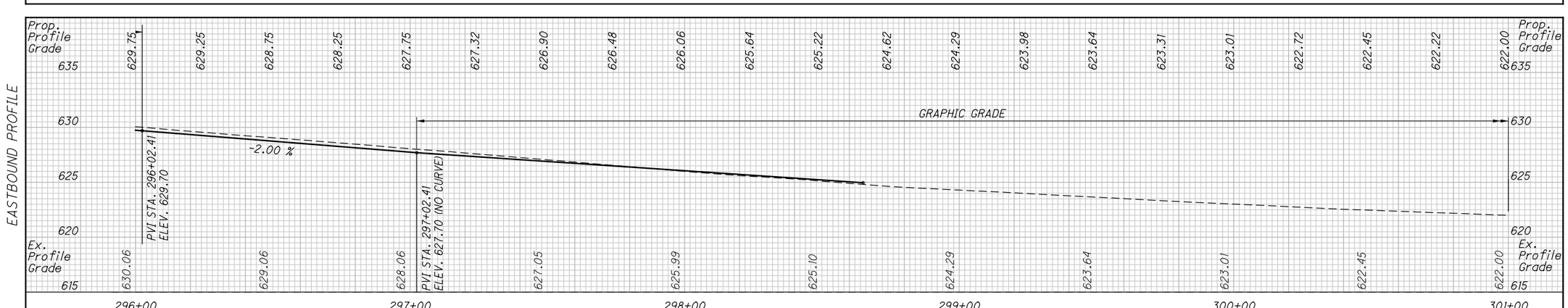
PLAN AND PROFILE
STA. 291+00 TO STA 296+00

CUY-90-26.16/VAR

P.I. STA. 297+98.72
Δ = 5° 57′ 44.5″ (RT)
Dc = 0° 44′ 43″
R = 7,687.82′
T = 400.37′
L = 800.02′
E = 10.42′
C = 799.66′
C.B. = N 57° 58′ 27″ E
emax = (NC 0.016)







HORIZONTAL SCALE IN FEET
0 10 20 40

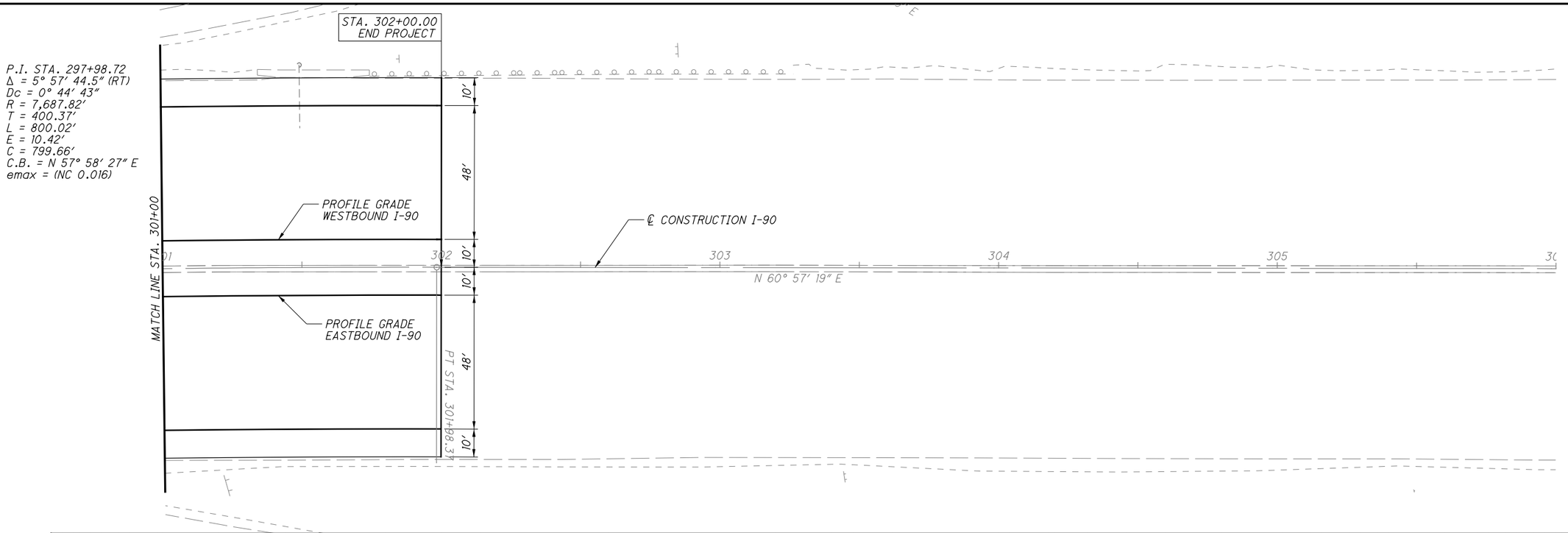
CALCULATED MTG
CHECKED ASW

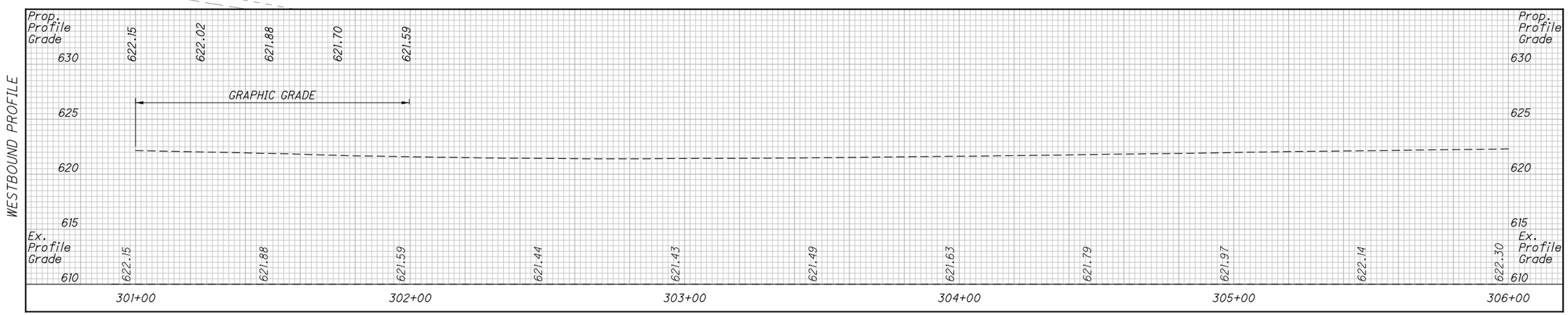
PLAN AND PROFILE
STA. 296+00 TO STA. 301+00

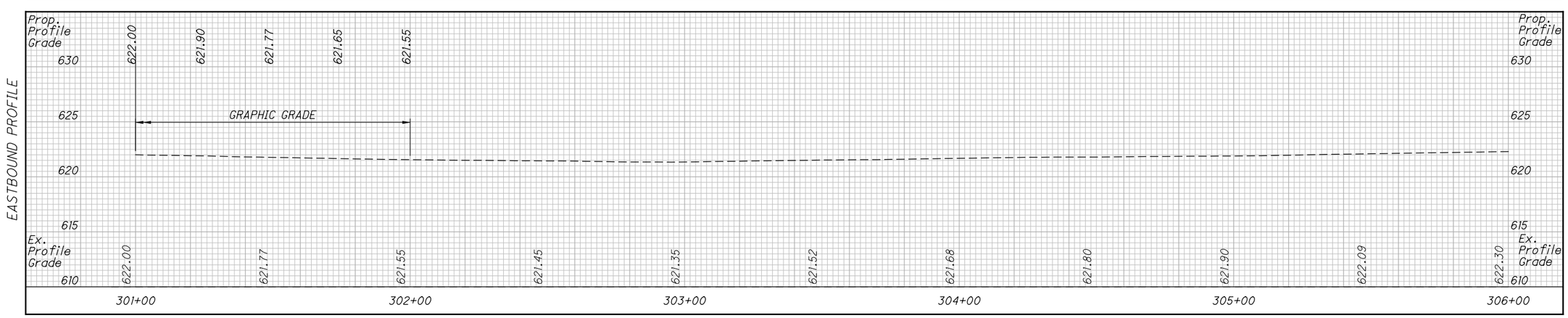
CUY-90-26.16 / VAR

86
222

R:\14000\14035\87628\roadway\sheets\87628GP012.dgn 11/9/2017 1:39:01 PM malloym





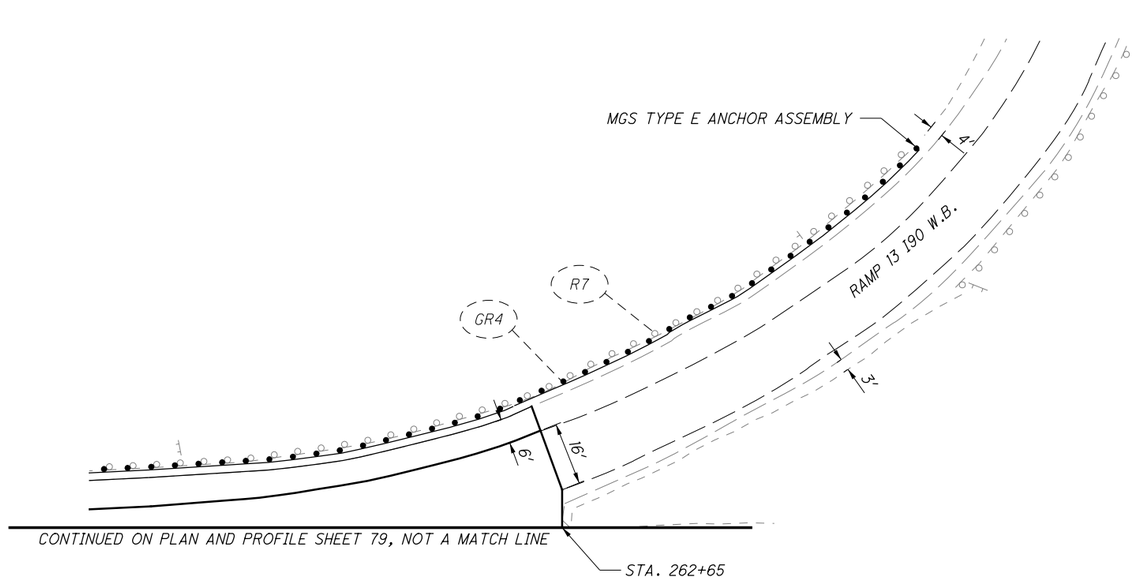


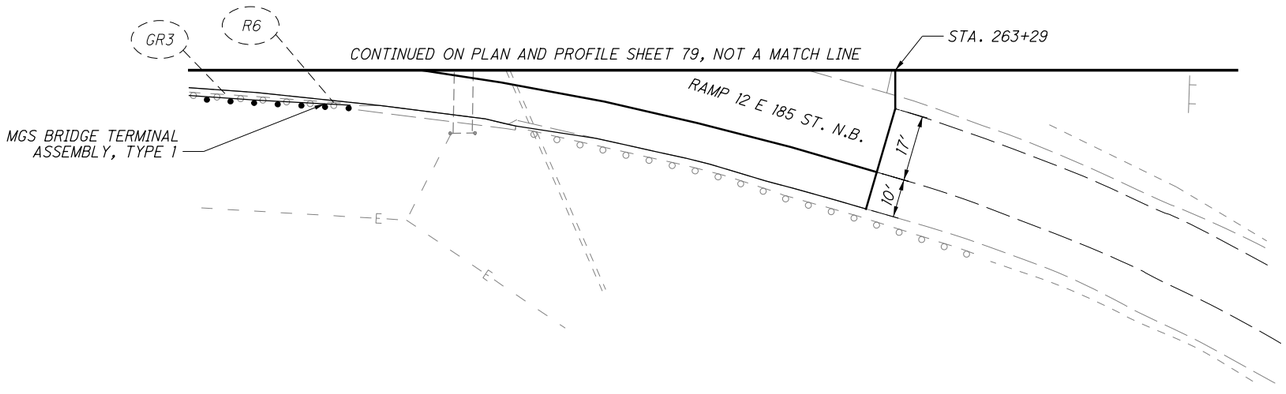
HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED MTG
CHECKED ASW

PLAN AND PROFILE
STA. 301+00 TO STA. 306+00

CUY-90-26.16 / VAR





HORIZONTAL SCALE IN FEET
0 10 20 40

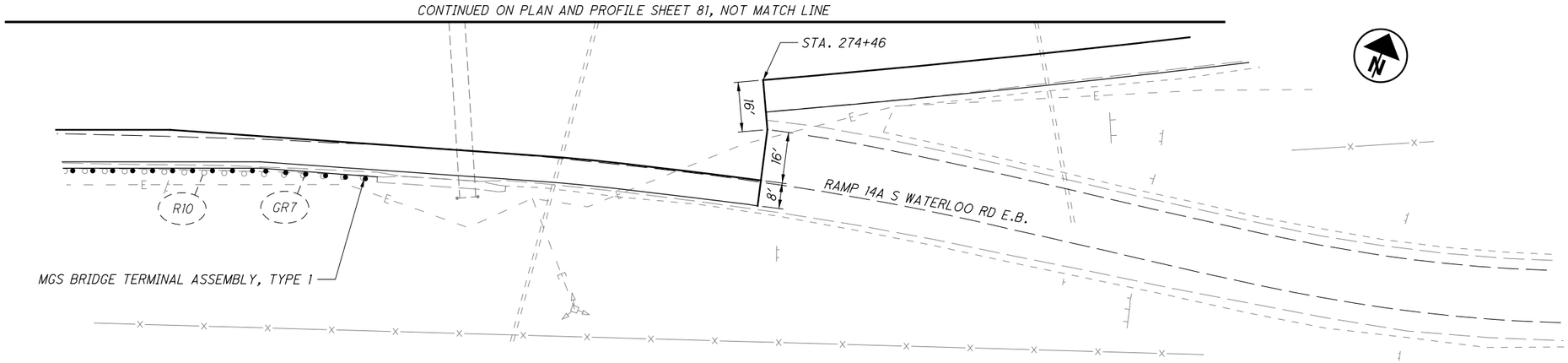
CALCULATED N.A.W.
CHECKED A.S.W.

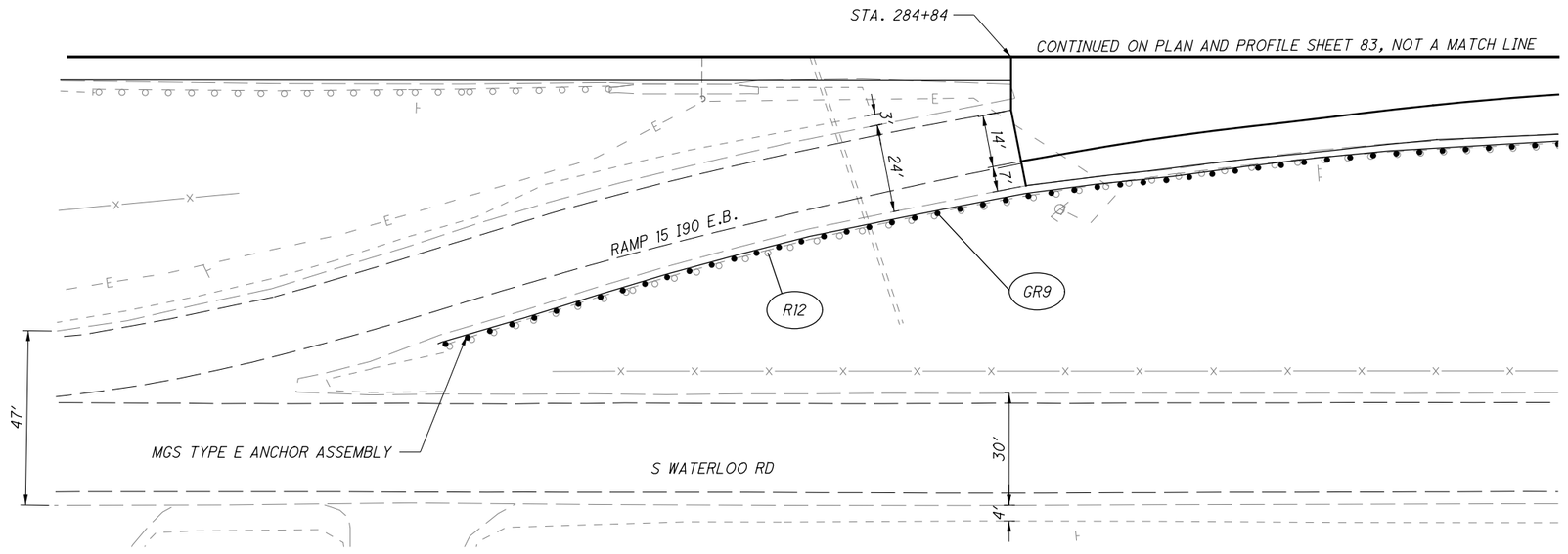
PLAN AND DETAIL SHEET
RAMP 12 AND 13

CUY-90-26.16/VAR

88
222

R:\14000\14035\87628\roadway\sheets\87628GP014.dgn 11/9/2017 1:39:03 PM malloym





HORIZONTAL SCALE IN FEET
0 10 20 40

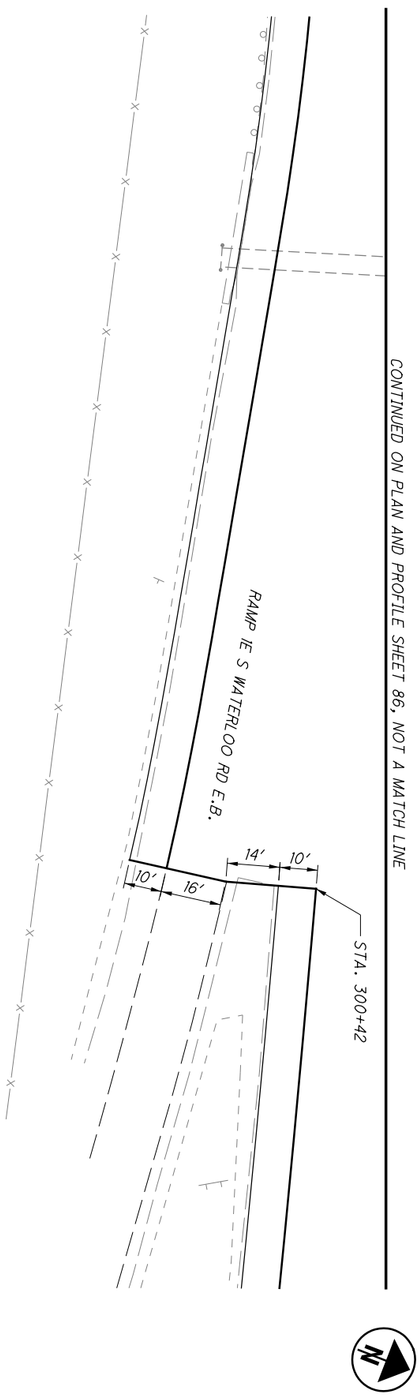
CALCULATED N.A.W
CHECKED A.S.W

PLAN AND DETAIL SHEET
RAMP 14A AND 15

CUY-90-26.16/VAR

89
222

R:\14000\14035\87628\roadway\sheets\87628GP015.dgn 11/9/2017 1:39:04 PM malloym


CONTINUED ON PLAN AND PROFILE SHEET 86, NOT A MATCH LINE
RAMP IE S WATERLOO RD E.B.
14'
10'
10'
16'
STA. 300+42

SUPERELEVATION TABLE

P.I. STA. 255+53.41 | **Dc = 1° 20' 00"**

REMARKS	OUTSIDE EDGE - WESTBOUND 90					CENTERLINE OF LANES					INSIDE EDGE (PROFILE GRADE)		STATION	INSIDE EDGE (PROFILE GRADE)		CENTERLINE OF LANES					OUTSIDE EDGE - EASTBOUND 90					REMARKS
	ELEVATION	ELEVATION CORRECTION	CROSS SLOPE	TRANSISTION RATE	WIDTH	ELEVATION	ELEVATION CORRECTION	CROSS SLOPE	TRANSISTION RATE	WIDTH	ELEVATION	OFFSET		OFFSET	ELEVATION	WIDTH	TRANSISTION RATE	CROSS SLOPE	ELEVATION CORRECTION	ELEVATION	WIDTH	TRANSISTION RATE	CROSS SLOPE	ELEVATION CORRECTION	ELEVATION	
	611.30	-0.38	-0.016	222:1	24	611.68	-0.38	-0.016	222:1	24	611.30	10	248+00.00	10	611.06	24	222:1	-0.016	-0.38	611.44	24	222:1	-0.016	-0.38	611.06	
NORMAL	611.39	-0.38	-0.016	222:1	24	611.77	-0.38	-0.016	222:1	24	611.39	10	248+12.67	10	611.21	24	222:1	-0.016	-0.38	611.59	24	222:1	-0.016	-0.38	611.21	NORMAL
	611.59	-0.33	-0.014	222:1	24	611.91	-0.38	-0.016	222:1	24	611.53	10	248+25.00	10	611.35	24	222:1	-0.014	-0.33	611.68	24	222:1	-0.016	-0.38	611.29	
	611.97	-0.22	-0.009	222:1	24	612.18	-0.38	-0.016	222:1	24	611.80	10	248+50.00	10	611.70	24	222:1	-0.009	-0.22	611.92	24	222:1	-0.016	-0.38	611.53	
	612.37	-0.10	-0.004	222:1	24	612.47	-0.38	-0.016	222:1	24	612.09	10	248+75.00	10	612.06	24	222:1	-0.004	-0.10	612.16	24	222:1	-0.016	-0.38	611.78	
LEVEL	612.76	0.00	0.000	222:1	24	612.76	-0.38	-0.016	222:1	24	612.38	10	248+97.92	10	612.39	24	222:1	0.000	0.00	612.39	24	222:1	-0.016	-0.38	612.01	LEVEL
	612.80	0.01	0.000	222:1	24	612.79	-0.38	-0.016	222:1	24	612.41	10	249+00.00	10	612.42	24	222:1	0.000	0.01	612.41	24	222:1	-0.016	-0.38	612.03	
	613.29	0.12	0.005	222:1	24	613.16	-0.38	-0.016	222:1	24	612.78	10	249+25.00	10	612.80	24	222:1	0.005	0.12	612.68	24	222:1	-0.016	-0.38	612.29	
	613.71	0.23	0.010	222:1	24	613.47	-0.38	-0.016	222:1	24	613.09	10	249+50.00	10	613.19	24	222:1	0.010	0.23	612.96	24	222:1	-0.016	-0.38	612.57	
	614.13	0.35	0.014	222:1	24	613.78	-0.38	-0.016	222:1	24	613.40	10	249+75.00	10	613.57	24	222:1	0.014	0.35	613.22	24	222:1	-0.016	-0.38	612.84	
SUPER	614.27	0.38	0.016	222:1	24	613.88	-0.38	-0.016	222:1	24	613.50	10	249+83.17	10	613.69	24	222:1	0.016	0.38	613.31	24	222:1	-0.016	-0.38	612.92	SUPER
	614.63	0.46	0.019	222:1	24	614.17	-0.46	-0.019	222:1	24	613.71	10	250+00.00	10	613.95	24	222:1	0.019	0.46	613.49	24	222:1	-0.019	-0.46	613.03	
	615.18	0.57	0.024	222:1	24	614.61	-0.57	-0.024	222:1	24	614.04	10	250+25.00	10	614.33	24	222:1	0.024	0.57	613.76	24	222:1	-0.024	-0.57	613.19	
	615.79	0.69	0.029	222:1	24	615.11	-0.69	-0.029	222:1	24	614.42	10	250+50.00	10	614.70	24	222:1	0.029	0.69	614.01	24	222:1	-0.029	-0.69	613.33	
	616.39	0.80	0.033	222:1	24	615.59	-0.80	-0.033	222:1	24	614.79	10	250+75.00	10	615.08	24	222:1	0.033	0.80	614.28	24	222:1	-0.033	-0.80	613.48	
FULL SUPER	616.48	0.82	0.034	222:1	24	615.67	-0.82	-0.034	222:1	24	614.85	10	250+79.07	10	615.14	24	222:1	0.034	0.82	614.32	24	222:1	-0.034	-0.82	613.51	FULL SUPER
↑	616.80	0.82	0.034		24	615.99	-0.82	-0.034		24	615.17	10	251+00.00	10	615.45	24		0.034	0.82	614.63	24		-0.034	-0.82	613.82	↑
	617.17	0.82	0.034		24	616.36	-0.82	-0.034		24	615.54	10	251+25.00	10	615.82	24		0.034	0.82	615.00	24		-0.034	-0.82	614.19	
	617.54	0.82	0.034		24	616.73	-0.82	-0.034		24	615.91	10	251+50.00	10	616.18	24		0.034	0.82	615.36	24		-0.034	-0.82	614.55	
	617.89	0.82	0.034		24	617.08	-0.82	-0.034		24	616.26	10	251+75.00	10	616.53	24		0.034	0.82	615.71	24		-0.034	-0.82	614.90	
	618.24	0.82	0.034		24	617.43	-0.82	-0.034		24	616.61	10	252+00.00	10	616.87	24		0.034	0.82	616.05	24		-0.034	-0.82	615.24	
	618.57	0.82	0.034		24	617.76	-0.82	-0.034		24	616.94	10	252+25.00	10	617.20	24		0.034	0.82	616.38	24		-0.034	-0.82	615.57	
	618.90	0.82	0.034		24	618.09	-0.82	-0.034		24	617.27	10	252+50.00	10	617.52	24		0.034	0.82	616.70	24		-0.034	-0.82	615.89	
	619.21	0.82	0.034		24	618.40	-0.82	-0.034		24	617.58	10	252+75.00	10	617.83	24		0.034	0.82	617.01	24		-0.034	-0.82	616.20	
	619.52	0.82	0.034		24	618.71	-0.82	-0.034		24	617.89	10	253+00.00	10	618.12	24		0.034	0.82	617.30	24		-0.034	-0.82	616.49	
	622.96	0.82	0.034		24	622.15	-0.82	-0.034		24	621.33	10	257+00.00	10	621.47	24		0.034	0.82	620.65	24		-0.034	-0.82	619.84	
	623.09	0.82	0.034		24	622.28	-0.82	-0.034		24	621.46	10	257+25.00	10	621.59	24		0.034	0.82	620.77	24		-0.034	-0.82	619.96	
	623.21	0.82	0.034		24	622.40	-0.82	-0.034		24	621.58	10	257+50.00	10	621.72	24		0.034	0.82	620.90	24		-0.034	-0.82	620.09	
	623.34	0.82	0.034		24	622.53	-0.82	-0.034		24	621.71	10	257+75.00	10	621.84	24		0.034	0.82	621.02	24		-0.034	-0.82	620.21	
	623.46	0.82	0.034		24	622.65	-0.82	-0.034		24	621.83	10	258+00.00	10	621.97	24		0.034	0.82	621.15	24		-0.034	-0.82	620.34	
	623.59	0.82	0.034		24	622.78	-0.82	-0.034		24	621.96	10	258+25.00	10	622.09	24		0.034	0.82	621.27	24		-0.034	-0.82	620.46	
	623.71	0.82	0.034		24	622.90	-0.82	-0.034		24	622.08	10	258+50.00	10	622.22	24		0.034	0.82	621.40	24		-0.034	-0.82	620.59	
	623.84	0.82	0.034		24	623.03	-0.82	-0.034		24	622.21	10	258+75.00	10	622.34	24		0.034	0.82	621.52	24		-0.034	-0.82	620.71	
	623.96	0.82	0.034		24	623.15	-0.82	-0.034		24	622.33	10	259+00.00	10	622.47	24		0.034	0.82	621.65	24		-0.034	-0.82	620.84	
	624.09	0.82	0.034		24	623.28	-0.82	-0.034		24	622.46	10	259+25.00	10	622.59	24		0.034	0.82	621.77	24		-0.034	-0.82	620.96	
	624.21	0.82	0.034		24	623.40	-0.82	-0.034		24	622.58	10	259+50.00	10	622.72	24		0.034	0.82	621.90	24		-0.034	-0.82	621.09	
	624.34	0.82	0.034		24	623.53	-0.82	-0.034		24	622.71	10	259+75.00	10	622.84	24		0.034	0.82	622.02	24		-0.034	-0.82	621.21	
↓	624.54	0.82	0.034		24	623.73	-0.82	-0.034		24	622.91	10	260+00.00	10	623.01	24		0.034	0.82	622.19	24		-0.034	-0.82	621.38	↓
FULL SUPER	624.72	0.82	0.034	222:1	24	623.91	-0.82	-0.034	222:1	24	623.09	10	260+22.44	10	623.17	24	222:1	0.034	0.82	622.35	24	222:1	-0.034	-0.82	621.54	FULL SUPER
	624.72	0.80	0.034	222:1	24	623.91	-0.80	-0.0335	222:1	24	623.11	10	260+25.00	10	623.18	24	222:1	0.0335	0.80	622.38	24	222:1	-0.0335	-0.80	621.57	
	624.69	0.69	0.029	222:1	24	624.00	-0.69	-0.029	222:1	24	623.31	10	260+50.00	10	623.36	24	222:1	0.029	0.69	622.67	24	222:1	-0.029	-0.69	621.98	
	624.67	0.58	0.024	222:1	24	624.09	-0.58	-0.024	222:1	24	623.51	10	260+75.00	10	623.53	24	222:1	0.024	0.58	622.95	24	222:1	-0.024	-0.58	622.37	
	624.59	0.47	0.019	222:1	24	624.13	-0.47	-0.019	222:1	24	623.66	10	261+00.00	10	623.70	24	222:1	0.019	0.47	623.23	24	222:1	-0.019	-0.47	622.77	
SUPER	624.52	0.38	0.016	222:1	24	624.13	-0.38	-0.016	222:1	24	623.75	10	261+18.34	10	623.82	24	222:1	0.016	0.38	623.44	24	222:1	-0.016	-0.38	623.05	SUPER
	624.53	0.35	0.015	222:1	24	624.17	-0.38	-0.016	222:1	24	623.79	10	261+25.00	10	623.87	24	222:1	0.015	0.35	623.52	24	222:1	-0.016	-0.38	623.13	
	624.54	0.24	0.010	222:1	24	624.29	-0.38	-0.016	222:1	24	623.91	10	261+50.00	10	623.95	24	222:1	0.010	0.24	623.71	24	222:1	-0.016	-0.38	623.32	
	624.55	0.13	0.005	222:1	24	624.42	-0.38	-0.016	222:1	24	624.04	10	261+75.00	10	624.04	24	222:1	0.005	0.13	623.91	24	222:1	-0.016	-0.38	623.53	
	624.56	0.02	0.001	222:1	24	624.54	-0.38	-0.016	222:1	24	624.16	10	262+00.00	10	624.12	24	222:1	0.001	0.02	624.10	24	222:1	-0.016	-0.38	623.72	
LEVEL	624.56	0.00	0.000	222:1	24	624.56	-0.38	-0.016	222:1	24	624.18	10	262+03.59	10	624.12	24	222:1	0.000	0.00	624.12	24	222:1	-0.016	-0.38	623.74	LEVEL
	624.58	-0.10	-0.004	222:1	24	624.67	-0.38	-0.016	222:1	24	624.29	10	262+25.00	10	624.15	24	222:1	-0.004	-0.10	624.25	24	222:1	-0.016	-0.38	623.86	
	624.58	-0.21	-0.009	222:1	24	624.79	-0.38	-0.016	222:1	24	624.41	10	262+50.00	10	624.27	24	222:1	-0.009	-0.21	624.48	24	222:1	-0.016	-0.38	624.10	
	624.60	-0.32	-0.013	222:1	24	624.92	-0.38	-0.016	222:1	24	624.54	10	262+75.00	10	624.40	24	222:1	-0.013	-0.32	624.72	24	222:1	-0.016	-0.38	624.34	
NORMAL	624.61	-0.38	-0.016	222:1	24	624.99	-0.38	-0.016	222:1	24	624.61	10	262+88.84	10	624.47	24	222:1	-0.016	-0.38	624.85	24	222:1	-0.016	-0.38	624.47	NORMAL
	624.66	-0.38	-0.016		24	625.04	-0.38	-0.016		24	624.66	10	263+00.00	10	624.52	24		-0.016	-0.38	624.90	24		-0.016	-0.38	624.52	

CALCULATED ASW
CHECKED MJM

SUPERELEVATION TABLE
STA. 248+00 TO STA. 263+00

CUY-90-26.16 / VAR

91
222

ALL WORK ON THIS SHEET OCCURS AFTER PHASE 5

ITEM 609 - 6" CONCRETE TRAFFIC ISLAND

13 SY HAS BEEN CARRIED TO GENERAL SUMMARY FOR USE OF THIS ITEM.

ITEM 609 - CURB, TYPE 2-B

88 LF HAS BEEN CARRIED TO GENERAL SUMMARY FOR USE OF THIS ITEM.

ITEM 608 - 4" CONCRETE WALK, AS PER PLAN:

WALK, AS PER PLAN TO INCLUDE THE CONSTRUCTION OF THE CURB RAMP AND DETECTABLE WARNING PLATES.

180 SF HAS BEEN CARRIED TO GENERAL SUMMARY FOR USE OF THIS ITEM.

ITEM 646 - CROSSWALK LINE

38 LF HAS BEEN CARRIED TO GENERAL SUMMARY FOR USE OF THIS ITEM.

ALL WORK ON THIS SHEET OCCURS AFTER PHASE 5

REMOVE TEMPORARY PAVEMENT.

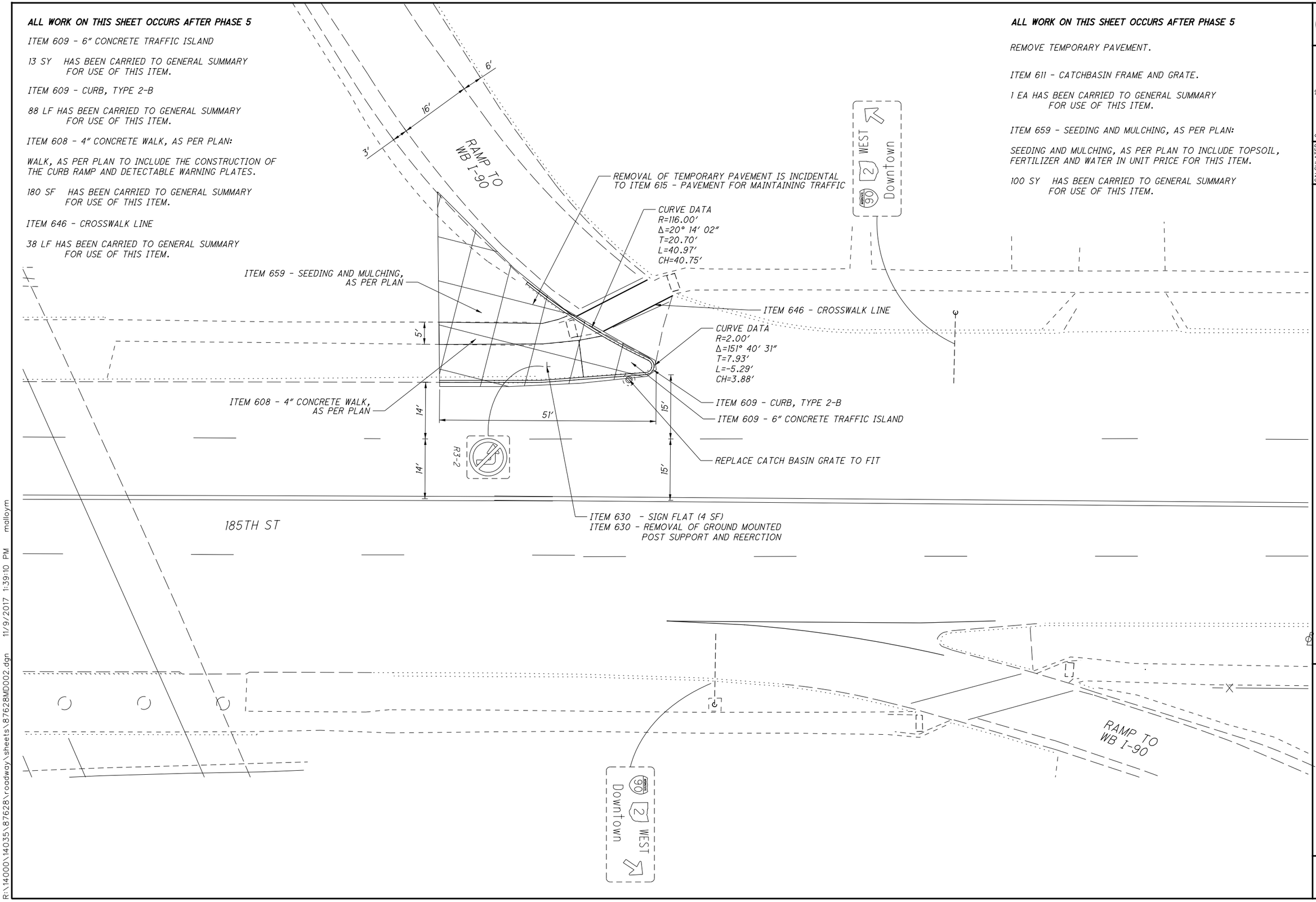
ITEM 611 - CATCHBASIN FRAME AND GRATE.

1 EA HAS BEEN CARRIED TO GENERAL SUMMARY FOR USE OF THIS ITEM.

ITEM 659 - SEEDING AND MULCHING, AS PER PLAN:

SEEDING AND MULCHING, AS PER PLAN TO INCLUDE TOPSOIL, FERTILIZER AND WATER IN UNIT PRICE FOR THIS ITEM.

100 SY HAS BEEN CARRIED TO GENERAL SUMMARY FOR USE OF THIS ITEM.



HORIZONTAL SCALE IN FEET
0 5 10 20

CALCULATED ASW
CHECKED MJM

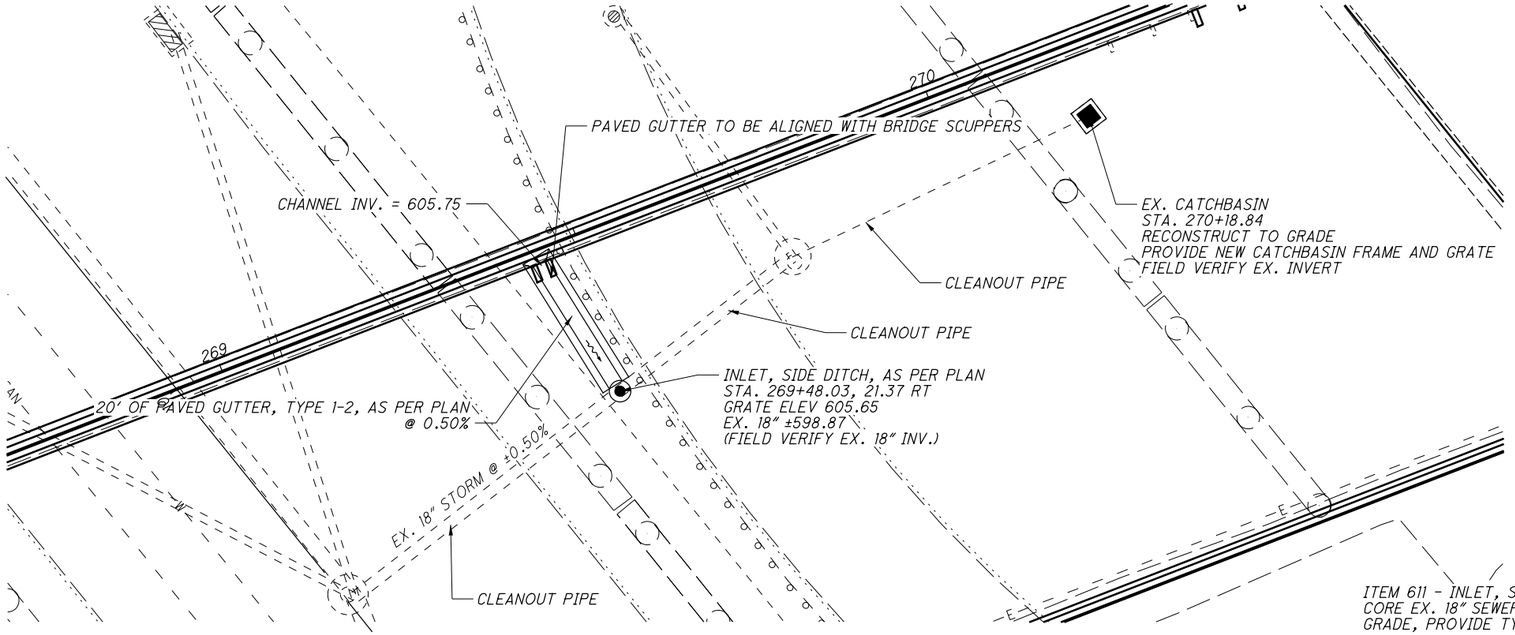
TEMPORARY PAVEMENT REMOVAL RESTORATION DETAIL WB I-90 AND 185TH

CUY-90-26.16 / VAR

92
222

R:\14000\14035\87628\roadway\sheets\87628MD002.dgn 11/9/2017 1:39:10 PM malloym

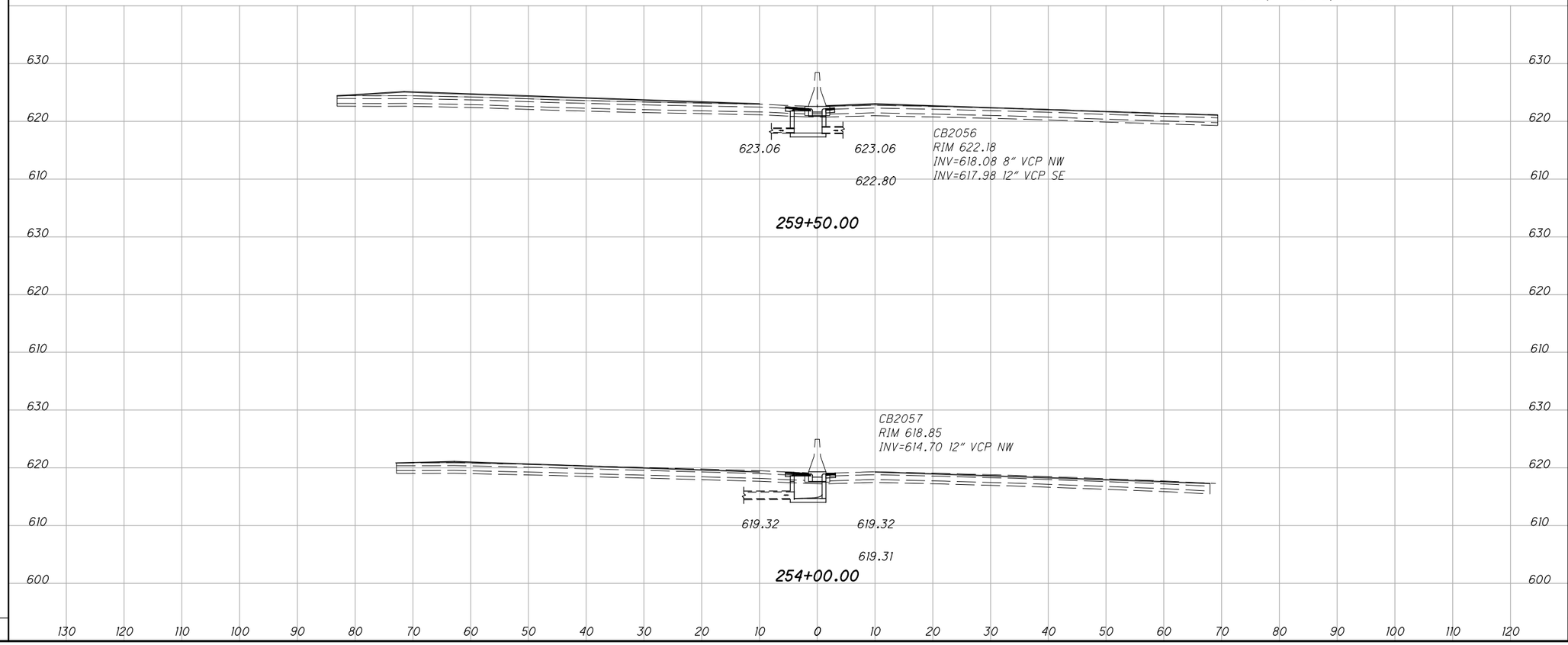
SEEDING	
END WIDTH	SQ. YDS.



D6 D7 PLAN VIEW OF NEFF ROAD

N

0 5 10 20
HORIZONTAL
SCALE IN FEET



END AREA		VOLUME	
CUT	FILL	CUT	FILL

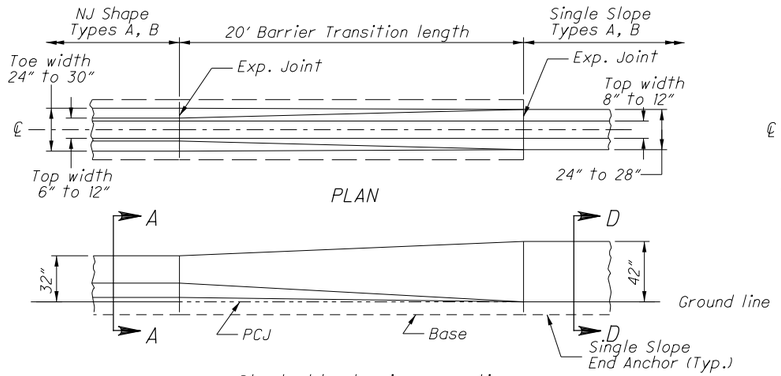
CALCULATED NRM
CHECKED ASW

CROSS SECTIONS AND DRAINAGE DETAILS
STA. 254+00, STA. 259+50 TO STA. 270+25

CUY-90-26.16/VAR

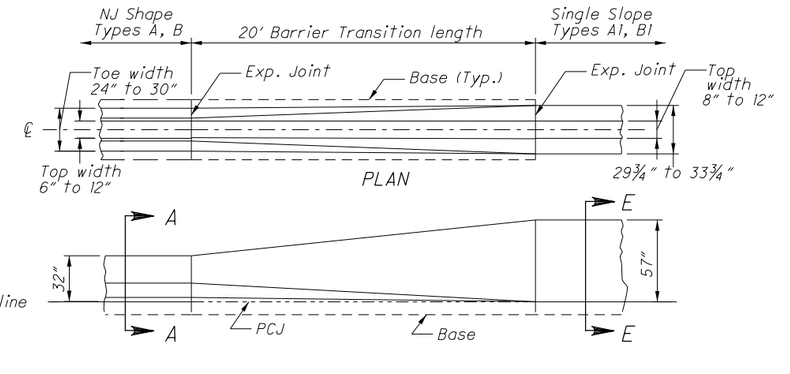
93
222

R:\14000\14035\87628\roadway\sheets\87628XS002.dgn 11/9/2017 1:39:11 PM malloym



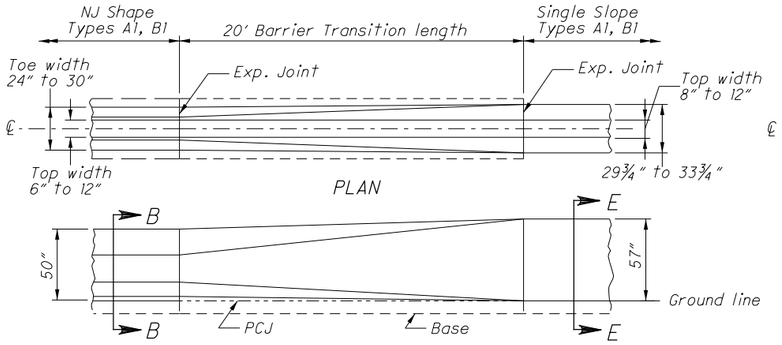
Standard low barrier connection

ELEVATION



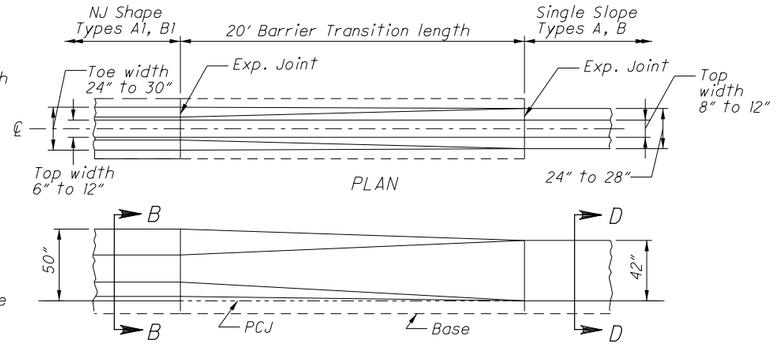
Atypical use

ELEVATION



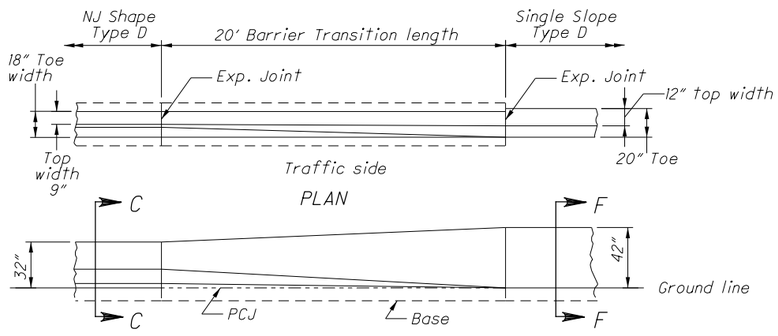
Standard tall barrier connection

ELEVATION



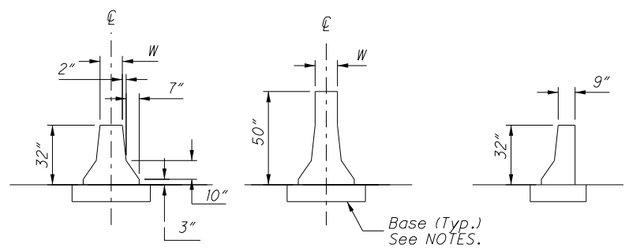
Atypical use

ELEVATION



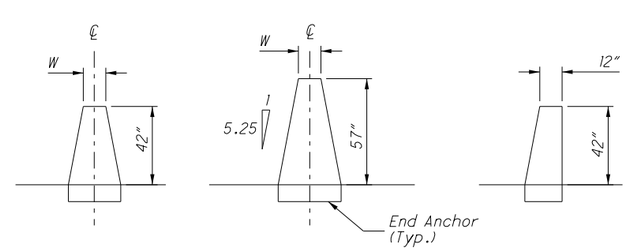
Standard Roadside barrier connection

ELEVATION



NJ SHAPE SECTIONS

See Plan Insert sheets for specific NJ Shape Concrete barrier details.



SINGLE SLOPE SECTIONS

See SCD RM-4.3 and RM-4.5 for specific Single Slope concrete barrier details.

NOTES

GENERAL: This insert details the Barrier Transition, to connect existing NJ Concrete Barrier (safety shape) to a new run of Single Slope Concrete Barrier at locations shown on the plans. For NJ barrier shape and other details see the respective plan insert sheets. For Single Slope barrier details, see SCD RM-4.3 (RM-4.5 for Type D).

ADJACENT CONCRETE BARRIER RUNS: Remove any tapered end sections, Impact attenuators, or other guardrail hardware from existing barrier end. The barrier to barrier transition is not intended to be used at transition sections (those shown on SCD RM-4.4), Inlets, or on Type C or C1 Barrier. If proposed adjacent single slope barrier is Type A or A1, the Barrier Transiton should contain horizontal reinforcing steel similiar to that required in the respective single slope barrier. Reinforcement is not shown and should be detailed separately. The adjacent single slope end should be terminated with a reinforced End Anchor as detailed on the SCDs.

BARRIER FACE TRANSITION: To prevent vehicle snagging, a smooth transition from the safety shape face to the single slope face is made over a 20' length. The actual shape of the Transition is dependent on both the adjacent NJ barrier and the single slope barrier Types, as detailed on the plans. The contractor and Engineer will agree on a construction method to ensure a smooth barrier face.

MATERIALS: Materials are same for those shown on RM-4.3 and RM-4.5, except that cast-in-place is the only acceptable method. Edges may be chamfered or radiused as shown on those drawings.

CONCRETE BASE: Construct base as shown on the NJ shape insert sheets, including the methods detailing the footing joint, Permissible Construction Joint (PCJ), and Dowelling requirements. The width of the base matches the existing NJ barrier.

JOINTS: Construct joints as shown on respective barrier drawings.

RACEWAYS: When specified, place raceway(s) to match raceway elevation in adjoining segments. Place to obtain maximum concrete cover.

METRIC UNITS: Refer to respective barrier drawings or inserts for metric dimensions.

PAYMENT: This Barrier Transiton shall include all material and labor needed to construct this 20' section, including any raceways, reinforcing steel, dowels and other necessary incidentals. Payment shall be made at the unit price for Item 622 - Barrier Transition, Each.

OFFICE OF ROADWAY ENGINEERING

DESIGNED XXX REVIEWED XXX

REVISION DATE 10/20/2006 CHECKED CHECKED

PLAN INSERT SHEET

PIS NJ-SSCB-TRANS NJ SHAPE TO SINGLE SLOPE BARRIER TRANSITION

1 / 1

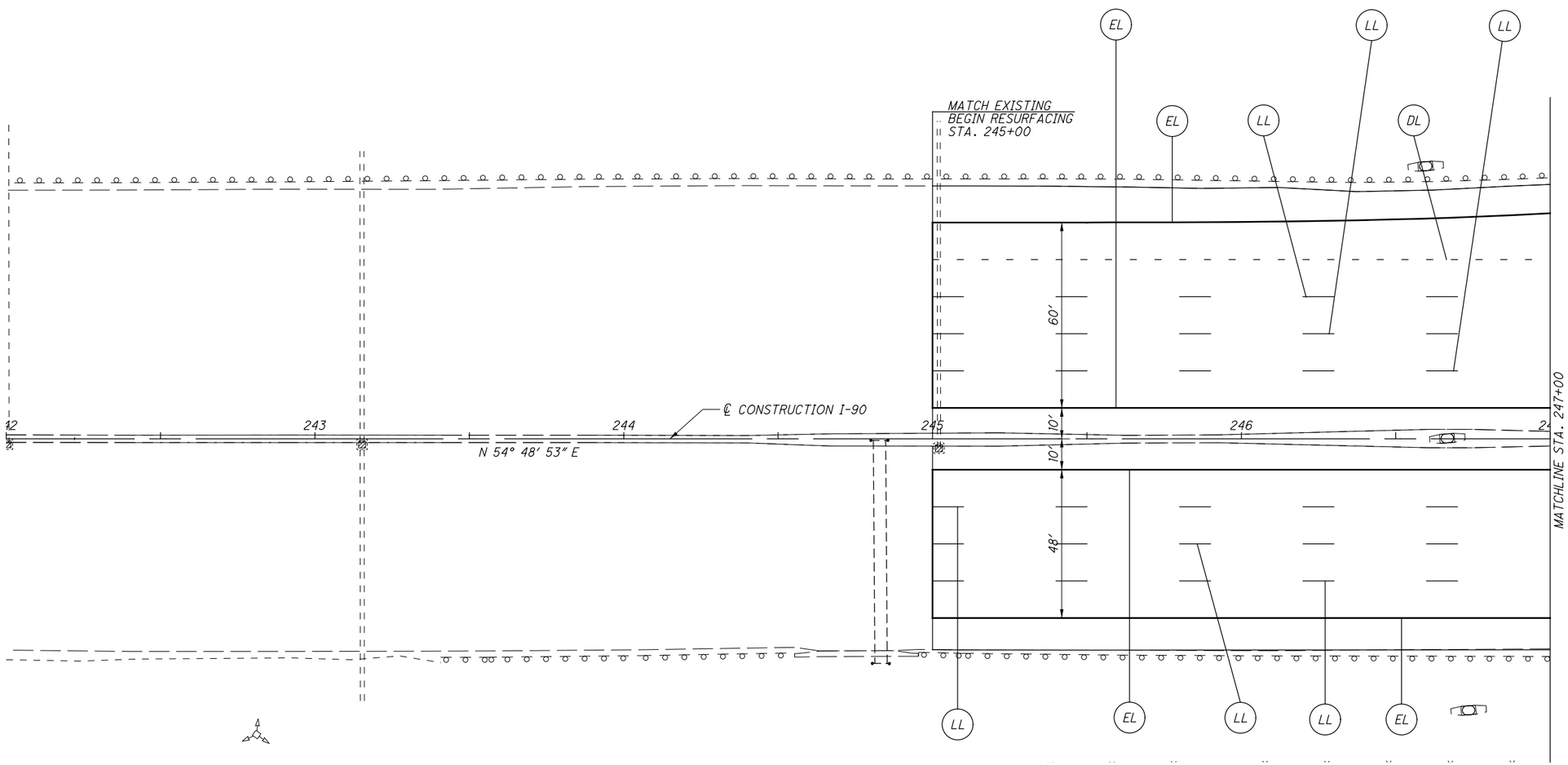
94
222

	SHEET NO.	STATION TO STATION		SIDE	NUMBER OF LINES		618		621	621		630		646	646	646	646	646	646	
							RUMBLE STRIPS, (ASPHALT CONCRETE)		RPM (1-WAY WHITE)	RPM (2-WAY WHITE/RED)		REMOVAL OF STRUCTURE MOUNTED SIGN AND REERECTION		EDGE LINE, 6"	LANE LINE, 6"	CHANNELIZING LINE, 12"	DOTTED LINE, 6"	DOTTED LINE, 12"	CHEVRON MARKING	
		FROM	TO				MILE		EACH	EACH		EACH		MILE	MILE	FT	FT	FT	FT	
	96	245+00.00	247+00.00	LT	3, 1				6					0.08	0.11		200			
	96	245+00.00	247+00.00	RT	3				6					0.08	0.11					
	97	247+00.00	247+17.00	LT	1												17			
	97	247+00.00	251+50.00	LT	3				12					0.17	0.26					
	97	247+17.00	249+10.00	LT	2					6						386				
	97	247+00.00	251+50.00	RT	3				12					0.17	0.26					
	98	251+50.00	256+00.00	LT	3				12					0.17	0.26					
	98	253+00.00	256+00.00	LT	1												300			
	98	251+50.00	256+00.00	RT	3				12					0.17	0.26					
	99	256+00.00	260+57.00	LT	1												457			
	99	256+00.00	261+00.00	LT	3				12					0.19	0.28					
	99	260+57.00	261+00.00	LT	2					2						86				
	99	256+00.00	261+00.00	RT	3				12			1		0.19	0.28					
	99	258+91.00	261+00.00	RT	1												209			
	100	261+00.00	266+00.00	LT	3				12					0.19	0.28					
	100	261+00.00	262+66.00	LT	2					4						332				
	100	263+10.00	266+00.00	LT	1												290			
	100	261+00.00	266+00.00	RT	3				12					0.19	0.28					
	100	262+04.00	263+29.00	RT	2					7						250				
	100	261+00.00	262+04.00	RT	1												104			
	101	266+00.00	271+00.00	LT	3, 1				12			1		0.19	0.28		500			
	101	266+00.00	271+00.00	RT	3				12					0.19	0.28					
	102	271+00.00	271+96.00	LT	1												96			
	102	271+00.00	276+00.00	LT	3				12					0.19	0.28					
	102	271+96.00	273+86.00	LT	2					5						380				
	102	271+00.00	276+00.00	RT	3				12					0.19	0.28					
	102	273+58.00	274+46.00	RT	2					5						176				
	102	272+00.00	273+58.00	RT	1												158			
	103	276+00.00	281+00.00	LT	3				15					0.19	0.28					
	103	276+00.00	281+00.00	RT	3				15					0.19	0.28					
	104	281+00.00	285+50.00	LT	3				12	2				0.17	0.26					
	104	285+19.00	285+50.00	LT	2											62			30	
	104	281+00.00	285+50.00	RT	3				12					0.17	0.26					
	104	284+84.00	285+50.00	RT	2					3						132				
	105	286+65.00	290+50.00	LT	1													385		
	105	285+50.00	290+50.00	LT	3				12	2		1		0.19	0.28					
	105	285+50.00	286+65.00	LT	2											230			59	
	105	285+50.00	290+50.00	RT	3				12	2		1		0.19	0.28					
	105	285+50.00	286+22.00	RT	2											144				
	105	286+22.00	290+50.00	RT	1													428		
	106	290+50.00	295+50.00	LT	3, 1				12					0.19	0.28			500		
	106	290+50.00	295+50.00	RT	3, 1				12					0.19	0.28			500		
	107	295+50.00	298+03.00	LT	1													253		
	107	295+50.00	300+50.00	LT	3				12	7				0.19	0.28					
	107	298+03.00	300+50.00	LT	2											494				
	107	295+50.00	300+50.00	RT	3				12	7				0.19	0.28					
	107	297+89.00	300+42.00	RT	2											506			120	
	107	295+50.00	297+89.00	RT	1													239		
	108	300+50.00	302+00.00	LT	3				3					0.06	0.09					
	108	300+50.00	300+71.00	LT	2											42				
	108	300+50.00	302+00.00	RT	3				3					0.06	0.09					
	5,6,7	245+00.00	302+00.00	LT			1.08													
	5,6,7	245+00.00	302+00.00	M/LT			1.08													
	5,6,7	245+00.00	302+00.00	M/RT			1.08													
	5,6,7	245+00.00	302+00.00	RT			1.08													
	TOTALS CARRIED TO GENERAL SUMMARY						**4.32**		**288**	**52**		**4**		**4.31**	**6.44**	**3220**	**2331**	**2305**	**209**	

CALCULATED CFE CHECKED ASW

TRAFFIC CONTROL SUBSUMMARY

CUY-90-26.16 / VAR



PAVEMENT MARKING LEGEND

(EL) ITEM 646 - EDGE LINE, 6″

(LL) ITEM 646 - LANE LINE, 6″

(DL) ITEM 646 - DOTTED LINE, 6″

HORIZONTAL SCALE IN FEET
0 10 20 40

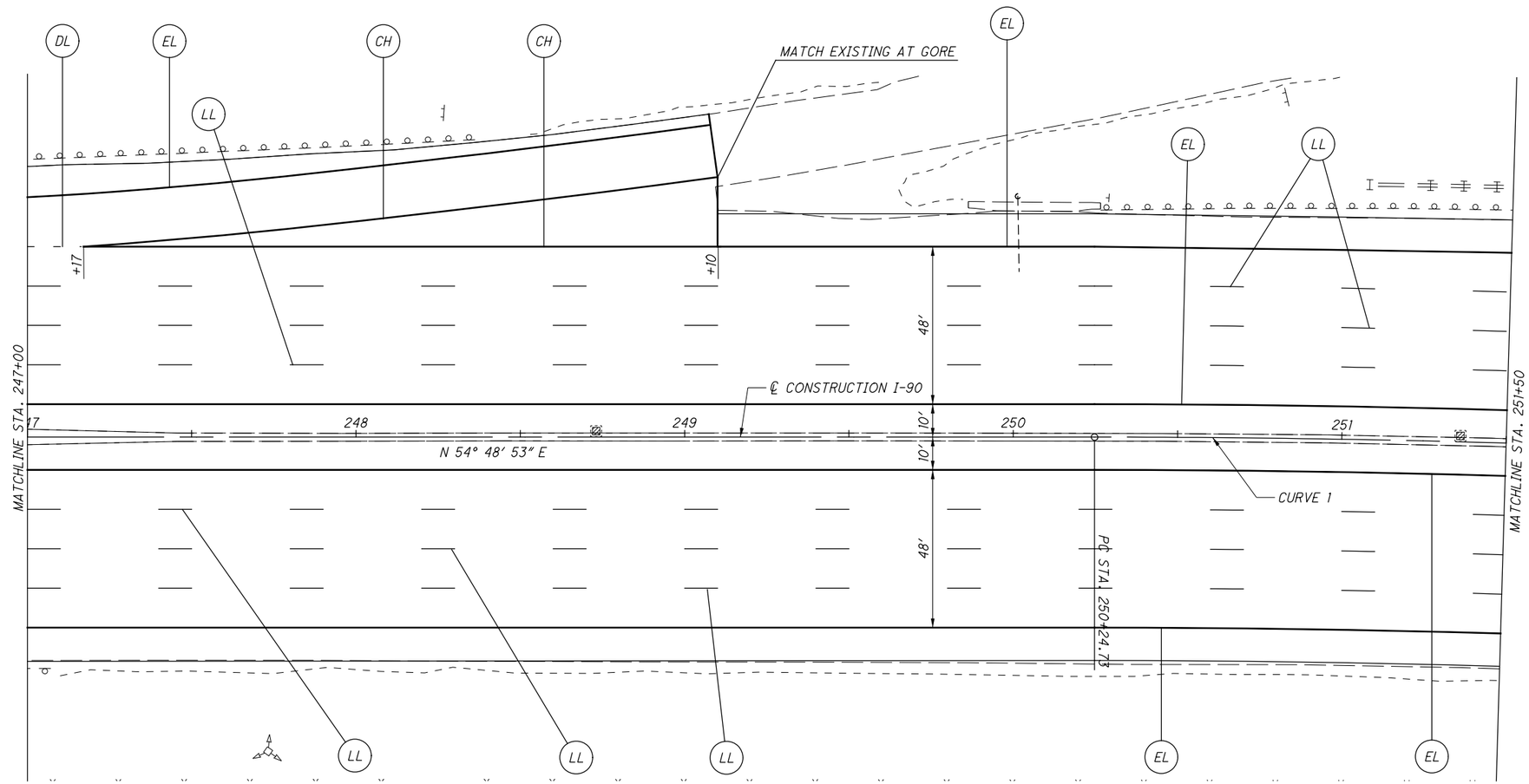
CALCULATED MTG
CHECKED ASW

PAVEMENT MARKING
STA. 242+00 TO STA. 247+00

CUY-90-26.16 / VAR

96
222

R:\14000\14035\87628\roadway\sheets\87628TP001.dgn 11/9/2017 1:39:17 PM malloym



CURVE 1
P.I. STA. 255+53.41
Δ = 14° 01' 39" (RT)
Dc = 1° 20' 00"
R = 4,297.20'
T = 528.68'
L = 1,052.04'
E = 32.40'
C = 1,049.44'
C.B. = N 61° 49' 42" E

PAVEMENT MARKING LEGEND

- (EL) ITEM 646 - EDGE LINE, 6"
- (LL) ITEM 646 - LANE LINE, 6"
- (CH) ITEM 646 - CHANNELIZING LINE, 12"
- (DL) ITEM 646 - DOTTED LINE, 6"

HORIZONTAL SCALE IN FEET
0 10 20 40

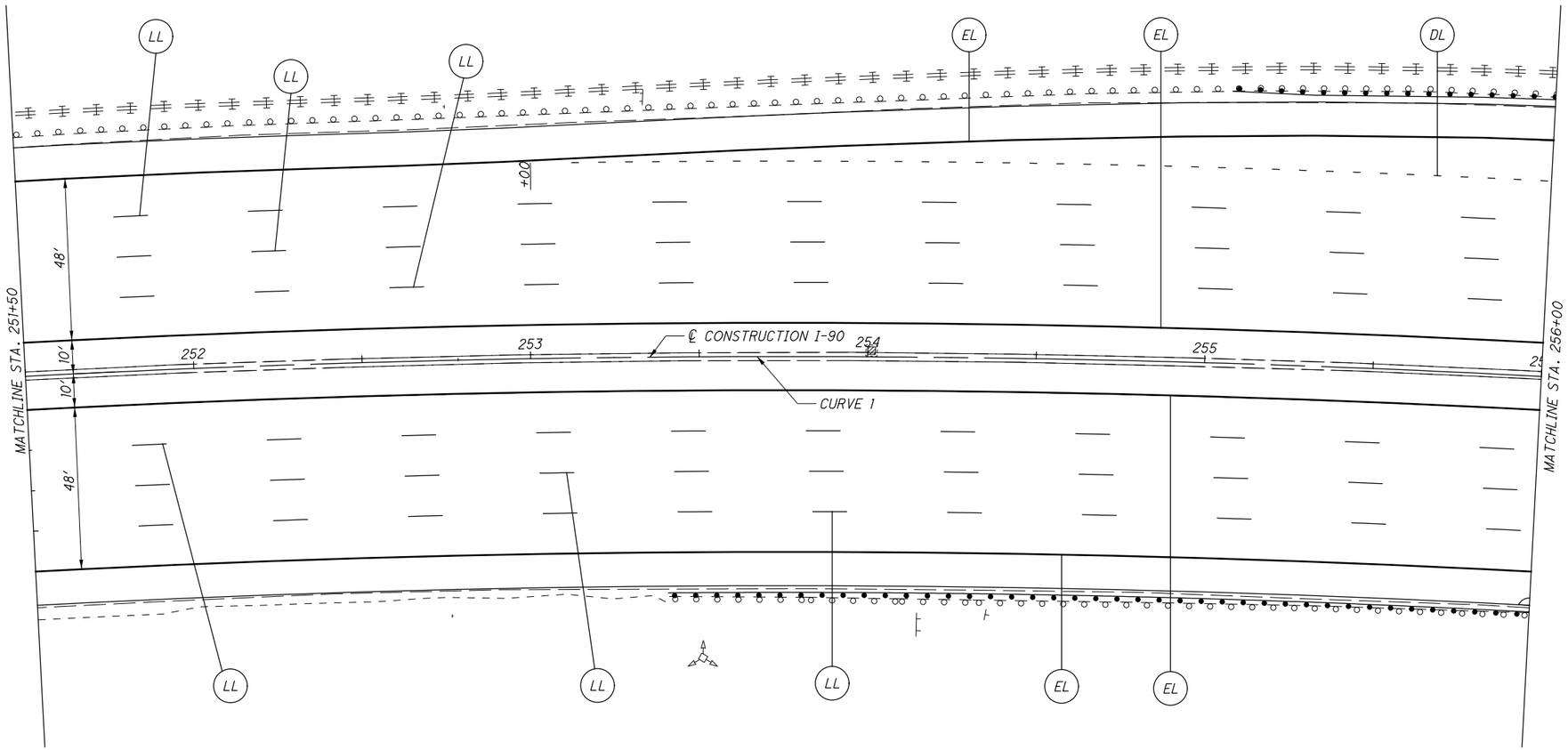
CALCULATED MTG
CHECKED ASW

PAVEMENT MARKING
STA. 247+00 TO STA. 251+50

CUY-90-26.16/VAR

97
222

R:\14000\14035\87628\roadway\sheets\87628TP002.dgn 11/9/2017 1:39:18 PM malloym



CURVE 1

P.I. STA. 255+53.41
Δ = 14° 01′ 39″ (RT)
Dc = 1° 20′ 00″
R = 4,297.20′
T = 528.68′
L = 1,052.04′
E = 32.40′
C = 1,049.44′
C.B. = N 61° 49′ 42″ E

PAVEMENT MARKING LEGEND

(EL) *ITEM 646 - EDGE LINE, 6″*

(LL) *ITEM 646 - LANE LINE, 6″*

(DL) *ITEM 646 - DOTTED LINE, 6″*

HORIZONTAL SCALE IN FEET
0 10 20 40

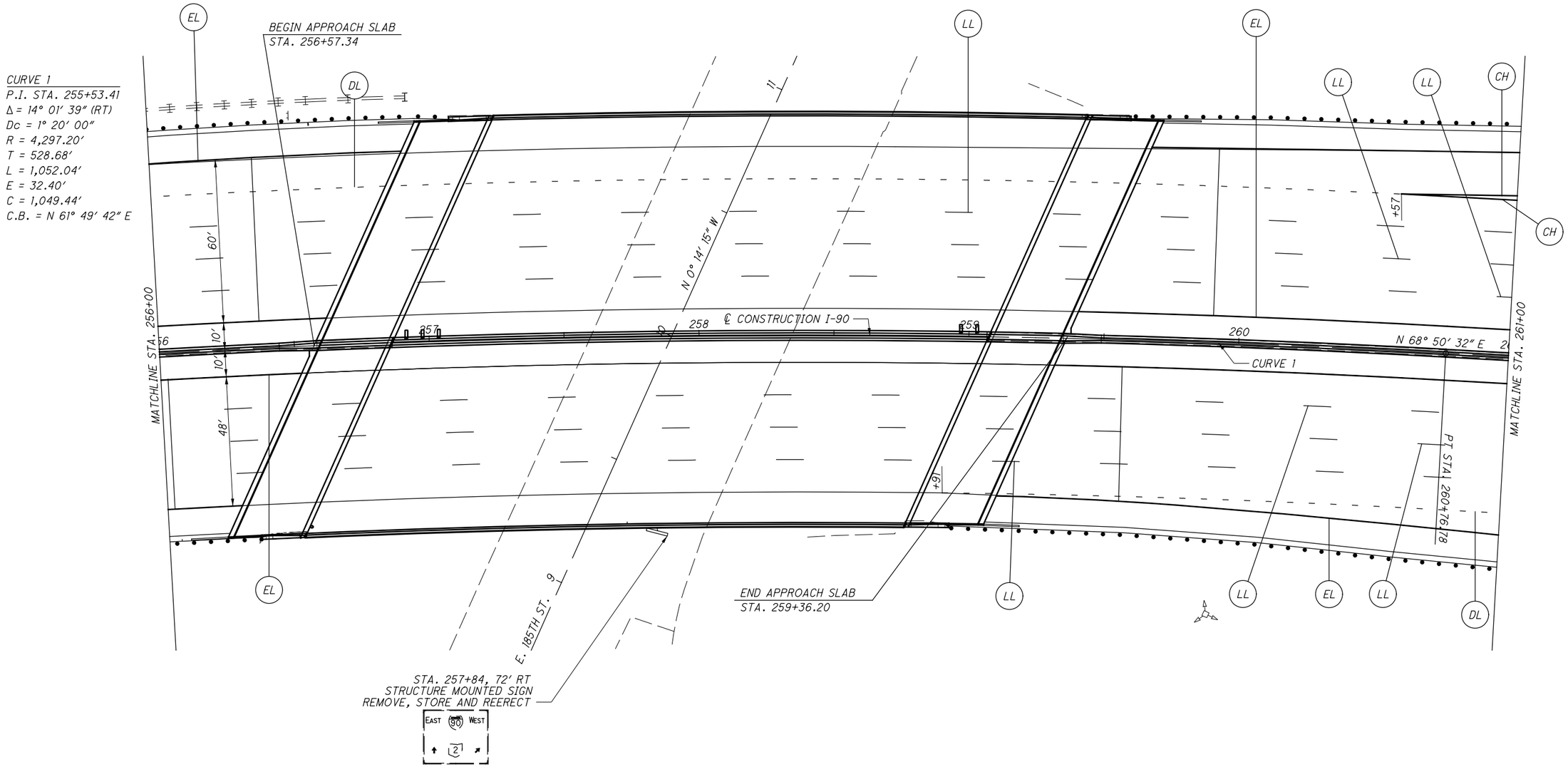
CALCULATED MTG
CHECKED ASW

PAVEMENT MARKING
STA. 251+50 TO STA. 256+00

CUY-90-26.16/VAR

98
222

R:\14000\14035\87628\roadway\sheets\87628TP003.dgn 11/9/2017 1:39:19 PM malloym



PAVEMENT MARKING LEGEND

- (EL) ITEM 646 - EDGE LINE, 6″
- (LL) ITEM 646 - LANE LINE, 6″
- (CH) ITEM 646 - CHANNELIZING LINE, 12″
- (DL) ITEM 646 - DOTTED LINE, 6″

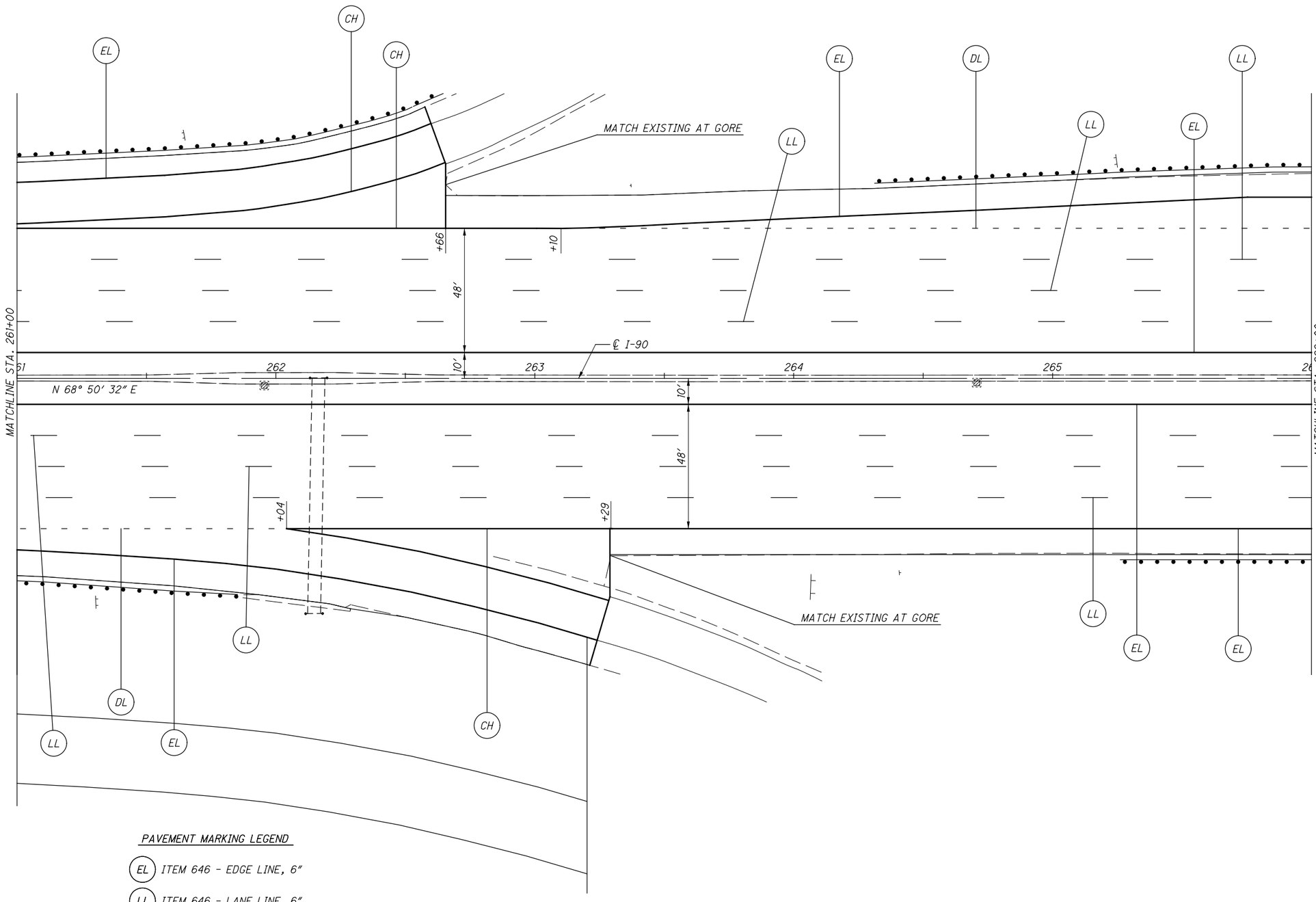
HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED MTG
CHECKED ASW

PAVEMENT MARKING
STA. 256+00 TO STA. 261+00

CUY-90-26.16 / VAR

99
222



PAVEMENT MARKING LEGEND

- EL — ITEM 646 - EDGE LINE, 6"
- LL — ITEM 646 - LANE LINE, 6"
- CH — ITEM 646 - CHANNELIZING LINE, 12"
- DL — ITEM 646 - DOTTED LINE, 6"

HORIZONTAL SCALE IN FEET
0 10 20 40

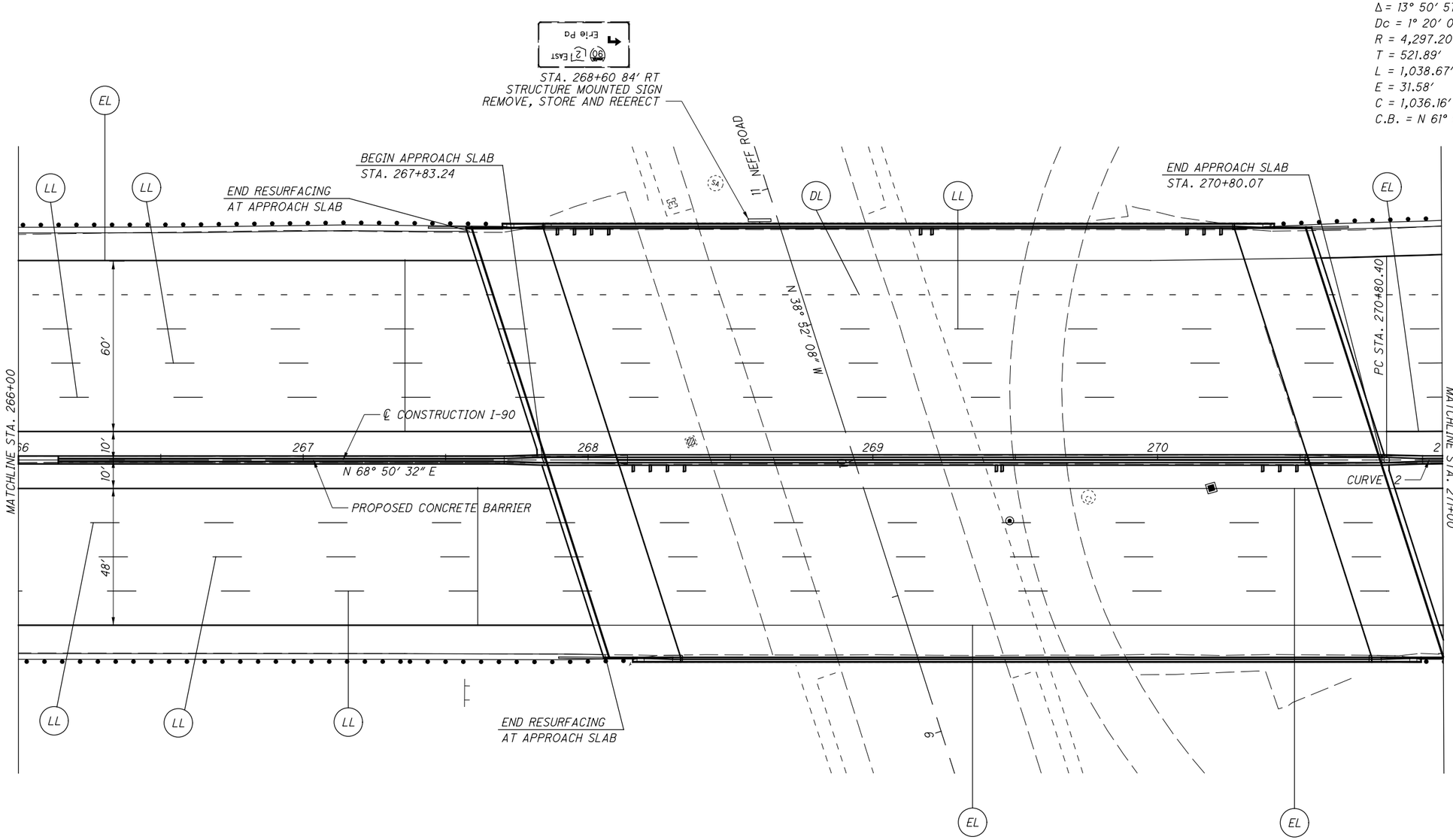
CALCULATED MTG
CHECKED ASW

PAVEMENT MARKING
STA. 261+00 TO STA. 266+00

CUY-90-26.16/VAR

100
222

R:\14000\14035\87628\roadway\sheets\87628TP005.dgn 11/9/2017 1:39:21 PM malloym



PAVEMENT MARKING LEGEND

- (EL) ITEM 646 - EDGE LINE, 6″
- (LL) ITEM 646 - LANE LINE, 6″
- (DL) ITEM 646 - DOTTED LINE, 6″

HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED MTG
CHECKED ASW

PAVEMENT MARKING
STA. 266+00 TO STA. 271+00

CUY-90-26.16/VAR

101
222

R:\14000\14035\87628\roadway\sheets\87628TP006.dgn 11/9/2017 1:39:28 PM malloym

CURVE 2
P.I. STA. 276+02.29
Δ = 13° 50′ 57″ (LT)
Dc = 1° 20′ 00″
R = 4,297.20′
T = 521.89′
L = 1,038.67′
E = 31.58′
C = 1,036.16′
C.B. = N 61° 55′ 03″ E

PAVEMENT MARKING LEGEND

(EL) ITEM 646 - EDGE LINE, 6″
(LL) ITEM 646 - LANE LINE, 6″
(CH) ITEM 646 - CHANNELIZING LINE, 12″
(DL) ITEM 646 - DOTTED LINE, 6″

R:\14000\14035\87628\roadway\sheets\87628TP007.dgn 11/9/2017 1:39:29 PM malloym

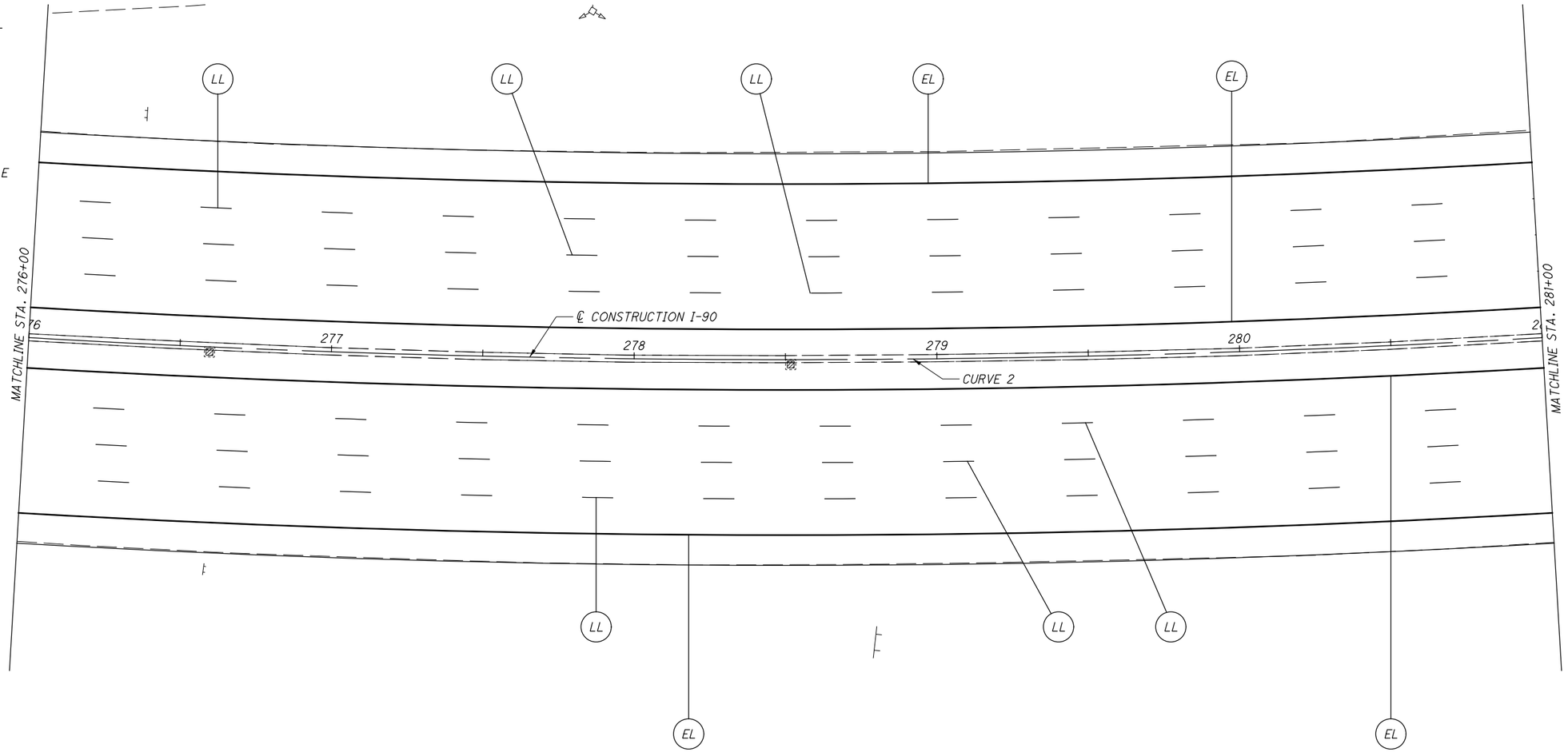
HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED MTG
CHECKED ASW

PAVEMENT MARKING
STA. 271+00 TO STA. 276+00

CUY-90-26.16/VAR

CURVE 2
P.I. STA. 276+02.29
Δ = 13° 50′ 57″ (LT)
Dc = 1° 20′ 00″
R = 4,297.20′
T = 521.89′
L = 1,038.67′
E = 31.58′
C = 1,036.16′
C.B. = N 61° 55′ 03″ E



PAVEMENT MARKING LEGEND

(EL) ITEM 646 - EDGE LINE, 6″

(LL) ITEM 646 - LANE LINE, 6″

R:\14000\14035\87628\roadway\sheets\87628TP008.dgn 11/9/2017 1:39:30 PM malloym

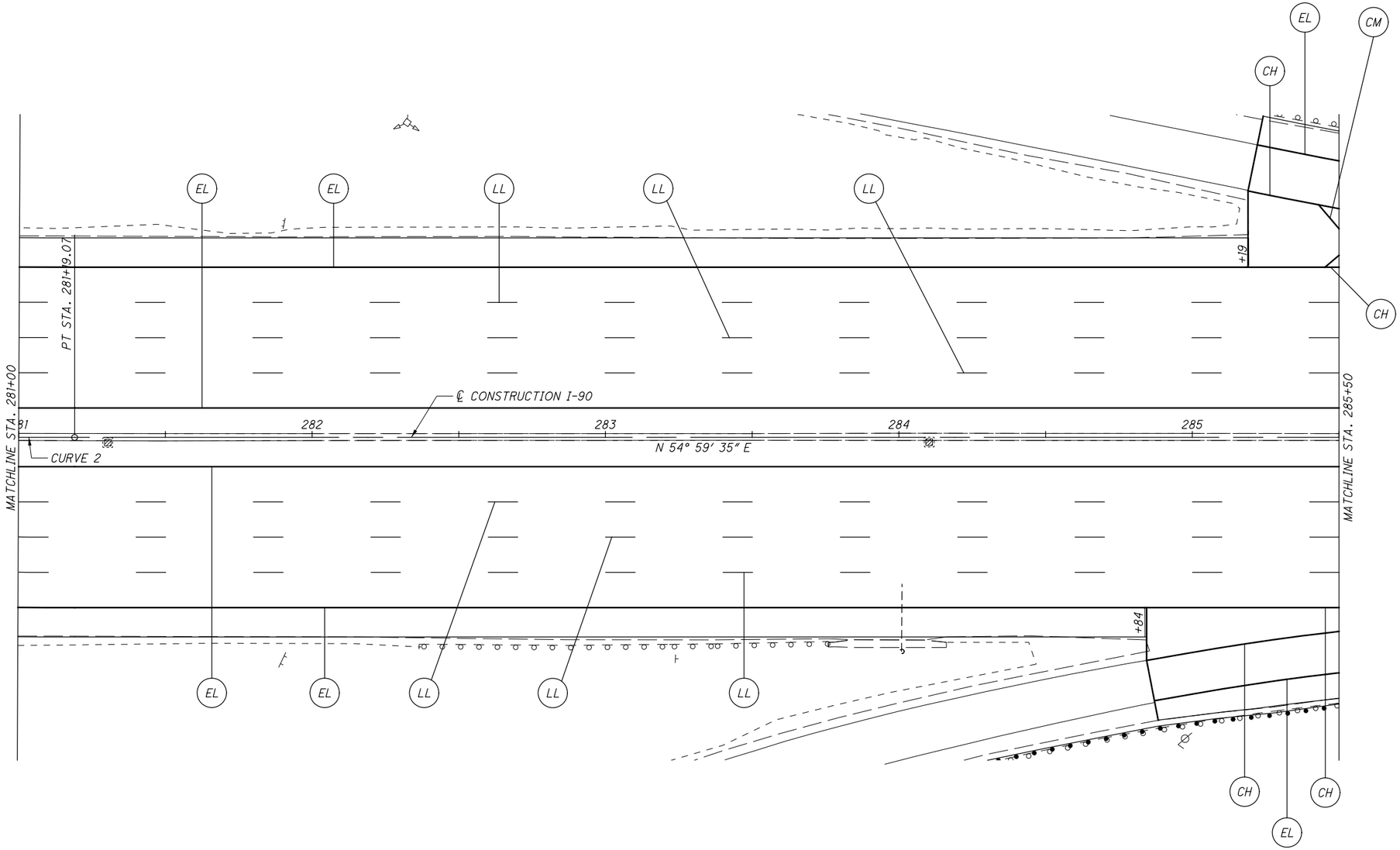
HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED MTG
CHECKED ASW

PAVEMENT MARKING
STA. 276+00 TO STA. 281+00

CUY-90-26.16/VAR

CURVE 2
P.I. STA. 276+02.29
Δ = 13° 50′ 57″ (LT)
Dc = 1° 20′ 00″
R = 4,297.20′
T = 521.89′
L = 1,038.67′
E = 31.58′
C = 1,036.16′
C.B. = N 61° 55′ 03″ E



PAVEMENT MARKING LEGEND

(EL) ITEM 646 - EDGE LINE, 6″
(LL) ITEM 646 - LANE LINE, 6″
(CH) ITEM 646 - CHANNELIZING LINE, 12″
(CM) ITEM 646 - CHEVRON MARKING

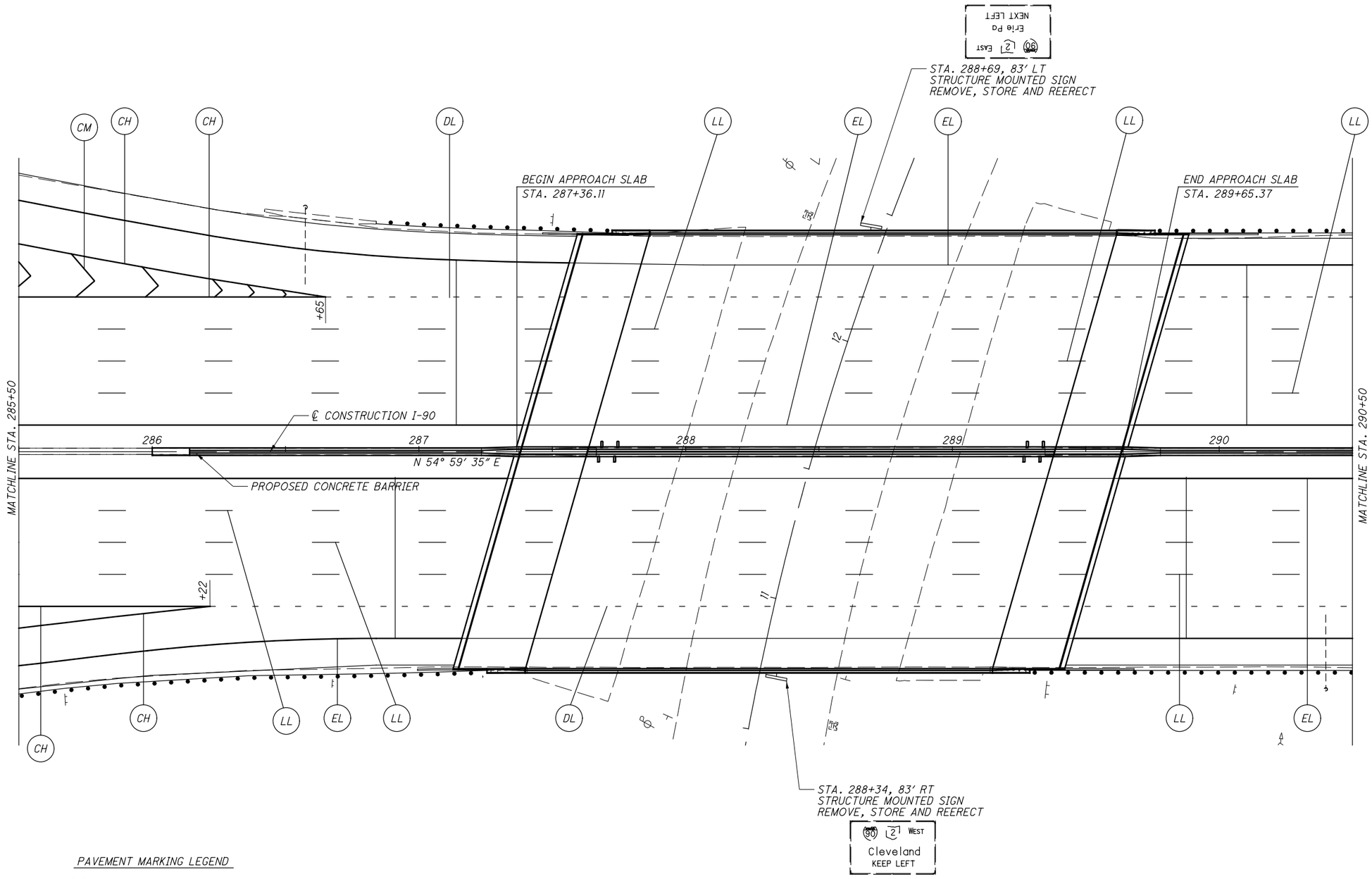
HORIZONTAL SCALE IN FEET
0 10 20 40
CALCULATED MTG
CHECKED ASW

PAVEMENT MARKING
STA. 281+00 TO STA. 285+50

CUY-90-26.16 / VAR

104
222

R:\14000\14035\87628\roadway\sheets\87628TP009.dgn 11/9/2017 1:39:31 PM malloym



PAVEMENT MARKING LEGEND

- (EL) ITEM 646 - EDGE LINE, 6"
- (LL) ITEM 646 - LANE LINE, 6"
- (CH) ITEM 646 - CHANNELIZING LINE, 12"
- (DL) ITEM 646 - DOTTED LINE, 12"
- (CM) ITEM 646 - CHEVRON MARKING

HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED MTG
CHECKED ASW

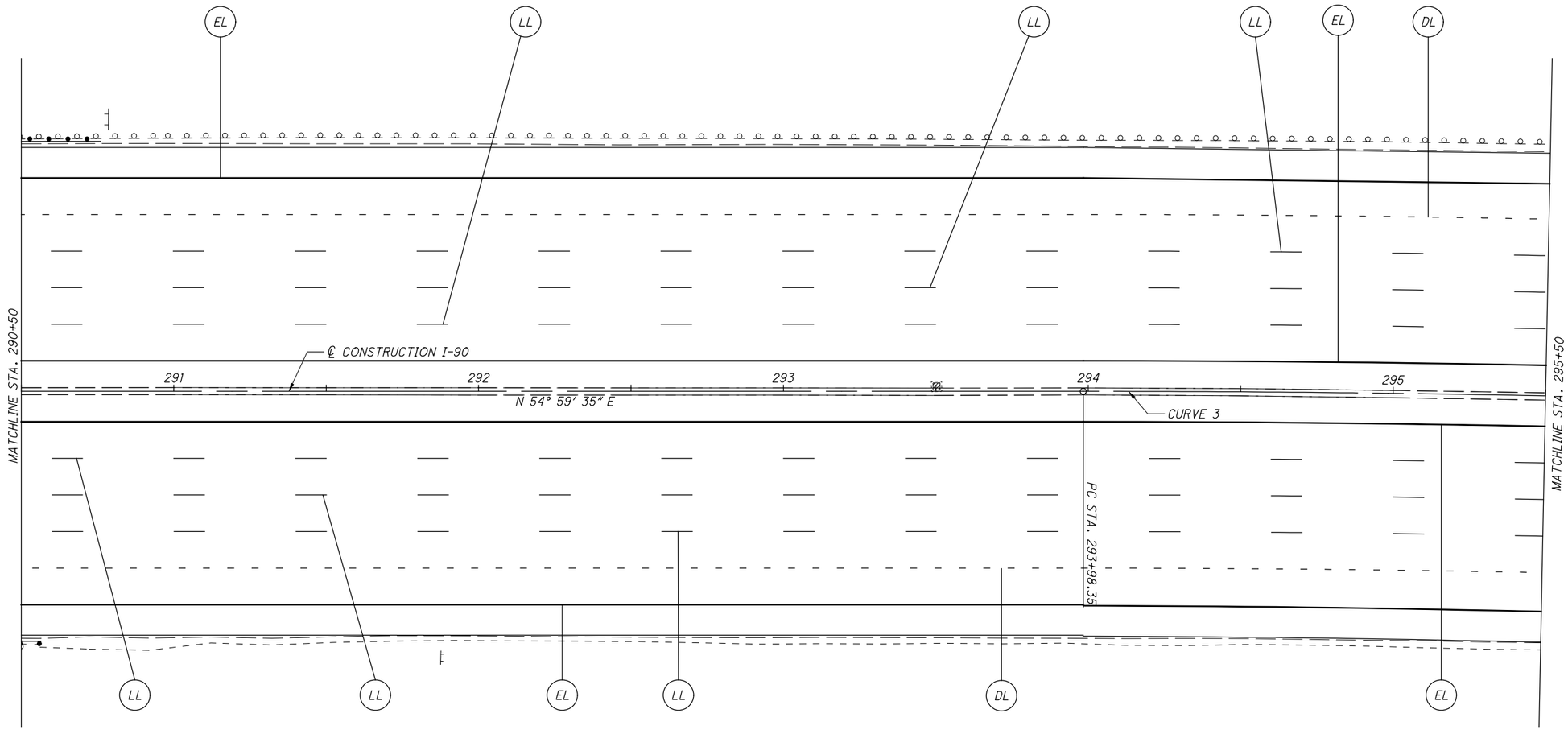
PAVEMENT MARKING
STA. 285+50 TO STA. 290+50

CUY-90-26.16/VAR

105
222

R:\14000\14035\87628\roadway\sheets\87628TP010.dgn 11/9/2017 1:39:32 PM malloym

CURVE 3
P.I. STA. 297+98.72
Δ = 5° 57′ 44.5″ (RT)
Dc = 0° 44′ 43″
R = 7,687.82′
T = 400.37′
L = 800.02′
E = 10.42′
C = 799.66′
C.B. = N 57° 58′ 27″ E



PAVEMENT MARKING LEGEND

(EL) ITEM 646 - EDGE LINE, 6″

(LL) ITEM 646 - LANE LINE, 6″

(DL) ITEM 646 - DOTTED LINE, 12″

HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED MTG
CHECKED ASW

PAVEMENT MARKING
STA. 290+50 TO STA. 295+50

CUY-90-26.16/VAR

CURVE 3
P.I. STA. 297+98.72
Δ = 5° 57′ 44.5″ (RT)
Dc = 0° 44′ 43″
R = 7,687.82′
T = 400.37′
L = 800.02′
E = 10.42′
C = 799.66′
C.B. = N 57° 58′ 27″ E

PAVEMENT MARKING LEGEND

- EL — ITEM 646 - EDGE LINE 6″
- LL — ITEM 646 - LANE LINE, 6″
- CH — ITEM 646 - CHANNELIZING LINE, 12″
- DL — ITEM 646 - DOTTED LINE, 12″
- CM — ITEM 646 - CHEVRON MARKING

HORIZONTAL SCALE IN FEET
0 10 20 40

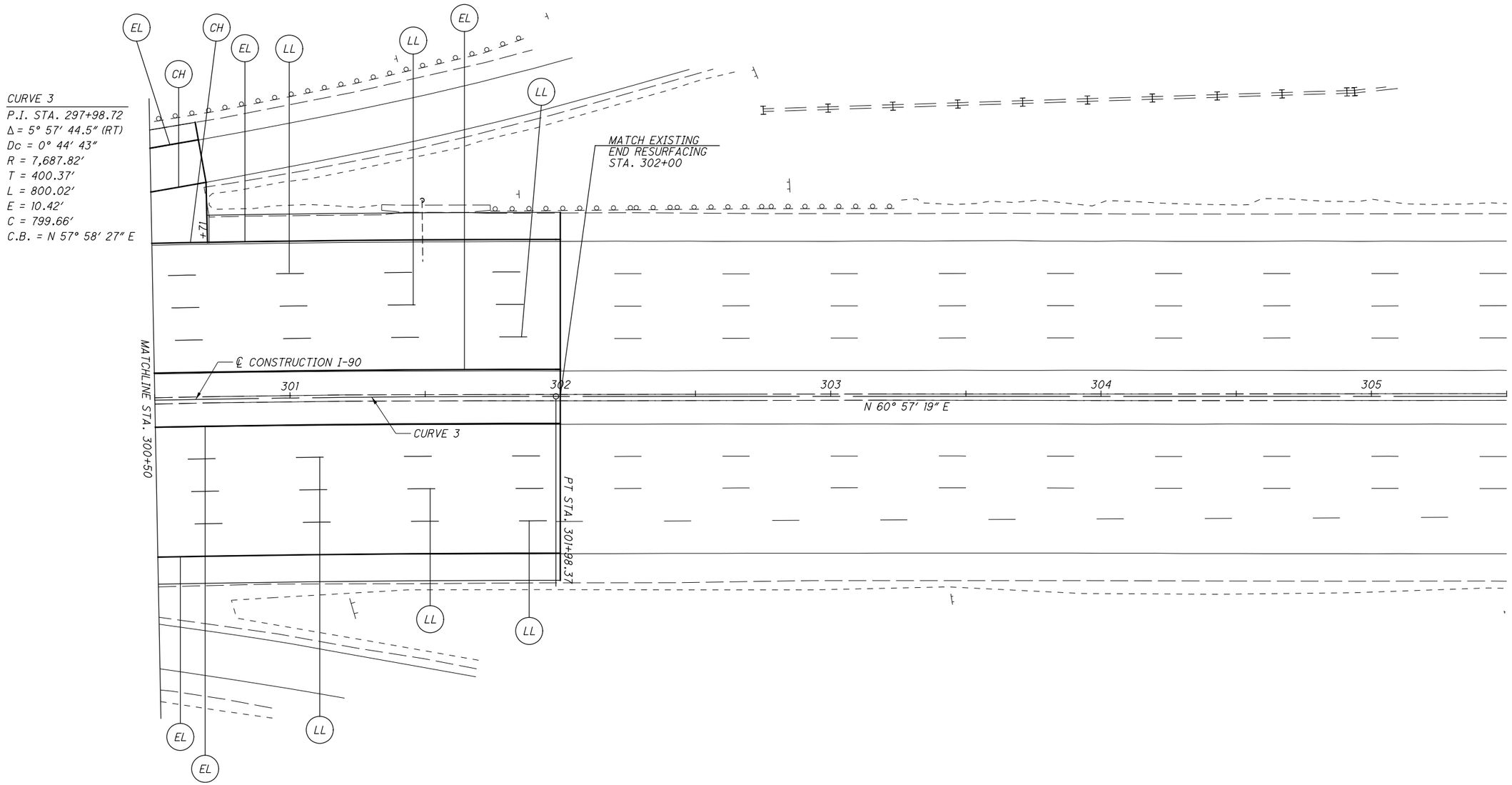
CALCULATED MTG
CHECKED ASW

PAVEMENT MARKING
STA. 295+50 TO STA. 300+50

CUY-90-26.16/VAR

107
222

R:\14000\14035\87628\roadway\sheets\87628TP012.dgn 11/9/2017 1:39:34 PM maloym



PAVEMENT MARKING LEGEND

(EL) ITEM 646 - EDGE LINE, 6″

(LL) ITEM 646 - LANE LINE, 6″

(CH) ITEM 646 - CHANNELIZING LINE, 12″

N

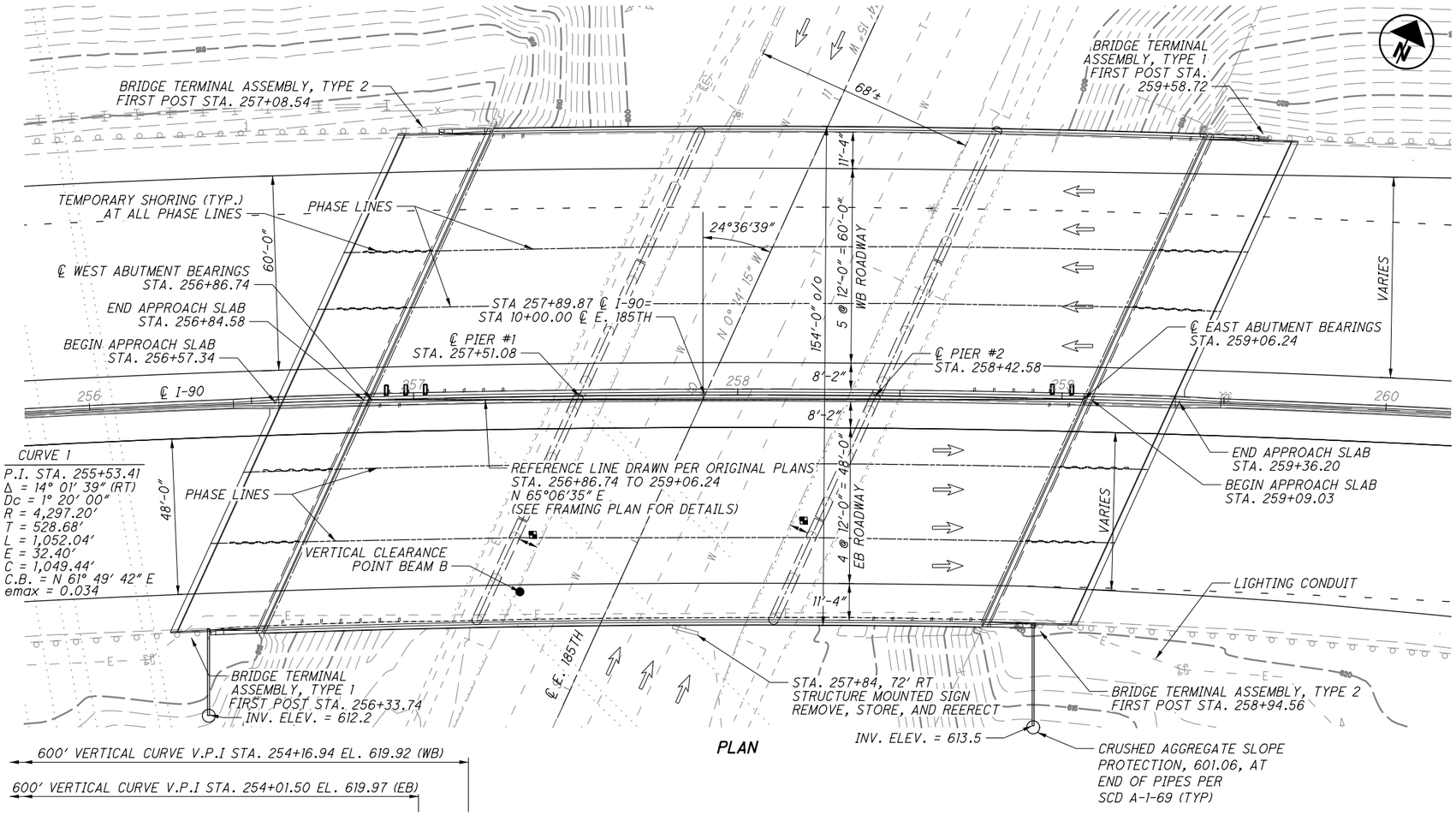
HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED MTG
CHECKED ASW

PAVEMENT MARKING
STA. 300+50 TO STA. 305+50

CUY-90-26.16/VAR

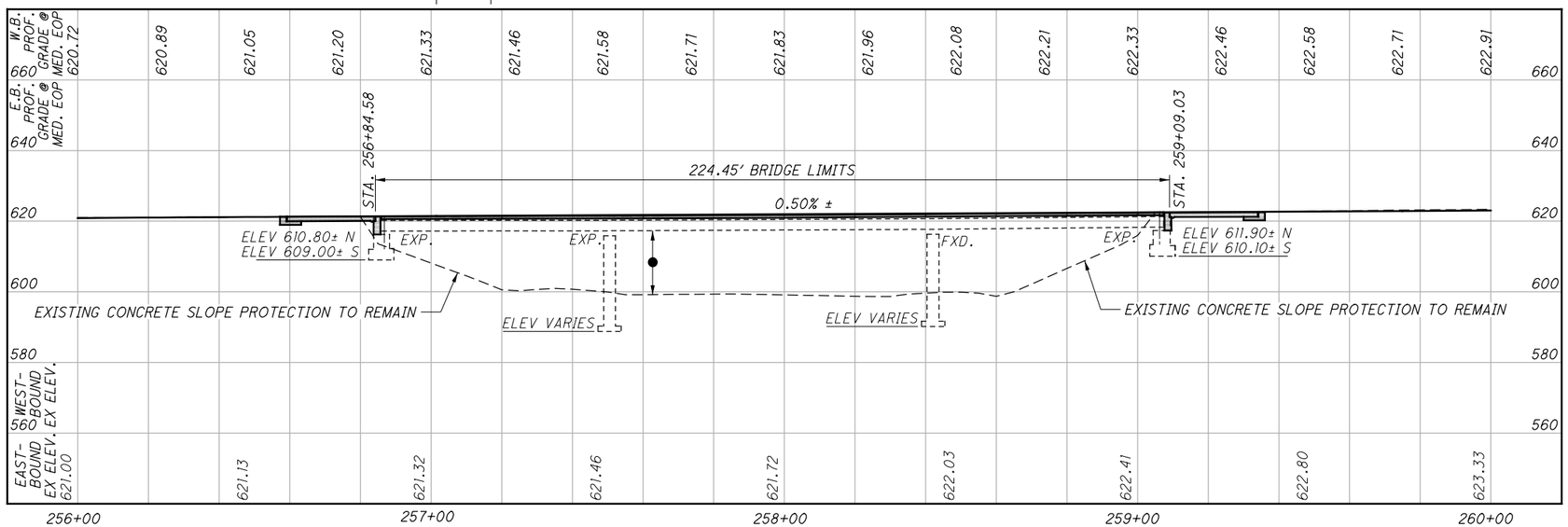
108
222



PLAN

600' VERTICAL CURVE V.P.I STA. 254+16.94 EL. 619.92 (WB)

600' VERTICAL CURVE V.P.I STA. 254+01.50 EL. 619.97 (EB)



PROFILE ALONG ℄ CONSTRUCTION I-90

BENCHMARK DATA

BM #1 STA. 258+19.57, ELEV. 599.15 , OFFSET 159.49, LT.
BM #2 STA. 257+40.16, ELEV. 604.73 , OFFSET 199.49, RT.

FOR ADDITIONAL BENCHMARK INFORMATION. SEE ROADWAY PLAN SHEET 2

PROPOSED WORK

- REPLACE DECK
- REPLACE SOUTH FASCIA BEAM
- PERFORM FATIGUE RETROFITS
- REPLACE BACKWALLS
- REPAIR ABUTMENT SEATS
- REPLACE APPROACH SLABS
- SEAL CONCRETE SURFACES
- RELOCATE MEDIAN SCUPPER
- APPLY AESTHETIC TREATMENTS
- REPAIR UNDERPASS LIGHTING
- CLEAN & PAINT STRUCTURAL STEEL

NOTES

DESIGN TRAFFIC:
2010 ADT = 111,578 2010 ADTT = 4,832
2033 ADT = 154,870 2033 ADTT = 6,700
DIRECTIONAL DISTRIBUTION = 52%

LEGEND

- ■ 6'-0¼" HORIZONTAL CLEARANCE (NORTHBOUND)
  6'-2¾" HORIZONTAL CLEARANCE (SOUTHBOUND)
  4'-0" REQUIRED HORIZONTAL CLEARANCE
- ● 15'-6" REQUIRED MINIMUM VERTICAL CLEARANCE
  15'-6 5/8" ACTUAL VERTICAL CLEARANCE

EXISTING STRUCTURE

TYPE: 3-SPAN CONTINUOUS STEEL BEAM WITH REINFORCED CONCRETE DECK, PIERS, AND ABUTMENTS.

SPANS: 64'-0" 91'-6" 64'-0" c/c BEARINGS
ROADWAY: 152'-0" F/F PARAPET
LOADING: CF-2000-57
SKEW: REF. CHORD TO ℄ E. 185 ST. 24°39'29"
APPROACH SLABS: AS-1-54 (25'-0" LONG)
ALIGNMENT: 1°-20'-00" RC
CROWN: SUPERELEVATION 0.0316 FT/FT
STRUCTURAL FILE NUMBER: 1808869
DATE BUILT: 1960
DISPOSITION: OPEN

PROPOSED STRUCTURE

TYPE: 3-SPAN CONTINUOUS STEEL BEAM WITH REINFORCED COMPOSITE CONCRETE DECK, CONCRETE PIERS, AND ABUTMENTS.

SPANS: 64'-0" 91'-6" 64'-0" c/c BEARINGS
ROADWAY: 67'-6" EB / 79'-6" WB TOE/TOE PARAPET
LOADING: HS20 CASE I AND ALTERNATE MILITARY (60 PSF FWS.)
SKEW: REF. CHORD TO ℄ E. 185 ST. 24°39'29"
APPROACH SLABS: 25'-0" LONG (AS-1-81, AS-2-15)
ALIGNMENT: 1°-20'-00" RC
CROWN: SUPERELEVATION 0.034 FT/FT
COORDINATES: LATITUDE 41° 34' 39.65"
LONGITUDE -81° 32' 59.38"

DESIGN AGENCY
KS Associates Inc.
260 BURNS ROAD, ELYRIA, OHIO 44035

DESIGNED MEM | DRAWN MEM | REVIEWED MJM | DATE 01/09/17
CHECKED RAP | REVISED | STRUCTURE FILE NUMBER 1808869

CUYAHOGA COUNTY
STA. 256+84.58
STA. 259+09.03

SITE PLAN
BRIDGE NO. CUY-90-2616
I-90 OVER EAST 185TH ST.

CUY-90-26.16/ VAR
PID No. 87628

STANDARD DRAWINGS AND SUPPLEMENTAL SPECIFICATIONS

REFER TO THE FOLLOWING STANDARD BRIDGE DRAWING(S):

A-1-69 DATED 7-19-02
AS-1-15 DATED 7-17-15
AS-2-15 DATED 7-17-15
EXJ-4-87 DATED 7-19-02
GSD-1-96 DATED 7-19-02
RB-1-55 DATED 7-19-13
SBR-1-13 DATED 1-17-14
SBR-2-13 DATED 1-17-14
VPF-1-90 DATED 7-17-15

AND TO THE FOLLOWING SUPPLEMENTAL SPECIFICATION(S):

NONE

DESIGN SPECIFICATIONS

DESIGN SPECIFICATIONS: THIS STRUCTURE CONFORMS TO "STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, 2002 17TH EDITION, INCLUDING THE 2005 ERRATA AND THE ODOT BRIDGE DESIGN MANUAL.

DESIGN LOADING

DESIGN LOADING: HS20, CASE I AND THE ALTERNATE MILITARY LOADING.

FUTURE WEARING SURFACE (FWS) OF 60 POUNDS PER SQUARE FOOT.

DESIGN DATA

CONCRETE QC2 - COMPRESSIVE STRENGTH 4500 PSI (SUPERSTRUCTURE)

CONCRETE QC1- COMPRESSIVE STRENGTH 4000 PSI (SUBSTRUCTURE)

REINFORCING STEEL - ASTM A615 OR A996, GRADE 60, MINIMUM YIELD STRENGTH 60,000 PSI

NEW STRUCTURAL STEEL - ASTM A709 GRADE 50 , MINIMUM YIELD STRENGTH 50,000 PSI

EXISTING STRUCTURAL STEEL -A7, GRADE 33 , MINIMUM YIELD STRENGTH 33,000 PSI

DECK PROTECTION METHOD

EPOXY COATED REINFORCING STEEL

2-1/2" CONCRETE COVER

MONOLITHIC WEARING SURFACE

MONOLITHIC WEARING SURFACE IS ASSUMED, FOR DESIGN PURPOSES, TO BE 1 INCH THICK.

ITEM 202 - PORTIONS OF STRUCTURE REMOVED, AS PER PLAN

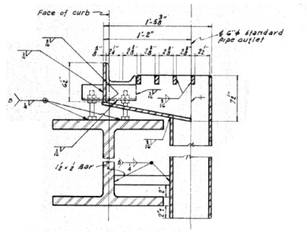
DESCRIPTION: THIS WORK CONSISTS OF THE REMOVAL OF CONCRETE DECKS INCLUDING PARAPETS, RAILINGS, DECK JOINTS AND OTHER APPURTENANCES FROM STEEL SUPPORTING SYSTEMS (BEAMS, GIRDERS, CROSS FRAMES, ETC.). THIS ITEM ALSO INCLUDES THE REMOVAL OF THE BACKWALLS AND TOPS OF WINGWALLS FROM THE BEARING SEATS UP. 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.

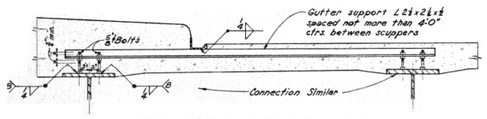
REMOVAL METHODS: THE CONTRACTOR MAY REMOVE CONCRETE BY CUTTING AND BY MEANS OF HAND OPERATED PNEUMATIC HAMMERS EMPLOYING POINTED OR BLUNTED CHISEL TYPE TOOLS. FOR REMOVALS OVER STRUCTURAL MEMBERS (PRESTRESSED BOX BEAM, I-BEAM, STEEL BEAM STEEL GIRDER, ETC), THE CONTRACTOR MAY USE A HAMMER HEAVIER THAN 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 DIRECTOR. OBTAIN THE DIRECTOR'S APPROVAL BEFORE PER- FORMING REPAIR.

NOTE: THE EXISTING SCUPPERS ARE WELDED TO THE EXISTING BEAMS. ADDITIONALLY THERE ARE ANGLES EMBEDDED IN THE CONCRETE DECK AND WELDED TO THE EXISTING BEAMS AT THE MEDIAN TO SUPPORT THE SCUPPERS. SEE DETAIL BELOW. THE CONTRACTOR SHALL INCLUDE WITH THE DECK REMOVAL PROCEDURE SUBMISSION, A SEPARATE PROCEDURE FOR REMOVING THE DECK IN THE AREA OF EXISTING SCUPPERS SHOWING HOW THE DECK WILL BE REMOVED WITHOUT DAMAGING THE EXISTING STEEL BEAMS TO REMAIN.



SCUPPER ELEVATION



GUTTER SUPPORT AT MEDIAN

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, AS PER PLAN.

ITEM 202 - PORTIONS OF STRUCTURE REMOVED, AS PER PLAN, TIMBER SUBDECKING

THIS ITEM INCLUDES ALL LABOR, MATERIAL, AND EQUIPMENT NECESSARY TO REMOVE AND DISPOSE THE EXISTING TIMBER SUBDECK FROM THE BRIDGE AFTER COMPLETION OF THE NEW DECK.

ITEM 202 - PORTIONS OF STRUCTURE REMOVED

THIS ITEM INCLUDES THE REMOVAL OF STRUCTURAL STEEL ITEMS IDENTIFIED IN THE PLANS TO BE REMOVED. THIS INCLUDES THE FASCIA BEAM ON THE SOUTH SIDE OF BRIDGE CUY-90-26.16 (BEAM "A"), THE CROSS-FRAMES, BETWEEN BEAM "A" AND BEAM "B", THE GRINDING REMOVAL OF THE REMOVED CROSS FRAME WELDS TO BEAM "B", THE REMOVAL OF THE EXISTING BEARING SUPPORTING BEAM "A", AND THE REMOVAL OF THE END FRAMES AS SPECIFIED IN THE PLANS. DURING THE REMOVAL OF THE BEAM "A" BEARING AT PIER 2, THE CONTRACTOR SHALL TAKE CARE NOT TO DAMAGE THE EXISTING BRIDGE GROUNDING SYSTEM, WHICH WILL BE REUSED.

CUT LINE CONSTRUCTION JOINT PREPARATION

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.

ASBESTOS ABATEMENT

AN ASBESTOS SURVEY OF THE MAINLINE IR-90 BRIDGES OVER EAST 185™ STREET WAS COMPLETED IN MARCH 2014 BY A CERTIFIED ASBESTOS HAZARD EVALUATION SPECIALIST. NO ASBESTOS CONTAINING MATERIAL (ACM) WAS IDENTIFIED ON THE BRIDGES. A COPY OF THE OHIO ENVIRONMENTAL PROTECTION AGENCY (OEPA) NOTIFICATION OF DEMOLITION AND RENOVATION FORM WITH SECTIONS I-IV, VI, VII, AND XVI COMPLETED IS INCLUDED WITH THE BID PACKAGE. THE CONTRACTOR SHALL COMPLETE SECTIONS V, VIII-XVIII 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 SHALL PROVIDE A COPY OF THE COMPLETED FORM TO THE ENGINEER. THE LOCAL AIR AUTHORITY IS:

THE DEPARTMENT OF PUBLIC HEALTH
DIVISION OF ENVIRONMENT
1925 ST. CLAIR AVENUE
CLEVELAND, OHIO 44114
PHONE: (216) 664-2300

COST TO COMPLETE THE NOTIFICATION OF DEMOLITION AND RENOVATION FORM SHALL BE INCLUDED IN THE LUMP SUM CONTRACT PRICE FOR ITEM 202 STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN

UTILITY LINES

UTILITY LINES: THE UTILITY(IES) SHALL BORE ALL EXPENSE INVOLVED IN RELOCATING (INSTALLING) THE AFFECTED UTILITY LINES. THE CONTRACTOR AND UTILITY(IES) ARE TO COOPERATE BY ARRANGING THEIR WORK IN SUCH A MANNER THAT INCONVENIENCE TO EITHER WILL BE HELD TO A MINIMUM.

EXISTING HIGHWAY LIGHTING CONDUITS ARE ATTACHED TO THE BOTTOM OF THE DECK. ACTIVE TOWER LIGHTING CONDUITS ARE TO BE MAINTAINED. SEE GENERAL NOTES FOR DESCRIPTION OF WORK UNDER ITEM 625 - LIGHTING, MISC.: REPLACE CONDUIT IN PARAPET.

EXISTING STRUCTURE VERIFICATION

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.

ITEM 257 - DIAMOND GRINDING PORTLAND CEMENT CONCRETE PAVEMENT, AS PER PLAN

THIS ITEM SHALL INCLUDE GRINDING THE NEW CONCRETE DECK IN THE WESTBOUND DIRECTION TO REMOVE THE INTEGRAL CONCRETE PLACED FOR MAINTAINING TRAFFIC.

THE CONTRACTOR SHALL GRIND DOWN THE SURFACE TO THE FINAL DECK ELEVATION SHOWN IN THE SCREED TABLE.

THIS WORK SHALL BE PERFORMED AFTER THE FULL DEPTH SAW CUT MEDIAN JOINT IS INSTALLED AND PRIOR TO PLACEMENT OF THE MEDIAN BARRIER.

THIS ITEMS INCLUDES ALL LABOR, SURVEY, MATERIAL, AND WORK NECESSARY TO GRIND THE DECK DOWN TO THE FINAL DECK ELEVATION.

ITEM 503 - COFFERDAMS AND EXCAVATION BRACING

THIS ITEM INCLUDES THE TEMPORARY SHORING BETWEEN ALL PHASE LINES. MAY REMAIN IN PLACE BETWEEN PHASES, BUT MUST BE REMOVED PRIOR TO COMPLETION OF LATER PHASE APPROACH SLAB PLACEMENT.

ITEM 503 - UNCLASSIFIED EXCAVATION, AS PER PLAN

UNCLASSIFIED EXCAVATION SHALL BE IN ACCORDANCE WITH CMS ITEM 503 EXCEPT THAT THE BACKFILL MATERIAL SHALL CONFORM TO CMS 703.17 (CMS 304 MATERIAL) AND MEET THE COMPACTION REQUIREMENTS OF CMS 304.05. IN ADDITION, THE BACKFILL MATERIAL SHALL BE PLACED AND COMPACTED IN 6 INCH LIFTS. EXCAVATION OF THE EXISTING POROUS BACKFILL SHALL BE INCLUDED IN THIS ITEM.

ITEM 512 - TYPE A WATERPROOFING

UNLESS NOTED OTHERWISE, ALL CONSTRUCTION JOINTS CONSTRUCTED AGAINST EARTH FILL, SHALL BE SEALED WITH TYPE A WATERPROOFING, 3 FEET WIDE, CENTERED OVER THE JOINT.

DESIGN AGENCY
KS Associates Inc.
260 BURNS ROAD, ELYRIA, OHIO 44035

DESIGNED	DRAWN	REVIEWED	DATE
MJM	MJM	ASW	12/07/16
CHECKED	REVISED	STRUCTURE FILE NUMBER	
CFE		1808869	

BRIDGE GENERAL NOTES - 1
BRIDGE NO. CUY-90-2616
I-90 OVER EAST 185TH ST.

CUY-90-26.16/VAR
PID No. 87628

2 / 41

110
222

R:\14000\14035\87628\structures\sheets\CUY90_2616\CUY90_2616GN001.dgn 11/9/2017 1:39:37 PM malloym

ITEM 511 - CLASS QC2 CONCRETE WITH QC/QA. BRIDGE DECK. AS PER PLAN

ITEM 511 - CLASS QC2 CONCRETE WITH QC/QA. BRIDGE DECK (PARAPET). AS PER PLAN

1. GENERAL REQUIREMENTS:

THE PROVISIONS OF ITEM 511 SHALL APPLY EXCEPT AS NOTED BELOW. IN ADDITION, THE CONTRACTOR SHALL PROVIDE A RUBBED SURFACE IN ACCORDANCE WITH CMS 511.15 (B) ON ALL EXPOSED SURFACES.

THIS ITEM SHALL INCLUDE THE SURVEYING, LAYOUT AND TIME REQUIRED TO DETERMINE THE SCREED TABLE ELEVATIONS USING THE INCLUDED SCREED FORMULA TABLE.

2. MATERIALS: ALL COARSE AGGREGATE SHALL HAVE AN ABSORPTION OF 1.00% OR GREATER AS DEFINED PER ASTM C127.

3. MEDIAN CONSTRUCTION: FOR MAINTENANCE OF TRAFFIC PURPOSES, THE CONTRACTOR SHALL CONSTRUCT THE MEDIAN DECK PHASE AS ONE UNIT, WITH NO MEDIAN JOINT. PLACEMENT SHALL OCCURRED PRIOR TO INSTALLATION OF TEMPORARY CROSS FRAMES. THE WESTBOUND DECK IS APPROXIMATELY 1" LOWER THAN THE EASTBOUND DECK AT THE MEDIAN. ADDITIONAL CONCRETE STALL BE PLACED INTEGRAL WITH THE DECK FOR MAINTENANCE OF TRAFFIC PURPOSES. 2 ½" COVER FOR THE REINFORCING STEEL SHALL BE MAINTAINED TO THE FINAL DECK ELEVATION. GLASS FIBER REINFORCED POLYMER (GFRP) PER 705.01 REINFORCEMENT BAR SHALL BE PLACED AS INDICATED IN THE PLANS. DURING THE FINAL CONSTRUCTION PHASE, AFTER THE REMOVAL OF THE TEMPORARY CROSSFRAMES AND PRIOR TO MEDIAN PARAPET CONSTRUCTION, THE CONTRACTOR SHALL SAW CUT THE FULL DEPTH MEDIAN JOINT. THE CONTRACTOR SHALL DOWEL AND EPOXY GROUT THE MEDIAN REINFORCING BARS INTO THE DECK TAKING CARE NOT TO DAMAGE THE STEEL DECK REINFORCING BARS. ALL WORK REQUIRED TO COMPLETE THIS WORK, NOT SPECIFICALLY INCLUDED IN ANOTHER PAY ITEM IS CONSIDERED INCIDENTAL TO THESE PAY ITEMS.

5. BASIS OF PAYMENT:

ITEM	EXT	UNITS	DESCRIPTION
511	34447	C.Y.	CLASS QC2 CONCRETE WITH QC/QA, BRIDGE DECK, AS PER PLAN
511	34451	C.Y.	CLASS QC2 CONCRETE WITH QC/QA, BRIDGE DECK (PARAPET), AS PER PLAN

SCREED ELEVATIONS

SCREED ELEVATIONS ARE TO BE CALCULATED BY CONTRACTOR PER THE SCREED TABLE NOTES. THE CONTRACTOR IS TO SURVEY THE BEAMS PRIOR TO DECK REMOVAL DURING EACH PHASE AND JUST AFTER DECK REMOVAL. THIS INFORMATION WILL BE USED BY THE CONTRACTOR TO CALCULATE THE DECK SCREEDS BASED ON THE SCREED TABLE SHEET. SEE SCREED TABLE FOR ADDITIONAL INFORMATION.

FINAL DECK SURFACE ELEVATIONS

FINAL DECK SURFACE ELEVATIONS SHOWN REPRESENT THE DECK SURFACE LOCATION AFTER ALL ANTICIPATED DEAD LOAD DEFLECTIONS HAVE OCCURRED, AND AFTER ALL TEMPORARY CONCRETE FOR MAINTAINING TRAFFIC HAS BEEN REMOVED BY GRINDING.

DECK SLAB THICKNESS FOR CONCRETE QUANTITY

DECK SLAB THICKNESS FOR CONCRETE QUANTITY:
THE ESTIMATED QUANTITY OF DECK CONCRETE IS MEASURED ACCORDING TO C&MS 511. IN ADDITION TO THE DESIGN SLAB THICKNESS, THE QUANTITY INCLUDES A VARIABLE HAUNCH THICKNESS THAT PROVIDES AN ALLOWANCE FOR: VERTICAL GRADE ADJUSTMENT, BEAM CAMBER AND ADDITIONAL SACRIFICIAL HAUNCH THICKNESS.

MECHANICAL CONNECTORS:

AN APPROVED TYPE OF MECHANICAL CONNECTOR FOR REINFORCING STEEL BARS SHALL BE PROVIDED. INSTALLATION OF CONNECTORS SHALL CONFORM WITH MANUFACTURER'S RECOMMENDED PROCEDURES. MANUFACTURER'S STANDARD CAP OR PLUG SHALL BE USED TO PREVENT CONCRETE FROM ENTERING THE MECHANICAL CONNECTOR.

MECHANICAL CONNECTORS USED WITH EPOXY COATED BARS SHALL BE EPOXY COATED. COATING FOR BOTH CONNECTORS AND BARS SHALL CONFORM TO THE SAME SPECIFICATIONS. COATINGS WHICH HAVE BEEN DAMAGED OR WHICH OTHERWISE DO NOT MEET SPECIFICATIONS WITH RESPECT TO COLOR, CONTINUITY, AND UNIFORMITY MAY BE REPAIRED AS DIRECTED BY THE ENGINEER OR THEY SHALL BE REPLACED WITH MATERIAL THAT MEETS THE SPECIFICATIONS AT NO ADDITIONAL COST TO THE DEPARTMENT. THE MECHANICAL CONNECTOR SYSTEM USED SHALL BE ABLE TO DEVELOP 125 PERCENT OF THE FULL YIELD STRENGTH OF THE REINFORCING STEEL AS A MINIMUM.

ALL MATERIALS, LABOR, EQUIPMENT AND INCIDENTALS NECESSARY TO FURNISH AND INSTALL THE MECHANICAL REINFORCING STEEL CONNECTORS SHALL BE INCLUDED FOR PAYMENT UNDER ITEM 509, EPOXY COATED REINFORCING STEEL.

WELD ATTACHMENT

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 ¾" OR 5/16" FOR GREATER THAN ¾" THICK.

INSPECTION OF EXISTING STRUCTURAL STEEL

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 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 QC2 CONCRETE WITH QC/QA, 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.

ITEM 511 - CONCRETE. MISC.: MOCKUP, MOLDED BRICK SURFACE

CONSTRUCT THREE MOCKUPS OF THE OUTSIDE OF A TYPICAL CONCRETE PARAPET AS DETAILED IN THE PLANS. CONSTRUCT MOCKUP IN A SAFE LOCATION IN THE VICINITY OF CONSTRUCTION AT E. 185TH STREET. START CONSTRUCTION OF MOCKUP AT LEAST 60 DAYS BEFORE PROPOSED MOLDED CONCRETE WORK BEGINS ON ANY STRUCTURE, USING SAME MATERIALS, METHODS, AND WORK FORCE THAT WILL BE USED FOR THE PROJECT. PRECAST EACH MOCKUP FROM THE SAME FORM. PROCEED WITH CONSTRUCTION OF MOLDED BRICK SURFACES ONCE THE ENGINEER HAS DETERMINED THE MOLD MEETS SPECIFICATIONS AND PRODUCES SATISFACTORY RESULTS.

APPLY NON-EPOXY SEALER AND ACRYLIC STAIN IN ACCORDANCE WITH PLAN DETAILS AND MANUFACTURE'S RECOMMENDATIONS.

THE INTENT IS TO MATCH BRICK PATTERN COLOR TO THE COLOR OF THE BRICK NOISE WALLS WHICH ARE STAINED FEDERAL COLOR NUMBER 595B-20109 (RED BRICK). THE SMOOTH PORTION OF THE PARAPET (WITHOUT THE BRICK PATTERN) IS TO BE COATED WITH EPOXY UREATHANE SEALER WITH THE FINAL COAT MATCHING FEDERAL COLOR NUMBER 595B-27722 (BUFF). STAIN FIRST MOCKUP IN ACCORDANCE WITH THE PLAN DETAILS. CONFER WITH THE ENGINEER ON THE STAIN COLOR AND APPLICATION TECHNIQUE TO VERIFY THE PROCESS HAS PRODUCED A SURFACE PROVIDING THE APPEARANCE AND TEXTURE OF REAL BRICK. IF NECESSARY, STAIN SECOND AND THIRD MOCKUPS, ADJUSTING STAIN COLORS AND APPLICATION TECHNIQUES TO PROVIDE THE APPEARANCE AND TEXTURE OF REAL BRICK. ADJUST COLOR AND APPLICATION TECHNIQUES TO MEET THE APPROVAL OF THE ENGINEER. PROCEED WITH CONSTRUCTION OF MOLDED BRICK SURFACES, USING THE APPROVED MOCKUP AS A QUALITY STANDARD.

UPON COMPLETION OF PROJECT, DISPOSE OF MOCKUPS.

THE FOLLOWING QUANTITY HAS BEEN CARRIED TO THE ESTIMATED QUANTITIES TO COMPLETE THIS ITEM OF WORK.

ITEM 511 CONCRETE, MISC.: MOCKUP, MOLDED BRICK SURFACE, 3 EACH

ITEM 511 - CONCRETE. MISC.: MOLDED BRICK SURFACE

1. GENERAL:

THE WORK TO BE DONE UNDER THIS ITEM SHALL INCLUDE:

1.01 CONSTRUCT TEXTURED AND COLORED CONCRETE SURFACES USING MOLDS AND COLOR STAIN SYSTEM DESIGNED TO DUPLICATE CLOSELY THE APPEARANCE AND TEXTURE OF REAL BRICK.

1.02 USE BRICK MOLDS GIVING THE APPEARANCE OF SMOOTH, NEW BRICK.

1.03 DO NOT USE MOLDS GIVING THE APPEARANCE OF ROUGH OR STRIATED BRICK.

1.04 USE MOLDS WITH BRICK DIMENSIONS OF 3 5/8" X 7 5/8" AND ⅜" GROUT LINES. THE RELIEF OF THE GROUT LINES SHALL BE AT LEAST ¼" BUT NOT EXCEED 5/16".

1.05 USE REUSABLE, HIGH-STRENGTH URETHANE MOLDS.

1.06 NO LESS THAN 60 DAYS PRIOR TO THE CONSTRUCTION OF THE FIRST MOLDED BRICK SURFACE, SUBMIT TO THE ENGINEER A 24" SQUARE SAMPLE OF THE PROPOSED BRICK MOLD, INCLUDING MANUFACTURE'S SPECIFICATIONS AND RECOMMENDATIONS FOR ITS USE.

1.07 NO LESS THAN 30 DAYS PRIOR TO THE CONSTRUCTION OF THE FIRST MOLDED BRIDGE SURFACE, SUBMIT TO THE ENGINEER ONE COPY OF SHOP DRAWINGS SHOWING PLAN, ELEVATION, AND DETAILS TO SHOW OVERALL PATTERN, JOINT LOCATIONS, FORM TIE LOCATIONS, AND END, EDGE, AND OTHER SPECIAL CONDITIONS.

1.08 A PRE- INSTALLATION MEETING IS REQUIRED. SCHEDULE MEETING AMONG MANUFACTURER'S REPRESENTATIVES, APPROPRIATE SUBCONTRACTORS, THE DISTRICT 12 PRODUCTION ADMINISTRATOR OR HIS DESIGNEE, AND THE ENGINEER TO ASSURE UNDERSTANDING OF FORMLINER USE, STAIN APPLICATION, AND THE REQUIREMENTS OF THE MOCKUP CONSTRUCTION.

2. PRODUCTS:

2.01 SIMULATED BRICK MOLDS SHALL BE REUSABLE, MADE OF HIGH-STRENGTH URETHANE, AND EASILY ATTACHABLE TO FORMS. MOLDS SHALL NOT COMPRESS MORE THAN ¼" WHEN CONCRETE IS POURED AT RATE OF 10 VERTICAL FEET PER HOUR. MOLDS SHALL BE REMOVABLE WITHOUT CAUSING DETERIORATION OF SURFACE OR UNDERLYING CONCRETE.

2.02 USE A RELEASE AGENT THAT IS COMPATIBLE WITH MOLDS AND WITH COLOR STAIN SYSTEM TO BE APPLIED TO SURFACE. PROVIDE THE ENGINEER WITH THE MANUFACTURE'S SPECIFICATIONS FOR PRODUCT APPLICATION.

2.03 USE FORM TIES MADE OF EITHER METAL OR FIBERGLASS. METAL TIES WHICH WILL REMAIN PERMANENTLY EMBEDDED IN THE CONCRETE SHALL BE DESIGNED TO SEPARATE AT LEAST ONE INCH BACK FROM FINISHED SURFACE, LEAVING ONLY A NEAT HOLE TO BE PLUGGED WITH PATCHING MATERIAL. SUBMIT THE TYPE OF FORM TIES TO THE ENGINEER FOR APPROVAL PRIOR TO USE.

3. EXECUTION:

3.01 CLEAN MOLDS AND MAKE FREE OF BUILDUP PRIOR TO EACH POUR. INSPECT FOR BLEMISHES OR TEARS. REPAIR IF POSSIBLE FOLLOWING MANUFACTURE'S RECOMMENDATIONS. DAMAGED MOLDS SHALL BE REPLACED AT NO ADDITIONAL CHARGE TO THE STATE.

3.02 APPLY RELEASE AGENT IN ACCORDANCE WITH THE MANUFACTURE'S RECOMMENDATIONS.

3.03 PLACE MOLDS WITH LESS THAN ¼" SEPARATION BETWEEN THEM. ATTACH MOLDS TO FORM SECURELY FOLLOWING MANUFACTURE'S RECOMMENDATIONS.

3.04 WHERE FORM LINERS ABUT, CAREFULLY BLEND SURFACE TO MATCH THE BALANCE OF THE BRICK PATTERN, AVOIDING VISIBLE SEAMS OR FORM MARKS.

3.05 PLACE FORM TIES AT THINNEST POINTS OF MOLDS (THE HIGH POINTS OF FINISHED SURFACE). NEATLY PATCH THE HOLE REMAINING AFTER DISENGAGING THE PROTRUDING PORTION OF THE TIE SO THAT IT WILL NOT BE VISIBLE AFTER COLORING THE CONCRETE SURFACE.

THIS ITEM SHALL INCLUDE ALL WORK NECESSARY TO CONSTRUCT THE BRICK PATTERN INTO THE CONCRETE PARAPET AS INDICATED IN THE PLAN. SEE BRIDGE RAILING DETAILS FOR LOCATIONS. THIS ITEM WILL BE PAID PER SQUARE YARD OF PARAPET FACE (ABOVE THE DECK EDGE) TO RECEIVE THE PATTERNED CONCRETE.

R:\14000\14035\87628\structures\sheets\CUY90_2616\CUY90_2616GN002.dgn 11/9/2017 1:39:38 PM molloym

DESIGN AGENCY
KS Associates Inc.
260 BURNS ROAD, ELYRIA, OHIO 44035

DESIGNED	DRAWN	REVIEWED	DATE
MJM	MJM	ASW	12/07/16
CHECKED	REVISED	STRUCTURE FILE NUMBER	
CFE		1806869	

BRIDGE GENERAL NOTES - 2
BRIDGE NO. CUY-90-2616
I-90 OVER EAST 185TH ST.

CUY-90-26.16 / VAR
PID No. 87628

ITEM 511 - CONCRETE. MISC.: STAINING CONCRETE SURFACES

1. GENERAL:

1.01 STAIN MOLDED BRICK SURFACES USING AN ACRYLIC RESIN-BASED STAIN.

2. PRODUCTS:

2.01 PRODUCT SHALL CREATE A SURFACE FINISH THAT IS BREATHABLE (ALLOWING WATER VAPOR TRANSMISSION), AND THAT RESISTS DETERIORATION FROM WATER, ACID, ALKALI, FUNGI, SUNLIGHT OR WEATHERING.

2.02 STAIN MIX SHALL BE A WATER BORNE, LOW VOC MATERIAL (LESS THAN 289 GRAMS/LITER), AND SHALL MEET REQUIREMENTS FOR WEATHERING RESISTANCE OF 2000 HOURS ACCELERATED EXPOSURE MEASURED IN ACCORDANCE WITH ASTM G-23. SCRUB TEST 1000 REVOLUTIONS. ABRASIVE RESISTANCE (TABOR-CF-IO) 500 CYCLES. ADHESION ASTM D-3359 1.00 MM CROSS CUTS ON GLASS PASS 3 OR HIGHER ON A SCALE OF I TO 5. SUPPLY INFORMATION PERTAINING TO CHEMICAL RESISTANCE ASTM D-1308 TO 87.

3. EXECUTION:

3.01 PROVIDE THE ENGINEER WITH THE MANUFACTURER'S SPECIFICATIONS FOR PRODUCT APPLICATION. APPLY THE PRODUCT IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS WITH EXCEPTIONS AS NOTED.

3.02 CLEAN SURFACE PRIOR TO APPLICATION OF STAIN MATERIALS BY PRESSURE WASHING WITH WATER, MINIMUM 3000 PSI (A RATE OF THREE TO FOUR GALLONS PER MINUTE), USING FAN NOZZLE PERPENDICULAR TO AND AT A DISTANCE OF ONE OR TWO FEET FROM SURFACE. COMPLETED SURFACE SHALL BE FREE OF BLEMISHES, DISCOLORATION, SURFACE VOIDS AND UNNATURAL FORM MARKS. DO NOT SANDBLAST. ETCHING IS NOT REQUIRED.

3.03 APPLY STAIN BY HAND USING A BRUSH OR ROLLER WHEN AMBIENT TEMPERATURE IS BETWEEN 50-90 DEGREES FAHRENHEIT.

3.04 THE INTENT IS FOR THE RED BRICK STAIN COLOR TO MATCH THE ADJACENT NOISE WALL'S WHICH USE FEDERAL COLOR STANDARD 595B-20109. THE CONTRACTOR MAY USE THE FOLLOWING SHERWIN WILLIAMS STAIN COLORS OR THEIR CLOSELY MATCHED, NON-PROPRIETARY EQUIVALENTS. STAIN BRICK SURFACES USING SW 6335 (FIRED BRICK). STAIN GROUT LINES USING SW 7030 (ANEW GRAY). PROVIDE RANDOM BRICK HIGHLIGHTS USING SW 6005 (FOLKSTONE) AND SW 6258 (TRICORN BLACK). ACTUAL COLORS USED ARE SUBJECT TO CHANGE AT THE DIRECTION OF THE ENGINEER ON REVIEW OF THE APPEARANCE OF THE MOCKUPS. USE COLORS AND TECHNIQUES AS APPROVED FOR THE FINAL MOCKUP.

3.05 WHERE EXPOSED SOIL OR PAVEMENT IS ADJACENT WHICH MAY SPLATTER DIRT OR SOIL FROM RAINFALL, OR WHERE SURFACE MAY BE EXPOSED TO OVERSPRAY FROM OTHER PROCESSES, PROVIDE TEMPORARY COVER OF FINISHED WORK.

THIS ITEMS INCLUDES ALL NECESSARY WORK TO STAIN THE BRICK PATTERN AND THE GROUT LINE PATTERNS AS INDICATED IN THE PLANS. MEASUREMENT WILL BE PER SQUARE YARD PARAPET FACE STAINED.

ITEM 512 - SEALING OF CONCRETE SURFACES (NON-EPOXY), AS PER PLAN

PRIOR TO APPLICATION OF ACRYLIC STAINS, APPLY NON-EPOXY CONCRETE SEALER TO MOLDED BRICK SURFACES. THE PROVISIONS OF ITEM 512 APPLY, EXCEPT AS FOLLOWS:

1. APPLY SEALER WITH A BRUSH OR ROLLER ONLY.

2. USE A CLEAR SEALER.

3. VERIFY THE PRODUCT FURNISHED IS COMPATIBLE WITH THE PROPOSED STAIN PRODUCT. PROVIDE WRITTEN VERIFICATION TO THE ENGINEER.

ITEM 512 - SEALING OF CONCRETE SURFACES, (EPOXY-URETHANE)

THE CONTRACTOR SHALL SEAL THE PARAPETS, MEDIAN BARRIERS, AND DECK EDGES AS INDICATED IN THE PLANS. GREAT CARE SHALL BE USED TO AVOID ANY OVER SPRAY OR SPLATTER ONTO SURFACES TO RECEIVE CONCRETE STAIN ON THE BRICK PATTERNED CONCRETE.

ALL EXPOSED SUBSTRUCTURE ELEMENTS, INCLUDING BACKWALLS, BEAM SEATS, ABUTMENTS, WINGWALLS, PIERS AND PIER CAPS FROM THE GROUND LINE UP SHALL BE SEALED.

THE FINISH COAT SEALER COLOR SHALL BE FEDERAL STANDARD COLOR 595B-27722 (BUFF)

ITEM 513 - TRIMMING OF BEAM END

THIS ITEM INCLUDES THE TRIMMING OF BEAM ENDS AS REQUIRED TO CONSTRUCT THE PROPOSED BACKWALLS. TRIM BEAM ENDS TO PROVIDE A MINIMUM OF 3" CLEAR AT 60°F. THE FOLLOWING QUANTITY OF 18 EACH HAS BEEN CARRIED TO THE ESTIMATED QUANTITIES.

ITEM 513 - REPLACEMENT OF DETERIORATED END CROSSFRAMES

THIS ITEM INCLUDES THE REPLACEMENT OF ALL THE END FRAMES ON THIS STRUCTURE PER SCD GSD-1-96.
SEE SUPERSTRUCTURE DETAIL 1 SHEET FOR ± DIMENSIONS.

ITEM 513 - STRUCTURAL STEEL, MISC.:FATIGUE RETROFIT

THESE ITEMS INCLUDES ALL MATERIAL, LABOR, AND EQUIPMENT NECESSARY TO INSTALL THE FATIGUE RETROFITS AS DETAILED IN THE PLANS.

PRIOR TO INSTALLATION OF THE NEW STEEL RETROFIT, THE CONTRACTOR SHALL MAKE PROVISION FOR THE PROJECT ENGINEER TO INSPECT WELDS IN THE AREA OF THE RETROFIT FOR CRACKS.

PRIOR TO INSTALLATION, THE CONTRACTOR SHALL BLAST CLEAN THE EXISTING STEEL AT THE PROPOSED FAYING SURFACES TO A NEAR WHITE CONDITION MEETING SSPC-SP-10 AS DESCRIBED UNDER CMS 514.13.

ALL BOLTS SHALL BE ASTM A325 GALVANIZED, AND ALL NEW STEEL SHALL BE ASTM A709 GRADE 50.

FOR PURPOSES OF MEASUREMENT, THE DEPARTMENT WILL PAY FOR EACH RETROFIT LOCATION AS INDICATED IN THE PLANS. BY THE NUMBER OF POUNDS.

ITEM 513 - STRUCTURAL STEEL MISC. TEMPORARY CROSSFRAMES FOR MAINTENANCE OF TRAFFIC

CONTRACTOR TO INSTALL TEMPORARY CROSSFRAMES AT THE LOCATIONS INDICATED IN THE PLANS AFTER THE PLACEMENT OF THE CONCRETE MEDIAN DECK AND PRIOR TO OPENING THE MEDIAN DECK TO TRAFFIC FOR MAINTENANCE OF TRAFFIC PURPOSES.

THE CROSSFRAMES SHALL BE REMOVED DURING THE FINAL CONSTRUCTION PHASE, PRIOR TO THE SAW CUT OF THE MEDIAN FULL DEPTH CONSTRUCTION JOINT.

ALL WELD LOCATIONS SHALL BE GROUND SMOOTH AT TIME OF REMOVAL.

THE CONTRACTOR SHALL INSTALL TEMPORARY CROSSFRAMES MEETING THE REQUIREMENT OF SCD GSD-1-96 TYPE 1.

TEMPORARY CROSSFRAMES DO NOT NEED TO BE PRIME COATED.

THE BRIDGE BID WILL INCLUDE ALL NECESSARY LABOR, MATERIAL, AND WORK NECESSARY TO INSTALL AND REMOVE EACH TEMPORARY CROSSFRAME.

ITEM 514 - SURFACE PREPARATION OF EXISTING STRUCTURAL STEEL

ITEM 514 - FIELD PAINTING OF EXISTING STRUCTURAL STEEL, PRIME COAT

ALL EXISTING STEEL TO REMAIN SHALL RECEIVE SURFACE SURFACE PREPARATION OF EXISTING STRUCTURAL STEEL AND FIELD PAINTING OF EXISTING STRUCTURAL STEEL, PRIME COAT. THE CONTRACTOR SHALL GRIND THE FLANGE EDGES AS REQUIRED.

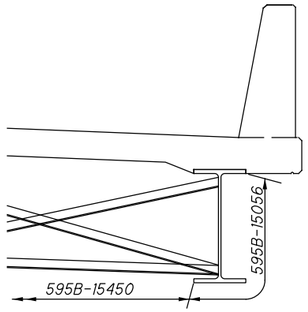
ITEM 514 - FIELD PAINTING STRUCTURAL STEEL, INTERMEDIATE COAT

ITEM 514 - FIELD PAINTING STRUCTURAL STEEL, FINISH COAT

ITEM 514 - FINAL INSPECTION REPAIR

ALL EXISTING AND NEW STEEL SHALL RECEIVE FIELD PAINTING STRUCTURAL STEEL, INTERMEDIATE COAT, FIELD PAINTING STRUCTURAL STEEL, FINISH COAT, AND FINAL INSPECTION REPAIR.

THE COLOR OF THE STEEL FINISH COAT FOR THE OUTSIDE FACE OF THE STRUCTURAL STEEL FASCIA BEAMS AND THE ENTIRE FASCIA BEARINGS SHALL BE FEDERAL COLOR NUMBER (COLOR - GLOSS) 595B-15056 (CITY OF CLEVELAND BLUE). ALL OTHER STRUCTURAL STEEL FINISH COAT COLOR SHALL BE FEDERAL COLOR NUMBER (COLOR - GLOSS) - 595B-15450 BLUE.



ITEM 516 - ARMORLESS PREFORMED JOINT SEAL, AS PER PLAN

THIS ITEM SHALL BE USED TO SEAL BETWEEN THE TWO HALVES OF THE MEDIAN BARRIER AS DETAILED IN THE PLANS. ARMORLESS PREFORMED JOINT SEAL SHALL MEET THE SAME

REQUIREMENTS AS DETAILED IN STANDARD DRAWING AS-2-15, SHEET 8 OF 14 WITH THE FOLLOWING EXCEPTIONS:

FOR THE R.J. WATSON, INC SEAL, USE THE SILICOFLEX SF 225

FOR WATSON BOWMAN ACME CORP. USE THE WABO-SPS-225

FOR D.S. BROWN COMPANY, USE V-300

ITEM 516 - STRUCTURAL EXPANSION JOINT INCLUDING ELASTOMERIC STRIP SEAL

INSTALLATION OF SEAL: DURING INSTALLATION OF THE SUPPORT/ARMOR FOR THE SUPERSTRUCTURE SIDE OF THE EXPANSION JOINT SEAL, OBSERVE THE SEATING OF BEAMS ON BEARINGS TO ASSURE THAT POSITIVE BEARING IS MAINTAINED.

ITEM 516 - BEARING DEVICE, BOLSTER, AS PER PLAN
ITEM 516 - BEARING DEVICE, ROCKER, AS PER PLAN

THIS ITEM CONSIST OF PLACING NEW BOLSTERS AND ROCKERS TO SUPPORT BEAM A'.

THESE ITEMS ARE TO MEET ALL THE PROVISIONS REQUIRED UNDER CMS 513 AND THE STANDARD DRAWING RB-A-55, DATED 7-19-13 WITH THE FOLLOWING EXCEPTION.

THE ½ INCH THICK KEEPER PLATES DETAILED AT THE UPPER BEARING RADIUS SHALL NOT BE INSTALLED.

ITEM 516 - REFURBISHING BEARING DEVICES, 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 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 BEAMS AND/OR BEARING DEVICES ARE "FLOATING". AT NO ADDITIONAL COST TO THE STATE, THE CONTRACTOR MAY INSTALL NEW BEARINGS OF

R:\14000\14035\87628\structures\sheets\CUY90_2616\CUY90_2616GN003.dgn 11/9/2017 1:39:39 PM malloym

DESIGN AGENCY
KS Associates Inc.
260 BURNS ROAD, ELYRIA, OHIO 44035

DESIGNED MJM | DRAWN MJM | REVIEWED ASW | DATE 12/07/16
CHECKED CFE | REVISED | STRUCTURE FILE NUMBER 1808869

BRIDGE GENERAL NOTES - 3
BRIDGE NO. CUY-90-2616
I-90 OVER EAST 185TH ST.

CUY-90-26.16/VAR
PID No. 87628

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 IN ORDER TO INSTALL NEW BEARING, OR REFURBISH, OR RESET 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 STRINGERS, 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.

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 - POROUS BACKFILL, AS PER PLAN

PLACE AND COMPACT POROUS BACKFILL IN 6" LIFTS

ITEM 519 - PATCHING CONCRETE STRUCTURES, AS PER PLAN

ITEM 519 - PATCHING CONCRETE STRUCTURES, AS PER PLAN: PRIOR TO ANY DECK REMOVAL OPERATIONS AND PRIOR TO BEARING RE-SETTING OR REFURBISHING. THE CONTRACTOR SHALL PATCH ALL UNSOUND AND DETERIORATED AREAS IDENTIFIED BY THE ENGINEER ON BOTH THE REAR AND FORWARD PORTIONS OF THE ABUTMENTS TO REMAIN.

PRIOR TO THE SURFACE CLEANING SPECIFIED IN 519.04 AND WITHIN 24 HOURS OF PLACING PATCHING MATERIAL, BLAST CLEAN ALL SURFACES TO BE PATCHED INCLUDING THE 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. PRIOR TO SEALING CONCRETE SURFACES.

ITEM 526 - REINFORCED CONCRETE APPROACH SLABS WITH QC/QA (T=15"), AS PER PLAN

DESCRIPTION: THIS ITEM SHALL CONSIST OF CONSTRUCTING REINFORCED CONCRETE APPROACH SLABS IN ACCORDANCE WITH THE DETAILS IN THE STRUCTURE PLANS AND ODOT STANDARD DRAWINGS AS-1-15 AND AS-2-15.

MATERIALS: CONCRETE, REINFORCING STEEL, AND MECHANICAL CONNECTORS FOR THIS ITEM 526 SHALL BE THE SAME MATERIAL AND MEET THE SAME REQUIREMENTS AS THOSE USED FOR THE BRIDGE DECK, AND RAILINGS, AND MEDIAN BARRIER. SEE STRUCTURE GENERAL NOTES ITEM 511 FOR THE CONCRETE MIX REQUIREMENTS.

METHOD OF MEASUREMENT: THE AREA MEASURED WILL BE THE NUMBER OF SQUARE YARDS COMPLETE IN PLACE.

BASIS OF PAYMENT: ACCEPTED QUANTITIES WILL BE PAID FOR AT THE CONTRACT UNIT PRICE BID PER SQUARE YARD COMPLETE IN PLACE. THIS PRICE SHALL INCLUDE FULL COMPENSATION FOR ALL CONCRETE, WATERPROOFING, EPOXY COATED REINFORCING STEEL, MECHANICAL CONNECTORS, PREFORMED EXPANSION JOINT FILLER, AND OTHER INCIDENTAL MATERIALS, LABOR AND EQUIPMENT. PAYMENT WILL BE MADE UNDER ITEM 526 - REINFORCED CONCRETE APPROACH SLABS (T=15"), AS PER PLAN.

ITEM 601 - CONCRETE SLOPE PROTECTION, AS PER PLAN

THE CONTRACTOR SHALL REPLACE ALL UNSOUND AND DETERIORATED AREAS OF CONCRETE SLOPE PROTECTION IDENTIFIED BY THE ENGINEER.

THIS ITEM ALSO INCLUDES STRUCTURAL BACKFILL TYPE 3 MEETING THE REQUIREMENTS OF CMS 703.11 REQUIRED TO SUPPORT THE NEW PORTION OF THE CONCRETE SLOPE PROTECTION.

ITEM 607 - VANDAL PROTECTION FENCE. 6' STRAIGHT. COATED FABRIC, AS PER PLAN

THE ANCHORS SHALL BE CAST IN PLACE.

THE COLOR OF THE FENCE FABRIC, RAILS, 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' STRAIGHT, COATED FABRIC, AS PER PLAN WHICH SHALL INCLUDE ALL LABOR, EQUIPMENT, MATERIALS, AND INCIDENTALS NECESSARY TO COMPLETE THE ABOVE WORK.

DESIGN AGENCY
KS Associates Inc.
260 BURNS ROAD, ELYRIA, OHIO 44035

DESIGNED	DRAWN	REVIEWED	DATE
MJM	MJM	ASW	12/07/16
CHECKED	REVISED	STRUCTURE FILE NUMBER	
CFE		1808869	

BRIDGE GENERAL NOTES - 4
BRIDGE NO. CUY-90-2616
I-90 OVER EAST 185TH ST.

CUY-90-26.16/VAR
PID No. 87628

* FUNDING CODE = 01/IMS/BR

ESTIMATED QUANTITIES - BRIDGE CUY-90-2616 - 1808869

ITEM	EXTENSION	TOTAL *	UNIT	DESCRIPTION	ABUT.	PIERS	SUPER.	GEN.	SHEET #
202	11201	LS		PORTIONS OF STRUCTURE REMOVED, AS PER PLAN				LS	2
202	11305	1,756	SY	PORTIONS OF STRUCTURE REMOVED, AS PER PLAN, TIMBER SUBDECKING			1,756		2
202	11400	57,835	LB	PORTIONS OF STRUCTURE REMOVED			57,835		2
202	22900	840	SY	APPROACH SLAB REMOVED	840				
202	23500	840	SY	WEARING COURSE REMOVED	840				
257	10001	305	SY	DIAMOND GRINDING PORTLAND CEMENT CONCRETE PAVEMENT, AS PER PLAN			305		2
503	11100	LS		COFFERDAMS AND EXCAVATION BRACING				LS	2
503	21101	141	CY	UNCLASSIFIED EXCAVATION, AS PER PLAN	141				2
509	10000	316,375	LB	EPOXY COATED REINFORCING STEEL	18,147	148	298,080		
510	10000	1,682	EACH	DOWEL HOLES WITH NONSHRINK, NONMETALLIC GROUT	598	28	1,056		
511	34447	1,007	CY	CLASS QC2 CONCRETE WITH QC/QA, BRIDGE DECK, AS PER PLAN			1,007		3
511	34451	204	CY	CLASS QC2 CONCRETE WITH QC/QA, BRIDGE DECK (PARAPET), AS PER PLAN			204		3
511	42510	2	CY	CLASS QC1 CONCRETE, PIER CAP		2			
511	44110	118	CY	CLASS QC1 CONCRETE, ABUTMENT NOT INCLUDING FOOTING	118				
511	71300	130	SY	CONCRETE, MISC.: MOLDED BRICK SURFACE			130		3
511	71300	130	SY	CONCRETE, MISC.: STAINING CONCRETE SURFACES			130		4
511	81300	3	EACH	CONCRETE, MISC.: MOCKUP, MOLDED BRICK SURFACE				3	3
512	10051	130	SY	SEALING OF CONCRETE SURFACES (NON-EPOXY), AS PER PLAN			130		4
512	10100	1,947	SY	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)	421	653	873		4
512	33300	11	SY	TYPE A WATERPROOFING	11				
512	33010	3	SY	TYPE 3 WATERPROOFING	3				
513	10200	3,548	LB	STRUCTURAL STEEL MEMBERS, LEVEL UF			3,548		
513	10260	49,136	LB	STRUCTURAL STEEL MEMBERS, LEVEL 3			49,136		
513	20000	17,157	EACH	WELDED STUD SHEAR CONNECTORS			17,157		
513	21000	18	EACH	TRIMMING OF BEAM END			18		4
513	21500	8,932	LB	REPLACEMENT OF DETERIORATED END CROSSFRAMES			8,932		4
513	90000	67,602	LB	STRUCTURAL STEEL, MISC.:FATIGUE RETROFIT			67,602		4
513	95030	16	EACH	STRUCTURAL STEEL, MIS.: TEMPORARY CROSSFRAMES FOR MAINTENANCE OF TRAFFIC			16		4
514	00050	48,917	SF	SURFACE PREPARATION OF EXISTING STRUCTURAL STEEL			48,917		4
514	00056	48,917	SF	FIELD PAINTING OF EXISTING STRUCTURAL STEEL, PRIME COAT			48,917		4
514	00060	50,846	SF	FIELD PAINTING STRUCTURAL STEEL, INTERMEDIATE COAT			50,846		4
514	00066	50,846	SF	FIELD PAINTING STRUCTURAL STEEL, FINISH COAT			50,846		4
514	00504	144	MNHR	GRINDING FINS, TEARS, SLIVERS ON EXISTING STRUCTURAL STEEL			144		4
514	10000	40	EACH	FINAL INSPECTION REPAIR			40		4
516	10010	344	FT	ARMORLESS PREFORMED JOINT SEAL				344	
516	10011	273	FT	ARMORLESS PREFORMED JOINT SEAL, AS PER PLAN	50		223		4
516	11210	344	FT	STRUCTURAL EXPANSION JOINT INCLUDING ELASTOMERIC STRIP SEAL			344		4
516	13900	395	SF	2" PREFORMED EXPANSION JOINT FILLER	395				
516	45305	14	EACH	REFURBISH BEARING DEVICE, AS PER PLAN	14				4
516	46001	1	EACH	BEARING DEVICE, BOLSTER, AS PER PLAN	1				4
516	46201	3	EACH	BEARING DEVICE, ROCKER, AS PER PLAN	3				4
516	47001	LS		JACKING AND TEMPORARY SUPPORT OF SUPERSTRUCTURE, AS PER PLAN				LS	5
518	12200	5	EACH	SCUPPERS, INCLUDING SUPPORTS			5		
518	12500	18	EACH	SCUPPER, MISC.: PLUGGING SCUPPER FOR MAINTENANCE OF TRAFFIC			18		23
518	21101	145	CY	POROUS BACKFILL, AS PER PLAN	145				5
518	40000	375	FT	6" PERFORATED CORRUGATED PLASTIC PIPE	375				
518	40010	60	FT	6" NON-PERFORATED CORRUGATED PLASTIC PIPE, INCLUDING SPECIALS	60				
519	11101	250	SF	PATCHING CONCRETE STRUCTURE, AS PER PLAN	250				5
526	25011	845	SY	REINFORCED CONCRETE APPROACH SLABS WITH QC/QA (T=15"), AS PER PLAN	845				5
526	90030	334	FT	TYPE C INSTALLATION	334				
601	21001	100	SY	CONCRETE SLOPE PROTECTION, AS PER PLAN	100				5
607	39901	448	FT	VANDAL PROTECTION FENCE, 6' STRAIGHT, COATED FABRIC, AS PER PLAN			448		5

DESIGN AGENCY
KS Associates Inc.
260 BURNS ROAD, ELYRIA, OHIO 44035

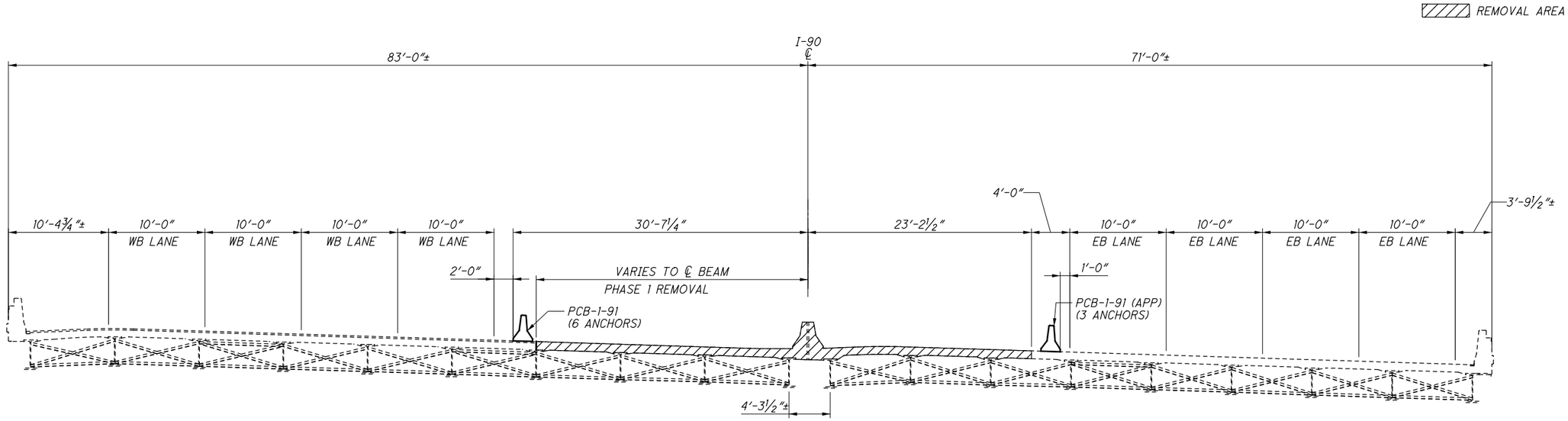
DESIGNED MJM | DRAWN MJM | REVIEWED MEM | DATE 01/09/17 | CHECKED RAP | REVISED | STRUCTURE FILE NUMBER 1808869

BRIDGE ESTIMATED QUANTITIES

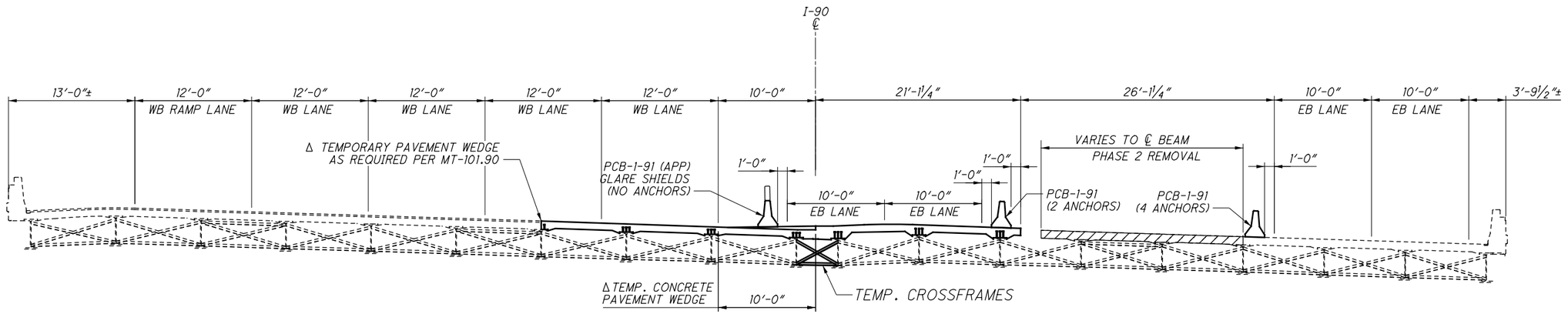
BRIDGE NO. CUY-90-2616
I-90 OVER EAST 185TH ST.

CUY-90-26.16/VAR

PID No. 87628



PHASE 1 REMOVAL



PHASE 2 REMOVAL

Δ TEMPORARY CONCRETE PAVEMENT WEDGE TO PLACED WITH DECK POUR AND REMOVED BY GRINDING PRIOR TO MEDIAN BARRIER PLACEMENT. TO BE PAID AS INCIDENTAL WITH MAINTENANCE OF TRAFFIC ITEM 614.

DESIGN AGENCY
KS Associates Inc.
260 BURNS ROAD, ELYRIA, OHIO 44035

DESIGNED	DRAWN	REVIEWED	DATE
MJM	MJM	ASW	12/07/16
CHECKED	REVISED	STRUCTURE FILE NUMBER	
RAP		1808869	

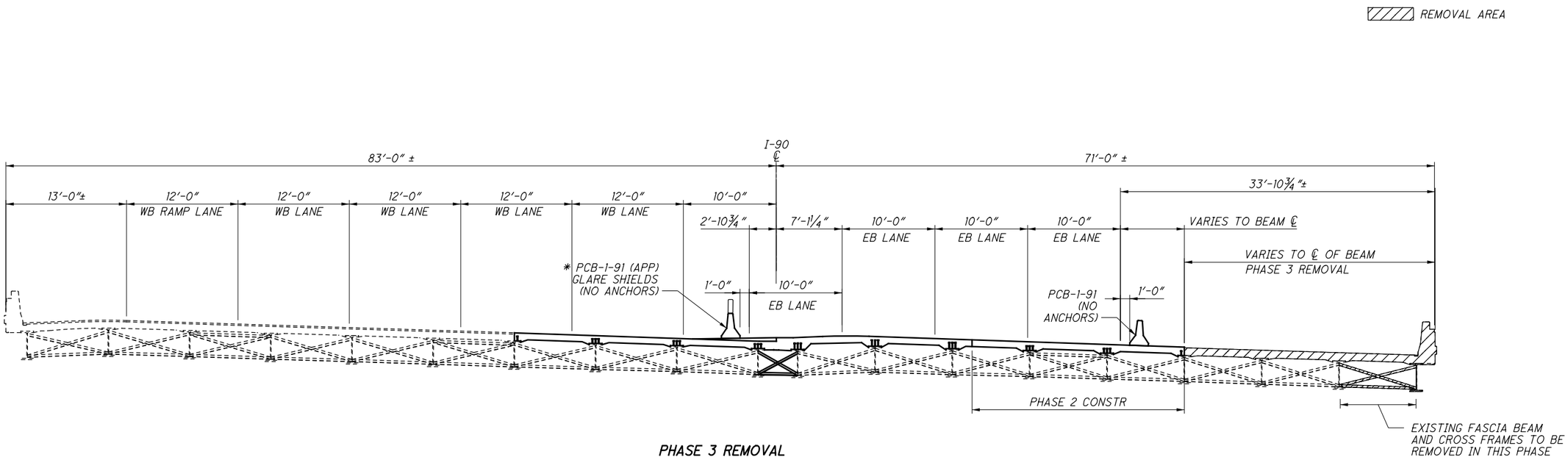
BRIDGE PHASE REMOVAL DETAILS - 1
BRIDGE NO. CUY-90-2616
I-90 OVER EAST 185TH ST.

CUY-90-26.16/VAR
PID No. 87628

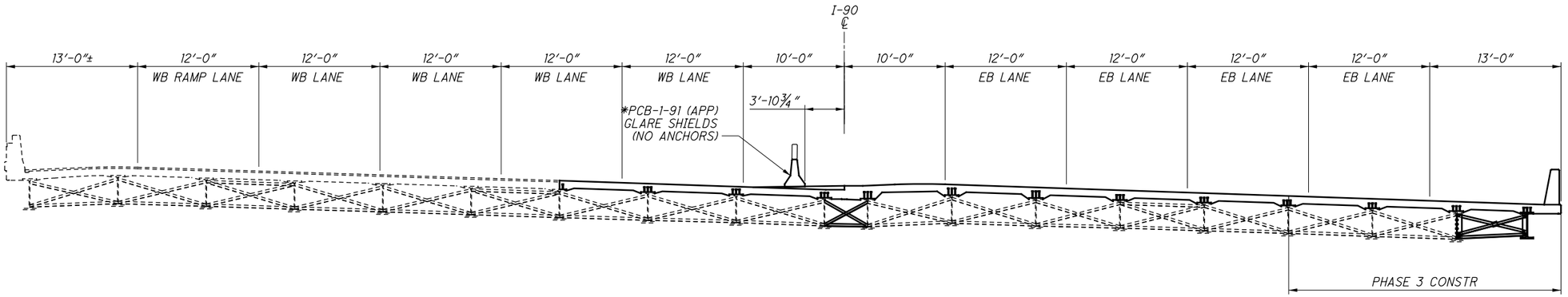
7 / 41

115 / 222

R:\14000\14035\87628\structures\sheets\CUY90_2616\CUY90_2616PC001.dgn 11/9/2017 1:39:44 PM malloym



PHASE 3 REMOVAL



WINTER SHUTDOWN PHASE

* INSTALLED IN PREVIOUS PHASE

DESIGN AGENCY
KS Associates Inc.
260 BURNS ROAD, ELYRIA, OHIO 44035

REVIEWED	DATE
ASW	12/07/16
STRUCTURE FILE NUMBER	
1808869	
DRAWN	REVISED
MJM	
DESIGNED	CHECKED
MJM	RAP

BRIDGE PHASE REMOVAL DETAILS - 2
BRIDGE NO. CUY-90-2616
I-90 OVER EAST 185TH ST.

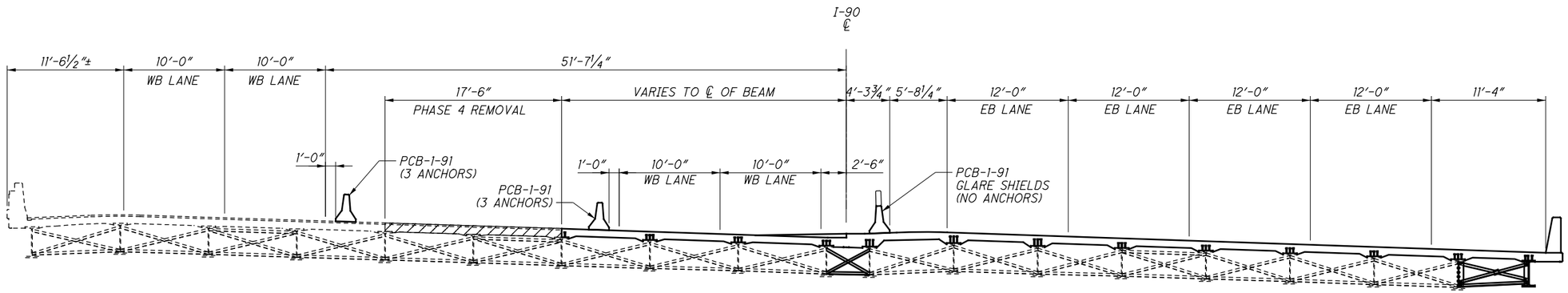
CUY-90-26.16/VAR
PID No. 87628

8 / 41

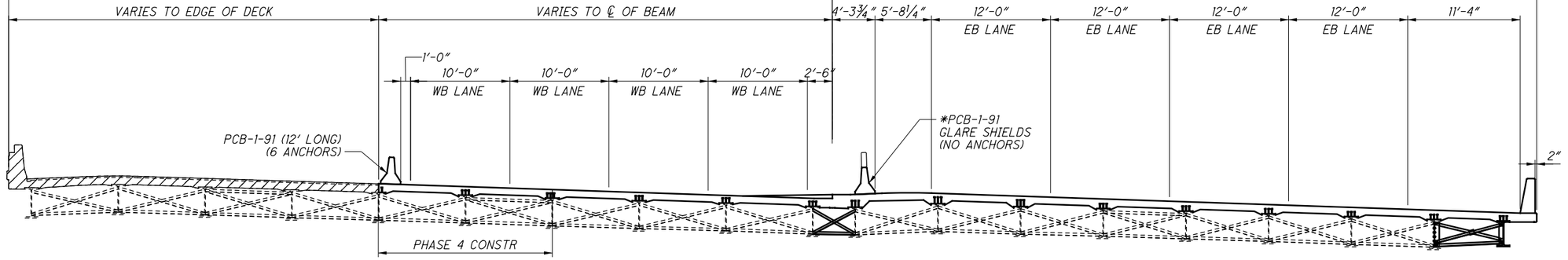
116
222

R:\14000\14035\87628\structures\sheets\CUY90_2616\CUY90_2616PC002.dgn 11/9/2017 1:39:44 PM malloym

REMOVAL AREA



PHASE 4 REMOVAL



PHASE 5 REMOVAL

* INSTALLED WITH PREVIOUS PHASE

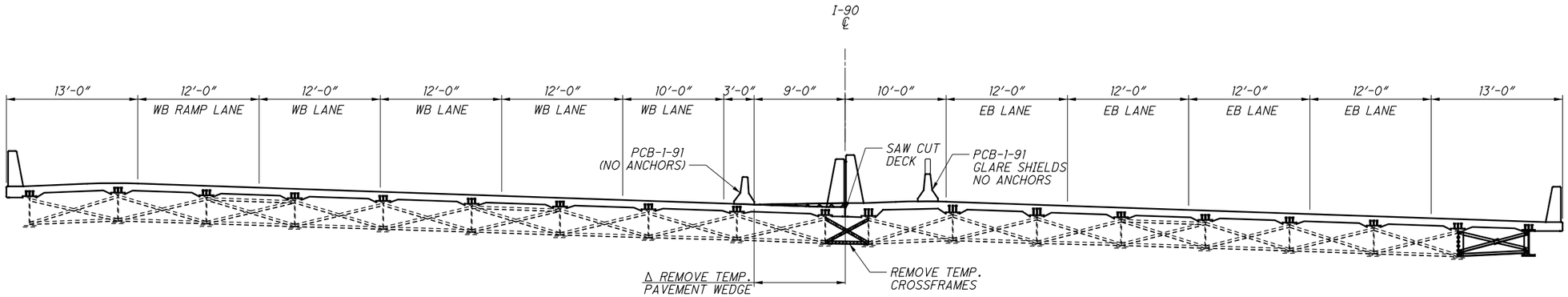
DESIGN AGENCY
KS Associates Inc.
260 BURNS ROAD, ELYRIA, OHIO 44035

DESIGNED	DRAWN	REVIEWED	DATE
MJM	MJM	ASW	12/07/16
CHECKED	REVISED	STRUCTURE FILE NUMBER	
RAP		1808869	

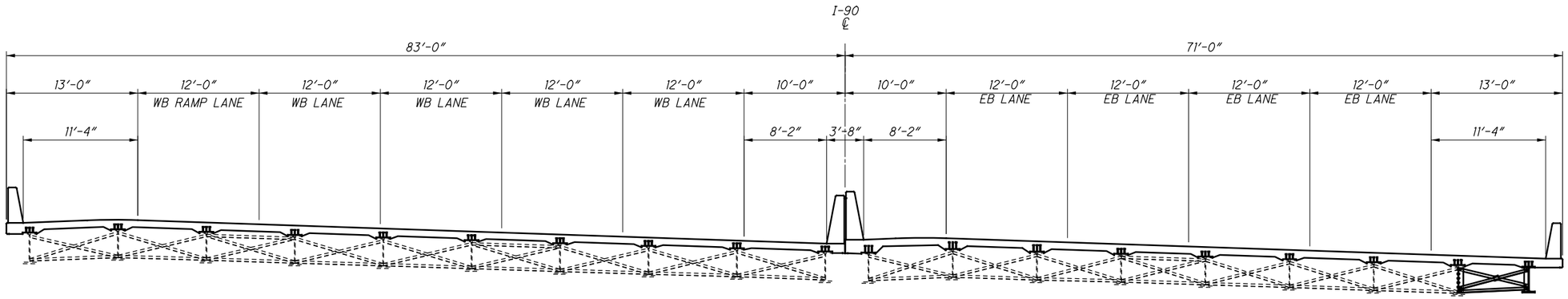
BRIDGE PHASE REMOVAL DETAILS - 3

BRIDGE NO. CUY-90-2616
I-90 OVER EAST 185TH ST.

CUY-90-26.16 / VAR
PID No. 87628



PHASE 6 CONSTRUCTION - MEDIAN



FINAL CONFIGURATION

Δ TEMPORARY CONCRETE PAVEMENT WEDGE TO PLACED WITH DECK POUR AND REMOVED BY GRINDING PRIOR TO MEDIAN BARRIER PLACEMENT. TO BE PAID AS INCIDENTAL WITH MAINTENANCE OF TRAFFIC ITEM 614.

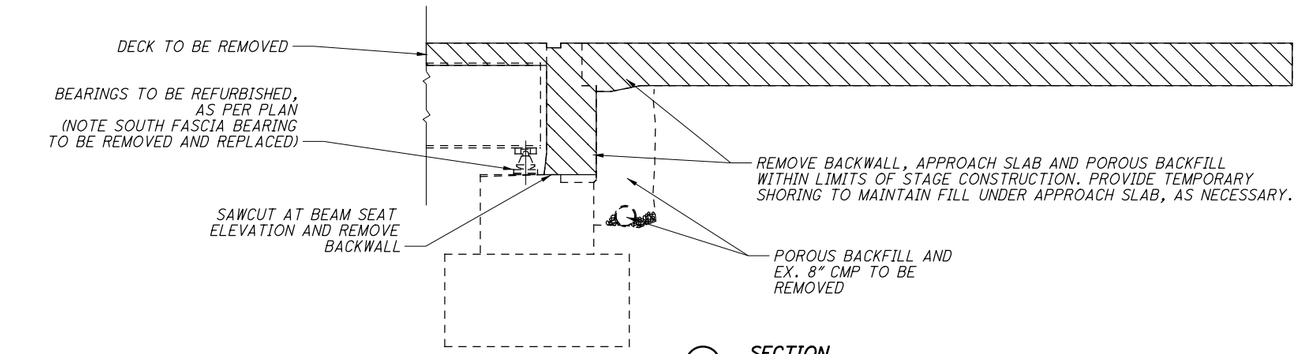
DESIGN AGENCY
KS Associates Inc.
260 BURNS ROAD, ELYRIA, OHIO 44035

DESIGNED	DRAWN	REVIEWED	DATE
MJM	MJM	ASW	12/07/16
CHECKED	REVISED	STRUCTURE FILE NUMBER	
RAP		1808869	

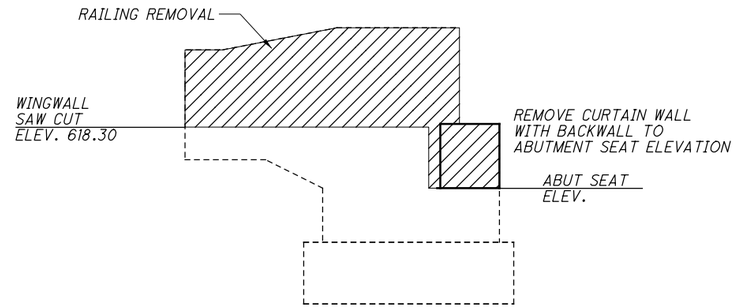
PHASE REMOVAL DETAILS - 4

BRIDGE NO. CUY-90-2616
I-90 OVER EAST 185TH ST.

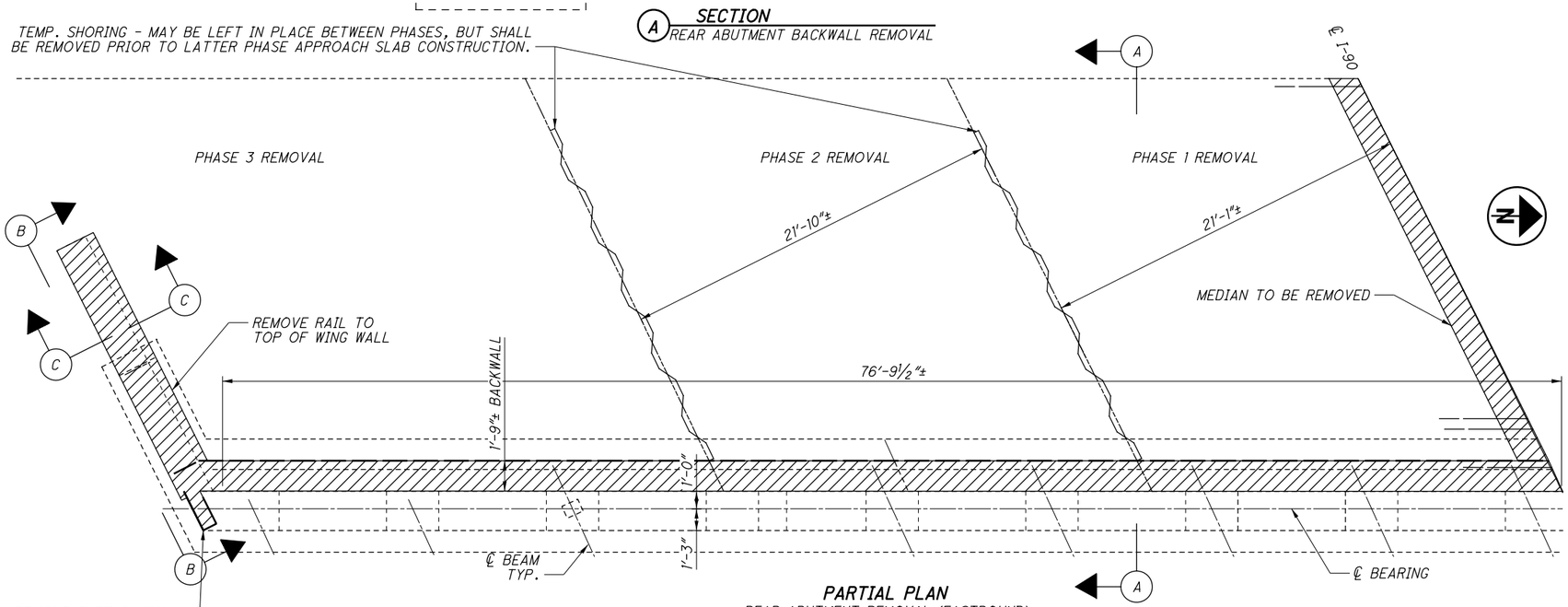
CUY-90-26.16/VAR
PID No. 87628



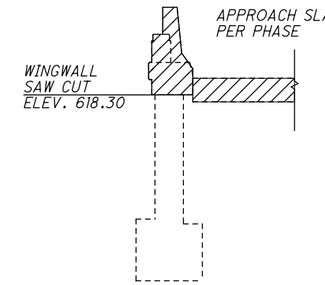
A SECTION
REAR ABUTMENT BACKWALL REMOVAL



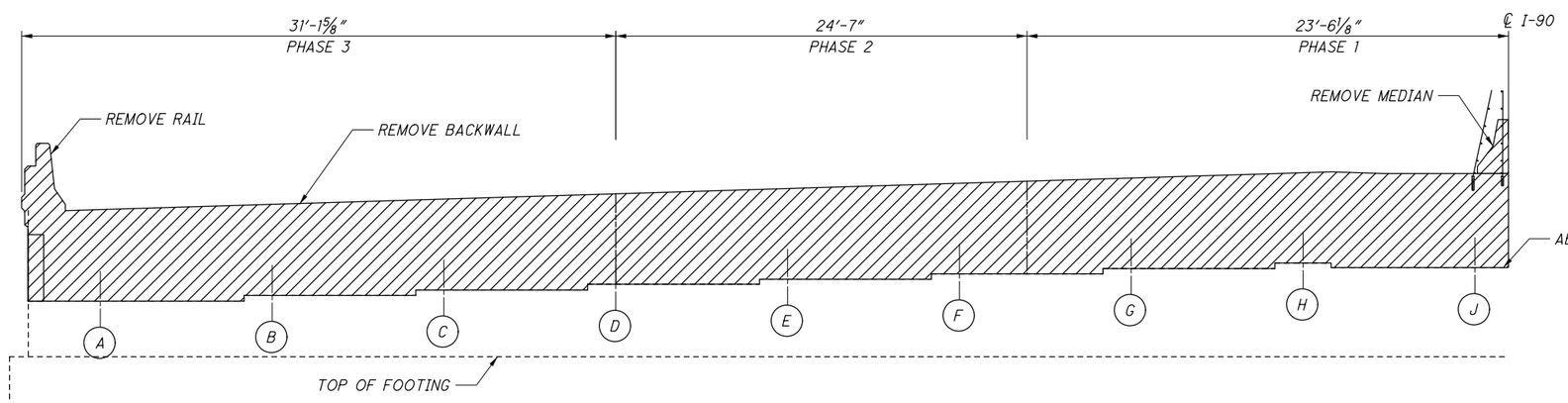
B ELEVATION
RAILING REMOVAL



PARTIAL PLAN
REAR ABUTMENT REMOVAL (EASTBOUND)



C SECTION
RAILING REMOVAL



PARTIAL ELEVATION
REAR ABUTMENT REMOVAL (FACING WEST)

NOTES:

☑ LIMITS OF REMOVAL

DESIGN AGENCY
KS Associates Inc.
260 BURNS ROAD, ELYRIA, OHIO 44035

DESIGNED CFE | DRAWN CFE | REVIEWED MJM | DATE 12/07/16
CHECKED MEM | REVISED | STRUCTURE FILE NUMBER 1808869

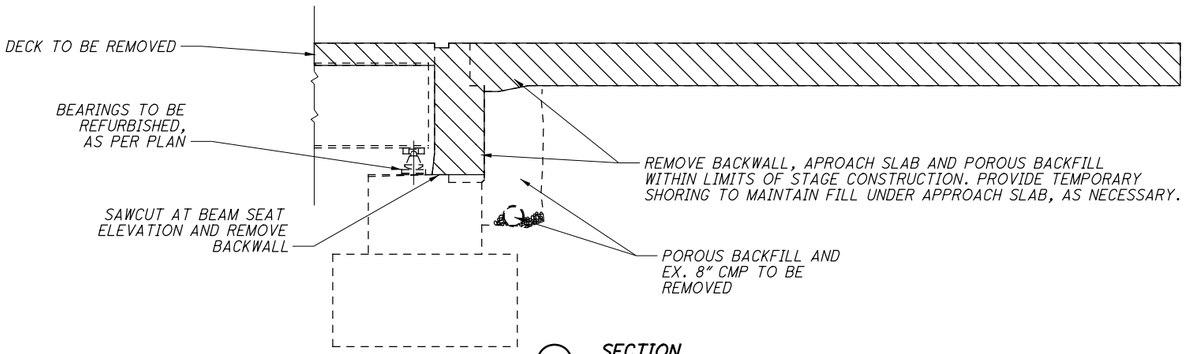
REMOVAL DETAILS - 1
BRIDGE NO. CUY-90-2616
I-90 OVER EAST 185TH ST.

CUY-90-26.16/VAR
PID No. 87628

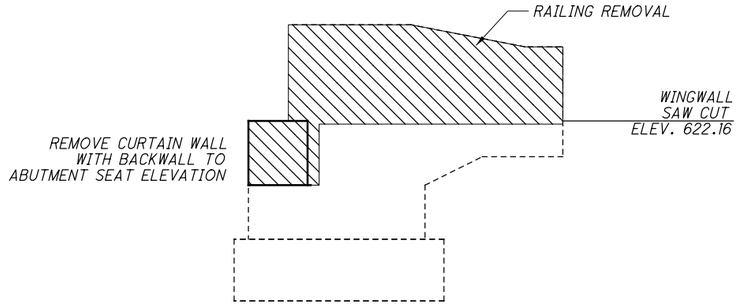
11 / 41

119
222

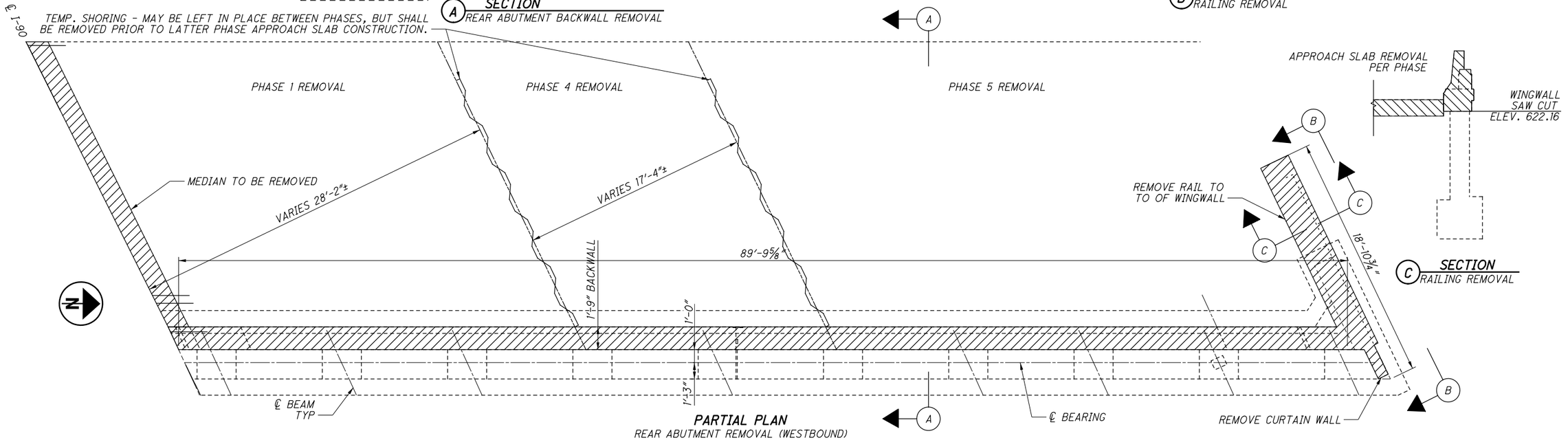
R:\14000\14035\87628\structures\sheets\CUY90_2616\CUY90_2616RE001.dgn 11/9/2017 1:39:47 PM malloym



A SECTION
REAR ABUTMENT BACKWALL REMOVAL

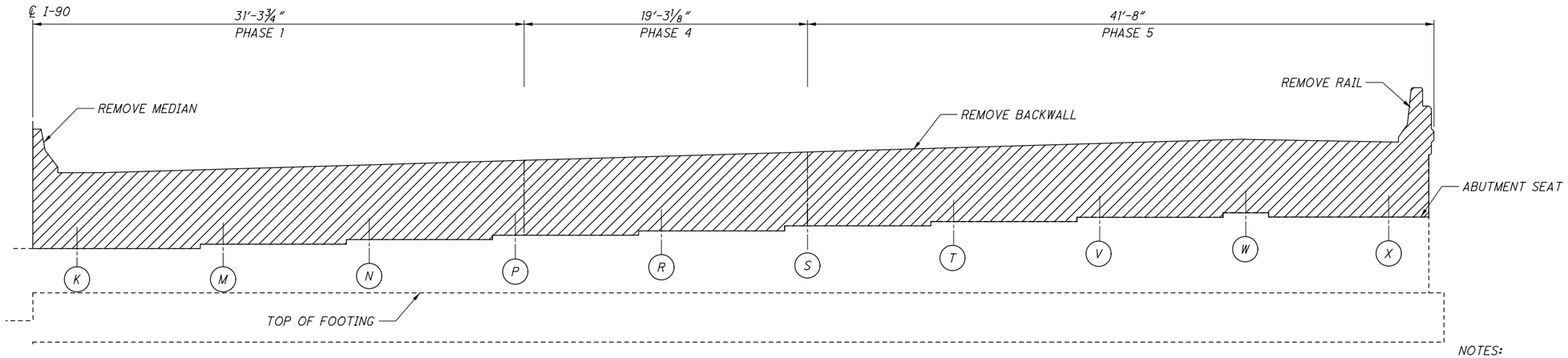


B ELEVATION
RAILING REMOVAL



PARTIAL PLAN
REAR ABUTMENT REMOVAL (WESTBOUND)

C SECTION
RAILING REMOVAL



PARTIAL ELEVATION
REAR ABUTMENT REMOVAL (FACING WEST)

NOTES:
LIMITS OF REMOVAL

DESIGN AGENCY
KS Associates Inc.
260 BURNS ROAD, ELYRIA, OHIO 44035

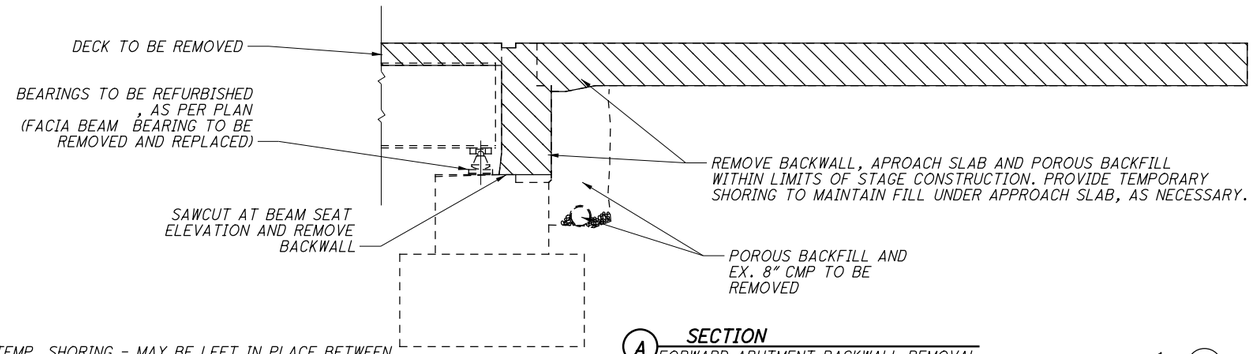
DESIGNED	DRAWN	REVIEWED	DATE
CFE	CFE	MJM	12/07/16
CHECKED	REVISED	STRUCTURE FILE NUMBER	
MEM		1808869	

REMOVAL DETAILS - 2
BRIDGE NO. CUY-90-2616
I-90 OVER EAST 185TH ST.

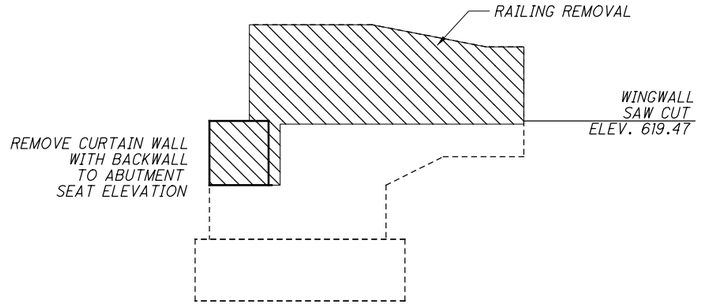
CUY-90-26.16/VAR
PID No. 87628

12 / 41

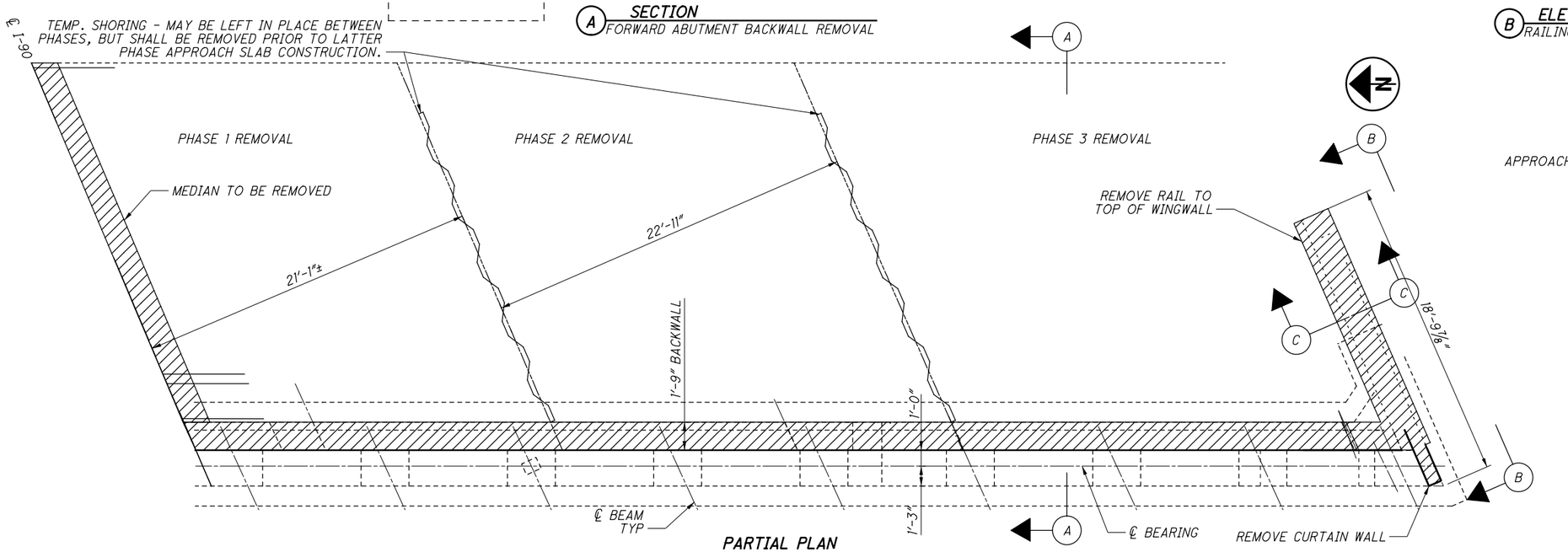
120
222



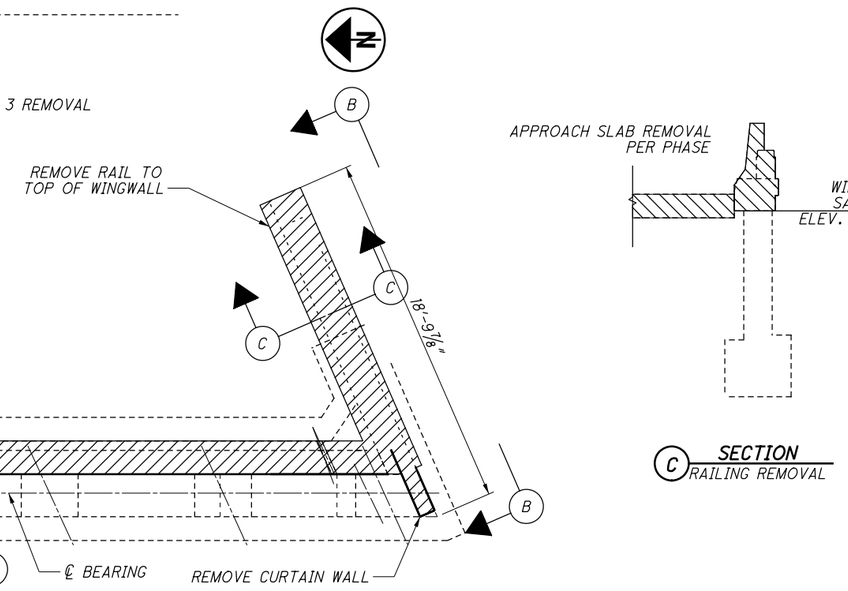
A SECTION
FORWARD ABUTMENT BACKWALL REMOVAL



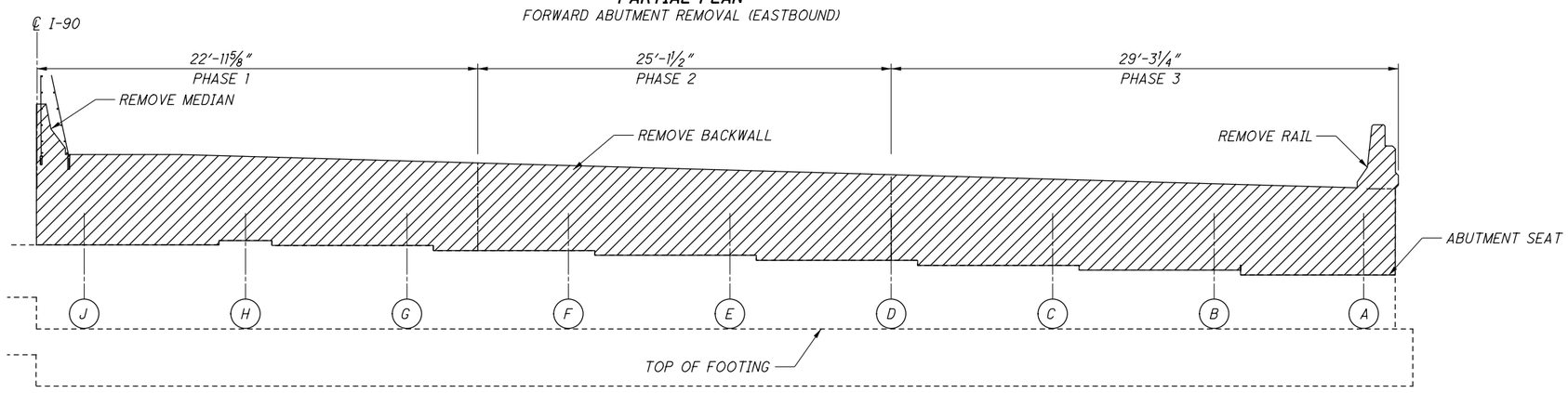
B ELEVATION
RAILING REMOVAL



PARTIAL PLAN
FORWARD ABUTMENT REMOVAL (EASTBOUND)



C SECTION
RAILING REMOVAL



PARTIAL ELEVATION
FORWARD ABUTMENT REMOVAL (FACING EAST)

R:\14000\14035\87628\structures\sheets\CUY90_2616\CUY90_2616RE003.dgn 11/9/2017 1:39:51 PM malloym

DESIGN AGENCY
KS Associates Inc.
260 BURNS ROAD, ELYRIA, OHIO 44035

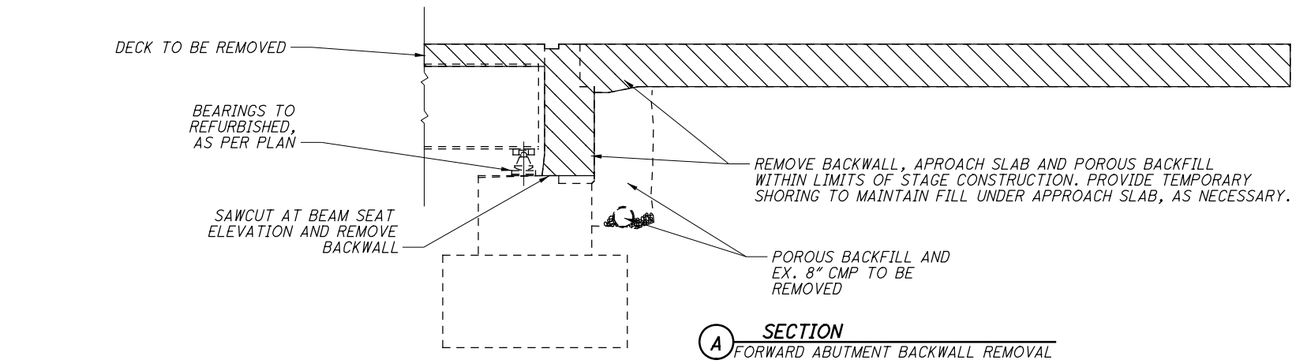
DESIGNED	DRAWN	REVIEWED	DATE
CFE	CFE	MJM	12/07/16
CHECKED	REVISED	STRUCTURE FILE NUMBER	
MEM		1808869	

REMOVAL DETAILS - 3
BRIDGE NO. CUY-90-2616
I-90 OVER EAST 185TH ST.

CUY-90-26.16/ VAR
PID No. 87628

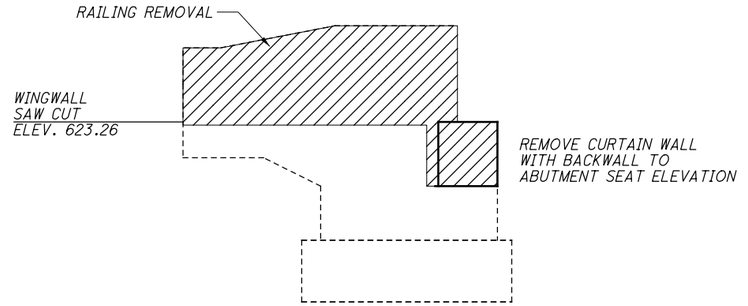
13 / 41

121
222

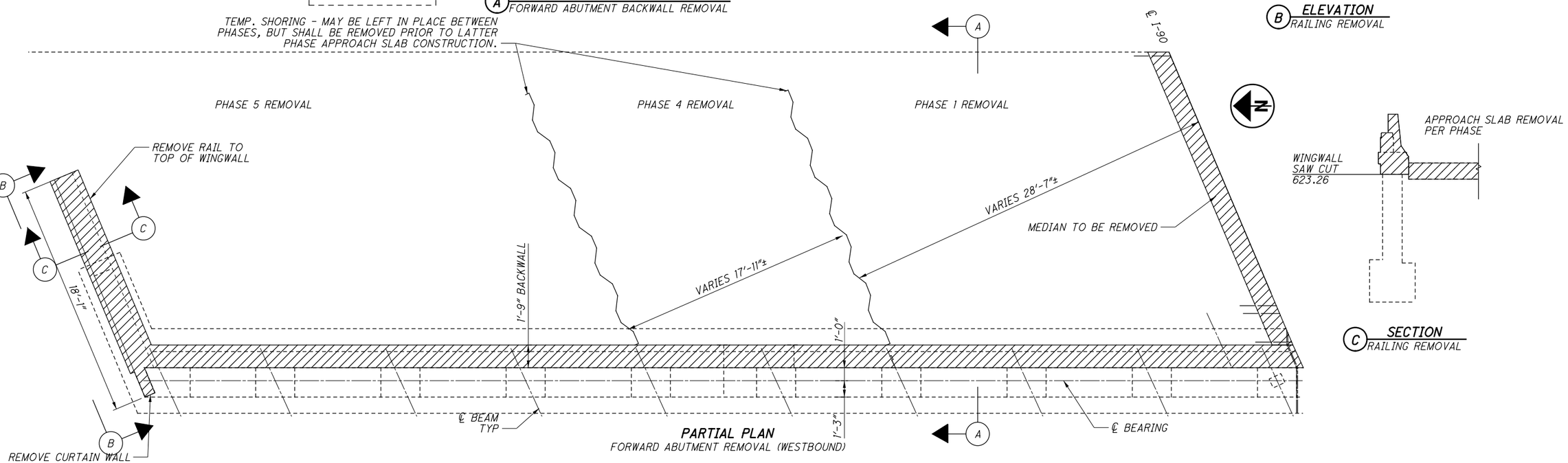


A **SECTION**
FORWARD ABUTMENT BACKWALL REMOVAL

TEMP. SHORING - MAY BE LEFT IN PLACE BETWEEN PHASES, BUT SHALL BE REMOVED PRIOR TO LATTER PHASE APPROACH SLAB CONSTRUCTION.

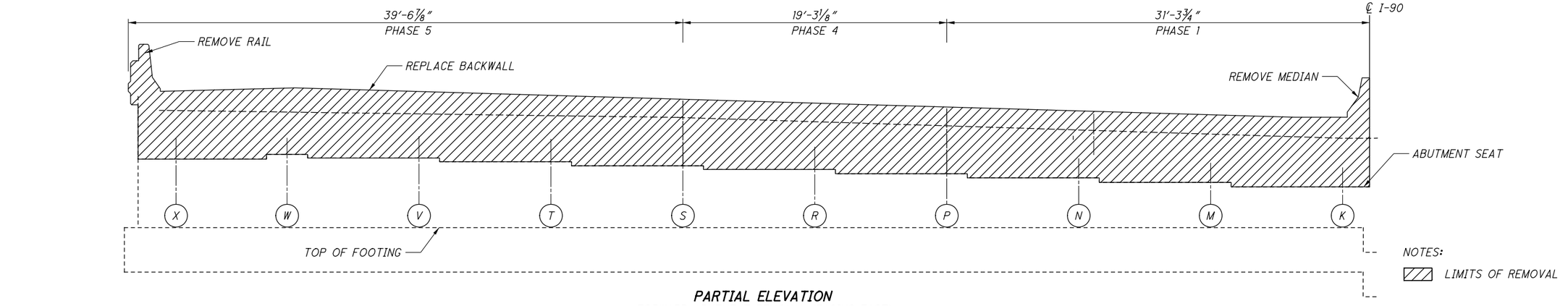


B **ELEVATION**
RAILING REMOVAL



PARTIAL PLAN
FORWARD ABUTMENT REMOVAL (WESTBOUND)

C **SECTION**
RAILING REMOVAL



NOTES:
LIMITS OF REMOVAL

PARTIAL ELEVATION
FORWARD ABUTMENT REMOVAL (FACING EAST)

R:\14000\14035\87628\structures\sheets\CUY90_2616\CUY90_2616RE004.dgn 11/9/2017 1:39:52 PM malloym

DESIGN AGENCY
KS Associates Inc.
260 BURNS ROAD, ELYRIA, OHIO 44035

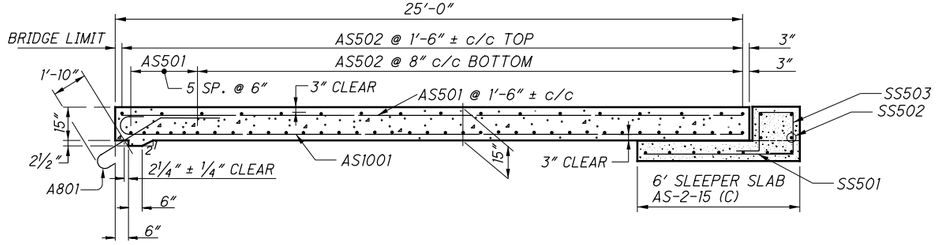
DESIGNED CFE | DRAWN CFE | REVIEWED MJM | DATE 12/07/16
CHECKED MEM | REVISED | STRUCTURE FILE NUMBER 1808869

REMOVAL DETAILS - 4
BRIDGE NO. CUY-90-2616
I-90 OVER EAST 185TH ST.

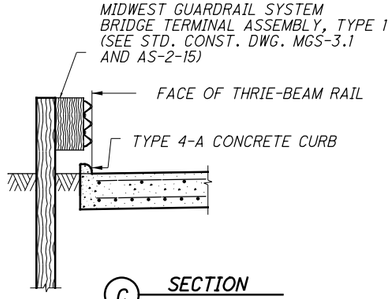
CUY-90-26.16/VAR
PID No. 87628

14 / 41

122
222

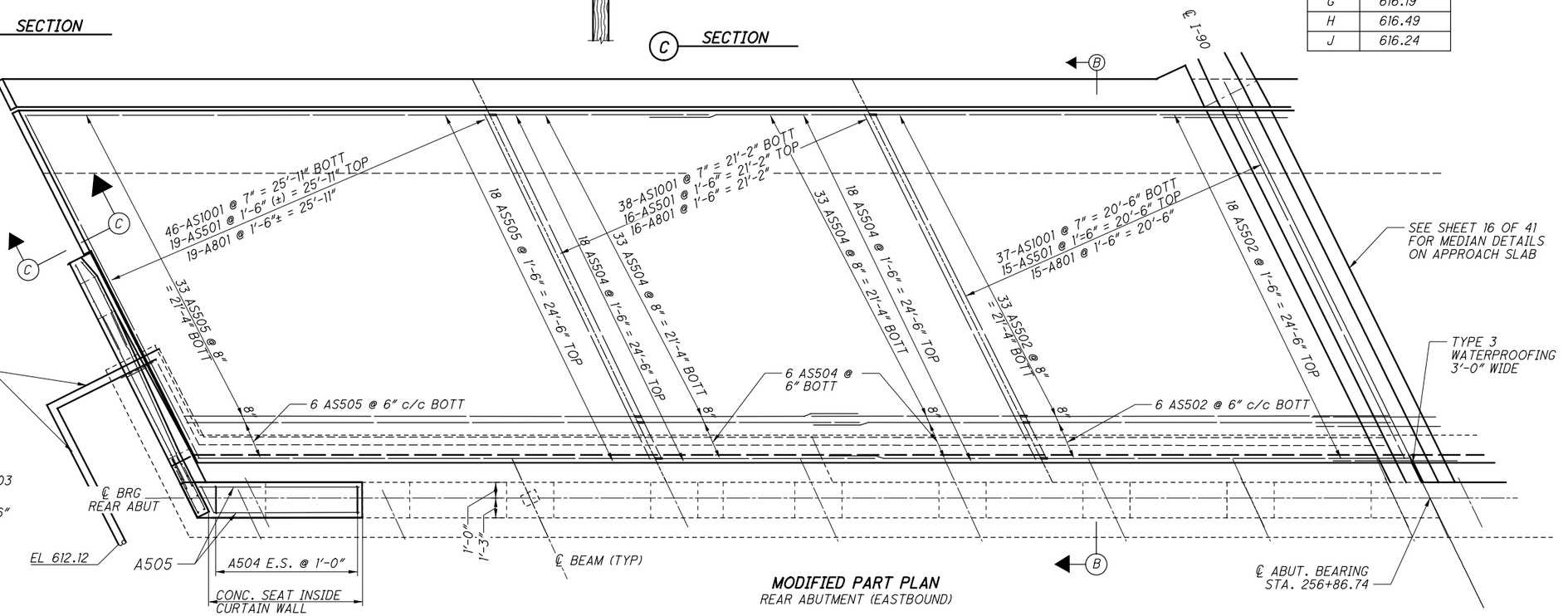


B SECTION

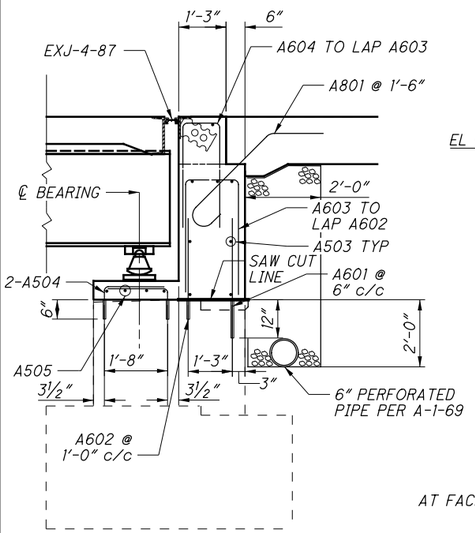


C SECTION

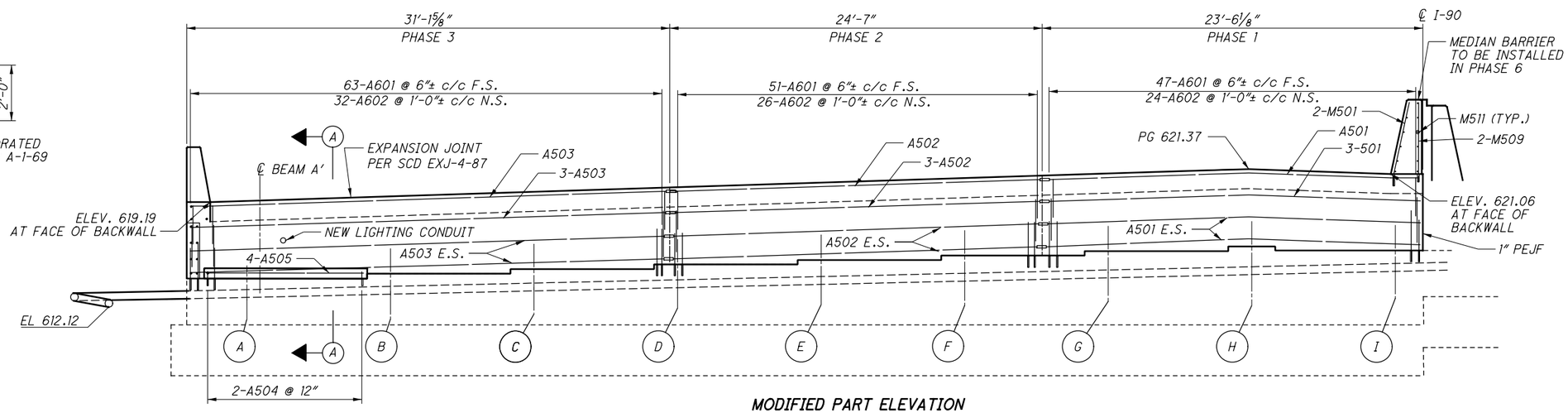
BEAM SEAT	ELEVATION
A	614.45
A'	615.23
B	614.76
C	615.05
D	615.35
E	615.62
F	615.91
G	616.19
H	616.49
J	616.24



MODIFIED PART PLAN
REAR ABUTMENT (EASTBOUND)



A SECTION
REAR ABUTMENT MODIFIED BACKWALL



MODIFIED PART ELEVATION
REAR ABUTMENT (FACING WEST)

DESIGN AGENCY
KS Associates Inc.
260 BURNS ROAD, ELYRIA, OHIO 44035

DESIGNED	DRAWN	REVIEWED	DATE
CFE	CFE	MJM	12/07/16
CHECKED	REVISED	STRUCTURE FILE NUMBER	
MEM		1808869	

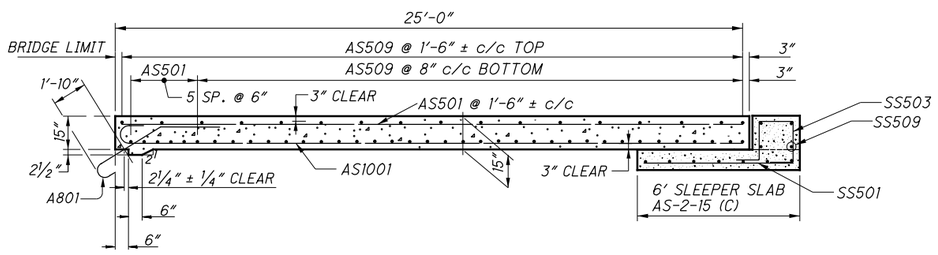
REAR ABUTMENT (EB)
BRIDGE NO. CUY-90-2616
I-90 OVER EAST 185TH ST.

CUY-90-26.16/VAR
PID No. 87628

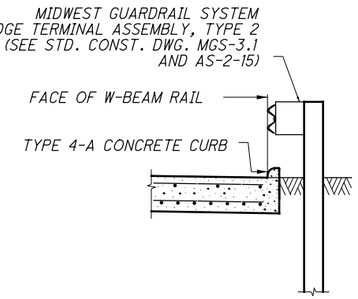
15 / 41

123
222

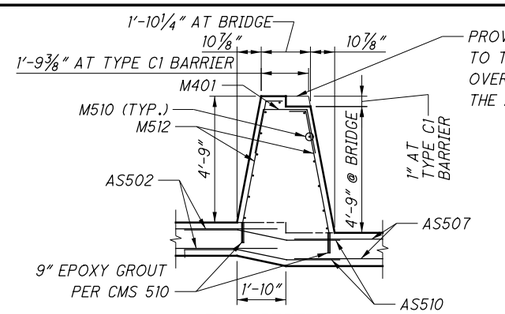
R:\14000\14035\87628\structures\sheets\CUY90_2616\CUY90_2616AR001.dgn 11/9/2017 1:39:53 PM malloym



B SECTION



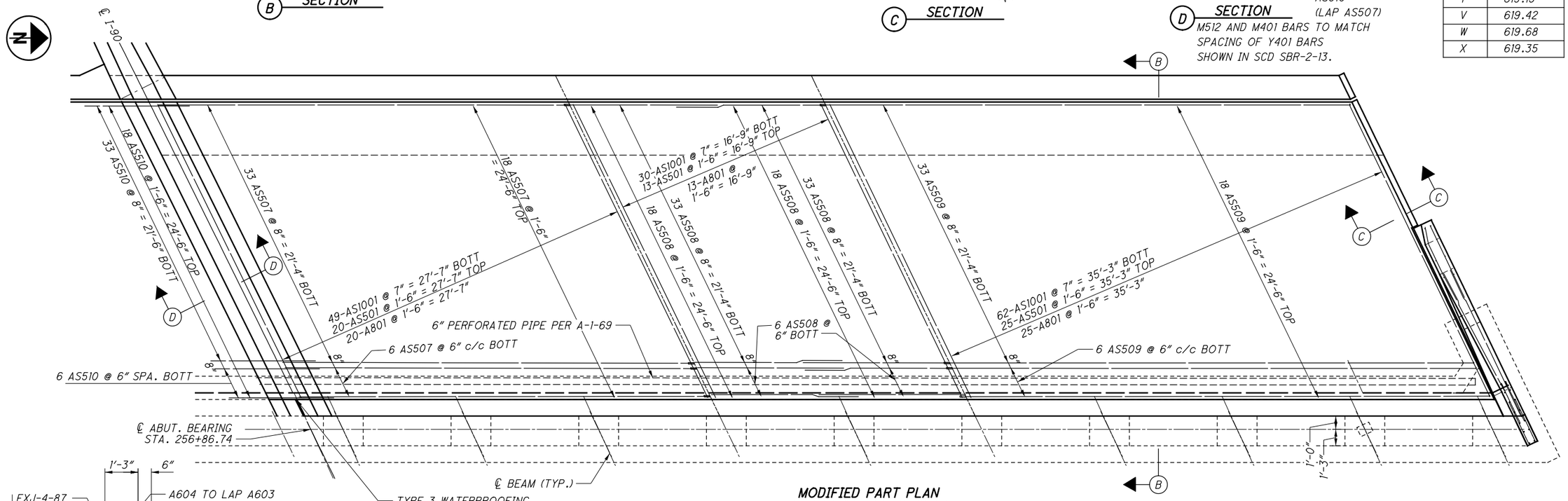
C SECTION



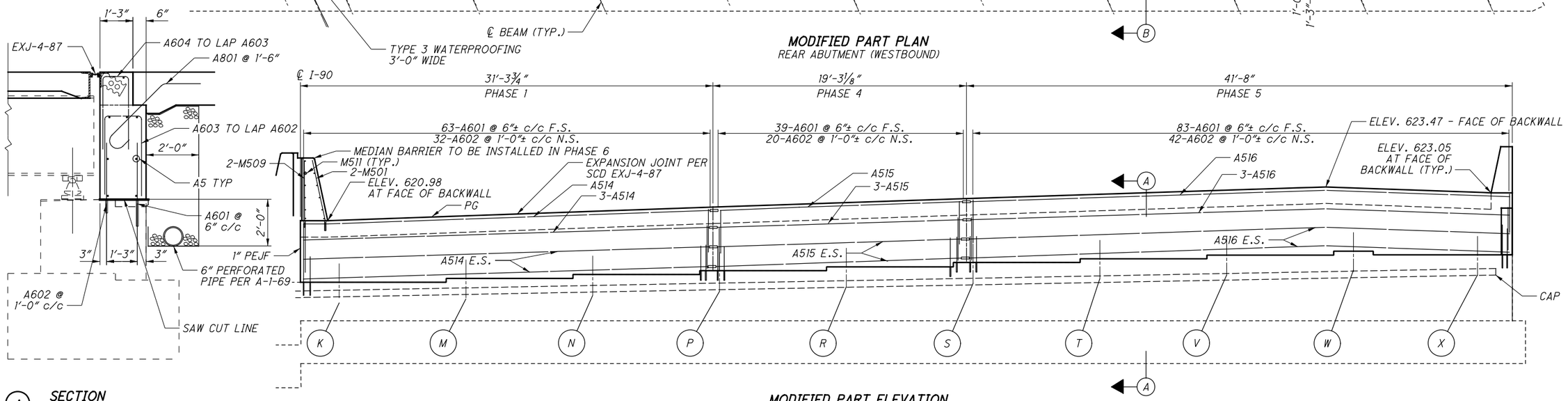
D SECTION

M512 AND M401 BARS TO MATCH SPACING OF Y401 BARS SHOWN IN SCD SBR-2-13.

BEAM SEAT	ELEVATION
K	617.32
M	617.64
N	617.97
P	618.27
R	618.58
S	618.85
T	619.15
V	619.42
W	619.68
X	619.35



MODIFIED PART PLAN
REAR ABUTMENT (WESTBOUND)



MODIFIED PART ELEVATION
REAR ABUTMENT (FACING WEST)

A SECTION
REAR ABUTMENT MODIFIED BACKWALL

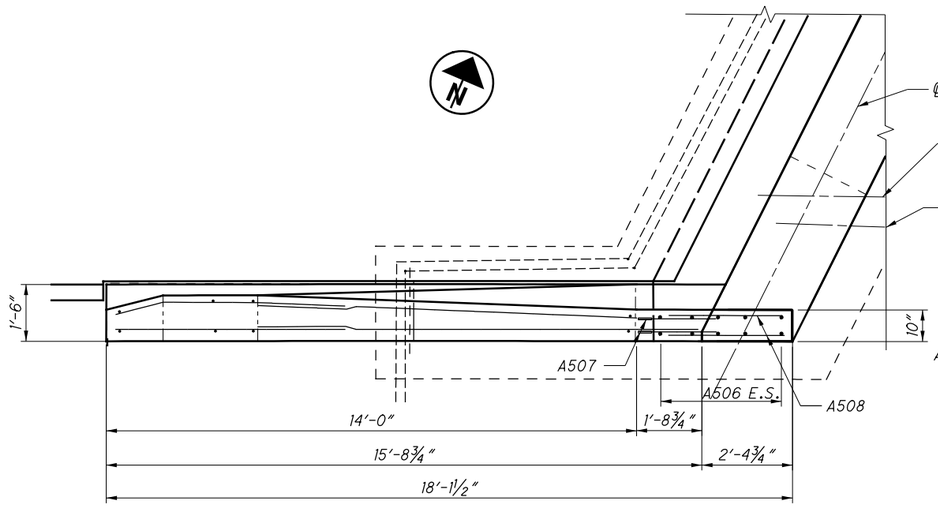
R:\14000\14035\87628\structures\sheets\CUY90_2616\CUY90_2616AR101.dgn 11/9/2017 1:39:54 PM malloym

DESIGN AGENCY
KS Associates Inc.
260 BURNS ROAD, ELYRIA, OHIO 44035

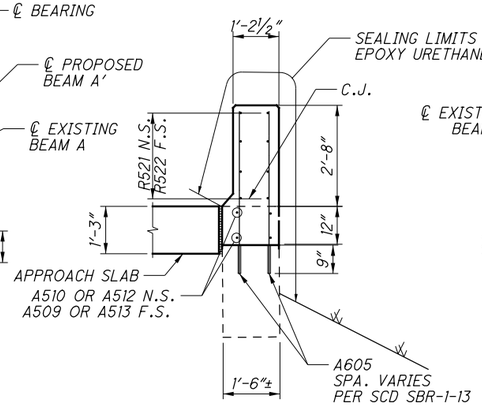
DESIGNED	DRAWN	REVIEWED	DATE
CFE	CFE	MJM	12/07/16
CHECKED	REVISED	STRUCTURE FILE NUMBER	
MEM		1808869	

REAR ABUTMENT (WB)
BRIDGE NO. CUY-90-2616
I-90 OVER EAST 185TH ST.

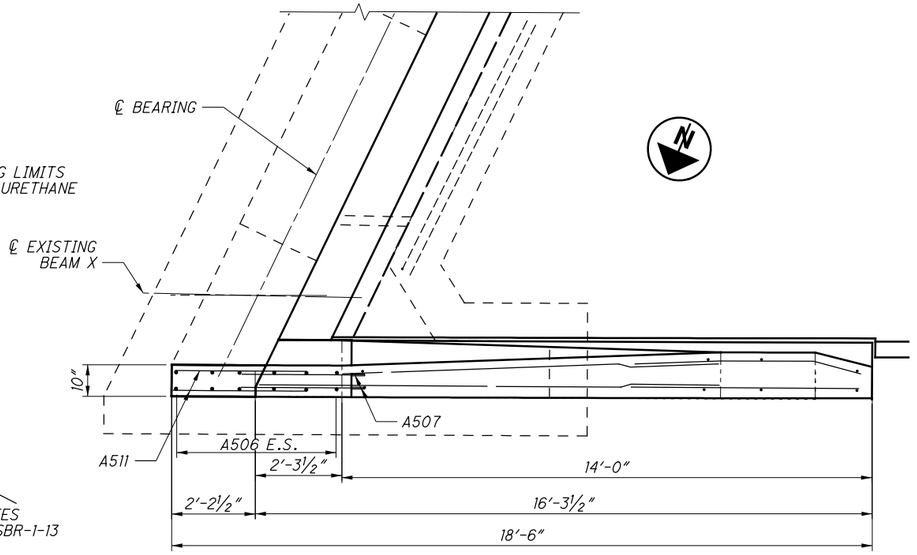
CUY-90-26.16/ VAR
PID No. 87628



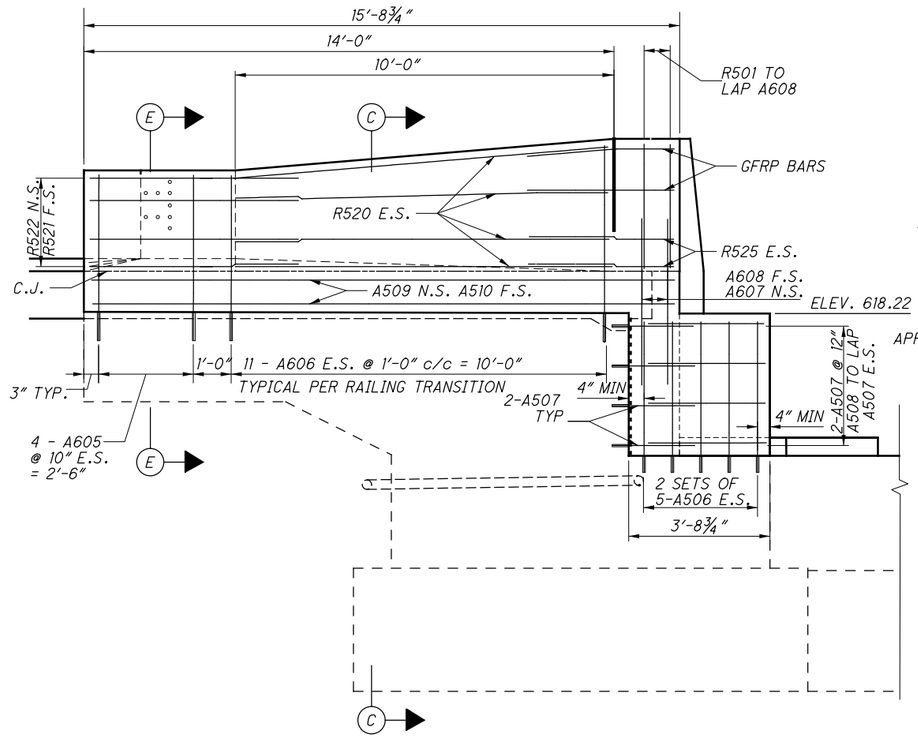
REAR ABUTMENT (SOUTHWEST) WINGWALL PLAN



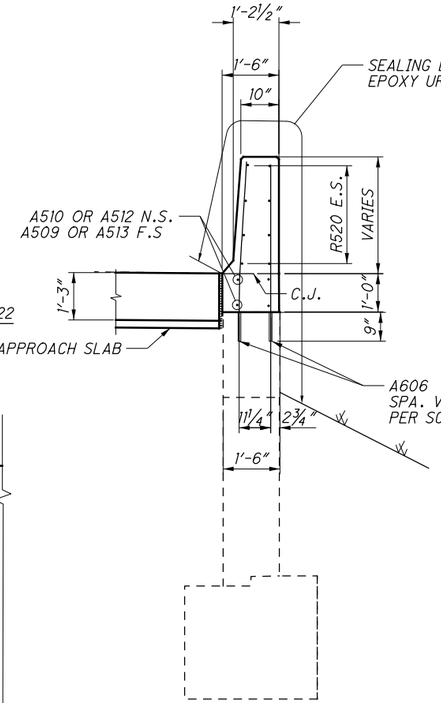
E SECTION



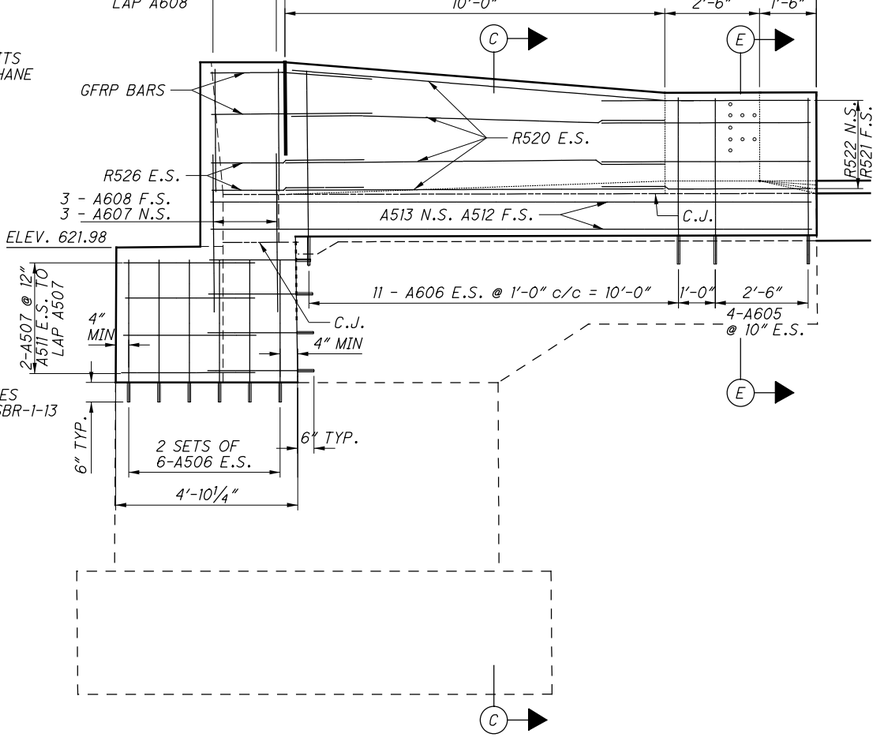
REAR ABUTMENT (NORTHWEST) WINGWALL PLAN



REAR ABUTMENT (SOUTHWEST) WINGWALL ELEVATION



C SECTION



REAR ABUTMENT (NORTHWEST) WINGWALL ELEVATION

DESIGN AGENCY
KS Associates Inc.
260 BURNS ROAD, ELYRIA, OHIO 44035

DESIGNED	DRAWN	REVIEWED	DATE
CFE	CFE	MJM	01/09/17
CHECKED	REVISED	STRUCTURE FILE NUMBER	
MEM		1808869	

REAR ABUTMENT WINGWALL DETAIL

BRIDGE NO. CUY-90-2616
I-90 OVER EAST 185TH ST.

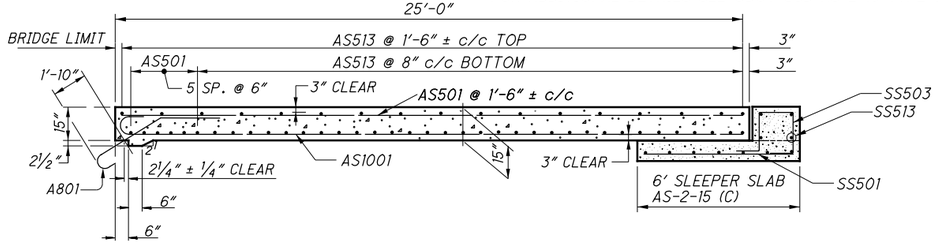
CUY-90-26.16 / VAR
PID No. 87628

17 / 41

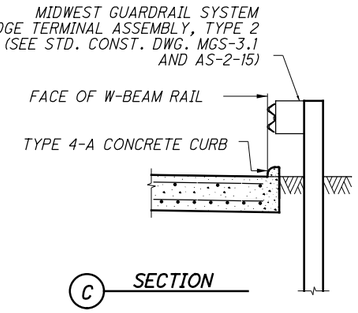
125
222

R:\14000\14035\87628\structures\sheets\CUY90_2616\CUY90_2616AR002.dgn 11/9/2017 1:39:54 PM malloym

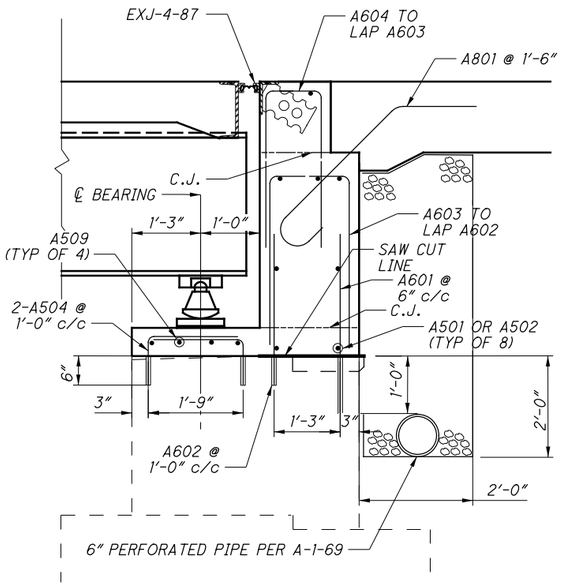
FOR ADDITIONAL DETAILS SEE ODOT SCD AS-2-15 TYPE C



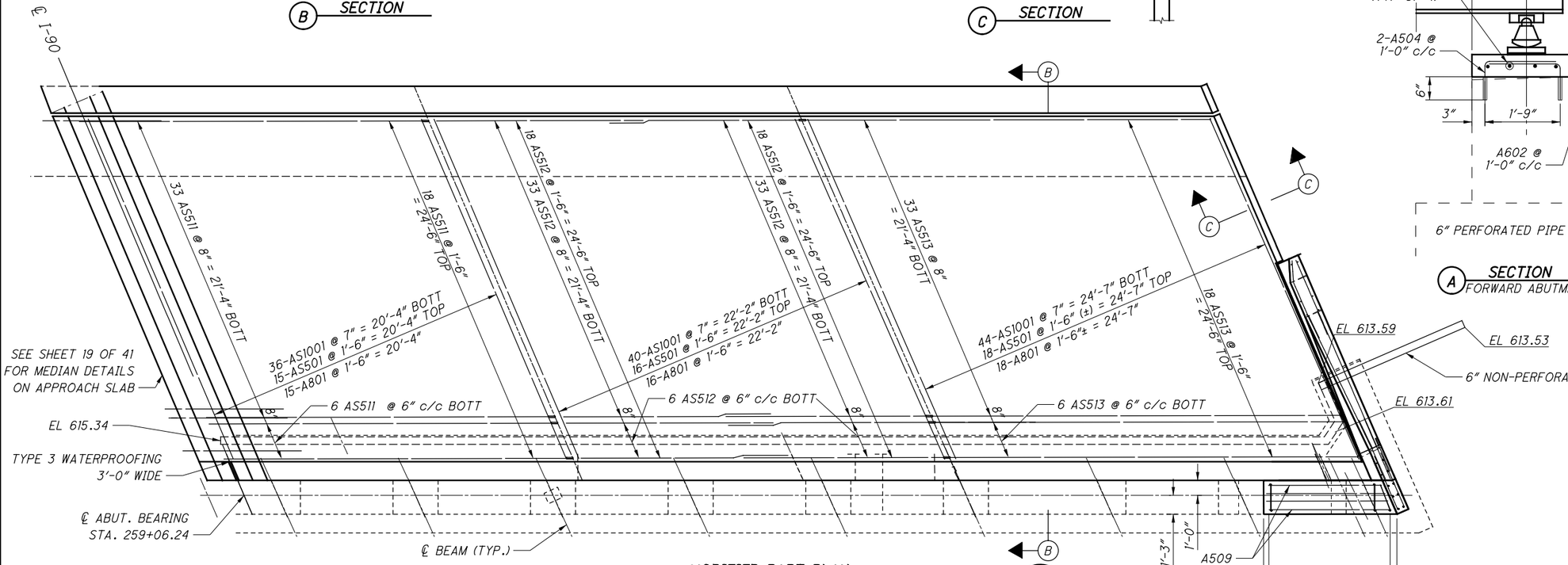
B SECTION



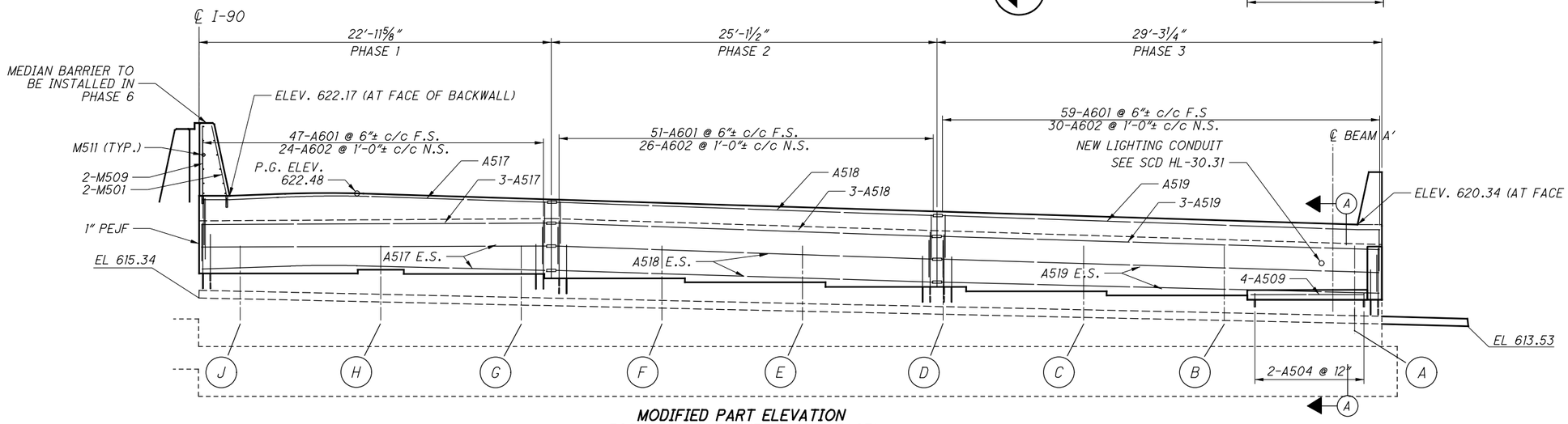
C SECTION



A SECTION
FORWARD ABUTMENT MODIFIED BACKWALL



MODIFIED PART PLAN
FORWARD ABUTMENT (EASTBOUND)



MODIFIED PART ELEVATION
FORWARD ABUTMENT (FACING EAST)

BEAM SEAT	ELEVATION
A	615.62
A'	616.30
B	615.90
C	616.17
D	616.46
E	616.75
F	617.01
G	617.31
H	617.58
J	617.34

DESIGN AGENCY
KS Associates Inc.
260 BURNS ROAD, ELYRIA, OHIO 44035

DESIGNED	DRAWN	REVIEWED	DATE
CFE	CFE	MJM	12/07/16
CHECKED	REVISED	STRUCTURE FILE NUMBER	
MEM		1808869	

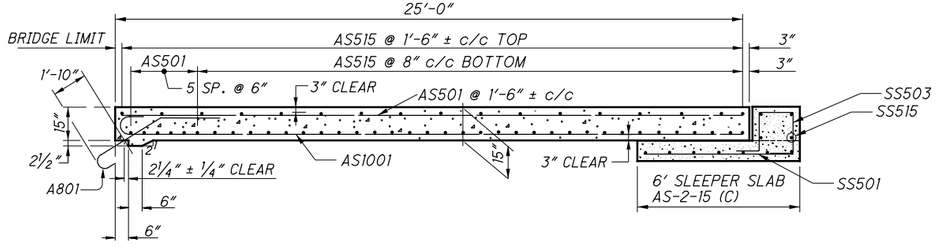
FORWARD ABUTMENT (EB)
BRIDGE NO. CUY-90-2616
I-90 OVER EAST 185TH ST.

CUY-90-26.16/VAR
PID No. 87628

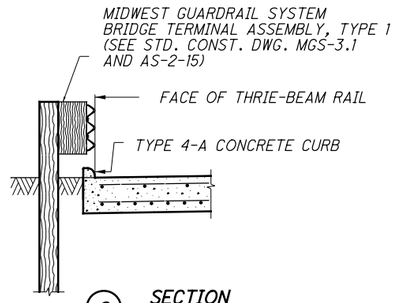
18 / 41

126
222

R:\14000\14035\87628\structures\sheets\CUY90_2616\CUY90_2616AF001.dgn 11/9/2017 1:39:55 PM malloym

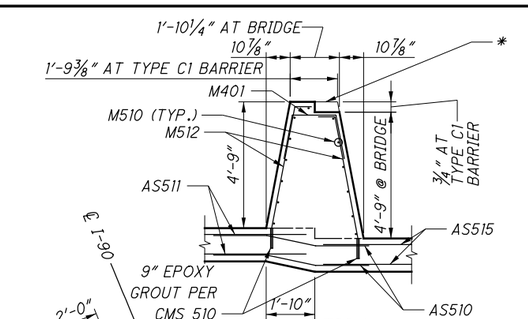


B SECTION



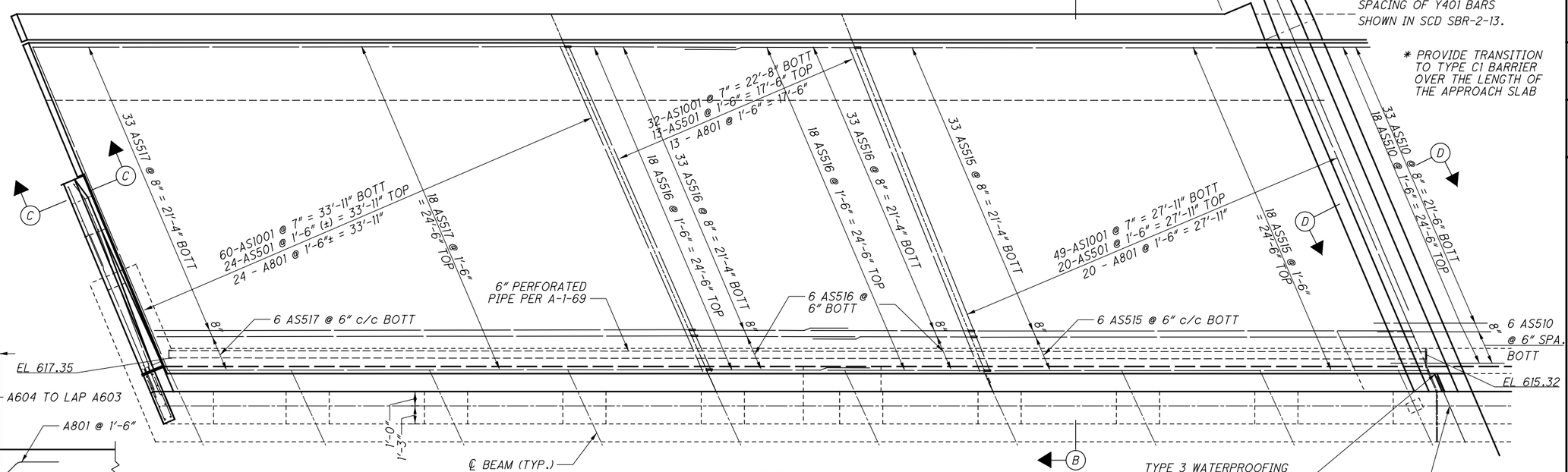
C SECTION

BEAM SEAT	ELEVATION
K	617.32
M	617.64
N	617.97
P	618.27
R	618.58
S	618.85
T	619.15
V	619.42
W	619.68
X	619.35



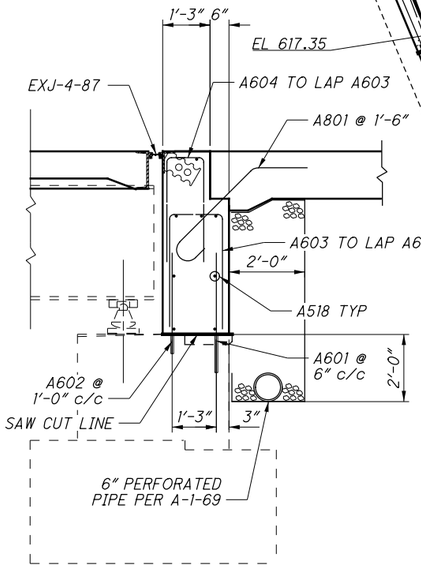
D SECTION

M512 AND M401 BARS TO MATCH SPACING OF Y401 BARS SHOWN IN SCD SBR-2-13.

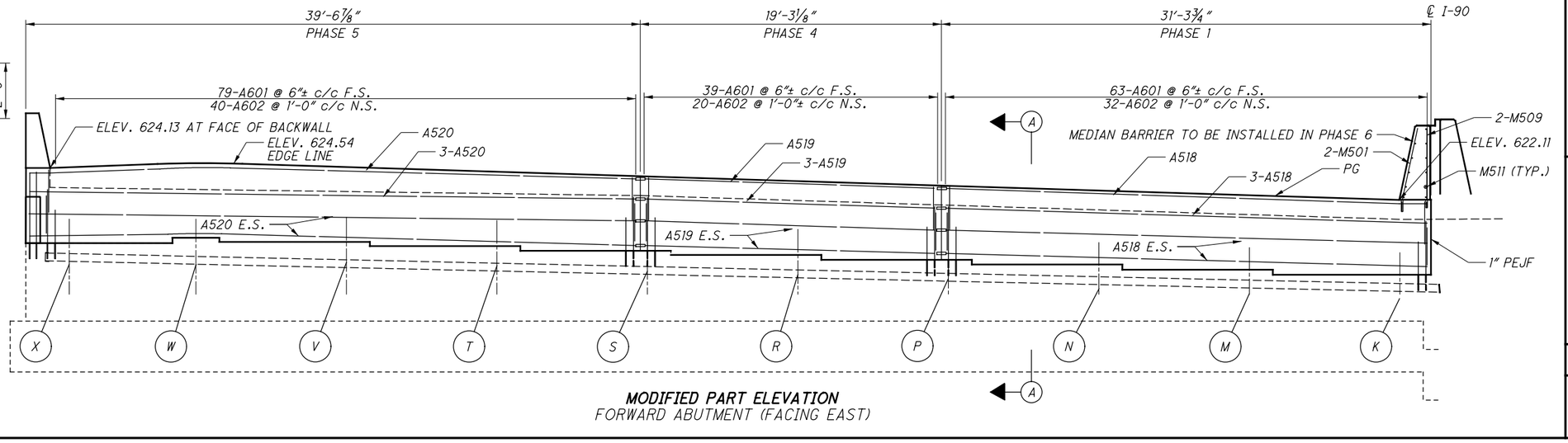


* PROVIDE TRANSITION TO TYPE C1 BARRIER OVER THE LENGTH OF THE APPROACH SLAB

MODIFIED PART PLAN
FORWARD ABUTMENT (WESTBOUND)



A SECTION
FORWARD ABUTMENT MODIFIED BACKWALL



MODIFIED PART ELEVATION
FORWARD ABUTMENT (FACING EAST)

DESIGN AGENCY
KS Associates Inc.
260 BURNS ROAD, ELYRIA, OHIO 44035

DESIGNED CFE | DRAWN CFE | REVIEWED MJM | DATE 12/07/16
CHECKED MEM | REVISED | STRUCTURE FILE NUMBER 1808869

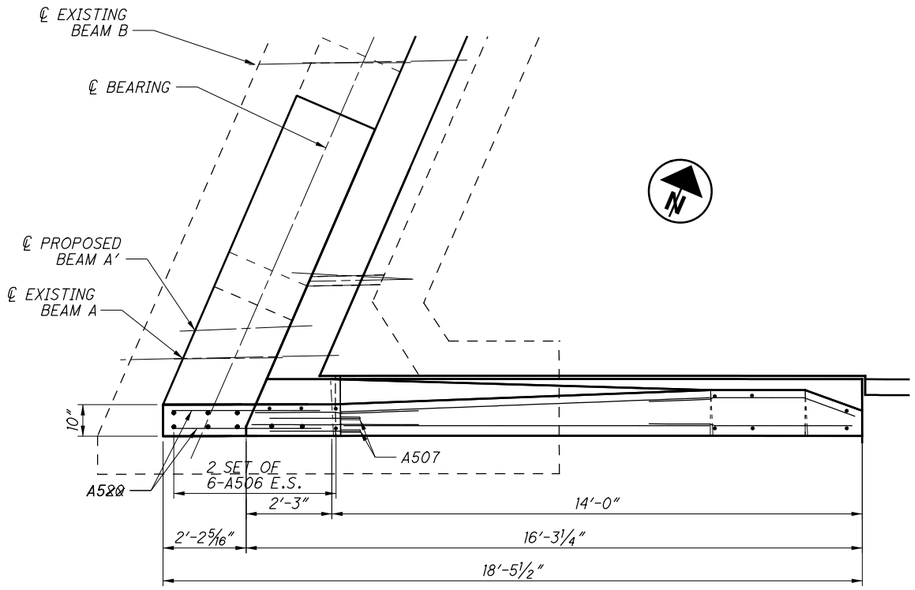
FORWARD ABUTMENT (WB)
BRIDGE NO. CUY-90-2616
I-90 OVER EAST 185TH ST.

CUY-90-26.16/VAR
PID No. 87628

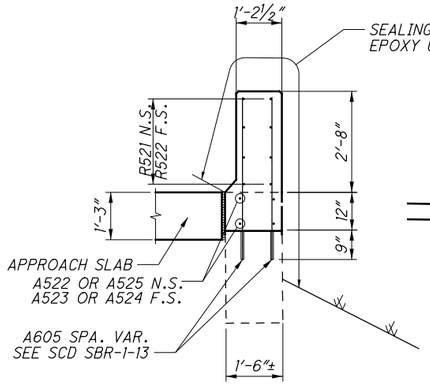
19 / 41

127
222

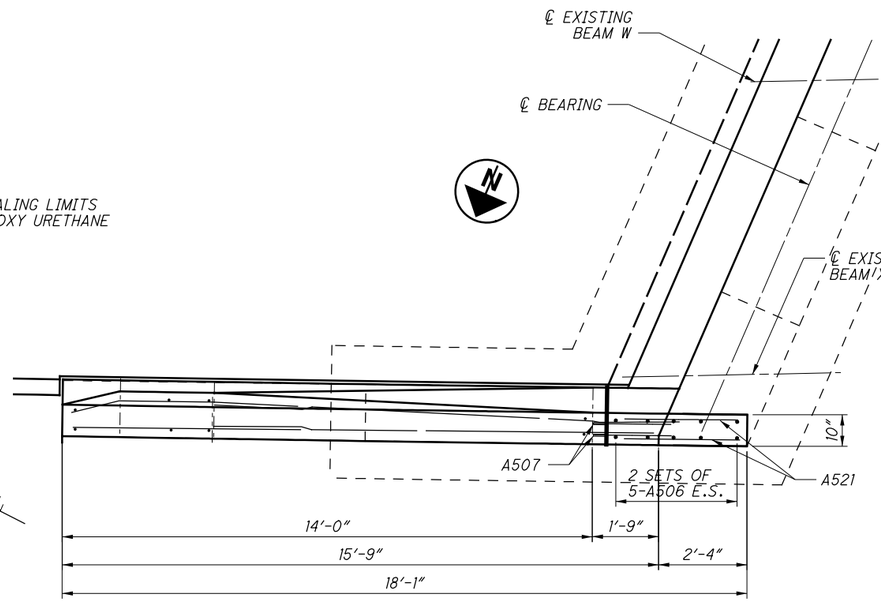
R:\14000\14035\87628\structures\sheets\CUY90_2616\CUY90_2616AF101.dgn 11/9/2017 1:39:56 PM malloym



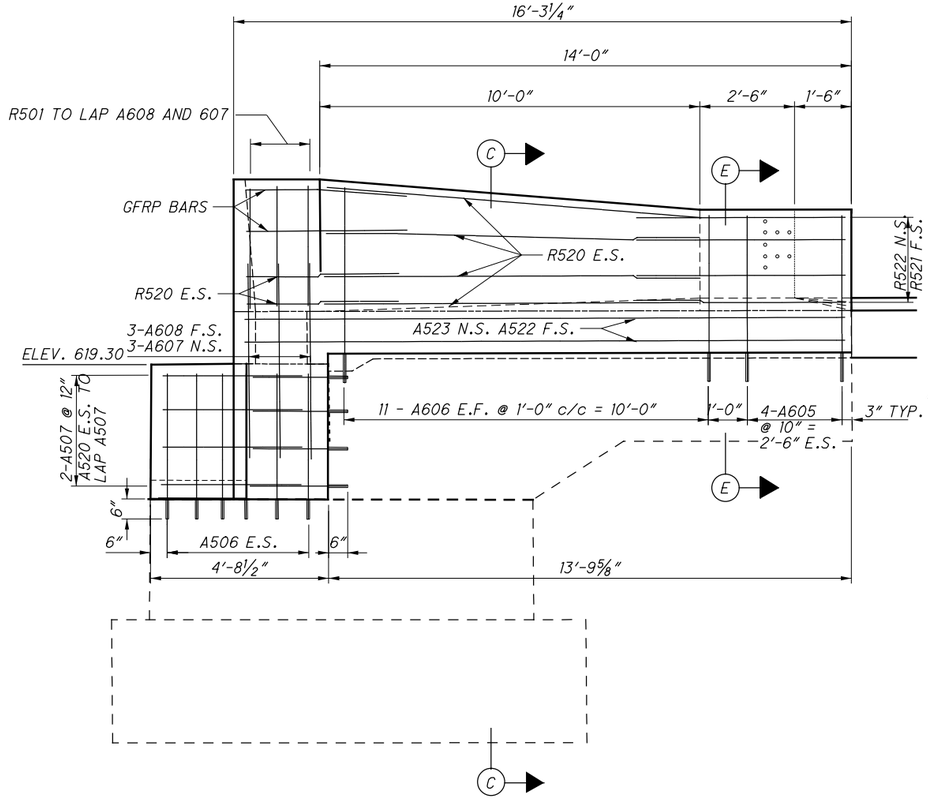
FORWARD ABUTMENT (SOUTHEAST) WINGWALL PLAN



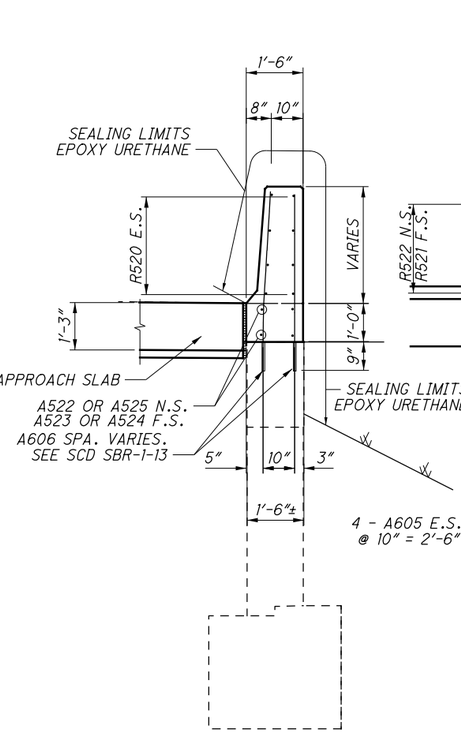
E SECTION



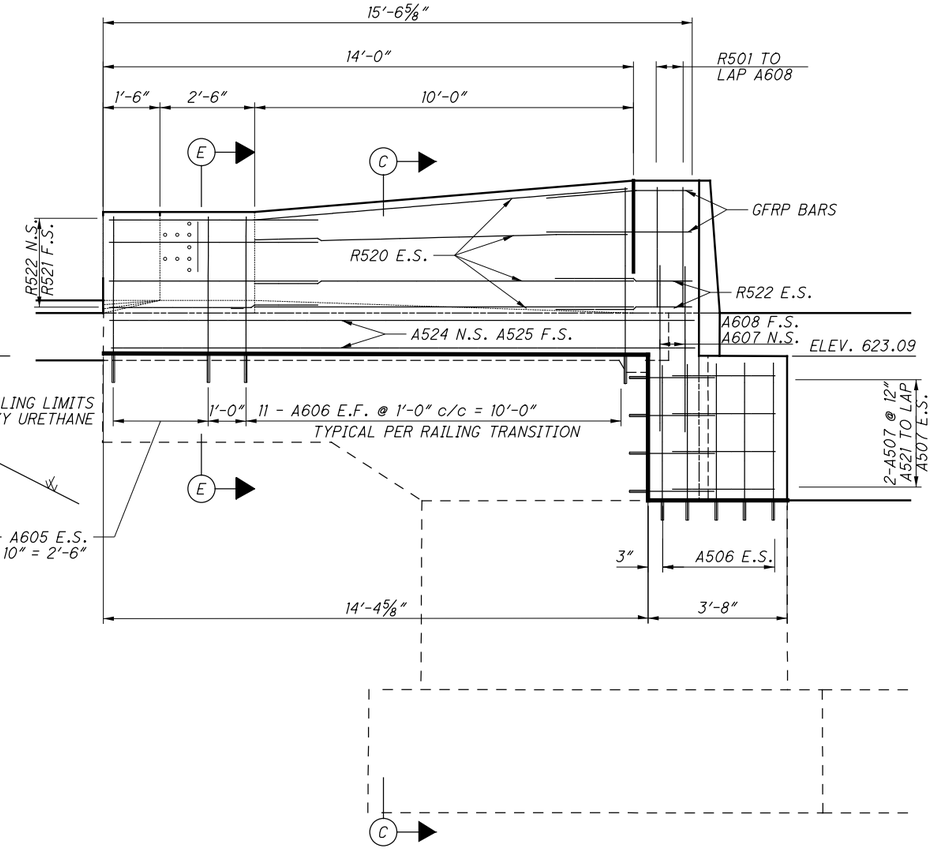
FORWARD ABUTMENT (NORTHEAST) WINGWALL PLAN



FORWARD ABUTMENT (SOUTHEAST) WINGWALL ELEVATION



C SECTION



FORWARD ABUTMENT (NORTHEAST) WINGWALL ELEVATION

DESIGN AGENCY
KS Associates Inc.
260 BURNS ROAD, ELYRIA, OHIO 44035

DESIGNED	DRAWN	REVIEWED	DATE
CFE	CFE	MJM	12/07/16
CHECKED	REVISED	STRUCTURE FILE NUMBER	
MEM		1808869	

FORWARD ABUTMENT WINGWALL DETAIL

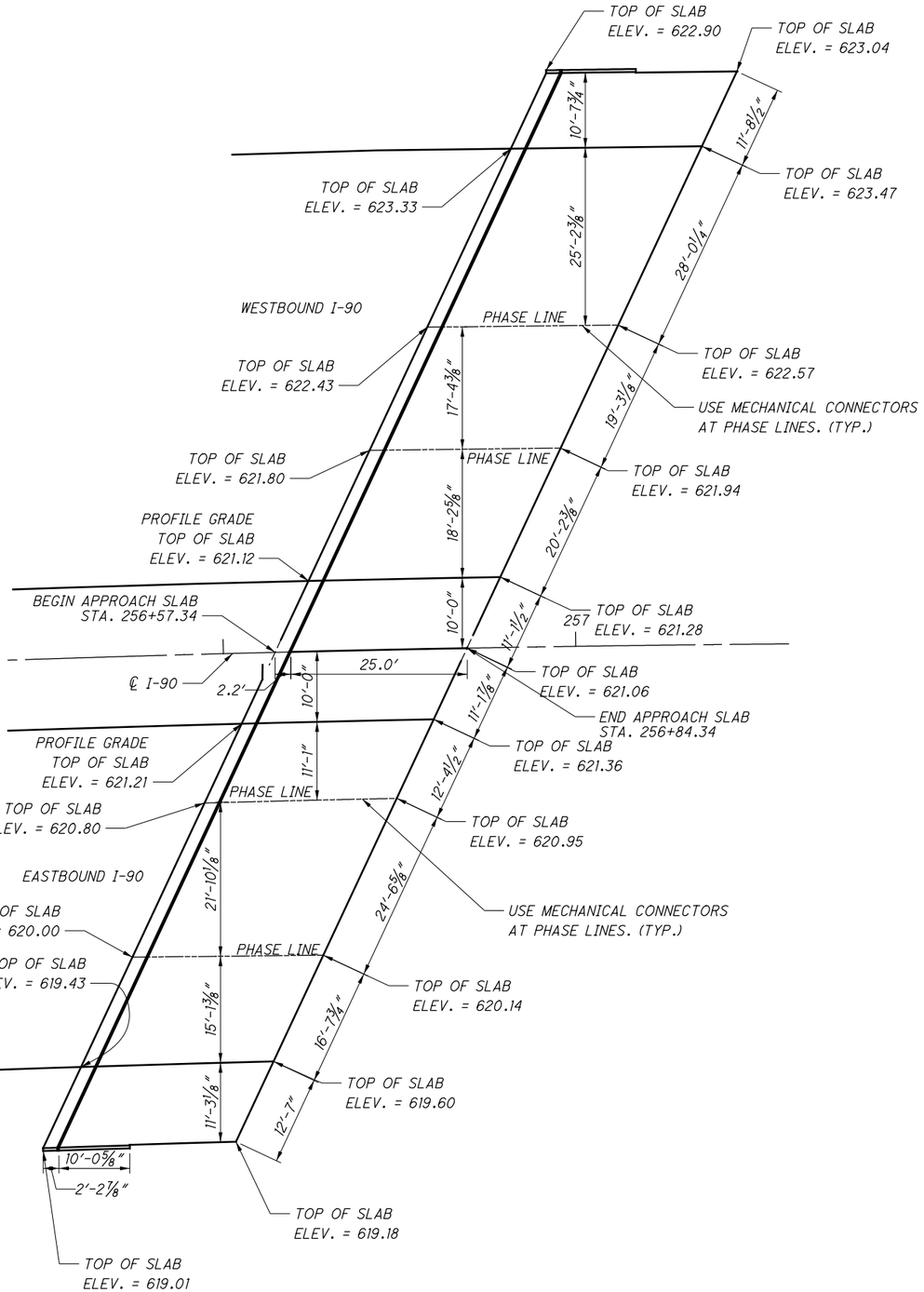
BRIDGE NO. CUY-90-2616
I-90 OVER EAST 185TH ST.

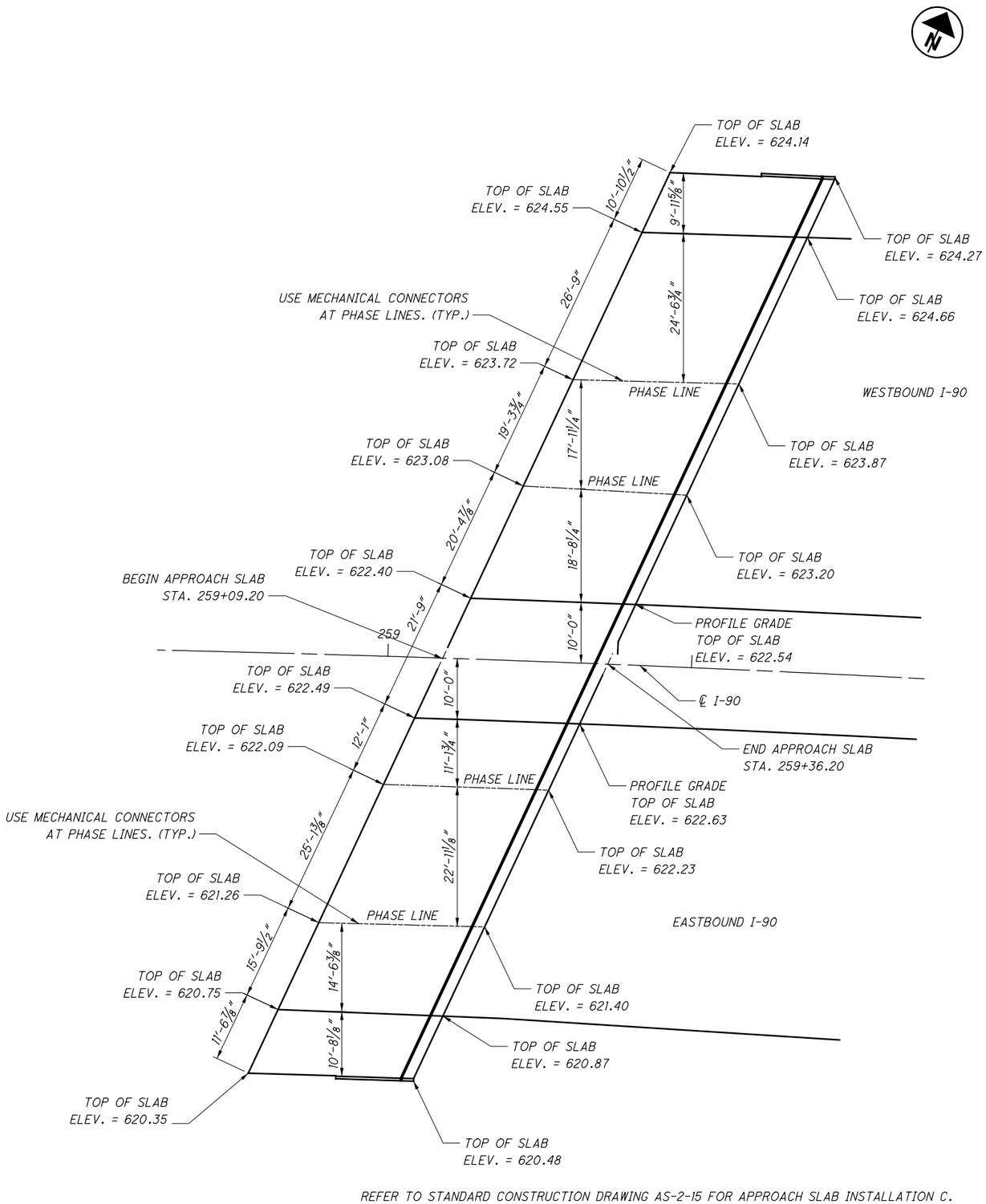
CUY-90-26.16/VAR
PID No. 87628

20 / 41

128
222

R:\14000\14035\87628\structures\sheets\CUY90_2616\CUY90_2616AF002.dgn 11/9/2017 1:39:57 PM malloym





REFER TO STANDARD CONSTRUCTION DRAWING AS-2-15 FOR APPROACH SLAB INSTALLATION C.

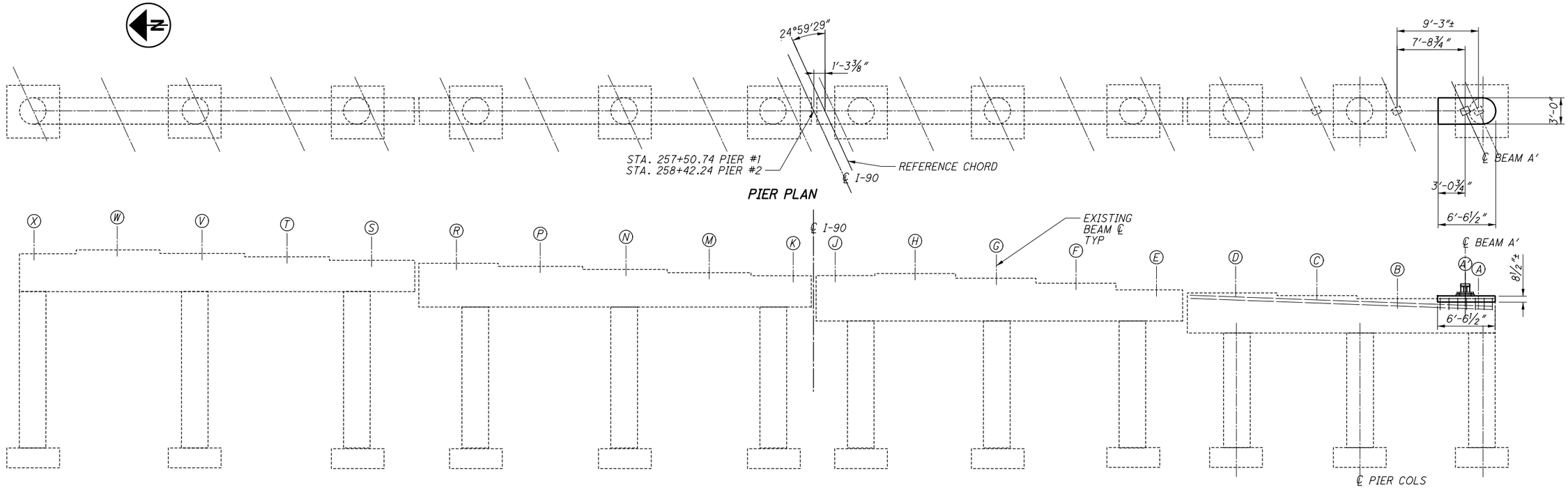
R:\14000\14035\87628\structures\sheets\CUY90_2616\CUY90_2616SM001.dgn 11/9/2017 1:39:57 PM malleym

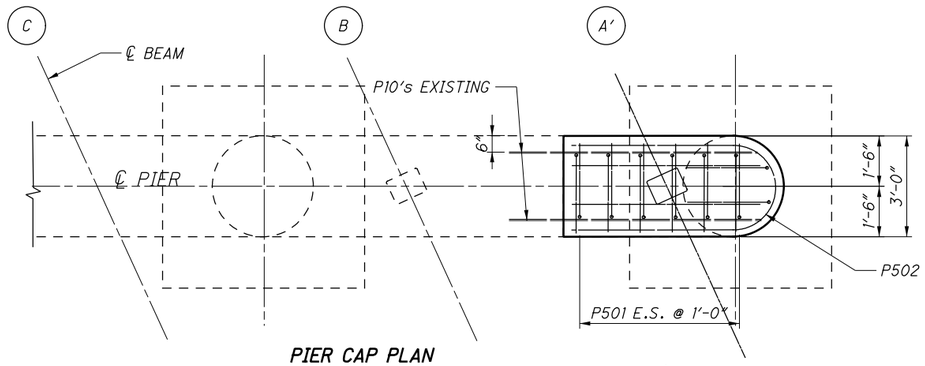
DESIGN AGENCY
KS Associates Inc.
260 BURNS ROAD, ELYRIA, OHIO 44035

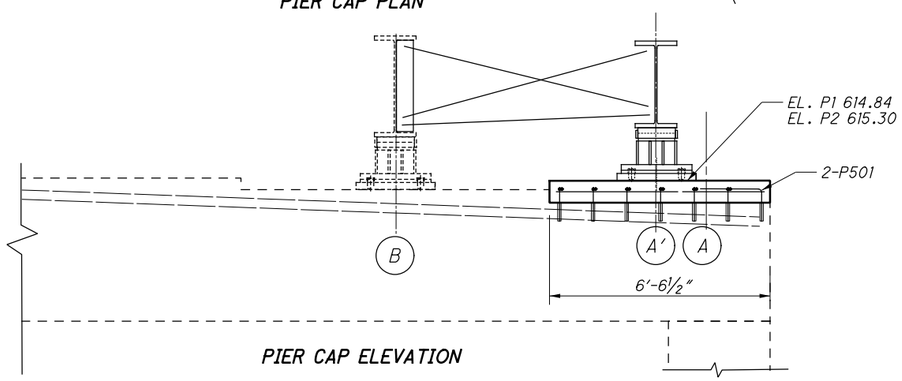
DESIGNED ASW | DRAWN ASW | REVIEWED MEM | DATE 12/07/16
CHECKED MJM | REVISED | STRUCTURE FILE NUMBER 1808869

APPROACH SLAB DETAILS
BRIDGE NO. CUY-90-2616
I-90 OVER EAST 185TH ST.

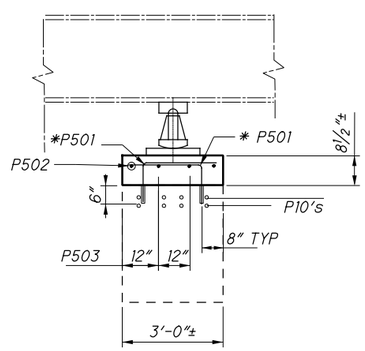
CUY-90-26.16/VAR
PID No. 87628







PIER SEAT A' DETAILS



PIER CAP SECTION

BEARING UNITS:

R-225 PIER 1
B-225 PIER 2

FOR BEARING DETAILS, SEE SHEET 38/41

* CONTRACTOR TO LOCATED EXISTING #10 BARS IN PIER CAP AND ADJUST P502 BAR SPACING TO AVOID DAMAGE.

DESIGN AGENCY
KS Associates Inc.
260 BURNS ROAD, ELYRIA, OHIO 44035

DESIGNED CFE | DRAWN MEM | REVIEWED MJM | DATE 12/07/16
CHECKED MEM | REVISED | STRUCTURE FILE NUMBER 1808869

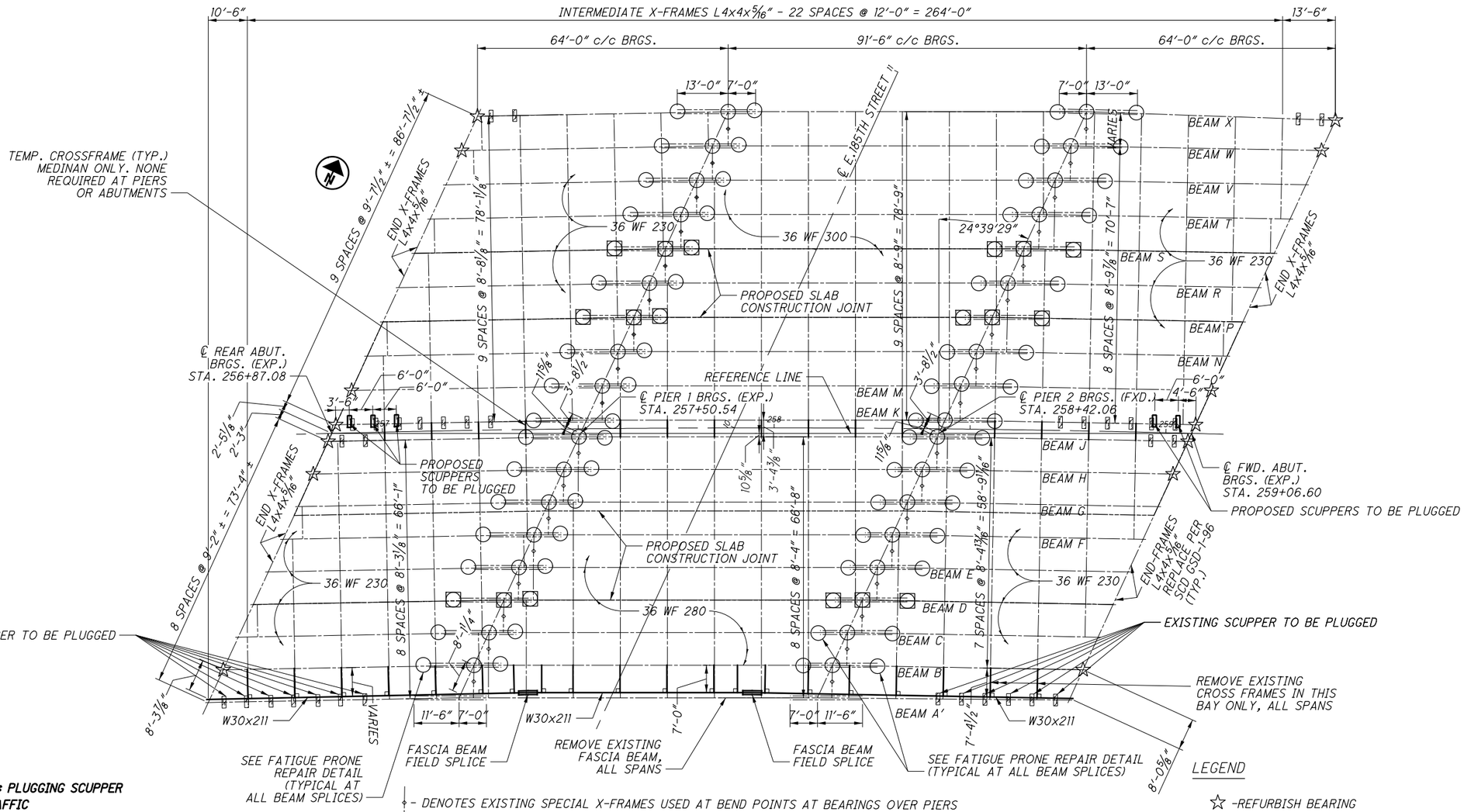
PIER DETAILS
BRIDGE NO. CUY-90-2616
I-90 OVER EAST 185TH ST.

CUY-90-26.16/VAR
PID No. 87628

22 / 41

130
222

R:\14000\14035\87628\structures\sheets\CUY90_2616\CUY90_2616PI001.dgn 11/9/2017 1:39:58 PM malloym



- ◇ - DENOTES EXISTING SPECIAL X-FRAMES USED AT BEND POINTS AT BEARINGS OVER PIERS

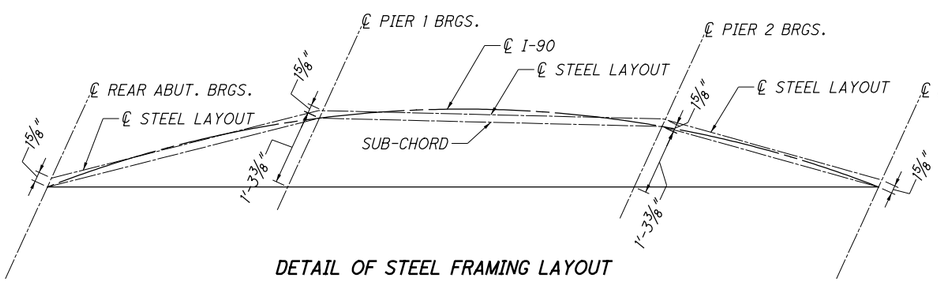
EXISTING FRAMING PLAN
DIMENSIONS OF EXISTING MEMBERS ARE ±

ITEM 518 - SCUPPER MISC: PLUGGING SCUPPER FOR MAINTENANCE OF TRAFFIC

THIS ITEM SHALL INCLUDE ALL WORK, MATERIAL, AND LABOR NECESSARY TO PLUG AND ADD ASPHALT OVER THE EXISTING AND NEW SCUPPER IDENTIFIED IN THE PLANS. THIS ITEM SHALL ALSO INCLUDE ALL WORK AND LABOR TO UNPLUG THE NEW SCUPPERS TO REMAIN AT THE COMPLETION OF MAINTENANCE OF TRAFFIC OPERATIONS. ALL MATERIALS SHALL MEET THE REQUIREMENTS OF CMS 518 AND 614

FOR EXISTING SCUPPERS, A 1/4" STEEL PLATE SHALL BE CUT TO FIT OVER THE EXISTING SCUPPER. THE NEW PLATE SHALL BE FIELD WELDED ALONG THE ENTIRE PERIMETER OF THE PLATE. FOR NEW SCUPPER, A 1/4" PLATE SHALL BE CUT TO FIT IN THE 18X6X 3/8" STRUCTURAL STEEL TUBBING SCUPPER. THIS PLATE SHALL BE SET IN THE SCUPPER TO SIT ON THE GRATING BARS. THE PLATE SHALL BE TACK WELDED AT TO THE STRUCTURAL STEEL TUBING WITH NO INTERVAL BETWEEN WELD GREATER THAN 3 INCHES. FOR BOTH EXISTING AND NEW SCUPPER, THE CONCTRACTOR SHALL PLACE ASPHALT CONCRETE FOR MAINTAINING TRAFFIC OVER THE PLATE TO PROVIDE A SMOOTH RIDING SERVICE.

UPON COMPLETION OF MAINTENANCE OF TRAFFIC OPERATIONS, FOR SCUPPERS TO REMAIN, THE ASPHALT AND STEEL PLATE SHALL BE REMOVED. ANY GALVANIZED SURFACES DAMAGE BY WELDING OR WELD REMOVAL OPERATIONS SHALL BE REPAIRED CMS 711.02



DETAIL OF STEEL FRAMING LAYOUT

LEGEND

- ☆ -REFURBISH BEARING
- ○ - DENOTES NORMAL TOP COVER PLATE RETROFIT DETAIL
- ▢ - DENOTES PHASE LINE SPLIT COVER PLATE RETROFIT DETAIL
- ▨ - EXISTING SCUPPER TO BE REMOVED
- ▯ - PROPOSED SCUPPER PER GSD-1-96

* EXISTING COVER PLATES
36 WF 230 TO 36 WF 280 - 14"x5/8"x18'-6"
36 WF 230 TO 36 WF 300 - 14"x3/4"x20'-0"

** FILL PLATE THICKNESSES
36 WF 230 TO 36 WF 280 - 5/8"
36 WF 230 TO 36 WF 300 - 3/4"

DESIGN AGENCY
KS Associates Inc.
260 BURNS ROAD, ELYRIA, OHIO 44035

DESIGNED RAP | DRAWN RAP | REVIEWED MEM | DATE 01/09/17
CHECKED MJM | REVISED | STRUCTURE FILE NUMBER 1808869

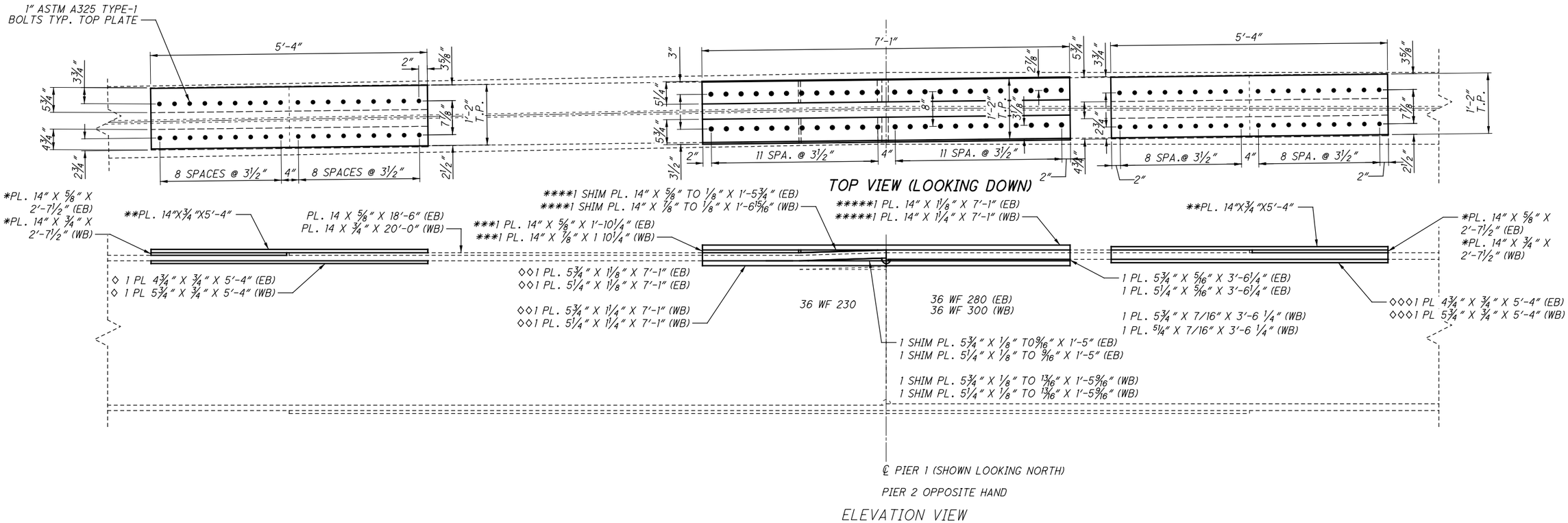
SUPERSTRUCTURE DETAILS - 1
BRIDGE NO. CUY-90-2616
I-90 OVER EAST 185TH ST.

CUY-90-26.16/VAR
PID No. 87628

23 / 41

131
222

R:\14000\14035\87628\structures\sheets\CUY90_2616\CUY90_2616SD001.dgn 11/9/2017 1:39:59 PM malloym



LEGEND

T.P. = TOP PLATE
B.P. = BOTTOM PLATE.

AT PHASE LINE, MODIFY PLATES AS FOLLOWS

* 2-PL. 6¼" X 5/8" X 2'-7½" (EB)
* 2-PL. 6¼" X ¾" X 2'-7½" (WB)

** 2-PL. 6¼" X ⅞" X 5'-4"

*** 2 PL. 6¼" X 5/8 X 1'-10¼ (EB)
*** 2 PL. 6¼" X ⅞ X 1-10¼ (WB)

**** 2 SHIM PL. 6¼" X 5/8 TO ⅛" X 1'-5 ¾" (EB)
**** 2 SHIM PL. 6¼" X ⅞ TO ⅛" X 1'-6 15/16" (WB)

*****2 PL. 6¼" X 1¼" X 7'-1" (EB)
*****2 PL. 6 ¼" X 1 ⅜" X 7'-1" (WB)

◇ 1 PL 4¾" X ⅞" X 5'-4" (EB)
◇ 1 PL 5¾" X ⅞" X 5'-4" (WB)

◇◇1 PL. 5¾" X 1¼" X 7'-1" (EB)
◇◇1 PL. 5¼" X 1¼" X 7'-1" (EB)

◇◇1 PL. 5¾" X 1⅜" X 7'-1" (WB)
◇◇1 PL. 5¼" X 1⅜" X 7'-1" (WB)

◇◇◇1 PL 4¾" X ⅞" X 5'-4" EB
◇◇◇1 PL 5¾" X ⅞" X 5'-4" WB

NOTES

1. CONTRACTOR TO BID ALL REPAIR WORK SHOWN. FATIGUE RETROFIT WORK SHOWN UNDER ITEM 513 - STRUCTURAL STEEL, MISC.: FATIGUE RETROFIT.
2. HOLES IN PLATES TO BE SHOP DRILLED
3. CONTRACTOR TO USE NEW PLATES AS TEMPLATE TO DRILL HOLES INTO EXISTING STEEL. FOR TOP PLATE, CONTRACTOR TO ALIGN THE OUTSIDE EDGES OF THE NEW TOP PLATE WITH THE OUTSIDE EDGES OF THE EXISTING PLATE TO BE RETROFITTED
4. RETROFIT IS TO BE CENTERED OVER END OF PLATE TO BE RETROFITTED, EXCEPT @ PIER WHERE IT IS TO BE CENTERED OVER EXISTING WELDED SPLICE.
5. ALL STEEL TO BE ASTM A709 GRADE 50 (CVN)
6. ALL BOLTS TO BE ASTM A325 TYPE-1 GALVANIZED
7. ALL BOLTS ARE TO BE PLACED WITH NUT ON TOP
8. AFTER HOLES ARE DRILLED, CONTRACTOR TO CLEAN THE FAYING SURFACE OF ALL DRILLING OIL, AND THEN BLAST CLEAN TO NEAR WHITE FINISH PER CMS 514.13 A AND C.
9. SEE BRIDGE GENERAL NOTES FOR ADDITIONAL DETAILS.

DESIGN AGENCY
KS Associates Inc.
260 BURNS ROAD, ELYRIA, OHIO 44035

DESIGNED	DRAWN	REVIEWED	DATE
RAP	RAP	MEM	01/09/17

CHECKED	REVISED	STRUCTURE FILE NUMBER
MJM		1808869

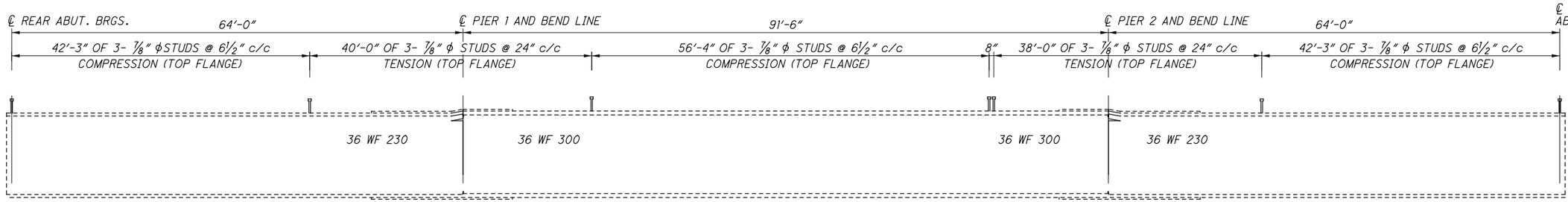
SUPERSTRUCTURE DETAILS - 2
BRIDGE NO. CUY-90-2616
I-90 OVER EAST 185TH ST.

CUY-90-26.16/VAR
PID No. 87628

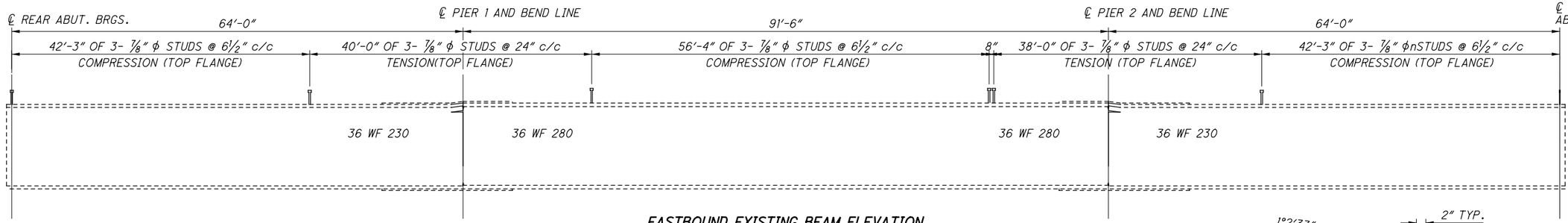
24 / 41

132
222

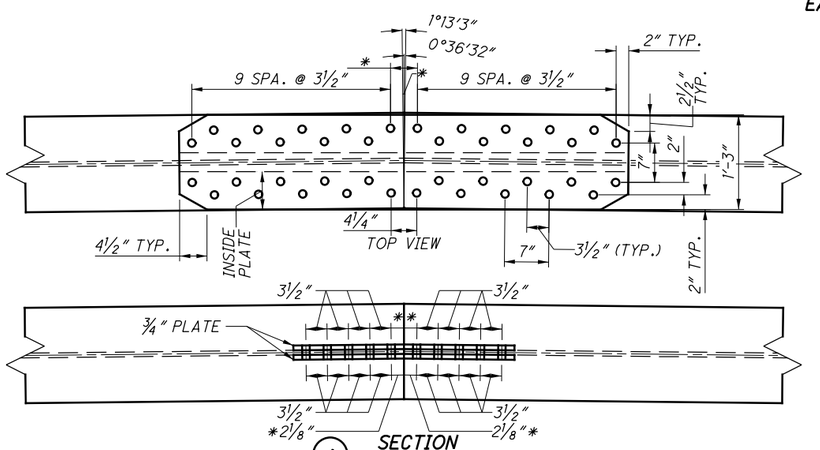
R:\14000\14035\87628\structures\sheets\CUY90_2616\CUY90_2616SD006.dgn 11/9/2017 1:40:00 PM molloym

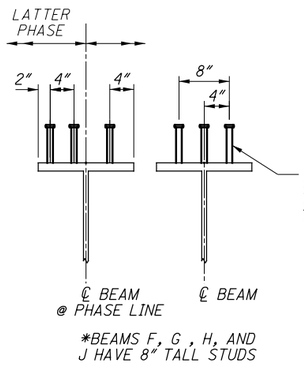


WESTBOUND EXISTING BEAM ELEVATION

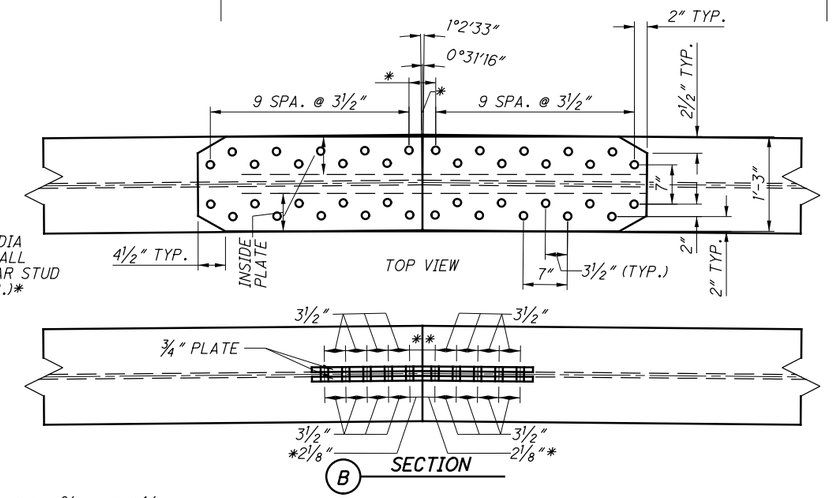


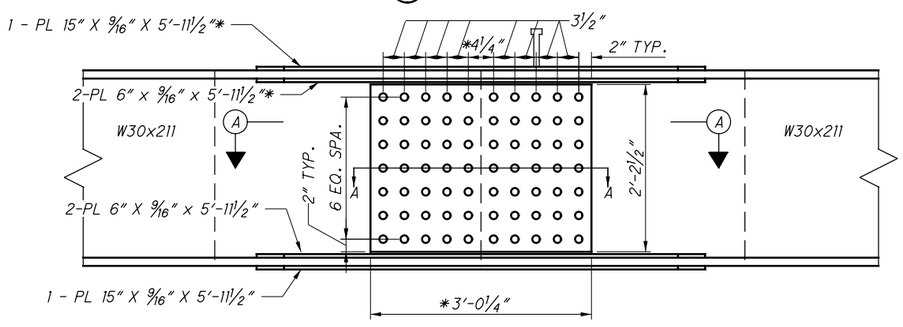
EASTBOUND EXISTING BEAM ELEVATION



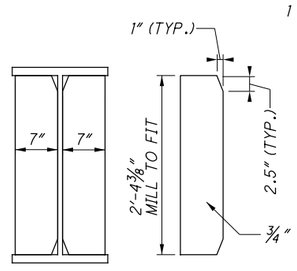


TRANSVERSE STUD DETAIL

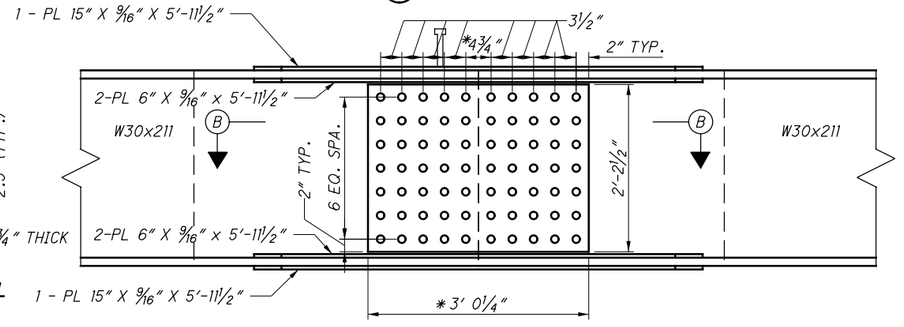




DETAIL A



BEARING STIFFENER DETAIL



DETAIL B

BEAM A' SPLICE DETAILS

NOTES:

1. * CONTRACTOR TO FABRICATE WEB AND FLANGE PLATES TO ACCOUNT FOR BEAM BEND LINES. ALL DIMENSIONS SHOWN ON THE WEB SECTION ARE TO THE OUTSIDE FACE OF THE PLATE AND ARE PARALLEL TO EACH RESPECTIVE BEAM'S CENTERLINE.
2. ALL FASTENERS ARE 1" DIAMETER HIGH STRENGTH BOLTS, ASTM A325, TYPE 1

DESIGN AGENCY
KS Associates Inc.
260 BURNS ROAD, ELYRIA, OHIO 44035

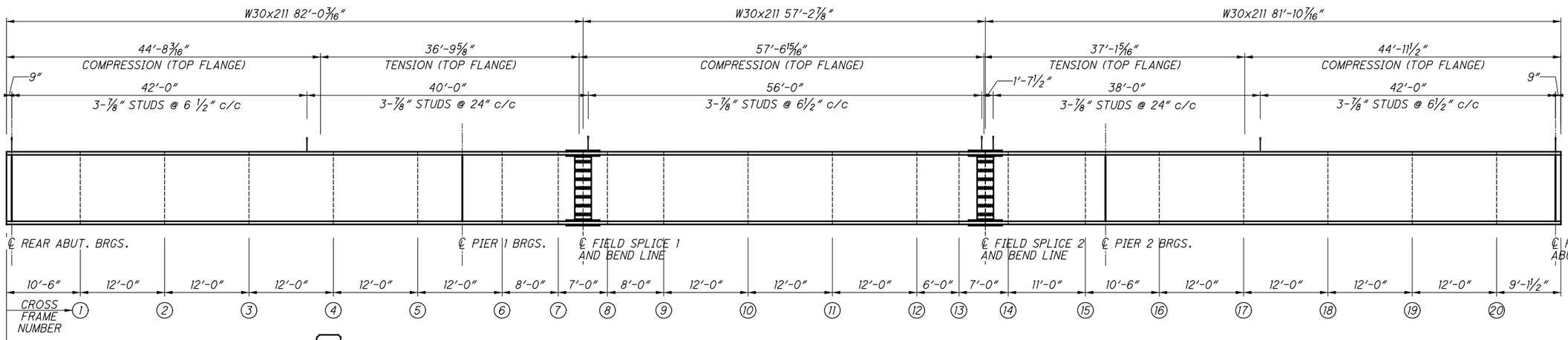
DESIGNED RAP
DRAWN RAP
CHECKED MJM
REVIEWED MEM
DATE 01/09/17
REVISED
STRUCTURE FILE NUMBER 1808869

SUPERSTRUCTURE DETAILS - 3
BRIDGE NO. CUY-90-2616
I-90 OVER EAST 185TH ST.

CUY-90-26.16/VAR
PID No. 87628

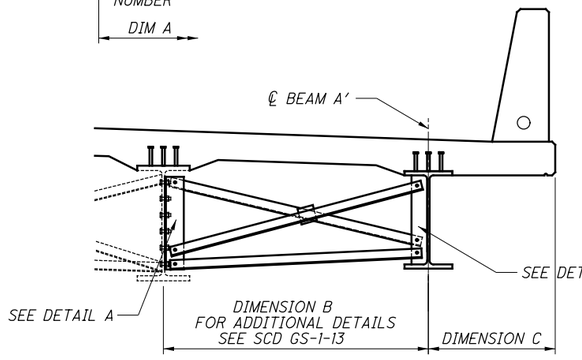
25/41
133/222

R:\14000\14035\87628\structures\sheets\CUY90_2616\CUY90_2616SD002.dgn 11/9/2017 1:40:01 PM malloym



EASTBOUND PROPOSED FASCIA BEAM (A') DETAILS

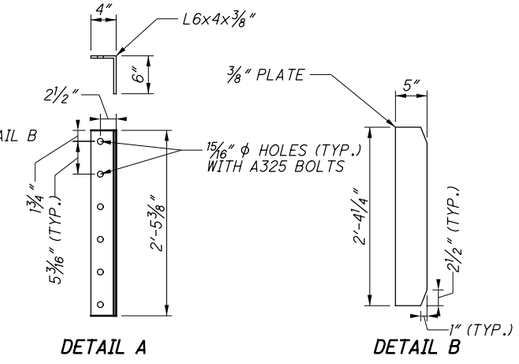
ALL DIMENSIONS ALONG BEAM CENTERLINE
SEE CROSSFRAME DETAILS FOR PROPOSED CROSSFRAME DIMENSIONS



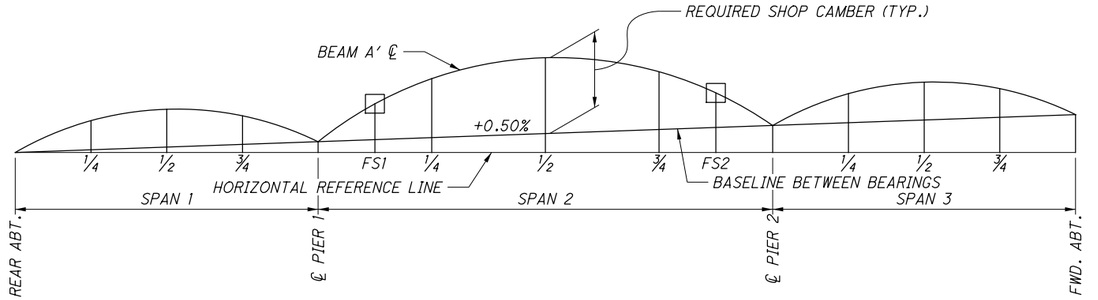
NOTE: ALL DIMENSIONS ARE MEASURED NORMAL TO THE A' CENTERLINE

CROSSFRAME	DIM A	DIM B	DIM C
1	10'-6"	7'-5 5/8"	3'-10 13/16"
2	22'-6"	7'-5 3/16"	3'-9 5/8"
3	34'-6"	7'-4 3/4"	3'-8 13/16"
4	46'-6"	7'-4 5/16"	3'-8 7/16"
5	58'-6"	7'-3 7/8"	3'-8 1/16"
6	70'-6"	7'-2 15/16"	3'-8 1/8"
7	78'-6"	7'-0 15/16"	3'-9 3/8"
8	85'-6"	7'-0"	3'-9 1/8"
9	93'-6"	7'-0"	3'-7 15/16"
10	105'-6"	7'-0"	3'-6 1/2"
11	117'-6"	7'-0"	3'-5 7/16"
12	129'-6"	7'-0"	3'-4 3/16"
13	135'-6"	7'-0"	3'-4 1/16"
14	142'-6"	7'-0 3/4"	3'-3 15/16"
15	153'-6"	7'-3 1/8"	3'-1 1/16"
16	164'-0"	7'-4 1/2"	2'-11 15/16"
17	176'-0"	7'-4 1/2"	2'-10 1/4"
18	188'-0"	7'-4 1/2"	2'-9"
19	200'-0"	7'-4 1/2"	2'-8 3/16"
20	212'-0"	7'-4 1/2"	2'-7 3/4"

PROPOSED CROSSFRAME DETAILS



BLOCKING DIMENSIONS				
CHORD BETWEEN ABUTMENTS TO CHORD BETWEEN ADJACENT SUPPORTS @ ℄ OF BEAM				
BEAM	RA	P1	P2	FA
A'	-	5/16"	3/4"	1 1/8"



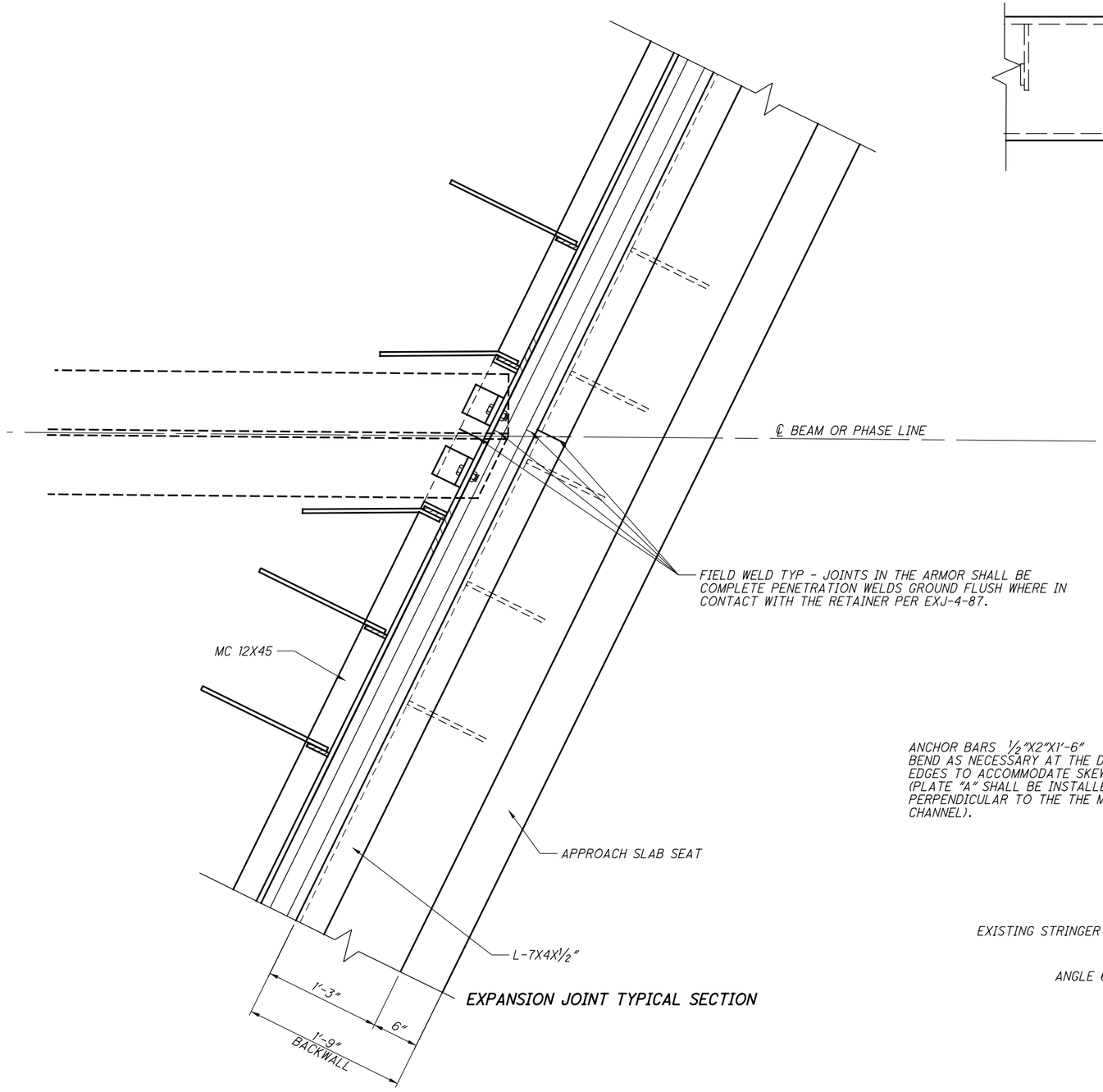
DEFLECTION AND CAMBER - BEAM A'	RA	1/4	1/2	3/4	P1	FS1	1/4	1/2	3/4	FS2	P2	1/4	1/2	3/4	FA
DISTANCE FROM SUPPORT AT REAR ABUTMENT	-	16'-0 5/16"	32'-0 9/16"	48'-0 7/8"	64'-1 3/16"	81'-3 3/16"	86'-11 3/4"	109'-10 3/8"	132'-8 15/16"	138'-6 1/16"	155'-7 9/16"	171'-7 9/16"	187'-7 1/2"	203'-7 1/2"	219'-7 1/2"
DEFLECTION DUE TO WEIGHT OF STEEL (INCHES)	-	-1/16"	-1/16"	0"	-	-1/8"	-3/16"	-5/16"	-3/16"	-1/8"	-	0"	-1/16"	-1/16"	-
DEFLECTION DUE TO REMAINING DEAD LOAD (INCHES)	-	-5/16"	-5/16"	-1/16"	-	-9/16"	-13/16"	-1 5/16"	-13/16"	-9/16"	-	-1/16"	-5/16"	-5/16"	-
TOTAL DEFLECTION	-	-3/8"	-3/8"	-1/16"	-	-11/16"	-1"	-1 5/8"	-1"	-11/16"	-	-1/16"	-3/8"	-3/8"	-
PROFILE CAMBER (INCHES)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SHOP CAMBER (INCHES)	-	3/8"	3/8"	1/16"	-	11/16"	1"	1 5/8"	1"	11/16"	-	1/16"	3/8"	3/8"	-

DESIGN AGENCY
KS Associates Inc.
260 BURNS ROAD, ELYRIA, OHIO 44035

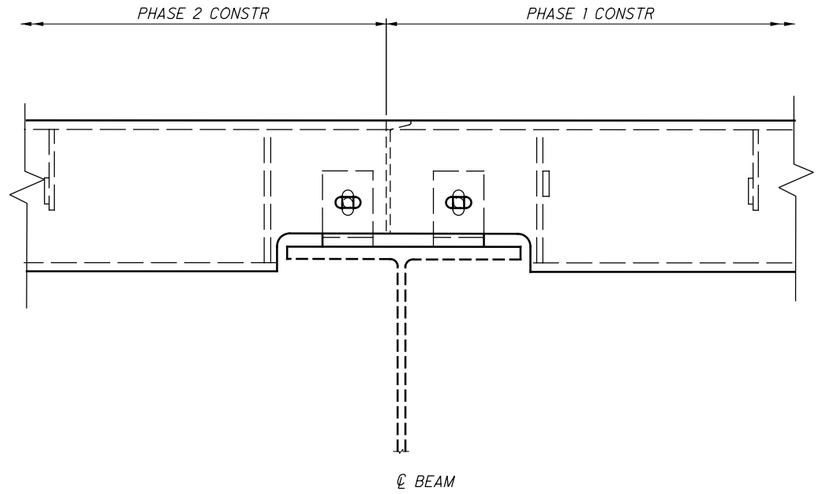
DESIGNED	DRAWN	REVIEWED	DATE
RAP	RAP	MJM	12/07/16
CHECKED	REVISED	STRUCTURE FILE NUMBER	
MEM		1808869	

SUPERSTRUCTURE DETAILS - 4
BRIDGE NO. CUY-90-2616
I-90 OVER EAST 185TH ST.

CUY-90-26.16/VAR
PID No. 87628

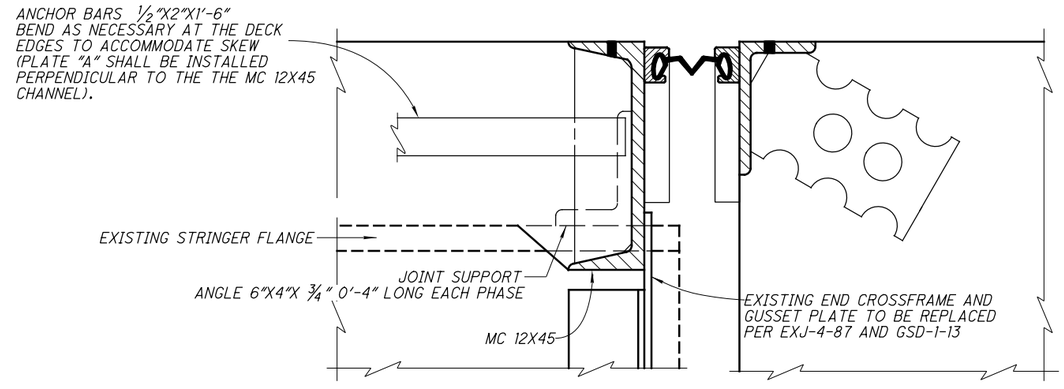


EXPANSION JOINT TYPICAL SECTION



EXPANSION JOINT - PHASE JOINT

PHASE 1 SHOWN, OTHERS SIMILAR



EXPANSION JOINT TYPICAL SECTION

FOR ADDITIONAL DETAILS SEE SCD EXJ-4-87

SDC GSD-1-13

DESIGN AGENCY
KS Associates Inc.
260 BURNS ROAD, ELYRIA, OHIO 44035

DESIGNED	DRAWN	REVIEWED	DATE
MEM	MEM	ASW	12/07/16
CHECKED	REVISED	STRUCTURE FILE NUMBER	
MJM		1808869	

EXPANSION JOINT DETAILS

BRIDGE NO. CUY-90-2616
I-90 OVER EAST 185TH ST.

CUY-90-26.16 / VAR
PID No. 87628

27 / 41

135 / 222

R:\14000\14035\87628\structures\sheets\CUY90_2616\CUY90_2616AR102.dgn 11/9/2017 1:40:02 PM malloym

DECK SCREED ELEVATION TABLE - CUY-90-2616 EASTBOUND

ELEVATION LOCATON		SPAN 1						SPAN 2					SPAN 3				
		CL BEARING REAR ABUT.	1/4 SPAN	1/2 SPAN	3/4 SPAN	CL PIER 1	F.S	1/4 SPAN	1/2 SPAN	3/4 SPAN	F.S.	CL PIER 2	1/4 SPAN	1/2 SPAN	3/4 SPAN	CL BEARING FWD. ABUT.
OUTSIDE GUTTER FINAL TOP DECK ELEVATION		619.19	619.28	619.37	619.46	619.54	----------	619.66	619.77	619.89	----------	620.01	620.09	620.17	620.25	620.33
OUTSIDE GUTTER DECK SCREED ELEVATION		619.19	619.31	619.40	619.46	619.54	----------	619.72	619.88	619.96	----------	620.01	620.09	620.20	620.28	620.33
BEAM A'	* ELEV. AFTER DECK REMOVAL															
	* ELEV. BEFORE DECK REMOVAL															
	** SURVEYED REBOUND															
	DEFLECTION - REMAINING DL	0.00	0.02	0.03	0.01	0.00	0.05	0.07	0.11	0.07	0.05	0.00	0.01	0.03	0.02	0.00
	FINAL TOP OF DECK ELEVATION	619.27	619.36	619.45	619.53	619.61	619.70	619.73	619.84	619.95	619.98	620.06	620.13	620.21	620.29	620.37
	**** DECK SCREED ELEVATION	619.27	619.39	619.47	619.54	619.61	619.75	619.80	619.95	620.02	620.03	620.06	620.14	620.24	620.31	620.37
BEAM B	* ELEV. AFTER DECK REMOVAL	----------				----------	----------				----------	----------				----------
	* ELEV. BEFORE DECK REMOVAL	----------				----------	----------				----------	----------				----------
	** SURVEYED REBOUND	----------				----------	----------				----------	----------				----------
	*** ADJUSTED REBOUND	----------				----------	----------				----------	----------				----------
	FINAL TOP OF DECK ELEVATION	619.55	619.64	619.72	619.80	619.88		619.99	620.10	620.21		620.33	620.41	620.49	620.56	620.64
	**** DECK SCREED ELEVATION	619.55				619.88	----------				----------	620.33				620.64
BEAM C	* ELEV. AFTER DECK REMOVAL	----------				----------	----------				----------	----------				----------
	* ELEV. BEFORE DECK REMOVAL	----------				----------	----------				----------	----------				----------
	** SURVEYED REBOUND	----------				----------	----------				----------	----------				----------
	*** ADJUSTED REBOUND	----------				----------	----------				----------	----------				----------
	FINAL TOP OF DECK ELEVATION	619.85	619.94	620.02	620.10	620.18		620.29	620.40	620.52		620.63	620.71	620.79	620.87	620.95
	**** DECK SCREED ELEVATION	619.85				620.18	----------				----------	620.63				620.95
BEAM D	* ELEV. AFTER DECK REMOVAL	----------				----------	----------				----------	----------				----------
	* ELEV. BEFORE DECK REMOVAL	----------				----------	----------				----------	----------				----------
	** SURVEYED REBOUND	----------				----------	----------				----------	----------				----------
	*** ADJUSTED REBOUND	----------				----------	----------				----------	----------				----------
	FINAL TOP OF DECK ELEVATION	620.15	620.24	620.32	620.40	620.49		620.59	620.71	620.82		620.94	621.01	621.09	621.17	621.25
	**** DECK SCREED ELEVATION	620.15				620.49	----------				----------	620.94				621.25
BEAM E	* ELEV. AFTER DECK REMOVAL	----------				----------	----------				----------	----------				----------
	* ELEV. BEFORE DECK REMOVAL	----------				----------	----------				----------	----------				----------
	** SURVEYED REBOUND	----------				----------	----------				----------	----------				----------
	*** ADJUSTED REBOUND	----------				----------	----------				----------	----------				----------
	FINAL TOP OF DECK ELEVATION	620.46	620.54	620.62	620.71	620.79		620.90	621.01	621.12		621.24	621.32	621.40	621.48	621.56
	**** DECK SCREED ELEVATION	620.46				620.79	----------				----------	621.24				621.56
BEAM F	* ELEV. AFTER DECK REMOVAL	----------				----------	----------				----------	----------				----------
	* ELEV. BEFORE DECK REMOVAL	----------				----------	----------				----------	----------				----------
	** SURVEYED REBOUND	----------				----------	----------				----------	----------				----------
	*** ADJUSTED REBOUND	----------				----------	----------				----------	----------				----------
	FINAL TOP OF DECK ELEVATION	620.76	620.84	620.93	621.01	621.09		621.20	621.31	621.42		621.55	621.62	621.70	621.78	621.86
	**** DECK SCREED ELEVATION	620.76				621.09	----------				----------	621.55				621.86
BEAM G	* ELEV. AFTER DECK REMOVAL	----------				----------	----------				----------	----------				----------
	* ELEV. BEFORE DECK REMOVAL	----------				----------	----------				----------	----------				----------
	** SURVEYED REBOUND	----------				----------	----------				----------	----------				----------
	*** ADJUSTED REBOUND	----------				----------	----------				----------	----------				----------
	FINAL TOP OF DECK ELEVATION	621.06	621.14	621.23	621.31	621.39		621.50	621.61	621.73		621.85	621.92	622.01	622.09	622.17
	**** DECK SCREED ELEVATION	621.06				621.39	----------				----------	621.85				622.17
BEAM H	* ELEV. AFTER DECK REMOVAL	----------				----------	----------				----------	----------				----------
	* ELEV. BEFORE DECK REMOVAL	----------				----------	----------				----------	----------				----------
	** SURVEYED REBOUND	----------				----------	----------				----------	----------				----------
	*** ADJUSTED REBOUND	----------				----------	----------				----------	----------				----------
	FINAL TOP OF DECK ELEVATION	621.36	621.45	621.53	621.61	621.69		621.80	621.92	622.03		622.15	622.23	622.31	622.39	622.47
	**** DECK SCREED ELEVATION	621.36				621.69	----------				----------	622.15				622.47
BEAM J	* ELEV. AFTER DECK REMOVAL	----------				----------	----------				----------	----------				----------
	* ELEV. BEFORE DECK REMOVAL	----------				----------	----------				----------	----------				----------
	** SURVEYED REBOUND	----------				----------	----------				----------	----------				----------
	*** ADJUSTED REBOUND	----------				----------	----------				----------	----------				----------
	FINAL TOP OF DECK ELEVATION	621.07	621.16	621.24	621.32	621.39		621.52	621.63	621.74		621.85	621.93	622.01	622.09	622.17
	**** DECK SCREED ELEVATION	621.07				621.39	----------				----------	621.85				622.17
EB MEDIAN GUTTER FINAL TOP DECK ELEVATION		621.07	621.15	621.23	621.31	621.39	----------	621.51	621.62	621.74	----------	621.85	621.93	622.01	622.09	622.17
EB MEDIAN GUTTER DECK SCREED ELEVATION		621.07				621.39	----------				----------	621.85				622.17

* BOTTOM OF BEAM ELEVATION SURVEYED DURING CONSTRUCTION.
** SURVEYED REBOUND = BEAM ELEVATIONS BEFORE DECK REMOVAL MINUS BEAM ELEVATION AFTER DECK REMOVAL.
*** ADJUSTED REBOUND = RATIO OF PROPOSED DEAD LOAD TO EXISTING DEAD LOAD (PROVIDED BY DESIGNER) MULTIPLIED BY THE SURVEYED REBOUND.
**** DECK SCREED ELEVATION = ADJUSTED REBOUND ADDED TO THE FINAL TOP OF DECK ELEVATION.

ANTICIPATED DRY RUN DISTANCES CAN BE OBTAINED BY ADDING THE ADJUSTED REBOUND TO THE ANTICIPATED DECK SLAB DEPTHS.
RATIO OF PROPOSED DEAD LOAD TO EXISTING DEAD LOAD = 0.77 DECK THICKNESS FROM CORES (IN) 11 DESIGN DECK THICKNESS (IN) 8.5

ANTICIPATED DECK SLAB DEPTHS (INCHES) - CUY-90-2616 EASTBOUND

LOCATON	SPAN 1						SPAN 2				SPAN 3				
	CL BEARING REAR ABUT.	1/4 SPAN	1/2 SPAN	3/4 SPAN	CL PIER 1	F.S.	1/4 SPAN	1/2 SPAN	3/4 SPAN	F.S	CL PIER 2	1/4 SPAN	1/2 SPAN	3/4 SPAN	CL BEARING FWD. ABUT.
BEAM A'	9.25	9.25	9.25	9.25	9.25	9.25	9.25	9.25	9.25	9.25	9.25	9.25	9.25	9.25	9.25
BEAM B	10.75	11.00	11.00	11.25	12.00		10.75	11.00	10.75		11.50	11.00	10.50	10.00	9.25
BEAM C	10.75	11.50	11.50	11.50	12.25		11.25	11.25	12.50		11.75	11.00	10.75	10.25	9.75
BEAM D	10.75	11.25	11.25	11.25	12.25		10.75	10.50	11.00		12.00	11.50	11.00	10.75	10.00
BEAM E	10.75	11.50	11.50	11.50	12.50		11.00	11.00	11.25		11.75	11.25	11.00	10.75	10.25
BEAM F	11.00	11.50	12.00	12.00	13.00		11.50	11.25	11.50		12.00	11.50	11.25	11.00	10.50
BEAM G	11.25	11.75	12.25	12.25	13.25		12.50	12.75	12.00		12.50	11.75	11.50	11.00	10.50
BEAM H	11.50	12.00	12.25	12.50	13.50		12.50	12.50	12.00		12.50	12.00	11.50	11.50	11.00
BEAM J	10.50	11.50	12.00	12.25	13.50		13.00	13.00	12.75		13.00	12.25	11.75	11.00	10.25

SCREED ELEVATIONS: FIELD PROCEDURE

DURING PHASED CONSTRUCTION OF DECKS WITHOUT CLOSURE POURS.

1. SURVEY THE BOTTOM OF THE EXISTING BEAM IN PHASE 1 AT THE LOCATION SHOWN IN THE TABLE PRIOR TO PHASE 1 DECK REMOVAL AND AFTER PHASE 1 DECK REMOVAL.

2. COMPUTE THE AMOUNT OF SURVEYED REBOUND FOR THESE BEAMS BY SUBTRACTING THE ELEVATIONS AFTER REMOVAL FROM THE ELEVATIONS BEFORE REMOVAL.

3. COMPUTE THE ADJUSTED REBOUND FOR THESE BEAMS BY MULTIPLYING THE SURVEYED REBOUND BY THE RATIO OF THE PROPOSED DEAD LOAD.

4. ADD THE AMOUNT OF ADJUSTED REBOUND TO THE FINAL TOP OF DECK ELEVATIONS TO OBTAIN THE DECK SCREED ELEVATIONS. USE THE REBOUND OF THE CLOSEST BEAM TO DETERMINE GUTTER DECK SCREED ELEVATION.

5. AFTER PHASE 1 DECK PLACEMENT, REPEAT STEPS 1 THRU 4 FOR THE REMAINING BEAMS PRIOR TO AND AFTER THE PHASE 2 REMOVAL.

NOTES:

1. DECK SLAB DEPTH, THE QUANTITY OF DECK SLAB CONCRETE TO BE PAID FOR SHALL BE BASED ON THE MINIMUM REQUIRED DECK SLAB THICKNESS OF 8 1/2 INCHES PLUS THE HAUNCH CONCRETE. THE QUANTITY OF CONCRETE REQUIRED FOR THE HAUNCH SHALL BE BASED ON THE DESIGN HAUNCH OF 2 INCHES EVEN THOUGH DEVIATIONS FROM THAT DEPTH MAY BE NECESSARY BECAUSE THE TOP FLANGE OF THE BEAM MAY NOT BE PARALLEL TO THE FINISHED GRADE. ACTUAL HAUNCH DEPTHS MAY VARY FROM 3/4 INCH MINIMUM TO A 5 INCH MAXIMUM.

2. THE HAUNCH WIDTH OF 9 INCHES SHALL BE USED FOR COMPUTING QUANTITY OF CONCRETE. HOWEVER, THE HAUNCH WITH MAY VARY BETWEEN 6 AND 12 INCHES.

3. THE COST OF SURVEYING IS CONSIDERED INCIDENTAL TO DECK CONSTRUCTION AND SHALL BE INCLUDED WITH ITEM 511 - CLASS QC2 CONCRETE WITH QC/QA, BRIDGE DECK, AS PER PLAN

DESIGN AGENCY
KS Associates Inc.
260 BURNS ROAD, ELYRIA, OHIO 44035

DESIGNED MJM | DRAWN RAP | CHECKED MEM | REVIEWED ASW | DATE 01/09/17 | REVISED | STRUCTURE FILE NUMBER 1808869

SCREED TABLE - 1
BRIDGE NO. CUY-90-2616
I-90 OVER EAST 185TH ST.

CUY-90-26.16/VAR
PID No. 87628

28 / 41

136
222

R:\14000\14035\87628\structures\sheets\CUY90_2616\CUY90_2616SD004.dgn 11/9/2017 1:40:03 PM malloym

DECK SCREED ELEVATION TABLE - CUY-90-2616 WESTBOUND

ELEVATION LOCATON		SPAN 1					SPAN 2				SPAN 3				
		CL BEARING REAR ABUT.	1/4 SPAN	1/2 SPAN	3/4 SPAN	CL PIER 1	1/4 SPAN	1/2 SPAN	3/4 SPAN	CL PIER 2	1/4 SPAN	1/2 SPAN	3/4 SPAN	CL BEARING FWD. ABUT.
WB MEDIAN GUTTER FINAL TOP DECK ELEVATION		620.99	621.07	621.16	621.24	621.32	621.43	621.55	621.66	621.78	621.86	621.94	622.02	622.09
WB MEDIAN GUTTER DECK SCREED ELEVATION		620.99				621.32				621.78				622.09
BEAM K	* ELEV. AFTER DECK REMOVAL	----------				----------				----------				----------
	* ELEV. BEFORE DECK REMOVAL	----------				----------				----------				----------
	** SURVEYED REBOUND	----------				----------				----------				----------
	*** ADJUSTED REBOUND	----------				----------				----------				----------
	FINAL TOP OF DECK ELEVATION	621.00	621.09	621.17	621.25	621.332	621.45	621.56	621.68	621.794	621.88	621.96	622.04	622.12
	**** DECK SCREED ELEVATION	621.00				621.33				621.79				622.12
BEAM M	* ELEV. AFTER DECK REMOVAL	----------				----------				----------				----------
	* ELEV. BEFORE DECK REMOVAL	----------				----------				----------				----------
	** SURVEYED REBOUND	----------				----------				----------				----------
	*** ADJUSTED REBOUND	----------				----------				----------				----------
	FINAL TOP OF DECK ELEVATION	621.32	621.40	621.49	621.57	621.65	621.76	621.88	622.00	622.112	622.19	622.27	622.36	622.44
	**** DECK SCREED ELEVATION	621.32				621.65				622.11				622.44
BEAM N	* ELEV. AFTER DECK REMOVAL	----------				----------				----------				----------
	* ELEV. BEFORE DECK REMOVAL	----------				----------				----------				----------
	** SURVEYED REBOUND	----------				----------				----------				----------
	*** ADJUSTED REBOUND	----------				----------				----------				----------
	FINAL TOP OF DECK ELEVATION	621.64	621.72	621.80	621.89	621.969	622.08	622.20	622.31	622.435	622.52	622.59	622.67	622.76
	**** DECK SCREED ELEVATION	621.64				621.97				622.44				622.76
BEAM P	* ELEV. AFTER DECK REMOVAL	----------				----------				----------				----------
	* ELEV. BEFORE DECK REMOVAL	----------				----------				----------				----------
	** SURVEYED REBOUND	----------				----------				----------				----------
	*** ADJUSTED REBOUND	----------				----------				----------				----------
	FINAL TOP OF DECK ELEVATION	621.95	622.04	622.12	622.20	622.288	622.40	622.51	622.63	622.753	622.83	622.91	623.00	623.08
	**** DECK SCREED ELEVATION	621.95				622.29				622.75				623.08
BEAM R	* ELEV. AFTER DECK REMOVAL	----------				----------				----------				----------
	* ELEV. BEFORE DECK REMOVAL	----------				----------				----------				----------
	** SURVEYED REBOUND	----------				----------				----------				----------
	*** ADJUSTED REBOUND	----------				----------				----------				----------
	FINAL TOP OF DECK ELEVATION	622.27	622.36	622.44	622.52	622.604	622.72	622.83	622.95	623.073	623.15	623.23	623.31	623.40
	**** DECK SCREED ELEVATION	622.27				622.60				623.07				623.40
BEAM S	* ELEV. AFTER DECK REMOVAL	----------				----------				----------				----------
	* ELEV. BEFORE DECK REMOVAL	----------				----------				----------				----------
	** SURVEYED REBOUND	----------				----------				----------				----------
	*** ADJUSTED REBOUND	----------				----------				----------				----------
	FINAL TOP OF DECK ELEVATION	622.59	622.67	622.75	622.83	622.92	623.04	623.15	623.27	623.393	623.47	623.55	623.64	623.72
	**** DECK SCREED ELEVATION	622.59				622.92				623.39				623.72
BEAM T	* ELEV. AFTER DECK REMOVAL	----------				----------				----------				----------
	* ELEV. BEFORE DECK REMOVAL	----------				----------				----------				----------
	** SURVEYED REBOUND	----------				----------				----------				----------
	*** ADJUSTED REBOUND	----------				----------				----------				----------
	FINAL TOP OF DECK ELEVATION	622.91	622.99	623.07	623.16	623.239	623.35	623.47	623.59	623.712	623.79	623.87	623.96	624.04
	**** DECK SCREED ELEVATION	622.91				623.24				623.71				624.04
BEAM V	* ELEV. AFTER DECK REMOVAL	----------				----------				----------				----------
	* ELEV. BEFORE DECK REMOVAL	----------				----------				----------				----------
	** SURVEYED REBOUND	----------				----------				----------				----------
	*** ADJUSTED REBOUND	----------				----------				----------				----------
	FINAL TOP OF DECK ELEVATION	623.22	623.30	623.39	623.47	623.557	623.67	623.78	623.91	624.032	624.11	624.19	624.28	624.36
	**** DECK SCREED ELEVATION	623.22				623.56				624.03				624.36
BEAM W	* ELEV. AFTER DECK REMOVAL	----------				----------				----------				----------
	* ELEV. BEFORE DECK REMOVAL	----------				----------				----------				----------
	** SURVEYED REBOUND	----------				----------				----------				----------
	*** ADJUSTED REBOUND	----------				----------				----------				----------
	FINAL TOP OF DECK ELEVATION	623.41	623.49	623.56	623.63	623.704	623.82	623.93	624.03	624.125	624.21	624.28	624.36	624.42
	**** DECK SCREED ELEVATION	623.41				623.70				624.13				624.42
BEAM X	* ELEV. AFTER DECK REMOVAL	----------				----------				----------				----------
	* ELEV. BEFORE DECK REMOVAL	----------				----------				----------				----------
	** SURVEYED REBOUND	----------				----------				----------				----------
	*** ADJUSTED REBOUND	----------				----------				----------				----------
	FINAL TOP OF DECK ELEVATION	623.08	623.16	623.23	623.31	623.376	623.49	623.59	623.70	623.813	623.89	623.97	624.05	624.13
	**** DECK SCREED ELEVATION	623.08				623.38				623.81				624.13
OUTSIDE GUTTER FINAL TOP DECK ELEVATION		623.05	623.13	623.21	623.29	623.37	623.48	623.59	623.70	623.81	623.89	623.97	624.05	624.13
OUTSIDE GUTTER DECK SCREED ELEVATION		623.05				623.37				623.81				624.13

* BOTTOM OF BEAM ELEVATION SURVEYED DURING CONSTRUCTION.
** SURVEYED REBOUND = BEAM ELEVATIONS BEFORE DECK REMOVAL MINUS BEAM ELEVATION AFTER DECK REMOVAL.
*** ADJUSTED REBOUND = RATIO OF PROPOSED DEAD LOAD TO EXISTING DEAD LOAD (PROVIDED BY DESIGNER) MULTIPLIED BY THE SURVEYED REBOUND.
**** DECK SCREED ELEVATION = ADJUSTED REBOUND ADDED TO THE FINAL TOP OF DECK ELEVATION.

ANTICIPATED DRY RUN DISTANCES CAN BE OBTAINED BY ADDING THE ADJUSTED REBOUND TO THE ANTICIPATED DECK SLAB DEPTHS.
RATIO OF PROPOSED DEAD LOAD TO EXISTING DEAD LOAD = 0.76 DECK THICKNESS FROM CORES (IN) 11.25 DESIGN DECK THICKNESS (IN) 8.5

ANTICIPATED DECK SLAB DEPTHS (INCHES) - CUY-90-2616 WESTBOUND

LOCATON	SPAN 1					SPAN 2				SPAN 3				
	CL BEARING REAR ABUT.	1/4 SPAN	1/2 SPAN	3/4 SPAN	CL PIER 1	1/4 SPAN	1/2 SPAN	3/4 SPAN	CL PIER 2	1/4 SPAN	1/2 SPAN	3/4 SPAN	CL BEARING FWD. ABUT.
BEAM K	9.75	10.50	10.75	10.75	12.00	10.75	11.00	10.75	11.00	11.00	11.00	10.75	10.00
BEAM M	9.75	10.50	11.00	11.25	12.25	10.25	10.50	10.50	11.50	11.50	11.25	11.00	10.25
BEAM N	10.00	10.75	11.25	11.50	12.75	11.50	11.25	11.25	12.00	11.50	11.25	10.50	10.25
BEAM P	10.25	10.75	11.25	11.75	13.00	11.50	11.75	11.75	12.25	11.50	11.00	10.75	10.00
BEAM R	10.25	11.25	11.75	12.00	13.25	11.75	11.75	11.50	12.00	12.00	11.75	11.25	10.25
BEAM S	10.50	11.25	12.00	12.25	13.25	12.00	12.00	12.00	12.50	12.25	12.00	11.50	11.00
BEAM T	10.75	11.50	12.00	12.50	13.75	12.50	12.50	12.50	13.00	12.75	12.25	11.75	11.00
BEAM V	11.25	11.75	12.25	12.75	14.00	12.50	12.50	12.50	13.00	12.75	12.50	12.00	11.50
BEAM W	10.25	10.50	11.00	11.25	12.25	10.75	10.50	10.50	10.75	10.50	10.00	9.75	9.25
BEAM X	10.00	10.50	10.75	10.75	11.75	10.75	10.50	10.00	10.75	10.50	10.25	10.25	10.00

SCREED ELEVATIONS: FIELD PROCEDURE

DURING PHASED CONSTRUCTION OF DECKS WITHOUT CLOSURE POURS.

1. SURVEY THE BOTTOM OF THE EXISTING BEAM IN PHASE 1 AT THE LOCATION SHOWN IN THE TABLE PRIOR TO PHASE 1 DECK REMOVAL AND AFTER PHASE 1 DECK REMOVAL.

2. COMPUTE THE AMOUNT OF SURVEYED REBOUND FOR THESE BEAMS BY SUBTRACTING THE ELEVATIONS AFTER REMOVAL FROM THE ELEVATIONS BEFORE REMOVAL.

3. COMPUTE THE ADJUSTED REBOUND FOR THESE BEAMS BY MULTIPLYING THE SURVEYED REBOUND BY THE RATIO OF THE PROPOSED DEAD LOAD.

4. ADD THE AMOUNT OF ADJUSTED REBOUND TO THE FINAL TOP OF DECK ELEVATIONS TO OBTAIN THE DECK SCREED ELEVATIONS. USE THE REBOUND OF THE CLOSEST BEAM TO DETERMINE GUTTER DECK SCREED ELEVATION.

5. AFTER PHASE 1 DECK PLACEMENT, REPEAT STEPS 1 THRU 4 FOR THE REMAINING BEAMS PRIOR TO AND AFTER THE PHASE 2 REMOVAL.

NOTES:

1. DECK SLAB DEPTH, THE QUANTITY OF DECK SLAB CONCRETE TO BE PAID FOR SHALL BE BASED ON THE MINIMUM REQUIRED DECK SLAB THICKNESS OF 8 1/2 INCHES PLUS THE HAUNCH CONCRETE. THE QUANTITY OF CONCRETE REQUIRED FOR THE HAUNCH SHALL BE BASED ON THE DESIGN HAUNCH OF 2 INCHES EVEN THOUGH DEVIATIONS FROM THAT DEPTH MAY BE NECESSARY BECAUSE THE TOP FLANGE OF THE BEAM MAY NOT BE PARALLEL TO THE FINISHED GRADE. ACTUAL HAUNCH DEPTHS MAY VARY FROM 3/4 INCH MINIMUM TO A 5 1/2 INCH MAXIMUM.

2. THE HAUNCH WIDTH OF 9 INCHES SHALL BE USED FOR COMPUTING QUANTITY OF CONCRETE. HOWEVER, THE HAUNCH WITH MAY VARY BETWEEN 6 AND 12 INCHES.

3. THE COST OF SURVEYING IS CONSIDERED INCIDENTAL TO DECK CONSTRUCTION AND SHALL BE INCLUDED WITH ITEM 511 - CLASS QC2 CONCRETE WITH QC/QA, BRIDGE DECK, AS PER PLAN

DESIGN AGENCY
KS Associates Inc.
260 BURNS ROAD, ELYRIA, OHIO 44035

DESIGNED MJM | DRAWN RAP | CHECKED MEM | REVIEWED ASW | DATE 01/09/17 | REVISED | STRUCTURE FILE NUMBER 1808869

SCREED TABLE - 2
BRIDGE NO. CUY-90-2616
I-90 OVER EAST 185TH ST.

CUY-90-26.16/VAR
PID No. 87628

29 / 41

137 / 222

R:\14000\14035\87628\structures\sheets\CUY90_2616\CUY90_2616SD005.dgn 11/9/2017 1:40:05 PM malloym

DECK STATION / OFFSET TABLE - CUY-90-2616

BEAM		REAR ABUTMENT	1/4 SPAN	1/2 SPAN	3/4 SPAN	PIER 1	1/4 SPAN	1/2 SPAN	3/4 SPAN	PIER 1	1/4 SPAN	1/2 SPAN	3/4 SPAN	FORWARD ABUTMENT
A'	STATION	256+52.93	256+69.39	256+85.86	257+02.33	257+18.80	257+42.22	257+65.45	257+88.69	258+11.79	258+28.24	258+44.68	258+60.75	258+76.82
	OFFSET	66.99	67.15	67.26	67.30	67.28	67.27	67.50	67.61	67.90	68.11	68.25	68.34	68.36
B	STATION	256+56.70	256+73.13	256+89.58	257+05.97	257+22.39	257+45.60	257+68.83	257+91.98	258+15.22	258+31.70	258+48.11	258+64.15	258+80.19
	OFFSET	59.54	59.72	59.79	59.92	59.94	60.24	60.38	60.46	60.47	60.53	60.68	60.75	60.74
C	STATION	256+60.85	256+77.25	256+93.65	257+10.04	257+26.39	257+49.59	257+72.80	257+95.94	258+19.10	258+35.46	258+51.87	258+67.90	258+83.91
	OFFSET	51.33	51.48	51.57	51.63	51.70	51.93	52.00	52.09	52.03	52.26	52.33	52.32	52.32
D	STATION	256+64.95	256+81.38	256+97.73	257+14.09	257+30.44	257+53.58	257+76.70	257+99.81	258+22.95	258+39.27	258+55.64	258+71.62	258+87.61
	OFFSET	43.17	43.20	43.32	43.34	43.34	43.56	43.71	43.76	43.61	43.84	43.90	43.95	43.88
E	STATION	256+69.08	256+85.44	257+01.77	257+18.10	257+34.43	257+57.51	257+80.58	258+03.57	258+26.74	258+43.07	258+59.38	258+75.34	258+91.29
	OFFSET	34.93	35.01	35.08	35.10	35.06	35.29	35.42	35.42	35.29	35.41	35.52	35.52	35.48
F	STATION	256+73.20	256+89.51	257+05.81	257+22.14	257+38.43	257+61.43	257+84.46	258+07.50	258+30.53	258+46.81	258+63.10	258+79.03	258+94.97
	OFFSET	26.67	26.77	26.82	26.76	26.71	26.99	27.10	27.07	26.92	27.08	27.15	27.14	27.03
G	STATION	256+77.27	256+93.56	257+09.83	257+26.09	257+42.36	257+65.36	257+88.36	258+11.33	258+34.28	258+50.56	258+66.83	258+82.73	258+98.62
	OFFSET	18.46	18.52	18.56	18.56	18.49	18.66	18.71	18.70	18.63	18.69	18.73	18.68	18.60
H	STATION	256+81.36	256+97.62	257+13.85	257+30.06	257+46.28	257+69.27	257+92.21	258+15.15	258+38.07	258+54.30	258+70.52	258+86.38	259+02.26
	OFFSET	10.19	10.24	10.28	10.30	10.23	10.32	10.38	10.32	10.19	10.28	10.35	10.31	10.16
J	STATION	256+85.41	257+01.60	257+17.82	257+34.04	257+50.23	257+73.13	257+96.04	258+18.92	258+41.81	258+58.04	258+74.25	258+90.06	259+05.88
	OFFSET	1.95	2.07	2.06	1.98	1.89	2.06	2.06	2.02	1.83	1.83	1.83	1.83	1.75
K	STATION	256+87.51	257+03.70	257+19.87	257+36.07	257+52.19	257+75.11	257+98.03	258+20.92	258+43.68	258+59.91	258+76.10	258+91.89	259+07.70
	OFFSET	-2.33	-2.25	-2.22	-2.29	-2.26	-2.21	-2.27	-2.40	-2.37	-2.40	-2.40	-2.41	-2.50
M	STATION	256+91.73	257+07.89	257+24.04	257+40.20	257+56.30	257+79.15	258+01.98	258+24.83	258+47.60	258+63.78	258+79.92	258+95.71	259+11.48
	OFFSET	-10.95	-10.92	-10.90	-10.98	-10.99	-10.91	-10.91	-11.06	-11.16	-11.18	-11.15	-11.25	-11.36
N	STATION	256+95.94	257+12.09	257+28.19	257+44.31	257+60.40	257+83.22	258+05.99	258+28.78	258+51.53	258+67.66	258+83.75	258+99.49	259+15.21
	OFFSET	-19.60	-19.61	-19.60	-19.68	-19.75	-19.71	-19.71	-19.86	-20.06	-20.04	-20.00	-20.06	-20.14
P	STATION	257+00.14	257+16.23	257+32.33	257+48.41	257+64.50	257+87.22	258+09.96	258+32.70	258+55.40	258+71.49	258+87.58	259+03.29	259+18.99
	OFFSET	-28.28	-28.26	-28.30	-28.38	-28.54	-28.42	-28.47	-28.62	-28.84	-28.82	-28.86	-28.95	-29.06
R	STATION	257+04.33	257+20.41	257+36.46	257+52.49	257+68.53	257+91.24	258+13.94	258+36.62	258+59.28	258+75.34	258+91.37	259+07.04	259+22.72
	OFFSET	-36.95	-37.00	-37.03	-37.09	-37.24	-37.20	-37.29	-37.44	-37.67	-37.67	-37.68	-37.74	-37.91
S	STATION	257+08.50	257+24.55	257+40.57	257+56.54	257+72.57	257+95.24	258+17.87	258+40.51	258+63.14	258+79.14	258+95.15	259+10.81	259+26.45
	OFFSET	-45.64	-45.69	-45.75	-45.78	-45.96	-45.99	-46.03	-46.22	-46.52	-46.48	-46.50	-46.65	-46.80
T	STATION	257+12.66	257+28.66	257+44.65	257+60.66	257+76.61	257+99.21	258+21.79	258+44.39	258+66.98	258+82.96	258+98.94	259+14.54	259+30.14
	OFFSET	-54.35	-54.38	-54.45	-54.64	-54.75	-54.73	-54.80	-55.02	-55.36	-55.35	-55.39	-55.49	-55.65
V	STATION	257+16.77	257+32.74	257+48.71	257+64.69	257+80.61	258+03.17	258+25.70	258+48.25	258+70.81	258+86.73	259+02.70	259+18.27	259+33.84
	OFFSET	-62.98	-63.04	-63.16	-63.35	-63.50	-63.51	-63.57	-63.82	-64.20	-64.15	-64.26	-64.37	-64.55
W	STATION	257+20.89	257+36.83	257+52.78	257+68.72	257+84.63	258+07.12	258+29.60	258+52.11	258+74.63	258+90.53	259+06.45	259+21.96	259+37.52
	OFFSET	-71.68	-71.76	-71.90	-72.10	-72.32	-72.28	-72.36	-72.65	-73.06	-73.04	-73.15	-73.21	-73.43
X	STATION	257+25.00	257+40.91	257+56.81	257+72.70	257+88.58	258+11.05	258+33.48	258+55.97	258+78.39	258+94.15	259+09.92	259+25.31	259+40.74
	OFFSET	-80.38	-80.49	-80.61	-80.80	-81.02	-81.07	-81.18	-81.50	-81.81	-81.58	-81.41	-81.25	-81.25

NOTES:

1. OFFSETS ARE FROM CENTERLINE OF CONSTRUCTION

2. ALL STATION AND OFFSETS FOR EXISTING BEAMS ARE ±

DESIGN AGENCY
KS Associates Inc.
260 BURNS ROAD, ELYRIA, OHIO 44035

DESIGNED MEM | DRAWN MEM | REVIEWED ASW | DATE 12/07/16
CHECKED MJM | REVISED | STRUCTURE FILE NUMBER 1806869

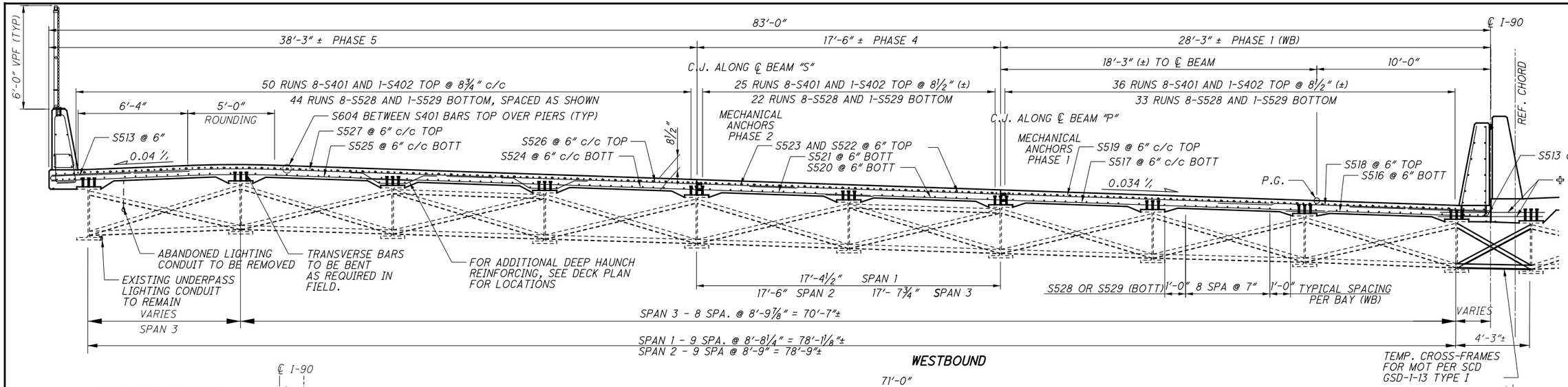
SCREED TABLE - 3
BRIDGE NO. CUY-90-2616
I-90 OVER EAST 185TH ST.

CUY-90-26.16/VAR
PID No. 87628

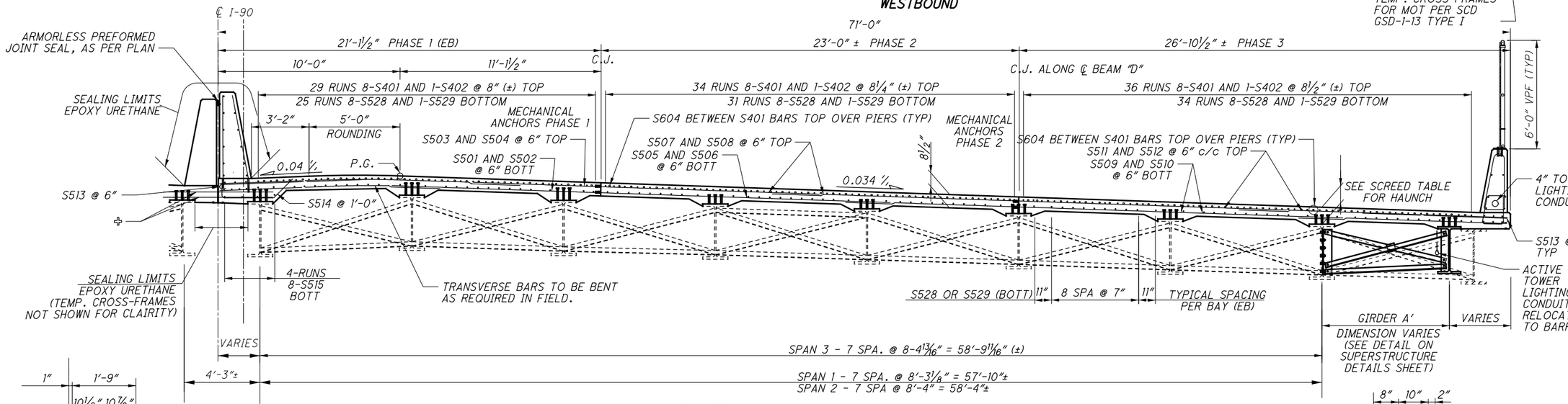
30 / 41

138
222

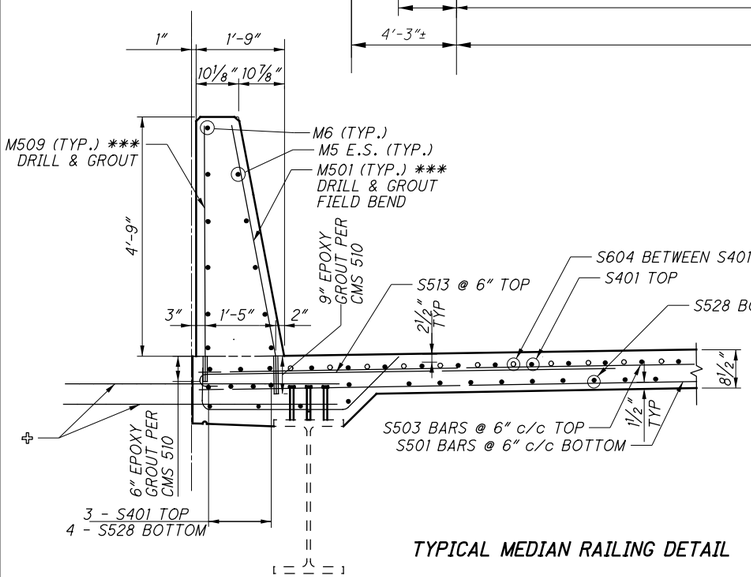
R:\14000\14035\87628\structures\sheets\CUY90_2616\CUY90_2616SD007.dgn 11/9/2017 1:40:08 PM malloym



WESTBOUND



EASTBOUND

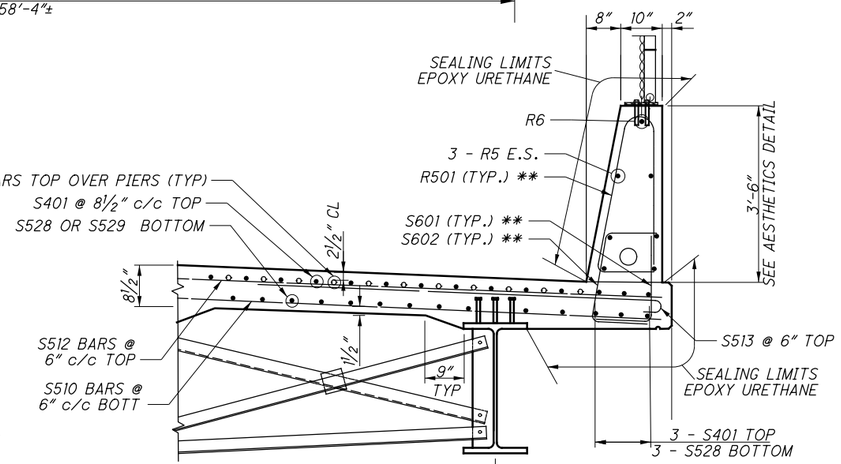


TYPICAL MEDIAN RAILING DETAIL

NOTES:

1. PHASE 1 EASTBOUND (EB) AND PHASE 1 WESTBOUND (WB) SHALL BE PLACED UNDER ONE DECK POUR. DECK SHALL BE SAW CUT AT MEDIAN DURING PHASE 6.
2. FOR ADDITIONAL RAILING DETAILS SEE SCD SBR-1-13 AND SBR-2-13.
3. ** SEE RAILING DETAILS FOR SPACING OFTHE S601 AND S602 DECK BARS

℄- ⅝" DIA. GLASS FIBER REINFORCICED POLYMER (GFRP) STIFFENING REINFORCEMENTS, 6'-0" LONG, CENTERED ON MEDIAN JOINT, 6" SPACING



RAILING DETAIL

EASTBOUND SHOWN WESTBOUND SIMILAR

DESIGN AGENCY
KS Associates Inc.
260 BURNS ROAD, ELYRIA, OHIO 44035

DESIGNED MEM | DRAWN MEM | CHECKED MJM | REVIEWED ASW | DATE 01/09/17 | STRUCTURE FILE NUMBER 1808869 | REVISED

TRANSVERSE SECTION

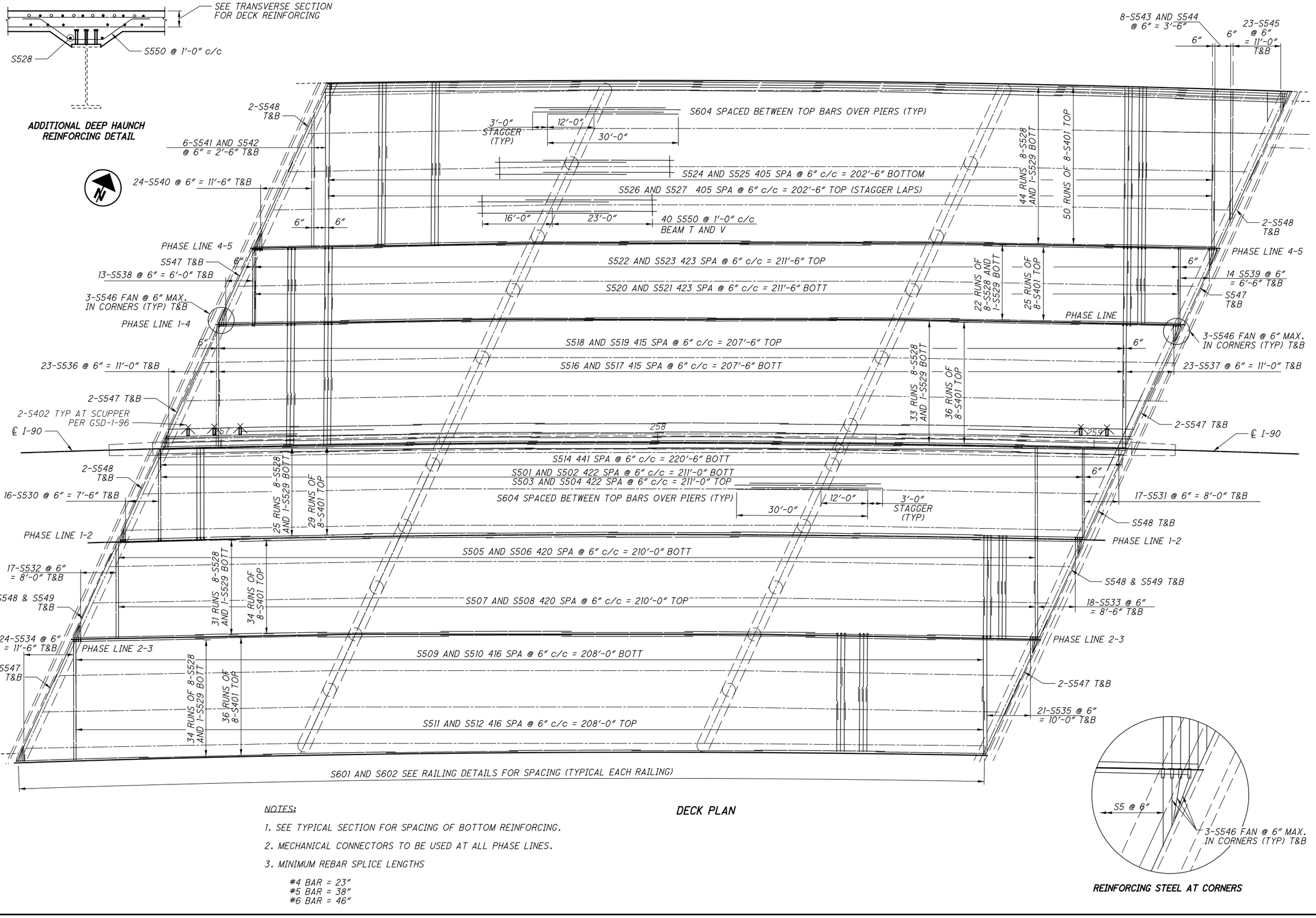
BRIDGE NO. CUY-90-2616
I-90 OVER EAST 185TH ST.

CUY-90-26.16/ VAR
PID No. 87628

31 / 41

139 / 222

R:\14000\14035\87628\structures\sheets\CUY90_2616\CUY90_2616TS001.dgn 11/9/2017 1:40:10 PM malloym



DECK PLAN

NOTES:

1. SEE TYPICAL SECTION FOR SPACING OF BOTTOM REINFORCING.
2. MECHANICAL CONNECTORS TO BE USED AT ALL PHASE LINES.
3. MINIMUM REBAR SPLICE LENGTHS

   #4 BAR = 23"
   #5 BAR = 38"
   #6 BAR = 46"

REINFORCING STEEL AT CORNERS

DESIGN AGENCY
KS Associates Inc.
260 BURNS ROAD, ELYRIA, OHIO 44035

DESIGNED MEM | DRAWN MEM | REVIEWED ASW | DATE 01/09/17
CHECKED MJM | REVISED | STRUCTURE FILE NUMBER 1808869

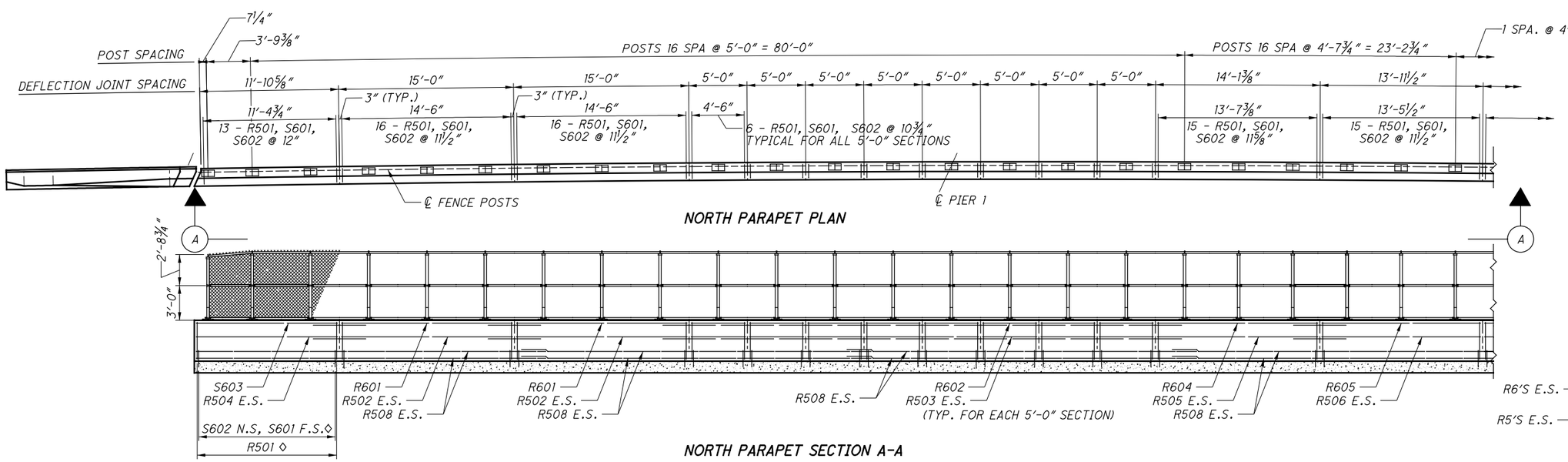
DECK PLAN
BRIDGE NO. CUY-90-2616
I-90 OVER EAST 185TH ST.

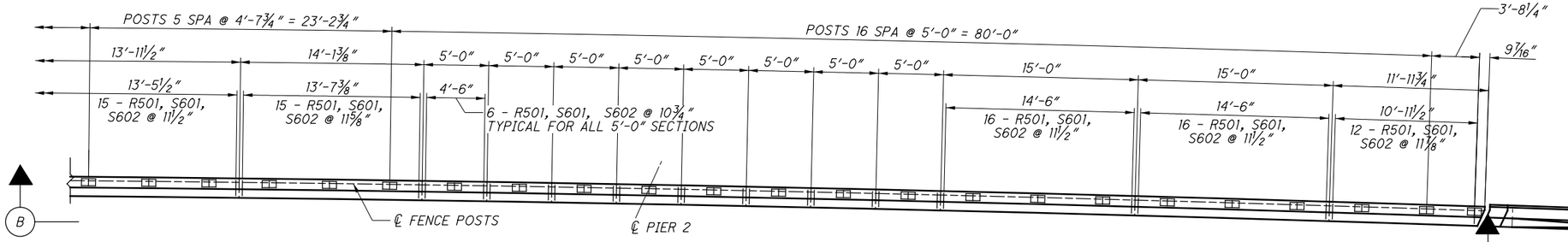
CUY-90-26.16/ VAR
PID No. 87628

32 / 41

140 / 222

R:\14000\14035\87628\structures\sheets\CUY90_2616\CUY90_2616DP001.dgn 11/9/2017 1:40:11 PM malloym





◊ - BAR TYPES TYPICAL BETWEEN DEFLECTION JOINTS. FOR SPACINGS SEE PLAN VIEW.

✣ - ½" DIA. GLASS FIBER REINFORCED POLYMER (GFRP) STIFFENING REINFORCEMENTS, 4'-6" LONG, CENTERED ON DEFLECTION JOINT (TYP.)

GFRP REBAR STIFFENING DETAIL AT DEFLECTION JOINTS FOR SINGLE SLOPE CONCRETE BRIDGE RAILING

DESIGN AGENCY
KS Associates Inc.
260 BURNS ROAD, ELYRIA, OHIO 44035

DESIGNED	DRAWN	REVIEWED	DATE
RAP	RAP	MJM	12/07/16
CHECKED	REVISED	STRUCTURE FILE NUMBER	
MEM		1808869	

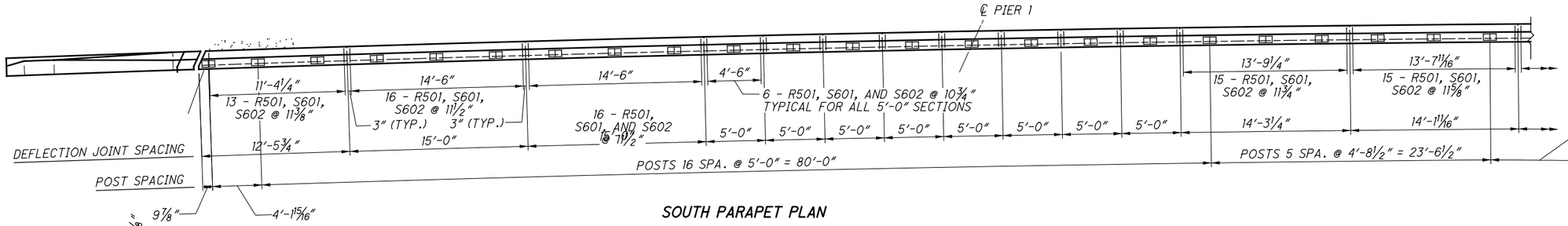
BRIDGE RAILING DETAILS
BRIDGE NO. CUY-90-2616
I-90 OVER EAST 185TH ST.

CUY-90-26.16 / VAR
PID No. 87628

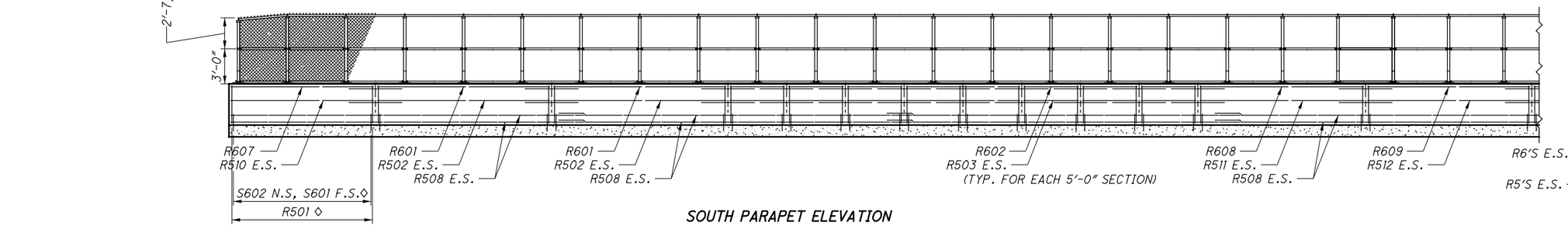
33 / 41

141 / 222

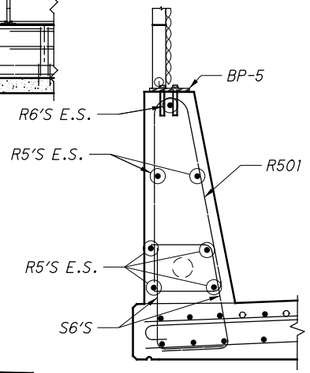
R:\14000\14035\87628\structures\sheets\CUY90_2616\CUY90_2616RA002a.dgn 11/9/2017 1:40:13 PM malloym



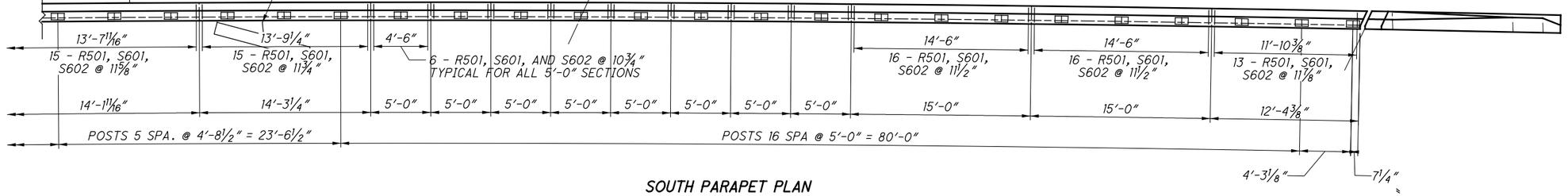
SOUTH PARAPET PLAN



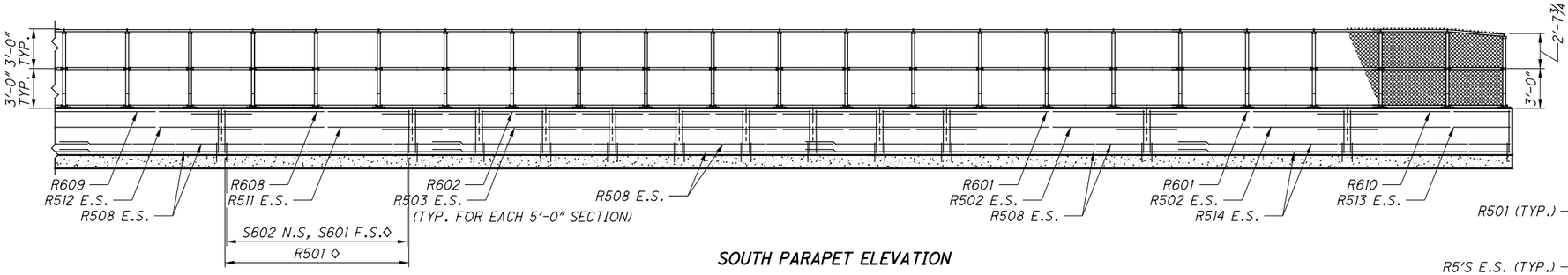
SOUTH PARAPET ELEVATION



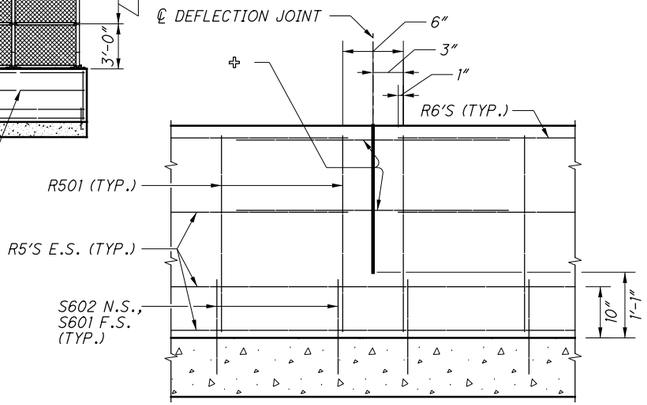
RAILING DETAIL



SOUTH PARAPET PLAN



SOUTH PARAPET ELEVATION



PARAPET ELEVATION

GFRP REBAR STIFFENING DETAIL AT DEFLECTION JOINTS FOR SINGLE SLOPE CONCRETE BRIDGE RAILING

NOTE:
ALL RADIAL DIMENSIONS ARE TO THE CENTERLINE OF PROPOSED FENCE POSTS

◊ - BAR TYPES TYPICAL BETWEEN DEFLECTION JOINTS. FOR SPACINGS SEE PLAN VIEW.

✣ - ½" DIA. GLASS FIBER REINFORCED POLYMER (GFRP) STIFFENING REINFORCEMENTS, 4'-6" LONG, CENTERED ON DEFLECTION JOINT (TYP.)

DESIGN AGENCY
KS Associates Inc.
260 BURNS ROAD, ELYRIA, OHIO 44035

DESIGNED RAP
DRAWN RAP
CHECKED MEM
REVIEWED MJM
DATE 12/07/16
REVISED
STRUCTURE FILE NUMBER 1808869

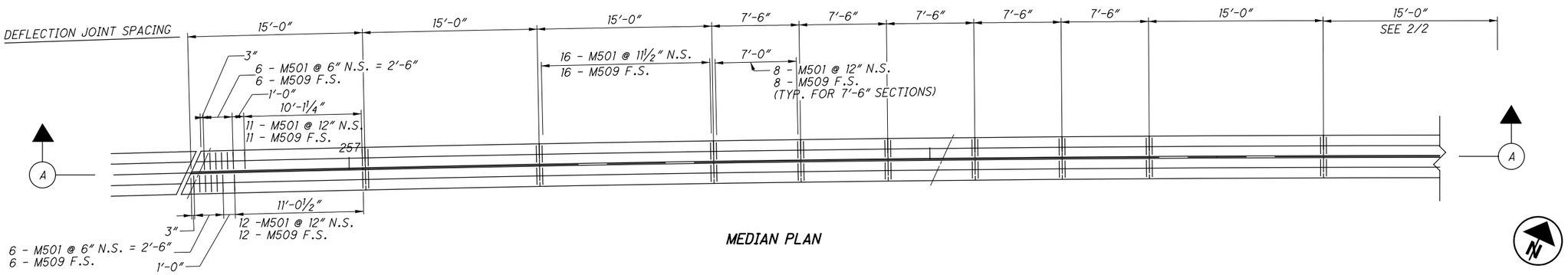
BRIDGE RAILING DETAILS
BRIDGE NO. CUY-90-2616
I-90 OVER EAST 185TH ST.

CUY-90-26.16 / VAR
PID No. 87628

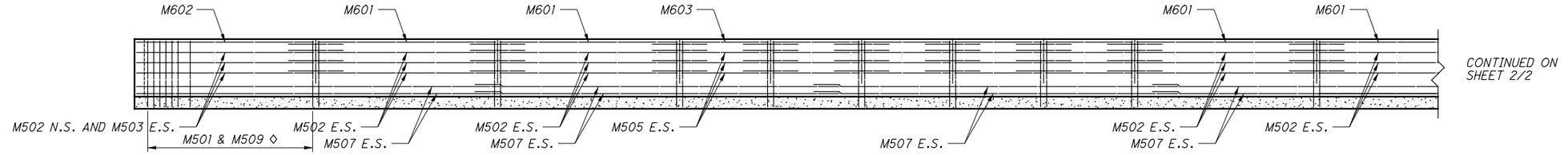
34 / 41

142
222

R:\14000\14035\87628\structures\sheets\CUY90_2616\CUY90_2616RA002b.dgn 11/9/2017 1:40:14 PM malloym

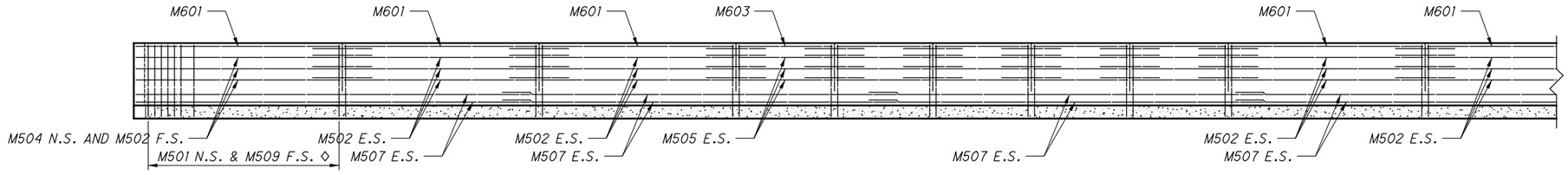


MEDIAN PLAN

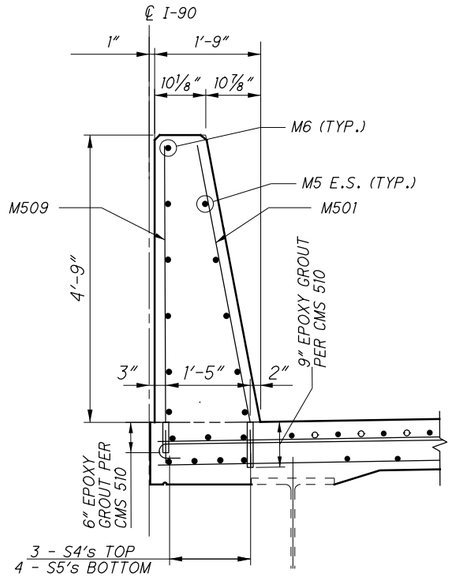


NORTH MEDIAN ELEVATION (WB) A-A

◊ - BAR TYPES TYPICAL BETWEEN DEFLECTION JOINTS. FOR SPACINGS SEE PLAN VIEW.

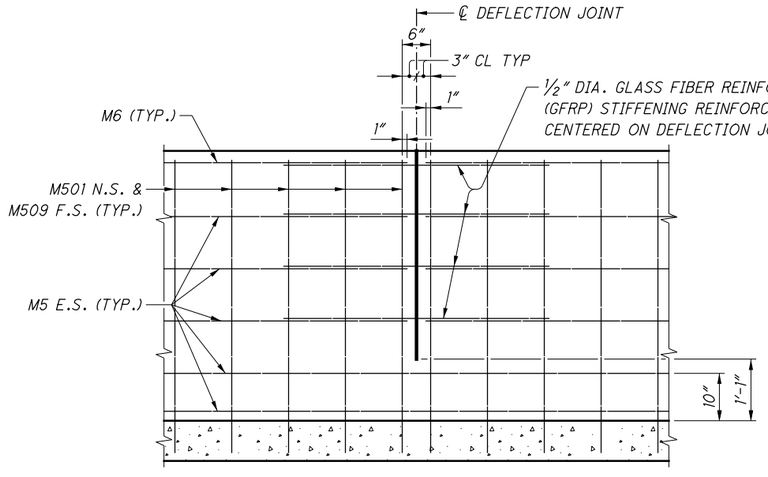


SOUTH MEDIAN ELEVATION (EB)



MEDIAN SECTION DETAIL

EASTBOUND SHOWN, WESTBOUND OPPOSITE HAND
MEDIAN BARRIER INSTALL IN PHASE 6



MEDIAN DEFLECTION JOINT DETAIL
(LOOKING FROM ROADWAY)

GFRP REBAR STIFFENING DETAIL AT DEFLECTION JOINT FOR 57" SINGLE SLOPE BACK-TO-BACK CONCRETE MEDIAN BRIDGE RAILINGS

DESIGN AGENCY
KS Associates Inc.
260 BURNS ROAD, ELYRIA, OHIO 44035

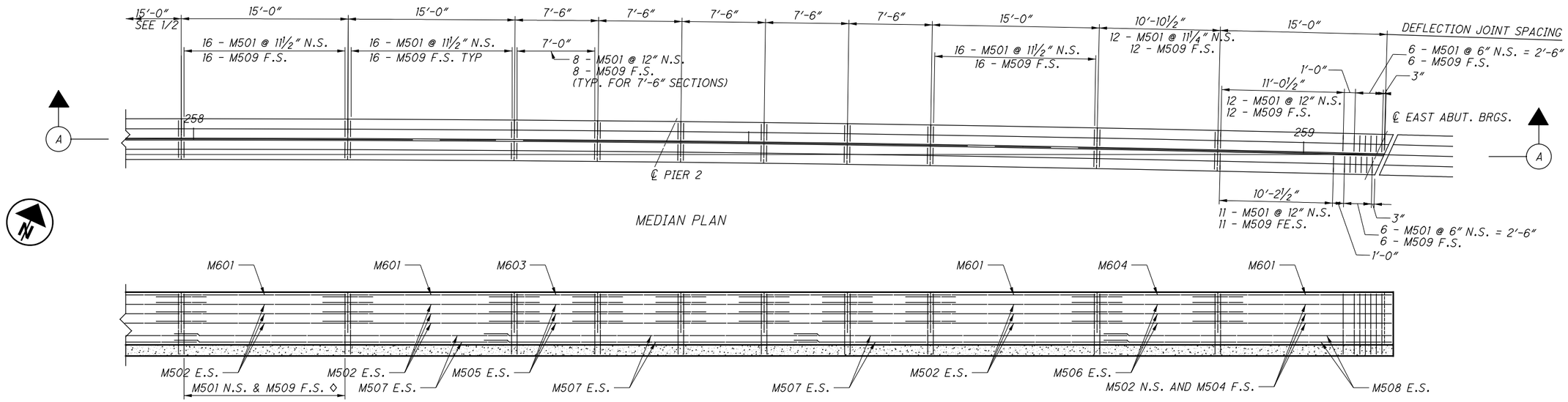
DESIGNED	DRAWN	REVIEWED	DATE
RAP	RAP	MJM	12/07/16
CHECKED	REVISED	STRUCTURE FILE NUMBER	
MJM		1808869	

BRIDGE MEDIAN RAILING DETAILS 1/2

BRIDGE NO. CUY-90-2616
I-90 OVER EAST 185TH ST.

CUY-90-26.16/ VAR

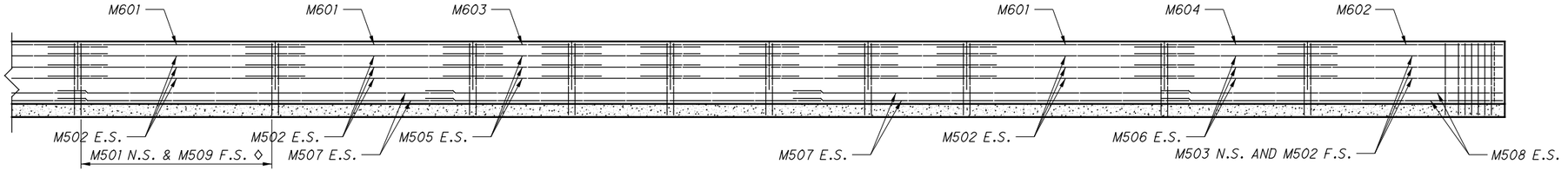
PID No. 87628



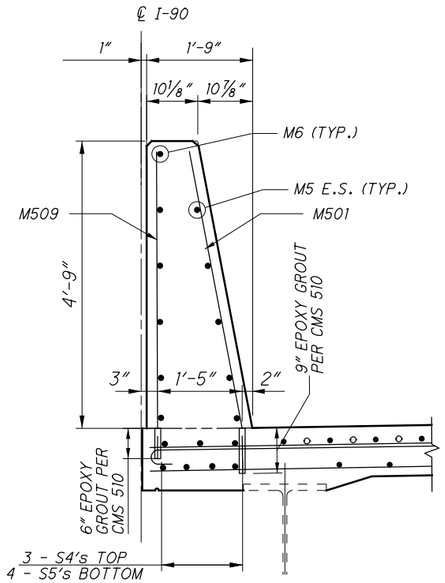
MEDIAN PLAN

NORTH MEDIAN ELEVATION A-A

◊ - BAR TYPES TYPICAL BETWEEN DEFLECTION JOINTS. FOR SPACINGS SEE PLAN VIEW.

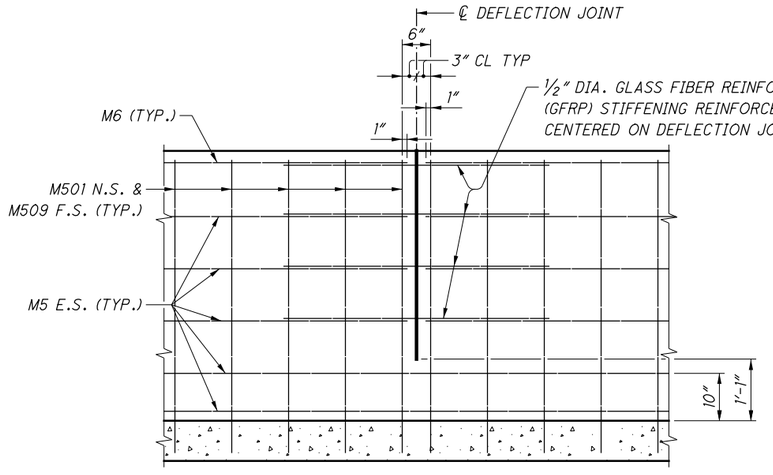


SOUTH MEDIAN ELEVATION



MEDIAN SECTION DETAIL

EASTBOUND SHOWN, WESTBOUND OPPOSITE HAND



MEDIAN DEFLECTION JOINT DETAIL
(LOOKING FROM ROADWAY)

GFRP REBAR STIFFENING DETAIL AT DEFLECTION JOINT FOR 57" SINGLE SLOPE BACK-TO-BACK CONCRETE MEDIAN BRIDGE RAILINGS

DESIGN AGENCY
KS Associates Inc.
260 BURNS ROAD, ELYRIA, OHIO 44035

DESIGNED	DRAWN	REVIEWED	DATE
RAP	RAP	MEM	12/07/16
CHECKED	REVISED	STRUCTURE FILE NUMBER	
MJM		1808869	

BRIDGE MEDIAN RAILING DETAILS 2/2

BRIDGE NO. CUY-90-26.16
I-90 OVER EAST 185TH ST.

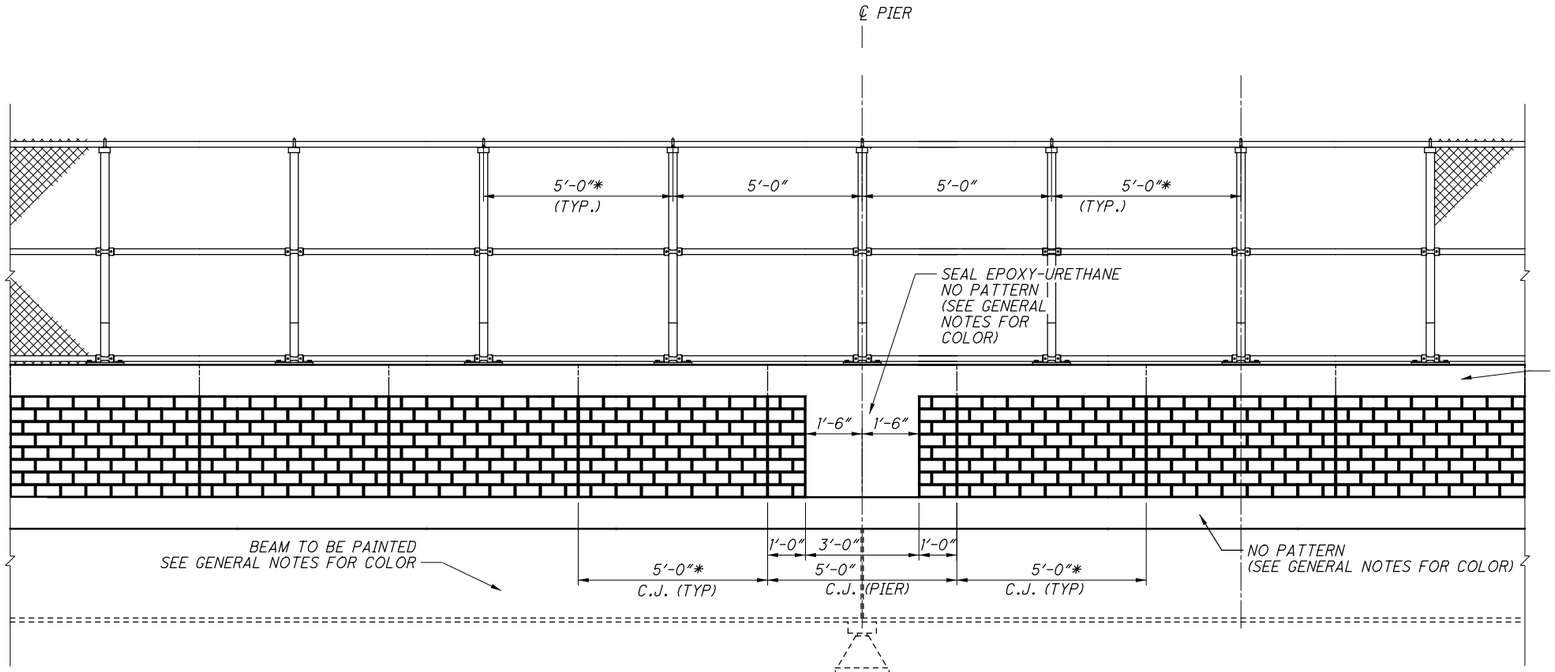
CUY-90-26.16/VAR

PID No. 87628

36 / 41

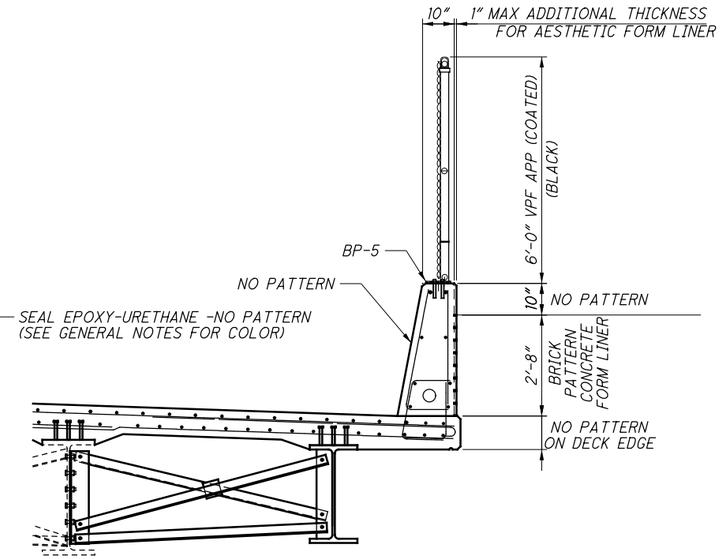
144
222

R:\14000\14035\87628\structures\sheets\CUY90_2616\CUY90_2616RA003b.dgn 11/9/2017 1:40:17 PM maloym

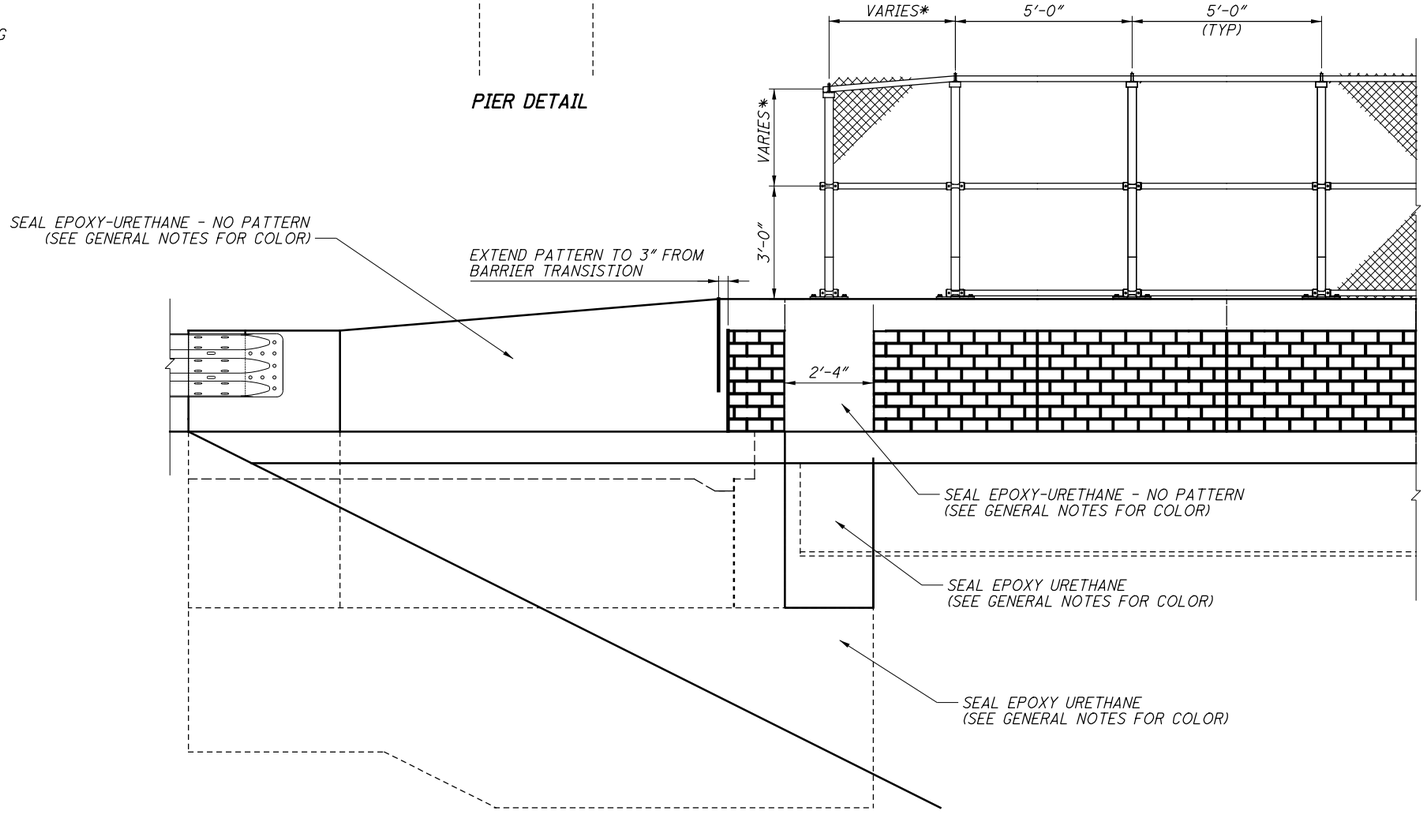


* SEE RAILING DETAIL FOR SPACING

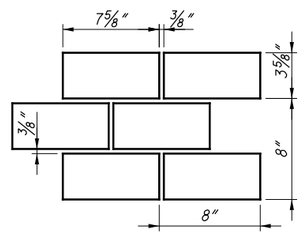
PIER DETAIL



RAILING DETAIL



ABUTMENT DETAIL



BRICK PATTERN
(SEE GENERAL NOTES FOR COLOR)

DESIGN AGENCY
KS Associates Inc.
260 BURNS ROAD, ELYRIA, OHIO 44035

DESIGNED	DRAWN	REVIEWED	DATE
MJM	MJM	ASW	12/07/16
CHECKED	REVISED	STRUCTURE FILE NUMBER	
CFE		1808869	

BRIDGE RAILING DETAIL
BRIDGE NO. CUY-90-2616
I-90 OVER EAST 185TH ST.

CUY-90-26.16 / VAR
PID No. 87628

37 / 41

145 / 222

R:\14000\14035\87628\structures\sheets\CUY90_2616\CUY90_2616RA001.dgn 11/9/2017 1:40:18 PM malloym

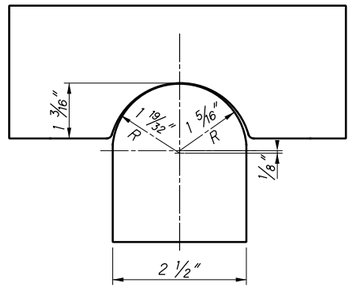
NOTES:

1. FOR ADDITIONAL DETAILS REFER TO ODOT SCD RB-1-55.

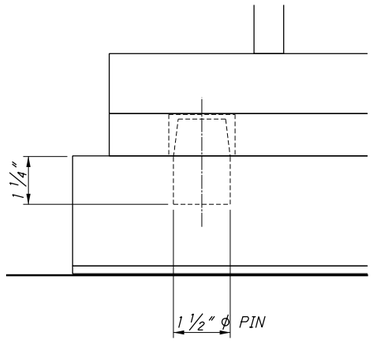
2. BEARINGS TO BE REFURBISHED TO MATCH EXISTING Hb, EXISTING HEIGHT BETWEEN BEAM AND SEAT.

* NO KEEPER PLATES

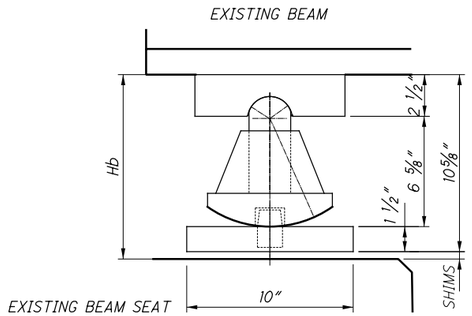
STRUCTURE LOCATION	BEARING LOCATION		BEARING TYPE	Hb EXISTING HEIGHT (IN.)	
	SUBSTRUCTURE	BEAM SEAT			
CUY-26.16	REAR ABUTMENT	A'	NEW R-100	10.75	*
CUY-26.16	REAR ABUTMENT	B	R-100	10.99	
CUY-26.16	REAR ABUTMENT	C	R-100	10.94	
CUY-26.16	REAR ABUTMENT	D	R-100	10.94	
CUY-26.16	REAR ABUTMENT	E	R-100	11.25	
CUY-26.16	REAR ABUTMENT	F	R-100	11.38	
CUY-26.16	REAR ABUTMENT	G	R-100	11.38	
CUY-26.16	REAR ABUTMENT	H	R-100	11.16	
CUY-26.16	REAR ABUTMENT	J	R-100	11.48	
CUY-26.16	REAR ABUTMENT	K	R-100	11.29	
CUY-26.16	REAR ABUTMENT	M	R-100	11.53	
CUY-26.16	REAR ABUTMENT	N	R-100	11.56	
CUY-26.16	REAR ABUTMENT	P	R-100	11.69	
CUY-26.16	REAR ABUTMENT	R	R-100	11.84	
CUY-26.16	REAR ABUTMENT	S	R-100	11.52	
CUY-26.16	REAR ABUTMENT	T	R-100	11.59	
CUY-26.16	REAR ABUTMENT	V	R-100	11.66	
CUY-26.16	REAR ABUTMENT	W	R-100	11.36	
CUY-26.16	REAR ABUTMENT	X	R-100	11.32	
CUY-26.16	FORWARD ABUTMENT	A'	NEW R-100	10.75	
CUY-26.16	FORWARD ABUTMENT	B	R-100	11.75	
CUY-26.16	FORWARD ABUTMENT	C	R-100	11.69	
CUY-26.16	FORWARD ABUTMENT	D	R-100	11.65	
CUY-26.16	FORWARD ABUTMENT	E	R-100	11.51	
CUY-26.16	FORWARD ABUTMENT	F	R-100	11.62	
CUY-26.16	FORWARD ABUTMENT	G	R-100	11.86	
CUY-26.16	FORWARD ABUTMENT	H	R-100	11.78	
CUY-26.16	FORWARD ABUTMENT	J	R-100	11.68	
CUY-26.16	FORWARD ABUTMENT	K	R-100	11.53	
CUY-26.16	FORWARD ABUTMENT	M	R-100	11.40	
CUY-26.16	FORWARD ABUTMENT	N	R-100	11.30	
CUY-26.16	FORWARD ABUTMENT	P	R-100	11.59	
CUY-26.16	FORWARD ABUTMENT	R	R-100	11.48	
CUY-26.16	FORWARD ABUTMENT	S	R-100	11.51	
CUY-26.16	FORWARD ABUTMENT	T	R-100	11.71	
CUY-26.16	FORWARD ABUTMENT	V	R-100	11.80	
CUY-26.16	FORWARD ABUTMENT	W	R-100	11.84	
CUY-26.16	FORWARD ABUTMENT	X	R-100	11.48	



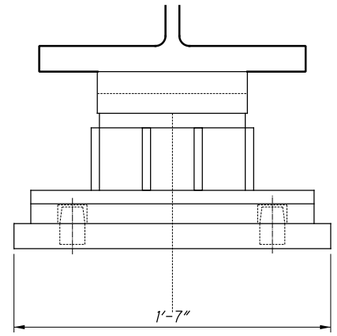
TOP PLATE DETAIL



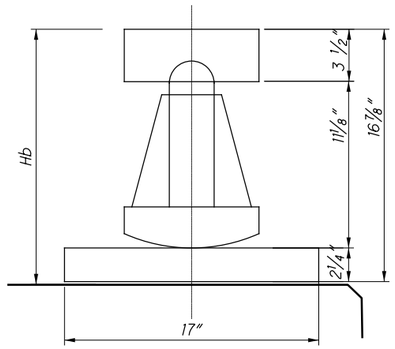
DOWEL DETAIL



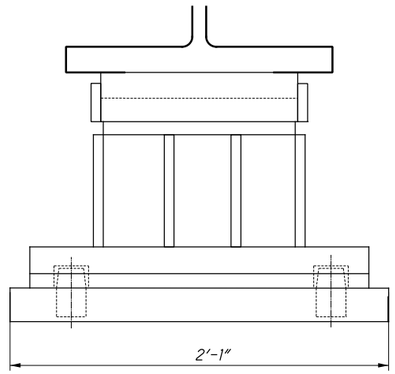
R-100 SECTION



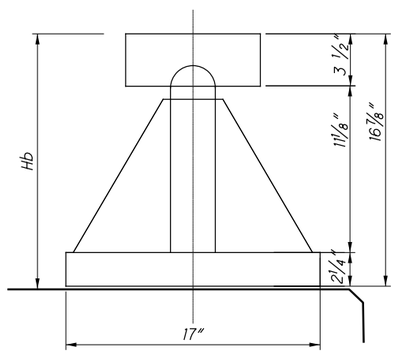
R-100 ELEVATION



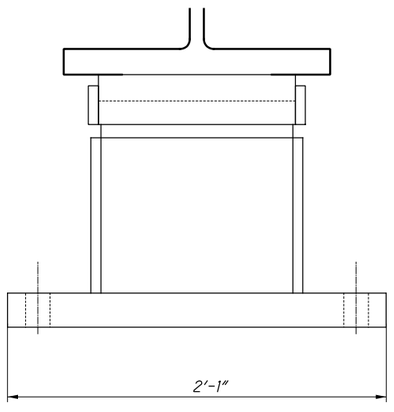
R-225 ROCKER SECTION - PIER #1



R-225 ELEVATION



B-225 BOLSTER SECTION - PIER #2



B-225 BOLSTER ELEVATION - PIER #2

NEW BEARINGS AT PIER #1 AND PIER #2 FOR BEAM A'

DESIGN AGENCY
KS Associates Inc.
260 BURNS ROAD, ELYRIA, OHIO 44035

DESIGNED MEM | DRAWN MEM | CHECKED ASW | REVIEWED MJM | DATE 12/07/16 | REVISED | STRUCTURE FILE NUMBER 1808869

BEARING DETAILS
BRIDGE NO. CUY-90-2616
I-90 OVER EAST 185TH ST.

CUY-90-26.16/VAR
PID No. 87628

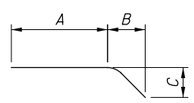
38 / 41

146 / 222

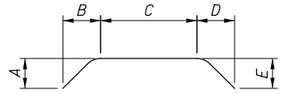
R:\14000\14035\87628\structures\sheets\CUY90_2616\CUY90_2616BR001.dgn 11/9/2017 1:40:19 PM malloym

MARK	NUMBER			LENGTH	WEIGHT	TYPE	DIMENSIONS						
	EAST BOUND	WEST BOUND	TOTAL				A	B	C	D	E	R	INC
SUBSTRUCTURE													
	REAR												
⊗ A501	8		8	23'-4"	195	STR							
⊗ A502	8		8	24'-7"	205	STR							
⊗ A503	8		8	30'-11"	258	STR							
A504	21		21	2'-4"	51	1	0'-10"	1'-8"					
	1 SR		1 SR	9'-2"									
A505	OF		OF	TO	40	STR							0'-4"
	4		4	10'-2"									
A506	10	12	22	4'-0"	92	STR							
A507	8	8	16	2'-3"	38	STR							
A508	8		8	3'-0"	25	STR							
A509	2		2	15'-4"	32	STR							
A510	2		2	16'-0"	33	STR							
A511	8		8	3'-6"	29	STR							
A512	2		2	15'-2"	32	STR							
A513	2		2	15'-10"	33	STR							
⊗ A514		8	8	31'-1"	259	STR							
⊗ A515		8	8	19'-3"	161	STR							
⊗ A516		8	8	41'-6"	346	STR							
A601	161	185	346	3'-3"	1689	STR							
A602	82	94	176	2'-9"	727	STR							
A603	82	94	176	6'-9"	1784	2	2'-10"	1'-5"	2'-10"				
A604	82	94	176	6'-3"	1652	2	2'-10"	0'-11"	2'-10"				
A605	8	8	16	4'-4"	104	STR							
	1 SR	1 SR	2 SR	4'-4"									
A606	OF	OF	OF	TO	157	STR							0'-1"
	11	11	11	5'-2"									
A607	2	3	5	4'-5"	33	STR							
A608	2	3	5	5'-2"	39	13	3'-0"	1'-3"	0'-3"	1'-0"			
A801	50	58	108	5'-4"	1538	18	3'-2"	1'-0"	1'-0"				
	FORWARD												
A504	17		17	2'-4"	41	1	0'-10"	1'-8"					
A506	12	10	22	4'-0"	92	STR							
A507	8	8	16	2'-3"	38	STR							
⊗ A517	8		8	22'-9"	190	STR							
⊗ A518	8		8	25'-1"	209	STR							
⊗ A519	8		8	29'-1"	243	STR							
A520	8		8	3'-8"	31	STR							
A521		8	8	2'-9"	23	STR							
A522	2		2	15'-0"	31	STR							
A523	2		2	15'-5"	32	STR							
A524		2	2	15'-4"	32	STR							
A525		2	2	15'-10"	33	STR							
A601	157	181	338	3'-3"	1650	STR							
A602	80	92	172	2'-9"	710	STR							
A603	80	92	172	6'-9"	1744	2	2'-10"	1'-5"	2'-10"				
A604	80	92	172	6'-3"	1615	2	2'-10"	0'-11"	2'-10"				
A605	12	10	22	4'-4"	143	STR							
	1 SR	1 SR	2 SR	4'-4"									
A606	OF	OF	OF	TO	157	STR							0'-1"
	11	11	11	5'-2"									
A607	3	2	5	4'-5"	33	STR							
A608	3	2	5	5'-2"	39	13	3'-0"	1'-3"	0'-3"	1'-0"			
A801	49	57	106	5'-4"	1509	18	3'-2"	1'-0"	1'-0"				
					PIER								
P501	28		28	3'-2"	93	1	1'-0"	2'-4"					
P502	2		2	14'-6"	30	24	2'-6"	5'-2"				1'-3"	
P503	4		4	6'-0"	25	STR							
SUB-TOTAL COL 1 =					18,295								

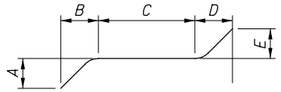
MARK	NUMBER			LENGTH	WEIGHT	TYPE	DIMENSIONS						
	EAST BOUND	WEST BOUND	TOTAL				A	B	C	D	E	R	INC
				SUB-TOTAL									
TOTAL SHEET 1 = 18,295													



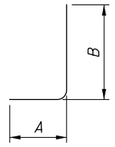
TYPE-19



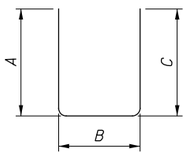
TYPE-20



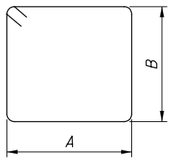
TYPE-20A



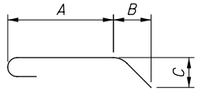
TYPE-1



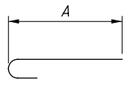
TYPE-2



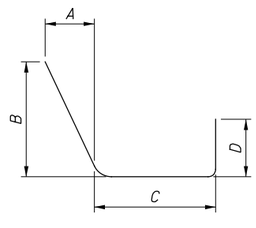
TYPE-3



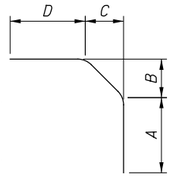
TYPE-18

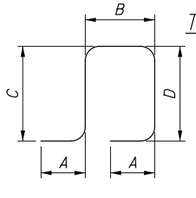


TYPE-16



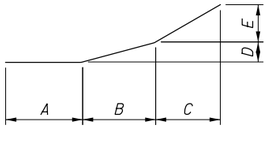
TYPE-13





TYPE-30

TYPE-10



TYPE-25

⊗ - REINFORCING BAR UTILIZES A MECHANICAL CONNECTOR. BAR LENGTH IS MEASURED TO THE CONSTRUCTION JOINT. MODIFICATION TO BAR LENGTH AND/OR BAR END PREPARATION IS DEPENDENT UPON THE TYPE OF MECHANICAL CONNECTOR FURNISHED.

MECHANICAL CONNECTORS

LOCATION	TOTAL
ABUTMENTS	48
SUPERSTRUCTURE	3534
FOR REFERENCE ONLY	
APPROACH SLAB	456
SLEEPER SLAB	88

NOTES:

1. ALL DIMENSIONS ARE OUT TO OUT OF BARS.
2. ALL REINFORCING IS TO BE EPOXY COATED.
3. THE BAR SIZE NUMBER IS SPECIFIED ON THE PLANS IN THE BAR MARK COLUMN. THE FIRST DIGITS OF A THREE DIGIT NUMBER OR THE FIRST TWO DIGITS OF A FOUR DIGIT NUMBER INDICATE THE BAR SIZE. THE LAST TWO DIGITS INDICATE SEQUENCE NUMBER. THE INITIAL LETTER INDICATES LOCATION:

   A - ABUTMENT (FA-FORWARD, RA-REAR)
   P - PIER
   S - SUPERSTRUCTURE
   SP- SPIRAL
   DS- DRILLED SHAFT
   DG- DIAPHRAGM GUIDE
   R - RAILING
   M - MEDIAN

4. "R" INDICATES INSIDE RADIUS, UNLESS NOTED OTHERWISE.
5. "STD" WRITTEN IN PLACE OF A DIMENSION INDICATES A STANDARD BEND AT THE END OF A BAR.
6. STRAIGHT BARS ARE INDICATED AS "STR".

DESIGN AGENCY
KS Associates Inc.
260 BURNS ROAD, ELYRIA, OHIO 44035

DESIGNED MEM | DRAWN RAP | REVIEWED MJM | DATE 12/07/16
CHECKED ASW | REVISED | STRUCTURE FILE NUMBER 1808869

REINFORCING STEEL LIST - 1
BRIDGE NO. CUY-90-2616
I-90 OVER EAST 185TH ST.

CUY-90-26.16/VAR
PID No. 87628

39 / 41

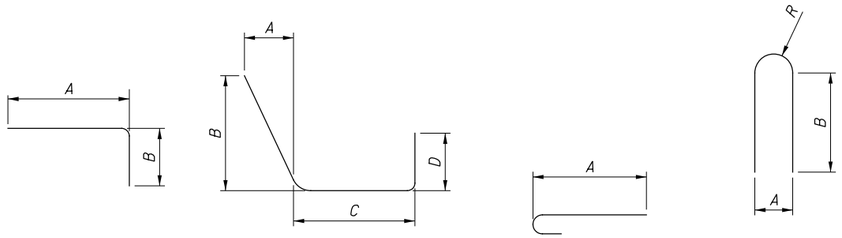
147 / 222

R:\14000\14035\87628\structures\sheets\CUY90_2616\CUY90_2616RL003.dgn 11/9/2017 1:40:21 PM malloym

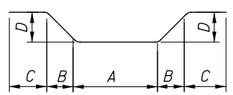
MARK	NUMBER			LENGTH	WEIGHT	TYPE	DIMENSIONS						
	EAST BOUND	WEST BOUND	TOTAL				A	B	C	D	E	R	INC
SUPERSTRUCTURE													
S401	840	936	1776	30'-0"	35,591	STR							
S402		10	10	3'-0"	20	STR							
S501	443		443	12'-0"	5294	STR							
⊗ S502	423		423	11'-3"	5074	STR							
S503	423		423	16'-6"	7280	STR							
⊗ S504	423		423	7'-0"	3088	STR							
⊗ S505	422		422	16'-0"	7042	STR							
⊗ S506	422		422	9'-4"	4181	STR							
⊗ S507	422		422	12'-3"	5392	STR							
⊗ S508	422		422	13'-4"	5868	STR							
⊗ S509	418		418	17'-10"	7775	STR							
S510	418		418	11'-8"	5086	STR							
⊗ S511	418		418	14'-6"	6322	STR							
S512	418		418	15'-8"	6540	STR							
S513	439	436	875	8'-7"	7833	16	7'-11"						
S514	221		221	5'-2"	1180	10	1'-2"	1'-0"	2'-10"	0'-11"			
S515	32		32	30'-0"	1001	STR							
S516		417	417	11'-8"	5074	STR							
⊗ S517		417	417	18'-8"	8118	STR							
S518		417	417	15'-7"	6761	STR							
⊗ S519		417	417	15'-6"	6741	STR							
⊗ S520		424	424	10'-2"	4496	STR							
⊗ S521		424	424	9'-10"	4349	STR							
⊗ S522		424	424	14'-7"	6449	STR							
⊗ S523		424	424	5'-6"	2432	STR							
⊗ S524		406	406	19'-1"	8081	STR							
S525		406	406	20'-8"	8751	STR							
⊗ S526		406	406	14'-6"	6140	STR							
S527		406	406	25'-4"	10,728	STR							
S528	776	848	1624	30'-0"	50,815	STR							
S529	97	106	203	10'-0"	2117	STR							
	2 SR		2 SR	3'-8"									
⊗ S530	OF		OF	TO	395	STR							1'-1"
	16		16	20'-0"									
	2 SR		2 SR	3'-8"									
S531	OF		OF	TO	434	STR							1'-1"
	17		17	20'-10"									
	2 SR		2 SR	3'-8"									
⊗ S532	OF		OF	TO	446	STR							1'-1"
	16		16	21'-2"									
	2 SR		2 SR	3'-8"									
⊗ S533	OF		OF	TO	496	STR							1'-1"
	18		18	22'-9"									
	2 SR		2 SR	3'-8"									
S534	OF		OF	TO	780	STR							1'-0"
	23		23	27'-4"									
	2 SR		2 SR	3'-8"									
⊗ S535	OF		OF	TO	646	STR							1'-1"
	21		21	26'-0"									
		2 SR	2 SR	3'-8"									
S536		OF	OF	TO	748	STR							1'-1"
		23	23	27'-6"									
		2 SR	2 SR	3'-8"									
⊗ S537		OF	OF	TO	772	STR							1'-2"
		23	23	28'-6"									
		2 SR	2 SR	3'-8"									
⊗ S538		OF	OF	TO	284	STR							1'-2"
		13	13	17'-3"									
		2 SR	2 SR	3'-6"									
⊗ S539		OF	OF	TO	309	STR							1'-1"
		14	14	17'-6"									
SUB-TOTAL COL 1 =					250,620								

MARK	NUMBER			LENGTH	WEIGHT	TYPE	DIMENSIONS						
	EAST BOUND	WEST BOUND	TOTAL				A	B	C	D	E	R	INC
SUPERSTRUCTURE (CONT.)													
		2 SR	2 SR	3'-8"									
⊗ S540		OF	OF	TO	824	STR							1'-1"
		24	24	29'-3"									
S541		12	12	18'-3"	228	STR							
		2 SR	2 SR	15'-0"									
S542		OF	OF	TO	222	STR							1'-1"
		6	6	20'-5"									
S543		12	12	30'-0"	375	STR							
		2 SR	2 SR	5'-0"									
S544		OF	OF	TO	134	STR							0'-9"
		8	8	11'-0"									
		2 SR	2 SR	4'-0"									
S545		OF	OF	TO	798	STR							1'-1"
		23	23	29'-6"									
⊗ S546		72	72	3'-6"	263	STR							
S547	8	12	20	19'-3"	402	STR							
S548	8	8	16	22'-9"	380	STR							
S549	4		4	5'-0"	21	STR							
S550		80	80	6'-9"	564	21	1'-0"	1'-3"	1'-0"	0'-10"			
S601	274	274	548	2'-7"	2143	1	1'-9"	1'-0"					
S602	274	274	548	30-6"	2869	28	1'-9"	1'-0"					
S604	192	216	408	30'-0"	18,384	STR							
SUB-TOTAL					27,607								
TOTAL SHEET 2 = 278,227													

S603



TYPE-1 TYPE-10 TYPE-16 TYPE-24



TYPE-21

⊗ - REINFORCING BAR UTILIZES A MECHANICAL CONNECTOR. BAR LENGTH IS MEASURED TO THE CONSTRUCTION JOINT. MODIFICATION TO BAR LENGTH AND/OR BAR END PREPARATION IS DEPENDENT UPON THE TYPE OF MECHANICAL CONNECTOR FURNISHED.

EPOXY COATED BAR LAPS (MIN)

SIZE	LAP
#4	3'-6"
#5	4'-3"
#6	5'-0"
#7	5'-8"
#8	6'-10"

DESIGN AGENCY
KS Associates Inc.
260 BURNS ROAD, ELYRIA, OHIO 44035

DESIGNED MEM | DRAWN RAP | CHECKED ASW | REVIEWED MJM | DATE 12/07/16 | REVISED | STRUCTURE FILE NUMBER 1808869

REINFORCING STEEL LIST - 2

BRIDGE NO. CUY-90-2616
I-90 OVER EAST 185TH ST.

CUY-90-26.16/VAR
PID No. 87628

40 / 41

148
222

MARK	NUMBER			LENGTH	WEIGHT	TYPE	DIMENSIONS						
	EAST BOUND	WEST BOUND	TOTAL				A	B	C	D	E	R	INC
APPROACH SLABS (FOR REFERENCE ONLY)													
	FORWARD												
AS501	49	57	106	24'-8"	2727	STR							
AS510	57		57	5'-10"	347	20A	0'-5"	1'-11 1/2"	1'-10 1/2"	1'-11 1/2"	0'-5"		
⊗ AS511	57		57	22'-9"	1353	STR							
⊗ AS512	114		114	12'-9"	1516	STR							
⊗ AS513	57		57	27'-3"	1620	STR							
⊗ AS515		57	57	30'-5"	1808	STR							
⊗ AS516		114	114	11'-10"	1407	STR							
⊗ AS517		57	57	37'-0"	2200	STR							
AS1001	120	141	261	24'-8"	27,703	STR							
	REAR												
AS501	56	58	114	24'-8"	2933	STR							
⊗ AS502	57		57	23'-4"	1387	STR							
⊗ AS504	114		114	14'-0"	1665	STR							
⊗ AS505	57		57	29'-7"	1760	STR							
⊗ AS507		57	57	31'-1"	1848	STR							
⊗ AS508		114	114	11'-3"	1338	STR							
⊗ AS509		57	57	39'-7"	2354	STR							
AS510	57		57	5'-10"	347	20A	0'-1"	2'-0"	1'-10"	2'-0"	0'-1"		
AS1001	121	141	262	24'-6"	27,621	STR							
SLEEPER SLABS (FOR REFERENCE ONLY)													
	REAR												
SS501	74	87	161	6'-3"	1050	STR							
⊗ SS502	11		11	23'-10"	273	STR							
SS503	74	87	161	5'-9"	966	30	0'-10"	1'-5 3/4"	1'-7"	1'-7"			
⊗ SS504	22		22	14'-0"	322	STR							
⊗ SS505	11		11	30'-11"	355	STR							
⊗ SS507		11	11	31'-1"	357	STR							
⊗ SS508		22	22	11'-3"	258	STR							
⊗ SS509		11	11	41'-6"	477	STR							
	FORWARD												
SS501	74	86	160	6'-3"	1043	STR							
SS503	74	86	160	5'-9"	960	30	0'-10"	1'-5 3/4"	1'-7"	1'-7"			
⊗ SS511	11		11	22'-9"	261	STR							
⊗ SS512	22		22	12'-9"	292	STR							
⊗ SS513	11		11	27'-3"	313	STR							
⊗ SS515		11	11	30'-5"	349	STR							
⊗ SS516		22	22	11'-10"	272	STR							
⊗ SS517		11	11	39'-4"	451	STR							
SUB-TOTAL COL 1 = 89,933 . WEIGHT FOR REFERENCE ONLY													

MARK	NUMBER			LENGTH	WEIGHT	TYPE	DIMENSIONS						
	EAST BOUND	WEST BOUND	TOTAL				A	B	C	D	E	R	INC
RAILING													
R501	246	245	491	7'-4"	3755	23	0'-11"	3'-3"	3'-0"			0'-3"	
R502	8	8	16	14'-8"	245	STR							
R503	32	32	64	4'-8"	312	STR							
R504		2	2	11'-7"	24	STR							
R505		4	4	13'-9"	58	STR							
R506		4	4	13'-8"	57	STR							
R507		2	2	11'-8"	24	STR							
R508	28	28	56	30'-0"	1752	STR							
R509		4	4	24'-3"	101	STR							
R510	2		2	12'-2"	25	STR							
R511	4		4	13'-11"	58	STR							
R512	4		4	14'-10"	62	STR							
R513	2		2	12'-0"	25	STR							
R514	4		4	25'-11"	108	STR							
R601	4	4	8	14'-8"	176	STR							
R602	16	16	32	4'-8"	224	STR							
R603		1	1	11'-7"	17	STR							
R604		1	1	13'-9"	21	STR							
R605		1	1	13'-8"	21	STR							
R606		1	1	11'-8"	18	STR							
R607	1		1	12'-2"	18	STR							
R608	1		1	13'-11"	21	STR							
R609	1		1	14'-10"	22	STR							
R610	1		1	12'-0"	18	STR							
TRANSITIONS													
R520	16	16	32	10'-0"	334	STR							
R521	8	8	16	5'-8"	95	25	1'-10"	2'-5"	1'-4"	0'-2"	0'-5"		
R522	8	8	16	5'-8"	95	STR							
R523	8	8	16	3'-10"	64	STR							
			4 SR	2'-4"									
R620			OF	TO	182	STR							0'-1"
			11	3'-2"									
MEDIAN													
M401	42		42	5'-6"	154	20	2'-0"	0'-4 1/2"	1'-7 1/4"	0'-4 1/2"	2'-0"		
M501	243	243	486	5'-4"	2703	19	0'-9"	4'-6 1/2"	0'-11"				
M502	48	48	96	14'-8"	1469	STR							
M503	3	3	6	13'-9"	86	STR							
M504	3	3	6	15'-6"	97	STR							
M505	60	60	120	7'-2"	897	STR							
M506	6	6	12	10'-7"	132	STR							
M507	28	28	56	30'-0"	1752	STR							
M508	4	4	8	25'-2"	210	STR							
M509	243	243	486	5'-1"	2577	STR							
M510	13	13	26	24'-6"	664	STR							
M511	22	22	44	0'-10"	38	STR							
M512	42	42	84	6'-1"	533	20	0'-1 3/4"	0'-9"	4'-7 1/2"	0'-2"	0'-9 3/4"		
M601	8	8	16	14'-8"	352	STR							
M602	1	1	2	13'-9"	42	STR							
M603	10	10	20	7'-2"	215	STR							
M604	1	1	2	10'-7"	32	STR							
SUB-TOTAL COL 2 = 19,853 .													
TOTAL SHEET 3 CARRIED TO QUANTITIES= 19,853													

DESIGN AGENCY
KS Associates Inc.
260 BURNS ROAD, ELYRIA, OHIO 44035

DESIGNED MEM | DRAWN RAP | REVIEWED MJM | DATE 12/07/16 | CHECKED ASW | REVISED | STRUCTURE FILE NUMBER 1808869

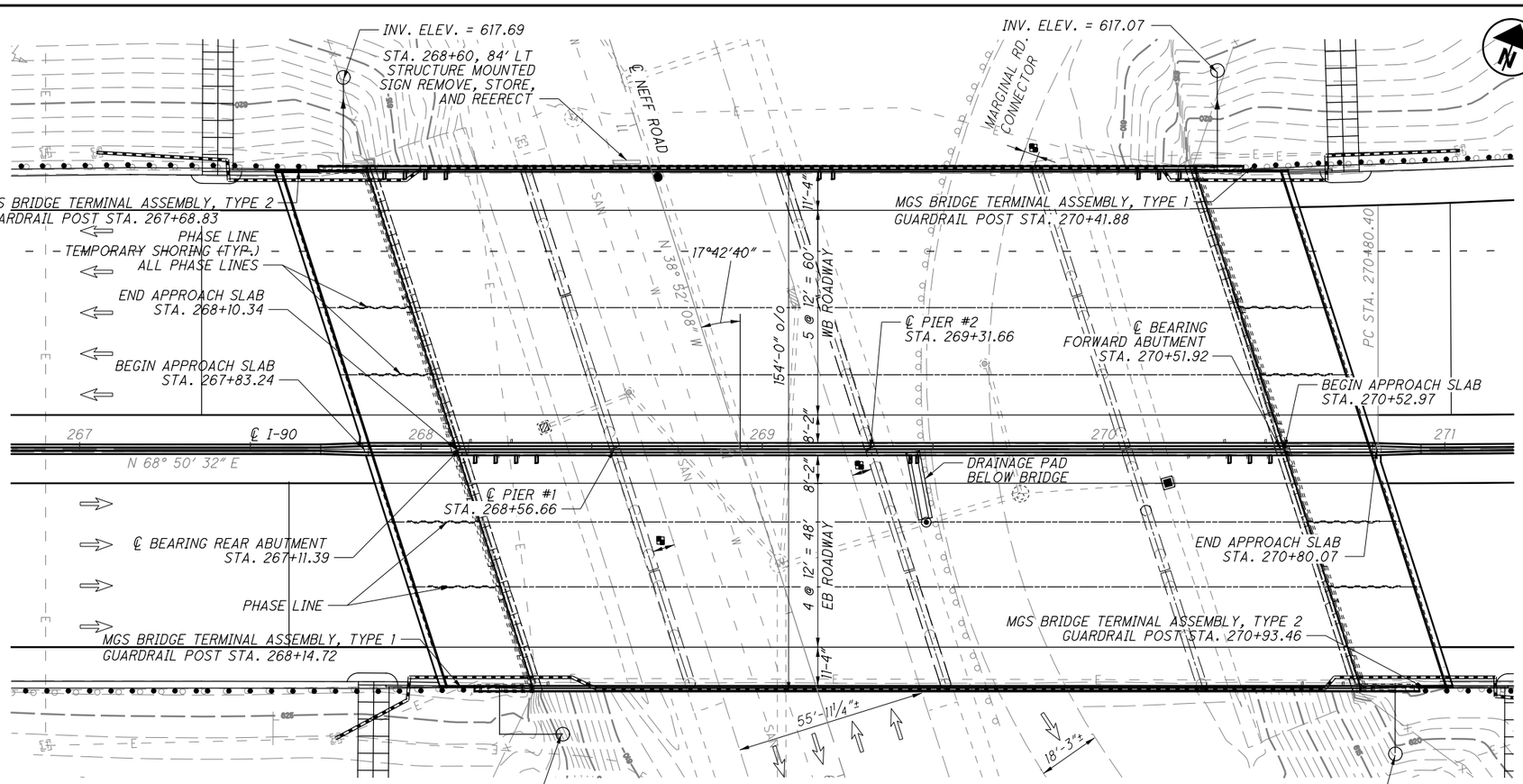
REINFORCING STEEL LIST - 3

BRIDGE NO. CUY-90-2616
I-90 OVER EAST 185TH ST.

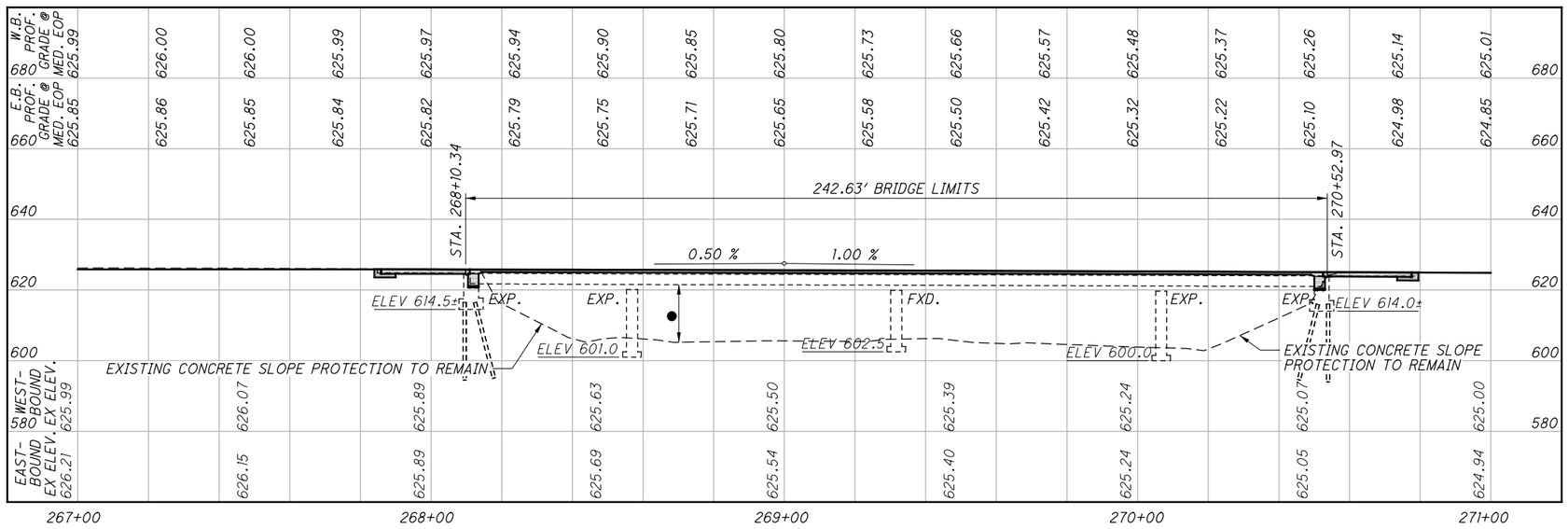
CUY-90-26.16/VAR
PID No. 87628

41 / 41

149
222



PLAN



PROFILE ALONG ℄ CONSTRUCTION I-90

BENCHMARK DATA

BM #3 STA. 269+17.96, ELEV. 606.07 , OFFSET 111.36,, LT.
BM #4 STA. 269+63.77, ELEV. 607.69 , OFFSET 88.44,, RT.

FOR ADDITIONAL BENCHMARK INFORMATION. SEE ROADWAY PLAN SHEET 2

PROPOSED WORK

REPLACE DECK
CONVERT ABUTMENTS TO SEMI-INTEGRAL
PERFORM FATIGUE RETROFITS
REPAIR ABUTMENT SEATS
REPLACE APPROACH SLABS
SEAL CONCRETE SURFACES
APPLY AESTHETIC TREATMENTS
RELOCATE MEDIAN SCUPPER
REPAIR UNDERPASS LIGHTING
CLEAN AND PAINT STRUCTURAL STEEL

NOTES

DESIGN TRAFFIC:
2015 ADT = 111,578 2015 ADTT = 4,832
2033 ADT = 154,870 2033 ADTT = 6,700
DIRECTIONAL DISTRIBUTION = 52%

LEGEND

- 5'-9½" HORIZONTAL CLEARANCE (NORTHBOUND)
  6'-5⅝" HORIZONTAL CLEARANCE (SOUTHBOUND)
  4'-1¼" HORIZONTAL CLEARANCE (MARGINAL CONNECTOR)
  4'-0" REQUIRED HORIZONTAL CLEARANCE
- 14'-6" REQUIRED MINIMUM VERTICAL CLEARANCE
  14'-11⅜" ACTUAL MINIMUM VERTICAL CLEARANCE

EXISTING STRUCTURE

TYPE: 4-SPAN CONTINUOUS STEEL BEAM WITH REINFORCED CONCRETE DECK, PIERS, AND ABUTMENTS.

SPANS: 45'-0" 75'-0" 75'-0" 45'-0" c/c BEARINGS
ROADWAY: 152'-0" F/F PARAPET
LOADING: CF-2000-57
SKEW: 17°45'20" R.F.
APPROACH SLABS: AS-1-54 (25'-0" LONG)
ALIGNMENT: TANGENT
CROWN: SUPERELEVATION 0.0156 FT/FT
STRUCTURAL FILE NUMBER: 1808850
DATE BUILT: 1960
DISPOSITION: OPEN

PROPOSED STRUCTURE

TYPE: 4-SPAN CONTINUOUS STEEL BEAM WITH REINFORCED COMPOSITE CONCRETE DECK, CONCRETE PIERS, AND SEMI-INTEGRAL ABUTMENTS.

SPANS: 45-0" 75'-0" 75'-0" 45'-0" c/c BEARINGS
ROADWAY: 67'-6" EB / 79'-6" WB TOE/TOE PARAPET
LOADING: HS20 CASE I AND ALTERNATE MILITARY (60 PSF FWS.)
SKEW: 17°45'20" R.F.
APPROACH SLABS: 25'-0" LONG (AS-1-81, AS 2-15)
ALIGNMENT: TANGENT
CROWN: SUPERELEVATION 0.016 FT/FT
COORDINATES: LATITUDE 41° 34' 43.67"
LONGITUDE -81° 32' 45.59"

DESIGN AGENCY
KS Associates Inc.
260 BURNS ROAD, ELYRIA, OHIO 44035

DESIGNED	DRAWN	REVIEWED	DATE
MEM	MEM	MJM	01/09/17
CHECKED	REVISED	STRUCTURE FILE NUMBER	
RAP		1808850	

CUYAHOGA COUNTY
STA. 268+10.34
STA. 270+52.97

SITE PLAN
BRIDGE NO. CUY-90-2639
I-90 OVER NEFF ROAD

CUY-90-26.16 / VAR
PID No. 87628

1 / 37

150
222

11/9/2017 1:40:23 PM malloym
R:\14000\14035\87628\structures\sheets\CUY90_2639\CUY90_2639SP001.dgn

STANDARD DRAWINGS AND SUPPLEMENTAL SPECIFICATIONS

REFER TO THE FOLLOWING STANDARD BRIDGE DRAWING(S):

AS-1-15 DATED 7-17-15
AS-2-15 DATED 7-17-15
GSD-1-96 DATED 7-19-02
SBR-1-13 DATED 1-17-14
SBR-2-13 DATED 1-17-14
SICD-1-96 DATED 7-18-14
SICD-2-14 DATED 7-18-14
VPF-1-90 DATED 7-17-15

AND TO THE FOLLOWING SUPPLEMENTAL SPECIFICATION(S):

NONE

DESIGN SPECIFICATIONS

DESIGN SPECIFICATIONS: THIS STRUCTURE CONFORMS TO "STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, 2002 17TH EDITION, INCLUDING THE 2005 ERRATA AND THE ODOT BRIDGE DESIGN MANUAL.

DESIGN LOADING

DESIGN LOADING: HS20, CASE I AND THE ALTERNATE MILITARY LOADING.

FUTURE WEARING SURFACE (FWS) OF 60 POUNDS PER SQUARE FOOT.

DESIGN DATA

CONCRETE QC2 - COMPRESSIVE STRENGTH 4500 PSI (SUPERSTRUCTURE)

CONCRETE QC1- COMPRESSIVE STRENGTH 4000 PSI (SUBSTRUCTURE)

REINFORCING STEEL - ASTM A615 OR A996, GRADE 60, MINIMUM YIELD STRENGTH 60,000 PSI

NEW STRUCTURAL STEEL - ASTM A709 GRADE 50 , MINIMUM YIELD STRENGTH 50,000 PSI

EXISTING STRUCTURAL STEEL -A7, GRADE 33 , MINIMUM YIELD STRENGTH 33,000 PSI

DECK PROTECTION METHOD

EPOXY COATED REINFORCING STEEL

2-1/2" CONCRETE COVER

MONOLITHIC WEARING SURFACE

MONOLITHIC WEARING SURFACE IS ASSUMED, FOR DESIGN PURPOSES, TO BE 1 INCH THICK.

ITEM 202 - PORTIONS OF STRUCTURE REMOVED, AS PER PLAN

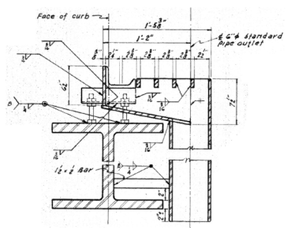
DESCRIPTION: THIS WORK CONSISTS OF THE REMOVAL OF CONCRETE DECK INCLUDING, PARAPETS, RAILINGS, DECK JOINTS AND OTHER APPURTENANCES FROM STEEL SUPPORTING SYSTEMS (BEAMS, GIRDERS, CROSS FRAMES, ETC.). THIS ITEM ALSO INCLUDES THE REMOVAL OF CROSSFRAMES DENOTED IN THE PLANS, AND THE BACKWALLS AND TOPS OF WINGWALLS FROM THE BEARING SEATS UP. 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.

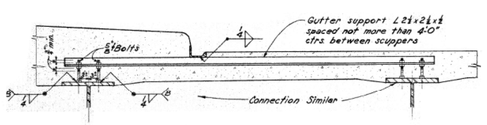
REMOVAL METHODS: THE CONTRACTOR MAY REMOVE CONCRETE BY CUTTING AND BY MEANS OF HAND OPERATED PNEUMATIC HAMMERS EMPLOYING POINTED OR BLUNTED CHISEL TYPE TOOLS. FOR REMOVALS OVER STRUCTURAL MEMBERS (PRESTRESSED BOX BEAM, I-BEAM, STEEL BEAM STEEL GIRDER, ETC), THE CONTRACTOR MAY USE A HAMMER HEAVIER THAN 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 DIRECTOR. OBTAIN THE DIRECTOR'S APPROVAL BEFORE PER- FORMING REPAIR.

NOTE: THE EXISTING SCUPPERS ARE WELDED TO THE EXISTING BEAMS. ADDITIONALLY THERE ARE ANGLES EMBEDDED IN THE CONCRETE DECK AND WELDED TO THE EXISTING BEAMS AT THE MEDIAN TO SUPPORT THE SCUPPERS. SEE DETAIL BELOW. THE CONTRACTOR SHALL INCLUDE WITH THE DECK REMOVAL PROCEDURE SUBMISSION, A SEPARATE PROCEDURE FOR REMOVING THE DECK IN THE AREA OF EXISTING SCUPPERS SHOWING HOW THE DECK WILL BE REMOVED WITHOUT DAMAGING THE EXISTING STEEL BEAMS TO REMAIN.



SCUPPER ELEVATION



GUTTER SUPPORT AT MEDIAN

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, AS PER PLAN.

CUT LINE CONSTRUCTION JOINT PREPARATION

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.

ASBESTOS ABATEMENT

AN ASBESTOS SURVEY OF THE MAINLINE IR-90 BRIDGES OVER NEFF ROAD WAS COMPLETED IN MARCH 2014 BY A CERTIFIED ASBESTOS HAZARD EVALUATION SPECIALIST. NO ASBESTOS CONTAINING MATERIAL (ACM) WAS IDENTIFIED ON THE BRIDGES. A COPY OF THE OHIO ENVIRONMENTAL PROTECTION AGENCY (OEPA) NOTIFICATION OF DEMOLITION AND RENOVATION FORM WITH SECTIONS I-IV, VI, VII, AND XVI COMPLETED IS INCLUDED WITH THE BID PACKAGE. THE CONTRACTOR SHALL COMPLETE SECTIONS V, VIII-XVIII 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 SHALL PROVIDE A COPY OF THE COMPLETED FORM TO THE ENGINEER. THE LOCAL AIR AUTHORITY IS:

THE DEPARTMENT OF PUBLIC HEALTH
DIVISION OF ENVIRONMENT
1925 ST. CLAIR AVENUE
CLEVELAND, OHIO 44114
PHONE: (216) 664-2300

COST TO COMPLETE THE NOTIFICATION OF DEMOLITION AND RENOVATION FORM SHALL BE INCLUDED IN THE LUMP SUM CONTRACT PRICE FOR ITEM 202 STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN

UTILITY LINES

UTILITY LINES: THE UTILITY(IES) SHALL BORE ALL EXPENSE INVOLVED IN RELOCATING (INSTALLING) THE AFFECTED UTILITY LINES. THE CONTRACTOR AND UTILITY(IES) ARE TO COOPERATE BY ARRANGING THEIR WORK IN SUCH A MANNER THAT INCONVENIENCE TO EITHER WILL BE HELD TO A MINIMUM.

EXISTING HIGHWAY LIGHTING CONDUITS ARE ATTACHED TO THE BOTTOM OF THE DECK. ACTIVE TOWER LIGHTING CONDUITS ARE TO BE MAINTAINED. SEE GENERAL NOTES FOR DESCRIPTION OF WORK UNDER ITEM 625 - LIGHTING, MISC.: REPLACE CONDUIT IN PARAPET.

EXISTING STRUCTURE VERIFICATION

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.

ITEM 503 - COFFERDAMS AND EXCAVATION BRACING

THIS ITEM INCLUDES THE TEMPORARY SHORING BETWEEN ALL PHASE LINES. MAY REMAIN IN PLACE BETWEEN PHASES, BUT MUST BE REMOVED PRIOR TO COMPLETION OF LATER PHASE APPROACH SLAB PLACEMENT.

ITEM 503 - UNCLASSIFIED EXCAVATION, AS PER PLAN

UNCLASSIFIED EXCAVATION SHALL BE IN ACCORDANCE WITH CMS ITEM 503 EXCEPT THAT THE BACKFILL MATERIAL SHALL CONFORM TO CMS 703.17 (CMS 304 MATERIAL) AND MEET THE COMPACTION REQUIREMENTS OF CMS 304.05. IN ADDITION, THE BACKFILL MATERIAL SHALL BE PLACED AND COMPACTED IN 6 INCH LIFTS. EXCAVATION OF THE EXISTING POROUS BACKFILL SHALL BE INCLUDED IN THIS ITEM.

ITEM 511 - CLASS QC2 CONCRETE WITH QC/QA, SUPERSTRUCTURE, AS PER PLAN
ITEM 511 - CLASS QC2 CONCRETE WITH QC/QA. BRIDGE DECK. AS PER PLAN
ITEM 511 - CLASS QC2 CONCRETE WITH QC/QA. BRIDGE DECK (PARAPET). AS PER PLAN

1. GENERAL REQUIREMENTS:

THE PROVISIONS OF ITEM 511 SHALL APPLY EXCEPT AS NOTED BELOW. IN ADDITION, THE CONTRACTOR SHALL PROVIDE A RUBBED SURFACE IN ACCORDANCE WITH CMS 511.15 (B) ON ALL EXPOSED SURFACES.

THIS ITEM SHALL INCLUDE THE SURVEYING, LAYOUT AND TIME REQUIRED TO DETERMINE THE SCREED TABLE ELEVATIONS USING THE INCLUDED SCREED FORMULA TABLE.

THE STRUCTURAL STEEL THAT WILL BE ENCASED AS PART OF THE SEMI-INTEGRAL DIAPHRAGM CONSTRUCTION, SHALL BE CLEAN PRIOR TO PLACEMENT OF THE CONCRETE PER CMS 514.13 A SOLVENT CLEANING. THIS COST FOR THIS SOLVENT CLEANING IS CONSIDERED INCIDENTAL AND SHALL BE INCLUDED WITH THE PRICE BID FOR CLASS QC2 CONCRETE WITH QC/QA, SUPERSTRUCTURE, AS PER PLAN.

THIS COST FOR DRILLING HOLES IN THE EXISTING STEEL FOR PLACEMENT OF REINFORCING STEEL AND PROVIDING VENT HOLES FOR THE PURPOSE OF CONSTRUCTING THE SEMI-INTEGRAL DIAPHRAGM IS CONSIDERED INCIDENTAL AND SHALL BE INCLUDED WITH THE PRICE BID FOR CLASS QC2 CONCRETE WITH QC/QA, SUPERSTRUCTURE, AS PER PLAN.

2. MATERIALS: ALL COARSE AGGREGATE SHALL HAVE AN ABSORPTION OF 1.00% OR GREATER AS DEFINED PER ASTM C127.

3. MEDIAN CONSTRUCTION: FOR MAINTENANCE OF TRAFFIC PURPOSES, THE CONTRACTOR SHALL CONSTRUCT THE MEDIAN DECK PHASE AS ONE UNIT, WITH NO MEDIAN JOINT. DECK PLACEMENT SHALL OCCURE PRIOR TO INSTALLATION OF TEMPORARY CROSS FRAMES. GLASS FIBER REINFORCED POLYMER (GFRP) REINFORCEMENT BAR SHALL BE PLACED AS INDICATED IN THE PLANS. DURING THE FINAL CONSTRUCTION PHASE, AFTER THE REMOVAL OF THE TEMPORARY CROSS-FRAMES AND PRIOR TO

DESIGN AGENCY
KS Associates Inc.
260 BURNS ROAD, ELYRIA, OHIO 44035

DESIGNED MJM | DRAWN MJM | REVIEWED ASW | DATE 12/07/16 | CHECKED CFE | REVISED | STRUCTURE FILE NUMBER 1808850

BRIDGE GENERAL NOTES - 1
BRIDGE NO. CUY-90-2639
I-90 OVER NEFF ROAD

CUY-90-26.16/VAR
PID No. 87628

MEDIAN PARAPET CONSTRUCTION, THE CONTRACTOR SHALL SAW CUT THE FULL DEPTH MEDIAN JOINT. THE CONTRACTOR SHALL DOWEL AND EPOXY GROUT THE MEDIAN REINFORCING BARS INTO THE DECK TAKING CARE NOT TO DAMAGE THE STEEL DECK REINFORCING BARS. ALL WORK REQUIRED TO COMPLETE THIS WORK, NOT SPECIFICALLY INCLUDED IN ANOTHER PAY ITEM IS CONSIDERED INCIDENTAL TO THESE PAY ITEMS.

5. BASIS OF PAYMENT:

ITEM	EXT	UNITS	DESCRIPTION
511	34447	C.Y.	CLASS QC2 CONCRETE WITH QC/QA, SUPERSTRUCTURE, AS PER PLAN
511	34447	C.Y.	CLASS QC2 CONCRETE WITH QC/QA, BRIDGE DECK, AS PER PLAN
511	34451	C.Y.	CLASS QC2 CONCRETE WITH QC/QA, BRIDGE DECK (PARAPET), AS PER PLAN

SCREED ELEVATIONS

SCREED ELEVATIONS ARE TO BE CALCULATED BY CONTRACTOR PER THE SCREED TABLE NOTES. THE CONTRACTOR IS TO SURVEY THE BEAMS PRIOR TO DECK REMOVAL DURING EACH PHASE AND JUST AFTER DECK REMOVAL. THIS INFORMATION WILL BE USED BY THE CONTRACTOR TO CALCULATE THE DECK SCREEDS BASED ON THE SCREED TABLE SHEET. SEE SCREED TABLE FOR ADDITIONAL INFORMATION.

FINAL DECK SURFACE ELEVATIONS

FINAL DECK SURFACE ELEVATIONS SHOWN REPRESENT THE DECK SURFACE LOCATION AFTER ALL ANTICIPATED DEAD LOAD DEFLECTIONS HAVE OCCURRED.

DECK SLAB THICKNESS FOR CONCRETE QUANTITY

DECK SLAB THICKNESS FOR CONCRETE QUANTITY:
THE ESTIMATED QUANTITY OF DECK CONCRETE IS MEASURED ACCORDING TO C&MS 511. IN ADDITION TO THE DESIGN SLAB THICKNESS, THE QUANTITY INCLUDES A VARIABLE HAUNCH THICKNESS THAT PROVIDES AN ALLOWANCE FOR: VERTICAL GRADE ADJUSTMENT, BEAM CAMBER AND ADDITIONAL SACRIFICIAL HAUNCH THICKNESS.

MECHANICAL CONNECTORS

AN APPROVED TYPE OF MECHANICAL CONNECTOR FOR REINFORCING STEEL BARS SHALL BE PROVIDED. INSTALLATION OF CONNECTORS SHALL CONFORM WITH MANUFACTURER'S RECOMMENDED PROCEDURES. MANUFACTURER'S STANDARD CAP OR PLUG SHALL BE USED TO PREVENT CONCRETE FROM ENTERING THE MECHANICAL CONNECTOR.

MECHANICAL CONNECTORS USED WITH EPOXY COATED BARS SHALL BE EPOXY COATED. COATING FOR BOTH CONNECTORS AND BARS SHALL CONFORM TO THE SAME SPECIFICATIONS. COATINGS WHICH HAVE BEEN DAMAGED OR WHICH OTHERWISE DO NOT MEET SPECIFICATIONS WITH RESPECT TO COLOR, CONTINUITY, AND UNIFORMITY MAY BE REPAIRED AS DIRECTED BY THE ENGINEER OR THEY SHALL BE REPLACED WITH MATERIAL THAT MEETS THE SPECIFICATIONS AT NO ADDITIONAL COST TO THE DEPARTMENT. THE MECHANICAL CONNECTOR SYSTEM USED SHALL BE ABLE TO DEVELOP 125 PERCENT OF THE FULL YIELD STRENGTH OF THE REINFORCING STEEL AS A MINIMUM.

ALL MATERIALS, LABOR, EQUIPMENT AND INCIDENTALS NECESSARY TO FURNISH AND INSTALL THE MECHANICAL REINFORCING STEEL CONNECTORS SHALL BE INCLUDED FOR PAYMENT UNDER ITEM 509, EPOXY COATED REINFORCING STEEL.

ITEM 511 - SEMI-INTEGRAL DIAPHRAGM GUIDE, AS PER PLAN

THE PROVISIONS OF STANDARD DRAWING SICD-2-14 DATED 7-18-14 SHALL APPLY EXCEPT AS NOTED.

THE SEMI-INTEGRAL DIAPHRAGM GUIDE CONSTRUCTED AS DETAILED IN THE PLANS. THE REINFORCING STEEL SHALL BE DOWELED INTO THE EXISTING ABUTMENT PER CMS 510 USING NONSHRINK, NONMETALLIC GROUT.

THE COST FOR ALL MATERIAL, LABOR, AND, EQUIPMENT NECESSARY TO INSTALL THE SEMI-INTEGRAL DIAPHRAGM GUIDE, INCLUDING ALL DOWELS, IS INCLUDED IN THE PRICE BID FOR EACH SEMI-INTEGRAL DIAPHRAGM GUIDE CONSTRUCTED AND IN PLACE.

WELD ATTACHMENT

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.

INSPECTION OF EXISTING STRUCTURAL STEEL

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 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 QC2 CONCRETE WITH QC/QA, 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.

ITEM 511 - CONCRETE. MISC.: MOCKUP, MOLDED BRICK SURFACE:

MOCKUPS CONSTRUCTED UNDER BRIDGE CUY-90-2616
I-90 OVER EAST 185TH ST.

ITEM 511 - CONCRETE. MISC.: MOLDED BRICK SURFACE:

1. GENERAL:

THE WORK TO BE DONE UNDER THIS ITEM SHALL INCLUDE:

1.01 CONSTRUCT TEXTURED AND COLORED CONCRETE SURFACES USING MOLDS AND COLOR STAIN SYSTEM DESIGNED TO DUPLICATE CLOSELY THE APPEARANCE AND TEXTURE OF REAL BRICK.

1.02 USE BRICK MOLDS GIVING THE APPEARANCE OF SMOOTH, NEW BRICK.

1.03 DO NOT USE MOLDS GIVING THE APPEARANCE OF ROUGH OR STRIATED BRICK.

1.04 USE MOLDS WITH BRICK DIMENSIONS OF 3 5/8" X 7 5/8" AND 3/8" GROUT LINES. THE RELIEF OF THE GROUT LINES SHALL BE AT LEAST 1/4" BUT NOT EXCEED 5/16".

1.05 USE REUSABLE, HIGH-STRENGTH URETHANE MOLDS.

1.06 NO LESS THAN 60 DAYS PRIOR TO THE CONSTRUCTION OF THE FIRST MOLDED BRICK SURFACE, SUBMIT TO THE ENGINEER A 24" SQUARE SAMPLE OF THE PROPOSED BRICK MOLD, INCLUDING MANUFACTURE'S SPECIFICATIONS AND RECOMMENDATIONS FOR ITS USE.

1.07 NO LESS THAN 30 DAYS PRIOR TO THE CONSTRUCTION OF THE FIRST MOLDED BRIDGE SURFACE, SUBMIT TO THE ENGINEER ONE COPY OF SHOP DRAWINGS SHOWING PLAN, ELEVATION, AND DETAILS TO SHOW OVERALL PATTERN, JOINT LOCATIONS, FORM TIE LOCATIONS, AND END, EDGE, AND OTHER SPECIAL CONDITIONS.

1.08 A PRE-INSTALLATION MEETING IS REQUIRED. SCHEDULE MEETING AMONG MANUFACTURER'S REPRESENTATIVES, APPROPRIATE SUBCONTRACTORS, THE DISTRICT 12 PRODUCTION ADMINISTRATOR OR HIS DESIGNEE, AND THE ENGINEER TO ASSURE UNDERSTANDING OF FORMLINER USE, STAIN APPLICATION, AND THE REQUIREMENTS OF THE MOCKUP CONSTRUCTION.

2. PRODUCTS:

2.01 SIMULATED BRICK MOLDS SHALL BE REUSABLE, MADE OF HIGH-STRENGTH URETHANE, AND EASILY ATTACHABLE TO FORMS. MOLDS SHALL NOT COMPRESS MORE THAN 1/4" WHEN CONCRETE IS POURED AT RATE OF 10 VERTICAL FEET PER HOUR. MOLDS SHALL BE REMOVABLE WITHOUT CAUSING DETERIORATION OF SURFACE OR UNDERLYING CONCRETE.

2.02 USE A RELEASE AGENT THAT IS COMPATIBLE WITH MOLDS AND WITH COLOR STAIN SYSTEM TO BE APPLIED TO SURFACE. PROVIDE THE ENGINEER WITH THE MANUFACTURE'S SPECIFICATIONS FOR PRODUCT APPLICATION.

2.03 USE FORM TIES MADE OF EITHER METAL OR FIBERGLASS. METAL TIES WHICH WILL REMAIN PERMANENTLY EMBEDDED IN THE CONCRETE SHALL BE DESIGNED TO SEPARATE AT LEAST ONE INCH BACK FROM FINISHED SURFACE, LEAVING ONLY A NEAT HOLE TO BE PLUGGED WITH PATCHING MATERIAL. SUBMIT THE TYPE OF FORM TIES TO THE ENGINEER FOR APPROVAL PRIOR TO USE.

3. EXECUTION:

3.01 CLEAN MOLDS AND MAKE FREE OF BUILDUP PRIOR TO EACH POUR. INSPECT FOR BLEMISHES OR TEARS. REPAIR IF POSSIBLE FOLLOWING MANUFACTURE'S RECOMMENDATIONS. DAMAGED MOLDS SHALL BE REPLACED AT NO ADDITIONAL CHARGE TO THE STATE.

3.02 APPLY RELEASE AGENT IN ACCORDANCE WITH THE MANUFACTURE'S RECOMMENDATIONS.

3.03 PLACE MOLDS WITH LESS THAN 1/4" SEPARATION BETWEEN THEM. ATTACH MOLDS TO FORM SECURELY FOLLOWING MANUFACTURE'S RECOMMENDATIONS.

3.04 WHERE FORM LINERS ABUT, CAREFULLY BLEND SURFACE TO MATCH THE BALANCE OF THE BRICK PATTERN, AVOIDING VISIBLE SEAMS OR FORM MARKS.

3.05 PLACE FORM TIES AT THINNEST POINTS OF MOLDS (THE HIGH POINTS OF FINISHED SURFACE). NEATLY PATCH THE HOLE REMAINING AFTER DISENGAGING THE PROTRUDING PORTION OF THE TIE SO THAT IT WILL NOT BE VISIBLE AFTER COLORING THE CONCRETE SURFACE.

THIS ITEM SHALL INCLUDE ALL WORK NECESSARY TO CONSTRUCT THE BRICK PATTERN INTO THE CONCRETE PARAPET AS INDICATED IN THE PLAN. SEE BRIDGE RAILING DETAILS FOR LOCATIONS. THIS ITEM WILL BE PAID PER SQUARE YARD OF PARAPET FACE (ABOVE THE DECK EDGE) TO RECEIVE THE PATTERNED CONCRETE.

ITEM 511 - CONCRETE. MISC.: STAINING CONCRETE SURFACES

1. GENERAL:

1.01 STAIN MOLDED BRICK SURFACES USING AN ACRYLIC RESIN-BASED STAIN.

2. PRODUCTS:

2.01 PRODUCT SHALL CREATE A SURFACE FINISH THAT IS

BREATHABLE (ALLOWING WATER VAPOR TRANSMISSION), AND THAT RESISTS DETERIORATION FROM WATER, ACID, ALKALI, FUNGI, SUNLIGHT OR WEATHERING.

2.02 STAIN MIX SHALL BE A WATER BORNE, LOW VOC MATERIAL (LESS THAN 289 GRAMS/LITER), AND SHALL MEET REQUIREMENTS FOR WEATHERING RESISTANCE OF 2000 HOURS ACCELERATED EXPOSURE MEASURED IN ACCORDANCE WITH ASTM G-23. SCRUB TEST 1000 REVOLUTIONS. ABRASIVE RESISTANCE (TABOR-CF-IO) 500 CYCLES. ADHESION ASTM D-3359 1.00 MM CROSS CUTS ON GLASS PASS 3 OR HIGHER ON A SCALE OF I TO 5. SUPPLY INFORMATION PERTAINING TO CHEMICAL RESISTANCE ASTM D-1308 TO 87.

3. EXECUTION:

3.01 PROVIDE THE ENGINEER WITH THE MANUFACTURER'S SPECIFICATIONS FOR PRODUCT APPLICATION. APPLY THE PRODUCT IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS WITH EXCEPTIONS AS NOTED.

3.02 CLEAN SURFACE PRIOR TO APPLICATION OF STAIN MATERIALS BY PRESSURE WASHING WITH WATER, MINIMUM 3000 PSI (A RATE OF THREE TO FOUR GALLONS PER MINUTE), USING FAN NOZZLE PERPENDICULAR TO AND AT A DISTANCE OF ONE OR TWO FEET FROM SURFACE. COMPLETED SURFACE SHALL BE FREE OF BLEMISHES, DISCOLORATION, SURFACE VOIDS AND UNNATURAL FORM MARKS. DO NOT SANDBLAST. ETCHING IS NOT REQUIRED.

3.03 APPLY STAIN BY HAND USING A BRUSH OR ROLLER WHEN AMBIENT TEMPERATURE IS BETWEEN 50-90 DEGREES FAHRENHEIT.

3.04 THE INTENT IS FOR THE RED BRICK STAIN COLOR TO MATCH THE ADJACENT NOISE WALL'S WHICH USE FEDERAL COLOR STANDARD 595B-20109. THE CONTRACTOR MAY USE THE FOLLOWING SHERWIN WILLIAMS STAIN COLORS OR THEIR CLOSELY MATCHED, NON-PROPRIETARY EQUIVALENTS. STAIN BRICK SURFACES USING SW 6335 (FIRED BRICK). STAIN GROUT LINES USING SW 7030 (ANEW GRAY). PROVIDE RANDOM BRICK HIGHLIGHTS USING SW 6005 (FOLKSTONE) AND SW 6258 (TRICORN BLACK). ACTUAL COLORS USED ARE SUBJECT TO CHANGE AT THE DIRECTION OF THE ENGINEER ON REVIEW OF THE APPEARANCE OF THE MOCKUPS. USE COLORS AND TECHNIQUES AS APPROVED FOR THE FINAL MOCKUP.

3.05 WHERE EXPOSED SOIL OR PAVEMENT IS ADJACENT WHICH MAY SPLATTER DIRT OR SOIL FROM RAINFALL, OR WHERE SURFACE MAY BE EXPOSED TO OVERSPRAY FROM OTHER PROCESSES, PROVIDE TEMPORARY COVER OF FINISHED WORK.

THIS ITEMS INCLUDES ALL NECESSARY WORK TO STAIN THE BRICK PATTERN AND THE GROUT LINE PATTERNS AS INDICATED IN THE PLANS. MEASUREMENT WILL BE PER SQUARE YARD PARAPET FACE STAINED.

DESIGN AGENCY
KS Associates Inc.
260 BURNS ROAD, ELYRIA, OHIO 44035

REVIEWED ASW DATE 12/07/16
STRUCTURE FILE NUMBER 1808850
DRAWN MJM REVISED
DESIGNED MJM CHECKED CFE

BRIDGE GENERAL NOTES - 2
BRIDGE NO. CUY-90-2639
I-90 OVER NEFF ROAD

CUY-90-26.16/VAR
PID No. 87628

ITEM 512 - SEALING OF CONCRETE SURFACES (NON-EPOXY), AS PER PLAN

PRIOR TO APPLICATION OF ACRYLIC STAINS, APPLY NON-EPOXY CONCRETE SEALER TO MOLDED BRICK SURFACES. THE PROVISIONS OF ITEM 512 APPLY, EXCEPT AS FOLLOWS:

1. APPLY SEALER WITH A BRUSH OR ROLLER ONLY.

2. USE A CLEAR SEALER.

3. VERIFY THE PRODUCT FURNISHED IS COMPATIBLE WITH THE PROPOSED STAIN PRODUCT. PROVIDE WRITTEN VERIFICATION TO THE ENGINEER.

ITEM 512 - SEALING OF CONCRETE SURFACES, (EPOXY-URETHANE)

THE CONTRACTOR SHALL SEAL THE PARAPETS, MEDIAN BARRIERS, AND DECK EDGES AS INDICATED IN THE PLANS. GREAT CARE SHALL BE USED TO AVOID ANY OVER SPRAY OR SPLATTER ONTO SURFACES TO RECEIVE CONCRETE STAIN ON THE BRICK PATTERNED CONCRETE.

ALL EXPOSED SUBSTRUCTURE ELEMENTS, INCLUDING BACKWALLS, BEAM SEATS, ABUTMENTS, WINGWALLS, PIERS AND PIER CAPS FROM THE GROUND LINE UP SHALL BE SEALED.

THE FINISH COAT SEALER COLOR SHALL BE FEDERAL STANDARD COLOR 595B-27722 (BUFF)

ITEM 513 - STRUCTURAL STEEL, MISC.:FATIGUE RETROFIT
ITEM 513 - STRUCTURAL STEEL, MISC.:FATIGUE RETROFIT, BOTTOM FLANGE

THESE ITEMS INCLUDES ALL MATERIAL, LABOR, AND EQUIPMENT NECESSARY TO INSTALL THE FATIGUE RETROFITS AS DETAILED IN THE PLANS.

PRIOR TO INSTALLATION OF THE NEW STEEL RETROFIT, THE CONTRACTOR SHALL MAKE PROVISION FOR THE PROJECT ENGINEER TO INSPECT WELDS IN THE AREA OF THE RETROFIT FOR CRACKS.

PRIOR TO INSTALLATION, THE CONTRACTOR SHALL BLAST CLEAN THE EXISTING STEEL AT THE PROPOSED FAYING SURFACES TO A NEAR WHITE CONDITION MEETING SSPC-SP-10 AS DESCRIBED UNDER CMS 514.13.

ALL BOLTS SHALL BE ASTM A325 GALVANIZED, AND ALL NEW STEEL SHALL BE ASTM A709 GRADE 50.

FOR PURPOSES OF MEASUREMENT, THE DEPARTMENT WILL PAY FOR EACH RETROFIT LOCATION AS INDICATED IN THE PLANS. BY THE NUMBER OF POUNDS.

ITEM 513 - STRUCTURAL STEEL MISC. TEMPORARY CROSSFRAMES FOR MAINTENANCE OF TRAFFIC

CONTRACTOR TO INSTALL TEMPORARY CROSSFRAMES AT THE LOCATIONS INDICATED IN THE PLANS AFTER THE PLACEMENT OF THE CONCRETE MEDIAN DECK AND PRIOR TO OPENING THE MEDIAN DECK TO TRAFFIC FOR MAINTENANCE OF TRAFFIC PURPOSES.

THE CROSSFRAMES SHALL BE REMOVED DURING THE FINAL CONSTRUCTION PHASE, PRIOR TO THE SAW CUT OF THE MEDIAN FULL DEPTH CONSTRUCTION JOINT.

ALL WELD LOCATIONS SHALL BE GROUND SMOOTH AT TIME OF REMOVAL.

THE CONTRACTOR SHALL INSTALL TEMPORARY CROSSFRAMES MEETING THE REQUIREMENT OF SCD GSD-1-96 TYPE 1.

TEMPORARY CROSSFRAMES DO NOT NEED TO BE PRIME COATED.

THE BRIDGE BID WILL INCLUDE ALL NECESSARY LABOR, MATERIAL, AND WORK NECESSARY TO INSTALL AND REMOVE EACH TEMPORARY CROSSFRAME.

ITEM 514 - SURFACE PREPARATION OF EXISTING STRUCTURAL STEEL

ITEM 514 - FIELD PAINTING OF EXISTING STRUCTURAL STEEL, PRIME COAT

ITEM 514 - FIELD PAINTING STRUCTURAL STEEL, INTERMEDIATE COAT

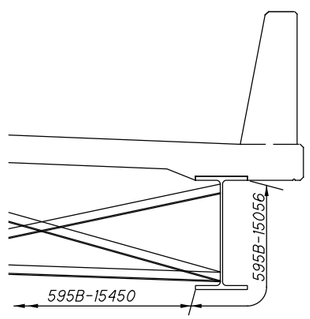
ITEM 514 - FIELD PAINTING STRUCTURAL STEEL, FINISH COAT

ITEM 514 - FINAL INSPECTION REPAIR

ALL EXISTING STEEL TO REMAIN SHALL RECEIVE SURFACE PREPARATION OF EXISTING STRUCTURAL STEEL, FIELD PAINTING OF EXISTING STRUCTURAL STEEL, PRIME COAT, FIELD PAINTING STRUCTURAL STEEL, INTERMEDIATE COAT, FIELD PAINTING STRUCTURAL STEEL, FINISH COAT, AND FINAL INSPECTION REPAIR. THE CONTRACTOR SHALL ALSO GRIND THE FLANGE EDGES AS REQUIRED.

THE EXISTING STEEL TO REMAIN THAT WILL BE ENCASED IN CONCRETE BY THE SEMI-INTEGRAL DIAPHRAGM WILL NOT NEED TO BE PAINTED, BUT SHALL BE CLEANED PER CMS 514.13 A SOLVENT CLEANING, PRIOR TO PLACEMENT OF CONCRETE. SOLVENT CLEANING OF THIS ENCASED STEEL WILL BE INCLUDED AS INCIDENTAL TO ITEM 511 CLASS QC2 CONCRETE WITH QC/QA, SUPERSTRUCTURE, AS PER PLAN

THE COLOR OF THE STEEL FINISH COAT FOR THE OUTSIDE FACE OF THE STRUCTURAL STEEL FASCIA BEAMS AND THE ENTIRE FASCIA BEARINGS SHALL BE FEDERAL COLOR NUMBER (COLOR - GLOSS) 595B-15056 (CITY OF CLEVELAND BLUE). ALL OTHER STRUCTURAL STEEL FINISH COAT COLOR SHALL BE FEDERAL COLOR NUMBER (COLOR - GLOSS) - 595B-15450 BLUE.



ITEM 516 - ARMORLESS PREFORMED JOINT SEAL, AS PER PLAN

THIS ITEM SHALL BE USED TO SEAL BETWEEN THE TWO HALVES OF THE MEDIAN BARRIER AS DETAILED IN THE PLANS. ARMORLESS PREFORMED JOINT SEAL SHALL MEET THE SAME REQUIREMENTS AS DETAILED IN STANDARD DRAWING AS-2-15, SHEET 8 OF 14 WITH THE FOLLOWING EXCEPTIONS.

FOR THE R.J. WATSON, INC SEAL, USE THE SILICOFLEX SF 225

FOR WATSON BOWMAN ACME CORP. USE THE WABO-SPS-225

FOR D.S. BROWN COMPANY, USE THE V-300

ELASTOMERIC BEARINGS

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.

ITEM 516 - JACKING AND TEMPORARY SUPPORT OF SUPER-STRUCTURE, AS PER PLAN

THIS WORK CONSISTS OF RAISING OR RE-POSITIONING EXISTING STRUCTURES TO THE DIMENSIONS AND REQUIREMENTS DEFINED IN THE PROJECT PLANS IN ORDER TO INSTALL NEW BEARING.

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 STRINGERS, 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.

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 - POROUS BACKFILL, AS PER PLAN

PLACE AND COMPACT POROUS BACKFILL IN 6" LIFTS

ITEM 519 - PATCHING CONCRETE STRUCTURES, AS PER PLAN

ITEM 519 - PATCHING CONCRETE STRUCTURES, AS PER PLAN: PRIOR TO ANY DECK REMOVAL OPERATIONS AND PRIOR TO INSTALLING NEW BEARINGS, THE CONTRACTOR SHALL PATCH ALL UNSOUND AND DETERIORATED AREAS IDENTIFIED BY THE ENGINEER ON BOTH THE REAR AND FORWARD PORTIONS OF THE ABUTMENTS TO REMAIN.

PRIOR TO THE SURFACE CLEANING SPECIFIED IN 519.04 AND WITHIN 24 HOURS OF PLACING PATCHING MATERIAL, BLAST CLEAN ALL SURFACES TO BE PATCHED INCLUDING THE 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. PRIOR TO SEALING CONCRETE SURFACES.

ITEM 526 - REINFORCED CONCRETE APPROACH SLABS WITH QC/QA (T=15"), AS PER PLAN

DESCRIPTION: THIS ITEM SHALL CONSIST OF CONSTRUCTING REINFORCED CONCRETE APPROACH SLABS IN ACCORDANCE WITH THE DETAILS IN THE STRUCTURE PLANS AND ODOT STANDARD DRAWINGS SBR-2-13, SBR-1-13, AS-1-15, AND AS-2-15.

MATERIALS: CONCRETE, REINFORCING STEEL, AND MECHANICAL CONNECTORS FOR THIS ITEM 526 SHALL BE THE SAME MATERIAL AND MEET THE SAME REQUIREMENTS AS THOSE USED FOR THE BRIDGE DECK, AND RAILINGS, AND MEDIAN BARRIER. SEE STRUCTURE GENERAL NOTES ITEM 511 FOR THE CONCRETE MIX REQUIREMENTS.

METHOD OF MEASUREMENT: THE AREA MEASURED WILL BE THE NUMBER OF SQUARE YARDS COMPLETE IN PLACE.

BASIS OF PAYMENT: ACCEPTED QUANTITIES WILL BE PAID FOR AT THE CONTRACT UNIT PRICE BID PER SQUARE YARD COMPLETE IN PLACE. THIS PRICE SHALL INCLUDE FULL COMPENSATION FOR ALL CONCRETE, WATERPROOFING, EPOXY COATED REINFORCING STEEL, MECHANICAL CONNECTORS, PREFORMED EXPANSION JOINT FILLER, AND OTHER INCIDENTAL MATERIALS, LABOR AND EQUIPMENT. PAYMENT WILL BE MADE UNDER ITEM 526 - REINFORCED CONCRETE APPROACH SLABS (T=15"), AS PER PLAN.

ITEM 601 - CONCRETE SLOPE PROTECTION, AS PER PLAN

THE CONTRACTOR SHALL REPLACE ALL UNSOUND AND DETERIORATED AREAS OF CONCRETE SLOPE PROTECTION IDENTIFIED BY THE ENGINEER.

THIS ITEM ALSO INCLUDES STRUCTURAL BACKFILL TYPE 3 MEETING THE REQUIREMENTS OF CMS 703.11 REQUIRED TO SUPPORT THE NEW PORTION OF THE CONCRETE SLOPE PROTECTION.

ITEM 607 - VANDAL PROTECTION FENCE, 6' STRAIGHT, COATED FABRIC, AS PER PLAN

THE ANCHORS SHALL BE CAST IN PLACE.

THE COLOR OF THE FENCE FABRIC, RAILS, 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' STRAIGHT, COATED FABRIC, AS PER PLAN WHICH SHALL INCLUDE ALL LABOR, EQUIPMENT, MATERIALS, AND INCIDENTALS NECESSARY TO COMPLETE THE ABOVE WORK.

ITEM 512 - TYPE A WATERPROOFING

UNLESS NOTED OTHERWISE, ALL CONSTRUCTION JOINTS CONSTRUCTED AGAINST EARTH FILL, SHALL BE SEALED WITH TYPE A WATERPROOFING, 3 FEET WIDE, CENTERED OVER THE JOINT.

R:\14000\14035\87628\structures\sheets\CUY90_2639\CUY90_2639GN003.dgn 11/9/2017 1:40:26 PM malloym

DESIGN AGENCY
KS Associates Inc.
260 BURNS ROAD, ELYRIA, OHIO 44035

DESIGNED	DRAWN	REVIEWED	DATE
MJM	MJM	ASW	12/07/16
CHECKED	REVISED	STRUCTURE FILE NUMBER	
CFE		1808850	

BRIDGE GENERAL NOTES - 3
BRIDGE NO. CUY-90-2639
I-90 OVER NEFF ROAD

CUY-90-26.16/VAR
PID No. 87628

* FUNDING CODE = 01/IMS/BR

ESTIMATED QUANTITIES - CUY-90-2639 - 1808850

ITEM	EXTENSION	TOTAL *	UNIT	DESCRIPTION	ABUT.	PIERS	SUPER.	GEN.	SHEET #
202	11201	LS		PORTIONS OF STRUCTURE REMOVED, AS PER PLAN				LS	2
202	22900	866	SY	APPROACH SLAB REMOVED	866				
202	23500	866	SY	WEARING COURSE REMOVED	866				
257	10001	355	SY	DIAMOND GRINDING PORTLAND CEMENT CONCRETE PAVEMENT, AS PER PLAN			355		110 OF 222
503	11100	LS		COFFERDAMS AND EXCAVATION BRACING				LS	2
503	21101	204	CY	UNCLASSIFIED EXCAVATION, AS PER PLAN	204				2
509	10000	396,853	LB	EPOXY COATED REINFORCING STEEL	21,255		375,598		
510	10000	1,210	EACH	DOWEL HOLES WITH NONSHRINK, NONMETALLIC GROUT	70		1,140		
511	34413	125	CY	CLASS QC2 CONCRETE WITH QC/QA, SUPERSTRUCTURE, AS PER PLAN			125		2
511	34447	1,150	CY	CLASS QC2 CONCRETE WITH QC/QA, BRIDGE DECK, AS PER PLAN			1,150		2
511	34451	220	CY	CLASS QC2 CONCRETE WITH QC/QA, BRIDGE DECK (PARAPET), AS PER PLAN			220		2
511	44110	15	CY	CLASS QC1 CONCRETE, ABUTMENT NOT INCLUDING FOOTING	15				
511	33501	4	EACH	SEMI-INTEGRAL DIAPHRAGM GUIDE, AS PER PLAN	4				3
511	71300	139	SY	CONCRETE, MISC.: MOLDED BRICK SURFACE			139		3
511	71300	139	SY	CONCRETE, MISC.: STAINING CONCRETE SURFACES			139		3
512	10051	139	SY	SEALING OF CONCRETE SURFACES (NON-EPOXY), AS PER PLAN			139		4
512	10100	2,097	SY	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)	274	950	873		4
512	33300	11	SY	TYPE A WATERPROOFING	11				
513	20000	13,770	EACH	WELDED STUD SHEAR CONNECTORS			13,770		
513	90000	64,649	LB	STRUCTURAL STEEL, MISC.:FATIGUE RETROFIT			64,649		4
513	90000	9,137	LB	STRUCTURAL STEEL, MISC.:FATIGUE RETROFIT, BOTTOM FLANGE			9,137		4
513	95030	18	EACH	STRUCTURAL STEEL, MIS.: TEMPORARY CROSSFRAMES FOR MAINTENANCE OF TRAFFIC			18		4
514	00050	48,530	SF	SURFACE PREPARATION OF EXISTING STRUCTURAL STEEL			48,530		4
514	00056	48,530	SF	FIELD PAINTING OF EXISTING STRUCTURAL STEEL, PRIME COAT			48,530		4
514	00060	48,530	SF	FIELD PAINTING STRUCTURAL STEEL, INTERMEDIATE COAT			48,530		4
514	00066	48,530	SF	FIELD PAINTING STRUCTURAL STEEL, FINISH COAT			48,530		4
514	00504	136	MNHR	GRINDING FINS, TEARS, SLIVERS ON EXISTING STRUCTURAL STEEL			136		4
514	10000	43	EACH	FINAL INSPECTION REPAIR			43		4
516	10010	334	FT	ARMORLESS PREFORMED JOINT SEAL	334				
516	10011	295	FT	ARMORLESS PREFORMED JOINT SEAL, AS PER PLAN	50		245		4
516	13600	44	SF	1" PREFORMED EXPANSION JOINT FILLER	44				
516	13900	44	SF	2" PREFORMED EXPANSION JOINT FILLER	44				
516	25000	1,694	SF	NYLON REINFORCED NEOPRENE SHEETING	1,694				
516	43300	34	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES ONLY (NEOPRENE) 7 1/2" X 10" X 1.82"	34				4
516	47000	LS		JACKING AND TEMPORARY SUPPORT OF SUPERSTRUCTURE				LS	4
518	12200	18	EACH	SCUPPERS, INCLUDING SUPPORTS			18		
518	12500	13	EACH	SCUPPER, MISC.: PLUGGING SCUPPER FOR MAINTENANCE OF TRAFFIC			13		21
518	21101	190	CY	POROUS BACKFILL, AS PER PLAN	190				4
518	40000	376	FT	6" PERFORATED CORRUGATED PLASTIC PIPE			376		
518	40010	110	FT	6" NON-PERFORATED CORRUGATED PLASTIC PIPE, INCLUDING SPECIALS			110		
519	11101	250	SF	PATCHING CONCRETE STRUCTURE, AS PER PLAN	250				4
526	25011	866	SY	REINFORCED CONCRETE APPROACH SLABS WITH QC/QA (T=15"), AS PER PLAN				866	4
526	90030	316	FT	TYPE C INSTALLATION				316	
601	21001	100	SY	CONCRETE SLOPE PROTECTION, AS PER PLAN	100				4
607	39901	483	FT	VANDAL PROTECTION FENCE, 6' STRAIGHT, COATED FABRIC, AS PER PLAN				483	4

DESIGN AGENCY
KS Associates Inc.
260 BURNS ROAD, ELYRIA, OHIO 44035

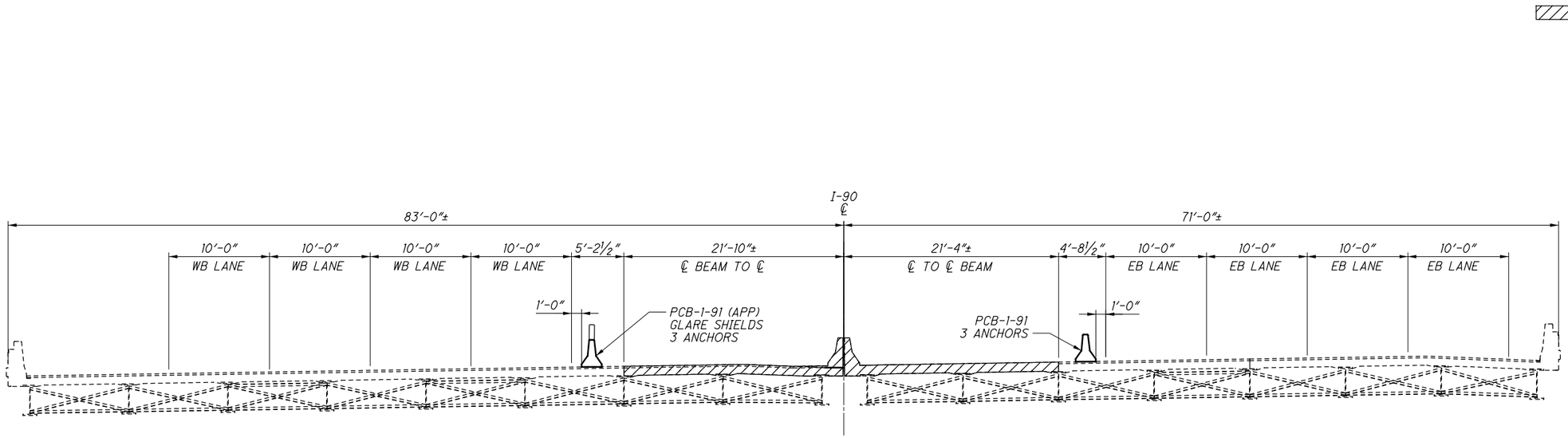
DESIGNED MJM | DRAWN MJM | REVIEWED MEM | DATE 01/09/17 | CHECKED RAP | REVISED | STRUCTURE FILE NUMBER 1808850

BRIDGE ESTIMATED QUANTITIES

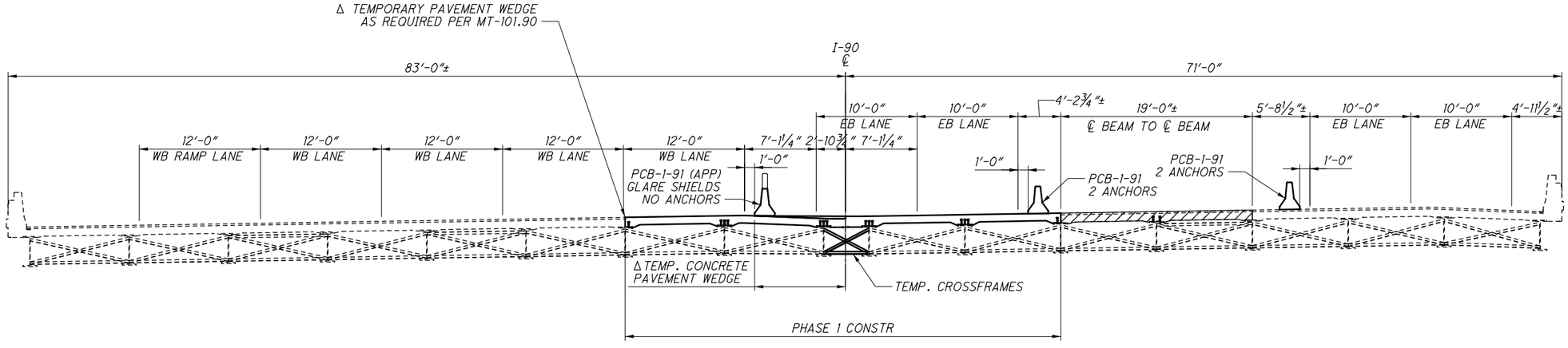
BRIDGE NO. CUY-90-2639
I-90 OVER NEFF ROAD

CUY-90-26.16 / VAR

PID No. 87628



PHASE 1 REMOVAL



PHASE 2 REMOVAL

Δ TEMPORARY CONCRETE PAVEMENT WEDGE TO PLACED WITH DECK POUR AND REMOVED BY GRINDING PRIOR TO MEDIAN BARRIER PLACEMENT. TO BE PAID AS INCIDENTAL WITH MAINTENANCE OF TRAFFIC ITEM 614.

DESIGN AGENCY
KS Associates Inc.
260 BURNS ROAD, ELYRIA, OHIO 44035

DESIGNED MJM | DRAWN MJM | REVIEWED ASW | DATE 12/07/16
CHECKED RAP | REVISED | STRUCTURE FILE NUMBER 1808850

BRIDGE PHASE REMOVAL DETAILS

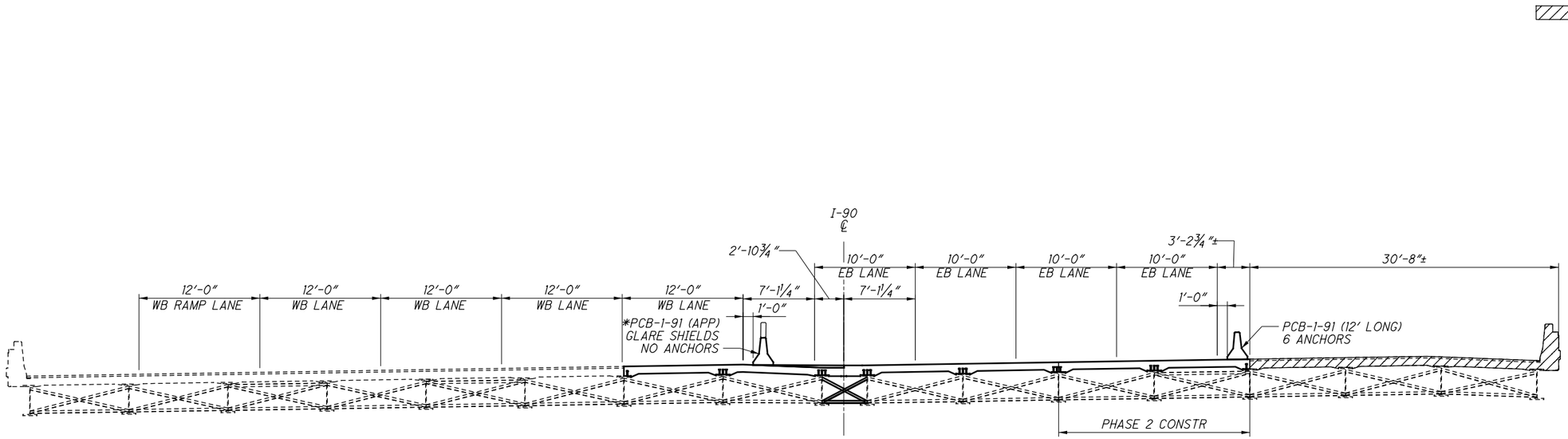
BRIDGE NO. CUY-90-2639
I-90 OVER NEFF ROAD

CUY-90-26.16/VAR
PID No. 87628

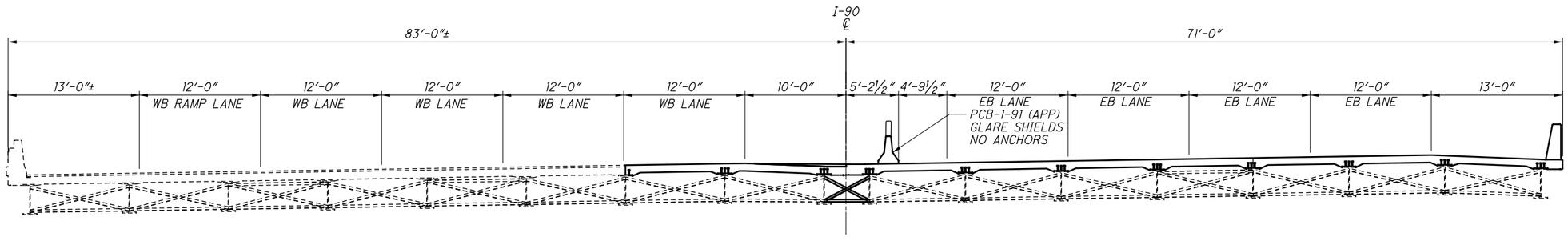
6 / 37

155 / 222

R:\14000\14035\87628\structures\sheets\CUY90_2639\CUY90_2639PC001.dgn 11/9/2017 1:40:31 PM malloym



PHASE 3 REMOVAL



WINTER SHUTDOWN

* INSTALLED WITH PREVIOUS PHASE

DESIGN AGENCY
KS Associates Inc.
260 BURNS ROAD, ELYRIA, OHIO 44035

DESIGNED MJM | DRAWN MJM | REVIEWED ASW | DATE 12/07/16
CHECKED RAP | REVISED | STRUCTURE FILE NUMBER 1808850

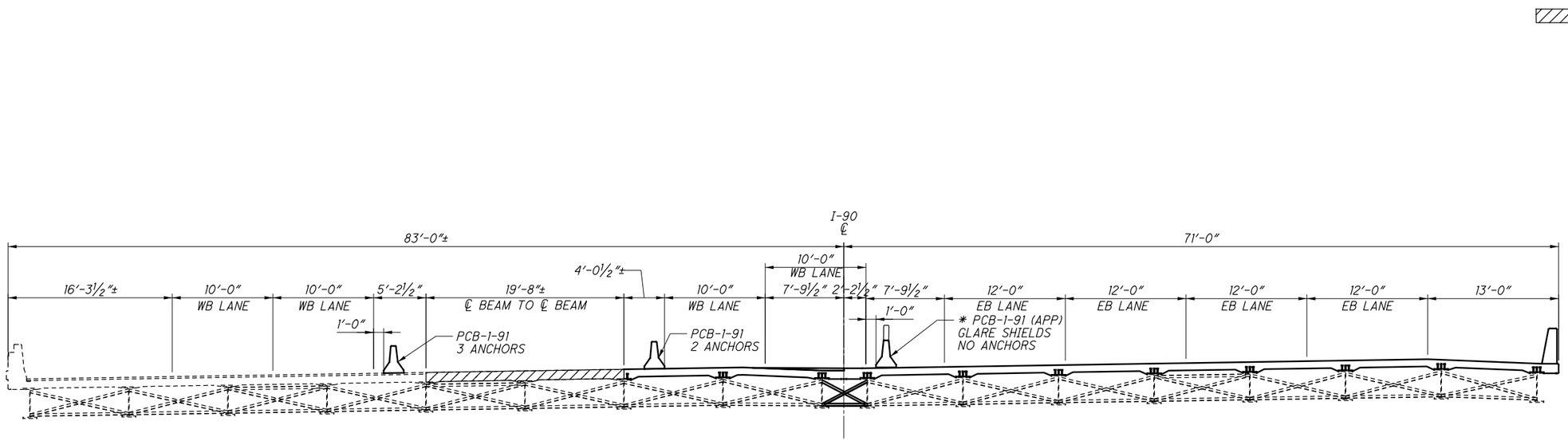
BRIDGE PHASE REMOVAL DETAILS - 2
BRIDGE NO. CUY-90-2639
I-90 OVER NEFF ROAD

CUY-90-26.16/VAR
PID No. 87628

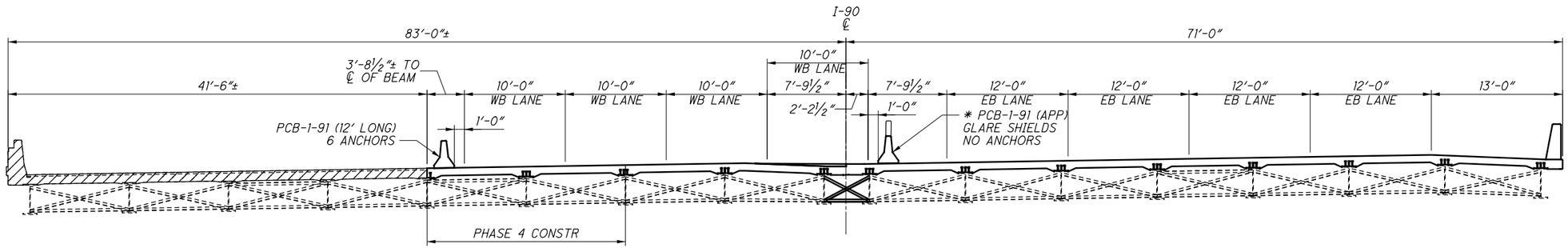
7 / 37

156
222

R:\14000\14035\87628\structures\sheets\CUY90_2639\CUY90_2639PC002.dgn 11/9/2017 1:40:32 PM mallcym



PHASE 4 REMOVAL



PHASE 5 REMOVAL

* INSTALLED IN PREVIOUS PHASE

DESIGN AGENCY
KS Associates Inc.
260 BURNS ROAD, ELYRIA, OHIO 44035

DESIGNED	DRAWN	REVIEWED	DATE
MJM	MJM	ASW	12/07/16
CHECKED	REVISED	STRUCTURE FILE NUMBER	
RAP		1808850	

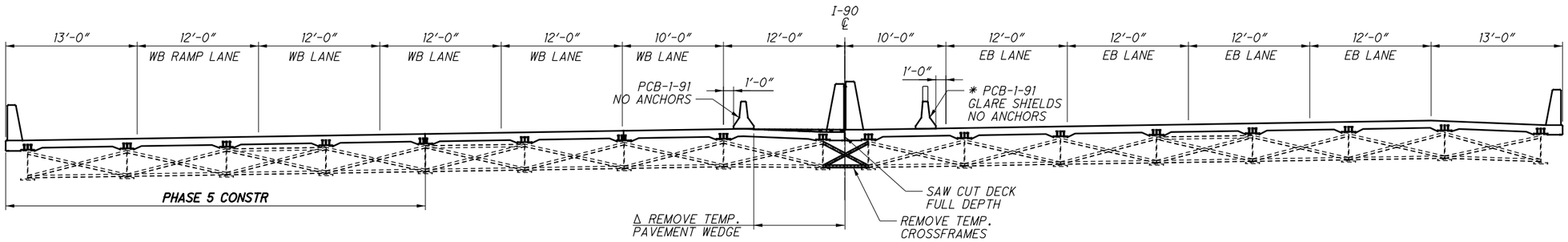
BRIDGE PHASE REMOVAL DETAILS
BRIDGE NO. CUY-90-2639
I-90 OVER NEFF ROAD

CUY-90-26.16/VAR
PID No. 87628

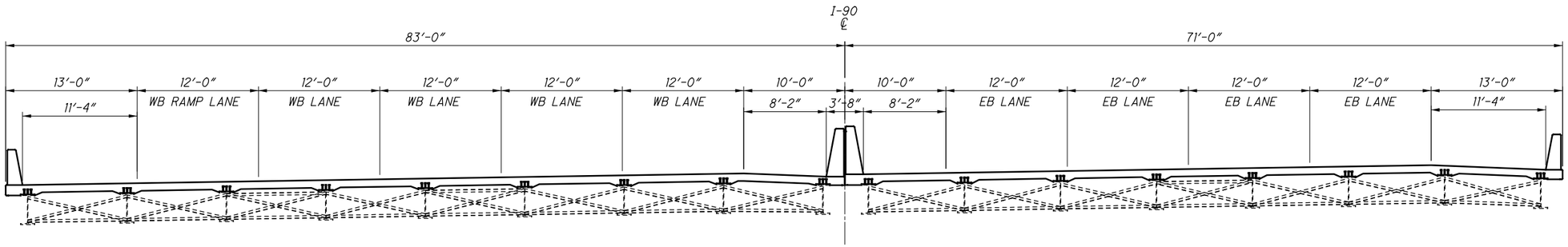
8 / 37

157 / 222

R:\14000\14035\87628\structures\sheets\CUY90_2639\CUY90_2639PC003.dgn 11/9/2017 1:40:32 PM malloym



PHASE 6 CONSTRUCTION - MEDIAN



FINAL CONFIGURATION

* INSTALLED IN PREVIOUS PHASE

Δ TEMPORARY CONCRETE PAVEMENT WEDGE TO PLACED WITH DECK POUR AND REMOVED BY GRINDING PRIOR TO MEDIAN BARRIER PLACEMENT. TO BE PAID AS INCIDENTAL WITH MAINTENANCE OF TRAFFIC ITEM 614.

DESIGN AGENCY
KS Associates Inc.
260 BURNS ROAD, ELYRIA, OHIO 44035

DESIGNED	DRAWN	REVIEWED	DATE
MJM	MJM	ASW	12/07/16
CHECKED	REVISED	STRUCTURE FILE NUMBER	
RAP		1808850	

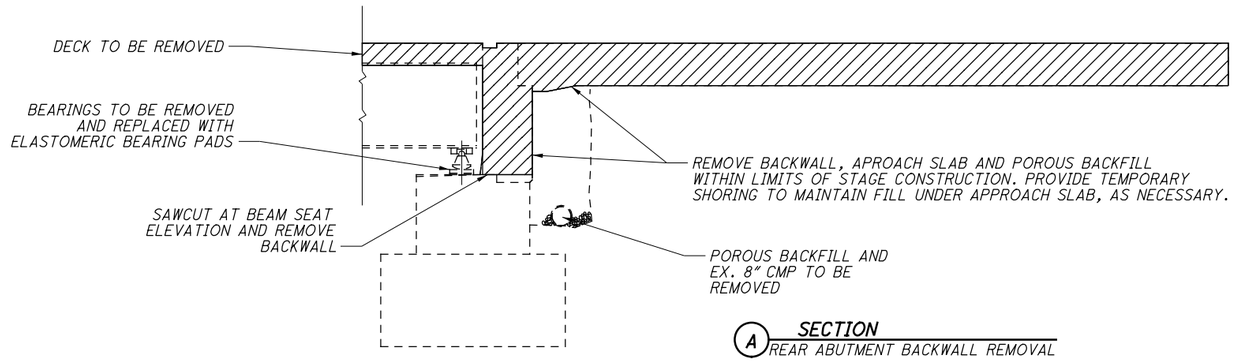
BRIDGE PHASE REMOVAL DETAILS - 4
BRIDGE NO. CUY-90-2639
I-90 OVER NEFF ROAD

CUY-90-26.16/VAR
PID No. 87628

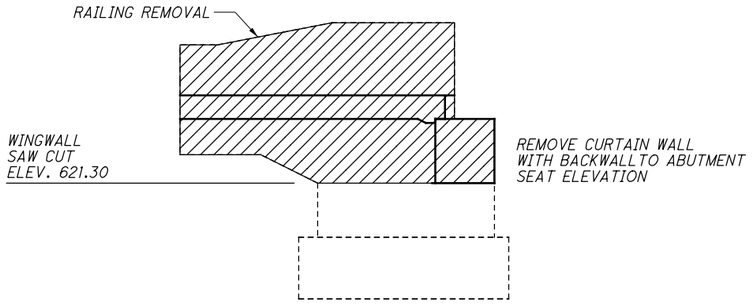
9 / 37

158
222

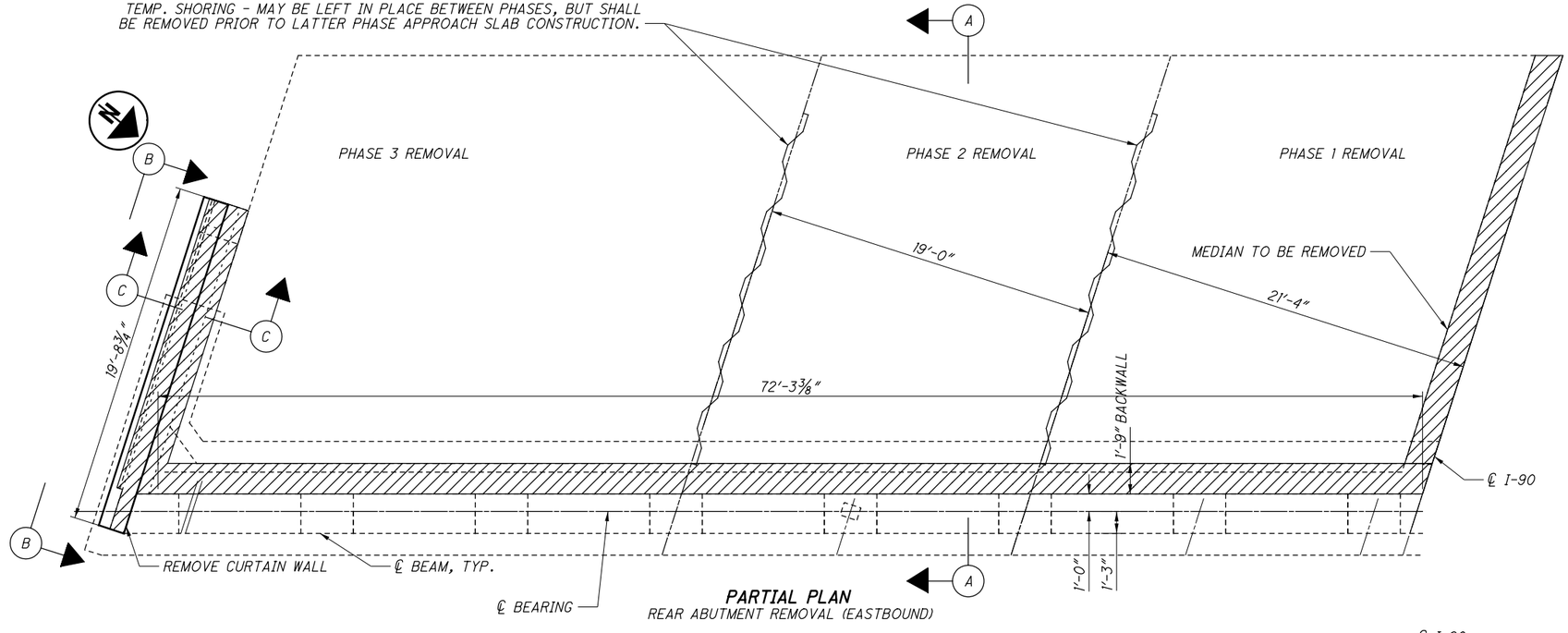
R:\14000\14035\87628\structures\sheets\CUY90_2639\CUY90_2639PC004.dgn 11/9/2017 1:40:33 PM malloym



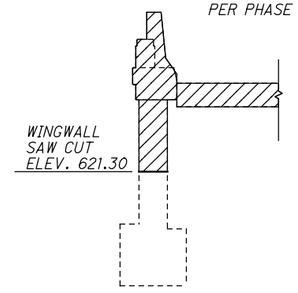
A SECTION
REAR ABUTMENT BACKWALL REMOVAL



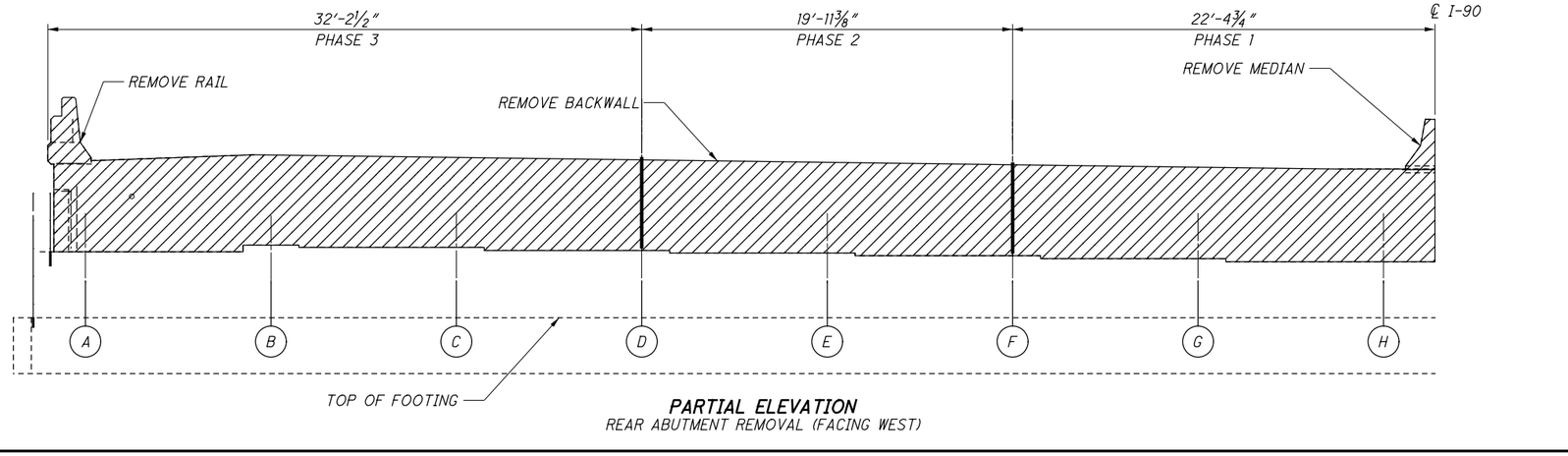
B ELEVATION
RAILING REMOVAL



PARTIAL PLAN
REAR ABUTMENT REMOVAL (EASTBOUND)



C SECTION
RAILING REMOVAL



PARTIAL ELEVATION
REAR ABUTMENT REMOVAL (FACING WEST)

NOTES:

LIMITS OF REMOVAL

DESIGN AGENCY
KS Associates Inc.
260 BURNS ROAD, ELYRIA, OHIO 44035

DESIGNED	DRAWN	REVIEWED	DATE
CFE	CFE	MJM	12/07/16
CHECKED	REVISED	STRUCTURE FILE NUMBER	
MEM		1808850	

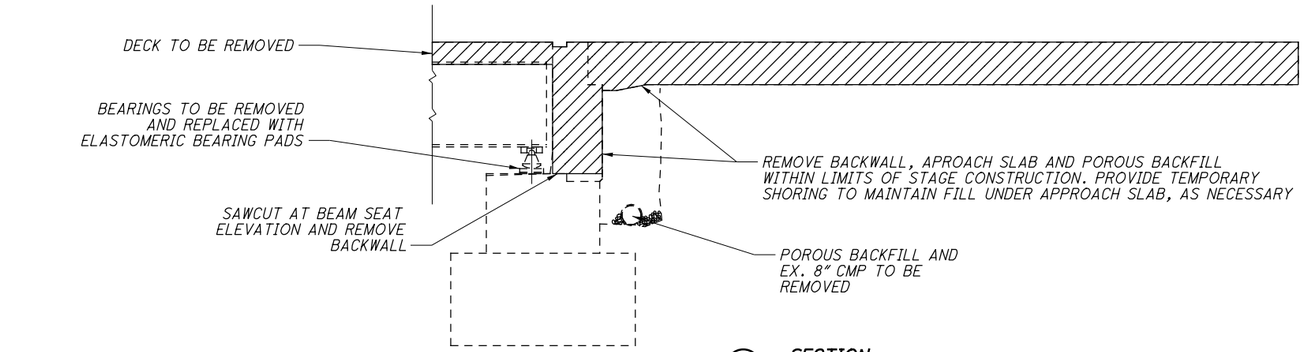
REMOVAL DETAILS - 1
BRIDGE NO. CUY-90-2639
I-90 OVER NEFF ROAD

CUY-90-26.16/VAR
PID No. 87628

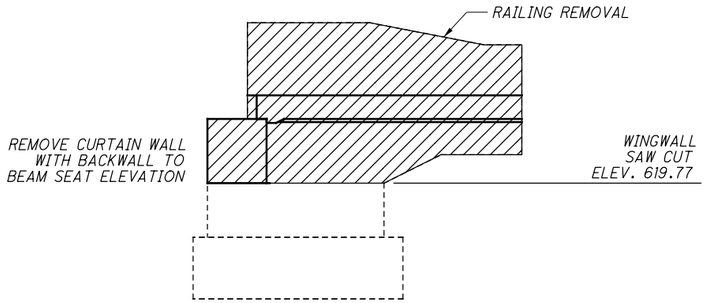
10 / 37

159
222

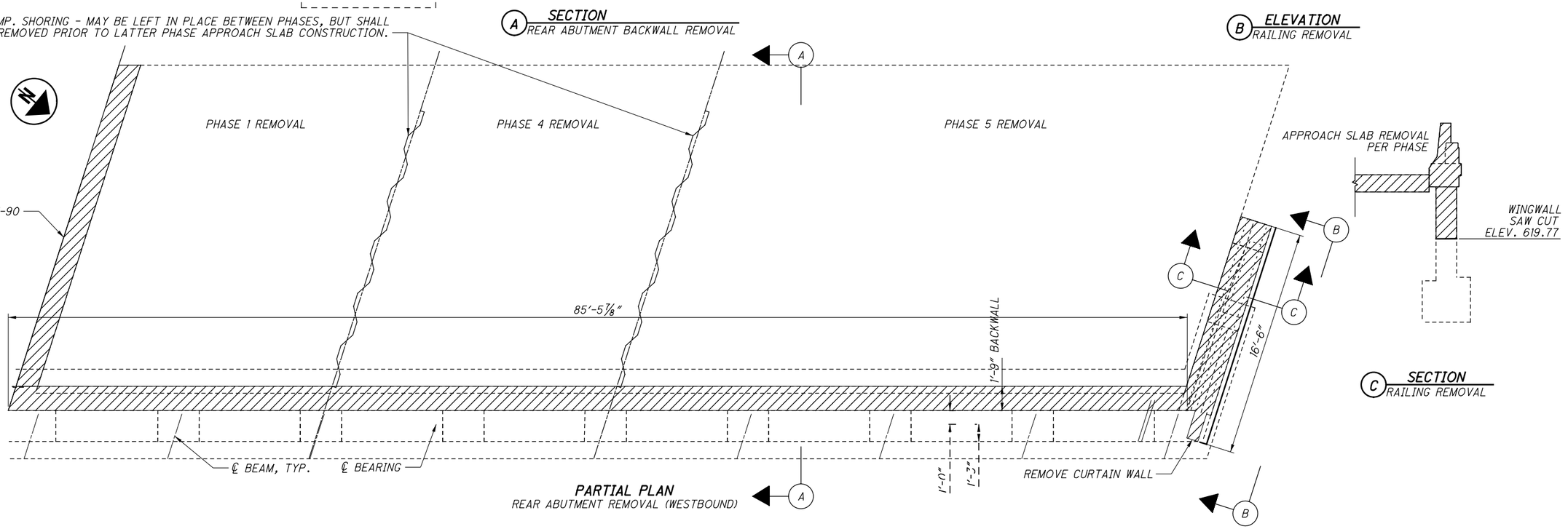
R:\14000\14035\87628\structures\sheets\CUY90_2639\CUY90_2639RE001.dgn 11/9/2017 1:40:34 PM malloym



A SECTION
REAR ABUTMENT BACKWALL REMOVAL

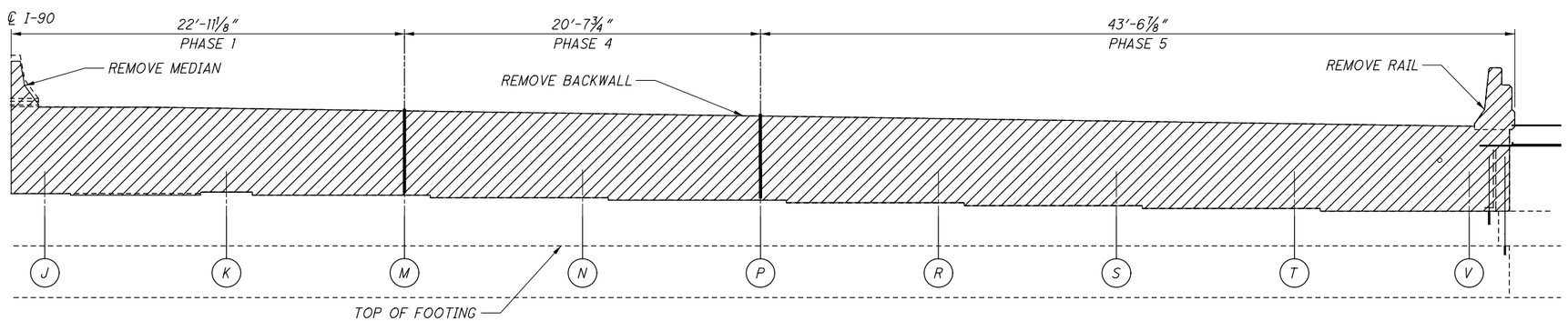


B ELEVATION
RAILING REMOVAL



PARTIAL PLAN
REAR ABUTMENT REMOVAL (WESTBOUND)

C SECTION
RAILING REMOVAL



PARTIAL ELEVATION
REAR ABUTMENT REMOVAL (FACING WEST)

NOTES:

▨ LIMITS OF REMOVAL

DESIGN AGENCY
KS Associates Inc.
260 BURNS ROAD, ELYRIA, OHIO 44035

DESIGNED	DRAWN	REVIEWED	DATE
CFE	CFE	MJM	12/07/16
CHECKED	REVISED	STRUCTURE FILE NUMBER	
MEM		1808850	

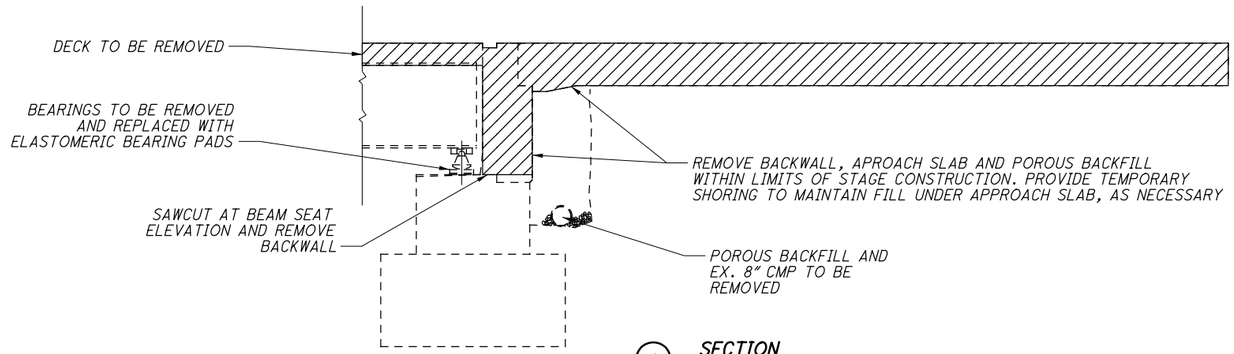
REMOVAL DETAILS - 2
BRIDGE NO. CUY-90-2639
I-90 OVER NEFF ROAD

CUY-90-26.16/VAR
PID No. 87628

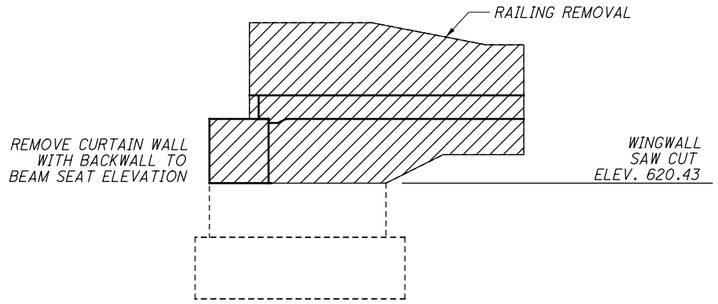
11 / 37

160
222

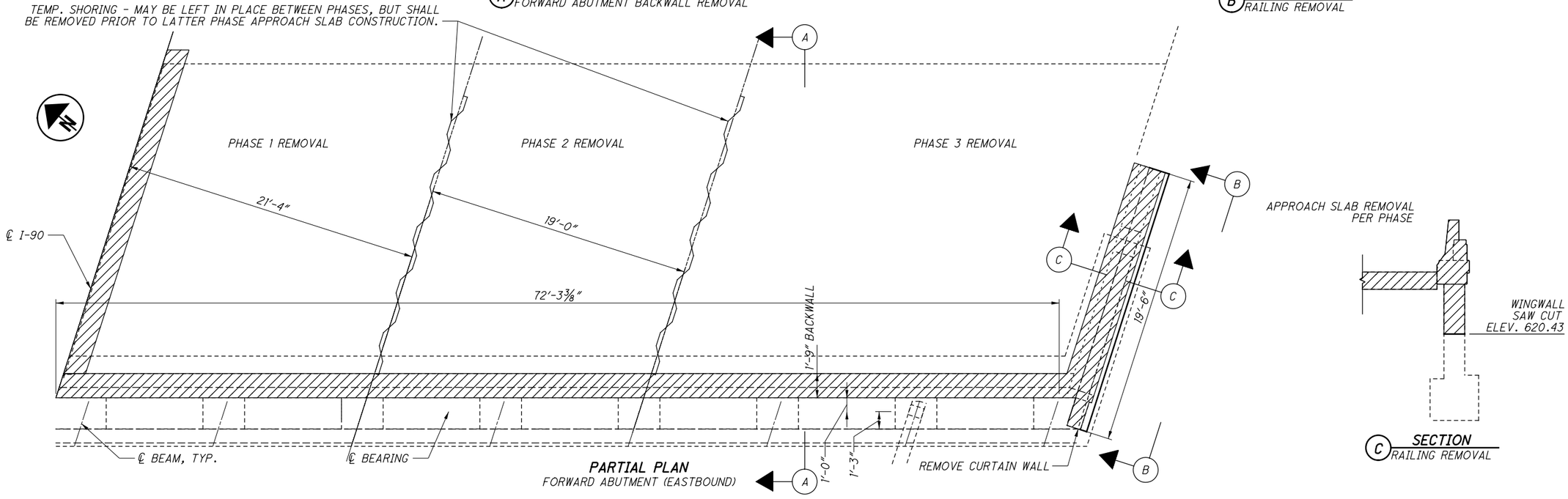
R:\14000\14035\87628\structures\sheets\CUY90_2639\CUY90_2639RE002.dgn 11/9/2017 1:40:35 PM malloym



A SECTION
FORWARD ABUTMENT BACKWALL REMOVAL

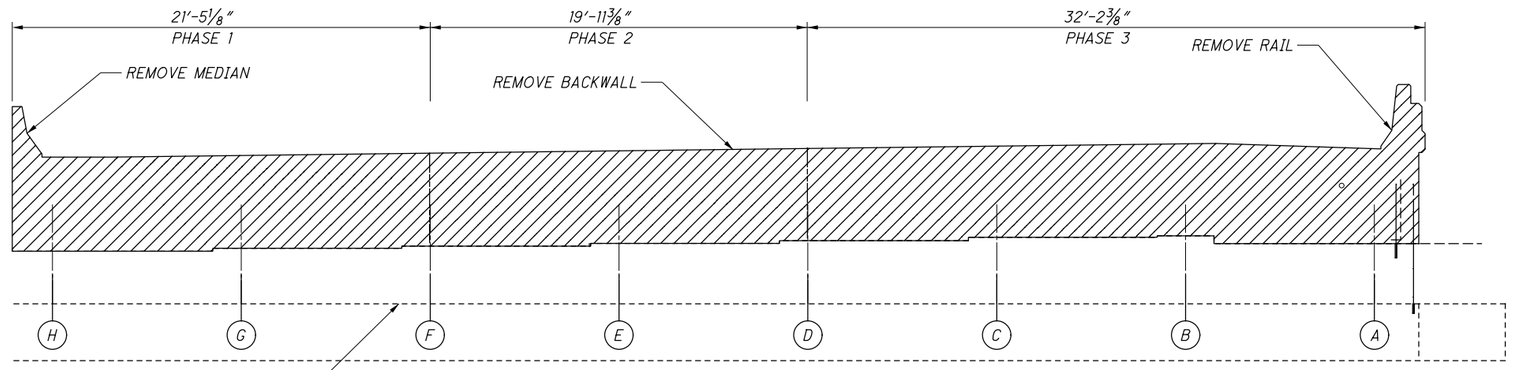


B ELEVATION
RAILING REMOVAL



PARTIAL PLAN
FORWARD ABUTMENT (EASTBOUND)

C SECTION
RAILING REMOVAL



PARTIAL ELEVATION
FORWARD ABUTMENT (FACING EAST)

NOTES:

LIMITS OF REMOVAL

DESIGN AGENCY
KS Associates Inc.
260 BURNS ROAD, ELYRIA, OHIO 44035

DESIGNED CFE | CHECKED MEM
DRAWN CFE | REVISED
REVIEWED MJM | DATE 12/07/16
STRUCTURE FILE NUMBER 1808850

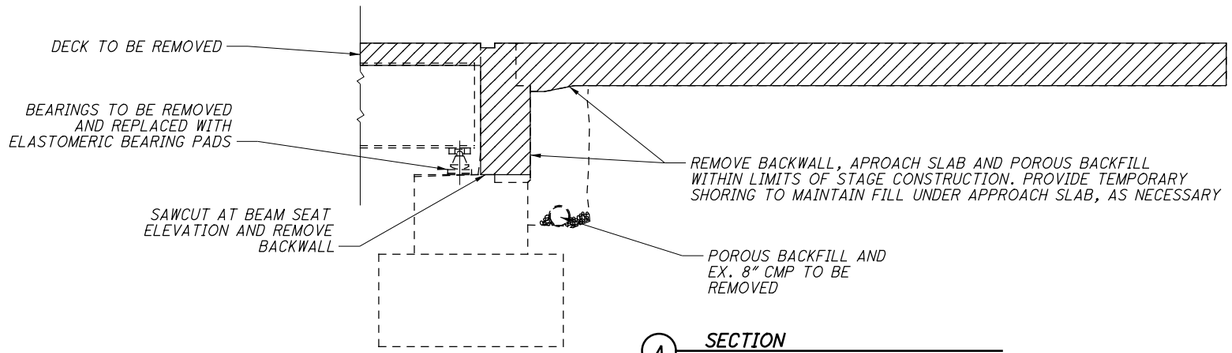
REMOVAL DETAILS - 3
BRIDGE NO. CUY-90-2639
I-90 OVER NEFF ROAD

CUY-90-26.16/VAR
PID No. 87628

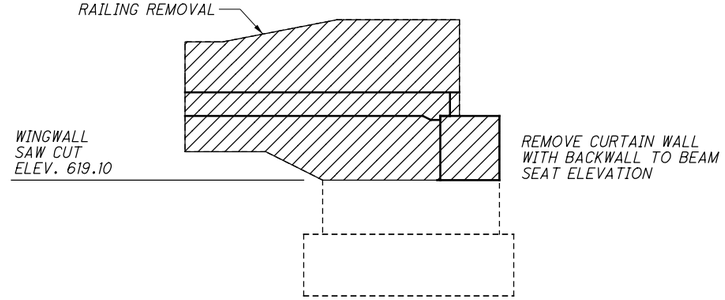
12 / 37

161
222

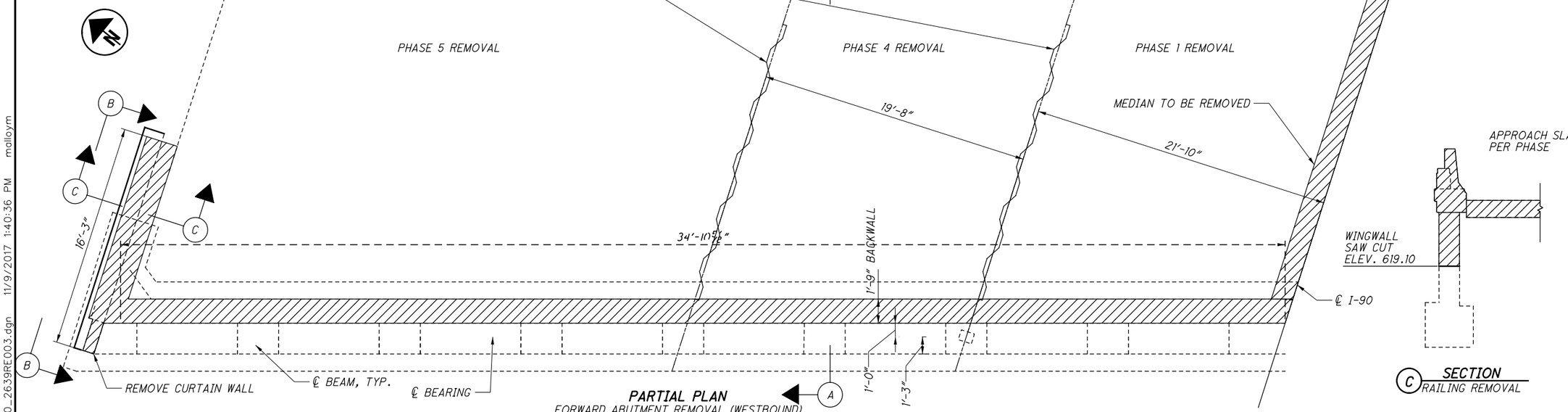
R:\14000\14035\87628\structures\sheets\CUY90_2639\CUY90_2639RE004.dgn 11/9/2017 1:40:35 PM malloym



A SECTION
FORWARD ABUTMENT BACKWALL REMOVAL

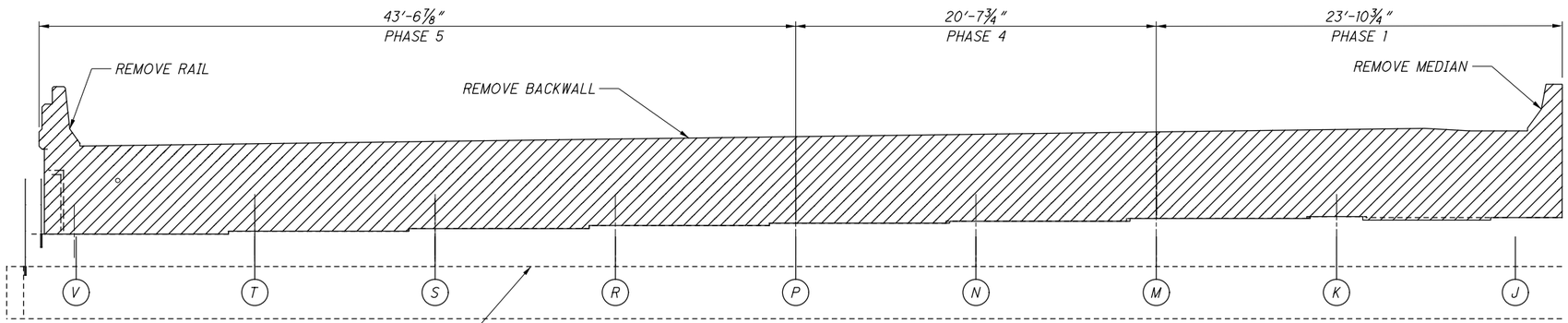


B ELEVATION
RAILING REMOVAL



PARTIAL PLAN
FORWARD ABUTMENT REMOVAL (WESTBOUND)

C SECTION
RAILING REMOVAL



PARTIAL ELEVATION
FORWARD ABUTMENT REMOVAL (FACING EAST)

R:\14000\14035\87628\structures\sheets\CUY90_2639\CUY90_2639RE003.dgn 11/9/2017 1:40:36 PM malloym

DESIGN AGENCY
KS Associates Inc.
260 BURNS ROAD, ELYRIA, OHIO 44035

REVIEWED MJM | DATE 12/07/16 | STRUCTURE FILE NUMBER 1808850
DRAWN CFE | REVISED
DESIGNED CFE | CHECKED MEM

REMOVAL DETAILS - 4

BRIDGE NO. CUY-90-2639
I-90 OVER NEFF ROAD

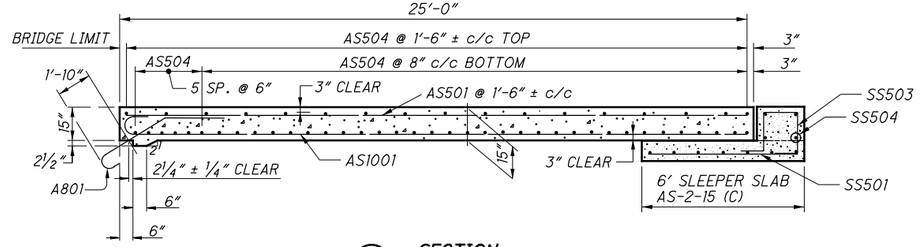
CUY-90-26.16 / VAR
PID No. 87628

MIDWEST GUARDRAIL SYSTEM
BRIDGE TERMINAL ASSEMBLY, TYPE 1
(SEE STD. CONST. DWG. MGS-3.1
AND AS-2-15)

FACE OF THRIE-BEAM RAIL

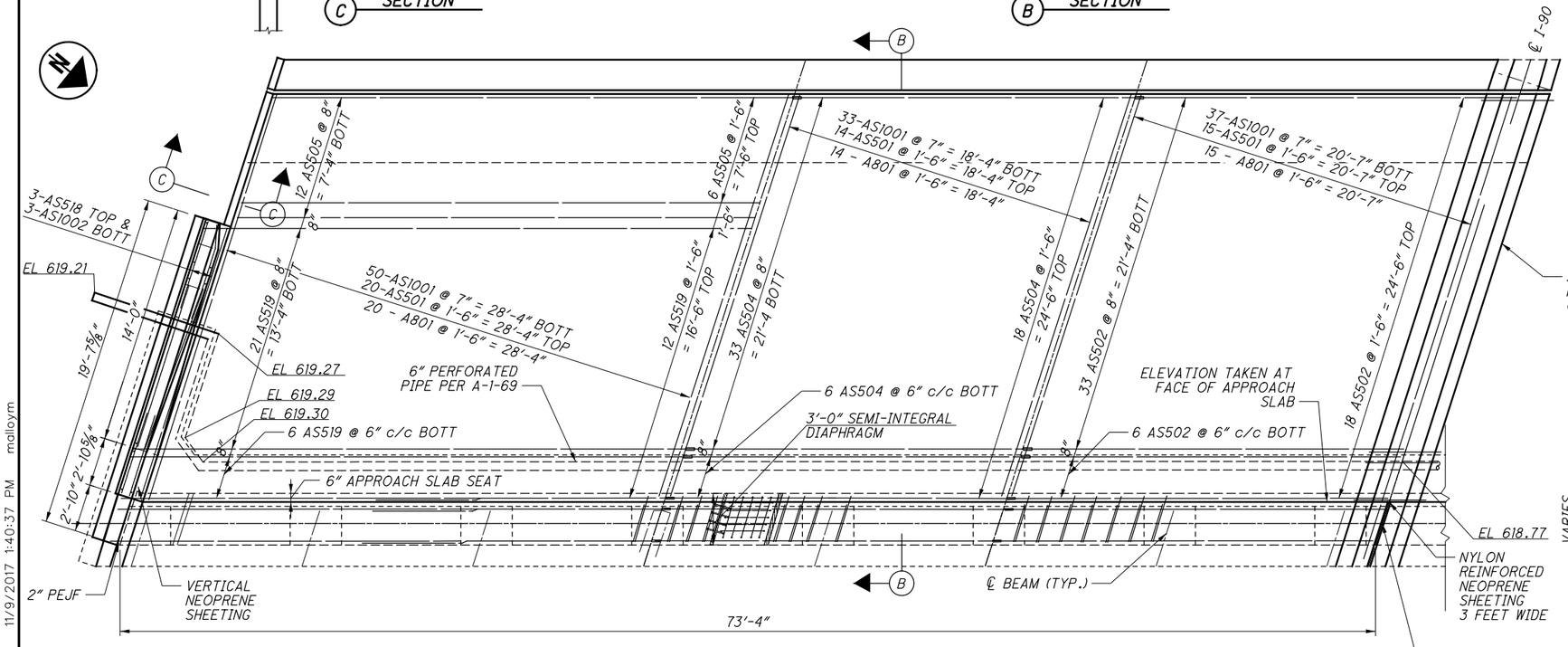
TYPE 4-A CONCRETE CURB

C SECTION

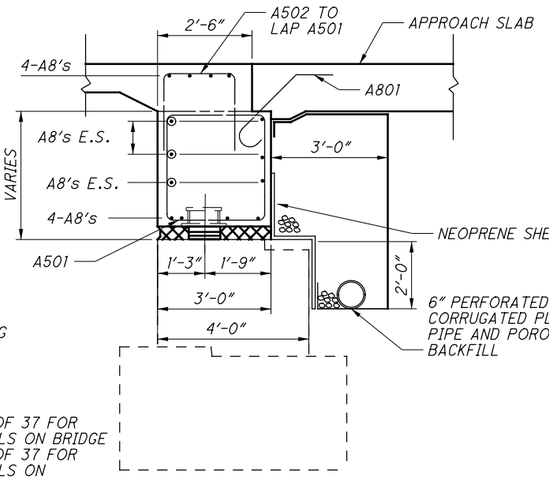


B SECTION

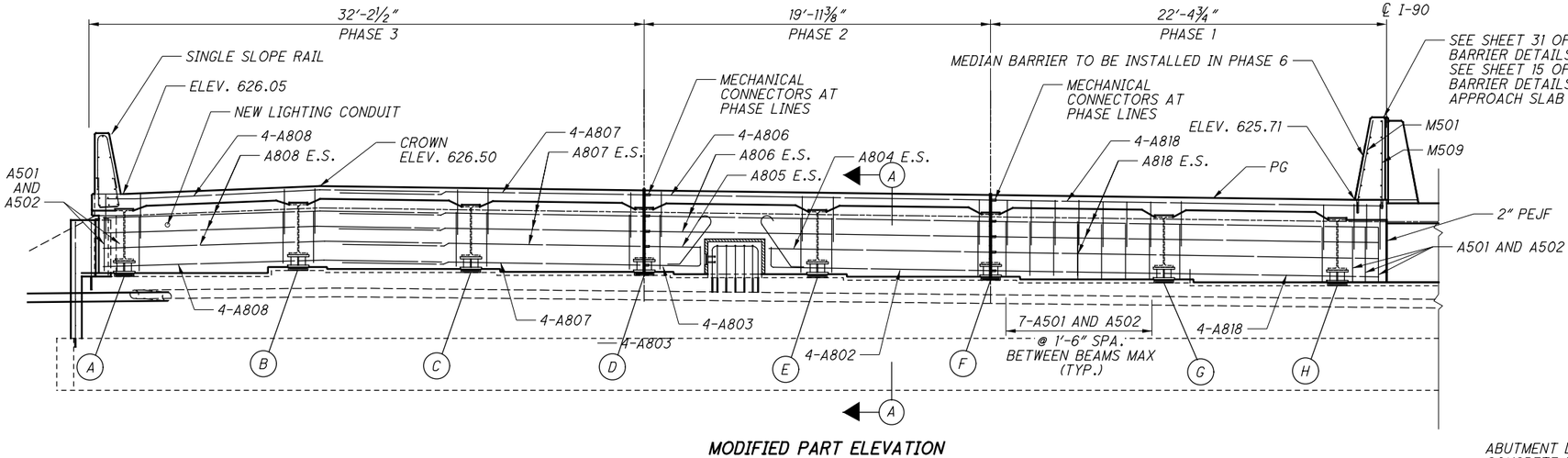
SEAT	ELEVATION
A	621.30
B	621.65
C	621.53
D	621.37
E	621.23
F	621.09
G	620.93
H	620.77



MODIFIED PART PLAN
REAR ABUTMENT (EASTBOUND)



A SECTION
SEMI-INTEGRAL DIAPHRAGM



MODIFIED PART ELEVATION
REAR ABUTMENT (FACING WEST)

ABUTMENT DIAPHRAGM CONCRETE, PHASED CONSTRUCTION: PLACE THE DIAPHRAGM CONCRETE ENCASING THE STRUCTURAL MEMBER ENDS OF AN INDIVIDUAL PHASE WITH THE DECK CONCRETE.

DESIGN AGENCY
KS Associates Inc.
260 BURNS ROAD, ELYRIA, OHIO 44035

DESIGNED	DRAWN	REVIEWED	DATE
CFE	CFE	MJM	01/09/17
CHECKED	REVISED	STRUCTURE FILE NUMBER	
MEM		1808850	

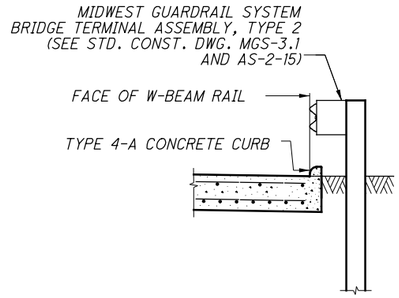
REAR ABUTMENT (EB)
BRIDGE NO. CUY-90-2639
I-90 OVER NEFF ROAD

CUY-90-26.16/VAR
PID No. 87628

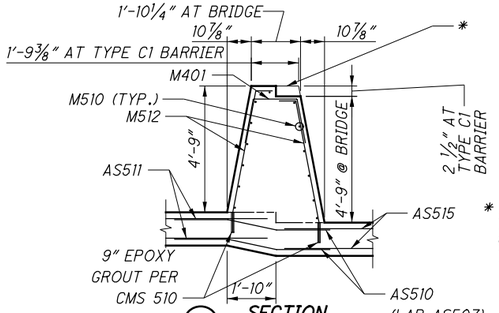
14 / 37

163
222

11/9/2017 1:40:37 PM malloym
R:\14000\14035\87628\structures\sheets\CUY90_2639\CUY90_2639AR001.dgn



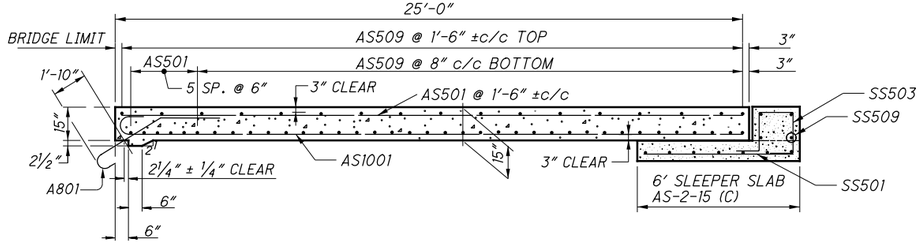
C SECTION



D SECTION

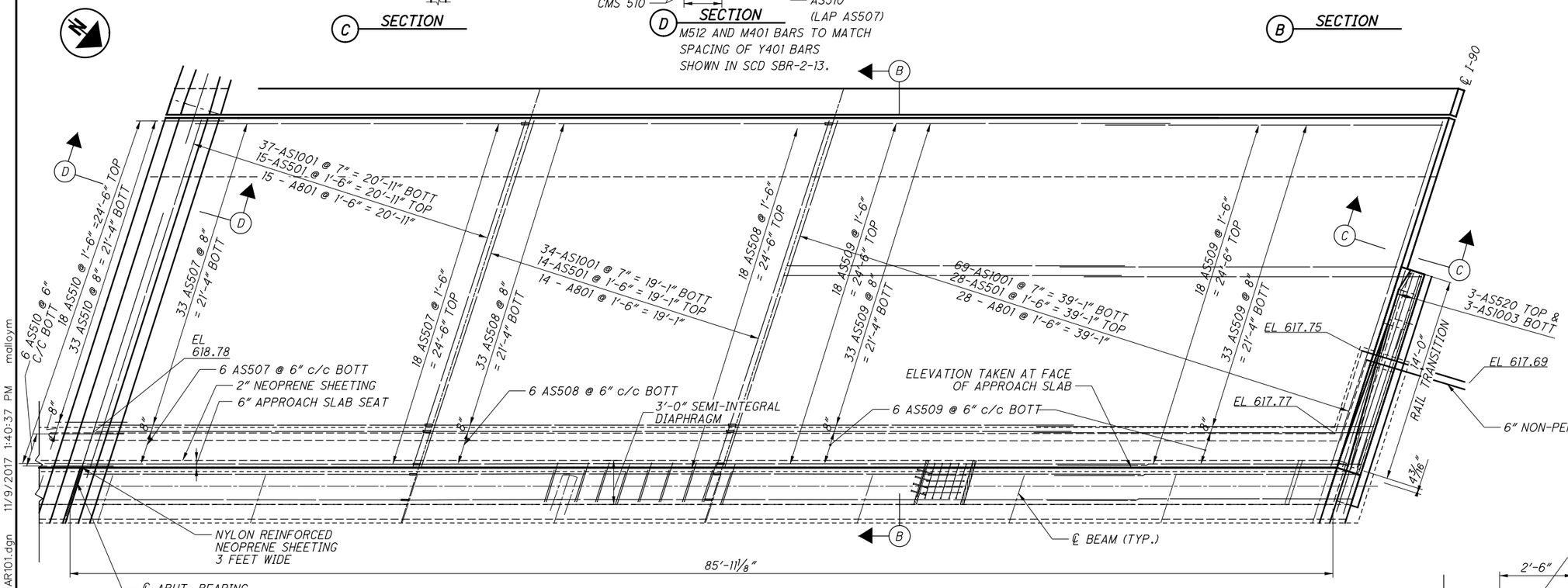
M512 AND M401 BARS TO MATCH SPACING OF Y401 BARS SHOWN IN SCD SBR-2-13.

* PROVIDE TRANSITION TO TYPE C1 BARRIER OVER THE LENGTH OF THE APPROACH SLAB

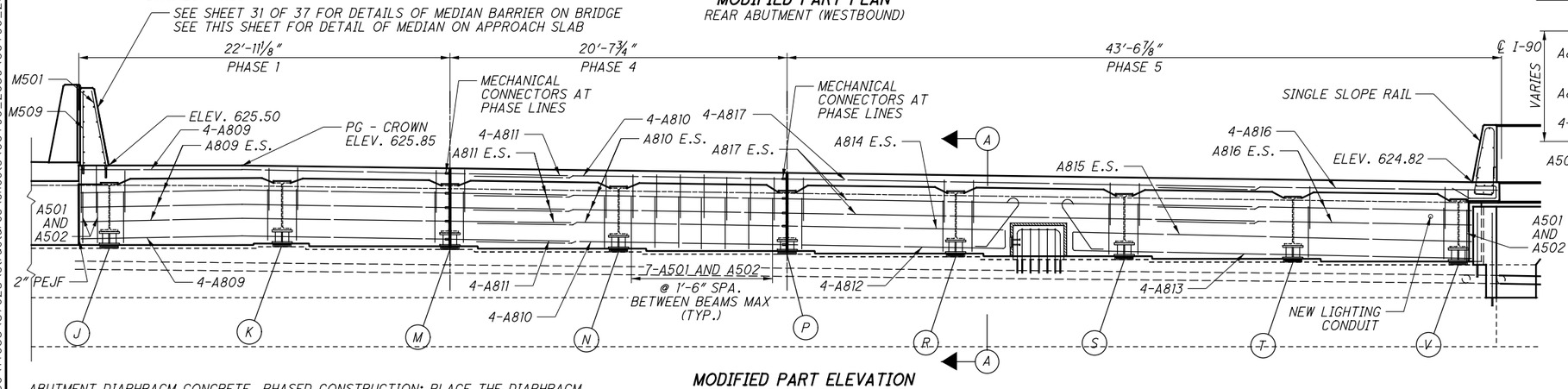


B SECTION

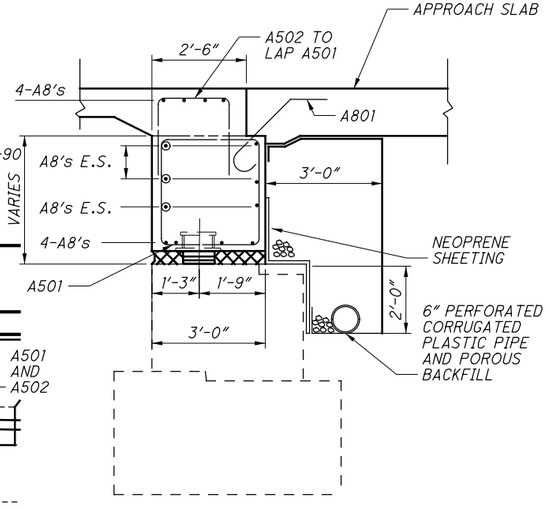
SEAT	ELEVATION
J	620.78
K	620.87
M	620.70
N	620.55
P	620.41
R	620.26
S	620.09
T	619.93
V	619.77



MODIFIED PART PLAN
REAR ABUTMENT (WESTBOUND)



MODIFIED PART ELEVATION
REAR ABUTMENT (FACING WEST)



A SECTION
SEMI-INTEGRAL DIAPHRAGM

ABUTMENT DIAPHRAGM CONCRETE, PHASED CONSTRUCTION: PLACE THE DIAPHRAGM CONCRETE ENCASING THE STRUCTURAL MEMBER ENDS OF AN INDIVIDUAL PHASE WITH THE DECK CONCRETE.

DESIGN AGENCY
KS Associates Inc.
260 BURNS ROAD, ELYRIA, OHIO 44035

DESIGNED	DRAWN	REVIEWED	DATE
CFE	CFE	MJM	01/09/17
CHECKED	REVISED	STRUCTURE FILE NUMBER	
MEM		1808850	

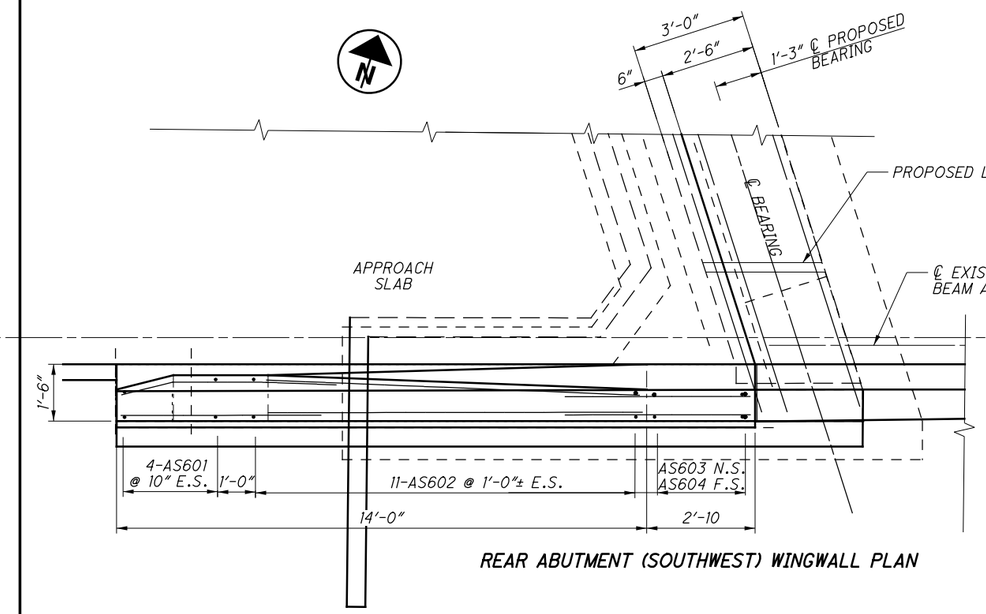
REAR ABUTMENT (WB)
BRIDGE NO. CUY-90-2639
I-90 OVER NEFF ROAD

CUY-90-26.16/VAR
PID No. 87628

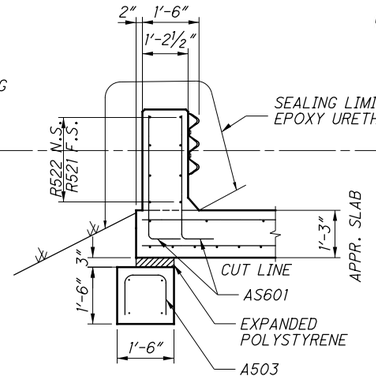
15 / 37

164
222

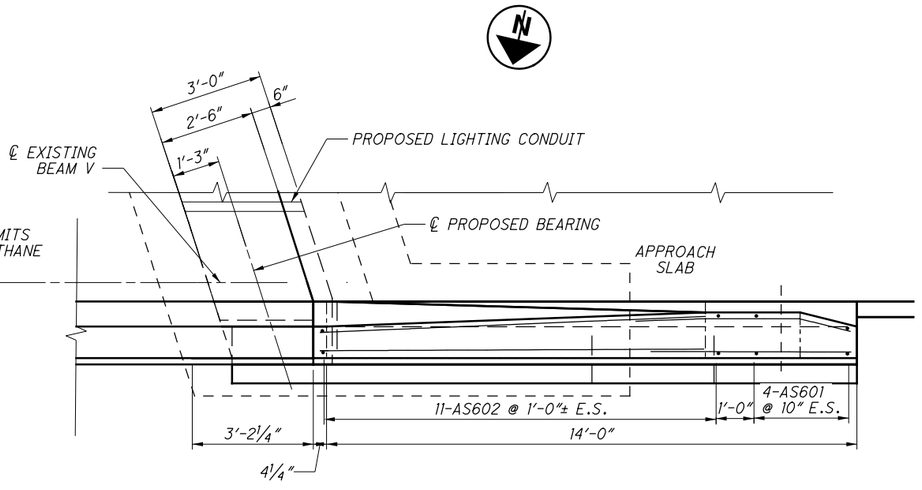
R:\14000\14035\87628\structures\sheets\CUY90_2639\CUY90_2639AR101.dgn 11/9/2017 1:40:37 PM molloym



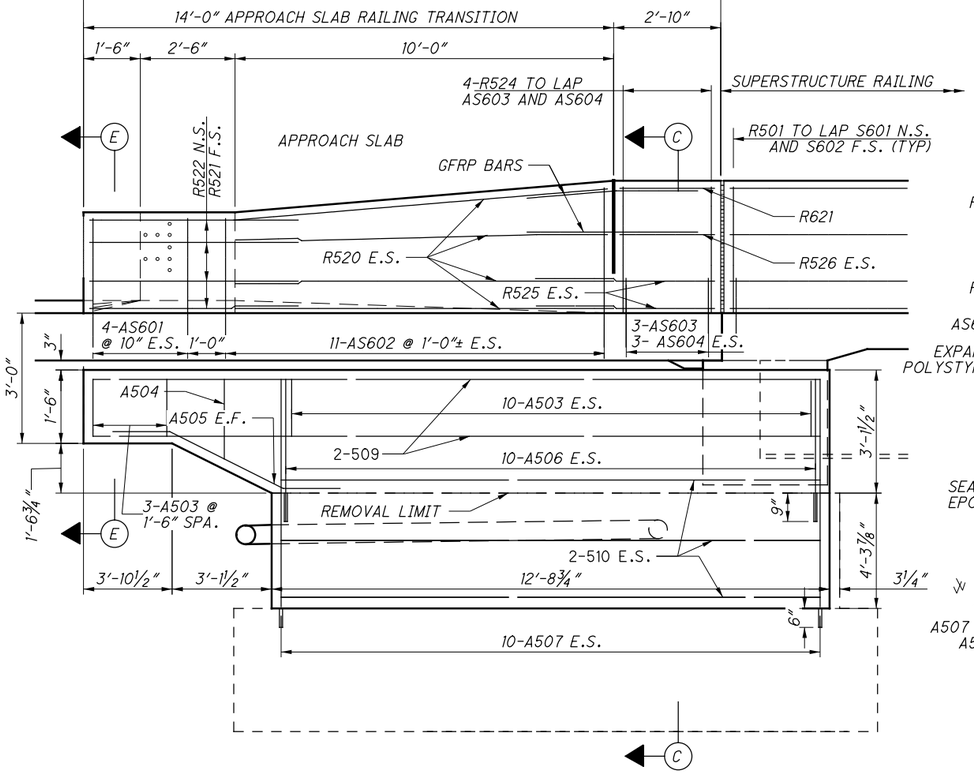
REAR ABUTMENT (SOUTHWEST) WINGWALL PLAN



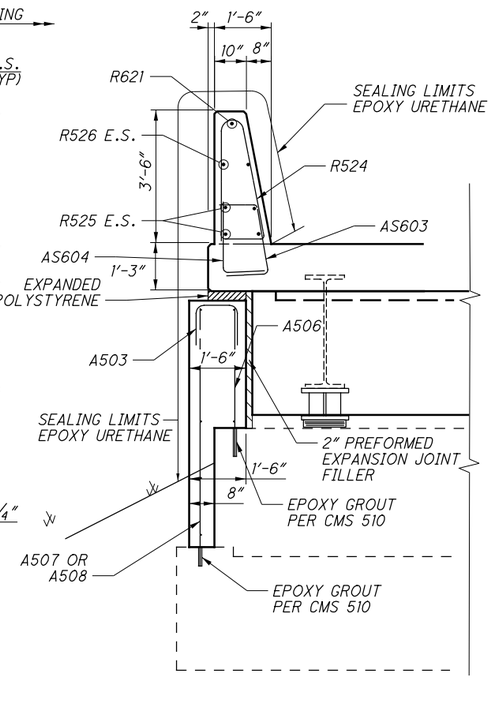
E SECTION



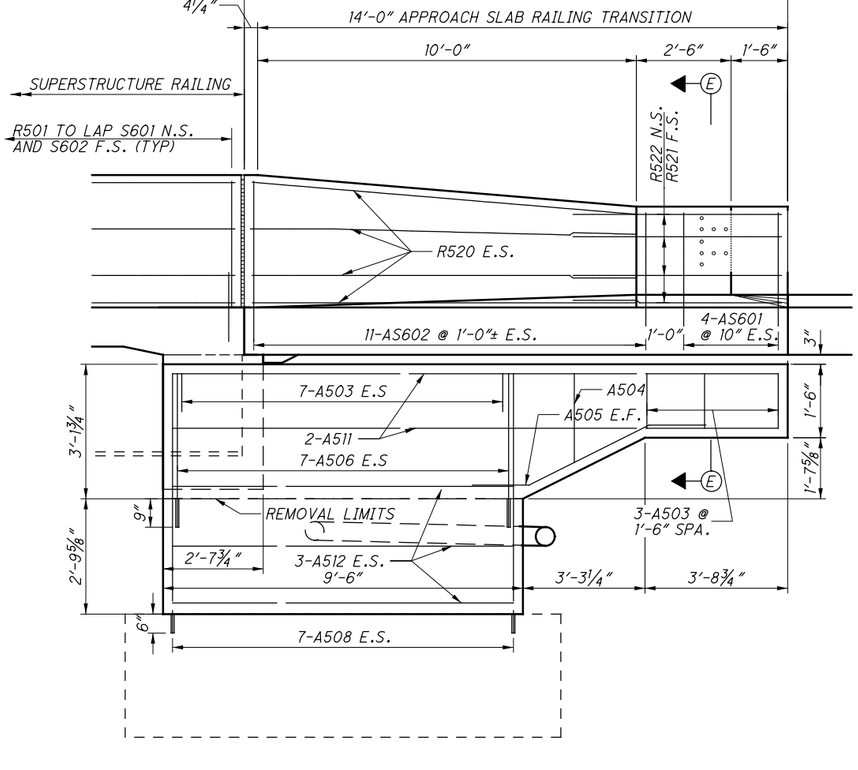
REAR ABUTMENT (NORTHWEST) WINGWALL PLAN



REAR ABUTMENT EASTBOUND (SOUTHWEST) WINGWALL ELEVATION



C SECTION



REAR ABUTMENT WESTBOUND (NORTHWEST) WINGWALL ELEVATION

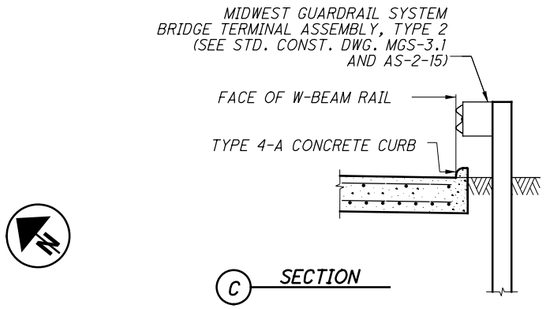
DESIGN AGENCY
KS Associates Inc.
260 BURNS ROAD, ELYRIA, OHIO 44035

DESIGNED CFE
DRAWN CFE
REVIEWED MJM
DATE 01/09/17
CHECKED MEM
REVISED
STRUCTURE FILE NUMBER 1808850

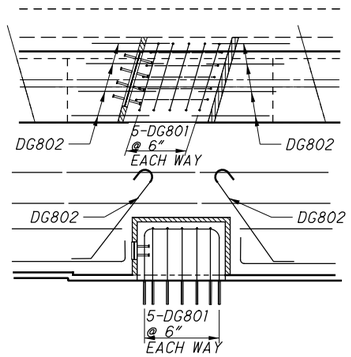
BRIDGE REAR ABUTMENT

BRIDGE NO. CUY-90-2639
I-90 OVER NEFF ROAD

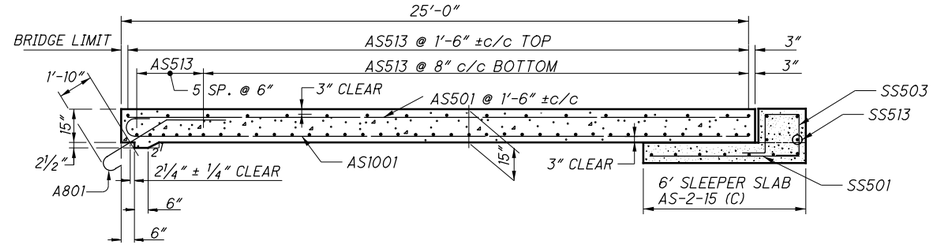
CUY-90-26.16/ VAR
PID No. 87628



C SECTION

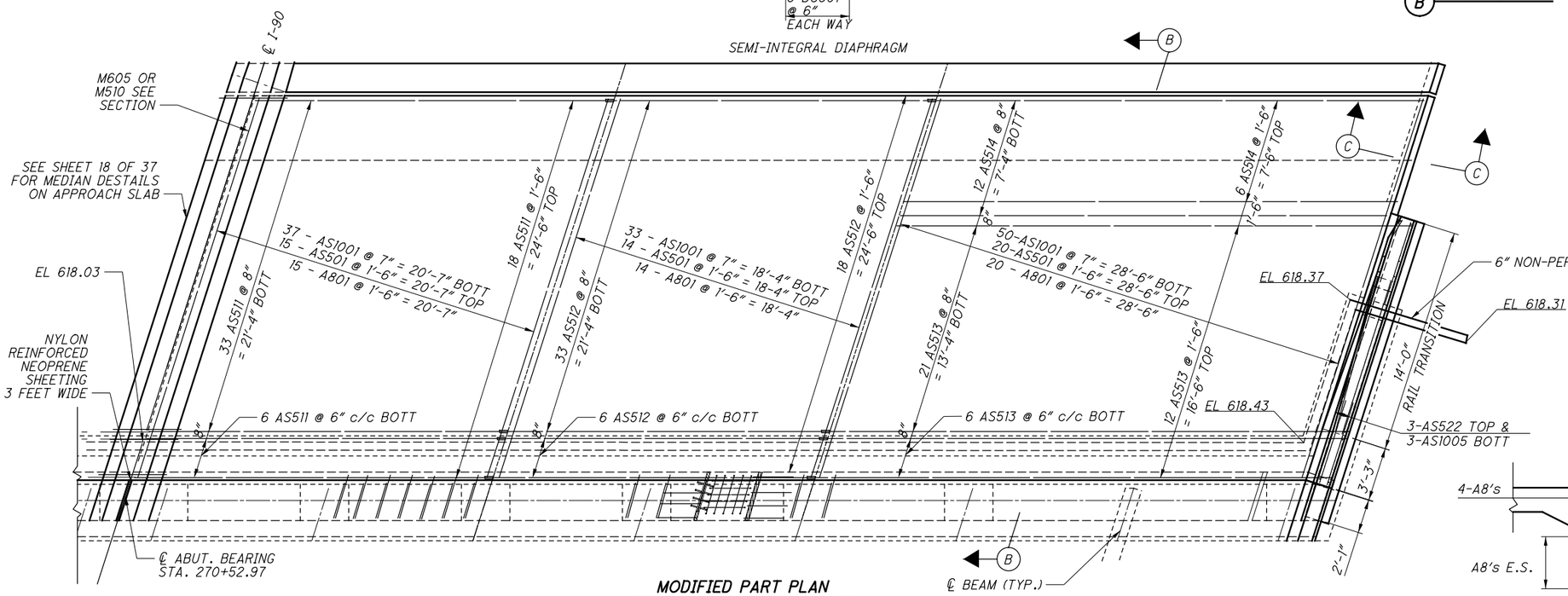


SEMI-INTEGRAL DIAPHRAGM

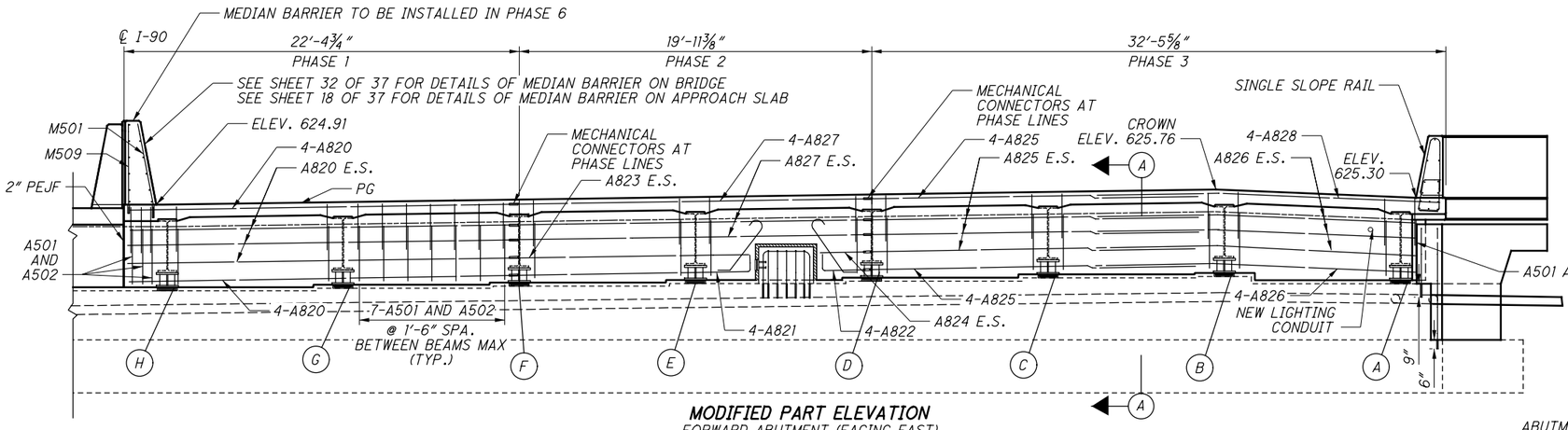


B SECTION

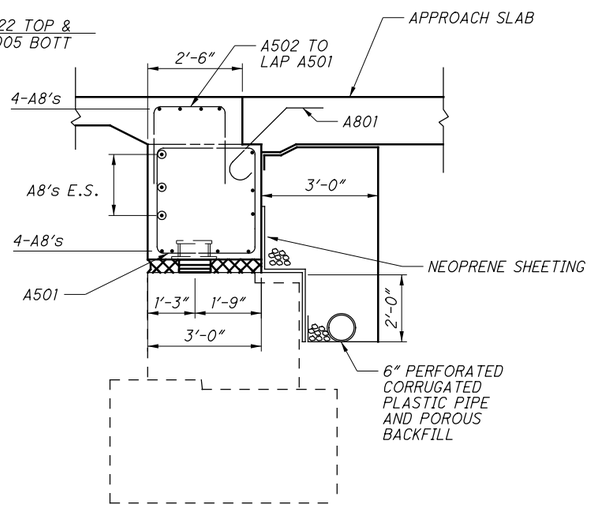
BEAM SEAT	ELEVATION
A	620.43
B	620.84
C	620.76
D	620.58
E	620.44
F	620.30
G	620.18
H	620.03



MODIFIED PART PLAN
FORWARD ABUTMENT (EASTBOUND)



MODIFIED PART ELEVATION
FORWARD ABUTMENT (FACING EAST)



A SECTION
SEMI-INTEGRAL DIAPHRAGM

ABUTMENT DIAPHRAGM CONCRETE, PHASED CONSTRUCTION: PLACE THE DIAPHRAGM CONCRETE ENCASING THE STRUCTURAL MEMBER ENDS OF AN INDIVIDUAL PHASE WITH THE DECK CONCRETE.

DESIGN AGENCY
KS Associates Inc.
260 BURNS ROAD, ELYRIA, OHIO 44035

DESIGNED	DRAWN	REVIEWED	DATE
CFE	CFE	MJM	01/09/17
CHECKED	REVISED	STRUCTURE FILE NUMBER	
MEM		1808850	

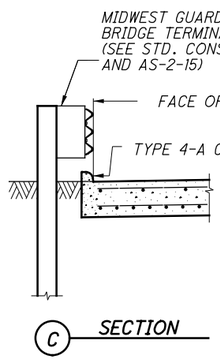
FORWARD ABUTMENT (EB)
BRIDGE NO. CUY-90-2639
I-90 OVER NEFF ROAD

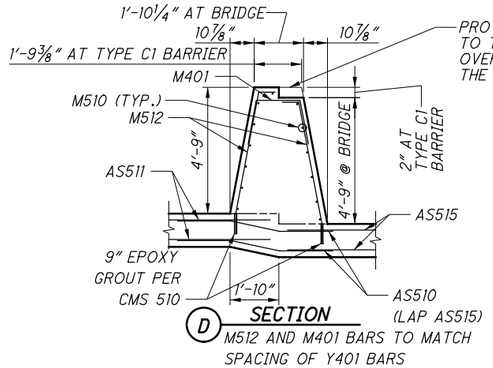
CUY-90-26.16/VAR
PID No. 87628

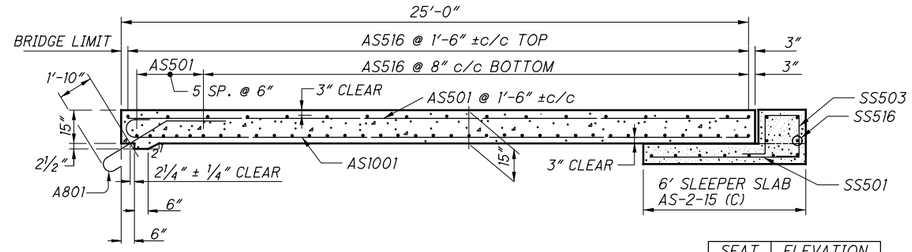
17 / 37

166
222

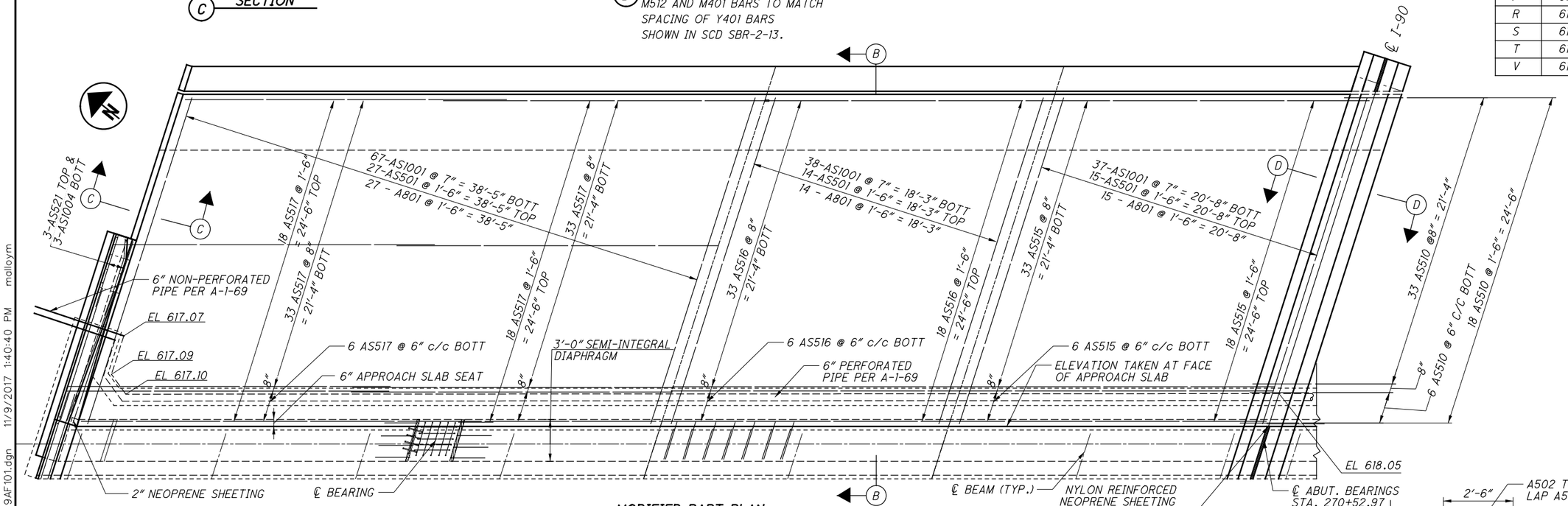
R:\14000\14035\87628\structures\sheets\CUY90_2639\CUY90_2639AF001.dgn 11/9/2017 1:40:39 PM malloym







SEAT	ELEVATION
J	620.05
K	620.15
M	620.34
N	620.53
P	619.72
R	619.59
S	619.41
T	619.27
V	619.10



DESIGN AGENCY
KS Associates Inc.
260 BURNS ROAD, ELYRIA, OHIO 44035

DESIGNED CFE | DRAWN CFE | REVIEWED MJM | DATE 01/09/17
CHECKED MEM | REVISED | STRUCTURE FILE NUMBER 1808850

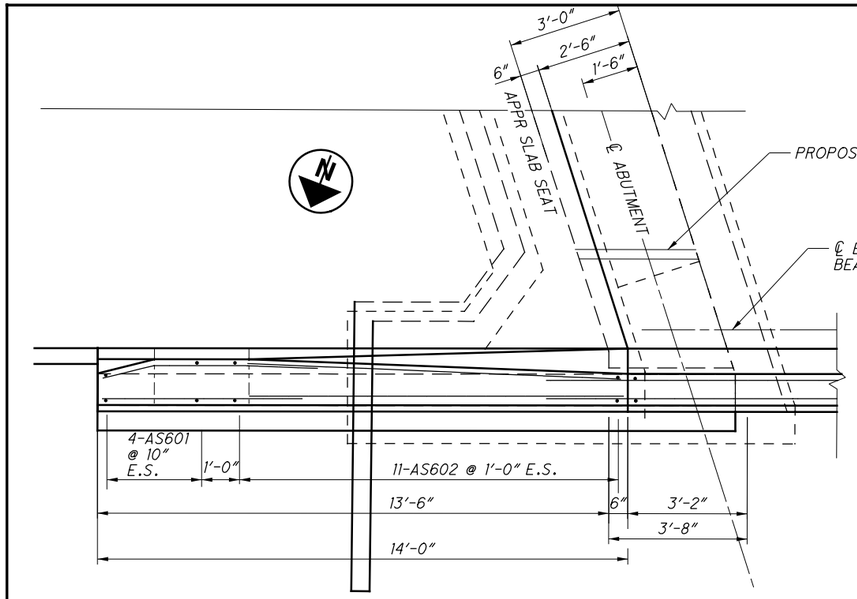
FORWARD ABUTMENT (WB)
BRIDGE NO. CUY-90-2639
I-90 OVER NEFF ROAD

CUY-90-26.16/VAR
PID No. 87628

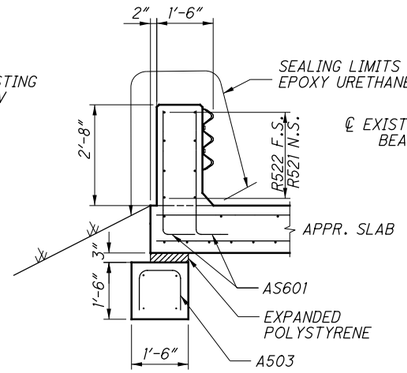
18 / 37

167
222

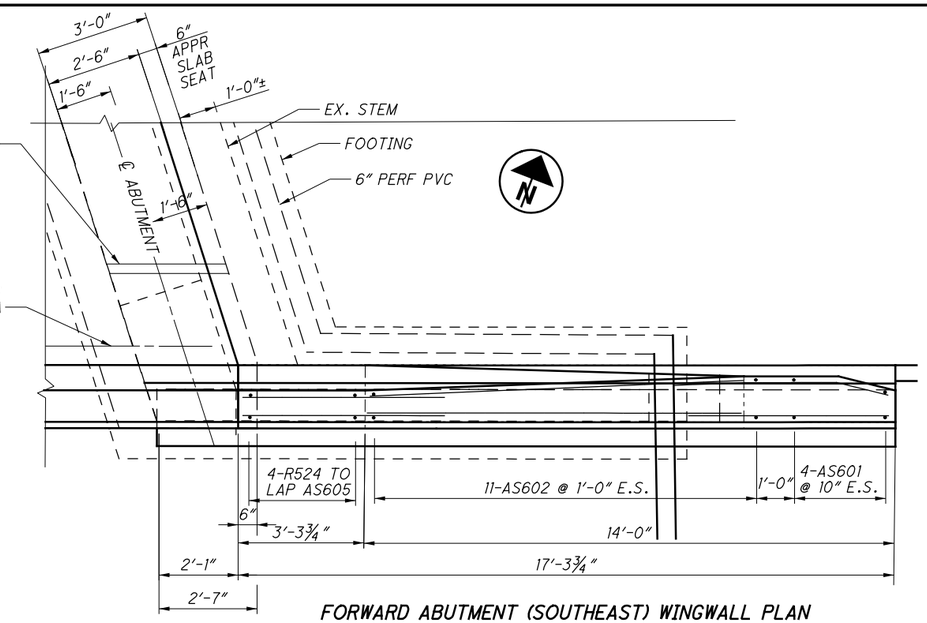
R:\14000\14035\87628\structures\sheets\CUY90_2639\CUY90_2639AF101.dgn 11/9/2017 1:40:40 PM malloym



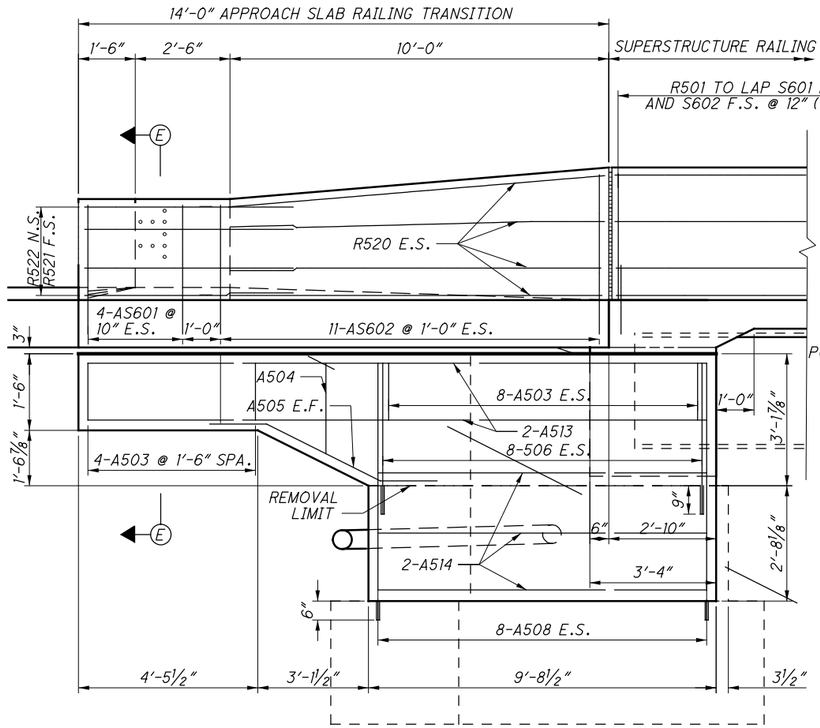
FORWARD ABUTMENT (NORTHEAST) WINGWALL PLAN

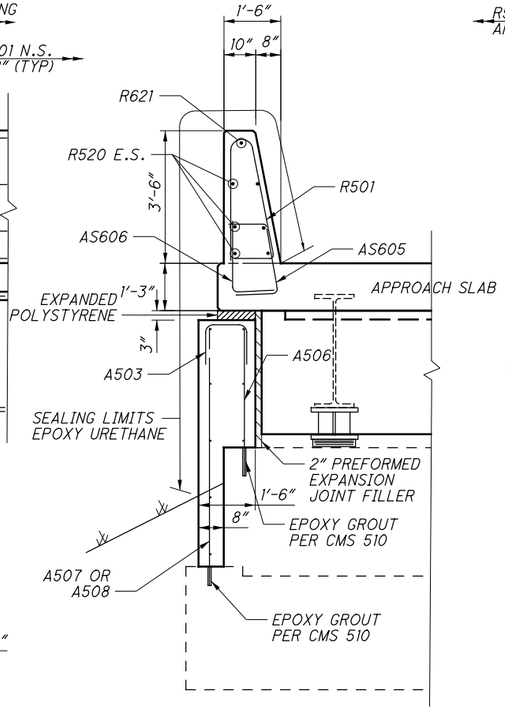


E SECTION



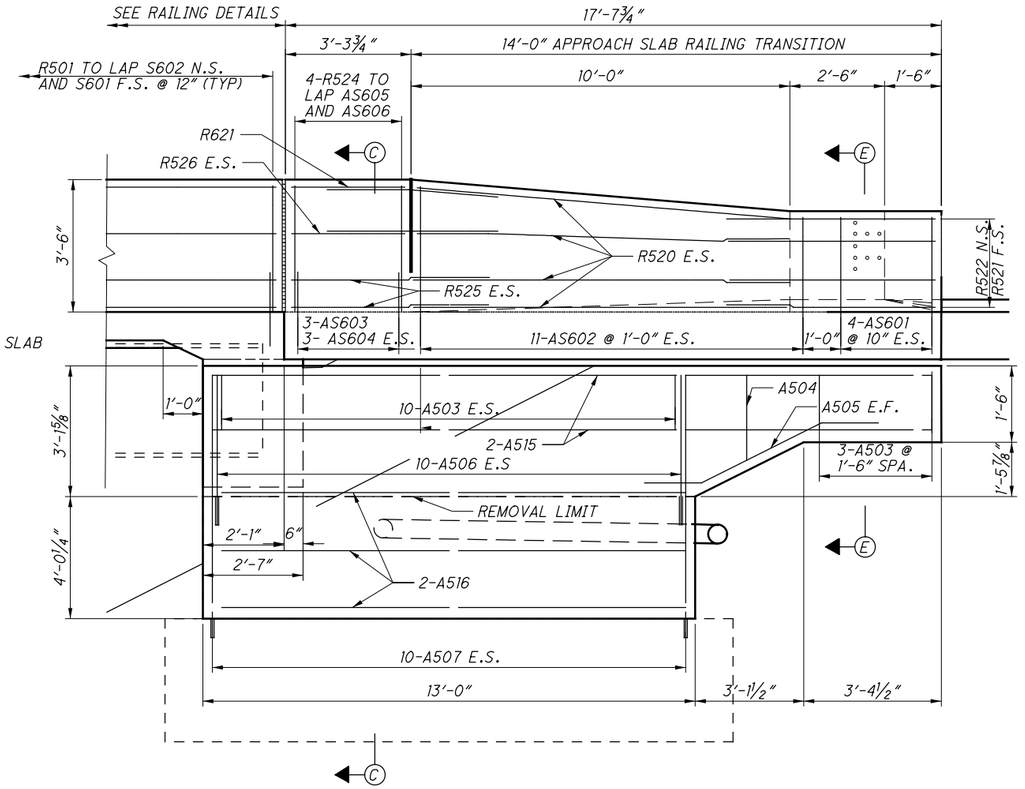
FORWARD ABUTMENT (SOUTHEAST) WINGWALL PLAN





C SECTION

FORWARD ABUTMENT WESTBOUND (NORTHEAST) WINGWALL ELEVATION



FORWARD ABUTMENT EASTBOUND (SOUTHEAST) WINGWALL ELEVATION

DESIGN AGENCY
KS Associates Inc.
260 BURNS ROAD, ELYRIA, OHIO 44035

REVIEWED MJM DATE 01/09/17
STRUCTURE FILE NUMBER 1808850

DRAWN CFE REVISED
DESIGNED CFE CHECKED MEM

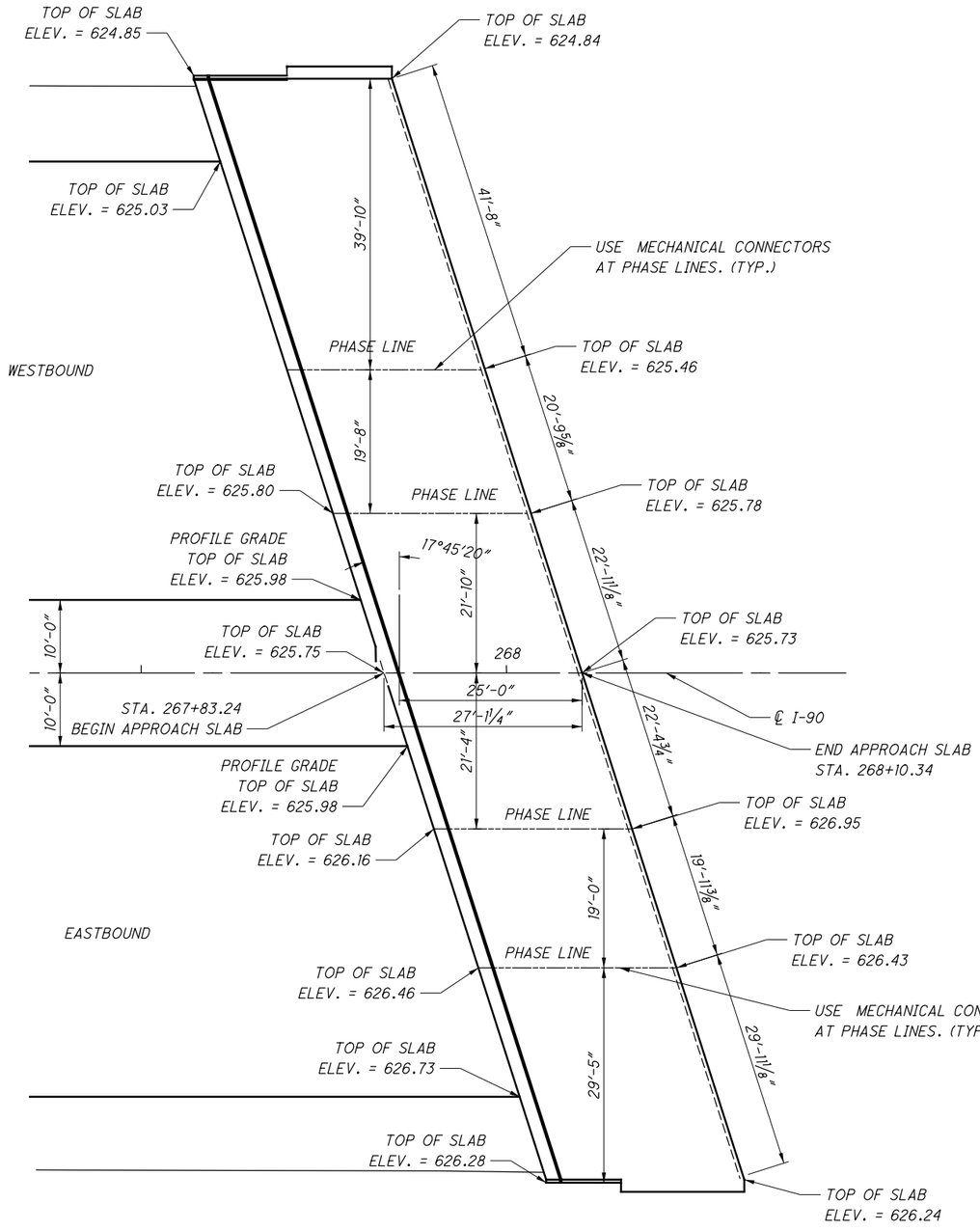
BRIDGE FORWARD ABUTMENT
BRIDGE NO. CUY-90-2639
I-90 OVER NEFF ROAD

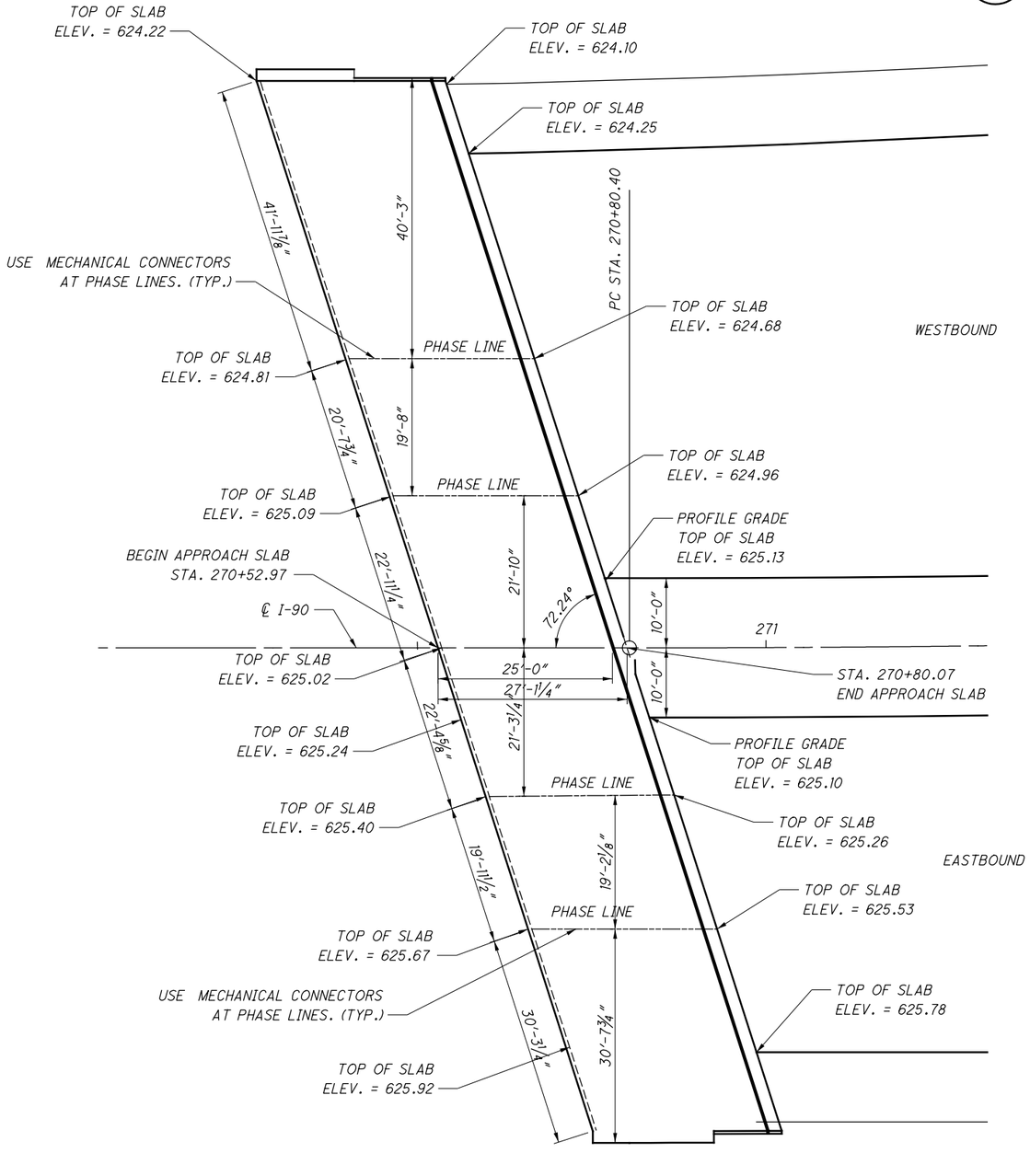
CUY-90-26.16/VAR
PID No. 87628

19 / 37

168
222

R:\14000\14035\87628\structures\sheets\CUY90_2639CUY90_2639AF002.dgn 11/9/2017 1:40:41 PM malloym





REFER TO STANDARD CONSTRUCTION DRAWING AS-2-15 FOR APPROACH SLAB INSTALLATION C.

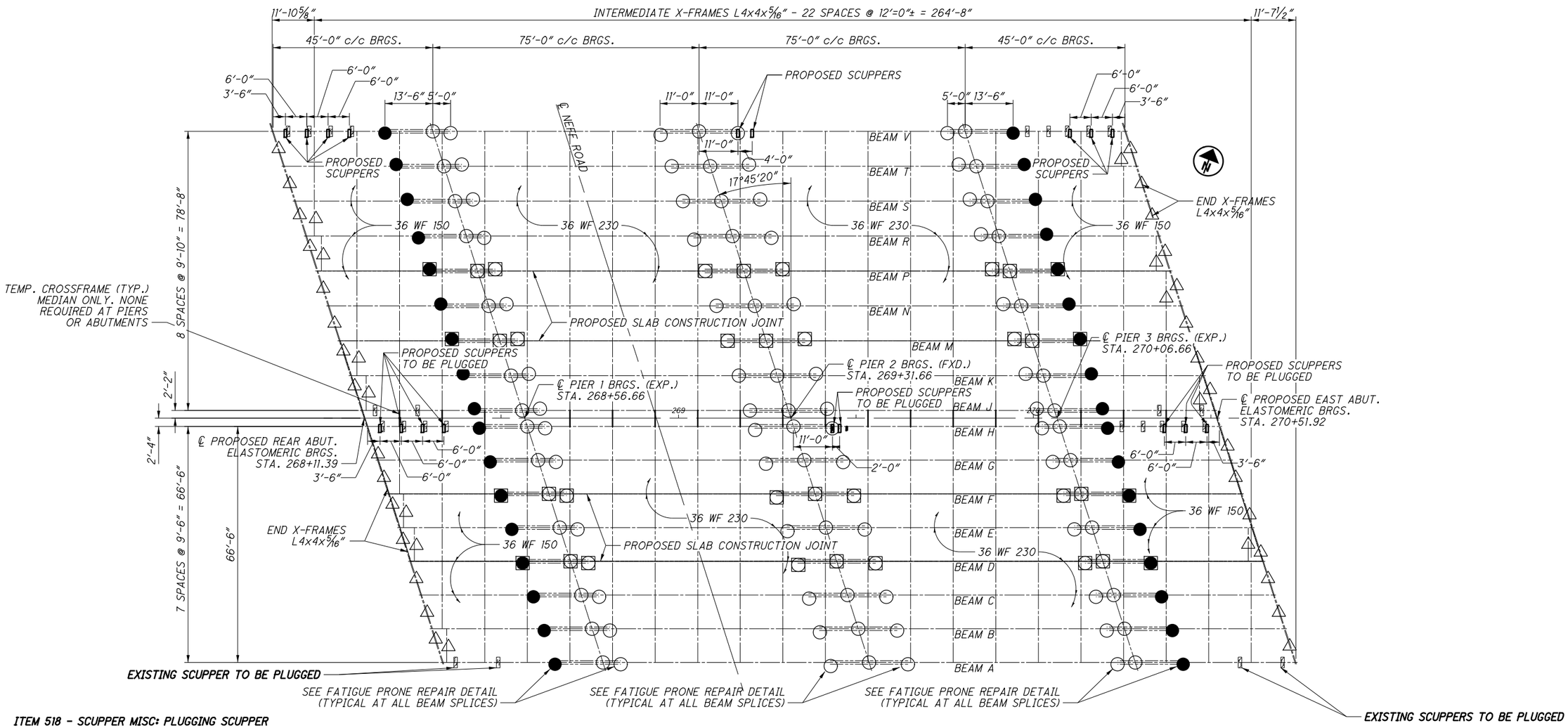
DESIGN AGENCY
KS Associates Inc.
260 BURNS ROAD, ELYRIA, OHIO 44035

DESIGNED ASW | DRAWN ASW | REVIEWED MEM | DATE 12/07/16
CHECKED MJM | REVISED | STRUCTURE FILE NUMBER 1808850

APPROACH SLAB DETAILS

BRIDGE NO. CUY-90-2639
I-90 OVER NEFF ROAD

CUY-90-26.16 / VAR
PID No. 87628



ITEM 518 - SCUPPER MISC: PLUGGING SCUPPER FOR MAINTENANCE OF TRAFFIC

THIS ITEM SHALL INCLUDE ALL WORK, MATERIAL, AND LABOR NECESSARY TO PLUG AND ADD ASPHALT OVER THE EXISTING AND NEW SCUPPER IDENTIFIED IN THE PLANS. THIS ITEM SHALL ALSO INCLUDE ALL WORK AND LABOR TO UNPLUG THE NEW SCUPPERS TO REMAIN AT THE COMPLETION OF MAINTENANCE OF TRAFFIC OPERATIONS. ALL MATERIALS SHALL MEET THE REQUIREMENTS OF CMS 518 AND 614

FOR EXISTING SCUPPERS, A 1/4" STEEL PLATE SHALL BE CUT TO FIT OVER THE EXISTING SCUPPER. THE NEW PLATE SHALL BE FIELD WELDED ALONG THE ENTIRE PERIMETER OF THE PLATE. FOR NEW SCUPPER, A 1/4" PLATE SHALL BE CUT TO FIT IN THE 18X6X 3/8" STRUCTURAL STEEL TUBBING SCUPPER. THIS PLATE SHALL BE SET IN THE SCUPPER TO SIT ON THE GRATING BARS. THE PLATE SHALL BE TACK WELDED AT TO THE STRUCTURAL STEEL TUBING WITH NO INTERVAL BETWEEN WELD GREATER THAN 3 INCHES. FOR BOTH EXISTING AND NEW SCUPPER, THE CONCTRACTOR SHALL PLACE ASPHALT CONCRETE FOR MAINTAINING TRAFFIC OVER THE PLATE TO PROVIDE A SMOOTH RIDING SERVICE.

UPON COMPLETION OF MAINTENANCE OF TRAFFIC OPERATIONS, FOR SCUPPERS TO REMAIN, THE ASPHALT AND STEEL PLATE SHALL BE REMOVED. ANY GALVANIZED SURFACES DAMAGE BY WELDING OR WELD REMOVAL OPERATIONS SHALL BE REPAIRED CMS 711.02

EXISTING FRAMING PLAN

DIMENSIONS OF EXISTING MEMBERS ARE ±

LEGEND

- *DENOTES NORMAL TOP COVER PLATE RETROFIT DETAIL*
- *DENOTES PHASE LINE SPLIT TOP COVER PLATE RETROFIT DETAIL*
- *DENOTES NORMAL TOP AND BOTTOM COVER PLATE RETROFIT DETAIL*
- *DENOTES PHASE LINE SPLIT TOP AND BOTTOM COVER PLATE RETROFIT DETAIL*
- *EXISTING SCUPPER TO BE REMOVED*
- *PROPOSED SCUPPER PER GSD-1-96*
- *EXISTING CROSSFRAME TO BE REMOVED - CONSIDERED INCIDENTAL UNDER ITEM 202 PORTIONS OF STRUCTURE REMOVED, AS PER PLAN*

** EXISTING COVER PLATES*
36 WF 150 TO 36 WF 230 - 7/8"x10½"x18'-6"
36 WF 230 TO 36 WF 230 - 5/8"x15"x22'-0"

*** FILL PLATE THICKNESSES*
36 WF 150 TO 36 WF 230 - 7/8"
36 WF 230 TO 36 WF 230 - 5/8"

DESIGN AGENCY
KS Associates Inc.
260 BURNS ROAD, ELYRIA, OHIO 44035

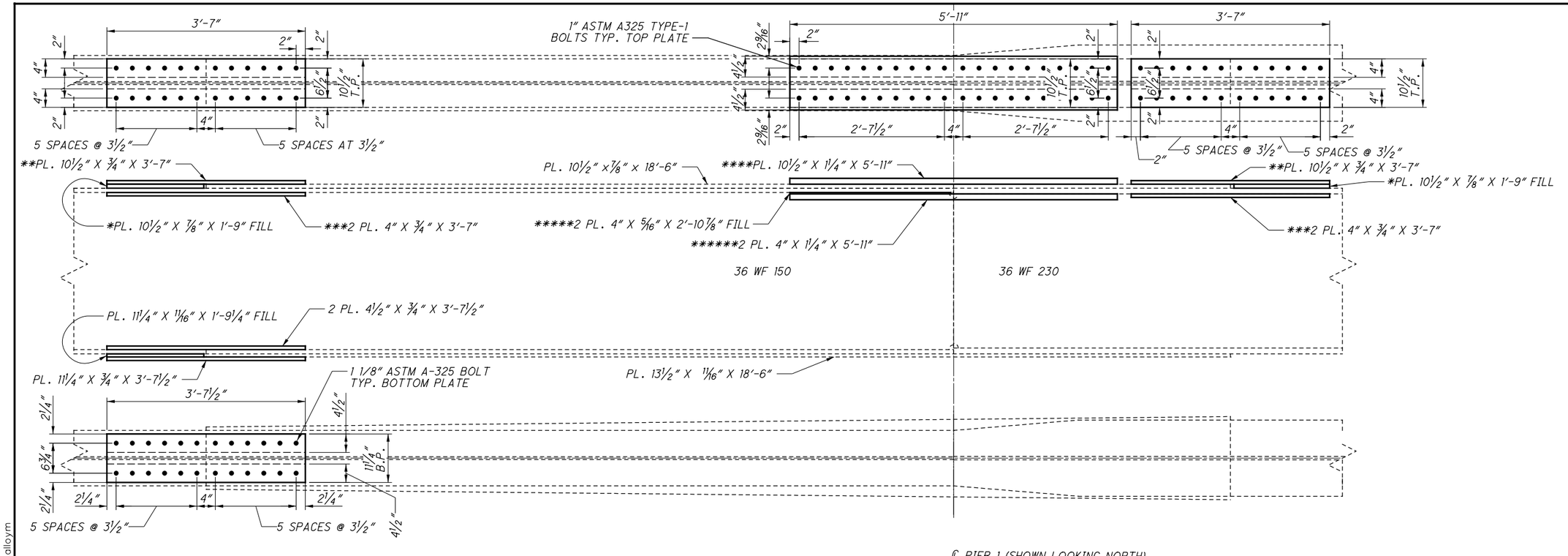
DESIGNED	DRAWN	REVIEWED	DATE
RAP	RAP	MJM	01/09/17
CHECKED	REVISED	STRUCTURE FILE NUMBER	
MEM		1808850	

BRIDGE SUPERSTRUCTURE DETAILS - 1
BRIDGE NO. CUY-90-2639
I-90 OVER NEFF ROAD

CUY-90-26.16/VAR
PID No. 87628

21 / 37

170
222



LEGEND

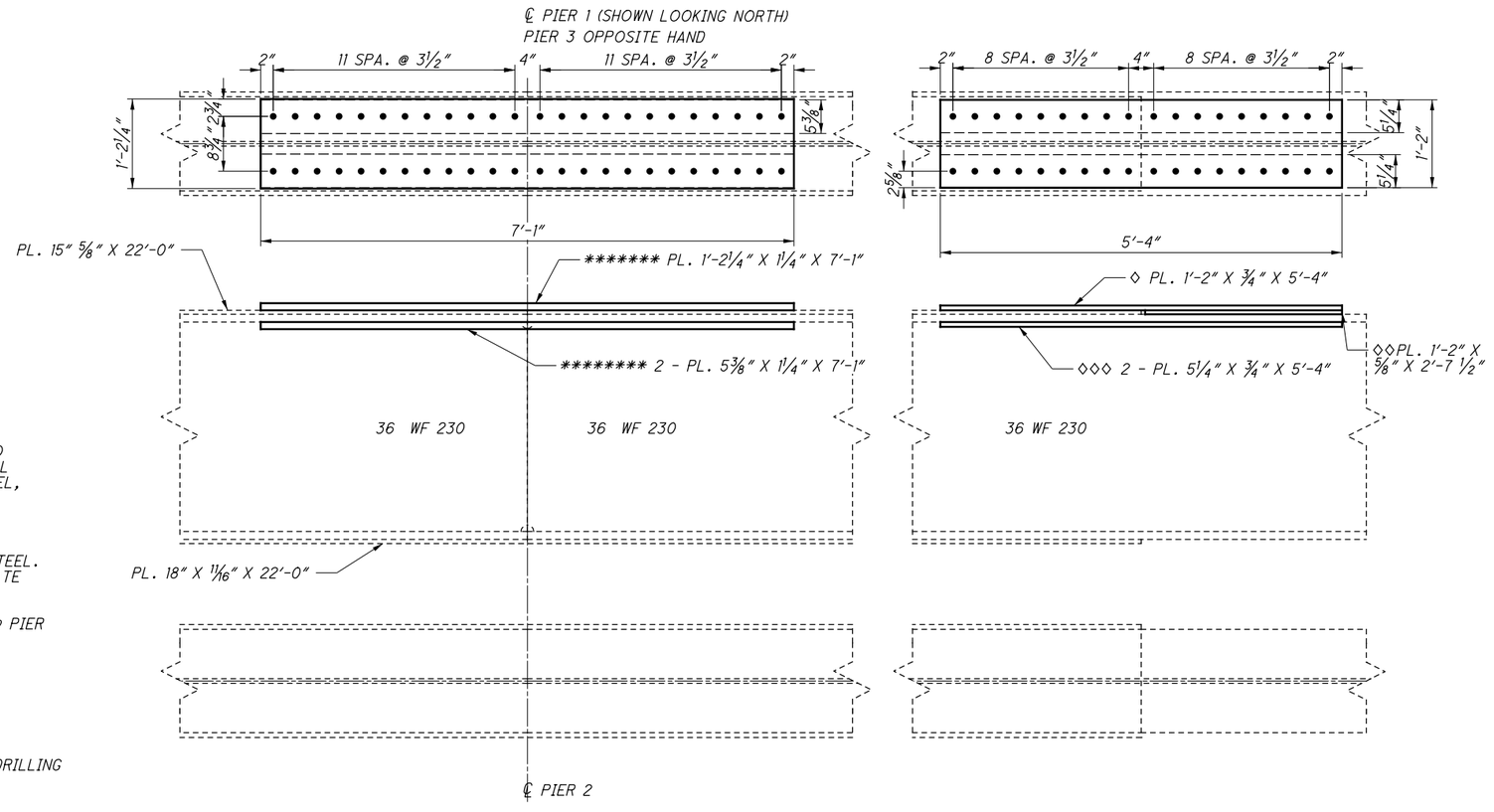
T.P. = TOP PLATE
B.P. = BOTTOM PLATE.

AT PHASE LINE, MODIFY PLATES AS FOLLOWS

* 2-PL. 4½" X ⅞" X 1'-9" FILL
** 2-PL. 4½" X ⅞" X 3'-7"
*** 2 PL. 4" X ⅞" X 3'-7"
**** 2 PL 4½" X 1⅜" X 5'-11"
***** 2 PL. 4" X 5⁄16" X 2-10⅞" FILL
****** 2 PL. 4" X 1⅜" X 5'-11"
******** 2 PL. 6⅜" X 1⅜" X 7'-1"
********* 2 PL. 5⅜" X 1⅜" X 7'-1"
◊ 2 PL. 6 ¼" X ⅛" X 5'-4"
◊◊ 2 PL. 6 ¼" X ⅝" X 2'-7 1#2" FILL
◊◊◊ 2 PL. 5 ¼" X ⅞" X 5'-4"

NOTES

1. CONTRACTOR TO BID ALL REPAIR WORK SHOWN. ALL WORK ON THE TOP FLANGE TO BE INCLUDED UNDER ITEM 513 - STRUCTURAL STEEL, MISC.: FATIGUE RETROFIT. ALL WORK TO THE BOTTOM FLANGE TO BE INCLUDED UNDER ITEM 513 -STRUCTURAL STEEL, MISC.:FATIGUE RETROFIT, BOTTOM FLANGE.
2. HOLES IN PLATES TO BE SHOP DRILLED
3. CONTRACTOR TO USE NEW PLATES AS TEMPLATE TO DRILL HOLES INTO EXISTING STEEL. FOR TOP PLATE, CONTRACTOR TO ALIGN THE OUTSIDE EDGES OF THE NEW TOP PLATE WITH THE OUTSIDE EDGES OF THE EXISTING PLATE TO BE RETROFITTED
4. RETROFIT IS TO BE CENTERED OVER END OF PLATE TO BE RETROFITTED, EXCEPT @ PIER WHERE IT IS TO BE CENTERED OVER EXISTING WELDED SPLICE.
5. ALL STEEL TO BE ASTM A709 GRADE 50 (CVN).
6. ALL BOLTS TO BE ASTM A325 TYPE-1 GALVANIZED
7. ALL BOLTS ARE TO BE PLACED WITH NUT ON TOP
8. AFTER HOLES ARE DRILLED, CONTRACTOR TO CLEAN THE FAYING SURFACE OF ALL DRILLING OIL, AND THEN BLAST CLEAN TO NEAR WHITE FINISH PER CMS 514.13 A AND C.
9. SEE BRIDGE GENERAL NOTES FOR ADDITIONAL DETAILS.



DESIGN AGENCY
KS Associates Inc.
260 BURNS ROAD, ELYRIA, OHIO 44035

DESIGNED	DRAWN	REVIEWED	DATE
RAP	RAP	MEM	01/09/17
CHECKED	REVISED	STRUCTURE FILE NUMBER	
MJM		1808850	

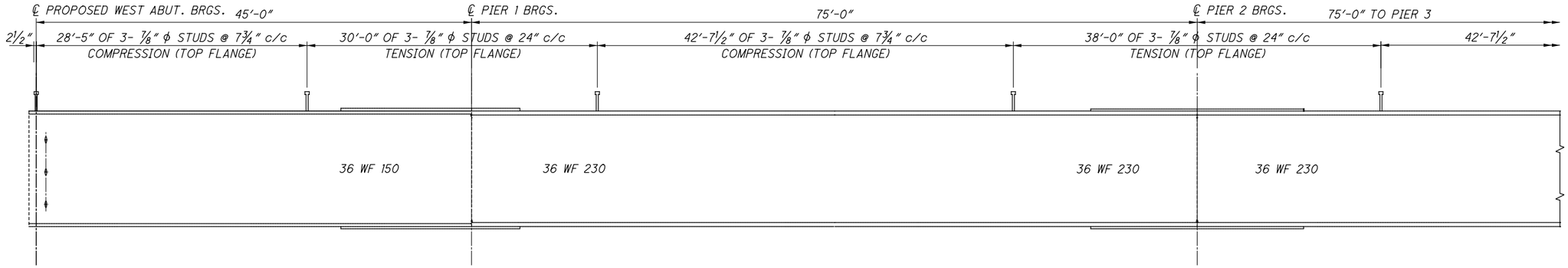
BRIDGE SUPERSTRUCTURE DETAILS - 2
BRIDGE NO. CUY-90-2639
I-90 OVER NEFF ROAD

CUY-90-26.16/VAR
PID No. 87628

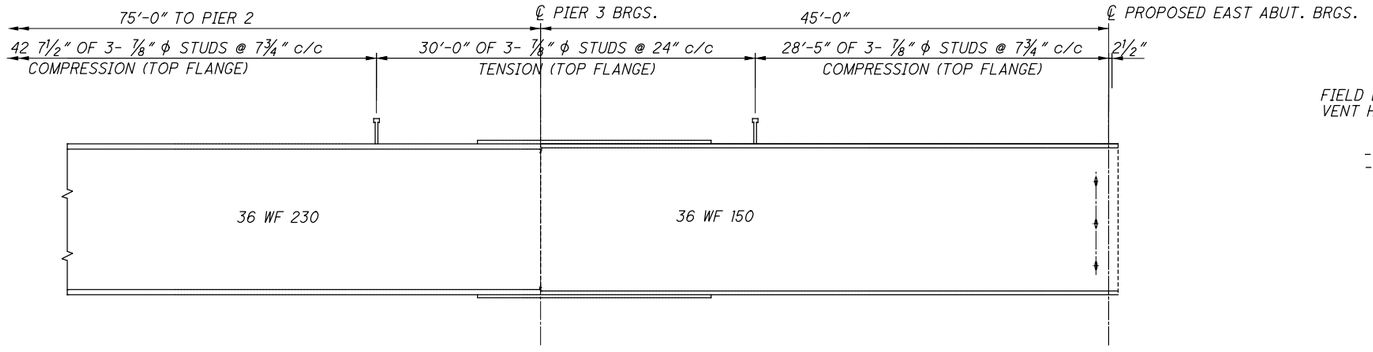
22 / 37

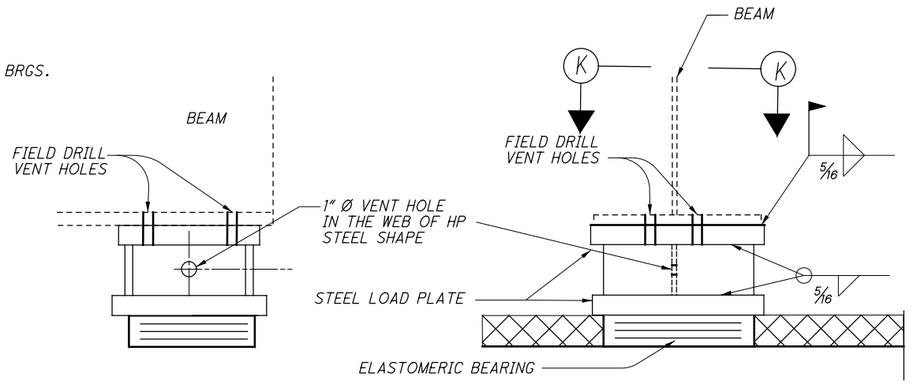
171
222

R:\14000\14035\87628\structures\sheets\CUY90_2639\CUY90_2639SD005.dgn 11/9/2017 1:40:43 PM malloym

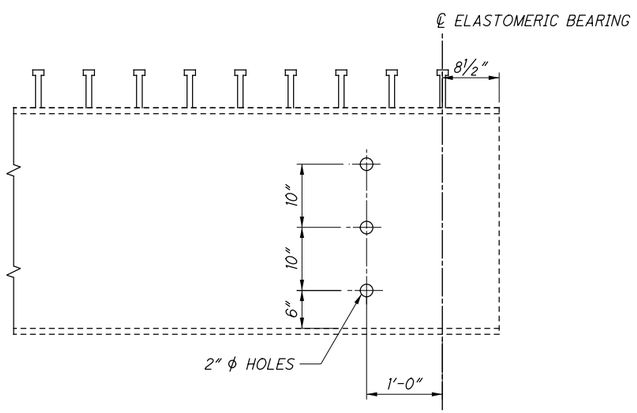


BEAM ELEVATION - TYPICAL

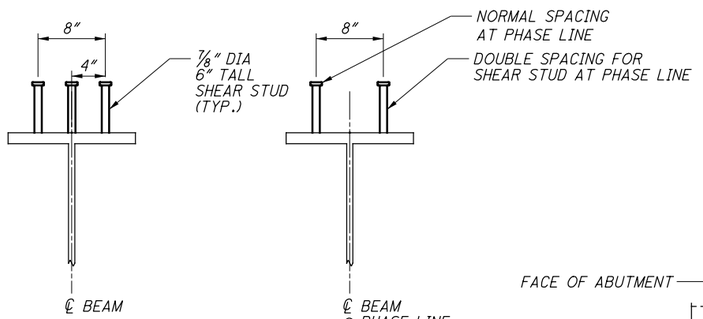




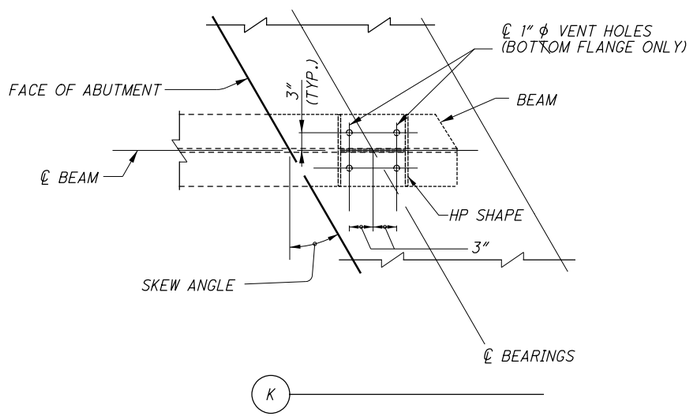
BEARING DETAIL



BEAM END DETAIL



TRANSVERSE STUD DETAIL



R:\14000\14035\87628\structures\sheets\CUY90_2639\CUY90_2639SD002.dgn 11/9/2017 1:40:43 PM malloym

DESIGN AGENCY
KS Associates Inc.
260 BURNS ROAD, ELYRIA, OHIO 44035

DESIGNED	DRAWN	REVIEWED	DATE
RAP	RAP	MJM	01/09/17
CHECKED	REVISED	STRUCTURE FILE NUMBER	
MEM		1808850	

BRIDGE SUPERSTRUCTURE DETAILS - 3

BRIDGE NO. CUY-90-2639
I-90 OVER NEFF ROAD

CUY-90-26.16/VAR
PID No. 87628

DECK SCREED ELEVATION TABLE - CUY-90-2639 EASTBOUND

ELEVATION LOCATON		SPAN 1					SPAN 2				SPAN 3				SPAN 4			
		CL BEARING REAR ABUT.	1/4 SPAN	1/2 SPAN	3/4 SPAN	CL PIER 1	1/4 SPAN	1/2 SPAN	3/4 SPAN	CL PIER 2	1/4 SPAN	1/2 SPAN	3/4 SPAN	CL PIER 3	1/4 SPAN	1/2 SPAN	3/4 SPAN	CL BEARING FWD. ABUT.
OUTSIDE GUTTER FINAL TOP DECK ELEVATION		626.24	626.23	626.21	626.18	626.16	626.12	626.07	626.02	625.96	625.90	625.83	625.75	625.67	625.62	625.57	625.54	625.46
OUTSIDE GUTTER DECK SCREED ELEVATION		626.24				626.16				625.96				625.67				625.46
BEAM A	* ELEV. AFTER DECK REMOVAL	----------				----------				----------				----------				----------
	* ELEV. BEFORE DECK REMOVAL	----------				----------				----------				----------				----------
	** SURVEYED REBOUND	----------				----------				----------				----------				----------
	*** ADJUSTED REBOUND	----------				----------				----------				----------				----------
	FINAL TOP OF DECK ELEVATION	626.27	626.26	626.24	626.21	626.19	626.15	626.10	626.04	625.99	625.92	625.85	625.78	625.70	625.65	625.60	625.54	625.49
	**** DECK SCREED ELEVATION	626.27				626.19				625.99				625.70				625.49
BEAM B	* ELEV. AFTER DECK REMOVAL	----------				----------				----------				----------				----------
	* ELEV. BEFORE DECK REMOVAL	----------				----------				----------				----------				----------
	** SURVEYED REBOUND	----------				----------				----------				----------				----------
	*** ADJUSTED REBOUND	----------				----------				----------				----------				----------
	FINAL TOP OF DECK ELEVATION	626.66	626.64	626.62	626.60	626.58	626.54	626.49	626.43	626.37	626.31	626.24	626.17	626.09	626.04	625.99	625.94	625.88
	**** DECK SCREED ELEVATION	626.66				626.58				626.37				626.09				625.88
BEAM C	* ELEV. AFTER DECK REMOVAL	----------				----------				----------				----------				----------
	* ELEV. BEFORE DECK REMOVAL	----------				----------				----------				----------				----------
	** SURVEYED REBOUND	----------				----------				----------				----------				----------
	*** ADJUSTED REBOUND	----------				----------				----------				----------				----------
	FINAL TOP OF DECK ELEVATION	626.57	626.55	626.54	626.51	626.49	626.45	626.41	626.36	626.30	626.24	626.17	626.10	626.02	625.97	625.92	625.87	625.81
	**** DECK SCREED ELEVATION	626.57				626.49				626.30				626.02				625.81
BEAM D	* ELEV. AFTER DECK REMOVAL	----------				----------				----------				----------				----------
	* ELEV. BEFORE DECK REMOVAL	----------				----------				----------				----------				----------
	** SURVEYED REBOUND	----------				----------				----------				----------				----------
	*** ADJUSTED REBOUND	----------				----------				----------				----------				----------
	FINAL TOP OF DECK ELEVATION	626.42	626.41	626.39	626.37	626.35	626.31	626.26	626.21	626.16	626.10	626.03	625.96	625.88	625.83	625.78	625.73	625.67
	**** DECK SCREED ELEVATION	626.42				626.35				626.16				625.88				625.67
BEAM E	* ELEV. AFTER DECK REMOVAL	----------				----------				----------				----------				----------
	* ELEV. BEFORE DECK REMOVAL	----------				----------				----------				----------				----------
	** SURVEYED REBOUND	----------				----------				----------				----------				----------
	*** ADJUSTED REBOUND	----------				----------				----------				----------				----------
	FINAL TOP OF DECK ELEVATION	626.27	626.26	626.24	626.22	626.20	626.16	626.12	626.07	626.01	625.95	625.89	625.82	625.74	625.69	625.64	625.59	625.54
	**** DECK SCREED ELEVATION	626.27				626.20				626.01				625.74				625.54
BEAM F	* ELEV. AFTER DECK REMOVAL	----------				----------				----------				----------				----------
	* ELEV. BEFORE DECK REMOVAL	----------				----------				----------				----------				----------
	** SURVEYED REBOUND	----------				----------				----------				----------				----------
	*** ADJUSTED REBOUND	----------				----------				----------				----------				----------
	FINAL TOP OF DECK ELEVATION	626.13	626.11	626.09	626.08	626.06	626.02	625.97	625.93	625.87	625.81	625.75	625.68	625.60	625.56	625.51	625.45	625.40
	**** DECK SCREED ELEVATION	626.13				626.06				625.87				625.60				625.40
BEAM G	* ELEV. AFTER DECK REMOVAL	----------				----------				----------				----------				----------
	* ELEV. BEFORE DECK REMOVAL	----------				----------				----------				----------				----------
	** SURVEYED REBOUND	----------				----------				----------				----------				----------
	*** ADJUSTED REBOUND	----------				----------				----------				----------				----------
	FINAL TOP OF DECK ELEVATION	625.98	625.96	625.95	625.93	625.91	625.87	625.83	625.78	625.73	625.67	625.61	625.54	625.46	625.42	625.37	625.32	625.26
	**** DECK SCREED ELEVATION	625.98				625.91				625.73				625.46				625.26
BEAM H	* ELEV. AFTER DECK REMOVAL	----------				----------				----------				----------				----------
	* ELEV. BEFORE DECK REMOVAL	----------				----------				----------				----------				----------
	** SURVEYED REBOUND	----------				----------				----------				----------				----------
	*** ADJUSTED REBOUND	----------				----------				----------				----------				----------
	FINAL TOP OF DECK ELEVATION	625.83	625.82	625.80	625.78	625.76	625.73	625.69	625.64	625.59	625.53	625.47	625.40	625.32	625.28	625.23	625.18	625.13
	**** DECK SCREED ELEVATION	625.83				625.76				625.59				625.32				625.13
EB MEDIAN GUTTER FINAL TOP DECK ELEVATION		625.83	625.81	625.80	625.78	625.76	625.72	625.68	625.63	625.58	625.52	625.46	625.39	625.32	625.27	625.22	625.17	625.12
EB MEDIAN GUTTER DECK SCREED ELEVATION		625.83				625.76				625.58				625.32				625.12

* BOTTOM OF BEAM ELEVATION SURVEYED DURING CONSTRUCTION.
** SURVEYED REBOUND = BEAM ELEVATIONS BEFORE DECK REMOVAL MINUS BEAM ELEVATION AFTER DECK REMOVAL.
*** ADJUSTED REBOUND = RATIO OF PROPOSED DEAD LOAD TO EXISTING DEAD LOAD (PROVIDED BY DESIGNER) MULTIPLIED BY THE SURVEYED REBOUND.
**** DECK SCREED ELEVATION = ADJUSTED REBOUND ADDED TO THE FINAL TOP OF DECK ELEVATION.

ANTICIPATED DRY RUN DISTANCES CAN BE OBTAINED BY ADDING THE ADJUSTED REBOUND TO THE ANTICIPATED DECK SLAB DEPTHS.
RATIO OF PROPOSED DEAD LOAD TO EXISTING DEAD LOAD = 0.71 DECK THICKNESS FROM CORES (IN) 12.25 DESIGN DECK THICKNESS (IN) 8.75

ANTICIPATED DECK SLAB DEPTHS (INCHES) - CUY-90-2639 EASTBOUND

LOCATON	SPAN 1					SPAN 2				SPAN 3				SPAN 4				
	CL BEARING REAR ABUT.	1/4 SPAN	1/2 SPAN	3/4 SPAN	CL PIER 1	1/4 SPAN	1/2 SPAN	3/4 SPAN	CL PIER 2	1/4 SPAN	1/2 SPAN	3/4 SPAN	CL PIER 3	1/4 SPAN	1/2 SPAN	3/4 SPAN	CL BEARING FWD. ABUT.
BEAM A	12.50	12.75	13.00	13.25	13.25	13.50	13.50	13.25	13.40	13.50	13.50	13.25	13.25	13.25	13.00	13.00	12.75
BEAM B	12.50	13.00	13.25	13.50	14.00	14.00	14.00	14.00	13.97	14.00	14.25	14.25	14.00	13.75	13.75	12.75	12.50
BEAM C	13.00	13.50	14.00	14.25	14.75	14.75	14.75	14.75	14.88	15.00	15.00	15.75	15.00	14.50	14.00	13.50	13.00
BEAM D	13.50	13.75	14.00	14.25	14.50	14.75	14.75	14.75	14.72	14.75	14.75	14.75	14.75	14.50	14.00	13.75	13.50
BEAM E	13.25	13.50	14.00	14.25	14.50	14.75	14.75	14.75	14.57	14.75	14.75	14.75	14.75	14.50	14.25	13.75	13.50
BEAM F	13.00	13.50	13.75	14.25	14.50	14.50	14.50	14.50	14.52	14.75	14.75	14.75	14.50	14.50	14.25	14.00	13.50
BEAM G	12.75	13.50	13.75	14.25	14.75	14.75	14.75	14.75	14.63	14.75	14.75	14.75	14.50	14.50	14.25	14.00	13.75
BEAM H	12.75	13.25	13.75	14.00	14.50	14.50	14.75	14.75	14.71	14.75	14.75	14.50	14.25	14.25	14.00	14.00	13.75

SCREED ELEVATIONS: FIELD PROCEDURE

DURING PHASED CONSTRUCTION OF DECKS WITHOUT CLOSURE POURS.

1. SURVEY THE BOTTOM OF THE EXISTING BEAM IN PHASE 1 AT THE LOCATION SHOWN IN THE TABLE PRIOR TO PHASE 1 DECK REMOVAL AND AFTER PHASE 1 DECK REMOVAL.

2. COMPUTE THE AMOUNT OF SURVEYED REBOUND FOR THESE BEAMS BY SUBTRACTING THE ELEVATIONS AFTER REMOVAL FROM THE ELEVATIONS BEFORE REMOVAL.

3. COMPUTE THE ADJUSTED REBOUND FOR THESE BEAMS BY MULTIPLYING THE SURVEYED REBOUND BY THE RATIO OF THE PROPOSED DEAD LOAD.

4. ADD THE AMOUNT OF ADJUSTED REBOUND TO THE FINAL TOP OF DECK ELEVATIONS TO OBTAIN THE DECK SCREED ELEVATIONS. USE THE REBOUND OF THE CLOSEST BEAM TO DETERMINE GUTTER DECK SCREED ELEVATION.

5. AFTER PHASE 1 DECK PLACEMENT, REPEAT STEPS 1 THRU 4 FOR THE REMAINING BEAMS PRIOR TO AND AFTER THE PHASE 2 REMOVAL.

NOTES:

1. DECK SLAB DEPTH, THE QUANTITY OF DECK SLAB CONCRETE TO BE PAID FOR SHALL BE BASED ON THE MINIMUM REQUIRED DECK SLAB THICKNESS OF 8 3/4 INCHES PLUS THE HAUNCH CONCRETE. THE QUANTITY OF CONCRETE REQUIRED FOR THE HAUNCH SHALL BE BASED ON THE DESIGN HAUNCH OF 2 INCHES EVEN THOUGH DEVIATIONS FROM THAT DEPTH MAY BE NECESSARY BECAUSE THE TOP FLANGE OF THE BEAM MAY NOT BE PARALLEL TO THE FINISHED GRADE. ACTUAL HAUNCH DEPTHS MAY VARY FROM 3 3/4 INCH MINIMUM TO A 7 3/4 INCH MAXIMUM.

2. THE HAUNCH WIDTH OF 9 INCHES SHALL BE USED FOR COMPUTING QUANTITY OF CONCRETE. HOWEVER, THE HAUNCH WITH MAY VARY BETWEEN 6 AND 12 INCHES.

3. THE COST OF SURVEYING IS CONSIDERED INCIDENTAL TO DECK CONSTRUCTION AND SHALL BE INCLUDED WITH ITEM 511 - CLASS QC2 CONCRETE WITH QC/QA, BRIDGE DECK, AS PER PLAN

DESIGN AGENCY
KS Associates Inc.
260 BURNS ROAD, ELYRIA, OHIO 44035

DESIGNED MTG | DRAWN MTG | REVIEWED RAP | DATE 01/09/17
CHECKED MJM | REVISED | STRUCTURE FILE NUMBER 1808850

SCREED TABLE - 1
BRIDGE NO. CUY-90-2639
I-90 OVER NEFF ROAD

CUY-90-26.16/VAR
PID No. 87628

24 / 37

173
222

R:\14000\14035\87628\structures\sheets\CUY90_2639\CUY90_2639SD003.dgn 11/9/2017 1:40:44 PM malloym

DECK SCREED ELEVATION TABLE - CUY-90-263916 WESTBOUND

ELEVATION LOCATON		SPAN 1				SPAN 2				SPAN 3				SPAN 4				
		CL BEARING REAR ABUT.	1/4 SPAN	1/2 SPAN	3/4 SPAN	CL PIER 1	1/4 SPAN	1/2 SPAN	3/4 SPAN	CL PIER 2	1/4 SPAN	1/2 SPAN	3/4 SPAN	CL PIER 3	1/4 SPAN	1/2 SPAN	3/4 SPAN	CL BEARING FWD. ABUT.
WB MEDIAN GUTTER FINAL TOP DECK ELEVATION		625.63	625.62	625.60	625.58	625.56	625.53	625.49	625.44	625.39	625.33	625.27	625.20	625.13	625.08	625.03	624.98	624.93
WB MEDIAN GUTTER DECK SCREED ELEVATION		625.63				625.56				625.39				625.13				624.93
BEAM J	* ELEV. AFTER DECK REMOVAL	----------				----------				----------				----------				----------
	* ELEV. BEFORE DECK REMOVAL	----------				----------				----------				----------				----------
	** SURVEYED REBOUND	----------				----------				----------				----------				----------
	*** ADJUSTED REBOUND	----------				----------				----------				----------				----------
	FINAL TOP OF DECK ELEVATION	625.65	625.64	625.62	625.61	625.58	625.55	625.51	625.46	625.40	625.35	625.29	625.22	625.15	625.10	625.05	625.00	624.95
	**** DECK SCREED ELEVATION	625.65				625.58				625.40				625.15				624.95
BEAM K	* ELEV. AFTER DECK REMOVAL	----------				----------				----------				----------				----------
	* ELEV. BEFORE DECK REMOVAL	----------				----------				----------				----------				----------
	** SURVEYED REBOUND	----------				----------				----------				----------				----------
	*** ADJUSTED REBOUND	----------				----------				----------				----------				----------
	FINAL TOP OF DECK ELEVATION	625.92	625.91	625.90	625.88	625.86	625.83	625.79	625.74	625.69	625.63	625.57	625.51	625.43	625.39	625.34	625.29	625.24
	**** DECK SCREED ELEVATION	625.92				625.86				625.69				625.43				625.24
BEAM M	* ELEV. AFTER DECK REMOVAL	----------				----------				----------				----------				----------
	* ELEV. BEFORE DECK REMOVAL	----------				----------				----------				----------				----------
	** SURVEYED REBOUND	----------				----------				----------				----------				----------
	*** ADJUSTED REBOUND	----------				----------				----------				----------				----------
	FINAL TOP OF DECK ELEVATION	625.77	625.76	625.74	625.73	625.71	625.68	625.64	625.59	625.54	625.49	625.43	625.36	625.29	625.24	625.20	625.15	625.09
	**** DECK SCREED ELEVATION	625.77				625.71				625.54				625.29				625.09
BEAM N	* ELEV. AFTER DECK REMOVAL	----------				----------				----------				----------				----------
	* ELEV. BEFORE DECK REMOVAL	----------				----------				----------				----------				----------
	** SURVEYED REBOUND	----------				----------				----------				----------				----------
	*** ADJUSTED REBOUND	----------				----------				----------				----------				----------
	FINAL TOP OF DECK ELEVATION	625.62	625.60	625.59	625.58	625.56	625.52	625.49	625.44	625.39	625.34	625.28	625.21	625.14	625.10	625.05	625.00	624.95
	**** DECK SCREED ELEVATION	625.62				625.56				625.39				625.14				624.95
BEAM P	* ELEV. AFTER DECK REMOVAL	----------				----------				----------				----------				----------
	* ELEV. BEFORE DECK REMOVAL	----------				----------				----------				----------				----------
	** SURVEYED REBOUND	----------				----------				----------				----------				----------
	*** ADJUSTED REBOUND	----------				----------				----------				----------				----------
	FINAL TOP OF DECK ELEVATION	625.46	625.45	625.44	625.42	625.40	625.37	625.34	625.29	625.24	625.19	625.13	625.07	625.00	624.95	624.91	624.86	624.81
	**** DECK SCREED ELEVATION	625.46				625.40				625.24				625.00				624.81
BEAM R	* ELEV. AFTER DECK REMOVAL	----------				----------				----------				----------				----------
	* ELEV. BEFORE DECK REMOVAL	----------				----------				----------				----------				----------
	** SURVEYED REBOUND	----------				----------				----------				----------				----------
	*** ADJUSTED REBOUND	----------				----------				----------				----------				----------
	FINAL TOP OF DECK ELEVATION	625.31	625.30	625.28	625.27	625.25	625.22	625.19	625.14	625.10	625.04	624.99	624.92	624.85	624.81	624.76	624.72	624.66
	**** DECK SCREED ELEVATION	625.31				625.25				625.10				624.85				624.66
BEAM S	* ELEV. AFTER DECK REMOVAL	----------				----------				----------				----------				----------
	* ELEV. BEFORE DECK REMOVAL	----------				----------				----------				----------				----------
	** SURVEYED REBOUND	----------				----------				----------				----------				----------
	*** ADJUSTED REBOUND	----------				----------				----------				----------				----------
	FINAL TOP OF DECK ELEVATION	625.15	625.14	625.13	625.12	625.10	625.07	625.03	624.99	624.95	624.89	624.84	624.77	624.71	624.66	624.62	624.57	624.52
	**** DECK SCREED ELEVATION	625.15				625.10				624.95				624.71				624.52
BEAM T	* ELEV. AFTER DECK REMOVAL	----------				----------				----------				----------				----------
	* ELEV. BEFORE DECK REMOVAL	----------				----------				----------				----------				----------
	** SURVEYED REBOUND	----------				----------				----------				----------				----------
	*** ADJUSTED REBOUND	----------				----------				----------				----------				----------
	FINAL TOP OF DECK ELEVATION	625.00	624.99	624.98	624.96	624.95	624.92	624.88	624.84	624.80	624.75	624.69	624.63	624.56	624.52	624.47	624.43	624.38
	**** DECK SCREED ELEVATION	625.00				624.95				624.80				624.56				624.38
BEAM V	* ELEV. AFTER DECK REMOVAL	----------				----------				----------				----------				----------
	* ELEV. BEFORE DECK REMOVAL	----------				----------				----------				----------				----------
	** SURVEYED REBOUND	----------				----------				----------				----------				----------
	*** ADJUSTED REBOUND	----------				----------				----------				----------				----------
	FINAL TOP OF DECK ELEVATION	624.84	624.84	624.82	624.81	624.80	624.77	624.73	624.69	624.65	624.60	624.54	624.48	624.42	624.37	624.33	624.28	624.23
	**** DECK SCREED ELEVATION	624.84				624.80				624.65				624.42				624.23
OUTSIDE GUTTER FINAL TOP DECK ELEVATION		624.84	624.83	624.82	624.81	624.79	624.76	624.73	624.69	624.64	624.59	624.54	624.48	624.41	624.37	624.32	624.28	624.23
OUTSIDE GUTTER DECK SCREED ELEVATION		624.84				624.79				624.64				624.41				624.23

* BOTTOM OF BEAM ELEVATION SURVEYED DURING CONSTRUCTION.
** SURVEYED REBOUND = BEAM ELEVATIONS BEFORE DECK REMOVAL MINUS BEAM ELEVATION AFTER DECK REMOVAL.
*** ADJUSTED REBOUND = RATIO OF PROPOSED DEAD LOAD TO EXISTING DEAD LOAD (PROVIDED BY DESIGNER) MULTIPLIED BY THE SURVEYED REBOUND.
**** DECK SCREED ELEVATION = ADJUSTED REBOUND ADDED TO THE FINAL TOP OF DECK ELEVATION.

ANTICIPATED DRY RUN DISTANCES CAN BE OBTAINED BY ADDING THE ADJUSTED REBOUND TO THE ANTICIPATED DECK SLAB DEPTHS.
RATIO OF PROPOSED DEAD LOAD TO EXISTING DEAD LOAD = 0.77 DECK THICKNESS FROM CORES (IN) 11.75 DESIGN DECK THICKNESS (IN) 9

ANTICIPATED DECK SLAB DEPTHS (INCHES) - CUY-90-2639 WESTBOUND

LOCATON	SPAN 1				SPAN 2				SPAN 3				SPAN 4				
	CL BEARING REAR ABUT.	1/4 SPAN	1/2 SPAN	3/4 SPAN	CL PIER 1	1/4 SPAN	1/2 SPAN	3/4 SPAN	CL PIER 2	1/4 SPAN	1/2 SPAN	3/4 SPAN	CL PIER 3	1/4 SPAN	1/2 SPAN	3/4 SPAN	CL BEARING FWD. ABUT.
BEAM J	11.00	11.50	11.75	12.00	12.25	12.50	12.50	12.50	12.50	12.50	12.75	12.75	12.75	12.75	12.50	12.25	12.00
BEAM K	13.00	13.50	13.75	14.25	14.50	14.75	15.00	15.00	15.25	15.25	15.25	15.00	15.00	14.75	14.50	14.25	14.00
BEAM M	13.00	13.25	14.00	14.25	14.75	14.75	15.00	15.00	15.00	15.25	15.25	15.00	15.00	14.75	14.50	14.25	13.75
BEAM N	13.00	13.50	14.00	14.50	15.00	15.00	15.25	15.25	15.25	15.25	15.25	15.25	15.00	14.75	14.50	14.00	13.50
BEAM P	12.75	13.25	13.75	14.00	14.50	14.75	15.00	15.00	15.00	15.00	15.00	15.00	14.75	14.50	14.00	13.50	13.00
BEAM R	12.75	13.25	13.50	14.00	14.25	14.50	14.75	15.25	15.25	15.25	15.00	15.00	14.75	14.25	13.75	13.00	12.50
BEAM S	12.50	13.25	13.75	14.25	14.75	15.00	15.00	15.00	15.00	15.25	15.00	15.00	15.00	14.25	13.50	12.75	12.00
BEAM T	12.75	13.25	13.75	14.25	14.50	14.75	15.00	15.25	15.25	15.25	15.00	15.00	15.00	14.25	13.50	12.75	12.25
BEAM V	13.50	13.75	14.00	13.75	14.50	14.50	14.75	15.00	15.00	15.00	15.00	14.75	14.50	14.25	13.75	13.50	12.75

SCREED ELEVATIONS: FIELD PROCEDURE
DURING PHASED CONSTRUCTION OF DECKS WITHOUT CLOSURE POURS.

1. SURVEY THE BOTTOM OF THE EXISTING BEAM IN PHASE 1 AT THE LOCATION SHOWN IN THE TABLE PRIOR TO PHASE 1 DECK REMOVAL AND AFTER PHASE 1 DECK REMOVAL.

2. COMPUTE THE AMOUNT OF SURVEYED REBOUND FOR THESE BEAMS BY SUBTRACTING THE ELEVATIONS AFTER REMOVAL FROM THE ELEVATIONS BEFORE REMOVAL.

3. COMPUTE THE ADJUSTED REBOUND FOR THESE BEAMS BY MULTIPLYING THE SURVEYED REBOUND BY THE RATIO OF THE PROPOSED DEAD LOAD.

4. ADD THE AMOUNT OF ADJUSTED REBOUND TO THE FINAL TOP OF DECK ELEVATIONS TO OBTAIN THE DECK SCREED ELEVATIONS. USE THE REBOUND OF THE CLOSEST BEAM TO DETERMINE GUTTER DECK SCREED ELEVATION.

5. AFTER PHASE 1 DECK PLACEMENT, REPEAT STEPS 1 THRU 4 FOR THE REMAINING BEAMS PRIOR TO AND AFTER THE PHASE 2 REMOVAL.

NOTES:

1. DECK SLAB DEPTH, THE QUANTITY OF DECK SLAB CONCRETE TO BE PAID FOR SHALL BE BASED ON THE MINIMUM REQUIRED DECK SLAB THICKNESS OF 9 INCHES PLUS THE HAUNCH CONCRETE. THE QUANTITY OF CONCRETE REQUIRED FOR THE HAUNCH SHALL BE BASED ON THE DESIGN HAUNCH OF 2 INCHES EVEN THOUGH DEVIATIONS FROM THAT DEPTH MAY BE NECESSARY BECAUSE THE TOP FLANGE OF THE BEAM MAY NOT BE PARALLEL TO THE FINISHED GRADE. ACTUAL HAUNCH DEPTHS MAY VARY FROM 2 INCH MINIMUM TO A 6 1/4 INCH MAXIMUM.

2. THE HAUNCH WIDTH OF 9 INCHES SHALL BE USED FOR COMPUTING QUANTITY OF CONCRETE. HOWEVER, THE HAUNCH WITH MAY VARY BETWEEN 6 AND 12 INCHES.

3. THE COST OF SURVEYING IS CONSIDERED INCIDENTAL TO DECK CONSTRUCTION AND SHALL BE INCLUDED WITH ITEM 511 - CLASS QC2 CONCRETE WITH QC/QA, BRIDGE DECK, AS PER PLAN

DESIGN AGENCY
KS Associates Inc.
260 BURNS ROAD, ELYRIA, OHIO 44035

DESIGNED	DRAWN	REVIEWED	DATE
MTG	MTG	RAP	01/09/17

CHECKED	REVISED	STRUCTURE FILE NUMBER
MJM		1808850

SCREED TABLE - 2
BRIDGE NO. CUY-90-2639
I-90 OVER NEFF ROAD

CUY-90-26.16/VAR
PID No. 87628

25 / 37

174
222

R:\14000\14035\87628\structures\sheets\CUY90_2639\CUY90_2639SD004.dgn 11/9/2017 1:40:47 PM malloym

DECK STATION / OFFSET TABLE - CUY-90-2639

BEAM		REAR ABUTMENT	1/4 SPAN	1/2 SPAN	3/4 SPAN	PIER 1	1/4 SPAN	1/2 SPAN	3/4 SPAN	PIER 2	1/4 SPAN	1/2 SPAN	3/4 SPAN	PIER 3	1/4 SPAN	1/2 SPAN	3/4 SPAN	FORWARD ABUTMENT
A	STATION	268+33.39	268+44.71	268+56.04	268+67.37	268+78.69	268+97.44	269+16.19	269+34.94	269+53.68	269+72.43	269+91.18	270+09.92	270+28.73	270+40.02	270+51.32	270+62.64	270+73.96
	OFFSET	68.53	68.57	68.60	68.64	68.67	68.66	68.65	68.65	68.64	68.68	68.71	68.75	68.78	68.76	68.73	68.70	68.68
B	STATION	268+30.35	268+41.67	268+52.98	268+64.30	268+75.62	268+94.38	269+13.14	269+31.91	269+50.67	269+69.41	269+88.14	270+06.88	270+25.68	270+36.98	270+48.27	270+59.60	270+70.93
	OFFSET	59.05	59.05	59.06	59.06	59.07	59.11	59.14	59.18	59.22	59.23	59.23	59.24	59.25	59.24	59.23	59.22	59.21
C	STATION	268+27.31	268+38.63	268+49.95	268+61.27	268+72.59	268+91.35	269+10.11	269+28.87	269+47.63	269+66.37	269+85.10	270+03.84	270+22.63	270+33.93	270+45.23	270+56.56	270+67.89
	OFFSET	49.55	49.56	49.58	49.59	49.61	49.64	49.67	49.71	49.74	49.74	49.74	49.74	49.74	49.74	49.73	49.72	49.72
D	STATION	268+24.28	268+35.60	268+46.91	268+58.23	268+69.55	268+88.31	269+07.07	269+25.83	269+44.59	269+63.33	269+82.06	270+00.79	270+19.59	270+30.89	270+42.20	270+53.53	270+64.86
	OFFSET	40.09	40.09	40.10	40.10	40.10	40.14	40.17	40.21	40.24	40.24	40.24	40.23	40.23	40.24	40.25	40.26	40.28
E	STATION	268+21.23	268+32.55	268+43.88	268+55.20	268+66.53	268+85.28	269+04.04	269+22.80	269+41.55	269+60.29	269+79.02	269+97.76	270+16.56	270+27.85	270+39.15	270+50.48	270+61.81
	OFFSET	30.57	30.60	30.62	30.65	30.67	30.69	30.71	30.73	30.75	30.76	30.76	30.76	30.76	30.76	30.75	30.75	30.74
F	STATION	268+18.19	268+29.52	268+40.84	268+52.16	268+63.48	268+82.23	269+00.98	269+19.74	269+38.49	269+57.23	269+75.97	269+94.71	270+13.51	270+24.82	270+36.12	270+47.45	270+58.78
	OFFSET	21.09	21.11	21.13	21.15	21.17	21.17	21.17	21.18	21.18	21.20	21.22	21.24	21.26	21.27	21.27	21.28	21.28
G	STATION	268+15.15	268+26.48	268+37.81	268+49.14	268+60.46	268+79.22	268+97.97	269+16.72	269+35.47	269+54.21	269+72.95	269+91.68	270+10.48	270+21.78	270+33.09	270+44.42	270+55.75
	OFFSET	11.59	11.62	11.66	11.70	11.74	11.75	11.75	11.76	11.77	11.77	11.78	11.78	11.78	11.79	11.80	11.81	11.82
H	STATION	268+12.12	268+23.44	268+34.76	268+46.07	268+57.39	268+76.15	268+94.91	269+13.67	269+32.43	269+51.16	269+69.90	269+88.63	270+07.42	270+18.73	270+30.04	270+41.38	270+52.72
	OFFSET	2.12	2.12	2.13	2.14	2.15	2.18	2.21	2.23	2.26	2.26	2.25	2.24	2.24	2.26	2.29	2.31	2.34
J	STATION	268+10.67	268+21.99	268+33.31	268+44.63	268+55.95	268+74.71	268+93.47	269+12.22	269+30.98	269+49.71	269+68.44	269+87.17	270+05.96	270+17.26	270+28.57	270+39.90	270+51.23
	OFFSET	-2.42	-2.40	-2.38	-2.37	-2.35	-2.32	-2.30	-2.28	-2.26	-2.28	-2.29	-2.31	-2.32	-2.31	-2.31	-2.30	-2.29
K	STATION	268+07.52	268+18.85	268+30.17	268+41.49	268+52.81	268+71.56	268+90.32	269+09.07	269+27.83	269+46.57	269+65.31	269+84.04	270+02.84	270+14.14	270+25.43	270+36.75	270+48.08
	OFFSET	-12.23	-12.22	-12.20	-12.19	-12.17	-12.15	-12.14	-12.12	-12.10	-12.09	-12.09	-12.08	-12.07	-12.09	-12.11	-12.12	-12.14
M	STATION	268+04.38	268+15.70	268+27.01	268+38.33	268+49.64	268+68.41	268+87.17	269+05.93	269+24.70	269+43.43	269+62.16	269+80.89	269+99.68	270+10.98	270+22.28	270+33.61	270+44.94
	OFFSET	-22.06	-22.05	-22.05	-22.05	-22.05	-22.01	-21.97	-21.92	-21.88	-21.89	-21.90	-21.91	-21.92	-21.93	-21.94	-21.94	-21.95
N	STATION	268+01.23	268+12.55	268+23.87	268+35.19	268+46.50	268+65.26	268+84.02	269+02.78	269+21.54	269+40.28	269+59.02	269+77.75	269+96.55	270+07.85	270+19.15	270+30.47	270+41.80
	OFFSET	-31.88	-31.87	-31.87	-31.86	-31.85	-31.83	-31.80	-31.77	-31.74	-31.74	-31.73	-31.72	-31.71	-31.72	-31.73	-31.74	-31.74
P	STATION	267+98.08	268+09.40	268+20.71	268+32.03	268+43.34	268+62.10	268+80.87	268+99.63	269+18.39	269+37.12	269+55.86	269+74.59	269+93.39	270+04.69	270+15.99	270+27.33	270+38.66
	OFFSET	-41.72	-41.72	-41.73	-41.73	-41.73	-41.69	-41.66	-41.62	-41.58	-41.58	-41.59	-41.59	-41.59	-41.58	-41.58	-41.57	-41.56
R	STATION	267+94.95	268+06.26	268+17.58	268+28.90	268+40.22	268+58.97	268+77.73	268+96.49	269+15.25	269+33.98	269+52.71	269+71.45	269+90.24	270+01.54	270+12.84	270+24.16	270+35.49
	OFFSET	-51.51	-51.51	-51.50	-51.50	-51.50	-51.47	-51.45	-51.42	-51.40	-51.40	-51.41	-51.41	-51.42	-51.43	-51.43	-51.44	-51.45
S	STATION	267+91.79	268+03.11	268+14.43	268+25.75	268+37.06	268+55.82	268+74.57	268+93.33	269+12.08	269+30.82	269+49.56	269+68.29	269+87.09	269+98.39	270+09.70	270+21.03	270+32.36
	OFFSET	-61.36	-61.36	-61.35	-61.34	-61.34	-61.32	-61.31	-61.29	-61.27	-61.27	-61.27	-61.26	-61.26	-61.25	-61.24	-61.23	-61.22
T	STATION	267+88.66	267+99.97	268+11.28	268+22.60	268+33.91	268+52.67	268+71.43	268+90.19	269+08.95	269+27.68	269+46.42	269+65.15	269+83.94	269+95.25	270+06.55	270+17.88	270+29.21
	OFFSET	-71.15	-71.16	-71.17	-71.17	-71.18	-71.15	-71.12	-71.10	-71.07	-71.07	-71.08	-71.08	-71.08	-71.08	-71.07	-71.07	-71.07
V	STATION	267+85.50	267+96.82	268+08.14	268+19.45	268+30.77	268+49.53	268+68.29	268+87.05	269+05.81	269+24.54	269+43.26	269+61.99	269+80.78	269+92.08	270+03.38	270+14.71	270+26.04
	OFFSET	-81.01	-81.00	-81.00	-81.00	-80.99	-80.96	-80.93	-80.90	-80.88	-80.90	-80.92	-80.95	-80.97	-80.97	-80.97	-80.97	-80.97

NOTES:

1. OFFSETS ARE FROM CENTERLINE OF CONSTRUCTION

2. ALL STATION AND OFFSETS FOR EXISTING BEAMS ARE ±

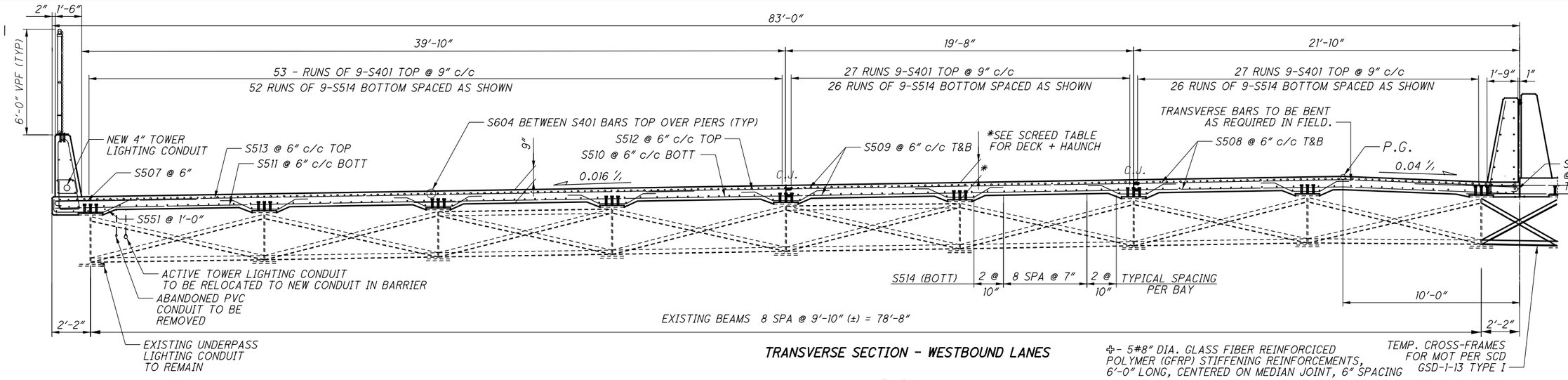
DESIGN AGENCY
KS Associates Inc.
260 BURNS ROAD, ELYRIA, OHIO 44035

REVIEWED RAP DATE 12/07/16
STRUCTURE FILE NUMBER 1808850

DRAWN MTG REVISED
DESIGNED MTG CHECKED MJM

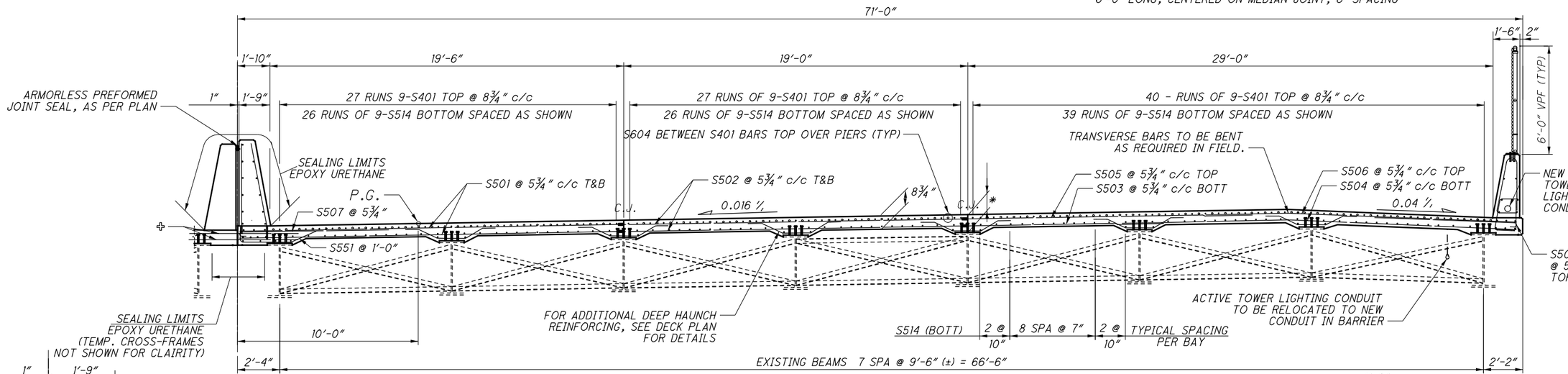
SCREED TABLE - 3
BRIDGE NO. CUY-90-2639
I-90 OVER NEFF ROAD

CUY-90-26.16 / VAR
PID No. 87628

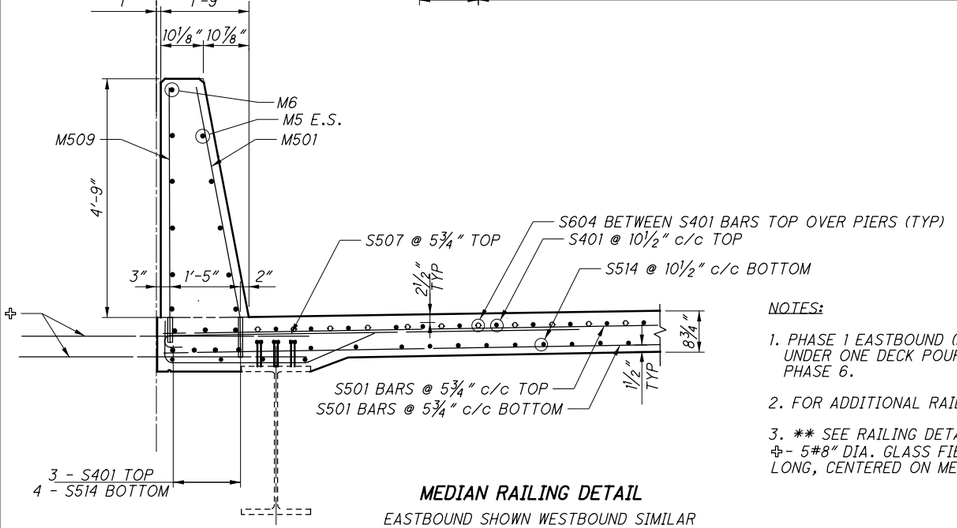


TRANSVERSE SECTION - WESTBOUND LANES

✣ - 5#8" DIA. GLASS FIBER REINFORCICED POLYMER (GFRP) STIFFENING REINFORCEMENTS, 6'-0" LONG, CENTERED ON MEDIAN JOINT, 6" SPACING



TRANSVERSE SECTION - EASTBOUND LANES

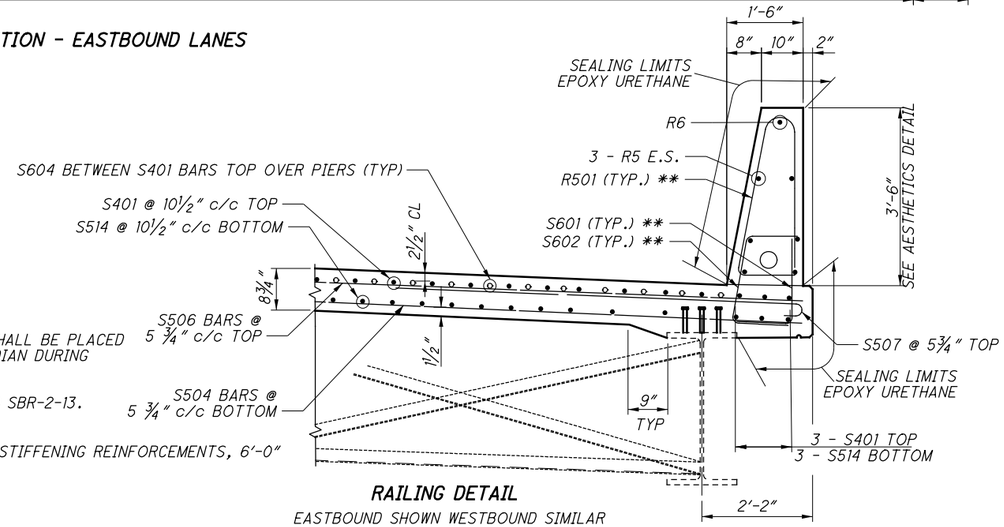


MEDIAN RAILING DETAIL

EASTBOUND SHOWN WESTBOUND SIMILAR

NOTES:

1. PHASE 1 EASTBOUND (EB) AND PHASE 1 WESTBOUND (WB) SHALL BE PLACED UNDER ONE DECK POUR. DECK SHALL BE SAW CUT AT MEDIAN DURING PHASE 6.
2. FOR ADDITIONAL RAILING DETAILS SEE SCD SBR-1-13 AND SBR-2-13.
3. ** SEE RAILING DETAIL FOR SPACING OF DECK BARS
✣ - 5#8" DIA. GLASS FIBER REINFORCICED POLYMER (GFRP) STIFFENING REINFORCEMENTS, 6'-0" LONG, CENTERED ON MEDIAN JOINT, 6" SPACING



RAILING DETAIL

EASTBOUND SHOWN WESTBOUND SIMILAR

DESIGN AGENCY	KS Associates Inc. 260 BURNS ROAD, ELYRIA, OHIO 44035
DESIGNED MEM	CHECKED MJM
DRAWN MEM	REVISED
REVIEWED ASW	DATE 01/09/17
STRUCTURE FILE NUMBER 1808850	

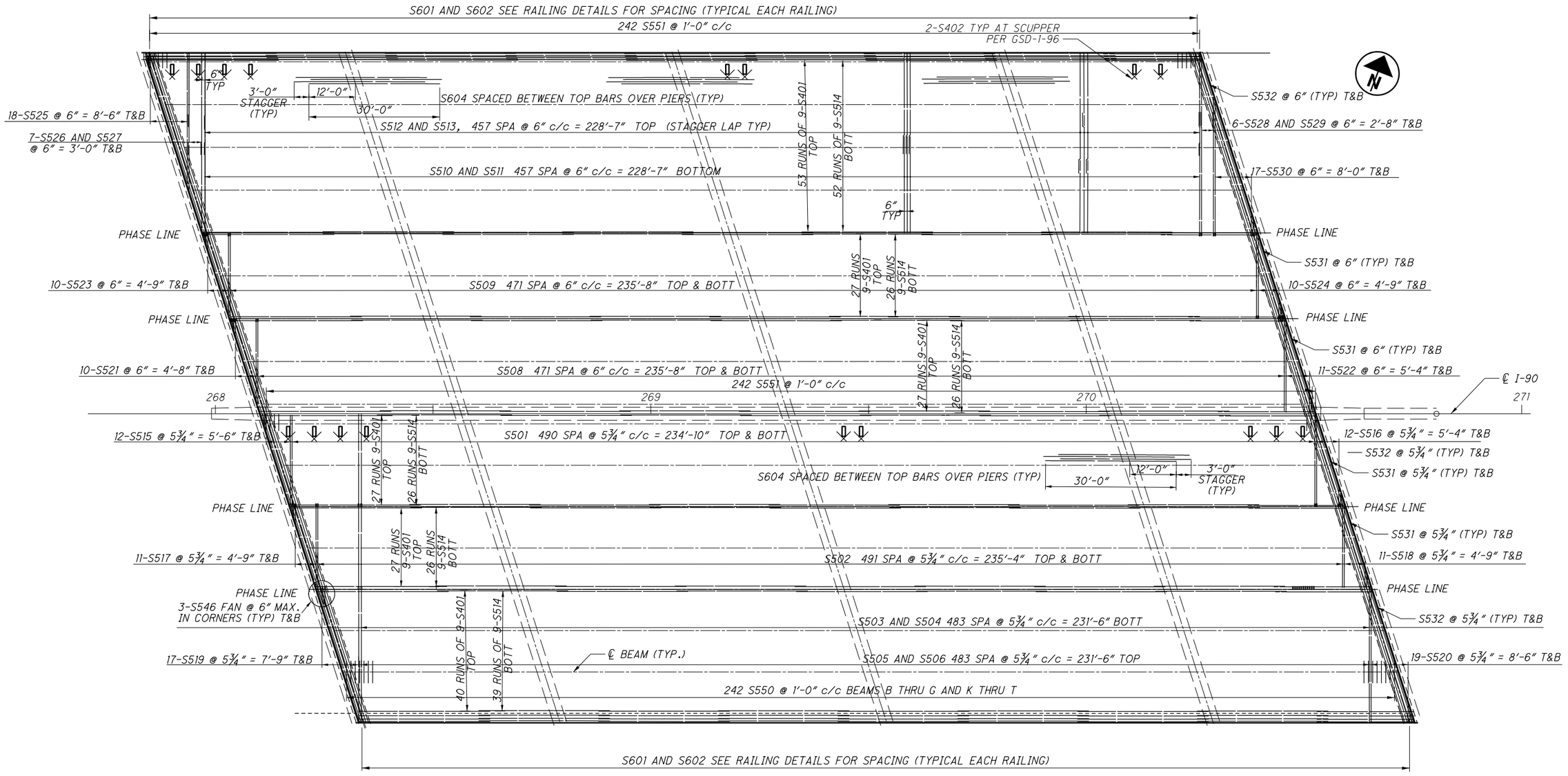
TRANSVERSE SECTION
BRIDGE NO. CUY-90-2639
I-90 OVER NEFF ROAD

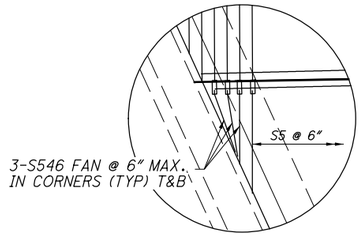
CUY-90-26.16/VAR
PID No. 87628

27 / 37

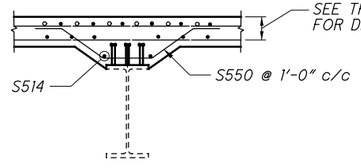
176 / 222

R:\14000\14035\87628\structures\sheets\CUY90_2639\CUY90_2639TS001.dgn 11/9/2017 1:40:52 PM molloym





REINFORCING STEEL AT CORNERS



ADDITIONAL DEEP HAUNCH REINFORCING DETAIL

NOTES:

1. SEE TYPICAL SECTION FOR SPACING OF BOTTOM REINFORCING.
2. MECHANICAL CONNECTORS TO BE USED AT ALL PHASE LINES.

DESIGN AGENCY
KS Associates Inc.
260 BURNS ROAD, ELYRIA, OHIO 44035

DESIGNED MEM | DRAWN MEM | REVIEWED ASW | DATE 01/09/17
CHECKED MJM | REVISED | STRUCTURE FILE NUMBER 1808850

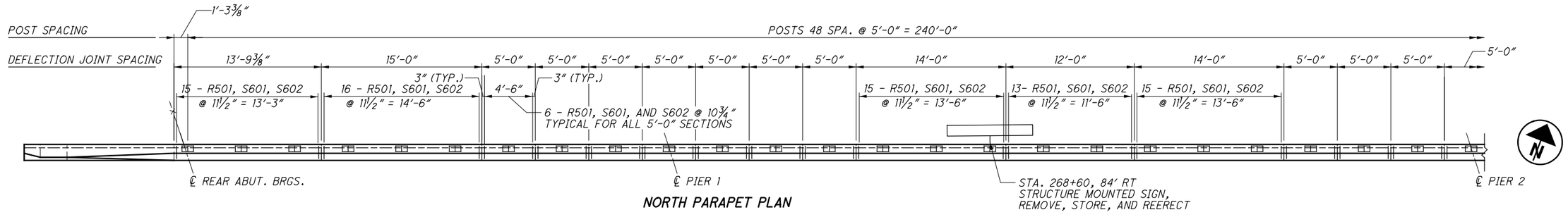
DECK PLAN
BRIDGE NO. CUY-90-2639
I-90 OVER NEFF ROAD

CUY-90-26.16/VAR
PID No. 87628

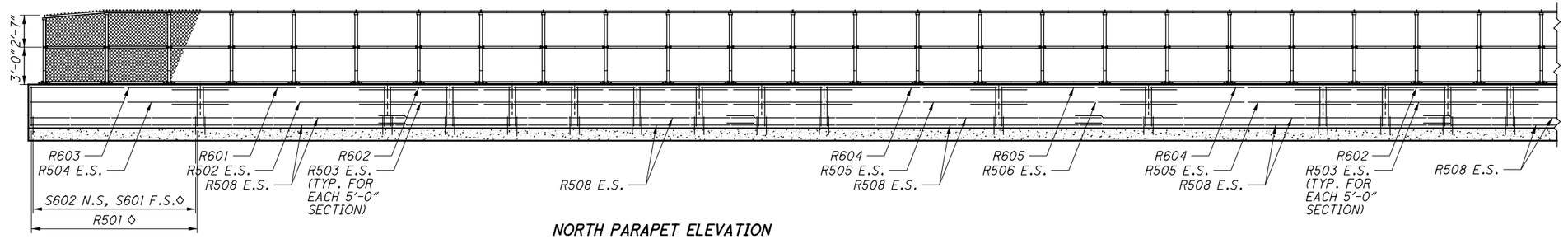
28 / 37

177
222

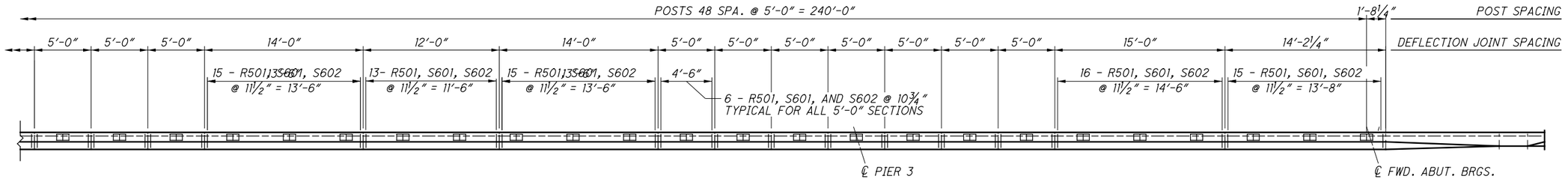
R:\14000\14035\87628\structures\sheets\CUY90_2639\CUY90_2639DP001.dgn 11/9/2017 1:40:53 PM malloym



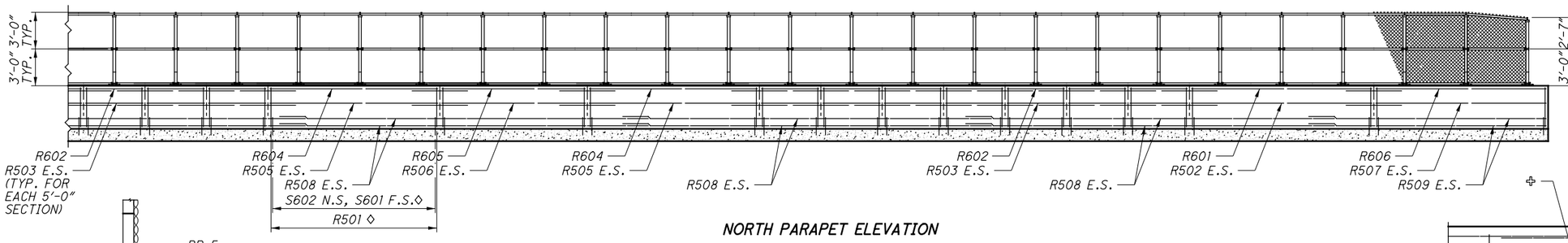
NORTH PARAPET PLAN



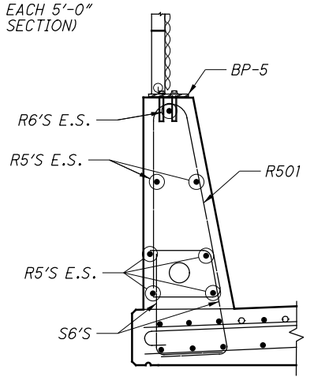
NORTH PARAPET ELEVATION



NORTH PARAPET PLAN

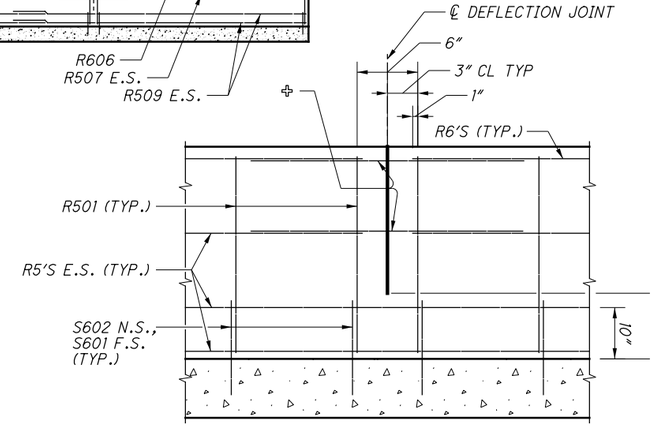


NORTH PARAPET ELEVATION



RAILING DETAIL

◊ - BAR TYPES TYPICAL BETWEEN DEFLECTION JOINTS. FOR SPACINGS SEE PLAN VIEW.



✣ - ½" DIA. GLASS FIBER REINFORCED POLYMER (GFRP) STIFFENING REINFORCEMENTS, 4'-6" LONG, CENTERED ON DEFLECTION JOINT (TYP.)

PARAPET ELEVATION

GFRP REBAR STIFFENING DETAIL AT DEFLECTION JOINTS FOR SINGLE SLOPE CONCRETE BRIDGE RAILING

DESIGN AGENCY
KS Associates Inc.
260 BURNS ROAD, ELYRIA, OHIO 44035

DESIGNED RAP | DRAWN RAP | CHECKED MEM | REVIEWED MJM | DATE 12/07/16 | REVISED | STRUCTURE FILE NUMBER 1808850

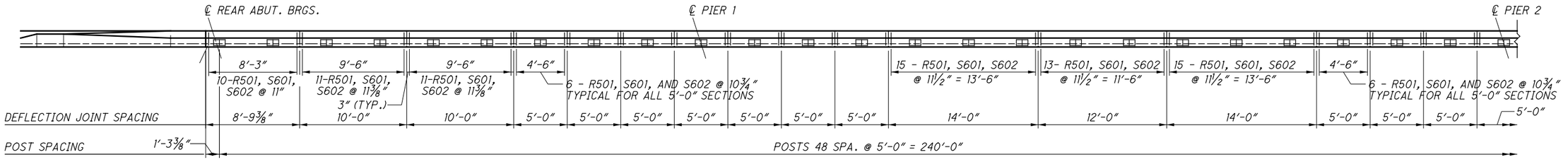
BRIDGE RAILING DETAILS - 1
BRIDGE NO. CUY-90-2639
I-90 OVER NEFF ROAD

CUY-90-26.16/VAR
PID No. 87628

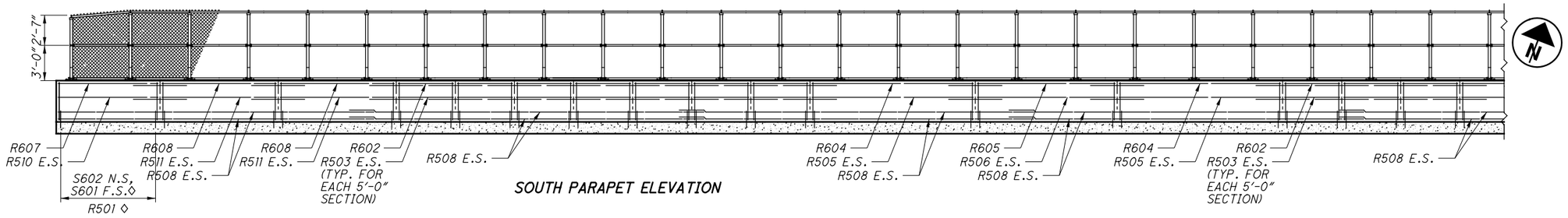
29 / 37

178 / 222

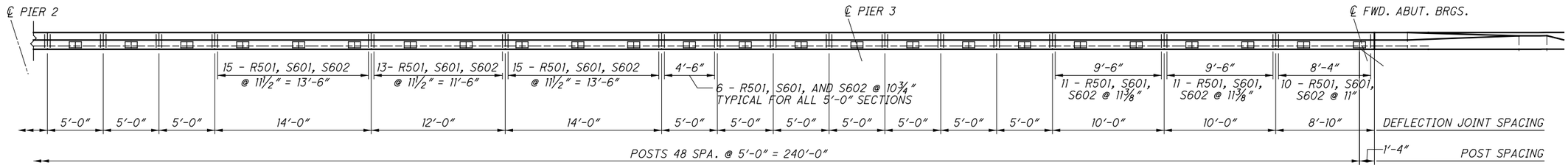
R:\14000\14035\87628\structures\sheets\CUY90_2639\CUY90_2639RA002o.dgn 11/9/2017 1:40:54 PM malloym



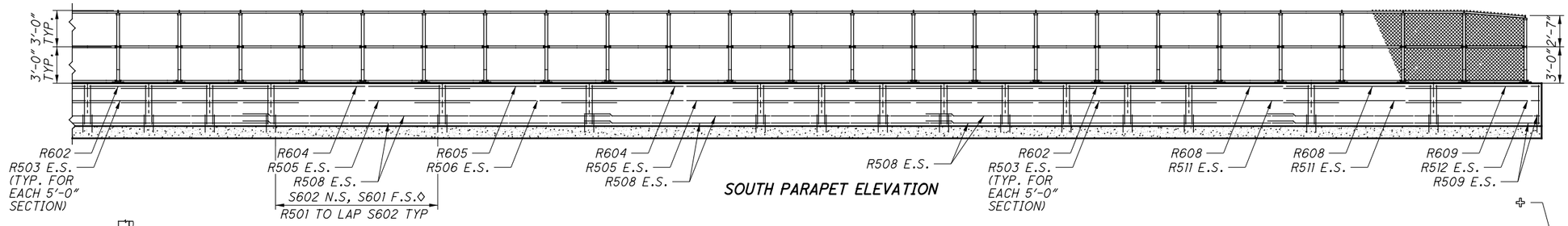
SOUTH PARAPET PLAN



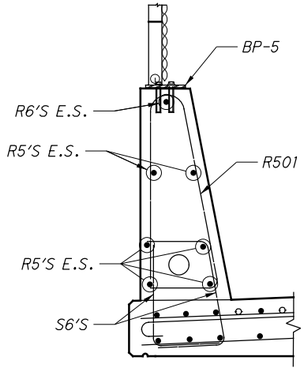
SOUTH PARAPET ELEVATION



SOUTH PARAPET PLAN

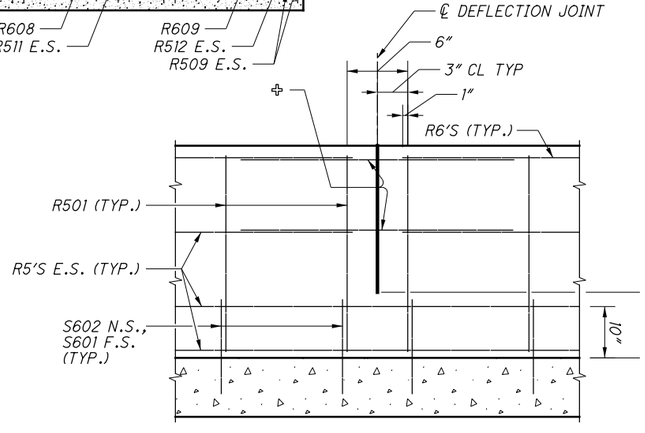


SOUTH PARAPET ELEVATION



RAILING DETAIL

◊ - BAR TYPES TYPICAL BETWEEN DEFLECTION JOINTS. FOR SPACINGS SEE PLAN VIEW.



PARAPET ELEVATION

✣ - ½″ DIA. GLASS FIBER REINFORCED POLYMER (GFRP) STIFFENING REINFORCEMENTS, 4′-6″ LONG, CENTERED ON DEFLECTION JOINT (TYP.)

GFRP REBAR STIFFENING DETAIL AT DEFLECTION JOINTS FOR SINGLE SLOPE CONCRETE BRIDGE RAILING

DESIGN AGENCY
KS Associates Inc.
260 BURNS ROAD, ELYRIA, OHIO 44035

DESIGNED	DRAWN	REVIEWED	DATE
RAP	RAP	MJM	12/07/16

CHECKED	REVISED	STRUCTURE FILE NUMBER
MEM		1808850

BRIDGE RAILING DETAILS - 2

BRIDGE NO. CUY-90-2639
I-90 OVER NEFF ROAD

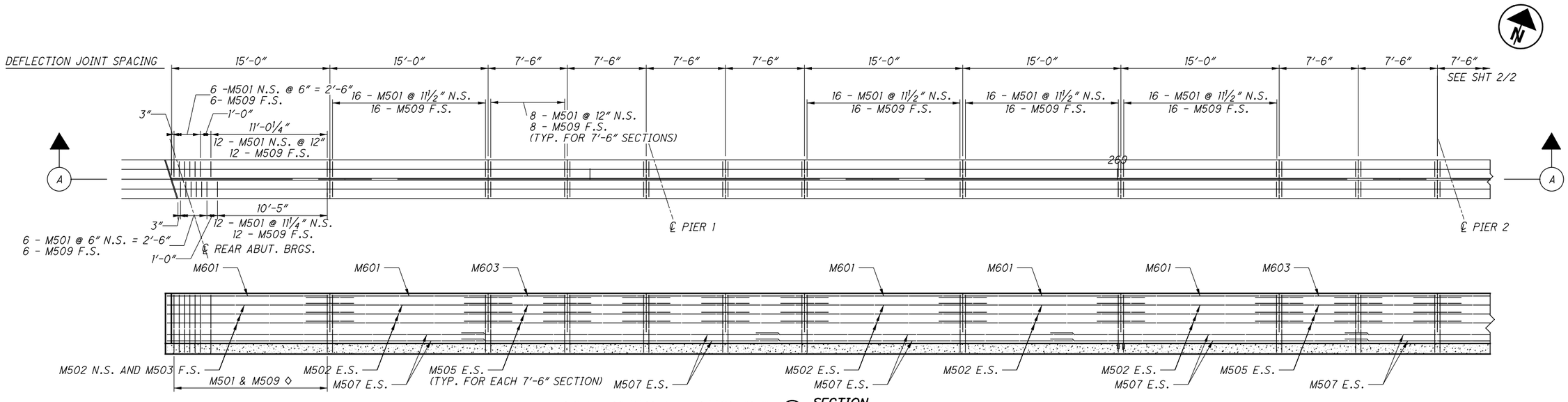
CUY-90-26.16/VAR

PID No. 87628

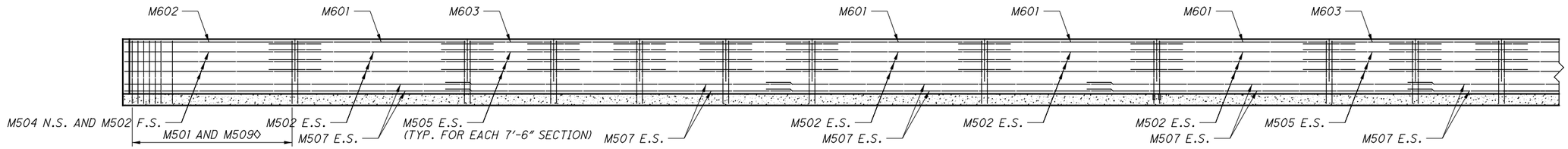
30 / 37

179
222

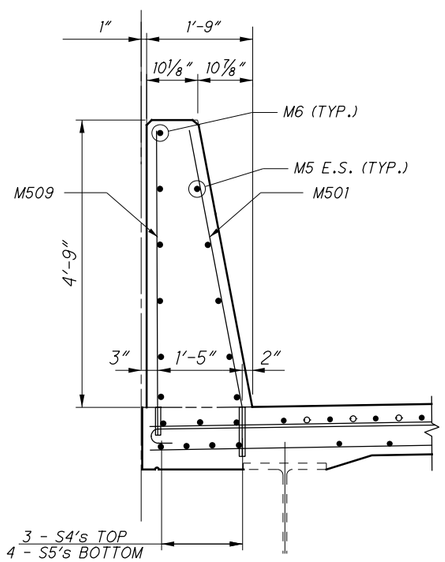
R:\14000\14035\87628\structures\sheets\CUY90_2639\CUY90_2639RA002b.dgn 11/9/2017 1:40:56 PM malloym



NORTH MEDIAN ELEVATION (WB) (A) SECTION



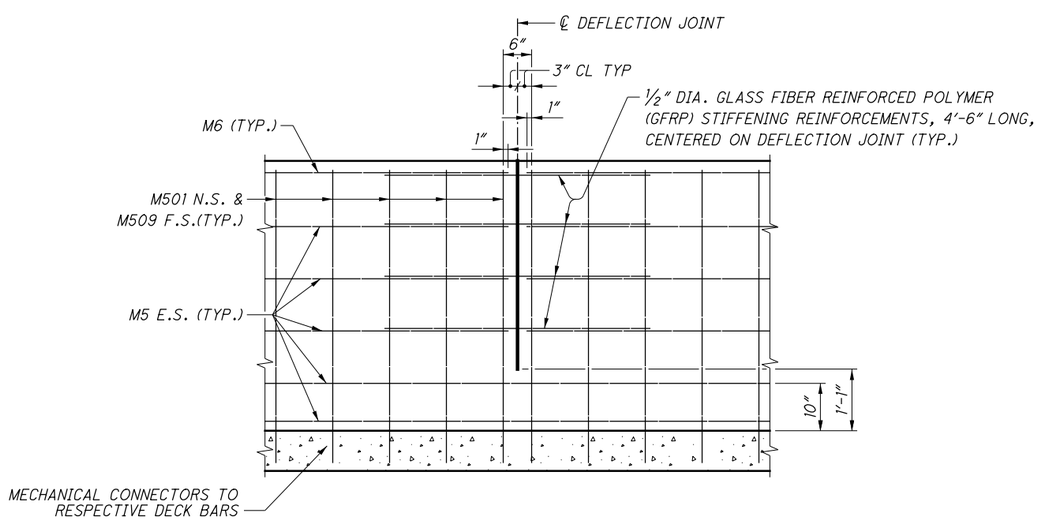
SOUTH MEDIAN ELEVATION (EB)



MEDIAN SECTION DETAIL

EASTBOUND SHOWN, WESTBOUND OPPOSITE HAND

◊ - BAR TYPES TYPICAL BETWEEN DEFLECTION JOINTS. FOR SPACINGS SEE PLAN VIEW.



MEDIAN DEFLECTION JOINT DETAIL

GFRP REBAR STIFFENING DETAIL AT DEFLECTION JOINT FOR 57" SINGLE SLOPE BACK-TO-BACK CONCRETE MEDIAN BRIDGE RAILINGS

DESIGN AGENCY
KS Associates Inc.
260 BURNS ROAD, ELYRIA, OHIO 44035

DESIGNED	DRAWN	REVIEWED	DATE
RAP	RAP	MJM	12/07/16
CHECKED	REVISED	STRUCTURE FILE NUMBER	
MEM		1808850	

BRIDGE MEDIAN RAILING DETAILS - 1/2

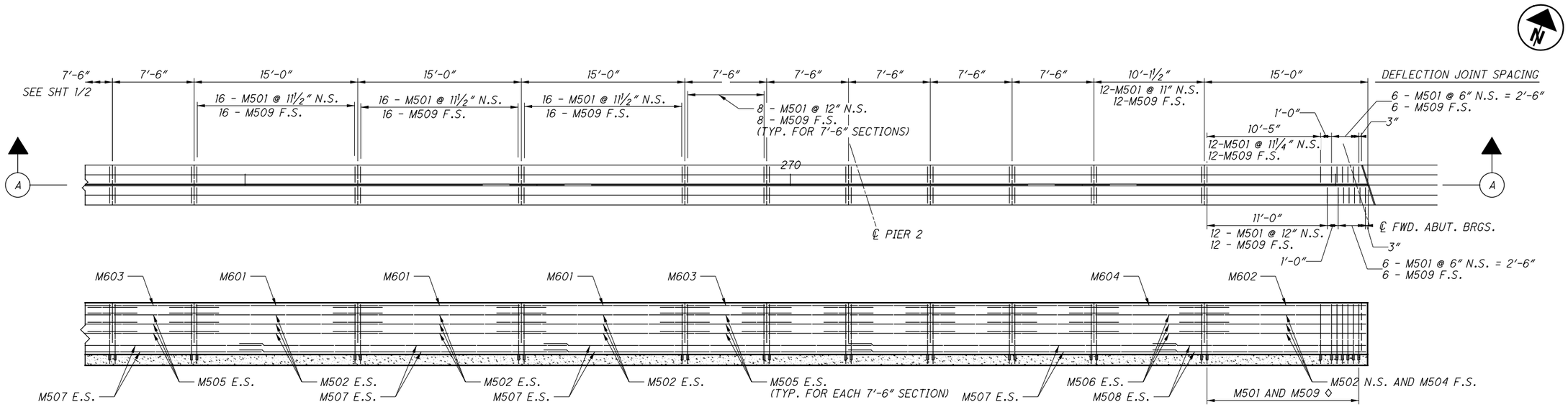
BRIDGE NO. CUY-90-2639
I-90 OVER NEFF ROAD

CUY-90-26.16/VAR
PID No. 87628

31/37

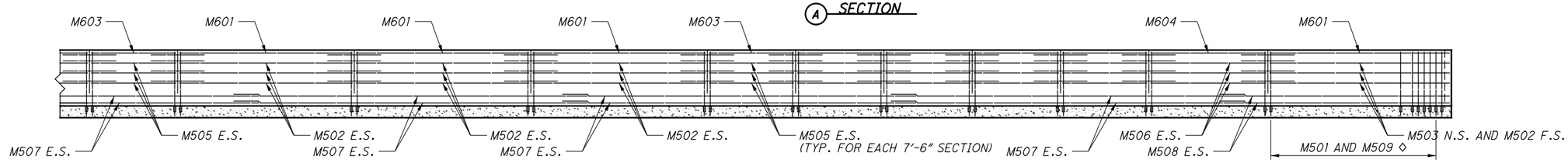
180
222

R:\14000\14035\87628\structures\sheets\CUY90_2639\CUY90_2639RA003a.dgn 11/9/2017 1:40:58 PM malloym

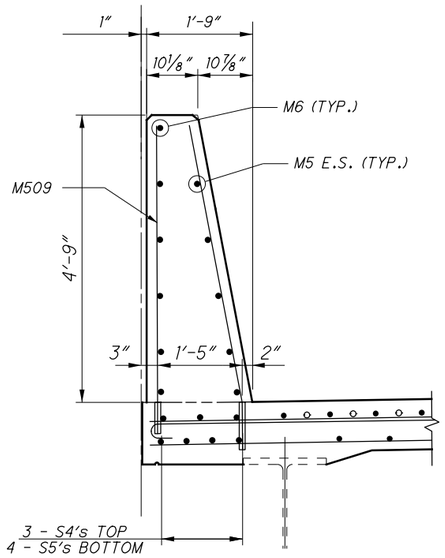


NORTH MEDIAN ELEVATION (WB)

(A) SECTION



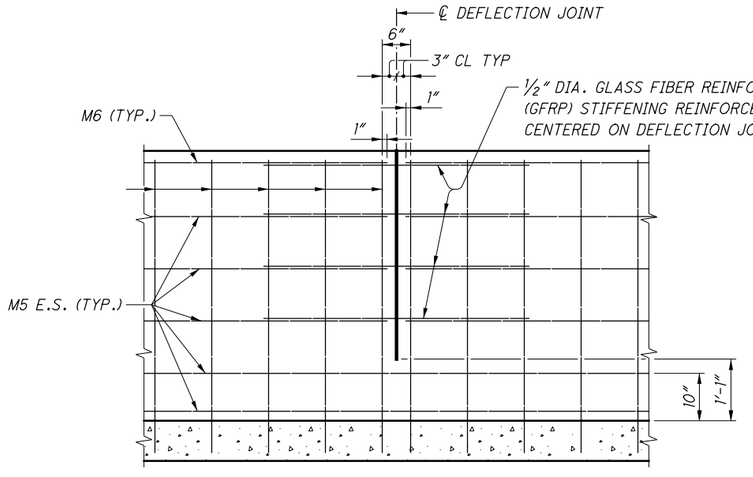
SOUTH MEDIAN ELEVATION (EB)



MEDIAN SECTION DETAIL

EASTBOUND SHOWN, WESTBOUND OPPOSITE HAND

◊ - BAR TYPES TYPICAL BETWEEN DEFLECTION JOINTS. FOR SPACINGS SEE PLAN VIEW.



MEDIAN DEFLECTION JOINT DETAIL
(VIEW FROM ROADWAY)

GFRP REBAR STIFFENING DETAIL AT DEFLECTION JOINT FOR 57" SINGLE SLOPE BACK-TO-BACK CONCRETE MEDIAN BRIDGE RAILINGS

DESIGN AGENCY
KS Associates Inc.
260 BURNS ROAD, ELYRIA, OHIO 44035

DESIGNED RAP | DRAWN RAP | REVIEWED MEM | DATE 12/07/16
CHECKED MJM | REVISED | STRUCTURE FILE NUMBER 1808850

BRIDGE MEDIAN RAILING DETAILS 2/2

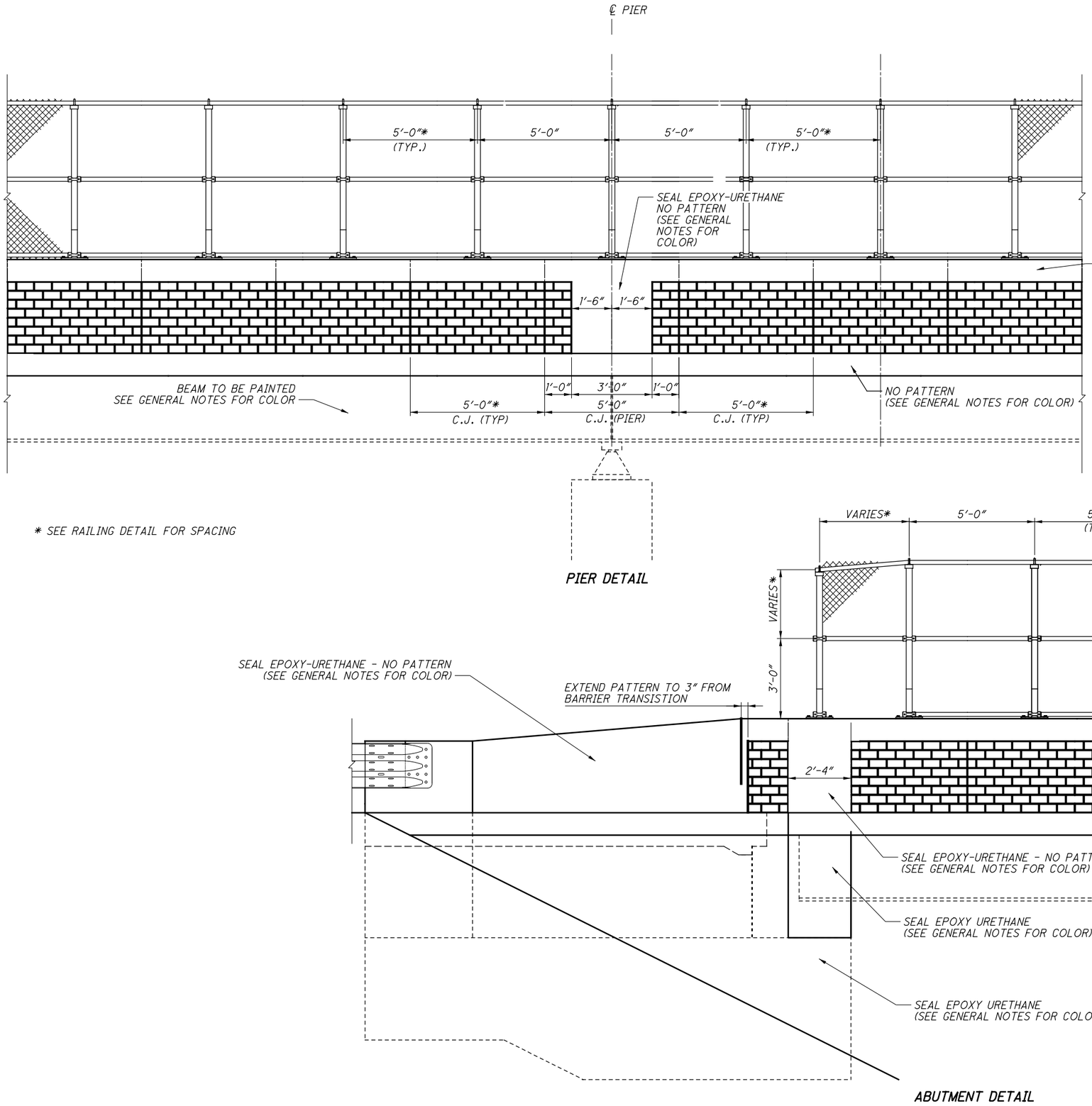
BRIDGE NO. CUY-90-2639
I-90 OVER NEFF ROAD

CUY-90-26.16/VAR
PID No. 87628

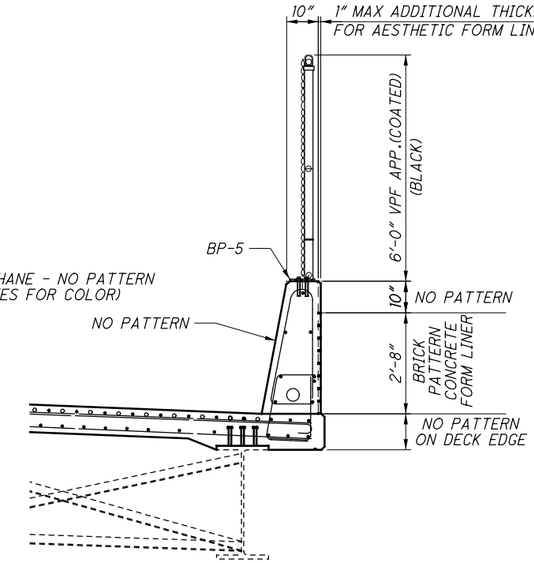
32 / 37

181
222

R:\14000\14035\87628\structures\sheets\CUY90_2639\CUY90_2639RA003b.dgn 11/9/2017 1:40:59 PM malloym

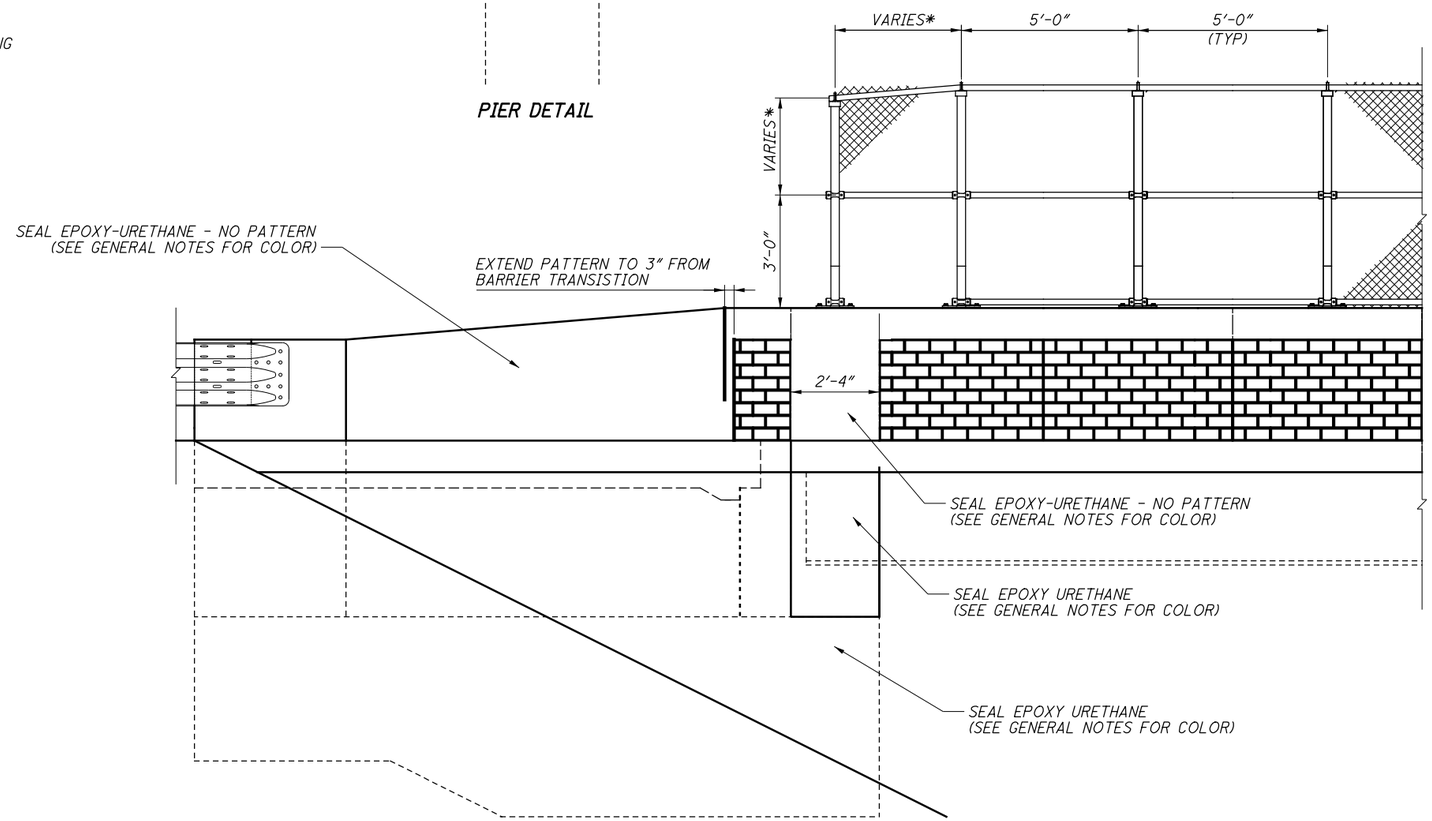


PIER DETAIL

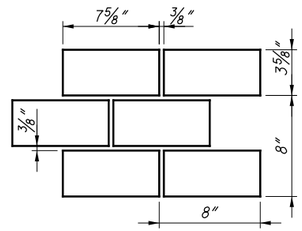


RAILING DETAIL

* SEE RAILING DETAIL FOR SPACING



ABUTMENT DETAIL



BRICK PATTERN
(SEE GENERAL NOTES FOR COLOR)

DESIGN AGENCY
KS Associates Inc.
260 BURNS ROAD, ELYRIA, OHIO 44035

DESIGNED	DRAWN	REVIEWED	DATE
MJM	MJM	ASW	12/07/16
CHECKED	REVISED	STRUCTURE FILE NUMBER	
CFE		1808850	

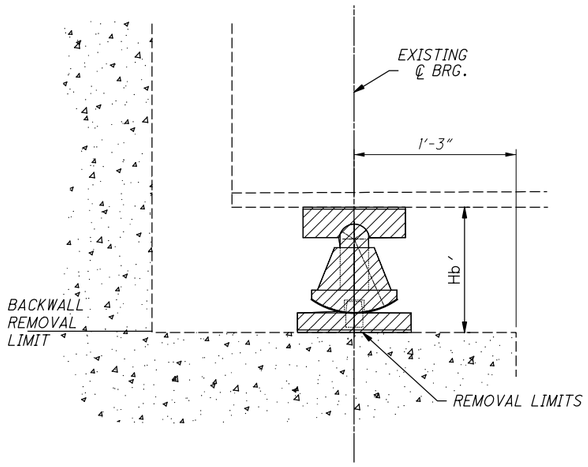
BRIDGE RAILING DETAILS - 5
BRIDGE NO. CUY-90-2639
I-90 OVER NEFF ROAD

CUY-90-26.16/VAR
PID No. 87628

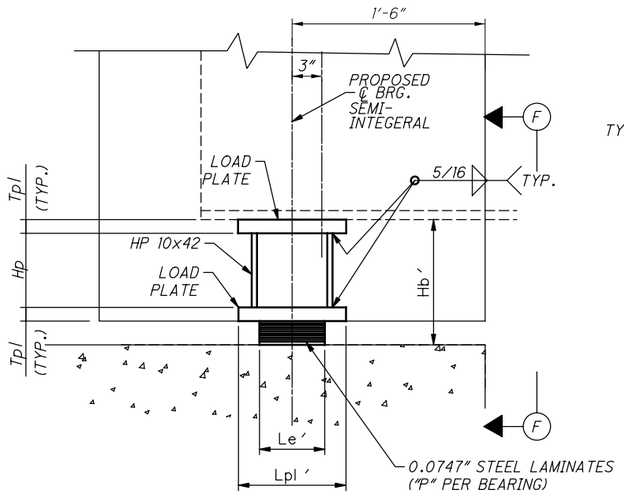
33/37

182
222

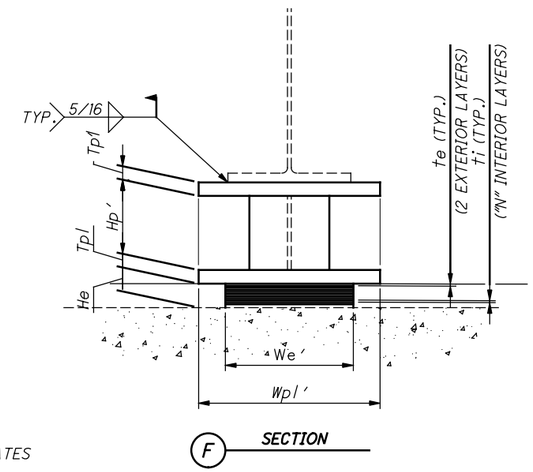
R:\14000\14035\87628\structures\sheets\CUY90_2639\CUY90_2639RA001.dgn 11/9/2017 1:41:00 PM malloym

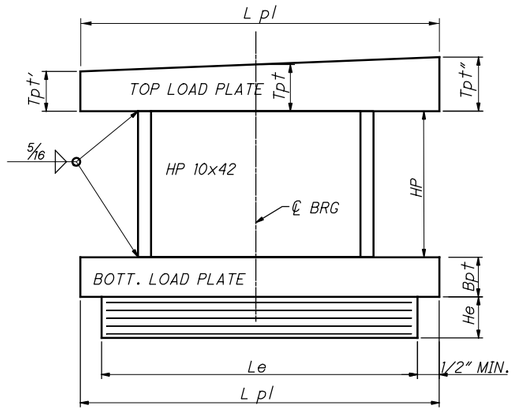


EXISTING EXPANSION BEARING REMOVAL DETAIL



SEMI-INTEGERAL BEARING AT ABUTMENT





ALL BEARINGS SHALL BE MARKED PRIOR TO SHIPPING. THE MARKS SHALL INCLUDE THE BEARING LOCATION ON THE BRIDGE, AND A DIRECTION ARROW THAT POINTS UP-STATION. ALL MARKS SHALL BE PERMENT AND VISIBLE AFTER THE BEARING IS INSTALLED.

ELASTOMERIC BEARINGS

ELASTOMERIC BEARINGS: THE ELASTOMER SHALL HAVE A HARDNESS OF 50 DUROMETER. THE BEARINGS WERE DESIGNED IN ACCORDANCE WITH SECTION 14.7.6 (METHOD A) OF THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS. THE LONGTERM COMPRESSION PROOF LOAD TEST (AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES, DIVISION II, SECTION 18.7.2.6) IS NOT REQUIRED.

ELASTOMERIC BEARING DIMENSIONS AND DETAILS

STRUCTURE LOCATION	BEARING LOCATION		BEARING TYPE	Hb EXISTING HEIGHT (IN.)	DESIGN LOADS (KIPS)			NO. OF BEARINGS	ELASTOMER							STEEL LAMINATES		LOAD PLATE						HP 10x42	BEARING DETAIL
	SUBSTRUCTURE	LOCATION			D.L.	L.L. w/o Impact	DESIGN LOAD		DURO-METER	Le	We	He	ti	te	N	P	t	Lpl	Wpl	Tpl BOTTOM	Tpl TOP	TOP PL. BEVEL Tpt"	TOP PL. BEVEL Tpt	Hp	
CUY-26.39	REAR ABUTMENT	A	EXP.	11.39	20.3	16.6	36.9	1	50	7.50	10.00	1.82	0.38	0.20	3	4	0.0747	8.50	13.00	1.50	1.50	1.63	1.50	6.44	A
CUY-26.39	REAR ABUTMENT	B	EXP.	11.80	20.3	16.6	36.9	1	50	7.50	10.00	1.82	0.38	0.20	3	4	0.0747	8.50	13.00	1.50	1.50	1.63	1.50	6.85	A
CUY-26.39	REAR ABUTMENT	C	EXP.	11.50	20.3	16.6	36.9	1	50	7.50	10.00	1.82	0.38	0.20	3	4	0.0747	8.50	13.00	1.50	1.50	1.63	1.50	6.55	A
CUY-26.39	REAR ABUTMENT	D	EXP.	11.34	20.3	16.6	36.9	1	50	7.50	10.00	1.82	0.38	0.20	3	4	0.0747	8.50	13.00	1.50	1.50	1.63	1.50	6.39	A
CUY-26.39	REAR ABUTMENT	E	EXP.	11.44	20.3	16.6	36.9	1	50	7.50	10.00	1.82	0.38	0.20	3	4	0.0747	8.50	13.00	1.50	1.50	1.63	1.50	6.49	A
CUY-26.39	REAR ABUTMENT	F	EXP.	11.46	20.3	16.6	36.9	1	50	7.50	10.00	1.82	0.38	0.20	3	4	0.0747	8.50	13.00	1.50	1.50	1.63	1.50	6.51	A
CUY-26.39	REAR ABUTMENT	G	EXP.	11.81	20.3	16.6	36.9	1	50	7.50	10.00	1.82	0.38	0.20	3	4	0.0747	8.50	13.00	1.50	1.50	1.63	1.50	6.86	A
CUY-26.39	REAR ABUTMENT	H	EXP.	12.06	20.3	16.6	36.9	1	50	7.50	10.00	1.82	0.38	0.20	3	4	0.0747	8.50	13.00	1.50	1.50	1.63	1.50	7.11	A
CUY-26.39	REAR ABUTMENT	J	EXP.	11.63	23.0	20.7	43.7	1	50	7.50	10.00	1.82	0.38	0.20	3	4	0.0747	8.50	13.00	1.50	1.50	1.63	1.50	6.68	A
CUY-26.39	REAR ABUTMENT	K	EXP.	11.71	23.0	20.7	43.7	1	50	7.50	10.00	1.82	0.38	0.20	3	4	0.0747	8.50	13.00	1.50	1.50	1.63	1.50	6.76	A
CUY-26.39	REAR ABUTMENT	M	EXP.	12.06	23.0	20.7	43.7	1	50	7.50	10.00	1.82	0.38	0.20	3	4	0.0747	8.50	13.00	1.50	1.50	1.63	1.50	7.11	A
CUY-26.39	REAR ABUTMENT	N	EXP.	11.99	23.0	20.7	43.7	1	50	7.50	10.00	1.82	0.38	0.20	3	4	0.0747	8.50	13.00	1.50	1.50	1.63	1.50	7.04	A
CUY-26.39	REAR ABUTMENT	P	EXP.	12.02	23.0	20.7	43.7	1	50	7.50	10.00	1.82	0.38	0.20	3	4	0.0747	8.50	13.00	1.50	1.50	1.63	1.50	7.07	A
CUY-26.39	REAR ABUTMENT	R	EXP.	11.88	23.0	20.7	43.7	1	50	7.50	10.00	1.82	0.38	0.20	3	4	0.0747	8.50	13.00	1.50	1.50	1.63	1.50	6.93	A
CUY-26.39	REAR ABUTMENT	S	EXP.	12.25	23.0	20.7	43.7	1	50	7.50	10.00	1.82	0.38	0.20	3	4	0.0747	8.50	13.00	1.50	1.50	1.63	1.50	7.30	A
CUY-26.39	REAR ABUTMENT	T	EXP.	12.13	23.0	20.7	43.7	1	50	7.50	10.00	1.82	0.38	0.20	3	4	0.0747	8.50	13.00	1.50	1.50	1.63	1.50	7.18	A
CUY-26.39	REAR ABUTMENT	V	EXP.	11.52	23.0	20.7	43.7	1	50	7.50	10.00	1.82	0.38	0.20	3	4	0.0747	8.50	13.00	1.50	1.50	1.63	1.50	7.38	A
CUY-26.39	FORWARD ABUTMENT	A	EXP.	12.11	20.3	16.6	36.9	1	50	7.50	10.00	1.82	0.38	0.20	3	4	0.0747	8.50	13.00	1.50	1.50	1.63	1.50	7.16	A
CUY-26.39	FORWARD ABUTMENT	B	EXP.	12.24	20.3	16.6	36.9	1	50	7.50	10.00	1.82	0.38	0.20	3	4	0.0747	8.50	13.00	1.50	1.50	1.63	1.50	7.29	A
CUY-26.39	FORWARD ABUTMENT	C	EXP.	11.80	20.3	16.6	36.9	1	50	7.50	10.00	1.82	0.38	0.20	3	4	0.0747	8.50	13.00	1.50	1.50	1.63	1.50	6.85	A
CUY-26.39	FORWARD ABUTMENT	D	EXP.	11.95	20.3	16.6	36.9	1	50	7.50	10.00	1.82	0.38	0.20	3	4	0.0747	8.50	13.00	1.50	1.50	1.63	1.50	7.00	A
CUY-26.39	FORWARD ABUTMENT	E	EXP.	11.83	20.3	16.6	36.9	1	50	7.50	10.00	1.82	0.38	0.20	3	4	0.0747	8.50	13.00	1.50	1.50	1.63	1.50	6.88	A
CUY-26.39	FORWARD ABUTMENT	F	EXP.	11.68	20.3	16.6	36.9	1	50	7.50	10.00	1.82	0.38	0.20	3	4	0.0747	8.50	13.00	1.50	1.50	1.63	1.50	6.73	A
CUY-26.39	FORWARD ABUTMENT	G	EXP.	11.54	20.3	16.6	36.9	1	50	7.50	10.00	1.82	0.38	0.20	3	4	0.0747	8.50	13.00	1.50	1.50	1.63	1.50	6.59	A
CUY-26.39	FORWARD ABUTMENT	H	EXP.	11.62	20.3	16.6	36.9	1	50	7.50	10.00	1.82	0.38	0.20	3	4	0.0747	8.50	13.00	1.50	1.50	1.63	1.50	6.67	A
CUY-26.39	FORWARD ABUTMENT	J	EXP.	10.93	23.0	20.7	43.7	1	50	7.50	10.00	1.82	0.38	0.20	3	4	0.0747	8.50	13.00	1.50	1.50	1.63	1.50	5.98	A
CUY-26.39	FORWARD ABUTMENT	K	EXP.	11.90	23.0	20.7	43.7	1	50	7.50	10.00	1.82	0.38	0.20	3	4	0.0747	8.50	13.00	1.50	1.50	1.63	1.50	6.95	A
CUY-26.39	FORWARD ABUTMENT	M	EXP.	11.54	23.0	20.7	43.7	1	50	7.50	10.00	1.82	0.38	0.20	3	4	0.0747	8.50	13.00	1.50	1.50	1.63	1.50	6.59	A
CUY-26.39	FORWARD ABUTMENT	N	EXP.	11.63	23.0	20.7	43.7	1	50	7.50	10.00	1.82	0.38	0.20	3	4	0.0747	8.50	13.00	1.50	1.50	1.63	1.50	6.68	A
CUY-26.39	FORWARD ABUTMENT	P	EXP.	12.36	23.0	20.7	43.7	1	50	7.50	10.00	1.82	0.38	0.20	3	4	0.0747	8.50	13.00	1.50	1.50	1.63	1.50	7.41	A
CUY-26.39	FORWARD ABUTMENT	R	EXP.	12.59	23.0	20.7	43.7	1	50	7.50	10.00	1.82	0.38	0.20	3	4	0.0747	8.50	13.00	1.50	1.50	1.63	1.50	7.64	A
CUY-26.39	FORWARD ABUTMENT	S	EXP.	13.54	23.0	20.7	43.7	1	50	7.50	10.00	1.82	0.38	0.20	3	4	0.0747	8.50	13.00	1.50	1.50	1.63	1.50	8.59	A
CUY-26.39	FORWARD ABUTMENT	T	EXP.	13.33	23.0	20.7	43.7	1	50	7.50	10.00	1.82	0.38	0.20	3	4	0.0747	8.50	13.00	1.50	1.50	1.63	1.50	8.38	A
CUY-26.39	FORWARD ABUTMENT	V	EXP.	12.90	23.0	20.7	43.7	1	50	7.50	10.00	1.82	0.38	0.20	3	4	0.0747	8.50	13.00	1.50	1.50	1.63	1.50	8.76	A

DESIGN AGENCY
KS Associates Inc.
260 BURNS ROAD, ELYRIA, OHIO 44035

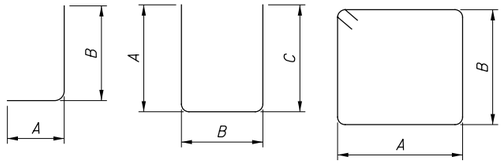
DESIGNED MEM | DRAWN MEM | CHECKED ASW | REVIEWED MJM | DATE 01/09/17 | REVISED | STRUCTURE FILE NUMBER 1808850

BEARING DETAIL
BRIDGE NO. CUY-90-2639
I-90 OVER NEFF ROAD

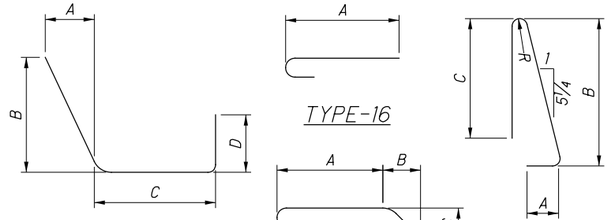
CUY-90-26.16 / VAR
PID No. 87628

MARK	NUMBER			LENGTH	WEIGHT	TYPE	DIMENSIONS						
	EAST BOUND	WEST BOUND	TOTAL				A	B	C	D	E	R	INC
ABUTMENTS AND DIAPHRAGMS													
	REAR												
A501	53	59	112	12'-2"	1422	3	2'-8"	3'-2"					
A502	53	59	112	6'-8"	776	2	3'-0"						
A503	13	10	23	3'-5"	82	2	1'-4"	1'-0"	1'-4"				
A504	1	1	2	6'-1"	13	2	2'-8"	1'-0"	2'-8"				
A505	2	2	4	5'-6"	23	25	1'-0"	3'-1 1/2"	1'-0"	1'-6 3/4"			
A506	10	7	17	3'-6"	62	STR							
A507	10		10	7'-6"	78	STR							
A508		7	7	6'-2"	45	STR							
A509	4		4	19'-3"	80	STR							
A510	6		6	12'-3"	77	STR							
A511		4	4	16'-0"	67	STR							
A512		6	6	9'-0"	56	STR							
A801	49	57	106	5'-0"	1403	18	2'-8"	1'-0"	1'-0"				
⊗ A802	4		4	13'-10"	148	1	1'-3"	12'-9"					
⊗ A803	4		4	4'-1"	43	1	1'-3"	3'-0"					
⊗ A804	2		2	12'-10"	69	STR							
⊗ A805	2		2	3'-0"	16	STR							
⊗ A806	8		8	19'-11"	425	STR							
⊗ A807	14		14	16'-10"	629	STR							
A808	14		14	19'-10"	741	STR							
⊗ A809		14	14	22'-9"	850	STR							
⊗ A810		14	14	18'-10"	704	STR							
⊗ A811		14	14	7'-6"	280	STR							
⊗ A812		4	4	14'-4"	153	1	1'-3"	13'-4"					
A813		4	4	26'-7"	283	1	1'-3"	25'-6"					
⊗ A814		2	2	13'-4"	71	STR							
A815		2	2	25'-6"	136	STR							
A816		8	8	20'-3"	881	STR							
A817		8	8	28'-6"	427	STR							
⊗ A818	14		14	22'-3"	832	STR							
	FORWARD												
A501	53	59	112	12'-2"	1422	3	2'-8"	3'-2"					
A502	53	59	112	6'-8"	776	2	3'-0"						
A503	13	12	25	3'-5"	89	2	1'-4"	1'-0"	1'-4"				
A504	1	1	2	6'-1"	13	2	2'-8"	1'-0"	2'-8"				
A505	2	2	4	5'-6"	23	25	1'-0"	3'-1 1/2"	1'-0"	1'-6 3/4"			
A506	10	8	18	3'-6"	66	STR							
A507	10		10	7'-6"	78	STR							
A508		8	8	6'-2"	51	STR							
A513		4	4	16'-10"	70	STR							
A514		6	6	9'-3"	58	STR							
A515	4		4	19'-0"	79	STR							
A516	6		6	12'-6"	78	STR							
A801	49	57	106	5'-0"	1403	18	2'-8"	1'-0"	1'-0"				
⊗ A820	14		14	21'-4"	797	STR							
⊗ A821	4		4	13'-9"	147	1	1'-0"	13'-3"					
⊗ A822	4		4	3'-2"	34	1	1'-0"	2'-5"					
⊗ A823	2		2	13'-2"	70	STR							
⊗ A824	2		2	2'-6"	13	STR							
⊗ A825	14		14	18'-6"	692	STR							
A826	10		10	18'-0"	481	STR							
⊗ A827	4		4	19'-9"	210	STR							
A828	4		4	19'-0"	203	STR							
⊗ A829		14	14	22'-6"	841	STR							
⊗ A830		14	14	20'-5"	763	STR							
SUB-TOTAL					19,329								

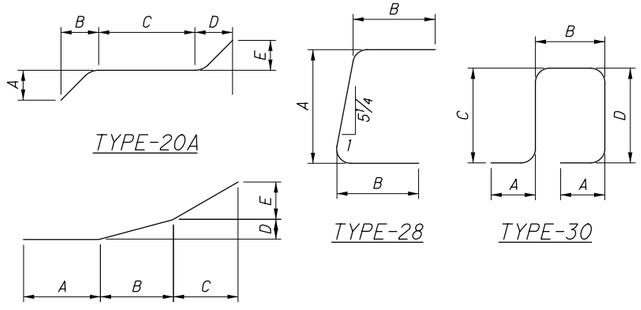
MARK	NUMBER			LENGTH	WEIGHT	TYPE	DIMENSIONS						
	EAST BOUND	WEST BOUND	TOTAL				A	B	C	D	E	R	INC
ABUTMENTS AND DIAPHRAGMS (CONT'D)													
⊗ A831		4	4	14'-3"	153	1	1'-0"	13'-6"					
A832		4	4	25'-4"	271	1	1'-0"	24'-7"					
⊗ A833		2	2	14'-1"	75	STR							
A834		2	2	24'-8"	132	STR							
⊗ A835		10	10	27'-9"	741	STR							
A836		10	10	20'-9"	554	STR							
SUB-TOTAL COL 2 =					1,926								
TOTAL SHEET 1 =					21,255								



TYPE-1 TYPE-2 TYPE-3



TYPE-10 TYPE-16 TYPE-18 TYPE-23



TYPE-20A TYPE-28 TYPE-30 TYPE-25

NOTES:

1. ALL DIMENSIONS ARE OUT TO OUT OF BARS.
2. ALL REINFORCING IS TO BE EPOXY COATED.
3. THE BAR SIZE NUMBER IS SPECIFIED ON THE PLANS IN THE BAR MARK COLUMN. THE FIRST DIGITS OF A THREE DIGIT NUMBER OR THE FIRST TWO DIGITS OF A FOUR DIGIT NUMBER INDICATE THE BAR SIZE. THE LAST TWO DIGITS INDICATE SEQUENCE NUMBER. THE INITIAL LETTER INDICATES LOCATION:

   A - ABUTMENT (FA-FORWARD, RA-REAR)
   P - PIER
   S - SUPERSTRUCTURE
   SP- SPIRAL
   DS- DRILLED SHAFT
   DG- DIAPHRAGM GUIDE
   R - RAILING
   M - MEDIAN

4. "R" INDICATES INSIDE RADIUS, UNLESS NOTED OTHERWISE.
5. "STD" WRITTEN IN PLACE OF A DIMENSION INDICATES A STANDARD BEND AT THE END OF A BAR.
6. STRAIGHT BARS ARE INDICATED AS "STR".

⊗ - REINFORCING BAR UTILIZES A MECHANICAL CONNECTOR. BAR LENGTH IS MEASURED TO THE CONSTRUCTION JOINT. MODIFICATION TO BAR LENGTH AND/OR BAR END PREPARATION IS DEPENDENT UPON THE TYPE OF MECHANICAL CONNECTOR FURNISHED.

EPOXY COATED BAR LAPS (MIN)

SIZE	LAP
#4	3'-6"
#5	4'-3"
#6	5'-0"
#7	5'-8"
#8	6'-10"

DESIGN AGENCY
KS Associates Inc.
260 BURNS ROAD, ELYRIA, OHIO 44035

DESIGNED MEM | DRAWN RAP | REVIEWED MJM | DATE 12/07/16 | CHECKED ASW | REVISED | STRUCTURE FILE NUMBER 1808850

REINFORCING STEEL LIST - 1
BRIDGE NO. CUY-90-2639
I-90 OVER NEFF ROAD

CUY-90-26.16/VAR
PID No. 87628

35 / 37

184
222

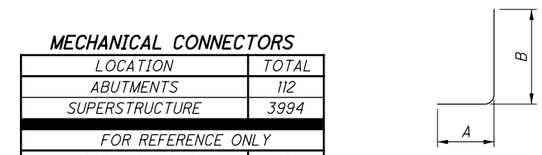
R:\14000\14035\87628\structures\sheets\CUY90_2639\CUY90_2639RL001.dgn 11/9/2017 1:41:02 PM malloym

MARK	NUMBER			LENGTH	WEIGHT	TYPE	DIMENSIONS						
	EAST BOUND	WEST BOUND	TOTAL				A	B	C	D	E	R	INC
SUPERSTRUCTURE													
S401	900	1017	1917	30'-0"	38,417	STR							
S402	18	18	36	3'-0"	72	STR							
⊗ S501	982		982	21'-1"	21594	STR							
⊗ S502	982		982	18'-9"	19204	STR							
⊗ S503	484		464	10'-11"	5511	STR							
S504	484		464	21'-9"	10980	STR							
⊗ S505	484		464	15'-9"	7951	STR							
S506	484		464	17'-1"	8624	STR							
S507	500	500	1000	18'-5"	19209	16	17'-10"						
⊗ S508		944	944	21'-6"	21169	STR							
⊗ S509		944	944	19'-5"	19117	STR							
⊗ S510		458	458	22'-2"	10589	STR							
S511		458	458	23'-0"	10987	STR							
⊗ S512		458	458	27'-6"	13137	STR							
S513		458	458	16'-6"	7882	STR							
S514	1098	1350	2448	30'-0"	76598	STR							
	2 SR		2 SR	3'-11"									
S515	OF		OF	TO	313	STR							1'-6 ½"
	12		12	21'-1"									
	2 SR		2 SR	3'-11"									
⊗ S516	OF		OF	TO	300	STR							1'-7"
	12		12	20'-1"									
	2 SR		2 SR	3'-11"									
⊗ S517	OF		OF	TO	254	STR							1'-5 ¼"
	11		11	18'-3"									
	2 SR		2 SR	3'-11"									
⊗ S518	OF		OF	TO	260	STR							1'-8"
	11		11	18'-9"									
	2 SR		2 SR	3'-11"									
⊗ S519	OF		OF	TO	601	STR							1'-8"
	17		17	30'-0"									
	2 SR		2 SR	3'-11"									
S520	OF		OF	TO	672	STR							1'-6 ¾"
	19		19	30'-0"									
		2 SR	2 SR	3'-11"									
⊗ S521		OF	OF	TO	225	STR							1'-7"
		10	10	17'-8"									
		2 SR	2 SR	3'-11"									
S522		OF	OF	TO	264	STR							1'-7 ½"
		11	11	19'-7"									
		2 SR	2 SR	3'-11"									
⊗ S523		OF	OF	TO	223	STR							1'-8"
		10	10	17'-5"									
		2 SR	2 SR	3'-11"									
⊗ S524		OF	OF	TO	228	STR							1'-8"
		10	10	17'-11"									
		2 SR	2 SR	3'-11"									
S525		OF	OF	TO	624	STR							1'-6 ½"
		18	18	29'-4"									
S526		14	14	22'-11"	335	STR							
		2 SR	2 SR	9'-8"									
S527		OF	OF	TO	212	STR							1'-7"
		7	7	19'-4"									
⊗ S528		12	12	27'-8"	346	STR							
		2 SR	2 SR	5'-10"									
S529		OF	OF	TO	130	STR							1'-10"
		6	6	15'-0"									
		2 SR	2 SR	3'-11"									
⊗ S530		OF	OF	TO	595	STR							1'-7 ½"
		17	17	29'-8"									
SUB-TOTAL COL 1 =					296,623								

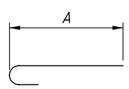
MARK	NUMBER			LENGTH	WEIGHT	TYPE	DIMENSIONS						
	EAST BOUND	WEST BOUND	TOTAL				A	B	C	D	E	R	INC
SUPERSTRUCTURE (CONT.)													
⊗ S531	8	8	16	12'-10"	214	STR							
⊗ S532	4	4	8	23'-0"	192	STR							
S550	1560	1560	3120	6'-9"	21981	21	1'-0"	1'-3"	1'-0"	0'-10"			
S551	242	242	484	5'-2"	2585	10	1'-2"	1'-0"	2'-10"	0'-11"			
S601	274	274	548	2'-7"	2143	1	1'-9"	1'-0"					
S602	274	274	548	30-6"	2869	28	1'-9"	1'-0"					
S604	279	318	597	30'-0"	26901	STR							
SUB-TOTAL COL 2 =					56,885								
TOTAL SHEET 2 =					353,508								

MECHANICAL CONNECTORS

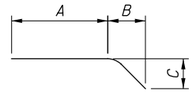
LOCATION	TOTAL
ABUTMENTS	112
SUPERSTRUCTURE	3994
FOR REFERENCE ONLY	
APPROACH SLAB	456
SLEEPER SLAB	88



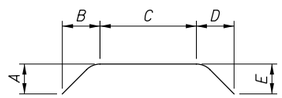
TYPE-1



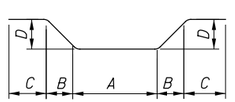
TYPE-16



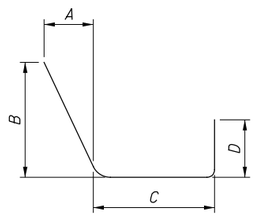
TYPE-19



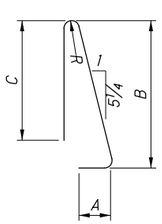
TYPE-20



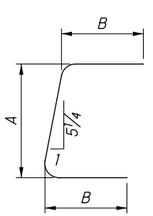
TYPE-21



TYPE-10



TYPE-23



TYPE-28

NOTES:

1. ALL DIMENSIONS ARE OUT TO OUT OF BARS.
2. ALL REINFORCING IS TO BE EPOXY COATED.
3. THE BAR SIZE NUMBER IS SPECIFIED ON THE PLANS IN THE BAR MARK COLUMN. THE FIRST DIGITS OF A THREE DIGIT NUMBER OR THE FIRST TWO DIGITS OF A FOUR DIGIT NUMBER INDICATE THE BAR SIZE. THE LAST TWO DIGITS INDICATE SEQUENCE NUMBER. THE INITIAL LETTER INDICATES LOCATION:

   A - ABUTMENT (FA-FORWARD, RA-REAR)
   P - PIER
   S - SUPERSTRUCTURE
   SP- SPIRAL
   DS- DRILLED SHAFT
   DG- DIAPHRAGM GUIDE
   R - RAILING
   M - MEDIAN

4. "R" INDICATES INSIDE RADIUS, UNLESS NOTED OTHERWISE.
5. "STD" WRITTEN IN PLACE OF A DIMENSION INDICATES A STANDARD BEND AT THE END OF A BAR.
6. STRAIGHT BARS ARE INDICATED AS "STR".

⊗ - REINFORCING BAR UTILIZES A MECHANICAL CONNECTOR. BAR LENGTH IS MEASURED TO THE CONSTRUCTION JOINT. MODIFICATION TO BAR LENGTH AND/OR BAR END PREPARATION IS DEPENDENT UPON THE TYPE OF MECHANICAL CONNECTOR FURNISHED.

DESIGN AGENCY
KS Associates Inc.
260 BURNS ROAD, ELYRIA, OHIO 44035

DESIGNED MEM | DRAWN RAP | REVIEWED MJM | DATE 01/09/17 | CHECKED ASW | REVISED | STRUCTURE FILE NUMBER 1808850

REINFORCING STEEL LIST - 2
BRIDGE NO. CUY-90-2639
I-90 OVER NEFF ROAD

CUY-90-26.16/VAR
PID No. 87628

MARK	NUMBER			LENGTH	WEIGHT	TYPE	DIMENSIONS						
	EAST BOUND	WEST BOUND	TOTAL				A	B	C	D	E	R	INC
APPROACH SLABS (FOR REFERENCE ONLY)													
	REAR												
AS501	49	57	106	24'-2"	2672	STR							
⊗ AS502	57		57	22'-2"	1318	STR							
⊗ AS504	57		57	19'-6"	1159	STR							
⊗ AS505	18		18	30'-4"	569	STR							
⊗ AS507		57	57	22'-1"	1313	STR							
⊗ AS508		57	57	20'-4"	1209	STR							
⊗ AS509		114	114	23'-0"	2735	STR							
AS510	57		57	5'-10"	347	20A	0'-2 ½"	2'-0"	1'-10"	2'-0"	0'-2 ½"		
AS518		3	3	16'-6"	103	STR							
⊗ AS519		39	39	32'-0"	1302	STR							
AS520		3	3	14'-0"	2457	STR							
AS601	8	8	16	4'-0"	96	1	1'-0"	3'-2"					
	2 SR	2 SR	4 SR	4'-0"				3'-2"					
AS602	OF	OF	OF	TO	292	1	1'-0"	TO					0'-1"
	11	11	11	4'-10"				4'-0"					
AS603	14	14	28	3'-1"	130	28	1'-7"	0'-11"					
AS604	2	2	4	2'-5"	15	1	1'-0"	1'-7"					
AS1001	120	140	260	24'-2"	27,037	STR							
AS1002	3	3	6	16'-6"	426	STR							
AS1003	3	3	6	14'-0"	361	STR							
	FORWARD												
AS501	49	56	105	24'-7"	2692	STR							
AS510	57		57	5'-10"	347	20A	0'-2 ½"	2'-0"	1'-10"	2'-0"	0'-2 ½"		
⊗ AS511	57		57	21'-5"	1273	STR							
⊗ AS512	57		57	19'-8"	1169	STR							
⊗ AS513	39		39	32'-2"	1308	STR							
⊗ AS514	18		18	30'-6"	573	STR							
⊗ AS515		57	57	21'-9"	1293	STR							
⊗ AS516		57	57	19'-10"	1179	STR							
⊗ AS517		114	114	23'-0"	2735	STR							
AS521		3	3	13'-8"	43	STR							
AS601	8	8	16	4'-0"	96	1	1'-0"	3'-2"					0'-1"
	2 SR	2 SR	4 SR	4'-0"				3'-2"					
AS602	OF	OF	OF	TO	292	1	1'-0"	TO					
	11	11	11	4'-10"				4'-0"					
AS603	14	14	28	3'-1"	130	28	1'-7"	0'-11"					
AS604	2	2	4	2'-5"	15	1	1'-0"	1'-7"					
AS1001	120	142	262	24'-7"	27,715	STR							
AS1004	3	3	6	13'-8"	43	STR							
SLEEPER SLABS (FOR REFERENCE ONLY)													
	REAR												
SS501	74	86	160	6'-0"	1001	STR							
⊗ SS502	11		11	22'-2"	254	STR							
SS503	74	86	160	5'-8"	946	30	0'-10"	1'-7"	1'-5 ¾"	1'-5 ¾"			
⊗ SS504	11		11	19'-6"	224	STR							
⊗ SS505	11		11	30'-4"	348	STR							
⊗ SS507		11	11	22'-1"	253	STR							
⊗ SS508		11	11	20'-4"	233	STR							
⊗ SS509		11	11	41'-4"	474	STR							
	FORWARD												
SS501	75	86	161	6'-0"	1008	STR							
SS503	75	86	161	5'-8"	952	30	0'-10"	1'-7"	1'-5 ¾"	1'-5 ¾"			
⊗ SS511	11		11	21'-5"	246	STR							
⊗ SS512	11		11	19'-8"	226	STR							
⊗ SS513	11		11	30'-7"	351	STR							
⊗ SS515		11	11	21'-9"	250	STR							
⊗ SS516		11	11	19'-10"	228	STR							
⊗ SS517		11	11	39'-11"	458	STR							
SUB-TOTAL COL 1 = 91,896 . WEIGHT FOR REFERENCE ONLY													

MARK	NUMBER			LENGTH	WEIGHT	TYPE	DIMENSIONS						
	EAST BOUND	WEST BOUND	TOTAL				A	B	C	D	E	R	INC
RAILING													
R501	276	274	550	7'-4"	4207	23	0'-11"	3'-3"	3'-0"			0'-3"	
R502		4	4	14'-8"	61	STR							
R503	42	42	84	4'-8"	409	STR							
R504		2	2	13'-5"	28	STR							
R505	8	8	16	13'-8"	228	STR							
R506	4	4	8	11'-8"	97	STR							
R507		2	2	13'-10"	29	STR							
R508	32	32	64	30'-0"	2003	STR							
R509	4	4	8	19'-0"	158	STR							
R510	2		2	8'-5"	18	STR							
R511	8		8	9'-8"	81	STR							
R512	2		2	8'-6"	18	STR							
R601		2	2	14'-8"	44	STR							
R602	21	21	42	4'-8"	294	STR							
R603		1	1	13'-5"	20	STR							
R604	4	4	8	13'-8"	164	STR							
R605	2	2	4	11'-8"	70	STR							
R606		1	1	13'-10"	21	STR							
R607	1		1	8'-5"	13	STR							
R608	4		4	9'-8"	58	STR							
R609	1		1	8'-6"	13	STR							
TRANSITIONS													
R520	16	16	32	10'-0"	334	STR							
R521	8	8	16	5'-8"	95	25	1'-10"	2'-5"	1'-4"	0'-2"	0'-5"		
R522	8	8	16	5'-8"	95	STR							
R523	8	8	16	3'-10"	64	STR							
R524	2	2	4	5'-11"	25	22	0'-8"	2'-9"	2'-6"			0'-2"	
MEDIAN													
M401	42		42	5'-6"	154	20	2'-0"	0'-4 ½"	1'-7 ¼"	0'-4 ½"	2'-0"		
M501	264	264	528	5'-4"	2937	19	0'-9"	4'-6 ½"	0'-11"				
M502	48	48	96	14'-8"	1469	STR							
M503	3	3	6	15'-3"	95	STR							
M504	3	3	6	14'-1"	88	STR							
M505	78	78	156	7'-2"	1166	STR							
M506	6	6	12	9'-10"	123	STR							
M507	32	32	64	30'-0"	2003	STR							
M508	4	4	8	19'-0"	158	STR							
M509	264	264	528	5'-1"	3351	STR							
M510	13	13	26	24'-6"	664	STR							
M512	42	42	84	6'-1"	533	20	0'-1 ¾"	0'-9"	4'-7 ½"	0'-2"	0'-9 ¾"		
M601	8	8	16	14'-8"	352	STR							
M602	1	1	2	14'-1"	41	STR							
M603	13	13	26	7'-2"	280	STR							
M604	1	1	2	9'-9"	29	STR							
DIAPHRAGM GUIDES (FOR REFERENCE ONLY)													
	FORWARD												
DG801	10	10	20	7'-3"	387	2	2'-7"	2'-6"	2'-7"				
DG802	8	8	16	5'-0"	214	18	3'-3"	0'-8"	0'-8"				
	REAR												
DG801	10	10	20	7'-3"	387	2	2'-7"	2'-6"	2'-7"				
DG802	8	8	16	5'-0"	214	18	3'-3"	0'-8"	0'-8"				
SUB-TOTAL COL 2 = 23,229 .													
TOTAL SHEET 3 CARRIED TO QUANTITIES= 22,027													

DESIGN AGENCY
KS Associates Inc.
260 BURNS ROAD, ELYRIA, OHIO 44035

DESIGNED MEM | DRAWN RAP | CHECKED ASW | REVIEWED MJM | DATE 12/07/16 | REVISED | STRUCTURE FILE NUMBER 1808850

REINFORCING STEEL LIST - 3

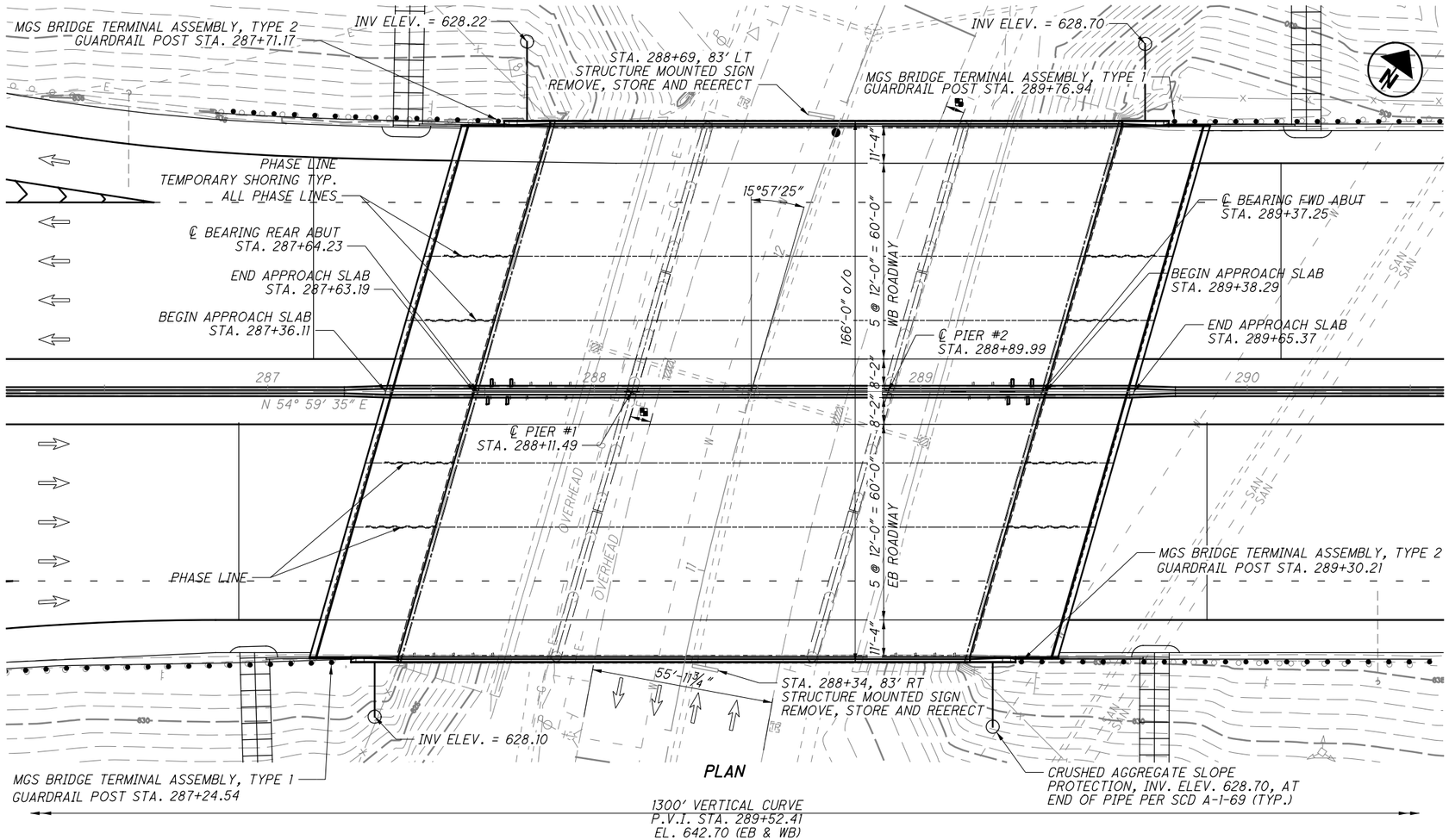
BRIDGE NO. CUY-90-2639
I-90 OVER NEFF ROAD

CUY-90-26.16 / VAR
PID No. 87628

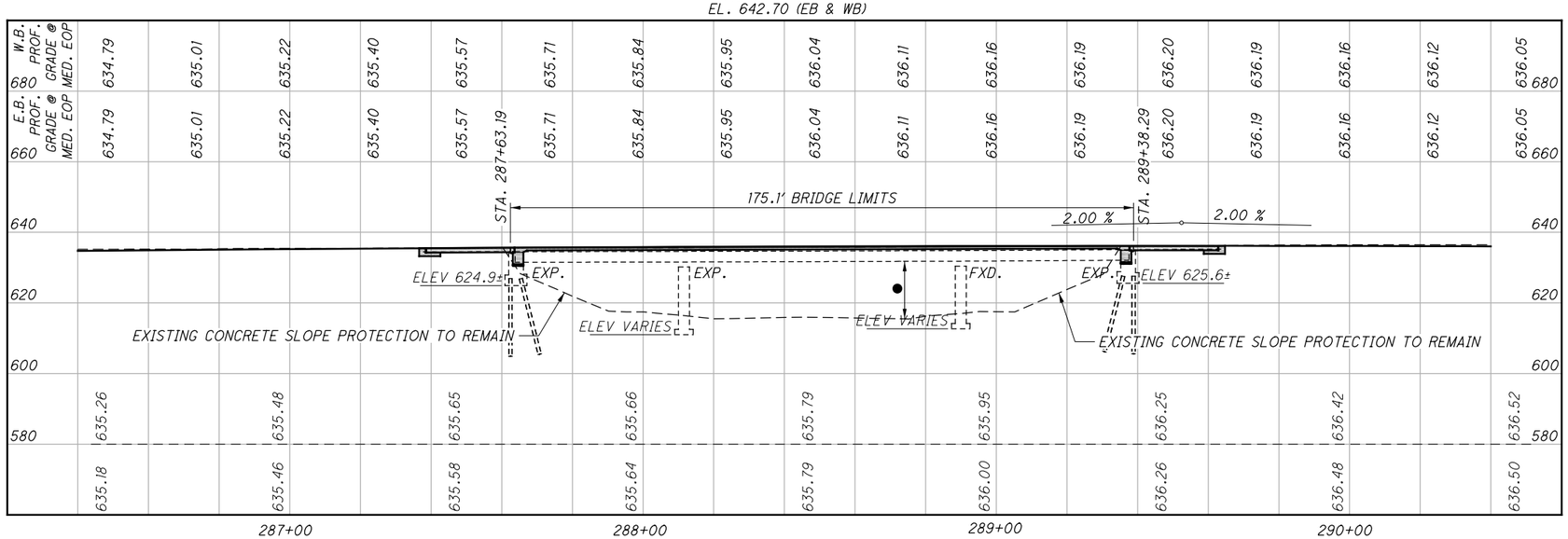
37 / 37

186
222

R:\14000\14035\87628\structures\sheets\CUY90_2639\CUY90_2639RL003.dgn 11/9/2017 1:41:04 PM malloym



PLAN



PROFILE ALONG ℄ CONSTRUCTION I-90

BENCHMARK DATA

BM #5 STA. 289+78.40, ELEV. 618.26 , OFFSET 182.31, LT.
BM #6 STA. 288+49.97, ELEV. 619.15 , OFFSET 222.88, RT.

FOR ADDITIONAL BENCHMARK INFORMATION. SEE ROADWAY PLAN SHEET 2

PROPOSED WORK

REPLACE DECK
CONVERT ABUTMENTS TO SEMI-INTEGRAL
PERFORM FATIGUE RETROFITS
REPAIR ABUTMENT SEATS
REPLACE APPROACH SLABS
SEAL CONCRETE SURFACES
APPLY AESTHETIC TREATMENTS
NEW DRAINAGE SCUPPERS
REPAIR UNDERPASS LIGHTING
CLEAN AND PAINT STRUCTURAL STEEL

NOTES

DESIGN TRAFFIC:
2010 ADT = 111,578 2010 ADTT = 4,832
2033 ADT = 154,870 2033 ADTT = 6,700
DIRECTIONAL DISTRIBUTION = 52%

LEGEND

■ 5'-9¼"± HORIZONTAL CLEARANCE (NORTHBOUND)
6'-3¾"± HORIZONTAL CLEARANCE (SOUTHBOUND)
4'-0" REQUIRED HORIZONTAL CLEARANCE

● 14'-6" REQUIRED MINIMUM VERTICAL CLEARANCE
14'-10" ACTUAL MINIMUM VERTICAL CLEARANCE

EXISTING STRUCTURE

TYPE: 3-SPAN CONTINUOUS STEEL BEAM WITH REINFORCED CONCRETE DECK, PIERS, AND ABUTMENTS.

SPANS: 47'-0" 78'-6" 47'-0" c/c BEARINGS
ROADWAY: 164'-0" F/F PARAPET
LOADING: CF-2000-57
SKEW: 15°57'25" L.F.
APPROACH SLABS: AS-1-54 (25'-0" LONG)
ALIGNMENT: TANGENT
CROWN: 3/16 IN/FT
STRUCTURAL FILE NUMBER: 1808885
DATE BUILT: 1960
DISPOSITION: OPEN

PROPOSED STRUCTURE

TYPE: 3-SPAN CONTINUOUS STEEL BEAM WITH REINFORCED COMPOSITE CONCRETE DECK, CONCRETE PIERS, AND SEMI-INTEGRAL ABUTMENTS.

SPANS: 47'-0" 78'-6" 47'-0" c/c BEARINGS
ROADWAY: 79'-6" EB / 79'-6" WB TOE/TOE PARAPET
LOADING: HS20 CASE I AND ALTERNATE MILITARY (60 PSF FWS.)
SKEW: 15°57'25" L.F.
APPROACH SLABS: 25'-0" LONG (AS-1-81, AS-2-15)
ALIGNMENT: TANGENT
CROWN: 0.016 FT/FT
COORDINATES: LATITUDE 41° 34' 52.53"
LONGITUDE -81° 32' 23.53"

DESIGN AGENCY
KS Associates Inc.
260 BURNS ROAD, ELYRIA, OHIO 44035

DESIGNED MEM | DRAWN MEM | CHECKED RAP | REVIEWED MJM | DATE 01/09/17 | REVISED | STRUCTURE FILE NUMBER 1808885

CUYAHOGA COUNTY
STA. 287+63.19
STA. 289+38.29

SITE PLAN
BRIDGE NO. CUY-90-2674
I-90 OVER EAST 200TH STREET

CUY-90-26.16 / VAR
PID No. 87628

STANDARD DRAWINGS AND SUPPLEMENTAL SPECIFICATIONS

REFER TO THE FOLLOWING STANDARD BRIDGE DRAWING(S):

AS-1-15 DATED 7-17-15
AS-2-15 DATED 7-17-15
GSD-1-96 DATED 7-19-02
SBR-1-13 DATED 1-17-14
SBR-2-13 DATED 1-17-14
SICD-1-96 DATED 7-18-14
SICD-2-14 DATED 7-18-14
VPF-1-90 DATED 7-17-15

AND TO THE FOLLOWING SUPPLEMENTAL SPECIFICATION(S):

NONE

DESIGN SPECIFICATIONS

DESIGN SPECIFICATIONS: THIS STRUCTURE CONFORMS TO "STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, 2002 17TH EDITION, INCLUDING THE 2005 ERRATA AND THE ODOT BRIDGE DESIGN MANUAL.

DESIGN LOADING

DESIGN LOADING: HS20, CASE I AND THE ALTERNATE MILITARY LOADING.

FUTURE WEARING SURFACE (FWS) OF 60 POUNDS PER SQUARE FOOT.

DESIGN DATA

CONCRETE QC2 - COMPRESSIVE STRENGTH 4500 PSI (SUPERSTRUCTURE)

CONCRETE QC1- COMPRESSIVE STRENGTH 4000 PSI (SUBSTRUCTURE)

REINFORCING STEEL - ASTM A615 OR A996, GRADE 60, MINIMUM YIELD STRENGTH 60,000 PSI

NEW STRUCTURAL STEEL - ASTM A709 GRADE 50 , MINIMUM YIELD STRENGTH 50,000 PSI

EXISTING STRUCTURAL STEEL -A7, GRADE 33 , MINIMUM YIELD STRENGTH 33,000 PSI

DECK PROTECTION METHOD

EPOXY COATED REINFORCING STEEL

2-1/2" CONCRETE COVER

MONOLITHIC WEARING SURFACE

MONOLITHIC WEARING SURFACE IS ASSUMED, FOR DESIGN PURPOSES, TO BE 1 INCH THICK.

ITEM 202 - PORTIONS OF STRUCTURE REMOVED, AS PER PLAN

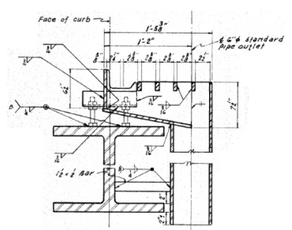
DESCRIPTION: THIS WORK CONSISTS OF THE REMOVAL OF CONCRETE DECK INCLUDING, PARAPETS, RAILINGS, DECK JOINTS AND OTHER APPURTENANCES FROM STEEL SUPPORTING SYSTEMS (BEAMS, GIRDERS, CROSS FRAMES, ETC.). THIS ITEM ALSO INCLUDES THE REMOVAL OF CROSSFRAMES DENOTED IN THE PLANS, AND THE BACKWALLS AND TOPS OF WINGWALLS FROM THE BEARING SEATS UP. 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.

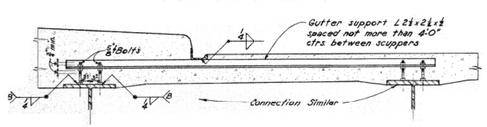
REMOVAL METHODS: THE CONTRACTOR MAY REMOVE CONCRETE BY CUTTING AND BY MEANS OF HAND OPERATED PNEUMATIC HAMMERS EMPLOYING POINTED OR BLUNTED CHISEL TYPE TOOLS. FOR REMOVALS OVER STRUCTURAL MEMBERS (PRESTRESSED BOX BEAM, I-BEAM, STEEL BEAM STEEL GIRDER, ETC), THE CONTRACTOR MAY USE A HAMMER HEAVIER THAN 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 DIRECTOR. OBTAIN THE DIRECTOR'S APPROVAL BEFORE PER- FORMING REPAIR.

NOTE: THE EXISTING SCUPPERS ARE WELDED TO THE EXISTING BEAMS. ADDITIONALLY THERE ARE ANGLES EMBEDDED IN THE CONCRETE DECK AND WELDED TO THE EXISTING BEAMS AT THE MEDIAN TO SUPPORT THE SCUPPERS. SEE DETAIL BELOW. THE CONTRACTOR SHALL INCLUDE WITH THE DECK REMOVAL PROCEDURE SUBMISSION, A SEPARATE PROCEDURE FOR REMOVING THE DECK IN THE AREA OF EXISTING SCUPPERS SHOWING HOW THE DECK WILL BE REMOVED WITHOUT DAMAGING THE EXISTING STEEL BEAMS TO REMAIN.



SCUPPER ELEVATION



GUTTER SUPPORT AT MEDIAN

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, AS PER PLAN.

ITEM 202 - PORTIONS OF STRUCTURE REMOVED, AS PER PLAN, TIMBER SUBDECKING

THIS ITEM INCLUDES ALL LABOR, MATERIAL, AND EQUIPMENT NECESSARY TO REMOVE AND DISPOSE THE EXISTING TIMBER SUBDECK FROM THE BRIDGE AFTER COMPLETION OF THE NEW DECK.

CUT LINE CONSTRUCTION JOINT PREPARATION

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.

ASBESTOS ABATEMENT

AN ASBESTOS SURVEY OF THE MAINLINE IR-90 BRIDGES OVER E. 200TH ST. WAS COMPLETED IN MARCH 2014 BY A CERTIFIED ASBESTOS HAZARD EVALUATION SPECIALIST. NO ASBESTOS CONTAINING MATERIAL (ACM) WAS IDENTIFIED ON THE BRIDGES. A COPY OF THE OHIO ENVIRONMENTAL PROTECTION AGENCY (OEPA) NOTIFICATION OF DEMOLITION AND RENOVATION FORM WITH SECTIONS I-IV, VI, VII, AND XVI COMPLETED IS INCLUDED WITH THE BID PACKAGE. THE CONTRACTOR SHALL COMPLETE SECTIONS V, VIII-XVIII 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 SHALL PROVIDE A COPY OF THE COMPLETED FORM TO THE ENGINEER. THE LOCAL AIR AUTHORITY IS:

THE DEPARTMENT OF PUBLIC HEALTH
DIVISION OF ENVIRONMENT
1925 ST. CLAIR AVENUE
CLEVELAND, OHIO 44114
PHONE: (216) 664-2300

COST TO COMPLETE THE NOTIFICATION OF DEMOLITION AND RENOVATION FORM SHALL BE INCLUDED IN THE LUMP SUM CONTRACT PRICE FOR ITEM 202 STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN

UTILITY LINES

UTILITY LINES: THE UTILITY(IES) SHALL BORE ALL EXPENSE INVOLVED IN RELOCATING (INSTALLING) THE AFFECTED UTILITY LINES. THE CONTRACTOR AND UTILITY(IES) ARE TO COOPERATE BY ARRANGING THEIR WORK IN SUCH A MANNER THAT INCONVENIENCE TO EITHER WILL BE HELD TO A MINIMUM.

EXISTING HIGHWAY LIGHTING CONDUITS ARE ATTACHED TO THE BOTTOM OF THE DECK. ACTIVE TOWER LIGHTING CONDUITS ARE TO BE MAINTAINED. SEE GENERAL NOTES FOR DESCRIPTION OF WORK UNDER ITEM 625 - LIGHTING, MISC.: REPLACE CONDUIT IN PARAPET.

EXISTING STRUCTURE VERIFICATION

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.

ITEM 503 - COFFERDAMS AND EXCAVATION BRACING

THIS ITEM INCLUDES THE TEMPORARY SHORING BETWEEN ALL PHASE LINES. MAY REMAIN IN PLACE BETWEEN PHASES, BUT MUST BE REMOVED PRIOR TO COMPLETION OF LATER PHASE APPROACH SLAB PLACEMENT.

ITEM 503 - UNCLASSIFIED EXCAVATION, AS PER PLAN

UNCLASSIFIED EXCAVATION SHALL BE IN ACCORDANCE WITH CMS ITEM 503 EXCEPT THAT THE BACKFILL MATERIAL SHALL CONFORM TO CMS 703.17 (CMS 304 MATERIAL) AND MEET THE COMPACTION REQUIREMENTS OF CMS 304.05. IN ADDITION, THE BACKFILL MATERIAL SHALL BE PLACED AND COMPACTED IN 6 INCH LIFTS. EXCAVATION OF THE EXISTING POROUS BACKFILL SHALL BE INCLUDED IN THIS ITEM.

ITEM 511 - CLASS QC2 CONCRETE WITH QC/QA, SUPERSTRUCTURE, AS PER PLAN
ITEM 511 - CLASS QC2 CONCRETE WITH QC/QA. BRIDGE DECK. AS PER PLAN
ITEM 511 - CLASS QC2 CONCRETE WITH QC/QA. BRIDGE DECK (PARAPET). AS PER PLAN

1. GENERAL REQUIREMENTS:

THE PROVISIONS OF ITEM 511 SHALL APPLY EXCEPT AS NOTED BELOW. IN ADDITION, THE CONTRACTOR SHALL PROVIDE A RUBBED SURFACE IN ACCORDANCE WITH CMS 511.15 (B) ON ALL EXPOSED SURFACES.

THIS ITEM SHALL INCLUDE THE SURVEYING, LAYOUT AND TIME REQUIRED TO DETERMINE THE SCREED TABLE ELEVATIONS USING THE INCLUDED SCREED FORMULA TABLE.

THE STRUCTURAL STEEL THAT WILL BE ENCASED AS PART OF THE SEMI-INTEGRAL DIAPHRAGM CONSTRUCTION, SHALL BE CLEAN PRIOR TO PLACEMENT OF THE CONCRETE PER CMS 514.13 A SOLVENT CLEANING. THIS COST FOR THIS SOLVENT CLEANING IS CONSIDERED INCIDENTAL AND SHALL BE INCLUDED WITH THE PRICE BID FOR CLASS QC2 CONCRETE WITH QC/QA, SUPERSTRUCTURE, AS PER PLAN.

THIS COST FOR DRILLING HOLES IN THE EXISTING STEEL FOR PLACEMENT OF REINFORCING STEEL AND PROVIDING VENT HOLES FOR THE PURPOSE OF CONSTRUCTING THE SEMI-INTEGRAL DIAPHRAGM IS CONSIDERED INCIDENTAL AND SHALL BE INCLUDED WITH THE PRICE BID FOR CLASS QC2 CONCRETE WITH QC/QA, SUPERSTRUCTURE, AS PER PLAN.

2. MATERIALS: ALL COARSE AGGREGATE SHALL HAVE AN ABSORPTION OF 1.00% OR GREATER AS DEFINED PER ASTM C127.

3. MEDIAN CONSTRUCTION: FOR MAINTENANCE OF TRAFFIC PURPOSES, THE CONTRACTOR SHALL CONSTRUCT THE MEDIAN

DESIGN AGENCY
KS Associates Inc.
260 BURNS ROAD, ELYRIA, OHIO 44035

DESIGNED MJM | DRAWN MJM | REVIEWED ASW | DATE 12/07/16 | CHECKED CFE | REVISED | STRUCTURE FILE NUMBER 1808885

BRIDGE GENERAL NOTES - 1
CUY-90-2674
I-90 OVER EAST 200TH ST

CUY-90-26.16/VAR
PID No. 87628

DECK PHASE AS ONE UNIT, WITH NO MEDIAN JOINT. DECK PLACEMENT SHALL OCCURE PRIOR TO INSTALLATION OF TEMPORARY CROSS FRAMES. GLASS FIBER REINFORCED POLYMER (GFRP) REINFORCEMENT BAR SHALL BE PLACED AS INDICATED IN THE PLANS. DURING THE FINAL CONSTRUCTION PHASE, AFTER THE REMOVAL OF THE TEMPORARY CROSS-FRAMES AND PRIOR TO

MEDIAN PARAPET CONSTRUCTION, THE CONTRACTOR SHALL SAW CUT THE FULL DEPTH MEDIAN JOINT. THE CONTRACTOR SHALL DOWEL AND EPOXY GROUT THE MEDIAN REINFORCING BARS INTO THE DECK TAKING CARE NOT TO DAMAGE THE STEEL DECK REINFORCING BARS. ALL WORK REQUIRED TO COMPLETE THIS WORK, NOT SPECIFICALLY INCLUDED IN ANOTHER PAY ITEM IS CONSIDERED INCIDENTAL TO THESE PAY ITEMS.

5. BASIS OF PAYMENT:

ITEM	EXT	UNITS	DESCRIPTION
511	34447	C.Y.	CLASS QC2 CONCRETE WITH QC/QA, SUPERSTRUCTURE, AS PER PLAN
511	34447	C.Y.	CLASS QC2 CONCRETE WITH QC/QA, BRIDGE DECK, AS PER PLAN
511	34451	C.Y.	CLASS QC2 CONCRETE WITH QC/QA, BRIDGE DECK (PARAPET), AS PER PLAN

SCREED ELEVATIONS

SCREED ELEVATIONS ARE TO BE CALCULATED BY CONTRACTOR PER THE SCREED TABLE NOTES. THE CONTRACTOR IS TO SURVEY THE BEAMS PRIOR TO DECK REMOVAL DURING EACH PHASE AND JUST AFTER DECK REMOVAL. THIS INFORMATION WILL BE USED BY THE CONTRACTOR TO CALCULATE THE DECK SCREEDS BASED ON THE SCREED TABLE SHEET. SEE SCREED TABLE FOR ADDITIONAL INFORMATION.

FINAL DECK SURFACE ELEVATIONS

FINAL DECK SURFACE ELEVATIONS SHOWN REPRESENT THE DECK SURFACE LOCATION AFTER ALL ANTICIPATED DEAD LOAD DEFLECTIONS HAVE OCCURRED.

DECK SLAB THICKNESS FOR CONCRETE QUANTITY

DECK SLAB THICKNESS FOR CONCRETE QUANTITY:
THE ESTIMATED QUANTITY OF DECK CONCRETE IS MEASURED ACCORDING TO C&MS 511. IN ADDITION TO THE DESIGN SLAB THICKNESS, THE QUANTITY INCLUDES A VARIABLE HAUNCH THICKNESS THAT PROVIDES AN ALLOWANCE FOR: VERTICAL GRADE ADJUSTMENT, BEAM CAMBER AND ADDITIONAL SACRIFICIAL HAUNCH THICKNESS.

MECHANICAL CONNECTORS

AN APPROVED TYPE OF MECHANICAL CONNECTOR FOR REINFORCING STEEL BARS SHALL BE PROVIDED. INSTALLATION OF CONNECTORS SHALL CONFORM WITH MANUFACTURER'S RECOMMENDED PROCEDURES. MANUFACTURER'S STANDARD CAP OR PLUG SHALL BE USED TO PREVENT CONCRETE FROM ENTERING THE MECHANICAL CONNECTOR.

MECHANICAL CONNECTORS USED WITH EPOXY COATED BARS SHALL BE EPOXY COATED. COATING FOR BOTH CONNECTORS AND BARS SHALL CONFORM TO THE SAME SPECIFICATIONS. COATINGS WHICH HAVE BEEN DAMAGED OR WHICH OTHERWISE DO NOT MEET SPECIFICATIONS WITH RESPECT TO COLOR, CONTINUITY, AND UNIFORMITY MAY BE REPAIRED AS DIRECTED BY THE ENGINEER OR THEY SHALL BE REPLACED WITH MATERIAL THAT MEETS THE SPECIFICATIONS AT NO ADDITIONAL COST TO THE DEPARTMENT. THE MECHANICAL CONNECTOR SYSTEM USED SHALL BE ABLE TO DEVELOP 125 PERCENT OF THE FULL YIELD STRENGTH OF THE REINFORCING STEEL AS A MINIMUM.

ALL MATERIALS, LABOR, EQUIPMENT AND INCIDENTALS NECESSARY TO FURNISH AND INSTALL THE MECHANICAL REINFORCING STEEL CONNECTORS SHALL BE INCLUDED FOR PAYMENT UNDER ITEM 509, EPOXY COATED REINFORCING STEEL.

ITEM 511 - SEMI-INTEGRAL DIAPHRAGM GUIDE, AS PER PLAN

THE PROVISIONS OF STANDARD DRAWING SICD-2-14 DATED 7-18-14 SHALL APPLY EXCEPT AS NOTED.

THE SEMI-INTEGRAL DIAPHRAGM GUIDE CONSTRUCTED AS DETAILED IN THE PLANS. THE REINFORCING STEEL SHALL BE DOWELED INTO THE EXISTING ABUTMENT PER CMS 510 USING NONSHRINK, NONMETALLIC GROUT.

THE COST FOR ALL MATERIAL, LABOR, AND, EQUIPMENT NECESSARY TO INSTALL THE SEMI-INTEGRAL DIAPHRAGM GUIDE, INCLUDING ALL DOWELS, IS INCLUDED IN THE PRICE BID FOR EACH SEMI-INTEGRAL DIAPHRAGM GUIDE CONSTRUCTED AND IN PLACE.

WELD ATTACHMENT

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.

INSPECTION OF EXISTING STRUCTURAL STEEL

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 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 QC2 CONCRETE WITH QC/QA, 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.

ITEM 511 - CONCRETE. MISC.: MOCKUP, MOLDED BRICK SURFACE

MOCKUPS CONSTRUCTED UNDER BRIDGE CUY-90-2616
I-90 OVER EAST 185TH ST.

ITEM 511 - CONCRETE. MISC.: MOLDED BRICK SURFACE

1. GENERAL:

THE WORK TO BE DONE UNDER THIS ITEM SHALL INCLUDE:

1.01 CONSTRUCT TEXTURED AND COLORED CONCRETE SURFACES USING MOLDS AND COLOR STAIN SYSTEM DESIGNED TO DUPLICATE CLOSELY THE APPEARANCE AND TEXTURE OF REAL BRICK.

1.02 USE BRICK MOLDS GIVING THE APPEARANCE OF SMOOTH, NEW BRICK.

1.03 DO NOT USE MOLDS GIVING THE APPEARANCE OF ROUGH OR STRIATED BRICK.

1.04 USE MOLDS WITH BRICK DIMENSIONS OF 3 5/8" X 7 5/8" AND 3/8" GROUT LINES. THE RELIEF OF THE GROUT LINES SHALL BE AT LEAST 1/4" BUT NOT EXCEED 5/16".

1.05 USE REUSABLE, HIGH-STRENGTH URETHANE MOLDS.

1.06 NO LESS THAN 60 DAYS PRIOR TO THE CONSTRUCTION OF THE FIRST MOLDED BRICK SURFACE, SUBMIT TO THE ENGINEER A 24" SQUARE SAMPLE OF THE PROPOSED BRICK MOLD, INCLUDING MANUFACTURE'S SPECIFICATIONS AND RECOMMENDATIONS FOR ITS USE.

1.07 NO LESS THAN 30 DAYS PRIOR TO THE CONSTRUCTION OF THE FIRST MOLDED BRIDGE SURFACE, SUBMIT TO THE ENGINEER ONE COPY OF SHOP DRAWINGS SHOWING PLAN, ELEVATION, AND DETAILS TO SHOW OVERALL PATTERN, JOINT LOCATIONS, FORM TIE LOCATIONS, AND END, EDGE, AND OTHER SPECIAL CONDITIONS.

1.08 A PRE-INSTALLATION MEETING IS REQUIRED. SCHEDULE MEETING AMONG MANUFACTURER'S REPRESENTATIVES, APPROPRIATE SUBCONTRACTORS, THE DISTRICT 12 PRODUCTION ADMINISTRATOR OR HIS DESIGNEE, AND THE ENGINEER TO ASSURE UNDERSTANDING OF FORMLINER USE, STAIN APPLICATION, AND THE REQUIREMENTS OF THE MOCKUP CONSTRUCTION.

2. PRODUCTS:

2.01 SIMULATED BRICK MOLDS SHALL BE REUSABLE, MADE OF HIGH-STRENGTH URETHANE, AND EASILY ATTACHABLE TO FORMS. MOLDS SHALL NOT COMPRESS MORE THAN 1/4" WHEN CONCRETE IS POURED AT RATE OF 10 VERTICAL FEET PER HOUR. MOLDS SHALL BE REMOVABLE WITHOUT CAUSING DETERIORATION OF SURFACE OR UNDERLYING CONCRETE.

2.02 USE A RELEASE AGENT THAT IS COMPATIBLE WITH MOLDS AND WITH COLOR STAIN SYSTEM TO BE APPLIED TO SURFACE. PROVIDE THE ENGINEER WITH THE MANUFACTURE'S SPECIFICATIONS FOR PRODUCT APPLICATION.

2.03 USE FORM TIES MADE OF EITHER METAL OR FIBERGLASS. METAL TIES WHICH WILL REMAIN PERMANENTLY EMBEDDED IN THE CONCRETE SHALL BE DESIGNED TO SEPARATE AT LEAST ONE INCH BACK FROM FINISHED SURFACE, LEAVING ONLY A NEAT HOLE TO BE PLUGGED WITH PATCHING MATERIAL. SUBMIT THE TYPE OF FORM TIES TO THE ENGINEER FOR APPROVAL PRIOR TO USE.

3. EXECUTION:

3.01 CLEAN MOLDS AND MAKE FREE OF BUILDUP PRIOR TO EACH POUR. INSPECT FOR BLEMISHES OR TEARS. REPAIR IF POSSIBLE FOLLOWING MANUFACTURE'S RECOMMENDATIONS. DAMAGED MOLDS SHALL BE REPLACED AT NO ADDITIONAL CHARGE TO THE STATE.

3.02 APPLY RELEASE AGENT IN ACCORDANCE WITH THE MANUFACTURE'S RECOMMENDATIONS.

3.03 PLACE MOLDS WITH LESS THAN 1/4" SEPARATION BETWEEN THEM. ATTACH MOLDS TO FORM SECURELY FOLLOWING MANUFACTURE'S RECOMMENDATIONS.

3.04 WHERE FORM LINERS ABUT, CAREFULLY BLEND SURFACE TO MATCH THE BALANCE OF THE BRICK PATTERN, AVOIDING VISIBLE SEAMS OR FORM MARKS.

3.05 PLACE FORM TIES AT THINNEST POINTS OF MOLDS (THE HIGH POINTS OF FINISHED SURFACE). NEATLY PATCH THE HOLE REMAINING AFTER DISENGAGING THE PROTRUDING PORTION OF THE TIE SO THAT IT WILL NOT BE VISIBLE AFTER COLORING THE CONCRETE SURFACE.

THIS ITEM SHALL INCLUDE ALL WORK NECESSARY TO CONSTRUCT THE BRICK PATTERN INTO THE CONCRETE PARAPET AS INDICATED IN THE PLAN. SEE BRIDGE RAILING DETAILS FOR

LOCATIONS. THIS ITEM WILL BE PAID PER SQUARE YARD OF PARAPET FACE (ABOVE THE DECK EDGE) TO RECEIVE THE PATTERNED CONCRETE.

ITEM 511 - CONCRETE. MISC.: STAINING CONCRETE SURFACES

1. GENERAL:

1.01 STAIN MOLDED BRICK SURFACES USING AN ACRYLIC RESIN-BASED STAIN.

2. PRODUCTS:

2.01 PRODUCT SHALL CREATE A SURFACE FINISH THAT IS

BREATHABLE (ALLOWING WATER VAPOR TRANSMISSION), AND THAT RESISTS DETERIORATION FROM WATER, ACID, ALKALI, FUNGI, SUNLIGHT OR WEATHERING.

2.02 STAIN MIX SHALL BE A WATER BORNE, LOW VOC MATERIAL (LESS THAN 289 GRAMS/LITER), AND SHALL MEET REQUIREMENTS FOR WEATHERING RESISTANCE OF 2000 HOURS ACCELERATED EXPOSURE MEASURED IN ACCORDANCE WITH ASTM G-23. SCRUB TEST 1000 REVOLUTIONS. ABRASIVE RESISTANCE (TABOR-CF-IO) 500 CYCLES. ADHESION ASTM D-3359 1.00 MM CROSS CUTS ON GLASS PASS 3 OR HIGHER ON A SCALE OF I TO 5. SUPPLY INFORMATION PERTAINING TO CHEMICAL RESISTANCE ASTM D-1308 TO 87.

3. EXECUTION:

3.01 PROVIDE THE ENGINEER WITH THE MANUFACTURER'S SPECIFICATIONS FOR PRODUCT APPLICATION. APPLY THE PRODUCT IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS WITH EXCEPTIONS AS NOTED.

3.02 CLEAN SURFACE PRIOR TO APPLICATION OF STAIN MATERIALS BY PRESSURE WASHING WITH WATER, MINIMUM 3000 PSI (A RATE OF THREE TO FOUR GALLONS PER MINUTE), USING FAN NOZZLE PERPENDICULAR TO AND AT A DISTANCE OF ONE OR TWO FEET FROM SURFACE. COMPLETED SURFACE SHALL BE FREE OF BLEMISHES, DISCOLORATION, SURFACE VOIDS AND UNNATURAL FORM MARKS. DO NOT SANDBLAST. ETCHING IS NOT REQUIRED.

3.03 APPLY STAIN BY HAND USING A BRUSH OR ROLLER WHEN AMBIENT TEMPERATURE IS BETWEEN 50-90 DEGREES FAHRENHEIT.

3.04 THE INTENT IS FOR THE RED BRICK STAIN COLOR TO MATCH THE ADJACENT NOISE WALL'S WHICH USE FEDERAL COLOR STANDARD 595B-20109. THE CONTRACTOR MAY USE THE FOLLOWING SHERWIN WILLIAMS STAIN COLORS OR THEIR CLOSELY MATCHED, NON-PROPRIETARY EQUIVALENTS. STAIN BRICK SURFACES USING SW 6335 (FIRED BRICK). STAIN GROUT LINES USING SW 7030 (ANEW GRAY). PROVIDE RANDOM BRICK HIGHLIGHTS USING SW 6005 (FOLKSTONE) AND SW 6258 (TRICORN BLACK). ACTUAL COLORS USED ARE SUBJECT TO CHANGE AT THE DIRECTION OF THE ENGINEER ON REVIEW OF THE APPEARANCE OF THE MOCKUPS. USE COLORS AND TECHNIQUES AS APPROVED FOR THE FINAL MOCKUP.

3.05 WHERE EXPOSED SOIL OR PAVEMENT IS ADJACENT WHICH MAY SPLATTER DIRT OR SOIL FROM RAINFALL, OR WHERE SURFACE MAY BE EXPOSED TO OVERSPRAY FROM OTHER PROCESSES, PROVIDE TEMPORARY COVER OF FINISHED WORK.

THIS ITEMS INCLUDES ALL NECESSARY WORK TO STAIN THE BRICK PATTERN AND THE GROUT LINE PATTERNS AS INDICATED IN THE PLANS. MEASUREMENT WILL BE PER SQUARE YARD PARAPET FACE STAINED.

DESIGN AGENCY
KS Associates Inc.
260 BURNS ROAD, ELYRIA, OHIO 44035

DESIGNED MJM | DRAWN MJM | REVIEWED ASW | DATE 12/07/16
CHECKED CFE | REVISED | STRUCTURE FILE NUMBER 1806885

BRIDGE GENERAL NOTES - 2
BRIDGE NO. CUY-90-2674
I-90 OVER EAST 200TH ST

CUY-90-26.16/VAR
PID No. 87628

ITEM 512 - SEALING OF CONCRETE SURFACES (NON-EPOXY), AS PER PLAN

PRIOR TO APPLICATION OF ACRYLIC STAINS, APPLY NON-EPOXY CONCRETE SEALER TO MOLDED BRICK SURFACES. THE PROVISIONS OF ITEM 512 APPLY, EXCEPT AS FOLLOWS:

1. APPLY SEALER WITH A BRUSH OR ROLLER ONLY.

2. USE A CLEAR SEALER.

3. VERIFY THE PRODUCT FURNISHED IS COMPATIBLE WITH THE PROPOSED STAIN PRODUCT. PROVIDE WRITTEN VERIFICATION TO THE ENGINEER.

ITEM 512 - SEALING OF CONCRETE SURFACES, (EPOXY-URETHANE)

THE CONTRACTOR SHALL SEAL THE PARAPETS, MEDIAN BARRIERS, AND DECK EDGES AS INDICATED IN THE PLANS. GREAT CARE SHALL BE USED TO AVOID ANY OVER SPRAY OR SPLATTER ONTO SURFACES TO RECEIVE CONCRETE STAIN ON THE BRICK PATTERNED CONCRETE.

ALL EXPOSED SUBSTRUCTURE ELEMENTS, INCLUDING BACKWALLS, BEAM SEATS, ABUTMENTS, WINGWALLS, PIERS AND PIER CAPS FROM THE GROUND LINE UP SHALL BE SEALED.

THE FINISH COAT SEALER COLOR SHALL BE FEDERAL STANDARD COLOR 595B-27722 (BUFF)

ITEM 513 - STRUCTURAL STEEL, MISC.:FATIGUE RETROFIT
ITEM 513 - STRUCTURAL STEEL, MISC.:FATIGUE RETROFIT, BOTTOM FLANGE

THESE ITEMS INCLUDES ALL MATERIAL, LABOR, AND EQUIPMENT NECESSARY TO INSTALL THE FATIGUE RETROFITS AS DETAILED IN THE PLANS.

PRIOR TO INSTALLATION OF THE NEW STEEL RETROFIT, THE CONTRACTOR SHALL MAKE PROVISION FOR THE PROJECT ENGINEER TO INSPECT WELDS IN THE AREA OF THE RETROFIT FOR CRACKS.

PRIOR TO INSTALLATION, THE CONTRACTOR SHALL BLAST CLEAN THE EXISTING STEEL AT THE PROPOSED FAYING SURFACES TO A NEAR WHITE CONDITION MEETING SSPC-SP-10 AS DESCRIBED UNDER CMS 514.13.

ALL BOLTS SHALL BE ASTM A325 GALVANIZED, AND ALL NEW STEEL SHALL BE ASTM A709 GRADE 50.

FOR PURPOSES OF MEASUREMENT, THE DEPARTMENT WILL PAY FOR EACH RETROFIT LOCATION AS INDICATED IN THE PLANS. BY THE NUMBER OF POUNDS.

ITEM 513 - STRUCTURAL STEEL MISC. TEMPORARY CROSSFRAMES FOR MAINTENANCE OF TRAFFIC

CONTRACTOR TO INSTALL TEMPORARY CROSSFRAMES AT THE LOCATIONS INDICATED IN THE PLANS AFTER THE PLACEMENT OF THE CONCRETE MEDIAN DECK AND PRIOR TO OPENING THE MEDIAN DECK TO TRAFFIC FOR MAINTENANCE OF TRAFFIC PURPOSES.

THE CROSSFRAMES SHALL BE REMOVED DURING THE FINAL CONSTRUCTION PHASE, PRIOR TO THE SAW CUT OF THE MEDIAN FULL DEPTH CONSTRUCTION JOINT.

ALL WELD LOCATIONS SHALL BE GROUND SMOOTH AT TIME OF REMOVAL.

THE CONTRACTOR SHALL INSTALL TEMPORARY CROSSFRAMES MEETING THE REQUIREMENT OF SCD GSD-1-96 TYPE 1.

TEMPORARY CROSSFRAMES DO NOT NEED TO BE PRIME COATED.

THE BRIDGE BID WILL INCLUDE ALL NECESSARY LABOR, MATERIAL, AND WORK NECESSARY TO INSTALL AND REMOVE EACH TEMPORARY CROSSFRAME.

ITEM 514 - SURFACE PREPARATION OF EXISTING STRUCTURAL STEEL

ITEM 514 - FIELD PAINTING OF EXISTING STRUCTURAL STEEL, PRIME COAT

ITEM 514 - FIELD PAINTING STRUCTURAL STEEL, INTERMEDIATE COAT

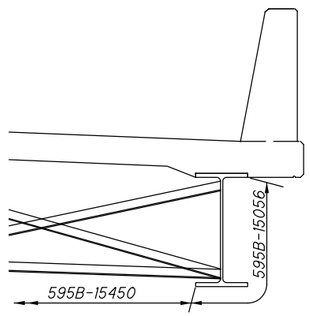
ITEM 514 - FIELD PAINTING STRUCTURAL STEEL, FINISH COAT

ITEM 514 - FINAL INSPECTION REPAIR

ALL EXISTING STEEL TO REMAIN SHALL RECEIVE SURFACE PREPARATION OF EXISTING STRUCTURAL STEEL, FIELD PAINTING OF EXISTING STRUCTURAL STEEL, PRIME COAT, FIELD PAINTING STRUCTURAL STEEL, INTERMEDIATE COAT, FIELD PAINTING STRUCTURAL STEEL, FINISH COAT, AND FINAL INSPECTION REPAIR. THE CONTRACTOR SHALL ALSO GRIND THE FLANGE EDGES AS REQUIRED.

THE EXISTING STEEL TO REMAIN THAT WILL BE ENCASED IN CONCRETE BY THE SEMI-INTEGRAL DIAPHRAGM WILL NOT NEED TO BE PAINTED, BUT SHALL BE CLEANED PER CMS 514.13 A SOLVENT CLEANING, PRIOR TO PLACEMENT OF CONCRETE. SOLVENT CLEANING OF THIS ENCASED STEEL WILL BE INCLUDED AS INCIDENTAL TO ITEM 511 CLASS QC2 CONCRETE WITH QC/QA, SUPERSTRUCTURE, AS PER PLAN

THE COLOR OF THE STEEL FINISH COAT FOR THE OUTSIDE FACE OF THE STRUCTURAL STEEL FASCIA BEAMS AND THE ENTIRE FASCIA BEARINGS SHALL BE FEDERAL COLOR NUMBER (COLOR - GLOSS) 595B-15056 (CITY OF CLEVELAND BLUE). ALL OTHER STRUCTURAL STEEL FINISH COAT COLOR SHALL BE FEDERAL COLOR NUMBER (COLOR - GLOSS) - 595B-15450 BLUE.



ITEM 516 - ARMORLESS PREFORMED JOINT SEAL, AS PER PLAN

THIS ITEM SHALL BE USED TO SEAL BETWEEN THE TWO HALVES OF THE MEDIAN BARRIER AS DETAILED IN THE PLANS. ARMORLESS PREFORMED JOINT SEAL SHALL MEET THE SAME REQUIREMENTS AS DETAILED IN STANDARD DRAWING AS-2-15, SHEET 8 OF 14 WITH THE FOLLOWING EXCEPTIONS.

FOR THE R.J. WATSON, INC SEAL, USE THE SILICOFLEX SF 225

FOR WATSON BOWMAN ACME CORP. USE THE WABO-SPS-225

FOR D.S. BROWN COMPANY, USE THE V-300

ELASTOMERIC BEARINGS

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.

ITEM 516 - JACKING AND TEMPORARY SUPPORT OF SUPER-STRUCTURE, AS PER PLAN

THIS WORK CONSISTS OF RAISING OR RE-POSITIONING EXISTING STRUCTURES TO THE DIMENSIONS AND REQUIREMENTS DEFINED IN THE PROJECT PLANS IN ORDER TO INSTALL NEW BEARING.

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 STRINGERS, 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.

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 - POROUS BACKFILL, AS PER PLAN

PLACE AND COMPACT POROUS BACKFILL IN 6" LIFTS

ITEM 519 - PATCHING CONCRETE STRUCTURES, AS PER PLAN

ITEM 519 - PATCHING CONCRETE STRUCTURES, AS PER PLAN: PRIOR TO ANY DECK REMOVAL OPERATIONS AND PRIOR TO INSTALLING NEW BEARINGS, THE CONTRACTOR SHALL PATCH ALL UNSOUND AND DETERIORATED AREAS IDENTIFIED BY THE ENGINEER ON BOTH THE REAR AND FORWARD PORTIONS OF THE ABUTMENTS TO REMAIN.

PRIOR TO THE SURFACE CLEANING SPECIFIED IN 519.04 AND WITHIN 24 HOURS OF PLACING PATCHING MATERIAL, BLAST CLEAN ALL SURFACES TO BE PATCHED INCLUDING THE 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. PRIOR TO SEALING CONCRETE SURFACES.

ITEM 526 - REINFORCED CONCRETE APPROACH SLABS WITH QC/QA (T=15"), AS PER PLAN

DESCRIPTION: THIS ITEM SHALL CONSIST OF CONSTRUCTING REINFORCED CONCRETE APPROACH SLABS IN ACCORDANCE WITH THE DETAILS IN THE STRUCTURE PLANS AND ODOT STANDARD DRAWINGS SBR-2-13, SBR-1-13, AS-1-15, AND AS-2-15.

MATERIALS: CONCRETE, REINFORCING STEEL, AND MECHANICAL CONNECTORS FOR THIS ITEM 526 SHALL BE THE SAME MATERIAL AND MEET THE SAME REQUIREMENTS AS THOSE USED FOR THE BRIDGE DECK, AND RAILINGS, AND MEDIAN BARRIER. SEE STRUCTURE GENERAL NOTES ITEM 511 FOR THE CONCRETE MIX REQUIREMENTS.

METHOD OF MEASUREMENT: THE AREA MEASURED WILL BE THE NUMBER OF SQUARE YARDS COMPLETE IN PLACE.

BASIS OF PAYMENT: ACCEPTED QUANTITIES WILL BE PAID FOR AT THE CONTRACT UNIT PRICE BID PER SQUARE YARD COMPLETE IN PLACE. THIS PRICE SHALL INCLUDE FULL COMPENSATION FOR ALL CONCRETE, WATERPROOFING, EPOXY COATED REINFORCING STEEL, MECHANICAL CONNECTORS, PREFORMED EXPANSION JOINT FILLER, AND OTHER INCIDENTAL MATERIALS, LABOR AND EQUIPMENT. PAYMENT WILL BE MADE UNDER ITEM 526 - REINFORCED CONCRETE APPROACH SLABS (T=15"), AS PER PLAN.

ITEM 601 CONCRETE SLOPE PROTECTION, AS PER PLAN

THE CONTRACTOR SHALL REPLACE ALL UNSOUND AND DETERIORATED AREAS OF CONCRETE SLOPE PROTECTION IDENTIFIED BY THE ENGINEER.

THIS ITEM ALSO INCLUDES STRUCTURAL BACKFILL TYPE 3 MEETING THE REQUIREMENTS OF CMS 703.11 REQUIRED TO SUPPORT THE NEW PORTION OF THE CONCRETE SLOPE PROTECTION.

ITEM 607 - VANDAL PROTECTION FENCE, 6' STRAIGHT, COATED FABRIC, AS PER PLAN

THE ANCHORS SHALL BE CAST IN PLACE.

THE COLOR OF THE FENCE FABRIC, RAILS, 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' STRAIGHT, COATED FABRIC, AS PER PLAN WHICH SHALL INCLUDE ALL LABOR, EQUIPMENT, MATERIALS, AND INCIDENTALS NECESSARY TO COMPLETE THE ABOVE WORK.

ITEM 512 - TYPE A WATERPROOFING

UNLESS NOTED OTHERWISE, ALL CONSTRUCTION JOINTS CONSTRUCTED AGAINST EARTH FILL, SHALL BE SEALED WITH TYPE A WATERPROOFING, 3 FEET WIDE, CENTERED OVER THE JOINT.

R:\14000\14035\87628\structures\sheets\CUY90_2674\CUY90_2674GN003.dgn 11/9/2017 1:41:08 PM malloym

DESIGN AGENCY
KS Associates Inc.
260 BURNS ROAD, ELYRIA, OHIO 44035
DESIGNED MJM
DRAWN MJM
CHECKED CFE
REVIEWED ASW
DATE 12/07/16
STRUCTURE FILE NUMBER 1806885
REVISED

BRIDGE GENERAL NOTES - 3
BRIDGE NO. CUY-90-2674
I-90 OVER EAST 200TH ST

CUY-90-26.16/VAR
PID No. 87628

* FUNDING CODE = 01/IMS/BR

ESTIMATED QUANTITIES - CUY-90-2674 - 1808885

ITEM	EXTENSION	TOTAL	UNIT	DESCRIPTION	ABUT.	PIERS	SUPER.	GEN.	SHEET #
202	11201	LS		PORTIONS OF STRUCTURE REMOVED, AS PER PLAN				LS	2
202	11305	1,410	SY	PORTIONS OF STRUCTURE REMOVED, AS PER PLAN, TIMBER SUBDECKING			1,410		2
202	22900	900	SY	APPROACH SLAB REMOVED	900				
202	23500	900	SY	WEARING COURSE REMOVED	900				
503	11100	LS		COFFERDAMS AND EXCAVATION BRACING				LS	2
503	21101	233	CY	UNCLASSIFIED EXCAVATION, AS PER PLAN	233				2
509	10000	285,406	LB	EPOXY COATED REINFORCING STEEL	23,668		261,738		
510	10000	908	EACH	DOWEL HOLES WITH NONSHRINK, NONMETALLIC GROUT	60		848		
511	34413	130	CY	CLASS QC2 CONCRETE WITH QC/QA, SUPERSTRUCTURE, AS PER PLAN			130		2
511	34447	892	CY	CLASS QC2 CONCRETE WITH QC/QA, BRIDGE DECK, AS PER PLAN			892		2
511	34451	169	CY	CLASS QC2 CONCRETE WITH QC/QA, BRIDGE DECK (PARAPET), AS PER PLAN			169		2
511	44110	12	CY	CLASS QC1 CONCRETE, ABUTMENT NOT INCLUDING FOOTING	12				
511	33501	4	EACH	SEMI-INTEGRAL DIAPHRAGM GUIDE, AS PER PLAN	4				3
511	71300	109	SY	CONCRETE, MISC.: MOLDED BRICK SURFACE			109		3
511	71300	109	SY	CONCRETE, MISC.: STAINING CONCRETE SURFACES			712		3
512	10051	109	SY	SEALING OF CONCRETE SURFACES (NON-EPOXY), AS PER PLAN			712		4
512	10100	1,565	SY	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)	284	661	620		4
512	33300	11	SY	TYPE A WATERPROOFING	11				
513	20000	11,178	EACH	WELDED STUD SHEAR CONNECTORS			11,178		
513	90000	44,464	LB	STRUCTURAL STEEL, MISC.:FATIGUE RETROFIT			44,464		4
513	90000	9,834	LB	STRUCTURAL STEEL, MISC.:FATIGUE RETROFIT, BOTTOM FLANGE			9,834		4
513	95030	14	EACH	STRUCTURAL STEEL, MIS.: TEMPORARY CROSSFRAMES FOR MAINTENANCE OF TRAFFIC			14		4
514	00050	38,532	SF	SURFACE PREPARATION OF EXISTING STRUCTURAL STEEL			38,532		4
514	00056	38,532	SF	FIELD PAINTING OF EXISTING STRUCTURAL STEEL, PRIME COAT			38,532		4
514	00060	38,532	SF	FIELD PAINTING STRUCTURAL STEEL, INTERMEDIATE COAT			38,532		4
514	00066	38,532	SF	FIELD PAINTING STRUCTURAL STEEL, FINISH COAT			38,532		4
514	00504	144	MNHR	GRINDING FINS, TEARS, SLIVERS ON EXISTING STRUCTURAL STEEL			144		4
514	10000	32	EACH	FINAL INSPECTION REPAIR			32		4
516									
516	10010	346	FT	ARMORLESS PREFORMED JOINT SEAL	346				
516	10011	228	FT	ARMORLESS PREFORMED JOINT SEAL, AS PER PLAN	50		178		4
516	11210	346	FT	STRUCTURAL EXPANSION JOINT INCLUDING ELASTOMERIC STRIP SEAL	346				
516	13600	44	SF	1" PREFORMED EXPANSION JOINT FILLER	44				
516	13900	44	SF	2" PREFORMED EXPANSION JOINT FILLER	44				
516	25000	1,774	SF	NYLON REINFORCED NEOPRENE SHEETING	1,774				
516	43300	36	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES ONLY (NEOPRENE) 7 1/2" X 10" X 1.82"			36		
516	47000	LS		JACKING AND TEMPORARY SUPPORT OF SUPERSTRUCTURE				LS	4
518	12200	8	EACH	SCUPPERS, INCLUDING SUPPORTS			8		
518	12500	8	EACH	SCUPPER, MISC.: PLUGGING SCUPPER FOR MAINTENANCE OF TRAFFIC			8		
518	21101	195	CY	POROUS BACKFILL, AS PER PLAN	195				4
518	40000	390	FT	6" PERFORATED CORRUGATED PLASTIC PIPE	390				
518	40010	100	FT	6" NON-PERFORATED CORRUGATED PLASTIC PIPE, INCLUDING SPECIALS	100				
519	11101	250	SF	PATCHING CONCRETE STRUCTURE, AS PER PLAN	250				4
526	25011	900	SY	REINFORCED CONCRETE APPROACH SLABS WITH QC/QA (T=15"), AS PER PLAN	900				4
526	90030	350	FT	TYPE C INSTALLATION	350				
601	21001	100	SY	CONCRETE SLOPE PROTECTION, AS PER PLAN	100				4
607	39901	350	FT	VANDAL PROTECTION FENCE, 6' STRAIGHT, COATED FABRIC, AS PER PLAN			350		4

DESIGN AGENCY
KS Associates Inc.
260 BURNS ROAD, ELYRIA, OHIO 44035

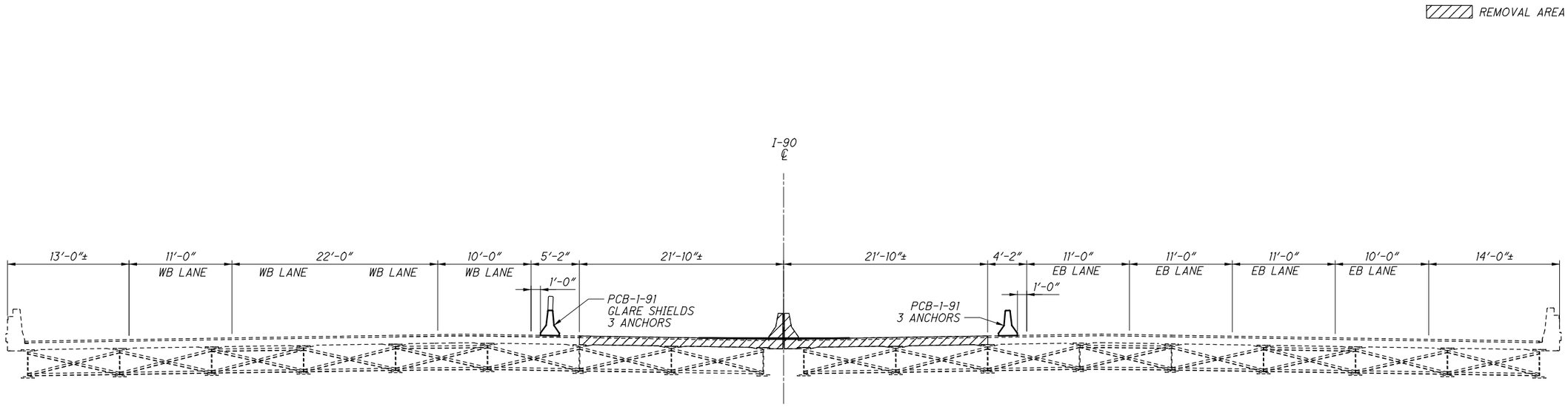
DESIGNED MJM | DRAWN MJM | REVIEWED MEM | DATE 01/09/17 | CHECKED RAP | REVISED | STRUCTURE FILE NUMBER 1808885

BRIDGE ESTIMATED QUANTITIES

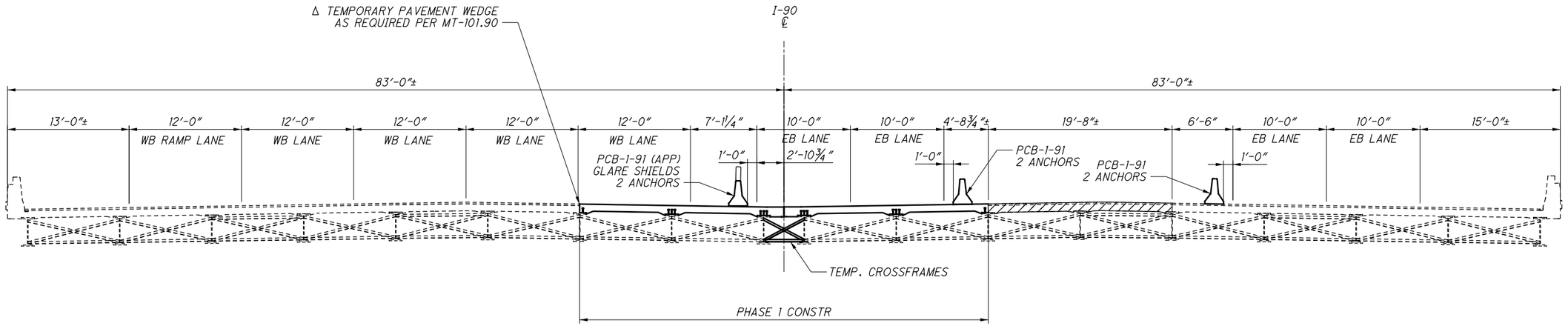
BRIDGE NO. CUY-90-2674
I-90 OVER EAST 200TH ST

CUY-90-26.16/VAR

PID No. 87628



PHASE 1 REMOVAL



PHASE 2 REMOVAL

Δ TEMPORARY CONCRETE PAVEMENT WEDGE TO PLACED WITH DECK POUR AND REMOVED BY GRINDING PRIOR TO MEDIAN BARRIER PLACEMENT. TO BE PAID AS INCIDENTAL WITH MAINTENANCE OF TRAFFIC ITEM 614.

DESIGN AGENCY
KS Associates Inc.
260 BURNS ROAD, ELYRIA, OHIO 44035

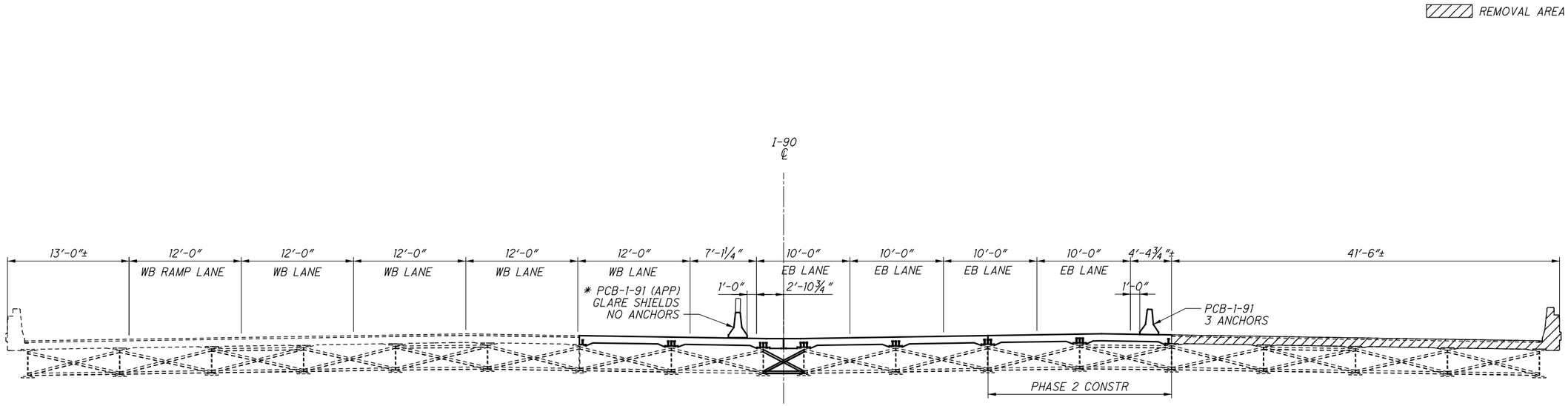
DESIGNED	DRAWN	REVIEWED	DATE
MJM	MJM	ASW	12/07/16
CHECKED	REVISED	STRUCTURE FILE NUMBER	
RAP		1806885	

BRIDGE PHASE REMOVAL DETAILS - 1
BRIDGE NO. CUY-90-2674
I-90 OVER EAST 200TH ST

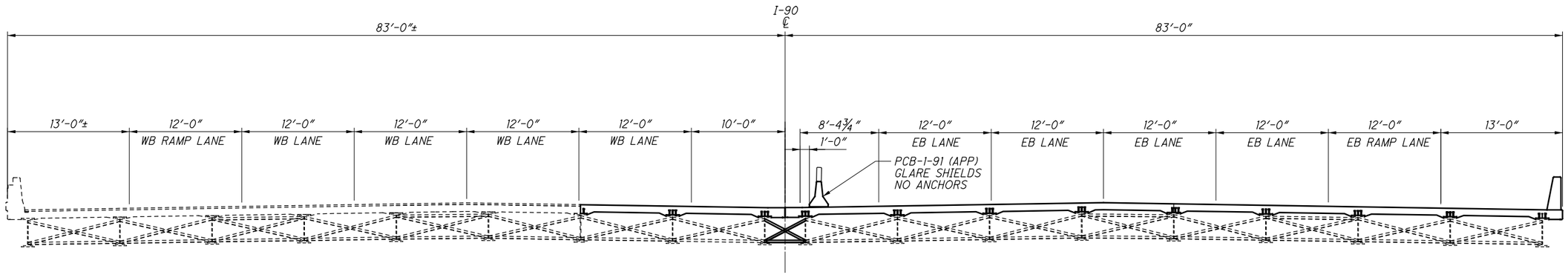
CUY-90-26.16/VAR
PID No. 87628

6 / 36

192
222



PHASE 3 REMOVAL



WINTER SHUTDOWN

* INSTALLED WITH PREVIOUS PHASE

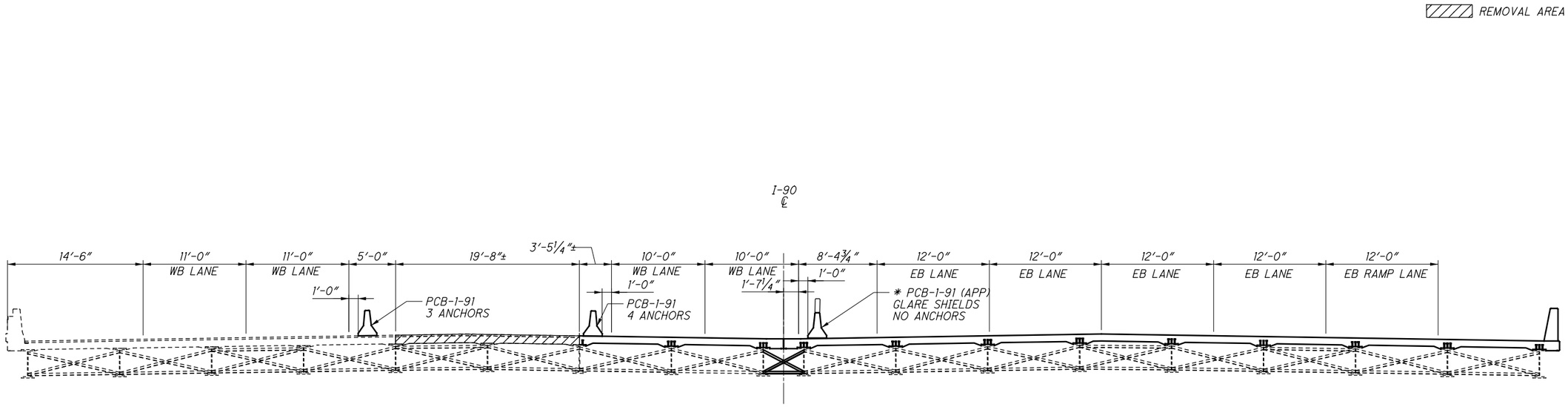
R:\14000\14035\87628\structures\sheets\CUY90_2674\CUY90_2674PC002.dgn 11/9/2017 1:41:13 PM malloym

DESIGN AGENCY
KS Associates Inc.
260 BURNS ROAD, ELYRIA, OHIO 44035

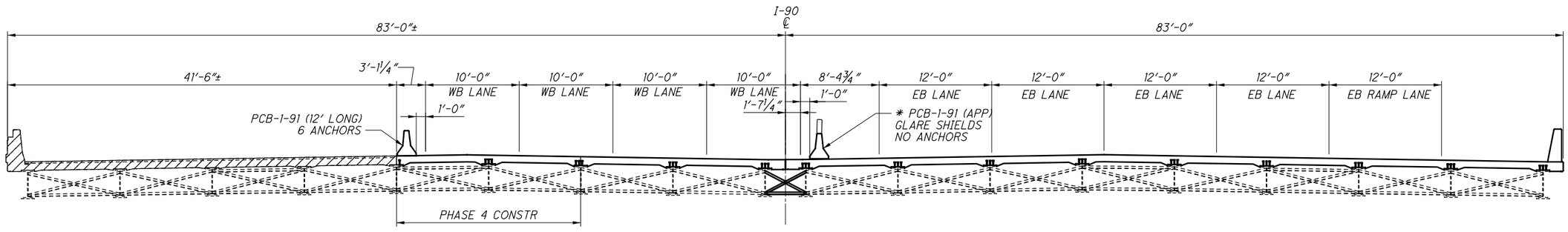
DESIGNED	DRAWN	REVIEWED	DATE
MJM	MJM	ASW	12/07/16
CHECKED	REVISED	STRUCTURE FILE NUMBER	
RAP		1808885	

BRIDGE PHASE REMOVAL DETAILS - 2
BRIDGE NO. CUY-90-2674
I-90 OVER EAST 200TH ST

CUY-90-26.16/VAR
PID No. 87628



PHASE 4 REMOVAL



PHASE 5 REMOVAL

* INSTALLED IN PREVIOUS PHASE

DESIGN AGENCY
KS Associates Inc.
260 BURNS ROAD, ELYRIA, OHIO 44035

DESIGNED	DRAWN	REVIEWED	DATE
MJM	MJM	ASW	12/07/16
CHECKED	REVISED	STRUCTURE FILE NUMBER	
RAP		1808885	

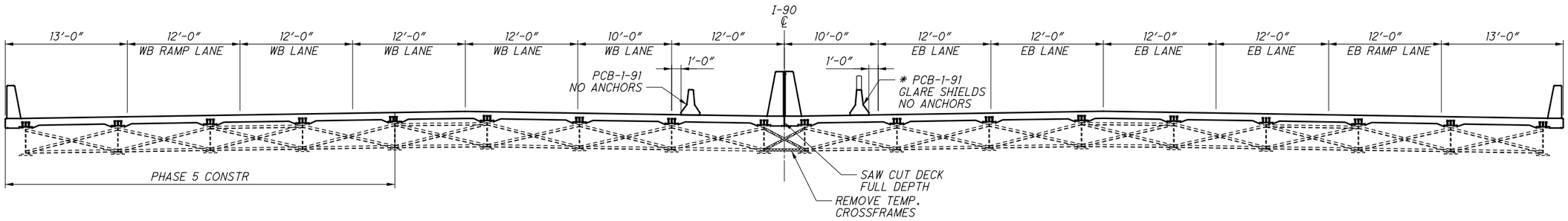
BRIDGE PHASE REMOVAL DETAILS - 3
BRIDGE NO. CUY-90-2674
I-90 OVER EAST 200TH ST

CUY-90-26.16/VAR
PID No. 87628

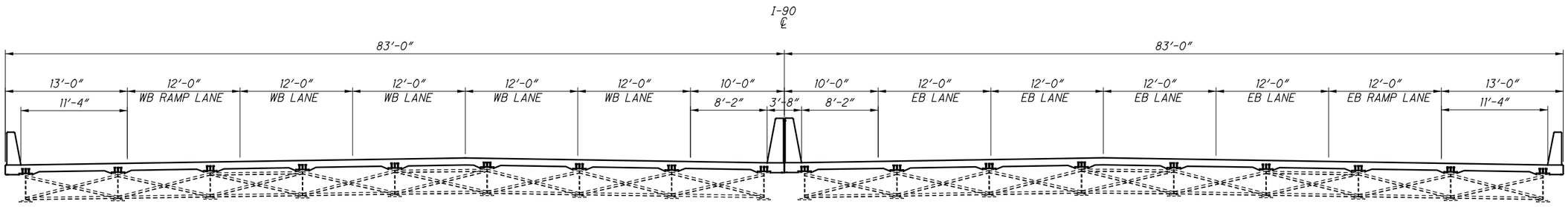
8 / 36

194
222

R:\14000\14035\87628\structures\sheets\CUY90_2674\CUY90_2674PC003.dgn 11/9/2017 1:41:13 PM malloym



PHASE 6 CONSTRUCTION - MEDIAN



FINAL CONFIGURATION

* INSTALLED IN PREVIOUS PHASE

DESIGN AGENCY
KS Associates Inc.
260 BURNS ROAD, ELYRIA, OHIO 44035

DESIGNED MJM | DRAWN MJM | REVIEWED ASW | DATE 12/07/16
CHECKED RAP | REVISED | STRUCTURE FILE NUMBER 1808885

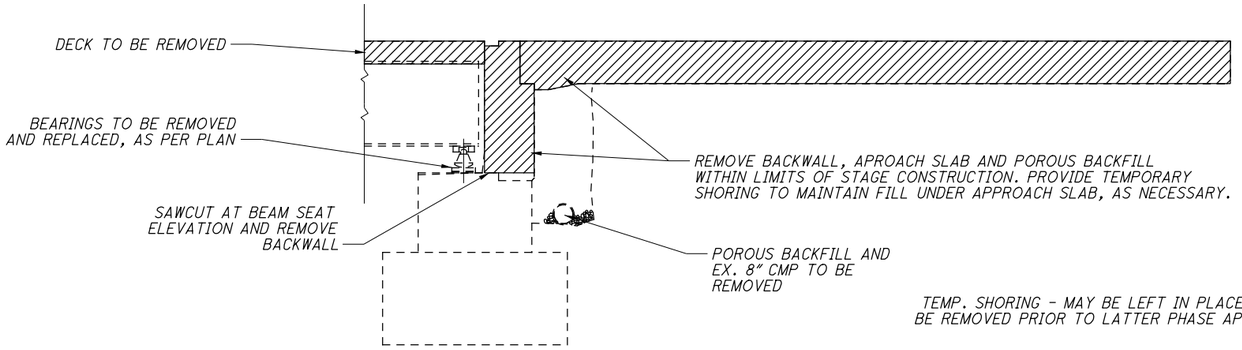
BRIDGE PHASE REMOVAL DETAILS - 4
BRIDGE NO. CUY-90-2674
I-90 OVER EAST 200TH ST

CUY-90-26.16/VAR
PID No. 87628

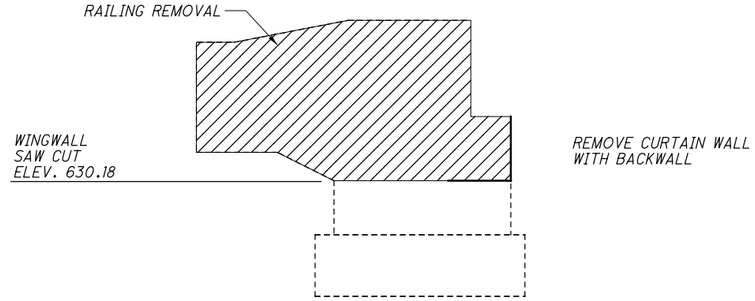
9 / 36

195
222

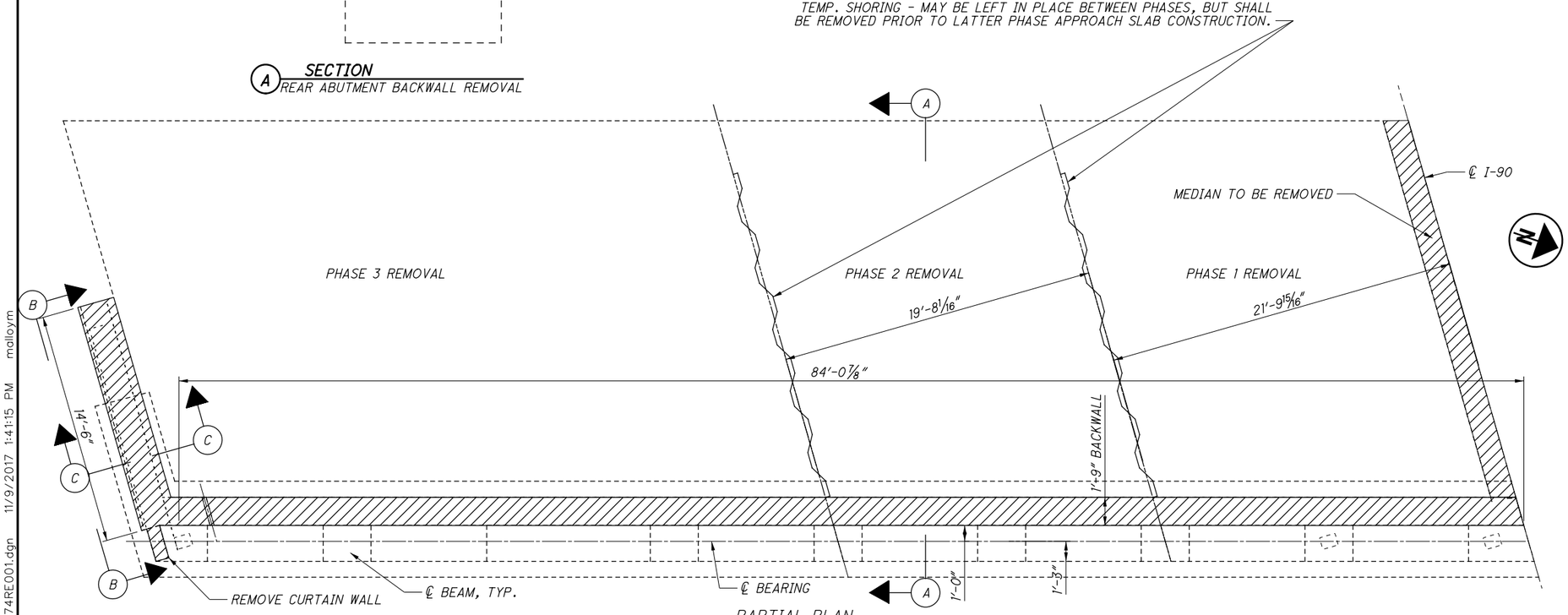
R:\14000\14035\87628\structures\sheets\CUY90_2674\CUY90_2674PC004.dgn 11/9/2017 1:41:14 PM malloym



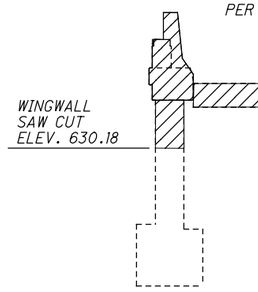
A SECTION
REAR ABUTMENT BACKWALL REMOVAL



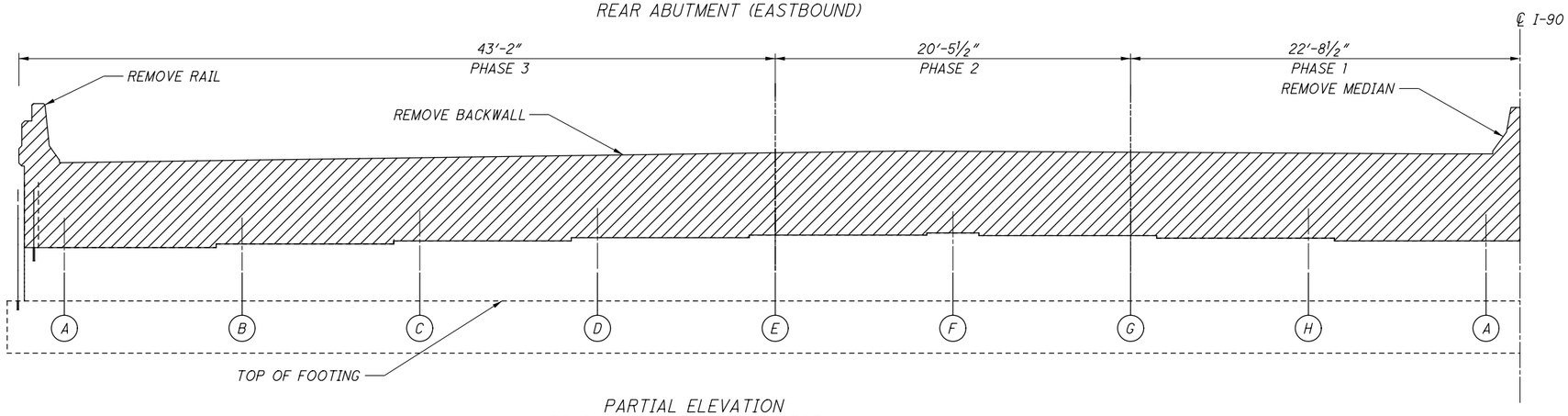
B ELEVATION
RAILING REMOVAL



PARTIAL PLAN
REAR ABUTMENT (EASTBOUND)



C SECTION
RAILING REMOVAL



PARTIAL ELEVATION
REAR ABUTMENT (FACING WEST)

NOTES:

LIMITS OF REMOVAL

DESIGN AGENCY
KS Associates Inc.
260 BURNS ROAD, ELYRIA, OHIO 44035

DESIGNED	DRAWN	REVIEWED	DATE
CFE	CFE	MJM	12/07/16
CHECKED	REVISED	STRUCTURE FILE NUMBER	
MEM		1806885	

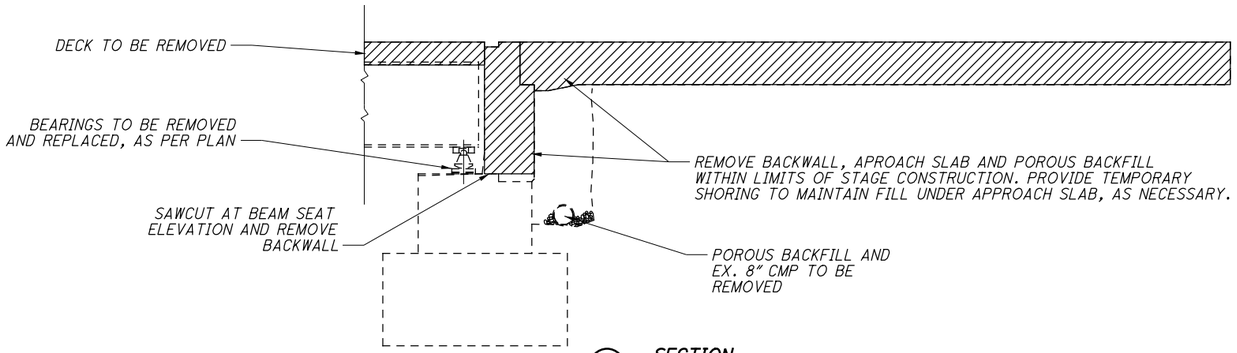
REMOVAL DETAILS - 1
BRIDGE NO. CUY-90-2674
I-90 OVER EAST 200TH ST

CUY-90-26.16/VAR
PID No. 87628

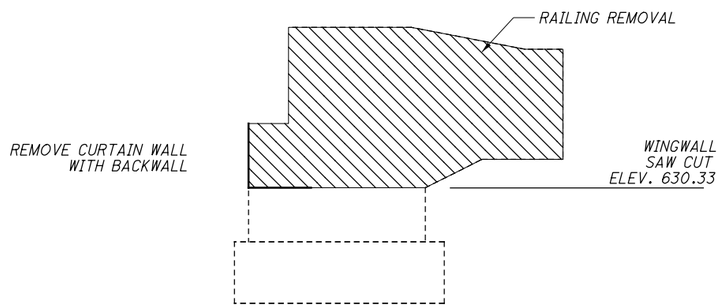
10 / 36

196 / 222

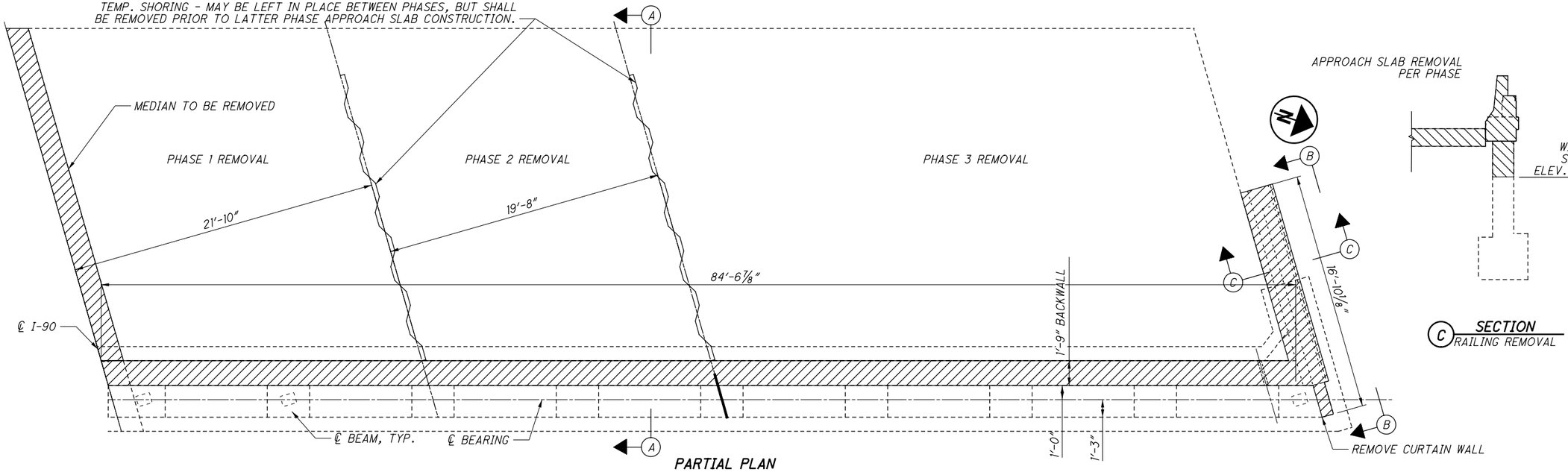
R:\14000\14035\87628\structures\sheets\CUY90_2674\CUY90_2674RE001.dgn 11/9/2017 1:41:15 PM malloym



A SECTION
REAR ABUTMENT BACKWALL REMOVAL

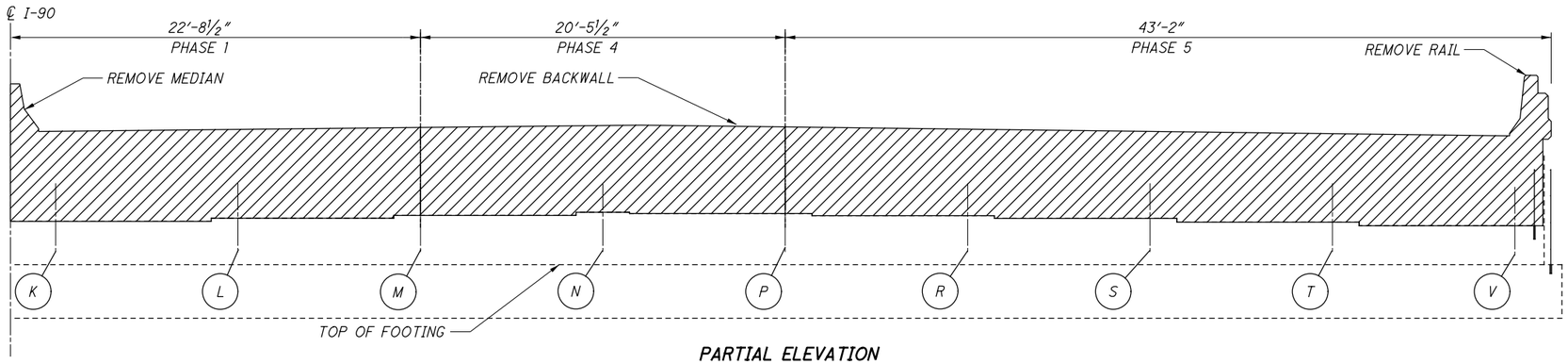


B ELEVATION
RAILING REMOVAL



PARTIAL PLAN
REAR ABUTMENT (WESTBOUND)

C SECTION
RAILING REMOVAL



PARTIAL ELEVATION
REAR ABUTMENT (FACING WEST)

NOTES:

▨ LIMITS OF REMOVAL

DESIGN AGENCY
KS Associates Inc.
260 BURNS ROAD, ELYRIA, OHIO 44035

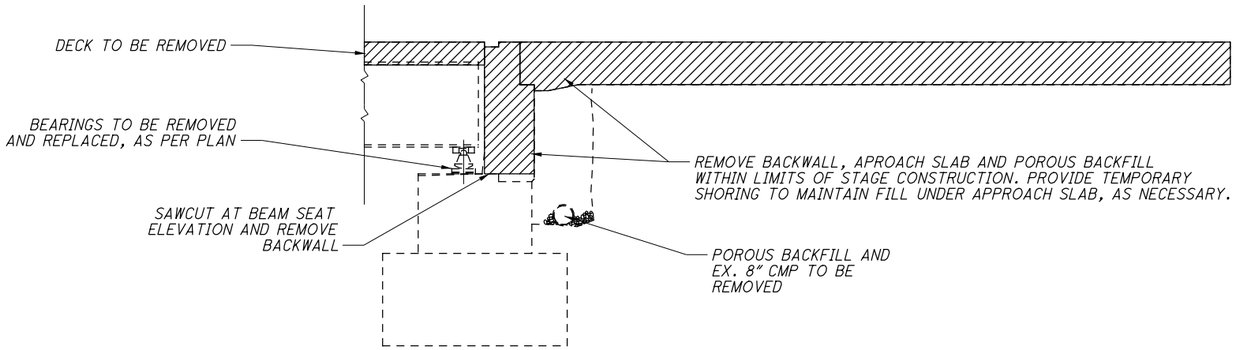
DESIGNED	DRAWN	REVIEWED	DATE
CFE	CFE	MJM	12/07/16
CHECKED	REVISED	STRUCTURE FILE NUMBER	
MEM		1808885	

REMOVAL DETAILS - 2
BRIDGE NO. CUY-90-2674
I-90 OVER EAST 200TH ST

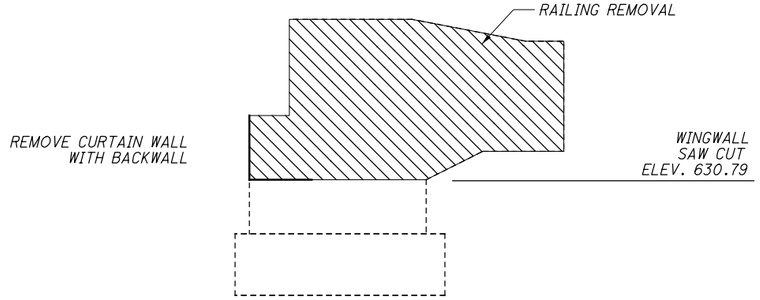
CUY-90-26.16/VAR
PID No. 87628

11 / 36

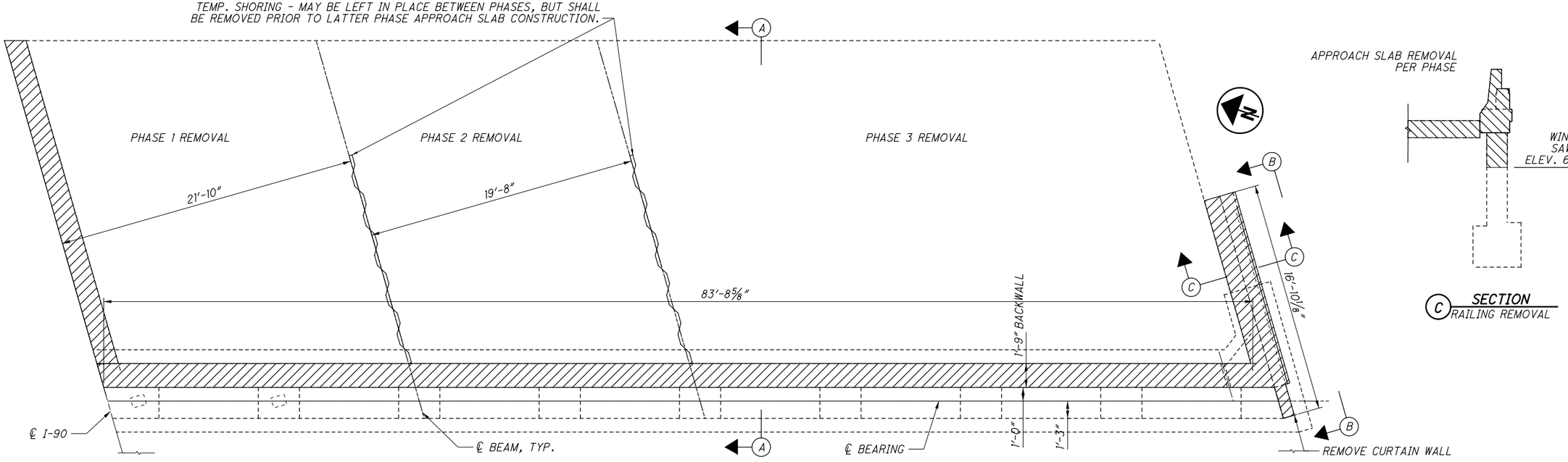
197 / 222



A **SECTION**
FORWARD ABUTMENT BACKWALL REMOVAL

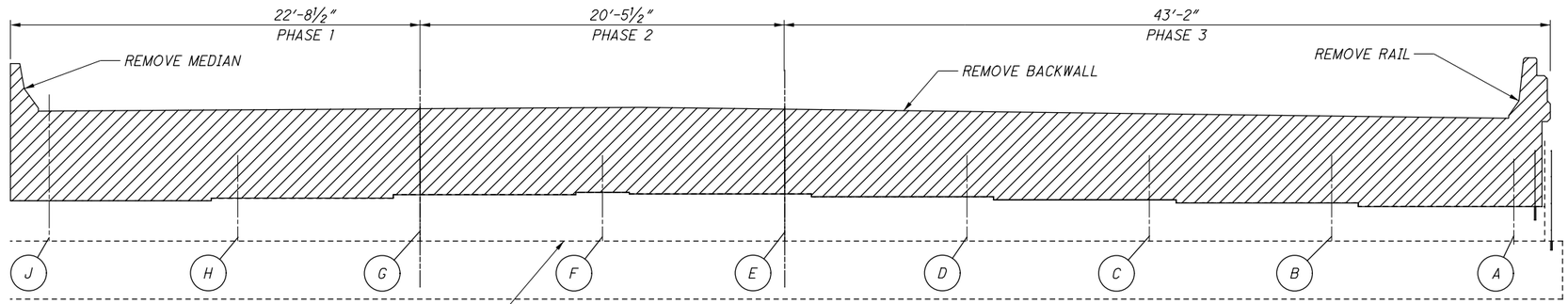


B **ELEVATION**
RAILING REMOVAL



C **SECTION**
RAILING REMOVAL

PARTIAL PLAN
FORWARD ABUTMENT (EASTBOUND)



PARTIAL ELEVATION
FORWARD ABUTMENT (FACING EAST)

NOTES:
LIMITS OF REMOVAL

DESIGN AGENCY
KS Associates Inc.
260 BURNS ROAD, ELYRIA, OHIO 44035

DESIGNED	DRAWN	REVIEWED	DATE
CFE	CFE	MJM	12/07/16
CHECKED	REVISED	STRUCTURE FILE NUMBER	
MEM		1808885	

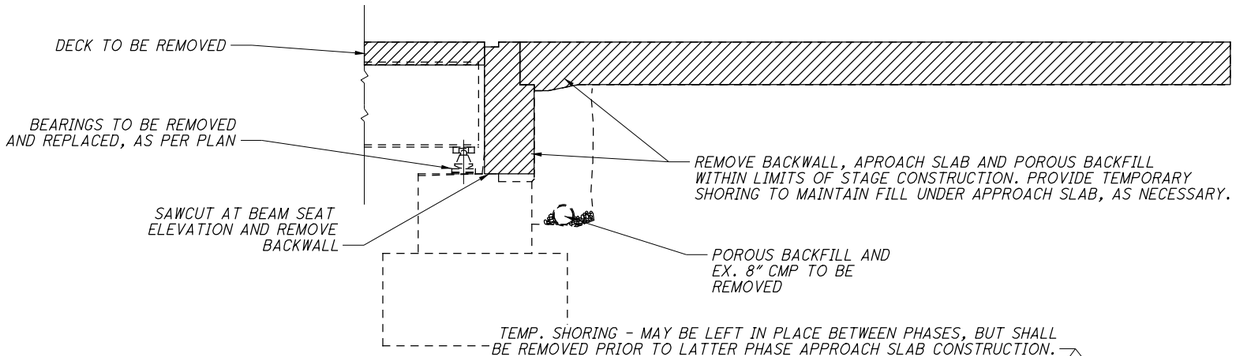
REMOVAL DETAILS - 3
BRIDGE NO. CUY-90-2674
I-90 OVER EAST 200TH ST

CUY-90-26.16/VAR
PID No. 87628

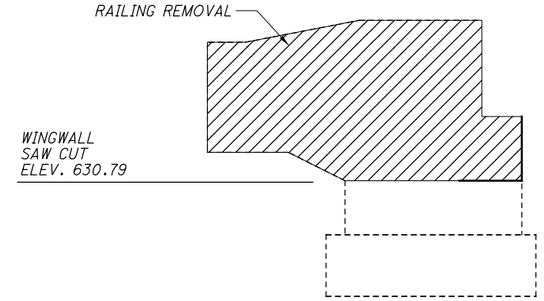
12/36

198/222

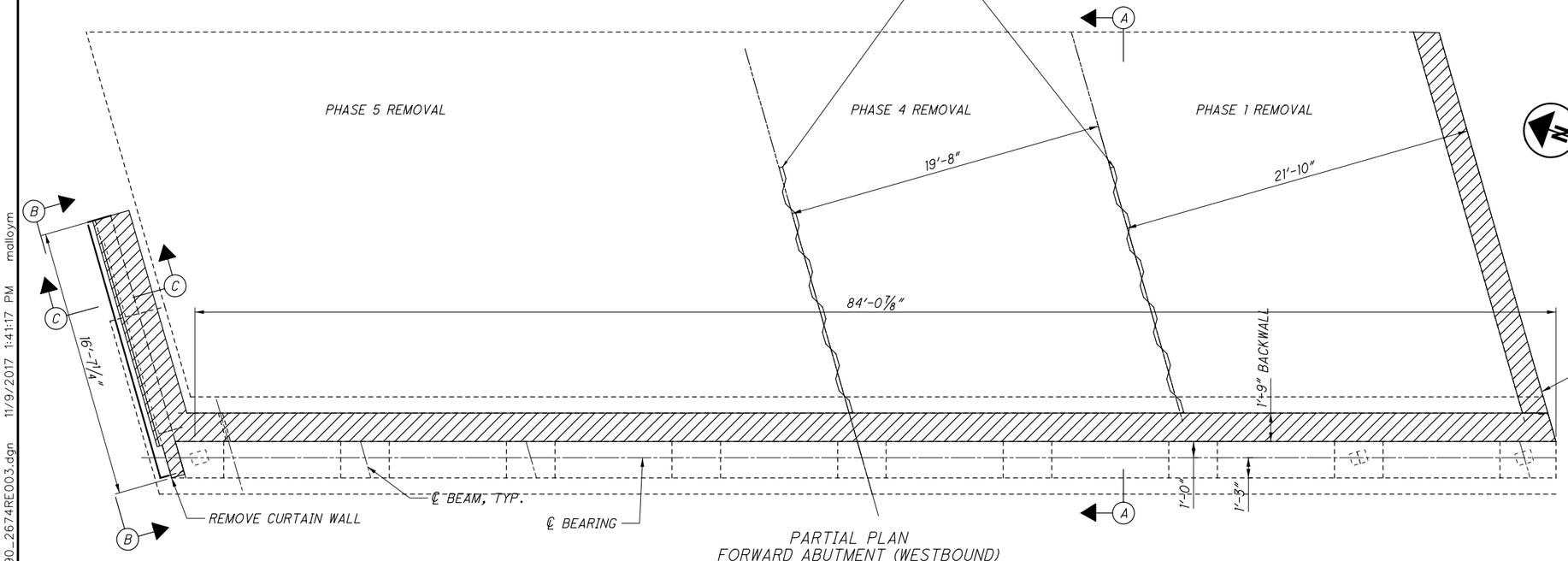
R:\14000\14035\87628\structures\sheets\CUY90_2674\CUY90_2674RE004.dgn 11/9/2017 1:41:16 PM malloym



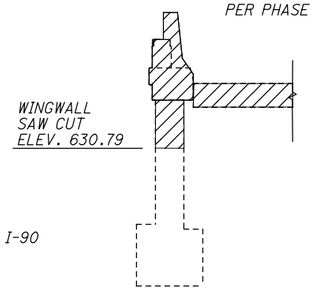
A **SECTION**
FORWARD ABUTMENT BACKWALL REMOVAL



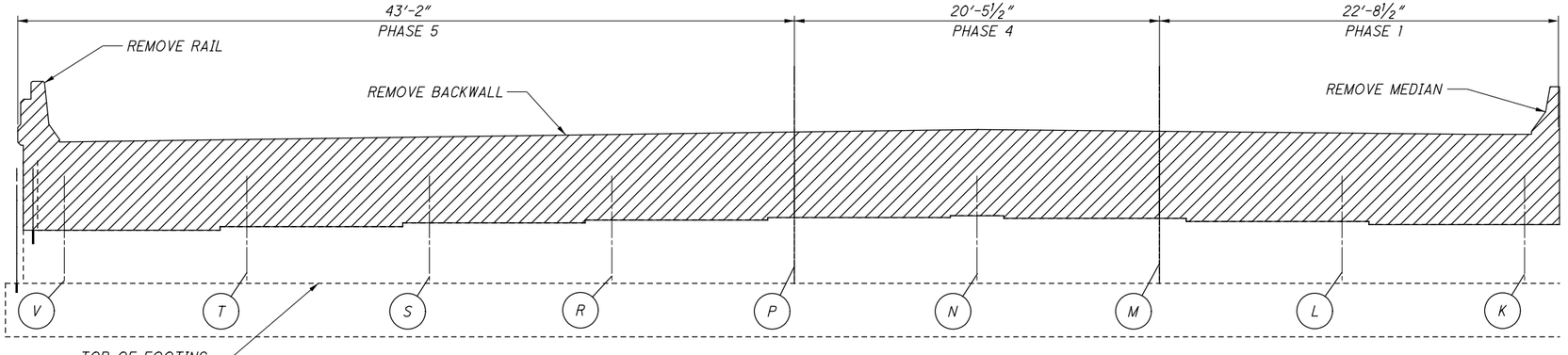
B **ELEVATION**
RAILING REMOVAL



PARTIAL PLAN
FORWARD ABUTMENT (WESTBOUND)



C **SECTION**
RAILING REMOVAL



PARTIAL ELEVATION
FORWARD ABUTMENT (FACING EAST)

NOTES:

LIMITS OF REMOVAL

DESIGN AGENCY
KS Associates Inc.
260 BURNS ROAD, ELYRIA, OHIO 44035

DESIGNED	DRAWN	REVIEWED	DATE
CFE	CFE	MJM	12/07/16
CHECKED	REVISED	STRUCTURE FILE NUMBER	
MEM		1808885	

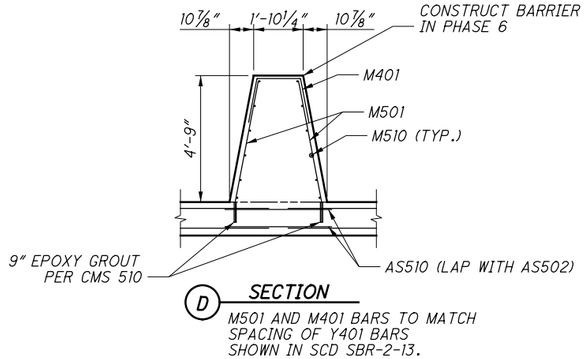
REMOVAL DETAILS - 4
BRIDGE NO. CUY-90-2674
I-90 OVER EAST 200TH ST

CUY-90-26.16/VAR
PID No. 87628

13 / 36

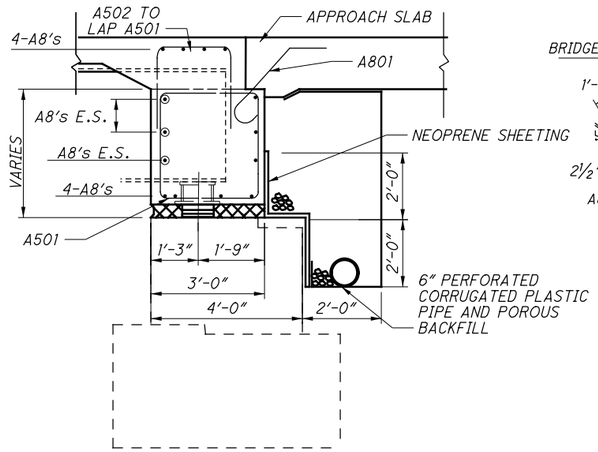
199 / 222

R:\14000\14035\87628\structures\sheets\CUY90_2674\CUY90_2674RE003.dgn 11/9/2017 1:41:17 PM malloym



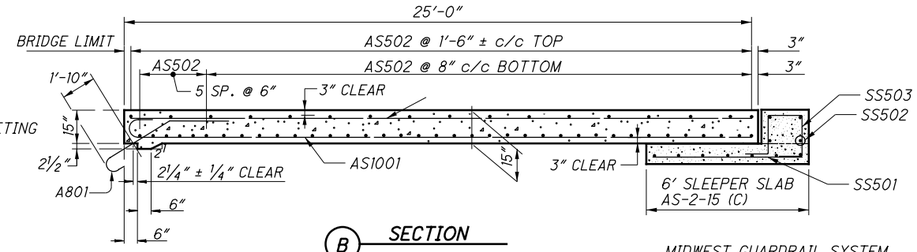
D SECTION

M501 AND M401 BARS TO MATCH SPACING OF Y401 BARS SHOWN IN SCD SBR-2-13.

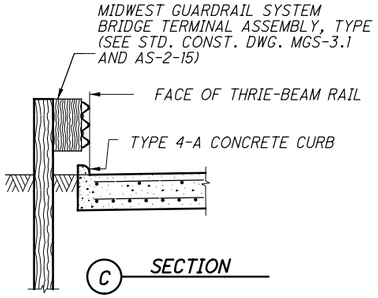


A SECTION

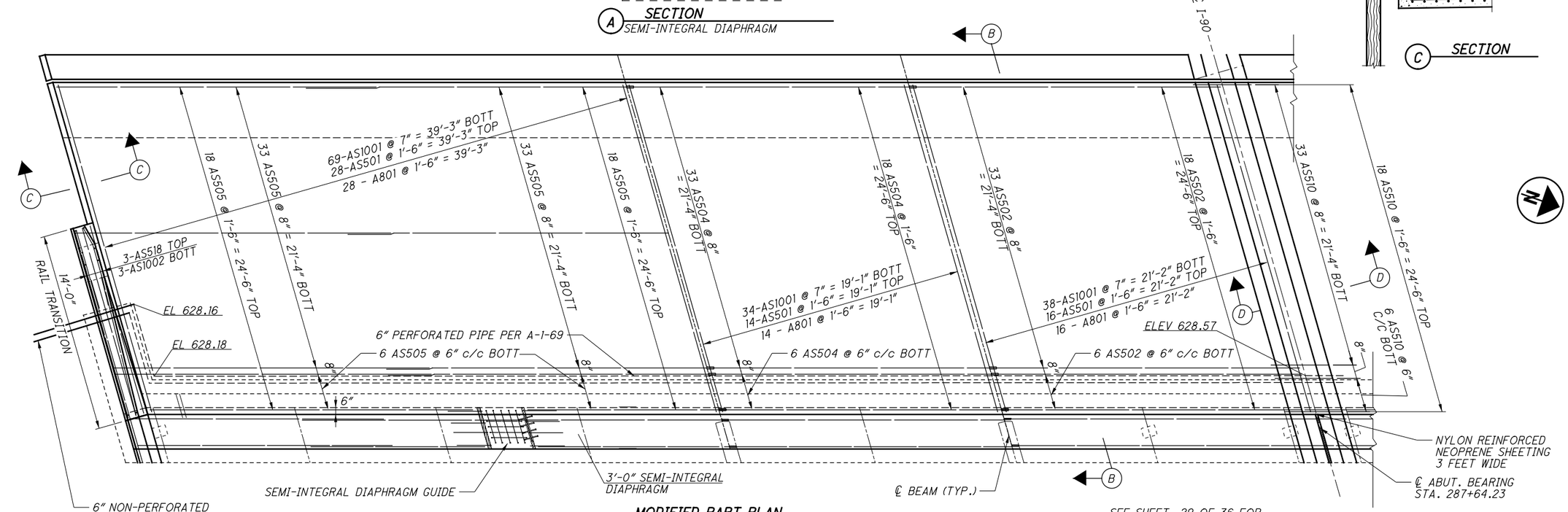
SEMI-INTEGRAL DIAPHRAGM



B SECTION

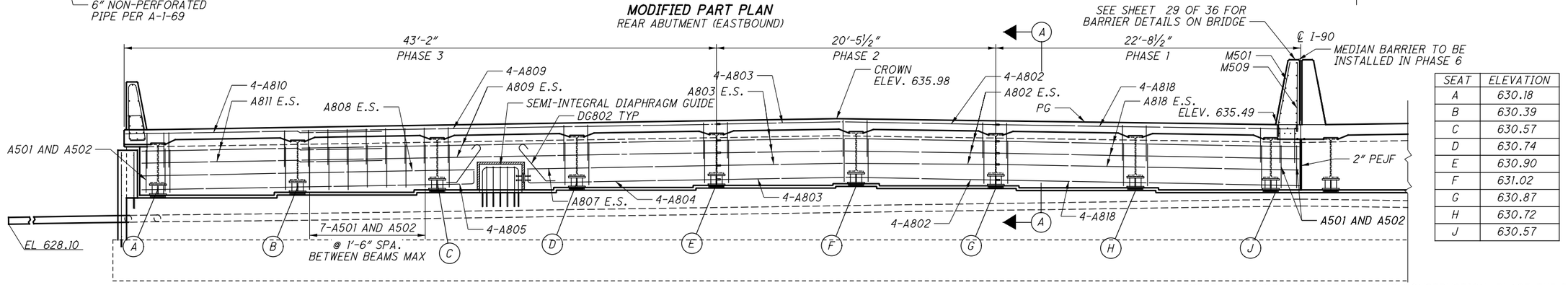


C SECTION



MODIFIED PART PLAN

REAR ABUTMENT (EASTBOUND)



SEAT	ELEVATION
A	630.18
B	630.39
C	630.57
D	630.74
E	630.90
F	631.02
G	630.87
H	630.72
J	630.57

MODIFIED PART ELEVATION

REAR ABUTMENT (FACING WEST)

ABUTMENT DIAPHRAGM CONCRETE, PHASED CONSTRUCTION: PLACE THE DIAPHRAGM CONCRETE ENCASING THE STRUCTURAL MEMBER ENDS OF AN INDIVIDUAL PHASE WITH THE DECK CONCRETE.

DESIGN AGENCY
KS Associates Inc.
260 BURNS ROAD, ELYRIA, OHIO 44035

DESIGNED	DRAWN	REVIEWED	DATE
CFE	CFE	MJM	01/09/17
CHECKED	REVISED	STRUCTURE FILE NUMBER	
MEM		1806885	

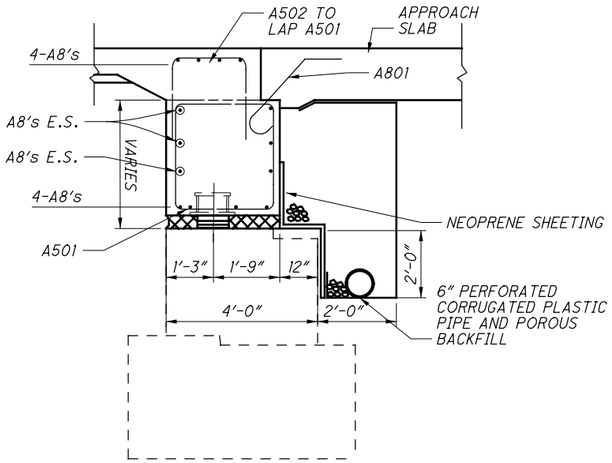
REAR ABUTMENT (EB)
BRIDGE NO. CUY-90-2674
I-90 OVER EAST 200TH ST

CUY-90-26.16 / VAR
PID No. 87628

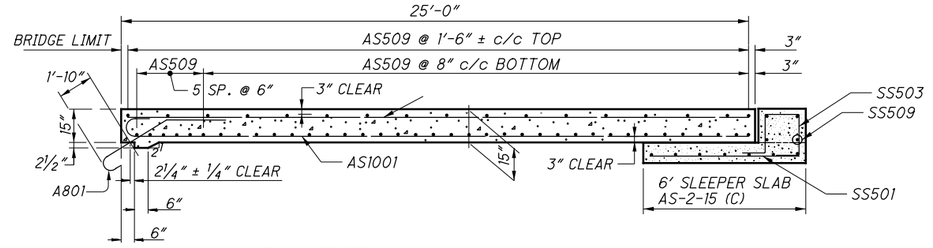
14 / 36

200 / 222

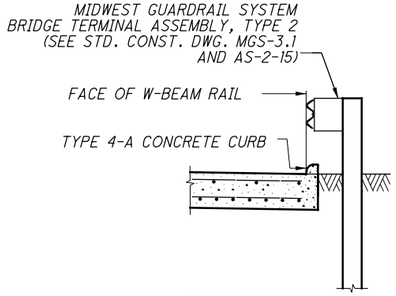
R:\14000\14035\87628\structures\sheets\CUY90_2674\CUY90_2674AR001.dgn 11/9/2017 1:41:17 PM malloym



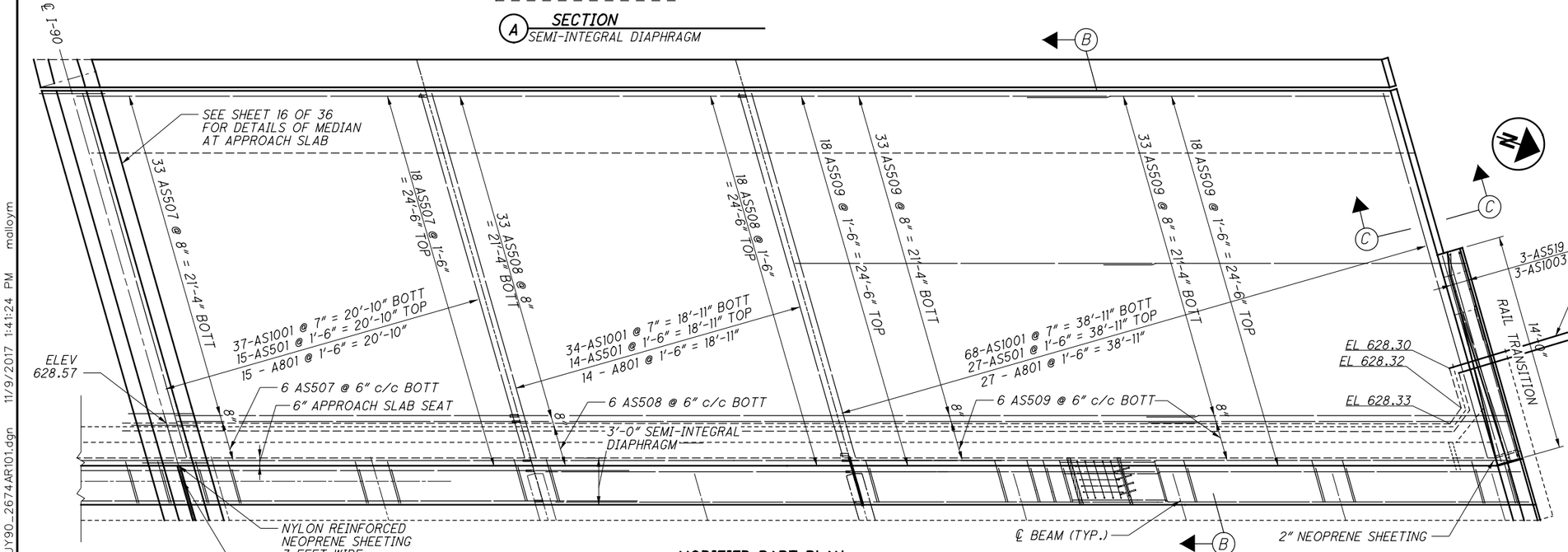
A SECTION
SEMI-INTEGRAL DIAPHRAGM



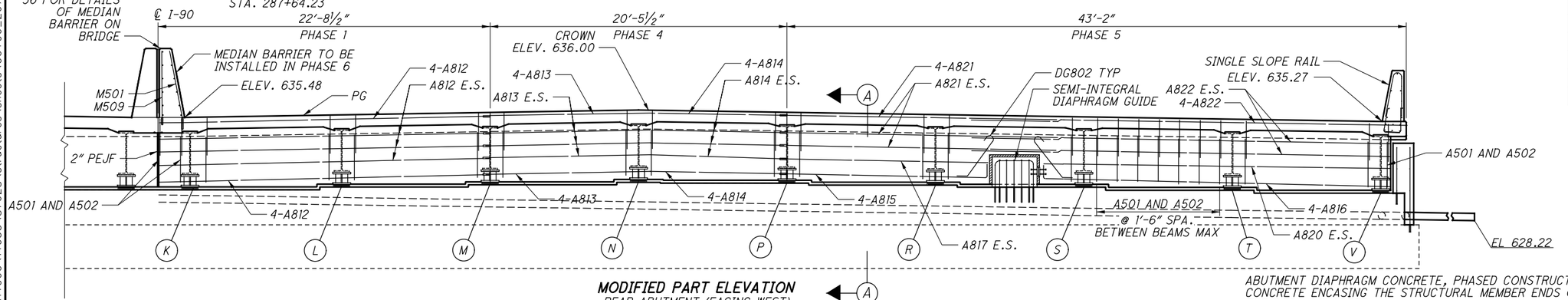
B SECTION



C SECTION



MODIFIED PART PLAN
REAR ABUTMENT (WESTBOUND)



MODIFIED PART ELEVATION
REAR ABUTMENT (FACING WEST)

SEAT	ELEVATION
K	630.57
L	630.75
M	630.91
N	631.08
P	631.02
R	630.89
S	630.74
T	630.53
V	630.33

ABUTMENT DIAPHRAGM CONCRETE, PHASED CONSTRUCTION: PLACE THE DIAPHRAGM CONCRETE ENCASING THE STRUCTURAL MEMBER ENDS OF AN INDIVIDUAL PHASE WITH THE DECK CONCRETE.

DESIGN AGENCY
KS Associates Inc.
260 BURNS ROAD, ELYRIA, OHIO 44035

DESIGNED	DRAWN	REVIEWED	DATE
CFE	CFE	MJM	01/09/17
CHECKED	REVISED	STRUCTURE FILE NUMBER	
MEM		1808885	

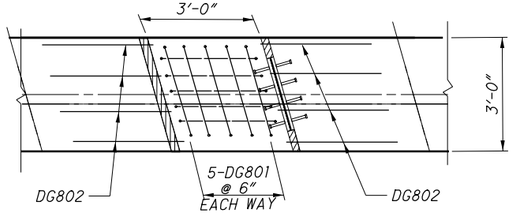
REAR ABUTMENT (WB)
BRIDGE NO. CUY-90-2674
I-90 OVER EAST 200TH ST

CUY-90-26.16/VAR
PID No. 87628

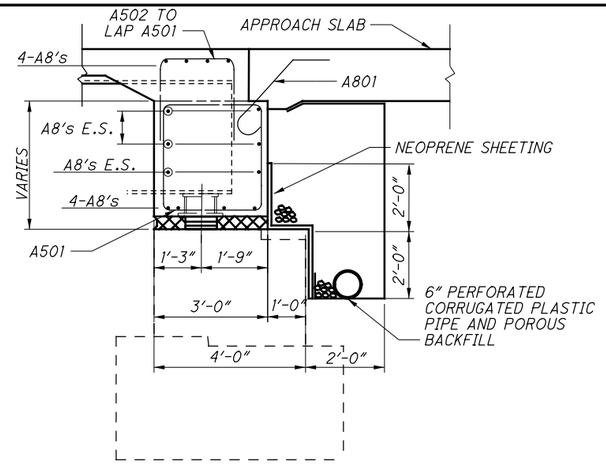
15 / 36

201 / 222

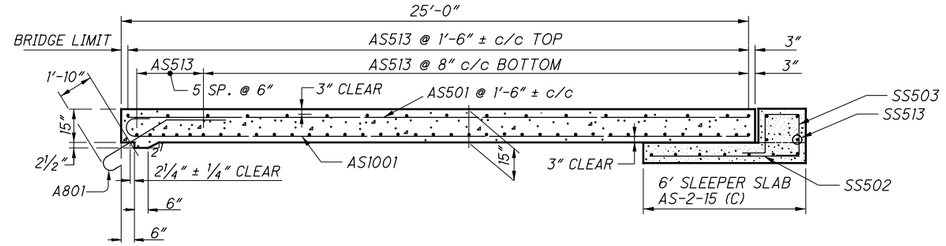
R:\14000\14035\87628\structures\sheets\CUY90_2674\CUY90_2674AR101.dgn 11/9/2017 1:41:24 PM malloym



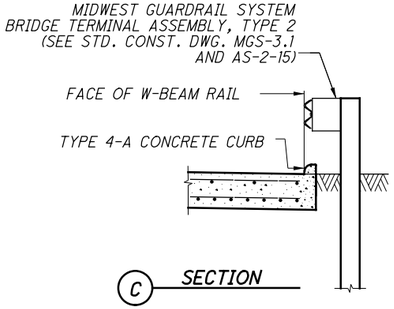
SEMI-INTEGRAL DIAPHRAGM GUIDE DETAILS



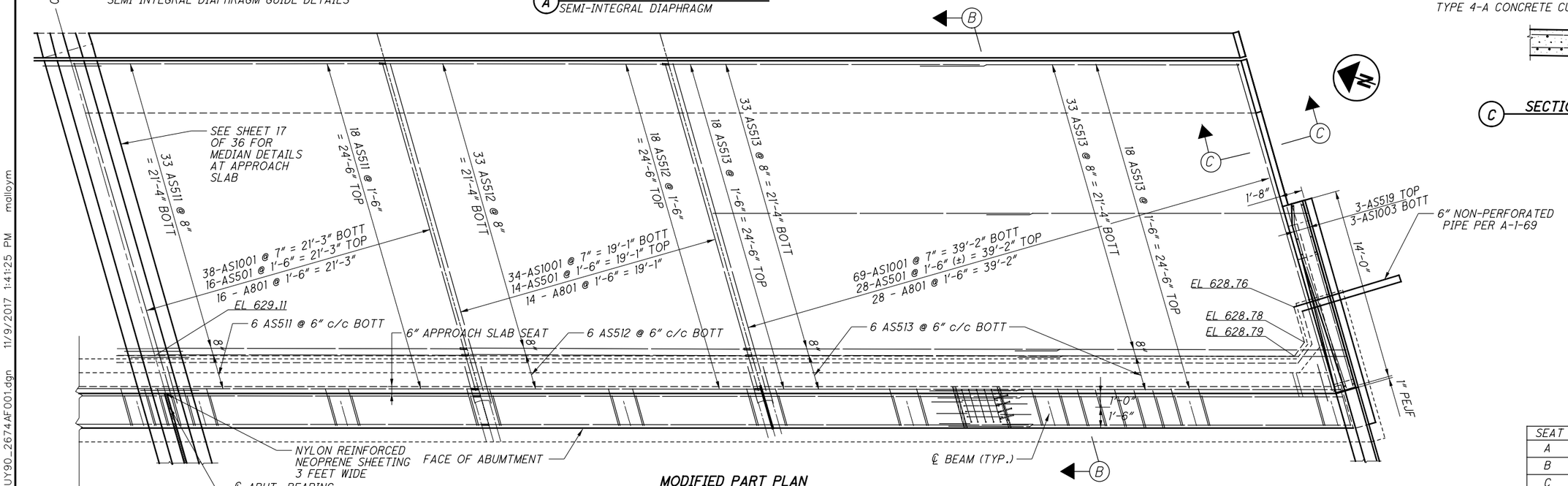
A SECTION
SEMI-INTEGRAL DIAPHRAGM



B SECTION

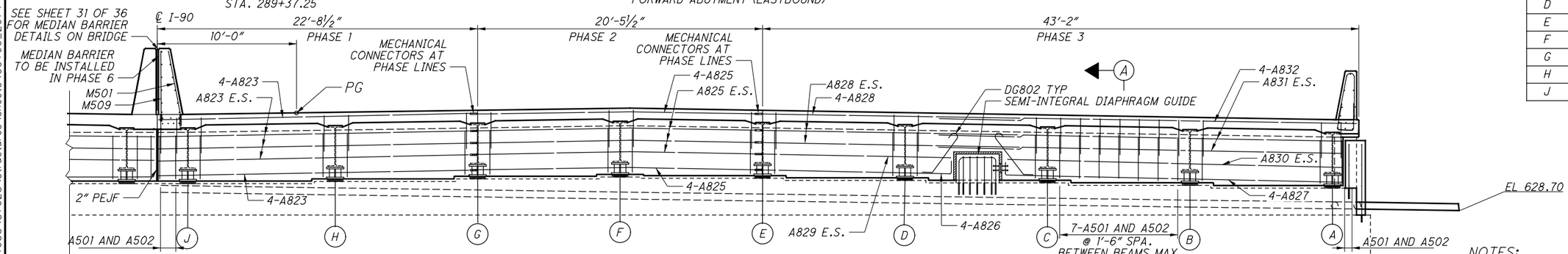


C SECTION



MODIFIED PART PLAN
FORWARD ABUTMENT (EASTBOUND)

SEAT	ELEVATION
A	630.79
B	630.99
C	631.17
D	631.34
E	631.50
F	631.59
G	631.45
H	631.27
J	631.11



ABUTMENT DIAPHRAGM CONCRETE, PHASED CONSTRUCTION: PLACE THE DIAPHRAGM CONCRETE ENCASING THE STRUCTURAL MEMBER ENDS OF AN INDIVIDUAL PHASE WITH THE DECK CONCRETE.

MODIFIED PART ELEVATION
FORWARD ABUTMENT (FACING EAST)

NOTES:
(A) - BEAM SEAT ℄ LOCATION

DESIGN AGENCY
KS Associates Inc.
260 BURNS ROAD, ELYRIA, OHIO 44035

DESIGNED	DRAWN	REVIEWED	DATE
CFE	CFE	MJM	01/09/17
CHECKED	REVISED	STRUCTURE FILE NUMBER	
MEM		1808885	

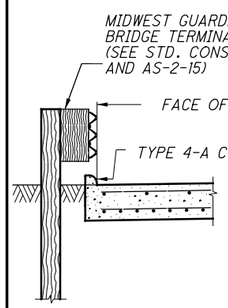
FORWARD ABUTMENT (EB)
BRIDGE NO. CUY-90-2674
I-90 OVER EAST 200TH ST

CUY-90-26.16/VAR
PID No. 87628

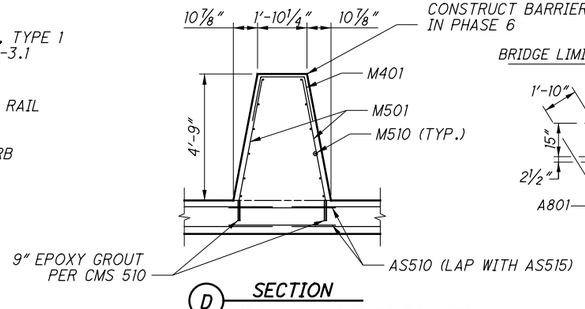
16 / 36

202
222

R:\14000\14035\87628\structures\sheets\CUY90_2674\CUY90_2674AF001.dgn 11/9/2017 1:41:25 PM milloym

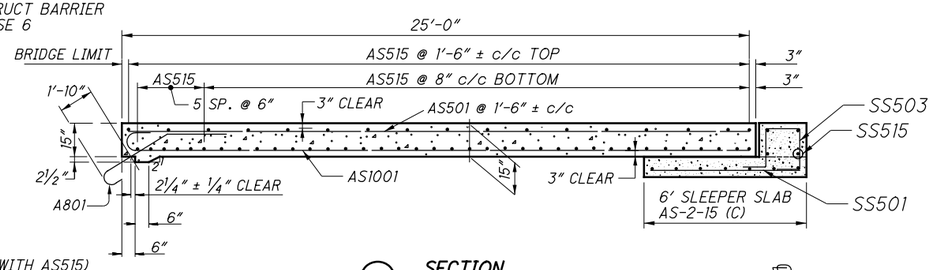


C SECTION

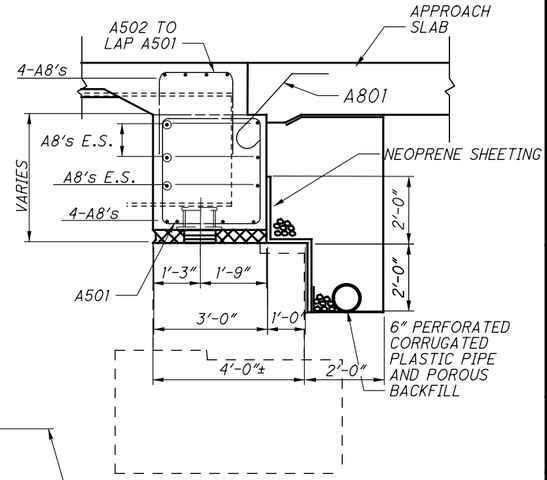


D SECTION

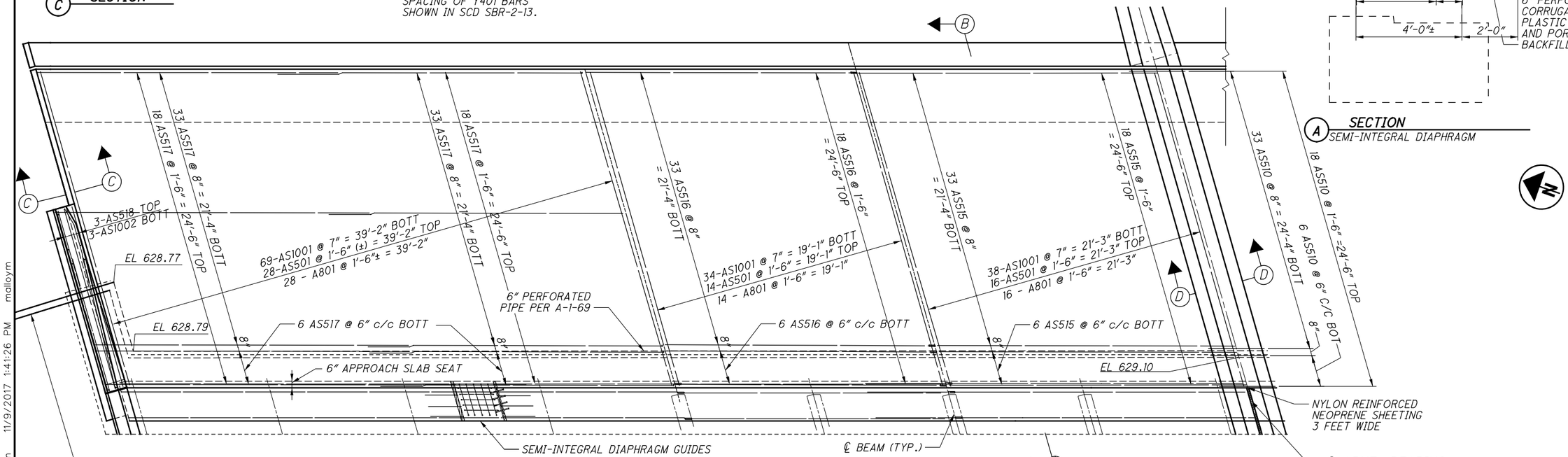
M501 AND M401 BARS TO MATCH SPACING OF Y401 BARS SHOWN IN SCD SBR-2-13.



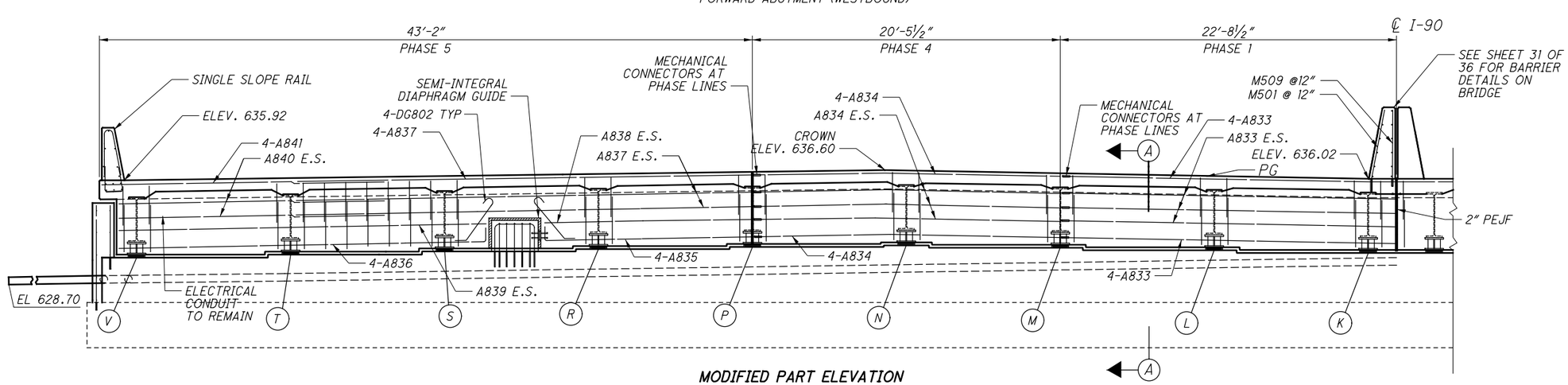
B SECTION



A SECTION
SEMI-INTEGRAL DIAPHRAGM



MODIFIED PART PLAN
FORWARD ABUTMENT (WESTBOUND)



MODIFIED PART ELEVATION
FORWARD ABUTMENT (FACING EAST)

SEAT	ELEVATION
K	631.10
L	631.28
M	631.45
N	631.60
P	631.50
R	631.36
S	631.20
T	630.99
V	630.79

ABUTMENT DIAPHRAGM CONCRETE, PHASED CONSTRUCTION: PLACE THE DIAPHRAGM CONCRETE ENCASING THE STRUCTURAL MEMBER ENDS OF AN INDIVIDUAL PHASE WITH THE DECK CONCRETE.

R:\14000\14035\87628\structures\sheets\CUY90_2674\CUY90_2674AF101.dgn 11/9/2017 1:41:26 PM malloym

DESIGN AGENCY
KS Associates Inc.
260 BURNS ROAD, ELYRIA, OHIO 44035

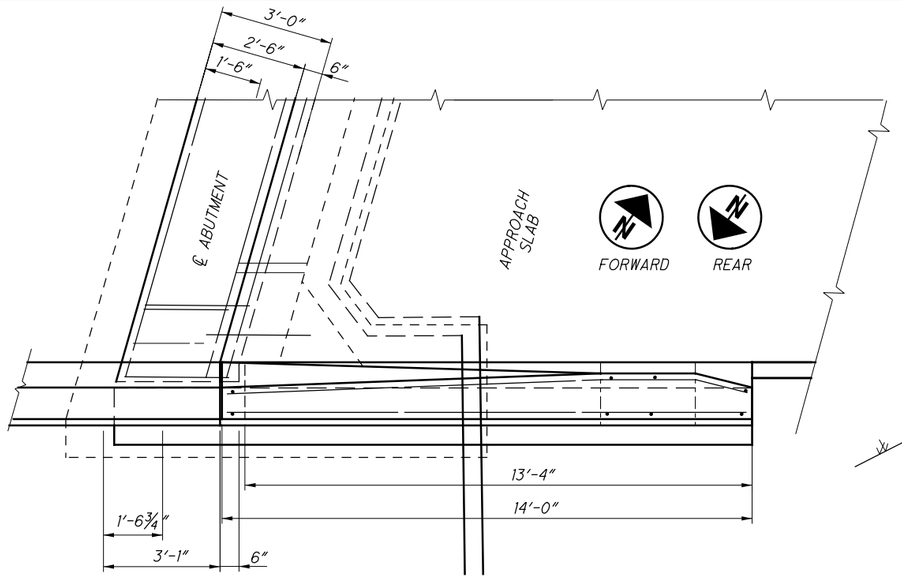
DESIGNED	DRAWN	REVIEWED	DATE
CFE	CFE	MJM	01/09/17
CHECKED	REVISED	STRUCTURE FILE NUMBER	
MEM		1808885	

FORWARD ABUTMENT (WB)
CUY-90-2674
I-90 OVER EAST 200TH ST.

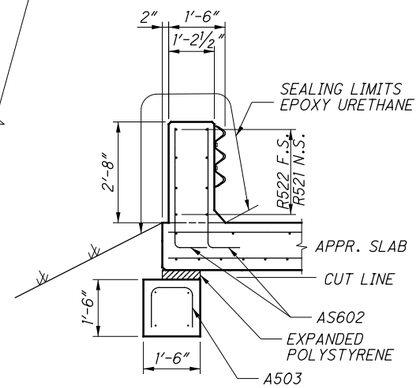
CUY-90-26.16 / VAR
PID No. 87628

17 / 36

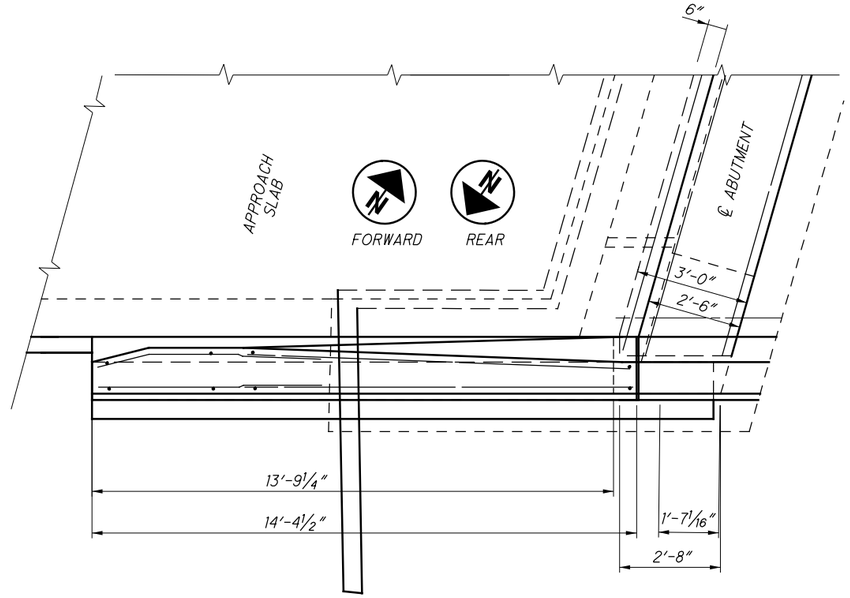
203
222



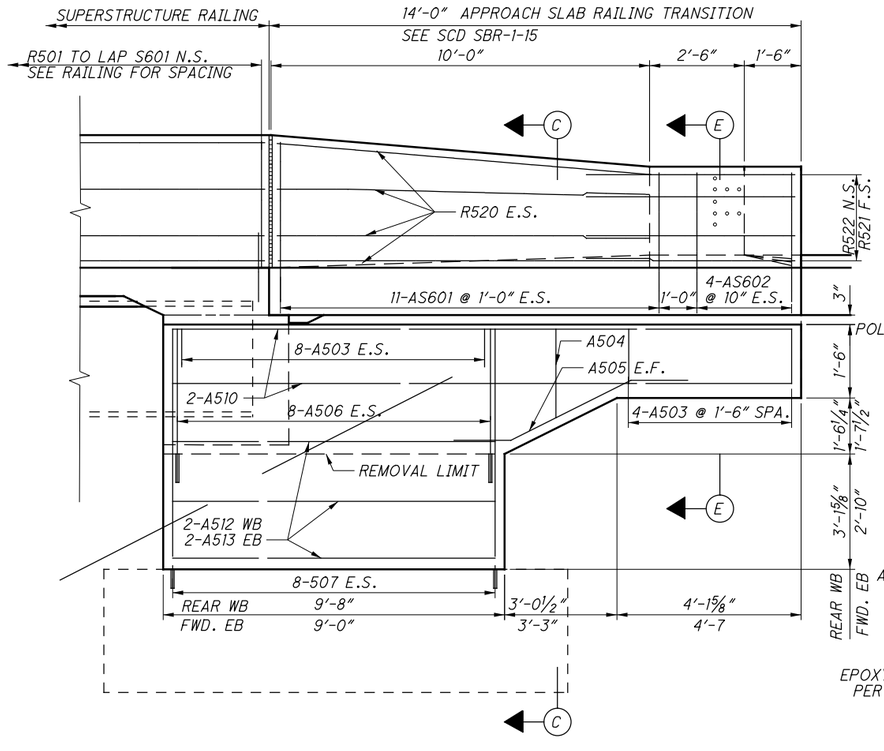
REAR ABUTMENT (NORTHWEST) WINGWALL PLAN
FORWARD ABUTMENT (SOUTHEAST) WINGWALL PLAN

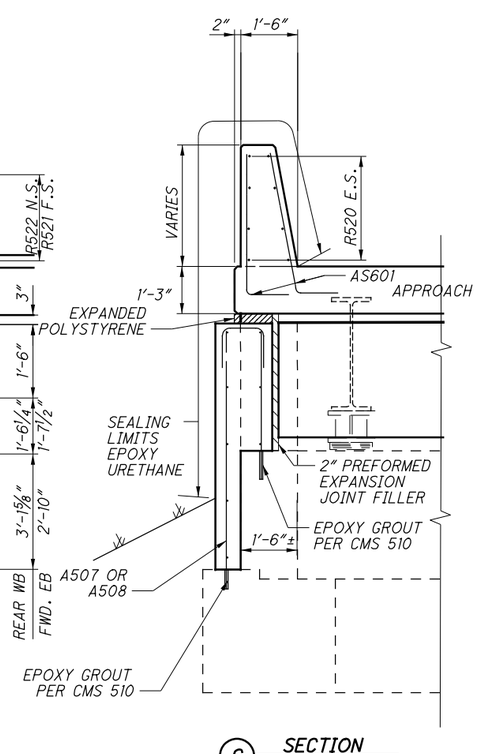


E SECTION



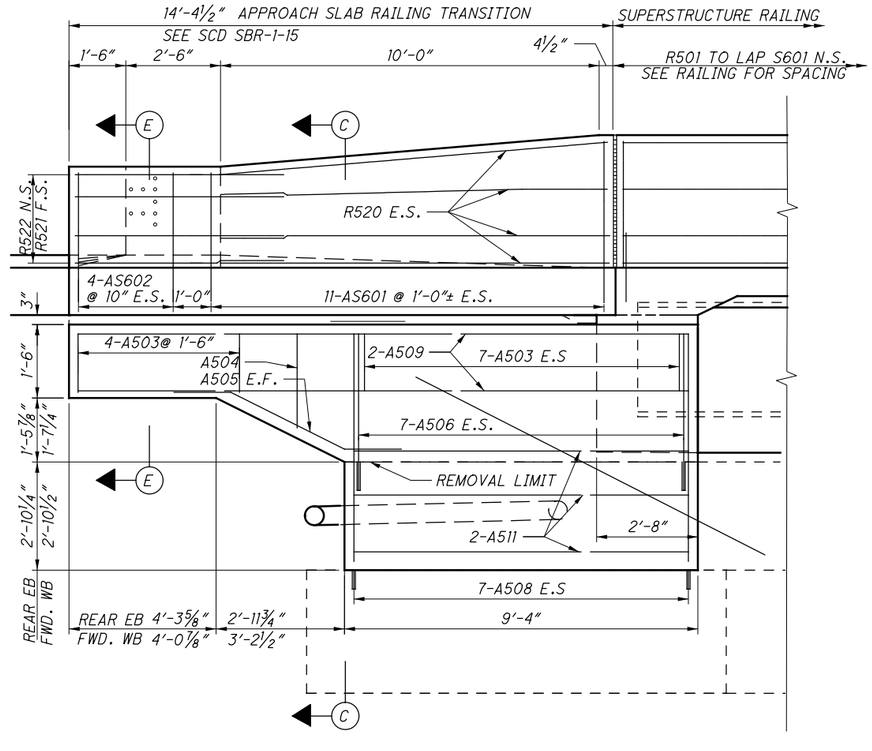
REAR ABUTMENT (SOUTHWEST) WINGWALL PLAN
FORWARD ABUTMENT (NORTHEAST) WINGWALL PLAN





C SECTION

REAR ABUTMENT WESTBOUND (NORTHWEST) WINGWALL ELEVATION
FORWARD ABUTMENT EASTBOUND (SOUTHEAST) WINGWALL ELEVATION



REAR ABUTMENT EASTBOUND (SOUTHWEST) WINGWALL ELEVATION
FORWARD ABUTMENT WESTBOUND (NORTHEAST) WINGWALL ELEVATION

DESIGN AGENCY
KS Associates Inc.
260 BURNS ROAD, ELYRIA, OHIO 44035

DESIGNED	DRAWN	REVIEWED	DATE
CFE	CFE	MJM	01/09/17
CHECKED	REVISED	STRUCTURE FILE NUMBER	
MEM		1808885	

REAR AND FORWARD ABUTMENT WINGWALLS

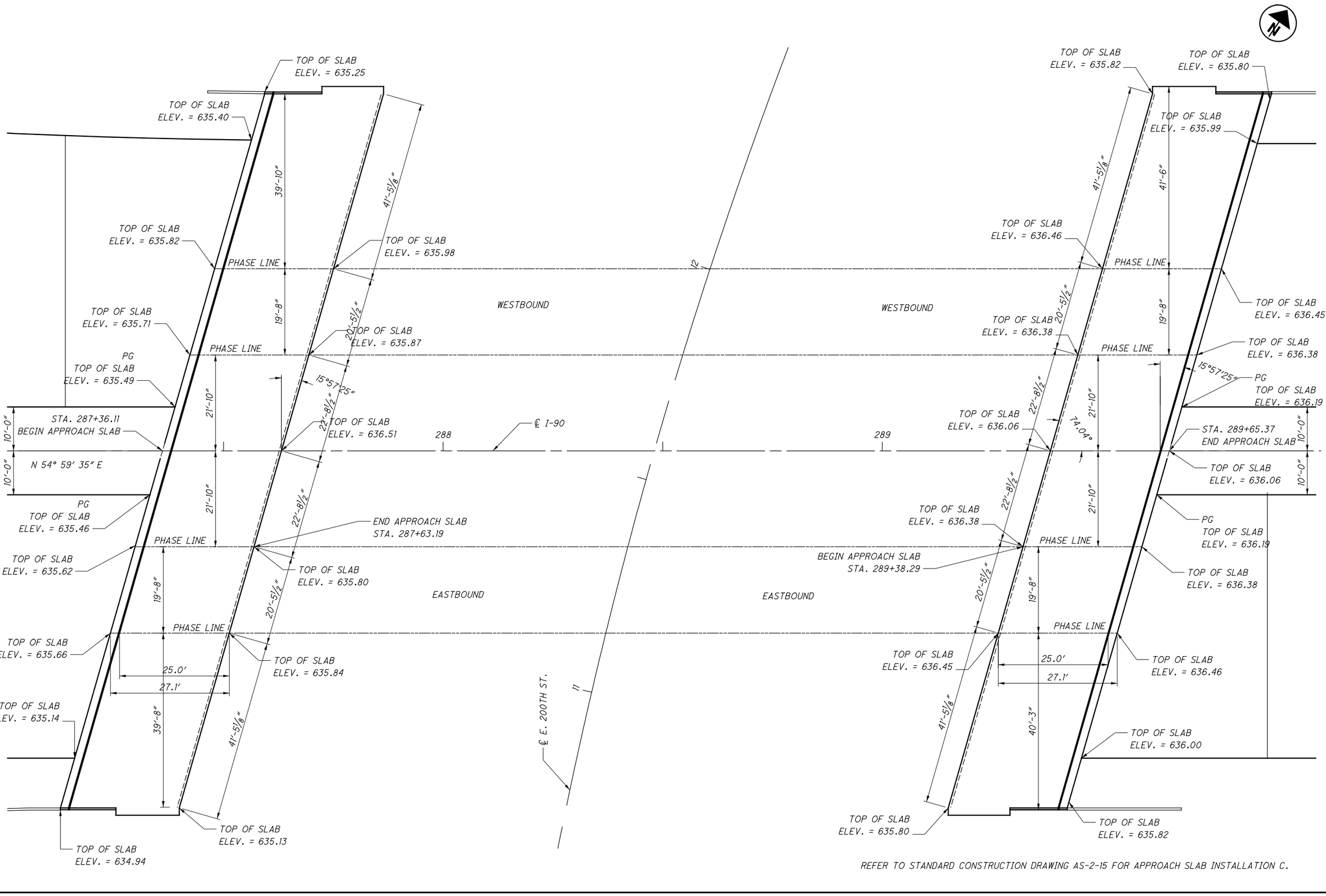
BRIDGE NO. CUY-90-2674
I-90 OVER EAST 200TH ST.

CUY-90-26.16/VAR
PID No. 87628

18 / 36

204
222

R:\14000\14035\87628\structures\sheets\CUY90_2674\CUY90_2674AF002.dgn 11/9/2017 1:41:26 PM malloym



REFER TO STANDARD CONSTRUCTION DRAWING AS-2-15 FOR APPROACH SLAB INSTALLATION C.

DESIGN AGENCY
KS Associates Inc.
260 BURNS ROAD, ELYRIA, OHIO 44035

DESIGNED	DRAWN	REVIEWED	DATE
ASW	ASW	MEM	12/07/16
CHECKED	REVISED	STRUCTURE FILE NUMBER	
MJM		1808885	

APPROACH SLAB DETAILS

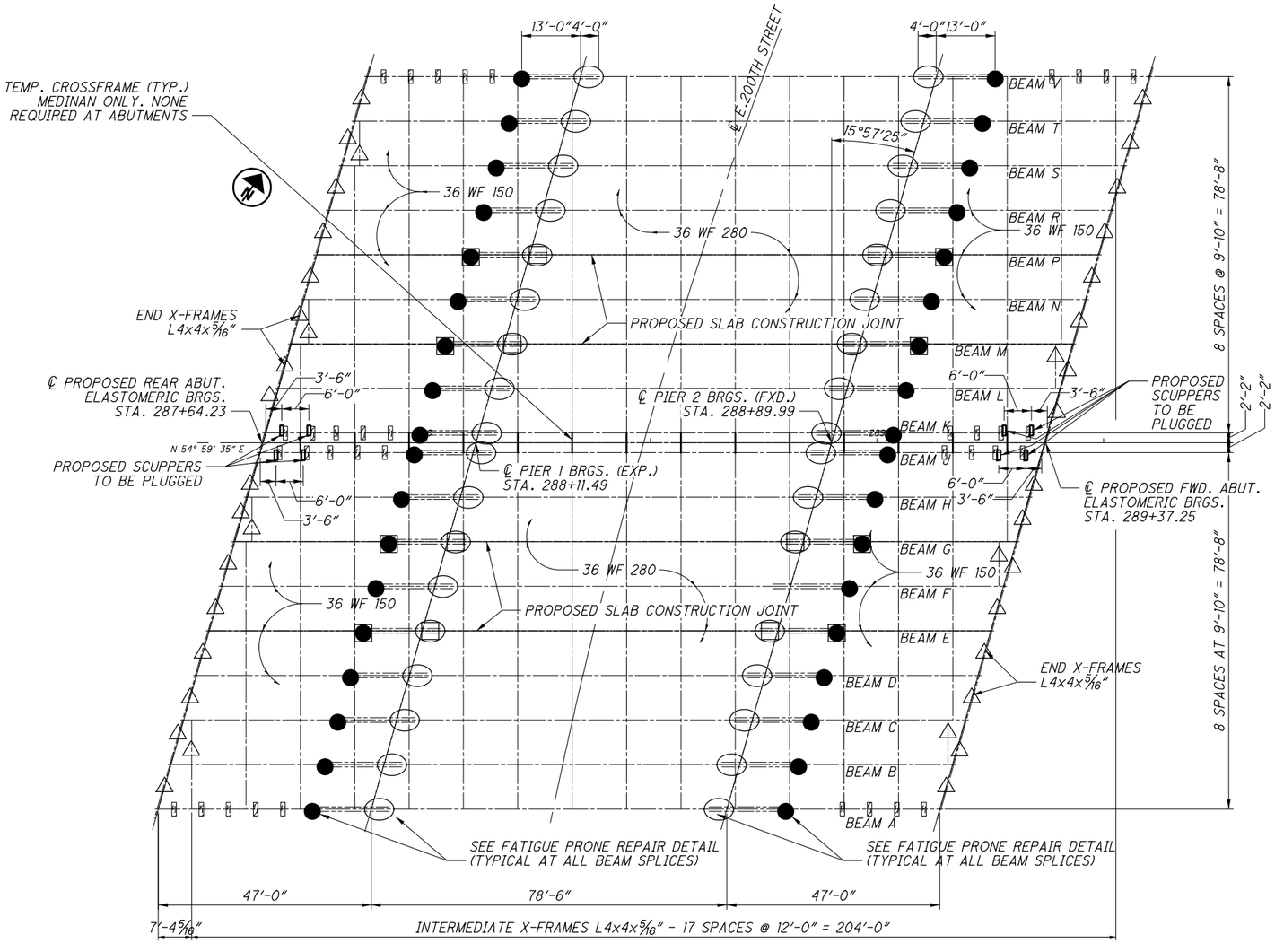
BRIDGE NO. CUY-90-2674
I-90 OVER EAST 200TH ST

CUY-90-26.16/VAR
PID No. 87628

19 / 36

205
222

R:\14000\14035\87628\structures\sheets\CUY90_2674\CUY90_2674SM001.dgn 11/9/2017 1:41:28 PM malloym



EXISTING FRAMING PLAN

DIMENSIONS FOR EXISTING MEMBERS ARE ±

ITEM 518 - SCUPPER MISC: PLUGGING SCUPPER FOR MAINTENANCE OF TRAFFIC

THIS ITEM SHALL INCLUDE ALL WORK, MATERIAL, AND LABOR NECESSARY TO PLUG AND ADD ASPHALT OVER THE EXISTING AND NEW SCUPPER IDENTIFIED IN THE PLANS. THIS ITEM SHALL ALSO INCLUDE ALL WORK AND LABOR TO UNPLUG THE NEW SCUPPERS TO REMAIN AT THE COMPLETION OF MAINTENANCE OF TRAFFIC OPERATIONS. ALL MATERIALS SHALL MEET THE REQUIREMENTS OF CMS 518 AND 614

FOR EXISTING SCUPPERS, A 1/4" STEEL PLATE SHALL BE CUT TO FIT OVER THE EXISTING SCUPPER. THE NEW PLATE SHALL BE FIELD WELDED ALONG THE ENTIRE PERIMETER OF THE PLATE. FOR NEW SCUPPER, A 1/4" PLATE SHALL BE CUT TO FIT IN THE 18X6X 3/8" STRUCTURAL STEEL TUBBING SCUPPER. THIS PLATE SHALL BE SET IN THE SCUPPER TO SIT ON THE GRATING BARS. THE PLATE SHALL BE TACK WELDED AT TO THE STRUCTURAL STEEL TUBING WITH NO INTERVAL BETWEEN WELD GREATER THAN 3 INCHES. FOR BOTH EXISTING AND NEW SCUPPER, THE CONCTRACTOR SHALL PLACE ASPHALT CONCRETE FOR MAINTAINING TRAFFIC OVER THE PLATE TO PROVIDE A SMOOTH RIDING SERVICE.

UPON COMPLETION OF MAINTENANCE OF TRAFFIC OPERATIONS, FOR SCUPPERS TO REMAIN, THE ASPHALT AND STEEL PLATE SHALL BE REMOVED. ANY GALVANIZED SURFACES DAMAGE BY WELDING OR WELD REMOVAL OPERATIONS SHALL BE REPAIRED CMS 711.02

LEGEND

- DENOTES COMBINED TOP COVER PLATE RETROFIT DETAIL
- DENOTES COMBINED PHASE LINE SPLIT TOP COVER PLATE RETROFIT DETAIL
- DENOTES NORMALTOP AND BOTTOM COVER PLATE RETROFIT DETAIL
- DENOTES PHASE LINE SPLIT TOP AND BOTTOM COVER PLATE RETROFIT DETAIL
- EXISTING SCUPPER TO BE REMOVED
- PROPOSED SCUPPER PER GSD-1-96
- EXISTING CROSSFRAME TO BE REMOVED - CONSIDERED INCIDENTAL UNDER ITEM 202 PORTIONS OF STRUCTURE REMOVED, AS PER PLAN

DESIGN AGENCY
KS Associates Inc.
260 BURNS ROAD, ELYRIA, OHIO 44035

DESIGNED	DRAWN	REVIEWED	DATE
RAP	RAP	MEM	01/09/17
CHECKED	REVISED	STRUCTURE FILE NUMBER	
MJM		1808885	

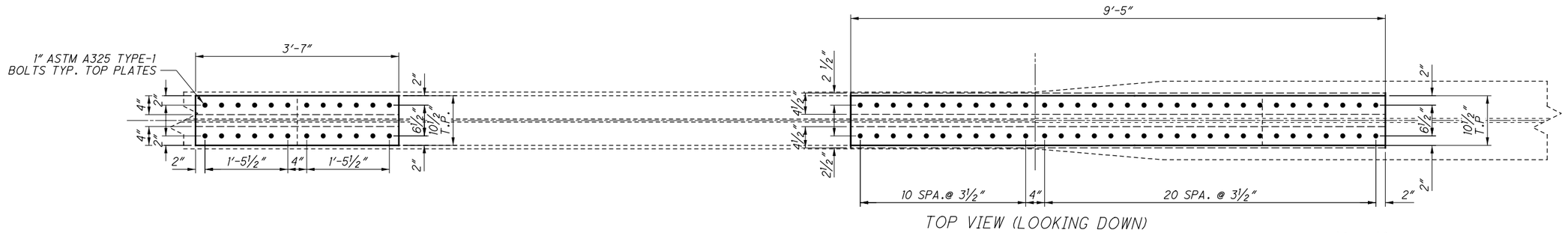
BRIDGE SUPERSTRUCTURE DETAILS -1
BRIDGE NO. CUY-90-2674
I-90 OVER EAST 200TH ST

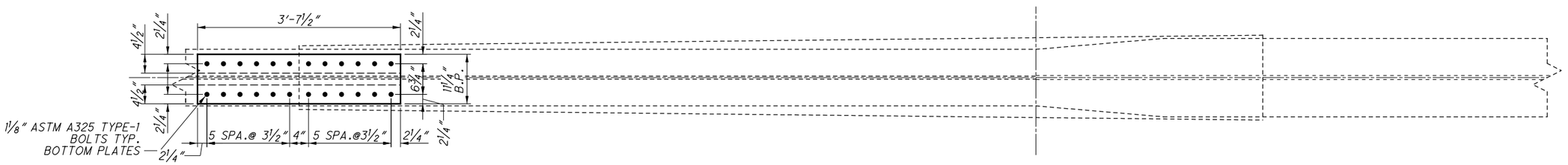
CUY-90-26.16/VAR
PID No. 87628

20/36

206/222

R:\14000\14035\87628\structures\sheets\CUY90_2674\CUY90_2674SD001.dgn 11/9/2017 1:41:28 PM malloym





℄ PIER 1 (SHOWN LOOKING NORTH)

PIER 2 OPPOSITE HAND

LEGEND

T.P. = TOP PLATE
B.P. = BOTTOM PLATE.

AT PHASE LINES, MODIFY PLATES AS FOLLOWS

* 2- PL. 4½" X 1" X 1'-9"

** 2 - PL. 4½" X ⅞" X 3'-7"

*** 2 - PL. 4½" X ⅝" X 1'-7"

**** 2 - SHIM PL. 4½" X ⅛" TO ⅝" X 1'-5 ¼"

***** 2 - PL. 4½" X 1⅜" X 9'-5"

****** 2 - PL. 4½" X ⅝" X 2'-1⅜"

◇ 2 - PL. 4½" X ⅞" X 3'-7"

◇◇ 2 - PL. 4½" X 1⅜" X 9'-5"

NOTES

1. CONTRACTOR TO BID ALL REPAIR WORK SHOWN. ALL WORK ON THE TOP FLANGE TO BE INCLUDED UNDER ITEM 513 - STRUCTURAL STEEL, MISC.: FATIGUE RETROFIT. ALL WORK TO THE BOTTOM FLANGE TO BE INCLUDED UNDER ITEM 513 -STRUCTURAL STEEL, MISC.:FATIGUE RETROFIT, BOTTOM FLANGE.
2. HOLES IN PLATES TO BE SHOP DRILLED
3. CONTRACTOR TO USE NEW PLATES AS TEMPLATE TO DRILL HOLES INTO EXISTING STEEL. FOR TOP PLATE, CONTRACTOR TO ALIGN THE OUTSIDE EDGES OF THE NEW TOP PLATE WITH THE OUTSIDE EDGES OF THE EXISTING PLATE TO BE RETROFITTED
4. RETROFIT IS TO BE CENTERED OVER END OF PLATE TO BE RETROFITTED, EXCEPT @ PIER WHERE IT IS TO BE CENTERED OVER EXISTING WELDED SPLICE.
5. ALL STEEL TO BE ASTM A709 GRADE 50 (CVN).
6. ALL BOLTS TO BE ASTM A325 TYPE-1 GALVANIZED
7. ALL BOLTS ARE TO BE PLACED WITH NUT ON TOP
8. AFTER HOLES ARE DRILLED, CONTRACTOR TO CLEAN THE FAYING SURFACE OF ALL DRILLING OIL, AND THEN BLAST CLEAN TO NEAR WHITE FINISH PER CMS 514.13 A AND C.
9. SEE BRIDGE GENERAL NOTES FOR ADDITIONAL DETAILS.

DESIGN AGENCY
KS Associates Inc.
260 BURNS ROAD, ELYRIA, OHIO 44035

DESIGNED	DRAWN	REVIEWED	DATE
RAP	RAP	MEM	01/09/17
CHECKED	REVISED	STRUCTURE FILE NUMBER	
MJM		1808885	

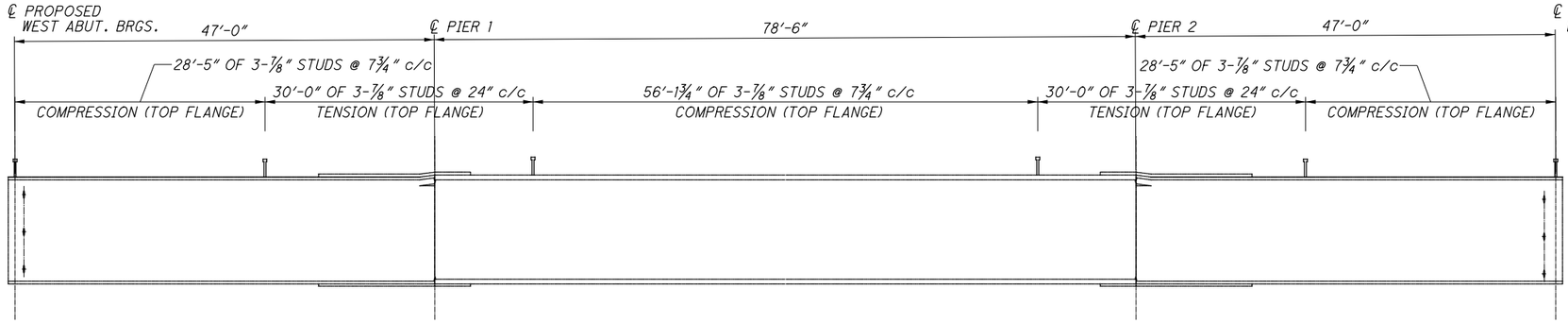
BRIDGE SUPERSTRUCTURE DETAILS - 2
BRIDGE NO. CUY-90-2674
I-90 OVER EAST 200TH ST

CUY-90-26.16/VAR
PID No. 87628

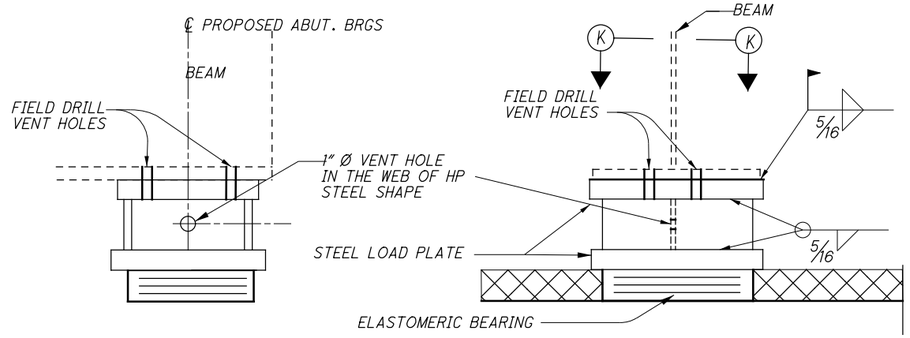
21/36

207
222

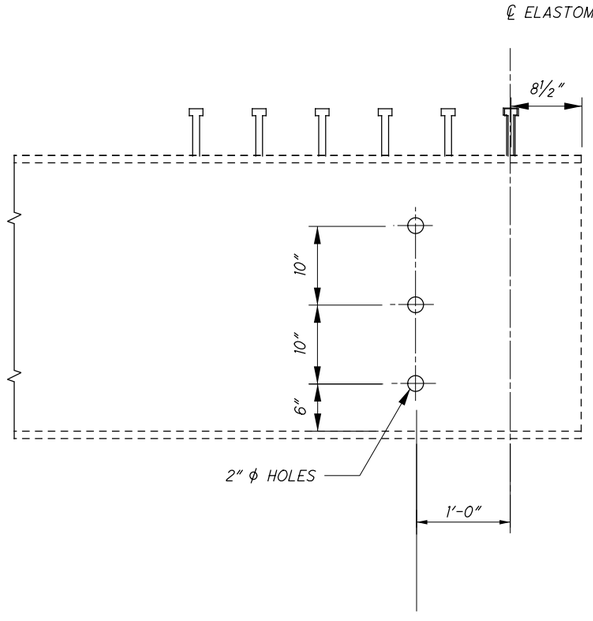
R:\14000\14035\87628\structures\sheets\CUY90_2674\CUY90_2674SD005.dgn 11/9/2017 1:41:29 PM malloym



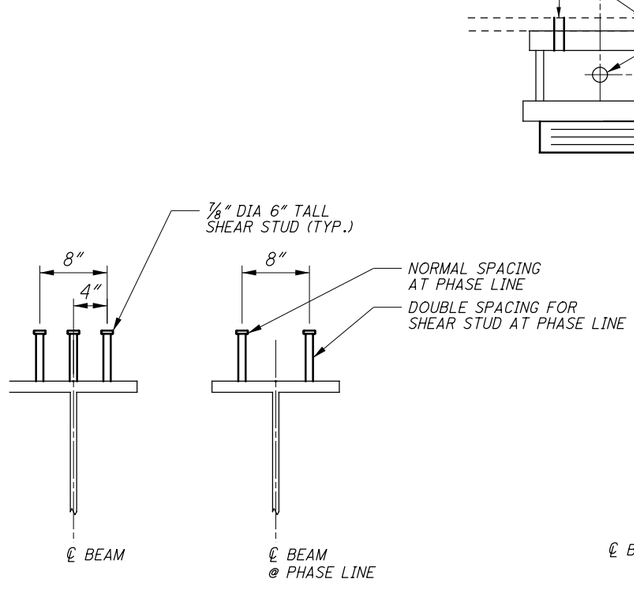
TYPICAL EXISTING BEAM ELEVATION



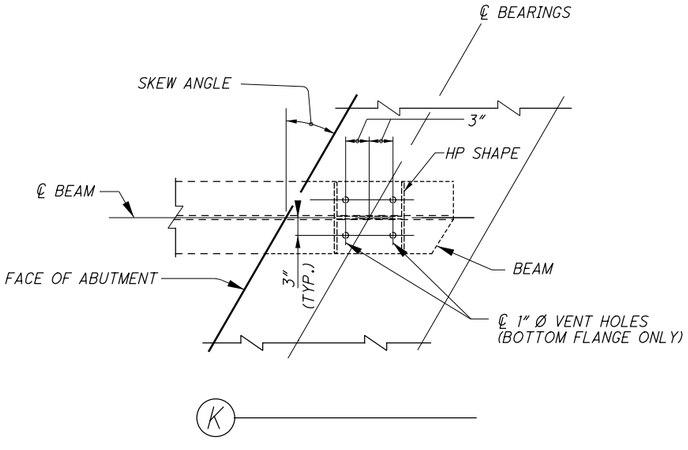
BEARING DETAIL



BEAM END DETAIL



TRANSVERSE STUD DETAIL



R:\14000\14035\87628\structures\sheets\CUY90_2674\CUY90_2674SD002.dgn 11/9/2017 1:41:30 PM malloym

DESIGN AGENCY
KS Associates Inc.
260 BURNS ROAD, ELYRIA, OHIO 44035

DESIGNED	DRAWN	REVIEWED	DATE
RAP	RAP	MJM	01/09/17
CHECKED	REVISED	STRUCTURE FILE NUMBER	
MEM		1808885	

BRIDGE SUPERSTRUCTURE DETAILS - 3

BRIDGE NO. CUY-90-2674
I-90 OVER EAST 200TH ST

CUY-90-26.16/VAR
PID No. 87628

DECK SCREED ELEVATION TABLE - CUY-90-2674 EASTBOUND

ELEVATION LOCATON		SPAN 1				SPAN 2				SPAN 3				
		CL BEARING REAR ABUT.	1/4 SPAN	1/2 SPAN	3/4 SPAN	CL PIER 1	1/4 SPAN	1/2 SPAN	3/4 SPAN	CL PIER 2	1/4 SPAN	1/2 SPAN	3/4 SPAN	CL BEARING FWD. ABUT.
OUTSIDE GUTTER FINAL TOP DECK ELEVATION		635.14	635.21	635.28	635.35	635.41	635.50	635.58	635.65	635.71	635.74	635.76	635.79	635.80
OUTSIDE GUTTER DECK SCREED ELEVATION		635.14				635.41				635.71				635.80
BEAM A	* ELEV. AFTER DECK REMOVAL	----------				----------				----------				----------
	* ELEV. BEFORE DECK REMOVAL	----------				----------				----------				----------
	** SURVEYED REBOUND	----------				----------				----------				----------
	*** ADJUSTED REBOUND	----------				----------				----------				----------
	FINAL TOP OF DECK ELEVATION	635.14	635.22	635.29	635.36	635.42	635.51	635.59	635.66	635.72	635.75	635.77	635.80	635.81
	**** DECK SCREED ELEVATION	635.14				635.42				635.72				635.81
BEAM B	* ELEV. AFTER DECK REMOVAL	----------				----------				----------				----------
	* ELEV. BEFORE DECK REMOVAL	----------				----------				----------				----------
	** SURVEYED REBOUND	----------				----------				----------				----------
	*** ADJUSTED REBOUND	----------				----------				----------				----------
	FINAL TOP OF DECK ELEVATION	635.32	635.39	635.46	635.53	635.59	635.68	635.76	635.83	635.88	635.91	635.94	635.96	635.97
	**** DECK SCREED ELEVATION	635.32				635.59				635.88				635.97
BEAM C	* ELEV. AFTER DECK REMOVAL	----------				----------				----------				----------
	* ELEV. BEFORE DECK REMOVAL	----------				----------				----------				----------
	** SURVEYED REBOUND	----------				----------				----------				----------
	*** ADJUSTED REBOUND	----------				----------				----------				----------
	FINAL TOP OF DECK ELEVATION	635.49	635.57	635.63	635.70	635.76	635.85	635.93	635.99	636.05	636.07	636.10	636.12	636.13
	**** DECK SCREED ELEVATION	635.49				635.76				636.05				636.13
BEAM D	* ELEV. AFTER DECK REMOVAL	----------				----------				----------				----------
	* ELEV. BEFORE DECK REMOVAL	----------				----------				----------				----------
	** SURVEYED REBOUND	----------				----------				----------				----------
	*** ADJUSTED REBOUND	----------				----------				----------				----------
	FINAL TOP OF DECK ELEVATION	635.67	635.74	635.81	635.87	635.93	636.02	636.09	636.16	636.21	636.24	636.26	636.28	636.29
	**** DECK SCREED ELEVATION	635.67				635.93				636.21				636.29
BEAM E	* ELEV. AFTER DECK REMOVAL	----------				----------				----------				----------
	* ELEV. BEFORE DECK REMOVAL	----------				----------				----------				----------
	** SURVEYED REBOUND	----------				----------				----------				----------
	*** ADJUSTED REBOUND	----------				----------				----------				----------
	FINAL TOP OF DECK ELEVATION	635.84	635.91	635.98	636.04	636.10	636.19	636.26	636.32	636.38	636.40	636.42	636.44	636.45
	**** DECK SCREED ELEVATION	635.84				636.10				636.38				636.45
BEAM F	* ELEV. AFTER DECK REMOVAL	----------				----------				----------				----------
	* ELEV. BEFORE DECK REMOVAL	----------				----------				----------				----------
	** SURVEYED REBOUND	----------				----------				----------				----------
	*** ADJUSTED REBOUND	----------				----------				----------				----------
	FINAL TOP OF DECK ELEVATION	635.95	636.02	636.08	636.14	636.20	636.28	636.36	636.42	636.47	636.49	636.51	636.52	636.53
	**** DECK SCREED ELEVATION	635.95				636.20				636.47				636.53
BEAM G	* ELEV. AFTER DECK REMOVAL	----------				----------				----------				----------
	* ELEV. BEFORE DECK REMOVAL	----------				----------				----------				----------
	** SURVEYED REBOUND	----------				----------				----------				----------
	*** ADJUSTED REBOUND	----------				----------				----------				----------
	FINAL TOP OF DECK ELEVATION	635.81	635.87	635.94	636.00	636.05	636.14	636.21	636.27	636.31	636.34	636.35	636.37	636.38
	**** DECK SCREED ELEVATION	635.81				636.05				636.31				636.38
BEAM H	* ELEV. AFTER DECK REMOVAL	----------				----------				----------				----------
	* ELEV. BEFORE DECK REMOVAL	----------				----------				----------				----------
	** SURVEYED REBOUND	----------				----------				----------				----------
	*** ADJUSTED REBOUND	----------				----------				----------				----------
	FINAL TOP OF DECK ELEVATION	635.66	635.73	635.80	635.86	635.91	635.99	636.06	636.12	636.16	636.18	636.20	636.21	636.22
	**** DECK SCREED ELEVATION	635.66				635.91				636.16				636.22
BEAM J	* ELEV. AFTER DECK REMOVAL	----------				----------				----------				----------
	* ELEV. BEFORE DECK REMOVAL	----------				----------				----------				----------
	** SURVEYED REBOUND	----------				----------				----------				----------
	*** ADJUSTED REBOUND	----------				----------				----------				----------
	FINAL TOP OF DECK ELEVATION	635.52	635.59	635.65	635.71	635.76	635.84	635.91	635.97	636.01	636.03	636.05	636.06	636.07
	**** DECK SCREED ELEVATION	635.52				635.76				636.01				636.07
EB MEDIAN GUTTER FINAL TOP DECK ELEVATION		635.52	635.59	635.65	635.71	635.76	635.84	635.91	635.96	636.00	636.03	636.04	636.06	636.06
EB MEDIAN GUTTER DECK SCREED ELEVATION		635.52				635.76				636.00				636.06

* BOTTOM OF BEAM ELEVATION SURVEYED DURING CONSTRUCTION.
** SURVEYED REBOUND = BEAM ELEVATIONS BEFORE DECK REMOVAL MINUS BEAM ELEVATION AFTER DECK REMOVAL.
*** ADJUSTED REBOUND = RATIO OF PROPOSED DEAD LOAD TO EXISTING DEAD LOAD (PROVIDED BY DESIGNER) MULTIPLIED BY THE SURVEYED REBOUND.
**** DECK SCREED ELEVATION = ADJUSTED REBOUND ADDED TO THE FINAL TOP OF DECK ELEVATION.

ANTICIPATED DRY RUN DISTANCES CAN BE OBTAINED BY ADDING THE ADJUSTED REBOUND TO THE ANTICIPATED DECK SLAB DEPTHS.
RATIO OF PROPOSED DEAD LOAD TO EXISTING DEAD LOAD = 0.75 DECK THICKNESS FROM CORES (IN) 12 DESIGN DECK THICKNESS (IN) 9

ANTICIPATED DECK SLAB DEPTHS (INCHES) - CUY-90-2674 EASTBOUND

LOCATON	SPAN 1				SPAN 2				SPAN 3				
	CL BEARING REAR ABUT.	1/4 SPAN	1/2 SPAN	3/4 SPAN	CL PIER 1	1/4 SPAN	1/2 SPAN	3/4 SPAN	CL PIER 2	1/4 SPAN	1/2 SPAN	3/4 SPAN	CL BEARING FWD. ABUT.
BEAM A	12.50	13.00	13.50	13.75	13.50	13.75	13.75	10.50	13.50	13.75	13.50	13.00	12.50
BEAM B	12.00	12.75	13.25	14.00	13.75	14.00	14.00	14.00	13.50	13.50	13.00	12.25	11.75
BEAM C	11.75	12.50	13.25	14.00	14.00	14.00	14.00	14.00	13.50	13.75	12.75	12.00	11.25
BEAM D	12.50	13.00	13.50	14.00	13.75	14.00	14.00	14.00	13.50	13.50	13.00	12.00	11.25
BEAM E	12.25	13.00	13.50	13.75	13.75	13.75	14.00	14.00	13.75	13.50	12.75	12.00	11.00
BEAM F	12.00	12.75	13.25	13.75	13.75	14.00	14.00	14.00	13.75	13.50	12.75	12.00	11.00
BEAM G	11.25	12.00	12.75	13.50	13.50	14.00	14.00	14.00	13.75	13.50	12.75	12.00	11.00
BEAM H	11.50	12.50	13.00	13.75	13.75	14.00	14.25	14.00	14.00	14.00	13.00	12.25	11.25
BEAM J	12.25	12.75	13.25	13.75	13.50	13.75	14.00	13.75	13.75	13.75	13.25	12.50	11.75

SCREED ELEVATIONS: FIELD PROCEDURE

DURING PHASED CONSTRUCTION OF DECKS WITHOUT CLOSURE POURS.

1. SURVEY THE BOTTOM OF THE EXISTING BEAM IN PHASE 1 AT THE LOCATION SHOWN IN THE TABLE PRIOR TO PHASE 1 DECK REMOVAL AND AFTER PHASE 1 DECK REMOVAL.

2. COMPUTE THE AMOUNT OF SURVEYED REBOUND FOR THESE BEAMS BY SUBTRACTING THE ELEVATIONS AFTER REMOVAL FROM THE ELEVATIONS BEFORE REMOVAL.

3. COMPUTE THE ADJUSTED REBOUND FOR THESE BEAMS BY MULTIPLYING THE SURVEYED REBOUND BY THE RATIO OF THE PROPOSED DEAD LOAD.

4. ADD THE AMOUNT OF ADJUSTED REBOUND TO THE FINAL TOP OF DECK ELEVATIONS TO OBTAIN THE DECK SCREED ELEVATIONS. USE THE REBOUND OF THE CLOSEST BEAM TO DETERMINE GUTTER DECK SCREED ELEVATION.

5. AFTER PHASE 1 DECK PLACEMENT, REPEAT STEPS 1 THRU 4 FOR THE REMAINING BEAMS PRIOR TO AND AFTER THE PHASE 2 REMOVAL.

NOTES:

1. DECK SLAB DEPTH, THE QUANTITY OF DECK SLAB CONCRETE TO BE PAID FOR SHALL BE BASED ON THE MINIMUM REQUIRED DECK SLAB THICKNESS OF 9 INCHES PLUS THE HAUNCH CONCRETE. THE QUANTITY OF CONCRETE REQUIRED FOR THE HAUNCH SHALL BE BASED ON THE DESIGN HAUNCH OF 2 INCHES EVEN THOUGH DEVIATIONS FROM THAT DEPTH MAY BE NECESSARY BECAUSE THE TOP FLANGE OF THE BEAM MAY NOT BE PARALLEL TO THE FINISHED GRADE. ACTUAL HAUNCH DEPTHS MAY VARY FROM 1 1/2 INCH MINIMUM TO A 5 1/2 INCH MAXIMUM.

2. THE HAUNCH WIDTH OF 9 INCHES SHALL BE USED FOR COMPUTING QUANTITY OF CONCRETE. HOWEVER, THE HAUNCH WITH MAY VARY BETWEEN 6 AND 12 INCHES.

3. THE COST OF SURVEYING IS CONSIDERED INCIDENTAL TO DECK CONSTRUCTION AND SHALL BE INCLUDED WITH ITEM 511 - CLASS QC2 CONCRETE WITH QC/QA, BRIDGE DECK, AS PER PLAN

DESIGN AGENCY
KS Associates Inc.
260 BURNS ROAD, ELYRIA, OHIO 44035

DESIGNED MTG | DRAWN MTG | CHECKED MJM | REVIEWED RAP | DATE 01/09/17 | REVISED | STRUCTURE FILE NUMBER 1806885

SCREED TABLE - 1
BRIDGE NO. CUY-90-2674
I-90 OVER EAST 200TH ST

CUY-90-26.16/VAR
PID No. 87628

DECK SCREED ELEVATION TABLE - CUY-90-2674 WESTBOUND

ELEVATION LOCATON		SPAN 1				SPAN 2				SPAN 3				
		CL BEARING REAR ABUT.	1/4 SPAN	1/2 SPAN	3/4 SPAN	CL PIER 1	1/4 SPAN	1/2 SPAN	3/4 SPAN	CL PIER 2	1/4 SPAN	1/2 SPAN	3/4 SPAN	CL BEARING FWD. ABUT.
WB MEDIAN GUTTER FINAL TOP DECK ELEVATION		635.52	635.59	635.65	635.71	635.76	635.84	635.91	635.96	636.01	636.03	636.04	636.06	636.06
WB MEDIAN GUTTER DECK SCREED ELEVATION		635.52				635.76				636.01				636.06
BEAM K	* ELEV. AFTER DECK REMOVAL	----------				----------				----------				----------
	* ELEV. BEFORE DECK REMOVAL	----------				----------				----------				----------
	** SURVEYED REBOUND	----------				----------				----------				----------
	*** ADJUSTED REBOUND	----------				----------				----------				----------
	FINAL TOP OF DECK ELEVATION	635.53	635.60	635.66	635.72	635.77	635.85	635.92	635.97	636.01	636.03	636.05	636.06	636.07
	**** DECK SCREED ELEVATION	635.53				635.77				636.01				636.07
BEAM L	* ELEV. AFTER DECK REMOVAL	----------				----------				----------				----------
	* ELEV. BEFORE DECK REMOVAL	----------				----------				----------				----------
	** SURVEYED REBOUND	----------				----------				----------				----------
	*** ADJUSTED REBOUND	----------				----------				----------				----------
	FINAL TOP OF DECK ELEVATION	635.70	635.77	635.83	635.89	635.94	636.01	636.08	636.13	636.17	636.19	636.21	636.22	636.23
	**** DECK SCREED ELEVATION	635.70				635.94				636.17				636.23
BEAM M	* ELEV. AFTER DECK REMOVAL	----------				----------				----------				----------
	* ELEV. BEFORE DECK REMOVAL	----------				----------				----------				----------
	** SURVEYED REBOUND	----------				----------				----------				----------
	*** ADJUSTED REBOUND	----------				----------				----------				----------
	FINAL TOP OF DECK ELEVATION	635.87	635.94	636.00	636.05	636.11	636.18	636.24	636.30	636.34	636.35	636.37	636.38	636.38
	**** DECK SCREED ELEVATION	635.87				636.11				636.34				636.38
BEAM N	* ELEV. AFTER DECK REMOVAL	----------				----------				----------				----------
	* ELEV. BEFORE DECK REMOVAL	----------				----------				----------				----------
	** SURVEYED REBOUND	----------				----------				----------				----------
	*** ADJUSTED REBOUND	----------				----------				----------				----------
	FINAL TOP OF DECK ELEVATION	636.05	636.11	636.17	636.22	636.27	636.35	636.41	636.46	636.50	636.52	636.53	636.54	636.54
	**** DECK SCREED ELEVATION	636.05				636.27				636.50				636.54
BEAM P	* ELEV. AFTER DECK REMOVAL	----------				----------				----------				----------
	* ELEV. BEFORE DECK REMOVAL	----------				----------				----------				----------
	** SURVEYED REBOUND	----------				----------				----------				----------
	*** ADJUSTED REBOUND	----------				----------				----------				----------
	FINAL TOP OF DECK ELEVATION	635.98	636.04	636.10	636.16	636.21	636.28	636.34	636.38	636.42	636.44	636.45	636.46	636.46
	**** DECK SCREED ELEVATION	635.98				636.21				636.42				636.46
BEAM R	* ELEV. AFTER DECK REMOVAL	----------				----------				----------				----------
	* ELEV. BEFORE DECK REMOVAL	----------				----------				----------				----------
	** SURVEYED REBOUND	----------				----------				----------				----------
	*** ADJUSTED REBOUND	----------				----------				----------				----------
	FINAL TOP OF DECK ELEVATION	635.84	635.90	635.96	636.01	636.06	636.13	636.19	636.23	636.27	636.28	636.29	636.30	636.30
	**** DECK SCREED ELEVATION	635.84				636.06				636.27				636.30
BEAM S	* ELEV. AFTER DECK REMOVAL	----------				----------				----------				----------
	* ELEV. BEFORE DECK REMOVAL	----------				----------				----------				----------
	** SURVEYED REBOUND	----------				----------				----------				----------
	*** ADJUSTED REBOUND	----------				----------				----------				----------
	FINAL TOP OF DECK ELEVATION	635.70	635.76	635.81	635.87	635.91	635.98	636.04	636.08	636.11	636.13	636.14	636.14	636.15
	**** DECK SCREED ELEVATION	635.70				635.91				636.11				636.15
BEAM T	* ELEV. AFTER DECK REMOVAL	----------				----------				----------				----------
	* ELEV. BEFORE DECK REMOVAL	----------				----------				----------				----------
	** SURVEYED REBOUND	----------				----------				----------				----------
	*** ADJUSTED REBOUND	----------				----------				----------				----------
	FINAL TOP OF DECK ELEVATION	635.56	635.62	635.67	635.72	635.76	635.83	635.89	635.93	635.96	635.98	635.98	635.99	635.99
	**** DECK SCREED ELEVATION	635.56				635.76				635.96				635.99
BEAM V	* ELEV. AFTER DECK REMOVAL	----------				----------				----------				----------
	* ELEV. BEFORE DECK REMOVAL	----------				----------				----------				----------
	** SURVEYED REBOUND	----------				----------				----------				----------
	*** ADJUSTED REBOUND	----------				----------				----------				----------
	FINAL TOP OF DECK ELEVATION	635.41	635.47	635.52	635.57	635.62	635.68	635.74	635.78	635.81	635.82	635.83	635.83	635.83
	**** DECK SCREED ELEVATION	635.41				635.62				635.81				635.83
OUTSIDE GUTTER FINAL TOP DECK ELEVATION		635.40	635.46	635.52	635.57	635.61	635.68	635.73	635.77	635.80	635.81	635.82	635.82	635.82
OUTSIDE GUTTER DECK SCREED ELEVATION		635.40				635.61				635.80				635.82

* BOTTOM OF BEAM ELEVATION SURVEYED DURING CONSTRUCTION.
** SURVEYED REBOUND = BEAM ELEVATIONS BEFORE DECK REMOVAL MINUS BEAM ELEVATION AFTER DECK REMOVAL.
*** ADJUSTED REBOUND = RATIO OF PROPOSED DEAD LOAD TO EXISTING DEAD LOAD (PROVIDED BY DESIGNER) MULTIPLIED BY THE SURVEYED REBOUND.
**** DECK SCREED ELEVATION = ADJUSTED REBOUND ADDED TO THE FINAL TOP OF DECK ELEVATION.

ANTICIPATED DRY RUN DISTANCES CAN BE OBTAINED BY ADDING THE ADJUSTED REBOUND TO THE ANTICIPATED DECK SLAB DEPTHS.
RATIO OF PROPOSED DEAD LOAD TO EXISTING DEAD LOAD = 0.75 DECK THICKNESS FROM CORES (IN) 12 DESIGN DECK THICKNESS (IN) 9

ANTICIPATED DECK SLAB DEPTHS (INCHES) - CUY-90-2674 WESTBOUND

LOCATON	SPAN 1				SPAN 2				SPAN 3				
	CL BEARING REAR ABUT.	1/4 SPAN	1/2 SPAN	3/4 SPAN	CL PIER 1	1/4 SPAN	1/2 SPAN	3/4 SPAN	CL PIER 2	1/4 SPAN	1/2 SPAN	3/4 SPAN	CL BEARING FWD. ABUT.
BEAM K	12.25	12.75	13.25	13.75	13.75	13.75	14.00	14.00	13.75	14.00	13.25	12.50	11.75
BEAM L	12.00	12.75	13.25	13.75	13.75	14.00	14.25	14.00	14.00	14.00	13.00	12.25	11.50
BEAM M	12.00	12.50	13.25	14.00	14.00	14.25	14.25	14.25	14.00	14.00	13.25	12.50	11.50
BEAM N	11.75	12.50	13.25	13.75	13.75	14.00	14.25	14.25	14.00	14.00	13.00	12.25	11.25
BEAM P	12.00	12.75	13.50	14.00	14.00	14.25	14.25	14.25	14.25	14.00	13.25	12.25	11.25
BEAM R	11.75	12.50	13.25	14.00	14.00	14.25	14.50	14.50	14.50	14.00	13.25	12.25	11.00
BEAM S	12.00	12.50	13.25	13.75	13.75	14.00	14.00	14.25	14.00	14.00	13.00	12.25	11.25
BEAM T	11.75	12.50	13.25	13.75	13.75	14.00	14.25	14.25	14.00	14.00	13.50	12.50	11.25
BEAM V	12.50	13.00	13.50	13.75	13.50	13.75	14.00	14.00	14.00	14.25	13.75	13.25	12.75

SCREED ELEVATIONS: FIELD PROCEDURE

DURING PHASED CONSTRUCTION OF DECKS WITHOUT CLOSURE POURS.

1. SURVEY THE BOTTOM OF THE EXISTING BEAM IN PHASE 1 AT THE LOCATION SHOWN IN THE TABLE PRIOR TO PHASE 1 DECK REMOVAL AND AFTER PHASE 1 DECK REMOVAL.

2. COMPUTE THE AMOUNT OF SURVEYED REBOUND FOR THESE BEAMS BY SUBTRACTING THE ELEVATIONS AFTER REMOVAL FROM THE ELEVATIONS BEFORE REMOVAL.

3. COMPUTE THE ADJUSTED REBOUND FOR THESE BEAMS BY MULTIPLYING THE SURVEYED REBOUND BY THE RATIO OF THE PROPOSED DEAD LOAD.

4. ADD THE AMOUNT OF ADJUSTED REBOUND TO THE FINAL TOP OF DECK ELEVATIONS TO OBTAIN THE DECK SCREED ELEVATIONS. USE THE REBOUND OF THE CLOSEST BEAM TO DETERMINE GUTTER DECK SCREED ELEVATION.

5. AFTER PHASE 1 DECK PLACEMENT, REPEAT STEPS 1 THRU 4 FOR THE REMAINING BEAMS PRIOR TO AND AFTER THE PHASE 2 REMOVAL.

NOTES:

1. DECK SLAB DEPTH, THE QUANTITY OF DECK SLAB CONCRETE TO BE PAID FOR SHALL BE BASED ON THE MINIMUM REQUIRED DECK SLAB THICKNESS OF 9 INCHES PLUS THE HAUNCH CONCRETE. THE QUANTITY OF CONCRETE REQUIRED FOR THE HAUNCH SHALL BE BASED ON THE DESIGN HAUNCH OF 2 INCHES EVEN THOUGH DEVIATIONS FROM THAT DEPTH MAY BE NECESSARY BECAUSE THE TOP FLANGE OF THE BEAM MAY NOT BE PARALLEL TO THE FINISHED GRADE. ACTUAL HAUNCH DEPTHS MAY VARY FROM 2 INCH MINIMUM TO A 5 3/4 INCH MAXIMUM.

2. THE HAUNCH WIDTH OF 9 INCHES SHALL BE USED FOR COMPUTING QUANTITY OF CONCRETE. HOWEVER, THE HAUNCH WITH MAY VARY BETWEEN 6 AND 12 INCHES.

3. THE COST OF SURVEYING IS CONSIDERED INCIDENTAL TO DECK CONSTRUCTION AND SHALL BE INCLUDED WITH ITEM 511 - CLASS QC2 CONCRETE WITH QC/QA, BRIDGE DECK, AS PER PLAN

DESIGN AGENCY
KS Associates Inc.
260 BURNS ROAD, ELYRIA, OHIO 44035

DESIGNED	DRAWN	REVIEWED	DATE
MTG	MTG	RAP	01/09/17

CHECKED	REVISED	STRUCTURE FILE NUMBER
MJM		1806885

SCREED TABLE - 2
BRIDGE NO. CUY-90-2674
I-90 OVER EAST 200TH ST

CUY-90-26.16/VAR
PID No. 87628

24/36

210/222

R:\14000\14035\87628\structures\sheets\CUY90_2674\CUY90_2674SD004.dgn 11/9/2017 1:41:33 PM malloym

DECK STATION / OFFSET TABLE - CUY-90-2674

BEAM		REAR ABUTMENT	1/4 SPAN	1/2 SPAN	3/4 SPAN	PIER 1	1/4 SPAN	1/2 SPAN	3/4 SPAN	PIER 1	1/4 SPAN	1/2 SPAN	3/4 SPAN	FORWARD ABUTMENT
A	STATION	287+41.18	287+53.00	287+64.81	287+76.63	287+88.44	288+08.06	288+27.69	288+47.31	288+66.93	288+78.76	288+90.59	289+02.42	289+14.25
	OFFSET	80.86	80.86	80.86	80.86	80.86	80.87	80.88	80.88	80.88	80.84	80.79	80.74	80.69
B	STATION	287+43.98	287+55.80	287+67.61	287+79.43	287+91.24	288+10.87	288+30.49	288+50.12	288+69.74	288+81.57	288+93.40	289+05.23	289+17.06
	OFFSET	71.07	71.07	71.06	71.06	71.06	71.06	71.06	71.06	71.06	71.01	70.96	70.91	70.86
C	STATION	287+46.80	287+58.61	287+70.42	287+82.23	287+94.04	288+13.67	288+33.29	288+52.92	288+72.55	288+84.38	288+96.20	289+08.03	289+19.86
	OFFSET	61.22	61.24	61.25	61.27	61.29	61.28	61.26	61.25	61.24	61.20	61.16	61.12	61.08
D	STATION	287+49.59	287+61.41	287+73.22	287+85.03	287+96.85	288+16.48	288+36.12	288+55.75	288+75.39	288+87.21	288+99.03	289+10.85	289+22.67
	OFFSET	51.44	51.45	51.46	51.46	51.47	51.43	51.39	51.35	51.32	51.30	51.28	51.26	51.25
E	STATION	287+52.41	287+64.22	287+76.03	287+87.84	287+99.65	288+19.29	288+38.92	288+58.56	288+78.19	288+90.01	289+01.83	289+13.65	289+25.47
	OFFSET	41.60	41.61	41.62	41.64	41.65	41.61	41.58	41.54	41.50	41.49	41.47	41.45	41.44
F	STATION	287+55.22	287+67.03	287+78.85	287+90.66	288+02.48	288+22.11	288+41.73	288+61.36	288+80.99	288+92.82	289+04.64	289+16.46	289+28.28
	OFFSET	31.77	31.77	31.77	31.78	31.78	31.76	31.75	31.73	31.71	31.69	31.66	31.64	31.61
G	STATION	287+58.03	287+69.85	287+81.67	287+93.48	288+05.30	288+24.93	288+44.56	288+64.19	288+83.81	288+95.63	289+07.45	289+19.27	289+31.08
	OFFSET	21.93	21.92	21.91	21.90	21.90	21.88	21.87	21.86	21.85	21.84	21.83	21.83	21.82
H	STATION	287+60.85	287+72.66	287+84.47	287+96.28	288+08.09	288+27.72	288+47.36	288+67.00	288+86.64	288+98.45	289+10.27	289+22.08	289+33.90
	OFFSET	12.07	12.09	12.11	12.13	12.15	12.11	12.06	12.02	11.97	11.97	11.98	11.98	11.98
J	STATION	287+63.66	287+75.48	287+87.29	287+99.11	288+10.93	288+30.56	288+50.18	288+69.81	288+89.43	289+01.25	289+13.07	289+24.90	289+36.72
	OFFSET	2.26	2.24	2.23	2.21	2.20	2.20	2.20	2.21	2.21	2.19	2.16	2.14	2.11
K	STATION	287+64.91	287+76.73	287+88.54	288+00.36	288+12.18	288+31.81	288+51.44	288+71.07	288+90.70	289+02.52	289+14.33	289+26.15	289+37.97
	OFFSET	-2.13	-2.13	-2.14	-2.14	-2.15	-2.17	-2.19	-2.21	-2.23	-2.23	-2.24	-2.25	-2.25
L	STATION	287+67.70	287+79.52	287+91.34	288+03.16	288+14.98	288+34.61	288+54.24	288+73.87	288+93.49	289+05.31	289+17.13	289+28.94	289+40.76
	OFFSET	-11.89	-11.91	-11.93	-11.95	-11.97	-11.98	-11.99	-12.00	-12.00	-12.01	-12.02	-12.02	-12.03
M	STATION	287+70.51	287+82.33	287+94.15	288+05.97	288+17.79	288+37.42	288+57.04	288+76.67	288+96.29	289+08.11	289+19.93	289+31.75	289+43.57
	OFFSET	-21.71	-21.73	-21.75	-21.78	-21.80	-21.80	-21.79	-21.79	-21.79	-21.81	-21.82	-21.84	-21.86
N	STATION	287+73.34	287+85.15	287+96.97	288+08.78	288+20.59	288+40.23	288+59.86	288+79.49	288+99.12	289+10.94	289+22.75	289+34.57	289+46.38
	OFFSET	-31.61	-31.60	-31.60	-31.59	-31.59	-31.61	-31.64	-31.66	-31.69	-31.69	-31.69	-31.69	-31.69
P	STATION	287+76.15	287+87.97	287+99.79	288+11.60	288+23.42	288+43.05	288+62.68	288+82.31	289+01.94	289+13.75	289+25.56	289+37.37	289+49.18
	OFFSET	-41.44	-41.45	-41.46	-41.46	-41.47	-41.49	-41.50	-41.51	-41.53	-41.52	-41.51	-41.50	-41.49
R	STATION	287+78.95	287+90.77	288+02.59	288+14.40	288+26.22	288+45.85	288+65.48	288+85.11	289+04.74	289+16.56	289+28.38	289+40.19	289+52.01
	OFFSET	-51.23	-51.24	-51.25	-51.26	-51.26	-51.28	-51.31	-51.33	-51.35	-51.35	-51.36	-51.37	-51.38
S	STATION	287+81.78	287+93.59	288+05.40	288+17.22	288+29.03	288+48.66	288+68.29	288+87.93	289+07.56	289+19.37	289+31.19	289+43.01	289+54.82
	OFFSET	-61.11	-61.11	-61.10	-61.10	-61.09	-61.12	-61.14	-61.17	-61.19	-61.19	-61.20	-61.20	-61.20
T	STATION	287+84.56	287+96.39	288+08.21	288+20.04	288+31.86	288+51.49	288+71.11	288+90.74	289+10.37	289+22.18	289+33.99	289+45.80	289+57.62
	OFFSET	-70.87	-70.90	-70.93	-70.97	-71.00	-71.00	-71.00	-71.01	-71.01	-71.00	-70.99	-70.99	-70.98
V	STATION	287+87.37	287+99.19	288+11.02	288+22.84	288+34.67	288+54.29	288+73.92	288+93.54	289+13.17	289+24.98	289+36.80	289+48.61	289+60.43
	OFFSET	-80.67	-80.71	-80.74	-80.78	-80.82	-80.81	-80.81	-80.80	-80.80	-80.81	-80.81	-80.82	-80.82

NOTES:

1. OFFSETS ARE FROM CENTERLINE OF CONSTRUCTION

2. ALL STATION AND OFFSETS FOR EXISTING BEAMS ARE ±

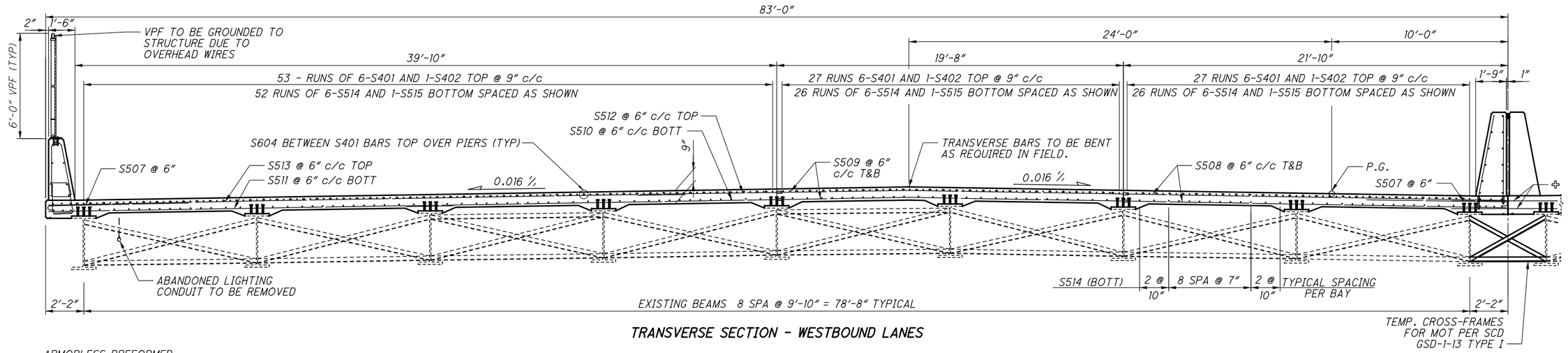
DESIGN AGENCY
KS Associates Inc.
260 BURNS ROAD, ELYRIA, OHIO 44035

DESIGNED MTG | DRAWN MTG | CHECKED MJM | REVIEWED RAP | DATE 12/07/16 | REVISED | STRUCTURE FILE NUMBER 1806885

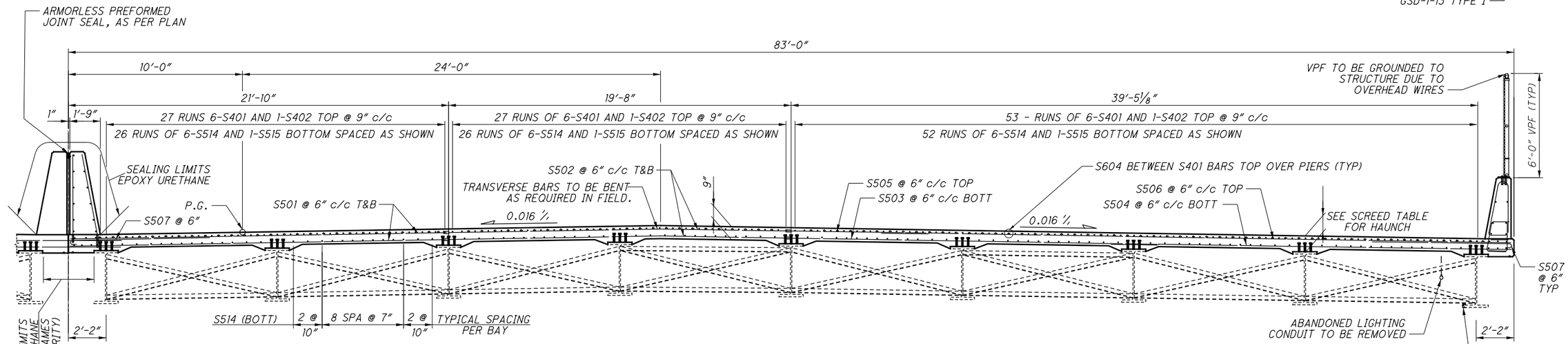
SCREED TABLE - 3

BRIDGE NO. CUY-90-2674
I-90 OVER EAST 200TH ST

CUY-90-26.16/VAR
PID No. 87628

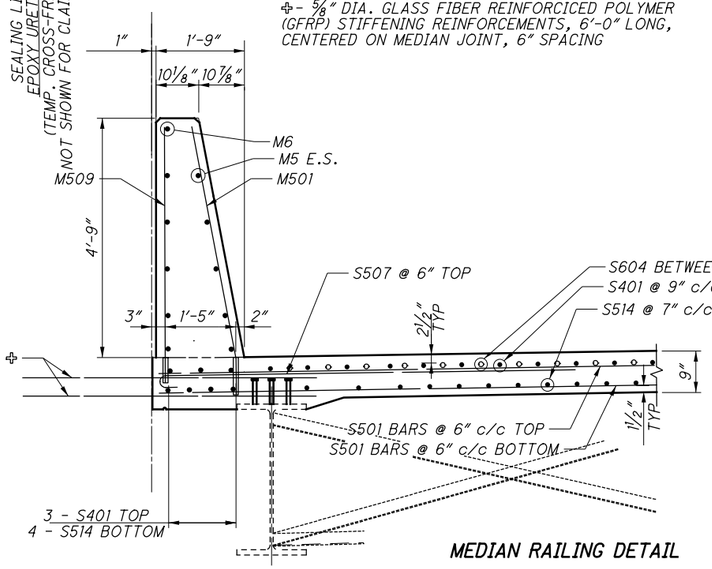


TRANSVERSE SECTION - WESTBOUND LANES



⊕- ⅝" DIA. GLASS FIBER REINFORCICED POLYMER (GFRP) STIFFENING REINFORCEMENTS, 6'-0" LONG, CENTERED ON MEDIAN JOINT, 6" SPACING

TRANSVERSE SECTION - EASTBOUND LANES

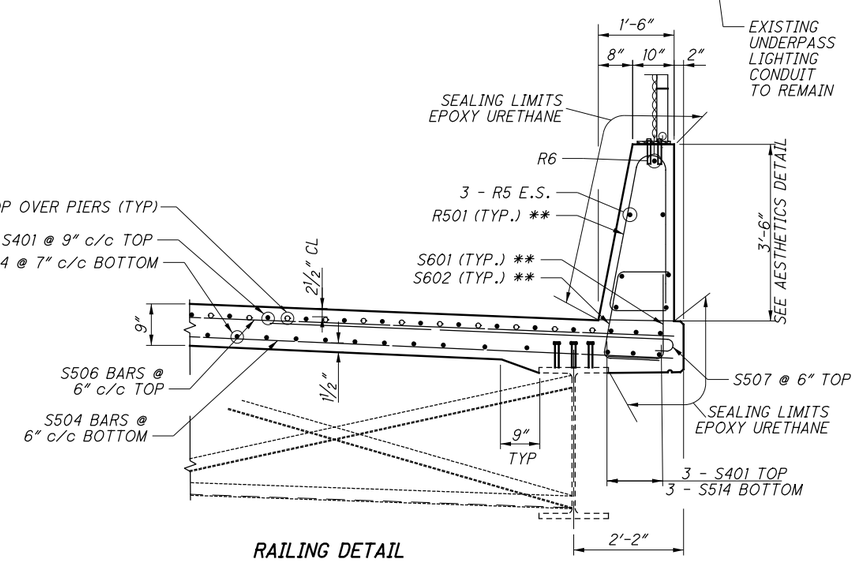


MEDIAN RAILING DETAIL

NOTES:

1. PHASE 1 EASTBOUND (EB) AND PHASE 1 WESTBOUND (WB) SHALL BE PLACED UNDER ONE DECK POUR. DECK SHALL BE SAW CUT AT MEDIAN DURING PHASE 6.
2. FOR ADDITIONAL RAILING DETAILS SEE SCD SBR-1-13 AND SBR-2-13.
3. ** SEE RAILING DETAIL FOR SPACING OF S601 AND S602 BARS

⊕- ⅝" DIA. GLASS FIBER REINFORCICED POLYMER (GFRP) STIFFENING REINFORCEMENTS, 6'-0" LONG, CENTERED ON MEDIAN JOINT, 6" SPACING



RAILING DETAIL

DESIGN AGENCY
KS Associates Inc.
260 BURNS ROAD, ELYRIA, OHIO 44035

DESIGNED MEM | DRAWN MEM | REVIEWED ASW | DATE 01/09/17
CHECKED MJM | REVISED | STRUCTURE FILE NUMBER 1808885

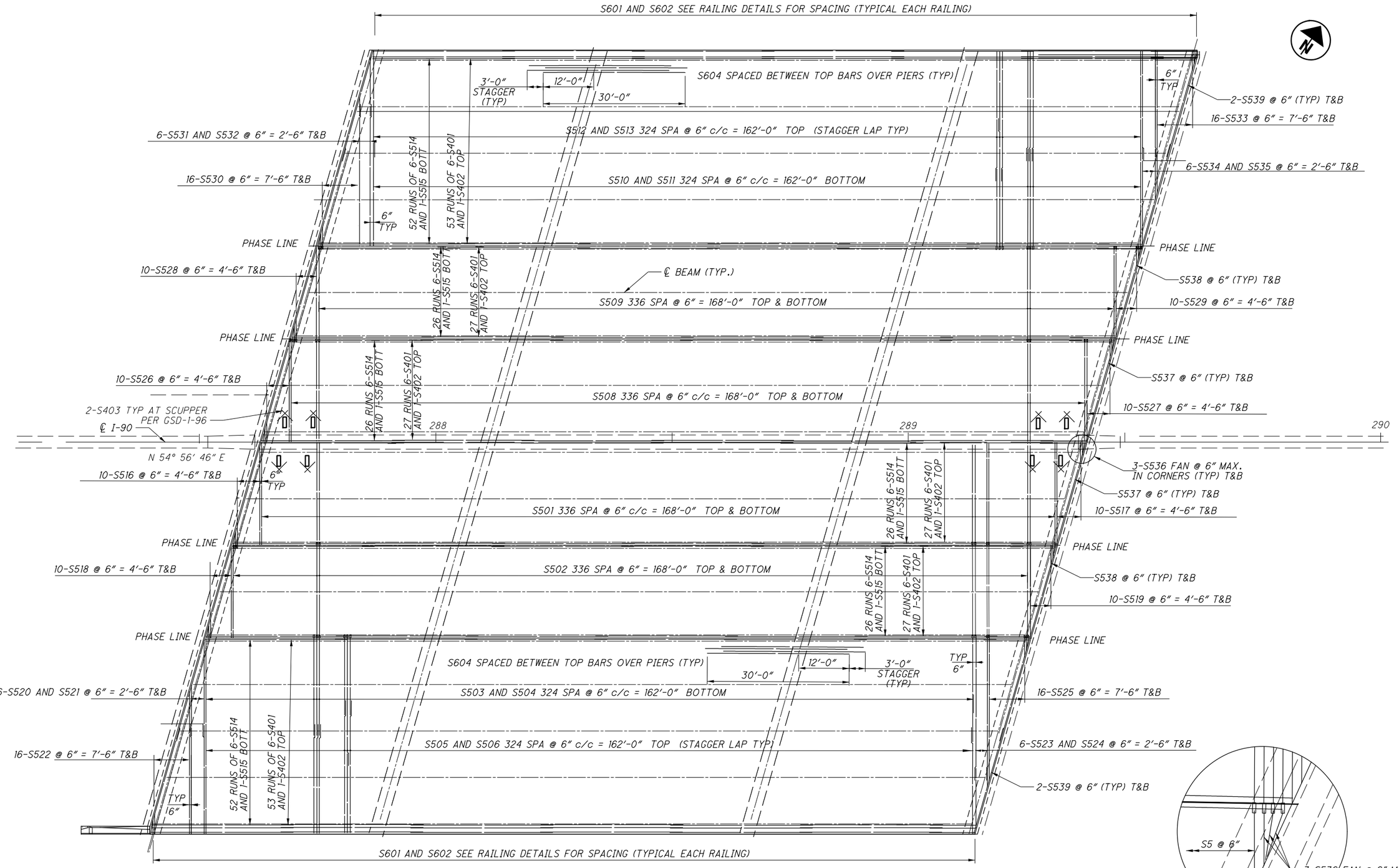
TRANSVERSE SECTION
BRIDGE NO. CUY-90-2674
I-90 OVER EAST 200TH ST.

CUY-90-26.16/VAR
PID No. 87628

26 / 36

212
222

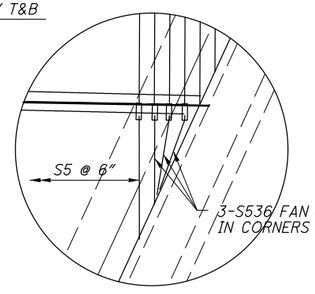
R:\14000\14035\87628\structures\sheets\CUY90_2674\CUY90_2674TS001.dgn 11/9/2017 1:41:37 PM malloym



NOTES:

1. SEE TYPICAL SECTION FOR SPACING OF BOTTOM REINFORCING.
2. MECHANICAL CONNECTORS TO BE USED AT ALL PHASE LINES.

DECK PLAN



REINFORCING STEEL AT CORNERS

DESIGN AGENCY
KS Associates Inc.
260 BURNS ROAD, ELYRIA, OHIO 44035

DESIGNED MEM | DRAWN MEM | REVIEWED ASW | DATE 12/07/16
CHECKED MJM | REVISED | STRUCTURE FILE NUMBER 1806885

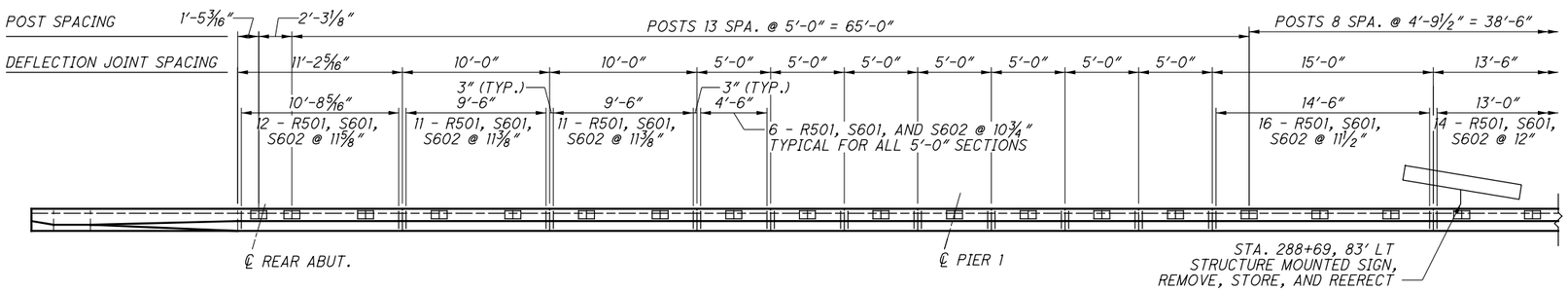
BRIDGE DECK PLAN
BRIDGE NO. CUY-90-2674
I-90 OVER EAST 200TH ST

CUY-90-26.16/VAR
PID No. 87628

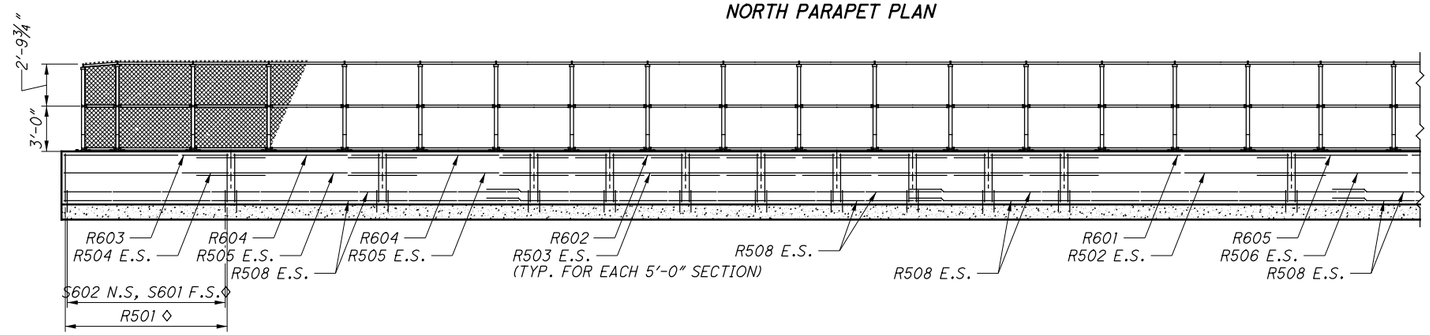
27 / 36

213 / 222

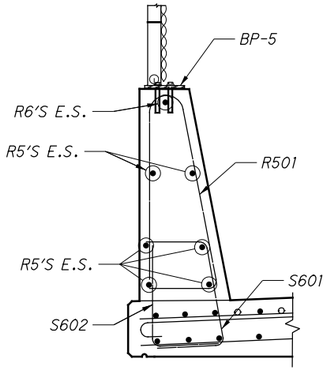
R:\14000\14035\87628\structures\sheets\CUY90_2674\CUY90_2674DP001.dgn 11/9/2017 1:41:38 PM malloym



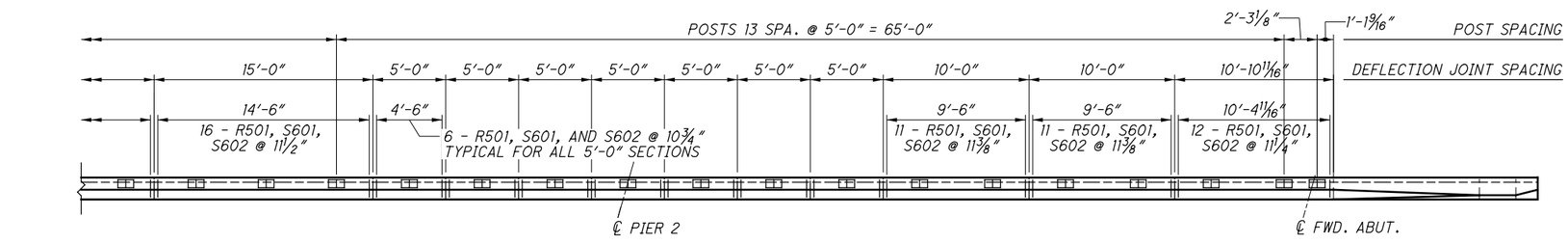
NORTH PARAPET PLAN



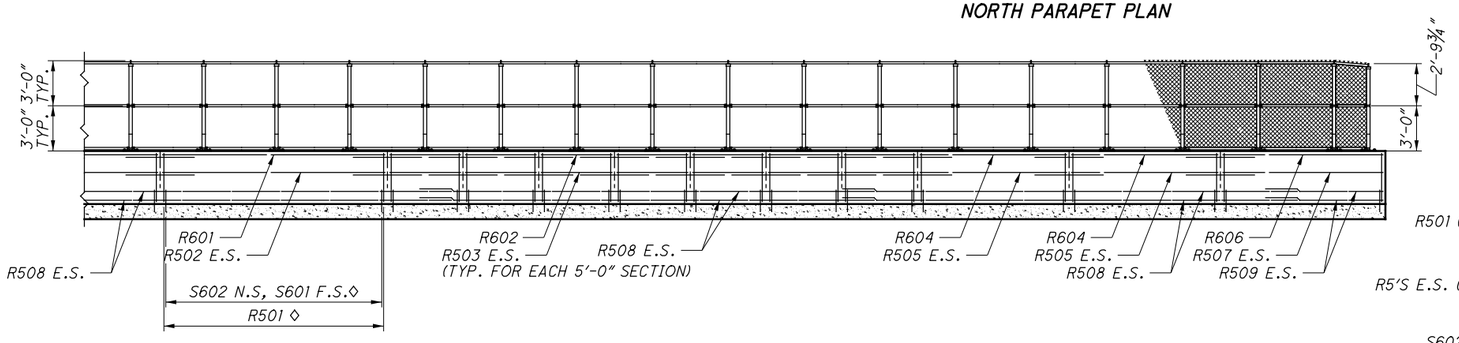
NORTH PARAPET ELEVATION



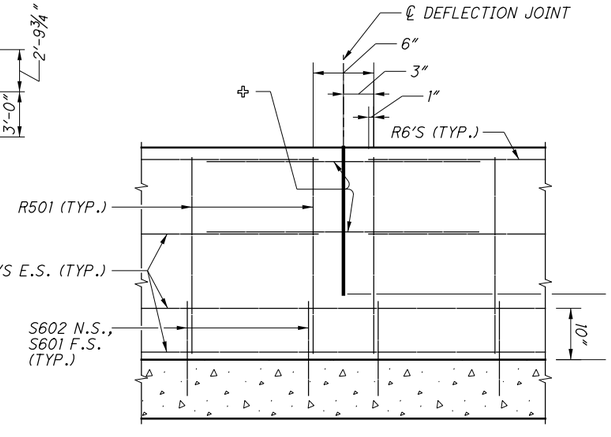
RAILING DETAIL



NORTH PARAPET PLAN



NORTH PARAPET ELEVATION



PARAPET ELEVATION

◊ - BAR TYPES TYPICAL BETWEEN DEFLECTION JOINTS. FOR SPACINGS SEE PLAN VIEW.

✣- 1/2" DIA. GLASS FIBER REINFORCED POLYMER (GFRP) STIFFENING REINFORCEMENTS, 4'-6" LONG, CENTERED ON DEFLECTION JOINT (TYP.)

GFRP REBAR STIFFENING DETAIL AT DEFLECTION JOINTS FOR SINGLE SLOPE CONCRETE BRIDGE RAILING

DESIGN AGENCY
KS Associates Inc.
260 BURNS ROAD, ELYRIA, OHIO 44035

DESIGNED	DRAWN	REVIEWED	DATE
RAP	RAP	MJM	12/07/16
CHECKED	REVISED	STRUCTURE FILE NUMBER	
MEM		1808885	

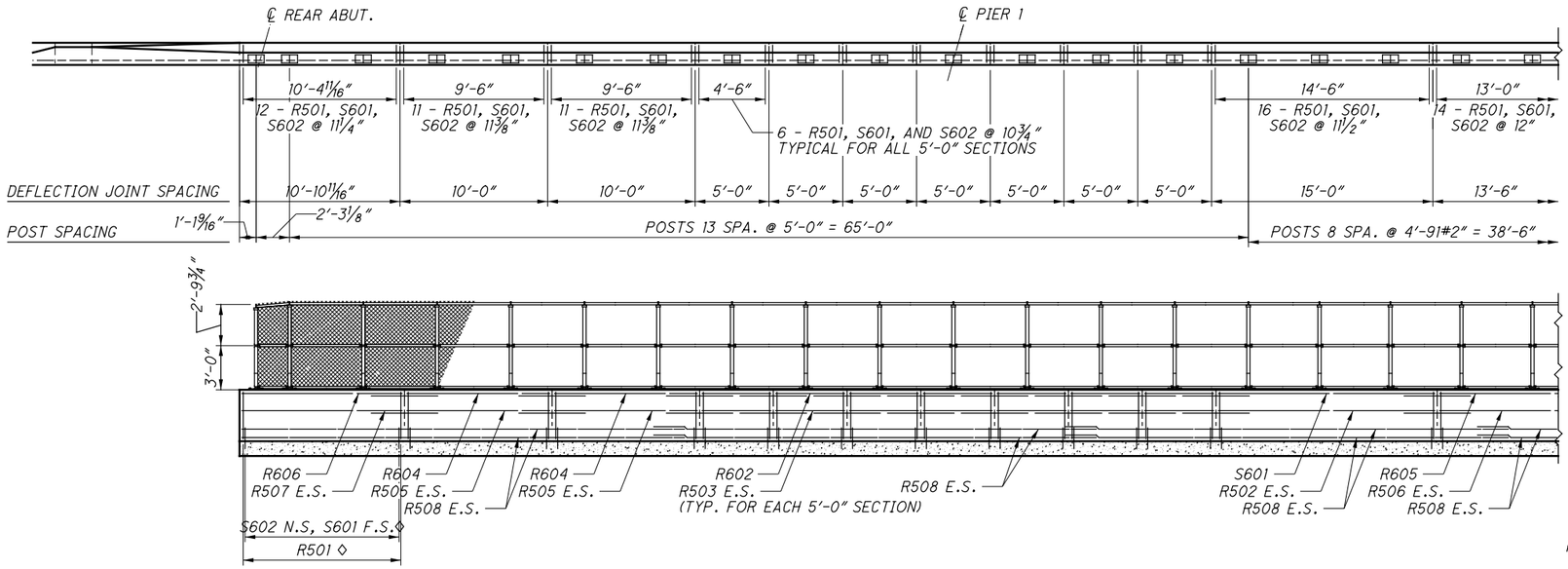
BRIDGE RAILING DETAILS - 1
BRIDGE NO. CUY-90-2674
I-90 OVER EAST 200TH ST

CUY-90-26.16/VAR
PID No. 87628

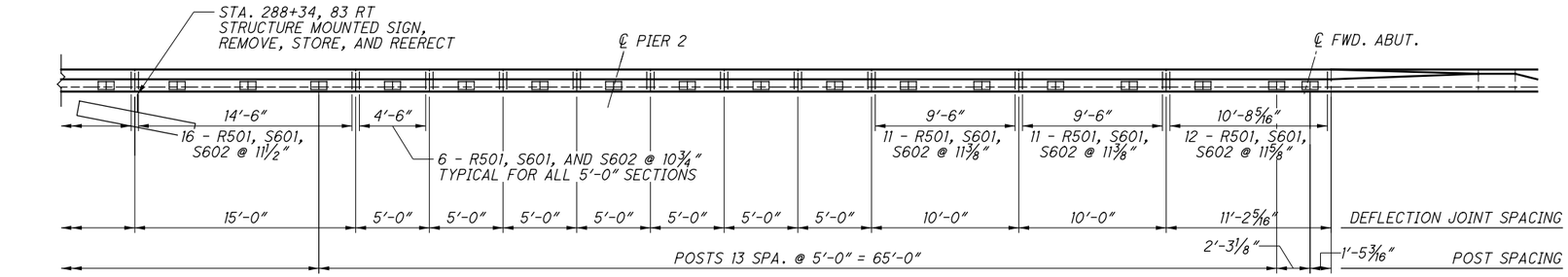
28/36

214/222

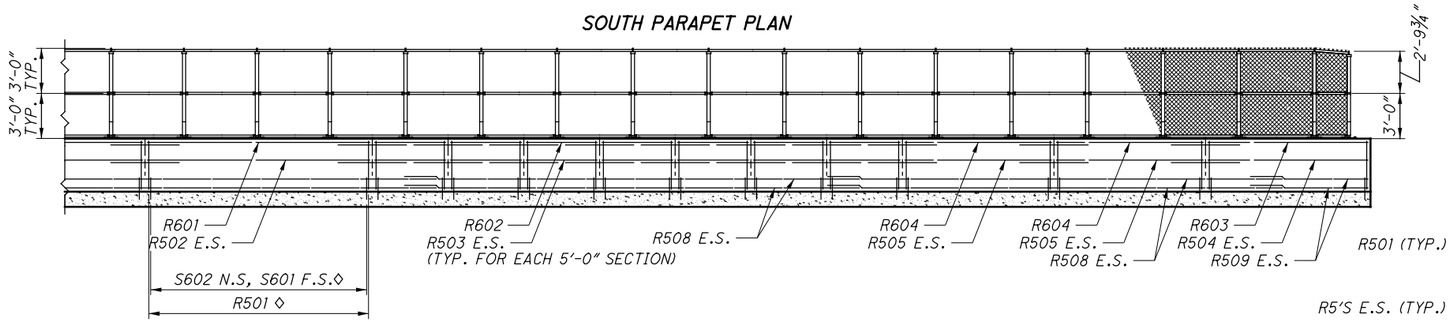
R:\14000\14035\87628\structures\sheets\CUY90_2674\CUY90_2674RA002a.dgn 11/9/2017 1:41:39 PM malloym



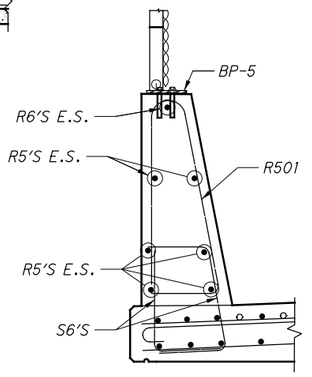
SOUTH PARAPET ELEVATION



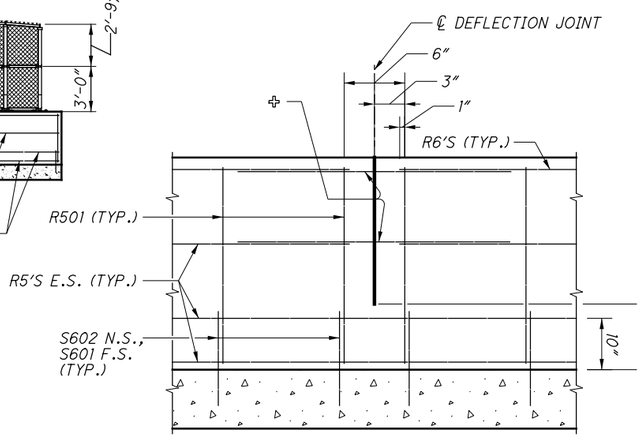
SOUTH PARAPET PLAN



SOUTH PARAPET ELEVATION



RAILING DETAIL



PARAPET ELEVATION

GFRP REBAR STIFFENING DETAIL AT DEFLECTION JOINTS FOR SINGLE SLOPE CONCRETE BRIDGE RAILING

◊ - BAR TYPES TYPICAL BETWEEN DEFLECTION JOINTS. FOR SPACINGS SEE PLAN VIEW.

✣ - 1/2″ DIA. GLASS FIBER REINFORCED POLYMER (GFRP) STIFFENING REINFORCEMENTS, 4′-6″ LONG, CENTERED ON DEFLECTION JOINT (TYP.)

DESIGN AGENCY
KS Associates Inc.
260 BURNS ROAD, ELYRIA, OHIO 44035

DESIGNED RAP
DRAWN RAP
CHECKED MEM
REVIEWED MJM
DATE 12/07/16
REVISED
STRUCTURE FILE NUMBER 1808885

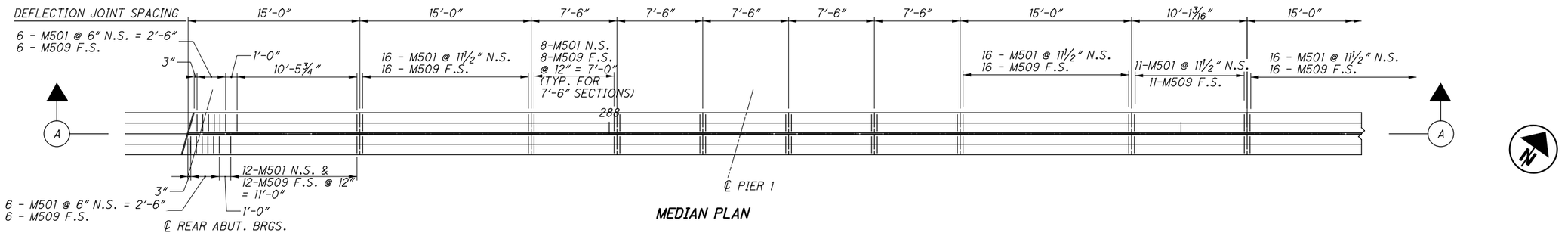
BRIDGE RAILING DETAILS - 2
BRIDGE NO. CUY-90-2674
I-90 OVER EAST 200TH ST

CUY-90-26.16 / VAR
PID No. 87628

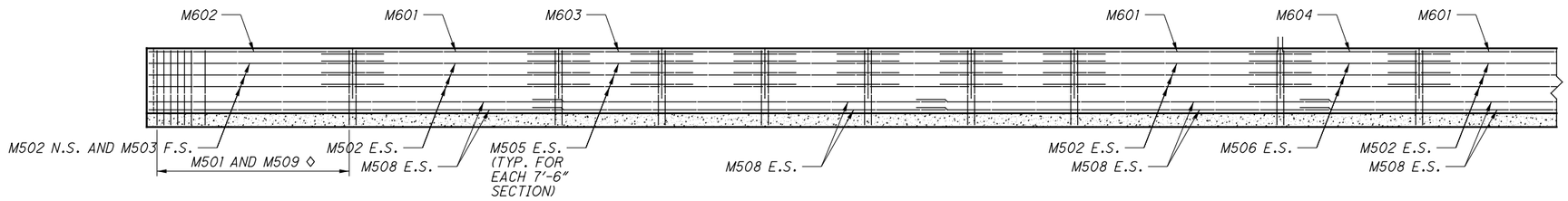
29 / 36

215
222

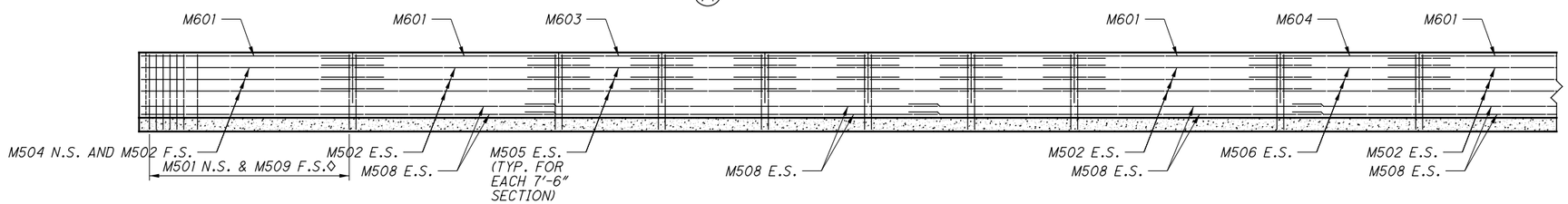
R:\14000\14035\87628\structures\sheets\CUY90_2674\CUY90_2674RA002b.dgn 11/9/2017 1:41:41 PM malloym



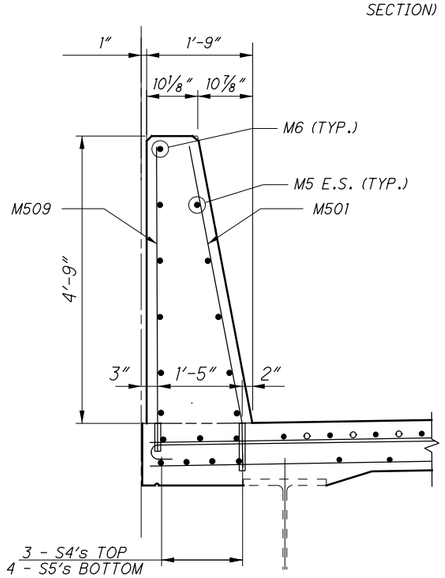
MEDIAN PLAN



A NORTH MEDIAN ELEVATION



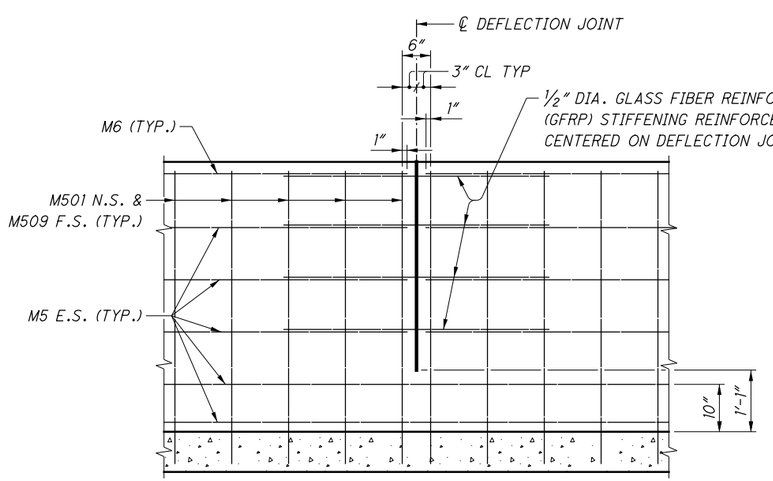
SOUTH MEDIAN ELEVATION



MEDIAN SECTION DETAIL

EASTBOUND SHOWN, WESTBOUND OPPOSITE HAND

◊ - BAR TYPES TYPICAL BETWEEN DEFLECTION JOINTS. FOR SPACINGS SEE PLAN VIEW.



MEDIAN DEFLECTION JOINT DETAIL (LOOKING FROM ROADWAY)

GFRP REBAR STIFFENING DETAIL AT DEFLECTION JOINT FOR 57" SINGLE SLOPE BACK-TO-BACK CONCRETE MEDIAN BRIDGE RAILINGS

DESIGN AGENCY
KS Associates Inc.
260 BURNS ROAD, ELYRIA, OHIO 44035

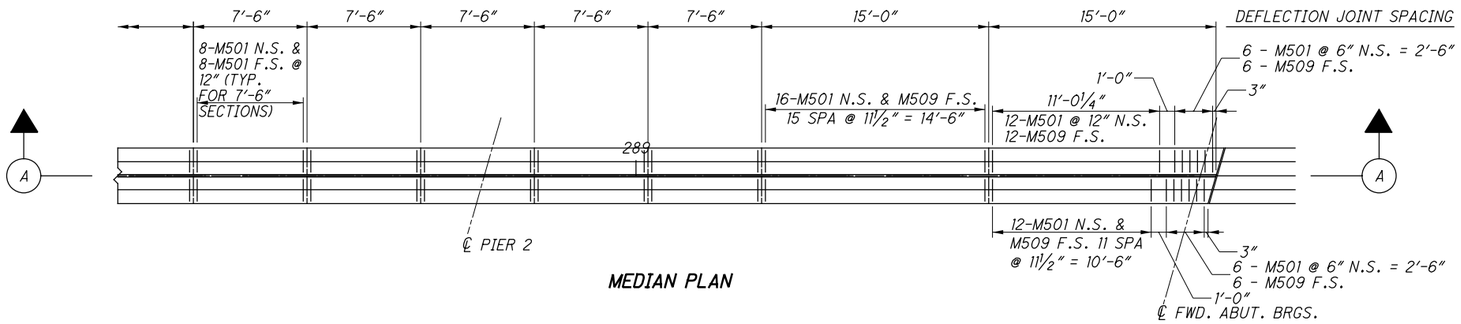
DESIGNED	DRAWN	REVIEWED	DATE
RAP	RAP	MEM	12/07/16
CHECKED	REVISED	STRUCTURE FILE NUMBER	
MJM		1806885	

BRIDGE RAILING DETAILS - 3

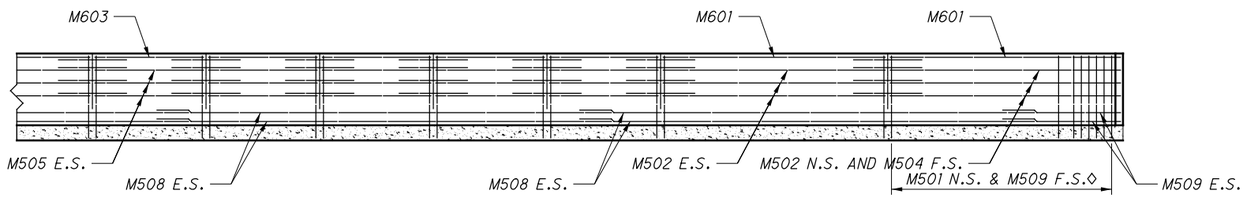
BRIDGE NO. CUY-90-2674
I-90 OVER EAST 200TH ST

CUY-90-26.16/VAR

PID No. 87628

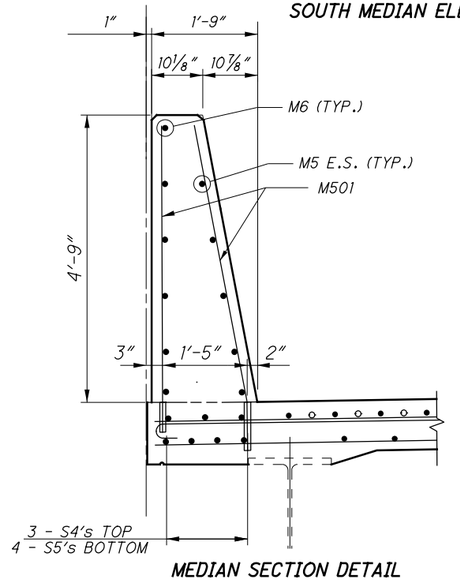


MEDIAN PLAN



NORTH MEDIAN ELEVATION (EB) A-A

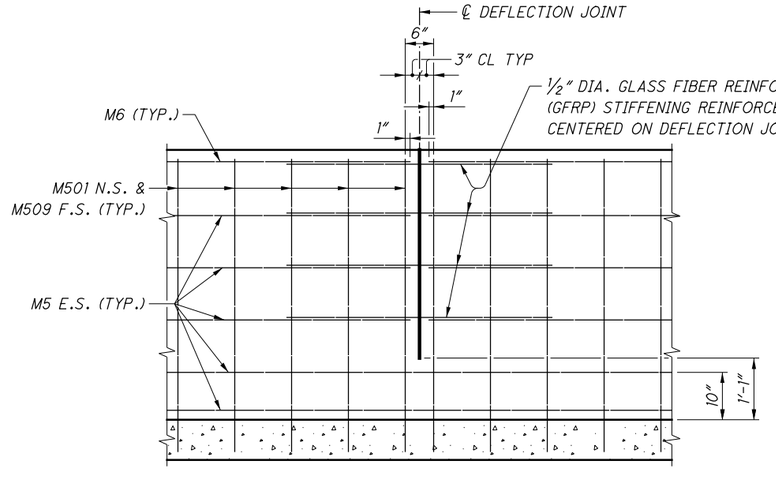
SOUTH MEDIAN ELEVATION (WB)



MEDIAN SECTION DETAIL

EASTBOUND SHOWN, WESTBOUND OPPOSITE HAND

◊ - BAR TYPES TYPICAL BETWEEN DEFLECTION JOINTS. FOR SPACINGS SEE PLAN VIEW.



MEDIAN DEFLECTION JOINT DETAIL
(LOOKING FROM ROADWAY)

GFRP REBAR STIFFENING DETAIL AT DEFLECTION JOINT FOR 57" SINGLE SLOPE BACK-TO-BACK CONCRETE MEDIAN BRIDGE RAILINGS

DESIGN AGENCY
KS Associates Inc.
260 BURNS ROAD, ELYRIA, OHIO 44035

DESIGNED RAP | DRAWN RAP | REVIEWED MEM | DATE 12/07/16
CHECKED MJM | REVISED | STRUCTURE FILE NUMBER 1806885

BRIDGE RAILING DETAILS - 4

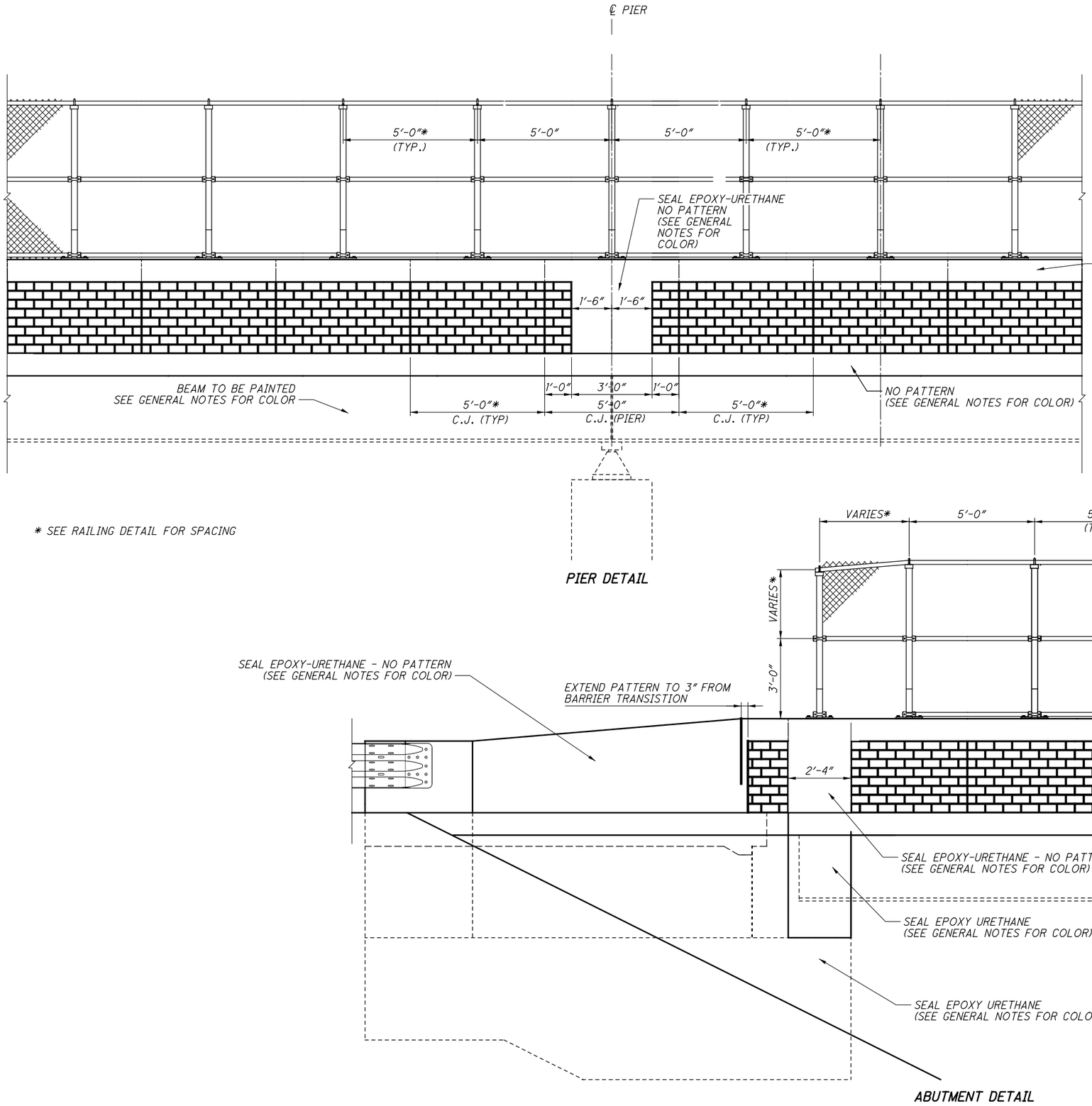
BRIDGE NO. CUY-90-2674
I-90 OVER EAST 200TH ST

CUY-90-26.16/VAR
PID No. 87628

31 / 36

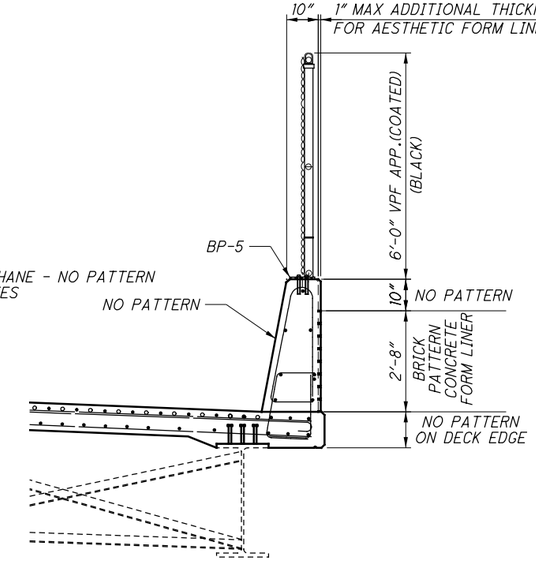
217
222

R:\14000\14035\87628\structures\sheets\CUY90_2674\CUY90_2674RA003b.dgn 11/9/2017 1:41:43 PM malloym

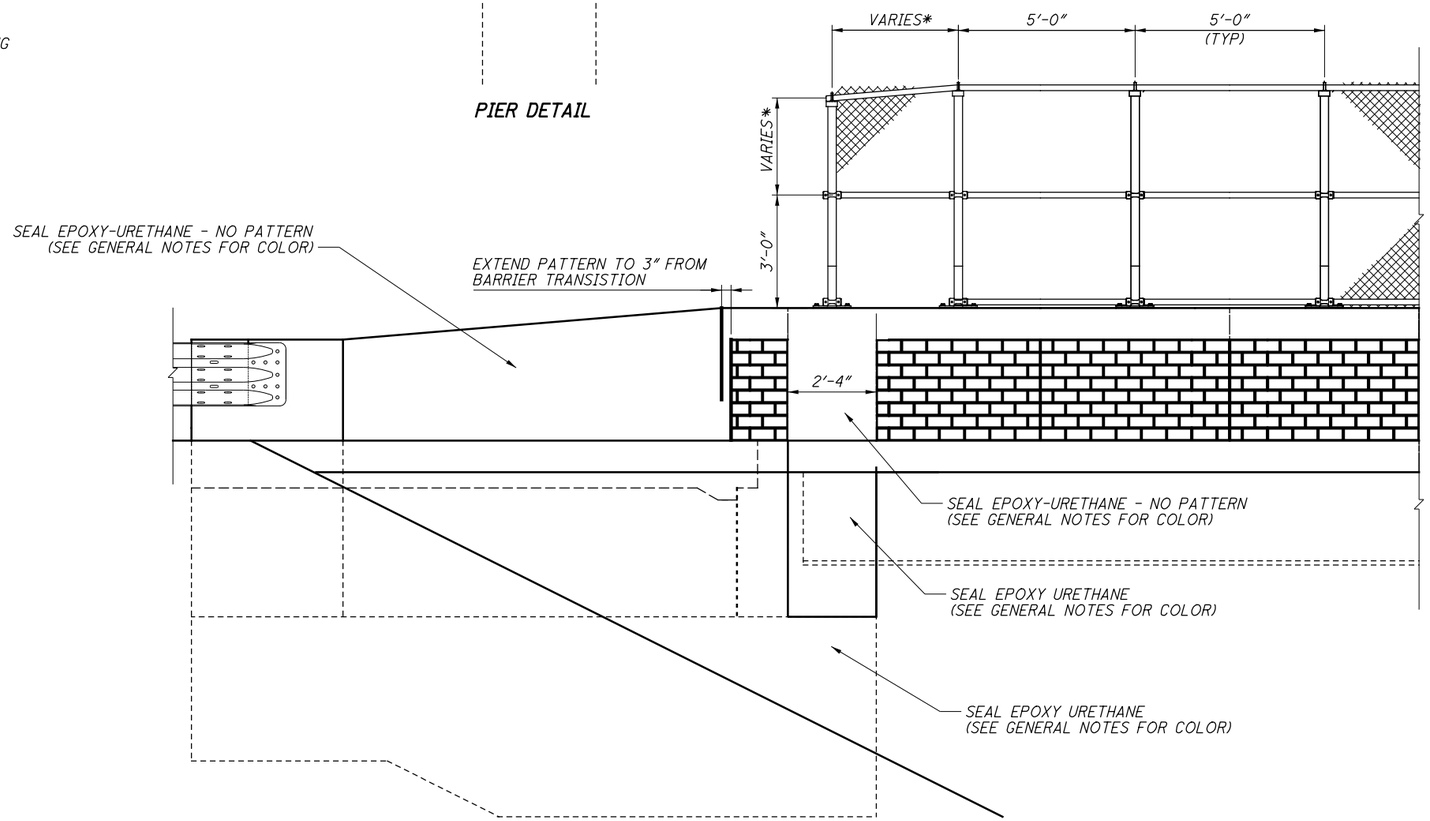


PIER DETAIL

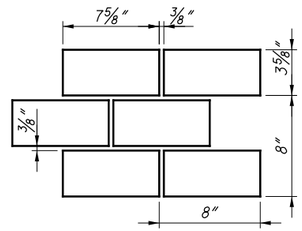
* SEE RAILING DETAIL FOR SPACING



RAILING DETAIL



ABUTMENT DETAIL



BRICK PATTERN
(SEE GENERAL NOTES FOR COLOR)

DESIGN AGENCY
KS Associates Inc.
260 BURNS ROAD, ELYRIA, OHIO 44035

REVIEWED ASW | DATE 12/07/16 | STRUCTURE FILE NUMBER 1808885
DRAWN MJM | REVISED
DESIGNED MJM | CHECKED CFE

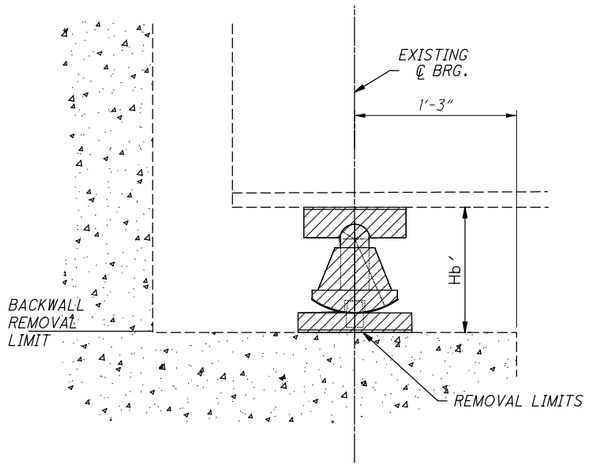
BRIDGE RAILING DETAILS - 5
BRIDGE NO. CUY-90-2674
I-90 OVER EAST 200TH ST

CUY-90-26.16/VAR
PID No. 87628

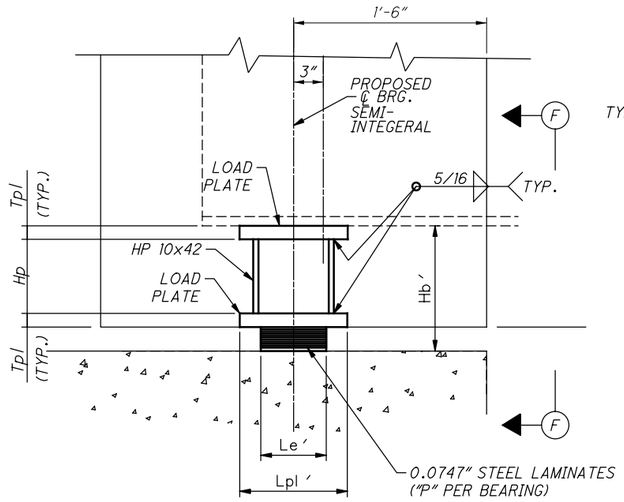
32/36

218
222

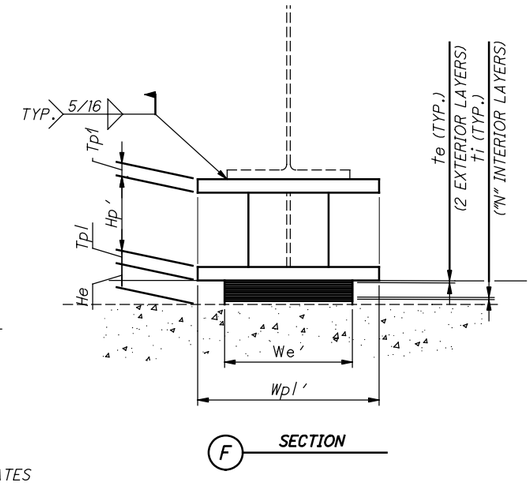
R:\14000\14035\87628\structures\sheets\CUY90_2674\CUY90_2674RA001.dgn 11/9/2017 1:41:43 PM malloym

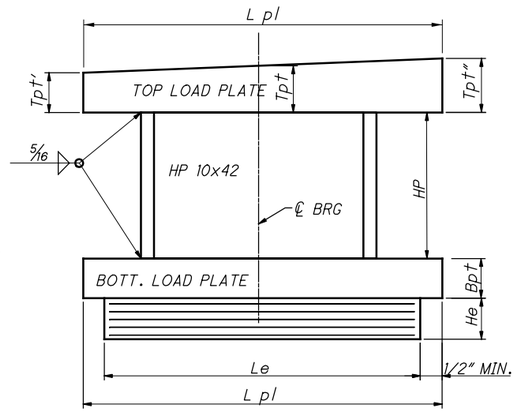


EXISTING EXPANSION BEARING REMOVAL DETAIL



SEMI-INTEGERAL BEARING AT ABUTMENT





ALL BEARINGS SHALL BE MARKED PRIOR TO SHIPPING. THE MARKS SHALL INCLUDE THE BEARING LOCATION ON THE BRIDGE, AND A DIRECTION ARROW THAT POINTS UP-STATION. ALL MARKS SHALL BE PERMENT AND VISIBLE AFTER THE BEARING IS INSTALLED.

ELASTOMERIC BEARINGS

ELASTOMERIC BEARINGS: THE ELASTOMER SHALL HAVE A HARDNESS OF 50 DUROMETER. THE BEARINGS WERE DESIGNED IN ACCORDANCE WITH SECTION 14.7.6 (METHOD A) OF THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS. THE LONGTERM COMPRESSION PROOF LOAD TEST (AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES, DIVISION II, SECTION 18.7.2.6) IS NOT REQUIRED.

STRUCTURE LOCATION	BEARING LOCATION		BEARING TYPE	Hb EXISTING HEIGHT (IN.)	DESIGN LOADS (KIPS)			NO. OF BEARINGS	ELASTOMER							STEEL LAMINATES		LOAD PLATE						HP 10x42	BEARING DETAIL
	SUBSTRUCTURE	LOCATION			D.L.	L.L. w/o Impact	DESIGN LOAD		DURO-METER	Le	We	He	ti	te	N	P	t	Lpl	Wpl	Tpl BOTTOM	Tpl TOP	TOP PL. BEVEL Tpt "	TOP PL. BEVEL Tpt	Hp	
CUY-26.74	REAR ABUTMENT	A	EXP.	11.30	13.0	19	37.7	1	50	7.50	10.00	1.82	0.38	0.20	3	4	0.0747	8.50	13.00	1.50	1.50	1.63	1.50	6.36	A
CUY-26.74	REAR ABUTMENT	B	EXP.	11.29	13.0	19	37.7	1	50	7.50	10.00	1.82	0.38	0.20	3	4	0.0747	8.50	13.00	1.50	1.50	1.63	1.50	6.34	A
CUY-26.74	REAR ABUTMENT	C	EXP.	11.39	13.0	19	37.7	1	50	7.50	10.00	1.82	0.38	0.20	3	4	0.0747	8.50	13.00	1.50	1.50	1.63	1.50	6.44	A
CUY-26.74	REAR ABUTMENT	D	EXP.	10.91	13.0	19	37.7	1	50	7.50	10.00	1.82	0.38	0.20	3	4	0.0747	8.50	13.00	1.50	1.50	1.63	1.50	5.96	A
CUY-26.74	REAR ABUTMENT	E	EXP.	11.17	13.0	19	37.7	1	50	7.50	10.00	1.82	0.38	0.20	3	4	0.0747	8.50	13.00	1.50	1.50	1.63	1.50	6.22	A
CUY-26.74	REAR ABUTMENT	F	EXP.	11.18	13.0	19	37.7	1	50	7.50	10.00	1.82	0.38	0.20	3	4	0.0747	8.50	13.00	1.50	1.50	1.63	1.50	6.24	A
CUY-26.74	REAR ABUTMENT	G	EXP.	12.35	13.0	19	37.7	1	50	7.50	10.00	1.82	0.38	0.20	3	4	0.0747	8.50	13.00	1.50	1.50	1.63	1.50	7.40	A
CUY-26.74	REAR ABUTMENT	H	EXP.	11.90	13.0	19	37.7	1	50	7.50	10.00	1.82	0.38	0.20	3	4	0.0747	8.50	13.00	1.50	1.50	1.63	1.50	6.95	A
CUY-26.74	REAR ABUTMENT	J	EXP.	11.44	13.0	19	37.7	1	50	7.50	10.00	1.82	0.38	0.20	3	4	0.0747	8.50	13.00	1.50	1.50	1.63	1.50	6.49	A
CUY-26.74	REAR ABUTMENT	K	EXP.	11.47	13.0	19	37.7	1	50	7.50	10.00	1.82	0.38	0.20	3	4	0.0747	8.50	13.00	1.50	1.50	1.63	1.50	6.52	A
CUY-26.74	REAR ABUTMENT	L	EXP.	11.47	13.0	19	37.7	1	50	7.50	10.00	1.82	0.38	0.20	3	4	0.0747	8.50	13.00	1.50	1.50	1.63	1.50	6.52	A
CUY-26.74	REAR ABUTMENT	M	EXP.	11.77	13.0	19	37.7	1	50	7.50	10.00	1.82	0.38	0.20	3	4	0.0747	8.50	13.00	1.50	1.50	1.63	1.50	6.82	A
CUY-26.74	REAR ABUTMENT	N	EXP.	12.01	13.0	19	37.7	1	50	7.50	10.00	1.82	0.38	0.20	3	4	0.0747	8.50	13.00	1.50	1.50	1.63	1.50	7.06	A
CUY-26.74	REAR ABUTMENT	P	EXP.	11.80	13.0	19	37.7	1	50	7.50	10.00	1.82	0.38	0.20	3	4	0.0747	8.50	13.00	1.50	1.50	1.63	1.50	6.85	A
CUY-26.74	REAR ABUTMENT	R	EXP.	11.98	13.0	19	37.7	1	50	7.50	10.00	1.82	0.38	0.20	3	4	0.0747	8.50	13.00	1.50	1.50	1.63	1.50	7.03	A
CUY-26.74	REAR ABUTMENT	S	EXP.	11.80	13.0	19	37.7	1	50	7.50	10.00	1.82	0.38	0.20	3	4	0.0747	8.50	13.00	1.50	1.50	1.63	1.50	6.85	A
CUY-26.74	REAR ABUTMENT	T	EXP.	12.76	13.0	19	37.7	1	50	7.50	10.00	1.82	0.38	0.20	3	4	0.0747	8.50	13.00	1.50	1.50	1.63	1.50	7.81	A
CUY-26.74	REAR ABUTMENT	V	EXP.	12.54	13.0	19	37.7	1	50	7.50	10.00	1.82	0.38	0.20	3	4	0.0747	8.50	13.00	1.50	1.50	1.63	1.50	8.40	A
CUY-26.74	FORWARD ABUTMENT	A	EXP.	11.96	13.0	19	37.7	1	50	7.50	10.00	1.82	0.38	0.20	3	4	0.0747	8.50	13.00	1.50	1.50	1.63	1.50	7.01	A
CUY-26.74	FORWARD ABUTMENT	B	EXP.	12.24	13.0	19	37.7	1	50	7.50	10.00	1.82	0.38	0.20	3	4	0.0747	8.50	13.00	1.50	1.50	1.63	1.50	7.29	A
CUY-26.74	FORWARD ABUTMENT	C	EXP.	12.28	13.0	19	37.7	1	50	7.50	10.00	1.82	0.38	0.20	3	4	0.0747	8.50	13.00	1.50	1.50	1.63	1.50	7.33	A
CUY-26.74	FORWARD ABUTMENT	D	EXP.	12.38	13.0	19	37.7	1	50	7.50	10.00	1.82	0.38	0.20	3	4	0.0747	8.50	13.00	1.50	1.50	1.63	1.50	7.44	A
CUY-26.74	FORWARD ABUTMENT	E	EXP.	12.43	13.0	19	37.7	1	50	7.50	10.00	1.82	0.38	0.20	3	4	0.0747	8.50	13.00	1.50	1.50	1.63	1.50	7.48	A
CUY-26.74	FORWARD ABUTMENT	F	EXP.	12.23	13.0	19	37.7	1	50	7.50	10.00	1.82	0.38	0.20	3	4	0.0747	8.50	13.00	1.50	1.50	1.63	1.50	7.28	A
CUY-26.74	FORWARD ABUTMENT	G	EXP.	12.24	13.0	19	37.7	1	50	7.50	10.00	1.82	0.38	0.20	3	4	0.0747	8.50	13.00	1.50	1.50	1.63	1.50	7.29	A
CUY-26.74	FORWARD ABUTMENT	H	EXP.	12.18	13.0	19	37.7	1	50	7.50	10.00	1.82	0.38	0.20	3	4	0.0747	8.50	13.00	1.50	1.50	1.63	1.50	7.23	A
CUY-26.74	FORWARD ABUTMENT	J	EXP.	11.78	13.0	19	37.7	1	50	7.50	10.00	1.82	0.38	0.20	3	4	0.0747	8.50	13.00	1.50	1.50	1.63	1.50	6.83	A
CUY-26.74	FORWARD ABUTMENT	K	EXP.	11.95	13.0	19	37.7	1	50	7.50	10.00	1.82	0.38	0.20	3	4	0.0747	8.50	13.00	1.50	1.50	1.63	1.50	7.00	A
CUY-26.74	FORWARD ABUTMENT	L	EXP.	12.05	13.0	19	37.7	1	50	7.50	10.00	1.82	0.38	0.20	3	4	0.0747	8.50	13.00	1.50	1.50	1.63	1.50	7.10	A
CUY-26.74	FORWARD ABUTMENT	M	EXP.	11.89	13.0	19	37.7	1	50	7.50	10.00	1.82	0.38	0.20	3	4	0.0747	8.50	13.00	1.50	1.50	1.63	1.50	6.94	A
CUY-26.74	FORWARD ABUTMENT	N	EXP.	11.98	13.0	19	37.7	1	50	7.50	10.00	1.82	0.38	0.20	3	4	0.0747	8.50	13.00	1.50	1.50	1.63	1.50	7.03	A
CUY-26.74	FORWARD ABUTMENT	P	EXP.	12.28	13.0	19	37.7	1	50	7.50	10.00	1.82	0.38	0.20	3	4	0.0747	8.50	13.00	1.50	1.50	1.63	1.50	7.33	A
CUY-26.74	FORWARD ABUTMENT	R	EXP.	12.40	13.0	19	37.7	1	50	7.50	10.00	1.82	0.38	0.20	3	4	0.0747	8.50	13.00	1.50	1.50	1.63	1.50	7.45	A
CUY-26.74	FORWARD ABUTMENT	S	EXP.	12.20	13.0	19	37.7	1	50	7.50	10.00	1.82	0.38	0.20	3	4	0.0747	8.50	13.00	1.50	1.50	1.63	1.50	7.26	A
CUY-26.74	FORWARD ABUTMENT	T	EXP.	12.44	13.0	19	37.7	1	50	7.50	10.00	1.82	0.38	0.20	3	4	0.0747	8.50	13.00	1.50	1.50	1.63	1.50	7.50	A
CUY-26.74	FORWARD ABUTMENT	V	EXP.	11.82	13.0	19	37.7	1	50	7.50	10.00	1.82	0.38	0.20	3	4	0.0747	8.50	13.00	1.50	1.50	1.63	1.50	7.68	A

DESIGN AGENCY
KS Associates Inc.
260 BURNS ROAD, ELYRIA, OHIO 44035

DESIGNED MEM | DRAWN MEM | CHECKED ASW | REVIEWED MJM | DATE 01/09/17 | REVISED | STRUCTURE FILE NUMBER 1806885

BEARING DETAILS
BRIDGE NO. CUY-90-2674
I-90 OVER EAST 200TH ST

CUY-90-26.16/VAR
PID No. 87628

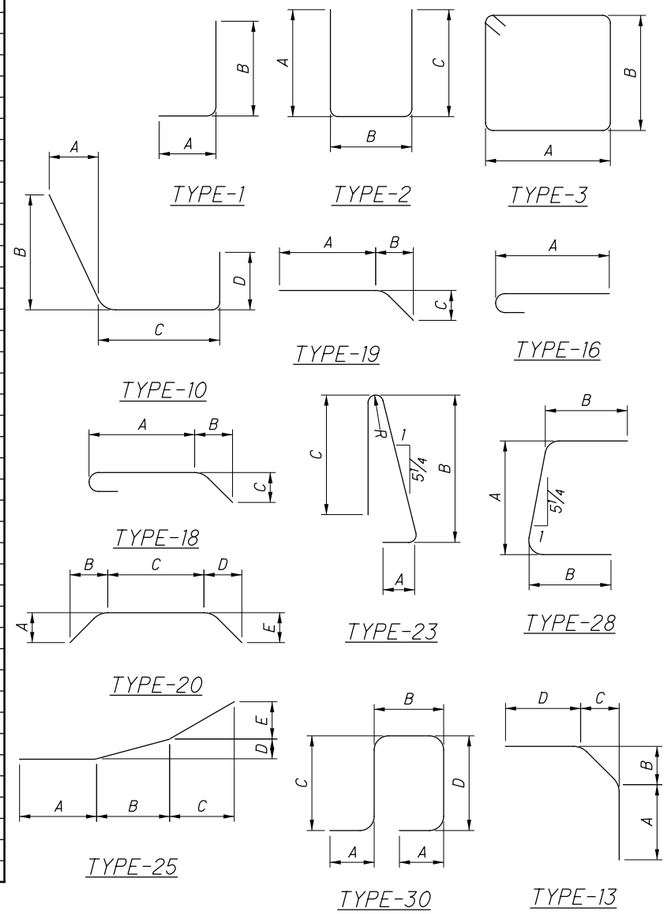
33 / 36

219 / 222

R:\14000\14035\87628\structures\sheets\CUY90_2674\CUY90_2674BR001.dgn 11/9/2017 1:41:44 PM malloym

MARK	NUMBER			LENGTH	WEIGHT	TYPE	DIMENSIONS						
	EAST BOUND	WEST BOUND	TOTAL				A	B	C	D	E	R	INC
ABUTMENTS AND DIAPHRAGMS													
	REAR												
A501	59	59	118	12'-2"	1305	3	2'-8"	3'-2"					
A502	59	59	118	6'-8"	693	2	3'-0"	0'-11"	3'-0"				
A503	11	12	23	3'-5"	82	2	1'-4"	1'-0"	1'-4"				
A504	1	1	2	6'-1"	13	2	2'-8"	1'-0"	2'-8"				
A505	2	2	4	5'-6"	23	25	1'-0"	3'-1 1/2"	1'-0"	1'-6 3/4"			
A506	7	8	15	3'-6"	55	STR							
A507		8	8	6'-4"	52	STR							
A508	7		7	6'-1"	45	STR							
A509	4		4	16'-1"	67	STR							
A510		4	4	16'-4"	68	STR							
A511	6		6	8'-10"	55	STR							
A512		6	6	9'-3"	58	STR							
A801	116	116	232	5'-0"	3070	18	2'-8"	1'-0"	1'-0"				
⊗ A802	14		14	6'-4"	237	STR							
⊗ A803	14		14	19'-5"	726	STR							
⊗ A804	4		4	14'-6"	155	1	1'-0"	13'-9"					
A805	4		4	25'-1"	268	1	1'-0"	24'-4"					
⊗ A807	2		2	13'-9"	73	STR							
A808	2		2	24'-4"	130	STR							
⊗ A809	4		4	29'-9"	318	STR							
A810	4		4	18'-8"	199	STR							
A811	14		14	17'-6"	187	STR							
⊗ A812		14	14	22'-6"	841	STR							
⊗ A813		14	14	7'-6"	280	STR							
⊗ A814		14	14	18'-6"	692	STR							
⊗ A815		4	4	14'-7"	156	1	1'-0"	13'-10"					
A816		4	4	24'-3"	259	1	1'-0"	23'-6"					
⊗ A817		2	2	13'-9"	73	STR							
⊗ A818		14	14	22'-3"	75	STR							
A820		2	2	23'-9"	127	STR							
⊗ A821		8	8	18'-9"	400	STR							
A822		8	8	28'-9"	614	STR							
	FORWARD												
A501	59	59	118	12'-2"	1499	3	2'-8"	3'-2"					
A502	59	59	118	6'-8"	693	2	3'-0"	0'-11"	3'-0"				
A503	12	11	23	3'-5"	82	2	1'-4"	1'-0"	1'-4"				
A504	1	1	2	6'-1"	13	2	2'-8"	1'-0"	2'-8"				
A505	2	2	4	5'-6"	23	25	1'-0"	3'-1 1/2"	1'-0"	1'-6 3/4"			
A506	8	7	15	3'-6"	55	STR							
A507	8		8	6'-4"	52	STR							
A508		7	7	6'-1"	45	STR							
A509		4	4	16'-1"	67	STR							
A510	4		4	16'-4"	68	STR							
A511		6	6	8'-10"	55	STR							
A513	6		6	8'-6"	53	STR							
A801	116	116	232	5'-0"	3070	18	2'-8"	1'-0"	1'-0"				
⊗ A823	14		14	22'-7"	844	STR							
A825	14		14	20'-3"	757	STR							
⊗ A826	4		4	11'-9"	126	1	1'-0"	11'-0"					
A827	4		4	24'-9"	265	1	1'-0"	24'-0"					
⊗ A828	8		8	18'-9"	422	STR							
⊗ A829	2		2	13'-6"	72	STR							
A830	2		2	24'-0"	128	STR							
A831	4		4	29'-0"	310	STR							
A832	4		4	30'-0"	320	STR							
⊗ A833		14	14	22'-7"	844	STR							
⊗ A834		14	14	20'-3"	757	STR							
SUB-TOTAL					22,016								

MARK	NUMBER		TOTAL	LENGTH	WEIGHT	TYPE	DIMENSIONS						
							A	B	C	D	E	R	INC
⊗ A835		4	4	14'-9"	158	1	1'-0"	14'-0"					
A836		4	4	24'-9"	265	1	1'-0"	24'-0"					
⊗ A837		8	8	30'-0"	641	STR							
⊗ A838		2	2	12'-9"	68	STR							
A839		2	2	24'-0"	135	STR							
A840		4	4	17'-6"	187	STR							
A841		4	4	18'-6"	198	STR							
SUB-TOTAL					1,652								
TOTAL SHEET 1 =					23,668								



MECHANICAL CONNECTORS

LOCATION	TOTAL
ABUTMENTS	112
SUPERSTRUCTURE	2816
FOR REFERENCE ONLY	
APPROACH SLAB	456
SLEEPER SLAB	88

NOTES:

1. ALL DIMENSIONS ARE OUT TO OUT OF BARS.

2. ALL REINFORCING IS TO BE EPOXY COATED.

3. THE BAR SIZE NUMBER IS SPECIFIED ON THE PLANS IN THE BAR MARK COLUMN. THE FIRST DIGITS OF A THREE DIGIT NUMBER OR THE FIRST TWO DIGITS OF A FOUR DIGIT NUMBER INDICATE THE BAR SIZE. THE LAST TWO DIGITS INDICATE SEQUENCE NUMBER. THE INITIAL LETTER INDICATES LOCATION:

   A - ABUTMENT (FA-FORWARD, RA-REAR)
   P - PIER
   S - SUPERSTRUCTURE
   SP- SPIRAL
   DS- DRILLED SHAFT
   DG- DIAPHRAGM GUIDE
   R - RAILING
   M - MEDIAN

4. "R" INDICATES INSIDE RADIUS, UNLESS NOTED OTHERWISE.

5. "STD" WRITTEN IN PLACE OF A DIMENSION INDICATES A STANDARD BEND AT THE END OF A BAR.

6. STRAIGHT BARS ARE INDICATED AS "STR".

⊗ - REINFORCING BAR UTILIZES A MECHANICAL CONNECTOR. BAR LENGTH IS MEASURED TO THE CONSTRUCTION JOINT. MODIFICATION TO BAR LENGTH AND/OR BAR END PREPARATION IS DEPENDENT UPON THE TYPE OF MECHANICAL CONNECTOR FURNISHED.

DESIGN AGENCY
KS Associates Inc.
260 BURNS ROAD, ELYRIA, OHIO 44035

DATE 12/07/16
REVIEWED MJM
STRUCTURE FILE NUMBER 1808885
DRAWN RAP
REVISED
DESIGNED MEM
CHECKED ASW

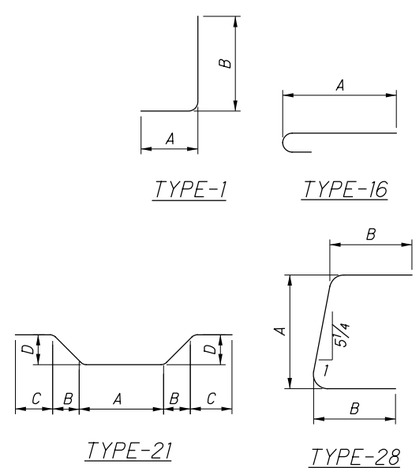
REINFORCING STEEL LIST - 1

CUY-90-2674
I-90 OVER EAST 200TH ST.

CUY-90-26.16/VAR
PID No. 87628

MARK	NUMBER			LENGTH	WEIGHT	TYPE	DIMENSIONS						
	EAST BOUND	WEST BOUND	TOTAL				A	B	C	D	E	R	INC
SUPERSTRUCTURE													
S401	678	678	1356	30'-0"	27,174	STR							
S402	113	113	226	12'-0"	1812	STR							
S403	8	8	16	3'-0"	32	STR							
⊗ S501	674		674	21'-6"	15,114	STR							
⊗ S502	674		674	19'-7"	13,767	STR							
⊗ S503	325		325	21'-1"	7147	STR							
S504	325		325	22'-11"	7768	STR							
⊗ S505	325		325	16'-3"	5508	STR							
S506	325		325	28'-0"	9491	STR							
S507	345	345	670	8'-6"	13,314	16	7'-11"						
⊗ S508		674	674	21'-6"	15,114	STR							
⊗ S509		674	674	19'-6"	13,708	STR							
⊗ S510		325	325	22'-2"	7514	STR							
S511		325	325	23'-0"	7796	STR							
⊗ S512		325	325	27'-6"	9322	STR							
S513		325	325	16'-6"	5593	STR							
S514	666	666	1332	30'-0"	41,678	STR							
S515	111	111	222	12'-0"	2779	STR							
	2 SR		2 SR	3'-11"									
⊗ S516	OF		OF	TO	257	STR							1'-10"
	10		10	20'-9"									
	2 SR		2 SR	3'-11"									
S517	OF		OF	TO	257	STR							1'-10"
	10		10	20'-9"									
	2 SR		2 SR	3'-11"									
⊗ S518	OF		OF	TO	242	STR							1'-10"
	10		10	19'-4"									
	2 SR		2 SR	3'-11"									
⊗ S519	OF		OF	TO	242	STR							1'-10"
	10		10	19'-4"									
S520	12		12	23'-6"	294	STR							
	2 SR		2 SR	11'-8"									
S521	OF		OF	TO	201	STR							1'-10"
	6		6	20'-6"									
	2 SR		2 SR	3'-11"									
S522	OF		OF	TO	566	STR							1'-9"
	16		16	30'-0"									
⊗ S523	12		12	30'-0"	375	STR							
	2 SR		2 SR	3'-11"									
S524	OF		OF	TO	105	STR							1'-8"
	6		6	12'-10"									
	2 SR		2 SR	3'-11"									
⊗ S525	OF		OF	TO	566	STR							1'-9"
	16		16	30'-0"									
		2 SR	2 SR	4'-0"									
S526		OF	OF	TO	258	STR							1'-9"
		10	10	20'-9"									
		2 SR	2 SR	4'-0"									
⊗ S527		OF	OF	TO	258	STR							1'-9"
		10	10	20'-9"									
		2 SR	2 SR	3'-11"									
⊗ S528		OF	OF	TO	242	STR							1'-9"
		10	10	19'-4"									
		2 SR	2 SR	3'-11"									
⊗ S529		OF	OF	TO	242	STR							1'-9"
		9	9	19'-4"									
		2 SR	2 SR	3'-11"									
⊗ S530		OF	OF	TO	566	STR							1'-9"
		16	16	30'-0"									
⊗ S531		10	10	29'-11"	312	STR							
SUB-TOTAL COL 1 =					209,614								

MARK	NUMBER			LENGTH	WEIGHT	TYPE	DIMENSIONS						
	EAST BOUND	WEST BOUND	TOTAL				A	B	C	D	E	R	INC
SUPERSTRUCTURE													
		2 SR	2 SR	4'-2"									
S532		OF	OF	TO	106	STR							1'-9"
		5	5	12'-9"									
		2 SR	2 SR	3'-11"									
S533		OF	OF	TO	566	STR							1'-9"
		15	15	30'-0"									
S534		12	12	23'-6"	294	STR							
		2 SR	2 SR	10'-8"									
S535		OF	OF	TO	194	STR							1'-11"
		6	6	20'-4"									
⊗ S536	36	36	72	3'-6"	263	STR							
⊗ S537	4	4	8	22'-6"	188	STR							
⊗ S538	4	4	8	20'-6"	171	STR							
⊗ S539	8	8	16	23'-0"	384	STR							
S550		80	80	6'-9"	564	21	1'-0"	1'-3"	1'-0"	0'-10"			
S601	274	274	548	2'-7"	2143	1	1'-9"	1'-0"					
S602	274	274	548	30-6"	2869	28	1'-9"	1'-0"					
S604	279	318	597	30'-0"	26,901	STR							
SUB-TOTAL COL 2 =					34,643								
SUB-TOTAL SHEET 2 =					244,257								



NOTES:

1. ALL DIMENSIONS ARE OUT TO OUT OF BARS.

2. ALL REINFORCING IS TO BE EPOXY COATED.

3. THE BAR SIZE NUMBER IS SPECIFIED ON THE PLANS IN THE BAR MARK COLUMN. THE FIRST DIGITS OF A THREE DIGIT NUMBER OR THE FIRST TWO DIGITS OF A FOUR DIGIT NUMBER INDICATE THE BAR SIZE. THE LAST TWO DIGITS INDICATE SEQUENCE NUMBER. THE INITIAL LETTER INDICATES LOCATION:

   A - ABUTMENT (FA-FORWARD, RA-REAR)
   P - PIER
   S - SUPERSTRUCTURE
   SP- SPIRAL
   DS- DRILLED SHAFT
   DG- DIAPHRAGM GUIDE
   R - RAILING
   M - MEDIAN

4. "R" INDICATES INSIDE RADIUS, UNLESS NOTED OTHERWISE.

5. "STD" WRITTEN IN PLACE OF A DIMENSION INDICATES A STANDARD BEND AT THE END OF A BAR.

6. STRAIGHT BARS ARE INDICATED AS "STR".

⊗ - REINFORCING BAR UTILIZES A MECHANICAL CONNECTOR. BAR LENGTH IS MEASURED TO THE CONSTRUCTION JOINT. MODIFICATION TO BAR LENGTH AND/OR BAR END PREPARATION IS DEPENDENT UPON THE TYPE OF MECHANICAL CONNECTOR FURNISHED.

DESIGN AGENCY
KS Associates Inc.
260 BURNS ROAD, ELYRIA, OHIO 44035

DESIGNED MEM | DRAWN RAP | CHECKED ASW | REVIEWED MJM | DATE 01/09/17 | REVISED | STRUCTURE FILE NUMBER 1806885

REINFORCING STEEL LIST - 2

CUY-90-2674
I-90 OVER EAST 200TH ST.

CUY-90-26.16/VAR
PID No. 87628

35 / 36

221
222

R:\14000\14035\87628\structures\sheets\CUY90_2674\CUY90_2674RL001.dgn 11/9/2017 1:41:48 PM malloym

MARK	NUMBER			LENGTH	WEIGHT	TYPE	DIMENSIONS						
	EAST BOUND	WEST BOUND	TOTAL				A	B	C	D	E	R	INC
APPROACH SLABS (FOR REFERENCE ONLY)													
	REAR												
AS501	58	56	114	25'-6"	3032	STR							
⊗ AS502	57		57	22'-1"	1313	STR							
⊗ AS504	57		57	20'-2"	1199	STR							
⊗ AS505	114		114	23'-2"	2755	STR							
⊗ AS507		57	57	22'-1"	1313	STR							
⊗ AS508		57	57	20'-5"	1214	STR							
⊗ AS509		114	114	23'-2"	2755	STR							
AS510	57		57	4'-6"	268	STR							
AS518	3		3	14'-0"	44	STR							
AS519		3	3	13'-8"	43	STR							
AS601	8	8	16	4'-0"	96	1	1'-0"	3'-2"					
	2 SR	2 SR	4 SR	4'-0"				3'-2"					
AS602	OF	OF	OF	TO	292	1	1'-0"	TO					0'-1"
	11	11	11	4'-10"				4'-0"					
AS1001	141	139	280	24'-6"	29519	STR							
AS1002	3		3	14'-0"	181	STR							
AS1003		3	3	13'-8"	177	STR							
	FORWARD												
AS501	58	58	116	24'-7"	2974	STR							
AS510	57		57	4'-6"	268	STR							
⊗ AS511	57		57	22'-1"	1313	STR							
⊗ AS512	57		57	20'-4"	1209	STR							
⊗ AS513	114		114	23'-2"	2755	STR							
⊗ AS515		114	114	23'-2"	2755	STR							
⊗ AS516		57	57	20'-0"	1189	STR							
⊗ AS517		57	57	41'-2"	2447	STR							
AS518		3	3	14'-0"	44	STR							
AS519	3		3	13'-8"	43	STR							
AS601	8	8	16	4'-0"	96	1	1'-0"	3'-2"					
	2 SR	2 SR	4 SR	4'-0"				3'-2"					
AS602	OF	OF	OF	TO	292	1	1'-0"	TO					0'-1"
	11	11	11	4'-10"				4'-0"					
AS1001	141	141	282	24'-7"	29831	STR							
AS1002		3	3	14'-0"	181	STR							
AS1003	3		3	13'-8"	177	STR							
SLEEPER SLABS (FOR REFERENCE ONLY)													
	REAR												
SS501	86	86	172	6'-0"	1076	STR							
⊗ SS502	11		11	11'-1"	127	STR							
SS503	86	86	172	5'-8"	1017	30	0'-10"	1'-5 3/4"	1'-5 3/4"	1'-7"			
⊗ SS504	11		11	20'-2"	231	STR							
⊗ SS505	11		11	41'-2"	472	STR							
⊗ SS507		11	11	22'-1"	253	STR							
⊗ SS508		11	11	20'-5"	234	STR							
⊗ SS509		11	11	41'-1"	471	STR							
	FORWARD												
SS501	86	86	172	6'-0"	1076	STR							
SS503	86	86	172	5'-8"	1017	30	0'-10"	1'-5 3/4"	1'-5 3/4"	1'-7"			
⊗ SS511	11		11	22'-1"	253	STR							
⊗ SS512	11		11	20'-4"	233	STR							
⊗ SS513	11		11	41'-5"	475	STR							
⊗ SS515		11	11	22'-5"	257	STR							
⊗ SS516		11	11	20'-0"	229	STR							
⊗ SS517		11	11	41'-2"	472	STR							
SUB-TOTAL COL 1 =					97,668	(WEIGHTS FOR REFERENCE ONLY)							

MARK	NUMBER			LENGTH	WEIGHT	TYPE	DIMENSIONS						
			TOTAL				A	B	C	D	E	R	INC
DIAPHRAGM GUIDES (FOR REFERENCE ONLY)													
	FORWARD												
DG801	10	10	20	7'-3"	387	2	2'-7"	2'-6"	2'-7"				
DG802	8	8	16	5'-0"	214	18	3'-3"	0'-8"	0'-8"				
	REAR												
DG801	10	10	20	7'-3"	387	2	2'-7"	2'-6"	2'-7"				
DG802	8	8	16	5'-0"	214	18	3'-3"	0'-8"	0'-8"				
					RAILING								
R501	198	198	396	7'-4"	3029	23	0'-11"	3'-3"	3'-0"			0'-3"	
R502	4	4	8	14'-8"	122	STR							
R503	28	28	56	4'-8"	273	STR							
R504	2	2	4	10'-10"	45	STR							
R505	8	8	16	9'-8"	161	STR							
R506	2	2	4	13'-2"	55	STR							
R507	2	2	4	10'-11"	45	STR							
R508	24	24	48	30'-0"	1502	STR							
R509	4	4	8	7'-2"	60	STR							
R601	2	2	4	14'-8"	88	STR							
R602	14	14	28	4'-8"	196	STR							
R603	1	1	2	10'-10"	33	STR							
R604	4	4	8	9'-8"	116	STR							
R605	1	1	2	13'-2"	40	STR							
R606	1	1	2	10'-11"	33	STR							
R520	16	16	32	10'-0"	334	STR							
R521	8	8	16	5'-8"	95	25	1'-10"	2'-5"	1'-4"	0'-2"	0'-5"		
R522	8	8	16	5'-8"	95	STR							
R523	8	8	16	3'-10"	64	STR							
R524	4	4	8	5'-11"	49	22	0'-8"	2'-9"	2'-6"			0'-2"	
R525	4	4	8	3'-0"	13	STR							
R526	2	2	4	3'-0"	6	STR							
			4 SR	2'-4"									
R620			OF	TO	182	STR							0'-1"
			11	3'-2"									
R621	1	1	2	3'-0"	9	STR							
					MEDIAN								
M401	42		42	5'-6"	154	20	2'-0"	0'-4 1/2"	1'-7 1/4"	0'-4 1/2"	2'-0"		
M501	233	233	466	5'-5"	2633	19	0'-9"	4'-6 1/2"	0'-11"				
M502	30	30	60	14'-8"	918	STR							
M503	3	3	6	14'-2"	88	STR							
M504	3	3	6	15'-2"	95	STR							
M505	60	60	120	7'-2"	897	STR							
M506	6	6	12	9'-9"	122	STR							
M507	10	10	20	36'-10"	768	STR							
M508	24	24	48	30'-0"	1502	STR							
M509	191	191	382	5'-1"	2025	STR							
M510	12	12	24	24'-6"	613	STR							
M601	10	10	20	14'-10"	446	STR							
M602	2	2	4	14'-2"	85	STR							
M603	20	20	40	7'-2"	431	STR							
M604	2	2	4	9'-9"	59	STR							
SUB-TOTAL COL 2 =					18,683								
TOTAL SHEET 3 CARRIED TO QUANTITIES= 17,481													

DESIGN AGENCY
KS Associates Inc.
260 BURNS ROAD, ELYRIA, OHIO 44035

DESIGNED MEM | CHECKED ASW
DRAWN RAP | REVISED
REVIEWED MJM | DATE 12/07/16
STRUCTURE FILE NUMBER 1808885

REINFORCING STEEL LIST - 3
CUY-90-2674
I-90 OVER EAST 200TH ST.

CUY-90-26.16/VAR
PID No. 87628

36 / 36

222
222