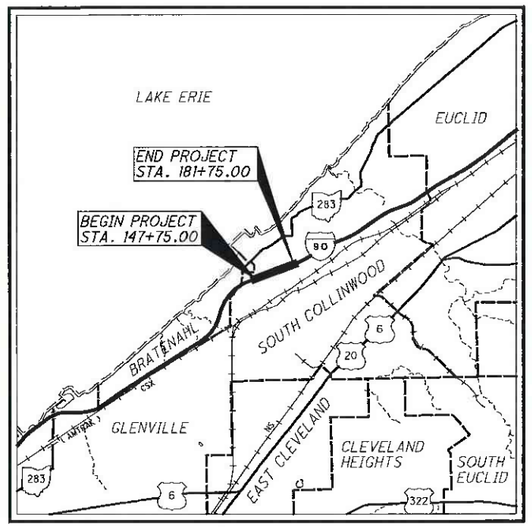
CUY-IR 90-24.10/24.63
190471 PID - 88348
DIST 12 11/7/2019



LOCATION MAP

LATITUDE: 41°33'59" LONGITUDE: 81°34'50"

SCALE IN MILES
0 1 2 3 4

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

DESIGN DESIGNATION

MILE 24.10	
CURRENT ADT (2019)	122,000
DESIGN YEAR ADT (2039)	127,000
DESIGN HOURLY VOLUME (2039)	13,000
DIRECTIONAL DISTRIBUTION	59%
TRUCKS (24 HOUR B&C)	5%
DESIGN SPEED	70 MPH
LEGAL SPEED	60 MPH
DESIGN FUNCTIONAL CLASSIFICATION: URBAN INTERSTATE	
NHS PROJECT	YES

MILE 24.63	
CURRENT ADT (2019)	113,000
DESIGN YEAR ADT (2039)	119,000
DESIGN HOURLY VOLUME (2039)	12,000
DIRECTIONAL DISTRIBUTION	59%
TRUCKS (24 HOUR B&C)	6%
DESIGN SPEED	70 MPH
LEGAL SPEED	60 MPH
DESIGN FUNCTIONAL CLASSIFICATION: URBAN INTERSTATE	
NHS PROJECT	YES

DESIGN EXCEPTIONS

	APPROVAL DATE
VERTICAL CLEARANCE, GRADED AND SHOULDER WIDTH	1/15/19

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:

ARCADIS
ARCADIS U.S., Inc.
222 S. Main Street, Suite 200
Akron, Ohio 44308
Tel: 330-434-1995 www.arcadis.com

ENGINEERS SEAL:
FOR ENTIRE PLAN EXCEPT STRUCTURES OVER 20 FT.
STATE OF OHIO DANIEL R. JOZITY E-65898 REGISTERED PROFESSIONAL ENGINEER
SIGNED:
DATE: 1/17/19

ENGINEERS SEAL:
FOR STRUCTURES OVER 20 FT.
STATE OF OHIO FRANK JOHN BETZ E-66992 REGISTERED PROFESSIONAL ENGINEER
SIGNED:
DATE: 1/17/19

STATE OF OHIO
DEPARTMENT OF TRANSPORTATION

CUY-90-24.10/24.63

CITY OF CLEVELAND
CUYAHOGA COUNTY

INDEX OF SHEETS:

PROJECT DESCRIPTION

THIS PROJECT CONSISTS OF 0.64 MILES OF BRIDGE AND ROADWAY IMPROVEMENTS ALONG IR-90. PROPOSED BRIDGE WORK OVER E140TH STREET AND E152ND STREET INCLUDES REPLACING THE DECKS, PAINTING STEEL, REPLACING APPROACH SLABS, BACK WALLS, AND SEALING CONCRETE SURFACES. PROPOSED ROADWAY WORK INCLUDES RESURFACING, DRAINAGE, LIGHTING, SIGNING AND PAVEMENT MARKINGS.

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

LIMITED ACCESS

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

2016 SPECIFICATIONS

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

CONFORMED SET

STANDARD CONSTRUCTION DRAWINGS										SUPPLEMENTAL SPECIFICATIONS		SPECIAL PROVISIONS	
BP-3.1	7/18/14	MGS-1.1	1/19/18	MT-95.31	7/21/17	MT-102.30	10/16/15	TC-9.10	1/19/18	800	7/20/18		
BP-5.1	7/20/18	MGS-2.1	1/19/18	MT-95.32	7/21/17	MT-104.10	10/16/15	TC-21.10	7/21/17	808	1/18/19		
BP-7.1	7/20/18	MGS-3.1	1/19/18	MT-95.60	7/19/13	MT-105.10	7/19/13	TC-21.20	7/20/18	821	4/20/12		
BP-9.1	7/21/17	MGS-3.2	1/18/13	MT-95.61	7/19/13			TC-22.20	1/19/18	832	10/19/18		
F-1.1	7/19/13	MGS-4.2	7/19/13	MT-97.10	7/18/14	HL-30.11	7/20/18	TC-41.20	10/18/13	875	1/17/14		
F-3.1	7/19/13			MT-98.20	7/18/14	HL-30.31	1/17/14	TC-41.30	10/18/13	908	10/20/17		
F-3.3	7/19/13	AS-1-15	7/17/15	MT-98.29	1/20/17	HL-30.32	1/17/14	TC-42.20	10/18/13	921	4/20/12		
		AS-2-15	1/19/18	MT-99.20	7/20/18	HL-30.33	1/17/14	TC-51.11	1/15/16				
CB-2.2	7/20/18	GSD-1-96	7/19/02	MT-99.30	1/19/18	HL-40.10	1/20/17	TC-52.10	10/18/13				
DM-1.1	7/21/17	NBS-1-09	1/19/18	MT-99.60	7/15/16	HL-50.21	7/20/18	TC-52.20	7/20/18				
DM-1.3	7/18/14	PCB-91	1/18/13	MT-101.60	1/20/17	HL-60.31	7/20/18	TC-61.10	1/17/14				
DM-4.1	1/15/16	SBR-1-13	7/20/18	MT-101.70	7/20/18			TC-61.30	1/20/17				
DM-4.3	1/15/16	SBR-2-13	7/20/18	MT-101.75	7/15/16	RM-4.1	7/21/17	TC-65.10	1/17/14				
DM-4.4	1/15/16	SICD-1-96	7/18/14	MT-101.90	7/21/17	RM-4.2	4/18/14	TC-65.11	7/21/17				
HW-2.1	7/20/18	SICD-2-14	7/18/14	MT-102.10	1/20/17	RM-4.3	7/18/14	TC-72.20	7/20/18				
I-2.1	1/15/16	VPF-1-90	7/20/18	MT-102.20	7/18/14	RM-4.4	7/21/17						

I HEREBY APPROVE THESE PLANS AND DECLARE THAT THE MAKING OF THIS IMPROVEMENT WILL NOT REQUIRE THE CLOSING TO TRAFFIC OF THE HIGHWAY EXCEPT AS NOTED ON SHEET 13.

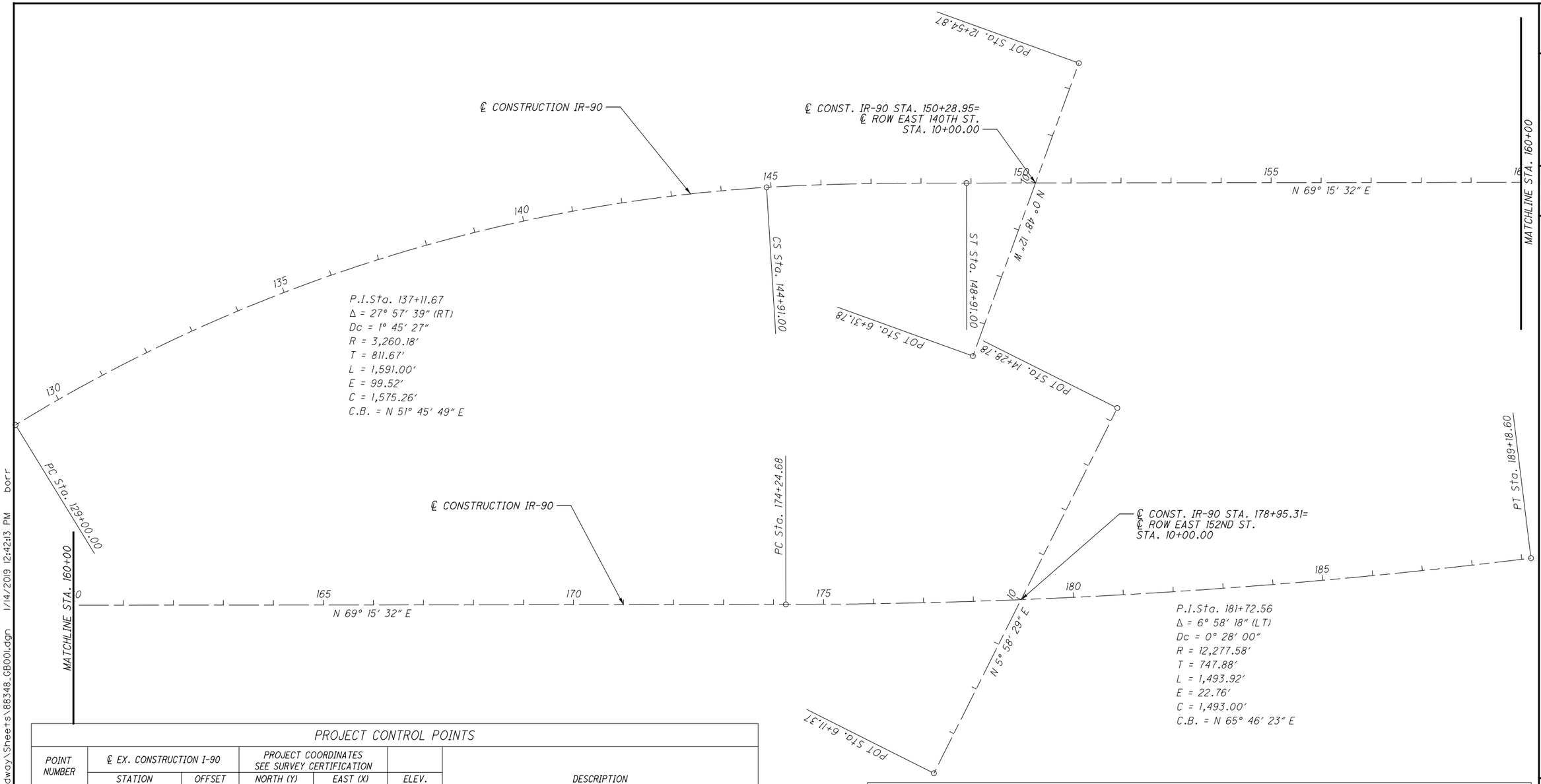
APPROVED
DATE 8/26/19 DISTRICT DEPUTY DIRECTOR

APPROVED
DATE 8/27/19 DIRECTOR, DEPARTMENT OF TRANSPORTATION

FEDERAL PROJECT NO. E150730
PID NO. 88348
CONSTRUCTION PROJECT NO.
RAILROAD INVOLVEMENT NONE
CUY-90-24.10/24.63
1 196

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

G:\Project\TOHODT11.PE01\Drawing\88348\Design\Roadway\Sheets\88348_GT001 signed.dgn 7/19/2019 8:32:57 AM borr



PROJECT CONTROL POINTS

POINT NUMBER	℄ EX. CONSTRUCTION I-90			PROJECT COORDINATES SEE SURVEY CERTIFICATION		ELEV.	DESCRIPTION
	STATION	OFFSET		NORTH (Y)	EAST (X)		
SV0003	149+05.47	73.69	RT.	692867.989	2218838.098	614.07	5/8″ REBAR SET W/ ORANGE CAP "ARCADIS CONTROL"
SV0101	149+48.05	93.69	RT.	692864.365	2218885.000	-	5/8″ REBAR SET W/ ORANGE CAP "ARCADIS CONTROL"
SV0005	149+52.46	72.59	LT.	693021.426	2218830.236	614.21	5/8″ REBAR SET W/ ORANGE CAP "ARCADIS CONTROL"
SV0006	150+13.14	129.92	LT.	693096.536	2218866.686	598.61	5/8″ REBAR SET W/ ORANGE CAP "ARCADIS CONTROL"
SV0008	150+65.62	110.36	RT.	692890.410	2219000.857	597.01	5/8″ REBAR SET W/ ORANGE CAP "ARCADIS CONTROL"
SV0100	150+84.01	12.96	LT.	693012.252	2218974.378	-	5/8″ REBAR SET W/ ORANGE CAP "ARCADIS CONTROL"
SV0012	151+69.95	151.90	LT.	693172.628	2219005.544	597.06	5/8″ REBAR SET W/ ORANGE CAP "ARCADIS CONTROL"
SV0105	158+27.01	111.84	RT.	693158.673	2219713.422	-	5/8″ REBAR SET W/ ORANGE CAP "ARCADIS CONTROL"
SV0011	160+03.94	89.55	LT.	693409.673	2219807.561	600.78	3/4″ REBAR SET W/ ALUMINUM CAP "ODOT AZIMUTH MARK"
SV0001	160+83.04	95.88	RT.	693264.271	2219947.207	599.44	3/4″ REBAR SET W/ ALUMINUM CAP "ODOT PRIMARY CONTROL POINT"
SV0013	168+49.77	77.18	RT.	693553.288	2220657.625	605.48	5/8″ REBAR SET W/ ORANGE CAP "ARCADIS CONTROL"
SV0010	170+59.02	80.08	LT.	693774.471	2220797.620	609.24	3/4″ REBAR SET W/ ALUMINUM CAP "ODOT AZIMUTH MARK"
SV0103	177+28.21	82.76	RT.	693863.418	2221481.657	-	5/8″ REBAR SET W/ ORANGE CAP "ARCADIS CONTROL"
SV0014	178+00.08	207.16	LT.	694158.763	2221437.676	602.78	5/8″ REBAR SET W/ ORANGE CAP "ARCADIS CONTROL"
SV0102	178+42.38	160.04	RT.	693835.963	2221617.719	-	DRILL HOLE SET IN CONCRETE
SV0004	178+86.81	128.02	RT.	693882.894	2221646.753	603.74	5/8″ REBAR SET W/ ORANGE CAP "ARCADIS CONTROL"
SV0002	179+02.62	117.16	LT.	694114.855	2221565.772	602.24	5/8″ REBAR SET W/ ORANGE CAP "ARCADIS CONTROL"
SV0104	179+03.40	75.37	RT.	693937.902	2221641.642	-	5/8″ REBAR SET W/ ORANGE CAP "ARCADIS CONTROL"
SV0007	179+64.37	73.15	RT.	693964.028	2221697.184	620.61	5/8″ REBAR SET W/ ORANGE CAP "ARCADIS CONTROL"
SV0009	180+40.15	73.00	LT.	694128.260	2221708.584	620.63	5/8″ REBAR SET W/ ORANGE CAP "ARCADIS CONTROL"

CENTERLINE MONUMENT TABLE

ROAD	STATION	OFFSET		PROJECT COORDINATES SEE SURVEY CERTIFICATION NORTH (Y)	EAST (X)	DESCRIPTION
℄ EX. R/W E. 140TH STREET	7+95.41	0.00	RT.	692776.063	2218930.350	1″ IRON PIN FOUND IN MONUMENT BOX
	-	-	-	692576.326	2218963.224	DRILL HOLE IN STONE FOUND IN MONUMENT BOX E. R/W E140 & ℄ JENNE
	10+82.80	29.39	LT.	693063.012	2218896.935	1″ IRON PIN FOUND IN MONUMENT BOX
	12+54.87	30.00	RT.	693235.903	2218953.905	1″ IRON PIN FOUND IN MONUMENT BOX
℄ EX. R/W E. 152TH STREET	6+11.37	0.00	RT.	693617.615	2221564.315	DRILL HOLE IN STONE FOUND IN MONUMENT BOX
	7+74.72	0.28	LT.	693780.115	2221581.041	1″ IRON PIN FOUND IN MONUMENT BOX
	7+88.51	0.52	LT.	693793.854	2221582.240	DRILL HOLE IN STONE FOUND IN MONUMENT BOX
	9+46.54	0.45	LT.	693951.012	2221598.756	1″ IRON PIN FOUND IN MONUMENT BOX
	12+04.63	0.46	LT.	694207.702	2221625.614	1″ IRON PIN FOUND IN MONUMENT BOX
	12+49.71	0.70	LT.	694252.565	2221630.066	1″ IRON PIN FOUND IN MONUMENT BOX
	13+16.84	0.90	LT.	694319.349	2221636.847	1″ IRON PIN FOUND IN MONUMENT BOX
	14+28.78	0.00	RT.	694430.585	2221649.398	1″ IRON PIN FOUND IN MONUMENT BOX
℄ EX. CONSTRUCTION I-90	153+42.17	191.98	RT.	692912.024	2219288.389	1″ IRON PIN FOUND IN MONUMENT BOX
	163+18.04	191.99	RT.	693257.616	2220201.014	1″ IRON PIN FOUND IN MONUMENT BOX
	166+63.97	192.07	LT.	693739.289	2220388.517	1″ IRON PIN FOUND IN MONUMENT BOX
	171+70.28	192.03	LT.	693918.559	2220862.023	1″ IRON PIN FOUND IN MONUMENT BOX

HORIZONTAL SCALE IN FEET
0 50 100 200

CALCULATED RAH
CHECKED DRJ

CENTERLINE DATA SHEET IR-90

CUY-90-24.10/ 24.63

LEGEND

(A) EXISTING 6"± ASPHALT CONCRETE

(B) EXISTING SUBBASE (2.5" TO 30"±)

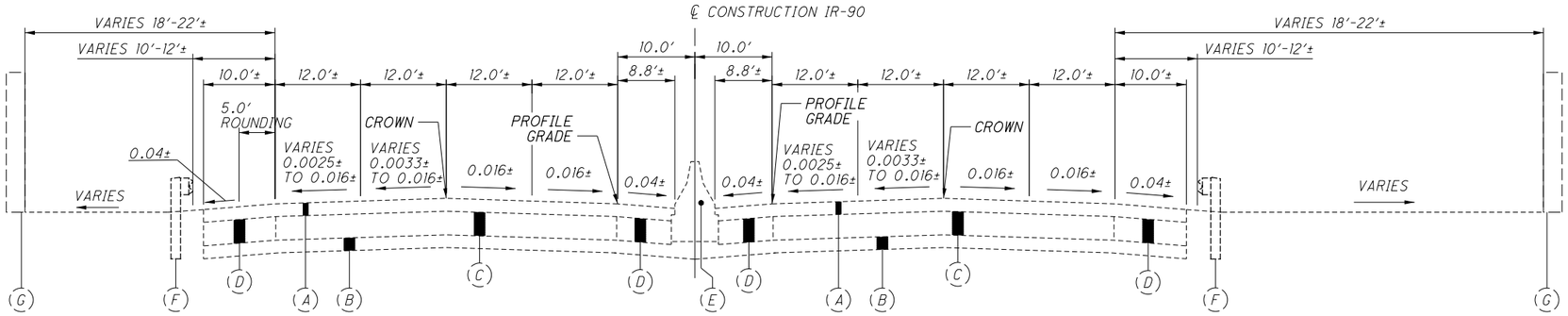
(C) EXISTING 10"± REINFORCED CONCRETE PAVEMENT

(D) EXISTING ASPHALT CONCRETE (5" TO 8"±)

(E) EXISTING CONCRETE BARRIER

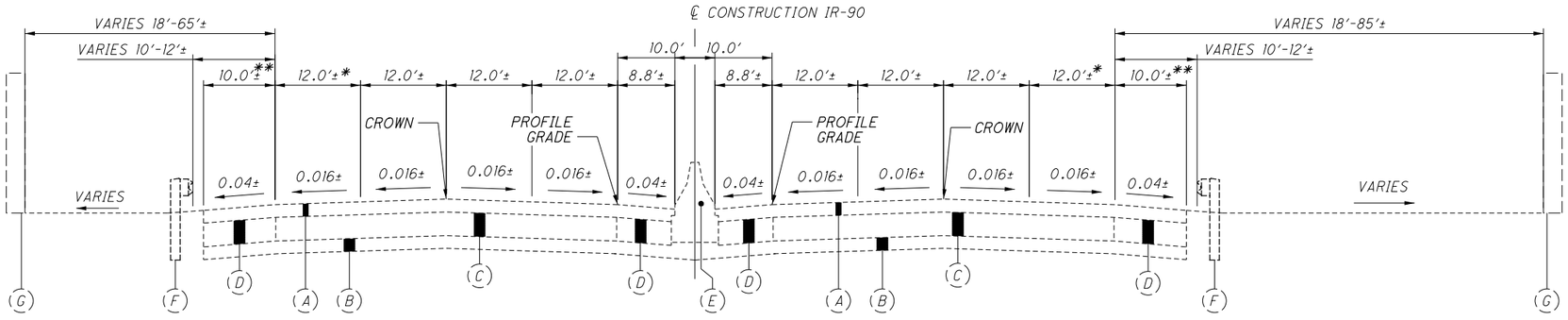
(F) EXISTING GUARDRAIL

(G) EXISTING NOISE BARRIER



EXISTING SUPER TRANSITION SECTION - IR-90

STA. 143+35.00 TO STA. 149+00.00



* VARIES 12' TO 55' FROM STA. 151+94.98 RT TO 156+82.00 RT
VARIES 12' TO 54' FROM STA. 152+37.57 LT TO 159+00.00 LT
VARIES 54' TO 12' FROM STA. 169+31.57 RT TO 176+30.47 RT
VARIES 52' TO 12' FROM STA. 171+65.00 LT TO 177+28.78 LT

** VARIES 10' TO 8' FROM STA. 151+94.98 RT TO 156+82.00 RT
VARIES 10' TO 8' FROM STA. 152+37.57 LT TO 159+00.00 LT
VARIES 8' TO 10' FROM STA. 169+31.57 RT TO 176+30.47 RT
VARIES 8' TO 10' FROM STA. 171+65.00 LT TO 177+28.78 LT

EXISTING NORMAL SECTION - IR-90

STA. 149+00.00 TO STA. 149+18.30
STA. 152+16.09 TO STA. 176+96.98
STA. 180+12.12 TO STA. 186+15.00

TYPICAL SECTIONS

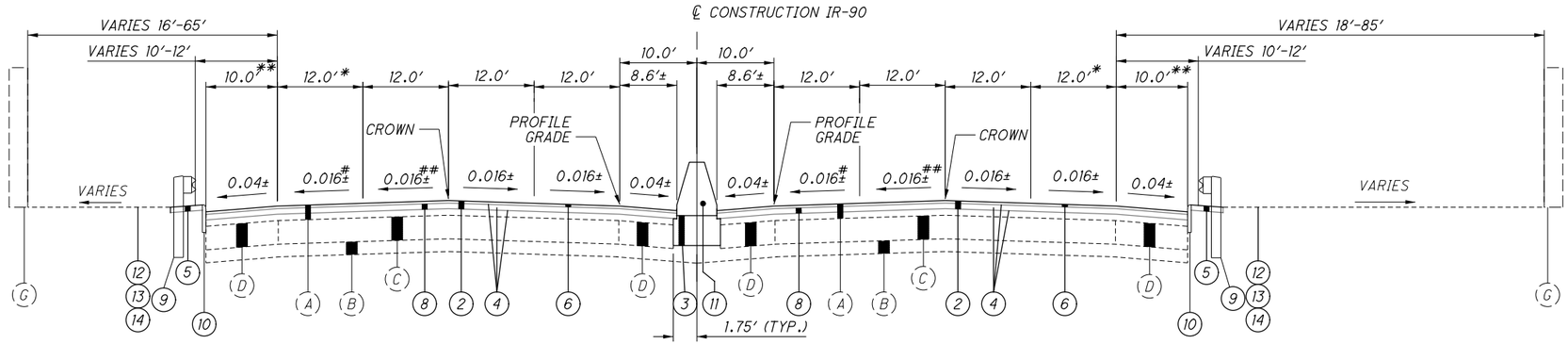
CUY-90-24.10/ 24.63

FOR EXISTING LEGEND SEE SHEET 3 .

PROPOSED LEGEND

1. ITEM 254 - PAVEMENT PLANING, ASPHALT CONCRETE (3.25"±)
2. ITEM 254 - PAVEMENT PLANING, ASPHALT CONCRETE, AS PER PLAN (VARIES 0.5" TO 3.25"±)
3. ITEM 305 - 9" CONCRETE BASE, AS PER PLAN
4. ITEM 407 - NON-TRACKING TACK COAT (0.04 GAL/SY)
5. ITEM 441 - 3" ASPHALT CONCRETE, INTERMEDIATE COURSE, TYPE 1 (448), UNDER GUARDRAIL, AS PER PLAN
6. ITEM 442 - 1.5" ASPHALT CONCRETE SURFACE COURSE, 12.5MM, TYPE A (446), AS PER PLAN, PG76-22M
7. ITEM 442 - 1.75" ASPHALT CONCRETE INTERMEDIATE COURSE, 19MM, TYPE A (448)
8. ITEM 442 - VARYING 2.75" TO 1.75" ASPHALT CONCRETE INTERMEDIATE COURSE, 19MM, TYPE A (448), AS PER PLAN
9. ITEM 606 - GUARDRAIL, TYPE MGS (LOCATIONS SHOWN ON THE PLANS)
10. ITEM 609 - CURB, TYPE 4-C (LOCATIONS SHOWN ON THE PLANS)
11. ITEM 622 - CONCRETE BARRIER, SINGLE SLOPE, TYPE B1
12. ITEM 209 - LINEAR GRADING, AS PER PLAN
13. ITEM 659 - TOPSOIL
14. ITEM 659 - SEEDING AND MULCHING

NOTE: FACE OF PROPOSED CURB SHALL MATCH FACE OF PROPOSED GUARDRAIL



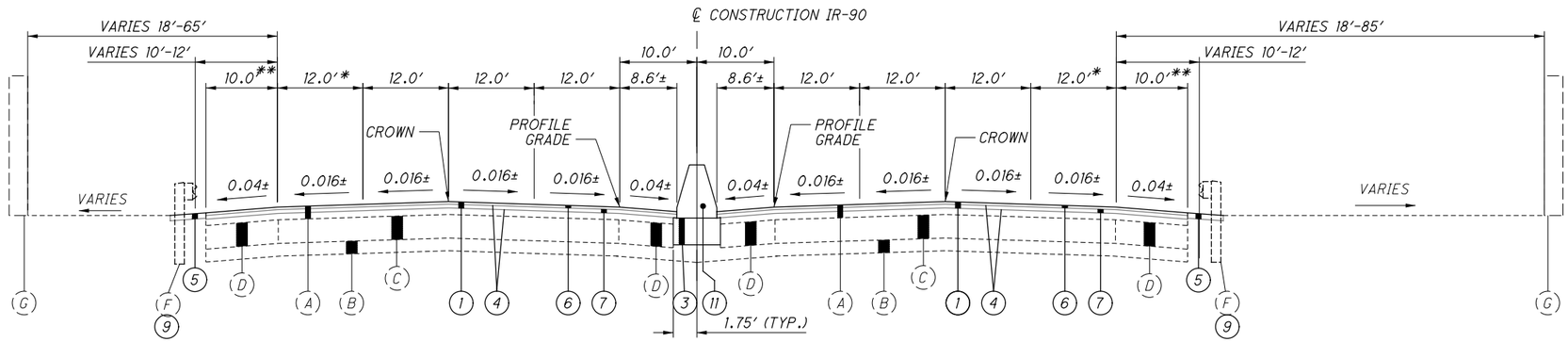
PROPOSED RAISING SECTION - IR-90

STA. 147+75.00 TO STA. 149+18.30
STA. 152+16.09 TO STA. 156+25.00
STA. 173+00.00 TO STA. 176+96.98
STA. 180+12.12 TO STA. 181+75.00

\# VARIES 0.0025 TO 0.016
\## VARIES 0.0033 TO 0.016

* VARIES 12' TO 55' FROM STA. 151+94.98 RT TO 156+82.00 RT
VARIES 12' TO 54' FROM STA. 152+37.57 LT TO 159+00.00 LT
VARIES 54' TO 12' FROM STA. 169+31.57 RT TO 176+30.47 RT
VARIES 52' TO 12' FROM STA. 171+65.00 LT TO 177+28.78 LT

** VARIES 10' TO 8' FROM STA. 151+94.98 RT TO 156+82.00 RT
VARIES 10' TO 8' FROM STA. 152+37.57 LT TO 159+00.00 LT
VARIES 8' TO 10' FROM STA. 169+31.57 RT TO 176+30.47 RT
VARIES 8' TO 10' FROM STA. 171+65.00 LT TO 177+28.78 LT



PROPOSED RESURFACING SECTION - IR-90

STA. 156+25.00 TO STA. 173+00.00

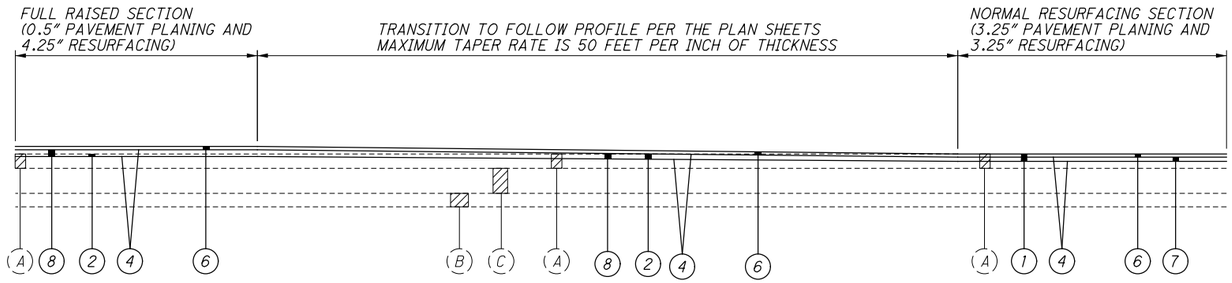
TYPICAL SECTIONS

CUY-90-24.10/24.63

4
196

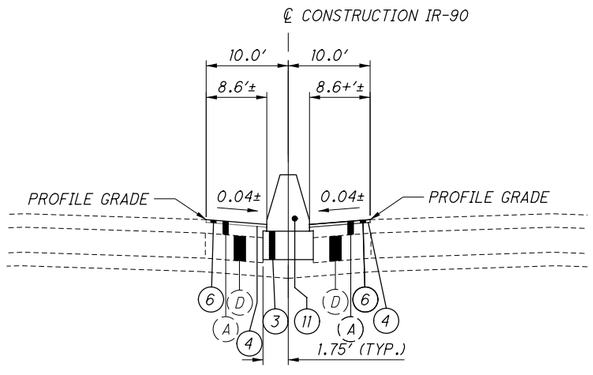
FOR EXISTING LEGEND SEE SHEET 3 .

FOR PROPOSED LEGEND SEE SHEET 4 .



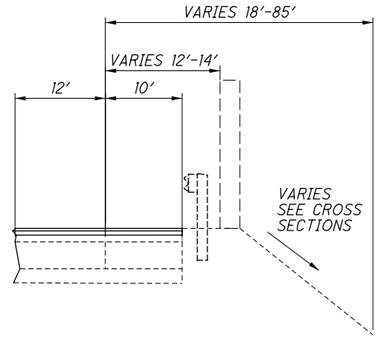
RAISING TO RESURFACING TRANSITION

STA. 147+75.00 TO STA. 149+18.30
STA. 152+16.09 TO STA. 156+25.00
STA. 173+00.00 TO STA. 176+96.98
STA. 180+12.12 TO STA. 181+75.00



BARRIER REPLACEMENT SECTION - IR-90

STA. 143+35.00 TO STA. 147+75.00
STA. 181+75.00 TO STA. 186+15.00



15' GRADED SHOULDER NOT PROVIDED

STA. 147+75.00 TO STA. 149+18.30
STA. 152+16.09 TO STA. 156+00.00
STA. 169+00.00 TO STA. 171+00.00
STA. 173+00.00 TO STA. 175+50.00
STA. 181+50.00 TO STA. 181+75.00

TYPICAL SECTIONS

CUY-90-24.10/ 24.63

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:

CHARTER COMMUNICATIONS
FORMERLY TIME WARNER CABLE
8179 DOW CIRCLE
STRONGSVILLE, OHIO 44136
ATTN: PAUL SILVESTRO
PHONE: 216-575-8016,
EXT 2165550034
FAX: 440-826-2940

AT&T
13630 LORAIN AVE. 2ND FLOOR
CLEVELAND, OHIO 44111
ATTN: JAMES JANIS
PHONE: (216) 476-6142
FAX: (216) 476-6013

CITY OF CLEVELAND
DIVISION OF CLEVELAND PUBLIC POWER (MELP)
1300 LAKESIDE AVE.
CLEVELAND, OHIO 44114
ATTN: CHRIS HIRZEL
PHONE: (216) 664-3922, EXT. 115
FAX: (216) 664-2972

CITY OF CLEVELAND
DIVISION OF WATER POLLUTION CONTROL
12302 KIRBY ROAD
CLEVELAND, OHIO 44108
ATTN: RACHID ZOGHAIB
PHONE: (216) 664-3785
ATTN: ELIE RAMY
PHONE: 216-664-2513

CITY OF CLEVELAND DIVISION OF WATER
1201 LAKESIDE AVE.
CLEVELAND, OHIO 44114
ATTN: FRED ROBERTS
PHONE: 216-644-2444 X75590
FAX: (216) 664-2378

CEI FIRST ENERGY
THE ILLUMINATING COMPANY
ATTN: TED RADER
6896 MILLER ROAD
BRECKSVILLE OH 44141
OFFICE: 440-546-8738

DOMINION EAST OHIO GAS COMPANY
320 SPRINGSIDE DR.
FAIRLAWN, OHIO 44333
ATTN: ED GOUBEAUX
PROJECT MANAGER
PHONE: (330) 664-2494
MOBILE: (330) 604-7482

MCI-WORLDCOM
120 RAVINE ST.
AKRON, OHIO 44303
ATTN: AL GUEST
PHONE: (330) 253-8267

NORTHEAST OHIO REGIONAL SEWER DISTRICT (NEORSD)
ATTN: MARY MACIEJOWSKI 3900 EUCLID AVE
CLEVELAND, OHIO 44115-2504
PHONE: (216) 881-6600, EXT. 6466

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.

EXISTING PLANS

EXISTING PLANS ENTITLED CUY-90-23.50 (1959), CUY-90-21.27 (1975), CUY-77-2.82 (1984), CUY-90-23.95 (1990), CUY-90-24.13 (1997), CUY-71-17.91 (2003), CUY-90-23.93 (2012) AND CUY-90-24.70 (2012) 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

EXISTING TYPICAL SECTIONS

EXISTING TYPICAL SECTIONS HAVE BEEN TAKEN FROM FIELD MEASUREMENTS, RECORDS, AND PAVEMENT CORES AND ARE BELIEVED TO REPRESENT THE EXISTING PAVEMENT, BUT THE STATE OF OHIO DOES NOT GUARANTEE THE ACCURACY OF THE SAME. FOR FURTHER INFORMATION IN REGARD TO THE TYPICAL SECTIONS, THE CONTRACTOR SHALL REFER TO THE PREVIOUS CONSTRUCTION PLANS WHICH CAN BE VIEWED AT THE DISTRICT 12 OFFICE OR ONLINE.

SURVEYING PARAMETERS

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

VERTICAL POSITIONING
ORTHOMETRIC HEIGHT DATUM: NAVD88, FROM NGS MB1574 WITH HEIGHT SHIFT
GEOID: 12B

HORIZONTAL POSITIONING
REFERENCE FRAME: NAD83(2011)
ELLIPSOID: GRS80
MAP PROJECTION: LAMBERT CONFORMAL CONIC
COORDINATE SYSTEM: OHIO STATE PLANE - NORTH ZONE
COMBINED SCALE FACTOR: 0.9999536612
ORIGIN OR COORDINATE SYSTEM: 0,0

USE THE POSITIONING METHODS AND MONUMENT TYPE USED IN THE ORIGINAL SURVEY TO RESTORE ALL MONUMENT RELATED TO PRIMARY PROJECT CONTROL THAT ARE DAMAGED OR DESTROYED BY CONSTRUCTION ACTIVITIES. RESTORE THE DAMAGED OR DESTROYED MONUMENTSIN ACCORDANCE WITH CMS 623.

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

WORK LIMITS

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

PART-WIDTH CONSTRUCTION

BECAUSE OF THE NECESSITY TO BUILD THIS PROJECT UNDER TRAFFIC AND TO CONSTRUCT THE FULL PAVEMENT WIDTH IN STAGES, EXERCISE CARE TO PREVENT THE CONSTRUCTION OF A BUTT JOINT IN THE BASE COURSES. LAP LONGITUDINAL JOINTS AS SHOWN ON STANDARD CONSTRUCTION DRAWING BP-3.1.

CONSTRUCTION NOISE

ACTIVITIES AND LAND USE ADJACENT TO THIS PROJECT MAY BE AFFECTED BY CONSTRUCTION NOISE. THE CITY OF CLEVELAND HAS GRANTED A VARIANCE REQUEST TO WAIVE ENFORCEMENT OF THE NOISE REQUIREMENTS FOR A PERIOD OF 28 MONTHS. THE HEAVY EQUIPMENT APPROVED TO BE UTILIZED OUTSIDE OF THE NORMAL HOURS OF 6AM TO 8PM ARE CONCRETE TRUCKS, CONCRETE PUMPERS, BIDWELL BRIDGE FINISHING MACHINE, LIGHT PLANTS, AND PORTABLE GENERATORS.

THE NOISE ORDINANCE VARIANCE HAS THE FOLLOWING CONDITIONS:

- THE DEPARTMENT OF PUBLIC SAFETY AND THE RESPECTIVE COUNCILMEN SHALL BE NOTIFIED AT A MINIMUM OF 72 HOURS IN ADVANCE OF ANY CHANGES TO THE ORIGINAL REQUEST.

- THE DEPARTMENT OF PUBLIC SAFETY AND THE RESPECTIVE COUNCILMEN SHALL BE NOTIFIED 72 HOURS IN ADVANCE OF ANY WORK SCHEDULE CHANGES RELATIVE TO THE HOURS/DAYS OF OPERATION(S).

- THE CITY OF CLEVELAND AND THE RESPECTIVE COUNCILMEN SHALL BE NOTIFIED 72 HOURS IN ADVANCE IF ANY OTHER HEAVY EQUIPMENT IS UTILIZED OTHER THAN THOSE LISTED ABOVE OR IN THE ORIGINAL REQUEST.

NOTIFICATIONS SHALL BE CONSIDERED INCIDENTAL TO THE PROJECT. THE CONTRACTOR CAN REVIEW THE EXISTING VARIANCE REQUEST AT THE DISTRICT OFFICE.

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.

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 BRIDGES WITHIN THE PROJECT LIMITS AFTER COMPLETION OF ALL WORK, BUT PRIOR TO FINAL ACCEPTANCE OF THE PROJECT. AS 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 WORK ABOVE.

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.

PROFILE AND ALIGNMENT

PLACE THE PROPOSED PAVEMENT OUTSIDE OF THE BRIDGE RAISING LIMITS TO FOLLOW THE ALIGNMENT AND PROFILE OF THE EXISTING PAVEMENT. PREVIOUS CONSTRUCTION PLANS, PROJECT NO. CUY-90-23.50, SHOWING THE ORIGINAL ALIGNMENT AND PROFILE, ARE AVAILABLE FOR INSPECTION AT THE ODOT DISTRICT 12 OFFICE OR ONLINE. PLACE THE PROPOSED ASPHALT CONCRETE OVERLAY WITH A UNIFORM THICKNESS OF 3 1/4 INCHES AS SHOWN ON THE TYPICAL SECTIONS.

ITEM 607 - FENCE REBUILT, TYPE CL, AS PER PLAN

CAREFULLY REMOVE, 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, AS PER PLAN.

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.

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.

SEEDING AND MULCHING

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

209, LINEAR GRADING	17 STA.
659, SOIL ANALYSIS TEST	2 EACH
659, TOPSOIL	151 CU. YD.
659, SEEDING AND MULCHING	1,292 SQ. YD.
659, REPAIR SEEDING AND MULCHING	65 SQ. YD
659, INTER-SEEDING	65 SQ. YD.
659, COMMERCIAL FERTILIZER	0.2 TON
659, LIME	0.27 ACRES
659, WATER	7 M. GAL.
659, MOWING	12 M. SQ. FT.
832, EROSION CONTROL	5,000 EACH

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.

CALCULATED AMF
CHECKED DRJ

GENERAL NOTES

CUY-90-24.10/ 24.63

RESHAPING UNDER GUARDRAIL

THIS OPERATION SHALL INCLUDE PREPARATION OF THE GRADED SHOULDER USING ITEM 209, LINEAR GRADING, AS PER PLAN AND PAVING UNDER THE GUARDRAIL USING 441 ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 1, (448), UNDER GUARDRAIL, AS PER PLAN.

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

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

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

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

PAVING UNDER GUARDRAIL SHALL CONSIST OF PLACING ITEM 441 TO THE DEPTH SPECIFIED USING ONE OF THE FOLLOWING METHODS:

METHOD A:

1. SET GUARDRAIL POSTS
2. PLACE ITEM 441

METHOD B:

1. PLACE ITEM 441
2. BORE ASPHALT AT POST LOCATIONS (MAY BE OMITTED IF STEEL POSTS ARE USED)
3. SET GUARDRAIL POSTS
4. PATCH AROUND POSTS. THE MATERIALS USED FOR PATCHING SHALL BE AN ASPHALT CONCRETE APPROVED BY THE ENGINEER. PATCHED AREAS SHALL BE COMPACTED USING EITHER HAND OR MECHANICAL METHODS. FINISHED SURFACES SHALL BE SMOOTH AND SLOPED TO DRAIN AWAY FROM THE POSTS.

ALL EQUIPMENT, MATERIALS AND LABOR REQUIRED TO PERFORM THE WORK OUTLINED ABOVE, WITH THE EXCEPTION OF SETTING GUARDRAIL POSTS, SHALL BE INCLUDED FOR PAYMENT UNDER ITEM 441, ASPHALT CONCRETE, INTERMEDIATE COURSE, TYPE 1(448), UNDER GUARDRAIL, AS PER PLAN.

MEDIAN AND/OR CURBING ON APPROACH SLABS

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

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

THE CONTRACTOR SHALL PLACE THE INTERMEDIATE COURSE AT A VARYING THICKNESS OF 1.75" TO 2.75" TO MATCH THE BRIDGE ELEVATION AT THE LOCATIONS SHOWN ON THE PLANS. THE INTERMEDIATE COURSE SHALL BE IN ACCORDANCE WITH ASPHALT CONCRETE INTERMEDIATE COURSE, 19MM, TYPE A (448). PAYMENT SHALL BE MADE AT THE CONTRACT UNIT PRICE BID PER CUBIC YARD FOR ITEM 442 - ASPHALT CONCRETE INTERMEDIATE COURSE, 19MM, TYPE A (448), AS PER PLAN.

ITEM 305 - 9" CONCRETE BASE, AS PER PLAN

THE CONTRACTOR SHALL PLACE THE CONCRETE BASE IN THE VOID CREATED BY THE REMOVED EXISTING CONCRETE BARRIER. THE CONCRETE BASE SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF 305. PAYMENT SHALL INCLUDE ALL LABOR, EQUIPMENT, MATERIALS, INCIDENTALS TO COMPLETE THIS WORK COMPLETE AND IN PLACE.

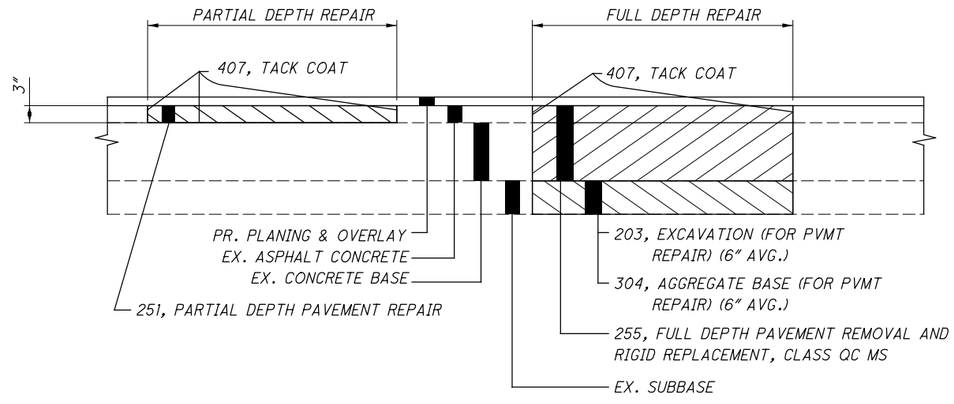
ITEM 254 - PAVEMENT PLANING, ASPHALT CONCRETE, AS PER PLAN

THE CONTRACTOR SHALL PLANE THE EXISTING ASPHALT AT A VARYING DEPTH OF 0.5" TO 3.25" TO RAISE THE PROFILE LIMITS TO MATCH THE PROPOSED BRIDGE ELEVATIONS AT THE LOCATIONS SHOWN ON THE PLANS. PAYMENT SHALL BE MADE AT THE CONTRACT UNIT PRICE BID PER SQUARE YARD FOR ITEM 254 - PAVEMENT PLANING, ASPHALT CONCRETE, AS PER PLAN.

PARTIAL AND FULL DEPTH PAVEMENT REPAIR

PARTIAL OR FULL DEPTH PAVEMENT REPAIR SHALL BE PERFORMED ON THE EXISITNG PAVEMENT AS DETAILED BELOW. LOCATIONS FOR PAVEMENT REPAIRS SHALL BE AS DIRECTED BY THE ENGINEER. THE FOLLOWING QUANTITIES HAVE BEEN CARRIED TO THE GENERAL SUMMARY FOR THIS PURPOSE:

251, PARTIAL DEPTH PAVEMENT REPAIR	450 SY
252, FULL DEPTH PAVEMENT SAWING	500 FT
255, FULL DEPTH PAVEMENT REMOVAL AND RIGID REPLACEMENT, CLASS QC MS	450 SY
203, EXCAVATION	75 CY
304, AGGREGATE BASE	75 CY
407, TACK COAT	10 GAL



PARTIAL AND FULL DEPTH PAVEMENT REPAIR

ITEM 442 - ASPHALT CONCRETE SURFACE COURSE, 12.5MM, TYPE A (446), AS PER PLAN, PG-76-22M

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

TABLE 442.02-2 APPLIES EXCEPT NO.4 SIEVE REQUIREMENTS ARE 52 TO 60 TOTAL PERCENT PASSING. FOR THE NO. 4 SIEVE DO NOT EXCEED 63 IN PRODUCTION.

WHEN ACBFS IS USED FOR A FRACTION OF THE COARSE AGGREGATE, 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.

ASPHALT CONCRETE SURFACE COURSE SEALING REQUIREMENTS

IN ADDITION TO THE GUTTER SEALING REQUIREMENTS SPECIFIED ON SCD BP-3.1 AND IN 401.15, THE CONTRACTOR SHALL SEAL THE FOLLOWING LOCATIONS:

- ALL CASTINGS INCLUDING BUT NOT LIMITED TO MONUMENTS, MANHOLES,WATER VALVES, CATCH BASINS, CURB INLETS, BUTT JOINTS, AND FEATHER JOINTS INCLUDING BRIDGE APPROACHES.
- BUTT JOINT BETWEEN PAVED SHOULDER AND DRIVEWAY ASPHALT AND TAPERED EDGE WHEN FEATHERINGTO AN EXISTING ASPHALT DRIVEWAY.
- PERIMETER OF ALL PAVEMENT REPAIRS OR OTHER ASPHALT INLAYS WHEN PAVEMENT REPAIRS/INLAYS ARE NOT OVERLAID WITH AN ASPHALT CONCRETE SURFACE COURSE.
- ALL COLD LONGITUDINAL JOINTS BETWEEN PAVED SHOULDERS AND GUARDRAIL ASPHALT.

THE MATERIAL USED SHALL BE A CERTIFIED 702.01 PG BINDER. THE WIDTH OF THE SEALER SHALL BE 2-3 INCHES.

ANY ADDITIONAL COSTS ASSOCIATED WITH THE WORK IDENTIFIED IN THIS NOTE SHALL BE INCLUDED IN THE APPROPRIATE ASPHALT CONCRETE SURFACE COURSE ITEM OF WORK.

LONGITUDINAL JOINTS (FLEXIBLE PAVEMENT)

LOCATE LONGITUDINALJOINTS IN THE SURFACE COURSE SUBJECT TO THE FOLLOWING REQUIREMENTS:

- PLACE THE MAINLINE PAVEMENT SURFACE COURSE WITH A SINGLE COLD LONGITUDINAL JOINT. NO OTHER COLD JOINTS ARE PERMITTED IN THE SURFACE COURSE OF THE MAINLINE PAVEMENT EXCEPT AS NOTED BELOW.
- IF TOTAL PAVEMENT WIDTH (EDGE OF SHOULDER TO EDGE OF SHOULDER) IS GREATER THAN 76 FT., A SECOND COLD JOINT IS PERMITTED PROVIDED THE COLD JOINT IS LOCATED AT AN EDGE LINE.
- IF PART-WIDTH CONSTRUCTION IS USED FOR THE RAMPS, PLACE THE RAMP SURFACE COURSE WITH A SINGLE COLD LONGITUDINAL JOINT LOCATED NEAR THE MIDDLE OF THE RAMP'S TOTAL WIDTH.
- AT SPEED CHANGE LANES AT RAMP MERGE AND DIVERGE AREAS, PLACE SURFACE COURSE ON SPEED CHANGE LANES WITH IN THE SAME WORK DAY AS ADJACENT MAINLINE PAVEMENT.

OHIO EPA NOTIFICATION OF DEMOLITION FOR ASBESTOS

AN ASBESTOS SURVEY OF THE BRIDGES OVER EAST 140TH STREET AND EAST 152ND STREET WAS COMPLETED IN APRIL 2016 BY A CERTIFIED ASBESTOS HAZARD EVALUATION SPECIALIST. ASBESTOS CONTAINING MATERIAL (ACM) WAS NOT IDENTIFIED ON THE BRIDGES.

A COPY OF THE OHIO ENVIRONMENTAL PROTECTION AGENCY (OEPA) NOTIFICATION OF DEMOLITION AND RENOVATION FORM WITH SECTIONS 1-4, 6, AND 7 COMPLETED IS INCLUDED WITH THE BID PACKAGE. THE CONTRACTOR SHALL COMPLETE SECTIONS 5, 8 - 18 OF THE 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:

MR. GEORGE BAKER CITY OF CLEVELAND
THE DEPARTMENT OF PUBLIC HEALTH
DIVISION OF AIR QUALITY
75 ERIEVIEW PLAZA, 2ND FLOOR
CLEVELAND, OHIO 44114
PHONE: (216) 664-2297

THE CONTRACTOR SHALL FURNISH ALL FEES, LABOR, AND MATERIAL NECESSARY TO COMPLETE AND SUBMIT THE OEPA NOTIFICATION FORM. PAYMENT FOR THIS WORK SHALL BE INCLUDED IN ITEM 202 - PORTIONS OF STRUCTURE REMOVED, AS PER PLAN.

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.

NOTIFICATION

THE CONTRACTOR WILL NOTIFY THE LOCAL PUBLIC SERVICES, SCHOOL DISTRICT, EMERGENCY SERVICES AND COMMUNITY A MINIMUM OF FOURTEEN (14) DAYS IN ADVANCE OF PROJECT CONSTRUCTION. INCLUDED IN THE NOTIFICATION WILL BE THE PROJECTED DATES OF ANY LANE RESTRICTIONS, ROADWAY CLOSE(S) AND DETOUR ROUTE(S).

CALCULATED AMF CHECKED DRJ

GENERAL NOTES

CUY-90-24.10/24.63

CROSSINGS AND CONNECTIONS TO EXISTING PIPES AND UTILITIES

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

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

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

PAYMENT FOR ALL THE OPERATIONS DESCRIBED ABOVE SHALL BE INCLUDED IN THE CONTRACT PRICE FOR THE PERTINENT 611 CONDUIT ITEM.

ITEM 611, INLET, NO. 3 FOR SINGLE SLOPE BARRIER, TYPE B1, AS PER PLAN

THE CONTRACTOR SHALL REMOVE AND STORE FOR REUSE THE EXISTING CATCH BASIN CASTING. THE CONTRACTOR SHALL REINSTALL THE CASTING AND PROVIDE THE REQUIRED INLET OPENING AS PER SCD I-2.1 DURING THE MEDIAN BARRIER REPLACEMENT.

ITEM 611, 15" CONDUIT, TYPE F, AS PER PLAN

IN ADDITION TO THE REQUIREMENTS OF 611, THE CONDUIT SHALL INCLUDE THE TRENCHING UNDER THE NOISE BARRIER. THE CONTRACTOR SHALL ENSURE THE STABILITY OF THE NOISE BARRIERS DURING THE INSTALLATION OF THE CONDUIT WITHOUT REMOVING THE PANELS.

REVIEW OF DRAINAGE FACILITIES

BEFORE ANY WORK IS STARTED ON THE PROJECT AND AGAIN BEFORE FINAL ACCEPTANCE BY THE STATE, REPRESENTATIVES OF THE STATE AND THE CONTRACTOR, ALONG WITH LOCAL REPRESENTATIVES, SHALL MAKE AN INSPECTION OF ALL EXISTING SEWERS WHICH ARE TO REMAIN IN SERVICE AND WHICH MAY BE AFFECTED BY THE WORK. THE CONDITION OF THE EXISTING CONDUITS AND THEIR APPURTENANCE SHALL BE DETERMINED FROM FIELD OBSERVATIONS. RECORDS OF THE INSPECTION SHALL BE KEPT IN WRITING BY THE STATE.

ALL NEW CONDUITS, INLETS, CATCH BASINS, AND MANHOLES CONSTRUCTED AS A PART OF THE PROJECT SHALL BE FREE OF ALL FOREIGN MATTER AND IN A CLEAN CONDITION BEFORE THE PROJECT WILL BE ACCEPTED BY THE STATE.

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

PAYMENT FOR ALL OPERATIONS DESCRIBED ABOVE SHALL BE INCLUDED IN THE CONTRACT PRICE FOR THE PERTINENT 611 CONDUIT ITEMS.

ITEM SPECIAL, PIPE CLEANOUT

THIS WORK SHALL CONSIST OF REMOVING SEDIMENT AND DEBRIS FROM THE EXISTING DRAINAGE CONDUITS AS DIRECTED BY THE ENGINEER. 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.

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

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

SPECIAL, PIPE CLEAN-OUT, 24" AND UNDER 350 FT.

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 INCLUDE 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 320 FT.

ITEM 511 WINGWALLS OR HEADWALLS FOR 611 ITEMS

FOR ITEMS 706.05, 706.051, 706.052 AND 706.053 WITH A CAST-IN-PLACE WING-WALL OR HEAD-WALL A PRECAST ALTERNATIVE MAY BE FURNISHED PER 602.03. THE PRECAST ALTERNATIVE WILL MEET THE CAST-IN-PLACE STRUCTURAL DESIGN LOADINGS, DESIGN HEIGHT, AND DESIGN LENGTH DIMENSIONS.

FULL COMPENSATION FOR THE PRECAST WING-WALL OR HEAD-WALL IS THE NUMBER OF CUBIC YARDS OF ITEM 511, AND POUNDS OF ITEM 509 FOR THE CORRESPONDING CAST-IN-PLACE STRUCTURE.

PERMITS - CITY OF CLEVELAND

IN THE CITY OF CLEVELAND, ALL PERMITS MUST BE OBTAINED FROM THE DIVISION OF ASSESSMENTS AND LICENSES PRIOR TO BEGINNING WORK. PERMITS INCLUDE BUT ARE NOT LIMITED TO STREET OPENING PERMIT, OVERLOAD PERMIT, OBSTRUCTION PERMIT AND/OR SIDEWALK PERMIT. THESE PERMITS MAY BE OBTAINED THROUGHT 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 PART OF THE PROJECT MUST BE PERFORMED IN ACCORDANCE TO THE 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.

PLANING REQUIREMENTS

THE DURATION OF TIME BETWEEN PLANING THE ASPHALT AND PLACING THE ASPHALT OVERLAY SHALL BE KEPT TO A MINIMUM. IN NO INSTANCE SHALL THIS TIME EXCEED 7 CALENDAR DAYS. THE TIME LIMIT SHALL BEGIN ON THE FIRST DAY OF PLANING AND SHALL CONTINUE BASED ON CALENDAR DAYS, MINUS ANY WEATHER DAYS, UNTIL COMPLETION OF THE ASPHALT CONCRETE SURFACE COURSE. THIS IS TO ENSURE THAT THE POTENTIAL DEGRADATION OF THE EXPOSED PAVEMENT DUE TO TRAFFIC IS KEPT TO A MINIMUM. THIS REQUIREMENT APPLIES TO BOTH MAINLINE AND RAMPS ALIKE.

IN THE EVENT THAT THE TIME BETWEEN EXPOSING THE EXISTING PAVEMENT AND PLACING THE ASPHALT SURFACE COURSE EXCEEDS 7 CALENDAR DAYS, LIQUIDATED DAMAGES AS PER 108.07 OF THE C&MS SHALL BE ASSESSED.

CALCULATED AMF
CHECKED DRJ

GENERAL NOTES

CUY-90-24.10/24.63

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.

COONTRACT 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, 2021 AND APRIL 15, 2022. 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	DIS-INCENTIVE $ 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, 2020 AND APRIL 15, 2021 AND BETWEEN OCTOBER 15, 2021 AND APRIL 15, 2022	OCTOBER 15, 2020	DAY	$5,000	N/A	N/A
	OCTOBER 15, 2021	DAY	$5,000	N/A	N/A

ITEM 614, MAINTAINING TRAFFIC

THIS PROJECT CONSISTS OF PAVEMENT RESURFACING, BRIDGE REHABILITATION AND RAISING, NEW UNDERPASS LIGHTING, NOISE BARRIERS ON STRUCTURES, NEW SIGNING AND MEDIAN BARRIER AND MINIMAL SIDE ROAD IMPROVEMENTS.

A MINIMUM OF 4 LANES OF TRAFFIC IN EACH DIRECTION SHALL BE MAINTAINED AT ALL TIMES BY USE OF THE EXISTING PAVEMENT, THE COMPLETED PAVEMENT, ITEM 615 PAVEMENT FOR MAINTAINING TRAFFIC, ITEM 615 ROADS FOR MAINTAINING TRAFFIC, AND TEMPORARY SURFACES USING ITEMS 410, AND 614.

THE CONTRACTOR SHALL PROVIDE, ERECT, MAINTAIN AND REMOVE ALL SIGNS, SIGN SUPPORTS, BARRICADES, CONES, DRUMS, FLAGGERS, AND ANY INCIDENTALS AS DETAILED IN THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES.

LENGTH AND DURATION OF LANE CLOSURES AND RESTRICTIONS SHALL BE AT THE APPROVAL OF THE ENGINEER. IT IS THE INTENT TO MINIMIZE THE IMPACT TO THE TRAVELING PUBLIC. LANE 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.

THE CONTRACTOR SHALL PROVIDE, ERECT AND MAINTAIN STANDARD 48 X 30 INCH ROAD CLOSED SIGNS, SIGN SUPPORTS, BARRICADES AND LIGHTS, AS DETAILED IN SCD MT-101.60 AT THE LOCATIONS SHOWN ON THE PLANS DURING PERIODS IN WHICH THE AFFECTED RAMPS ARE CLOSED TO TRAFFIC.

ITEM 614, MAINTAINING TRAFFIC (CONTD.)

NOTICE OF CLOSURE SIGNS (W20-H13), SHALL BE ERECTED BY THE CONTRACTOR PRIOR TO THE SCHEDULED ROAD OR RAMP CLOSURE IN ACCORDANCE WITH THE NOTICE OF CLOSURE TIME TABLE BELOW.

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

NOTICE OF CLOSURE SIGN TIME TABLE		
ITEM	DURATION OF CLOSURE	SIGN DISPLAYED TO PUBLIC
RAMP & ROAD CLOSURES	>= 2 WEEKS	14 CALENDAR DAYS PRIOR TO CLOSURE
	> 12 HOURS & < 2 WEEKS	7 CALENDAR DAYS PRIOR TO CLOSURE
	< 12 HOURS	2 BUSINESS DAYS PRIOR TO CLOSURE

THE SIGN SHALL DISPLAY THE DATE OF THE CLOSURE IN MMM-DD FORMAT AND THE NUMBER OF DAYS OF THE CLOSURE. THE LAST LINE OF THE W20-H13 SIGN LISTS A PHONE NUMBER WHICH A MOTORIST MAY CALL FOR ADDITIONAL INFORMATION. THIS IS TO BE A SPECIFIC OFFICE WITHIN THE DISTRIC RATHER THAN THE GENERAL SWITCHBOARD NUMBER.

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.

VERTICAL CLEARANCES

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 THE EXISTING VERTICAL CLEARANCES, 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 HEREFORE THE STATE IS NOT RESPONSIBLE FOR ANY DAMAGE FROM VEHICULAR IMPACTS THAT MAY RESULT, AS PER 107.10.

WORK ZONE RESTRICTIONS

THE FOLLOWING RESTRICTIONS SHALL APPLY TO THIS PROJECT:

1) ASPHALT MILLING AND PLACING THE INTERMEDIATE COURSE SHALL BE PERFORMED UNDER THE SAME OPERATION, PRIOR TO OPENING THE PAVEMENT TO TRAFFIC.

2) WORKZONE OR PERMANENT MARKINGS SHALL BE IN PLACE PRIOR TO OPENING THE ROADWAY TO TRAFFIC.

3) SHORT TERM CLOSURES OF IR-90 ARE PERMISSIBLE, ONLY BETWEEN THE HOURS OF 12AM TO 5AM, AND THE DURATION IS LIMITED TO 15 MINUTES. THE MAINTENANCE OF TRAFFIC SHALL BE PER MT-99.60.

PERMITTED LANE CLOSURE NOTE

LANES CLOSURES MAY ONLY BE IMPLEMENTED AT THE TIMES PERMITTED BY ODOT DISTRICT 12, PERMITTED LANE CLOSURE TIMES MAP WHICH IS LOCATED ON ODOT'S WEB SITE AT:

http://plcm.dot.state.oh.us/PLCMSearch.aspx

THE LATEST REVISION, 14 DAYS PRIOR TO THE BID DATE, WILL BE IN EFFECT FOR THIS JOB.

SHOULDER, LANE AND RAMP CLOSURES

ALL RAMPS AND LANES ARE TO REMAIN OPEN TO TRAFFIC UNLESS OTHERWISE SPECIFIED IN THESE PLANS OR PERMITTED BY ODOT'S PERMITTED LANE CLOSURE TIMES.

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

DROPOFFS IN THE WORK ZONE

THE OPTIONAL WEDGE TREATMENT AS DETAIL ON MT-101.90 WILL BE REQUIRED AND SHALL BE INCLUDED IN THE LUMP SUM BID PRICE FOR ITEM 614, MAINTAINING TRAFFIC.

NOTIFICATION OF TRAFFIC RESTRICTIONS

THROUGHOUT THE DURATION OF THE PROJECT, THE CONTRACTOR SHALL NOTIFY THE PROJECT ENGINEER IN WRITING OF ALL TRAFFIC RESTRICTIONS AND UPCOMING MAINTENANCE OF TRAFFIC CHANGES. THE CONTRACTOR SHALL ENSURE THE WRITTEN NOTIFICATION IS SUBMITTED IN A TIMELY MANNER TO ALLOW THE PROJECT ENGINEER TO MEET THE REQUIRED TIME FRAMES SET FORTH IN THE TABLE BELOW TO INFORM THE DISTRICT PUBLIC INFORMATION OFFICER (PIO), DISTRICT PERMIT SECTION, CENTRAL OFFICE SPECIAL HAULING PERMITS SECTION (HAULING.PERMITS@DOT.OHIO.GOV). THIS NOTIFICATION SHALL BE RECEIVED BY THE PROJECT ENGINEER PRIOR TO THE PHYSICAL SETUP OF ANY APPLICABLE SIGNS OR MESSAGE BOARDS.

INFORMATION SHOULD INCLUDE, BUT IS NOT LIMITED TO, ALL CONSTRUCTION ACTIVITIES THAT IMPACT OR INTERFERE WITH TRAFFIC AND SHALL LIST THE SPECIFIC LOCATION, TYPE OF WORK, ROAD STATUS, DATE AND TIME OF RESTRICTION, DURATION OF RESTRICTION, NUMBER OF LANES MAINTAINED, NUMBER OF LANES CLOSED, DETOUR ROUTES, IF APPLICABLE, AND ANY OTHER INFORMATION REQUESTED BY THE PROJECT ENGINEER.

NOTICE TO OFFICE OF COMMUNICATION TIME TABLE		
ITEM	DURATION OF CLOSURE	NOTICE DUE TO OFFICE OF COMMUNICATIONS
RAMP & ROAD CLOSURES	>= 2 WEEKS	21 CALENDAR DAYS PRIOR TO CLOSURE
	> 12 HOURS & < 2 WEEKS	14 CALENDAR DAYS PRIOR TO CLOSURE
	< 12 HOURS	4 BUSINESS DAYS PRIOR TO CLOSURE
LANE CLOSURES & RESTRICTIONS	>= 2 WEEKS	14 CALENDAR DAYS PRIOR TO CLOSURE
	< 2 WEEKS	5 BUSINESS DAYS PRIOR TO CLOSURE
START OF CONST. & TRAFFIC PATTERN CHANGES	N/A	14 CALENDAR DAYS PRIOR TO IMPLEMENTATION

ANY UNFORESEEN CONDITIONS NOT SPECIFIED IN THE PLANS REQUIRING TRAFFIC RESTRICTIONS SHALL ALSO BE REPORTED TO THE PROJECT ENGINEER USING THE NOTIFICATION TIME TABLE.

ITEM 622, PORTABLE BARRIER, 50", AS PER PLAN
ITEM 622, PORTABLE BARRIER, BRIDGE MOUNTED, 50", 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 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 HARD-WARE AND PROCEDURES SPECIFIED BY THE MANUFACTURER.

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

PAYMENT SHALL INCLUDE ALL LABOR, MATERIAL, AND EQUIP-MENT 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, BRIDGE MOUNTED, 50", AS PER PLAN.

LONGITUDINAL AND TRANSVERSE BUTT JOINTS

LONGITUDINAL BUTT JOINTS ARE REQUIRED ALONG AREAS WHERE TRAFFIC WILL CROSS FROM PAVEMENT SURFACES OF DIFFERENT ELEVATIONS. TRANSVERSE BUTT JOINTS AT BRIDGES AND AT THE RESURFACING LIMITS SHALL NOT BE LEFT OPEN TO TRAFFIC. BEFORE OPENING TO TRAFFIC, A TEMPORARY ASPHALT CONCRETE WEDGE OF SUFFICIENT LENGTH SHALL BE CONSTRUCTED AT THE LONGITUDINAL OR TRANSVERSE BUTT JOINT. ITEM 614, ASPHALT CONCRETE FOR MAINTAINING TRAFFIC IS TO BE USED FOR THE WEDGE CONSTRUCTION. IT SHALL BE PLACED WHILE TRAFFIC IS PROHIBITED (DURING PLCM TIMES). BEFORE THE NEW PAVEMENT IS PLACED, THE WEDGE SHALL BE REMOVED PRIOR TO PLACING THE SURFACE COURSE.

LONGITUDINAL BUTT JOINT WEDGE SHALL UTILIZE A TAPER RATE OF 1" PER 3' OR FLATTER. TRANSVERSE BUTT JOINT WEDGE SHALL BE AT A RATE OF 1" PER 4' (RAMPS) OR 1" PER 10' (MAINLINE). AT LOCATIONS WHERE THE FINAL PAVING WILL NOT OCCUR FOR MORE THAN ONE WEEK, THE TRANSITION RATE SHALL BE 1" PER 35'.

THE FOLLOWING QUANTITIES HAVE BEEN INCLUDED IN THE PLAN FOR INFORMATION ONLY FOR LONGITUDINAL AND TRANSVERSE BUTT JOINTS.

ITEM 614, ASPHALT FOR MAINTAINING TRAFFIC 185 CU .YD.

PAYMENT FOR ALL WORK, MATERIALS, EQUIPMENT, ETC. SHALL BE INCLUDED IN THE LUMP SUM BID PRICE FOR ITEM 614, MAINTAINING TRAFFIC.

FOR TRANSVERSE BUTT JOINTS, "BUMP" (W8-11) AND "ADVISORY SPEED" (W13-1) SIGNS AND SUPPORTS SHALL BE ERECTED AND MAINTAINED AT THE BUTT JOINT UNTIL THE SURFACE COURSE IS COMPLETED. THE COSTS OF PROVIDING, ERECTING, MAINTAINING AND SUBSEQUENTLY REMOVING THESE SIGNS AND SUPPORTS SHALL BE INCLUDED IN THE LUMP SUM PRICE BID FOR ITEM 614, MAINTAINING TRAFFIC.

CALCULATED BRO CHECKED DRJ

MAINTENANCE OF TRAFFIC GENERAL NOTES

CUY-90-24.10/ 24.63

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 IMPACT ATTENUATOR FOR 24" WIDE HAZARDS (UNIDIRECTIONAL OR BIDIRECTIONAL)

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

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.

FLOODLIGHTING

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

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

ITEM 808, 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-88348	CUYAHOGA IR-90	EB&WB

POTENTIAL WZSZ LOCATIONS SHALL HAVE AN ORIGINAL (PRE-CONSTRUCTION) POSTED SPEED LIMIT OF 55 MPH OR GREATER, 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 BELOW 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 DIVIDED HIGHWAY ARE CONSIDERED SEPARATE HIGHWAY SECTIONS. THEREFORE, IF THE WORK ON A MULTI-LANE DIVIDED HIGHWAY IS LIMITED TO ONLY ONE DIRECTION, A SPEED 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.

WZSZS USING DSL SIGN ASSEMBLIES SHALL BE IN ACCORDANCE WITH THIS NOTE, APPROVED LIST SUPPLEMENTAL SPECIFICATIONS (SS) 808 AND 908, AND TRAFFIC SCD MT-104.10.

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, PRE-CONSTRUCTION, 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 808, WORK ZONE SPEED ZONES (WZSZS) (CONT)

TABLE 1: WARRANTED WORK ZONE SPEED LIMITS (MPH) FOR WORK ZONES ON HIGH-SPEED (55 MPH OR GREATER) 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	55	65
65	55	60	50	60
60	55	60	50	60
55	50	55	45	55

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

ITEM 808, DIGITAL SPEED LIMIT (DSL) SIGN ASSEMBLY 108 SIGN MNTH
(ASSUMING 6 DSL SIGN ASSEMBLIES FOR 18 MONTHS)

DELINEATION OF TEMPORARY AND PERMANENT GUARDRAIL

BARRIER REFLECTORS SHALL BE INSTALLED ON ALL TEMPORARY GUARDRAIL USED FOR TRAFFIC CONTROL AND ON ALL PERMANENT GUARDRAIL LOCATED WITHIN 5 FEET OF THE EDGE OF THE ADJACENT TRAVEL LANE. BARRIER REFLECTORS SHALL CONFORM TO C&MS 626.

OBJECT MARKERS SHALL BE INSTALLED ON ALL TEMPORARY AND PERMANENT GUARDRAIL LOCATED WITHIN 5 FEET OF THE EDGE OF THE ADJACENT TRAVEL LANE. GUARDRAIL-MOUNTING OF OBJECT MARKERS SHALL BE MADE BY INSTALLING THE OBJECT MARKERS ON THE EXTENSION BLOCKS RATHER THAN DIRECTLY ONTO THE GUARDRAIL ITSELF. OBJECT 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 3, ONE-WAY 71 EACH
ITEM 614, OBJECT MARKER, ONE-WAY 71 EACH

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

ITEM 614, REPLACEMENT DRUM

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.

THE REPLACEMENT DRUMS AND THE REMOVAL AND DISPOSAL OF THE DAMAGED DRUM SHALL BE CONSIDERED INCIDENTAL TO LUMP SUM ITEM 614. PROVIDING AND MAINTAINING THE REPLACEMENT DRUM IN ACCORDANCE WITH THE CONTRACT REQUIREMENTS FOR THE ORIGINAL DRUM SHALL ALSO BE CONSIDERED INCIDENTAL.

WORK ZONE INCREASED PENALTIES SIGN (R11-H5A)

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

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

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

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

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 ANOTHER LOCATION AS DIRECTED BY THE ENGINEER, IT SHALL BE CONSIDERED ANOTHER UNIT.

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

ITEM 614, WORK ZONE INCREASED PENALTIES SIGN 10 EACH

WORK ZONE INCREASED PENALTIES SIGNS WILL BE PLACED AFTER EACH ENTRANCE RAMP LOCATED WITHIN THE MAINTENANCE OF TRAFFIC LIMITS AT APPROVED LOCATIONS BY THE ENGINEER.

MAINTAINING TRAFFIC ON THE SHOULDER

WHEN TRAFFIC IS MAINTAINED ON THE SHOULDER AND COMES WITHIN 4' OF THE EDGE OF SHOULDER OR TEMPORARY PAVEMENT AND THERE IS NO GUARDRAIL PRESENT, THE CONTRACTOR SHALL PLACE ITEM 411 STABILIZED CRUSHED AGGREGATE AT A WIDTH OF 2' AND A DEPTH OF 9".

THE FOLLOWING QUANTITY HAS BEEN CARRIED TO THE GENERAL SUMMARY:

ITEM 411, STABILIZED CRUSHED AGGREGATE 165 CU YD

CALCULATED BRO CHECKED DRJ

GENERAL NOTES OF TRAFFIC MAINTENANCE

CUY-90-24.10/24.63

DELINEATION OF PORTABLE AND PERMANENT 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.

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

ITEM 614, BARRIER REFLECTOR, TYPE 1 BI-DIRECTIONAL	1,290 EACH
ITEM 614, OBJECT MARKER, ONE-WAY	1,020 EACH
ITEM 614, INCREASED BARRIER DELINEATION	925 FEET

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.

ITEM 614, MAINTAINING TRAFFIC, MISC.: DECK REPAIRS, AS DIRECTED

PRIOR TO PHASE 1, DECK REPAIRS SHALL BE PERFORMED AT THE DIRECTION OF THE ENGINEER. THE DECK WILL BE SOUNDED AND LOCATIONS MARKED FOR REPAIR SHALL BE MILLED 2 INCHES, TACKED WITH ITEM 407, AND FILLED WITH ITEM 441 ASPHALT CONCRETE SURFACE COURSE, PG 64-22 OR AN ALTERNATE, AS APPROVED BY THE ENGINEER. THE ASPHALT CONCRETE SURFACE COURSE MIX DESIGN SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PRIOR TO INCORPORATION INTO THE WORK.

PAYMENT FOR THIS WORK SHALL INCLUDE ALL LABOR, EQUIPMENT, AND MATERIALS, ETC. NECESSARY TO COMPLETE EACH DIRECTED DECK REPAIR. THE FOLLOWING ESTIMATED QUANTITES HAVE BEEN CARRIERD TO THE GENERAL SUMMARY.

ITEM 614, MAINTAINING TRAFFIC, MISC.: DECK REPAIRS, AS DIRECTED	3,600 SF

ITEM 621, WORK ZONE RAISED PAVEMENT 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.

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

THE SNOW-PLOWING SEASON SHALL RUN FROM NOVEMBER THROUGH MARCH.

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.

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

THE FOLLOWING ITEMS HAVE BEEN CARRIED TO THE GENERAL SUMMARY:

ITEM 254, PAVEMENT PLANING, ASPHALT CONCRETE, 1.5"	47,115 SQUARE YARDS
ITEM 442, ASPHALT CONCRETE SURFACE COURSE, 12.5MM, TYPE A (446), AS PER PLAN	1,964 CUBIC YARDS
ITEM 621, WORK ZONE RAISED PAVEMENT MARKER, AS PER PLAN	7,000 EACH

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

TRENCH FOR WIDENING

TRENCH EXCAVATION FOR BASE WIDENING SHALL BE ONLY ON ONE SIDE OF THE PAVEMENT AT A TIME. THE OPEN TRENCH SHALL BE ADEQUATELY MAINTAINED AND PROTECTED WITH DRUMS OR BARRICADES AT ALL TIMES. PLACEMENT OF PROPOSED SUB-BASE AND BASE MATERIAL SHALL FOLLOW AS CLOSELY AS POSSIBLE BEHIND EXCAVATION OPERATIONS. THE LENGTH OF WIDENING TRENCH WHICH IS OPEN AT ANY ONE TIME SHALL BE HELD TO A MINIMUM AND SHALL AT ALL TIMES BE SUBJECT TO APPROVAL OF THE ENGINEER.

OVERNIGHT TRENCH CLOSING

THE BASE WIDENING SHALL BE COMPLETED TO A DEPTH OF NO MORE THAN TWO INCHES BELOW THE EXISTING PAVEMENT BY THE END OF EACH WORK DAY. NO TRENCH SHALL BE LEFT OPEN OVERNIGHT EXCEPT FOR A SHORT LENGTH (25 FEET OR LESS) OF A WORK SECTION AT THE END OF THE TRENCH. IN CASE WORK MUST BE SUSPENDED BECAUSE OF INCLEMENT WEATHER OR OTHER REASONS, THE TRENCH FOR THE UN-COMPLETED BASE WIDENING SHALL BE BACK-FILLED AT THE DIRECTION OF THE ENGINEER.

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 TASKS:

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 AS APPROVED BY THE ENGINEER:

FOR LANE CLOSURES: DURING INITIAL SET-UP PERIODS, TEAR DOWN PERIODS, SUBSTANTIAL SHIFTS OF A CLOSURE POINT OR WHEN NEW LANE CLOSURE ARRANGEMENTS ARE INITIATED FOR LONG-TERM LANE CLOSURES/SHIFTS (FOR THE FIRST AND LAST DAY OF MAJOR CHANGES IN TRAFFIC CONTROL SETUP).

IN GENERAL, LEOS SHOULD BE POSITIONED IN ADVANCE OF AND ON THE SAME SIDE AS THE LANE RESTRICTION OR AT THE POINT OF ROAD CLOSURE, AND TO MANUALLY CONTROL TRAFFIC MOVEMENTS THROUGH SIGNALIZED 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	600 HOURS

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

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

MAINTENANCE OF MEDIAN DRAINAGE

THE CONTRACTOR SHALL INSTALL AT A MINIMUM OF 20 FEET OF A TYPE 2 SLOTTED DRAIN EVERY 200 FEET AND ONE ON EITHER SIDE OF THE SUMP INLET AND EACH BRIDGE, ALONG THE CENTERLINE OF CONSTRUCTION OR AS DIRECTED BY THE ENGINEER. THE TEMPORARY CONDUIT SHALL BE DRAINED TO THE NEAREST INLET. ONCE THE BARRIER AND GRATE IS REMOVED, THE CONTRACTOR SHALL PLACE A STEEL PLATE OR APPROVED BRIDGE BY THE ENGINEER OVER THE OPENING OF THE INLET AND PLACE PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A OVER THE INLET OPENING TO MATCH THE CROSS SLOPE OF THE EXISTING SHOULDER. DURING PHASE 6 OF THE PROJECT, THE SLOTTED DRAIN, PIPE, TEMPORARY PAVEMENT AND BRIDGE SHALL BE REMOVED.

THE SLOTTED DRAIN AND 12" CONDUIT 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 BACKFILING THE VOID AS DETAILED UNDER STANDARD CONSTRUCTION DRAWING DM-1.3, SHALL BE INCLUDED IN THE PRICE BID PER FOOT. THE REMOVAL OF THE GRATE AND REINSTALLATION ARE PAID FOR ELSEWHERE. THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN CARRIED TO THE GENERAL SUMMARY FOR THE PURPOSE.

ITEM 611, 12" SLOTTED DRAIN, TYPE 2, AS PER PLAN	300 FEET
ITEM 611, 12" CONDUIT TYPE B, AS PER PLAN	450 FEET

DETOURS

THE FOLLOWING ESTIMATED QUANTITIES ARE CARRIED TO THE GENERAL SUMMARY FOR DETOUR SIGNING SHOWN ON THE DETOUR PLANS, SHEETS 54 - 57.

614, DETOUR SIGNING	LS
630, SIGN TEMPORARY OVERLAY	613 SF
630, SIGN TEMPORARY OVERLAY REMOVED	13 EACH

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MAINTENANCE OF TRAFFIC GENERAL NOTES

CUY-90-24.10/24.63

ITEM 614, PORTABLE CHANGEABLE 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 ARE SHOWN ON SHEET(S) OF THE PLAN. 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 _ 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 PRE-CONSTRUCTION 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 (IN 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. 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.

ITEM 614, PORTABLE CHANGEABLE MESSAGE SIGNS, AS PER PLAN (CONT)

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 36 SIGN MONTH

(ASSUMING PCMS 2 SIGNS FOR 18 MONTHS)

WORK-SITE TRAFFIC SUPERVISOR

SUBJECT TO APPROVAL OF THE ENGINEER, THE CONTRACTOR SHALL EMPLOY AND IDENTIFY (SOMEONE OTHER THAN THE SUPERINTENDENT) A CERTIFIED WORK-SITE 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 WTSS CERTIFICATION AND 24-HOUR CONTACT INFORMATION SHALL BE PROVIDED TO THE ENGINEER AT THE PRE-CONSTRUCTION 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 PRE-CONSTRUCTION, THE WTS CERTIFICATION DATE OF ISSUE SHALL BE WITHIN 5 YEARS PRIOR TO THE ORIGINAL COMPLETION DATE OF THE PROJECT.

WORK-SITE TRAFFIC SUPERVISOR (CONT)

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 PRE-CONSTRUCTION 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; 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.

WORK-SITE TRAFFIC SUPERVISOR (CONT)

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; PRE-PLAN 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.

CALCULATED BRO CHECKED DRJ

MAINTENANCE OF TRAFFIC GENERAL NOTES

CUY-90-24.10/ 24.63

WORK-SITE TRAFFIC SUPERVISOR (CONT)

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.

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 WORK-SITE TRAFFIC SUPERVISOR:

ITEM 614 WORK-SITE TRAFFIC SUPERVISOR 18 MONTHS

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

IN ADDITION TO THE REQUIREMENTS OF 615, THE CONTRACTOR SHALL LEAVE THE PAVEMENT IN PLACE, THE PAVEMENT SHALL BE FLEXIBLE PAVEMENT AND SHALL HAVE A PAVEMENT SMOOTHNESS TOLERANCE IN ACCORDANCE WITH 441.

WINTER TIME LIMITATIONS

CONDUCT ALL WORK SUBJECT TO THE FOLLOWING LIMITATIONS. PAVEMENT AND BRIDGES WORK ARE TREATED SEPERATELY:

1. BY OCTOBER 1ST OF THE FIRST YEAR, COMPLETE ALL PAVEMENT WORK (UP TO AND INCLUDING THE PROPOSED INTERMEDIATE COURSE) REQUIRED FOR THE AFFECTED STAGE OF CONSTRUCTION AND RETURN TRAFFIC TO UN-SHIFTED POSITION WITH FULL LANE WIDTHS AND LEAVING THE PORTABLE BARRIER NEAREST THE MEDIAN, SIMILAR TO THE BRIDGE STAGED CONSTRUCTION DETAILS.

2. PLACE PAVEMENT MARKINGS AND RPM'S FOR THE PHASE OF CONSTRUCTION TO REMAIN IN PLACE OVER WINTER BY OCTOBER 15.

3. FROM OCTOBER 15 TO APRIL 1, COORDINATE ANY PROPOSED WORK REQUIRING LANE CLOSURES WITH ODOT. NO SHORT TERM LANE CLOSURES ARE PERMITTED DURING PERIODS WHEN ODOT IS CONDUCTING SNOW AND ICE OPERATIONS (INCLUDING PRE-TREATMENT) OR WHEN TEMPERATURES ARE BELOW 40 DEGREES AND SNOW IS IN THE FORECAST.

4. THE CONTRACTOR SHALL PLACE WORK ZONE MARKINGS IN ACCORDANCE WITH THE I-90 MAINLINE TRAFFIC CONTROL SHEETS, MAINTAINING FOUR LANES IN EACH DIRECTION AS DETAILED IN THE FINAL CONFIGURATION.

THE FOLLOWING CLASS I, 642 PAINT QUANTITIES HAVE BEEN CARRIED TO THE GENERAL SUMMARY FOR WORK ZONE PAVEMENT MARKING MEASURES.

ITEM 614, WORK ZONE EDGE LINE, 6"	3.8 MILE
ITEM 614, WORK ZONE LANE LINE, 6"	6.5 MILE
ITEM 614, WORK ZONE CHANNELIZING LINE, 12"	2,100 FOOT
ITEM 614, WORK ZONE DOTTED LINE	2,700 FOOT

SEQUENCE OF CONSTRUCTION

THE PROJECT SHALL BE CONSTRUCTED IN SIX MAIN PHASES.

THE CONTRACTOR HAS THE ABILITY TO DO ANY WORK CONCURRENTLY THAT WILL NOT EFFECT THE MAINLINE AT ANY TIME UNLESS OTHERWISE STATED IN THE NOTES.

RAMP CLOSURES

DURING THE TIME PERIOD OF THE RAMP CLOSURE, IF APPLICABLE, THE CONTRACTOR SHALL PLACE THE PAVEMENT TO TIE THE RAMP TO THE EXISTING PAVEMENT AS SHOWN IN THE PLANS.

EACH RAMP SHALL BE CLOSED FOR THE DURATION OF THE PHASE UNLESS STATED OTHERWISE.

FREEWAY ENTRANCE RAMPS SHALL BE CLOSED AND DETOURED IN ACCORDANCE WITH THE DETOUR PLANS AND CLOSURES SHALL BE AS PER MT-101.60.

FREEWAY EXIT RAMPS SHALL BE CLOSED AND DETOURED IN ACCORDANCE WITH THE DETOUR PLANS. THE RAMP CLOSURES SHALL BE AS PER MT-98.29.

EAST 140TH AND EAST 152ND

TRAFFIC ON EAST 140TH STREET AND EAST 152ND STREET SHALL BE MAINTAINED AT ALL TIMES WITH THE EXCEPTION OF SHORT TERM CLOSURES FOR BRIDGE RAISING. DURING BRIDGE RAISING LEO'S SHALL HOLD TRAFFIC FOR A MAXIMUM OF 15 MINUTES AT A TIME.

FOR ALL OTHER TIMES THE CONTRACTOR SHALL MAINTAIN TRAFFIC IN ACCORDANCE WITH MT-95.31, MT-95.60 AND MT-95.61 DURING OPERATIONS THAT REQUIRE A LANE CLOSURE. ALL OTHER TIMES TRAFFIC SHALL BE OPEN AND REMAIN ON EXISTING LANES. ALL LANE CLOSURE TIMES AND DURATIONS SHALL BE AT THE APPROVAL OF THE ENGINEER.

BRIDGE RAISING ON I-90

DURING BRIDGE RAISING ON I-90, TRAFFIC SHALL BE MAINTAINED IN ACCORDANCE WITH MT-99.60.

PRE-PHASE 1

PRE-PHASE 1 SHALL CONSIST OF THE RECONSTRUCTION OF THE OUTSIDE SHOULDERS OF IR-90 IN THE EASTBOUND AND WESTBOUND DIRECTIONS. TRAFFIC SHALL BE MAINTAINED PER MT-95.30 DURING ACCEPTABLE PERMITTIED LANE CLOSURE MAP (PLCM) TIMES. PLCM TIMES SHALL BE PER THE NOTE ON SHEET 9 .

PHASE 1

PHASE 1 SHALL CONSIST OF CONSTRUCTION OF THE MEDIAN AREA. THE CONTRACTOR SHALL REMOVE THE MEDIAN BARRIER, PLACE TEMPORARY PAVEMENT, INSTALL TEMPORARY DRAINAGE ITEMS, REMOVE AND REPLACE THE BRIDGE DECK AND MILL AND PLACE THE INTERMEDIATE COURSE WITHIN THE WORK ZONE. FOUR LANES IN EACH DIRECTION SHALL BE SHIFTED TO THE OUTSIDE AND MAINTAINED. THE WESTBOUND EAST 152ND STREET, CALCUTTA AVENUE/EAST 156TH STREET AND THE EASTBOUND EAST 140TH STREET ENTRANCE RAMPS SHALL BE CLOSED DURING THIS PHASE. RAMP TRAFFIC SHALL BE DETOURED PER SHEETS 55 TO 56.

SEQUENCE OF CONSTRUCTION (CONT)

PHASE 2

PHASE 2 SHALL CONSIST OF THE CONSTRUCTION OF THE MIDDLE PORTIONS OF THE EASTBOUND LANES. THE CONTRACTOR SHALL REMOVE AND REPLACE THE BRIDGE DECK AND MILL AND PLACE THE INTERMEDIATE COURSE WITHIN THE WORK ZONE. WESTBOUND TRAFFIC SHALL BE SHIFTED TO THE OUTSIDE AND TWO LANES EASTBOUND WILL CONTRA-FLOW TO THE MEDIAN AND TWO LANES EASTBOUND WILL BE SHIFTED TO THE OUTSIDE. THE EASTBOUND EAST 140TH STREET ENTRANCE RAMP SHALL BE CLOSED DURING THIS PHASE. RAMP TRAFFIC SHALL BE DETOURED PER SHEET 55.

PHASE 3

PHASE 3 SHALL CONSIST OF THE CONSTRUCTION OF THE OUTSIDE PORTION OF THE EASTBOUND LANES. THE CONTRACTOR SHALL REMOVE AND REPLACE THE BRIDGE DECK AND MILL AND PLACE THE INTERMEDIATE COURSE WITHIN THE WORK ZONE. WESTBOUND TRAFFIC SHALL BE SHIFTED TO THE OUTSIDE AND EASTBOUND TRAFFIC WILL SHIFTED TO THE MEDIAN. THE EASTBOUND EAST 152ND STREET EXIT AND THE EAST 140TH STREET ENTRANCE RAMP SHALL BE CLOSED DURING THIS PHASE. RAMP TRAFFIC SHALL BE DETOURED PER SHEETS 54 AND 55.

PHASE 4

PHASE 4 SHALL CONSIST OF THE CONSTRUCTION OF THE MIDDLE PORTIONS OF THE WESTBOUND LANES. THE CONTRACTOR SHALL REMOVE AND REPLACE THE BRIDGE DECK AND MILL AND PLACE THE INTERMEDIATE COURSE WITHIN THE WORK ZONE. EASTBOUND TRAFFIC SHALL BE SHIFTED TO THE OUTSIDE AND TWO LANES WESTBOUND WILL CONTRA-FLOW TO THE MEDIAN AND TWO LANES WESTBOUND WILL BE SHIFTED TO THE OUTSIDE. THE WESTBOUND EAST 152ND STREET AND CALCUTTA AVENUE/EAST 156TH STREET ENTRANCE RAMPS SHALL BE CLOSED DURING THIS PHASE. RAMP TRAFFIC SHALL BE DETOURED PER SHEET 56.

PHASE 5

PHASE 5 SHALL CONSIST OF THE CONSTRUCTION OF THE OUTSIDE PORTION OF THE WESTBOUND LANES. THE CONTRACTOR SHALL REMOVE AND REPLACE THE BRIDGE DECK AND MILL AND PLACE THE INTERMEDIATE COURSE WITHIN THE WORK ZONE. EASTBOUND TRAFFIC SHALL BE SHIFTED TO THE OUTSIDE AND WESTBOUND TRAFFIC WILL SHIFTED TO THE MEDIAN. THE EAST 140TH STREET EXIT AND CALCUTTA AVENUE/EAST 156TH STREET ENTRANCE RAMPS SHALL BE CLOSED DURING THIS PHASE. THE EAST 152ND STREET RAMP SHALL BE CLOSED TO PLACE THE RAISED PROFILE FOR A MAXIMUM OF 4 WEEKS AS APPROVED BY THE ENGINEER. AFTER THE PAVEMENT RAISING WORK IS COMPLETE THE RAMP SHALL BE REOPEN PER SHEET 42A. A DISINCENTIVE SHALL BE ASSESSED IN THE AMOUNT OF $2,500 PER DAY FOR EACH CALENDAR DAY THAT THE RAMP REMAINS CLOSED BEYOND THE SPECIFIED LIMIT.

DURING RAMP CLOSURES TRAFFIC SHALL BE DETOURED PER SHEETS 56 AND 57 .

SEQUENCE OF CONSTRUCTION (CONT)

PHASE 6

PHASE 6 SHALL CONSIST OF CONSTRUCTION OF THE MEDIAN BARRIER AND BRIDGE PARAPETS, RESURFACING OF THE SHOULDERS, PLACEMENT OF THE PERMANENT DRAINAGE STRUCTURES, AND PLACEMENT OF THE FINAL SURFACE COURSE AND PERMANENT PAVEMENT MARKINGS. 4 LANES OF TRAFFIC IN EACH DIRECTION SHALL BE MAINTAINED. TRAFFIC SHALL BE MAINTAINED PER MT-95.30, OMUTCD FIGURE 6H-37 AND MT-99.20 DURING SURFACE COURSE AND PAVEMENT MARKING INSTALLATION. ALL RAMPS SHALL REMAIN OPEN DURING THIS PHASE.

LEGEND

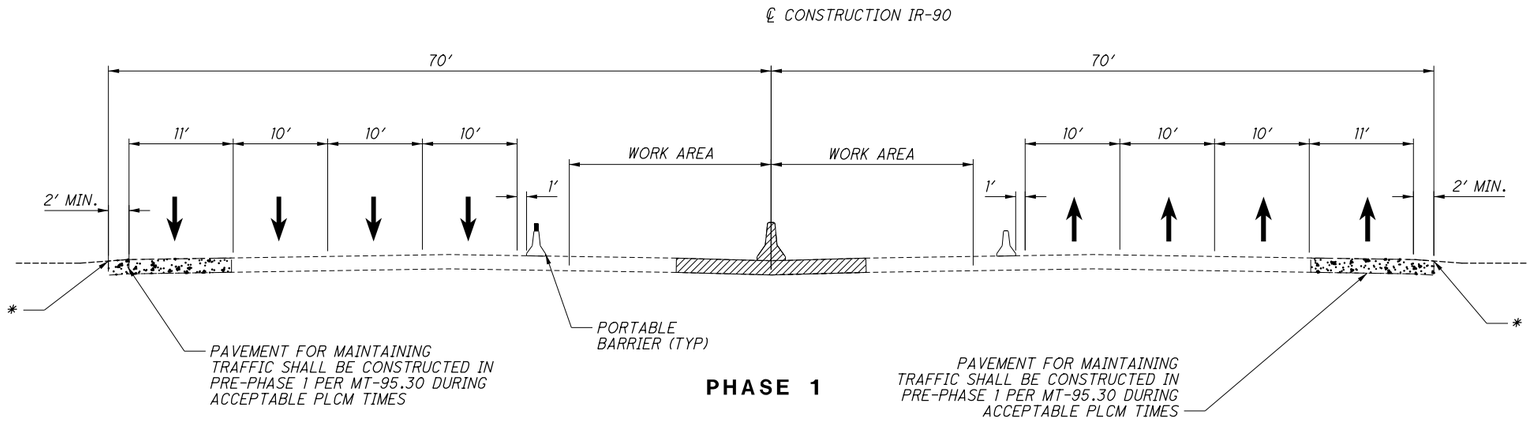
- WORK AREA
- PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A, AS PER PLAN
- DIRECTION OF TRAFFIC
- IMPACT ATTENUATOR, PLACEMENT PER MT-101.75
- TYPE A WARNING LIGHT
- TEMPORARY SIGN SUPPORT
- CONSTRUCTION DRUM
- TYPE 3 BARRICADE
- PAVEMENT MARKING REMOVED
- WEW WORK ZONE EDGE LINE, CLASS I (WHITE)
- WEY WORK ZONE EDGE LINE, CLASS I (YELLOW)
- WL WORK ZONE LANE LINE, CLASS I
- WCH WORK ZONE CHANNELIZING LINE, CLASS I
- WDL WORK ZONE DOTTED LINE, CLASS I
- WCV WORK ZONE GORE MARKING, CLASS II
- TP PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A
- PB PORTABLE BARRIER
- WIA IMPACT ATTENUATOR
- OV SIGN, TEMPORARY OVERLAY

CALCULATED BRO CHECKED DRJ

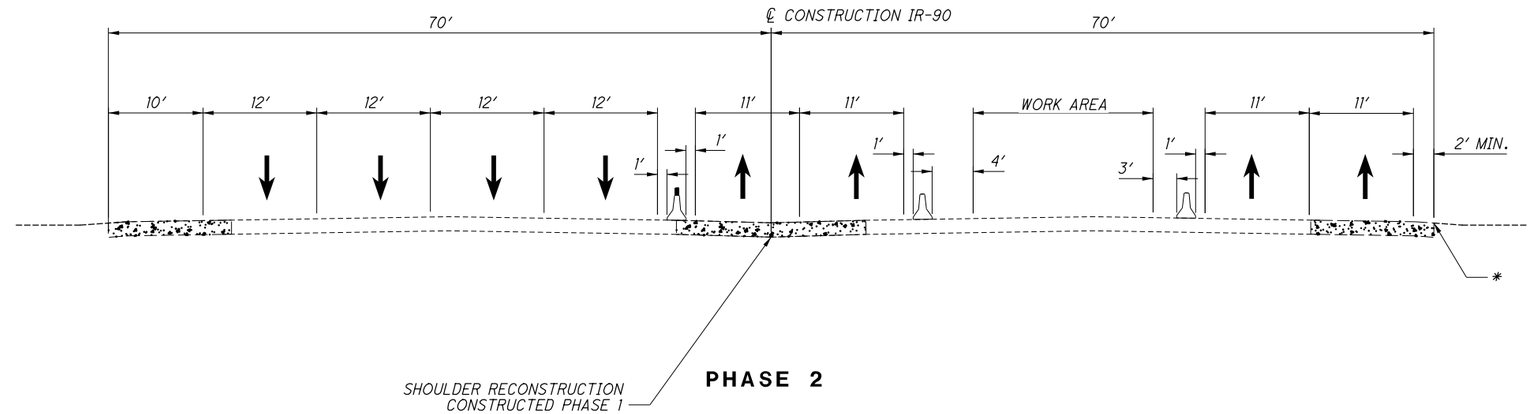
MAINTENANCE OF TRAFFIC GENERAL NOTES

CUY-90-24.10/ 24.63

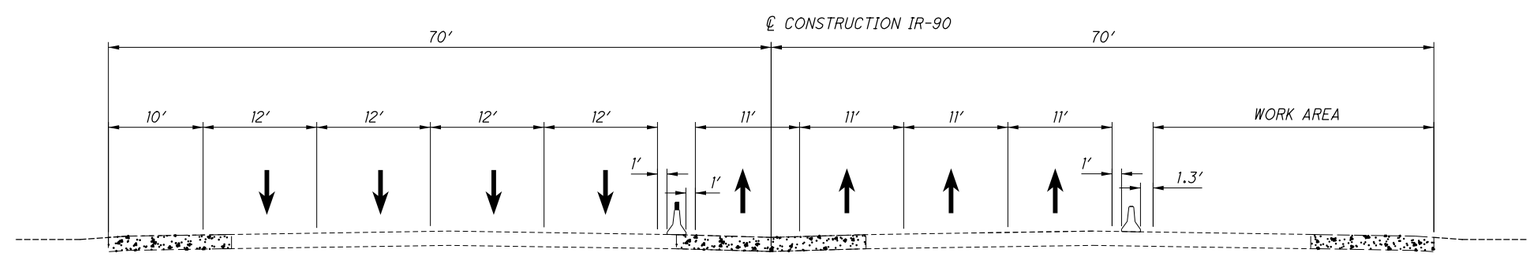
13
196



PHASE 1



PHASE 2



PHASE 3

* WHEN TRAFFIC COMES WITHIN 4′ OF THE EDGE OF SHOULDER OR TEMPORARY PAVEMENT WHERE THERE IS NO GUARDRAIL PRESENT, THE CONTRACTOR SHALL PLACE ITEM 411 STABILIZED CRUSHED AGGREGATE AT A WIDTH OF 2′ AND A DEPTH OF 9″.

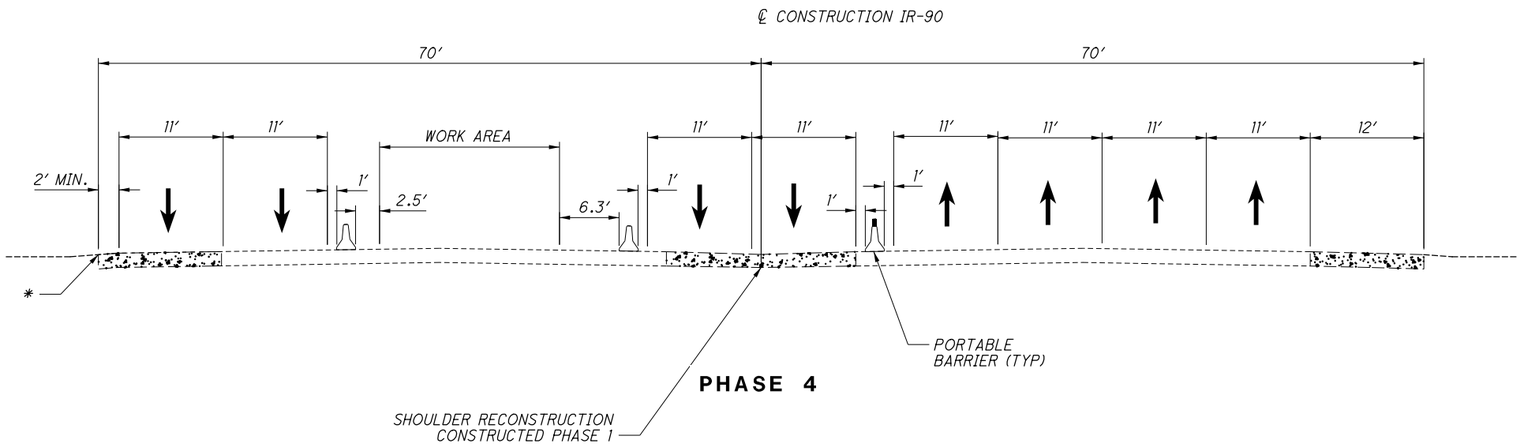
REMOVAL AND REPLACEMENT WORK AREA

PAVEMENT FOR MAINTAINING TRAFFIC/FULL DEPTH SHOULDER PAVEMENT

FOR STAGED CONSTRUCTION DETAILS OF THE BRIDGES SEE SHEETS 112 - 115 AND 154 - 157.

MAINTENANCE OF TRAFFIC PHASE TYPICAL SECTIONS

CUY-90-24.10/ 24.63



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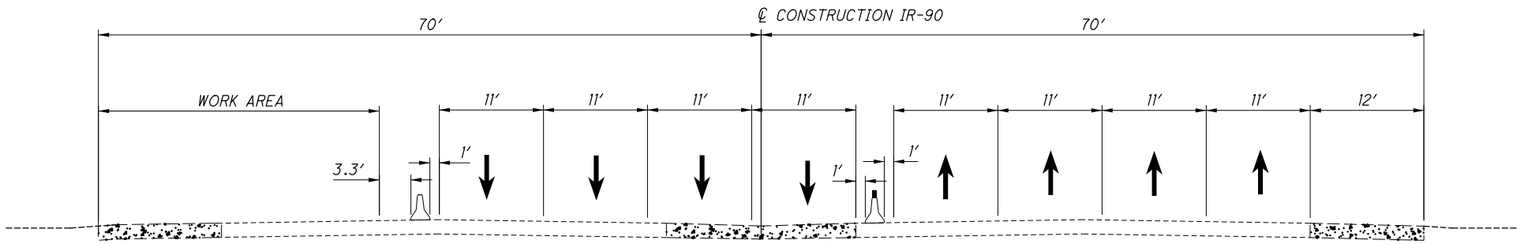
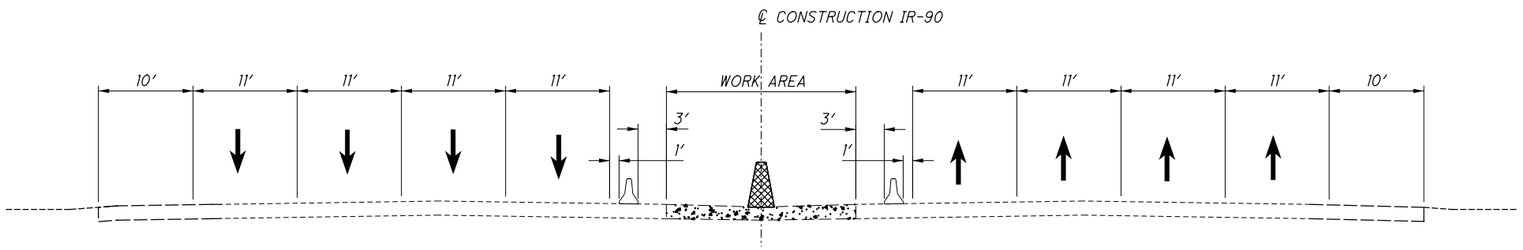


PHASE 5



PHASE 6

* WHEN TRAFFIC COMES WITHIN 4′ OF THE EDGE OF SHOULDER OR TEMPORARY PAVEMENT WHERE THERE IS NO GUARDRAIL PRESENT, THE CONTRACTOR SHALL PLACE ITEM 411 STABILIZED CRUSHED AGGREGATE AT A WIDTH OF 2′ AND A DEPTH OF 9″.

REMOVAL AND REPLACEMENT WORK AREA

PAVEMENT FOR MAINTAINING TRAFFIC/FULL DEPTH SHOULDER PAVEMENT

FOR STAGED CONSTRUCTION DETAILS OF THE BRIDGES SEE SHEETS 112 - 115 AND 154 - 157 .

MAINTENANCE OF TRAFFIC PHASE TYPICAL SECTIONS

CUY-90-24.10/ 24.63

SHEET NO.	REFERENCE NO.	STATION FROM	STATION TO	SIDE	614 WORK ZONE IMPACT ATTENUATOR (UNIDIRECTIONAL) EACH	614 WORK ZONE LANE LINE, CLASS I, 6", 642 PAINT FT	614 WORK ZONE EDGE LINE, CLASS I, 6", 642 PAINT (WHITE) FT	614 WORK ZONE EDGE LINE, CLASS I, 6", 642 PAINT (YELLOW) FT	614 WORK ZONE CHANNELIZING LINE, CLASS I, 12", 642 PAINT FT	614 WORK ZONE DOTTED LINE, CLASS I, 642 PAINT, AS PER PLAN FT	614 WORK ZONE GORE MARKING, CLASS II, 642 PAINT FT	615 PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A, AS PER PLAN SY	622 PORTABLE BARRIER, 32" FT	622 PORTABLE BARRIER, 50", AS PER PLAN FT	622 PORTABLE BARRIER, 32", BRIDGE MOUNTED FT	622 PORTABLE BARRIER, 50", BRIDGE MOUNTED, AS PER PLAN FT	622 PORTABLE BARRIER, "Y" CONNECTOR EACH	630 SIGN, TEMPORARY OVERLAY SF	630 REMOVAL OF TEMPORARY OVERLAY SIGN AND DISPOSAL EACH					
		PHASE 1																							
24	WCH-1	135+13	137+50	RT					237																
24	WCH-2	135+13	137+50	RT					237																
24	WCH-3	135+13	137+50	RT					237																
24	WEY-1	135+13	137+50	RT				237																	
24	WEW-1	135+13	137+50	RT			237																		
25	WCH-1	137+50	150+00	RT					1250																
25	WCH-2	137+50	150+00	RT					1250																
25	WCH-3	137+50	150+00	RT					1250																
25	WEY-2	137+50	162+50	RT				2500																	
25	WEW-2	137+50	143+10	RT			560																		
25	WDL-1	138+63	140+88	RT						225															
25	WCH-4	139+07	150+00	LT					1093																
25	WCH-5	139+07	150+00	LT					1093																
25	WCH-6	139+07	150+00	LT					1093																
25	WEY-1	139+07	162+50	LT				2343																	
25	WEW-1	139+07	162+50	LT			2343																		
25	TP-1	140+00	149+69	LT								1261													
25	WIA-1	140+84	141+09	RT	1																				
25	WCH-7	140+88	143+12	RT					224																
25	WCH-8	140+88	143+13	RT					225																
25	PB-2	141+09	162+50	RT									1890		250										
25	TP-2	141+37	149+18	RT								955													
25	WEW-3	143+13	157+15	RT			1402																		
25	PB-1	143+20	162+50	LT										1680		250									
25	WL-1	150+00	162+50	LT		1250																			
25	WL-2	150+00	162+50	LT		1250																			
25	WL-3	150+00	162+50	LT		1250																			
25	WL-4	150+00	162+50	RT		1250																			
25	WL-5	150+00	162+50	RT		1250																			
25	WL-6	150+00	162+50	RT		1250																			
25	TP-3	151+66	156+11	RT								306													
25	WDL-2	152+00	155+60	RT						360															
25	TP-4	152+12	155+13	LT								210													
25	WCH-9	155+60	157+15	RT					155																
25	WCH-10	155+60	156+83	RT					123																
25	TP-5	155+30	171+66	RT								1854													
25	WEW-4	155+60	162+50	RT			690																		
25	TP-6	157+27	172+89	LT								1816													
26	WL-1	162+50	181+75	LT		1925																			
26	WL-2	162+50	181+75	LT		1925																			
26	WL-3	162+50	181+75	LT		1925																			
26	WL-4	162+50	181+75	RT		1925																			
26	WL-5	162+50	181+75	RT		1925																			
26	WL-6	162+50	181+75	RT		1925																			
26	WEY-1	162+50	187+50	LT				2500																	
26	WEY-2	162+50	187+50	RT				2500																	
26	PB-1	162+50	187+50	LT										2240		260									
26	PB-2	162+50	187+50	RT									2240		260										
26	WEW-1	162+50	171+65	LT			915																		
26	WEW-2	162+50	187+50	RT			2500																		
26	OV-5	162+83		LT														16							
26	OV-4	166+24		RT														16							
26	WCH-1	170+91	173+05	LT					214																
SUBTOTALS CARRIED TO SHEET 23					1	19050	8647	10080	8681	585	0	6402	4130	3920	510	510	0	32	0	0	0	0	0	0	

CALCULATED MAK
CHECKED DRJ

MAINTENANCE OF TRAFFIC SUBSUMMARY

CUY-90-24.10/24.63

SHEET NO.	REFERENCE NO.	STATION FROM	STATION TO	SIDE	614 WORK ZONE IMPACT ATTENUATOR (UNIDIRECTIONAL) EACH	614 WORK ZONE LANE LINE, CLASS I, 6", 642 PAINT FT	614 WORK ZONE EDGE LINE, CLASS I, 6", 642 PAINT (WHITE) FT	614 WORK ZONE EDGE LINE, CLASS I, 6", 642 PAINT (YELLOW) FT	614 WORK ZONE CHANNELIZING LINE, CLASS I, 12", 642 PAINT FT	614 WORK ZONE DOTTED LINE, CLASS I, 642 PAINT, AS PER PLAN FT	614 WORK ZONE GORE MARKING, CLASS II, 642 PAINT FT	615 PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A, AS PER PLAN SY	622 PORTABLE BARRIER, 32" FT	622 PORTABLE BARRIER, 50", AS PER PLAN FT	622 PORTABLE BARRIER, 32", BRIDGE MOUNTED FT	622 PORTABLE BARRIER, 50", BRIDGE MOUNTED, AS PER PLAN FT	630 PORTABLE BARRIER, "Y" CONNECTOR EACH	630 SIGN, TEMPORARY OVERLAY SF	REMOVAL OF TEMPORARY OVERLAY SIGN AND DISPOSAL EACH
PHASE 1 CONTINUED																			
26	WCH-2	171+65	173+05	LT					140										
26	WEW-3	170+97	187+50	LT			1653												
26	TP-1	170+97	177+35	LT								484							
26	WDL-1	173+05	177+25	LT						420									
26	TP-2	173+87	176+92	RT								199							
26	TP-3	179+74	186+34	RT								680							
26	TP-4	180+45	183+82	LT								195							
26	WCH-3	180+75	187+50	LT					675										
26	WCH-4	180+75	187+50	LT					675										
26	WCH-5	180+75	187+50	LT					675										
26	WCH-6	180+75	187+50	RT					675										
26	WCH-7	180+75	187+50	RT					675										
26	WCH-8	180+75	187+50	RT					675										
27	PB-1	187+50	188+69	LT										120					
27	WEW-1	187+50	194+96	LT			746												
27	WEY-1	187+50	194+96	LT				746											
27	WCH-1	187+50	194+96	LT					746										
27	WCH-2	187+50	194+96	LT					746										
27	WCH-3	187+50	194+96	LT					746										
27	WEY-2	187+50	191+94	RT				444											
27	WEW-2	187+50	191+94	RT			444												
27	WCH-4	187+50	191+94	RT					444										
27	WCH-5	187+50	191+94	RT					444										
27	WCH-6	187+50	191+94	RT					444										
27	TP-1	187+53	190+05	LT								88							
27	WIA-1	188+69	188+94	LT	1														
27	OV-19	189+19		LT														16	
PHASE 2																			
28	OV-14	115+55		RT														91	
28	OV-13	127+85		RT														65	
28	WEY-1	136+85	137+50	LT				65											
28	WCH-1	136+85	137+50	LT					65										
28	WCH-2	136+85	137+50	LT					65										
28	WCH-3	136+85	137+50	LT					65										
28	WEW-1	136+85	137+50	LT			65												
29	WCH-1	137+50	145+85	LT					835										
29	WCH-2	137+50	145+85	LT					835										
29	WCH-3	137+50	145+85	LT					835										
29	WEW-1	137+50	162+50	LT			2500												
29	WEY-1	137+50	162+50	LT				2500											
29	WCH-4	138+13	150+75	RT					1262										
29	WCH-5	138+13	145+95	RT					782										
29	WCH-6	138+13	150+75	RT					1262										
29	WEY-2	138+13	162+50	RT				2437											
29	OV-20	137+60		RT														65	
29	WDL-1	138+78	141+37	RT						259									
29	WCH-11	141+25	145+95	RT					470										
29	WCH-7	141+37	143+13	RT					176										
29	WCH-8	141+37	143+12	RT					175										
29	WEW-3	143+13	157+10	RT			1397												
29	PB-1	142+85	162+50	LT										1720		250			
29	TP-1	143+35	149+47	LT & RT								1275							
29	WDL-3	152+82	156+79	LT						397									
29	WEW-9	152+82	155+13	LT			231												
29	WCH-11	156+79	159+00	LT					221										
29	WCH-12	156+79	159+00	LT					221										
SUBTOTALS CARRIED TO SHEET 23					1	0	7036	6192	15029	1076	0	2921	0	1840	0	250	0	237	0

0	0	0	0	0	0	0	
0	0	0	0	0	0	0	

CALCULATED MAK
CHECKED DRJ

MAINTENANCE OF TRAFFIC SUBSUMMARY

CUY-90-24.10/ 24.63

MAINTENANCE OF TRAFFIC SUBSUMMARY

CALCULATED MAK
CHECKED DRJ

SHEET NO.	REFERENCE NO.	STATION FROM	STATION TO	SIDE	614 WORK ZONE IMPACT ATTENUATOR (UNIDIRECTIONAL) EACH	614 WORK ZONE LANE LINE, CLASS I, 6", 642 PAINT FT	614 WORK ZONE EDGE LINE, CLASS I, 6", 642 PAINT (WHITE) FT	614 WORK ZONE EDGE LINE, CLASS I, 6", 642 PAINT (YELLOW) FT	614 WORK ZONE CHANNELIZING LINE, CLASS I, 12", 642 PAINT FT	614 WORK ZONE DOTTED LINE, CLASS I, 642 PAINT, AS PER PLAN FT	614 WORK ZONE GORE MARKING, CLASS II, 642 PAINT FT	615 PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A, AS PER PLAN SY	622 PORTABLE BARRIER, 32" FT	622 PORTABLE BARRIER, 50", AS PER PLAN FT	622 PORTABLE BARRIER, 32", BRIDGE MOUNTED FT	622 PORTABLE BARRIER, 50", BRIDGE MOUNTED, AS PER PLAN FT	622 PORTABLE BARRIER, "Y" CONNECTOR EACH	630 SIGN, TEMPORARY OVERLAY SF	630 REMOVAL OF TEMPORARY OVERLAY SIGN AND DISPOSAL EACH
PHASE 2 CONTINUED																			
29	WL-1	145+85	162+50	LT		1665													
29	WL-2	145+85	162+50	LT		1665													
29	WL-3	145+85	162+50	LT		1665													
29	WIA-1	145+95	146+21	RT	1														
29	WEW-5	145+95	162+50	RT			1655												
29	WCV-1	143+16	145+95	RT							133								
29	WEY-3	145+95	162+50	RT				1655											
29	PB-2	146+21	162+50	RT									1380		250				
29	PB-3	146+21	162+50	RT									1380		250		1		
29	WL-4	150+50	162+50	RT		1200													
29	WL-5	150+50	162+50	RT		1200													
29	TP-2	151+87	177+28	LT & RT								5281							
29	WDL-2	152+00	155+60	RT						360									
29	WCH-9	155+60	157+15	RT					155										
29	WCH-10	155+60	156+83	RT					123										
29	WEW-6	156+83	162+50	RT			567												
30	PB-1	162+50	187+50	LT										2240		260			
30	WL-1	162+50	183+15	LT		2065													
30	WL-2	162+50	183+15	LT		2065													
30	WL-3	162+50	183+15	LT		2065													
30	WL-4	162+50	178+75	RT		1625													
30	WL-5	162+50	178+75	RT		1625													
30	PB-2	162+50	185+00	RT									1990		260				
30	PB-3	162+50	185+00	RT									1990		260				
30	WEW-1	162+50	171+65	LT			915												
30	WEW-2	162+50	185+00	RT			2250												
30	WEW-3	162+50	187+50	RT			2500												
30	WEY-1	162+50	187+50	LT				2500											
30	WEY-2	162+50	187+50	LT & RT				2500											
30	WEY-3	162+50	185+00	RT				2250											
30	WCH-8	171+41	173+05	LT					164										
30	WEW-4	171+47	187+50	LT			1603												
30	WCH-9	171+65	173+05	LT					140										
30	WDL-1	173+05	177+25	LT						420									
30	WCH-1	178+75	187+50	RT					875										
30	WCH-2	178+75	187+50	RT					875										
30	TP-1	179+81	186+15	LT & RT								1335							
30	WCH-5	183+15	187+50	LT					435										
30	WCH-6	183+15	187+50	LT					435										
30	WCH-7	183+15	187+50	LT					435										
30	WCH-3	185+00	187+65	RT					265										
30	WCH-4	185+00	187+50	RT					250										
31	PB-1	187+50	188+15	LT										70					
31	WEW-1	187+50	191+96	LT			446												
31	WCH-1	187+50	191+96	LT					446										
31	WCH-2	187+50	191+96	LT					446										
31	WCH-3	187+50	191+96	LT					446										
31	WEY-1	187+50	191+96	LT				446											
31	WEY-2	187+50	191+94	RT				444											
31	WCH-4	187+50	191+94	RT					444										
31	WCH-5	187+50	191+94	RT					444										
31	WCH-6	187+50	191+94	RT					444										
31	WEW-2	187+50	191+94	RT			444												
31	WIA-1	188+15	188+41	LT	1														
SUBTOTALS CARRIED TO SHEET 23					2	16840	10380	9795	6822	780	133	6616	6740	2310	1020	260	1	0	0

614 WORK ZONE IMPACT ATTENUATOR (UNIDIRECTIONAL) EACH	614 WORK ZONE LANE LINE, CLASS I, 6", 642 PAINT FT	614 WORK ZONE EDGE LINE, CLASS I, 6", 642 PAINT (WHITE) FT	614 WORK ZONE EDGE LINE, CLASS I, 6", 642 PAINT (YELLOW) FT	614 WORK ZONE CHANNELIZING LINE, CLASS I, 12", 642 PAINT FT	614 WORK ZONE DOTTED LINE, CLASS I, 642 PAINT, AS PER PLAN FT	614 WORK ZONE GORE MARKING, CLASS II, 642 PAINT FT	615 PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A, AS PER PLAN SY	622 PORTABLE BARRIER, 32" FT	622 PORTABLE BARRIER, 50", AS PER PLAN FT	622 PORTABLE BARRIER, 32", BRIDGE MOUNTED FT	622 PORTABLE BARRIER, 50", BRIDGE MOUNTED, AS PER PLAN FT	622 PORTABLE BARRIER, "Y" CONNECTOR EACH	630 SIGN, TEMPORARY OVERLAY SF	630 REMOVAL OF TEMPORARY OVERLAY SIGN AND DISPOSAL EACH
2	16840	10380	9795	6822	780	133	6616	6740	2310	1020	260	1	0	0

CUY-90-24.10/24.63

SHEET NO.	REFERENCE NO.	STATION FROM	STATION TO	SIDE	614 WORK ZONE IMPACT ATTENUATOR (UNIDIRECTIONAL) EACH	614 WORK ZONE LANE LINE, CLASS I, 6", 642 PAINT FT	614 WORK ZONE EDGE LINE, CLASS I, 6", 642 PAINT (WHITE) FT	614 WORK ZONE EDGE LINE, CLASS I, 6", 642 PAINT (YELLOW) FT	614 WORK ZONE CHANNELIZING LINE, CLASS I, 12", 642 PAINT FT	614 WORK ZONE DOTTED LINE, CLASS I, 642 PAINT, AS PER PLAN FT	614 WORK ZONE GORE MARKING, CLASS II, 642 PAINT FT	615 PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A, AS PER PLAN SY	622 PORTABLE BARRIER, 32" FT	622 PORTABLE BARRIER, 50", AS PER PLAN FT	622 PORTABLE BARRIER, 32", BRIDGE MOUNTED FT	622 PORTABLE BARRIER, 50", BRIDGE MOUNTED, AS PER PLAN FT	622 PORTABLE BARRIER, "Y" CONNECTOR EACH	630 SIGN, TEMPORARY OVERLAY SF	630 REMOVAL OF TEMPORARY OVERLAY SIGN AND DISPOSAL EACH
PHASE 3																				
32	OV-14	115+55		RT																1
32	OV-1	127+85		RT															78	
32	OV-13	127+85		RT																1
33	OV-2	137+60		RT															78	
33	OV-20	137+60																		1
33	WCH-3	141+27	143+12	RT					185											
33	WCH-2	141+75	150+75	RT					900											
33	WEW-1	143+12	162+50	RT			1938													
33	WIA-1	144+15	144+40	RT	1															
33	PB-1	144+40	162+50	RT									1560		250					
33	WCH-1	145+95	150+75	RT					480											
33	WL-1	150+75	162+50	RT		1175														
33	WL-2	150+75	162+50	RT		1175														
33	OV-3	155+28		RT															16	
34	WL-1	162+50	178+75	RT		1625														
34	WL-2	162+50	178+75	RT		1625														
34	WEW-1	162+50	187+65	RT			2515													
34	PB-2	162+50	186+32	RT									2120		260					
34	WCH-1	178+75	187+50	RT					875											
34	WCH-2	178+75	187+50	RT					875											
PHASE 4																				
36	OV-1	127+85																		1
37	OV-2	137+60		RT																1
37	WEW-5	138+00	138+73	RT			73													
37	WEW-1	138+00	162+50	LT			2450													
37	WCH-1	138+00	150+75	LT					1275											
37	WCH-2	138+00	143+84	LT					584											
37	WCH-3	138+00	150+75	LT					1275											
37	WEY-1	138+00	162+50	LT & RT				2450												
37	WEY-2	138+00	162+50	RT				2450												
37	WCH-4	138+00	144+25	RT					625											
37	WCH-5	138+00	144+25	RT					625											
37	WCH-6	138+00	144+25	RT					625											
37	WDL-1	138+73	141+37	RT						264										
37	WCH-10	141+25	143+84	LT					259											
37	WCH-9	141+37	142+12	RT					75											
37	PB-1	142+00	162+50	RT										1800		250				
37	WIA-1	142+74	143+00	RT	1															
37	WEW-2	143+12	157+10	RT			1398													
37	WL-1	144+25	162+50	RT		1825														
37	WL-2	144+25	162+50	RT		1825														
37	WL-3	144+25	162+50	RT		1825														
37	WEY-3	143+84	162+50	LT				1866												
37	PB-2	143+84	162+50	LT									1620		250					
37	PB-3	143+84	162+50	LT									1620		250					
37	WEW-3	143+84	162+50	LT			1866													
37	WL-4	150+75	162+50	LT		1175														
37	WL-5	150+75	162+50	LT		1175														
37	WDL-2	152+00	155+60	RT						360										
37	OV-3	155+30		RT																1
37	WCH-8	155+60	156+83	RT					123											
37	WCH-7	155+60	157+15	RT					155											
37	WEW-4	156+83	162+50	RT			567													
SUBTOTALS CARRIED TO SHEET 23					2	13425	10807	6766	8936	624	0	0	6920	1800	1010	250	0	172	6	0

CALCULATED MAK
CHECKED DRJ

SUMMARY OF TRAFFIC MAINTENANCE SUBSUMMARY

CUY-90-24.10/ 24.63

SHEET NO.	REFERENCE NO.	STATION FROM	STATION TO	SIDE	614 WORK ZONE IMPACT ATTENUATOR (UNIDIRECTIONAL) EACH	614 WORK ZONE LANE LINE, CLASS I, 6", 642 PAINT FT	614 WORK ZONE EDGE LINE, CLASS I, 6", 642 PAINT (WHITE) FT	614 WORK ZONE EDGE LINE, CLASS I, 6", 642 PAINT (YELLOW) FT	614 WORK ZONE CHANNELIZING LINE, CLASS I, 12", 642 PAINT FT	614 WORK ZONE DOTTED LINE, CLASS I, 642 PAINT, AS PER PLAN FT	614 WORK ZONE GORE MARKING, CLASS II, 642 PAINT FT	615 PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A, AS PER PLAN SY	622 PORTABLE BARRIER, 32" FT	622 PORTABLE BARRIER, 50", AS PER PLAN FT	622 PORTABLE BARRIER, 32", BRIDGE MOUNTED FT	622 PORTABLE BARRIER, 50", BRIDGE MOUNTED, AS PER PLAN FT	622 PORTABLE BARRIER, "Y" CONNECTOR EACH	630 SIGN, TEMPORARY OVERLAY SF	630 REMOVAL OF TEMPORARY OVERLAY SIGN AND DISPOSAL EACH
PHASE 4 CONTINUED																				
38	WEW-1	162+50	171+65	LT			915													
38	WL-1	162+50	178+75	LT		1625														
38	WEY-1	162+50	183+67	LT				2117												
38	PB-1	162+50	183+42	LT									1830		260		1			
38	PB-2	162+50	183+57	LT									1850		260					
38	WEW-2	162+50	183+67	LT			2117													
38	WL-2	162+50	178+75	LT		1625														
38	WEY-2	162+50	187+50	RT				2500												
38	PB-3	162+50	185+25	RT										2020		260				
38	WEY-3	162+50	187+50	RT				2500												
38	WL-3	162+50	184+00	RT		2150														
38	WL-4	162+50	184+00	RT		2150														
38	WL-5	162+50	184+00	RT		2150														
38	WEW-3	162+50	187+50	RT			2500													
38	WCH-5	171+01	175+05	LT					404											
38	WEW-4	171+07	187+50	LT			1643													
38	WCH-6	171+65	175+05	LT					340											
38	WDL-1	173+05	177+25	LT						420										
38	WCH-1	178+75	187+50	LT					875											
38	WCH-4	178+75	187+50	LT & RT					875											
38	WIA-1	183+42	183+57	LT	1															
38	WCH-2	183+67	186+67	LT					300											
38	WCH-3	183+67	187+50	LT					383											
38	WCV-1	183+67	187+50	LT							100									
38	WCH-7	184+00	187+50	RT					350											
38	WCH-8	184+00	187+50	RT					350											
38	WCH-9	184+00	187+50	RT					350											
39	WEW-1	187+50	190+65	LT			315													
39	WCH-1	187+50	190+65	LT					315											
39	WCH-2	187+50	190+65	LT					315											
39	WCH-3	187+50	190+65	LT					315											
39	WEY-1	187+50	190+65	LT				315												
39	WEY-2	187+50	190+65	RT				315												
39	WCH-4	187+50	190+65	RT					315											
39	WCH-5	187+50	190+65	RT					315											
39	WCH-6	187+50	190+65	RT					315											
39	WEW-2	187+50	190+65	RT			315													
39	OV-14	194+85		LT														91		
39	OV-15	208+49		LT														91		
39	OV-16	226+26		LT														91		
SUBTOTALS CARRIED TO SHEET 23					1	9700	7805	7747	6117	420	100	0	3680	2020	520	260	1	273	0	0

0	0	0	0	0	0	0				

CALCULATED MAK
CHECKED DRJ

SUMMARY OF TRAFFIC MAINTENANCE SUBSUMMARY

CUY-90-24.10/ 24.63

SHEET NO.	REFERENCE NO.	STATION FROM	STATION TO	SIDE	614 WORK ZONE IMPACT ATTENUATOR (UNIDIRECTIONAL) EACH	614 WORK ZONE LANE LINE, CLASS I, 6", 642 PAINT FT	614 WORK ZONE EDGE LINE, CLASS I, 6", 642 PAINT (WHITE) FT	614 WORK ZONE EDGE LINE, CLASS I, 6", 642 PAINT (YELLOW) FT	614 WORK ZONE CHANNELIZING LINE, CLASS I, 12", 642 PAINT FT	614 WORK ZONE DOTTED LINE, CLASS I, 642 PAINT, AS PER PLAN FT	614 WORK ZONE GORE MARKING, CLASS II, 642 PAINT FT	615 PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A, AS PER PLAN SY	622 PORTABLE BARRIER, 32" FT	622 PORTABLE BARRIER, 50", AS PER PLAN FT	622 PORTABLE BARRIER, 32", BRIDGE MOUNTED FT	622 PORTABLE BARRIER, 50", BRIDGE MOUNTED, AS PER PLAN FT	622 PORTABLE BARRIER, "Y" CONNECTOR EACH	630 SIGN, TEMPORARY OVERLAY SF	630 REMOVAL OF TEMPORARY OVERLAY SIGN AND DISPOSAL EACH
PHASE 5																				
41	WEW-1	141+00	162+50	LT			2150													
41	WCH-1	141+00	150+75	LT					975											
41	WIA-1	141+74	142+00	RT	1															
41	WCH-2	143+84	150+75	LT					691											
41	WL-1	150+75	162+50	RT		1175														
41	WL-2	150+75	162+50	RT		1175														
41	PB-1	153+91	162+50	LT									610		250					
42	WEW-1	162+50	187+65	LT			2515													
42	PB-1	162+50	187+50	LT									2240		260					
42	WL-1	162+50	178+75	LT		1625														
42	WL-2	162+50	178+75	LT		1625														
42	OV-6	172+90		LT														16		
42	WCH-2	178+00	183+67	LT					567											
42	WCH-1	178+75	187+65	LT					890											
43	PB-1	187+50	189+14	LT									160							
43	OV-7	194+85		LT														30		
43	OV-10	194+85		LT														91		
43	OV-8	208+49		LT														91		
43	OV-11	208+49		LT														30		
43	OV-9	226+25		LT														91		
43	OV-12	226+25		LT														30		
43	OV-18	250+01		LT														30		
PHASE 6																				
45	WEW-1	138+00	152+84	LT			1484													
45	WCH-1	138+00	148+15	LT					1015											
45	WCH-2	138+00	148+15	LT					1015											
45	WCH-3	138+00	148+15	LT					1015											
45	WEY-1	138+00	162+50	LT				2450												
45	WEY-2	140+95	162+50	RT				2155												
45	WCH-4	140+95	148+15	RT					720											
45	WCH-5	140+95	148+15	RT					720											
45	WCH-6	140+95	148+15	RT					720											
45	WIA-1	140+45	140+70	RT	1															
45	PB-1	140+70	162+50	RT									1930		250					
45	WCH-12	141+38	143+12	RT					174											
45	WCH-7	141+38	143+12	RT					174											
45	PB-2	142+70	162+50	LT									1730		250					
45	WEW-2	143+12	157+10	RT			1398													
45	WL-1	148+15	162+50	LT		1435														
45	WL-2	148+15	162+50	LT		1435														
45	WL-3	148+15	162+50	LT		1435														
45	WL-4	148+15	162+50	RT		1435														
45	WL-5	148+15	162+50	RT		1435														
45	WL-6	148+15	162+50	RT		1435														
45	WDL-3	152+00	155+60	RT						360										
45	WDL-2	152+84	157+38	LT						454										
45	WCH-8	155+60	156+83	RT					123											
45	WCH-9	155+60	157+15	RT					155											
45	WEW-3	156+83	162+50	RT			567													
45	WCH-10	157+38	159+00	LT					162											
45	WCH-11	157+38	159+00	LT					162											
45	WEW-4	159+00	162+50	LT			350													
SUBTOTALS CARRIED TO SHEET 23					2	14210	8464	4605	9278	814	0	0	6670	0	1010	0	0	409	0	0

CALCULATED MAK
CHECKED DRJ

MAINTENANCE OF TRAFFIC SUBSUMMARY

CUY-90-24.10/24.63

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SHEET NO.	REFERENCE NO.	STATION FROM	STATION TO	SIDE	614 WORK ZONE IMPACT ATTENUATOR (UNIDIRECTIONAL) EACH	614 WORK ZONE LANE LINE, CLASS I, 6", 642 PAINT FT	614 WORK ZONE EDGE LINE, CLASS I, 6", 642 PAINT (WHITE) FT	614 WORK ZONE EDGE LINE, CLASS I, 6", 642 PAINT (YELLOW) FT	614 WORK ZONE CHANNELIZING LINE, CLASS I, 12", 642 PAINT FT	614 WORK ZONE DOTTED LINE, CLASS I, 642 PAINT, AS PER PLAN FT	614 WORK ZONE GORE MARKING, CLASS II, 642 PAINT FT	615 PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A, AS PER PLAN SY	622 PORTABLE BARRIER, 32" FT	622 PORTABLE BARRIER, 50", AS PER PLAN FT	622 PORTABLE BARRIER, 32", BRIDGE MOUNTED FT	622 PORTABLE BARRIER, 50", BRIDGE MOUNTED, AS PER PLAN FT	622 PORTABLE BARRIER, "Y" CONNECTOR EACH	630 SIGN, TEMPORARY OVERLAY SF	630 REMOVAL OF TEMPORARY OVERLAY SIGN AND DISPOSAL EACH
PHASE 6 CONTINUED																				
46	WEW-1	162+50	171+65	LT			915													
46	WL-1	162+50	183+15	LT		2065														
46	WL-2	162+50	183+15	LT		2065														
46	WL-3	162+50	183+15	LT		2065														
46	WEY-1	162+50	187+50	LT				2500												
46	PB-1	162+50	187+50	LT									2240		260					
46	PB-2	162+50	187+50	RT									2240		260					
46	WEY-2	162+50	187+50	RT				2500												
46	WL-4	162+50	183+15	RT		2065														
46	WL-5	162+50	183+15	RT		2065														
46	WL-6	162+50	183+15	RT		2065														
46	WEW-2	162+50	169+29	RT			679													
46	OV-5	162+83		LT															1	
46	OV-4	166+24		RT															1	
46	WCH-10	169+29	171+13	RT					184											
46	WCH-11	169+29	171+13	RT					184											
46	WDL-2	171+13	176+19	RT						506										
46	WCH-7	171+41	173+05	LT					164											
46	WEW-3	171+47	187+50	LT			1603													
46	WCH-8	171+65	173+05	LT					140											
46	OV-6	172+90		LT															1	
46	WDL-1	173+05	177+25	LT						420										
46	WEW-4	176+19	187+50	RT			1131													
46	WDL-3	180+95	186+15	LT						520										
46	WCH-1	183+15	187+50	LT					435											
46	WCH-2	183+15	187+50	LT					435											
46	WCH-3	183+15	187+50	LT					435											
46	WCH-4	183+15	187+50	RT					435											
46	WCH-5	183+15	187+50	RT					435											
46	WCH-6	183+15	187+50	RT					435											
46	WCH-9	186+15	187+50	LT					135											
47	WCH-1	187+50	190+65	LT					315											
47	WCH-2	187+50	190+65	LT					315											
47	WCH-3	187+50	190+65	LT					315											
47	WEY-1	187+50	190+65	LT				315												
47	PB-1	187+50	190+30	LT									280							
47	PB-2	187+50	188+29	RT									80							
47	WEY-2	187+50	190+00	RT				250												
47	WCH-4	187+50	190+00	RT					250											
47	WCH-5	187+50	190+00	RT					250											
47	WCH-6	187+50	190+00	RT					250											
47	WEW-2	187+50	190+00	RT			250													
47	WCH-7	187+50	189+19	LT					169											
47	OV-19	189+19		LT															1	
47	WEW-1	189+19	190+65	LT			146													
47	WIA-1	190+30	190+55	LT	1															
47	OV-17	194+85		LT															1	
47	OV-8	208+49		LT															1	
47	OV-11	208+49		LT															1	
47	OV-9	226+25		LT															1	
47	OV-12	226+25		LT															1	
47	OV-18	250+01		LT															1	
SUBTOTALS CARRIED TO SHEET 23					1	12390	4724	5565	5281	1446	0	0	4840	0	520	0	0	0	10	0

CALCULATED MAK
CHECKED DRJ

MAINTENANCE OF TRAFFIC SUBSUMMARY

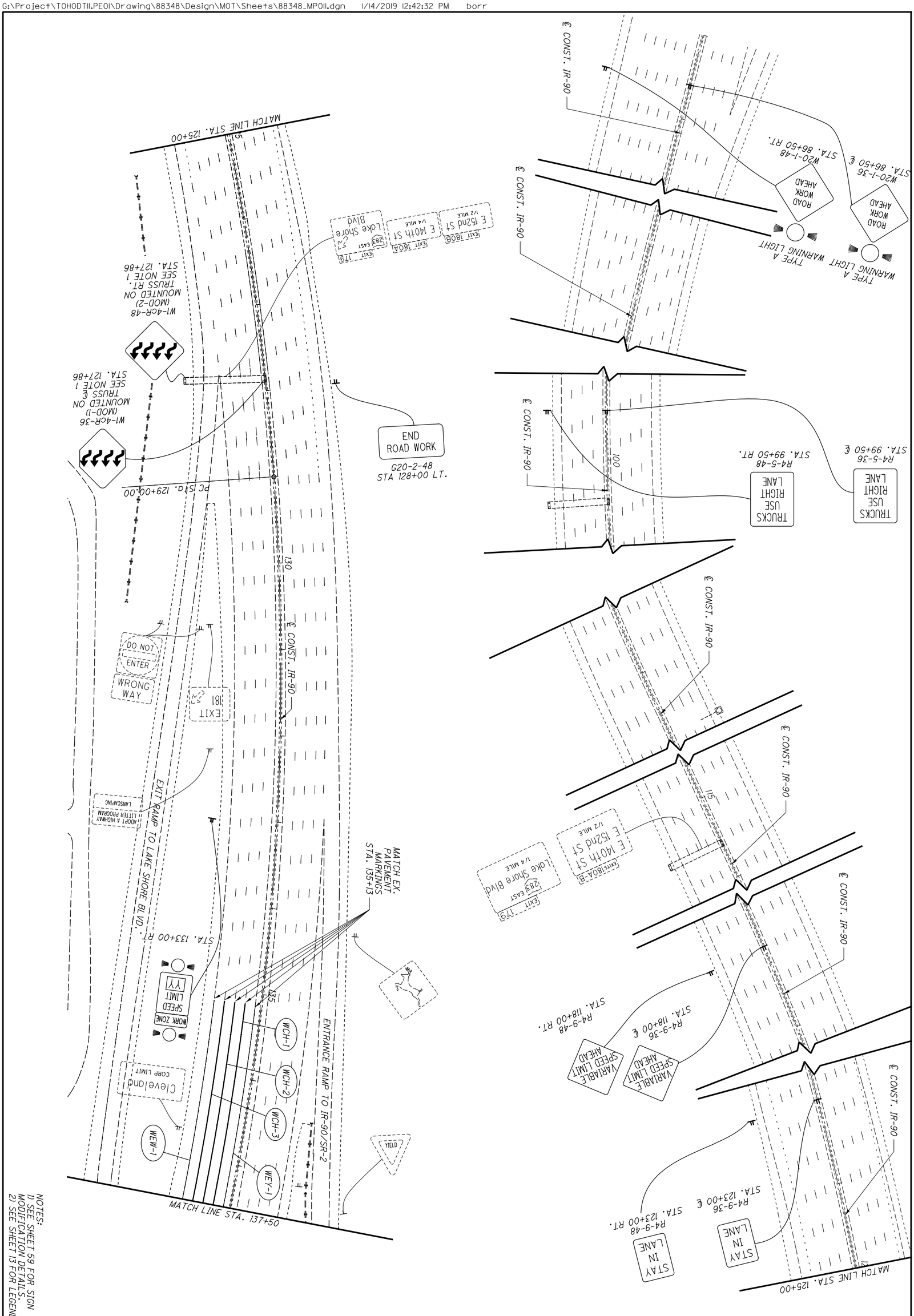
CUY-90-24.10/ 24.63

SHEET NO.	REFERENCE NO.	STATION FROM	STATION TO	SIDE	614 WORK ZONE IMPACT ATTENUATOR (UNIDIRECTIONAL) EACH	614 WORK ZONE LANE LINE, CLASS I, 6", 642 PAINT FT	614 WORK ZONE EDGE LINE, CLASS I, 6", 642 PAINT (WHITE) FT	614 WORK ZONE EDGE LINE, CLASS I, 6", 642 PAINT (YELLOW) FT	614 WORK ZONE CHANNELIZING LINE, CLASS I, 12", 642 PAINT FT	614 WORK ZONE DOTTED LINE, CLASS I, 642 PAINT, AS PER PLAN FT	614 WORK ZONE GORE MARKING, CLASS II, 642 PAINT FT	615 PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A, AS PER PLAN SY	622 PORTABLE BARRIER, 32" FT	622 PORTABLE BARRIER, 50", AS PER PLAN FT	622 PORTABLE BARRIER, 32", BRIDGE MOUNTED FT	622 PORTABLE BARRIER, 50", BRIDGE MOUNTED, AS PER PLAN FT	622 PORTABLE BARRIER, "Y" CONNECTOR EACH	630 SIGN, TEMPORARY OVERLAY SF	630 REMOVAL OF TEMPORARY OVERLAY SIGN AND DISPOSAL EACH
PHASE 5 (EAST 140TH EXIT RAMP OPEN)																				
42A	PB-1	171+55	172+45	LT									90							
42A	PB-2	171+45	172+55	LT									110				1			
42A	PB-3	172+45	177+25	LT									480							
42A	WEW-1	171+65	173+15	LT			150													
42A	WEW-2	171+55	177+25	LT			570													
42A	WIA-1	172+55		LT	1															
42A	WDL-1	173+15	177+25	LT						410										
SUBTOTALS THIS SHEET					1	0	720	0	0	410	0	0	680	0	0	0	1	0	0	
SUBTOTALS CARRIED FROM SHEET				**16**	1	19050	8647	10080	8681	585	0	6402	4130	3920	510	510	0	32	0	
SUBTOTALS CARRIED FROM SHEET				**17**	1	0	7036	6192	15029	1076	0	2921	0	1840	0	250	0	237	0	
SUBTOTALS CARRIED FROM SHEET				**18**	2	16840	10380	9795	6822	780	133	6616	6740	2310	1020	260	1	0	0	
SUBTOTALS CARRIED FROM SHEET				**19**	2	13425	10807	6766	8936	624	0	0	6920	1800	1010	250	0	172	6	
SUBTOTALS CARRIED FROM SHEET				**20**	1	9700	7805	7747	6117	420	100	0	3680	2020	520	260	1	273	0	
SUBTOTALS CARRIED FROM SHEET				**21**	2	14210	8464	4605	9278	814	0	0	6670	0	1010	0	0	409	0	
SUBTOTALS CARRIED FROM SHEET				**22**	1	12390	4724	5565	5281	1446	0	0	4840	0	520	0	0	0	10	
LINEAR TOTALS				FT		85615	58583	50750												
LINEAR TOTALS				MI		16.215	11.095	9.612												
TOTALS CARRIED TO GENERAL SUMMARY					11	16.21	20.71		60144	6155	233	15939	33660	11890	4590	1530	3	1123	16	

CALCULATED MAK
CHECKED DRJ

MAINTENANCE OF TRAFFIC SUBSUMMARY

CUY-90-24.10/ 24.63



NOTES:
1) SEE SHEET 59 FOR SIGN MODIFICATION DETAILS.
2) SEE SHEET 13 FOR LEGEND.

MAINTENANCE OF TRAFFIC - I-90
PHASE 1 BEGIN TO STA. 137+50

CALCULATED BRO
CHECKED DRJ
0 25 50 100
HORIZONTAL SCALE IN FEET

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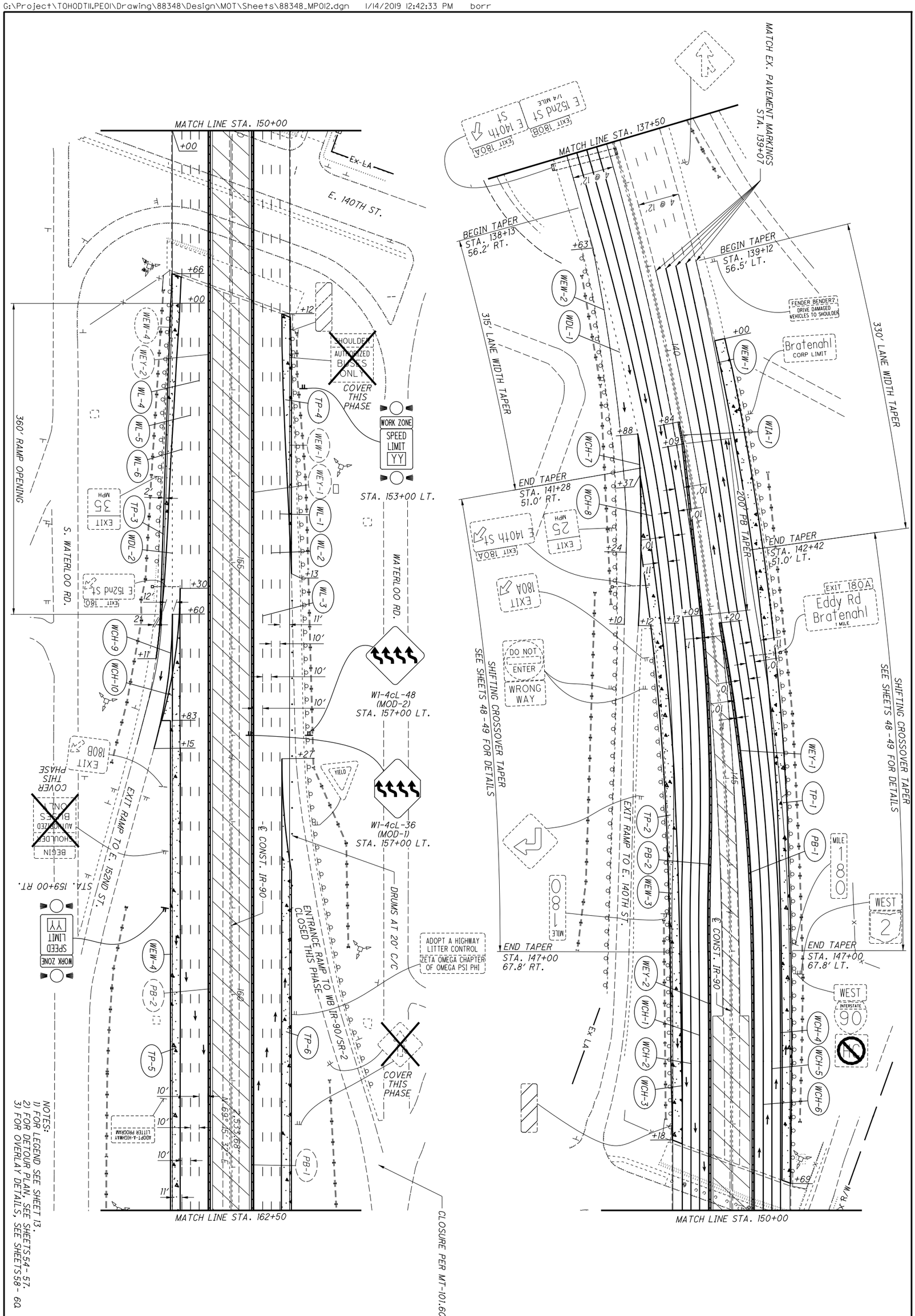
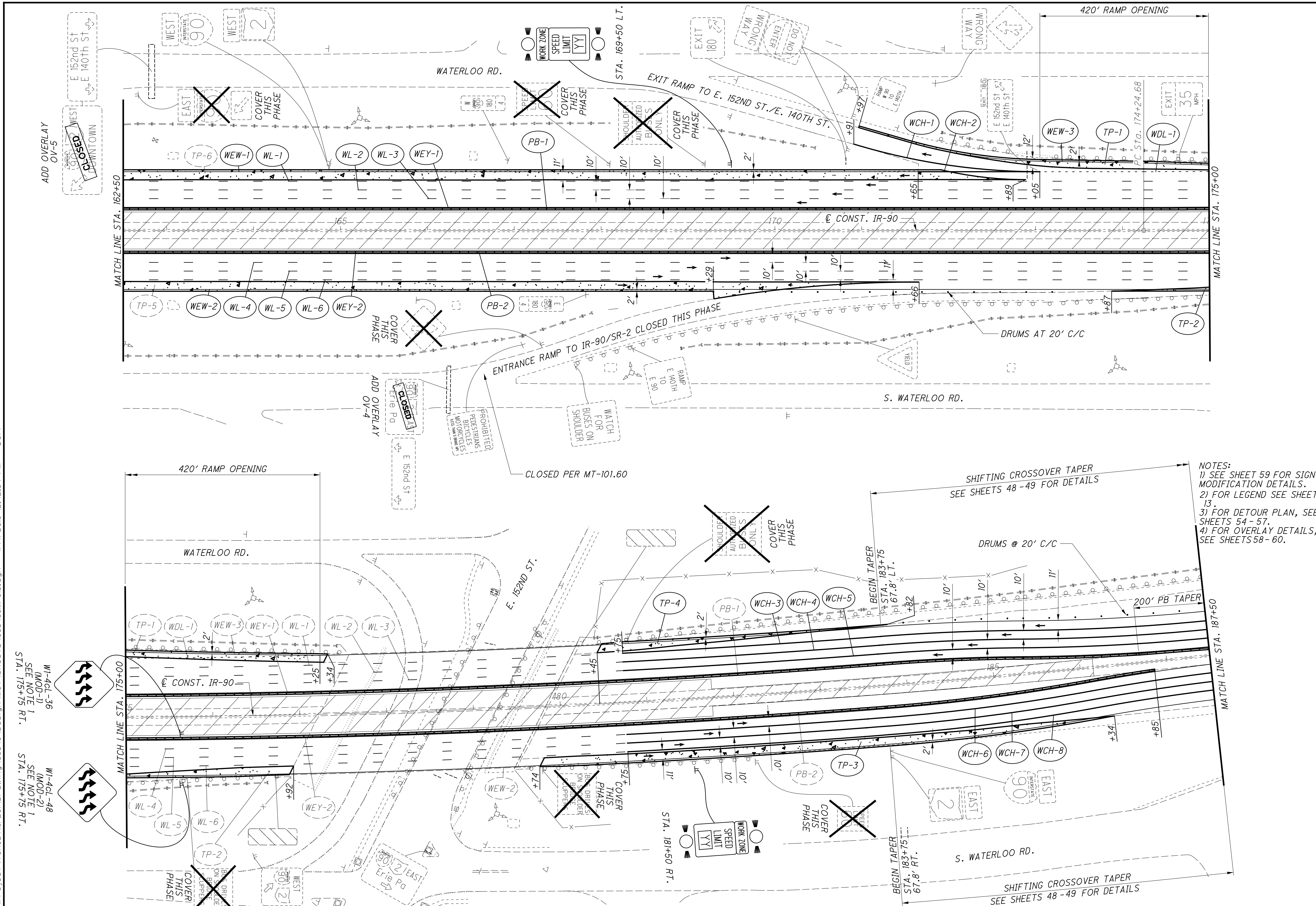


196 / 25	CUY-90-24.10/ 24.63	MAINTENANCE OF TRAFFIC - I-90 PHASE 1 STA. 137+50 TO STA. 162+50	CALCULATED BRO CHECKED DRJ	0 50 25 100 HORIZONTAL SCALE IN FEET


420' RAMP OPENING
WATERLOO RD.
EXIT RAMP TO E. 152ND ST./E. 140TH ST.
STA. 169+50 LT.
COVER THIS PHASE
ADD OVERLAY OV-5
CLOSED
MATCH LINE STA. 162+50
MATCH LINE STA. 175+00
℄ CONST. IR-90
DRUMS AT 20' C/C
ENTRANCE RAMP TO IR-90/SR-2 CLOSED THIS PHASE
S. WATERLOO RD.
ADD OVERLAY OV-4
CLOSED PER MT-101.60
WATCH FOR BUSES ON SHOULDER
PROHIBITED PEDESTRIANS BICYCLES MOTORCYCLES
SHIFTING CROSSOVER TAPER SEE SHEETS 48-49 FOR DETAILS
DRUMS @ 20' C/C
200' PB TAPER
BEGIN TAPER STA. 183+75 67.8' LT.
BEGIN TAPER STA. 183+75 67.8' RT.
E. 152ND ST.
MATCH LINE STA. 187+50
STA. 181+50 RT.
W1-4cL-36 (MOD-1) SEE NOTE 1 STA. 175+75 RT.
W1-4cL-48 (MOD-2) SEE NOTE 1 STA. 175+75 RT.
WORK ZONE SPEED LIMIT YY
NOTES:
1) SEE SHEET 59 FOR SIGN MODIFICATION DETAILS.
2) FOR LEGEND SEE SHEET 13.
3) FOR DETOUR PLAN, SEE SHEETS 54-57.
4) FOR OVERLAY DETAILS, SEE SHEETS 58-60.

MAINTENANCE OF TRAFFIC - I-90
PHASE 1 STA. 162+50 TO STA. 187+50

CUY-90-24.10/24.63

CALCULATED BRO CHECKED DRJ

HORIZONTAL SCALE IN FEET

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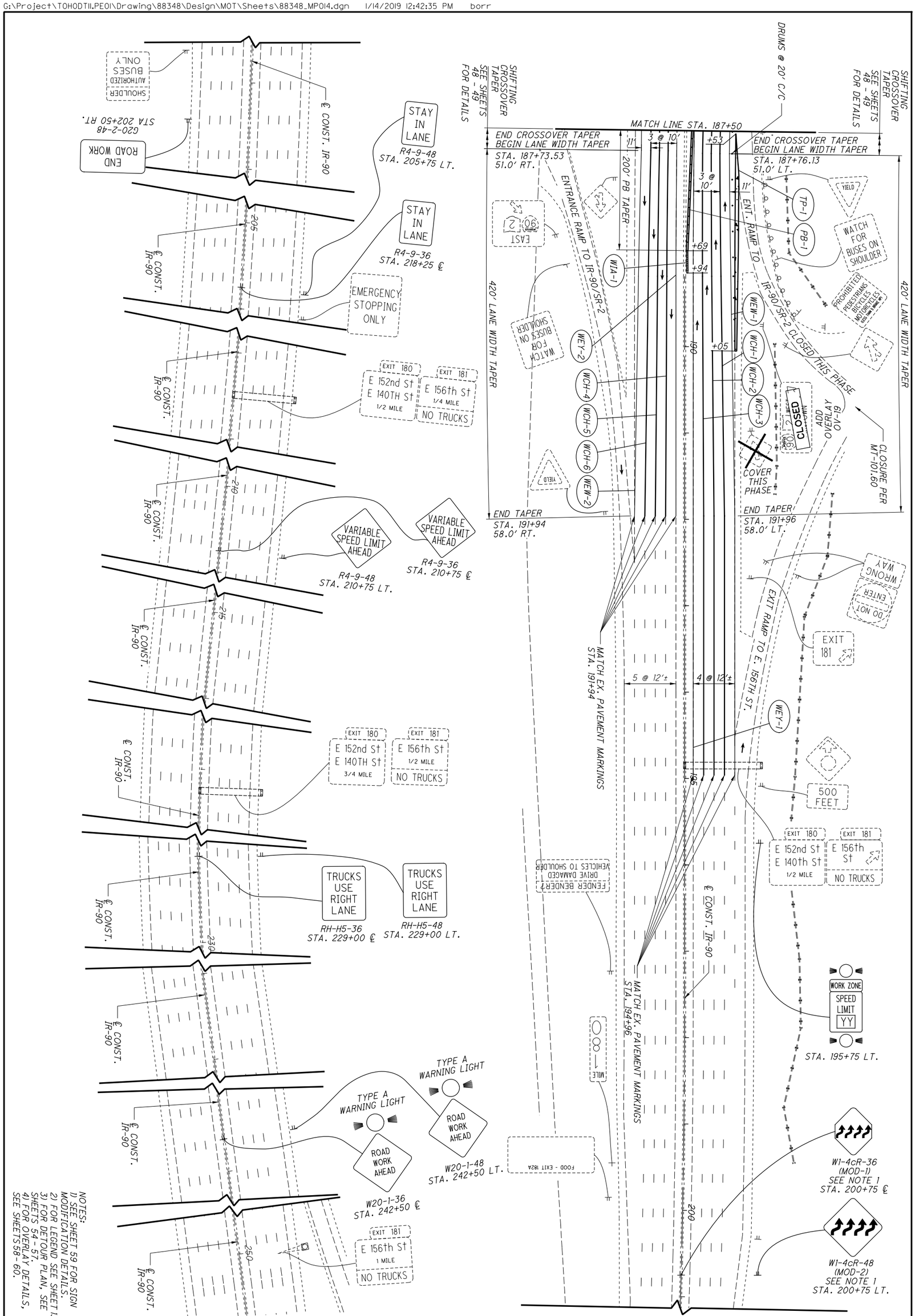

NOTES:
1) SEE SHEET 59 FOR SIGN MODIFICATION DETAILS.
2) FOR LEGEND SEE SHEET 13.
3) FOR DETOUR PLAN, SEE SHEETS 54-57.
4) FOR OVERLAY DETAILS, SEE SHEETS 58-60.

27 / 196	CUY-90-24.10/24.63	MAINTENANCE OF TRAFFIC - I-90 PHASE 1 STA. 187+50 TO END	CALCULATED BRO CHECKED DRJ	0 50 25 100 HORIZONTAL SCALE IN FEET

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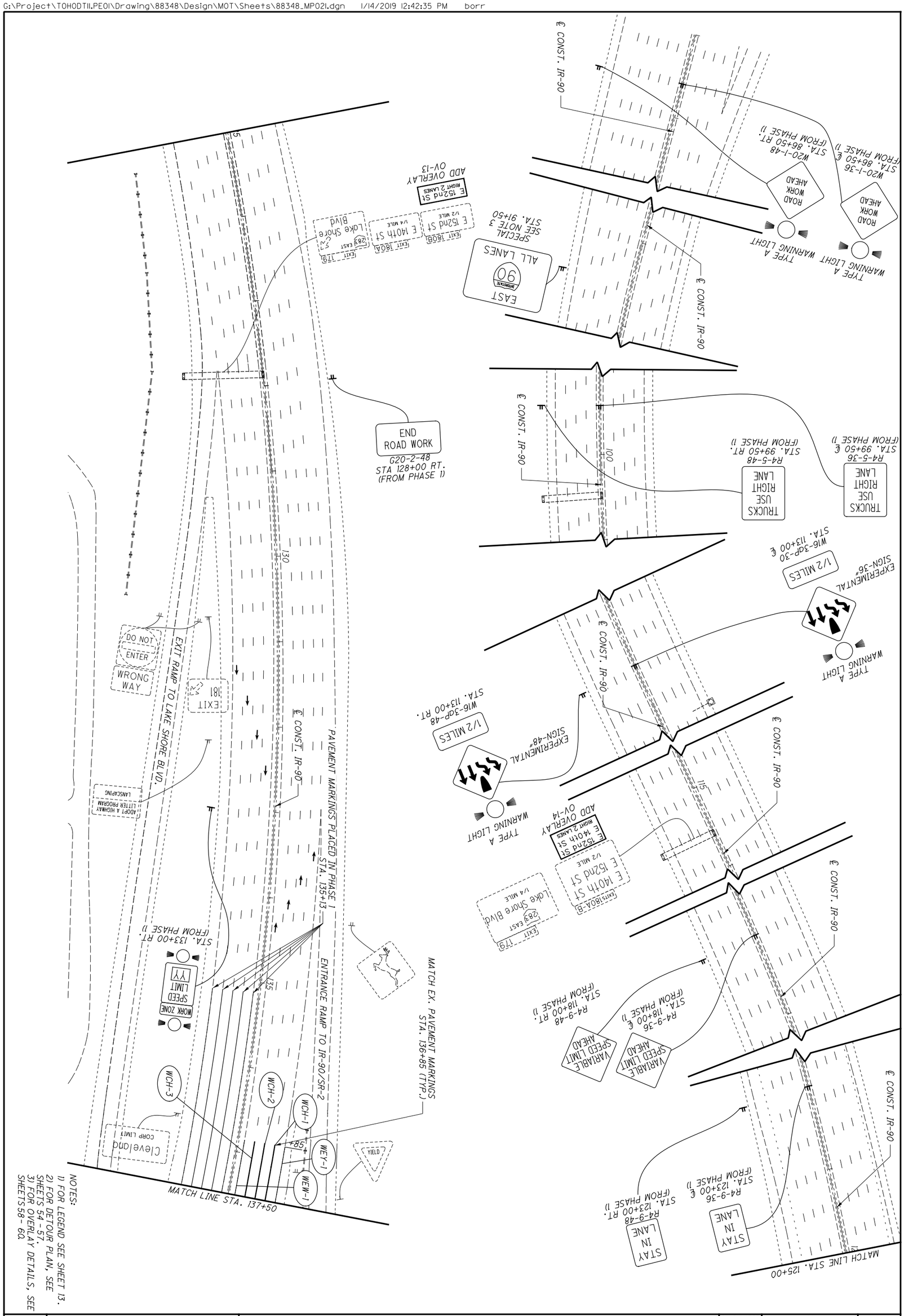
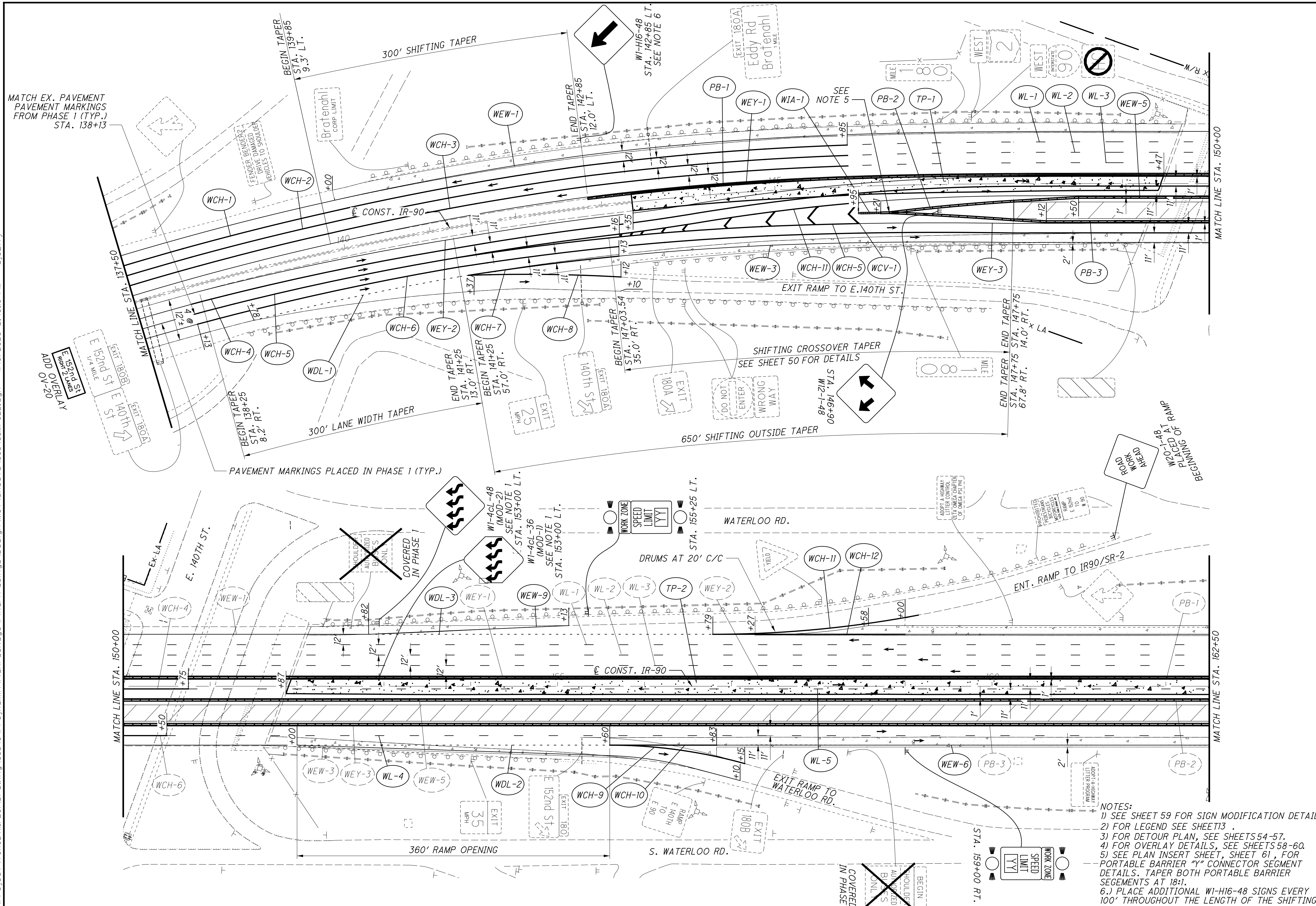


NOTES:
1) FOR LEGEND SEE SHEET 13.
2) FOR DETOUR PLAN, SEE SHEETS 54 - 57.
3) FOR OVERLAY DETAILS, SEE SHEETS 58 - 60.

28 / 196	CUY-90-24.10/ 24.63	MAINTENANCE OF TRAFFIC - I-90 PHASE 2 BEGIN TO STA. 137+50	CALCULATED BRO CHECKED DRJ	0 50 25 100 HORIZONTAL SCALE IN FEET


MATCH EX. PAVEMENT PAVEMENT MARKINGS FROM PHASE 1 (TYP.) STA. 138+13
300' SHIFTING TAPER
BEGIN TAPER STA. 139+85 9.3' LT.
END TAPER STA. 142+85 12.0' LT.
W1-H16-48 STA. 142+85 LT. SEE NOTE 6
SEE NOTE 5
℄ CONST. IR-90
MATCH LINE STA. 137+50
MATCH LINE STA. 150+00
EXIT RAMP TO E.140TH ST.
SHIFTING CROSSOVER TAPER SEE SHEET 50 FOR DETAILS
STA. 146+90 W12-1-48
END TAPER STA. 147+75 14.0' RT.
END TAPER STA. 147+75 67.8' RT.
BEGIN TAPER STA. 147+03.54 35.0' RT.
END TAPER STA. 141+25 13.0' RT.
BEGIN TAPER STA. 141+25 57.0' RT.
BEGIN TAPER STA. 138+25 8.2' RT.
300' LANE WIDTH TAPER
650' SHIFTING OUTSIDE TAPER
PAVEMENT MARKINGS PLACED IN PHASE 1 (TYP.)
ADD OVERLAY OV-20
W20-1-48 PLACED AT RAMP BEGINNING OF RAMP
ROAD WORK AHEAD
W1-4cL-48 (MOD-2) SEE NOTE 1 STA. 153+00 LT.
W1-4cL-36 (MOD-1) SEE NOTE 1 STA. 153+00 LT.
COVERED IN PHASE 1
WORK ZONE SPEED LIMIT YY
STA. 155+25 LT.
WATERLOO RD.
DRUMS AT 20' C/C
ENT. RAMP TO IR90/SR-2
E. 140TH ST.
MATCH LINE STA. 150+00
MATCH LINE STA. 162+50
EXIT RAMP TO WATERLOO RD.
360' RAMP OPENING
S. WATERLOO RD.
STA. 159+00 RT.
HORIZONTAL SCALE IN FEET

NOTES:
1) SEE SHEET 59 FOR SIGN MODIFICATION DETAILS.
2) FOR LEGEND SEE SHEET13 .
3) FOR DETOUR PLAN, SEE SHEETS 54-57.
4) FOR OVERLAY DETAILS, SEE SHEETS 58-60.
5) SEE PLAN INSERT SHEET, SHEET 61 , FOR PORTABLE BARRIER "Y" CONNECTOR SEGMENT DETAILS. TAPER BOTH PORTABLE BARRIER SEGEMENTS AT 18:1.
6.) PLACE ADDITIONAL W1-H16-48 SIGNS EVERY 100' THROUGHOUT THE LENGTH OF THE SHIFTING TAPER.

CALCULATED BRO
CHECKED DRJ

MAINTENANCE OF TRAFFIC - I-90
PHASE 2 STA. 137+50 TO STA. 162+50

CUY-90-24.10/ 24.63

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MAINTENANCE OF TRAFFIC - I-90
PHASE 2 STA. 162+50 TO STA. 187+50

CUY-90-24.10/24.63

CALCULATED BRO
CHECKED DRJ

HORIZONTAL SCALE IN FEET
0 25 50 100

30
196

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MAINTENANCE OF TRAFFIC - I-90
PHASE 2 STA. 187+50 TO END

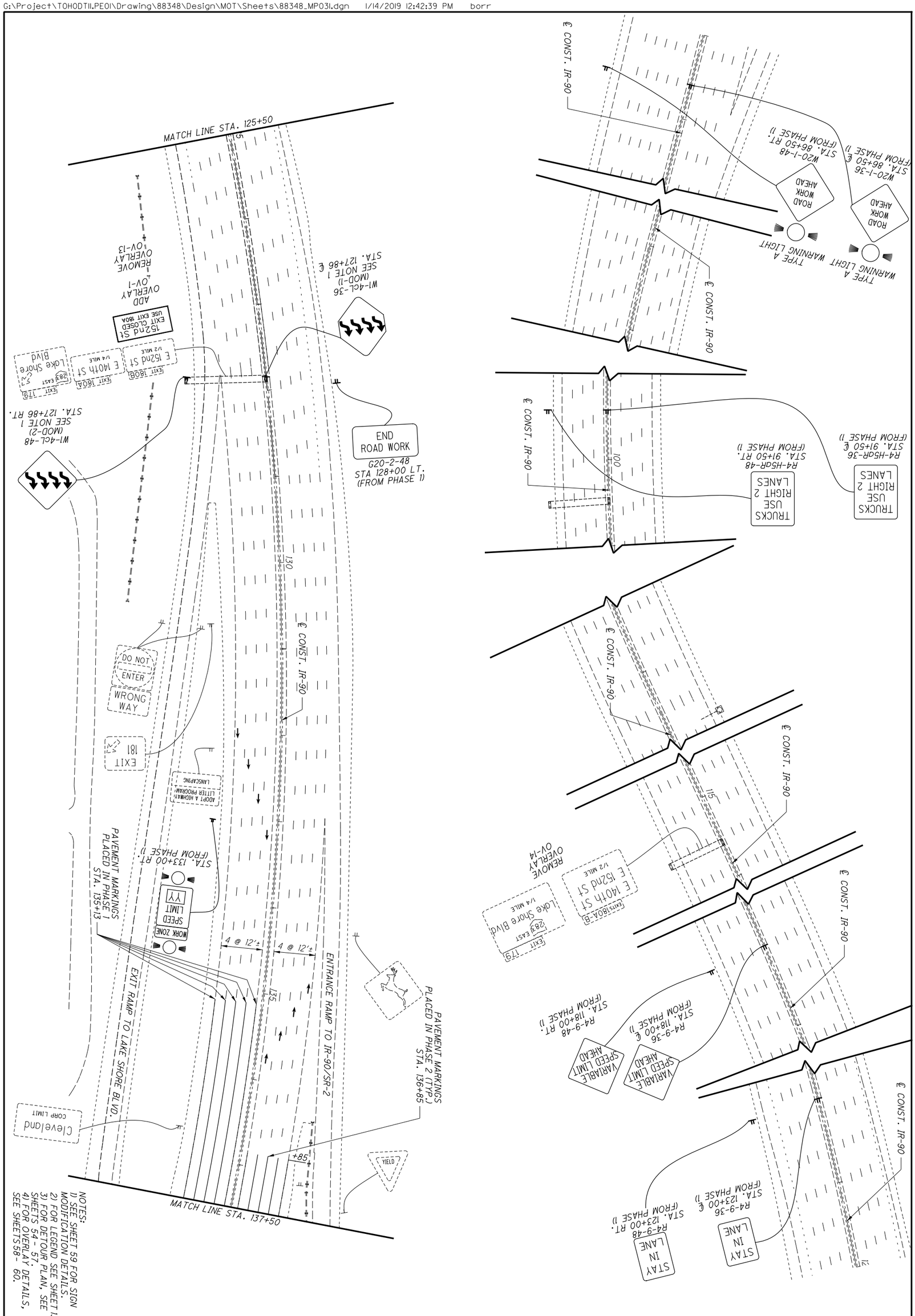
CUY-90-24.10/ 24.63

31
196

CALCULATED BRO
CHECKED DRJ

HORIZONTAL SCALE IN FEET
0 25 50 100

NOTES:
1) SEE SHEET 59 FOR SIGN MODIFICATION DETAILS.
2) FOR LEGEND SEE SHEET13 .
3) FOR DETOUR PLAN, SEE SHEETS 54 -57.
4) FOR OVERLAY DETAILS, SEE SHEETS 58-60.
5.) PLACE ADDITIONAL W1-H16-48 SIGNS EVERY 100' THROUGHOUT THE LENGTH OF THE SHIFTING TAPER.



NOTES:
1) SEE SHEET 59 FOR SIGN MODIFICATION DETAILS.
2) FOR LEGEND SEE SHEET 13.
3) FOR DETOUR PLAN, SEE SHEETS 54-57.
4) FOR OVERLAY DETAILS, SEE SHEETS 58- 60.

MAINTENANCE OF TRAFFIC - I-90
PHASE 3 BEGIN TO STA. 137+50

CALCULATED BRO
CHECKED DRJ
0 25 50 100
HORIZONTAL SCALE IN FEET

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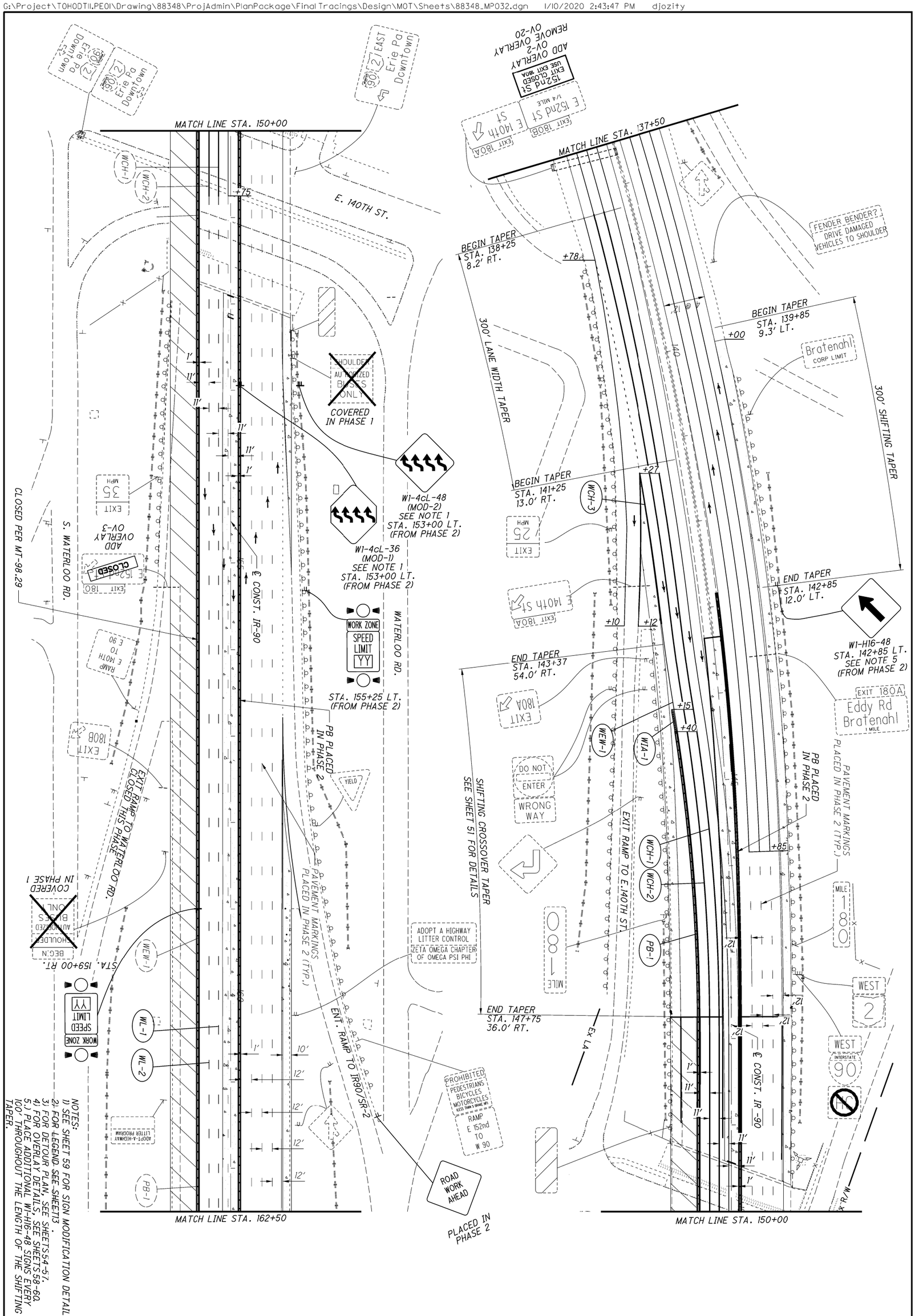

NOTES:
1) SEE SHEET 59 FOR SIGN MODIFICATION DETAILS.
2) FOR LEGEND, SEE SHEET 3.
3) FOR DETOUR PLAN, SEE SHEETS 54-57.
4) FOR OVERLAY DETAILS, SEE SHEETS 58-60.
5) PLACE ADDITIONAL W1-H16-48 SIGNS EVERY 100' THROUGHOUT THE LENGTH OF THE SHIFTING TAPER.

196 / 33	CUY-90-24.10/24.63	MAINTENANCE OF TRAFFIC - I-90 PHASE 3 STA. 137+50 TO STA. 162+50	CALCULATED BRO CHECKED DRJ	0 50 25 100 HORIZONTAL SCALE IN FEET

NOTES:
1) SEE SHEET 59 FOR SIGN MODIFICATION DETAILS.
2) FOR LEGEND SEE SHEET 13.
3) FOR DETOUR PLAN, SEE SHEETS 54 - 57.
4) FOR OVERLAY DETAILS, SEE SHEETS 58 -60.
5) ALL WESTBOUND PAVEMENT MARKINGS PLACED IN PHASE 2.

0 25 50 100
HORIZONTAL SCALE IN FEET

CALCULATED BRO
CHECKED DRJ

MAINTENANCE OF TRAFFIC - I-90
PHASE 3 STA. 162+50 TO STA. 187+50

CUY-90-24.10/24.63

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300' SHIFTING TAPER
CLOSED PER MT-101.60
YIELD
WATCH FOR BUSES ON SHOULDER
END TAPER STA. 189+15 58.0' LT.
W1-H16-48 STA. 188+15 LT. SEE NOTE 5 (FROM PHASE 2)
COVERED IN PHASE 1
WRONG WAY
DO NOT ENTER
OVERLAY PLACED IN PHASE 1 OV-19
CLOSED
EXIT 181
500 FEET
EXIT 181 E 156th St NO TRUCKS
EXIT 180 E 152nd St E 140th St 1/2 MILE
WORK ZONE
SPEED LIMIT YY
STA. 195+75 LT. (FROM PHASE 1)
W1-4GR-36 (MOD-1) SEE NOTE 1 STA. 200+75 ℄ (FROM PHASE 1)
W1-4GR-48 (MOD-2) SEE NOTE 1 STA. 200+75 LT. (FROM PHASE 1)
PB PLACED IN PHASE 2
CLOSED THIS PHASE
ENT. RAMP TO IR90/SR-2
EXIT RAMP TO E.156TH ST.
PAVEMENT MARKINGS PLACED IN PHASE 2 STA. 194+96
12'
4 @ 12'
℄ CONST. IR-90
190
195
200
200' BARRIER TAPER
MATCH LINE STA. 187+50
+41
+15
WCH-2
WEW-1
ENT. RAMP TO IR90/SR-2
WATCH FOR BUSES ON SHOULDER
YIELD
PAVEMENT MARKINGS PLACED IN PHASE 2 STA. 191+94
FENDER BENDER DRIVE DAMAGED VEHICLES TO SHOULDER
MILE 181
FOOD EXIT 181
BEGIN TAPER STA. 187+65 14.0' RT.
EAST
300' LANE WIDTH TAPER
END TAPER STA. 190+65 10.0' RT.
W1-H16-48 STA. 230+50 LT. SEE NOTE 5 (FROM PHASE 1)
TYPE A WARNING LIGHT
ROAD WORK AHEAD
W20-1-48 STA. 242+50 LT. (FROM PHASE 1)
W20-1-36 STA. 242+50 ℄ (FROM PHASE 1)
EXIT 181 E 156th St 1 MILE NO TRUCKS

STAY IN LANE R4-9-48 STA. 205+75 LT. (FROM PHASE 1)
STAY IN LANE R4-9-36 STA. 218+25 ℄ (FROM PHASE 1)
EMERGENCY STOPPING ONLY
EXIT 180 E 152nd St E 140TH St 1/2 MILE
EXIT 181 E 156th St 1/4 MILE NO TRUCKS
VARIABLE SPEED LIMIT AHEAD
R4-9-36 STA. 210+75 ℄ (FROM PHASE 1)
VARIABLE SPEED LIMIT AHEAD
R4-9-48 STA. 210+75 LT. (FROM PHASE 1)
EXIT 180 E 152nd St E 140TH St 3/4 MILE
EXIT 181 E 156th St 1/2 MILE NO TRUCKS
TRUCKS USE RIGHT 2 LANES
RH-H5aR-48 STA. 229+00 LT. (FROM PHASE 1)
TRUCKS USE RIGHT 2 LANES
RH-H5aR-36 STA. 229+00 ℄ (FROM PHASE 1)
TYPE A WARNING LIGHT
ROAD WORK AHEAD
W20-1-48 STA. 242+50 LT. (FROM PHASE 1)
W20-1-36 STA. 242+50 ℄ (FROM PHASE 1)
EXIT 181 E 156th St 1 MILE NO TRUCKS
205
210
215
230
250
℄ CONST. IR-90
SHOULDER AUTHORIZED BUSES ONLY
END ROAD WORK G20-2-48 STA. 202+50 RT. (FROM PHASE 1)

NOTES:
1) SEE SHEET 59 FOR SIGN MODIFICATION DETAILS.
2) FOR LEGEND SEE SHEET13 .
3) FOR DETOUR PLAN, SEE SHEETS 54 - 57.
4) FOR OVERLAY DETAILS, SEE SHEETS 58-60.
5.) PLACE ADDITIONAL W1-H16-48 SIGNS EVERY 100' THROUGHOUT THE LENGTH OF THE SHIFTING TAPER.

N
0 25 50 100
HORIZONTAL SCALE IN FEET
CALCULATED BRO
CHECKED DRJ

MAINTENANCE OF TRAFFIC - I-90
PHASE 3 STA. 187+50 TO END

CUY-90-24.10/ 24.63

35
196

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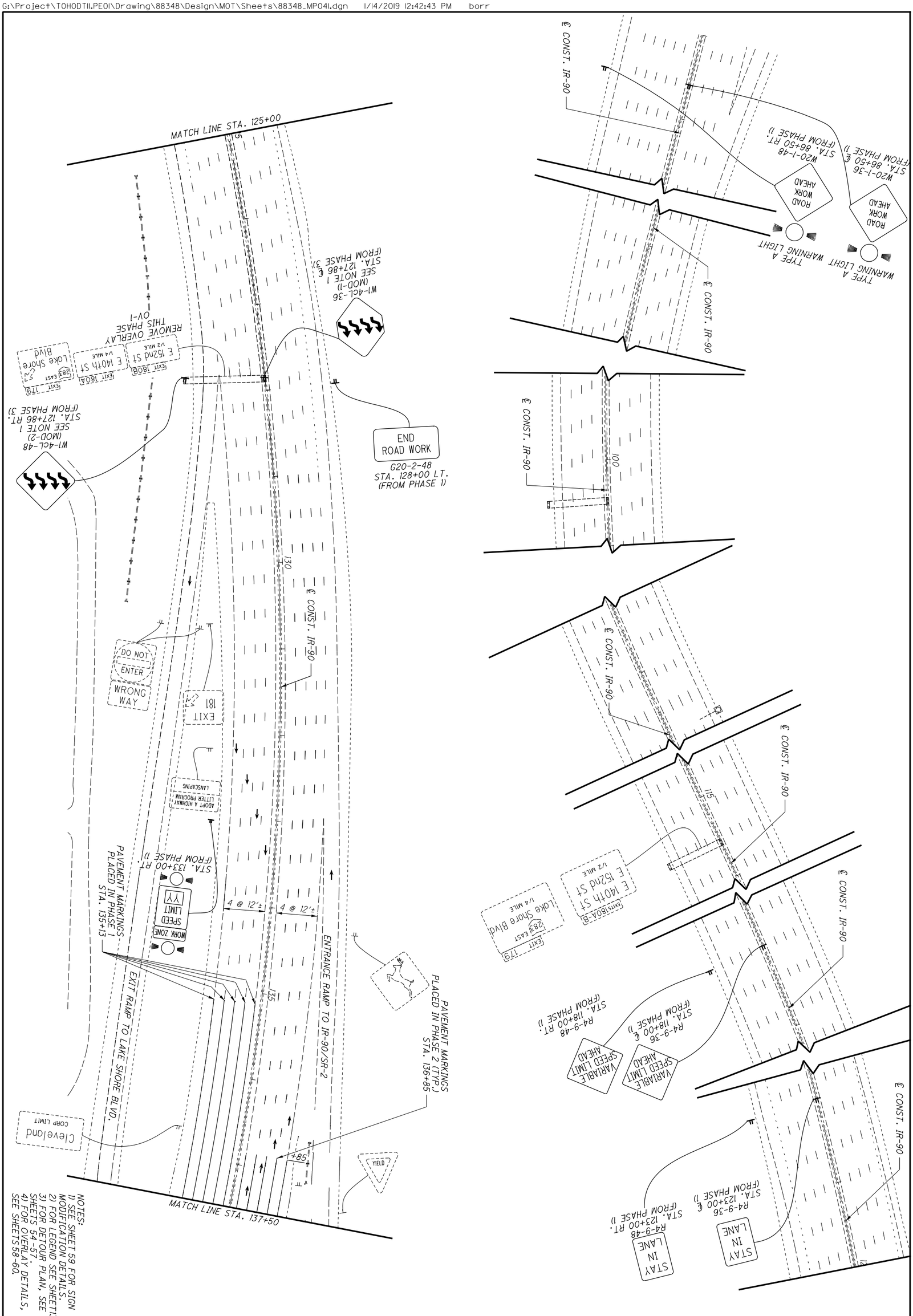
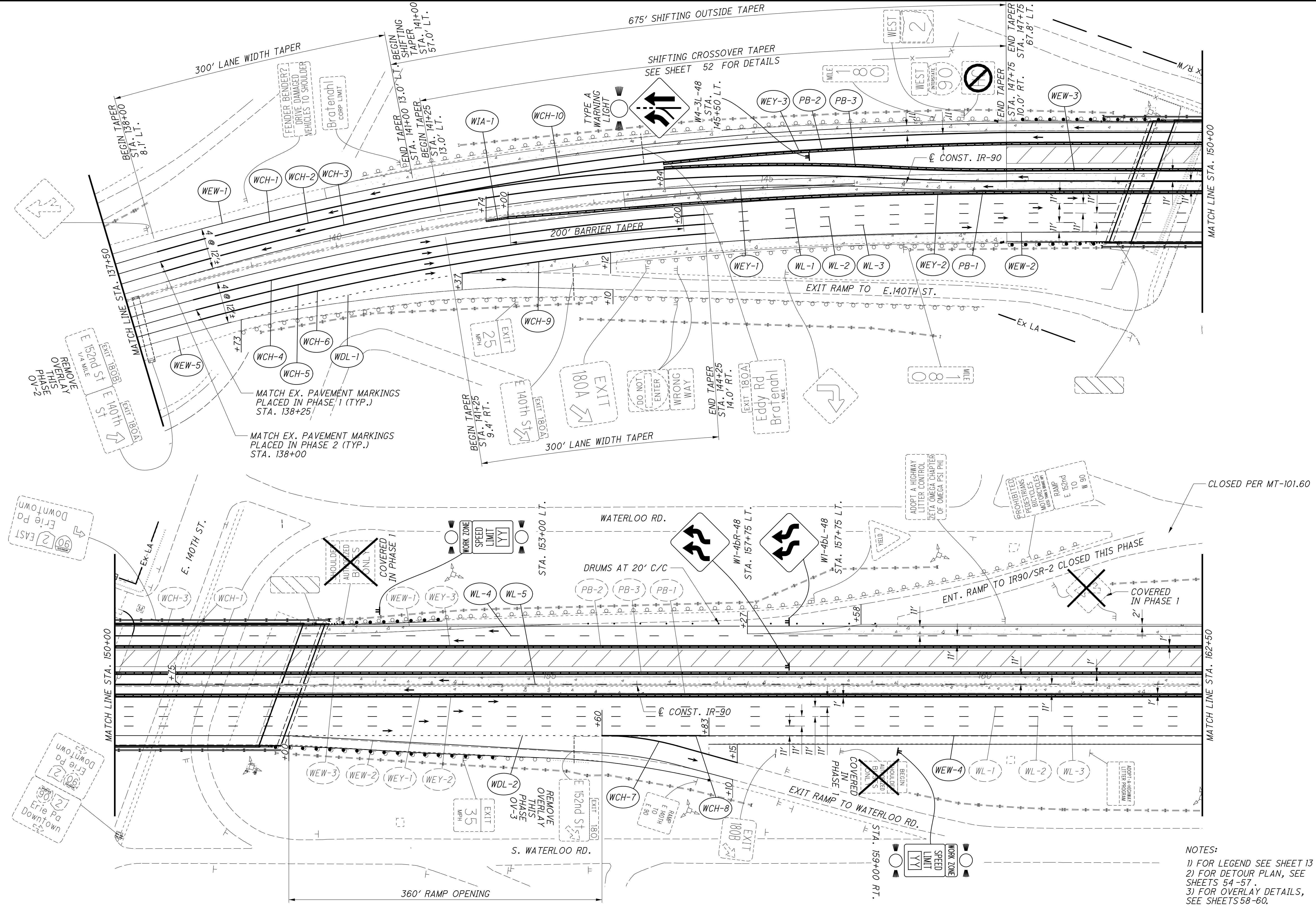


NOTES:
1) SEE SHEET 59 FOR SIGN MODIFICATION DETAILS.
2) FOR LEGEND SEE SHEET 13
3) FOR DETOUR PLAN, SEE SHEETS 54-57.
4) FOR OVERLAY DETAILS, SEE SHEETS 58-60.



NOTES:

1) FOR LEGEND SEE SHEET 13.
2) FOR DETOUR PLAN, SEE SHEETS 54-57.
3) FOR OVERLAY DETAILS, SEE SHEETS 58-60.

CALCULATED BRO
CHECKED DRJ

MAINTENANCE OF TRAFFIC - I-90
PHASE 4 STA. 137+50 TO STA. 162+50

CUY-90-24.10/24.63

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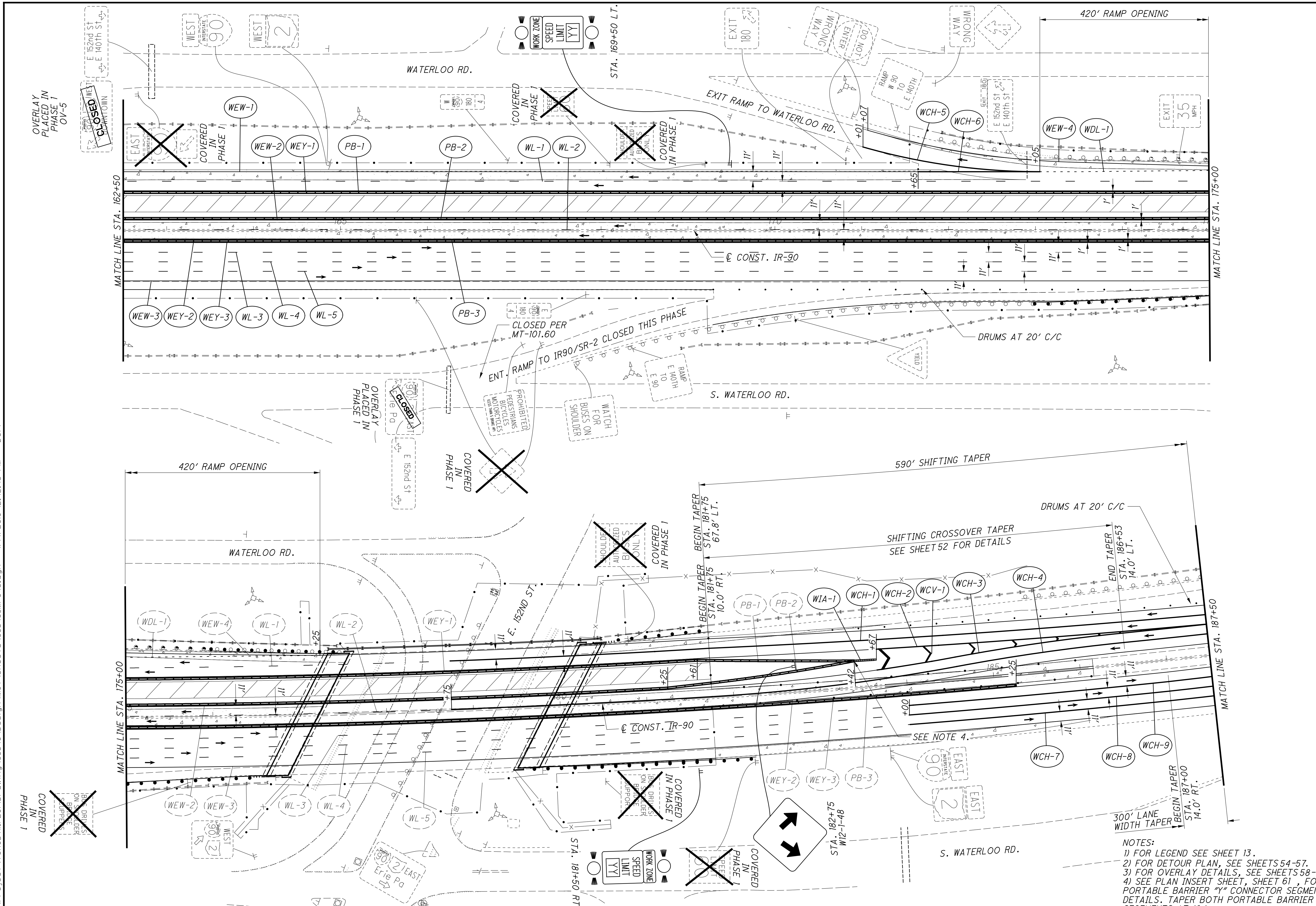


420' RAMP OPENING
WATERLOO RD.
EXIT RAMP TO WATERLOO RD.
STA. 169+50 LT.
OVERLAY PLACED IN PHASE 1 OV-5
COVERED IN PHASE 1
MATCH LINE STA. 162+50
MATCH LINE STA. 175+00
℄ CONST. IR-90
DRUMS AT 20' C/C
CLOSED PER MT-101.60
ENT. RAMP TO IR90/SR-2 CLOSED THIS PHASE
S. WATERLOO RD.
WATCH FOR BUSES ON SHOULDER
590' SHIFTING TAPER
SHIFTING CROSSOVER TAPER SEE SHEET 52 FOR DETAILS
BEGIN TAPER STA. 181+75 67.8' LT.
BEGIN TAPER STA. 181+75 10.0' RT.
END TAPER STA. 186+53 14.0' LT.
E. 152ND ST
SEE NOTE 4.
MATCH LINE STA. 187+50
300' LANE WIDTH TAPER
BEGIN TAPER STA. 187+00 14.0' RT.
STA. 182+75 W12-1-48
STA. 181+50 RT.
WORK ZONE SPEED LIMIT YY
WEW-1
WEW-2
WEY-1
PB-1
PB-2
WL-1
WL-2
WCH-5
WCH-6
WEW-4
WDL-1
WEW-3
WEY-2
WEY-3
WL-3
WL-4
WL-5
PB-3
WIA-1
WCH-1
WCH-2
WCV-1
WCH-3
WCH-4
WCH-7
WCH-8
WCH-9

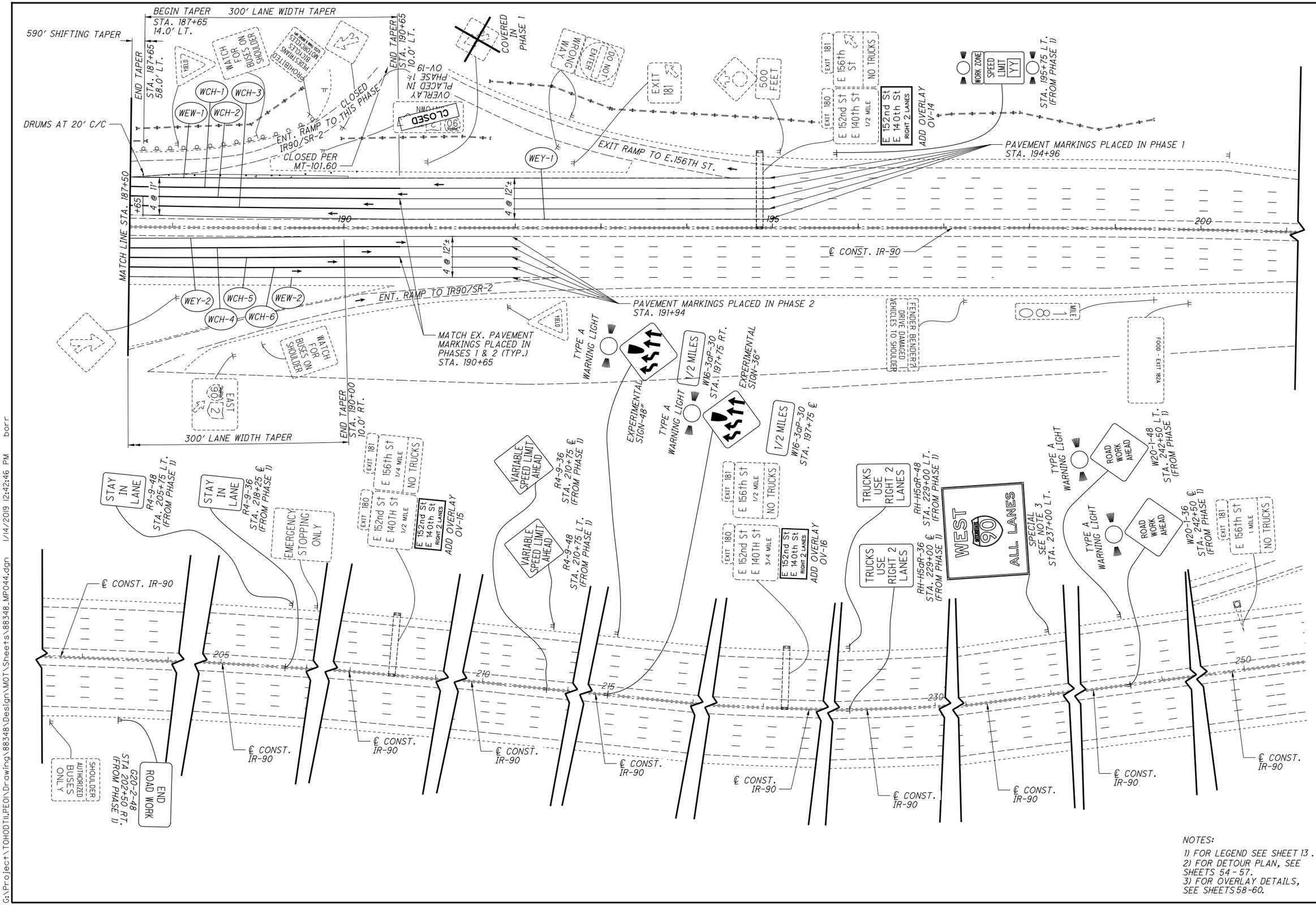
NOTES:
1) FOR LEGEND SEE SHEET 13.
2) FOR DETOUR PLAN, SEE SHEETS 54-57.
3) FOR OVERLAY DETAILS, SEE SHEETS 58-60.
4) SEE PLAN INSERT SHEET, SHEET 61, FOR PORTABLE BARRIER "Y" CONNECTOR SEGMENT DETAILS. TAPER BOTH PORTABLE BARRIER SEGEMENTS AT 18:1.

HORIZONTAL SCALE IN FEET 0 25 50 100

CALCULATED BRO
CHECKED DRJ

MAINTENANCE OF TRAFFIC - I-90
PHASE 4 STA. 162+50 TO STA. 187+50

CUY-90-24.10/24.63



NOTES:

1) FOR LEGEND SEE SHEET 13.
2) FOR DETOUR PLAN, SEE SHEETS 54 - 57.
3) FOR OVERLAY DETAILS, SEE SHEETS 58 - 60.

HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED BRO
CHECKED DRJ

MAINTENANCE OF TRAFFIC - I-90
PHASE 4 STA. 187+50 TO END

CUY-90-24.10/24.63

39
196

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MAINTENANCE OF TRAFFIC - I-90
PHASE 5 BEGIN TO STA. 137+50

CUY-90-24.10/ 24.63

40
196

CALCULATED BRO
CHECKED DRJ

0 25 50 100
HORIZONTAL SCALE IN FEET

ROAD WORK AHEAD
W20-1-36 STA. 86+50 ℄ (FROM PHASE 1)
TYPE A WARNING LIGHT
ROAD WORK AHEAD
W20-1-48 STA. 86+50 RT. (FROM PHASE 1)
TYPE A WARNING LIGHT
℄ CONST. IR-90
100
115
12
STAY IN LANE
R4-9-36 STA. 123+00 ℄ (FROM PHASE 1)
STAY IN LANE
R4-9-48 STA. 123+00 RT. (FROM PHASE 1)
VARIABLE SPEED LIMIT AHEAD
R4-9-36 STA. 118+00 ℄ (FROM PHASE 1)
VARIABLE SPEED LIMIT AHEAD
R4-9-48 STA. 118+00 RT. (FROM PHASE 1)
EXIT 180A-B
E 140th St
E 152nd St
1/2 MILE
EXIT 179
(583) EAST
Lake Shore Blvd
1/4 MILE

PAVEMENT MARKINGS
PLACED IN PHASE 2 (TYP.)
STA. 136+85

END ROAD WORK
G20-2-48 STA 128+00 RT. (FROM PHASE 1)
W1-4cL-36 (MOD-1) SEE NOTE 4 STA. 127+86 ℄ (FROM PHASE 3)
W1-4cL-48 (MOD-2) SEE NOTE 4 STA. 127+86 RT. (FROM PHASE 3)
MATCH LINE STA. 125+00
PC Sta. 129+00.00
130
135
+85
ENTRANCE RAMP TO IR-90/SR-2
EXIT 181
ADOPT A HIGHWAY LITTER PROGRAM LANDSCAPING
DO NOT ENTER
WRONG WAY
STA. 133+00 RT. (FROM PHASE 1)
WORK ZONE SPEED LIMIT YY
EXIT RAMP TO LAKE SHORE BLVD.
PAVEMENT MARKINGS PLACED IN PHASE (TYP.) STA. 135+13
YIELD
MATCH LINE STA. 137+50
Cleveland
CORP LIMIT

NOTES:
1) FOR LEGEND SEE SHEET 13.
2) FOR DETOUR PLAN, SEE SHEETS 54 - 57.
3) FOR OVERLAY DETAILS, SEE SHEETS 58-60.
4) SEE SHEET 59 FOR SIGN MODIFICATION DETAILS.

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SHIFTING CROSSOVER TAPER
SEE SHEET 53 FOR DETAILS

300' LANE WIDTH TAPER

BEGIN TAPER STA. 138+00 8.1' LT.

PAVEMENT MARKINGS FROM PHASE 2 (TYP.)

FENDER REMOVED? (TENDER DAMAGED DRIVE TO SHOULDER) VEHICLES TO SHOULDER

Bratenahl CORP. LIMIT

END TAPER STA. 141+00, 13.0' LT.

BEGIN TAPER STA. 141+25 13.0' LT.

WCH-1 WCH-2 WEW-1

EXIT 180A Eddy Rd Bratenahl MILE

PB PLACED IN PHASE 4

MILE 180 WEST INTERSTATE 90 WEST 2

END TAPER STA. 147+75 10.0' RT.

PB-1

MATCH LINE STA. 137+50

MATCH LINE STA. 150+00

200' BARRIER TAPER

℄ CONST. IR-90

EXIT RAMP TO E.140TH ST.

PAVEMENT MARKINGS PLACED IN PHASE 4 PROCEEDING STA. 138+25 (TYP.)

PAVEMENT MARKINGS PLACED IN PHASE 1 PRECEDING STA. 138+25 (TYP.)

WIA-1

E 152nd St EXIT 180A EXIT 180B

BEGIN TAPER STA. 141+25 9.4' RT.

END TAPER STA. 144+25 14.0' RT.

300' LANE WIDTH TAPER

25 MPH EXIT

E 140th St EXIT 180A

180A EXIT

DO NOT ENTER WRONG WAY

MILE 180

STA. 153+00 LT.

WORK ZONE SPEED LIMIT YY

W1-4cR-48 (MOD-2) STA. 158+00 RT. SEE NOTE 1

W1-4cR-36 (MOD-1) STA. 158+00 RT. SEE NOTE 1

ADOPT A HIGHWAY LITTER CONTROL ZETA OMEGA CHAPTER (OF OMEGA PSI PHI)

PROHIBITED PEDESTRIANS BICYCLES MOTORCYCLES NOT MAINTAINED RAMP E 152nd TO W 90

CLOSED PER MT-101.60

WATERLOO RD.

E. 140TH ST.

DRUMS AT 20' C/C

PB PLACED IN PHASE 4

YIELD

ENT. RAMP TO IR90/SR-2 CLOSED THIS PHASE

COVERED IN PHASE 1

SHOULDER NOT AUTHORIZED FOR BUSES ONLY

WEW-1 PB-1 WL-1 WL-2

WCH-1 WCH-2

MATCH LINE STA. 150+00

MATCH LINE STA. 162+50

℄ CONST. IR-90

PAVEMENT MARKINGS PLACED IN PHASE 4 (TYP.)

35 MPH EXIT

E 152nd St EXIT 180B

EXIT 180B

EXIT RAMP TO WATERLOO RD.

S. WATERLOO RD.

STA. 159+00 RT. (FROM PHASE 4)

LITTER PROGRAM

WORK ZONE SPEED LIMIT YY

360' RAMP OPENING

E 152nd St RAMP

EXIT 180B

BEGIN

SHOULDER NOT AUTHORIZED FOR BUSES ONLY

COVERED IN PHASE 1

EAST Erie Pa Downtown 90 2

NOTES:
1) SEE SHEET 59 FOR SIGN MODIFICATION DETAILS.
2) FOR LEGEND SEE SHEET 13.
3) FOR DETOUR PLAN, SEE SHEETS 54 - 57.
4) FOR OVERLAY DETAILS, SEE SHEETS 58-60.

N

0 25 50 100
HORIZONTAL SCALE IN FEET

CALCULATED BRO
CHECKED DRJ

MAINTENANCE OF TRAFFIC - I-90
PHASE 5 STA. 137+50 TO STA. 162+50

CUY-90-24.10/24.63

41
196

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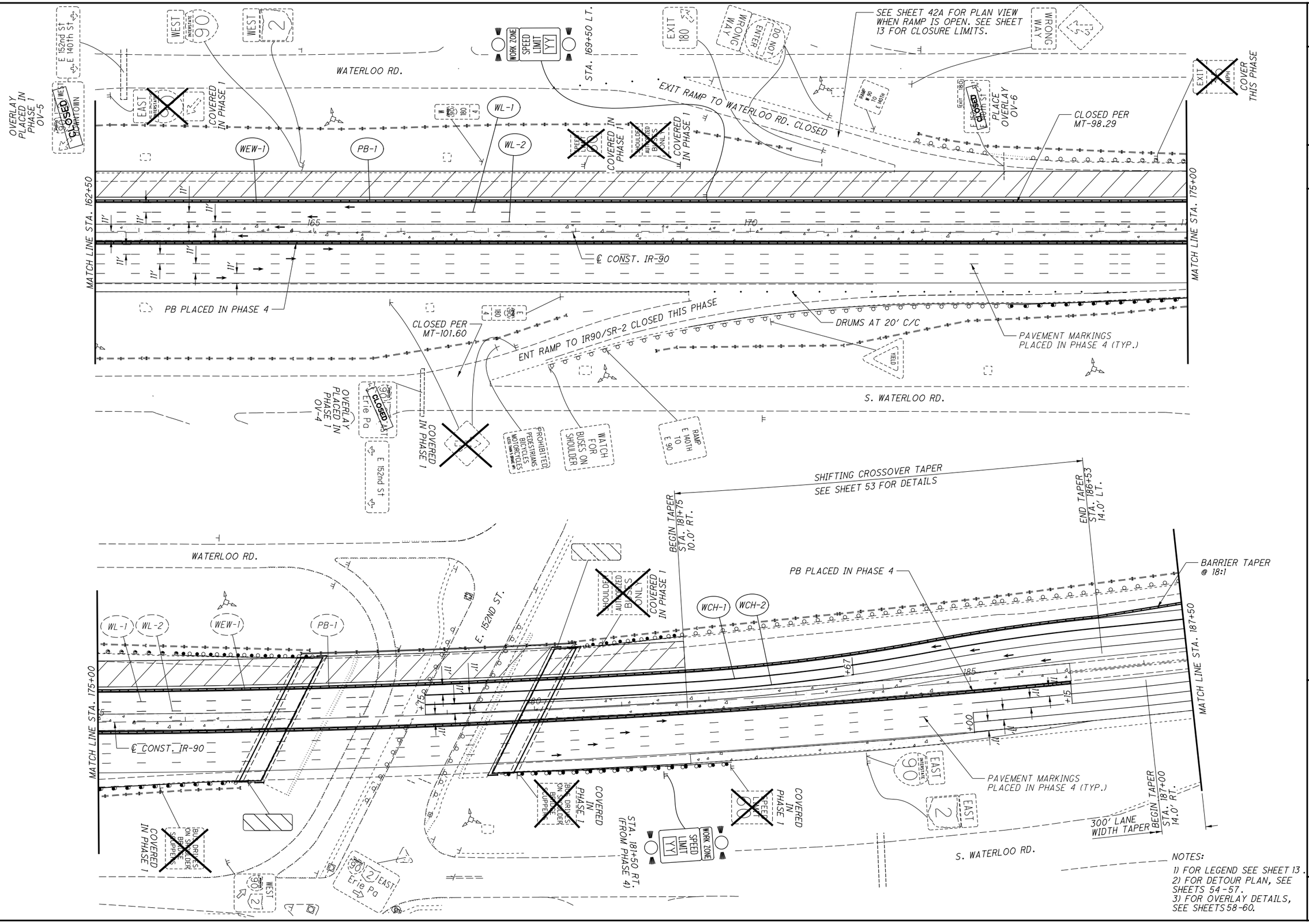

MAINTENANCE OF TRAFFIC - I-90
PHASE 5 STA. 162+50 TO STA. 187+50

CUY-90-24.10/ 24.63

CALCULATED BRO
CHECKED DRJ

HORIZONTAL SCALE IN FEET
0 25 50 100

42
196

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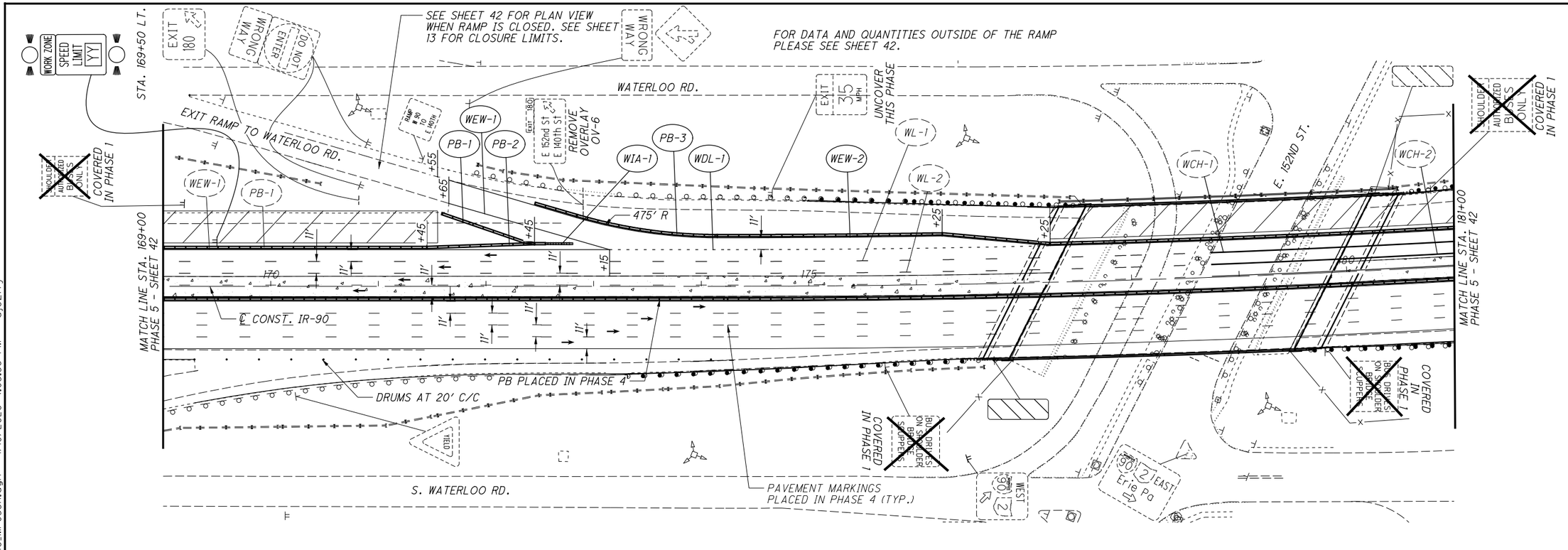

NOTES:

1) FOR LEGEND SEE SHEET 13.
2) FOR DETOUR PLAN, SEE SHEETS 54-57.
3) FOR OVERLAY DETAILS, SEE SHEETS 58-60.

HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED BRO
CHECKED DRJ

MAINTENANCE OF TRAFFIC - I-90 EAST 140TH EXIT RAMP OPEN DETAIL

CUY-90-24.10/ 24.63

42A
196

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MAINTENANCE OF TRAFFIC - I-90
PHASE 5 STA. 187+50 TO END

CUY-90-24.10/24.63

CALCULATED BRO
CHECKED DRJ

HORIZONTAL SCALE IN FEET
0 25 50 100

NOTES:
1) SEE SHEET 59 FOR SIGN MODIFICATION DETAILS.
2) FOR LEGEND SEE SHEET 13.
3) FOR DETOUR PLAN, SEE SHEETS 54-57.
4) FOR OVERLAY DETAILS, SEE SHEETS 58-60.

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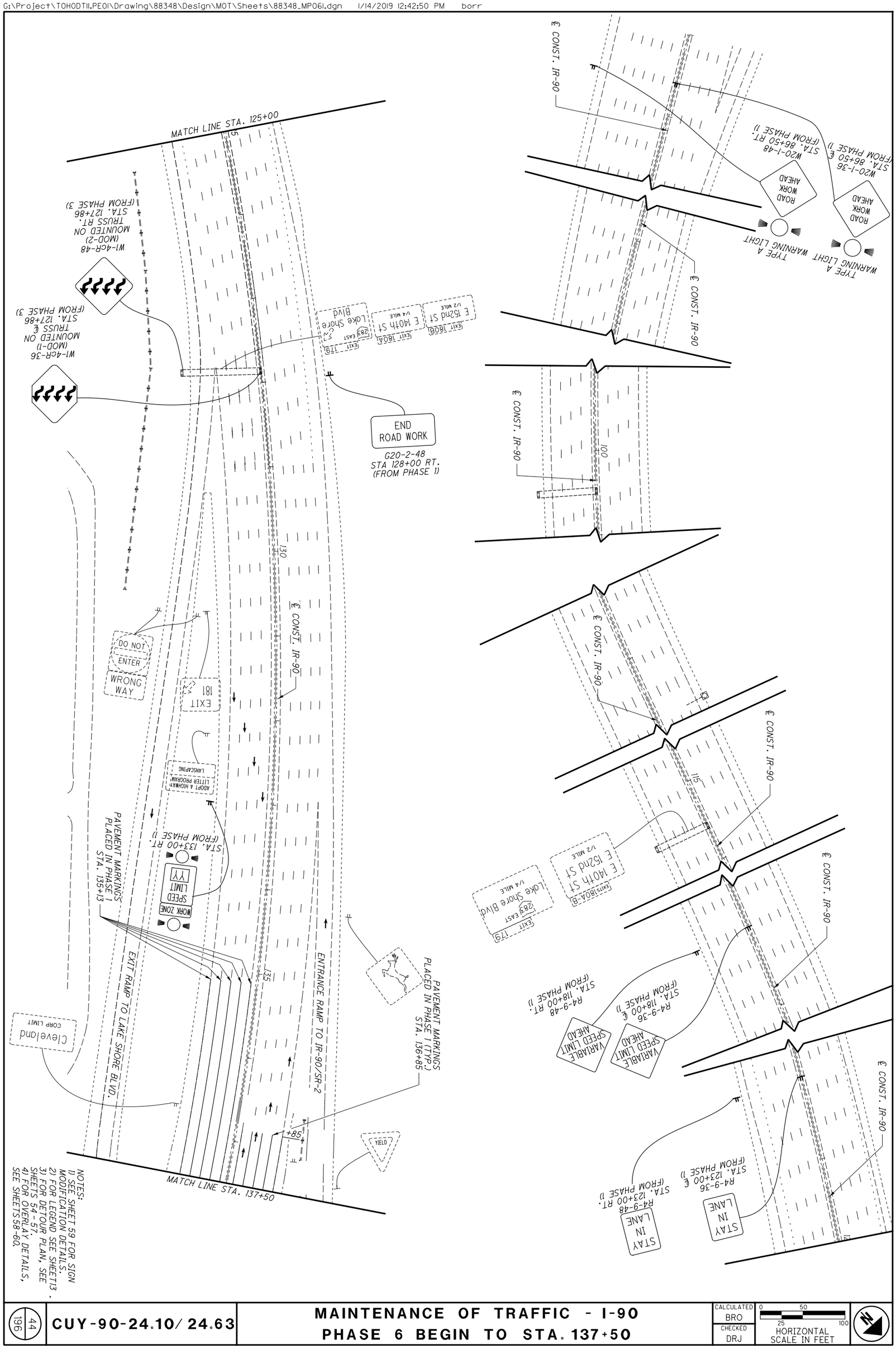

NOTES:
1) SEE SHEET 59 FOR SIGN MODIFICATION DETAILS.
2) FOR LEGEND SEE SHEET13.
3) FOR DETOUR PLAN, SEE SHEETS 54-57.
4) FOR OVERLAY DETAILS, SEE SHEETS 58-60.

196 / 44	CUY-90-24.10/24.63	MAINTENANCE OF TRAFFIC - I-90 PHASE 6 BEGIN TO STA. 137+50	CALCULATED BRO CHECKED DRJ	0 50 25 100 HORIZONTAL SCALE IN FEET

NOTES:
1) SEE SHEET 59 FOR SIGN MODIFICATION DETAILS.
2) FOR LEGEND SEE SHEET13 .
3) FOR DETOUR PLAN, SEE SHEETS 54-57.
4) FOR OVERLAY DETAILS, SEE SHEETS 58-60.
5.) PLACE ADDITIONAL W1-H16-48 SIGNS EVERY 100' THROUGHOUT THE LENGTH OF THE SHIFTING TAPER.

HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED BRO
CHECKED DRJ

MAINTENANCE OF TRAFFIC - I-90
PHASE 6 STA. 137+50 TO STA. 162+50

CUY-90-24.10/24.63

45
196

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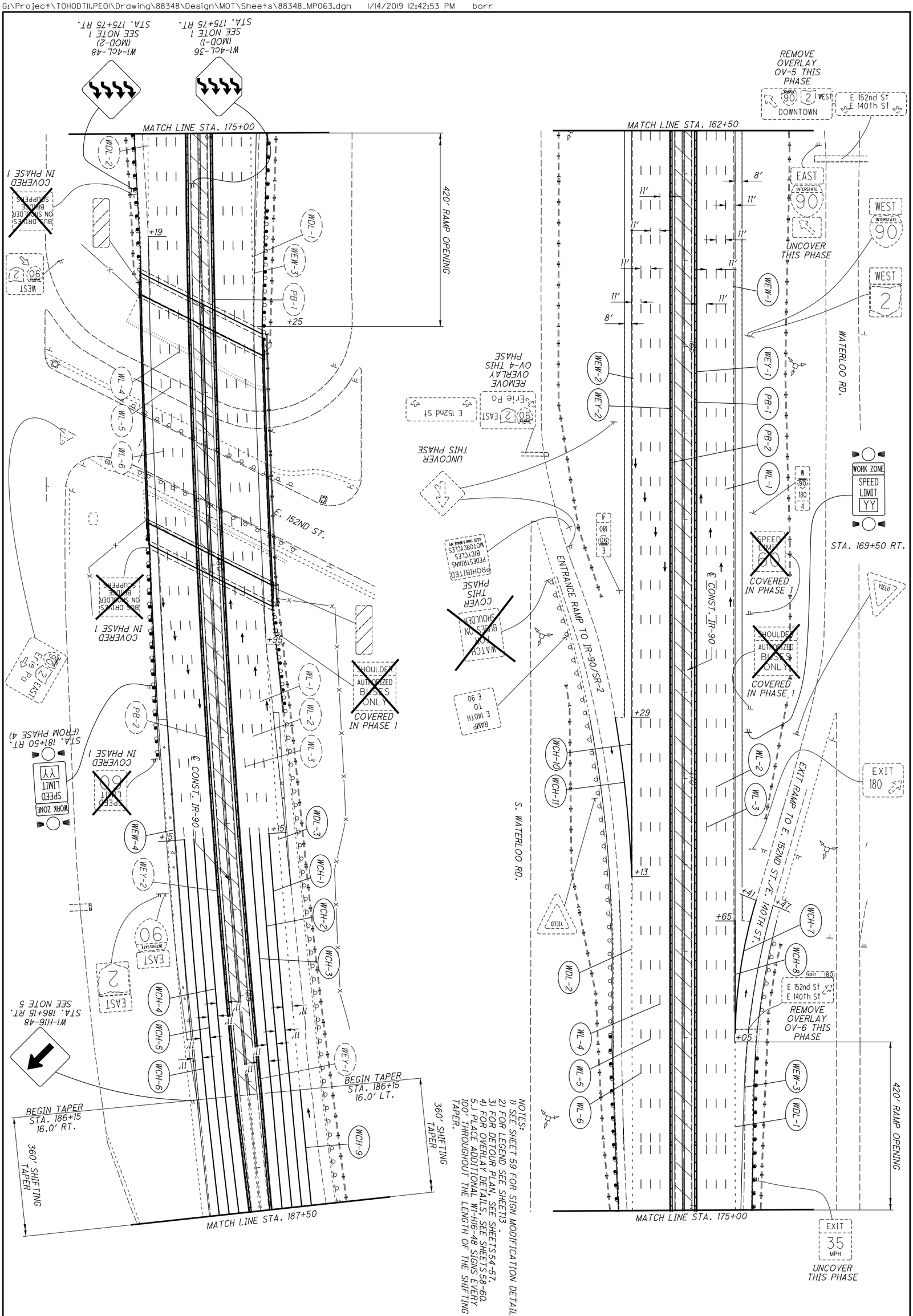


NOTES:
1) SEE SHEET 59 FOR SIGN MODIFICATION DETAILS.
2) FOR LEGEND SEE SHEET13
3) FOR DETOUR PLAN, SEE SHEETS 54-57.
4) FOR OVERLAY DETAILS, SEE SHEETS 58-60.
5.) PLACE ADDITIONAL WI-H16-48 SIGNS EVERY 100' THROUGHOUT THE LENGTH OF THE SHIFTING TAPER.

196 / 46	CUY-90-24.10/ 24.63	MAINTENANCE OF TRAFFIC - I-90 PHASE 6 STA. 162+50 TO STA. 187+50	CALCULATED BRO CHECKED DRJ	0 50 25 100 HORIZONTAL SCALE IN FEET

MAINTENANCE OF TRAFFIC - I-90
PHASE 6 STA. 187+50 TO END

CUY-90-24.10/ 24.63

CALCULATED BRO
CHECKED DRJ

HORIZONTAL SCALE IN FEET
0 25 50 100

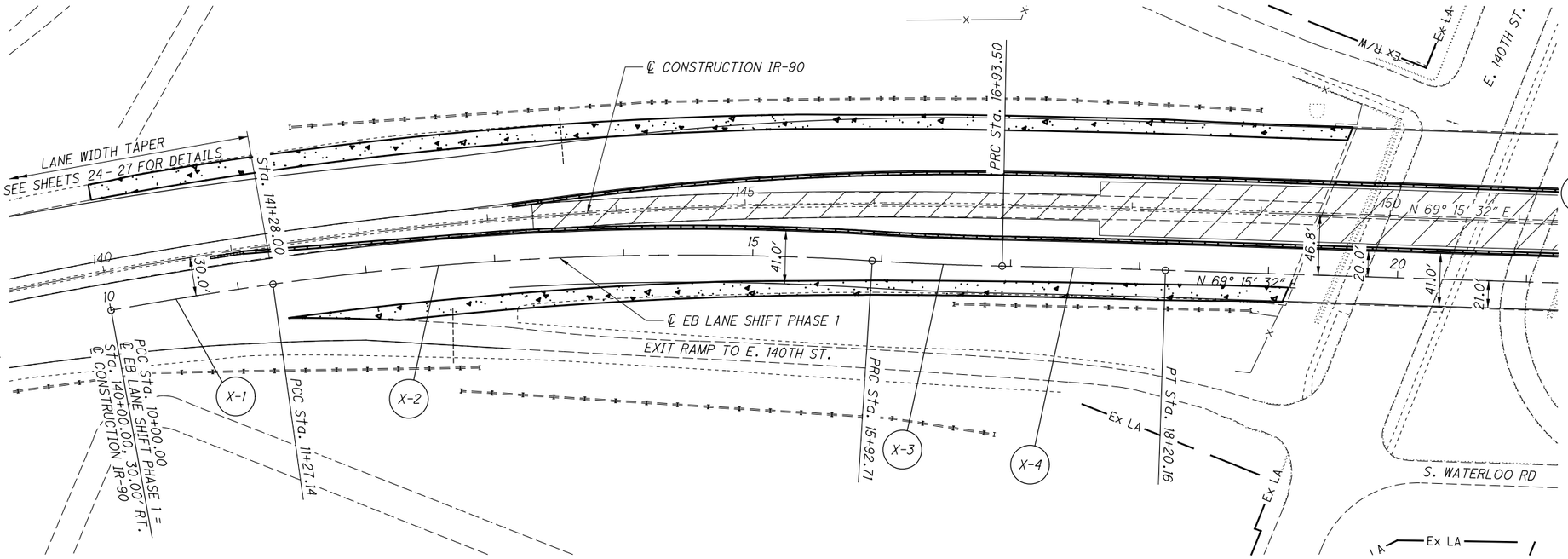
NOTES:
1) SEE SHEET 59 FOR SIGN MODIFICATION DETAILS.
2) FOR LEGEND SEE SHEET13 .
3) FOR DETOUR PLAN, SEE SHEETS 54 -57.
4) FOR OVERLAY DETAILS, SEE SHEETS 58 -60.
5.) PLACE ADDITIONAL W1-H16-48 SIGNS EVERY 100' THROUGHOUT THE LENGTH OF THE SHIFTING TAPER.

X-1 EB LANE SHIFT PHASE 1 CURVE DATA
P.I. Sta. 10+63.58
Δ = 2° 15′ 18″ (RT)
Dc = 1° 46′ 26″
R = 3,230.18′
T = 63.58′
L = 127.14′
E = 0.63′
C = 127.13′
C.B. = N 58° 14′ 33″ E

X-2 EB LANE SHIFT PHASE 1 CURVE DATA
P.I. Sta. 13+60.72
Δ = 11° 35′ 53″ (RT)
Dc = 2° 29′ 28″
R = 2,300.00′
T = 233.59′
L = 465.57′
E = 11.83′
C = 464.78′
C.B. = N 65° 10′ 09″ E

X-3 EB LANE SHIFT PHASE 1 CURVE DATA
P.I. Sta. 16+43.11
Δ = 2° 30′ 39″ (LT)
Dc = 2° 29′ 28″
R = 2,300.00′
T = 50.40′
L = 100.79′
E = 0.55′
C = 100.78′
C.B. = N 69° 42′ 46″ E

X-4 EB LANE SHIFT PHASE 1 CURVE DATA
P.I. Sta. 17+56.83
Δ = 0° 48′ 06″ (RT)
Dc = 0° 37′ 58″
R = 9,053.19′
T = 63.33′
L = 126.66′
E = 0.22′
C = 126.66′
C.B. = N 68° 51′ 29″ E

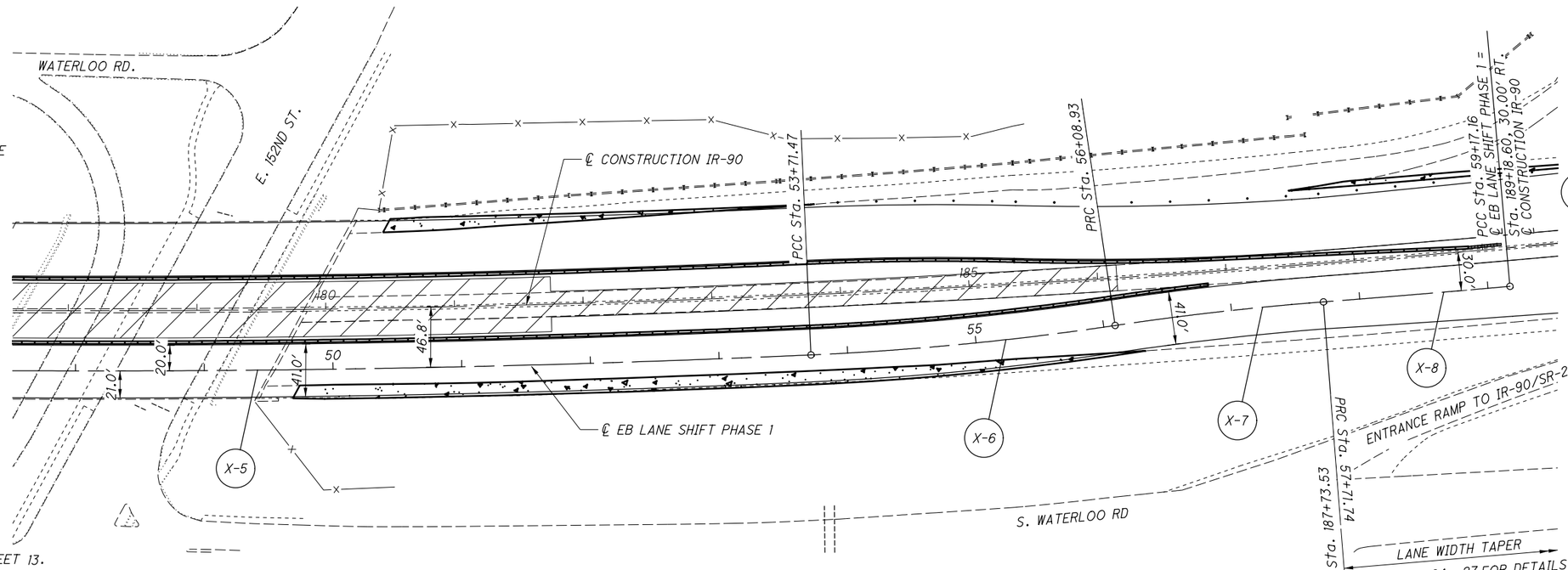


X-5 EB LANE SHIFT PHASE 1 CURVE DATA
P.I. Sta. 48+94.74
Δ = 4° 26′ 05″ (LT)
Dc = 0° 27′ 54″
R = 12,324.38′
T = 477.21′
L = 953.94′
E = 9.24′
C = 953.70′
C.B. = N 67° 02′ 29″ E

X-6 EB LANE SHIFT PHASE 1 CURVE DATA
P.I. Sta. 54+90.31
Δ = 5° 54′ 56″ (LT)
Dc = 2° 29′ 28″
R = 2,300.00′
T = 118.84′
L = 237.46′
E = 3.07′
C = 237.36′
C.B. = N 61° 51′ 59″ E

X-7 EB LANE SHIFT PHASE 1 CURVE DATA
P.I. Sta. 56+90.37
Δ = 4° 03′ 20″ (RT)
Dc = 2° 29′ 28″
R = 2,300.00′
T = 81.44′
L = 162.80′
E = 1.44′
C = 162.77′
C.B. = N 60° 56′ 11″ E

X-8 EB LANE SHIFT PHASE 1 CURVE DATA
P.I. Sta. 58+44.45
Δ = 0° 40′ 37″ (LT)
Dc = 0° 27′ 56″
R = 12,307.58′
T = 72.71′
L = 145.42′
E = 0.21′
C = 145.42′
C.B. = N 62° 37′ 33″ E



FOR LEGEND SEE SHEET 13.
FOR WB LANE SHIFT PHASE 1 SEE SHEET 49.

HORIZONTAL SCALE IN FEET
0 25 50 100
CALCULATED BRO
CHECKED DRJ

EB LANE SHIFT DETAIL - PHASE 1 BEGIN & END EB LANE SHIFT

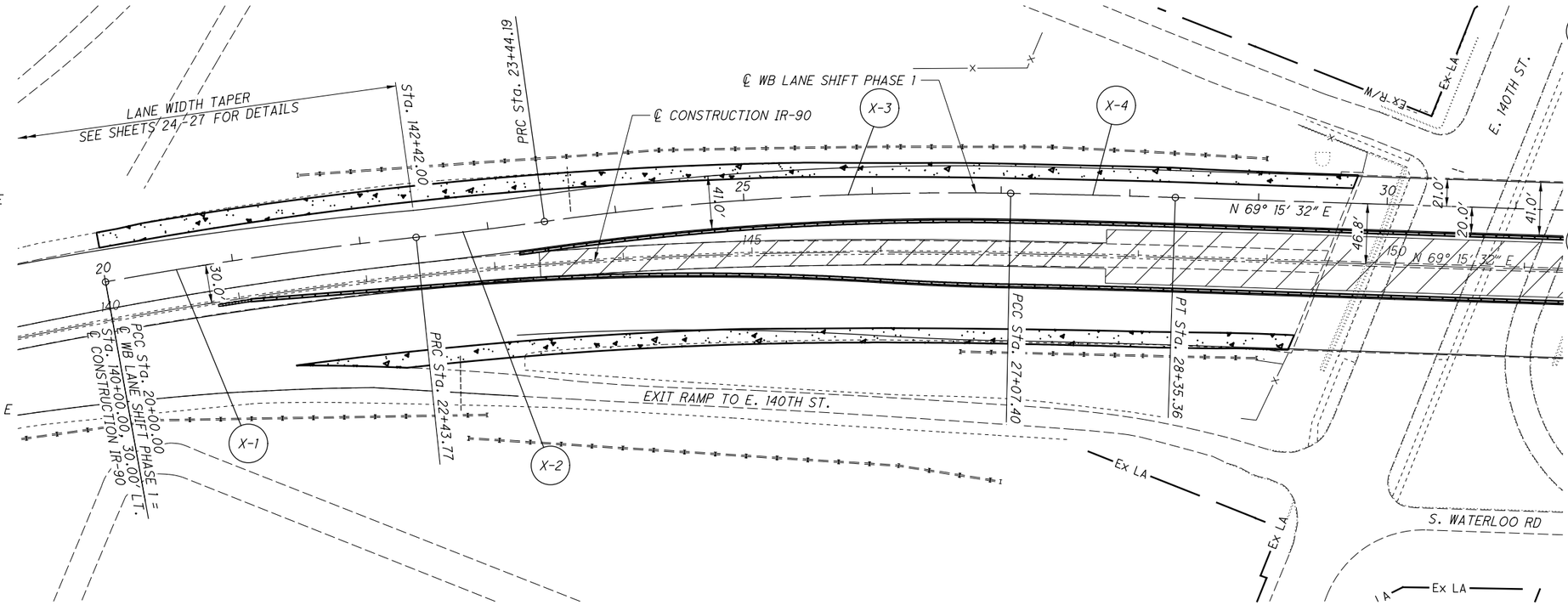
CUY-90-24.10/24.63

X-1 **WB LANE SHIFT PHASE 1 CURVE DATA**
P.I. Sta. 21+21.94
Δ = 4° 14′ 42″ (RT)
Dc = 1° 44′ 29″
R = 3,290.18′
T = 121.94′
L = 243.77′
E = 2.26′
C = 243.71′
C.B. = N 59° 14′ 15″ E

X-2 **WB LANE SHIFT PHASE 1 CURVE DATA**
P.I. Sta. 22+93.99
Δ = 1° 57′ 02″ (LT)
Dc = 1° 56′ 32″
R = 2,950.00′
T = 50.22′
L = 100.43′
E = 0.43′
C = 100.42′
C.B. = N 60° 23′ 05″ E

X-3 **WB LANE SHIFT PHASE 1 CURVE DATA**
P.I. Sta. 25+26.17
Δ = 9° 02′ 52″ (RT)
Dc = 2° 29′ 28″
R = 2,300.00′
T = 181.98′
L = 363.20′
E = 7.19′
C = 362.83′
C.B. = N 63° 56′ 00″ E

X-4 **WB LANE SHIFT PHASE 1 CURVE DATA**
P.I. Sta. 27+71.38
Δ = 0° 48′ 06″ (RT)
Dc = 0° 37′ 35″
R = 9,146.81′
T = 63.98′
L = 127.97′
E = 0.22′
C = 127.96′
C.B. = N 68° 51′ 29″ E

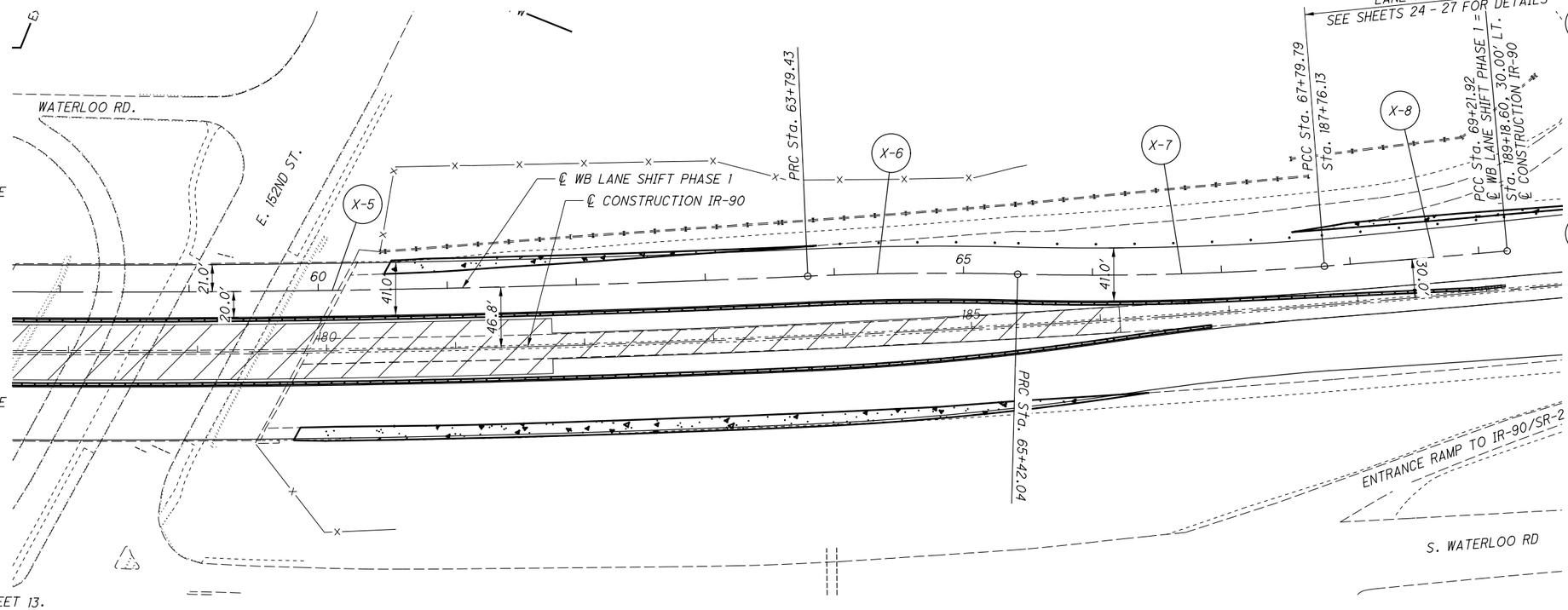


X-5 **WB LANE SHIFT PHASE 1 CURVE DATA**
P.I. Sta. 59+06.32
Δ = 4° 26′ 05″ (LT)
Dc = 0° 28′ 06″
R = 12,230.78′
T = 473.58′
L = 946.70′
E = 9.17′
C = 946.46′
C.B. = N 67° 02′ 29″ E

X-6 **WB LANE SHIFT PHASE 1 CURVE DATA**
P.I. Sta. 64+60.77
Δ = 4° 03′ 03″ (RT)
Dc = 2° 29′ 28″
R = 2,300.00′
T = 81.34′
L = 162.61′
E = 1.44′
C = 162.57′
C.B. = N 66° 50′ 58″ E

X-7 **WB LANE SHIFT PHASE 1 CURVE DATA**
P.I. Sta. 66+61.02
Δ = 5° 55′ 22″ (LT)
Dc = 2° 29′ 28″
R = 2,300.00′
T = 118.98′
L = 237.75′
E = 3.08′
C = 237.65′
C.B. = N 65° 54′ 48″ E

X-8 **WB LANE SHIFT PHASE 1 CURVE DATA**
P.I. Sta. 68+50.85
Δ = 0° 39′ 54″ (LT)
Dc = 0° 28′ 04″
R = 12,247.58′
T = 71.06′
L = 142.13′
E = 0.21′
C = 142.13′
C.B. = N 62° 37′ 11″ E



FOR LEGEND SEE SHEET 13.
FOR EB LANE SHIFT PHASE 1 SEE SHEET 48.

HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED BRO
CHECKED DRJ

WB LANE SHIFT PHASE 1 - DETAIL
BEGIN & END WB LANE SHIFT

CUY-90-24.10/24.63

X-1 **EB LANE SHIFT PHASE 2 CURVE DATA**

P.I. Sta. 11+50.79
Δ = 5° 20′ 04″ (RT)
Dc = 1° 46′ 14″
R = 3,236.18′
T = 150.76′
L = 301.30′
E = 3.51′
C = 301.19′
C.B. = N 59° 46′ 56″ E

X-2 **EB LANE SHIFT PHASE 2 CURVE DATA**

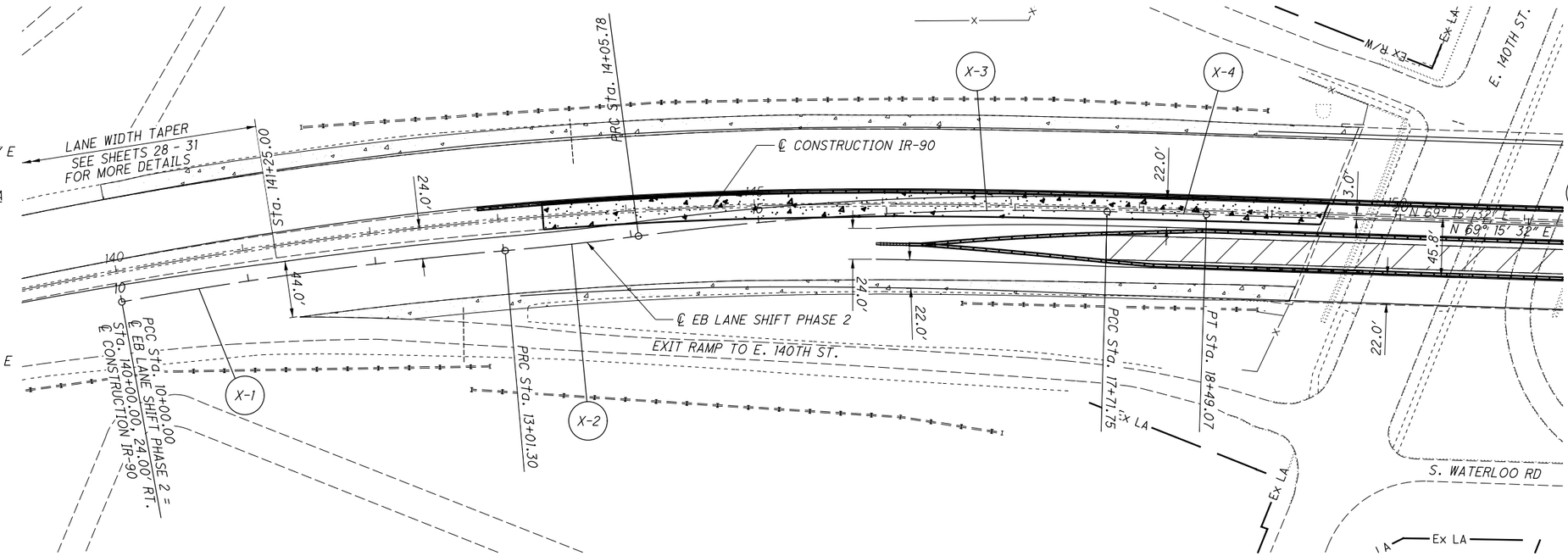
P.I. Sta. 13+53.55
Δ = 2° 29′ 10″ (LT)
Dc = 2° 29′ 28″
R = 2,300.00′
T = 52.25′
L = 104.48′
E = 0.59′
C = 104.47′
C.B. = N 61° 08′ 53″ E

X-3 **EB LANE SHIFT PHASE 2 CURVE DATA**

P.I. Sta. 15+89.15
Δ = 9° 07′ 00″ (RT)
Dc = 2° 29′ 28″
R = 2,300.00′
T = 183.37′
L = 365.97′
E = 7.30′
C = 365.58′
C.B. = N 64° 24′ 18″ E

X-4 **EB LANE SHIFT PHASE 2 CURVE DATA**

P.I. Sta. 18+10.41
Δ = 0° 17′ 44″ (RT)
Dc = 0° 22′ 56″
R = 14,988.83′
T = 38.66′
L = 77.32′
E = 0.05′
C = 77.32′
C.B. = N 69° 06′ 40″ E



X-5 **EB LANE SHIFT PHASE 2 CURVE DATA**

P.I. Sta. 47+96.78
Δ = 3° 30′ 05″ (LT)
Dc = 0° 28′ 00″
R = 12,280.58′
T = 375.37′
L = 750.50′
E = 5.74′
C = 750.38′
C.B. = N 67° 30′ 29″ E

X-6 **EB LANE SHIFT PHASE 2 CURVE DATA**

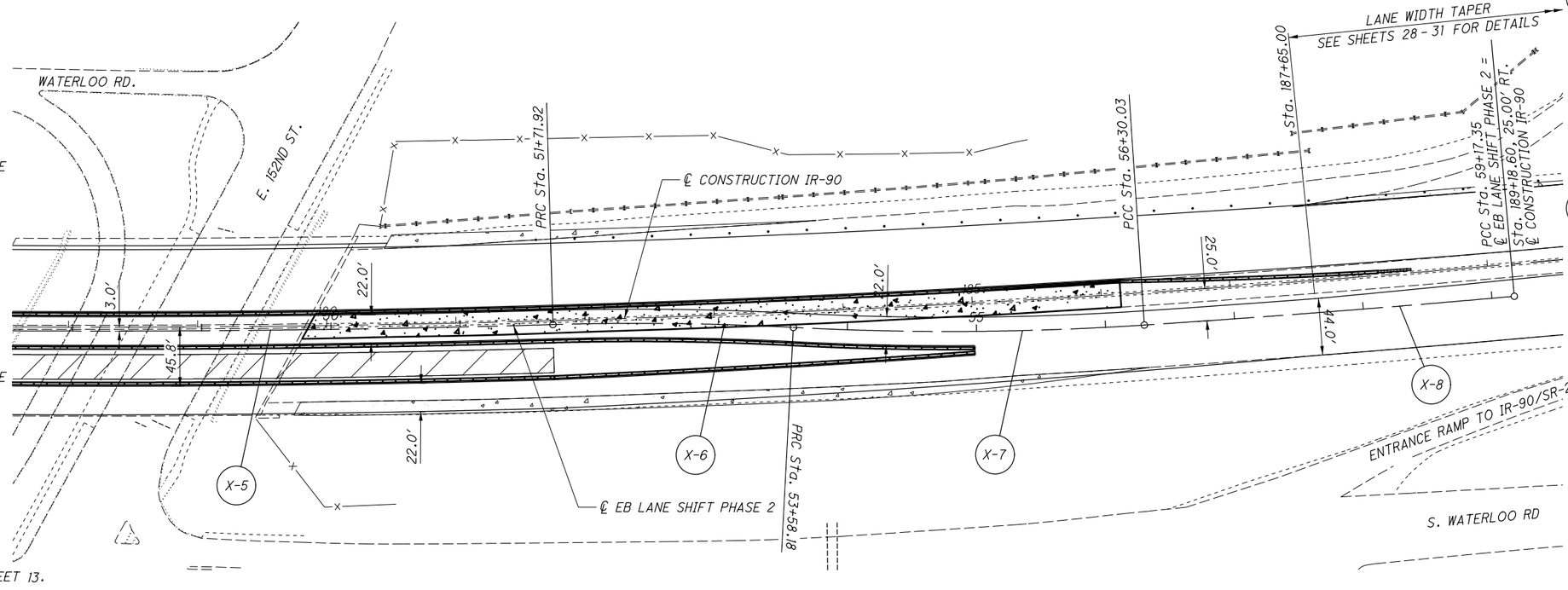
P.I. Sta. 52+65.10
Δ = 4° 38′ 24″ (RT)
Dc = 2° 29′ 28″
R = 2,300.00′
T = 93.18′
L = 186.26′
E = 1.89′
C = 186.21′
C.B. = N 68° 04′ 39″ E

X-7 **EB LANE SHIFT PHASE 2 CURVE DATA**

P.I. Sta. 54+94.26
Δ = 6° 46′ 19″ (LT)
Dc = 2° 29′ 28″
R = 2,300.00′
T = 136.08′
L = 271.85′
E = 4.02′
C = 271.69′
C.B. = N 67° 00′ 41″ E

X-8 **EB LANE SHIFT PHASE 2 CURVE DATA**

P.I. Sta. 57+73.70
Δ = 1° 20′ 17″ (LT)
Dc = 0° 27′ 57″
R = 12,302.58′
T = 143.67′
L = 287.33′
E = 0.84′
C = 287.32′
C.B. = N 62° 57′ 23″ E



FOR LEGEND SEE SHEET 13.
FOR WB PHASE 2 LAYOUT SEES SHEETS 28 - 31 .

HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED BRO
CHECKED DRJ

EB LANE SHIFT DETAIL - PHASE 2
BEGIN & END EB LANE SHIFT

CUY-90-24.10/ 24.63

50
196

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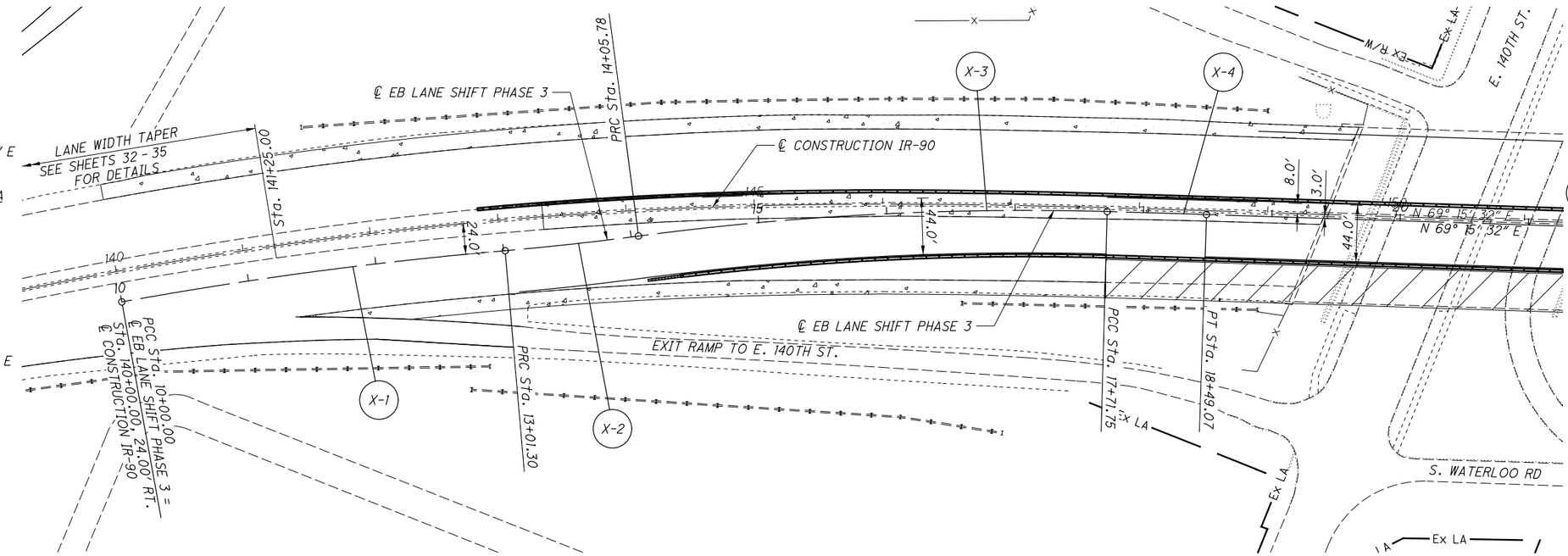
X-1 EB LANE SHIFT PHASE 3 CURVE DATA
P.I. Sta. 11+50.79
Δ = 5° 20′ 04″ (RT)
Dc = 1° 46′ 14″
R = 3,236.18′
T = 301.30′
L = 301.30′
E = 3.51′
C = 301.19′
C.B. = N 59° 46′ 56″ E

X-2 EB LANE SHIFT PHASE 3 CURVE DATA
P.I. Sta. 13+53.55
Δ = 2° 29′ 10″ (LT)
Dc = 2° 29′ 28″
R = 2,300.00′
T = 52.25′
L = 104.48′
E = 0.59′
C = 104.47′
C.B. = N 61° 08′ 53″ E

X-3 EB LANE SHIFT PHASE 3 CURVE DATA
P.I. Sta. 15+89.15
Δ = 9° 07′ 00″ (RT)
Dc = 2° 29′ 28″
R = 2,300.00′
T = 183.37′
L = 365.97′
E = 7.30′
C = 365.58′
C.B. = N 64° 24′ 18″ E

X-4 EB LANE SHIFT PHASE 3 CURVE DATA
P.I. Sta. 18+10.41
Δ = 0° 17′ 44″ (RT)
Dc = 0° 22′ 56″
R = 14,988.83′
T = 38.66′
L = 77.32′
E = 0.05′
C = 77.32′
C.B. = N 69° 06′ 40″ E

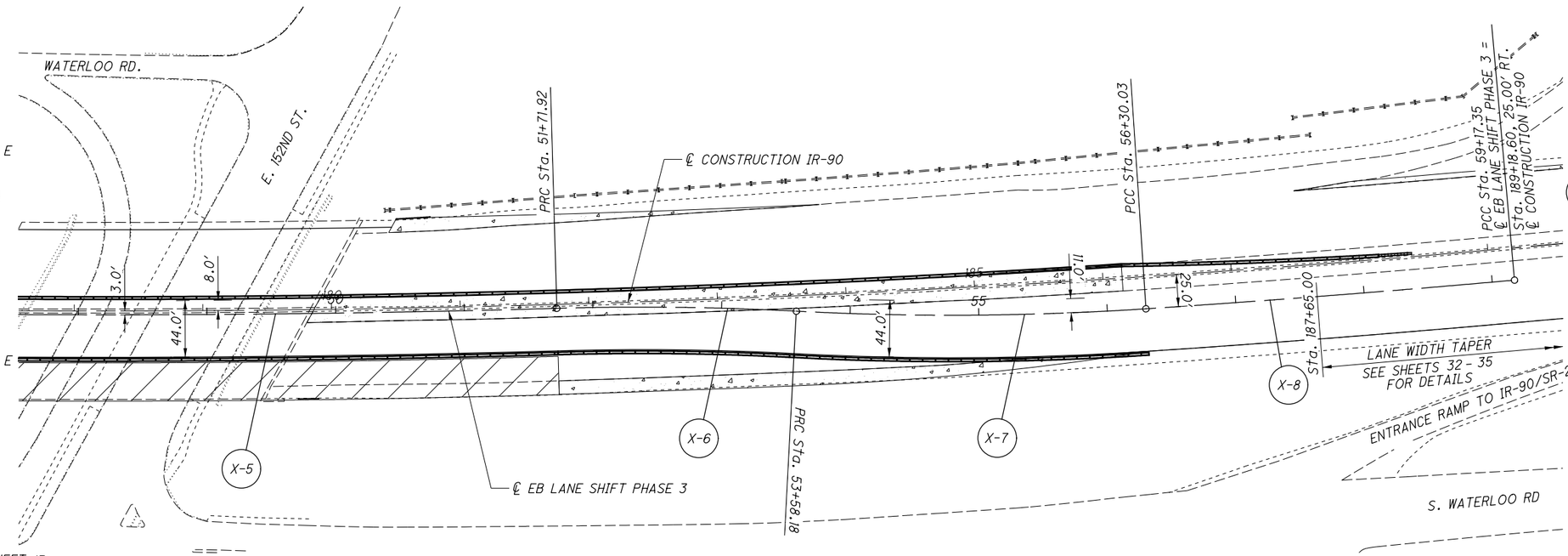


X-5 EB LANE SHIFT PHASE 3 CURVE DATA
P.I. Sta. 47+96.78
Δ = 3° 30′ 05″ (LT)
Dc = 0° 28′ 00″
R = 12,280.58′
T = 375.37′
L = 750.50′
E = 5.74′
C = 750.38′
C.B. = N 67° 30′ 29″ E

X-6 EB LANE SHIFT PHASE 3 CURVE DATA
P.I. Sta. 52+65.10
Δ = 4° 38′ 24″ (RT)
Dc = 2° 29′ 28″
R = 2,300.00′
T = 93.18′
L = 186.26′
E = 1.89′
C = 186.21′
C.B. = N 68° 04′ 39″ E

X-7 EB LANE SHIFT PHASE 3 CURVE DATA
P.I. Sta. 54+94.26
Δ = 6° 46′ 19″ (LT)
Dc = 2° 29′ 28″
R = 2,300.00′
T = 136.08′
L = 271.85′
E = 4.02′
C = 271.69′
C.B. = N 67° 00′ 41″ E

X-8 EB LANE SHIFT PHASE 3 CURVE DATA
P.I. Sta. 57+73.70
Δ = 1° 20′ 17″ (LT)
Dc = 0° 27′ 57″
R = 12,302.58′
T = 143.67′
L = 287.33′
E = 0.84′
C = 287.32′
C.B. = N 62° 57′ 23″ E



FOR LEGEND SEE SHEET 13.
FOR WB PHASE 3 LAYOUT SEE SHEETS 32 - 35 .

HORIZONTAL SCALE IN FEET
0 25 50 100
CALCULATED BRO
CHECKED DRJ

EB LANE SHIFT DETAIL - PHASE 3
BEGIN & END EB LANE SHIFT

CUY-90-24.10/ 24.63

51
196

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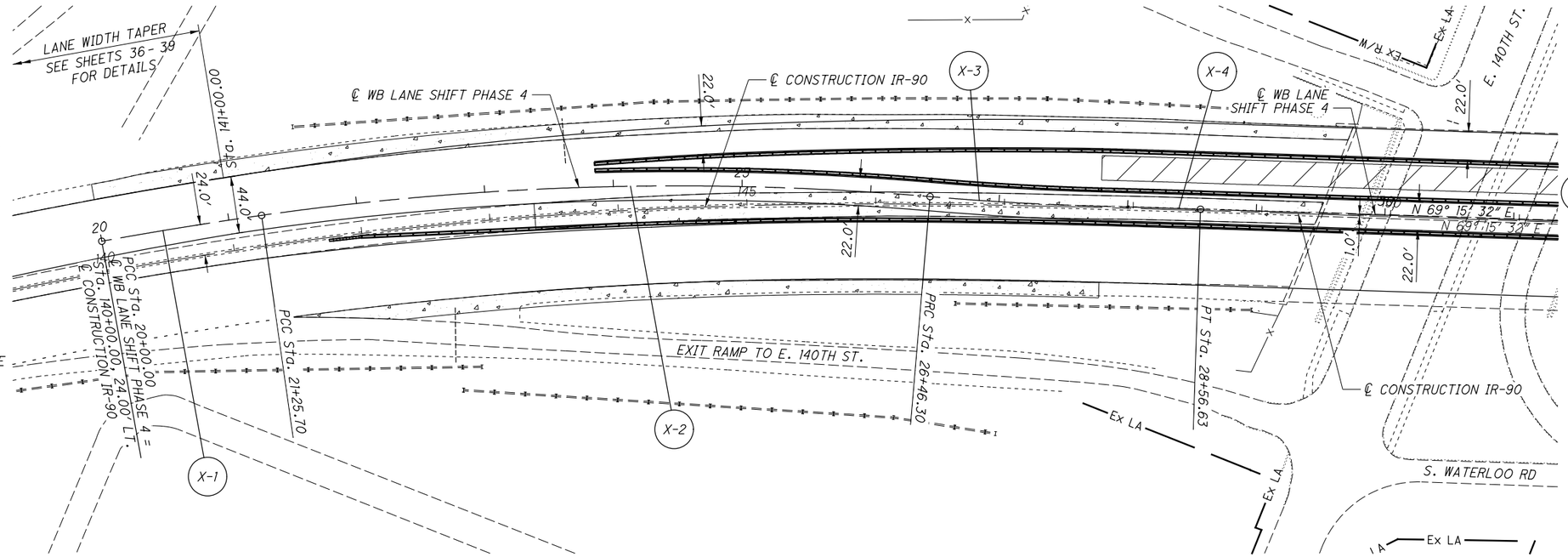
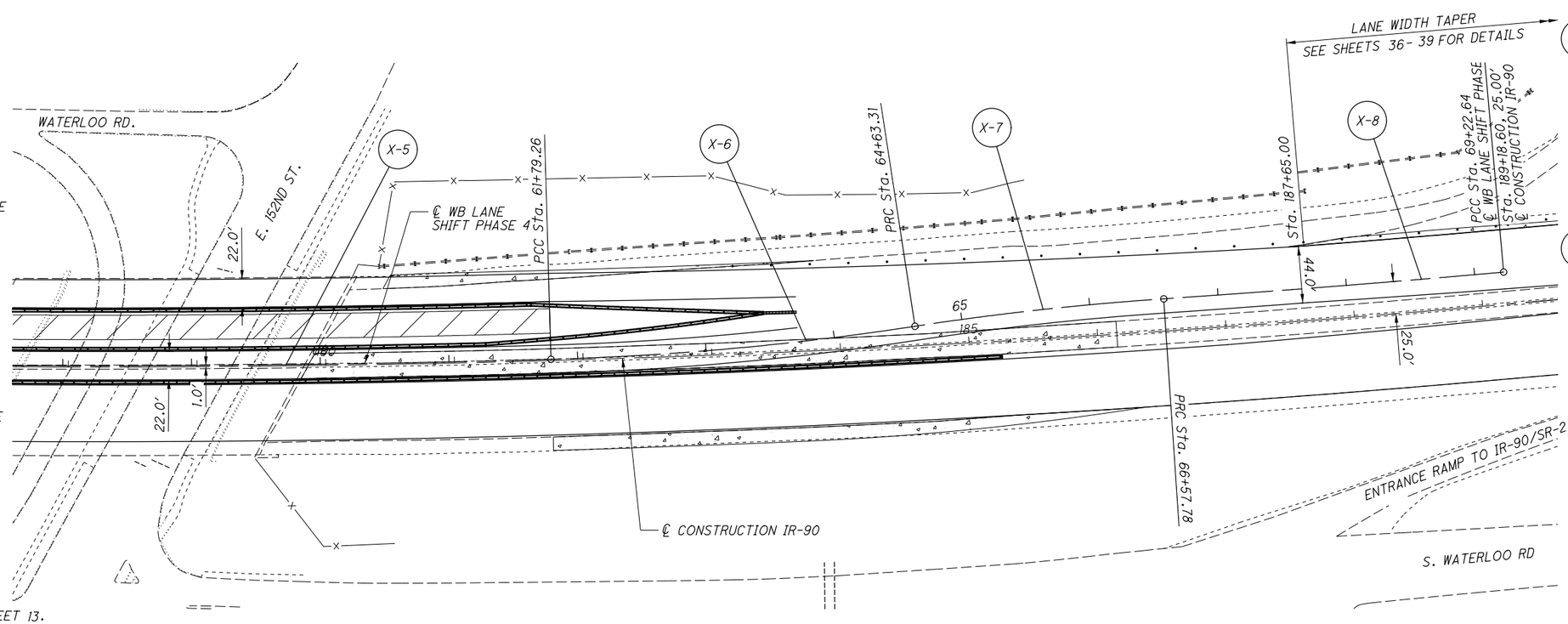


X-1 WB LANE SHIFT PHASE 4 CURVE DATA
P.I. Sta. 20+62.86
Δ = 2° 11' 34" (RT)
Dc = 1° 44' 41"
R = 3,284.18'
T = 62.86'
L = 125.70'
E = 0.60'
C = 125.69'
C.B. = N 58° 12' 41" E

X-2 WB LANE SHIFT PHASE 4 CURVE DATA
P.I. Sta. 23+87.12
Δ = 12° 58' 08" (RT)
Dc = 2° 29' 28"
R = 2,300.00'
T = 261.42'
L = 520.60'
E = 14.81'
C = 519.49'
C.B. = N 65° 47' 32" E

X-3 WB LANE SHIFT PHASE 4 CURVE DATA
P.I. Sta. 27+12.82
Δ = 3° 18' 48" (LT)
Dc = 2° 29' 28"
R = 2,300.00'
T = 66.52'
L = 133.01'
E = 0.96'
C = 132.99'
C.B. = N 70° 37' 12" E

X-4 WB LANE SHIFT PHASE 4 CURVE DATA
P.I. Sta. 28+17.97
Δ = 0° 17' 44" (RT)
Dc = 0° 22' 57"
R = 14,983.99'
T = 38.66'
L = 77.32'
E = 0.05'
C = 77.32'
C.B. = N 69° 06' 40" E



X-5 WB LANE SHIFT PHASE 4 CURVE DATA
P.I. Sta. 58+04.24
Δ = 3° 30' 05" (LT)
Dc = 0° 28' 00"
R = 12,276.58'
T = 375.25'
L = 750.26'
E = 5.73'
C = 750.14'
C.B. = N 67° 30' 29" E

X-6 WB LANE SHIFT PHASE 4 CURVE DATA
P.I. Sta. 63+21.46
Δ = 7° 04' 34" (LT)
Dc = 2° 29' 28"
R = 2,300.00'
T = 142.21'
L = 284.06'
E = 4.39'
C = 283.88'
C.B. = N 62° 13' 09" E

X-7 WB LANE SHIFT PHASE 4 CURVE DATA
P.I. Sta. 65+60.61
Δ = 4° 50' 40" (RT)
Dc = 2° 29' 28"
R = 2,300.00'
T = 97.29'
L = 194.47'
E = 2.06'
C = 194.41'
C.B. = N 61° 06' 13" E

X-8 WB LANE SHIFT PHASE 4 CURVE DATA
P.I. Sta. 67+90.22
Δ = 1° 14' 19" (LT)
Dc = 0° 28' 03"
R = 12,252.58'
T = 132.43'
L = 264.86'
E = 0.72'
C = 264.85'
C.B. = N 62° 54' 23" E

FOR LEGEND SEE SHEET 13.
FOR EB PHASE 3 LAYOUT SEE SHEETS 36 - 39.

WB LANE SHIFT DETAIL - PHASE 4 BEGIN & END WB LANE SHIFT

CUY-90-24.10/24.63

52
196

HORIZONTAL SCALE IN FEET: 0, 25, 50, 100
CALCULATED BRO
CHECKED DRJ

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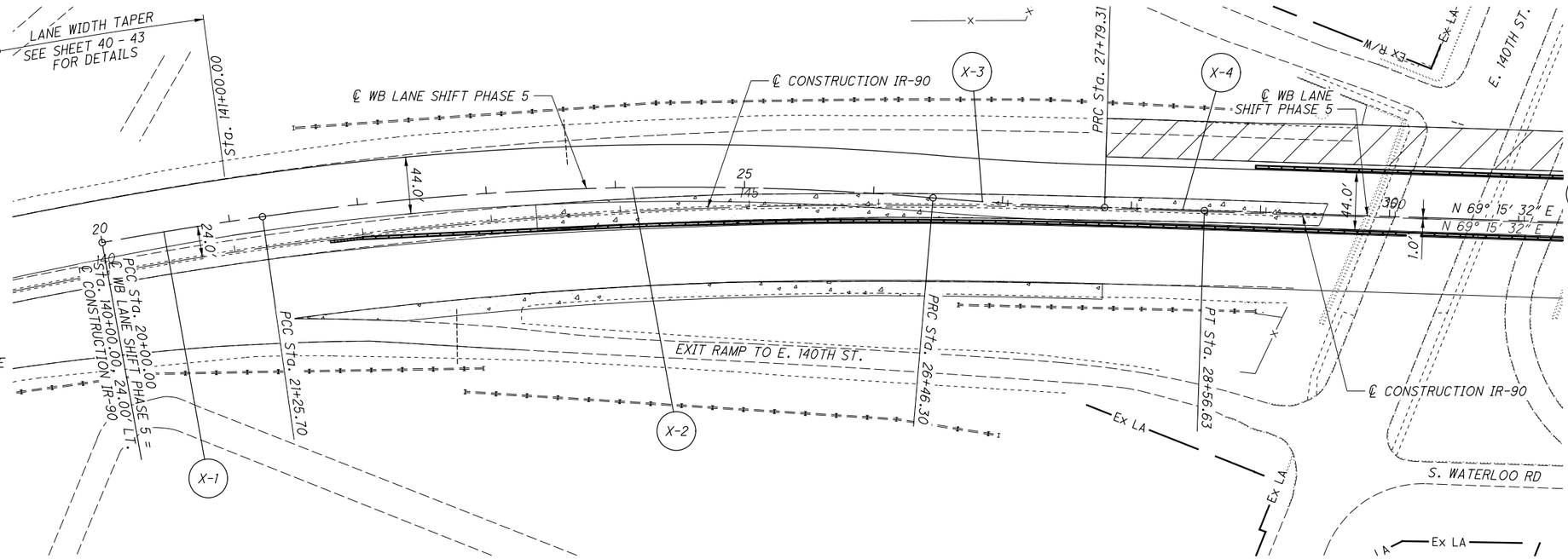
X-1 **WB LANE SHIFT PHASE 5 CURVE DATA**
P.I. Sta. 20+62.86
Δ = 2° 11′ 34″ (RT)
Dc = 1° 44′ 41″
R = 3,284.18′
T = 62.86′
L = 125.70′
E = 0.60′
C = 125.69′
C.B. = N 58° 12′ 41″ E

X-2 **WB LANE SHIFT PHASE 5 CURVE DATA**
P.I. Sta. 23+87.12
Δ = 12° 58′ 08″ (RT)
Dc = 2° 29′ 28″
R = 2,300.00′
T = 261.42′
L = 520.60′
E = 14.81′
C = 519.49′
C.B. = N 65° 47′ 32″ E

X-3 **WB LANE SHIFT PHASE 5 CURVE DATA**
P.I. Sta. 27+12.82
Δ = 3° 18′ 48″ (LT)
Dc = 2° 29′ 28″
R = 2,300.00′
T = 66.52′
L = 133.01′
E = 0.96′
C = 132.99′
C.B. = N 70° 37′ 12″ E

X-4 **WB LANE SHIFT PHASE 5 CURVE DATA**
P.I. Sta. 28+17.97
Δ = 0° 22′ 57″ (RT)
Dc = 0° 22′ 57″
R = 14,983.99′
T = 38.66′
L = 77.32′
E = 0.05′
C = 77.32′
C.B. = N 69° 06′ 40″ E

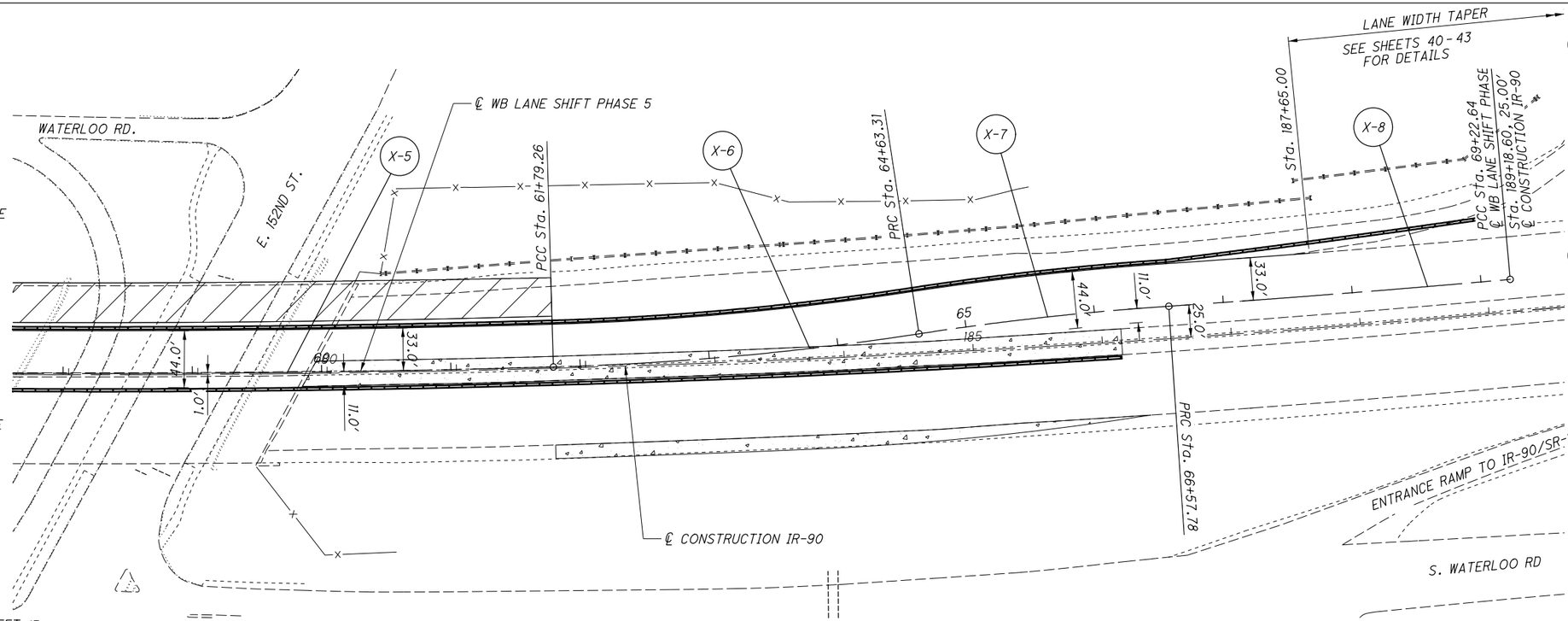


X-5 **WB LANE SHIFT PHASE 5 CURVE DATA**
P.I. Sta. 58+04.24
Δ = 3° 30′ 05″ (LT)
Dc = 0° 28′ 00″
R = 12,276.58′
T = 375.25′
L = 750.26′
E = 5.73′
C = 750.14′
C.B. = N 67° 30′ 29″ E

X-6 **WB LANE SHIFT PHASE 5 CURVE DATA**
P.I. Sta. 63+21.46
Δ = 7° 04′ 34″ (LT)
Dc = 2° 29′ 28″
R = 2,300.00′
T = 142.21′
L = 284.06′
E = 4.39′
C = 283.88′
C.B. = N 62° 13′ 09″ E

X-7 **WB LANE SHIFT PHASE 5 CURVE DATA**
P.I. Sta. 65+60.61
Δ = 4° 50′ 40″ (RT)
Dc = 2° 29′ 28″
R = 2,300.00′
T = 97.29′
L = 194.47′
E = 2.06′
C = 194.41′
C.B. = N 61° 06′ 13″ E

X-8 **WB LANE SHIFT PHASE 5 CURVE DATA**
P.I. Sta. 67+90.22
Δ = 1° 14′ 19″ (LT)
Dc = 0° 28′ 03″
R = 12,252.58′
T = 264.86′
L = 264.86′
E = 0.72′
C = 264.85′
C.B. = N 62° 54′ 23″ E



FOR LEGEND SEE SHEET 13.

N

HORIZONTAL SCALE IN FEET
0 25 50 100

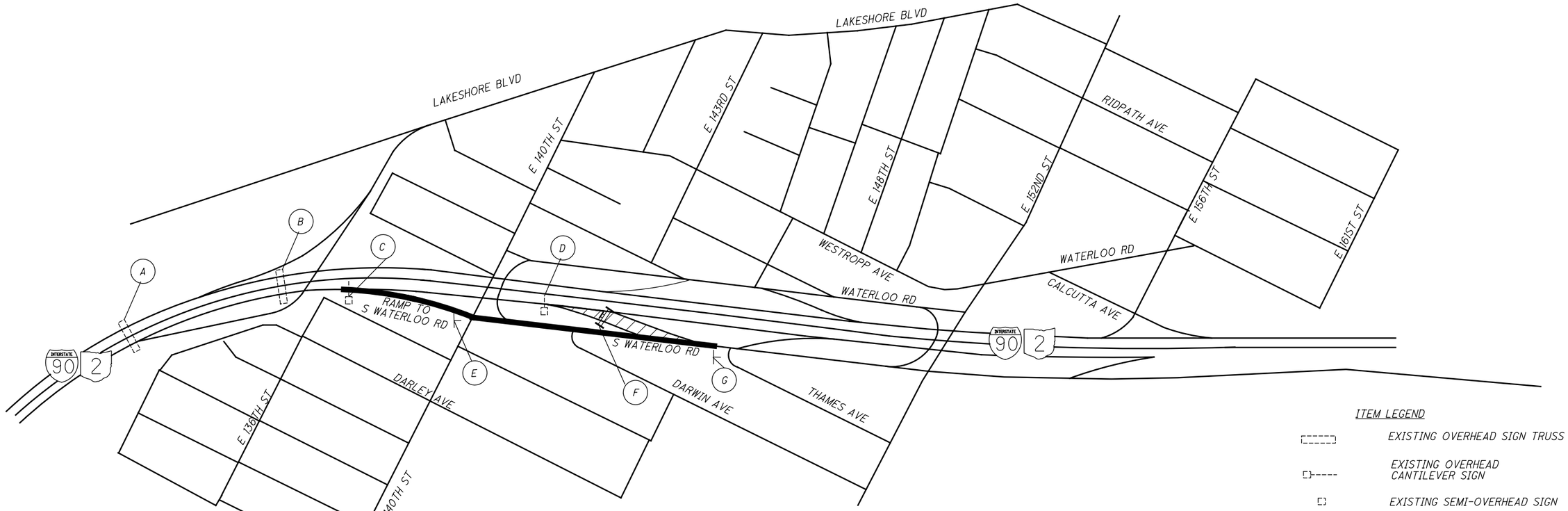
CALCULATED BRO
CHECKED DRJ

WB LANE SHIFT DETAIL - PHASE 5
BEGIN & END WB LANE SHIFT

CUY-90-24.10/24.63

53
196

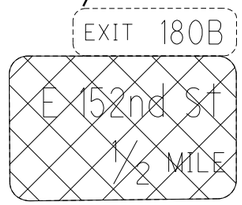
G:\Project\TOHODTIL.PEO\Drawing\88348\Design\MOT\Sheets\88348_MM05i.dgn 1/14/2019 12:42:59 PM borr

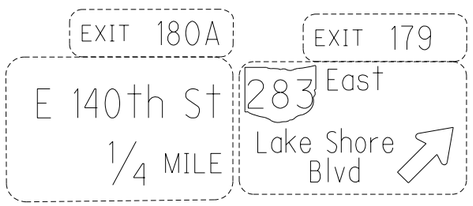


CLOSURE FOR PHASE 3

A

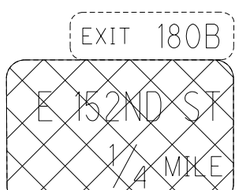
OVERLAY OV-1 OVER EXISTING OVERHEAD E 152ND ST GUIDE SIGN





B

OVERLAY OV-2 OVER EXISTING OVERHEAD E 152ND ST GUIDE SIGN



F

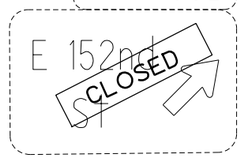
R11-2-48

CLOSED PER MT-101.60

G

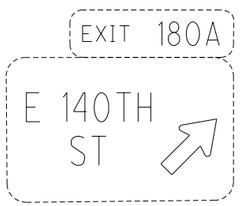
M4-8A-24

D

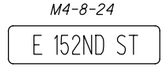


OVERLAY OV-3 OVER EXISTING OVERHEAD E 152ND ST GUIDE SIGN

C



M4-8-24



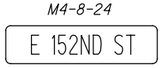
D3-1-24

M6-2R-30

ATTACH TO EXISTING SIGN CANTILEVER

E

M4-8-24



D3-1-24

M6-3-21

ITEM LEGEND

- EXISTING OVERHEAD SIGN TRUSS
- EXISTING OVERHEAD CANTILEVER SIGN
- EXISTING SEMI-OVERHEAD SIGN
- TEMPORARY SIGN SUPPORT
- TYPE III BARRICADE
- DETOUR ROUTE
- WORK AREA
- DETOUR ROUTE
- SIGN OVERLAY

NOTES:

1. CLOSURE SHALL OCCUR DURING PHASE 3.

2. WHENEVER THE CLOSURE OCCURS, THE TOTAL DETOUR SIGNING AS INDICATED ON THIS PLAN SHALL BE IMPLEMENTED.

3. DETOUR SIGNS SHALL BE UNCOVERED AND VISABLE TO TRAFFIC ONLY WHEN THE STREET CLOSURE IS IN EFFECT.

4. DISTANCE BETWEEN ADVANCE WARNING SIGNS IS 250' MINIMUM UNLESS NOTED OTHERWISE. THEIR PLACEMENT SHALL BE IN ACCORDANCE WITH THE OMUTCD.

5. FOR ADDITIONAL SIGNS SEE OTHER MOT SHEETS.

6. FOR OVERLAY DETAILS, SEE SHEETS 58 AND 59.

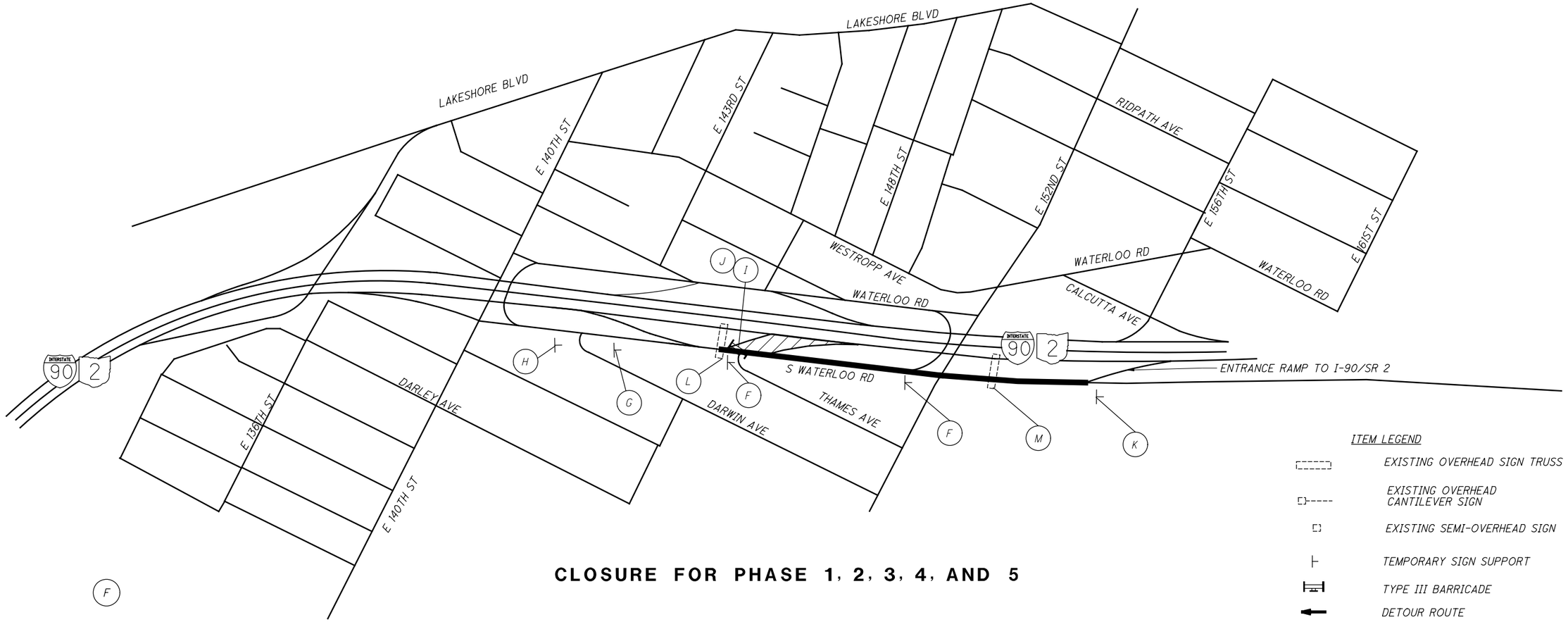
7. EXIT RAMP CLOSURES SHALL BE PER MT-98.29 AND ENTRANCE RAMP CLOSURES SHALL BE PER MT-101.60 AT THE INTERSECTION.

NOT TO SCALE

CALCULATED BRO
CHECKED DRJ

DETOUR PLAN
EB IR-90/SR-2 EXIT RAMP TO E152ND ST

CUY-90-24.10/24.63



CLOSURE FOR PHASE 1, 2, 3, 4, AND 5

ITEM LEGEND

- EXISTING OVERHEAD SIGN TRUSS
- EXISTING OVERHEAD CANTILEVER SIGN
- EXISTING SEMI-OVERHEAD SIGN
- TEMPORARY SIGN SUPPORT
- TYPE III BARRICADE
- DETOUR ROUTE
- WORK AREA
- DETOUR ROUTE
- SIGN OVERLAY

F

DETOUR M4-8-24 | DETOUR M4-8-24

EAST M3-2-24 | EAST M3-2-24

INTERSTATE 90 M1-1-36-2 | 2 M1-5-36

M6-3-24 | M6-3-24

G

DETOUR AHEAD

W20-2-36

H

ROAD WORK AHEAD

W20-1-36

I

DETOUR

M4-10R-48

J

ROAD CLOSED

R11-2-48

CLOSED PER MT-101.60

K

END DETOUR

M4-8A-24

L

INTERSTATE 90 2 EAST

CLOSED

Erie Pa

E 152nd St

OVERLAY OV-4 OVER EXISTING GUIDE SIGN

M

INTERSTATE 90 2 EAST

Erie Pa

S Waterloo Rd

NOTES:

1. CLOSURE SHALL OCCUR DURING ALL PHASES EXCEPT PHASE 6.

2. WHENEVER THE CLOSURE OCCURS, THE TOTAL DETOUR SIGNING AS INDICATED ON THIS PLAN SHALL BE IMPLEMENTED.

3. DETOUR SIGNS SHALL BE UNCOVERED AND VISABLE TO TRAFFIC ONLY WHEN THE STREET CLOSURE IS IN EFFECT.

4. DISTANCE BETWEEN ADVANCE WARNING SIGNS IS 250' MINIMUM UNLESS NOTED OTHERWISE. THEIR PLACEMENT SHALL BE IN ACCORDANCE WITH THE OMUTCD.

5. FOR ADDITIONAL SIGNS SEE OTHER MOT SHEETS.

6. FOR OVERLAY DETAILS, SEE SHEETS 58 AND 59.

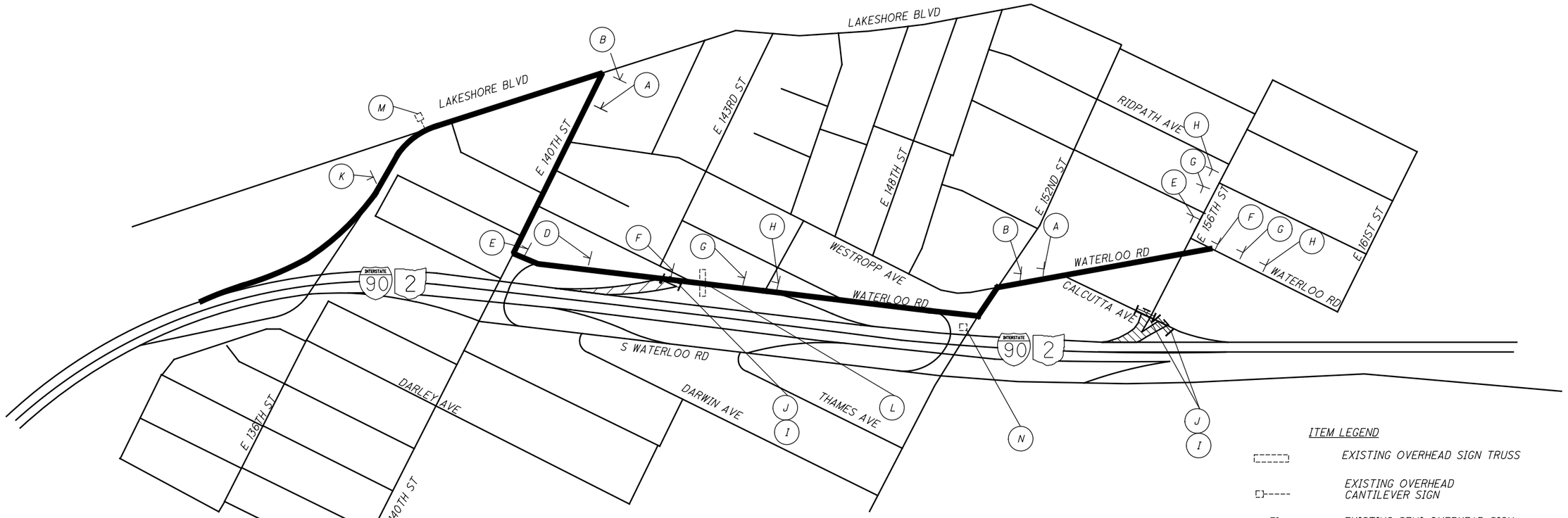
7. EXIT RAMP CLOSURES SHALL BE PER MT-98.29 AND ENTRANCE RAMP CLOSURES SHALL BE PER MT-101.60 AT THE INTERSECTION.

NOT TO SCALE

CALCULATED BRO
CHECKED DRJ

DETOUR PLAN - E 140TH ST ENTRANCE RAMP TO EB IR-90/SR-2

CUY-90-24.10/24.63



CLOSURES FOR PHASE 1, 2, 3, 4, AND 5

A

DETOUR M4-8-24 | DETOUR M4-8-24
WEST M3-4-24 | WEST M3-4-24
INTERSTATE 90 M1-1-36-2 | 2 M1-5-36
M5-1L-21 | M5-1L-21

B

DETOUR M4-8-24 | DETOUR M4-8-24
WEST M3-4-24 | WEST M3-4-24
INTERSTATE 90 M1-1-36-2 | 2 M1-5-36
M6-1L-21 | M6-1L-21

D

DETOUR M4-8-24 | DETOUR M4-8-24
WEST M3-4-24 | WEST M3-4-24
INTERSTATE 90 M1-1-36-2 | 2 M1-5-36
M5-1R-21 | M5-1R-21

E

DETOUR M4-8-24 | DETOUR M4-8-24
WEST M3-4-24 | WEST M3-4-24
INTERSTATE 90 M1-1-36-2 | 2 M1-5-36
M6-1R-21 | M6-1R-21

F

DETOUR M4-8-24 | DETOUR M4-8-24
WEST M3-4-24 | WEST M3-4-24
INTERSTATE 90 M1-1-36-2 | 2 M1-5-36
M6-3-24 | M6-3-24

G

DETOUR AHEAD
W20-2-36

H

ROAD WORK AHEAD
W20-1-36

I

DETOUR M4-10R-48
OR
DETOUR M4-10L-48

J

ROAD CLOSED
R11-2-48
CLOSED PER MT-101.60

K

END DETOUR
M4-8A-24

L

INTERSTATE 90 2 WEST
CLOSED
Downtown

E 152nd St
E 140th St

OVERLAY OV-5 OVER EXISTING GUIDE SIGN

M

INTERSTATE 90 2 WEST
Downtown

N

INTERSTATE 90 2 WEST
Downtown

ITEM LEGEND

- EXISTING OVERHEAD SIGN TRUSS
- EXISTING OVERHEAD CANTILEVER SIGN
- EXISTING SEMI-OVERHEAD SIGN
- TEMPORARY SIGN SUPPORT
- TYPE III BARRICADE
- DETOUR ROUTE
- WORK AREA
- DETOUR ROUTE
- SIGN OVERLAY

NOTES:

1. CLOSURE FOR EAST 156TH STREET SHALL OCCUR DURING ALL PHASES EXCEPT PHASE 6. CLOSURE FOR EAST 152ND STREET SHALL OCCUR DURING ALL PHASES EXCEPT PHASES 2, 3 AND 6.

2. WHENEVER THE CLOSURE OCCURS, THE TOTAL DETOUR SIGNING AS INDICATED ON THIS PLAN SHALL BE IMPLEMENTED.

3. DETOUR SIGNS SHALL BE UNCOVERED AND VISABLE TO TRAFFIC ONLY WHEN THE STREET CLOSURE IS IN EFFECT.

4. DISTANCE BETWEEN ADVANCE WARNING SIGNS IS 250' MINIMUM UNLESS NOTED OTHERWISE. THEIR PLACEMENT SHALL BE IN ACCORDANCE WITH THE OMUTCD.

5. FOR ADDITIONAL SIGNS SEE OTHER MOT SHEETS.

6. FOR OVERLAY DETAILS, SEE SHEETS 58 AND 59.

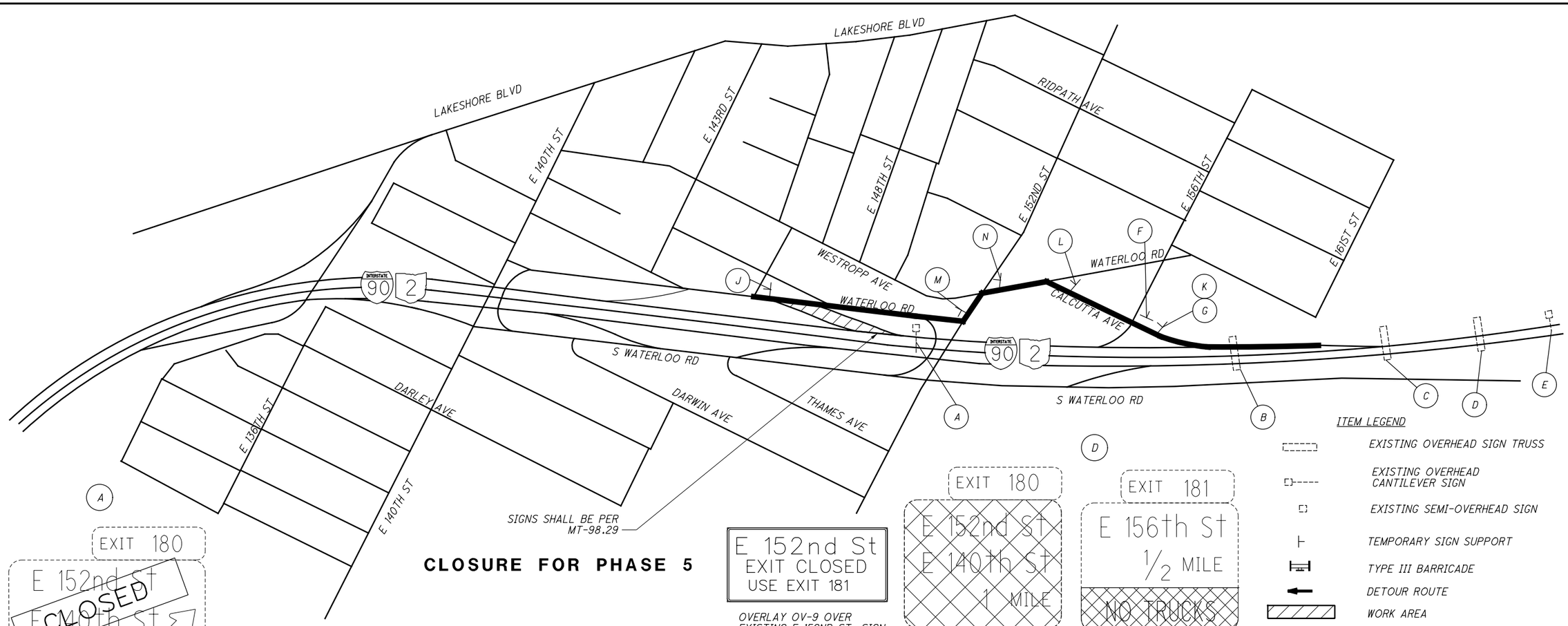
7. EXIT RAMP CLOSURES SHALL BE PER MT-98.29 AND ENTRANCE RAMP CLOSURES SHALL BE PER MT-101.60 AT THE INTERSECTION.

NOT TO SCALE

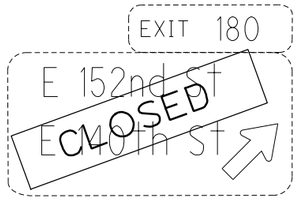
CALCULATED BRO
CHECKED DRJ

DETOUR PLAN - E 152ND & 156TH ENTRANCE RAMP TO WB IR-90/SR-2

CUY-90-24.10/24.63



CLOSURE FOR PHASE 5



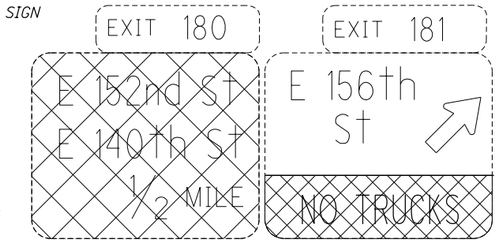
OVERLAY OV-6 OVER EXISTING GUIDE SIGN

OVERLAY OV-9 OVER EXISTING E 152ND ST. SIGN

OVERLAY OV-12 OVER EXISTING NO TRUCKS GUIDE SIGN

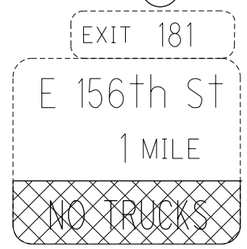
B

OVERLAY OV-7 OVER EXISTING
E 152ND ST.
E 140TH ST.
GUIDE SIGN



OVERLAY OV-10 OVER EXISTING NO TRUCKS GUIDE SIGN

E



OVERLAY OV-18 OVER EXISTING NO TRUCKS GUIDE SIGN

F

R5-2-36

G

M4-4-24

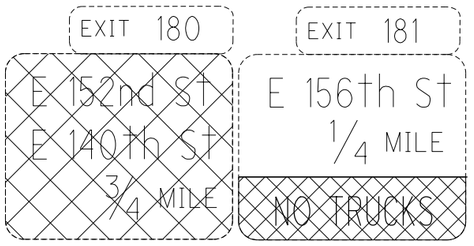
R3-1-36

J

M4-8A-24

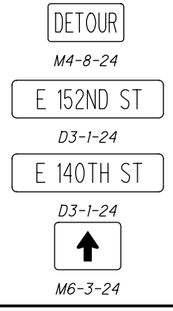
C

OVERLAY OV-8 OVER EXISTING
E 152ND ST.
E 140TH ST.
GUIDE SIGN



OVERLAY OV-11 OVER EXISTING NO TRUCKS GUID SIGN

K

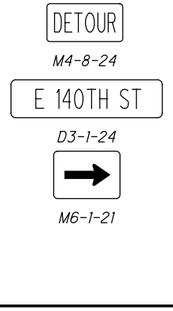


M4-8-24
D3-1-24
D3-1-24
M6-3-24

L

M4-8-24
D3-1-24
D3-1-24
M6-1-21

M



M4-8-24
D3-1-24
M6-1-21

N

M4-8-24

ITEM LEGEND

- EXISTING OVERHEAD SIGN TRUSS
- EXISTING OVERHEAD CANTILEVER SIGN
- EXISTING SEMI-OVERHEAD SIGN
- TEMPORARY SIGN SUPPORT
- TYPE III BARRICADE
- DETOUR ROUTE
- WORK AREA
- DETOUR ROUTE
- SIGN OVERLAY

NOTES:

1. CLOSURE SHALL OCCUR DURING PHASE 5 PAVEMENT RAISING ONLY. SEE NOTES FOR DETAILS.
2. WHENEVER THE CLOSURE OCCURS, THE TOTAL DETOUR SIGNING AS INDICATED ON THIS PLAN SHALL BE IMPLEMENTED.
3. DETOUR SIGNS SHALL BE UNCOVERED AND VISABLE TO TRAFFIC ONLY WHEN THE STREET CLOSURE IS IN EFFECT.
4. DISTANCE BETWEEN ADVANCE WARNING SIGNS IS 250' MINIMUM UNLESS NOTED OTHERWISE. THEIR PLACEMENT SHALL BE IN ACCORDANCE WITH THE OMUTCD.
5. FOR ADDITIONAL SIGNS SEE OTHER MOT SHEETS.
6. FOR OVERLAY DETAILS, SEE SHEETS 58 AND 59.
7. EXIT RAMP CLOSURES SHALL BE PER MT-98.29 AND ENTRANCE RAMP CLOSURES SHALL BE PER MT-101.60 AT THE INTERSECTION.

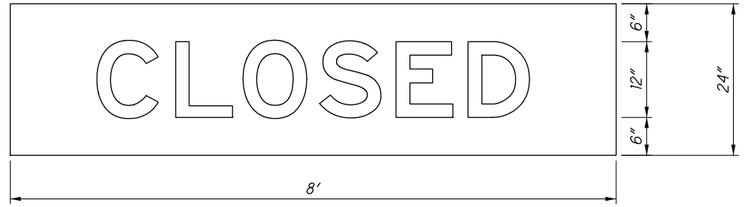
NOT TO SCALE

CALCULATED BRO
CHECKED DRJ

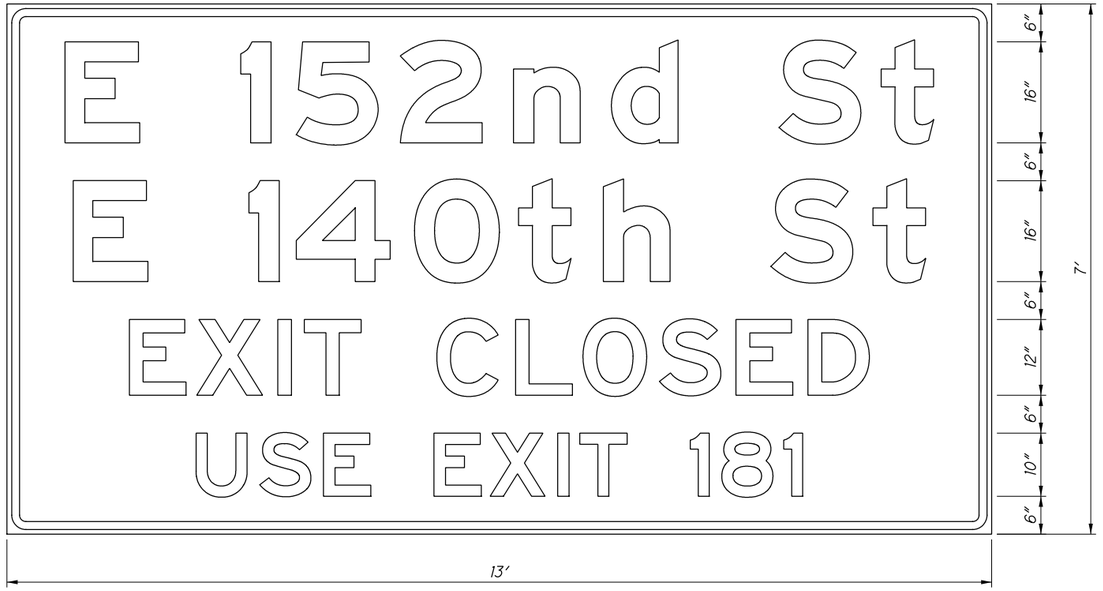
DETOUR PLAN
WB IR-90/ SR-2 EXIT RAMP TO E140TH ST

CUY-90-24.10/ 24.63

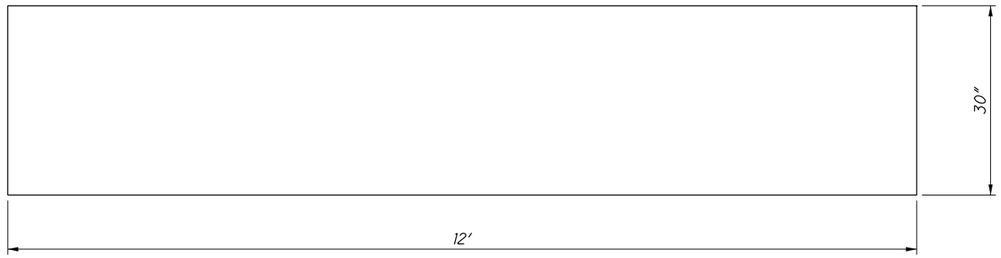
OV-1, OV-2
3" RADIUS, 1.25" BORDER, 0.75" INDENT
BLACK LETTERS ON ORANGE BACKGROUND
"E 152nd St" TYPE E MOD FONT
"EXIT CLOSED" TYPE E FONT
"USE EXIT 180A" TYPE E FONT



OV-3, OV-4, OV-5, OV-6, OV-17, OV-19
NO BORDER
BLACK LETTERS ON ORANGE BACKGROUND
"CLOSED" TYPE E FONT



OV-7, OV-8, OV-9
3" RADIUS, 1.25" BORDER, 0.75" INDENT
BLACK LETTERS ON ORANGE BACKGROUND
"E 152nd St" TYPE E MOD FONT
"E 140th St" TYPE E MOD FONT
"EXIT CLOSED" TYPE E FONT
"USE EXIT 181" TYPE E FONT



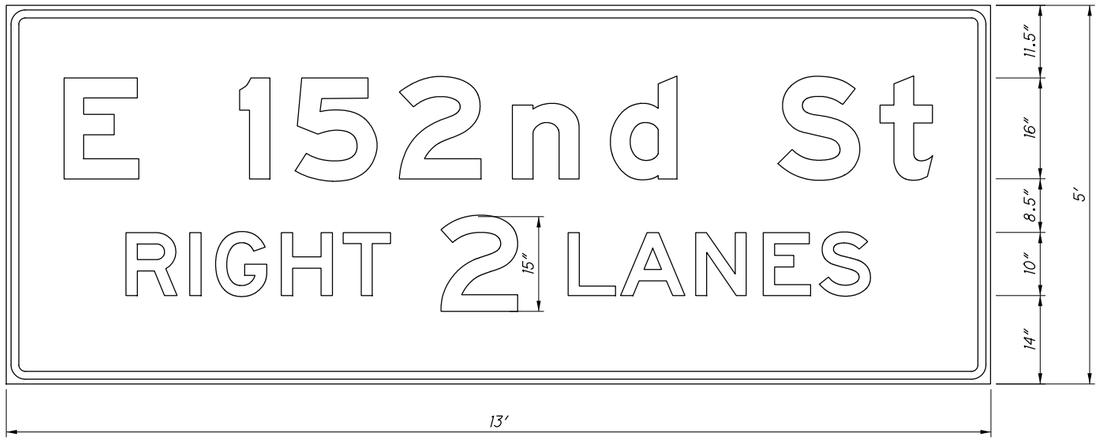
OV-10, OV-11, OV-12, OV-18
NO BORDER
BLANK ORANGE OVERLAY

CALCULATED BRO
CHECKED DRJ

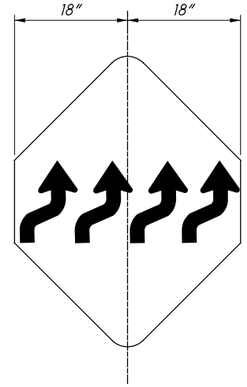
OFFICE OF TRAFFIC SIGNING DETAILS

MAINTENANCE OF TRAFFIC

CUY-90-24.10/ 24.63



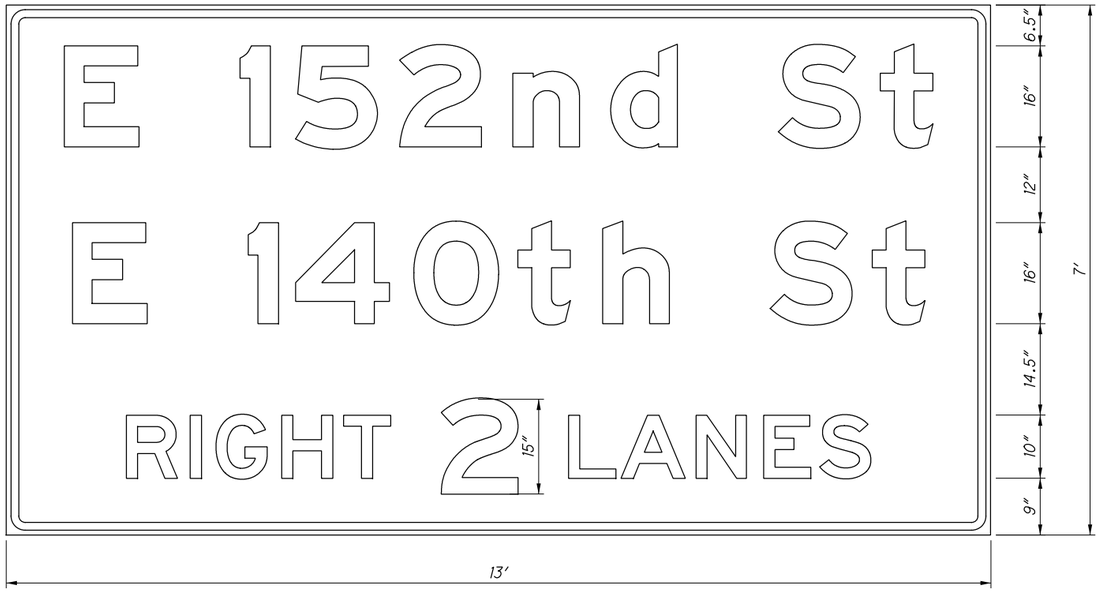
OV-13, OV-20
3″ RADIUS, 1.25″ BORDER, 0.75″ INDENT
BLACK LETTERS ON ORANGE BACKGROUND
"E 152nd St" TYPE E MOD FONT
"RIGHT 2 LANES" TYPE E FONT



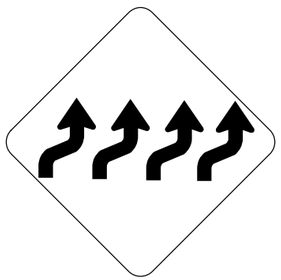
SIGN MOD-1
W1-4c-36

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

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



OV-14, OV-15, OV-16
3″ RADIUS, 1.25″ BORDER, 0.75″ INDENT
BLACK LETTERS ON ORANGE BACKGROUND
"E 152nd St" TYPE E MOD FONT
"E 140th St" TYPE E MOD FONT
"RIGHT 2 LANES" TYPE E FONT



SIGN MOD-2
W1-4c-48

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

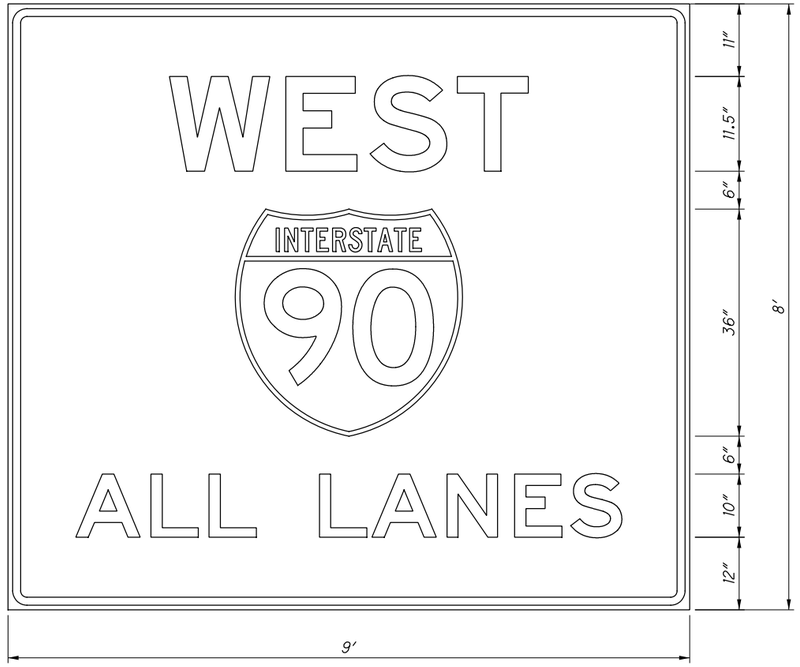
CALCULATED BRO
CHECKED DRJ

MAINTENANCE OF TRAFFIC SIGNING DETAILS

CUY-90-24.10/24.63

59
196

3″ RADIUS, 1.25″ BORDER, 0.75″ INDENT
BLACK LETTERS ON ORANGE BACKGROUND
"EAST" TYPE E FONT
"ALL LANES" TYPE E FONT

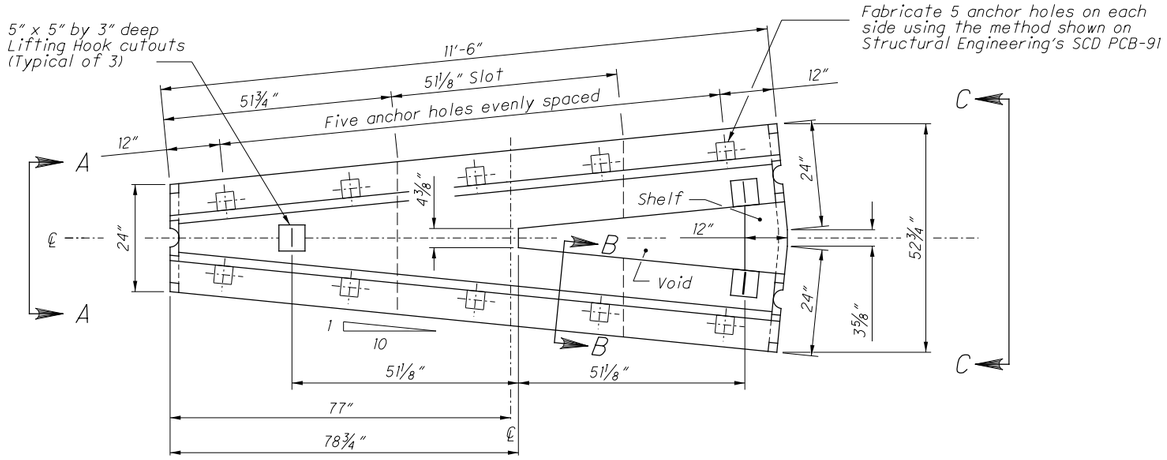


3″ RADIUS, 1.25″ BORDER, 0.75″ INDENT
BLACK LETTERS ON ORANGE BACKGROUND
"WEST" TYPE E FONT
"ALL LANES" TYPE E FONT

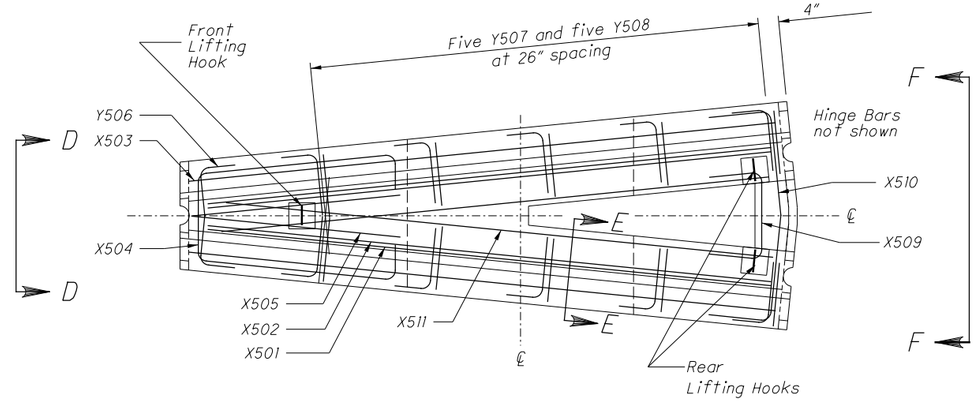
CALCULATED BRO
CHECKED DRJ

MAINTENANCE OF TRAFFIC SIGNING DETAILS

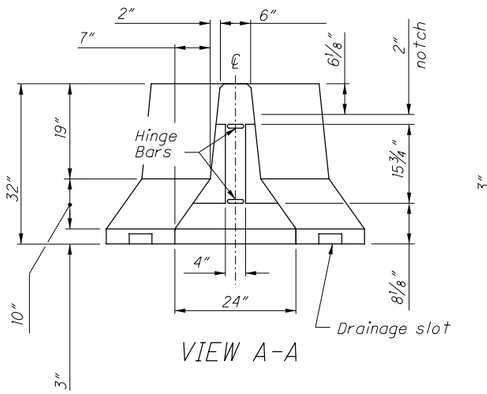
CUY-90-24.10/24.63



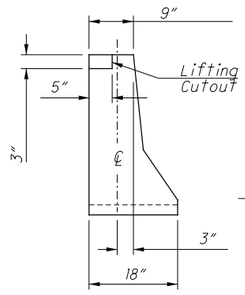
PLAN



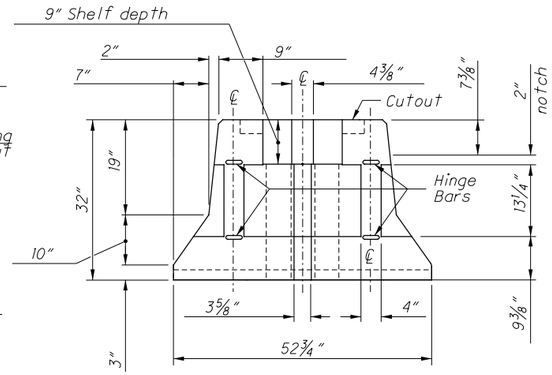
REINFORCING PLAN VIEW



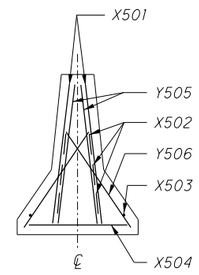
VIEW A-A



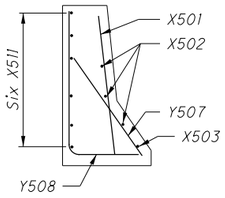
SECTION B-B



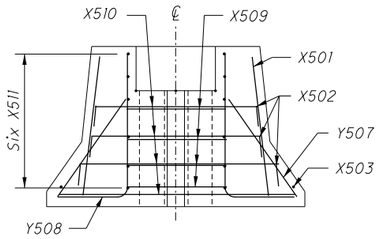
VIEW C-C



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.

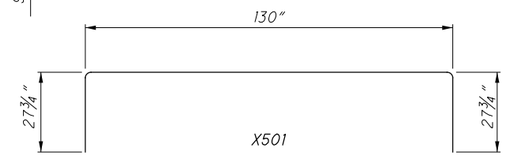
BARRIER DETAILS: Use SCD RM-4.2 for details not shown here, including the geometry of this pin and loop segment matches in every way the design of the end connections shown on the HINGED CONNECTION and JOINT CONNECTION Details (the alternate J-J Hooks connection design is permitted). Additionally, barrier 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 4/16/2010 CHECKED .

PLAN INSERT SHEET

*PCB "Y" CONNECTOR SEGMENT

CUY-90-24.10/24.63

1 / 1

61
196

G:\Project\TOHODT11.PE01\Drawing\88348\Design\MOT\Sheets\PCB_Y_PIS_4_16_2010.dgn 1/14/2019 12:43:02 PM borr

SHEET NUM.												PART.		ITEM	ITEM EXT	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
6	7	8	10	11	67	68	69					01/IMS/BR							
																		ROADWAY	
LS												LS		201	11000	LS		CLEARING AND GRUBBING	
					418							418		202	30000	418	SF	WALK REMOVED	
					3,782							3,782		202	30700	3,782	FT	CONCRETE BARRIER REMOVED	
					63							63		202	32000	63	FT	CURB REMOVED	
					2,282							2,282		202	38001	2,282	FT	GUARDRAIL REMOVED, AS PER PLAN	6
		350										350		SPECIAL	20270110	350	FT	PIPE CLEANOUT, 24" AND UNDER	8
	75											75		203	10000	75	CY	EXCAVATION	
							1,480					1,480		204	10000	1,480	SY	SUBGRADE COMPACTION	
		320										320		209	10001	320	FT	DITCH CLEANOUT, AS PER PLAN	8
17												17		209	60200	17	STA	LINEAR GRADING	
					20.4							20.4		209	60201	20.4	STA	LINEAR GRADING, AS PER PLAN	7
					2,087.5							2,087.5		606	15050	2,087.5	FT	GUARDRAIL, TYPE MGS	
					1							1		606	26550	1	EACH	ANCHOR ASSEMBLY, MGS TYPE T	
					6							6		606	35002	6	EACH	MGS BRIDGE TERMINAL ASSEMBLY, TYPE 1	
					4							4		606	35102	4	EACH	MGS BRIDGE TERMINAL ASSEMBLY, TYPE 2	
					600							600		607	22001	600	FT	FENCE REBUILT, TYPE CL, AS PER PLAN	6
					418							418		608	10000	418	SF	4" CONCRETE WALK	
					35							35		608	52000	35	SF	CURB RAMP	
					227							227		609	24510	227	FT	CURB, TYPE 4-C	
					3,171							3,171		622	10100	3,171	FT	CONCRETE BARRIER, SINGLE SLOPE, TYPE B1	
					2							2		622	10200	2	EACH	BARRIER TRANSITION	
					17							17		622	25006	17	EACH	CONCRETE BARRIER, END ANCHORAGE, REINFORCED, TYPE B1	
																		EROSION CONTROL	
						9						9		601	32204	9	CY	ROCK CHANNEL PROTECTION, TYPE C WITH GEOTEXTILE FABRIC	
2												2		659	00100	2	EACH	SOIL ANALYSIS TEST	
151												151		659	00300	151	CY	TOPSOIL	
1,292												1,292		659	10000	1,292	SY	SEEDING AND MULCHING	
65												65		659	14000	65	SY	REPAIR SEEDING AND MULCHING	
65												65		659	15000	65	SY	INTER-SEEDING	
0.2												0.2		659	20000	0.2	TON	COMMERCIAL FERTILIZER	
0.27												0.27		659	31000	0.27	ACRE	LIME	
7												7		659	35000	7	MGAL	WATER	
12												12		659	40000	12	MSF	MOWING	
5,000												5,000		832	30000	5,000	EACH	EROSION CONTROL	
																		DRAINAGE	
						2.2						2.2		602	20000	2.2	CY	CONCRETE MASONRY	
						443						443		611	06701	443	FT	15" CONDUIT, TYPE F, AS PER PLAN	8
						8						8		611	98180	8	EACH	CATCH BASIN, NO. 3A	
						10						10		611	99101	10	EACH	INLET, NO. 3 FOR SINGLE SLOPE BARRIER, TYPE B1, AS PER PLAN	8
																		PAVEMENT	
	450											450		251	01020	450	SY	PARTIAL DEPTH PAVEMENT REPAIR (442)	
	500											500		252	01500	500	FT	FULL DEPTH PAVEMENT SAWING	
				47,115								47,115		254	01000	47,115	SY	PAVEMENT PLANING, ASPHALT CONCRETE, 1.5"	
							27,046					27,046		254	01000	27,046	SY	PAVEMENT PLANING, ASPHALT CONCRETE, 3.25"	
							18,207					18,207		254	01001	18,207	SY	PAVEMENT PLANING, ASPHALT CONCRETE, AS PER PLAN (0.5" TO 3.25")	7
	450											450		255	10160	450	SY	FULL DEPTH PAVEMENT REMOVAL AND RIGID REPLACEMENT, CLASS QC MS	
	75						247					322		304	20000	322	CY	AGGREGATE BASE	
							1,426					1,426		305	13011	1,426	SY	9" CONCRETE BASE, CLASS QC1, AS PER PLAN	7
	10											10		407	10000	10	GAL	TACK COAT	
							3,688					3,688		407	20000	3,688	GAL	NON-TRACKING TACK COAT	
			165									165		411	10000	165	CY	STABILIZED CRUSHED AGGREGATE	
					68							68		441	50701	68	CY	ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 1, (448), (UNDER GUARDRAIL), AS PER PLAN	7
				1,964			1,956					3,920		442	10001	3,920	CY	ASPHALT CONCRETE SURFACE COURSE, 12.5 MM, TYPE A (446), AS PER PLAN, PG-76-22M	7
							1,315					1,315		442	20200	1,315	CY	ASPHALT CONCRETE INTERMEDIATE COURSE, 19 MM, TYPE A (448), PG-76-22M	
							1,138					1,138		442	20201	1,138	CY	ASPHALT CONCRETE INTERMEDIATE COURSE, 19 MM, TYPE A (448), AS PER PLAN, PG-76-22M	7
					2.1							2.1		618	40600	2.1	MILE	RUMBLE STRIPS, (ASPHALT CONCRETE)	

CALCULATED MAK
CHECKED DRJ

GENERAL SUMMARY

CUY-90-24.10/24.63

SHEET NUM.												PART.		ITEM	ITEM EXT	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
90	91	98	111									01/IMS/BR							
																		LIGHTING	
		33										33		625	00480	33	EACH	CONNECTION, UNFUSED PERMANENT	
		4,767										4,767		625	23304	4,767	FT	NO. 8 AWG 600 VOLT DISTRIBUTION CABLE	
		1,538										1,538		625	25201	1,538	FT	CONDUIT, 1-1/4", 725.04, AS PER PLAN	97
		51										51		625	25402	51	FT	CONDUIT, 2", 725.05	
		1,026										1,026		625	25600	1,026	FT	CONDUIT, 4", 725.04	
		57										57		625	27501	57	EACH	LUMINAIRE, UNDERPASS, AS PER PLAN CPP STANDARD	97
		51										51		625	29000	51	FT	TRENCH	
		5										5		625	31510	5	EACH	PULL BOX REMOVED	
		1										1		625	31600	1	EACH	PULL BOX, MISC.: CPP STANDARD	97
		7										7		625	31600	7	EACH	PULL BOX, MISC.: ABOVE GRADE PULL BOX	97
		2										2		625	33000	2	EACH	STRUCTURE GROUNDING SYSTEM	
		2										2		625	34001	2	EACH	POWER SERVICE, AS PER PLAN	97
		2										2		625	34450	2	EACH	CONTROL CENTER CABINET, COMPLETE	
		51										51		625	36000	51	FT	PLASTIC CAUTION TAPE	
		LS										LS		SPECIAL	62540000	LS		MAINTAIN EXISTING LIGHTING	97
		57										57		625	75507	57	EACH	LUMINAIRE REMOVED, AS PER PLAN	97
		4										4		631	85030	4	EACH	DISCONNECT SWITCH, 100 AMP	
																		TRAFFIC CONTROL	
	34											34		620	00500	34	EACH	DELINEATOR, POST GROUND MOUNTED	
	208											208		621	00100	208	EACH	RPM	
	33											33		626	00110	33	EACH	BARRIER REFLECTOR, TYPE 2, ONE WAY	
	46											46		630	02100	46	FT	GROUND MOUNTED SUPPORT, NO. 2 POST	
	73											73		630	03100	73	FT	GROUND MOUNTED SUPPORT, NO. 3 POST	
	4											4		630	08600	4	EACH	SIGN POST REFLECTOR	
	3											3		630	31100	3	EACH	OVERHEAD SIGN SUPPORT, TYPE TC-9.10, DESIGN 1	
	2											2		630	79610	2	EACH	SIGN SUPPORT ASSEMBLY, BARRIER MOUNTED	
	12											12		630	80100	12	SF	SIGN, FLAT SHEET	
	133											133		630	80224	133	SF	SIGN, OVERHEAD EXTRUSHEET	
	3											3		630	84510	3	EACH	RIGID OVERHEAD SIGN SUPPORT FOUNDATION	
	4											4		630	84900	4	EACH	REMOVAL OF GROUND MOUNTED SIGN AND DISPOSAL	
	6											6		630	85100	6	EACH	REMOVAL OF GROUND MOUNTED SIGN AND REERECTION	
	4											4		630	86002	4	EACH	REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL	
	3											3		630	87400	3	EACH	REMOVAL OF OVERHEAD MOUNTED SIGN AND DISPOSAL	
3.8												3.8		646	10010	3.8	MILE	EDGE LINE, 6"	
6.5												6.5		646	10110	6.5	MILE	LANE LINE, 6"	
2,114												2,114		646	10310	2,114	FT	CHANNELIZING LINE, 12"	
2,719												2,719		646	20504	2,719	FT	DOTTED LINE, 6"	
																		STRUCTURE REPAIR (CUY-90-2410)	
			LS									LS		202	11203	LS		PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN	108
			1,814									1,814		202	11305	1,814	SY	PORTIONS OF STRUCTURE REMOVED, AS PER PLAN	108
			766									766		202	22901	766	SY	APPROACH SLAB REMOVED, AS PER PLAN	108
			100									100		257	10001	100	SY	DIAMOND GRINDING PORTLAND CEMENT CONCRETE PAVEMENT, AS PER PLAN	109
			LS									LS		503	11100	LS		COFFERDAMS AND EXCAVATION BRACING	
			68									68		503	21101	68	CY	UNCLASSIFIED EXCAVATION, AS PER PLAN	108
			466,071									466,071		509	10000	466,071	LB	EPOXY COATED REINFORCING STEEL	
			2,500									2,500		510	10000	2,500	EACH	DOWEL HOLES WITH NONSHRINK, NONMETALLIC GROUT	
			4									4		511	33501	4	EACH	SEMI-INTEGRAL DIAPHRAGM GUIDE, AS PER PLAN	109
			172									172		511	34413	172	CY	CLASS QC2 CONCRETE WITH QC/QA, SUPERSTRUCTURE, AS PER PLAN	108
			1,038									1,038		511	34447	1,038	CY	CLASS QC2 CONCRETE WITH QC/QA, BRIDGE DECK, AS PER PLAN	108
			189									189		511	34451	189	CY	CLASS QC2 CONCRETE WITH QC/QA, BRIDGE DECK (PARAPET), AS PER PLAN	108
			68									68		511	50211	68	CY	CLASS QC1 CONCRETE, SUBSTRUCTURE, AS PER PLAN	108
			2,432									2,432		512	10101	2,432	SY	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE), AS PER PLAN	110
			11									11		512	33300	11	SY	TYPE A WATERPROOFING	
			12,832									12,832		513	20000	12,832	EACH	WELDED STUD SHEAR CONNECTORS	
			85									85		513	95030	85	EACH	STRUCTURAL STEEL, MISC.: INTERMEDIATE CROSSFRAMES	109
			90,768									90,768		513	90000	90,768	LB	STRUCTURAL STEEL, MISC.: FATIGUE RETROFIT	109
			19									19		513	95030	19	EACH	STRUCTURAL STEEL, MISC.: TEMPORARY CROSSFRAMES FOR MAINTAINING TRAFFIC	109
			38,603									38,603		514	00050	38,603	SF	SURFACE PREPARATION OF EXISTING STRUCTURAL STEEL	

CALCULATED MAK
CHECKED DRJ

GENERAL SUMMARY

CUY-90-24.10/ 24.63

SHEET NUM.												PART.		ITEM	ITEM EXT	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
111	153											01/IMS/BR							
																		STRUCTURE REPAIR (CUY-90-2410) CONT.	
38,603												38,603		514	00056	38,603	SF	FIELD PAINTING OF EXISTING STRUCTURAL STEEL, PRIME COAT	
38,603												38,603		514	00060	38,603	SF	FIELD PAINTING STRUCTURAL STEEL, INTERMEDIATE COAT	
38,603												38,603		514	00067	38,603	SF	FIELD PAINTING STRUCTURAL STEEL, FINISH COAT, AS PER PLAN	109
65												65		514	00504	65	MNHR	GRINDING FINS, TEARS, SLIVERS ON EXISTING STRUCTURAL STEEL	
37												37		514	10000	37	EACH	FINAL INSPECTION REPAIR	
298												298		516	10010	298	FT	ARMORLESS PREFORMED JOINT SEAL	
298												298		516	10011	298	FT	ARMORLESS PREFORMED JOINT SEAL, AS PER PLAN	109
42												42		516	13600	42	SF	1" PREFORMED EXPANSION JOINT FILLER	
1,550												1,550		516	13900	1,550	SF	2" PREFORMED EXPANSION JOINT FILLER	
980												980		516	25000	980	SF	NYLON REINFORCED NEOPRENE SHEETING	
32												32		516	44201	32	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE	134
																		(NEOPRENE), AS PER PLAN, (3.128"x9.5"x18")	
48												48		516	44201	48	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE	134
																		(NEOPRENE), AS PER PLAN, (3.128"x14"x18")	
LS												LS		516	47001	LS		JACKING AND TEMPORARY SUPPORT OF SUPERSTRUCTURE, AS PER PLAN	109
164												164		518	21200	164	CY	POROUS BACKFILL WITH GEOTEXTILE FABRIC	
307												307		518	40000	307	FT	6" PERFORATED CORRUGATED PLASTIC PIPE	
73												73		518	40010	73	FT	6" NON-PERFORATED CORRUGATED PLASTIC PIPE, INCLUDING SPECIALS	
250												250		519	11101	250	SF	PATCHING CONCRETE STRUCTURE, AS PER PLAN	110
786												786		526	25001	786	SY	REINFORCED CONCRETE APPROACH SLABS (T=15"), AS PER PLAN	109
298												298		526	90030	298	FT	TYPE C INSTALLATION	
6												6		601	20000	6	SY	CRUSHED AGGREGATE SLOPE PROTECTION	
150												150		601	21001	150	SY	CONCRETE SLOPE PROTECTION, AS PER PLAN	110
3,262												3,262		SPECIAL	60610920	3,262	SF	NOISE BARRIER, BRIDGE MOUNTED	110
1,250												1,250		SPECIAL	60610920	1,250	SF	NOISE BARRIER, GROUND MOUNTED	110
																		STRUCTURE REPAIR (CUY-90-2463)	
	LS											LS		202	11203	LS		PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN	150
	1,814											1,814		202	11305	1,814	SY	PORTIONS OF STRUCTURE REMOVED, AS PER PLAN	150
	752											752		202	22901	752	SY	APPROACH SLAB REMOVED, AS PER PLAN	151
	106											106		257	10001	106	SY	DIAMOND GRINDING PORTLAND CEMENT CONCRETE PAVEMENT, AS PER PLAN	151
	LS											LS		503	11100	LS		COFFERDAMS AND EXCAVATION BRACING	
	72											72		503	21101	72	CY	UNCLASSIFIED EXCAVATION, AS PER PLAN	150
	503,281											503,281		509	10000	503,281	LB	EPOXY COATED REINFORCING STEEL	
	2,692											2,692		510	10000	2,692	EACH	DOWEL HOLES WITH NONSHRINK, NONMETALLIC GROUT	
	4											4		511	33501	4	EACH	SEMI-INTEGRAL DIAPHRAGM GUIDE, AS PER PLAN	151
	188											188		511	34413	188	CY	CLASS QC2 CONCRETE WITH QC/QA, SUPERSTRUCTURE, AS PER PLAN	150
	1,112											1,112		511	34447	1,112	CY	CLASS QC2 CONCRETE WITH QC/QA, BRIDGE DECK, AS PER PLAN	150
	203											203		511	34451	203	CY	CLASS QC2 CONCRETE WITH QC/QA, BRIDGE DECK (PARAPET), AS PER PLAN	150
	77											77		511	50211	77	CY	CLASS QC1 CONCRETE, SUBSTRUCTURE, AS PER PLAN	150
	75											75		511	71300	75	SY	CONCRETE, MISC.: MOLDED BRICK SURFACE	152
	75											75		511	71300	75	SY	CONCRETE, MISC.: STAINING CONCRETE SURFACES	152
	3											3		511	81300	3	EACH	CONCRETE, MISC.: MOCKUP MOLDED BRICK SURFACE	152
	75											75		512	10051	75	SY	SEALING OF CONCRETE SURFACES (NON-EPOXY), AS PER PLAN	152
	2,581											2,581		512	10101	2,581	SY	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE), AS PER PLAN	152
	11											11		512	33300	11	SY	TYPE A WATERPROOFING	
	13,280											13,280		513	20000	13,280	EACH	WELDED STUD SHEAR CONNECTORS	
	91											91		513	95030	91	EACH	STRUCTURAL STEEL, MISC.: INTERMEDIATE CROSSFRAMES	151
	94,360											94,360		513	90000	94,360	LB	STRUCTURAL STEEL, MISC.: FATIGUE RETROFIT	151
	22											22		513	95030	22	EACH	STRUCTURAL STEEL, MISC.: TEMPORARY CROSSFRAMES FOR MAINTAINING TRAFFIC	151
	44,470											44,470		514	00050	44,470	SF	SURFACE PREPARATION OF EXISTING STRUCTURAL STEEL	
	44,470											44,470		514	00056	44,470	SF	FIELD PAINTING OF EXISTING STRUCTURAL STEEL, PRIME COAT	
	44,470											44,470		514	00060	44,470	SF	FIELD PAINTING STRUCTURAL STEEL, INTERMEDIATE COAT	
	44,470											44,470		514	00067	44,470	SF	FIELD PAINTING STRUCTURAL STEEL, FINISH COAT, AS PER PLAN	151
	69											69		514	00504	69	MNHR	GRINDING FINS, TEARS, SLIVERS ON EXISTING STRUCTURAL STEEL	
	40											40		514	10000	40	EACH	FINAL INSPECTION REPAIR	
	320											320		516	10010	320	FT	ARMORLESS PREFORMED JOINT SEAL	
	316											316		516	10011	316	FT	ARMORLESS PREFORMED JOINT SEAL, AS PER PLAN	151
	42											42		516	13600	42	SF	1" PREFORMED EXPANSION JOINT FILLER	
	1,642											1,642		516	13900	1,642	SF	2" PREFORMED EXPANSION JOINT FILLER	
	1,078											1,078		516	25000	1,078	SF	NYLON REINFORCED NEOPRENE SHEETING	

CALCULATED MAK
CHECKED DRJ

GENERAL SUMMARY

CUY-90-24.10/ 24.63

SHEET NUM.												PART.		ITEM	ITEM EXT	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
9	10	11	12	13	23	153						01/IMS/BR							
																		STRUCTURE REPAIR (CUY-90-2463) CONT.	
						32						32		516	44201	32	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD	183
																		PLATE (NEOPRENE), AS PER PLAN, (3.128"x9.5"x18")	
						48						48		516	44201	48	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE	183
																		(NEOPRENE), AS PER PLAN, (3.128"x14"x18")	
						LS						LS		516	47001	LS		JACKING AND TEMPORARY SUPPORT OF SUPERSTRUCTURE, AS PER PLAN	151
						181						181		518	21200	181	CY	POROUS BACKFILL WITH GEOTEXTILE FABRIC	
						336						336		518	40000	336	FT	6" PERFORATED CORRUGATED PLASTIC PIPE	
						80						80		518	40010	80	FT	6" NON-PERFORATED CORRUGATED PLASTIC PIPE, INCLUDING SPECIALS	
						250						250		519	11101	250	SF	PATCHING CONCRETE STRUCTURE, AS PER PLAN	152
						775						775		526	25001	775	SY	REINFORCED CONCRETE APPROACH SLABS (T=15"), AS PER PLAN	151
						322						322		526	90030	322	FT	TYPE C INSTALLATION	
						6						6		601	20000	6	SY	CRUSHED AGGREGATE SLOPE PROTECTION	
						150						150		601	21001	150	SY	CONCRETE SLOPE PROTECTION, AS PER PLAN	152
						2,407						2,407		SPECIAL	60610920	2,407	SF	NOISE BARRIER, BRIDGE MOUNTED	152
						344						344		SPECIAL	60610920	344	SF	NOISE BARRIER, GROUND MOUNTED	152
						262						262		607	39901	262	FT	VANDAL PROTECTION FENCE, 6' STRAIGHT, COATED FABRIC, AS PER PLAN	182
																		MAINTENANCE OF TRAFFIC	
		450										450		611	04401	450	FT	12" CONDUIT, TYPE B, AS PER PLAN	11
		300										300		611	97011	300	FT	SLOTTED DRAIN, TYPE 2, AS PER PLAN, 12"	11
		600										600		614	11110	600	HOUR	LAW ENFORCEMENT OFFICER WITH PATROL CAR FOR ASSISTANCE	
				18								18		614	11500	18	MNTH	WORKSITE TRAFFIC SUPERVISOR	
		925										925		614	11630	925	FT	INCREASED BARRIER DELINEATION	
					11							11		614	12336	11	EACH	WORK ZONE IMPACT ATTENUATOR (UNIDIRECTIONAL)	
		LS										LS		614	12420	LS		DETOUR SIGNING	
	10											10		614	12484	10	EACH	WORK ZONE INCREASED PENALTIES SIGN	
	5											5		614	12500	5	EACH	REPLACEMENT SIGN	
		7,000										7,000		614	12801	7,000	EACH	WORK ZONE RAISED PAVEMENT MARKER, AS PER PLAN	11
		1,290										1,290		614	13310	1,290	EACH	BARRIER REFLECTOR, TYPE 1, BI-DIRECTIONAL	
	71											71		614	13314	71	EACH	BARRIER REFLECTOR, TYPE 3, ONE-WAY	
	71	1,020										1,091		614	13350	1,091	EACH	OBJECT MARKER, ONE WAY	
		3,600										3,600		614	18010	3,600	SF	MAINTAINING TRAFFIC, MISC.: DECK REPAIRS, AS DIRECTED	11
			36									36		614	18601	36	SNMT	PORTABLE CHANGEABLE MESSAGE SIGN, AS PER PLAN	12
				6.5	16.2							22.7		614	20110	22.7	MILE	WORK ZONE LANE LINE, CLASS I, 6", 642 PAINT	
				3.8	20.7							24.5		614	22110	24.5	MILE	WORK ZONE EDGE LINE, CLASS I, 6", 642 PAINT	
				2,100	60,144							62,244		614	23210	62,244	FT	WORK ZONE CHANNELIZING LINE, CLASS I, 12", 642 PAINT	
				2,700	6,155							8,855		614	24200	8,855	FT	WORK ZONE DOTTED LINE, CLASS I, 642 PAINT	
					233							233		614	28200	233	FT	WORK ZONE GORE MARKING, CLASS II, 642 PAINT	
												LS		615	10000	LS		ROADS FOR MAINTAINING TRAFFIC	
					15,939							15,939		615	20001	15,939	SY	PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A, AS PER PLAN	13
					33,660							33,660		622	41000	33,660	FT	PORTABLE BARRIER, 32"	
					11,890							11,890		622	41011	11,890	FT	PORTABLE BARRIER, 50", AS PER PLAN	9
					4,590							4,590		622	41020	4,590	FT	PORTABLE BARRIER, 32", BRIDGE MOUNTED	
					1,530							1,530		622	41031	1,530	FT	PORTABLE BARRIER, 50", BRIDGE MOUNTED, AS PER PLAN	9
					3							3		622	41050	3	EACH	PORTABLE BARRIER, "Y" CONNECTOR	
		613			1,123							1,736		630	80300	1,736	SF	SIGN, TEMPORARY OVERLAY	
		13			16							29		630	89894	29	EACH	REMOVAL OF TEMPORARY OVERLAY SIGN AND DISPOSAL	
	108											108		808	18700	108	SNMT	DIGITAL SPEED LIMIT (DSL) SIGN ASSEMBLY	
																		INCIDENTALS	
LS												LS		614	11000	LS		MAINTAINING TRAFFIC	
												18		619	16020	18	MNTH	FIELD OFFICE, TYPE C	
												LS		623	10001	LS		CONSTRUCTION LAYOUT STAKES AND SURVEYING, AS PER PLAN	6
												LS		624	10000	LS		MOBILIZATION	

CALCULATED MAK
CHECKED DRJ

GENERAL SUMMARY

CUY-90-24.10/ 24.63

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SHEET NO.	REFERENCE NO.	STATION FROM	STATION TO	SIDE	202 WALK REMOVED (SF)	202 CONCRETE BARRIER REMOVED (FT)	202 CURB REMOVED (FT)	202 GUARDRAIL REMOVED, AS PER PLAN (FT)	209 LINEAR GRADING, AS PER PLAN (STA)	441 ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 1, (448), (UNDER GUARDRAIL), AS PER PLAN (CY)	606 GUARDRAIL, TYPE MGS (FT)	606 ANCHOR ASSEMBLY, MGS TYPE T (EACH)	606 MGS BRIDGE TERMINAL ASSEMBLY, TYPE 1 (EACH)	606 MGS BRIDGE TERMINAL ASSEMBLY, TYPE 2 (EACH)	607 FENCE REBUILT, TYPE CL, AS PER PLAN (FT)	608 4" CONCRETE WALK (SF)	608 CURB RAMP (SF)	609 CURB, TYPE 4-C (FT)	618 RUMBLE STRIPS, (ASPHALT CONCRETE) (FT)	622 CONCRETE BARRIER, SINGLE SLOPE, TYPE B1 (FT)	622 BARRIER TRANSITION (EACH)	622 CONCRETE BARRIER, END ANCHORAGE, REINFORCED, TYPE B1 (EACH)		
		I.R. 90																						
70	B-1	143+35	152+50	℄		597														517	1	4		
70	GR-1	147+74	148+90	LT					1.1	4	112.5			1										
70	R-1	147+74	149+59	LT				185																
70	RS-1	147+75	152+50	RT														177						
70	RS-2	147+75	152+50	RT														177						
70	RS-3	147+75	152+50	LT														177						
70	RS-4	147+75	152+50	LT														177						
70	GR-2	147+77	148+77	RT					1.0	3	100.0		1											
70	R-2	147+77	149+08	RT				131																
70	F-1	148+34	148+69	RT											80									
70	C-1	148+66	148+93	RT													27							
70	R-3	148+86	149+04	LT			19																	
70	C-2	148+90	149+44	LT													54							
70	F-2	149+22	149+25	LT											20									
70	F-3	151+62	152+24	RT											130									
70	GR-3	151+81	152+50	RT					0.8	2	75.0			1										
70	C-3	151+91	152+01	RT													10							
70	R-4	151+80	152+50	LT				70																
70	C-4	152+41	152+50	LT													9							
71	C-1	152+50	152+68	LT													18							
71	GR-1	152+50	155+03	RT					2.5	8	250.0		1											
71	R-2	152+50	156+19	LT				369																
71	RS-1	152+50	156+83	RT														435						
71	RS-2	152+50	159+00	LT														652						
71	B-1	152+50	164+00	℄		1050														990		4		
71	RS-3	152+50	164+00	LT														1150						
71	RS-4	152+50	164+00	RT														1150						
71	GR-2	152+61	156+19	LT					3.6	12	362.5		1											
71	R-1	151+85	155+03	RT				318																
71	RS-5	156+83	164+00	RT														717						
71	RS-6	159+00	164+00	LT														500						
SUBTOTALS CARRIED TO SHEET 67					0	1647	19	1073	9.0	29	900.0	0	3	2	230	0	0	118	5312	1507	1	8		

CALCULATED MAK
CHECKED DRJ

ROADWAY SUBSUMMARY

CUY-90-24.10/ 24.63

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SHEET NO.	REFERENCE NO.	STATION FROM	STATION TO	SIDE	202 WALK REMOVED (SF)	202 CONCRETE BARRIER REMOVED (FT)	202 CURB REMOVED (FT)	202 GUARDRAIL REMOVED, AS PER PLAN (FT)	209 LINEAR GRADING, AS PER PLAN (STA)	441 ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 1, (448), (UNDER GUARDRAIL), AS PER PLAN (CY)	606 GUARDRAIL, TYPE MGS (FT)	606 ANCHOR ASSEMBLY, MGS TYPE T (EACH)	606 MGS BRIDGE TERMINAL ASSEMBLY, TYPE 1 (EACH)	606 MGS BRIDGE TERMINAL ASSEMBLY, TYPE 2 (EACH)	607 FENCE REBUILT, TYPE CL, AS PER PLAN (FT)	608 4" CONCRETE WALK (SF)	608 CURB RAMP (SF)	609 CURB, TYPE 4-C (FT)	618 RUMBLE STRIPS, (ASPHALT CONCRETE) (FT)	622 CONCRETE BARRIER, SINGLE SLOPE, TYPE B1 (FT)	622 BARRIER TRANSITION (EACH)	622 CONCRETE BARRIER, END ANCHORAGE, REINFORCED, TYPE B1 (EACH)		
		I.R. 90																						
72	B-1	164+00	176+00	℄		1140													1080		4			
72	RS-1	164+00	169+32	RT														532						
72	RS-2	164+00	171+65	LT														765						
72	RS-3	164+00	176+00	LT														1200						
72	RS-4	164+00	176+00	RT														1200						
72	RS-5	169+32	176+00	RT														674						
72	RS-6	171+65	176+00	LT														436						
72	GR-1	172+97	176+00	RT					3.0	10	300.0													
72	R-1	172+97	176+00	RT				303																
72	GR-2	173+20	176+00	LT					2.8	9	275.0		1											
72	R-2	173+20	176+00	LT				280																
73	GR-1	176+00	177+34	LT					1.4	4	137.5			1										
73	R-1	176+00	177+49	LT				149																
73	GR-2	176+00	176+45	RT						2	50.0		1											
73	R-2	176+00	176+74	RT				74																
73	RS-1	176+00	181+75	LT														259						
73	RS-2	176+00	181+75	LT														259						
73	RS-3	176+00	181+75	RT														259						
73	RS-4	176+00	181+75	RT														259						
73	B-1	176+00	186+15	℄		995													584	1	5			
73	F-1	176+26	176+88	RT											90									
73	C-1	176+40	176+61	RT													21							
73	R-3	176+52	176+70	RT			18																	
73	C-2	177+05	177+34	LT													29							
73	F-2	179+45	180+51	RT											140									
73	R-4	179+59	182+21	RT				262																
73	GR-3	179+63	182+71	RT					3.1	10	312.5	1		1										
73	C-3	179+73	179+89	RT													16							
73	F-3	180+23	181+60	LT											140									
73	R-5	180+38	181+79	LT				141																
73	R-6	180+50	180+60	LT			10																	
73	C-4	180+51	180+78	LT													27							
73	GR-4	180+66	181+79	LT					1.1	4	112.5		1											
87	SW-1	149+88	150+20	LT												375								
87	R-1	149+88	150+20	LT	375		16																	
87	C-1	149+88	150+20	LT													16							
87	CR-1	150+18		LT												35								
88	SW-1	179+71	179+78	LT												43								
88	R-1	179+71	179+78	LT	43																			
TOTALS FROM THIS SHEET					418	2135	44	1209	11	38	1187.5	1	3	2	370	418	35	109	5843	1664	1	9		
TOTALS FROM SHEET			**66**		0	1647	19	1073	9.0	29	900.0	0	3	2	230	0	0	118	5312	1507	1	8		
		TOTALS		FT															11155					
		TOTALS		MI															2.113					
TOTALS CARRIED TO GENERAL SUMMARY					418	3782	63	2282	20.4	68	2087.5	1	6	4	600	418	35	227	2.1	3171	2	17		

CALCULATED MAK
CHECKED DRJ

ROADWAY SUBSUMMARY

CUY-90-24.10/ 24.63

SHEET NO.	REFERENCE NO.	STATION FROM	STATION TO	SIDE	601 ROCK CHANNEL PROTECTION, TYPE C WITH GEOTEXTILE FABRIC CY	602 CONCRETE MASONRY CY	611 15" CONDUIT, TYPE F, AS PER PLAN FT	611 CATCH BASIN, NO. 3A EACH	611 INLET, NO. 3 FOR SINGLE SLOPE BARRIER, TYPE B1, AS PER PLAN EACH
		I.R. 90							
70	D-1	146+50		℄					1
70	D-2	148+69		RT	1.11	0.27	47	1	
70	D-3	148+93		LT	1.11	0.27	51	1	
70	D-4	151+98		RT	1.11	0.27	59	1	
71	D-1	152+65		LT	1.11	0.27	48	1	
71	D-2	154+00		℄					1
71	D-3	157+00		℄					1
71	D-4	160+00		℄					1
71	D-5	161+90		℄					1
71	D-6	163+08		℄					1
72	D-1	166+31		℄					1
72	D-2	169+47		℄					1
72	D-3	172+66		℄					1
73	D-1	176+43		RT	1.11	0.27	51	1	
73	D-2	177+09		LT	1.11	0.27	60	1	
73	D-3	179+86		RT	1.11	0.27	71	1	
73	D-4	180+75		LT	1.11	0.27	56	1	
73	D-5	182+48		℄					1
TOTALS CARRIED TO GENERAL SUMMARY					9	2.2	443	8	10

CALCULATED MAK
CHECKED DRJ

DRAINAGE SUBSUMMARY

CUY-90-24.10/24.63

STATION		SIDE	LENGTH (L)	AVERAGE WIDTH (W)	MAINLINE RESURFACED AREA	MAINLINE TRANSITION AREA	APPROACH SLAB AREA	RAMP RESURFACED AREA (CAD)	RAMP TRANSITION AREAS (CAD)	203 SUBGRADE COMPACTION	254 PAVEMENT PLANING, ASPHALT CONCRETE, AS PER PLAN (VARIES 0.5" TO 3.25±)	254 PAVEMENT PLANING, ASPHALT CONCRETE (3.25±)	304 AGGREGATE BASE	305 9" CONCRETE BASE, AS PER PLAN	407 NON-TRACKING TACK COAT (0.04 GAL/SY)	442 1.75" ASPHALT CONCRETE, INTERMEDIATE COURSE, 19 MM, TYPE A (448)	442 1.5" ASPHALT CONCRETE SURFACE COURSE, 12.5 MM, TYPE A (446), AS PER PLAN, PG76-22M	442 VARYING 2.75" TO 1.75" ASPHALT CONCRETE INTERMEDIATE COURSE, 19 MM, TYPE A (448), AS PER PLAN				
FROM	TO		FT	FT	SF	SF	SF	SF	SF	SY	SY	SY	CY	SY	GAL	CY	CY	CY				
I-90																						
143+35.00	147+75.00	LT & RT	440.00	17.20	7568									171	34		35					
147+75.00	149+18.30	LT & RT	143.30	133.20		19088					2121			56	170		88	133				
149+18.30	149+43.30	LT & RT	25.00	133.20			3330			370.0			62									
151+91.09	152+16.09	LT & RT	25.00	133.20			3330			370.0			62									
152+16.09	156+25.00	LT & RT	408.91	133.20		54467					6052			159	484		252	378				
156+25.00	173+00.00	LT & RT	1675.00	133.20	223110							24790		651	1983	1205	1033					
173+00.00	176+96.98	LT & RT	396.98	133.20		52878					5875			154	470		245	367				
176+96.98	177+21.98	LT & RT	25.00	133.20			3330			370.0			62									
179+87.12	180+12.12	LT & RT	25.00	133.20			3330			370.0			62									
180+12.12	181+75.00	LT & RT	162.88	133.20		21696					2411			63	193		100	151				
181+75.00	186+15.00	LT & RT	440.00	17.20	7568									171	34		35					
WB ENTRANCE																						
152+37.80	156+25.00	LT	387.20						3202		356				28		15	22				
156+25.00	159+00.00	LT	275.00					6424				714			57	35	30					
EB EXIT																						
151+90.83	156+25.00	RT	434.17						5653		628				50		26	39				
156+25.00	156+83.00	RT	58.00					2080				231			18	11	10					
WB EXIT																						
171+65.00	173+00.00	LT	135.00					3655				406			32	20	17					
173+00.00	177+33.97	LT	433.97						3491		388				31		16	24				
EB ENTRANCE																						
169+29.12	173+00.00	RT	370.88					8149				905			72	44	38					
173+00.00	176+66.00	RT	366.00						3386		376				30		16	24				
TOTALS										1480	18207	27046	247	1426	3688	1315	1956	1138				

CALCULATED MAK
CHECKED DRJ

PAVEMENT CALCULATIONS

CUY-90-24.10/24.63

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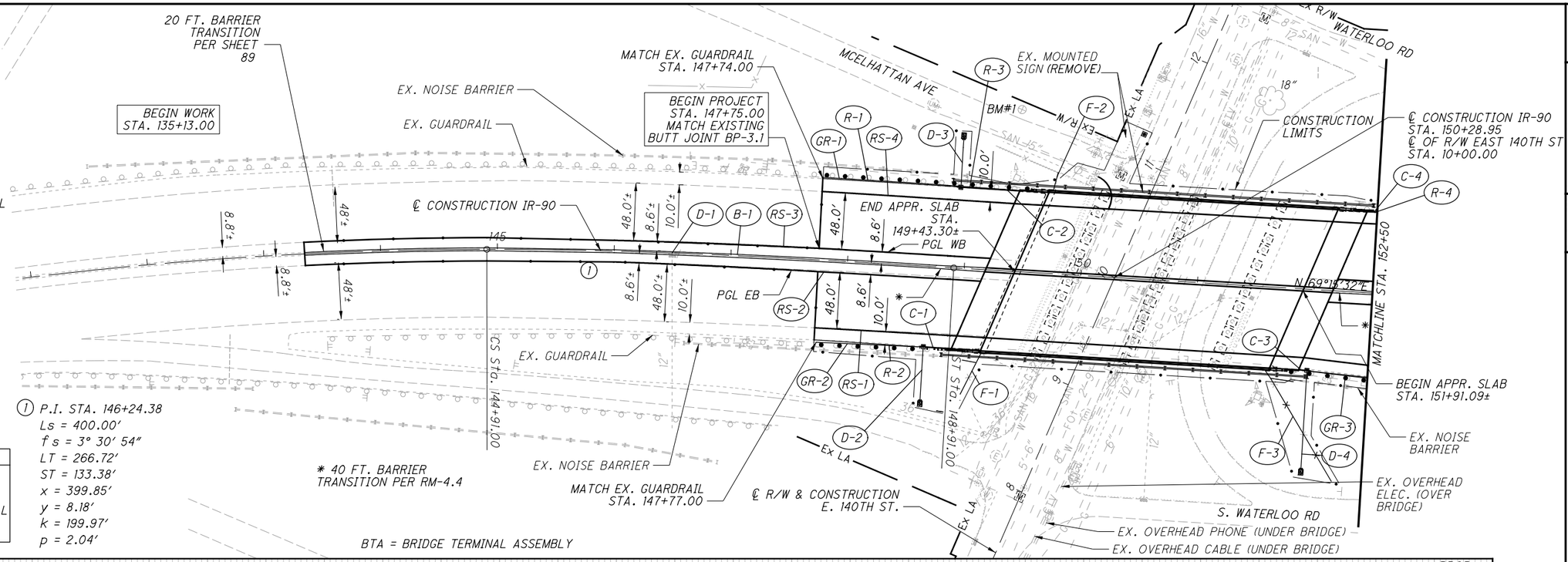
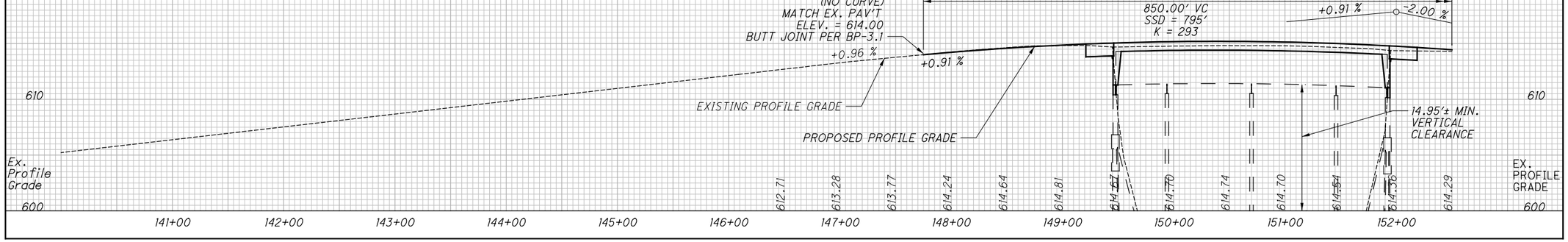
LEGEND:

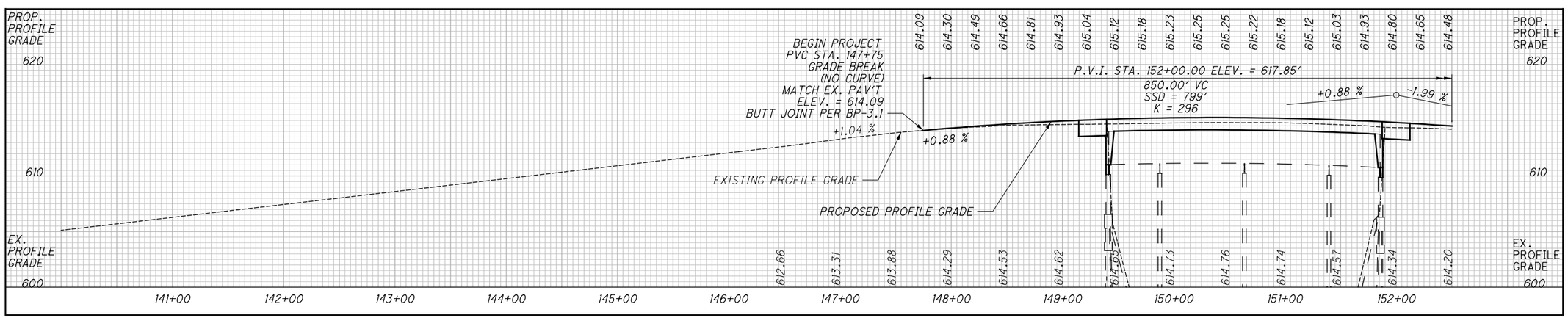
- (B-#) CONCRETE BARRIER
- (GR-#) GUARDRAIL, TYPE MGS
- (RS-#) RUMBLE STRIPS
- (C-#) CURB, TYPE 4-C
- (F-#) FENCE REBUILT, TYPE CL
- (D-#) DRAINAGE ITEMS
- (R-#) REMOVAL ITEMS

NOTES:
1) FOR E. 140TH ST. PLAN AND PROFILE, SEE SHEET 87 .
2) FOR ROADWAY QUANTITIES, SEE SHEET 66 .
3) FOR DRAINAGE QUANTITIES, SEE SHEET 68 .

BENCHMARK #1
STA. 149+41.3, 139.8' LT. ELEV. 598.98 TOP OF CONCRETE WALL, THE NW CORNER AT THE WEST END OF WALL AT THE NW CORNER OF E. 140TH STREET & McELHATTEN AVE.





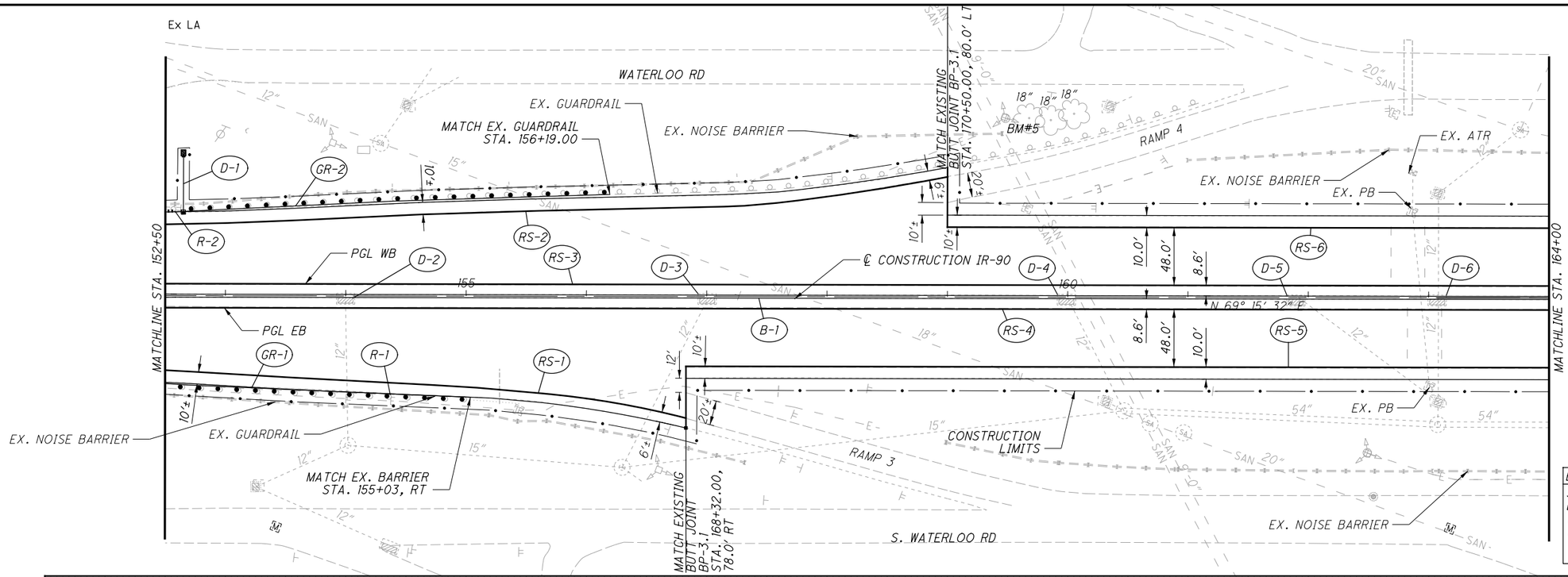


HORIZONTAL SCALE IN FEET: 0, 25, 50, 100

CALCULATED AMF | CHECKED DRJ

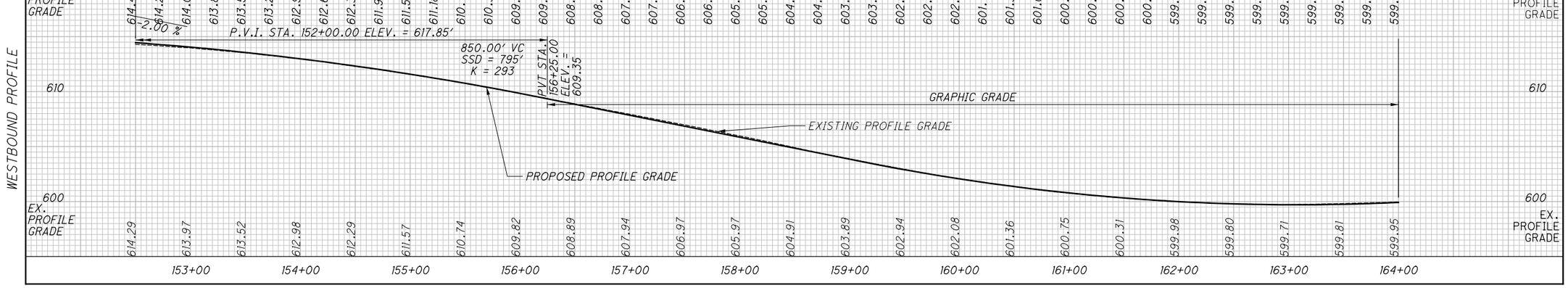
PLAN AND PROFILE IR-90 STA. BEGIN TO STA. 152+50

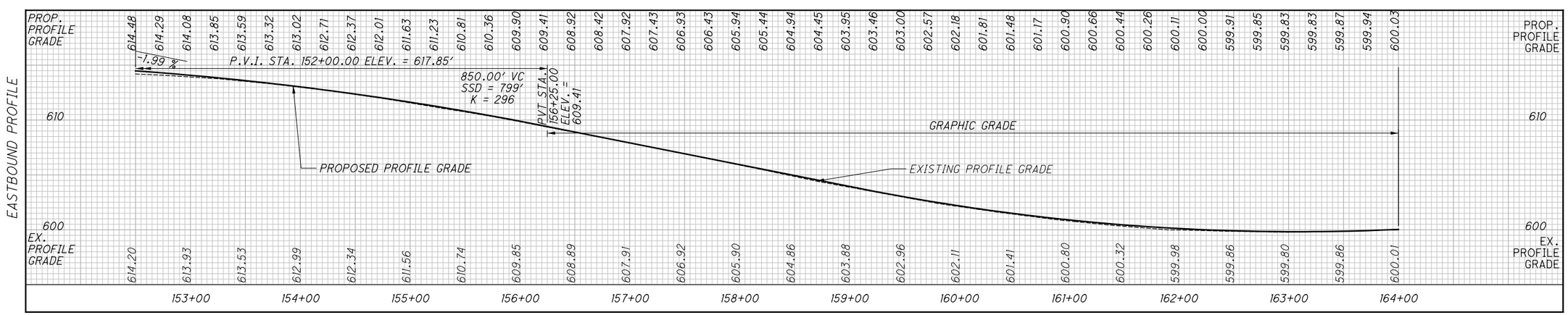
CUY-90-24.10/24.63



NOTES:
1) FOR LEGEND, SEE SHEET 70 .
2) FOR ROADWAY QUANTITIES, SEE SHEET 66 .
3) FOR DRAINAGE QUANTITIES, SEE SHEET 68 .

BENCHMARK #5
STA. 159+48, 149' LT. ELEV. 600.64 TOP OF NW BOLT OF HIGH MAST TOWER LIGHT BASE





PLAN AND PROFILE
IR-90 STA. 152+50 TO STA. 164+00

CUY-90-24.10/ 24.63

71
196

HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED AMF
CHECKED DRJ

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② P.I. Sta. 181+72.56
Δ = 6° 58′ 18″ (LT)
Dc = 0° 28′ 00″
R = 12,277.58′
T = 747.88′
L = 1,493.92′
E = 22.76′
C = 1,493.00′
C.B. = N 65° 46′ 23″ E

BTA = BRIDGE TERMINAL ASSEMBLY

Ex LA

WATERLOO RD

RAMP 6

EX. NOISE BARRIER

MATCH EXISTING BUTT JOINT BP-3.1 STA. 171+65.00, 88.0' LT

EX. OVERHEAD SIGN SUPPORT

EX. GUARDRAIL

EX. NOISE BARRIER

Ex Sta. 174+24.68

MEET EX. BARRIER STA. 173+20

MATCHLINE STA. 164+00

MATCHLINE STA. 176+00

RS-1 RS-2 RS-3 RS-4 RS-5 RS-6

D-1 D-2 D-3

B-1

PGL WB

PGL EB

℄ CONSTRUCTION IR-90

N 69°15′32″ E

GR-1 GR-2

R-1 R-2

MATCH EX. GUARDRAIL STA. 172+97.00

CONSTRUCTION LIMITS

EX. GUARDRAIL

EX. NOISE BARRIER

RAMP 5

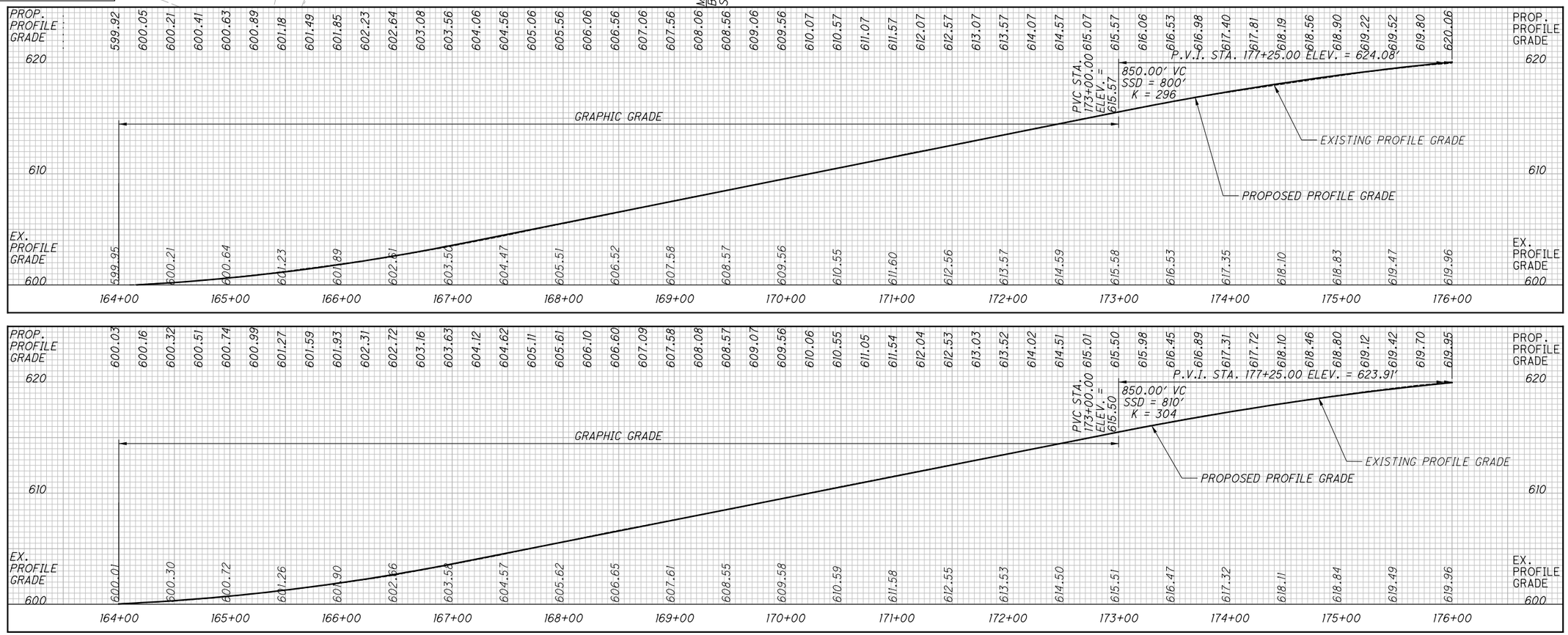
BM#3

MATCH EXISTING BUTT JOINT BP-3.1 STA. 169+31.57, 88.0' RT

S. WATERLOO RD

NOTES:
1) FOR LEGEND, SEE SHEET 70 .
2) FOR ROADWAY QUANTITIES, SEE SHEET 66 .
3) FOR DRAINAGE QUANTITIES, SEE SHEET 68 .

BENCHMARK #3
STA. 168+34, 163′ RT. ELEV. 605.34 TOP OF NW BOLT OF HIGH MAST TOWER LIGHT BASE



HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED AMF
CHECKED DRJ

PLAN AND PROFILE
IR-90 STA. 164+00 TO STA. 176+00

CUY-90-24.10/24.63

72
196

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℄ CONSTRUCTION IR-90
STA. 178+95.31
℄ R/W EAST 152nd STREET
STA. 10+00.00

WATERLOO RD

EX. OVERHEAD ELEC. (OVER BRIDGE)
EX. MOUNTED SIGN (REMOVE)
BEGIN APPR. SLAB STA. 179+87.12±
MATCH EX. GUARDRAIL STA. 181+79.00
EX. GUARDRAIL
EX. NOISE BARRIER
20 FT. BARRIER TRANSITION PER SHEET 89
END WORK STA. 194+96.00
EX. NOISE BARRIER
MATCHLINE STA. 176+00
PGL WB
PGL EB
END PROJECT MATCH EX. PAV'T BUTT JOINT BP-3.1 STA. 181+75.00
END APPR. SLAB STA. 177+21.98±
EX. GUARDRAIL
EX. OVERHEAD CABLE (UNDER BRIDGE)
℄ R/W & CONSTRUCTION E. 152ND ST
EX. MOUNTED SIGN(REMOVE)
S. WATERLOO RD
CONSTRUCTION LIMITS
REPLACE EX. GUARDRAIL STA. 182+70.84
℄ CONSTRUCTION IR-90
* 40 FT. BARRIER TRANSITION PER RM-4.4

R-1 GR-1 D-2 18" RS-1 RS-2 F-3 R-6 D-4 GR-4 C-4 TA-4 TA-1 C-2 R-5 C-1 R-3 TA-2 RS-3 R-2 D-1 F-1 TA-3 D-3 RS-4 C-3 R-4 GR-3 AA-1 D-5 B-1 F-2 GR-2

48.0' 8.6' 10.0' 53.3'± 10.0'± 8.6'± 48'± 18'± 8.8'± 185' N 5° 58' 29" E

BTA = BRIDGE TERMINAL ASSEMBLY

② P.I. Sta. 181+72.56
Δ = 6° 58' 18" (LT)
Dc = 0° 28' 00"
R = 12,277.58'
T = 747.88'
L = 1,493.92'
E = 22.76'
C = 1,493.00'
C.B. = N 65° 46' 23" E
PT STA. 189+18.60

NOTES:
1) FOR LEGEND, SEE SHEET 70 .
2) FOR ROADWAY QUANTITIES, SEE SHEET 67 .
3) FOR DRAINAGE QUANTITIES, SEE SHEET 68 .
4) FOR E. 152ND ST PLAN AND PROFILE, SEE SHEET 88 .

BENCHMARK #4
STA. 176+70, 365' RT.
ELEV. 608.54
CROSS ON TOP OF NORTH BOLT OF BP GAS STATION SIGN AT SW CORNER OF E. 152 & SYLVIA AVE.

WESTBOUND PROFILE

PROP. PROFILE GRADE: 620.06 620.30 620.51 620.71 620.88 621.03 621.16 621.27 621.36 621.43 621.48 621.50 621.51 621.49 621.45 621.40 621.32 621.22 621.09 620.95 620.79 620.60 620.40 620.18

P.V.I. STA. 177+25.00 ELEV. = 624.08'
+2.00 %
-0.87 %
850.00' VC
SSD = 800'
K = 296
PVT STA. 181+50.00 ELEV. = 620.40
-0.87 %
-1.00 %
EXISTING PROFILE GRADE
PROPOSED PROFILE GRADE
14.65'± MIN. VERTICAL CLEARANCE
END PROJECT STA. 181+75 GRADE BREAK (NO CURVE) MATCH EX. PAV'T ELEV. = 620.18 BUTT JOINT PER BP-3.1

EX. PROFILE GRADE: 619.96 620.34 620.53 620.70 620.94 621.11 621.12 621.10 621.00 621.04 620.75 620.40 619.95 619.43 618.82 618.13 617.35 616.50

620 / 610

176+00 177+00 178+00 179+00 180+00 181+00 182+00 183+00 184+00 185+00 186+00 187+00 188+00

EASTBOUND PROFILE

PROP. PROFILE GRADE: 619.95 620.19 620.41 620.61 620.78 620.94 621.07 621.18 621.28 621.35 621.40 621.43 621.45 621.44 621.41 621.36 621.28 621.19 621.08 620.95 620.79 620.62 620.42 620.22

P.V.I. STA. 177+25.00 ELEV. = 623.91'
+1.98 %
-0.82 %
850.00' VC
SSD = 810' K = 304
PVT STA. 181+50.00 ELEV. = 620.42
-0.82 %
-1.01 %
EXISTING PROFILE GRADE
PROPOSED PROFILE GRADE
END PROJECT STA. 181+75 GRADE BREAK (NO CURVE) MATCH EX. PAV'T ELEV. = 620.22 BUTT JOINT PER BP-3.1

EX. PROFILE GRADE: 619.96 620.29 620.50 620.70 620.94 621.11 621.12 621.10 620.98 620.93 620.80 620.44 619.99 619.46 618.86 618.18 617.43 616.57

620 / 610

176+00 177+00 178+00 179+00 180+00 181+00 182+00 183+00 184+00 185+00 186+00 187+00 188+00

HORIZONTAL SCALE IN FEET: 0 25 50 100
CALCULATED AMF CHECKED DRJ

PLAN AND PROFILE
IR-90 STA. 176+00 TO END

CUY-90-24.10/ 24.63

73
196

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SEEDING	
END WIDTH	SQ. YDS.

END AREA		VOLUME	
CUT	FILL	CUT	FILL

CALCULATED BJM
CHECKED DRJ

630
620
610
600
590

614.22
148+00.00
614.24

614.30
148+00.00
614.29

614.00
147+75.00
614.00

614.09
147+75.00
614.09

BEGIN PROJECT
MATCH EXISTING

147+50.00
613.77

147+50.00
613.88

147+00.00
613.28

147+00.00
613.31

120 100 80 60 40 20 0 20 40 60 80 100 120

CROSS SECTIONS
STA. 147+00 TO STA. 148+00

CUY-90-24.10/24.63

74
196

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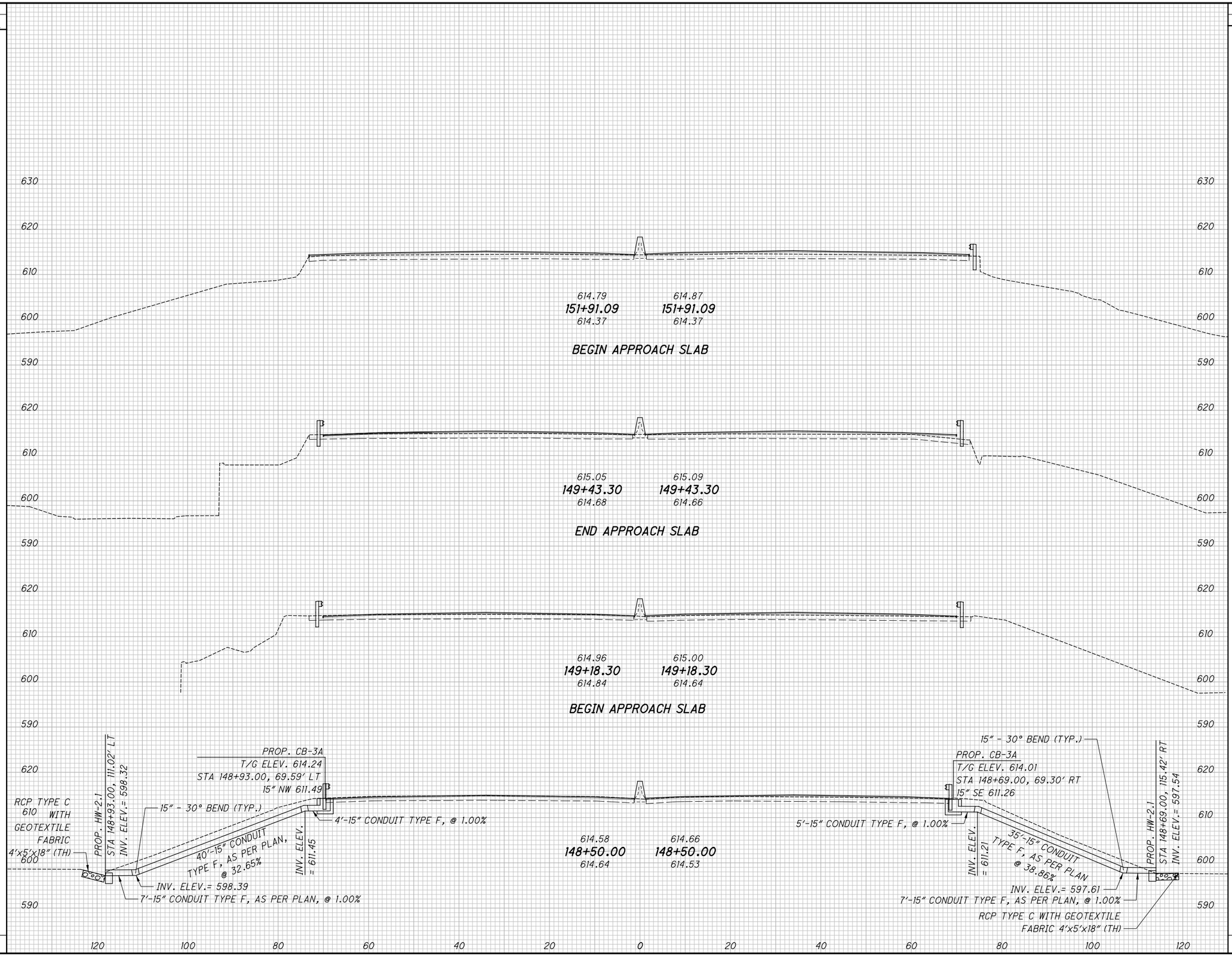
SEEDING	
END WIDTH	SQ. YDS.

END AREA	
CUT	FILL

VOLUME	
CUT	FILL

CALCULATED BJM
CHECKED DRJ



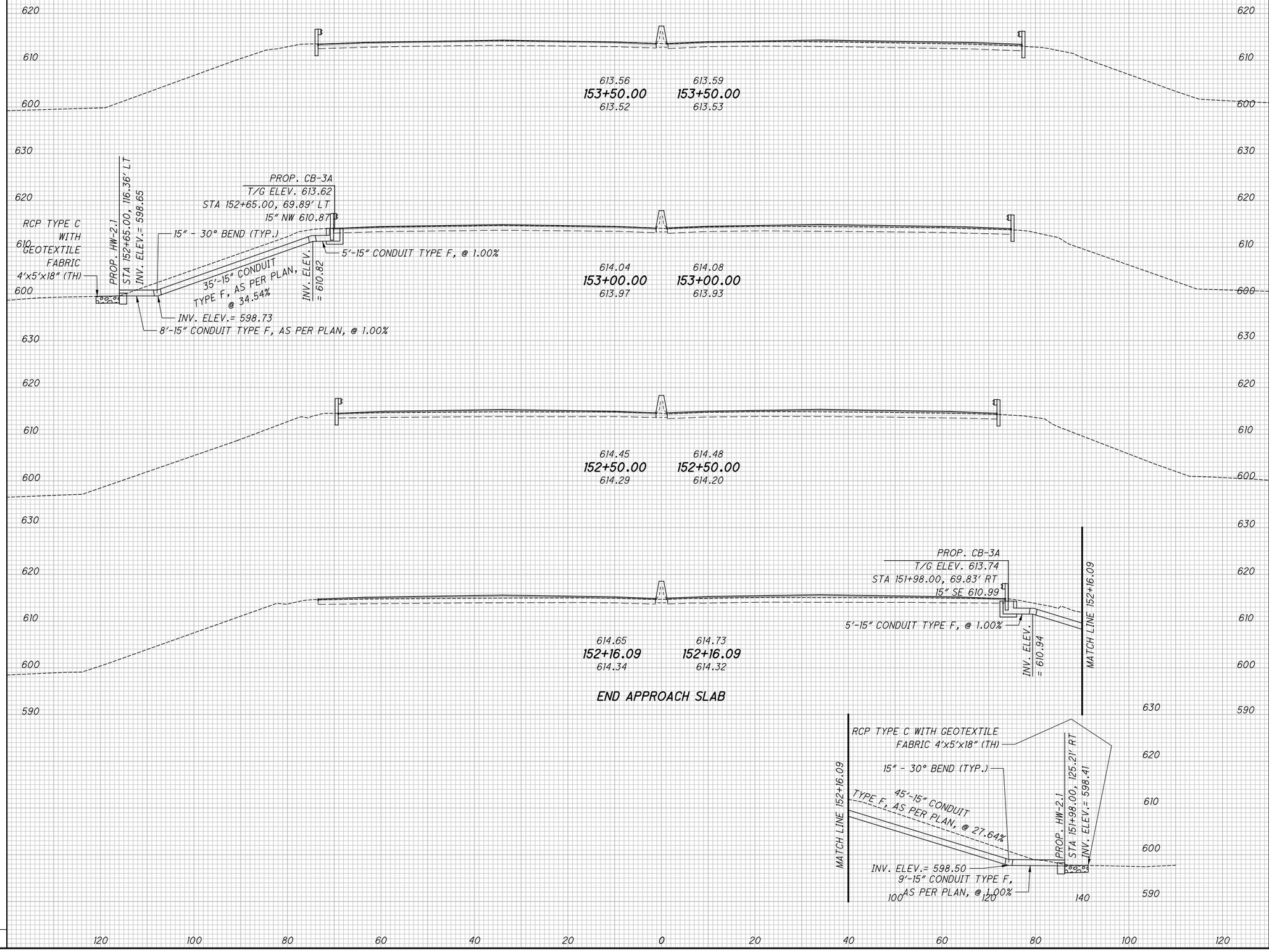
CROSS SECTIONS
STA. 148+50 TO STA. 151+94

CUY-90-24.10/ 24.63

SEEDING	
END WIDTH	SQ. YDS.

END AREA		VOLUME	
CUT	FILL	CUT	FILL

CALCULATED BJM
CHECKED DRJ



CROSS SECTIONS
STA. 152+20 TO STA. 153+50

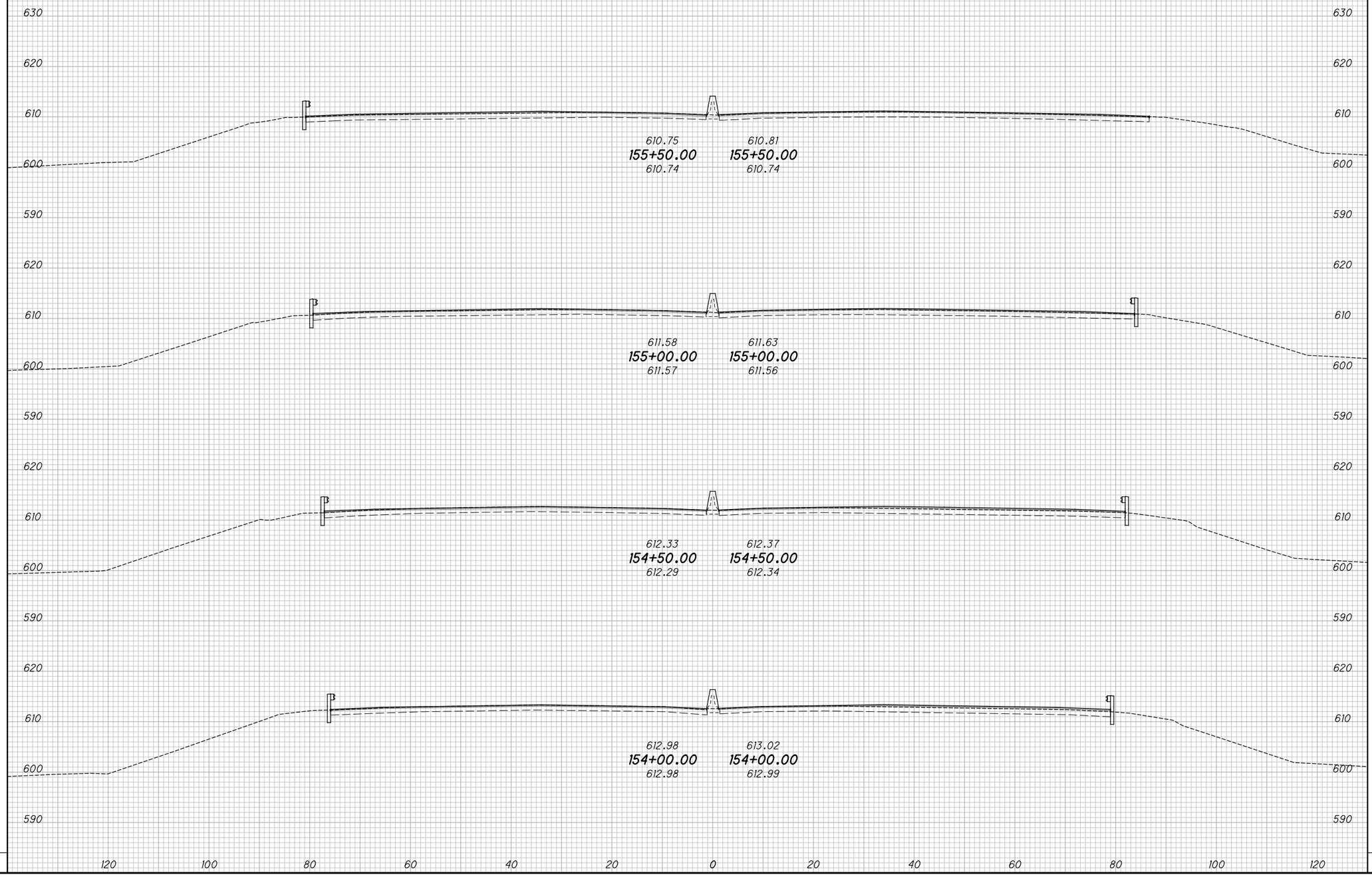
CUY-90-24.10/24.63

SEEDING	
END WIDTH	SQ. YDS.

END AREA	
CUT	FILL

VOLUME	
CUT	FILL

CALCULATED BJM
CHECKED DRJ



CROSS SECTIONS
STA. 154+00 TO STA. 155+50

CUY-90-24.10/24.63

77
196

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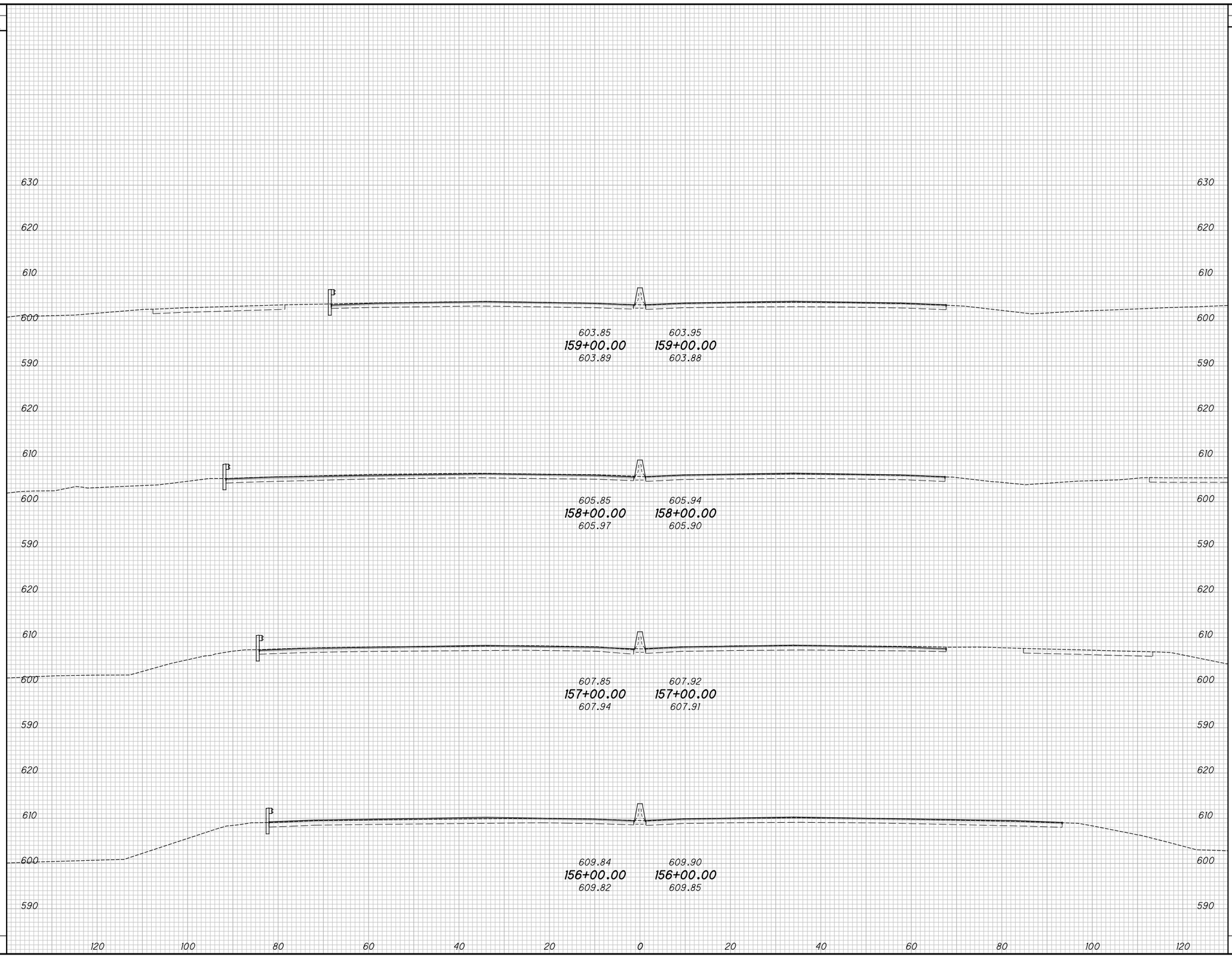
SEEDING	
END WIDTH	SQ. YDS.

END AREA	
CUT	FILL

VOLUME	
CUT	FILL

CALCULATED BJM
CHECKED DRJ



CROSS SECTIONS
STA. 156+00 TO STA. 159+00

CUY-90-24.10/ 24.63

78
196

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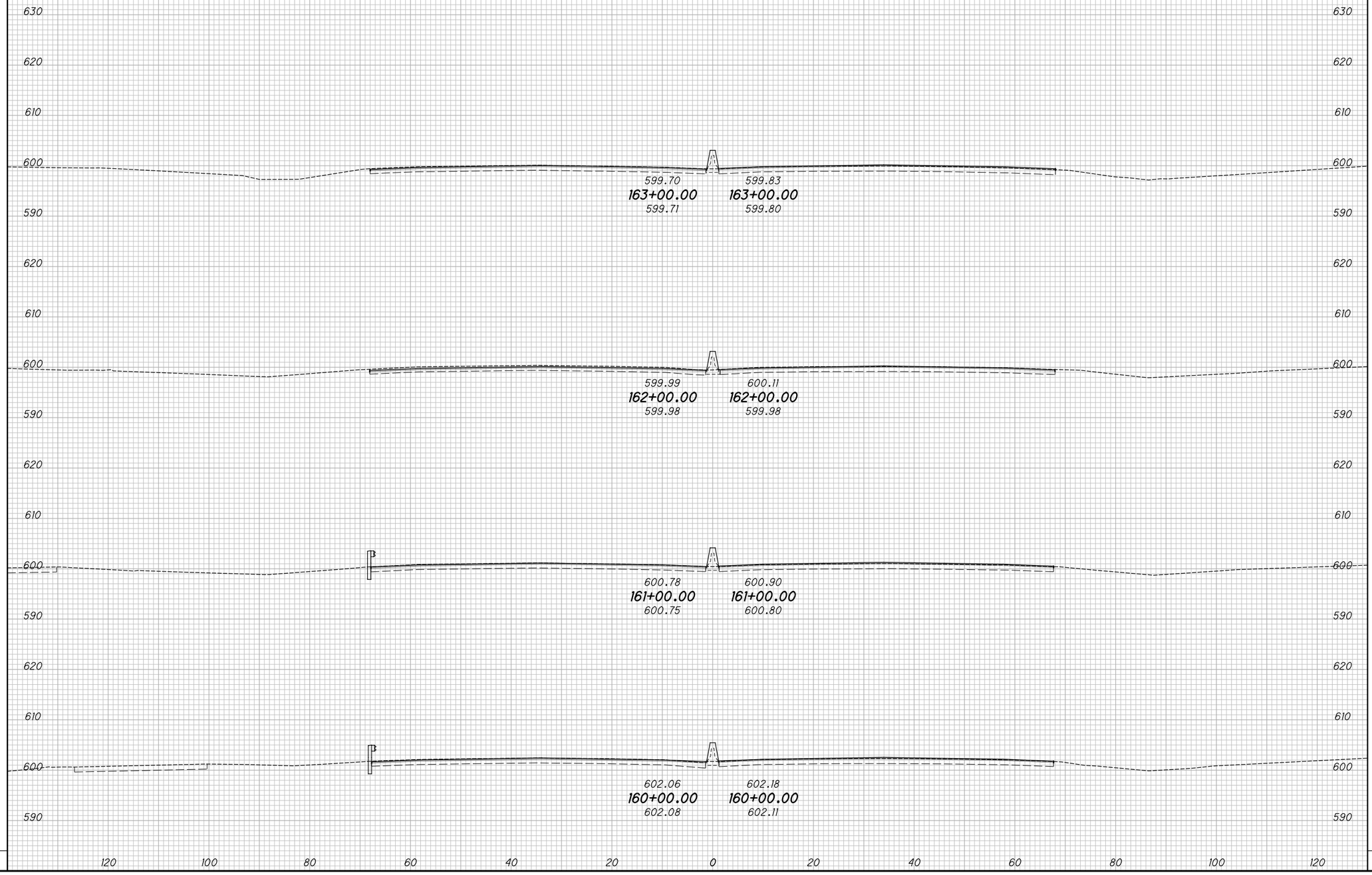
SEEDING	
END WIDTH	SQ. YDS.

END AREA	
CUT	FILL

VOLUME	
CUT	FILL

CALCULATED BJM
CHECKED DRJ



CROSS SECTIONS
STA. 160+00 TO STA. 163+00

CUY-90-24.10/ 24.63

79
196

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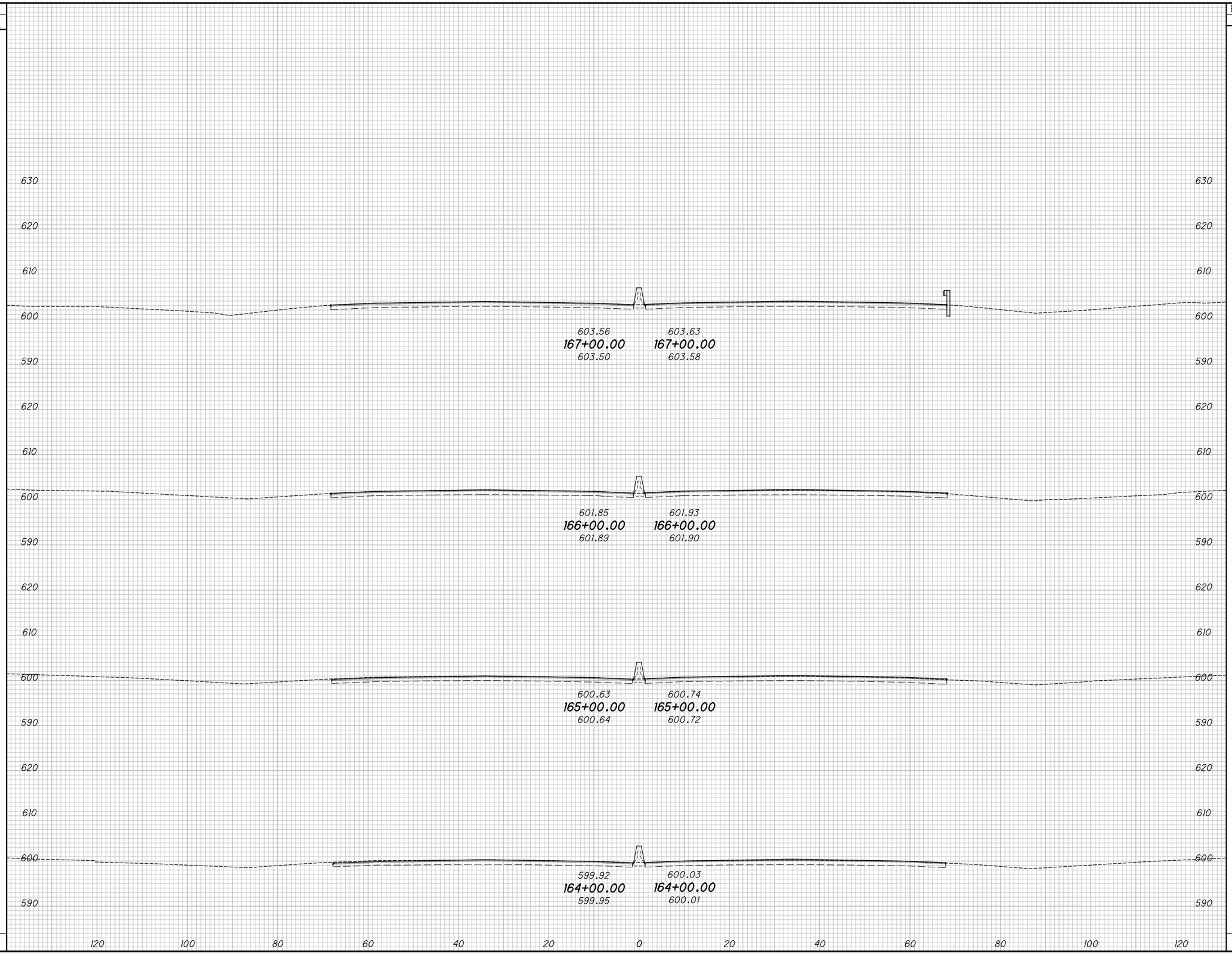
SEEDING	
END WIDTH	SQ. YDS.



END AREA		VOLUME	
CUT	FILL	CUT	FILL

CALCULATED	CHECKED
BJM	DRJ

CROSS SECTIONS
STA. 164+00 TO STA. 167+00

CUY-90-24.10/ 24.63

80
196

SEEDING	
END WIDTH	SQ. YDS.

END AREA		VOLUME	
CUT	FILL	CUT	FILL

CALCULATED BJM
CHECKED DRJ

630
620
610
600
590

611.57
171+00.00
611.60

611.54
171+00.00
611.58

620
610
600
590

609.56
170+00.00
609.56

609.56
170+00.00
609.58

620
610
600
590

607.56
169+00.00
607.58

607.58
169+00.00
607.61

620
610
600
590

605.56
168+00.00
605.51

605.61
168+00.00
605.62

120 100 80 60 40 20 0 20 40 60 80 100 120

CROSS SECTIONS
STA. 168+00 TO STA. 171+00

CUY-90-24.10/ 24.63

81
196

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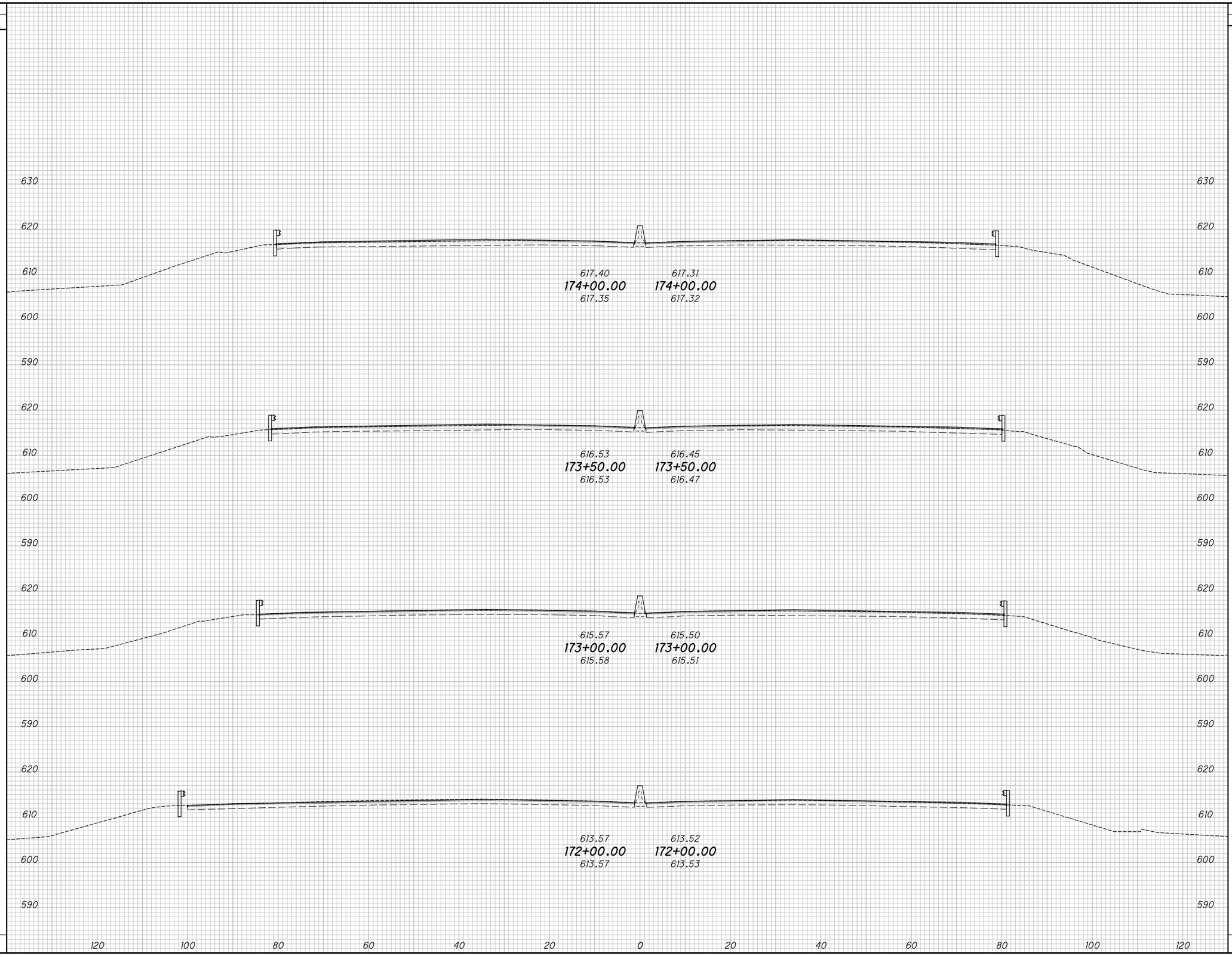
SEEDING	
END WIDTH	SQ. YDS.



END AREA		VOLUME	
CUT	FILL	CUT	FILL

CALCULATED	CHECKED
BJM	DRJ

CROSS SECTIONS
STA. 172+00 TO STA. 174+00

CUY-90-24.10/ 24.63

82
196

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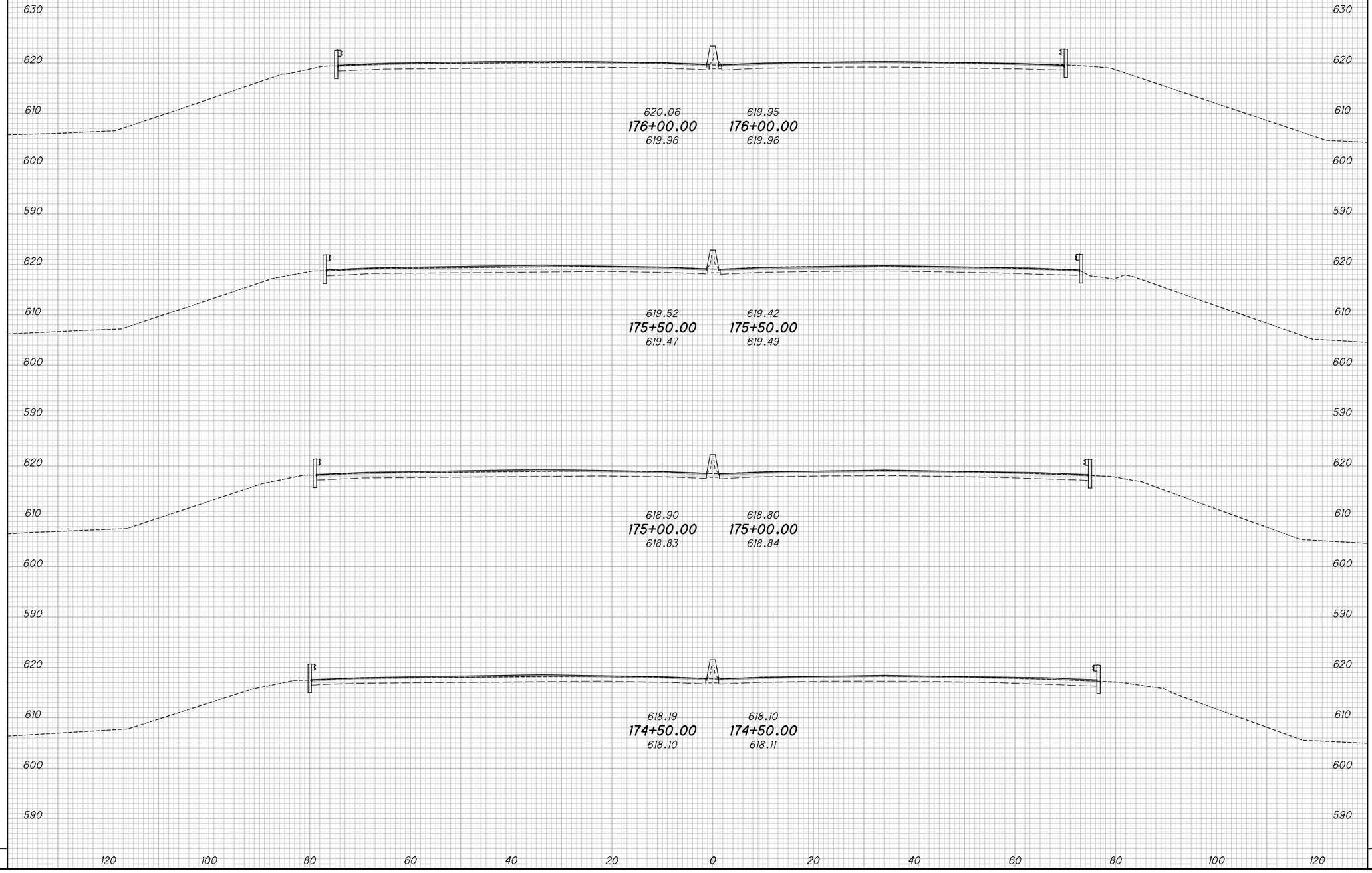
SEEDING	
END WIDTH	SQ. YDS.



END AREA		VOLUME	
CUT	FILL	CUT	FILL

CALCULATED BJM
CHECKED DRJ

CROSS SECTIONS
STA. 174+50 TO STA. 176+00

CUY-90-24.10/ 24.63

83
196

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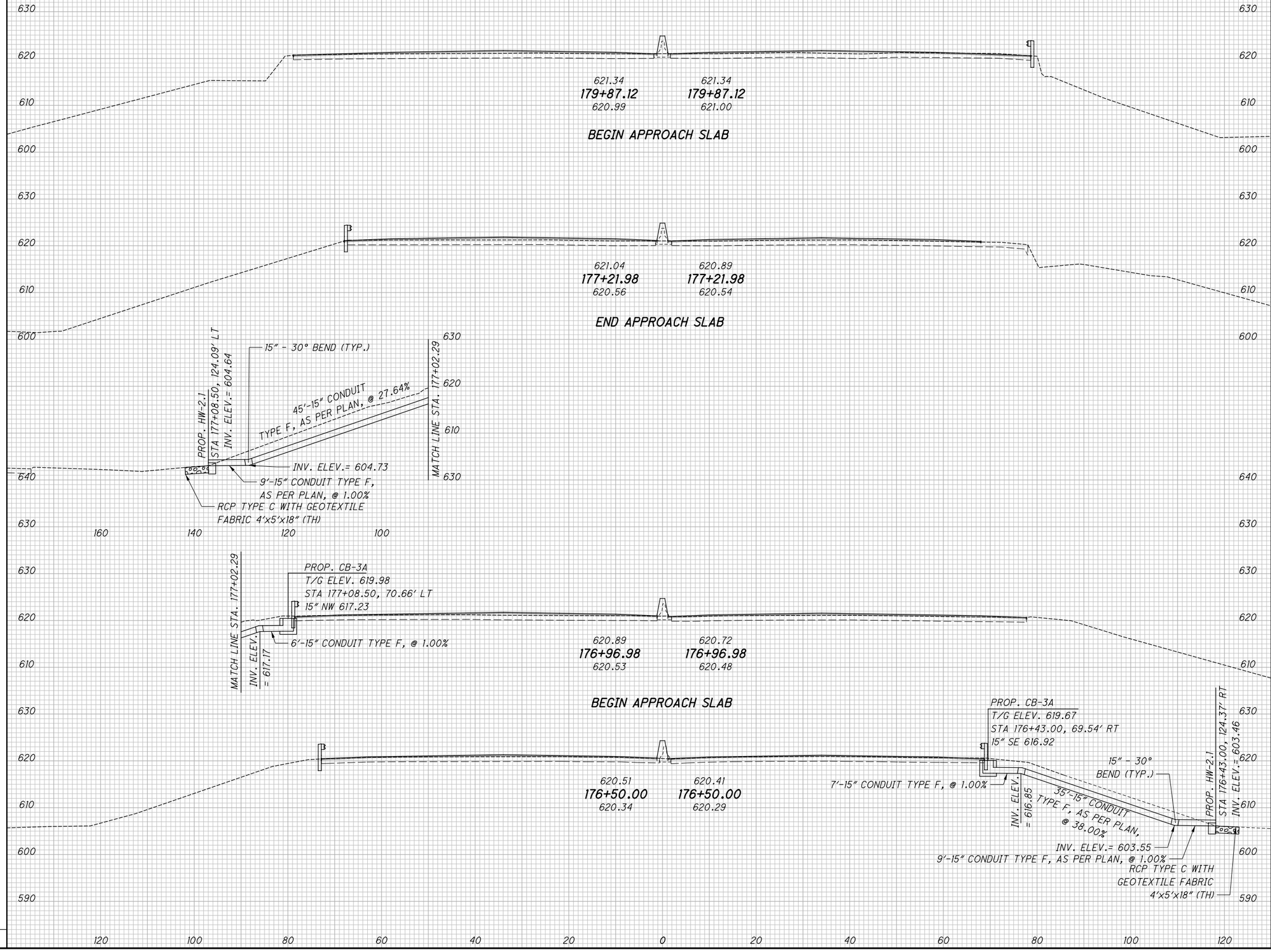
SEEDING	
END WIDTH	SQ. YDS.

END AREA	
CUT	FILL

VOLUME	
CUT	FILL

CALCULATED BJM
CHECKED DRJ



CROSS SECTIONS
STA. 176+50 TO STA. 179+82

CUY-90-24.10/24.63

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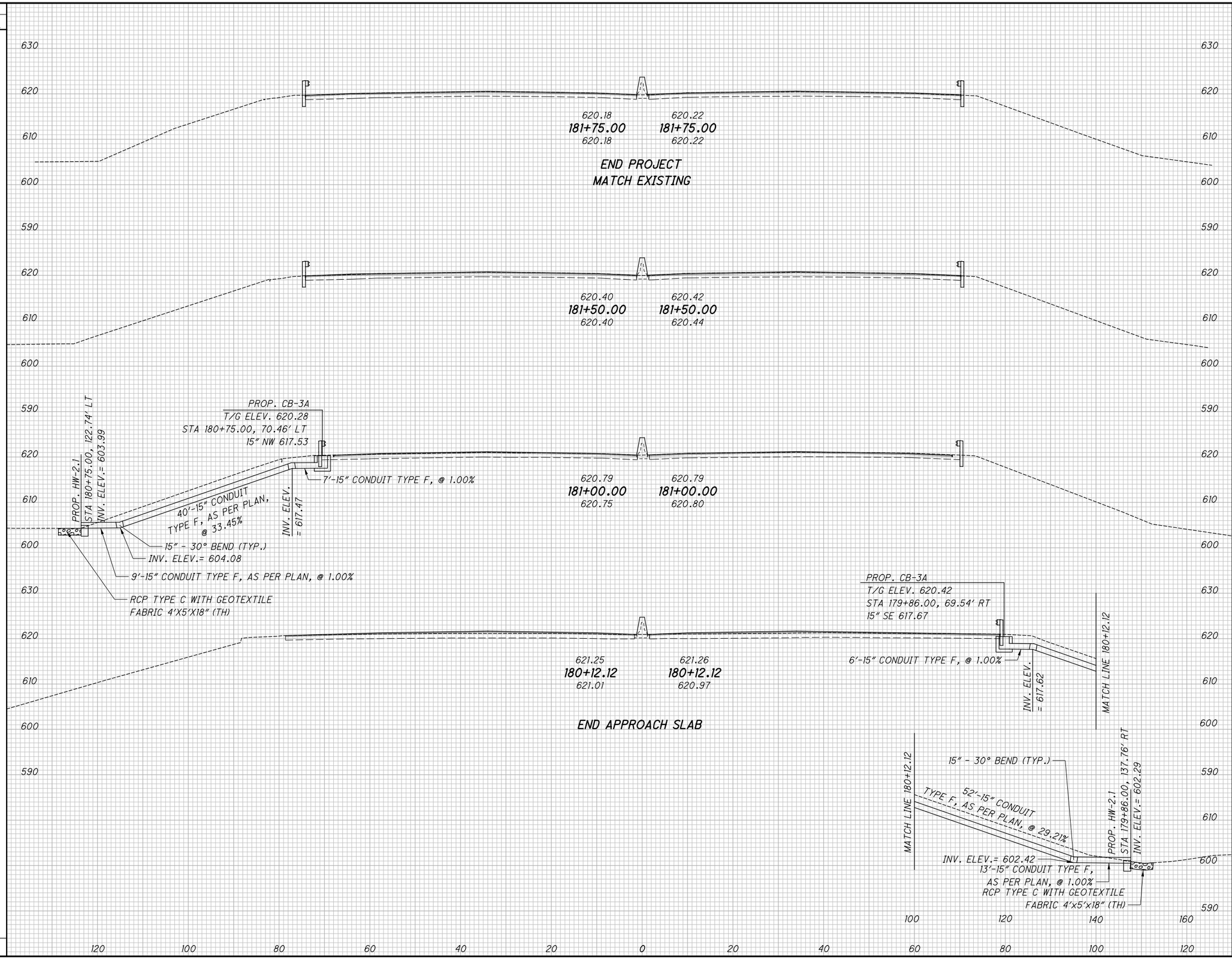
SEEDING	
END WIDTH	SQ. YDS.

END AREA		VOLUME	
CUT	FILL	CUT	FILL

CALCULATED BJM
CHECKED DRJ



CROSS SECTIONS
STA. 180+06 TO STA. 181+75

CUY-90-24.10/ 24.63

SEEDING	
END WIDTH	SQ. YDS.

END AREA	
CUT	FILL

VOLUME	
CUT	FILL

CALCULATED	CHECKED
BJM	DRJ

CROSS SECTIONS
STA. 182 TO STA. 182+50

CUY-90-24.10/ 24.63

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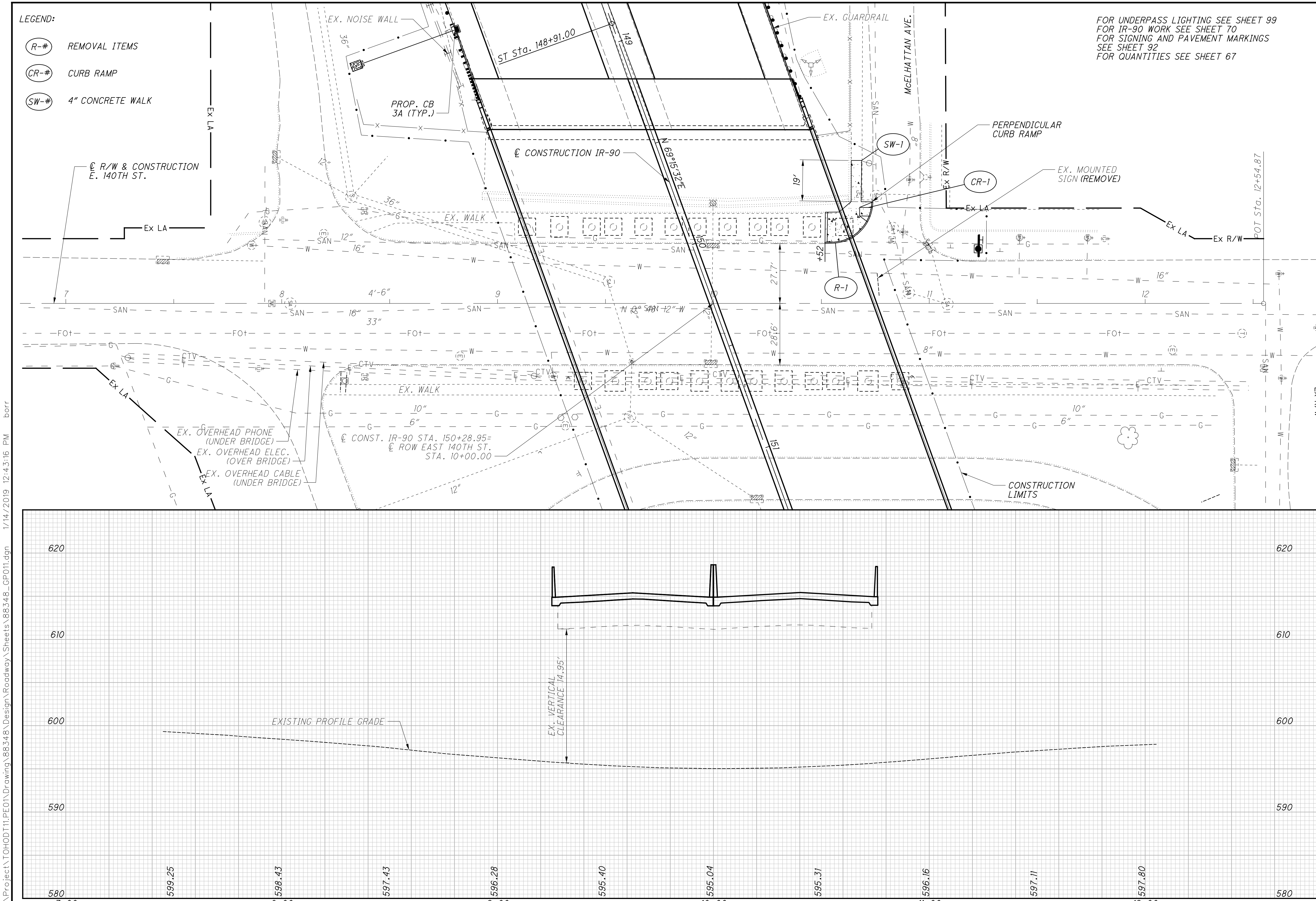
LEGEND:
R-# REMOVAL ITEMS
CR-# CURB RAMP
SW-# 4" CONCRETE WALK
FOR UNDERPASS LIGHTING SEE SHEET 99
FOR IR-90 WORK SEE SHEET 70
FOR SIGNING AND PAVEMENT MARKINGS SEE SHEET 92
FOR QUANTITIES SEE SHEET 67
EX. NOISE WALL
EX. GUARDRAIL
ST Sta. 148+91.00
149
150
151
MCELHATTAN AVE.
PROP. CB 3A (TYP.)
℄ CONSTRUCTION IR-90
N 69°15'32"E
PERPENDICULAR CURB RAMP
SW-1
CR-1
R-1
EX. MOUNTED SIGN (REMOVE)
℄ R/W & CONSTRUCTION E. 140TH ST.
Ex LA
Ex R/W
POT Sta. 12+54.87
EX. WALK
SAN
W
G
FO
CTV
19'
27.7'
28.6'
+52
4'-6"
33"
EX. OVERHEAD PHONE (UNDER BRIDGE)
EX. OVERHEAD ELEC. (OVER BRIDGE)
EX. OVERHEAD CABLE (UNDER BRIDGE)
℄ CONST. IR-90 STA. 150+28.95= ℄ ROW EAST 140TH ST. STA. 10+00.00
CONSTRUCTION LIMITS
620
610
600
590
580
EX. VERTICAL CLEARANCE 14.95'
EXISTING PROFILE GRADE
599.25
598.43
597.43
596.28
595.40
595.04
595.31
596.16
597.11
597.80
7+00
8+00
9+00
10+00
11+00
12+00
0 10 20 40
HORIZONTAL SCALE IN FEET

CALCULATED NES
CHECKED AKM

PLAN AND PROFILE E. 140TH STREET

CUY-90-24.10/24.63

S WATERLOO RD

℄ CONSTRUCTION IR-90

WATERLOO RD

EX. WALK

EX. GUARDRAIL

EX. MOUNTED SIGN (REMOVE)

EX. OVERHEAD CABLE (UNDER BRIDGE)

N 5° 58' 29" E

℄ R/W & CONSTRUCTION E 152ND ST.

EX. OVERHEAD ELEC. (OVER BRIDGE)

EX. MOUNTED SIGN (REMOVE)

SW-1

R-1

EX. GUARDRAIL

EX. WALK

CONSTRUCTION LIMITS

℄ CONST. IR-90 STA. 178+95.31= ℄ ROW EAST 152ND ST. STA. 10+00.00

N 69°15'32" E

EX. NOISE BARRIER

FOR UNDERPASS LIGHTING SEE SHEET 103
FOR IR-90 WORK SEE SHEET 73
FOR SIGNING AND PAVEMENT MARKINGS SEE SHEET 95
FOR LEGEND SEE SHEET 87
FOR QUANTITIES SHEE SHEET 67

EX. VERTICAL CLEARANCE 14.65'

EXISTING PROFILE GRADE

620 610 600 590

606.66 606.25 605.22 604.03 602.73 601.61 601.01 601.05 601.70 602.53 603.59

7+00 8+00 9+00 10+00 11+00 12+00

HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED NES
CHECKED AKM

PLAN AND PROFILE E. 152ND STREET

CUY-90-24.10/ 24.63

88
196

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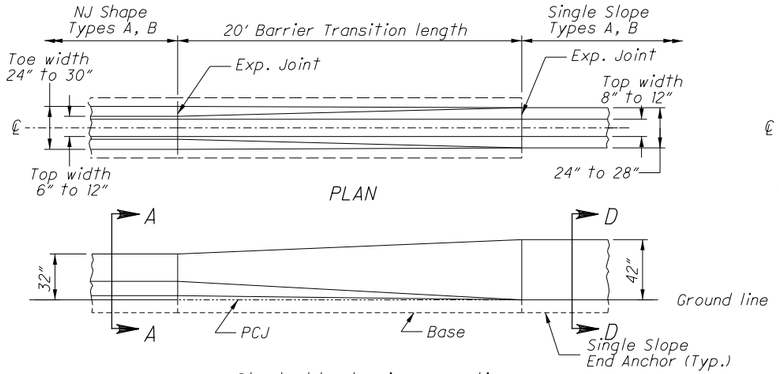
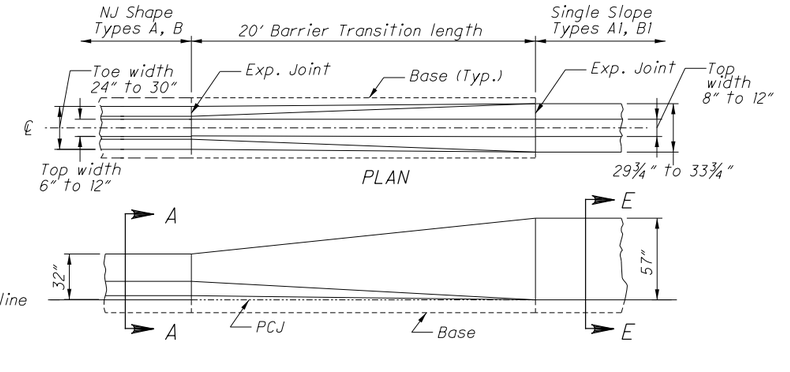


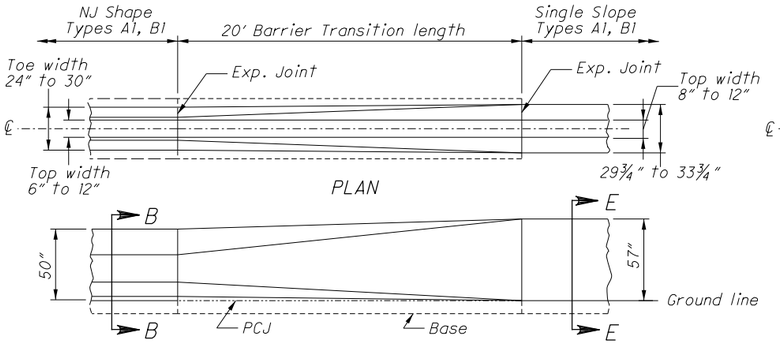
Standard low barrier connection

ELEVATION



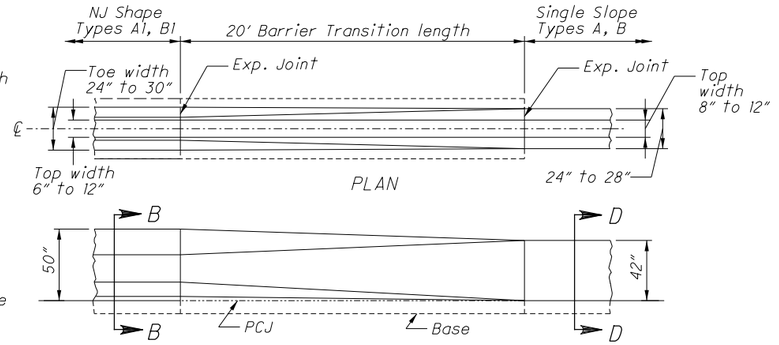
Atypical use

ELEVATION



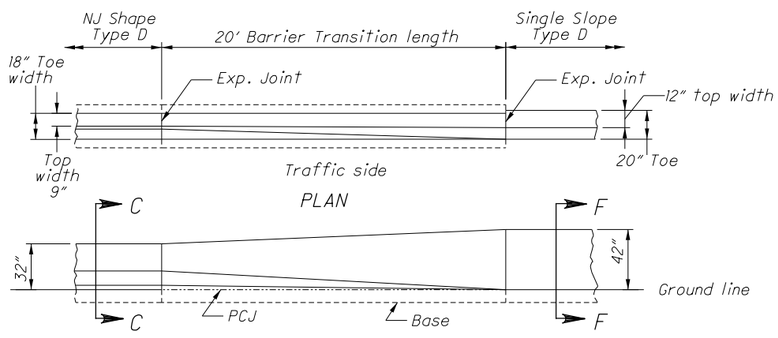
Standard tall barrier connection

ELEVATION



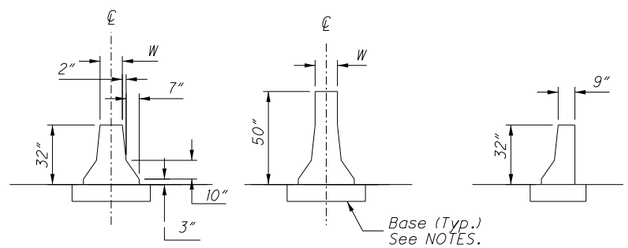
Atypical use

ELEVATION



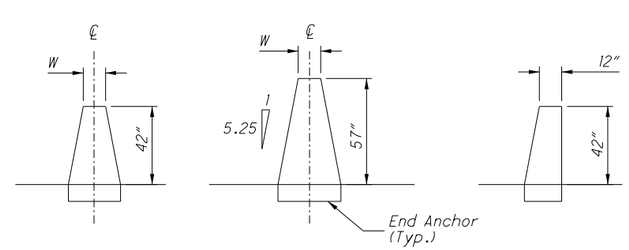
Standard Roadside barrier connection

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

NJ SHAPE TO SINGLE SLOPE BARRIER TRANSITION

CUY-90-24.10/24.63

1 / 1

89
196

SHEET NO.	REFERENCE NO.	STATION FROM	STATION TO	SIDE	646 EDGE LINE, 6", YELLOW	646 EDGE LINE, 6", WHITE	646 LANE LINE, 6"	646 CHANNELIZING LINE, 12"	646 DOTTED LINE, 6"
		I.R. 90			FT	FT	FT	FT	FT
92	ELW-3	135+13	138+78	RT	365				
92	ELY-2	135+13	152+00	RT		1687			
92	LL-4	135+13	152+00	RT			1687		
92	LL-5	135+13	152+00	RT			1687		
92	LL-6	135+13	152+00	RT			1687		
92	ELW-1	138+00	152+00	LT	1400				
92	ELY-1	138+00	152+00	LT		1400			
92	LL-1	138+00	152+00	LT			1400		
92	LL-2	138+00	152+00	LT			1400		
92	LL-3	138+00	152+00	LT			1400		
92	DL-1	138+78	141+27	RT					249
92	CH-1	141+27	143+18	RT				191	
92	ELW-2	143+18	152+00	RT	882				
93	ELW-1	152+00	159+00	LT	702				
93	ELY-1	152+00	163+50	LT		1150			
93	LL-1	152+00	163+50	LT			1150		
93	LL-2	152+00	163+50	LT			1150		
93	LL-3	152+00	163+50	LT			1150		
93	ELW-2	152+00	156+82	RT	484				
93	ELY-2	152+00	163+50	RT		1150			
93	LL-4	152+00	163+50	RT			1150		
93	LL-5	152+00	163+50	RT			1150		
93	LL-6	152+00	163+50	RT			1150		
93	DL-1	152+38	157+69	LT					530
93	DL-2	152+00	155+41	RT					341
93	CH-3	155+41	156+82	RT				142	
93	CH-4	155+41	156+82	RT				141	
93	CH-1	157+69	159+00	LT				133	
93	CH-2	157+69	159+00	LT				131	
93	ELW-4	156+82	163+50	RT	668				
93	ELW-3	159+00	163+50	LT	450				
		SUBTOTALS CARRIED TO NEXT TABLE		FT	4951	5387	16161	738	1120
		SUBTOTALS CARRIED TO NEXT TABLE		MILE	0.938	1.020	3.061		

SHEET NO.	REFERENCE NO.	STATION FROM	STATION TO	SIDE	646 EDGE LINE, 6", YELLOW	646 EDGE LINE, 6", WHITE	646 LANE LINE, 6"	646 CHANNELIZING LINE, 12"	646 DOTTED LINE, 6"
		I.R. 90			FT	FT	FT	FT	FT
94	ELW-1	163+50	171+65	LT					
94	ELY-1	163+50	175+50	LT		1200			
94	LL-1	163+50	175+50	LT			1200		
94	LL-2	163+50	175+50	LT			1200		
94	LL-3	163+50	175+50	LT			1200		
94	ELW-3	163+50	171+32	RT					
94	ELY-2	163+50	175+50	RT		1200			
94	LL-4	163+50	175+50	RT			1200		
94	LL-5	163+50	175+50	RT			1200		
94	LL-6	163+50	175+50	RT			1200		
94	CH-3	169+32	171+44	RT				213	
94	CH-4	169+32	171+44	RT				214	
94	CH-1	171+65	172+59	LT				94	
94	CH-2	171+65	172+59	LT				95	
94	ELW-4	169+32	175+50	RT	624				
94	DL-2	171+44	175+50	RT					406
94	ELW-2	171+65	175+50	LT	386				
94	DL-1	172+59	175+50	LT					291
95	ELW-1	175+50	194+96	LT	490				
95	ELY-1	175+50	194+96	LT		1946			
95	LL-1	175+50	194+96	LT			1946		
95	LL-2	175+50	194+96	LT			1946		
95	LL-3	175+50	194+96	LT			1946		
95	DL-1	175+50	177+72	LT					223
95	ELW-2	175+50	190+18	RT	1468				
95	ELY-2	175+50	192+75	RT		1725			
95	LL-4	175+50	192+75	RT			1725		
95	LL-5	175+50	192+75	RT			1725		
95	LL-6	175+50	192+75	RT			1725		
95	DL-2	175+50	176+66	RT					119
95	DL-3	180+45	186+05	LT					560
95	CH-1	186+05	187+56	LT				151	
95	ELW-3	187+56	193+33	LT		577			
95	CH-2	190+18	192+50	RT				232	
95	CH-3	190+18	192+50	RT				232	
95	CH-4	193+33	194+78	LT				145	
		SUBTOTALS FROM THIS TABLE		FT	2968	6648	18213	1376	1599
		SUBTOTALS FROM THIS TABLE		MILE	0.562	1.259	3.449		
		SUBTOTALS FROM PREVIOUS TABLE		FT	4951	5387	16161	738	1120
		SUBTOTALS FROM PREVIOUS TABLE		MILE	0.938	1.020	3.061		
TOTALS CARRIED TO GENERAL SUMMARY					3.78		6.51	2114	2719

CALCULATED MAK
CHECKED DRJ

PAVEMENT MARKING SUBSUMMARY

CUY-90-24.10/24.63

ITEM 620 DELINEATOR SUB-SUMMARY

SHEET NO.	STATION FROM	STATION TO	SIDE	INTERVAL	TYPE C
		I.R. 90			
92	147+75	151+95	RT	400	2
92 - 93	147+75	152+38	LT	400	2
92 - 93	156+82	169+32	RT	400	4
93 - 94	159+00	171+65	LT	400	4
95	176+65	181+75	RT	400	2
95	177+72	181+75	LT	400	2
		EB EXIT			
92 - 93	151+95	155+63	RT	160	3
93	155+63	156+82	RT	80	2
		WB ENTRANCE			
93	152+38	159+00	LT	200	4
		EB ENTRANCE			
93 - 94	169+32	176+65	RT	200	4
		WB EXIT			
94	171+65	173+22	LT	90	2
94 - 95	173+22	177+72	LT	200	3
TOTALS CARRIED TO GENERAL SUMMARY					34

ITEM 621 RAISED PAVEMENT MARKER SUB-SUMMARY

SHEET NO.	STATION FROM	STATION TO	SIDE	INTERVAL	1-WAY WHITE	2-WAY WH/RED
		I.R. 90				
92 - 95	147+75	181+75	LT	120	29	
92 - 95	147+75	181+75	LT	120	29	
92 - 95	147+75	181+75	LT	120	29	
92 - 95	147+75	181+75	RT	120	29	
92 - 95	147+75	181+75	RT	120	29	
92 - 95	147+75	181+75	RT	120	29	
		EB EXIT				
93	155+41	156+82	RT	40		4
93	155+41	156+82	RT	40		4
		WB ENTRANCE				
93	157+69	159+00	LT	40		4
93	157+69	159+00	LT	40		4
		EB ENTRANCE				
94	169+32	171+44	RT	40		6
94	169+32	171+44	RT	40		6
		WB EXIT				
95	171+65	172+59	LT	40		3
95	171+65	172+59	LT	40		3
		SUBTOTAL			174	34
TOTALS CARRIED TO GENERAL SUMMARY					208	

ITEM 626 BARRIER REFLECTOR SUB-SUMMARY

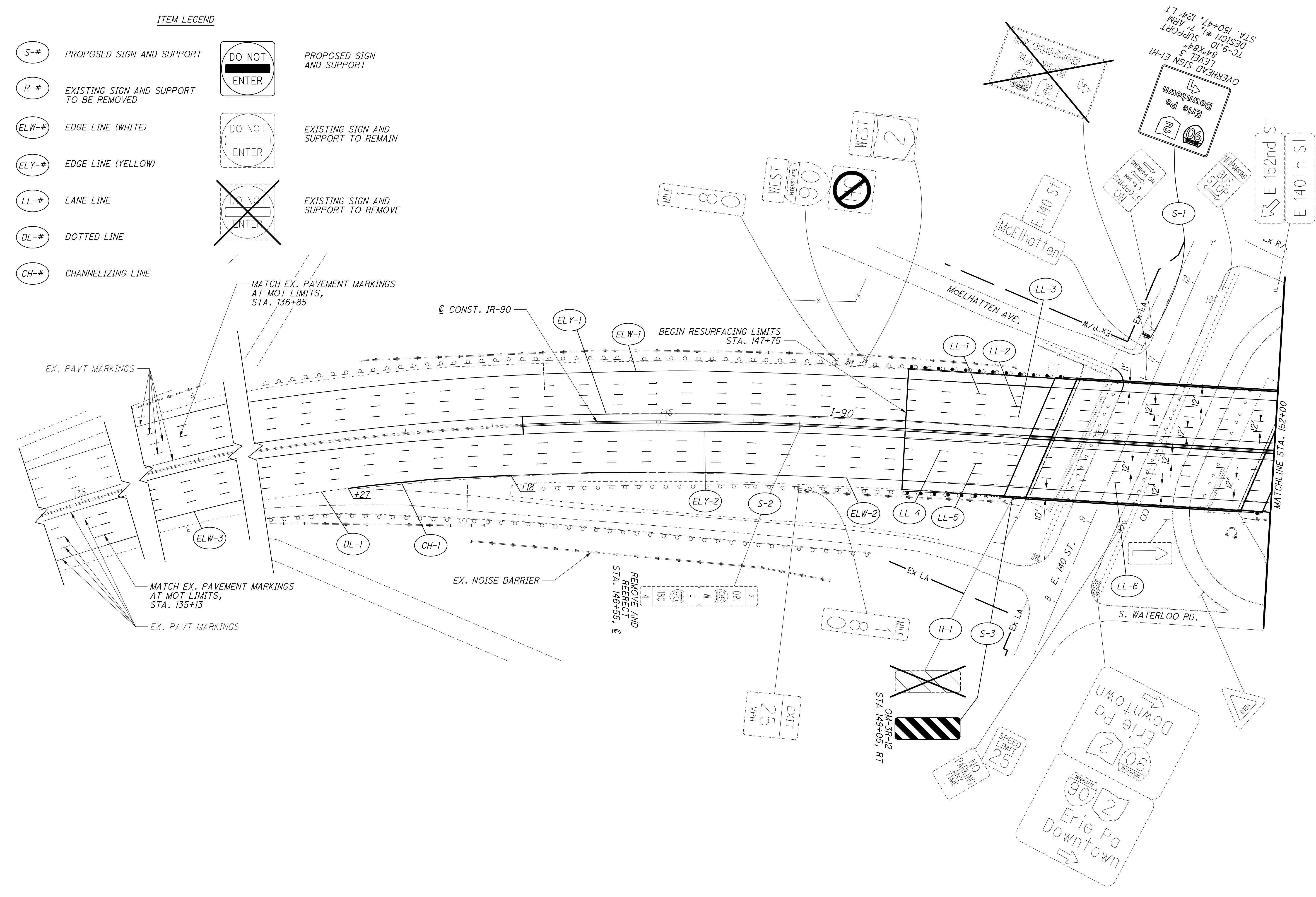
SHEET NO.	STATION FROM	STATION TO	SIDE	INTERVAL	BI-DIRECTIONAL, WHITE/WHITE, TYPE 2
		I.R. 90			
92	147+75	149+54	LT	100	3
92	147+75	148+64	RT	100	2
92 - 93	151+80	155+03	LT	100	5
93	152+61	156+19	RT	100	5
94 - 95	172+97	176+46	LT	100	5
94 - 95	173+20	177+45	RT	100	6
95	179+63	181+75	LT	100	4
95	180+66	181+80	RT	100	3
TOTALS CARRIED TO GENERAL SUMMARY					33

CALCULATED MAK
CHECKED DRJ

SHEET NO.	REFERENCE NO.	STATION	SIDE	CODE	SIZE (INCHES)	630 GROUND MOUNTED SUPPORT, NO. 2 POST FT	630 GROUND MOUNTED SUPPORT, NO. 3 POST FT	630 SIGN POST REFLECTOR EACH	630 OVERHEAD SIGN SUPPORT, TYPE TC-9.10, DESIGN 1 EACH	630 SIGN SUPPORT ASSEMBLY, BARRIER MOUNTED EACH	630 SIGN, FLAT SHEET SF	630 SIGN, OVERHEAD EXTRUSHEET SF	630 RIGID OVERHEAD SIGN SUPPORT FOUNDATION EACH	630 REMOVAL OF GROUND MOUNTED SIGN AND DISPOSAL EACH	630 REMOVAL OF GROUND MOUNTED SIGN AND REERECTION EACH	630 REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL EACH	630 REMOVAL OF OVERHEAD MOUNTED SIGN AND DISPOSAL EACH
I.R. 90																	
92	S-2	146+55	℄							1					1		
92	S-3	149+05	RT	OM-3R-12	12"X36"	11.5		1			3						
92	R-1	149+05	RT											1		1	
92	S-1	150+47	LT	E1-H1	84"X84"				1			49	1				
93	R-1													1		1	
93	S-1	152+31	LT	OM-3R-12	12"X36"	11.5		1			3						
93	S-2	152+63	LT	R3-H12J			12.5/12.5								1		
93	S-3	157+27	℄							1					1		
95	S-2	175+72	RT				11.5								1		
95	R-2													1		1	
95	S-3	176+71	RT	OM-3R-12	12"X36"	11.5		1			3						
95	R-3																1
95	R-4																1
95	S-4	178+95	RT	E1-H1	84"X72"				1			42	1				
95	R-5													1		1	
95	R-1																1
95	S-1	179+03	LT	E1-H1	72"X84"				1			42	1				
95	S-5	179+77	RT				11.5								1		
95	S-6	180+27	LT	OM-3R-12	12"X36"	11.5		1			3						
95	S-7	180+82	LT	R3-H12J			12.5/12.5								1		
TOTALS CARRIED TO GENERAL SUMMARY						46	73	4	3	2	12	133	3	4	6	4	3

TRAFFIC CONTROL SUBSUMMARY

CUY-90-24.10/24.63


ITEM LEGEND
S-# PROPOSED SIGN AND SUPPORT
R-# EXISTING SIGN AND SUPPORT TO BE REMOVED
ELW-# EDGE LINE (WHITE)
ELY-# EDGE LINE (YELLOW)
LL-# LANE LINE
DL-# DOTTED LINE
CH-# CHANNELIZING LINE
DO NOT ENTER
PROPOSED SIGN AND SUPPORT
EXISTING SIGN AND SUPPORT TO REMAIN
EXISTING SIGN AND SUPPORT TO REMOVE
MATCH EX. PAVEMENT MARKINGS AT MOT LIMITS, STA. 136+85
EX. PAVT MARKINGS
MATCH EX. PAVEMENT MARKINGS AT MOT LIMITS, STA. 135+13
EX. PAVT MARKINGS
℄ CONST. IR-90
BEGIN RESURFACING LIMITS STA. 147+75
I-90
EX. NOISE BARRIER
REMOVE AND REERECT STA. 146+55, ℄
McELHATTEN AVE.
E. 140 ST.
S. WATERLOO RD.
MATCHLINE STA. 152+00
OVERHEAD SIGN E1-H1 LEVEL 3 84"X84" TC-9.10 DESIGN #1, 7' ARM SUPPORT STA. 150+47, 124' LT
OM-3R-12 STA 149+05, RT
ELY-1
ELW-1
ELY-2
ELW-2
ELW-3
DL-1
CH-1
S-1
S-2
S-3
R-1
LL-1
LL-2
LL-3
LL-4
LL-5
LL-6
+27
+18
WEST
MILE 180
McElhatten
E. 140 St
E 152nd St
E 140th St
BUS STOP
NO PARKING
NO STOPPING
EXIT 25 MPH
SPEED LIMIT 25
NO PARKING ANY TIME
Erie Pa Downtown
HORIZONTAL SCALE IN FEET

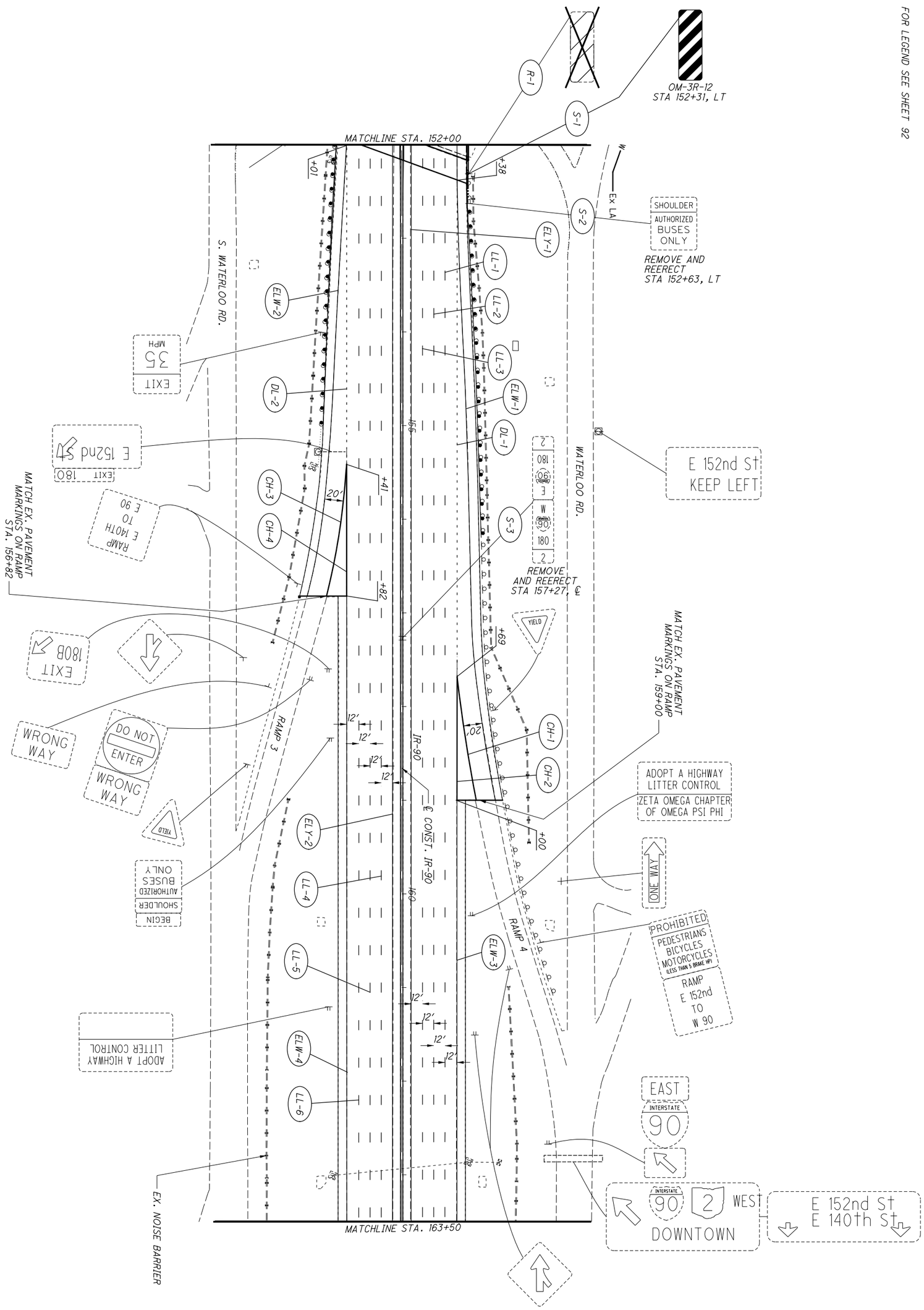
CALCULATED BJM
CHECKED DRJ

SIGNING AND PAVEMENT MARKINGS BEGIN TO STA. 152+00

CUY-90-24.10/24.63

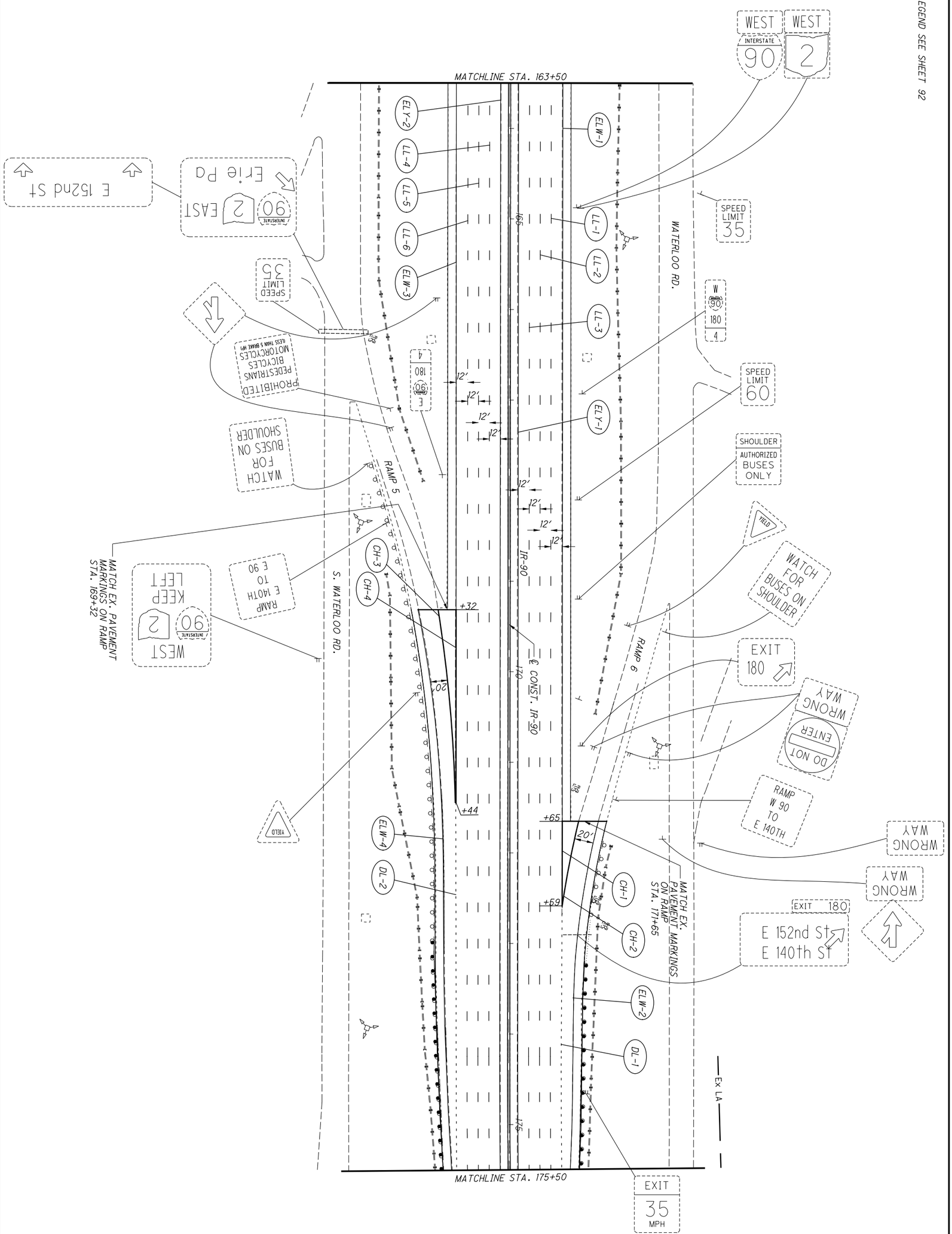
G:\Project\TOHODT11.PE01\Drawing\88348\Design\Traffic\Sheets\88348_TP001.dgn 1/14/2019 12:43:20 PM borr

G:\Project\TOHODT11.PE01\Drawing\88348\Design\Traffic\Sheets\88348_TP002.dgn 1/14/2019 12:43:20 PM borr



196 / 63	CUY-90-24.10/ 24.63	SIGNING AND PAVEMENT MARKINGS STA. 152+00 TO 163+50	CALCULATED BJM / CHECKED DRJ	0 25 50 100 HORIZONTAL SCALE IN FEET

FOR LEGEND SEE SHEET 92



196 / 94	CUY-90-24.10/ 24.63	SIGNING AND PAVEMENT MARKINGS STA. 163+50 TO 175+50	CALCULATED BJM / CHECKED DRJ	0 50 25 100 HORIZONTAL SCALE IN FEET

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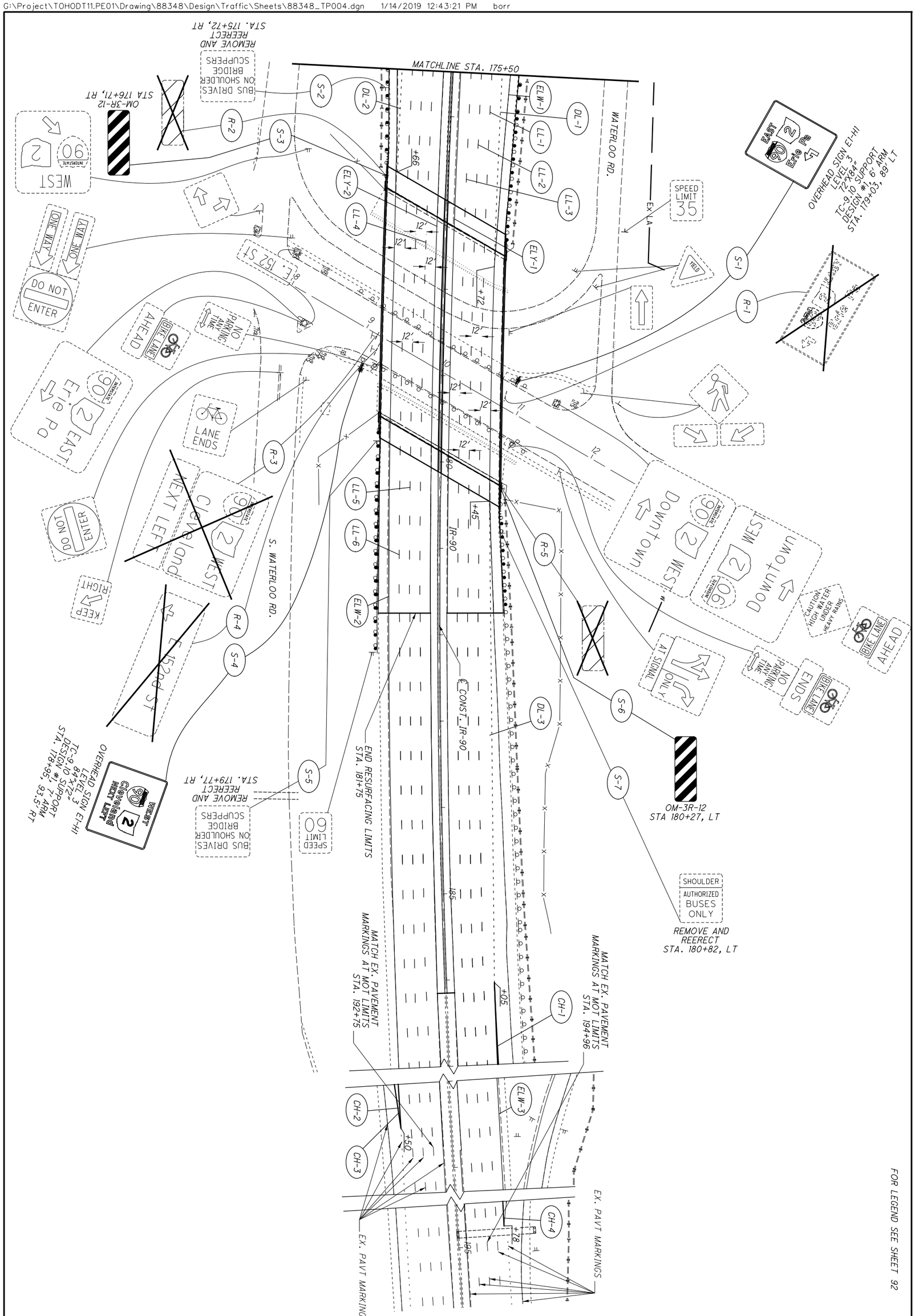
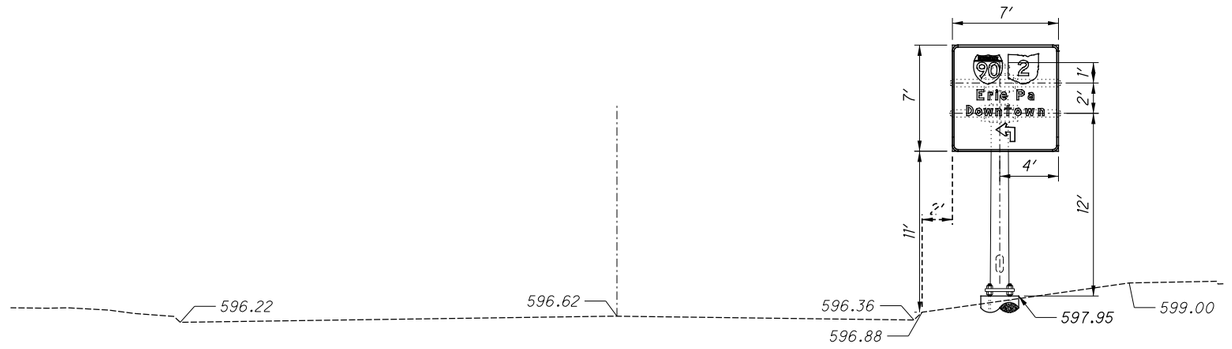
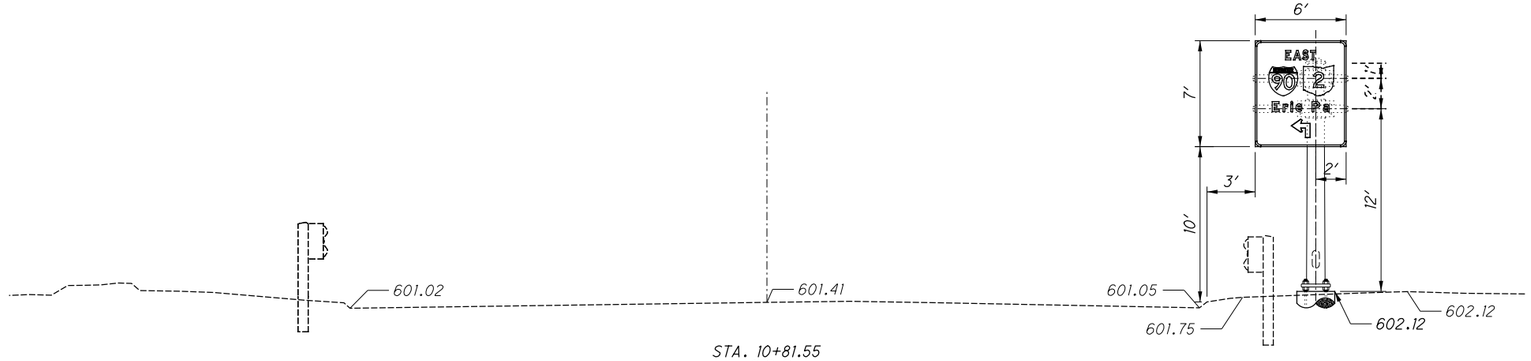


FOR LEGEND SEE SHEET 92

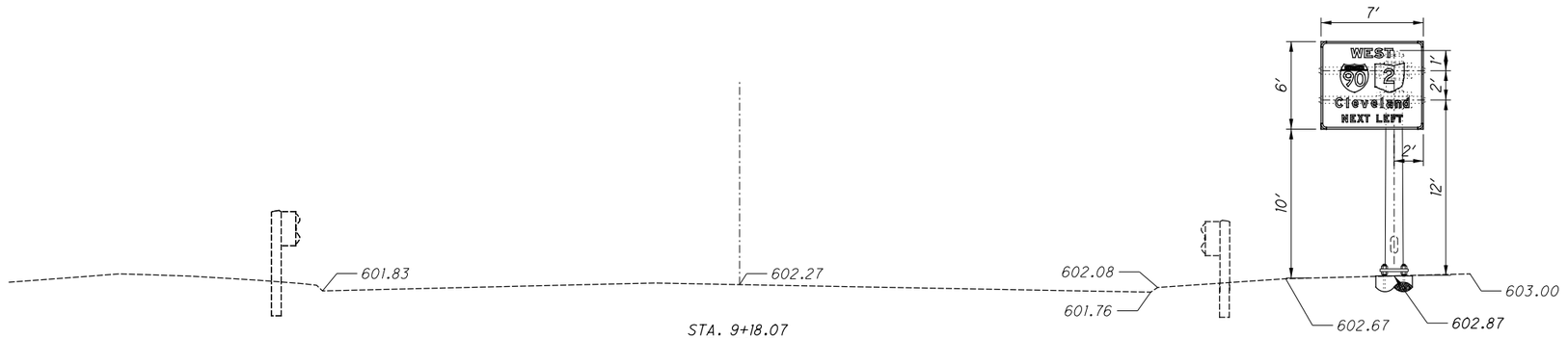
196 / 96	CUY-90-24.10/24.63	SIGNING AND PAVEMENT MARKINGS STA. 175+50 TO END	CALCULATED BJM / CHECKED DRJ	0 25 50 100 HORIZONTAL SCALE IN FEET	N



STA. 11+22.65
E. 140 ST.



STA. 10+81.55
E. 152 ST.



STA. 9+18.07
E. 152 ST.

CALCULATED MAK
CHECKED DRJ

SIGN ELEVATION DETAILS

CUY-90-24.10/ 24.63

625, LUMINAIRE, UNDERPASS, AS PER PLAN, CPP STANDARD

IN ADDITION TO THE REQUIREMENTS OF ODOT'S CONSTRUCTION AND MATERIAL SPECIFICATIONS, LUMINAIRES FOR UNDERPASS LIGHTING UNITS SHALL BE AS FOLLOWS:

LUMINAIRES FOR UNDERPASS LIGHTING UNITS SHALL BE ELECTRO-MATIC AR SERIES 90W (LE3-T2M-090FF2F01), OR EQUAL AS APPROVED BY THE ENGINEER. LUMINAIRES SHALL BE 240V AND 1-PHASE.

IES DISTRIBUTION OF THE LUMINAIRE SHALL BE TYPE II. LUMINAIRES SHALL BE WALL MOUNTED.

LUMINAIRE LED DRIVERS SHALL BE COMPATIBLE WITH 480VAC INPUT, MODULAR AND SHALL HAVE THE MANUFACTURER'S NAME AND PART NUMBER CLEARLY MARKED ON THE DRIVER ENCLOSURE AND SHALL CARRY A MINIMUM OF 5-YEAR REPLACEMENT WARRANTY. EACH LUMINAIRE SHALL INCLUDE AN INTEGRAL LINE FUSE.

THE LED EMITTER ASSEMBLY SHALL CARRY A MINIMUM 5-YEAR REPLACEMENT WARRANTY, 10-YEAR STANDARD MANUFACTURER WARRANTY. THE LUMINAIRE ENCLOSURE SHALL BE RATED IP65, MINIMUM, AS PER IEC 60529, AND SHALL CARRY A MINIMUM 5-YEAR REPLACEMENT WARRANTY WITH A 10-YEAR STANDARD MANUFACTURER LIMITED WARRANTY.

A WRITTEN WARRANTY STATEMENT, SPARE PARTS LIST, AND MANUAL FROM THE LED SUPPLIER SHALL BE SUPPLIED TO THE ENGINEER PRIOR TO THE LUMINAIRES BEING ACCEPTED BY ODOT.

SURGE PROTECTION SHALL BE 10KV/5KA MINIMUM, PER ANSI C62.41.2 AND THE MODULAR PACKAGE SHALL BE CLEARLY MARKED WITH THE MANUFACTURER AND PART NUMBER. COLOR TEMPERATURE SHALL BE 4000K± 400K UNLESS APPROVED OTHERWISE BY THE ENGINEER.

PAYMENT WILL BE MADE AT THE UNIT PRICE BID UNDER CMS ITEM 625, "LUMINAIRE, UNDERPASS, AS PER PLAN" FOR EACH LUMINAIRE WHICH SHALL BE FULL COMPENSATION FOR ALL LABOR, MATERIALS AND INCIDENTALS REQUIRED TO COMPLETE THIS ITEM IN A SATISFACTORY AND WORKMANLIKE MANNER.

625, PULL BOX, MISC.: ABOVE GRADE PULL BOX

THIS ITEM SHALL CONSIST OF FURNISHING, INSTALLING, PROVIDING NECESSARY SUPPORTS AND COVERS FOR AN ABOVE GRADE NEMA 4XSS PULL BOX SIZED AS REQUIRED FOR THE LIGHTING CONDUCTORS MOUNTED ON THE BRIDGE PIER CAP.

PAYMENT SHALL BE MADE AT THE UNIT PRICE BID FOR ITEM 625, PULL BOX, MISC.: ABOVE GRADE PULL BOX FOR EACH PULL BOX AND SHALL INCLUDE ALL LABOR, MATERIAL AND INCIDENTALS TO COMPLETE THIS ITEM IN A SATISFACTORY AND WORKMANLIKE MANNER.

625, CONDUIT, 1 1/4", 725.04, AS PER PLAN

IN ADDITION TO THE REQUIREMENTS OF ODOT'S CONSTRUCTION AND MATERIAL SPECIFICATIONS, CONDUIT, 1 1/4", 725.04, AS PER PLAN SHALL INCLUDE ALL CONDUIT, CLAMPS, SUPPORTS AND ANY OTHER EQUIPMENT REQUIRED FOR INSTALLATION.

PAYMENT SHALL BE MADE AT THE UNIT PRICE FOR EACH LINEAR FOOT FOR ITEM 625, CONDUIT, 1 1/4", 725.04, AS PER PLAN AND SHALL INCLUDE ALL LABOR, MATERIAL AND INCIDENTALS TO COMPLETE THIS ITEM IN A SATISFACTORY AND WORKMANLIKE MANNER.

PADLOCKS AND KEYS

PADLOCKS FURNISHED SHALL BE EITHER BRASS OR BRONZE, EQUAL TO MASTER NO. 4BKA OR WILSON BOHANNAN 660A, AND SHALL BE KEYED IN ACCORDANCE WITH C&MS 631.06. PAYMENT SHALL BE INCLUDED IN THE BID FOR THE ITEM(S) BEING LOCKED.

625, POWER SERVICE, AS PER PLAN

IN ADDITION TO THE REQUIREMENTS OF THE SPECIFICATIONS, THE FOLLOWING IS ADDED.

THE POWER SUPPLYING AGENCY FOR THIS PROJECT IS:

CITY OF CLEVELAND
DIVISION OF CLEVELAND PUBLIC POWER
1300 LAKESIDE AVE.
CLEVELAND, OHIO 44114
ATTN: CHRIS HIRZEL
PHONE: (216) 664-3922, EXT. 115
FAX: (216) 664-2972

THE ENGINEER SHALL ENSURE THAT EACH POWER SERVICE ELECTRICAL ENERGY ACCOUNT IS IN THE NAME OF AND THAT THE BILLING ADDRESS IS TO THE MAINTAINING AGENCY NOTED IN THE PLANS. THIS SHALL BE DONE NOT ONLY FOR EACH NEW POWER SERVICE ESTABLISHED BY THIS PROJECT BUT ALSO FOR EACH EXISTING POWER SERVICE, SINCE THERE MAY BE A REASSIGNMENT OF THE RESPONSIBILITY FOR AN EXISTING SERVICE AS A RESULT OF THE WORK PERFORMED BY THIS PROJECT.

PAY ITEM SHALL INCLUDE (3) #1/0, (1) #6 GROUND, 2" CONDUIT FROM POWER POLE TO CONTROL CENTER, 2" CONDUIT RISER UP THE UTILITY POWER POLE AND ALL ASSOCIATED MATERIALS REQUIRED.

PAYMENT WILL BE MADE AT THE UNIT BID PRICE FOR EACH C&MS ITEM 625, "POWER SERVICE, AS PER PLAN" WHICH SHALL BE FULL COMPENSATION FOR ALL LABOR, MATERIALS AND INCIDENTALS REQUIRED TO COMPLETE THIS ITEM IN A SATISFACTORY AND WORKMANLIKE MANNER.

SPECIAL, MAINTAIN EXISTING LIGHTING

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

BEFORE ANY WORK IS STARTED IN THE IMMEDIATE VICINITY OF THE EXISTING LIGHTING CIRCUITS, REPRESENTATIVES OF ODOT, THE MAINTAINING AGENCY AND THE CONTRACTOR SHALL MAKE A VISUAL INSPECTION OF THE EXISTING ROADWAY LIGHTING CIRCUITS TO BE MAINTAINED. DURING THIS INSPECTION, A WRITTEN RECORD OF THE CONDITION OF EXISTING LIGHTING SHALL BE MADE BY ODOT'S REPRESENTATIVE. THIS WRITTEN REPORT SHALL NOTE INDIVIDUAL LUMINAIRES WHICH ARE NOT IN WORKING ORDER, INDIVIDUAL POLES WHICH ARE NOT STANDING, AND INDIVIDUAL CIRCUITS WHICH ARE NOT IN WORKING ORDER. THE COMPLETED REPORT SHALL BE SIGNED BY THE REPRESENTATIVES OF ODOT, THE MAINTAINING AGENCY AND THE CONTRACTOR.

IF, AS A RESULT OF THIS INSPECTION, IT IS DETERMINED THAT THE CONDITION OF THE EXISTING SYSTEM IS BELOW THAT REQUIRED FOR THE SAFETY OF THE TRAVELING PUBLIC, THEN THE MAINTAINING AGENCY SHALL MAKE THE REPAIRS NECESSARY TO RETURN THE SYSTEM TO AN ACCEPTABLE CONDITION. FOLLOWING THESE REPAIRS, THE SYSTEM SHALL AGAIN BE INSPECTED AND A REPORT SHALL BE MADE AND SIGNED AS OUTLINED HEREIN.

SPECIAL, MAINTAIN EXISTING LIGHTING (CONT)

WHEN THE EXISTING SYSTEM IS IN AN ACCEPTABLE CONDITION, IT SHALL BE TURNED OVER TO THE CONTRACTOR WHO SHALL THEN BE REQUIRED TO MAINTAIN THE EXISTING LIGHTING TO THE CONDITION OUTLINED IN THIS REPORT WITH THE EXCEPTION OF KNOCKDOWNS DUE TO TRAFFIC ACCIDENTS.

REPLACEMENT OF KNOCKED DOWNED UNITS SHALL BE DONE ONLY WHEN THE ENGINEER HAS DETERMINED THAT THE REPLACEMENT OF THE KNOCKED DOWN UNIT IS NECESSARY AND SHALL BE PAID SEPARATELY ON A UNIT BASIS.

BETTERMENTS SHALL BE COVERED IN ITEMS OF WORK PERTAINING TO THE CONSTRUCTION OF PERMANENT IMPROVEMENT.

WHEN THE SEQUENCE OF CONSTRUCTION ACTIVITIES REQUIRES, OR SHOULD THE CONTRACTOR DESIRE, THE REMOVAL OF THE EXISTING LIGHTING BEFORE THE NEW LIGHTING IS OPERATIONAL, THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING TEMPORARY LIGHTING OF THIS PORTION OF THE ROADWAY.

PRIOR TO INSTALLING SUCH LIGHTING, THE CONTRACTOR SHALL PREPARE AND SUBMIT FOUR SETS OF THE TEMPORARY LIGHTING PLAN TO THE ENGINEER FOR REVIEW AND APPROVAL.

THIS PLAN SHALL SHOW LOCATIONS OF LUMINAIRES, MOUNTING HEIGHTS, WIRING METHODS AND OTHER PERTINENT INFORMATION. THE TEMPORARY LIGHTING SHALL PROVIDE AN AVERAGE INITIAL INTENSITY OF 1.2 FOOTCANDLES WITH AN AVERAGE TO MINIMUM UNIFORMITY NOT TO EXCEED 3:1. RECONDITIONED OR USED MATERIALS MAY BE FURNISHED FOR TEMPORARY LIGHTING.

SPECIAL, MAINTAIN EXISTING LIGHTING (CONT)

ALL MATERIALS NECESSARY TO COMPLETE THE TEMPORARY LIGHTING SHALL BE FURNISHED AND INSTALLED BY THE CONTRACTOR. WHEN NO LONGER NEEDED, THE TEMPORARY LIGHTING INSTALLATION SHALL BE REMOVED AND PROPERLY DISPOSED OF BY THE CONTRACTOR.

THE MAINTAINING AGENCY WILL PAY FOR ELECTRICAL ENERGY CONSUMED BY EXISTING POWER SERVICES AND BY PROPOSED PERMANENT POWER SERVICES AFTER ACCEPTANCE OF THE LIGHTING WORK. THE CONTRACTOR WILL PAY FOR ELECTRICAL ENERGY, INSTALLATION, REMOVAL AND MAINTENANCE OF ANY TEMPORARY POWER SERVICES.

THE LUMP SUM PRICE BID FOR ITEM SPECIAL "MAINTAIN EXISTING LIGHTING" SHALL INCLUDE PAYMENT FOR ALL LABOR, EQUIPMENT, MATERIALS AND INCIDENTALS NECESSARY TO MAINTAIN THE EXISTING LIGHTING AS SPECIFIED HEREIN.

THE UNIT PRICE BID FOR ITEM SPECIAL "REPLACEMENT OF EXISTING LIGHTING UNIT" SHALL BE FULL PAYMENT FOR THE REPLACEMENT OF AN EXISTING LIGHTING UNIT WHICH HAS BEEN KNOCKED DOWN AFTER THE AFOREMENTIONED INSPECTION AND SHALL INCLUDE ALL LABOR, EQUIPMENT, MATERIALS AND INCIDENTALS NECESSARY TO PROVIDE A REPLACEMENT FOR SUCH UNIT.

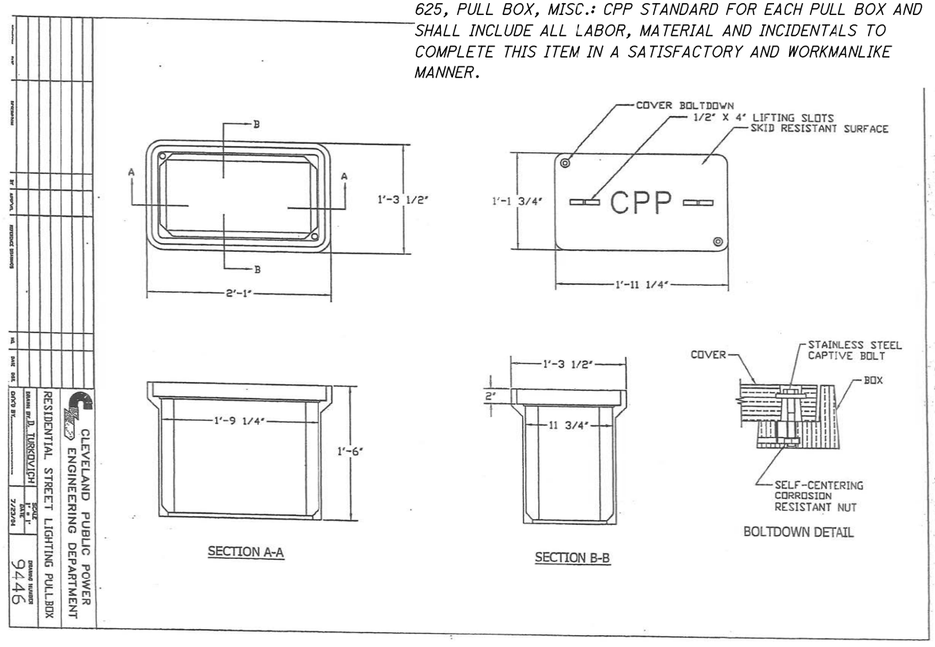
625, LUMINAIRE REMOVED, AS PER PLAN

IN ADDITION TO THE REQUIREMENTS OF ODOT'S CONSTRUCTION AND MATERIAL SPECIFICATIONS, LUMINAIRE REMOVED, AS PER PLAN SHALL INCLUDE THE REMOVAL OF ALL CONDUIT, CLAMPS, SUPPORTS, CABLES AND ANY OTHER EQUIPMENT REQUIRED FOR INSTALLATION.

625, PULL BOX, MISC.: CPP STANDARD

THIS ITEM SHALL CONSIST OF FURNISHING, INSTALLING, PROVIDING A PULL BOX IN ACCORDANCE WITH THE CPP STANDARD DETAIL 9446 AS SHOWN DETAIL BELOW.

PAYMENT SHALL BE MADE AT THE UNIT PRICE BID FOR ITEM 625, PULL BOX, MISC.: CPP STANDARD FOR EACH PULL BOX AND SHALL INCLUDE ALL LABOR, MATERIAL AND INCIDENTALS TO COMPLETE THIS ITEM IN A SATISFACTORY AND WORKMANLIKE MANNER.



CALCULATED BRO CHECKED JMS

LIGHTING GENERAL NOTES

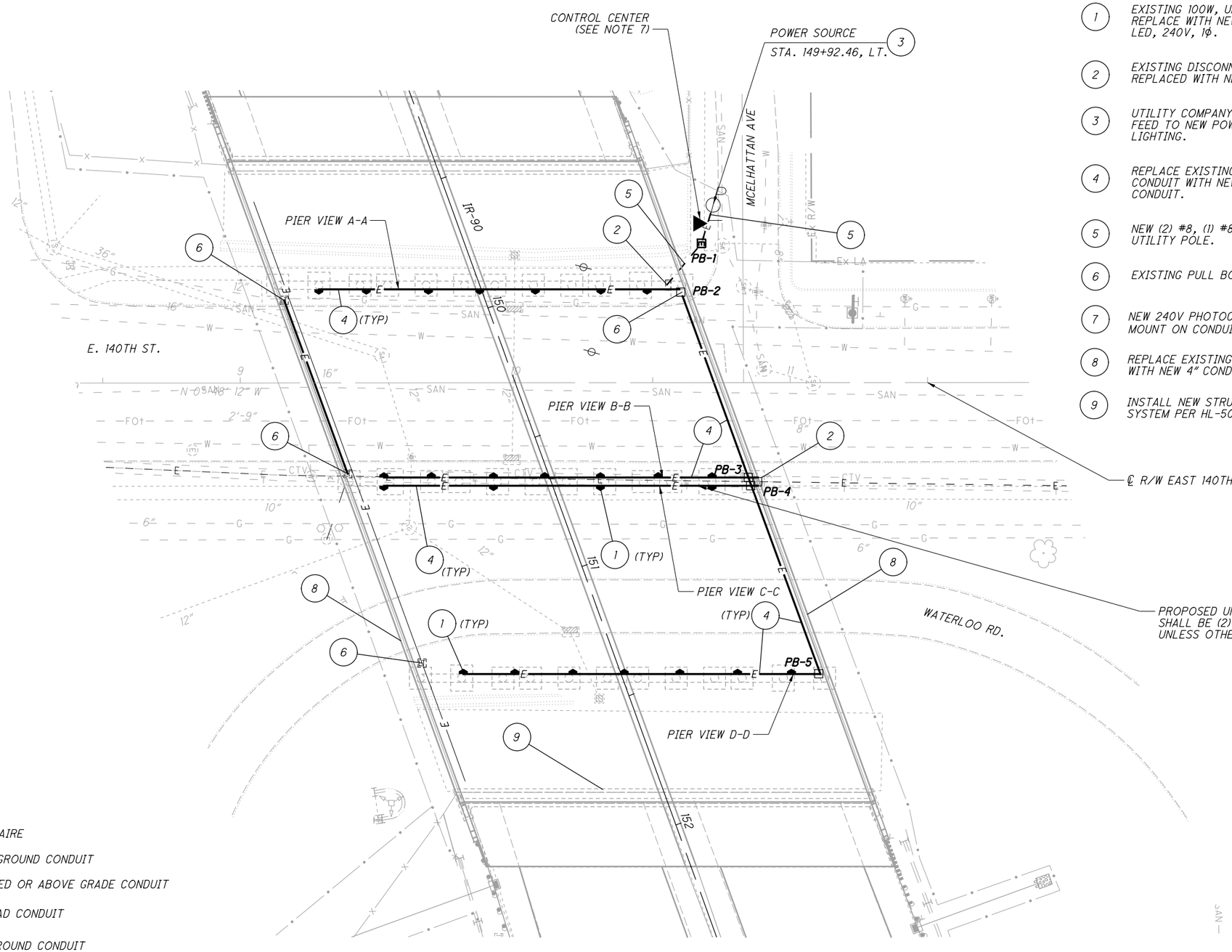
CUY-90-24.10/24.63

SHEET NO.	REFERENCE NO.	STATION FROM	STATION TO	SIDE	625 CONNECTION, UNFUSED PERMANENT EACH	625 NO. 8 AWG 600 VOLT DISTRIBUTION CABLE FT	625 CONDUIT, 1 1/4", 725.04, AS PER PLAN FT	625 CONDUIT, 2", 725.05 FT	625 CONDUIT, 4", 725.04 FT	625 LUMINAIRE, UNDERPASS, AS PER PLAN EACH	625 TRENCH FT	625 PULL BOX REMOVED EACH	625 PULL BOX, MISC.:CPP STANDARD EACH	625 PULL BOX, MISC.:ABOVE GRADE PULLBOX EACH	625 STRUCTURE GROUNDING SYSTEM EACH	625 POWER SERVICE, AS PER PLAN EACH	625 CONTROL CENTER CABINET, COMPLETE EACH	625 PLASTIC CAUTION TAPE FT	625 LUMINAIRE REMOVED, AS PER PLAN EACH	631 DISCONNECT SWITCH, 100 AMP EACH				
		I.R. 90																						
99	8	149+18	151+66	RT					248															
99		149+69	152+16	LT					248															
99	6	149+72		RT								1												
99	4	149+73	150+17	LT & RT		393	131																	
99	1	149+73	150+17	LT & RT						7									7					
99	3	149+92		LT												1								
99	7	149+97		LT													1							
99	PB-1	150+04		LT									1											
99	2	150+14		LT																1				
99	5	150+14	149+92	LT		105		35			35							35						
99	6	150+19		LT								1												
99	PB-2	150+19		LT	3									1										
99	4	150+20	151+66	LT		438	146																	
99	6	150+39		RT								1												
99	4	150+45	150+91	LT & RT		408	136																	
99	1	150+45	150+91	LT & RT						7									7					
99	4	150+48	150+94	LT & RT		408	136																	
99	1	150+48	150+94	LT & RT						4									4					
99	PB-3	150+90		LT	3									1										
99	2	150+92		LT																1				
99	PB-4	150+93		LT	3									1										
99	6	151+13		RT								1												
99	4	151+22	151+66	LT & RT		390	130																	
99	1	151+22	151+66	LT & RT						7									7					
99	PB-5	151+66		LT	3									1										
99	9	151+87		LT & RT											1									
103	8	176+85	179+48	RT					265															
103	4	177+45	178+12	LT & RT		423	141																	
103	1	177+45	178+12	LT & RT						7									7					
103	9	177+53		LT											1									
103	8	177+59	180+26	LT					265															
103	PB-1	178+13		LT	3									1										
103	4	178+14	179+77	LT		486	162																	
103	4	178+24	178+91	LT & RT		411	137																	
103	1	178+24	178+91	LT & RT						4									4					
103	4	178+26	178+93	LT & RT		417	139																	
103	1	178+26	178+93	LT & RT						7									7					
103	2	178+92		LT																1				
103	PB-2	178+92		LT	9									1										
103	4	179+04	179+72	LT & RT		417	139																	
103	1	179+04	179+72	LT & RT						7									7					
103	4	179+07	179+75	LT & RT		423	141																	
103	1	179+07	179+75	LT & RT						7									7					
103	6	179+75		LT								1												
103	2	179+77		LT																1				
103	PB-3	179+77		LT	9									1										
103	5	179+80	179+77	LT		48		16			16							16						
103	3	179+80		LT												1								
103	7	179+88		LT													1							
TOTALS CARRIED TO GENERAL SUMMARY					33	4767	1538	51	1026	57	51	5	1	7	2	2	2	51	57	4				

CALCULATED MAK
CHECKED DRJ

LIGHTING SUBSUMMARY

CUY-90-24.10/24.63



PLAN NOTES

1. EXISTING 100W, UNDERPASS LUMINAIRE. REPLACE WITH NEW. NEW LUMINAIRE SHALL BE LED, 240V, 1Φ.
2. EXISTING DISCONNECT, TO BE REMOVED AND REPLACED WITH NEW DISCONNECT.
3. UTILITY COMPANY POLE, TO BE USED FOR FEED TO NEW POWER SERVICE/UNDERPASS LIGHTING.
4. REPLACE EXISTING CONDUCTORS AND CONDUIT WITH NEW (2) #8, (1) #8 G., 1 1/4" CONDUIT.
5. NEW (2) #8, (1) #8G, 1 1/4" CONDUIT, TO UTILITY POLE.
6. EXISTING PULL BOX, TO BE REMOVED.
7. NEW 240V PHOTOCELL, FOR UNDERPASS LIGHTING MOUNT ON CONDUIT RISER ON CONTROL CENTER.
8. REPLACE EXISTING CONDUIT IN THE PARAPET WITH NEW 4" CONDUIT, 725.05
9. INSTALL NEW STRUCTURE GROUNDING SYSTEM PER HL-50.21

LEGEND

- CONTROL CENTER
- UNDERPASS LUMINAIRE
- PROPOSED UNDERGROUND CONDUIT
- PROPOSED EXPOSED OR ABOVE GRADE CONDUIT
- EXISTING OVERHEAD CONDUIT
- EXISTING UNDERGROUND CONDUIT
- UTILITY POWER POLE
- EXISTING ELECTRICAL HANDHOLE
- EXISTING ABOVE GRADE PULL BOX
- PROPOSED ABOVE GRADE PULL BOX

PLAN NOTES ARE REFERENCED TO THE SUBSUMMARY

BRIDGE NO. CUY-90-24.10

STRUCTURE FILE NO. 1808672

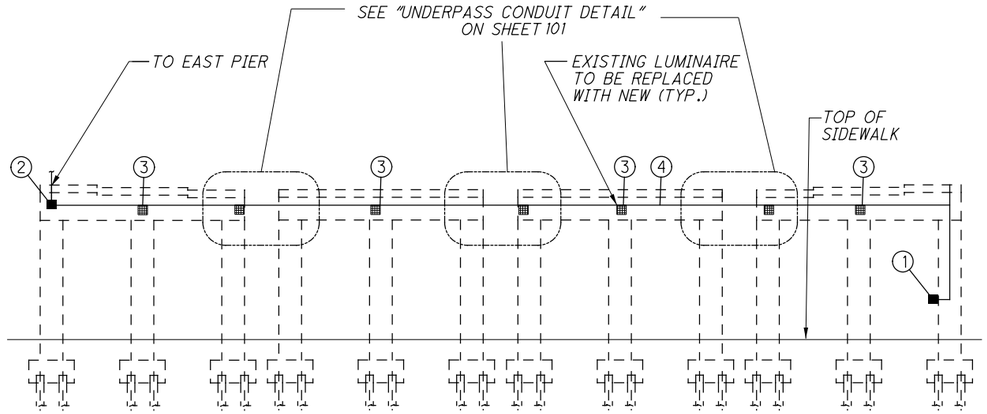
HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED BJM
CHECKED DRJ

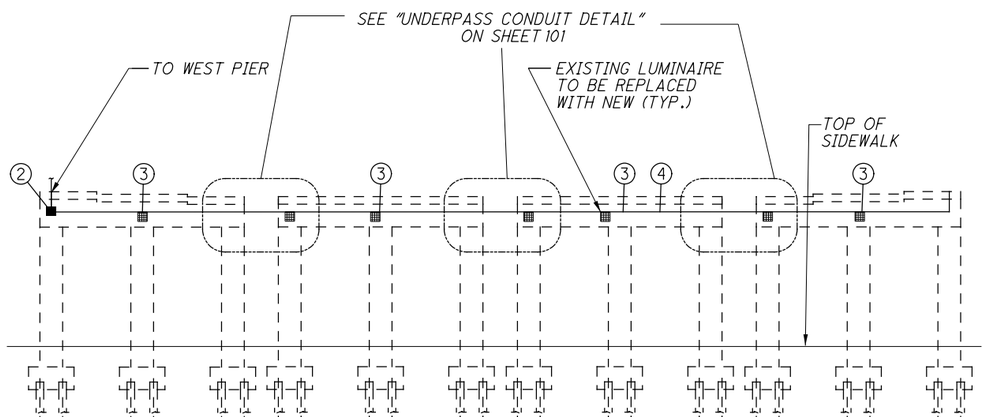
UNDERPASS LIGHTING DETAILS IR-90 AND E. 140TH STREET

CUY-90-24.10/ 24.63

99
196



PIER ELEVATION A-A
(NO SCALE)



PIER ELEVATION B-B
(NO SCALE)

FOR LEGEND SEE SHEET 99

ELEVATION GENERAL NOTES

1.) SEE SHEETS 99 AND 102 FOR MORE INFORMATION

2.) THE CONTRACTOR SHALL MATCH THE HEIGHT AND LOCATION OF THE EXISTING LUMINAIRES.

ELEVATION PLAN NOTES

(1) NEW DISCONNECT SWITCH, WITH 240V, 1-PHASE, 30A

(2) JUNCTION BOX, FOR FEED TO PIER UNDERPASS LIGHTING.

(3) EXISTING CONDUCTORS AND CONDUIT TO BE REMOVED, AND REPLACED WITH NEW AS SHOWN.

(4) PROPOSED CONDUCTORS AND CONDUIT.

CALCULATED MKF
CHECKED DRJ

UNDERPASS LIGHTING ELEVATIONS
IR-90 AND E 140TH STREET

CUY-90-24.10/ 24.63

100
196

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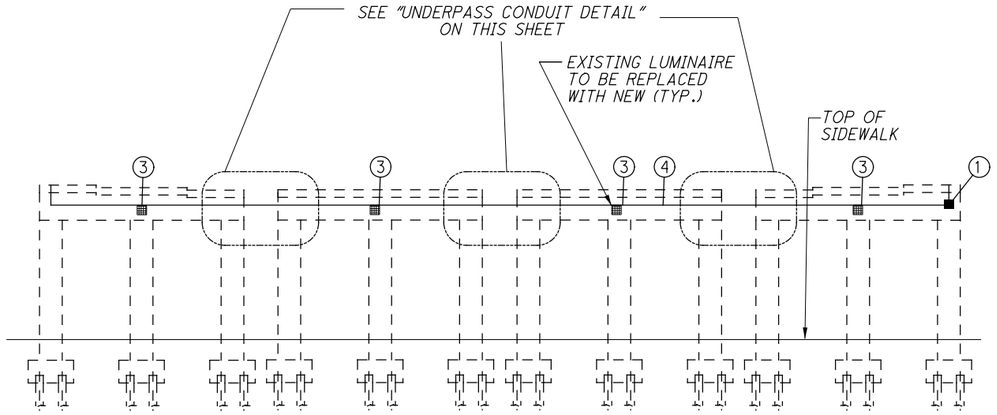
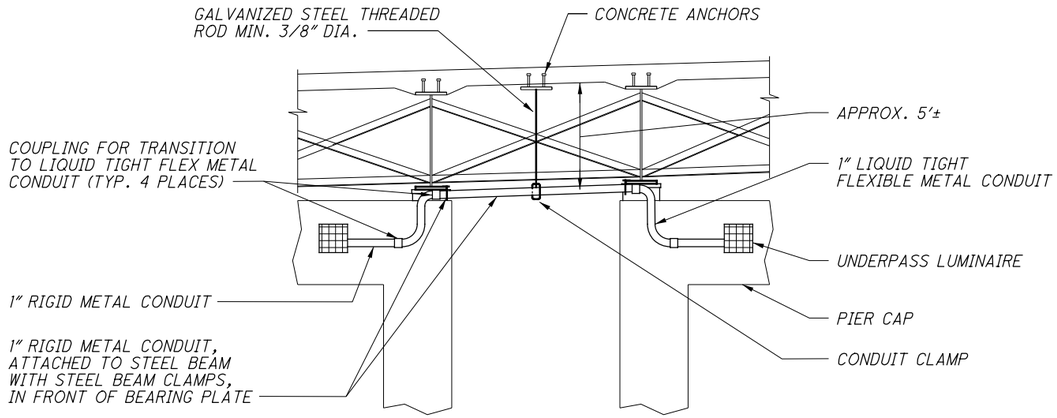
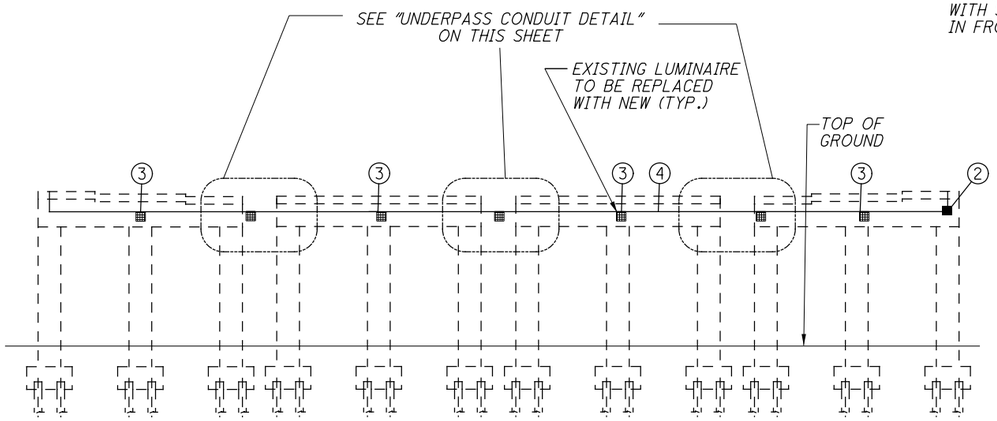


PIER ELEVATION C-C
(NO SCALE)



UNDERPASS CONDUIT DETAIL
(NO SCALE)



PIER ELEVATION D-D
(NO SCALE)

FOR ELEVATION NOTES SEE SHEET 100

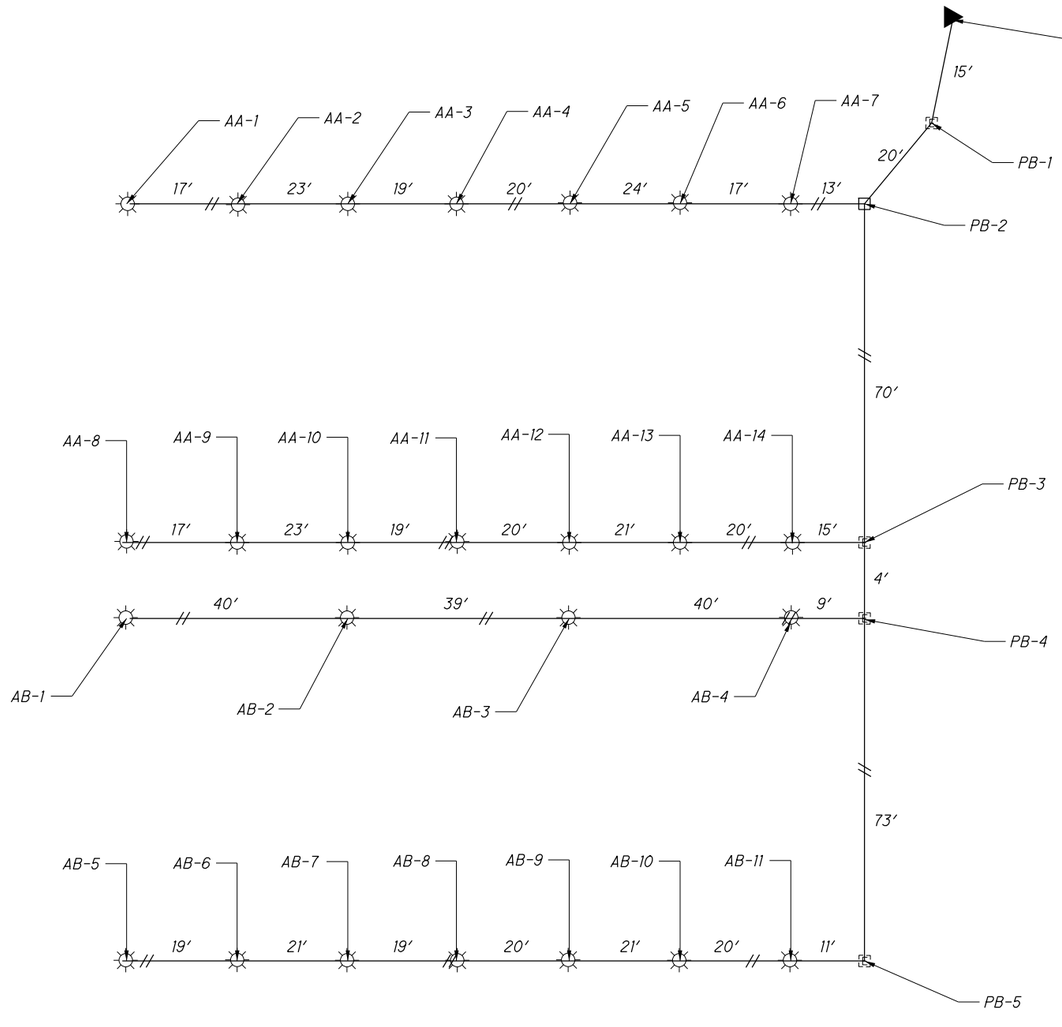
CALCULATED MKF
CHECKED DRJ

UNDERPASS LIGHTING ELEVATIONS IR-90 AND E 140TH STREET

CUY-90-24.10/24.63

POWER SERVICE DATA

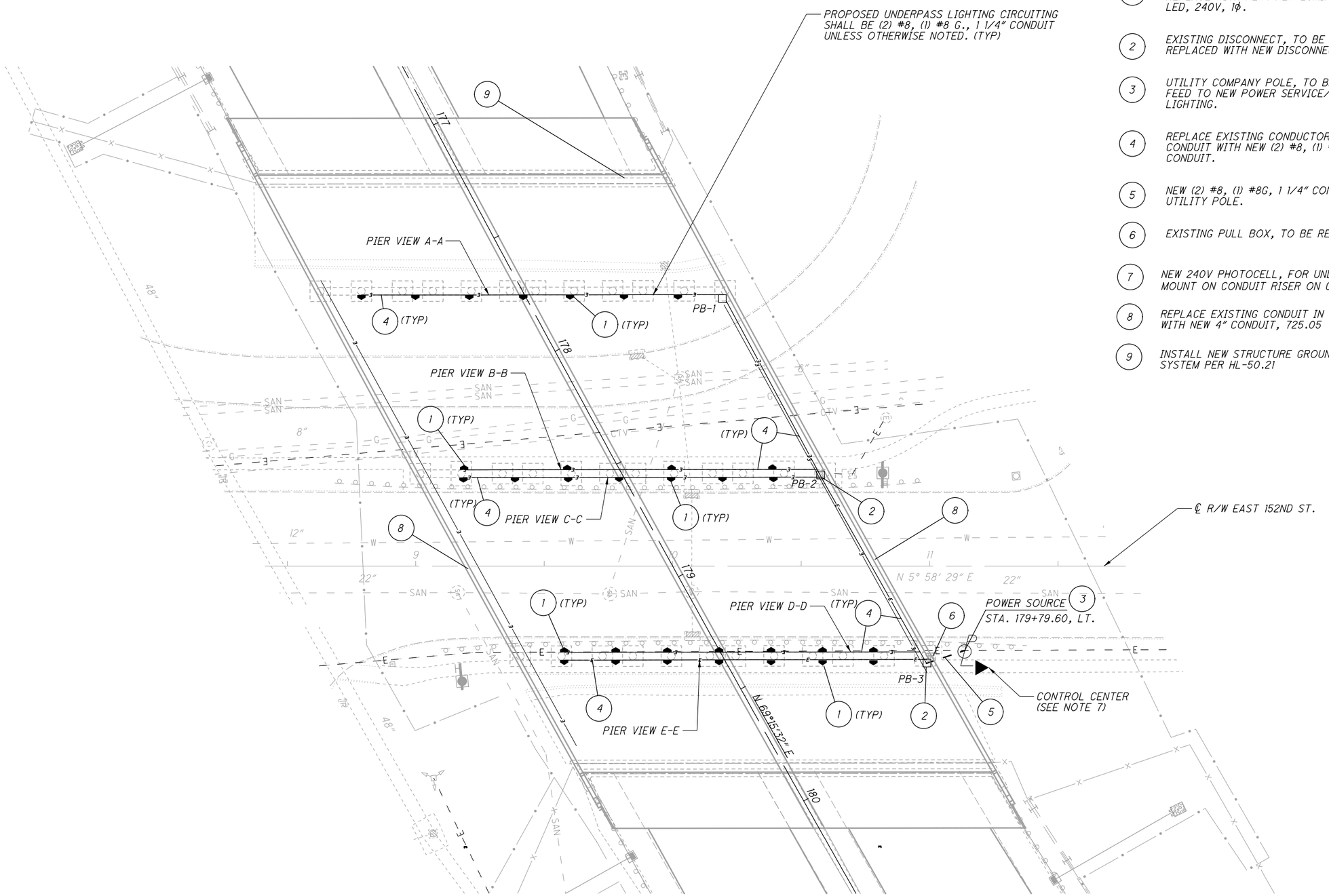
POWER SERVICE	SERVICE VOLTAGE	LOAD (KVA)	SERVICE ENTRANCE CONDUCTORS (AWG)	MAIN DISCONNECT RATING (AMPS)	CIRCUIT No.	CIRCUIT LOAD (AMPS)	CIRCUIT BREAKER SIZE (AMPS)	CIRCUIT CONDUCTOR SIZE (AWG)	CONDUCTORS PER CIRCUIT	MAINTAINING AGENCY	MUNICIPALITY SERVED
A	240V 1-PHASE 3 WIRE PLUS GROUND	3.13	1/0	100	A	7.3	20	8	2 + GROUND	ODOT	CLEVELAND
					B	5.7	20	8			



CALCULATED MKF
CHECKED DRJ

EAST 140TH ST UNDERPASS LIGHTING CIRCUIT DIAGRAMS

CUY-90-24.10/24.63



PLAN NOTES

1. EXISTING 100W, UNDERPASS LUMINAIRE. REPLACE WITH NEW. NEW LUMINAIRE SHALL BE LED, 240V, 1ϕ.
2. EXISTING DISCONNECT, TO BE REMOVED AND REPLACED WITH NEW DISCONNECT.
3. UTILITY COMPANY POLE, TO BE USED FOR FEED TO NEW POWER SERVICE/UNDERPASS LIGHTING.
4. REPLACE EXISTING CONDUCTORS AND CONDUIT WITH NEW (2) #8, (1) #8 G., 1 1/4" CONDUIT.
5. NEW (2) #8, (1) #8G, 1 1/4" CONDUIT, TO UTILITY POLE.
6. EXISTING PULL BOX, TO BE REMOVED.
7. NEW 240V PHOTOCELL, FOR UNDERPASS LIGHTING MOUNT ON CONDUIT RISER ON CONTROL CENTER.
8. REPLACE EXISTING CONDUIT IN THE PARAPET WITH NEW 4" CONDUIT, 725.05
9. INSTALL NEW STRUCTURE GROUNDING SYSTEM PER HL-50.21

BRIDGE NO. CUY-90-24.63

STRUCTURE FILE NO. 1808702

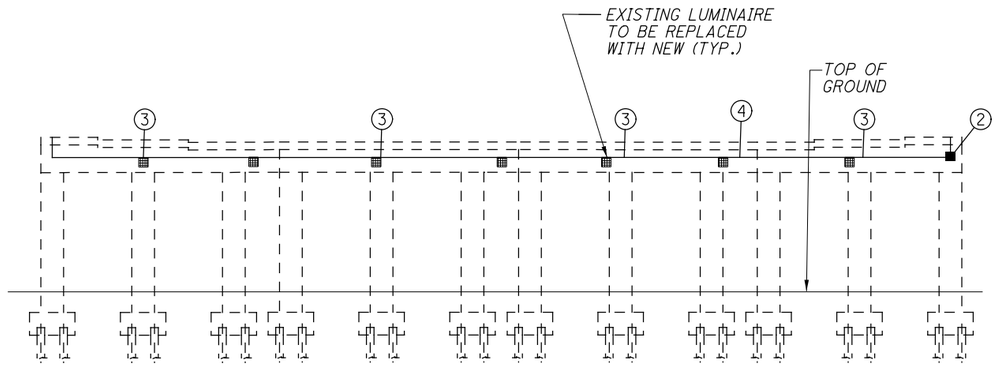
FOR LEGEND SEE SHEET 99

HORIZONTAL SCALE IN FEET
0 10 20 40

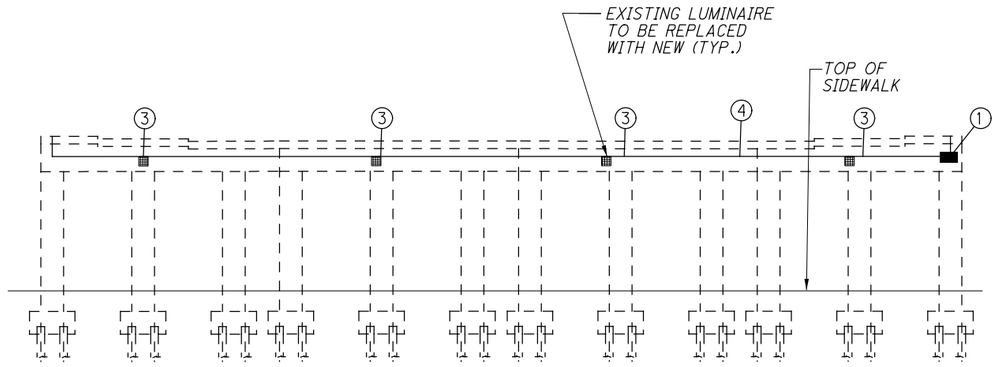
CALCULATED BJM
CHECKED DRJ

UNDERPASS LIGHTING DETAILS IR-90 AND E. 152ND STREET

CUY-90-24.10/ 24.63

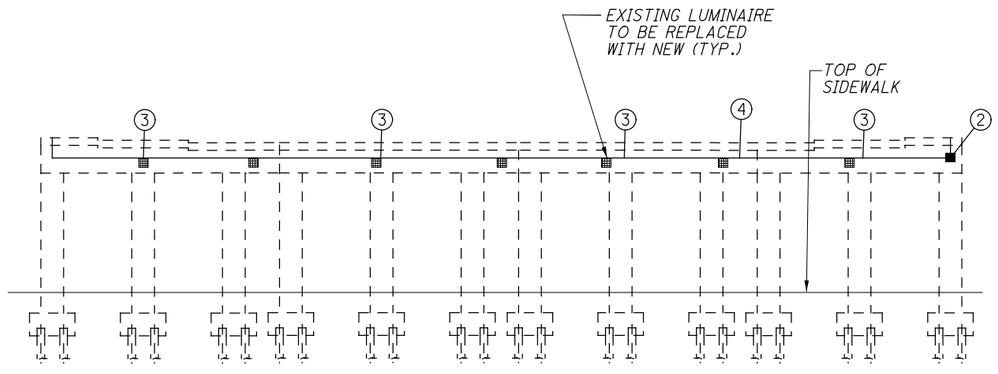


PIER ELEVATION A-A
(NO SCALE)



PIER ELEVATION B-B
(NO SCALE)

(REMOVE & REPLACE)



PIER ELEVATION C-C
(NO SCALE)

FOR LEGEND SEE SHEET 99

ELEVATION GENERAL NOTES

1.) SEE SHEETS 103 AND 106 FOR MORE INFORMATION

2.) THE CONTRACTOR SHALL MATCH THE HEIGHT AND LOCATION OF THE EXISTING LUMINAIRES.

ELEVATION PLAN NOTES

(1) NEW DISCONNECT SWITCH, WITH 240V, 1-PHASE, 30A

(2) JUNCTION BOX, FOR FEED TO PIER UNDERPASS LIGHTING.

(3) EXISTING CONDUCTORS AND CONDUIT TO BE REMOVED, AND REPLACED WITH NEW AS SHOWN.

(4) PROPOSED CONDUCTORS AND CONDUIT.

CALCULATED MKF
CHECKED DRJ

UNDERPASS LIGHTING ELEVATIONS
IR-90 AND E 152ND STREET

CUY-90-24.10/ 24.63

104
196

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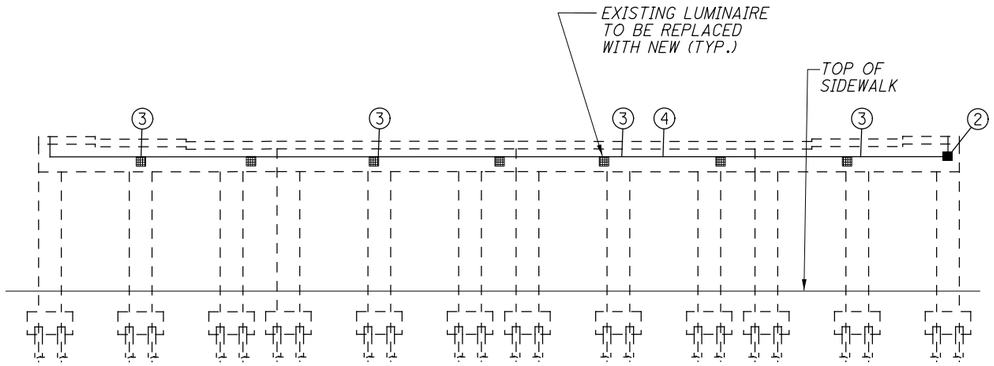
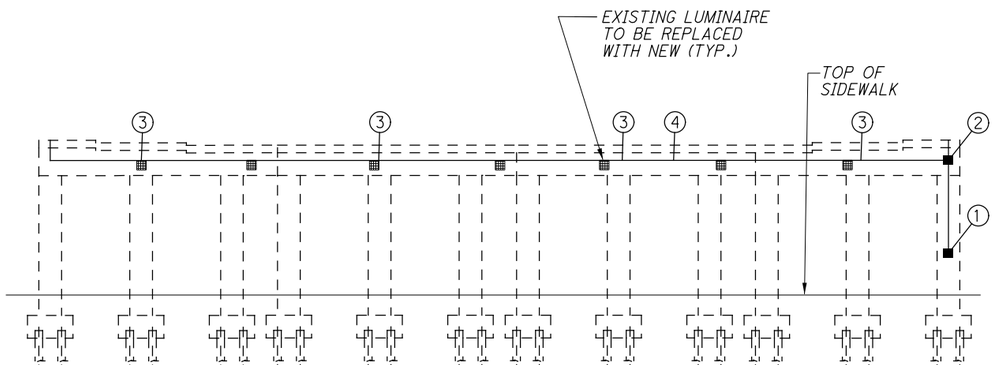


PIER ELEVATION D-D
(NO SCALE)



PIER ELEVATION E-E
(NO SCALE)

FOR ELEVATION NOTES SEE SHEET 104

CALCULATED MKF
CHECKED DRJ

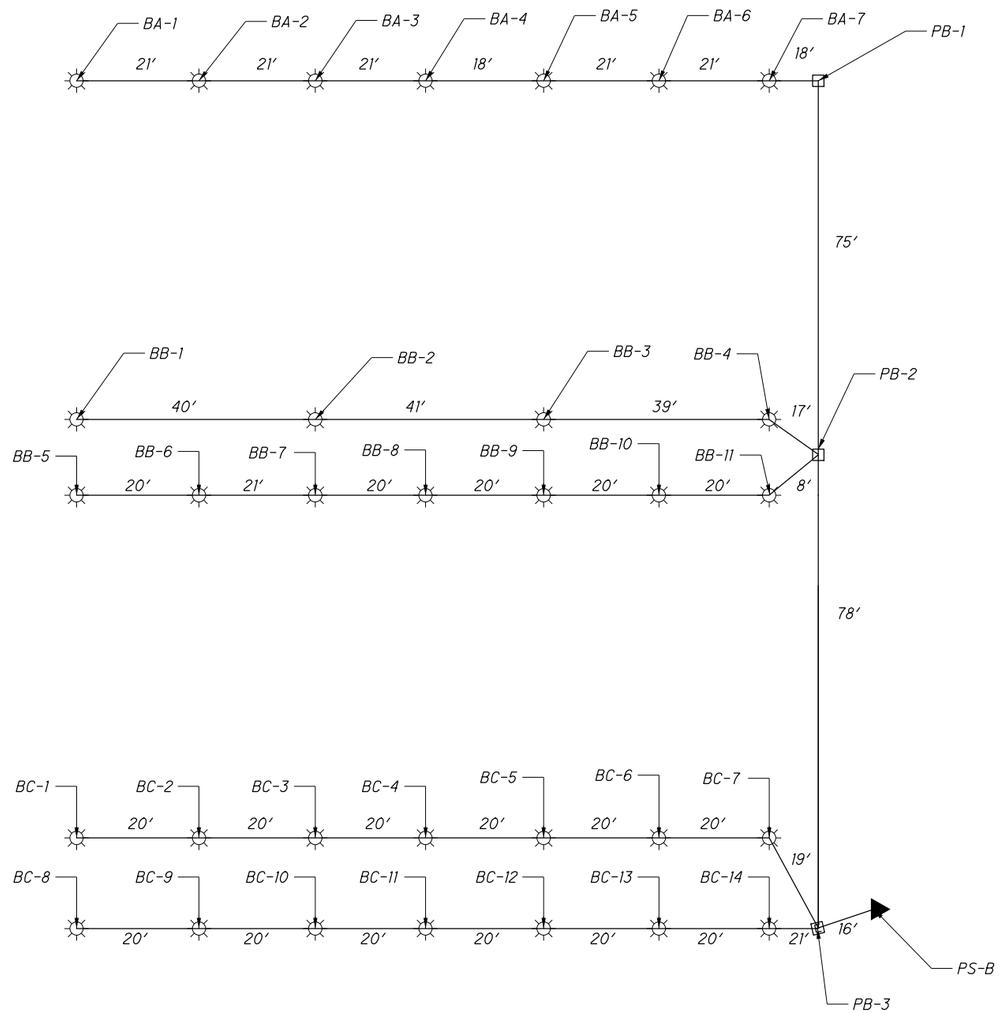
UNDERPASS LIGHTING ELEVATIONS
IR-90 AND E 152ND STREET

CUY-90-24.10/ 24.63

105
196

POWER SERVICE DATA

POWER SERVICE	SERVICE VOLTAGE	LOAD (KVA)	SERVICE ENTRANCE CONDUCTORS (AWG)	MAIN DISCONNECT RATING (AMPS)	CIRCUIT No.	CIRCUIT LOAD (AMPS)	CIRCUIT BREAKER SIZE (AMPS)	CIRCUIT CONDUCTOR SIZE (AWG)	CONDUCTORS PER CIRCUIT	MAINTAINING AGENCY	MUNICIPALITY SERVED
B	240V 1-PHASE 3 WIRE PLUS GROUND	4.0	1/0	100	A	3.6	20	8	2 + GROUND	ODOT	CLEVELAND
					B	5.7	20	8			
					C	7.3	20	8			



CALCULATED MKF
CHECKED DRJ

EAST 152ND ST UNDERPASS LIGHTING CIRCUIT DIAGRAMS

CUY-90-24.10/24.63

106
196

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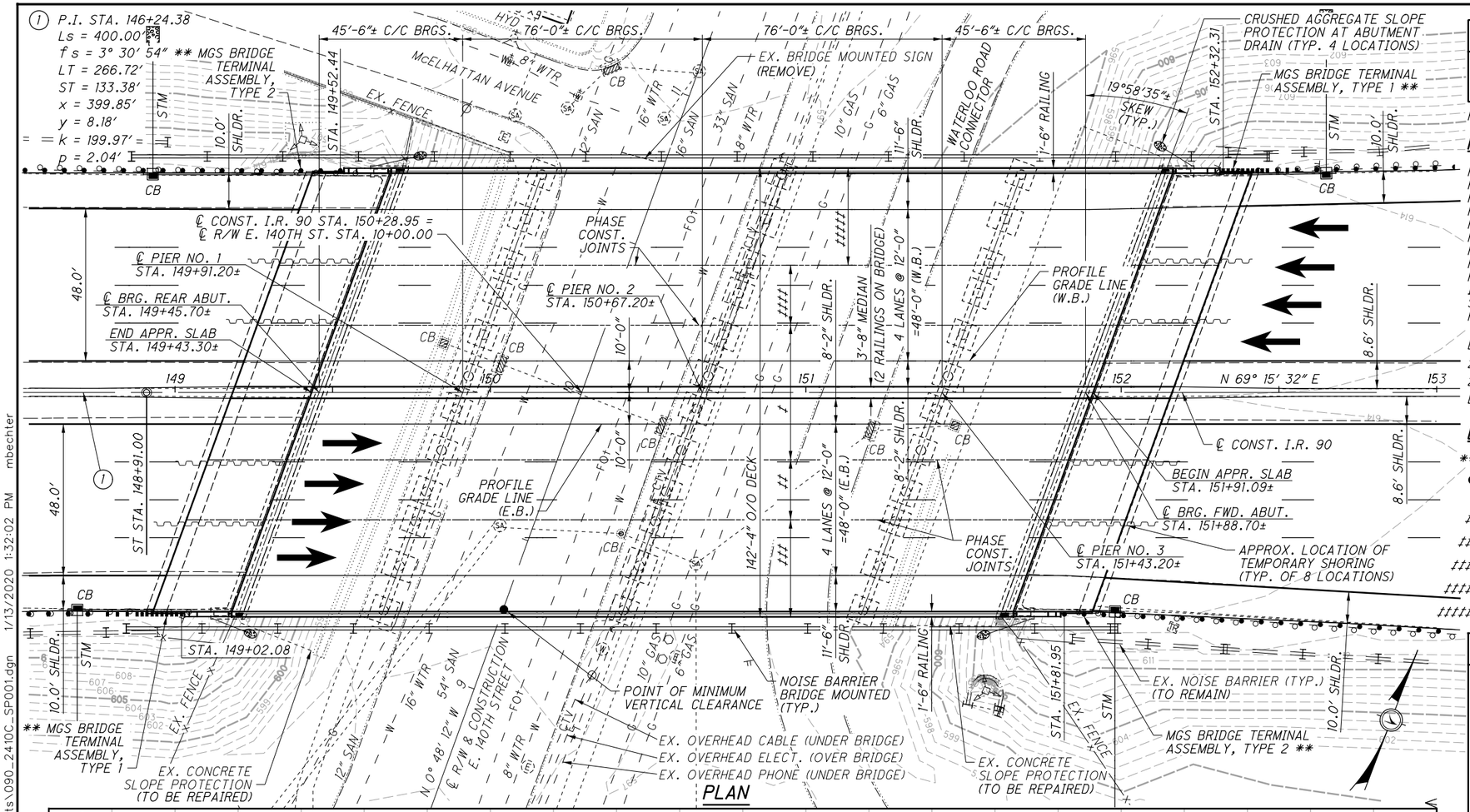

BENCHMARK DATA

BM #1 STA. 149+41.3, ELEV. 598.98, OFFSET 139.8' LT.
BM #5 STA. 159+48.00, ELEV. 600.64, OFFSET 149.00' LT.

FOR ADDITIONAL BENCHMARK INFORMATION, SEE ROADWAY PLANS

PROPOSED WORK

REPLACE BRIDGE DECK
REMOVE STRUCTURE MOUNTED SIGNS
REMOVE BRIDGE SCUPPERS
PERFORM FATIGUE RETROFITS
REPAIR ABUTMENTS AND PIERS
REPLACE BEARINGS
REPLACE APPROACH SLABS
REPAIR CONCRETE SLOPE PROTECTION
REPLACE UNDERPASS LIGHTING
INSTALL BRIDGE MOUNTED NOISE BARRIER
SEAL CONCRETE SUBSTRUCTURE AND SUPERSTRUCTURE
PAINT STRUCTURAL STEEL

DESIGN TRAFFIC:
2019 ADT = 122,000 2019 ADTT = 6,100
2039 ADT = 127,000 2039 ADTT = 6,350
DIRECTIONAL DISTRIBUTION = 59%

LEGEND

** - INCLUDE WITH ROADWAY QUANTITIES FOR PAYMENT
● 14'-11⅜" ACTUAL MINIMUM VERTICAL CLEARANCE
14'-6" REQUIRED MINIMUM VERTICAL CLEARANCE
ǂ PHASE 1 CONSTRUCTION, 42'-8"± (E.B. AND W.B.)
ǂǂ PHASE 2 CONSTRUCTION, 19'-0"± (E.B.)
ǂǂǂ PHASE 3 CONSTRUCTION, 30'-8"± (E.B.)
ǂǂǂǂ PHASE 4 CONSTRUCTION, 19'-0"± (W.B.)
ǂǂǂǂǂ PHASE 5 CONSTRUCTION, 30'-8"± (W.B.)

EXISTING STRUCTURE

TYPE: 4-SPAN CONTINUOUS STEEL BEAM WITH NON-COMPOSITE REINFORCED CONCRETE DECK ON SPILL-THRU STUB ABUTMENTS AND CAP AND COLUMN PIERS ON CAST-IN-PLACE CONCRETE PILES

SPANS: 45'-6"±, 76'-0"±, 76'-0"± AND 45'-6"± C/C BEARINGS
ROADWAY: 137'-8"± F/F PARAPET (I-90 E.B. AND W.B.)
LOADING: CF-2000-57 (AASHTO ALTERNATE LOADING)
SKEW: 19° 58' 35"± L.F.
APPROACH SLABS: AS-1-54 (25'-0"± LONG)
WEARING COURSE: LATEX MODIFIED CONCRETE OVERLAY
STRUCTURAL FILE NUMBER: 1808672
DATE BUILT: 1960
DISPOSITION: GOOD

PROPOSED STRUCTURE

TYPE: 4-SPAN CONTINUOUS STEEL BEAMS WITH COMPOSITE REINFORCED CONCRETE DECK ON MODIFIED SEMI-INTEGRAL STUB ABUTMENTS AND EXISTING CAP AND COLUMN PIERS ON CAST-IN-PLACE CONCRETE PILES

SPANS: 45'-6"±, 76'-0"±, 76'-0"± AND 45'-6"± C/C BEARINGS
ROADWAY: 139'-0" F/F PARAPET (I-90 E.B. AND W.B.)
LOADING: HS20 CASE I AND ALTERNATE MILITARY, FWS = 60 PSF
SKEW: 19° 58' 35"± L.F.
APPROACH SLABS: 25'-0" LONG (AS-1-15, AS-2-15)
ALIGNMENT: TANGENT
CROWN: 0.016' PER FT.
WEARING COURSE: 1" MONOLITHIC CONCRETE
COORDINATES: LATITUDE 41° 33' 53.88"
LONGITUDE -81° 35' 07.93"

DESIGN AGENCY
ARCADIS
ARCADIS U.S., Inc.
222 South Main Street, Suite 200, Akron, Ohio 44308
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DESIGNED	DRAWN	REVIEWED	DATE
RJB	CAF	RBB	8/17/18
CHECKED	REVISED	STRUCTURE FILE NUMBER	
FJG		1808672	

CUYAHOGA COUNTY
STA. 149+43.30 TO
STA. 151+91.09

SITE PLAN
BRIDGE NO. CUY-90-2410
INTERSTATE ROUTE 90 OVER EAST 140TH STREET

CUY-90-24.10/24.63
PID No. 88348

1 / 42

107
196

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STANDARD DRAWINGS AND SUPPLEMENTAL SPECIFICATIONS

REFER TO THE FOLLOWING STANDARD BRIDGE DRAWINGS:

AS-1-15	DATED 7-17-15	SICD-1-96	DATED 7-18-14
AS-2-15	DATED 1-19-18	SICD-2-14	DATED 7-18-14
GSD-1-96	DATED 7-19-02	HL-30.32	DATED 1-17-14
HL-50.21	DATED 1-19-18	NBS-1-09	DATED 1-19-18
PCB-91	DATED 1-18-13		
SBR-1-13	DATED 1-17-14		
SBR-2-13	DATED 1-17-14		

AND TO THE FOLLOWING SUPPLEMENTAL SPECIFICATION(S):

800 DATED 1-19-18

DESIGN SPECIFICATIONS

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

DESIGN LOADING

DESIGN LOADING: HS20, CASE 1 AND ALTERNATE MILITARY LOADING.

FUTURE WEARING SURFACE (FWS) OF 60 PSF.

DESIGN DATA

CONCRETE CLASS QC1 - COMPRESSIVE STRENGTH 4,000 PSI (SUBSTRUCTURE)

CONCRETE CLASS QC2 - COMPRESSIVE STRENGTH 4,500 PSI (SUPERSTRUCTURE)

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

STRUCTURAL STEEL - ASTM A709 GRADE 50, MINIMUM YIELD STRENGTH 50,000 PSI (NEW CROSSFRAMES, SPLICE PLATES)

DECK PROTECTION METHOD

EPOXY COATED REINFORCING STEEL

2½" CONCRETE COVER

CLASS QC2 CONCRETE

MONOLITHIC WEARING SURFACE

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

EXISTING STRUCTURE VERIFICATION

DETAILS AND DIMENSIONS SHOWN ON THESE PLANS PERTAINING TO THE EXISTING STRUCTURE HAVE BEEN OBTAINED FROM PLANS OF THE EXISTING STRUCTURE AND FROM FIELD OBSERVATIONS AND MEASUREMENTS. CONSEQUENTLY, THEY ARE INDICATIVE OF THE EXISTING STRUCTURE AND THE PROPOSED WORK BUT THEY SHALL BE CONSIDERED TENTATIVE AND APPROXIMATE. THE CONTRACTOR IS REFERRED TO CMS SECTIONS 102.05, 105.02 AND 513.04.

BASE CONTRACT BID PROCESS 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 202, APPROACH SLAB REMOVED, AS PER PLAN

THIS ITEM CONSISTS OF REMOVAL OF THE EXISTING CONCRETE APPROACH SLABS INCLUDING THE EXISTING ASPHALT WEARING COURSE.

ITEM 202, PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, 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, CROSSFRAMES, ETC.). THIS ITEM ALSO INCLUDES REMOVAL OF CROSSFRAMES, BACKWALLS, AND WINGWALLS AS SHOWN IN THESE PLANS. THE PROVISIONS OF ITEM 202 APPLY EXCEPT AS SPECIFIED BY THE FOLLOWING NOTES. PERFORM WORK CAREFULLY DURING DECK REMOVALS TO PROTECT PORTIONS OF SUCH SYSTEMS THAT ARE TO BE SALVAGED AND INCORPORATED INTO THE PROPOSED STRUCTURE. THE USE OF EXPLOSIVES, HEADACHE BALLS AND/OR HOE RAM TYPE OF EQUIPMENT IS PROHIBITED. SUBMIT CONSTRUCTION PLANS ACCORDING TO CMS 501.05.

PROTECTION OF STEEL SUPPORT SYSTEMS: BEFORE DECK SLAB CUTTING IS PERMITTED, DRAW THE OUTLINE OF PRIMARY STEEL MEMBERS IN CONTACT WITH THE BOTTOM OF THE DECK ON THE SURFACE OF DECK. DRILL SMALL DIAMETER PILOT HOLES 2 INCHES OUTSIDE THESE LINES TO CONFIRM THE LOCATION OF FLANGE EDGES. DECK CUTS OVER OR WITHIN 2 INCHES OF FLANGE EDGES SHALL NOT EXTEND LOWER THAN THE BOTTOM LAYER OF DECK SLAB REINFORCING STEEL. CUTS MADE OUTSIDE 2 INCHES OF FLANGE EDGES MAY EXTEND THE FULL DEPTH OF THE DECK. PERFORM WORK CAREFULLY DURING CUTTING OF THE DECK SLAB TO AVOID DAMAGING STEEL MEMBERS THAT ARE TO BE INCORPORATED INTO THE PROPOSED STRUCTURE. REPLACE OR REPAIR STEEL MEMBERS DAMAGED BY THE DECK SLAB CUTTING OPERATIONS AT NO COST TO THE PROJECT. AT LEAST 7 DAYS BEFORE PERFORMING REPAIR WORK, SUBMIT A PROPOSED REPAIR PLAN, DEVELOPED BY AN OHIO REGISTERED PROFESSIONAL ENGINEER TO THE DIRECTOR. OBTAIN THE DIRECTOR'S APPROVAL BEFORE PERFORMING REPAIR.

REMOVAL METHODS: THE CONTRACTOR MAY REMOVE CONCRETE BY CUTTING AND BY MEANS OF HAND OPERATED PNEUMATIC HAMMERS EMPLOYING POINTED OR BLUNTED CHISEL TYPE TOOLS. FOR REMOVALS OVER STRUCTURAL MEMBERS (STEEL BEAM/ STEEL GIRDER), THE CONTRACTOR MAY USE A HAMMER HEAVIER THAN 35 POUNDS BUT NOT TO EXCEED 90 POUNDS UNLESS APPROVED BY THE ENGINEER. REMOVAL METHODS OVER STRUCTURAL MEMBERS SHALL ENSURE ADEQUATE DEPTH CONTROL AND PREVENT NICKING OR GOUGING THE PRIMARY STRUCTURAL MEMBERS.

DUE TO THE POSSIBLE PRESENCE OF FORM 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. THE EXISTING SCUPPERS/GUTTERS ARE SUPPORTED BY ANGLES EMBEDDED INTO THE DECK AND WELDED TO THE TOP FLANGES OF BEAMS A, G, H, J, K & S. THE CONTRACTOR SHALL INCLUDE WITH THE DECK REMOVAL PROCEDURE SUBMISSION, A PROCEDURE FOR REMOVING THE DECK IN THE AREA OF EXISTING SCUPPER SHOWING HOW THE DECK WILL BE REMOVED WITHOUT DAMAGING THE EXISTING STEEL BEAMS 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 PERFORMING REPAIR.

MEASUREMENT AND PAYMENT: THE DEPARTMENT WILL MEASURE THE QUANTITY OF REMOVALS ON A LUMP SUM BASIS. THE DEPARTMENT WILL PAY FOR THE ACCEPTED QUANTITIES OF REMOVALS AT THE CONTRACT PRICE FOR ITEM 202, PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN.

ITEM 202, PORTIONS OF STRUCTURE REMOVED, AS PER PLAN

THIS ITEM INCLUDES ALL LABOR, MATERIAL AND EQUIPMENT NECESSARY TO REMOVE AND DISPOSE THE EXISTING TIMBER SUBDECK FROM THE BRIDGE AFTER BRIDGE DECK CONSTRUCTION HAS BEEN COMPLETED.

MEASUREMENT AND PAYMENT: THE DEPARTMENT WILL MEASURE THE QUANTITY OF REMOVALS ON A SQUARE YARD BASIS. THE DEPARTMENT WILL PAY FOR THE ACCEPTED QUANTITY OF REMOVALS AT THE CONTRACT PRICE FOR ITEM 202, PORTIONS OF STRUCTURE REMOVED, AS PER PLAN.

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.

ITEM 503, COFFERDAMS AND EXCAVATION BRACING

THIS ITEM INCLUDES ALL TEMPORARY SHORING REQUIRED TO COMPLETE THE WORK SHOWN IN THESE PLANS. TEMPORARY SHORING MAY REMAIN IN PLACE BETWEEN PHASES, BUT MUST BE REMOVED PRIOR TO COMPLETION OF LATTER PHASE APPROACH SLAB CONSTRUCTION.

ITEM 503, UNCLASSFIED EXCAVATION, AS PER PLAN

UNCLASSFIED 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.

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 FOR 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 THE ENGINEER OR THEY SHALL BE REPLACED WITH MATERIAL THAT MEETS THE SPECIFICATIONS AT NO ADDITONAL 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.

SUBSTRUCTURE CONCRETE REMOVAL:

REMOVE CONCRETE BY MEANS OF APPROVED PNUEMATIC HAMMERS EMPLOYING POINTED AND BLUNT CHISEL TOOLS. HYDRAULIC HOE-RAM TYPE HAMMERS WILL NOT BE PERMITTED. THE WEIGHT OF THE HAMMMER SHALL NOT BE MORE THAN 35 POUNDS FOR REMOVAL WITHIN 18 INCHES OF PORTIONS TO BE PRESERVED. OUTSIDE THE 18 INCH LIMIT, THE CONTRACTOR MAY USE HAMMERS NOT EXCEEDING 90 POUNDS UPON THE APPROVAL OF THE ENGINEER. DO NOT PLACE PNUEMATIC HAMMERS IN DIRECT CONTACT WITH THE REINFORCING STEEL THAT IS TO BE RETAINED IN THE REBUILT STRUCTURE.

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
ITEM 511, CLASS QC1 CONCRETE SUBSTRUCTURE, AS PER PLAN

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 CLEANED 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.

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

PARAPET CONSTRUCTION: ANCHOR BOLTS FOR NOISE BARRIERS SHALL BE CAST IN PLACE.

MEDIAN CONSTRUCTION: FOR MAINTENANCE OF TRAFFIC PURPOSES, THE LEFT AND RIGHT BRIDGE DECKS SHALL BE CONTINUOUS ACROSS THE MEDIAN BRIDGE DECK CONSTRUCTION JOINT. GLASS FIBER REINFORCED POLYMER (GFRP) REINFORCEMENT BARS SHALL BE PLACED AS SHOWN IN THESE PLANS. THE TEMPORARY CROSS FRAMES SHALL BE INSTALLED AFTER THE DECK CONCRETE IS PLACED. DURING THE FINAL CONSTRUCTION PHASE, AFTER THE REMOVAL OF THE TEMPORARY CROSS FRAMES AND PRIOR TO MEDIAN BRIDGE RAILING 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:

BASIS OF PAYMENT:

ITEM	EXT	UNITS	DESCRIPTION
511	34413	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
511	50211	C.Y.	CLASS QC1 CONCRETE, SUBSTRUCTURE, AS PER PLAN

DESIGN AGENCY
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222 South Main Street, Suite 200, Akron, Ohio 44308
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DESIGNED	DRAWN	REVIEWED	DATE
RJB	CAF	RBB	8/17/18
CHECKED	REVISED	STRUCTURE FILE NUMBER	
FJG		1806672	

GENERAL NOTES 1 OF 3
BRIDGE NO. CUY-90-2410
INTERSTATE ROUTE 90 OVER EAST 140TH STREET

CUY-90-24.10/24.63
PID No. 88348

ITEM 511, SEMI INTEGRAL DIAPHRAGM GUIDE, AS PER PLAN

THE SEMI-INTEGRAL DIAPHRAGM GUIDE SHALL BE CONSTRUCTED AS DETAILED IN THE PLANS. THE REINFORCING STEEL SHALL BE DOWELED INTO THE EXISTING ABUTMENT PER CMS 510 USING NON SHRINK, NONMETALLIC GROUT.

ALL OTHER PROVISIONS OF STANDARD DRAWING SICD-2-14 DATED 7-18-14 SHALL APPLY.

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.

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 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 511.07, 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 513, STRUCTURAL STEEL, MISC.: FATIGUE RETROFIT

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

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

THE DEPARTMENT WILL PAY FOR THE FATIUE RETROFITS AT THE CONTRACT PRICE FOR ITEM 513, STRUCTURAL STEEL, MISC.: FATIGUE RETROFIT.

ITEM 513, STRUCTURAL STEEL, MISC.: INTERMEDIATE CROSSFRAMES

THIS ITEM INCLUDES ALL MATERIAL, LABOR , AND EQUIPMENT REQUIRED TO REPLACE THE EXISTING INTERMEDIATE CROSSFRAMES THAT INTERFERE WITH INSTALLATION OF THE FATIGUE RETRO-FIT PLATES/BOLTS. THE CROSSFRAMES SHALL BE TYPE 1 PER STANDARD DRAWING GSD-1-96. THE CLEARANCE BETWEEN THE INSIDE OF THE EXISTING FLANGES AND THE CROSSFRAME SHALL BE INCREASED TO FOUR INCHES, TO ALLOW FOR FATIGUE RETROFIT WORK.

THE DEPARTMENT WILL PAY FOR EACH COMPLETED CROSSFRAME AT THE CONTRACT PRICE FOR ITEM 513, STRUCTURAL STEEL MISC.: INTERMEDIATE CROSSFRAMES.

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

THE CONTRACTOR SHALL INSTALL TEMPORARY CROSSFRAMES AT THE LOCATIONS INDICATED IN THE PLANS. CROSSFRAMES SHALL BE INSTALLED AFTER PLACEMENT OF THE CONCRETE MEDIAN DECK AND PRIOR TO OPENING TO TRAFFIC (PHASE 2 M.O.T.).

TEMPORARY CROSSFRAMES SHALL BE TYPE 1, PER STANDARD DRAWING GSD-1-98. THE CLEARANCE BETWEEN THE INSIDE OF THE EXISTING FLANGES AND THE CROSSFRAME SHALL BE INCREASED TO FOUR INCHES, TO ALLOW FOR FATIGUE RETROFIT WORK. TEMPORARY CROSSFRAMES DO NOT NEED TO BE PRIME COATED.

THE CROSSFRAMES SHALL BE REMOVED DURING PHASE 6 PRIOR TO SAW CUTTING THE FULL DEPTH MEDIAN CONSTRUCTION JOINT. ALL WELD LOCATIONS SHALL BE GROUND SMOOTH AT TIME OF REMOVAL.

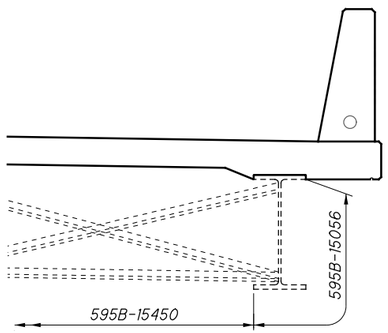
THE COST FOR ALL MATERIAL, LABOR, AND EQUIPMENT NECESSARY TO INSTALL (PHASE 1) AND REMOVE (PHASE 6) THE TEMPORARY CROSSFRAMES IS INCLUDED IN THE CONTRACT PRICE FOR ITEM 513, STRUCTURAL STEEL, MISC.: TEMPORARY CROSSFRAMES FOR MAINTENANCE OF TRAFFIC.

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, AS PER PLAN
ITEM 514, FINAL INSPECTION REPAIR

ALL STRUCTURAL STEEL SHALL BE CLEANED AND PAINTED IN ACCORDANCE WITH CMS ITEM 514.

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). THE COLOR OF THE FINISH COAT FOR ALL OTHER STRUCTURAL STEEL SHALL BE FEDERAL COLOR NUMBER (COLOR-GLOSS) 595B-15450 BLUE.



PAINT DETAIL

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.

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 257, DIAMOND GRINDING PORTLAND CEMENT CONCRETE PAVEMENT, AS PER PLAN:

PROIR TO INSTALLATION OF THE MEDIAN BARRIER ON THE BRIDGE DECK AND APPROACH SLABS, THE TEMPORARY CONCRETE PAVEMENT WEDGE (SEE DETAIL ON SHEET 9 | 42) SHALL BE REMOVED BY DIAMOND GRINDING IN ACCORDANCE WITH CMS ITEM 257. THE DEPARTMENT WILL PAY FOR THE ACCEPTED QUANTITIES AT THE CONTRACT PRICE BID FOR ITEM 257, DIAMOND GRINDING PORTLAND CEMENT CONCRETE PAVEMENT, AS PER PLAN.

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.

R.J. WATSON, INC. - SILICOFLEX SF 225.

WATSON BOWMAN ACME CORP. - WABO-SPS-225

D.S. BROWN COMPANY - V-300

ITEM 526, REINFORCED CONCRETE APPROACH SLABS (T=15"), AS PER PLAN

DESCRIPTION: THIS ITEM CONSISTS OF CONSTRUCTING REINFORCED CONCRETE APPROACH SLABS IN ACCORDANCE WITH THE DETAILS IN THESE PLANS AND ODOT STANDARD DRAWINGS AS-1-15, AS-12-15, SBR-2-13 AND SBR-1-13.

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. 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, MEDIAN BARRIER AND RAILINGS ATTACHED DIRECTLY TO THE APPROACH SLAB, 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.

ABBREVIATIONS

ABUT.	= ABUTMENT	HMWM	= HIGH MOLECULAR WEIGHT METHACRYLATE
A.P.P.	= AS PER PLAN	JT.	= JOINT
APPR.	= APPROACH	M.O.T.	= MAINTENANCE OF TRAFFIC
BOTT.	= BOTTOM	MIN.	= MINIMUM
BRG.	= BEARING	N.F.	= NEAR FACE
C.I.P.	= CAST IN PLACE	P.E.J.F.	= PREFORMED EXPANSION JOINT FILLER
CLR.	= CLEAR	SHLDR.	= SHOULDER
CONC.	= CONCRETE	SPA.	= SPACES
CONST.	= CONSTRUCTION	STA.	= STATION
C.P.P.	= CORRUGATED PLASTIC PIPE	STD.	= STANDARD
DIA.	= DIAMETER	TYP.	= TYPICAL
DWG.	= DRAWING	W.B.	= WESTBOUND
EA.	= EACH		
E.B.	= EASTBOUND		
E.F.	= EACH FACE		
EL.	= ELEVATION		
EX.	= EXISTING		
EXP.	= EXPANSION		
F.F.	= FAR FACE		
FWD.	= FORWARD		

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FJG		1808672	

GENERAL NOTES 2 OF 3
BRIDGE NO. CUY-90-2410
INTERSTATE ROUTE 90 OVER EAST 140TH STREET

CUY-90-24.10/24.63
PID No. 88348

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

THE CONTRACTOR SHALL SEAL THE OUTSIDE AND MEDIAN BARRIERS AND BRIDGE DECK EDGES AS INDICATED IN THE PLANS. GREAT CARE SHALL BE USED TO AVOID ANY OVER SPRAY OR SPLATTER ONTO OTHER CONCRETE OR STEEL SURFACES.

ALL EXPOSED SUBSTRUCTURE ELEMENTS, INCLUDING ABUTMENT DIAPHRAGMS, ABUTMENTS, WINGWALLS, PIER COLUMNS AND PIER CAPS FROM THE GROUND LINE UP SHALL BE SEALED.

THE FINISH COAT SEALER COLOR SHALL BE FEDERAL STANDARD COLOR 5958-27722 (BUFF).

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 PORTIONS OF THE ABUTMENTS AND PIERS 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.

ITEM 601, CONCRETE SLOPE PROTECTION, AS PER PLAN

THE CONTRACTOR SHALL REPLACE ALL UNSOUND AND DETERIORATED PORTIONS OF THE EXISTING 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 PORTIONS OF THE CONCRETE SLOPE PROTECTION.

ITEM SPECIAL, NOISE BARRIER, BRIDGE MOUNTED
ITEM SPECIAL, NOISE BARRIER, GROUND MOUNTED

DESCRIPTION: THIS WORK CONSISTS OF PREPARING ANY NECESSARY SHOP DRAWINGS, AND MANUFACTURING, TESTING, TRANSPORTING, STORING, INSTALLING FOUNDATIONS (DRILLED SHAFTS), INSTALLING BRIDGE/GROUND MOUNTED POSTS AND SUPPORTS, INSTALLING POST COVERS AND CAPS, AND INSTALLING GROUND MOUNTED/BRIDGE MOUNTED NOISE BARRIER PANELS. ALL REQUIREMENTS OF ODOT STANDARD DRAWING NBS-1-09 SHALL APPLY EXCEPT AS NOTED.

NOISE BARRIER PANELS, POST COVERS AND CAPS SHALL BE PROVIDED BY AN ODOT APPROVED MANUFACTURER.

PANELS: FIBERGLASS REFLECTIVE NOISE BARRIER PANELS SHALL BE USED.

POST COVERS AND CAP: THE VERTICAL POSTS SHALL BE COVERED WITH FIBERGLASS POST COVERS AND CAPS. THE POST COVERS SHALL BE INSTALLED ON BOTH THE HIGHWAY FACE AND THE RESIDENTIAL FACE OF THE POSTS. THE POST COVERS SHALL BE MANUFACTURED TO FIT THE VERTICAL POST FLANGE WIDTHS. THEY SHALL FIT THE POST SECURELY OR BE MECHANICALLY ATTACHED.

DRILLED SHAFTS: CONCRETE SHALL BE CLASS S (MODIFIED). COMPRESSIVE STRENGTH = 4,000 PSI.

REINFORCING STEEL: ASTM A615 OR A996, GRADE 60, EPOXY COATED

STRUCTURAL STEEL: ASTM A 709, GRADE 50

FASTENERS: ALL BOLTS SHALL BE ASTM A325. NUTS SHALL BE ASTM A563, GRADE DH. WASHERS SHALL BE ASTM F436.

GALVANIZING: GALVANIZE ALL STRUCTURAL STEEL, PLATES, ANCHOR BOLTS, BOLTS, NUTS, WASHERS PER CMS 711.02.

COLORS: THE COLOR OF THE PANELS SHALL BE FEDERAL COLOR NO. 595B-20109 (RED BRICK). THE COLOR OF THE FIBERGLASS POST COVERS AND CAPS SHALL BE FEDERAL COLOR NO. 595B-27722 (BUFF).

FIBERGLASS PANELS, POST COVERS, OR CAPS THAT ARE DAMAGED DURING SHIPMENT OR INSTALLATION SHALL BE REJECTED, REMOVED, AND REPLACED AT NO ADDITIONAL COST TO THE PROJECT.

MEASUREMENT AND PAYMENT: THE BRIDGE AND GROUND MOUNTED NOISE BARRIER WILL BE MEASURED AND PAID FOR ON A SQUARE FOOT BASIS. THE HEIGHT OF THE BRIDGE MOUNTED NOISE BARRIER IS MEASURED FROM THE TOP OF BRIDGE BARRIER TO TOP OF NOISE BARRIER PANEL. THE HEIGHT OF THE GROUND MOUNTED BARRIER IS MEASURED FROM THE TOP OF DRILLED SHAFT TO THE TOP OF NOISE BARRIER PANEL.

PAYMENT FOR ALL LABOR, EQUIPMENT, MATERIALS (VERTICAL SUPPORT POSTS, HORIZONTAL SUPPORT BEAMS, PLATES, SHELF ANGLES, PANEL BACKERS, FIBERGLASS REFLECTIVE NOISE BARRIER PANELS, POST COVERS AND CAPS, HARDWARE), AND INCIDENTALS NECESSARY TO COMPLETE THE BRIDGE MOUNTED NOISED BARRIERS AS DETAILED IN THESE PLANS SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM SPECIAL NOISE BARRIER, BRIDGE MOUNTED.

PAYMENT FOR ALL LABOR, EQUIPMENT, MATERIALS (DRILLED SHAFTS, REINFORCING STEEL, VERTICAL SUPPORT POSTS, PANEL BACKERS, FIBERGLASS REFLECTIVE NOISE BARRIER PANELS, POST COVERS AND CAPS, HARDWARE), AND INCIDENTALS NECESSARY TO COMPLETE THE GROUND MOUNTED NOISED BARRIERS AS DETAILED IN THESE PLANS SHALL BE INCLUDED IN THE UNIT PRICE BID PER SQUARE FOOT OF PANEL FOR ITEM SPECIAL NOISE BARRIER, GROUND MOUNTED.

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GENERAL NOTES 3 OF 3
BRIDGE NO. CUY-90-2410
INTERSTATE ROUTE 90 OVER EAST 140TH STREET

CUY-90-24.10/24.63
PID No. 88348

ESTIMATED QUANTITIES

ITEM	ITEM EXT.	TOTAL	UNIT	DESCRIPTION	LEFT STRUCTURE				RIGHT STRUCTURE				AS PER PLAN
					ABUTMENT	PIERS	SUPER.	GENERAL	ABUTMENT	PIERS	SUPER.	GENERAL	STR. SHT. NO.
202	11203	LS	LS	PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN				LS				LS	2
202	11305	1,814	SY	PORTIONS OF STRUCTURE REMOVED, AS PER PLAN			907				907		2
202	22901	766	SY	APPROACH SLAB REMOVED, AS PER PLAN				383				383	2
257	10001	100	SY	DIAMOND GRINDING PORTLAND CEMENT CONCRETE PAVEMENT, AS PER PLAN			83	17					3
503	11100	LS	LS	COFFERDAMS AND EXCAVATION BRACING				LS				LS	
503	21101	68	CY	UNCLASSIFIED EXCAVATION, AS PER PLAN	34				34				2
509	10000	466,071	LB	EPOXY COATED REINFORCING STEEL	1,628	3,358	228,049		1,628	3,359	228,049		
510	10000	2,500	EACH	DOWEL HOLES WITH NONSHRINK, NONMETALLIC GROUT	170	450	534	96	170	450			
511	33501	4	EACH	SEMI-INTEGRAL DIAPHRAGM GUIDE, AS PER PLAN	2				2				3
511	34413	172	CY	CLASS QC2 CONCRETE WITH QC/QA, SUPERSTRUCTURE, AS PER PLAN			86						2
511	34447	1,038	CY	CLASS QC2 CONCRETE WITH QC/QA, BRIDGE DECK, AS PER PLAN			519						2
511	34451	189	CY	CLASS QC2 CONCRETE WITH QC/QA, BRIDGE DECK (PARAPET), AS PER PLAN			95						2
511	50211	68	CY	CLASS QC1 CONCRETE, SUBSTRUCTURE, AS PER PLAN	9	25			9	25			2
512	10101	2,432	SY	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE), AS PER PLAN	12	590	554	59	13	591	554	59	4
512	33300	11	SY	TYPE A WATERPROOFING			6				5		
513	20000	12,832	EACH	WELDED STUD SHEAR CONNECTORS			6,416				6,416		
513	90000	90,768	LB	STRUCTURAL STEEL, MISC.: FATIGUE RETROFIT			45,384				45,384		
513	95030	85	EACH	STRUCTURAL STEEL, MISC.: INTERMEDIATE CROSSFRAMES			42				43		
513	95030	19	EACH	STRUCTURAL STEEL, MISC.: TEMPORARY CROSSFRAMES FOR MAINTENANCE OF TRAFFIC			10				9		
514	00050	38,603	SF	SURFACE PREPARATION OF EXISTING STRUCTURAL STEEL			19,302				19,301		
514	00056	38,603	SF	FIELD PAINTING OF EXISTING STRUCTURAL STEEL, PRIME COAT			19,302				19,301		
514	00060	38,603	SF	FIELD PAINTING STRUCTURAL STEEL, INTERMEDIATE COAT			19,302				19,301		
514	00067	38,603	SF	FIELD PAINTING STRUCTURAL STEEL, FINISH COAT, AS PER PLAN			19,302				19,301		3
514	00504	65	MNHR	GRINDING FINS, TEARS, SLIVERS ON EXISTING STRUCTURAL STEEL			33				32		
514	10000	37	EACH	FINAL INSPECTION REPAIR			19				18		
516	10010	298	FT	ARMORLESS PREFORMED JOINT SEAL				149				149	
516	10011	298	FT	ARMORLESS PREFORMED JOINT SEAL, AS PER PLAN			149				149		3
516	13600	42	SF	1" PREFORMED EXPANSION JOINT FILLER			21				21		
516	13900	1,550	SF	2" PREFORMED EXPANSION JOINT FILLER			662	113			663	112	
516	25000	980	SF	NYLON REINFORCED NEOPRENE SHEETING			490				490		
516	44201	32	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE), AS PER PLAN (3.128"x9.5"x18")	16				16				28
516	44201	48	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE), AS PER PLAN (3.128"x14"x18")		24				24			28
516	47001	LS	LS	JACKING AND TEMPORARY SUPPORT OF SUPERSTRUCTURE, AS PER PLAN			LS				LS		3
518	21200	164	CY	POROUS BACKFILL WITH GEOTEXTILE FABRIC	82				82				
518	40000	307	FT	6" PERFORATED CORRUGATED PLASTIC PIPE	153				154				
518	40010	73	FT	6" NON-PERFORATED CORRUGATED PLASTIC PIPE, INCLUDING SPECIALS	35				38				
519	11101	250	SF	PATCHING CONCRETE STRUCTURE, AS PER PLAN	125				125				4
526	25001	786	SY	REINFORCED CONCRETE APPROACH SLABS (T=15"), AS PER PLAN				393				393	3
526	90030	298	FT	TYPE C INSTALLATION				149				149	
601	20000	6	SY	CRUSHED AGGREGATE SLOPE PROTECTION	3				3				
601	21001	150	SY	CONCRETE SLOPE PROTECTION, AS PER PLAN	75				75				4
SPECIAL	60610920	3,262	SF	NOISE BARRIER, BRIDGE MOUNTED			1,786				1,476		4
SPECIAL	60610920	1,250	SF	NOISE BARRIER, GROUND MOUNTED				844				406	4

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ESTIMATED QUANTITIES
BRIDGE NO. CUY-90-2410
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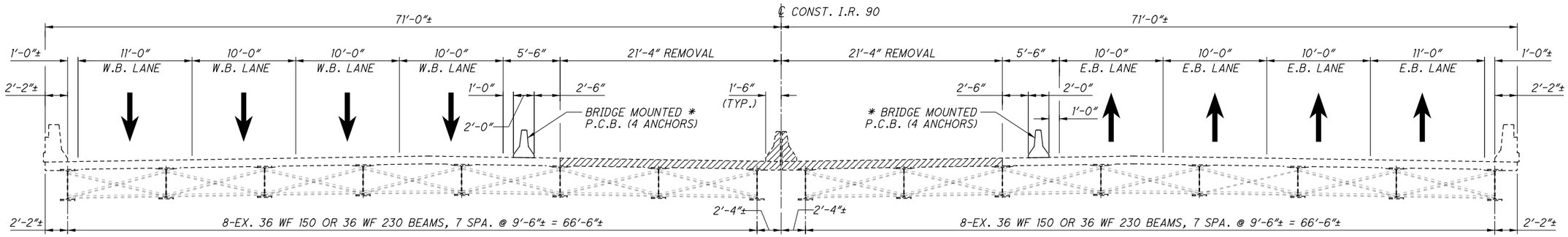
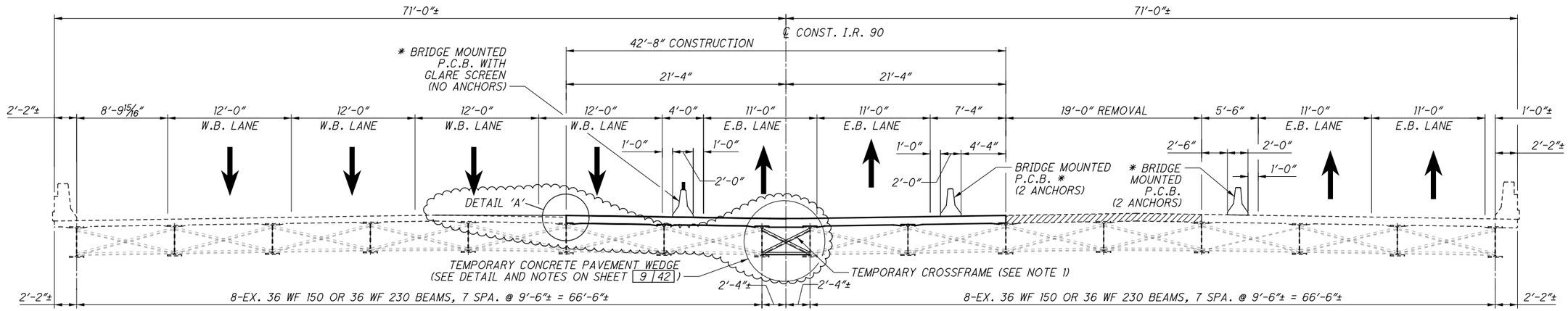
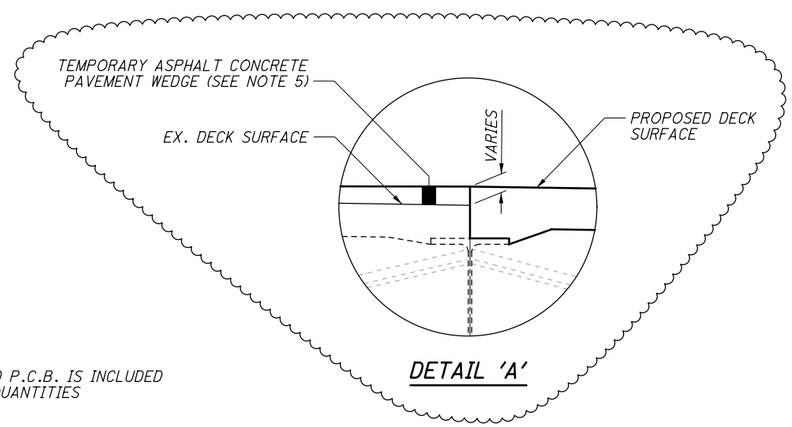
CUY-90-24.10/24.63
PID No. 88348



PHASE 1 MAINTENANCE OF TRAFFIC | PHASE 1 REMOVAL | PHASE 1 MAINTENANCE OF TRAFFIC



PHASE 2 MAINTENANCE OF TRAFFIC | PHASE 1 CONSTRUCTION AND PHASE 2 M.O.T. | PHASE 2 REMOVAL | PHASE 2 MAINTENANCE OF TRAFFIC



DETAIL 'A'

NOTES:

1. FOR LOCATION OF TEMPORARY CROSS FRAMES, SEE FRAMING PLAN ON SHEET 15 42 .
2. FOR M.O.T. PLANS SEE SHEETS 9 THRU 61 .
3. IN PHASE 1, THE BRIDGE DECK FOR THE LEFT AND RIGHT STRUCTURES SHALL BE PLACED IN TWO SEPARATE DECK POURS.
4. FOR BRIDGE MOUNTED PORTABLE CONCRETE BARRIER (P.C.B.) DETAILS, SEE STANDARD DRAWING PCB-91. BARRIERS SHALL BE ANCHORED TO BRIDGE DECK AS NOTED.
5. A TEMPORARY ASPHALT CONCRETE PAVEMENT WEDGE IS NECESSARY FOR PHASE 2 AND 3 MAINTENANCE OF TRAFFIC DUE TO ELEVATION DIFFERENCE BETWEEN THE NEW AND EXISTING BRIDGE DECK. PAYMENT FOR THE TEMPORARY ASPHALT PAVEMENT WEDGE SHALL BE INCLUDED WITH ITEM 614-MAINTAINING TRAFFIC.

LEGEND

ITEM 202, PORTIONS OF STRUCTURE REMOVED, OVER 20' SPAN, AS PER PLAN

* BRIDGE MOUNTED P.C.B. IS INCLUDED WITH ROADWAY QUANTITIES

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CUY-90-24.10/24.63
PID No. 88348

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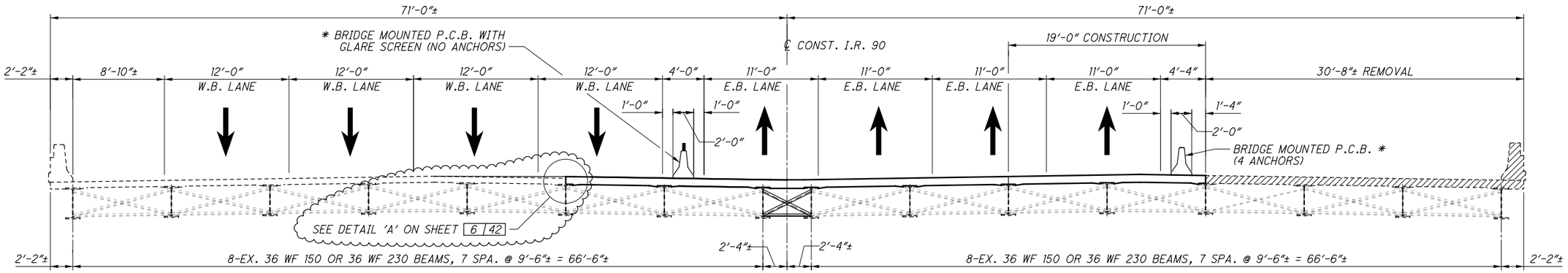
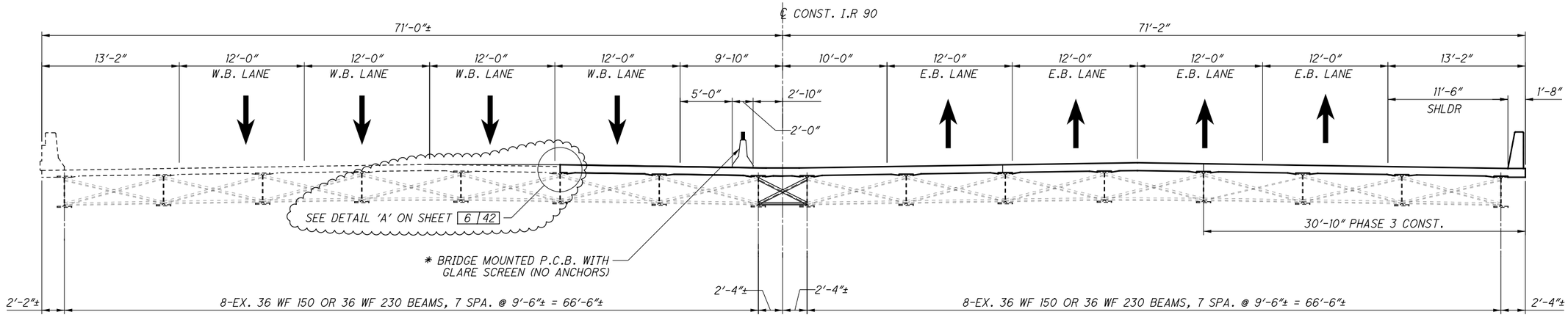


PHASE 3 MAINTENANCE OF TRAFFIC | PHASE 3 MAINTENANCE OF TRAFFIC | PHASE 2 CONSTRUCTION AND PHASE 3 M.O.T. | PHASE 3 REMOVAL



WINTER SHUTDOWN PHASE

LEGEND

ITEM 202, PORTIONS OF STRUCTURE REMOVED, OVER 20' SPAN, AS PER PLAN

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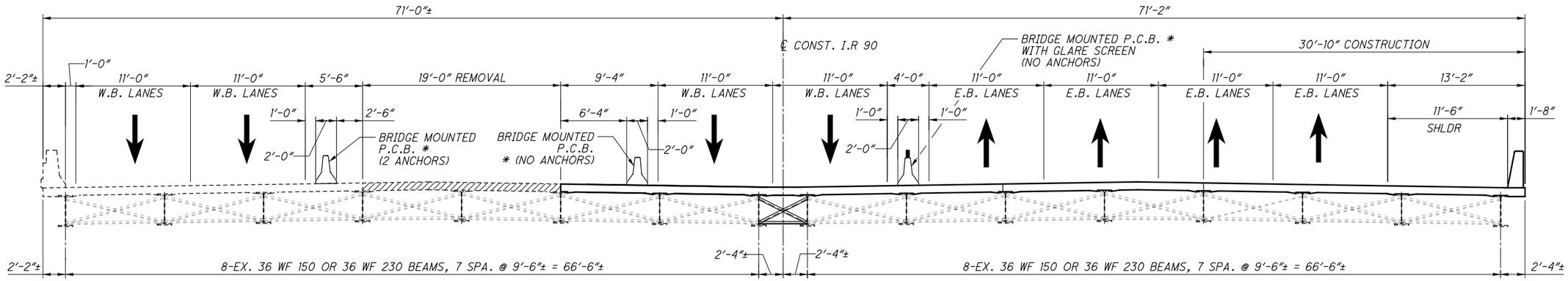
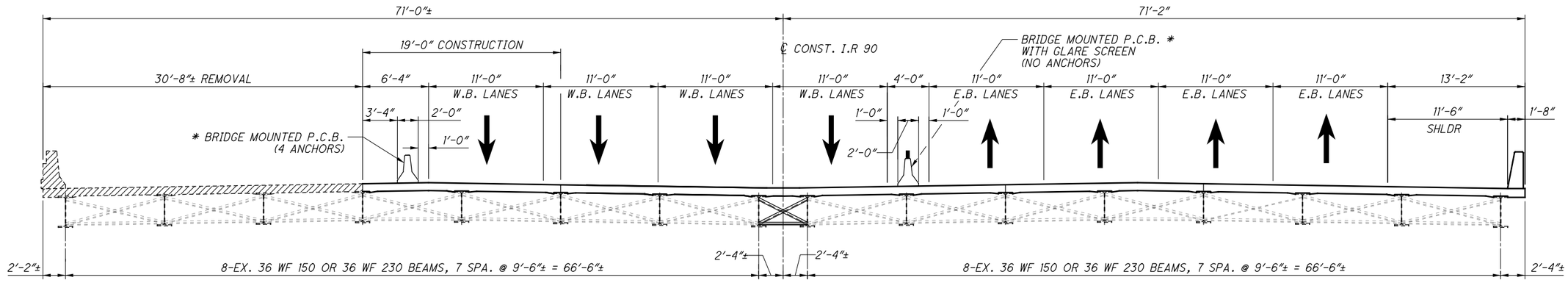


PHASE 4 MAINTENANCE OF TRAFFIC

PHASE 4 REMOVAL

PHASE 4 MAINTENANCE OF TRAFFIC

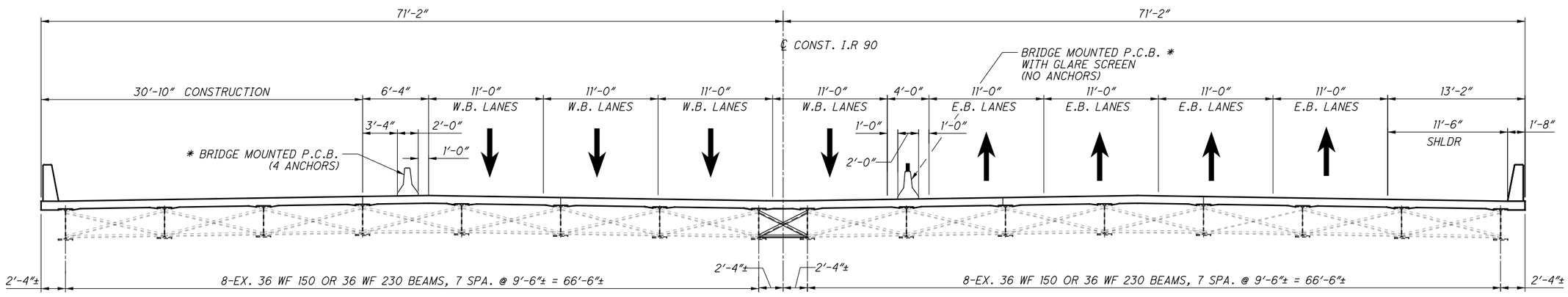
PHASE 3 CONSTRUCTION AND PHASE 4 M.O.T.



PHASE 5 REMOVAL

PHASE 4 CONSTRUCTION AND PHASE 5 M.O.T.

PHASE 5 MAINTENANCE OF TRAFFIC



PHASE 5 CONSTRUCTION

PHASE 5 MAINTENANCE OF TRAFFIC

PHASE 5 MAINTENANCE OF TRAFFIC

LEGEND

ITEM 202, PORTIONS OF STRUCTURE REMOVED, OVER 20' SPAN, AS PER PLAN

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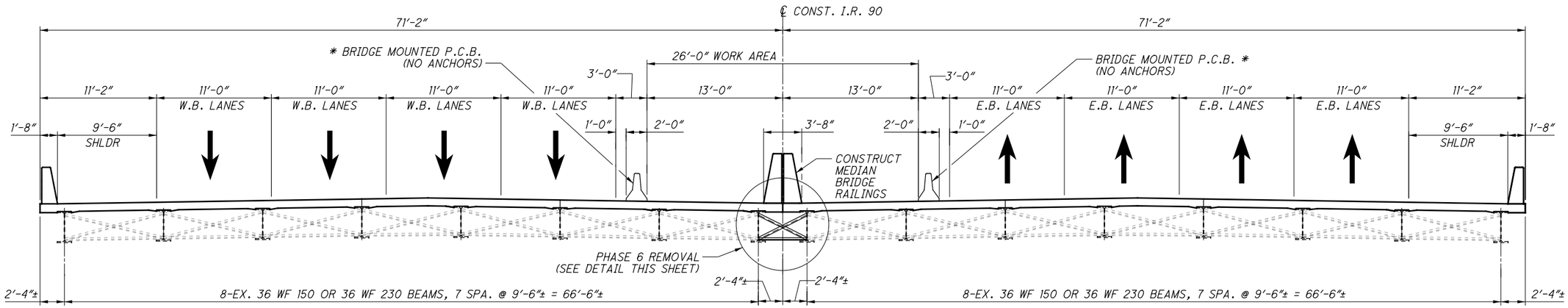
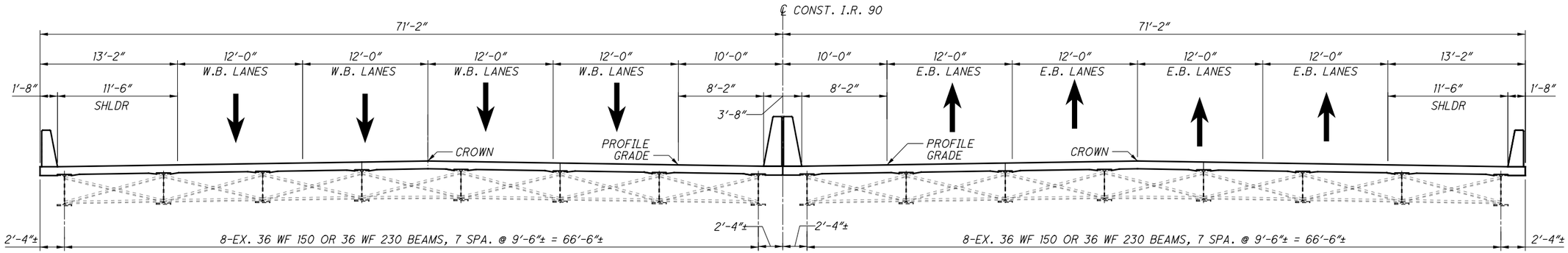
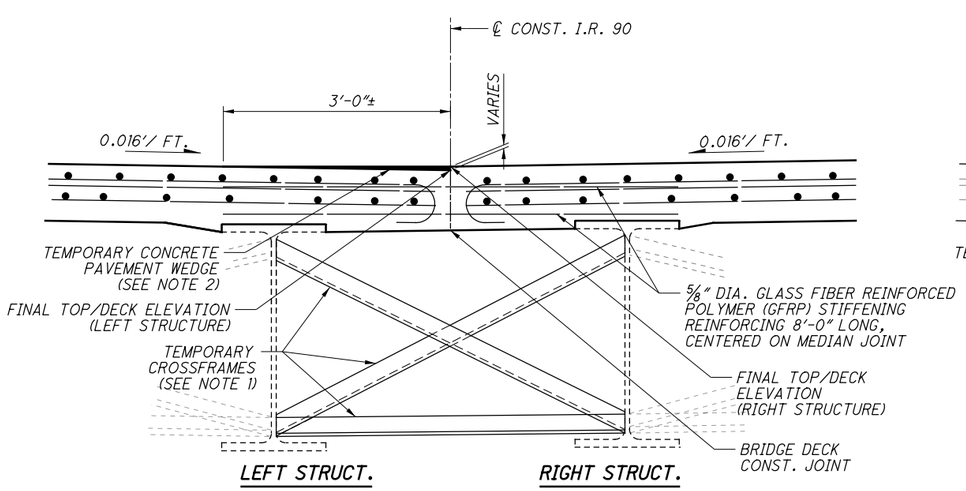


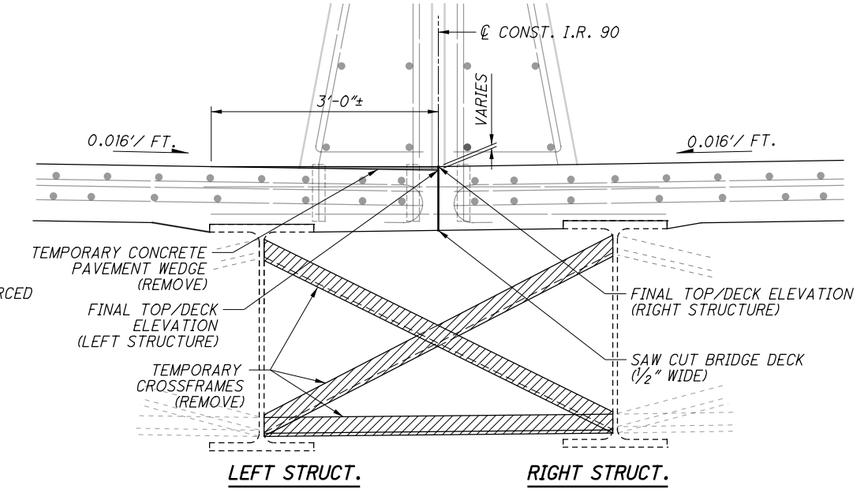
PHASE 6 MAINTENANCE OF TRAFFIC | PHASE 6 CONSTRUCTION | PHASE 6 MAINTENANCE OF TRAFFIC



FINAL CONFIGURATION



TEMPORARY CONCRETE PAVEMENT WEDGE DETAIL



PHASE 6 REMOVAL
(SEE NOTE 3)

NOTES

1. TEMPORARY CROSSFRAMES SHALL BE INSTALLED AT THE LOCATIONS SHOWN ON SHEET 15 | 42 .
2. THE TEMPORARY CONCRETE PAVEMENT WEDGE SHALL BE POURED INTEGRALLY WITH THE PHASE 1 DECK CONCRETE FOR THE LEFT STRUCTURE.
3. PRIOR TO CONSTRUCTION OF MEDIAN BRIDGE RAILINGS IN PHASE 6, THE TEMPORARY CROSSFRAMES SHALL BE REMOVED AND THE BRIDGE DECK SHALL BE SAWCUT FULL DEPTH. IN ADDITION, THE TEMPORARY CONCRETE PAVEMENT WEDGE SHALL BE REMOVED BY DIAMOND GRINDING.
4. UPON REMOVAL OF P.C.B., HOLES IN THE BRIDGE DECK/APPROACH SLAB SHALL BE PATCHED WITH NON-SHRINK NON-METALLIC GROUT.

LEGEND

ITEM 202, PORTIONS OF STRUCTURE REMOVED, OVER 20' SPAN, AS PER PLAN

* BRIDGE MOUNTED P.C.B. IS INCLUDED WITH ROADWAY QUANTITIES

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INTERSTATE ROUTE 90 OVER EAST 140TH STREET

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PID No. 88348

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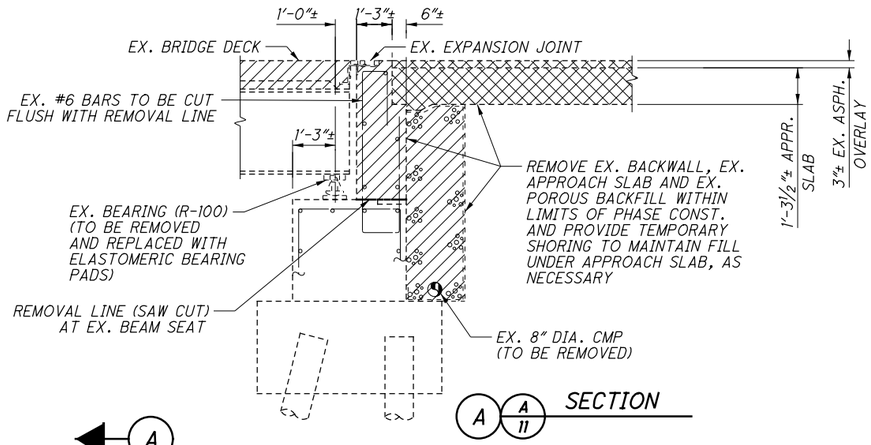
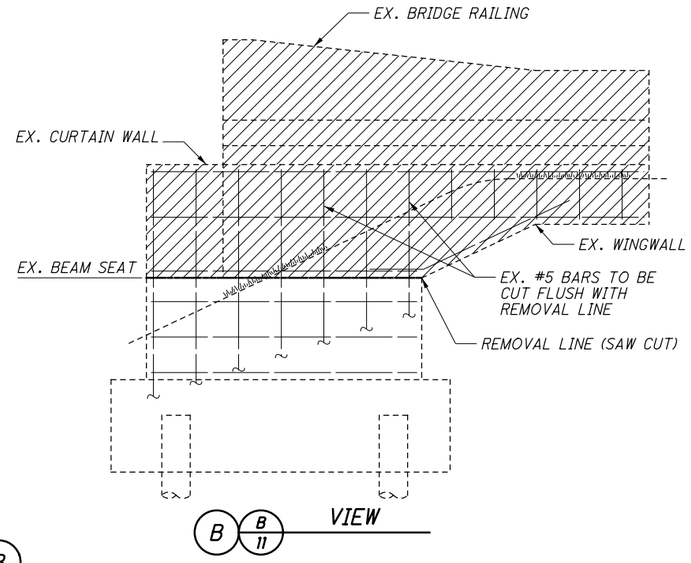
NOTE

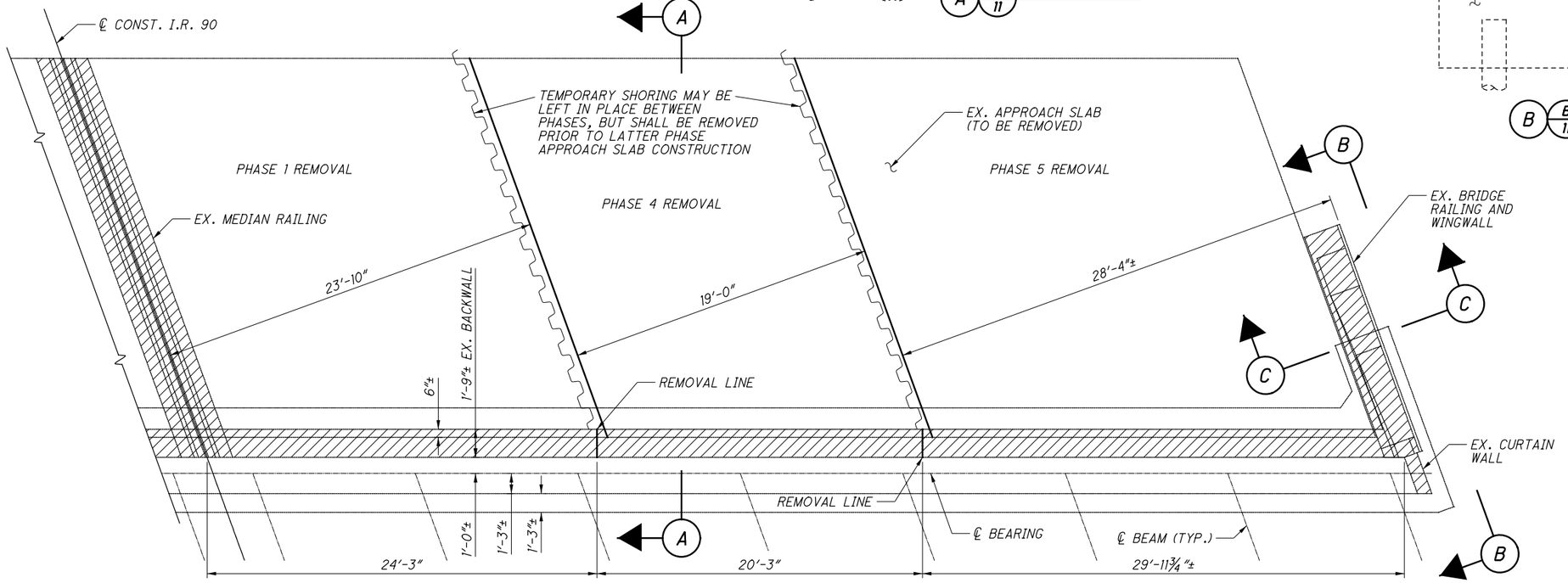
1. THE THICKNESS OF THE EXISTING APPROACH SLAB AND ASPHALT OVERLAY WAS DETERMINED BY CORING.



A 11 SECTION

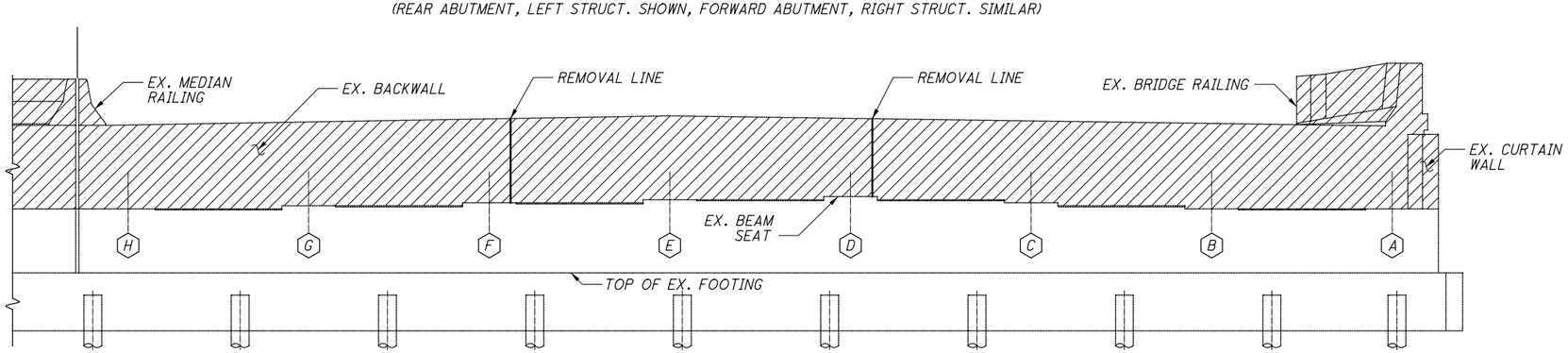


B 11 VIEW



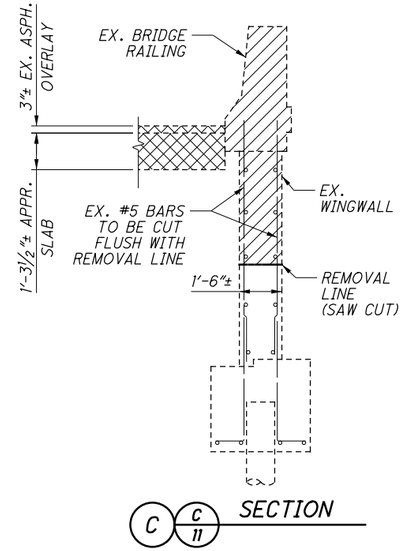
PARTIAL PLAN

(REAR ABUTMENT, LEFT STRUCT. SHOWN, FORWARD ABUTMENT, RIGHT STRUCT. SIMILAR)



PARTIAL ELEVATION

(REAR ABUTMENT, LEFT STRUCT. SHOWN / FORWARD ABUTMENT, RIGHT STRUCT. SIMILAR)



C 11 SECTION

LEGEND

ITEM 202, PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN

ITEM 202, APPROACH SLAB REMOVED, AS PER PLAN

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REMOVAL DETAILS 1 OF 2

BRIDGE NO. CUY-90-2410
INTERSTATE ROUTE 90 OVER EAST 140TH STREET

CUY-90-24.10/24.63
PID No. 88348

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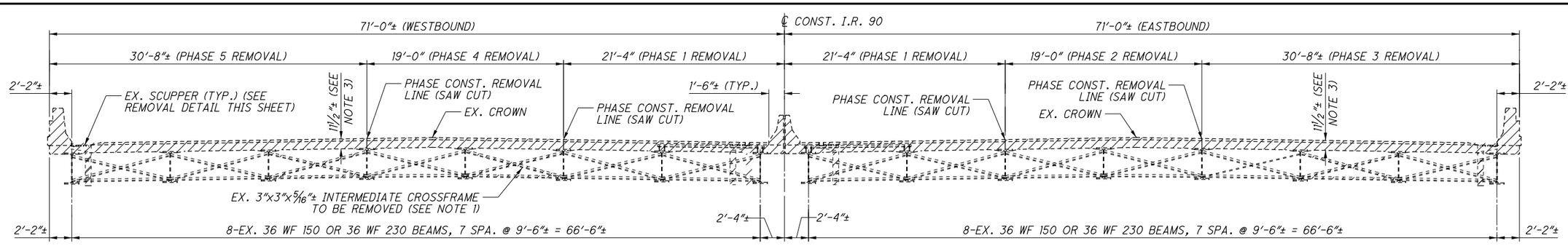
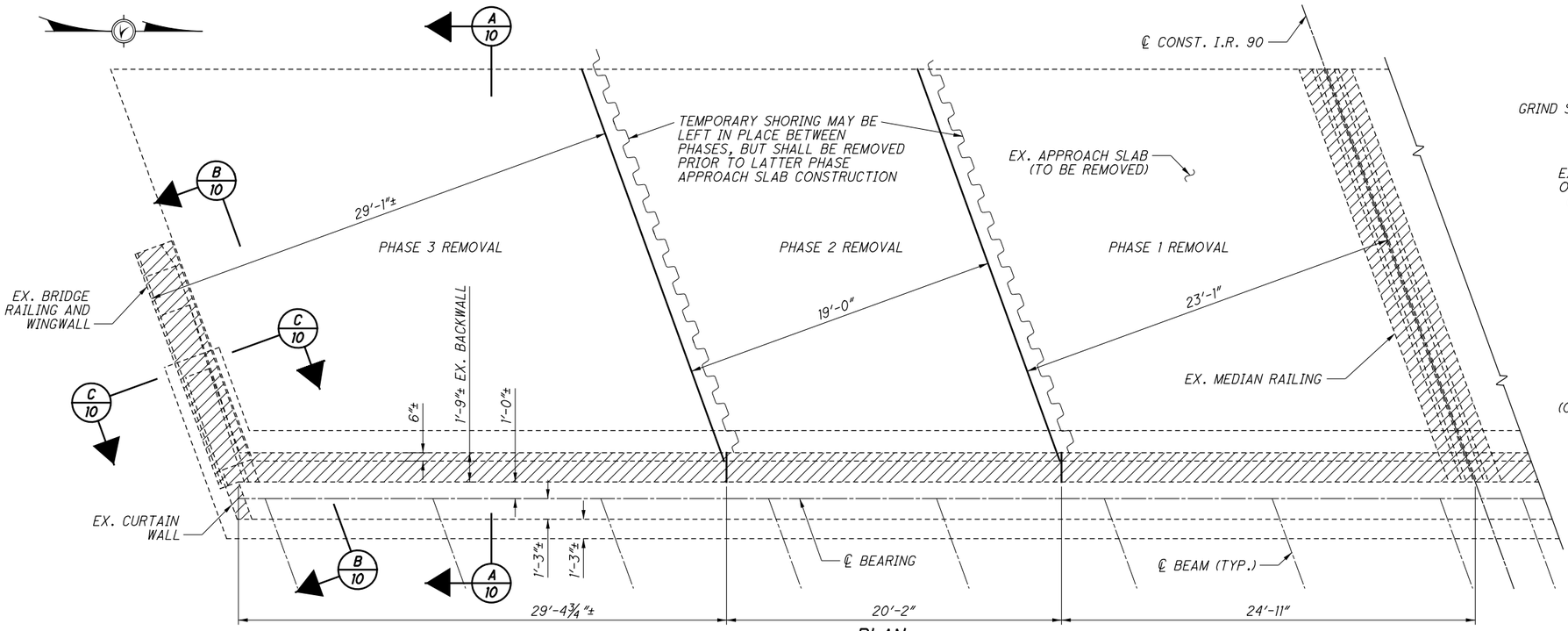
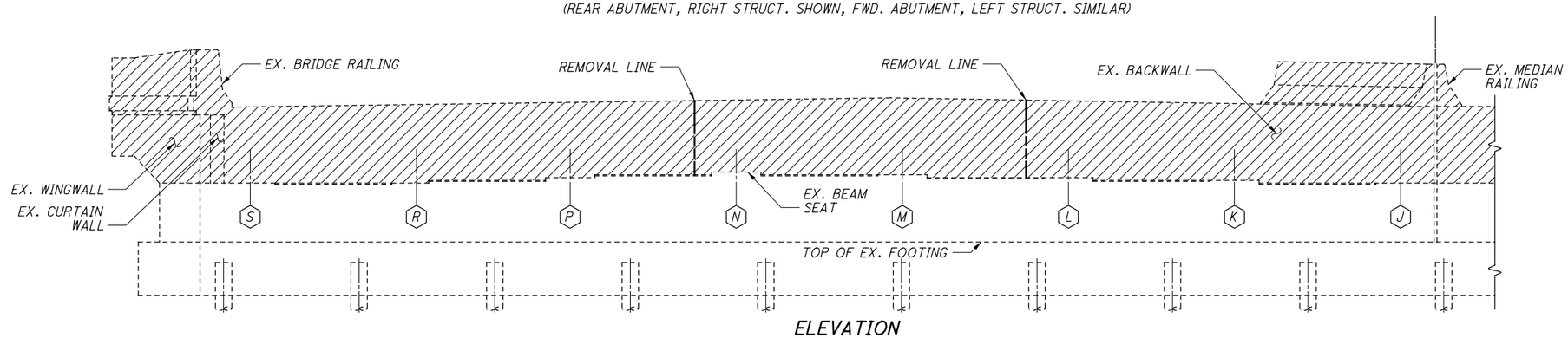


EXISTING TRANSVERSE SECTION



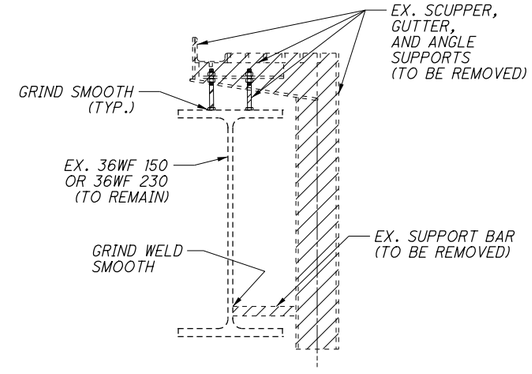
PLAN

(REAR ABUTMENT, RIGHT STRUCT. SHOWN, FWD. ABUTMENT, LEFT STRUCT. SIMILAR)



ELEVATION

(REAR ABUTMENT, RIGHT STRUCT. SHOWN, FWD. ABUTMENT, LEFT STRUCT. SIMILAR)



SCUPPER REMOVAL DETAIL

(OUTSIDE SCUPPERS SHOWN, MEDIAN SCUPPERS SIMILAR)

NOTES

1. ALL EXISTING END CROSSFRAMES AND ANY INTERMEDIATE CROSSFRAMES THAT INTERFERE WITH NEW CONSTRUCTION ELEMENTS SHALL BE REMOVED. FOR LOCATIONS SEE SHEET 15 | 42
2. REMOVE EXISTING WELDED ATTACHMENTS (E.G., FINISHING MACHINE AND FORM SUPPORTS; AND SUPPORTS FOR SCUPPERS AND BULB ANGLES WHICH ARE TO BE REMOVED) LOCATED IN THE DESIGNATED TENSION PORTIONS OF THE TOP FLANGES OF EXISTING STEEL MEMBERS AND GRIND THE FLANGE SURFACES SMOOTH. CAREFULLY GRIND PARALLEL TO THE FLANGES.
3. THE THICKNESS OF THE CONCRETE DECK SHOWN WAS DETERMINED BY DECK CORING AND INCLUDES THE THICKNESS OF THE ORIGINAL CONCRETE DECK PLUS LATEX MODIFIED CONCRETE OVERLAY.

LEGEND

ITEM 202, PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN

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REMOVAL DETAILS 2 OF 2
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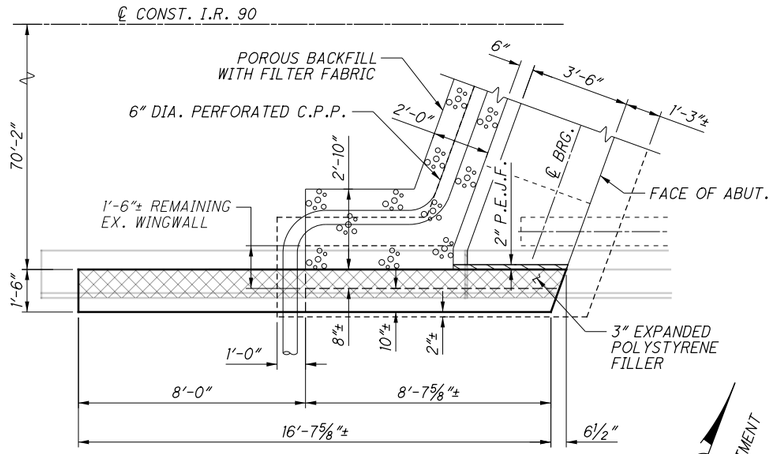
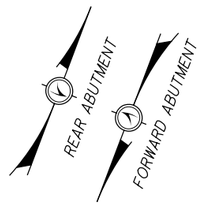
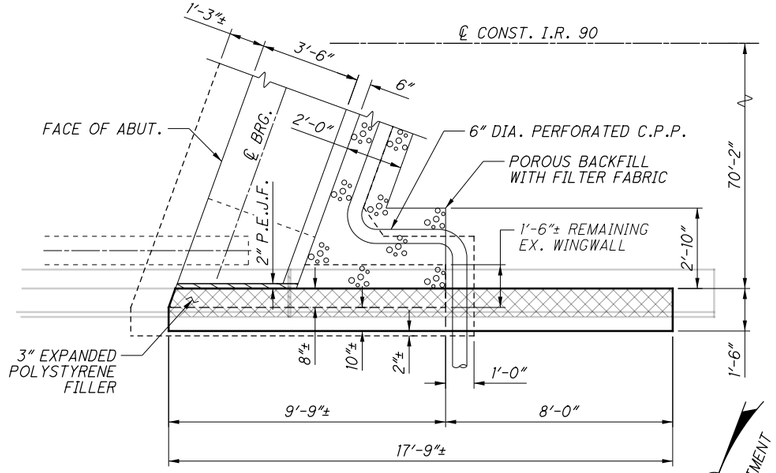


WINGWALL PLAN

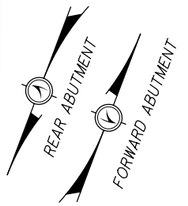
(REAR ABUTMENT RIGHT STRUCT. AND FWD. ABUTMENT LEFT STRUCT.)

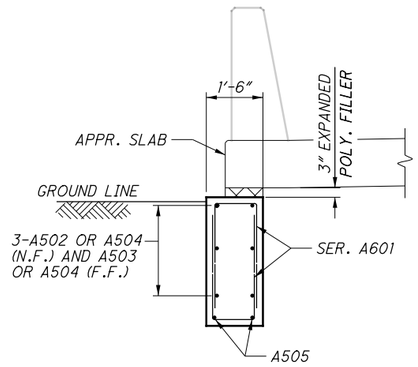




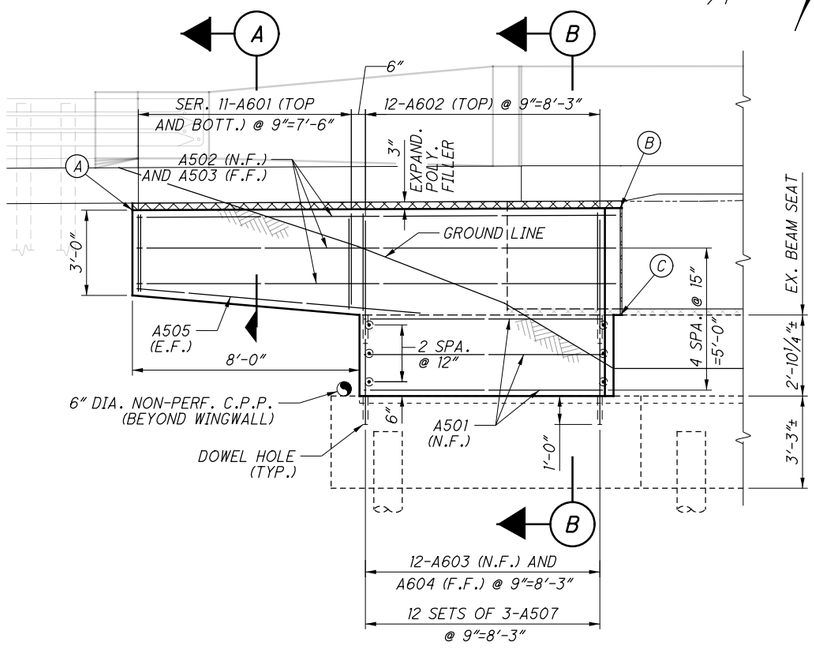
WINGWALL PLAN

(REAR ABUTMENT LEFT STRUCT. AND FWD. ABUTMENT RIGHT STRUCT.)



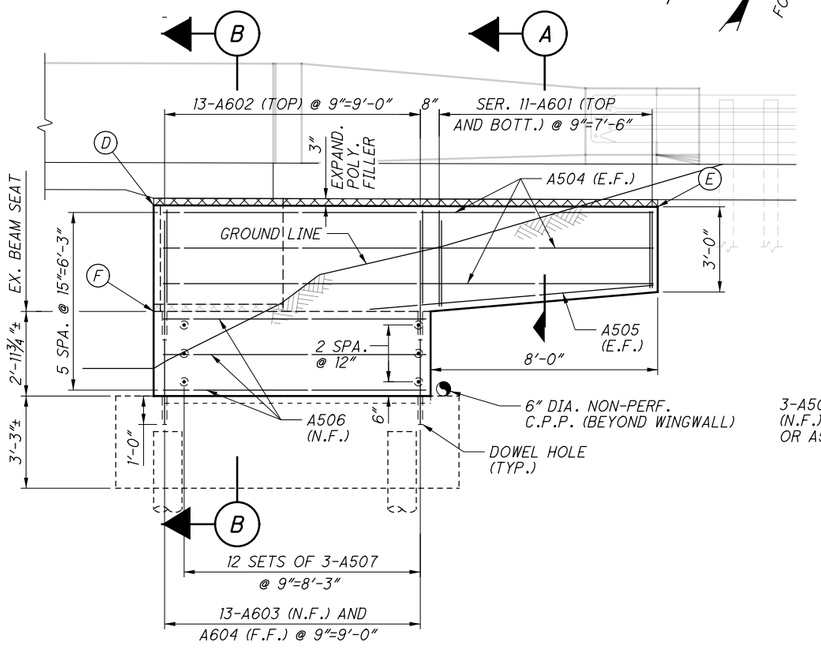


A SECTION



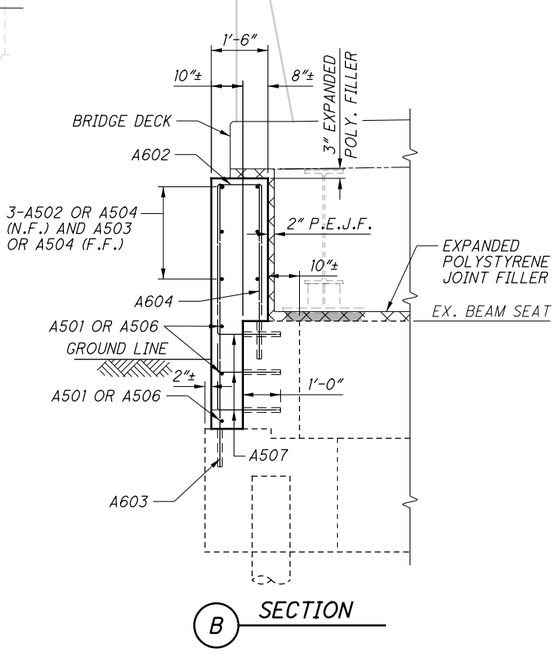
WINGWALL ELEVATION

(REAR ABUTMENT RIGHT STRUCT. AND FWD. ABUTMENT LEFT STRUCT.)



WINGWALL ELEVATION

(REAR ABUTMENT LEFT STRUCT. AND FWD. ABUTMENT RIGHT STRUCT.)



B SECTION

ELEVATION TABLE		
POINT	ABUTMENT	
	REAR	FORWARD
A	613.27	612.89
B	613.35	613.00
C	609.58	609.20
D	613.44	613.30
E	613.39	613.22
F	609.71	609.48

NOTES

1. MINIMUM BAR LAP IS AS FOLLOWS: #6 BAR = 35"
2. PROVIDE A 1" CHAMFER ON THE EDGE OF ALL EXPOSED CONCRETE.
3. EXPANDED POLYSTYRENE FILLER SHALL BE INCLUDED WITH ITEM 511, CLASS QC1 CONCRETE SUBSTRUCTURE, AS PER PLAN, FOR PAYMENT.
4. ALL DOWEL BARS SHALL HAVE A MINIMUM EDGE DISTANCE OF 4" UNLESS NOTED.
5. FOR REAR AND FORWARD ABUTMENT DIAPHRAGM DETAILS SEE SHEETS 18 | 42 AND 19 | 42 .

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ABUTMENT DETAILS

BRIDGE NO. CUY-90-2410
INTERSTATE ROUTE 90 OVER EAST 140TH STREET

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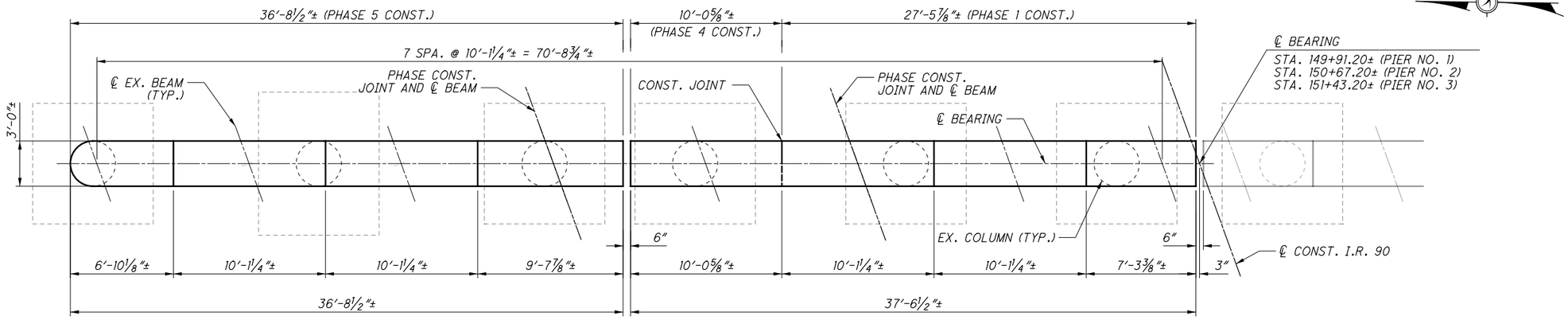


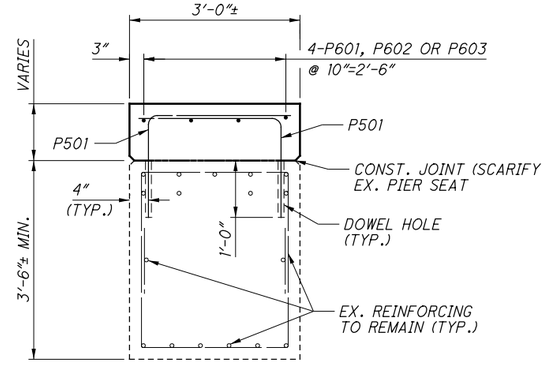
PIER PLAN - LEFT STRUCTURE

(PIER NO. 1 AND 3 SHOWN, PIER NO. 2 SIMILAR)

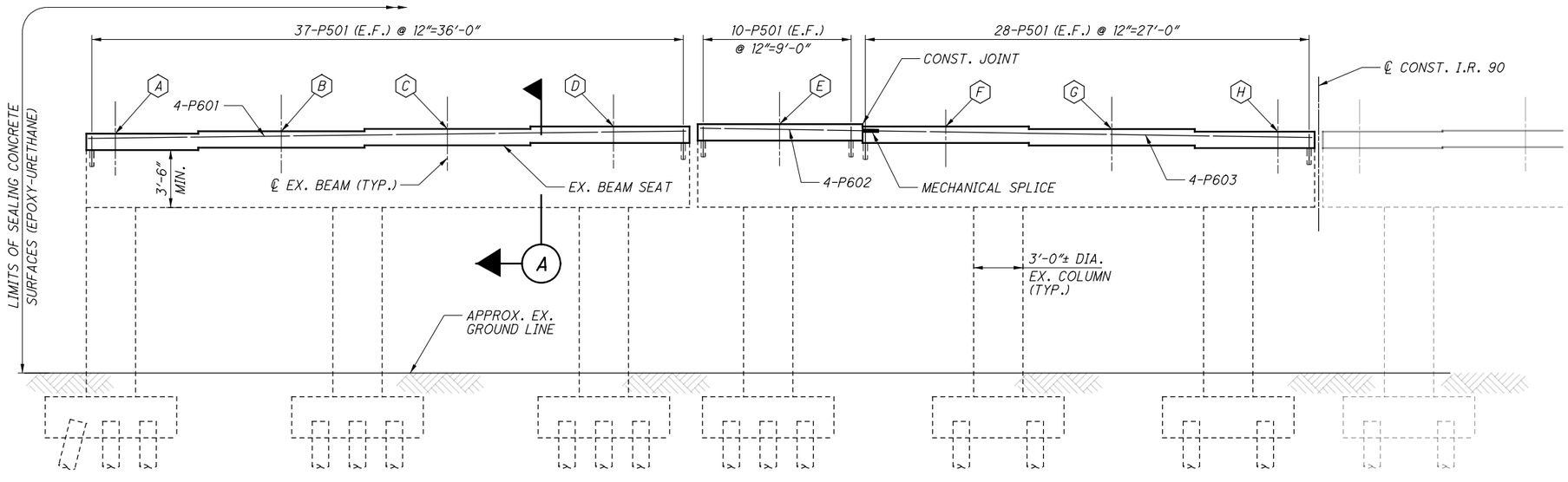
BEAM SEAT ELEVATION TABLE			
BEAM NO.	PIER NO. 1	PIER NO. 2	PIER NO. 3
A	610.27	610.21	609.96
B	610.38	610.34	610.11
C	610.52	610.50	610.27
D	610.67	610.65	610.45
E	610.71	610.71	610.50
F	610.55	610.55	610.37
G	610.42	610.40	610.24
H	610.26	610.27	610.11

NOTES

1. EXISTING REINFORCING IN THE PIER CAP SHALL BE POSITIVELY LOCATED USING NON-DESTRUCTIVE TESTING EQUIPMENT AND MARKED PRIOR TO DRILLING OF DOWEL HOLES. DOWEL HOLES SHALL BE SPACED TO AVOID INTERFERENCE WITH EXISTING REINFORCING.
2. SEAL ALL EXPOSED SURFACES OF PIER NO. 1, 2 AND 3 EXCEPT FOR THE PIER SEAT UNDER EACH BEARING.



A SECTION



PIER ELEVATION - LEFT STRUCTURE

(PIER NO. 1 AND 3 SHOWN, PIER NO. 2 SIMILAR)

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PIER DETAILS 1 OF 2
BRIDGE NO. CUY-90-2410
INTERSTATE ROUTE 90 OVER EAST 140TH STREET

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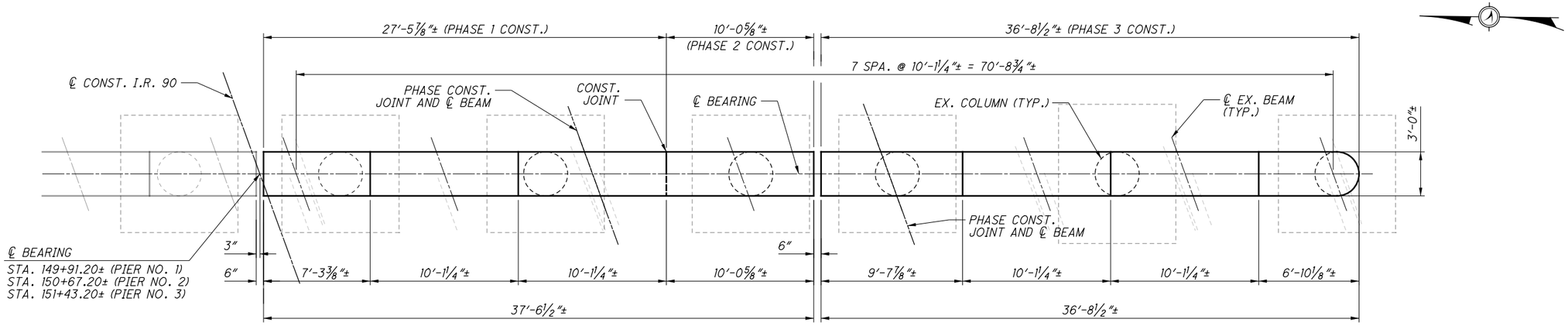


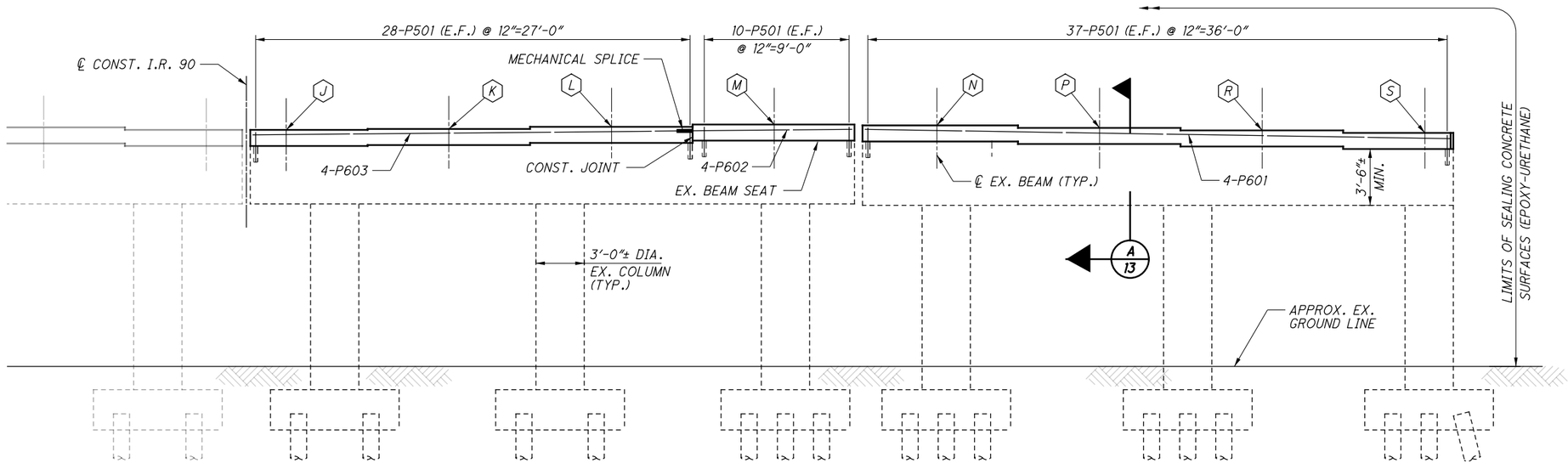
PIER PLAN - RIGHT STRUCTURE

(PIER NO. 1 AND 3 SHOWN, PIER NO. 2 SIMILAR)

BEAM SEAT ELEVATION TABLE			
BEAM NO.	PIER NO. 1	PIER NO. 2	PIER NO. 3
J	610.28	610.27	610.13
K	610.40	610.39	610.27
L	610.54	610.56	610.44
M	610.69	610.73	610.62
N	610.63	610.69	610.55
P	610.47	610.54	610.41
R	610.33	610.41	610.29
S	610.21	610.26	610.16

NOTES

1. EXISTING REINFORCING IN THE PIER CAP SHALL BE POSITIVELY LOCATED USING NON-DESTRUCTIVE TESTING EQUIPMENT AND MARKED PRIOR TO DRILLING OF DOWEL HOLES. DOWEL HOLES SHALL BE SPACED TO AVOID INTERFERENCE WITH EXISTING REINFORCING.
2. SEAL ALL EXPOSED SURFACES OF PIER NO. 1, 2 AND 3 EXCEPT FOR THE PIER SEAT UNDER EACH BEARING.



PIER ELEVATION - RIGHT STRUCTURE

(PIER NO. 1 AND 3 SHOWN, PIER NO. 2 SIMILAR)

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PIER DETAILS 2 OF 2
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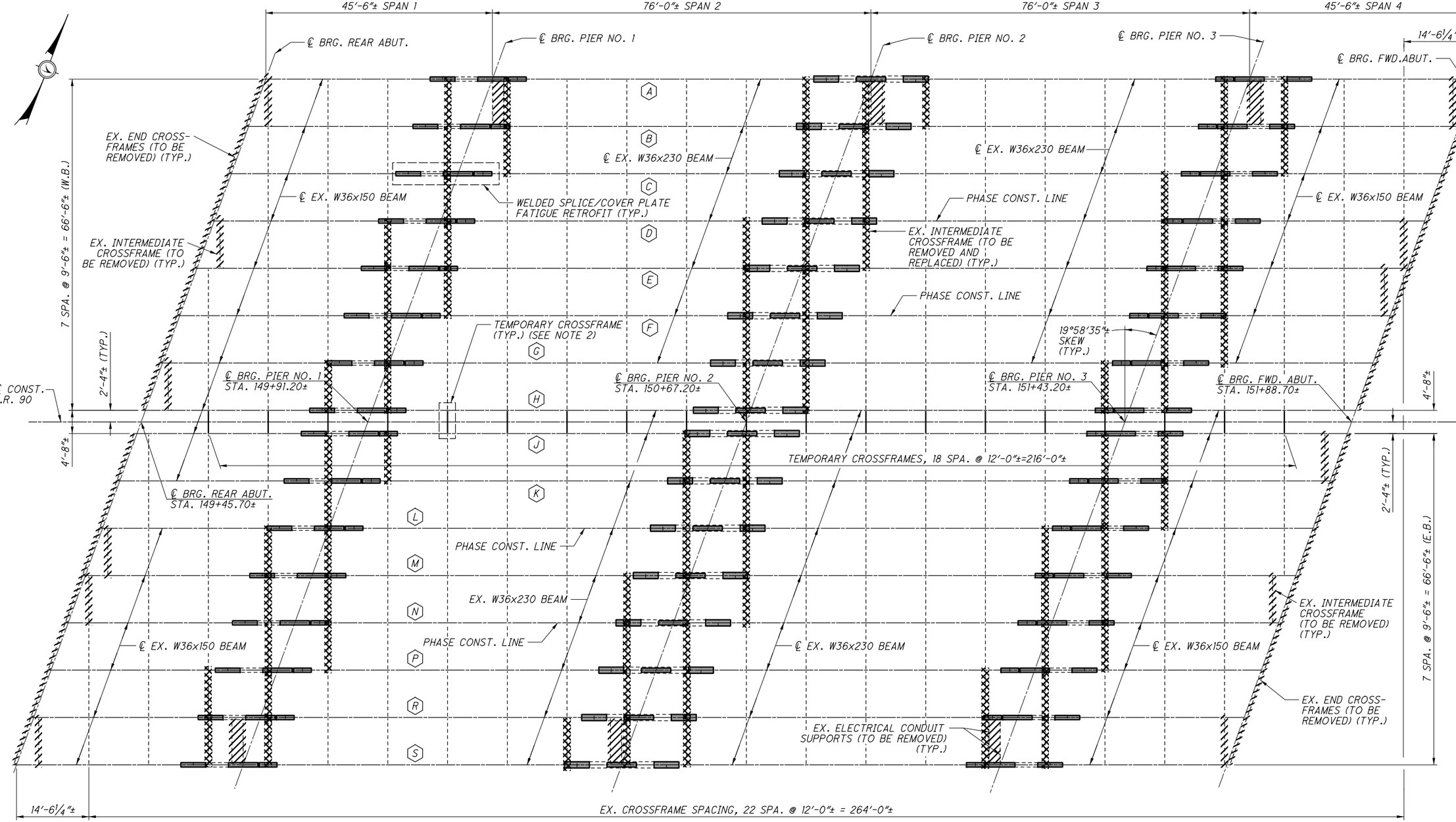

FRAMING PLAN

LEGEND

- EXISTING INTERMEDIATE OR END CROSSFRAME REMOVED
- EXISTING INTERMEDIATE CROSSFRAME REMOVED AND REPLACED

NOTES

1. FOR BEAM ELEVATIONS, WELDED SPLICE/COVER PLATE FATIGUE RETROFIT DETAILS AND OTHER STEEL DETAILS SEE SHEETS 16 | 42 AND 17 | 42 .
2. TEMPORARY CROSSFRAMES SHALL BE INSTALLED BETWEEN BEAMS (H) AND (J) AT THE LOCATIONS SHOWN.
3. EXISTING CROSSFRAMES AND ELECTRICAL CONDUITS/SUPPORTS THAT ARE TO BE REMOVED, SHALL BE PAID FOR UNDER ITEM 202, PORTIONS OF STRUCTURES REMOVED, OVER 20 FOOT SPAN, AS PER PLAN.
4. EXISTING INTERMEDIATE CROSSFRAMES THAT WILL INTERFERE WITH INSTALLATION OF FATIGUE RETROFIT PLATES/BOLTS SHALL BE REMOVED AND REPLACED.
5. FOR STRUCTURE GROUNDING DETAILS, SEE STANDARD CONSTRUCTION DRAWING HL-50.21.

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SUPERSTRUCTURE DETAILS 1 OF 6
BRIDGE NO. CUY-90-2410
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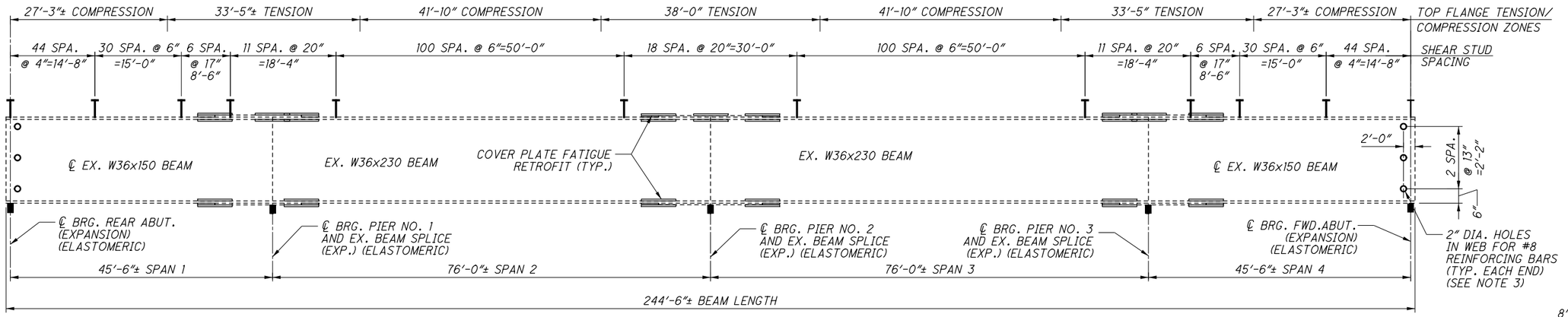
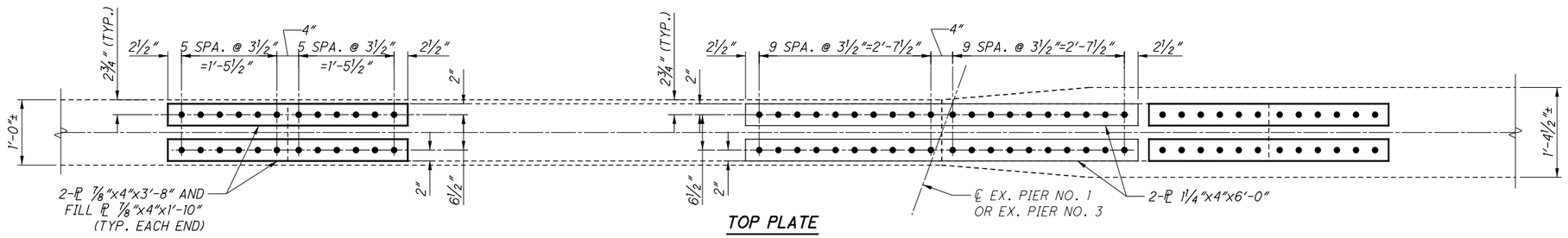
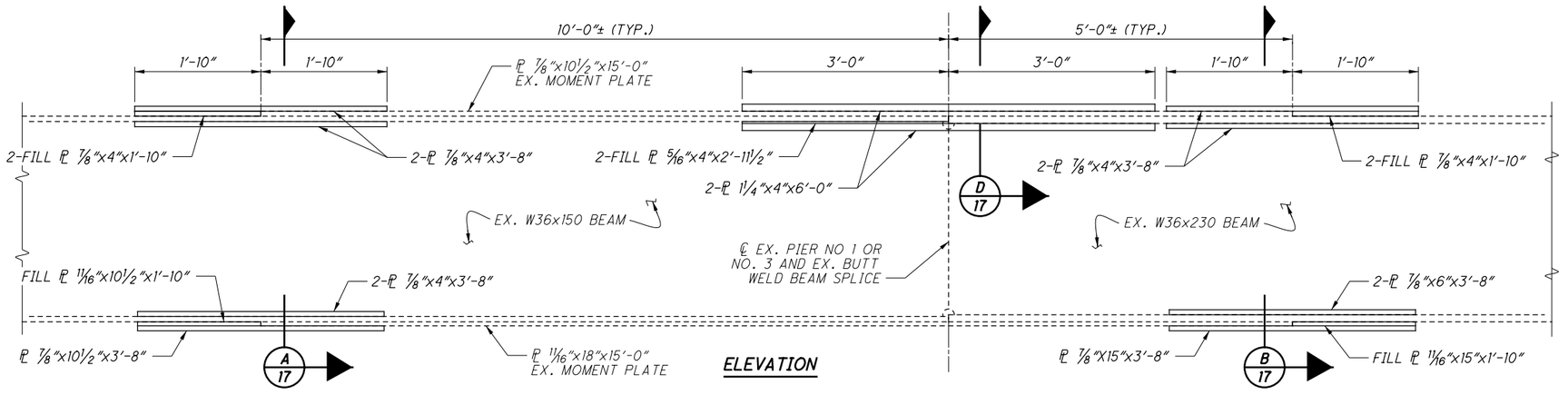


EXISTING BEAM ELEVATION

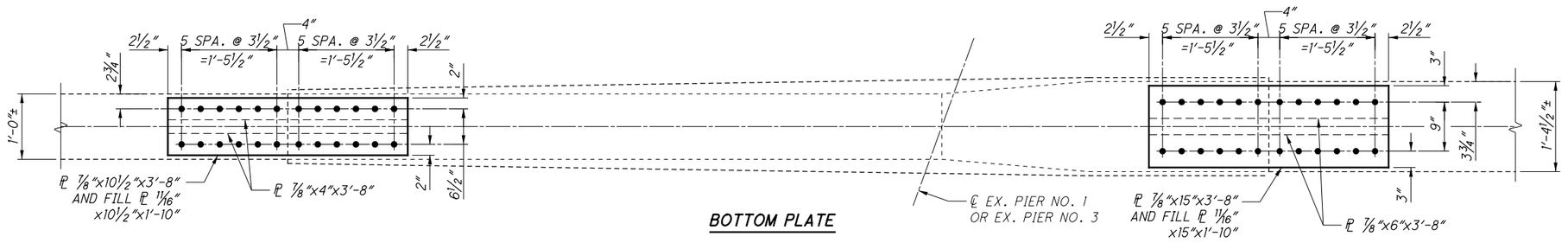
(TYP. ALL BEAMS)



TOP PLATE



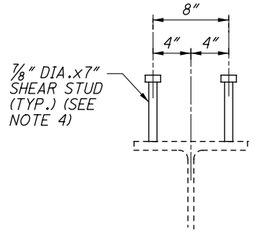
ELEVATION



BOTTOM PLATE

EXISTING WELDED SPLICE AND COVER PLATE FATIGUE RETROFIT DETAIL

(TYPICAL FOR PIER NO. 1 AND PIER NO. 3)



SHEAR STUD DETAIL

NOTES

1. FOR FRAMING PLAN AND ADDITIONAL BEAM DETAILS AND NOTES, SEE SHEETS 15 | 42 AND 17 | 42 .
2. FOR BEARING DETAILS SEE SHEET 29 | 42 .
3. THE 2" DIAMETER HOLES IN THE EXISTING BEAM WEB AND THE 1" DIAMETER VENT HOLES IN THE EXISTING BEAM FLANGE SHALL BE FIELD DRILLED. FLAME CUTTING OF HOLES IS NOT PERMITTED. FIELD DRILLING SHALL BE INCLUDED WITH ITEM 202, PORTIONS OF STRUCTURE REMOVED, OVER 20' SPAN, AS PER PLAN FOR PAYMENT.
4. SHEAR STUD LOCATIONS SHALL BE ADJUSTED AS NECESSARY TO AVOID INTERFERENCE WITH SPLICE PLATES AND BOLT LOCATIONS.
5. WELD ATTACHMENT OF SUPPORTS FOR CONCRETE DECK FINISHING MACHINE TO AREAS OF THE STRINGER FLANGES DESIGNATED "COMPRESSION". DO NOT WELD ATTACHMENTS TO AREAS DESIGNATED "TENSION". FILLET WELDS TO COMPRESSION FLANGES SHALL BE AT LEAST 1" FROM THE EDGE OF THE FLANGE, BE NO MORE THAN 2" LONG AND AT LEAST ¼" FOR THICKNESSES UP TO ¾" OR 5/16" FOR GREATER THAN ¾" THICK.
6. ALL STRUCTURAL STEEL SHALL BE ASTM A709, GRADE 50 (CVN).
7. HOLES IN PLATES SHALL BE SHOP DRILLED.
8. THE CONTRACTOR TO USE NEW PLATES AS TEMPLATE TO DRILL HOLES INTO EXISTING STEEL.
9. AFTER HOLES ARE DRILLED, THE CONTRACTOR SHALL CLEAN THE FAYING SURFACE OF ALL DRILLING OIL, AND THEN BLAST CLEAN TO NEAR WHITE FINISH PER CMS. 514.13 A AND C.

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SUPERSTRUCTURE DETAILS 2 OF 6
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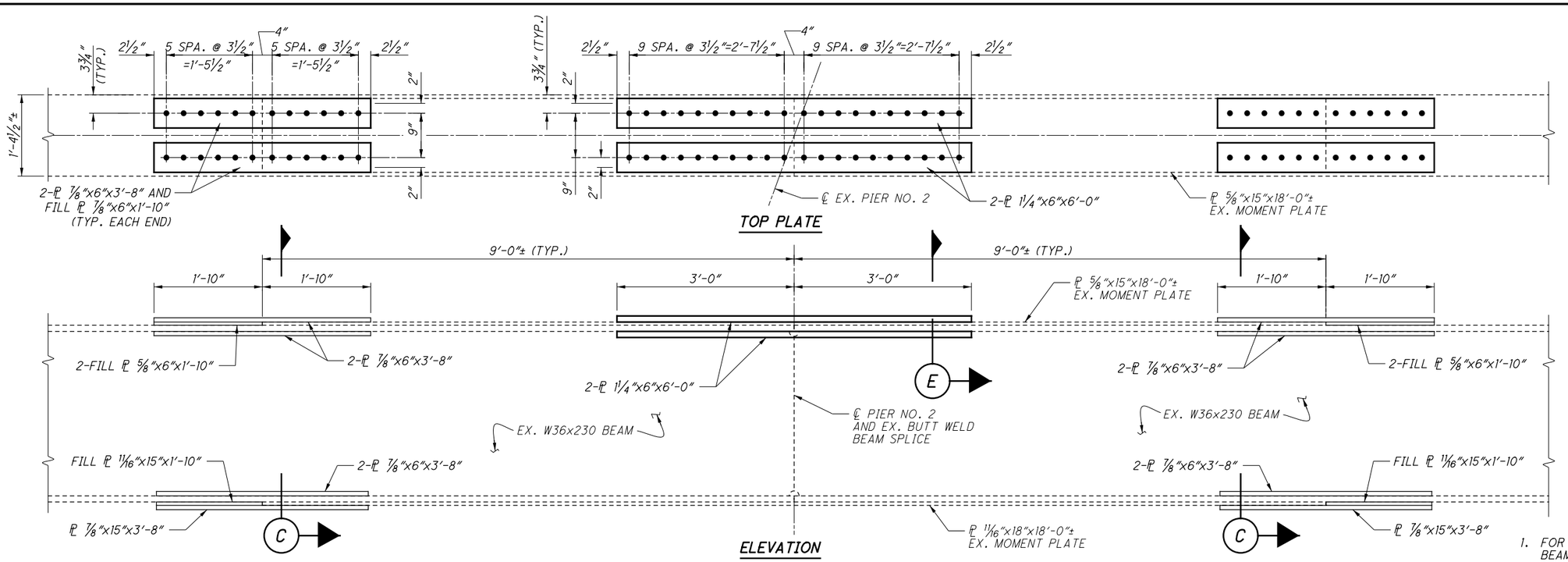
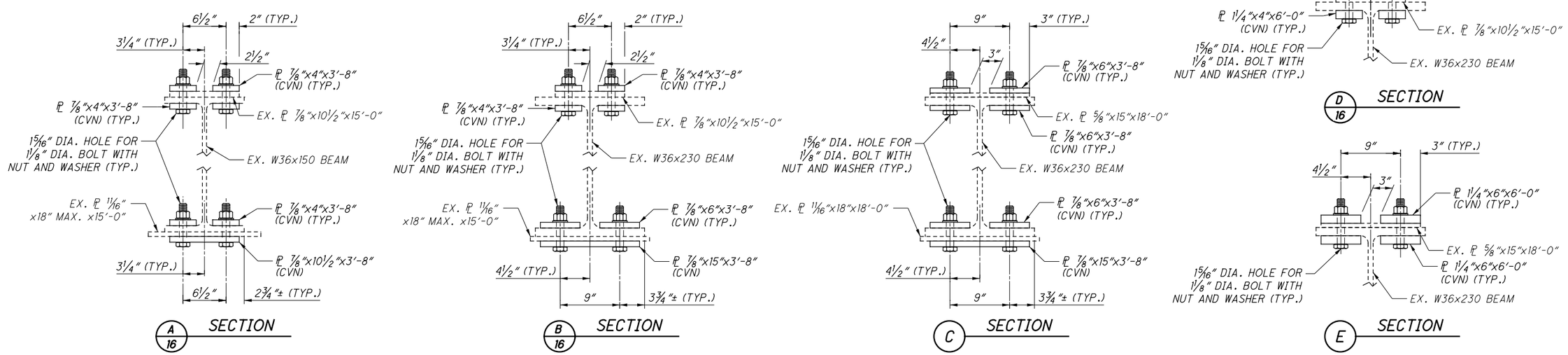


EXISTING WELDED SPLICE AND COVER PLATE FATIGUE RETROFIT DETAIL

(TYPICAL FOR PIER NO. 2)



NOTES

1. FOR FRAMING PLAN AND ADDITIONAL BEAM DETAILS AND NOTES, SEE SHEETS 15 | 42 AND 16 | 42 .
2. ALL BOLTS SHALL BE A325, TYPE 1 GALVANIZED. ALL BOLTS ARE TO BE PLACED WITH NUTS ON TOP.

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SUPERSTRUCTURE DETAILS 3 OF 6
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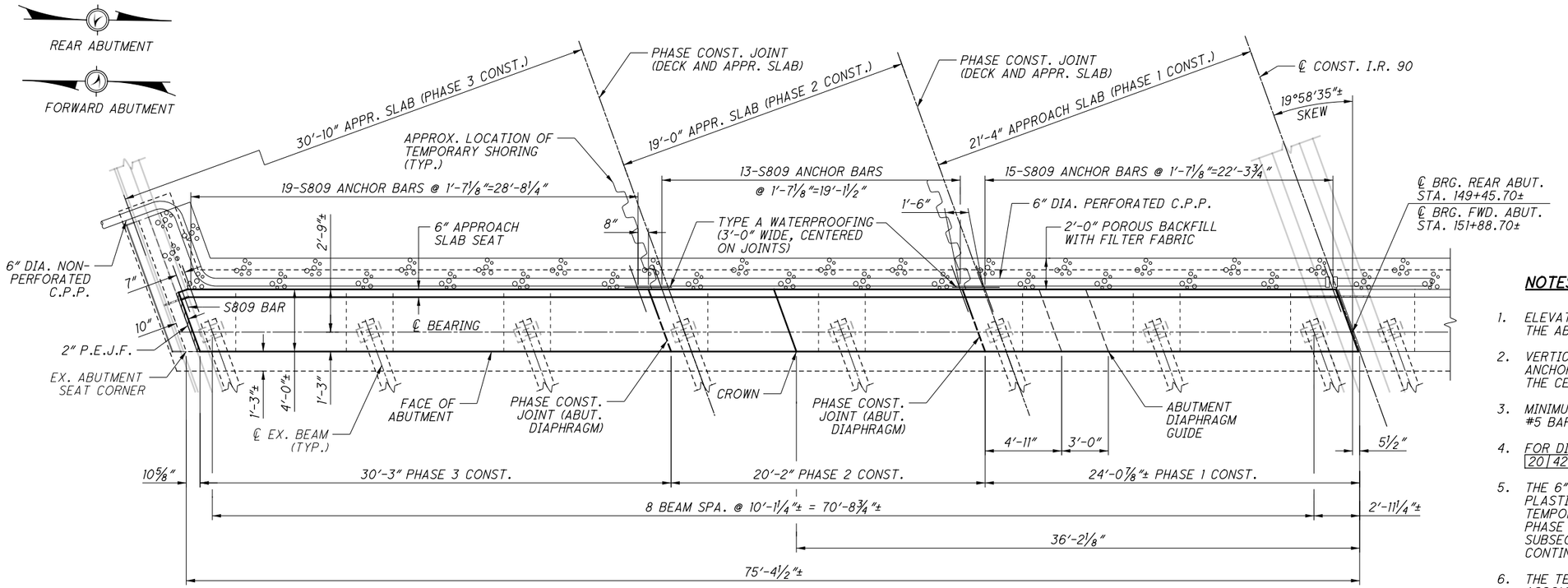
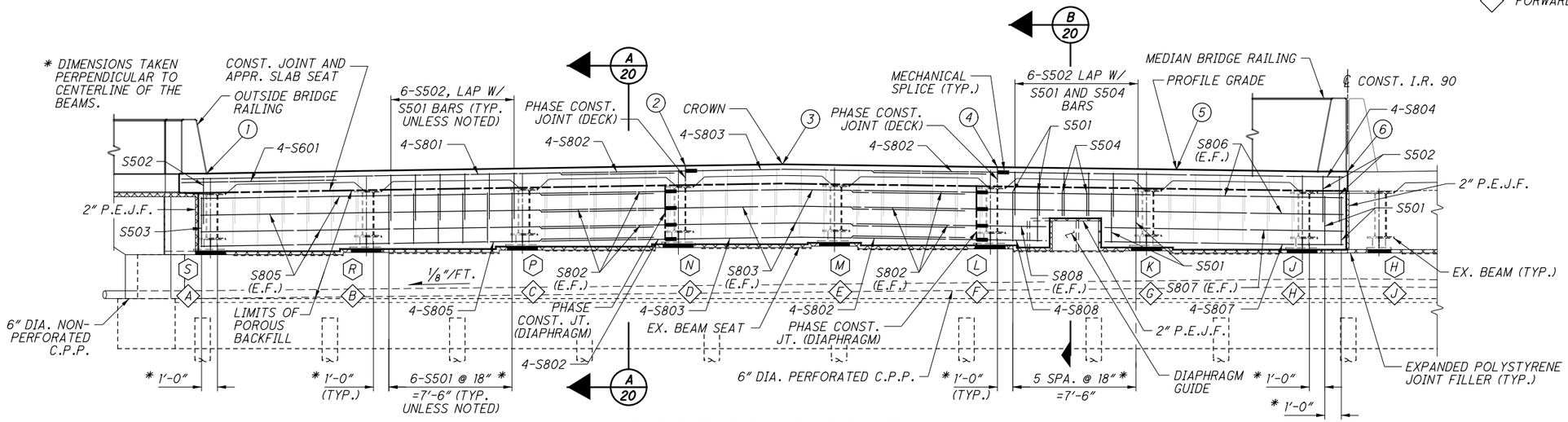


ABUTMENT DIAPHRAGM PLAN

(REAR ABUTMENT, RIGHT STRUCT. SHOWN, FORWARD ABUTMENT, LEFT STRUCT. SIMILAR)

NOTES

1. ELEVATIONS ARE TAKEN AT THE CENTERLINE OF THE ABUTMENT BEARINGS.
2. VERTICAL REINFORCING INCLUDING THE S8XX ANCHOR BARS, SHALL BE PLACED PARALLEL WITH THE CENTERLINE OF THE BEAMS.
3. MINIMUM BAR LAPS ARE AS FOLLOWS: #5 BARS = 41" #8 BARS = 87"
4. FOR DIAPHRAGM GUIDE DETAILS, SEE SHEET 20|42 .
5. THE 6" DIAMETER PERFORATED CORRUGATED PLASTIC PIPE SHALL BE INSTALLED AS SHOWN. TEMPORARY END CAPS SHALL BE INSTALLED AT PHASE LINES, BUT SHALL BE REMOVED IN SUBSEQUENT PHASES TO ALLOW FOR CONTINUOUS DRAINAGE.
6. THE TEMPORARY SHORING DESIGN SHALL ACCOMODATE PLACEMENT OF THE 6" DIAMETER PERFORATED CORRUGATED PLASTIC PIPE.



ABUTMENT DIAPHRAGM ELEVATION

(REAR ABUTMENT, RIGHT STRUCT. SHOWN, FORWARD ABUTMENT, LEFT STRUCT. SIMILAR)

LEGEND

⬡ REAR ABUTMENT BEAM DESIGNATION

◇ FORWARD ABUTMENT BEAM DESIGNATION

ELEVATION TABLE		
POINT	ABUTMENT	
	REAR	FORWARD
1	614.84	614.50
2	615.34	615.03
3	615.45	615.14
4	615.26	614.96
5	615.10	614.80
6	614.95	614.66

DESIGN AGENCY
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DESIGNED	DRAWN	REVIEWED	DATE
RJB	CAF	RBB	8/17/18
CHECKED	REVISED	STRUCTURE FILE NUMBER	
FJG		1806672	

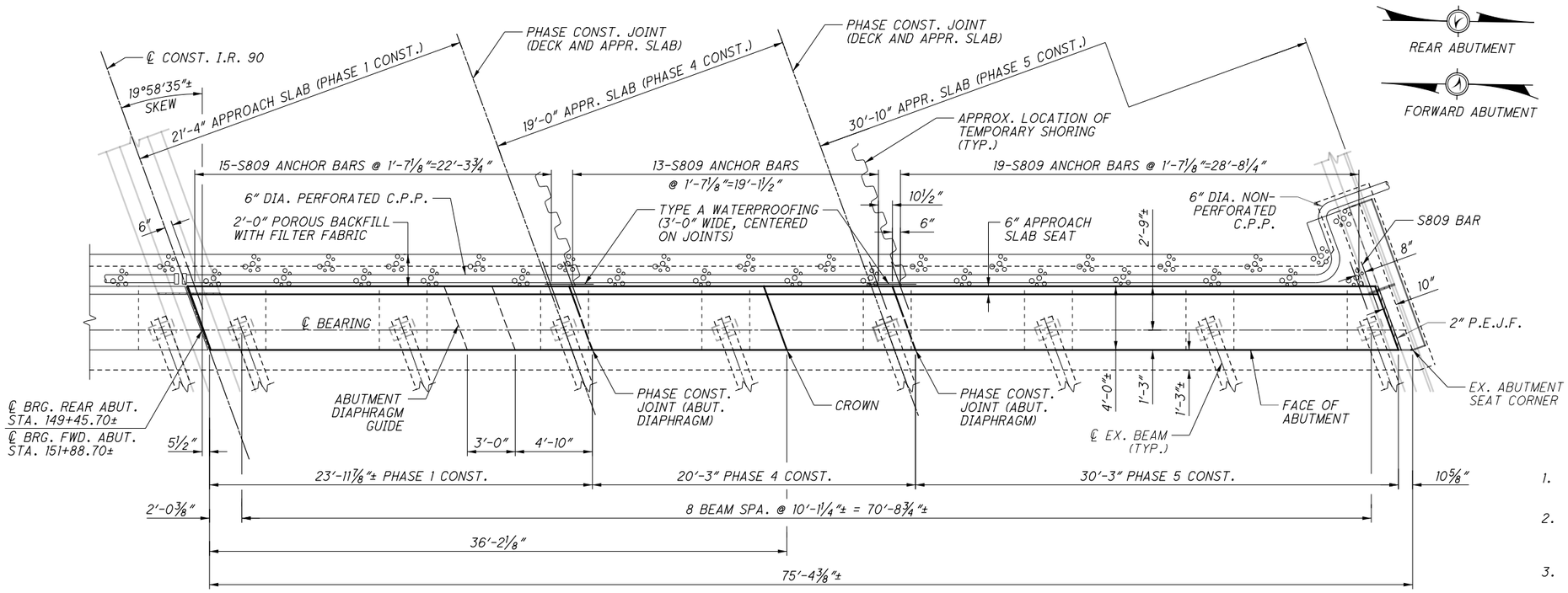
SUPERSTRUCTURE DETAILS 4 OF 6

BRIDGE NO. CUY-90-2410
INTERSTATE ROUTE 90 OVER EAST 140TH STREET

CUY-90-24.10/24.63
PID No. 88348

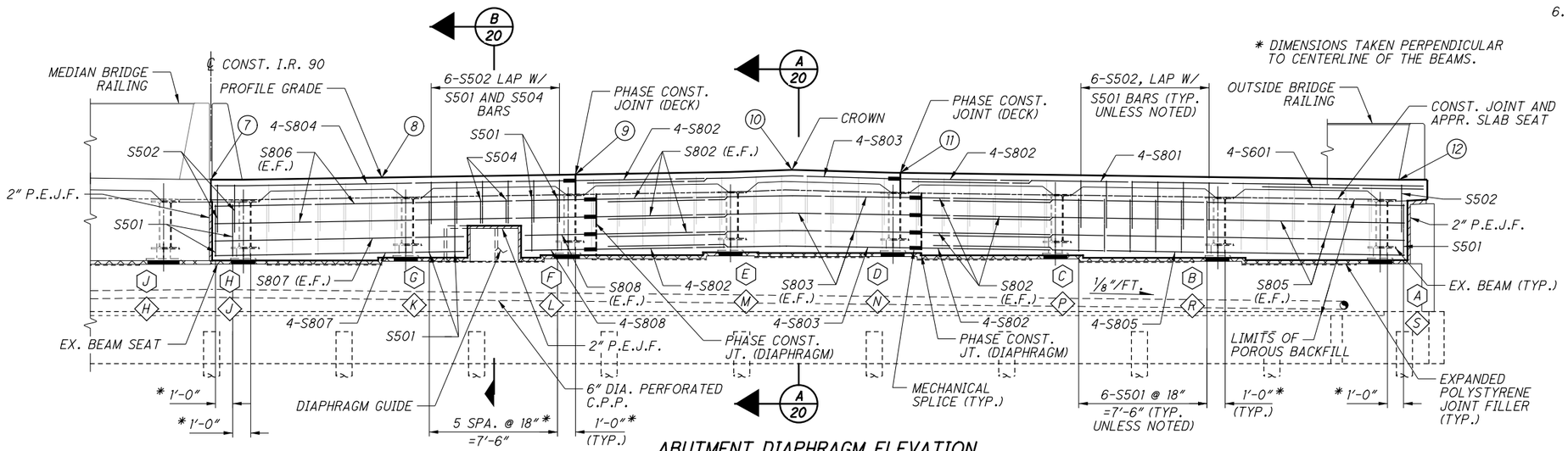
18 / 42

124
196



ABUTMENT DIAPHRAGM PLAN

(REAR ABUTMENT, LEFT STRUCT. SHOWN, FORWARD ABUTMENT, RIGHT STRUCT. SIMILAR)



ABUTMENT DIAPHRAGM ELEVATION

(REAR ABUTMENT, LEFT STRUCT. SHOWN, FORWARD ABUTMENT, RIGHT STRUCT. SIMILAR)

NOTES

1. ELEVATIONS ARE TAKEN AT THE CENTERLINE OF THE ABUTMENT BEARINGS.
2. VERTICAL REINFORCING INCLUDING THE S8XX ANCHOR BARS, SHALL BE PLACED PARALLEL WITH THE CENTERLINE OF THE BEAMS.
3. MINIMUM BAR LAPS ARE AS FOLLOWS: #5 BARS = 41" #8 BARS = 87"
4. FOR DIAPHRAGM GUIDE DETAILS, SEE SHEET 20|42 .
5. THE 6" DIAMETER PERFORATED CORRUGATED PLASTIC PIPE SHALL BE INSTALLED AS SHOWN. TEMPORARY END CAPS SHALL BE INSTALLED AT PHASE LINES, BUT SHALL BE REMOVED IN SUBSEQUENT PHASES TO ALLOW FOR CONTINUOUS DRAINAGE.
6. THE TEMPORARY SHORING DESIGN SHALL ACCOMODATE PLACEMENT OF THE 6" DIAMETER PERFORATED CORRUGATED PLASTIC PIPE.

ELEVATION TABLE

POINT	ABUTMENT	
	REAR	FORWARD
7	614.89	614.70
8	615.06	614.88
9	615.25	615.08
10	615.47	615.30
11	615.37	615.21
12	614.93	614.79

LEGEND

⬡ REAR ABUTMENT BEAM DESIGNATION

◇ FORWARD ABUTMENT BEAM DESIGNATION

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FJG		1806672	

SUPERSRTUCTURE DETAILS 5 OF 6
BRIDGE NO. CUY-90-2410
INTERSTATE ROUTE 90 OVER EAST 140TH STREET

CUY-90-24.10/24.63
PID No. 88348

19 | 42

125 | 196

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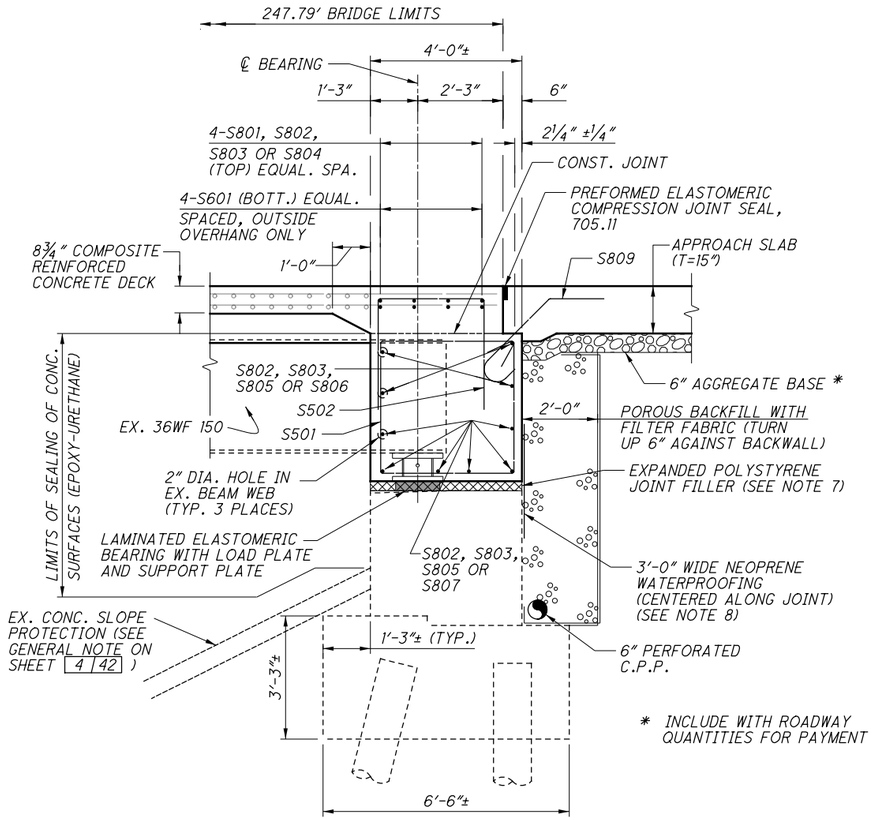
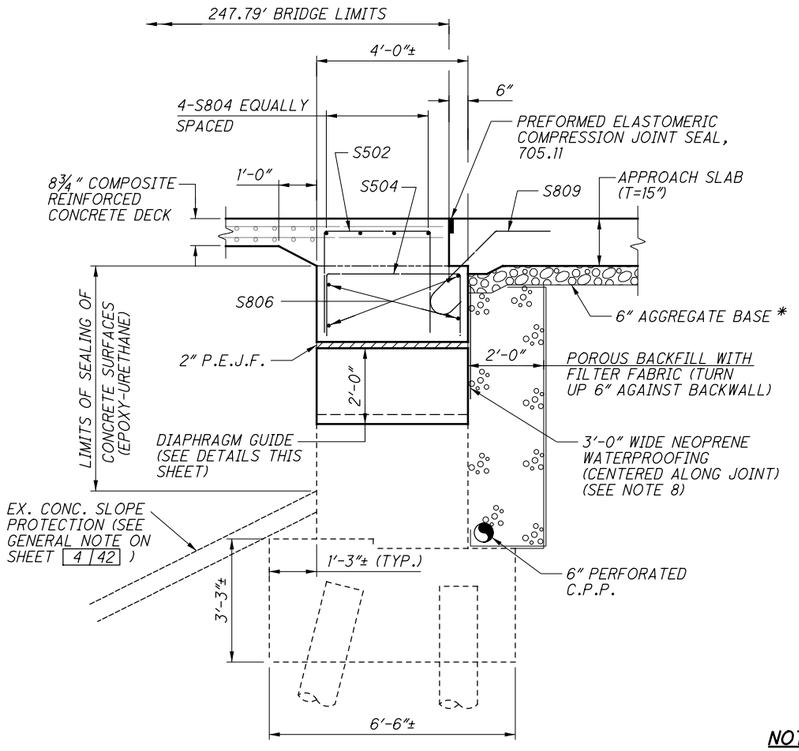
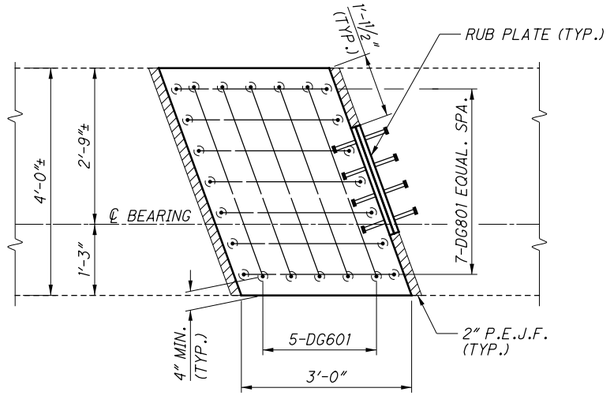


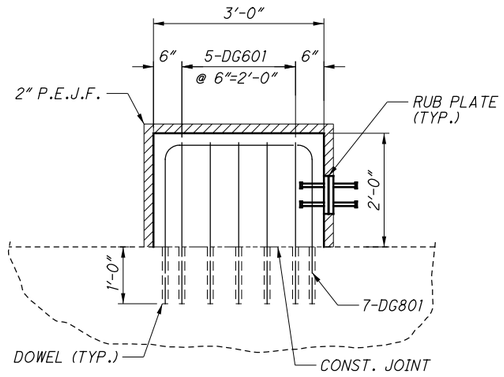
A 18 A 19 SECTION



B 18 B 19 SECTION



PLAN



ELEVATION

ABUTMENT DIAPHRAGM GUIDE

NOTES

1. ABUTMENT DIAPHRAGM CONCRETE, PHASED CONSTRUCTION: PLACE THE CONCRETE ENCASING STRUCTURAL STEEL MEMBERS OF AN INDIVIDUAL PHASE, WITH THE DECK CONCRETE.
2. ALL CONCRETE SHALL BE CLASS QC2.
3. PROVIDE A 1" CHAMFER ON ALL EXPOSED CONCRETE CORNERS.
4. FOR SLAB PLAN, TRANSVERSE SECTIONS AND ADDITIONAL DETAILS AND NOTES, SEE SHEETS 25 | 42 AND 26 | 42 .
5. FOR APPROACH SLAB DETAILS SEE SHEETS 30 | 42 THRU 34 | 42
6. POROUS BACKFILL WITH FILTER FABRIC, 2 FEET THICK, SHALL EXTEND UP TO THE PLANE OF THE SUBGRADE, AND LATERALLY TO THE BACK FACE OF THE WINGWALLS.
7. EXPANDED POLYSTYRENE FILLER SHALL BE INCLUDED WITH ITEM 511, CLASS QC2 CONCRETE WITH QC/QA, SUPERSTRUCTURE, AS PER PLAN, FOR PAYMENT.
8. NYLON REINFORCED NEOPRENE WATERPROOFING, 3 FEET WIDE, CENTERED ALONG THE WINGWALL/DIAPHRAGM EXPANSION JOINTS, SHALL EXTEND FROM APPROACH SLAB DOWN TO THE BOTTOM OF HORIZONTAL NEOPRENE WATERPROOFING.
9. FOR ADDITIONAL SEMI-INTEGRAL ABUTMENT AND DIAPHRAGM GUIDE DETAILS AND NOTES SEE STANDARD DRAWING SICD-1-96 AND SICD-2-14.

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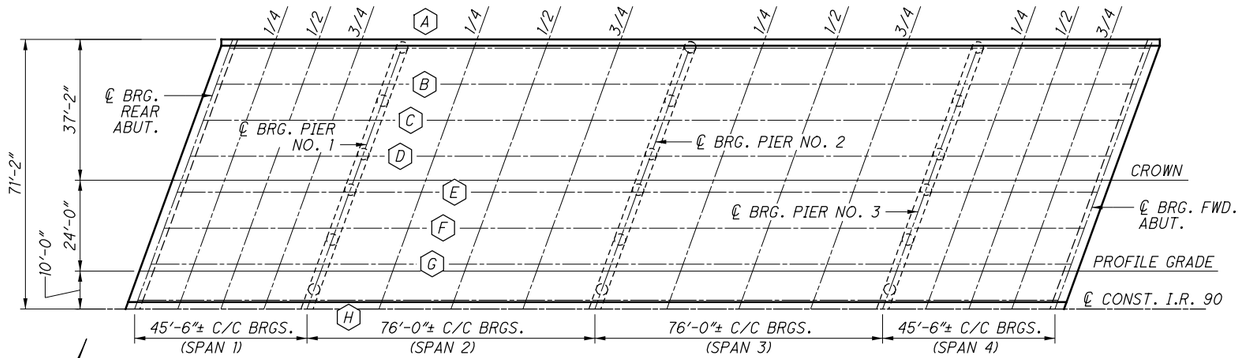
CHECKED FJG | REVISED | STRUCTURE FILE NUMBER 1808672

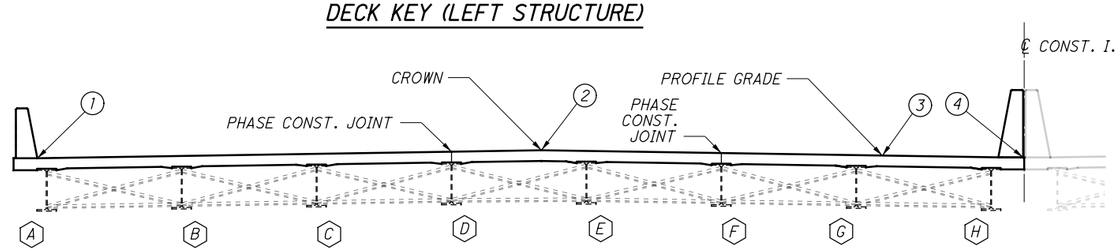
SUPERSRTUCTURE DETAILS 6 OF 6

BRIDGE NO. CUY-90-2410
INTERSTATE ROUTE 90 OVER EAST 140TH STREET

CUY-90-24.10/24.63
PID No. 88348



DECK KEY (LEFT STRUCTURE)



TRANSVERSE KEY (LEFT STRUCTURE)

NOTES:

1. SCREED ELEVATIONS ARE TO BE CALCULATED BY THE CONTRACTOR USING THE SCREED ELEVATION FIELD PROCEDURE DETAILED ON THIS SHEET. THE COST OF LAYOUT, FIELD SURVEY AND CALCULATION OF SCREED ELEVATIONS IS CONSIDERED INCIDENTAL TO DECK CONSTRUCTION, AND SHALL BE INCLUDED WITH ITEM 511, CLASS QC2 CONCRETE WITH QC/QA, BRIDGE DECK, AS PER PLAN.
2. FINAL DECK SURFACE ELEVATIONS SHOWN REPRESENT THE DECK SURFACE ELEVATION AFTER ALL ANTICIPATED DEAD LOAD DEFLECTIONS HAVE OCCURED.

SCREED ELEVATION FIELD PROCEDURE

A. 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.

B. COMPUTE THE AMOUNT OF SURVEYED REBOUND FOR THESE BEAMS BY SUBTRACTING THE ELEVATIONS BEFORE REMOVAL FROM THE ELEVATIONS AFTER REMOVAL.

C. COMPUTE THE ADJUSTED REBOUND FOR THESE BEAMS BY MULTIPLYING THE SURVEYED REBOUND BY THE RATIO OF THE PROPOSED DEAD LOAD.

D. ADD THE AMOUNT OF THE ADJUSTED REBOUND TO THE FINAL TOP OF DECK ELEVATIONS TO OBTAIN THE DECK SCREED ELEVATIONS. USE THE REBOUND OF THE CLOSEST BEAM TO DETERMINE THE SCREED ELEVATION AT GUTTERS AND OTHER LOCATIONS THAT ARE NOT LOCATED DIRECTLY OVER BEAMS.

E. AFTER PHASE 1 DECK PLACEMENT, REPEAT STEPS A THRU D FOR EACH SUBSEQUENT PHASE.

EXISTING DECK + OVERLAY THICKNESS (FROM CORES) = 11½"

PROPOSED DECK THICKNESS = 8¾"

RATIO OF PROPOSED DEAD LOAD TO EXISTING DEAD LOAD = 0.76

* BOTTOM OF BEAM ELEVATION SURVEYED DURING CONSTRUCTION.

** SURVEYED REBOUND = BEAM ELEVATIONS AFTER DECK REMOVAL MINUS BEAM ELEVATION BEFORE 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

DECK ELEVATION TABLE (LEFT STRUCTURE)

LOCATION	DESCRIPTION	SPAN 1				SPAN 2				SPAN 3				SPAN 4				
		℄ BRG. REAR ABUT.	1/4 PT.	1/2 PT.	3/4 PT.	℄ PIER NO. 1	1/4 PT.	1/2 PT.	3/4 PT.	℄ PIER NO. 2	1/4 PT.	1/2 PT.	3/4 PT.	℄ PIER NO. 3	1/4 PT.	1/2 PT.	3/4 PT.	℄ BRG. FWD. ABUT.
①	STATION	149+70.96	149+82.34	149+93.71	150+05.09	150+16.46	150+35.46	150+54.46	150+73.46	150+92.46	151+11.46	151+30.46	151+49.46	151+68.46	151+79.84	151+91.21	152+02.59	152+13.96
	OFFSET	69.50′	69.50′	69.50′	69.50′	69.50′	69.50′	69.50′	69.50′	69.50′	69.50′	69.50′	69.50′	69.50′	69.50′	69.50′	69.50′	69.50′
	ELEV. AFTER DECK REMOVAL *	--				--				--				--				--
	ELEV. BEFORE DECK REMOVAL *	--				--				--				--				--
	SURVEYED REBOUND **	--				--				--				--				--
	ADJUSTED REBOUND ***	--				--				--				--				--
	FINAL TOP/DECK ELEV.	614.93	614.96	614.98	615.00	615.01	615.02	615.01	615.00	614.97	614.93	614.88	614.81	614.73	614.68	614.63	614.56	614.50
	DECK SCREED ELEV. ****	--				--				--				--				--
②	STATION	149+58.06	149+69.43	149+80.81	149+92.18	150+03.56	150+22.56	150+41.56	150+60.56	150+79.56	150+98.56	151+17.56	151+36.56	151+55.56	151+66.93	151+78.31	151+89.68	152+01.06
	OFFSET	34.00′	34.00′	34.00′	34.00′	34.00′	34.00′	34.00′	34.00′	34.00′	34.00′	34.00′	34.00′	34.00′	34.00′	34.00′	34.00′	34.00′
	ELEV. AFTER DECK REMOVAL *	--				--				--				--				--
	ELEV. BEFORE DECK REMOVAL *	--				--				--				--				--
	SURVEYED REBOUND **	--				--				--				--				--
	ADJUSTED REBOUND ***	--				--				--				--				--
	FINAL TOP/DECK ELEV.	615.47	615.50	615.52	615.55	615.56	615.58	615.58	615.58	615.56	615.53	615.48	615.42	615.36	615.31	615.26	615.20	615.14
	DECK SCREED ELEV. ****	--				--				--				--				--
③	STATION	149+49.34	149+60.71	149+72.09	149+83.46	149+94.84	150+13.84	150+32.84	150+51.84	150+70.84	150+89.84	151+08.84	151+27.84	151+46.84	151+58.21	151+69.59	151+80.96	151+92.34
	OFFSET	10.00′	10.00′	10.00′	10.00′	10.00′	10.00′	10.00′	10.00′	10.00′	10.00′	10.00′	10.00′	10.00′	10.00′	10.00′	10.00′	10.00′
	ELEV. AFTER DECK REMOVAL *	--				--				--				--				--
	ELEV. BEFORE DECK REMOVAL *	--				--				--				--				--
	SURVEYED REBOUND **	--				--				--				--				--
	ADJUSTED REBOUND ***	--				--				--				--				--
	FINAL TOP/DECK ELEV.	615.06	615.09	615.12	615.15	615.17	615.19	615.20	615.20	615.18	615.16	615.12	615.07	615.01	614.96	614.91	614.86	614.80
	DECK SCREED ELEV. ****	--				--				--				--				--
④	STATION	149+45.70	149+57.07	149+68.45	149+79.82	149+91.20	150+10.20	150+29.20	150+48.20	150+67.20	150+86.20	151+05.20	151+24.20	151+43.20	151+54.57	151+65.95	151+77.32	151+88.70
	OFFSET	0.00′	0.00′	0.00′	0.00′	0.00′	0.00′	0.00′	0.00′	0.00′	0.00′	0.00′	0.00′	0.00′	0.00′	0.00′	0.00′	0.00′
	ELEV. AFTER DECK REMOVAL *	--				--				--				--				--
	ELEV. BEFORE DECK REMOVAL *	--				--				--				--				--
	SURVEYED REBOUND **	--				--				--				--				--
	ADJUSTED REBOUND ***	--				--				--				--				--
	FINAL TOP/DECK ELEV.	614.89	614.92	614.95	614.98	615.00	615.03	615.04	615.04	615.03	615.00	614.97	614.92	614.86	614.82	614.77	614.72	614.66
	DECK SCREED ELEV. ****	--				--				--				--				--

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CHECKED	REVISED	STRUCTURE FILE NUMBER	
FJG		1808672	

SUPERSTRUCTURE DETAILS - SCREED TABLE 1 OF 4
BRIDGE NO. CUY-90-2410
INTERSTATE ROUTE 90 OVER EAST 140TH STREET

CUY-90-24.10/24.63
PID No. 88348

21/42

127/196

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DECK ELEVATION TABLE (LEFT STRUCTURE)

LOCATION	DESCRIPTION	SPAN 1				SPAN 2				SPAN 3				SPAN 4				
		℄ BRG. REAR ABUT.	1/4 PT.	1/2 PT.	3/4 PT.	℄ PIER NO. 1	1/4 PT.	1/2 PT.	3/4 PT.	℄ PIER NO. 2	1/4 PT.	1/2 PT.	3/4 PT.	℄ PIER NO. 3	1/4 PT.	1/2 PT.	3/4 PT.	℄ BRG. FWD. ABUT.
A	STATION	149+70.72	149+82.10	149+93.47	150+04.85	150+16.22	150+35.22	150+54.22	150+73.22	150+92.22	151+11.22	151+30.22	151+49.22	151+68.22	151+79.60	151+90.97	152+02.35	152+13.72
	OFFSET	68.83'±	68.83'±	68.83'±	68.83'±	68.83'±	68.83'±	68.83'±	68.83'±	68.83'±	68.83'±	68.83'±	68.83'±	68.83'±	68.83'±	68.83'±	68.83'±	68.83'±
	ELEV. AFTER DECK REMOVAL *	--				--				--				--				--
	ELEV. BEFORE DECK REMOVAL *	--				--				--				--				--
	SURVEYED REBOUND **	--				--				--				--				--
	ADJUSTED REBOUND ***	--				--				--				--				--
	FINAL TOP/DECK ELEV.	614.94	614.97	614.99	615.01	615.02	615.03	615.02	615.01	614.98	614.94	614.89	614.82	614.75	614.69	614.64	614.58	614.51
	DECK SCREED ELEV. ****	614.94				615.02				614.98				614.75				614.51
B	STATION	149+67.27	149+78.64	149+90.02	150+01.39	150+12.77	150+31.77	150+50.77	150+69.77	150+88.77	151+07.77	151+26.77	151+45.77	151+64.77	151+76.14	151+87.52	151+98.89	152+10.27
	OFFSET	59.33'±	59.33'±	59.33'±	59.33'±	59.33'±	59.33'±	59.33'±	59.33'±	59.33'±	59.33'±	59.33'±	59.33'±	59.33'±	59.33'±	59.33'±	59.33'±	59.33'±
	ELEV. AFTER DECK REMOVAL *	--				--				--				--				--
	ELEV. BEFORE DECK REMOVAL *	--				--				--				--				--
	SURVEYED REBOUND **	--				--				--				--				--
	ADJUSTED REBOUND ***	--				--				--				--				--
	FINAL TOP/DECK ELEV.	615.09	615.11	615.14	615.15	615.17	615.18	615.18	615.16	615.14	615.10	615.05	614.99	614.91	614.86	614.81	614.75	614.68
	DECK SCREED ELEV. ****	615.09				615.17				615.14				614.91				614.68
C	STATION	149+63.81	149+75.19	149+86.56	149+97.94	150+09.31	150+28.31	150+47.31	150+66.31	150+85.31	151+04.31	151+23.31	151+42.31	151+61.31	151+72.69	151+84.06	151+95.44	152+06.81
	OFFSET	49.83'±	49.83'±	49.83'±	49.83'±	49.83'±	49.83'±	49.83'±	49.83'±	49.83'±	49.83'±	49.83'±	49.83'±	49.83'±	49.83'±	49.83'±	49.83'±	49.83'±
	ELEV. AFTER DECK REMOVAL *	--				--				--				--				--
	ELEV. BEFORE DECK REMOVAL *	--				--				--				--				--
	SURVEYED REBOUND **	--				--				--				--				--
	ADJUSTED REBOUND ***	--				--				--				--				--
	FINAL TOP/DECK ELEV.	615.23	615.26	615.28	615.30	615.31	615.33	615.33	615.32	615.30	615.26	615.21	615.15	615.08	615.03	614.98	614.92	614.85
	DECK SCREED ELEV. ****	615.23				615.31				615.30				615.08				614.85
D	STATION	149+60.36	149+71.74	149+83.11	149+94.49	150+05.86	150+24.86	150+43.86	150+62.86	150+81.86	151+00.86	151+19.86	151+38.86	151+57.86	151+69.24	151+80.61	151+91.99	152+03.36
	OFFSET	40.33'±	40.33'±	40.33'±	40.33'±	40.33'±	40.33'±	40.33'±	40.33'±	40.33'±	40.33'±	40.33'±	40.33'±	40.33'±	40.33'±	40.33'±	40.33'±	40.33'±
	ELEV. AFTER DECK REMOVAL *	--				--				--				--				--
	ELEV. BEFORE DECK REMOVAL *	--				--				--				--				--
	SURVEYED REBOUND **	--				--				--				--				--
	ADJUSTED REBOUND ***	--				--				--				--				--
	FINAL TOP/DECK ELEV.	615.37	615.40	615.43	615.45	615.46	615.48	615.48	615.47	615.45	615.42	615.37	615.32	615.25	615.20	615.14	615.09	615.03
	DECK SCREED ELEV. ****	615.37				615.46				615.45				615.25				615.03
E	STATION	149+56.91	149+68.28	149+79.66	149+91.03	150+02.41	150+21.41	150+40.41	150+59.41	150+78.41	150+97.41	151+16.41	151+35.41	151+54.41	151+65.78	151+77.16	151+88.53	151+99.91
	OFFSET	30.83'±	30.83'±	30.83'±	30.83'±	30.83'±	30.83'±	30.83'±	30.83'±	30.83'±	30.83'±	30.83'±	30.83'±	30.83'±	30.83'±	30.83'±	30.83'±	30.83'±
	ELEV. AFTER DECK REMOVAL *	--				--				--				--				--
	ELEV. BEFORE DECK REMOVAL *	--				--				--				--				--
	SURVEYED REBOUND **	--				--				--				--				--
	ADJUSTED REBOUND ***	--				--				--				--				--
	FINAL TOP/DECK ELEV.	615.42	615.45	615.47	615.49	615.51	615.53	615.53	615.53	615.51	615.48	615.43	615.38	615.31	615.26	615.21	615.16	615.10
	DECK SCREED ELEV. ****	615.42				615.51				615.51				615.31				615.10
F	STATION	149+53.45	149+64.83	149+76.20	149+87.58	149+98.95	150+17.95	150+36.95	150+55.95	150+74.95	150+93.95	151+12.95	151+31.95	151+50.95	151+62.33	151+73.70	151+85.08	151+96.45
	OFFSET	21.33'±	21.33'±	21.33'±	21.33'±	21.33'±	21.33'±	21.33'±	21.33'±	21.33'±	21.33'±	21.33'±	21.33'±	21.33'±	21.33'±	21.33'±	21.33'±	21.33'±
	ELEV. AFTER DECK REMOVAL *	--				--				--				--				--
	ELEV. BEFORE DECK REMOVAL *	--				--				--				--				--
	SURVEYED REBOUND **	--				--				--				--				--
	ADJUSTED REBOUND ***	--				--				--				--				--
	FINAL TOP/DECK ELEV.	615.25	615.29	615.31	615.33	615.35	615.37	615.38	615.38	615.36	615.33	615.29	615.24	615.17	615.13	615.08	615.02	614.96
	DECK SCREED ELEV. ****	615.25				615.35				615.36				615.17				614.96
G	STATION	149+50.00	149+61.38	149+72.75	149+84.13	149+95.50	150+14.50	150+33.50	150+52.50	150+71.50	150+90.50	151+09.50	151+28.50	151+47.50	151+58.88	151+70.25	151+81.63	151+93.00
	OFFSET	11.83'±	11.83'±	11.83'±	11.83'±	11.83'±	11.83'±	11.83'±	11.83'±	11.83'±	11.83'±	11.83'±	11.83'±	11.83'±	11.83'±	11.83'±	11.83'±	11.83'±
	ELEV. AFTER DECK REMOVAL *	--				--				--				--				--
	ELEV. BEFORE DECK REMOVAL *	--				--				--				--				--
	SURVEYED REBOUND **	--				--				--				--				--
	ADJUSTED REBOUND ***	--				--				--				--				--
	FINAL TOP/DECK ELEV.	615.09	615.12	615.15	615.18	615.20	615.22	615.23	615.23	615.21	615.19	615.15	615.10	615.03	614.99	614.94	614.89	614.83
	DECK SCREED ELEV. ****	615.09				615.20				615.21				615.03				614.83
H	STATION	149+46.55	149+57.92	149+69.30	149+80.67	149+92.05	150+11.05	150+30.05	150+49.05	150+68.05	150+87.05	151+06.05	151+25.05	151+44.05	151+55.42	151+66.80	151+78.17	151+89.55
	OFFSET	2.33'±	2.33'±	2.33'±	2.33'±	2.33'±	2.33'±	2.33'±	2.33'±	2.33'±	2.33'±	2.33'±	2.33'±	2.33'±	2.33'±	2.33'±	2.33'±	2.33'±
	ELEV. AFTER DECK REMOVAL *	--				--				--				--				--
	ELEV. BEFORE DECK REMOVAL *	--				--				--				--				--
	SURVEYED REBOUND **	--				--				--				--				--
	ADJUSTED REBOUND ***	--				--				--				--				--
	FINAL TOP/DECK ELEV.	614.93	614.96	614.99	615.02	615.04	615.06	615.08	615.08	615.06	615.04	615.00	614.95	614.89	614.85	614.80	614.75	614.70
	DECK SCREED ELEV. ****	614.93				615.04				615.06				614.89				614.70

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DESIGNED RJB | DRAWN CAF | CHECKED FJG | REVIEWED RBB | DATE 8/17/18 | REVISED | STRUCTURE FILE NUMBER 1806672

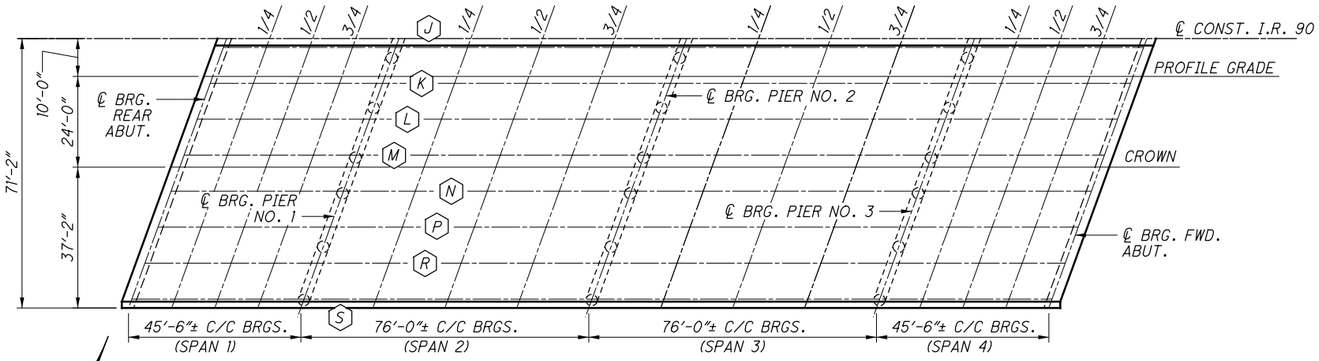
SUPERSTRUCTURE DETAILS - SCREED TABLE 2 OF 4

BRIDGE NO. CUY-90-2410
INTERSTATE ROUTE 90 OVER EAST 140TH STREET

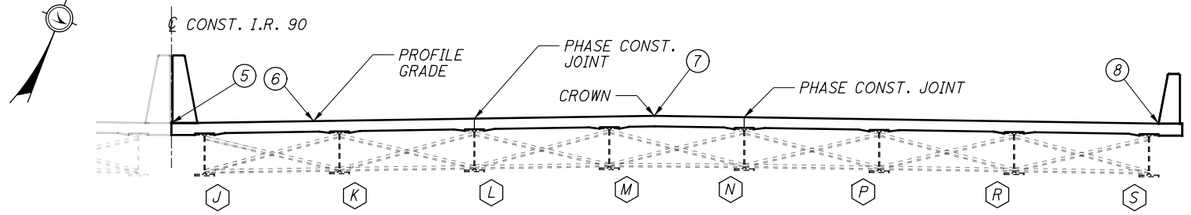
CUY-90-24.10/24.63
PID No. 88348

22 / 42

128 / 196



DECK KEY (RIGHT STRUCTURE)



TRANSVERSE KEY (RIGHT STRUCTURE)

NOTES:

1. SCREED ELEVATIONS ARE TO BE CALCULATED BY THE CONTRACTOR USING THE SCREED ELEVATION FIELD PROCEDURE DETAILED ON THIS SHEET. THE COST OF LAYOUT, FIELD SURVEY AND CALCULATION OF SCREED ELEVATIONS IS CONSIDERED INCIDENTAL TO DECK CONSTRUCTION, AND SHALL BE INCLUDED WITH ITEM 511, CLASS QC2 CONCRETE WITH QC/QA, BRIDGE DECK, AS PER PLAN.
2. FINAL DECK SURFACE ELEVATIONS SHOWN REPRESENT THE DECK SURFACE ELEVATION AFTER ALL ANTICIPATED DEAD LOAD DEFLECTIONS HAVE OCCURED.

SCREED ELEVATION FIELD PROCEDURE

A. 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.

B. COMPUTE THE AMOUNT OF SURVEYED REBOUND FOR THESE BEAMS BY SUBTRACTING THE ELEVATIONS BEFORE REMOVAL FROM THE ELEVATIONS AFTER REMOVAL.

C. COMPUTE THE ADJUSTED REBOUND FOR THESE BEAMS BY MULTIPLYING THE SURVEYED REBOUND BY THE RATIO OF THE PROPOSED DEAD LOAD.

D. ADD THE AMOUNT OF THE ADJUSTED REBOUND TO THE FINAL TOP OF DECK ELEVATIONS TO OBTAIN THE DECK SCREED ELEVATIONS. USE THE REBOUND OF THE CLOSEST BEAM TO DETERMINE THE SCREED ELEVATION AT GUTTERS AND OTHER LOCATIONS THAT ARE NOT LOCATED DIRECTLY OVER BEAMS.

E. AFTER PHASE 1 DECK PLACEMENT, REPEAT STEPS A THRU D FOR EACH SUBSEQUENT PHASE.

EXISTING DECK + OVERLAY THICKNESS (FROM CORES) = 11½"

PROPOSED DECK THICKNESS = 8¾"

RATIO OF PROPOSED DEAD LOAD TO EXISTING DEAD LOAD = 0.76

* BOTTOM OF BEAM ELEVATION SURVEYED DURING CONSTRUCTION.

** SURVEYED REBOUND = BEAM ELEVATIONS AFTER DECK REMOVAL MINUS BEAM ELEVATION BEFORE 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

DECK ELEVATION TABLE (RIGHT STRUCTURE)

LOCATION	DESCRIPTION	SPAN 1				SPAN 2				SPAN 3				SPAN 4				
		℄ BRG. REAR ABUT.	1/4 PT.	1/2 PT.	3/4 PT.	℄ PIER NO. 1	1/4 PT.	1/2 PT.	3/4 PT.	℄ PIER NO. 2	1/4 PT.	1/2 PT.	3/4 PT.	℄ PIER NO. 3	1/4 PT.	1/2 PT.	3/4 PT.	℄ BRG. FWD. ABUT.
⑤	STATION	149+45.70	149+57.08	149+68.45	149+79.83	149+91.20	150+10.20	150+29.20	150+48.20	150+67.20	150+86.20	151+05.20	151+24.20	151+43.20	151+54.58	151+65.95	151+77.33	151+88.70
	OFFSET	0.00′	0.00′	0.00′	0.00′	0.00′	0.00′	0.00′	0.00′	0.00′	0.00′	0.00′	0.00′	0.00′	0.00′	0.00′	0.00′	0.00′
	ELEV. AFTER DECK REMOVAL *	--				--				--				--				--
	ELEV. BEFORE DECK REMOVAL *	--				--				--				--				--
	SURVEYED REBOUND **	--				--				--				--				--
	ADJUSTED REBOUND ***	--				--				--				--				--
	FINAL TOP/DECK ELEV.	614.95	614.98	615.01	615.03	615.05	615.08	615.09	615.09	615.07	615.05	615.01	614.96	614.90	614.86	614.81	614.76	614.70
	DECK SCREED ELEV. ****	614.95				615.05				615.07				614.90				614.70
⑥	STATION	149+42.06	149+53.44	149+64.81	149+76.19	149+87.56	150+06.56	150+25.56	150+44.56	150+63.56	150+82.56	151+01.56	151+20.56	151+39.56	151+50.94	151+62.31	151+73.69	151+85.06
	OFFSET	10.00′	10.00′	10.00′	10.00′	10.00′	10.00′	10.00′	10.00′	10.00′	10.00′	10.00′	10.00′	10.00′	10.00′	10.00′	10.00′	10.00′
	ELEV. AFTER DECK REMOVAL *	--				--				--				--				--
	ELEV. BEFORE DECK REMOVAL *	--				--				--				--				--
	SURVEYED REBOUND **	--				--				--				--				--
	ADJUSTED REBOUND ***	--				--				--				--				--
	FINAL TOP/DECK ELEV.	615.10	615.13	615.16	615.19	615.21	615.23	615.25	615.25	615.24	615.21	615.18	615.13	615.07	615.03	614.98	614.93	614.88
	DECK SCREED ELEV. ****	615.10				615.21				615.24				615.07				614.88
⑦	STATION	149+33.34	149+44.72	149+56.09	149+67.47	149+78.84	149+97.84	150+16.84	150+35.84	150+54.84	150+73.84	150+92.84	151+11.84	151+30.84	151+42.22	151+53.59	151+64.97	151+76.34
	OFFSET	34.00′	34.00′	34.00′	34.00′	34.00′	34.00′	34.00′	34.00′	34.00′	34.00′	34.00′	34.00′	34.00′	34.00′	34.00′	34.00′	34.00′
	ELEV. AFTER DECK REMOVAL *	--				--				--				--				--
	ELEV. BEFORE DECK REMOVAL *	--				--				--				--				--
	SURVEYED REBOUND **	--				--				--				--				--
	ADJUSTED REBOUND ***	--				--				--				--				--
	FINAL TOP/DECK ELEV.	615.45	615.49	615.52	615.55	615.58	615.61	615.63	615.63	615.63	615.61	615.58	615.54	615.48	615.45	615.40	615.36	615.30
	DECK SCREED ELEV. ****	614.45				615.58				615.63				615.48				615.30
⑧	STATION	149+20.44	149+31.81	149+43.19	149+54.56	149+65.94	149+84.94	150+03.94	150+22.94	150+41.94	150+60.94	150+79.94	150+98.94	151+17.94	151+29.31	151+40.69	151+52.06	151+63.44
	OFFSET	69.50′	69.50′	69.50′	69.50′	69.50′	69.50′	69.50′	69.50′	69.50′	69.50′	69.50′	69.50′	69.50′	69.50′	69.50′	69.50′	69.50′
	ELEV. AFTER DECK REMOVAL *	--				--				--				--				--
	ELEV. BEFORE DECK REMOVAL *	--				--				--				--				--
	SURVEYED REBOUND **	--				--				--				--				--
	ADJUSTED REBOUND ***	--				--				--				--				--
	FINAL TOP/DECK ELEV.	614.84	614.88	614.92	614.95	614.98	615.02	615.05	615.06	615.06	615.06	615.03	615.00	614.95	614.92	614.88	614.84	614.79
	DECK SCREED ELEV. ****	614.84				614.98				615.06				614.95				614.79

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DESIGNED RJB | DRAWN CAF | CHECKED FJG | REVIEWED RBB | DATE 8/17/18 | REVISED | STRUCTURE FILE NUMBER 1808672

SUPERSTRUCTURE DETAILS - SCREED TABLE 3 OF 4

BRIDGE NO. CUY-90-2410

INTERSTATE ROUTE 90 OVER EAST 140TH STREET

CUY-90-24.10/24.63

PID No. 88348

DECK ELEVATION TABLE (RIGHT STRUCTURE)

LOCATION	DESCRIPTION	SPAN 1				SPAN 2				SPAN 3				SPAN 4				
		℄ BRG. REAR ABUT.	1/4 PT.	1/2 PT.	3/4 PT.	℄ PIER NO. 1	1/4 PT.	1/2 PT.	3/4 PT.	℄ PIER NO. 2	1/4 PT.	1/2 PT.	3/4 PT.	℄ PIER NO. 3	1/4 PT.	1/2 PT.	3/4 PT.	℄ BRG. FWD. ABUT.
J	STATION	149+44.85	149+56.23	149+67.60	149+78.98	149+90.35	150+09.35	150+28.35	150+47.35	150+66.35	150+85.35	151+04.35	151+23.35	151+42.35	151+53.73	151+65.10	151+76.48	151+87.85
	OFFSET	2.33'±	2.33'±	2.33'±	2.33'±	2.33'±	2.33'±	2.33'±	2.33'±	2.33'±	2.33'±	2.33'±	2.33'±	2.33'±	2.33'±	2.33'±	2.33'±	2.33'±
	ELEV. AFTER DECK REMOVAL *	--				--				--				--				--
	ELEV. BEFORE DECK REMOVAL *	--				--				--				--				--
	SURVEYED REBOUND **	--				--				--				--				--
	ADJUSTED REBOUND ***	--				--				--				--				--
	FINAL TOP/DECK ELEV.	614.98	615.02	615.04	615.07	615.09	615.11	615.12	615.12	615.11	615.09	615.05	615.00	614.94	614.90	614.85	614.80	614.74
	DECK SCREED ELEV. ****	614.98				615.09				615.11				614.94				614.74
K	STATION	149+41.40	149+52.77	149+64.15	149+75.52	149+86.90	150+05.90	150+24.90	150+43.90	150+62.90	150+81.90	151+00.90	151+19.90	151+38.90	151+50.27	151+61.65	151+73.02	151+84.40
	OFFSET	11.83'±	11.83'±	11.83'±	11.83'±	11.83'±	11.83'±	11.83'±	11.83'±	11.83'±	11.83'±	11.83'±	11.83'±	11.83'±	11.83'±	11.83'±	11.83'±	11.83'±
	ELEV. AFTER DECK REMOVAL *	--				--				--				--				--
	ELEV. BEFORE DECK REMOVAL *	--				--				--				--				--
	SURVEYED REBOUND **	--				--				--				--				--
	ADJUSTED REBOUND ***	--				--				--				--				--
	FINAL TOP/DECK ELEV.	615.12	615.16	615.19	615.21	615.24	615.26	615.28	615.28	615.27	615.24	615.21	615.16	615.10	615.06	615.02	614.97	614.91
	DECK SCREED ELEV. ****	615.12				615.24				615.27				615.10				614.91
L	STATION	149+37.95	149+49.32	149+60.70	149+72.07	149+83.45	150+02.45	150+21.45	150+40.45	150+59.45	150+78.45	150+97.45	151+16.45	151+35.45	151+46.82	151+58.20	151+69.57	151+80.95
	OFFSET	21.33'±	21.33'±	21.33'±	21.33'±	21.33'±	21.33'±	21.33'±	21.33'±	21.33'±	21.33'±	21.33'±	21.33'±	21.33'±	21.33'±	21.33'±	21.33'±	21.33'±
	ELEV. AFTER DECK REMOVAL *	--				--				--				--				--
	ELEV. BEFORE DECK REMOVAL *	--				--				--				--				--
	SURVEYED REBOUND **	--				--				--				--				--
	ADJUSTED REBOUND ***	--				--				--				--				--
	FINAL TOP/DECK ELEV.	615.26	615.30	615.33	615.36	615.38	615.41	615.43	615.43	615.42	615.40	615.37	615.32	615.27	615.23	615.18	615.13	615.08
	DECK SCREED ELEV. ****	615.26				615.38				615.42				615.27				615.08
M	STATION	149+34.49	149+45.87	149+57.24	149+68.62	149+79.99	149+98.99	150+17.99	150+36.99	150+55.99	150+74.99	150+93.99	151+12.99	151+31.99	151+43.37	151+54.74	151+66.12	151+77.49
	OFFSET	30.83'±	30.83'±	30.83'±	30.83'±	30.83'±	30.83'±	30.83'±	30.83'±	30.83'±	30.83'±	30.83'±	30.83'±	30.83'±	30.83'±	30.83'±	30.83'±	30.83'±
	ELEV. AFTER DECK REMOVAL *	--				--				--				--				--
	ELEV. BEFORE DECK REMOVAL *	--				--				--				--				--
	SURVEYED REBOUND **	--				--				--				--				--
	ADJUSTED REBOUND ***	--				--				--				--				--
	FINAL TOP/DECK ELEV.	615.40	615.44	615.47	615.50	615.53	615.56	615.58	615.58	615.58	615.56	615.53	615.48	615.43	615.39	615.35	615.30	615.25
	DECK SCREED ELEV. ****	615.40				615.53				615.58				615.43				615.25
N	STATION	149+31.04	149+42.41	149+53.79	149+65.16	149+76.54	149+95.54	150+14.54	150+33.54	150+52.54	150+71.54	150+90.54	151+09.54	151+28.54	151+39.91	151+51.29	151+62.66	151+74.04
	OFFSET	40.33'±	40.33'±	40.33'±	40.33'±	40.33'±	40.33'±	40.33'±	40.33'±	40.33'±	40.33'±	40.33'±	40.33'±	40.33'±	40.33'±	40.33'±	40.33'±	40.33'±
	ELEV. AFTER DECK REMOVAL *	--				--				--				--				--
	ELEV. BEFORE DECK REMOVAL *	--				--				--				--				--
	SURVEYED REBOUND **	--				--				--				--				--
	ADJUSTED REBOUND ***	--				--				--				--				--
	FINAL TOP/DECK ELEV.	615.34	615.38	615.41	615.44	615.47	615.50	615.52	615.53	615.53	615.51	615.48	615.44	615.39	615.35	615.31	615.26	615.21
	DECK SCREED ELEV. ****	615.34				615.47				615.53				615.39				615.21
P	STATION	149+27.59	149+38.96	149+50.34	149+61.71	149+73.09	149+92.09	150+11.09	150+30.09	150+49.09	150+68.09	150+87.09	151+06.09	151+25.09	151+36.46	151+47.84	151+59.21	151+70.59
	OFFSET	49.83'±	49.83'±	49.83'±	49.83'±	49.83'±	49.83'±	49.83'±	49.83'±	49.83'±	49.83'±	49.83'±	49.83'±	49.83'±	49.83'±	49.83'±	49.83'±	49.83'±
	ELEV. AFTER DECK REMOVAL *	--				--				--				--				--
	ELEV. BEFORE DECK REMOVAL *	--				--				--				--				--
	SURVEYED REBOUND **	--				--				--				--				--
	ADJUSTED REBOUND ***	--				--				--				--				--
	FINAL TOP/DECK ELEV.	615.18	615.22	615.25	615.28	615.31	615.35	615.37	615.38	615.38	615.36	615.34	615.30	615.25	615.21	615.17	615.13	615.08
	DECK SCREED ELEV. ****	615.18				615.31				615.38				615.25				615.08
R	STATION	149+24.13	149+35.51	149+46.88	149+58.26	149+69.63	149+88.63	150+07.63	150+26.63	150+45.63	150+64.63	150+83.63	151+02.63	151+21.63	151+33.01	151+44.38	151+55.76	151+67.13
	OFFSET	59.33'±	59.33'±	59.33'±	59.33'±	59.33'±	59.33'±	59.33'±	59.33'±	59.33'±	59.33'±	59.33'±	59.33'±	59.33'±	59.33'±	59.33'±	59.33'±	59.33'±
	ELEV. AFTER DECK REMOVAL *	--				--				--				--				--
	ELEV. BEFORE DECK REMOVAL *	--				--				--				--				--
	SURVEYED REBOUND **	--				--				--				--				--
	ADJUSTED REBOUND ***	--				--				--				--				--
	FINAL TOP/DECK ELEV.	615.01	615.05	615.09	615.12	615.15	615.19	615.21	615.23	615.23	615.21	615.19	615.15	615.11	615.07	615.03	614.99	614.94
	DECK SCREED ELEV. ****	615.01				615.15				615.23				615.11				614.94
S	STATION	149+20.68	149+32.05	149+43.43	149+54.80	149+66.18	149+85.18	150+04.18	150+23.18	150+42.18	150+61.18	150+80.18	150+99.18	151+18.18	151+29.55	151+40.93	151+52.30	151+63.68
	OFFSET	68.83'±	68.83'±	68.83'±	68.83'±	68.83'±	68.83'±	68.83'±	68.83'±	68.83'±	68.83'±	68.83'±	68.83'±	68.83'±	68.83'±	68.83'±	68.83'±	68.83'±
	ELEV. AFTER DECK REMOVAL *	--				--				--				--				--
	ELEV. BEFORE DECK REMOVAL *	--				--				--				--				--
	SURVEYED REBOUND **	--				--				--				--				--
	ADJUSTED REBOUND ***	--				--				--				--				--
	FINAL TOP/DECK ELEV.	614.85	614.89	614.93	614.96	614.99	615.03	615.06	615.07	615.08	615.07	615.04	615.01	614.96	614.93	614.89	614.85	614.80
	DECK SCREED ELEV. ****	614.85				614.99				615.08				614.96				614.80

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DESIGNED	DRAWN	REVIEWED	DATE
RJB	CAF	RBB	8/17/18
CHECKED	REVISED	STRUCTURE FILE NUMBER	
FJG		1808672	

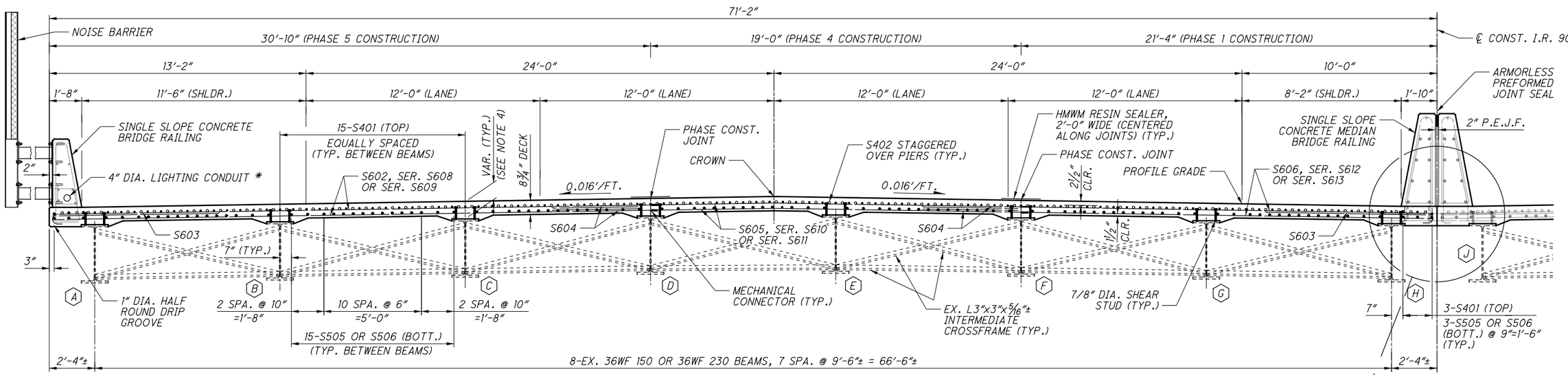
SUPERSTRUCTURE DETAILS - SCREED TABLE 4 OF 4

BRIDGE NO. CUY-90-2410
INTERSTATE ROUTE 90 OVER EAST 140TH STREET

CUY-90-24.10/24.63
PID No. 88348

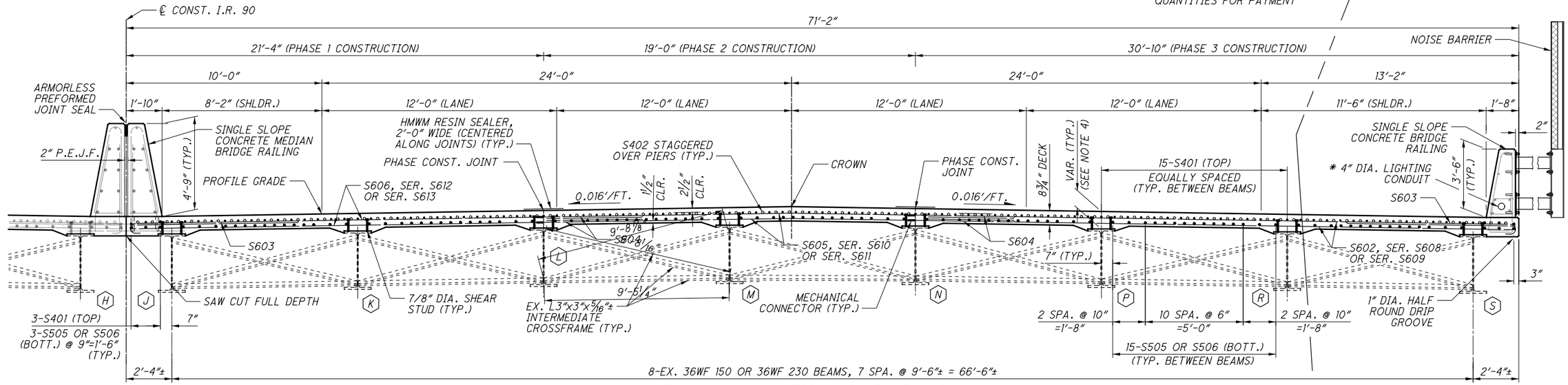
24/42

130/196



TRANSVERSE SECTION (LEFT STRUCTURE)

* INCLUDE WITH ROADWAY QUANTITIES FOR PAYMENT

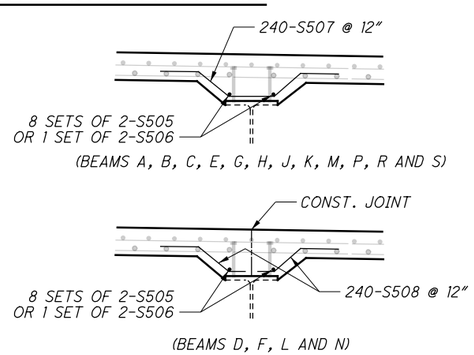


TRANSVERSE SECTION (RIGHT STRUCTURE)

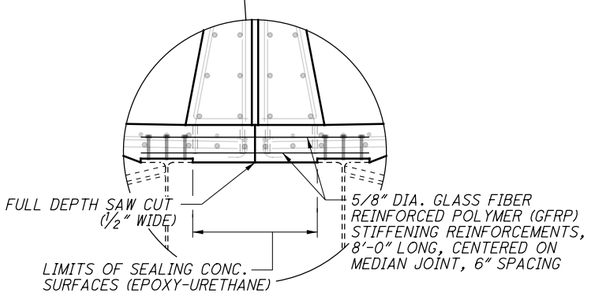
NOTES

1. FOR DECK PLAN, SEE SHEET 26|42 .
2. FOR OUTSIDE AND MEDIAN BRIDGE RAILING DETAILS, SEE SHEETS 27|42 AND 28|42 .
3. FOR BRIDGE MOUNTED NOISE BARRIER DETAILS, SEE SHEETS 35|42 THRU 37|42 .
4. THE ESTIMATED QUANTITY OF DECK SLAB CONCRETE IS BASED ON THE CONSTANT DECK SLAB THICKNESS, AS SHOWN, PLUS THE QUANTITIY OF CONCRETE THAT FORMS EACH BEAM HAUNCH. THE ESTIMATE ASSUMES AN AVERAGE HAUNCH THICKNESS OF 3 INCHES, AND A CONSTANT HAUNCH WIDTH OF 9 INCHES. DEVIATE FROM THIS HAUNCH THICKNESS AS NECESSARY TO PLACE THE DECK SURFACE AT THE FINISHED GRADE. THE ALLOWABLE TOLERANCE FOR THE HAUNCH WIDTH OUTSIDE THE EDGE OF EACH BEAM FLANGE IS ±3 INCHES.

   THE HAUNCH THICKNESS WAS MEASURED AT THE CENTERLINE OF THE BEAM, FROM THE SURFACE OF THE DECK TO THE BOTTOM OF THE TOP FLANGE MINUS THE DECK SLAB THICKNESS. THE AREA OF ALL EMBEDDED STEEL PLATES HAS BEEN DEDUCTED FROM THE HAUNCH QUANTITY IN ACCORDANCE WITH 511.24.
5. MINIMUM BAR LAPS ARE AS FOLLOWS:
6. #4 BAR = 33" #5 BAR = 41"
   #6 BAR = 52" #8 BAR = 87"
7. TRANSVERSE CONSTRUCTION JOINTS SHALL NOT BE PERMITTED IN THE DECK SLAB.
8. FOR SEMI-INTEGRAL ABUTMENT DIAPHRAGM DETAILS, SEE SHEETS 18|42 AND 20|42 .



HAUNCH REINFORCING DETAILS



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TRANSVERSE SECTION
BRIDGE NO. CUY-90-2410
INTERSTATE ROUTE 90 OVER EAST 140TH STREET

CUY-90-24.10/24.63
PID No. 88348

25 | 42

131 | 196

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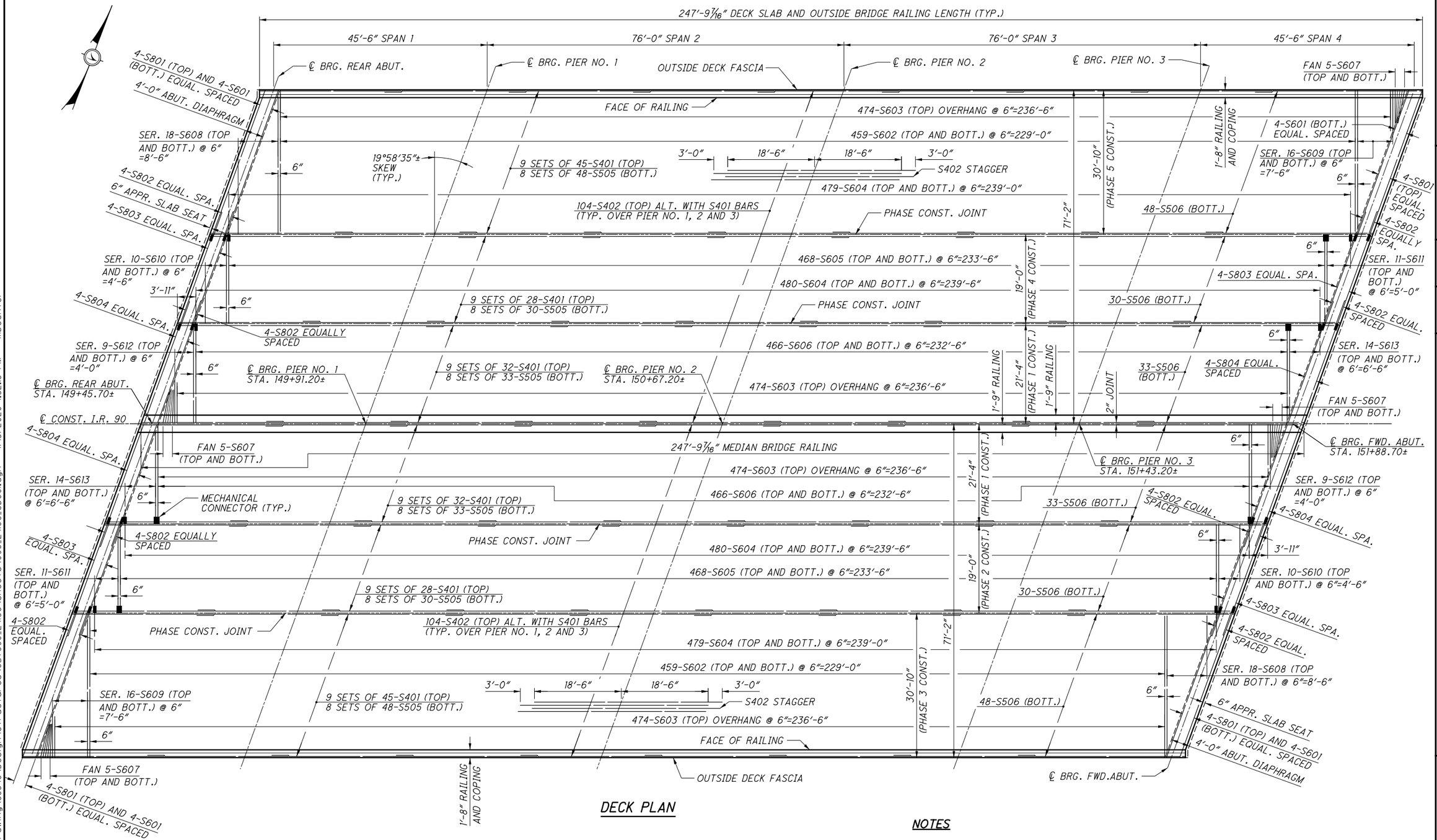

DECK PLAN

NOTES

1. MINIMUM BAR LAPS ARE AS FOLLOWS:

   #4 BAR = 33" #5 BAR = 41"
   #6 BAR = 52" #8 BAR = 87"

2. TRANSVERSE CONSTRUCTION JOINTS SHALL NOT BE PERMITTED IN THE DECK SLAB.

3. FOR SEMI-INTEGRAL ABUTMENT DIAPHRAGM DETAILS, SEE SHEETS 18|42 THRU 20|42 .

4. FOR TRANSVERSE SECTION INCLUDING LONGITUDINAL BAR SPACING, SEE SHEET 25|42 .

5. FOR OUTSIDE AND MEDIAN BRIDGE RAILING DETAILS, SEE SHEET 27|42 AND 28|42 .

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DECK PLAN
BRIDGE NO. CUY-90-2410
INTERSTATE ROUTE 90 OVER EAST 140TH STREET

CUY-90-24.10/ 24.63
PID No. 88348

26 / 42

132 / 196

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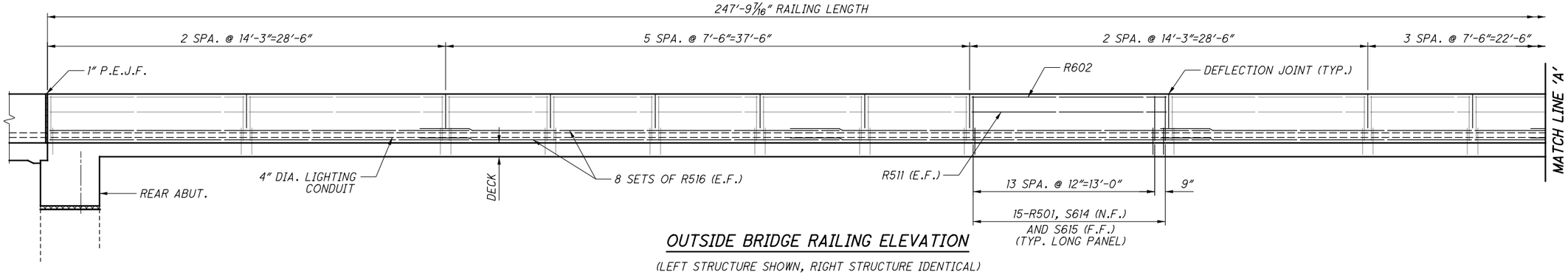
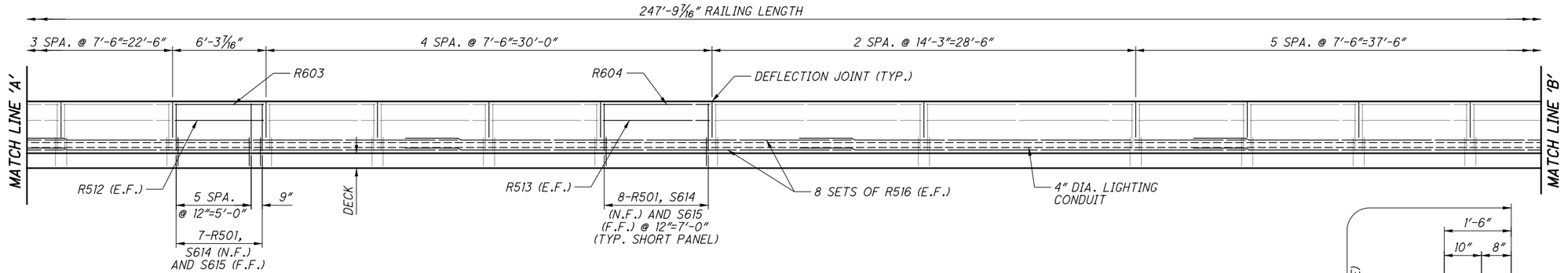


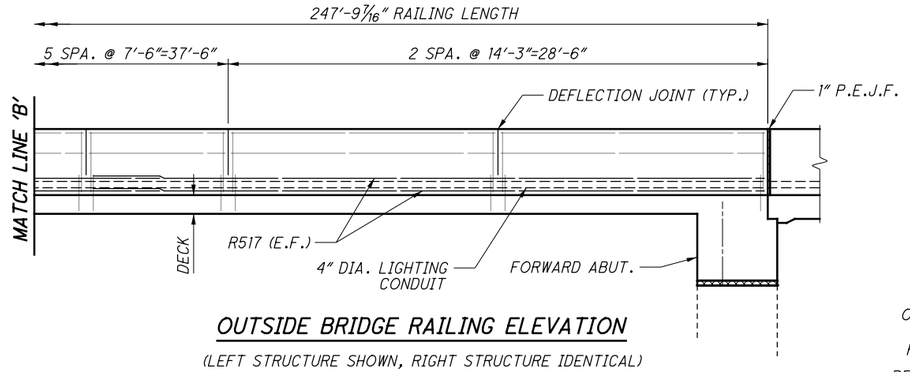
OUTSIDE BRIDGE RAILING ELEVATION

(LEFT STRUCTURE SHOWN, RIGHT STRUCTURE IDENTICAL)



OUTSIDE BRIDGE RAILING ELEVATION

(LEFT STRUCTURE SHOWN, RIGHT STRUCTURE IDENTICAL)



OUTSIDE BRIDGE RAILING ELEVATION

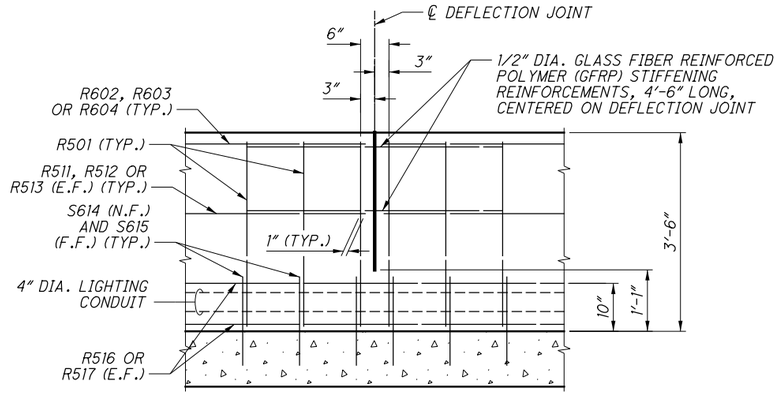
(LEFT STRUCTURE SHOWN, RIGHT STRUCTURE IDENTICAL)

NOTES

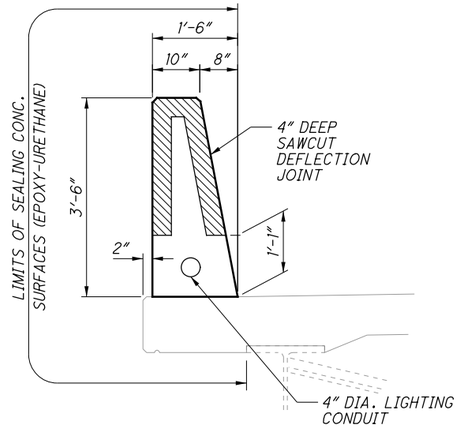
1. MINIMUM BAR LAP IS AS FOLLOWS:

   #5 BAR = 41"

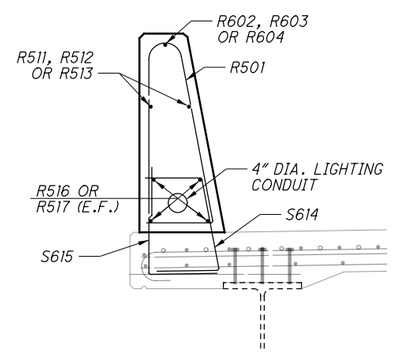
2. FOR TRANSVERSE SECTION, SEE SHEET 25 | 42 .
3. FOR SLAB PLAN, SEE SHEET 26 | 42 .
4. FOR ADDITIONAL BRIDGE RAILING DETAILS, SEE STANDARD DRAWING SBR-1-13.



RAILING DEFLECTION JOINT DETAIL



DEFLECTION JOINT DETAIL



OUTSIDE BRIDGE RAILING SECTION

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RAILING DETAILS 1 OF 2
BRIDGE NO. CUY-90-2410
INTERSTATE ROUTE 90 OVER EAST 140TH STREET

CUY-90-24.10/24.63
PID No. 88348

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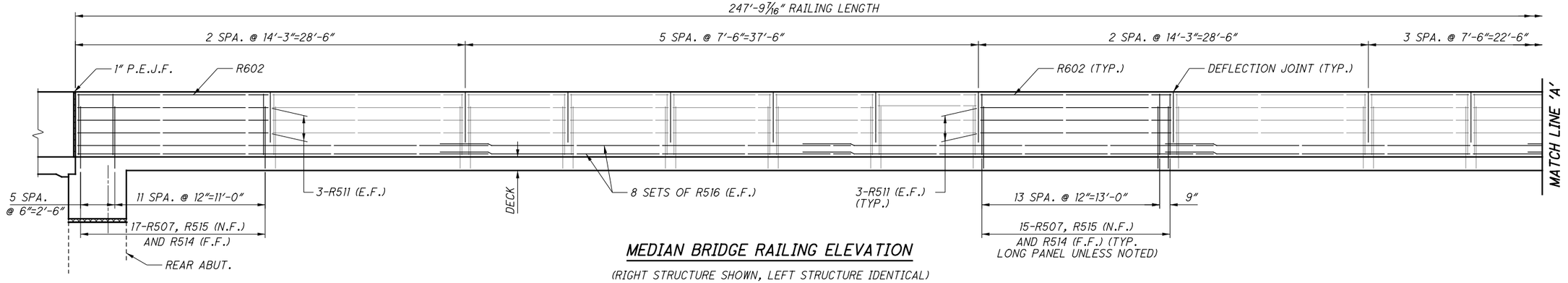
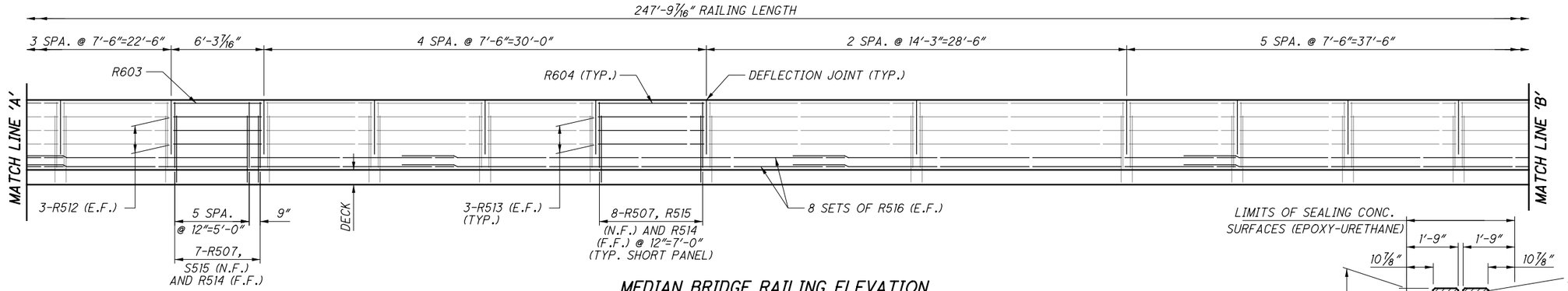


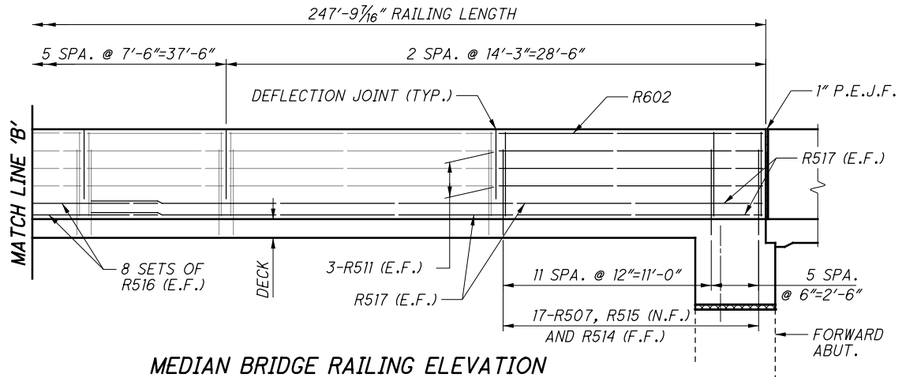
MEDIAN BRIDGE RAILING ELEVATION

(RIGHT STRUCTURE SHOWN, LEFT STRUCTURE IDENTICAL)



MEDIAN BRIDGE RAILING ELEVATION

(RIGHT STRUCTURE SHOWN, LEFT STRUCTURE IDENTICAL)



MEDIAN BRIDGE RAILING ELEVATION

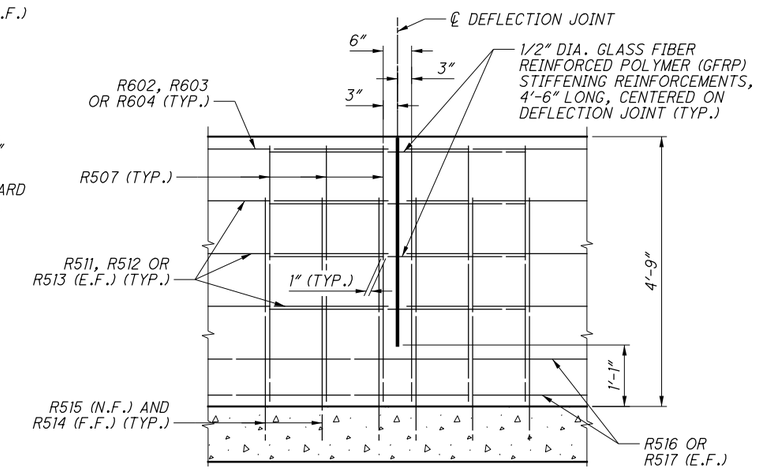
(RIGHT STRUCTURE SHOWN, LEFT STRUCTURE IDENTICAL)

NOTES

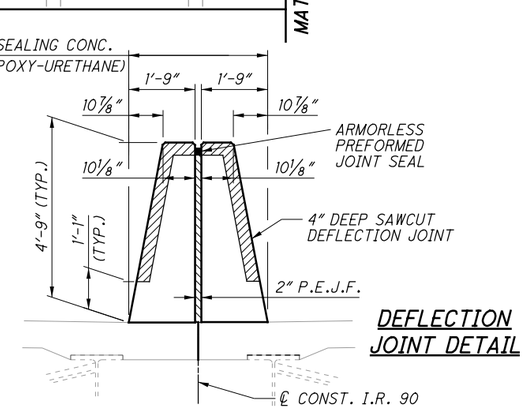
1. MINIMUM BAR LAP IS AS FOLLOWS:

   #5 BAR = 41"

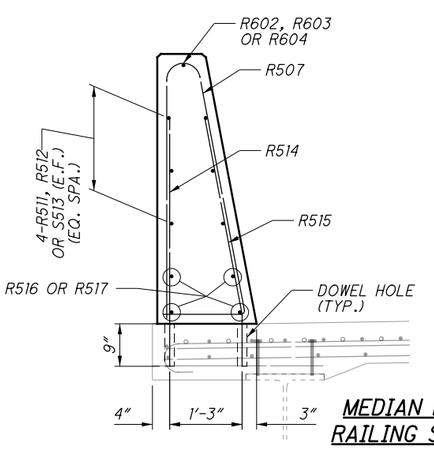
2. FOR TRANSVERSE SECTION, SEE SHEET 25 / 42.
3. FOR SLAB PLAN, SEE SHEET 26 / 42.
4. FOR ADDITIONAL MEDIAN BRIDGE RAILING DETAILS, SEE STANDARD DRAWING SBR-2-13.



MEDIAN RAILING DEFLECTION JOINT DETAIL



DEFLECTION JOINT DETAIL



MEDIAN BRIDGE RAILING SECTION

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RAILING DETAILS 2 OF 2
BRIDGE NO. CUY-90-2410
INTERSTATE ROUTE 90 OVER EAST 140TH STREET

CUY-90-24.10/24.63
PID No. 88348

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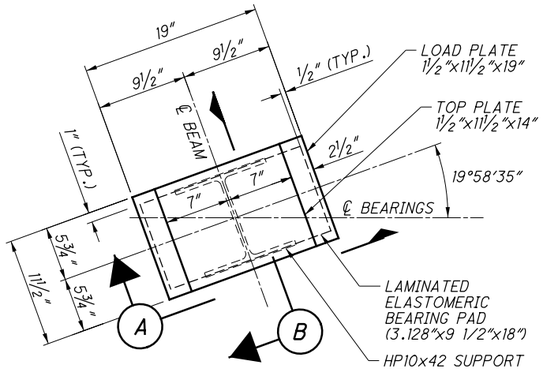
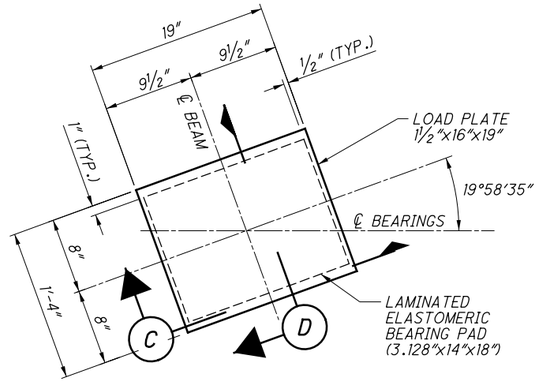


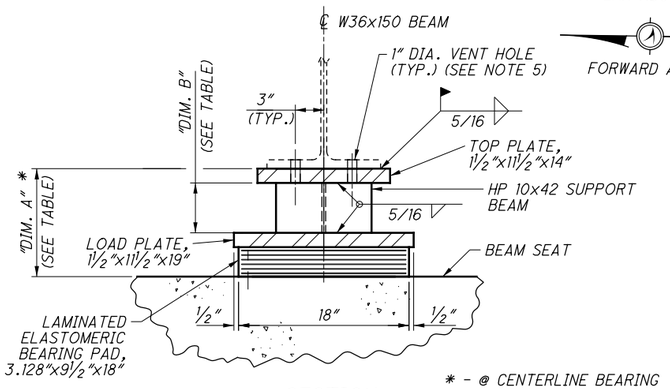
BEARING PLAN
(ABUTMENTS)



BEARING PLAN
(PIERS)

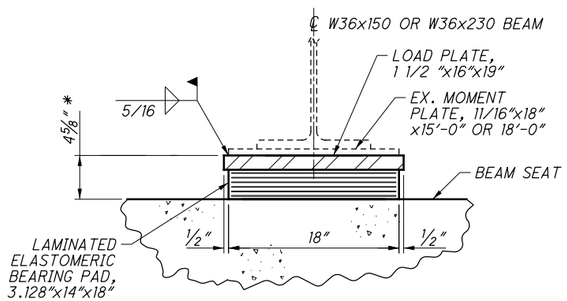
REAR ABUTMENT

FORWARD ABUTMENT

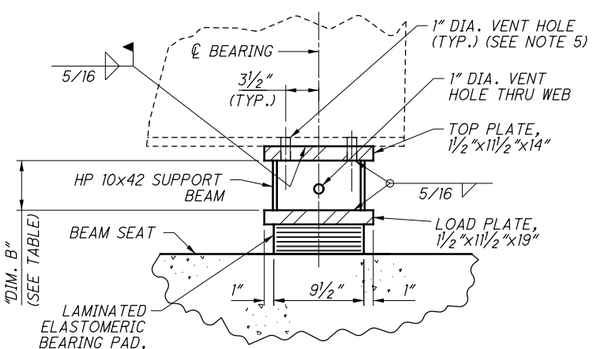


* - @ CENTERLINE BEARING

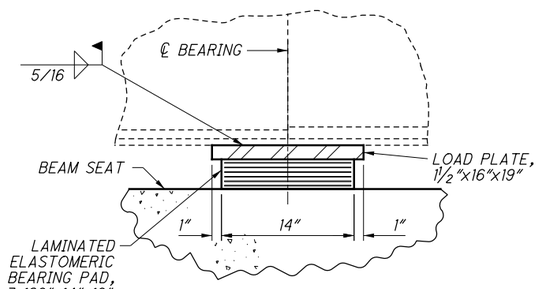
A SECTION



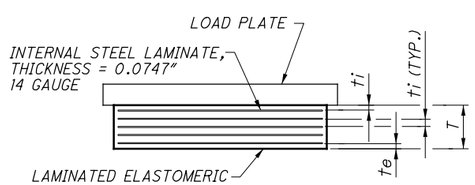
C SECTION



B SECTION



D SECTION



BEARING PAD DETAIL

SUPPORT BEAM TABLE				
BEAM NO.	"DIM. A"		"DIM. B"	
	REAR ABUT.	FORWARD ABUT.	REAR ABUT.	FORWARD ABUT.
A	11 3/4"	1'-0"	5 5/8"	5 7/8"
B	1'-0"	11 5/8"	5 7/8"	5 1/2"
C	1'-0 1/4"	1'-0"	6 1/8"	5 7/8"
D	1'-0 1/4"	11 5/8"	6 1/8"	5 1/2"
E	1'-0 1/8"	1'-0"	6"	5 7/8"
F	1'-0 3/8"	11 1/2"	6 1/4"	5 3/8"
G	1'-0"	11 5/8"	5 7/8"	5 1/2"
H	11 1/2"	11 3/4"	5 3/8"	5 5/8"
J	11 3/8"	11 3/16"	5 1/4"	5 1/16"
K	11 3/8"	11 5/8"	5 1/4"	5 1/2"
L	1'-0"	1'-0"	5 7/8"	5 7/8"
M	11 1/2"	1'-0"	5 3/8"	5 7/8"
N	1'-0"	1'-0"	5 7/8"	5 7/8"
P	11 3/4"	11 5/8"	5 5/8"	5 1/2"
R	1'-0 1/8"	11 5/8"	6"	5 1/2"
S	1'-0"	1'-0 3/8"	5 7/8"	6 1/4"

NOTES

1. ELASTOMERIC BEARINGS: THE ELASTOMER SHALL HAVE A HARDNESS OF 60 DUROMETER. THE BEARINGS WERE DESIGNED UNDER DIVISION I, SECTION 14.6.6.3 (METHOD A) OF THE AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES.
2. THE STEEL LOAD PLATE AND HP10x42 SUPPORT BEAMS SHALL BE ASTM A709, GRADE 50. THE BOTTOM STEEL LOAD PLATE SHALL BE BONDED BY VULCANIZATION TO THE ELASTOMER DURING THE MOLDING PROCESS. WELDING OF THE LOAD PLATE AND THE HP10x42 SUPPORT BEAM SHALL BE CONTROLLED SO THAT THE PLATE TEMPERATURE AT THE ELASTOMER BONDED SURFACE DOES NOT EXCEED 300° F AS DETERMINED BY THE USE OF PYROMETRIC STICKS OR OTHER TEMPERATURE MONITORING DEVICES.
3. ALL BEARINGS SHALL BE MARKED PRIOR TO SHIPPING. THE MARKS SHALL INCLUDE THE BEARING LOCATION ON THE BRIDGE, AND THE DIRECTION ARROW THAT POINTS UP-STATION. ALL MARKS SHALL BE PERMANENT AND VISIBLE AFTER THE BEARING IS INSTALLED.
4. ALL MATERIALS, LABOR AND INCIDENTALS NECESSARY TO FURNISH AND INSTALL ABUTMENT BEARINGS, INCLUDING LOAD PLATES, AND SUPPORT BEAMS, SHALL BE INCLUDED IN ITEM 516, ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE) AS PER PLAN FOR PAYMENT.
5. 1" DIAMETER VENT HOLES IN EXISTING BEAM FLANGE, SHALL BE FIELD DRILLED. FLAME CUTTING OF HOLES IS NOT PERMITTED. FIELD DRILLING SHALL BE INCLUDED WITH ITEM 202, PORTIONS OF STRUCTURE REMOVED, OVER 20' SPAN, AS PER PLAN FOR PAYMENT.
6. FOR ABUTMENT DIAPHRAGM DETAILS SEE SHEETS 18 | 42 THRU 20 | 42 .
7. FOR FRAMING PLANS AND BEAM DETAILS SEE SHEETS 15 | 42 THRU 17 | 42 .
8. BEARING REPOSITIONING: IF THE BEARINGS ARE INSTALLED AT AN AMBIENT TEMPERATURE HIGHER THAN 80° F OR LOWER THAN 40° F AND THE BEARING SHEAR DEFLECTION EXCEEDS 1/6 OF THE BEARING HEIGHT AT 60° F (+/- 10° F), RAISE THE BEAMS TO ALLOW THE BEARINGS TO RETURN TO THEIR UNDEFORMED SHAPE AT 60° F (+/- 10° F).

BEARING DATA								
LOCATION	50 DUROMETER							
	SIZE		(THICKNESS) "DIM. T"	t_i	t_e	NUMBER OF t_i	NUMBER OF t_e	NUMBER OF STEEL LAMINATES
	L	W						
ABUTMENTS	9.5"	18"	3.128"	0.40"	0.28"	6	1	6
PIERS	14"	18"	3.128"	0.40"	0.28"	6	1	6

BEARING LOAD DATA			
LOCATION	DEAD LOAD (KIPS/PAD)	LIVE LOAD (W/O IMPACT) (KIPS/PAD)	DESIGN LOAD (KIPS/PAD)
REAR ABUT.	63.92	50.16	114.08
FORWARD ABUT.	63.92	50.16	114.08
PIER NO. 1	133.06	63.86	196.92
PIER NO. 2	166.84	70.24	234.08
PIER NO. 3	133.06	63.86	196.92

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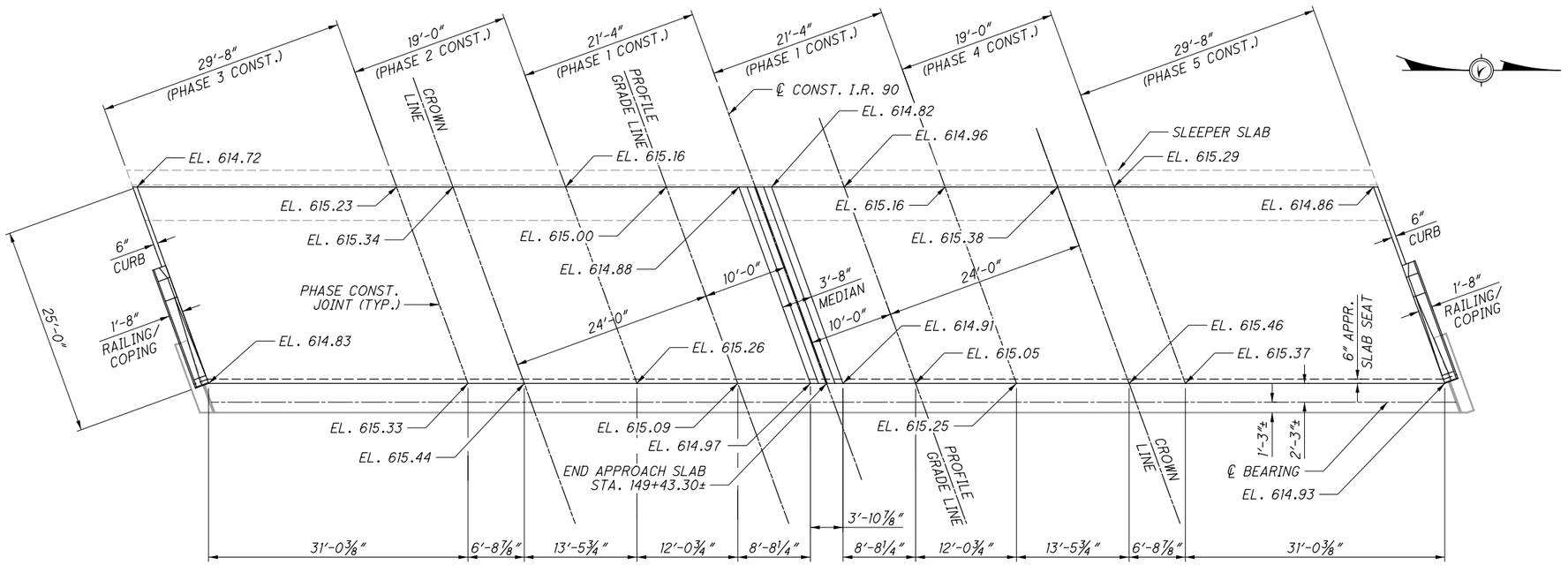
BEARING DETAILS
BRIDGE NO. CUY-90-2410
INTERSTATE ROUTE 90 OVER EAST 140TH STREET

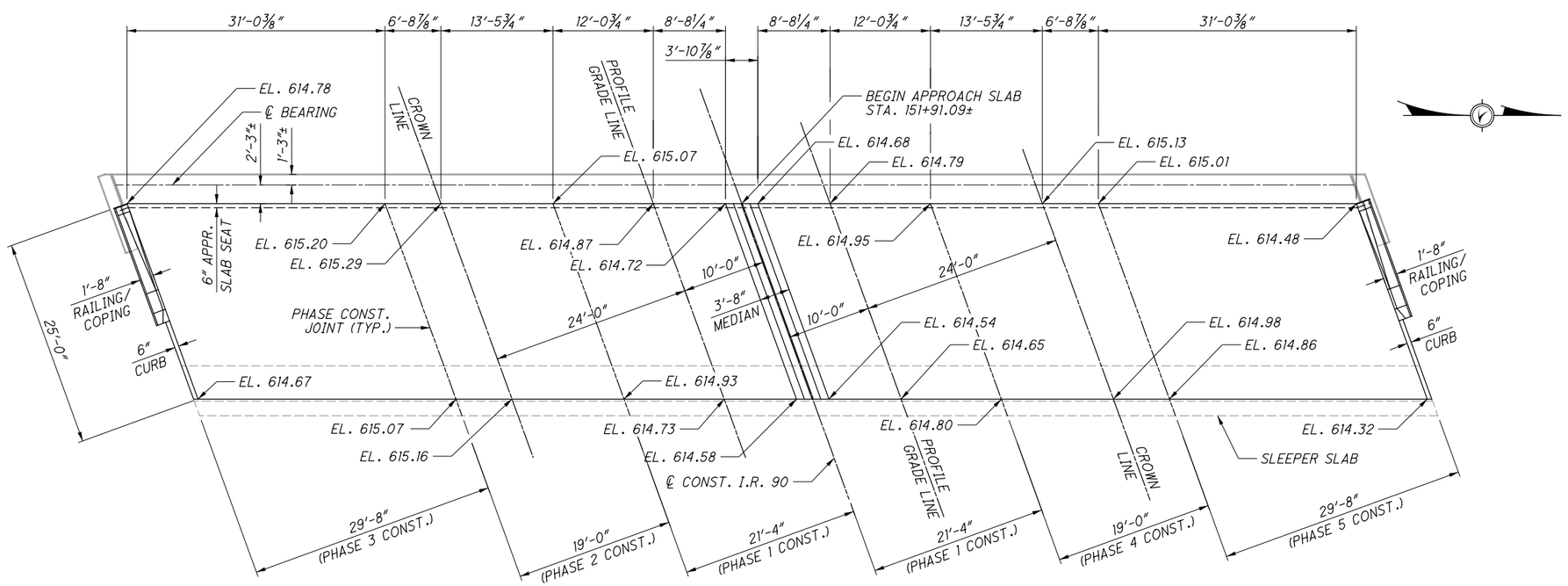
CUY-90-24.10/24.63
PID No. 88348



REAR APPROACH SLAB ELEVATION PLAN

NOTES

1. FOR APPROACH SLAB REINFORCING, SEE SHEETS 31 | 42 THRU 34 | 42 .
2. ALL ELEVATIONS ARE LOCATED AT TOP OF APPROACH SLAB.
3. FOR STAGE CONSTRUCTION DETAILS INCLUDING LOCATION AND ANCHORAGE REQUIREMENTS FOR PORTABLE CONCRETE BARRIERS, SEE SHEETS 6 | 42 THRU 9 | 42 .



FORWARD APPROACH SLAB ELEVATION PLAN

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APPROACH SLAB DETAILS 1 OF 5
BRIDGE NO. CUY-90-2410
INTERSTATE ROUTE 90 OVER EAST 140TH STREET

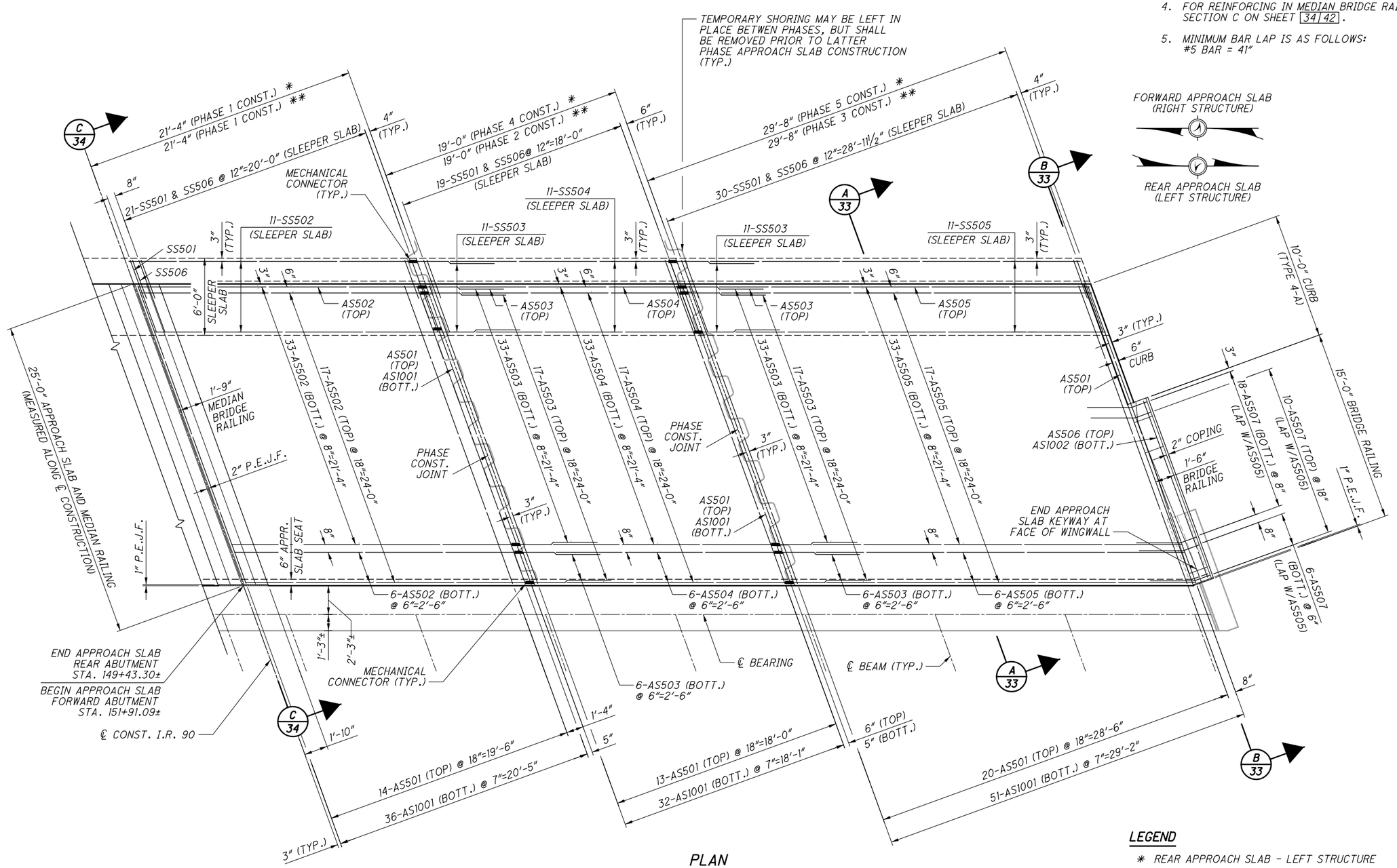
CUY-90-24.10/24.63
PID No. 88348

30 | 42

136
196

NOTES

1. FOR ADDITIONAL APPROACH SLAB DETAILS, SEE STANDARD DRAWINGS AS-1-15 AND AS-2-15.
2. FOR APPROACH SLAB ELEVATIONS AND ADDITIONAL DIMENSIONING, SEE SHEET 30/42.
3. FOR REINFORCING IN OUTSIDE BRIDGE RAILING, SEE SECTION B ON SHEET 33/42.
4. FOR REINFORCING IN MEDIAN BRIDGE RAILING, SEE SECTION C ON SHEET 34/42.
5. MINIMUM BAR LAP IS AS FOLLOWS: #5 BAR = 41"



FORWARD APPROACH SLAB (RIGHT STRUCTURE)

REAR APPROACH SLAB (LEFT STRUCTURE)

PLAN

(REAR APPROACH SLAB - LEFT STRUCTURE SHOWN, FORWARD APPROACH SLAB - RIGHT STRUCTURE SIMILAR)

LEGEND

* REAR APPROACH SLAB - LEFT STRUCTURE

** FORWARD APPROACH SLAB - RIGHT STRUCTURE

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APPROACH SLAB DETAILS 2 OF 5
BRIDGE NO. CUY-90-2410
INTERSTATE ROUTE 90 OVER EAST 140TH STREET

CUY-90-24.10/24.63
PID No. 88348

31/42

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196

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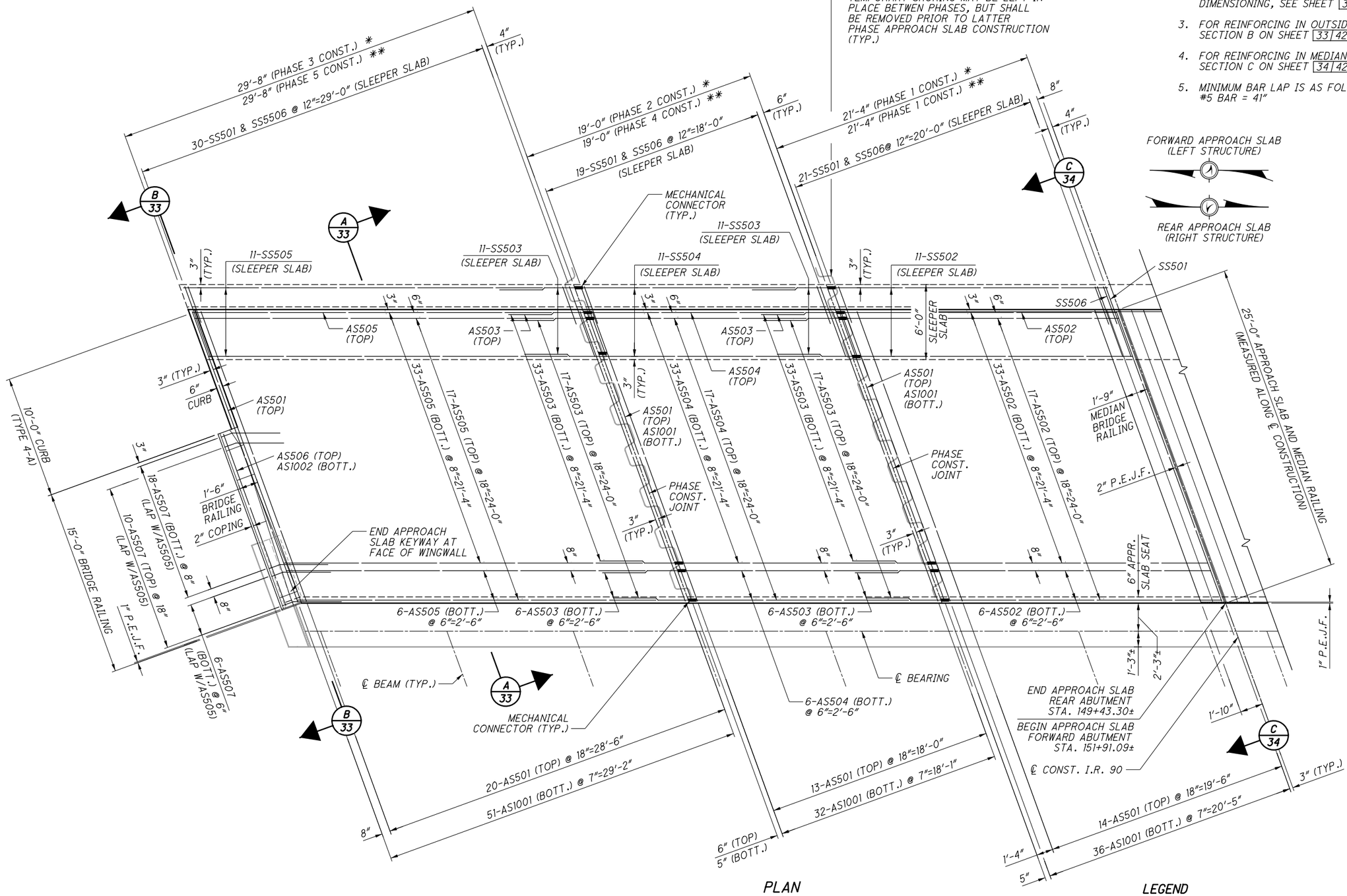
NOTES

1. FOR ADDITIONAL APPROACH SLAB DETAILS, SEE STANDARD DRAWINGS AS-1-15 AND AS-2-15.
2. FOR APPROACH SLAB ELEVATIONS AND ADDITIONAL DIMENSIONING, SEE SHEET 30|42.
3. FOR REINFORCING IN OUTSIDE BRIDGE RAILING, SEE SECTION B ON SHEET 33|42.
4. FOR REINFORCING IN MEDIAN BRIDGE RAILING, SEE SECTION C ON SHEET 34|42.
5. MINIMUM BAR LAP IS AS FOLLOWS: #5 BAR = 41"



PLAN

(REAR APPROACH SLAB - RIGHT STRUCTURE SHOWN, FORWARD APPROACH SLAB - LEFT STRUCTURE SIMILAR)

LEGEND

* REAR APPROACH SLAB - RIGHT STRUCTURE

** FORWARD APPROACH SLAB - LEFT STRUCTURE

DESIGN AGENCY
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ARCADIS U.S., Inc.
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RJB	MPB	RBB	8/17/18
CHECKED	REVISED	STRUCTURE FILE NUMBER	
FJG		1808672	

APPROACH SLAB DETAILS 3 OF 5

BRIDGE NO. CUY-90-2410

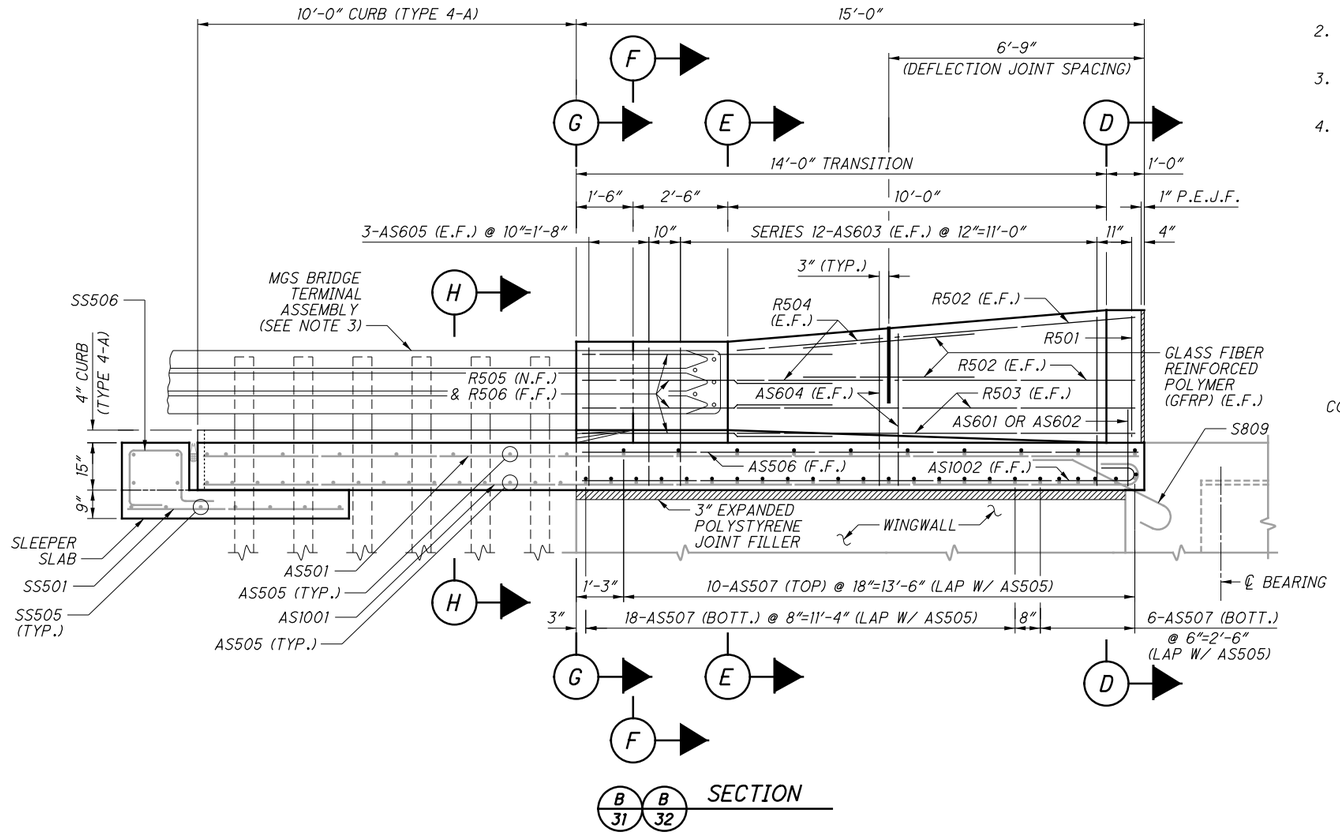
INTERSTATE ROUTE 90 OVER EAST 140TH STREET

CUY-90-24.10/24.63

PID No. 88348

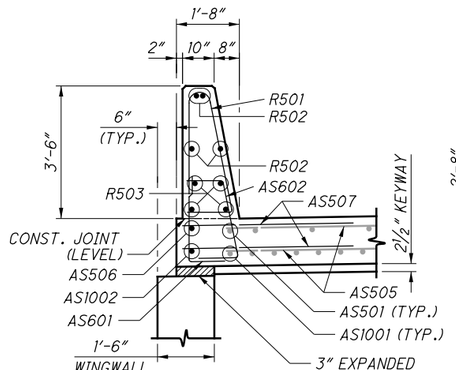
32 | 42

138
196

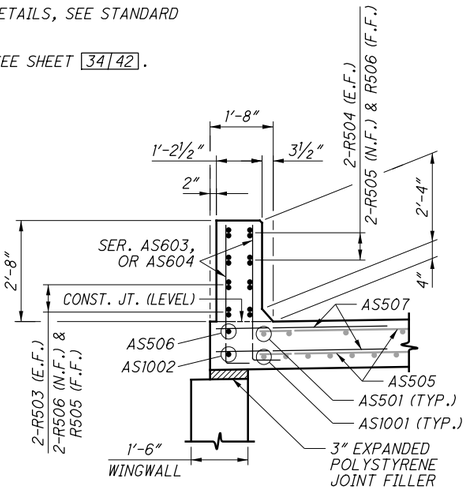


NOTES

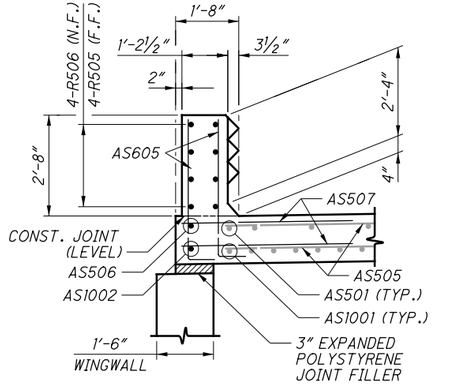
1. FOR ADDITIONAL APPROACH SLAB DETAILS, SEE STANDARD DRAWINGS AS-1-15 AND AS-2-15.
2. FOR ADDITIONAL SINGLE SLOPE CONCRETE BRIDGE RAILING DETAILS, SEE STANDARD DRAWING SBR-1-13.
3. FOR MGS BRIDGE TERMINAL ASSEMBLY, NOTES AND DETAILS, SEE STANDARD DRAWINGS MGS-3.1 AND MGS-3.2.
4. FOR OUTSIDE RAILING DEFLECTION JOINT DETAIL, SEE SHEET 34 | 42 .



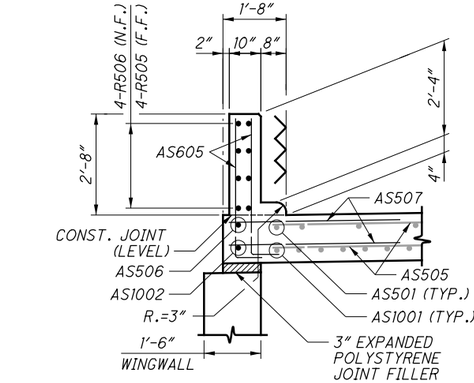
D SECTION



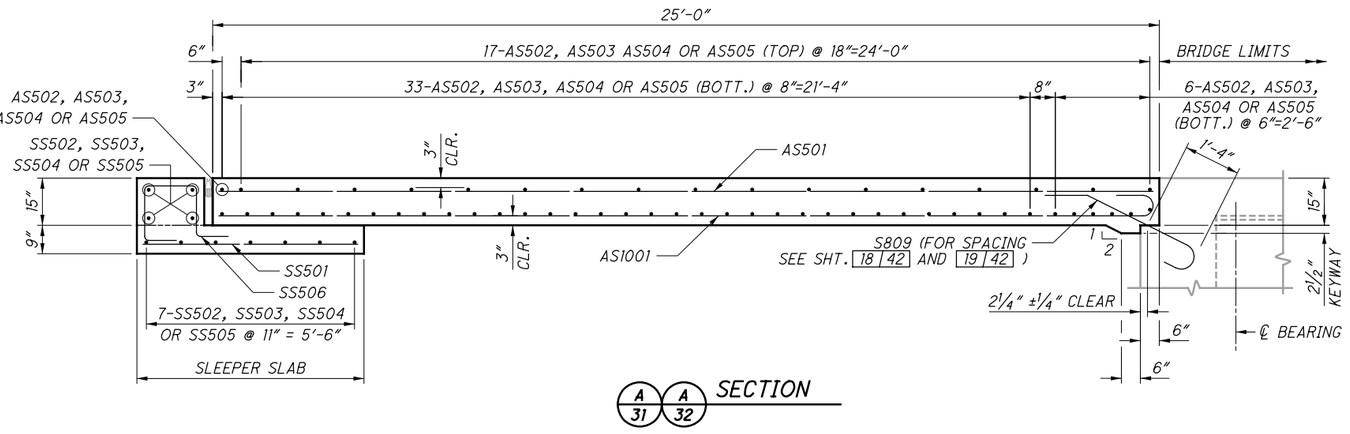
E SECTION

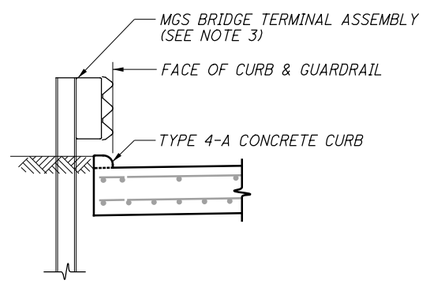


F SECTION

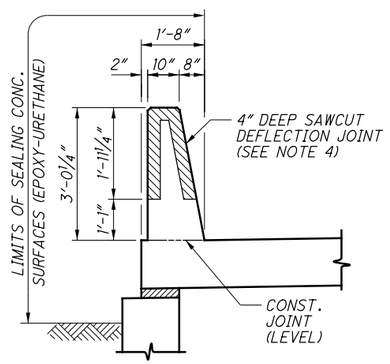


G SECTION





H SECTION



OUTSIDE RAILING DETAIL

DESIGN AGENCY
ARCADIS
ARCADIS U.S., Inc.
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DESIGNED RJB | DRAWN MPB | CHECKED FJG | REVIEWED RBB | DATE 8/17/18
REVISED | STRUCTURE FILE NUMBER 1808672

APPROACH SLAB DETAILS 4 OF 5
BRIDGE NO. CUY-90-2410
INTERSTATE ROUTE 90 OVER EAST 140TH STREET

CUY-90-24.10/24.63
PID No. 88348

33 / 42

139 / 196

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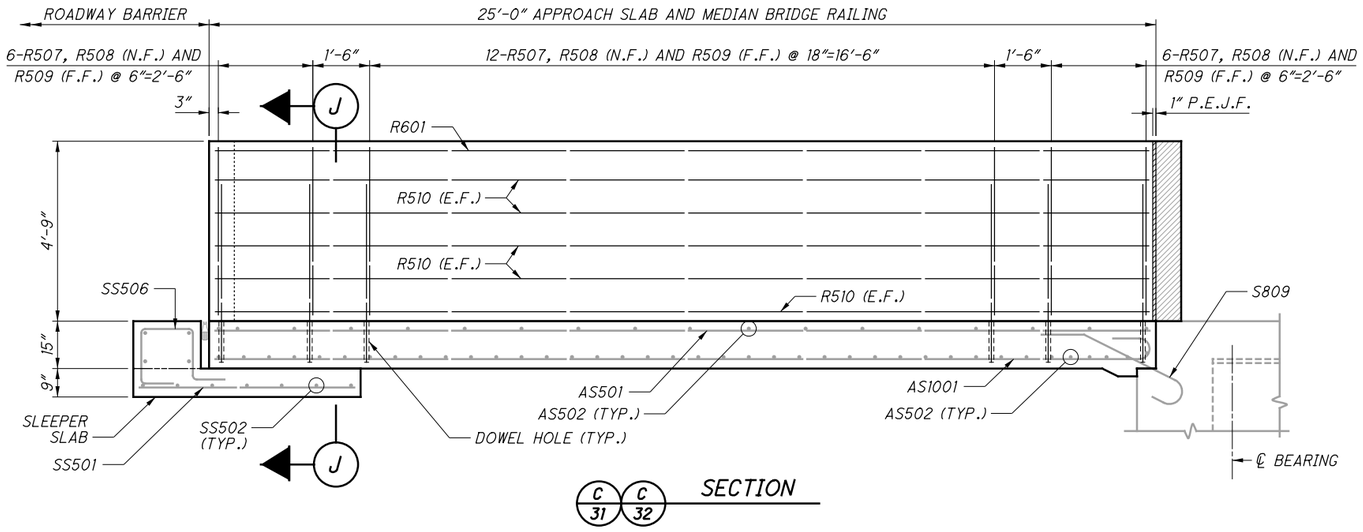
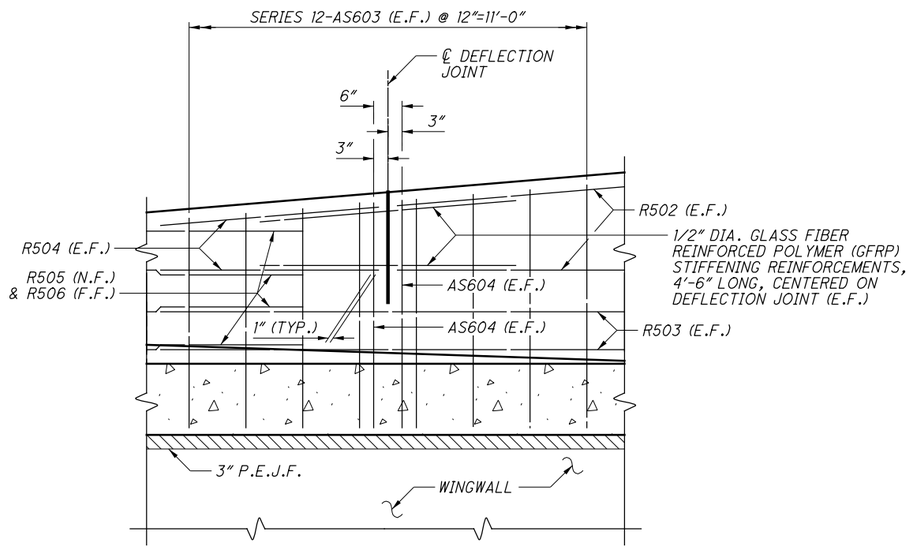


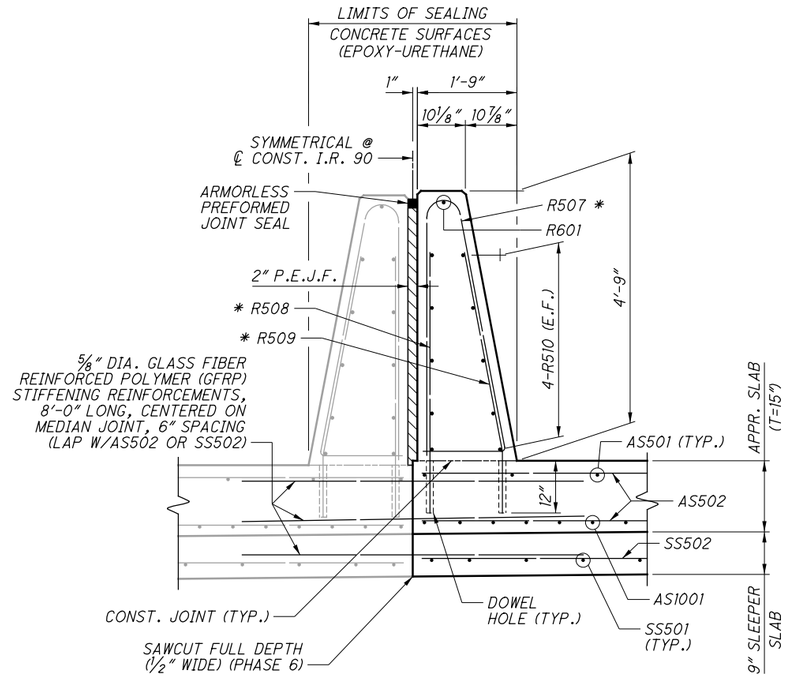
C 31 C 32 SECTION

NOTES

1. FOR ADDITIONAL APPROACH SLAB DETAILS, SEE STANDARD DRAWINGS AS-1-15 AND AS-2-15.
2. FOR ADDITIONAL SINGLE SLOPE MEDIAN BRIDGE RAILING DETAILS, SEE STANDARD DRAWING SBR-2-13.
3. FOR STAGED CONSTRUCTION DETAILS AND NOTES, SEE SHEETS 6 | 42 THRU 9 | 42 .



OUTSIDE RAILING DEFLECTION JOINT DETAIL



J SECTION

* - REINFORCING TO BE PLACE IN SKEW PARALLEL TO ℄ BEARING

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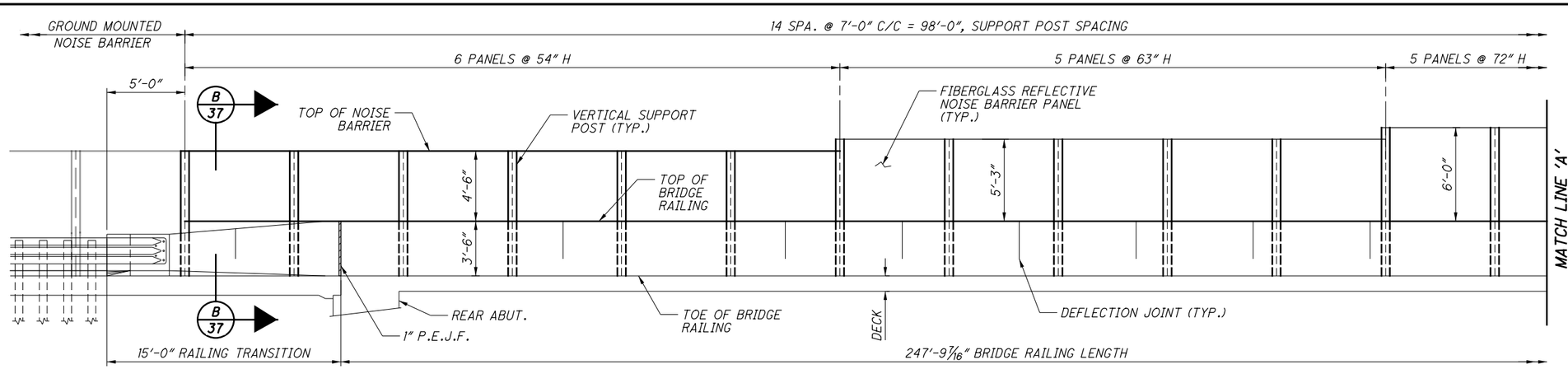
FJG		1808672	

APPROACH SLAB DETAILS 5 OF 5
BRIDGE NO. CUY-90-2410
INTERSTATE ROUTE 90 OVER EAST 140TH STREET

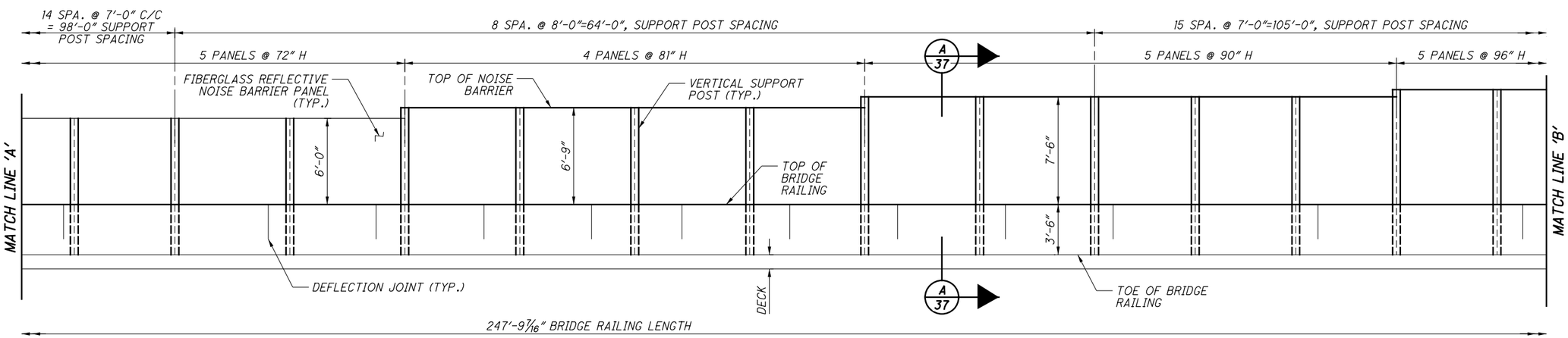
CUY-90-24.10/24.63
PID No. 88348

34 | 42

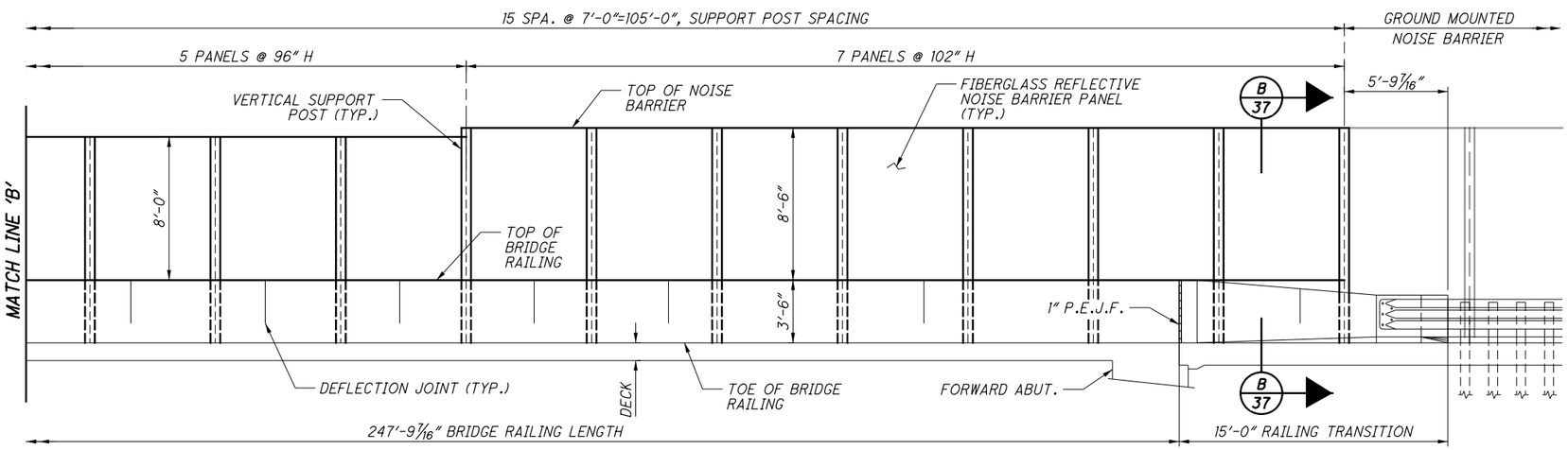
140
196



BRIDGE MOUNTED NOISE BARRIER ELEVATION - LEFT STRUCTURE



BRIDGE MOUNTED NOISE BARRIER ELEVATION - LEFT STRUCTURE



BRIDGE MOUNTED NOISE BARRIER ELEVATION - LEFT STRUCTURE

NOTES

1. FOR ADDITIONAL BRIDGE MOUNTED NOISE BARRIER DETAILS AND NOTES, SEE SHEETS 36|42 AND 38|42.
2. FOR GROUND MOUNTED NOISE BARRIER DETAILS, SEE SHEETS 38|42 AND 39|42.

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FJG		1808672	

MISCELLANEOUS DETAILS - NOISE BARRIER 1 OF 5
BRIDGE NO. CUY-90-2410
INTERSTATE ROUTE 90 OVER EAST 140TH STREET

CUY-90-24.10/24.63
PID No. 88348

35 / 42

141 / 196

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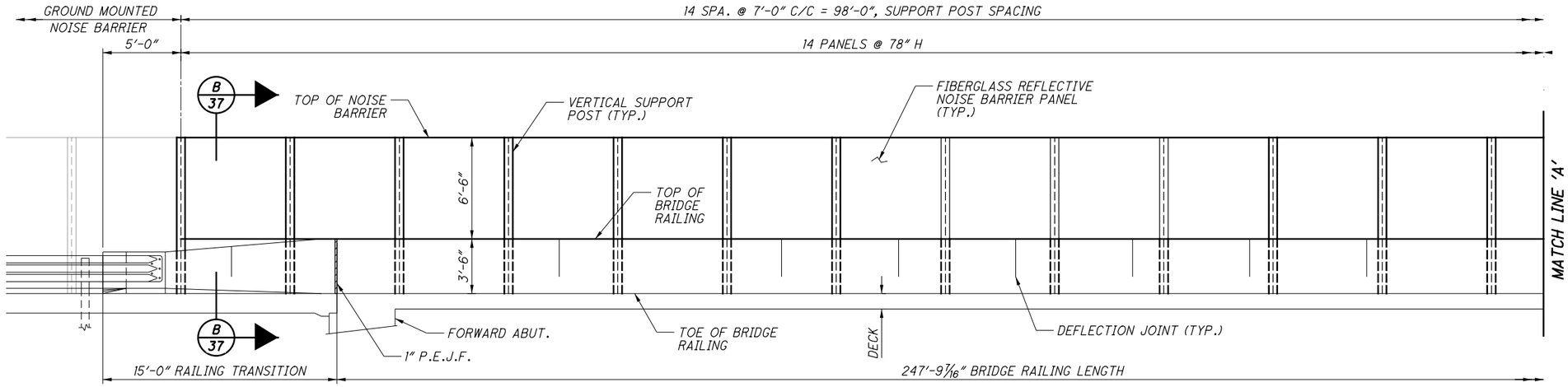
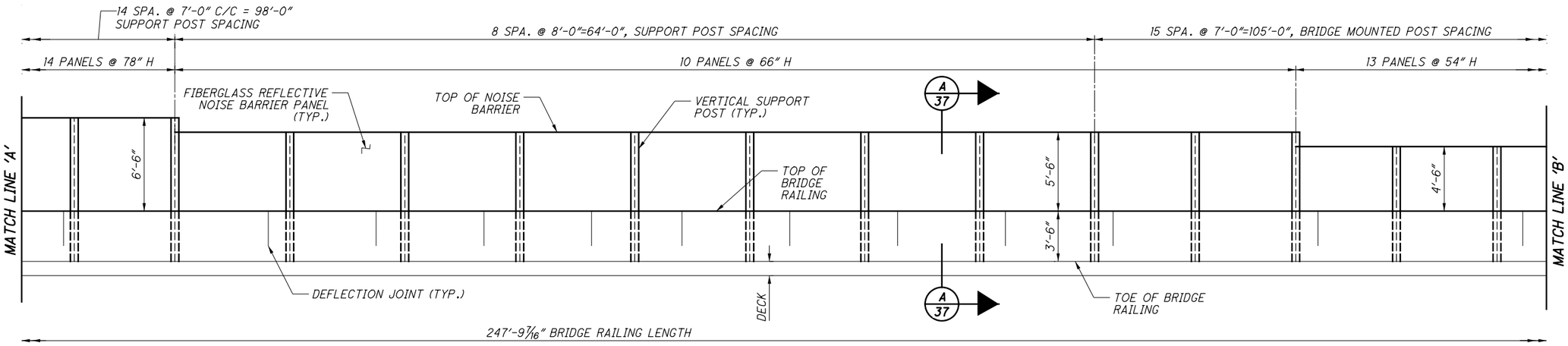
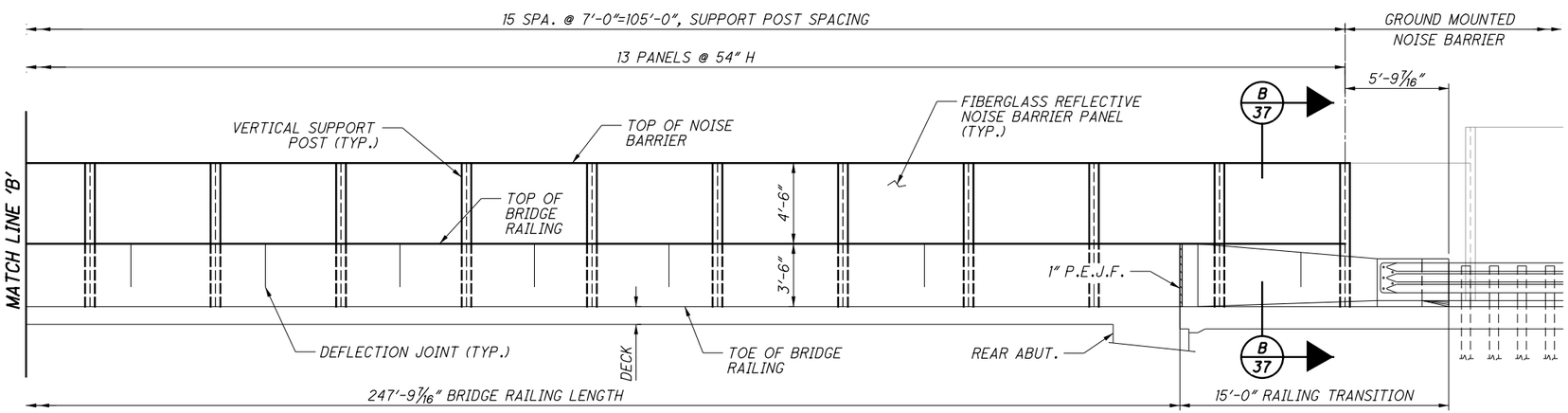


BRIDGE MOUNTED NOISE BARRIER ELEVATION - RIGHT STRUCTURE



BRIDGE MOUNTED NOISE BARRIER ELEVATION - RIGHT STRUCTURE



BRIDGE MOUNTED NOISE BARRIER ELEVATION - RIGHT STRUCTURE

NOTES

1. FOR ADDITIONAL BRIDGE MOUNTED NOISE BARRIER DETAILS AND NOTES, SEE SHEETS 35|42 AND 38|42.
2. FOR GROUND MOUNTED NOISE BARRIER DETAILS, SEE SHEETS 38|42 AND 39|42.

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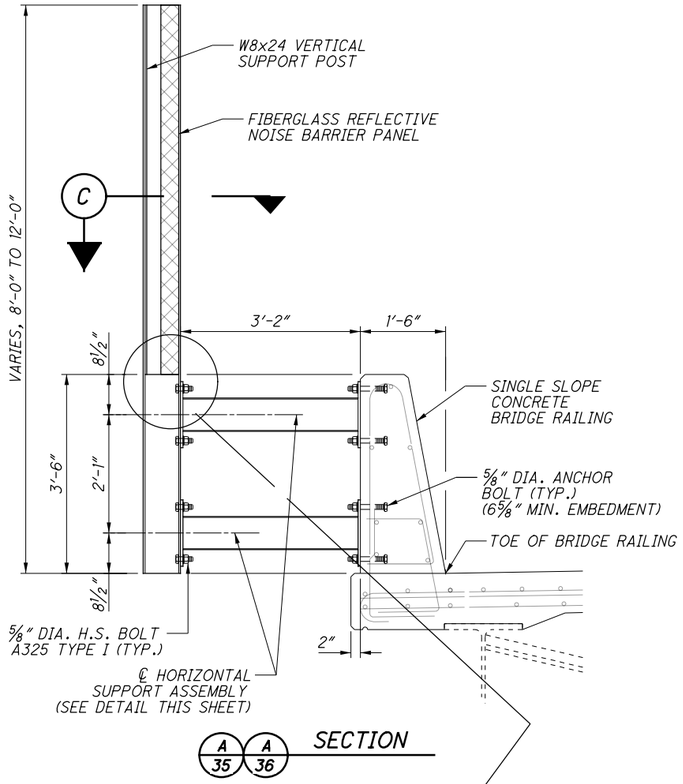
FJG		1808672	

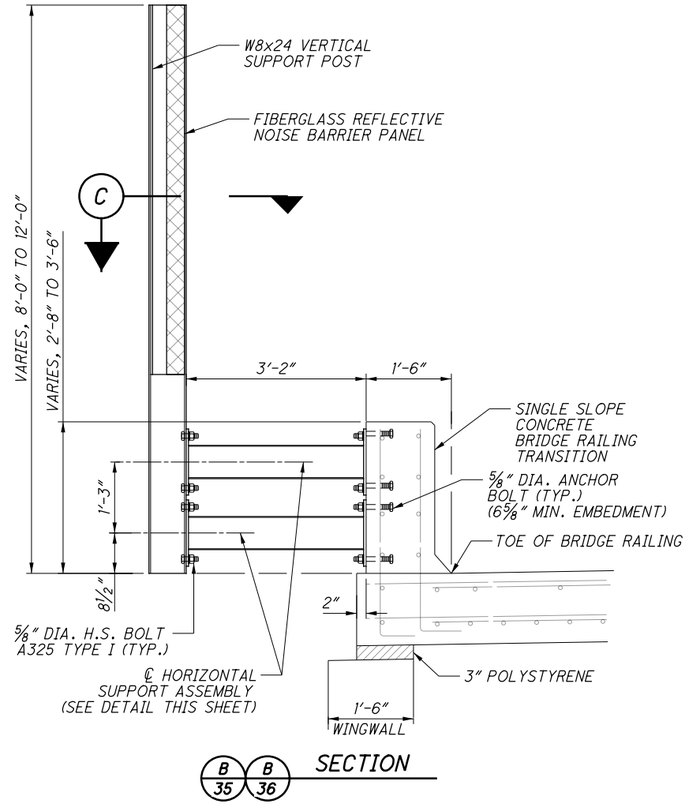
MISCELLANEOUS DETAILS - NOISE BARRIER 2 OF 5

BRIDGE NO. CUY-90-2410
INTERSTATE ROUTE 90 OVER EAST 140TH STREET

CUY-90-24.10/24.63
PID No. 88348



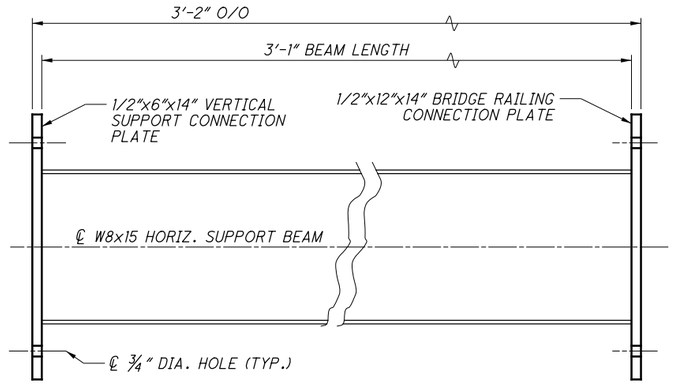
A/35 A/36 SECTION



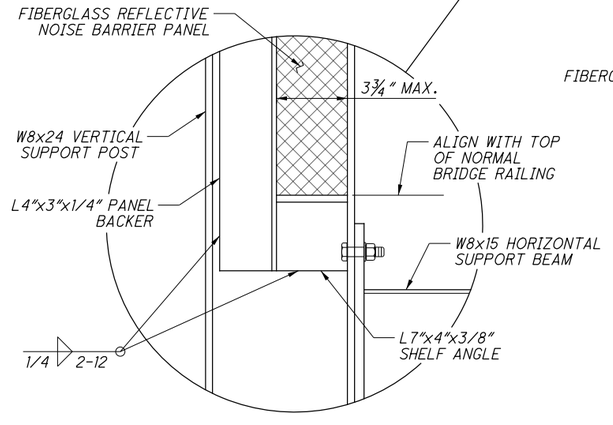
B/35 B/36 SECTION

NOTES

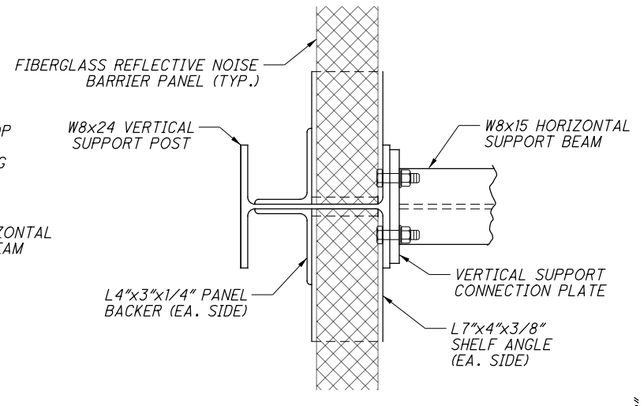
1. THE NOISE BARRIER SUPPORT ASSEMBLY SHALL BE ANCHORED TO THE CONCRETE PARAPET USING ⅝" DIA. HEAVY HEX HEAD ASTM F 1554 GRADE 55 ANCHOR BOLTS. ANCHOR BOLTS SHALL BE CAST IN PLACE.
2. FIBERGLASS REFLECTIVE NOISE BARRIER SYSTEM TO BE PER THE SELECTED NOISE BARRIER MANUFACTURER'S SPECIFICATIONS.



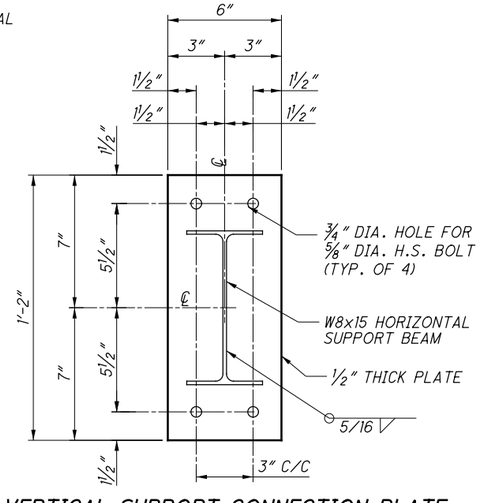
HORIZONTAL SUPPORT ASSEMBLY



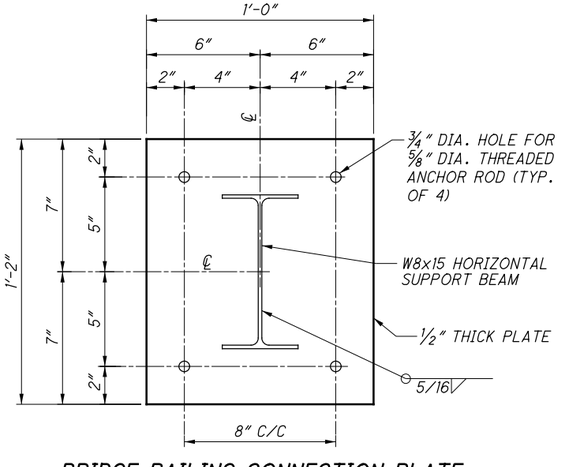
NOISE BARRIER SUPPORT DETAIL



C VIEW



VERTICAL SUPPORT CONNECTION PLATE



BRIDGE RAILING CONNECTION PLATE

DESIGN AGENCY
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FJG		1808672	

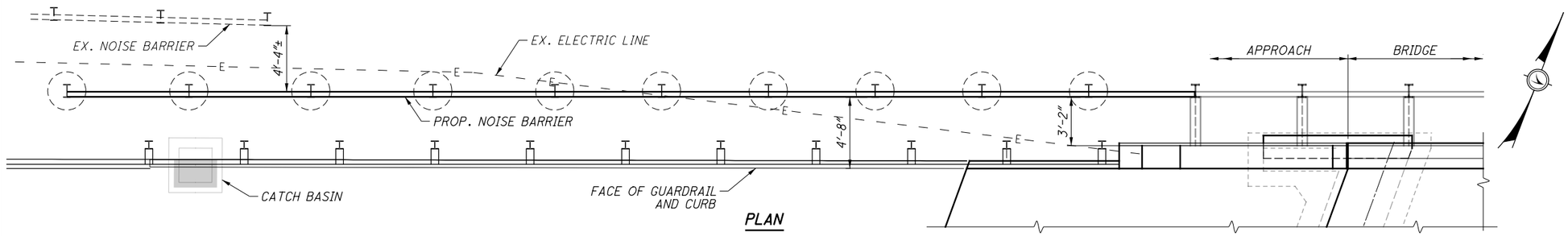
MISCELLANEOUS DETAILS - NOISE BARRIER 3 OF 5

BRIDGE NO. CUY-90-2410
INTERSTATE ROUTE 90 OVER EAST 140TH STREET

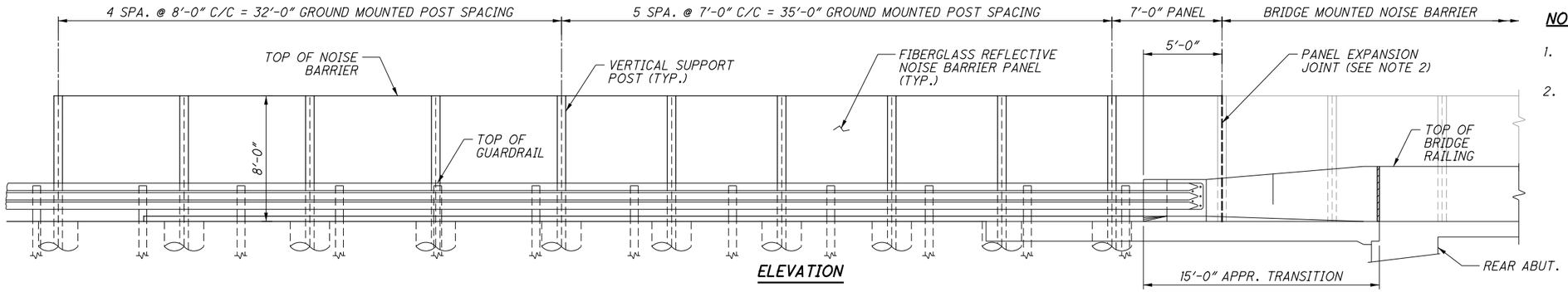
CUY-90-24.10/24.63
PID No. 88348

37/42

143/196



PLAN

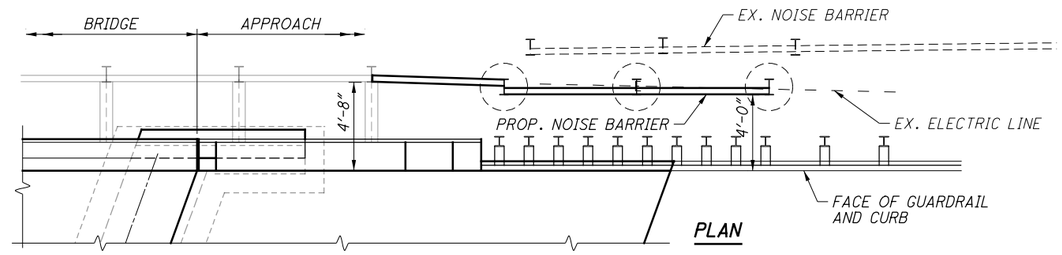


ELEVATION

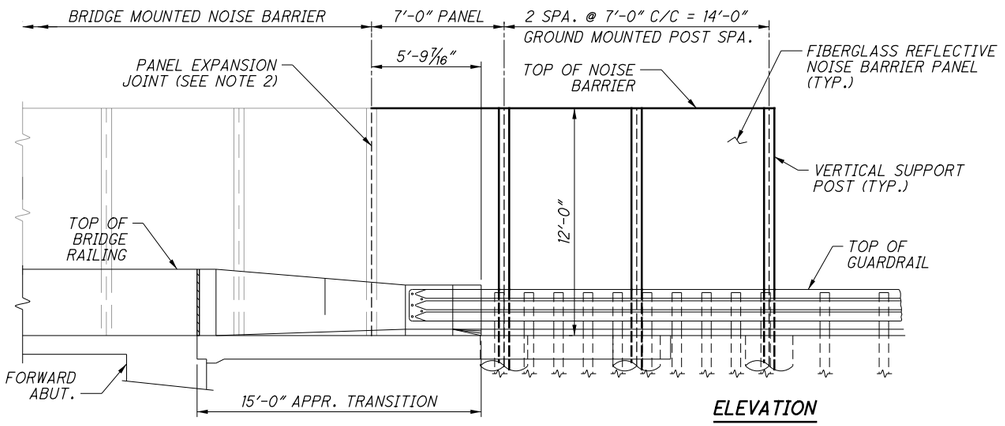
NOTES

1. FOR BRIDGE MOUNTED NOISE BARRIER DETAILS, SEE SHEETS 35|42 THRU 37|42 .
2. NOISE BARRIER MANUFACTURER SHALL ALLOW FOR A PANEL EXPANSION BETWEEN BRIDGE MOUNTED AND GROUND MOUNTED BARRIER.

GROUND MOUNTED NOISE BARRIER - NORTHWEST APPROACH (W.B.)

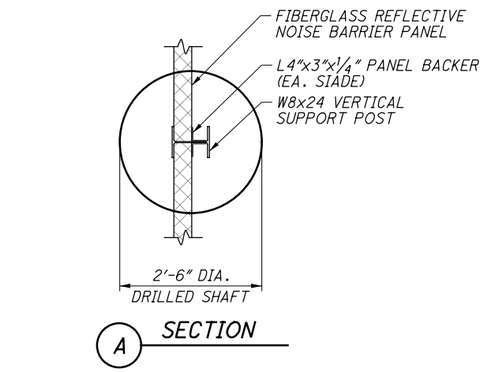


PLAN

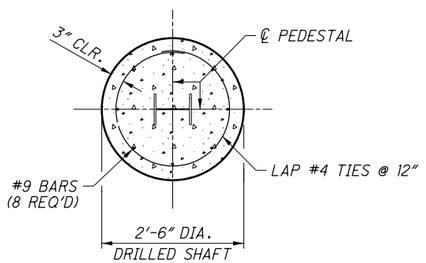


ELEVATION

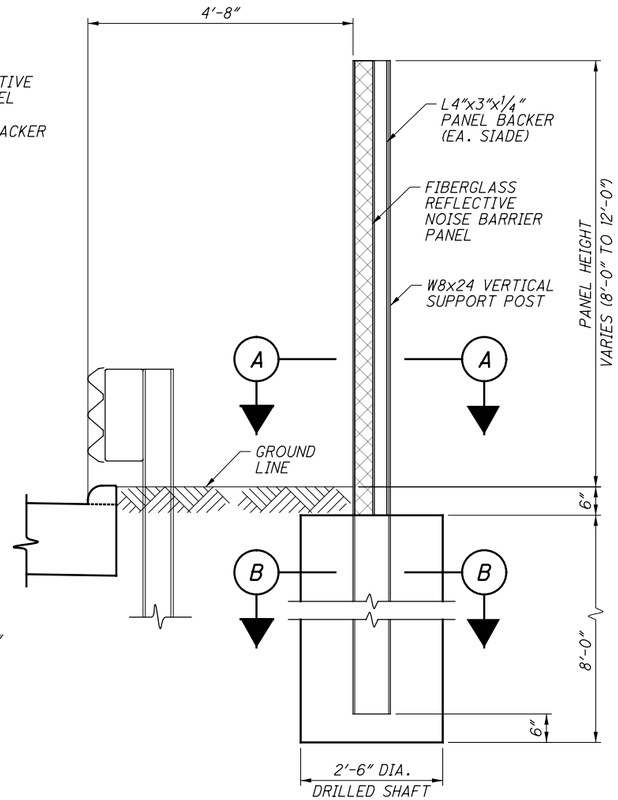
GROUND MOUNTED NOISE BARRIER - NORTHEAST APPROACH (W.B.)



A SECTION



B SECTION



GROUND MOUNTED POST SECTION

DESIGN AGENCY
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DESIGNED RJB | DRAWN CAF | REVIEWED RBB | DATE 8/17/18 | STRUCTURE FILE NUMBER 1808672 | CHECKED FJG | REVISED

MISCELLANEOUS DETAILS - NOISE BARRIER 4 OF 5
BRIDGE NO. CUY-90-2410
INTERSTATE ROUTE 90 OVER EAST 140TH STREET

CUY-90-24.10/24.63
PID No. 88348

38|42

144
196

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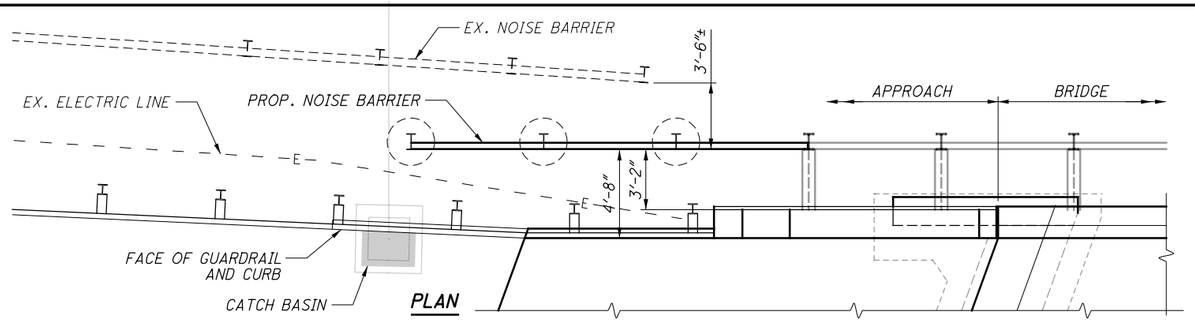
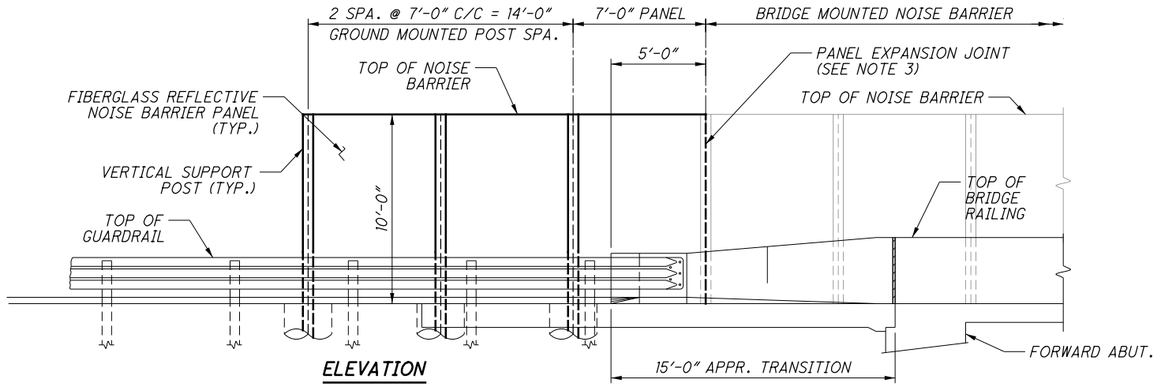
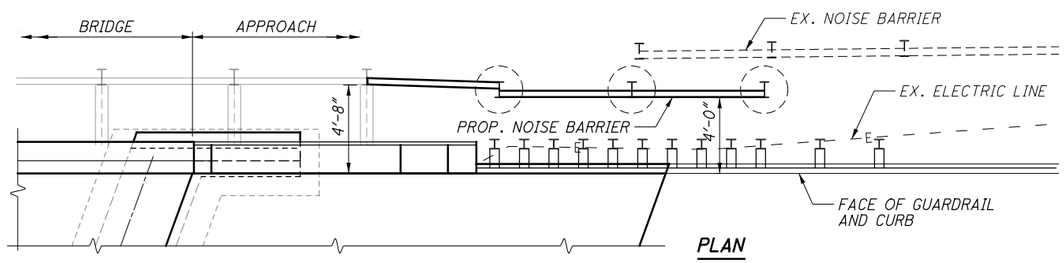
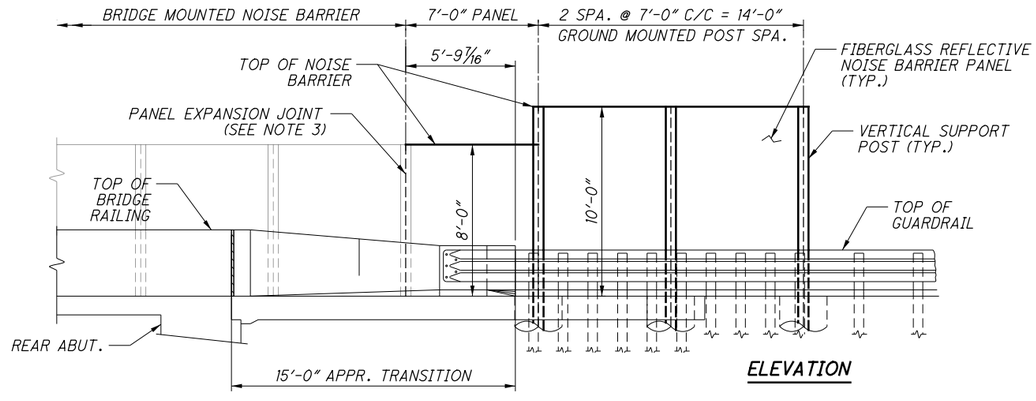




GROUND MOUNTED NOISE BARRIER - SOUTHEAST APPROACH (E.B.)





GROUND MOUNTED NOISE BARRIER - SOUTHWEST APPROACH (E.B.)

NOTES

1. FOR BRIDGE MOUNTED NOISE BARRIER DETAILS, SEE SHEETS 35|42 THRU 37|42 .
2. FOR GROUND MOUNTED POST SECTION AND ADDITIONAL DETAILS, SEE SHEET 38|42 .
3. NOISE BARRIER MANUFACTURER SHALL ALLOW FOR A PANEL EXPANSION BETWEEN BRIDGE MOUNTED AND GROUND MOUNTED.

DESIGN AGENCY
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MISCELLANEOUS DETAILS - NOISE BARRIER 5 OF 5

BRIDGE NO. CUY-90-2410
INTERSTATE ROUTE 90 OVER EAST 140TH STREET

CUY-90-24.10/24.63
PID No. 88348

39/42

145/196

MARK	NUMBER			LENGTH	WEIGHT	TYPE	DIMENSIONS						
	LEFT	RIGHT	TOTAL				A	B	C	D	E	R	INC
REAR ABUTMENT													
A501		3	3	8′-4″	26	STR							
A502		3	3	16′-4″	51	STR							
A503		3	3	16′-9″	53	STR							
A504	6		6	17′-3″	108	STR							
A505	2	2	4	10′-0″	42	STR							
A506	3		3	9′-3″	29	STR							
A507	36	36	72	2′-3″	169	1	0′-9″	1′-8″					
A601	2 SR OF 11	2 SR OF 11	4 SR OF 11	6′-2″ TO 7′-2″	441	2	2′-8″ TO 3′-2″	1′-2″	2′-8″ TO 3′-2″				0′-0 ½″
A602	13	12	25	7′-4″	276	2	3′-3″	1′-2″	3′-3″				
A603	13	12	25	7′-2″	270	STR							
A604	13	12	25	4′-4″	163	STR							
			SUB-TOTAL		1,628								
FORWARD ABUTMENT													
A501	3		3	8′-4″	26	STR							
A502	3		3	16′-4″	51	STR							
A503	3		3	16′-9″	53	STR							
A504		6	6	17′-3″	108	STR							
A505	2	2	4	10′-0″	42	STR							
A506		3	3	9′-3″	29	STR							
A507	36	36	72	2′-3″	169	1	0′-9″	1′-8″					
A601	2 SR OF 11	2 SR OF 11	4 SR OF 11	6′-2″ TO 7′-2″	441	2	2′-8″ TO 3′-2″	1′-2″	2′-8″ TO 3′-2″				0′-0 ½″
A602	12	13	25	7′-4″	276	2	3′-3″	1′-2″	3′-3″				
A603	12	13	25	7′-2″	270	STR							
A604	12	13	25	4′-4″	163	STR							
			SUB-TOTAL		1,628								
			TOTAL ABUTMENTS		3,256								
DIAPHRAGM GUIDES (FOR REFERENCE ONLY)													
DG601	10	10	20	8′-8″	265	2	2′-10″	3′-6″	2′-10″				
DG801	14	14	28	7′-9″	579	2	2′-9″	2′-8″	2′-9″				
			TOTAL DIAPHRAGM GUIDES		844								

MARK	NUMBER			LENGTH	WEIGHT	TYPE	DIMENSIONS						
	LEFT	RIGHT	TOTAL				A	B	C	D	E	R	INC
PIERS													
P501	450	450	900	4′-4″	4,068	1	2′-8″	1′-10″					
P601	12	12	24	36′-4″	1,310	STR							
P602	12	12	24	9′-10″	354	STR							
P603	12	12	24	27′-4″	985	37	27′-4″						
			TOTAL PIERS		6,717								

DESIGN AGENCY
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DESIGNED	DRAWN	REVIEWED	DATE
RJB	CAF	RBB	8/17/18
CHECKED	REVISED	STRUCTURE FILE NUMBER	
FJG		1808672	

REINFORCING STEEL LIST 1 OF 3

BRIDGE NO. CUY-90-2410
INTERSTATE ROUTE 90 OVER EAST 140TH STREET

CUY-90-24.10/24.63
PID No. 88348

MARK	NUMBER			LENGTH	WEIGHT	TYPE	DIMENSIONS						
	LEFT	RIGHT	TOTAL				A	B	C	D	E	R	INC
SUPERSTRUCTURE													
S401	945	945	1890	30'-0"	37876	STR							
S402	312	312	624	40'-0"	16674	STR							
S501	85	85	170	14'-10"	2630	3	3'-11"	3'-3"					
S502	90	90	180	7'-9"	1455	2	2'-6"	3'-0"	2'-6"				
S503	1	1	2	14'-3"	30	3	3'-8"	3'-2"					
S504	4	4	8	6'-6"	55	2	1'-5"	3'-11"	1'-5"				
S505	1016	1016	2032	30'-0"	63581	STR							
S506	127	127	254	35'-5"	9383	STR							
S507	1440	1440	2880	4'-8"	14018	21	0'-10"	0'-10"	1'-0"	0'-8"			
S508	960	960	1920	2'-1"	4172	40	1'-0"	0'-10"	0'-3"	0'-8"			
S601	8	8	16	10'-0"	240	STR							
S602	918	918	1836	30'-0"	82730	STR							
S603	948	948	1896	9'-3"	26342	16	8'-7"						
S604	1918	1918	3836	5'-0"	28808	39	5'-0"						
S605	936	936	1872	18'-10"	52955	37	18'-10"						
S606	932	932	1864	21'-2"	59261	37	21'-2"						
S607	20	20	40	7'-0"	421	STR							
S608	2 SR OF 18	2 SR OF 18	4 SR OF 18	5'-9" TO 29'-1"	1884	STR							1'-4 1/2"
S609	2 SR OF 16	2 SR OF 16	4 SR OF 16	9'-0" TO 29'-4"	1843	STR							1'-4 1/4"
S610	2 SR OF 10	2 SR OF 10	4 SR OF 10	6'-0" TO 17'-10"	716	STR							1'-3 3/4"
S611	2 SR OF 11	2 SR OF 11	4 SR OF 11	3'-0" TO 16'-6"	644	37	3'-0" TO 16'-6"						1'-4 1/4"
S612	2 SR OF 9	2 SR OF 9	4 SR OF 9	9'-4" TO 20'-4"	802	STR							1'-4 1/2"
S613	2 SR OF 14	2 SR OF 14	4 SR OF 14	3'-0" TO 19'-6"	946	37	3'-0" TO 19'-6"						1'-3 1/4"
S614	263	263	526	3'-3"	2568	28	1'-8"	0'-11"	1'-0"				
S615	263	263	526	2'-6"	1975	1	1'-0"	1'-8"					
S801	8	8	16	31'-7"	1350	STR							
S802	56	56	112	8'-3"	2467	39	8'-3"						
S803	28	28	56	19'-3"	2878	37	19'-3"						
S804	8	8	16	22'-5"	958	37	22'-5"						
S805	20	20	40	29'-3"	3124	STR							
S806	8	8	16	23'-9"	1015	37	23'-9"						
S807	12	12	24	15'-7"	999	STR							
S808	12	12	24	4'-6"	288	37	4'-6"						
S809	96	96	192	4'-11"	2520	18	2'-8"	1'-0"	1'-0"				
TOTAL SUPERSTRUCTURE					427,608								

MARK	NUMBER			LENGTH	WEIGHT	TYPE	DIMENSIONS						
	LEFT	RIGHT	TOTAL				A	B	C	D	E	R	INC
RAILING													
R501	265	265	530	7'-4"	4054	23	0'-11"	3'-3"	3'-0"			0'-3"	
R502	8	8	16	6'-4"	106	STR							
R503	8	8	16	10'-6"	175	STR							
R504	8	8	16	3'-10"	64	STR							
R505	8	8	16	5'-8"	95	25	1'-10"	2'-5"	1'-5"	0'-1 1/2"	0'-5"		
R506	8	8	16	5'-8"	95	STR							
R507	315	315	630	10'-6"	6900	23	1'-4"	4'-6"	4'-6"			0'-3"	
R508	48	48	96	4'-8"	467	STR							
R509	48	48	96	4'-9"	476	19	1'-2"	3'-6"	0'-8"				
R510	20	20	40	24'-7"	1026	STR							
R511	64	64	128	13'-11"	1858	STR							
R512	8	8	16	5'-11"	99	STR							
R513	136	136	272	7'-2"	2033	STR							
R514	267	267	534	4'-3"	2367	STR							
R515	267	267	534	4'-6"	2504	19	0'-11"	3'-6"	0'-8"				
R516	64	64	128	30'-0"	4005	STR							
R517	8	8	16	34'-10"	581	STR							
R601	2	2	4	24'-7"	148	STR							
R602	16	16	32	13'-11"	669	STR							
R603	2	2	4	5'-11"	36	STR							
R604	34	34	68	7'-2"	732	STR							
TOTAL RAILING					28,490								

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DESIGNED RJB | DRAWN CAF | REVIEWED RBB | DATE 8/17/18 | CHECKED FJG | REVISED | STRUCTURE FILE NUMBER 1808672

REINFORCING STEEL LIST 2 OF 3

BRIDGE NO. CUY-90-2410
INTERSTATE ROUTE 90 OVER EAST 140TH STREET

CUY-90-24.10/24.63
PID No. 88348

41 / 42

147 / 196

MARK	NUMBER			LENGTH	WEIGHT	TYPE	DIMENSIONS						
	LEFT	RIGHT	TOTAL				A	B	C	D	E	R	INC
APPROACH SLABS (FOR REFERENCE ONLY)													
	REAR												
AS501	50	50	100	24'-7"	2564	STR							
AS502	57	57	114	22'-5"	2665	37	22'-5"						
AS503	114	114	228	6'-0"	1427	39	6'-0"						
AS504	57	57	114	17'-8"	2101	37	17'-8"						
AS505	57	57	114	28'-9"	3418	STR							
AS506	1	1	2	14'-7"	30	STR							
AS507	34	34	68	4'-11"	349	19	3'-5"	1'-5"	0'-6"				
AS601	2	2	4	2'-9"	17	1	1'-0"	1'-11"					
AS602	2	2	4	3'-6"	21	28	1'-11"	0'-11"	1'-0"				
AS603	2 SR OF 12	2 SR OF 12	4 SR OF 12	4'-4" TO 5'-2"	343	1	1'-0"	3'-6" TO 4'-4"					7/8"
AS604	4	4	8	4'-8"	56	1	1'-0"	3'-10"					
AS605	6	6	12	4'-4"	78	1	1'-0"	3'-6"					
AS1001	121	121	242	26'-0"	27074	16	24'-7"						
AS1002	1	1	2	16'-0"	138	16	14'-7"						
	FORWARD												
AS501	50	50	100	24'-7"	2564	STR							
AS502	57	57	114	22'-5"	2665	37	22'-5"						
AS503	114	114	228	6'-0"	1427	39	6'-0"						
AS504	57	57	114	17'-8"	2101	37	17'-8"						
AS505	57	57	114	28'-9"	3418	STR							
AS506	1	1	2	14'-7"	30	STR							
AS507	34	34	68	4'-11"	349	19	3'-5"	1'-5"	0'-6"				
AS601	2	2	4	2'-9"	17	1	1'-0"	1'-11"					
AS602	2	2	4	3'-6"	21	28	1'-11"	0'-11"	1'-0"				
AS603	2 SR OF 12	2 SR OF 12	4 SR OF 12	4'-4" TO 5'-2"	343	1	1'-0"	3'-6" TO 4'-4"					7/8"
AS604	4	4	8	4'-8"	56	1	1'-0"	3'-10"					
AS605	6	6	12	4'-4"	78	1	1'-0"	3'-6"					
AS1001	121	121	242	26'-0"	27074	16	24'-7"						
AS1002	1	1	2	16'-0"	138	16	14'-7"						
TOTAL APPROACH SLABS				80,562									

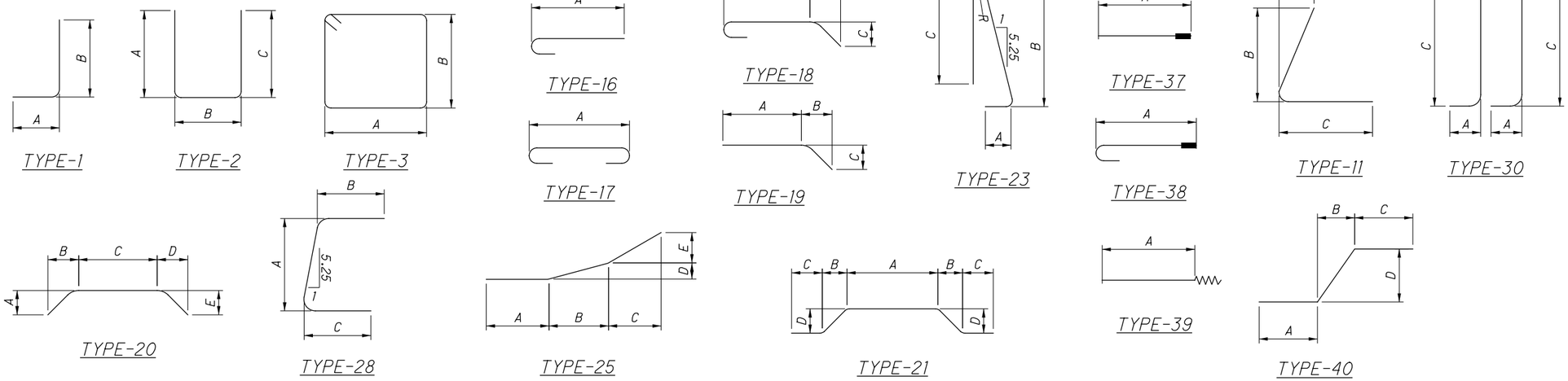
MARK	NUMBER			LENGTH	WEIGHT	TYPE	DIMENSIONS						
	LEFT	RIGHT	TOTAL				A	B	C	D	E	R	INC
SLEEPER SLABS (FOR REFERENCE ONLY)													
	REAR												
SS501	71	71	142	5'-10"	864	STR							
SS502	11	11	22	22'-5"	514	37	22'-5"						
SS503	22	22	44	6'-0"	275	39	6'-0"						
SS504	11	11	22	17'-8"	405	37	17'-8"						
SS505	11	11	22	28'-9"	660	STR							
SS506	71	71	142	5'-8"	839	30	10"	1'-5"	1'-7"				
	FORWARD												
SS501	71	71	142	5'-10"	864	STR							
SS502	11	11	22	22'-5"	514	37	22'-5"						
SS503	22	22	44	6'-0"	275	39	6'-0"						
SS504	11	11	22	17'-8"	405	37	17'-8"						
SS505	11	11	22	28'-9"	660	STR							
SS506	71	71	142	5'-8"	839	30	10"	1'-5"	1'-7"				
TOTAL SLEEPER SLABS				7,114									

NOTE:

1. ALL REINFORCING BARS SHALL BE EPOXY COATED.

BAR MARK LEGEND

A = ABUTMENT
P = PIER
S = SUPERSTRUCTURE
AS = APPROACH SLAB
R = RAILING
SS = SLEEPER SLAB



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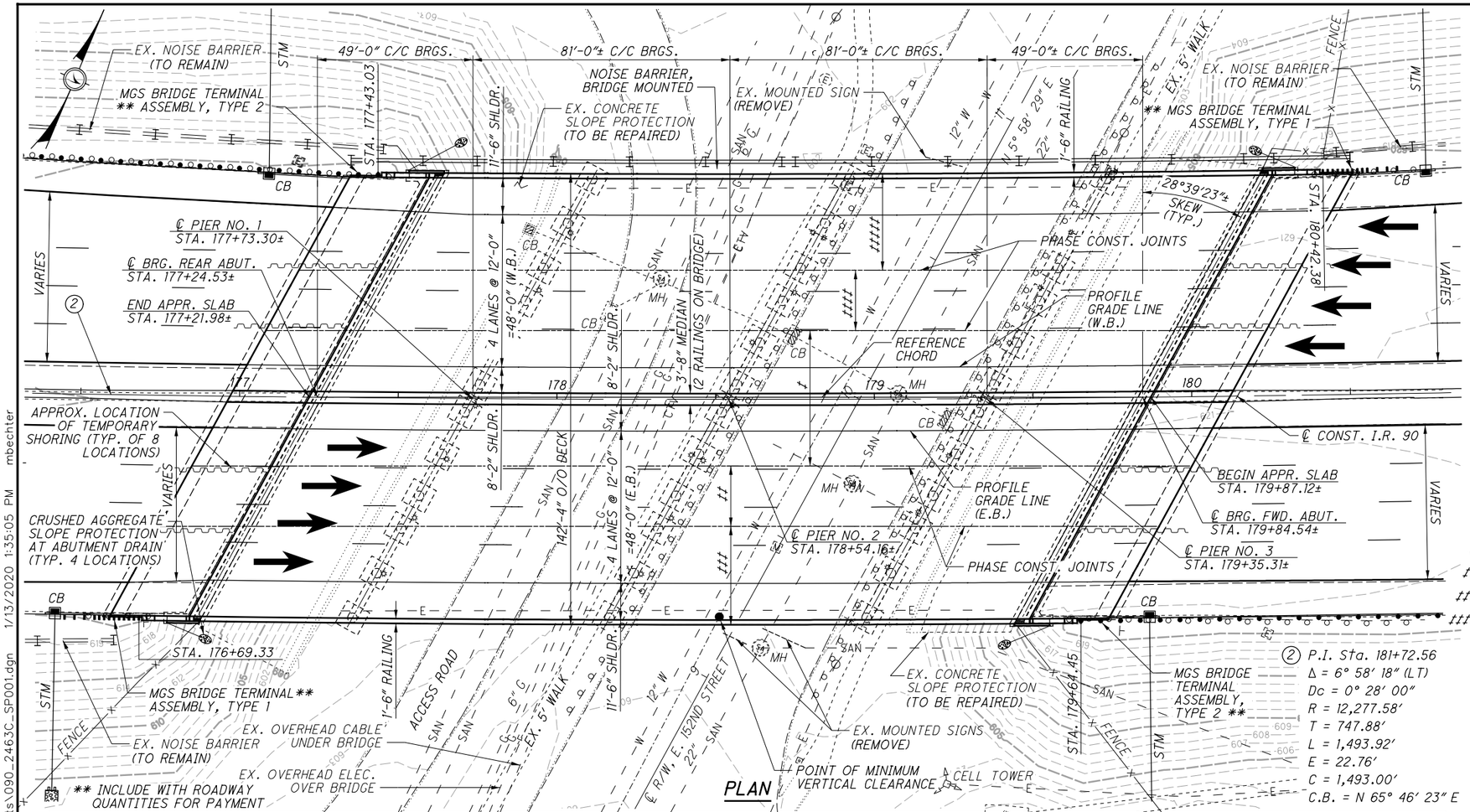
RJB	CAF	RBB	8/17/18
CHECKED	REVISED	STRUCTURE FILE NUMBER	
FJG		1808672	

REINFORCING STEEL LIST 3 OF 3
BRIDGE NO. CUY-90-2410
INTERSTATE ROUTE 90 OVER EAST 140TH STREET

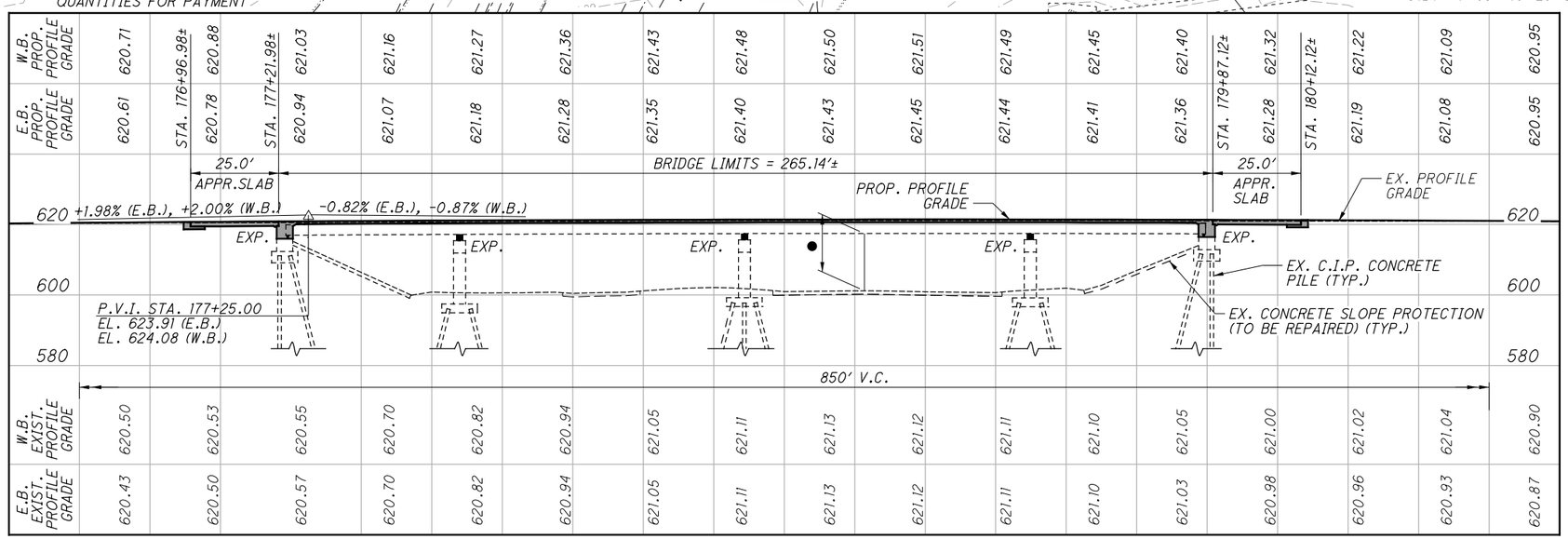
CUY-90-24.10/24.63
PID No. 88348

42/42

148
196



PLAN



PROFILE

BENCHMARK DATA

BM #3 STA. 168+34.00, ELEV. 605.34, OFFSET 163.00' RT.
BM #4 STA. 176+70.00, ELEV. 608.54, OFFSET 365.00' RT.

FOR ADDITIONAL BENCHMARK INFORMATION, SEE ROADWAY PLANS.

FOR CENTERLINE SCHEMATIC, SEE SHEET 3 OF 48 .

PROPOSED WORK

REPLACE BRIDGE DECK
REMOVE STRUCTURE MOUNTED SIGNS
REMOVE BRIDGE SCUPPERS
PERFORM FATIGUE RETROFITS
REPAIR ABUTMENTS AND PIERS
REPLACE BEARINGS
REPLACE APPROACH SLABS
REPAIR CONCRETE SLOPE PROTECTION
REPLACE UNDERPASS LIGHTING
INSTALL BRIDGE MOUNTED NOISE BARRIER
INSTALL BRIDGE MOUNTED FENCE
SEAL CONCRETE SUBSTRUCTURE AND SUPERSTRUCTURE
PAINT STRUCTURAL STEEL

DESIGN TRAFFIC:

2019 ADT = 113,000 2019 ADTT = 6,780
2039 ADT = 119,000 2039 ADTT = 7,140
DIRECTIONAL DISTRIBUTION = 59%

LEGEND

● 14'-7¾" ACTUAL MINIMUM VERTICAL CLEARANCE
14'-7¾" REQUIRED MINIMUM VERTICAL CLEARANCE (DESIGN EXCEPTION)
I PHASE 1 CONSTRUCTION, 42'-8"± (E.B. AND W.B.)
II PHASE 2 CONSTRUCTION, 19'-0"± (E.B.)
III PHASE 3 CONSTRUCTION, VARIES, 30'-0⅜"± TO 31'-2⅛"± (E.B.)
IIII PHASE 4 CONSTRUCTION, 19'-0"± (W.B.)
IIIII PHASE 5 CONSTRUCTION, VARIES, 30'-5⅛"± TO 31'-5⅛"± (W.B.)

EXISTING STRUCTURE

TYPE: 4-SPAN CONTINUOUS STEEL BEAM WITH NON-COMPOSITE REINFORCED CONCRETE DECK ON SPILL-THRU STUB ABUTMENTS AND CAP AND COLUMN PIERS ON CAST-IN-PLACE CONCRETE PILES
SPANS: 49'-0"±, 81'-0"±, 81'-0"± AND 49'-0"± C/C BRGS. ALONG REFERENCE CHORD
ROADWAY: 140'-0"± F/F PARAPET (I-90 E.B. AND W.B.)
LOADING: CF-2000-57 (AASHTO ALTERNATE LOADING)
SKEW: REF. CHORD TO ℄ 152ND ST. 28° 39' 23"± L.F.
APPROACH SLABS: AS-1-54 (25'-0"± LONG)
WEARING SURFACE: LATEX MODIFIED CONCRETE OVERLAY
STRUCTURAL FILE NUMBER: 1808702
DATE BUILT: 1960
DISPOSITION: SATISFACTORY

PROPOSED STRUCTURE

TYPE: 4-SPAN CONTINUOUS STEEL BEAMS WITH COMPOSITE REINFORCED CONCRETE DECK ON MODIFIED SEMI-INTEGRAL STUB ABUTMENTS AND EXISTING CAP AND COLUMN PIERS ON CAST-IN-PLACE CONCRETE PILES
SPANS: 49'-0"±, 81'-0"±, 81'-0"± AND 49'-0"± C/C BRGS. ALONG REFERENCE CHORD
ROADWAY: 139'-0" F/F PARAPET (I-90 E.B. AND W.B.)
LOADING: HS20 CASE I AND ALTERNATE MILITARY, FWS = 60 PSF
SKEW: REF. CHORD TO ℄ 152ND ST. 28° 39' 23"± L.F.
APPROACH SLABS: 25'-0" LONG (AS-1-15, AS-2-15)
ALIGNMENT: 0°28'00" L.C.
WEARING SURFACE: 1" MONILITHIC CONCRETE
CROWN: 0.016' PER FT.
COORDINATES: LATITUDE 41° 34' 04"
LONGITUDE -81° 34' 32"

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RJB	CAF	RBB	8/17/18
CHECKED	REVISED	STRUCTURE FILE NUMBER	
FJG		1808702	

CUYAHOGA COUNTY
STA. 177+21.98± TO STA. 179+87.12±

SITE PLAN
BRIDGE NO. CUY-90-2463
INTERSTATE ROUTE 90 OVER EAST 152ND STREET

CUY-90-24.10/24.63
PID No. 88348

1 / 48

149 / 196

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STANDARD DRAWINGS AND SUPPLEMENTAL SPECIFICATIONS

REFER TO THE FOLLOWING STANDARD BRIDGE DRAWINGS:

AS-1-15	DATED 7-17-15	SICD-1-96	DATED 7-18-14
AS-2-15	DATED 1-19-18	SICD-2-14	DATED 7-18-14
GSD-1-96	DATED 7-19-02	HL-30.32	DATED 1-17-14
HL-50.21	DATED 1-19-18	NBS-1-09	DATED 1-19-18
PCB-91	DATED 1-18-13	VPF-1-90	DATED 1-19-18
SBR-1-13	DATED 1-17-14		
SBR-2-13	DATED 1-17-14		

AND TO THE FOLLOWING SUPPLEMENTAL SPECIFICATION(S):

800 DATED 1-19-18

DESIGN SPECIFICATIONS

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

DESIGN LOADING

DESIGN LOADING: HS20, CASE 1 AND ALTERNATE MILITARY LOADING.

FUTURE WEARING SURFACE (FWS) OF 60 PSF.

DESIGN DATA

CONCRETE CLASS QC1 - COMPRESSIVE STRENGTH 4,000 PSI (SUBSTRUCTURE)

CONCRETE CLASS QC2 - COMPRESSIVE STRENGTH 4,500 PSI (SUPERSTRUCTURE)

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

STRUCTURAL STEEL - ASTM A709 GRADE 50, MINIMUM YIELD STRENGTH 50,000 PSI (NEW CROSSFRAMES, SPLICE PLATES)

DECK PROTECTION METHOD

EPOXY COATED REINFORCING STEEL

2½" CONCRETE COVER

CLASS QC2 CONCRETE

MONOLITHIC WEARING SURFACE

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

EXISTING STRUCTURE VERIFICATION

DETAILS AND DIMENSIONS SHOWN ON THESE PLANS PERTAINING TO THE EXISTING STRUCTURE HAVE BEEN OBTAINED FROM PLANS OF THE EXISTING STRUCTURE AND FROM FIELD OBSERVATIONS AND MEASUREMENTS. CONSEQUENTLY, THEY ARE INDICATIVE OF THE EXISTING STRUCTURE AND THE PROPOSED WORK BUT THEY SHALL BE CONSIDERED TENTATIVE AND APPROXIMATE. THE CONTRACTOR IS REFERRED TO CMS SECTIONS 102.05, 105.02 AND 513.04.

BASE CONTRACT BID PROCESS 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 202, APPROACH SLAB REMOVED, AS PER PLAN

THIS ITEM CONSISTS OF REMOVAL OF THE EXISTING CONCRETE APPROACH SLABS INCLUDING THE EXISTING ASPHALT WEARING COURSE.

ITEM 202, PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, 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, CROSSFRAMES, ETC.). THIS ITEM ALSO INCLUDES REMOVAL OF CROSSFRAMES, BACKWALLS, AND WINGWALLS AS SHOWN IN THESE PLANS. THE PROVISIONS OF ITEM 202 APPLY EXCEPT AS SPECIFIED BY THE FOLLOWING NOTES. PERFORM WORK CAREFULLY DURING DECK REMOVALS TO PROTECT PORTIONS OF SUCH SYSTEMS THAT ARE TO BE SALVAGED AND INCORPORATED INTO THE PROPOSED STRUCTURE. THE USE OF EXPLOSIVES, HEADACHE BALLS AND/OR HOE RAM TYPE OF EQUIPMENT IS PROHIBITED. SUBMIT CONSTRUCTION PLANS ACCORDING TO CMS 501.05.

PROTECTION OF STEEL SUPPORT SYSTEMS: BEFORE DECK SLAB CUTTING IS PERMITTED, DRAW THE OUTLINE OF PRIMARY STEEL MEMBERS IN CONTACT WITH THE BOTTOM OF THE DECK ON THE SURFACE OF DECK. DRILL SMALL DIAMETER PILOT HOLES 2 INCHES OUTSIDE THESE LINES TO CONFIRM THE LOCATION OF FLANGE EDGES. DECK CUTS OVER OR WITHIN 2 INCHES OF FLANGE EDGES SHALL NOT EXTEND LOWER THAN THE BOTTOM LAYER OF DECK SLAB REINFORCING STEEL. CUTS MADE OUTSIDE 2 INCHES OF FLANGE EDGES MAY EXTEND THE FULL DEPTH OF THE DECK. PERFORM WORK CAREFULLY DURING CUTTING OF THE DECK SLAB TO AVOID DAMAGING STEEL MEMBERS THAT ARE TO BE INCORPORATED INTO THE PROPOSED STRUCTURE. REPLACE OR REPAIR STEEL MEMBERS DAMAGED BY THE DECK SLAB CUTTING OPERATIONS AT NO COST TO THE PROJECT. AT LEAST 7 DAYS BEFORE PERFORMING REPAIR WORK, SUBMIT A PROPOSED REPAIR PLAN, DEVELOPED BY AN OHIO REGISTERED PROFESSIONAL ENGINEER TO THE DIRECTOR. OBTAIN THE DIRECTOR'S APPROVAL BEFORE PERFORMING REPAIR.

REMOVAL METHODS: THE CONTRACTOR MAY REMOVE CONCRETE BY CUTTING AND BY MEANS OF HAND OPERATED PNEUMATIC HAMMERS EMPLOYING POINTED OR BLUNTED CHISEL TYPE TOOLS. FOR REMOVALS OVER STRUCTURAL MEMBERS (STEEL BEAM/ STEEL GIRDER), THE CONTRACTOR MAY USE A HAMMER HEAVIER THAN 35 POUNDS BUT NOT TO EXCEED 90 POUNDS UNLESS APPROVED BY THE ENGINEER. REMOVAL METHODS OVER STRUCTURAL MEMBERS SHALL ENSURE ADEQUATE DEPTH CONTROL AND PREVENT NICKING OR GOUGING THE PRIMARY STRUCTURAL MEMBERS.

DUE TO THE POSSIBLE PRESENCE OF FORM 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. THE EXISTING SCUPPERS/GUTTERS ARE SUPPORTED BY ANGLES EMBEDDED INTO THE DECK AND WELDED TO THE TOP FLANGES OF BEAMS A, G, H, J, K & S. THE CONTRACTOR SHALL INCLUDE WITH THE DECK REMOVAL PROCEDURE SUBMISSION, A PROCEDURE FOR REMOVING THE DECK IN THE AREA OF EXISTING SCUPPER SHOWING HOW THE DECK WILL BE REMOVED WITHOUT DAMAGING THE EXISTING STEEL BEAMS 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 PERFORMING REPAIR.

MEASUREMENT AND PAYMENT: THE DEPARTMENT WILL MEASURE THE QUANTITY OF REMOVALS ON A LUMP SUM BASIS. THE DEPARTMENT WILL PAY FOR THE ACCEPTED QUANTITIES OF REMOVALS AT THE CONTRACT PRICE FOR ITEM 202, PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN.

ITEM 202, PORTIONS OF STRUCTURE REMOVED, AS PER PLAN

THIS ITEM INCLUDES ALL LABOR, MATERIAL AND EQUIPMENT NECESSARY TO REMOVE AND DISPOSE THE EXISTING TIMBER SUBDECK FROM THE BRIDGE AFTER BRIDGE DECK CONSTRUCTION HAS BEEN COMPLETED.

MEASUREMENT AND PAYMENT: THE DEPARTMENT WILL MEASURE THE QUANTITY OF REMOVALS ON A SQUARE YARD BASIS. THE DEPARTMENT WILL PAY FOR THE ACCEPTED QUANTITY OF REMOVALS AT THE CONTRACT PRICE FOR ITEM 202, PORTIONS OF STRUCTURE REMOVED, AS PER PLAN.

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.

ITEM 503, COFFERDAMS AND EXCAVATION BRACING

THIS ITEM INCLUDES ALL TEMPORARY SHORING REQUIRED TO COMPLETE THE WORK SHOWN IN THESE PLANS. TEMPORARY SHORING MAY REMAIN IN PLACE BETWEEN PHASES, BUT MUST BE REMOVED PRIOR TO COMPLETION OF LATTER PHASE APPROACH SLAB CONSTRUCTION.

ITEM 503, UNCLASSFIED EXCAVATION, AS PER PLAN

UNCLASSFIED 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.

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 FOR 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 THE ENGINEER OR THEY SHALL BE REPLACED WITH MATERIAL THAT MEETS THE SPECIFICATIONS AT NO ADDITONAL 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.

SUBSTRUCTURE CONCRETE REMOVAL:

REMOVE CONCRETE BY MEANS OF APPROVED PNUEMATIC HAMMERS EMPLOYING POINTED AND BLUNT CHISEL TOOLS. HYDRAULIC HOE-RAM TYPE HAMMERS WILL NOT BE PERMITTED. THE WEIGHT OF THE HAMMMER SHALL NOT BE MORE THAN 35 POUNDS FOR REMOVAL WITHIN 18 INCHES OF PORTIONS TO BE PRESERVED. OUTSIDE THE 18 INCH LIMIT, THE CONTRACTOR MAY USE HAMMERS NOT EXCEEDING 90 POUNDS UPON THE APPROVAL OF THE ENGINEER. DO NOT PLACE PNUEMATIC HAMMERS IN DIRECT CONTACT WITH THE REINFORCING STEEL THAT IS TO BE RETAINED IN THE REBUILT STRUCTURE.

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
ITEM 511, CLASS QC1 CONCRETE SUBSTRUCTURE, AS PER PLAN

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 CLEANED 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.

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

PARAPET CONSTRUCTION: ANCHOR BOLTS FOR NOISE BARRIERS AND FENCE POSTS SHALL BE CAST IN PLACE.

MEDIAN CONSTRUCTION: FOR MAINTENANCE OF TRAFFIC PURPOSES, THE LEFT AND RIGHT BRIDGE DECKS SHALL BE CONTINUOUS ACROSS THE MEDIAN BRIDGE DECK CONSTRUCTION JOINT. GLASS FIBER REINFORCED POLYMER (GFRP) REINFORCEMENT BARS SHALL BE PLACED AS SHOWN IN THESE PLANS. THE TEMPORARY CROSS FRAMES SHALL BE INSTALLED AFTER THE DECK CONCRETE IS PLACED. DURING THE FINAL CONSTRUCTION PHASE, AFTER THE REMOVAL OF THE TEMPORARY CROSS FRAMES AND PRIOR TO MEDIAN BRIDGE RAILING 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:

BASIS OF PAYMENT:

ITEM	EXT	UNITS	DESCRIPTION
511	34413	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
511	50211	C.Y.	CLASS QC1 CONCRETE, SUBSTRUCTURE, AS PER PLAN

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DESIGNED	DRAWN	REVIEWED	DATE
RJB	CAF	RBB	8/17/18
CHECKED	REVISED	STRUCTURE FILE NUMBER	
CMD		1808702	

GENERAL NOTES 1 OF 3
BRIDGE NO. CUY-90-2463
INTERSTATE ROUTE 90 OVER EAST 152ND STREET

CUY-90-24.10/ 24.63
PID No. 88348

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 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 511.07, 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, SEMI INTEGRAL DIAPHRAGM GUIDE, AS PER PLAN

THE SEMI-INTEGRAL DIAPHRAGM GUIDE SHALL BE CONSTRUCTED AS DETAILED IN THE PLANS. THE REINFORCING STEEL SHALL BE DOWELED INTO THE EXISTING ABUTMENT PER CMS 510 USING NON SHRINK, NONMETALLIC GROUT.

ALL OTHER PROVISIONS OF STANDARD DRAWING SICD-2-14 DATED 7-18-14 SHALL APPLY.

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.

ITEM 513, STRUCTURAL STEEL, MISC.: FATIGUE RETROFIT

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

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

THE DEPARTMENT WILL PAY FOR THE FATIUE RETROFITS AT THE CONTRACT PRICE FOR ITEM 513, STRUCTURAL STEEL, MISC.: FATIGUE RETROFIT.

ITEM 513, STRUCTURAL STEEL, MISC.: INTERMEDIATE CROSSFRAMES

THIS ITEM INCLUDES ALL MATERIAL, LABOR , AND EQUIPMENT REQUIRED TO REPLACE THE EXISTING INTERMEDIATE CROSSFRAMES THAT INTERFERE WITH INSTALLATION OF THE FATIGUE RETRO-FIT PLATES/BOLTS. THE CROSSFRAMES SHALL BE TYPE 1 PER STANDARD DRAWING GSD-1-96. THE CLEARANCE BETWEEN THE INSIDE OF THE EXISTING FLANGES AND THE CROSSFRAME SHALL BE INCREASED TO FOUR INCHES, TO ALLOW FOR FATIGUE RETROFIT WORK.

THE DEPARTMENT WILL PAY FOR EACH COMPLETED CROSSFRAME AT THE CONTRACT PRICE FOR ITEM 513, STRUCTURAL STEEL MISC.: INTERMEDIATE CROSSFRAMES.

ITEM 601, CONCRETE SLOPE PROTECTION, AS PER PLAN:

THE CONTRACTOR SHALL REPLACE ALL UNSOUND AND DETERIORATED PORTIONS OF THE EXISTING 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 PORTIONS OF THE CONCRETE SLOPE PROTECTION.

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

THE CONTRACTOR SHALL INSTALL TEMPORARY CROSSFRAMES AT THE LOCATIONS INDICATED IN THE PLANS. CROSSFRAMES SHALL BE INSTALLED AFTER PLACEMENT OF THE CONCRETE MEDIAN DECK AND PRIOR TO OPENING TO TRAFFIC (PHASE 2 M.O.T.).

TEMPORARY CROSSFRAMES SHALL BE TYPE 1, PER STANDARD DRAWING GSD-1-98. THE CLEARANCE BETWEEN THE INSIDE OF THE EXISTING FLANGES AND THE CROSSFRAME SHALL BE INCREASED TO FOUR INCHES, TO ALLOW FOR FATIGUE RETROFIT WORK. TEMPORARY CROSSFRAMES DO NOT NEED TO BE PRIME COATED.

THE CROSSFRAMES SHALL BE REMOVED DURING PHASE 6 PRIOR TO SAW CUTTING THE FULL DEPTH MEDIAN CONSTRUCTION JOINT. ALL WELD LOCATIONS SHALL BE GROUND SMOOTH AT TIME OF REMOVAL.

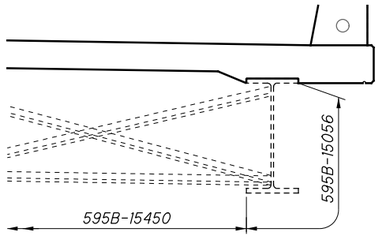
THE COST FOR ALL MATERIAL, LABOR, AND EQUIPMENT NECESSARY TO INSTALL (PHASE 1) AND REMOVE (PHASE 6) THE TEMPORARY CROSSFRAMES IS INCLUDED IN THE CONTRACT PRICE FOR ITEM 513, STRUCTURAL STEEL, MISC.: TEMPORARY CROSSFRAMES FOR MAINTENANCE OF TRAFFIC.

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, AS PER PLAN
ITEM 514, FINAL INSPECTION REPAIR

ALL STRUCTURAL STEEL SHALL BE CLEANED AND PAINTED IN ACCORDANCE WITH CMS ITEM 514.

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). THE COLOR OF THE FINISH COAT FOR ALL OTHER STRUCTURAL STEEL SHALL BE FEDERAL COLOR NUMBER (COLOR-GLOSS) 595B-15450 BLUE.



PAINT DETAIL

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

PROIR TO INSTALLATION OF THE MEDIAN BARRIER ON THE BRIDGE DECK AND APPROACH SLABS, THE TEMPORARY CONCRETE PAVEMENT WEDGE (SEE DETAIL ON SHEET 9 | 48) SHALL BE REMOVED BY DIAMOND GRINDING IN ACCORDANCE WITH CMS ITEM 257. THE DEPARTMENT WILL PAY FOR THE ACCEPTED QUANTITIES AT THE CONTRACT PRICE BID FOR ITEM 257, DIAMOND GRINDING PORTLAND CEMENT CONCRETE PAVEMENT, 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.

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 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.

R.J. WATSON, INC. - SILICOFLEX SF 225.

WATSON BOWMAN ACME CORP. - WABO-SPS-225

D.S. BROWN COMPANY - V-300

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 PORTIONS OF THE ABUTMENTS AND PIERS 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.

ITEM 526, REINFORCED CONCRETE APPROACH SLABS (T=15"), AS PER PLAN

DESCRIPTION: THIS ITEM CONSISTS OF CONSTRUCTING REINFORCED CONCRETE APPROACH SLABS IN ACCORDANCE WITH THE DETAILS IN THESE PLANS AND ODOT STANDARD DRAWINGS AS-1-15, AS-12-15, SBR-2-13 AND SBR-1-13.

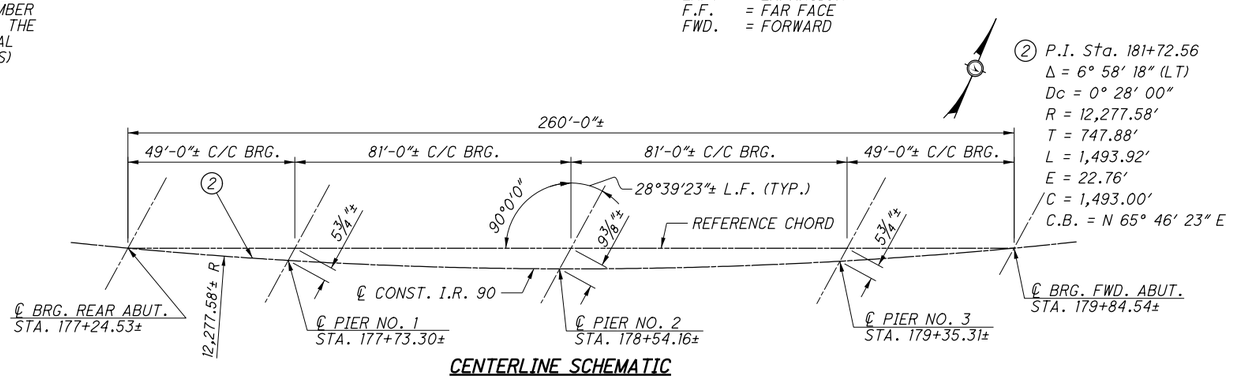
MATERIALS: CONCRETE, REINFORCING STEEL, AND MECHANICAL CONNECTORS FOR THIS ITEM 526 SHALL BE THE SAME MATERIAL AND MEET THE SAME REQUIREMENTS AS THOSE USED FOR THE BRIDGE DECK, AND RAILINGS. SEE STRUCTURE GENERAL NOTES ITEM 511 FOR THE CONCRETE MIX REQUIREMENTS.

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, MEDIAN BARRIER AND RAILINGS ATTACHED DIRECTLY TO THE APPROACH SLAB, 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.

ABBREVIATIONS

ABUT.	= ABUTMENT	HMWM	= HIGH MOLECULAR WEIGHT METHACRYLATE
A.P.P.	= AS PER PLAN	JT.	= JOINT
APPR.	= APPROACH	M.O.T.	= MAINTENANCE OF TRAFFIC
BOTT.	= BOTTOM	MIN.	= MINIMUM
BRG.	= BEARING	N.F.	= NEAR FACE
C.I.P.	= CAST IN PLACE	P.E.J.F.	= PREFORMED EXPANSION JOINT FILLER
CLR.	= CLEAR	SHLDR.	= SHOULDER
CONC.	= CONCRETE	SPA.	= SPACES
CONST.	= CONSTRUCTION	STA.	= STATION
C.P.P.	= CORRUGATED PLASTIC PIPE	STD.	= STANDARD
DIA.	= DIAMETER	TYP.	= TYPICAL
DWG.	= DRAWING	W.B.	= WESTBOUND
EA.	= EACH		
E.B.	= EASTBOUND		
E.F.	= EACH FACE		
EL.	= ELEVATION		
EX.	= EXISTING		
EXP.	= EXPANSION		
F.F.	= FAR FACE		
FWD.	= FORWARD		



CENTERLINE SCHEMATIC

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DESIGNED	DRAWN	REVIEWED	DATE
RJB	CAF	RBB	8/17/18
CHECKED	REVISED	STRUCTURE FILE NUMBER	
CMD		1808702	

GENERAL NOTES 2 OF 3
BRIDGE NO. CUY-90-2463
INTERSTATE ROUTE 90 OVER EAST 152ND STREET

CUY-90-24.10/24.63
PID No. 88348

3 / 48

151
196

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

1. GENERAL:

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 3⅝" x 7⅝" 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 MANUFACTURER'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 MANUFACTURER'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 MANUFACTURER'S RECOMMENDATIONS. DAMAGED MOLDS SHALL BE REPLACED AT NO ADDITIONAL CHARGE TO THE DEPARTMENT.

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

3.03 PLACE MOLDS WITH LESS THAN ¼" SEPARATION BETWEEN THEM. ATTACH MOLDS TO FORM SECURELY FOLLOWING MANUFACTURER'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 BRIDGE RAILINGS AS INDICATED IN THE PLANS. THIS ITEM WILL BE PAID PER SQUARE YARD OF PARAPET FACE (ABOVE THE DECK EDGE) TO RECEIVE THE PATTERNED CONCRETE.

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), AS PER PLAN

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 OTHER CONCRETE OR STEEL SURFACES.

ALL EXPOSED SUBSTRUCTURE ELEMENTS, INCLUDING ABUTMENT DIAPHRAGMS, ABUTMENTS, WINGWALLS, PIER COLUMNS AND PIER CAPS FROM THE GROUND LINE UP SHALL BE SEALED.

THE FINISH COAT SEALER COLOR SHALL BE FEDERAL STANDARD COLOR 5958-27722 (BUFF).

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 PRODUCTS 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 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-10) 500 CYCLES. ADHESION ASTM D-3359 1.00 MM CROSS CUTS ON GLASS PASS 3 OR HIGHER ON A SCALE OF 1 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 OVER SPRAY FROM OTHER PROCESSES, PROVIDE TEMPORARY COVER OF FINISHED WORK.

THIS ITEM 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 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. 152ND 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 MANUFACTURER'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 URETHANE 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.

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

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

THIS ITEM CONSISTS OF CONSTRUCTING VANDAL PROTECTION FENCE IN ACCORDANCE WITH THESE PLANS AND O.D.O.T. STANDARD DRAWING VPF-1-90.

THE COLOR OF THE FENCE FABRIC, RAILS, POSTS, PLATES, TIE WIRES, AND ADDITIONAL VISUAL HARDWARE AND CAULK SHALL BE BLACK.

ANCHOR BOLTS SHALL BE CAST IN PLACE.

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 SPECIAL, NOISE BARRIER, BRIDGE MOUNTED
ITEM SPECIAL, NOISE BARRIER, GROUND MOUNTED

DESCRIPTION: THIS WORK CONSISTS OF PREPARING ANY NECESSARY SHOP DRAWINGS, AND MANUFACTURING, TESTING, TRANSPORTING, STORING, INSTALLING FOUNDATIONS (DRILLED SHAFTS), INSTALLING BRIDGE/GROUND MOUNTED POSTS AND SUPPORTS, INSTALLING POST COVERS AND CAPS, AND INSTALLING GROUND MOUNTED/BRIDGE MOUNTED NOISE BARRIER PANELS. ALL REQUIREMENTS OF ODOT STANDARD DRAWING NBS-1-09 SHALL APPLY EXCEPT AS NOTED.

NOISE BARRIER PANELS, POST COVERS AND CAPS SHALL BE PROVIDED BY AN ODOT APPROVED MANUFACTURER.

PANELS: FIBERGLASS REFLECTIVE NOISE BARRIER PANELS SHALL BE USED.

POST COVERS AND CAP: THE VERTICAL POSTS SHALL BE COVERED WITH FIBERGLASS POST COVERS AND CAPS. THE POST COVERS SHALL BE INSTALLED ON BOTH THE HIGHWAY FACE AND THE RESIDENTIAL FACE OF THE POSTS. THE POST COVERS SHALL BE MANUFACTURED TO FIT THE VERTICAL POST FLANGE WIDTHS. THEY SHALL FIT THE POST SECURELY OR BE MECHANICALLY ATTACHED.

DRILLED SHAFTS: CONCRETE SHALL BE CLASS S (MODIFIED). COMPRESSIVE STRENGTH = 4,000 PSI.

REINFORCING STEEL: ASTM A615 OR A996, GRADE 60, EPOXY COATED

STRUCTURAL STEEL: ASTM A 709, GRADE 50

FASTENERS: ALL BOLTS SHALL BE ASTM A325. NUTS SHALL BE ASTM A563, GRADE DH. WASHERS SHALL BE ASTM F436.

GALVANIZING: GALVANIZE ALL STRUCTURAL STEEL, PLATES, ANCHOR BOLTS, BOLTS, NUTS, WASHERS PER CMS 711.02.

COLORS: THE COLOR OF THE PANELS SHALL BE FEDERAL COLOR NO. 595B-20109 (RED BRICK). THE COLOR OF THE FIBERGLASS POST COVERS AND CAPS SHALL BE FEDERAL COLOR NO. 595B-27722 (BUFF).

FIBERGLASS PANELS, POST COVERS, OR CAPS THAT ARE DAMAGED DURING SHIPMENT OR INSTALLATION SHALL BE REJECTED, REMOVED, AND REPLACED AT NO ADDITIONAL COST TO THE PROJECT.

MEASUREMENT AND PAYMENT: THE BRIDGE AND GROUND MOUNTED NOISE BARRIER WILL BE MEASURED AND PAID FOR ON A SQUARE FOOT BASIS. THE HEIGHT OF THE BRIDGE MOUNTED NOISE BARRIER IS MEASURED FROM THE TOP OF BRIDGE BARRIER TO TOP OF NOISE BARRIER PANEL. THE HEIGHT OF THE GROUND MOUNTED BARRIER IS MEASURED FROM THE TOP OF DRILLED SHAFT TO THE TOP OF NOISE BARRIER PANEL.

PAYMENT FOR ALL LABOR, EQUIPMENT, MATERIALS (VERTICAL SUPPORT POSTS, HORIZONTAL SUPPORT BEAMS, PLATES, SHELF ANGLES, PANEL BACKERS, FIBERGLASS REFLECTIVE NOISE BARRIER PANELS, POST COVERS AND CAPS, HARDWARE), AND INCIDENTALS NECESSARY TO COMPLETE THE BRIDGE MOUNTED NOISED BARRIERS AS DETAILED IN THESE PLANS SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM SPECIAL NOISE BARRIER, BRIDGE MOUNTED.

PAYMENT FOR ALL LABOR, EQUIPMENT, MATERIALS (DRILLED SHAFTS, REINFORCING STEEL, VERTICAL SUPPORT POSTS, PANEL BACKERS, FIBERGLASS REFLECTIVE NOISE BARRIER PANELS, POST COVERS AND CAPS, HARDWARE), AND INCIDENTALS NECESSARY TO COMPLETE THE GROUND MOUNTED NOISED BARRIERS AS DETAILED IN THESE PLANS SHALL BE INCLUDED IN THE UNIT PRICE BID PER SQUARE FOOT OF PANEL FOR ITEM SPECIAL NOISE BARRIER, GROUND MOUNTED.

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GENERAL NOTES 3 OF 3
BRIDGE NO. CUY-90-2463
INTERSTATE ROUTE 90 OVER EAST 152ND STREET

CUY-90-24.10/24.63
PID No. 88348

ESTIMATED QUANTITIES

ITEM	ITEM EXT.	TOTAL	UNIT	DESCRIPTION	LEFT STRUCTURE				RIGHT STRUCTURE				AS PER PLAN
					ABUTMENT	PIERS	SUPER.	GENERAL	ABUTMENT	PIERS	SUPER.	GENERAL	STR. SHT. NO.
202	11203	LS	LS	PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN				LS				LS	2
202	11305	1,814	SY	PORTIONS OF STRUCTURE REMOVED, AS PER PLAN			907				907		2
202	22901	752	SY	APPROACH SLAB REMOVED, AS PER PLAN				376				376	3
257	10001	106	SY	DIAMOND GRINDING PORTLAND CEMENT CONCRETE PAVEMENT, AS PER PLAN			89	17					
503	11100	LS	LS	COFFERDAMS AND EXCAVATION BRACING				LS				LS	
503	21101	72	CY	UNCLASSIFIED EXCAVATION, AS PER PLAN	36				36				2
509	10000	503,281	LB	EPOXY COATED REINFORCING STEEL	1,792	3,563	246,285		1,792		246,285		
510	10000	2,692	EACH	DOWEL HOLES WITH NONSHRINK, NONMETALLIC GROUT	188	474	588	96	188	474	588	96	
511	33501	4	EACH	SEMI-INTEGRAL DIAPHRAGM GUIDE, AS PER PLAN	2				2				3
511	34413	188	CY	CLASS QC2 CONCRETE WITH QC/QA, SUPERSTRUCTURE, AS PER PLAN		94					94		2
511	34447	1,112	CY	CLASS QC2 CONCRETE WITH QC/QA, BRIDGE DECK, AS PER PLAN		556					556		2
511	34451	203	CY	CLASS QC2 CONCRETE WITH QC/QA, BRIDGE DECK (PARAPET), AS PER PLAN		101					102		2
511	50211	77	CY	CLASS QC1 CONCRETE, SUBSTRUCTURE, AS PER PLAN	11	28			10	28			2
511	71300	75	SY	CONCRETE, MISC.: MOLDED BRICK SURFACE							75		
511	71300	75	SY	CONCRETE, MISC.: STAINING CONCRETE SURFACES							75		
511	81300	3	EACH	CONCRETE, MISC.: MOCKUP MOLDED BRICK SURFACE								3	
512	10051	75	SY	SEALING OF CONCRETE SURFACES (NON-EPOXY), AS PER PLAN							75		4
512	10101	2,581	SY	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE), AS PER PLAN	13	622	597	59	14	623	594	59	4
512	33300	11	SY	TYPE A WATERPROOFING			6				5		
513	20000	13,280	EACH	WELDED STUD SHEAR CONNECTORS			6,640				6,640		
513	90000	94,360	LB	STRUCTURAL STEEL, MISC.: FATIGUE RETROFIT			47,180				47,180		
513	95030	91	EACH	STRUCTURAL STEEL, MISC.: INTERMEDIATE CROSSFRAMES			45				46		
513	95030	22	EACH	STRUCTURAL STEEL, MISC.: TEMPORARY CROSSFRAMES FOR MAINTENANCE OF TRAFFIC			11				11		
514	00050	44,470	SF	SURFACE PREPARATION OF EXISTING STRUCTURAL STEEL			22,235				22,235		
514	00056	44,470	SF	FIELD PAINTING OF EXISTING STRUCTURAL STEEL, PRIME COAT			22,235				22,235		
514	00060	44,470	SF	FIELD PAINTING STRUCTURAL STEEL, INTERMEDIATE COAT			22,235				22,235		
514	00067	44,470	SF	FIELD PAINTING STRUCTURAL STEEL, FINISH COAT, AS PER PLAN			22,235				22,235		3
514	00504	69	MNHR	GRINDING FINS, TEARS, SLIVERS ON EXISTING STRUCTURAL STEEL			34				35		
514	10000	40	EACH	FINAL INSPECTION REPAIR			20				20		
516	10010	320	FT	ARMORLESS PREFORMED JOINT SEAL			160				160		
516	10011	316	FT	ARMORLESS PREFORMED JOINT SEAL, AS PER PLAN			158				158		3
516	13600	42	SF	1" PREFORMED EXPANSION JOINT FILLER			21				21		
516	13900	1,642	SF	2" PREFORMED EXPANSION JOINT FILLER			709	113			708	112	
516	25000	1,078	SF	NYLON REINFORCED NEOPRENE SHEETING			539				539		
516	44201	32	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE), AS PER PLAN (3.128"x9.5"x18")	16				16				34
516	44201	48	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE), AS PER PLAN (3.128"x14"x18")		24				24			34
516	47001	LS	LS	JACKING AND TEMPORARY SUPPORT OF SUPERSTRUCTURE, AS PER PLAN				LS				LS	3
518	21200	181	CY	POROUS BACKFILL WITH GEOTEXTILE FABRIC	91				90				
518	40000	336	FT	6" PERFORATED CORRUGATED PLASTIC PIPE	168				168				
518	40010	80	FT	6" NON-PERFORATED CORRUGATED PLASTIC PIPE, INCLUDING SPECIALS	42				38				
519	11101	250	SF	PATCHING CONCRETE STRUCTURE, AS PER PLAN	125				125				3
526	25001	775	SY	REINFORCED CONCRETE APPROACH SLABS (T=15"), AS PER PLAN				388				387	3
526	90030	322	FT	TYPE C INSTALLATION				161				161	
601	20000	6	SY	CRUSHED AGGREGATE SLOPE PROTECTION	3				3				
601	21001	150	SY	CONCRETE SLOPE PROTECTION, AS PER PLAN	75				75				3
SPECIAL	60610920	2,407	SF	NOISE BARRIER, BRIDGE MOUNTED			2,407						4
SPECIAL	60610920	344	SF	NOISE BARRIER, GROUND MOUNTED				344					4
607	39901	262	FT	VANDAL PROTECTION FENCE, 6' STRAIGHT, COATED FABRIC, AS PER PLAN							262		4

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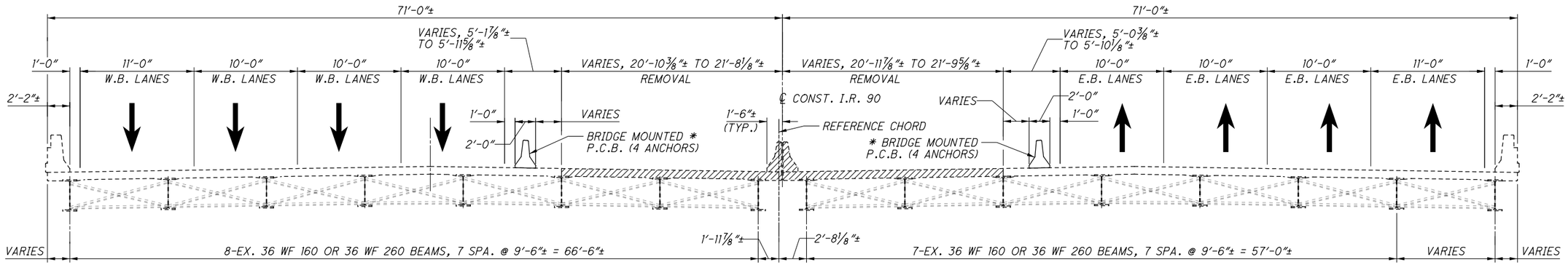
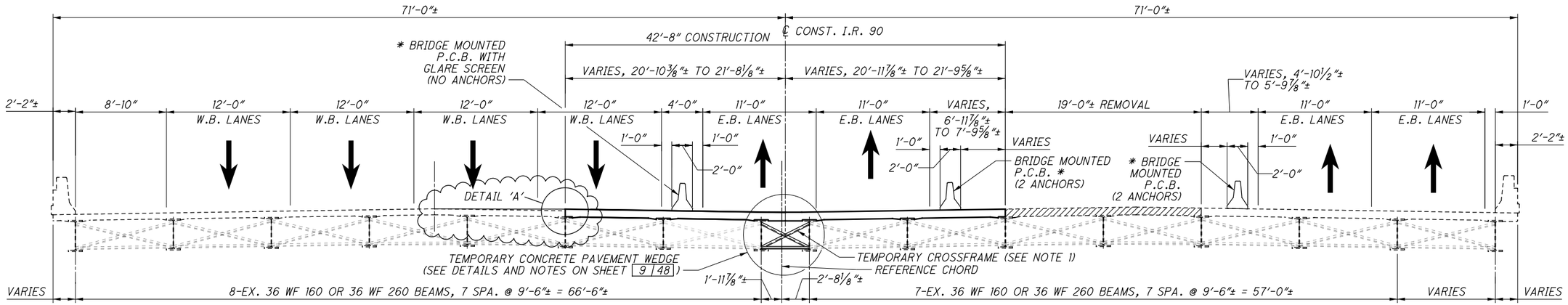
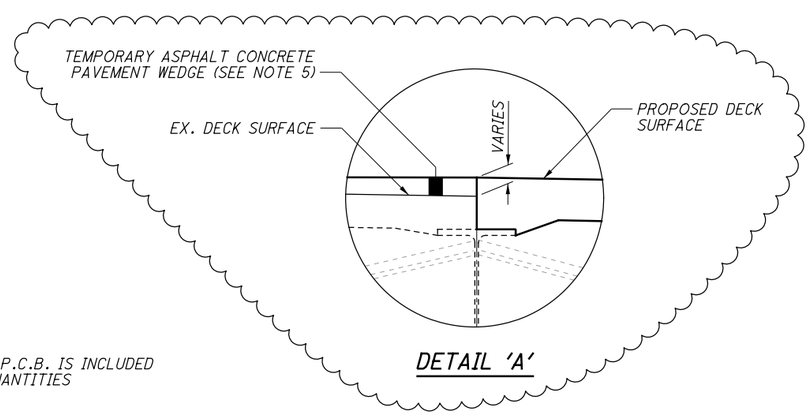


PHASE 1 MAINTENANCE OF TRAFFIC | PHASE 1 REMOVAL | PHASE 1 MAINTENANCE OF TRAFFIC



PHASE 2 MAINTENANCE OF TRAFFIC | PHASE 1 CONSTRUCTION AND PHASE 2 M.O.T. | PHASE 2 REMOVAL | PHASE 2 MAINTENANCE OF TRAFFIC



DETAIL 'A'

LEGEND

ITEM 202, PORTIONS OF STRUCTURE REMOVED, OVER 20' SPAN, AS PER PLAN

* BRIDGE MOUNTED P.C.B. IS INCLUDED WITH ROADWAY QUANTITIES

NOTES:

1. FOR LOCATION OF TEMPORARY CROSS FRAMES, SEE FRAMING PLAN ON SHEET 17 | 48 .
2. FOR M.O.T. PLANS SEE SHEETS 9 THRU 61 .
3. IN PHASE 1, THE BRIDGE DECK FOR THE LEFT AND RIGHT STRUCTURES SHALL BE PLACED IN TWO SEPERATE DECK POURS.
4. FOR BRIDGE MOUNTED PORTABLE CONCRETE BARRIER (P.C.B.) DETAILS, SEE STANDARD DRAWING PCB-91. BARRIERS SHALL BE ANCHORED TO BRIDGE DECK AS NOTED.
5. A TEMPORARY ASPHALT CONCRETE PAVEMENT WEDGE IS NECESSARY FOR PHASE 2 AND 3 MAINTENANCE OF TRAFFIC DUE TO ELEVATION DIFFERENCE BETWEEN THE NEW AND EXISTING BRIDGE DECK. PAYMENT FOR THE TEMPORARY ASPHALT PAVEMENT WEDGE SHALL BE INCLUDED WITH ITEM 614-MAINTAINING TRAFFIC.

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STAGED CONSTRUCTION DETAILS 1 OF 4
BRIDGE NO. CUY-90-2463
INTERSTATE ROUTE 90 OVER EAST 152ND STREET

CUY-90-24.10/24.63
PID No. 88348

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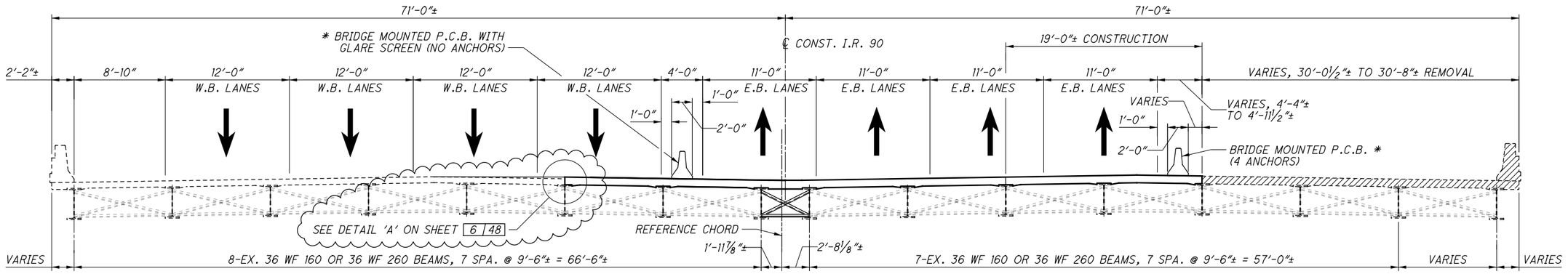
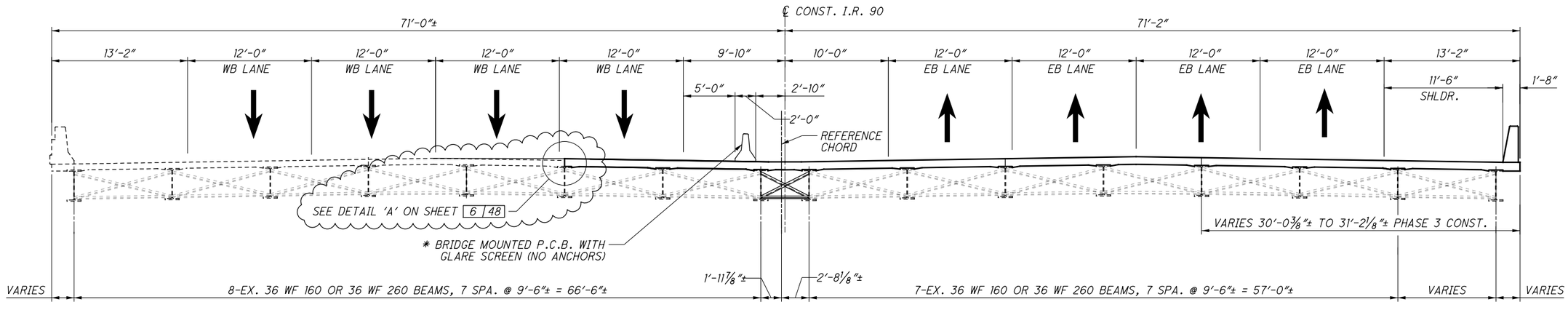


PHASE 3 MAINTENANCE OF TRAFFIC

PHASE 3 MAINTENANCE OF TRAFFIC

PHASE 2 CONSTRUCTION AND PHASE 3 M.O.T.

PHASE 3 REMOVAL



WINTER SHUTDOWN PHASE

LEGEND

ITEM 202, PORTIONS OF STRUCTURE REMOVED, OVER 20' SPAN, AS PER PLAN

* BRIDGE MOUNTED P.C.B. IS INCLUDED WITH ROADWAY QUANTITIES

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STAGED CONSTRUCTION DETAILS 2 OF 4
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INTERSTATE ROUTE 90 OVER EAST 152ND STREET

CUY-90-24.10/24.63
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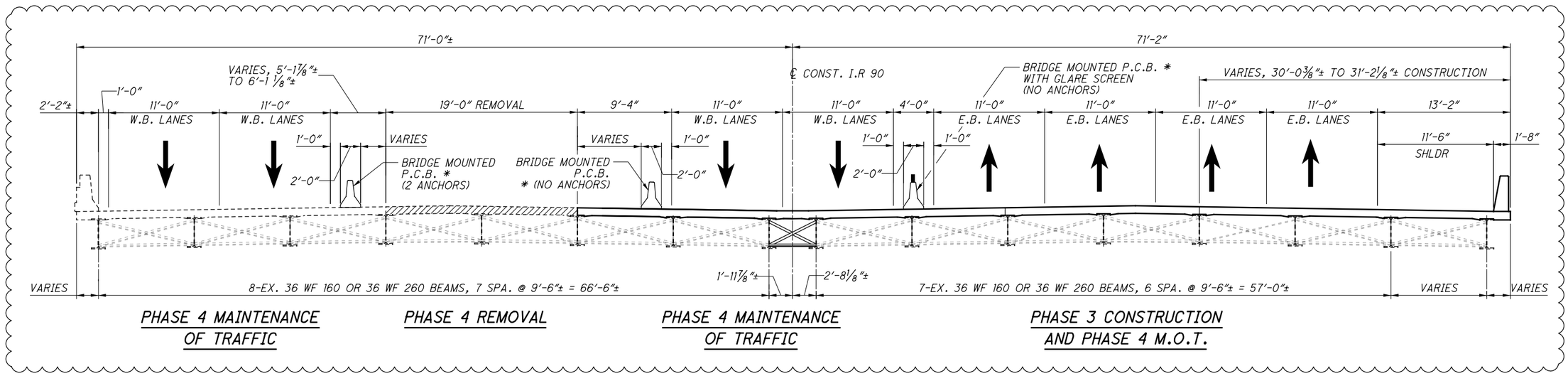

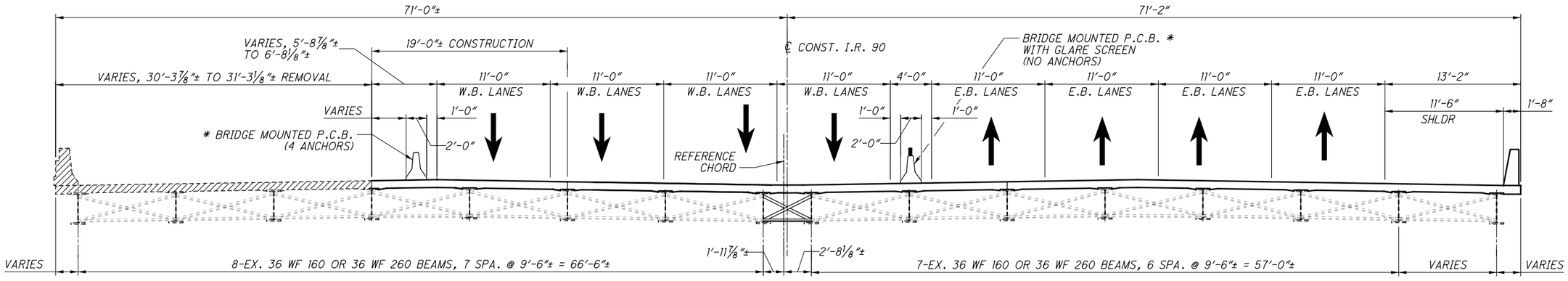

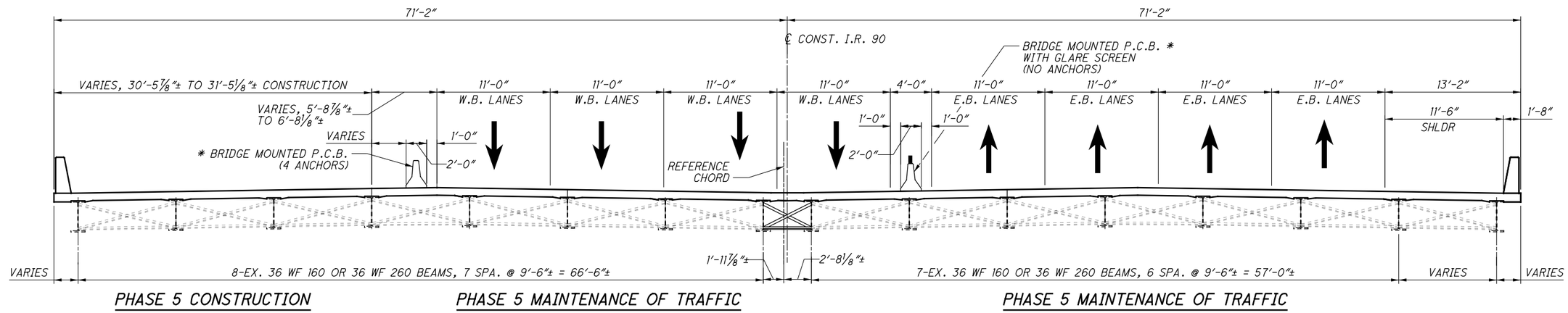

LEGEND

ITEM 202, PORTIONS OF STRUCTURE REMOVED, OVER 20' SPAN, AS PER PLAN

* BRIDGE MOUNTED P.C.B. IS INCLUDED WITH ROADWAY QUANTITIES

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BRIDGE NO. CUY-90-2463
INTERSTATE ROUTE 90 OVER EAST 152ND STREET

CUY-90-24.10/24.63
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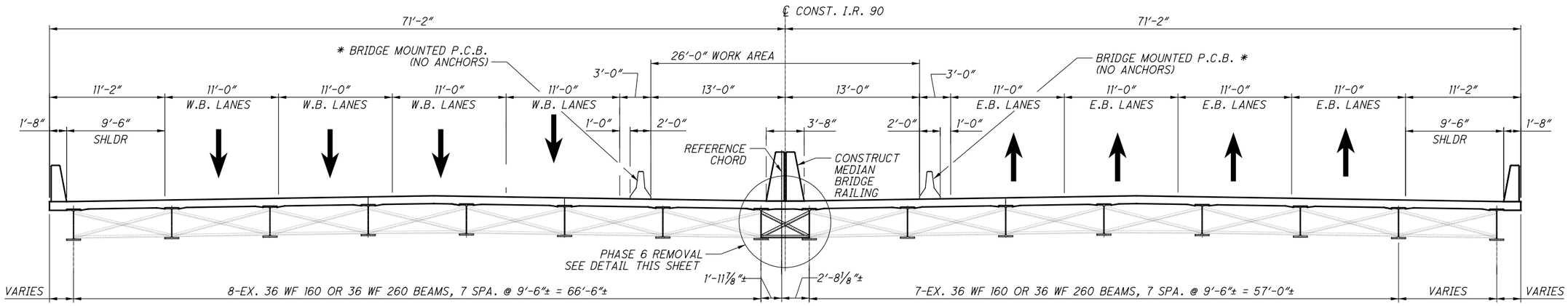
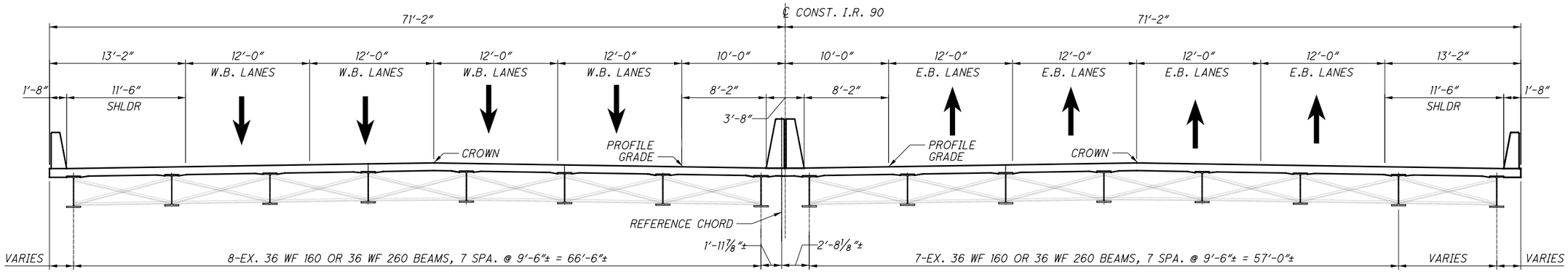
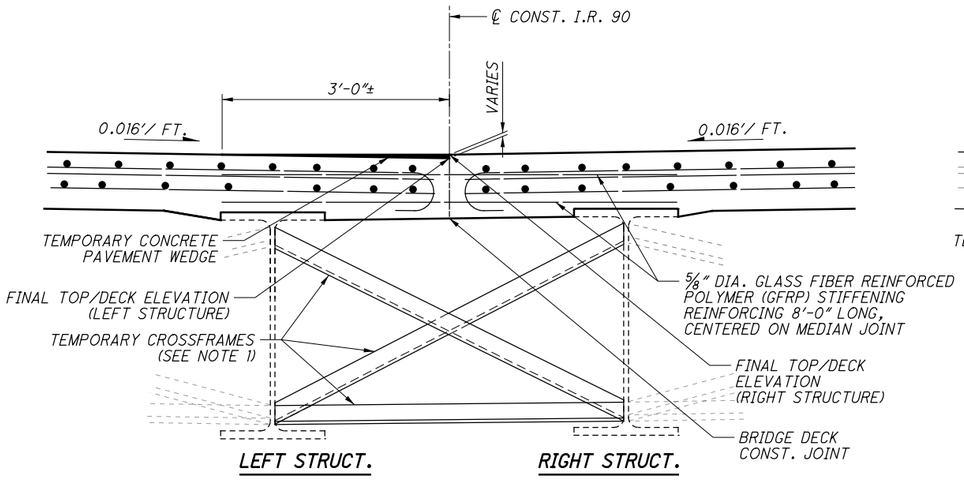


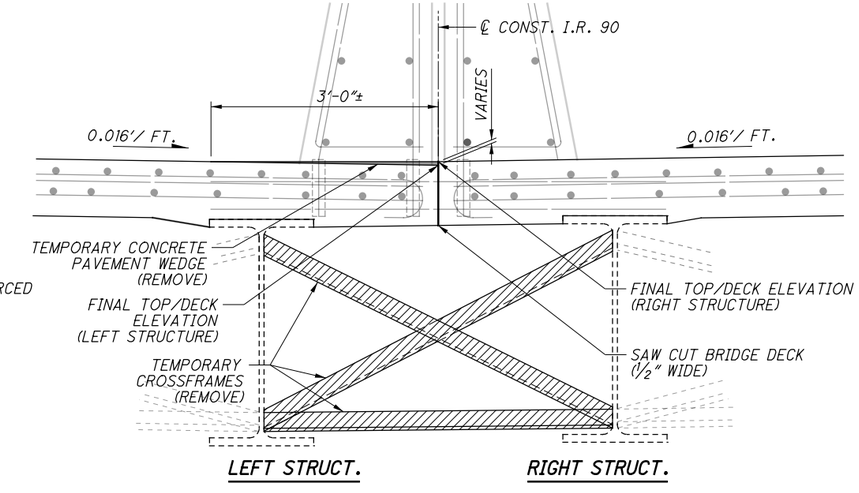
PHASE 6 MAINTENANCE OF TRAFFIC | PHASE 6 CONSTRUCTION | PHASE 6 MAINTENANCE OF TRAFFIC



FINAL CONFIGURATION



TEMPORARY CONCRETE PAVEMENT WEDGE DETAIL



PHASE 6 REMOVAL

(SEE NOTE 3)

NOTES

1. TEMPORARY CROSSFRAMES SHALL BE INSTALLED AT THE LOCATIONS SHOWN ON SHEET 17 | 48 .
2. THE TEMPORARY CONCRETE PAVEMENT WEDGE SHALL BE POURED INTEGRALLY WITH THE PHASE 1 DECK CONCRETE FOR THE LEFT STRUCTURE.
3. PRIOR TO CONSTRUCTION OF MEDIAN BRIDGE RAILINGS IN PHASE 6, THE TEMPORARY CROSSFRAMES SHALL BE REMOVED AND THE BRIDGE DECK SHALL BE SAWCUT FULL DEPTH. IN ADDITION, THE TEMPORARY CONCRETE PAVEMENT WEDGE SHALL BE REMOVED BY DIAMOND GRINDING.
4. UPON REMOVAL OF P.C.B., HOLES IN THE BRIDGE DECK/APPROACH SLAB SHALL BE PATCHED WITH NON-SHRINK NON-METALLIC GROUT.

LEGEND

ITEM 202, PORTIONS OF STRUCTURE REMOVED, OVER 20' SPAN, AS PER PLAN

* BRIDGE MOUNTED P.C.B. IS INCLUDED WITH ROADWAY QUANTITIES

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STAGED CONSTRUCTION DETAILS 4 OF 4
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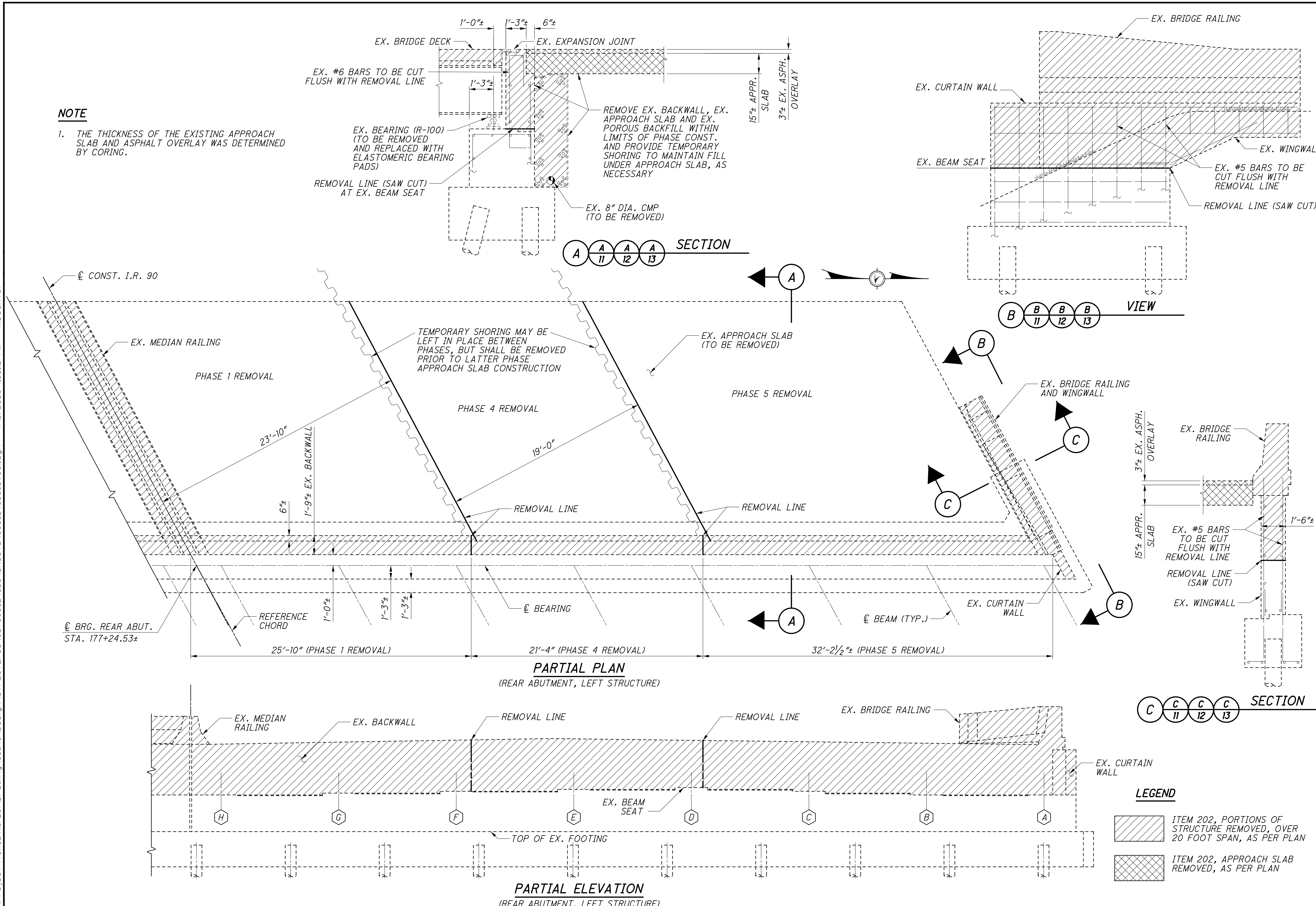
PID No. 88348



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RJB	MPB	RBB	8/17/18
CHECKED	REVISED	STRUCTURE FILE NUMBER	
CMD		1808702	

REMOVAL DETAILS 1 OF 4
BRIDGE NO. CUY-90-2463
INTERSTATE ROUTE 90 OVER EAST 152ND STREET

CUY-90-24.10/24.63
PID No. 88348

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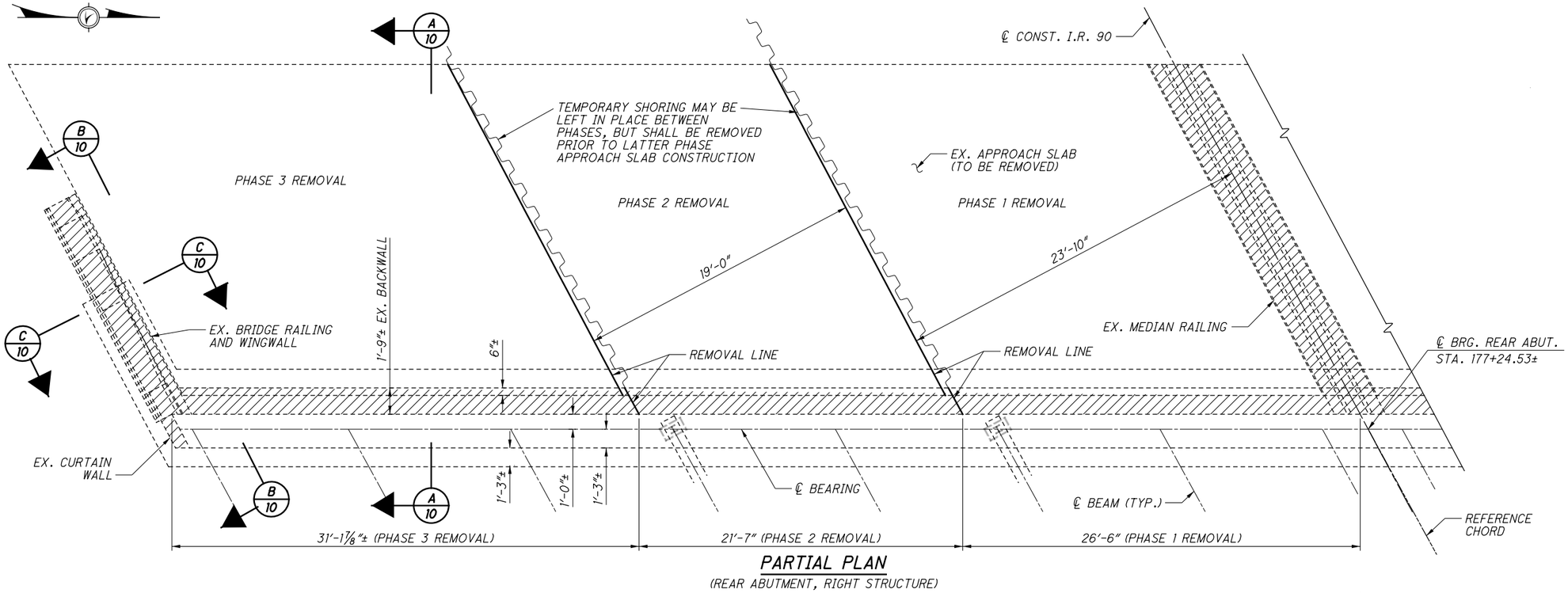
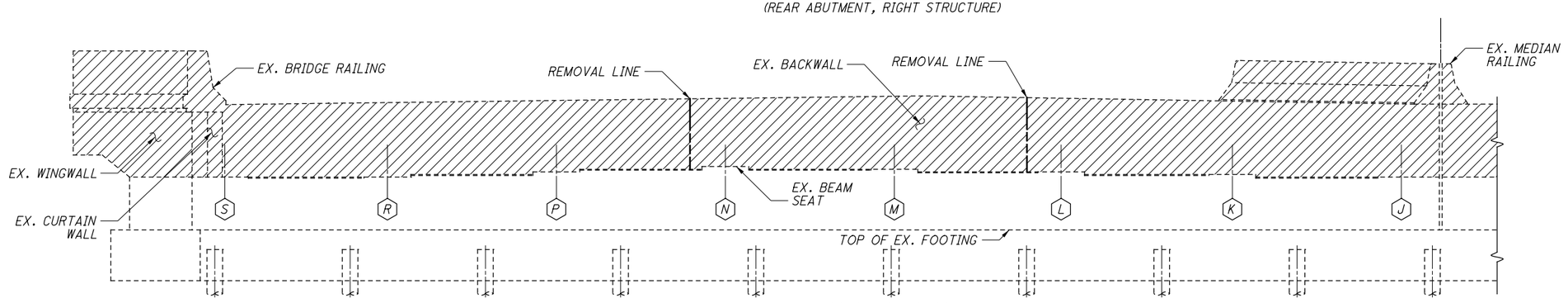


PARTIAL PLAN
(REAR ABUTMENT, RIGHT STRUCTURE)



PARTIAL ELEVATION
(REAR ABUTMENT, RIGHT STRUCTURE)

LEGEND

ITEM 202, PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN

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REMOVAL DETAILS 2 OF 4
BRIDGE NO. CUY-90-2463
INTERSTATE ROUTE 90 OVER EAST 152ND STREET

CUY-90-24.10/24.63
PID No. 88348

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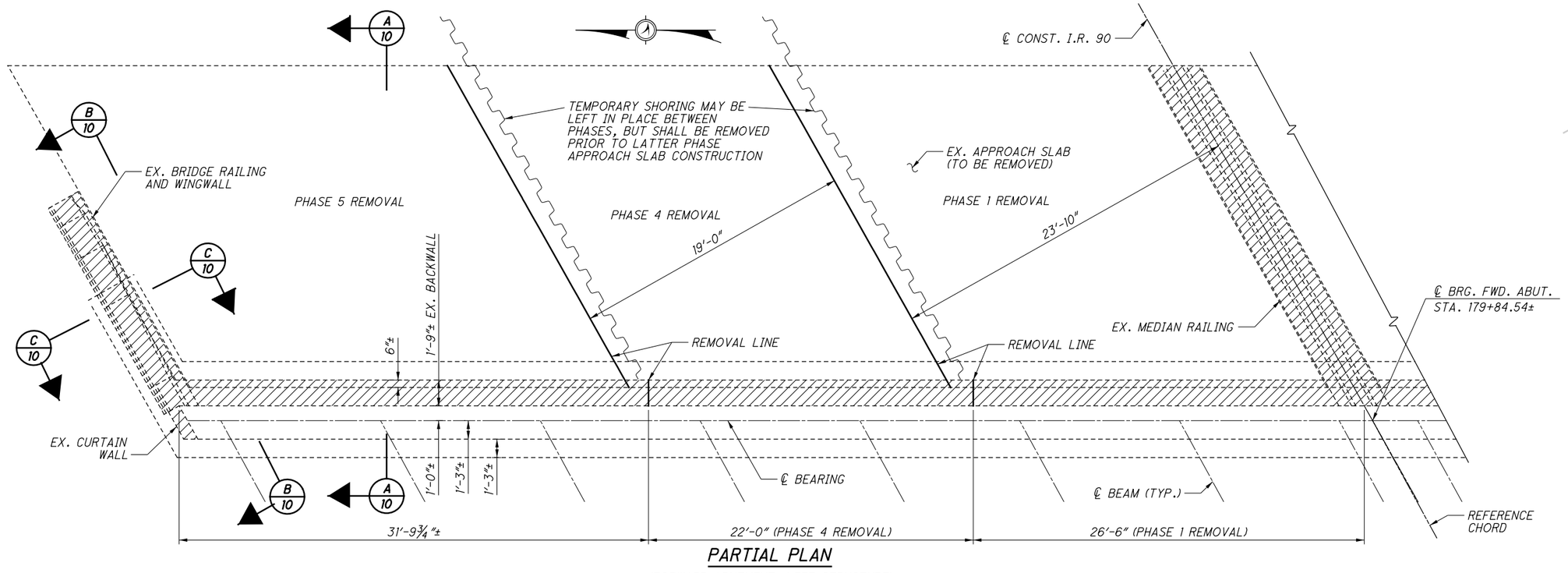
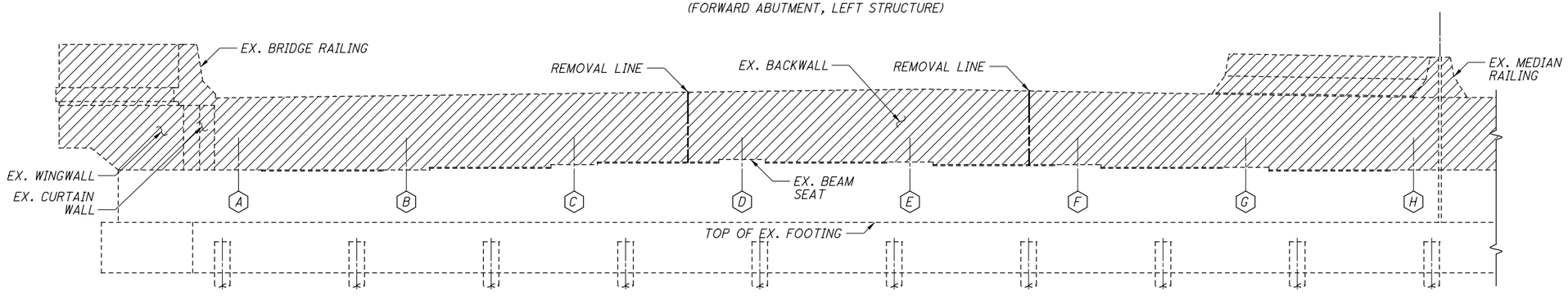


PARTIAL PLAN

(FORWARD ABUTMENT, LEFT STRUCTURE)



PARTIAL ELEVATION

(FORWARD ABUTMENT, LEFT STRUCTURE)

LEGEND

ITEM 202, PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN

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REMOVAL DETAILS 3 OF 4
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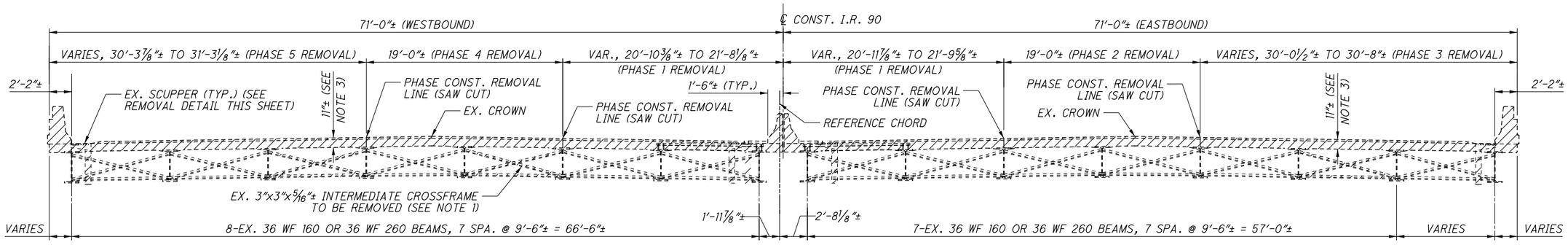
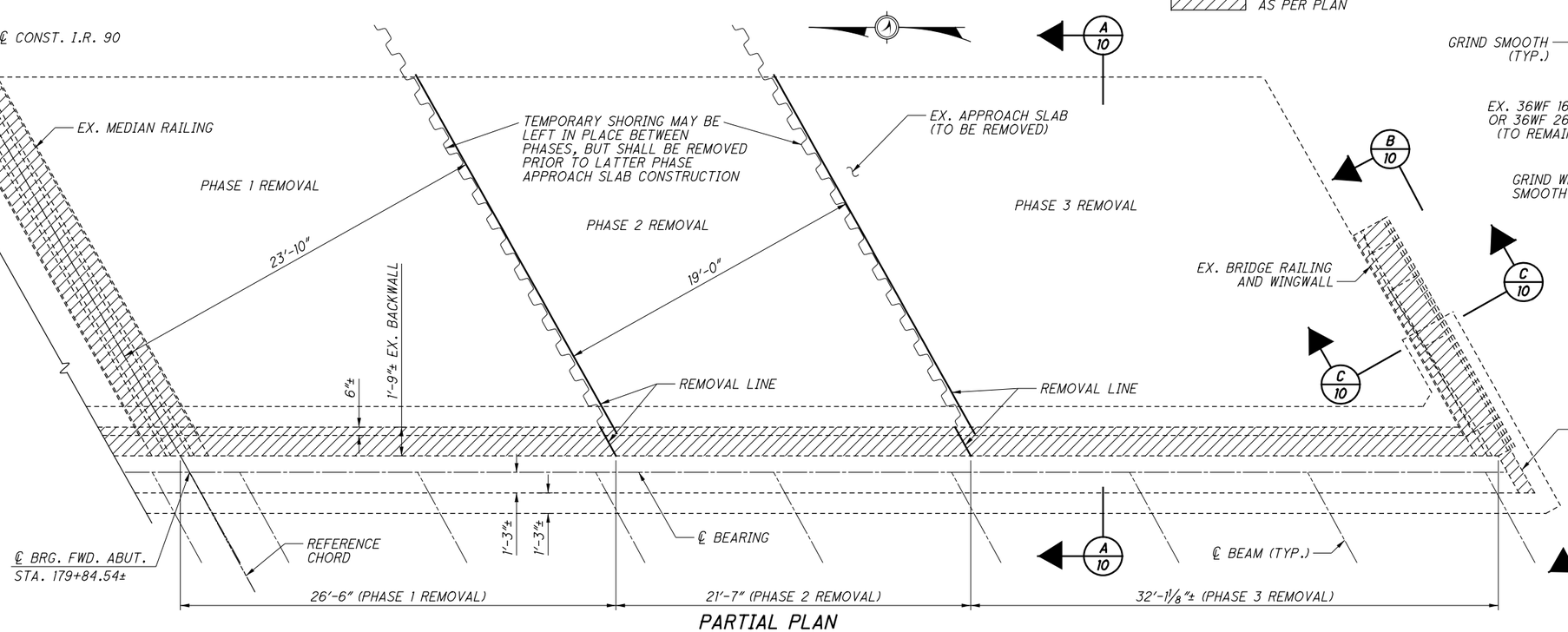


EXISTING TRANSVERSE SECTION

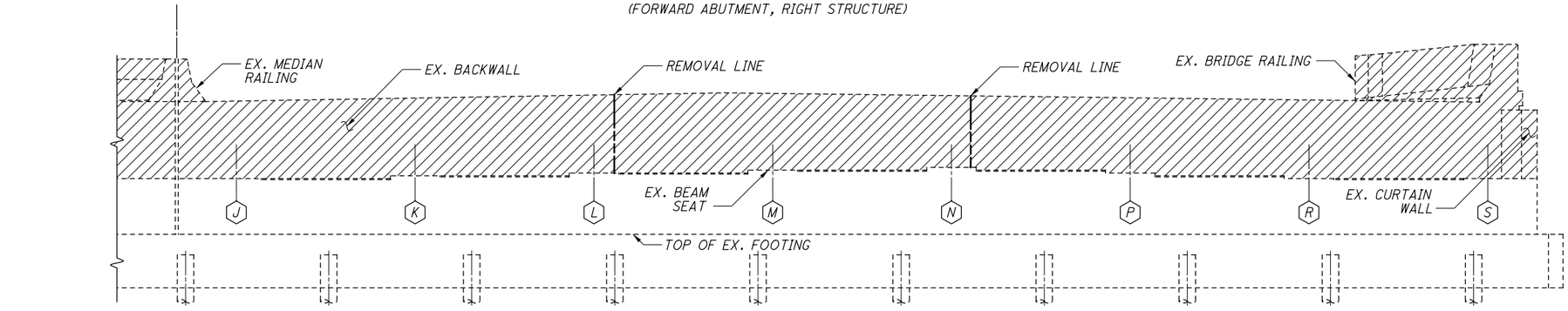
LEGEND

ITEM 202, PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN



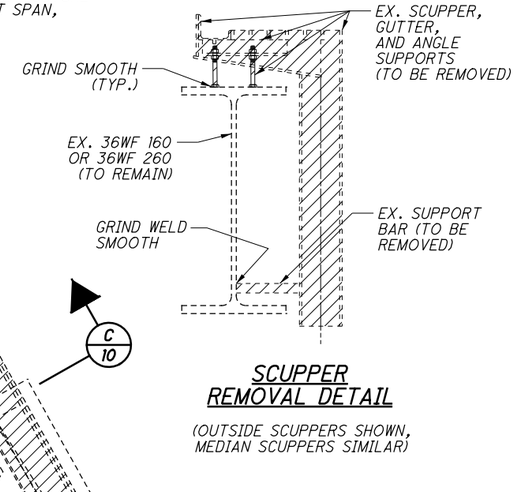
PARTIAL PLAN

(FORWARD ABUTMENT, RIGHT STRUCTURE)



PARTIAL ELEVATION

(FORWARD ABUTMENT, RIGHT STRUCTURE)



SCUPPER REMOVAL DETAIL

(OUTSIDE SCUPPERS SHOWN, MEDIAN SCUPPERS SIMILAR)

NOTES

1. ALL EXISTING END CROSSFRAMES AND ANY INTERMEDIATE CROSSFRAMES THAT INTERFERE WITH NEW CONSTRUCTION ELEMENTS SHALL BE REMOVED. FOR LOCATIONS SEE SHEET 17 48 .
2. REMOVE EXISTING WELDED ATTACHMENTS (E.G., FINISHING MACHINE AND FORM SUPPORTS; AND SUPPORTS FOR SCUPPERS AND BULB ANGLES WHICH ARE TO BE REMOVED) LOCATED IN THE DESIGNATED TENSION PORTIONS OF THE TOP FLANGES OF EXISTING STEEL MEMBERS AND GRIND THE FLANGE SURFACES SMOOTH. CAREFULLY GRIND PARALLEL TO THE FLANGES.
3. THE THICKNESS OF THE CONCRETE DECK SHOWN WAS DETERMINED BY DECK CORING AND INCLUDES THE THICKNESS OF THE ORIGINAL CONCRETE DECK PLUS LATEX MODIFIED CONCRETE OVERLAY.

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REMOVAL DETAILS 4 OF 4
BRIDGE NO. CUY-90-2463
INTERSTATE ROUTE 90 OVER EAST 152ND STREET

CUY-90-24.10/24.63
PID No. 88348

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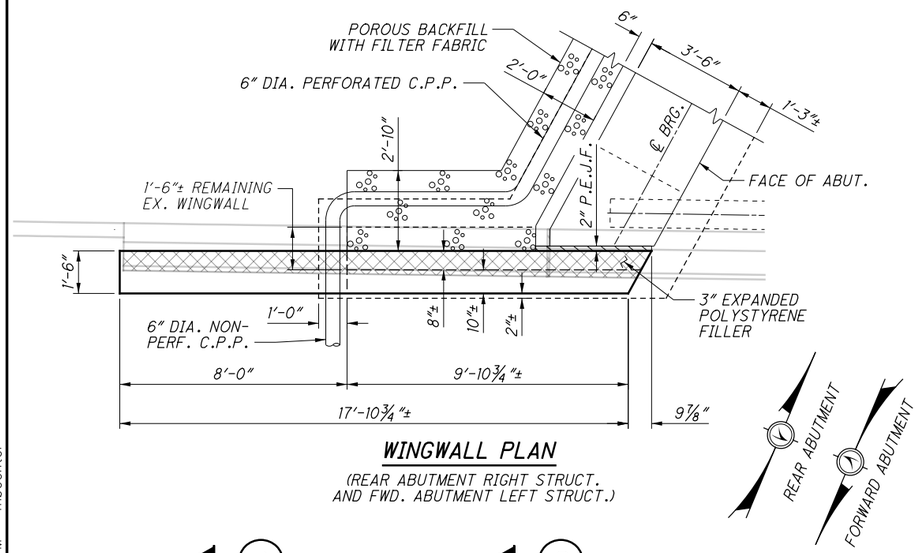
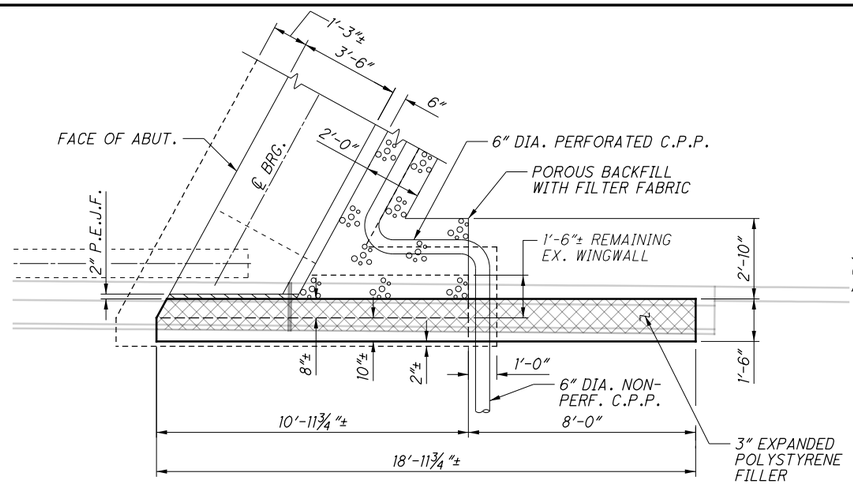


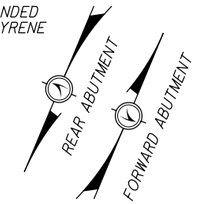
WINGWALL PLAN

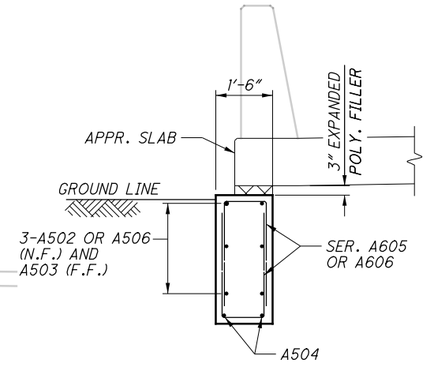
(REAR ABUTMENT RIGHT STRUCT. AND FWD. ABUTMENT LEFT STRUCT.)



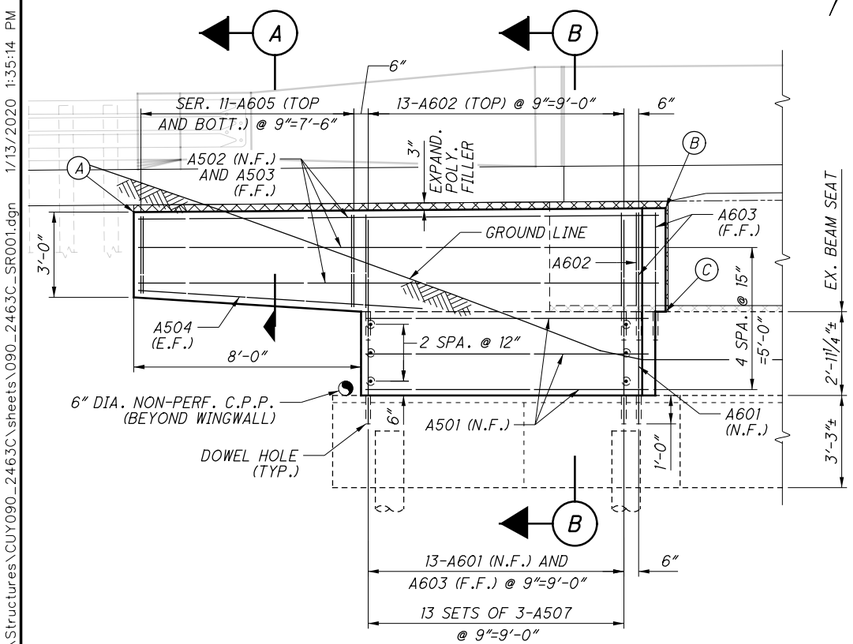
WINGWALL PLAN

(REAR ABUTMENT LEFT STRUCT. AND FWD. ABUTMENT RIGHT STRUCT.)



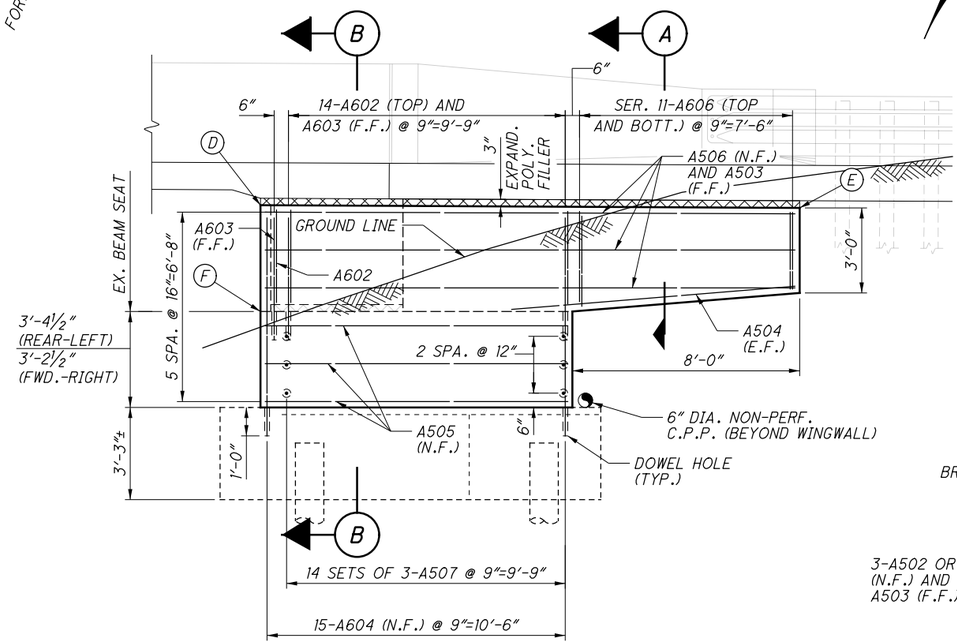


A SECTION



WINGWALL ELEVATION

(REAR ABUTMENT RIGHT STRUCT. AND FWD. ABUTMENT LEFT STRUCT.)



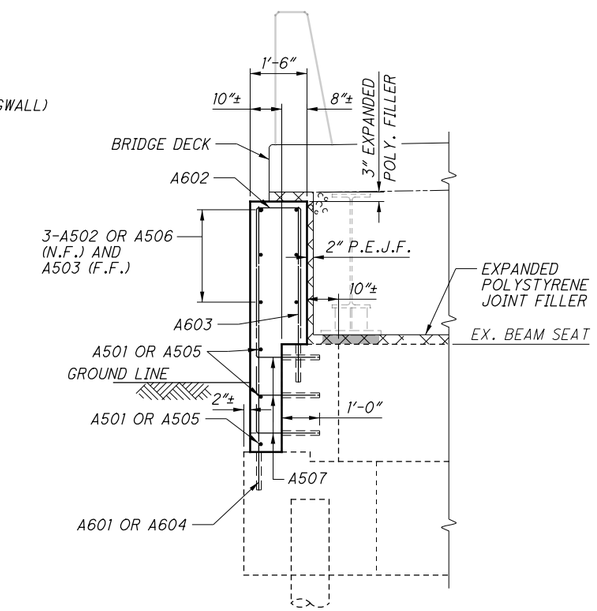
WINGWALL ELEVATION

(REAR ABUTMENT LEFT STRUCT. AND FWD. ABUTMENT RIGHT STRUCT.)

ELEVATION TABLE		
POINT	ABUTMENT	
	REAR	FORWARD
A	618.88	619.46
B	619.02	619.55
C	615.37	615.90
D	619.54	619.73
E	619.45	619.69
F	615.80	616.10

NOTES

1. MINIMUM BAR LAP IS AS FOLLOWS: #6 BAR = 35"
2. PROVIDE A 1" CHAMFER ON THE EDGE OF ALL EXPOSED CONCRETE.
3. EXPANDED POLYSTYRENE FILLER SHALL BE INCLUDED WITH ITEM 511, CLASS QC12 CONCRETE WITH QC/QA, RETAINING/WINGWALL NOT INCLUDING FOOTING, AS PER PLAN, FOR PAYMENT.
4. ALL DOWEL BARS SHALL HAVE A MINIMUM EDGE DISTANCE OF 4" UNLESS NOTED.
5. FOR REAR AND FORWARD ABUTMENT DIAPHRAGM DETAILS SEE SHEETS 20/48 THRU 23/48.



B SECTION

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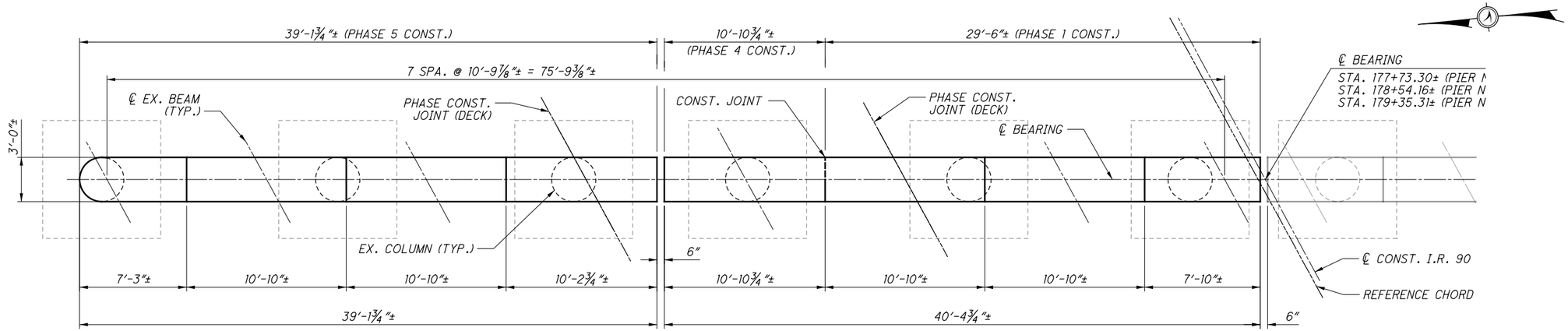
FJG		1808702	

ABUTMENT DETAILS
BRIDGE NO. CUY-90-2463
STATE ROUTE 90 OVER EAST 152ND STREET

CUY-90-24.10/24.63
PID No. 88348



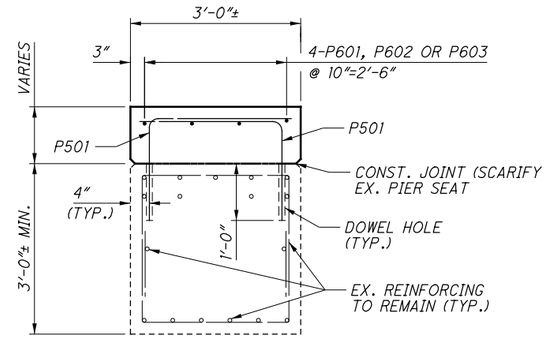
PIER PLAN - LEFT STRUCTURE

(PIER NO. 1 AND 3 SHOWN, PIER NO. 2 SIMILAR)

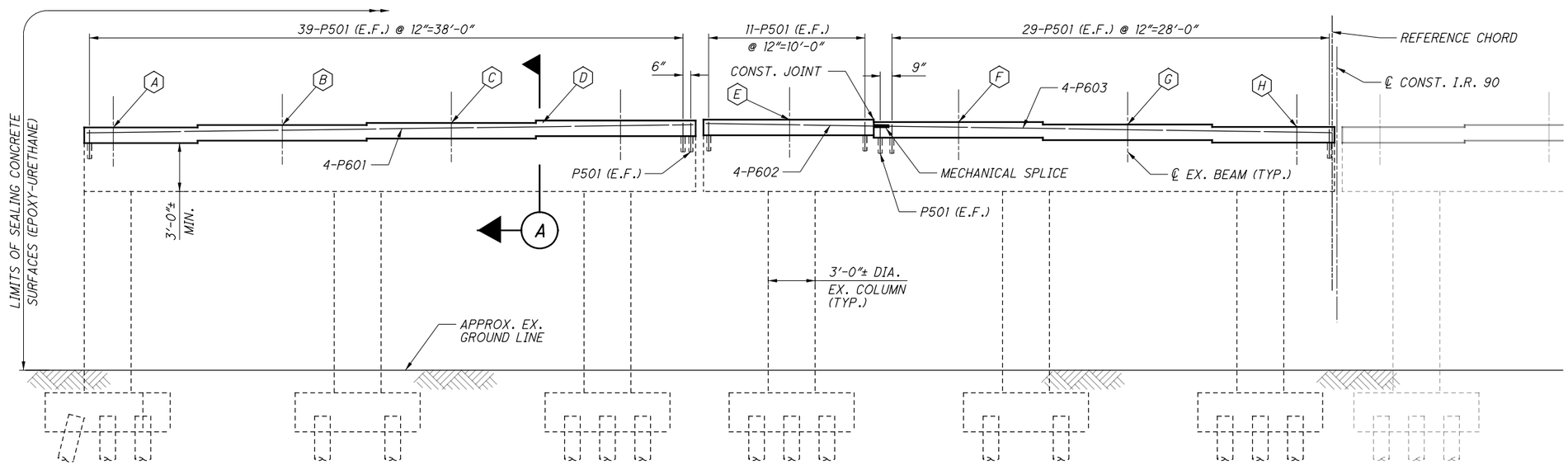
BEAM SEAT ELEVATION TABLE			
BEAM NO.	PIER NO. 1	PIER NO. 2	PIER NO. 3
A	616.43	616.60	616.50
B	616.54	616.74	616.64
C	616.69	616.87	616.79
D	616.80	617.02	616.91
E	616.87	617.09	616.99
F	616.70	616.93	616.87
G	616.52	616.76	616.73
H	616.34	616.63	616.58

NOTES

1. EXISTING REINFORCING IN THE PIER CAP SHALL BE POSITIVELY LOCATED USING NON-DESTRUCTIVE TESTING EQUIPMENT AND MARKED PRIOR TO DRILLING OF DOWEL HOLES. DOWEL HOLES SHALL BE SPACED TO AVOID INTERFERENCE WITH EXISTING REINFORCING.
2. SEAL ALL EXPOSED SURFACES OF PIER NO. 1, 2 AND 3 EXCEPT FOR THE PIER SEAT UNDER EACH BEARING.



A SECTION



PIER ELEVATION - LEFT STRUCTURE

(PIER NO. 1 AND 3 SHOWN, PIER NO. 2 SIMILAR)

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PIER DETAILS 1 OF 2
BRIDGE NO. CUY-90-2463
INTERSTATE ROUTE 90 OVER EAST 152ND STREET

CUY-90-24.10/ 24.63
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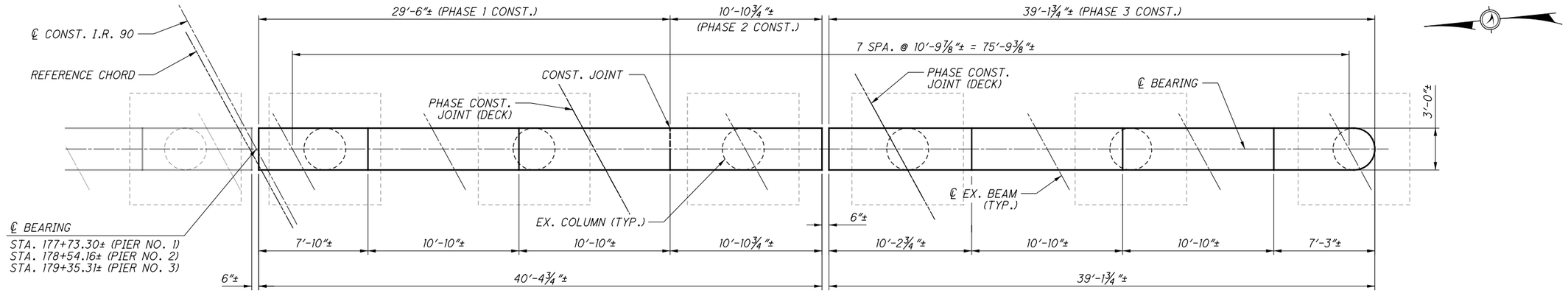


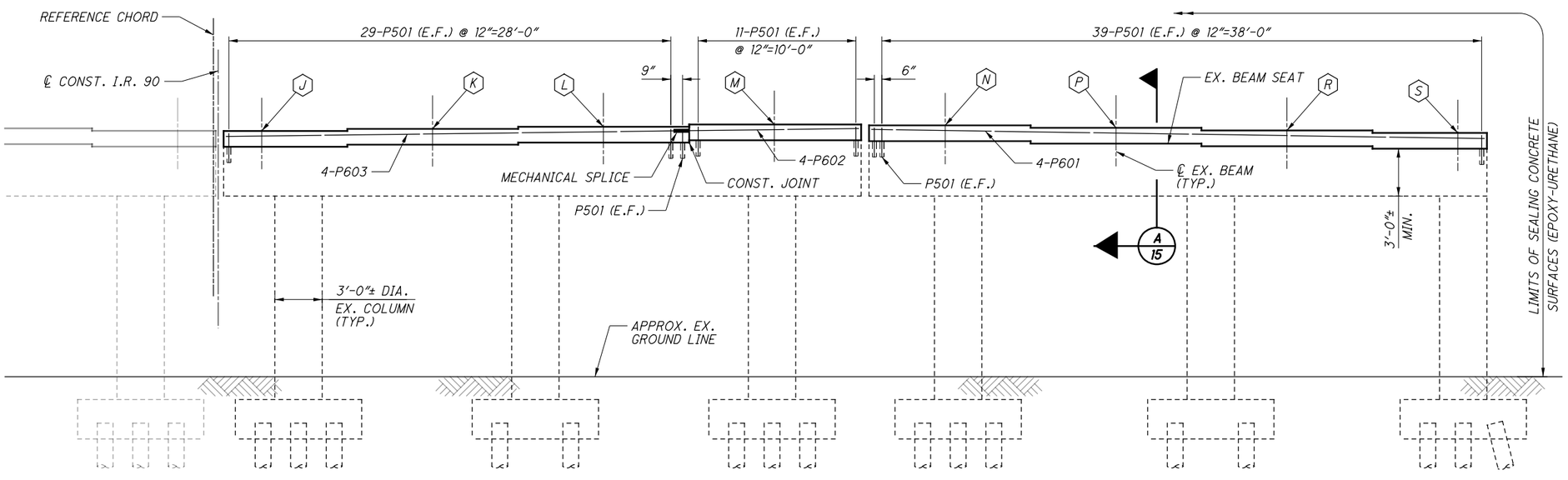
PIER PLAN - RIGHT STRUCTURE

(PIER NO. 1 AND 3 SHOWN, PIER NO. 2 SIMILAR)

BEAM SEAT ELEVATION TABLE			
BEAM NO.	PIER NO. 1	PIER NO. 2	PIER NO. 3
J	616.31	616.62	616.61
K	616.44	616.74	616.73
L	616.58	616.86	616.89
M	616.70	617.01	617.02
N	616.63	616.96	617.01
P	616.46	616.79	616.87
R	616.26	616.65	616.74
S	616.13	616.49	616.61

NOTES

1. EXISTING REINFORCING IN THE PIER CAP SHALL BE POSITIVELY LOCATED USING NON-DESTRUCTIVE TESTING EQUIPMENT AND MARKED PRIOR TO DRILLING OF DOWEL HOLES. DOWEL HOLES SHALL BE SPACED TO AVOID INTERFERENCE WITH EXISTING REINFORCING.
2. SEAL ALL EXPOSED SURFACES OF PIER NO. 1, 2 AND 3 EXCEPT FOR THE PIER SEAT UNDER EACH BEARING.



PIER ELEVATION - RIGHT STRUCTURE

(PIER NO. 1 AND 3 SHOWN, PIER NO. 2 SIMILAR)

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PIER DETAILS 2 OF 2
BRIDGE NO. CUY-90-2463
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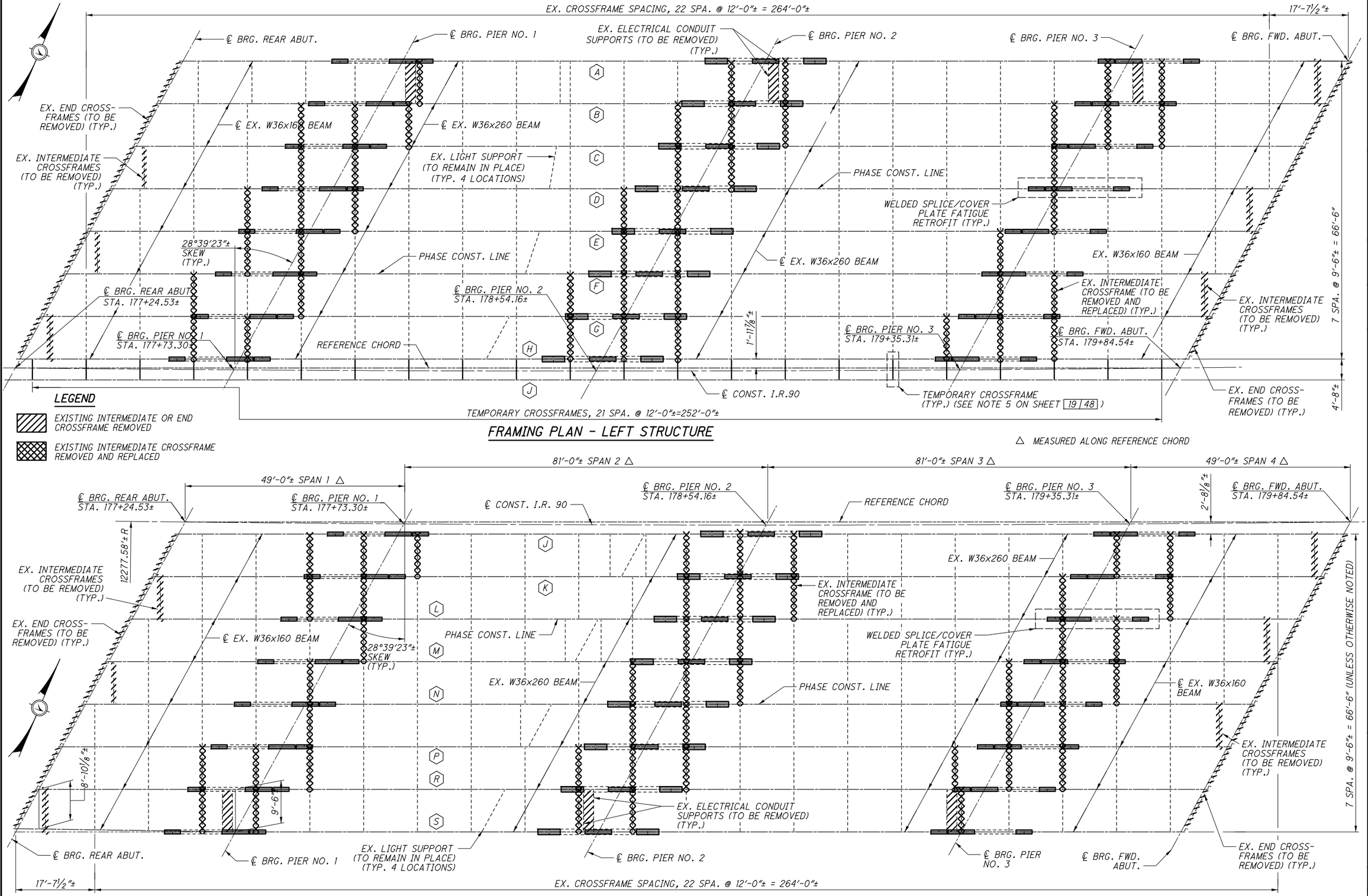

LEGEND

- EXISTING INTERMEDIATE OR END CROSSFRAME REMOVED
- EXISTING INTERMEDIATE CROSSFRAME REMOVED AND REPLACED

FRAMING PLAN - LEFT STRUCTURE

△ MEASURED ALONG REFERENCE CHORD

FRAMING PLAN - RIGHT STRUCTURE

NOTE

1. FOR ADDITIONAL NOTES, SEE SHEET 19 | 48 .

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SUPERSTRUCTURE DETAILS 1 OF 7
BRIDGE NO. CUY-90-2463
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CUY-90-24.10/24.63
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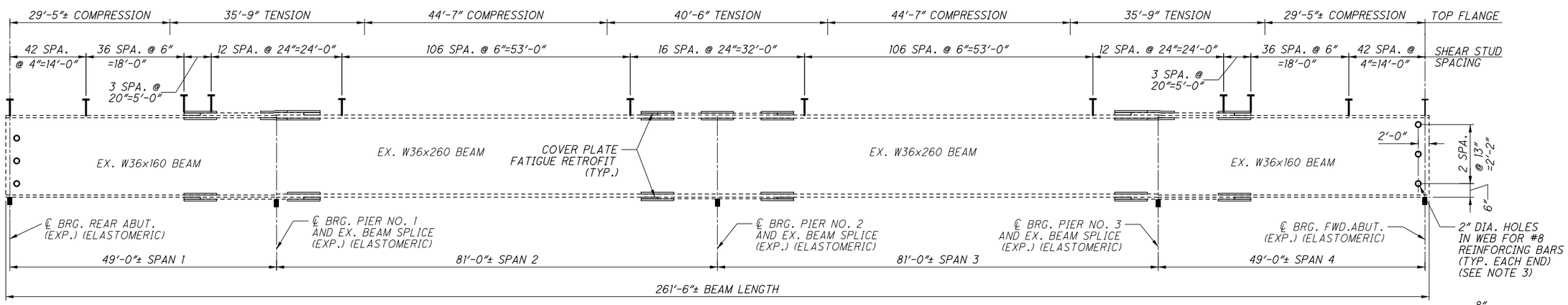
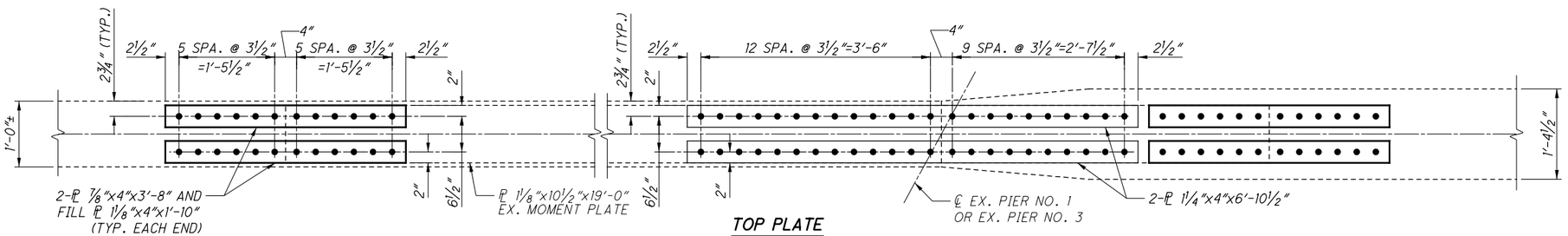
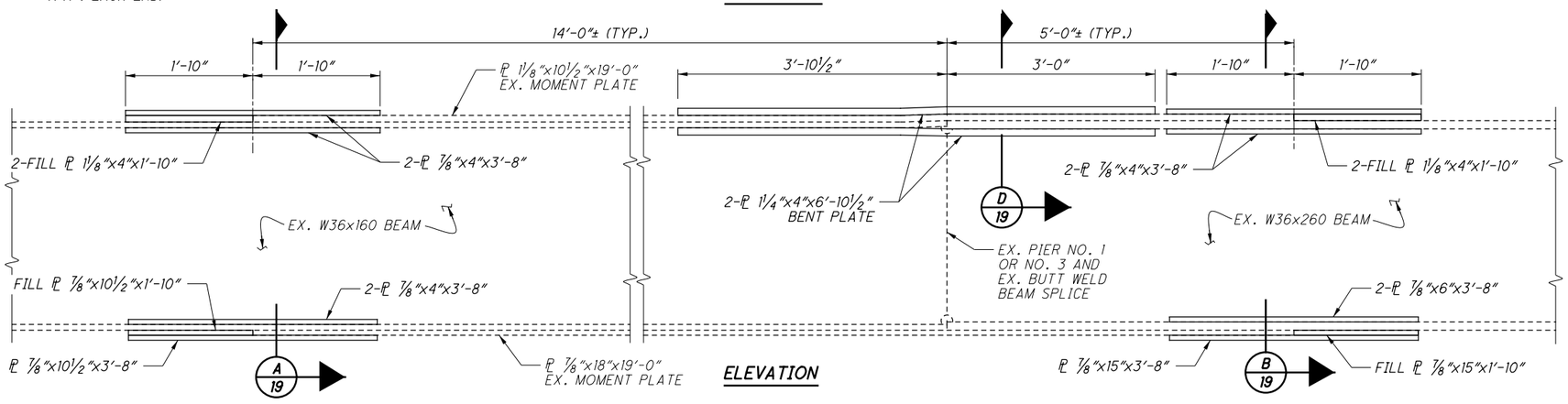


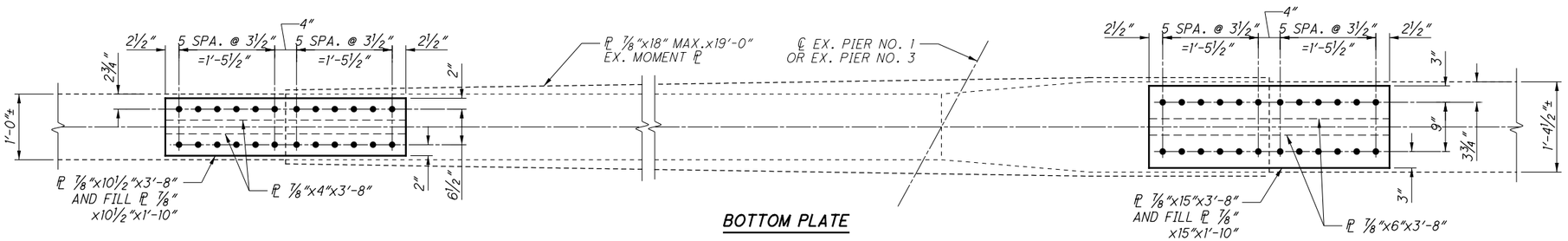
TYPICAL EXISTING BEAM ELEVATION



TOP PLATE



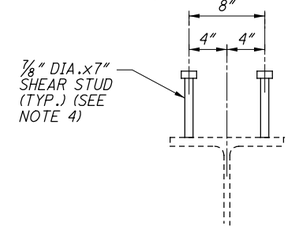
ELEVATION



BOTTOM PLATE

EXISTING WELDED SPLICE AND COVER PLATE FATIGUE RETROFIT DETAIL

(TYPICAL FOR PIER NO. 1 AND PIER NO. 3)



SHEAR STUD DETAIL

NOTES

1. FOR FRAMING PLAN AND ADDITIONAL BEAM DETAILS AND NOTES, SEE SHEET 17 | 48 AND 19 | 48.
2. FOR BEARING DETAILS SEE SHEET 35 | 48.
3. THE 2" DIAMETER HOLES IN THE EXISTING BEAM WEB AND THE 1" DIAMETER VENT HOLES IN THE EXISTING BEAM FLANGE SHALL BE FIELD DRILLED. FLAME CUTTING OF HOLES IS NOT PERMITTED. FIELD DRILLING SHALL BE INCLUDED WITH ITEM 202, PORTIONS OF STRUCTURE REMOVED, OVER 20' SPAN, AS PER PLAN FOR PAYMENT.
4. SHEAR STUD LOCATIONS SHALL BE ADJUSTED AS NECESSARY TO AVOID INTERFERENCE WITH SPLICE PLATES AND BOLT LOCATIONS.
5. WELD ATTACHMENT OF SUPPORTS FOR CONCRETE DECK FINISHING MACHINE TO AREAS OF THE STRINGER FLANGES DESIGNATED "COMPRESSION". DO NOT WELD ATTACHMENTS TO AREAS DESIGNATED "TENSION". FILLET WELDS TO COMPRESSION FLANGES SHALL BE AT LEAST 1" FROM THE EDGE OF THE FLANGE, BE NO MORE THAN 2" LONG AND AT LEAST ¼" FOR THICKNESSES UP TO ¾" OR 5/16" FOR GREATER THAN ¾" THICK.
6. ALL STRUCTURAL STEEL SHALL BE ASTM A709, GRADE 50 (CVN).
7. HOLES IN PLATES SHALL BE SHOP DRILLED.
8. THE CONTRACTOR TO USE NEW PLATES AS TEMPLATE TO DRILL HOLES INTO EXISTING STEEL.
9. AFTER HOLES ARE DRILLED, THE CONTRACTOR SHALL CLEAN THE FAYING SURFACE OF ALL DRILLING OIL, AND THEN BLAST CLEAN TO NEAR WHITE FINISH PER CMS. 514.13 A AND C.

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SUPERSTRUCTURE DETAILS 2 OF 7
BRIDGE NO. CUY-90-2463
INTERSTATE ROUTE 90 OVER EAST 152ND STREET

CUY-90-24.10/24.63
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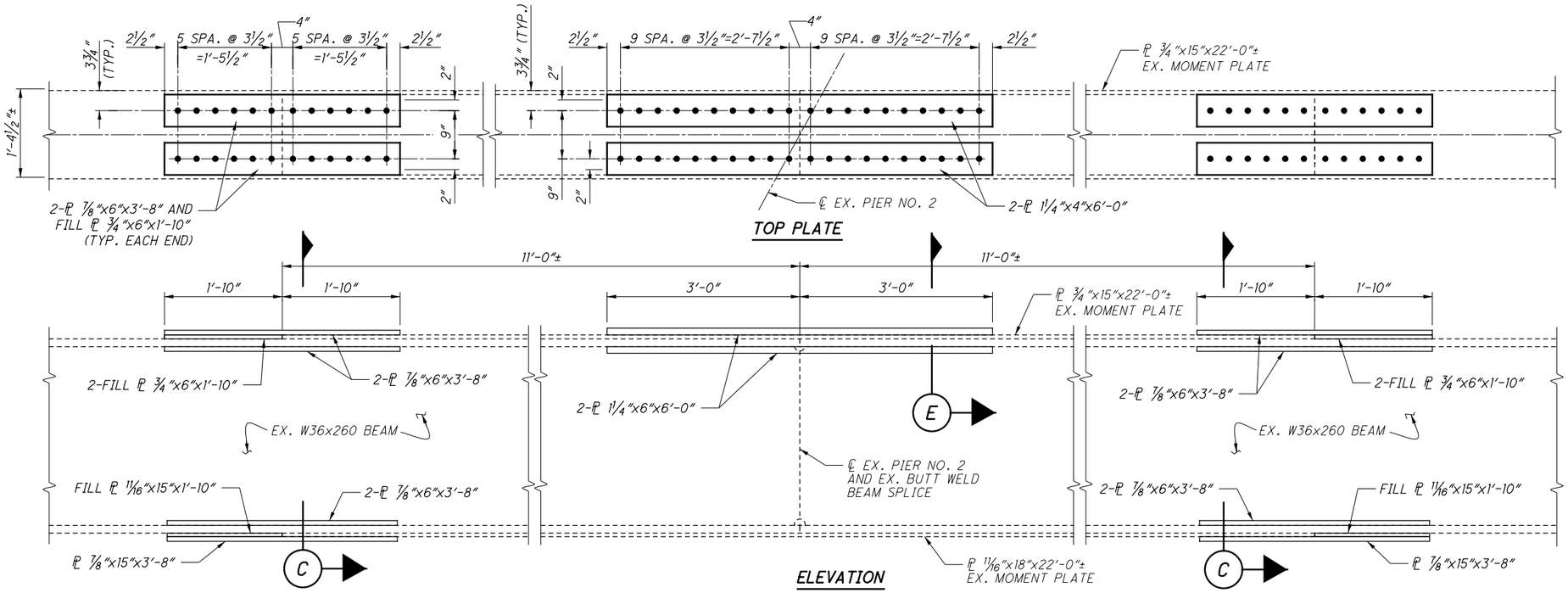
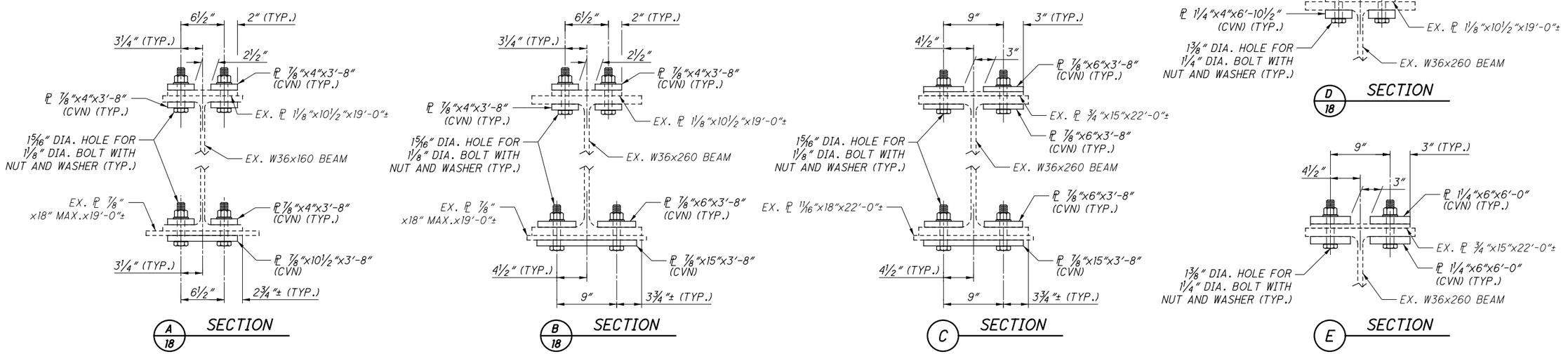


NOTES

1. FOR FRAMING PLAN AND ADDITIONAL BEAM DETAILS AND NOTES, SEE SHEETS 17 | 42 AND 18 | 42 .
2. EXISTING CROSSFRAMES AND ELECTRICAL CONDUIT SUPPORTS THAT ARE TO BE REMOVED, SHALL BE PAID FOR UNDER ITEM 202, PORTIONS OF STRUCTURES REMOVED, OVER 20 FOOT SPAN, AS PER PLAN.
3. EXISTING INTERMEDIATE CROSSFRAMES THAT WILL INTERFERE WITH INSTALLATION OF FATIGUE RETROFIT PLATES/BOLTS SHALL BE REMOVED AND REPLACED.
4. FOR STRUCTURE GROUNDING DETAILS, SEE STANDARD CONSTRUCTION DRAWING HL-50.21.
5. TEMPORARY CROSSFRAMES SHALL BE INSTALLED BETWEEN BEAMS (H) AND (J) AT THE LOCATIONS SHOWN.
6. ALL BOLTS SHALL BE A325, TYPE 1 GALVANIZED. ALL BOLTS ARE TO BE PLACED WITH NUTS ON TOP.

EXISTING WELDED SPLICE AND COVER PLATE RETROFIT DETAIL



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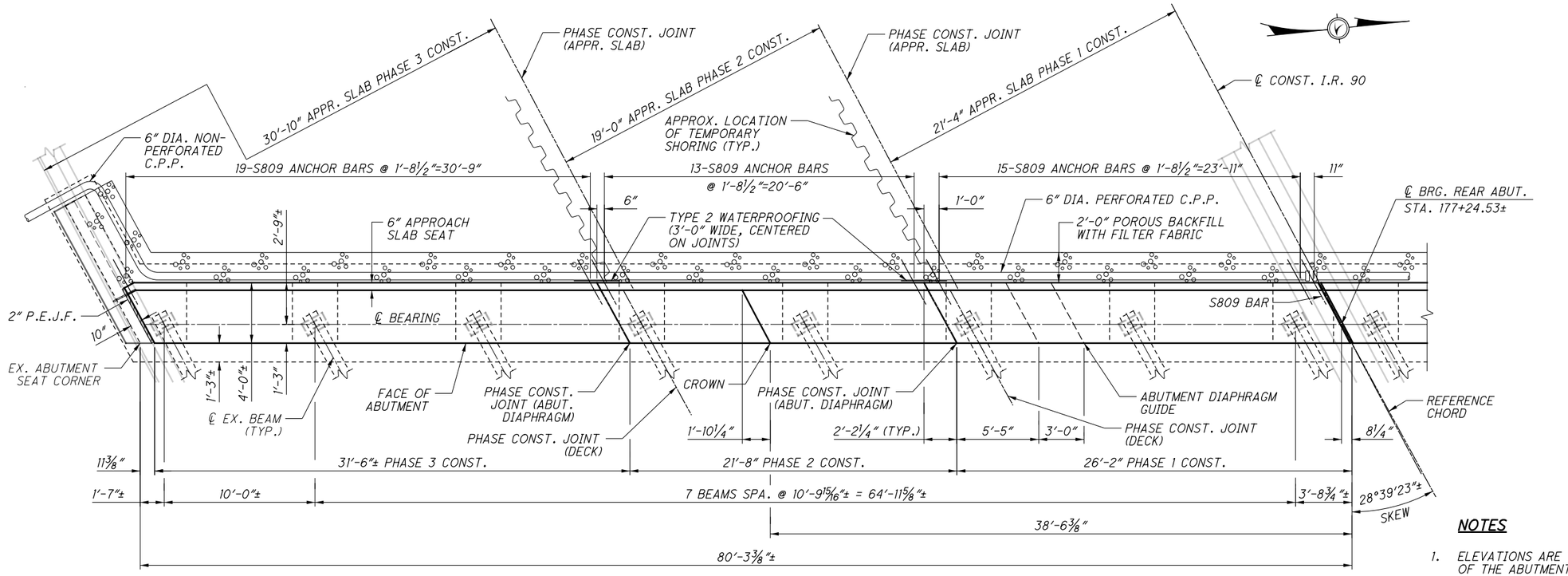
CMD		1808702	

SUPERSTURCTURE DETAILS 3 OF 7
BRIDGE NO. CUY-90-2463
INTERSTATE ROUTE 90 OVER EAST 152ND STREET

CUY-90-24.10/24.63
PID No. 88348

19 / 48

167 / 196



ABUTMENT DIAPHRAGM PLAN

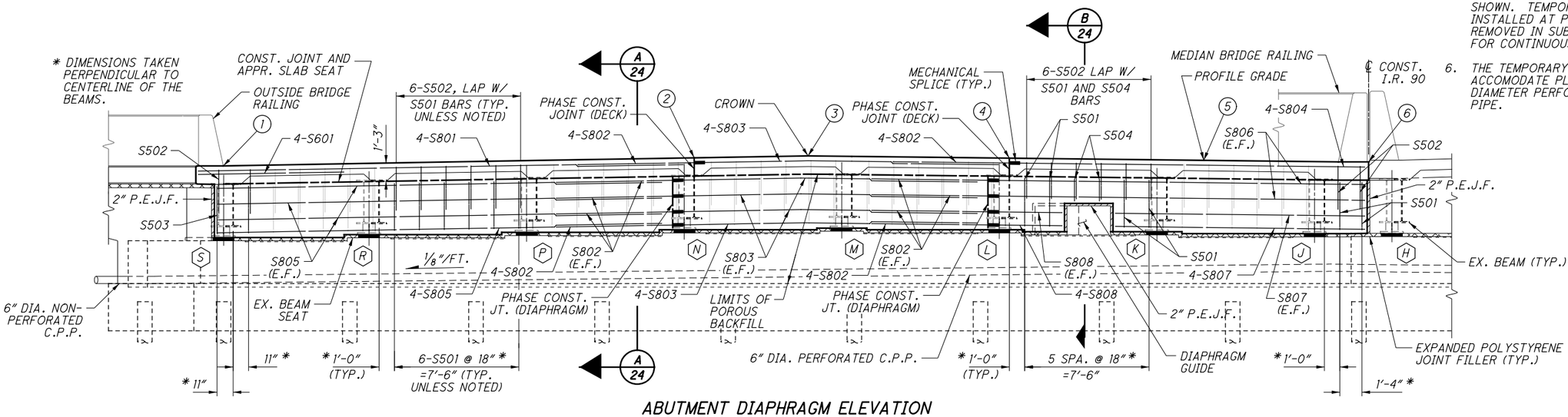
(REAR ABUTMENT, RIGHT STRUCTURE)

LEGEND

⬡ BEAM DESIGNATION

NOTES

1. ELEVATIONS ARE TAKEN AT THE CENTERLINE OF THE ABUTMENT BEARINGS.
2. VERTICAL REINFORCING INCLUDING THE S8XX ANCHOR BARS, SHALL BE PLACED PARALLEL WITH THE CENTERLINE OF THE BEAMS.
3. MINIMUM BAR LAPS ARE AS FOLLOWS: #5 BARS = 41" #8 BARS = 87"
4. FOR DIAPHRAGM GUIDE DETAILS, SEE SHEET 24|48 .
5. THE 6" DIAMETER PERFORATED CORRUGATED PLASTIC PIPE SHALL BE INSTALLED AS SHOWN. TEMPORARY END CAPS SHALL BE INSTALLED AT PHASE LINES, BUT SHALL BE REMOVED IN SUBSEQUENT PHASES TO ALLOW FOR CONTINUOUS DRAINAGE.
6. THE TEMPORARY SHORING DESIGN SHALL ACCOMODATE PLACEMENT OF THE 6" DIAMETER PERFORATED CORRUGATED PLASTIC PIPE.



ABUTMENT DIAPHRAGM ELEVATION

(REAR ABUTMENT, RIGHT STRUCTURE)

TABLE	
POINT	ELEV.
1	620.52
2	621.04
3	621.20
4	621.07
5	620.90
6	620.77

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SUPERSTRUCTURE DETAILS 4 OF 8
BRIDGE NO. CUY-90-2463
INTERSTATE ROUTE 90 OVER EAST 152ND STREET

CUY-90-24.10/24.63
PID No. 88348

20/48

168/196

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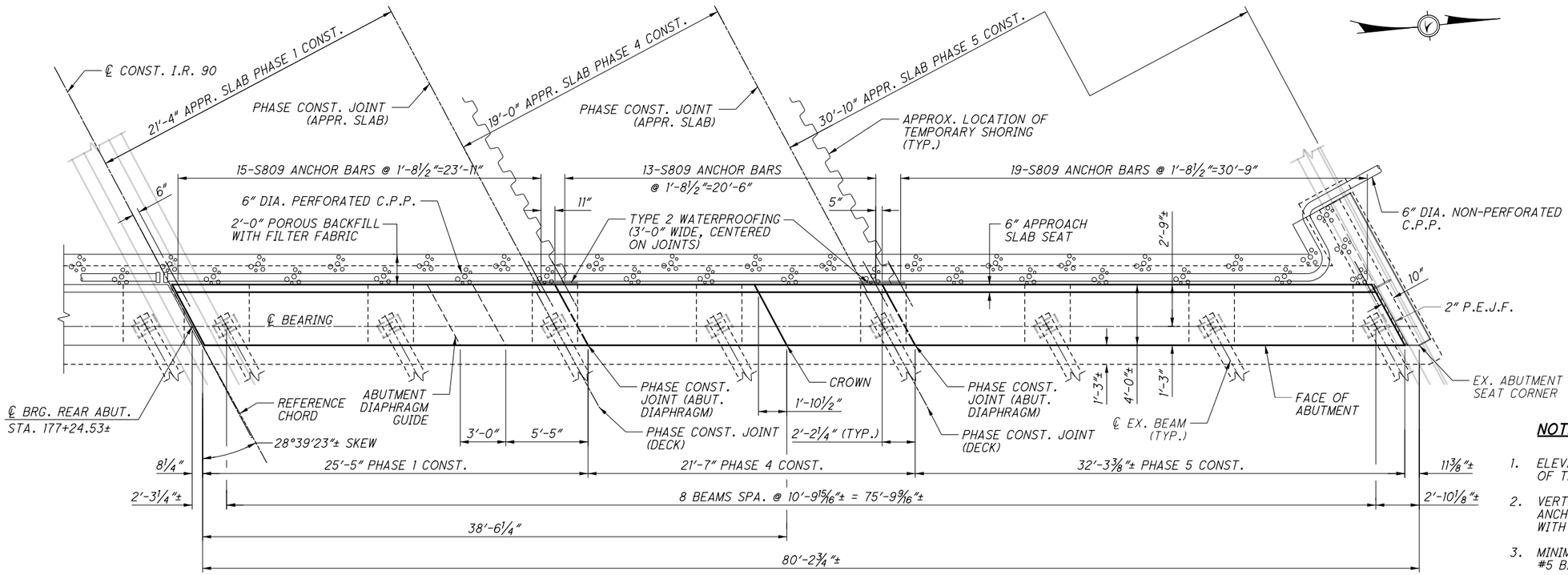


ABUTMENT DIAPHRAGM PLAN

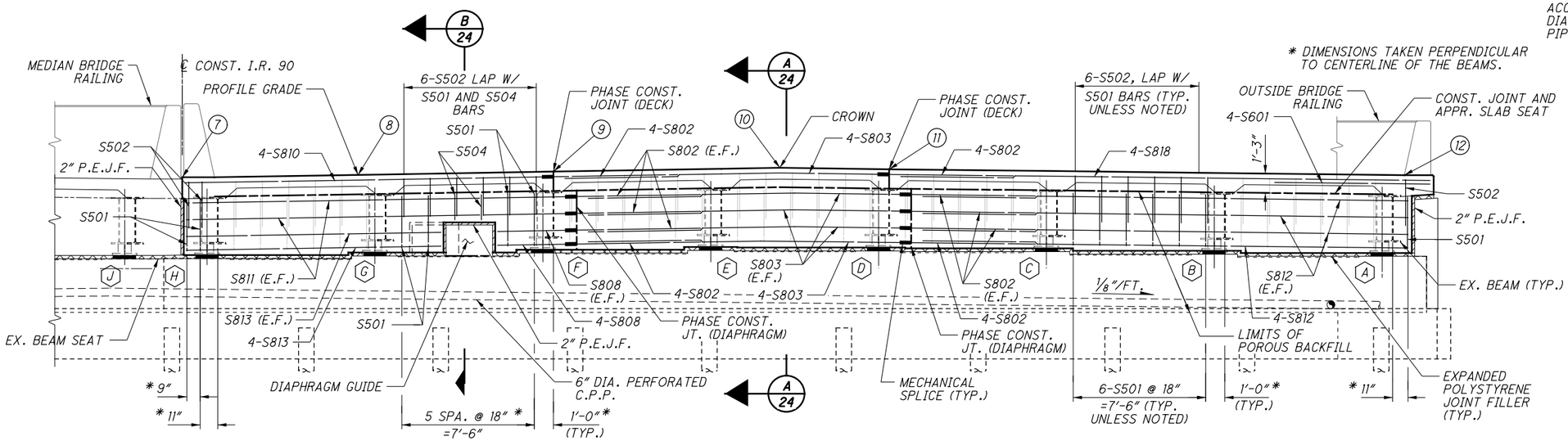
(REAR ABUTMENT, LEFT STRUCTURE)

NOTES

1. ELEVATIONS ARE TAKEN AT THE CENTERLINE OF THE ABUTMENT BEARINGS.
2. VERTICAL REINFORCING INCLUDING THE S8XX ANCHOR BARS, SHALL BE PLACED PARALLEL WITH THE CENTERLINE OF THE BEAMS.
3. MINIMUM BAR LAPS ARE AS FOLLOWS: #5 BARS = 41" #8 BARS = 87"
4. FOR DIAPHRAGM GUIDE DETAILS, SEE SHEET 24/48 .
5. THE 6" DIAMETER PERFORATED CORRUGATED PLASTIC PIPE SHALL BE INSTALLED AS SHOWN. TEMPORARY END CAPS SHALL BE INSTALLED AT PHASE LINES, BUT SHALL BE REMOVED IN SUBSEQUENT PHASES TO ALLOW FOR CONTINUOUS DRAINAGE.
6. THE TEMPORARY SHORING DESIGN SHALL ACCOMODATE PLACEMENT OF THE 6" DIAMETER PERFORATED CORRUGATED PLASTIC PIPE.

LEGEND

⬡ BEAM DESIGNATION



ABUTMENT DIAPHRAGM ELEVATION

(REAR ABUTMENT, LEFT STRUCTURE)

TABLE	
POINT	ELEV.
7	620.87
8	621.06
9	621.29
10	621.51
11	621.41
12	621.04

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SUPERSTRUCTURE DETAILS 5 OF 8
BRIDGE NO. CUY-90-2463
INTERSTATE ROUTE 90 OVER EAST 152ND STREET

CUY-90-24.10/24.63
PID No. 88348

21/48

169/196

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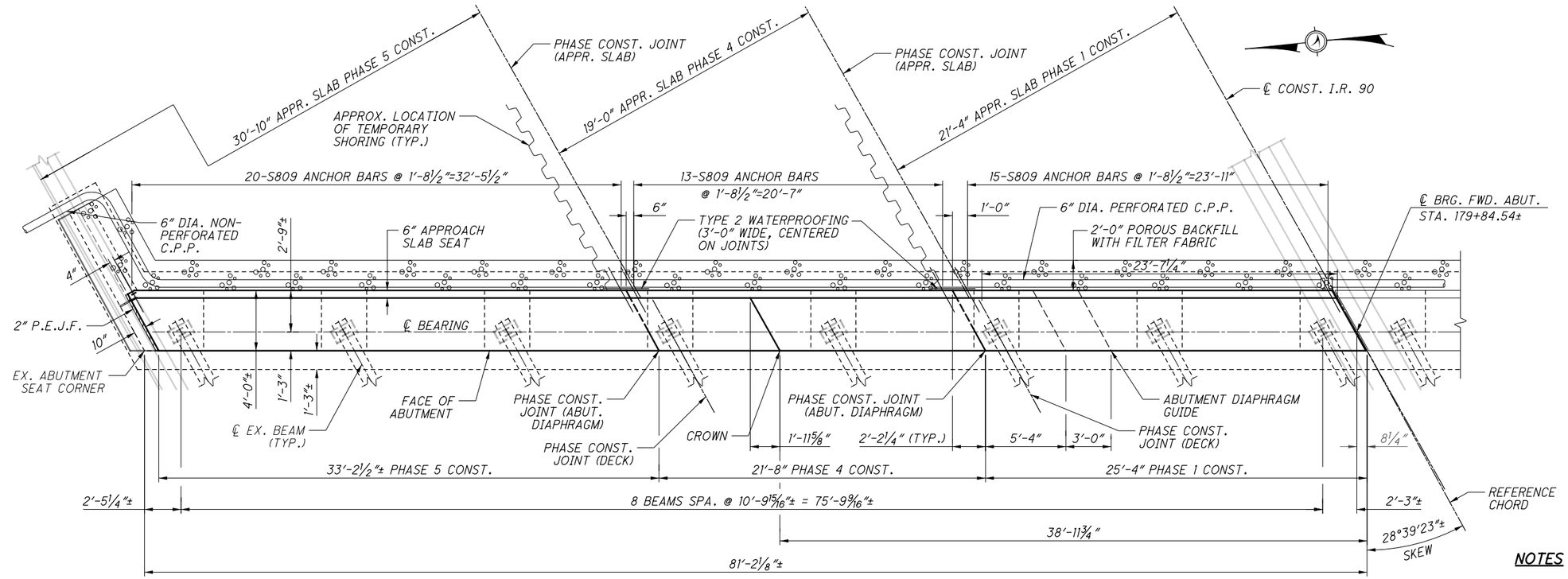
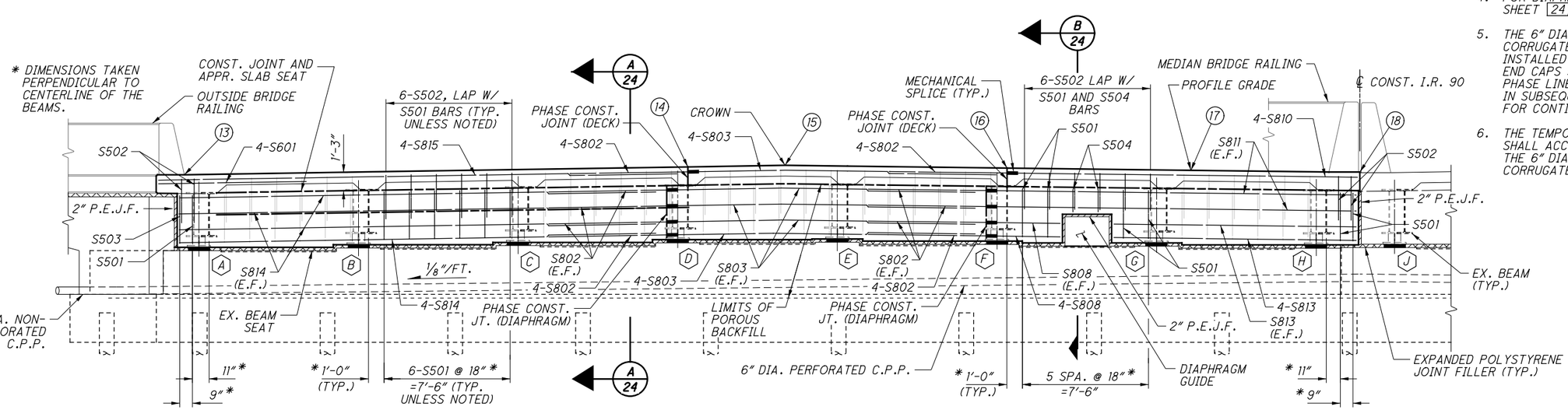


ABUTMENT DIAPHRAGM PLAN

(FORWARD ABUTMENT, LEFT STRUCTURE)



ABUTMENT DIAPHRAGM ELEVATION

(FORWARD ABUTMENT, LEFT STRUCTURE)

TABLE	
POINT	ELEV.
13	621.03
14	621.55
15	621.67
16	621.50
17	621.34
18	621.20

NOTES

1. ELEVATIONS ARE TAKEN AT THE CENTERLINE OF THE ABUTMENT BEARINGS.
2. VERTICAL REINFORCING INCLUDING THE S8XX ANCHOR BARS, SHALL BE PLACED PARALLEL WITH THE CENTERLINE OF THE BEAMS.
3. MINIMUM BAR LAPS ARE AS FOLLOWS: #5 BARS = 41" #8 BARS = 87"
4. FOR DIAPHRAGM GUIDE DETAILS, SEE SHEET 24 | 48 .
5. THE 6" DIAMETER PERFORATED CORRUGATED PLASTIC PIPE SHALL BE INSTALLED AS SHOWN. TEMPORARY END CAPS SHALL BE INSTALLED AT PHASE LINES, BUT SHALL BE REMOVED IN SUBSEQUENT PHASES TO ALLOW FOR CONTINUOUS DRAINAGE.
6. THE TEMPORARY SHORING DESIGN SHALL ACCOMODATE PLACEMENT OF THE 6" DIAMETER PERFORATED CORRUGATED PLASTIC PIPE.

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SUPERSTRUCTURE DETAILS 6 OF 8

BRIDGE NO. CUY-90-2463

INTERSTATE ROUTE 90 OVER EAST 152ND STREET

CUY-90-24.10/24.63

PID No. 88348

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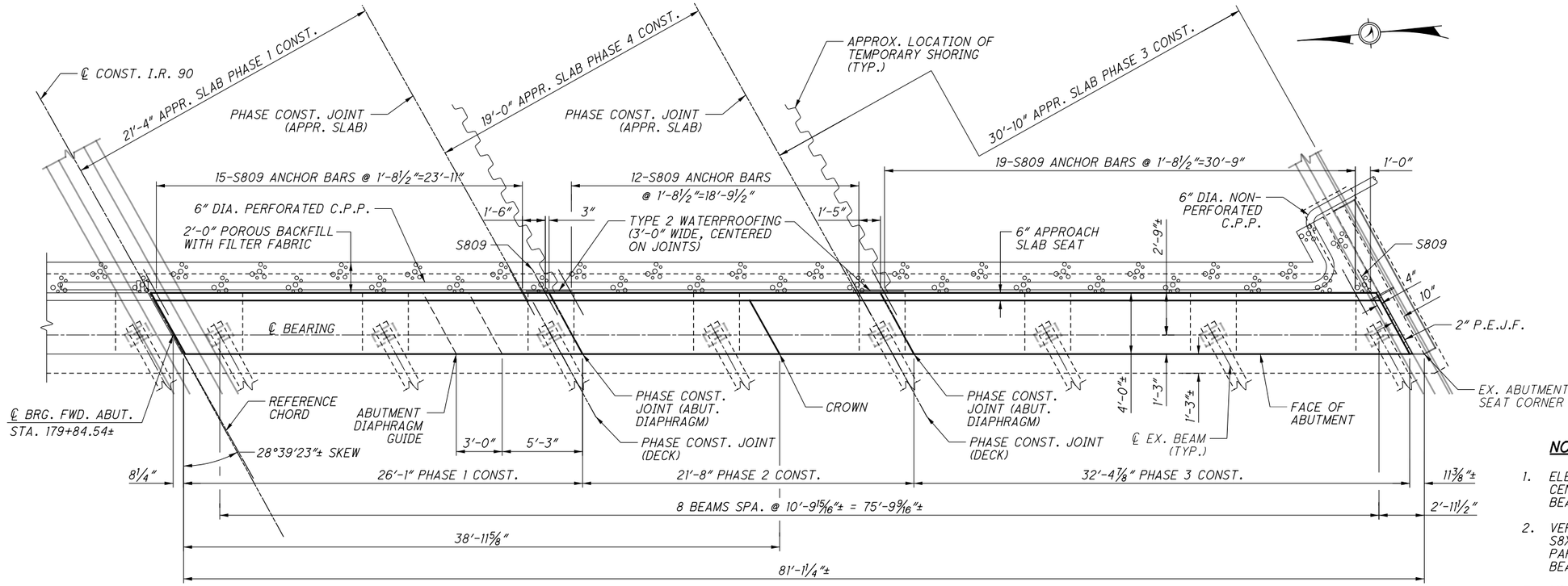

ABUTMENT DIAPHRAGM PLAN

(FORWARD ABUTMENT, RIGHT STRUCTURE)

NOTES

1. ELEVATIONS ARE TAKEN AT THE CENTERLINE OF THE ABUTMENT BEARINGS.
2. VERTICAL REINFORCING INCLUDING THE S8XX ANCHOR BARS, SHALL BE PLACED PARALLEL WITH THE CENTERLINE OF THE BEAMS.
3. MINIMUM BAR LAPS ARE AS FOLLOWS: #5 BARS = 41" #8 BARS = 87"
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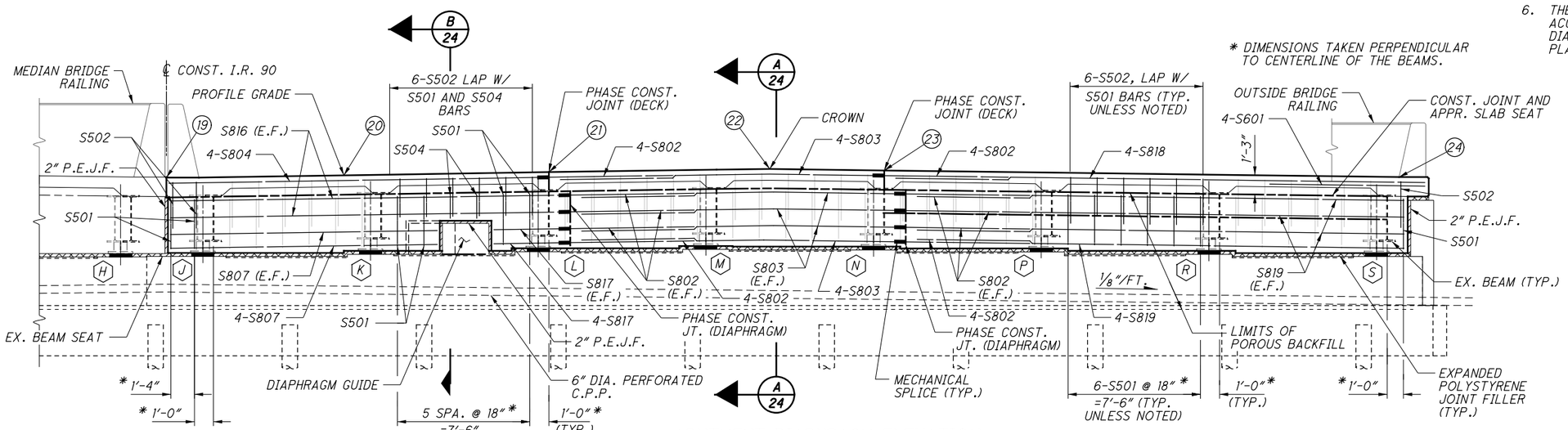

ABUTMENT DIAPHRAGM ELEVATION

(FORWARD ABUTMENT, RIGHT STRUCTURE)

TABLE	
POINT	ELEV.
19	621.17
20	621.35
21	621.56
22	621.76
23	621.65
24	621.23

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SUPERSTRUCTURE DETAILS 7 OF 8
BRIDGE NO. CUY-90-2463
INTERSTATE ROUTE 90 OVER EAST 152ND STREET

CUY-90-24.10/24.63
PID No. 88348

23 / 48

171 / 196

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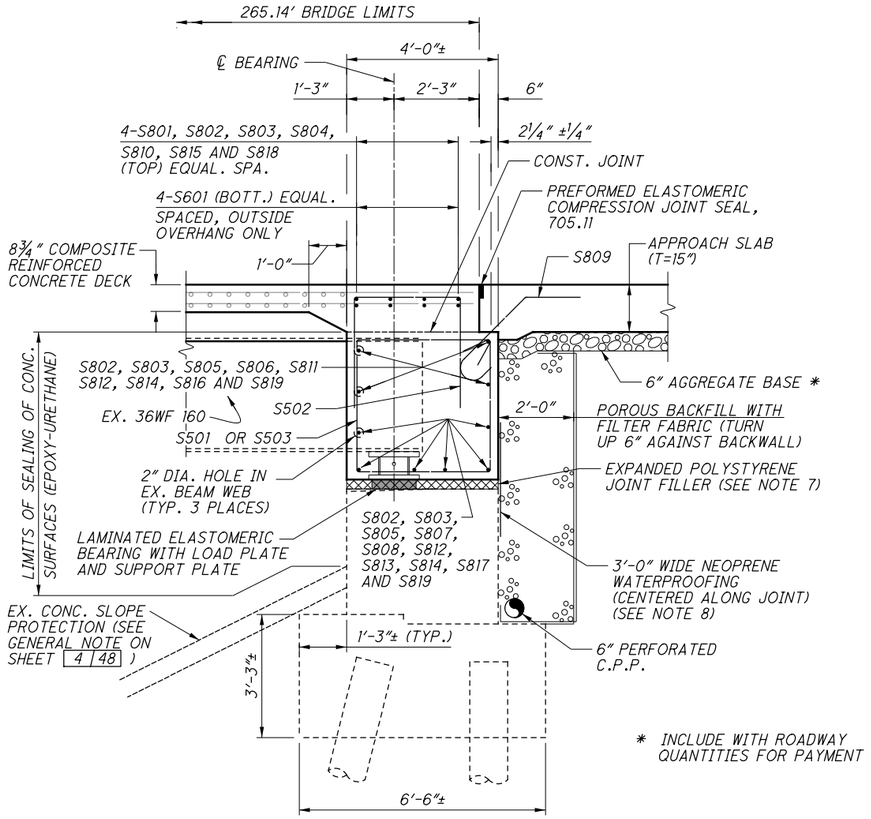
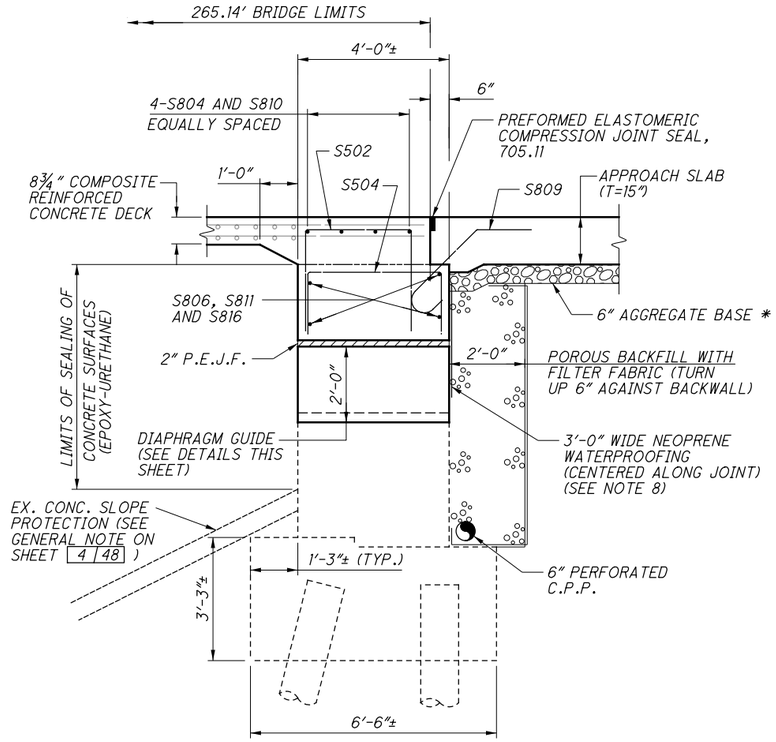
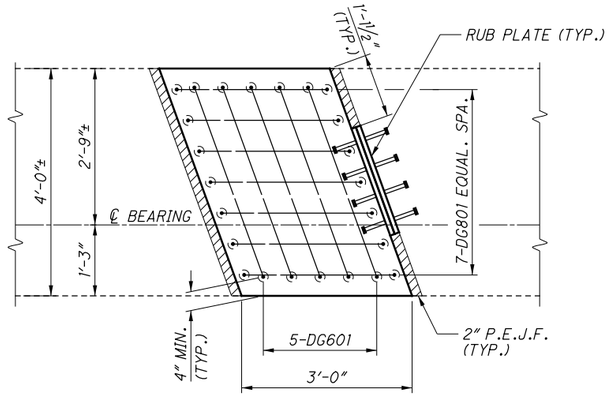


* INCLUDE WITH ROADWAY QUANTITIES FOR PAYMENT

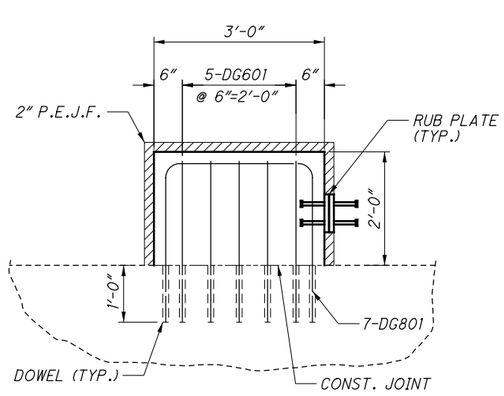


NOTES

1. ABUTMENT DIAPHRAGM CONCRETE, PHASED CONSTRUCTION: PLACE THE CONCRETE ENCASING STRUCTURAL STEEL MEMBERS OF AN INDIVIDUAL PHASE, WITH THE DECK CONCRETE.
2. ALL CONCRETE SHALL BE CLASS QC2.
3. PROVIDE A 1" CHAMFER ON ALL EXPOSED CONCRETE CORNERS.
4. FOR SLAB PLAN, TRANSVERSE SECTIONS AND ADDITIONAL DETAILS AND NOTES, SEE SHEETS 29 48 AND 30 48 .
5. FOR APPROACH SLAB DETAILS SEE SHEETS 36 48 THRU 42 48
6. POROUS BACKFILL WITH FILTER FABRIC, 2 FEET THICK, SHALL EXTEND UP TO THE PLANE OF THE SUBGRADE, AND LATERALLY TO THE BACK FACE OF THE WINGWALLS.
7. EXPANDED POLYSTYRENE FILLER SHALL BE INCLUDED WITH ITEM 511, CLASS QC2 CONCRETE WITH QC/QA, SUPERSTRUCTURE, AS PER PLAN, FOR PAYMENT.
8. NYLON REINFORCED NEOPRENE WATERPROOFING, 3 FEET WIDE, CENTERED ALONG THE WINGWALL/DIAPHRAGM EXPANSION JOINTS, SHALL EXTEND FROM APPROACH SLAB DOWN TO THE BOTTOM OF HORIZONTAL NEOPRENE WATERPROOFING.
9. FOR ADDITIONAL SEMI-INTEGRAL ABUTMENT AND DIAPHRAGM GUIDE DETAILS AND NOTES SEE STANDARD DRAWING SICD-1-96 AND SICD-2-14.



PLAN



ELEVATION

ABUTMENT DIAPHRAGM GUIDE

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SUPERSTRUCTURE DETAILS 8 OF 8
BRIDGE NO. CUY-90-2463
INTERSTATE ROUTE 90 OVER EAST 152ND STREET

CUY-90-24.10/ 24.63
PID No. 88348

24 / 48

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196

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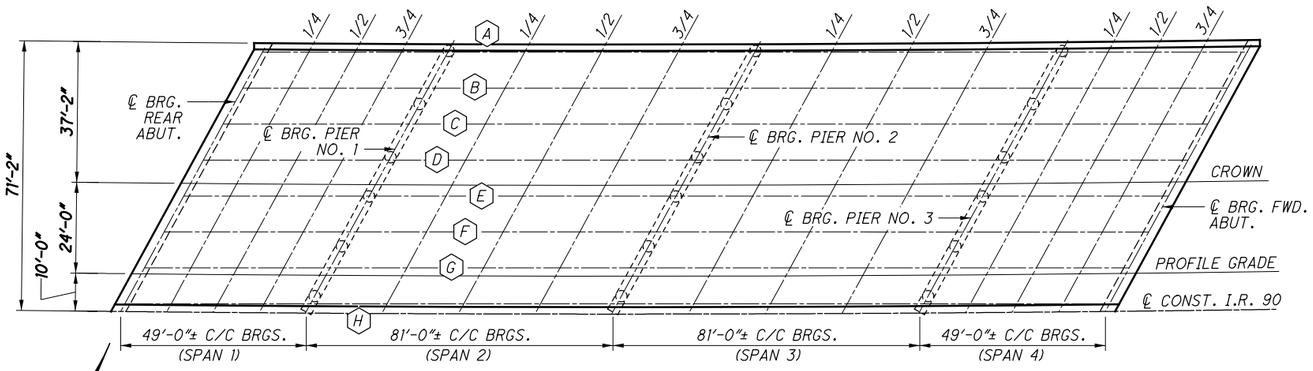
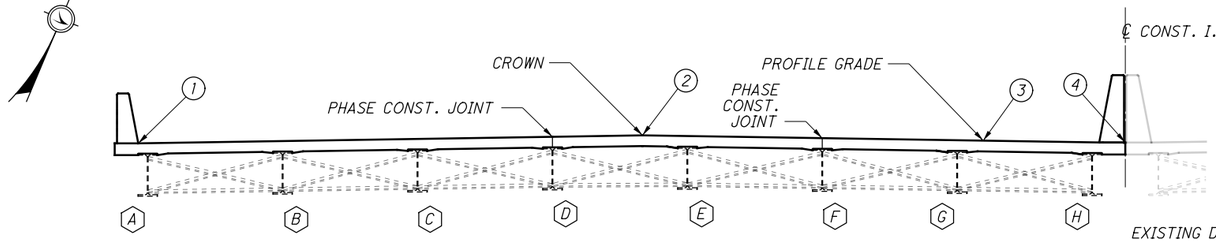


DECK KEY (LEFT STRUCTURE)



TRANSVERSE KEY (LEFT STRUCTURE)

NOTES:

1. SCREED ELEVATIONS ARE TO BE CALCULATED BY THE CONTRACTOR USING THE SCREED ELEVATION FIELD PROCEDURE DETAILED ON THIS SHEET. THE COST OF LAYOUT, FIELD SURVEY AND CALCULATION OF SCREED ELEVATIONS IS CONSIDERED INCIDENTAL TO DECK CONSTRUCTION, AND SHALL BE INCLUDED WITH ITEM 511, CLASS QC2 CONCRETE WITH QC/QA, BRIDGE DECK, AS PER PLAN.
2. FINAL DECK SURFACE ELEVATIONS SHOWN REPRESENT THE DECK SURFACE ELEVATION AFTER ALL ANTICIPATED DEAD LOAD DEFLECTIONS HAVE OCCURED.

SCREED ELEVATION FIELD PROCEDURE

A. 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.

B. COMPUTE THE AMOUNT OF SURVEYED REBOUND FOR THESE BEAMS BY SUBTRACTING THE ELEVATIONS BEFORE REMOVAL FROM THE ELEVATIONS AFTER REMOVAL.

C. COMPUTE THE ADJUSTED REBOUND FOR THESE BEAMS BY MULTIPLYING THE SURVEYED REBOUND BY THE RATIO OF THE PROPOSED DEAD LOAD.

D. ADD THE AMOUNT OF THE ADJUSTED REBOUND TO THE FINAL TOP OF DECK ELEVATIONS TO OBTAIN THE DECK SCREED ELEVATIONS. USE THE REBOUND OF THE CLOSEST BEAM TO DETERMINE THE SCREED ELEVATION AT GUTTERS AND OTHER LOCATIONS THAT ARE NOT LOCATED DIRECTLY OVER BEAMS.

E. AFTER PHASE 1 DECK PLACEMENT, REPEAT STEPS A THRU D FOR EACH SUBSEQUENT PHASE.

EXISTING DECK + OVERLAY THICKNESS (FROM CORES) = 11½"

PROPOSED DECK THICKNESS = 8¾"

RATIO OF PROPOSED DEAD LOAD TO EXISTING DEAD LOAD = 0.76

* BOTTOM OF BEAM ELEVATION SURVEYED DURING CONSTRUCTION.

** SURVEYED REBOUND = BEAM ELEVATIONS AFTER DECK REMOVAL MINUS BEAM ELEVATION BEFORE 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

DECK ELEVATION TABLE (LEFT STRUCTURE)

LOCATION	DESCRIPTION	SPAN 1				SPAN 2				SPAN 3				SPAN 4				
		℄ BRG. REAR ABUT.	1/4 PT.	1/2 PT.	3/4 PT.	℄ PIER NO. 1	1/4 PT.	1/2 PT.	3/4 PT.	℄ PIER NO. 2	1/4 PT.	1/2 PT.	3/4 PT.	℄ PIER NO. 3	1/4 PT.	1/2 PT.	3/4 PT.	℄ BRG. FWD. ABUT.
①	STATION	177+61.81	177+74.08	177+86.36	177+98.65	178+10.94	178+31.27	178+51.63	178+72.00	178+92.39	179+12.80	179+33.23	179+53.67	179+74.14	179+86.53	179+98.93	180+11.33	180+23.74
	OFFSET	69.50' LT.	69.50' LT.	69.50' LT.	69.50' LT.	69.50' LT.	69.50' LT.	69.50' LT.	69.50' LT.	69.50' LT.	69.50' LT.	69.50' LT.	69.50' LT.	69.50' LT.	69.50' LT.	69.50' LT.	69.50' LT.	69.50' LT.
	ELEV. AFTER DECK REMOVAL *	--				--				--				--				--
	ELEV. BEFORE DECK REMOVAL *	--				--				--				--				--
	SURVEYED REBOUND **	--				--				--				--				--
	ADJUSTED REBOUND ***	--				--				--				--				--
	FINAL TOP/DECK ELEV.	621.04	621.09	621.13	621.18	621.21	621.26	621.30	621.32	621.32	621.32	621.30	621.26	621.21	621.17	621.13	621.08	621.03
	DECK SCREED ELEV. ****	621.04	--	--	--	621.21	--	--	--	621.32	--	--	--	621.21	--	--	--	621.03
②	STATION	177+42.71	177+54.93	177+67.17	177+79.41	177+91.65	178+11.91	178+32.19	178+52.49	178+72.80	178+93.13	179+13.48	179+33.85	179+54.24	179+66.58	179+78.93	179+91.29	180+03.65
	OFFSET	34.00' LT.	34.00' LT.	34.00' LT.	34.00' LT.	34.00' LT.	34.00' LT.	34.00' LT.	34.00' LT.	34.00' LT.	34.00' LT.	34.00' LT.	34.00' LT.	34.00' LT.	34.00' LT.	34.00' LT.	34.00' LT.	34.00' LT.
	ELEV. AFTER DECK REMOVAL *	--				--				--				--				--
	ELEV. BEFORE DECK REMOVAL *	--				--				--				--				--
	SURVEYED REBOUND **	--				--				--				--				--
	ADJUSTED REBOUND ***	--				--				--				--				--
	FINAL TOP/DECK ELEV.	621.51	621.57	621.63	621.68	621.72	621.78	621.83	621.87	621.89	621.89	621.89	621.85	621.83	621.80	621.77	621.73	621.67
	DECK SCREED ELEV. ****	621.51	--	--	--	621.72	--	--	--	621.89	--	--	--	621.83	--	--	--	621.67
③	STATION	177+29.86	177+42.06	177+54.26	177+66.47	177+78.69	177+98.90	178+19.12	178+39.37	178+59.63	178+79.91	179+00.21	179+20.53	179+40.86	179+53.17	179+65.49	179+77.82	179+90.15
	OFFSET	10.00' LT.	10.00' LT.	10.00' LT.	10.00' LT.	10.00' LT.	10.00' LT.	10.00' LT.	10.00' LT.	10.00' LT.	10.00' LT.	10.00' LT.	10.00' LT.	10.00' LT.	10.00' LT.	10.00' LT.	10.00' LT.	10.00' LT.
	ELEV. AFTER DECK REMOVAL *	--				--				--				--				--
	ELEV. BEFORE DECK REMOVAL *	--				--				--				--				--
	SURVEYED REBOUND **	--				--				--				--				--
	ADJUSTED REBOUND ***	--				--				--				--				--
	FINAL TOP/DECK ELEV.	621.06	621.12	621.18	621.24	621.29	621.36	621.42	621.46	621.49	621.51	621.51	621.50	621.47	621.45	621.42	621.39	621.35
	DECK SCREED ELEV. ****	621.06	--	--	--	621.29	--	--	--	621.49	--	--	--	621.47	--	--	--	621.35
④	STATION	177+24.53	177+36.72	177+48.91	177+61.10	177+73.30	177+93.49	178+13.70	178+33.92	178+54.16	178+74.42	178+94.70	179+14.99	179+35.31	179+47.61	179+59.91	179+72.22	179+84.54
	OFFSET	0'	0'	0'	0'	0'	0'	0'	0'	0'	0'	0'	0'	0'	0'	0'	0'	0'
	ELEV. AFTER DECK REMOVAL *	--				--				--				--				--
	ELEV. BEFORE DECK REMOVAL *	--				--				--				--				--
	SURVEYED REBOUND **	--				--				--				--				--
	ADJUSTED REBOUND ***	--				--				--				--				--
	FINAL TOP/DECK ELEV.	620.87	620.94	621.00	621.06	621.11	621.18	621.24	621.29	621.32	621.34	621.33	621.32	621.30	621.28	621.25	621.22	621.19
	DECK SCREED ELEV. ****	620.87	--	--	--	621.11	--	--	--	621.32	--	--	--	621.30	--	--	--	621.19

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SUPERSTRUCTURE DETAILS - SCREED TABLE 1 OF 4

BRIDGE NO. CUY-90-2463

INTERSTATE ROUTE 90 OVER EAST 152ND STREET

CUY-90-24.10/24.63

PID No. 88348

DECK ELEVATION TABLE (LEFT STRUCTURE)

LOCATION	DESCRIPTION	SPAN 1				SPAN 2				SPAN 3				SPAN 4				
		℄ BRG. REAR ABUT.	1/4 PT.	1/2 PT.	3/4 PT.	℄ PIER NO. 1	1/4 PT.	1/2 PT.	3/4 PT.	℄ PIER NO. 2	1/4 PT.	1/2 PT.	3/4 PT.	℄ PIER NO. 3	1/4 PT.	1/2 PT.	3/4 PT.	℄ BRG. FWD. ABUT.
A	STATION	177+61.44	177+73.76	177+86.08	177+98.40	178+10.72	178+31.09	178+51.45	178+71.81	178+92.18	179+12.54	179+32.91	179+53.27	179+73.63	179+85.95	179+98.27	180+10.59	180+22.91
	OFFSET	68.83′ LT.	68.92′ LT.	68.99′ LT.	69.05′ LT.	69.10′ LT.	69.16′ LT.	69.18′ LT.	69.17′ LT.	69.12′ LT.	69.04′ LT.	68.93′ LT.	68.78′ LT.	68.60′ LT.	68.47′ LT.	68.34′ LT.	68.19′ LT	68.02′ LT.
	ELEV. AFTER DECK REMOVAL *	--				--				--				--				--
	ELEV. BEFORE DECK REMOVAL *	--				--				--				--				--
	SURVEYED REBOUND **	--				--				--				--				--
	ADJUSTED REBOUND ***	--				--				--				--				--
	FINAL TOP/DECK ELEV.	621.04	621.09	621.14	621.18	621.22	621.27	621.30	621.32	621.33	621.33	621.31	621.26	621.23	621.20	621.14	621.10	621.07
	DECK SCREED ELEV. ****	621.04	--	--	--	621.22	--	--	--	621.33	--	--	--	621.23	--	--	--	621.07
B	STATION	177+56.30	177+68.61	177+80.92	177+93.23	178+05.54	178+25.89	178+46.23	178+66.58	178+86.93	179+07.28	179+27.63	179+47.98	179+68.33	179+80.63	179+92.94	180+05.25	180+17.56
	OFFSET	59.29′ LT.	59.38′ LT.	59.46′ LT.	59.53′ LT.	59.58′ LT.	59.65′ LT.	59.68′ LT.	59.67′ LT.	59.63′ LT.	59.56′ LT.	59.46′ LT.	59.32′ LT.	59.15′ LT.	59.03′ LT.	58.90′ LT.	58.75′ LT.	58.60′ LT.
	ELEV. AFTER DECK REMOVAL *	--				--				--				--				--
	ELEV. BEFORE DECK REMOVAL *	--				--				--				--				--
	SURVEYED REBOUND **	--				--				--				--				--
	ADJUSTED REBOUND ***	--				--				--				--				--
	FINAL TOP/DECK ELEV.	621.17	621.21	621.26	621.31	621.36	621.41	621.45	621.47	621.48	621.48	621.45	621.42	621.40	621.35	621.31	621.27	621.24
	DECK SCREED ELEV. ****	621.17	--	--	--	621.36	--	--	--	621.48	--	--	--	621.40	--	--	--	621.24
C	STATION	177+51.16	177+63.46	177+75.76	177+88.06	178+00.36	178+20.70	178+41.03	178+61.36	178+81.69	179+02.03	179+22.36	179+42.69	179+63.02	179+75.32	179+87.62	179+99.92	180+12.22
	OFFSET	49.75′ LT.	49.84′ LT.	49.93′ LT.	50.00′ LT.	50.06′ LT.	50.13′ LT.	50.17′ LT.	50.18′ LT.	50.15′ LT.	50.08′ LT.	49.99′ LT.	49.86′ LT.	49.70′ LT.	49.58′ LT.	49.46′ LT.	49.32′ LT.	49.16′ LT.
	ELEV. AFTER DECK REMOVAL *	--				--				--				--				--
	ELEV. BEFORE DECK REMOVAL *	--				--				--				--				--
	SURVEYED REBOUND **	--				--				--				--				--
	ADJUSTED REBOUND ***	--				--				--				--				--
	FINAL TOP/DECK ELEV.	621.30	621.36	621.41	621.45	621.49	621.55	621.59	621.62	621.63	621.62	621.62	621.60	621.56	621.53	621.48	621.44	621.41
	DECK SCREED ELEV. ****	621.30	--	--	--	621.49	--	--	--	621.63	--	--	--	621.56	--	--	--	621.41
D	STATION	177+46.03	177+58.32	177+70.61	177+82.90	177+95.20	178+15.51	178+35.83	178+56.15	178+76.46	178+96.78	179+17.10	179+37.41	179+57.73	179+70.02	179+82.31	179+94.60	180+06.89
	OFFSET	40.20′ LT.	40.31′ LT.	40.39′ LT.	40.47′ LT.	40.54′ LT.	40.62′ LT.	40.66′ LT.	40.68′ LT.	40.66′ LT.	40.60′ LT.	40.52′ LT.	40.40′ LT.	40.24′ LT.	40.13′ LT.	40.01′ LT.	39.88′ LT.	39.73′ LT.
	ELEV. AFTER DECK REMOVAL *	--				--				--				--				--
	ELEV. BEFORE DECK REMOVAL *	--				--				--				--				--
	SURVEYED REBOUND **	--				--				--				--				--
	ADJUSTED REBOUND ***	--				--				--				--				--
	FINAL TOP/DECK ELEV.	621.43	621.49	621.54	621.59	621.63	621.67	621.73	621.76	621.78	621.77	621.78	621.76	621.71	621.68	621.65	621.63	621.57
	DECK SCREED ELEV. ****	621.43	--	--	--	621.63	--	--	--	621.78	--	--	--	621.71	--	--	--	621.57
E	STATION	177+40.91	177+53.19	177+65.47	177+77.76	177+90.04	178+10.34	178+30.64	178+50.94	178+71.24	178+91.54	179+11.84	179+32.15	179+52.45	179+64.73	179+77.01	179+89.29	180+01.57
	OFFSET	30.66′ LT.	30.76′ LT.	30.86′ LT.	30.94′ LT.	31.01′ LT.	31.10′ LT.	31.16′ LT.	31.18′ LT.	31.17′ LT.	31.12′ LT.	31.04′ LT.	30.93′ LT.	30.79′ LT.	30.68′ LT.	30.56′ LT.	30.44′ LT.	30.30′ LT.
	ELEV. AFTER DECK REMOVAL *	--				--				--				--				--
	ELEV. BEFORE DECK REMOVAL *	--				--				--				--				--
	SURVEYED REBOUND **	--				--				--				--				--
	ADJUSTED REBOUND ***	--				--				--				--				--
	FINAL TOP/DECK ELEV.	621.45	621.51	621.57	621.62	621.67	621.73	621.78	621.82	621.84	621.85	621.84	621.82	621.78	621.74	621.72	621.68	621.62
	DECK SCREED ELEV. ****	621.45	--	--	--	621.67	--	--	--	621.84	--	--	--	621.78	--	--	--	621.62
F	STATION	177+35.80	177+48.07	177+60.34	177+72.61	177+84.89	178+05.17	178+25.46	178+45.74	178+66.03	178+86.31	179+06.60	179+26.88	179+47.17	179+59.44	179+71.71	179+83.98	179+96.25
	OFFSET	21.11′ LT.	21.22′ LT.	21.32′ LT.	21.41′ LT.	21.48′ LT.	21.58′ LT.	21.64′ LT.	21.68′ LT.	21.67′ LT.	21.64′ LT.	21.57′ LT.	21.46′ LT.	21.33′ LT.	21.23′ LT.	21.12′ LT.	20.99′ LT.	20.86′ LT.
	ELEV. AFTER DECK REMOVAL *	--				--				--				--				--
	ELEV. BEFORE DECK REMOVAL *	--				--				--				--				--
	SURVEYED REBOUND **	--				--				--				--				--
	ADJUSTED REBOUND ***	--				--				--				--				--
	FINAL TOP/DECK ELEV.	621.27	621.33	621.39	621.45	621.50	621.56	621.62	621.66	621.68	621.70	621.69	621.66	621.64	621.62	621.59	621.55	621.49
	DECK SCREED ELEV. ****	621.27	--	--	--	621.50	--	--	--	621.68	--	--	--	621.64	--	--	--	621.49
G	STATION	177+30.70	177+42.96	177+55.22	177+67.48	177+79.74	178+00.01	178+20.28	178+40.55	178+60.82	178+81.09	179+01.36	179+21.63	179+41.90	179+54.16	179+66.42	179+78.68	179+90.94
	OFFSET	11.56′ LT.	11.67′ LT.	11.78′ LT.	11.87′ LT.	11.95′ LT.	12.06′ LT.	12.13′ LT.	12.17′ LT.	12.18′ LT.	12.15′ LT.	12.09′ LT.	11.99′ LT	11.86′ LT.	11.77′ LT.	11.67′ LT.	11.55′ LT.	11.42′ LT.
	ELEV. AFTER DECK REMOVAL *	--				--				--				--				--
	ELEV. BEFORE DECK REMOVAL *	--				--				--				--				--
	SURVEYED REBOUND **	--				--				--				--				--
	ADJUSTED REBOUND ***	--				--				--				--				--
	FINAL TOP/DECK ELEV.	621.09	621.16	621.22	621.27	621.32	621.40	621.45	621.50	621.53	621.54	621.54	621.53	621.50	621.48	621.45	621.41	621.37
	DECK SCREED ELEV. ****	621.09	--	--	--	621.32	--	--	--	621.53	--	--	--	621.50	--	--	--	621.37
H	STATION	177+25.60	177+37.85	177+50.00	177+62.35	177+74.61	177+94.86	178+15.11	178+35.37	178+55.62	178+75.88	178+96.13	179+16.39	179+36.64	179+48.89	179+61.14	179+73.40	179+85.65
	OFFSET	2.00′ LT.	2.13′ LT.	2.24′ LT.	2.33′ LT.	2.42′ LT.	2.53′ LT.	2.62′ LT.	2.66′ LT.	2.68′ LT.	2.66′ LT.	2.61′ LT.	2.52′ LT.	2.40′ LT.	2.31′ LT.	2.21′ LT.	2.10′ LT.	1.97′ LT.
	ELEV. AFTER DECK REMOVAL *	--				--				--				--				--
	ELEV. BEFORE DECK REMOVAL *	--				--				--				--				--
	SURVEYED REBOUND **	--				--				--				--				--
	ADJUSTED REBOUND ***	--				--				--				--				--
	FINAL TOP/DECK ELEV.	620.91	620.98	621.04	621.10	621.15	621.23	621.29	621.34	621.37	621.39	621.39	621.38	621.36	621.34	621.31	621.26	621.24
	DECK SCREED ELEV. ****	620.91	--	--	--	621.15	--	--	--	621.37	--	--	--	621.36	--	--	--	621.24

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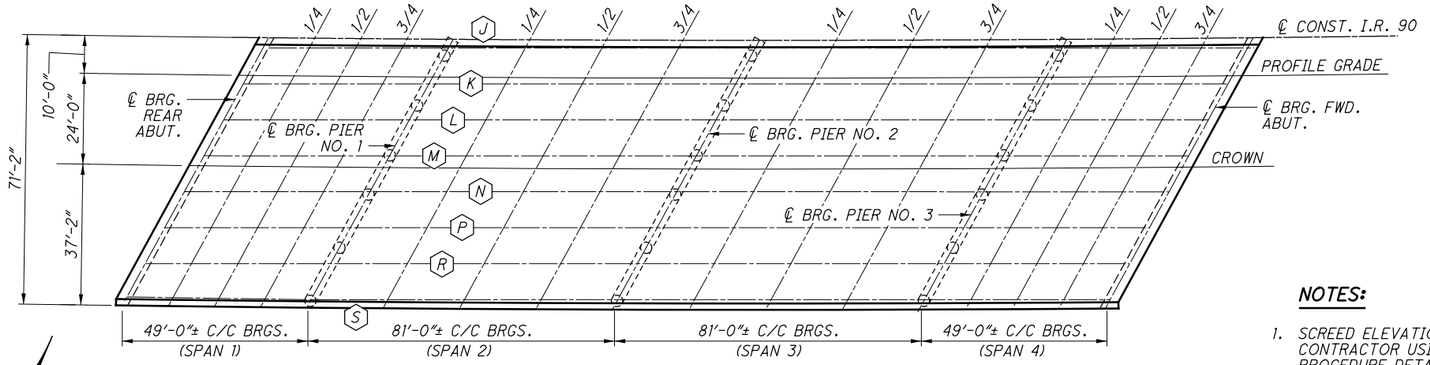
DESIGNED RJB | DRAWN CAF | CHECKED CMD | REVIEWED RBB | DATE 8/17/18 | REVISED | STRUCTURE FILE NUMBER 1808702

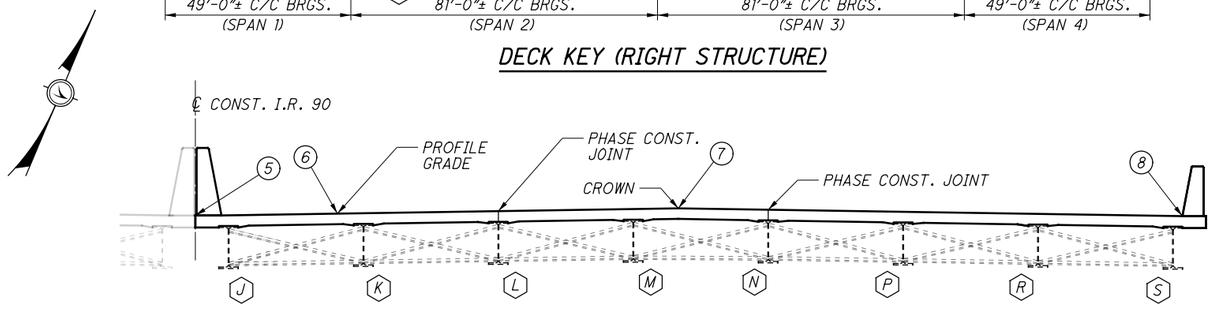
SUPERSTRUCTURE DETAILS - SCREED TABLE 2 OF 4

BRIDGE NO. CUY-90-2463
INTERSTATE ROUTE 90 OVER EAST 152ND STREET

CUY-90-24.10/24.63
PID No. 88348



DECK KEY (RIGHT STRUCTURE)



TRANSVERSE KEY (RIGHT STRUCTURE)

* BOTTOM OF BEAM ELEVATION SURVEYED DURING CONSTRUCTION.

** SURVEYED REBOUND = BEAM ELEVATIONS AFTER DECK REMOVAL MINUS BEAM ELEVATION BEFORE 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

NOTES:

1. SCREED ELEVATIONS ARE TO BE CALCULATED BY THE CONTRACTOR USING THE SCREED ELEVATION FIELD PROCEDURE DETAILED ON THIS SHEET. THE COST OF LAYOUT, FIELD SURVEY AND CALCULATION OF SCREED ELEVATIONS IS CONSIDERED INCIDENTAL TO DECK CONSTRUCTION, AND SHALL BE INCLUDED WITH ITEM 511, CLASS QC2 CONCRETE WITH QC/QA, BRIDGE DECK, AS PER PLAN.
2. FINAL DECK SURFACE ELEVATIONS SHOWN REPRESENT THE DECK SURFACE ELEVATION AFTER ALL ANTICIPATED DEAD LOAD DEFLECTIONS HAVE OCCURED.

SCREED ELEVATION FIELD PROCEDURE

A. 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.

B. COMPUTE THE AMOUNT OF SURVEYED REBOUND FOR THESE BEAMS BY SUBTRACTING THE ELEVATIONS BEFORE REMOVAL FROM THE ELEVATIONS AFTER REMOVAL.

C. COMPUTE THE ADJUSTED REBOUND FOR THESE BEAMS BY MULTIPLYING THE SURVEYED REBOUND BY THE RATIO OF THE PROPOSED DEAD LOAD.

D. ADD THE AMOUNT OF THE ADJUSTED REBOUND TO THE FINAL TOP OF DECK ELEVATIONS TO OBTAIN THE DECK SCREED ELEVATIONS. USE THE REBOUND OF THE CLOSEST BEAM TO DETERMINE THE SCREED ELEVATION AT GUTTERS AND OTHER LOCATIONS THAT ARE NOT LOCATED DIRECTLY OVER BEAMS.

E. AFTER PHASE 1 DECK PLACEMENT, REPEAT STEPS A THRU D FOR EACH SUBSEQUENT PHASE.

EXISTING DECK + OVERLAY THICKNESS (FROM CORES) = 11½"

PROPOSED DECK THICKNESS = 8¾"

RATIO OF PROPOSED DEAD LOAD TO EXISTING DEAD LOAD = 0.76

DECK ELEVATION TABLE (RIGHT STRUCTURE)

LOCATION	DESCRIPTION	SPAN 1				SPAN 2				SPAN 3				SPAN 4				
		℄ BRG. REAR ABUT.	1/4 PT.	1/2 PT.	3/4 PT.	℄ PIER NO. 1	1/4 PT.	1/2 PT.	3/4 PT.	℄ PIER NO. 2	1/4 PT.	1/2 PT.	3/4 PT.	℄ PIER NO. 3	1/4 PT.	1/2 PT.	3/4 PT.	℄ BRG. FWD. ABUT.
⑤	STATION	177+24.53	177+36.72	177+48.91	177+61.10	177+73.30	177+93.49	178+13.70	178+33.92	178+54.16	178+74.42	178+94.70	179+14.99	179+35.31	179+47.61	179+59.91	179+72.22	179+84.54
	OFFSET	0'	0'	0'	0'	0'	0'	0'	0'	0'	0'	0'	0'	0'	0'	0'	0'	0'
	ELEV. AFTER DECK REMOVAL *	--				--				--				--				--
	ELEV. BEFORE DECK REMOVAL *	--				--				--				--				--
	SURVEYED REBOUND **	--				--				--				--				--
	ADJUSTED REBOUND ***	--				--				--				--				--
	FINAL TOP/DECK ELEV.	620.77	620.84	620.90	620.96	621.01	621.09	621.16	621.21	621.25	621.27	621.28	621.28	621.27	621.25	621.23	621.20	621.17
	DECK SCREED ELEV. ****	620.77	--	--	--	621.01	--	--	--	621.25	--	--	--	621.27	--	--	--	621.17
⑥	STATION	177+19.21	177+31.38	177+43.56	177+55.74	177+67.93	177+88.10	178+08.28	178+28.48	178+48.70	178+68.94	178+89.19	179+09.47	179+29.76	179+42.05	179+54.34	179+66.64	179+78.94
	OFFSET	10.00' RT.	10.00' RT.	10.00' RT.	10.00' RT.	10.00' RT.	10.00' RT.	10.00' RT.	10.00' RT.	10.00' RT.	10.00' RT.	10.00' RT.	10.00' RT.	10.00' RT.	10.00' RT.	10.00' RT.	10.00' RT.	10.00' RT.
	ELEV. AFTER DECK REMOVAL *	--				--				--				--				--
	ELEV. BEFORE DECK REMOVAL *	--				--				--				--				--
	SURVEYED REBOUND **	--				--				--				--				--
	ADJUSTED REBOUND ***	--				--				--				--				--
	FINAL TOP/DECK ELEV.	620.90	620.97	621.04	621.10	621.15	621.24	621.30	621.36	621.40	621.43	621.44	621.44	621.43	621.42	621.40	621.37	621.34
	DECK SCREED ELEV. ****	620.90	--	--	--	621.15	--	--	--	621.40	--	--	--	621.43	--	--	--	621.34
⑦	STATION	177+06.47	177+18.61	177+30.76	177+42.91	177+55.07	177+75.19	177+95.32	178+15.47	178+35.64	178+55.82	178+76.03	178+96.25	179+16.49	179+28.75	179+41.01	179+53.27	179+65.55
	OFFSET	34.00' RT.	34.00' RT.	34.00' RT.	34.00' RT.	34.00' RT.	34.00' RT.	34.00' RT.	34.00' RT.	34.00' RT.	34.00' RT.	34.00' RT.	34.00' RT.	34.00' RT.	34.00' RT.	34.00' RT.	34.00' RT.	34.00' RT.
	ELEV. AFTER DECK REMOVAL *	--				--				--				--				--
	ELEV. BEFORE DECK REMOVAL *	--				--				--				--				--
	SURVEYED REBOUND **	--				--				--				--				--
	ADJUSTED REBOUND ***	--				--				--				--				--
	FINAL TOP/DECK ELEV.	621.21	621.28	621.35	621.42	621.48	621.57	621.64	621.71	621.76	621.79	621.82	621.83	621.82	621.81	621.80	621.78	621.76
	DECK SCREED ELEV. ****	621.21	--	--	--	621.48	--	--	--	621.76	--	--	--	621.82	--	--	--	621.76
⑧	STATION	176+87.74	176+99.83	177+11.94	177+24.04	177+36.16	177+56.20	177+76.26	177+96.33	178+16.42	178+36.54	178+56.66	178+76.81	178+96.98	179+09.18	179+21.40	179+33.62	179+45.85
	OFFSET	69.50' RT.	69.50' RT.	69.50' RT.	69.50' RT.	69.50' RT.	69.50' RT.	69.50' RT.	69.50' RT.	69.50' RT.	69.50' RT.	69.50' RT.	69.50' RT.	69.50' RT.	69.50' RT.	69.50' RT.	69.50' RT.	69.50' RT.
	ELEV. AFTER DECK REMOVAL *	--				--				--				--				--
	ELEV. BEFORE DECK REMOVAL *	--				--				--				--				--
	SURVEYED REBOUND **	--				--				--				--				--
	ADJUSTED REBOUND ***	--				--				--				--				--
	FINAL TOP/DECK ELEV.	620.52	620.60	620.68	620.75	620.82	620.92	621.01	621.08	621.15	621.20	621.23	621.26	621.27	621.26	621.26	621.25	621.23
	DECK SCREED ELEV. ****	620.52	--	--	--	620.82	--	--	--	621.15	--	--	--	621.27	--	--	--	621.23

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DESIGNED RJB | DRAWN CAF | CHECKED CMD | REVIEWED RBB | DATE 8/17/18 | REVISED | STRUCTURE FILE NUMBER 1808702

SUPERSTRUCTURE DETAILS - SCREED TABLE 3 OF 4

BRIDGE NO. CUY-90-2463
INTERSTATE ROUTE 90 OVER EAST 152ND STREET

CUY-90-24.10/24.63
PID No. 88348

27 / 48

175 / 196

DECK ELEVATION TABLE (RIGHT STRUCTURE)

LOCATION	DESCRIPTION	SPAN 1				SPAN 2				SPAN 3				SPAN 4				
		℄ BRG. REAR ABUT.	1/4 PT.	1/2 PT.	3/4 PT.	℄ PIER NO. 1	1/4 PT.	1/2 PT.	3/4 PT.	℄ PIER NO. 2	1/4 PT.	1/2 PT.	3/4 PT.	℄ PIER NO. 3	1/4 PT.	1/2 PT.	3/4 PT.	℄ BRG. FWD. ABUT.
	STATION	177+23.10	177+35.35	177+47.59	177+59.84	177+72.09	177+92.33	178+12.58	178+32.83	178+53.07	178+73.32	178+93.57	179+13.81	179+34.06	179+46.31	179+58.55	179+70.80	179+83.05
	OFFSET	2.69′ RT.	2.56′ RT.	2.45′ R.	2.35′ RT.	2.26′ RT.	2.14′ RT.	2.06′ RT.	2.01′ RT.	1.99′ RT.	2.00′ RT.	2.05′ RT.	2.13′ RT.	2.25′ RT.	2.33′ RT.	2.43′ RT.	2.54′ RT.	2.67′ RT.
	ELEV. AFTER DECK REMOVAL *	--				--				--				--				--
(J)	ELEV. BEFORE DECK REMOVAL *	--				--				--				--				--
	SURVEYED REBOUND **	--				--				--				--				--
	ADJUSTED REBOUND ***	--				--				--				--				--
	FINAL TOP/DECK ELEV.	620.81	620.87	620.94	620.99	621.05	621.12	621.19	621.24	621.28	621.30	621.32	621.31	621.30	621.29	621.27	621.24	621.21
	DECK SCREED ELEV. ****	620.81	--	--	--	621.05	--	--	--	621.28	--	--	--	621.30	--	--	--	621.21
	STATION	177+18.01	177+30.25	177+42.49	177+54.73	177+66.96	177+87.19	178+07.43	178+27.66	178+47.89	178+68.12	178+88.35	179+08.58	179+28.81	179+41.05	179+53.29	179+65.52	179+77.76
	OFFSET	12.24′ RT.	12.11′ RT.	12.00′ RT.	11.89′ R.	11.80′ RT.	11.67′ RT.	11.58′ R.	11.52′ R.	11.49′ RT.	11.50′ RT.	11.54′ RT.	11.61′ RT.	11.72′ RT.	11.80′ RT.	11.89′ RT.	11.99′ RT.	12.11′ RT.
	ELEV. AFTER DECK REMOVAL *	--				--				--				--				--
(K)	ELEV. BEFORE DECK REMOVAL *	--				--				--				--				--
	SURVEYED REBOUND **	--				--				--				--				--
	ADJUSTED REBOUND ***	--				--				--				--				--
	FINAL TOP/DECK ELEV.	620.93	621.00	621.06	621.12	621.18	621.26	621.33	621.38	621.42	621.45	621.47	621.47	621.46	621.45	621.43	621.41	621.38
	DECK SCREED ELEV. ****	620.93	--	--	--	621.18	--	--	--	621.42	--	--	--	621.46	--	--	--	621.38
	STATION	177+12.94	177+25.16	177+37.39	177+49.62	177+61.85	177+82.06	178+02.28	178+22.49	178+42.71	178+62.92	178+83.14	179+03.36	179+23.57	179+35.80	179+48.03	179+60.26	179+72.48
	OFFSET	21.80′ RT.	21.67′ RT.	21.55′ RT.	21.43′ RT.	21.34′ RT.	21.20′ RT.	21.10′ RT.	21.03′ RT.	20.99′ RT.	20.99′ RT.	21.02′ RT.	21.09′ RT.	21.19′ RT.	21.26′ RT.	21.35′ RT.	21.45′ RT.	21.55′ RT.
	ELEV. AFTER DECK REMOVAL *	--				--				--				--				--
(L)	ELEV. BEFORE DECK REMOVAL *	--				--				--				--				--
	SURVEYED REBOUND **	--				--				--				--				--
	ADJUSTED REBOUND ***	--				--				--				--				--
	FINAL TOP/DECK ELEV.	621.05	621.12	621.19	621.25	621.31	621.39	621.46	621.52	621.56	621.60	621.61	621.62	621.61	621.60	621.59	621.57	621.54
	DECK SCREED ELEV. ****	621.05	--	--	--	621.33	--	--	--	621.56	--	--	--	621.61	--	--	--	621.54
	STATION	177+07.87	177+20.09	177+32.30	177+44.52	177+56.74	177+76.94	177+97.14	178+17.34	178+37.54	178+57.74	178+77.94	178+98.14	179+18.34	179+30.56	179+42.78	179+55.00	179+67.21
	OFFSET	31.36′ RT.	31.22′ RT.	31.10′ RT..	30.98′ RT.	30.88′ RT.	30.73′ RT.	30.62′ RT.	30.54′ RT.	30.50′ RT.	30.49′ RT.	30.51′ RT.	30.57′ RT.	30.66′ RT.	30.73′ RT.	30.81′ RT.	30.90′ RT.	31.01′ RT.
	ELEV. AFTER DECK REMOVAL *	--				--				--				--				--
(M)	ELEV. BEFORE DECK REMOVAL *	--				--				--				--				--
	SURVEYED REBOUND **	--				--				--				--				--
	ADJUSTED REBOUND ***	--				--				--				--				--
	FINAL TOP/DECK ELEV.	621.17	621.25	621.31	621.38	621.44	621.52	621.60	621.66	621.71	621.74	621.76	621.77	621.77	621.76	621.75	621.73	621.71
	DECK SCREED ELEV. ****	621.17	--	--	--	621.44	--	--	--	621.71	--	--	--	621.77	--	--	--	621.71
	STATION	177+02.81	177+15.02	177+27.22	177+39.43	177+51.64	177+71.83	177+92.01	178+12.19	178+32.38	178+52.56	178+72.75	178+92.93	179+15.11	179+25.32	179+37.53	179+49.74	179+61.95
	OFFSET	40.92′ RT.	40.78′ RT.	40.65′ RT.	40.53′ RT.	40.42′ RT.	40.27′ RT.	40.15′ RT.	40.06′ RT.	40.01′ RT.	39.99′ RT.	40.00′ RT.	40.05′ RT.	40.13′ RT.	40.20′ RT.	40.27′ RT.	40.36′ RT.	40.46′ RT.
	ELEV. AFTER DECK REMOVAL *	--				--				--				--				--
(N)	ELEV. BEFORE DECK REMOVAL *	--				--				--				--				--
	SURVEYED REBOUND **	--				--				--				--				--
	ADJUSTED REBOUND ***	--				--				--				--				--
	FINAL TOP/DECK ELEV.	621.07	621.15	621.23	621.29	621.36	621.45	621.53	621.60	621.65	621.69	621.72	621.73	621.73	621.72	621.70	621.69	621.66
	DECK SCREED ELEV. ****	621.07	--	--	--	621.36	--	--	--	621.65	--	--	--	621.73	--	--	--	621.66
	STATION	176+97.75	177+09.95	177+22.15	177+34.35	177+46.55	177+66.72	177+86.89	178+07.05	178+27.22	178+47.39	178+67.56	178+87.73	179+07.90	179+20.10	179+32.30	179+44.50	179+56.70
	OFFSET	50.49′ RT.	50.34′ RT.	50.20′ RT.	50.08′ RT.	49.96′ RT.	49.80′ RT.	49.67′ RT.	49.58′ RT.	49.52′ RT.	49.49′ R.	49.50′ R.	49.53′ RT.	49.61′ RT.	49.67′ R.	49.74′ RT.	49.82′ RT.	49.92′ RT.
	ELEV. AFTER DECK REMOVAL *	--				--				--				--				--
(P)	ELEV. BEFORE DECK REMOVAL *	--				--				--				--				--
	SURVEYED REBOUND **	--				--				--				--				--
	ADJUSTED REBOUND ***	--				--				--				--				--
	FINAL TOP/DECK ELEV.	620.89	620.97	621.04	621.11	621.18	621.28	621.36	621.43	621.49	621.53	621.56	621.58	621.58	621.57	621.56	621.54	621.53
	DECK SCREED ELEV. ****	620.89	--	--	--	621.18	--	--	--	621.49	--	--	--	621.58	--	--	--	621.53
	STATION	176+92.71	177+04.90	177+17.09	177+29.28	177+41.47	177+61.62	177+81.77	178+01.92	178+22.08	178+42.23	178+62.38	178+82.54	179+02.69	179+14.88	179+27.07	179+39.26	179+51.45
	OFFSET	60.06′ RT.	59.90′ RT.	59.76′ RT.	59.63′ RT.	59.51′ RT.	59.34′ RT.	59.20′ RT.	59.10′ RT.	59.03′ RT.	58.99′ RT.	58.99′ RT.	59.02′ RT.	59.09′ RT.	59.14′ RT.	59.21′ RT.	59.29′ RT.	59.38′ RT.
	ELEV. AFTER DECK REMOVAL *	--				--				--				--				--
(R)	ELEV. BEFORE DECK REMOVAL *	--				--				--				--				--
	SURVEYED REBOUND **	--				--				--				--				--
	ADJUSTED REBOUND ***	--				--				--				--				--
	FINAL TOP/DECK ELEV.	620.70	620.78	620.86	620.93	621.00	621.10	621.19	621.27	621.33	621.37	621.40	621.42	621.43	621.42	621.41	621.40	621.37
	DECK SCREED ELEV. ****	620.70	--	--	--	621.00	--	--	--	621.33	--	--	--	621.43	--	--	--	621.37
	STATION	176+88.05	177+00.14	177+12.22	177+24.31	177+36.39	177+56.53	177+76.66	177+96.80	178+16.94	178+37.08	178+57.21	178+77.35	178+97.49	179+09.67	179+21.85	179+34.03	179+46.22
	OFFSET	68.89′ RT.	68.92′ R.	68.95′ RT.	69.00′ RT.	69.06′ RT.	68.88′ RT.	68.73′ RT.	68.62′ RT.	68.55′ RT.	68.50′ RT.	68.49′ RT.	68.51′ RT.	68.57′ RT.	68.61′ RT.	68.68′ RT.	68.75′ RT.	68.84′ RT.
	ELEV. AFTER DECK REMOVAL *	--				--				--				--				--
(S)	ELEV. BEFORE DECK REMOVAL *	--				--				--				--				--
	SURVEYED REBOUND **	--				--				--				--				--
	ADJUSTED REBOUND ***	--				--				--				--				--
	FINAL TOP/DECK ELEV.	620.52	620.61	620.68	620.76	620.82	620.93	621.02	621.10	621.16	621.21	621.24	621.27	621.27	621.27	621.27	621.25	621.24
	DECK SCREED ELEV. ****	620.52	--	--	--	620.82	--	--	--	621.16	--	--	--	621.27	--	--	--	621.24

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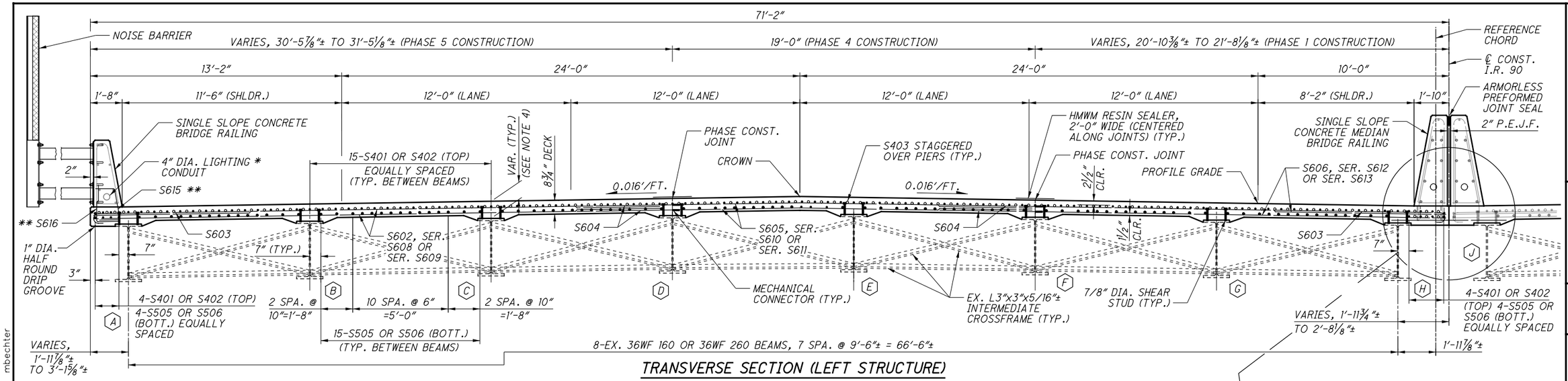
RJB	CAF	RBB	8/17/18
CHECKED	REVISED	STRUCTURE FILE NUMBER	
CMD		1808702	

SUPERSTRUCTURE DETAILS - SCREED TABLE 4 OF 4
BRIDGE NO. CUY-90-2463
INTERSTATE ROUTE 90 OVER EAST 152ND STREET

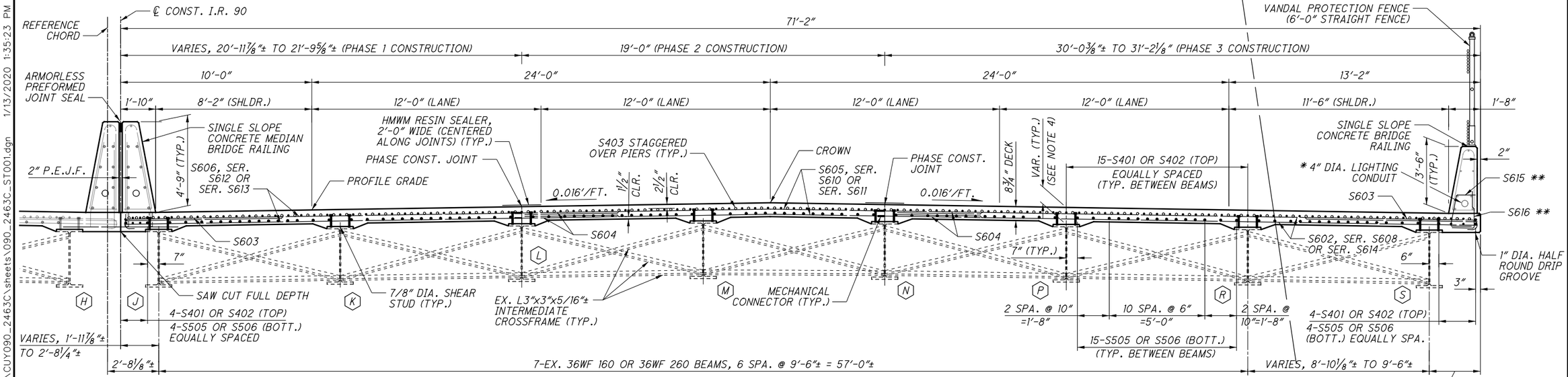
CUY-90-24.10/24.63
PID No. 88348

28/48

176
196



TRANSVERSE SECTION (LEFT STRUCTURE)



TRANSVERSE SECTION (RIGHT STRUCTURE)

NOTES

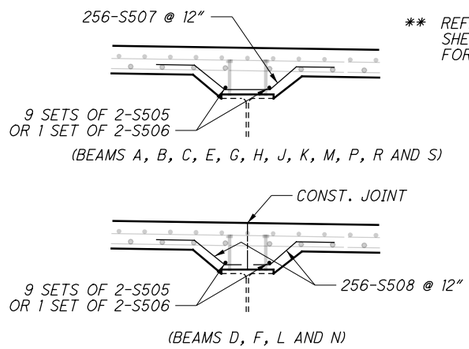
1. FOR DECK PLAN, SEE SHEET 30|48.
2. FOR OUTSIDE AND MEDIAN BRIDGE RAILING DETAILS, SEE SHEETS 31|48 THRU 34|48 .
3. FOR BRIDGE MOUNTED NOISE BARRIER DETAILS, SEE SHEETS 43|48 THRU 45|48 .
4. THE ESTIMATED QUANTITY OF DECK SLAB CONCRETE IS BASED ON THE CONSTANT DECK SLAB THICKNESS, AS SHOWN, PLUS THE QUANTITIY OF CONCRETE THAT FORMS EACH BEAM HAUNCH. THE ESTIMATE ASSUMES AN AVERAGE HAUNCH THICKNESS OF 3 INCHES, AND A CONSTANT HAUNCH WIDTH OF 9 INCHES. DEVIATE FROM THIS HAUNCH THICKNESS AS NECESSARY TO PLACE THE DECK SURFACE AT THE FINISHED GRADE. THE ALLOWABLE TOLERANCE FOR THE HAUNCH WIDTH OUTSIDE THE EDGE OF EACH BEAM FLANGE IS ±3 INCHES.

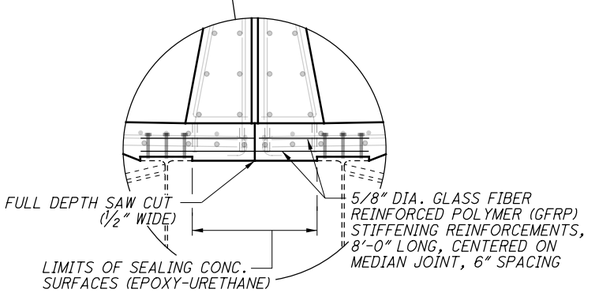
   THE HAUNCH THICKNESS WAS MEASURED AT THE CENTERLINE OF THE BEAM, FROM THE SURFACE OF THE DECK TO THE BOTTOM OF THE TOP FLANGE MINUS THE DECK SLAB THICKNESS. THE AREA OF ALL EMBEDDED STEEL PLATES HAS BEEN DEDUCTED FROM THE HAUNCH QUANTITY IN ACCORDANCE WITH 511.24.
5. MINIMUM BAR LAPS ARE AS FOLLOWS:

   #4 BAR = 33" #5 BAR = 41"
   #6 BAR = 52" #8 BAR = 87"
6. TRANSVERSE CONSTRUCTION JOINTS SHALL NOT BE PERMITTED IN THE DECK SLAB.
7. FOR SEMI-INTEGRAL ABUTMENT DIAPHRAGM DETAILS, SEE SHEETS 20|48 AND 21|48 .

* INCLUDE WITH ROADWAY QUANTITIES FOR PAYMENT

** REFER TO RAILING DETAILS SHEETS 31|48 THRU 34|48 FOR BAR SPACING





HAUNCH REINFORCING DETAILS

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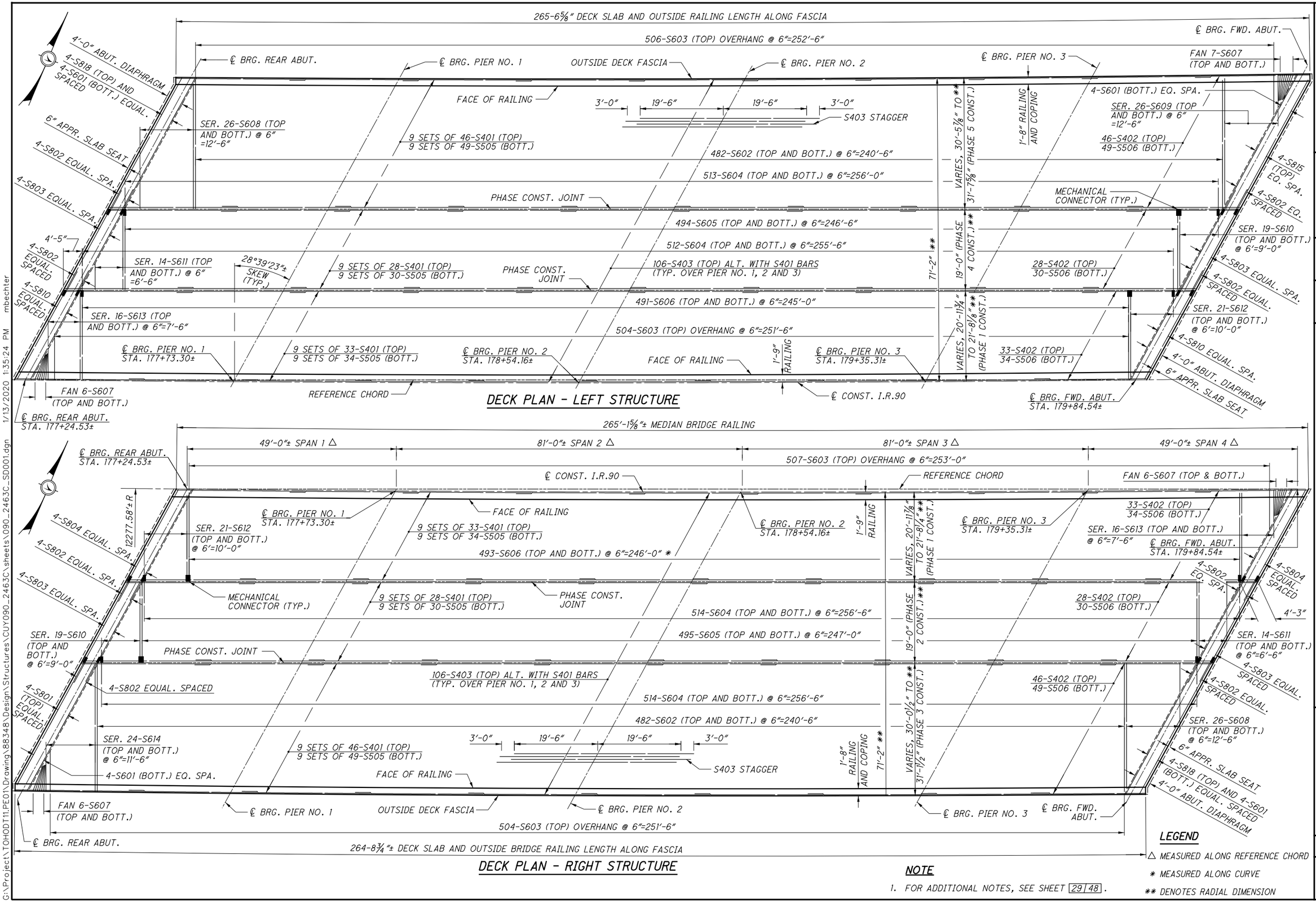
TRANSVERSE SECTION
BRIDGE NO. CUY-90-2463
STATE ROUTE 90 OVER EAST 152ND STREET

CUY-90-24.10/24.63
PID No. 88348

29 / 48

177 / 196



NOTE

1. FOR ADDITIONAL NOTES, SEE SHEET 29|48 .

LEGEND

△ MEASURED ALONG REFERENCE CHORD

* MEASURED ALONG CURVE

** DENOTES RADIAL DIMENSION

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DECK PLAN

BRIDGE NO. CUY-90-2463
STATE ROUTE 90 OVER EAST 152ND STREET

CUY-90-24.10/24.63
PID No. 88348

30 | 48

178
196

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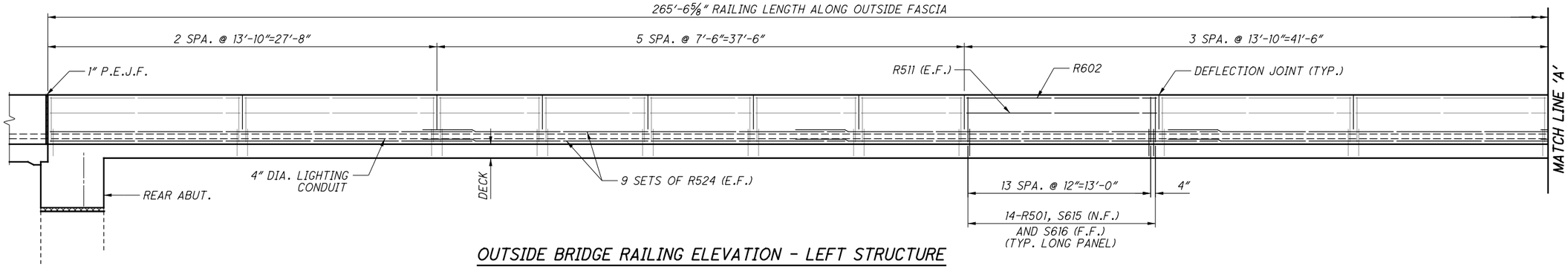
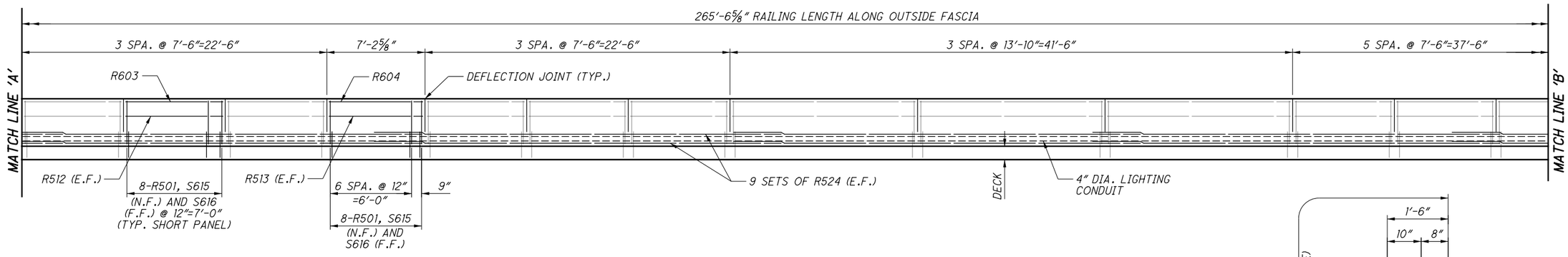
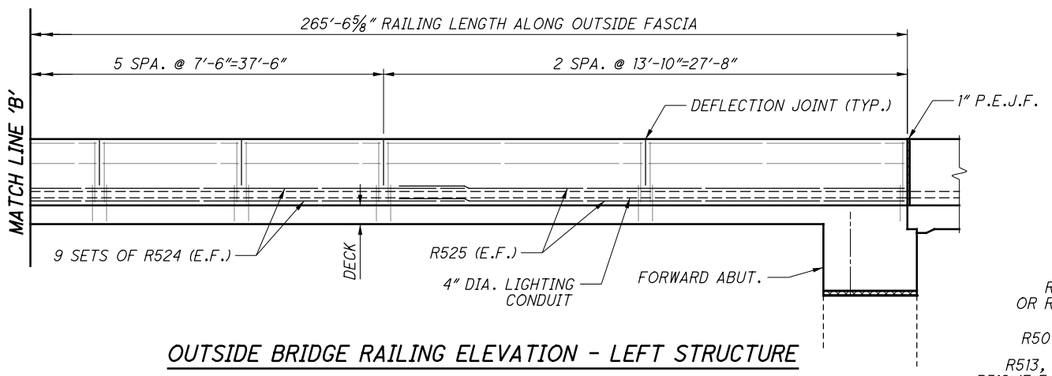


OUTSIDE BRIDGE RAILING ELEVATION - LEFT STRUCTURE



OUTSIDE BRIDGE RAILING ELEVATION - LEFT STRUCTURE



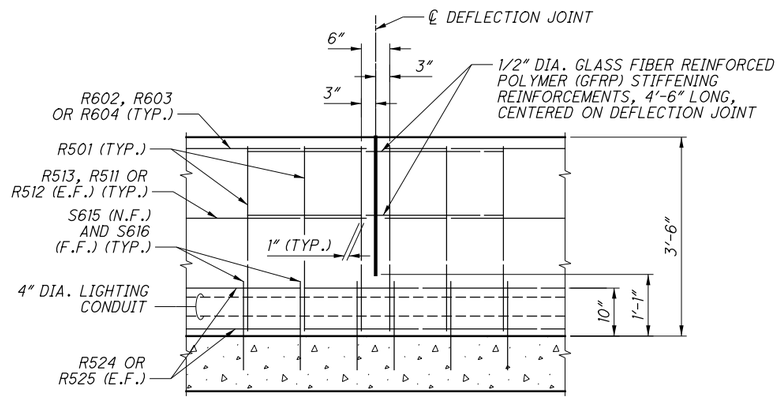
OUTSIDE BRIDGE RAILING ELEVATION - LEFT STRUCTURE

NOTES

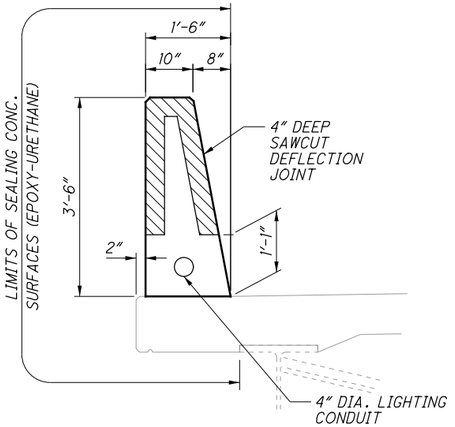
1. MINIMUM BAR LAP IS AS FOLLOWS:

   #5 BAR = 41"

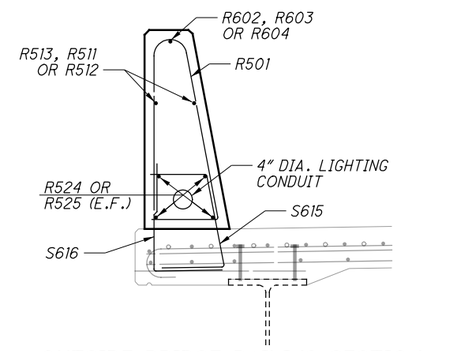
2. FOR SLAB PLAN, SEE SHEET 30 48 .
3. FOR TRANSVERSE SECTION, SEE SHEET 29 48 .
4. FOR ADDITIONAL BRIDGE RAILING DETAILS, SEE STANDARD DRAWING SBR-1-13.



RAILING DEFLECTION JOINT DETAIL



DEFLECTION JOINT DETAIL



OUTSIDE BRIDGE RAILING SECTION

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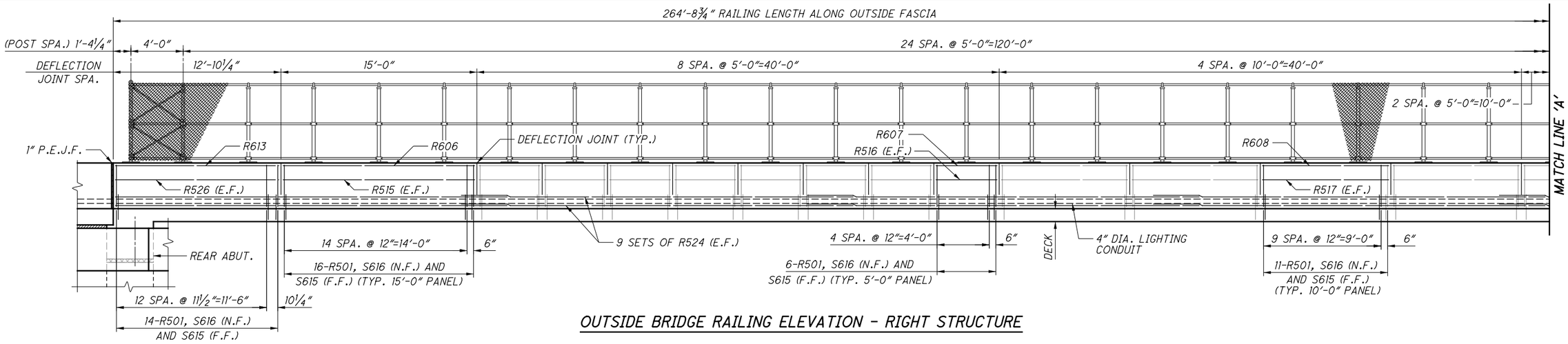
RAILING DETAILS 1 OF 4

BRIDGE NO. CUY-90-2463
STATE ROUTE 90 OVER EAST 152ND STREET

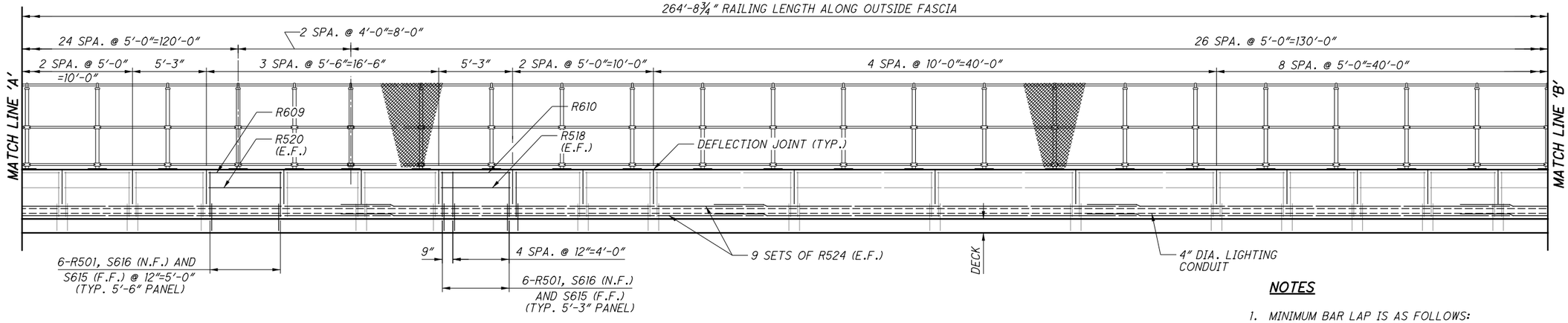
CUY-90-24.10/24.63
PID No. 88348

31/48

179
196



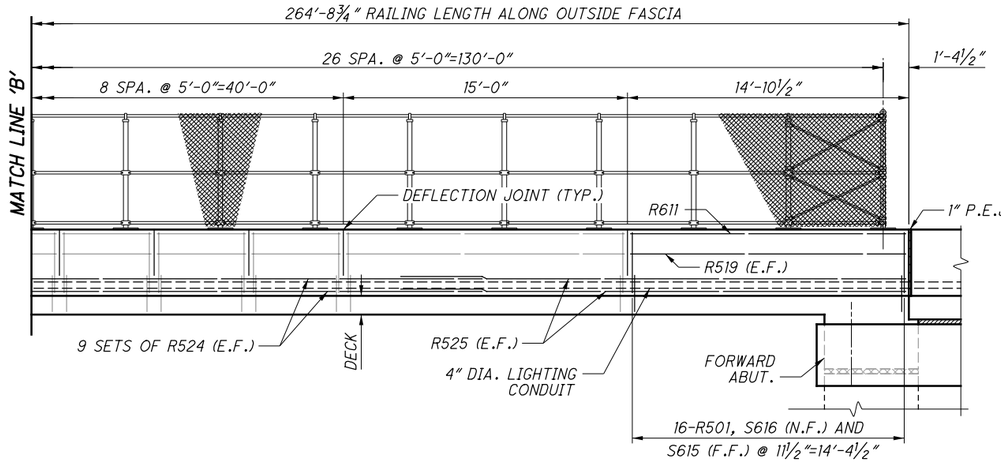
OUTSIDE BRIDGE RAILING ELEVATION - RIGHT STRUCTURE



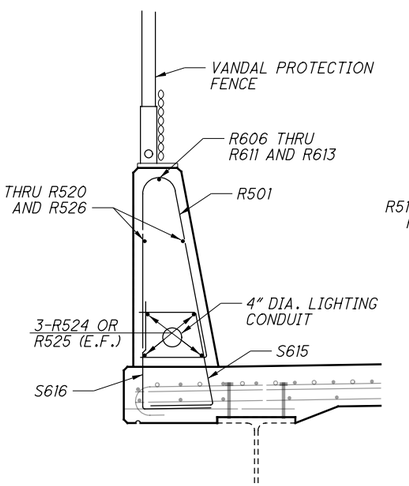
OUTSIDE BRIDGE RAILING ELEVATION - RIGHT STRUCTURE

NOTES

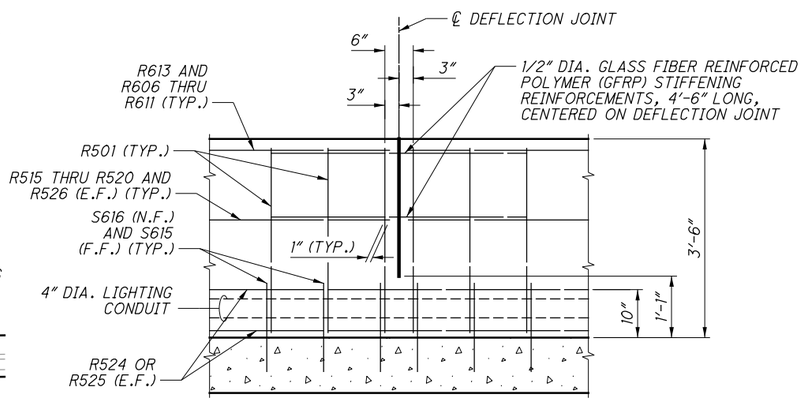
1. MINIMUM BAR LAP IS AS FOLLOWS:
   #5 BAR = 41"
2. FOR DEFLECTION JOINT DETAIL, AND SEALING CONCRETE SURFACES, SEE RAILING DETAIL SHEET 31|48 .



OUTSIDE BRIDGE RAILING ELEVATION - RIGHT STRUCTURE



OUTSIDE BRIDGE RAILING SECTION



RAILING DEFLECTION JOINT DETAIL

(VANDAL PROTECTION FENCE NOT SHOWN FOR CLARITY)

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CHECKED	REVISED	STRUCTURE FILE NUMBER	
FJG		1808702	

RAILING DETAILS 2 OF 4
BRIDGE NO. CUY-90-2463
STATE ROUTE 90 OVER EAST 152ND STREET

CUY-90-24.10/24.63
PID No. 88348

32 / 48

180
196

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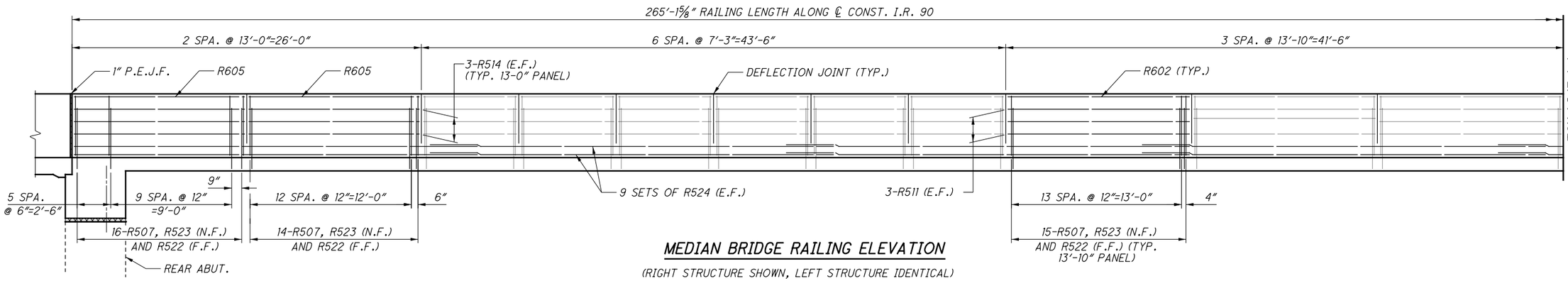
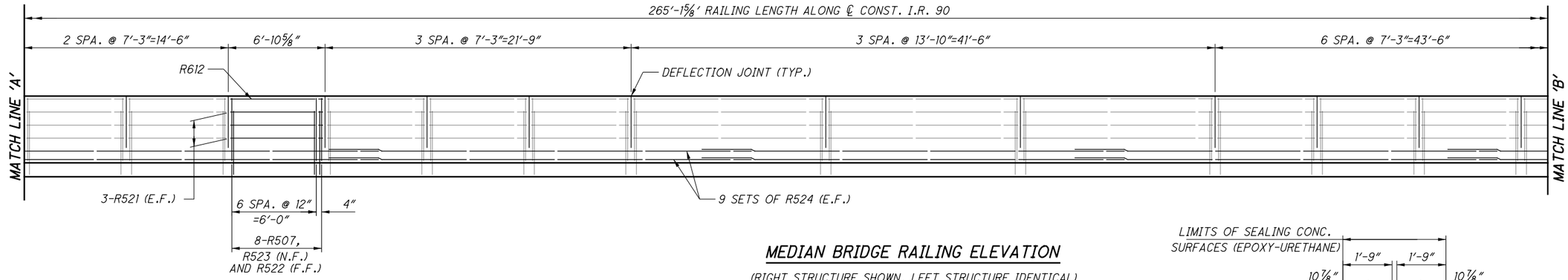


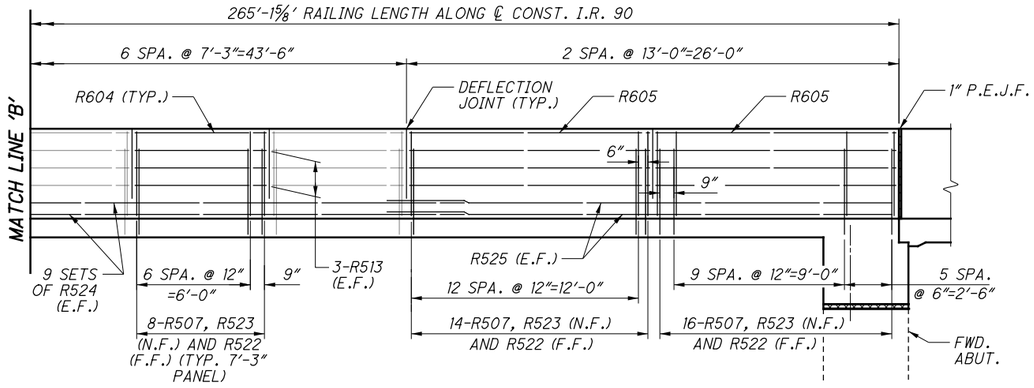
MEDIAN BRIDGE RAILING ELEVATION

(RIGHT STRUCTURE SHOWN, LEFT STRUCTURE IDENTICAL)



MEDIAN BRIDGE RAILING ELEVATION

(RIGHT STRUCTURE SHOWN, LEFT STRUCTURE IDENTICAL)



MEDIAN BRIDGE RAILING ELEVATION

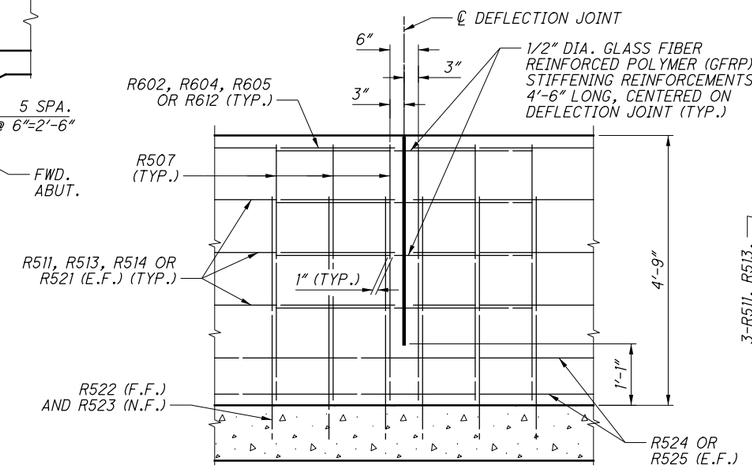
(RIGHT STRUCTURE SHOWN, LEFT STRUCTURE IDENTICAL)

NOTES

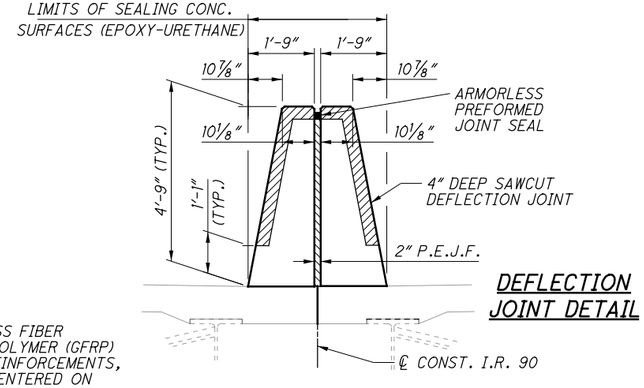
1. MINIMUM BAR LAP IS AS FOLLOWS:

   #5 BAR = 41"

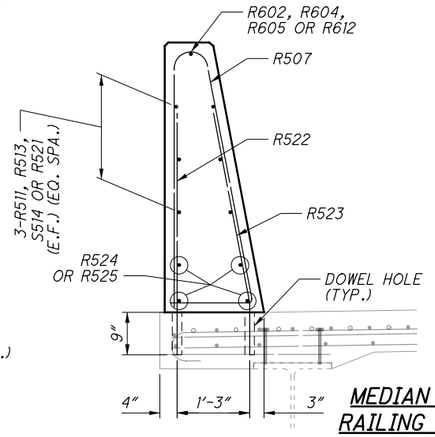
2. FOR SLAB PLAN, SEE SHEET 30|48 .
3. FOR TRANSVERSE SECTION, SEE SHEET 29|48 .
4. FOR ADDITIONAL BRIDGE RAILING DETAILS, SEE STANDARD DRAWING SBR-2-13.



MEDIAN RAILING DEFLECTION JOINT DETAIL



DEFLECTION JOINT DETAIL



MEDIAN BRIDGE RAILING SECTION

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RAILING DETAILS 3 OF 4
BRIDGE NO. CUY-90-2463
STATE ROUTE 90 OVER EAST 152ND STREET

CUY-90-24.10/24.63
PID No. 88348

33 / 48

181
196

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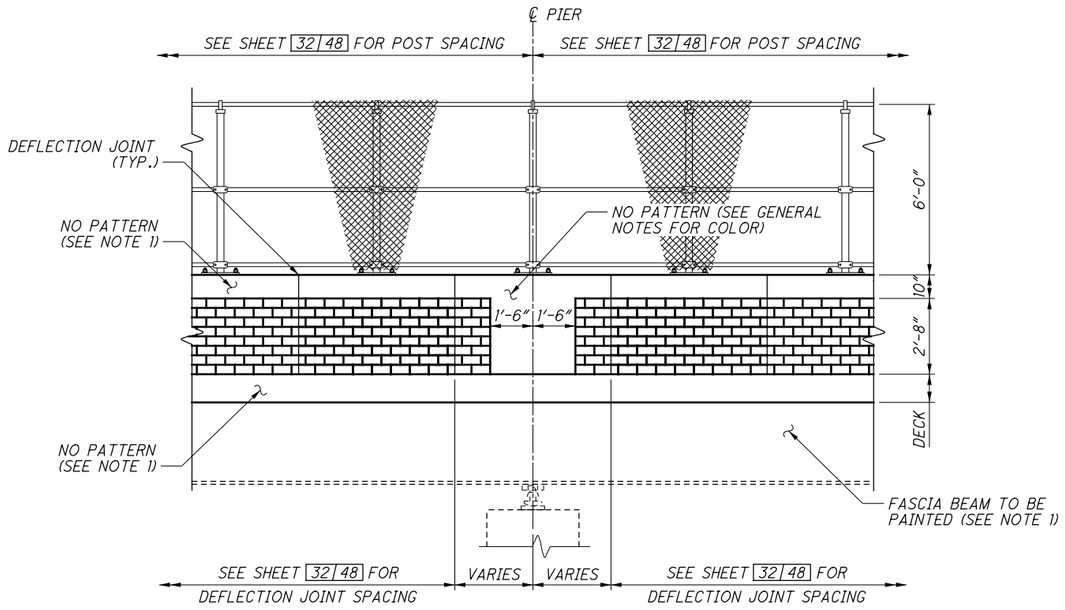
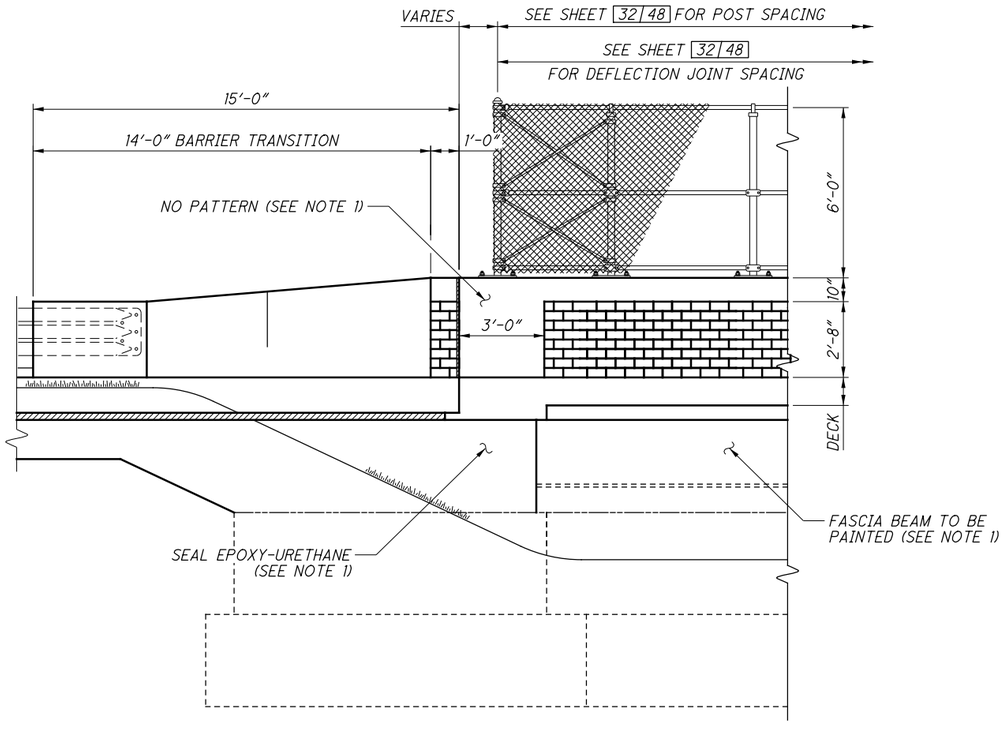


PIER DETAIL

(PIER NO. 2 SHOWN, PIER NO. 1 AND PIER NO. 3 SIMILAR)

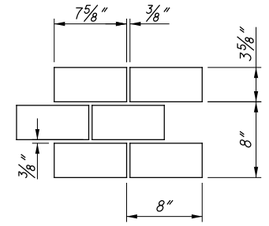


ABUTMENT DETAIL

(REAR ABUTMENT SHOWN, FORWARD ABUTMENT SIMILAR)

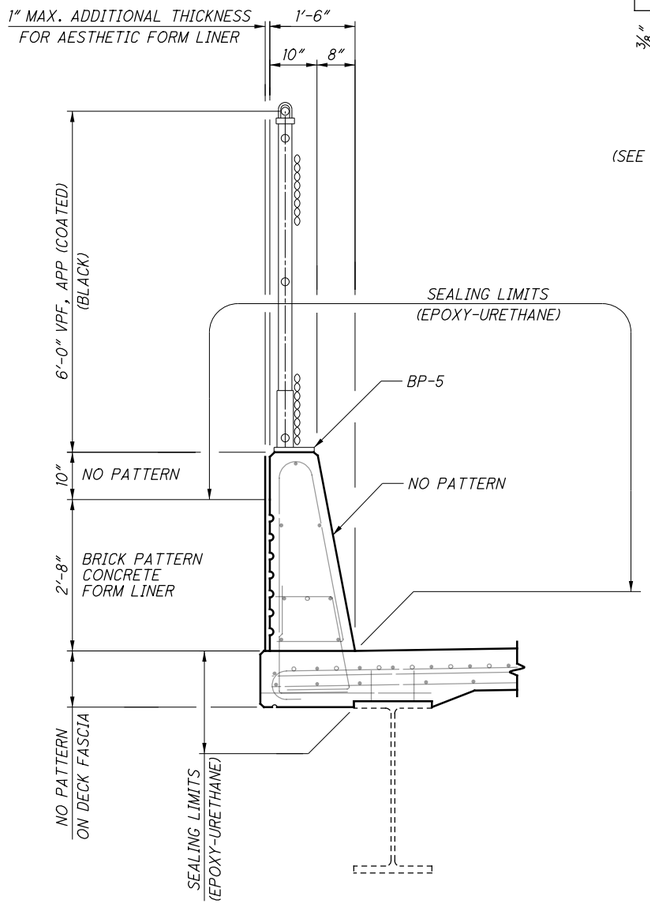
NOTE

1. FOR PAINT, STAIN AND SEALER COLOR, SEE GENERAL NOTE SHEET 4|48 .



BRICK PATTERN

(SEE GENERAL NOTES FOR COLOR)



RAILING DETAIL

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RJB	MPB	RBB	8/17/18
CHECKED	REVISED	STRUCTURE FILE NUMBER	
CMD		1808702	

RAILING DETAILS 4 OF 4
BRIDGE NO. CUY-90-2463
INTERSTATE ROUTE 90 OVER EAST 152ND STREET

CUY-90-24.10/24.63
PID No. 88348

34/48

182
196

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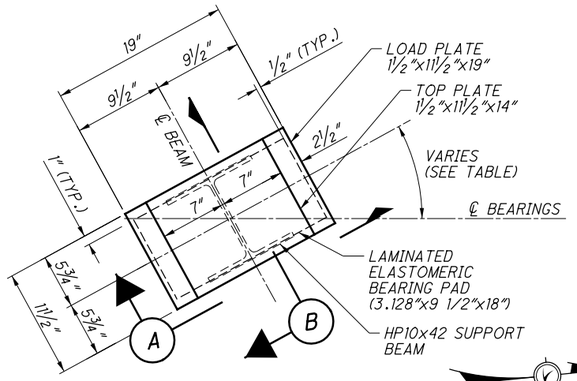
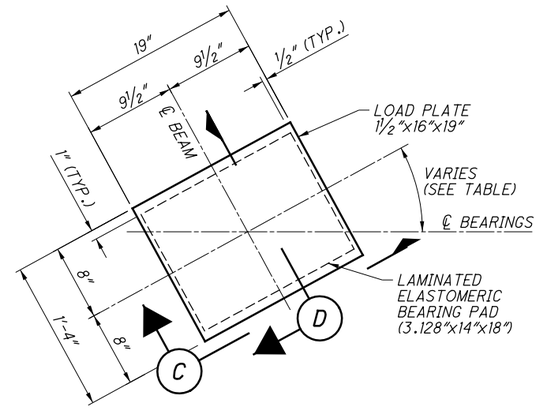


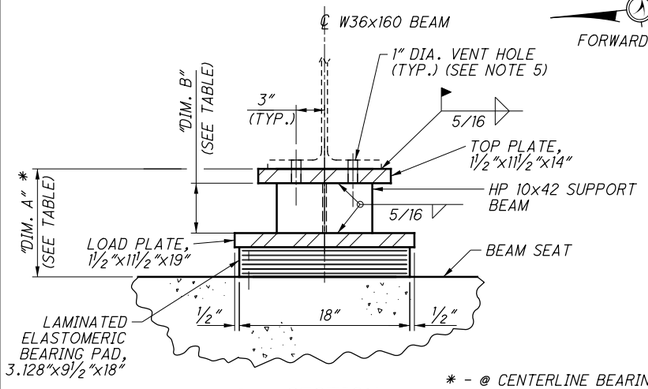
BEARING PLAN
(ABUTMENTS)

REAR ABUTMENT

FORWARD ABUTMENT

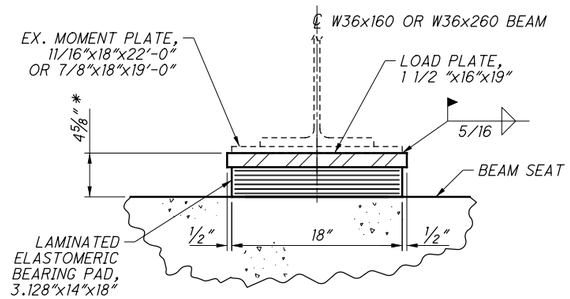


BEARING PLAN
(PIERS)

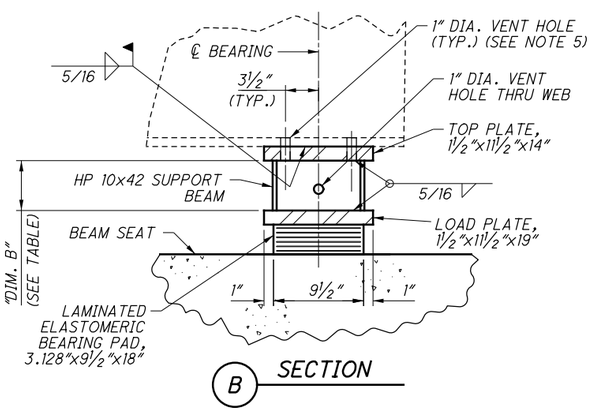


* - @ CENTERLINE BEARING

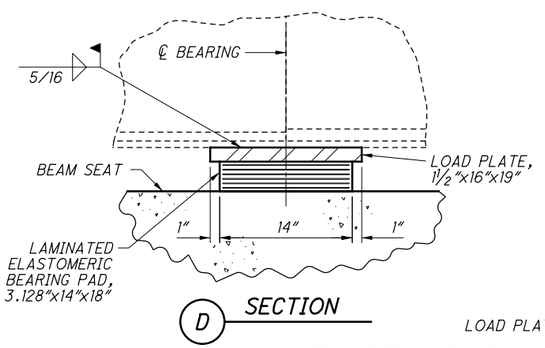
A SECTION



C SECTION

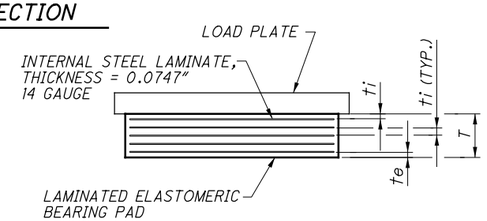


B SECTION



D SECTION

BEARING SKEW ANGLE	
BEAM	"A"
A THRU R	28°39'23"±
S (REAR)	27°48'16"±
S (FWD.)	28°39'23"±
-	-



BEARING PAD DETAIL

SUPPORT BEAM TABLE				
BEAM NO.	"DIM. A"		"DIM. B"	
	REAR ABUT.	FORWARD ABUT.	REAR ABUT.	FORWARD ABUT.
A	11 3/16"	11 1/4"	5 1/16"	5 1/8"
B	11 3/8"	11 3/4"	5 1/4"	5 5/8"
C	11 5/8"	1'-0"	5 1/2"	5 7/8"
D	1'-0"	11 3/8"	5 7/8"	5 1/4"
E	11 1/2"	11 3/8"	5 3/8"	5 1/4"
F	11 5/8"	1'-0"	5 1/2"	5 7/8"
G	11 5/8"	11 1/2"	5 1/2"	5 3/8"
H	11 3/8"	11 1/2"	5 1/4"	5 3/8"
J	11 1/2"	11 3/8"	5 3/8"	5 1/4"
K	11 5/8"	1'-0"	5 1/2"	5 7/8"
L	11 3/4"	1'-0"	5 5/8"	5 7/8"
M	11 3/8"	11 3/4"	5 1/4"	5 5/8"
N	11 5/8"	11 3/4"	5 1/2"	5 5/8"
P	1'-0"	11 3/4"	5 7/8"	5 5/8"
R	11 5/8"	11 3/4"	5 1/2"	5 5/8"
S	11 3/8"	11 5/8"	5 1/4"	5 1/2"

NOTES

1. ELASTOMERIC BEARINGS: THE ELASTOMER SHALL HAVE A HARDNESS OF 60 DUROMETER. THE BEARINGS WERE DESIGNED UNDER DIVISION I, SECTION 14.6.6.3 (METHOD A) OF THE AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES.
2. THE STEEL LOAD PLATE AND HP10x42 SUPPORT BEAMS SHALL BE ASTM A709, GRADE 50. THE BOTTOM STEEL LOAD PLATE SHALL BE BONDED BY VULCANIZATION TO THE ELASTOMER DURING THE MOLDING PROCESS. WELDING OF THE LOAD PLATE AND THE HP10x42 SUPPORT BEAM SHALL BE CONTROLLED SO THAT THE PLATE TEMPERATURE AT THE ELASTOMER BONDED SURFACE DOES NOT EXCEED 300° F AS DETERMINED BY THE USE OF PYROMETRIC STICKS OR OTHER TEMPERATURE MONITORING DEVICES.
3. ALL BEARINGS SHALL BE MARKED PRIOR TO SHIPPING. THE MARKS SHALL INCLUDE THE BEARING LOCATION ON THE BRIDGE, AND THE DIRECTION ARROW THAT POINTS UP-STATION. ALL MARKS SHALL BE PERMANENT AND VISIBLE AFTER THE BEARING IS INSTALLED.
4. ALL MATERIALS, LABOR AND INCIDENTALS NECESSARY TO FURNISH AND INSTALL ABUTMENT BEARINGS, INCLUDING LOAD PLATES, AND SUPPORT BEAMS, SHALL BE INCLUDED IN ITEM 516, ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE) AS PER PLAN FOR PAYMENT.
5. 1" DIAMETER VENT HOLES IN EXISTING BEAM FLANGE, SHALL BE FIELD DRILLED. FLAME CUTTING OF HOLES IS NOT PERMITTED. FIELD DRILLING SHALL BE INCLUDED WITH ITEM 202, PORTIONS OF STRUCTURE REMOVED, OVER 20' SPAN, AS PER PLAN FOR PAYMENT.
6. FOR ABUTMENT DIAPHRAGM DETAILS SEE SHEETS 20 | 48 THRU 24 | 48 .
7. FOR FRAMING PLANS AND BEAM DETAILS SEE SHEETS 17 | 48 THRU 19 | 48 .
8. BEARING REPOSITIONING: IF THE BEARINGS ARE INSTALLED AT AN AMBIENT TEMPERATURE HIGHER THAN 80° F OR LOWER THAN 40° F AND THE BEARING SHEAR DEFLECTION EXCEEDS 1/6 OF THE BEARING HEIGHT AT 60° F (+/- 10° F), RAISE THE BEAMS TO ALLOW THE BEARINGS TO RETURN TO THEIR UNDEFORMED SHAPE AT 60° F (+/- 10° F).

BEARING DATA								
LOCATION	50 DUROMETER							
	SIZE		(THICKNESS) "DIM. T"	t_i	t_e	NUMBER OF t_i	NUMBER OF t_e	NUMBER OF STEEL LAMINATES
	L	W						
ABUTMENTS	9.5"	18"	3.128"	0.40"	0.28"	6	1	6
PIERS	14"	18"	3.128"	0.40"	0.28"	6	1	6

BEARING LOAD DATA			
LOCATION	DEAD LOAD (KIPS/PAD)	LIVE LOAD (W/O IMPACT) (KIPS/PAD)	DESIGN LOAD (KIPS/PAD)
REAR ABUT.	67.34	51.10	118.44
FORWARD ABUT.	67.34	51.10	118.44
PIER NO. 1	145.02	66.68	211.70
PIER NO. 2	177.18	73.33	250.51
PIER NO. 3	145.02	66.68	211.70

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BEARING DETAILS
BRIDGE NO. CUY-90-2463
INTERSTATE ROUTE 90 OVER EAST 152ND STREET

CUY-90-24.10/24.63
PID No. 88348

35 | 48

183
196

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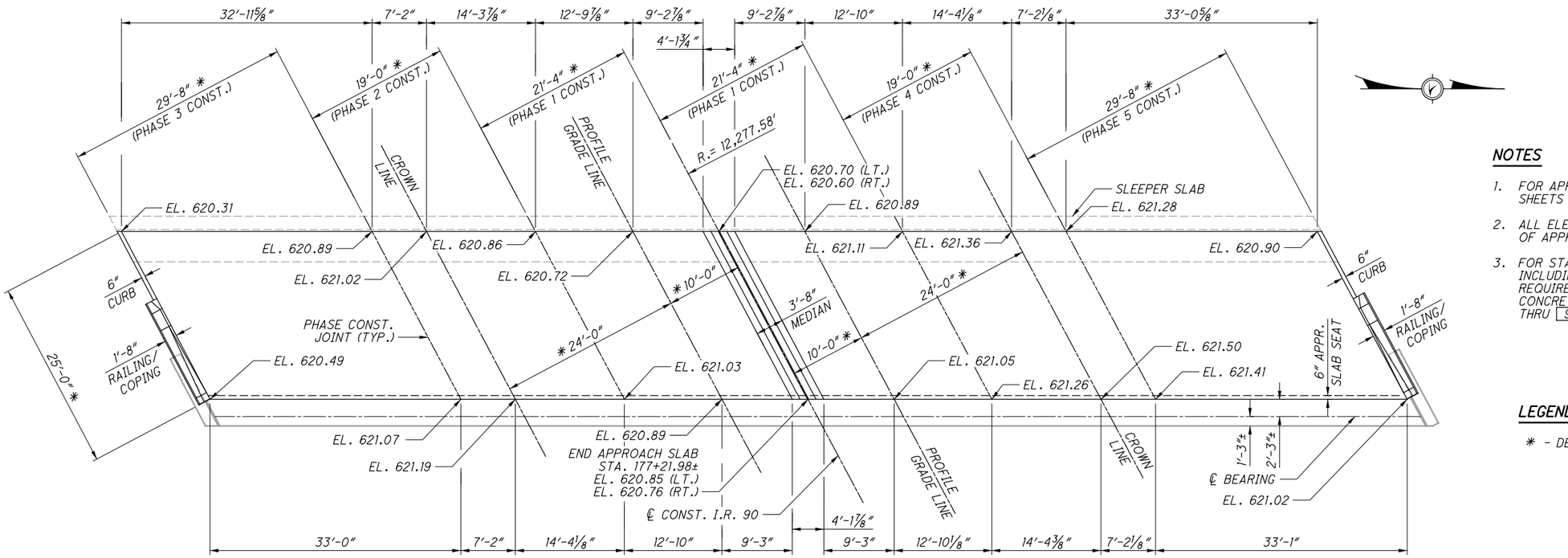


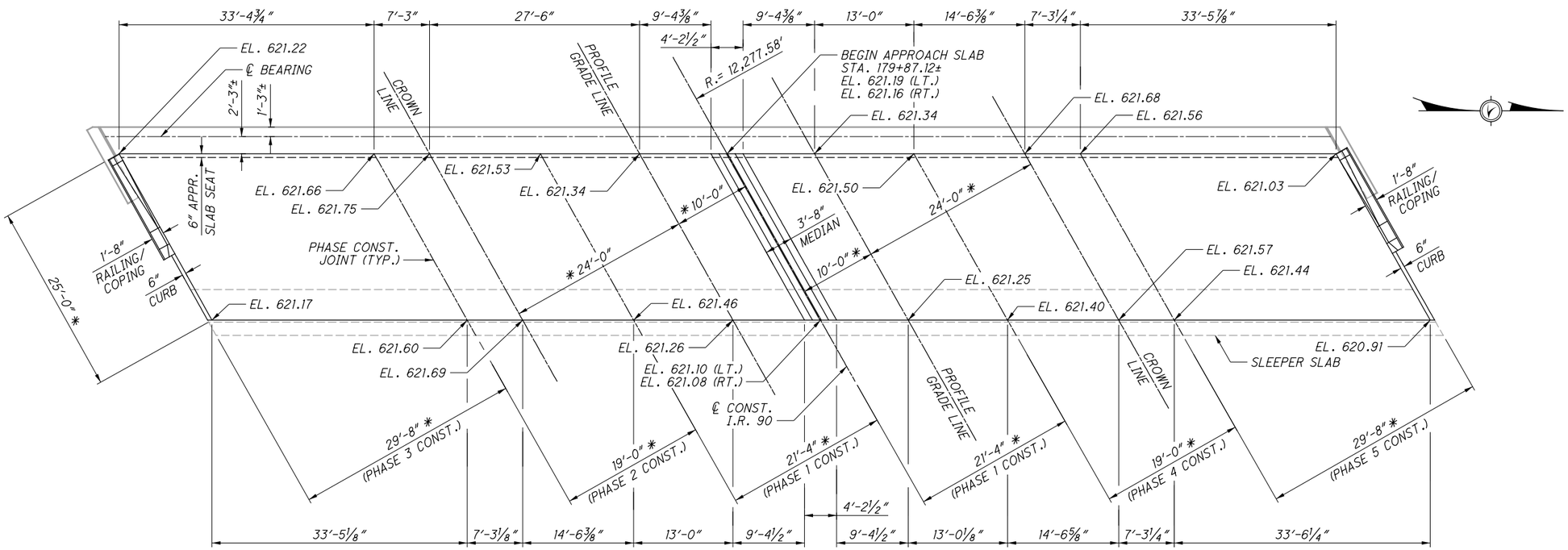
REAR APPROACH SLAB ELEVATION PLAN

NOTES

1. FOR APPROACH SLAB REINFORCING, SEE SHEETS 37 | 48 THRU 42 | 48 .
2. ALL ELEVATIONS ARE LOCATED AT TOP OF APPROACH SLAB.
3. FOR STAGE CONSTRUCTION DETAILS INCLUDING LOCATION AND ANCHORAGE REQUIREMENTS FOR PORTABLE CONCRETE BARRIERS, SEE SHEETS 6 | 48 THRU 9 | 48 .

LEGEND

✱ - DENOTES RADIAL DIMENSION



FORWARD APPROACH SLAB ELEVATION PLAN

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APPROACH SLAB DETAILS 1 OF 7
BRIDGE NO. CUY-90-2463
INTERSTATE ROUTE 90 OVER EAST 152ND STREET

CUY-90-24.10/24.63
PID No. 88348

36 | 48

184
196

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NOTES

1. FOR ADDITIONAL APPROACH SLAB DETAILS, SEE STANDARD DRAWINGS AS-1-15 AND AS-2-15.
2. FOR APPROACH SLAB ELEVATIONS AND ADDITIONAL DIMENSIONING, SEE SHEET 36 | 48 .
3. FOR REINFORCING IN OUTSIDE BRIDGE RAILING, SEE SECTION B ON SHEET 41 | 48 .
4. FOR REINFORCING IN MEDIAN BRIDGE RAILING, SEE SECTION C ON SHEET 42 | 48 .
5. MINIMUM BAR LAP IS AS FOLLOWS: #5 BAR = 41"

TEMPORARY SHORING MAY BE LEFT IN PLACE BETWEEN PHASES, BUT SHALL BE REMOVED PRIOR TO LATTER PHASE APPROACH SLAB CONSTRUCTION (TYP.)

R.= 12,277.58'
21'-4" (PHASE 1 CONST.)
21-SS501 & SS509 @ 12"=20'-0" (SLEEPER SLAB)
19'-0" (PHASE 4 CONST.)
19-SS501 & SS509@ 12"=18'-0" (SLEEPER SLAB)
29'-8" (PHASE 5 CONST.)
30-SS501 & SS509 @ 12"=29'-0" (SLEEPER SLAB)
RADIAL DIMENSION
8" 4" (TYP.) 6" (TYP.) 4" (TYP.)
C 41 A 41 B 41
MECHANICAL CONNECTOR (TYP.)
11-SS502 (SLEEPER SLAB)
11-SS503 (SLEEPER SLAB)
11-SS504 (SLEEPER SLAB)
11-SS505 (SLEEPER SLAB)
3" (TYP.)
SS501
SS509
9'-0" SLEEPER SLAB
3" 6"
AS502 (TOP)
AS503 (TOP)
AS504 (TOP)
AS505 (TOP)
10'-0" CURB (TYPE 4-A)
15'-0" BRIDGE RAILING
1'-9" MEDIAN BRIDGE RAILING
2" P.E.J.F.
25'-0" APPROACH SLAB AND MEDIAN RAILING (MEASURED ALONG ℄ CONSTRUCTION)
33-AS502 (BOTT.) @ 8"=21'-4"
17-AS502 (TOP) @ 18"=24'-0"
AS501 (TOP) AS1001 (BOTT.)
33-AS503 (BOTT.) @ 8"=21'-4"
17-AS503 (TOP) @ 18"=24'-0"
33-AS504 (BOTT.) @ 8"=21'-4"
17-AS504 (TOP) @ 18"=24'-0"
PHASE CONST. JOINT
33-AS503 (BOTT.) @ 8"=21'-4"
17-AS503 (TOP) @ 18"=24'-0"
33-AS505 (BOTT.) @ 8"=21'-4"
17-AS505 (TOP) @ 18"=24'-0"
AS501 (TOP)
3" (TYP.)
6" CURB
2" COPING
1'-6" BRIDGE RAILING
AS506 (TOP) AS1002 (BOTT.)
18-AS507 (BOTT.) @ 8" (LAP W/AS505)
10-AS507 (TOP) @ 18" (LAP W/AS505)
1" P.E.J.F.
END APPROACH SLAB KEYWAY AT FACE OF WINGWALL
6-AS507 (BOTT.) @ 6" (LAP W/AS505)
6" APPR. SLAB SEAT
8"
6-AS502 (BOTT.) @ 6"=2'-6"
6-AS504 (BOTT.) @ 6"=2'-6"
6-AS503 (BOTT.) @ 6"=2'-6"
6-AS505 (BOTT.) @ 6"=2'-6"
1'-3"±
2'-3"±
END APPROACH SLAB REAR ABUTMENT STA. 177+21.98±
MECHANICAL CONNECTOR (TYP.)
℄ BEARING
℄ BEAM (TYP.)
℄ CONST. I.R. 90
6-AS503 (BOTT.) @ 6"=2'-6"
1'-4"
5"
1'-10"
14-AS501 (TOP) @ 18"=19'-6"
36-AS1001 (BOTT.) @ 7"=20'-5"
3" (TYP.)
13-AS501 (TOP) @ 18"=18'-0"
32-AS1001 (BOTT.) @ 7"=18'-1"
6" (TOP) 5" (BOTT.)
20-AS501 (TOP) @ 18"=28'-6"
51-AS1001 (BOTT.) @ 7"=29'-2"

PLAN
(REAR APPROACH SLAB - LEFT STRUCTURE)

DESIGN AGENCY
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CHECKED	REVISED	STRUCTURE FILE NUMBER	
CMD		1808702	

APPROACH SLAB DETAILS 2 OF 7
BRIDGE NO. CUY-90-2463
INTERSTATE ROUTE 90 OVER EAST 152ND STREET

CUY-90-24.10/ 24.63
PID No. 88348

37 | 48
185
196

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NOTES

1. FOR ADDITIONAL APPROACH SLAB DETAILS, SEE STANDARD DRAWINGS AS-1-15 AND AS-2-15.
2. FOR APPROACH SLAB ELEVATIONS AND ADDITIONAL DIMENSIONING, SEE SHEET 36 | 48 .
3. FOR REINFORCING IN OUTSIDE BRIDGE RAILING, SEE SECTION B ON SHEET 41 | 48 .
4. FOR REINFORCING IN MEDIAN BRIDGE RAILING, SEE SECTION C ON SHEET 42 | 48 .
5. MINIMUM BAR LAP IS AS FOLLOWS: #5 BAR =41"

TEMPORARY SHORING MAY BE LEFT IN PLACE BETWEEN PHASES, BUT SHALL BE REMOVED PRIOR TO LATTER PHASE APPROACH SLAB CONSTRUCTION (TYP.)

29'-8" (PHASE 3 CONST.)
30-SS501 & SS509 @ 12"=29'-0" (SLEEPER SLAB)
19'-0" (PHASE 2 CONST.)
19-SS501 & SS509 @ 12"=18'-0" (SLEEPER SLAB)
21'-4" (PHASE 1 CONST.)
21-SS501 & SS509 @ 12"=20'-0" (SLEEPER SLAB)
RADIAL DIMENSION
4" (TYP.)
6" (TYP.)
8"
R.= 12,277.58'
B 41
A 41
C 42
MECHANICAL CONNECTOR (TYP.)
11-SS505 (SLEEPER SLAB)
11-SS503 (SLEEPER SLAB)
11-SS504 (SLEEPER SLAB)
11-SS502 (SLEEPER SLAB)
3" (TYP.)
6" SLEEPER SLAB
SS501
SS509
AS505 (TOP)
AS503 (TOP)
AS504 (TOP)
AS502 (TOP)
AS501 (TOP) AS1001 (BOTT.)
PHASE CONST. JOINT
33-AS505 (BOTT.) @ 8"=21'-4"
17-AS505 (TOP) @ 18"=24'-0"
33-AS503 (BOTT.) @ 8"=21'-4"
17-AS503 (TOP) @ 18"=24'-0"
33-AS504 (BOTT.) @ 8"=21'-4"
17-AS504 (TOP) @ 18"=24'-0"
33-AS502 (BOTT.) @ 8"=21'-4"
17-AS502 (TOP) @ 18"=24'-0"
25'-0" APPROACH SLAB AND MEDIAN (MEASURED ALONG ℄ CONSTRUCTION)
1'-9" MEDIAN BRIDGE RAILING
2" P.E.J.F.
10'-0" CURB (TYPE 4-A)
3" (TYP.)
6" CURB
AS501 (TOP)
AS506 (TOP) AS1002 (BOTT.)
1'-6" BRIDGE RAILING
2" COPING
18-AS507 (BOTT.) (LAP W/AS505)
10-AS507 (TOP) @ 18" (LAP W/AS505)
8"
15'-0" PARAPET
1" P.E.J.F.
6-AS507 (BOTT.) @ 6" (LAP W/AS505)
END APPROACH SLAB KEYWAY AT FACE OF WINGWALL
6-AS505 (BOTT.) @ 6"=2'-6"
6-AS503 (BOTT.) @ 6"=2'-6"
6-AS503 (BOTT.) @ 6"=2'-6"
6-AS502 (BOTT.) @ 6"=2'-6"
6" APPR. SLAB SEAT
1'-3"±
2'-3"±
1" P.E.J.F.
℄ BEAM (TYP.)
℄ BEARING
6-AS504 (BOTT.) @ 6"=2'-6"
MECHANICAL CONNECTOR (TYP.)
END APPROACH SLAB REAR ABUTMENT STA. 177+21.98±
℄ CONST. I.R. 90
1'-10"
20-AS501 (TOP) @ 18"=28'-6"
51-AS1001 (BOTT.) @ 7"=29'-2"
13-AS501 (TOP) @ 18"=18'-0"
32-AS1001 (BOTT.) @ 7"=18'-1"
14-AS501 (TOP) @ 18"=19'-6"
36-AS1001 (BOTT.) @ 7"=20'-5"
6" (TOP)
5" (BOTT.)
1'-4"
5"
3" (TYP.)

PLAN
(REAR APPROACH SLAB - RIGHT STRUCTURE)

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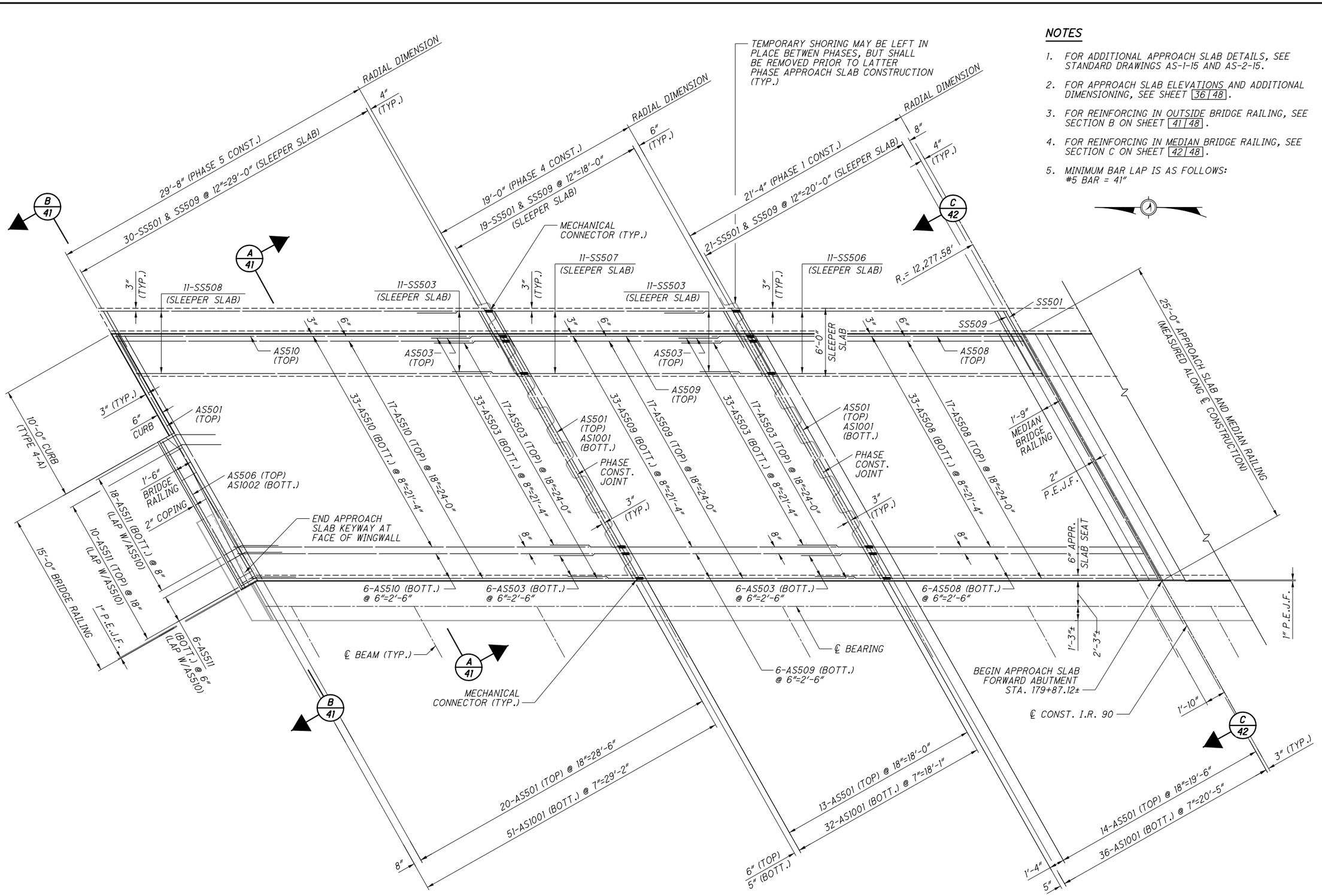
APPROACH SLAB DETAILS 3 OF 7
BRIDGE NO. CUY-90-2463
INTERSTATE ROUTE 90 OVER EAST 152ND STREET

CUY-90-24.10/24.63
PID No. 88348

38 | 48

186
196



PLAN
(FORWARD APPROACH SLAB - LEFT STRUCTURE)

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RJB	MPB	RBB	8/17/18
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CMD		1808702	

APPROACH SLAB DETAILS 4 OF 7
BRIDGE NO. CUY-90-2463
INTERSTATE ROUTE 90 OVER EAST 152ND STREET

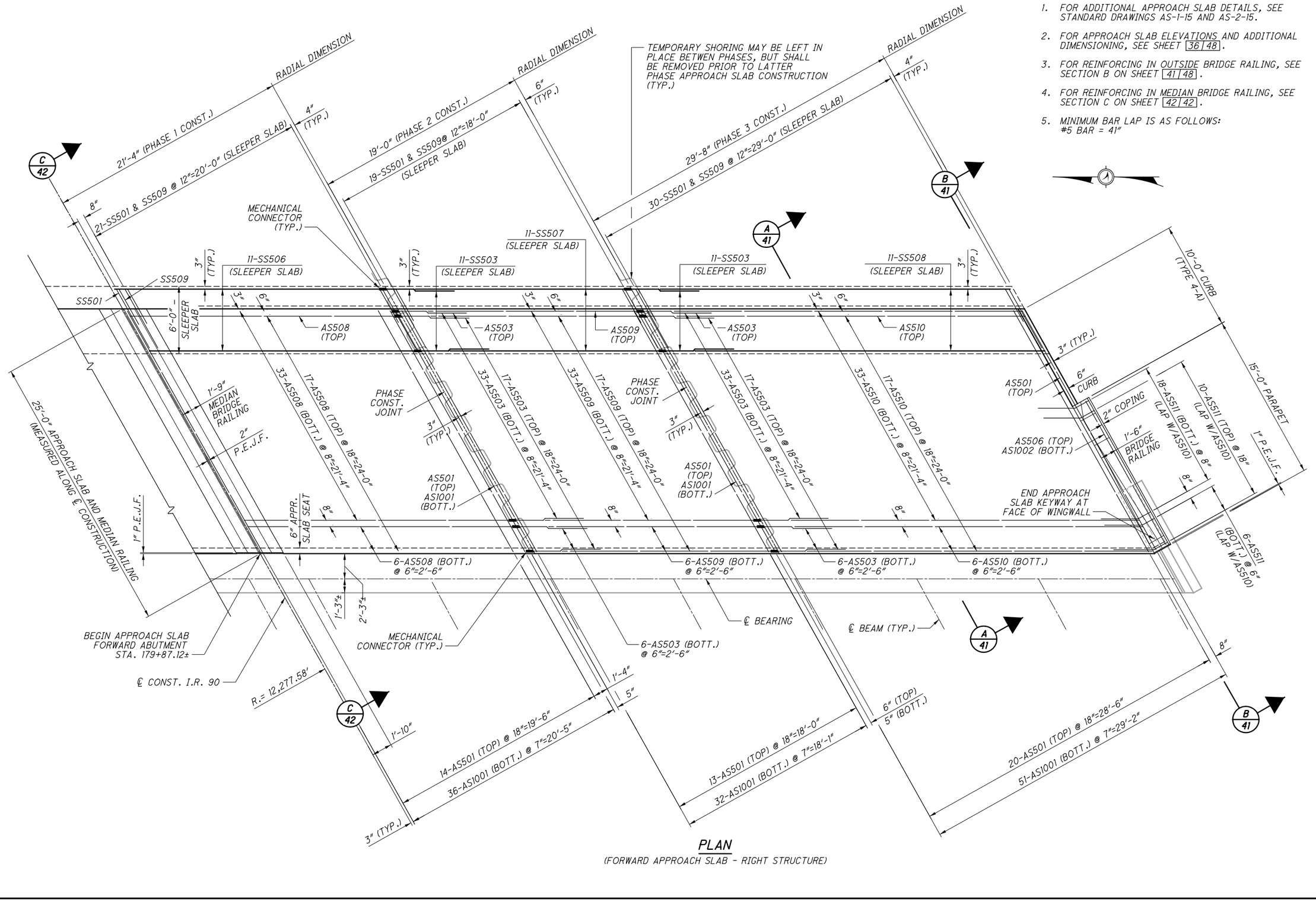
CUY-90-24.10/24.63
PID No. 88348

39 | 48

187
196

NOTES

1. FOR ADDITIONAL APPROACH SLAB DETAILS, SEE STANDARD DRAWINGS AS-1-15 AND AS-2-15.
2. FOR APPROACH SLAB ELEVATIONS AND ADDITIONAL DIMENSIONING, SEE SHEET 36 | 48 .
3. FOR REINFORCING IN OUTSIDE BRIDGE RAILING, SEE SECTION B ON SHEET 41 | 48 .
4. FOR REINFORCING IN MEDIAN BRIDGE RAILING, SEE SECTION C ON SHEET 42 | 42 .
5. MINIMUM BAR LAP IS AS FOLLOWS: #5 BAR = 41"



PLAN

(FORWARD APPROACH SLAB - RIGHT STRUCTURE)

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APPROACH SLAB DETAILS 5 OF 7
BRIDGE NO. CUY-90-2463
INTERSTATE ROUTE 90 OVER EAST 152ND STREET

CUY-90-24.10/ 24.63
PID No. 88348

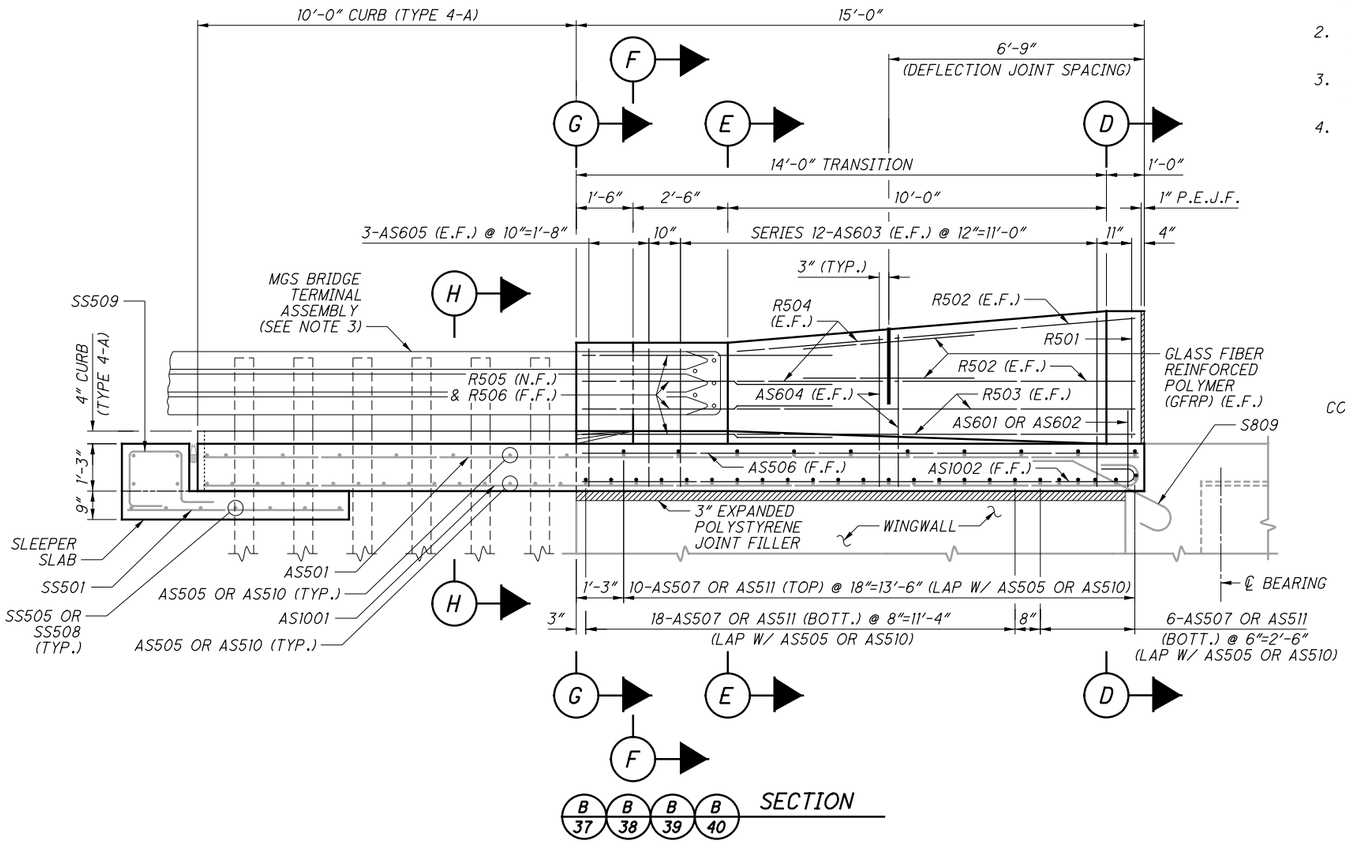
40 / 48

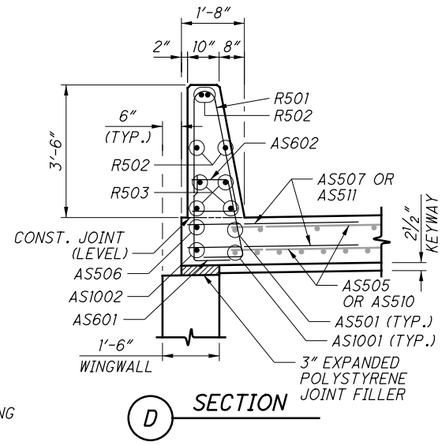
188
196

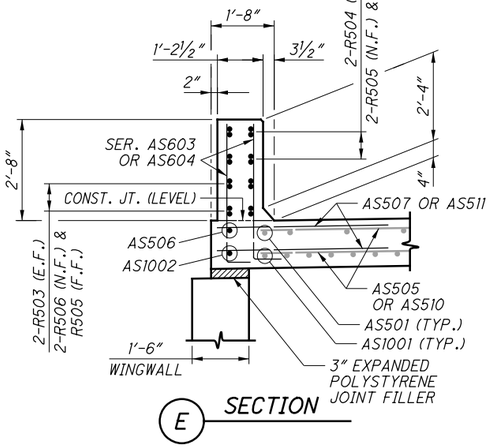
G:\Project\TOHODTIL.PEO\Drawing\88348\Design\Structures\CUY090_2463C\sheets\090_2463C_SM004.dgn 1/13/2020 1:35:30 PM mbechter

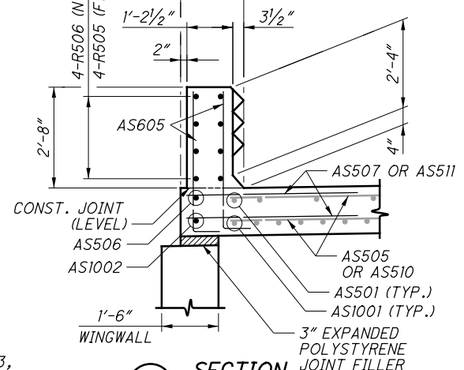
NOTES

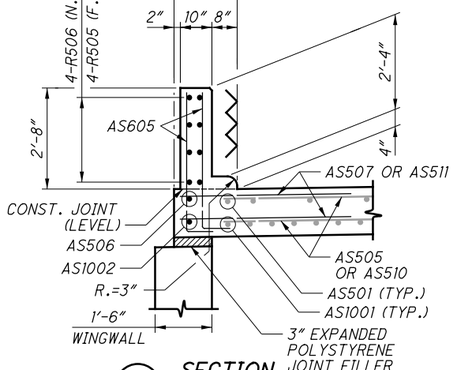
1. FOR ADDITIONAL APPROACH SLAB DETAILS, SEE STANDARD DRAWINGS AS-1-15 AND AS-2-15.
2. FOR ADDITIONAL SINGLE SLOPE CONCRETE BRIDGE RAILING DETAILS, SEE STANDARD DRAWING SBR-1-13.
3. FOR MGS BRIDGE TERMINAL ASSEMBLY, NOTES AND DETAILS, SEE STANDARD DRAWINGS MGS-3.1 AND MGS-3.2.
4. FOR OUTSIDE RAILING DEFLECTION JOINT DETAIL, SEE SHEET 42|48.

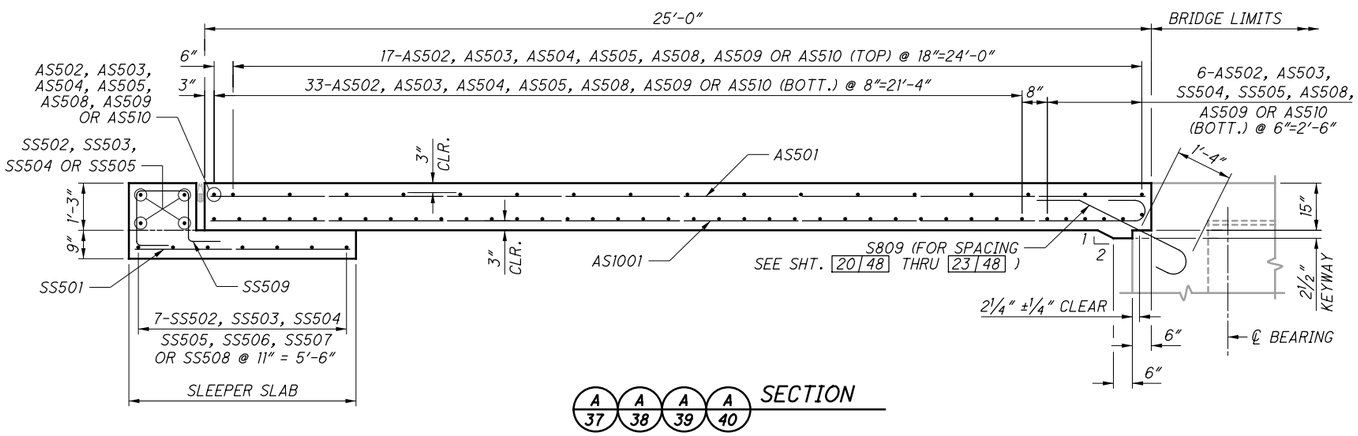


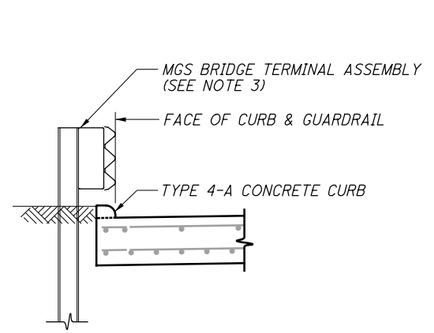


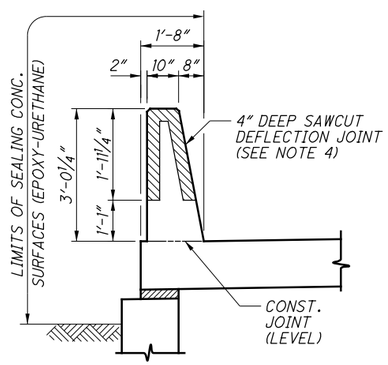












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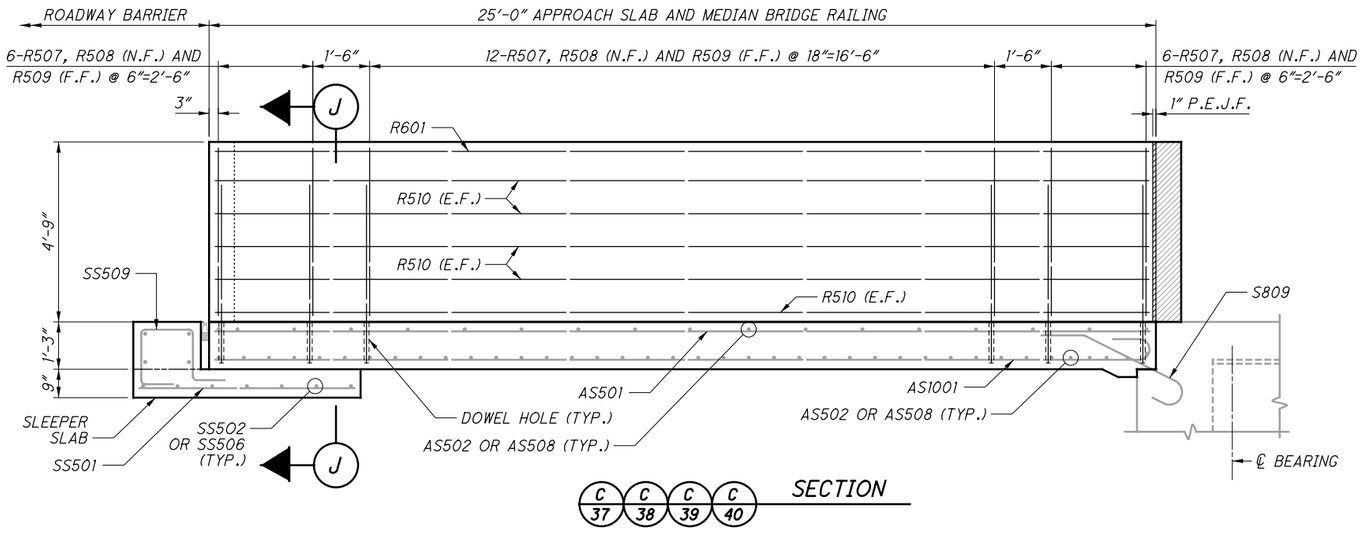
APPROACH SLAB DETAILS 6 OF 7
BRIDGE NO. CUY-90-2463
INTERSTATE ROUTE 90 OVER EAST 152ND STREET

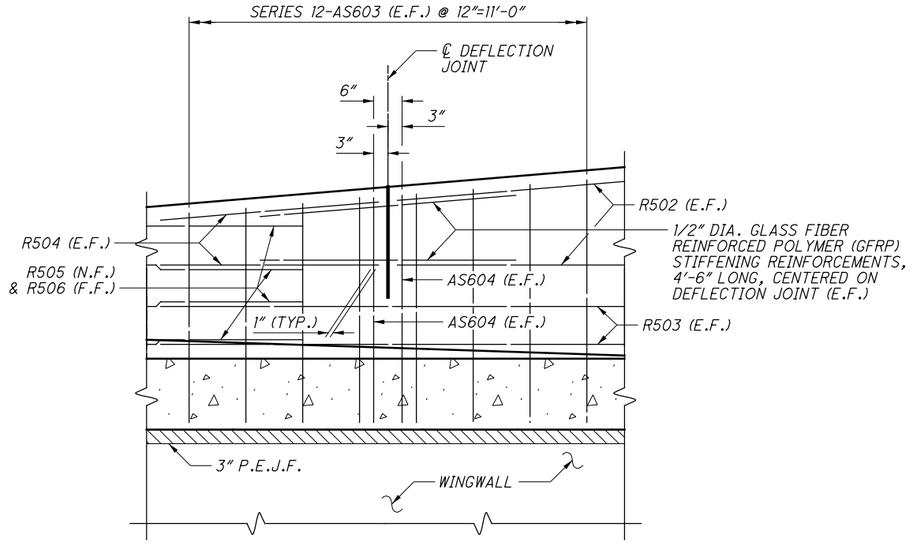
CUY-90-24.10/24.63
PID No. 88348

41 / 48

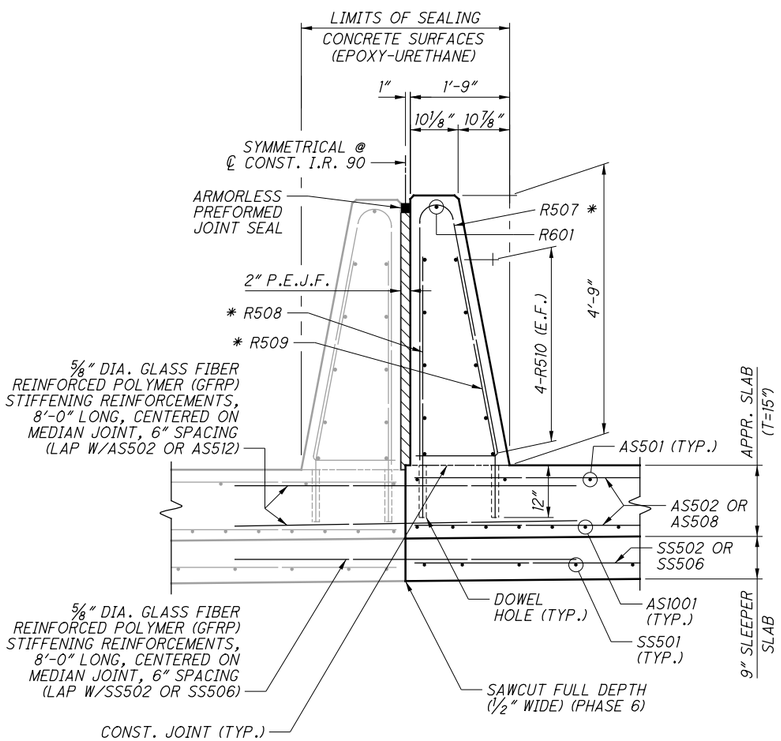
189 / 196



C 37 C 38 C 39 C 40 **SECTION**



OUTSIDE RAILING DEFLECTION JOINT DETAIL



J **SECTION**

* - REINFORCING TO BE PLACE IN SKEW PARALLEL TO ℄ BEARING

NOTES

1. FOR ADDITIONAL APPROACH SLAB DETAILS, SEE STANDARD DRAWINGS AS-1-15 AND AS-2-15.
2. FOR ADDITIONAL SINGLE SLOPE MEDIAN BRIDGE RAILING DETAILS, SEE STANDARD DRAWING SBR-2-13.
3. FOR STAGED CONSTRUCTION DETAILS AND NOTES, SEE SHEETS 6 | 48 THRU 9 | 48 .

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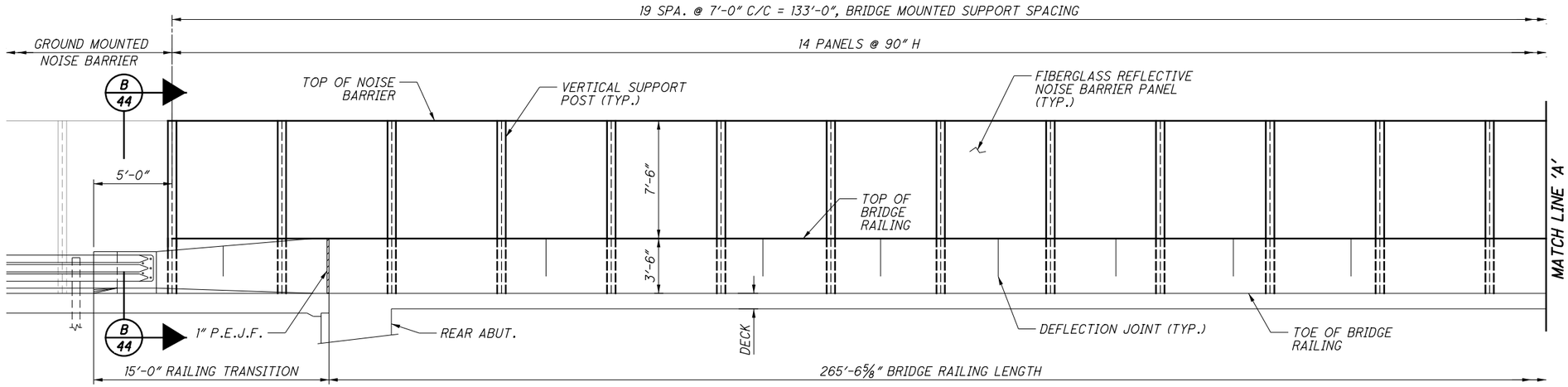
CMD		1808702	

APPROACH SLAB DETAILS 7 OF 7
BRIDGE NO. CUY-90-2463
INTERSTATE ROUTE 90 OVER EAST 152ND STREET

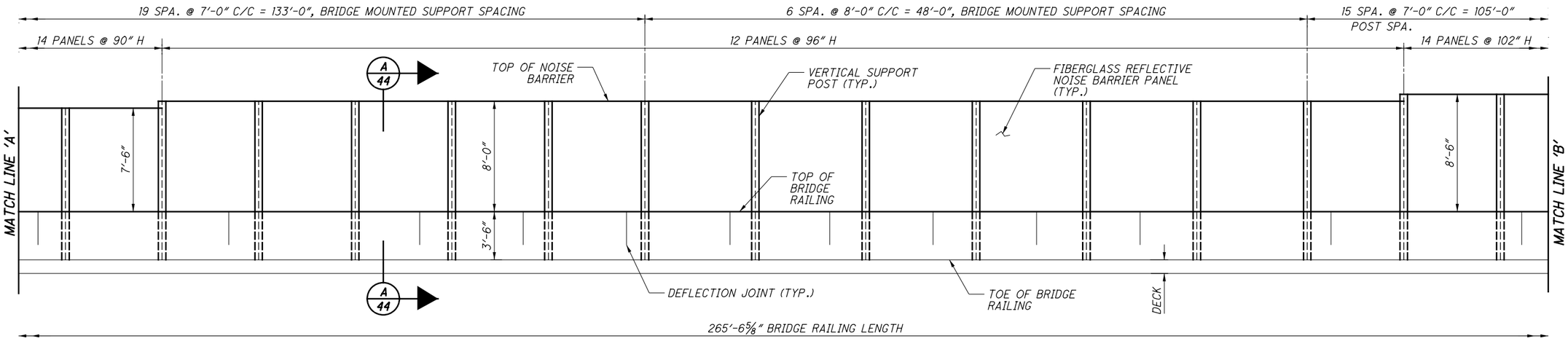
CUY-90-24.10/24.63
PID No. 88348

42 | 48

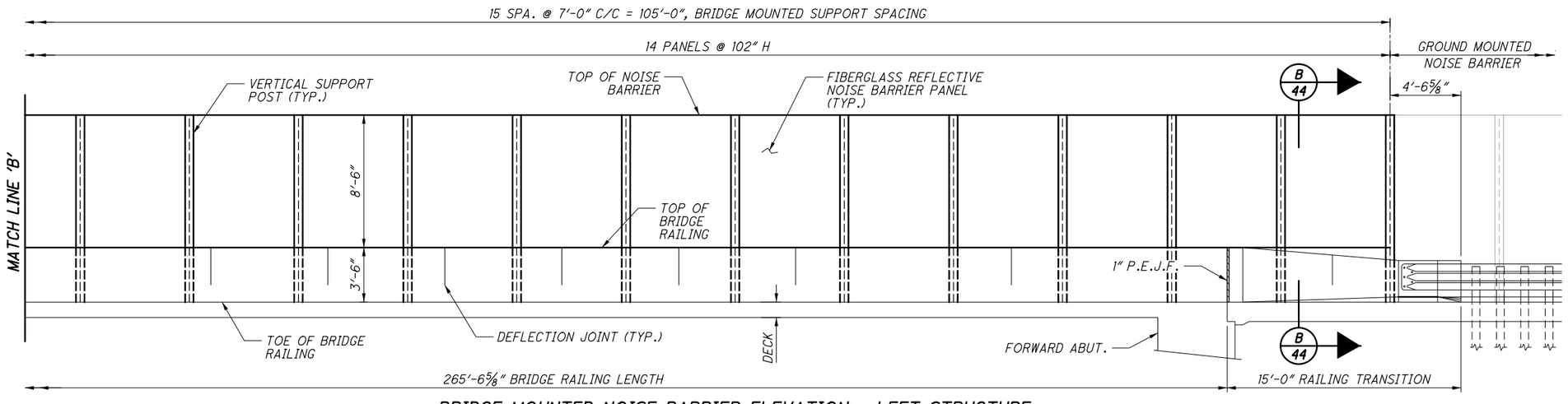
190
196



BRIDGE MOUNTED NOISE BARRIER ELEVATION - LEFT STRUCTURE



BRIDGE MOUNTED NOISE BARRIER ELEVATION - LEFT STRUCTURE



BRIDGE MOUNTED NOISE BARRIER ELEVATION - LEFT STRUCTURE

NOTES

1. FOR ADDITIONAL BRIDGE MOUNTED NOISE BARRIER DETAILS AND NOTES, SEE SHEET 44|48 .
2. FOR GROUND MOUNTED NOISE BARRIER DETAILS, SEE SHEET 45|48

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FJG		1808702	

MISCELLANEOUS DETAILS - NOISE BARRIER 1 OF 3
BRIDGE NO. CUY-90-2463
STATE ROUTE 90 OVER EAST 152ND STREET

CUY-90-24.10/24.63
PID No. 88348

43 / 48

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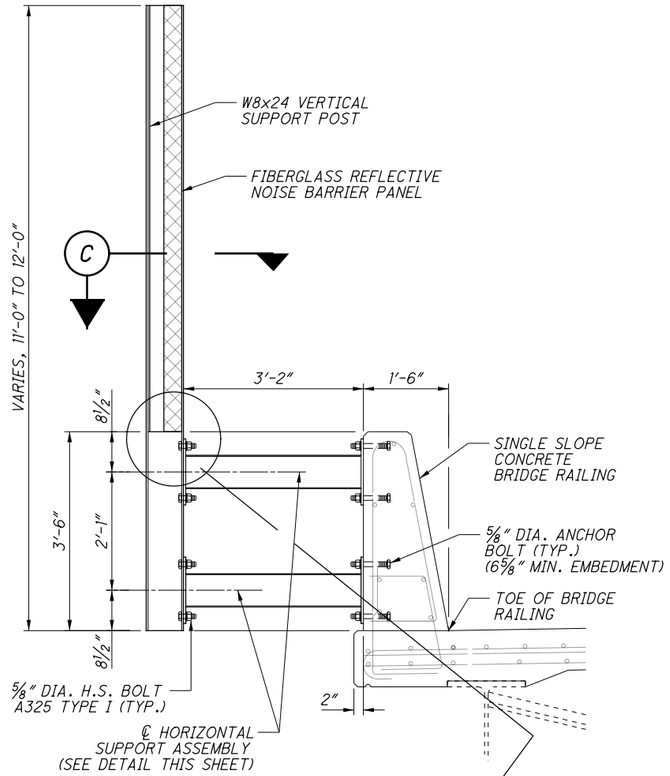
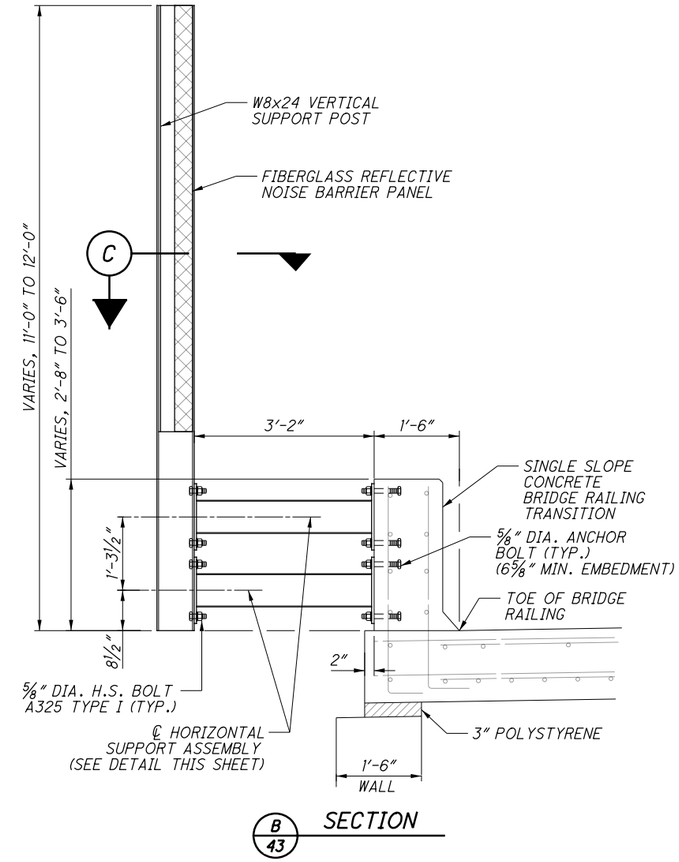


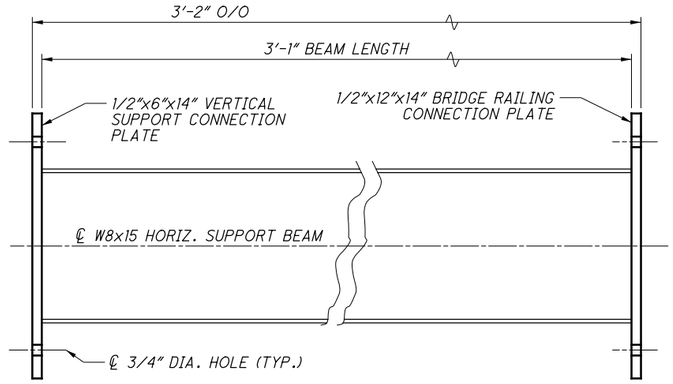
A/43 SECTION



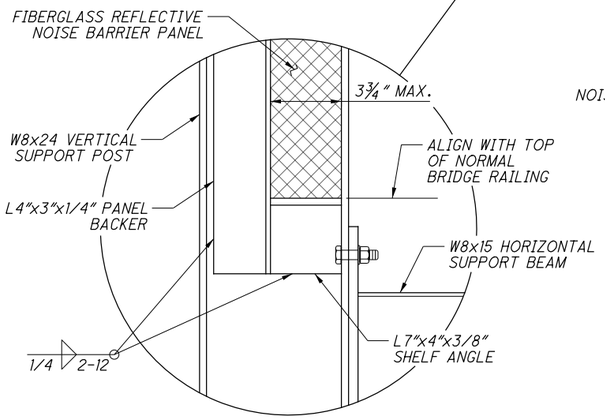
B/43 SECTION

NOTES

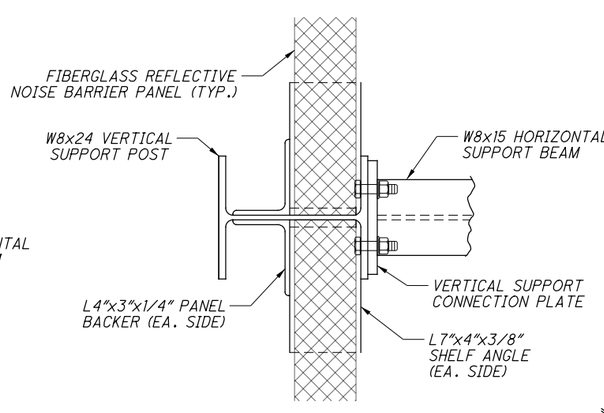
1. THE NOISE BARRIER SUPPORT ASSEMBLY SHALL BE ANCHORED TO THE CONCRETE PARAPET USING ⅝" DIA. HEAVY HEX HEAD ASTM F 1554 GRADE 55 ANCHOR BOLTS. ANCHOR BOLTS SHALL BE CAST IN PLACE.
2. FIBERGLASS REFLECTIVE NOISE BARRIER SYSTEM TO BE PER THE SELECTED NOISE BARRIER MANUFACTURER'S SPECIFICATIONS.



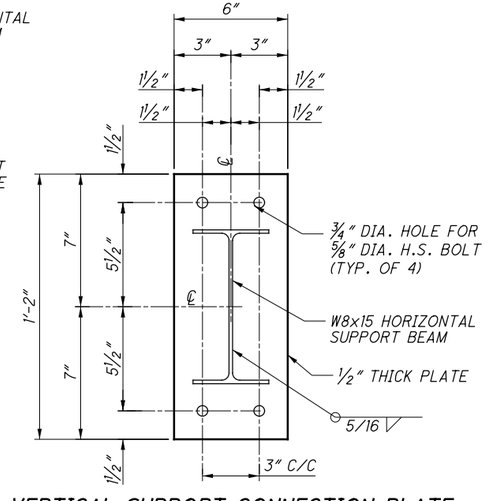
HORIZONTAL SUPPORT ASSEMBLY



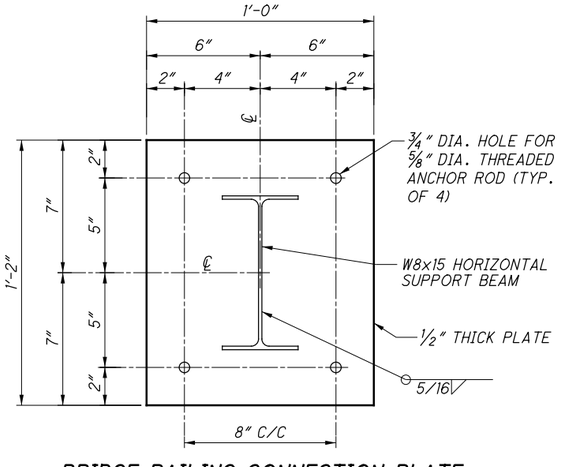
NOISE BARRIER SUPPORT DETAIL



C VIEW



VERTICAL SUPPORT CONNECTION PLATE



BRIDGE RAILING CONNECTION PLATE

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MISCELLANEOUS DETAILS - NOISE BARRIER 2 OF 3
BRIDGE NO. CUY-90-2463
INTERSTATE ROUTE 90 OVER EAST 152ND STREET

CUY-90-24.10/24.63
PID No. 88348

44 | 48
192 | 196

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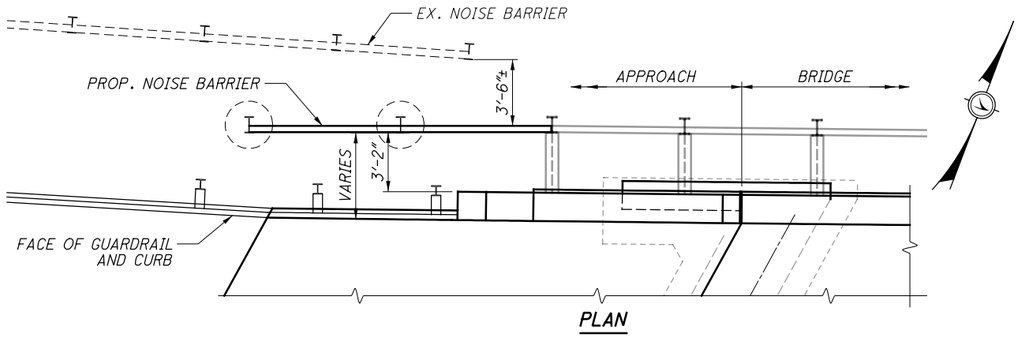
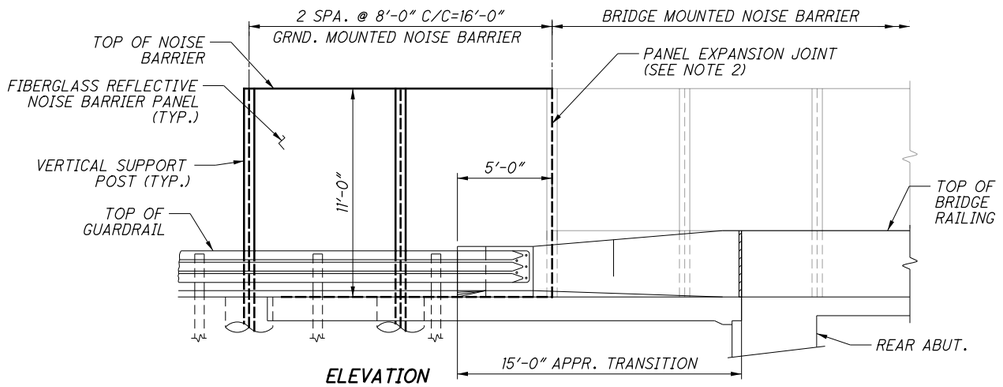
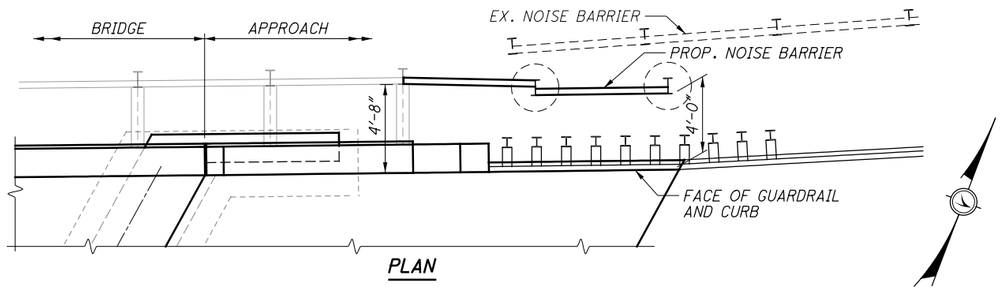


PLAN

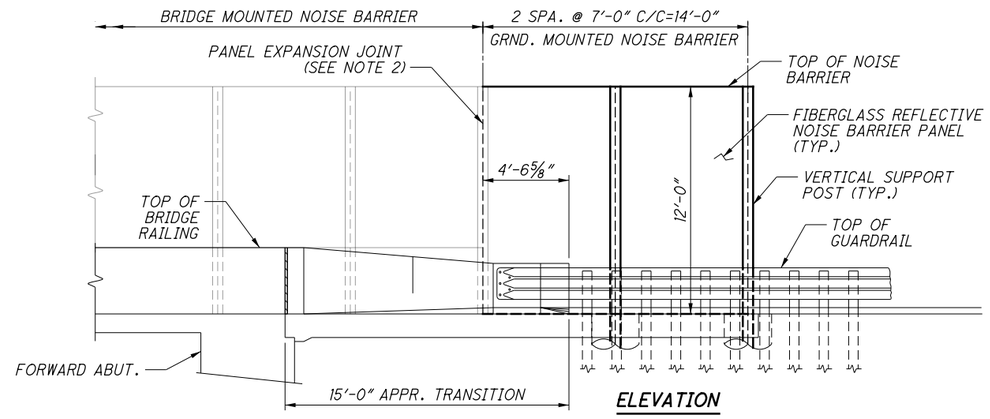


ELEVATION

GROUND MOUNTED NOISE BARRIER - NORTHWEST APPROACH (W.B.)



PLAN

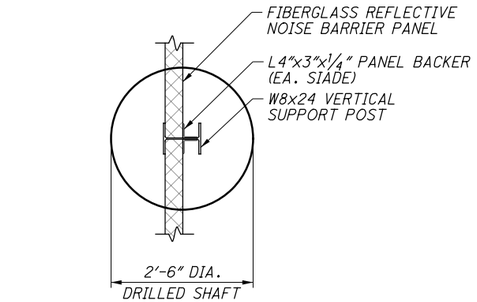


ELEVATION

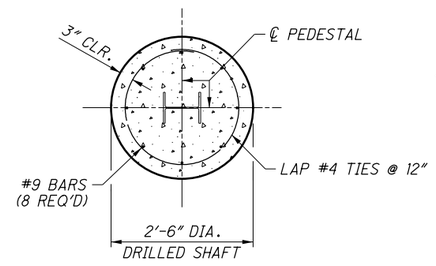
GROUND MOUNTED NOISE BARRIER - NORTHEAST APPROACH (W.B.)

NOTES

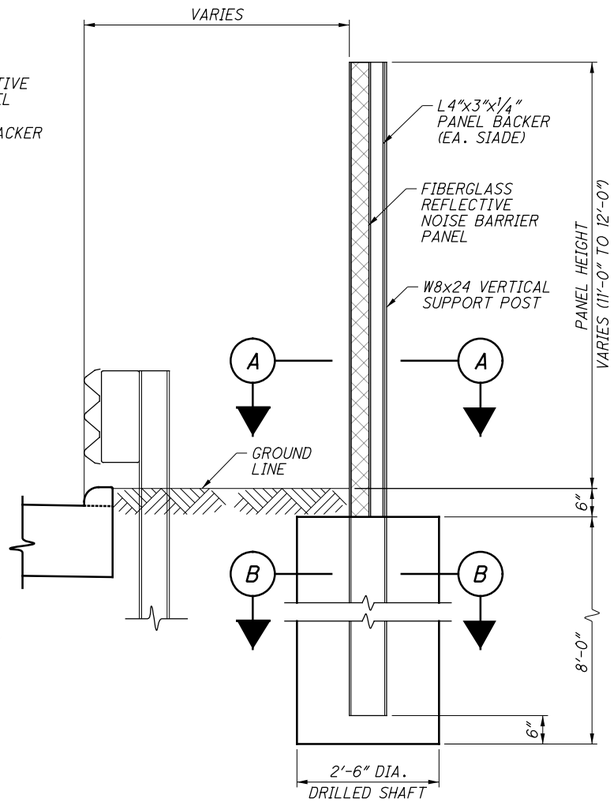
1. FOR BRIDGE MOUNTED NOISE BARRIER DETAILS, SEE SHEETS 43|48 AND 44|48.
2. NOISE BARRIER MANUFACTURER SHALL ALLOW FOR A PANEL EXPANSION BETWEEN BRIDGE MOUNTED AND GROUND MOUNTED BARRIER.



A SECTION



B SECTION



GROUND MOUNTED POST SECTION

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CMD		1808702	

MISCELLANEOUS DETAILS - NOISE BARRIER 3 OF 3
BRIDGE NO. CUY-90-2463
INTERSTATE ROUTE 90 OVER EAST 152ND STREET

CUY-90-24.10/24.63
PID No. 88348

45/48

193
196

MARK	NUMBER			LENGTH	WEIGHT	TYPE	DIMENSIONS						
	LEFT	RIGHT	TOTAL				A	B	C	D	E	R	INC
REAR ABUTMENT													
A501		3	3	9′-7″	30	STR							
A502		3	3	17′-8″	55	STR							
A503	3	3	6	18′-3″	114	STR							
A504	2	2	4	10′-0″	42	STR							
A505	3		3	10′-7″	33	STR							
A506	3		3	18′-7″	58	STR							
A507	42	39	81	2′-3″	190	1	0′-9″	1′-8″					
A601		14	14	7′-2″	151	STR							
A602	15	14	29	7′-4″	319	2	3′-3″	1′-2″	3′-3″				
A603	15	15	30	4′-3″	192	STR							
A604	15		15	7′-8″	173	STR							
A605		2 SR OF 11	2 SR OF 11	6′-2″ TO 6′-10″	215	2	2′-8″ TO 3′-0″	1′-2″	2′-8″ TO 3′-0″				0′-0 ½″
A606	2 SR OF 11		2 SR OF 11	6′-2″ TO 7′-2″	220	2	2′-8″ TO 3′-2″	1′-2″	2′-8″ TO 3′-2″				0′-0 ½″
SUB-TOTAL					1,792								
FORWARD ABUTMENT													
A501	3		3	9′-7″	30	STR							
A502	3		3	17′-8″	55	STR							
A503	3	3	6	18′-3″	114	STR							
A504	2	2	4	10′-0″	42	STR							
A505		3	3	10′-7″	33	STR							
A506		3	3	18′-7″	58	STR							
A507	39	42	81	2′-3″	190	1	0′-9″	1′-8″					
A601	14		14	7′-2″	151	STR							
A602	14	15	29	7′-4″	319	2	3′-3″	1′-2″	3′-3″				
A603	15	15	30	4′-3″	192	STR							
A604		15	15	7′-8″	173	STR							
A605	2 SR OF 11		2 SR OF 11	6′-2″ TO 6′-10″	215	2	2′-8″ TO 3′-0″	1′-2″	2′-8″ TO 3′-0″				0′-0 ½″
A606		2 SR OF 11	2 SR OF 11	6′-2″ TO 7′-2″	220	2	2′-8″ TO 3′-2″	1′-2″	2′-8″ TO 3′-2″				0′-0 ½″
SUB-TOTAL					1,792								
TOTAL ABUTMENTS					3,584								
DIAPHRAGM GUIDES (FOR REFERENCE ONLY)													
DG601	10	10	20	9′-1″	273	2	2′-10″	3′-9″	2′-10″				
DG801	14	14	28	7′-9″	579	2	2′-9″	2′-8″	2′-9″				
TOTAL DIAPHRAGM GUIDES					852								

MARK	NUMBER			LENGTH	WEIGHT	TYPE	DIMENSIONS						
	LEFT	RIGHT	TOTAL				A	B	C	D	E	R	INC
PIERS													
P501	474	474	948	4′-4″	4,285	1	2′-8″	1′-10″					
P601	12	12	24	38′-9″	1,397	STR							
P602	12	12	24	10′-8″	385	STR							
P603	12	12	24	29′-5″	1,060	37	29′-5″						
TOTAL PIERS					7,127								

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REINFORCING STEEL LIST 1 OF 3

BRIDGE NO. CUY-90-2463
INTERSTATE ROUTE 90 OVER EAST 152ND STREET

CUY-90-24.10/24.63
PID No. 88348

MARK	NUMBER			LENGTH	WEIGHT	TYPE	DIMENSIONS						
	LEFT	RIGHT	TOTAL				A	B	C	D	E	R	INC
SUPERSTRUCTURE													
S401	963	963	1926	30'-0"	38597	STR							
S402	107	107	214	20'-4"	2907	STR							
S403	318	318	636	42'-0"	17844	STR							
S501	86	85	171	15'-6"	2764	3	4'-2"	3'-3"					
S502	91	90	181	8'-0"	1510	2	2'-6"	3'-3"	2'-6"				
S503	1	1	2	14'-10"	31	3	3'-11"	3'-2"					
S504	4	4	8	6'-9"	56	2	1'-5"	4'-2"	1'-5"				
S505	1161	1161	2322	30'-0"	72655	STR							
S506	129	129	258	26'-8"	7176	STR							
S507	1536	1536	3072	4'-8"	14953	21	0'-10"	0'-10"	1'-0"	0'-8"			
S508	1024	1024	2048	2'-1"	4450	40	1'-0"	0'-10"	0'-3"	0'-8"			
S601	8	8	16	10'-0"	240	STR							
S602	964	964	1928	29'-9"	86152	STR							
S603	1010	1011	2021	10'-0"	30355	16	9'-4"						
S604	2050	2056	4106	5'-3"	32378	39	5'-0"						
S605	988	990	1978	18'-10"	55953	37	18'-10"						
S606	982	986	1968	20'-9"	61336	37	20'-9"						
S607	26	24	50	6'-0"	451	STR							
S608	2 SR OF 26	2 SR OF 26	4 SR OF 26	6'-8" TO 29'-3"	2805	STR							0'-10 ¾"
S609	2 SR OF 26		2 SR OF 26	7'-9" TO 29'-5"	1451	STR							0'-10 ½"
S610	2 SR OF 19	2 SR OF 19	4 SR OF 19	3'-0" TO 18'-0"	1199	37	3'-0" TO 18'-0"						10"
S611	2 SR OF 14	2 SR OF 14	4 SR OF 14	6'-2" TO 18'-0"	1016	STR							0'-11"
S612	2 SR OF 21	2 SR OF 21	4 SR OF 21	3'-0" TO 20'-3"	1467	37	3'-0" TO 20'-3"						0'-10 ¼"
S613	2 SR OF 16	2 SR OF 16	4 SR OF 16	7'-3" TO 20'-4"	1326	STR							0'-10 ½"
S614		2 SR OF 24	2 SR OF 24	7'-6" TO 29'-0"	1316	STR							0'-11 ¼"
S615	276	300	576	3'-3"	2812	28	1'-8"	0'-11"	1'-0"				
S616	276	300	576	2'-6"	2163	1	1'-0"	1'-8"					
S801		4	4	32'-6"	347	STR							
S802	56	56	112	8'-9"	2617	39	8'-9"						
S803	28	28	56	20'-3"	3028	37	20'-3"						
S804		8	8	24'-5"	522	37	24'-5"						
S805		10	10	29'-9"	794	STR							
S806		4	4	25'-10"	276	37	25'-10"						
S807		12	12	17'-3"	553	STR							
S808	12	6	18	5'-2"	248	37	5'-2"						
S809	95	96	191	5'-3"	2677	18	2'-11"	1'-0"	1'-0"				
S810	8		8	23'-7"	504	37	23'-7"						
S811	8		8	25'-0"	534	37	25'-0"						
S812	10		10	30'-6"	814	STR							
S813	12		12	16'-5"	526	STR							
S814	10		10	31'-7"	843	STR							
S815	4		4	34'-5"	368	STR							
S816		4	4	25'-8"	274	37	25'-8"						
S817		6	6	5'-0"	80	37	5'-0"						
S818	4	4	8	33'-5"	714	STR							
S819		10	10	30'-9"	821	STR							
TOTAL SUPERSTRUCTURE					461,903								

MARK	NUMBER			LENGTH	WEIGHT	TYPE	DIMENSIONS						
	LEFT	RIGHT	TOTAL				A	B	C	D	E	R	INC
RAILING													
R501	278	302	580	7'-4"	4436	23	0'-11"	3'-3"	3'-0"			0'-3"	
R502	8	8	16	6'-4"	106	STR							
R503	8	8	16	10'-6"	175	STR							
R504	8	8	16	3'-10"	64	STR							
R505	8	8	16	5'-8"	95	25	1'-10"	2'-5"	1'-5"	0'-1 ½"	0'-5"		
R506	8	8	16	5'-8"	95	STR							
R507	342	342	684	10'-6"	7491	23	1'-4"	4'-6"	4'-6"			0'-3"	
R508	48	48	96	4'-8"	467	STR							
R509	48	48	96	4'-9"	476	19	1'-2"	3'-6"	0'-8"				
R510	20	20	40	24'-7"	1026	STR							
R511	56	36	92	13'-6"	1295	STR							
R512	32		32	7'-2"	239	STR							
R513	104	102	206	6'-10"	1468	STR							
R514	24	24	48	12'-8"	634	STR							
R515		4	4	14'-8"	61	STR							
R516		40	40	4'-8"	195	STR							
R517		16	16	9'-8"	161	STR							
R518		4	4	4'-11"	21	STR							
R519		2	2	14'-6"	30	STR							
R520		6	6	5'-2"	32	STR							
R521	6	6	12	6'-6"	81	STR							
R522	294	294	588	4'-3"	2606	STR							
R523	294	294	588	4'-6"	2760	19	0'-11"	3'-6"	0'-8"				
R524	72	72	144	30'-0"	4506	STR							
R525	8	8	16	26'-8"	445	STR							
R526		2	2	12'-6"	26	STR							
R601	2	2	4	24'-7"	148	STR							
R602	16	6	22	13'-6"	446	STR							
R603	16		16	7'-2"	172	STR							
R604	18	17	35	6'-10"	359	STR							
R605	4	4	8	12'-8"	152	STR							
R606		2	2	14'-8"	44	STR							
R607		20	20	4'-8"	140	STR							
R608		8	8	9'-8"	116	STR							
R609		3	3	5'-2"	23	STR							
R610		2	2	4'-11"	15	STR							
R611		1	1	14'-6"	22	STR							
R612	1	1	2	6'-6"	20	STR							
R613		1	1	12'-6"	19	STR							
TOTAL RAILING					30,667								

DESIGN AGENCY
ARCADIS
ARCADIS U.S., Inc.
222 South Main Street, Suite 200, Akron, Ohio 44308
Tel.: 330-434-1995 Fax: 330-374-1095 www.arcadis.com

DESIGNED	DRAWN	REVIEWED	DATE
RJB	CAF	RBB	8/17/18
CHECKED	REVISED	STRUCTURE FILE NUMBER	
CMD		18087O2	

REINFORCING STEEL LIST 2 OF 3
BRIDGE NO. CUY-90-2463
INTERSTATE ROUTE 90 OVER EAST 152ND STREET

CUY-90-24.10/24.63
PID No. 88348

MARK	NUMBER			LENGTH	WEIGHT	TYPE	DIMENSIONS						
	LEFT	RIGHT	TOTAL				A	B	C	D	E	R	INC
APPROACH SLABS (FOR REFERENCE ONLY)													
	REAR												
AS501	50	50	100	24'-7"	2564	STR							
AS502	57	57	114	23'-10"	2834	37	23'-10"						
AS503	114	114	228	6'-0"	1427	39	6'-0"						
AS504	57	57	114	19'-0"	2259	37	19'-0"						
AS505	57	57	114	30'-10"	3666	STR							
AS506	1	1	2	14'-7"	30	STR							
AS507	34	34	68	4'-10"	343	19	3'-5"	1'-3"	0'-8"				
AS601	1	1	2	2'-9"	8	1	1'-0"	1'-11"					
AS602	1	1	2	3'-5"	10	28	1'-11"	0'-11"					
AS603	2 SR OF 12	2 SR OF 12	4 SR OF 12	4'-4" TO 5'-2"	342	1	1'-0"	3'-6" TO 4'-4"					0'-1"
AS604	4	4	8	4'-8"	56	1	1'-0"	3'-10"					
AS605	6	6	12	4'-4"	78	1	1'-0"	3'-6"					
AS1001	121	121	242	26'-0"	27074	16	24'-7"						
AS1002	1	1	2	16'-0"	138	16	14'-7"						
	FORWARD												
AS501	50	50	100	24'-7"	2564	STR							
AS502 NOT USED													
AS503	114	114	228	6'-0"	1427	39	6'-0"						
AS504 AND AS505 NOT USED													
AS506	1	1	2	14'-7"	30	STR							
AS507 NOT USED													
AS508	57	57	114	24'-2"	2873	37	24'-2"						
AS509	57	57	114	19'-3"	2289	37	19'-3"						
AS510	57	57	114	31'-4"	3726	STR							
AS511	34	34	68	4'-11"	349	19	3'-5"	1'-4"	0'-9"				
AS601	1	1	2	2'-9"	8	1	1'-0"	1'-11"					
AS602	1	1	2	3'-5"	10	28	1'-11"	0'-11"					
AS603	2 SR OF 12	2 SR OF 12	4 SR OF 12	4'-4" TO 5'-2"	342	1	1'-0"	3'-6" TO 4'-4"					0'-1"
AS604	4	4	8	4'-8"	56	1	1'-0"	3'-10"					
AS605	6	6	12	4'-4"	78	1	1'-0"	3'-6"					
AS1001	121	121	242	26'-0"	27074	16	24'-7"						
AS1002	1	1	2	16'-0"	138	16	14'-7"						
TOTAL APPROACH SLABS				81,739									

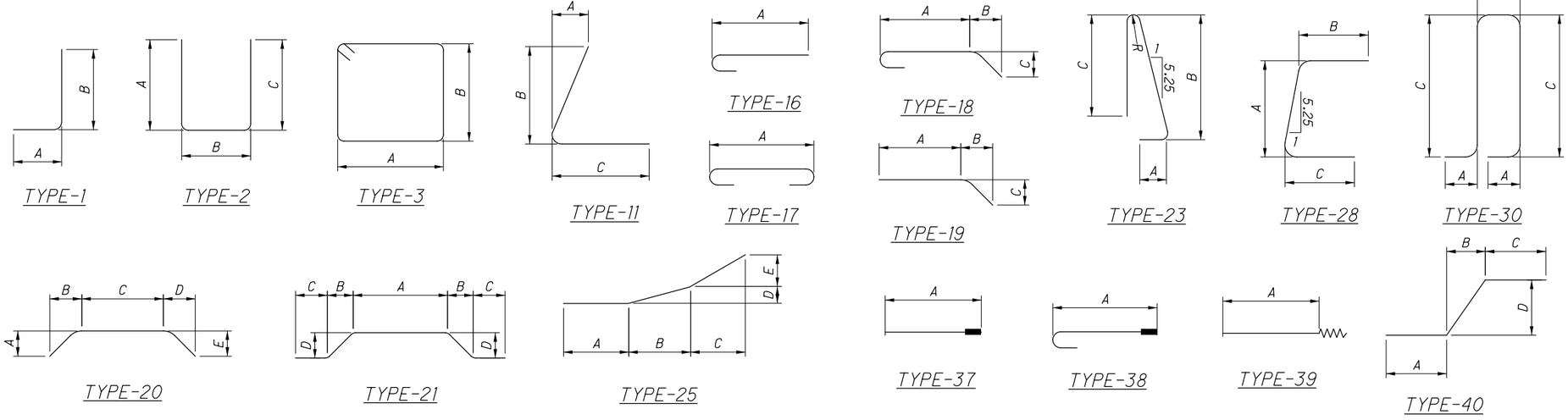
MARK	NUMBER			LENGTH	WEIGHT	TYPE	DIMENSIONS						
	LEFT	RIGHT	TOTAL				A	B	C	D	E	R	INC
SLEEPER SLABS (FOR REFERENCE ONLY)													
	REAR												
SS501	71	71	142	6'-4"	938	STR							
SS502	11	11	22	23'-10"	547	37	23'-10"						
SS503	22	22	44	6'-0"	275	39	6'-0"						
SS504	11	11	22	19'-0"	436	37	19'-0"						
SS505	11	11	22	30'-10"	708	STR							
SS506 THRU SS508 NOT USED													
SS509	71	71	142	5'-10"	864	30	10"	1'-6 1/4"	1'-7"				
	FORWARD												
SS501	71	71	142	6'-4"	938	STR							
SS502 NOT USED													
SS503	22	22	44	6'-0"	275	39	6'-0"						
SS504 AND SS505 NOT USED													
SS506	11	11	22	24'-2"	555	37	24'-2"						
SS507	11	11	22	19'-3"	442	37	19'-3"						
SS508	11	11	22	31'-4"	719	STR							
SS509	71	71	142	5'-10"	864	30	10"	1'-6 1/4"	1'-7"				
TOTAL SLEEPER SLABS				7,561									

NOTE:

1. ALL REINFORCING BARS SHALL BE EPOXY COATED.

BAR MARK LEGEND

A = ABUTMENT
P = PIER
S = SUPERSTRUCTURE
AS = APPROACH SLAB
R = RAILING
SS = SLEEPER SLAB



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DESIGNED	DRAWN	REVIEWED	DATE
RJB	CAF	RBB	8/17/18
CHECKED	REVISED	STRUCTURE FILE NUMBER	
CMD		1808702	

REINFORCING STEEL LIST 3 OF 3
BRIDGE NO. CUY-90-2463
INTERSTATE ROUTE 90 OVER EAST 152ND STREET

CUY-90-24.10/24.63
PID No. 88348

48/48

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