

STATE OF OHIO
DEPARTMENT OF TRANSPORTATION
D12-BH-FY2019 MISC.

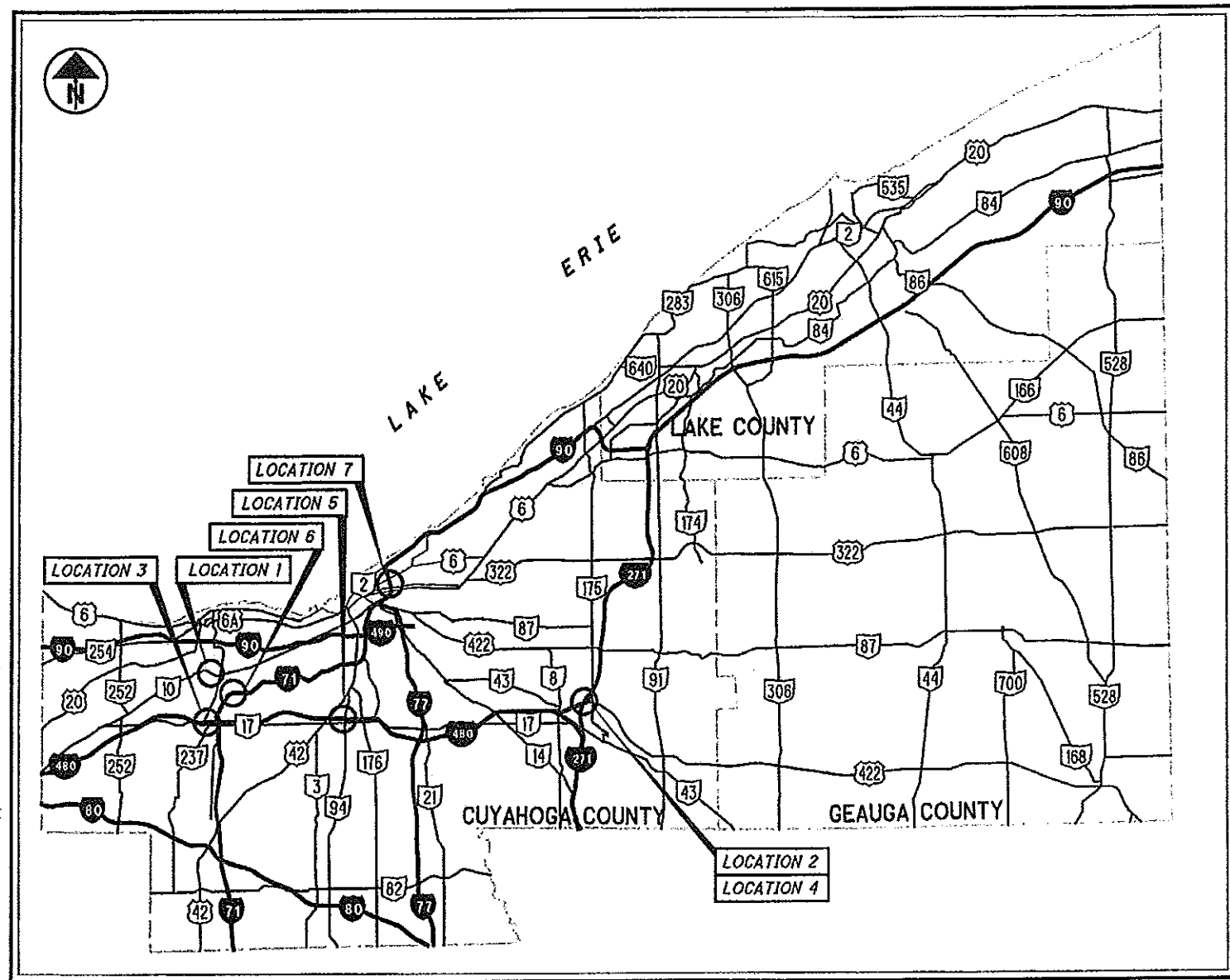
FEDERAL PROJECT NO.
E161(105)

PID NO.
98601

CONSTRUCTION PROJECT NO.

RAILROAD INVOLVEMENT
**NORFOLK SOUTHERN
GCRTA**

D12-BH-FY2019 MISC.
PID NO. 98601



LOCATION MAP

(NOTE: FOR COORDINATES PER LOCATION, SEE SHEETS 2 AND 3)

LOCATION	BRIDGE NUMBER	STRUCTURAL FILE NUMBER	CITY	TOWNSHIP	VILLAGE
1	CUY-10-0869	1801325	FAIRVIEW PARK		
2	CUY-271X-0581 NW	1814613	WARRENSVILLE HEIGHTS		
3	CUY-480-0800	1812491	CLEVELAND		
4	CUY-480N-0136 WN	1814591	WARRENSVILLE HEIGHTS		
5	CUY-480-1428	1813129	CLEVELAND		
6	CUY-71-1147	1804774	CLEVELAND		
7	CUY-90-1749	1808044	CLEVELAND		

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2 - CUY-271X-0581 NW	55-85
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4 - CUY-480N-0136 WN	99-132
5 - CUY-480-1428	133-137
6 - CUY-71-1147	138-146
7 - CUY-90-1749	147-149

PROJECT DESCRIPTION

THIS PROJECT CONSISTS OF VARIOUS REPAIRS INCLUDING MSE WALL REPAIR; PIER REPAIR; PARAPET REPAIR; SIDEWALK REPAIR; BACKWALL REPAIR; HEADWALL REPLACEMENT; AND OTHER MISCELLANEOUS REPAIRS.

THIS IS A MAINTENANCE PROJECT.

PROJECT EARTH DISTURBED AREA:	N/A
ESTIMATED CONTRACTOR EARTH DISTURBED AREA:	N/A
NOTICE OF INTENT EARTH DISTURBED AREA:	N/A

2016 SPECIFICATIONS

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

I HEREBY APPROVE THESE PLANS AND DECLARE THAT THE MAKING OF THIS IMPROVEMENT WILL NOT REQUIRE THE CLOSING TO TRAFFIC OF THE HIGHWAY AND THAT PROVISIONS FOR THE MAINTENANCE AND SAFETY OF TRAFFIC WILL BE AS SET FORTH ON THE PLANS AND ESTIMATES.

APPROVED: *[Signature]*
DATE: 12/19/18 DISTRICT DEPUTY DIRECTOR

APPROVED: *[Signature]*
DATE: 1/26/19 DIRECTOR, DEPARTMENT OF TRANSPORTATION

UNDERGROUND UTILITIES
CONTACT BOTH SERVICES TWO WORKING DAYS BEFORE YOU DIG.

OHIO Utilities Protection SERVICE
Call Before You Dig
1-800-382-2164
(Non-members must be called directly)

OIL & GAS PRODUCERS UNDERGROUND PROTECTION SERVICE
1-800-925-0888

PLAN PREPARED BY:

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

ENGINEERS SEAL:

STATE OF OHIO
DIVISION OF PROFESSIONAL ENGINEERING
SIGNED: *[Signature]*
DATE: 12-20-18

STANDARD CONSTRUCTION DRAWINGS						SUPPLEMENTAL SPECIFICATIONS		SPECIAL PROVISIONS	
BP-3.1	7-18-14	MT-95.30	7-21-17	MT-101.90	7-21-17	AS-1-15	7-17-15	800	1-18-19
		MT-95.31	7-21-17	MT-102.10	1-20-17	EXJ-4-87	1-19-18	821	4-20-12
F-1.1	7-19-13	MT-95.32	7-21-17	MT-102.20	7-18-14	GSD-1-96	7-19-02	832	10-19-18
		MT-95.40	7-21-17	MT-102.30	10-16-15	PCB-91	1-18-13	844	4-20-18
RM-4.2	4-18-14	MT-95.41	7-21-17	MT-103.10	1-19-18			847	1-20-17
		MT-95.50	7-21-17	MT-104.10	10-16-15			902	12-31-12
DM-1.2	1-18-13	MT-97.10	7-18-14	MT-105.10	7-19-13			921	4-20-12
DM-4.4	1-15-16	MT-98.10	1-20-17					961	7-15-16
		MT-98.11	1-20-17						
TC-65.10	1-17-14	MT-98.20	7-18-14						
TC-65.11	7-21-17	MT-99.20	7-20-18						
		MT-99.30	1-19-18						
		MT-99.60	7-15-16						
		MT-101.60	1-20-17						
		MT-101.70	7-20-18						
		MT-101.75	7-15-16						

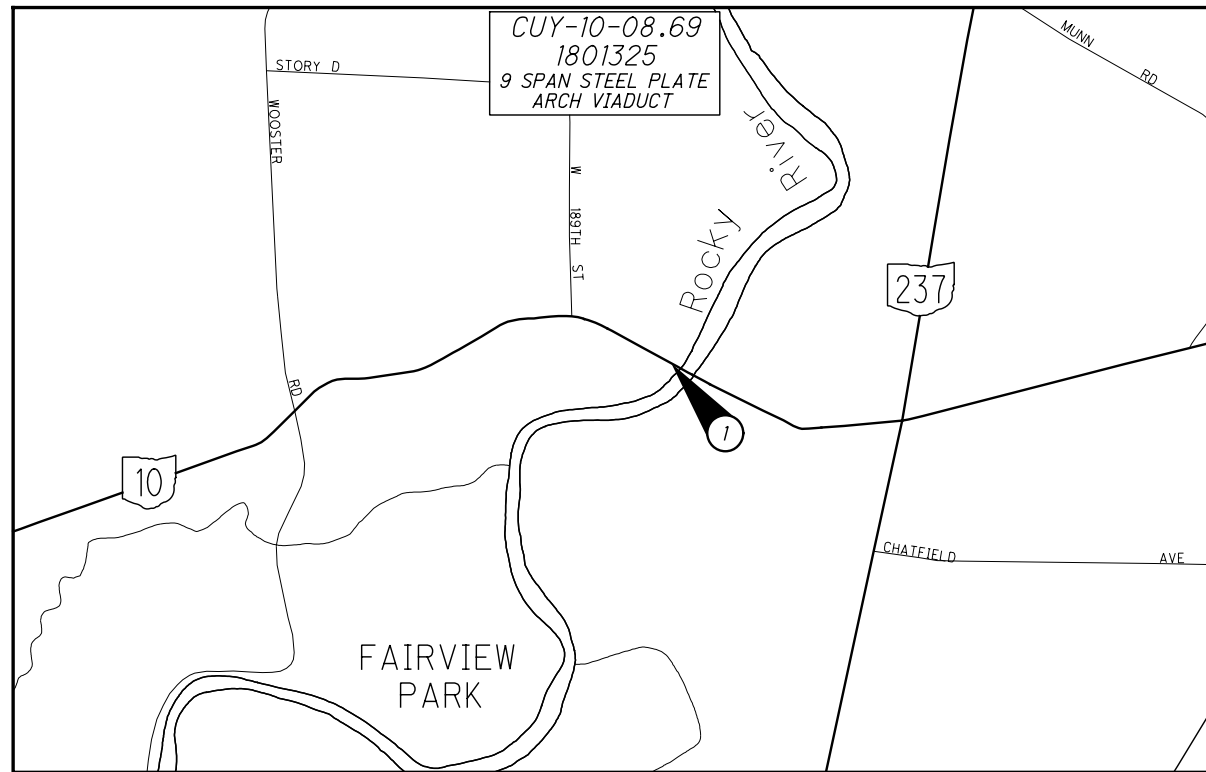
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190260 PID - 98601
Dist 12 5/2/2019

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

Conformed Set

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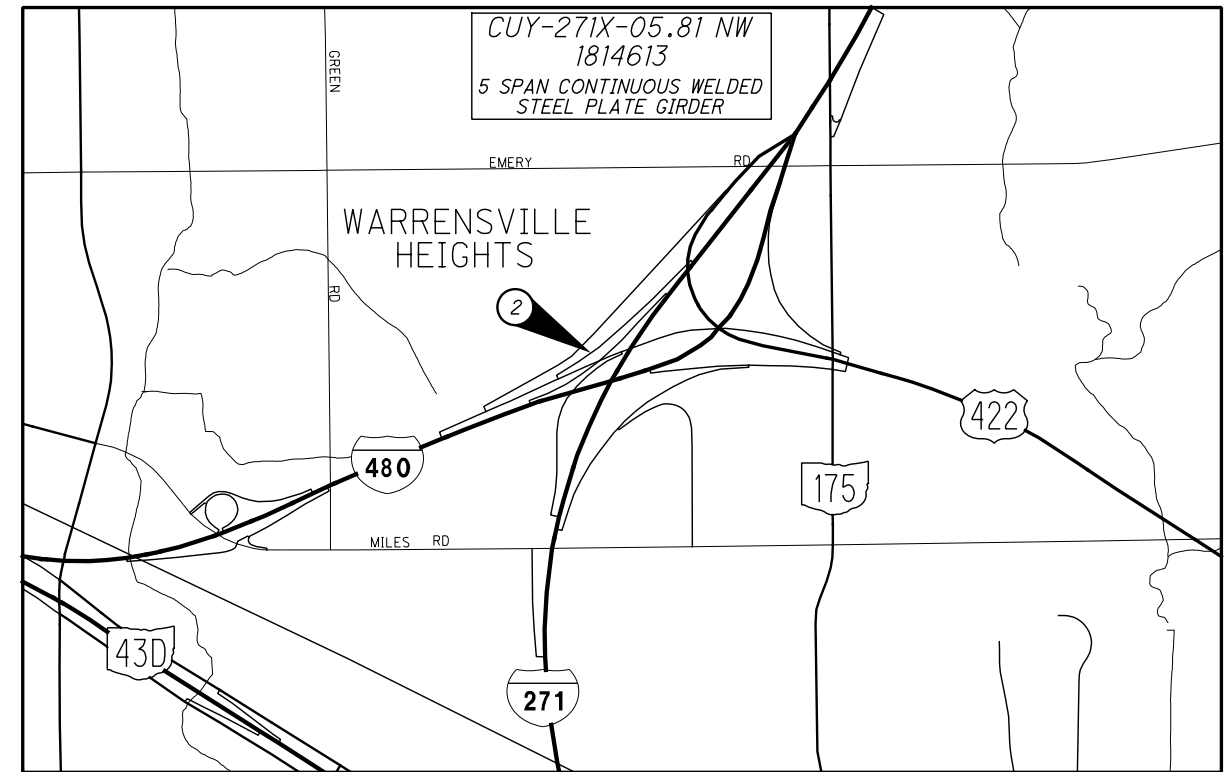
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MAP FOR LOCATION 1

LATITUDE: 41°27'05" N
LONGITUDE: 81°49'27" W

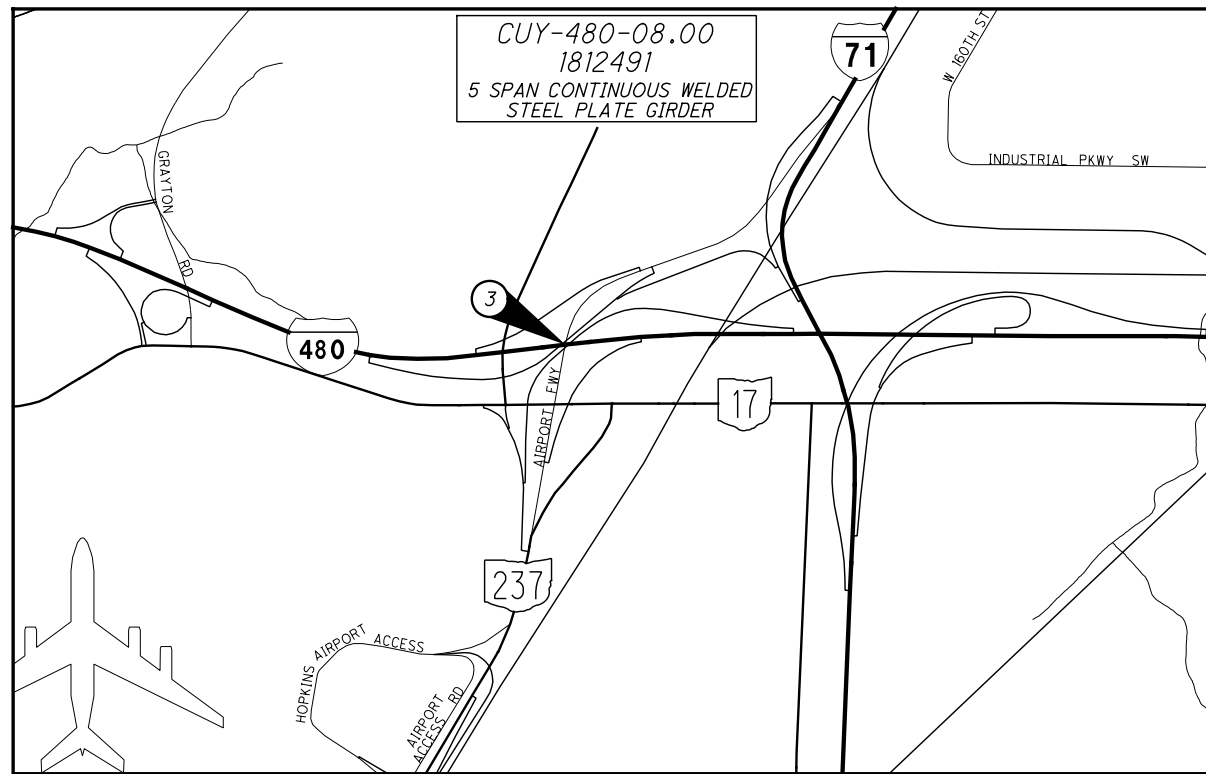
PROPOSED WORK (1)
ACCESS DOOR HATCH REPAIR AND REPLACEMENT
NORTH SIDEWALK CONCRETE REPAIR, SOUTH SIDEWALK JOINT REPAIR
CLEAN OUT DRAIN TROUGHS AND DOWNSPOUTS
REPLACE DETERIORATED DOWNSPOUTS



MAP FOR LOCATION 2

LATITUDE: 41°25'49" N
LONGITUDE: 81°30'22" W

PROPOSED WORK (1)
ADD INSPECTION CATWALKS
REPAIR MSE WALLS AT BOTH ABUTMENTS
CONCRETE PIER COLUMN AND CAP REPAIR
DEFLECTOR PARAPET REPAIR
VANDAL PROTECTION FENCE REMOVED

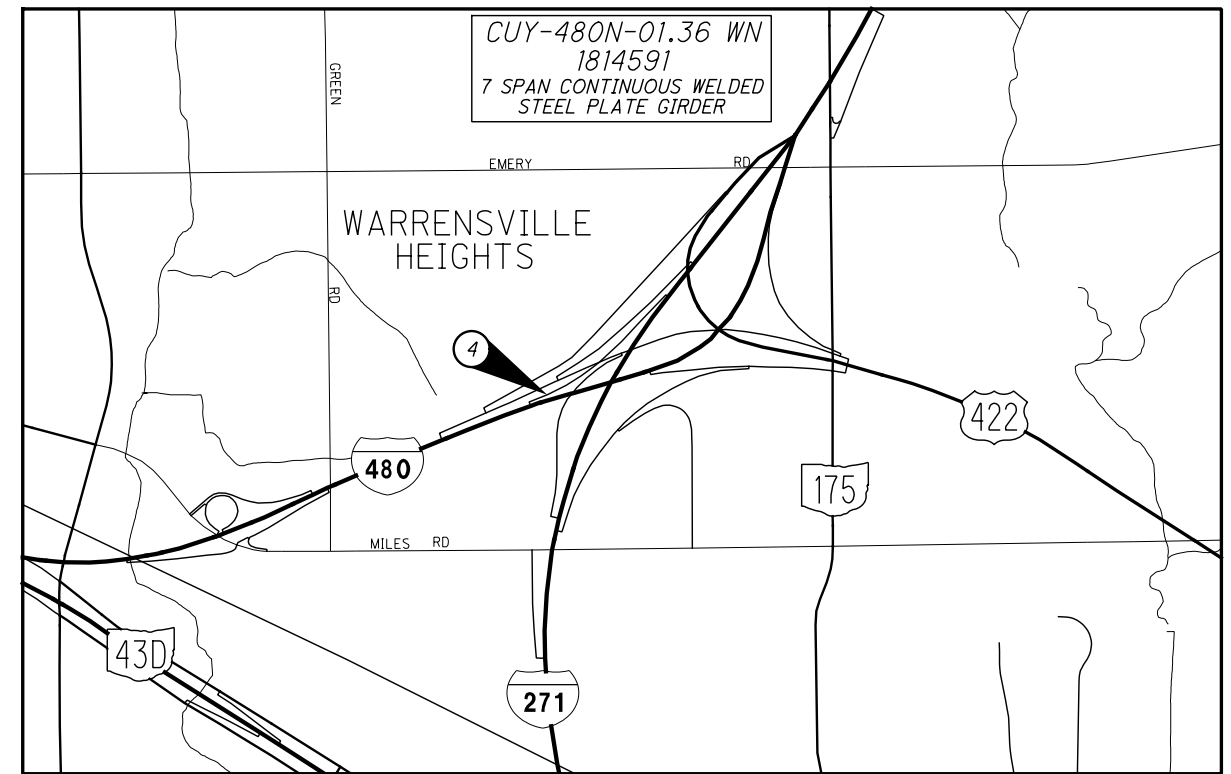


MAP FOR LOCATION 3

LATITUDE: 41°25'13" N
LONGITUDE: 81°49'42" W

PROPOSED WORK (1)
REPLACE ACCESS DOORS ON PIER CAPS
CONCRETE PIER COLUMN REPAIR
SLOPE EROSION REPAIR
ABUTMENT PATCHING
PARAPET PATCHING

(1) WORK SHOWN IS REPRESENTATIVE AND DOES NOT INCLUDE ALL WORK REQUIRED.



MAP FOR LOCATION 4

LATITUDE: 41°25'45" N
LONGITUDE: 81°30'27" W

PROPOSED WORK (1)
ADD INSPECTION CATWALKS
REPAIR MSE WALLS AT BOTH ABUTMENTS
CONCRETE PIER COLUMN REPAIR
DEFLECTOR PARAPET REPAIR
VANDAL PROTECTION FENCE REMOVED

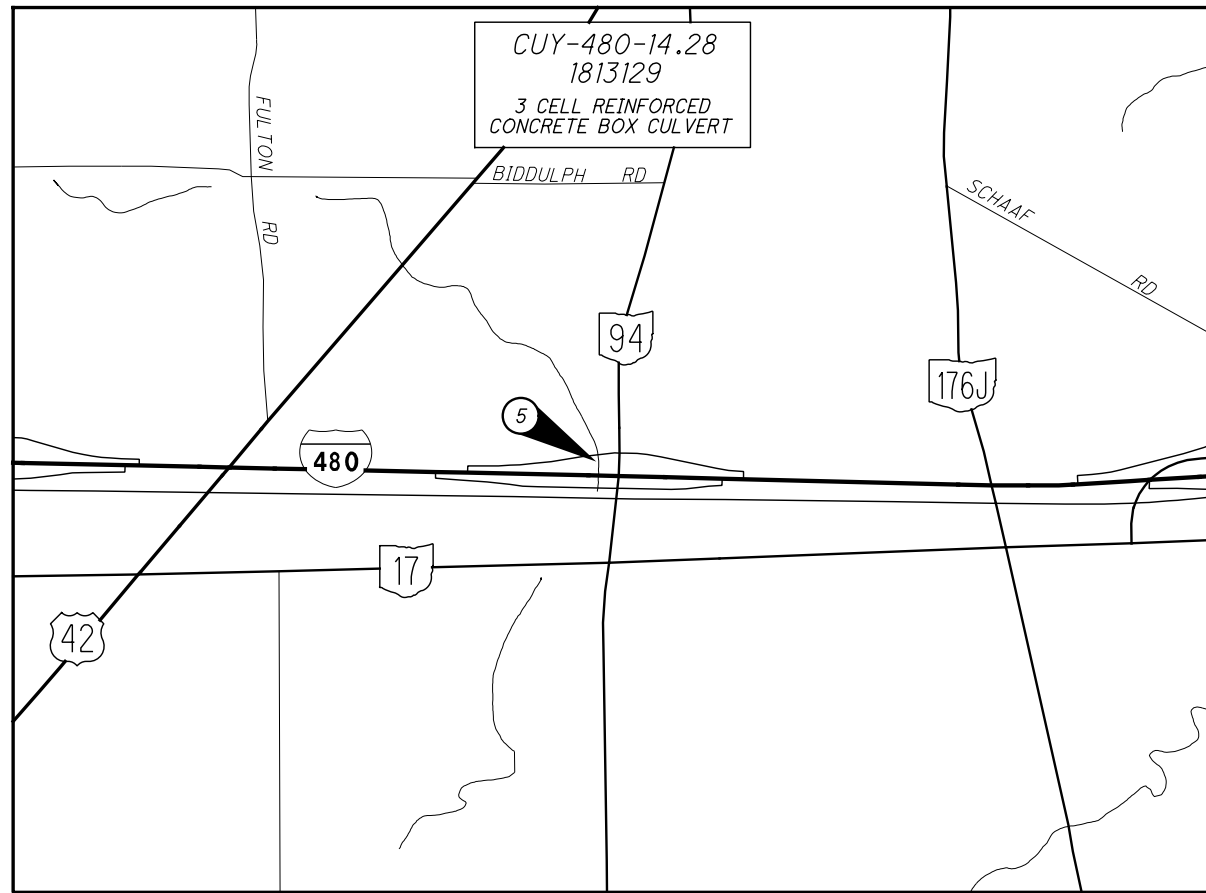
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LOCATION MAP - 1

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PID NO. 98601

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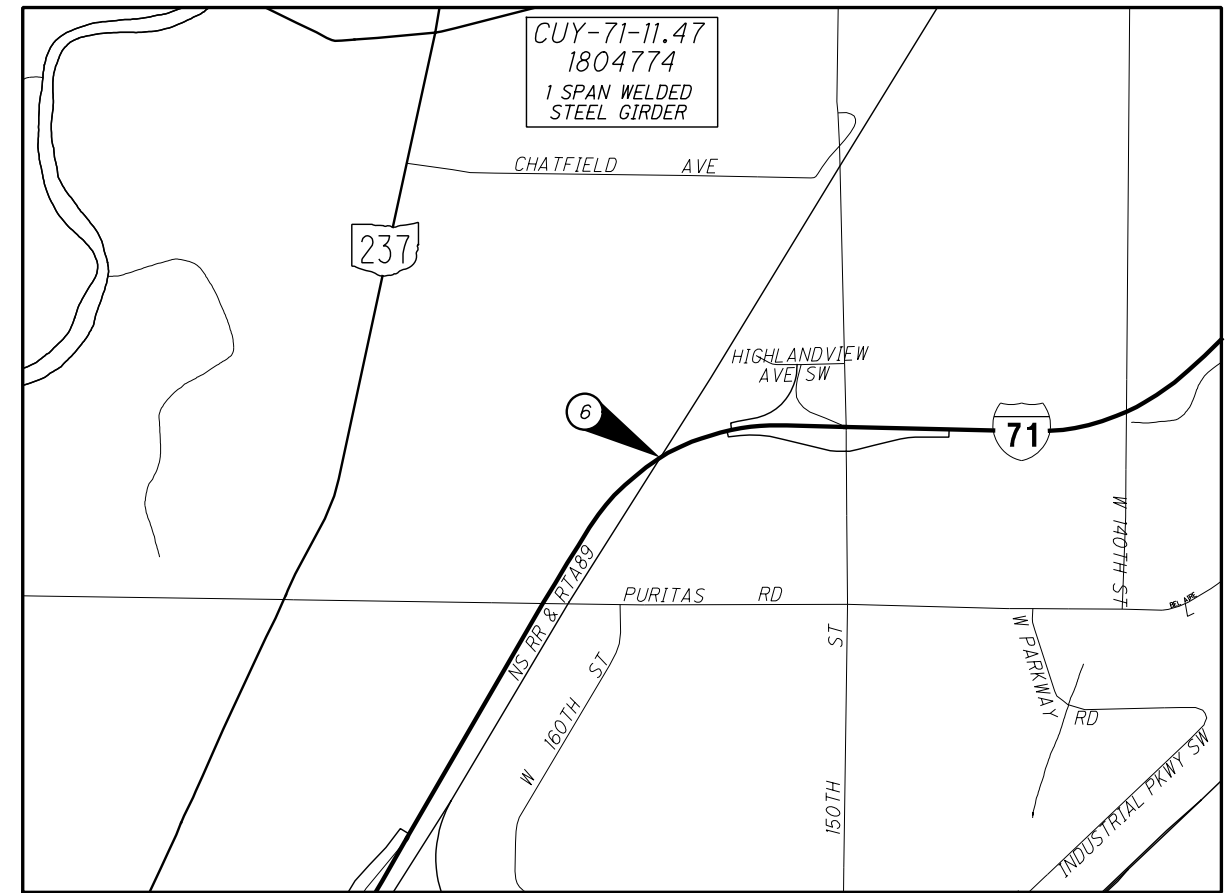
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MAP FOR LOCATION 5

LATITUDE: 41°25'17" N
LONGITUDE: 81°42'38" W

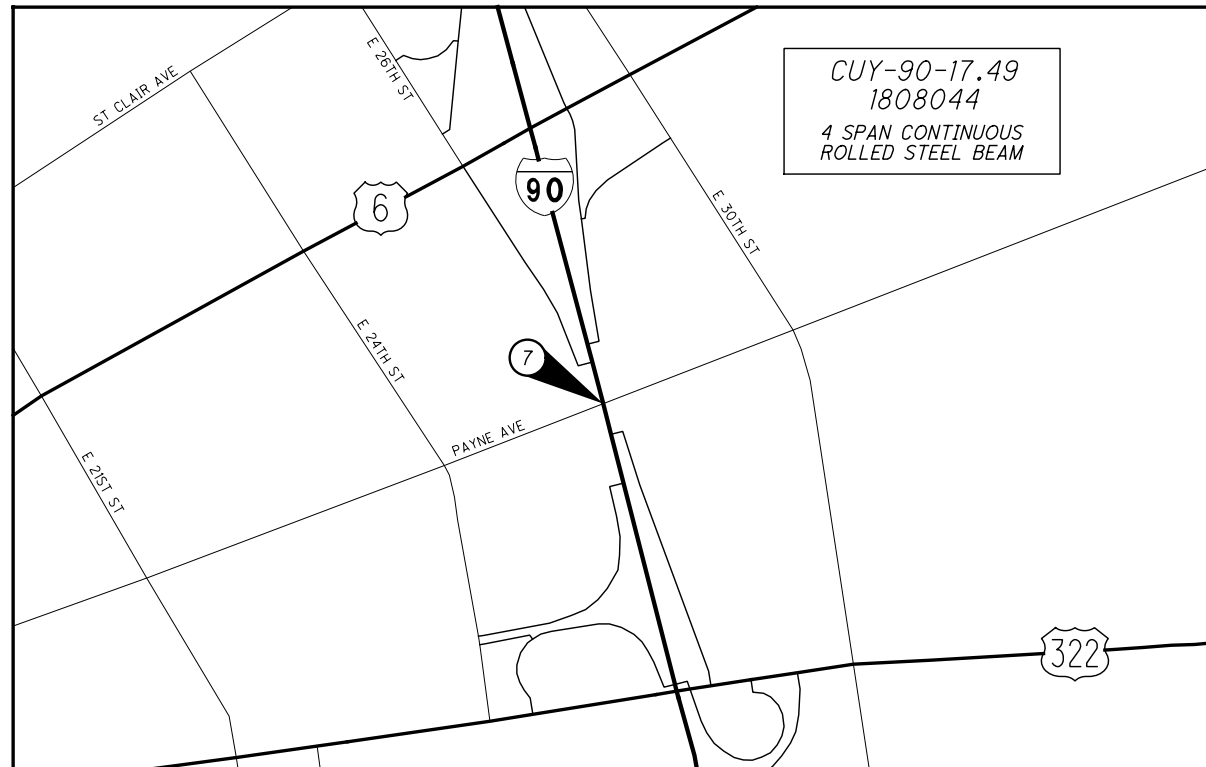
PROPOSED WORK (D)
CONCRETE HEADWALL REPLACEMENT
STREAM DEBRIS REMOVAL



MAP FOR LOCATION 6

LATITUDE: 41°26'16" N
LONGITUDE: 81°48'30" W

PROPOSED WORK (D)
REPLACE DETERIORATED PIER COLUMN
PATCH ABUTMENT WINGWALL



MAP FOR LOCATION 7

LATITUDE: 41°30'26" N
LONGITUDE: 81°40'16" W

PROPOSED WORK (D)
MICRO SILICA MODIFIED CONCRETE DECK & APPROACH SLAB OVERLAY
TOP OF BACKWALL REPAIR

(D) WORK SHOWN IS REPRESENTATIVE AND DOES NOT INCLUDE ALL WORK REQUIRED.

CALCULATED
MS
CHECKED
PRS

LOCATION MAP - 2

D12-BH-FY2019 MISC.
PID NO. 98601

UTILITIES

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

TRANSPORTATION

GREATER CLEVELAND REGIONAL TRANSIT AUTHORITY (GCRTA)
1240 WEST 6TH STREET
CLEVELAND, OHIO 44113-1331
ATTN: JAMES R. STOCK, P.E.
PHONE: (216) 356-3265

NORFOLK SOUTHERN RAILROAD
1200 PEACHTREE STREET N.E.
ATLANTA, GEORGIA 30309
ATTN: E.W. CHAMBERS
PHONE: (404) 529-1251
EMAIL: Eldridge.Chambers@nscorp.com

WATER

CITY OF CLEVELAND
DIVISION OF WATER
1201 LAKESIDE AVENUE, 2nd FLOOR
CLEVELAND, OHIO 44114
ATTN: FRED ROBERTS
PHONE: (216) 664-2444, EXT. 5520
FAX: (216) 664-2838

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

SEWER

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

CUYAHOGA COUNTY DEPARTMENT OF PUBLIC WORKS
2079 E. 9TH STREET
5TH FLOOR
CLEVELAND, OH 44115
ATTN: DAVID E. MARGUARD
(216) 698-8614

GAS

DOMINION ENERGY OHIO
320 SPRINGSIDE DR.
AKRON, OHIO 44333
ATTN: BRYAN DAYTON
PHONE: (330) 664-2409

COLUMBIA GAS OF OHIO
7080 FRY ROAD
MIDDLEBURG HEIGHTS, OH 44130
ATTN: DAN SUREN
(440) 891-2428

CABLE

CHARTER COMMUNICATIONS
8179 DOW CIRCLE
STRONGSVILLE, OHIO 44136
SUPERVISOR: GARY NAUMANN
PHONE: (216) 575-8016, EXT. 5033
FIELD ENGINEER: PAUL SILVESTRO
PHONE: (216) 575-8016
EXT. 12165555034
FAX: (440) 826-2940

ELECTRIC

CET, FIRST ENERGY
6896 MILLER RD. #101
BRECKSVILLE, OHIO 44141
ATTN: TED RADER
PHONE: (440) 546-8738

DIVISION OF CLEVELAND PUBLIC POWER (CPP)
CLEVELAND PUBLIC POWER CIRCUITS:
STREET LIGHTING
1300 LAKESIDE AVENUE
CLEVELAND, OHIO 44114
ATTN: JAMES FERGUSON,
CHIEF, BUREAU OF STREET LIGHTING
PHONE: (216) 420-7704, EXT. 183

PETROLEUM

BUCKEYE PARTNERS, L.P.
(BUCKEYE OIL PIPELINE COMPANY)
FIVE TEK PARK
9999 HAMILTON BOULEVARD
BREINIGSVILLE, PA 18031
ATTN: TRENT MOODY
PHONE: (610) 904-4145

BP OIL
4421 BRADLY ROAD
CLEVELAND, OHIO 44109
ATTN: DAN PLEVNY
PHONE: (216) 906-6374

LIGHTING

ODOT DISTRICT 12
5500 TRANSPORTATION BLVD.
GARFIELD HEIGHTS, OHIO 44125
ROADWAY SERVICES LIGHTING
ATTN: ANTHONY TOTH
PHONE: (216) 584-2221

SIGNALS

CITY OF CLEVELAND, DIVISION OF TRAFFIC ENGINEERING
601 LAKESIDE ROAD, RM 518
CLEVELAND, OHIO 44114
ATTN: ROB MAVEC
PHONE: (216) 644-3194

COMMUNICATIONS

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

COX COMMUNICATIONS
12221 PLAZA DRIVE
PARMA, OH 44130
ATTN: MARK PRESTON
PHONE: (216) 535-3347

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

CENTURYLINK
441 W. BROAD ST.
PATASKALA, OH 43062
ATTN: CHRISTOPHER R. STRAYER
(303) 886-1299

XO COMMUNICATIONS
6900 SOUTHPOINTE PARKWAY
BRECKSVILLE, OH 44141
ATTN: DALE FERGUSON
(216) 619-349-3492

THE NATURE OF THE WORK REQUIRED BY THIS PROJECT IS NOT ANTICIPATED TO AFFECT ANY KNOWN UTILITIES IN THE WORK AREAS.

RIGHT OF WAY

ALL WORK IS TO BE PERFORMED WITHIN THE EXISTING RIGHT-OF-WAY OR EASEMENTS OR WITHIN STATE PROPERTY.

CONSTRUCTION NOISE

ACTIVITIES AND LAND USE ADJACENT TO THIS PROJECT MAY BE AFFECTED BY CONSTRUCTION NOISE. IN ORDER TO MINIMIZE ANY ADVERSE CONSTRUCTION NOISE IMPACTS, ANY POWER-OPERATED CONSTRUCTION-TYPE DEVICE SHALL NOT BE OPERATED DURING NON-WORKING HOURS AS APPROVED BY THE ENGINEER. IN ADDITION, ANY SUCH DEVICE SHALL NOT BE OPERATED AT ANY TIME IN SUCH A MANNER THAT THE NOISE CREATED SUBSTANTIALLY EXCEEDS THE NOISE CUSTOMARILY ATTENDANT TO THE REASONABLE AND EFFICIENT PERFORMANCE OF SUCH EQUIPMENT.

COOPERATION BETWEEN CONTRACTORS

THE CONTRACTOR SHALL COOPERATE AND COORDINATE HIS/HER OPERATIONS WITH THE CONTRACTORS ON OTHER PROJECTS THAT MAY BE IN FORCE DURING THE LIFE OF THE CONTRACT. NO WAIVER OF ANY PROVISIONS OF 105.08 OF THE 2016 CONSTRUCTION AND MATERIAL SPECIFICATIONS IS INTENDED.

EXISTING DIMENSIONS

ALL DIMENSIONS ARE APPROXIMATE (±).

LIMITATIONS OF OPERATIONS

THE CONTRACTOR'S ACTIVITIES AND WORK SCHEDULE SHALL BE CONSTRAINED BY THE FOLLOWING LIMITATIONS:

- 1. MAINTENANCE OF TRAFFIC RESTRICTIONS (REFER TO MAINTENANCE OF TRAFFIC NOTES SHEETS WITHIN THIS PLAN).

EQUIPMENT AND MATERIAL STORAGE

IN ORDER TO PROVIDE FOR THE SAFETY OF THE TRAVELING PUBLIC, THE CONTRACTOR'S ATTENTION IS DIRECTED TO 614.03. IN ADDITION, NO STORAGE OF EQUIPMENT, MATERIALS, AND VEHICLES WITHIN THE HIGHWAY RIGHT-OF-WAY WILL BE PERMITTED WITHOUT PRIOR APPROVAL FROM THE ENGINEER AND OBTAINING AN ODOT R/W PERMIT FROM THE D12 ROADWAY SERVICES. ALL RESTORATION WILL BE AT NO COST TO THE STATE.

CONTINGENCY QUANTITIES

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

CONSTRUCTION LAYOUT STAKES AND SURVEYING, AS PER PLAN

AN OHIO PROFESSIONAL SURVEYOR SHALL DETERMINE THE MINIMUM VERTICAL CLEARANCES OF ALL EXISTING BRIDGES WITHIN THE PROJECT LIMITS AFTER COMPLETION OF ALL THE WORK, BUT PRIOR TO FINAL ACCEPTANCE OF THE PROJECT. AT A MINIMUM, MEASUREMENTS SHALL BE TAKEN ALONG THE CENTERLINE OF EACH FASCIA BEAM AT THE EDGE OF THE SHOULDERS, EDGE LINES, LANE LINES, AND CROWN OF THE ROADWAY BELOW. THE MEASUREMENTS SHALL BE DOCUMENTED IN 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.

IN ADDITION TO VERTICAL CLEARANCE DETERMINATION, THE CONTRACTOR SHALL VERIFY EXISTING ELEVATIONS AS NECESSARY PRIOR TO AND AT COMPLETION OF THE WORK, AT WORK INTERFACES SUCH AS ENDS OF DECK, EXPANSION JOINTS, AND END OF APPROACH SLABS. THESE MEASUREMENTS ARE INTENDED TO ENSURE PROPOSED WORK MEETS EXISTING GRADES AND PROVIDES A SMOOTH RIDING SURFACE FOR THE TRAVELING PUBLIC.

ENVIRONMENTAL

NO WORK TO BE WITHIN STREAMS OR WETLANDS WITHOUT PRIOR APPROVAL FROM ODOT.

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GENERAL NOTES - 1

D12-BH-FY2019 MISC.
PID NO. 98601

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EXISTING PAVEMENT MARKINGS

ANY EXISTING PAVEMENT MARKINGS, INCLUDING RAISED PAVEMENT MARKINGS, THAT ARE AFFECTED BY THE PROPOSED WORK SHALL BE REPLACED IN-KIND. PAYMENT FOR THE NEW PAVEMENT MARKINGS IS AS LISTED IN THE PLANS.

AIRWAY/HIGHWAY CLEARANCE FOR AIRPORTS AND HELIPORTS

PORTIONS OF THIS PROJECT HAS BEEN IDENTIFIED AS BEING WITHIN THE INFLUENCE AREA OF A PUBLIC USE AIRPORT OR HELIPORT. NO TEMPORARY STRUCTURES OR CONSTRUCTION EQUIPMENT AT MAXIMUM OPERATING HEIGHT SHALL EXCEED A HEIGHT OF 189' AT BRIDGE 1 (CUY-10-0869) / 74' AT BRIDGE 6 (CUY-71-1147) IF ANY TEMPORARY STRUCTURES OR CONSTRUCTION EQUIPMENT WILL EXCEED THIS HEIGHT, FURTHER COORDINATION WITH THE FEDERAL AVIATION ADMINISTRATION (FAA), AND ODOT OFFICE OF AVIATION, WILL BE NECESSARY PRIOR TO ERRECTING SUCH TEMPORARY STRUCTURES OR OPERATING SUCH EQUIPMENT ON THE PROJECT. THE CONTRACTOR WILL BE REQUIRED TO SUBMIT FORM 7460-1 TO THE FAA. NOTIFY THE ODOT OFFICE OF AVIATION WHEN SUBMITTING FAA FROM 7460-1.

NO TEMPORARY STRUCTURES OR CONSTRUCTION EQUIPMENT SHALL EXCEED THE PERMISSIBLE HEIGHT, UNTIL A COPY OF THE FAA APPROVAL AND THE ODOT OFFICE OF AVIATION PERMIT HAS BEEN FURNISHED TO THE PROJECT ENGINEER.

EXPRESS PROCESSING CENTER
THE FEDERAL AVIATION ADMINISTRATION
SOUTHWEST REGIONAL OFFICE
AIR TRAFFIC AIRSPACE BRANCH ASW-520
2601 MEACHAN BLVD.
FORT WORTH, TX 76137-4298

OHIO DEPARTMENT OF TRANSPORTATION
OFFICE OF AVIATION
2829 WEST DUBLIN-GRANVILLE ROAD
COLUMBUS, OHIO 43235
614-387-2346

AIRWAY/HIGHWAY CLEARANCE FOR AIRPORTS AND HELIPORTS

PORTIONS OF THIS PROJECT HAS BEEN IDENTIFIED AS BEING WITHIN THE INFLUENCE AREA OF A PUBLIC USE AIRPORT OR HELIPORT. NO TEMPORARY STRUCTURES OR CONSTRUCTION EQUIPMENT AT MAXIMUM OPERATING HEIGHT SHALL EXCEED A HEIGHT OF 9' AT BRIDGE 3 (CUY-480-0800). IF ANY TEMPORARY STRUCTURES OR CONSTRUCTION EQUIPMENT WILL EXCEED THIS HEIGHT, FURTHER COORDINATION WITH THE FEDERAL AVIATION ADMINISTRATION (FAA), AND ODOT OFFICE OF AVIATION, WILL BE NECESSARY PRIOR TO ERRECTING SUCH TEMPORARY STRUCTURES OR OPERATING SUCH EQUIPMENT ON THE PROJECT. THE CONTRACTOR WILL BE REQUIRED TO FILE A NEW FAA FORM 7460-1, ADVISING THE FAA THAT AERONAUTICAL STUDY NO. _____ IS BEING RESUBMITTED AND THAT AN ALTERATION TO THE ORIGINAL SUBMISSION IS REQUESTED.

NOTIFY THE ODOT OFFICE OF AVIATION WHEN RESUBMITTING AN FAA FORM 7460-1. NO TEMPORARY STRUCTURES OR CONSTRUCTION EQUIPMENT SHALL EXCEED THE PERMISSIBLE HEIGHT, UNTIL A COPY OF THE FAA APPROVAL AND THE ODOT OFFICE OF AVIATION PERMIT HAS BEEN FURNISHED TO THE PROJECT ENGINEER.

FAA APPROVAL MAY TAKE UP TO 45 DAYS. ALL SUBMISSIONS SHALL BE DIRECTED TO THESE OFFICES:

EXPRESS PROCESSING CENTER
THE FEDERAL AVIATION ADMINISTRATION
SOUTHWEST REGIONAL OFFICE
AIR TRAFFIC AIRSPACE BRANCH ASW-520
2601 MEACHAN BLVD.
FORT WORTH, TX 76137-4298

OHIO DEPARTMENT OF TRANSPORTATION
OFFICE OF AVIATION
2829 WEST DUBLIN-GRANVILLE ROAD
COLUMBUS, OHIO 43235
614-387-2346

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.

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.

CONSTRUCT 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. DISPOSAL OF WASTE MATERIAL AND CONSTRUCTION DEBRIS, EXCAVATION OF BORROW MATERIAL AND PLACEMENT OF PORTABLE PLANTS IS PROHIBITED UNLESS OTHERWISE APPROVED BY THE PROJECT ENGINEER. 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.

PROFILE AND ALIGNMENT

THE INTENT OF THE PROPOSED PAVEMENT IS TO UTILIZE THE ALIGNMENT AND PROFILE OF THE EXISTING PAVEMENT UNLESS OTHERWISE DETAILED IN THE PLANS.

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.

THE FOLLOWING QUANTITIES HAVE BEEN INCLUDED IN THE GENERAL SUMMARY TO BE USED AS DIRECTED BY THE ENGINEER TO TRANSITION TO EXISTING GUARDRAIL.

ITEM 606 - GUARDRAIL, TYPE 5 12.5 FT.

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.

REVIEW OF DRAINAGE FACILITIES

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

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

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

EARTHWORK FOR PROJECT TRANSITION

A CONTINGENCY OF ITEM 203 - EMBANKMENT AND ITEM 203 - EXCAVATION IS BEING PROVIDED IN THE GENERAL SUMMARY TO BE USED AS DIRECTED BY THE ENGINEER TO TRANSITION THE EARTHWORK INTO THE EXISTING AT THE BEGIN/END OF THE PROJECT.

ITEM 203 - EXCAVATION 25 CU. YD.

ITEM 203 - EMBANKMENT 25 CU. YD.

THE FOLLOWING QUANTITY HAS BEEN INCLUDED IN THE GENERAL SUMMARY TO BE USED AS DIRECTED BY THE ENGINEER FOR EXCAVATION BEYOND THE EXISTING PAYMENT REMOVAL TO CONSTRUCT THE PROPOSED PAVEMENT BUILD UP.

ITEM 203 - EXCAVATION 25 CU. YD.

ROUNDING

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

SEEDING AND MULCHING

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

ITEM 659 - TOPSOIL 50 CU. YD.
ITEM 659 - SEEDING AND MULCHING 200 SQ. YD.
ITEM 659 - REPAIR SEEDING AND MULCHING 10 SQ. YD.
ITEM 659 - COMMERCIAL FERTILIZER 0.03 TON
ITEM 659 - WATER 1 M. GAL.

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

ITEM 201 - CLEARING AND GRUBBING, AS PER PLAN

ALTHOUGH THERE ARE NO TREES OR STUMPS SPECIFICALLY MARKED FOR REMOVAL WITHIN THE LIMITS OF THIS PROJECT, A LUMP SUM QUANTITY IS INCLUDED IN THE GENERAL SUMMARY FOR ITEM 201, CLEARING AND GRUBBING, FOR EACH BRIDGE LOCATION IDENTIFIED TO BE USED AS DIRECTED BY THE ENGINEER. 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, AS PER PLAN.

ITEM 204 - SUBGRADE COMPACTION AND PROOF ROLLING

CONSTRUCT THE SUBGRADE AS FOLLOWS AND IN THE FOLLOWING SEQUENCE:

- SHAPE THE SUBGRADE TO WITHIN 0.2 FEET OF THE PLAN SUBGRADE ELEVATION.
- EXCAVATE AND REPLACE UNSUITABLE SUBGRADE BEFORE PROOF ROLLING. UNSUITABLE SUBGRADE INCLUDES UNSUITABLE SOIL (A-4B, A-2-5, A-5, A-7-5, AND SOIL WITH A LIQUID LIMIT GREATER THAN 65) AND ANY COAL, SHALE, OR ROCK WHICH NEEDS TO BE REMOVED ACCORDING TO 204.05.

IF THERE IS UNSUITABLE SUBGRADE IN A SHALLOW FILL LOCATION, EXCAVATE AND REPLACE THE UNSUITABLE SUBGRADE BEFORE CONSTRUCTING THE SHALLOW FILL AND SHAPING THE SUBGRADE.
- COMPACT THE SUBGRADE ACCORDING TO 204.03.
- THE ENGINEER WILL IDENTIFY THE ACTUAL LIMITS OF EXCAVATION FOR THE UNSTABLE SUBGRADE BASED ON THE PROOF ROLLING RESULTS AND VISUAL OBSERVATIONS. PROOF ROLL THE COMPACTED SUBGRADE ACCORDING TO 204.06.
- EXCAVATE UNSTABLE SUBGRADE AS DIRECTED BY THE ENGINEER AND STABILIZE BY REPLACING WITH THE SPECIFIED MATERIALS ACCORDING TO 204.07. EXCAVATIONS WILL EXTEND 18 INCHES BEYOND THE EDGE OF THE SURFACE OF THE PAVEMENT, PAVED SHOULDERS, OR PAVED MEDIANS.
- PROOF ROLL THE STABILIZED AREAS ACCORDING TO 204.06 TO VERIFY STABILITY.
- FINE GRADE THE SUBGRADE TO THE SPECIFIED GRADE.

THE FOLLOWING ITEMS AND CONTINGENCY QUANTITIES ARE TO BE USED AS DIRECTED BY THE ENGINEER TO ADDRESS UNSUITABLE SOILS ENCOUNTERED IN THE AREA OF THE PAVEMENT WIDENING.

ITEM 204 - EXCAVATION OF SUBGRADE 50 CY
ITEM 204 - GRANULAR MATERIAL, TYPE B 50 CY
ITEM 204 - GEOTEXTILE FABRIC 200 SY

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GENERAL NOTES - 2

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ITEM 607 - FENCE, MISC.: CONSTRUCTION FENCE

PRIOR TO COMMENCING CONSTRUCTION, THE CONTRACTOR SHALL ERECT AND MAINTAIN, THROUGHOUT THE DURATION OF THE PROJECT, ITEM 607 - FENCE, MISC.: CONSTRUCTION FENCE. THE FENCE SHALL BE ERECTED IN ACCORDANCE WITH STANDARD CONSTRUCTION DRAWING DM-4.4 SUPPLEMENTED WITH A PLASTIC/NYLON CONSTRUCTION FENCE AT LOCATIONS SHOWN IN THE PLANS. THE FENCE IS REQUIRED TO PROTECT THE PUBLIC. PLASTIC NYLON CONSTRUCTION FENCE SHALL BE BRIGHT ORANGE AND SHALL BE SECURELY FASTENED TO THE WOOD STIFFENER STAKES AT NO MORE THAN 6 FOOT SPACING. THE CONSTRUCTION FENCE SHALL BE NOMINALLY 4 FEET HIGH AT THE TOP EDGE AND SHALL NOT SAG BELOW 36 INCHES (12 INCH SAG). THE CONSTRUCTION FENCE SHALL BE MAINTAINED IN GOOD CONDITION AS APPROVED BY THE ENGINEER EXCEPT REPAIR AND MAINTENANCE WILL BE AT NO ADDITIONAL PROJECT COST. SECTIONS OF THE SUPPLEMENTAL CONSTRUCTION FENCE WITH EXTENSIVE BROKEN SLATS OR HOLES GREATER THAN 12" X 12" SHALL BE REPAIRED OR REPLACED AS APPROVED BY THE ENGINEER. THE CONTRACTOR'S EMPLOYEES AND EQUIPMENT WILL NOT BE PERMITTED PAST THE FENCE ON THE OPPOSITE SIDE OF THE PROPOSED CONSTRUCTION. AT THE CONCLUSION OF THE CONSTRUCTION PROJECT, THE CONTRACTOR SHALL REMOVE THE FENCE AND WOOD STIFFENER STAKES. ALL MATERIAL, LABOR, EQUIPMENT, COORDINATION AND INCIDENTALS TO PERFORM THIS ITEM OF WORK SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM 607 - FENCE, MISC.: CONSTRUCTION FENCE, FOOT.

ITEM 607 - FENCE, TYPE CL, AS PER PLAN

IN ADDITION TO CMS 607 THE PROPOSED FENCE SHALL BE SECURELY CONNECTED TO THE EXISTING FENCE AND POST WITHOUT ANY GAPS. ALL SITE PREPARATIONS TO INSTALL THE NEW FENCE AND CONNECT TO THE EXISTING FENCE SHALL BE INCLUDED IN THIS ITEM. ALL COSTS INCLUDING LABOR, MATERIALS, EQUIPMENT, AND INCIDENTALS TO PERFORM THIS WORK AS APPROVED BY THE ENGINEER SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM 607 - FENCE, TYPE CL, AS PER PLAN.

A QUANTITY OF 60 FT. HAS BEEN INCLUDED IN THE GENERAL SUMMARY FOR BRIDGE LOCATION 5 CUY-480-1428.

ITEM 209 - DITCH CLEANOUT, AS PER PLAN

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

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

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

209 DITCH CLEANOUT, AS PER PLAN 50 FT.

ITEM 619 - FIELD OFFICE, TYPE B, AS PER PLAN

A TYPE B FIELD OFFICE IS REQUIRED FOR THIS PROJECT. THE FOLLOWING REVISIONS TO EQUIPMENT SUPPLIED WITH THE TYPE B FIELD OFFICE, AS SPECIFIED IN TABLE 619.02-1, FIELD OFFICE, SHALL APPLY:

THE COPIER SUPPLIED MUST MEET THE REQUIREMENTS OF THE COPIER SUPPLIED WITH THE TYPE C FIELD OFFICE.

THE BROAD BAND INTERNET CONNECTION MUST MEET A MINIMUM DOWNLOAD SPEED OF 10MB PER SECOND AND A MINIMUM UPLOAD SPEED OF 5MB PER SECOND.

THE CONTRACTOR SHALL FURNISH, SET-UP AND MAINTAIN A WI-FI ROUTER MEETING THE REQUIREMENTS OF IEEE 802.11ac FOR THE EXCLUSIVE USE OF THE DEPARTMENT.

ALL OTHER FIELD OFFICE ITEMS SUPPLIED SHALL MEET THE REQUIREMENTS OF A TYPE B FIELD OFFICE.

ITEM 619 - FIELD OFFICE, TYPE B, AS PER PLAN 6 MNTH

ITEM 832 - EROSION CONTROL

THE FOLLOWING QUANTITIES HAVE BEEN INCLUDED IN THE GENERAL SUMMARY FOR THE WORK SUPPLEMENTAL SPECIFICATION 832:

ITEM 832 - EROSION CONTROL 10000 EACH

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ITEM 614 - MAINTAINING TRAFFIC

GENERALLY THE CONTRACTOR SHALL CONDUCT THEIR OPERATIONS AS TO MAKE THE PROPOSED CONSTRUCTION WITH A MINIMUM HAZARD, DELAY AND INCONVENIENCE TO THE MOTORISTS USING THE HIGHWAY. MAINTENANCE OF TRAFFIC INCLUDES ALL LOCATIONS FOR THIS PROJECT. THIS ITEM SHALL CONSIST MAINTENANCE OF TRAFFIC ON EXISTING ROADWAYS, RAMPS, RIVERS, CANALS, AND BIKE TRAILS IN ACCORDANCE WITH THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAY, CURRENT EDITION, LATEST REVISION, THE SPECIFICATIONS, AND THE FOLLOWING:

I. NOTIFICATION

SINCE FUNCTIONAL TRAFFIC CONTROL IS A MAJOR CONCERN ON THIS PROJECT, IT IS ESSENTIAL THAT THE MOTORING PUBLIC BE ADEQUATELY FOREWARNED OF FUTURE LANE CLOSURES AND TRAFFIC CONSTRUCTIONS. THEREFORE, THE CONTRACTOR MUST SUBMIT A WRITTEN SCHEDULE TO THE ODOT PUBLIC INFORMATION OFFICE (216-584-2007 OR D12.PUBLICINFORMATION@DOT.OHIO.GOV) INDICATING THE LOCATIONS AND DATES OF THE LANE CLOSURES AT LEAST 14 DAYS PRIOR TO THE IMPLEMENTATION OF ANY SUCH CLOSURES. ALSO, NOTIFY THE ENGINEER, RESPONSIBLE LAW ENFORCEMENT AGENCIES AND EMERGENCY SERVICES, AND LOCAL MUNICIPALITIES OF LANE CLOSURES OR OTHER RESTRICTIONS AT LEAST 2 WEEKS PRIOR TO IMPLEMENTATION. USE PORTABLE CHANGEABLE MESSAGE SIGNS TO ALERT MOTORISTS 3 DAYS PRIOR TO THE IMPLEMENTATION OF ANY CHANGES SUCH AS LANE CLOSURES OR OTHER RESTRICTIONS.

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

II. LANE CLOSURE RESTRICTIONS

- LANE CLOSURES MAY ONLY BE IMPLEMENTED AT THE TIMES PERMITTED BY THE "DISTRICT 12 PERMITTED LANE CLOSURE TIMES" LIST WHICH IS LOCATED ON THE ODOT WEB SITE: HTTP://WWW.DOT.STATE.OH.US/DISTRICTS/D12/HIGHWAY MANAGEMENT/PAGES/PERMITTEDLANECLOSURES.ASPX THE LATEST REVISION AT 14 DAYS PRIOR TO THE BID DATE SHALL BE IN EFFECT FOR THIS PROJECT. ALL NOTES ON THE PERMITTED LANE CLOSURE TIMES SHALL BE PART OF THIS PROJECT.
- UNLESS OTHERWISE NOTED, EXIT AND ENTRANCE RAMP LANES SHALL REMAIN OPEN AT ALL TIMES AND EXHIBIT A MINIMUM WIDTH OF ELEVEN (11) FEET.
- MAINTENANCE OF TRAFFIC SHALL FOLLOW THE INSTRUCTION OF THE STANDARD CONSTRUCTION DRAWINGS LISTED ON THE TITLE SHEET AND THE LATEST REVISION OF THE ODOTCD.
- PEDESTRIAN TRAFFIC SHALL BE PERMITTED AND ACCOMMODATED ON AT LEAST ONE SIDE AT ALL TIMES AT LOCATIONS WHERE PEDESTRIAN TRAFFIC IS CURRENTLY MAINTAINED.
- ALL DRIVES AND SIDE STREETS SHALL BE MAINTAINED AT ALL TIMES.

LOCATION 1 (CUY-10-0869):

THE CONTRACTOR IS PERMITTED TO CLOSE ONE LANE ON LORAIN ROAD IN ACCORDANCE WITH MT-95.31 OR MT-95.32 NG HOURS (BETWEEN 9 A.M. AND 3 P.M.) A MINIMUM OF ONE LANE OF TRAFFIC IN EACH DIRECTION SHALL BE MAINTAINED AT ALL TIMES. NO TRAFFIC RESTRICTIONS ARE ANTICIPATED ON VALLEY PARKWAY. NO WORK SHALL BE PERMITTED BETWEEN 7 P.M. AND 7 A.M.

LOCATION 2 (CUY-271X-0581 NW):

THE CONTRACTOR SHALL PERFORM WORK IN TWO PHASES OF CONSTRUCTION. PHASE 1 CONSTRUCTION SHALL MAINTAIN ONE LANE OF TRAFFIC IN ACCORDANCE WITH THE MAINTENANCE OF TRAFFIC PLANS AND MT-95.40. PHASE 1 MAINTENANCE OF TRAFFIC SHALL BE LIMITED TO 45 DAYS. DISINCENTIVES IN ACCORDANCE WITH CMS 108 SHALL APPLY FOR EVERY DAY THE PHASE 1 LANE RESTRICTIONS ARE IN PLACE BEYOND THE 45 DAYS. PHASE 2 CONSTRUCTION SHALL MAINTAIN TWO LANES OF TRAFFIC IN ACCORDANCE THE MAINTENANCE OF TRAFFIC PLANS AND MT-102.10. LANE CLOSURES ON ROADWAYS BELOW THE BRIDGE REPAIRS IN ACCORDANCE WITH MT-95.30, MT-95.31, MT-95.32, AND MT-102.20 SHALL ONLY BE PERMITTED BELOW THE BRIDGE AT NIGHT AND ON WEEKENDS AND IN ACCORDANCE WITH THE PLCM AS APPROVED BY THE ENGINEER.

SIGNING PROVISIONS:

PHASE 1: THE GUIDE SIGN IN ADVANCE OF THE WORK ZONE INDICATING TWO LANES ARE AVAILABLE FOR EXIT TO IR 480 WEST WILL NEED TO BE MODIFIED IN ACCORDANCE WITH CMS 614. THE ARROW OVER THE INSIDE LANE SHOULD BE COVERED TO INDICATE THAT ONLY ONE LANE WILL BE OPEN FOR THE IR 271X TO IR 480 EXIT. ALL OTHER SIGNS SHALL REMAIN IN EXISTING CONDITION DURING PHASE 1.

PHASE 2: GUIDE SIGNS ON APPROACH TO THE WORK ZONE WILL NOT NEED ANY SPECIAL TREATMENTS OR CHANGES TO THE EXISTING CONDITION SINCE BOTH LANES OF THE IR 271X TO IR 480 RAMP ARE TO BE MAINTAINED. NO OTHER SIGNS WITHIN OR ADVANCE OF THE WORK ZONE WILL NEED ALTERED IN PHASE 2.

ALL LABOR, MATERIAL, EQUIPMENT, AND INCIDENTALS TO MAKE SIGNING ADJUSTMENTS DURING MAINTENANCE OF TRAFFIC OPERATIONS AND RESTORE TO ORIGINAL CONDITION AFTER THE MAINTENANCE OF TRAFFIC PHASES AS APPROVED BY THE ENGINEER SHALL BE INCLUDED IN THE BID PRICE FOR ITEM 614 MAINTAINING TRAFFIC.

LOCATION 3 (CUY-480-0800):

THE CONTRACTOR SHALL PERFORM WORK IN ACCORDANCE WITH MT-95.30 ON IR 480. THE CONTRACTOR SHALL PERFORM WORK ON ROADWAYS BELOW IR 480 IN ACCORDANCE MAINTAINING A MINIMUM OF ONE LANE OF TRAFFIC IN EACH DIRECTION (WHERE APPLICABLE) WITH MT-95.31 AND MT-95.32. LANE CLOSURES ON RAMP B5 (480W TO SR 237 - LOWER LEVEL AND AIRPORT FREEWAY - MIDDLE LEVEL) SHALL OCCUR DURING WORKING HOURS ONLY AND SHALL ONLY BE PERMITTED DURING THE PLCM HOURS FOR IR 480 AT THE BRIDGE LOCATION.

LOCATION 4 (CUY-480N-0136WN):

THE CONTRACTOR SHALL PERFORM WORK IN TWO PHASES OF CONSTRUCTION. PHASE 1 CONSTRUCTION SHALL MAINTAIN ONE LANE OF TRAFFIC IN ACCORDANCE WITH THE MAINTENANCE OF TRAFFIC PLANS AND MT-95.40, MT-98.10, MT-98.11, MT-98.21, MT-98.22, MT-98.28. PHASE 2 CONSTRUCTION SHALL MAINTAIN ONE LANE OF TRAFFIC IN ACCORDANCE THE MAINTENANCE OF TRAFFIC PLANS AND MT-95.40, MT-98.10, MT-98.11, MT-98.21, MT-98.22, MT-98.28. LANE CLOSURES ON ROADWAYS BELOW THE BRIDGE REPAIRS IN ACCORDANCE WITH MT-95.30, MT-95.31, MT-95.32, AND MT-102.20 SHALL ONLY BE PERMITTED BELOW THE BRIDGE AT NIGHT AND ON WEEKENDS AND IN ACCORDANCE WITH THE PLCM AS APPROVED BY THE ENGINEER.

SIGNING PROVISIONS:

PHASE 1: GUIDE SIGNS ON APPROACH TO THE WORK ZONE WILL NOT NEED ANY SPECIAL TREATMENTS OR CHANGES TO THE EXISTING CONDITION. THE "RIGHT LANE ENDS MERGE LEFT" SIGNS ON THE EXISTING BRIDGE SHOULD BE COVERED DURING PHASE 1 IN ACCORDANCE WITH CMS 614.

PHASE 2: GUIDE SIGNS ON APPROACH TO THE WORK ZONE WILL NEED TO BE MODIFIED IN ACCORDANCE WITH CMS 614 TO INDICATE THAT THE FAR LEFT DEDICATED EXIT LANE WILL NO LONGER BE THE "EXIT ONLY" LANE AS THIS LANE WILL BE CLOSED. THE ARROW INDICATING THIS WILL BE COVERED. THE "RIGHT LANE ENDS MERGE LEFT" SIGNS WILL BE UNCOVERED FOR THIS PHASE TO ADVISE DRIVERS THAT AFTER THE WORK ZONE HAS ENDED, A MERGE TO THE LEFT IS NECESSARY.

ALL LABOR, MATERIAL, EQUIPMENT, AND INCIDENTALS TO MAKE SIGNING ADJUSTMENTS DURING MAINTENANCE OF TRAFFIC OPERATIONS AND RESTORE TO ORIGINAL CONDITIONS AFTER THE MAINTENANCE OF TRAFFIC PHASES AS APPROVED BY THE ENGINEER SHALL BE INCLUDED IN THE BID PRICE FOR ITEM 614 MAINTAINING TRAFFIC.

LOCATION 5 (CUY-480-1428):

THE CONTRACTOR SHALL PERFORM WORK IN ACCORDANCE WITH MT-95.30 ON IR 480. THE CONTRACTOR SHALL PERFORM WORK BY CLOSING RIGHT LANE IN ACCORDANCE WITH SCD MT-95.30 DURING WORKING HOURS. (NO WORK SHALL BE PERMITTED BETWEEN 7 P.M. AND 7 A.M.).

LOCATION 6 (CUY-71-1147):

THE CONTRACTOR SHALL PERFORM WORK IN ACCORDANCE WITH MT-95.30 ON IR 480.

LOCATION 7 (CUY-90-1749):

THE CONTRACTOR SHALL PERFORM WORK IN TWO PHASES OF CONSTRUCTION. PHASE 1 CONSTRUCTION SHALL BE PERFORMED BY CLOSING THE NORTH HALF OF STRUCTURE AND MAINTAINING ONE LANE OF TRAFFIC IN EACH DIRECTION ON THE SOUTH HALF OF THE STRUCTURE. PHASE 2 CONSTRUCTION SHALL BE PERFORMED BY CLOSING THE SOUTH HALF OF STRUCTURE AND MAINTAINING ONE LANE OF TRAFFIC IN EACH DIRECTION ON THE NORTH HALF OF THE STRUCTURE. THE LANE CLOSURES AND SHIFTS SHALL BE IN ACCORDANCE WITH SCD MT-95.31 AND MT-95.32. A MINIMUM OF ONE LANE IN EACH DIRECTION SHALL BE MAINTAINED AT ALL TIMES. ALL DRIVES AND SIDE STREETS SHALL BE MAINTAINED AT ALL TIMES. PARKING WITHIN THE LANE SHIFTS AND TAPERS SHALL BE PROHIBITED. CONTRACTOR SHALL SUBMIT A MAINTENANCE OF TRAFFIC SCHEME AS NOTED ON SHEET 8 WITH THE EXCEPTION THAT LANES ARE PERMITTED TO REMAIN CLOSED DURING NON-WORKING HOURS UNTIL WORK IS COMPLETE. PAYMENT FOR ALL ITEMS REQUIRED TO MAINTAIN TRAFFIC IN ACCORDANCE WITH THESE REQUIREMENTS IS INCLUDED IN THE LUMP SUM PRICE FOR ITEM 614 - MAINTAINING TRAFFIC.

III. MAINTENANCE OF TRAFFIC SYSTEMS

1. WHEN REQUIRED

WHENEVER ANY PART OF THE TRAVELED SURFACE IS BEING WORKED UPON OR IS OTHERWISE NOT SUITABLE FOR SAFE AND CONVENIENT USE BY VEHICLES, TRAFFIC CONTROL DEVICES SUFFICIENT TO PROTECT SUCH AREAS TO ASSURE THE SAFE AND CONVENIENT PASSAGE OF VEHICULAR TRAFFIC SHALL BE INSTALLED AND MAINTAINED. SUCH TRAFFIC CONTROL DEVICES AND THE MANNER IN WHICH THEY ARE USED SHALL BE CONSISTENT WITH THESE PLANS AND THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS, HEREINAFTER REFERRED TO AS THE "MANUAL". THE TRAFFIC CONTROL DEVICE SYSTEM SHALL CONSTITUTE THE MINIMUM PROVISIONS FOR TRAFFIC CONTROL FOR EACH PARTICULAR SITUATION. WHENEVER THE ENGINEER DEEMS IT NECESSARY ESPECIALLY WHERE A GRADE, CURVE, OR MERGE CONDITIONS EXISTS, THEY MAY DIRECT THAT ADDITIONAL OR ALTERNATIVE DEVICES BE USED.

2. CONDITIONS

DURING ALL PARTS OF THIS PROJECT, FLAGGERS, SIGNING, BARRICADES, FLASHING ARROWS, ETC. SHALL BE LOCATED AS INDICATED IN THE "MANUAL" OR AS SHOWN IN THE STANDARD DRAWINGS.

3. ADVANCE WARNING SIGNS

ALL ADVANCE WARNING SIGNS FOR ANY CONDITION WHICH RESTRICTS TRAFFIC SHALL BE ERECTED BEFORE ANY SUCH RESTRICTION IS PUT INTO EFFECT. ALL SUCH SIGNS SHALL BE COVERED OR REMOVED FROM THE VIEW OF TRAFFIC WHENEVER THEY ARE NOT APPLICABLE.

4. FLAGGERS

AT LEAST TWO FLAGGERS ARE REQUIRED FOR EACH CLOSURE. THE CONTRACTOR SHALL FURNISH ADDITIONAL FLAGGERS AS DIRECTED BY THE ENGINEER.

5. PROTECTION OF PUBLIC

PERSONAL CARS SHALL NOT BE PARKED WITHIN THE RIGHT OF WAY.

6. FAILURE TO COMPLY

IF THERE IS ANY FAILURE TO COMPLY WITH PROVISIONS FOR TRAFFIC CONTROL SET OUT IN THESE PLANS AND NOTES, OR WITH THE PROVISIONS OF THE "MANUAL", THE HIGHWAY IN THE VICINITY OF THE WORK AREA SHALL NOT BE CONSIDERED IN A CONDITION FOR THE SAFE AND CONVENIENT USE BY THE TRAVELING PUBLIC. ANY FAILURE TO KEEP THE HIGHWAY, IN THE VICINITY OF THE WORK AREA, IN A CONDITION FOR THE SAFE AND CONVENIENT USE BY THE TRAVELING PUBLIC SHALL BE CONSIDERED A BREACH OF THIS CONTRACT. WORK SHALL BE SUSPENDED UNTIL THE CONTRACTOR COMPLIES WITH THE PROVISIONS OF THE AFOREMENTIONED ITEMS.

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MAINTENANCE OF TRAFFIC NOTES - 1

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ITEM 614 - MAINTAINING TRAFFIC (CONT.)

IV. MAINTENANCE OF TRAFFIC MATERIALS

1. SIGNS
SIGN DIMENSIONS AND SPECIFICATIONS, INCLUDING LETTER SIZES ARE TO BE AS PROVIDED IN THE "MANUAL", OR IN DESIGN DRAWINGS PROVIDED BY THE DEPARTMENT OF TRANSPORTATION. THE SIGNS SHALL BE SUBJECT TO APPROVAL OF THE ENGINEER PRIOR TO THE START OF THE PROJECT.
2. SIGN SUPPORT
SIGN SUPPORTS SHALL BE OF SUFFICIENT SIZE AND MASS AS TO SUPPORT THE SIGNS AT THE APPROPRIATE HEIGHT. SUPPORTS SHALL BE AS SHOWN ON THE STANDARD DRAWINGS.
3. FLASHING ARROW REQUIREMENT
WHENEVER ANY PART OF THE TRAVELED SURFACE IS CLOSED, THE MOTORISTS SHALL BE WARNED AND DIRECTED BY THE CONTRACTOR THROUGH THE USE OF ONE FLASHING ARROW PANEL FOR EACH LANE CLOSED. THE CONTRACTOR SHALL REFER TO SUPPLEMENTAL SPECIFICATION 821, 921, AND THE PROVISIONS SET FORTH IN THE "MANUAL" FOR ALL INFORMATION REGARDING FURNISHING, MAINTAINING, AND USE OF FLASHING ARROW PANELS. PAYMENT FOR THE ABOVE MENTIONED ITEMS SHALL BE INCLUDED IN THE LUMP SUM BID FOR ITEM 614 - MAINTAINING TRAFFIC.
4. DRUMS
DRUMS SHALL BE IN ACCORDANCE WITH PERTINENT SECTIONS OF THE "MANUAL". ALL COSTS FOR INSTALLING, MAINTAINING, AND SUBSEQUENT REMOVAL OF SAID DRUMS IS TO BE INCLUDED IN THE LUMP SUM BID PRICE FOR ITEM 614 - MAINTAINING TRAFFIC.
5. CONES
CONES, IF UTILIZED, ARE TO BE LOCATED AS SHOWN IN THE "MANUAL" AND THE STANDARD DRAWINGS.
6. BARRIER
PORTABLE CONCRETE BARRIER IF NECESSARY IS TO BE LOCATED AS SHOWN IN THE "MANUAL" AND THE STANDARD DRAWINGS.
7. FLASHERS
FLASHERS SHALL BE 12 VOLT BATTERY-OPERATED MODELS WITH 7 INCH DIAMETER YELLOW LENSES ILLUMINATED BY RAPID INTERMITTENT FLASHERS OF SHORT DURATION AND ARE TO BE PLACED ON ALL SIGNS AT ALL TIMES AS REQUIRED BY THE "MANUAL" AND THE STANDARD CONSTRUCTION DRAWINGS.
8. FLOODLIGHTING
FLOODLIGHTING OF THE WORKSITE FOR OPERATIONS CONDUCTED DURING THE NIGHTTIME PERIODS SHALL BE ACCOMPLISHED SO THAT THE LIGHTS DO NOT CAUSE GLARE TO THE DRIVERS ON THE ROADWAY. TO ENSURE ADEQUACY OF THE FLOODLIGHT PLACEMENT, THE CONTRACTOR AND ENGINEER SHALL DRIVE THROUGH THE WORKSITE 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 MAINTAINING TRAFFIC.

9. WORK VEHICLES

ALL WORK VEHICLES LICENSED TO OPERATE ON THE HIGHWAY, SHALL BE EQUIPPED WITH A FLASHING, ROTATING, OR OSCILLATING AMBER LIGHT VISIBLE TO ALL DIRECTIONS OF TRAFFIC FOR A MINIMUM OF ONE-QUARTER MILE IN BRIGHT SUNLIGHT AND SHALL BE OPERATED WITH LIGHTED HEAD AND TAIL LAMPS. THE AMBER LIGHT SHALL BE IN OPERATION AT ALL TIMES WITHIN THE WORK ZONE AND WHILE TRAVELING TO AND FROM THE WORK ZONE WHENEVER THE VEHICLE SPEED IS BELOW THE POSTED LEGAL LIMIT. VEHICLE HAZARD LIGHTS DO NOT SATISFY THIS REQUIREMENT. ALL OTHER EQUIPMENT SHALL BE EQUIPPED WITH A FLASHING, ROTATING, OR OSCILLATING AMBER LIGHT VISIBLE TO ALL DIRECTIONS OF TRAFFIC FOR A MINIMUM OF ONE-QUARTER MILE IN BRIGHT SUNLIGHT. THE AMBER LIGHT SHALL BE IN OPERATION WHILE THE EQUIPMENT IS WITHIN THE WORK ZONE.

V. CLEVELAND METROPARKS

THE VALLEY PARKWAY TRAIL TRAFFIC SHALL BE MAINTAINED AT ALL TIMES EXCEPT FOR SHORT TERM 15 MINUTE CLOSURES THAT WILL BE PERMITTED DURING NON-PEAK HOURS FOR EQUIPMENT ACCESS. THE VALLEY PARKWAY TRAIL AND AMENITIES SHALL NOT BE DISTURBED.

A FLAGGER WILL BE STATIONED ON THE TRAIL DURING THE OPERATIONS TO STOP PEDESTRIAN AND BICYCLE TRAFFIC WHEN HEAVY MACHINERY IS WORKING. ONE FLAGGER FOR EACH DIRECTION SHALL BE USED TO STOP TRAFFIC. THE FLAGGERS SHALL BE ABLE TO COMMUNICATE WITH EACH OTHER AND THE FOREMAN AT ALL TIMES. ADEQUATE AREA ILLUMINATION OF EACH FLAGGER STATION SHALL BE PROVIDED AT NIGHT. USE OF PORTABLE FLOODLIGHTING IS ACCEPTABLE. LUMINAIRES SHALL BE LOCATED ADJACENT TO EACH FLAGGER STATION. A (W3-1A-36) "STOP AHEAD" SIGN EQUIPPED WITH ONE TYPE 'A' FLASHING WARNING LIGHT SHALL BE PLACED 250 FEET IN ADVANCE OF THE FLAGGER STATION ON THE RIGHT HAND SIDE OF THE TRAIL FACING ONCOMING TRAIL TRAFFIC.

THIS 15 MINUTE CLOSURE PERIOD SHALL BEGIN AT THE TIME THE FIRST TRAIL USER IS STOPPED. AT THE END OF THE 15 MINUTE CLOSURE THE CONTRACTOR SHALL SUSPEND ALL WORK ACROSS THE TRAIL. AT THIS TIME THE TRAIL WILL BE REOPENED FOR A MINIMUM OF 15 MINUTES AT THE END OF WHICH THE CONTRACTOR MAY CLOSE THE TRAIL FOR ANOTHER 15 MINUTE PERIOD. THE CONTRACTOR SHALL REPEAT THIS SEQUENCE UNTIL HIS/HER DEMOLITION ACTIVITIES OVER THE TRAIL ARE COMPLETE. THE TRAFFIC PROTECTION PLAN SUBMISSION WILL BE ACCORDING TO CMS 501.05.

THE VALLEY BIKE TRAIL TRAFFIC SHALL BE MAINTAINED AT ALL TIMES EXCEPT FOR SHORT TERM CONTRACTOR WORK HOUR/DAYTIME CLOSURES THAT WILL BE PERMITTED WHEN THE CONTRACTOR IS WORKING WITHIN SPAN 3. PRIOR TO COMMENCING CONSTRUCTION ACTIVITIES WITHIN SPAN 3, THE CONTRACTOR SHALL PLACE TRAIL CLOSED SIGNS AND BARRICADES AT THE STORY/LORAIN ROAD ENTRANCE AND THE VALLEY PARKWAY TRAIL CONNECTION TO THE BIKE TRAIL FOR THE ACTUAL PERIODS OF CLOSURES. THE CLOSURE PERIOD SHALL BEGIN PRIOR TO COMMENCING CONSTRUCTION WITHIN SPAN 3 AS APPROVED BY THE ENGINEER. THE BIKE TRAIL WILL BE REOPENED AND SIGNS/BARRICADES REMOVED WHEN THE CONTRACTOR HAS SUSPENDED ACTIVITIES WITHIN SPAN 3. NO OVERNIGHT CLOSURES WILL BE PERMITTED. THE VALLEY BIKE TRAIL AND AMENITIES SHALL NOT BE DISTURBED.

THE CONTRACTOR SHALL NOTIFY ODOT DISTRICT 12 AND THE CLEVELAND METROPARKS IN WRITING A MINIMUM OF FOURTEEN (14) DAYS IN ADVANCE OF ANY CONSTRUCTION REQUIRING A CLOSING.

CLEVELAND METROPARKS
PLANNING AND ENGINEERING DEPARTMENT
4101 FULTON PARKWAY
CLEVELAND, OHIO 44144
ATTN: JOHN KILGORE, P.E., MANAGER OF FACILITIES ENGINEER
PHONE: 216-635-3251

ADVANCE NOTICE OF THE PROJECTS CONSTRUCTION SCHEDULE AND POTENTIAL FOR USERS TO ENCOUNTER FLAGGERS ON THE TRAIL WILL BE PROVIDED NO LESS THAN 48 HOURS PRIOR TO CONSTRUCTION ACTIVITIES. NOTICES SHALL BE POSTED AS APPROVED BY THE ENGINEER IN AN AREA THAT CAN BE SEEN BY USERS OF THE EXISTING TRAIL AND ON THE CLEVELAND METROPARK'S WEB SITE. THE CONTRACTOR SHALL INSTALL APPROPRIATE CONSTRUCTION WARNING SIGNS IN AREAS THAT WILL BE VISIBLE TO USERS OF THE TRAIL PRIOR TO CONSTRUCTION.

NO STAGING AND/OR STORAGE OF CONSTRUCTION EQUIPMENT SHALL OCCUR WITHIN THE EXISTING BOUNDARIES OF THE PARK PROPERTY.

PRIOR TO OPENING THE TRAIL TO TRAFFIC THE TRAIL SHALL BE IN A SAFE PASSABLE CONDITION. DIRT AND DEBRIS SHALL BE REMOVED FROM THE TRAIL. THE CONTRACTOR SHALL BE RESPONSIBLE FOR FURNISHING, INSTALLING, MAINTAINING, AND REMOVING ADEQUATE MAINTENANCE OF TRAFFIC DEVICES SUITABLE FOR THE WORK IN PROGRESS AT EACH SIDE OF THE CONSTRUCTION AREAS.

TEMPORARY CONSTRUCTION FENCING SHALL BE INSTALLED BY THE CONTRACTOR ALONG THE RIGHT OF WAY PRIOR TO THE START OF CONSTRUCTION ACTIVITIES TO PROTECT THE PUBLIC. THE FOLLOWING ESTIMATED QUANTITY HAS BEEN INCLUDED IN THE CALCULATIONS AND CARRIED TO THE GENERAL SUMMARY FOR THE ABOVE NOTED WORK:

ITEM 607 - FENCE, MISC.: CONSTRUCTION FENCE 1700 FT.

VI. NORFOLK SOUTHERN RAILROAD

THE RAILROAD SHALL BE MAINTAINED AT ALL TIMES EXCEPT FOR SHORT TERM CLOSURES DURING NON-PEAK HOURS, AS APPROVED BY NORFOLK SOUTHERN RAILROAD AND THE ENGINEER FOR THE BRIDGE REPAIRS.

FLAGGERS, INSURANCE, SAFETY MEASURES, COORDINATION, AND ALL OTHER NORFOLK SOUTHERN RAILROAD REQUIREMENTS SHALL BE IMPLEMENTED. ALL COORDINATION AND APPROVALS SHALL BE OBTAINED PRIOR TO SCHEDULING THE WORK FOR CONSTRUCTION. COPIES OF THE APPROVALS SHALL BE PROVIDED TO THE ENGINEER.

NO STAGING AND/OR STORAGE OF CONSTRUCTION EQUIPMENT SHALL OCCUR WITHIN THE NORFOLK SOUTHERN RAILROAD RIGHT OF WAY.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR FURNISHING, INSTALLING, MAINTAINING, AND REMOVAL OF NORFOLK SOUTHERN RAILROAD MAINTENANCE OF TRAFFIC DEVICES REQUIRED THROUGH RAILROAD COORDINATION/APPROVAL PROCESS. ALL MAINTENANCE OF RAILROAD TRAFFIC AND COORDINATION TO PERFORM THE REPAIR WORK SHALL BE INCLUDED IN ITEM 614.

SEE SPECIAL CLAUSES IN THE PROPOSAL FOR ADDITIONAL INFORMATION AND REQUIREMENTS FOR NORFOLK SOUTHERN.

VII. GREATER CLEVELAND REGIONAL TRANSIT AUTHORITY (GCRTA)

THE GCRTA SHALL BE MAINTAINED AT ALL TIMES EXCEPT FOR SHORT TERM CLOSURES DURING NON-PEAK HOURS, AS APPROVED BY GCRTA AND THE ENGINEER FOR THE BRIDGE REPAIRS.

FLAGGERS, INSURANCE, SAFETY MEASURES, COORDINATION, AND ALL OTHER GCRTA REQUIREMENTS SHALL BE IMPLEMENTED. ALL COORDINATION AND APPROVALS SHALL BE OBTAINED PRIOR TO SCHEDULING THE WORK FOR CONSTRUCTION. COPIES OF THE APPROVALS SHALL BE PROVIDED TO THE ENGINEER.

NO STAGING AND/OR STORAGE OF CONSTRUCTION EQUIPMENT SHALL OCCUR WITHIN THE GCRTA RIGHT OF WAY.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR FURNISHING, INSTALLING, MAINTAINING, AND REMOVAL OF GCRTA MAINTENANCE OF TRAFFIC DEVICES REQUIRED THROUGH GCRTA COORDINATION/APPROVAL PROCESS. ALL MAINTENANCE OF GCRTA TRAFFIC AND COORDINATION TO PERFORM THE REPAIR WORK SHALL BE INCLUDED IN ITEM 614.

SEE SPECIAL CLAUSES IN THE PROPOSAL FOR ADDITIONAL INFORMATION AND REQUIREMENTS FOR GCRTA.

THE CONTRACTOR'S WORK SHALL NOT INTERRUPT GCRTA RAIL OPERATIONS WITHOUT PRIOR APPROVAL OF THE GCRTA.

ALL WORK OVER, ADJACENT TO AND WITHIN THE GCRTA RAIL RIGHT-OF-WAY SHALL BE COORDINATED WITH GCRTA AUTHORITY PERSONNEL AND MUST COMPLY WITH THE FOLLOWING GCRTA SPECIFICATIONS: SECTION 014500 - SAFETY; SECTION 015010 - MAINTENANCE OF RAIL TRAFFIC AND RESUMPTION OF RAIL SERVICE; SECTION 014020 - STANDARD RAIL FLAGGING PROCEDURES; SECTION 015020 - WORK ZONE APPENDIX.

PRIOR TO THE START OF ANY WORK, THE CONTRACTOR MUST ENTER INTO AND EXECUTE A TEMPORARY RIGHT-OF-ENTRY AGREEMENT WITH THE GCRTA. INCLUDED IN THE TEMPORARY RIGHT-OF-ENTRY AGREEMENT ARE THE REQUIREMENTS FOR INSURANCE COVERAGE. IN ADDITION TO STANDARD INSURANCE COVERAGES, THE CONTRACTOR SHALL CARRY ADDITIONAL LIABILITY INSURANCE COVERING RAILROAD PROTECTIVE PUBLIC LIABILITY AND PROPERTY DAMAGE LIABILITY. ALL WORK OVER AND ON THE GCRTA RIGHT-OF-WAY SHALL BE COORDINATED WITH GCRTA PERSONNEL. ITEM SPECIAL - PREMIUM ON RAILROAD'S PROTECTIVE PUBLIC LIABILITY AND PROPERTY DAMAGE LIABILITY INSURANCE (GCRTA AND OTHER RR'S) - THE CONTRACTOR SHALL CARRY ADDITIONAL LIABILITY INSURANCE COVERING RAILROAD'S PROTECTIVE PUBLIC LIABILITY AND PROPERTY DAMAGE LIABILITY FOR THE GCRTA AND OTHER RR'S.

AFTER THE TEMPORARY RIGHT-OF-ENTRY HAS BEEN FULLY EXECUTED, AND PRIOR TO THE START OF ANY WORK, ODOT AND CONTRACTOR PROJECT PERSONNEL MUST COMPLETE GCRTA CONTRACTOR RULEBOOK C TRAINING, OBTAIN GCRTA CONTRACTOR ID BADGES, AND BE ASSIGNED A GCRTA RADIO.

THE CONTRACTOR MUST SUBMIT WEEKLY RAIL OUTAGE REQUESTS TO GCRTA FOR APPROVAL TO ENTER AND WORK WITHIN THE GCRTA RIGHT-OF-WAY. REQUESTS ARE APPROVED ON WEEKLY BASIS AND ARE WHOLLY DEPENDENT ON THE GCRTA OPERATIONAL REQUIREMENTS. REQUESTS TO GCRTA FOR TOTAL SHUTDOWNS MUST BE SUBMITTED FOUR (4) WEEKS IN ADVANCE AND EVERY WEEK THEREAFTER UNTIL APPROVAL. THE CONTRACTOR WILL BE RESPONSIBLE FOR ANY DISRUPTIONS TO REGULAR, CONTINUOUS RAPIT TRANSIT SERVICE CAUSED AS A RESULT OF CONSTRUCTION ACTIVITIES.

THE CONTRACTOR SHALL PERFORM THE PROJECT WORK WITHIN THE GCRTA RIGHT-OF-WAY IN CONJUNCTION WITH OTHER RTA TRACK OUTAGES. THE TARGET DATES FOR THESE OUTAGES ARE JUNE 22 THRU 29, 2019 AND JULY 14 THRU AUGUST 10, 2019.

ONLY SUITABLE, RUBBER-TIRED EQUIPMENT WILL BE ALLOWED TO ACCESS THE GCRTA RIGHT-OF-WAY AND TRACKS. THE CONTRACTOR WILL BE REQUIRED TO EMPLOY THE USE OF SUITABLE CROSSING/CRIBBING MATERIALS FOR THE MOVEMENT OF SAID EQUIPMENT ONTO, OVER AND AROUND THE TRACKS. THE CONTRACTOR SHALL PROVIDE THEIR PLAN FOR PROTECTION OF THE TRACKS FOR APPROVAL BY GCRTA.

THIRTY (30) DAYS PRIOR TO THE START OF DEMOLITION, CONSTRUCTION OR ERECTION OVER OR ADJACENT TO GCRTA UTILITIES OR PROPERTY, THE CONTRACTOR SHALL SUBMIT TO GCRTA, FOR ACCEPTANCE, COMPLETE DETAILS OF THE PROPOSED METHODS OF DEMOLITION, CONSTRUCTION OR ERECTION. THE CONTRACTOR SHALL SELECT METHODS WHICH PROTECT GCRTA UTILITIES AND PROPERTY.

EXTREME CARE WILL BE EXERCISED AT ALL TIMES TO SAFELY WORK AROUND AND PROTECT THE GCRTA OVERHEAD CATENARY LINES. THE GCRTA OVERHEAD CATENARY AND TRACK SYSTEM IS CONTINUOUSLY ENERGIZED AT 600 VOLTS, DIRECT CURRENT.

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CALCULATED	MS	CHECKED	PRS
MAINTENANCE OF TRAFFIC NOTES - 2			
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THE CONTRACTOR SHALL MAINTAIN A MINIMUM OF 15.75 FEET VERTICAL CLEARANCE AND A MINIMUM OF 6.5 FEET HORIZONTAL CLEARANCE FROM THE CENTERLINE OF TRACK AT ALL TIMES WHEN TRAINS ARE OPERATING. GCRTA APPROVED FLAGGERS WILL BE REQUIRED WHEN WORKING WITHIN 10 FEET OF THE CENTERLINE OF ACTIVE TRACK. NO CONSTRUCTION ACTIVITY SHALL TAKE PLACE WITHIN GCRTA CLEARANCE LIMITS WHILE TRACK IS ACTIVE. THE CONTRACTOR SHALL PLACE A FILTER FABRIC WRAP OVER THE GCRTA BALLAST WITHIN THE CONSTRUCTION LIMITS. THE FABRIC SHALL BE ATTACHED TO THE EXISTING TIES. DURING WORK, THE GCRTA TRACKS SHALL ALSO BE PROTECTED FROM FALLING DEBRIS WITH PLYWOOD AND/OR OTHER SUITABLE MATERIAL. SUBMIT DETAILED DRAWINGS FOR THE PROTECTION PLAN TO THE GCRTA FOR APPROVAL.

FLAGGERS SHALL BE PROVIDED AND PAID FOR BY THE CONTRACTOR, EITHER THROUGH COMPANIES WHO SUPPLY CERTIFIED FLAGGERS (OBTAIN LIST FROM GCRTA) OR BY TRAINING AND CERTIFYING ITS OWN EMPLOYEES THROUGH GCRTA. FLAGGING PROCEDURES, FLAGGER TRAINING, AND SET-UP OF WORK ZONES. SEE GCRTA STANDARD 015020 - STANDARD FLAGGING PROCEDURES AND WORK ZONES.

VIII. PAYMENT

UNLESS STATED OTHERWISE, PAYMENT FOR PROVIDING, ERECTING, MAINTAINING AND REMOVING TEMPORARY MAINTENANCE OF TRAFFIC CONTROL DEVICES INCLUDING DETOURS AND INTERSTATE LANE CLOSURES/SHIFTS SHALL BE MADE UNDER THE LUMP SUM PRICE BID FOR ITEM 614 - MAINTAINING TRAFFIC.

CONSTRUCTION TRAFFIC

ALL CONSTRUCTION TRAFFIC SHALL USE ACCEPTABLE TRUCK ROUTES TO ACCESS THE CONSTRUCTION AREA. USE OF LOCAL RESIDENTIAL STREETS IS STRICTLY PROHIBITED UNLESS ALLOWED IN WRITING BY THE LOCAL ENFORCEMENT AUTHORITY.

CONTINUOUS ACCESS

THE CONTRACTOR SHALL MAINTAIN SAFE AND ADEQUATE DRIVEWAYS AND WALKWAYS IN ORDER TO PROVIDE CONTINUOUS ACCESS FOR PEDESTRIANS, PASSENGER VEHICLES, TRUCKS, AND SAFETY EQUIPMENT TO ALL ADJOINING PROPERTIES. THE COST FOR ALL MATERIALS, EQUIPMENT AND LABOR NECESSARY TO PROVIDE CONTINUOUS ACCESS SHALL BE INCLUDED IN THE LUMP SUM PRICE BID FOR ITEM 614 - MAINTAINING TRAFFIC.

MAINTENANCE OF TRAFFIC CONTROL ZONES

THE CONTRACTOR SHALL BE RESPONSIBLE TO MAINTAIN THE SIGNS, DRUM AND TEMPORARY PAVEMENT MARKINGS AT THE LOCATIONS DETAILED IN THE PLANS OR SPECIFIED IN THE STANDARD DRAWINGS. WHEN THE CONTRACTOR IS NOTIFIED OF DEFICIENCIES HE SHALL CORRECT THE DEFICIENCIES AS SOON AS POSSIBLE, PREFERABLY WITHIN 12 HOURS AND NO LATER THAN 24 HOURS.

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

USE OF LAW ENFORCEMENT OFFICERS (LEOS) BY CONTRACTORS OTHER THAN THE USES SPECIFIED BELOW WILL NOT BE PERMITTED AT PROJECT COST. LEOS SHOULD NOT BE USED WHERE THE OMUTCD INTENDS THAT FLAGGERS BE USED. IN ADDITION TO THE REQUIREMENTS OF CMS 614 AND THE OMUTCD, A UNIFORMED LEO WITH AN OFFICIAL PATROL CAR (CAR WITH TOP-MOUNTED EMERGENCY FLASHING LIGHTS AND COMPLETE MARKINGS OF THE APPROPRIATE LAW ENFORCEMENT AGENCY) SHALL BE PROVIDED FOR THE FOLLOWING TRAFFIC CONTROL TASKS:

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

DURING A TRAFFIC SIGNAL INSTALLATION WHEN IMPACTING THE NORMAL FUNCTION OF THE SIGNAL OR THE FLOW OF TRAFFIC OR WHEN TRAFFIC NEEDS TO BE DIRECTED THROUGH AN ENERGIZED TRAFFIC SIGNAL CONTRARY TO THE SIGNAL DISPLAY (E.G., DIRECTING MOTORISTS THROUGH A RED LIGHT).

IN ADDITION TO THE REQUIREMENT OF CMS 614 AND THE OMUTCD, A UNIFORMED LEO WITH AN OFFICIAL PATROL CAR (CAR WITH TOP-MOUNTED EMERGENCY FLASHING LIGHTS AND COMPLETE MARKINGS OF THE APPROPRIATE LAW ENFORCEMENT AGENCY) MAY BE PROVIDED FOR THE FOLLOWING TRAFFIC CONTROL TASKS AS DETERMINED AND PRE-APPROVED BY THE ENGINEER. ANY LEO HOURS WHICH ARE NOT PRE-APPROVED FOR THE FOLLOWING PURPOSES SHALL NOT BE COMPENSABLE:

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

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

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

THE LEOS WORK AT THE DIRECTION OF THE 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.

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.

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

A TOTAL OF 250 HOURS IS PROVIDED FOR USE AT ALL 7 LOCATIONS.

MAINTENANCE OF TRAFFIC SCHEME

THE CONTRACTOR SHALL DEVISE A SIMPLE MAINTENANCE OF TRAFFIC SCHEME FOR EACH LOCATION, WHICH SHALL BE STAMPED BY A PROFESSIONAL ENGINEER (SCHEME MAY BE A HAND SKETCH) AND PRESENT IT TO THE DISTRICT WORK ZONE SAFETY ENGINEER AND PROJECT ENGINEER FOR ACCEPTANCE AT LEAST TWO WEEKS PRIOR TO IMPLEMENTATION. IN GENERAL, THE METHODS FOR MAINTAINING TRAFFIC THAT THE CONTRACTOR PROPOSES TO USE FOR CONDUCTING THE REQUIRED WORK IN A SAFE AND EFFICIENT MANNER SUPPORTED BY HAND SKETCHES AS NECESSARY. THE MAINTENANCE OF TRAFFIC SCHEME SHALL BE IN CONFORMANCE WITH THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES, LATEST REVISION, THE REFERENCED STANDARD CONSTRUCTION DRAWINGS, THE ATTACHED MAINTENANCE OF TRAFFIC SHEETS, AND THE SPECIFICATIONS. THE CONTRACTOR SHALL NOT COMMENCE WORK UNTIL THE MAINTENANCE OF TRAFFIC SCHEME HAS BEEN ACCEPTED.

IF DURING THE PROJECT THE ENGINEER DETERMINES THAT THE APPROVED MAINTENANCE OF TRAFFIC PLAN IS NOT PERFORMING AS DESIRED, THE WORK SHALL BE SUSPENDED UNTIL THE PROBLEM IS RESOLVED TO THE SATISFACTION OF THE ENGINEER AND THE MAINTENANCE OF TRAFFIC PLAN IS REVISED ACCORDINGLY. ANY COSTS OR DELAYS INCURRED AS A RESULT OF THE FAILURE OF THE CONTRACTOR TO ADJUST THE MAINTENANCE OF TRAFFIC SCHEME TO THE SATISFACTION OF THE ENGINEER SHALL BE THE FULL RESPONSIBILITY OF THE CONTRACTOR. DURING NON-WORKING HOURS, ALL LANES SHALL BE IN FULL OPERATION WITH ALL TRAFFIC CONTROL SIGNS, EXCEPT OW-124 (ROAD CONSTRUCTION AHEAD) SIGNS, REMOVED OR COVERED AND ALL CHANNELIZING DEVICES REMOVED FROM THE PAVEMENT SURFACES. CHANNELIZING DEVICES MAY BE STORED OR DEPLOYED TEMPORARILY ADJACENT TO THE SHOULDER TO MINIMIZE THE NIGHTLY TRAFFIC CONTROL SET-UP TIME. PAYMENT FOR ALL THE ITEMS REQUIRED TO MAINTAIN TRAFFIC IN ACCORDANCE WITH THESE REQUIREMENTS IS INCLUDED IN THE LUMP SUM BID PRICE FOR ITEM 614 - MAINTAINING TRAFFIC.

EXTRA ADVANCE WARNING SIGNS

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

THE CONTRACTOR SHALL PROVIDE, ERECT, MAINTAIN AND REMOVE EXTRA ADVANCE WARNING SIGN GROUPS AS SHOWN ON TRAFFIC SCD MT-95.50 AT THE FOLLOWING DISTANCES IN ADVANCE OF THE LANE TAPERS WITH THE APPROPRIATE W16-3A DISTANCE PLATES:

- 1) LANE TAPER NO. CUY-27IX-058INW, STATION 324+94, PHASE 1; PROVIDE SIGN GROUPS AT 2 MILES, 3 MILES, AND 4 MILES.
- 2) LANE TAPER NO. CUY-480N-0136WN, STATION 307+34.50, PHASES 1 & 2; PROVIDE SIGN GROUPS AT 2 MILES, 3 MILES, AND 4 MILES.

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

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

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, ON SITE, FOR THE DURATION OF THE PROJECT. THE SIGN SHALL BE OF A TYPE SHOWN ON A LIST OF APPROVED PCMS UNITS MAINTAINED BY THE DIRECTOR (OFFICE OF MATERIALS MANAGEMENT). THE APPROVED LIST OF PORTABLE CHANGEABLE MESSAGE SIGNS CAN BE FOUND ON THE ODOT WEBSITE BY CLICKING ON THE SERVICES MENU, THEN CLICKING ON MATERIALS MANAGEMENT. THE LIST CONTAINS CLASS A AND B UNITS WITH MINIMUM LEGIBILITY DISTANCES OF 650 FT. AND 475 FT., 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. PCMS TRAILERS SHOULD BE DELINEATED ON A PERMANENT BASIS BY AFFIXING RETRO-REFLECTIVE MATERIAL, IN A CONTINUOUS LINE ON THE FACE OF THE TRAILER AS SEEN BY ONCOMING ROAD USERS.

PLACEMENT, OPERATION, MAINTENANCE AND ALL ACTIVATION OF THE SIGNS BY THE CONTRACTOR SHALL BE AS DIRECTED BY THE ENGINEER. THE PCMS SHALL BE LOCATED IN A HIGHLY VISIBLE POSITION YET PROTECTED FROM TRAFFIC. THE 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, FACING AWAY FROM ALL TRAFFIC, AND SHALL DISPLAY ONE OR MORE TYPE G YELLOW RETRO-REFLECTIVE SHEETING SURFACES OF 9-INCH BY 15-INCH MINIMUM SIZE FACING TRAFFIC.

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

ALL MESSAGES TO BE DISPLAYED ON THE SIGN WILL BE PROVIDED BY THE ENGINEER. A LIST OF ALL REQUIRED PREPROGRAMMED MESSAGES WILL BE GIVEN TO THE CONTRACTOR AT THE PROJECT PRECONSTRUCTION CONFERENCE. THE SIGN SHALL HAVE THE CAPABILITY TO STORE UP TO 99 MESSAGES. MESSAGE MEMORY OR PRE-PROGRAMMED DISPLAYS SHALL NOT BE LOST AS A RESULT OF POWER FAILURES TO THE ON-BOARD COMPUTER. THE SIGN LEGEND SHALL BE CAPABLE OF BEING CHANGED IN THE FIELD. THREE-LINE PRESENTATION FORMATS WITH UP TO SIX MESSAGE PHASES SHALL BE SUPPORTED. PCMS FORMAT SHALL PERMIT THE COMPLETE MESSAGE FOR EACH PHASE TO BE READ AT LEAST TWICE.

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

THE PCMS UNIT SHALL BE MAINTAINED IN GOOD WORKING ORDER BY THE CONTRACTOR IN ACCORDANCE WITH THE PROVISIONS OF CMS 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.

FOR THIS PROJECT THERE SHALL BE A MINIMUM OF 2 PORTABLE CHANGEABLE MESSAGE SIGNS AVAILABLE FOR USE AT THE WORK LOCATIONS.

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.

A TOTAL OF 20 SN MTH IS PROVIDED FOR USE AT ALL 7 LOCATIONS FOR ITEM 614 - PORTABLE CHANGEABLE MESSAGE SIGN, AS PER PLAN.

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ITEM 614 - WORKSITE TRAFFIC SUPERVISOR

SUBJECT TO APPROVAL OF THE ENGINEER, THE CONTRACTOR SHALL EMPLOY AND IDENTIFY (SOMEONE OTHER THAN THE SUPERINTENDENT) A PREQUALIFIED WORKSITE TRAFFIC SUPERVISOR (WTS) BEFORE STARTING WORK IN THE FIELD. THE WTS SHALL BE TRAINED IN ACCORDANCE WITH CMS 614.03, SHALL HAVE SUCCESSFULLY COMPLETED ODOT ADMINISTERED WTS TESTING (AND RE-TESTING WHEN APPLICABLE) AND BE LISTED ON THE ODOT PREQUALIFIED WTS ROSTER. PREQUALIFICATION EXPIRES EVERY 5 YEARS. RE-TESTING SHALL BE SUCCESSFULLY REPEATED EVERY 5 YEARS TO REMAIN PREQUALIFIED.

THE NAME OF THE PREQUALIFIED WTS AND RELATED 24-HOUR CONTACT INFORMATION SHALL BE PROVIDED TO THE ENGINEER AT THE PRECONSTRUCTION CONFERENCE. IF THE DESIGNATED WTS WILL NOT BE AVAILABLE FULL TIME (24/7), THE CONTRACTOR MAY DESIGNATE AN ALTERNATE (SECONDARY) WTS TO BE AVAILABLE WHEN THE PRIMARY IS OFF DUTY; HOWEVER THE PRIMARY WTS SHALL REMAIN THE POINT OF CONTACT AT ALL TIMES. ANY ALTERNATE (SECONDARY) WTS IS SUBJECT TO THE SAME TRAINING, PREQUALIFICATION AND OTHER REQUIREMENTS OUTLINED WITHIN THIS PLAN NOTE. AT ALL TIMES THE ENGINEER, OR ENGINEER'S REPRESENTATIVES, MUST BE INFORMED OF WHO THE PRIMARY WTS (AND SECONDARY WTS, IF APPLICABLE) IS AT THE CURRENT TIME.

THE WTS POSITION HAS THE PRIMARY RESPONSIBILITY OF IMPLEMENTING THE TRAFFIC MANAGEMENT PLAN (TMP), MONITORING THE SAFETY AND MOBILITY OF THE ENTIRE WORK ZONE, AND CORRECTING TEMPORARY TRAFFIC CONTROL (TTC) DEFICIENCIES FOR THE ENTIRE WORK ZONE. THE WTS, AND ALTERNATE WTS WHEN ON DUTY, SHALL HAVE SUFFICIENT AUTHORITY TO EFFECTIVELY CARRY OUT THE IDENTIFIED WTS RESPONSIBILITIES AND DUTIES. THE DUTIES OF THE WTS ARE AS FOLLOWS:

1. BE AVAILABLE ON A 24-HOUR PER DAY BASIS.
2. BE ON SITE FOR ALL EMERGENCY TTC NEEDS WITHIN ONE HOUR OF NOTIFICATION BY POLICE OR PROJECT STAFF, AND EFFECT CORRECTIVE MEASURES IMMEDIATELY ON EXISTING WORK ZONE TTC DEVICES.
3. ATTEND PRECONSTRUCTION MEETING AND ALL PROJECT MEETINGS WHERE TTC MANAGEMENT IS DISCUSSED.
4. BE AVAILABLE ON SITE FOR OTHER MEETINGS OR DISCUSSIONS WITH THE ENGINEER UPON REQUEST.
5. BE AWARE OF ALL EXISTING AND PROPOSED TTC OPERATIONS OF THE CONTRACTOR, SUBCONTRACTORS AND SUPPLIERS, AND ENSURE COORDINATION OCCURS BETWEEN THEM TO ELIMINATE CONFLICTING TEMPORARY AND/OR PERMANENT TRAFFIC CONTROL.
6. COORDINATE PROJECT ACTIVITIES WITH ALL LAW ENFORCEMENT OFFICERS (LEOS). THE WTS SHALL ALSO BE THE MAIN CONTACT PERSON WITH THE LEOS WHILE LEOS ARE ON THE PROJECT.
7. COORDINATE AND FACILITATE MEETINGS WITH ODOT PERSONNEL, LEOS AND OTHER APPLICABLE ENTITIES BEFORE EACH PLAN PHASE SWITCH TO DISCUSS THE WORK ZONE TTC FOR IMPLEMENTING THE PHASE SWITCH. SUBMIT A WRITTEN DETAIL OF MOT OPERATIONS AND SCHEDULE OF EVENTS TO IMPLEMENT THE SWITCH BETWEEN PHASE PLANS TO THE ENGINEER 5 CALENDAR DAYS PRIOR TO THIS MEETING.
8. BE PRESENT, ON SITE FOR, AND INVOLVED WITH, EACH TTC SET UP/TAKE DOWN AND EACH PHASE CHANGE IN ACCORDANCE WITH CMS 614.03.
9. ON A CONTINUAL BASIS ENSURE THAT THE TTC ZONE AND ALL RELATED DEVICES ARE INSTALLED, MAINTAINED AND REMOVED IN COMPLIANCE WITH THE CONTRACT DOCUMENTS.
10. ON A CONTINUAL BASIS FACILITATE CORRECTIVE ACTION(S) NECESSARY TO BRING DEFICIENT TTC ZONES AND ALL RELATED DEVICES INTO COMPLIANCE WITH CONTRACT DOCUMENTS IN THE TIME FRAME DETERMINED BY THE ENGINEER.

11. INSPECT, EVALUATE, PROPOSE NECESSARY MODIFICATIONS TO, AND DOCUMENT THE EFFECTIVENESS OF, THE TTC DEVICES AND TRAFFIC OPERATIONS ON A DAILY BASIS (7 DAYS A WEEK). IN ADDITION, PERFORM ONE 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 TTC SETUP (DAY AND NIGHT REVIEW).
 - B. DAILY TTC SETUP AND REMOVAL.
 - C. WHEN CONSTRUCTION STAGING CAUSES A CHANGE IN THE TTC SETUP.
 - D. CRASH OCCURRENCES WITHIN THE CONSTRUCTION AREA AND WITHIN THE INFLUENCE AREA(S) APPROACHING THE WORK ZONE.
 - E. REMOVAL OF TTC DEVICES AT THE END OF A PHASE OR PROJECT.
 - F. ALL OTHER EMERGENCY TTC NEEDS.
12. COMPLETE THE DEPARTMENT APPROVED LONG TERM INSPECTION FORM (CA-D-8) AFTER EACH INSPECTION AS REQUIRED IN # 11 AND SUBMIT IT TO THE ENGINEER THE FOLLOWING WORKDAY. THESE REPORTS SHALL INCLUDE A CHECKLIST OF ALL TTC 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 OR COMPLETED CORRECTIVE ACTIONS AND THE DATES BY WHICH SUCH CORRECTIONS WERE, OR WILL BE, COMPLETED. A COPY OF THE CURRENT CA-D-8 DOCUMENT CAN BE FOUND ON THE OFFICE OF CONSTRUCTION ADMINISTRATION'S INSPECTION FORMS WEBSITE.
13. HAVE COPIES OF THE ODOT TEMPORARY TRAFFIC CONTROL MANUAL AND CONTRACT DOCUMENTS AVAILABLE AT ALL TIMES ON THE PROJECT.

THE DEPARTMENT WILL DEDUCT:

- A. THE PRORATED DAILY AMOUNT OF ITEM 614 MAINTAINING TRAFFIC FOR ANY DAY IN WHICH THE WTS FAILS TO PERFORM THE DUTIES SET FORTH ABOVE. THE PRORATED DAILY AMOUNT WILL BE EQUAL TO THE ORIGINAL BID AMOUNT FOR ITEM 614 MAINTAINING TRAFFIC DIVIDED BY THE DIFFERENCE BETWEEN THE ORIGINAL COMPLETION DATE AND THE FIRST DAY OF WORK, IN CALENDAR DAYS.
- B. 1% OF THE ORIGINAL BID AMOUNT FOR ITEM 614 MAINTAINING TRAFFIC FOR ANY DAY THAT A TTC ISSUE IS IDENTIFIED IN THE FIELD AND IS NOT CORRECTED IN THE GIVEN TIMEFRAME PER THE ENGINEER. DEDUCTION B SHALL NOT APPLY TO SITUATIONS COVERED BY DEDUCTION C.
- C. 1% OF THE ORIGINAL BID AMOUNT FOR ITEM 614 MAINTAINING TRAFFIC FOR ANY DAY THAT A LANE OR RAMP IS BLOCKED (FULLY OR PARTIALLY) WITHOUT TTC, AS DETERMINED BY THE ENGINEER. THIS DEDUCTION SHALL BE IN ADDITION TO ANY OTHER DISINCENTIVES ESTABLISHED FOR UNAUTHORIZED LANE USE.

FOR DAYS IN WHICH MORE THAN ONE DEDUCTION LISTED ABOVE OCCUR, THE HIGHEST DEDUCTION AMOUNT WILL APPLY.

IF THREE OR MORE TOTAL DAYS RESULT IN TTC ISSUES DESCRIBED IN DEDUCTION B OR C ABOVE, THE PRIMARY WTS SHALL BE IMMEDIATELY REMOVED FROM THE WORK IN ACCORDANCE WITH C&MS 108.05. UPON REMOVAL THE ENGINEER SHALL NOTIFY ODOT CENTRAL OFFICE (WTSPREQUALIFICATION@DOT.OHIO.GOV) TO REGISTER A REMOVAL AGAINST THE STATEWIDE PREQUALIFICATION FOR THE PRIMARY WTS. THREE REMOVALS SHALL CAUSE STATEWIDE DISQUALIFICATION FOR ANY PREVIOUSLY PREQUALIFIED WTS.

PAYMENT FOR THE ABOVE REQUIREMENTS, RESPONSIBILITIES AND DUTIES SHALL BE INCLUDED IN ITEM 614 - WORKSITE TRAFFIC SUPERVISOR.

ITEM 614 - WORKSITE TRAFFIC SUPERVISOR 6 MONTH

ITEM WORK ZONE QUEUE DETECTION WARNING SYSTEM

THE CONTRACTOR SHALL FURNISH, INSTALL, AND MAINTAIN AN APPROVED WORK ZONE QUEUE DETECTION WARNING SYSTEM (WZQDWS) AS PER SUPPLEMENTAL SPECIFICATION 896.

THE PROBABLE INITIAL LOCATIONS OF THE WZQDWS DEVICES ARE LISTED BELOW:

1 SENSOR AT EACH OF THE FOLLOWING LOCATIONS:

- BEGINNING OF MOT LANE TAPER.
- 1/2 MILE UPSTREAM OF TAPER.
- 1 MILE UPSTREAM OF TAPER (1 PCMS SHALL BE LOCATED AT THIS SENSOR).
- 2 MILES UPSTREAM OF TAPER (1 PCMS SHALL BE LOCATED AT THIS SENSOR).
- 3 MILES UPSTREAM OF TAPER.
- 4 MILES UPSTREAM OF TAPER (1 PCMS SHALL BE LOCATED AT THIS SENSOR).

IT IS EXPECTED THAT THESE LOCATIONS WILL VARY BASED ON PLANNED OR UNPLANNED PHASE AND TRAFFIC PATTERN CHANGES. PLACEMENT, OPERATION, MAINTENANCE AND ALL ACTIVATION OF THE DEVICES BY THE CONTRACTOR SHALL BE DIRECTED BY THE ENGINEER.

THE FOLLOWING TRAFFIC SENSOR THRESHOLDS AND PORTABLE CHANGEABLE MESSAGE SIGNS (PCMS) MESSAGES SHALL BE USED:

GREATER THAN OR EQUAL TO 50 MPH - USE FOUR CORNER FLASHING CAUTION MODE
BETWEEN 50 MPH AND 25 MPH - TRAFFIC AHEAD XX MPH / SLOW DOWN
BELOW OR EQUAL TO 25 MPH - TRAFFIC AHEAD XX MPH / PREPARE TO STOP

FOUR CORNER FLASHING CAUTION MODE SHALL CONSIST OF THE USE OF ONE ASTERISK IN EACH CORNER OF THE PCMS DISPLAY (4 TOTAL ASTERISKS).

XX SHALL BE ROUNDED UP TO THE NEAREST MULTIPLE OF 5 MPH MINUS 1. OCCUPANCY MAY BE DIRECTED TO BE USED BASED ON CERTAIN TRAFFIC CONDITIONS AND SCENARIOS. ODOT WILL DIRECT THE CONTRACTOR OF THE THRESHOLDS TO BE USED FOR THOSE AREAS WHERE OCCUPANCY IS DIRECTED TO BE USED.

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

ITEM 896 - PORTABLE NON-INTRUSIVE TRAFFIC SENSOR, CLASS II 12 SIGN MONTH ASSUMING 6 SENSOR(S) FOR 2 MONTH(S)

ITEM 896 - PORTABLE CHANGEABLE MESSAGE SIGN, AS PER PLAN 6 SIGN MONTH ASSUMING 3 PCMS SIGN(S) FOR 2 MONTH(S)

CALCULATED
MS
CHECKED
PRS

MAINTENANCE OF TRAFFIC NOTES - 4

D12-BH-FY2019 MISC.
PID NO. 98601

SHEET NO.	STATION TO STATION		614					622			644			646		621		
			WORK ZONE IMPACT ATTENUATOR	BARRIER REFLECTOR, TYPE 1	OBJECT MARKER, ONE WAY	WORK ZONE EDGE LINE, CLASS I, 4", 740.06, TYPE I	WORK ZONE CHANNELIZING LINE, CLASS I, 8", 740.06, TYPE I	WORK ZONE DOTTED LINE, CLASS I, 740.06, TYPE I	PORTABLE BARRIER, 32"	PORTABLE BARRIER, 32", BRIDGE MOUNTED	EDGE LINE, 6"	LANE LINE, 6"	CHANNELIZING LINE, 12"	EDGE LINE, 6"	LANE LINE, 6"	RPM		
			EACH	EACH	EACH	MILE	FT	FT	FT	FT		MILE	MILE	FT	MILE	MILE	EACH	
CUY-480N-0136WN PHASE 1																		
12	301+78.00	307+34.50				1113.00												
12	307+34.50	310+34.50	1	7	7	600.00			300									
12/13	310+34.50	318+84.50		18	18	1700.00			30	820.00								
13	318+84.50	321+84.50	1	7	7	600.00			300									
13	321+84.50	330+11.00				1653.00												
PHASE 1 TOTALS			2	32	32	5666.00			630	820.00								
CUY-480N-0136WN PHASE 2																		
15	294+46.00	301+30.00				1368.00						684.00		684.00			9	
15	301+30.00	307+43.50				1227.00						927.00	313.50	300.00			16	
15	307+43.50	310+33.50	1	7	7	580.00			290			580.00	290.00			4		
15/16	310+33.50	318+83.50		18	18	1700.00			30	820.00				1700.00	850.00	11		
16	318+83.50	321+83.50	1	7	7	600.00		300.00	300			600.00	300.00			4		
16	321+83.50	330+11.00										1655.00	827.50			11		
PHASE 2 TOTALS			2	32	32	5475.00		300.00	620	820.00		4446.00	1731.00	984.00	1700.00	850.00	55	
SUBTOTALS			4	64	64	11141.00		300.00	1250	1640.00		4446.00	1731.00	984.00	1700.00	850.00	55	
CONVERT TO MILES						2.11						0.84	0.33		0.32	0.16		
TOTALS CARRIED TO GENERAL SUMMARY			4	64	64	2.11		300	1250	1640		0.84	0.33	984	0.32	0.16	55	
SHEET NO.	STATION TO STATION		614					622			644			646		621		
			WORK ZONE IMPACT ATTENUATOR	WORK ZONE RAISED PAVEMENT MARKER	BARRIER REFLECTOR, TYPE 1	OBJECT MARKER, ONE WAY	WORK ZONE EDGE LINE, CLASS I, 4", 740.06, TYPE I	WORK ZONE CHANNELIZING LINE, CLASS I, 8", 740.06, TYPE I	WORK ZONE DOTTED LINE, CLASS I, 740.06, TYPE I	PORTABLE BARRIER, 32"	PORTABLE BARRIER, 32", BRIDGE MOUNTED	EDGE LINE, 6"	LANE LINE, 6"	CHANNELIZING LINE, 12"	EDGE LINE, 6"	LANE LINE, 6"	RPM	
			EACH	EACH	EACH	EACH	MILE	FT	FT	FT	FT		MILE	MILE	FT	MILE	MILE	EACH
CUY-271X-0581NW PHASE 1																		
26	313+04.00	316+04.00	1		7	7	600.00		300.00	300								
26/27	316+04.00	321+94.00			13	13	1180.00		30	560.00								
27	321+94.00	324+94.00	1		7	7	600.00		300									
27	324+94.00	333+20.00				1652.00												
PHASE 1 TOTALS			2		27	27	4032.00		300.00	630	560.00							
CUY-271X-0581NW PHASE 2																		
29	309+96.00	316+04.00		91		1216.00	608.00		10			1216.00	608.00				8	
29/30	316+04.00	321+94.00	1	48	13	1180.00	590.00		30	560.00				1180.00	590.00	8		
30	321+94.00	324+94.00	1	3	7	600.00	300.00		300			600.00	300.00			4		
30	324+94.00	334+67.00		137		1946.00	973.00					1946.00	973.00			13		
PHASE 2 TOTALS			2	279	20	4942.00	2471.00		340	560.00		3762.00	1881.00		1180.00	590.00	33	
SUBTOTALS			4	279	47	8974.00	2471.00	300.00	970	1120.00		3762.00	1881.00		1180.00	590.00	33	
CONVERT TO MILES						1.70						0.71	0.36		0.22	0.11		
TOTALS CARRIED TO GENERAL SUMMARY			4	279	47	1.70	2471	300	970	1120		0.71	0.36		0.22	0.11	33	

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 MAINTENANCE OF TRAFFIC SUBSUMMARY
 D12-BH-FY2019 MISC.
 PID NO. 98601
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



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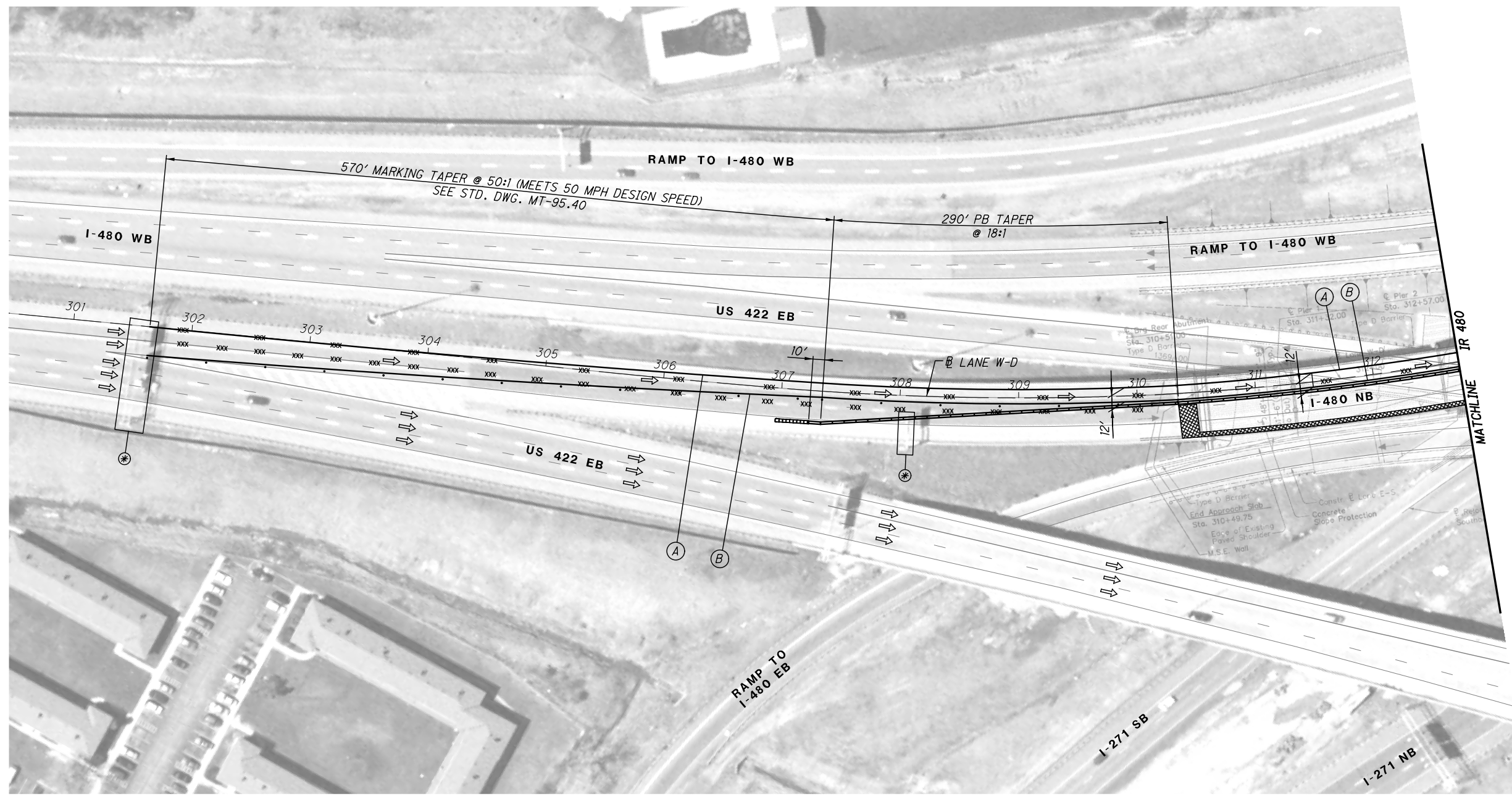
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MOT PAVEMENT MARKING LEGEND

- (A) WORK ZONE EDGE LINE (WHITE)
- (B) WORK ZONE EDGE LINE (YELLOW)

LEGEND

-  WORK AREA
-  DRUMS @ 50' C/C (MEETS 50 MPH DESIGN SPEED)
-  32" PORTABLE BARRIER
-  REMOVE EXISTING MARKINGS
-  IMPACT ATTENUATOR
-  DIRECTION OF TRAVEL
-  COVER MESSAGES THAT ARE IN CONFLICT WITH THE MOT PHASING PLANS ON ALL GUIDE SIGNS.



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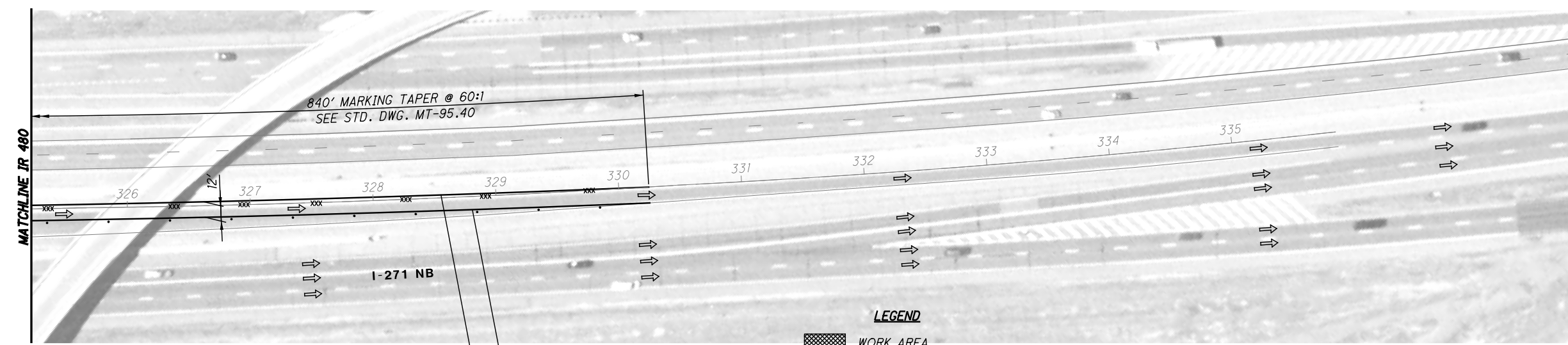
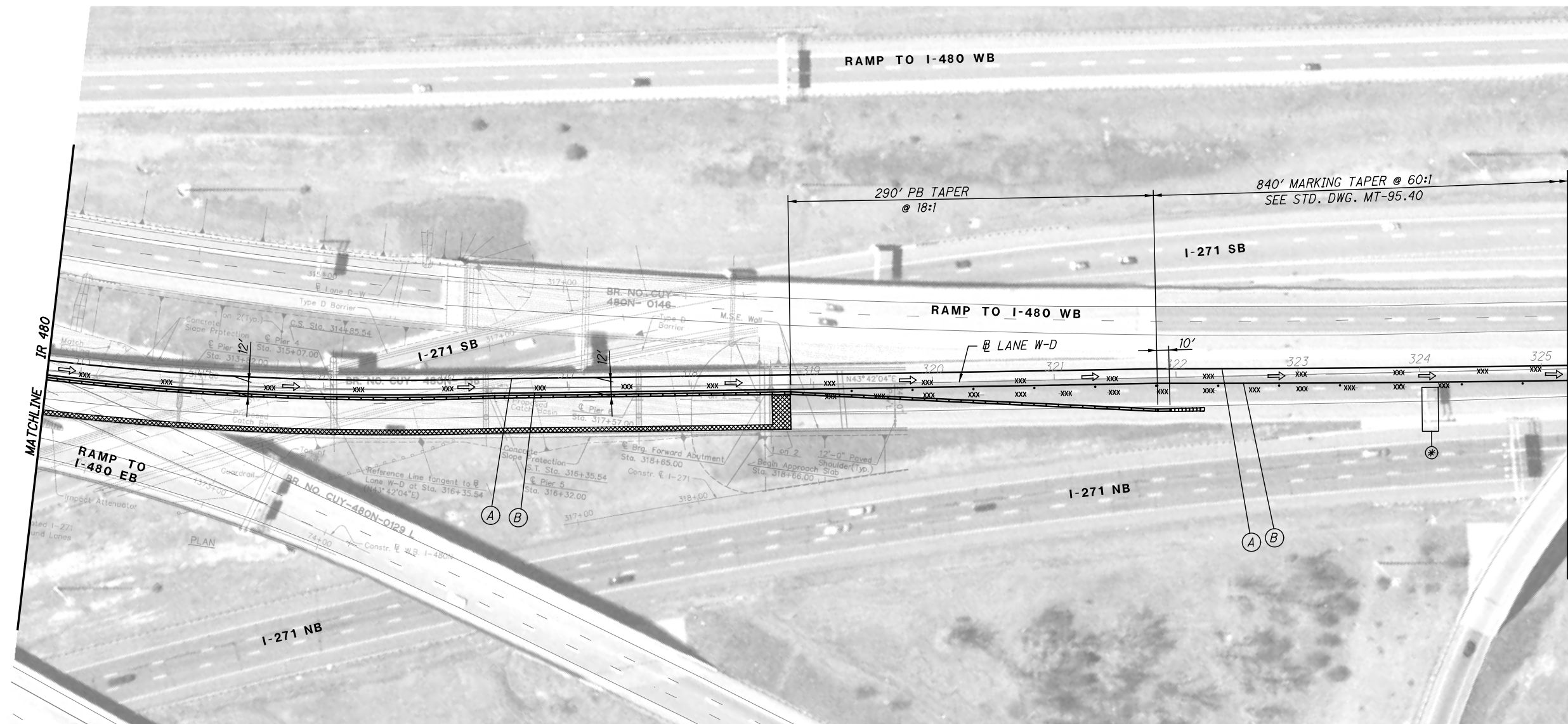
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**MAINTENANCE OF TRAFFIC PLAN
CUY-480N-0136WN - PHASE 1**

**D12-BH-FY2019 MISC.
PID NO. 98601**

- NOTES:**
1. DETAILS ON THIS SHEET ARE TAKEN FROM EXISTING PLANS AND SHOULD BE USED FOR INFORMATION PURPOSES ONLY.
 2. SEE MT-95.40 FOR ADDITIONAL DETAILS.
 3. SEE SHEET 14 FOR MOT TYPICAL SECTIONS.

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MOT PAVEMENT MARKING LEGEND

(A) WORK ZONE EDGE LINE (WHITE)

(B) WORK ZONE EDGE LINE (YELLOW)

LEGEND

▨ WORK AREA

... DRUMS @ 50' C/C (MEETS 50 MPH DESIGN SPEED)

— 32" PORTABLE BARRIER

--- REMOVE EXISTING MARKINGS

▩ IMPACT ATTENUATOR

⇒ DIRECTION OF TRAVEL

* COVER MESSAGES THAT ARE IN CONFLICT WITH THE MOT PHASING PLANS ON ALL GUIDE SIGNS.

NOTES:

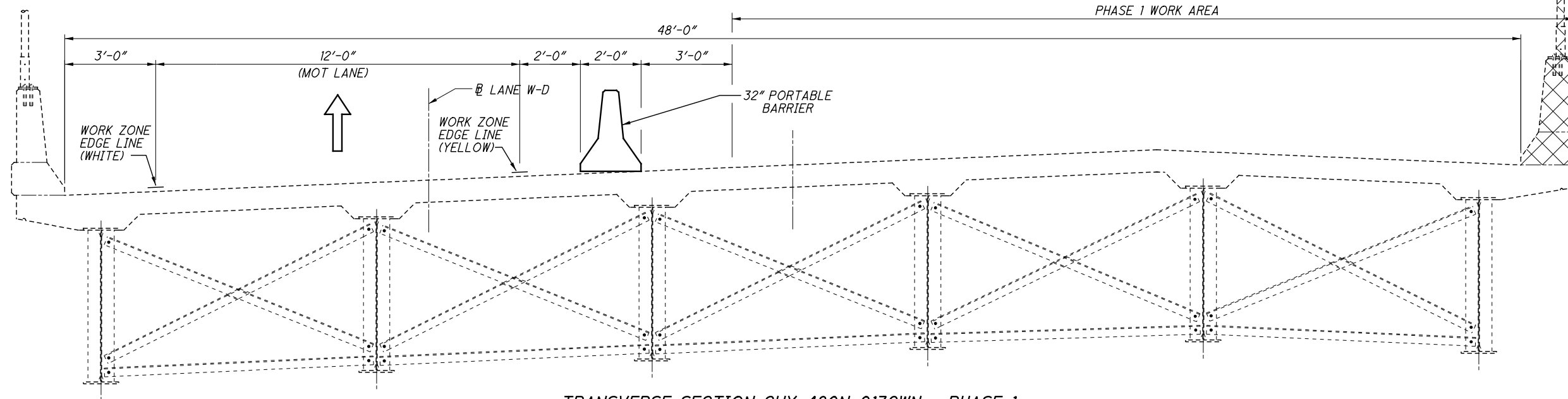
1. DETAILS ON THIS SHEET ARE TAKEN FROM EXISTING PLANS AND SHOULD BE USED FOR INFORMATION PURPOSES ONLY.
2. SEE MT-95.40 FOR ADDITIONAL DETAILS.
3. SEE SHEET 14 FOR MOT TYPICAL SECTIONS.



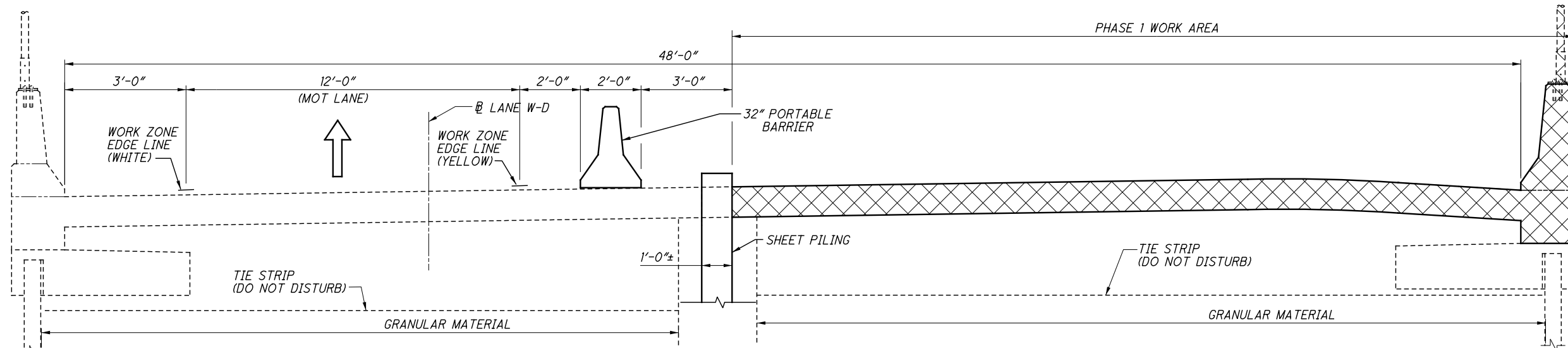
MAINTENANCE OF TRAFFIC PLAN
CUY-480N-0136WN - PHASE 1

D12-BH-FY2019 MISC.
PID NO. 98601

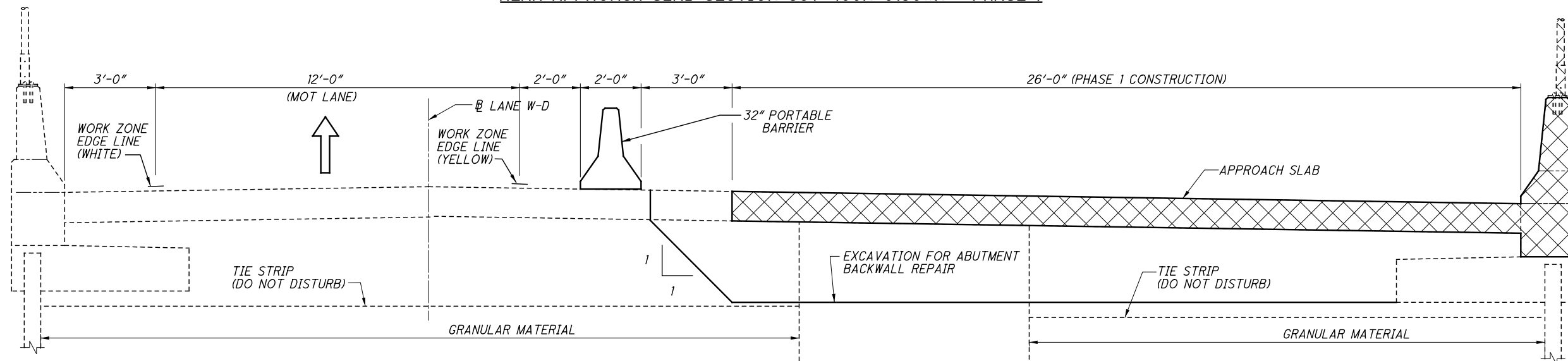
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TRANSVERSE SECTION CUY-480N-0136WN - PHASE 1



REAR APPROACH SLAB SECTION CUY-480N-0136WN - PHASE 1



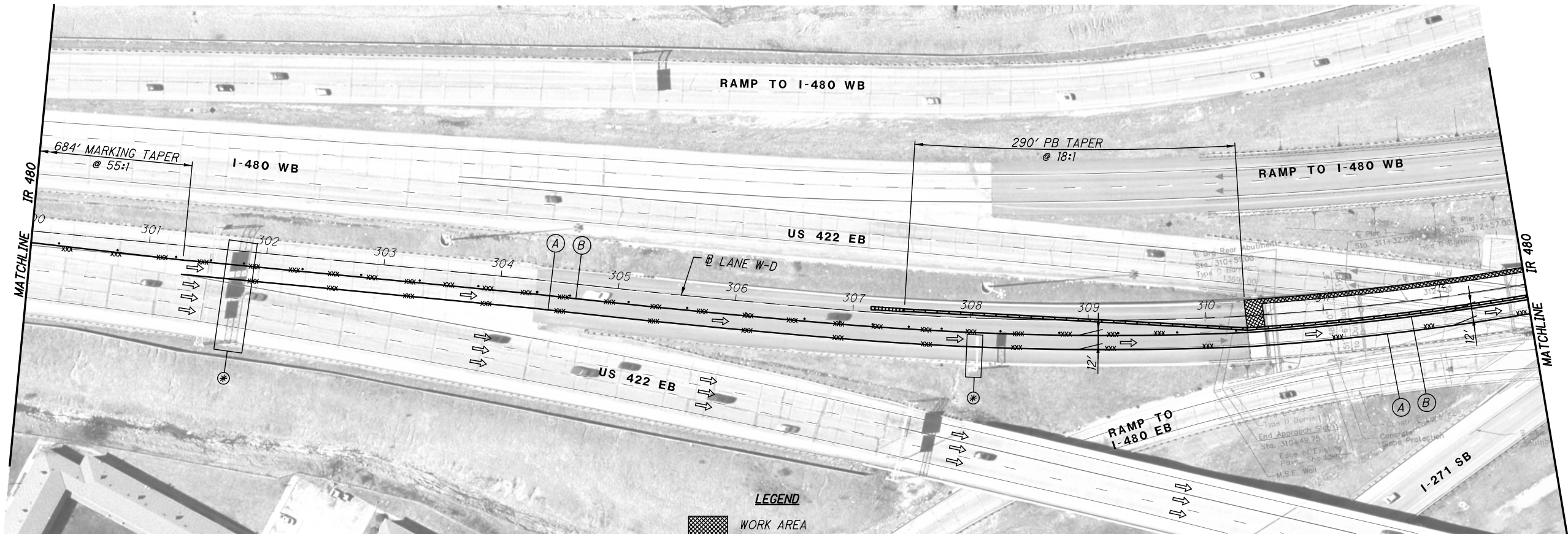
FORWARD APPROACH SLAB SECTION CUY-480N-0136WN - PHASE 1

LEGEND
 WORK AREA

CALCULATED MS
 CHECKED ALP

MAINTENANCE OF TRAFFIC TYPICAL SECTIONS
CUY-480N-0136WN - PHASE 1

D12-BH-FY2019 MISC.
PID NO. 98601



- MOT PAVEMENT MARKING LEGEND**
- (A) WORK ZONE EDGE LINE (WHITE)
 - (B) WORK ZONE EDGE LINE (YELLOW)

- LEGEND**
- WORK AREA
 - DRUMS @ 50' C/C (MEETS 50 MPH DESIGN SPEED)
 - 32" PORTABLE BARRIER
 - REMOVE EXISTING MARKINGS
 - IMPACT ATTENUATOR
 - DIRECTION OF TRAVEL
 - COVER MESSAGES THAT ARE IN CONFLICT WITH THE MOT PHASING PLANS ON ALL GUIDE SIGNS.

- NOTES:**
1. DETAILS ON THIS SHEET ARE TAKEN FROM EXISTING PLANS AND SHOULD BE USED FOR INFORMATION PURPOSES ONLY.
 2. SEE MT-95.40 FOR ADDITIONAL DETAILS.
 3. SEE SHEET 17 FOR MOT TYPICAL SECTIONS.

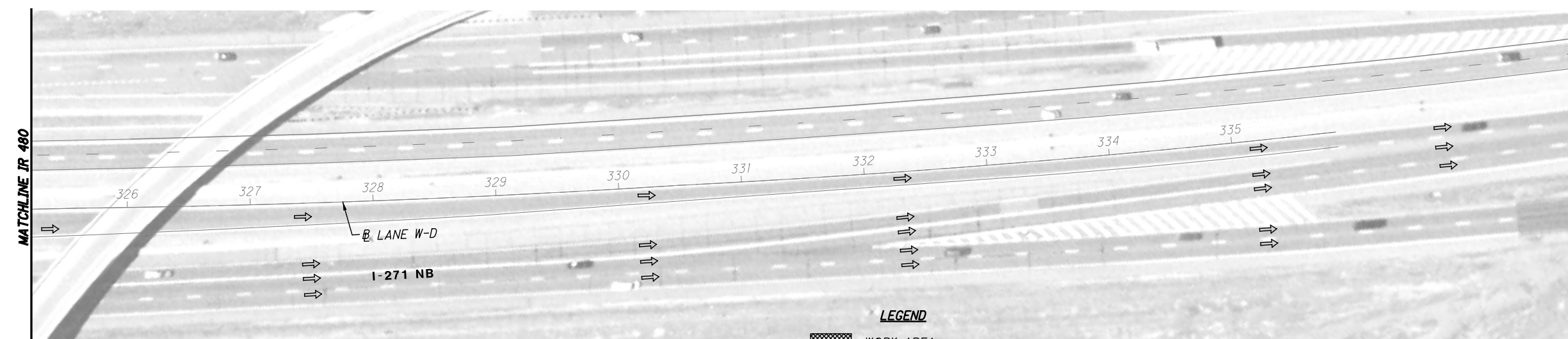
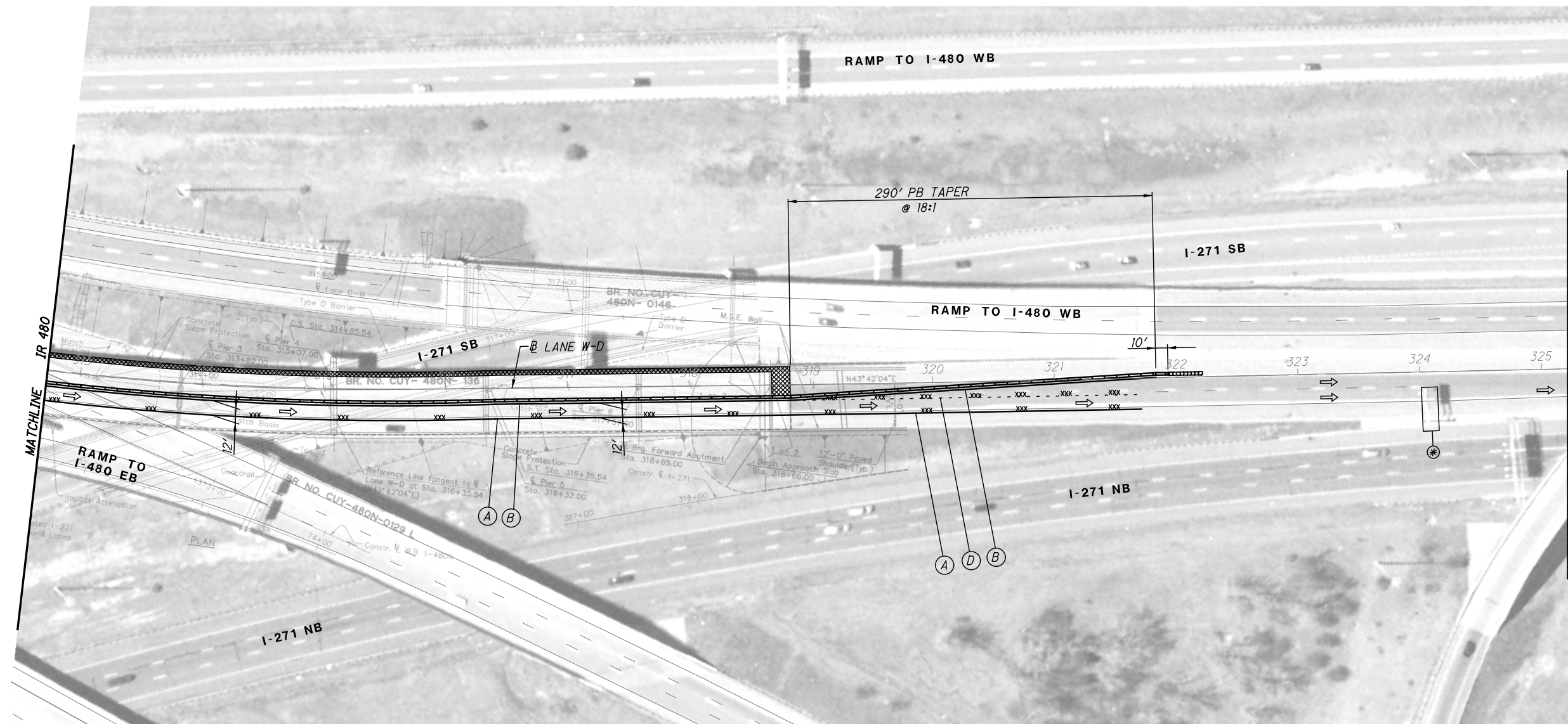
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**MAINTENANCE OF TRAFFIC PLAN
CUY-480N-0136WN - PHASE 2**

**D12-BH-FY2019 MISC.
PID NO. 98601**

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- MOT PAVEMENT MARKING LEGEND**
- (A) WORK ZONE EDGE LINE (WHITE)
 - (B) WORK ZONE EDGE LINE (YELLOW)
 - (C) WORK ZONE CHANNELIZING LINE
 - (D) WORK ZONE DOTTED LINE

- LEGEND**
- WORK AREA
 - DRUMS @ 50' C/C (MEETS 50 MPH DESIGN SPEED)
 - 32" PORTABLE BARRIER
 - REMOVE EXISTING MARKINGS
 - IMPACT ATTENUATOR
 - DIRECTION OF TRAVEL
 - COVER MESSAGES THAT ARE IN CONFLICT WITH THE MOT PHASING PLANS ON ALL GUIDE SIGNS.

- NOTES:**
1. DETAILS ON THIS SHEET ARE TAKEN FROM EXISTING PLANS AND SHOULD BE USED FOR INFORMATION PURPOSES ONLY.
 2. SEE MT-95.40 FOR ADDITIONAL DETAILS.
 3. SEE SHEET 17 FOR MOT TYPICAL SECTIONS.

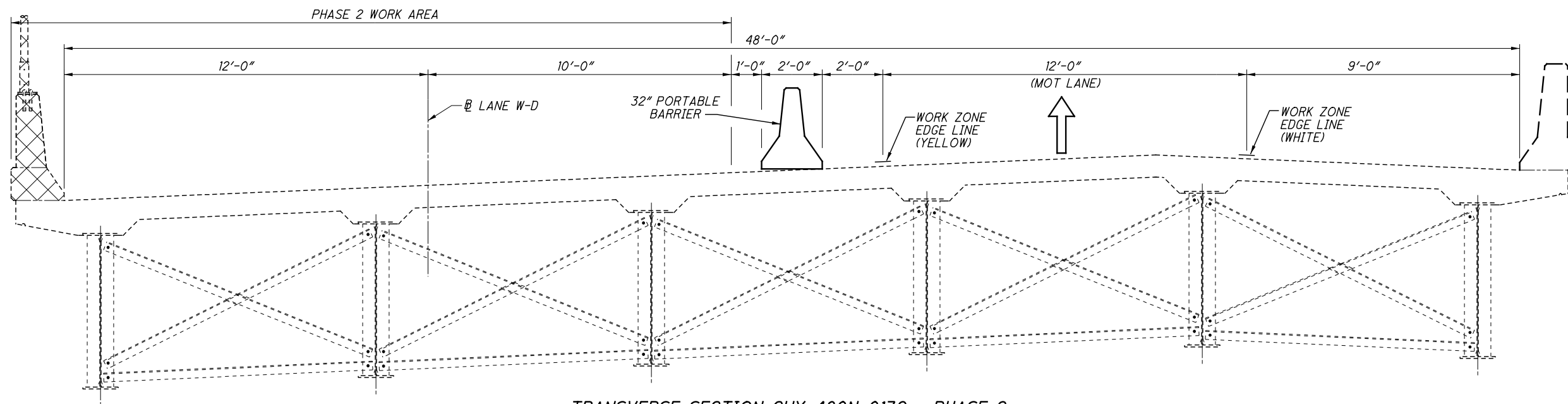
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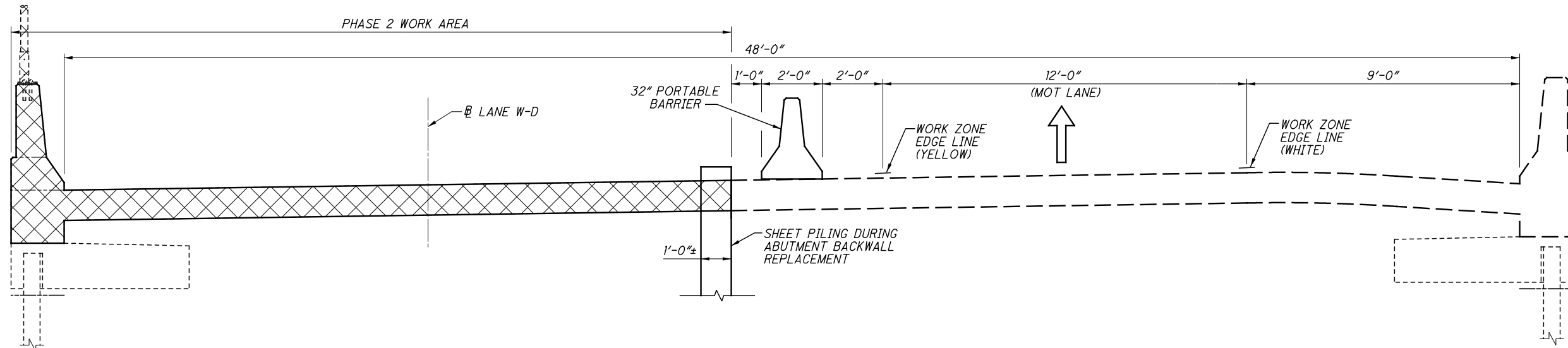
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CUY-480N-0136WN - PHASE 2**

**D12-BH-FY2019 MISC.
PID NO. 98601**

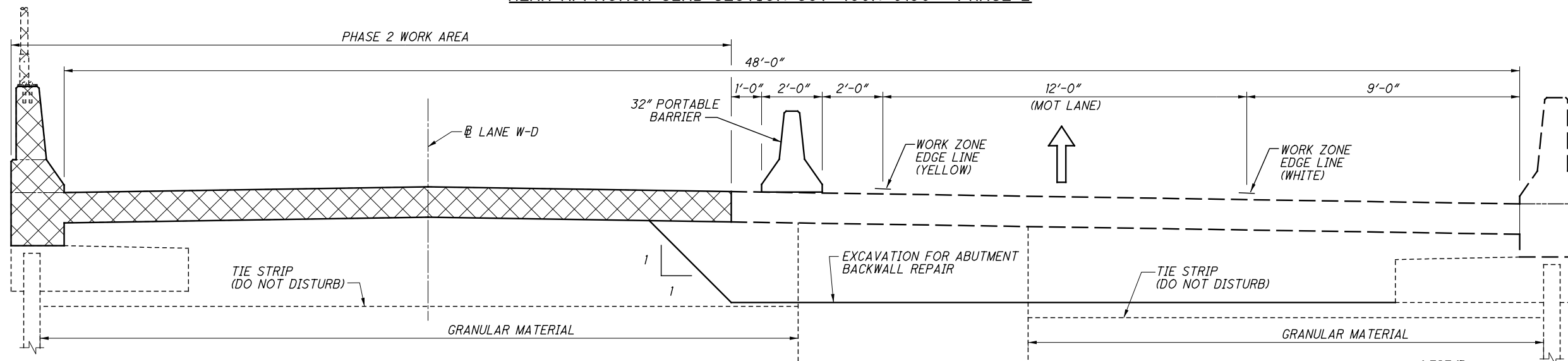
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TRANSVERSE SECTION CUY-480N-0136 - PHASE 2

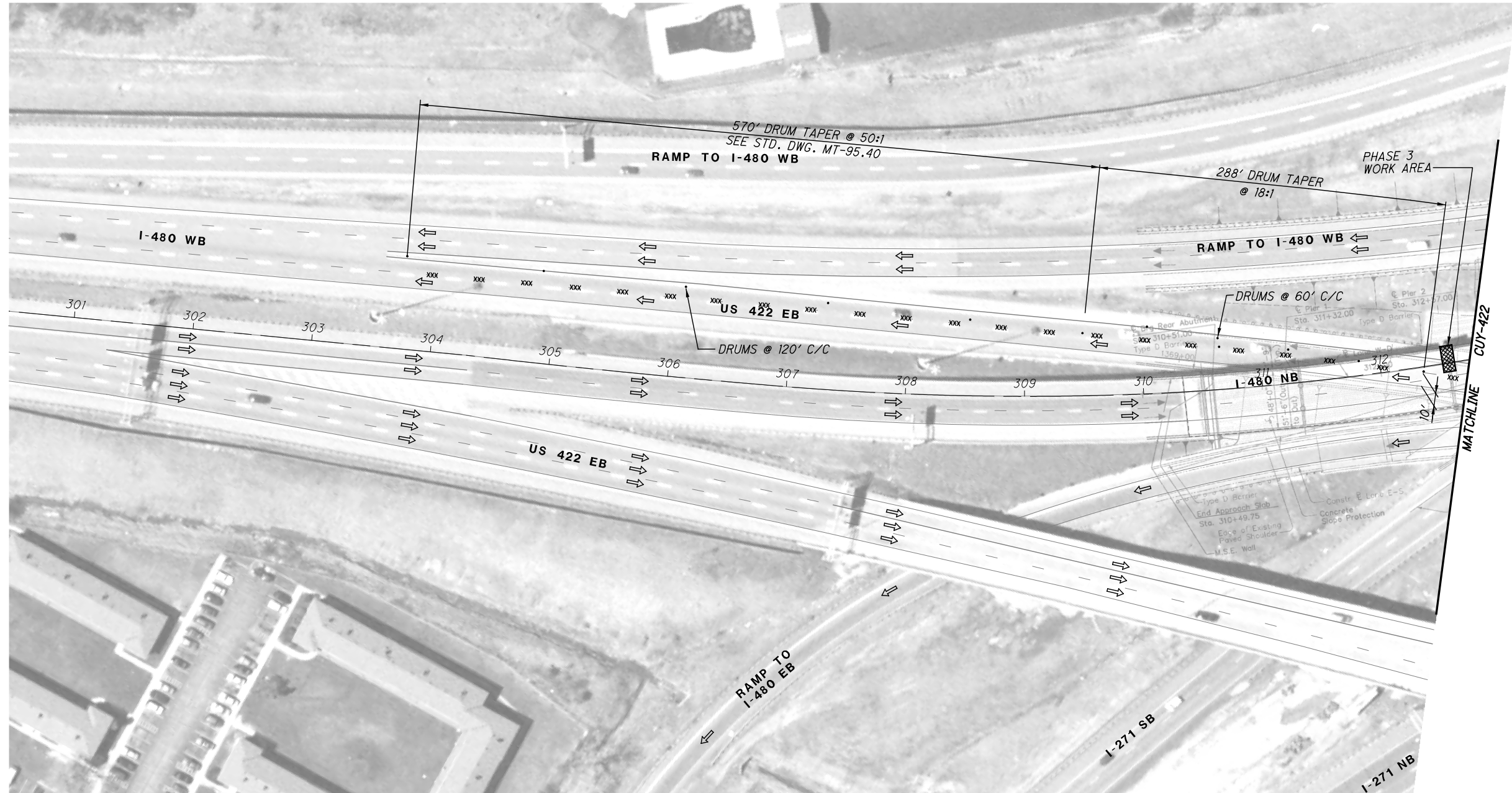


REAR APPROACH SLAB SECTION CUY-480N-0136 - PHASE 2



FORWARD APPROACH SLAB SECTION CUY-480N-0136WN - PHASE 2

LEGEND
 WORK AREA



MOT PAVEMENT MARKING LEGEND

- (A) WORK ZONE EDGE LINE (WHITE)
- (B) WORK ZONE EDGE LINE (YELLOW)
- (C) WORK ZONE CHANNELIZING LINE
- (D) WORK ZONE DOTTED LINE

LEGEND

- WORK AREA
- DRUMS
- PORTABLE BARRIER
- REMOVE EXISTING MARKINGS
- IMPACT ATTENUATOR
- DIRECTION OF TRAVEL

⊗ COVER MESSAGES THAT ARE IN CONFLICT WITH THE MOT PHASING PLANS ON ALL GUIDE SIGNS.

NOTES:

1. DETAILS ON THIS SHEET ARE TAKEN FROM EXISTING PLANS AND SHOULD BE USED FOR INFORMATION PURPOSES ONLY.
2. SEE MT-95.30 FOR ADDITIONAL DETAILS.

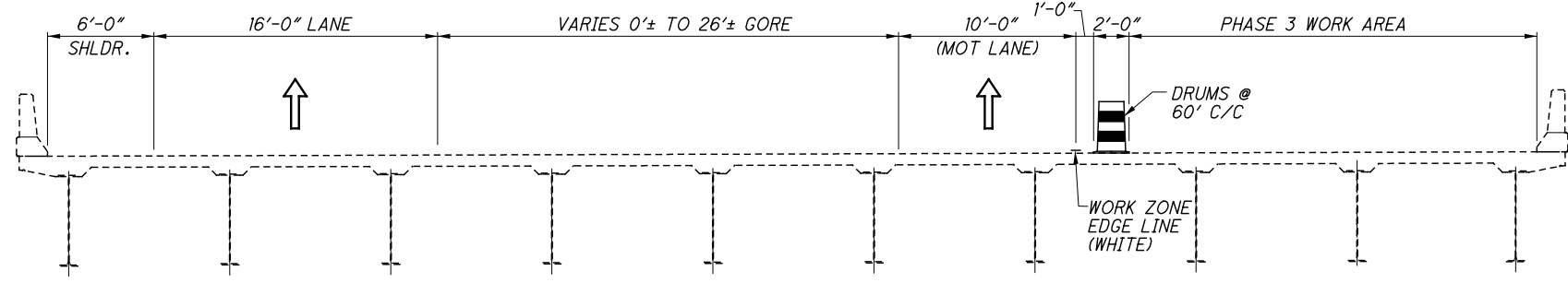


CALCULATED MS
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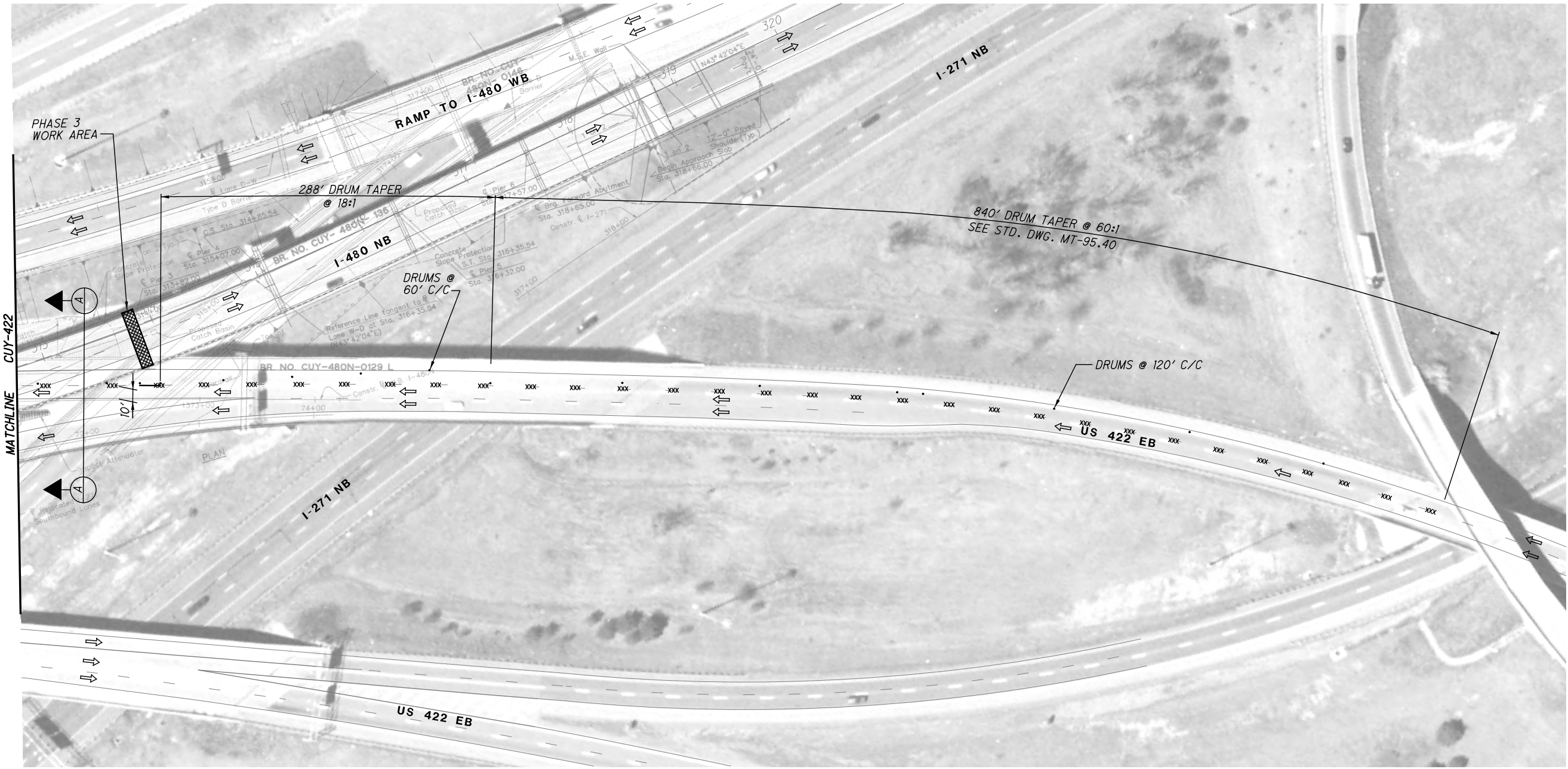
**MAINTENANCE OF TRAFFIC PLAN
CUY-480N-0136WN - PHASE 3**

**D12-BH-FY2019 MISC.
PID NO. 98601**

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SECTION A-A - PHASE 3



- MOT PAVEMENT MARKING LEGEND**
- (A) WORK ZONE EDGE LINE (WHITE)
 - (B) WORK ZONE EDGE LINE (YELLOW)
 - (C) WORK ZONE CHANNELIZING LINE
 - (D) WORK ZONE DOTTED LINE

- LEGEND**
- [Hatched Box] WORK AREA
 - [Dotted Line] DRUMS
 - [Solid Line] PORTABLE BARRIER
 - [Dashed Line] REMOVE EXISTING MARKINGS
 - [Dotted Line with Bar] IMPACT ATTENUATOR
 - [Arrow] DIRECTION OF TRAVEL

⊛ COVER MESSAGES THAT ARE IN CONFLICT WITH THE MOT PHASING PLANS ON ALL GUIDE SIGNS.

NOTES:

1. DETAILS ON THIS SHEET ARE TAKEN FROM EXISTING PLANS AND SHOULD BE USED FOR INFORMATION PURPOSES ONLY.
2. SEE MT-95.30 FOR ADDITIONAL DETAILS.

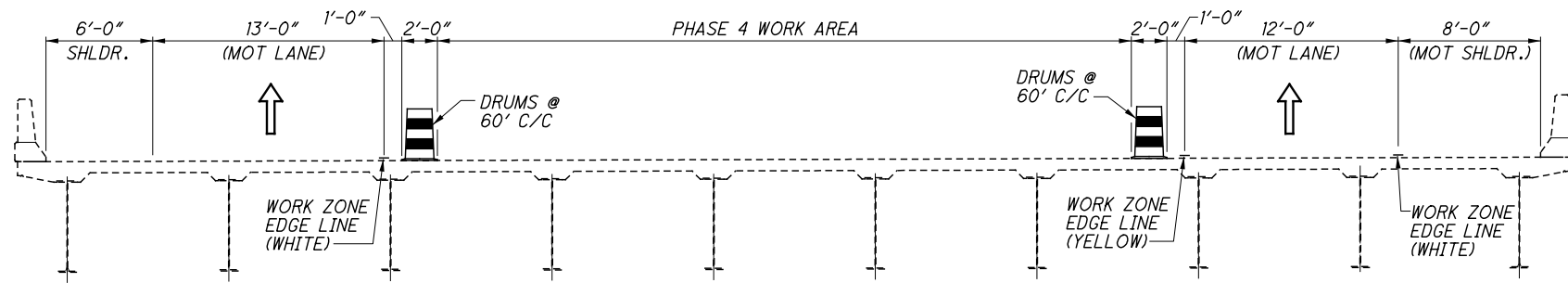
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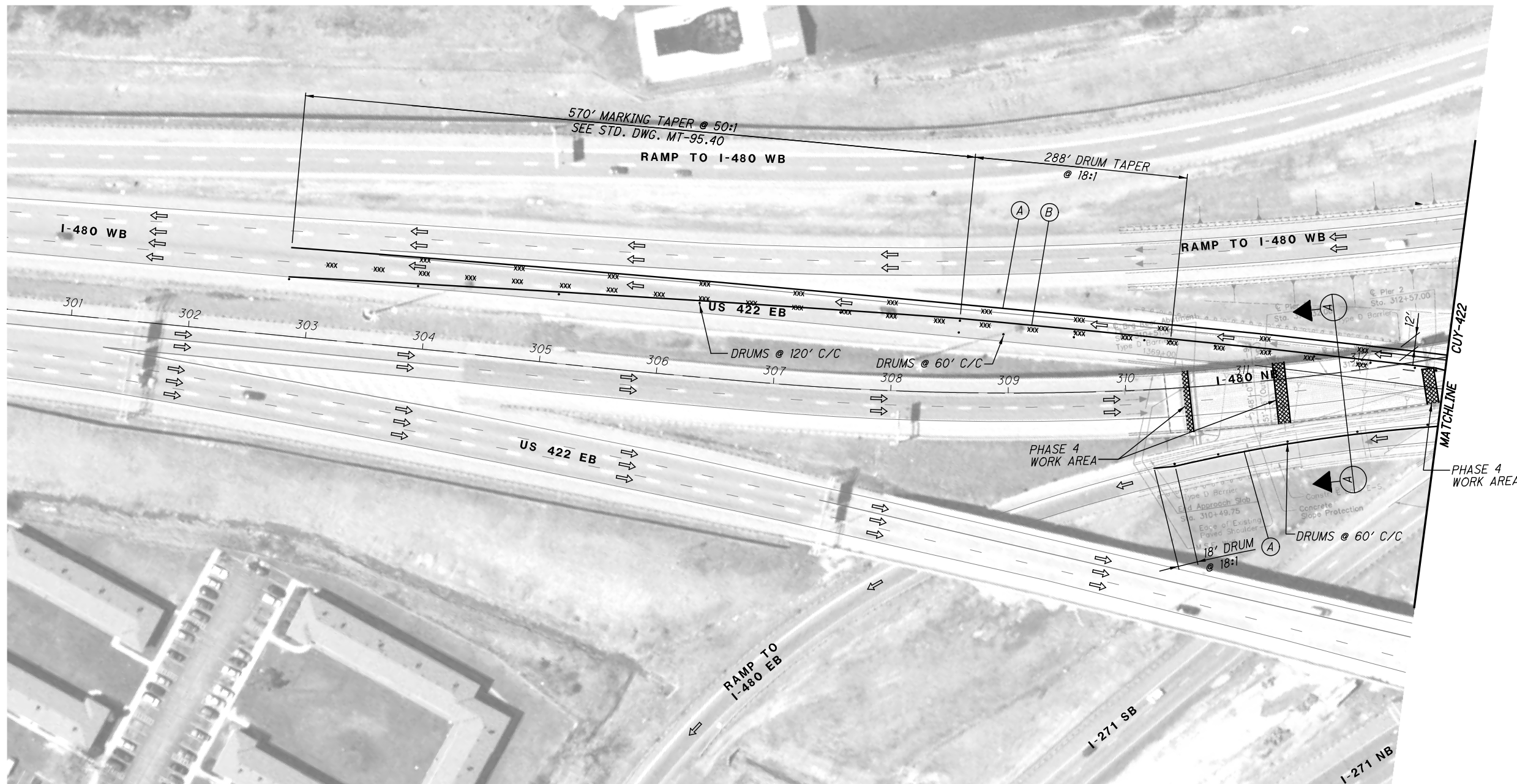
**MAINTENANCE OF TRAFFIC PLAN
CUY-480N-0136WN - PHASE 3**

**D12-BH-FY2019 MISC.
PID NO. 98601**

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SECTION A-A - PHASE 4



- MOT PAVEMENT MARKING LEGEND**
- (A) WORK ZONE EDGE LINE (WHITE)
 - (B) WORK ZONE EDGE LINE (YELLOW)
 - (C) WORK ZONE CHANNELIZING LINE
 - (D) WORK ZONE DOTTED LINE

- LEGEND**
- WORK AREA
 - DRUMS
 - PORTABLE BARRIER
 - REMOVE EXISTING MARKINGS
 - IMPACT ATTENUATOR
 - DIRECTION OF TRAVEL

⊛ COVER MESSAGES THAT ARE IN CONFLICT WITH THE MOT PHASING PLANS ON ALL GUIDE SIGNS.

- NOTES:**
1. DETAILS ON THIS SHEET ARE TAKEN FROM EXISTING PLANS AND SHOULD BE USED FOR INFORMATION PURPOSES ONLY.
 2. SEE MT-95.30 FOR ADDITIONAL DETAILS.

CALCULATED MS CHECKED ALP

0 50 100
HORIZONTAL SCALE IN FEET

**MAINTENANCE OF TRAFFIC PLAN
CUY-480N-0136WN - PHASE 4**

**D12-BH-FY2019 MISC.
PID NO. 98601**



- MOT PAVEMENT MARKING LEGEND**
- (A) WORK ZONE EDGE LINE (WHITE)
 - (B) WORK ZONE EDGE LINE (YELLOW)
 - (C) WORK ZONE CHANNELIZING LINE
 - (D) WORK ZONE DOTTED LINE

- LEGEND**
- [Hatched Box] WORK AREA
 - [Dotted Line] DRUMS
 - [Solid Line] PORTABLE BARRIER
 - [Line with XXX] REMOVE EXISTING MARKINGS
 - [Line with Dashed] IMPACT ATTENUATOR
 - [Arrow] DIRECTION OF TRAVEL

* COVER MESSAGES THAT ARE IN CONFLICT WITH THE MOT PHASING PLANS ON ALL GUIDE SIGNS.

- NOTES:**
1. DETAILS ON THIS SHEET ARE TAKEN FROM EXISTING PLANS AND SHOULD BE USED FOR INFORMATION PURPOSES ONLY.
 2. SEE MT-95.30 FOR ADDITIONAL DETAILS.

CALCULATED MS CHECKED ALP

HORIZONTAL SCALE IN FEET

**MAINTENANCE OF TRAFFIC PLAN
CUY-480N-0136WN - PHASE 4**

**D12-BH-FY2019 MISC.
PID NO. 98601**



- MOT PAVEMENT MARKING LEGEND**
- (A) WORK ZONE EDGE LINE (WHITE)
 - (B) WORK ZONE EDGE LINE (YELLOW)
 - (C) WORK ZONE CHANNELIZING LINE
 - (D) WORK ZONE DOTTED LINE

- LEGEND**
- WORK AREA
 - DRUMS
 - PORTABLE BARRIER
 - REMOVE EXISTING MARKINGS
 - IMPACT ATTENUATOR
 - DIRECTION OF TRAVEL

⊛ COVER MESSAGES THAT ARE IN CONFLICT WITH THE MOT PHASING PLANS ON ALL GUIDE SIGNS.

DURING PERMITTED LANE CLOSURE PERIODS

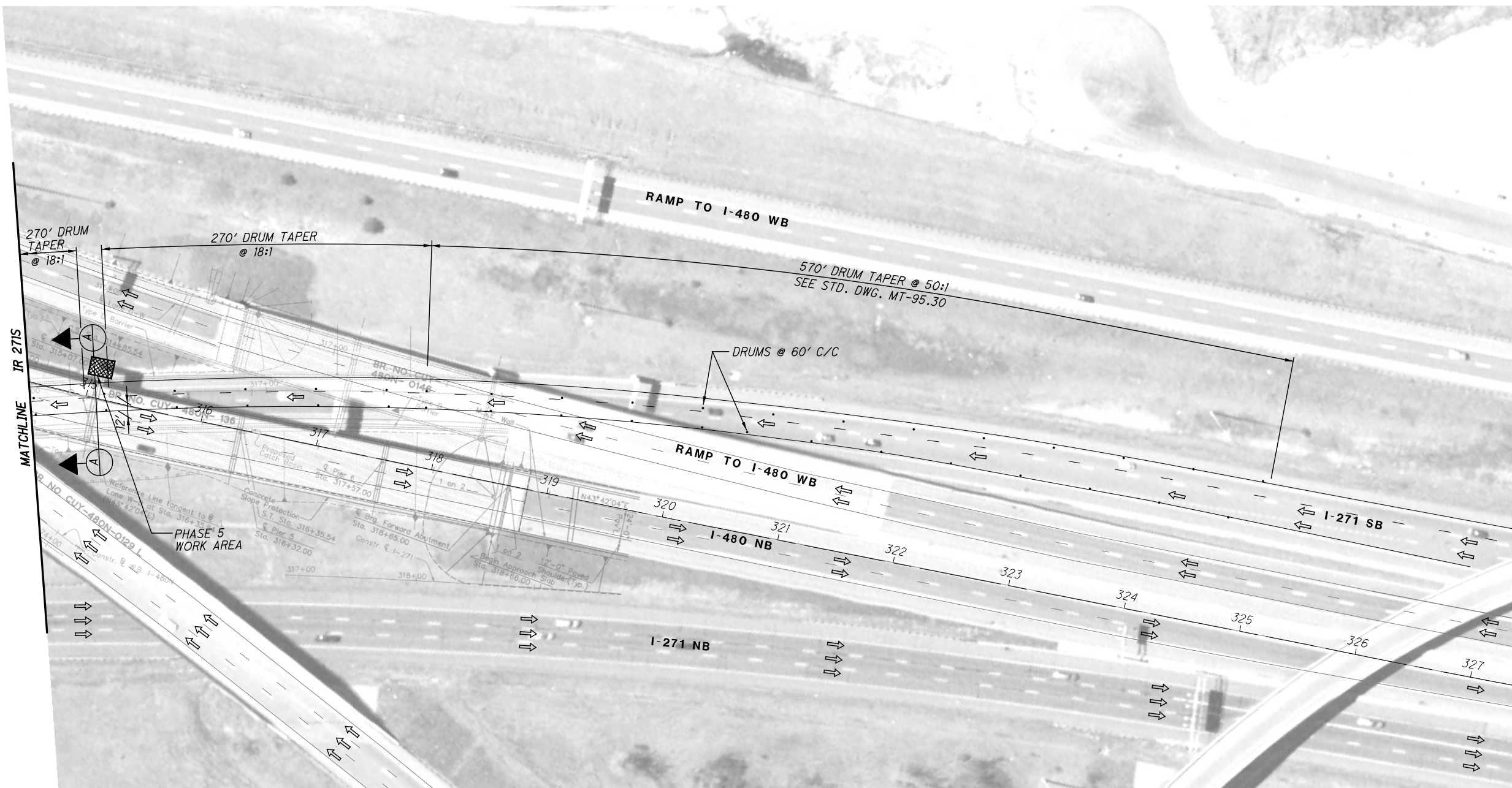
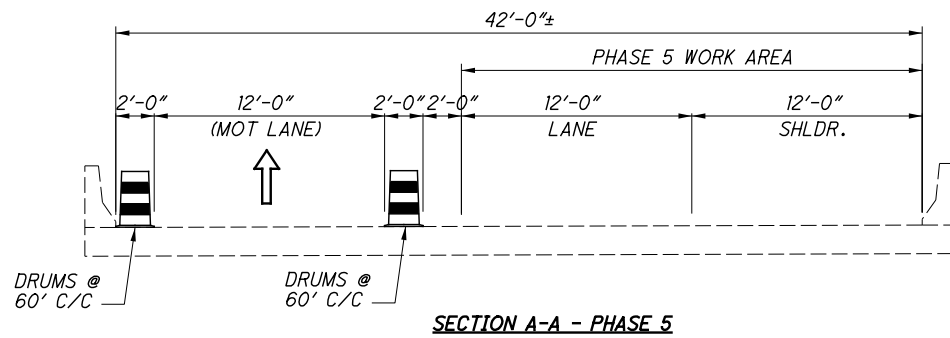
- NOTES:**
1. DETAILS ON THIS SHEET ARE TAKEN FROM EXISTING PLANS AND SHOULD BE USED FOR INFORMATION PURPOSES ONLY.
 2. SEE MT-95.30 FOR ADDITIONAL DETAILS.

CALCULATED MS
CHECKED ALP

0 50 100
25
HORIZONTAL SCALE IN FEET

**MAINTENANCE OF TRAFFIC PLAN
CUY-48ON-0136WN - PHASE 5**

**D12-BH-FY2019 MISC.
PID NO. 98601**



- MOT PAVEMENT MARKING LEGEND**
- (A) WORK ZONE EDGE LINE (WHITE)
 - (B) WORK ZONE EDGE LINE (YELLOW)
 - (C) WORK ZONE CHANNELIZING LINE
 - (D) WORK ZONE DOTTED LINE

- LEGEND**
- WORK AREA
 - DRUMS
 - PORTABLE BARRIER
 - REMOVE EXISTING MARKINGS
 - IMPACT ATTENUATOR
 - DIRECTION OF TRAVEL

⊛ COVER MESSAGES THAT ARE IN CONFLICT WITH THE MOT PHASING PLANS ON ALL GUIDE SIGNS.

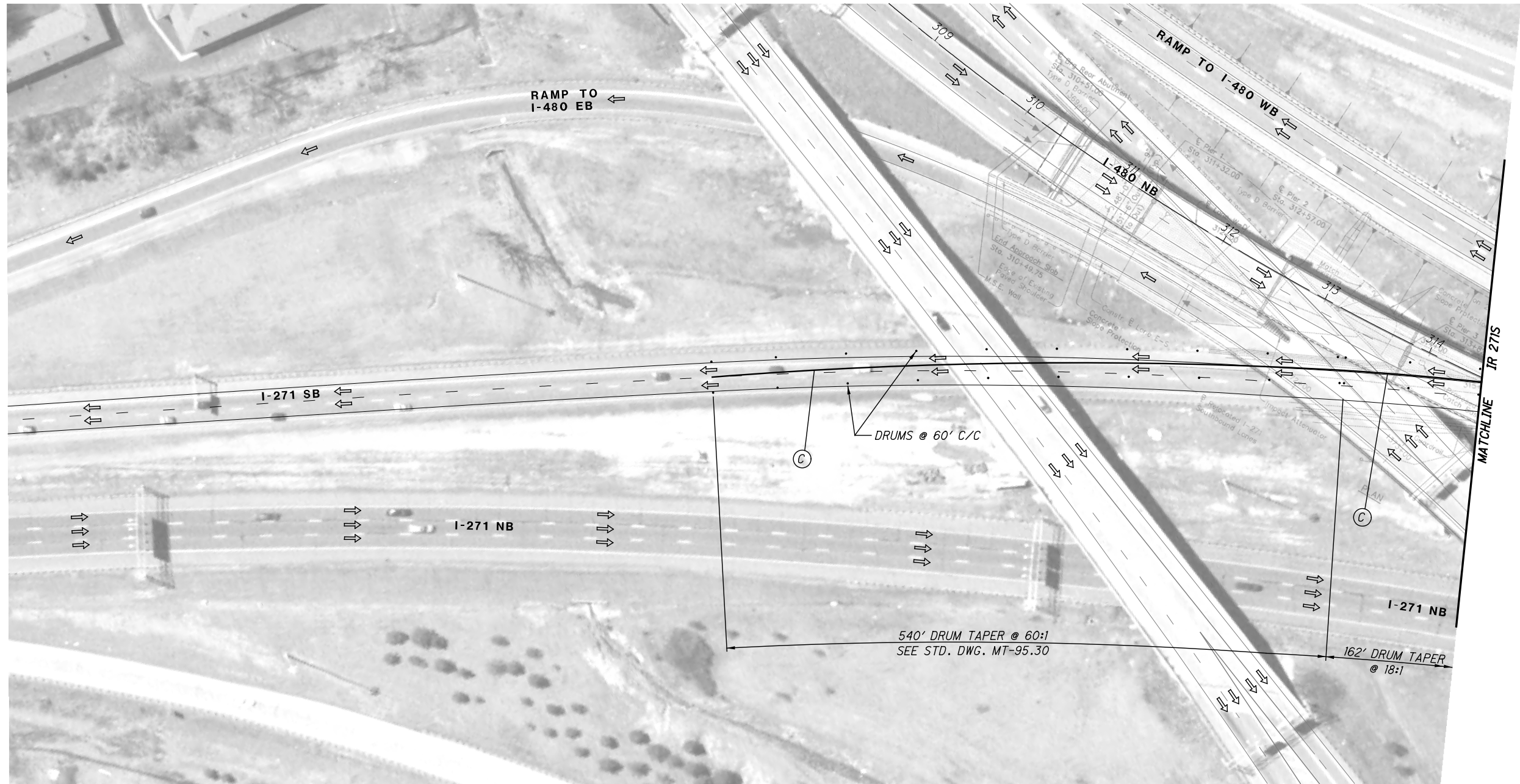
- NOTES:**
- DURING PERMITTED LANE CLOSURE PERIODS
1. DETAILS ON THIS SHEET ARE TAKEN FROM EXISTING PLANS AND SHOULD BE USED FOR INFORMATION PURPOSES ONLY.
 2. SEE MT-95.30 FOR ADDITIONAL DETAILS.

CALCULATED MS
CHECKED ALP

0 50 100
25
HORIZONTAL SCALE IN FEET

**MAINTENANCE OF TRAFFIC PLAN
CUY-480N-0136WN - PHASE 5**

**D12-BH-FY2019 MISC.
PID NO. 98601**



MOT PAVEMENT MARKING LEGEND

- (A) WORK ZONE EDGE LINE (WHITE)
- (B) WORK ZONE EDGE LINE (YELLOW)
- (C) WORK ZONE CHANNELIZING LINE
- (D) WORK ZONE DOTTED LINE

LEGEND

- WORK AREA
- DRUMS
- PORTABLE BARRIER
- REMOVE EXISTING MARKINGS
- IMPACT ATTENUATOR
- DIRECTION OF TRAVEL

⊛ COVER MESSAGES THAT ARE IN CONFLICT WITH THE MOT PHASING PLANS ON ALL GUIDE SIGNS.

DURING PERMITTED LANE CLOSURE PERIODS

NOTES:

1. DETAILS ON THIS SHEET ARE TAKEN FROM EXISTING PLANS AND SHOULD BE USED FOR INFORMATION PURPOSES ONLY.
2. SEE MT-95.30 FOR ADDITIONAL DETAILS.

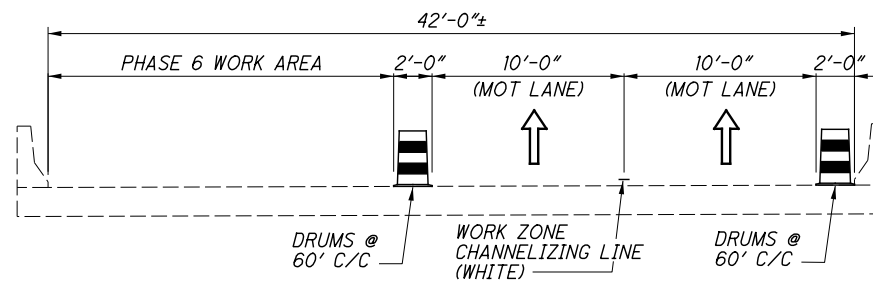


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CHECKED	ALP

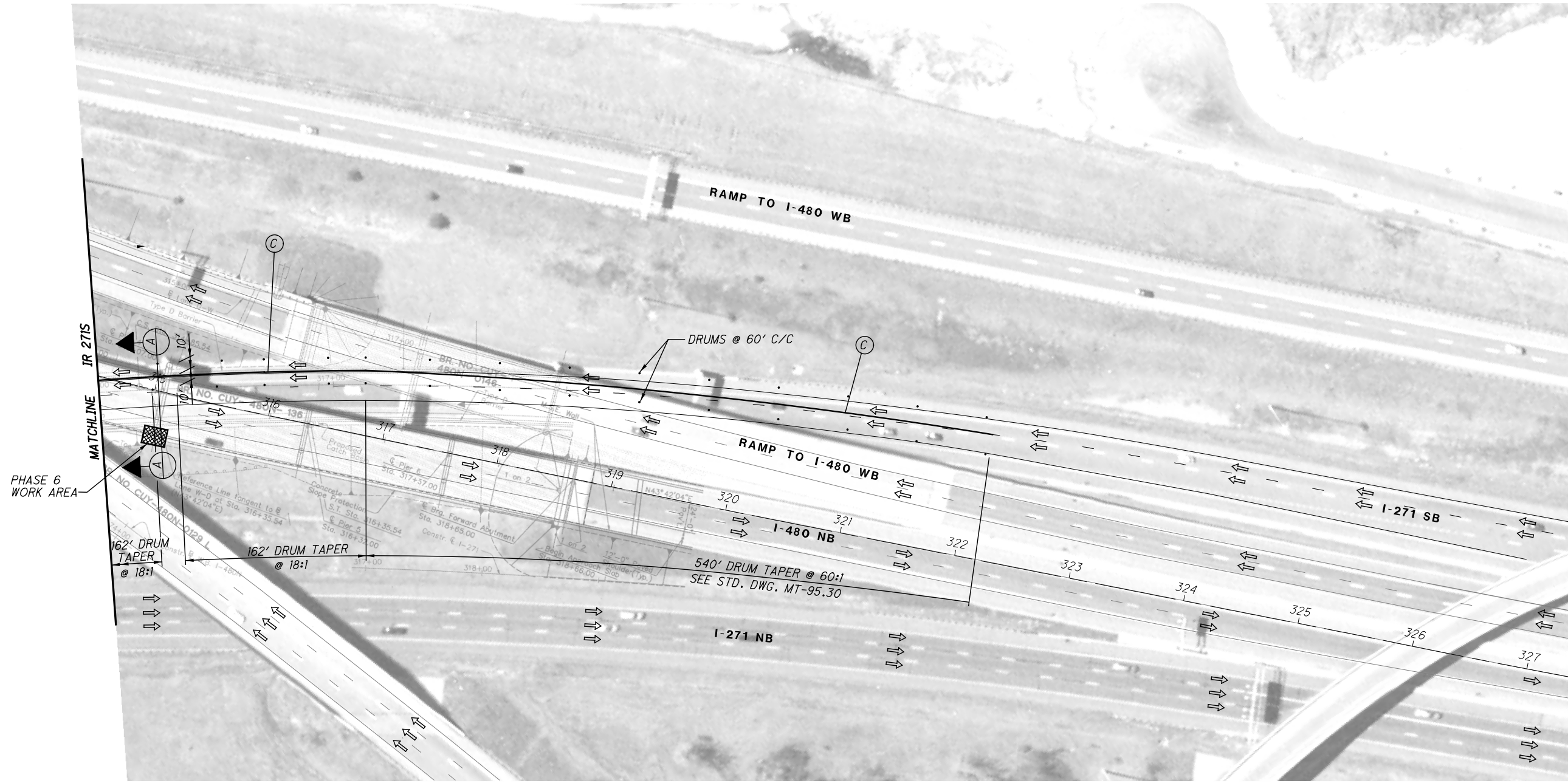
**MAINTENANCE OF TRAFFIC PLAN
CUY-480N-0136WN - PHASE 6**

**D12-BH-FY2019 MISC.
PID NO. 98601**

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SECTION A-A - PHASE 6



- MOT PAVEMENT MARKING LEGEND**
- (A) WORK ZONE EDGE LINE (WHITE)
 - (B) WORK ZONE EDGE LINE (YELLOW)
 - (C) WORK ZONE CHANNELIZING LINE
 - (D) WORK ZONE DOTTED LINE

- LEGEND**
- WORK AREA
 - DRUMS
 - PORTABLE BARRIER
 - REMOVE EXISTING MARKINGS
 - IMPACT ATTENUATOR
 - DIRECTION OF TRAVEL

* COVER MESSAGES THAT ARE IN CONFLICT WITH THE MOT PHASING PLANS ON ALL GUIDE SIGNS.

DURING PERMITTED LANE CLOSURE PERIODS

- NOTES:**
1. DETAILS ON THIS SHEET ARE TAKEN FROM EXISTING PLANS AND SHOULD BE USED FOR INFORMATION PURPOSES ONLY.
 2. SEE MT-95.30 FOR ADDITIONAL DETAILS.

CALCULATED MS
 CHECKED ALP

0 50 100
 HORIZONTAL SCALE IN FEET

**MAINTENANCE OF TRAFFIC PLAN
 CUY-480N-0136WN - PHASE 6**







**D12-BH-FY2019 MISC.
 PID NO. 98601**

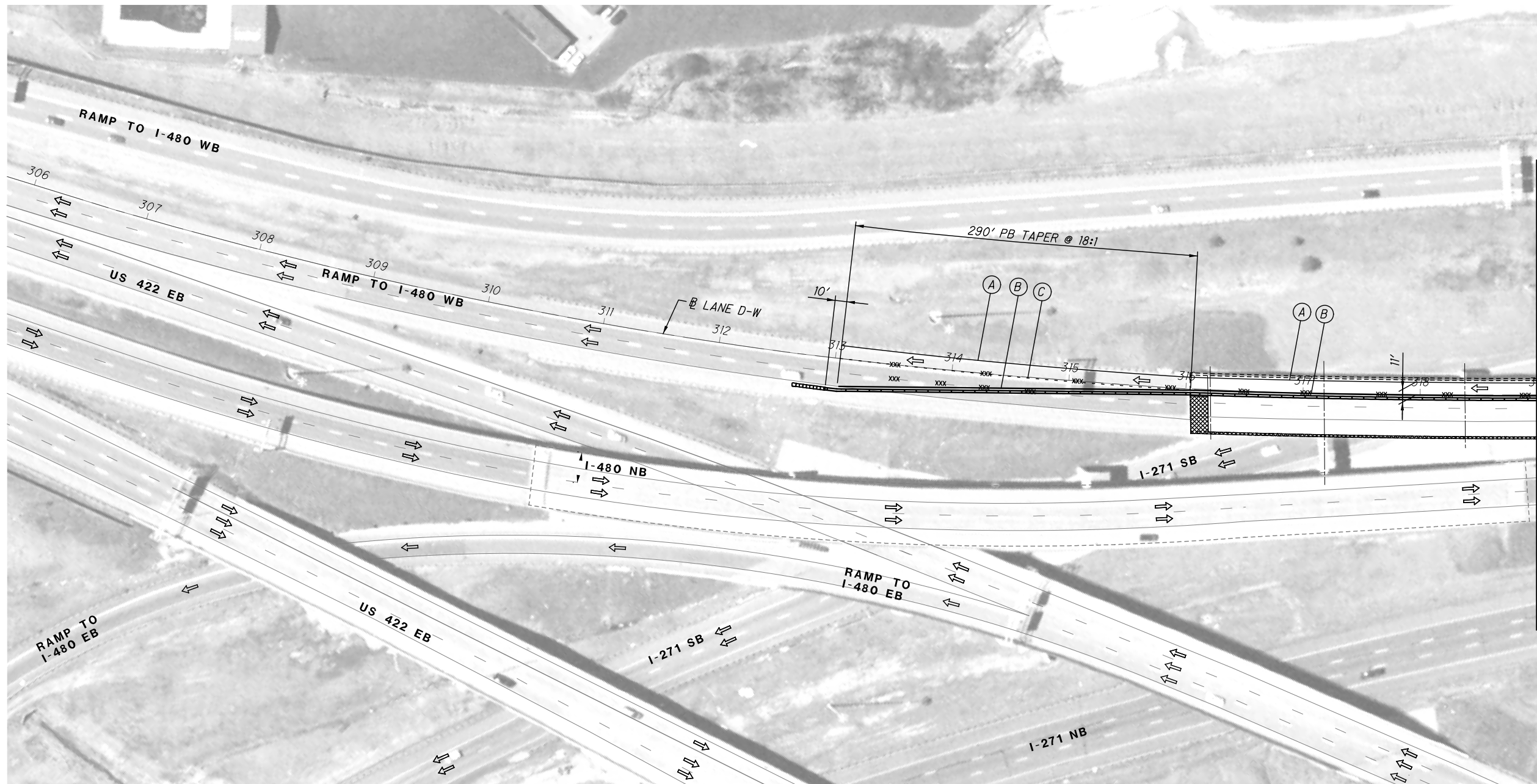
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MOT PAVEMENT MARKING LEGEND

- (A) WORK ZONE EDGE LINE (WHITE)
- (B) WORK ZONE EDGE LINE (YELLOW)
- (C) WORK ZONE DOTTED LINE

LEGEND

-  WORK AREA
-  32" PORTABLE BARRIER
-  REMOVE EXISTING MARKINGS
-  IMPACT ATTENUATOR
-  DIRECTION OF TRAVEL
-  COVER MESSAGES THAT ARE IN CONFLICT WITH THE MOT PHASING PLANS ON ALL GUIDE SIGNS.



CALCULATED MS CHECKED ALP

0 50 100
25
HORIZONTAL SCALE IN FEET

**MAINTENANCE OF TRAFFIC PLAN
CUY-271X-0581NW - PHASE 1**

**D12-BH-FY2019 MISC.
PID NO. 98601**

NOTES:

1. SEE MT-95.40 FOR ADDITIONAL DETAILS.
2. SEE SHEET 28 FOR MOT TYPICAL SECTIONS.
3. THE CLOSURE OF A LANE SHALL BE LIMITED TO 45 CONSECUTIVE CALENDAR DAYS. DISINCENTIVES IN ACCORDANCE WITH CMS 108 SHALL BE ASSESSED FOR EACH CALENDAR DAY BEYOND THE SPECIFIED LIMIT WHICH THE LANE IS CLOSED.

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MOT PAVEMENT MARKING LEGEND

- (A) WORK ZONE EDGE LINE (WHITE)
- (B) WORK ZONE EDGE LINE (YELLOW)

LEGEND

- WORK AREA
- DRUMS @ 50' C/C (MEETS 50 MPH DESIGN SPEED)
- 32" PORTABLE BARRIER
- REMOVE EXISTING MARKINGS
- IMPACT ATTENUATOR
- DIRECTION OF TRAVEL
- COVER MESSAGES THAT ARE IN CONFLICT WITH THE MOT PHASING PLANS ON ALL GUIDE SIGNS.

CALCULATED MS
CHECKED ALP

0 50 100
25
HORIZONTAL SCALE IN FEET

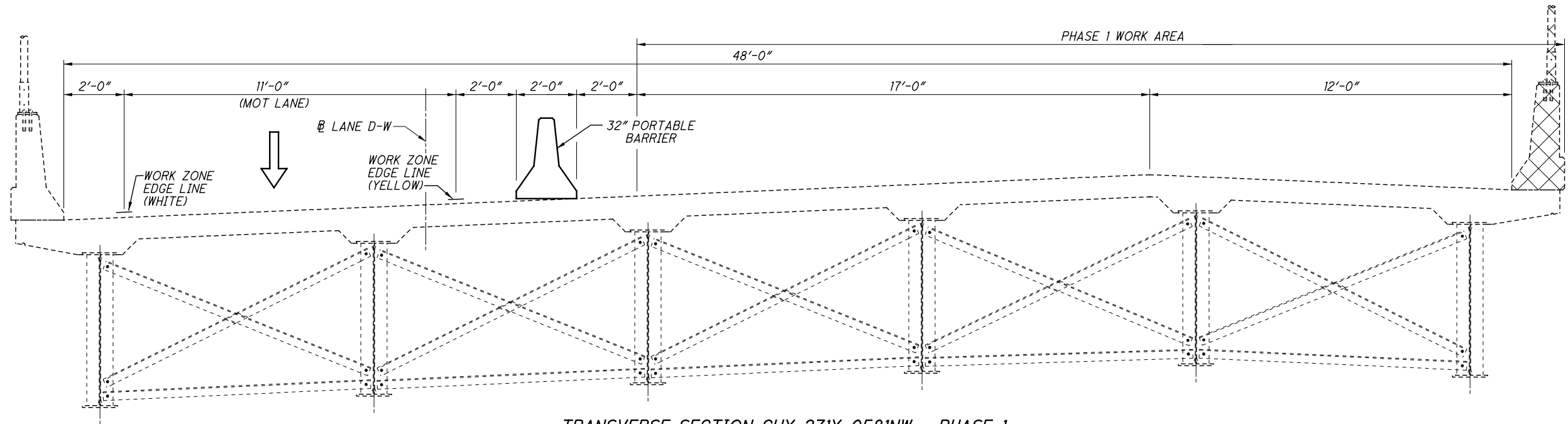
**MAINTENANCE OF TRAFFIC PLAN
CUY-271X-0581NW - PHASE 1**

**D12-BH-FY2019 MISC.
PID NO. 98601**

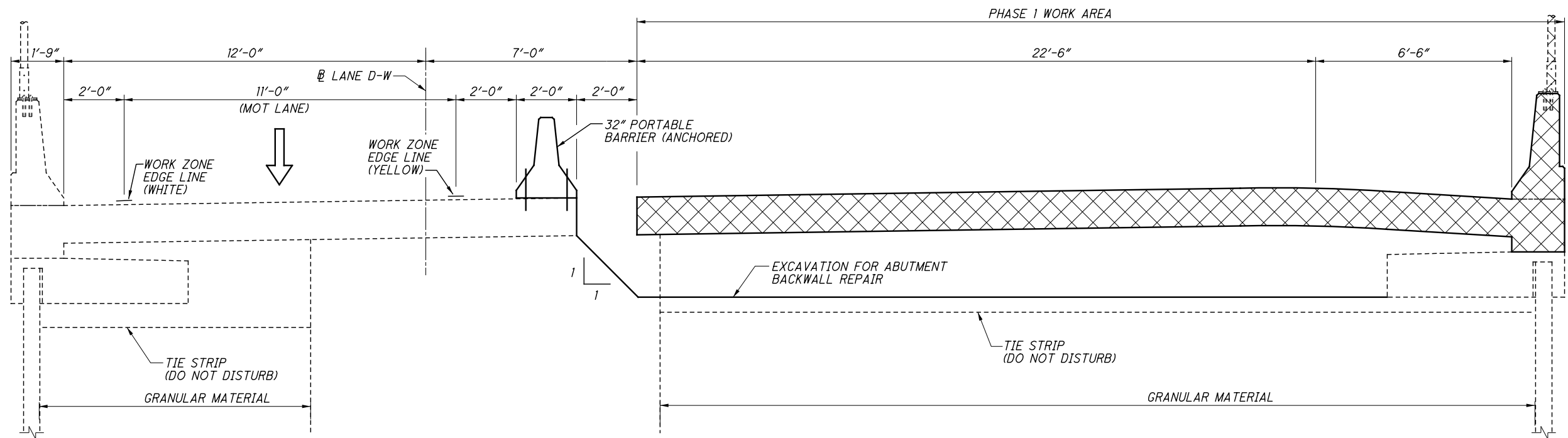
NOTES:

1. SEE MT-95.40 FOR ADDITIONAL DETAILS.
2. SEE SHEET 28 FOR MOT TYPICAL SECTIONS.
3. THE CLOSURE OF A LANE SHALL BE LIMITED TO 45 CONSECUTIVE CALENDAR DAYS. DISINCENTIVES IN ACCORDANCE WITH CMS 108 SHALL BE ASSESSED FOR EACH CALENDAR DAY BEYOND THE SPECIFIED LIMIT WHICH THE LANE IS CLOSED.

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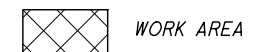


TRANSVERSE SECTION CUY-271X-0581NW - PHASE 1



APPROACH SLAB SECTION CUY-271X-0581NW - PHASE 1

LEGEND



CALCULATED
MS
CHECKED
ALP

MAINTENANCE OF TRAFFIC TYPICAL SECTIONS
CUY-271X-0581NW - PHASE 1








D12-BH-FY2019 MISC.
PID NO. 98601

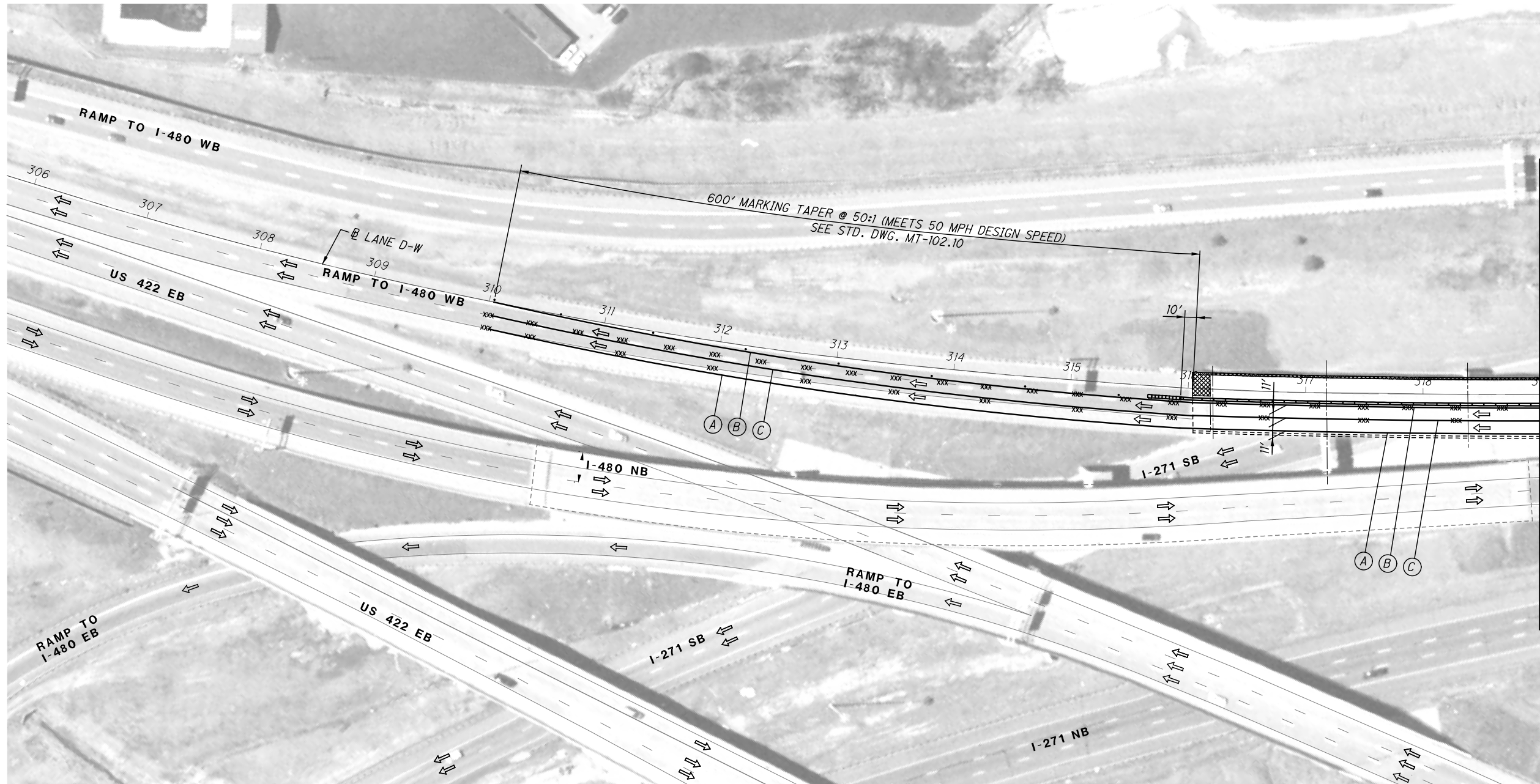
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MOT PAVEMENT MARKING LEGEND

- (A) WORK ZONE EDGE LINE (WHITE)
- (B) WORK ZONE EDGE LINE (YELLOW)
- (C) WORK ZONE CHANNELIZING LINE

LEGEND

-  WORK AREA
-  DRUMS @ 80' C/C (MEETS 50 MPH DESIGN SPEED)
-  32" PORTABLE BARRIER
-  REMOVE EXISTING MARKINGS
-  IMPACT ATTENUATOR
-  DIRECTION OF TRAVEL
-  COVER MESSAGES THAT ARE IN CONFLICT WITH THE MOT PHASING PLANS ON ALL GUIDE SIGNS.



CALCULATED MS CHECKED ALP

0 50 100
25
HORIZONTAL SCALE IN FEET

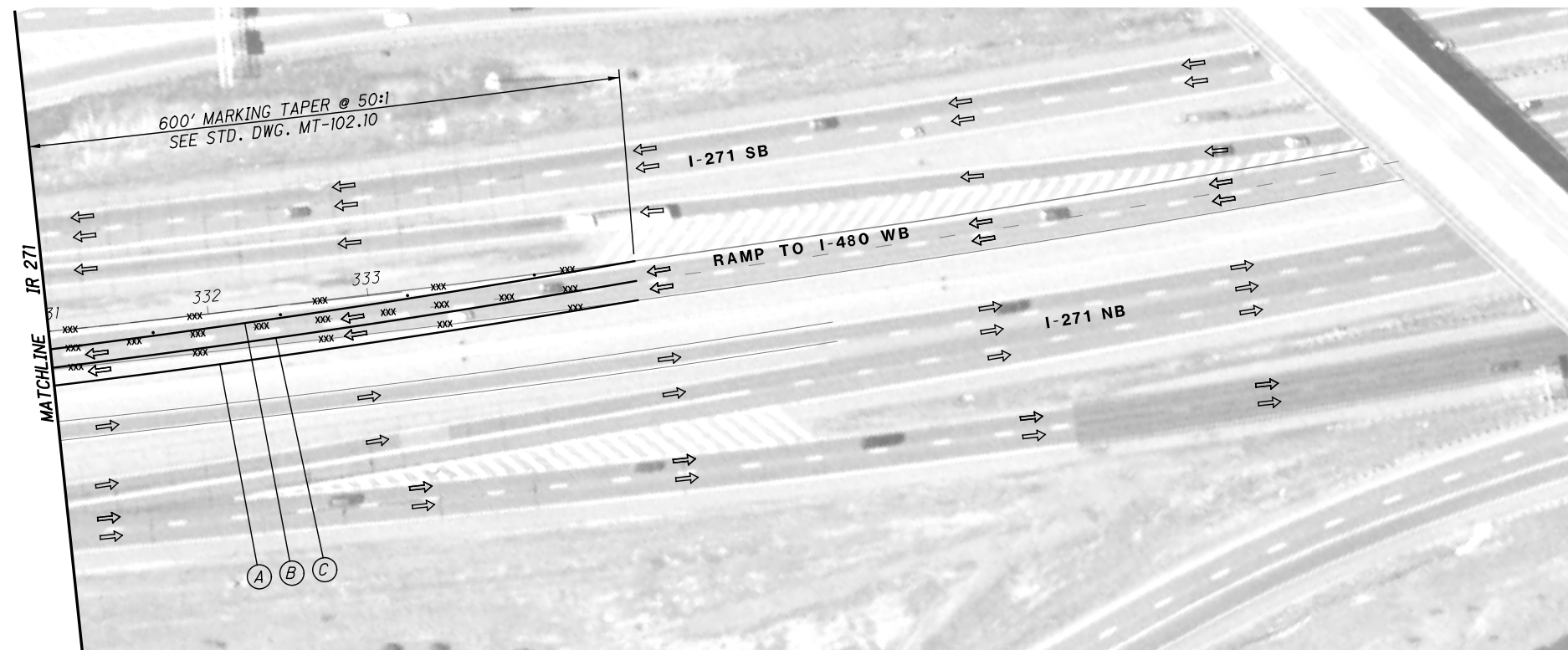
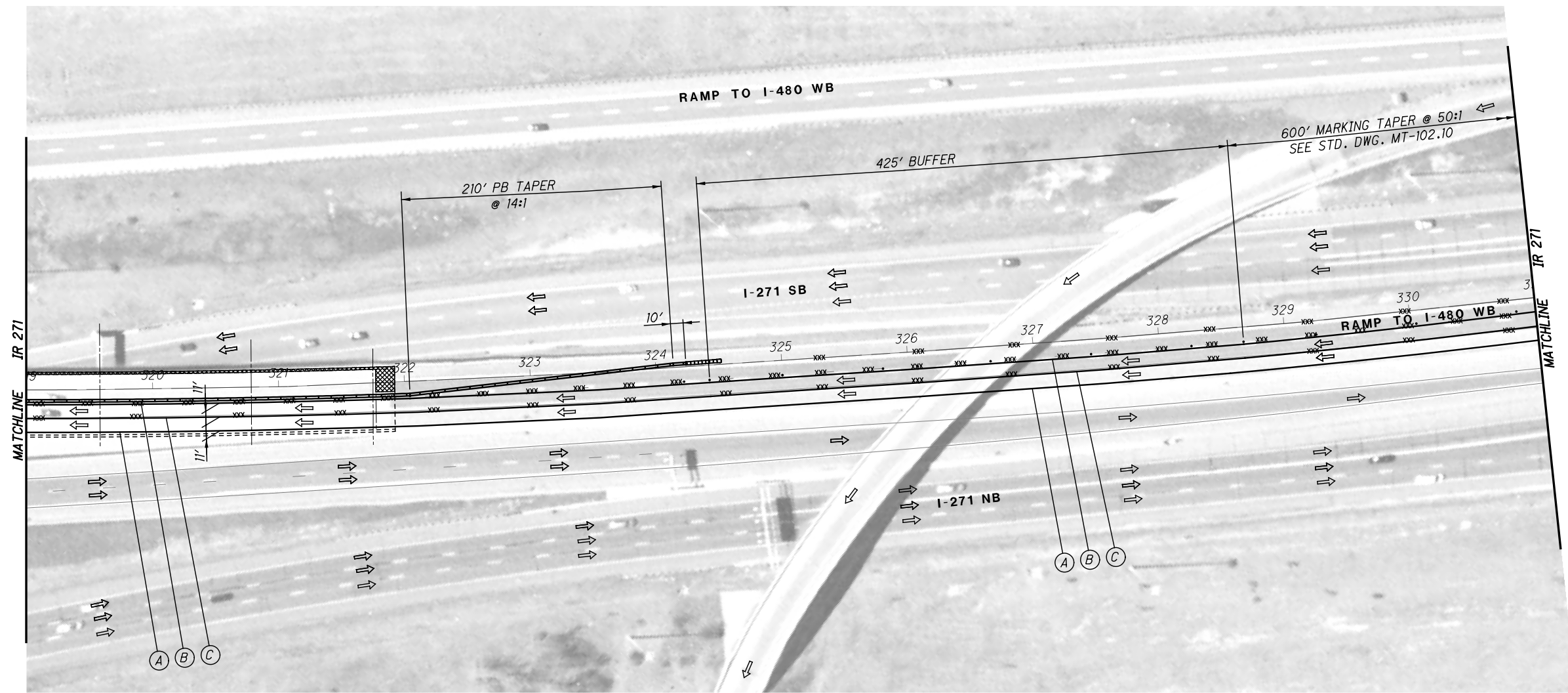
**MAINTENANCE OF TRAFFIC PLAN
CUY-271X-0581NW - PHASE 2**

**D12-BH-FY2019 MISC.
PID NO. 98601**

NOTES:

1. SEE MT-102.10 FOR ADDITIONAL DETAILS.
2. SEE SHEET 31 FOR MOT TYPICAL SECTIONS.

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MOT PAVEMENT MARKING LEGEND

- (A) WORK ZONE EDGE LINE (WHITE)
- (B) WORK ZONE EDGE LINE (YELLOW)
- (C) WORK ZONE CHANNELIZING LINE

LEGEND

- WORK AREA
- DRUMS @ 80' C/C (MEETS 50 MPH DESIGN SPEED)
- 32" PORTABLE BARRIER
- REMOVE EXISTING MARKINGS
- IMPACT ATTENUATOR
- DIRECTION OF TRAVEL
- * COVER MESSAGES THAT ARE IN CONFLICT WITH THE MOT PHASING PLANS ON ALL GUIDE SIGNS.

NOTES:

1. SEE MT-102.10 FOR ADDITIONAL DETAILS.
2. SEE SHEET 31 FOR MOT TYPICAL SECTIONS.

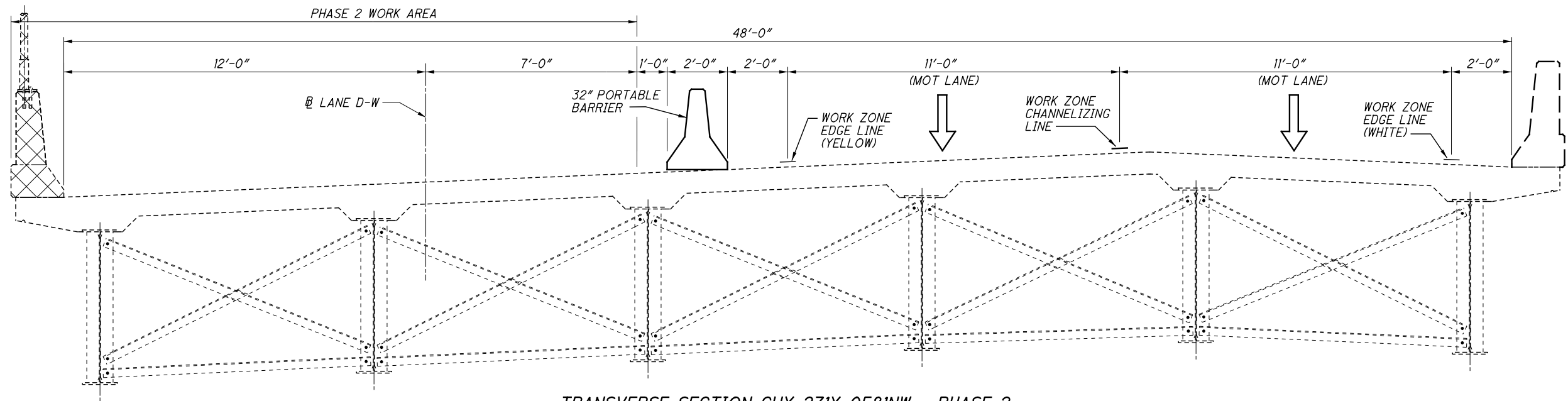
CALCULATED MS CHECKED ALP

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HORIZONTAL SCALE IN FEET

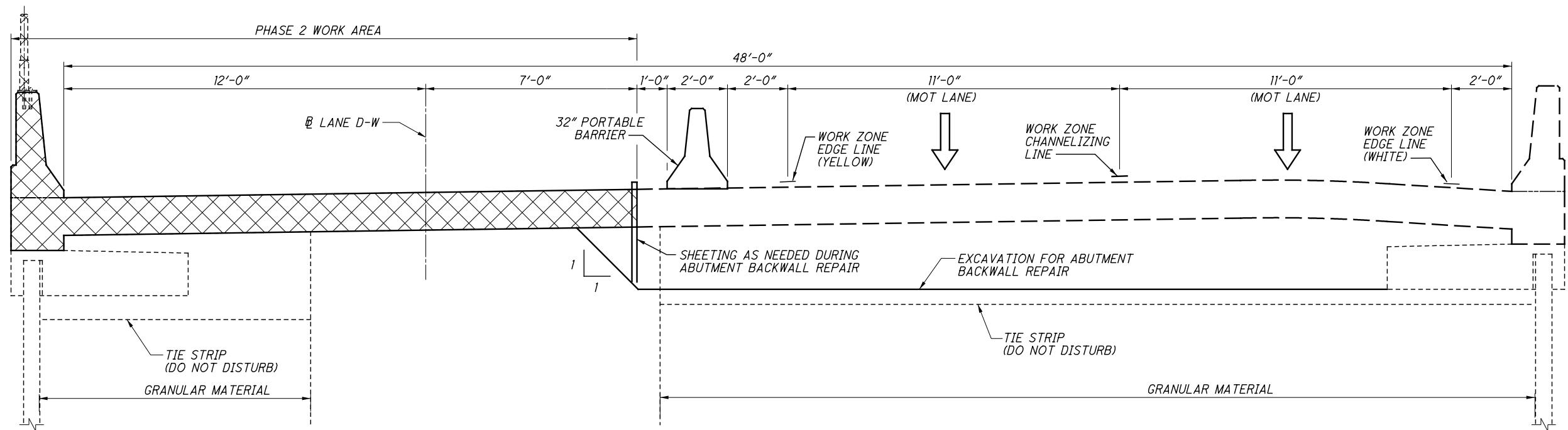
**MAINTENANCE OF TRAFFIC PLAN
CUY-271X-0581NW - PHASE 2**

**D12-BH-FY2019 MISC.
PID NO. 98601**

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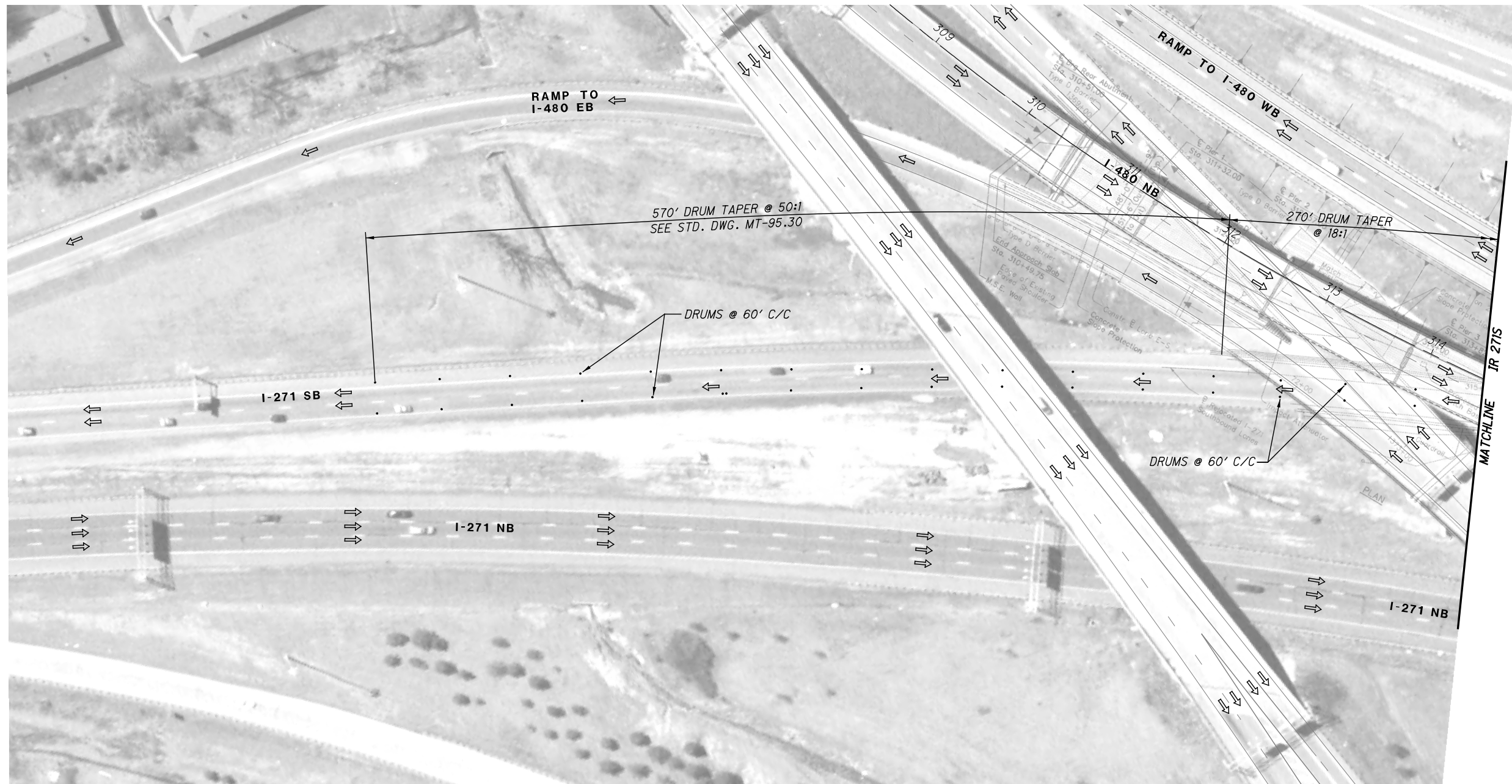


TRANSVERSE SECTION CUY-271X-0581NW - PHASE 2



APPROACH SLAB SECTION CUY-271X-0581NW - PHASE 2

LEGEND
 WORK AREA



- MOT PAVEMENT MARKING LEGEND**
- (A) WORK ZONE EDGE LINE (WHITE)
 - (B) WORK ZONE EDGE LINE (YELLOW)
 - (C) WORK ZONE CHANNELIZING LINE
 - (D) WORK ZONE DOTTED LINE

- LEGEND**
- WORK AREA
 - DRUMS
 - PORTABLE BARRIER
 - REMOVE EXISTING MARKINGS
 - IMPACT ATTENUATOR
 - DIRECTION OF TRAVEL

* COVER MESSAGES THAT ARE IN CONFLICT WITH THE MOT PHASING PLANS ON ALL GUIDE SIGNS.

DURING PERMITTED LANE CLOSURE PERIODS

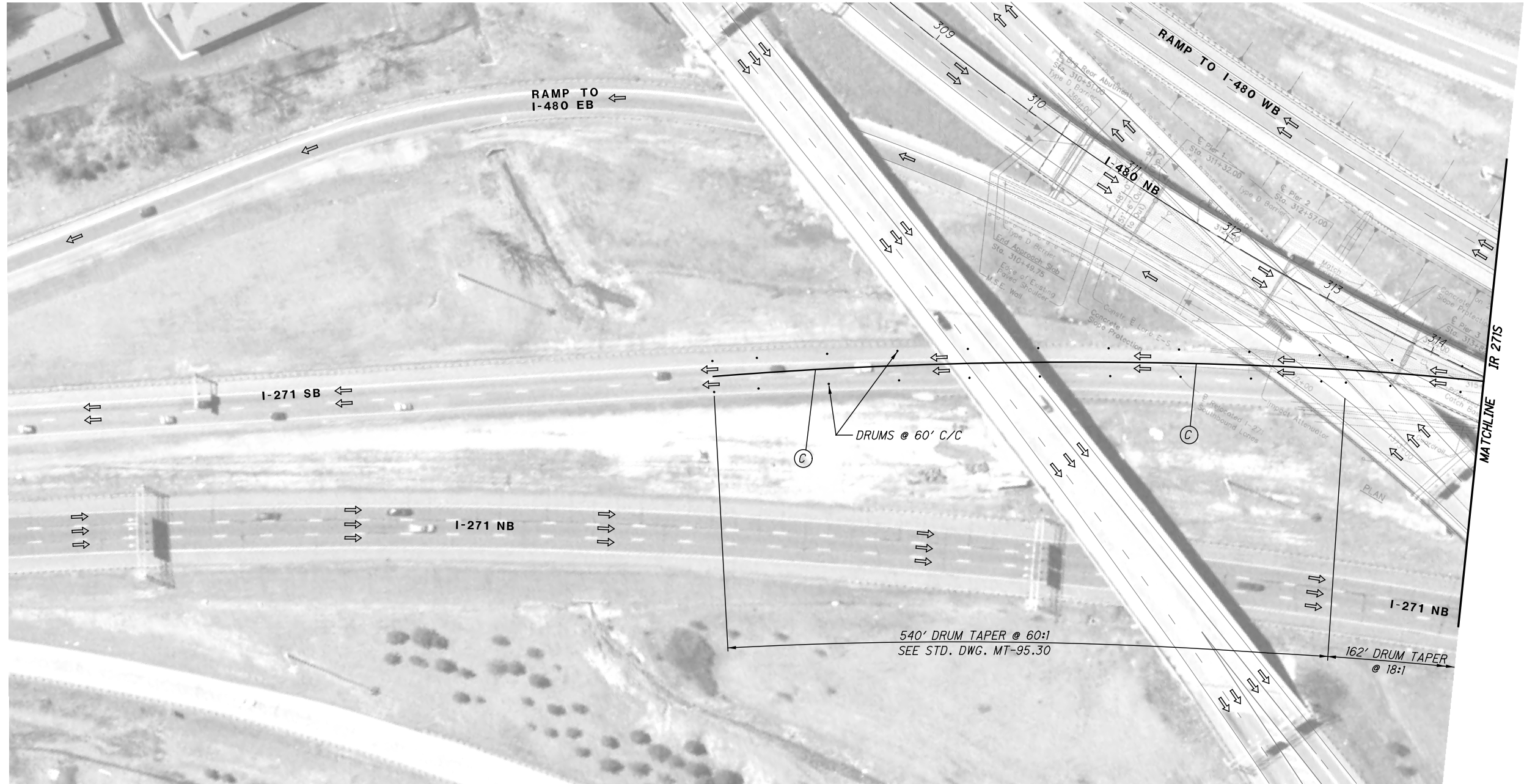
NOTES:

1. DETAILS ON THIS SHEET ARE TAKEN FROM EXISTING PLANS AND SHOULD BE USED FOR INFORMATION PURPOSES ONLY.
2. SEE MT-95.30 FOR ADDITIONAL DETAILS.



**MAINTENANCE OF TRAFFIC PLAN
CUY-271X-0581 NW - PHASE 5**

**D12-BH-FY2019 MISC.
PID NO. 98601**



MOT PAVEMENT MARKING LEGEND

- (A) WORK ZONE EDGE LINE (WHITE)
- (B) WORK ZONE EDGE LINE (YELLOW)
- (C) WORK ZONE CHANNELIZING LINE
- (D) WORK ZONE DOTTED LINE

LEGEND

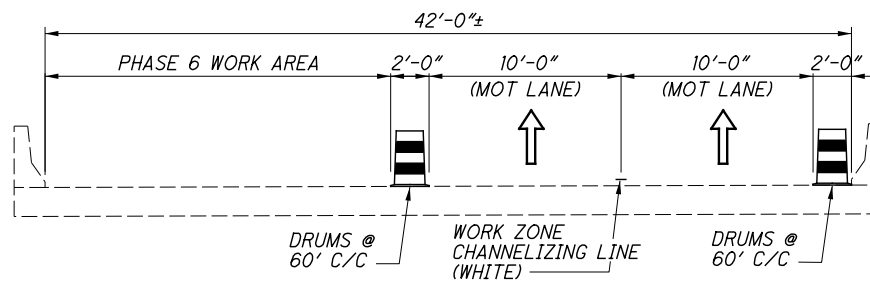
- WORK AREA
- DRUMS
- PORTABLE BARRIER
- REMOVE EXISTING MARKINGS
- IMPACT ATTENUATOR
- DIRECTION OF TRAVEL

⊗ COVER MESSAGES THAT ARE IN CONFLICT WITH THE MOT PHASING PLANS ON ALL GUIDE SIGNS.

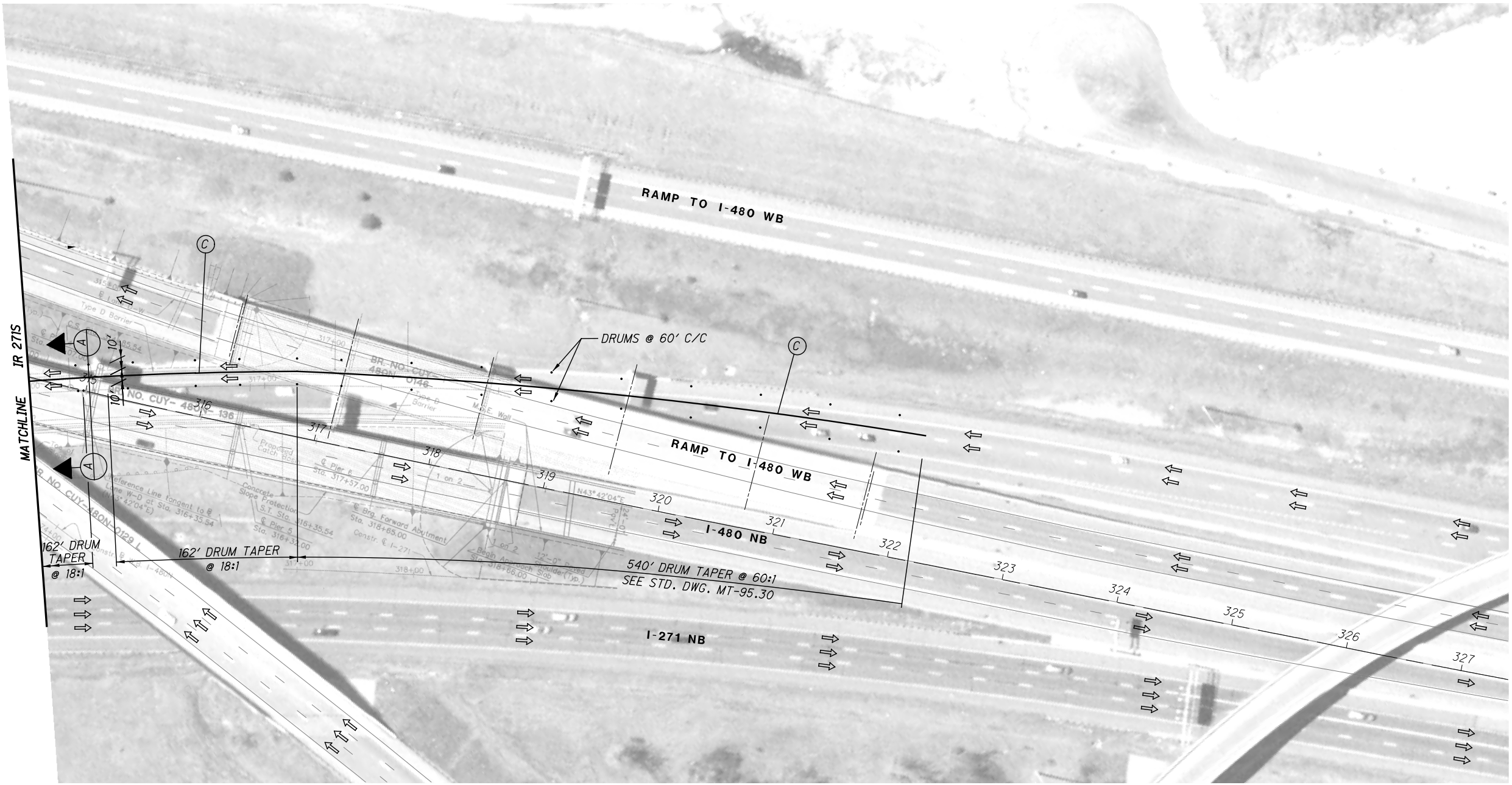
DURING PERMITTED LANE CLOSURE PERIODS

NOTES:

1. DETAILS ON THIS SHEET ARE TAKEN FROM EXISTING PLANS AND SHOULD BE USED FOR INFORMATION PURPOSES ONLY.
2. SEE MT-95.30 FOR ADDITIONAL DETAILS.



SECTION A-A - PHASE 6



- MOT PAVEMENT MARKING LEGEND**
- (A) WORK ZONE EDGE LINE (WHITE)
 - (B) WORK ZONE EDGE LINE (YELLOW)
 - (C) WORK ZONE CHANNELIZING LINE
 - (D) WORK ZONE DOTTED LINE

- LEGEND**
- [Hatched Box] WORK AREA
 - [Dotted Line] DRUMS
 - [Solid Line] PORTABLE BARRIER
 - [Dashed Line] REMOVE EXISTING MARKINGS
 - [Dotted Line] IMPACT ATTENUATOR
 - [Arrow] DIRECTION OF TRAVEL

⊛ COVER MESSAGES THAT ARE IN CONFLICT WITH THE MOT PHASING PLANS ON ALL GUIDE SIGNS.

DURING PERMITTED LANE CLOSURE PERIODS
NOTES:
 1. DETAILS ON THIS SHEET ARE TAKEN FROM EXISTING PLANS AND SHOULD BE USED FOR INFORMATION PURPOSES ONLY.
 2. SEE MT-95.30 FOR ADDITIONAL DETAILS.

CALCULATED MS
 CHECKED ALP

0 50 100
 25
 HORIZONTAL SCALE IN FEET

**MAINTENANCE OF TRAFFIC PLAN
 CUY-271X-0581 NW - PHASE 6**

**D12-BH-FY2019 MISC.
 PID NO. 98601**

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SHEET NUMBER														ITEM	ITEM EXT.	PARTICIPATION			GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
4-6	7-10	40-42 (271X)	40-42 (480N)	11 (271X)	11 (480N)	97-98	50	56	87	100	134	139	149			01/IMS/BR	02/BRO/BR	03/NHS/BR				
ROADWAY																						
														201	11001	LS	LS	LS	LS		CLEARING AND GRUBBING, AS PER PLAN	5
50		35	36											203	10000	121			121	CY	EXCAVATION	
25														203	20000	25			25	CY	EMBANKMENT	
		356	320											204	10000	676			676	SY	SUBGRADE COMPACTION	
50														204	13000	50			50	CY	EXCAVATION OF SUBGRADE	
														204	30010	50			50	CY	GRANULAR MATERIAL, TYPE B	
		1	1											204	45000	2			2	HOUR	PROOF ROLLING	
200														204	50000	200			200	SY	GEOTEXTILE FABRIC	
50														209	10001	50			50	FT	DITCH CLEANOUT, AS PER PLAN	6
12.5														606	13000	12.5			12.5	FT	GUARDRAIL, TYPE 5	
		1												606	35101	1			1	EACH	BRIDGE TERMINAL ASSEMBLY, TYPE 2, AS PER PLAN	82
60														607	20001	60			60	FT	FENCE, TYPE CL, AS PER PLAN	6
	1700													607	98000		1700		1700	FT	FENCE, MISC.: CONSTRUCTION FENCE	8
EROSION CONTROL																						
							38							601	27000	38			38	CY	DUMPED ROCK FILL, TYPE C	
50														659	00300	50			50	CY	TOPSOIL	
200														659	10000	200			200	SY	SEEDING AND MULCHING	
10														659	14000	10			10	SY	REPAIR SEEDING AND MULCHING	
0.03														659	20000	0.03			0.03	TON	COMMERCIAL FERTILIZER	
														659	35000	1			1	MGAL	WATER	
10000														832	30000	10000			10000	EACH	EROSION CONTROL	
DRAINAGE																						
		20	20											605	11100	40			40	FT	6" SHALLOW PIPE UNDERDRAINS	
PAVEMENT																						
		512	534											254	01000	1046			1046	SY	PAVEMENT PLANING, ASPHALT CONCRETE	
		33	23											302	46000	56			56	CY	ASPHALT CONCRETE BASE, PG64-22	
		60	54											304	20000	114			114	CY	AGGREGATE BASE	
		37	39											407	10000	76			76	GAL	TACK COAT	
		24	25											442	10000	49			49	CY	ASPHALT CONCRETE SURFACE COURSE, 12.5 MM, TYPE A (446)	
		3	3											442	10100	6			6	CY	ASPHALT CONCRETE INTERMEDIATE COURSE, 19 MM, TYPE A (446)	
TRAFFIC CONTROL																						
				33	55									621	00100	88			88	EACH	RPM	
				0.71	0.84									644	00104	1.55			1.55	MILE	EDGE LINE, 6"	
				0.36	0.33									644	00204	0.69			0.69	MILE	LANE LINE, 6"	
					984									644	00404	984			984	FT	CHANNELIZING LINE, 12"	
				0.22	0.32									646	10010	0.54			0.54	MILE	EDGE LINE, 6"	
				0.11	0.16									646	10110	0.27			0.27	MILE	LANE LINE, 6"	

GENERAL SUMMARY

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SHEET NUMBER											ITEM	ITEM EXT.	PARTICIPATION			GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
11 (271X)	11 (480N)	97-98	50	56	87	100	134	139	149	01/IMS/BR			02/BRO/BR	03/NHS/BR					
STRUCTURE REPAIR (CUY-480N-0136 WN, SFN 1814591 - LOCATION 4)																			
											LS	11203		LS		PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN	43		
											160	22900		160	SY	APPROACH SLAB REMOVED			
											17	32800		17	SY	CONCRETE SLOPE PROTECTION REMOVED			
											1635	75260		1635	FT	VANDAL PROTECTION FENCE REMOVED			
											92	21101		92	CY	UNCLASSIFIED EXCAVATION, AS PER PLAN	43		
											9763	10000		9763	LB	EPOXY COATED REINFORCING STEEL			
											20	34449		20	CY	CLASS QC2 CONCRETE, BRIDGE DECK (PARAPET), AS PER PLAN	125		
											511	45710		35	CY	CLASS QC1 CONCRETE, ABUTMENT			
											197	10101		197	SY	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE), AS PER PLAN	43		
											3	33000		3	SY	TYPE 2 WATERPROOFING			
											237	95000		237	FT	STRUCTURAL STEEL, MISC.: GALVANIZED CLIMBING BAR AND BRACKETS	121		
											LS	00100		LS		SURFACE PREPARATION OF EXISTING STRUCTURAL STEEL			
											LS	00200		LS		FIELD PAINTING OF EXISTING STRUCTURAL STEEL, PRIME COAT			
											LS	00300		LS		FIELD PAINTING OF STRUCTURAL STEEL, INTERMEDIATE COAT			
											LS	00400		LS		FIELD PAINTING OF STRUCTURAL STEEL, FINISH COAT			
											516	11211		50	FT	STRUCTURAL EXPANSION JOINT INCLUDING ELASTOMERIC STRIP SEAL, AS PER PLAN	112		
											516	12201		50	FT	STRUCTURAL STEEL EXPANSION JOINT, AS PER PLAN	112		
											13	13600		13	SF	1" PREFORMED EXPANSION JOINT FILLER			
											159	13900		159	SF	2" PREFORMED EXPANSION JOINT FILLER			
											22	25001		22	SF	NYLON REINFORCED NEOPRENE SHEETING			
											53	51101		53	FT	8" PIPE DOWNSPOUT, INCLUDING SPECIALS, AS PER PLAN	127		
											518	60011		7	FT	TROUGH HORIZONTAL CONDUCTOR, AS PER PLAN	127		
											299	62600		299	FT	STRUCTURE DRAINAGE, MISC.: NRNS DRAIN TROUGH	127		
											SPECIAL	51900100		523	SF	COMPOSITE FIBER WRAP SYSTEM	44		
											519	11101		254	SF	PATCHING CONCRETE STRUCTURE, AS PER PLAN	44		
											247	25011		247	SY	REINFORCED CONCRETE APPROACH SLABS WITH QC/QA (T=15"), AS PER PLAN	124		
											SPECIAL	53000400		6	EACH	STRUCTURES: INSTALLATION OF INSPECTION CATWALK SYSTEM	114-121		
											601	21000		17	SY	CONCRETE SLOPE PROTECTION			
											613	41300		104	CY	LOW STRENGTH MORTAR BACKFILL (TYPE 2)			
											844	10001		235	SF	CONCRETE PATCHING WITH GALVANIC ANODE PROTECTION, AS PER PLAN	44		
STRUCTURE REPAIR (CUY-480-1428, SFN 1813129 - LOCATION 5)																			
											1	20010		1	EACH	HEADWALL REMOVED			
											2845	10000		2845	LB	EPOXY COATED REINFORCING STEEL			
											96	10000		96	EACH	DOWEL HOLES WITH NONSHRINK, NONMETALLIC GROUT			
											15	46610		15	CY	CLASS QC1 CONCRETE, HEADWALL			
											36	10101		36	SY	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE), AS PER PLAN	43		
											12	13900		12	SF	2" PREFORMED EXPANSION JOINT FILLER			
											32	21200		32	CY	POROUS BACKFILL WITH GEOTEXTILE FABRIC			
											79	40000		79	FT	6" PERFORATED CORRUGATED PLASTIC PIPE			
STRUCTURE REPAIR (CUY-71-1147, SFN 1804774 - LOCATION 6)																			
											LS	11203		LS		PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN	43		
											1407	10000		1407	LB	EPOXY COATED REINFORCING STEEL			
											6	43210		6	CY	CLASS QC1 CONCRETE, PIER REPAIR OR RECONSTRUCTION			
											30	10101		30	SY	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE), AS PER PLAN	43		
											30	10010		30	FT	ARMORLESS PREFORMED JOINT SEAL			
											LS	47001		LS		JACKING AND TEMPORARY SUPPORT OF SUPERSTRUCTURE, AS PER PLAN	43		
											SPECIAL	51900100		80	SF	COMPOSITE FIBER WRAP SYSTEM	44		
											72	11101		72	SF	PATCHING CONCRETE STRUCTURE, AS PER PLAN	44		
											844	10001		37	SF	CONCRETE PATCHING WITH GALVANIC ANODE PROTECTION, AS PER PLAN	44		

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LINE	DESCRIPTION	CALCULATION	QUANTITY
PAVEMENT CALCULATIONS			
FULL DEPTH AREAS - CUY-480N-0136WN			
1	FORWARD	= 48.00 FT. X (5	= 240.00 SQ. FT.
2	REAR	= 48.00 FT. X (5	= 240.00 SQ. FT.
3	SUM OF LINES	1 TO 2	= 480.00 SQ. FT.
RESURFACING AREAS - CUY-480N-0136WN			
4	FORWARD	= 48.00 FT. X (50	= 2400.00 SQ. FT.
5	REAR	= 48.00 FT. X (50	= 2400.00 SQ. FT.
6	SUM OF LINES	4 TO 5	= 4800.00 SQ. FT.
FULL DEPTH AREAS - CUY-271X-0581NW			
7	FORWARD	= 46.00 FT. X (5	= 230.00 SQ. FT.
8	REAR	= 46.00 FT. X (5	= 230.00 SQ. FT.
9	SUM OF LINES	7 TO 8	= 460.00 SQ. FT.
RESURFACING AREAS - CUY-271X-0581NW			
10	FORWARD	= 46.00 FT. X (50	= 2300.00 SQ. FT.
11	REAR	= 46.00 FT. X (50	= 2300.00 SQ. FT.
12	SUM OF LINES	10 TO 11	= 4600.00 SQ. FT.
ITEM 203 - EXCAVATION CUY-480N-0136WN			
13	LINE 3	=	= 480.00 SQ. FT.
14	SUM LINES	13 , (480.00 SQ. FT. X 24 1/4 / 12) / 27.00	= 35.93 CU. YD.
			TOTAL CARRIED TO GENERAL SUMMARY = 36 CU. YD.
ITEM 203 - EXCAVATION CUY-271X-0581NW			
15	LINE 9	=	= 460.00 SQ. FT.
16	SUM LINES	15 , (460.00 SQ. FT. X 24 1/4 / 12) / 27.00	= 34.43 CU. YD.
			TOTAL CARRIED TO GENERAL SUMMARY = 35 CU. YD.
ITEM 254 - PAVEMENT PLANING, ASPHALT CONCRETE CUY-480N-0136WN			
17	LINE 6	=	= 4800.00 SQ. FT.
18	SUM LINES	17 , = 4800.00 SQ. FT. / 9	= 533.33 SQ. YD.
			TOTAL CARRIED TO GENERAL SUMMARY = 534 SQ. YD.
ITEM 254 - PAVEMENT PLANING, ASPHALT CONCRETE CUY-271X-0581NW			
19	LINE 12	=	= 4600.00 SQ. FT.
20	SUM LINES	19 , = 4600.00 SQ. FT. / 9	= 511.11 SQ. YD.
			TOTAL CARRIED TO GENERAL SUMMARY = 512 SQ. YD.
ITEM 407 - TACK COAT CUY-480N-0136WN			
21	LINE 3	= 480.00 SQ. FT. X 2 APPLICATIONS	= 960.00 SQ. FT.
22	LINE 6	=	= 4800.00 SQ. FT.
23	SUM LINES	21 TO 22 , (5760.00 SQ. FT. / 9) X 0.06 GAL. / SQ. YD.)	= 38.40 GAL.
			TOTAL CARRIED TO GENERAL SUMMARY = 39 GAL.
ITEM 407 - TACK COAT CUY-271X-0581NW			
24	LINE 9	= 460.00 SQ. FT. X 2 APPLICATIONS	= 920.00 SQ. FT.
25	LINE 12	=	= 4600.00 SQ. FT.
26	SUM LINES	24 TO 25 , (5520.00 SQ. FT. / 9) X 0.06 GAL. / SQ. YD.)	= 36.80 GAL.
			TOTAL CARRIED TO GENERAL SUMMARY = 37 GAL.

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LINE	DESCRIPTION	CALCULATION	QUANTITY
ITEM 442 - 1 1/2" ASPHALT CONCRETE SURFACE COURSE, 12.5MM, TYPE A (446) CUY-480N-0136WN			
27	LINE 3	=	480.00 SQ. FT.
28	LINE 6	=	4800.00 SQ. FT.
29	SUM LINES 27 TO 28	(5280.00 SQ. FT. X (1 1/2 " / 12) / 27	24.44 CU. YD.
			TOTAL CARRIED TO GENERAL SUMMARY = 25 CU. YD.
ITEM 442 - 1 1/2" ASPHALT CONCRETE SURFACE COURSE, 12.5MM, TYPE A (446) CUY-271X-0581NW			
30	LINE 9	=	460.00 SQ. FT.
31	LINE 12	=	4600.00 SQ. FT.
32	SUM LINES 30 TO 31	(5060.00 SQ. FT. X (1 1/2 " / 12) / 27	23.43 CU. YD.
			TOTAL CARRIED TO GENERAL SUMMARY = 24 CU. YD.
ITEM 442 - 1 3/4" ASPHALT CONCRETE INTERMEDIATE COURSE, 19MM, TYPE A (446) CUY-480N-0136WN			
33	LINE 3	=	480.00 SQ. FT.
34	LINE 33	(480.00 SQ. FT. X (1 3/4 " / 12) / 27	2.59 CU. YD.
			TOTAL CARRIED TO GENERAL SUMMARY = 3 CU. YD.
ITEM 442 - 1 3/4" ASPHALT CONCRETE INTERMEDIATE COURSE, 19MM, TYPE A (446) CUY-271X-0581NW			
35	LINE 9	=	460.00 SQ. FT.
36	LINE 35	(460.00 SQ. FT. X (1 3/4 " / 12) / 27	2.48 CU. YD.
			TOTAL CARRIED TO GENERAL SUMMARY = 3 CU. YD.
ITEM 302 - 15" ASPHALT CONCRETE BASE, PG64-22 CUY-480N-0136WN			
37	LINE 3	=	480.00 SQ. FT.
38	SUM OF LINES 37	=	480.00 SQ. FT.
39	LINE 38	(480.00 SQ. FT. X (15 " / 12) / 27	22.22 CU. YD.
			TOTAL CARRIED TO GENERAL SUMMARY = 23 CU. YD.
ITEM 302 - 15" ASPHALT CONCRETE BASE, PG64-22 CUY-271X-0581NW			
40	LINE 9	=	460.00 SQ. FT.
41	SUM OF LINES 40	=	460.00 SQ. FT.
42	LINE 41	(460.00 SQ. FT. X (15 " / 12) / 27	21.30 CU. YD.
43	FIRST STEP	= 92 FT LONG X (4 " / 12) X 2 SIDES X (15 " / 12) / 27	2.84 CU. YD.
44	SECOND STEP	= 92 FT LONG X (10 " / 12) X 2 SIDES X (10 " / 12) / 27	4.73 CU. YD.
45	THIRD STEP	= 92 FT LONG X (16 " / 12) X 2 SIDES X (5 " / 12) / 27	3.79 CU. YD.
46	SUM OF LINES 42 TO 45	=	32.66 CU. YD.
			TOTAL CARRIED TO GENERAL SUMMARY = 33 CU. YD.
ITEM 304 - AGGREGATE BASE CUY-480N-0136WN			
6" AGGREGATE BASE			
47	LINE 38	=	480.00 SQ. FT.
48	UNDER APPROACH SLABS	48 FT X 25 FT X 2	2400.00 SQ. FT.
49	SUM OF LINES 47 TO 48	=	2880.00 SQ. FT.
50	LINE 49	(2880.00 SQ. FT. X (6 " / 12) / 27	53.33 CU. YD.
51	SUM OF LINES 50	=	53.33 CU. YD.
			TOTAL CARRIED TO GENERAL SUMMARY = 54 CU. YD.
ITEM 304 - AGGREGATE BASE CUY-271X-0581NW			
6" AGGREGATE BASE			
52	LINE 41	=	460.00 SQ. FT.
53	UNDER APPROACH SLABS	48 FT X 25 FT X 2	2400.00 SQ. FT.
54	STEP	= 92 FT LONG X (22 " / 12) X 2 SIDES	337.33 SQ. FT.
55	SUM OF LINES 52 TO 54	=	3197.33 SQ. FT.
56	LINE 55	(3197.33 SQ. FT. X (6 " / 12) / 27	59.21 CU. YD.
57	SUM OF LINES 56	=	59.21 CU. YD.
			TOTAL CARRIED TO GENERAL SUMMARY = 60 CU. YD.

CALCULATIONS	CALCULATED MES CHECKED PRS
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LINE	DESCRIPTION	CALCULATION	QUANTITY
ITEM 204 - SUBGRADE COMPACTION CUY-480N-0136WN			
58	SUM OF LINES	49 =	2880.00 SQ. FT.
59	LINE 58	(2880.00 SQ. FT. / 9)	320.00 SQ. YD.
			TOTAL CARRIED TO GENERAL SUMMARY = 320 SQ. YD.
ITEM 204 - SUBGRADE COMPACTION CUY-271X-0581NW			
60	SUM OF LINES	55 =	3197.33 SQ. FT.
61	LINE 60	(3197.33 SQ. FT. / 9)	355.26 SQ. YD.
			TOTAL CARRIED TO GENERAL SUMMARY = 356 SQ. YD.
ITEM 204 - PROOF ROLLING CUY-480N-0136WN			
62	FROM LINE 58	= 2880.00 SQ. FT. / 9 X 1 HR. / 2000 SQ. YDS.	0.16 HR.
			TOTAL CARRIED TO GENERAL SUMMARY = 1 HR.
ITEM 204 - PROOF ROLLING CUY-271X-0581NW			
63	FROM LINE 60	= 3197.33 SQ. FT. / 9 X 1 HR. / 2000 SQ. YDS.	0.18 HR.
			TOTAL CARRIED TO GENERAL SUMMARY = 1 HR.
ITEM 605 - 6" SHALLOW PIPE UNDERDRAINS CUY-480N-0136WN			
64	FORWARD	5 FT X 2	10 FT
65	REAR	5 FT X 2	10 FT
66	SUM OF LINES 65		20.00 FT
			TOTAL CARRIED TO GENERAL SUMMARY = 20 FT
ITEM 605 - 6" SHALLOW PIPE UNDERDRAINS CUY-271X-0581NW			
67	FORWARD	5 FT X 2	10 FT
68	REAR	5 FT X 2	10 FT
69	SUM OF LINES 68		20.00 FT
			TOTAL CARRIED TO GENERAL SUMMARY = 20 FT
ITEM 606 - BRIDGE TERMINAL ASSEMBLY, TYPE 2, AS PER PLAN CUY-271X-0581NW			
70	FORWARD		1 EACH
71	SUM OF LINES 70		1.00 EACH
			TOTAL CARRIED TO GENERAL SUMMARY = 1 EACH

CALCULATED MES CHECKED PRS	CALCULATIONS	D12-BH-FY2019 MISC. PID NO. 98601	42 149
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PROJECT DESCRIPTION

AS LISTED IN STRUCTURE DATA TABLE ON SHEET 49
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REFER TO STANDARD BRIDGE DRAWINGS

AS LISTED ON TITLE SHEET

REFER TO SUPPLEMENTAL SPECIFICATIONS

SS 844

DESIGN DATA

CONCRETE CLASS QC2 - COMPRESSIVE STRENGTH 4.5 KSI (SUPERSTRUCTURE)

CONCRETE CLASS QC1 - COMPRESSIVE STRENGTH 4.0 KSI (SUBSTRUCTURE)

REINFORCING STEEL - MINIMUM YIELD STRENGTH 60 KSI

RIGHT OF WAY

ALL WORK IS TO BE PERFORMED WITHIN THE EXISTING RIGHT OF WAY OR EASEMENTS OR WITHIN STATE PROPERTY.

UTILITY OWNERSHIP

THE NATURE OF THE WORK REQUIRED BY THIS PROJECT WILL NOT AFFECT ANY KNOWN UTILITIES IN THE WORK AREAS.

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 SECTIONS 102.05 AND 105.02 OF THE 2016 CONSTRUCTION AND MATERIAL SPECIFICATIONS.

BASE CONTRACT BID PRICES UPON A RECOGNITION OF THE UNCERTAINTIES DESCRIBED ABOVE AND UPON A PRE-BID EXAMINATION OF THE EXISTING STRUCTURE BY THE CONTRACTOR. HOWEVER, THE DEPARTMENT WILL PAY FOR ALL PROJECT WORK BASED UPON ACTUAL DETAILS AND DIMENSIONS THAT HAVE BEEN VERIFIED IN THE FIELD.

THE EXISTING STRUCTURE PLANS MAY BE REVIEWED AT THE:
OHIO DEPARTMENT OF TRANSPORTATION
DISTRICT 12 OFFICE
5500 TRANSPORTATION BOULEVARD
GARFIELD HEIGHTS, OH 44125

EXISTING PLANS ARE ALSO AVAILABLE THROUGH THE FOLLOWING ODOT WEBSITE:
[HTTP://WWW.DOT.STATE.OH.US/DIVISIONS/CONTRACTADMIN/CONTRACTS/PAGES/DESIGNFILES.ASPX](http://www.dot.state.oh.us/divisions/contractadmin/contracts/pages/designfiles.aspx)

EXISTING DIMENSIONS

ALL DIMENSIONS ARE ±.

LIMITATIONS OF OPERATIONS

THE CONTRACTOR'S ACTIVITIES AND WORK SCHEDULE SHALL BE CONSTRAINED BY THE FOLLOWING SPECIAL LIMITATIONS:

- 1. MAINTENANCE OF TRAFFIC RESTRICTIONS (REFER TO THE MAINTENANCE OF TRAFFIC NOTES SHEETS IN THIS PLAN).

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

THIS ITEM SHALL INCLUDE THE ELEMENTS INDICATED IN THE PLANS AND GENERAL NOTES AND THAT ARE NOT SEPARATELY LISTED FOR PAYMENT. ITEMS TO BE REMOVED INCLUDE ALL EXISTING MATERIALS BEING REPLACED BY NEW CONSTRUCTION AND MISCELLANEOUS ITEMS THAT ARE NOT SHOWN TO BE INCORPORATED INTO THE FINAL CONSTRUCTION AND ARE DIRECTED TO BE REMOVED BY THE ENGINEER. THE USE OF EXPLOSIVES, HEADACHE BALLS AND/OR HOE-RAMS WILL NOT BE PERMITTED. THE METHOD OF REMOVAL AND THE WEIGHT OF HAMMER SHALL BE APPROVED BY THE ENGINEER. PERFORM ALL WORK IN A MANNER THAT WILL NOT CUT, ELONGATE OR DAMAGE THE EXISTING REINFORCING STEEL TO BE PRESERVED. CHIPPING HAMMERS SHALL NOT BE HEAVIER THAN THE NOMINAL 90-POUND CLASS. PNEUMATIC HAMMERS SHALL NOT BE PLACED IN DIRECT CONTACT WITH REINFORCING STEEL THAT IS TO BE RETAINED IN THE REBUILT STRUCTURE. SUBMIT CONSTRUCTION PLANS ACCORDING TO CMS 501.05.

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 IN PLACE. INSTALL DOWEL BARS IF SPECIFIED. 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 - UNCLASSIFIED EXCAVATION, AS PER PLAN

FOR LOCATIONS 2 (CUY-271X-0581 NW) AND 4 (CUY-480N-0136), REMOVE ENOUGH EXISTING BACKFILL BELOW THE APPROACH SLABS TO CONSTRUCT THE NEW ABUTMENT BACKWALLS. UPON COMPLETION OF THE BACKWALL RECONSTRUCTION, REPLACE REMOVED BACKFILL MATERIAL AND ANY ADDITIONAL VOIDS USING APPROVED INSTALLATION METHODS WITH THE SAME TYPE/GRADE MATERIAL REMOVED OR UTILIZE AN APPROVED LOW STRENGTH MORTAR. THE REPLACED MATERIAL WILL BE INCIDENTAL TO THIS PAY ITEM. A QUANTITY OF ADDITIONAL BACKFILL MATERIAL HAS BEEN PROVIDED FOR FILLING VOIDS THAT MAY EXIST BELOW THE EXISTING APPROACH SLABS BEYOND THE LIMITS OF THE REMOVAL NEEDED FOR THE BACKWALL CONSTRUCTION.

ITEM 509 - REINFORCING STEEL REPLACEMENT OF EXISING REINFORCING STEEL, AS PER PLAN

FOR LOCATION 3 (CUY-480-0800), REPLACE ALL EXISTING REINFORCING BARS DEEMED BY THE ENGINEER TO BE UNUSABLE BECAUSE OF CORROSION. THE DEPARTMENT WILL MEASURE THE REPLACEMENT REINFORCING STEEL BY THE NUMBER OF POUNDS ACCEPTED IN PLACE.

REPLACE ALL EXISTING REINFORCING STEEL BARS WHICH ARE TO BE INCORPORATED INTO THE NEW WORK AND ARE DEEMED BY THE ENGINEER TO BE MADE UNUSABLE BY CONCRETE REMOVAL OPERATIONS WITH NEW EPOXY COATED REINFORCING STEEL OF THE SAME SIZE AT NO COST TO THE DEPARTMENT.

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

AT ALL LOCATIONS SEAL CONCRETE AREAS SPECIFIED IN THE PLANS. THE COLOR OF THE FINISH COAT SHALL BE AS INDICATED ON THE STRUCTURE DATA SHEET. CONTRACTOR SHALL ENSURE ANY EXISTING UNDERPASS LIGHTING, FENCE AND POSTS, RAILING AND ALL OTHER BRIDGE COMPONENTS ARE PROTECTED DURING THE SEALING OPERATIONS. SEALING OF THE FIBER WRAPPED AREAS SHALL BE INCLUDED FOR PAYMENT UNDER ITEM SPECIAL - STRUCTURES, COMPOSITE FIBER WRAP SYSTEM.

ALL EQUIPMENT, LABOR, MATERIALS AND INCIDENTALS REQUIRED TO SEAL ALL OF THE AREAS DETAILED IN THE PLANS SHALL BE PAID UNDER ITEM 512 - SEALING OF CONCRETE SURFACES (EPOXY-URETHANE), AS PER PLAN.

ITEM 513 - STRUCTURAL STEEL, MISC.: SIDEWALK COVER PLATE REPAIR

FOR LOCATION 1 (CUY-10-0869), THE PLATE COVERING THE RIGHT SIDEWALK EXPANSION OPENING AT PIER 4 AND THE PLATE COVERING THE LEFT SIDEWALK EXPANSION OPENING AT PIER 7 SHALL BE RETROFIT. REMOVE THE EXISTING BENT SLIDING PLATE AND REPLACE WITH A NEW STEEL BENT SLIDING PLATE SIMILAR TO THE ORIGINAL. INSTALL NEW CONNECTION BOLTS.

MATERIAL SHALL BE A709 GRADE 36 OR 50.

THE CURB AND SIDEWALK PLATES SHALL BE GALVANIZED PER CMS 711.02.

ALL EQUIPMENT, LABOR AND MATERIALS REQUIRED TO REMOVE THE EXISTING SLIDING PLATE AND INSTALL THE NEW SLIDING PLATE SHALL BE INCLUDED FOR PAYMENT WITH ITEM 513 - STRUCTURAL STEEL, MISC.: SIDEWALK COVER PLATE REPAIR.

ITEM 514 - SURFACE PREPARATION OF EXISTING STRUCTURAL STEEL

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

ITEM 514 - FIELD PAINTING OF STRUCTURAL STEEL, INTERMEDIATE COAT

ITEM 514 - FIELD PAINTING OF STRUCTURAL STEEL, FINISH COAT

FOR LOCATIONS 2 (CUY-271X-0581 NW) & 4 (CUY-480N-0136 WN), PAINT DAMAGE DUE TO ERECTION OF THE NEW CATWALKS OR TRIMMING OF THE GIRDER ENDS AT THE ABUTMENTS (AS REQUIRED) SHALL BE REPAIRED PER THE FOLLOWING ITEMS. THE FINISH COAT SHALL MATCH THE COLOR OF EXISTING STEEL:

- ITEM 514 - SURFACE PREPARATION OF EXISITING STRUCTURAL STEEL
- ITEM 514 - FIELD PAINTING OF EXISTING STRUCTURAL STEEL, PRIME COAT
- ITEM 514 - FIELD PAINTING STRUCTURAL STEEL, INTERMEDIATE COAT
- ITEM 514 - FIELD PAINTING STRUCTURAL STEEL, FINISH COAT.

ITEM 516 - REFURBISH BEARING DEVICE, AS PER PLAN

AT LOCATION 3 (CUY-480-0800), THIS ITEM SHALL INCLUDE ALL WORK NECESSARY TO PROPERLY ALIGN BRIDGE BEARINGS AS WELL AS THEIR CLEANING AND PAINTING. INCLUDED SHALL BE THE DISASSEMBLY OF THE BEARING, HAND TOO CLEANING (GRINDING IF NECESSARY), PAINTING ACCORDING TO ITEM 514 - REPLACEMENT OF ANY DAMAGED SHEET LEAD WITH PREFORMED BEARING PADS (711.21), INSTALLATION OF ANY NECESSARY STEEL SHIMS OF THE SAME SIZE AS THE BEARINGS TO PROVIDE A SNUG FIT, REALIGNMENT OF THE UPPER BEARING PLATE BY REMOVING EXISTING WELDS AND REWELDING SO THAT THE BEARINGS ARE VERTICALLY ALIGNED AT 60° F [15° C], LUBRICATING SLIDING SURFACES, AND REASSEMBLY OF THE BEARINGS. ASSURING ALL BEARING ARE SHIMMED ADEQUATELY AND THAT NO BEAMS AND/OR BEARING DEVICES ARE "FLOATING". AT NO ADDITIONAL COST TO THE STATE, THE CONTRACTOR MAY INSTALL NEW BEARINGS OF THE SAME TYPE AS THE EXISTING IN PLACE OF REFURBISHING THE BEARINGS. ALL WORK SHALL BE TO THE SATISFACTION OF THE ENGINEER. PAYMENT FOR ALL OF THE ABOVE DESCRIBED LABOR AND MATERIALS WILL BE MADE AT THE CONTRACT PRICE BID FOR ITEM 516 - REFURBISH BEARINGS DEVICES, AS PER PLAN.

ITEM 516 - JACKING AND TEMPORARY SUPPORT OF SUPERSTRUCTURE, AS PER PLAN

FOR LOCATION 3 (CUY-480-0800) AND LOCATION 6 (CUY-71-1147), THIS WORK INCLUDES RAISING OR RE-POSITIONING EXISTING STRUCTURES TO PERFORM THE WORK 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 - ELASTOMERIC STRIP SEAL WITHOUT STEEL EXTRUSIONS, AS PER PLAN

FOR LOCATION 1 (CUY-10-0869)

DESCRIPTION: FURNISH ALL MATERIALS, SERVICES, LABOR, TOOLS, EQUIPMENT AND INCIDENTALS NECESSARY TO INSPECT, TEST AND INSTALL REPLACEMENT STRIP SEALS IN THE JOINTS IN ACCORDANCE WITH THE PLANS AND THESE NOTES. NEW STRIP SEALS SHALL BE MATCHED TO SAMPLES TAKEN FROM THE EXISTING STRIP SEALS AND BE COMPARABLE WITH THE JOINT EXTRUSIONS THAT ARE REUSED.

THE WORK SHALL ALSO INCLUDE THE REMOVAL OF THE EXISTING STRIP SEALS; AND REMOVAL, STORAGE, MODIFICATION AND REINSTALLATION OF THE SIDEWALK COVER PLATE.

MATERIALS: SUPPLY STRIP SEALS CONFORMING TO ASTM D5973. SUBMIT CERTIFIED TEST DATA PER 513.08 FROM THE MANUFACTURER OR AN ACCREDITED LABORATORY. D5973 SECTION 8, LOT SIZE IS ONE SAMPLE PER JOINT. A SAMPLE IS A PIECE 4 FEET LONG WITH ALL MANUFACTURERS' MARKINGS.

LUBRICANT - ADHESIVE. ONE PART MOISTURE CURING POLYURETHANE COMPOUND MEETING THE REQUIREMENTS OF ASTM D4070 AND AS SPECIFIED BY THE SEAL MANUFACTURER.

HARDWARE SHALL BE ASTM A325 TYPE ONE, GALVANIZED OR A449 GALVANIZED, IF REQUIRED FOR COVER PLATE ATTACHMENT.

FABRICATION AND INSTALLATION:

- 1. JOINTS IN STRIP SEALS: NO JOINTS ARE ALLOWED.
- 2. EXAMINE SEAL RETAINERS FOR SOIL OR DEFECTS THAT CAN DAMAGE THE SEAL. REPAIR ANY DEFECTS AS DIRECTED BY THE MANUFACTURER.
- 3. SOLVENT CLEAN THE NEOPRENE SEAL ELEMENTS AND THE RETAINER GROOVES TO REMOVE OIL, GREASE OR OTHER SOIL IMMEDIATELY PRIOR TO INSTALLING THE SEALS. INSTALL SEALS USING PROCEDURES AND ADHESIVE SPECIFIED BY THE JOINT MANUFACTURER. KEEP THE BONDING SURFACE CLEAN, DRY AND WARMER THAN 45° F.
- 4. TEST THE INSTALLED JOINT FOR LEAKS. FLOOD THE TOALEXPANSION JOINT LENGTH WITH WATER FOR A PERIOD OF NOT LESS THAN ONE HOUR. COVER THE ENTIRE JOINT SYSTEM BY EITHER PONDING OR FLOWING WATER. LOCATE ANY POINTS OF LEAKAGE AND TAKE ANY AND ALL MEASURES NECESSARY TO STOP THE LEAKAGE. PERFORM THIS WORK AT THE CONTRACTOR'S EXPENSE. PERFORM A SECOND WATER TEST AFTER ALL REPAIRS HAVE BEEN MADE.

METHOD OF MEASUREMENT: INCLUDE THE COST OF ALL LABOR, MATERIALS AND EQUIPMENT NECESSARY TO DESIGN, SUPPLY, INSTALL AND TEST THE REPLACEMENT EXPANSION JOINT STRIP SEALS ACCORDING TO THE PLANS AND THESE NOTES.

BASIS OF PAYMENT: PAYMENT WILL BE MADE AT THE CONTRACT PRICE PER FOOT FOR EACH SEAL IN THE MODULAR JOINT FOR ITEM 516 - ELASTOMERIC STRIP SEAL WITHOUT STEEL EXTRUSIONS, AS PER PLAN.

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RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

DATE 12-20-18
REVIEWED DT
DRAWN JLS
DESIGNED BLN
CHECKED dht

STRUCTURE FILE NUMBER VARIOUS
REVISED

STRUCTURE GENERAL NOTES - 1

D12-BH-FY2019 MISC.
PID No. 98601

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ITEM 519 - PATCHING CONCRETE STRUCTURE, AS PER PLAN

AT LOCATIONS IN THE PLANS, 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. WHERE APPLICABLE, CONTRACTOR SHALL ENSURE ANY EXISTING UNDERPASS LIGHTING, BRIDGE RAIL OR ANY OTHER BRIDGE COMPONENTS ARE PROTECTED DURING THE PATCHING OPERATIONS.

SPECIFIC PATCHING LOCATIONS SHALL BE DETERMINED BY THE ENGINEER IN ACCORDANCE WITH ITEM 519 UNLESS IDENTIFIED IN THE PLANS. IF EXISTING UTILITIES ARE LOCATED WITHIN THE SPECIFIED PATCHING AREAS, THE COST FOR REMOVAL AND REINSTALLING THE UTILITIES SHALL BE INCLUDED IN THIS ITEM. ALL EQUIPMENT, LABOR, MATERIALS AND INCIDENTALS REQUIRED TO PERFORM THE ABOVE DESCRIBED WORK SHALL BE INCLUDED FOR PAYMENT AT THE SQUARE FOOT CONTRACT PRICE FOR ITEM 519 - PATCHING CONCRETE STRUCTURE, AS PER PLAN.

**ITEM 847 - MICRO-SILICA MODIFIED CONCRETE OVERLAY, AS PER PLAN (1 1/2 THICKNESS)
ITEM 847 - MICRO-SILICA MODIFIED CONCRETE OVERLAY (VARIABLE THICKNESS), MATERIAL ONLY, AS PER PLAN**

THESE ITEMS SHALL BE PERFORMED PER SUPPLEMENTAL SPECIFICATION 847 "BRIDGE DECK REPAIR AND OVERLAY WITH CONCRETE USING SCARIFICATION AND CHIPPING" WITH THE FOLLOWING REVISIONS:

CONSTRUCTION JOINTS WILL NOT BE PERMITTED IN THE WHEEL LINE.

(SEE 847.11) THE COMPONENTS OF THE MICRO-SILICA MODIFIED CONCRETE SHALL BE PROPORTIONED AS FOLLOWS:

CONCRETE TABLE
QUANTITIES PER CUBIC YARD
AGGREGATES (SSD)

AGGR. TYPE	FINE AGGR. (LB)	#8 COARSE AGGR. (LB)*	AGGR. TOTAL (LB)	CEMENT CONT. (LB)	MICRO-SILICA (LB)	WATER TO CEMENT RATIO	ARE CONENT +/- 2%	FIBER 1/4" POLYPROPYLENE (LB)**
GRAVEL	1410	1430	2840	600	50	0.40	8	1
LIMESTONE	1410	1450	2860	600	50	0.40	8	1
SLAG	1300	1350	2850	600	50	0.40	8	1

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

** FIBER MESH SHALL BE 100% VIRGIN POLYPROPYLENE IN A FIBRILLATED-NETWORK FORM AND SHALL BE 1/4" IN LENGTH. (FIBER MESH WEIGHTS NOT INCLUDED IN MIX DESIGN)

THE WEIGHTS SPECIFIED IN THE CONCRETE TABLE WERE CALCULATED FOR MATERIALS OF THE FOLLOWING BULK SPECIFIC GRAVITIES (SSD):

MATERIAL	MATERIAL
NATURAL SAND AND GRAVEL	2.62
LIMESTONE SAND	2.68
LIMESTONE	2.65
SLAG	2.30
MICRO-SILICA SOLIS	2.20
PORTLAND CEMENT	3.15

ITEM 844 - CONCRETE PATCHING WITH GALVANIC ANODE PROTECTION, AS PER PLAN

AT LOCATIONS 2 (CUY-271X-0581 NW), 3 (CUY-480-0800), 4 (CUY-480N-0136 WN), AND 6 (CUY-71-1147), REPAIR WORK SHALL BE PER SUPPLEMENTAL SPECIFICATION 844. THE MINIMUM SPACING OF 100 GRAM ZINC ANODE SHALL BE 18" OR EQUIVALENT TOTAL ZINC CONTENT PER AREA. THIS ITEM SHALL BE PER ITEM 844 - CONCRETE PATCHING WITH GALVANIC ANODE PROTECTION, AS PER PLAN AND INCLUDE ALL REQUIRED PATCHING AND PROTECTION WORK TO MAKE THE PIER COLUMNS READY FOR THE COMPOSITE FIBER WRAP SYSTEM.

ITEM SPECIAL - COMPOSITE FIBER WRAP SYSTEM

FOR LOCATIONS 2 (CUY-271X-0581 NW), 3 (CUY-480-0800), 4 (CUY-480N-0136 WN), AND 6 (CUY-71-1147).

DESCRIPTION: THIS WORK SHALL CONSIST OF PROVIDING AND INSTALLING A FIBER WRAP INCLUDING PREPARATION, WRAPPING THE PIER, AND ALL INCIDENTALS NECESSARY TO COMPLETE THIS WORK. THE INSTALLATION SHALL BE PER THE MANUFACTURER'S REQUIREMENTS.

MATERIALS: SUPPLIERS SHALL HAVE A MINIMUM OF 10 INSTALLATIONS AND FURNISH CERTIFIED TEST REPORTS INCLUDING 1000 HOUR TESTS FOR 140 °F WATER, SALT WATER, ALKALINE SOIL, OZONE AND EFFERVESCENCE IN ADDITION TO THE REQUIREMENTS LISTED BELOW.

THE FABRIC FOR THE COMPOSITE CASING SHALL BE CONTINUOUS FILAMENT WOVEN FABRIC. PRIMARY FIBERS FOR THE FABRIC SHALL BE (E) ELECTRICAL GLASS FIBERS. THE FIBER SHALL HAVE A MINIMUM NOMINAL THICKNESS OF 0.05 INCHES.

THE MINIMUM WEIGHT OF THE FABRIC SHALL BE 27.0 OUNCES PER SQUARE YARD.

THE EPOXY SHALL BE SUPPLIED BY THE MANUFACTURER TO MEET THE COMPOSITE STRENGTH GIVEN BELOW. POLYESTER RESIN SHALL NOT BE ALLOWED AS A SUBSTITUTE FOR EPOXY RESIN.

THE COMPOSITE OF THE FIBER WRAPPED COLUMN CASING SYSTEM SHALL CONFORM TO THE FOLLOWING REQUIREMENTS:

PROPERTY	REQUIREMENTS	ASTM TEST METHOD
ULTIMATE TENSILE STRENGTH, PSI MIN. IN PRIMARY FIBER DIRECTION	60,000 PSI	D3039, AVERAGE OF 7, 1" BY 10" NORMALIZED TO 0.80" THICK 0.01" PER MINUTE TESTING SPEED
ULTIMATE TENSILE STRENGTH, PSI MIN. IN ORTHOGONAL FIBER DIRECTION	3,000 PSI	D3039, AVERAGE OF 7, 1" BY 10" NORMALIZED TO 0.80" THICK 0.01" PER MINUTE TESTING SPEED
TENSILE STRENGTH (MIN. AFTER TEST) 1000 HOURS EXPOSURE TO 100% HUMIDITY	60,000 PSI	C581
TENSILE STRENGTH (MIN. AFTER TEST) 1000 HOURS EXPOSURE TO OZONE	60,000 PSI	D1149 EXCEPT NOT UNDER STRESS DURING OZONE EXPOSURE
TENSILE STRENGTH (MIN. AFTER TEST) 1000 HOURS EXPOSURE TO ALKALI	60,000 PSI	D3038 USING SOIL BURIAL - WATER CONTENT OF 73% ± 3%
TENSILE STRENGTH (MIN. AFTER TEST) 1000 HOURS EXPOSURE TO SALT WATER	60,000 PSI	C581 AND D1141 OMITTING ADDITION OF HEAVY METAL REAGENTS
TENSILE STRENGTH (MIN. AFTER TEST) 1000 HOURS EXPOSURE @ 140 DEGREES F	60,000 PSI	D3045
TENSILE STRENGTH (MIN. AFTER TEST) ULTRAVIOLET (UV) EXPOSURE	60,000 PSI	G154 USING FS40 UV-B BULBS FOR A MIN. 40 CYCLES. THE CYCLE SHALL BE 4 HOURS OF CONDENSATE EXPOSURE AT 40 DEGREES C.
ELONGATION:		
PERCENT, MIN.	1.7 %	
PERCENT, MAX.	5.0 %	
TENSILE MODULUS, PSI MIN. OF PRIMARY FIBERS	3,000,000	D3039
VISUAL EFFECTS	ACCEPTANCE LEVEL III	D2563
COEFFECIENT OF THERMAL EXPANSION IN THE PRIMARY DIRECTION	4,300,000 PPM/DEG. F (+15%)	D696

SURFACE PREPARATION: THE SURFACE TO RECEIVE THE COMPOSITE WRAP SHALL BE FREE FROM FINES, SHARP EDGES, AND PROTRUSIONS THAT WILL CAUSE VOIDS BEHIND THE CASING OR THAT, IN THE OPINION OF THE ENGINEER, WILL DAMAGE THE FIBER. IF FIBERS ARE TO WRAP AROUND CORNERS OF RECTANGLE CROSS-SECTIONS, THE CORNERS SHALL BE ROUNDED TO A 1/2 INCH RADIUS. THIS WILL HELP PREVENT STRESS CONCENTRATIONS IN THE FIBER WRAP AND VOIDS BETWEEN THE FIBER WRAP AND THE CONCRETE. IN ADDITION, THE SURFACE SHALL BE SMOOTH AND FREE OF VOIDS OR UNDULATIONS THAT WOULD PREVENT FULL CONTACT BETWEEN THE CONCRETE AND THE FIBER WRAP. THE REMOVAL OF THE EXISTING COATING FROM THE CONCRETE SURFACES IS INCLUDED WITH THE SURFACE PREPARATION FOR THE COMPOSITE FIBER WRAP SYSTEM AND WILL NOT BE PAID SEPARATELY UNDER ITEM 512.

COMPOSITE APPLICATION: THE AMBIENT TEMPERATURE AND THE TEMPERATURE OF THE EPOXY RESIN COMPONENTS SHALL BE BETWEEN 55 DEG. F AND 95 DEG. F AT THE TIME OF MIXING. THE COMPOSITE SHALL BE APPLIED WHEN THE RELATIVE HUMIDITY IS LESS THAN 85% AND THE SURFACE TEMPERATURE IS MORE THAN 5 DEG. F ABOVE THE DEW POINT. APPLICATION SHALL BEGIN WITHIN ONE HOUR AFTER THE BATCH HAS BEEN MIXED. A MANUFACTURER REPRESENTATIVE SHALL BE ON SITE FOR THE FIRST APPLICATION OF THE COMPOSITE FIBER WRAP SYSTEM TO APPROVE THE CONTRACTOR'S APPLICATION PROCESS. THIS REQUIREMENT MAY BE WAIVED WITH WRITTEN APPROVAL FROM THE ENGINEER.

THE COMPONENTS OF THE EPOXY RESIN SHALL BE MIXED WITH A MECHANICAL MIXER AND APPLIED UNIFORMLY TO THE FIBER AT A RATE THAT SHALL INSURE COMPLETE SATURATION OF THE FABRIC.

THE FABRIC/EPOXY COMPOSITE SHALL BE APPLIED TO THE SURFACE OF THE COLUMN BY WRAPPING METHODS THAT PRODUCE A UNIFORM FORCE THAT IS DISTRIBUTED ACROSS THE ENTIRE WIDTH OF THE FABRIC. THE PRIMARY FIBERS OF THE FABRIC SHALL NOT DEVIATE FROM A HORIZONTAL LINE MORE THAN 1#2 INCH PER FOOT. ENTRAPPED AIR SHALL BE RELEASED OR ROLLED OUT BEFORE THE EPOXY SETS.

SUCCESSIVE LAYERS OF COMPOSITE MATERIALS SHALL BE PLACED BEFORE POLYMERIZATION OF THE PREVIOUS LAYER OF EPOXY IS TOO DRY TO ACHIEVE ADEQUATE BOND BETWEEN LAYERS. IF POLYMERIZATION DOES OCCUR BETWEEN LAYERS THE SURFACE MUST BE ROUGHENED USING A LIGHT ABRASIVE THAT WILL NOT DAMAGE THE FIBER.

THE FINAL LAYER OF EPOXY SHALL BE APPLIED TO THE FINAL LAYER OF FABRIC, WITH CARE TAKEN TO ENSURE COATING OF ALL EDGES AND SEAMS. SPACES BETWEEN THE BANDS OF FABRIC SHALL BE FILLED WITH EPOXY THICKENED AS DIRECTED BY THE MANUFACTURER.

A FINAL INSPECTION SHALL BE PERFORMED ON ALL FIBER WRAPPED COLUMNS AFTER THE EPOXY SETS YET PRIOR TO THE APPLICATION OF THE URETHANE TOP COAT. ALL DEFECTS (INCLUDING BUBBLES, DELAMINATIONS AND FABRIC TEARS) MORE THAN 1 SQUARE INCH OF THE SURFACE AREA, OR AS SPECIFIED BY THE PROJECT ENGINEER, SHALL BE REPAIRED AS SUCH.

- SMALL DEFECTS (ON THE ORDER OF 6" DIAMETER) SHALL BE INJECTED OR BACK FILLED WITH EPOXY.
- BUBBLES LESS THAN 12" DIAMETER SHALL BE REPAIRED BY INJECTING WITH EPOXY. TWO HOLES SHALL BE DRILLED INTO THE BUBBLE TO ALLOW INJECTION OF THE EPOXY AND ESCAPE OF ENTRAPPED AIR.
- BUBBLES, DELAMINATIONS AND FABRIC TEARS GREATER THAN 12" IN DIAMETER SHALL BE REPAIRED BY REMOVING AND REAPPLYING THE REQUIRED NUMBER OF LAYERS OF THE COMPOSITE AND THE REQUIRED FINISH COATING. ALL REPAIRS SHALL BE APPROVED BY THE PROJECT ENGINEER.

COATING SYSTEM APPLICATION: A FINAL URETHANE COATING IS REQUIRED TO PROTECT THE FIBERS FROM THE ELEMENTS, SPECIFICALLY UV RADIATION, AND TO GIVE THE FINAL AESTHETIC EFFECT.

AFTER 96 HOURS FROM THE FINAL APPLICATION OF EPOXY, IF THE FINAL EPOXY COAT IS COMPLETELY POLYMERIZED, THE EXTERIOR SURFACES OF THE COMPOSITE WRAP SHALL BE CLEANED AND ROUGHENED BY A LIGHT ABRASIVE. CARE SHOULD BE TAKEN DURING THE ROUGHENING PROCESS SO THAT THE FIBERS ARE NOT DAMAGED. ALL CLEANED AND ROUGHENED SURFACES SHALL BE DRY BEFORE APPLYING THE URETHANE COATING.

MEASUREMENT AND PAYMENT: THE DEPARTMENT WILL PAY FOR THIS ITEM PER SQUARE FOOT OF FIBER WRAP MATERIAL INSTALLED AND ACCEPTED TO COMPLETE THE PROPOSED WORK. THE BID PRICE SHALL INCLUDE ALL LABOR, MATERIALS AND EQUIPMENT NECESSARY TO PROVIDE AND INSTALL A FIBER WRAP COLUMN CASING SYSTEM USING HIGH STRENGTH, HYBRID FIBER/EPOXY COMPOSITES FIELD APPLIED TO THE COLUMN, INCLUDING ERECTION OF SCAFFOLDING, CLEANING, SURFACE PREPARATION, WRAPPING THE COLUMN AND ALL INCIDENTALS NECESSARY TO COMPLETE THE INSTALLATION PER THE MANUFACTURER'S REQUIREMENTS. PAYMENT FOR ALL OF THE ABOVE SHALL BE AT THE UNIT PRICE BID PER SQUARE FOOT FOR ITEM SPECIAL - COMPOSITE FIBER WRAP SYSTEM.

STRUCTURE GENERAL NOTES - 2

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PID No. 98601

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RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

DATE: 12-20-18
REVIEWED BY: DT
STRUCTURE FILE NUMBER: VARIOUS

DRAWN BY: JLS
REVISIONS:

DESIGNED BY: BLN
CHECKED BY: dht

ITEM SPECIAL - PATCHING CONCRETE STRUCTURE, TOP OF BACKWALL REPAIR

THIS PAY ITEM IS INTENDED FOR REPAIRING THE TOP OF THE EXISTING BRIDGE BACKWALLS FROM ABOVE (RIDING SURFACE), AS DETAILED IN THE PLAN. THIS ITEM SHALL BE AS DIRECTED BY THE ENGINEER.

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.

CONCRETE FOR TOP OF BACKWALL REPAIR SHALL BE MICRO-SILICA MODIFIED CONCRETE MIX AS SPECIFIED UNDER ITEM 847.

ALL EQUIPMENT, LABOR, MATERIALS AND INCIDENTALS NECESSARY TO PERFORM THE ABOVE WORK SHALL BE INCLUDED FOR PAYMENT PER FOOT UNDER ITEM SPECIAL - PATCHING CONCRETE STRUCTURE, TOP OF BACKWALL REPAIR.

CONSTRUCTION REQUIREMENTS:

ALL EXPOSED SURFACES OF CAST-IN-PLACE CONCRETE SHALL BE FINISHED TO MATCH THE FINISH OF THE REMAINDER OF WALL UNLESS OTHERWISE SPECIFIED BY THE ENGINEER.

EXPOSED AREAS OF NEW CONCRETE SHALL BE SEALED TO A MINIMUM OF 1.0 FOOT BELOW FINISHED GRADE. DAMAGED AND/OR SANDBLASTED AREAS OF EXISTING CONCRETE SURFACES SHALL BE SEALED AT THE SAME TIME AS NEW CONCRETE SURFACES. THE COLOR OF NEW PAINT SHALL BE THE COLOR OF EXISTING PAINT.

ALL CONCRETE SEALING SHALL BE IN ACCORDANCE WITH CMS ITEM 512.

ALL EXPOSED CORNERS OF CAST-IN-PLACE CONCRETE SHALL BE CHAMFERED 3/4 INCH.

A PROPOSED SEQUENCE OF CONSTRUCTION SHALL BE PART OF THE PLAN NOTES, SAMPLE NOTES ARE PROVIDED BELOW:

GENERAL NOTES FOR REPAIR METHODS:

CONSTRUCTION SPECIFICATIONS:

ODOT BRIDGE DESIGN MANUAL AND ODOT CONSTRUCTION AND MATERIAL SPECIFICATIONS (CMS).

MATERIALS:

CAST-IN-PLACE CONCRETE SHALL BE CLASS OC1, f'c=4,000 PSI @ 28 DAYS.

SHOTCRETE SHALL BE IN ACCORDANCE WITH THE ODOT CMS ITEM 520 (PNEUMATICALLY PLACED MORTAR), f'c=4,200 PSI @ 28 DAYS.

CMS ITEM 613 - LOW-STRENGTH MORTAR (LSM), TYPE 2.

REINFORCING STEEL SHALL BE IN ACCORDANCE WITH CMS 509, MIN. YIELD STRENGTH 60 KSI.

BENDS AND HOOKS IN REINFORCING STEEL SHALL MEET THE REQUIREMENTS OF THE MOST CURRENT EDITION OF THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, ARTICLE 5.10.2, UNLESS NOTED OTHERWISE.

ALL REINFORCING STEEL SHALL HAVE A MINIMUM 2 INCH CONCRETE COVER UNLESS NOTED OTHERWISE.

HELICAL ANCHORS SHALL BE GRADE 60 STEEL GALVANIZED PER ODOT CMS 711.02 AND MUST BE AT LEAST 4.0 FEET LONG WITH 6 INCH BLADE DIAMETER MOUNTED ON A 5/8 INCH DIAMETER SHAFT/ROD, SEE DETAILS ON SHEET 2 OF 8. THE NOMINAL GEOTECHNICAL RESISTANCE (HOLDING POWER) OF THE ANCHOR IS 4 KIPS. THE ANTICIPATED TORQUE TO ACHIEVE THE 4 KIPS IS 400 FT-LB.

BACKFILL MATERIALS PLACED OUTSIDE THE LIMITS OF THE NEW AND EXISTING WALLS SHALL MEET THE REQUIREMENTS OF ROADWAY EMBANKMENT PER CMS ITEM 203. BACKFILL PLACED BEHIND THE BACK OF THE WALL FACE SHALL MEET THE REQUIREMENTS OF ODOT SUPPLEMENTAL SPECIFICATION 840.

1 /	STANDARD MSE WALL REPAIR	REVISIONS	DESIGNED	DRAWN	REVIEWED	DATE	STATE OF OHIO DEPARTMENT OF TRANSPORTATION ADMINISTRATOR	OFFICE OF TECHNICAL ENGINEERING ORIGINAL DESIGN PREPARED BY: E.L. ROBINSON
			BLN	JLS	DT	12-20-18		
			CHECKED	REVISIED	STRUCTURE FILE NUMBER			
			DTA	DT	VARIOUS			

MSE WALL REPAIR NOTES

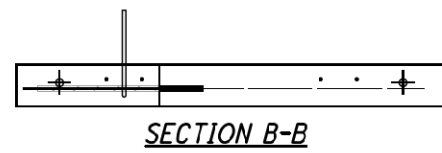
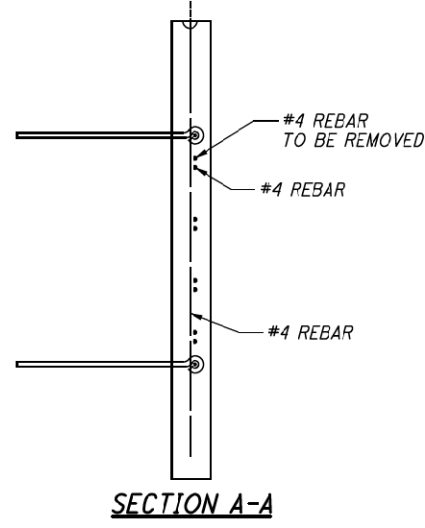
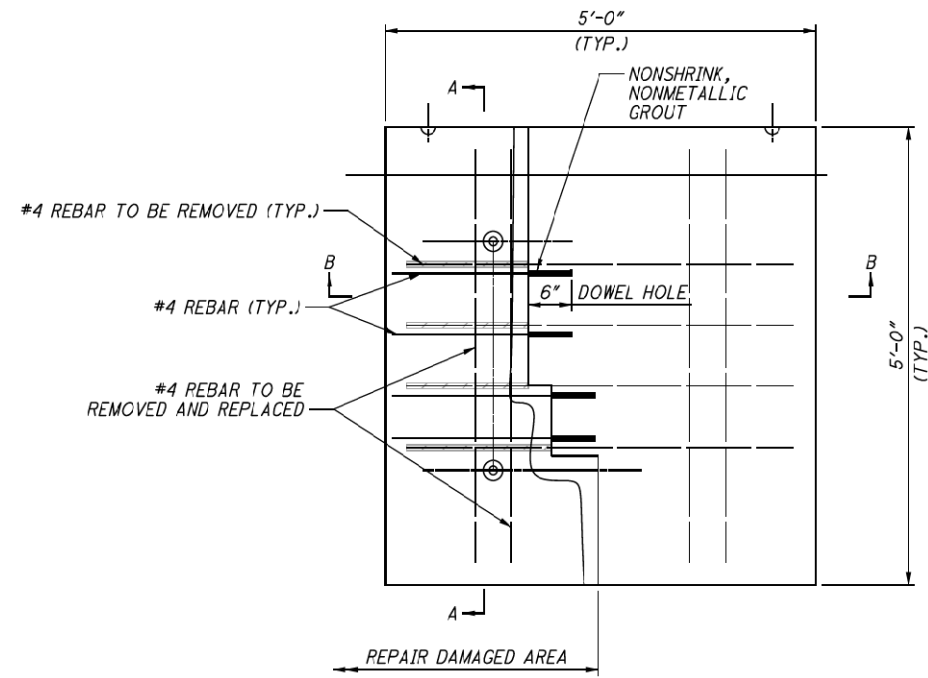
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PID No. 98601

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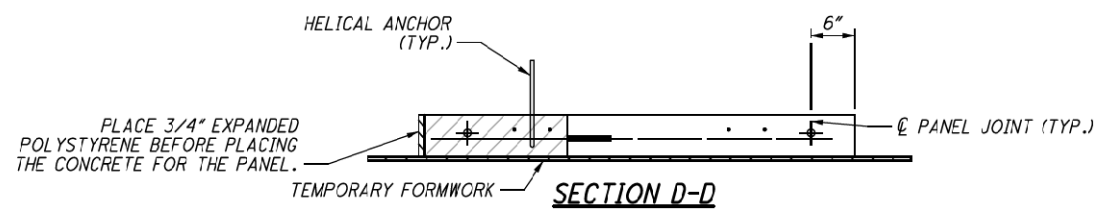
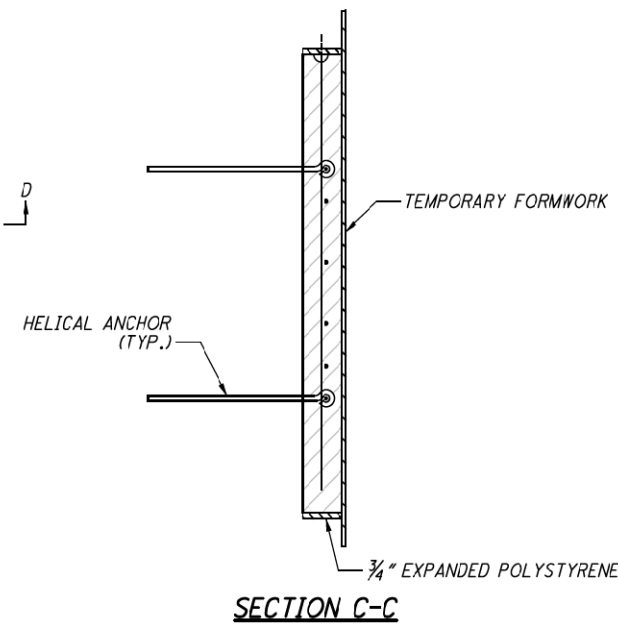
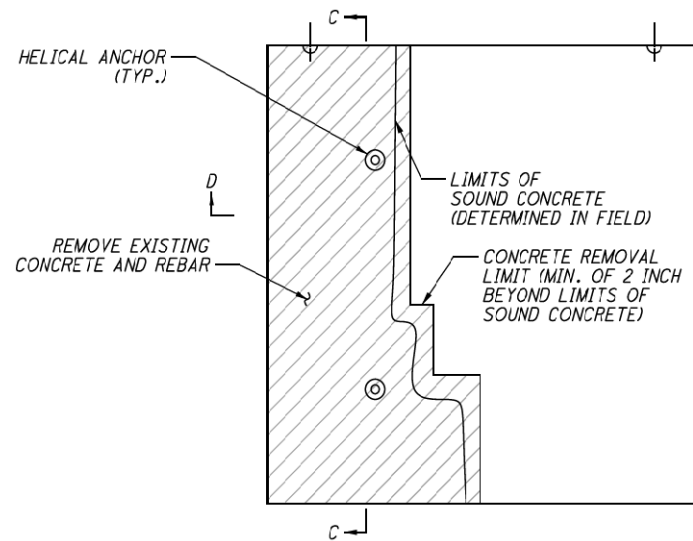
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29 NORTH PARK STREET
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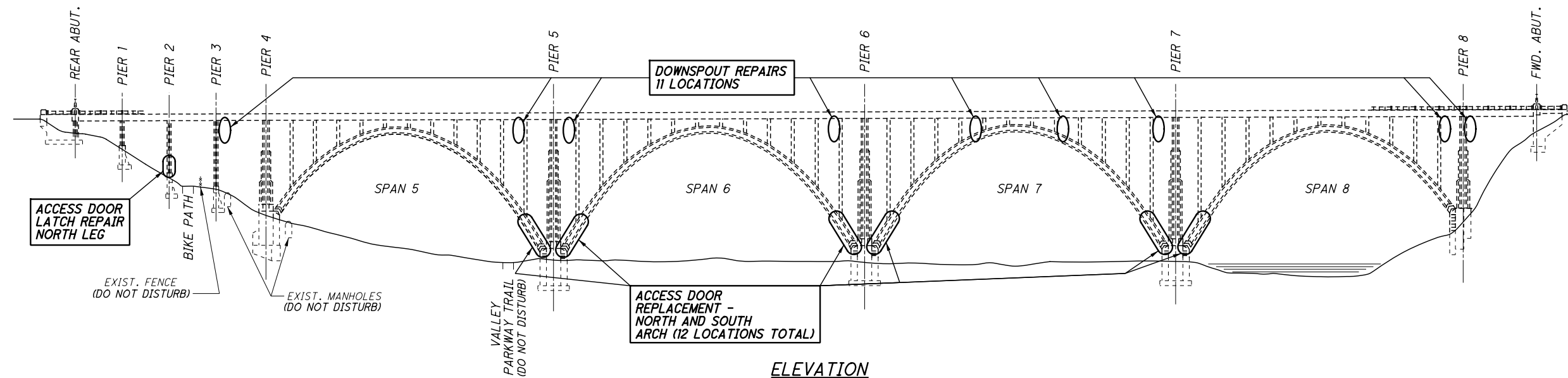
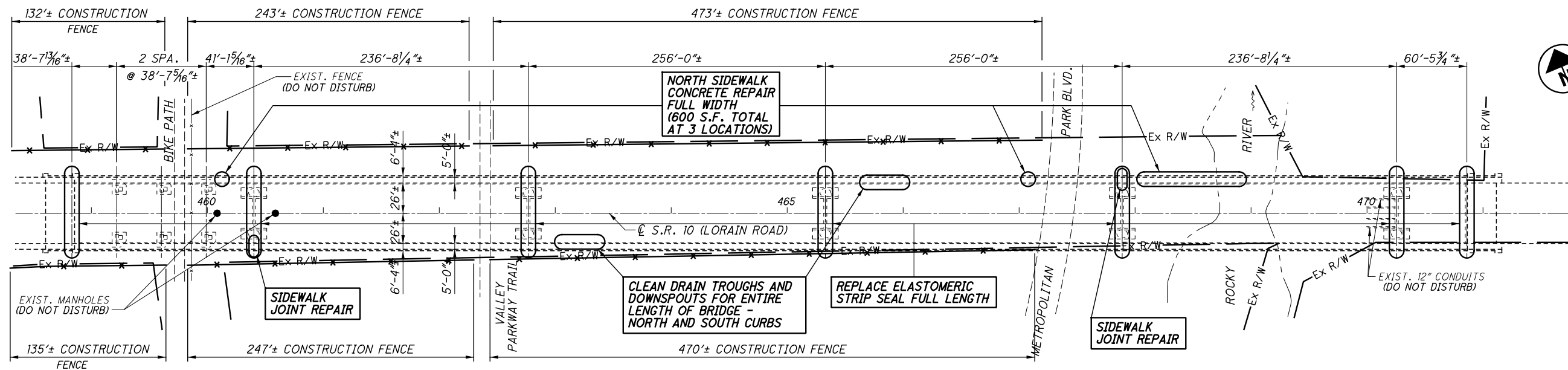
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PARTIAL REPLACEMENT OF TYPICAL MSE PANEL REPAIR METHOD-2
SCALE : 1"=1'

DESIGNER STATE OF OHIO DEPARTMENT OF TRANSPORTATION ADMINISTRATOR		DATE XX-XX-XX	
CHECKED dnt		DATE XX-XX-XX	
DESIGNED BLN		DATE XX-XX-XX	
DRAWN JLS		DATE XX-XX-XX	
REVISIONS		DATE XX-XX-XX	
CHECKED XX		DATE XX-XX-XX	
REVIEWED XX		DATE XX-XX-XX	
STANDARD MSE WALL REPAIR			
OFFICE OF GEOTECHNICAL ENGINEERING ORIGINAL DESIGN PREPARED BY: E.L. ROBINSON			

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ESTIMATED QUANTITIES

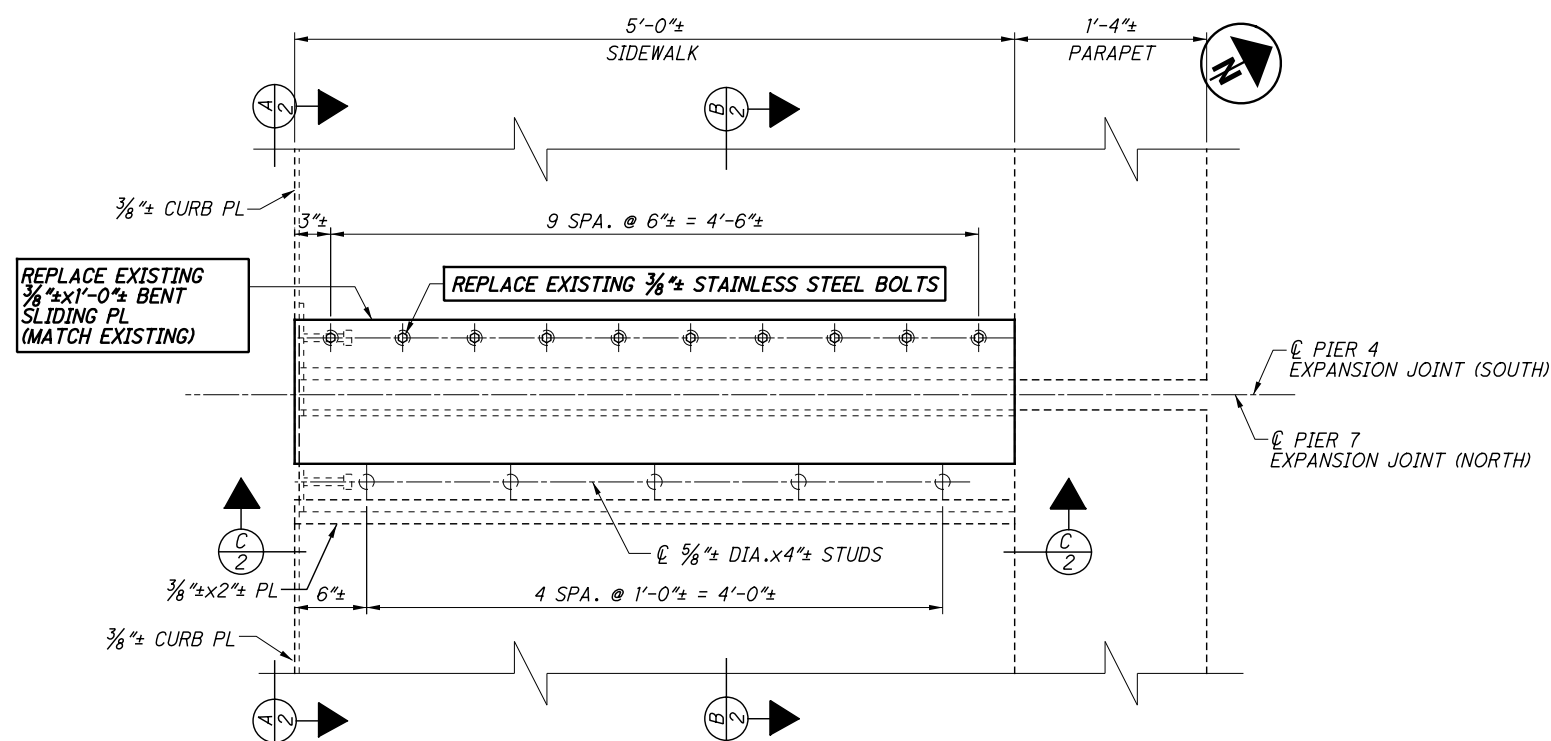
CALCULATED JLS DATED 12/18
 CHECKED dhT DATED 12/18

ITEM	EXT.	QUANTITY	UNIT	DESCRIPTION	SUPERSTRUCTURE	GENERAL	REF. SHEET
513	95020	LS		STRUCTURAL STEEL, MISC.: SIDEWALK COVER PLATE REPAIR		LS	43
514	00050	13	SF	SURFACE PREPARATION OF EXISTING STRUCTURAL STEEL	13		
514	00056	13	SF	FIELD PAINTING OF EXISTING STRUCTURAL STEEL, PRIME COAT	13		
514	00060	210	SF	FIELD PAINTING STRUCTURAL STEEL, INTERMEDIATE COAT	210		
514	00067	210	SF	FIELD PAINTING STRUCTURAL STEEL, FINISH COAT, AS PER PLAN	210		52
516	01301	434	FT	ELASTOMERIC STRIP SEAL WITHOUT STEEL EXTRUSIONS, AS PER PLAN	434		51
518	43301	48	FT	6" PIPE DOWNSPOUT, INCLUDING SPECIALS, AS PER PLAN	48		54
518	63300	LS		STRUCTURE DRAINAGE, MISC.: CLEAN DRAIN TROUGHS AND DOWNSPOUTS		LS	
519	11101	600	SF	PATCHING CONCRETE STRUCTURE, AS PER PLAN	600		53
SPECIAL	53000400	1	EACH	STRUCTURES, HINGED ACCESS DOOR REPAIR	1		52
SPECIAL	53000400	12	EACH	STRUCTURES, HINGED ACCESS DOOR REPLACEMENT	12		52

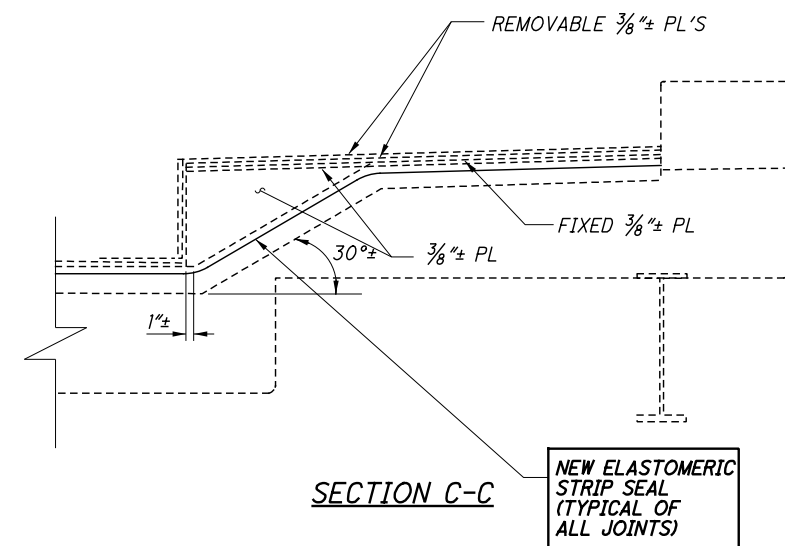
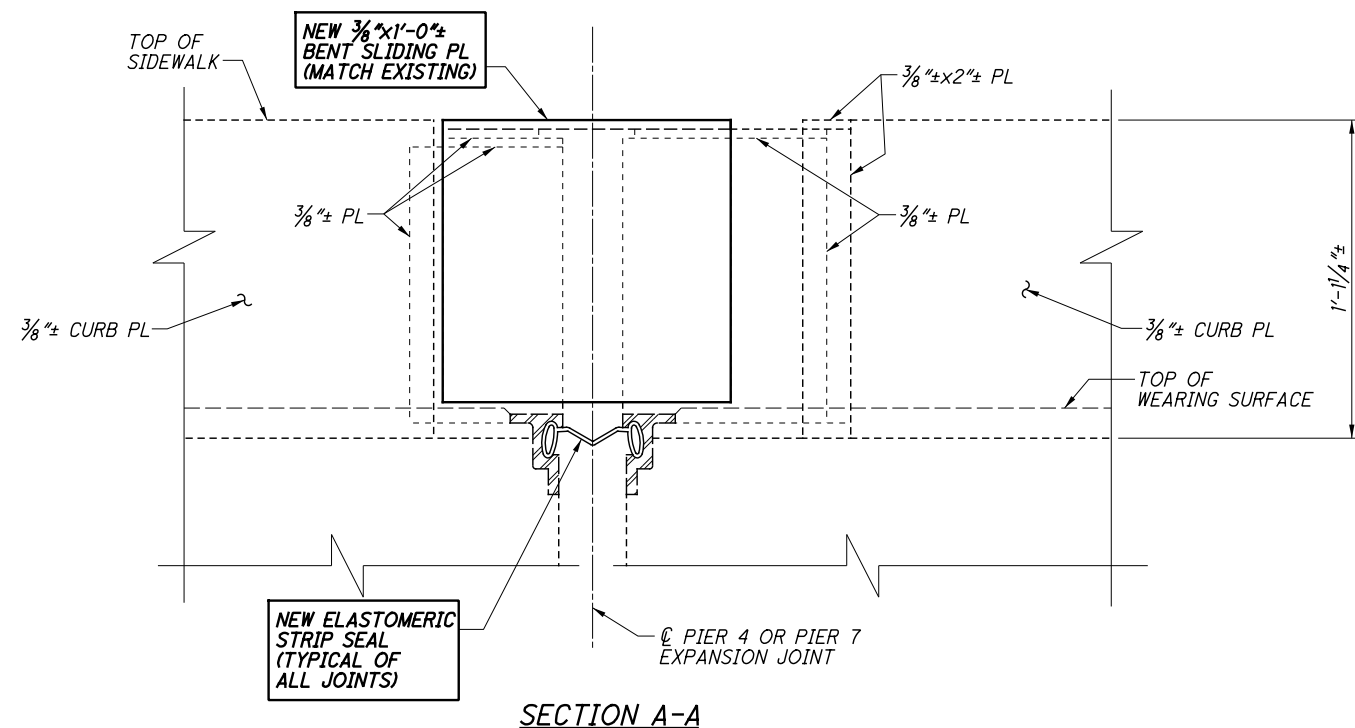
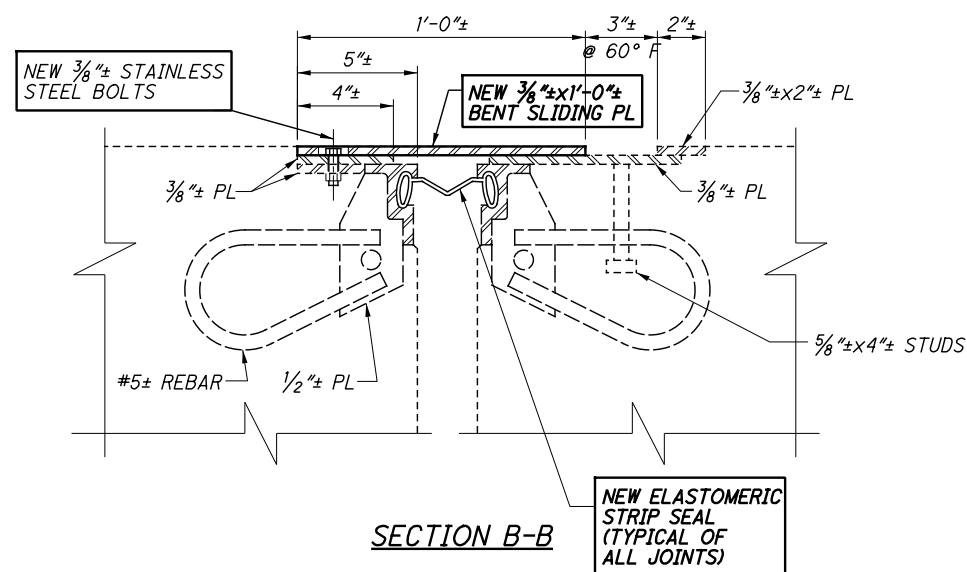
NOTES:

1. DETAILS ON THIS SHEET ARE TAKEN FROM EXISTING PLANS AND SHOULD BE USED FOR INFORMATION PURPOSES ONLY.
2. PERFORM ONLY THE WORK AS INDICATED IN THE STRUCTURE DATA SHEET, FRAMED TEXT, AND/OR DESCRIBED IN THE GENERAL NOTES.

F:\2016\116041 D12 Bridge Rehab\12-BH-FY2019 Misc\ProjectData\98601\Design\Structures\CUY010_0869C\Sheets\010_0869SD002.dgn 12/20/18 2:20:36 PM JeremyBurns



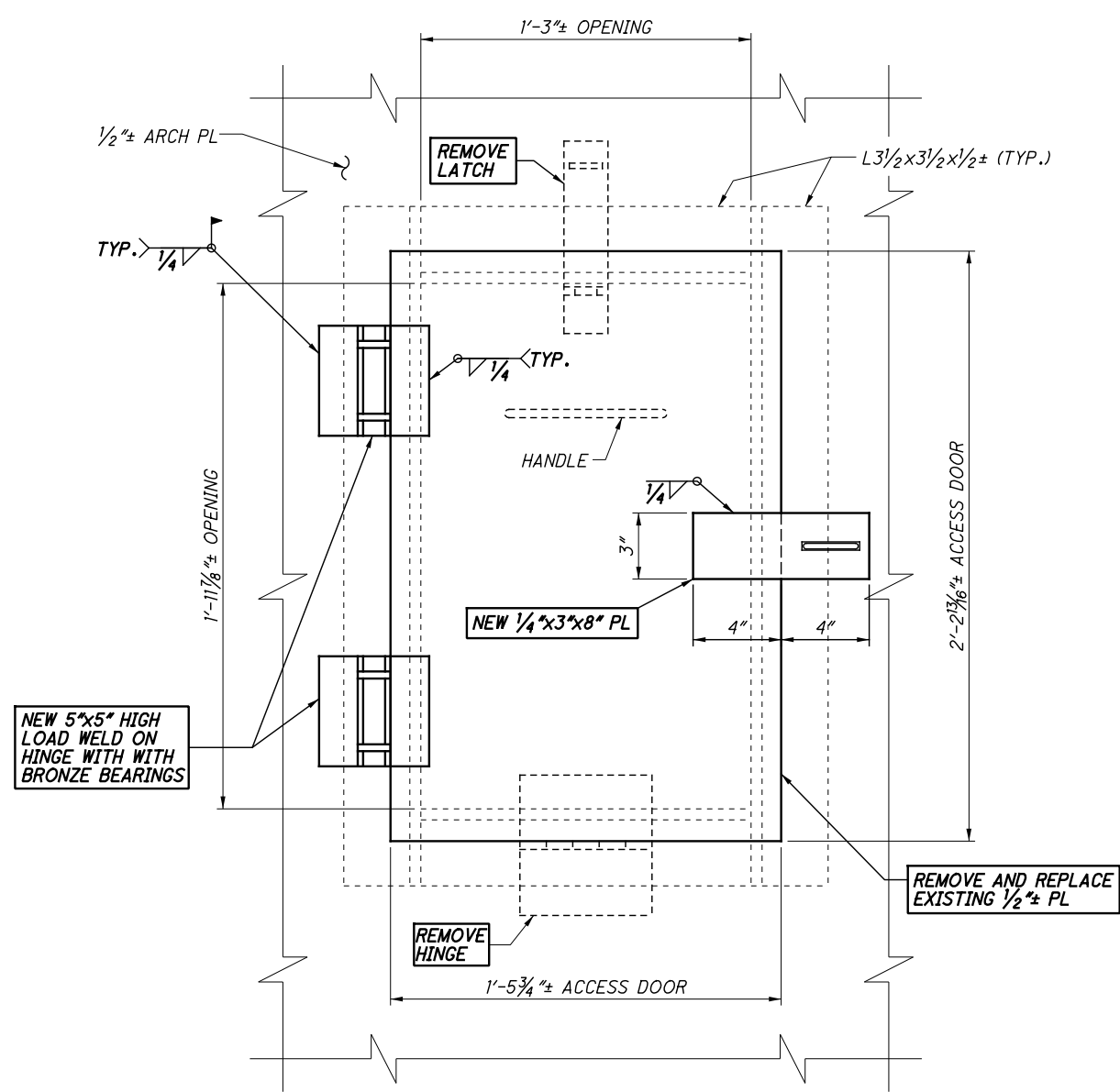
SOUTH SIDEWALK EXPANSION JOINT REPAIR (SHOWN)
NORTH SIDEWALK EXPANSION JOINT REPAIR (OPPOSITE HAND)



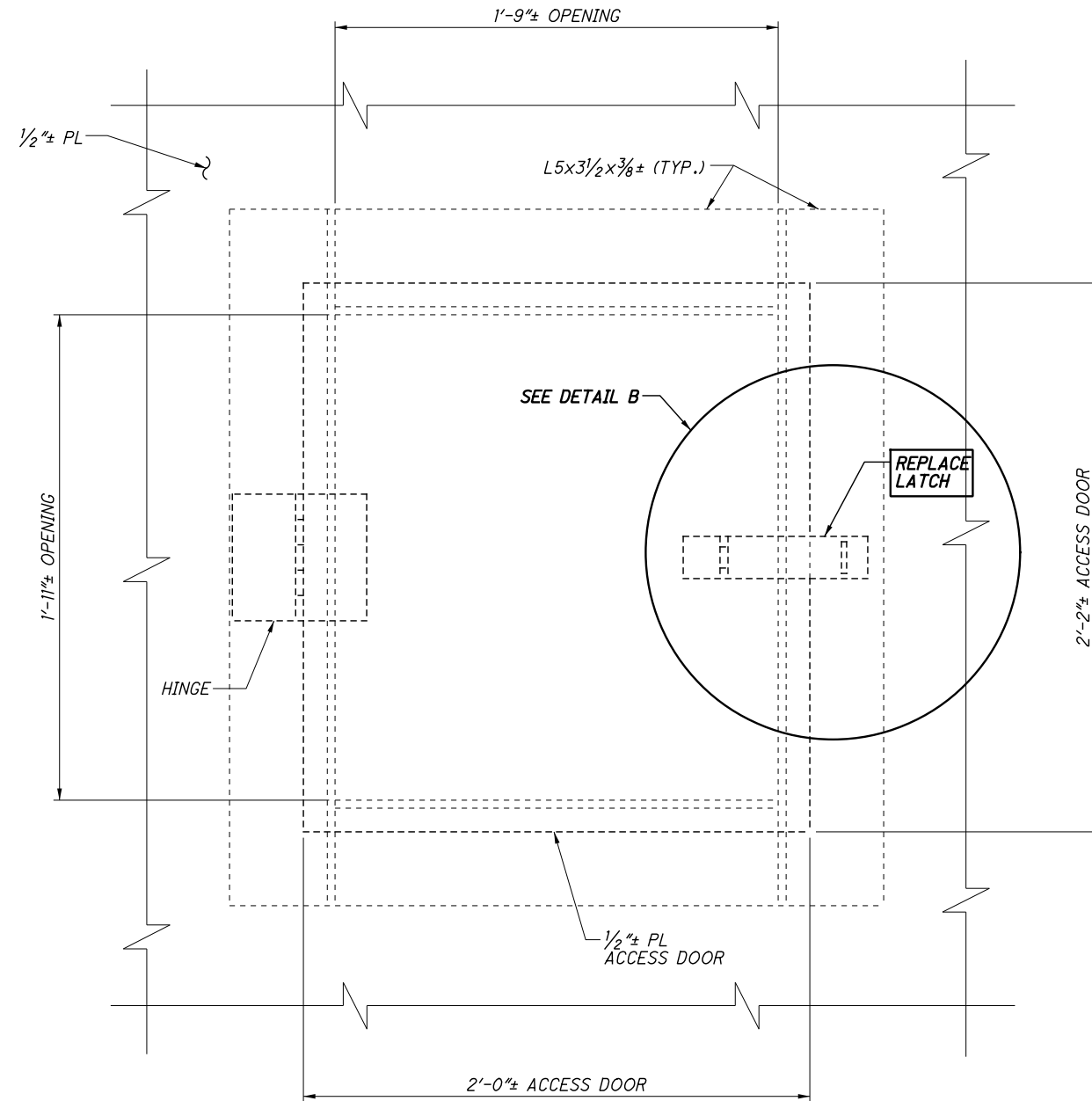
NOTES:

1. DETAILS ON THIS SHEET ARE TAKEN FROM EXISTING PLANS AND SHOULD BE USED FOR INFORMATION PURPOSES ONLY.
2. PERFORM ONLY THE WORK AS INDICATED IN THE STRUCTURE DATA SHEET, FRAMED TEXT, AND/OR DESCRIBED IN THE GENERAL NOTES.
3. FOR ESTIMATED QUANTITIES SEE SHEET 1/5.

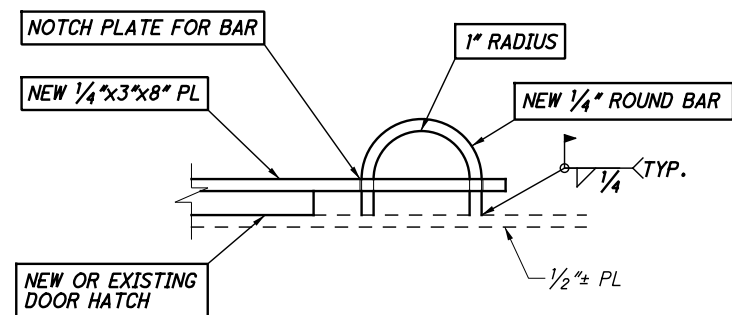
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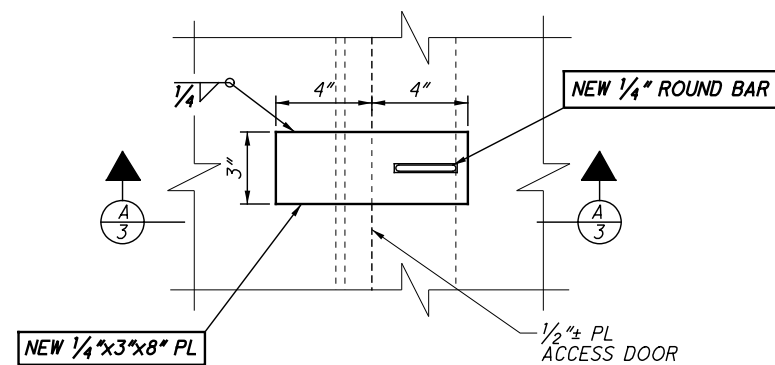
TYPICAL ARCH ACCESS DOOR DETAIL



PIER 2 COLUMN ACCESS DOOR DETAIL



SECTION A-A

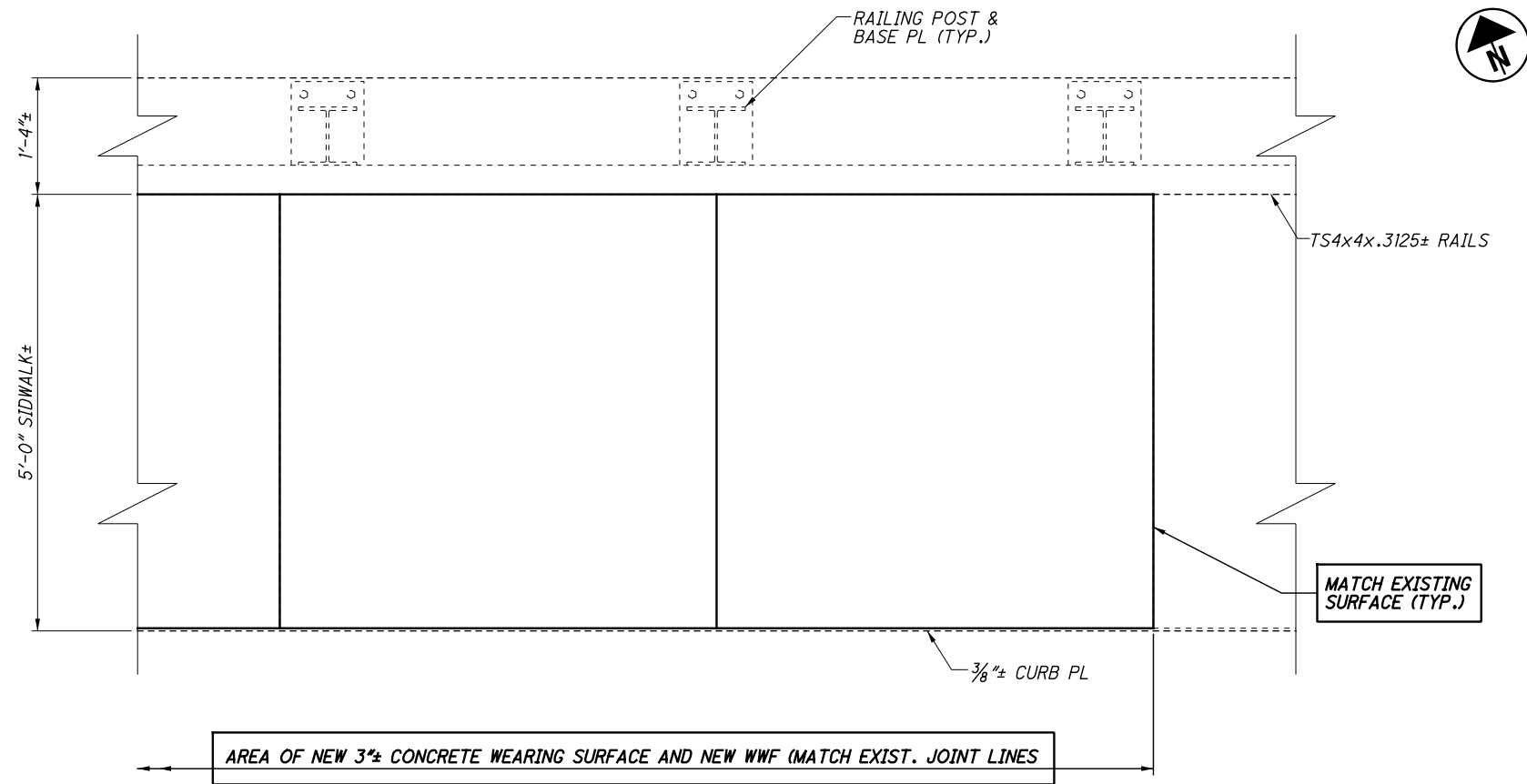


DETAIL B

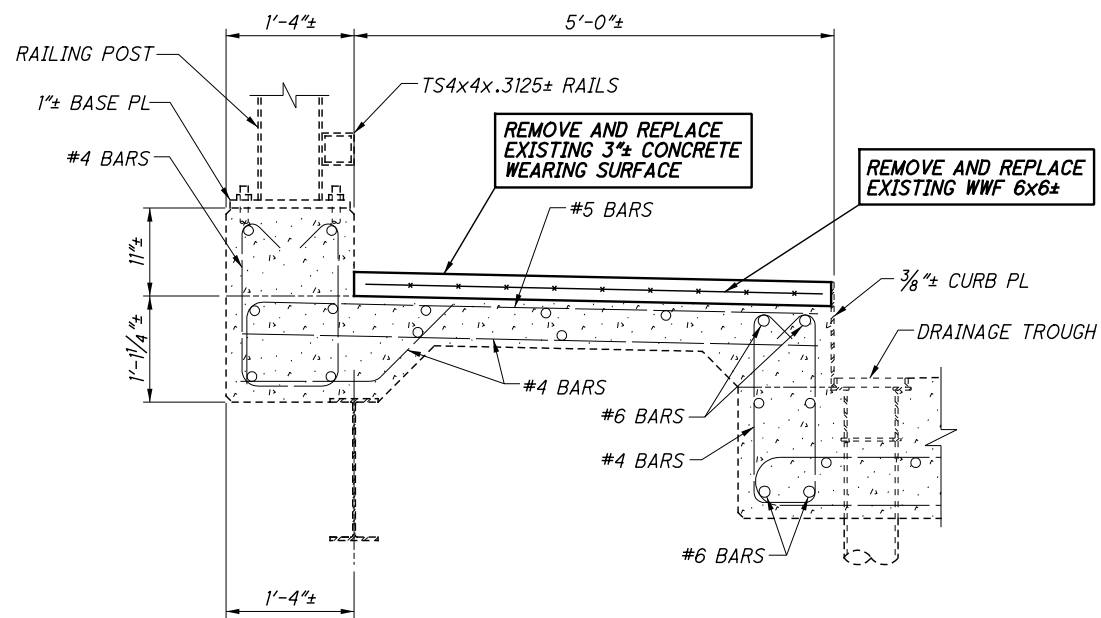
NOTES:

1. EXISTING DETAILS ON THIS SHEET ARE TAKEN FROM EXISTING PLANS AND SHOULD BE USED FOR INFORMATION PURPOSES ONLY.
2. PERFORM ONLY THE WORK AS INDICATED IN THE STRUCTURE DATA SHEET, FRAMED TEXT, AND/OR DESCRIBED IN THE GENERAL NOTES.
3. NEW ACCESS DOORS AND A 1 FOOT PERIMETER AROUND THE DOOR OPENING SHALL BE PAINTED. FINISH COLOR SHALL MATCH EXISTING STEEL.
4. FOR ESTIMATED QUANTITIES SEE SHEET 1/5.

F:\2016\116041 D12 Bridge Rehab\12-BH-FY2019 Misc\ProjectData\98601\Design\Structures\CUY010_0869C\Sheets\010_0869SD001.dgn 12/20/18 2:22:00 PM JeremyBurns



PARTIAL NORTH SIDEWALK PLAN

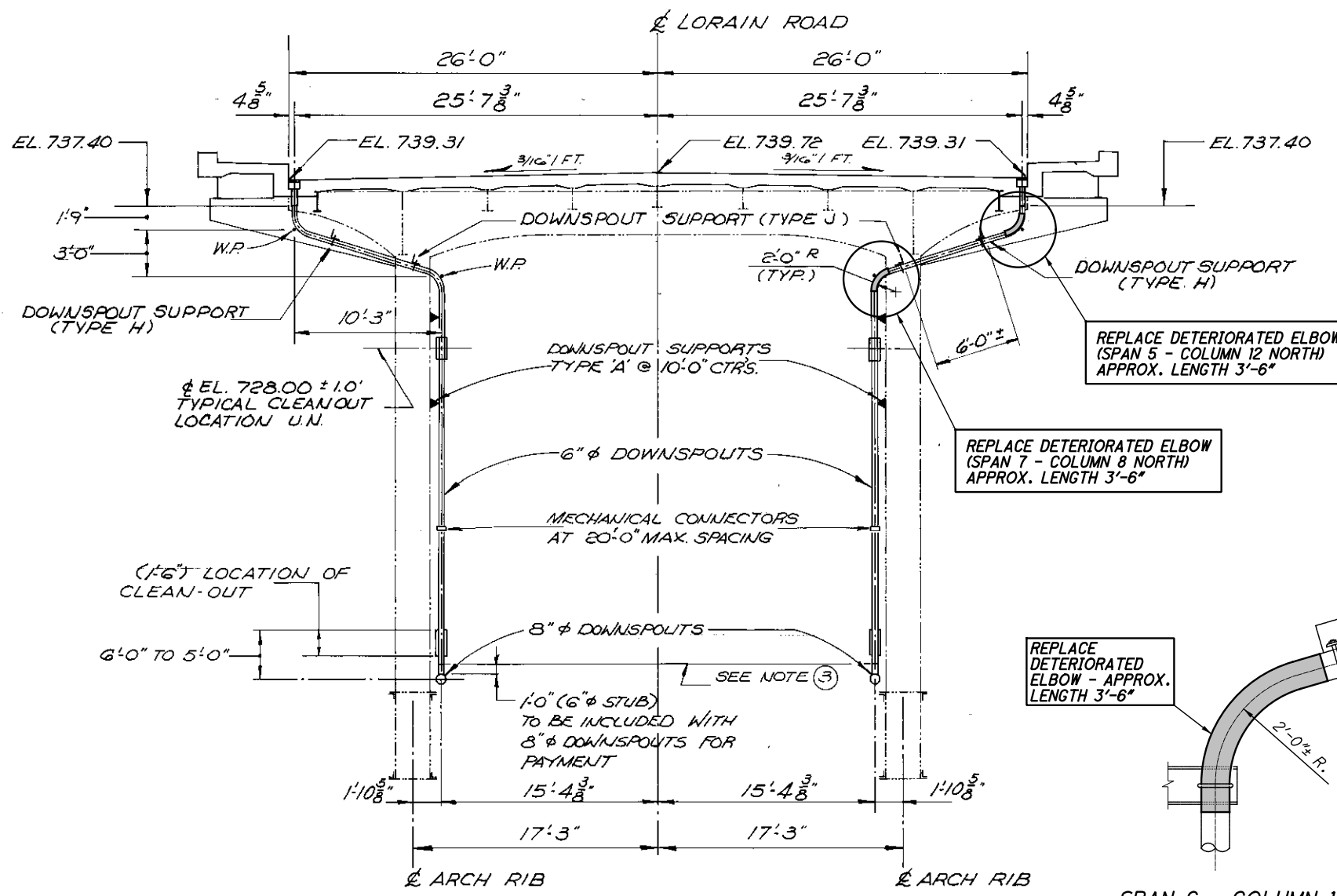


DECK SIDEWALK SECTION

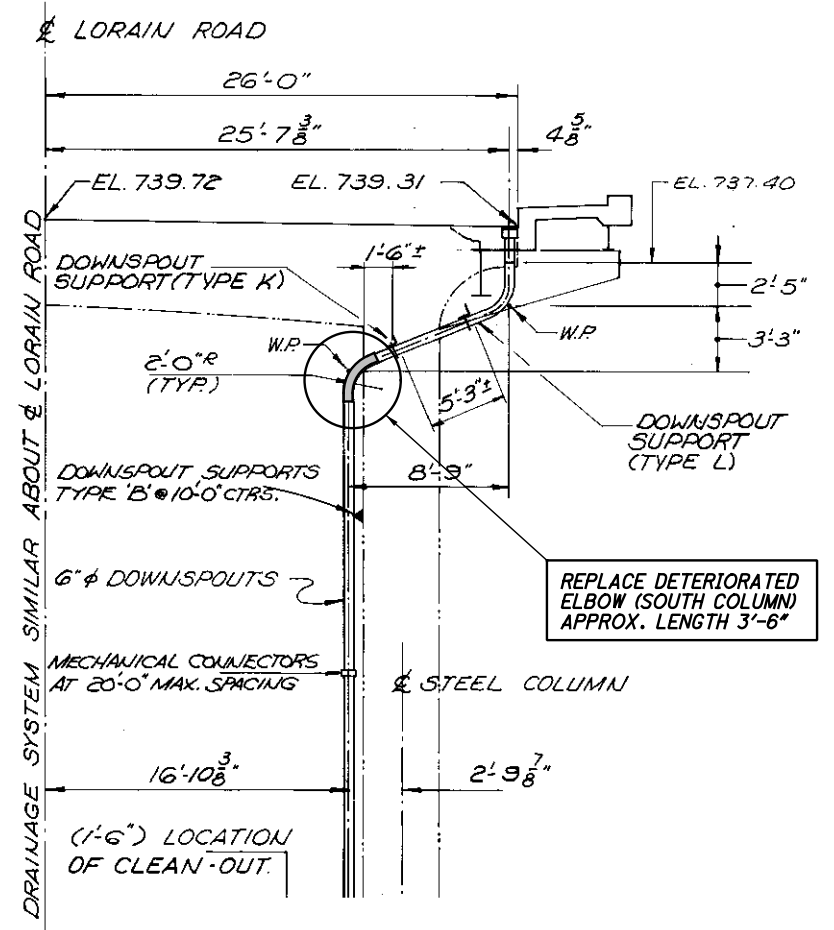
NOTES:

1. DETAILS ON THIS SHEET ARE TAKEN FROM EXISTING PLANS AND SHOULD BE USED FOR INFORMATION PURPOSES ONLY.
2. PERFORM ONLY THE WORK AS INDICATED IN THE STRUCTURE DATA SHEET, FRAMED TEXT, AND/OR DESCRIBED IN THE GENERAL NOTES.
3. REPLACEMENT OF CONCRETE SURFACE COURSE AND WWF INCLUDED WITH ITEM 519 - PATCHING CONCRETE STRUCTURE, AS PER PLAN.
4. FOR ESTIMATED QUANTITIES SEE SHEET 1/5.

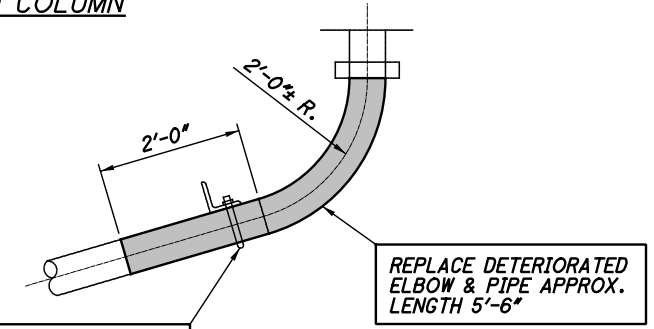
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TYPICAL COLUMN DRAINAGE - ARCH SPANS



PIER 3 - SOUTH COLUMN

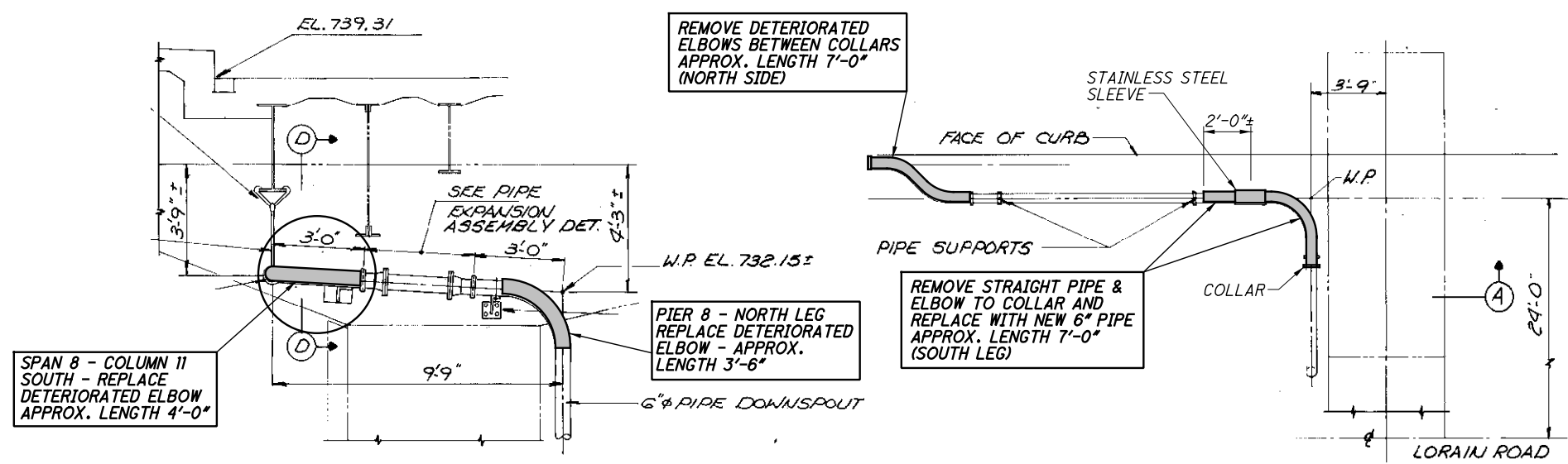


SPAN 5 - COLUMN 10 NORTH

REPLACE DETERIORATED 1/4" DIA. U-BOLT

- INDICATES 6" CONDUIT TO BE REMOVED AND REPLACED

- NOTES:**
- EXISTING DETAILS ON THIS SHEET ARE TAKEN FROM EXISTING PLANS AND SHOULD BE USED FOR INFORMATION PURPOSES ONLY.
 - PERFORM ONLY THE WORK AS INDICATED IN THE STRUCTURE DATA SHEET, FRAMED TEXT, AND/OR DESCRIBED IN THE GENERAL NOTES.
 - THE DETERIORATED SECTIONS OF THE DOWNSPOUT PIPES SHALL BE NEATLY CUT OUT AND REPLACED WITH NEW SECTIONS OF GALVANIZED PIPE THAT ARE WELDED TO THE EXISTING. THE JOINTS SHALL BE GROUND SMOOTH ON THE OUTSIDE AND THE BARE STEEL SHALL BE TOUCHED UP WITH A ZINC RICH COATING PER CMS 711.02 AND ASTM A780-01 REPAIR METHOD A2 (REPAIR USING PAINTS CONTAINING ZINC DUST).
 - FOR ESTIMATED QUANTITIES SEE SHEET 1/5.



PLAN VIEW - PIER 8

SPAN 8 - COLUMN 11 SOUTH
PIER 8 - NORTH LEG

ESTIMATED QUANTITIES

CALCULATED JLS DATED 12/18
 CHECKED dht DATED 12/18

ITEM	ITEM EXT.	TOTAL	UNIT	DESCRIPTION	SUPERSTRUCTURE	ABUTS.	PIERS	GENERAL	REF. SHEET
202	11203	LS		PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN				LS	43
202	22900	160	SY	APPROACH SLAB REMOVED				160	
202	32800	17	SY	CONCRETE SLOPE PROTECTION REMOVED				17	
202	75260	1,113	FT	VANDAL PROTECTION FENCE REMOVED	1,113				
503	21101	36	CY	UNCLASSIFIED EXCAVATION, AS PER PLAN				36	43
509	10000	7,387	LB	EPOXY COATED REINFORCING STEEL		6,005		1,382	
511	34449	14	CY	CLASS QC2 CONCRETE, BRIDGE DECK (PARAPET), AS PER PLAN				14	81
511	45710	24	CY	CLASS QC1 CONCRETE, ABUTMENT		24			
512	10101	206	SY	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE), AS PER PLAN	64	39		103	43
512	33000	2	SY	TYPE 2 WATERPROOFING		2			
513	95000	289	FT	STRUCTURAL STEEL, MISC.: GALVANIZED CLIMBING BAR AND BRACKETS	289				77
514	00100	LS		SURFACE PREPARATION OF EXISTING STRUCTURAL STEEL				LS	
514	00200	LS		FIELD PAINTING OF EXISTING STRUCTURAL STEEL, PRIME COAT				LS	
514	00300	LS		FIELD PAINTING OF STRUCTURAL STEEL, INTERMEDIATE COAT				LS	
514	00400	LS		FIELD PAINTING OF STRUCTURAL STEEL, FINISH COAT				LS	
516	11211	100	FT	STRUCTURAL EXPANSION JOINT INCLUDING ELASTOMERIC STRIP SEAL, AS PER PLAN	100				67
516	13900	150	SF	2" PREFORMED EXPANSION JOINT FILLER		7		143	
SPECIAL	51900100	2,626	SF	COMPOSITE FIBER WRAP SYSTEM			2,626		44
519	11101	474	SF	PATCHING CONCRETE STRUCTURE, AS PER PLAN	455			19	44
526	25011	262	SY	REINFORCED CONCRETE APPROACH SLABS WITH QC/QA (T=15"), AS PER PLAN				262	80
SPECIAL	53000200	LS		STRUCTURES: REPAIR OF MSE WALLS				LS	63
SPECIAL	53000400	6	EACH	STRUCTURES: INSTALLATION OF INSPECTION CATWALK SYSTEM	6				70-77
601	21000	17	SY	CONCRETE SLOPE PROTECTION				17	
613	41300	48	CY	LOW STRENGTH MORTAR BACKFILL (TYPE 2)				48	
844	10001	1,340	SF	CONCRETE PATCHING WITH GALVANIC ANODE PROTECTION, AS PER PLAN			1,340		44

ESTIMATED QUANTITIES - LOCATION 2
 BRIDGE NO. CUY-271X-0581 NW
 RAMP TO IR 480 OVER IR 271

D12 BH FY2019 MISC.
 PID No. 98601

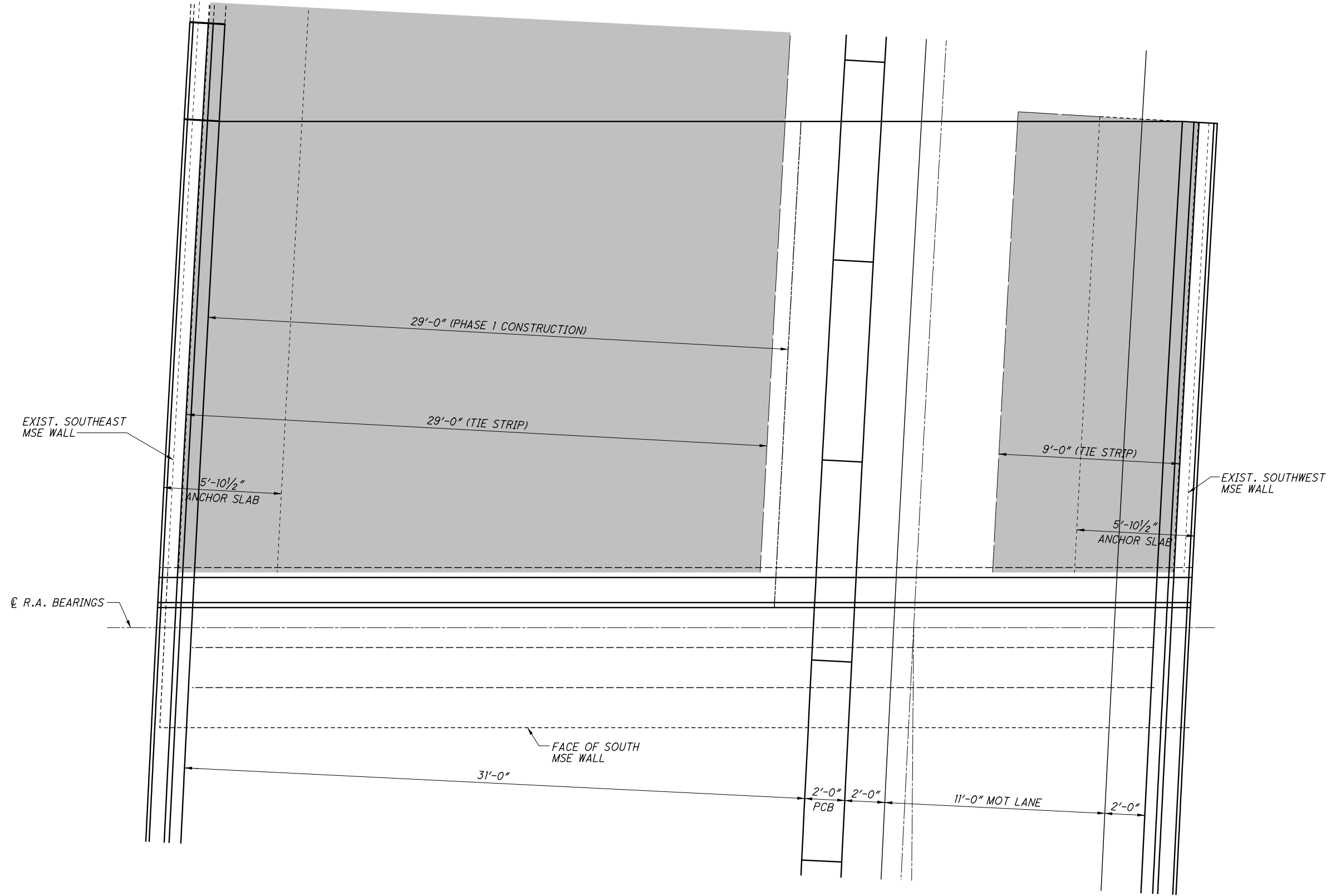
2 / 31

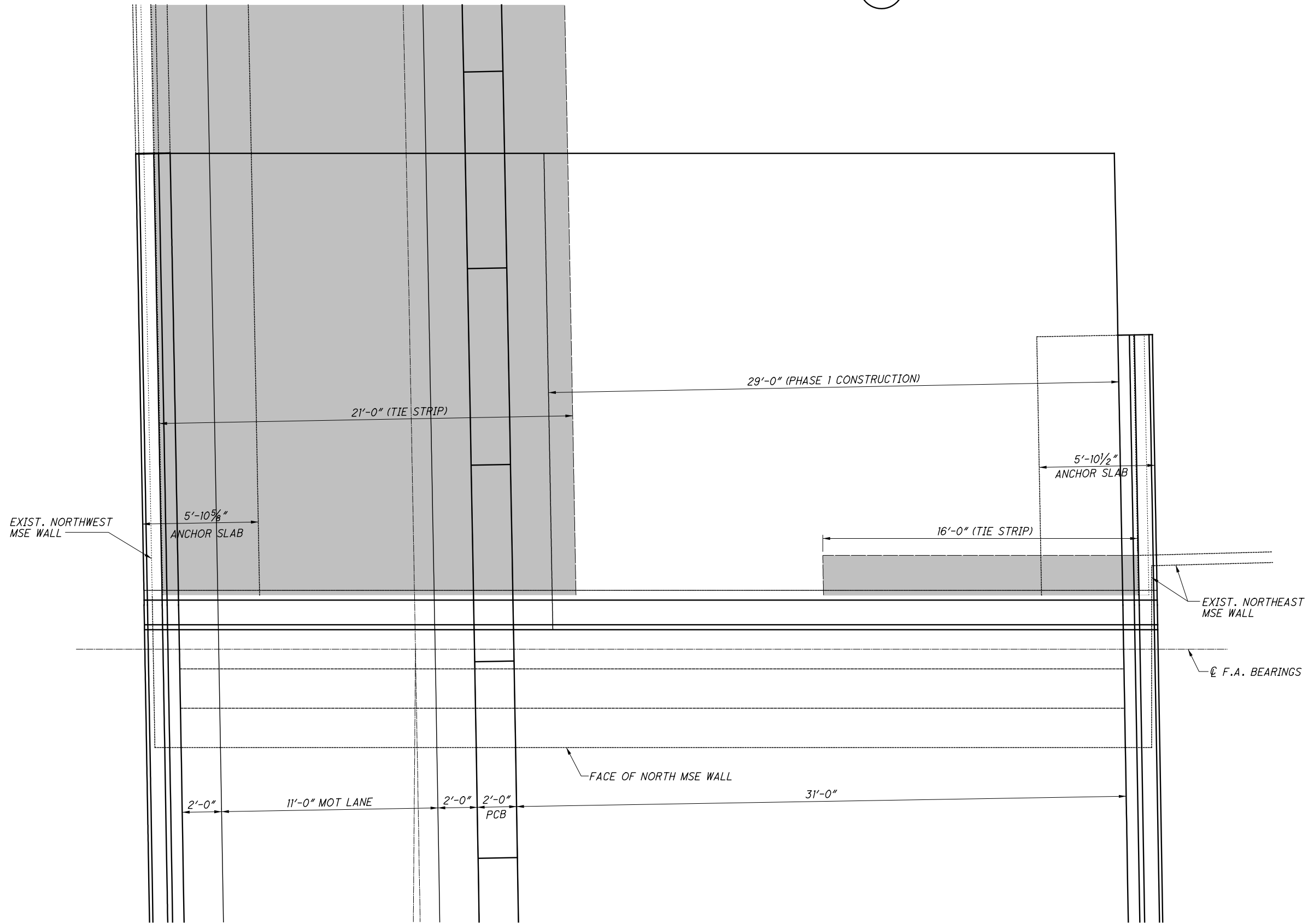
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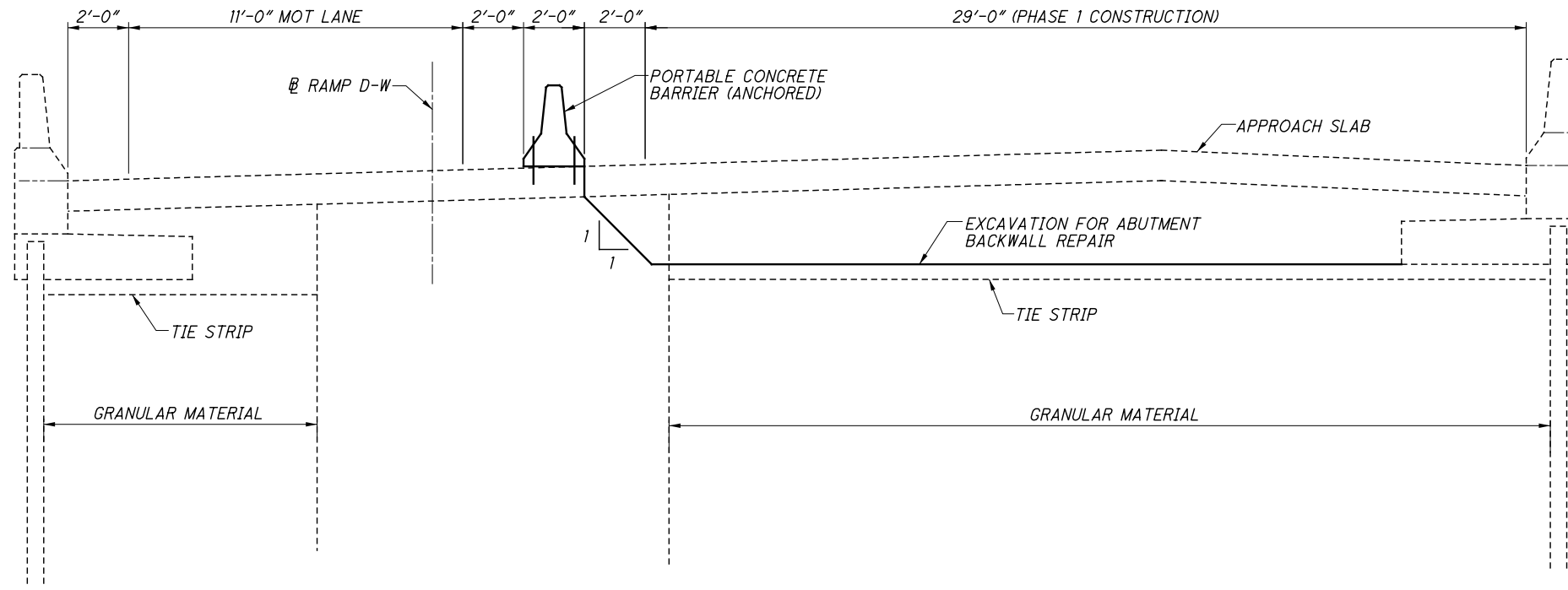
RICHLAND ENGINEERING LIMITED
 29 NORTH PARK STREET
 MANSFIELD, OHIO 44902

 DATE 12-20-18
 DT STRUCTURE FILE NUMBER 1814613
 REVIEWED DT
 DRAWN JLS
 DESIGNED BLN
 CHECKED dht
 REVISIONS

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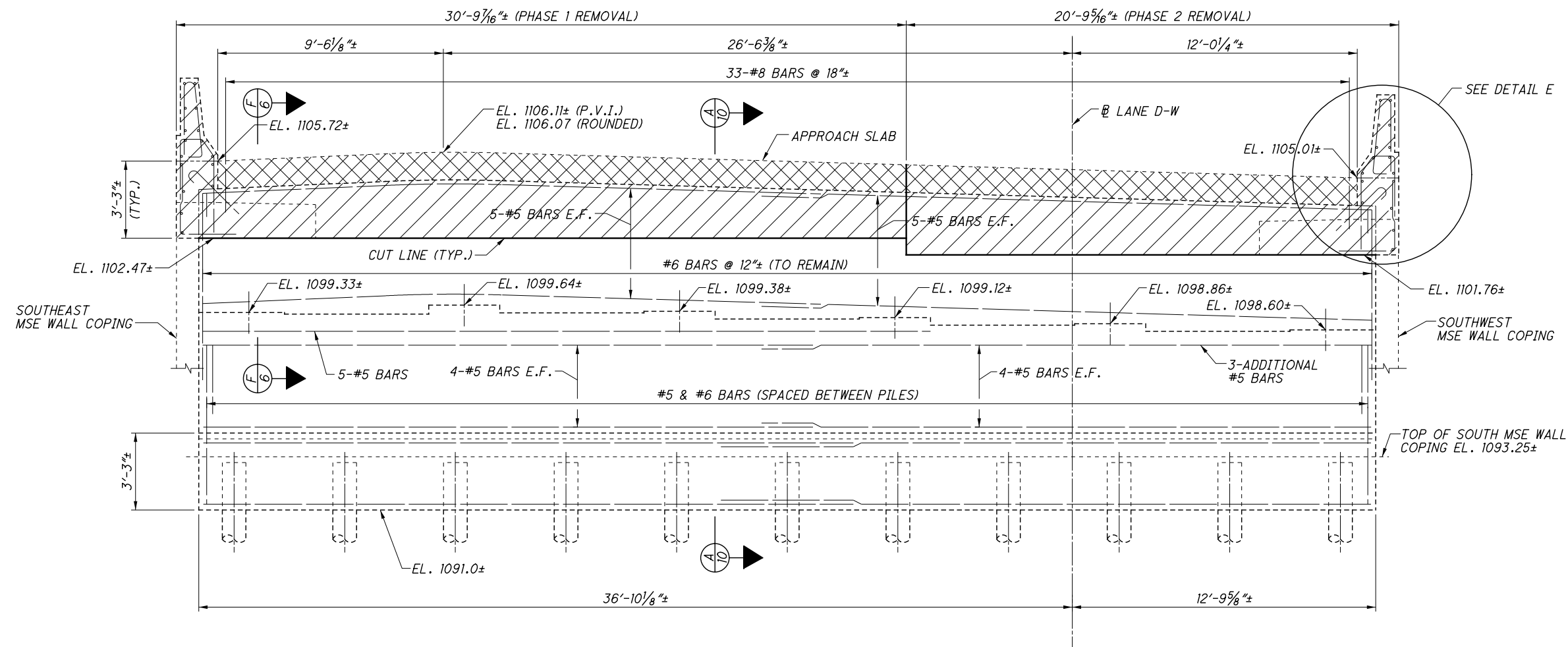




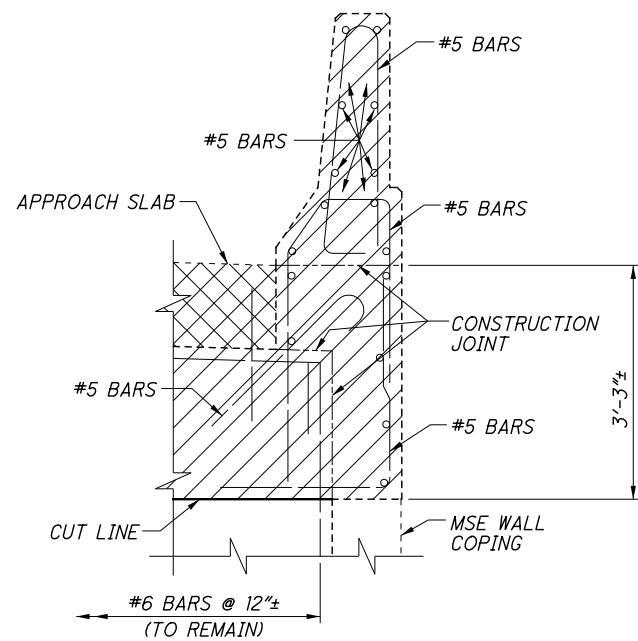


SECTION AT REAR APPROACH SLAB
(LOOKING UPSTATION)

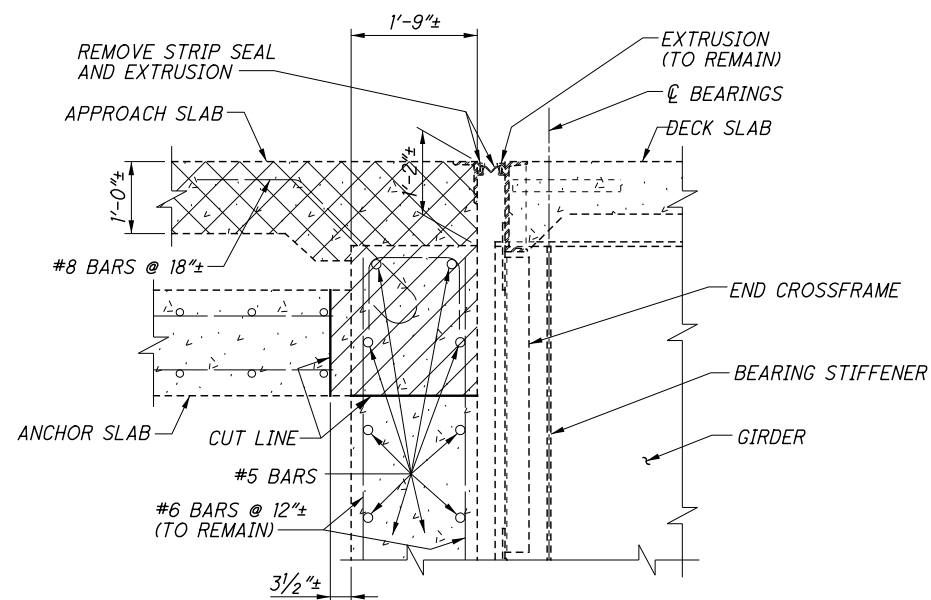
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REAR ABUTMENT REMOVAL



DETAIL E

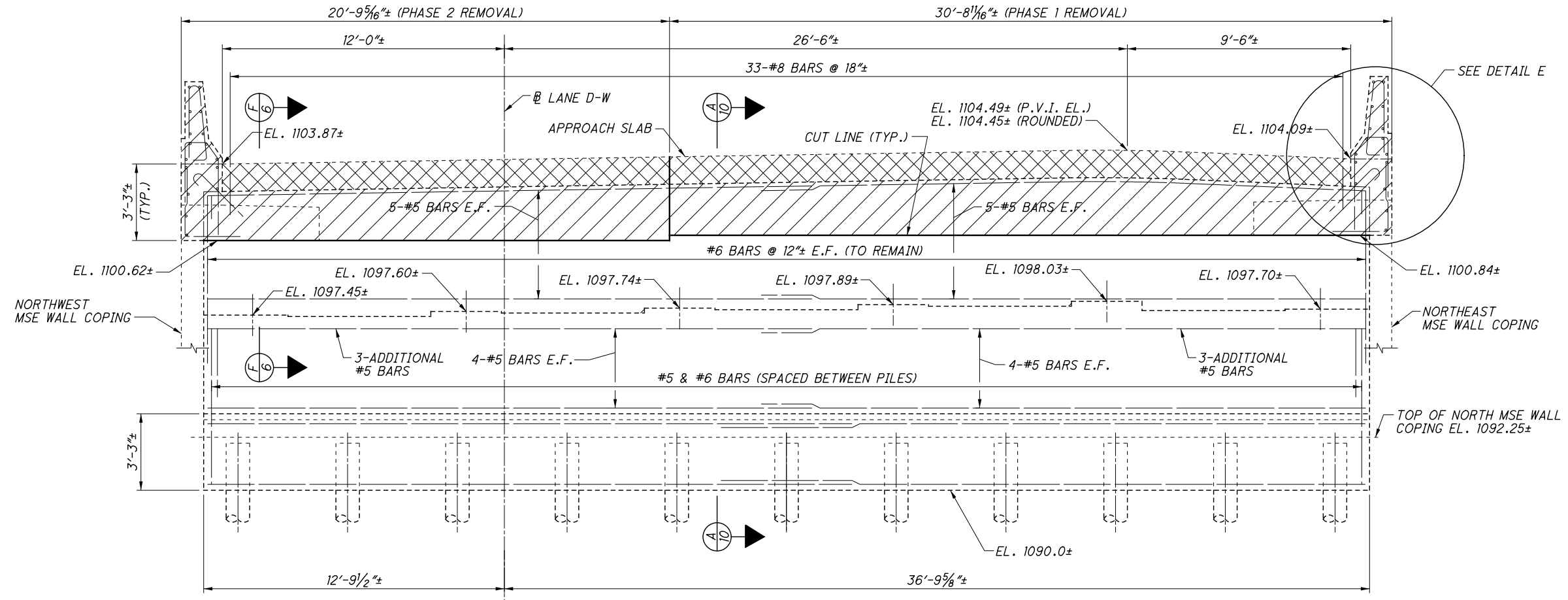


SECTION F-F

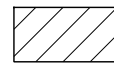

	INDICATES REMOVAL PER ITEM 202 - PORTIONS OF STRUCTURE REMOVED, AS PER PLAN.
	INDICATES REMOVAL PER ITEM 202 - APPROACH SLAB REMOVED.

- NOTES:**
1. DETAILS ON THIS SHEET ARE TAKEN FROM EXISTING PLANS AND SHOULD BE USED FOR INFORMATION PURPOSES ONLY.
 2. PERFORM ONLY THE WORK AS INDICATED IN THE STRUCTURE DATA SHEET, FRAMED TEXT, AND/OR DESCRIBED IN THE GENERAL NOTES.
 3. FOR ESTIMATED QUANTITIES SEE SHEET 2/31.

F:\2016\116041 D12 Bridge Rehab\12-BH-FY2019 Misc\ProjectData\98601\Design\Structures\CUY271X_0581NW\Sheets\271_0581RE001.dgn 1/2/2019 8:07:24 AM JeffSmith



FORWARD ABUTMENT REMOVAL

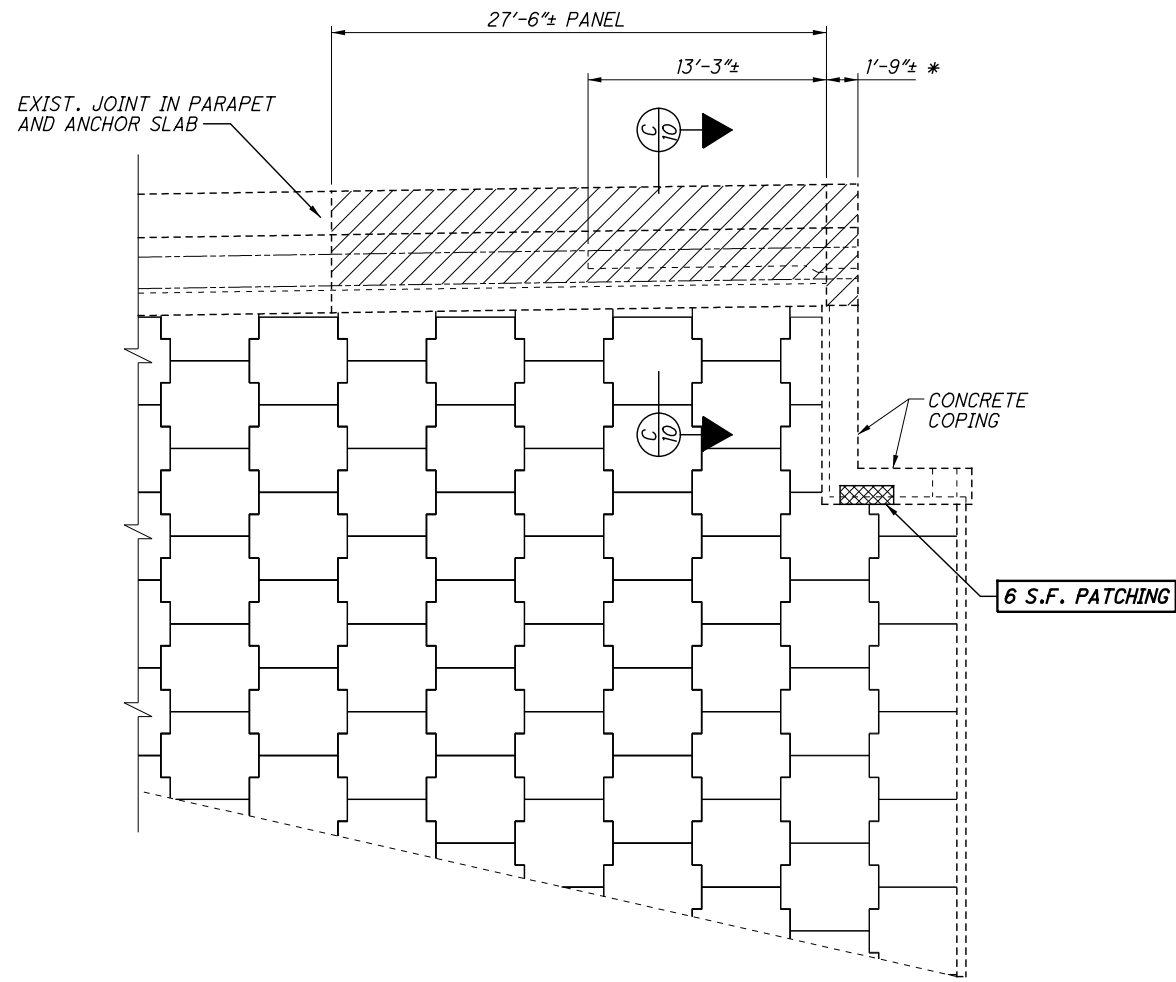
	INDICATES REMOVAL PER ITEM 202 - PORTIONS OF STRUCTURE REMOVED, AS PER PLAN.
	INDICATES REMOVAL PER ITEM 202 - APPROACH SLAB REMOVED.

NOTES:

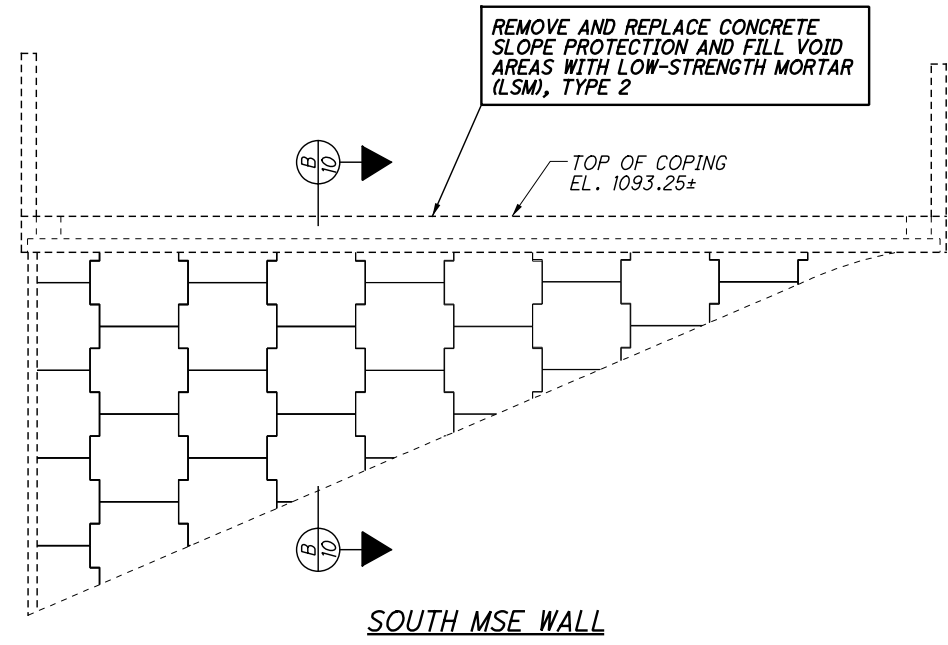
1. DETAILS ON THIS SHEET ARE TAKEN FROM EXISTING PLANS AND SHOULD BE USED FOR INFORMATION PURPOSES ONLY.
2. PERFORM ONLY THE WORK AS INDICATED IN THE STRUCTURE DATA SHEET, FRAMED TEXT, AND/OR DESCRIBED IN THE GENERAL NOTES.
3. FOR ESTIMATED QUANTITIES SEE SHEET 2/31.

DETAIL E: SEE SHEET 6/31.

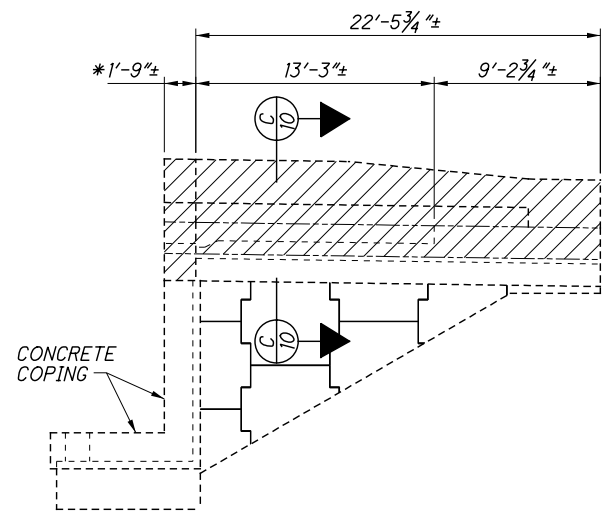
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SOUTHEAST MSE WALL

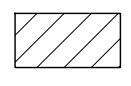
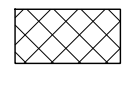


SOUTH MSE WALL



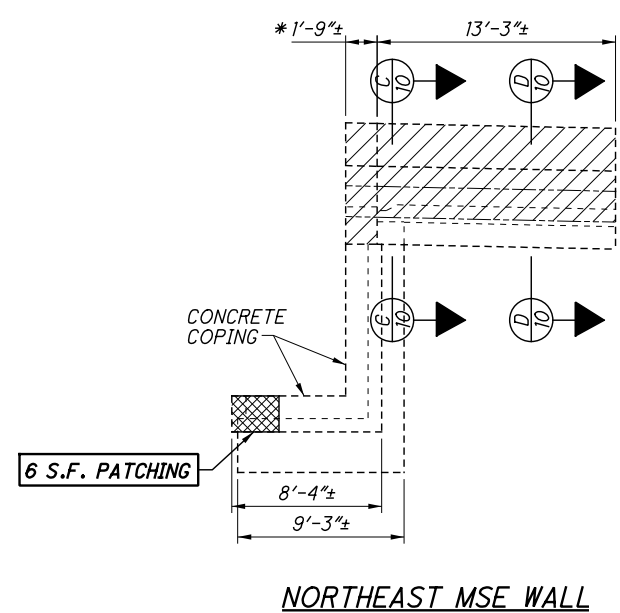
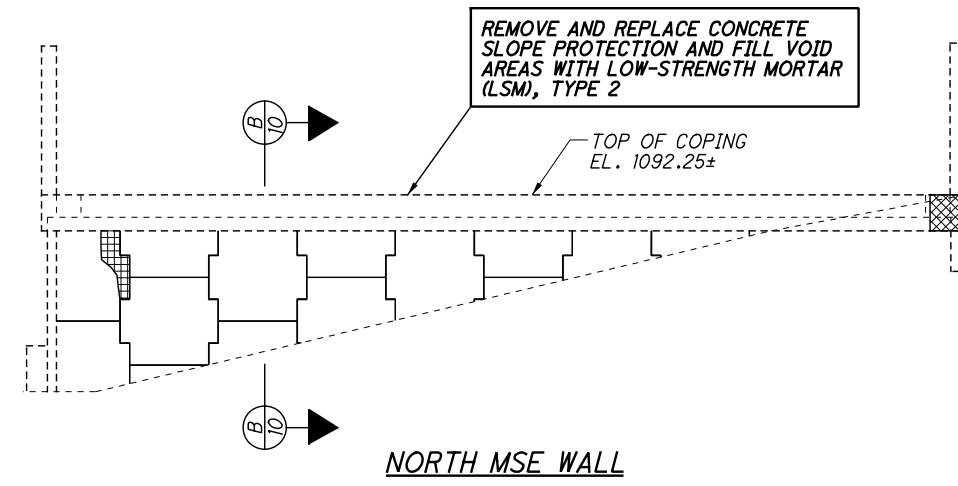
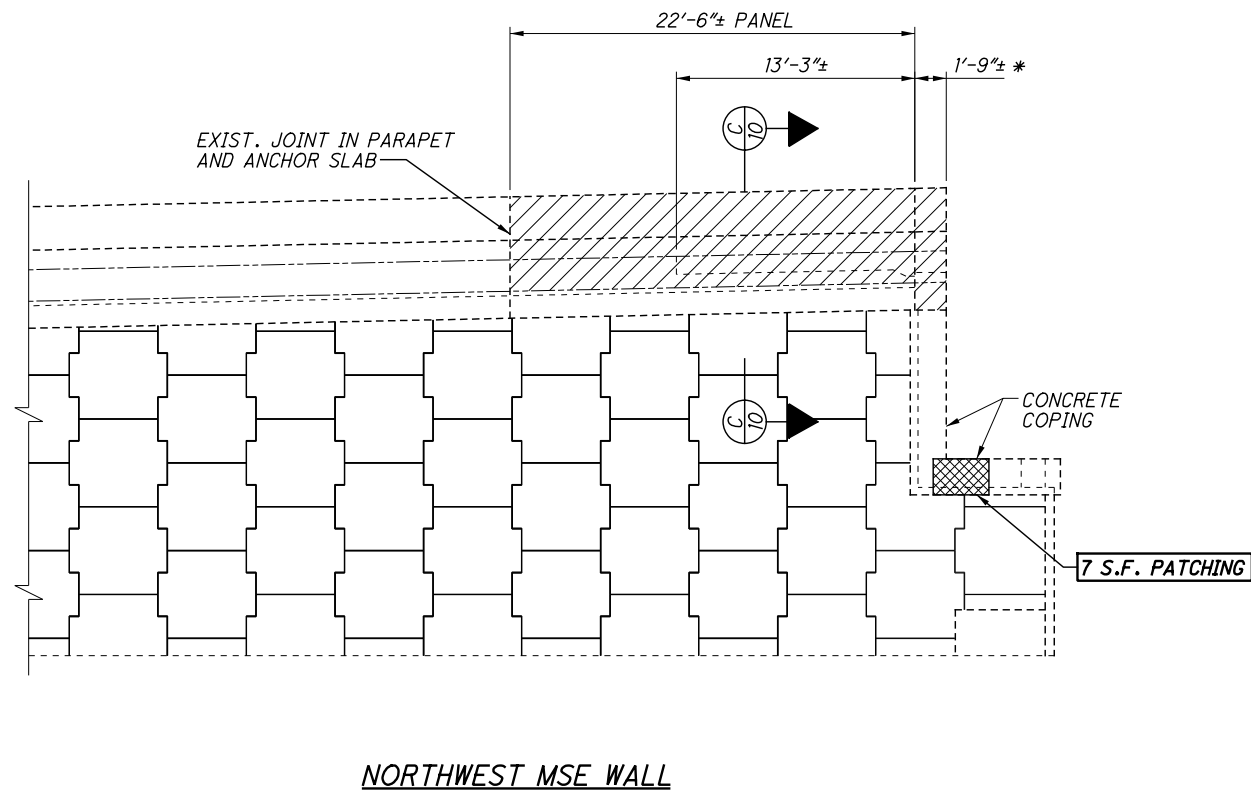
SOUTHWEST MSE WALL

* - INDICATES ABUTMENT BACKWALL AND PARAPET

	INDICATES REMOVAL PER ITEM 202 - PORTIONS OF STRUCTURE REMOVED, AS PER PLAN.
	INDICATES AREAS OF ITEM 519 - PATCHING CONCRETE STRUCTURE, AS PER PLAN.

- NOTES:**
1. DETAILS ON THIS SHEET ARE TAKEN FROM EXISTING PLANS AND SHOULD BE USED FOR INFORMATION PURPOSES ONLY.
 2. PERFORM ONLY THE WORK AS INDICATED IN THE STRUCTURE DATA SHEET, FRAMED TEXT, AND/OR DESCRIBED IN THE GENERAL NOTES.
 3. CONCRETE SLOPE PROTECTION REPAIR - SEE DETAIL ON SHEET 29/31.
 4. FOR ESTIMATED QUANTITIES SEE SHEET 2/31.

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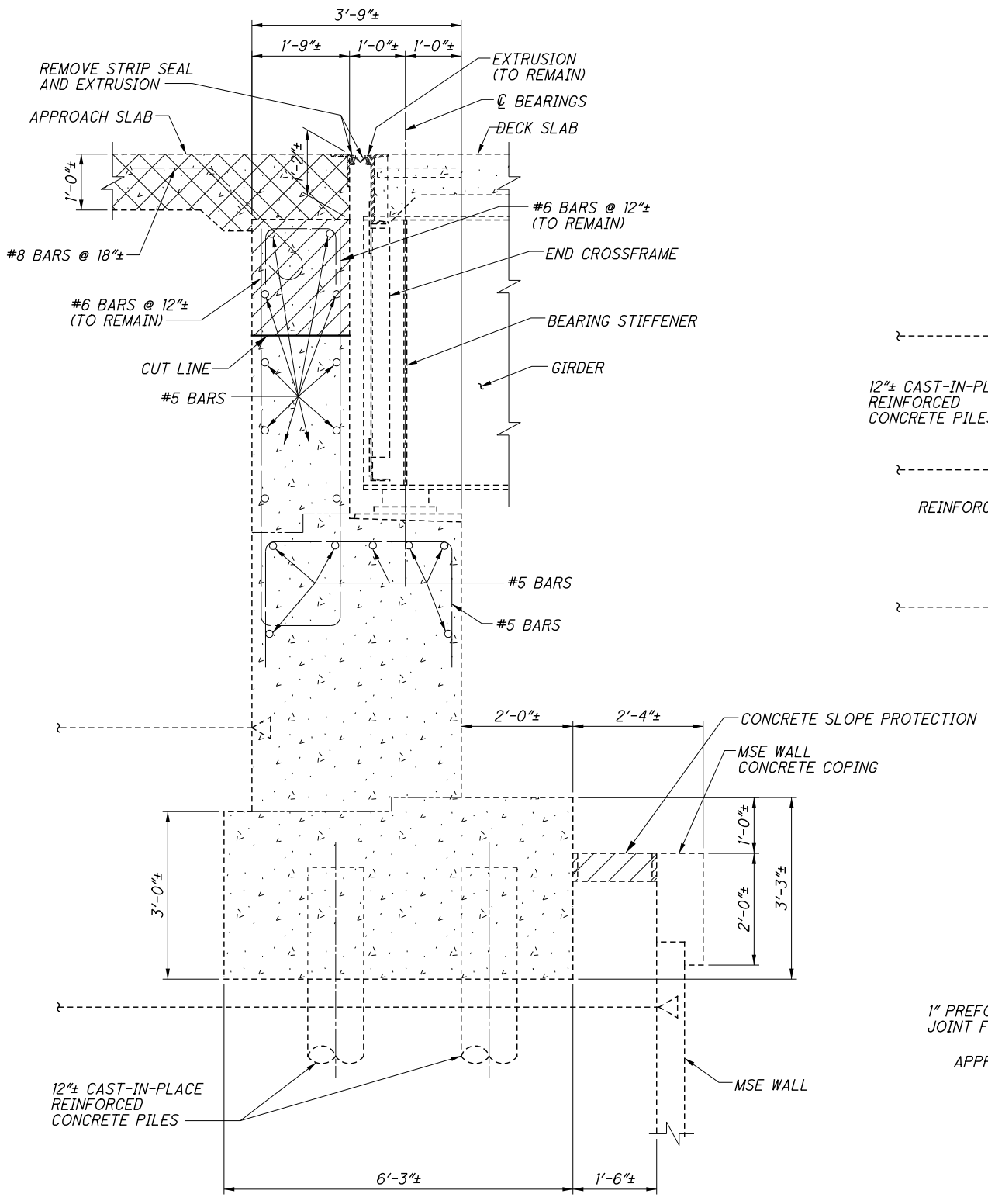


* - INDICATES ABUTMENT BACKWALL AND PARAPET

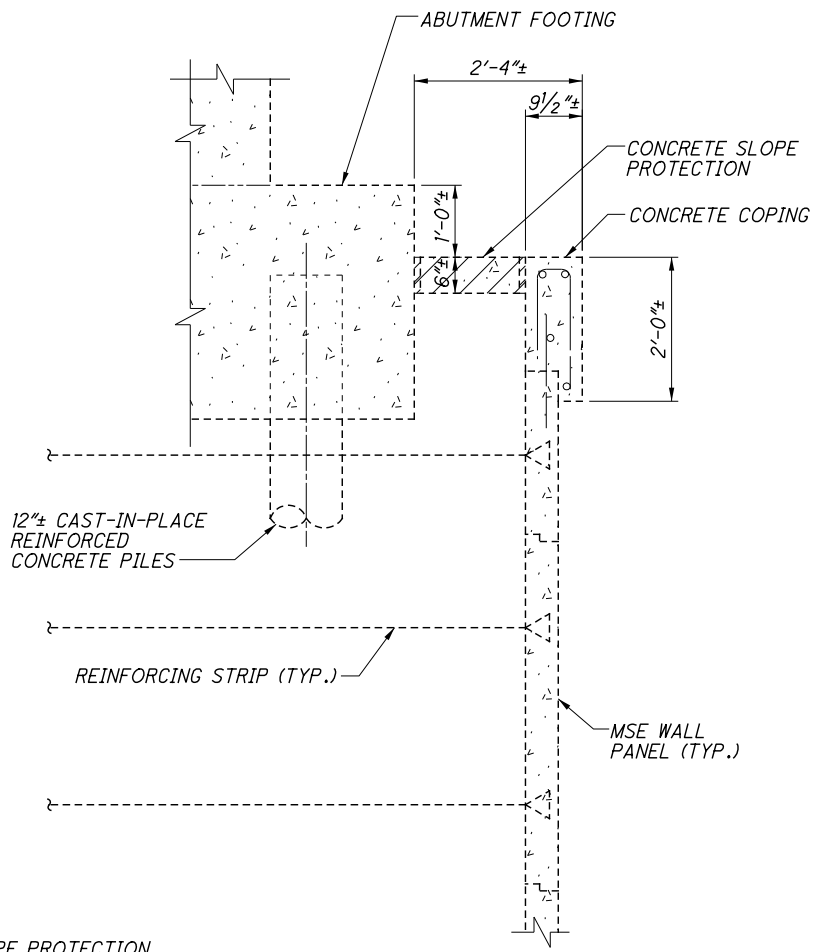
	INDICATES REMOVAL PER ITEM 202 - PORTIONS OF STRUCTURE REMOVED, AS PER PLAN.
	INDICATES AREAS OF ITEM 519 - PATCHING CONCRETE STRUCTURE, AS PER PLAN.
	INDICATES AREAS OF MSE WALL REPAIR PER ITEM SPECIAL - STRUCTURES: REPAIR OF MSE WALLS

- NOTES:**
1. DETAILS ON THIS SHEET ARE TAKEN FROM EXISTING PLANS AND SHOULD BE USED FOR INFORMATION PURPOSES ONLY.
 2. PERFORM ONLY THE WORK AS INDICATED IN THE STRUCTURE DATA SHEET, FRAMED TEXT, AND/OR DESCRIBED IN THE GENERAL NOTES.
 3. CONCRETE SLOPE PROTECTION REPAIR - SEE DETAIL ON SHEET 29/31.
 4. FOR ESTIMATED QUANTITIES SEE SHEET 2/31.

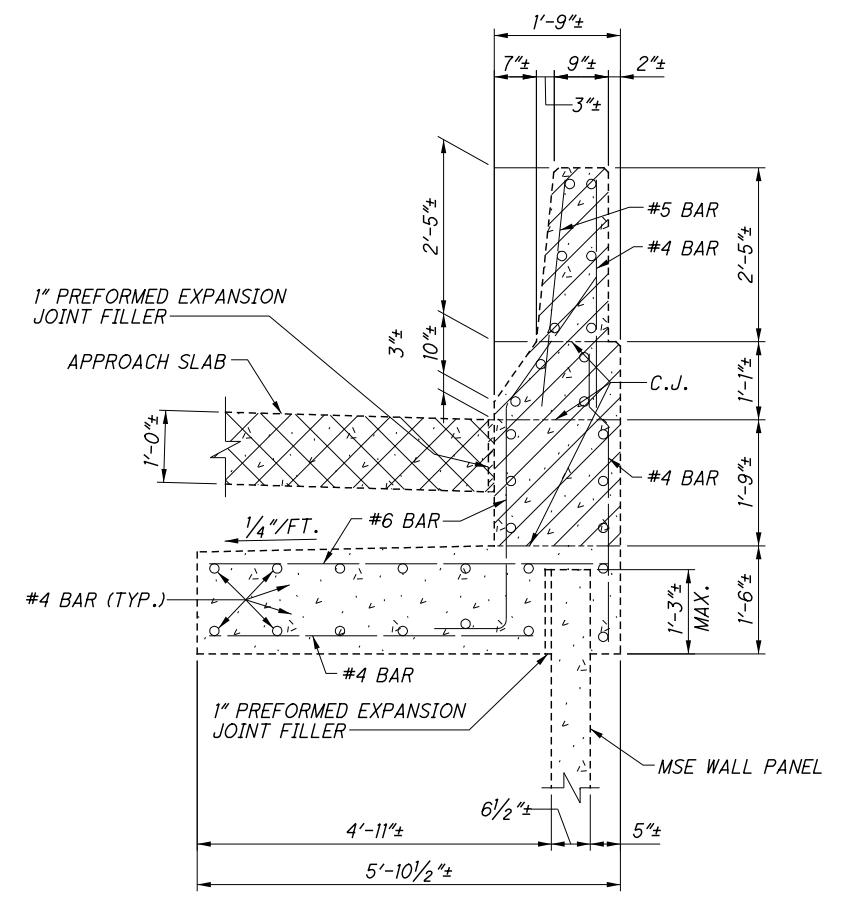
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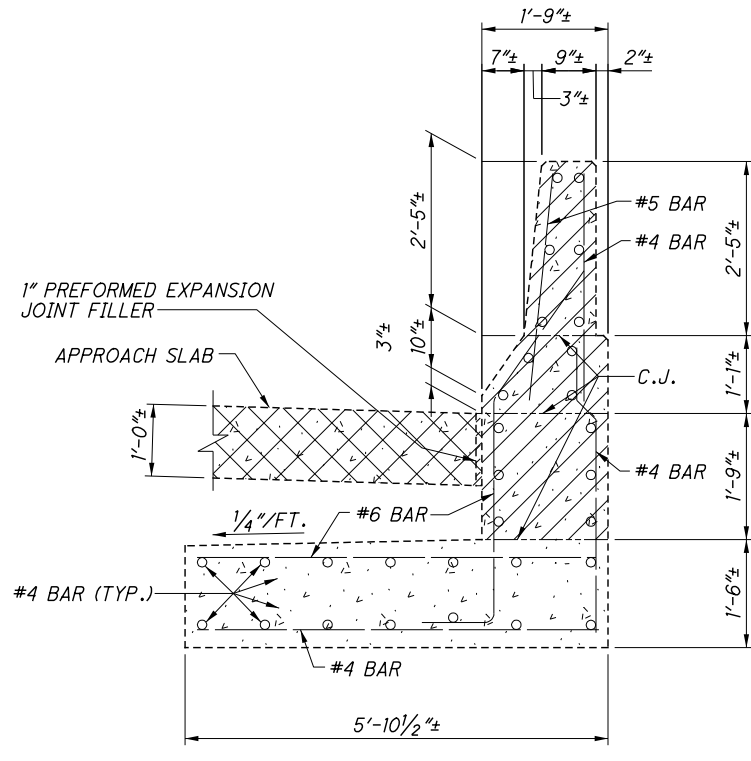
SECTION A-A



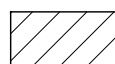
SECTION B-B




SECTION C-C



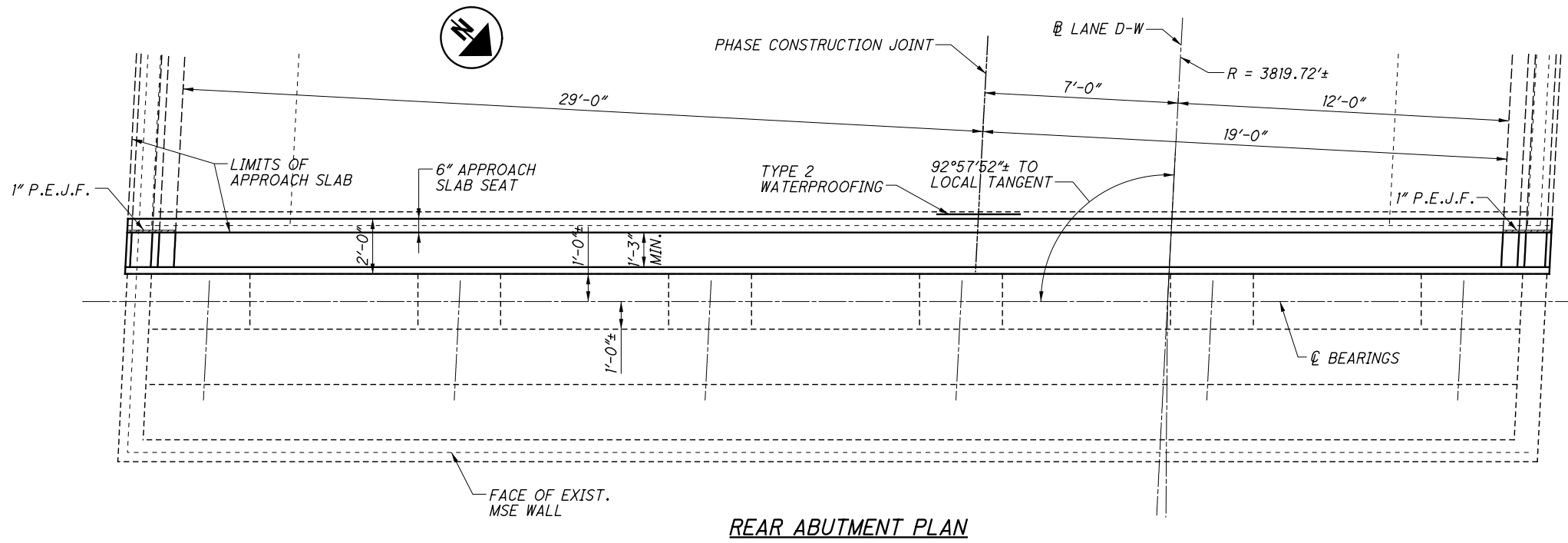
SECTION D-D

 INDICATES REMOVAL PER ITEM 202 - PORTIONS OF STRUCTURE REMOVED, AS PER PLAN.

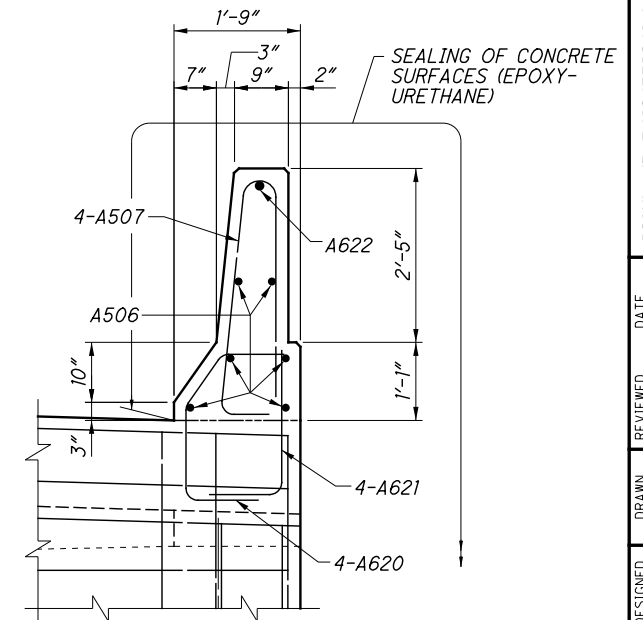
 INDICATES REMOVAL PER ITEM 202 - APPROACH SLAB REMOVED.

- NOTES:**
1. DETAILS ON THIS SHEET ARE TAKEN FROM EXISTING PLANS AND SHOULD BE USED FOR INFORMATION PURPOSES ONLY.
 2. PERFORM ONLY THE WORK AS INDICATED IN THE STRUCTURE DATA SHEET, FRAMED TEXT, AND/OR DESCRIBED IN THE GENERAL NOTES.
 3. SECTION A-A: FOR LOCATION SEE SHEETS 6/31 & 7/31.
 4. SECTIONS B-B & C-C: FOR LOCATIONS SEE SHEETS 8/31 & 9/31.
 5. SECTION D-D: FOR LOCATION SEE SHEET 9/31.
 6. FOR CONCRETE SLOPE PROTECTION REPAIR SEE SHEET 29/31.
 7. FOR ESTIMATED QUANTITIES SEE SHEET 2/31.

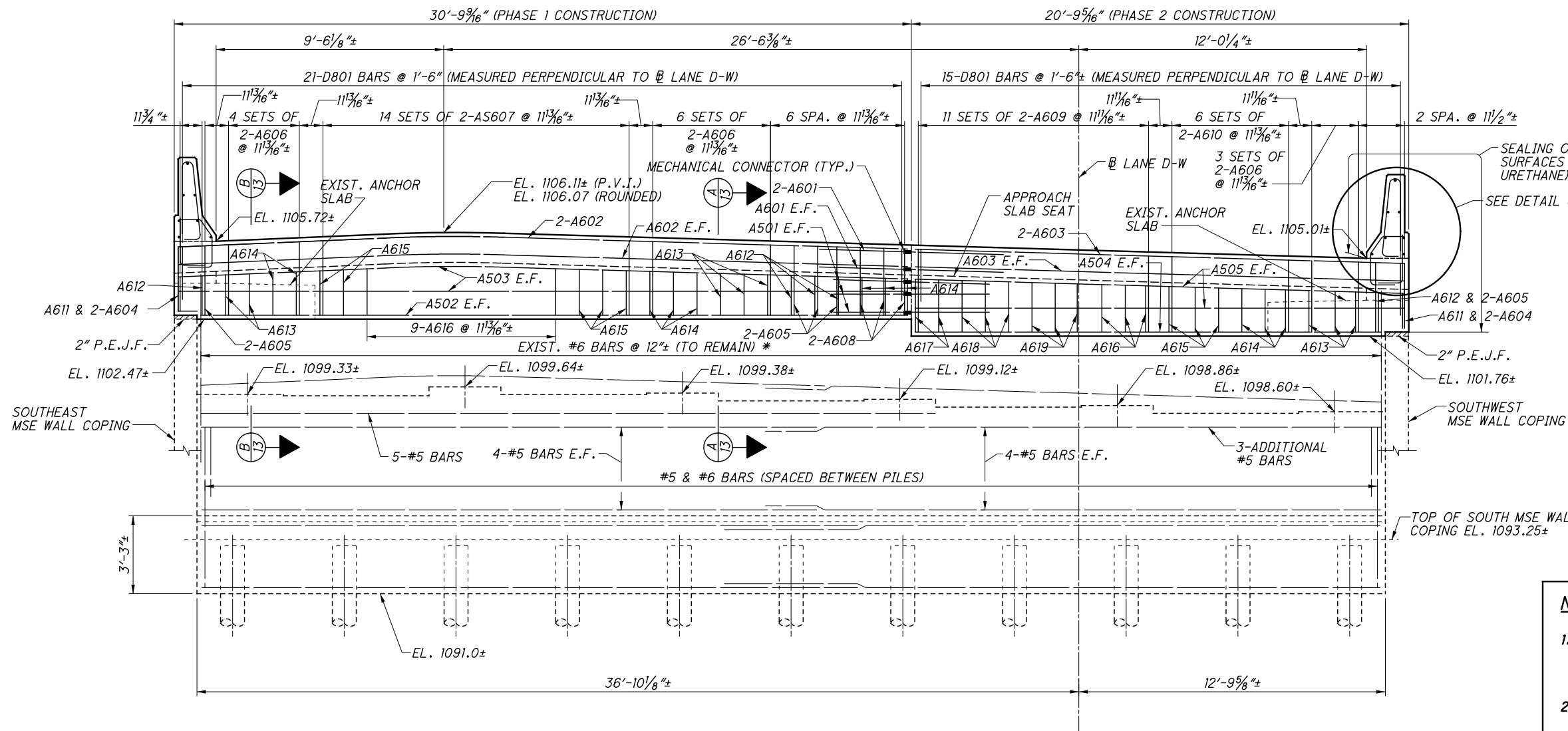
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REAR ABUTMENT PLAN



DETAIL C



REAR ABUTMENT ELEVATION

* TRIM EXISTING REINFORCING STEEL AS NEEDED IN ORDER TO MAINTAIN MINIMUM 2" EDGE CLEARANCE.

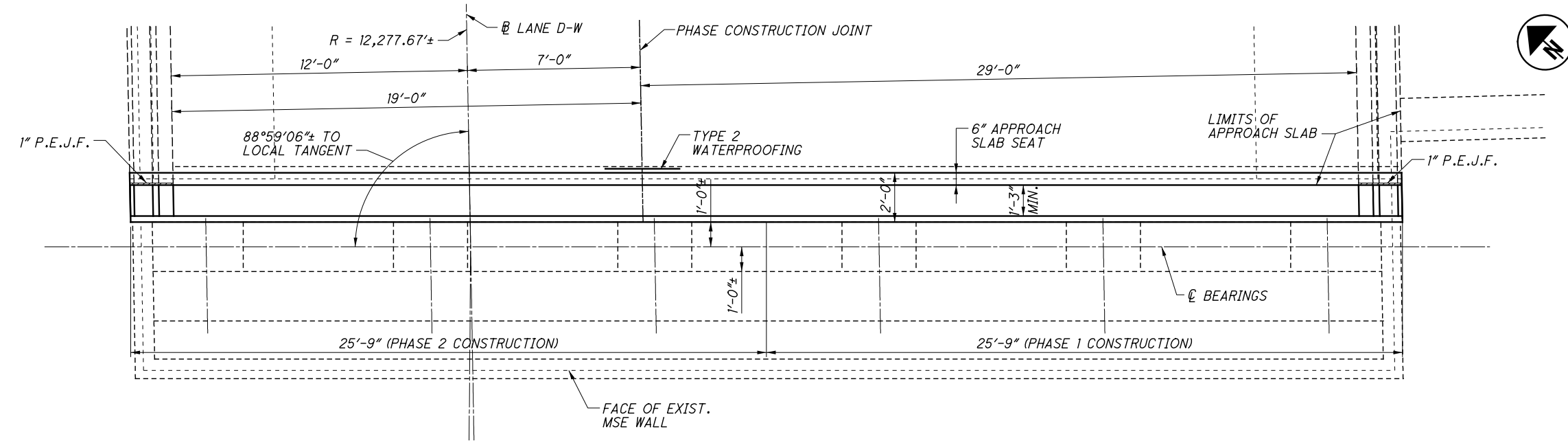
NOTATION: P.E.J.F. - PREFORMED EXPANSION JOINT FILLER.

REINFORCING STEEL SPLICE LENGTHS SHALL BE 2'-10" FOR VERTICAL #6 BARS, 3'-1" FOR HORIZONTAL #5 BARS, AND 3'-8" FOR HORIZONTAL #6 BARS.

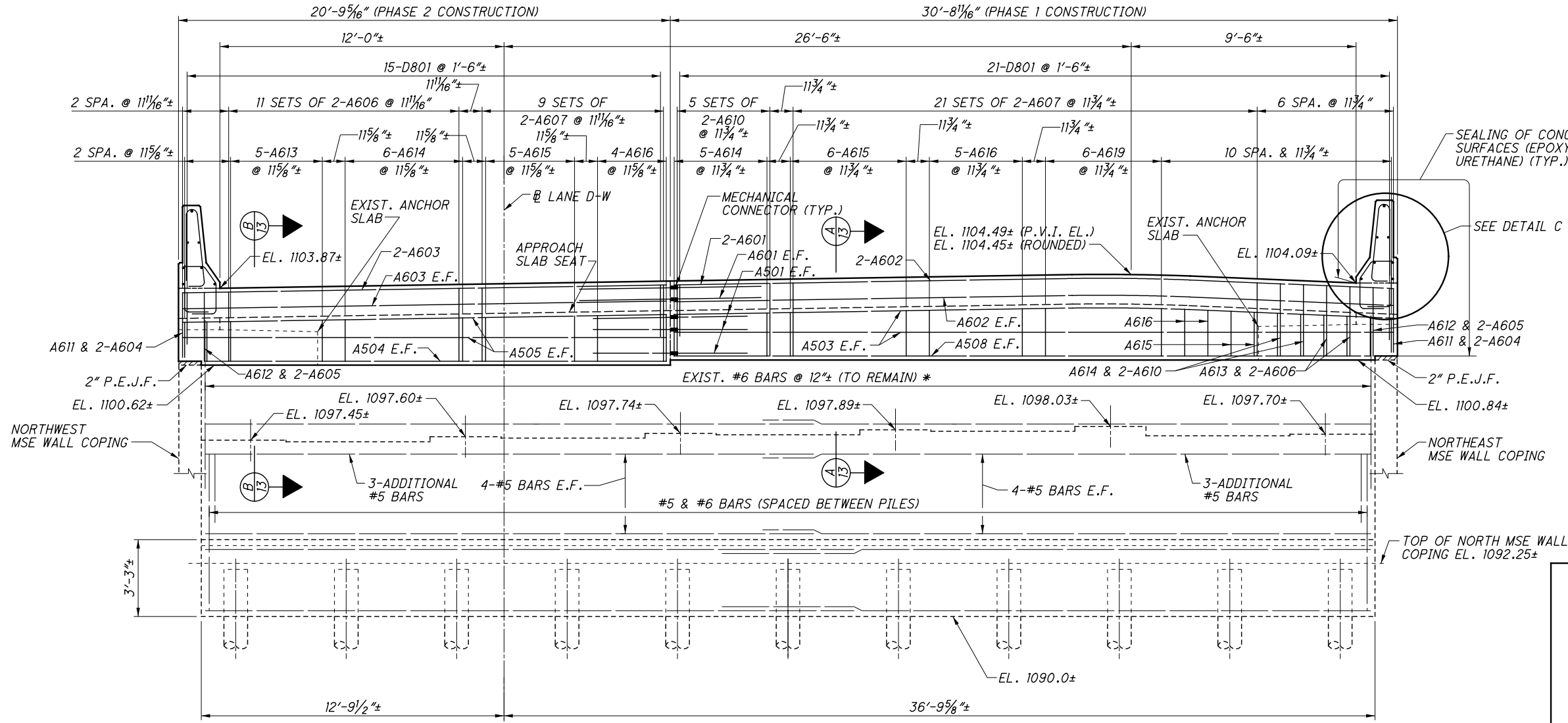
1" PREFORMED EXPANSION JOINT FILLER (1" P.E.J.F.) SHALL BE INCLUDED WITH APPROACH SLAB FOR PAYMENT.

- NOTES:**
- EXISTING DETAILS ON THIS SHEET ARE TAKEN FROM EXISTING PLANS AND SHOULD BE USED FOR INFORMATION PURPOSES ONLY. ELEVATIONS GIVEN ARE FROM EXISTING PLANS.
 - PERFORM ONLY THE WORK AS INDICATED IN THE STRUCTURE DATA SHEET, FRAMED TEXT, AND/OR DESCRIBED IN THE GENERAL NOTES.
 - FOR ESTIMATED QUANTITIES SEE SHEET 2/31.

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FORWARD ABUTMENT PLAN



FORWARD ABUTMENT ELEVATION

* TRIM EXISTING REINFORCING STEEL AS NEEDED IN ORDER TO MAINTAIN MINIMUM 2" EDGE CLEARANCE.

NOTATION: P.E.J.F. - PREFORMED EXPANSION JOINT FILLER.
REINFORCING STEEL SPLICE LENGTHS SHALL BE 2'-10" FOR VERTICAL #6 BARS, 3'-1" FOR HORIZONTAL #5 BARS, AND 3'-8" FOR HORIZONTAL #6 BARS.
1" PREFORMED EXPANSION JOINT FILLER (1" P.E.J.F.) SHALL BE INCLUDED WITH APPROACH SLAB FOR PAYMENT.

- NOTES:**
- EXISTING DETAILS ON THIS SHEET ARE TAKEN FROM EXISTING PLANS AND SHOULD BE USED FOR INFORMATION PURPOSES ONLY. ELEVATIONS GIVEN ARE FROM EXISTING PLANS.
 - PERFORM ONLY THE WORK AS INDICATED IN THE STRUCTURE DATA SHEET, FRAMED TEXT, AND/OR DESCRIBED IN THE GENERAL NOTES.
 - FOR ESTIMATED QUANTITIES SEE SHEET 2/31.
 - FOR DETAIL C SEE SHEET 11/31.

RICHLAND ENGINEERING LIMITED
 29 NORTH PARK STREET
 MANSFIELD, OHIO 44902

DESIGNED	BLN	CHECKED	dnt
DRAWN	JLS	REVISED	
REVIEWED	DT	DATE	12-20-18
STRUCTURE FILE NUMBER	1814613		

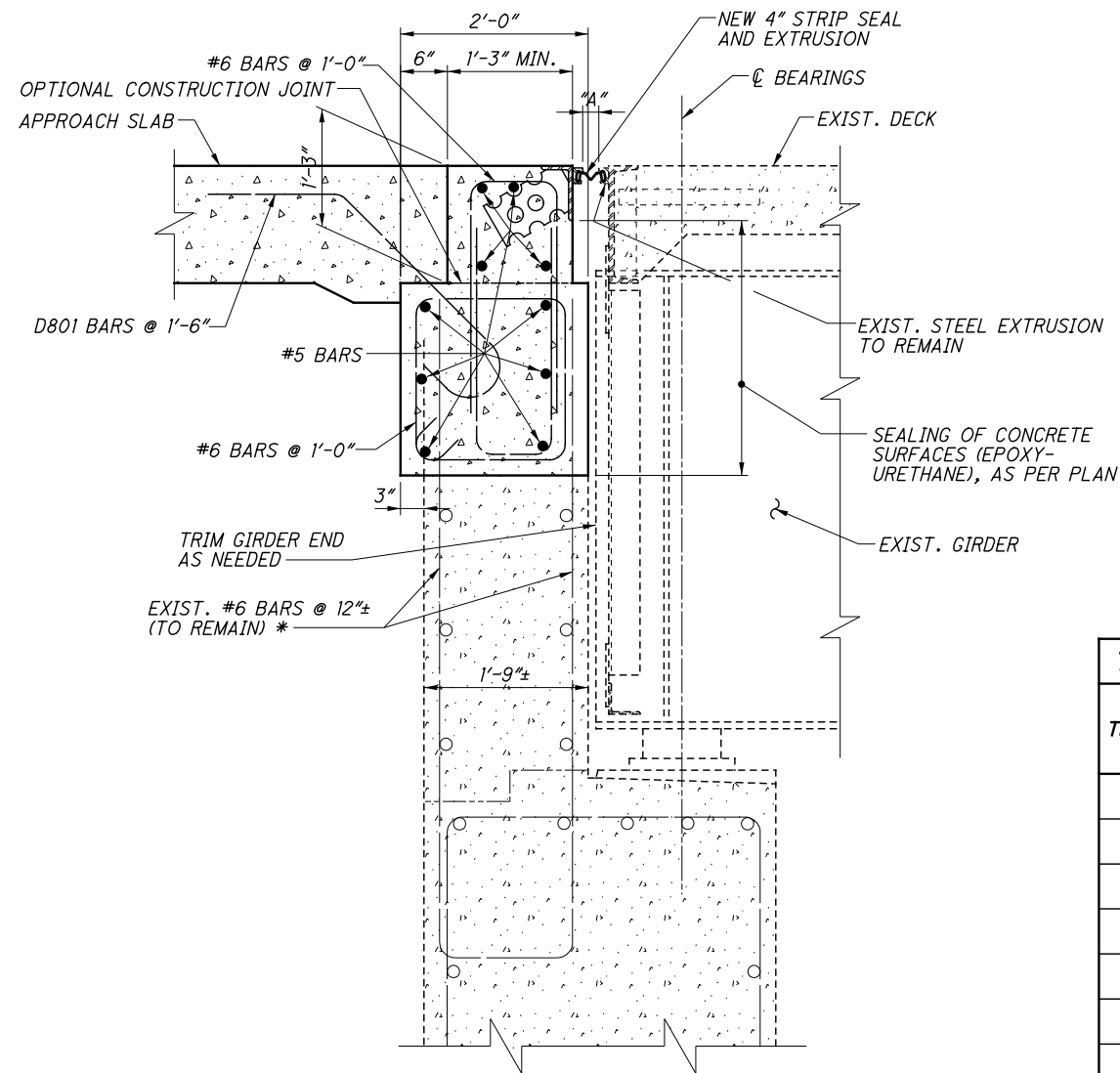
FORWARD ABUTMENT - LOCATION 2

BRIDGE NO. CUY-271X-0581 NW
 RAMP TO IR 480 OVER IR 271

D12 BH FY2019 MISC.
 PID No. 98601

12 / 31
 66
 149

F:\2016\16041 D12 Bridge Rehab\12-BH-FY2019 Misc\ProjectData\98601\Design\Structures\CUY271X-0581NW\Sheets\271_0581AD002.dgn 12/31/2018 8:26:51 AM JeffSmith



SECTION A-A

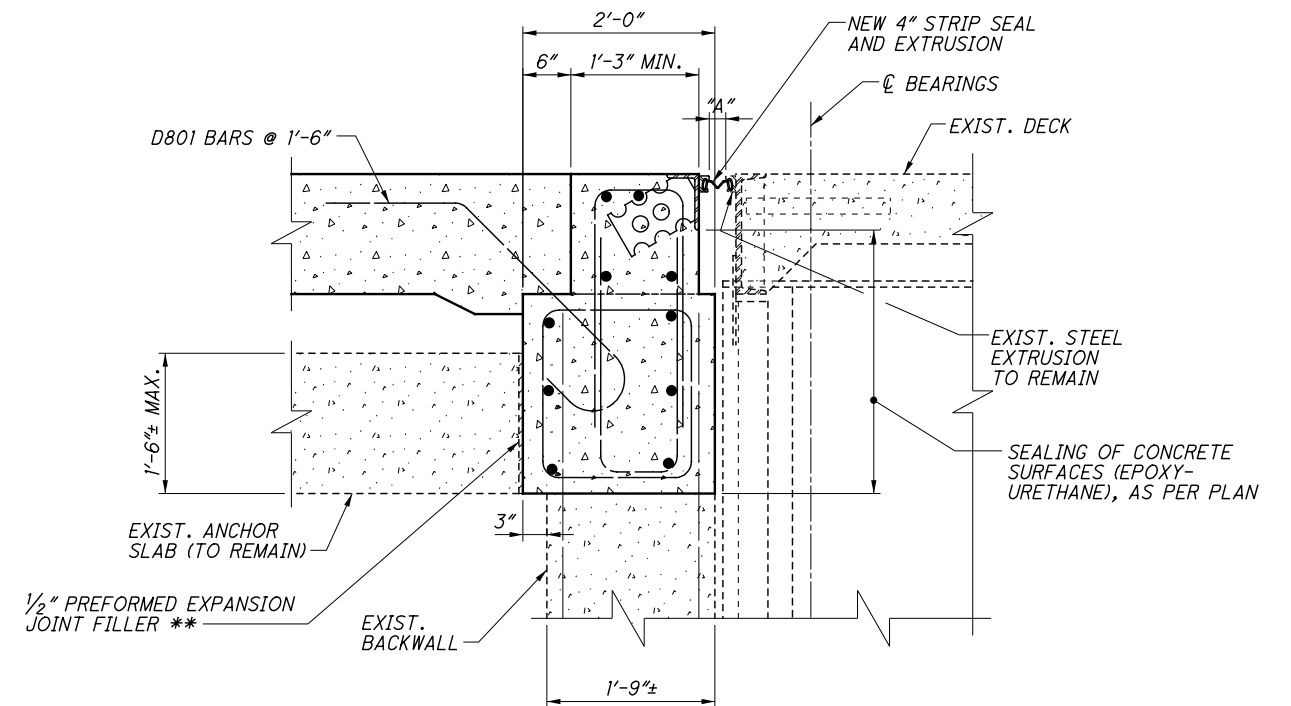
TABLE OF DIMENSIONS

TEMPERATURE	DIMENSION A	
	R.A.	F.A.
30° F.	2 1/16"	2 3/8"
40° F.	1 7/8"	2 1/8"
50° F.	1 11/16"	1 7/8"
60° F.	1 1/2"	1 5/8"
70° F.	1 5/16"	1 3/8"
80° F.	1 1/8"±	1 1/8"
90° F.	1 5/16"	7/8"

NOTE: MINIMUM JOINT OPENING (DIMENSION "A") AT THE TIME OF SEAL GLAND INSTALLATION SHALL NOT BE LESS THAN 1/2". IF THE JOINT OPENING IS LESS, THE INSTALLATION SHALL BE POSTPONED UNTIL THE TEMPERATURE DROPS A SUFFICIENT AMOUNT TO ALLOW FOR THE MINIMUM 1/2" OPENING.

* TRIM EXISTING BARS AS NEEDED TO MAINTAIN A MINIMUM 2" EDGE CLEARANCE.

** INCLUDED WITH BACKWALL CONCRETE FOR PAYMENT.



SECTION B-B

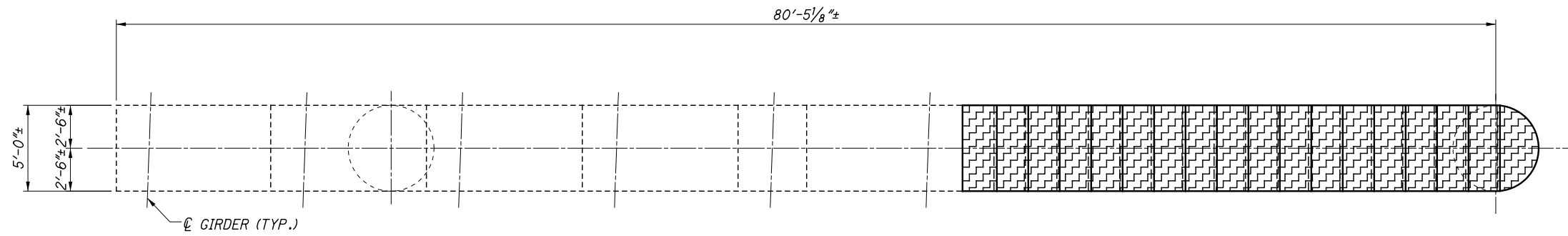
FOR ADDITIONAL INFORMATION SEE SECTION A-A.

NOTES:

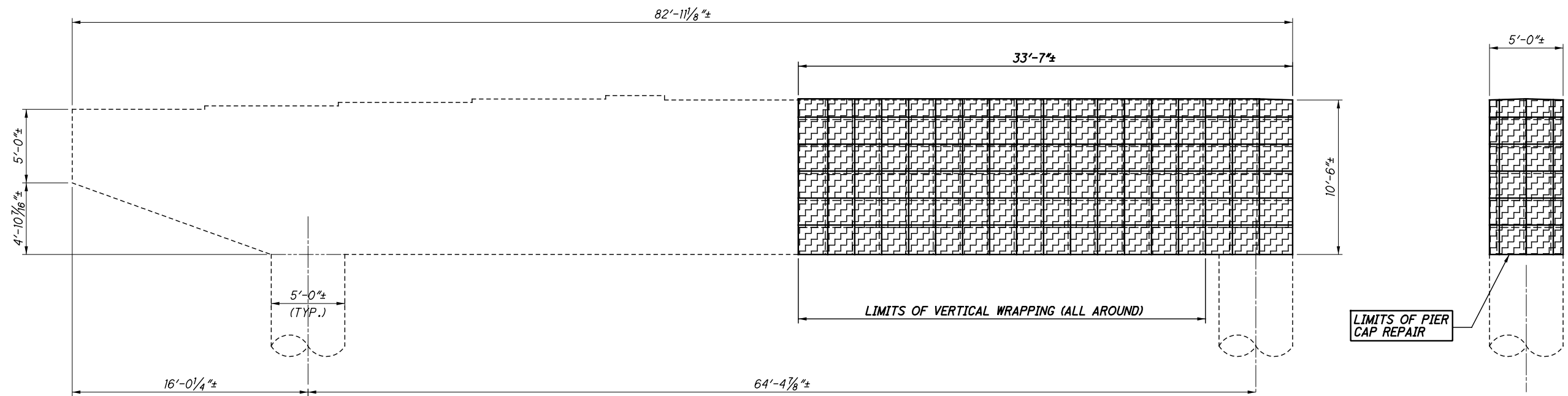
1. DETAILS ON THIS SHEET ARE TAKEN FROM EXISTING PLANS AND SHOULD BE USED FOR INFORMATION PURPOSES ONLY.
2. PERFORM ONLY THE WORK AS INDICATED IN THE STRUCTURE DATA SHEET, FRAMED TEXT, AND/OR DESCRIBED IN THE GENERAL NOTES.
3. FOR ESTIMATED QUANTITIES SEE SHEET 2/31.

SECTIONS A-A & B-B: FOR LOCATIONS SEE SHEETS 11/31 & 12/31.

F:\2016\116041 D12 Bridge Rehab\12-BH-FY2019 Misc\ProjectData\98601\Design\Structures\CUY271X_0581NW\Sheets\271_0581P\001.dgn 12/31/2018 9:39:35 AM JeffSmith



PIER 1 PLAN

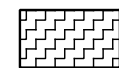


PIER 1 ELEVATION

END VIEW

NOTE: FIBER WRAP HORIZONTALLY WITH 2'-0" WIDE STRIPS WITH 2" OVERLAP. THEN WRAP VERTICALLY WITH 2'-0" WIDE STRIPS WITH 2" OVERLAP ALL AROUND UP TO THE COLUMN.

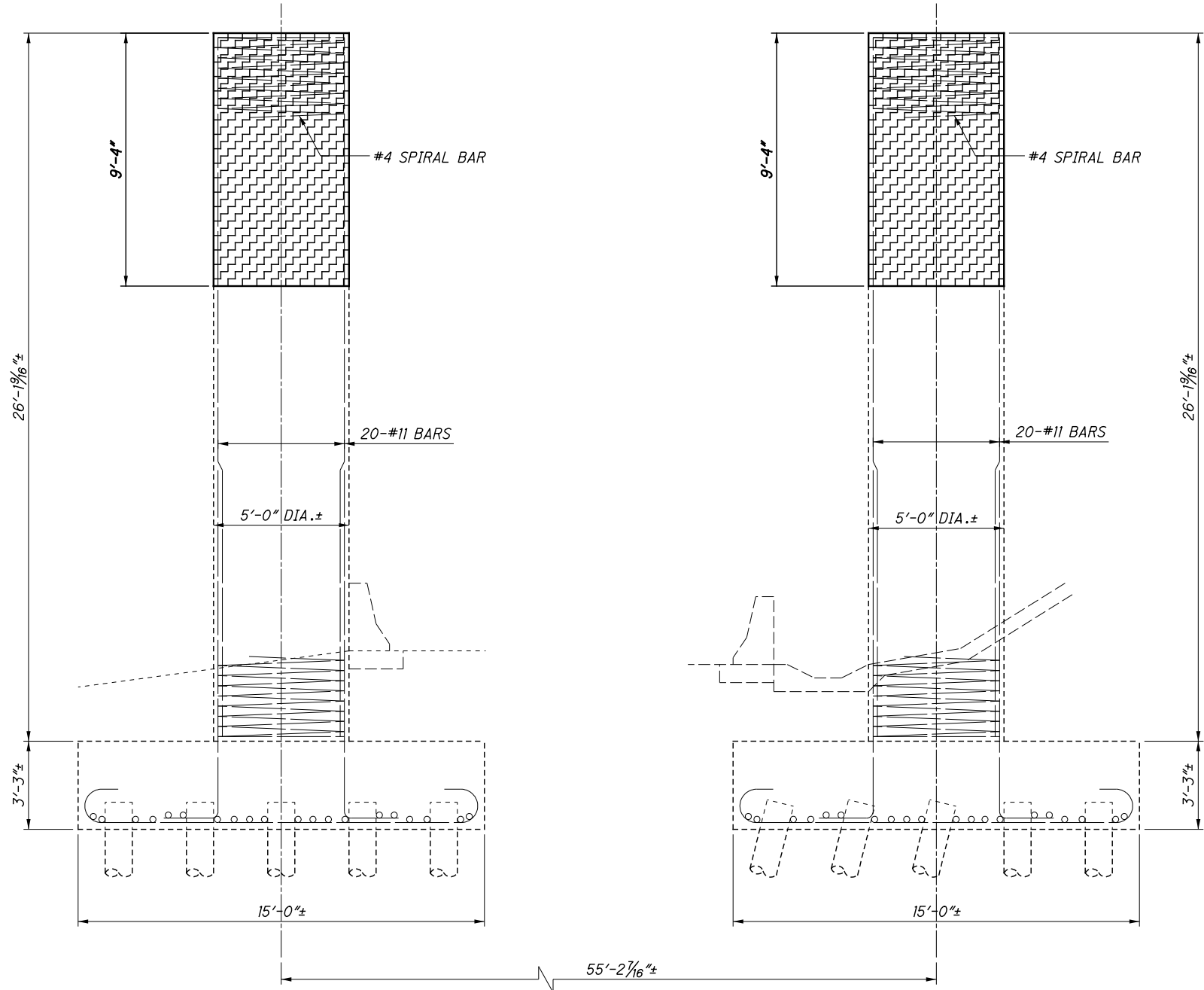
LEGEND



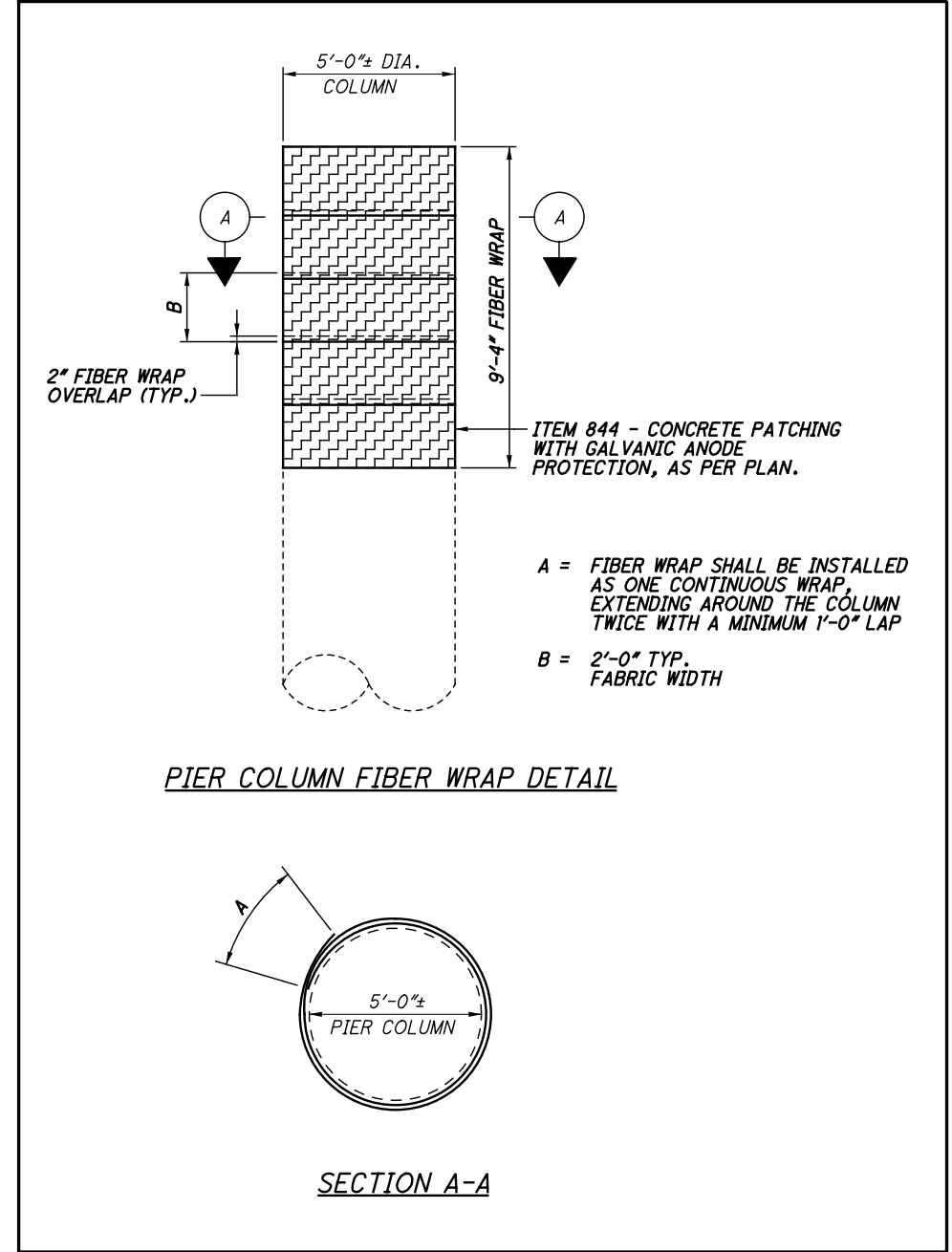
INDICATES CONCRETE PIER CAP REPAIR PER ITEM SPECIAL - STRUCTURES, COMPOSITE FIBER WRAP SYSTEM AND ITEM 844 - CONCRETE PATCHING WITH GALVANIC ANODE PROTECTION, AS PER PLAN.

NOTES:

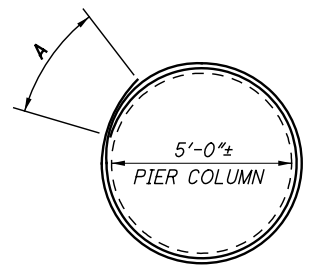
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3. FOR ESTIMATED QUANTITIES SEE SHEET 2/31.



PIER 2 REPAIR DETAIL



PIER COLUMN FIBER WRAP DETAIL



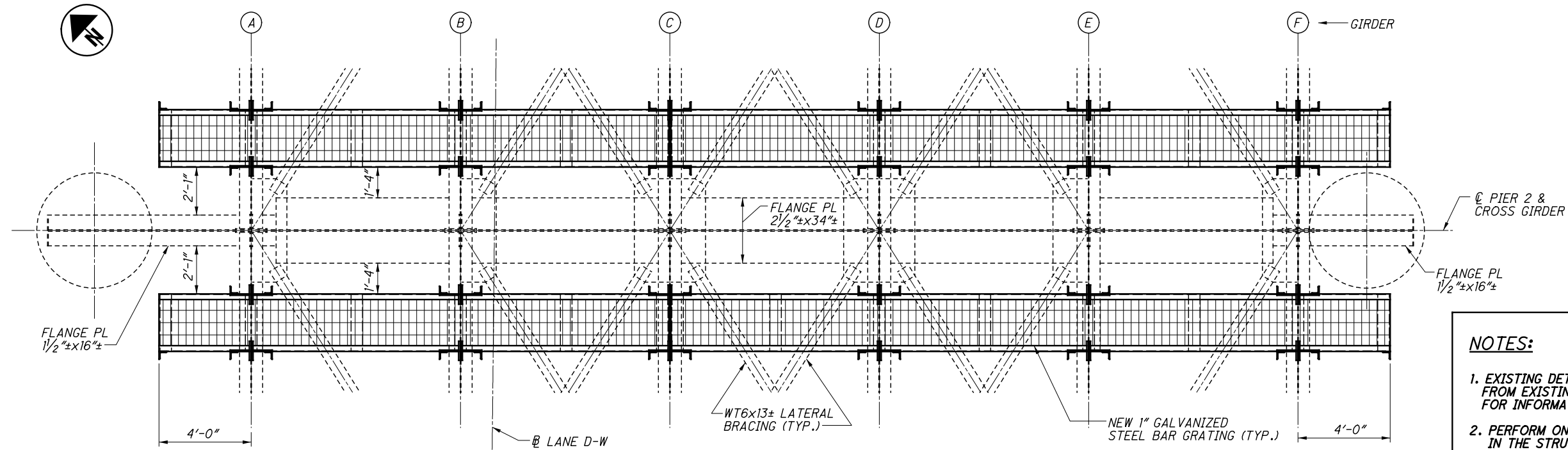
SECTION A-A

LEGEND

INDICATES CONCRETE PIER COLUMN REPAIR PER ITEM SPECIAL - STRUCTURES, COMPOSITE FIBER WRAP SYSTEM AND ITEM 844 - CONCRETE PATCHING WITH GALVANIC ANODE PROTECTION, AS PER PLAN.

- NOTES:**
1. DETAILS ON THIS SHEET ARE TAKEN FROM EXISTING PLANS AND SHOULD BE USED FOR INFORMATION PURPOSES ONLY.
 2. PERFORM ONLY THE WORK AS INDICATED IN THE STRUCTURE DATA SHEET, FRAMED TEXT, AND/OR DESCRIBED IN THE GENERAL NOTES.
 3. FOR ESTIMATED QUANTITIES SEE SHEET 2/31.

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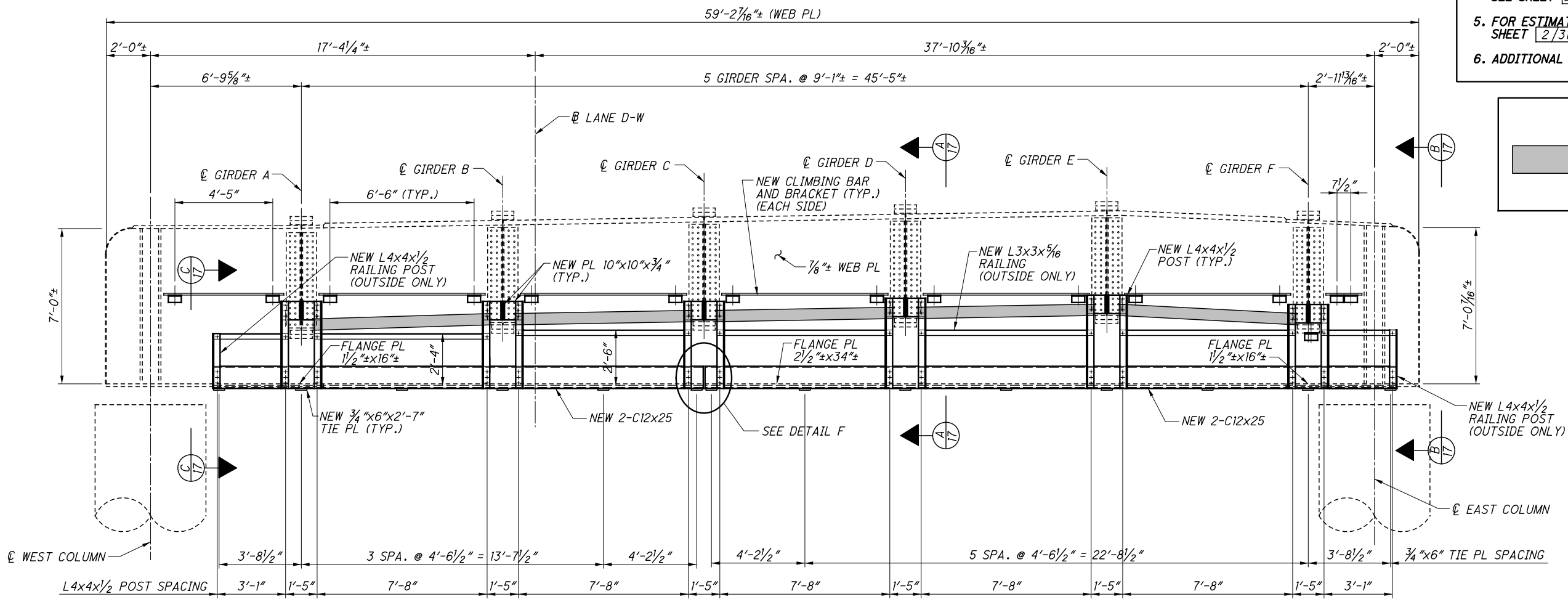


PLAN - PIER 2 CROSS GIRDER CATWALKS

- NOTES:**
- EXISTING DETAILS ON THIS SHEET ARE TAKEN FROM EXISTING PLANS AND SHOULD BE USED FOR INFORMATION PURPOSES ONLY.
 - PERFORM ONLY THE WORK AS INDICATED IN THE STRUCTURE DATA SHEET, FRAMED TEXT, AND/OR DESCRIBED IN THE GENERAL NOTES.
 - DETAIL F: SEE SHEET [22/31].
 - CLIMBING BAR AND BRACKET DETAILS: SEE SHEET [23/31].
 - FOR ESTIMATED QUANTITIES SEE SHEET [2/31].
 - ADDITIONAL NOTES: SEE SHEET [22/31].

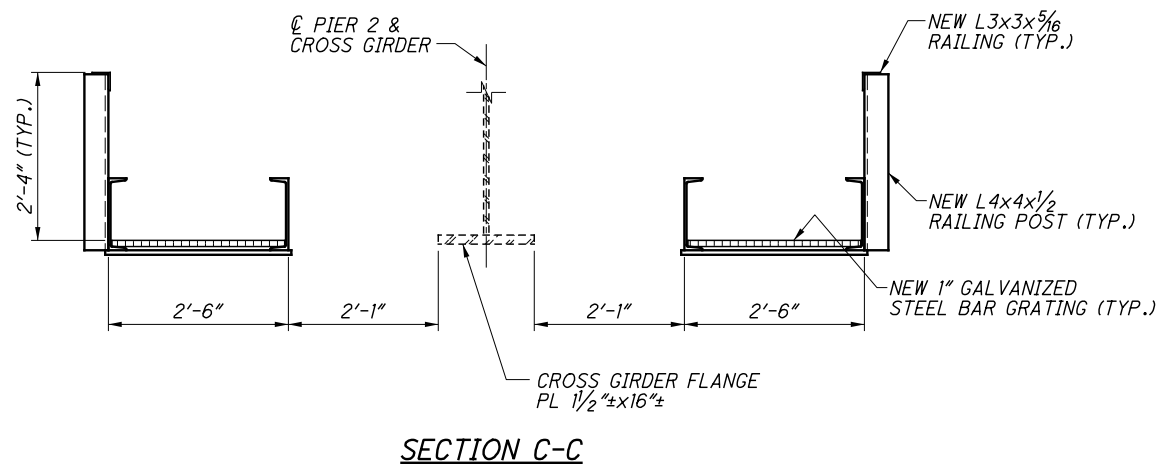
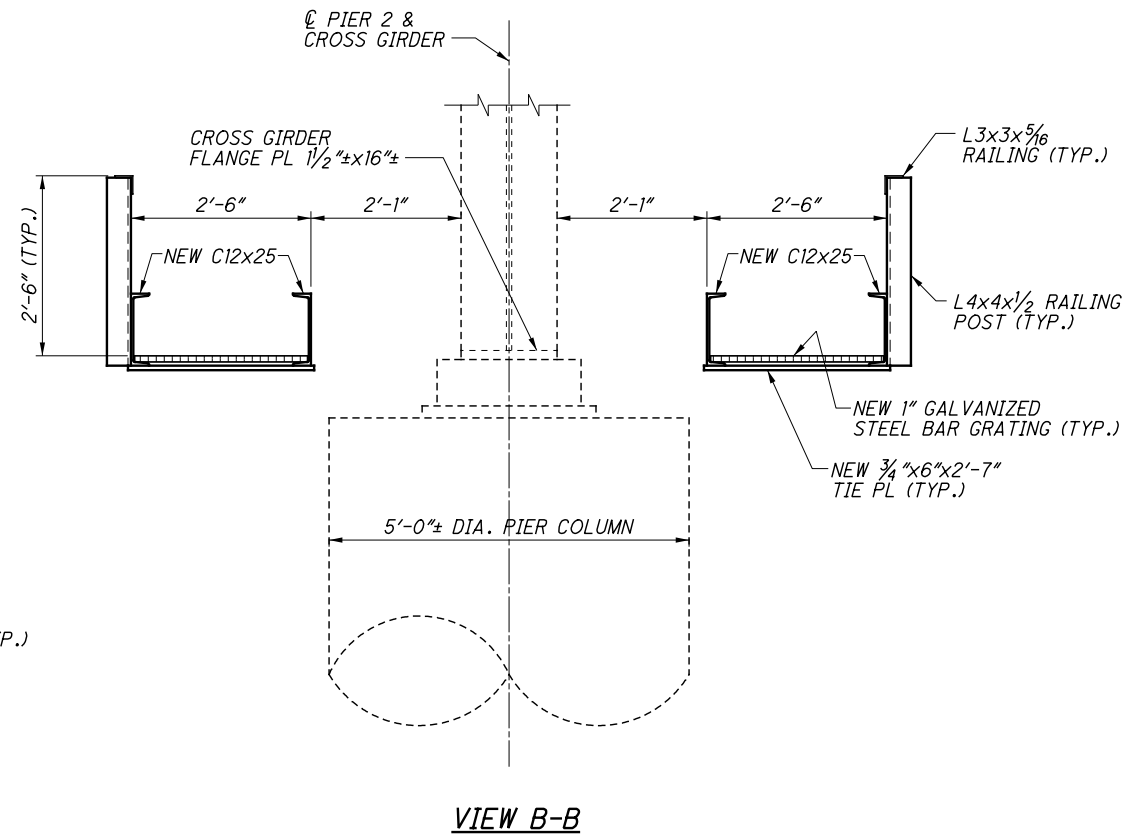
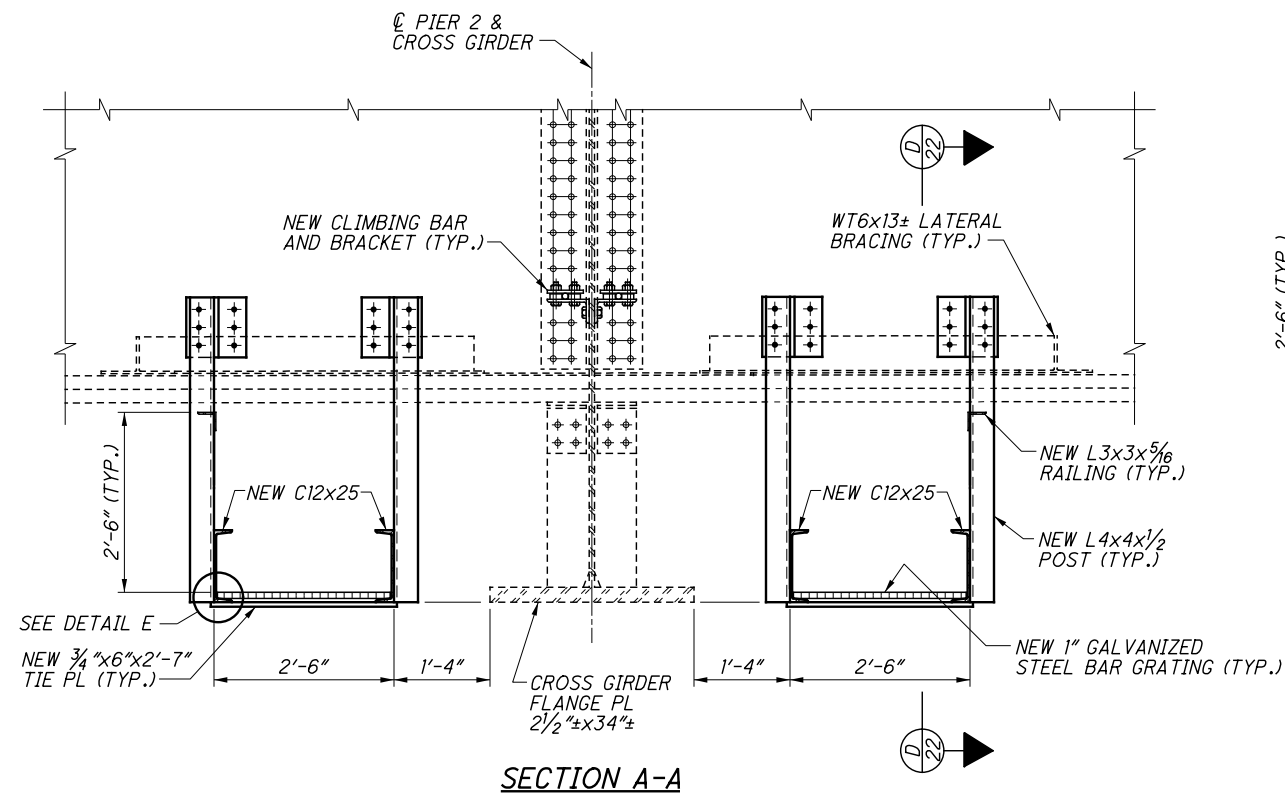
LEGEND

SHADED AREA IN ELEVATION VIEW INDICATES APPROXIMATE LOCATION OF LOWER LATERAL BRACING.



ELEVATION

F:\2016\16041 D12 Bridge Rehab\12-BH-FY2019 Misc\ProjectData\98601\Design\Structures\CUY271X_0581NW\Sheets\271_0581P1009.dgn 12/20/18 2:45:08 PM JeremyBurns

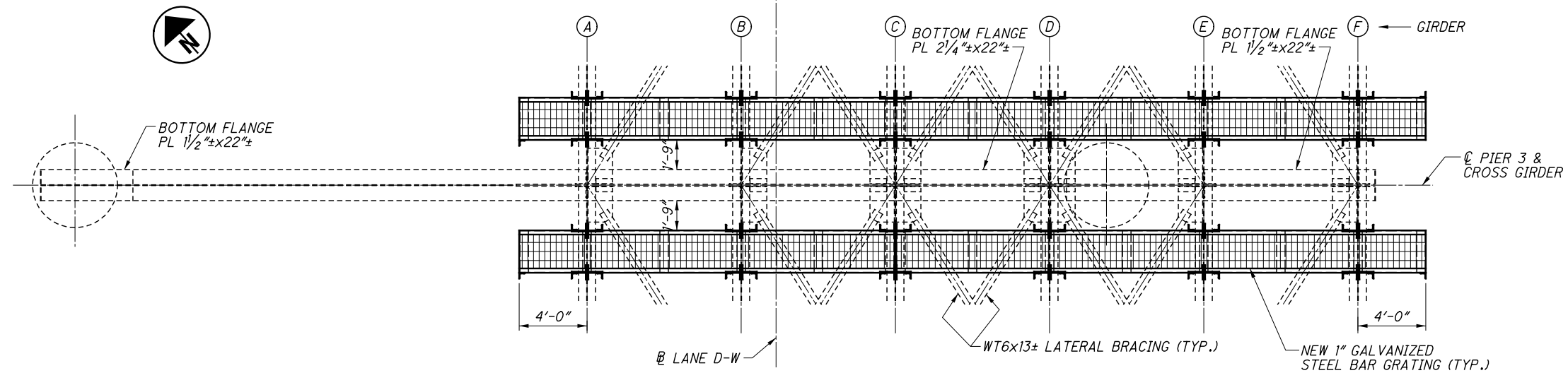


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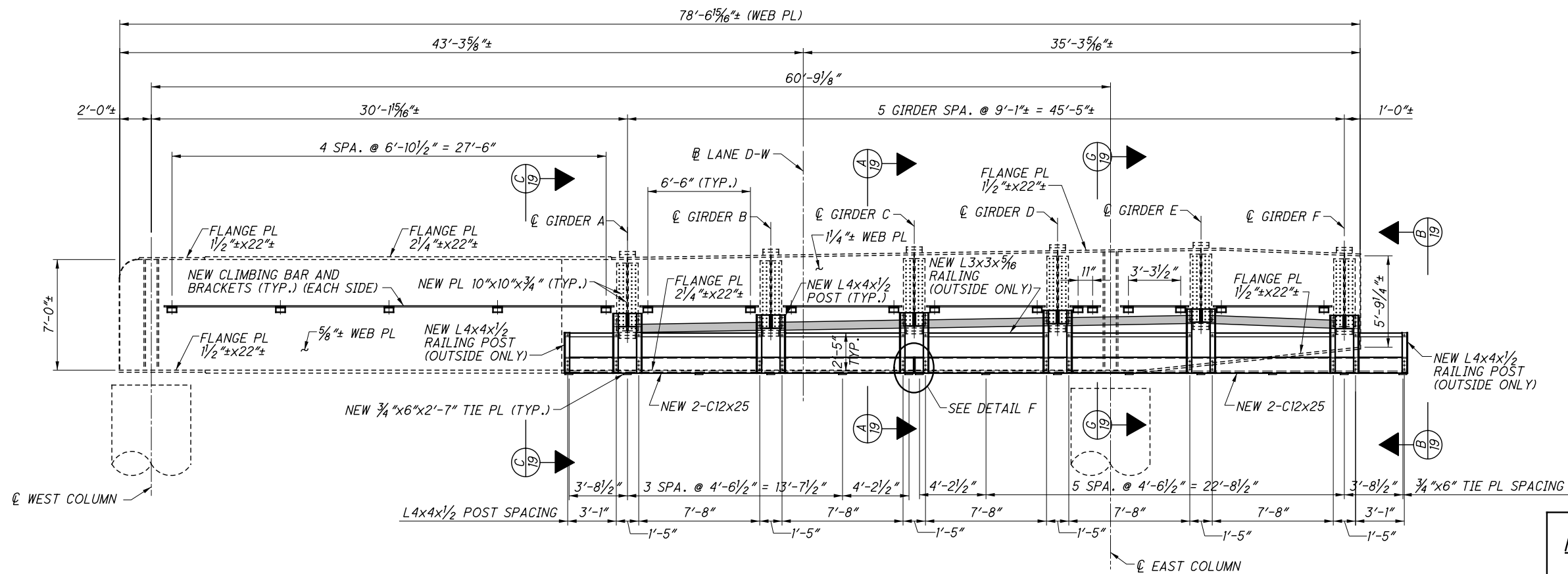
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- PERFORM ONLY THE WORK AS INDICATED IN THE STRUCTURE DATA SHEET, FRAMED TEXT, AND/OR DESCRIBED IN THE GENERAL NOTES.
- SECTIONS A-A & C-C & VIEW B-B: FOR LOCATIONS SEE SHEET 16/31.
- DETAIL E: SEE SHEET 22/31.
- FOR ESTIMATED QUANTITIES SEE SHEET 2/31.

RICHLAND ENGINEERING LIMITED 29 NORTH PARK STREET MANSFIELD, OHIO 44902	
DATE 12-20-18	FILE NUMBER 1814613
REVIEWED DT	STRUCTURE FILE NUMBER 1814613
DRAWN JLS	REVISED
DESIGNED BLN	CHECKED dnt
PIER 2 CATWALK DETAILS - LOCATION 2	
BRIDGE NO. CUY-271X-0581 NW	
RAMP OT IR 480 OVER IR 271	
D12 BH FY2019 MISC.	PID No. 98601
17/31	
71	149

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PLAN - PIER 3 CROSS GIRDER CATWALKS



ELEVATION

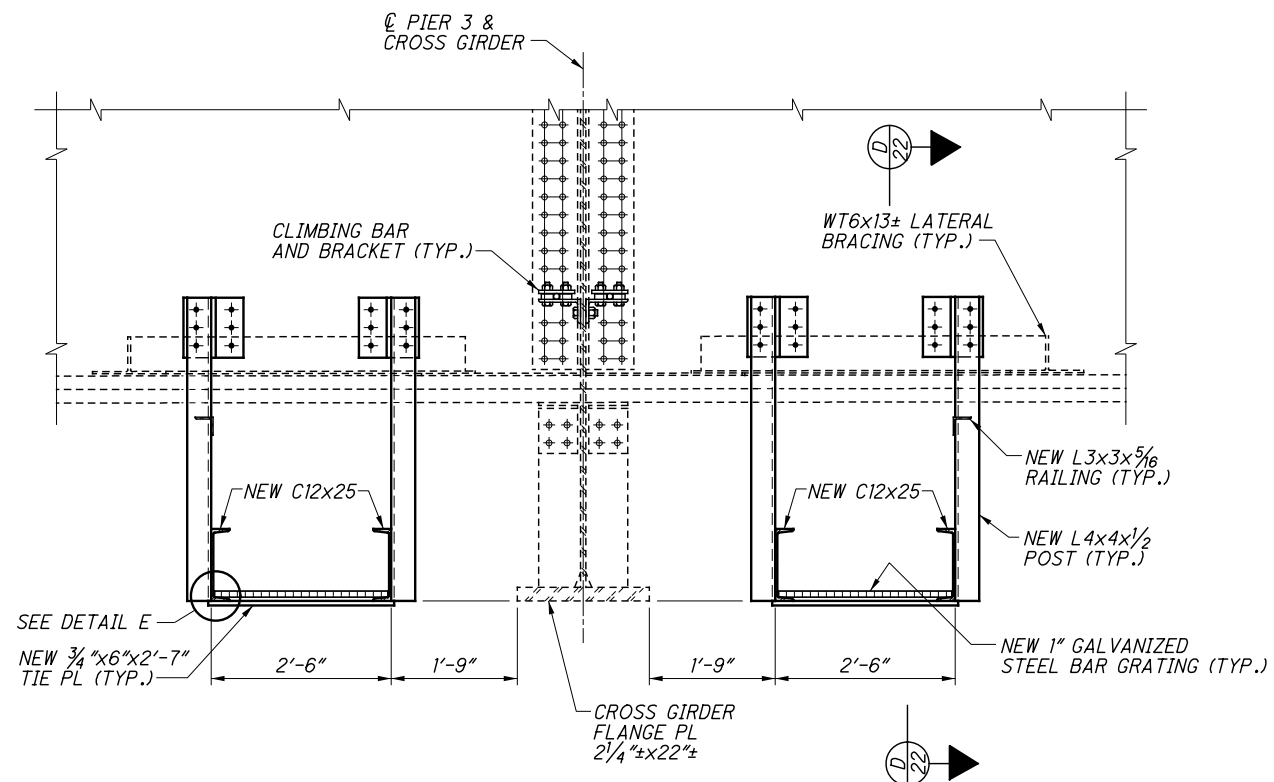
LEGEND

SHADED AREA IN ELEVATION VIEW INDICATES APPROXIMATE LOCATION OF LOWER LATERAL BRACING.

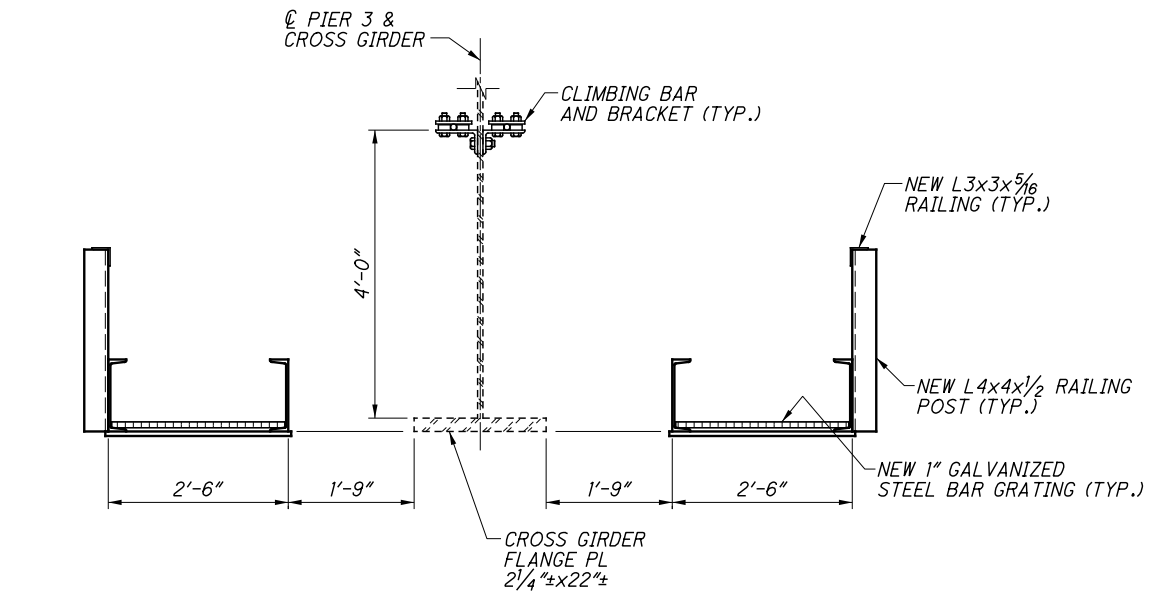
NOTES:

1. EXISTING DETAILS ON THIS SHEET ARE TAKEN FROM EXISTING PLANS AND SHOULD BE USED FOR INFORMATION PURPOSES ONLY.
2. PERFORM ONLY THE WORK AS INDICATED IN THE STRUCTURE DATA SHEET, FRAMED TEXT, AND/OR DESCRIBED IN THE GENERAL NOTES.
3. DETAIL F: SEE SHEET [22/31].
4. CLIMBING BAR AND BRACKET DETAILS: SEE SHEET [23/31].
5. FOR ESTIMATED QUANTITIES SEE SHEET [2/31].
6. ADDITIONAL NOTES: SEE SHEET [22/31].

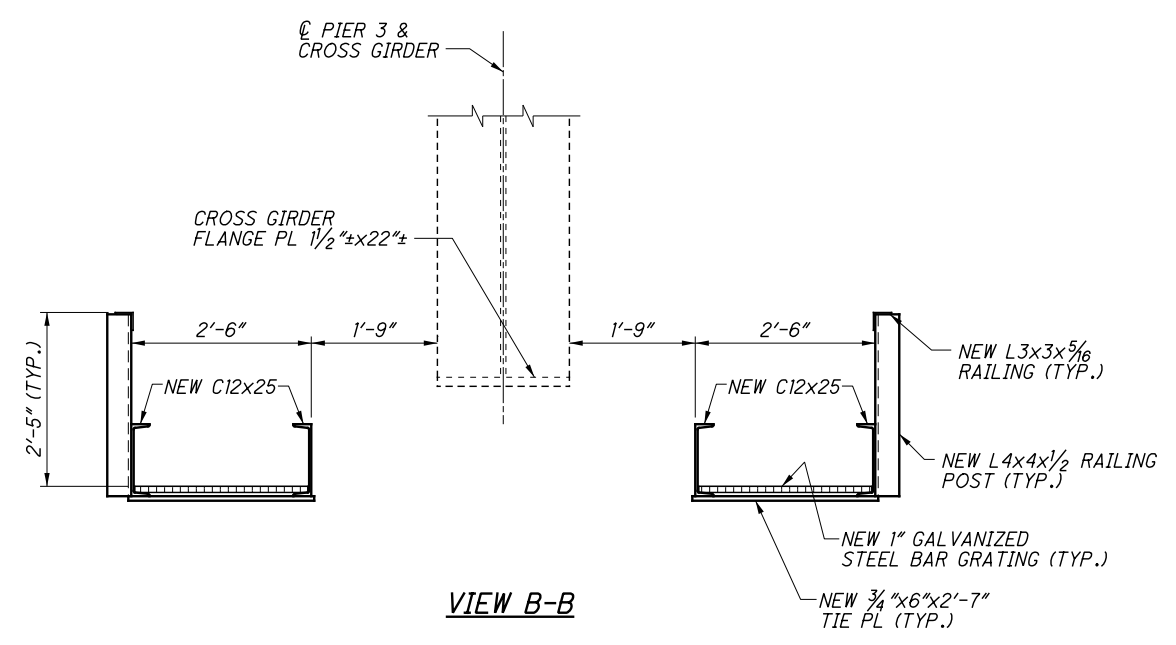
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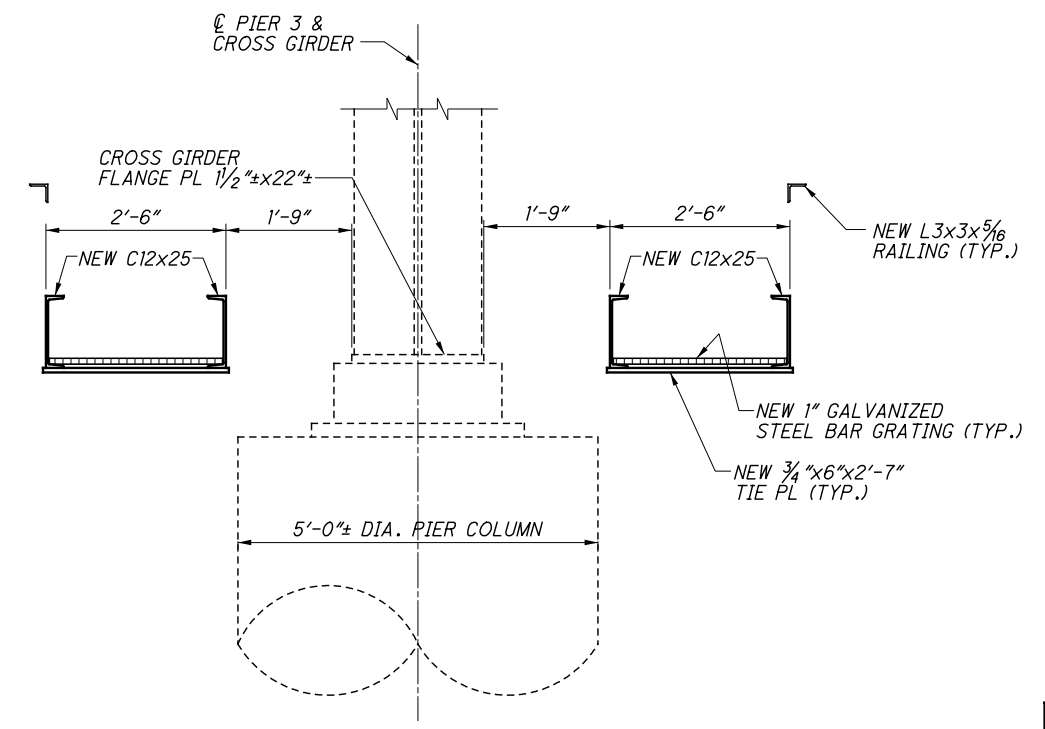
SECTION A-A



SECTION C-C



VIEW B-B

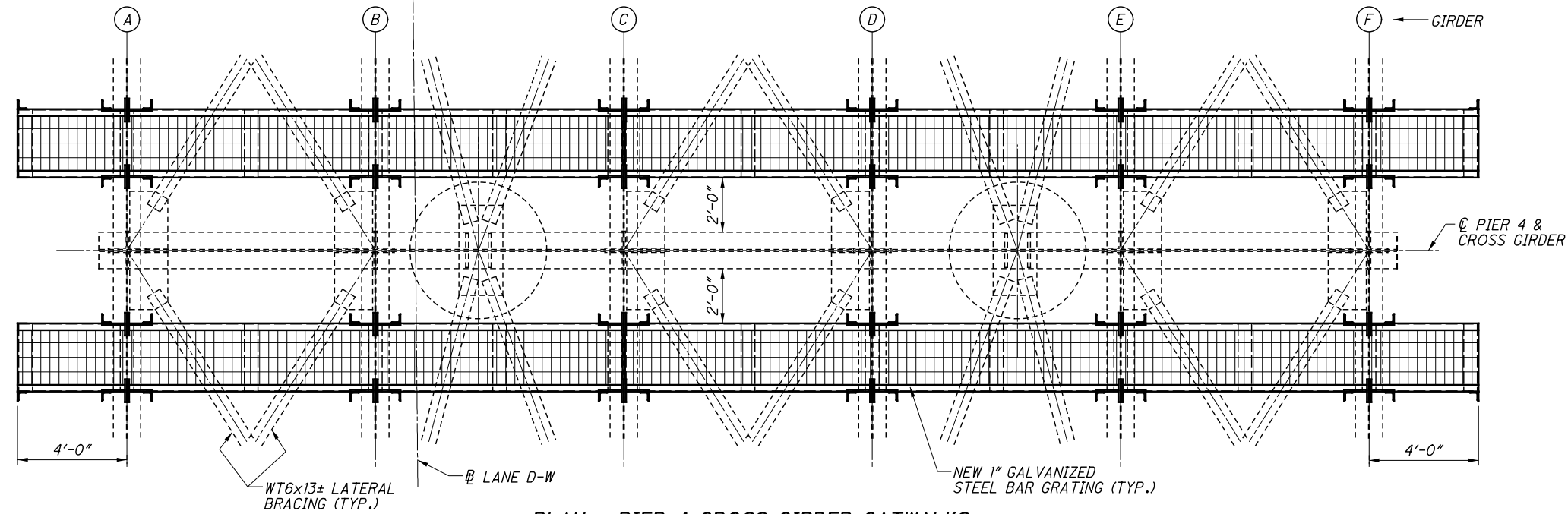


SECTION G-G

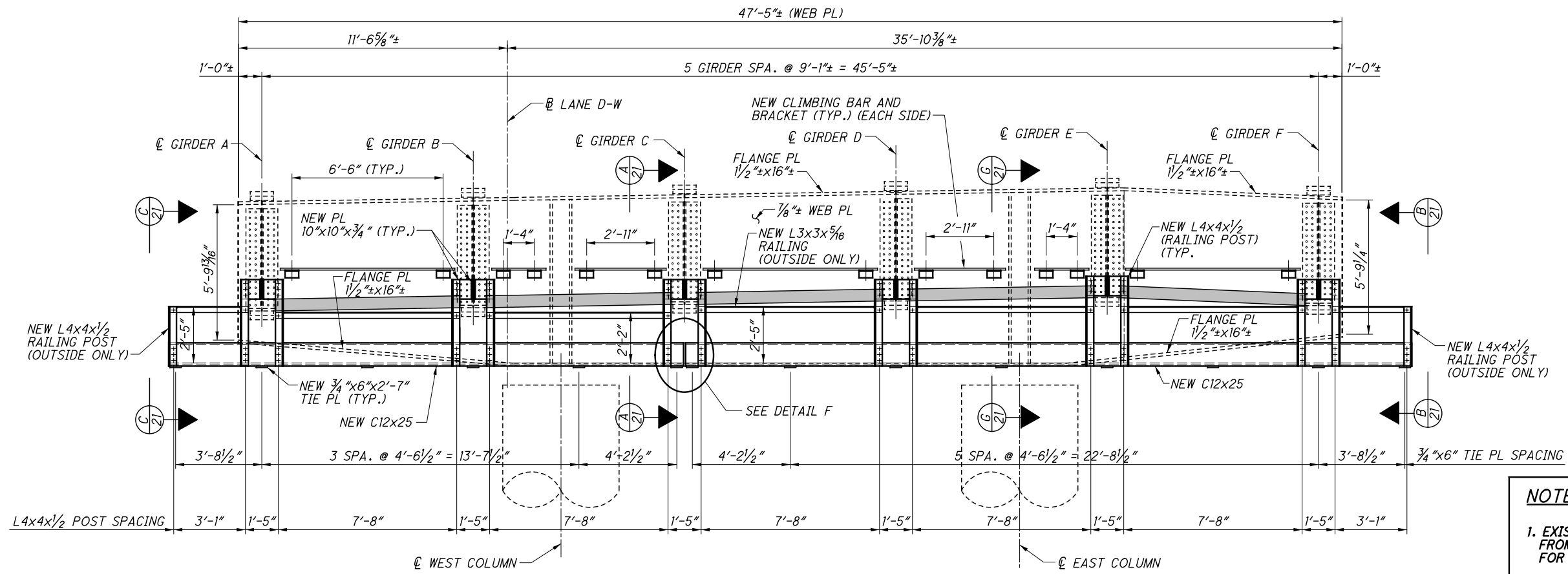
NOTES:

1. EXISTING DETAILS ON THIS SHEET ARE TAKEN FROM EXISTING PLANS AND SHOULD BE USED FOR INFORMATION PURPOSES ONLY.
2. PERFORM ONLY THE WORK AS INDICATED IN THE STRUCTURE DATA SHEET, FRAMED TEXT, AND/OR DESCRIBED IN THE GENERAL NOTES.
3. SECTIONS A-A, C-C & G-G & VIEW B-B: FOR LOCATIONS SEE SHEET 18/31.
4. DETAIL F: SEE SHEET 22/31.
5. FOR ESTIMATED QUANTITIES SEE SHEET 2/31.
6. ADDITIONAL NOTES: SEE SHEET 22/31.

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PLAN - PIER 4 CROSS GIRDER CATWALKS



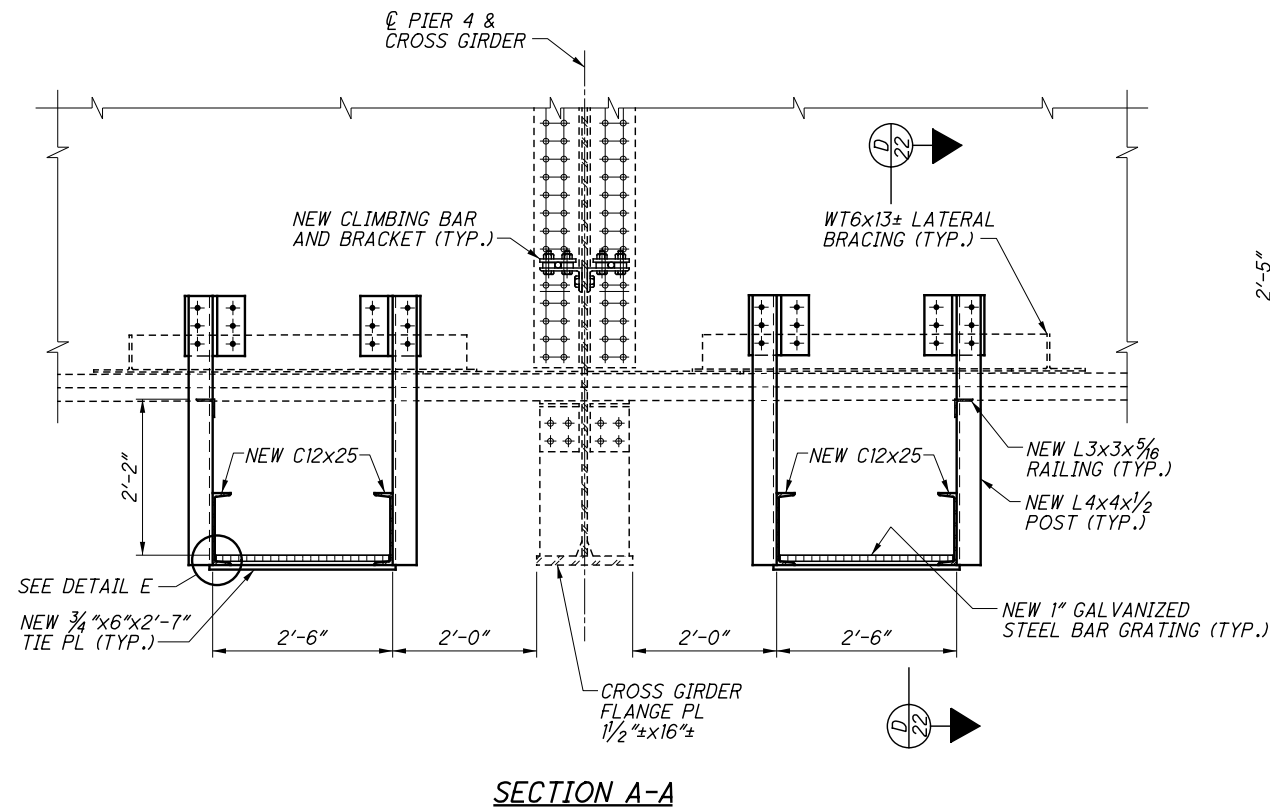
ELEVATION

LEGEND

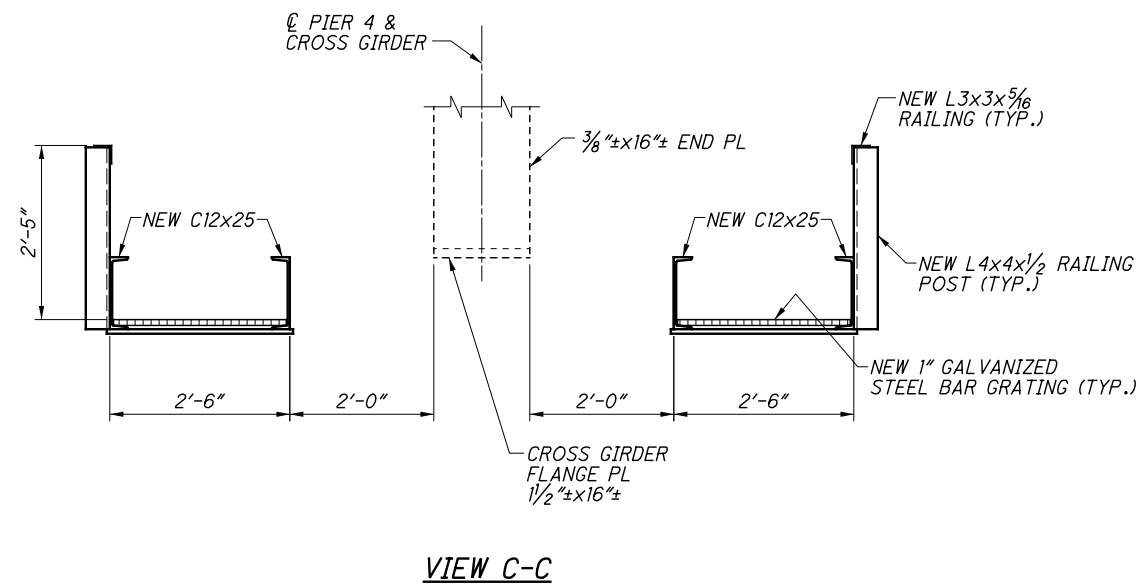
SHADED AREA IN ELEVATION VIEW INDICATES APPROXIMATE LOCATION OF LOWER LATERAL BRACING.

- NOTES:**
- EXISTING DETAILS ON THIS SHEET ARE TAKEN FROM EXISTING PLANS AND SHOULD BE USED FOR INFORMATION PURPOSES ONLY.
 - PERFORM ONLY THE WORK AS INDICATED IN THE STRUCTURE DATA SHEET, FRAMED TEXT, AND/OR DESCRIBED IN THE GENERAL NOTES.
 - DETAIL F: SEE SHEET [22/31](#).
 - CLIMBING BAR AND BRACKET DETAILS: SEE SHEET [23/31](#).
 - FOR ESTIMATED QUANTITIES SEE SHEET [2/31](#).
 - ADDITIONAL NOTES: SEE SHEET [22/31](#).

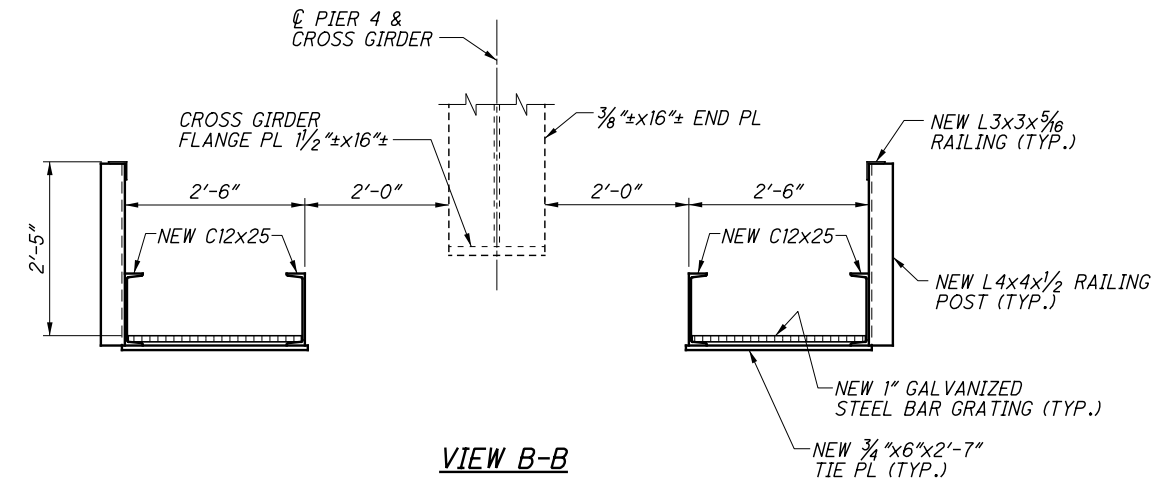
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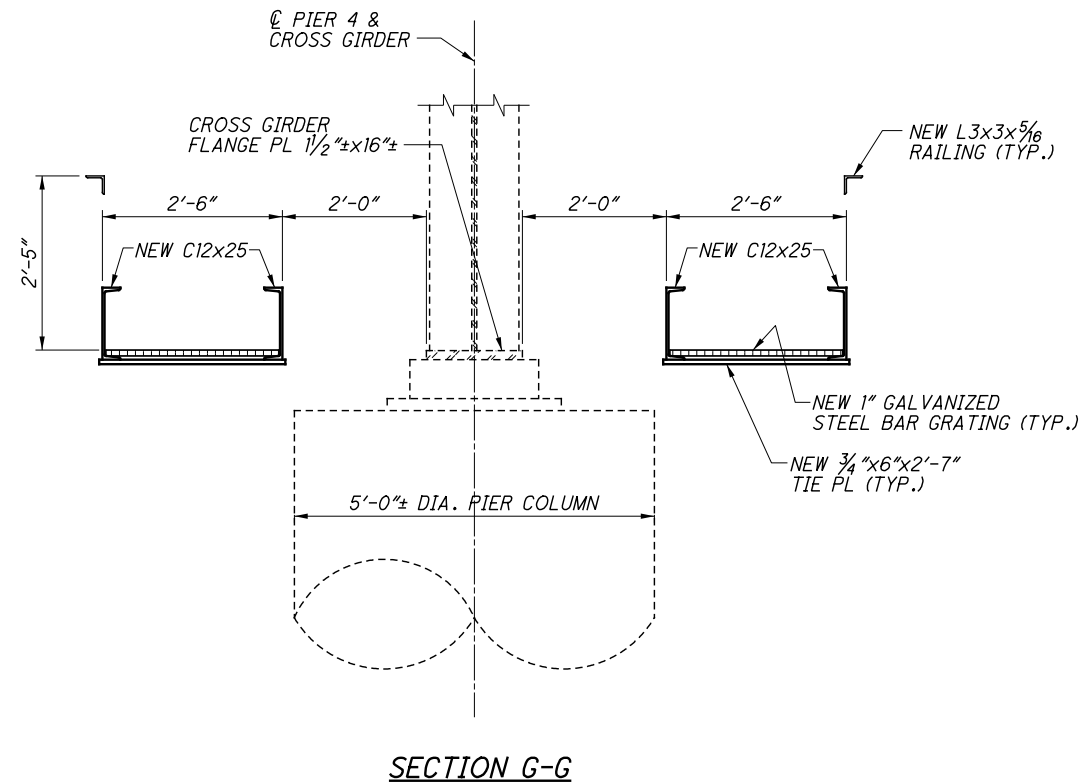
SECTION A-A



VIEW C-C



VIEW B-B

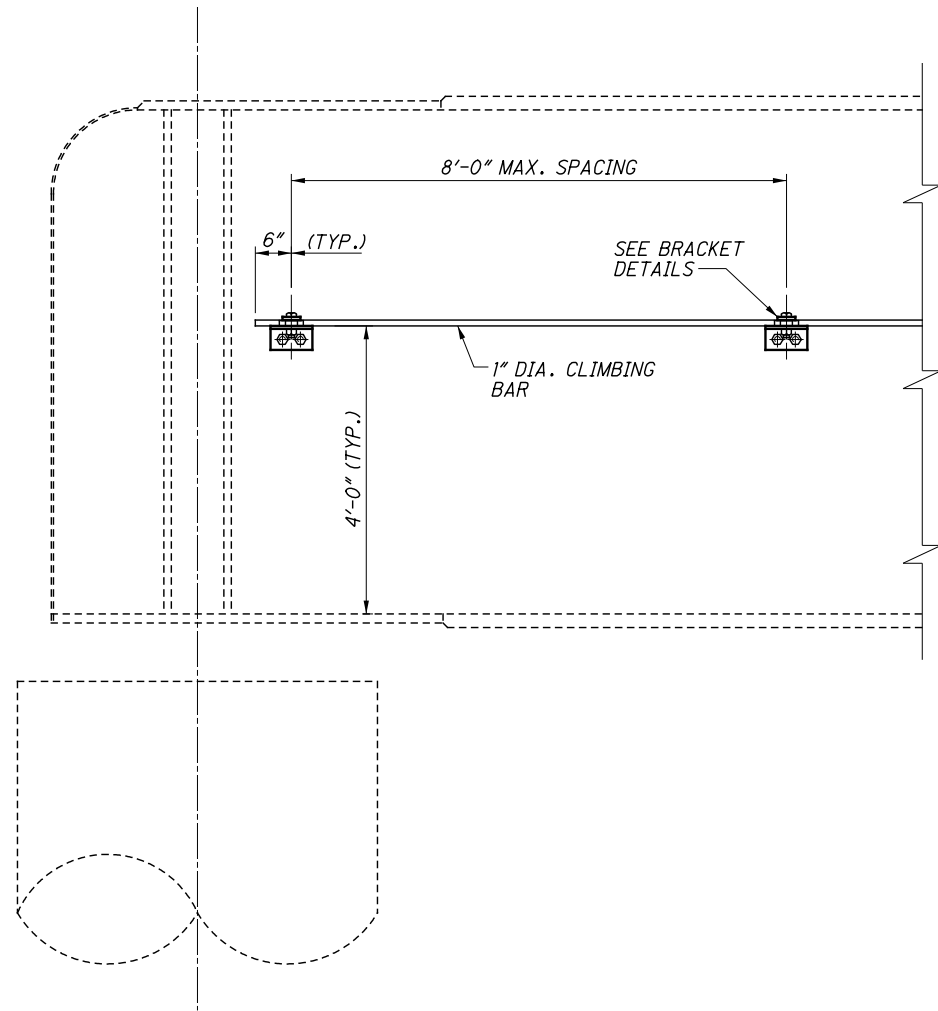


SECTION G-G

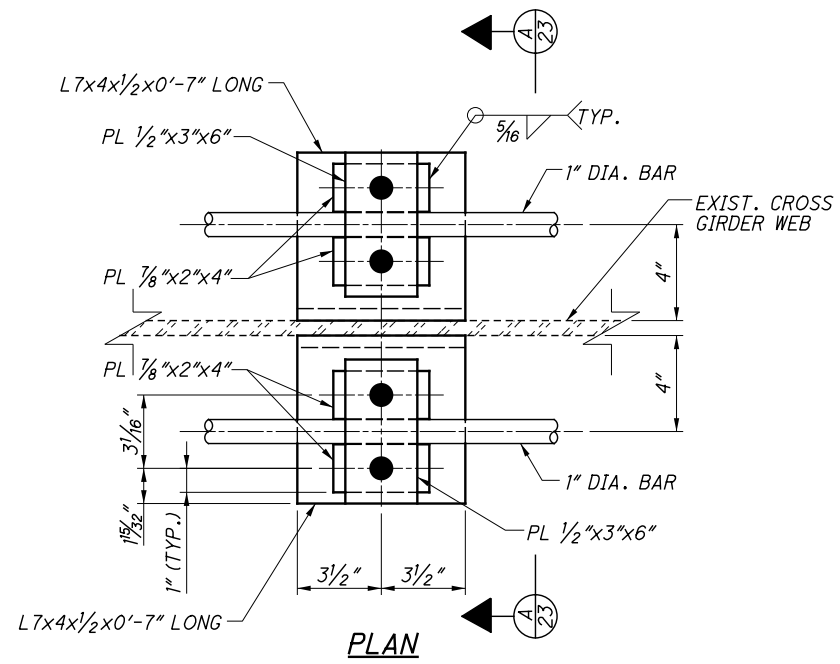
NOTES:

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3. SECTIONS A-A & G-G & VIEWS B-B & C-C: FOR LOCATIONS SEE SHEET [20/31].
3. DETAIL E: SEE SHEET [22/31].
4. FOR ESTIMATED QUANTITIES SEE SHEET [2/31].
5. ADDITIONAL NOTES: SEE SHEET [22/31].

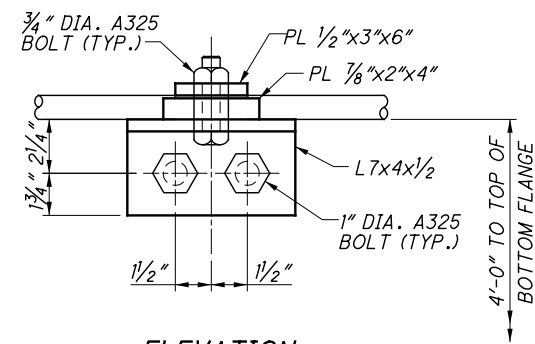
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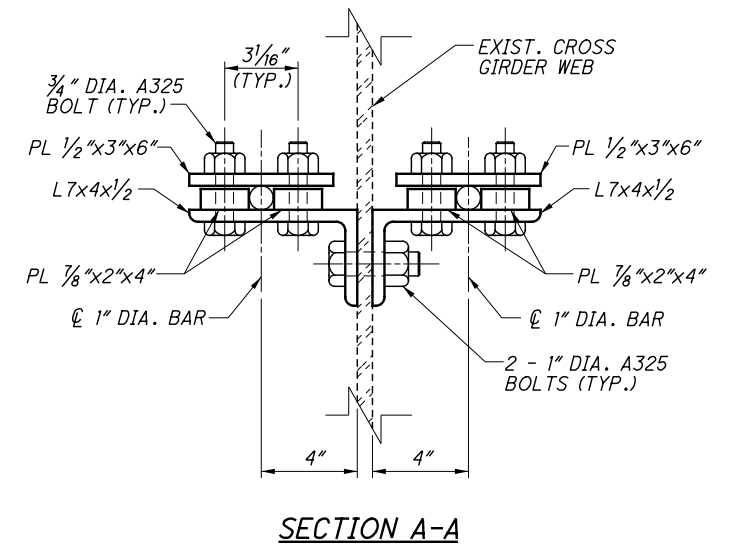
CLIMBING BAR LOCATION DETAIL



PLAN



ELEVATION

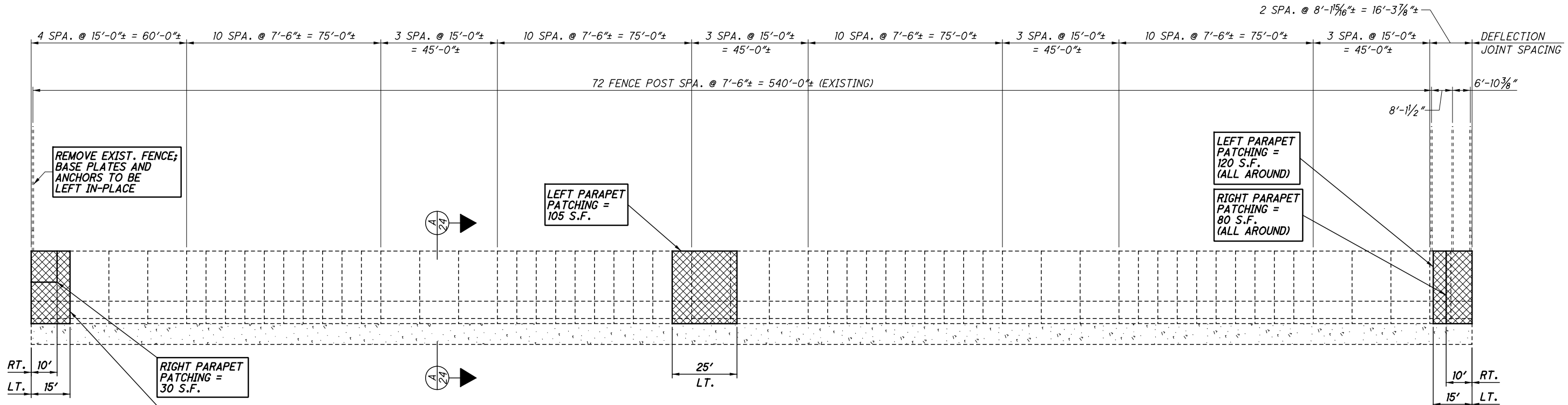


SECTION A-A

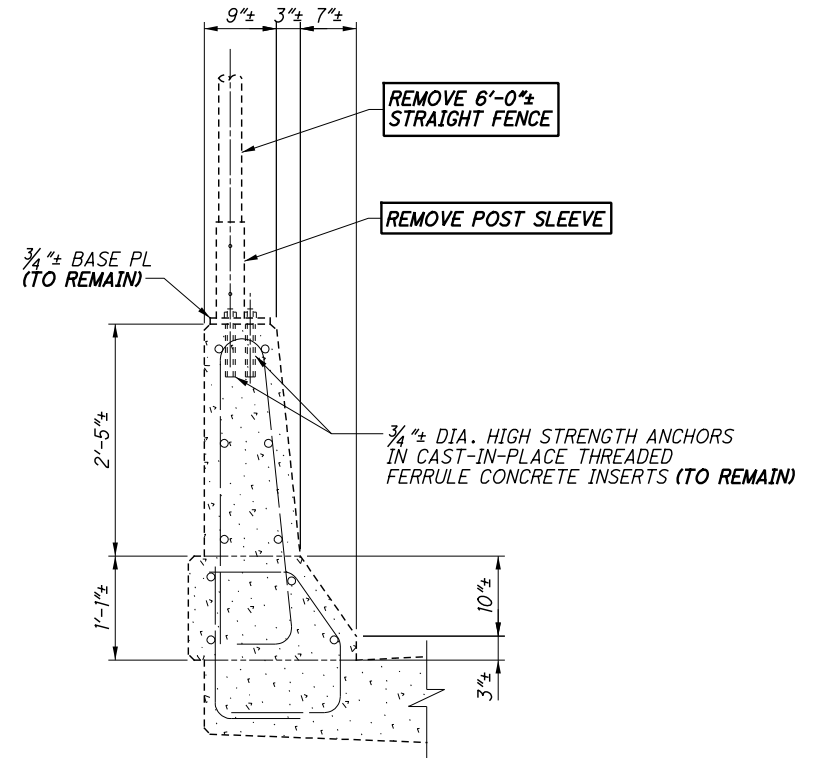
NOTES:

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2. PERFORM ONLY THE WORK AS INDICATED IN THE STRUCTURE DATA SHEET, FRAMED TEXT, AND/OR DESCRIBED IN THE GENERAL NOTES.
3. CLIMBING RODS AND BRACKETS SHALL BE ASTM A709 GRADE 50 AND SHALL BE GALVANIZED PER CMS 711.02 (ASTM 123) AFTER WELDING.
4. BOLTS SHALL BE GALVANIZED A325 TYPE 1 BOLTS, NUTS AND WASHERS.
5. FOR LOCATION OF CLIMBING BAR AND BRACKETS SEE PIER CROSS GIRDER CATWALK ELEVATIONS.
6. FOR ESTIMATED QUANTITIES SEE SHEET 2/31.

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ELEVATION OF LEFT PARAPET AND FENCE
(RIGHT PARAPET SIMILAR)



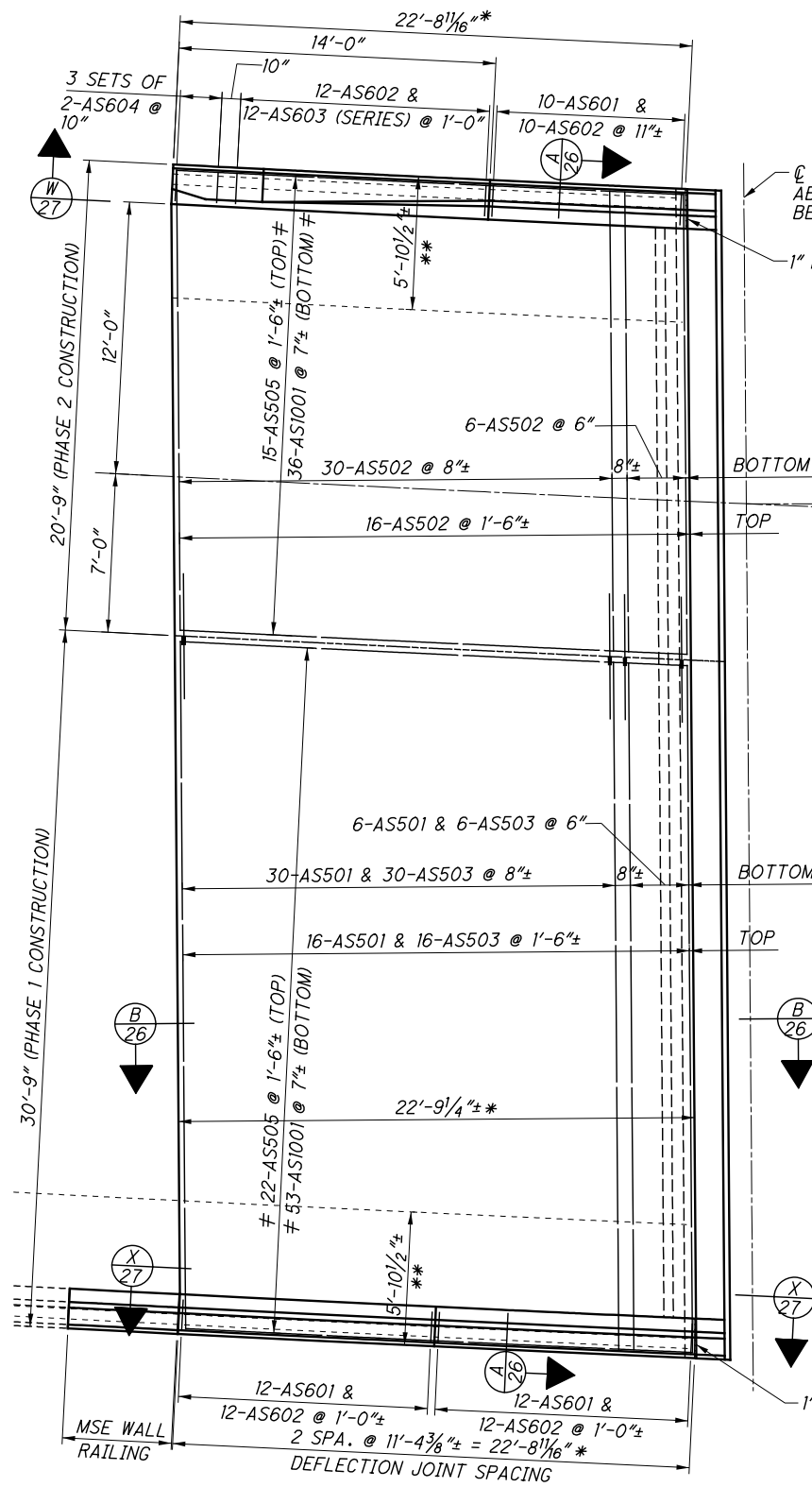
SECTION A-A
(REMOVAL)

LEGEND

 INDICATES PARAPET REPAIR PER ITEM 519 - PATCHING CONCRETE STRUCTURE.

- NOTES:**
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 2. PERFORM ONLY THE WORK AS INDICATED IN THE STRUCTURE DATA SHEET, FRAMED TEXT, AND/OR DESCRIBED IN THE GENERAL NOTES.
 3. SEAL PATCHED AREAS PER ITEM 512 - SEALING OF CONCRETE SURFACES (EPOXY-URETHANE), AS PER PLAN. SEAL 1 FOOT OUTSIDE OF PATCHED AREAS.
 4. FOR ESTIMATED QUANTITIES SEE SHEET 2/31.
 5. FOR ADDITIONAL NOTES AND DETAILS SEE STANDARD DRAWING VPF-1-90.

F:\2016\16041 D12 Bridge Rehab\12-BH-FY2019 Misc\ProjectData\98601\Design\Structures\CUY271X_0581NW\Sheets\271_0581MD002.dgn 1/3/19 1:50:31 PM JeremyBurns



REAR APPROACH SLAB

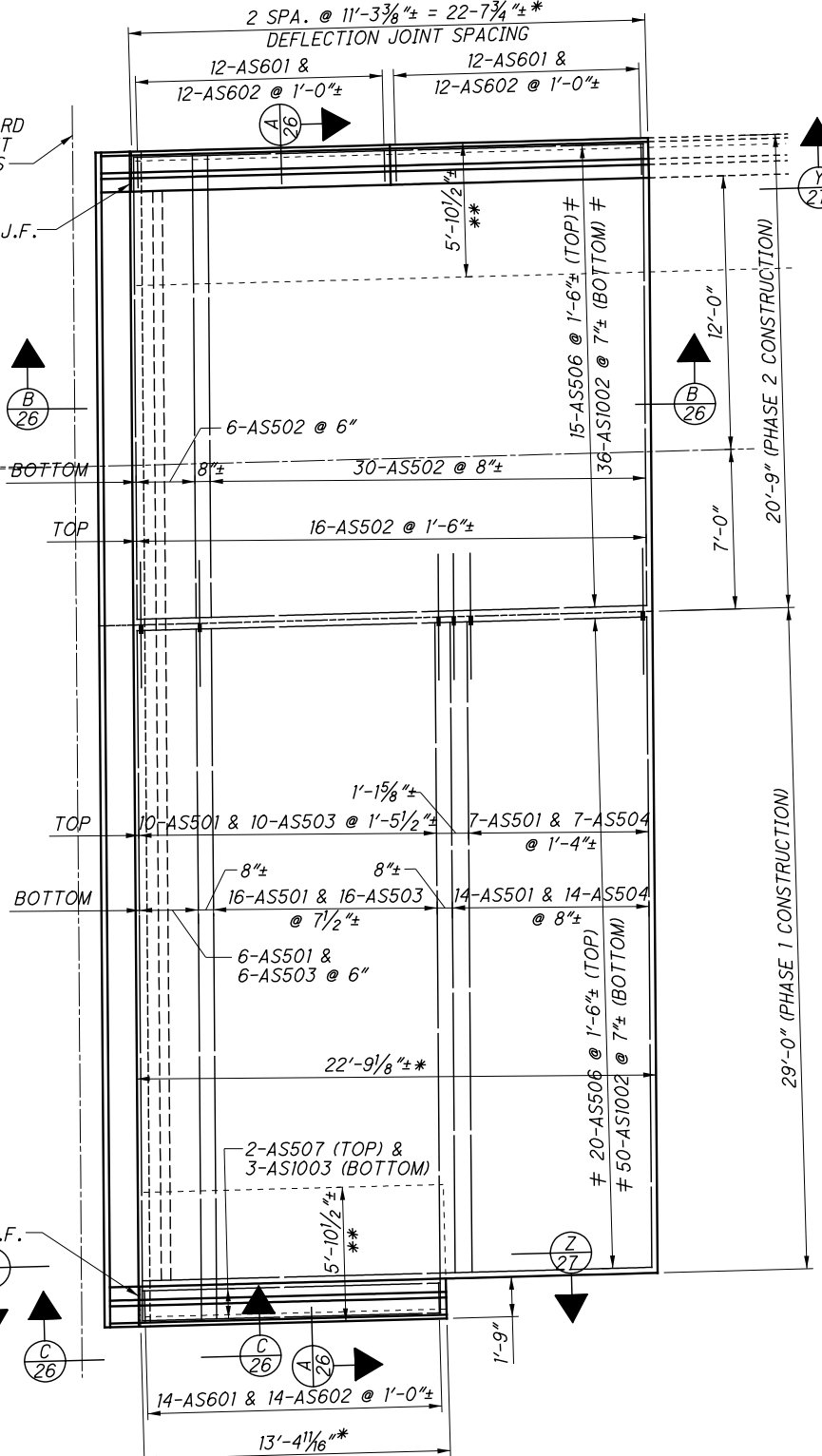
* MEASURED ALONG FACE OF CURB. DIMENSIONS ARE APPROXIMATE AND ARE BASED ON LOCATION OF JOINTS IN THE EXISTING MSE WALL RAILING AND ANCHOR SLABS. SEE REMOVAL DETAILS.

** EXISTING ANCHOR SLAB WIDTH.

‡ LONGITUDINAL REINFORCING STEEL HAS BEEN SHORTENED ON THE ROADWAY END FOR POSSIBLE APPROACH SLAB LENGTH ADJUSTMENT.

P.E.J.F. - PREFORMED EXPANSION JOINT FILLER

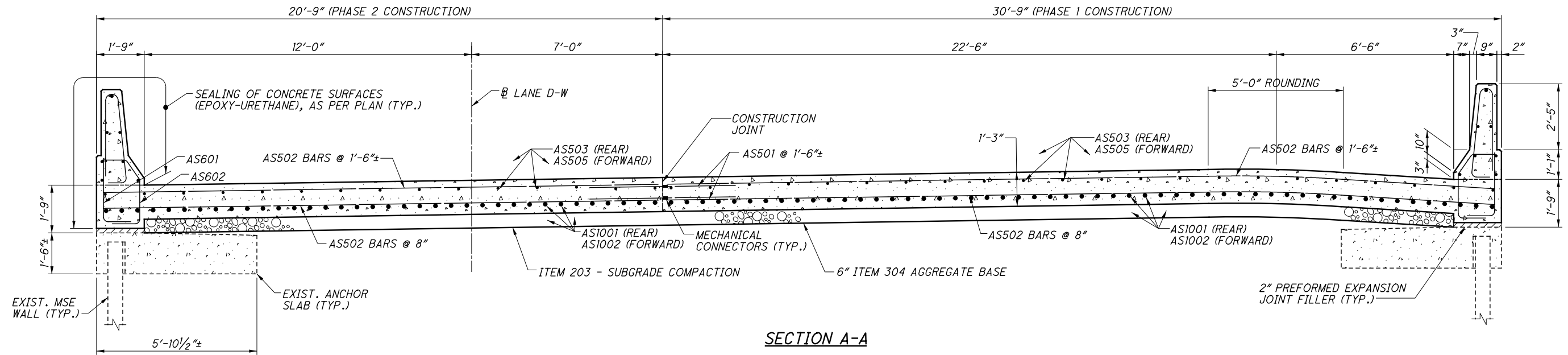
1" PREFORMED EXPANSION JOINT FILLER (1" P.E.J.F.) SHALL BE INCLUDED WITH APPROACH SLAB FOR PAYMENT.



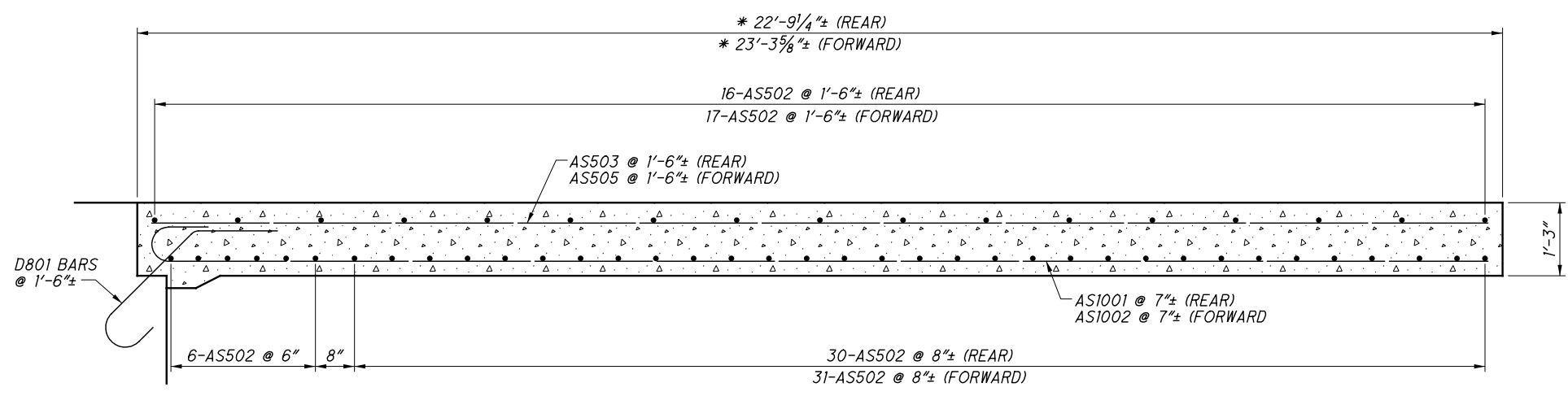
FORWARD APPROACH SLAB

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 2. PERFORM ONLY THE WORK AS INDICATED IN THE STRUCTURE DATA SHEET, FRAMED TEXT, AND/OR DESCRIBED IN THE GENERAL NOTES.
 3. REINFORCING STEEL SPLICE LENGTH IS 2'-6" FOR #5 BARS.
 4. FOR MSE WALL REMOVAL DETAILS SEE SHEETS 8/31 & 9/31.
 5. FOR RAILING DETAILS SEE SHEET 27/31.
 6. FOR MSE RAILING DETAILS SEE SHEET 28/31.
 7. FOR ESTIMATED QUANTITIES SEE SHEET 2/31.

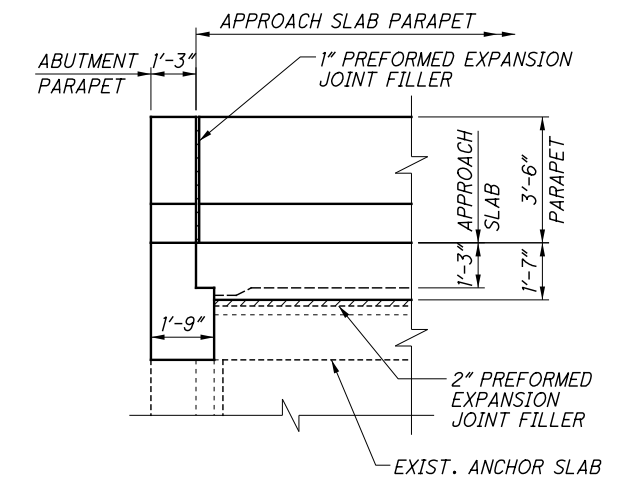
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SECTION A-A

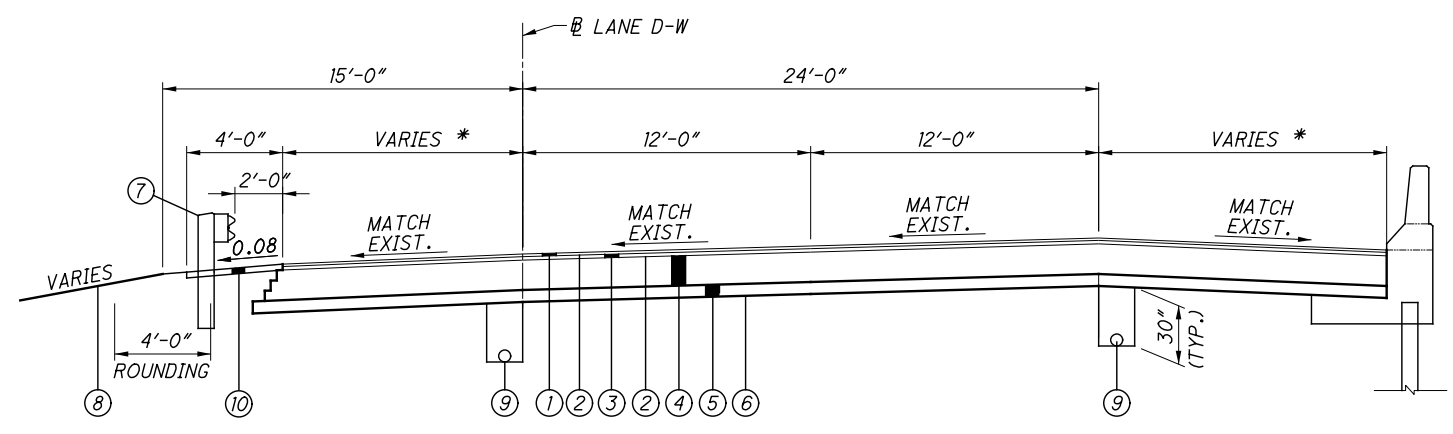


SECTION B-B



VIEW C-C

* DIMENSIONS ARE APPROXIMATE AND ARE BASED ON LOCATION OF JOINTS IN THE EXISTING MSE WALL RAILING AND ANCHOR SLABS. SEE REMOVAL DETAILS.



PROPOSED TYPICAL SECTION

* 12'-0" WITH WALL OR CURBING
10'-0" WITH NORMAL SHOULDER

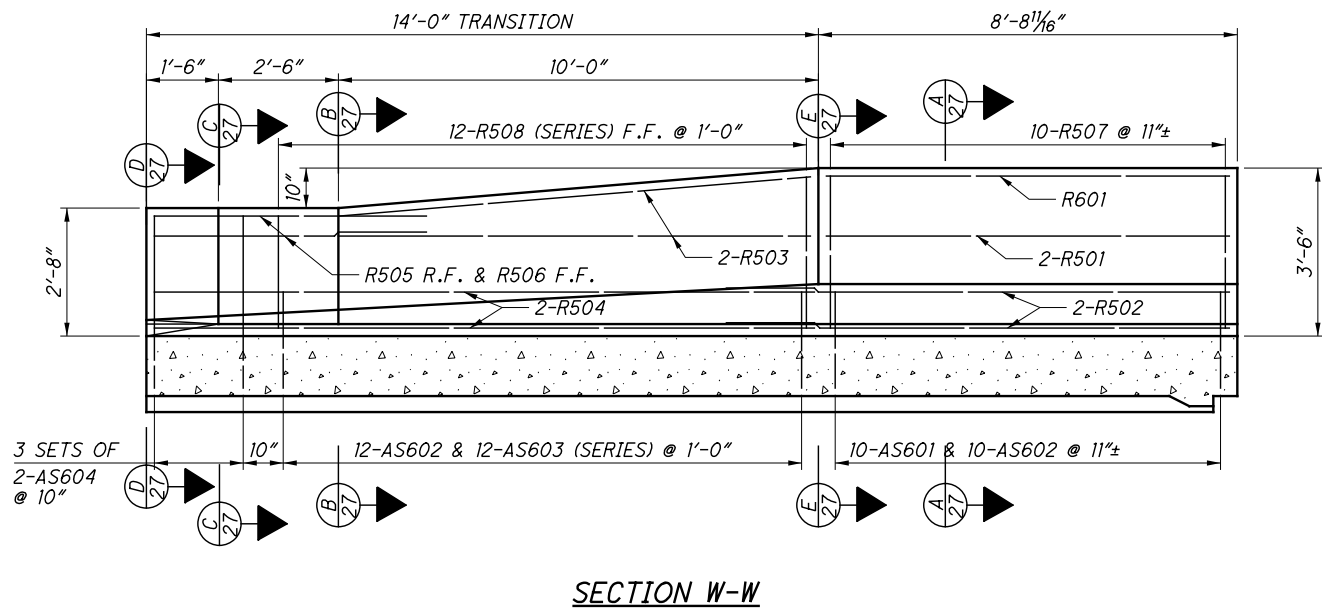
PROPOSED ITEM LEGEND

- ① 442 - 1/2" ASPHALT CONCRETE SURFACE COURSE, 12.5MM, TYPE A (446)
- ② 407 - TACK COAT (APPLICATION RATE 0.06 GAL./S.Y.)
- ③ 442 - 3/4" ASPHALT CONCRETE INTERMEDIATE COURSE, 19MM, TYPE A (446)
- ④ 302 - 15" ASPHALT CONCRETE BASE
- ⑤ 304 - 6" AGGREGATE BASE
- ⑥ 204 - SUBGRADE COMPACTION
- ⑦ 606 - GUARDRAIL, TYPE 5
- ⑧ 659 - SEEDING AND MULCHING
- ⑨ 605 - 6" SHALLOW PIPE UNDERDRAIN
- ⑩ 441 - 3" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 1 (448), (UNDER GUARDRAIL)

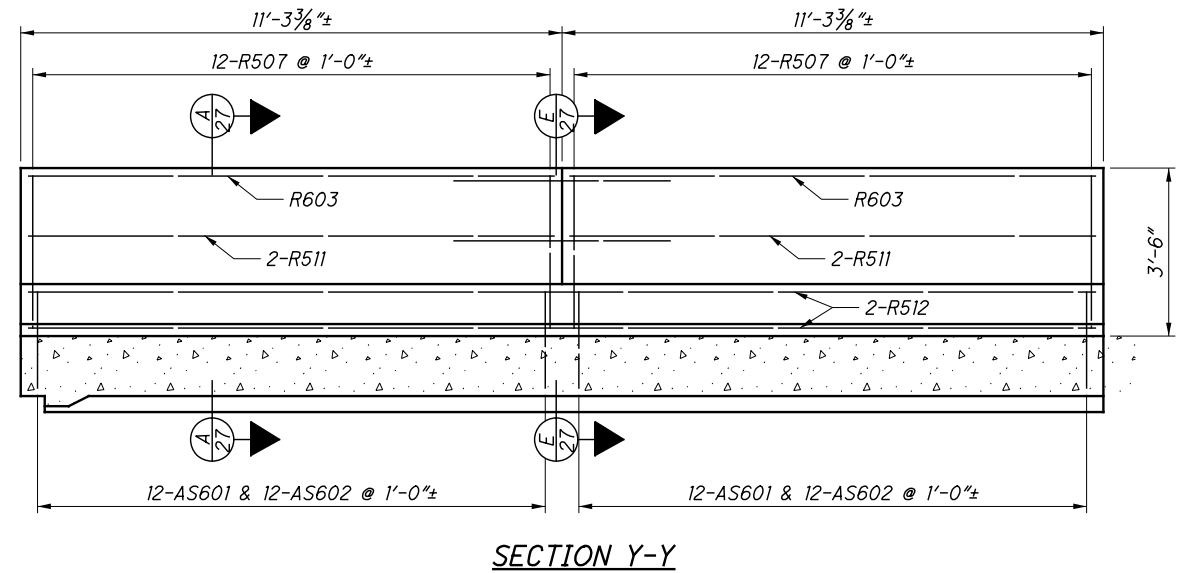
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1. DETAILS ON THIS SHEET ARE TAKEN FROM EXISTING PLANS AND SHOULD BE USED FOR INFORMATION PURPOSES ONLY.
2. PERFORM ONLY THE WORK AS INDICATED IN THE STRUCTURE DATA SHEET, FRAMED TEXT, AND/OR DESCRIBED IN THE GENERAL NOTES.
3. REINFORCING STEEL SPLICE LENGTH IS 2'-6" FOR #5 BARS.
4. SECTIONS A-A & B-B: FOR LOCATIONS SEE SHEET 25/31.
5. VIEW C-C: FOR LOCATION SEE SHEET 25/31.
6. FOR RAILING DETAILS SEE SHEET 27/31.
7. FOR ESTIMATED QUANTITIES SEE SHEET 2/31.

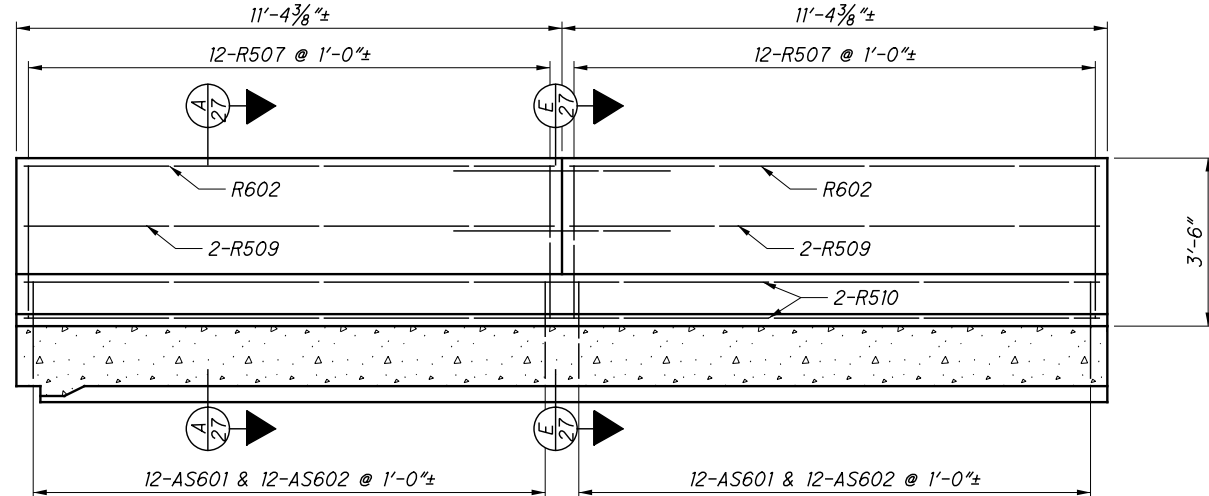
F:\2016\116041 D12 Bridge Rehab\12-BH-FY2019 Misc\ProjectData\98601\Design\Structures\CUY271X_0581NW\Sheets\271_0581RA001.dgn 1/3/19 2:09:41 PM JeremyBurns



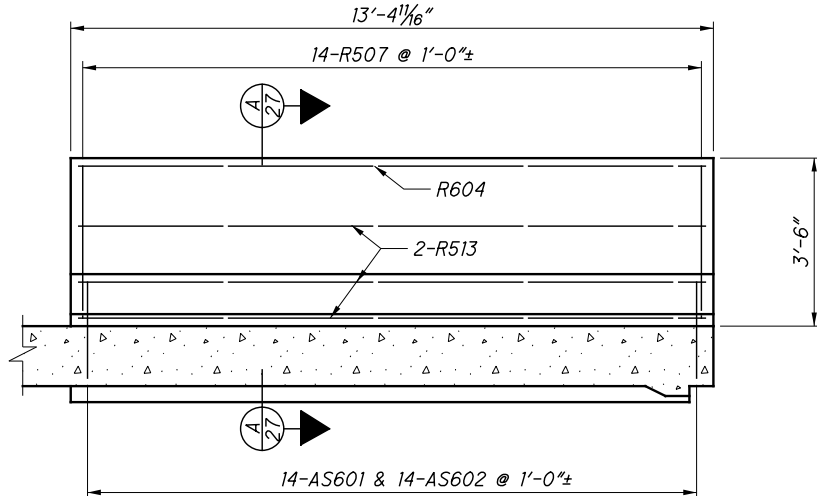
SECTION W-W



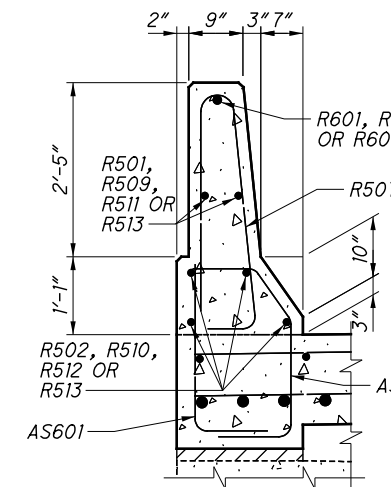
SECTION Y-Y



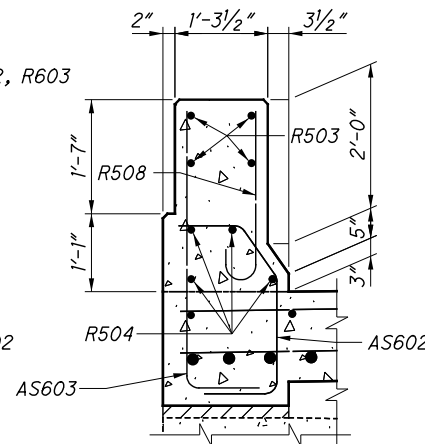
SECTION X-X



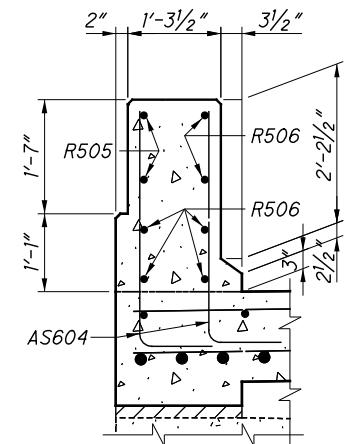
SECTION Z-Z



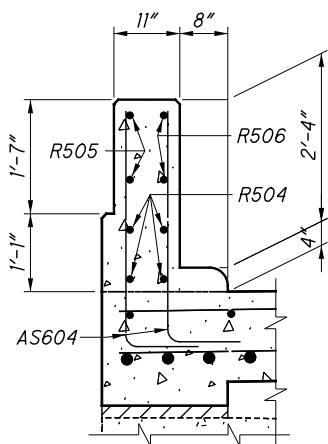
SECTION A-A



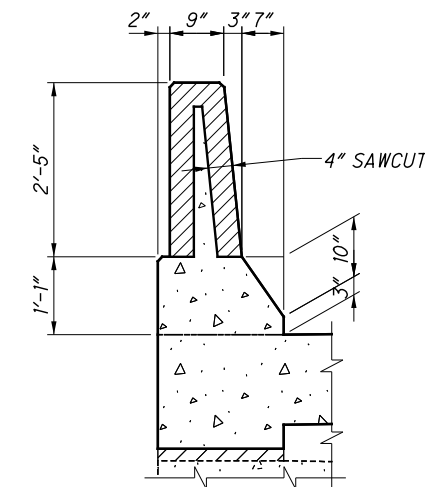
SECTION B-B



SECTION C-C



SECTION D-D



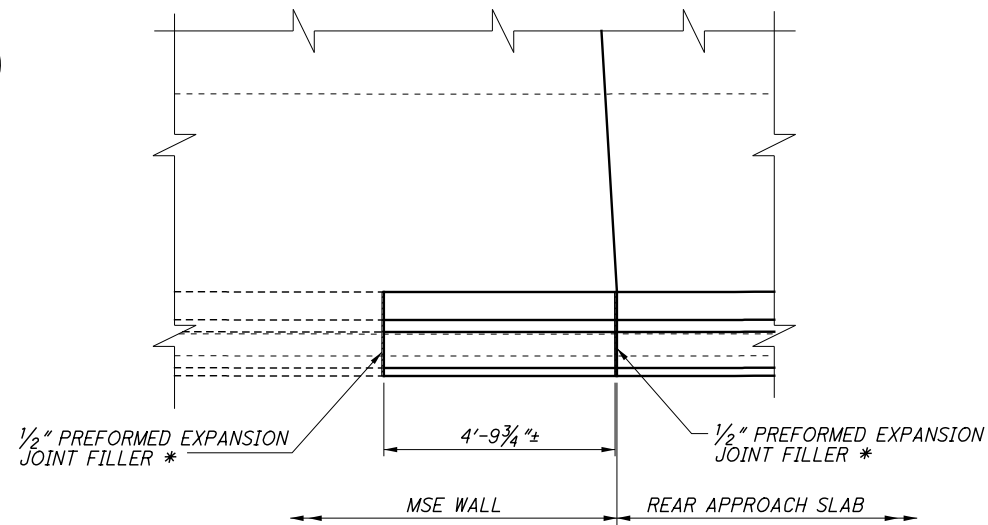
SECTION E-E

NOTES:

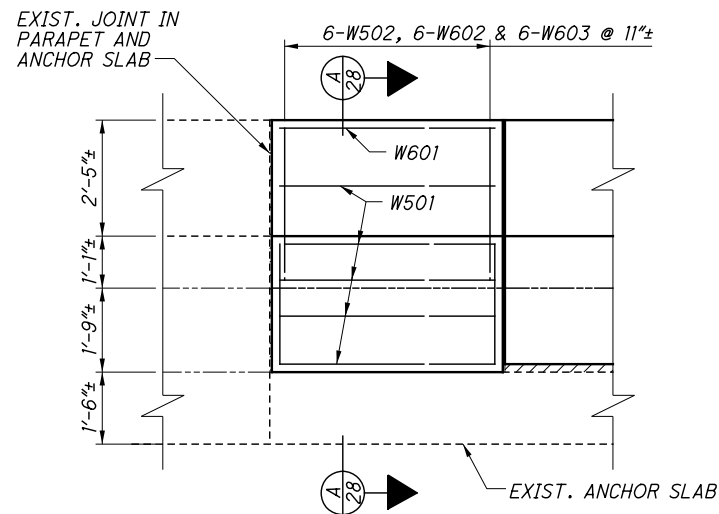
- PERFORM ONLY THE WORK AS INDICATED IN THE STRUCTURE DATA SHEET, FRAMED TEXT, AND/OR DESCRIBED IN THE GENERAL NOTES.
- SECTIONS W-W, X-X, Y-Y & Z-Z: FOR LOCATIONS SEE SHEET [25/31].
- FOR ESTIMATED QUANTITIES SEE SHEET [2/31].

NOTATIONS: R.F. - REAR FACE
F.F. - FRONT FACE

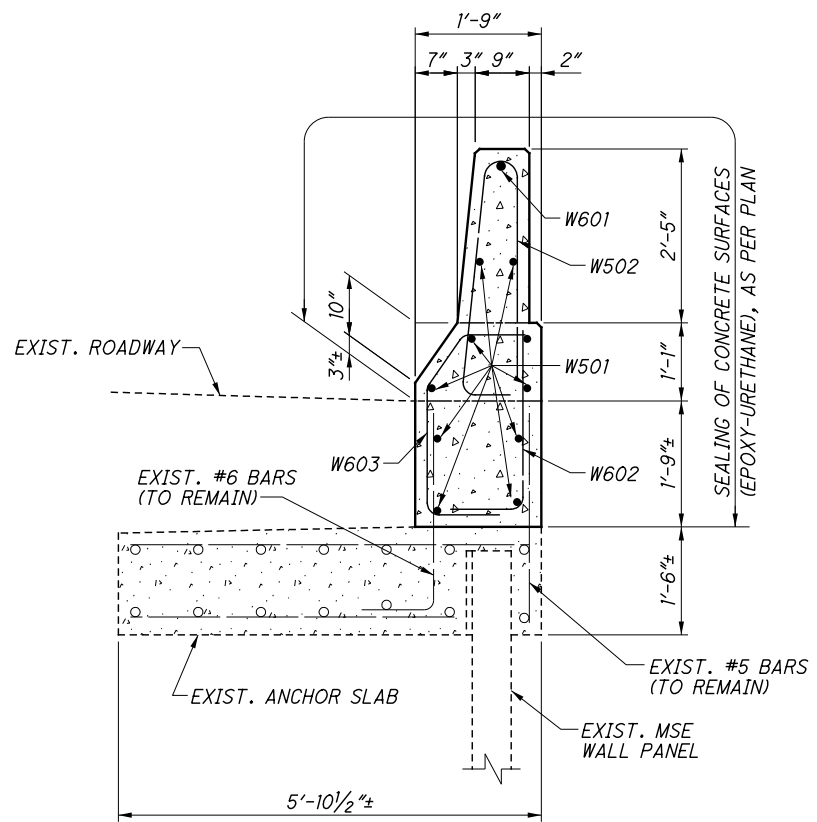
F:\2016\16041 D12 Bridge Rehab\12-BH-FY2019 Misc\ProjectData\98601\Design\Structures\CUY271X_0581NW\Sheets\271_0581WD002.dgn 1/3/19 11:58:43 AM JeremyBurns



MSE WALL PARAPET REPLACEMENT PLAN

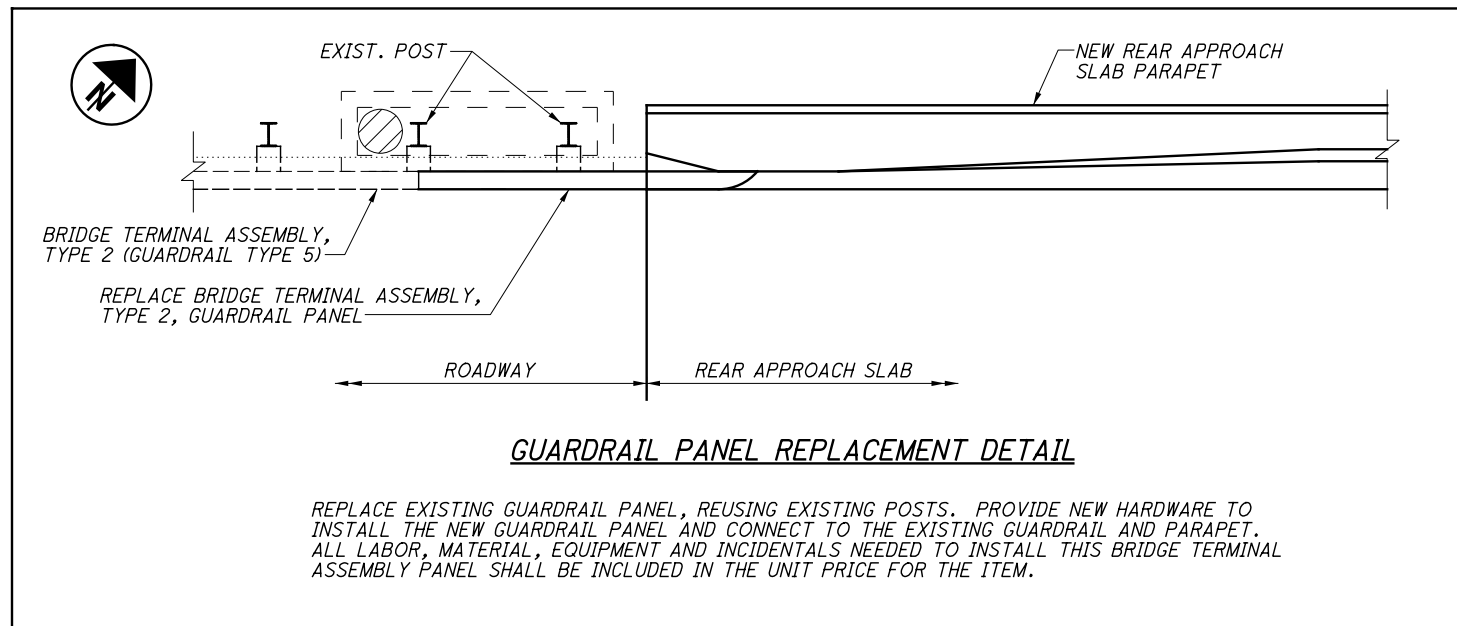


MSE WALL PARAPET REPLACEMENT ELEVATION



SECTION A-A

* INCLUDED WITH CONCRETE PARAPET FOR PAYMENT.



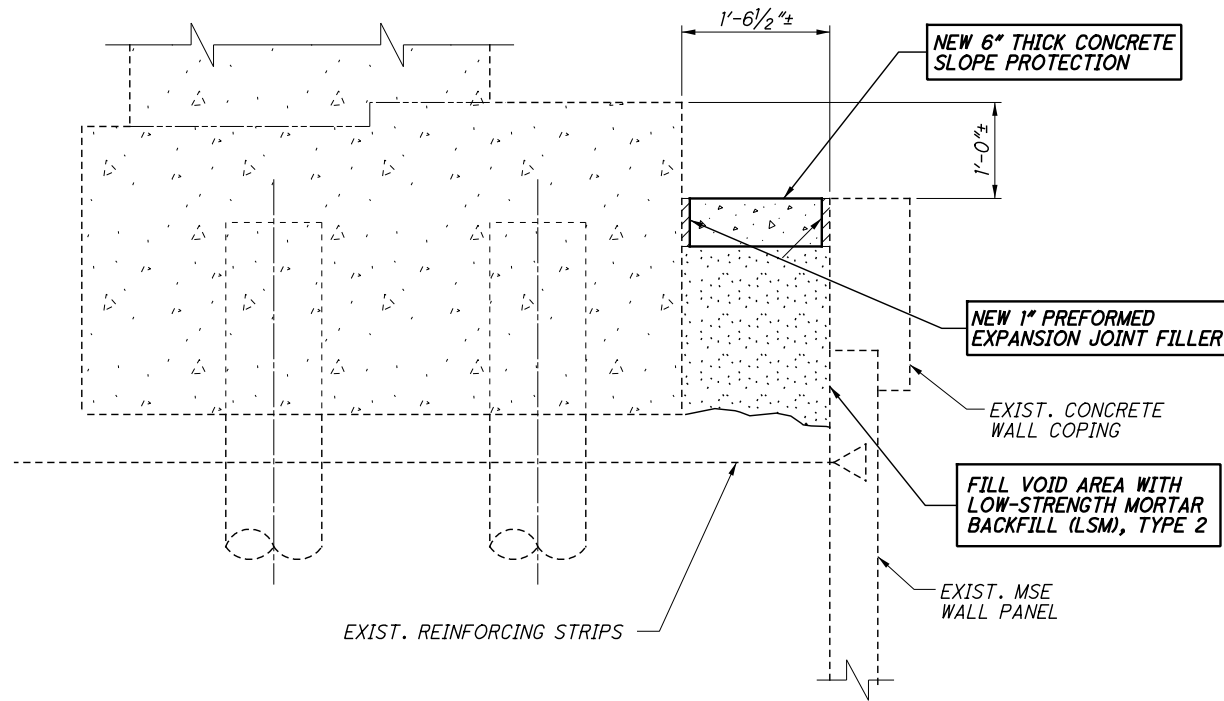
GUARDRAIL PANEL REPLACEMENT DETAIL

REPLACE EXISTING GUARDRAIL PANEL, REUSING EXISTING POSTS. PROVIDE NEW HARDWARE TO INSTALL THE NEW GUARDRAIL PANEL AND CONNECT TO THE EXISTING GUARDRAIL AND PARAPET. ALL LABOR, MATERIAL, EQUIPMENT AND INCIDENTALS NEEDED TO INSTALL THIS BRIDGE TERMINAL ASSEMBLY PANEL SHALL BE INCLUDED IN THE UNIT PRICE FOR THE ITEM.

NOTES:

1. DETAILS ON THIS SHEET ARE TAKEN FROM EXISTING PLANS AND SHOULD BE USED FOR INFORMATION PURPOSES ONLY.
2. PERFORM ONLY THE WORK AS INDICATED IN THE STRUCTURE DATA SHEET, FRAMED TEXT, AND/OR DESCRIBED IN THE GENERAL NOTES.
3. FOR ESTIMATED QUANTITIES SEE SHEET 2/31.

RICHLAND ENGINEERING LIMITED 29 NORTH PARK STREET MANSFIELD, OHIO 44902	
DATE 12-20-18	STRUCTURE FILE NUMBER 1814613
REVIEWED DT	DRAWN JLS
DESIGNED BLN	CHECKED dnt
MSE WALL PARAPET REPLACEMENT - LOCATION 2 BRIDGE NO. CUY-271X-0581 NW RAMP TO IR 480 OVER IR 271	
D12 BH FY2019 MISC.	PID No. 98601
28 / 31	82 / 149



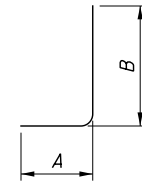
CONCRETE SLOPE PROTECTION REPAIR DETAIL

- NOTES:**
1. DETAILS ON THIS SHEET ARE TAKEN FROM EXISTING PLANS AND SHOULD BE USED FOR INFORMATION PURPOSES ONLY.
 2. PERFORM ONLY THE WORK AS INDICATED IN THE STRUCTURE DATA SHEET, FRAMED TEXT, AND/OR DESCRIBED IN THE GENERAL NOTES.
 3. 1" PREFORMED EXPANSION JOINT FILLER IS INCLUDED WITH CONCRETE SLOPE PROTECTION FOR PAYMENT
 4. FOR ESTIMATED QUANTITIES SEE SHEET 2/31.

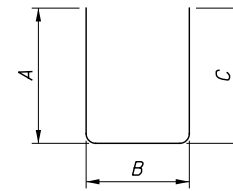
D12 BH FY2019 MISC. PID No. 98601	MSE WALL REPAIR DETAILS - LOCATION 2 BRIDGE NO. CUY-271X-0581 NW RAMP TO IR 480 OVER IR 271		DATE 12-20-18	RICHLAND ENGINEERING LIMITED 29 NORTH PARK STREET MANSFIELD, OHIO 44902
	29/31	83 149	REVIEWED DT	STRUCTURE FILE NUMBER 1814613
DESIGNED BLN	DRAWN JLS	CHECKED dnt	REVISIONS REVISED	

F:\2016\116041 D12_Bridge_Rehab_D12-BH-FY2019_Misc\ProjectData\98601\Design\Structures\CUY271X_0581NW\Sheets\271_0581RL001.dgn 1/3/19 1:56:59 PM JeremyBurns

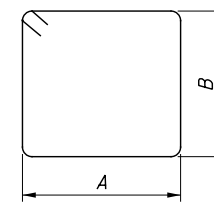
MARK	NUMBER			LENGTH	WEIGHT	TYPE	DIMENSIONS									
	REAR	FORWARD	TOTAL				A	B	C	D	E	R	INC			
ABUTMENTS							CALCULATED JSB DATE 12/18					CHECKED JLS DATE 12/18				
A501	6	6	12	6'-6"	81	37	3'-1"									
A502	2		2	29'-6"	62	STR										
A503	4	4	8	30'-5"	254	STR										
A504	2	2	4	19'-5"	81	STR										
A505	4	4	8	20'-5"	170	STR										
A506	12	12	24	0'-11"	23	STR										
A507	8	8	16	7'-1"	118	38	0'-8"	3'-3"	3'-0"				0'-2 1/2"			
A508		2	2	29'-5"	61	STR										
A601	4	4	8	7'-8"	92	37	3'-8"									
A602	4	4	8	30'-5"	365	STR										
A603	4	4	8	20'-5"	245	STR										
A604	4	4	8	5'-11"	71	2	2'-8"	0'-11"	2'-8"							
A605	10	4	14	6'-3"	131	2	2'-10"	0'-11"	2'-10"							
A606	26	26	52	6'-5"	501	2	2'-11"	0'-11"	2'-11"							
A607	28	60	88	6'-9"	892	2	3'-1"	0'-11"	3'-1"							
A608	6		6	6'-1"	55	2	2'-9"	0'-11"	2'-9"							
A609	22		22	6'-11"	229	2	3'-2"	0'-11"	3'-2"							
A610	12	14	26	6'-7"	257	2	3'-0"	0'-11"	3'-0"							
A611	2	2	4	7'-0"	42	3	1'-8"	1'-5"								
A612	5	2	7	7'-4"	77	3	1'-8"	1'-7"								
A613	8	7	15	7'-6"	169	3	1'-8"	1'-8"								
A614	8	14	22	7'-8"	253	3	1'-8"	1'-9"								
A615	8	13	21	7'-10"	247	3	1'-8"	1'-10"								
A616	12	11	23	8'-0"	276	3	1'-8"	1'-11"								
A617	2		2	8'-6"	26	3	1'-8"	2'-2"								
A618	3		3	8'-4"	38	3	1'-8"	2'-1"								
A619	3	6	9	8'-2"	110	3	1'-8"	2'-0"								
A620	8	8	16	3'-10"	92	14	1'-0"	1'-3 1/4"	0'-8 3/4"	0'-6"	0'-11"					
A621	8	8	16	2'-10"	68	1	1'-0"	2'-0"								
A622	2	2	4	0'-11"	6	STR										
D801	36	36	72	4'-9"	913	18	2'-7 1/4"	1'-0"	1'-0"							
TOTAL					6,005											



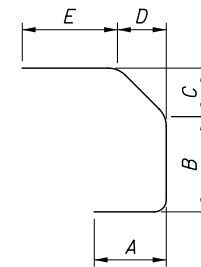
TYPE-1



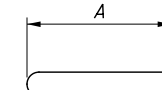
TYPE-2



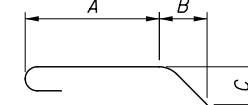
TYPE-3



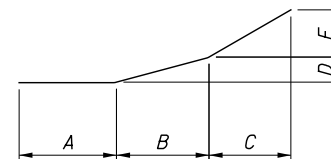
TYPE-14



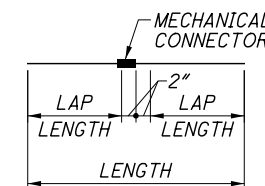
TYPE-16



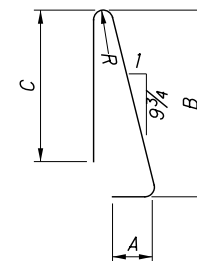
TYPE-18



TYPE-25



TYPE-37



TYPE-38

NOTES

BAR SIZE IS INDICATED IN THE BAR MARK. THE FIRST LETTER IDENTIFIES BAR LOCATION, THE NEXT DIGIT INDICATES THE BAR SIZE DESIGNATION, THE REMAINING DIGITS STATE THE SEQUENCE NUMBER.

EXAMPLE: A501
 A = LOCATION OF THE BAR IN ABUTMENT
 5 = BAR SIZE DESIGNATION
 01 = SEQUENCE NUMBER

BAR DIMENSIONS SHOWN ARE OUT TO OUT UNLESS OTHERWISE INDICATED. R INDICATES INSIDE RADIUS, UNLESS OTHERWISE NOTED.

ALL REINFORCING STEEL TO BE EPOXY COATED.

REINFORCING STEEL LISTS - 1 - LOCATION 2

BRIDGE NO. CUY-271X-0581 NW
 RAMP TO IR 480 OVER IR 271

D12 BH FY2019 MISC.
 PID No. 98601

84
149

30 / 31

RICHLAND ENGINEERING LIMITED
 29 NORTH PARK STREET
 MANSFIELD, OHIO 44902
 DATE 12-20-18
 DT
 STRUCTURE FILE NUMBER 1814613
 REVIEWED
 DRAWN JLS
 JLS
 REVISIONS
 DESIGNED BLN
 BLN
 CHECKED dnt
 dnt

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MARK	NUMBER			LENGTH	WEIGHT	TYPE	DIMENSIONS								
	REAR	FORWARD	TOTAL				A	B	C	D	E	R	INC		
APPROACH SLABS							CALCULATED <u>JSB</u> DATE <u>12/18</u>								
							CHECKED <u>JLS</u> DATE <u>12/18</u>								
AS501	52	53	105	5'-4"	584**	37	2'-6"								
AS502	52	52	404	20'-3"	2,197	STR									
AS503	52	32	84	30'-3"	2,650	STR									
AS504		21	21	28'-6"	624	STR									
AS505	37		37	22'-3"	849	STR									
AS506		35	35	22'-4"	815	STR									
AS507		2	2	12'-10"	27	STR									
AS601	34	38	72	3'-2"	342	1	1'-0"	2'-4"							
AS602	48	38	86	3'-10"	495	14	1'-0"	1'-7 1/2"	0'-8 1/2"	0'-6"	0'-7"				
AS603	1 SR		1 SR	4'-10"			1'-0"	4'-0"							0'-1"
	OF		OF	TO	96	1	1'-0"	TO							
AS604	12		12	5'-9"			1'-0"	4'-11"							
	6		6	4'-9"	43	1	1'-0"	3'-11"							
AS1001	89		89	23'-8"	9,064	16	22'-3"								
AS1002		86	86	23'-9"	8,789	16	22'-4"								
AS1003		3	3	12'-10"	166	STR									
TOTAL					26,741*										

* FOR INFORMATIONAL PURPOSES ONLY.
 ** DOES NOT INCLUDE MECHANICAL CONNECTOR

MARK	NUMBER			LENGTH	WEIGHT	TYPE	DIMENSIONS								
	REAR	FORWARD	TOTAL				A	B	C	D	E	R	INC		
APPROACH SLAB RAILING							CALCULATED <u>JSB</u> DATE <u>12/18</u>								
							CHECKED <u>JLS</u> DATE <u>12/18</u>								
R501	2		2	8'-4"	17	STR									
R502	4		4	10'-7"	44	STR									
R503	4		4	10'-0"	42	STR									
R504	4		4	13'-10"	58	STR									
R505	2		2	5'-8"	12	STR									
R506	2		2	5'-8"	12	25	1'-10"	2'-5"	1'-4"	0'-1 1/2"	0'-5"				
R507	34	38	72	7'-1"	532	38	0'-8"	3'-3"	3'-0"					0'-2 1/2"	
R508	1 SR		1 SR	2'-11"			2'-4"								0'-1"
	OF		OF	TO	42	16	TO								
R509	12		12	3'-10"			3'-3"								
	4		4	11'-0"	46	STR									
R510	4		4	22'-4"	93	STR									
R511		4	4	11'-3"	47	STR									
R512		4	4	22'-3"	93	STR									
R513		6	6	13'-0"	81	STR									
R601	1		1	8'-4"	13	STR									
R602	2		2	11'-0"	33	STR									
R603		2	2	11'-3"	34	STR									
R604		1	1	13'-0"	20	STR									
TOTAL					1,219										

MARK	NUMBER	LENGTH	WEIGHT	TYPE	DIMENSIONS									
	TOTAL				A	B	C	D	E	R	INC			
MSE WALL PARAPET					CALCULATED <u>JSB</u> DATE <u>12/18</u>									
					CHECKED <u>JLS</u> DATE <u>12/18</u>									
W501	10	4'-5"	46	STR										
W502	6	7'-1"	44	38	0'-8"	3'-3"	3'-0"				0'-2 1/2"			
W601	1	4'-5"	7	STR										
W602	6	3'-4"	30	1	1'-0"	2'-6"								
W603	6	4'-0"	36	14	1'-0"	1'-9 1/2"	0'-8 1/2"	0'-6"	0'-7"					
TOTAL			163											

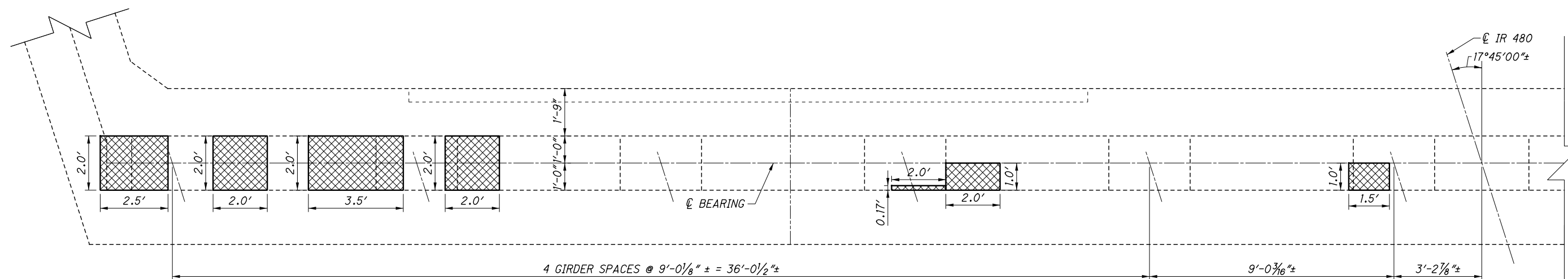
NOTES
 BENDING DIAGRAM: SEE SHEET 30/31.
 ADDITIONAL NOTES: SEE SHEET 30/31.

D12 BH FY2019 MISC. PID No. 98601	REINFORCING STEEL LISTS - 2 - LOCATION 2 BRIDGE NO. CUY-271X-0581 NW RAMP TO IR 480 OVER IR 271	RICHLAND ENGINEERING LIMITED 29 NORTH PARK STREET MANSFIELD, OHIO 44902
DESIGNED BLN	DRAWN JLS	REVIEWED DT
CHECKED dnt	REVISED	DATE 12-20-18
STRUCTURE FILE NUMBER 1814613		DATE 12/18

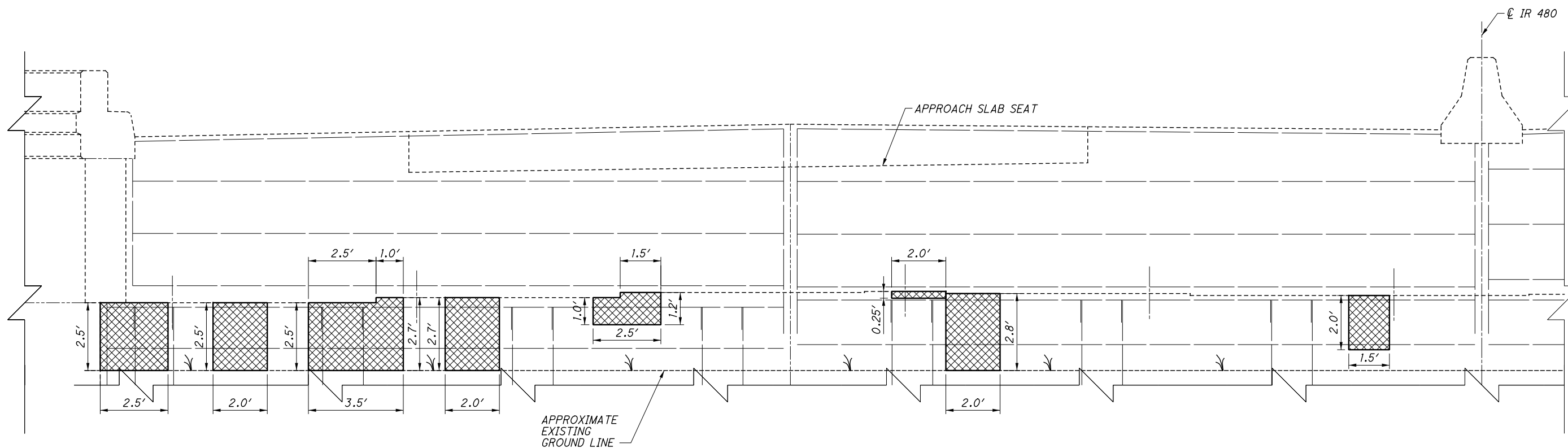
ESTIMATED QUANTITIES									
CALCULATED <u>JLS</u> DATED <u>12/18</u>									
CHECKED <u>DT</u> DATED <u>12/18</u>									
ITEM	ITEM EXT.	TOTAL	UNIT	DESCRIPTION	SUPERSTRUCTURE	ABUTS	PIERS	GENERAL	REF. SHEET
202	11203	LS		PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN				LS	43
509	20001	150	LB	REINFORCING STEEL, REPLACEMENT OF EXISTING REINFORCING STEEL, AS PER PLAN		150			43
512	10101	53	SY	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE), AS PER PLAN	6	46	1		43
514	00050	148	SF	SURFACE PREPARATION OF EXISTING STRUCTURAL STEEL			148		
514	00056	219	SF	FIELD PAINTING OF STRUCTURAL STEEL, PRIME COAT			219		
514	00060	219	SF	FIELD PAINTING OF STRUCTURAL STEEL, INTERMEDIATE COAT			219		
514	00067	219	SF	FIELD PAINTING OF STRUCTURAL STEEL, FINISH COAT, AS PER PLAN			219		96
516	45305	24	EACH	REFURBISH BEARING DEVICE, AS PER PLAN			24		43
516	47001	LS		JACKING AND TEMPORARY SUPPORT OF SUPERSTRUCTURE, AS PER PLAN				LS	43
SPECIAL	51900100	3728	SF	COMPOSITE FIBER WRAP SYSTEM			3728		44
519	11101	957	SF	PATCHING CONCRETE STRUCTURE, AS PER PLAN	39	311	4	603	44
SPECIAL	53000400	4	EACH	STRUCTURES - HINGED ACCESS DOOR			4		96
844	10001	1679	SF	CONCRETE PATCHING WITH GALVANIC ANODE PROTECTION, AS PER PLAN			1679		44

D12 BH FY2019 MISC. PID No. 98601	ESTIMATED QUANTITIES - LOCATION 3 BRIDGE NO. CUY-480-0800 OVER SR 237 & IR 480 RAMPS	DESIGNED BLN	CHECKED DNT	DRAWN JLS	REVISED	REVIEWED DT	DATE 12-20-18	STRUCTURE FILE NUMBER 1812491	RICHLAND ENGINEERING LIMITED 29 NORTH PARK STREET MANSFIELD, OHIO 44902
		2 / 11	87 / 149						

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REAR ABUTMENT PLAN



REAR ABUTMENT ELEVATION

LEGEND

INCLUDED WITH ITEM 519 - PATCHING CONCRETE STRUCTURE, AS PER PLAN.

DELAMINATION REPAIR	86 SF
CONTINGENCY	330
TOTAL	416 SF

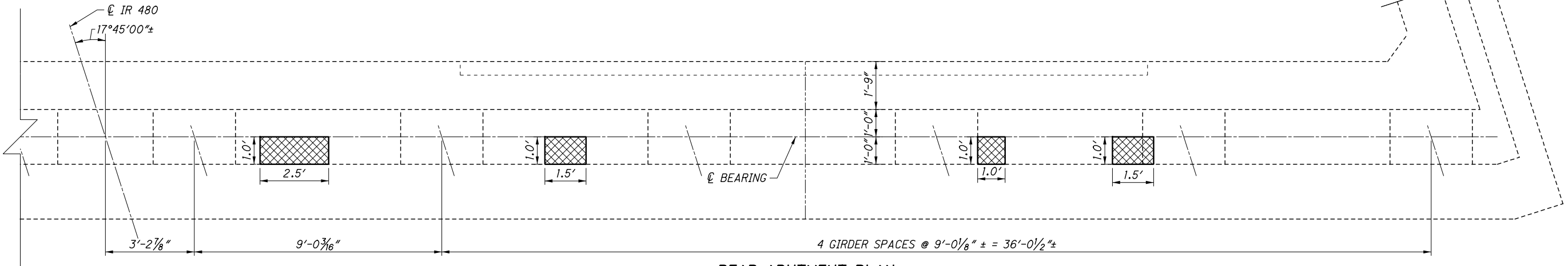
NOTES

PATCHING: ALL PATCHES SHALL BE SEALED 6" BEYOND THE PATCHING LIMITS USING EPOXY-URETHANE AND SHALL BE PAID WITH ITEM 512-SEALING OF CONCRETE SURFACES (EPOXY-URETHANE), AS PER PLAN.

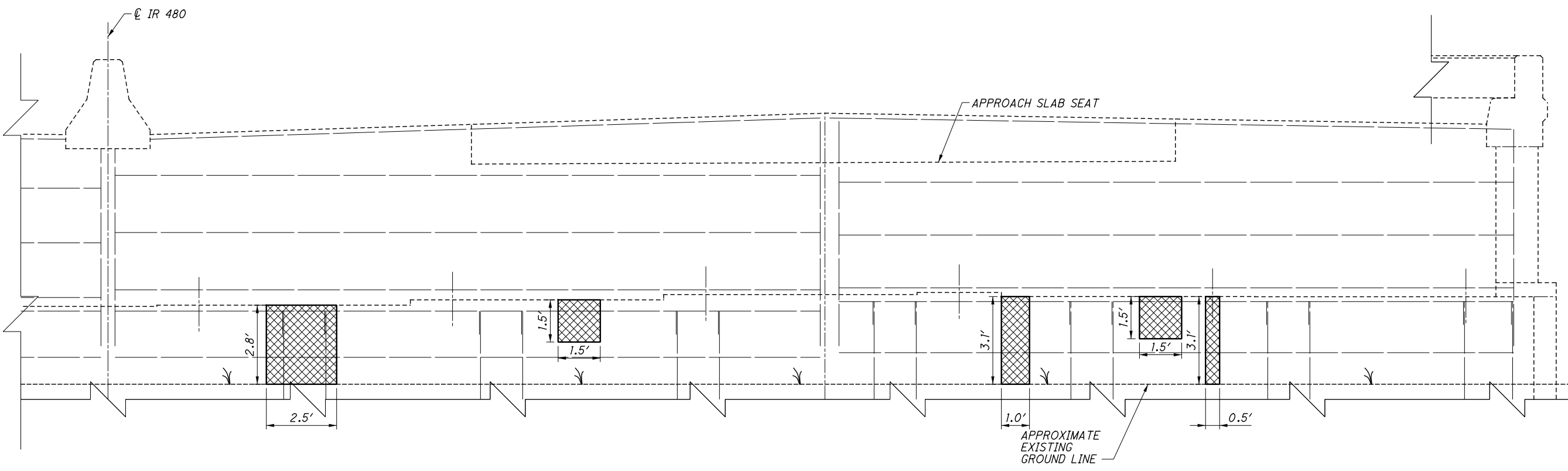
LOCATIONS ARE APPROXIMATE AND SHALL BE VERIFIED IN THE FIELD.

<p>RICHLAND ENGINEERING LIMITED 29 NORTH PARK STREET MANSFIELD, OHIO 44902</p>	<p>DATE: 12-20-18 DT: 1812491</p>	<p>REVIEWED: DT: 1812491</p>	<p>DESIGNED: BLN CHECKED: dnt</p>	<p>REAR ABUTMENT PATCHING DETAILS - LOCATION 3 BRIDGE NO. CUY-480-0800 OVER SR 237 & IR 480 RAMPS</p>
<p>D12 BH FY2019 MISC. PID No. 98601</p>		<p>3 / 11</p>		<p>88 149</p>

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REAR ABUTMENT PLAN



REAR ABUTMENT ELEVATION

LEGEND

INCLUDED WITH ITEM 519 - PATCHING CONCRETE STRUCTURE, AS PER PLAN.

NOTES

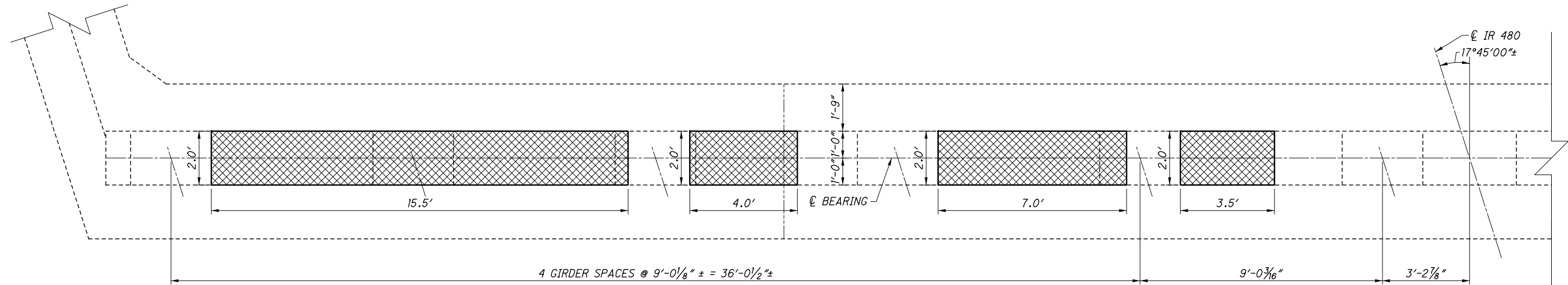
PATCHING: ALL PATCHES SHALL BE SEALED 6" BEYOND THE PATCHING LIMITS USING EPOXY-URETHANE AND SHALL BE PAID WITH ITEM 512-SEALING OF CONCRETE SURFACES (EPOXY-URETHANE), AS PER PLAN.

LOCATIONS ARE APPROXIMATE AND SHALL BE VERIFIED IN THE FIELD.

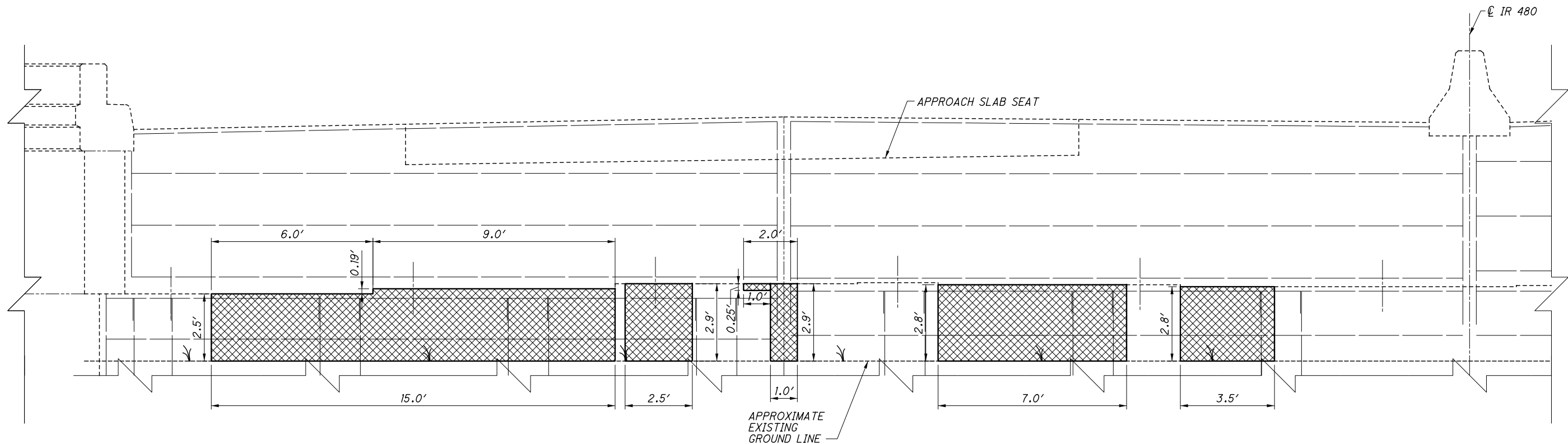
DELAMINATION REPAIR	86	SF
CONTINGENCY	330	
TOTAL	416	SF

<p>D12 BH FY2019 MISC.</p> <p>PID No. 98601</p>	<p>REAR ABUTMENT PATCHING DETAILS - LOCATION 3</p> <p>BRIDGE NO. CUY-480-0800 OVER SR 237 & IR 480 RAMPS</p>	<p>DESIGNED BLN CHECKED DHT</p>	<p>DRAWN DPH REVISED</p>	<p>REVIEWED DT STRUCTURE FILE NUMBER 1812491</p>	<p>DATE 12-20-18</p>	<p>RICHLAND ENGINEERING LIMITED 29 NORTH PARK STREET MANSFIELD, OHIO 44902</p>
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FORWARD ABUTMENT PLAN



FORWARD ABUTMENT ELEVATION

LEGEND

 INCLUDED WITH ITEM 519 - PATCHING CONCRETE STRUCTURE, AS PER PLAN.

DELAMINATION REPAIR	225 SF
CONTINGENCY	273 SF
TOTAL	498 SF

NOTES

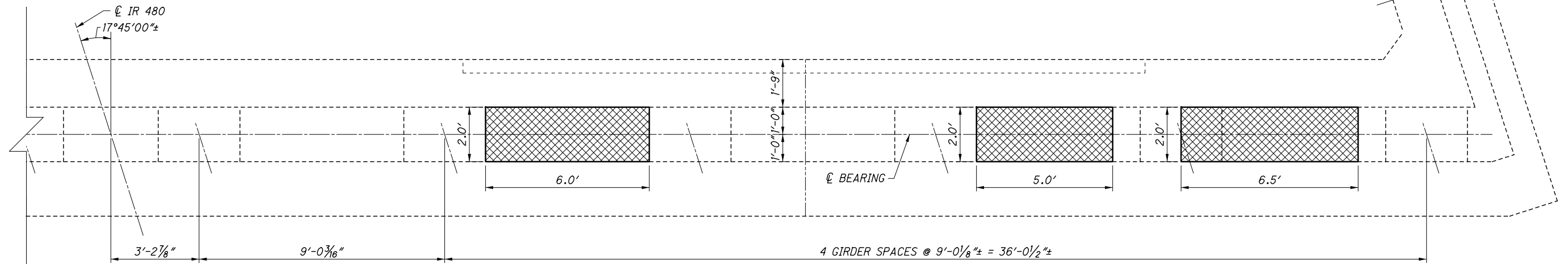
PATCHING: ALL PATCHES SHALL BE SEALED 6" BEYOND THE PATCHING LIMITS USING EPOXY-URETHANE AND SHALL BE PAID WITH ITEM 512-SEALING OF CONCRETE SURFACES (EPOXY-URETHANE), AS PER PLAN.

LOCATIONS ARE APPROXIMATE AND SHALL BE VERIFIED IN THE FIELD.

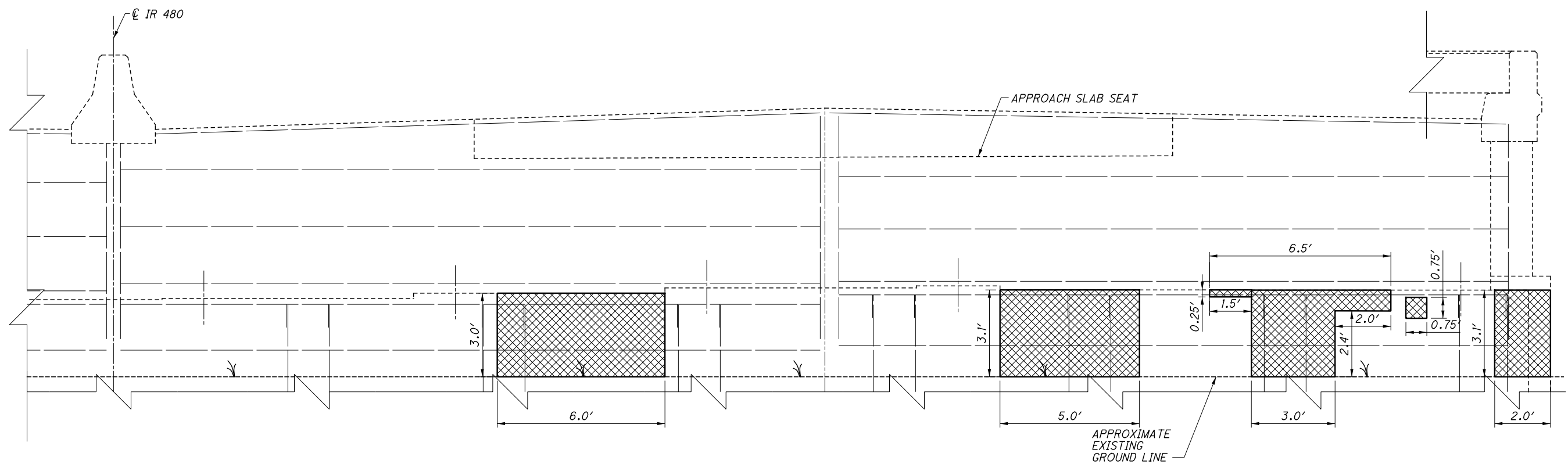


RICHLAND ENGINEERING LIMITED 29 NORTH PARK STREET MANSFIELD, OHIO 44902	
DATE 12-20-18	STRUCTURE FILE NUMBER 1812491
REVIEWED DT	DRAWN DPH
DESIGNED BLN	CHECKED dnt
FORWARD ABUTMENT PATCHING DETAILS - LOCATION 3 BRIDGE NO. CUY-480-0800 OVER SR 237 & IR 480 RAMPS	
D12 BH FY2019 MISC. PID No. 98601	5 / 11
90 149	

F:\2016\116041 D12 Bridge Rehab\12-BH-FY2019 Misc\ProjectData\98601\Design\Structures\CUY480_0800C\Sheets\480_0800MD004.dgn 12/20/2018 2:24:46 PM DonHeiman



FORWARD ABUTMENT PLAN



FORWARD ABUTMENT ELEVATION

LEGEND

 INCLUDED WITH ITEM 519 - PATCHING CONCRETE STRUCTURE, AS PER PLAN.

NOTES

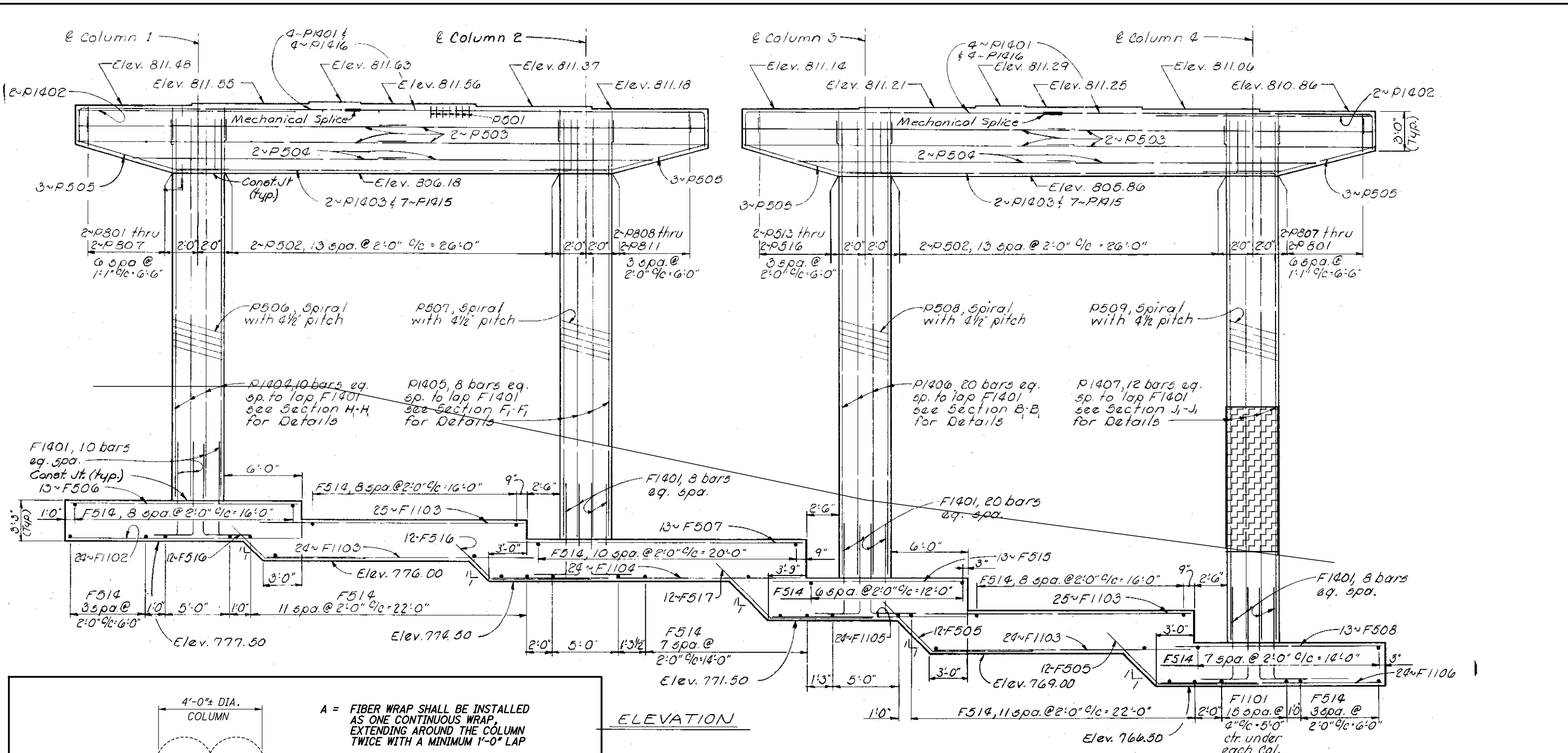
PATCHING: ALL PATCHES SHALL BE SEALED 6" BEYOND THE PATCHING LIMITS USING EPOXY-URETHANE AND SHALL BE PAID WITH ITEM 512-SEALING OF CONCRETE SURFACES (EPOXY-URETHANE), AS PER PLAN.

LOCATIONS ARE APPROXIMATE AND SHALL BE VERIFIED IN THE FIELD.

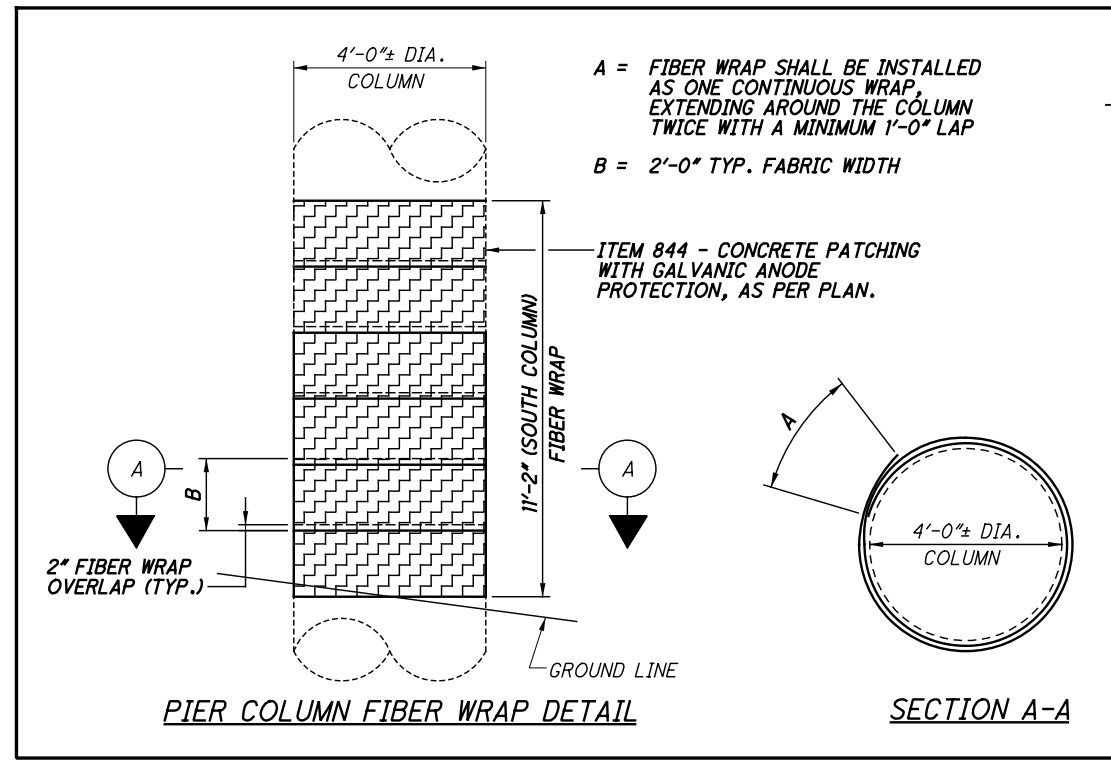
DELAMINATION REPAIR 225 SF
 CONTINGENCY 273 SF
 TOTAL 498 SF



F:\2016\116041 D12 Bridge Rehab\12-BH-FY2019 Misc\ProjectData\98601\Design\Structures\CUY480_0800C\Sheets\480_0800PI03.dgn 12/20/2018 2:26:21 PM DonHeiman



ELEVATION



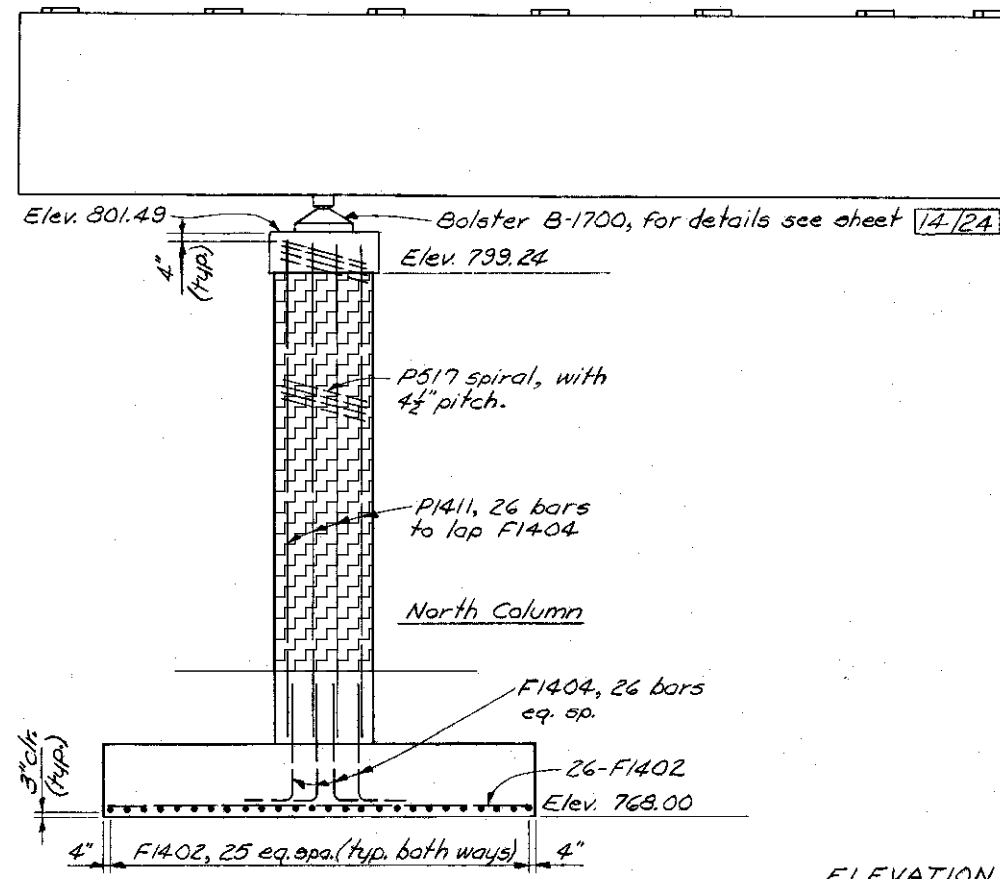
PIER COLUMN FIBER WRAP DETAIL

SECTION A-A

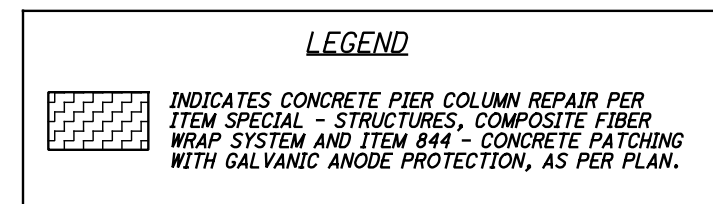
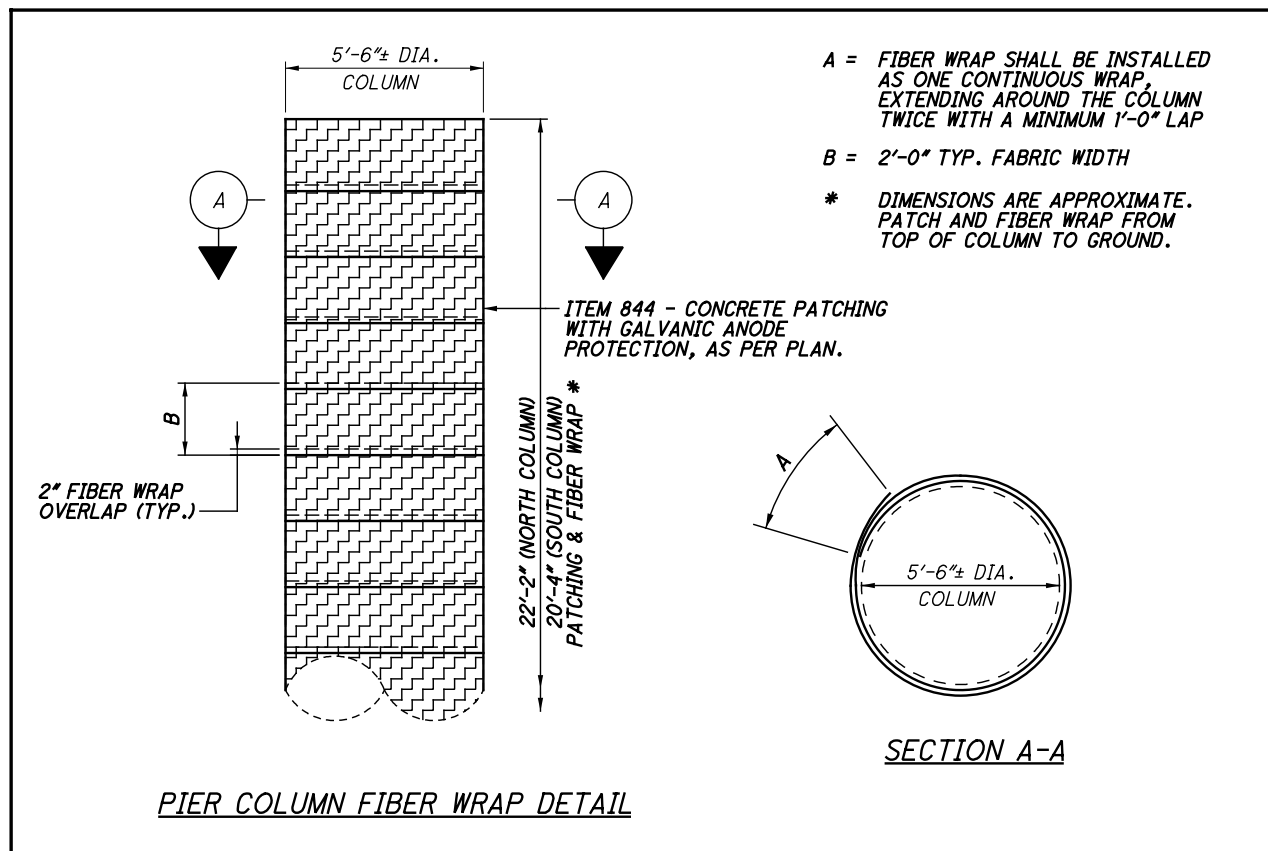
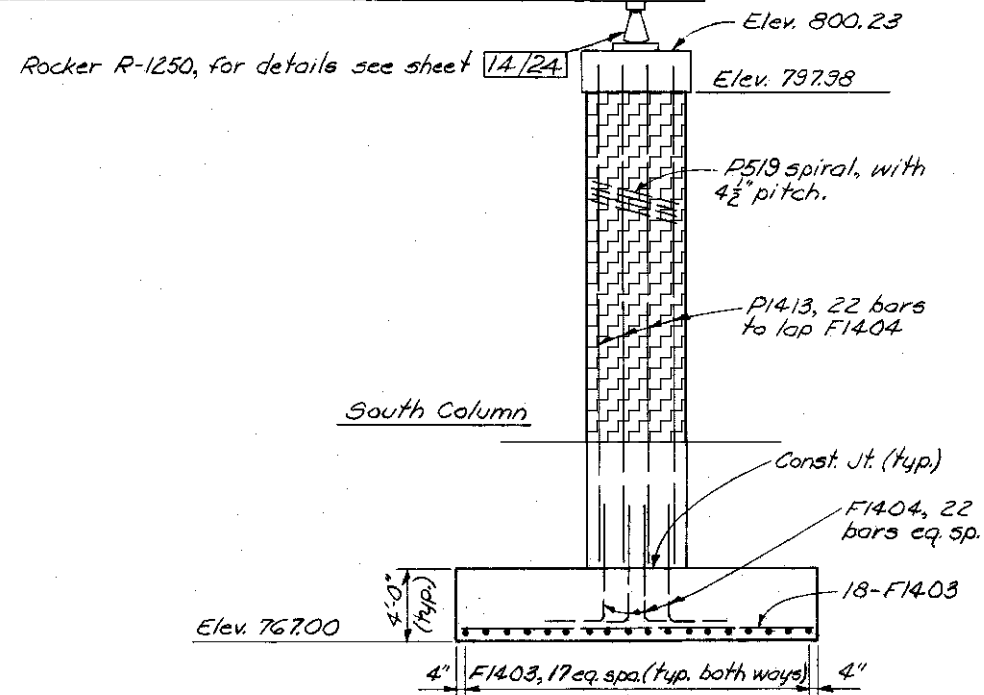
LEGEND

INDICATES CONCRETE PIER COLUMN REPAIR PER ITEM SPECIAL - STRUCTURES, COMPOSITE FIBER WRAP SYSTEM AND ITEM 844 - CONCRETE PATCHING WITH GALVANIC ANODE PROTECTION, AS PER PLAN.

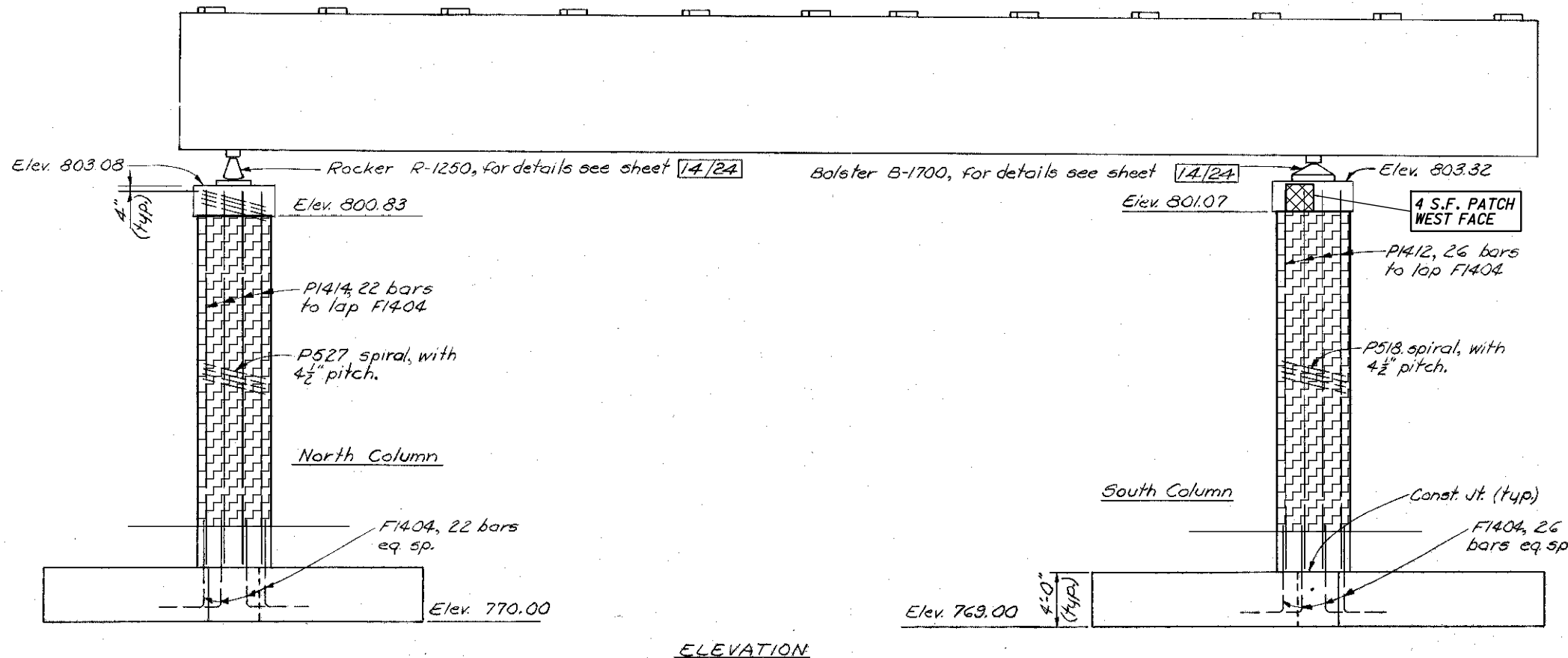
- NOTES:**
1. DETAILS ON THIS SHEET ARE TAKEN FROM EXISTING PLANS AND SHOULD BE USED FOR INFORMATION PURPOSES ONLY.
 2. PERFORM ONLY THE WORK AS INDICATED IN THE STRUCTURE DATA SHEET, FRAMED TEXT, AND/OR DESCRIBED IN THE GENERAL NOTES.
 3. FOR ESTIMATED QUANTITIES SEE SHEET 2/11.



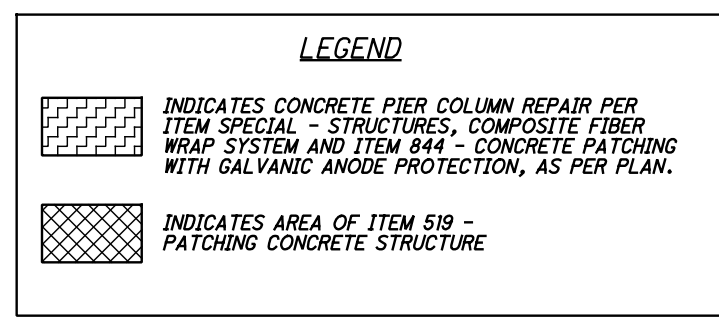
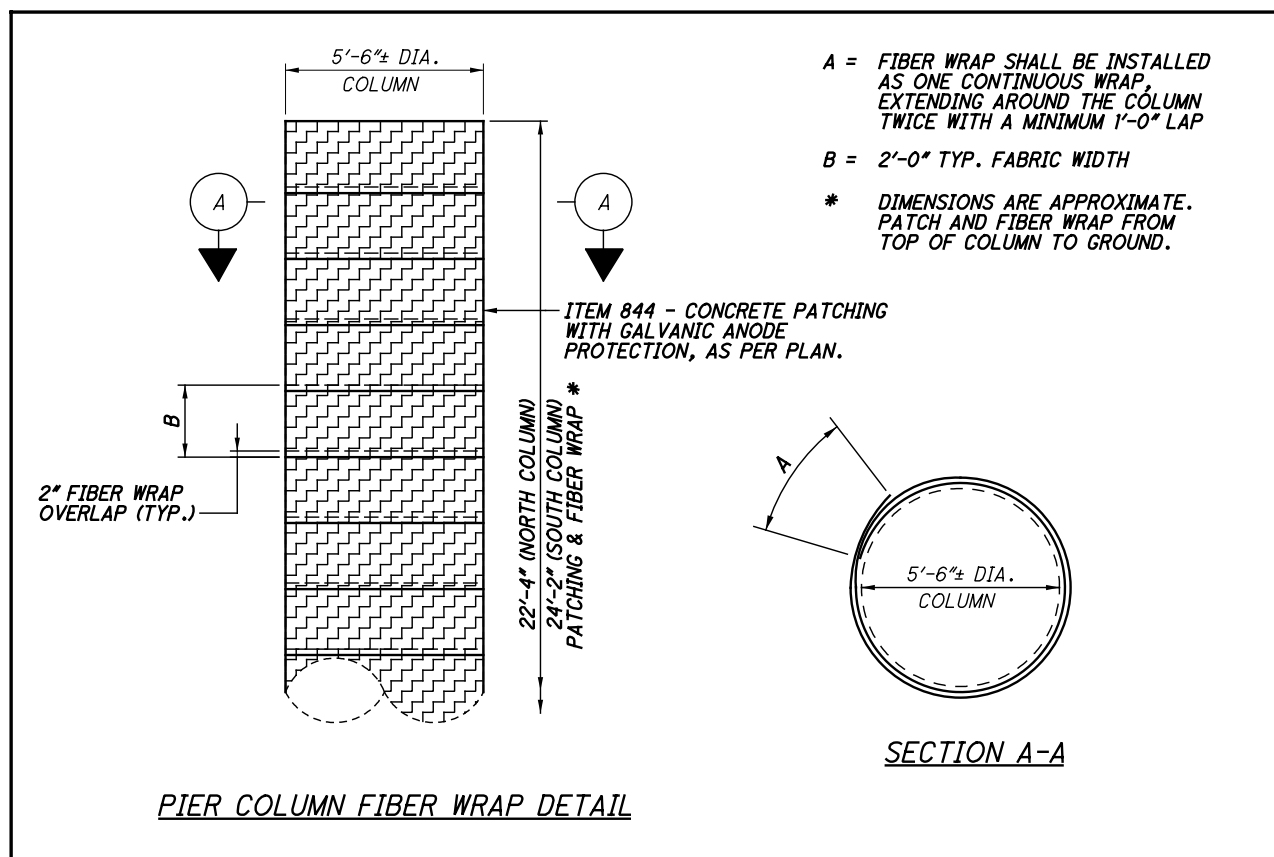
ELEVATION



- NOTES:**
1. DETAILS ON THIS SHEET ARE TAKEN FROM EXISTING PLANS AND SHOULD BE USED FOR INFORMATION PURPOSES ONLY.
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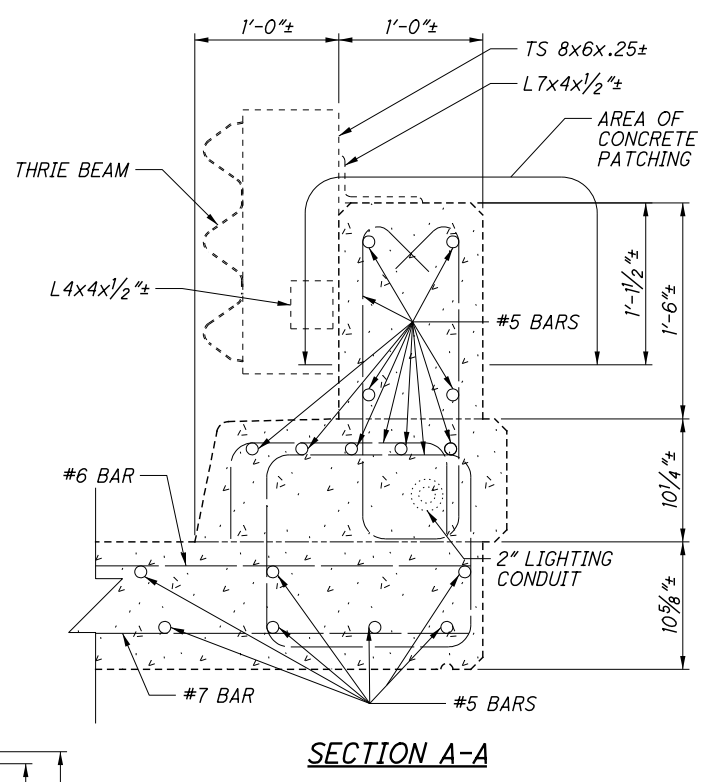
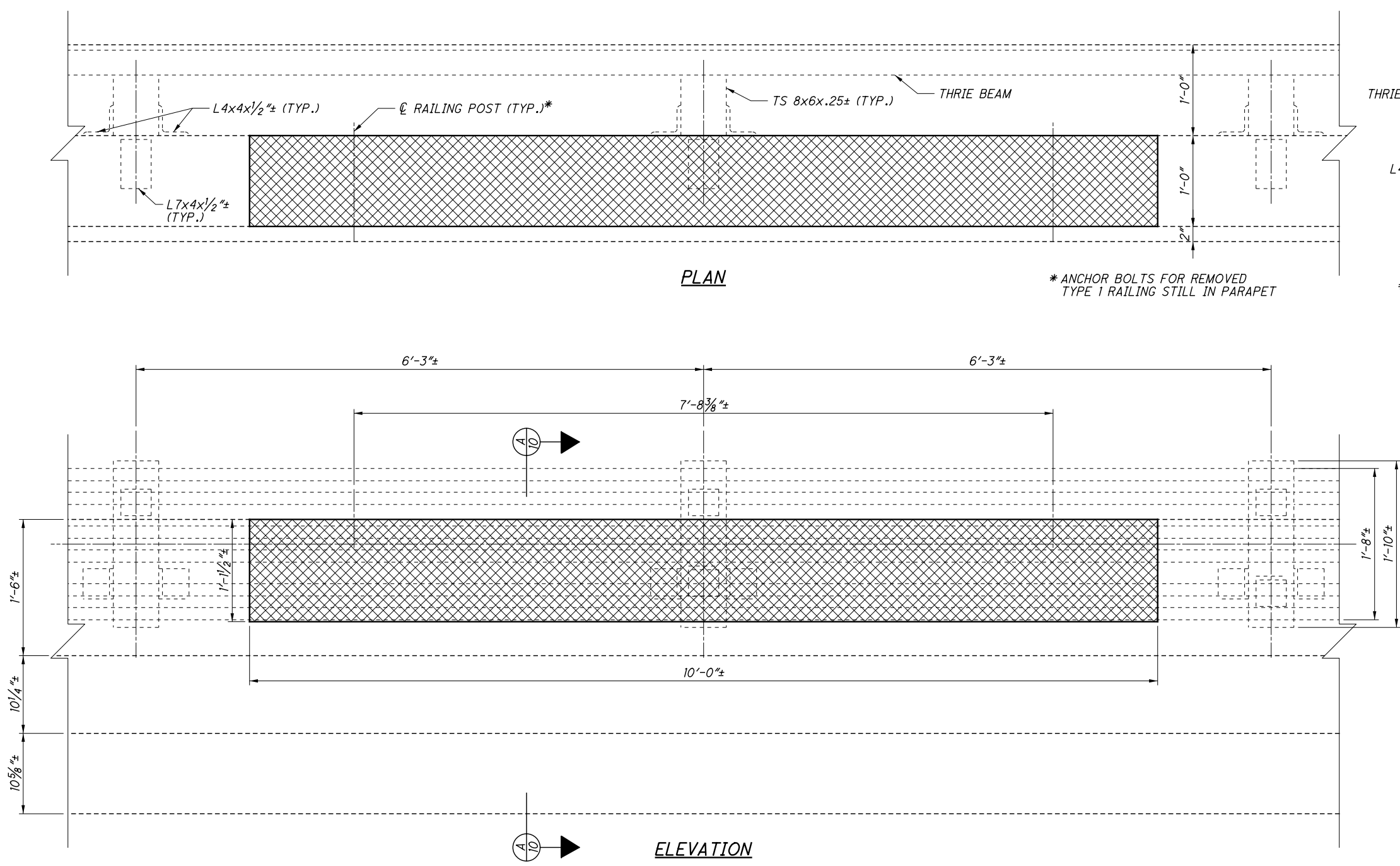


ELEVATION



- NOTES:**
1. DETAILS ON THIS SHEET ARE TAKEN FROM EXISTING PLANS AND SHOULD BE USED FOR INFORMATION PURPOSES ONLY.
 2. PERFORM ONLY THE WORK AS INDICATED IN THE STRUCTURE DATA SHEET, FRAMED TEXT, AND/OR DESCRIBED IN THE GENERAL NOTES.
 3. FOR ESTIMATED QUANTITIES SEE SHEET 2/11.

F:\2016\16041 D12 Bridge Rehab\12-BH-FY2019 Misc\ProjectData\98601\Design\Structures\CUY480_0800C\Sheets\480_0800RA001.dgn 12/21/2018 9:58:11 AM DonHeiman



* ANCHOR BOLTS FOR REMOVED TYPE 1 RAILING STILL IN PARAPET

LEGEND

INCLUDED WITH ITEM 519 - PATCHING CONCRETE STRUCTURE, AS PER PLAN AND ITEM 509 - REINFORCING STEEL, REPLACEMENT OF EXISTING REINFORCING STEEL AS PER PLAN.

NOTES

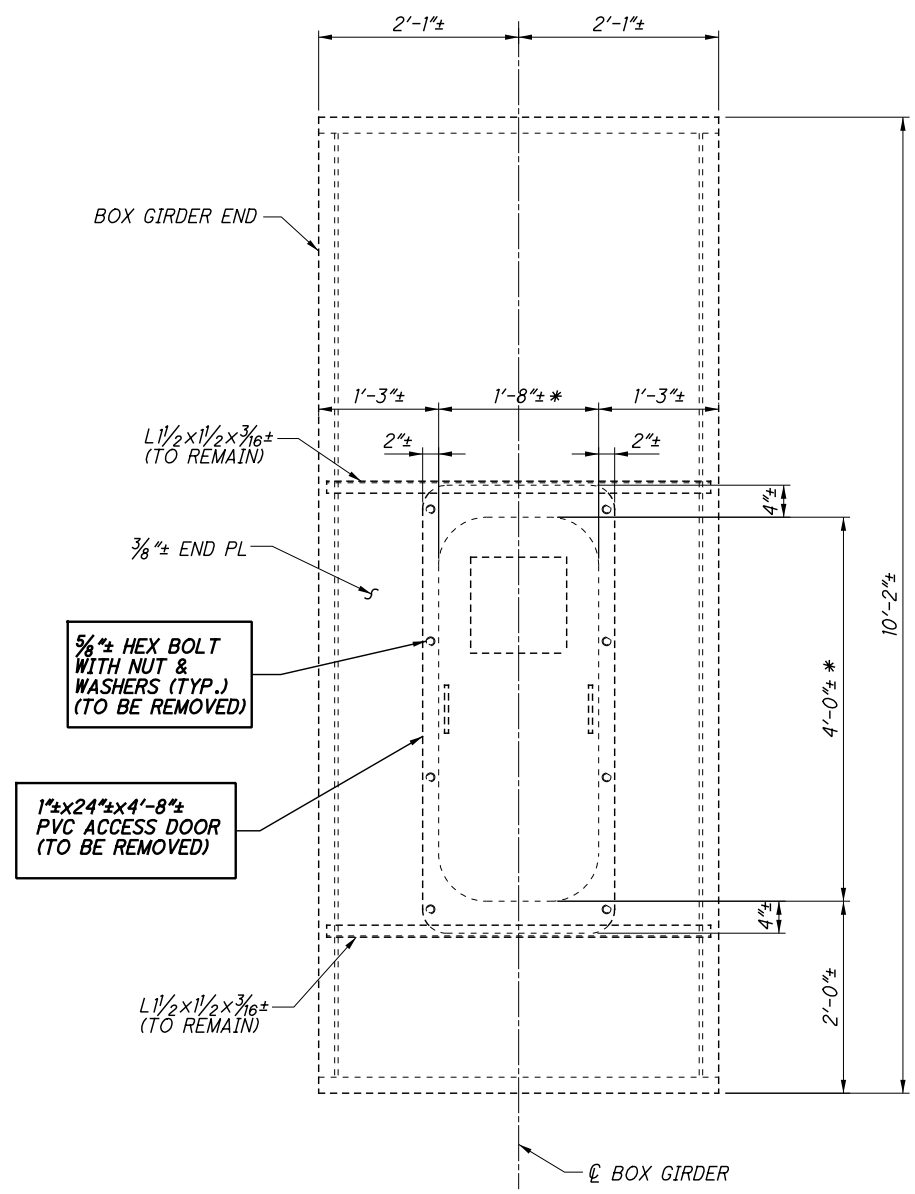
PATCHING: ALL PATCHES SHALL BE SEALED 6" BEYOND THE PATCHING LIMITS USING EPOXY-URETHANE AND SHALL BE PAID WITH ITEM 512-SEALING OF CONCRETE SURFACES (EPOXY-URETHANE), AS PER PLAN.

LOCATION IS APPROXIMATE AND SHALL BE VERIFIED IN THE FIELD.

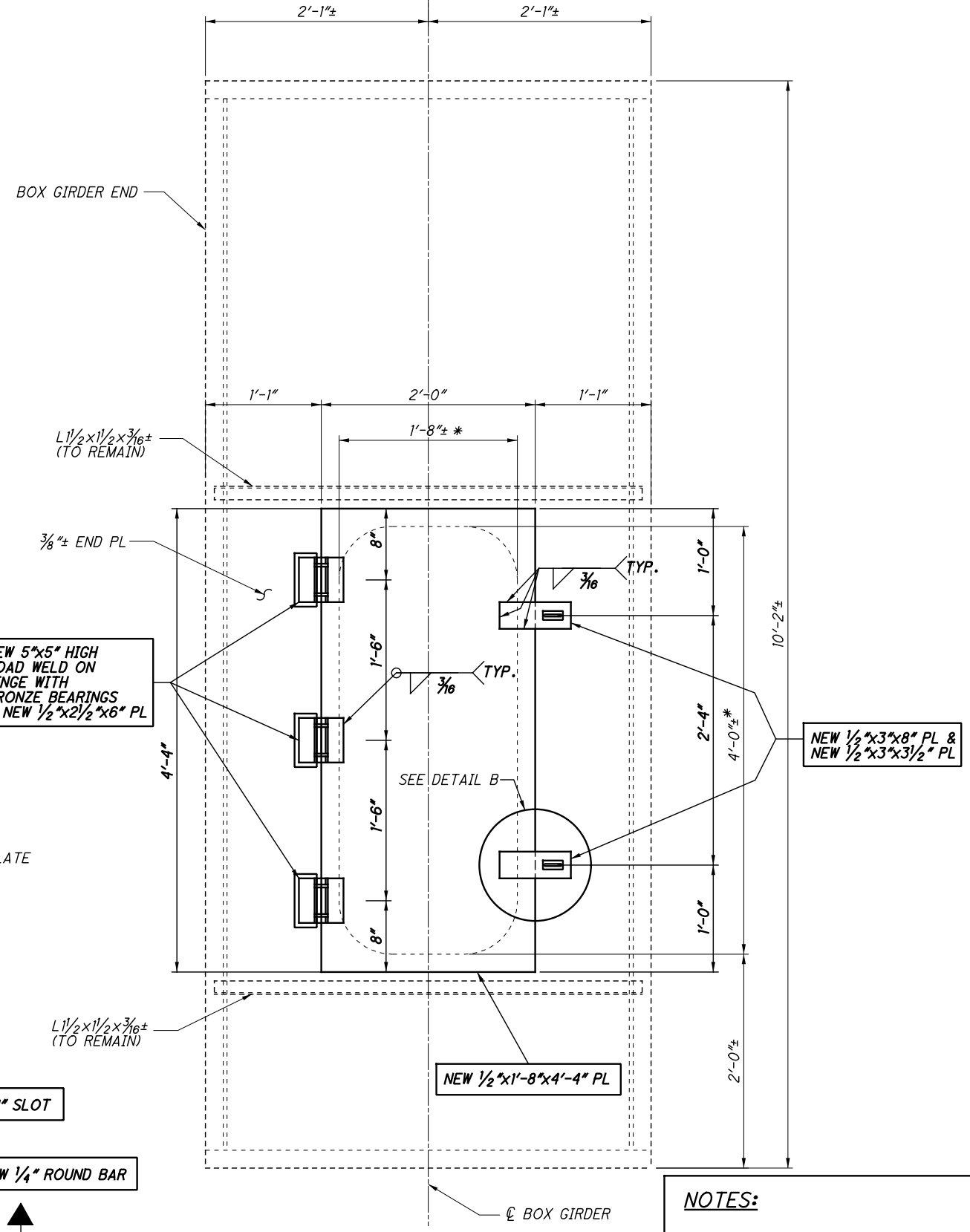
MATERIALS SHOWN ARE EXISTING UNLESS OTHERWISE NOTED.

<p>D12 BH FY2019 MISC.</p> <p>PID No. 98601</p>	<p>RAILING PATCHING DETAIL - LOCATION 3</p> <p>BRIDGE NO. CUY-480-0800 OVER SR 237 & IR 480 RAMPS</p>	<p>REVIEWED DATE DT 12-20-18 STRUCTURE FILE NUMBER 1812491</p>	<p>RICHLAND ENGINEERING LIMITED 29 NORTH PARK STREET MANSFIELD, OHIO 44902</p>
<p>10 / 11</p>	<p>95 149</p>		

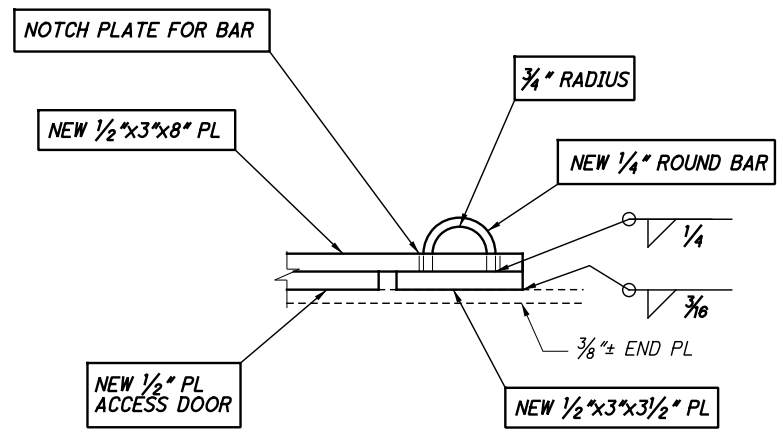
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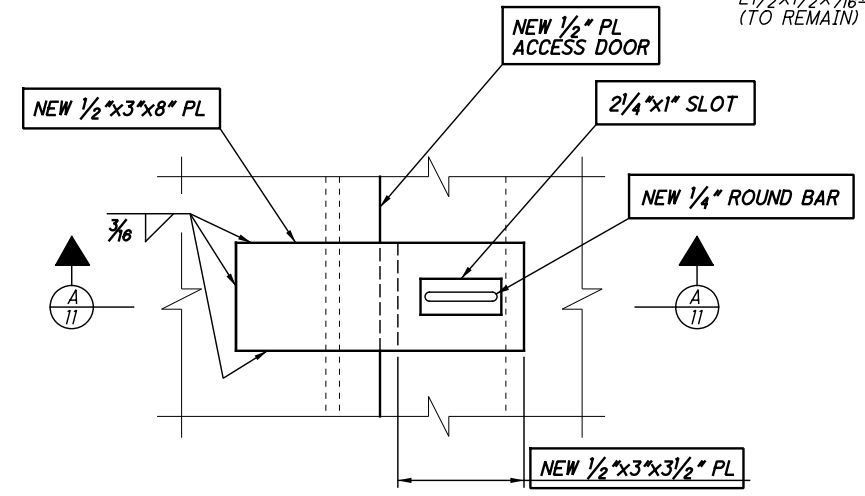
BOX GIRDER END ACCESS DOOR



BOX GIRDER END ACCESS DOOR (TYP. 4 LOCATIONS)



SECTION A-A

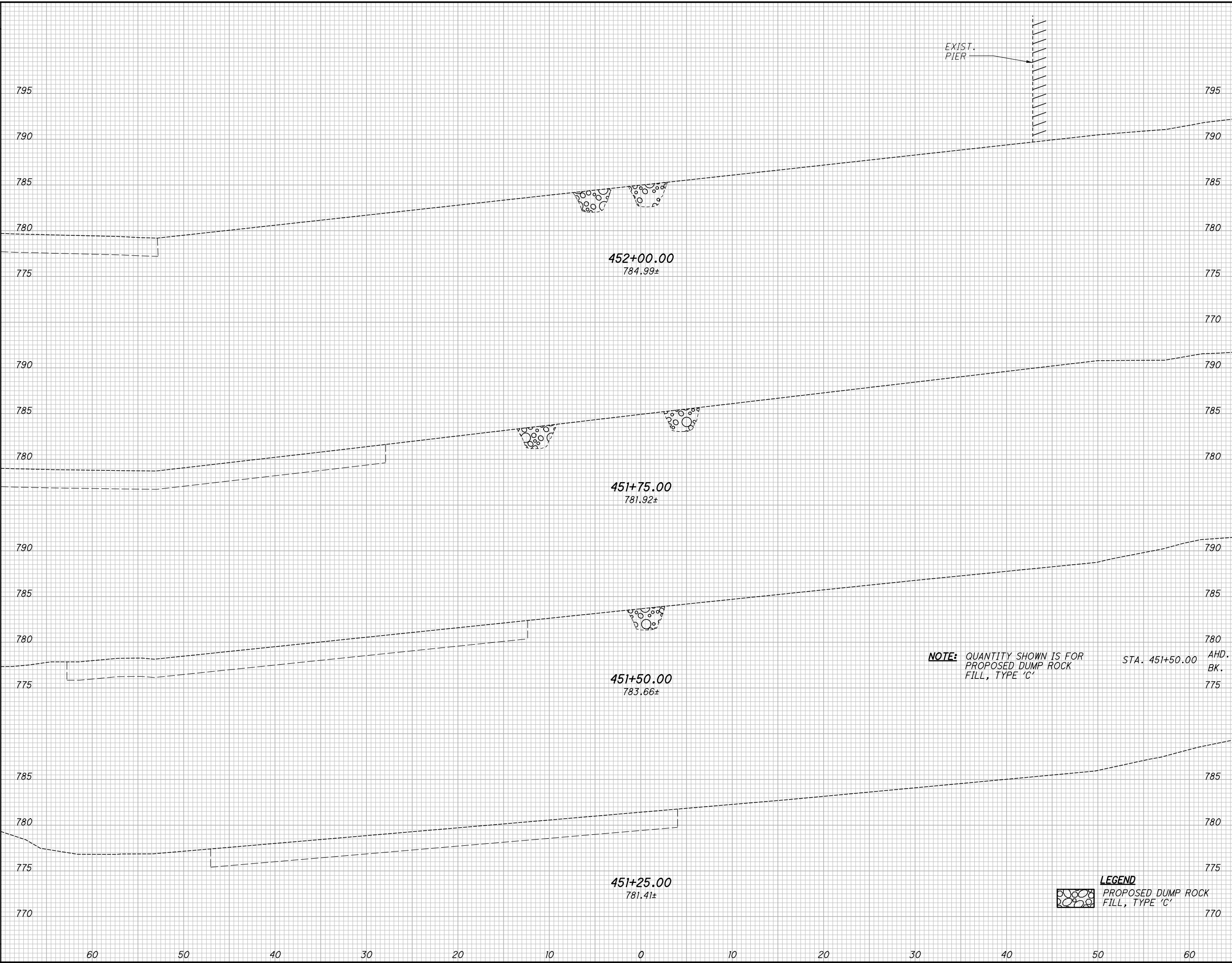


DETAIL B

- NOTES:**
1. DETAILS ON THIS SHEET ARE TAKEN FROM EXISTING PLANS AND SHOULD BE USED FOR INFORMATION PURPOSES ONLY.
 2. PERFORM ONLY THE WORK AS INDICATED IN THE STRUCTURE DATA SHEET, FRAMED TEXT, AND/OR DESCRIBED IN THE GENERAL NOTES.
 3. NEW ACCESS DOORS SHALL BE PAINTED. FINISH COLOR SHALL MATCH EXISTING STEEL.
 4. FOR ESTIMATED QUANTITIES SEE SHEET 2/11.

F:\2016\116041 D12 Bridge Rehab\12-BH-FY2019 Misc\ProjectData\98601\Design\Structures\CUY480_0800C\Sheets\480_0800XS001.dgn 12/20/2018 2:32:25 PM DonHelman

SEEDING
END SO.
WIDTH YDS.



END AREA		VOLUME	
CUT	FILL	CUT	FILL
0	16	0	15
0	15	0	11
0	8	0	0
0	0	0	0
0	0	0	26

CROSS SECTIONS
STA. 451+25.00 TO STA. 452+00.00

D12-BH-FY2019 MISC.
PID NO. 98601

97
149

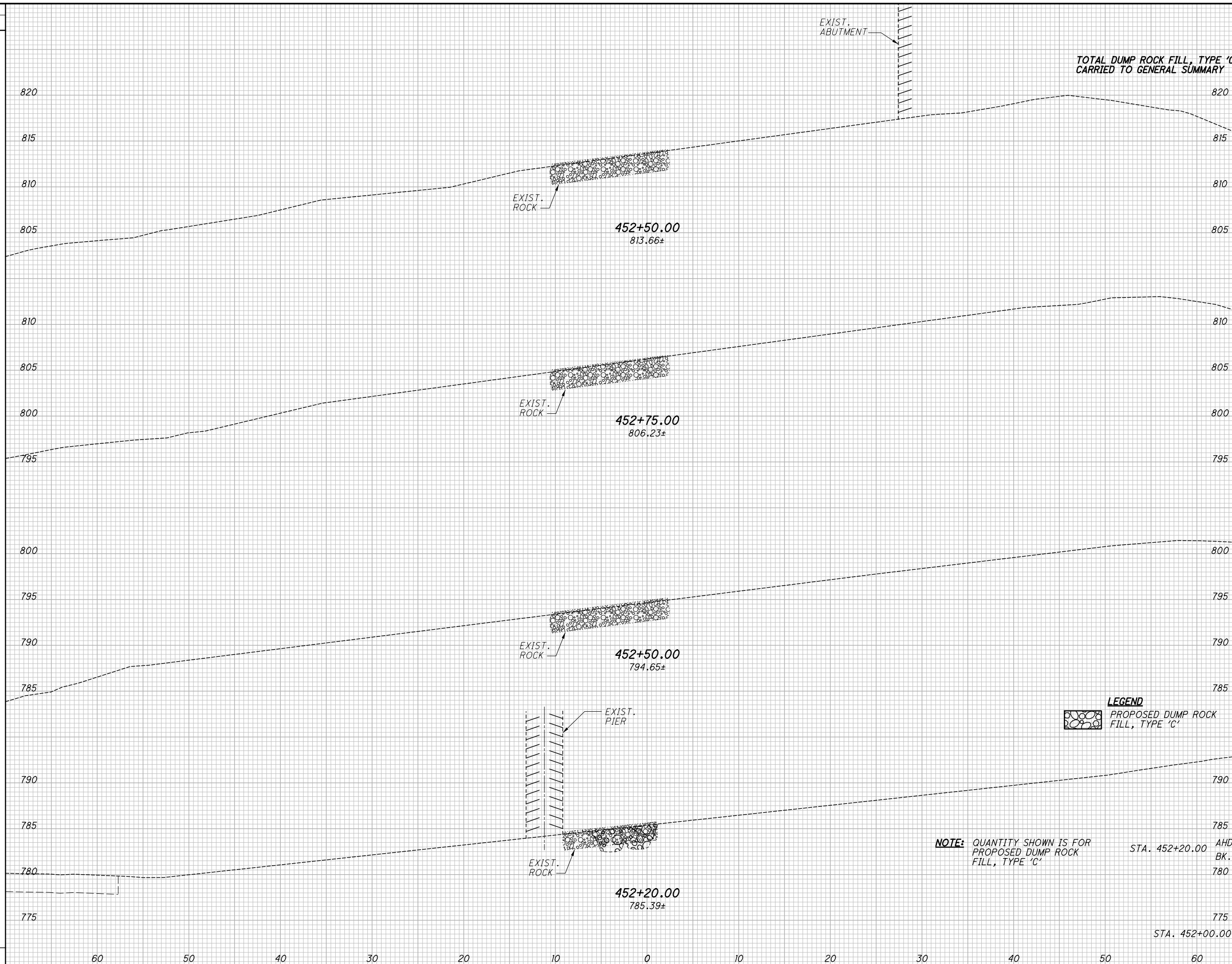
NOTE: QUANTITY SHOWN IS FOR PROPOSED DUMP ROCK FILL, TYPE 'C'

LEGEND
PROPOSED DUMP ROCK FILL, TYPE 'C'

F:\2016\116041 D12 Bridge Rehab\12-BH-FY2019 Misc\ProjectData\98601\Design\Structures\CUY480_0800C\Sheets\480_0800XS001.dgn 12/20/2018 2:32:38 PM DonHeiman

SEEDING
END SO.
WIDTH YDS.

END AREA
CUT FILL
VOLUME
CUT FILL
CALCULATED
TJF
CHECKED
MES



TOTAL DUMP ROCK FILL, TYPE 'C'
CARRIED TO GENERAL SUMMARY

LEGEND
 PROPOSED DUMP ROCK FILL, TYPE 'C'

NOTE: QUANTITY SHOWN IS FOR PROPOSED DUMP ROCK FILL, TYPE 'C'

END STA.	END AREA		VOLUME		CALCULATED TJF	CHECKED MES
	CUT	FILL	CUT	FILL		
452+00.00	0	16	0	12		
452+20.00	0	15	0	12		
452+50.00	0	0	0	38		
TOTAL	0	31	0	62		

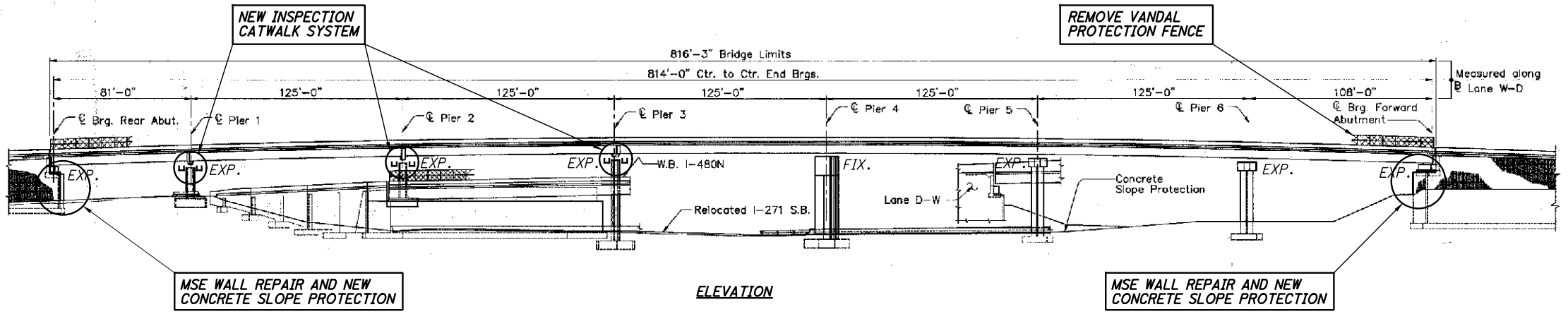
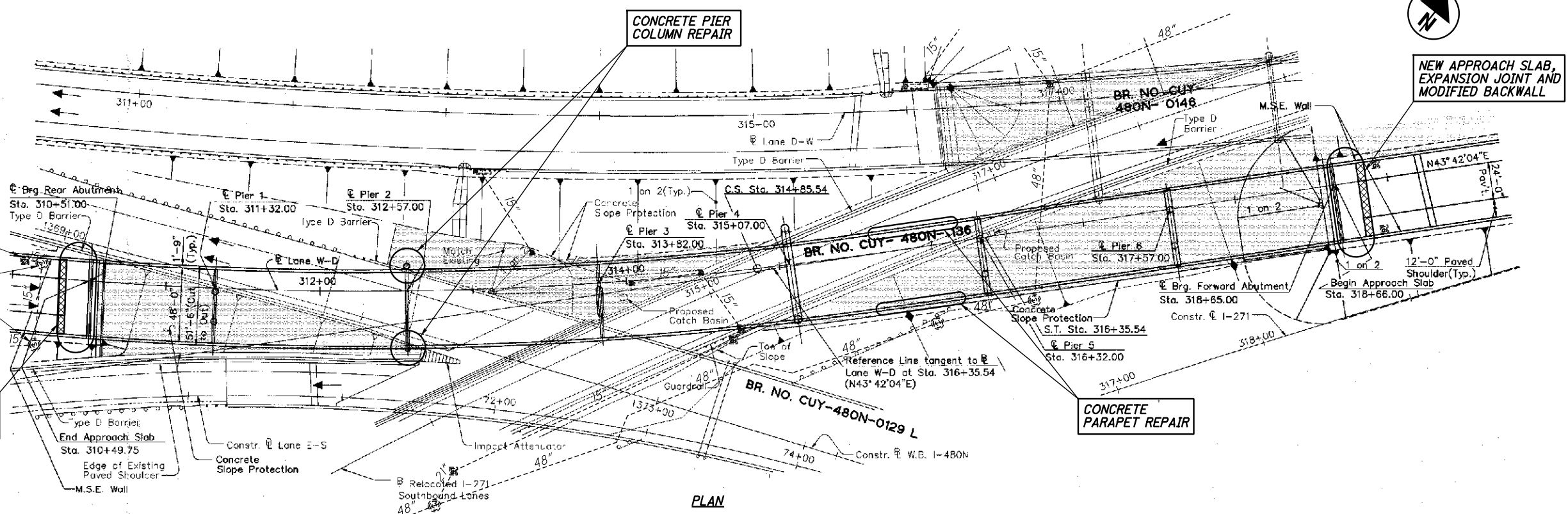
CROSS SECTIONS
STA. 452+20.00 TO STA. 452+50.00

D12-BH-FY2019 MISC.
PID NO. 98601


98
149

F:\2016\116041 D12_Bridge_Rehab\12-BH-FY2019_Misc\ProjectData\98601\Design\Structures\CUY480_0136W\Sheets\480_0136W\001.dgn 12/21/2018 7:51:18 AM REL5

GENERAL PLAN - LOCATION 4
 BRIDGE NO. CUY-480N-0136 WN
 IR 480N TO IR 27X LANE OVER IR 271 SB
 RICHLAND ENGINEERING LIMITED
 29 NORTH PARK STREET
 MANSFIELD, OHIO 44902
 DATE 12-20-18
 DT
 STRUCTURE FILE NUMBER 1814591
 DRAWN JLS
 CHECKED dnt
 DESIGNED BLN
 REVISIONS
 DT
 FILE NUMBER 1814591
D12 BH FY2019 MISC.
 PID No. 98601
 1/34
 99
 149



LEGEND

 INDICATES 5' OF FULL DEPTH PAVEMENT REPLACEMENT

- NOTES:**
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 3. FOR ESTIMATED QUANTITIES SEE SHEET 2/34.

F:\2016\16041 D12 Bridge Rehab\12-BH-FY2019 Misc\ProjectData\98601\Design\Structures\CUY480_0136W\Sheets\480_0136EQ001.dgn 1/4/2019 9:51:16 AM JeffSmith

ESTIMATED QUANTITIES

CALCULATED JLS DATED 12/18
 CHECKED dht DATED 12/18

ITEM	ITEM EXT.	TOTAL	UNIT	DESCRIPTION	SUPERSTRUCTURE	ABUTS.	PIERS	GENERAL	REF. SHEET
202	11203	LS		PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN				LS	43
202	22900	160	SY	APPROACH SLAB REMOVED				160	
202	32800	17	SY	CONCRETE SLOPE PROTECTION REMOVED				17	
202	75260	1635	FT	VANDAL PROTECTION FENCE REMOVED	1635				
503	21101	92	CY	UNCLASSIFIED EXCAVATION, AS PER PLAN				92	43
509	10000	9763	LB	EPOXY COATED REINFORCING STEEL		7469		2294	
511	34449	20	CY	CLASS QC2 CONCRETE, BRIDGE DECK (PARAPET), AS PER PLAN				20	125
511	45710	35	CY	CLASS QC1 CONCRETE, ABUTMENT		35			
512	10101	197	SY	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE), AS PER PLAN	17	50		130	43
512	33000	3	SY	TYPE 2 WATERPROOFING		3			
513	95000	237	FT	STRUCTURAL STEEL, MISC.: GALVANIZED CLIMBING BAR AND BRACKETS	237				121
514	00100	LS		SURFACE PREPARATION OF EXISTING STRUCTURAL STEEL				LS	
514	00200	LS		FIELD PAINTING OF STRUCTURAL STEEL, PRIME COAT				LS	
514	00300	LS		FIELD PAINTING OF STRUCTURAL STEEL, INTERMEDIATE COAT				LS	
514	00400	LS		FIELD PAINTING OF STRUCTURAL STEEL, FINISH COAT				LS	
516	11211	50	FT	STRUCTURAL EXPANSION JOINT INCLUDING ELASTOMERIC STRIP SEAL, AS PER PLAN	50				112
516	12201	50	FT	STRUCTURAL STEEL EXPANSION JOINT, AS PER PLAN	50				112
516	13600	13	SF	1" PREFORMED EXPANSION JOINT FILLER		13			
516	13900	159	SF	2" PREFORMED EXPANSION JOINT FILLER		159			
516	25000	22	SF	NYLON REINFORCED NEOPRENE SHEETING		22			
518	51101	53	FT	8" PIPE DOWNSPOUT, INCLUDING SPECIALS, AS PER PLAN		53			127
518	60011	7	FT	TROUGH HORIZONTAL CONDUCTOR, AS PER PLAN		7			127
518	62600	299	SF	STRUCTURE DRAINAGE, MISC.: NRNS DRAIN TROUGH		299			127
SPECIAL	51900100	523	SF	COMPOSITE FIBER WRAP SYSTEM			523		44
519	11101	254	SF	PATCHING CONCRETE STRUCTURE, AS PER PLAN	222			32	44
526	25011	247	SY	REINFORCED CONCRETE APPROACH SLABS WITH QC/QA (T=15"), AS PER PLAN				247	124
SPECIAL	53000400	6	EACH	STRUCTURES: INSTALLATION OF INSPECTION CATWALK SYSTEM	6				114-121
601	21000	17	SY	CONCRETE SLOPE PROTECTION				17	
613	41300	104	CY	LOW STRENGTH MORTAR BACKFILL (TYPE 2)				104	
844	10001	235	SF	CONCRETE PATCHING WITH GALVANIC ANODE PROTECTION, AS PER PLAN			235		44

ESTIMATED QUANTITIES - LOCATION 4
 BRIDGE NO. CUY-480N-0136 WN
 IR 480N TO IR 27X LANE OVER IR 271 SB

D12 BH FY2019 MISC.
 PID No. 98601

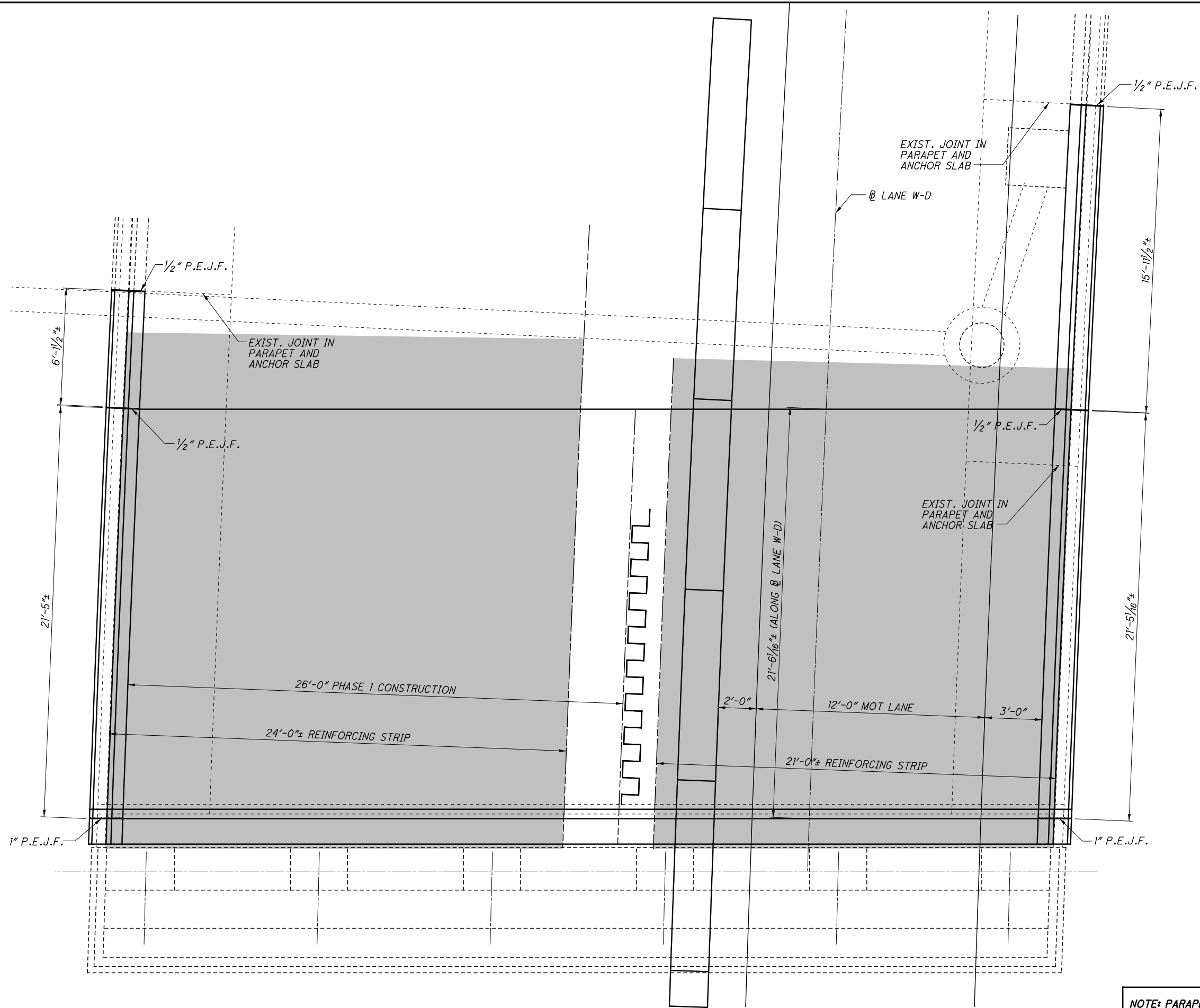
2 / 34

100
149

RICHLAND ENGINEERING LIMITED
 29 NORTH PARK STREET
 MANSFIELD, OHIO 44902
 DATE 12-20-18
 REVIEWED DT STRUCTURE FILE NUMBER 1814591
 DRAWN JLS
 DESIGNED BLN
 CHECKED dht



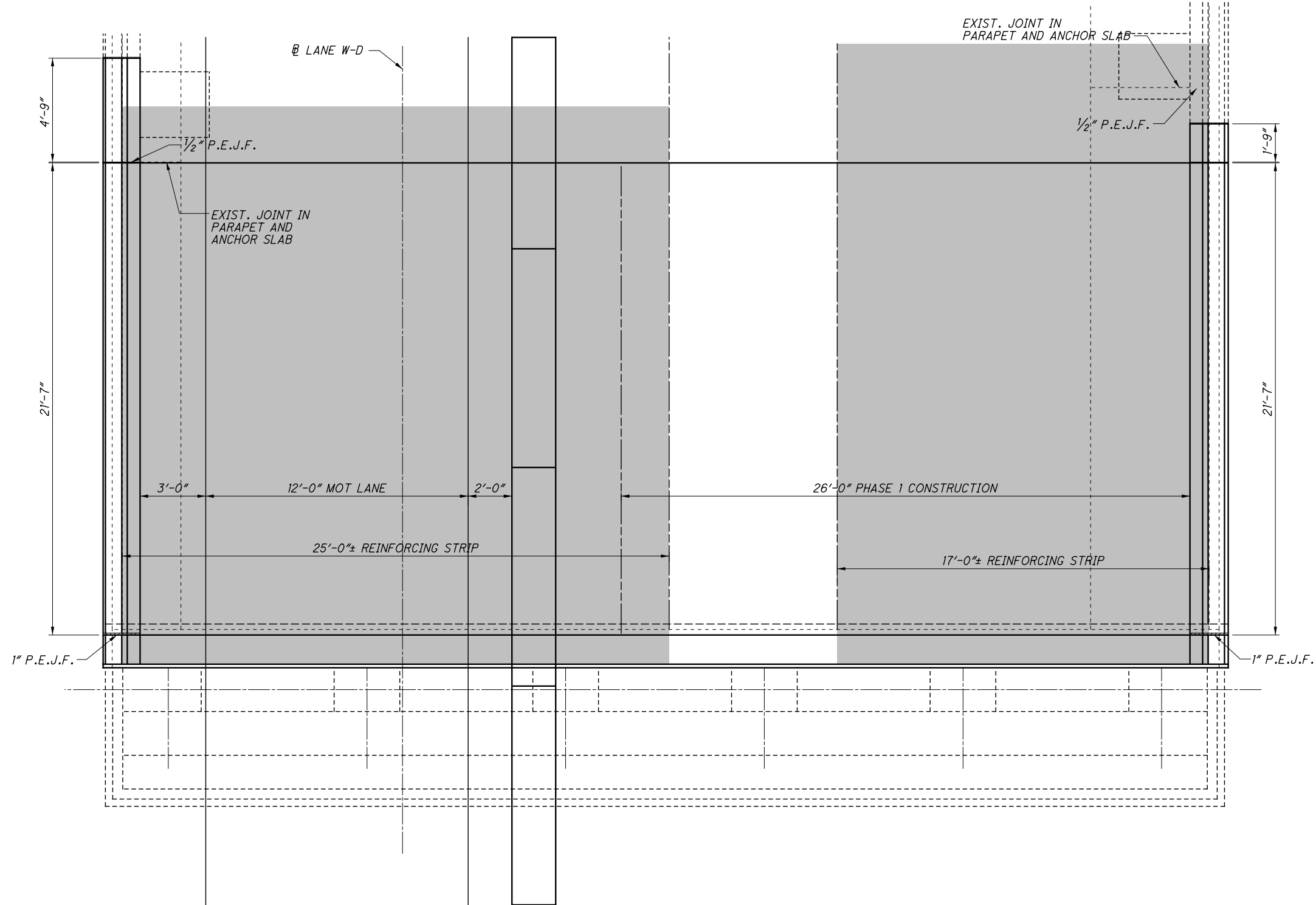
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MOT AT REAR APPROACH

NOTE: PARAPET LENGTHS ARE ALONG THE INSIDE FACE OF PARAPET.

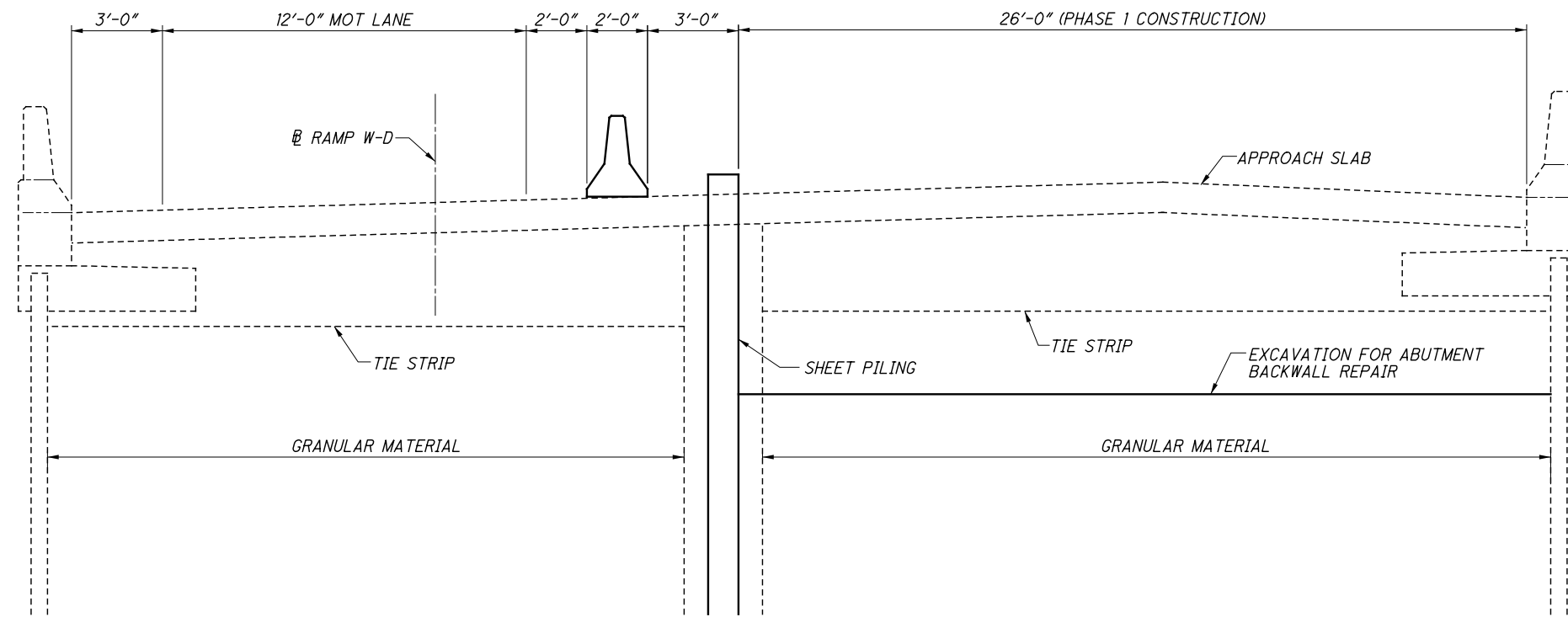
D12 BH FY2019 MISC. PID No. 98601	MOT AT REAR APPROACH BRIDGE NO. CUY-480N-0136 WN IR 480N TO IR 27X LANE OVER IR 271 SB		DESIGNED BLN	CHECKED dnt	DRAWN JLS	REVISED	REVIEWED DT	DATE 12-20-18	STRUCTURE FILE NUMBER 1814591	RICHLAND ENGINEERING LIMITED  29 NORTH PARK STREET MANSFIELD, OHIO 44902
	3 / 34	101 / 149								



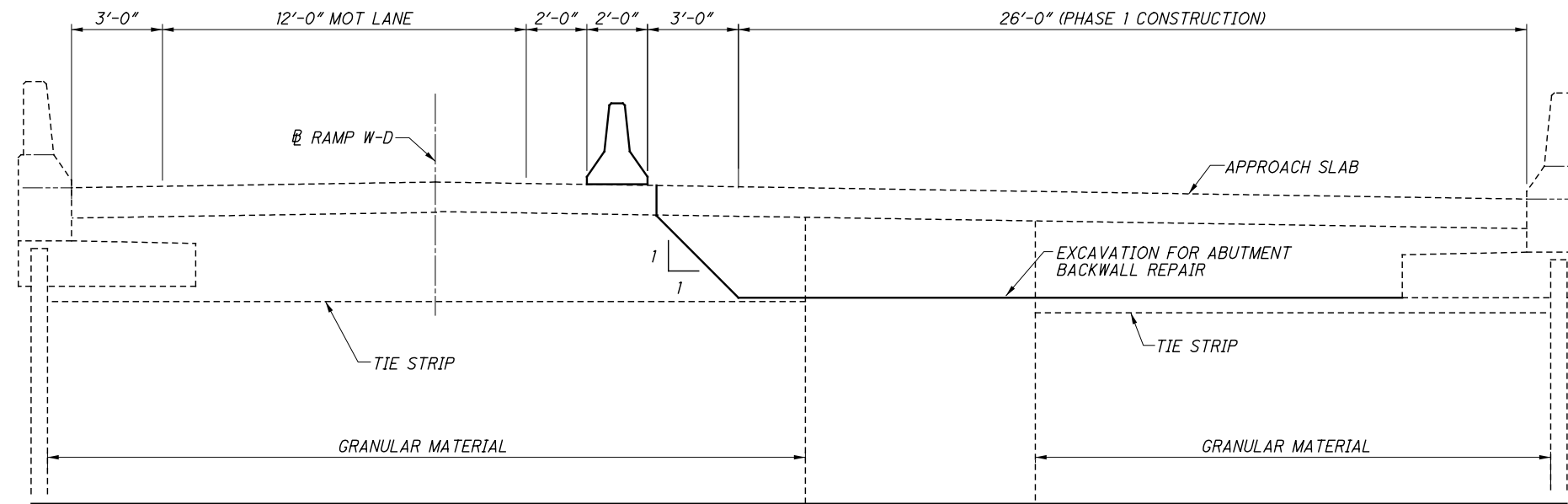
MOT AT FORWARD APPROACH

D12 BH FY2019 MISC. PID No. 98601	MOT AT FORWARD APPROACH BRIDGE NO. CUY-480N-0136 WN IR 480N TO IR 27X LANE OVER IR 271 SB		DESIGNED BLN CHECKED dnt	DRAWN JLS REVISED	REVIEWED DT STRUCTURE FILE NUMBER 1814591	DATE 12-20-18	RICHLAND ENGINEERING LIMITED 29 NORTH PARK STREET MANSFIELD, OHIO 44902
	4 / 34	102 149					

F:\2016\116041 D12 Bridge Rehab\12-BH-FY2019 Misc\ProjectData\98601\Design\Structures\CUY480_0136W\Sheets\480_0136SD005.dgn 1/2/2019 4:12:03 PM JeffSmith



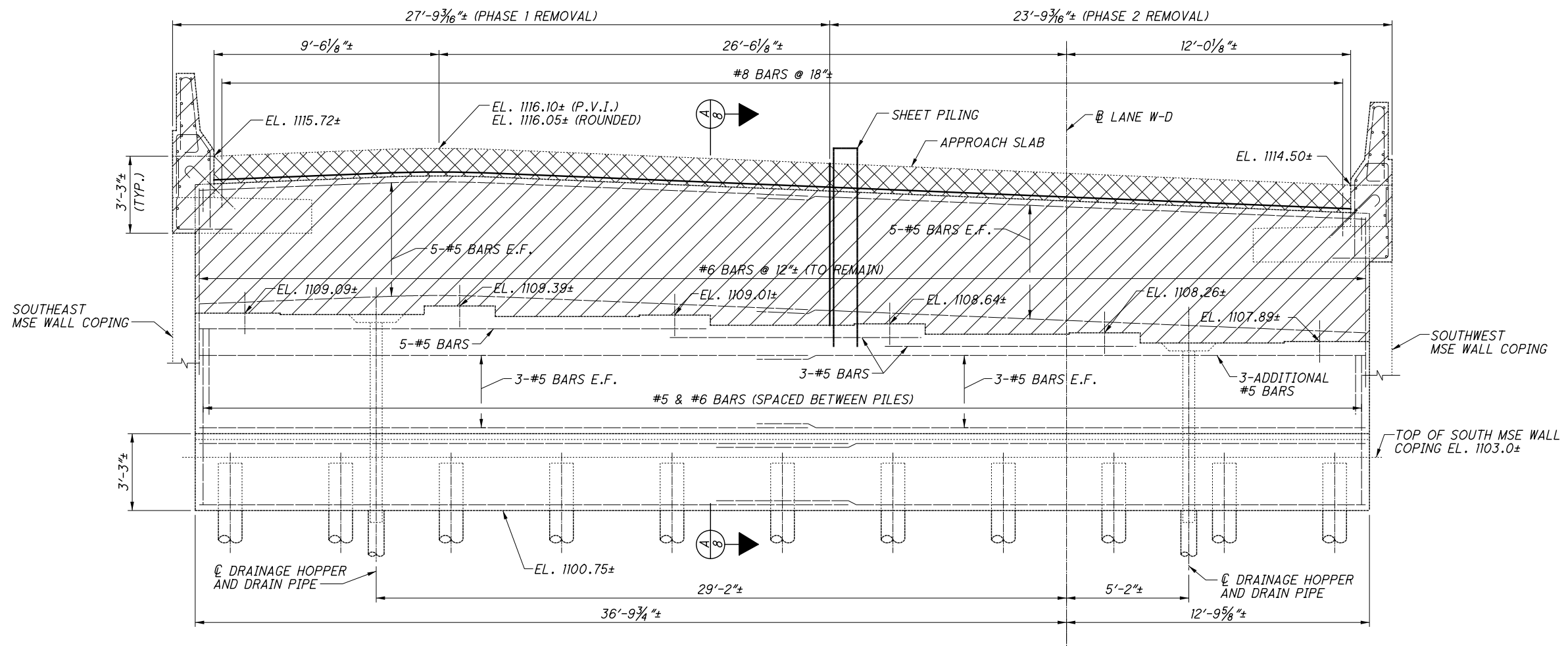
SECTION AT REAR APPROACH SLAB
(LOOKING UPSTATION)



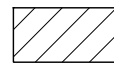
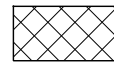
SECTION AT FORWARD APPROACH SLAB
(LOOKING UPSTATION)

D12 BH FY2019 MISC. PID No. 98601		MOT AND MSE WALL SECTION - LOCATION 4 BRIDGE NO. CUY-480N-0136 WN IR 480N TO IR 271X LANE OVER IR 271 SB		DESIGNED BLN	CHECKED dnt	DRAWN JLS	REVISED	REVIEWED DT	DATE 12-20-18	STRUCTURE FILE NUMBER 1814591	RICHLAND ENGINEERING LIMITED 29 NORTH PARK STREET MANSFIELD, OHIO 44902
5 / 34		103 / 149									

F:\2016\116041 D12_Bridge_Rehab\12-BH-FY2019_Misc\ProjectData\98601\Design\Structures\CUY480_0136RE002.dgn 1/2/2019 4:20:29 PM JeffSmith

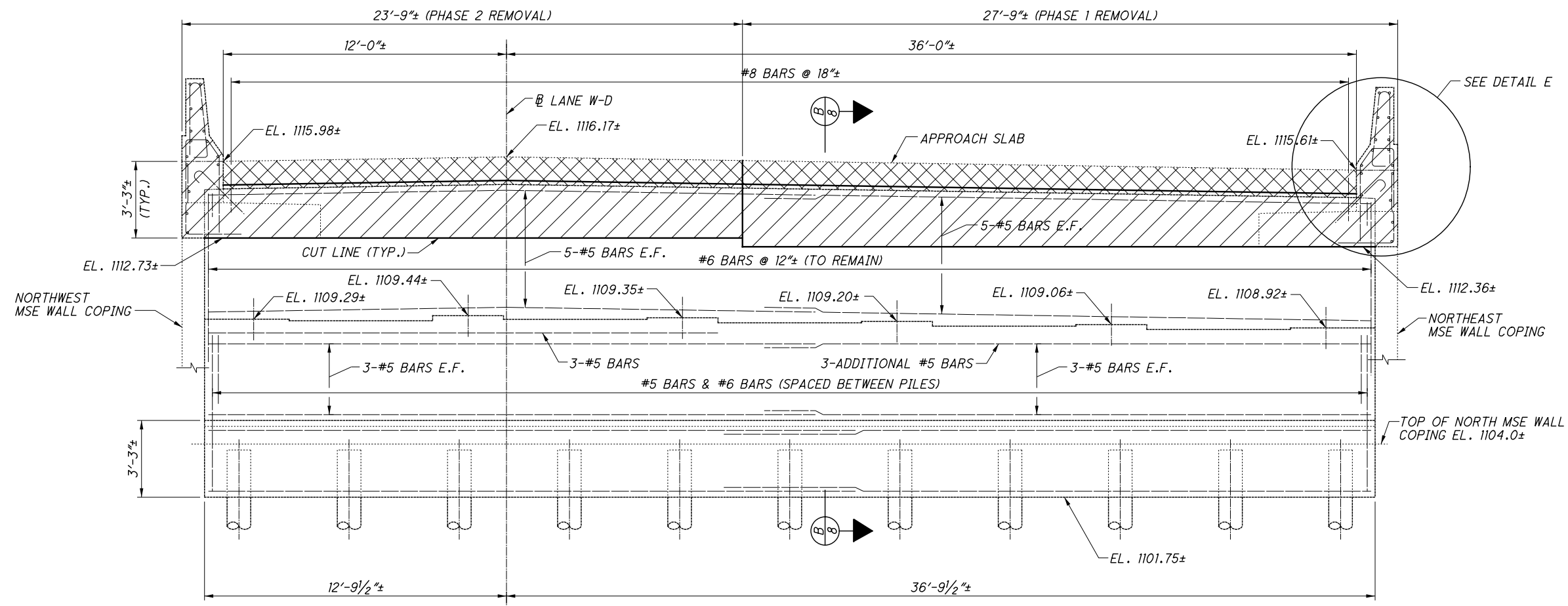


REAR ABUTMENT REMOVAL

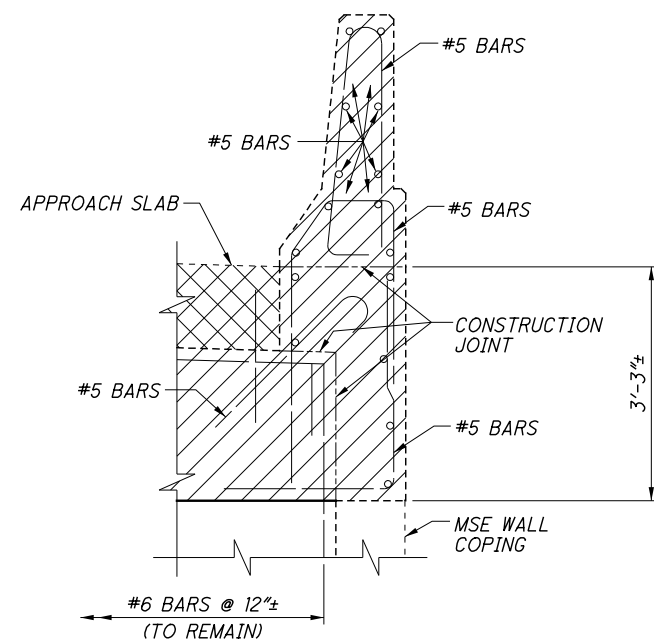
 INDICATES REMOVAL PER ITEM 202 - PORTIONS OF STRUCTURE REMOVED, AS PER PLAN.
 INDICATES REMOVAL PER ITEM 202 - APPROACH SLAB REMOVED.

- NOTES:**
1. DETAILS ON THIS SHEET ARE TAKEN FROM EXISTING PLANS AND SHOULD BE USED FOR INFORMATION PURPOSES ONLY.
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 3. FOR ESTIMATED QUANTITIES SEE SHEET 2/34.



F:\2016\116041 D12 Bridge Rehab\12-BH-FY2019 Misc\ProjectData\98601\Design\Structures\CUY480_0136W\Sheets\480_0136RE002.dgn 12/20/2018 2:44:13 PM DonHeiman



FORWARD ABUTMENT REMOVAL

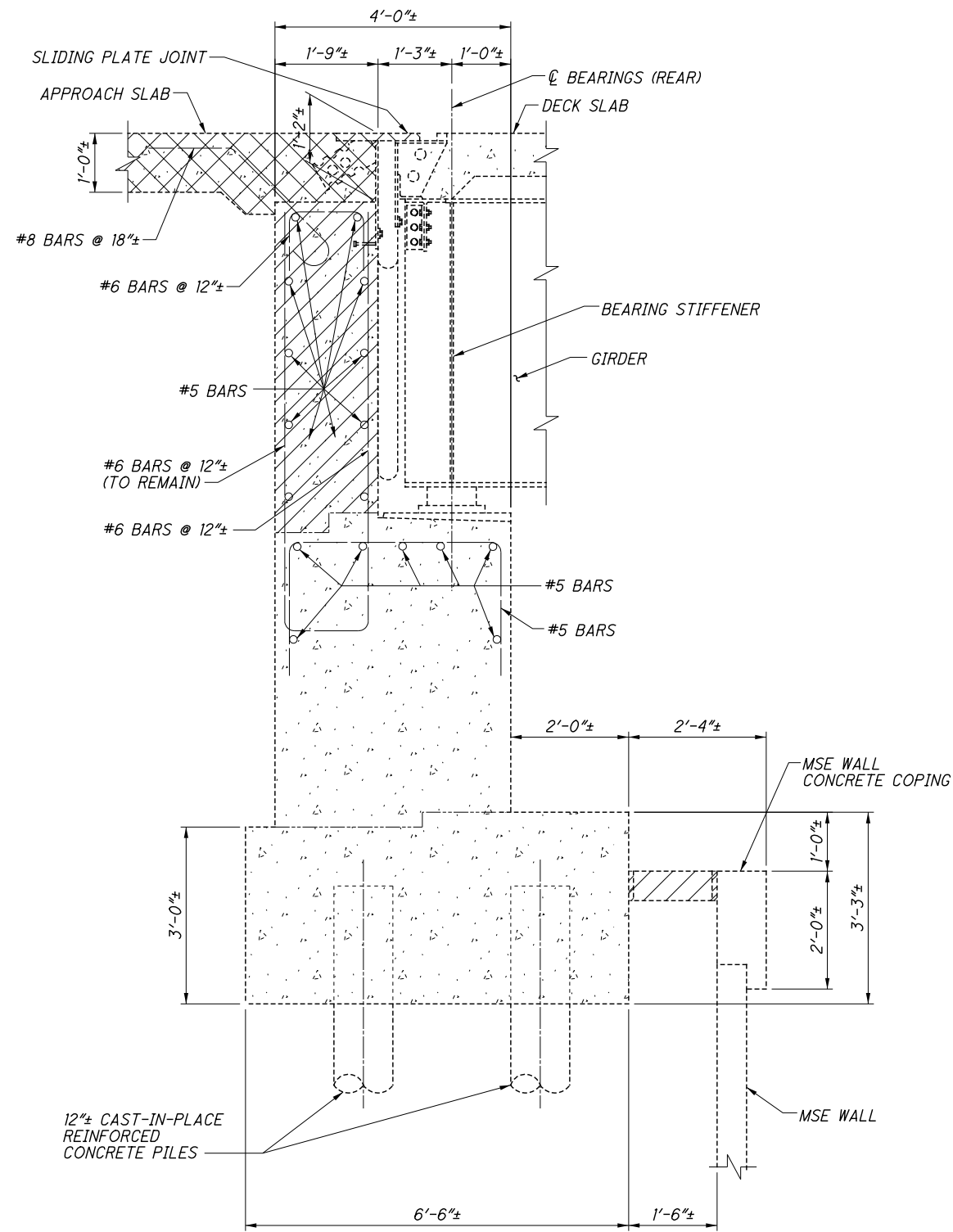


DETAIL E

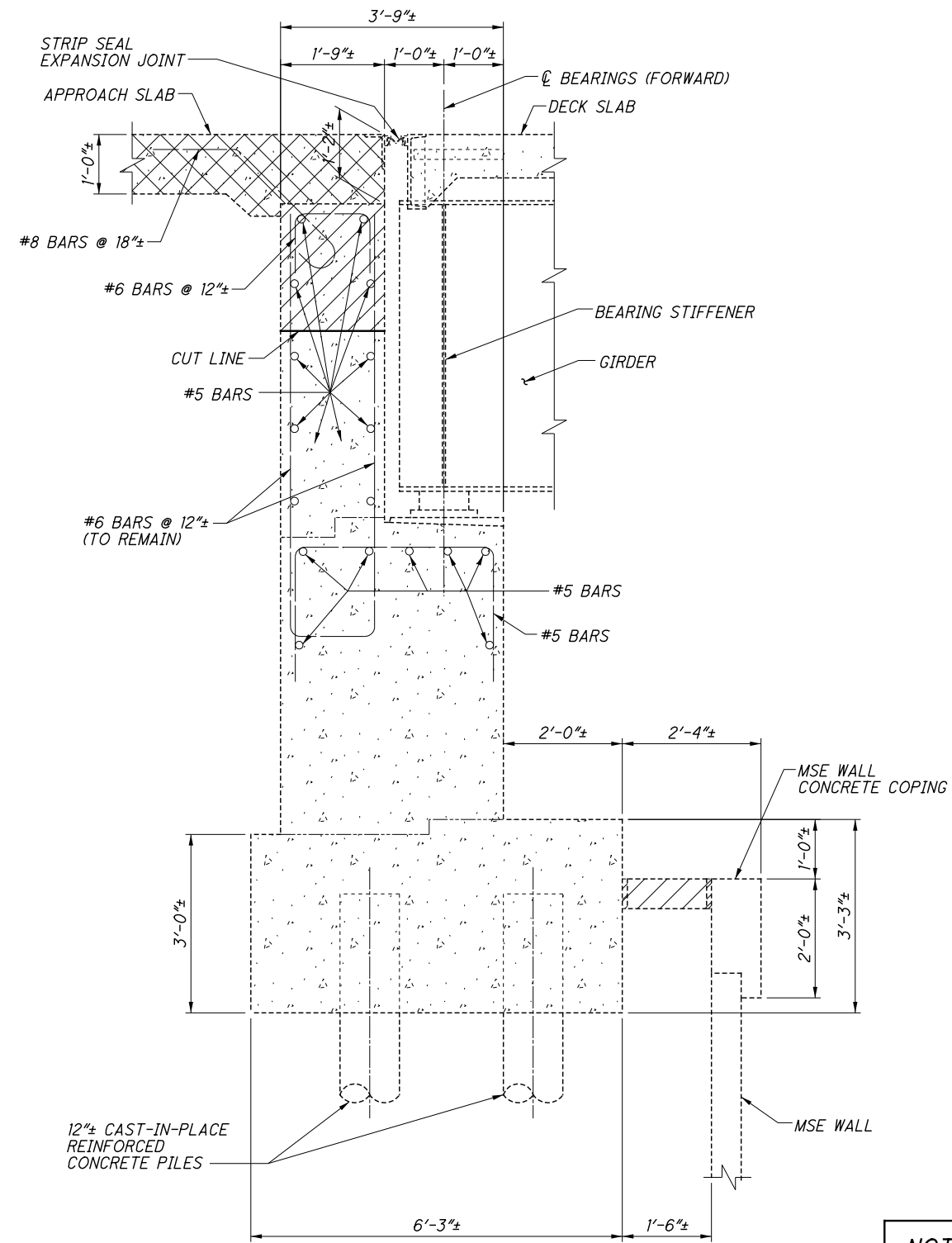
	INDICATES REMOVAL PER ITEM 202 - PORTIONS OF STRUCTURE REMOVED, AS PER PLAN.
	INDICATES REMOVAL PER ITEM 202 - APPROACH SLAB REMOVED.

- NOTES:**
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
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SECTION A-A
(REAR ABUTMENT)



SECTION B-B
(FORWARD ABUTMENT)

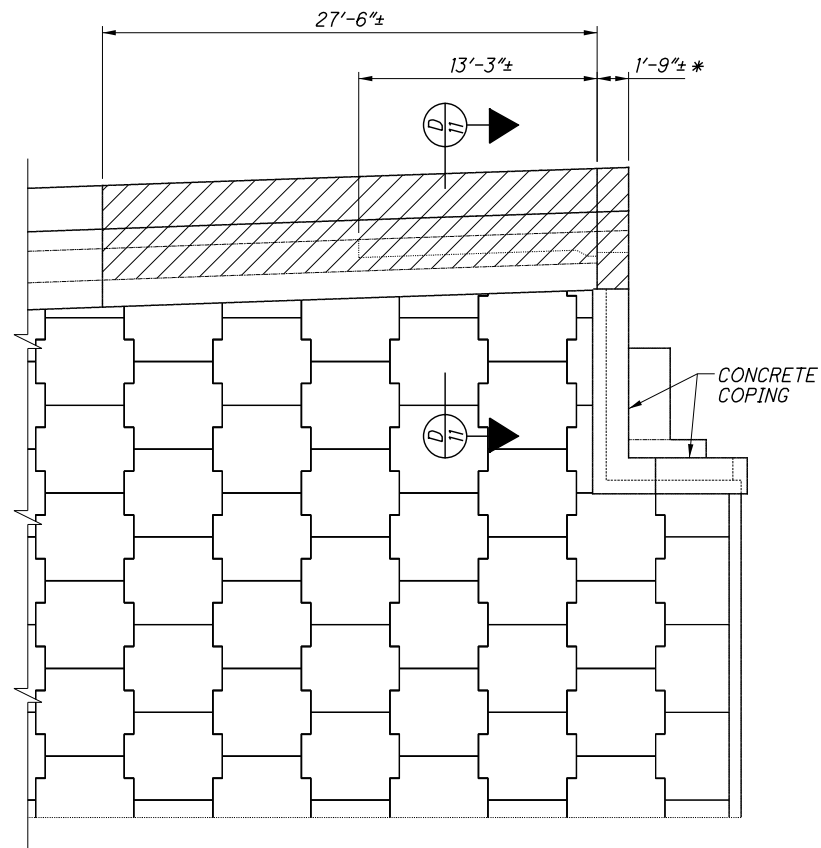
-  INDICATES REMOVAL PER ITEM 202 - PORTIONS OF STRUCTURE REMOVED, AS PER PLAN.
-  INDICATES REMOVAL PER ITEM 202 - APPROACH SLAB REMOVED.

NOTES:

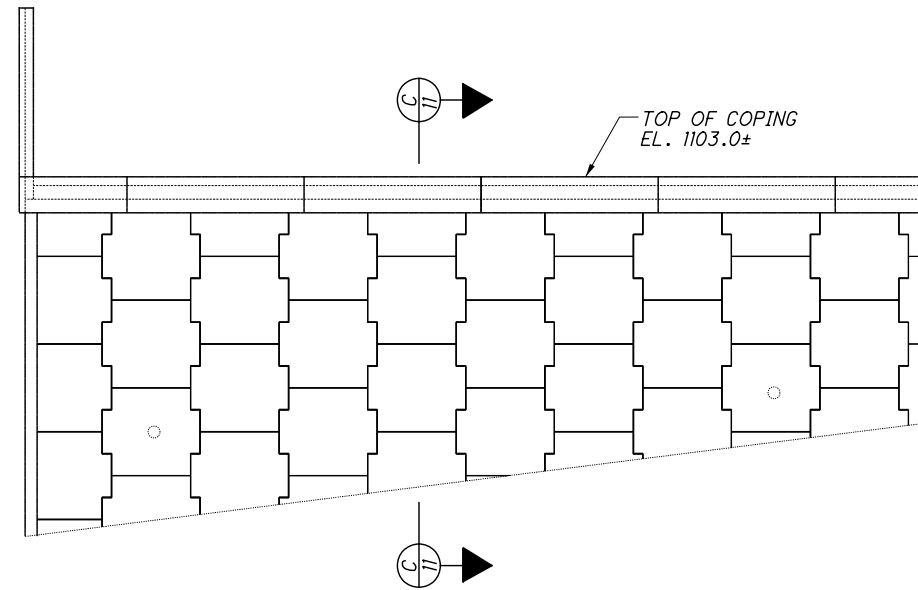
1. DETAILS ON THIS SHEET ARE TAKEN FROM EXISTING PLANS AND SHOULD BE USED FOR INFORMATION PURPOSES ONLY.
2. PERFORM ONLY THE WORK AS INDICATED IN THE STRUCTURE DATA SHEET, FRAMED TEXT, AND/OR DESCRIBED IN THE GENERAL NOTES.
3. FOR ESTIMATED QUANTITIES SEE SHEET 2/34.

SECTION A-A: FOR LOCATION SEE SHEET 6/34.
SECTION B-B: FOR LOCATION SEE SHEET 7/34.

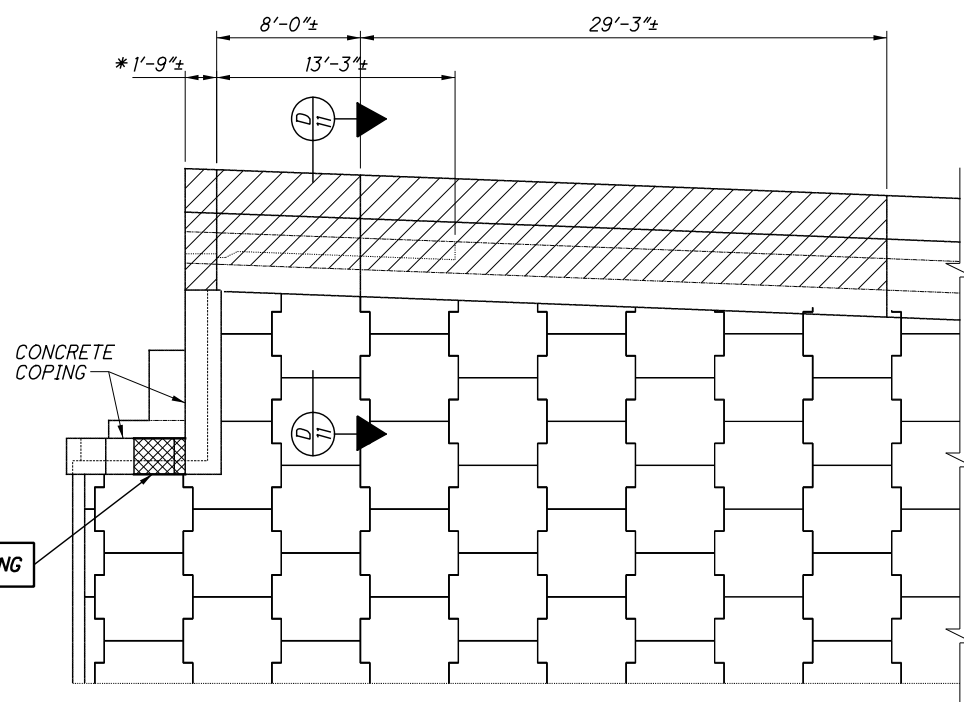
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SOUTHEAST MSE WALL

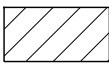
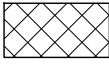


SOUTH MSE WALL



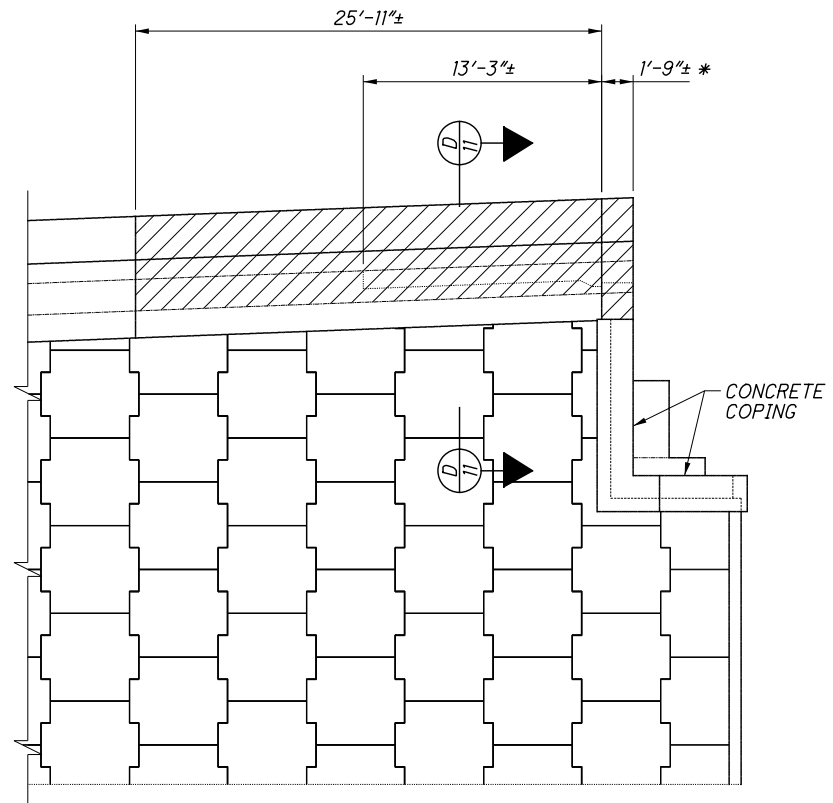
SOUTHWEST MSE WALL

* - INDICATES ABUTMENT BACKWALL AND PARAPET

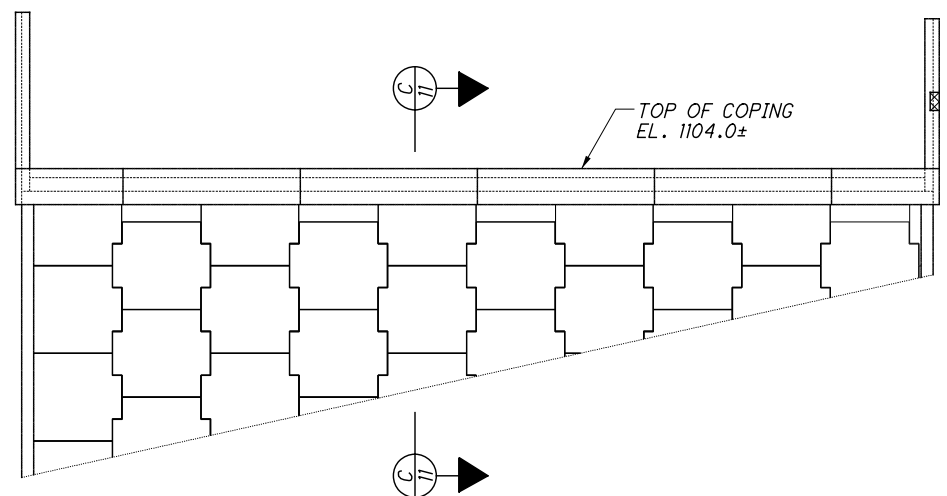
-  INDICATES REMOVAL PER ITEM 202 - PORTIONS OF STRUCTURE REMOVED, AS PER PLAN.
-  INDICATES AREAS OF ITEM 519 - PATCHING CONCRETE STRUCTURE, AS PER PLAN.

- NOTES:**
1. DETAILS ON THIS SHEET ARE TAKEN FROM EXISTING PLANS AND SHOULD BE USED FOR INFORMATION PURPOSES ONLY.
 2. PERFORM ONLY THE WORK AS INDICATED IN THE STRUCTURE DATA SHEET, FRAMED TEXT, AND/OR DESCRIBED IN THE GENERAL NOTES.
 3. FOR ESTIMATED QUANTITIES SEE SHEET [2/34](#).

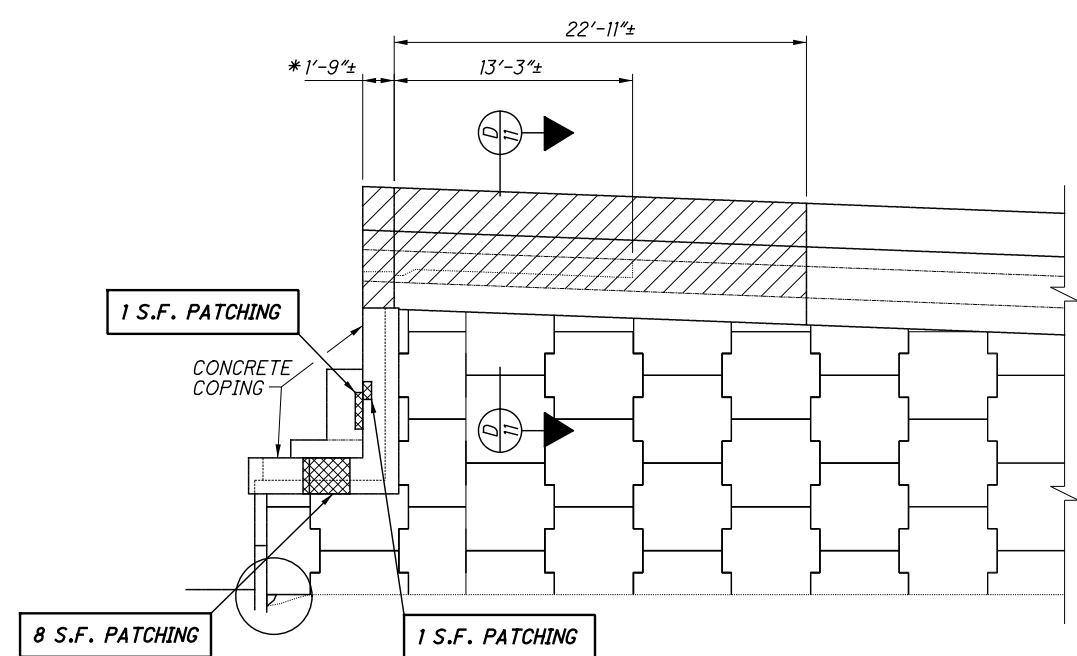
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NORTHWEST MSE WALL

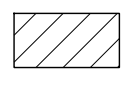
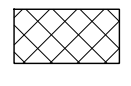


NORTH MSE WALL

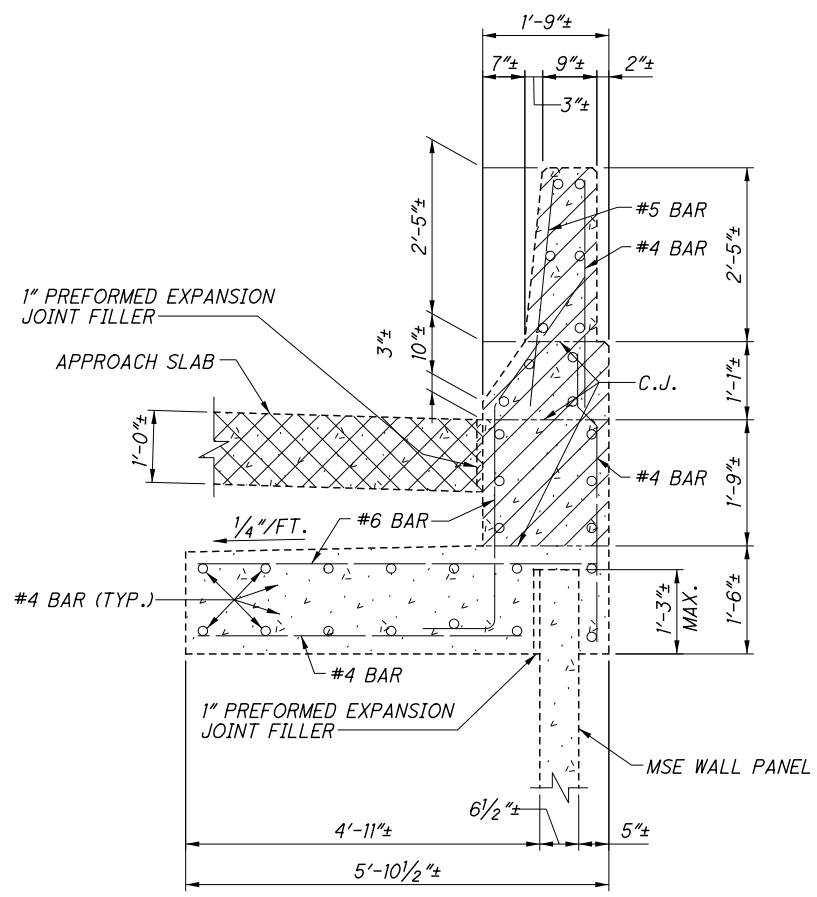
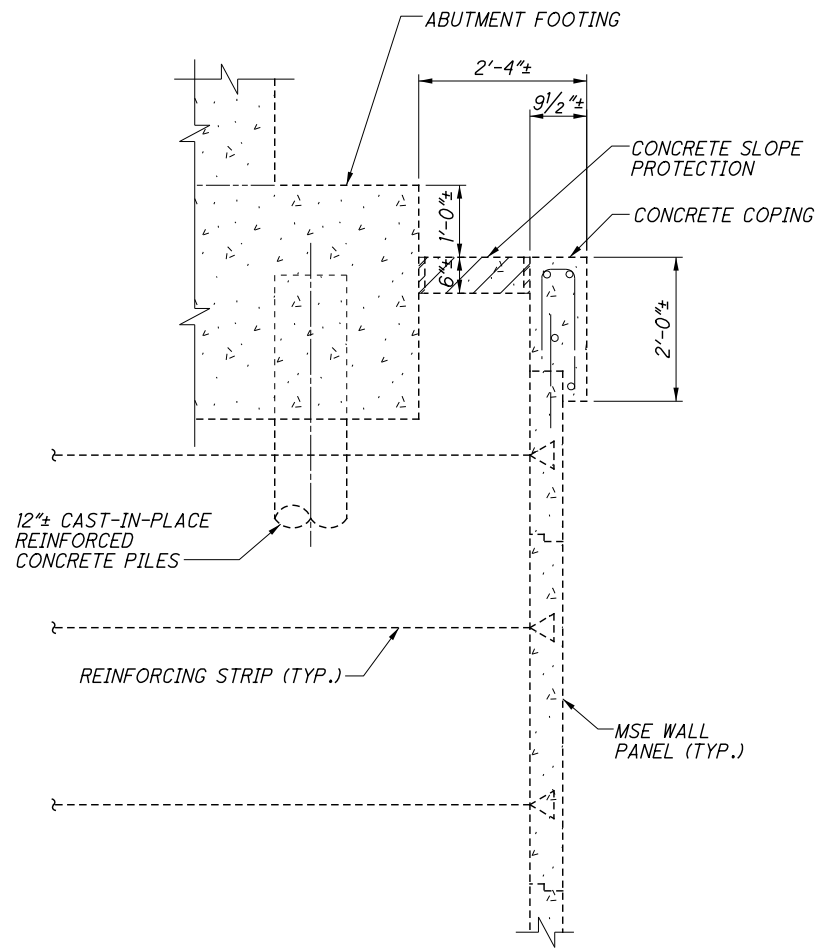


NORTHEAST MSE WALL

* - INDICATES ABUTMENT BACKWALL AND PARAPET



	INDICATES REMOVAL PER ITEM 202 - PORTIONS OF STRUCTURE REMOVED, AS PER PLAN.
	INDICATES AREAS OF ITEM 519 - PATCHING CONCRETE STRUCTURE, AS PER PLAN.

- NOTES:**
1. DETAILS ON THIS SHEET ARE TAKEN FROM EXISTING PLANS AND SHOULD BE USED FOR INFORMATION PURPOSES ONLY.
 2. PERFORM ONLY THE WORK AS INDICATED IN THE STRUCTURE DATA SHEET, FRAMED TEXT, AND/OR DESCRIBED IN THE GENERAL NOTES.
 3. FOR ESTIMATED QUANTITIES SEE SHEET 2/34.



SECTION C-C

SECTION D-D

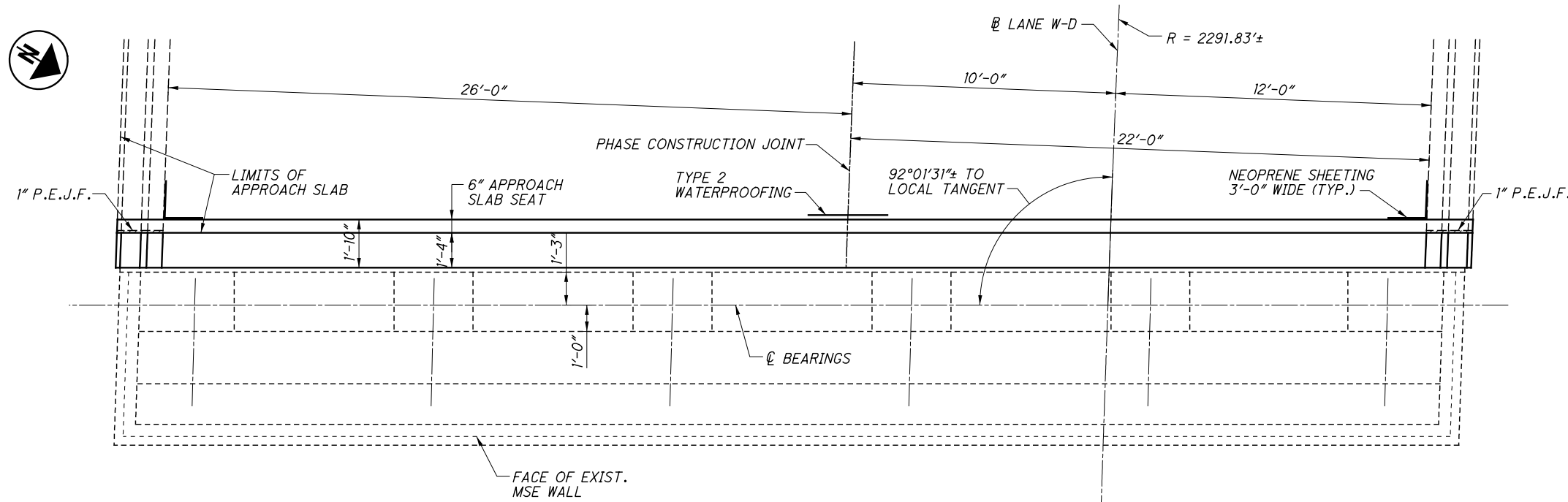
	INDICATES REMOVAL PER ITEM 202 - PORTIONS OF STRUCTURE REMOVED, AS PER PLAN.
	INDICATES AREAS OF ITEM 519 - PATCHING CONCRETE STRUCTURE, AS PER PLAN.

NOTES:

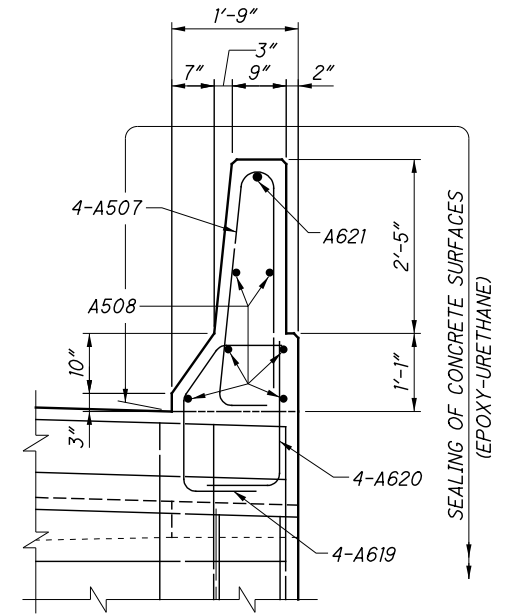
1. DETAILS ON THIS SHEET ARE TAKEN FROM EXISTING PLANS AND SHOULD BE USED FOR INFORMATION PURPOSES ONLY.
2. PERFORM ONLY THE WORK AS INDICATED IN THE STRUCTURE DATA SHEET, FRAMED TEXT, AND/OR DESCRIBED IN THE GENERAL NOTES.
3. FOR ESTIMATED QUANTITIES SEE SHEET 2/34.

SECTIONS C-C & D-D: FOR LOCATIONS SEE SHEETS 9/34 & 10/34.

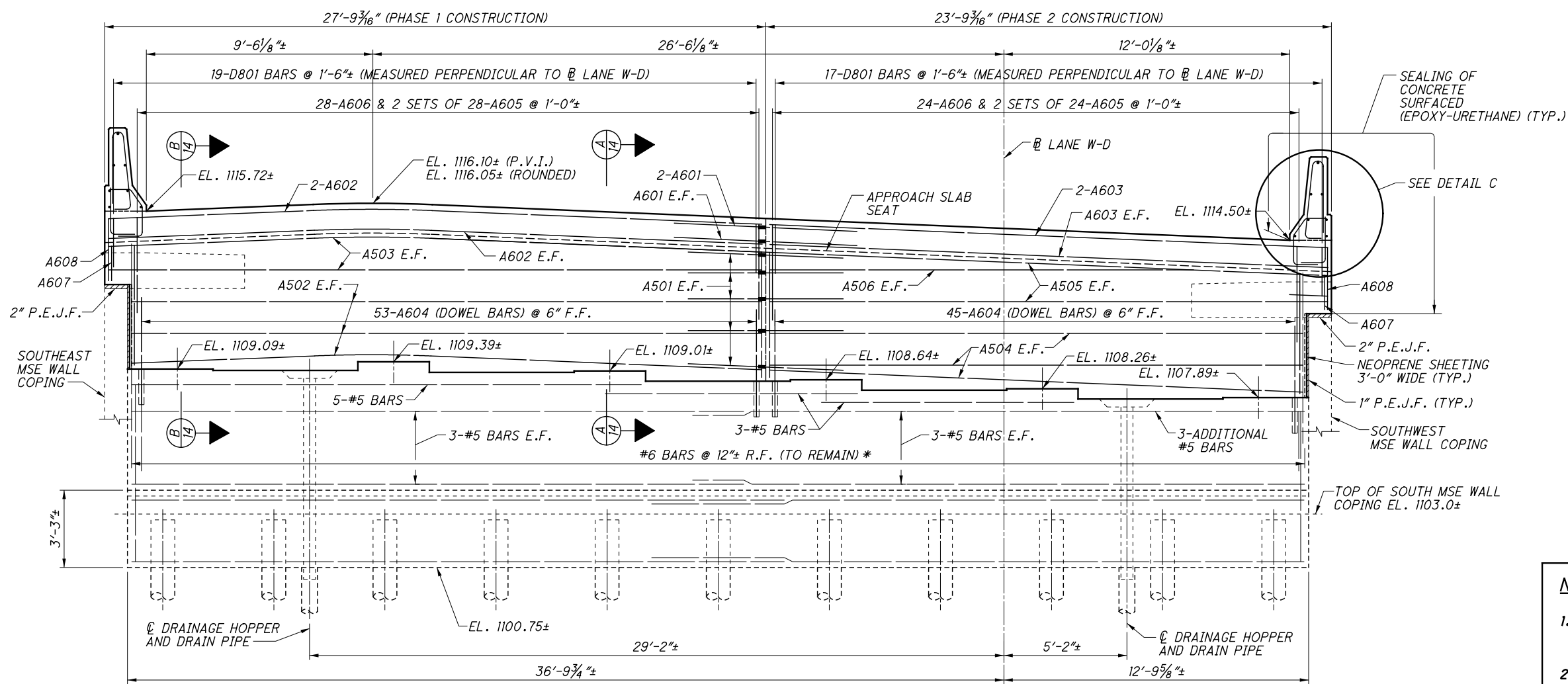
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REAR ABUTMENT PLAN



DETAIL C



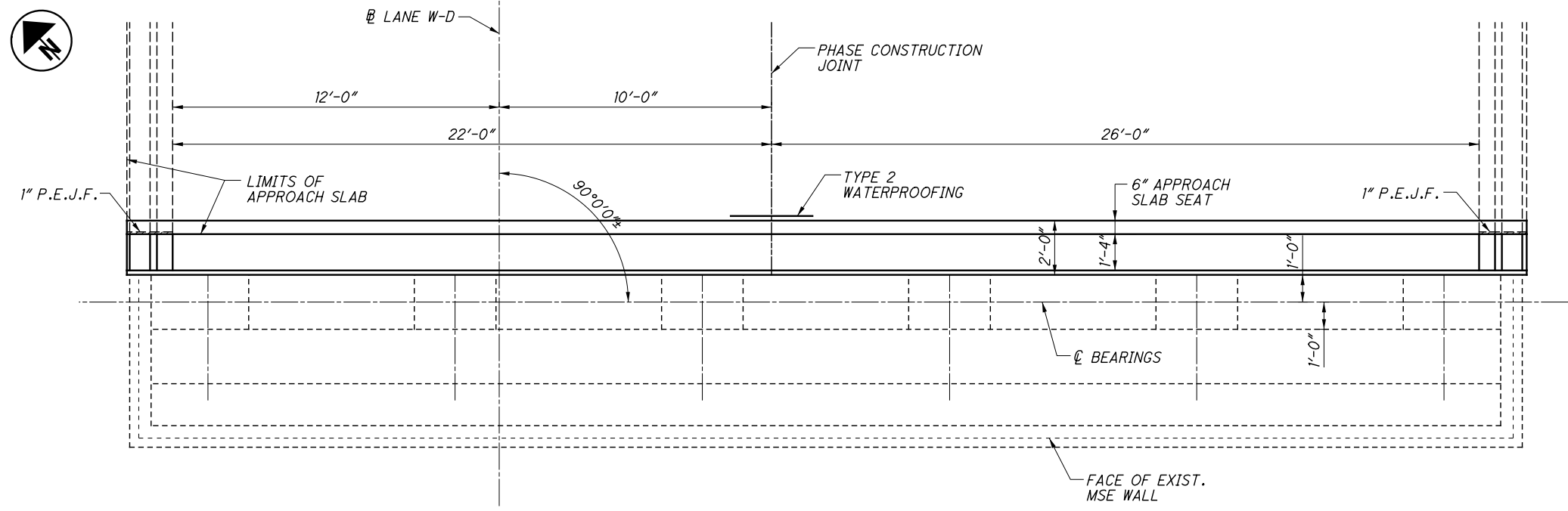
REAR ABUTMENT ELEVATION

* TRIM EXISTING REINFORCING STEEL AS NEEDED IN ORDER TO MAINTAIN MINIMUM 2" EDGE CLEARANCE.

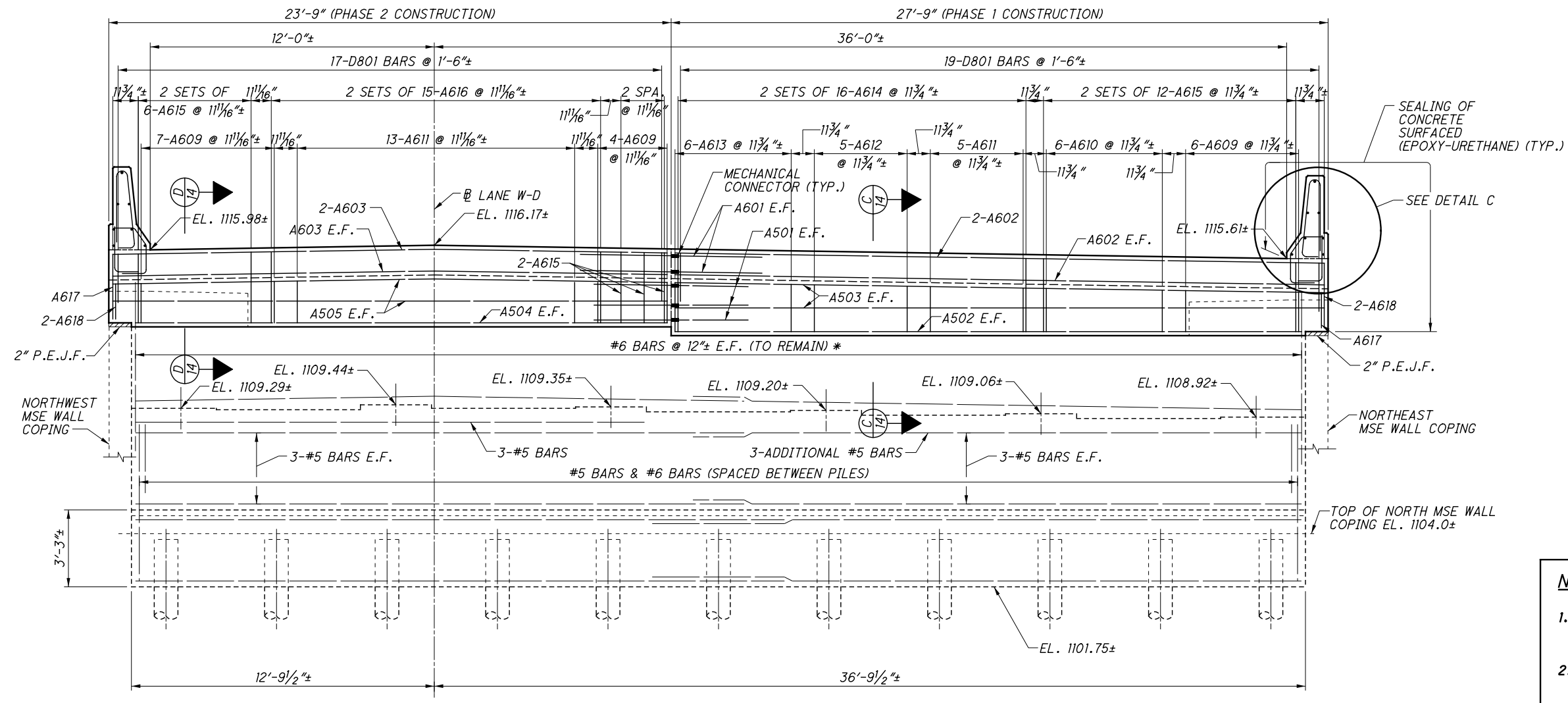
NOTATION: P.E.J.F. - PREFORMED EXPANSION JOINT FILLER.
REINFORCING STEEL SPLICE LENGTHS SHALL BE 2'-10" FOR VERTICAL #6 BARS, 3'-1" FOR HORIZONTAL #5 BARS, AND 3'-8" FOR HORIZONTAL #6 BARS.
1" PREFORMED EXPANSION JOINT FILLER (1" P.E.J.F.) SHALL BE INCLUDED WITH APPROACH SLAB FOR PAYMENT.

- NOTES:**
1. DETAILS ON THIS SHEET ARE TAKEN FROM EXISTING PLANS AND SHOULD BE USED FOR INFORMATION PURPOSES ONLY.
 2. PERFORM ONLY THE WORK AS INDICATED IN THE STRUCTURE DATA SHEET, FRAMED TEXT, AND/OR DESCRIBED IN THE GENERAL NOTES.
 3. FOR ESTIMATED QUANTITIES SEE SHEET 2/34.

F:\2016\116041 D12_Bridge_Rehab\12-BH-FY2019_Misc\ProjectData\98601\Design\Structures\CUY480_0136W\Sheets\480_0136AD001.dgn 12/21/2018 7:53:12 AM REL5



FORWARD ABUTMENT PLAN



FORWARD ABUTMENT ELEVATION

* TRIM EXISTING REINFORCING STEEL AS NEEDED IN ORDER TO MAINTAIN MINIMUM 2" EDGE CLEARANCE.

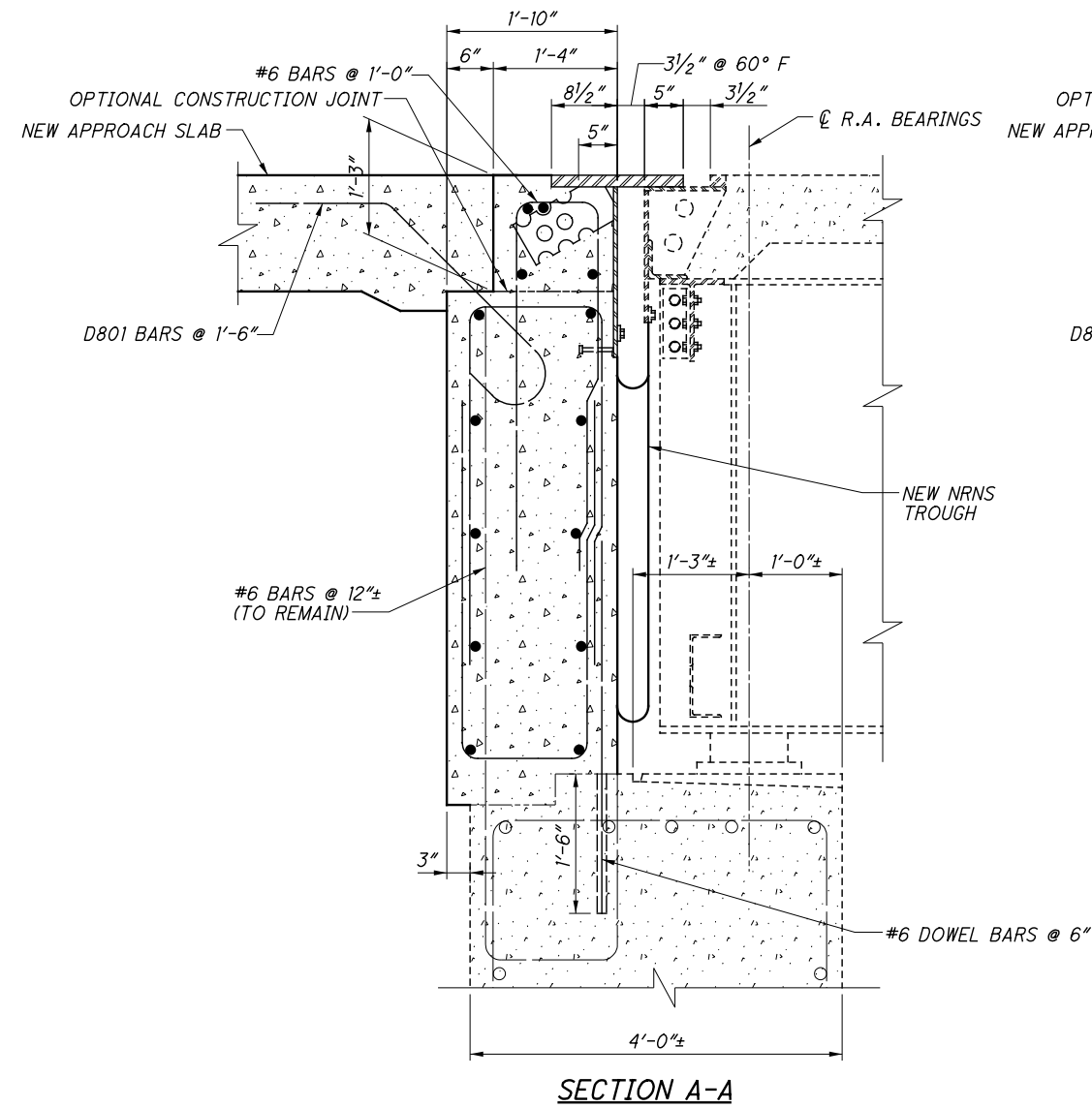
NOTATION: P.E.J.F. - PREFORMED EXPANSION JOINT FILLER.
REINFORCING STEEL SPLICE LENGTHS SHALL BE 2'-10" FOR VERTICAL #6 BARS, 3'-1" FOR HORIZONTAL #5 BARS, AND 3'-8" FOR HORIZONTAL #6 BARS.
1" PREFORMED EXPANSION JOINT FILLER (1" P.E.J.F.) SHALL BE INCLUDED WITH APPROACH SLAB FOR PAYMENT.

NOTES:

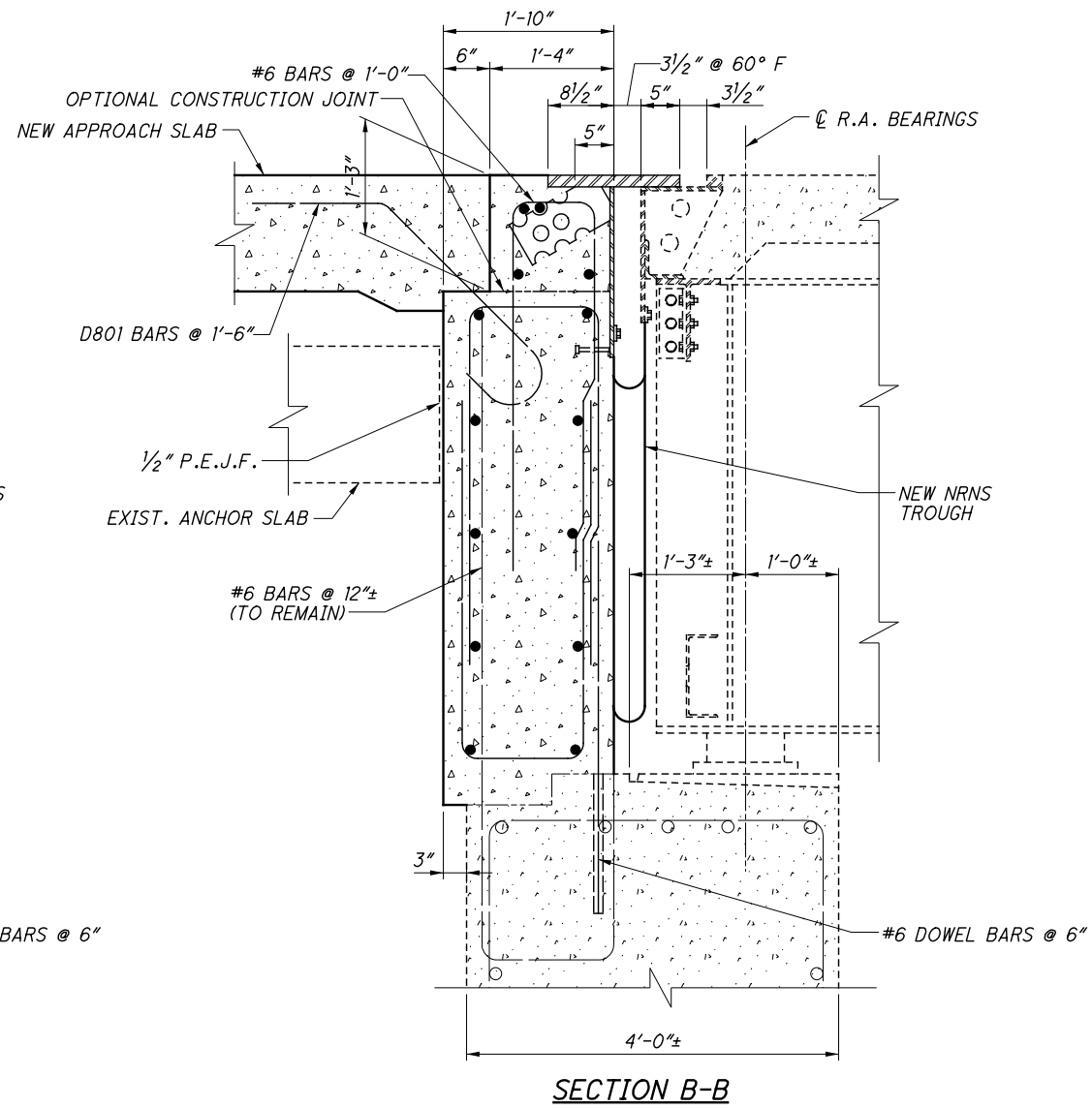
1. DETAILS ON THIS SHEET ARE TAKEN FROM EXISTING PLANS AND SHOULD BE USED FOR INFORMATION PURPOSES ONLY.
2. PERFORM ONLY THE WORK AS INDICATED IN THE STRUCTURE DATA SHEET, FRAMED TEXT, AND/OR DESCRIBED IN THE GENERAL NOTES.
3. FOR ESTIMATED QUANTITIES SEE SHEET 2/34.
4. FOR DETAIL C SEE SHEET 12/34.

<p>RICHLAND ENGINEERING LIMITED 29 NORTH PARK STREET MANSFIELD, OHIO 44902</p>	
<p>REVIEWED DT 12-20-18 STRUCTURE FILE NUMBER 1814591</p>	<p>DATE 12-20-18</p>
<p>DRAWN JLS REVISED</p>	<p>DESIGNED BLN CHECKED dnt</p>
<p>FORWARD ABUTMENT - LOCATION 4 BRIDGE NO. CUY-480N-0136 WN IR 480N TO IR 27X LANE OVER IR 271 SB</p>	
<p>D12 BH FY2019 MISC. PID No. 98601</p>	
<p>13 / 34</p>	
<p>111 149</p>	

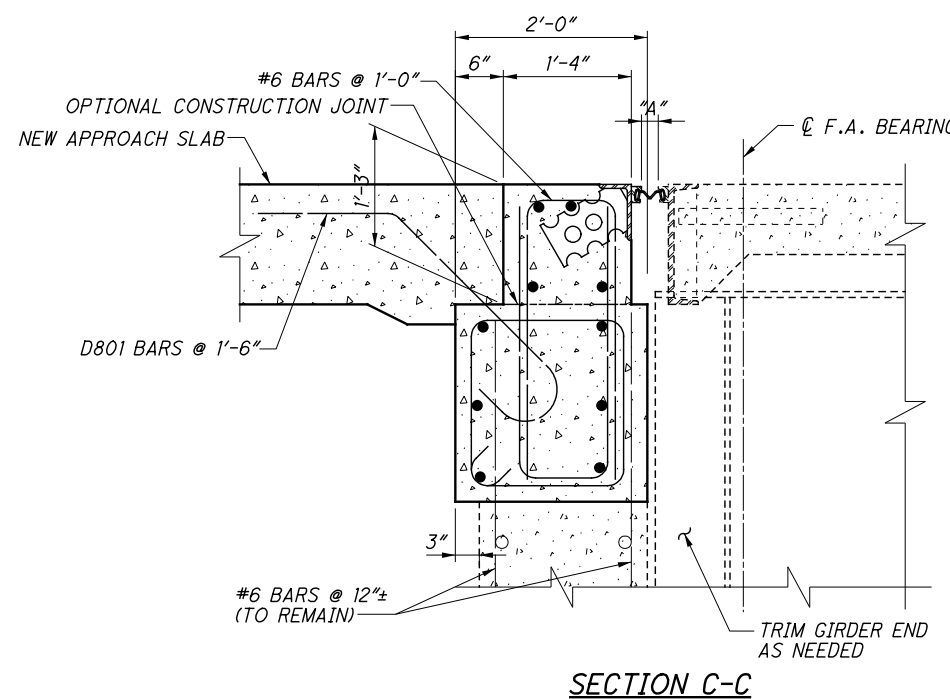
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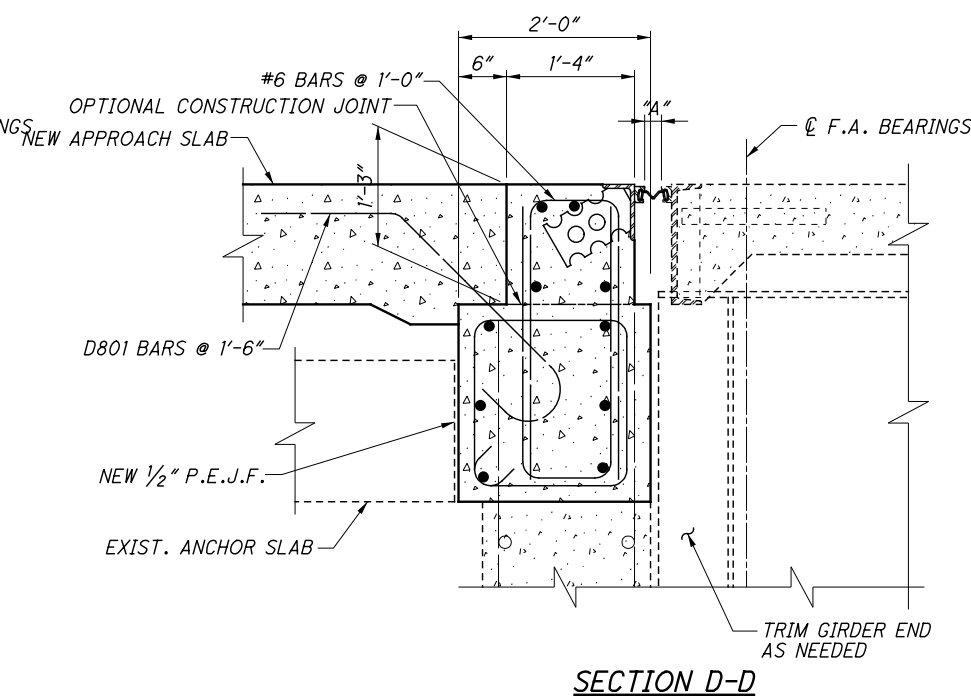
SECTION A-A



SECTION B-B



SECTION C-C



SECTION D-D

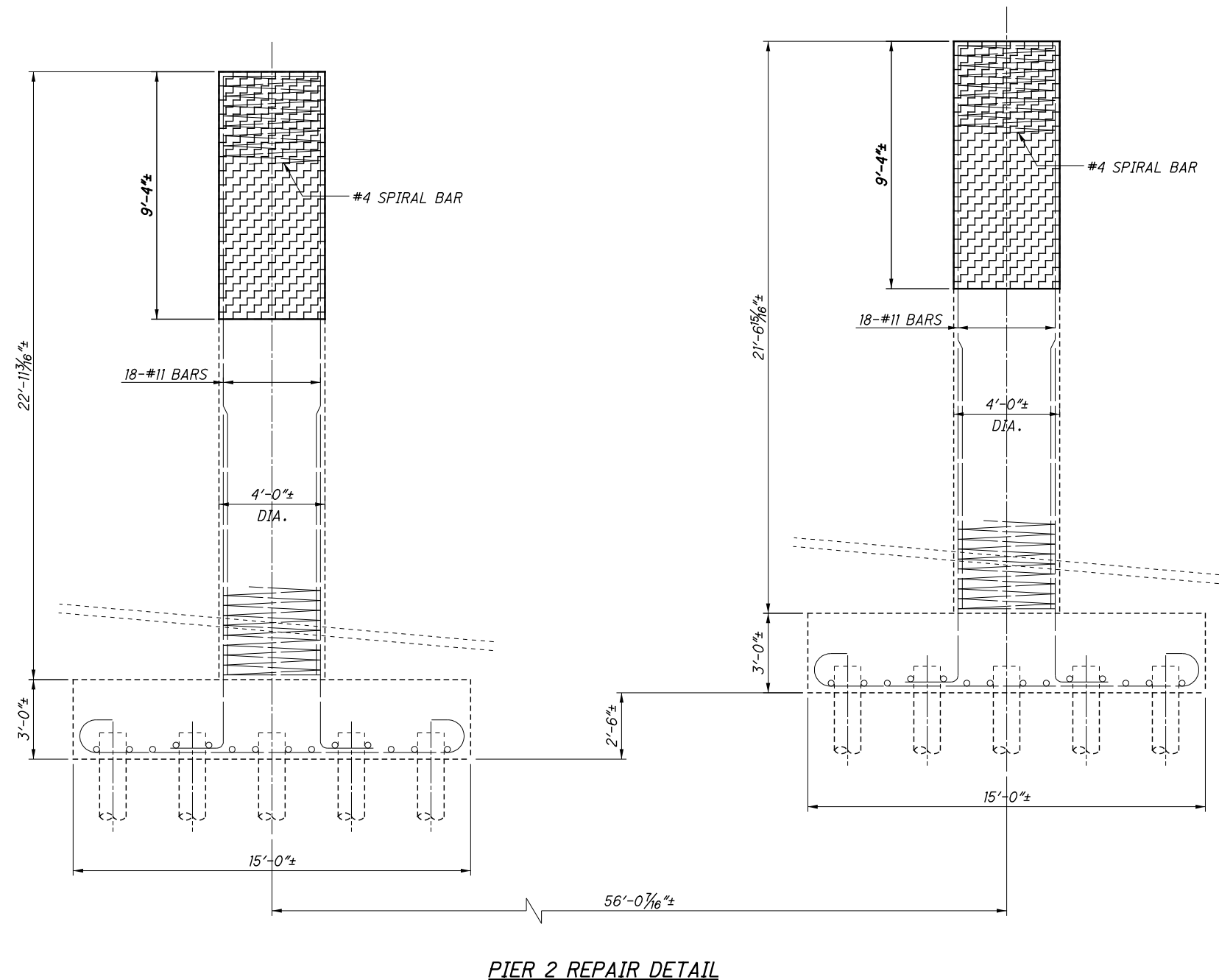
JOINT SETTING TABLE REAR ABUTMENT	
TEMPERATURE	DIMENSION "A"
30° F	4.57"
40° F	4.21"
50° F	3.86"
60° F	3.50"
70° F	3.14"
80° F	2.79"
90° F	2.43"

JOINT SETTING TABLE FORWARD ABUTMENT	
TEMPERATURE	DIMENSION "A"
30° F	2 ³ / ₈ "
40° F	2 ¹ / ₈ "
50° F	1 ⁷ / ₈ "
60° F	1 ⁵ / ₈ "
70° F	1 ³ / ₈ "*
80° F	1 ¹ / ₈ "*
90° F	7 ¹ / ₈ "*

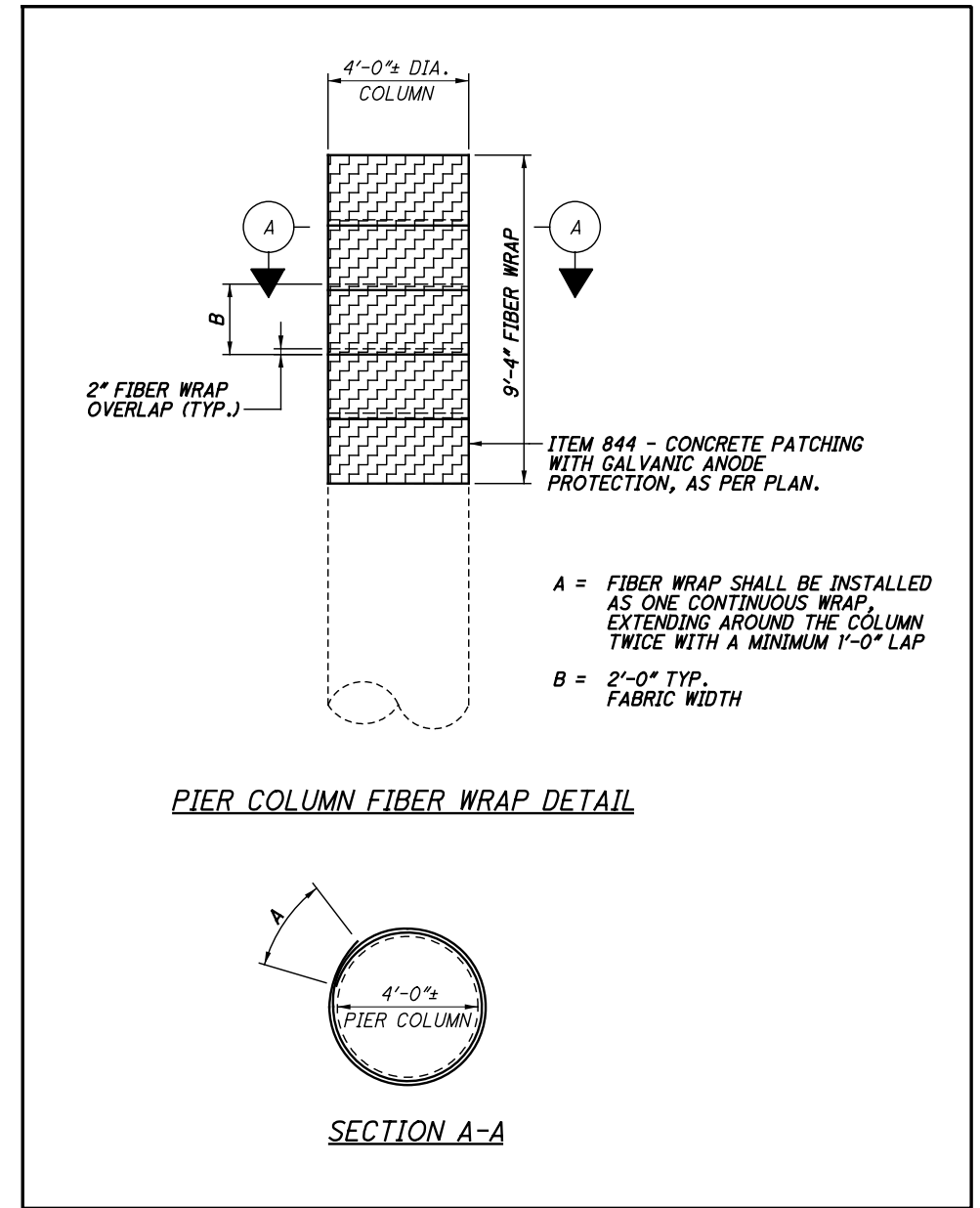
* MINIMUM JOINT OPENING (DIMENSION "A") AT TIME OF SEAL GLAND INSTALLATION SHALL NOT BE LESS THAN 1¹/₂". IF THE JOINT OPENING IS LESS, THE INSTALLATION SHALL BE POSTPONED UNTIL THE TEMPERATURE DROPS A SUFFICIENT AMOUNT TO ALLOW THE MINIMUM 1¹/₂" OPENING.

NRNS - NYLON REINFORCED NEOPRENE TROUGH

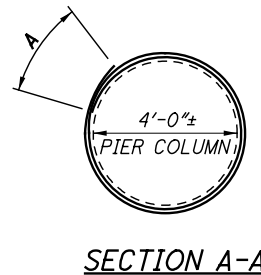
- NOTES:**
- EXISTING DETAILS ON THIS SHEET ARE TAKEN FROM EXISTING PLANS AND SHOULD BE USED FOR INFORMATION PURPOSES ONLY.
 - PERFORM ONLY THE WORK AS INDICATED IN THE STRUCTURE DATA SHEET, FRAMED TEXT, DESCRIBED AS NEW AND/OR DESCRIBED IN THE GENERAL NOTES.
 - SECTIONS A-A & B-B - FOR LOCATIONS SEE SHEET 12/34.
 - SECTIONS C-C & D-D - FOR LOCATIONS SEE SHEET 13/34.
 - FOR ESTIMATED QUANTITIES SEE SHEET 2/34.



PIER 2 REPAIR DETAIL




PIER COLUMN FIBER WRAP DETAIL



SECTION A-A

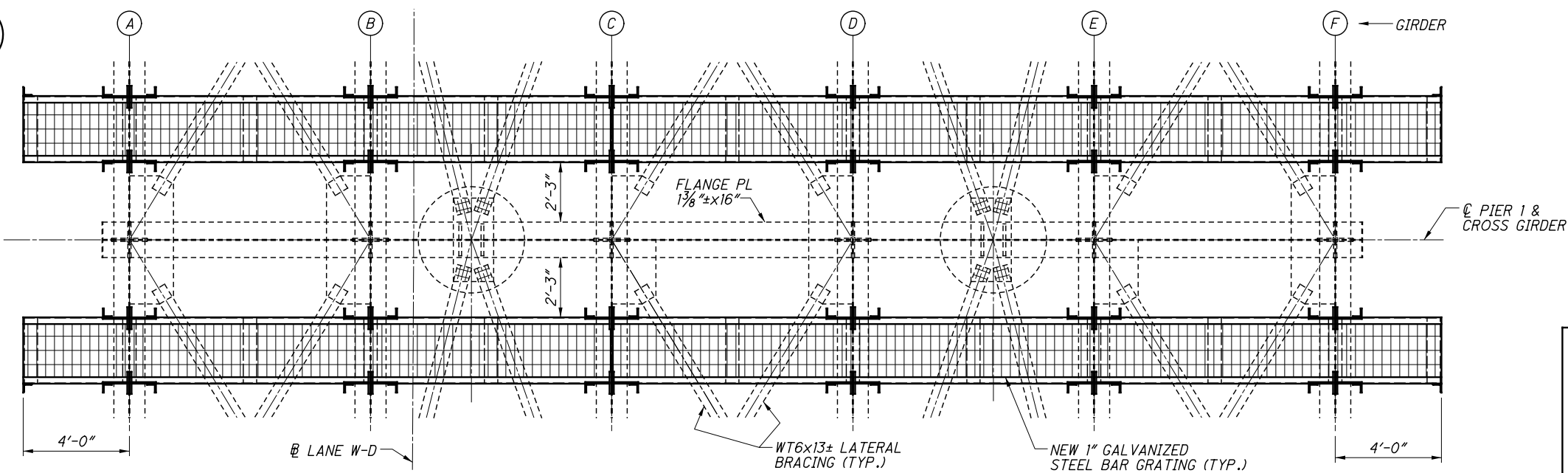
LEGEND



INDICATES CONCRETE PIER COLUMN REPAIR PER ITEM SPECIAL - STRUCTURES, COMPOSITE FIBER WRAP SYSTEM AND ITEM 844 - CONCRETE PATCHING WITH GALVANIC ANODE PROTECTION, AS PER PLAN.

- NOTES:**
1. DETAILS ON THIS SHEET ARE TAKEN FROM EXISTING PLANS AND SHOULD BE USED FOR INFORMATION PURPOSES ONLY.
 2. PERFORM ONLY THE WORK AS INDICATED IN THE STRUCTURE DATA SHEET, FRAMED TEXT, AND/OR DESCRIBED IN THE GENERAL NOTES.
 3. FOR ESTIMATED QUANTITIES SEE SHEET 2/34.

F:\2016\116041 D12 Bridge Rehab\12-BH-FY2019 Misc\ProjectData\98601\Design\Structures\CUY480_0136W\Sheets\480_0136PI002.dgn 12/21/2018 7:59:24 AM REL5

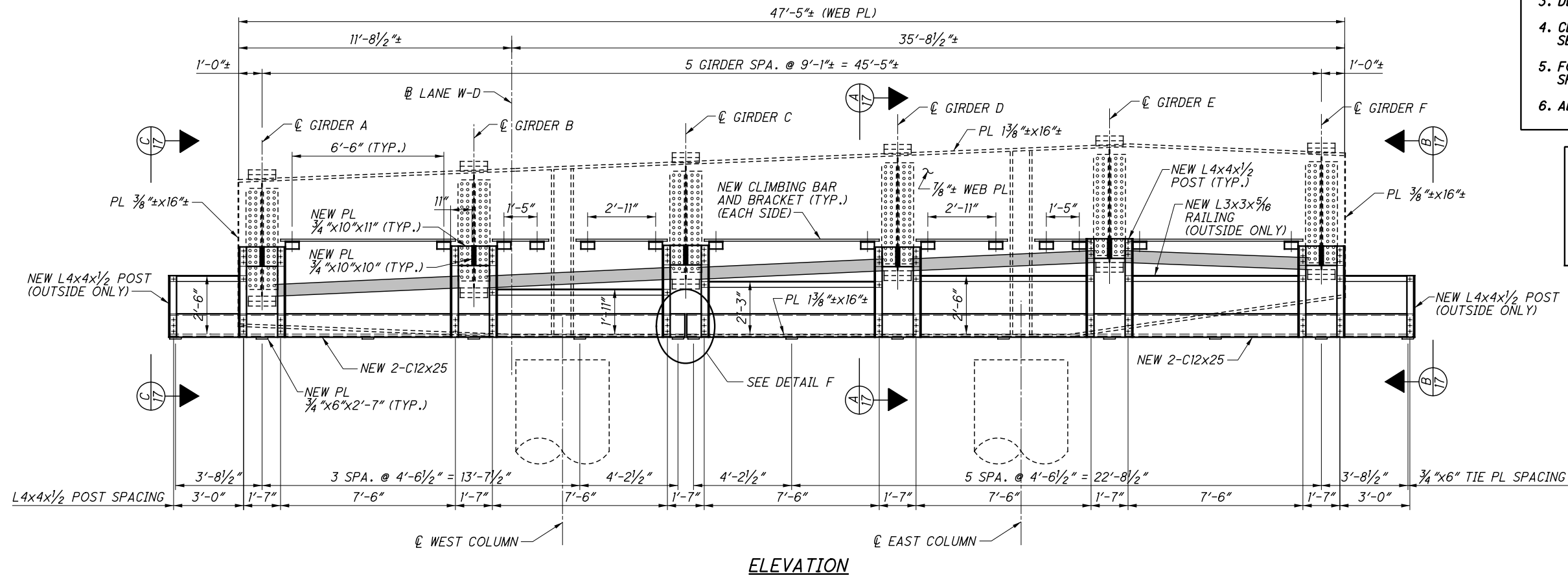


PLAN - PIER 1 CROSS GIRDER CATWALK

- NOTES:**
- EXISTING DETAILS ON THIS SHEET ARE TAKEN FROM EXISTING PLANS AND SHOULD BE USED FOR INFORMATION PURPOSES ONLY.
 - PERFORM ONLY THE WORK AS INDICATED IN THE STRUCTURE DATA SHEET, FRAMED TEXT, AND/OR DESCRIBED IN THE GENERAL NOTES.
 - DETAIL F: SEE SHEET [22/34].
 - CLIMBING BAR AND BRACKET DETAILS: SEE SHEET [23/34].
 - FOR ESTIMATED QUANTITIES SEE SHEET [2/34].
 - ADDITIONAL NOTES: SEE SHEET [22/34].

LEGEND

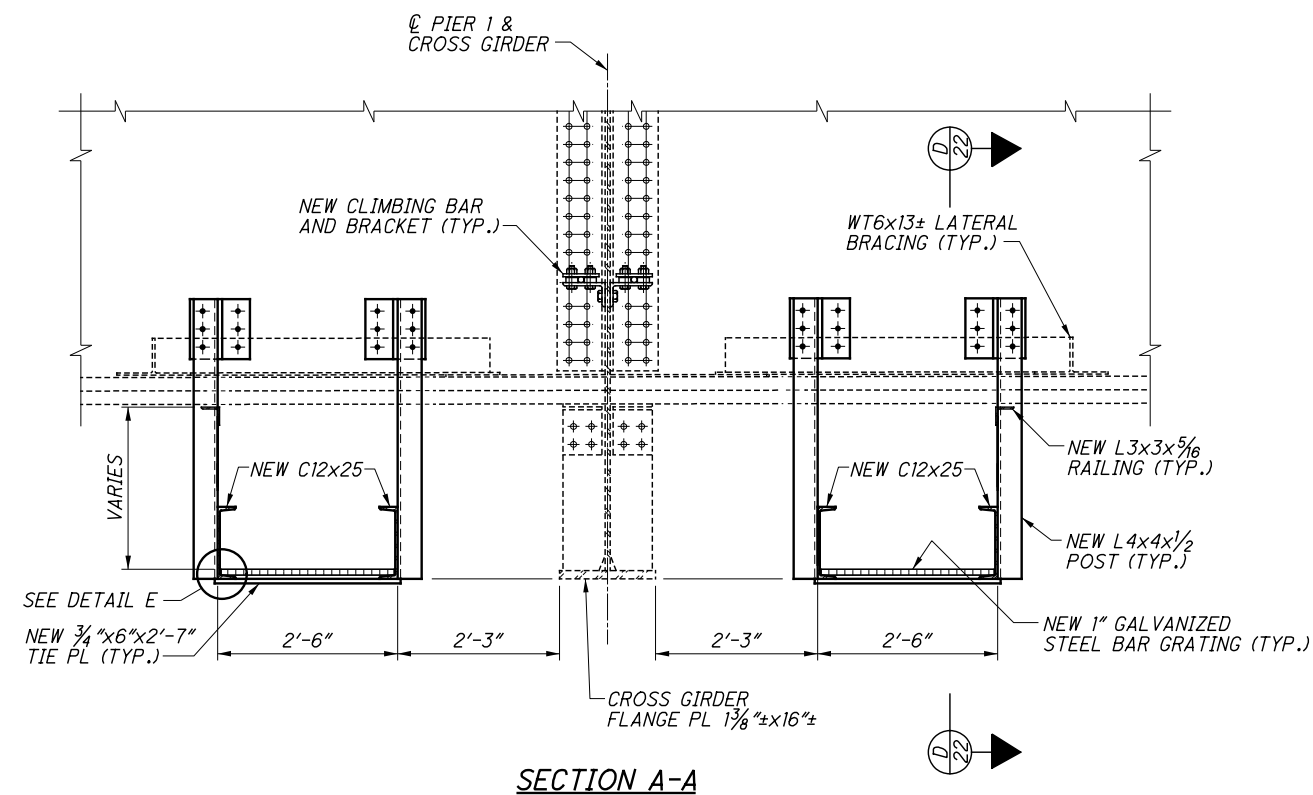
SHADED AREA IN ELEVATION VIEW INDICATES APPROXIMATE LOCATION OF LOWER LATERAL BRACING.



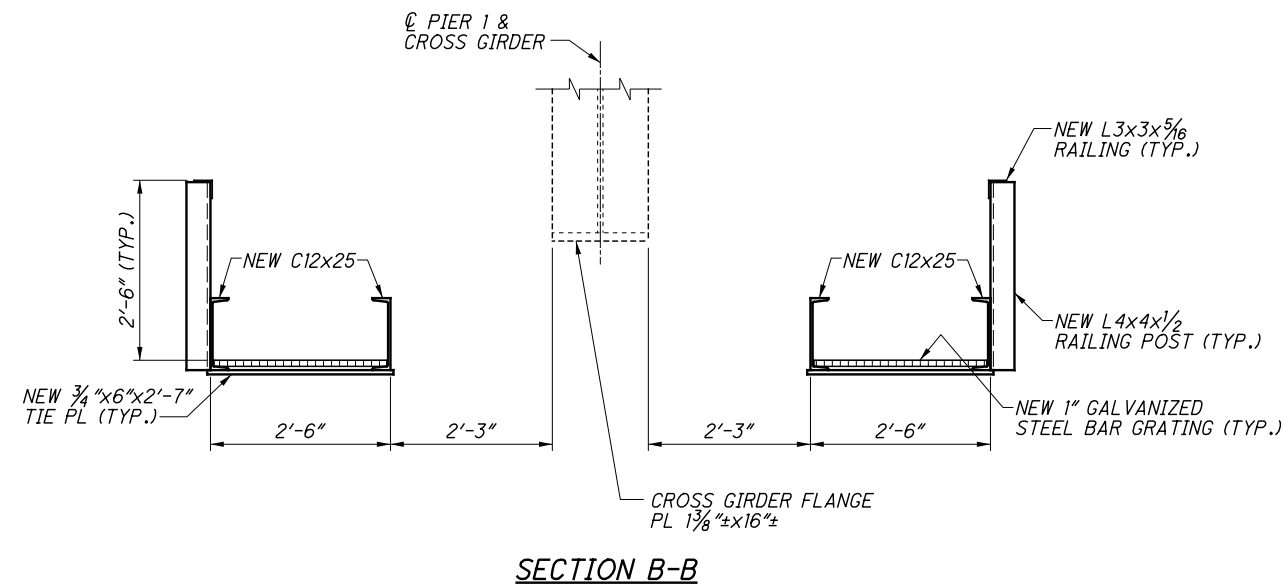
ELEVATION

RICHLAND ENGINEERING LIMITED
 29 NORTH PARK STREET
 MANSFIELD, OHIO 44902
 DATE 12-20-18
 DT
 STRUCTURE FILE NUMBER 1814591
 DRAWN JLS
 CHECKED REVISED
 DESIGNED BLN
 CHECKED dnt
 PIER 1 CROSS GIRDER CATWALKS - LOCATION 4
 BRIDGE NO. CUY-480N-0136 WN
 IR 480N TO IR 27X LANE OVER IR 271 SB
 D12 BH FY2019 MISC.
 PID No. 98601
 16/34
 114
 149

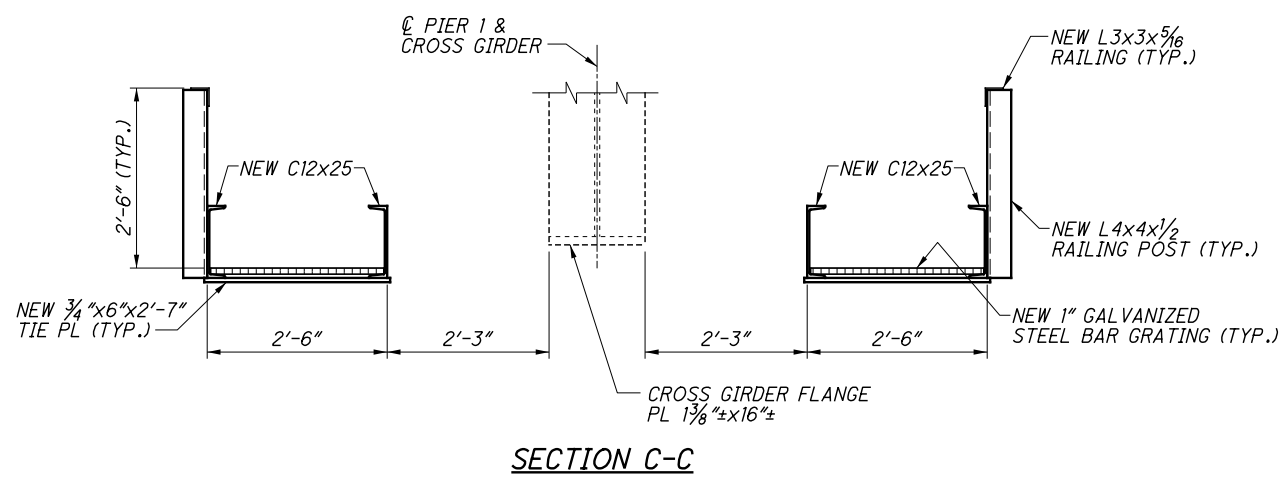
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SECTION A-A



SECTION B-B

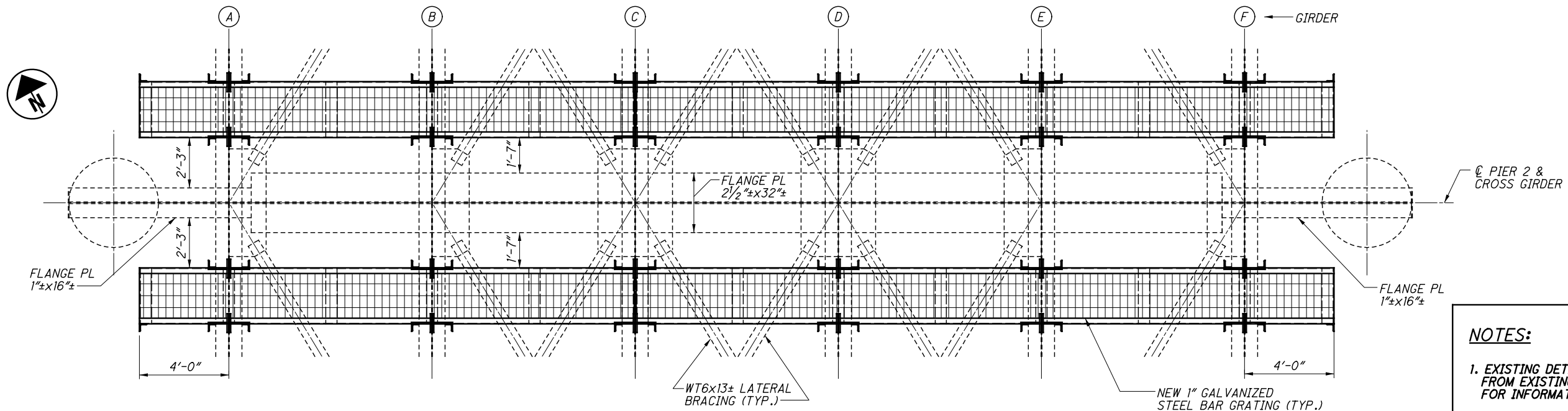


SECTION C-C

NOTES:

1. EXISTING DETAILS ON THIS SHEET ARE TAKEN FROM EXISTING PLANS AND SHOULD BE USED FOR INFORMATION PURPOSES ONLY.
2. PERFORM ONLY THE WORK AS INDICATED IN THE STRUCTURE DATA SHEET, FRAMED TEXT, AND/OR DESCRIBED IN THE GENERAL NOTES.
3. SECTION A-A & VIEWS B-B & C-C: FOR LOCATIONS SEE SHEET 16/34.
4. DETAIL E: SEE SHEET 22/34.
5. FOR ESTIMATED QUANTITIES SEE SHEET 2/34.

<p>RICHLAND ENGINEERING LIMITED 29 NORTH PARK STREET MANSFIELD, OHIO 44902</p>	
<p>DATE 12-20-18</p>	<p>REVIEWED DT</p>
<p>STRUCTURE FILE NUMBER 1814591</p>	<p>DRAWN JLS</p>
<p>DESIGNED BLN</p>	<p>CHECKED dnt</p>
<p>PIER 1 CATWALK DETAILS - LOCATION 4 BRIDGE NO. CUY-480N-0136 WN IR 480N TO IR 27X LANE OVER IR 271 SB</p>	
<p>D12 BH FY2019 MISC.</p>	<p>PID No. 98601</p>
<p>17 / 34</p>	<p>115 / 149</p>



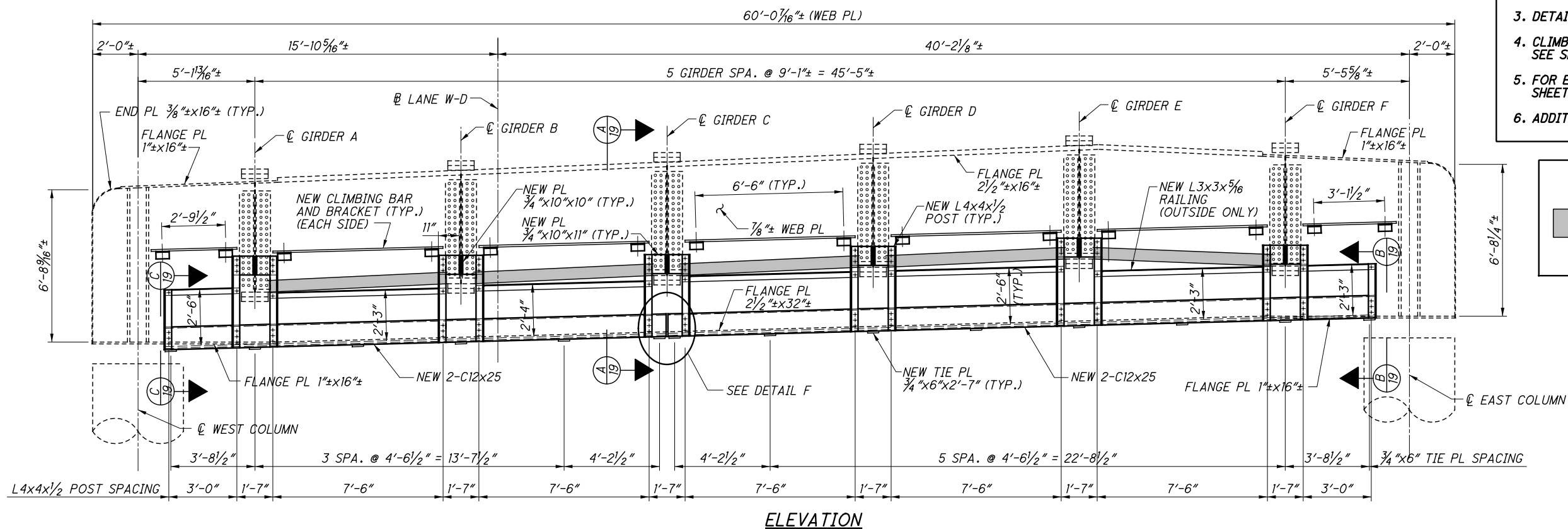
PLAN - PIER 2 CROSS GIRDER CATWALKS

NOTES:

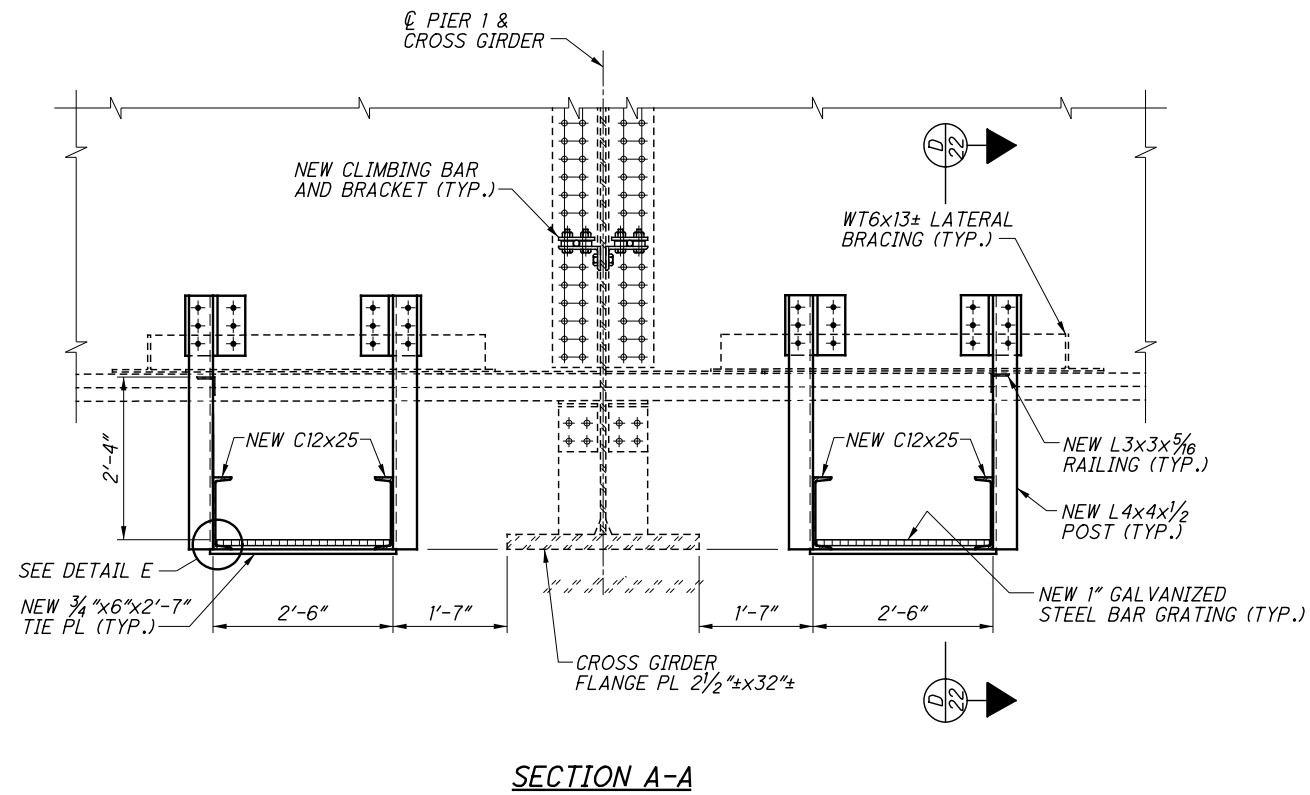
- EXISTING DETAILS ON THIS SHEET ARE TAKEN FROM EXISTING PLANS AND SHOULD BE USED FOR INFORMATION PURPOSES ONLY.
- PERFORM ONLY THE WORK AS INDICATED IN THE STRUCTURE DATA SHEET, FRAMED TEXT, AND/OR DESCRIBED IN THE GENERAL NOTES.
- DETAIL F: SEE SHEET [22/34].
- CLIMBING BAR AND BRACKET DETAILS: SEE SHEET [23/34].
- FOR ESTIMATED QUANTITIES SEE SHEET [2/34].
- ADDITIONAL NOTES: SEE SHEET [22/34].

LEGEND

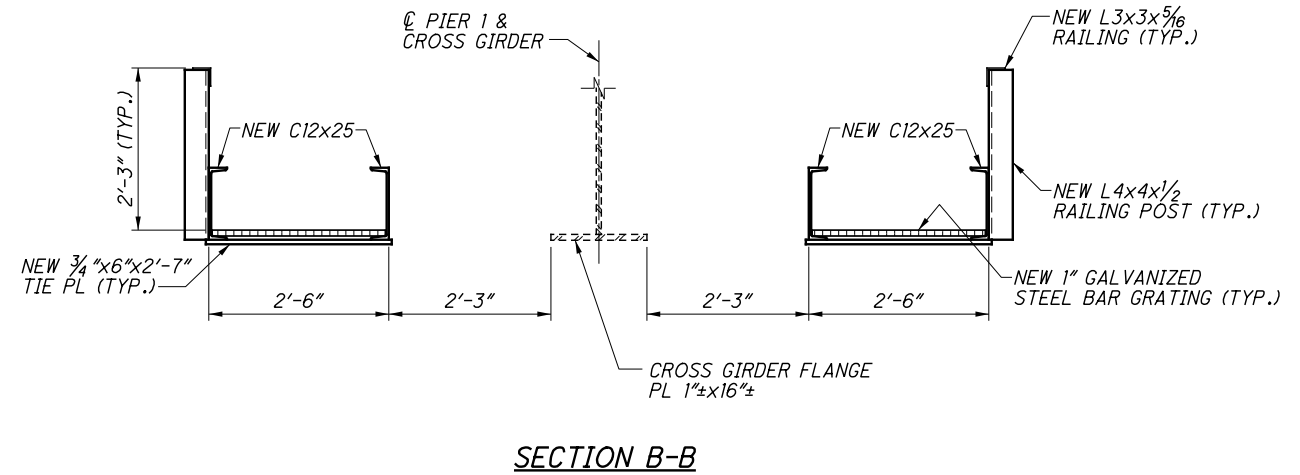
SHADED AREA IN ELEVATION VIEW INDICATES APPROXIMATE LOCATION OF LOWER LATERAL BRACING.



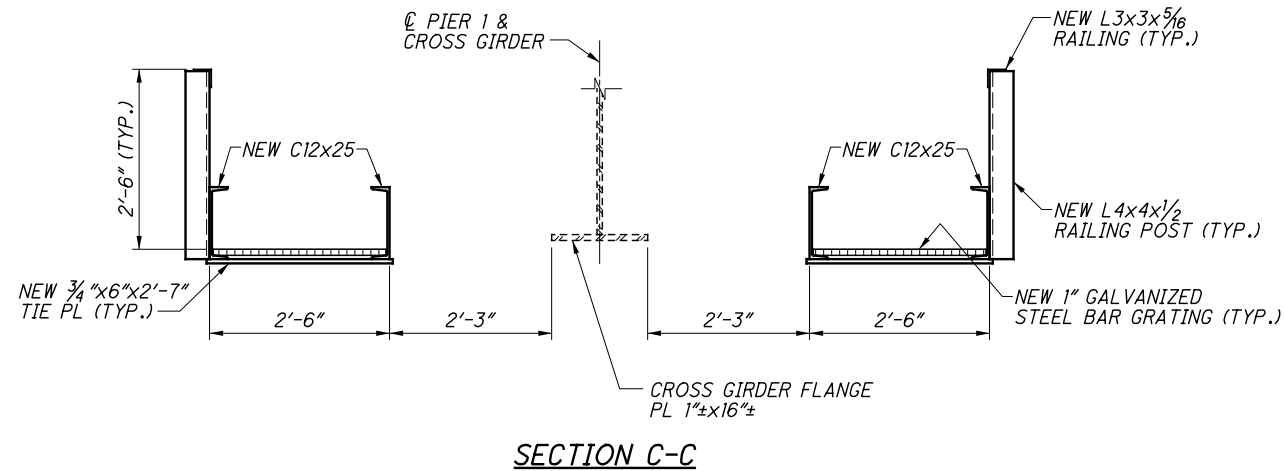
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SECTION A-A



SECTION B-B

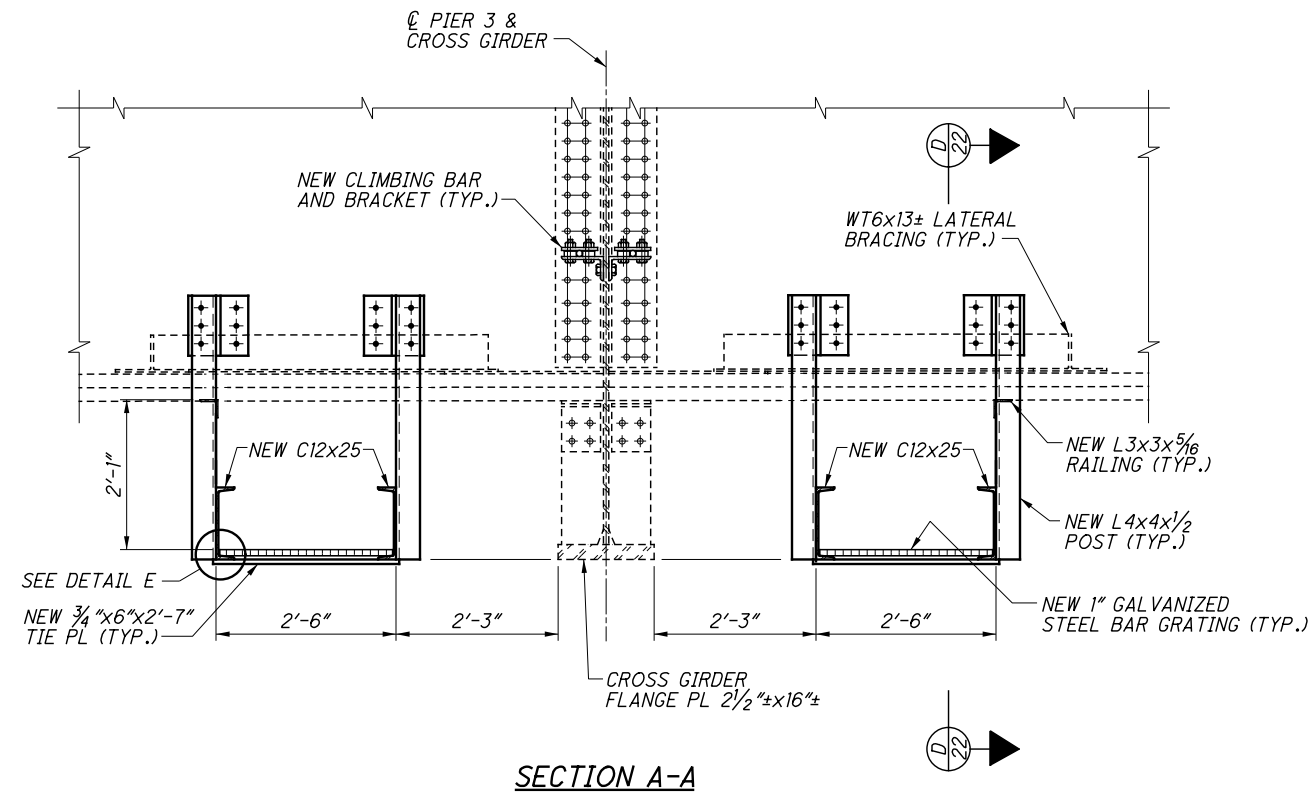


SECTION C-C

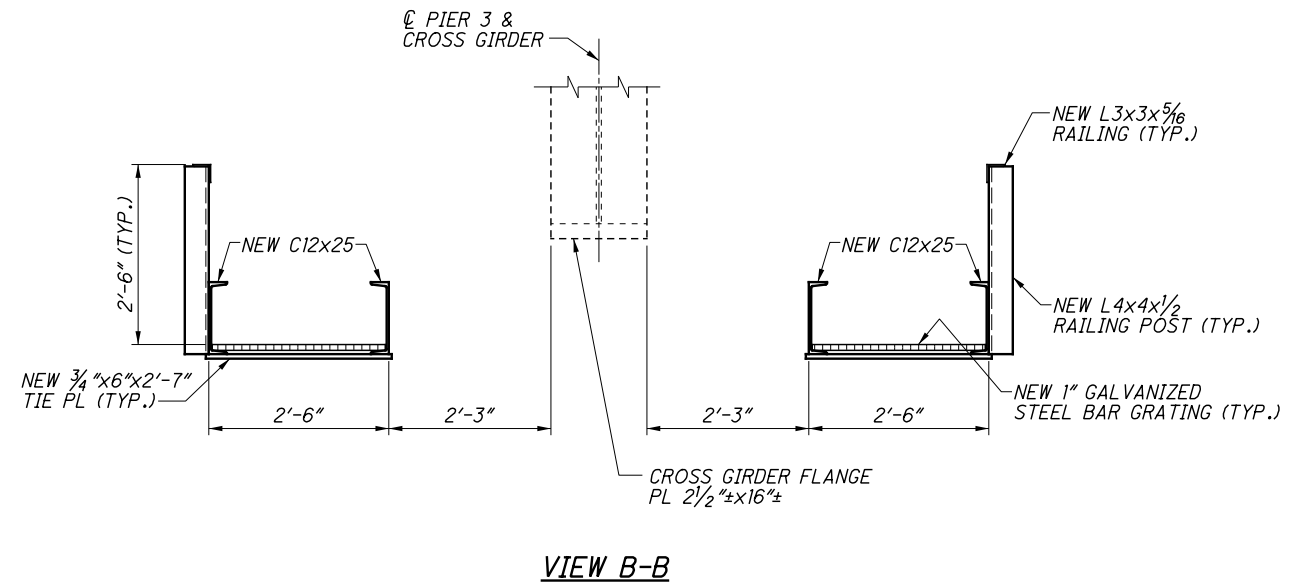
NOTES:

1. EXISTING DETAILS ON THIS SHEET ARE TAKEN FROM EXISTING PLANS AND SHOULD BE USED FOR INFORMATION PURPOSES ONLY.
2. PERFORM ONLY THE WORK AS INDICATED IN THE STRUCTURE DATA SHEET, FRAMED TEXT, AND/OR DESCRIBED IN THE GENERAL NOTES.
3. SECTIONS A-A, B-B & C-C: FOR LOCATIONS SEE SHEET 18/34.
4. DETAIL E: SEE SHEET 22/34.
5. FOR ESTIMATED QUANTITIES SEE SHEET 2/34.

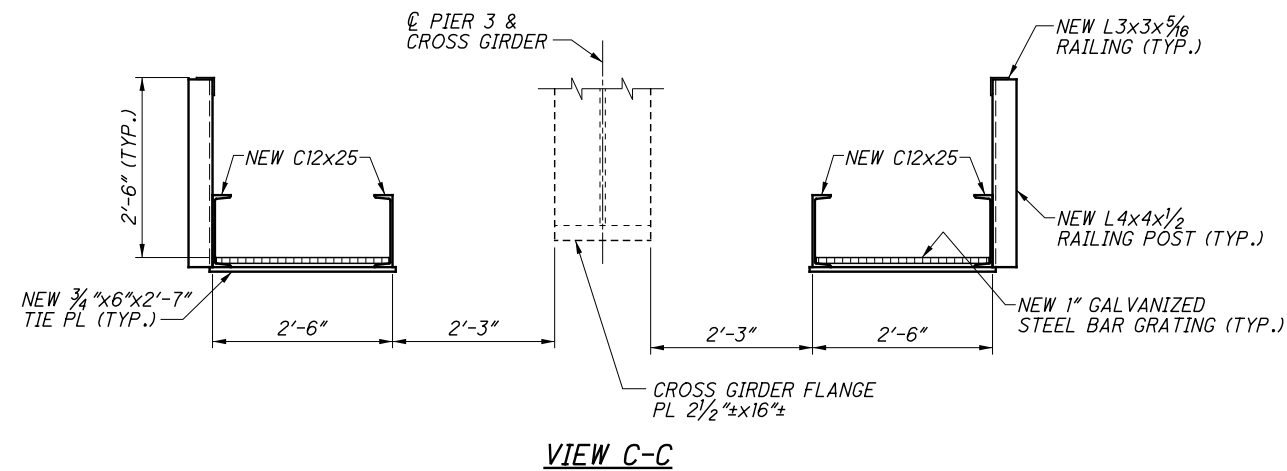
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SECTION A-A



VIEW B-B



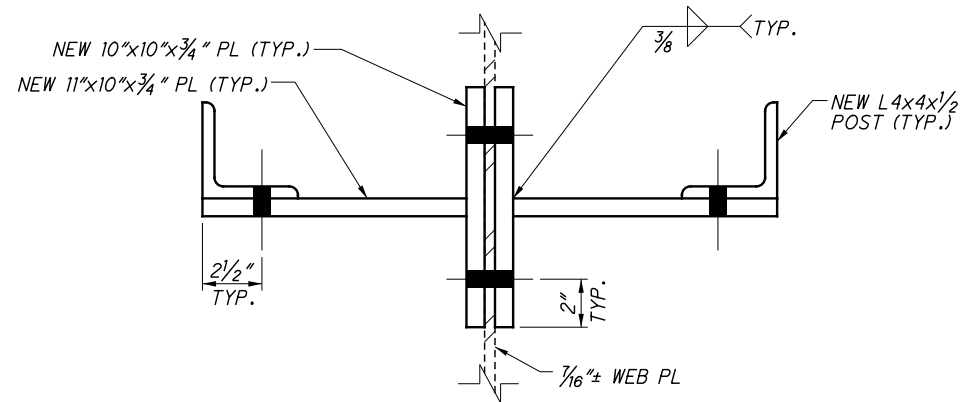
VIEW C-C

NOTES:

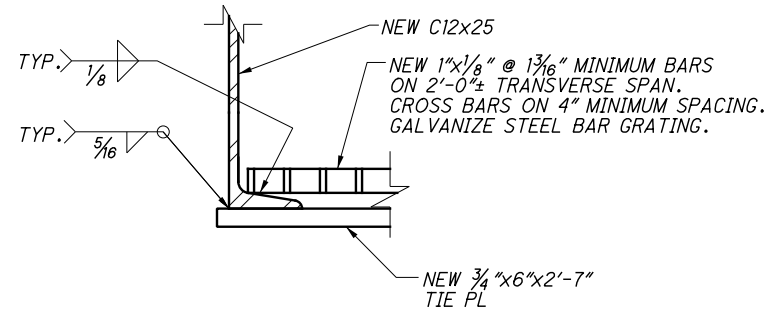
1. EXISTING DETAILS ON THIS SHEET ARE TAKEN FROM EXISTING PLANS AND SHOULD BE USED FOR INFORMATION PURPOSES ONLY.
2. PERFORM ONLY THE WORK AS INDICATED IN THE STRUCTURE DATA SHEET, FRAMED TEXT, AND/OR DESCRIBED IN THE GENERAL NOTES.
3. SECTION A-A & VIEWS B-B & C-C: FOR LOCATIONS SEE SHEET 20/34.
4. DETAIL E: SEE SHEET 22/34.
5. FOR ESTIMATED QUANTITIES SEE SHEET 2/34.

RICHLAND ENGINEERING LIMITED 29 NORTH PARK STREET MANSFIELD, OHIO 44902	
DATE 12-20-18	STRUCTURE FILE NUMBER 1814591
REVIEWED DT	REVISION 1814591
DRAWN JLS	CHECKED dnt
PIER 3 CATWALK DETAILS - LOCATION 4 BRIDGE NO. CUY-480N-0136 WN IR 480N TO IR 27X LANE OVER IR 271 SB	
D12 BH FY2019 MISC.	PID No. 98601
21/34	119 149

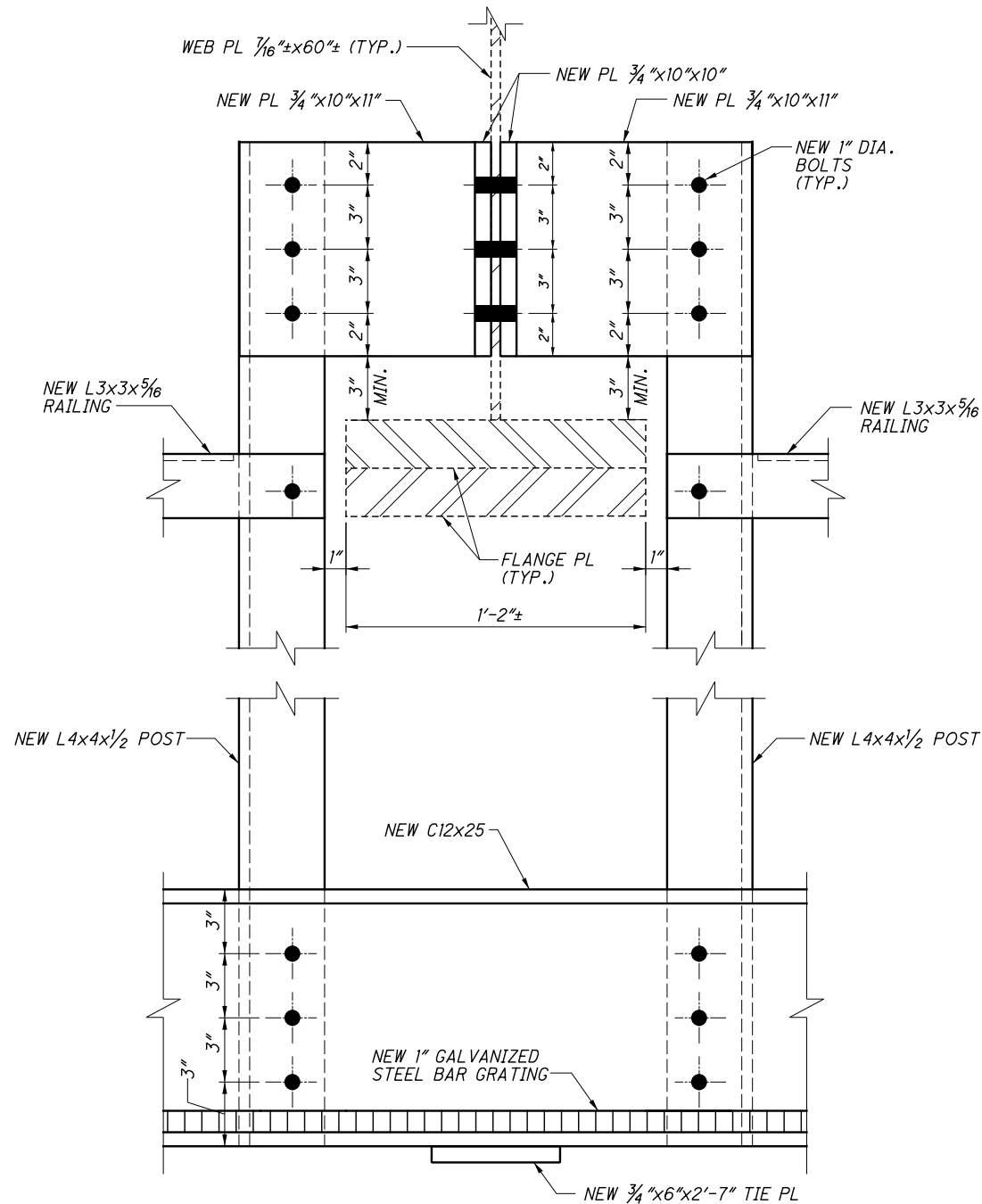
F:\2016\116041 D12 Bridge Rehab\12-BH-FY2019 Misc\ProjectData\98601\Design\Structures\CUY480_0136\PI003.dgn 1/3/19 2:13:52 PM JeremyBurns



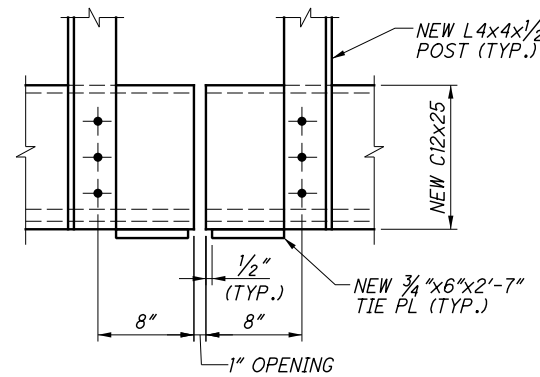
SECTION H-H



DETAIL E



SECTION D-D

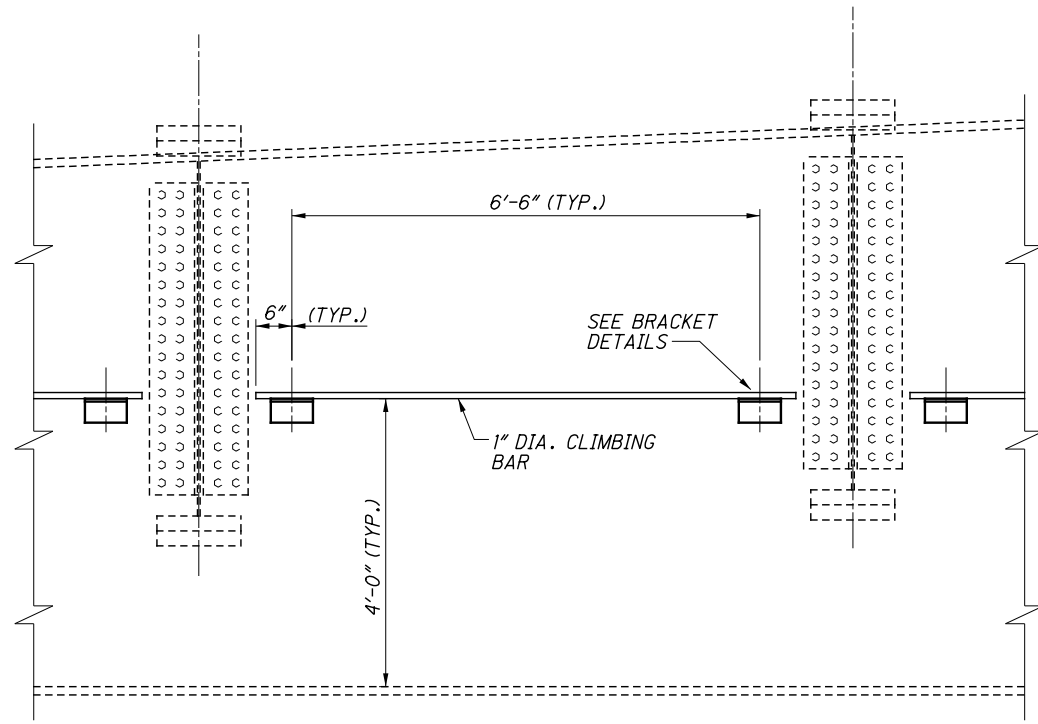


DETAIL F

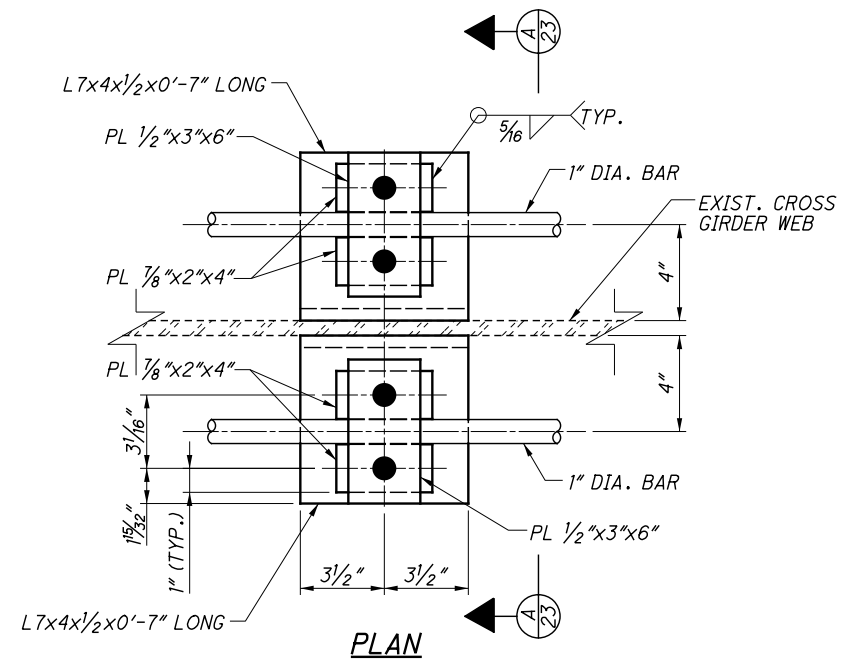
NOTES:

1. EXISTING DETAILS ON THIS SHEET ARE TAKEN FROM EXISTING PLANS AND SHOULD BE USED FOR INFORMATION PURPOSES ONLY.
2. PERFORM ONLY THE WORK AS INDICATED IN THE STRUCTURE DATA SHEET, FRAMED TEXT, AND/OR DESCRIBED IN THE GENERAL NOTES.
3. ITEM SPECIAL - INSTALLATION OF INSPECTION CATWALK SYSTEM: FURNISH ALL MATERIALS, LABOR, TOOLS, EQUIPMENT AND INCIDENTALS NECESSARY TO FABRICATE, INSPECT, TEST AND INSTALL THE CATWALKS. GALVANIZE ALL CATWALK STEEL IN ACCORDANCE WITH C&MS 711.02 (ASTM 123).
4. CATWALK FRAMING SHALL BE ASTM A709 GRADE 50 AND SHALL BE GALVANIZED. BAR GRATING SHALL BE ASTM A709 GRADE 36 AND SHALL BE GALVANIZED. GALVANIZING SHALL BE DONE AFTER ALL WELDING IS COMPLETED, PER CMS 711.02.
5. PAINT DAMAGE DUE TO ERECTION OF THE NEW CATWALKS OR TRIMMING OF THE GIRDER END AS AT THE ABUTMENTS (AS REQUIRED) SHALL BE REQUIRED PER THE FOLLOWING ITEMS AND THE FINISH COAT SHALL MATCH THE COLOR OF THE EXISTING STEEL:
 - 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
6. SECTION D-D: FOR LOCATIONS SEE SHEETS 17/34, 19/34 & 21/34.
7. DETAIL E: FOR LOCATIONS SEE SHEETS 17/34, 19/34 & 21/34.
8. DETAIL F: FOR LOCATIONS SEE SHEETS 16/34, 18/34 & 20/34.
9. FOR ESTIMATED QUANTITIES SEE SHEET 2/34.

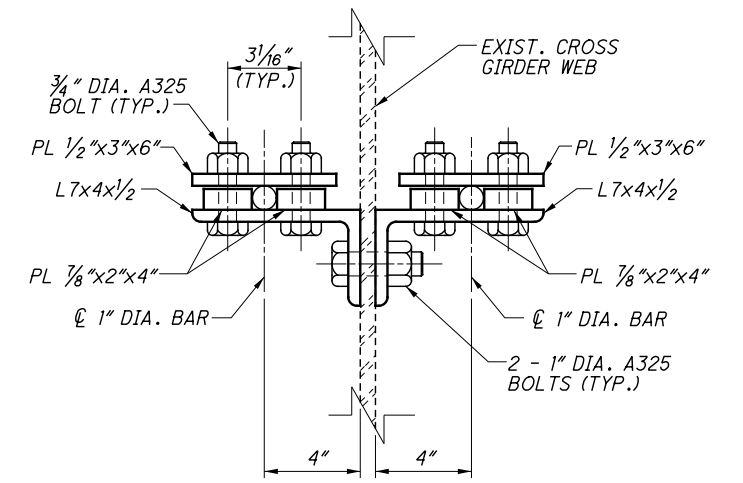
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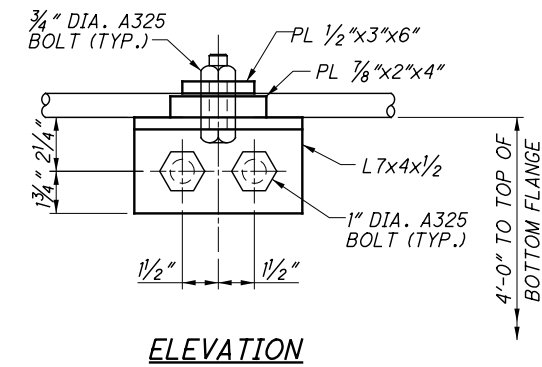
CLIMBING BAR LOCATION DETAIL
(CATWALK NOT SHOWN FOR CLARITY)



PLAN



SECTION A-A

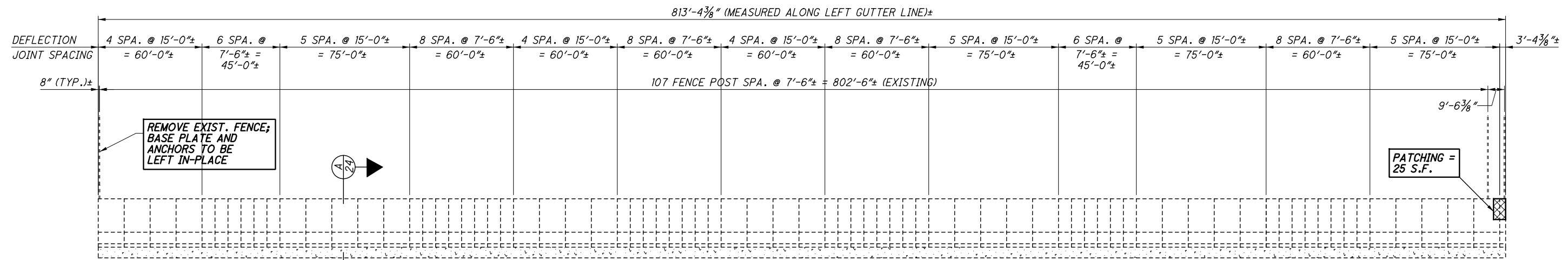


ELEVATION

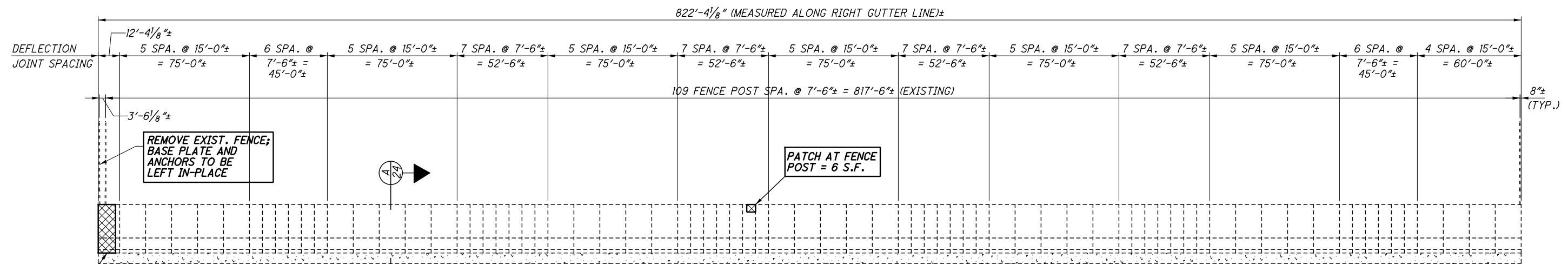
NOTES:

1. EXISTING DETAILS ON THIS SHEET ARE TAKEN FROM EXISTING PLANS AND SHOULD BE USED FOR INFORMATION PURPOSES ONLY.
2. PERFORM ONLY THE WORK AS INDICATED IN THE STRUCTURE DATA SHEET, FRAMED TEXT, AND/OR DESCRIBED IN THE GENERAL NOTES.
3. CLIMBING RODS AND BRACKETS SHALL BE ASTM A709 GRADE 50 AND SHALL BE GALVANIZED PER CMS 711.02 (ASTM 123) AFTER WELDING.
4. BOLTS SHALL BE GALVANIZED A325 TYPE 1 BOLTS, NUTS AND WASHERS.
5. FOR LOCATION OF CLIMBING BAR AND BRACKETS SEE PIER CROSS GIRDER CATWALK ELEVATIONS.
6. FOR ESTIMATED QUANTITIES SEE SHEET 2/34.

F:\2016\116041 D12 Bridge Rehab\12-BH-FY2019 Misc\ProjectData\98601\Design\Structures\CUY480_0136W\Sheets\480_0136SD003.dgn 12/31/2018 2:07:15 PM JeffSmith

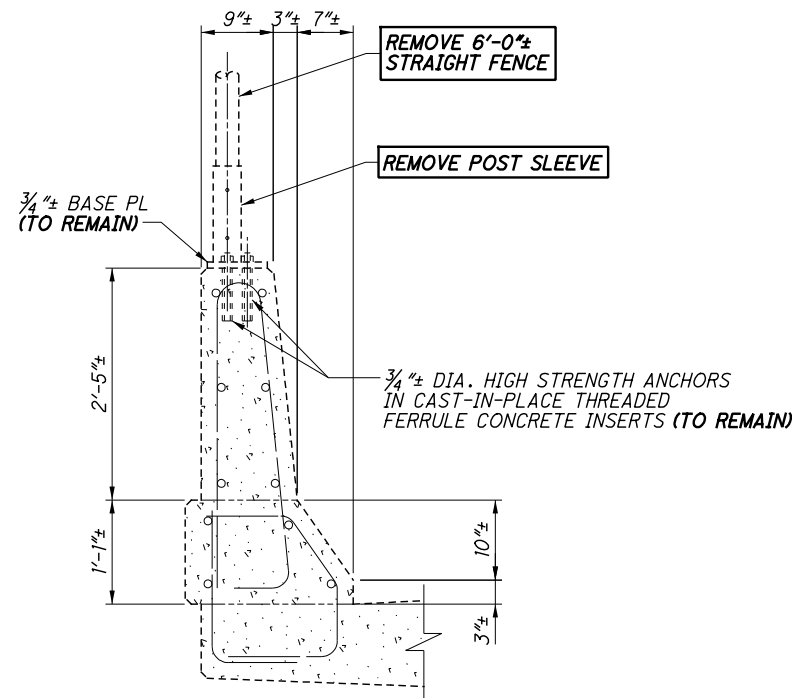


ELEVATION OF LEFT PARAPET AND FENCE
(LOOKING AT INSIDE FACE OF PARAPET)




ELEVATION OF RIGHT PARAPET AND FENCE
(LOOKING AT INSIDE FACE OF PARAPET)

PATCHING = 80 S.F. (ALL AROUND)



SECTION A-A
(REMOVAL)

LEGEND

 INDICATES PARAPET REPAIR PER ITEM 519 - PATCHING CONCRETE STRUCTURE.

NOTES:

1. DETAILS ON THIS SHEET ARE TAKEN FROM EXISTING PLANS AND SHOULD BE USED FOR INFORMATION PURPOSES ONLY.
2. PERFORM ONLY THE WORK AS INDICATED IN THE STRUCTURE DATA SHEET, FRAMED TEXT, AND/OR DESCRIBED IN THE GENERAL NOTES.
3. SEAL PATCHED AREAS PER ITEM 512 - SEALING OF CONCRETE SURFACES (EPOXY-URETHANE), AS PER PLAN. SEAL 1 FOOT OUTSIDE OF PATCHED AREAS.
4. FOR ESTIMATED QUANTITIES SEE SHEET 2/34.

MATERIALS SHOWN ARE EXISTING UNLESS OTHERWISE NOTED.

PARAPET REPAIR DETAILS - LOCATION 4

BRIDGE NO. CUY-480N-0136 WN
IR 480N TO IR 27X LANE OVER IR 271 SB

D12 BH FY2019 MISC.
PID No. 98601

24/34

122
149

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

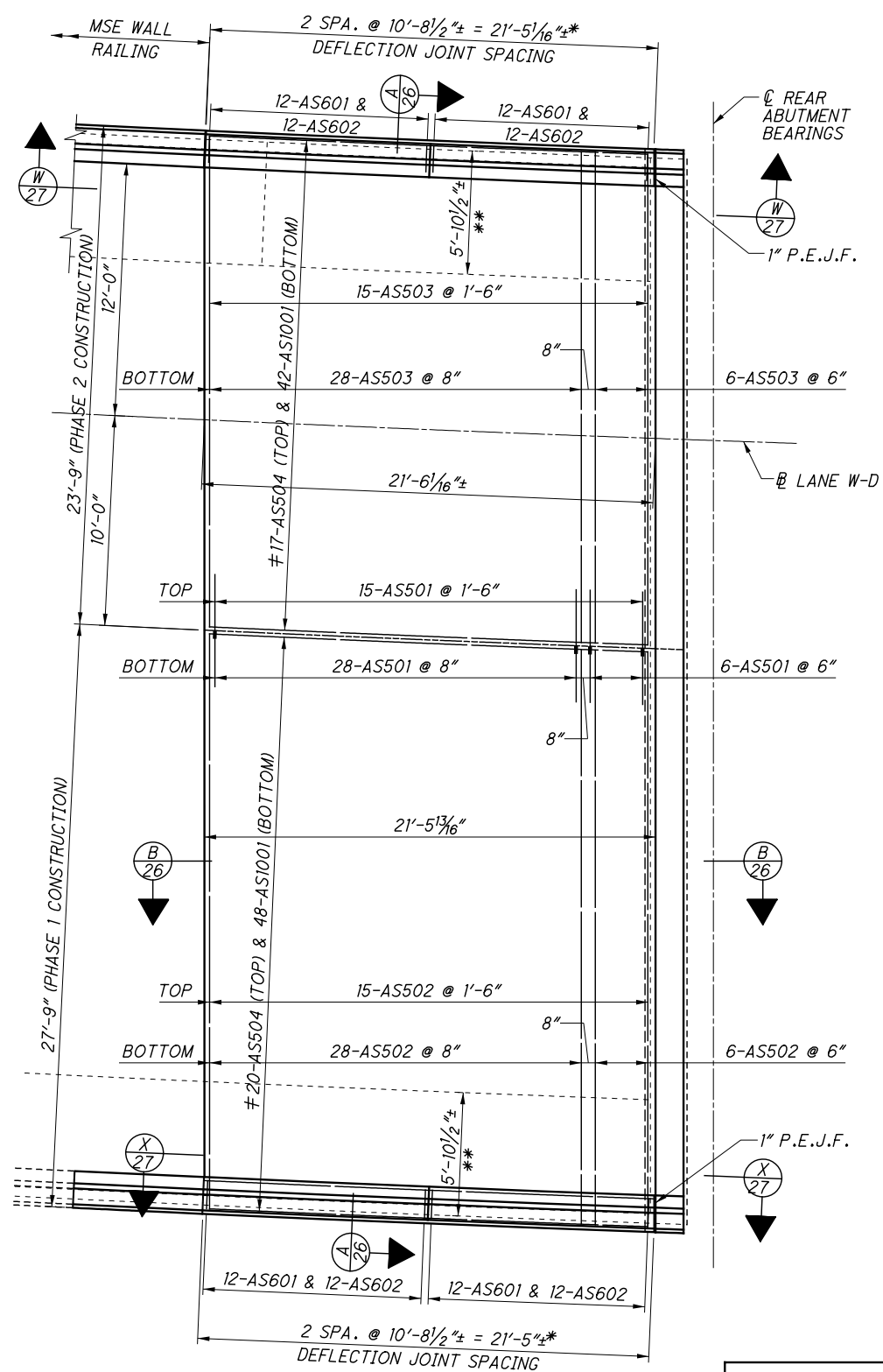
DATE: 12-20-18
DT: 12-20-18
STRUCTURE FILE NUMBER: 1814591

DESIGNED: BLN
CHECKED: dnt

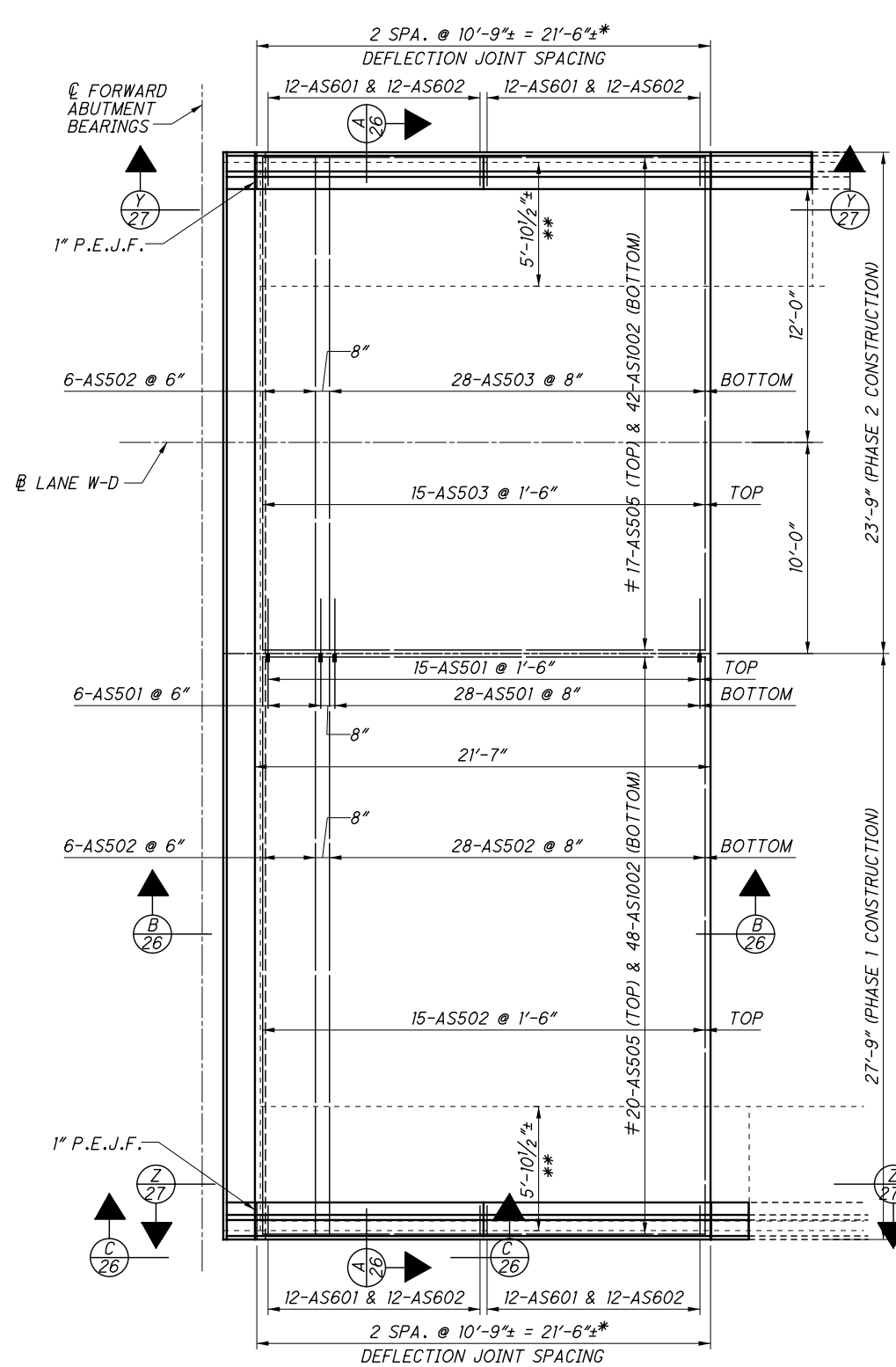
DRAWN: JLS
REVISED:

REVIEWED: DT

F:\2016\116041 D12 Bridge Rehab\12-BH-FY2019 Misc\ProjectData\98601\Design\Structures\CUY480_0136W\Sheets\480_0136MD002.dgn 1/3/19 2:15:29 PM JeremyBurns



REAR APPROACH SLAB



FORWARD APPROACH SLAB

* MEASURED ALONG FACE OF CURB. DIMENSIONS ARE APPROXIMATE AND ARE BASED ON LOCATION OF JOINTS IN THE EXISTING MSE WALL RAILING AND ANCHOR SLABS. SEE REMOVAL DETAILS.

** EXISTING ANCHOR SLAB WIDTH.

≠ LONGITUDINAL REINFORCING STEEL HAS BEEN SHORTENED ON THE ROADWAY END FOR POSSIBLE APPROACH SLAB LENGTH ADJUSTMENT.

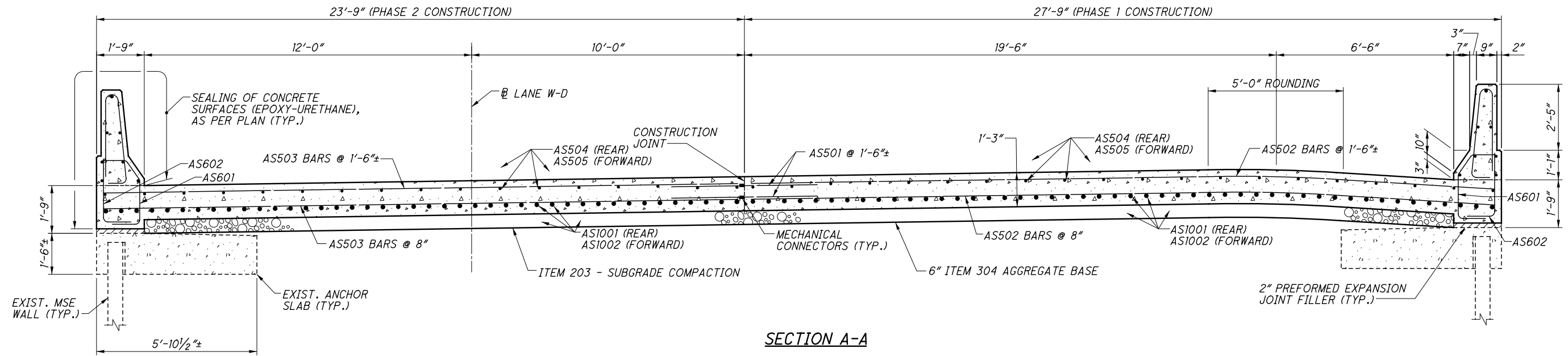
P.E.J.F. - PREFORMED EXPANSION JOINT FILLER

1" PREFORMED EXPANSION JOINT FILLER (1" P.E.J.F.) SHALL BE INCLUDED WITH APPROACH SLAB FOR PAYMENT.

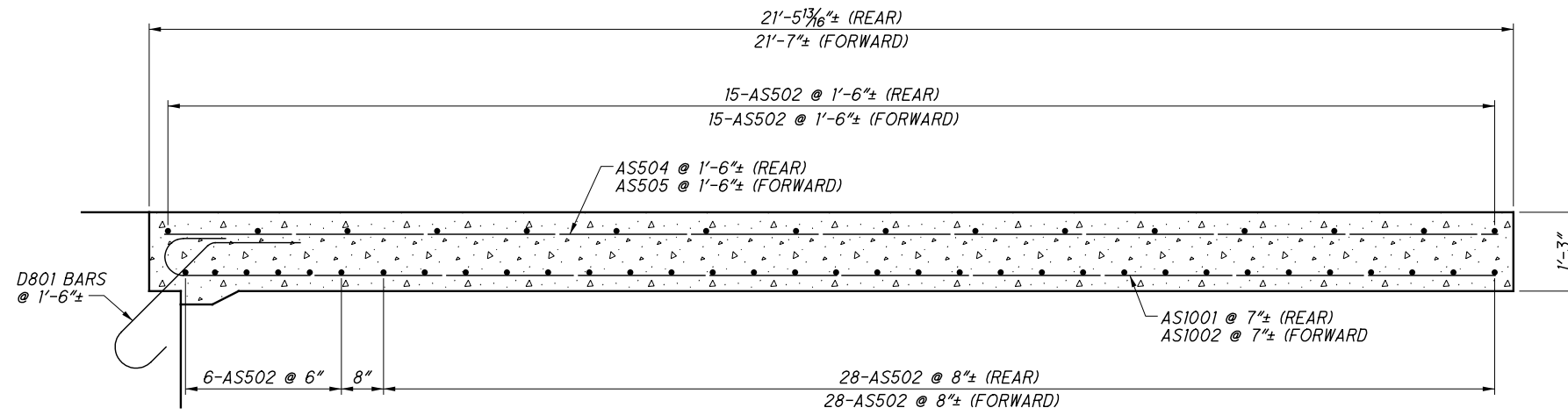
NOTES:

1. DETAILS ON THIS SHEET ARE TAKEN FROM EXISTING PLANS AND SHOULD BE USED FOR INFORMATION PURPOSES ONLY.
2. PERFORM ONLY THE WORK AS INDICATED IN THE STRUCTURE DATA SHEET, FRAMED TEXT, AND/OR DESCRIBED IN THE GENERAL NOTES.
3. REINFORCING STEEL SPLICE LENGTH IS 2'-6" FOR #5 BARS.
4. FOR MSE WALL REMOVAL DETAILS SEE SHEETS 9/34 & 10/34.
5. FOR RAILING DETAILS SEE SHEET 27/31.
6. FOR MSE RAILING DETAILS SEE SHEET 31/34.
7. FOR ESTIMATED QUANTITIES SEE SHEET 2/34.

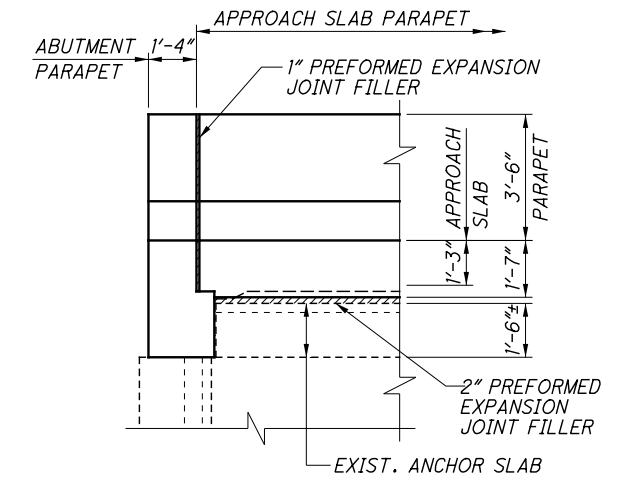
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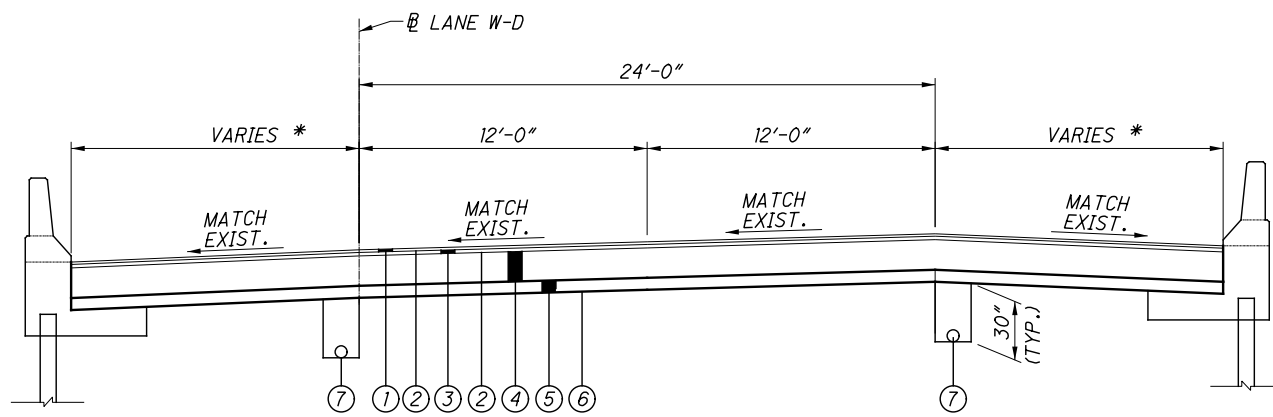
SECTION A-A



SECTION B-B



VIEW C-C



PROPOSED TYPICAL SECTION

* 12'-0" WITH WALL OR CURBING
10'-0" WITH NORMAL SHOULDER

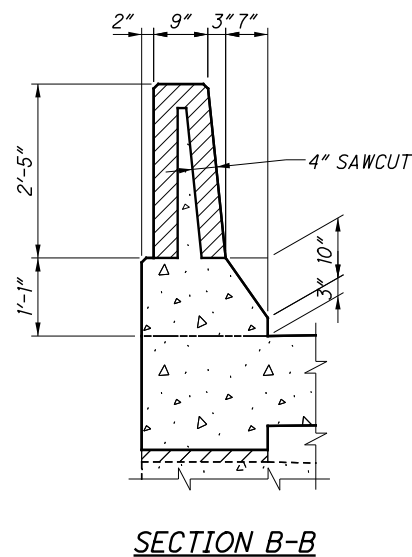
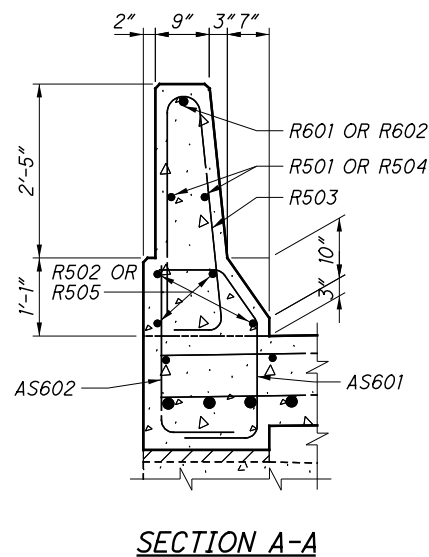
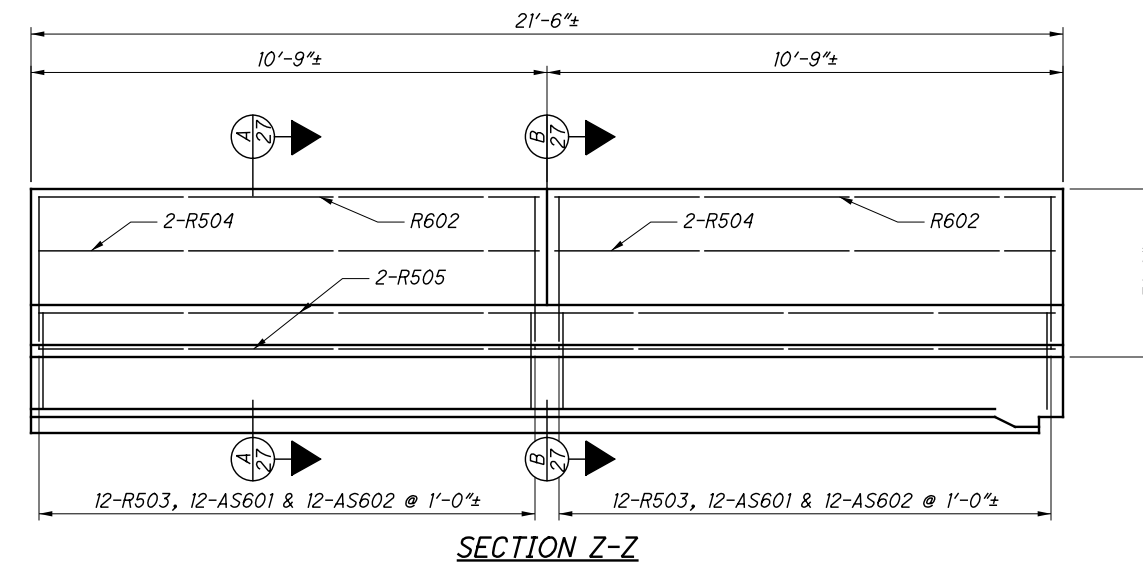
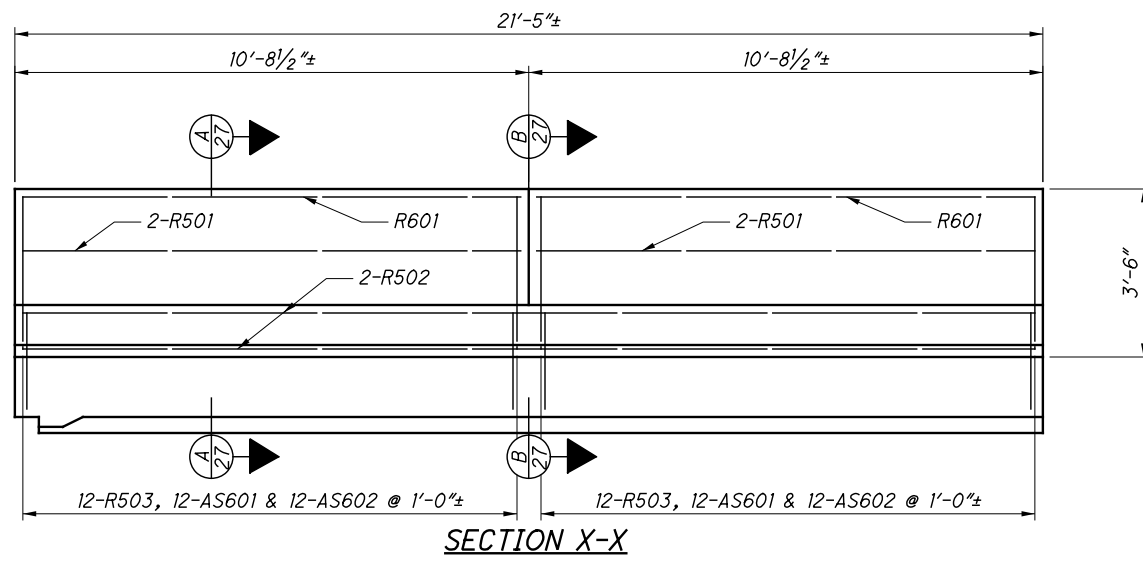
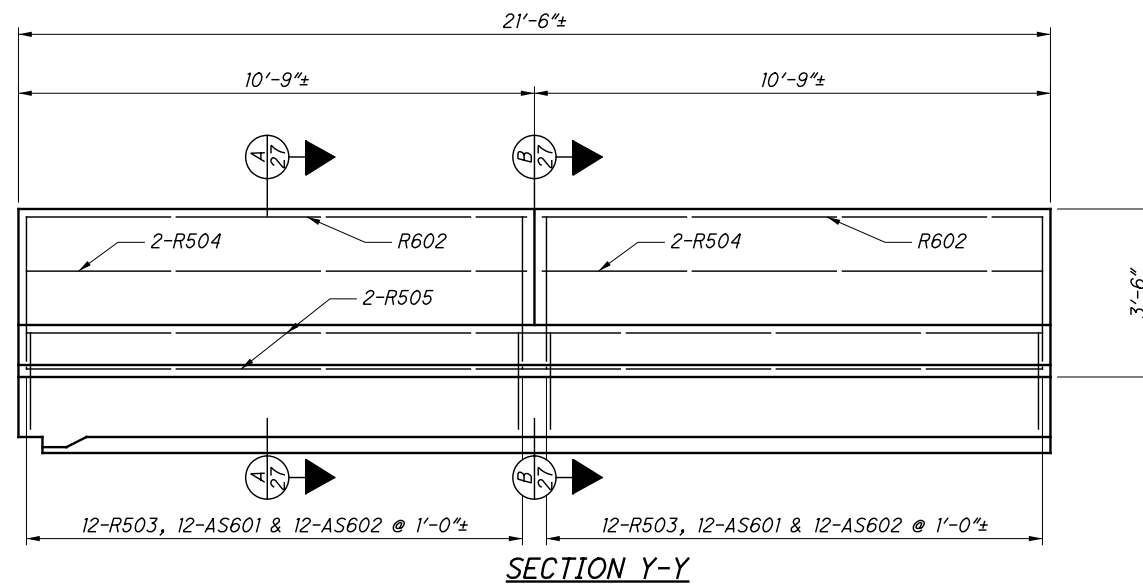
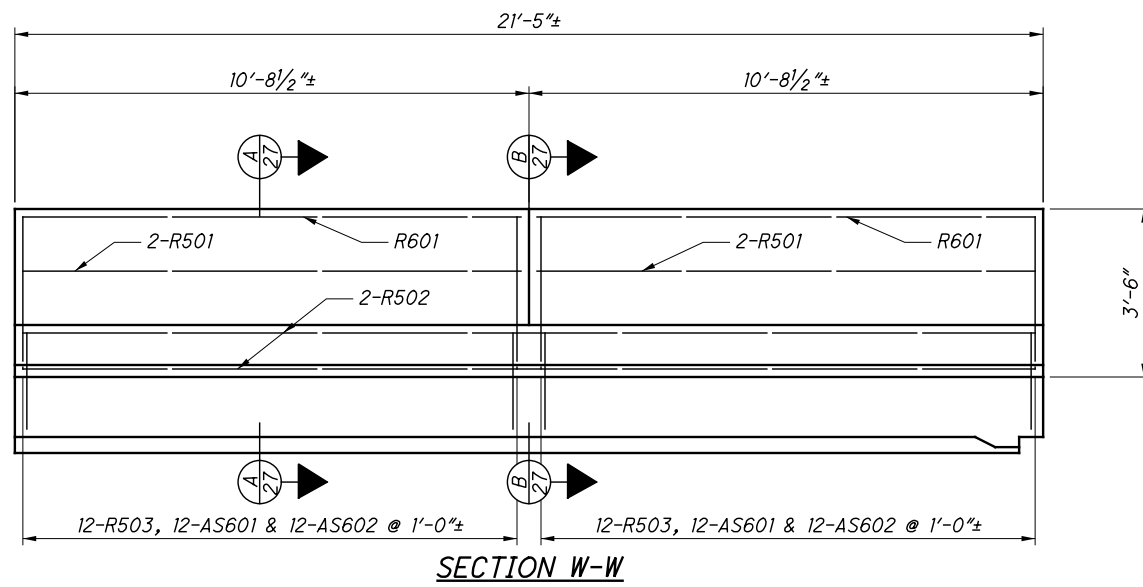
PROPOSED ITEM LEGEND

- ① 442 - 1/2" ASPHALT CONCRETE SURFACE COURSE, 12.5MM, TYPE A (446)
- ② 407 - TACK COAT (APPLICATION RATE 0.06 GAL./S.Y.)
- ③ 442 - 3/4" ASPHALT CONCRETE INTERMEDIATE COURSE, 19MM, TYPE A (446)
- ④ 302 - 15" ASPHALT CONCRETE BASE
- ⑤ 304 - 6" AGGREGATE BASE
- ⑥ 204 - SUBGRADE COMPACTION
- ⑦ 605 - 6" SHALLOW PIPE UNDERDRAIN

NOTES:

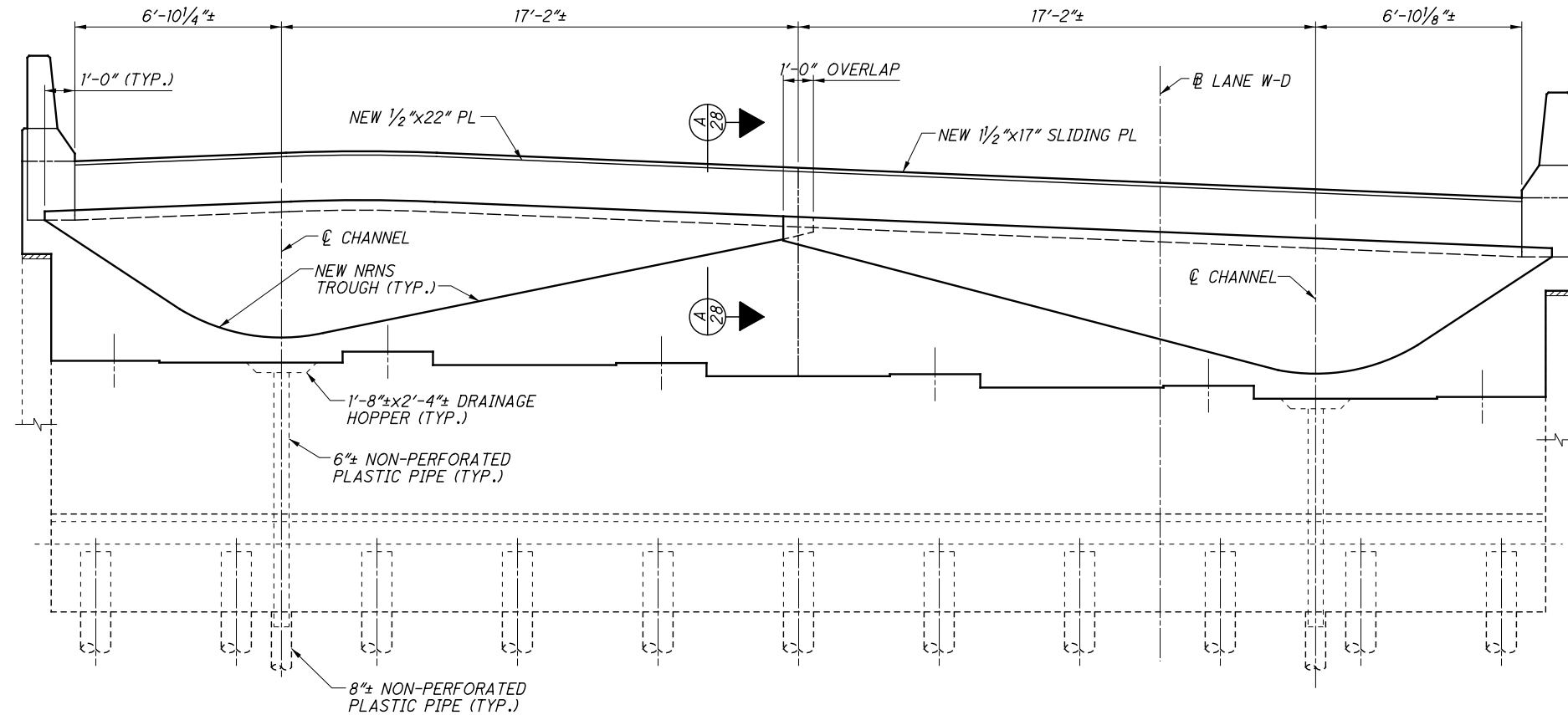
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3. REINFORCING STEEL SPLICE LENGTH IS 2'-6" FOR #5 BARS.
4. SECTIONS A-A & B-B: FOR LOCATIONS SEE SHEET [25/34].
5. VIEW C-C: FOR LOCATION SEE SHEET [25/34].
6. FOR RAILING DETAILS SEE SHEET [27/34].
7. FOR ESTIMATED QUANTITIES SEE SHEET [2/34].

F:\2016\116041 D12 Bridge Rehab\12-BH-FY2019 Misc\ProjectData\98601\Design\Structures\CUY480_0136W\Sheets\480_0136RA001.dgn 1/31/19 3:40:55 PM JeremyBurns

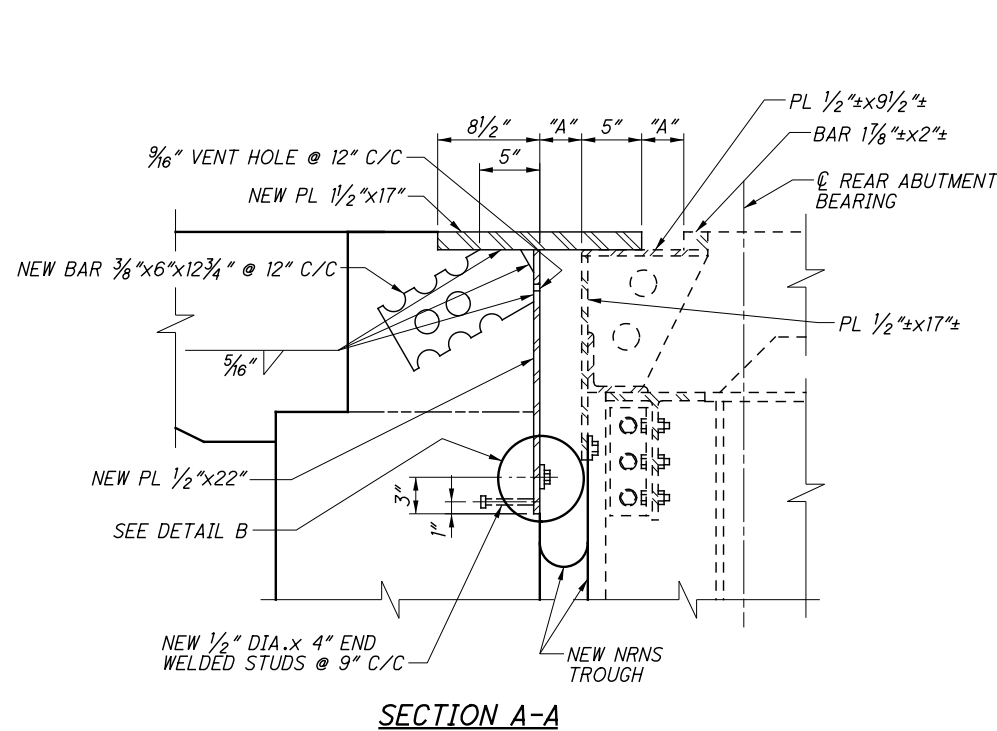


- NOTES:**
- PERFORM ONLY THE WORK AS INDICATED IN THE STRUCTURE DATA SHEET, FRAMED TEXT, AND/OR DESCRIBED IN THE GENERAL NOTES.
 - SECTIONS W-W, X-X, Y-Y & Z-Z: FOR LOCATIONS SEE SHEET 25/34.
 - FOR ESTIMATED QUANTITIES SEE SHEET 2/34.

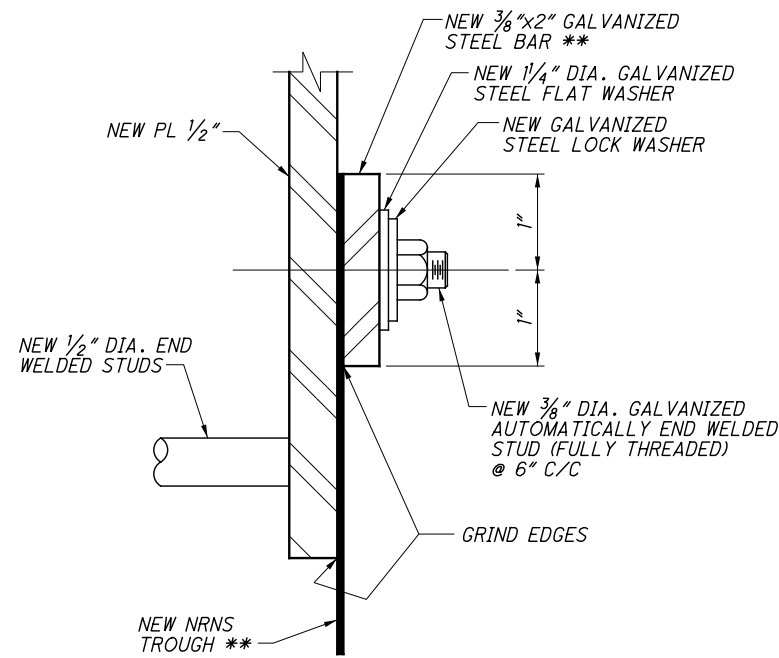
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REAR ABUTMENT JOINT & DRAINAGE ELEVATION



SECTION A-A

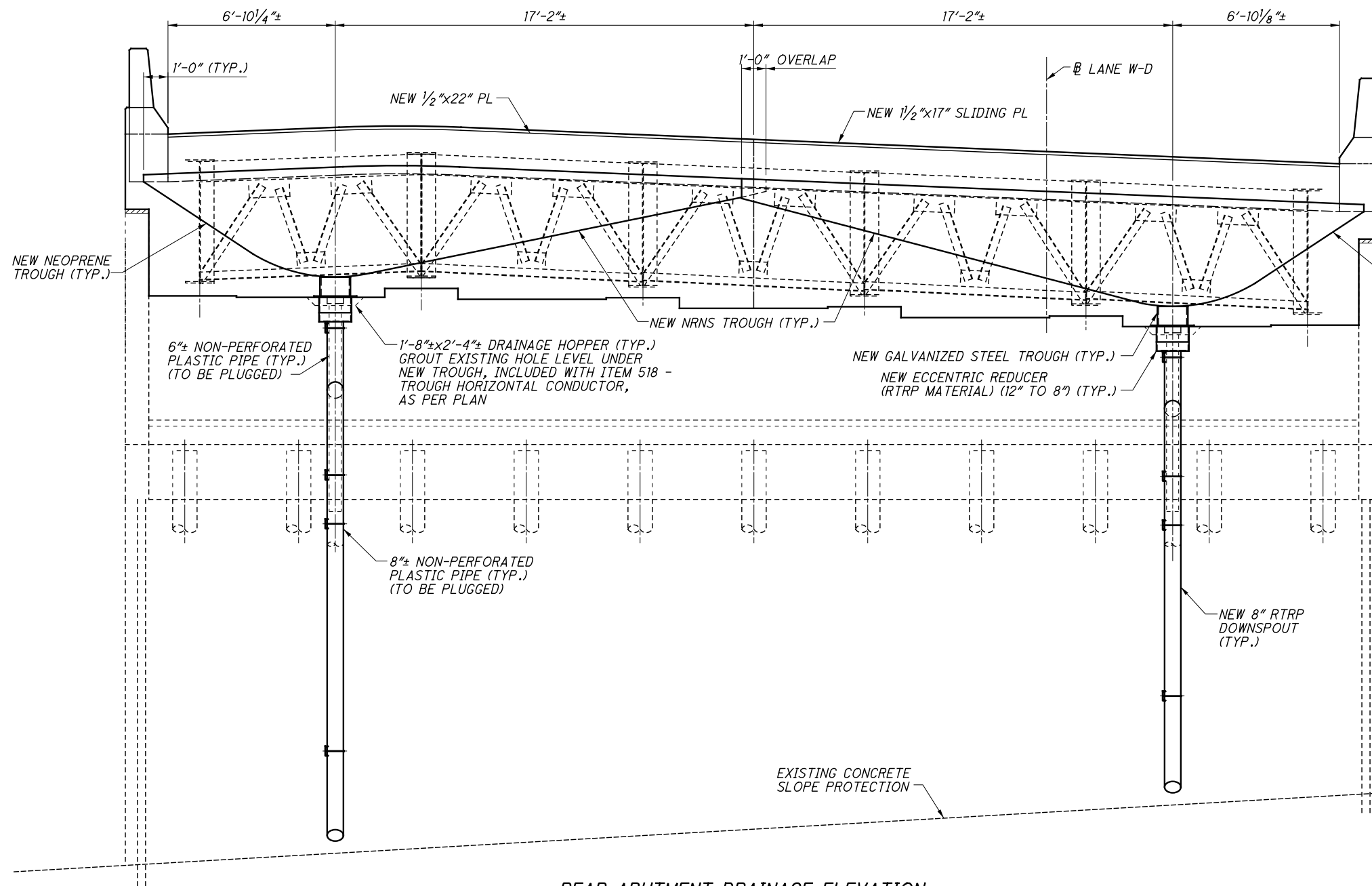


DETAIL B

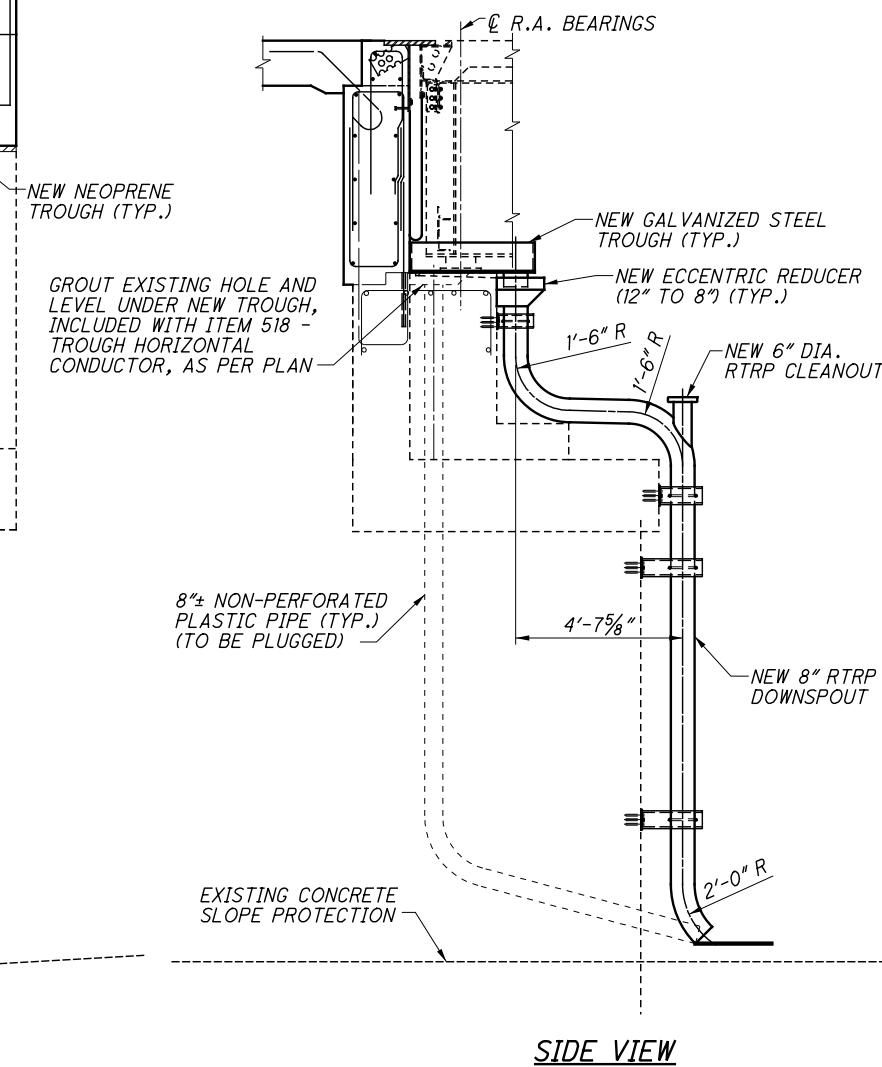
**** PROVIDE 3/4\"/>**

- NOTES:**
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 - PERFORM ONLY THE WORK AS INDICATED IN THE STRUCTURE DATA SHEET, FRAMED TEXT, DESCRIBED AS NEW AND/OR DESCRIBED IN THE GENERAL NOTES.
 - ADDITIONAL JOINT AND BACKWALL DETAILS - SEE SHEET [14/34].
 - DIMENSION "A" JOINT SETTING TABLE - SEE SHEET [14/34].
 - FOR ESTIMATED QUANTITIES SEE SHEET [2/34].

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REAR ABUTMENT DRAINAGE ELEVATION



SIDE VIEW

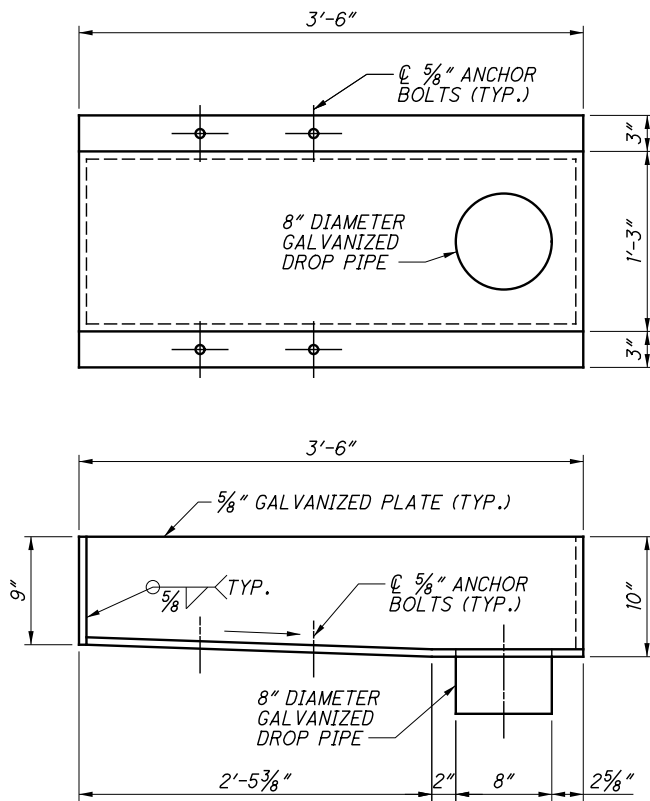
NOTES

MATERIALS SHOWN ARE EXISTING UNLESS OTHERWISE NOTED.

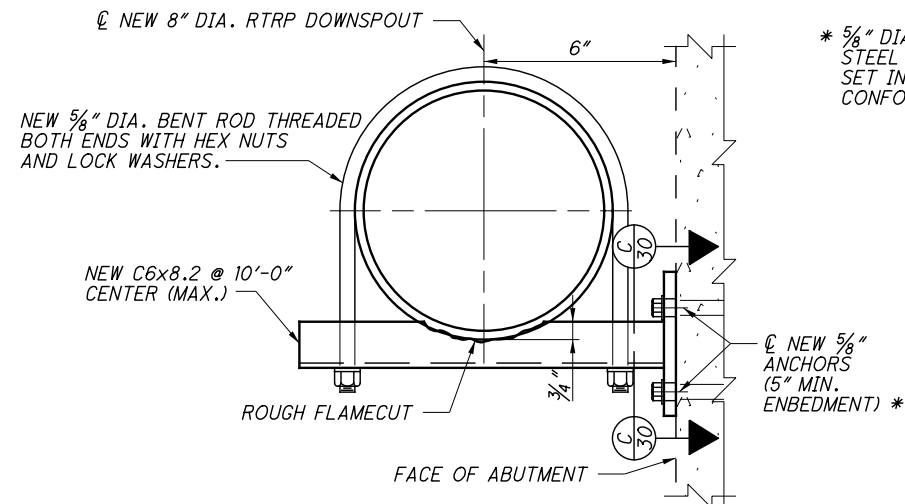
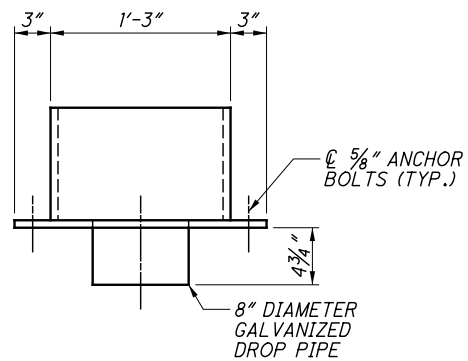
NRNS: NYLON REINFORCED NEOPRENE SHEETING.

D12 BH FY2019 MISC. PID No. 98601	REAR ABUTMENT JOINT & DRAINAGE DETAILS - LOCATION 4 BRIDGE NO. CUY-480N-0136 WN IR 480N TO IR 271X LANE OVER IR 271 SB	DESIGNED BLN	CHECKED dnt	DRAWN JLS	REVISED	DATE DT	STRUCTURE FILE NUMBER 1814591	RICHLAND ENGINEERING LIMITED 29 NORTH PARK STREET MANSFIELD, OHIO 44902
		12-20-18	1814591	12-20-18	1814591	1814591	1814591	1814591

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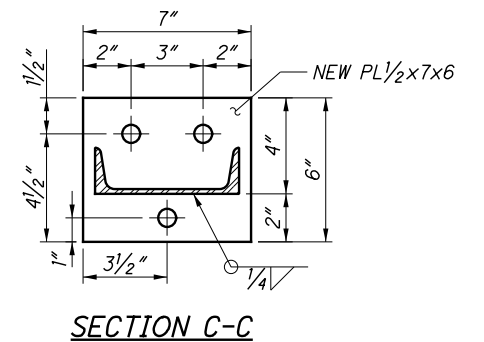


GALVANIZED METAL TROUGH



DOWNSPOUT SUPPORT AT ABUTMENT

* 5/8" DIA. ANCHOR SHALL BE GALVANIZED STEEL THREADED ROD WITH NUT AND WASHERS. SET IN NON-SHRINK, NON-METALLIC GROUT CONFORMING TO CMS 705.20.



ITEM 518 - TROUGH HORIZONTAL CONDUCTOR, AS PER PLAN

THE TROUGHS SHALL BE ASTM A709 STEEL, GALVANIZED IN ACCORDANCE WITH CMS 711.02 (ASTM A123) AFTER FABRICATION.

PAYMENT SHALL BE MADE FOR THE TROUGH, PER LINEAR FOOT UNDER ITEM 518 - TROUGH HORIZONTAL CONDUCTOR, AS PER PLAN

ITEM 518 - PIPE DOWNSPOUT, INCLUDING SPECIALS, AS PER PLAN (8')

THE OUTLET OF THE DOWNSPOUT SHALL BE MODIFIED TO DEPOSIT THE WATER ONTO THE EXISTING CONCRETE SLOPE PROTECTION TROUGHS.

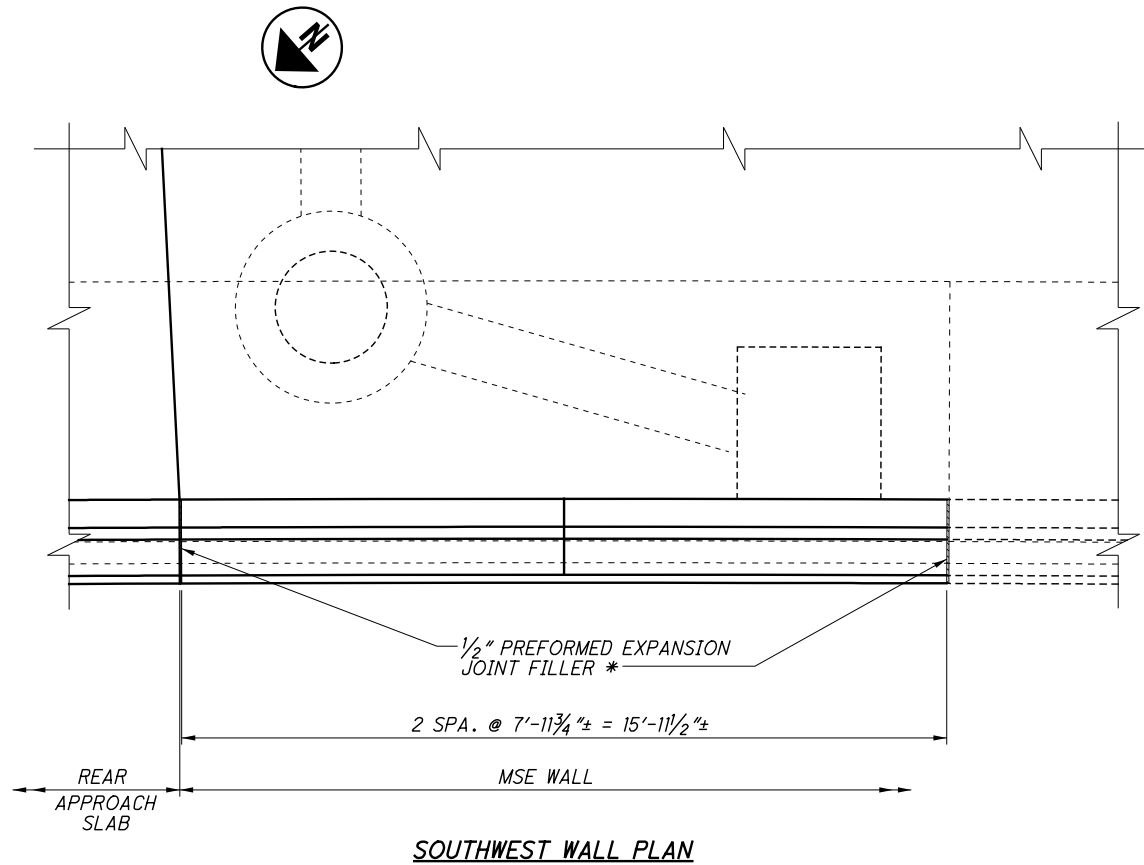
ALL DRAINAGE SCUPPERS, HOPPERS, AND DOWNSPOUT SUPPORTS INCLUDING INCIDENTALS SHALL BE ASTM A709 STEEL GALVANIZED IN ACCORDANCE WITH CMS 711.02 (ASTM A123) AFTER FABRICATION. ALL DOWNSPOUT CONDUIT SHALL BE REINFORCED THERMOSETTING RESIN PIPE (RTRP) ACCORDING TO CMS 707.80.

COMPLETE ALL DOWNSPOUT WORK ON THE ABUTMENTS BEFORE SEALING THE CONCRETE. RTRP CONDUIT SHALL BE PIGMENTED TO MATCH THE COLOR OF THE ELEMENT IT IS ATTACHED TO.

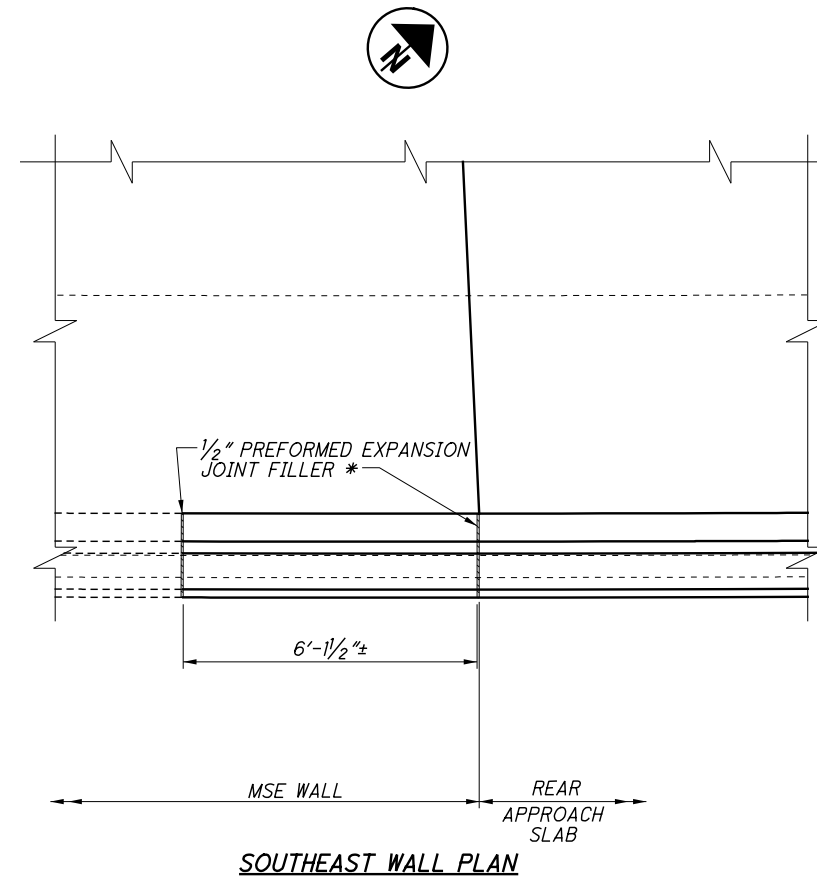
PAYMENT SHALL BE MADE FOR THE PIPE, INCLUDING SPECIALS AND SUPPORTS, PER LINEAR FOOT UNDER ITEM 518 - PIPE DOWNSPOUT, INCLUDING SPECIALS, AS PER PLAN (8').

NOTATION: RTRP - REINFORCED THERMOSETTING RESIN PIPE

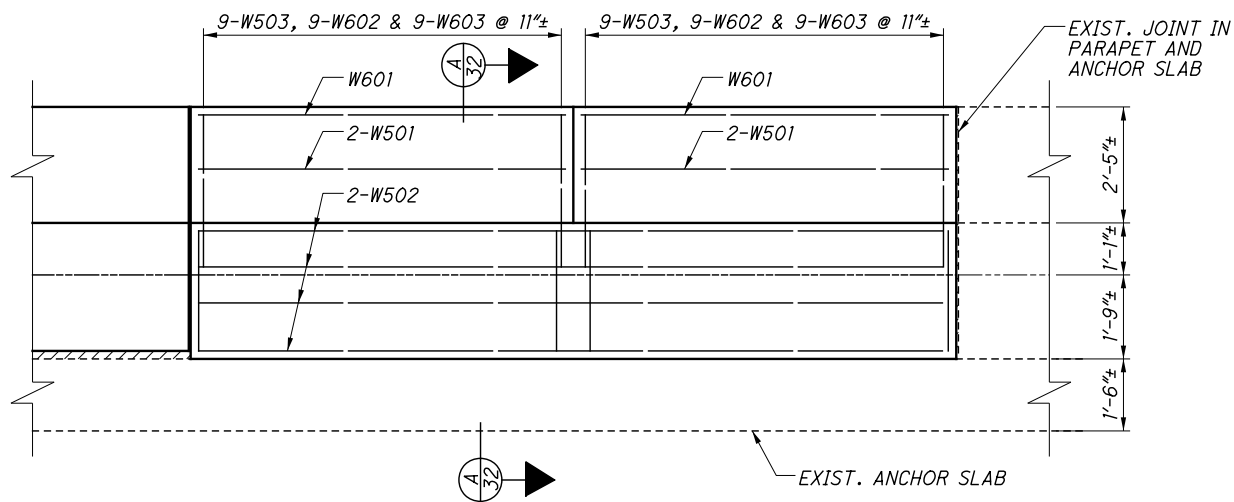
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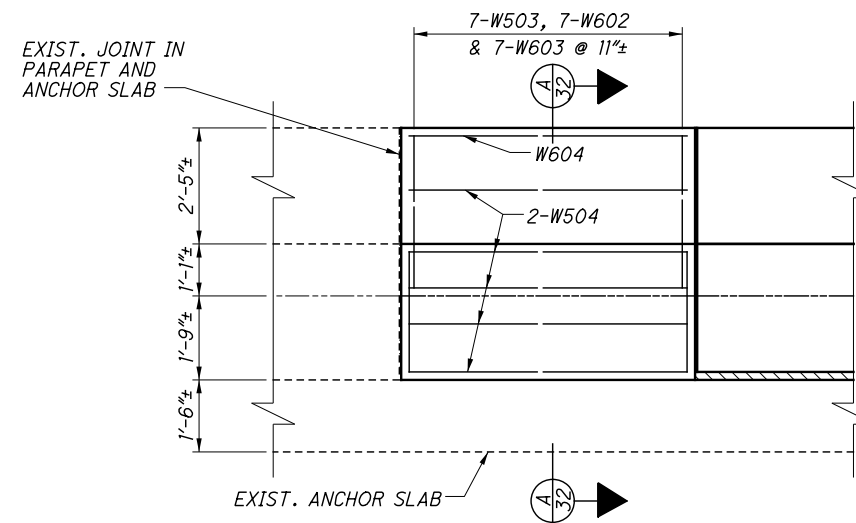
SOUTHWEST WALL PLAN



SOUTHEAST WALL PLAN



ELEVATION



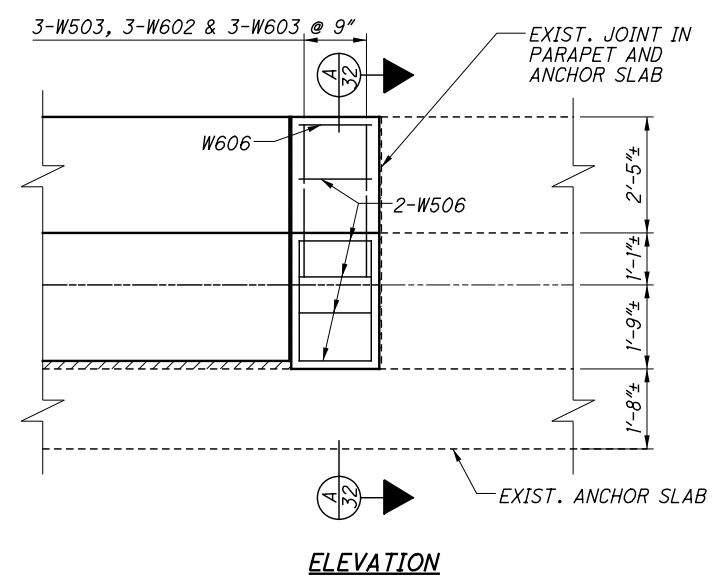
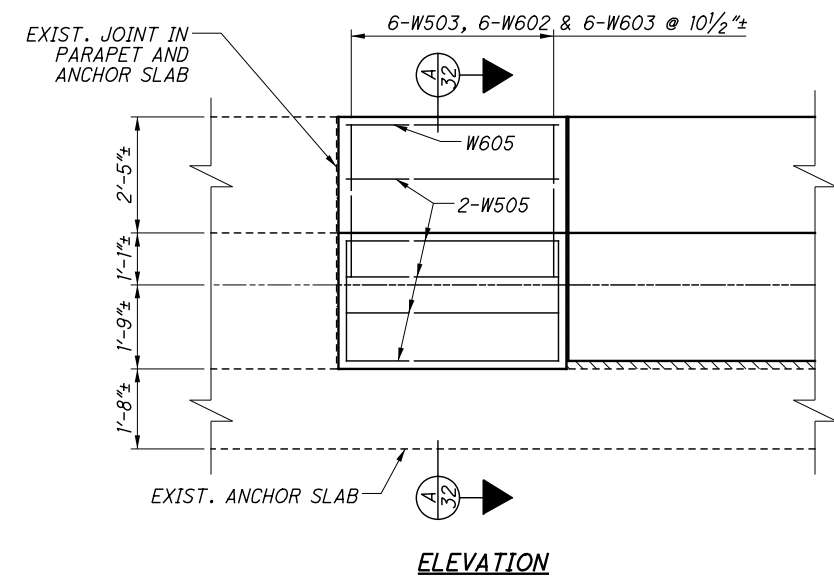
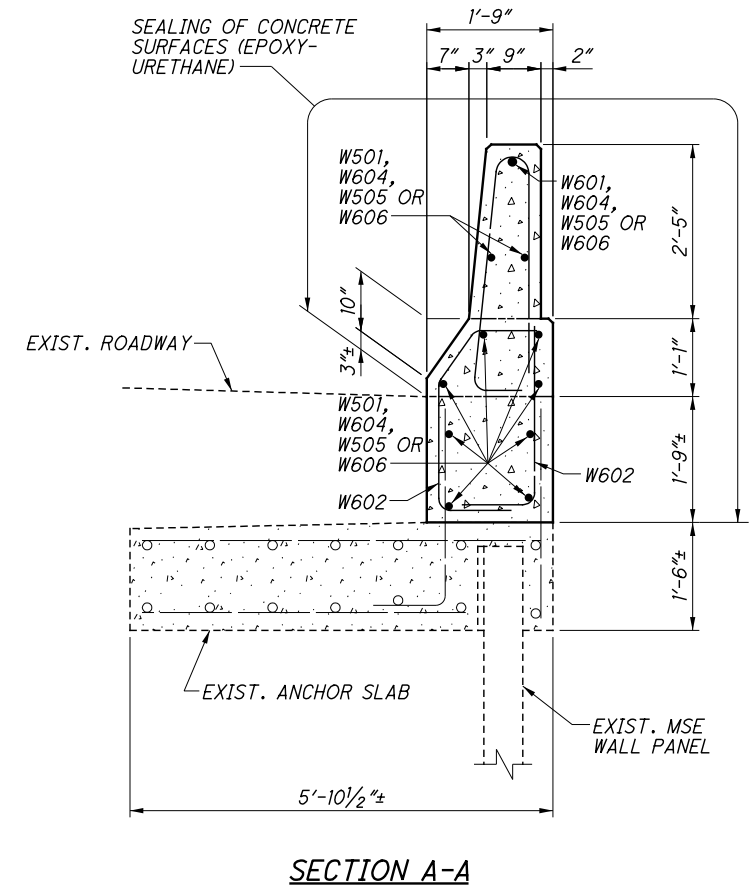
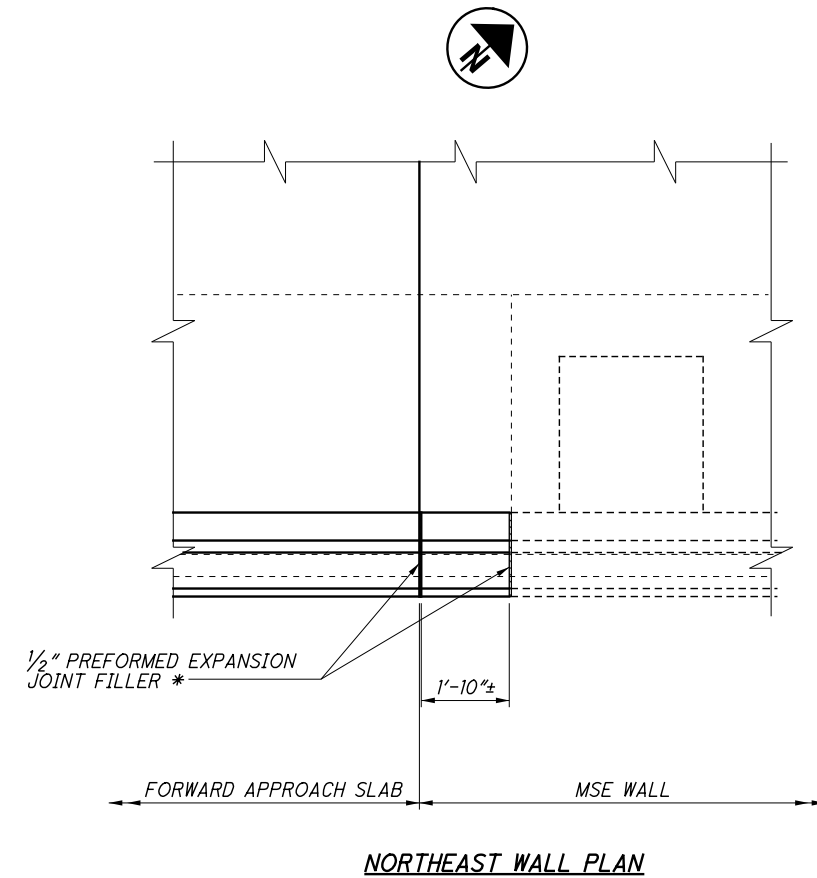
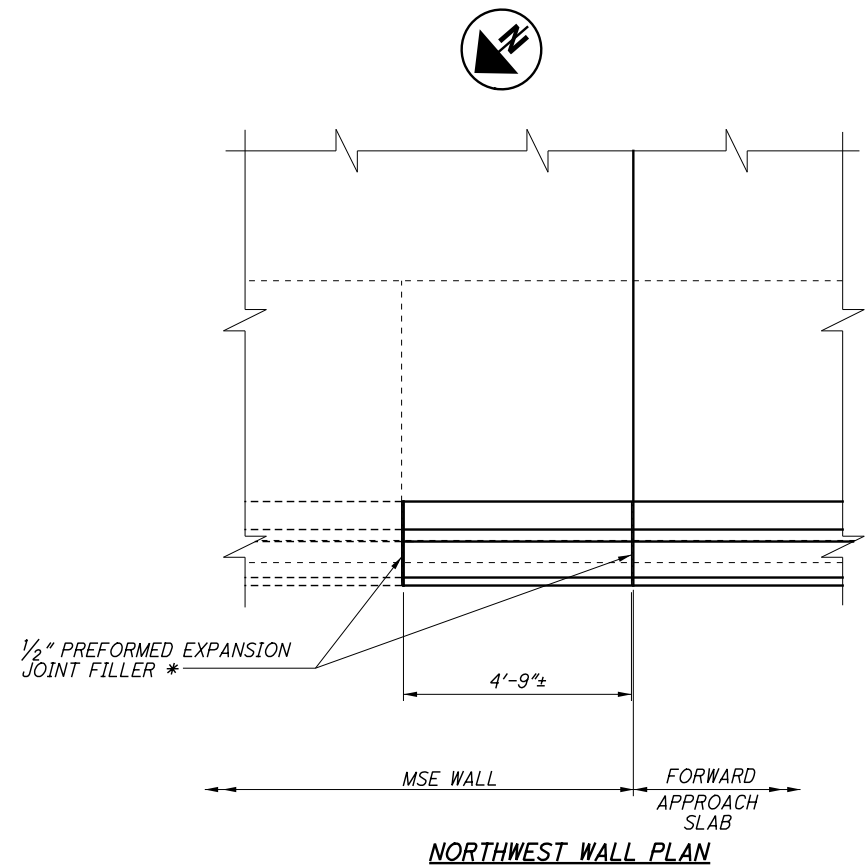
ELEVATION

MSE WALL PARAPET REPLACEMENT

* INCLUDED WITH CONCRETE PARAPET FOR PAYMENT.

- NOTES:**
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 3. FOR ESTIMATED QUANTITIES SEE SHEET 2/34.

F:\2016\116041 D12_Bridge_Rehab\12-BH-FY2019 Misc\ProjectData\98601\Design\Structures\CUY480_0136W\Sheets\480_0136WD002.dgn 1/3/19 2:39:52 PM JeremyBurns

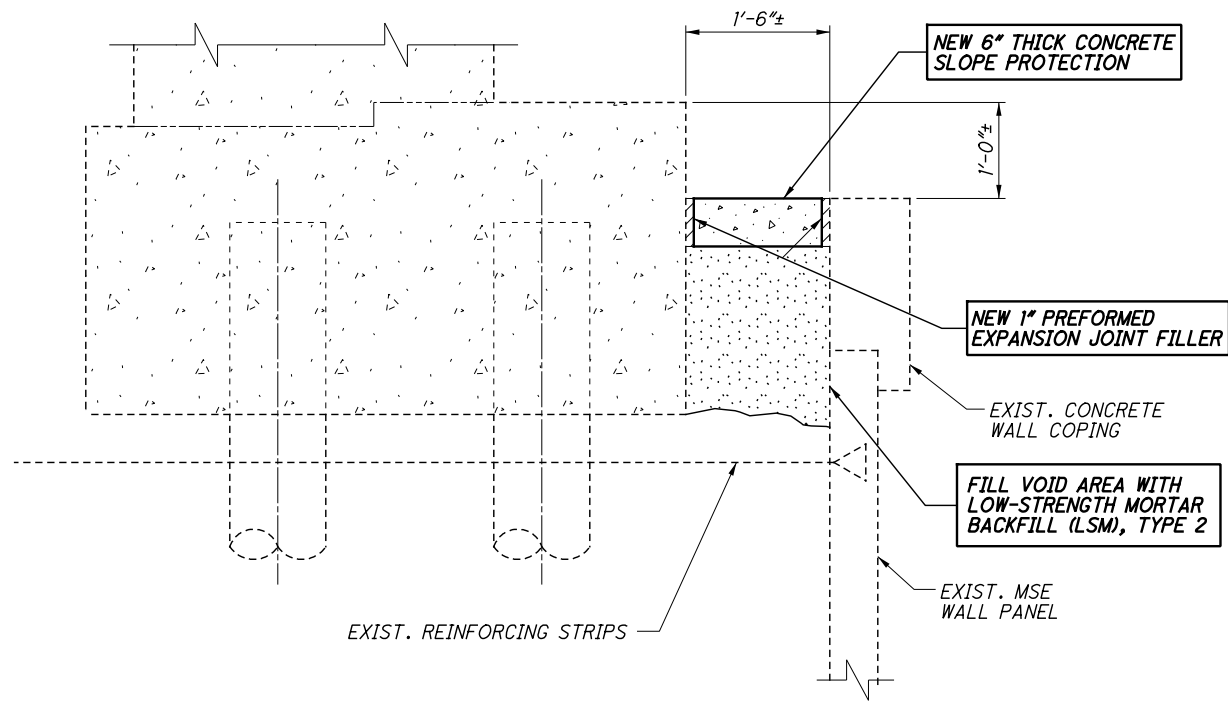


MSE WALL PARAPET REPLACEMENT

* INCLUDED WITH CONCRETE PARAPET FOR PAYMENT.

- NOTES:**
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 3. FOR ESTIMATED QUANTITIES SEE SHEET 2/34.

<p>RICHLAND ENGINEERING LIMITED 29 NORTH PARK STREET MANSFIELD, OHIO 44902</p>	
<p>DATE: 12-20-18 REVIEWED BY: DT DRAWN BY: JLS DESIGNED BY: BLN</p>	<p>STRUCTURE FILE NUMBER: 1814591 REVISIONS: dnt</p>
<p>MSE WALL PARAPET REPLACEMENT - 2 - LOCATION 4 BRIDGE NO. CUY-480N-0136 WN IR 480N TO IR 27X LANE OVER IR 271 SB</p>	
<p>D12 BH FY2019 MISC. PID No. 98601</p>	<p>32/34 130 149</p>



CONCRETE SLOPE PROTECTION REPAIR DETAIL

NOTES:

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2. PERFORM ONLY THE WORK AS INDICATED IN THE STRUCTURE DATA SHEET, FRAMED TEXT, AND/OR DESCRIBED IN THE GENERAL NOTES.
3. 1" PREFORMED EXPANSION JOINT FILLER IS INCLUDED WITH CONCRETE SLOPE PROTECTION FOR PAYMENT.
4. FOR ESTIMATED QUANTITIES SEE SHEET 2/34.

RICHLAND ENGINEERING LIMITED 29 NORTH PARK STREET MANSFIELD, OHIO 44902	
DATE 12-20-18	STRUCTURE FILE NUMBER 1814591
REVIEWED DT	DT
DRAWN JLS	REVISED
DESIGNED BLN	CHECKED dnt
MSE WALL REPAIR DETAILS - LOCATION 4 BRIDGE NO. CUY-480N-0136 WN IR 480N TO IR 27X LANE OVER IR 271 SB	
D12 BH FY2019 MISC.	PID No. 98601
33 / 34	
131 149	

F:\2016\116041 D12 Bridge Rehab\12-BH-FY2019 Misc\ProjectData\98601\Design\Structures\CUY480_0136W\Sheets\480_0136RL001.dgn 1/3/19 3:32:02 PM JeremyBurns

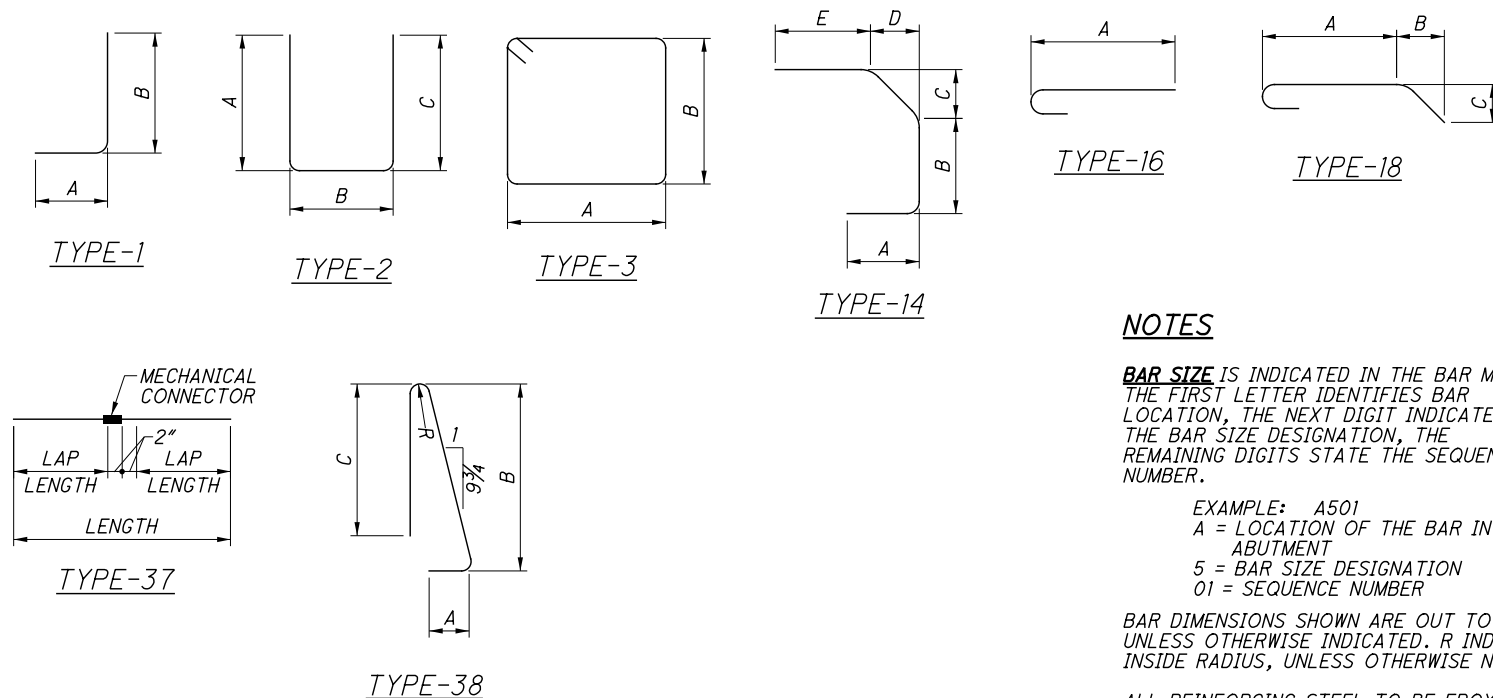
MARK	NUMBER			LENGTH	WEIGHT	TYPE	DIMENSIONS							
	REAR	FORWARD	TOTAL				A	B	C	D	E	R	INC	
ABUTMENTS							CALCULATED <u>JLS</u> DATE 12/18 CHECKED <u>JSB</u> DATE 12/18							
A501	10	6	16	6'-6"	108	37	3'-1"							
A502	6	2	8	26'-4"	220	STR								
A503	4	4	8	27'-5"	229	STR								
A504	6	2	8	22'-4"	186	STR								
A505	4	4	8	23'-5"	195	STR								
A506	2		2	17'-10"	37	STR								
A507	8	8	16	7'-1"	118	38	0'-8"	3'-3"	3'-0"				0'-2 1/2"	
A508	12	12	24	0'-11"	23	STR								
A601	4	4	8	7'-8"	92	37	3'-8"							
A602	4	4	8	27'-5"	329	STR								
A603	4	4	8	23'-5"	281	STR								
A604	98		98	4'-6"	662	STR								
A605	104		104	9'-6"	1,484	2	4'-2"	1'-6"	4'-2"					
A606	52		52	8'-9"	670	2	4'-0"	0'-11"	4'-0"					
A607	2		2	6'-8"	20	3	1'-6"	1'-5"						
A608	2		2	5'-9"	17	2	2'-7"	0'-11"	2'-7"					
A609		17	17	7'-6"	192	3	1'-8"	1'-8"						
A610		6	6	7'-8"	69	3	1'-8"	1'-9"						
A611		18	18	7'-10"	212	3	1'-8"	1'-10"						
A612		5	5	8'-0"	60	3	1'-8"	1'-11"						
A613		6	6	8'-2"	74	3	1'-8"	2'-0"						
A614		32	32	6'-10"	328	2	3'-1"	1'-0"	3'-1"					
A615		42	42	6'-6"	410	2	2'-11"	1'-0"	2'-11"					
A616		30	30	6'-8"	300	2	3'-0"	1'-0"	3'-0"					
A617		2	2	7'-1"	21	3	1'-8"	1'-5 1/2"						
A618		4	4	6'-1"	37	2	2'-8 1/2"	1'-0"	2'-8 1/2"					
A619	8	8	16	3'-10"	92	14	1'-0"	1'-3 1/4"	0'-8 3/4"	0'-6"	0'-11"			
A620	8	8	16	2'-10"	68	1	1'-0"	2'-0"						
A621	2	2	4	0'-11"	6	STR								
D801	36	36	72	4'-10"	929	18	2'-7 1/4"	1'-0"	1'-0"					
TOTAL					7,469									

MARK	NUMBER			LENGTH	WEIGHT	TYPE	DIMENSIONS							
	REAR	FORWARD	TOTAL				A	B	C	D	E	R	INC	
APPROACH SLABS							CALCULATED <u>JLS</u> DATE 12/18 CHECKED <u>JSB</u> DATE 12/18							
AS501	49	49	98	5'-4"	545**	37	2'-6"							
AS502	49	49	98	27'-4"	2,794	STR								
AS503	49	49	98	23'-4"	2,385	STR								
AS504	37	37	74	20'-9"	1,602	STR								
AS505	37	37	74	20'-10"	1,608	STR								
AS601	48	48	96	3'-10"	553	14	1'-0"	1'-7 1/2"	1'-8 1/2"	0'-6"	0'-7"			
AS602	48	48	96	3'-2"	457	1	1'-0"	2'-4"						
AS1001	90		90	22'-2"	8,584	16	20'-9"							
AS1002		90	90	22'-3"	8,617	16	20'-10"							
TOTAL					27,145*									

MARK	NUMBER			LENGTH	WEIGHT	TYPE	DIMENSIONS							
	REAR	FORWARD	TOTAL				A	B	C	D	E	R	INC	
APPROACH SLABS RAILING							CALCULATED <u>JLS</u> DATE 12/18 CHECKED <u>JSB</u> DATE 12/18							
R501	8		8	10'-4"	86	STR								
R502	8		8	21'-1"	176	STR								
R503	48	48	96	7'-1"	709	38	0'-8"	3'-3"	3'-0"				0'-2 1/2"	
R504		8	8	10'-5"	87	STR								
R505		8	8	21'-2"	177	STR								
R601	4		4	10'-4"	62	STR								
R601		4	4	10'-5"	63	STR								
TOTAL					1,360									

* FOR INFORMATIONAL PURPOSES ONLY.
** DOES NOT INCLUDE MECHANICAL CONNECTOR

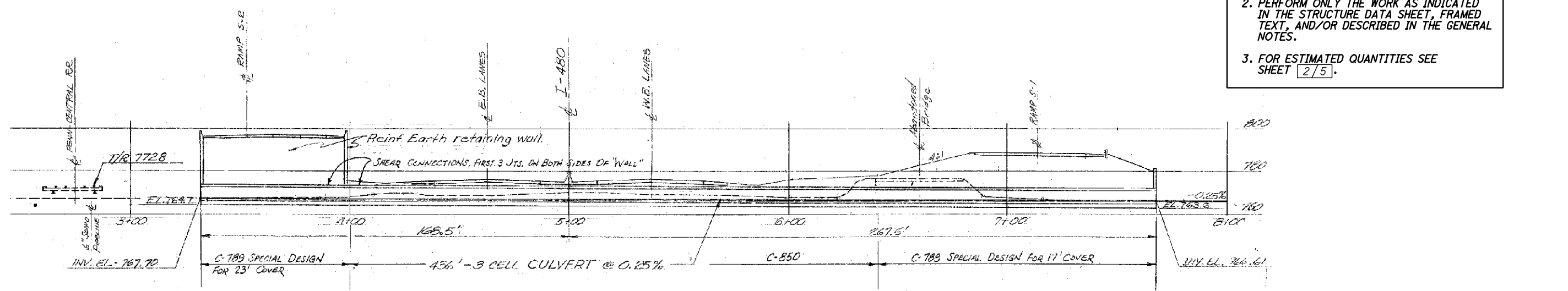
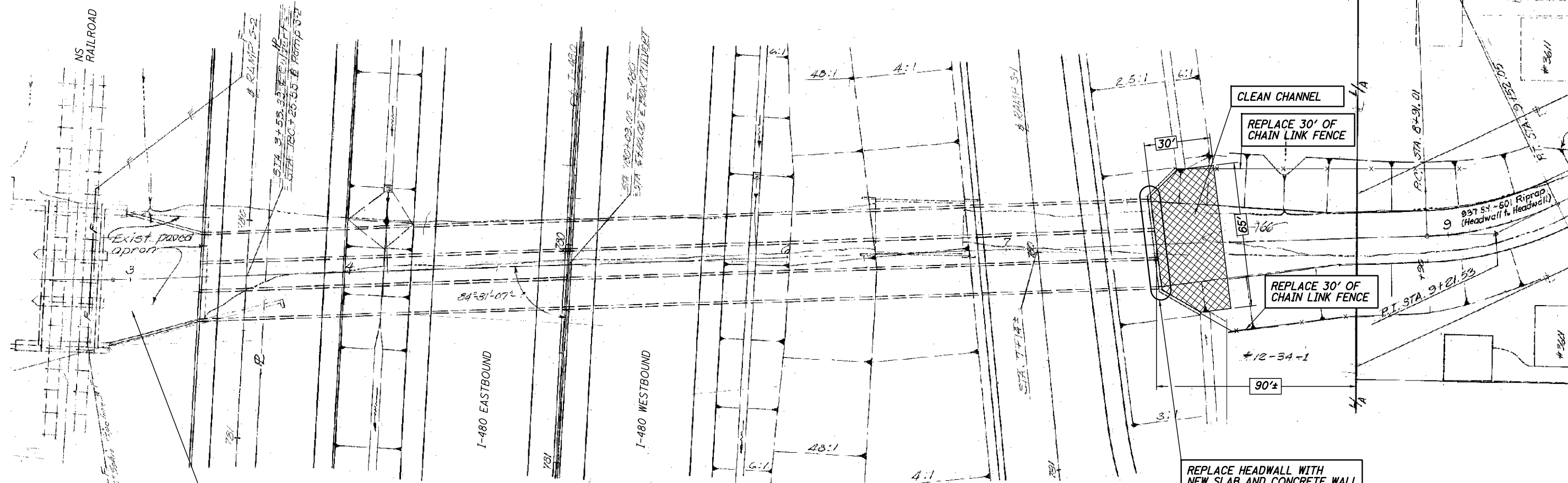
MARK	NUMBER	LENGTH	WEIGHT	TYPE	DIMENSIONS									
	TOTAL				A	B	C	D	E	R	INC			
MSE WALL PARAPET					CALCULATED <u>JLS</u> DATE 12/18 CHECKED <u>JSB</u> DATE 12/18									
W501	4	7'-7"	32	STR										
W502	8	15'-7"	130	STR										
W503	34	7'-1"	251	38	0'-8"	3'-3"	3'-0"						0'-2 1/2"	
W504	10	5'-9"	60	STR										
W505	10	4'-5"	46	STR										
W506	10	1'-6"	16	STR										
W601	2	7'-7"	23	STR										
W602	34	3'-2"	162	1	1'-0"	2'-4"								
W603	34	3'-10"	196	14	1'-0"	1'-7 1/2"	0'-8 1/2"	0'-6"	0'-7"					
W604	1	5'-9"	9	STR										
W605	1	4'-5"	7	STR										
W606	1	1'-6"	2	STR										
TOTAL			934											



NOTES
BAR SIZE IS INDICATED IN THE BAR MARK. THE FIRST LETTER IDENTIFIES BAR LOCATION, THE NEXT DIGIT INDICATES THE BAR SIZE DESIGNATION, THE REMAINING DIGITS STATE THE SEQUENCE NUMBER.
 EXAMPLE: A501
 A = LOCATION OF THE BAR IN ABUTMENT
 5 = BAR SIZE DESIGNATION
 01 = SEQUENCE NUMBER
 BAR DIMENSIONS SHOWN ARE OUT TO OUT UNLESS OTHERWISE INDICATED. R INDICATES INSIDE RADIUS, UNLESS OTHERWISE NOTED.
 ALL REINFORCING STEEL TO BE EPOXY COATED.

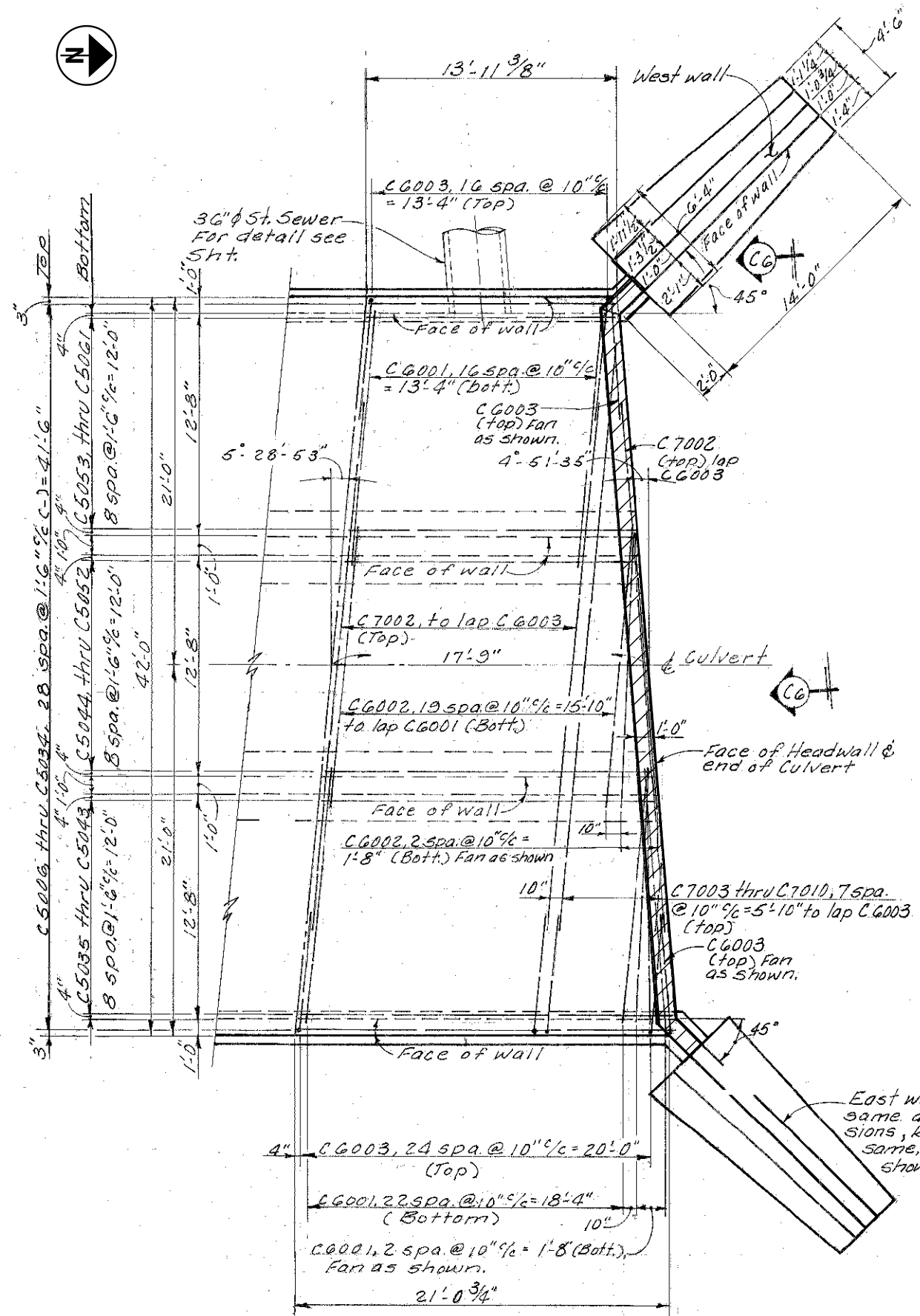
RICHLAND ENGINEERING LIMITED
 29 NORTH PARK STREET
 MANSFIELD, OHIO 44902
 DATE 12-20-18
 DT
 STRUCTURE FILE NUMBER 1814591
 REVIEWED JLS
 DRAWN JLS
 DESIGNED BLN
 CHECKED dnt
REINFORCING STEEL LISTS - LOCATION 4
 BRIDGE NO. CUY-480N-0136 WN
 IR 480N TO IR 27X LANE OVER IR 271 SB
D12 BH FY2019 MISC.
 PID No. 98601
 34/34
 132
 149

F:\2016\16041 D12 Bridge Rehab\12-BH-FY2019 Misc\ProjectData\98601\Design\Structures\CUY480_1428C\Sheets\480_1428G\PO01.dgn 12/20/18 4:22:22 PM JeremyBurns



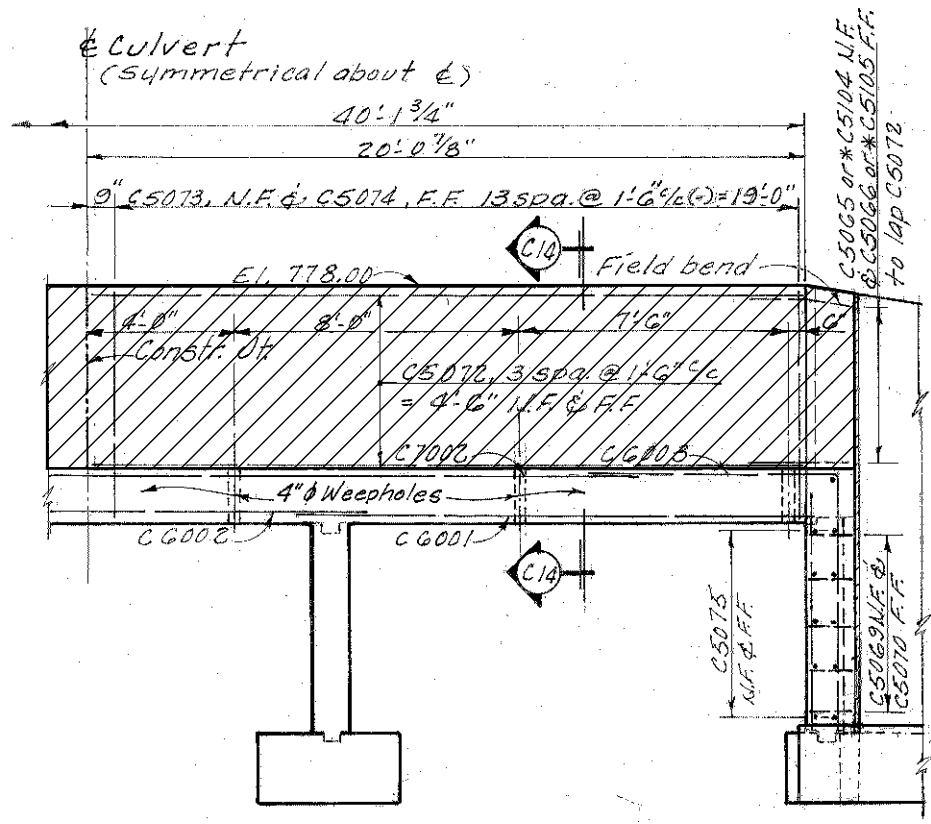
NOTES:

1. DETAILS ON THIS SHEET ARE TAKEN FROM EXISTING PLANS AND SHOULD BE USED FOR INFORMATION PURPOSES ONLY.
2. PERFORM ONLY THE WORK AS INDICATED IN THE STRUCTURE DATA SHEET, FRAMED TEXT, AND/OR DESCRIBED IN THE GENERAL NOTES.
3. FOR ESTIMATED QUANTITIES SEE SHEET 2/5.

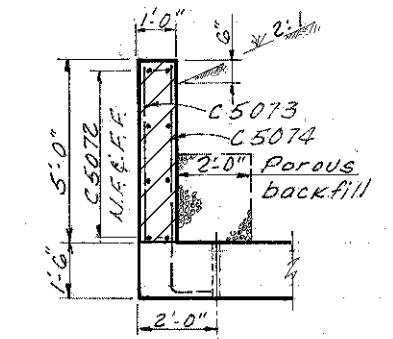


NORTH OUTLET PLAN

East wall dimensions same as west wall dimensions, reinforcing bars same, unless otherwise shown.



HALF VIEW C6-C6

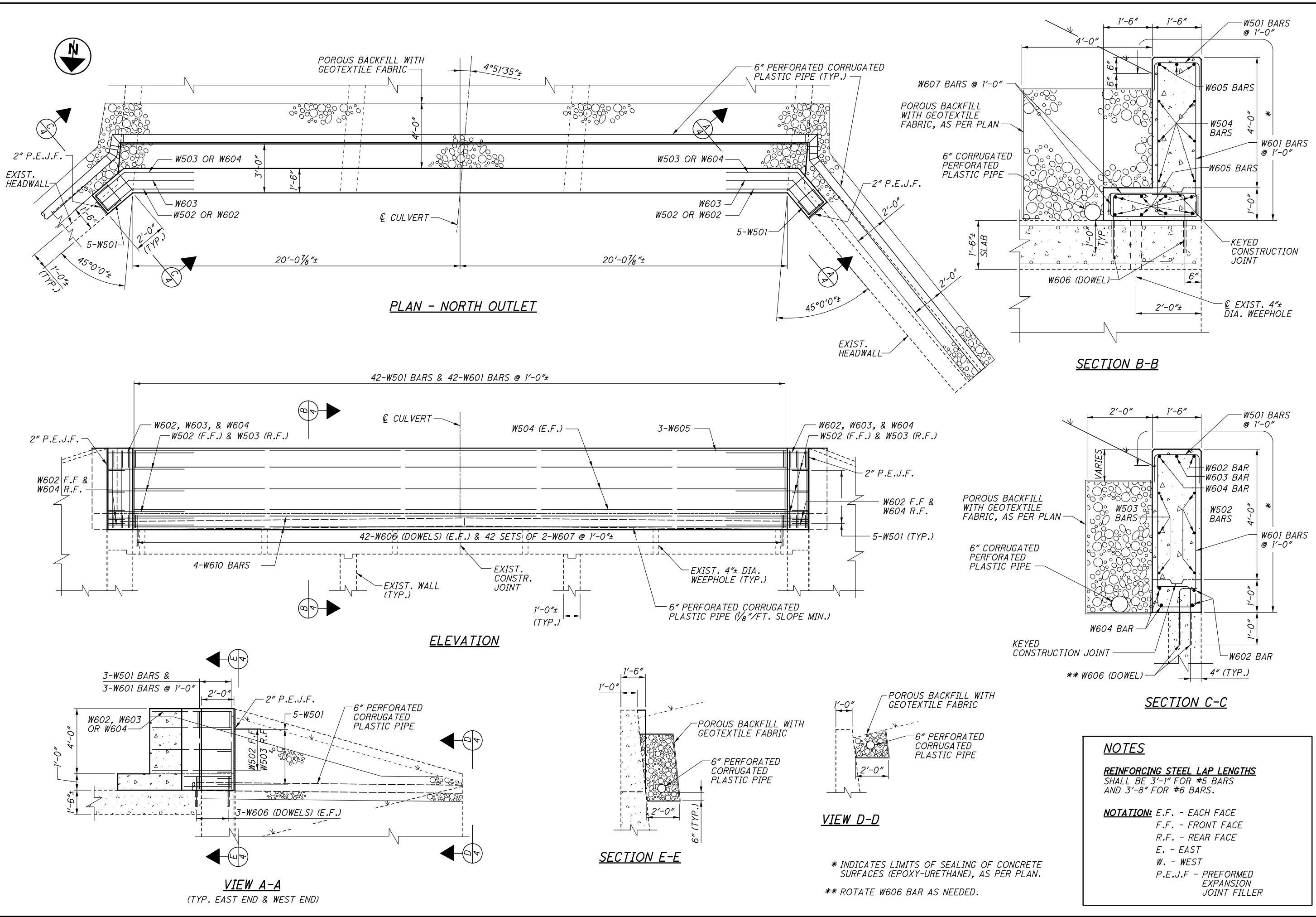


SECTION C14-C14

- INDICATES REMOVAL PER ITEM 202 - PORTIONS OF STRUCTURE REMOVED, AS PER PLAN.

- NOTES:**
1. DETAILS ON THIS SHEET ARE TAKEN FROM EXISTING PLANS AND SHOULD BE USED FOR INFORMATION PURPOSES ONLY.
 2. PERFORM ONLY THE WORK AS INDICATED IN THE STRUCTURE DATA SHEET, FRAMED TEXT, AND/OR DESCRIBED IN THE GENERAL NOTES.
 3. FOR ESTIMATED QUANTITIES SEE SHEET 2/5.

F:\2016\116041 D12 Bridge Rehab\12-BH-FY2019 Misc\ProjectData\98601\Design\Structures\CUY480_1428C\Sheets\480_1428MD002.dgn 1/4/2019 9:35:30 AM JeffSmith



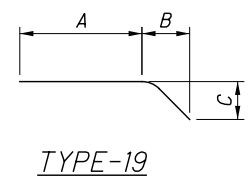
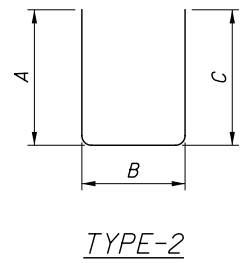
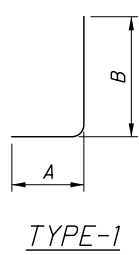
NOTES

REINFORCING STEEL LAP LENGTHS
 SHALL BE 3'-1" FOR #5 BARS
 AND 3'-8" FOR #6 BARS.

NOTATION: E.F. - EACH FACE
 F.F. - FRONT FACE
 R.F. - REAR FACE
 E. - EAST
 W. - WEST
 P.E.J.F. - PREFORMED
 EXPANSION
 JOINT FILLER

* INDICATES LIMITS OF SEALING OF CONCRETE SURFACES (EPOXY-URETHANE), AS PER PLAN.
 ** ROTATE W606 BAR AS NEEDED.

MARK	NUMBER	LENGTH	WEIGHT	TYPE	DIMENSIONS						
	TOTAL				A	B	C	D	E	R	INC
HEADWALL					CALCULATED <u>DPH</u> DATE <u>11-18</u>						
					CHECKED <u>JSB</u> DATE <u>12-18</u>						
W501	58	2'-7"	156	2	0'-10"	1'-2"	0'-10"				
W502	6	5'-1"	32	19	3'-2 3/4"	1'-5 1/4"	1'-2 3/4"				
W503	6	5'-11"	37	19	3'-7 3/4"	1'-9 1/4"	1'-6"				
W504	6	40'-0"	250	STR							
W601	48	10'-2"	733	2	4'-8"	1'-2"	4'-8"				
W602	6	5'-8"	51	19	3'-9 3/4"	1'-5 1/4"	1'-2 3/4"				
W603	2	6'-1"	18	19	4'-0 1/4"	1'-7 1/4"	1'-4 1/4"				
W604	6	6'-6"	59	19	4'-2 3/4"	1'-9 1/4"	1'-6"				
W605	11	40'-0"	661	STR							
W606	96	2'-8"	385	1	1'-0"	1'-10"					
W607	84	3'-8"	463	2	0'-8"	2'-8"	0'-8"				
TOTAL			2,845								



NOTES

BAR SIZE IS INDICATED IN THE BAR MARK. THE FIRST LETTER IDENTIFIES BAR LOCATION, THE NEXT DIGIT INDICATES THE BAR SIZE DESIGNATION, THE REMAINING DIGITS STATE THE SEQUENCE NUMBER.

EXAMPLE: A501
 W = LOCATION OF THE BAR (WALL)
 5 = BAR SIZE DESIGNATION
 01 = SEQUENCE NUMBER

BAR DIMENSIONS SHOWN ARE OUT TO OUT UNLESS OTHERWISE INDICATED. R INDICATES INSIDE RADIUS, UNLESS OTHERWISE NOTED.

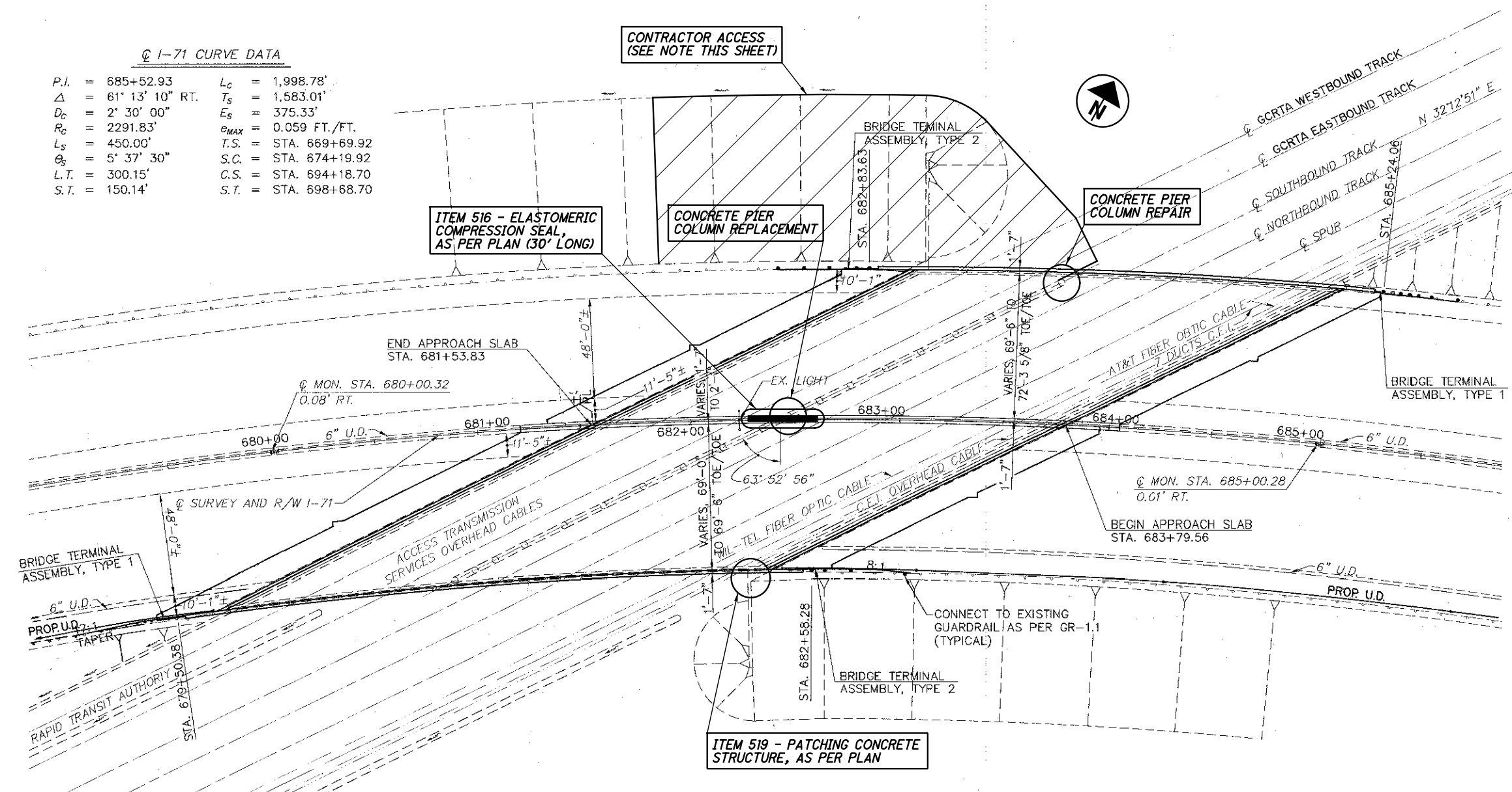
ALL REINFORCING STEEL TO BE EPOXY COATED.

D12 BH FY2019 MISC.	REINFORCING STEEL LIST - LOCATION 5	RICHLAND ENGINEERING LIMITED 29 NORTH PARK STREET MANSFIELD, OHIO 44902 	BRIDGE NO. CUY-480-1428 OVER STICKNEY CREEK
5 / 5	PID No. 98601	REVIEWED DATE 12-20-18 DT STRUCTURE FILE NUMBER 1813129	DESIGNED BLN CHECKED dnt
137	149		

F:\2016\116041 D12 Bridge Rehab\12-BH-FY2019 Misc\ProjectData\98601\Design\Structures\CUY071_1147C\Sheets\071_1147GP001.dgn 1/14/2019 2:32:25 PM JeffSmith

CL 1-71 CURVE DATA

P.I. = 685+52.93	L _C = 1,998.78'
Δ = 61° 13' 10" RT.	T _S = 1,583.01'
D _C = 2' 30' 00"	E _S = 375.33'
R _C = 2291.83'	Q _{MAX} = 0.059 FT./FT.
L _S = 450.00'	T.S. = STA. 669+69.92
Q _S = 5' 37' 30"	S.C. = STA. 674+19.92
L.T. = 300.15'	C.S. = STA. 694+18.70
S.T. = 150.14'	S.T. = STA. 698+68.70



CONTRACTOR ACCESS

CONTRACTOR ACCESS TO PERFORM PIER COLUMN WORK SHALL BE FROM ABOVE AT IR-71 LEVEL. ALL EQUIPMENT, MATERIAL, AND LABOR REQUIRED TO PERFORM WORK SHALL BE HAULED OVER EXISTING BRIDGE PARAPET, ABUTMENT WINGWALL, OR DOWN EXISTING SLOPE. EXISTING GUARDRAIL AND FENCE IMPACTS REQUIRED FOR CONTRACTOR'S ACCESS SHALL BE CONSIDERED INCIDENTAL TO PIER COLUMN WORK. EXISTING GUARDRAIL AND FENCE MUST BE RECONNECTED AND RESTORED TO EXISTING CONDITION DAILY DURING NON-WORKING HOURS. CONTRACTOR SHALL COMPLETE WORK DURING THE TARGET DATES OF THE RTA TRACK OUTAGES. SEE MOT SHEET 8 FOR ADDITIONAL INFORMATION. NO PROVISIONS HAVE BEEN PROVIDED FOR CONTRACTOR ACCESS ACROSS THE NORFOLK SOUTHERN TRACKS. ALL PIER COLUMN REPAIR AND REPLACEMENT WORK IS TO BE PERFORMED FROM THE GCRTA SIDE OF THE PIER COLUMN AND CRASH WALL.

EXISTING PROFILE ELEV. RIGHT	PROP. PROFILE ELEV. RIGHT	STATION	DESCRIPTION
823.59	826.11	680+00	BRIDGE TERMINAL ASSEMBLY, TYPE 1
824.62	826.31	681+00	END APPROACH SLAB STA. 681+53.83
825.16	826.49	682+00	CONCRETE PIER COLUMN REPLACEMENT
825.74	826.64	682+00	ITEM 516 - ELASTOMERIC COMPRESSION SEAL, AS PER PLAN (30' LONG)
826.15	826.78	683+00	BRIDGE TERMINAL ASSEMBLY, TYPE 2
826.50	826.90	683+00	CONCRETE PIER COLUMN REPLACEMENT
826.72	826.99	684+00	ITEM 519 - PATCHING CONCRETE STRUCTURE, AS PER PLAN
826.89	827.07	684+00	BRIDGE TERMINAL ASSEMBLY, TYPE 2
827.15	827.12	685+00	BEGIN APPROACH SLAB STA. 683+79.56
827.15	827.16	685+00	BRIDGE TERMINAL ASSEMBLY, TYPE 1
826.91	827.17	685+00	CONCRETE PIER COLUMN REPLACEMENT
826.76	827.17	685+00	ITEM 516 - ELASTOMERIC COMPRESSION SEAL, AS PER PLAN (30' LONG)
826.55	827.17	685+00	BRIDGE TERMINAL ASSEMBLY, TYPE 1
826.34	827.17	685+00	BRIDGE TERMINAL ASSEMBLY, TYPE 1

NOTES:

1. DETAILS ON THIS SHEET ARE TAKEN FROM EXISTING PLANS AND SHOULD BE USED FOR INFORMATION PURPOSES ONLY.
2. PERFORM ONLY THE WORK AS INDICATED IN THE STRUCTURE DATA SHEET, FRAMED TEXT, AND/OR DESCRIBED IN THE GENERAL NOTES.
3. FOR ESTIMATED QUANTITIES SEE SHEET 2/7.

F:\2016\16041 D12 Bridge Rehab\D12-BH-FY2019 Misc\ProjectData\98601\Design\Structures\CUY071_1147C\Sheets\071_1147EQ001.dgn 12/31/2018 3:53:07 PM JeffSmith

ESTIMATED QUANTITIES

CALCULATED JLS DATED 11/18
 CHECKED DT DATED 12/18

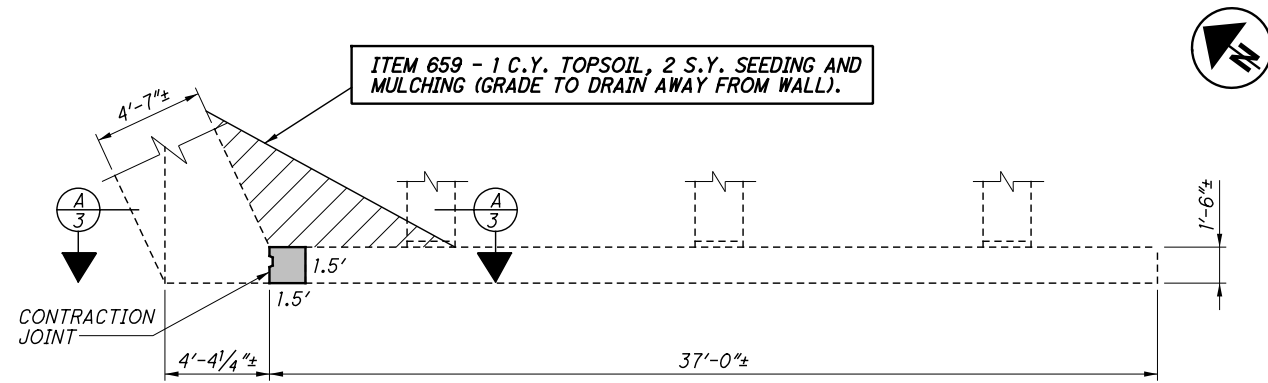
ITEM	EXT.	QUANTITY	UNIT	DESCRIPTION	SUPERSTRUCTURE	ABUTS.	PIERS	GENERAL	REF. SHEET
202	11203	LS		PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN				LS	43
509	10000	1407	LB	EPOXY COATED REINFORCING STEEL			1407		
511	43210	6	CY	CLASS QC1 CONCRETE, PIER REPAIR OR RECONSTRUCTION			6		
512	10101	30 *	SY	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE), AS PER PLAN		8	22		43
516	10010	30	FT	ARMORLESS PREFORMED JOINT SEAL	30				
516	47001	LS		JACKING AND TEMPORARY SUPPORT OF SUPERSTRUCTURE, AS PER PLAN				LS	43
SPECIAL	51900100	80	SF	COMPOSITE FIBER WRAP SYSTEM			80		44
519	11101	72 †	SF	PATCHING CONCRETE STRUCTURE, AS PER PLAN		48		24	44
844	10001	37	SF	CONCRETE PATCHING WITH GALVANIC ANODE PROTECTION, AS PER PLAN			37		44

* SEALING LIMITS INCLUDE SEALING 6" OUTSIDE OF THE LIMITS OF CONCRETE PATCHING.

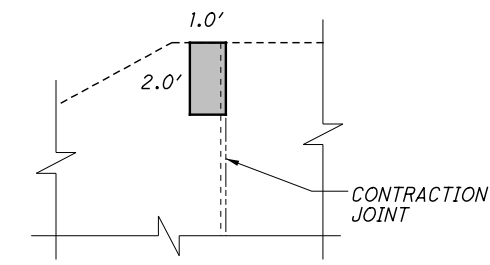
† QUANTITY INCLUDES 24 S.F. TO BE USED AS DIRECTED BY THE ENGINEER.

RICHLAND ENGINEERING LIMITED 29 NORTH PARK STREET MANSFIELD, OHIO 44902 	
DATE 12-20-18 DT	STRUCTURE FILE NUMBER 1804774
REVIEWED DT	DESIGNER BLN
DRAIN JLS	CHECKED DNT
ESTIMATED QUANTITIES - LOCATION 6 BRIDGE NO. CUY-71-1147 IR 71 OVER NS RAILROAD & RTA	D12 BH FY2019 MISC. PID No. 98601
2 / 7	139 149

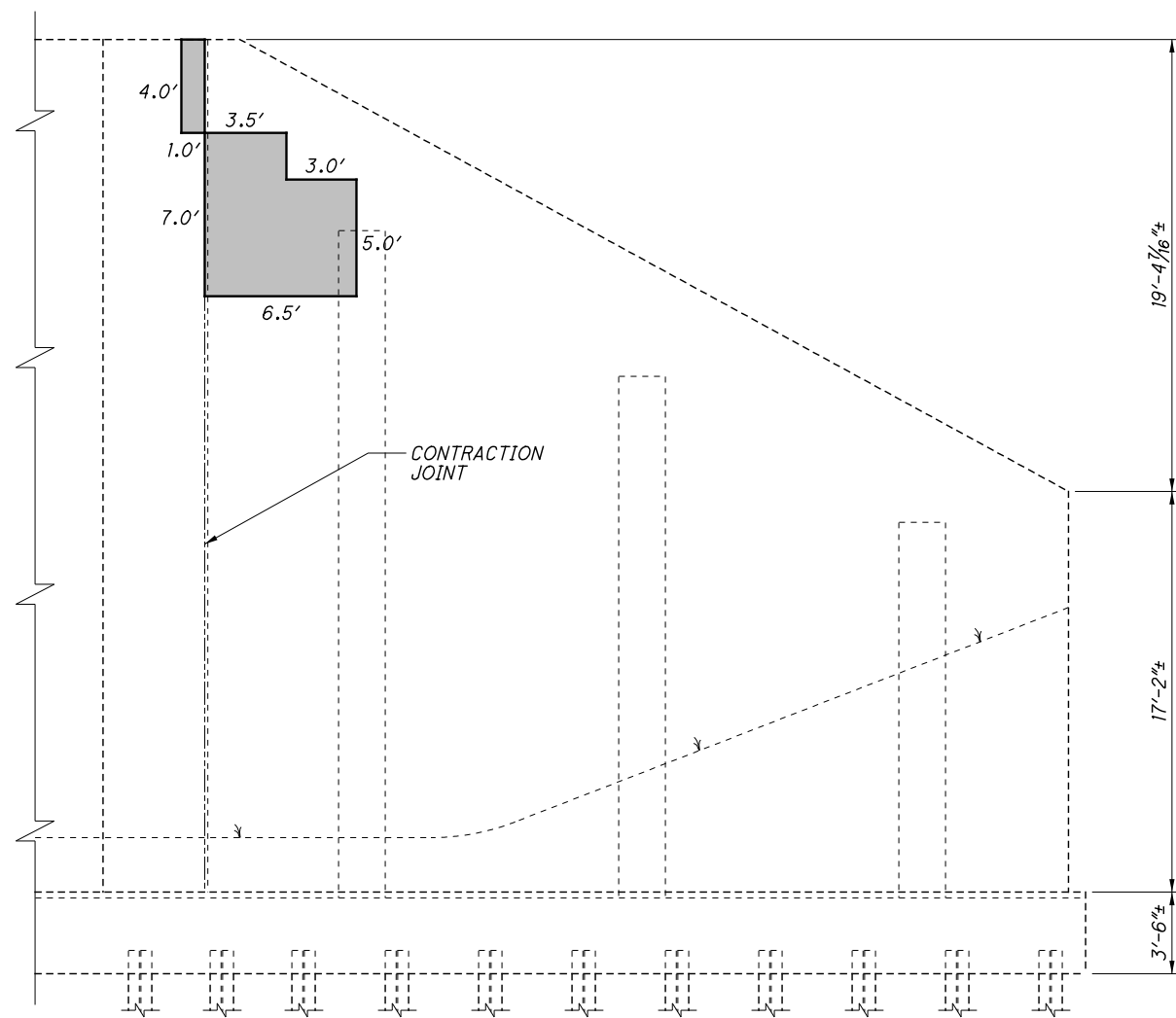
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PLAN - SOUTHEAST WINGWALL



VIEW A-A



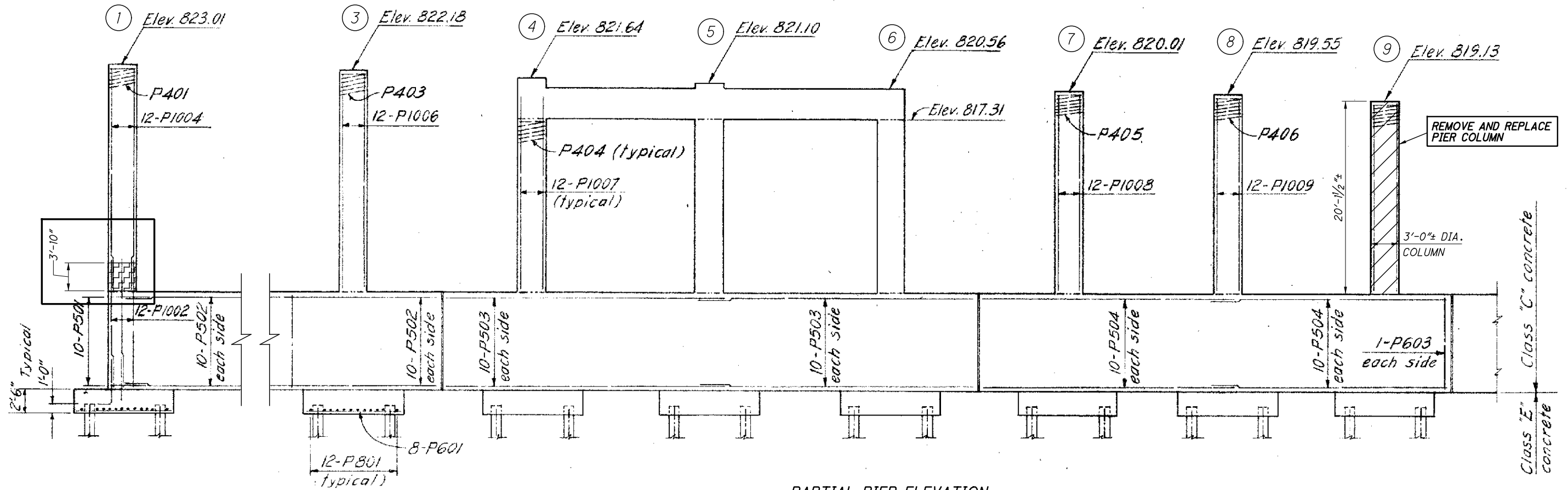
ELEVATION - SOUTHEAST WINGWALL

LEGEND

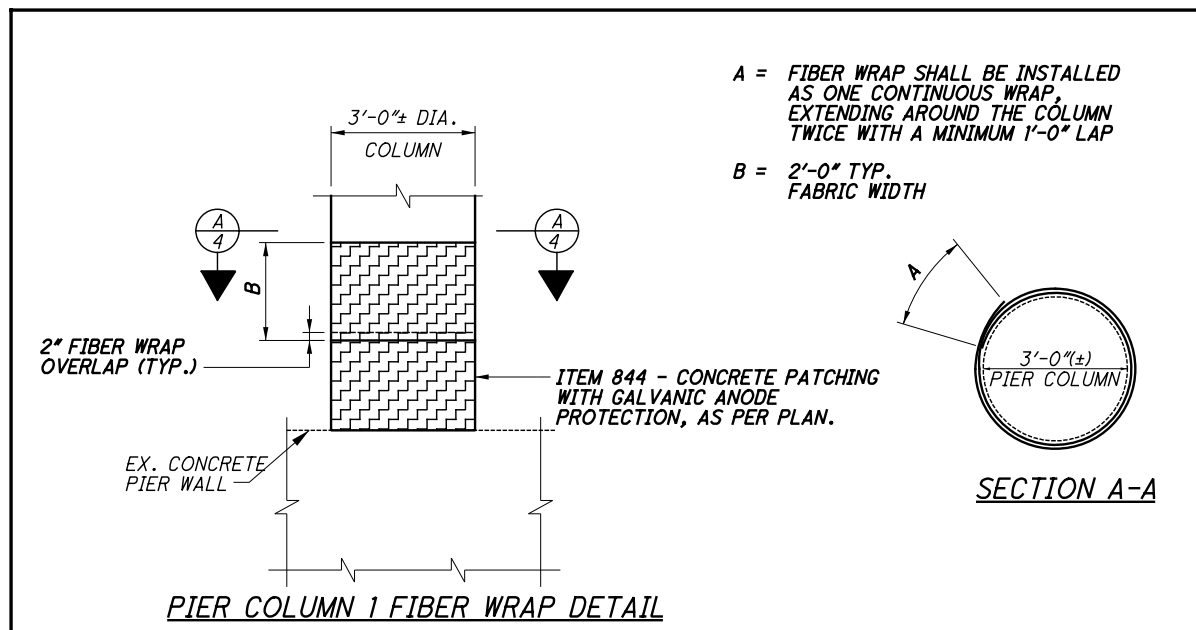
INCLUDED WITH ITEM 519 - PATCHING CONCRETE STRUCTURE, AS PER PLAN.

- NOTES:**
1. DETAILS ON THIS SHEET ARE TAKEN FROM EXISTING PLANS AND SHOULD BE USED FOR INFORMATION PURPOSES ONLY.
 2. PERFORM ONLY THE WORK AS INDICATED IN THE STRUCTURE DATA SHEET, FRAMED TEXT, AND/OR DESCRIBED IN THE GENERAL NOTES.
 3. FOR ESTIMATED QUANTITIES SEE SHEET 2/7.

F:\2016\16041 D12 Bridge Rehab\12-BH-FY2019 Misc\ProjectData\98601\Design\Structures\CUY071_1147C\Sheets\071_1147P1001.dgn 12/20/18 3:21:24 PM JeremyBurns



PARTIAL PIER ELEVATION
LOOKING UPSTATION (EAST)



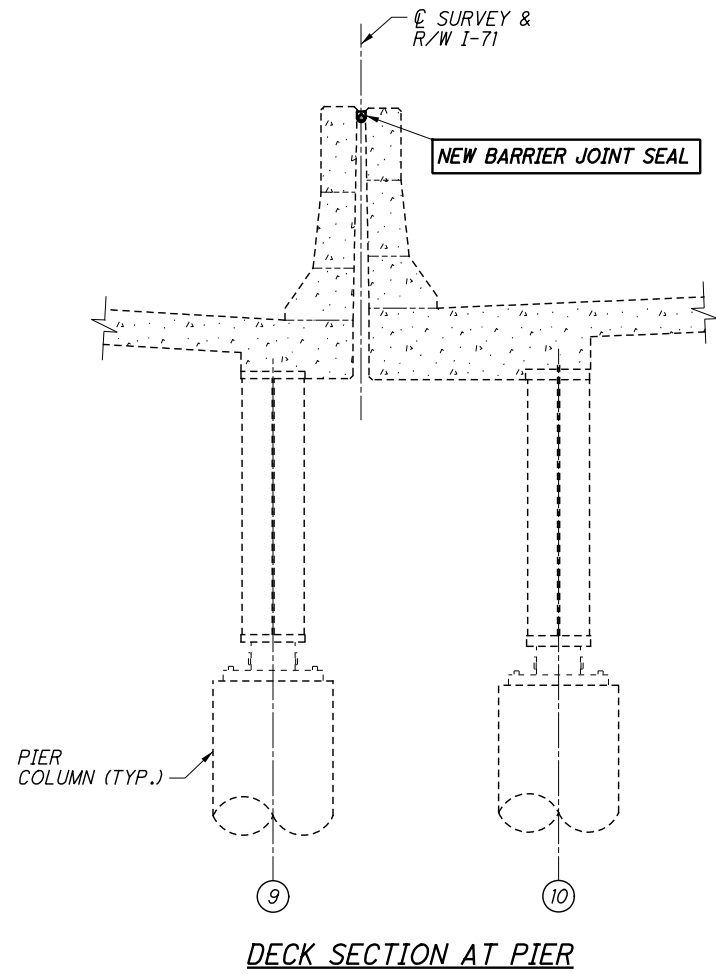
LEGEND

INDICATES ITEM 202 - PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN

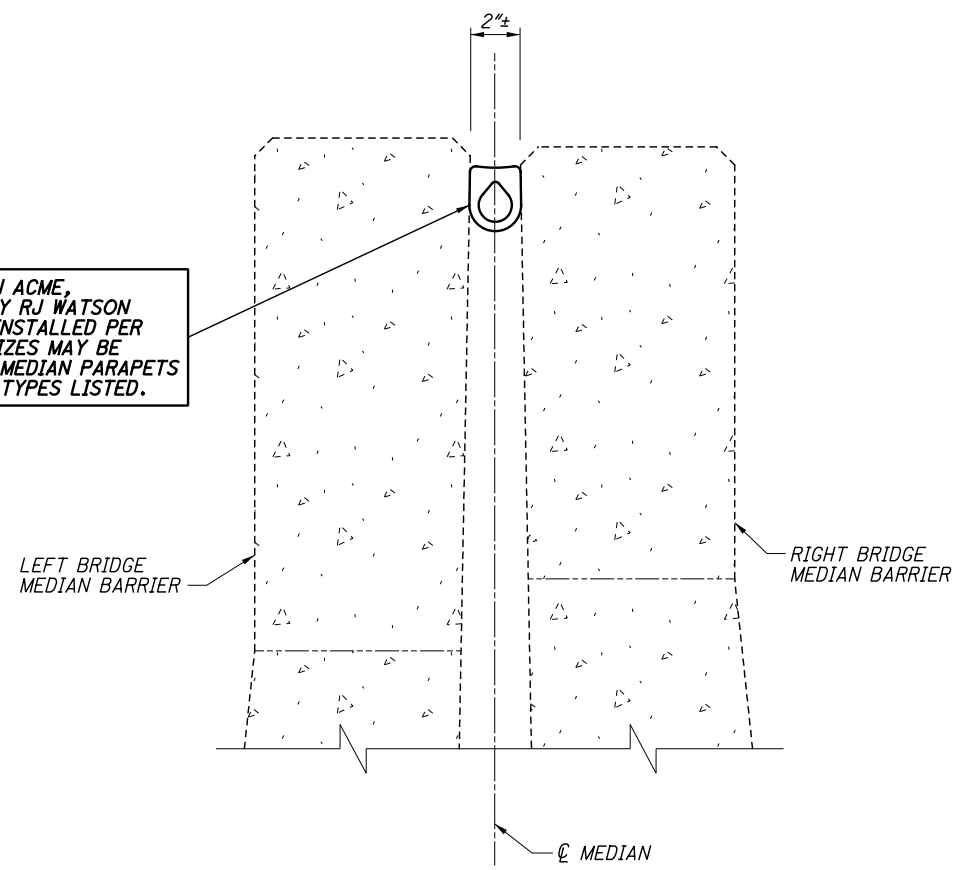
INDICATES CONCRETE PIER COLUMN REPAIR PER ITEM SPECIAL - STRUCTURES, COMPOSITE FIBER WRAP SYSTEM AND ITEM 844 - CONCRETE PATCHING WITH GALVANIC ANODE PROTECTION, AS PER PLAN.

- NOTES:**
1. DETAILS ON THIS SHEET ARE TAKEN FROM EXISTING PLANS AND SHOULD BE USED FOR INFORMATION PURPOSES ONLY.
 2. PERFORM ONLY THE WORK AS INDICATED IN THE STRUCTURE DATA SHEET, FRAMED TEXT, AND/OR DESCRIBED IN THE GENERAL NOTES.
 3. FOR ESTIMATED QUANTITIES SEE SHEET 2/7.

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WABO INVERSEAL IV-250 BY WATSON BOWMAN ACME, J-250 BY D.S. BROWN, SILICOFLEX SF 225 BY RJ WATSON OR APPROVED EQUAL. THE SEAL SHALL BE INSTALLED PER MANUFACTURE'S RECOMMENDATIONS. SEAL SIZES MAY BE ADJUSTED IF THE ACTUAL GAP BETWEEN THE MEDIAN PARAPETS VARIES BEYOND THE RANGE FOR GIVEN SEAL TYPES LISTED.

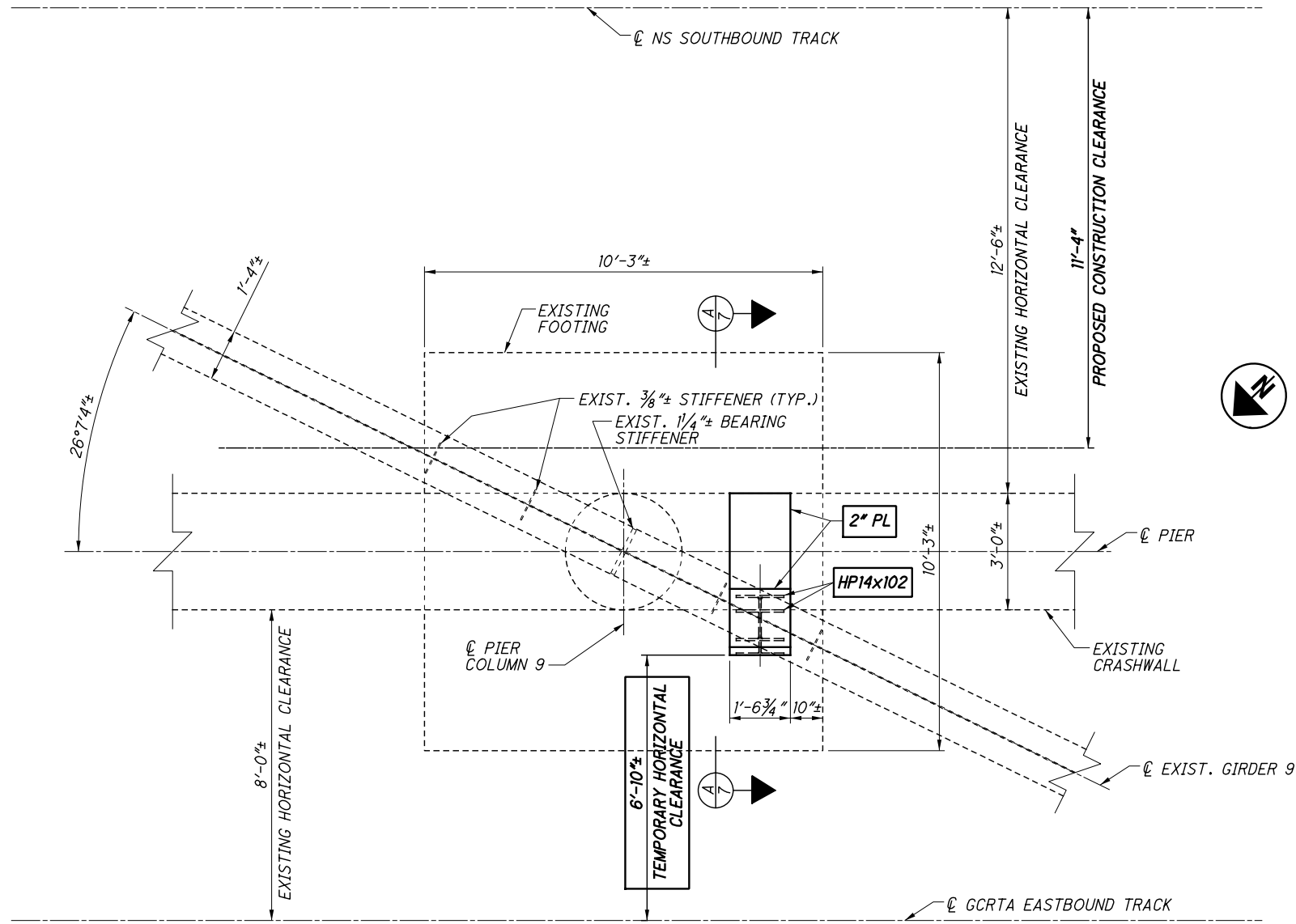


* THE NEW EXPANSION JOINT SEAL BETWEEN THE MEDIAN BARRIERS SHALL BE 30 FEET LONG AND CENTERED OVER THE PIER.

- NOTES:**
1. DETAILS ON THIS SHEET ARE TAKEN FROM EXISTING PLANS AND SHOULD BE USED FOR INFORMATION PURPOSES ONLY.
 2. FOR ESTIMATED QUANTITIES SEE SHEET 2/7.

D12 BH FY2019 MISC. PID No. 98601		MEDIAN BARRIER JOINT SEAL DETAILS - LOCATION 6 BRIDGE NO. CUY-71-1147 IR 71 OVER NS RAILROAD & RTA		DATE 12-20-18	STRUCTURE FILE NUMBER 1804774
DESIGNED BLN	CHECKED dnt	DRAWN JLS	REVISED	REVIEWED DT	RICHLAND ENGINEERING LIMITED 29 NORTH PARK STREET MANSFIELD, OHIO 44902

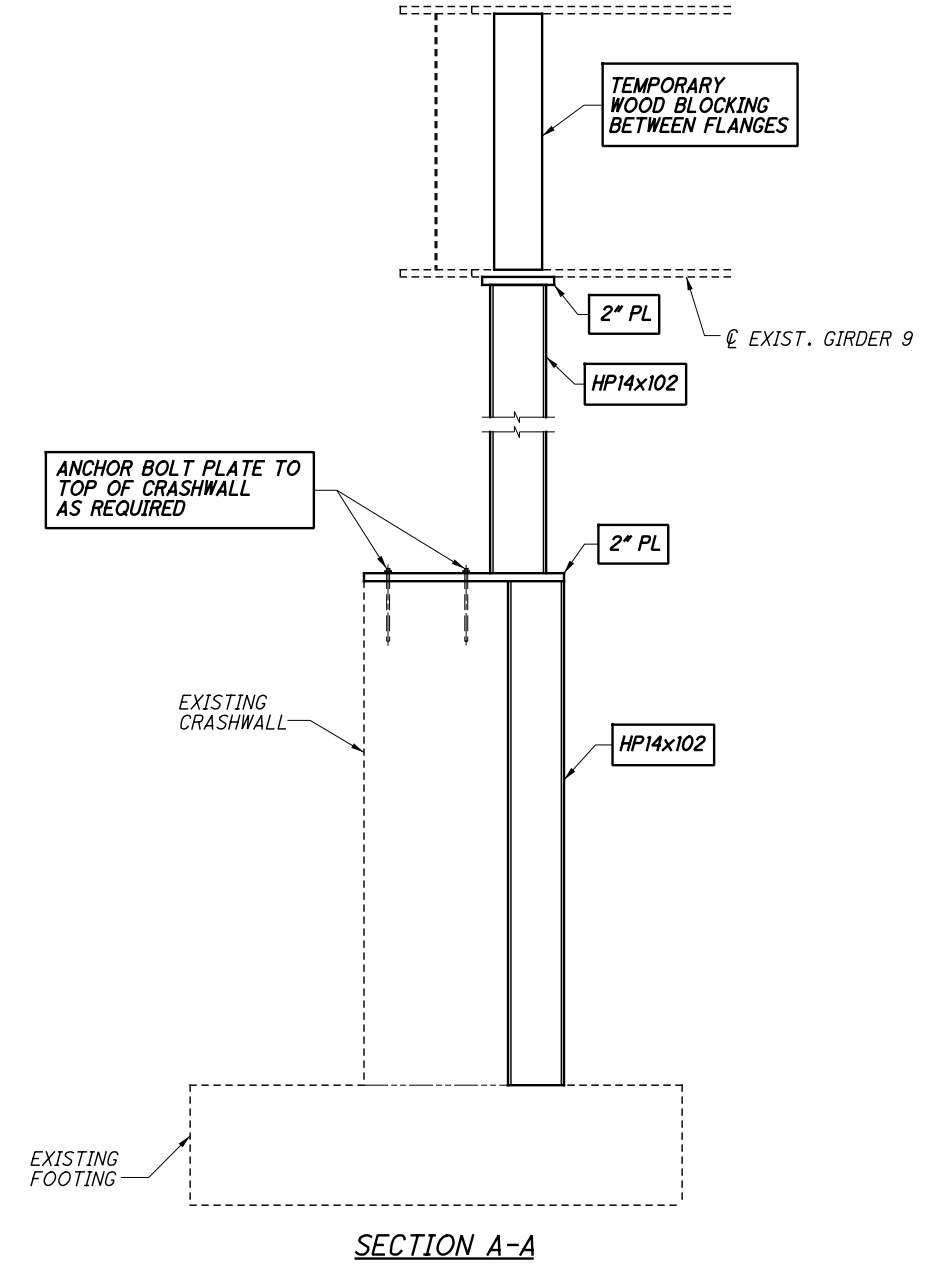
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TEMPORARY SHORING PLAN

NOTES:

1. DETAILS ON THIS SHEET ARE TAKEN FROM EXISTING PLANS AND SHOULD BE USED FOR INFORMATION PURPOSES ONLY.
2. PERFORM ONLY THE WORK AS INDICATED IN THE STRUCTURE DATA SHEET, FRAMED TEXT, AND/OR DESCRIBED IN THE GENERAL NOTES.
3. FOR ESTIMATED QUANTITIES SEE SHEET [2/7].



NOTES

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.

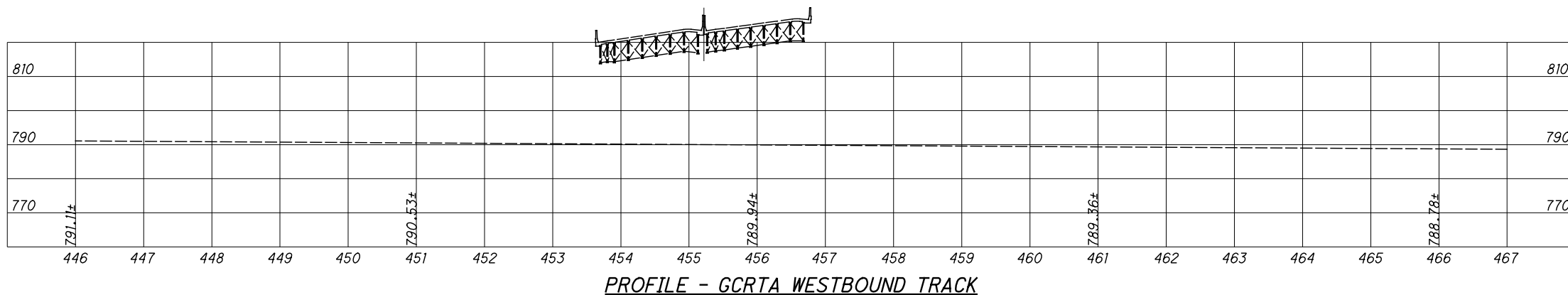
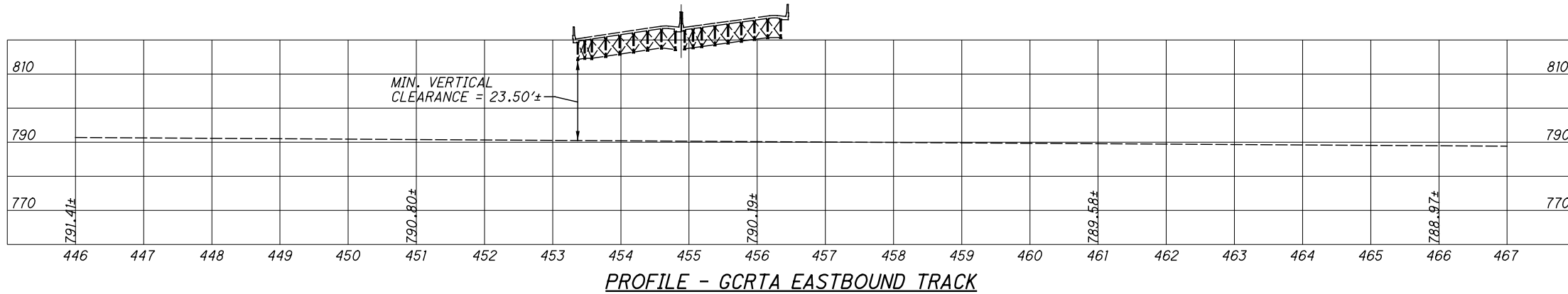
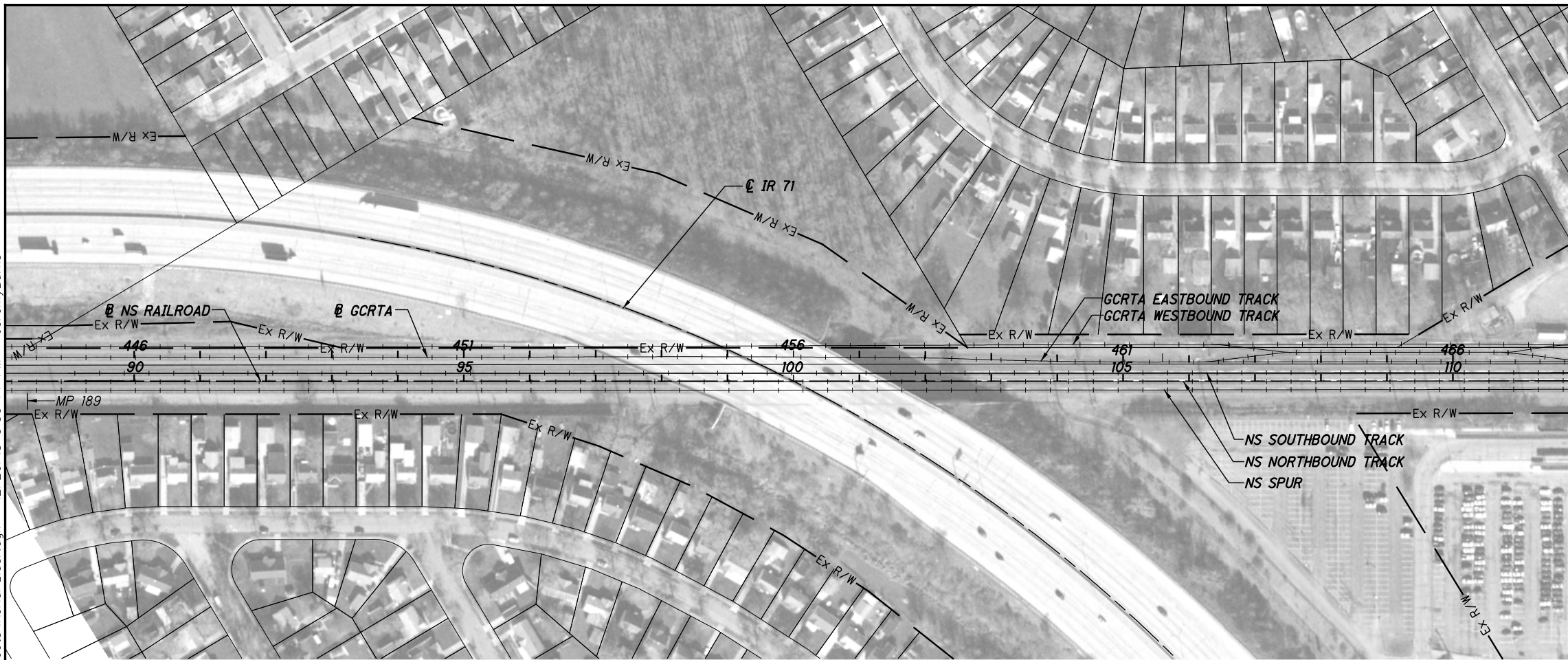
IF, DURING THE JACKING OPERATIONS, CRACKING OF THE CONCRETE SUPERSTRUCTURE, SEPARATION OF THE CONCRETE DECK FROM THE STEEL GIRDERS, OR OTHER DAMAGE TO THE STRUCTURE IS VISUALLY OBSERVED, IMMEDIATELY CEASE THE JACKING OPERATION AND INSTALL SUPPORTS TO THE SATISFACTION OF THE ENGINEER. ANALYZE THE DAMAGE AND SUBMIT A METHOD OF CORRECTION TO THE ENGINEER FOR APPROVAL. EPOXY INJECT ALL GIRDERS 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 EXISTING PIER BEARINGS ARE RATED FOR 350 K. THIS IS AN ALLOWABLE LOADING THAT INCLUDES BOTH DEAD AND LIVE LOADS. THIS IS THE ASSUMED JACKING LOAD UNLESS FURTHER CALCULATIONS PER CMS 501.05 ARE DONE OR A SHOULDER LANE IS CLOSED TO LIMIT LIVE LOAD.

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.

F:\2016\116041 D12 Bridge Rehab\12-BH-FY2019 Misc\ProjectData\98601\Design\Structures\CUY071_1147C\Sheets\Aerial-Lidar.dgn 12/20/18 3:30:44 PM JeremyBurns



RICHLAND ENGINEERING LIMITED
 29 NORTH PARK STREET
 MANSFIELD, OHIO 44902

DATE 12-20-18
REVIEWED DT
STRUCTURE FILE NUMBER 1804774

DRAWN JLS
BLN
CHECKED dnt
REVISED

DESIGNED

SUPPLEMENTAL SITE PLAN - 1
 BRIDGE NO. CUY-71-1147
 IR 71 OVER NS RAILROAD & GCRTA

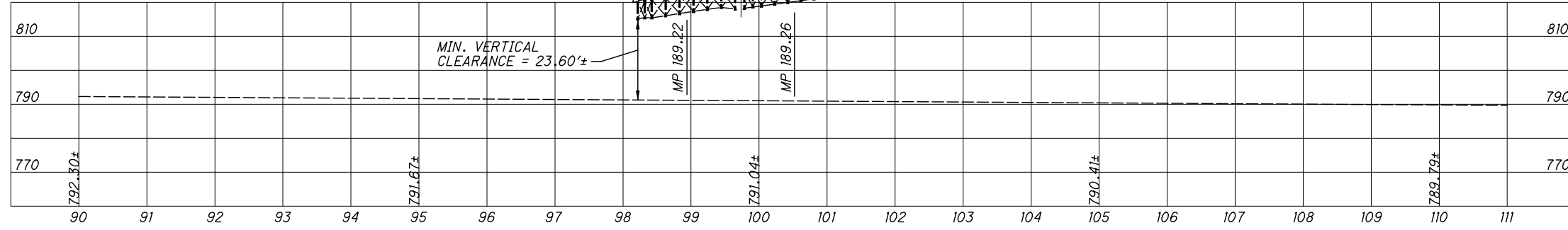
D12 BH FY2019 MISC.
 PID No. 98601

1 / 2

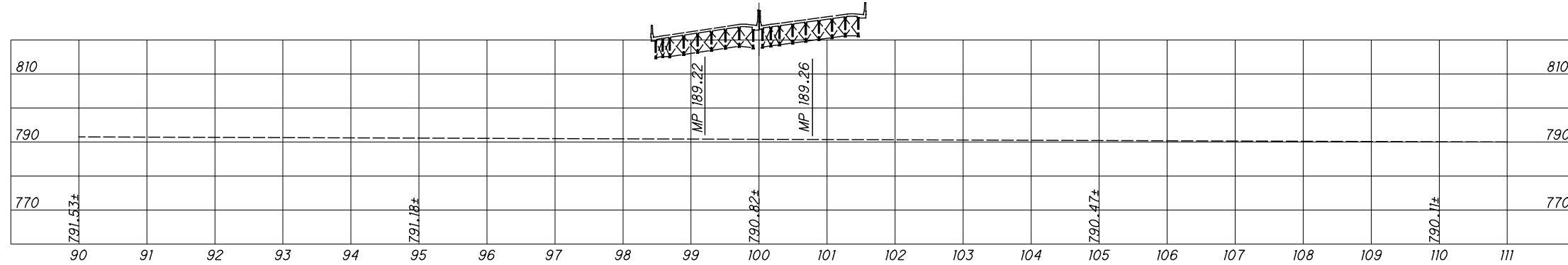
145
149

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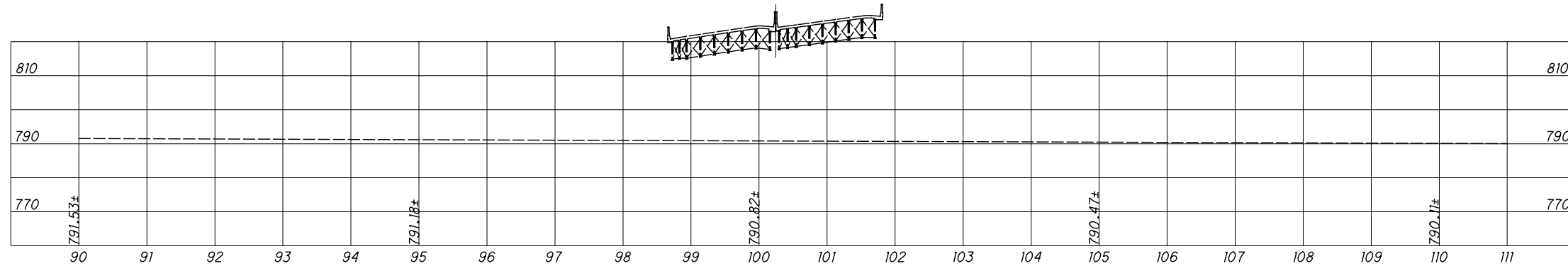
MP 189
161.6'



PROFILE - NS SOUTHBOUND TRACK

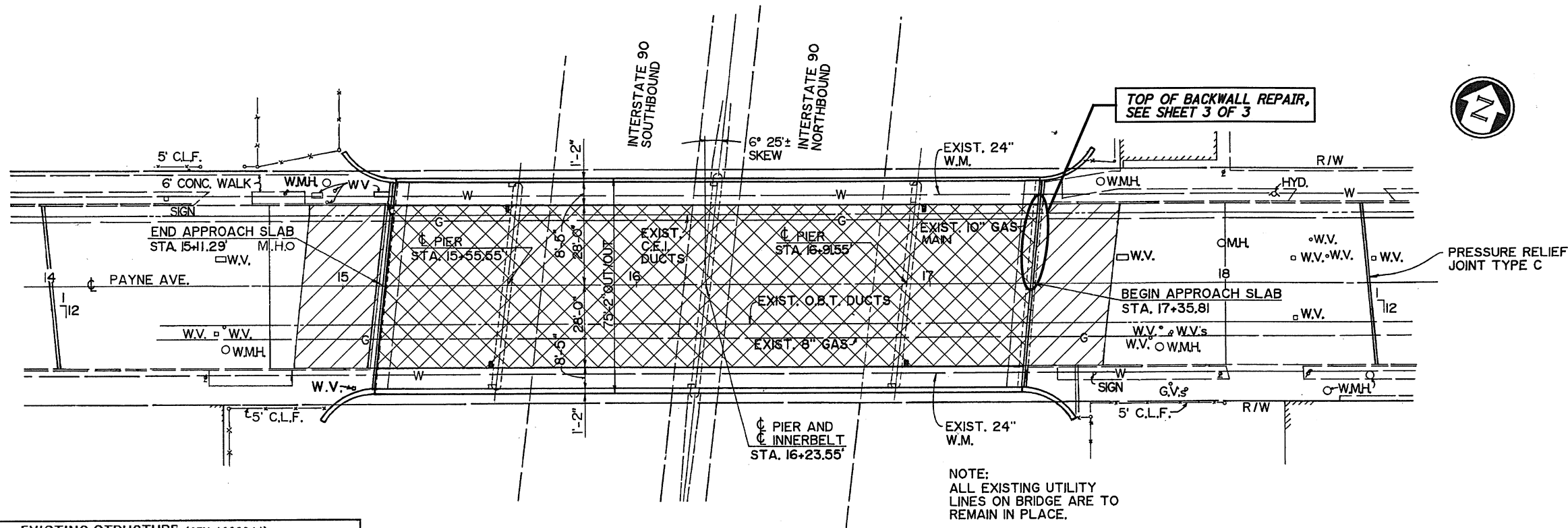


PROFILE - NS NORTHBOUND TRACK



PROFILE - NS SPUR

I:\ProjectData\12\98601\ProjAdmin\PlanPackage\12-98601-CADDFiles\Design\Structures\090-1749\Sheets\090-1749SD001.dgn General Plan - Location 7 12/27/2018 11:13:30 AM krohde



EXISTING STRUCTURE (SFN: 1808044)

TYPE: 4 SPAN REINFORCED CONCRETE DECK ON CONTINUOUS STEEL BEAMS. PIERS ARE REINFORCED CONCRETE CAP BEAMS ON 12" Ø C.I.P. CONCRETE PILES. ABUTMENTS ARE REINFORCED CONCRETE STUB ABUTMENTS ON 12" Ø C.I.P. CONCRETE PILES.

WEARING COURSE: 2 1/2"± ASPHALT CONCRETE

SPAN: 42.00', 68.00', 68.00' AND 42.00' CL/CL BEARINGS

ROADWAY WIDTH: 56'-0" F / F CURB WITH 8'-3" SIDEWALK EACH SIDE

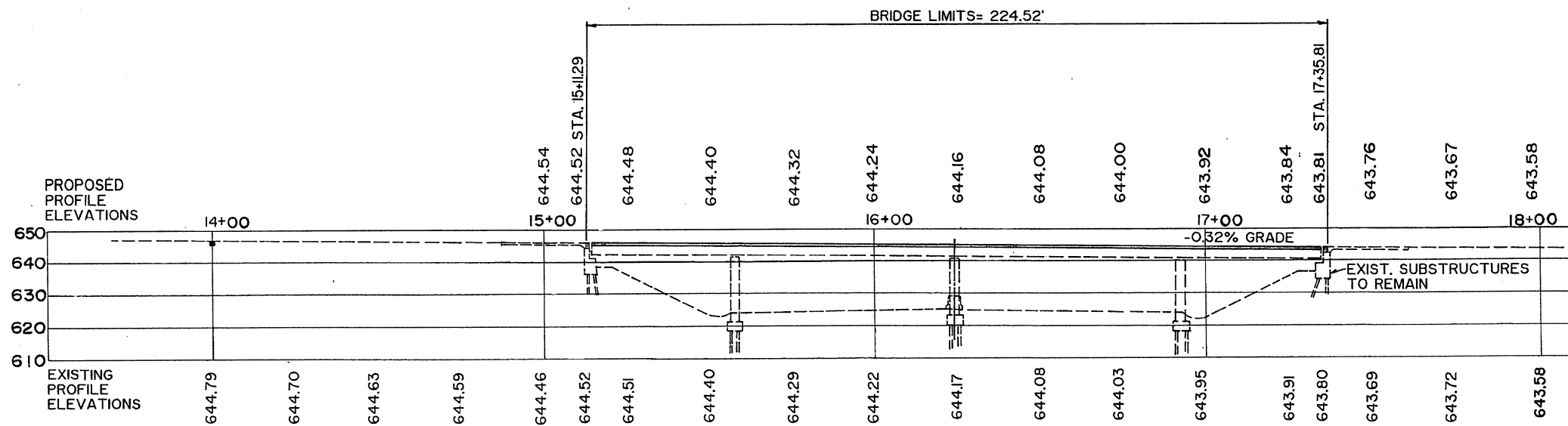
SKEW ANGLE: 6°-25' LEFT FORWARD ALIGNMENT: TANGENT

CROWN: 3/16" PER FOOT LOADING: CF2000

APPROACH SLABS: 25'-0" YEAR BUILT: 1957



NOTE:
ALL EXISTING UTILITY LINES ON BRIDGE ARE TO REMAIN IN PLACE.



ENGINEERS SEAL:

SIGNED: *Kevin M. Rohde*
Kevin M. Rohde

DATE: 12-27-18

PROPOSED WORK

DECK OVERLAY, SEE SHEET 2 OF 3

APPROACH SLAB OVERLAY, SEE SHEET 2 OF 3

NOTES

1. DETAILS ON THIS SHEET ARE TAKEN FROM EXISTING PLANS AND SHOULD BE USED FOR INFORMATION PURPOSES ONLY.
2. PERFORM ONLY THE WORK AS INDICATED IN THE STRUCTURE DATA SHEET, FRAMED TEXT, AND/OR IN THE GENERAL NOTES.
3. FOR ESTIMATED QUANTITIES SEE SHEET 3 OF 3.

ODOT DISTRICT 12
5500 TRANSPORTATION BLVD
GARFIELD HTS, OHIO 44125

DATE 12-21-18
REVIEWED JRC
STRUCTURE FILE NUMBER 1808044

DRAWN KMR
CHECKED GHD

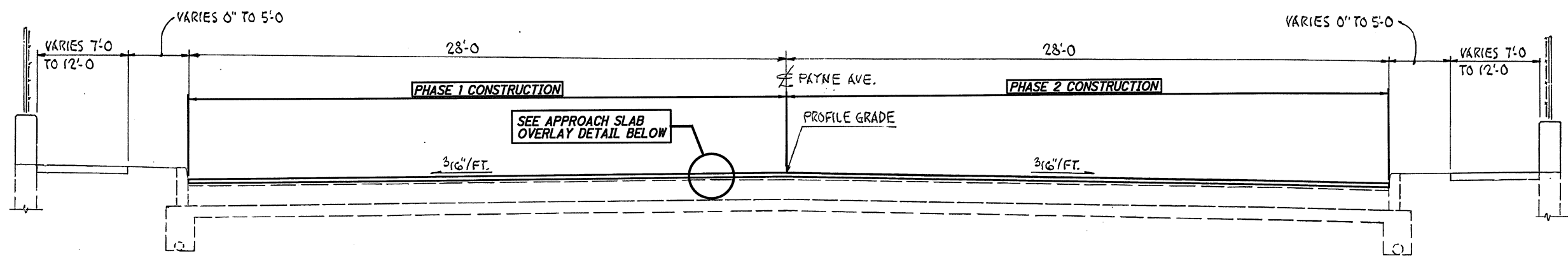
GENERAL PLAN - LOCATION 7
BRIDGE NO. CUY-90-1749
PAYNE AVE OVER IR 90

D12 BH FY2019 MISC.
PID No. 98601

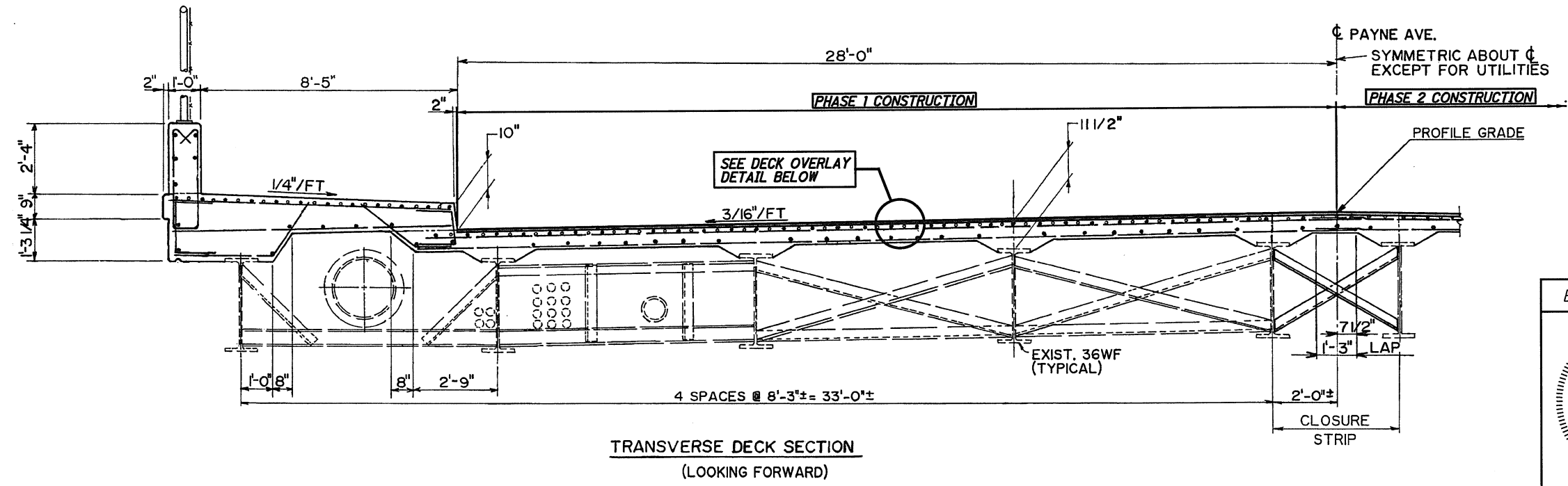
1 / 3

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I:\ProjectData\12\98601\Proj\PlanPackage\12-98601-CADDFiles\Design\Structures\090-1749\Sheets\090-1749SD001.dgn Superstructure Details 1 - Location 7 12/27/2018 11:21:29 AM krohde

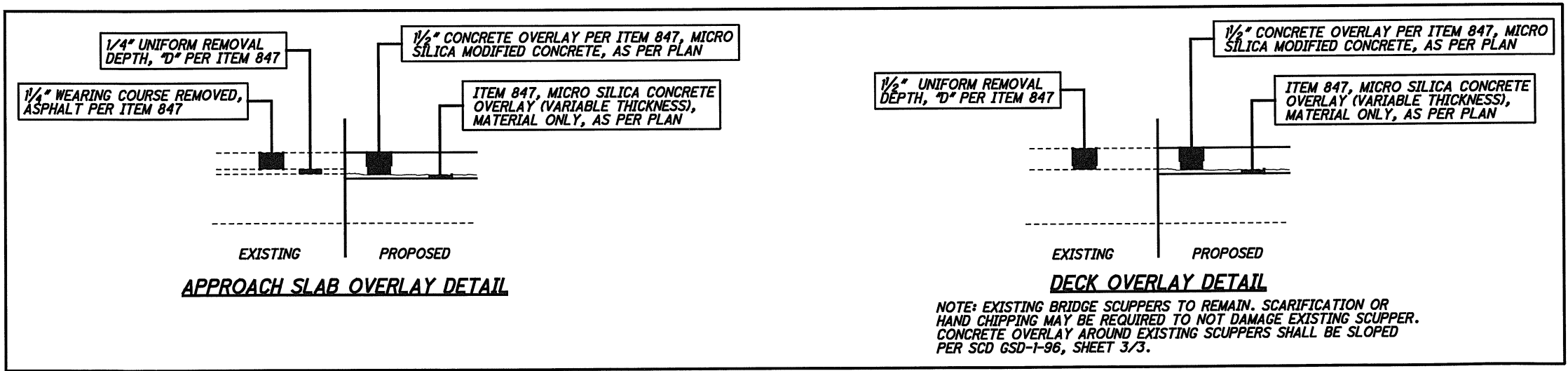


SALVAGE APPROACH SLAB SECTION
 CUY-90-17.49 (PAYNE AVE.)
 STA. 14+86.29 TO STA. 15+11.29 = 25 LIN. FT.
 STA. 17+35.81 TO STA. 17+60.81 = 25 LIN. FT.
 TOTAL = 50 LIN. FT.



ENGINEERS SEAL:

SIGNED: *Kevin M. Rohde*
 Kevin M. Rohde
 DATE: 12-27-18



- NOTES**
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NOTE: EXISTING BRIDGE SCUPPERS TO REMAIN. SCARIFICATION OR HAND CHIPPING MAY BE REQUIRED TO NOT DAMAGE EXISTING SCUPPER. CONCRETE OVERLAY AROUND EXISTING SCUPPERS SHALL BE SLOPED PER SCD GSD-1-96, SHEET 3/3.

ODOT DISTRICT 12
 5500 TRANSPORTATION BLVD
 GARFIELD HTS, OHIO 44125

DATE: 12-21-18
 REVIEWED: JRC
 STRUCTURE FILE NUMBER: 1808044

DESIGNED: KMR
 CHECKED: GHD

DRAWN: KMR
 REVISED:

SUPERSTRUCTURE DETAILS 1 - LOCATION 7
 BRIDGE NO. CUY-90-1749
 PAYNE AVE OVER IR 90

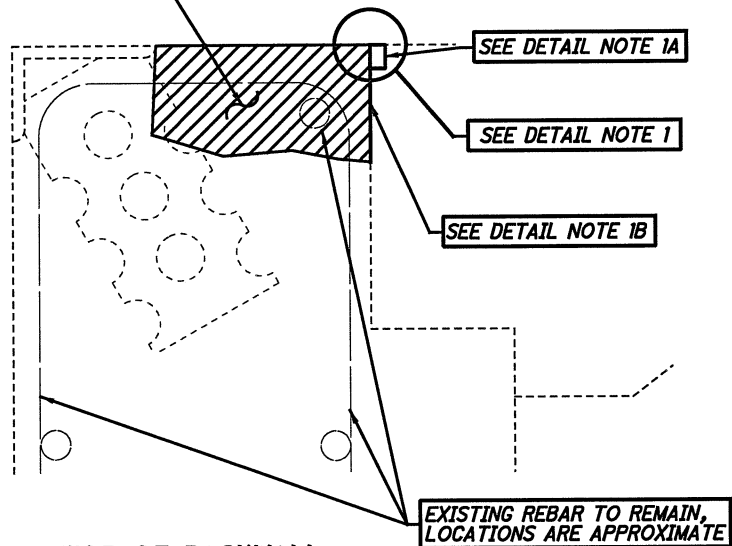
D12 BH FY2019 MISC.
 PID No. 98601

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I:\ProjectData\12\98601\Design\Structures\CUY090_1749C\Sheets\090_1749SD001.dgn Superstructure Details 2 - Location 7 1/15/2019 1:45:48 PM krhde

REMOVE AND REPLACE ALL UNSOUND CONCRETE PER CMS 519



TOP OF BACKWALL

APPROACH SLAB WORK NOT SHOWN FOR CLARITY

DETAIL NOTES

1. INSTALL JOINT SEAL & WATERPROOFING PER PLAN DETAILS & STD DWG AS-1-15 DETAIL B. ALL LABOR, MATERIAL, EQUIPMENT & INCIDENTALS REQUIRED TO PERFORM THIS WORK SHALL BE PAID UNDER ITEM SPECIAL - PATCHING CONCRETE STRUCTURE MISC.: TOP OF BACKWALL REPAIR
 - A. PREFORMED ELASTOMERIC COMPRESSION JOINT SEAL, 705.11 (1 1/4" WIDE FOR A 1/2" WIDE GROOVE) PLACED IN 1/2" x 2 1/4" GROOVE.
 - B. TYPE "A" WATERPROOFING.
2. TOP OF BACKWALL REPAIR SHALL BE CURED PER 511.14 AND A MINIMUM OF SEVEN (7) DAYS PRIOR TO PLACING APPROACH SLAB OVERLAY.

ESTIMATED QUANTITIES - LOCATION 7							
				CALCULATED	KMR	DATED	12/5/18
				CHECKED	GHD	DATED	12/7/18
ITEM	EXT.	TOTAL QUANTITY	UNIT	DESCRIPTION		REF. SHEET	
SPECIAL	51911720	28	FT	SPECIAL - PATCHING CONCRETE STRUCTURE, TOP OF BACKWALL REPAIR		1 & 3	
847	10001	1537	SY	MICRO SILICA MODIFIED CONCRETE OVERLAY, AS PER PLAN (1/2" THICK)		1 & 2	
847	20001	32	CY	MICRO SILICA MODIFIED CONCRETE OVERLAY (VARIABLE THICKNESS), MATERIAL ONLY, AS PER PLAN		1 & 2	
847	30000	LUMP		TEST SLAB			
847	30300	156	SY	WEARING COURSE REMOVED, ASPHALT			
847	50000	58	SY	HAND CHIPPING			

ENGINEERS SEAL:

SIGNED: *Kevin M. Rohde*
Kevin M. Rohde

DATE: 1-15-19

NOTES

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ODOT DISTRICT 12
5500 TRANSPORTATION BLVD
GARFIELD HTS, OHIO 44125

DATE 12-21-18
REVIEWED JRC
STRUCTURE FILE NUMBER 1808044

DRAWN KMR
REVISOR

DESIGNED KMR
CHECKED GHD

SUPERSTRUCTURE DETAILS 2 - LOCATION 7

BRIDGE NO. CUY-90-1749
PAYNE AVE OVER IR 90

D12 BH FY2019 MISC.
PID No. 98601

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