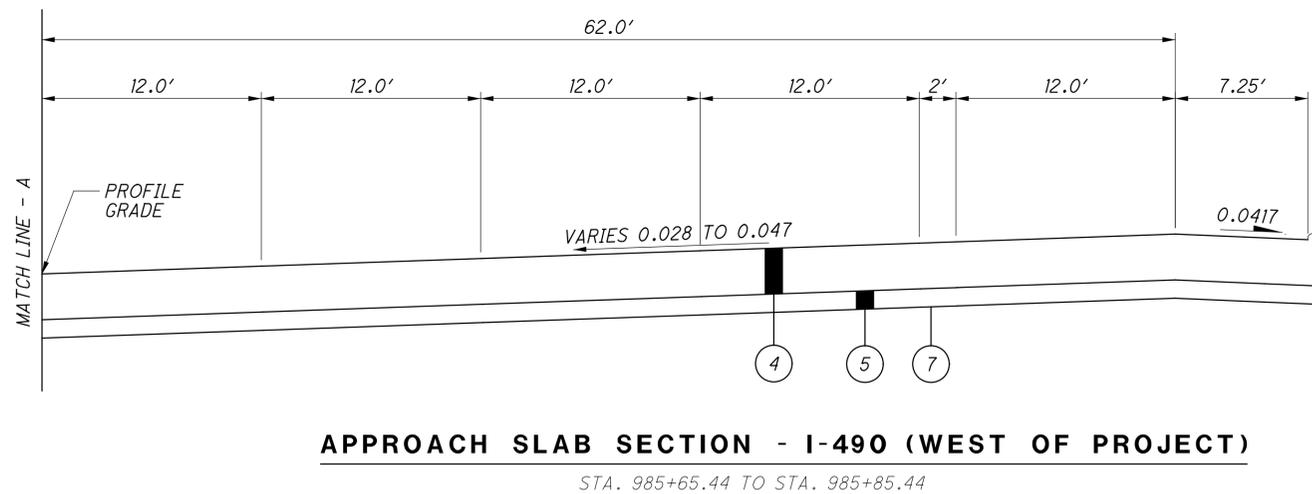
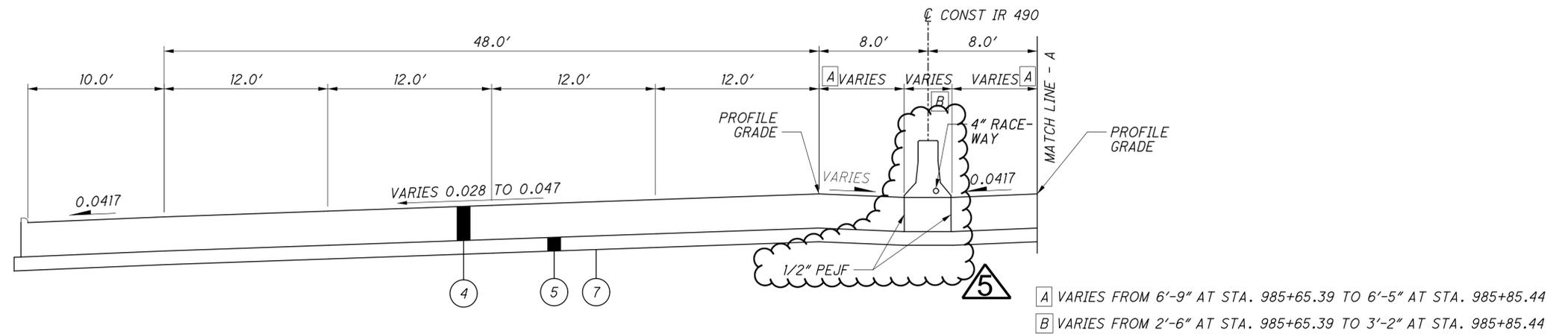


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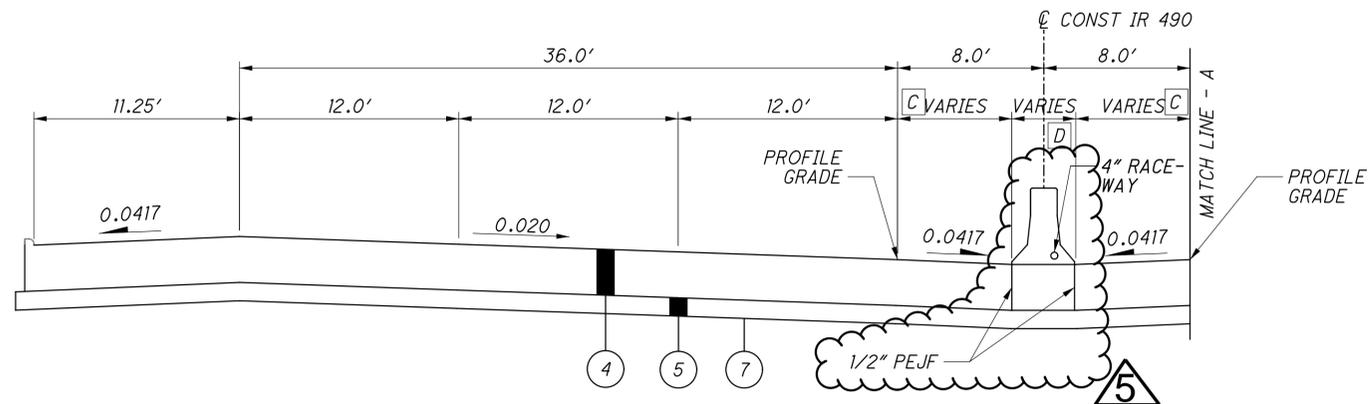
- 1 NOT USED
- 2 NOT USED
- 3 NOT USED
- 4 ITEM 526 - REINFORCED CONCRETE APPROACH SLAB (T=13") AS PER PLAN
- 5 ITEM 304 - 6" AGGREGATE BASE
- 6 NOT USED
- 7 ITEM 204 - SUBGRADE COMPACTION

TYPICAL SECTIONS

CUY - 490 - 1.00

4  
131

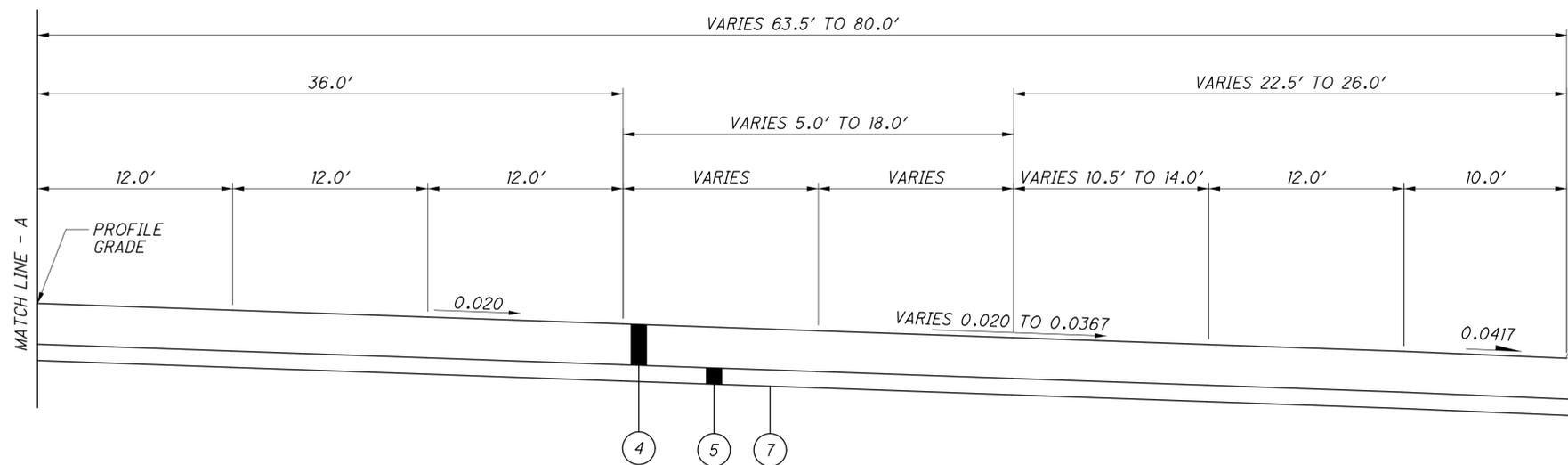
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**APPROACH SLAB SECTION - I-490 (EAST OF PROJECT)**

STA. 1020+47.09 TO STA. 1020+67.19

- C VARIES FROM 6'-5" AT STA. 1020+47.09 TO 6'-9" AT STA. 1020+67.19
- D VARIES FROM 3'-2" AT STA. 1020+47.09 TO 2'-6" AT STA. 1020+67.19



**APPROACH SLAB SECTION - I-490 (EAST OF PROJECT)**

STA. 1020+47.09 TO STA. 1020+67.19

FOR LEGEND, SEE SHEET 4

TYPICAL SECTIONS

CUY - 490 - 1.00

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131



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**ITEM 518 - STRUCTURE DRAINAGE, MISC.: SCUPPER GRATE REPLACEMENT (CONTINUED):**

MATERIALS: STRUCTURAL STEEL FOR SCUPPER GRATES SHALL BE ASTM A709 GRADE 36 OR 50, GALVANIZED IN ACCORDANCE WITH C&MS 711.02. FURNISH MATERIALS IN CONFORMANCE WITH C&MS 513 AND C&MS 518.

MEASUREMENT AND PAYMENT: THE DEPARTMENT WILL MEASURE THIS WORK BY THE NUMBER OF EACH ACCEPTED IN PLACE. THE BID PRICE SHALL INCLUDE ALL LABOR, MATERIALS, EQUIPMENT, AND INCIDENTALS NECESSARY TO COMPLETE THE SCUPPER GRATE REPLACEMENT. THE DEPARTMENT WILL PAY FOR THE ACCEPTED QUANTITIES AT THE CONTRACT UNIT PRICE BID FOR ITEM 518 - STRUCTURE DRAINAGE, MISC.: SCUPPER GRATE REPLACEMENT.

**ITEM 518 - STRUCTURE DRAINAGE, MISC.: BRIDGE DRAINAGE SYSTEM CLEANING:**

DESCRIPTION: THIS WORK CONSISTS OF REMOVING SEDIMENT AND DEBRIS FROM THE BRIDGE DECK, THE BRIDGE SEATS AT ALL SUBSTRUCTURES, AND ALL PORTIONS OF THE EXISTING BRIDGE DRAINAGE SYSTEM TO BE REUSED, INCLUDING THE INLETS, CATCH BASINS, AND PIPES OF THE UNDERGROUND STORM SEWER SYSTEM AS SHOWN IN THE PLANS. ALL MATERIAL REMOVED SHALL BE DISPOSED OF AS PER C&MS 105.16 AND 105.17. ALL DOWNSPOUTS AND SEWERS SHALL BE CLEANED OUT TO THE SATISFACTION OF THE ENGINEER.

EXECUTION: AFTER THE SEDIMENT AND DEBRIS ARE REMOVED, THE EXISTING BRIDGE DRAINAGE SYSTEM SHALL BE FLUSHED WITH CLEAN WATER MAKING CERTAIN THE WATER FLOWS SMOOTHLY. THE CONTRACTOR SHALL PROVIDE ALL NECESSARY EQUIPMENT PRIOR TO BEGINNING WORK FOR THE PURPOSE OF EXAMINING THE PORTIONS OF THE EXISTING BRIDGE DRAINAGE SYSTEM TO REMAIN AFTER CLEANING TO VERIFY THE CONDITION OF ALL DOWNSPOUTS AND SEWERS. THE CONTRACTOR'S SUPERINTENDENT SHALL ACCOMPANY THE ENGINEER IN MAKING THE DETAILED EXAMINATION OF THE DRAINAGE SYSTEM.

MEASUREMENT AND PAYMENT: THE DEPARTMENT WILL MEASURE THIS WORK ON A LUMP SUM BASIS. THE BID PRICE SHALL INCLUDE ALL LABOR, MATERIALS, EQUIPMENT, AND INCIDENTALS NECESSARY TO COMPLETE THE BRIDGE DRAINAGE SYSTEM CLEANING. THE DEPARTMENT WILL PAY FOR THE ACCEPTED QUANTITIES AT THE CONTRACT UNIT PRICE BID FOR ITEM 518 - STRUCTURE DRAINAGE, MISC.: BRIDGE DRAINAGE SYSTEM CLEANING.

**ITEM 526 - REINFORCED CONCRETE APPROACH SLABS (T=13"), AS PER PLAN:**

THIS ITEM CONSISTS OF CONSTRUCTING REINFORCED CONCRETE APPROACH SLABS WITH INTEGRAL CURBS AND/OR MEDIAN BARRIER IN ACCORDANCE WITH THE DETAILS SHOWN IN THE PLANS, STANDARD DRAWINGS AS-1-15 AND AS-2-15, AND CMS 526.

MEASUREMENT AND PAYMENT: THE DEPARTMENT WILL MEASURE THIS WORK BY THE NUMBER OF SQUARE YARDS ACCEPTED IN PLACE. THE BID PRICE SHALL INCLUDE ALL CONCRETE FOR THE APPROACH SLABS, INTEGRAL CURBS AND/OR MEDIAN BARRIER, JUNCTION BOX, CONDUIT, EPOXY COATED REINFORCING STEEL, PREFORMED EXPANSION JOINT FILLER, JOINT SEALER, AND ALL OTHER INCIDENTAL MATERIALS, LABOR AND EQUIPMENT REQUIRED TO COMPLETE THE WORK. THE DEPARTMENT WILL PAY FOR THE ACCEPTED QUANTITIES AT THE CONTRACT UNIT PRICE BID FOR ITEM 526 - REINFORCED CONCRETE APPROACH SLABS (T=13"), AS PER PLAN.

**ITEM 625 - SPECIAL - MAINTAIN EXISTING LIGHTING**

DESCRIPTION: THIS ITEM CONSISTS OF RESTORING THE LIGHTING THAT IS DISTURBED IN THE COURSE OF WORK.

MEASUREMENT AND PAYMENT: THE DEPARTMENT WILL MEASURE THIS WORK ON A LUMP SUM BASIS. THE BID PRICE SHALL INCLUDE ALL LABOR, MATERIALS, EQUIPMENT, AND INCIDENTALS NECESSARY TO COMPLETE THE RESTORATION OF DISTURBED LIGHTING. THE DEPARTMENT WILL PAY FOR THE ACCEPTED QUANTITIES AT THE CONTRACT UNIT PRICE BID FOR ITEM 625 - SPECIAL - MAINTAIN EXISTING LIGHTING.

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

THIS WORK CONSISTS OF PATCHING EXISTING REINFORCED CONCRETE IN ACCORDANCE WITH SUPPLEMENTAL SPECIFICATION 844, MODIFIED AS FOLLOWS:

WHERE THE AREA OF AN INDIVIDUAL REPAIR, AS DETERMINED IN THE FIELD AT THE TIME OF CONSTRUCTION, TOTALS LESS THAN FIVE (5) SQUARE FEET, THE INSTALLATION OF GALVANIC ANODES IS NOT REQUIRED, AND THE WORK SHALL BE PERFORMED IN ACCORDANCE WITH C&MS 519.

ANODE SPACING SHALL BE 30" FOR REPAIRS ON EXISTING ABUTMENTS, 28" FOR REPAIRS ON EXISTING PIERS, AND 24" FOR REPAIRS ON EXISTING SUPERSTRUCTURE PARAPETS.

**ITEM 848 - EXISTING CONCRETE OVERLAY REMOVED, AS PER PLAN:**

DESCRIPTION: THIS WORK CONSISTS OF REMOVING THE EXISTING CONCRETE OVERLAY FOR THE ENTIRE DECK AREA WITH THICKNESS VARYING FROM 1 1/4" TO 1 1/2".

**ITEM 848 - SURFACE PREPARATION USING HYDRODEMOLITION, AS PER PLAN:**

DESCRIPTION: THIS WORK CONSISTS OF REMOVAL OF A CONCRETE LAYER AFTER EXISTING OVERLAY HAS BEEN REMOVED, REMOVAL OF THE SURFACE PREPARATION DEBRIS, CLEANING, AND ALL OTHER INCIDENTAL WORK. THE DEPTH OF CONCRETE LAYER REMOVED IS 1" WHERE THE EXISTING OVERLAY IS 1 1/2" AND THE DEPTH OF CONCRETE LAYER REMOVED IS 1 1/4" WHERE THE EXISTING OVERLAY IS 1 1/4".

**ASBESTOS NOTIFICATION:**

A CERTIFIED ASBESTOS HAZARD EVALUATION SPECIALIST SURVEYED THE BRIDGE STRUCTURE SCHEDULED FOR DEMOLITION AND/OR REHABILITATION; THE SURVEY DETERMINED THAT NO ASBESTOS IS PRESENT ON THE BRIDGE STRUCTURE.

ODOT SHALL PROVIDE A COPY OF THE OHIO ENVIRONMENTAL PROTECTION AGENCY (OEPA) NOTIFICATION OF DEMOLITION AND RENOVATION FORM, PARTIALLY COMPLETED AND SIGNED BY THE BRIDGE OWNER, TO THE SUCCESSFUL BIDDER. THE CONTRACTOR SHALL COMPLETE THE FORM AND SUBMIT IT TO ONE OF THE ADDRESSES BELOW AT LEAST TEN (10) WORKING DAYS PRIOR TO THE START OF ANY DEMOLITION AND/OR RENOVATION.

ASBESTOS PROGRAM	OR	ASBESTOS PROGRAM
OHIO EPA, DAPC		OHIO EPA, DAPC
P.O. BOX 1049		50 W. TOWN ST., SUITE 700
COLUMBUS, OH 43216-1049		COLUMBUS, OH 43215

THE CONTRACTOR SHALL PROVIDE A COPY OF THE COMPLETED FORM TO THE ENGINEER AT LEAST TEN (10) WORKING DAYS PRIOR TO THE START OF ANY DEMOLITION AND/OR RENOVATION. THE FORM SHALL INCLUDE: 1) THE CONTRACTORS NAME AND ADDRESS, 2) THE SCHEDULED DATES FOR THE START AND COMPLETION OF THE BRIDGE REMOVAL AND 3) A DESCRIPTION OF THE PLANNED DEMOLITION WORK AND THE METHOD(S) TO BE USED. COPIES OF THE OEPA FORM AND BRIDGE INSPECTION REPORT ARE AVAILABLE FOR REVIEW AT THE ODOT DISTRICT 12 OFFICE, 5500 TRANSPORTATION BOULEVARD, GARFIELD HEIGHTS, OHIO 44125.

BASIS FOR PAYMENT: THE CONTRACTOR SHALL FURNISH ALL FEES, LABOR, AND MATERIAL NECESSARY TO COMPLETE AND SUBMIT THE OEPA NOTIFICATION FORM. PAYMENT FOR THIS WORK SHALL BE INCLUDED IN ITEM 202 - PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN.

**SUMMARY OF PROPOSED REHABILITATION WORK:**

THE FOLLOWING LIST CONTAINS THE MAJOR ITEMS OF WORK INCLUDED IN THESE PLANS FOR THE REHABILITATION OF THIS STRUCTURE:

- REPLACEMENT OF THE EXISTING APPROACH SLABS.
- REPLACEMENT OF PARAPET TRANSITIONS TO ACCEPT MGS BRIDGE TERMINAL ASSEMBLY, TYPE 1 OR TYPE 2, AND REPLACEMENT OF APPROACH GUARDRAIL.
- REPLACEMENT OF THE EXISTING STRIP SEAL OR SLIDING PLATE EXPANSION JOINTS AT THE WEST ABUTMENT, EAST ABUTMENT, ABUTMENT B-C, AND ABUTMENT C-B, AND INTERMEDIATE JOINT 6 ON RAMP C-B WITH NEW STRIP SEAL EXPANSION JOINTS, INCLUDING REPLACEMENT OF THE EXISTING END CROSSFRAMES AND RECONSTRUCTION OF THE TOPS OF THE ABUTMENT BACKWALLS AND PORTIONS OF THE EXISTING DECK SLAB AND PARAPETS AT ALL LOCATIONS.
- REPAIR OF THE EXISTING INTERMEDIATE FINGER EXPANSION JOINTS, JOINTS 1 THRU 5, INCLUDING REPLACEMENT OF MISSING/DAMAGED FINGERS AT JOINTS 2 AND 3.
- REPLACEMENT OF THE EXISTING NEOPRENE DRAINAGE TROUGHS BELOW JOINTS 1 THRU 5 WITH NEW GALVANIZED STEEL DRAINAGE TROUGHS, INCLUDING THE INSTALLATION OF A NEW COLLECTOR PIPE SYSTEM SEPARATE FROM THAT OF THE DECK SCUPPERS, AND REMOVAL OF THE EXISTING NEOPRENE DRAINAGE TROUGH BELOW JOINT 6.
- CLEANOUT OF THE EXISTING DECK SCUPPERS, REPLACEMENT OF ONE EXISTING DECK SCUPPER GRATE, REPLACEMENT OF THE EXISTING DOWNSPOUT PIPE SYSTEM, AND CLEANING OF EXISTING STORM SEWERS.
- MISCELLANEOUS REPAIRS TO THE SUPERSTRUCTURE STEEL, INCLUDING REPLACEMENT OF LOOSE AND MISSING BOLTS, REPAIR OF THE EXISTING INSPECTION SAFETY CABLE SYSTEM, SHIMMING OF THE FLOATING BEARINGS OF THREE (3) BEAMS AT THE WEST ABUTMENT, AND REMOVAL OF EXISTING PIER ACCESS MANHOLES AND LADDERS.



**SUMMARY OF PROPOSED REHABILITATION WORK (CONTINUED):**

- PAINTING OF THE BEAM/GIRDER ENDS AT THE ABUTMENTS AND INTERMEDIATE EXPANSION JOINTS.
- REPLACEMENT OF THE EXISTING BRIDGE DECK OVERLAY, INCLUDING FULL-DEPTH DECK SLAB REPAIRS.
- SUBSTRUCTURE CONCRETE PATCHING AND CRACK REPAIR.
- SUPERSTRUCTURE AND SUBSTRUCTURE CONCRETE SEALING.
- REPLACEMENT OF THE EXISTING CONCRETE SLOPE PROTECTION AT THE SOUTH COLUMN OF PIER 14R.

**SUGGESTED CONSTRUCTION PROCEDURE:**

PRE-PHASE WORK, USING INSIDE SHOULDER CLOSURE:

- PERFORM CLEAN-OUT OF ALL SCUPPERS ALONG THE MEDIAN PARAPETS.
- CLEAN ALL DEBRIS FROM INSIDE SHOULDERS IN BOTH DIRECTIONS.

PHASE 1 CONSTRUCTION:

- IMPLEMENT PHASE 1 MAINTENANCE OF TRAFFIC. MAINTAIN THREE LANES OF I-490 TRAFFIC IN EACH DIRECTION ON THE EXISTING OUTER PORTIONS OF THE EASTBOUND AND WESTBOUND DIRECTIONS ON THE DECK AND APPROACH SLABS.
- PERFORM WORK AT THE WEST ABUTMENT AND EAST ABUTMENT:
  - REMOVE EXISTING MEDIAN BARRIER ON EXISTING ABUTMENT APPROACH SLABS AND ON ABUTMENT BACKWALLS.
  - REMOVE EXISTING APPROACH SLAB AND SLEEPER SLAB TO LIMITS OF PROPOSED MEDIAN BARRIER ON APPROACH SLAB AND REMOVE TOPS OF EXISTING ABUTMENT BACKWALL TO LIMITS OF PROPOSED MEDIAN BARRIER ON ABUTMENT BACKWALL. ADDITIONAL APPROACH SLAB AND TOPS OF ABUTMENT BACKWALL MAY BE REMOVED TO WITHIN 10'-0" OF CENTERLINE I-490 ON THE WESTBOUND SIDE.
  - CONSTRUCT PROPOSED ABUTMENT BACKWALL UNDER PROPOSED ABUTMENT MEDIAN BARRIER, SLEEPER SLAB AND APPROACH SLAB UNDER PROPOSED APPROACH SLAB MEDIAN TRANSITION BARRIER.
  - CONSTRUCT MEDIAN BARRIERS ATOP NEW ABUTMENT BACKWALL AND APPROACH SLAB SEGMENTS.

PHASE 2 CONSTRUCTION:

- IMPLEMENT PHASE 2 MAINTENANCE OF TRAFFIC. SHIFT TRAFFIC AND MAINTAIN THREE LANES OF I-490 TRAFFIC IN EACH DIRECTION ON THE EXISTING EASTBOUND BRIDGE DECK AND APPROACH SLABS AND THE OUTER PORTION OF THE EXISTING WESTBOUND BRIDGE DECK AND APPROACH SLABS.
- SAW CUT THE EXISTING BRIDGE DECK OVERLAY AND THE EXISTING EAST AND WEST ABUTMENT APPROACH SLABS AND TOP OF BACKWALL AT OFFSET OF 36'-7" LEFT OF C I-490.
- PERFORM WORK AT THE WEST ABUTMENT AND EAST ABUTMENT:
  - REMOVE REMAINING INNER PORTIONS OF EXISTING APPROACH SLABS.
  - REMOVE REMAINING INNER PORTIONS OF EXISTING TOPS OF BACKWALL, EXPANSION JOINTS, AND ENDS OF BRIDGE DECK.
  - REMOVE AND REPLACE EXISTING END CROSSFRAMES WITHIN THE SAME LIMITS. RESET BEARINGS OF BEAMS M AND N AFTER EXISTING CROSSFRAME REMOVAL AND BEFORE PROPOSED CROSSFRAME INSTALLATION.
  - INSTALL INNER PORTION OF PROPOSED STRIP SEAL EXPANSION JOINTS.
  - CONSTRUCT INNER PORTIONS OF PROPOSED ENDS OF DECK, TOPS OF BACKWALL, AND APPROACH SLABS. BUILD TO LONG-ITUDINAL CONSTRUCTION JOINT AT OFFSET OF 35'-7" LEFT OF C I-490.
- PERFORM REPAIRS TO INNER PORTIONS OF EXISTING MAINLINE BRIDGE DECK, FINGER JOINTS, AND MEDIAN PARAPETS.



DESIGNED	DRAWN	REVIEWED	DATE
PAT/VIS	PAT/VIS	MJL	08/05/20
CHECKED	REVISED	STRUCTURE FILE NUMBER	1811991
JAM/CJS			

STRUCTURE GENERAL NOTES - 3  
BRIDGE NO. CUY-490-0100  
I-490 OVER CUYAHOGA RIVER

CUY-490-01.00  
PID No. 107408

7/120  
18/131



**CSX TRANSPORTATION COORDINATION NOTES (CONTINUED):**

DURING TRAIN MOVEMENTS THROUGH THE PROJECT LOCATION, VEHICLES, EQUIPMENT, AND PERSONNEL WILL NOT BE ALLOWED TO OPERATE WITHIN TWENTY-FIVE (25) FEET OF THE TRACK.

CSXT SHALL BE NOTIFIED AT LEAST FIVE (5) DAYS IN ADVANCE OF THE PRE-CONSTRUCTION MEETING.

THE CONTRACTOR SHALL COORDINATE ALL WORK ON, OVER OR ADJACENT TO THE RAILROADS WITHIN THE PROJECT'S LIMITS. THE CONTRACTOR SHALL CONTACT CSX RAILROAD, AT LEAST THIRTY (30) DAYS IN ADVANCE, IN ORDER TO COORDINATE THE NECESSARY WORK. UNDER NO CIRCUMSTANCES SHALL THERE BE ANY WORK WITHIN THE RAILROAD RIGHT-OF-WAY WITHOUT THE PROPER AUTHORIZATION AND/OR FLAG PROTECTION FROM THE RAILROAD.

THE USE OF ACETYLENE GAS IS PROHIBITED FOR USE ON OR OVER CSX PROPERTY. TORCH CUTTING SHALL BE PERFORMED UTILIZING OTHER MATERIALS SUCH AS PROPANE.

CSXT REQUIRES THAT THE CONTRACTOR SUBMIT AND RECEIVE ACCEPTANCE OF A COMPREHENSIVE MEANS & METHODS SUBMITTAL (CSXT CONSTRUCTION SUBMISSION CRITERIA, ISSUED APRIL 2022) DETAILING SCOPE WORK WITHIN CSXT TRACKS OR RIGHT-OF-WAY, OR OTHER WORK WHICH PRESENTS THE POTENTIAL TO AFFECT CSXT PROPERTY OR OPERATIONS TO UNDERTAKING THE WORK.

- A. THE CONTRACTOR SHALL SUBMIT A DETAILED PROCEDURE FOR DEMOLITION OF EXISTING STRUCTURES OVER OR ADJACENT TO CSXT'S TRACKS OR RIGHT-OF-WAY. THE PROCEDURE SHALL CLEARLY INDICATE THE CAPACITY OF EQUIPMENT, LOCATION OF EQUIPMENT WITH RESPECT TO THE TRACKS AND THE CALCULATED LIFTS. B. THE DEMOLITION PROCEDURE MUST BE APPROVED BY CSXT'S CONSTRUCTION ENGINEERING AND INSPECTION REPRESENTATIVE.
- B. THE DEMOLITION PROCEDURE MUST BE APPROVED BY CSXT'S CONSTRUCTION ENGINEERING AND INSPECTION REPRESENTATIVE.
- C. CSXT'S TRACKS, SIGNALS, STRUCTURES, AND OTHER FACILITIES SHALL BE PROTECTED FROM DAMAGE DURING DEMOLITION OF THE STRUCTURE.
- D. DURING DEMOLITION, A PROTECTION SHIELD SHALL BE ERECTED OVER THE TRACK AREA TO CATCH FALLING DEBRIS. THE PROTECTION SHIELD SHALL BE SUPPORTED FROM GIRDERS OR BEAMS. THE PROTECTION SHIELD SHALL BE DESIGNED WITH SUPPORTING CALCULATIONS FOR A MINIMUM OF FIFTY (50) POUNDS PER SQUARE FOOT (PSF) PLUS THE WEIGHT OF THE EQUIPMENT DEBRIS, PERSONNEL, AND OTHER LOADS TO BE CARRIED.
- E. LARGE PIECES OF CONCRETE SHALL NOT BE ALLOWED TO FALL ON THE PROTECTION SHIELD.
- F. A BALLAST PROTECTION SYSTEM CONSISTING OF GEOFABRIC OR CANVAS SHALL BE PLACED WITHIN THE TRACK STRUCTURE TO KEEP IT FREE FROM FINES. THE SYSTEM SHALL EXTEND ALONG THE TRACK STRUCTURE FOR A MINIMUM OF 25'-0" BEYOND THE LIMITS OF THE DEMOLITION WORK, OR FARTHER IF REQUIRED BY CSXT'S CONSTRUCTION ENGINEERING DESIGNATE.
- G. CONTRACTOR SHALL SUBMIT DETAILED PLANS WITH SUPPORTING CALCULATIONS FOR THE PROTECTION SHIELD AND BALLAST PROTECTION SYSTEM FOR APPROVAL PRIOR TO THE START OF DEMOLITION.
- H. CONTRACTOR SHALL VERIFY THE EXISTING TOP OF RAIL ELEVATIONS RELATIVE TO PLAN BENCHMARKS TO ENSURE EXISTING RAILROAD MINIMUM VERTICAL CLEARANCE IS MAINTAINED.

ALL LIFTING EQUIPMENT AND CONNECTION DEVICES SHALL HAVE A CAPACITY FOR 150% OF THE ACTUAL LIFTING LOAD. THE FACTOR OF SAFETY PROVIDED BY THE MANUFACTURER IN THE LIFTING CAPACITY DATA SHALL NOT BE CONSIDERED IN THE 150% REQUIREMENT.

TEMPORARY CONSTRUCTION CLEARANCES (HORIZONTAL & VERTICAL) PROPOSED - FOR EXISTING OR LESS THAN STANDARD CONDITIONS - SHALL BE SUBJECT TO APPROVAL BY CSXT. TYPICALLY REDUCTION IN CONSTRUCTION CLEARANCES ARE NOT PERMITTED.

DURING AND AFTER COMPLETION OF CONSTRUCTION, THE OUTSIDE PARTY OR ITS CONTRACTOR SHALL CLEAR CSXT'S DRAINAGE DITCHES OF ALL DEBRIS TO THE SATISFACTION OF CSXT'S CONSTRUCTION MONITORING REPRESENTATIVE.

**CSX TRANSPORTATION COORDINATION NOTES (CONTINUED):**

A WORK SITE SAFETY PLAN THAT INCLUDES A RECOGNITION TO KEEP ALL PERSONNEL FROM FOULING CSXT RAIL OPERATIONS, A FALL PROTECTION PLAN DESCRIBING THE MEASURES TO BE TAKEN WHEN REQUIRED, AND A FIRE PROTECTION PLAN SHALL BE PRESENTED AND ACCEPTED BY CSXT FOR WORK ON, OVER OR ADJACENT CSXT PROPERTY.

ALL WASTE MATERIALS GENERATED BY THIS PROJECT, INCLUDING WASHING WITH CLEANING SOLVENTS, BLASTING, SCRAPING, BRUSHING AND/OR PAINTING OPERATIONS, SHALL BE THE RESPONSIBILITY OF THE AGENCY OR ITS CONTRACTOR, AND SHALL BE CONTAINED, COLLECTED AND PROPERLY DISPOSED OF BY THE STATE OR ITS CONTRACTOR. THE STATE AND ITS CONTRACTOR AGREE TO FULLY COMPLY WITH ALL FEDERAL, STATE, AND LOCAL ENVIRONMENTAL LAWS, REGULATIONS, STATUTES AND ORDINANCES AT ALL TIMES.

CSXT MAY REQUIRE FULL TIME RAILROAD FLAGGING FOR ANY PROJECT TASKS THAT MAY HAVE THE POTENTIAL TO FOUL THE TRACK OR CAUSE A HAZARD TO TRAIN MOVEMENTS.

CSXT HAS SOLE AUTHORITY TO DETERMINE THE NEED FOR TRACK PROTECTION REQUIRED TO PROTECT ITS OPERATIONS AND PROPERTY. IN GENERAL, TRACK PROTECTION WILL BE REQUIRED WHENEVER CONTRACTOR OR EQUIPMENT ARE, OR ARE LIKELY TO BE, WORKING WITHIN FIFTY (50) FEET OF TRACK OR OTHER TRACK CLEARANCES AS SPECIFIED BY CSXT.

UPON COMPLETION OF THE WORK ON CSXT PROPERTY, THE CONTRACTOR SHALL REQUEST THE OWNER TO ARRANGE A FINAL INSPECTION OF THE PROJECT WITH THE RAILROAD'S PROJECT ENGINEER OR THEIR AUTHORIZED REPRESENTATIVE.

CSXT SHALL BE FURNISHED AS-BUILT DRAWINGS SHOWING ACTUAL OPERATING CLEARANCES AS CONSTRUCTED PRIOR TO PROJECT COMPLETION AND CLOSEOUT.

**NORFOLK SOUTHERN RAILWAY COORDINATION NOTES:**

ALL WORK TO BE PERFORMED ON, OVER, UNDER, OR ADJACENT TO THE RAILROAD RIGHT-OF-WAY SHALL COMPLY WITH THE NORFOLK SOUTHERN RAILWAY COMPANY ("RAILROAD", "NSR" OR "NS") PUBLIC PROJECTS MANUAL (APPENDIX E, SPECIAL PROVISIONS FOR THE PROTECTION OF RAILWAY INTERESTS, AND APPENDIX H, OVERHEAD GRADE SEPARATION DESIGN CRITERIA). THE MORE STRINGENT REQUIREMENT SHALL APPLY IF THERE IS CONFLICT WITH OTHER PROJECT SPECIFICATIONS.

**CONTACT INFORMATION:**

ELDRIDGE CHAMBERS  
PUBLIC IMPROVEMENTS ENGINEER  
NORFOLK SOUTHERN CORPORATION  
650 PEACHTREE STREET, NW, BOX 45  
ATLANTA, GA 30308  
(470) 463-6307 (O)  
ELDRIDGE.CHAMBERS@NSCORP.COM

**TEMPORARY EASEMENT TIME RESTRICTIONS:**

TEMPORARY EASEMENTS FOR CONSTRUCTION ACCESS ON PRIVATE PROPERTY BELOW THE BRIDGE ARE OF A 12-MONTH DURATION. EACH TEMPORARY EASEMENT'S 12-MONTH TIME LIMIT BEGINS ON THE DATE OF THE CONTRACTOR'S FIRST ENTRY ONTO THE PARCEL. THE CONTRACTOR SHALL SCHEDULE THEIR OPERATIONS TO COMPLETE ALL WORK REQUIRING ACCESS FROM THE GROUND WITHIN A GIVEN TEMPORARY EASEMENT WITHIN THE 12-MONTH WINDOW.

**PLAN ABBREVIATIONS:**

ABUT.	ABUTMENT
APP.	APPROACH
BRG.	BEARING
℄	CENTERLINE
c/c	CENTER TO CENTER
C.I.P.	CAST IN PLACE
C.J.	CONSTRUCTION JOINT
CL.	CLEAR COVER
CMP	CORRUGATED METAL PIPE
CONC.	CONCRETE
CONST.	CONSTRUCTION
DIA.	DIAMETER
DIM.	DIMENSION
DWG.	DRAWING
EXIST.	EXISTING
EL.	ELEVATION
EQ.	EQUAL
E.F.	EACH FACE
EXP.	EXPANSION
F.A.	FORWARD ABUTMENT
F.F.	FAR FACE
F.S.	FIELD SPLICE
FWD.	FORWARD
HMWM	HIGH MOLECULAR WEIGHT METHACRYLATE
N.F.	NEAR FACE
MAX.	MAXIMUM
MIN.	MINIMUM
PEJF	PREFORMED EXPANSION JOINT FILLER
℄	PLATE
P.G.	PROFILE GRADE
PROP.	PROPOSED
R.A.	REAR ABUTMENT
REINF.	REINFORCED, REINFORCING
SPA.	SPACE, SPACES
STA.	STATION
STD.	STANDARD
STM	STORM SEWER
TYP.	TYPICAL
VAR.	VARIES



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DATE	08/05/20
REVIEWED	MJL
DRAWN	PAT/JG
DESIGNED	PAT/JG
CHECKED	JAM/CJS
STRUCTURE FILE NUMBER	181991

**STRUCTURE GENERAL NOTES - 5**  
BRIDGE NO. CUY-490-0100  
I-490 OVER CUYAHOGA RIVER

**CUY-490-01.00**  
PID No. 107408

8A/120
19A/131

FUNDING		ESTIMATED QUANTITIES										CALC. BY: PAT/VS DATE: 08/04/20		CHKD. BY: JAM/JDA DATE: 08/05/20	
02/IMS/13	ITEM	ITEM EXTENSION	TOTAL	UNIT	DESCRIPTION	WEST ABUTMENT	EAST ABUTMENT	ABUTMENT B-C	ABUTMENT C-B	PIERS	SUPER-STRUCTURE	GENERAL	REF. SHEET NUMBER		
50	601	21000	50	SY	CONCRETE SLOPE PROTECTION							50			
LS	SPECIAL	62540000	LS		MAINTAIN EXISTING LIGHTING							LS	7/120		
724	844	10001	724	SF	CONCRETE PATCHING WITH GALVANIC ANODE PROTECTION, AS PER PLAN		15		54	655					
58,030	848	10000	58,030	SY	MICRO SILICA MODIFIED CONCRETE OVERLAY USING HYDRODEMOLITION (2.50" THICK)						58,030				
58,030	848	20001	58,030	SY	SURFACE PREPARATION USING HYDRODEMOLITION, AS PER PLAN						58,030		7/120		
403	848	30000	403	CY	MICRO SILICA MODIFIED CONCRETE OVERLAY (VARIABLE THICKNESS), MATERIAL ONLY						403				
2,902	848	50000	2,902	SY	HAND CHIPPING						2,902				
LS	848	50100	LS		TEST SLAB							LS			
65	848	50200	65	CY	FULL DEPTH REPAIR						65				
10	848	50201	10	CY	FULL DEPTH REPAIR, AS PER PLAN						10		63/120		
58,030	848	50321	58,030	SY	EXISTING CONCRETE OVERLAY REMOVED, AS PER PLAN						58,030		7/120		

5

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DATE: 08/05/20  
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 STRUCTURE FILE NUMBER: 181991

ESTIMATED QUANTITIES - 2  
 BRIDGE NO. CUY-490-0100  
 I-490 OVER CUYAHOGA RIVER

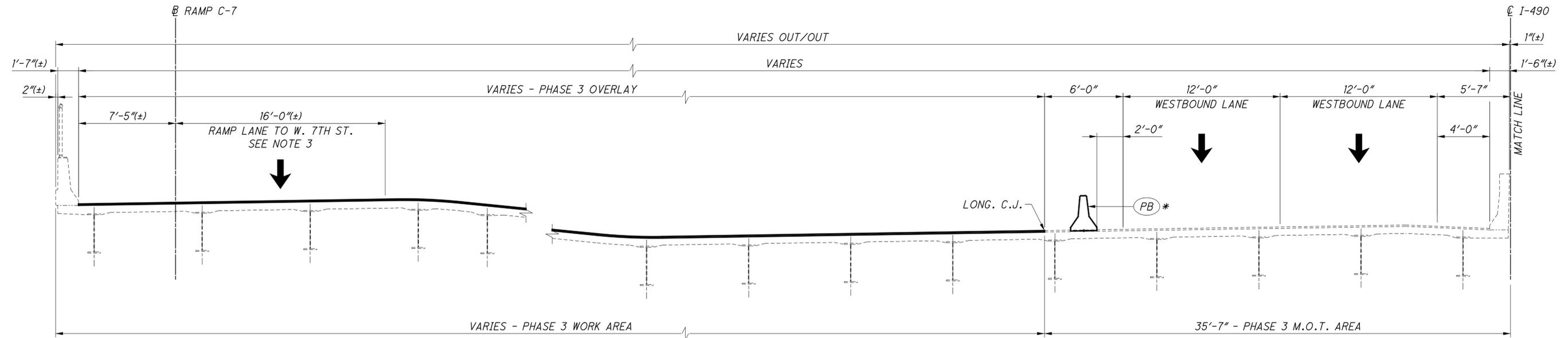
CUY-490-01.00  
 PID No. 107408

10/120  
 21/131

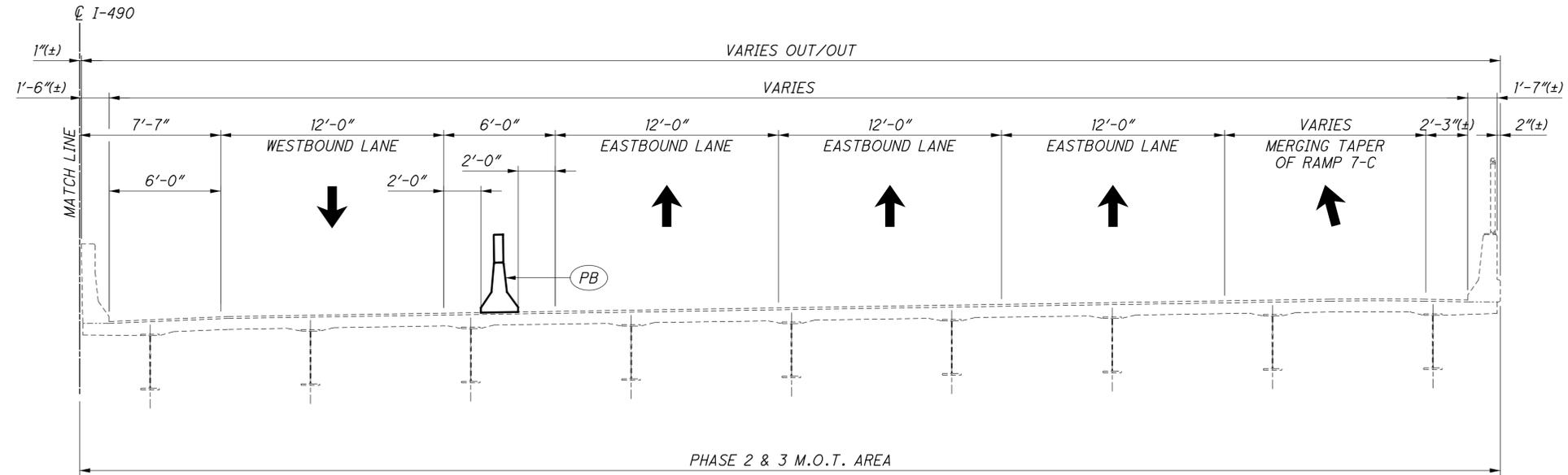
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**LEFT SIDE**



**RIGHT SIDE**

**PHASE 3 CONSTRUCTION TRANSVERSE SECTION - UNIT 1**  
SHOWN AT STA. 986+80(±) IN SPAN 2

**LEGEND**

- (PB) PORTABLE BARRIER, UNANCHORED, 50" HEIGHT OR 32" HEIGHT WITH 18" GLARE SCREEN
- (PB) \* PORTABLE BARRIER, UNANCHORED, 32" HEIGHT ON EXISTING BRIDGE DECK AND ANCHORED ON EXISTING OR PROPOSED APPROACH SLABS

**PHASE 3 CONSTRUCTION**

1. MAINTAIN I-490 TRAFFIC AS SHOWN ON EXISTING EASTBOUND BRIDGE DECK AND APPROACH SLABS AND INNER PORTION OF EXISTING WESTBOUND BRIDGE DECK AND APPROACH SLABS.
2. PERFORM WORK ON OUTER PORTION OF EXISTING WESTBOUND BRIDGE DECK AND APPROACH SLABS.
3. DURING PHASE 3, CLOSE RAMP C-7 TO W. 7TH ST. AND RAMP B-C FROM ROCKEFELLER AVE. TO PERFORM WORK ON THE RAMPS. REFER TO PART 1 PLANS FOR CLOSURE DURATION.
4. FOR DETAILS OF WORK IN THIS PHASE, SEE SUGGESTED CONSTRUCTION PROCEDURE ON SHEET 8/120.



DESIGNED	PAT/JG	CHECKED	MHK/JDA
DRAWN	PAT/JG	REVISED	
REVIEWED	MJL	STRUCTURE FILE NUMBER	1811991
DATE	08/05/20		

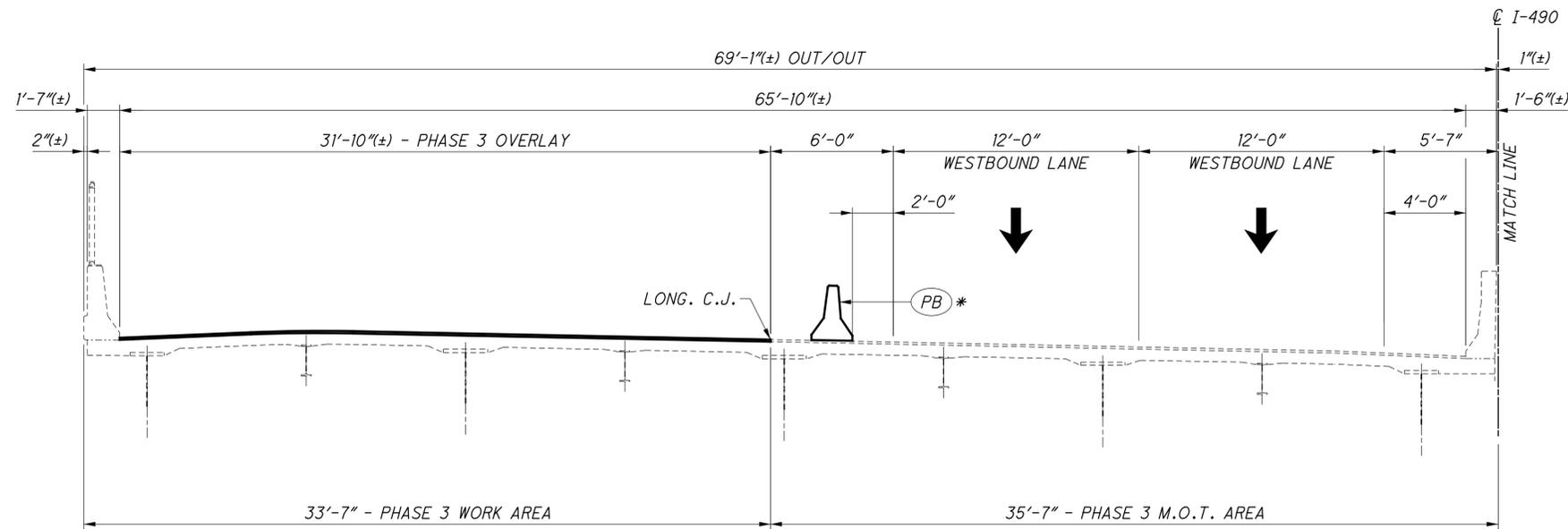
**PHASE CONSTRUCTION DETAILS - 7**  
BRIDGE NO. CUY-490-0100  
I-490 OVER CUYAHOGA RIVER

**CUY-490-01.00**  
PID No. 107408

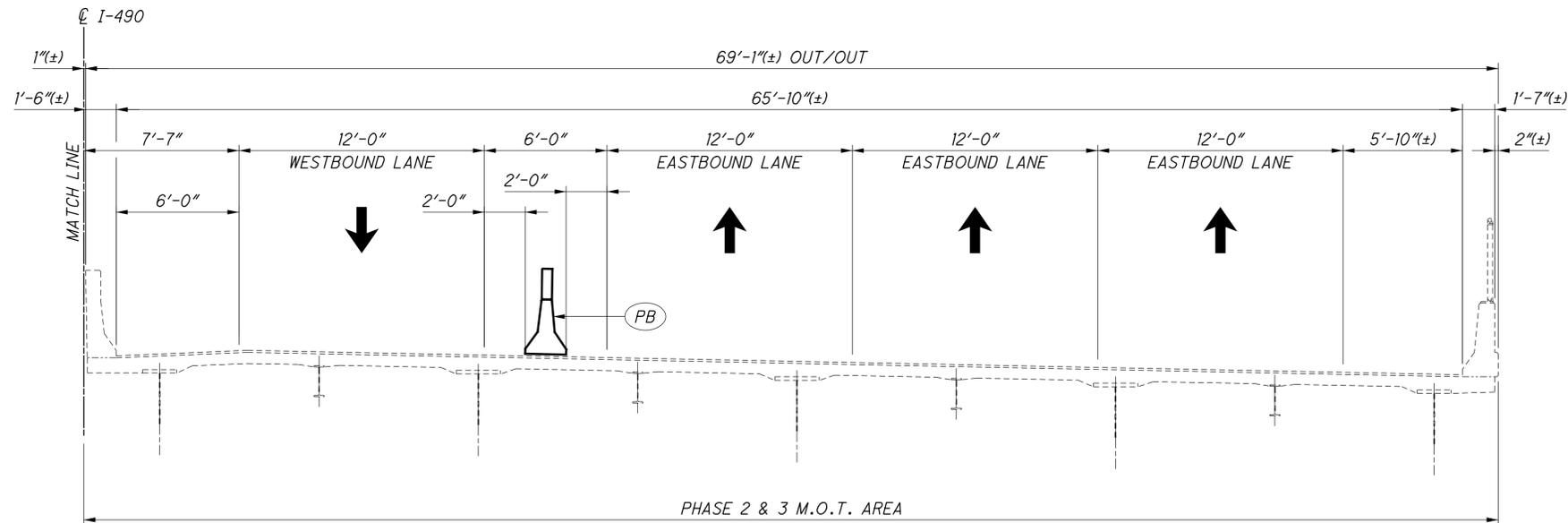
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**LEFT SIDE**



**RIGHT SIDE**

**PHASE 3 CONSTRUCTION TRANSVERSE SECTION - UNIT 3**

SHOWN AT STA. 999+50(±) IN SPAN 11

**LEGEND**

- (PB) PORTABLE BARRIER, UNANCHORED, 50" HEIGHT OR 32" HEIGHT WITH 18" GLARE SCREEN
- (PB) \* PORTABLE BARRIER, UNANCHORED, 32" HEIGHT ON EXISTING BRIDGE DECK AND ANCHORED ON EXISTING OR PROPOSED APPROACH SLABS

**PHASE 3 CONSTRUCTION**

1. MAINTAIN I-490 TRAFFIC AS SHOWN ON EXISTING EASTBOUND BRIDGE DECK AND APPROACH SLABS AND INNER PORTION OF EXISTING WESTBOUND BRIDGE DECK AND APPROACH SLABS.
2. PERFORM WORK ON OUTER PORTION OF EXISTING WESTBOUND BRIDGE DECK AND APPROACH SLABS.
3. DURING PHASE 3, CLOSE RAMP C-7 TO W. 7TH ST. AND RAMP B-C FROM ROCKEFELLER AVE. TO PERFORM WORK ON THE RAMPS. REFER TO PART 1 PLANS FOR CLOSURE DURATION.
4. FOR DETAILS OF WORK IN THIS PHASE, SEE SUGGESTED CONSTRUCTION PROCEDURE ON SHEET 8/120.



DESIGNED	PAT/JG	CHECKED	MHK/JDA
DRAWN	PAT/JG	REVISED	
REVIEWED	MJL	STRUCTURE FILE NUMBER	181991
DATE	08/05/20		

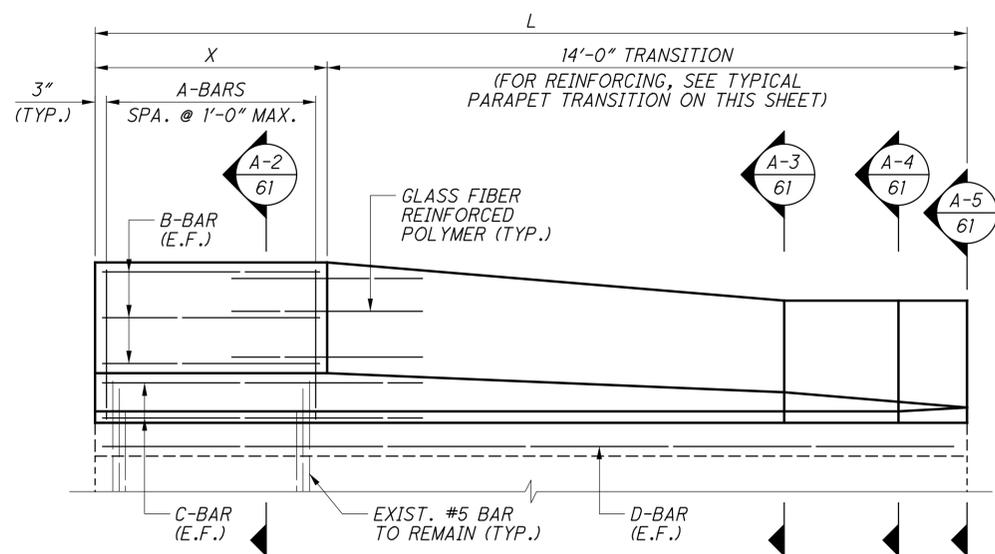
**PHASE CONSTRUCTION DETAILS - 8**  
 BRIDGE NO. CUY-490-0100  
 I-490 OVER CUYAHOGA RIVER

**CUY-490-01.00**  
 PID No. 107408

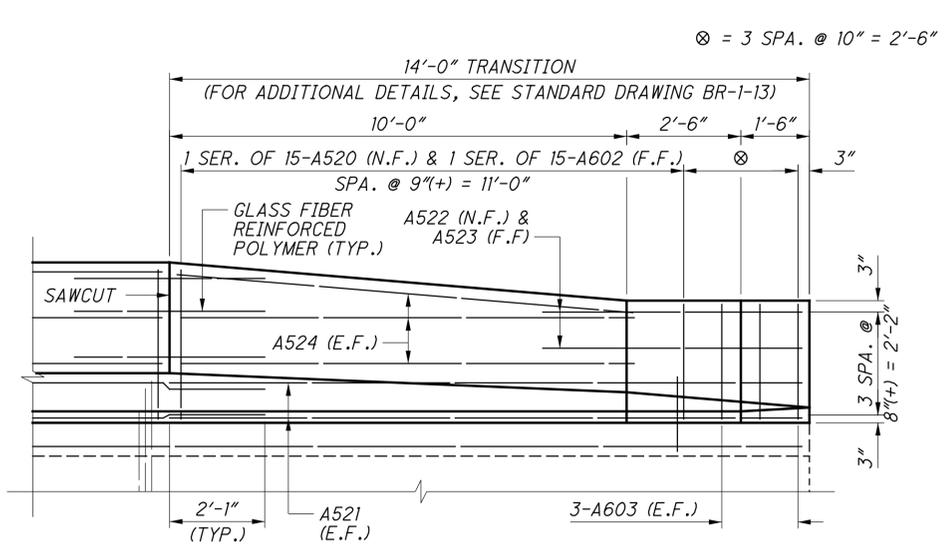
18 / 120

29 / 131

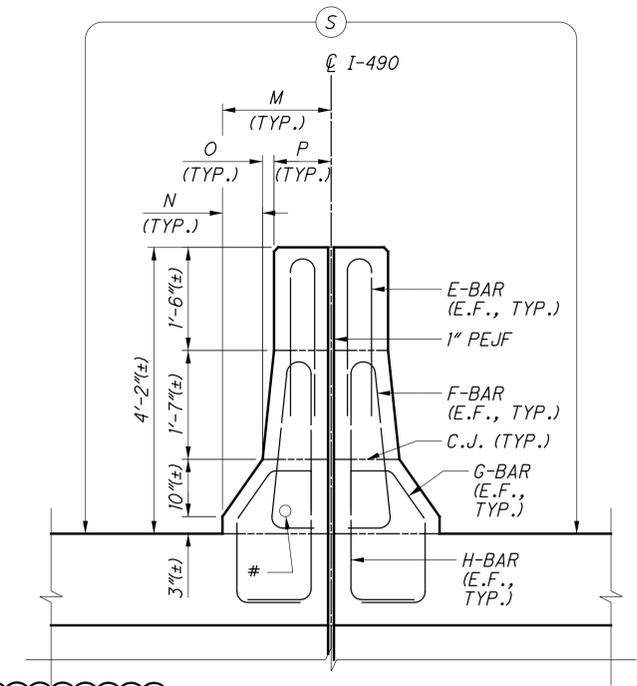




TYPICAL ELEVATION



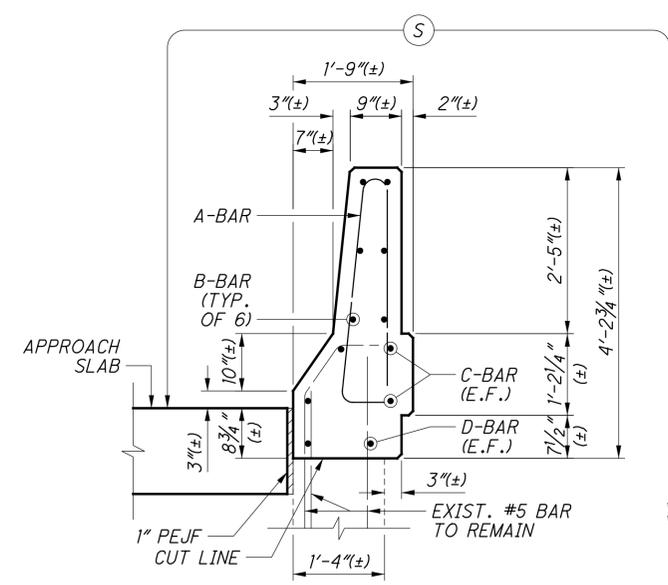
TYPICAL PARAPET TRANSITION



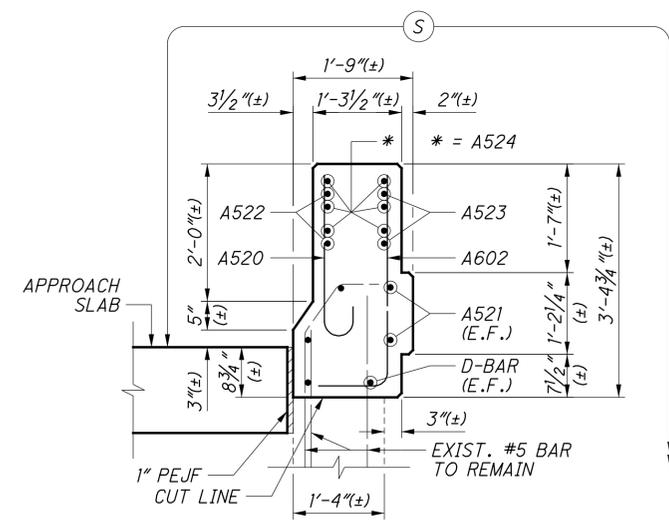
SECTION A-6 A-7  
 29 55

5 # = EXIST. 2" DIA. PVC CONDUIT TO REMAIN

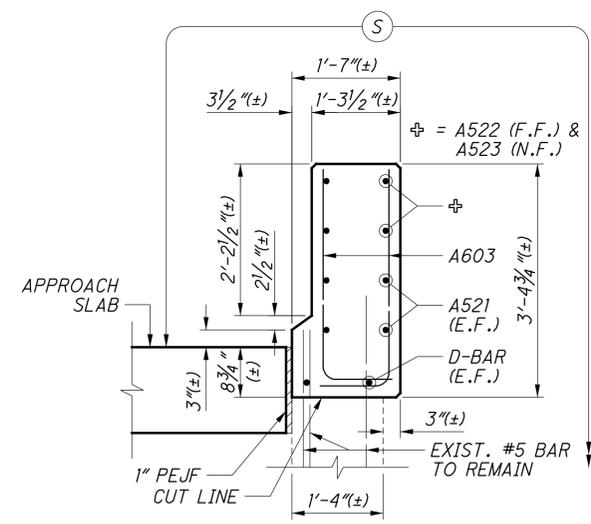
ABUTMENT BACKWALL REINFORCING NOT SHOWN FOR CLARITY



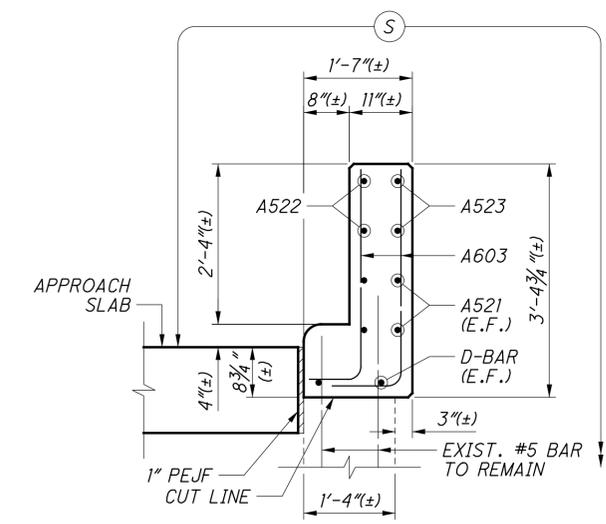
SECTION A-2  
 61



SECTION A-3  
 61



SECTION A-4  
 61



SECTION A-5  
 61

ABUTMENT WINGWALL PARAPET REINFORCING							
ABUTMENT	WINGWALL	L	X	A-BAR	B-BAR	C-BAR	D-BAR
WEST	SOUTH	14'-0" (±)	0'-0" (±)	-	-	-	A526
EAST	NORTH	16'-10" (±)	2'-10" (±)	4-A525	A527	A528	A529
EAST	SOUTH	21'-0" (±)	7'-0" (±)	8-A525	A530	A531	A532
B-C	NORTH	19'-1" (±)	5'-1" (±)	6-A525	A533	A534	A535
C-B	NORTH	19'-1" (±)	5'-1" (±)	6-A525	A533	A534	A535
C-B	SOUTH	28'-6" (±)	14'-6" (±)	15-A525	A536	A537	A538

ABUTMENT MEDIAN PARAPET REINFORCING								
ABUTMENT	M	N	O	P	E-BAR	F-BAR	G-BAR	H-BAR
WEST	1'-7" (±)	7" (±)	2" (±)	10" (±)	A604	A605	A606	A607
EAST	1'-11 1/2" (±)	8 5/8" (±)	2 1/2" (±)	1'-0 3/8" (±)	A608	A609	A610	A607

NOTE: DIMENSIONS M, N, O, & P ARE MEASURED ALONG THE BACKWALL

NOTES

- NO WORK IS REQUIRED AT THE FOLLOWING WINGWALLS BEYOND RECONSTRUCTION OF THE PARAPET AT THE EXPANSION JOINT:
  - WEST ABUTMENT, NORTH WINGWALL
  - ABUTMENT B-C, SOUTH WINGWALL
- FOR EXISTING ABUTMENT PARAPET REMOVAL LIMITS, SEE SHEETS 29 TO 31 AND 54 TO 60/120.
- FOR ADDITIONAL PARAPET DETAILS, SEE STANDARD DRAWING BR-1-13.
- LIMITS OF SEALING OF CONCRETE SURFACES TO INCLUDE PARAPETS AND FACES OF EXISTING ABUTMENT WINGWALLS TO REMAIN TO THE TOP OF GROUND.

LEGEND

- (S) LIMITS OF SEALING OF CONCRETE SURFACES (EPOXY-URETHANE) (SEE NOTE 4)

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DATE 08/05/20  
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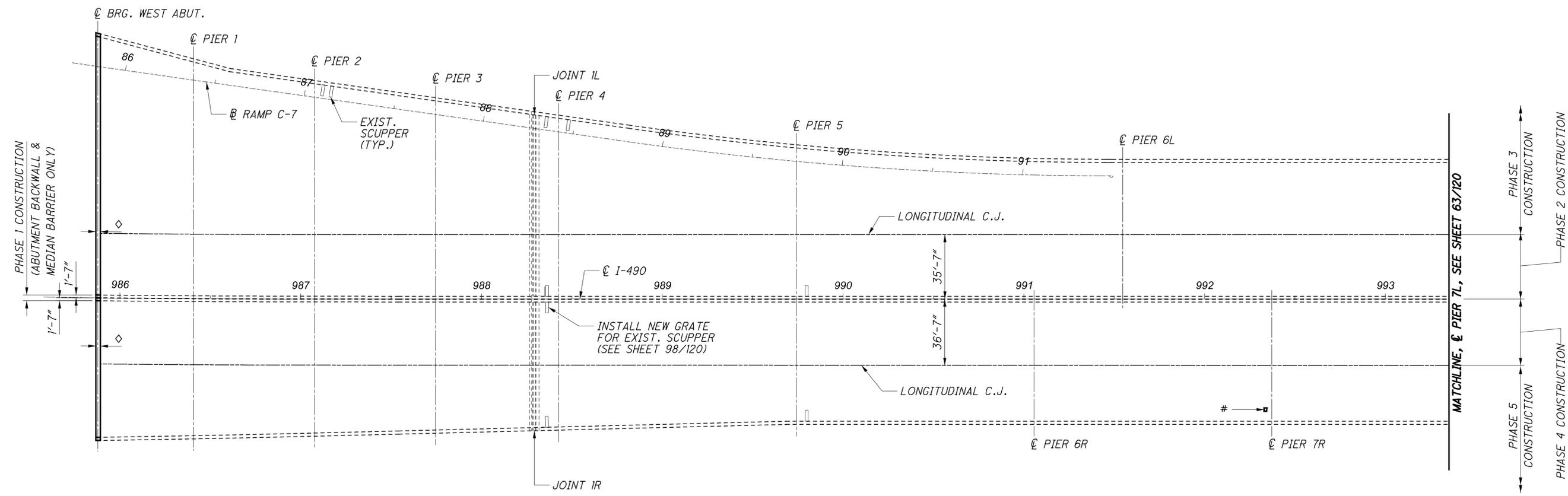
DRAWN JAM/JG  
CHECKED PAT/JDA  
DESIGNED JAM/JG  
REVISOR REVISED

WEARING SURFACE REPAIR DETAILS - 1  
BRIDGE NO. CUY-490-0100  
I-490 OVER CUYAHOGA RIVER

CUY-490-01.00  
PID No. 107408

62/120

73/131



**DECK PLAN**

**LEGEND**

- # FULL DEPTH REPAIR OF PIER ACCESS MANHOLE LOCATION, SEE SHEET 69/120.
- ◇ PORTION OF EXISTING DECK SLAB TO BE REMOVED AND RECONSTRUCTED FOR EXPANSION JOINT REPLACEMENT

- NOTES**
1. REMOVE THE EXISTING CONCRETE OVERLAY IN ACCORDANCE WITH ITEM 848 - EXISTING CONCRETE OVERLAY REMOVED, AS PER PLAN.
  2. REMOVE THE 1" OR 1/4" CONCRETE BELOW EXISTING OVERLAY IN ACCORDANCE WITH ITEM 848 - SURFACE PREPARATION USING HYDRODEMOLITION, AS PER PLAN.
  3. PLACE MICRO SILICA CONCRETE OVERLAY IN ACCORDANCE WITH ITEM 848 - MICRO SILICA MODIFIED CONCRETE OVERLAY USING HYDRODEMOLITION.





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 STRUCTURE FILE NUMBER 181991

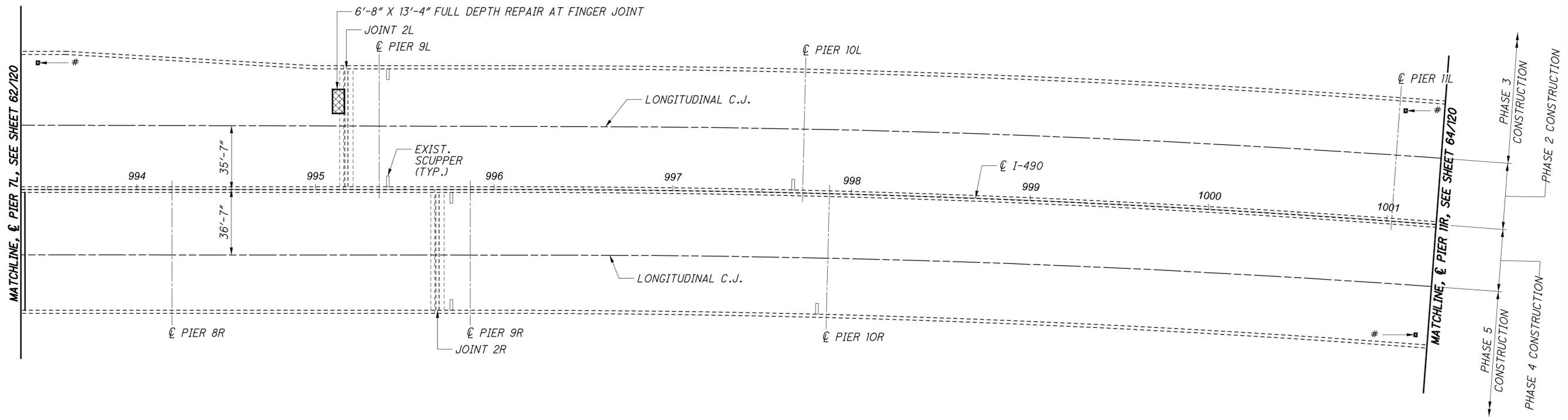
DRAWN JAM/JG  
 REVISOR  
 DESIGNED JAM/JG  
 CHECKED PAT/JDA

WEARING SURFACE REPAIR DETAILS - 2  
 BRIDGE NO. CUY-490-0100  
 I-490 OVER CUYAHOGA RIVER

CUY-490-01.00  
 PID No. 107408

63/120

74  
 131



**DECK PLAN**

**LEGEND**

- # FULL DEPTH REPAIR OF PIER ACCESS MANHOLE LOCATION, SEE SHEET 69/120.
- ◇ PORTION OF EXISTING DECK SLAB TO BE REMOVED AND RECONSTRUCTED FOR EXPANSION JOINT REPLACEMENT

**NOTES**

1. REMOVE THE EXISTING CONCRETE OVERLAY IN ACCORDANCE WITH ITEM 848 - EXISTING CONCRETE OVERLAY REMOVED, AS PER PLAN.
2. REMOVE THE 1" OR 1 1/4" CONCRETE BELOW EXISTING OVERLAY IN ACCORDANCE WITH ITEM 848 - SURFACE PREPARATION USING HYDRODEMOLITION, AS PER PLAN.
3. PLACE MICRO SILICA CONCRETE OVERLAY IN ACCORDANCE WITH ITEM 848 - MICRO SILICA MODIFIED CONCRETE OVERLAY USING HYDRODEMOLITION.
4. 10 CY OF FULL DEPTH REPAIR OVER WATER TO BE USED AS DIRECTED BY THE ENGINEER PER ITEM 848 - FULL DEPTH REPAIR, AS PER PLAN.

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DRAWN	STRUCTURE FILE NUMBER
JAM/JG	181991

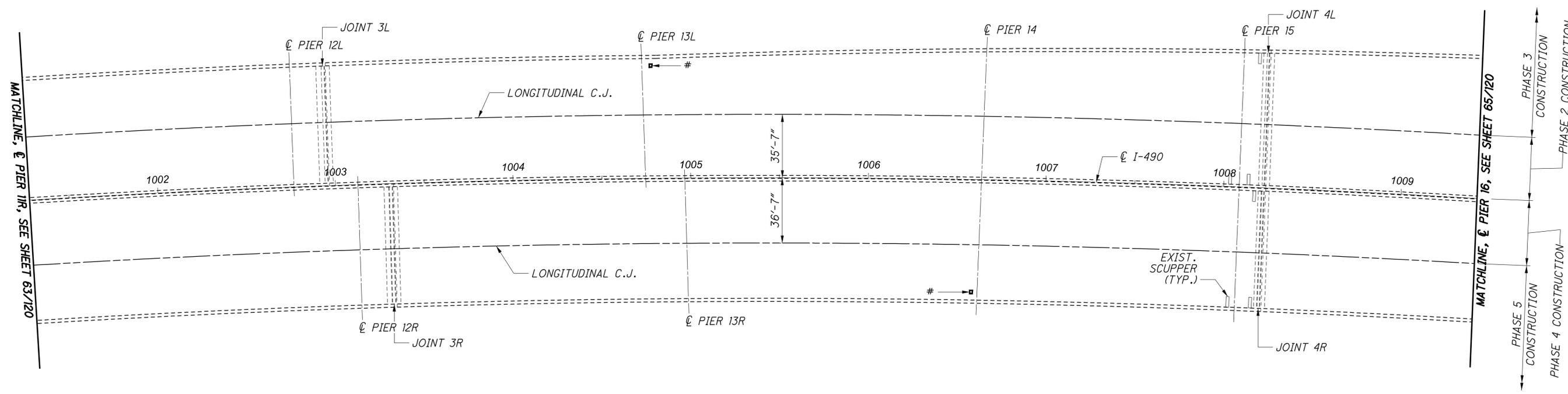
CHECKED	DESIGNED
PAT/JDA	JAM/JG
REVISED	CHECKED
	PAT/JDA

**WEARING SURFACE REPAIR DETAILS - 3**  
 BRIDGE NO. CUY-490-0100  
 I-490 OVER CUYAHOGA RIVER

**CUY-490-01.00**  
 PID No. 107408

64/120  
 75  
 131

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**DECK PLAN**

**LEGEND**

- # FULL DEPTH REPAIR OF PIER ACCESS MANHOLE LOCATION, SEE SHEET 69/120.
- ◇ PORTION OF EXISTING DECK SLAB TO BE REMOVED AND RECONSTRUCTED FOR EXPANSION JOINT REPLACEMENT

- NOTES**
1. REMOVE THE EXISTING CONCRETE OVERLAY IN ACCORDANCE WITH ITEM 848 - EXISTING CONCRETE OVERLAY REMOVED, AS PER PLAN.
  2. REMOVE THE 1" OR 1 1/4" CONCRETE BELOW EXISTING OVERLAY IN ACCORDANCE WITH ITEM 848 - SURFACE PREPARATION USING HYDRODEMOLITION, AS PER PLAN.
  3. PLACE MICRO SILICA CONCRETE OVERLAY IN ACCORDANCE WITH ITEM 848 - MICRO SILICA MODIFIED CONCRETE OVERLAY USING HYDRODEMOLITION.



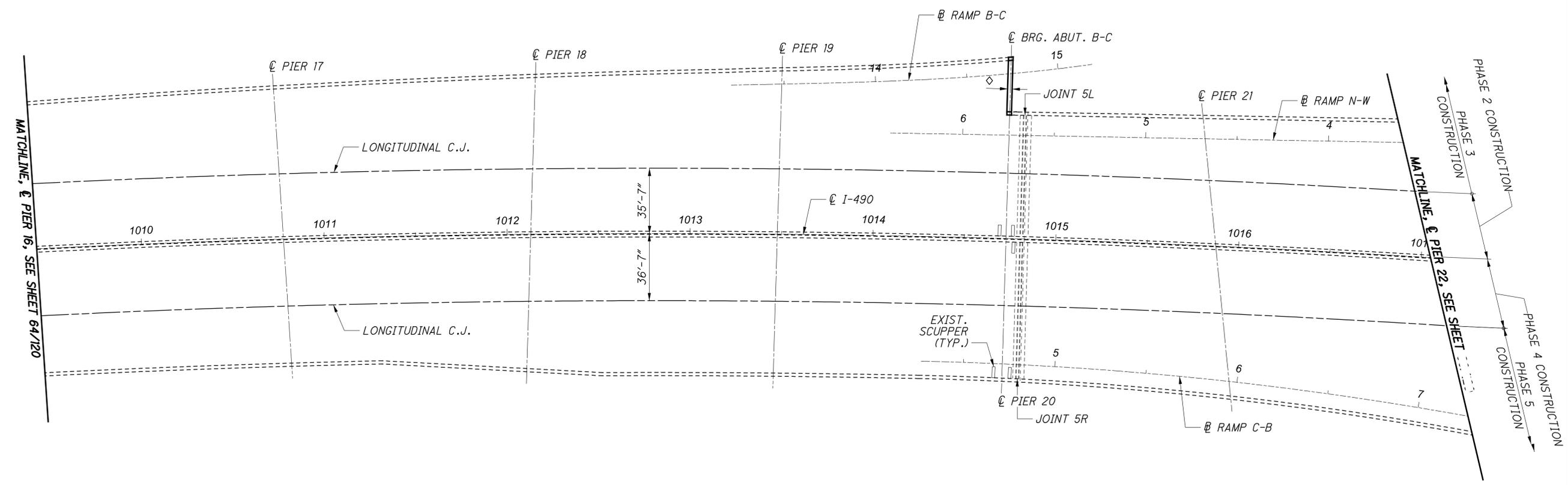


DESIGNED	JAM/JG	CHECKED	PAT/JDA
DRAWN	JAM/JG	REVISED	
REVIEWED	MJL	STRUCTURE FILE NUMBER	181991
DATE	08/05/20		

**WEARING SURFACE REPAIR DETAILS - 4**  
 BRIDGE NO. CUY-490-0100  
 I-490 OVER CUYAHOGA RIVER

**CUY-490-01.00**  
 PID No. 107408

65/120  
 76/131



**DECK PLAN**

**LEGEND**

- # FULL DEPTH REPAIR OF PIER ACCESS MANHOLE LOCATION, SEE SHEET 69/120.
- ◇ PORTION OF EXISTING DECK SLAB TO BE REMOVED AND RECONSTRUCTED FOR EXPANSION JOINT REPLACEMENT

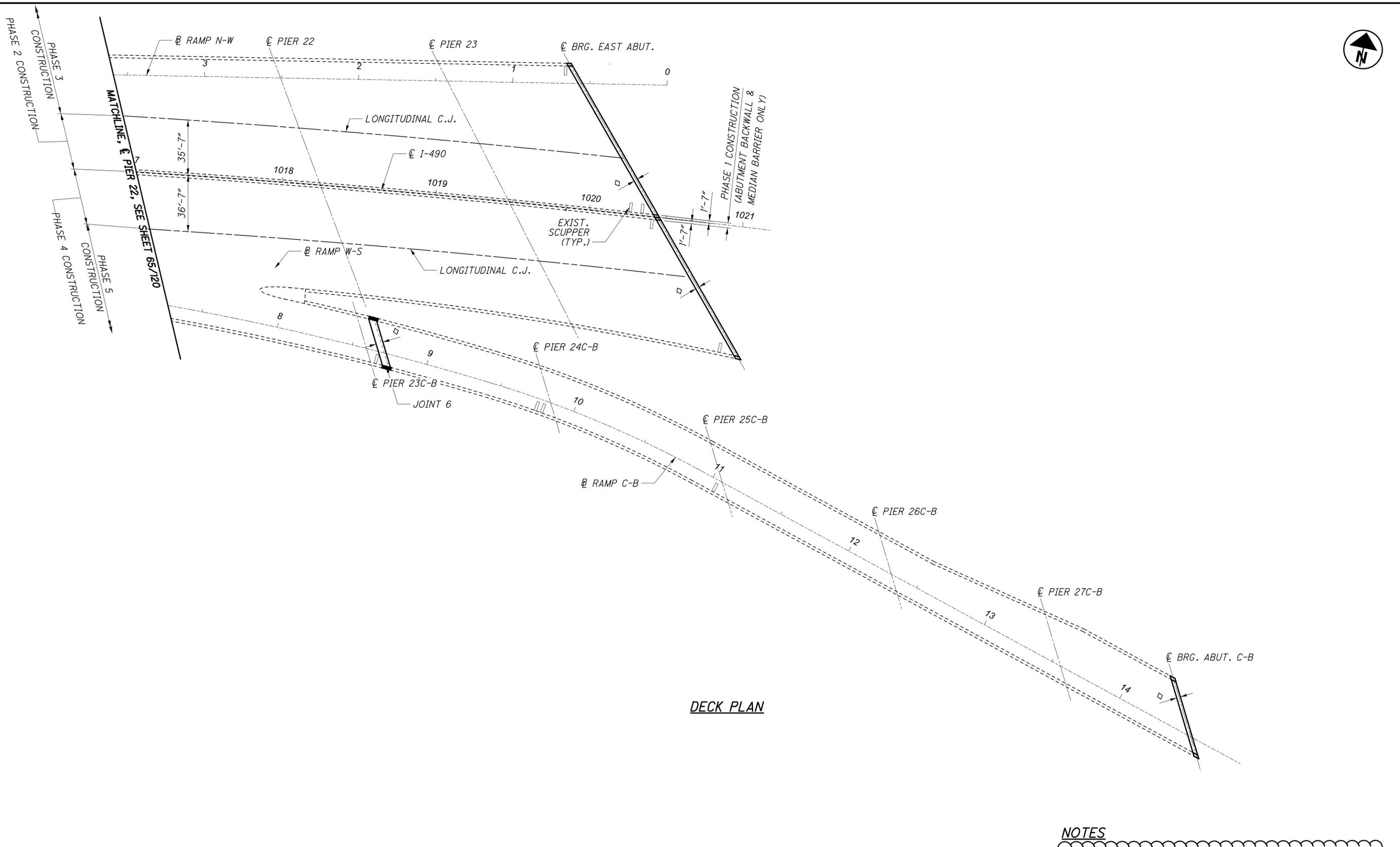
**NOTES**

1. REMOVE THE EXISTING CONCRETE OVERLAY IN ACCORDANCE WITH ITEM 848 - EXISTING CONCRETE OVERLAY REMOVED, AS PER PLAN.
2. REMOVE THE 1" OR 1 1/4" CONCRETE BELOW EXISTING OVERLAY IN ACCORDANCE WITH ITEM 848 - SURFACE PREPARATION USING HYDRODEMOLITION, AS PER PLAN.
3. PLACE MICRO SILICA CONCRETE OVERLAY IN ACCORDANCE WITH ITEM 848 - MICRO SILICA MODIFIED CONCRETE OVERLAY USING HYDRODEMOLITION.



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DESIGNED	JAM/JG	CHECKED	PAT/JDA
DRAWN	JAM/JG	REVISED	
REVIEWED	MJL	STRUCTURE FILE NUMBER	181191
DATE	08/05/20		

**WEARING SURFACE REPAIR DETAILS - 5**  
 BRIDGE NO. CUY-490-0100  
 I-490 OVER CUYAHOGA RIVER

**CUY-490-01.00**  
 PID No. 107408

66/120  
 77/131

**LEGEND**

- # FULL DEPTH REPAIR OF PIER ACCESS MANHOLE LOCATION, SEE SHEET 69/120.
- ◇ PORTION OF EXISTING DECK SLAB TO BE REMOVED AND RECONSTRUCTED FOR EXPANSION JOINT REPLACEMENT

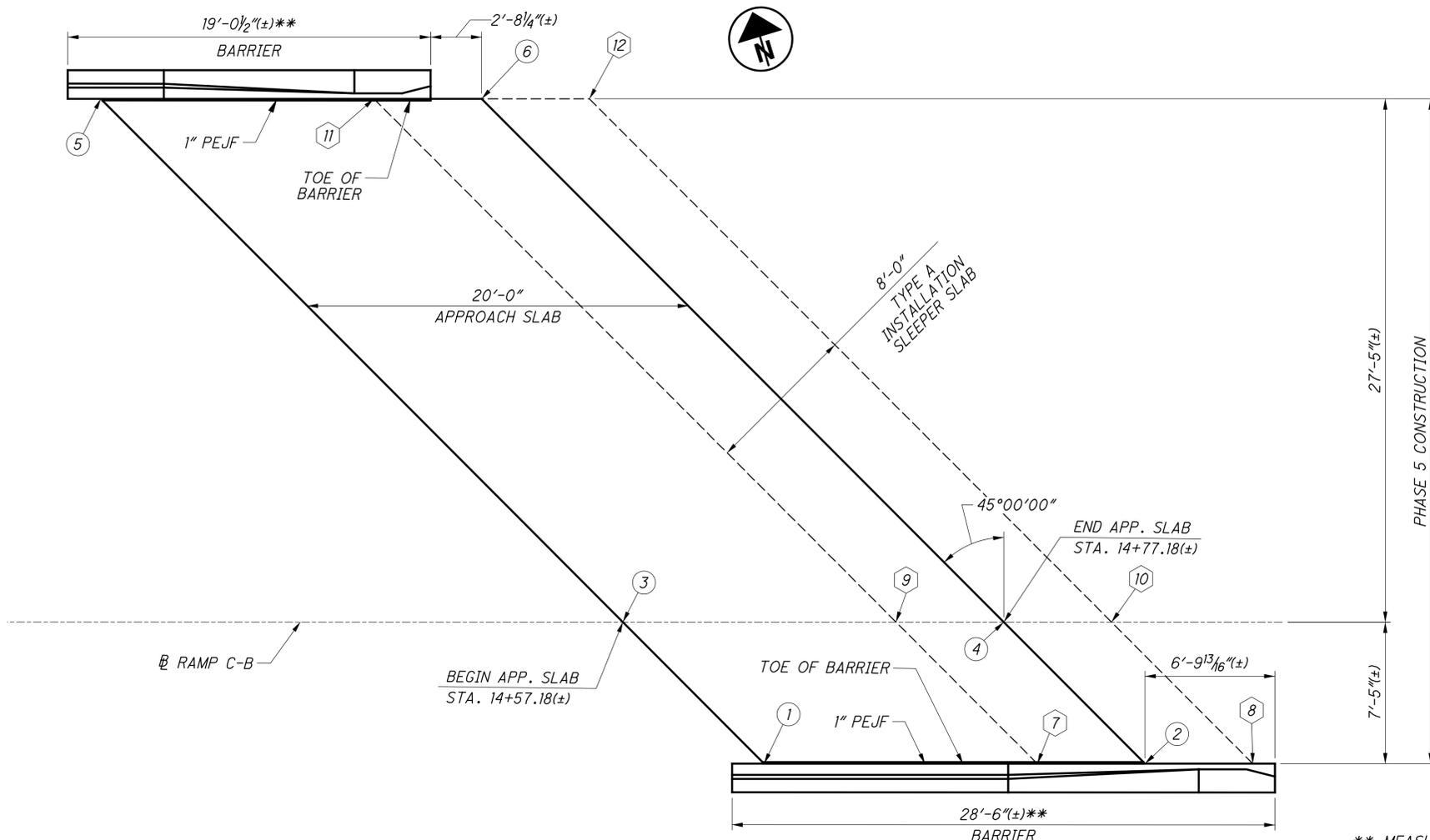


**NOTES**

1. REMOVE THE EXISTING CONCRETE OVERLAY IN ACCORDANCE WITH ITEM 848 - EXISTING CONCRETE OVERLAY REMOVED, AS PER PLAN.
2. REMOVE THE 1" OR 1 1/4" CONCRETE BELOW EXISTING OVERLAY IN ACCORDANCE WITH ITEM 848 - SURFACE PREPARATION USING HYDRODEMOLITION, AS PER PLAN.
3. PLACE MICRO SILICA CONCRETE OVERLAY IN ACCORDANCE WITH ITEM 848 - MICRO SILICA MODIFIED CONCRETE OVERLAY USING HYDRODEMOLITION.



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PLAN - FORWARD APPROACH SLAB

**APPROACH SLAB ELEVATIONS**

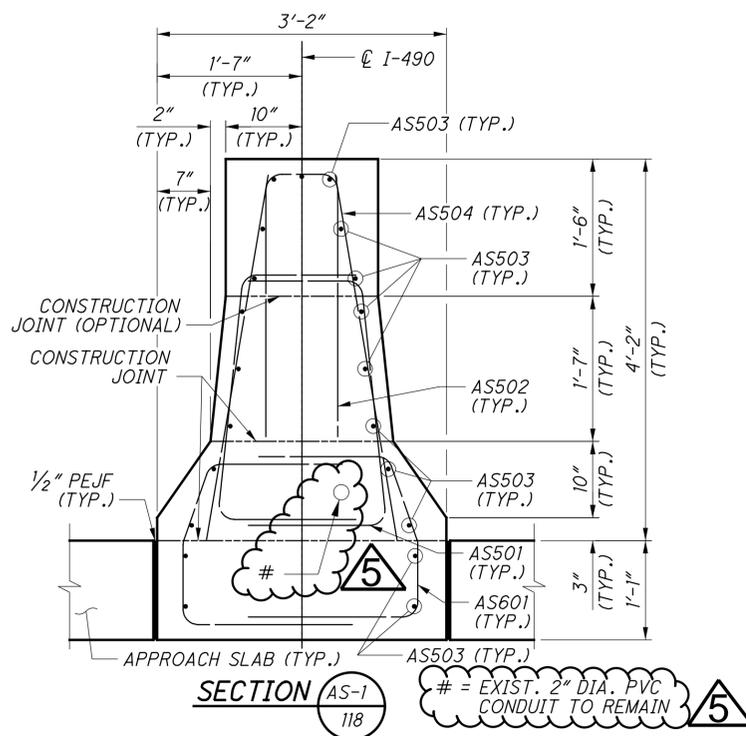
LOCATION	REAR
①	STATION 14+64.60
	OFFSET 7.42
	ELEVATION 667.82
②	STATION 14+84.60
	OFFSET 7.42
	ELEVATION 668.65
③	STATION 14+57.18
	OFFSET 0.00
	ELEVATION 667.61
④	STATION 14+77.18
	OFFSET 0.00
	ELEVATION 668.39
⑤	STATION 14+29.76
	OFFSET -27.41
	ELEVATION 666.97
⑥	STATION 14+49.76
	OFFSET -27.41
	ELEVATION 667.57

**SLEEPER SLAB ELEVATIONS**

LOCATION	REAR
⑦	STATION 14+78.96
	OFFSET 7.42
	ELEVATION 667.34
⑧	STATION 14+90.21
	OFFSET 7.42
	ELEVATION 667.81
⑨	STATION 14+71.52
	OFFSET 0.00
	ELEVATION 667.09
⑩	STATION 14+82.84
	OFFSET 0.00
	ELEVATION 667.53
⑪	STATION 14+44.11
	OFFSET -27.41
	ELEVATION 666.32
⑫	STATION 14+55.40
	OFFSET -27.41
	ELEVATION 666.66

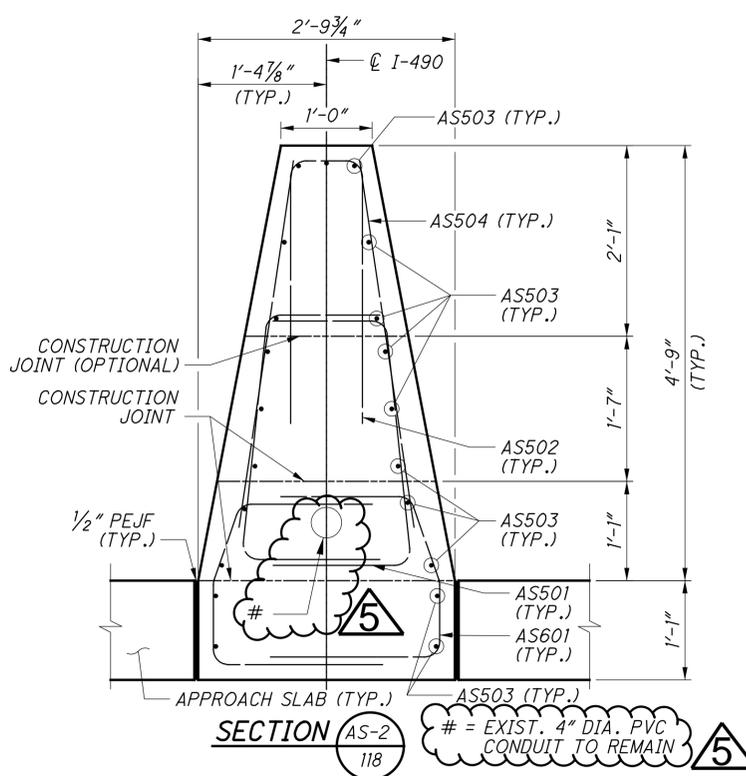
ALL ELEVATIONS ARE (±)

\*\* MEASURED ALONG THE INSIDE FACE OF THE TOE OF BARRIER



SECTION AS-1  
118

# = EXIST. 2" DIA. PVC CONDUIT TO REMAIN



SECTION AS-2  
118

# = EXIST. 4" DIA. PVC CONDUIT TO REMAIN

**NOTES**

- ELEVATIONS SHOWN ON THIS SHEET ARE TO BE FIELD VERIFIED AND ADJUSTED TO MATCH THE EXISTING STRUCTURE.



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REVIEWED MJL  
DRAWN DAF/JG  
DESIGNED KJS  
CHECKED CLH/JDA  
STRUCTURE FILE NUMBER 181991

ABUTMENT C-B APPROACH SLAB DETAILS  
BRIDGE NO. CUY-490-0100  
I-490 OVER CUYAHOGA RIVER

CUY-490-01.00  
PID No. 107408

119/120

130/131

