

STATE OF OHIO
DEPARTMENT OF TRANSPORTATION

CUY-490-01.00

CITY OF CLEVELAND
CUYAHOGA COUNTY

PROJECT DESCRIPTION

REPAIRS TO THE IR-490 BRIDGE OVER THE CUYAHOGA RIVER AND THE NS, CSX, CWRO RAILROADS IN CLEVELAND. WORK WILL INCLUDE DECK PATCHING, EXPANSION JOINT REPAIR, DRAINAGE REPAIR, APPROACH SLAB REPLACEMENT AND PAINTING OF THE GIRDER ENDS AT THE ABUTMENTS AND INTERMEDIATE EXPANSION JOINTS.

PROJECT EARTH DISTURBED AREA: 1.64 ACRES
ESTIMATED CONTRACTOR EARTH DISTURBED AREA: 0.25 ACRES
NOTICE OF INTENT EARTH DISTURBED AREA: 1.89 ACRES

LIMITED ACCESS

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

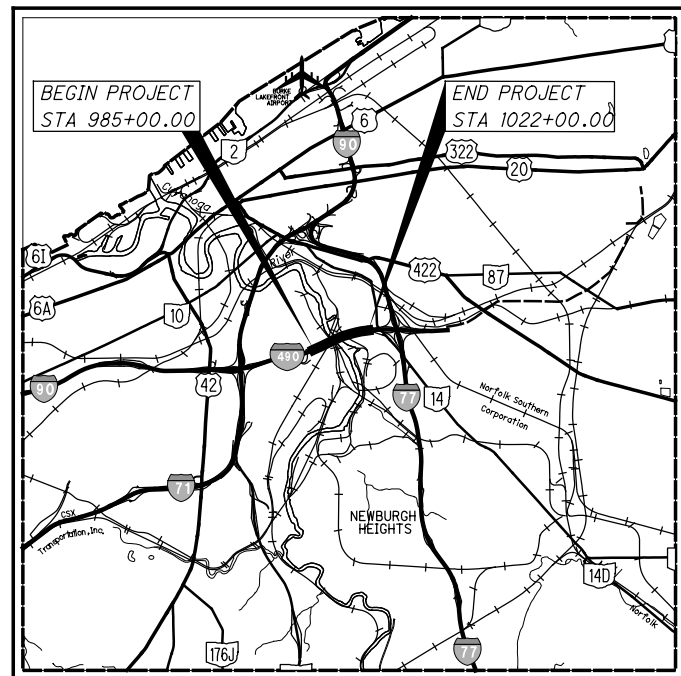
2019 SPECIFICATIONS

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

I HEREBY APPROVE THESE PLANS AND DECLARE THAT THE MAKING OF THIS IMPROVEMENT WILL REQUIRE THE CLOSING TO TRAFFIC OF THE HIGHWAY AND THAT DETOURS WILL BE PROVIDED AS INDICATED ON SHEET 20 - 23.

APPROVED _____
DATE _____ DISTRICT DEPUTY DIRECTOR

APPROVED _____
DATE _____ DIRECTOR, DEPARTMENT OF TRANSPORTATION



LOCATION MAP

LATITUDE: 41° 28' 42" LONGITUDE: 81° 40' 27"



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

DESIGN DESIGNATION

CURRENT ADT (2020)	83,000
DESIGN YEAR ADT (2040)	110,000
DESIGN HOURLY VOLUME (2040)	11,000
DIRECTIONAL DISTRIBUTION	53%
TRUCKS (24 HOUR B&C)	8%
DESIGN SPEED	65 MPH
LEGAL SPEED	60 MPH
DESIGN FUNCTIONAL CLASSIFICATION:	
INTERSTATE	
NHS PROJECT	YES

DESIGN EXCEPTIONS

NONE

UNDERGROUND UTILITIES
Contact Two Working Days Before You Dig

OHIO811, 8-1-1, or 1-800-362-2764
(Non-members must be called directly)

PLAN PREPARED BY:



INDEX OF SHEETS:

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NOTE: NOT FOR CONSTRUCTION

STAGE 3 PLANS
08/06/2020

ENGINEERS SEAL:

SIGNED: _____
DATE: _____

ENGINEERS SEAL:

SIGNED: _____
DATE: _____

STANDARD CONSTRUCTION DRAWINGS						SUPPLEMENTAL SPECIFICATIONS		SPECIAL PROVISIONS	
BP-2.1	7/17/15	MGS-3.2	1/18/13	TC-41.20	10/18/13	800-2020	10/16/20		
BP-2.2	7/18/08	MGS-4.2	7/19/13	TC-42.20	10/18/13	832	10/19/18		
BP-3.1	01/17/20	MGS-4.3	1/18/13	TC-65.10	1/17/14	844	4/20/18		
BP-6.1	7/19/13			TC-65.11	7/21/17	848	1/20/17		
		RM-4.2	4/17/20	TC-71.10	1/19/18				
DM-1.2	1/18/13			TC-72.20	7/20/18				
DM-4.1	7/17/20	AS-1-15	7/17/15						
DM-4.2	7/20/12	AS-2-15	1/18/19						
DM-4.3	1/15/16	BR-1-13	1/17/14						
DM-4.4	1/15/16	EXJ-4-87	1/19/18						
		GSD-1-19	1/18/19						
BP-5.1	1/18/19	PCB-91	7/17/20						
		RB-1-55	7/19/13						
MGS-1.1	1/19/18	VPF-1-90	7/20/18						
MGS-2.1	1/19/18								
MGS-3.1	1/19/18	MT-101.70	1/17/20						

FEDERAL PROJECT NO. **E040 (492)**
PID NO. **25622**
CONSTRUCTION PROJECT NO. _____
RAILROAD INVOLVEMENT **NORFOLK SOUTHERN, CSX, CWRO**
CUY-490-1.00
1/182

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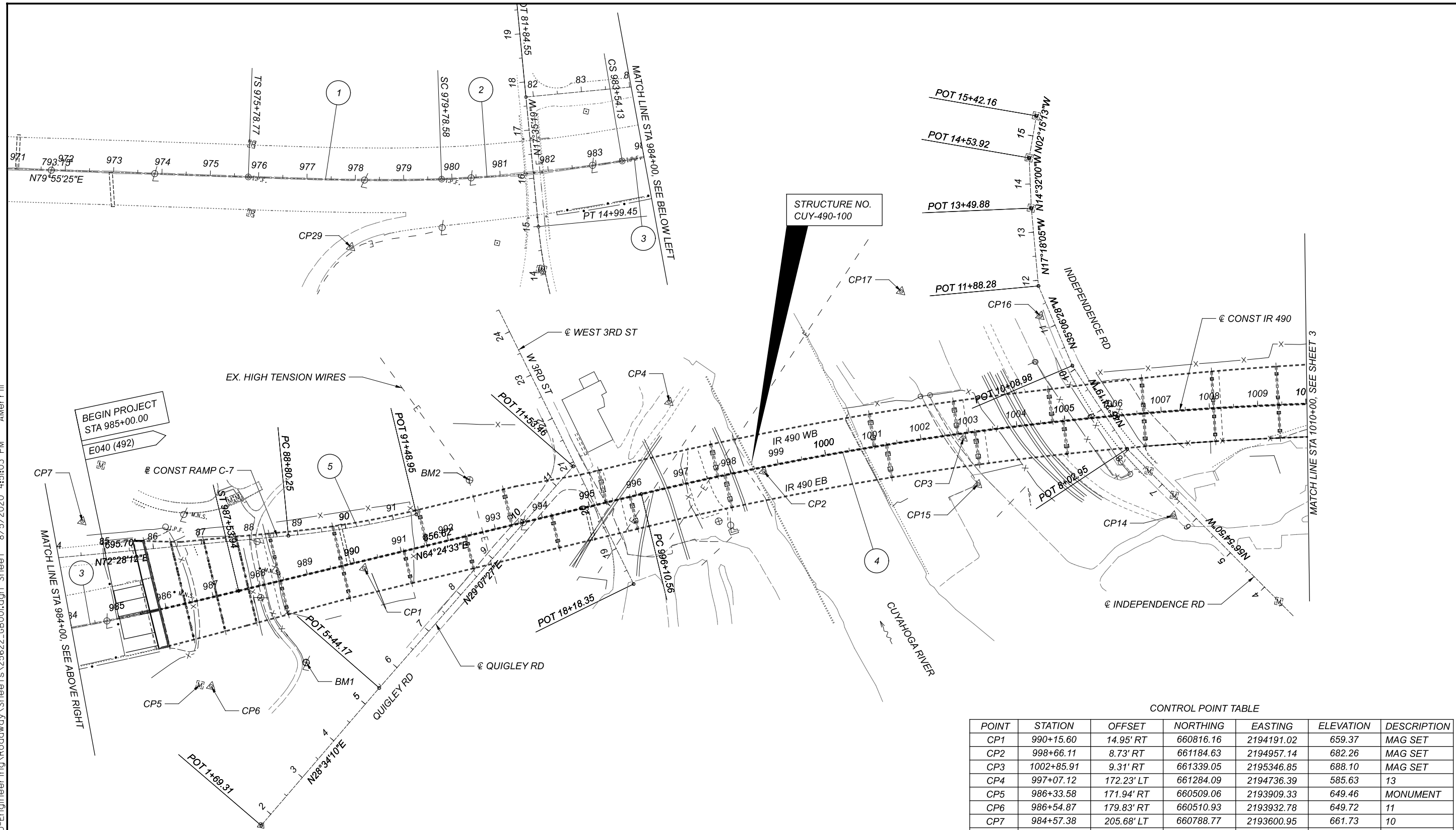


0 100 200
HORIZONTAL SCALE IN FEET

CALCULATED
RDC
CHECKED
VDK

SCHEMATIC PLAN

CUY-490-1.00



CURVE 1 (IR 490)
P.I. = Sta. 978+45.38
Ls = 399.81'
Bs = 04°00'00"
LT = 266.61'
ST = 133.33'
x = 399.62'
y = 9.30'
k = 60.92'
p = 0.71'
C = 399.73'
Start = Sta. 975+78.77
End = Sta. 979+79.58
C.B. = N78°35'25"E

CURVE 2 (IR 490)
P.I. = Sta. 981+66.63
Δ = 07°30'52" LT
Dc = 02°00'03"
R = 2,863.45'
T = 188.04'
L = 375.55'
E = 6.17'

CURVE 3 (IR 490)
P.I. = Sta. 984+87.46
Ls = 399.81'
Bs = 04°00'00"
LT = 266.61'
ST = 133.33'
x = 399.29'
y = 18.60'
k = 121.70'
p = 5.67'
C = 399.73'
Start = Sta. 983+54.13
End = Sta. 987+53.94
C.B. = N65°44'33"E

CURVE 4 (IR 490)
P.I. = Sta. 984+80.21
Δ = 20°56'05" RT
Dc = 00°50'01"
R = 6,872.99'
T = 1,269.65'
L = 2,510.98'
E = 116.3'

CURVE 5 (RAMP C-7)
P.I. = Sta. 90+14.82
Δ = 08°03'39" LT
Dc = 03°00'00"
R = 1,909.86'
T = 134.57'
L = 268.70'
E = 4.74'

POINT	ELEVATION	STATION	OFFSET	DESCRIPTION
BM1	627.27	988+52.79	76.60' RT	LIGHT POLE BASE, SOUTH OF I-490
BM2	589.66	992+69.96	111.43' LT	CONCRETE BASE HIGH TENSION POLE#D2P160
BM6	677.85	1027+23.38	386.37' RT	CONC. BASE TRAF. SIGNAL POLE

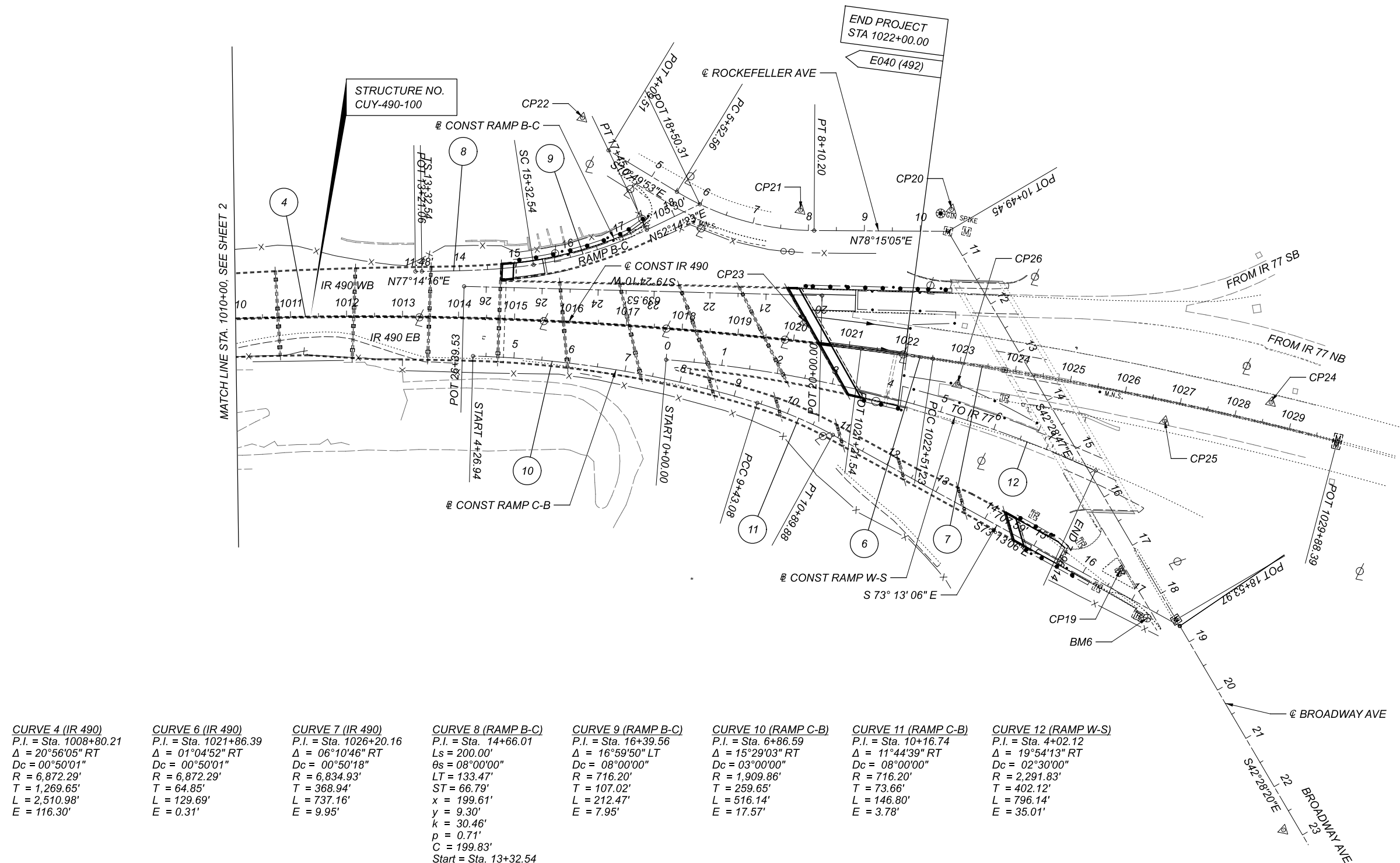
CONTROL POINT TABLE

POINT	STATION	OFFSET	NORTHING	EASTING	ELEVATION	DESCRIPTION
CP1	990+15.60	14.95' RT	660816.16	2194191.02	659.37	MAG SET
CP2	998+66.11	8.73' RT	661184.63	2194957.14	682.26	MAG SET
CP3	1002+85.91	9.31' RT	661339.05	2195346.85	688.10	MAG SET
CP4	997+07.12	172.23' LT	661284.09	2194736.39	585.63	13
CP5	986+33.58	171.94' RT	660509.06	2193909.33	649.46	MONUMENT
CP6	986+54.87	179.83' RT	660510.93	2193932.78	649.72	11
CP7	984+57.38	205.68' LT	660788.77	2193600.95	661.73	10
CP14	1007+07.01	215.77' RT	661272.27	2195804.71	590.85	7
CP15	1003+02.72	108.82' RT	661251.13	2195396.35	586.59	5
CP16	1004+71.77	220.91' LT	661618.45	2195449.51	604.99	17
CP17	1002+03.22	308.84' LT	661608.15	2195157.28	586.35	16
CP19	1026+55.37	312.91' RT	661446.97	2197666.05	676.92	27
CP20	1022+43.34	268.48' LT	662014.17	2197236.40	675.28	25
CP21	1019+85.29	232.61' LT	661956.51	2196972.80	671.32	23
CP22	1016+00.21	365.24' LT	662036.37	2196557.31	667.17	22
CP23	1020+13.80	34.43' LT	661762.16	2197021.26	652.06	24
CP24	1028+55.33	39.07' LT	661796.61	2197866.08	631.06	28
CP25	1026+77.59	36.16' RT	661723.75	2197687.33	634.42	26
CP26	1022+99.55	38.59' RT	661711.02	2197311.61	643.88	21
CP29	977+93.52	139.37' RT	660259.88	2193071.69	626.95	8

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SCHEMATIC PLAN

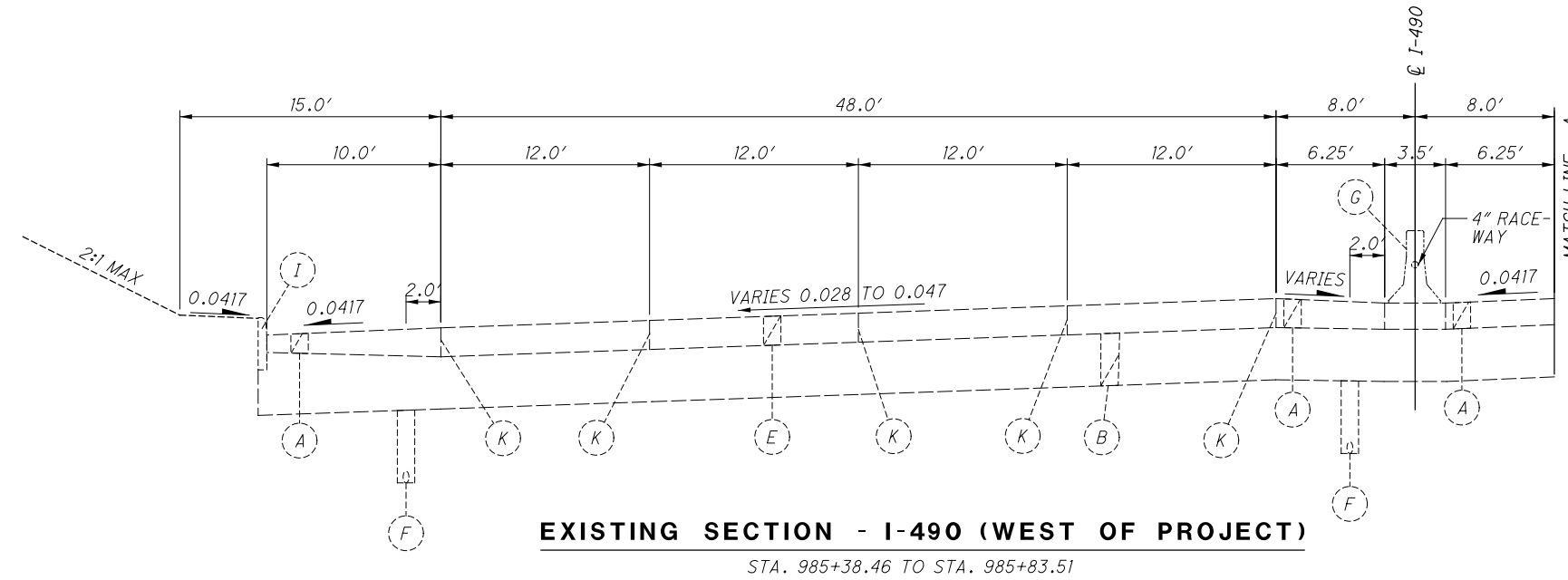
CUY-490-1.00



<p>CURVE 4 (IR 490) P.I. = Sta. 1008+80.21 $\Delta = 20^{\circ}56'05''$ RT Dc = $00^{\circ}50'01''$ R = 6,872.29' T = 1,269.65' L = 2,510.98' E = 116.30'</p>	<p>CURVE 6 (IR 490) P.I. = Sta. 1021+86.39 $\Delta = 01^{\circ}04'52''$ RT Dc = $00^{\circ}50'01''$ R = 6,872.29' T = 64.85' L = 129.69' E = 0.31'</p>	<p>CURVE 7 (IR 490) P.I. = Sta. 1026+20.16 $\Delta = 06^{\circ}10'46''$ RT Dc = $00^{\circ}50'18''$ R = 6,834.93' T = 368.94' L = 737.16' E = 9.95'</p>	<p>CURVE 8 (RAMP B-C) P.I. = Sta. 14+66.01 Ls = 200.00' $\theta_s = 08^{\circ}00'00''$ LT = 133.47' ST = 66.79' x = 199.61' y = 9.30' k = 30.46' p = 0.71' C = 199.83' Start = Sta. 13+32.54 End = Sta. 15+32.54 C.B. = $N74^{\circ}34'18''$E</p>	<p>CURVE 9 (RAMP B-C) P.I. = Sta. 16+39.56 $\Delta = 16^{\circ}59'50''$ LT Dc = $08^{\circ}00'00''$ R = 716.20' T = 107.02' L = 212.47' E = 7.95'</p>	<p>CURVE 10 (RAMP C-B) P.I. = Sta. 6+86.59 $\Delta = 15^{\circ}29'03''$ RT Dc = $03^{\circ}00'00''$ R = 1,909.86' T = 259.65' L = 516.14' E = 17.57'</p>	<p>CURVE 11 (RAMP C-B) P.I. = Sta. 10+16.74 $\Delta = 11^{\circ}44'39''$ RT Dc = $08^{\circ}00'00''$ R = 716.20' T = 73.66' L = 146.80' E = 3.78'</p>	<p>CURVE 12 (RAMP W-S) P.I. = Sta. 4+02.12 $\Delta = 19^{\circ}54'13''$ RT Dc = $02^{\circ}30'00''$ R = 2,291.83' T = 402.12' L = 796.14' E = 35.01'</p>
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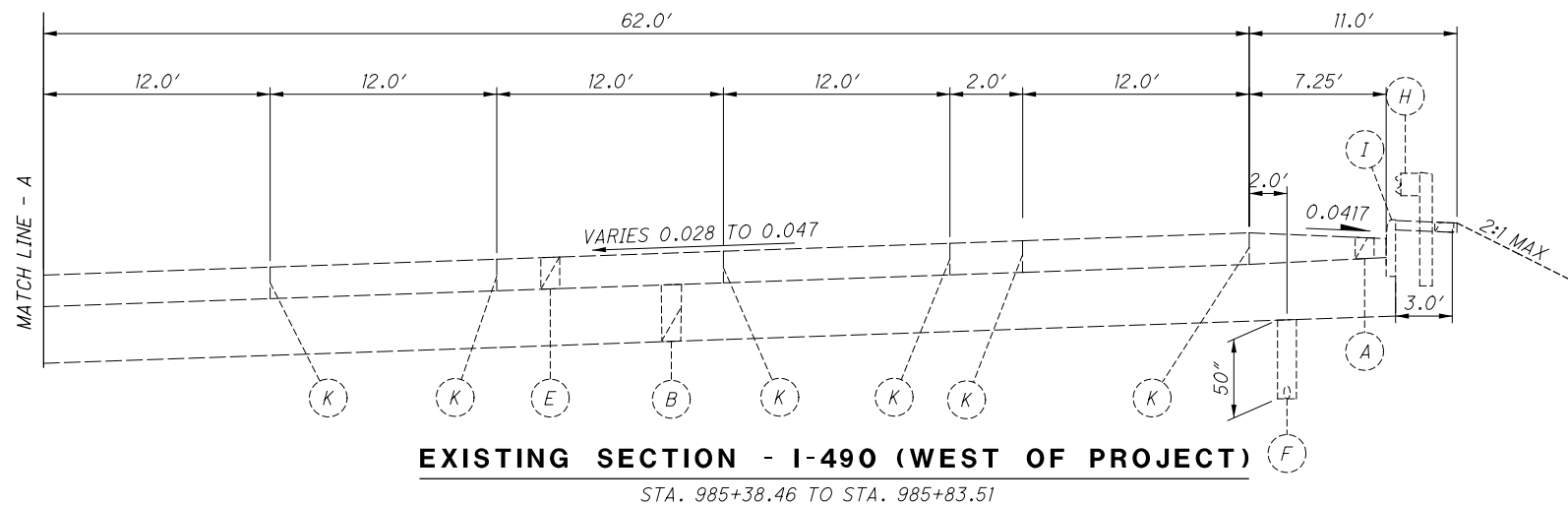
FOR BENCHMARKS SEE SHEET 2
 FOR CONTROL POINT TABLE, SEE SHEET 2

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EXISTING SECTION - I-490 (WEST OF PROJECT)

STA. 985+38.46 TO STA. 985+83.51

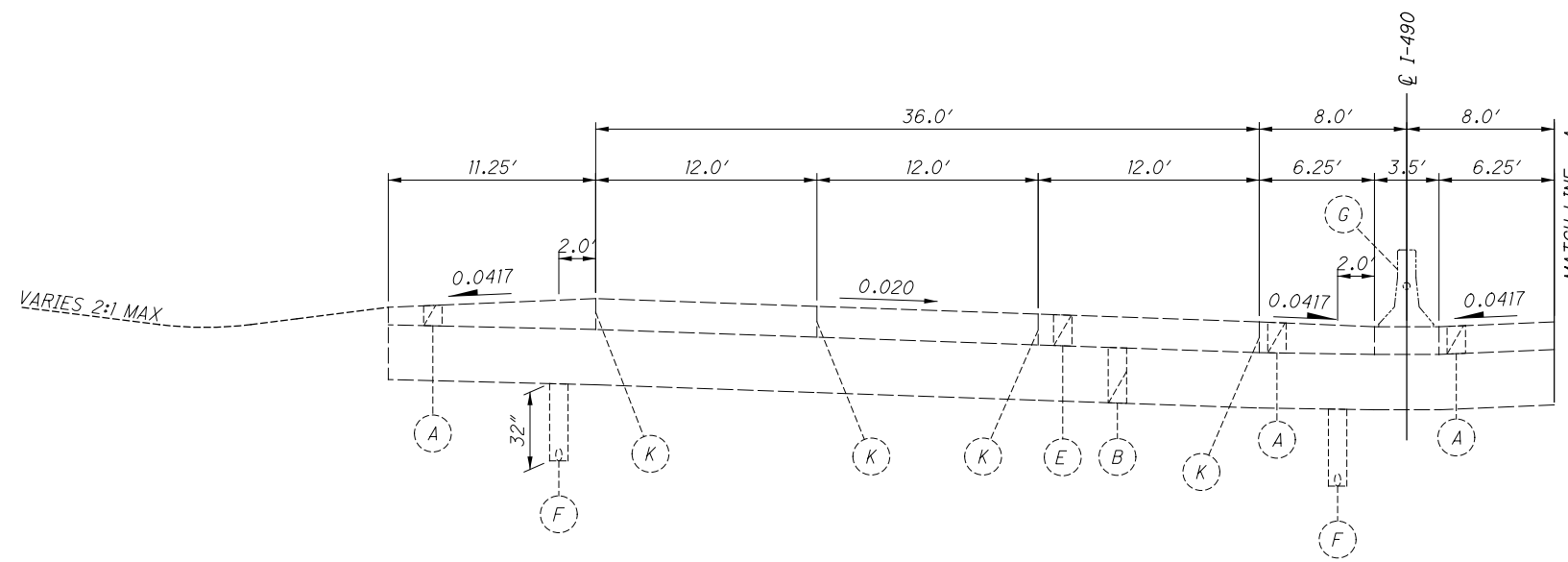


EXISTING SECTION - I-490 (WEST OF PROJECT)

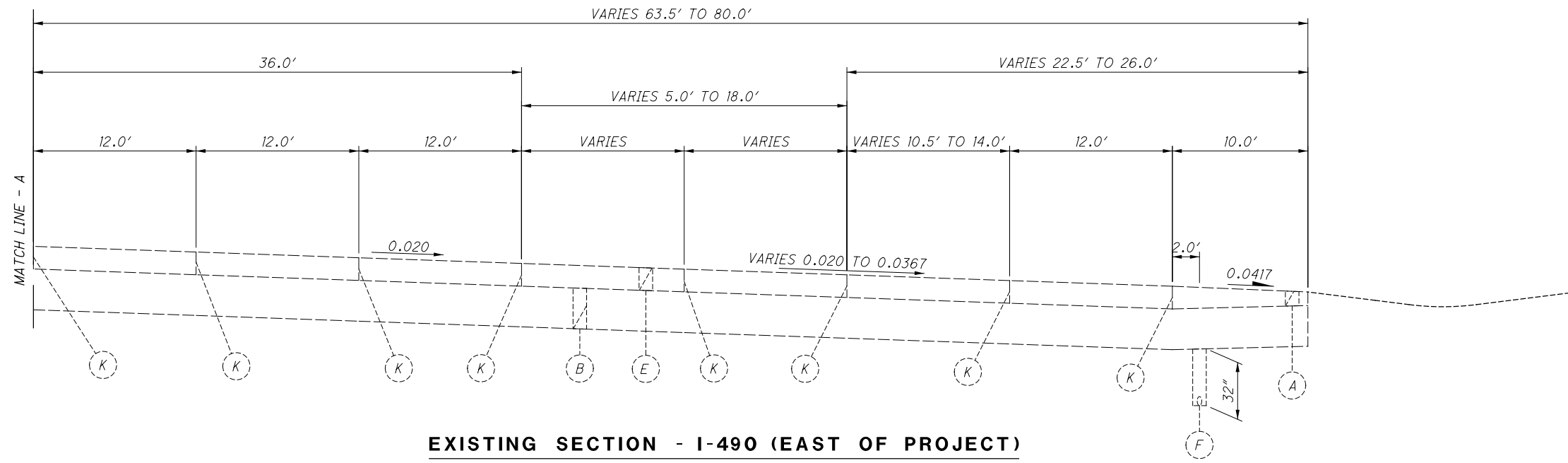
STA. 985+38.46 TO STA. 985+83.51

- | | |
|---|---------------------------------|
| (A) EX. PLAIN CONCRETE PAVEMENT, VARIABLE THICKNESS | (G) EX. 50" CONCRETE BARRIER |
| (B) EX. 18" SUBBASE | (H) EX. GUARDRAIL |
| (C) EX. 6" SUBBASE | (I) CURB, TYPE 6 |
| (D) EX. 9" REINFORCED CONCRETE PAVEMENT | (J) 9" PLAIN CONCRETE PAVEMENT |
| (E) EX. 10" REINFORCED CONCRETE PAVEMENT | (K) STANDARD LONGITUDINAL JOINT |
| (F) EX. 6" PIPE UNDERDRAIN | |

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EXISTING SECTION - I-490 (EAST OF PROJECT)
STA. 1020+45.21 TO STA. 1020+90.32



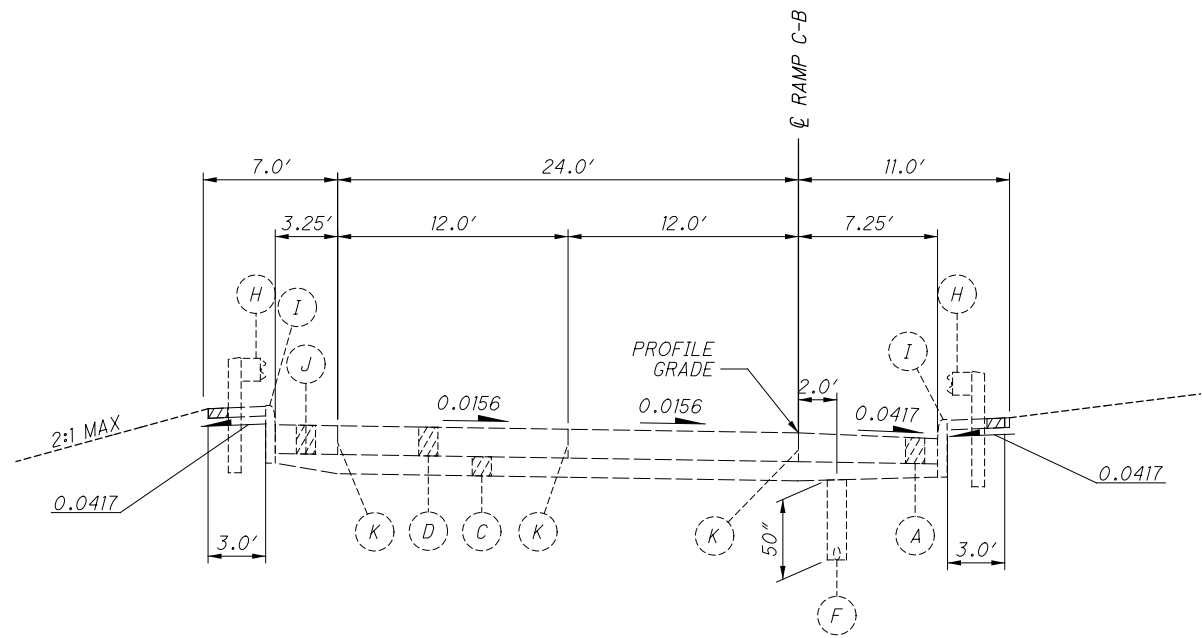
EXISTING SECTION - I-490 (EAST OF PROJECT)
STA. 1020+45.21 TO STA. 1020+90.32

FOR LEGEND, SEE SHEET 4

TYPICAL SECTIONS

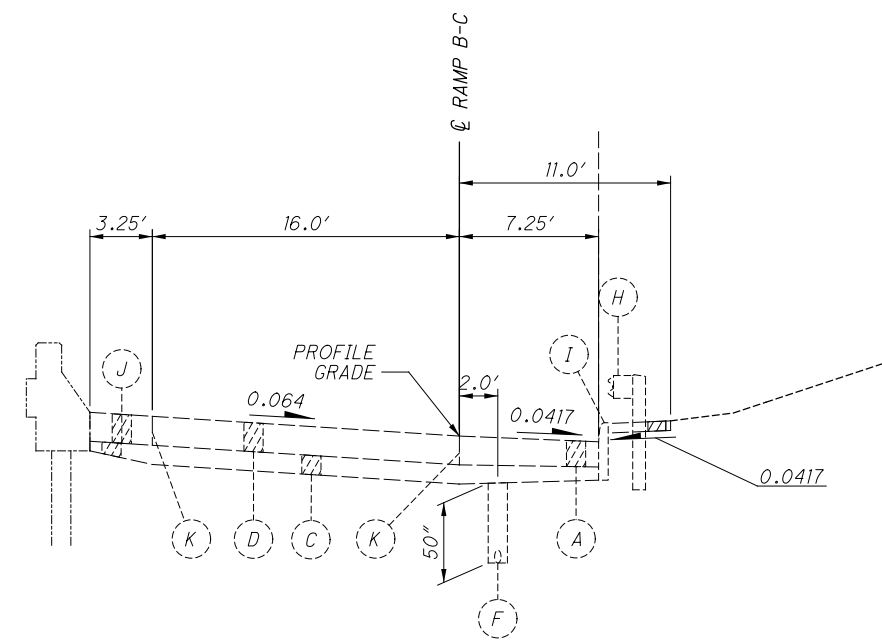
CUY - 490 - 1.00

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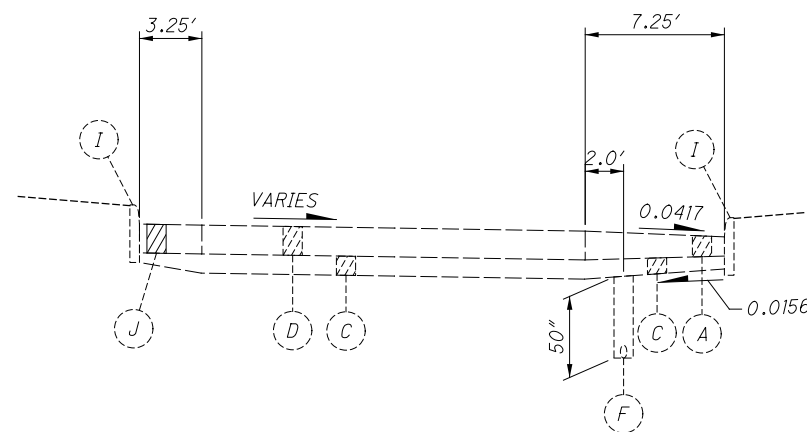
EXISTING SECTION - RAMP C-B

STA. 1024+43.89 TO STA. 1024+88.86



EXISTING SECTION - RAMP B-C

STA. 1014+73.21 TO STA. 1015+17.60



EXISTING SECTION - RAMP C-7

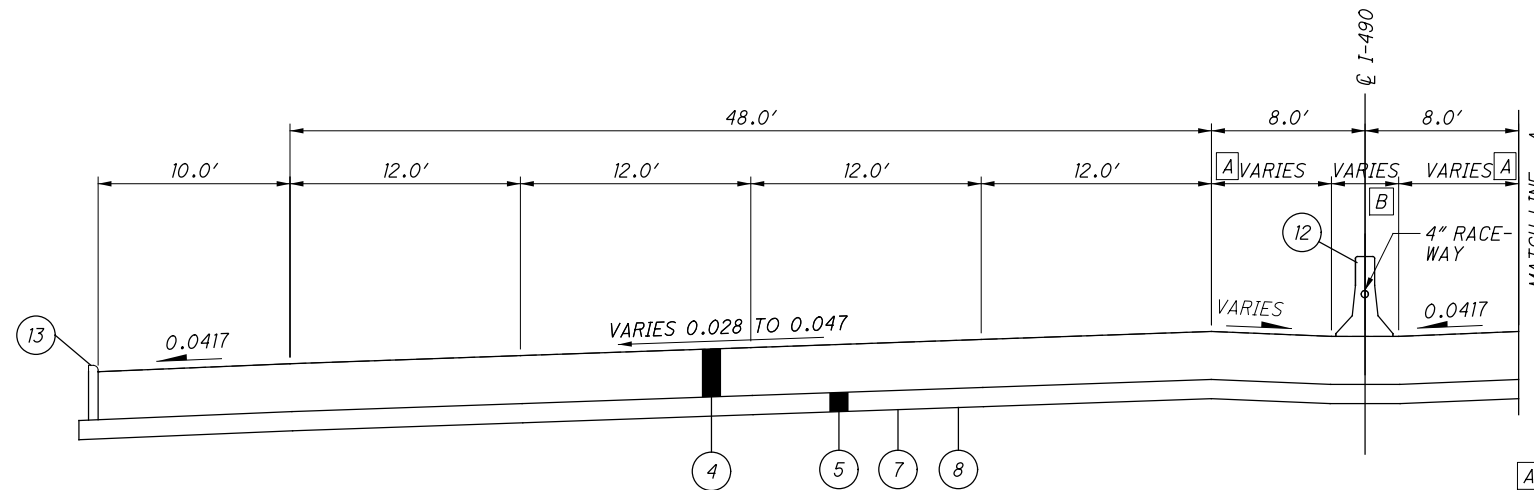
STA. 985+31.27 TO STA. 985+78.12

TYPICAL SECTIONS

CUY-490-1.00

FOR LEGEND, SEE SHEET 4

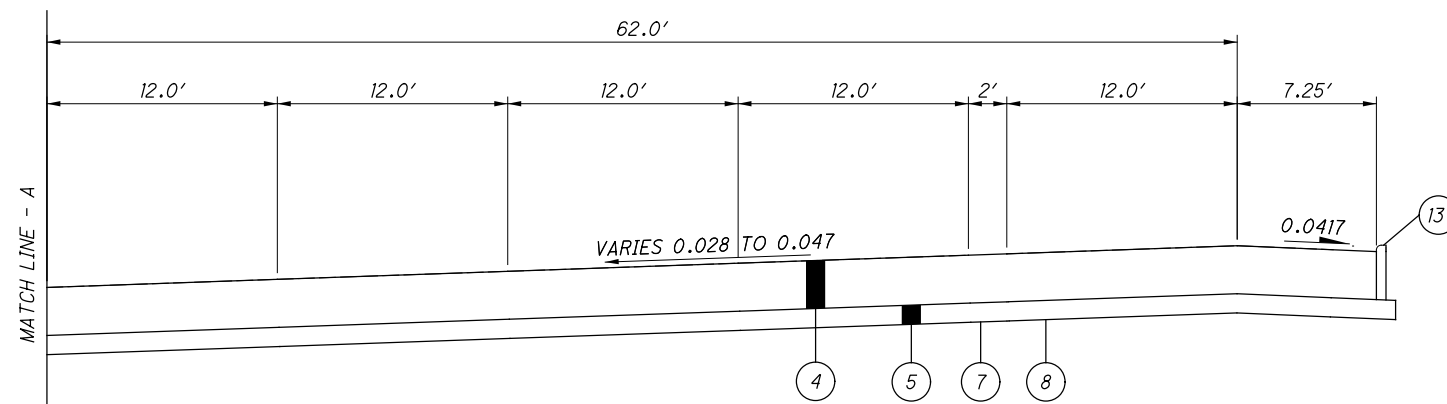
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A VARIES FROM 6'-9" AT STA. 985+65.39 TO 6'-5" AT STA. 985+85.44
 B VARIES FROM 2'-6" AT STA. 985+65.39 TO 3'-2" AT STA. 985+85.44

APPROACH SLAB SECTION - I-490 (WEST OF PROJECT)

STA. 985+65.39 TO STA. 985+85.44



APPROACH SLAB SECTION - I-490 (WEST OF PROJECT)

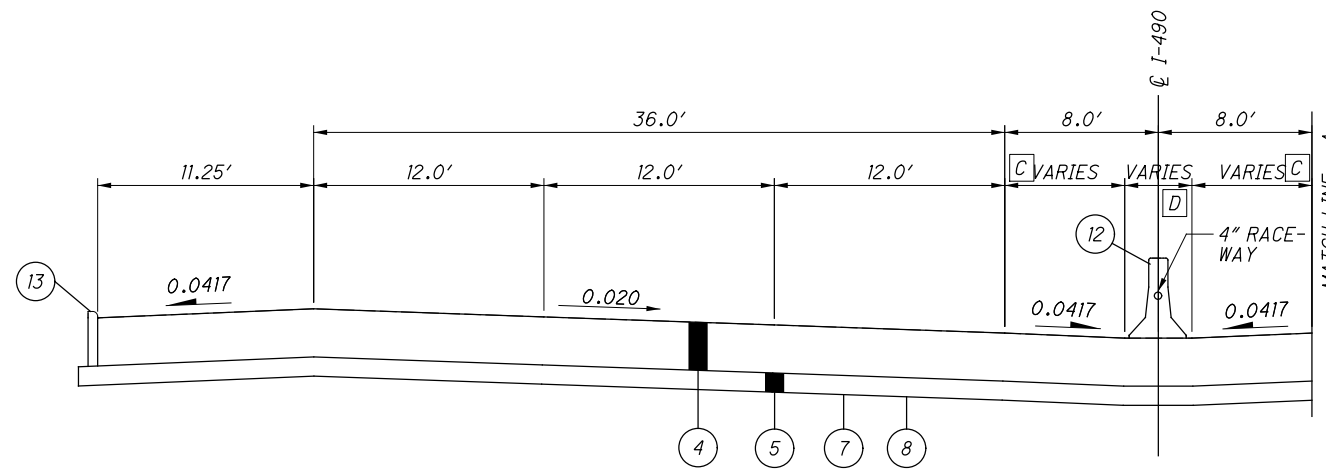
STA. 985+65.39 TO STA. 985+85.44

- | | | |
|---|---|------------------------------|
| 1 ITEM 442 - 1 1/2" ASPHALT CONCRETE SURFACE COURSE, 12.5 MM, TYPE A (448) | 7 ITEM 204 - SUBGRADE COMPACTION | 13 ITEM 609 - CURB, TYPE 4-C |
| 2 ITEM 442 - 1 3/4" ASPHALT CONCRETE INTERMEDIATE COURSE, 19 MM, TYPE A (448) | 8 ITEM 204 - PROOF ROLLING | |
| 3 ITEM 301 - 10" ASPHALT CONCRETE BASE, PG64-22 | 9 ITEM 606 - GUARDRAIL, TYPE MGS | |
| 4 ITEM 526 - REINFORCED CONCRETE APPROACH SLAB (T=13") AS PER PLAN | 10 NOT USED | |
| 5 ITEM 304 - 6" AGGREGATE BASE | 11 ITEM 407 - NON-TRACKING TACK COAT, SEE TABLE 407.06-1 FOR APPLICATION RATE | |
| 6 ITEM 605 - 6" PIPE UNDERDRAIN | 12 ITEM 622 - BARRIER, MISC: CONCRETE BARRIER, AS PER PLAN | |

TYPICAL SECTIONS

CUY-490-1.00

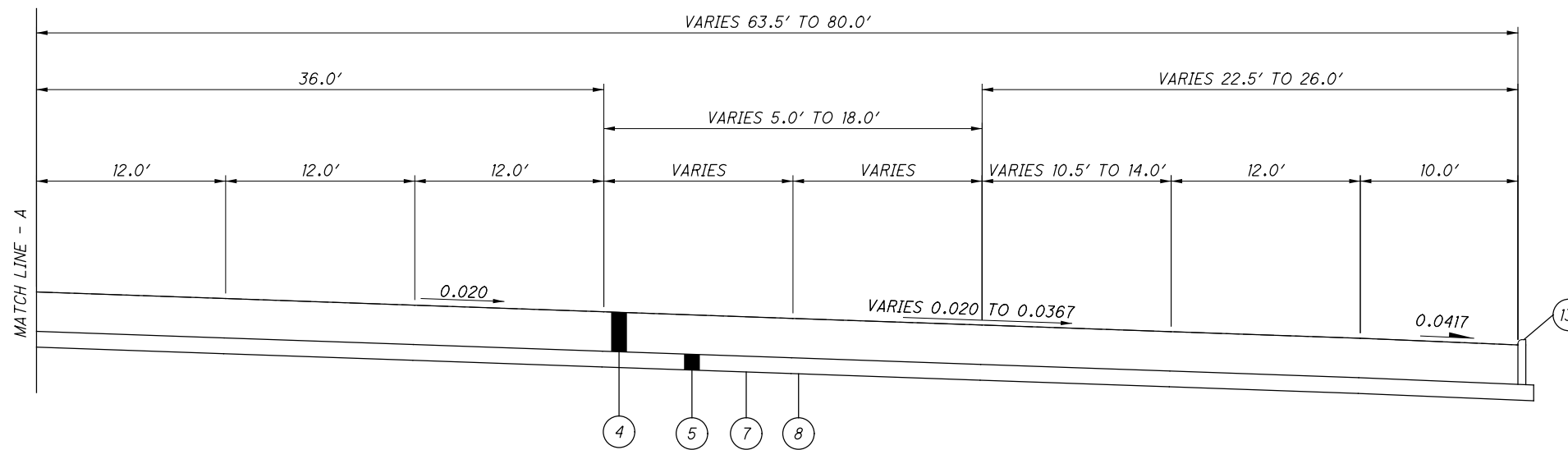
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APPROACH SLAB SECTION - I-490 (EAST OF PROJECT)

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

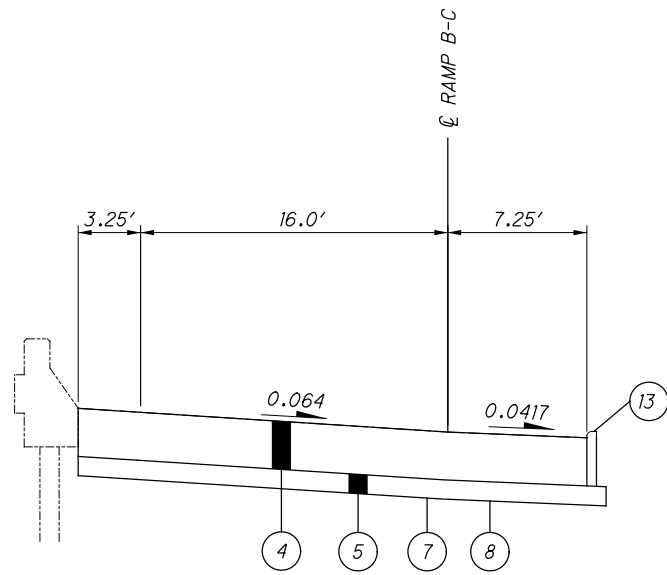
FOR LEGEND, SEE SHEET 7

TYPICAL SECTIONS

CUY - 490 - 1.00

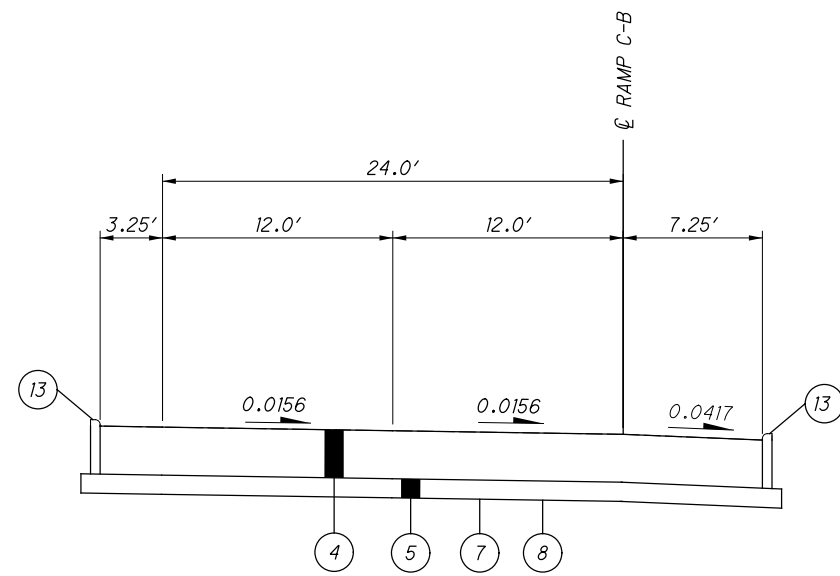
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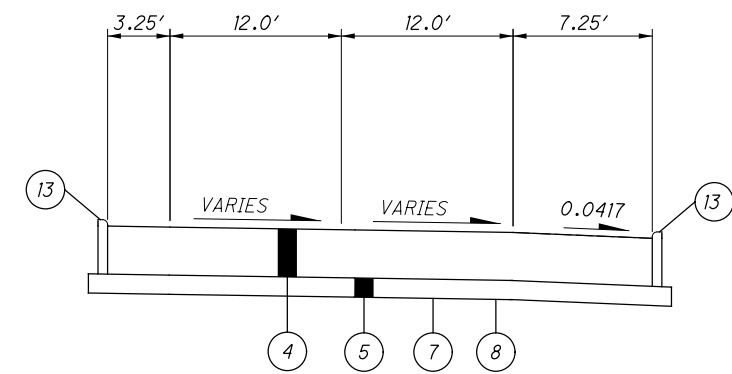
APPROACH SLAB SECTION - RAMP B-C

STA. 14+76.36 TO STA. 14+97.67



APPROACH SLAB SECTION - RAMP C-B

STA. 14+55.44 TO STA. 14+75.44



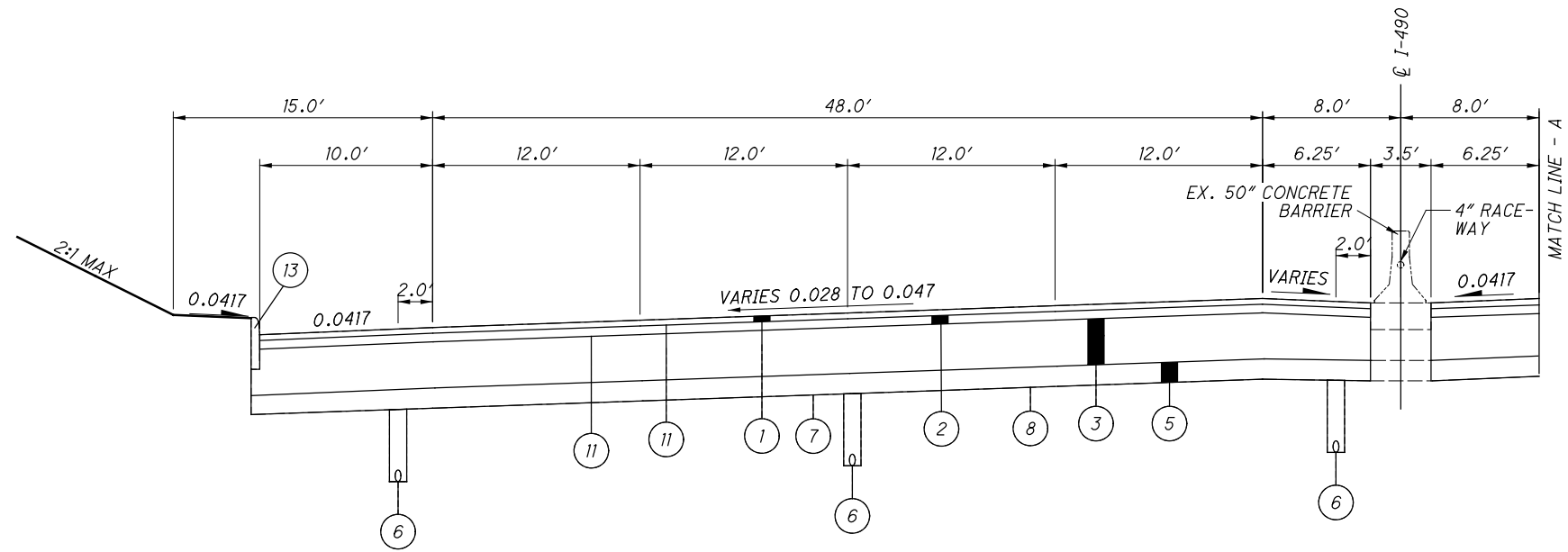
APPROACH SLAB SECTION - RAMP C-7

STA. 85+61.97 TO STA. 85+82.17

FOR LEGEND, SEE SHEET 7

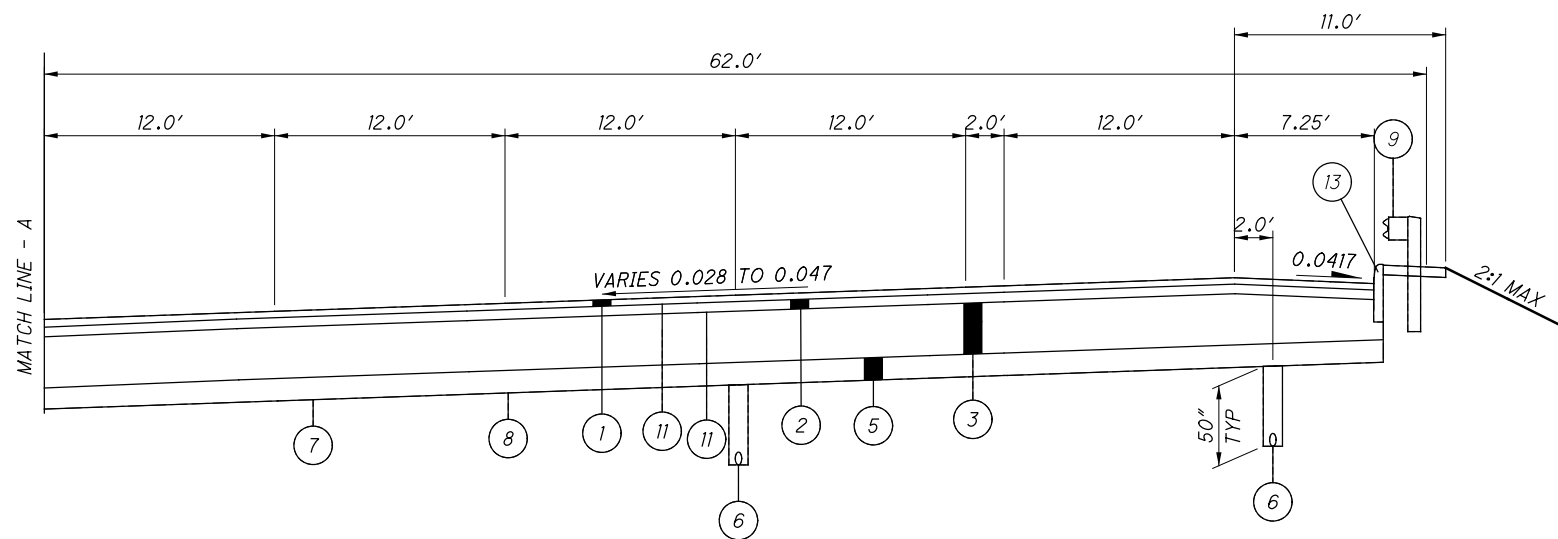
TYPICAL SECTIONS

CUY-490-1.00



FULL DEPTH ASPHALT SECTION - I-490 (WEST OF PROJECT)

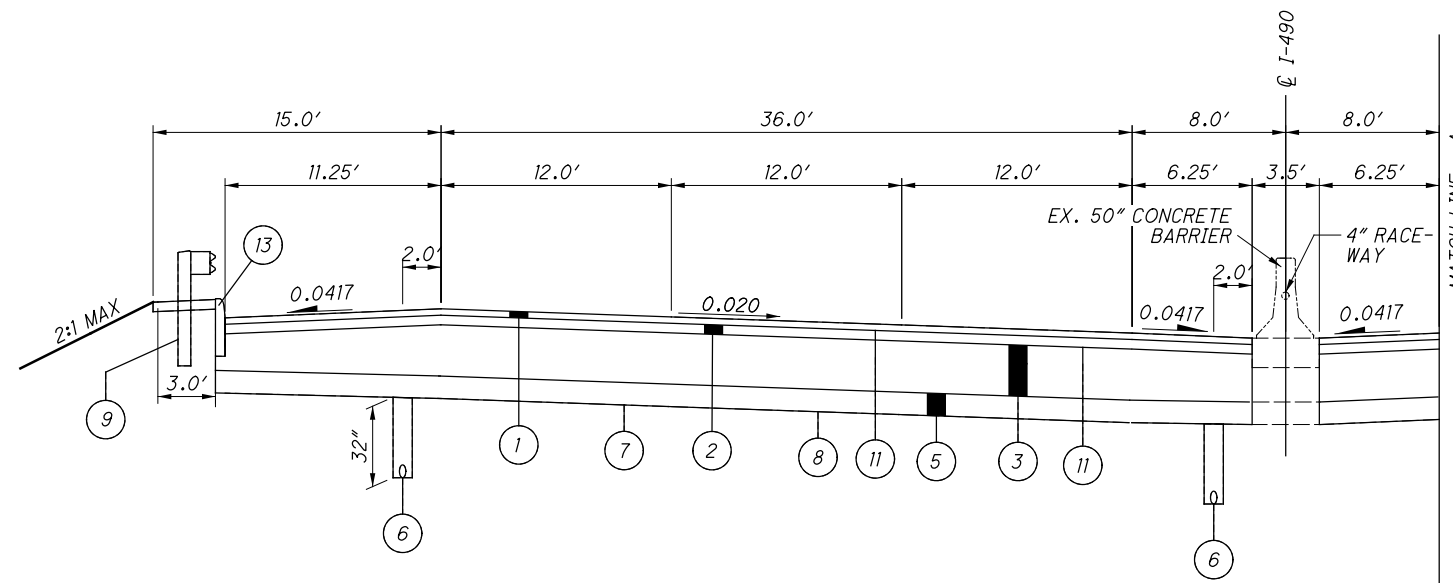
STA. 985+00.00 TO STA. 985+65.39



FULL DEPTH ASPHALT SECTION - I-490 (WEST OF PROJECT)

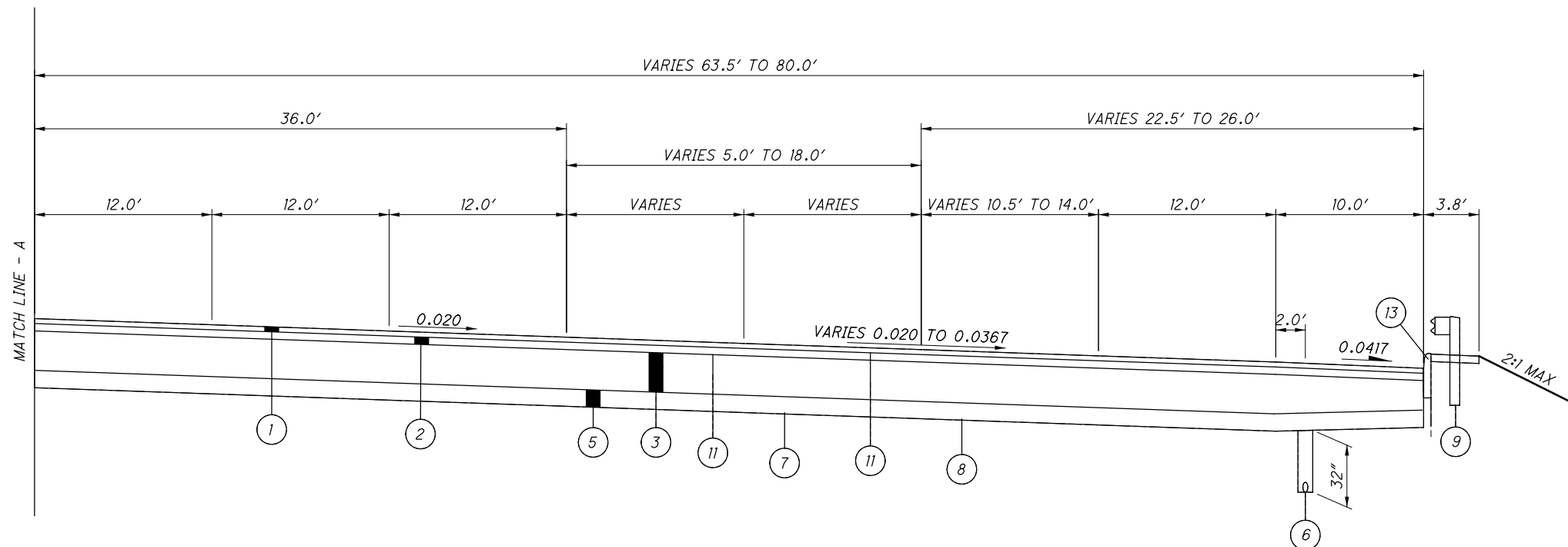
STA. 985+00.00 TO STA. 985+65.39

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FULL DEPTH ASPHALT SECTION - I-490 (EAST OF PROJECT)

STA. 1020+67.19 TO STA. 1022+00.00



FULL DEPTH ASPHALT SECTION - I-490 (EAST OF PROJECT)

STA. 1020+67.19 TO STA. 1022+00.00

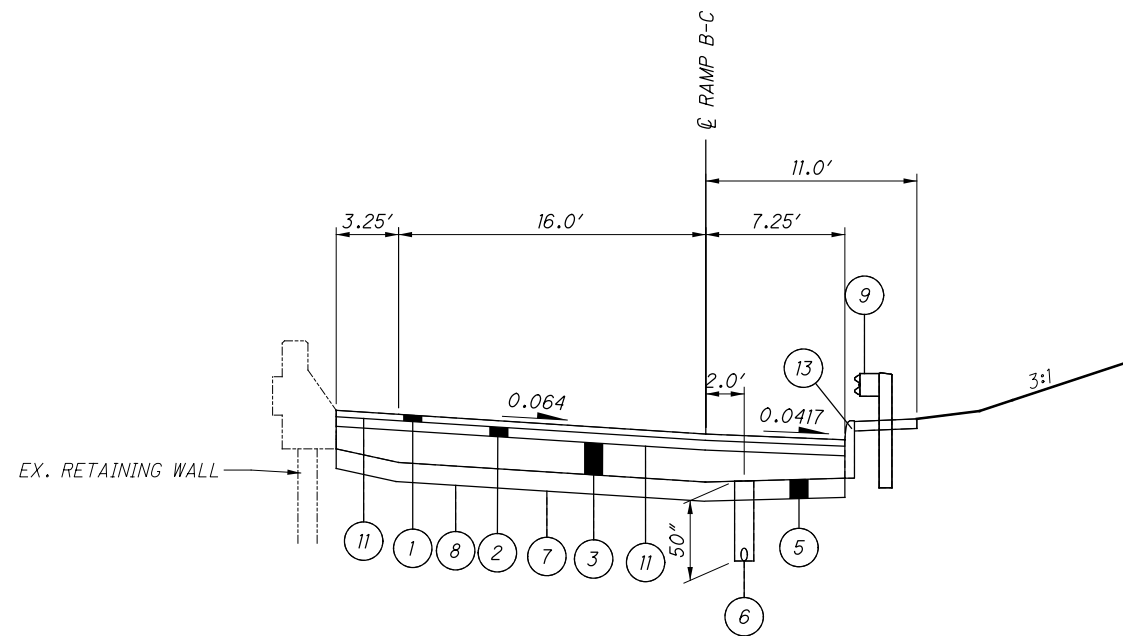
FOR LEGEND, SEE SHEET 7

TYPICAL SECTIONS

CUY-490-1.00

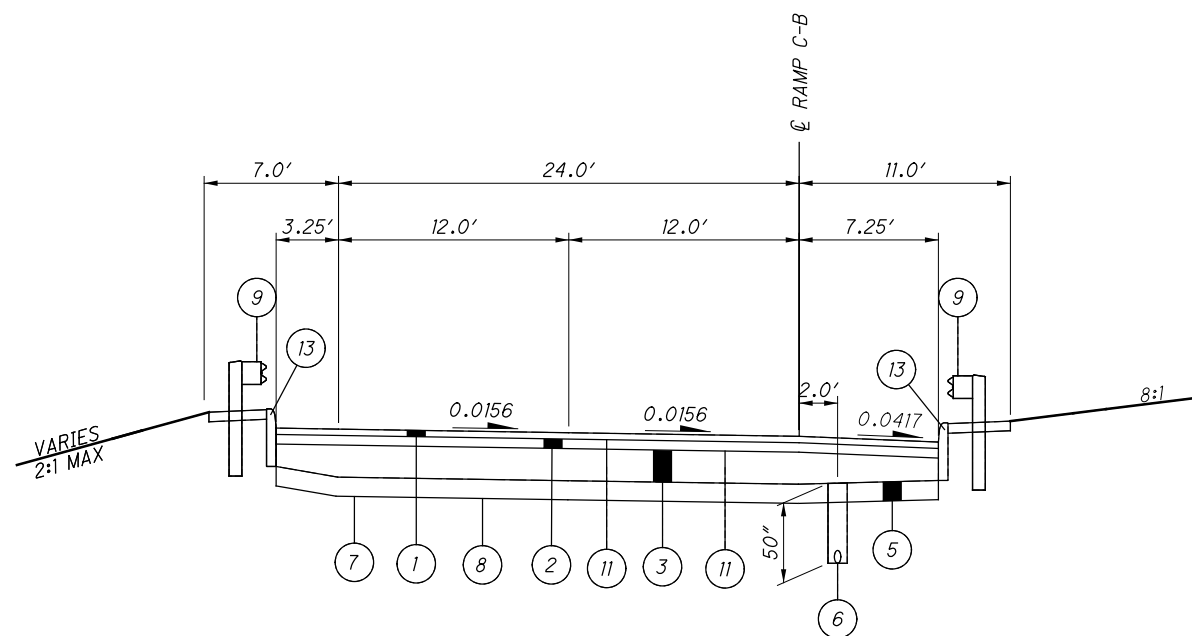
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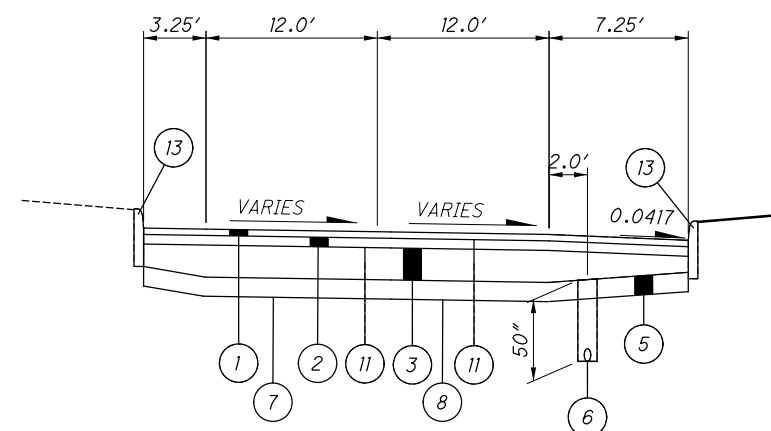
FULL DEPTH ASPHALT SECTION - RAMP B-C

STA. 14+97.67 TO STA. 15+50.00



FULL DEPTH ASPHALT SECTION - RAMP C-B

STA. 14+75.44 TO STA. 15+50.00



FULL DEPTH ASPHALT SECTION - RAMP C-7

STA. 85+00.00 TO STA. 85+61.97

FOR LEGEND, SEE SHEET 7

TYPICAL SECTIONS

CUY-490-1.00

ITEM 614, MAINTAINING TRAFFIC

A MINIMUM OF 2 LANES OF TRAFFIC IN EACH DIRECTION SHALL BE MAINTAINED AT ALL TIMES BY USE OF THE EXISTING PAVEMENT, THE COMPLETED PAVEMENT, AND ITEM 615 PAVEMENT FOR MAINTAINING TRAFFIC

LENGTH AND DURATION OF LANE CLOSURES AND RESTRICTIONS SHALL BE AT THE APPROVAL OF THE ENGINEER. IT IS THE INTENT TO MINIMIZE THE IMPACT TO THE TRAVELING PUBLIC. LANE CLOSURES OR RESTRICTIONS OVER SEGMENTS OF THE PROJECT IN WHICH NO WORK IS ANTICIPATED WITHIN A REASONABLE TIME FRAME, AS DETERMINED BY THE ENGINEER, SHALL NOT BE PERMITTED. THE LEVEL OF UTILIZATION OF MAINTENANCE OF TRAFFIC DEVICES SHALL BE COMMENSURATE WITH THE WORK IN PROGRESS.

NOTICE OF CLOSURE SIGNS (W20-H13) SHALL BE ERECTED BY THE CONTRACTOR PRIOR TO THE SCHEDULED ROAD OR RAMP CLOSURE IN ACCORDANCE WITH THE NOTICE OF CLOSURE TIME TABLE BELOW. [AT THE APPROVAL OF THE ENGINEER, PORTABLE CHANGEABLE MESSAGE SIGNS MAY BE USED IN LIEU OF THE STANDARD FLATSHEET SIGN FOR CLOSURE DURATIONS OF LESS THAN 1 WEEK.]

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

NOTICE OF CLOSURE SIGN TIME TABLE
ITEM DURATION SIGN DISPLAYED
OF CLOSURE TO PUBLIC

RAMP & >=2 WEEKS 14 CALENDAR DAYS
PRIOR TO CLOSURE

ROAD > 12 HOURS 7 CALENDAR DAYS
& < 2 WEEKS PRIOR TO CLOSURE

CLOSURES <= 12 HOURS 2 BUSINESS DAYS
PRIOR TO CLOSURE

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

THE CONTRACTOR SHALL PROVIDE, ERECT AND MAINTAIN SIGNS AND SIGN SUPPORTS, AS DETAILED IN THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES, AND TYPE III BARRICADES OF THE TYPE AND LOCATION AS FOLLOWS:

TYPE III BARRICADES SHALL BE USED AT THE ENTRANCE RAMP CLOSURES:

NB WEST 7TH STREET TO I-490 EB
SB WEST 7TH STREET TO I-490 EB
ROCKEFELLER AVE TO I-490 WB

ITEM 614, MAINTAINING TRAFFIC (CONT.)

NO WORK SHALL BE PERFORMED AND ALL EXISTING LANES SHALL BE OPEN TO TRAFFIC DURING THE FOLLOWING DESIGNATED HOLIDAYS OR EVENTS:

CHRISTMAS FOURTH OF JULY
NEW YEARS LABOR DAY
MEMORIAL DAY THANKSGIVING
(OTHER HOLIDAY OR EVENT)

THE PERIOD OF TIME THAT THE LANES ARE TO BE OPEN DEPENDS ON THE DAY OF THE WEEK ON WHICH THE HOLIDAY OR EVENT FALLS. THE FOLLOWING SCHEDULE SHALL BE USED TO DETERMINE THIS PERIOD:

DAY OF HOLIDAY TIME ALL LANES
OR EVENT MUST BE OPEN TO TRAFFIC

SUNDAY 12:00N FRIDAY THROUGH 6:00AM MONDAY
MONDAY 12:00N FRIDAY THROUGH 6:00AM TUESDAY
TUESDAY 12:00N MONDAY THROUGH 6:00AM WEDNESDAY
WEDNESDAY 12:00N TUESDAY THROUGH 6:00AM THURSDAY
THURSDAY 12:00N WEDNESDAY THROUGH 6:00AM FRIDAY
THURSDAY (THANKSGIVING ONLY)
6:00AM WEDNESDAY THROUGH 6:00AM MONDAY
FRIDAY 12:00N THURSDAY THROUGH 6:00AM MONDAY
SATURDAY 12:00N FRIDAY THROUGH 6:00AM MONDAY

SHOULD THE CONTRACTOR FAIL TO MEET ANY OF THESE REQUIREMENTS, THE CONTRACTOR SHALL BE ASSESSED A DISINCENTIVE PER THE LANE VALUE CONTRACT (PN 127).

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

SCHEDULED COMPLETION DATES

TO COINCIDE WITH OTHER LOCAL PROJECTS THE BRIDGE SHALL HAVE AN INTERIM OPENING DATE OF SEPTEMBER 24, 2021. ALL WORK ON THE BRIDGE DECK SHALL BE COMPLETED BY THIS DATE. OTHER WORK UNDER THE BRIDGE SHALL BE COMPLETED BY JUNE 30, 2022.

DELINEATION OF PORTABLE AND PERMANENT BARRIER

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

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

DELINEATION OF PORTABLE AND PERMANENT BARRIER (CONT.)

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

ITEM 614, BARRIER REFLECTOR, TYPE 1 (ONE-WAY) 500 EACH

ITEM 614, OBJECT MARKER, ONE-WAY 500 EACH

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

TRENCH FOR WIDENING

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

OVERNIGHT TRENCH CLOSING

THE BASE WIDENING SHALL BE COMPLETED TO A DEPTH OF NO MORE THAN 1½" INCHES BELOW THE EXISTING PAVEMENT BY THE END OF EACH WORK DAY. NO TRENCH SHALL BE LEFT OPEN OVERNIGHT EXCEPT FOR A SHORT LENGTH (25 FEET OR LESS) OF A WORK SECTION AT THE END OF THE TRENCH. IN CASE WORK MUST BE SUSPENDED BECAUSE OF INCLEMENT WEATHER OR OTHER REASONS, THE TRENCH FOR THE UNCOMPLETED BASE WIDENING SHALL BE BACKFILLED AT THE DIRECTION OF THE ENGINEER.

DRUM REQUIREMENTS

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

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

DUST CONTROL

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

ITEM 616, WATER 2 M. GAL.

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

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

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

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

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

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

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MAINTENANCE OF TRAFFIC GENERAL NOTES

CUY-490-1.00

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ITEM 614, PORTABLE CHANGEABLE MESSAGE SIGNS, AS PER PLAN

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

EACH SIGN SHALL BE TRAILER-MOUNTED AND EQUIPPED WITH A FUNCTIONAL DIMMING MECHANISM, TO DIM THE SIGN DURING DARKNESS, AND A TAMPER AND VANDAL PROOF ENCLOSURE. EACH SIGN SHALL BE PROVIDED WITH APPROPRIATE TRAINING AND OPERATION INSTRUCTIONS TO ENABLE ON-SITE PERSONNEL TO OPERATE AND TROUBLESHOOT THE UNIT. THE SIGN SHALL ALSO BE CAPABLE OF BEING POWERED BY AN ELECTRICAL SERVICE DROP FROM A LOCAL UTILITY COMPANY. THE PCMS SHALL BE DELINEATED IN ACCORDANCE WITH C&MS 614.03.

THE PROBABLE PCMS LOCATIONS AND WORK LIMITS FOR THOSE LOCATIONS ARE SHOWN ON SHEETS 20-23 OF THE PLAN. PLACEMENT, OPERATION, MAINTENANCE AND ALL ACTIVATION OF THE SIGNS BY THE CONTRACTOR SHALL BE AS DIRECTED BY THE ENGINEER. THE PCMS SHALL BE LOCATED IN A HIGHLY VISIBLE POSITION YET PROTECTED FROM TRAFFIC. THE CONTRACTOR SHALL, AT THE DIRECTION OF THE ENGINEER, RELOCATE THE PCMS TO IMPROVE VISIBILITY OR ACCOMMODATE CHANGED CONDITIONS. WHEN NOT IN USE, THE PCMS SHALL BE TURNED OFF. ADDITIONALLY, WHEN NOT IN USE FOR EXTENDED PERIODS OF TIME, THE PCMS SHALL BE TURNED AWAY FROM ALL TRAFFIC.

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

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

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

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

THE PCMS SHALL CONTAIN A CELLULAR TELEPHONE DATA LINK WHICH WILL (IN ACTIVE CELLULAR PHONE AREAS) ALLOW REMOTE SIGN ACTIVATION, MESSAGE CHANGES, MESSAGE ADDITIONS AND REVISIONS TO TIME OF DAY PROGRAMS. THE SYSTEM SHALL ALSO PERMIT VERIFICATION OF CURRENT AND PROGRAMMED MESSAGES. ONE REMOTE DATA INPUT DEVICE (LAPTOP COMPUTER PLUS MODEM OR EQUIVALENT) SHALL BE FURNISHED FOR USE BY THE DISTRICT TRAFFIC ENGINEER, OR EQUIVALENT, AND SHALL BE INSURED AGAINST THEFT. THE PCMS UNIT SHALL BE MAINTAINED IN GOOD WORKING ORDER BY THE CONTRACTOR IN ACCORDANCE WITH THE PROVISIONS OF C&MS 614.07. THE CONTRACTOR SHALL, PRIOR TO ACTIVATING THE UNIT, MAKE ARRANGEMENTS, WITH AN AUTHORIZED SERVICE AGENT FOR THE PCMS, TO ASSURE PROMPT SERVICE IN THE EVENT OF FAILURE. ANY FAILURE SHALL NOT RESULT IN THE SIGN BEING OUT OF SERVICE FOR MORE THAN 12 HOURS, INCLUDING WEEKENDS. FAILURE TO COMPLY MAY RESULT IN AN ORDER TO STOP WORK AND OPEN ALL TRAFFIC LANES AND/OR IN THE DEPARTMENT TAKING APPROPRIATE ACTION TO SAFELY CONTROL TRAFFIC. THE ENTIRE COST TO CONTROL TRAFFIC, ACCRUED BY THE DEPARTMENT DUE TO THE CONTRACTOR'S NONCOMPLIANCE, WILL BE DEDUCTED FROM MONEYS DUE, OR TO BECOME DUE THE CONTRACTOR ON HIS CONTRACT.

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

PAYMENT FOR THE ABOVE DESCRIBED ITEM SHALL BE AT THE CONTRACT UNIT PRICE. PAYMENT SHALL INCLUDE ALL LABOR, MATERIALS, EQUIPMENT, FUELS, LUBRICATING OILS, SOFTWARE, HARDWARE, AND INCIDENTALS TO PERFORM THE ABOVE DESCRIBED WORK.

ITEM 614, PORTABLE CHANGEABLE MESSAGE SIGN, AS PER PLAN 48 SIGN MONTH ASSUMING 4 PCMS SIGNS FOR 12 MONTHS

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

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

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

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

IN ADDITION TO THE REQUIREMENT OF C&MS 614 AND THE ODOT, A UNIFORMED LEO WITH AN OFFICIAL PATROL CAR (CAR WITH TOP-MOUNTED EMERGENCY FLASHING LIGHTS AND COMPLETE MARKINGS OF THE APPROPRIATE LAW ENFORCEMENT AGENCY) SHOULD BE PROVIDED FOR THE FOLLOWING TRAFFIC CONTROL TASKS AS APPROVED BY THE ENGINEER:

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

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

IN GENERAL, LEOS SHOULD BE POSITIONED IN ADVANCE OF AND ON THE SAME SIDE AS THE LANE RESTRICTION OR AT THE POINT OF ROAD CLOSURE.

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.

ENSURE PROVIDED LEOS HAVE BEEN TRAINED APPROPRIATE TO THE JOB DECISIONS THEY ARE REQUIRED TO MAKE WHILE ON THE PROJECT, IN ACCORDANCE WITH C&MS 614.03.

THE LEO SHALL REPORT IN TO THE CONTRACTOR PRIOR TO THE START OF THE SHIFT, IN ORDER TO RECEIVE INSTRUCTIONS REGARDING THE 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. SHOULD IT BE NECESSARY TO LEAVE THE PROJECT SITE, THE LEO SHALL NOTIFY THE ENGINEER. THE CONTRACTOR SHALL PROVIDE THE LEO WITH A TWO-WAY COMMUNICATION DEVICE WHICH SHALL BE RETURNED TO THE CONTRACTOR AT THE END OF HIS/HER SHIFT.

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

ITEM 614, LAW ENFORCEMENT OFFICER WITH PATROL CAR FOR ASSISTANCE 80 HOURS

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

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

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

WORK ZONE RAISED PAVEMENT MARKERS, AS PER PLAN, AND THEIR INSTALLATION SHALL CONFORM TO C&MS 614 OR C&MS 621 AS SPECIFIED HEREIN.

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

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

THE SNOW-PLOWING SEASON SHALL RUN FROM DECEMBER 1ST THROUGH MARCH 31ST.

IF PROJECT DELAYS, NOT THE FAULT OF ODOT, CAUSE THE WORK TO EXTEND INTO THE SNOW-PLOWING SEASON, THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPLACING WORK ZONE RAISED PAVEMENT MARKERS (WZRPMS) CONFORMING TO C&MS 614, WITH RAISED PAVEMENT MARKERS CONFORMING TO 621, AS DETERMINED BY THE ENGINEER, AT THE CONTRACTOR'S EXPENSE.

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

THE FOLLOWING BID ITEM SHALL BE INCLUDED IN THE PLANS:

ITEM 614 WORK ZONE RAISED PAVEMENT MARKER, AS PER PLAN 600 EACH

CALCULATED
ARM
CHECKED
VOK

MAINTENANCE OF TRAFFIC GENERAL NOTES

CUY-490-1.00

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MAINTENANCE OF LIGHTING DURING CONSTRUCTION

THE EXISTING LIGHTING SYSTEM ON THIS PROJECT WAS INSTALLED WITH THE CUY-490-0.99 PHASE 2 - SUPERSTRUCTURE PLAN (FEDERAL PROJECT I-490-3(11)28) AND IS LOCATED WITHIN THE EXISTING MEDIAN BARRIER ALONG THE I-490 BRIDGE.

THIS LIGHTING SYSTEM SHALL BE MAINTAINED THROUGHOUT CONSTRUCTION, INCLUDING DURING THE REMOVAL AND REPLACEMENT OF THE MEDIAN BARRIER AT THE EAST AND WEST APPROACH SLABS. UPON REMOVAL OF THE EXISTING MEDIAN BARRIER IN THESE AREAS, THE CONTRACTOR SHALL INSTALL TEMPORARY CONDUIT AND WIRING TO MAINTAIN THE LIGHTING SYSTEM AND SHALL SUBMIT A TEMPORARY LIGHTING PLAN TO THE ENGINEER FOR APPROVAL. UPON CONSTRUCTION OF THE NEW BARRIER, THE CONDUIT AND WIRING SHALL BE REPLACED IN KIND WITHIN THE NEW BARRIER.

PAYMENT FOR MAINTAINING LIGHTING DURING AND AFTER CONSTRUCTION AND PAYMENT FOR ALL LABOR, EQUIPMENT AND MATERIALS SHALL BE INCLUDED IN THE LUMP SUM CONTRACT PRICE FOR ITEM 614, MAINTAINING TRAFFIC, UNLESS SEPARATELY ITEMIZED IN THE PLAN.

COORDINATION BETWEEN CONTRACTORS

THIS PROJECT WILL BE CONSTRUCTED SIMULTANEOUSLY WITH THE ADJACENT OPPORTUNITY CORRIDOR PROJECT (PID 96833) TO THE EAST OF THE I-490 BRIDGE. THE CONTRACTOR FOR THE OPPORTUNITY CORRIDOR PROJECT WILL ALREADY HAVE TEMPORARY TRAFFIC CONTROL DEVICES IN PLACE ALONG I-490 WHEN THIS PROJECT BEGINS CONSTRUCTION. THE CONTRACTORS FOR BOTH PROJECTS SHALL COORDINATE TEMPORARY TRAFFIC CONTROL DEVICES BEFORE THE INITIAL MAINTENANCE OF TRAFFIC SET-UP FOR THIS PROJECT.

SEQUENCE OF CONSTRUCTION

PHASE 1

TRAFFIC

1. TRAFFIC SHALL BE MAINTAINED ON THE OUTSIDE PORTIONS OF THE EXISTING BRIDGE IN THE CONFIGURATION SHOWN ON SHEETS 25-31. ALL ENTRANCE AND EXIT RAMP WITHIN THE PROJECT LIMITS SHALL REMAIN OPEN.

CONSTRUCTION

1. PERFORM WORK ON THE INTERIOR PORTIONS OF THE MAINLINE DECK, ABUTMENT JOINTS, APPROACH SLABS, MEDIAN BARRIER, AND ASPHALT.

2. CONSTRUCT THE TEMPORARY PAVEMENT NEEDED FOR PHASE 2A AND 2B

PHASE 2A

TRAFFIC

1. TRAFFIC SHALL BE MAINTAINED ON THE INSIDE PORTIONS OF THE EXISTING BRIDGE ALONG THE MEDIAN IN THE CONFIGURATION SHOWN ON SHEETS 32-38. THE WEST 7TH ST ENTRY RAMP TO I-490 EB AND THE ROCKEFELLER AVE ENTRY RAMP TO I-490 WB SHALL BE CLOSED FOR 4 WEEKS. ALL OTHER RAMP SHALL REMAIN OPEN DURING THIS PHASE. TRAFFIC WILL BE DETOURED AROUND THE RAMP CLOSURES AS SHOWN ON SHEETS 22 AND 23.

CONSTRUCTION

1. PERFORM WORK ON THE EXTERIOR PORTIONS OF THE MAINLINE DECK, ABUTMENT JOINTS, APPROACH SLABS, MEDIAN BARRIER, AND ASPHALT. PERFORM WORK ON THE ROCKEFELLER AVE ENTRANCE RAMP ABUTMENT JOINTS AND APPROACH SLAB.

PHASE 2B

TRAFFIC

1. MAINLINE TRAFFIC SHALL BE MAINTAINED ON THE INSIDE PORTIONS OF THE EXISTING BRIDGE ALONG THE MEDIAN IN THE SAME CONFIGURATION AS PHASE 2A AS SHOWN ON SHEETS 39-43. THE I-490 WB TO WEST 7TH ST EXIT RAMP AND THE I-490 EB TO BROADWAY AVE EXIT RAMP SHALL BE CLOSED FOR 4 WEEKS. ALL OTHER RAMP SHALL REMAIN OPEN DURING THIS PHASE. TRAFFIC WILL BE DETOURED AROUND THE RAMP CLOSURES AS SHOWN ON SHEETS 20 AND 21.

CONSTRUCTION

1. CONSTRUCT THE REMAINING PORTIONS OF THE MAINLINE AND RAMP DECKS, ABUTMENT JOINTS, APPROACH SLABS, EXTERIOR BARRIERS, AND ASPHALT.

CALCULATED
ARM
CHECKED
VDK

MAINTENANCE OF TRAFFIC GENERAL NOTES

CUY - 490 - 1.00

SHEET NO.	REFERENCE NO.	LOCATION	STATION		SIDE	PHASE	614				615	622											
			FROM	TO			EACH	MILE	MILE	MILE	FT	FT	SY	FT	EA								
																WORK ZONE IMPACT ATTENUATOR (UNIDIRECTIONAL)	WORK ZONE LANE LINE, CLASS I, 4"	WORK ZONE EDGE LINE, CLASS I, 4", WHITE	WORK ZONE EDGE LINE, CLASS I, 4", YELLOW	WORK ZONE CHANNELIZING LINE, CLASS I, 8"	WORK ZONE DOTTED LINE, CLASS I	PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A	PORTABLE BARRIER, 32"
33-37	WYL-1	IR 490	973+25	1025+50	RT	2A				0.99													
33-34	WEL-1	IR 490	973+25	983+54	RT	2A			0.20														
33-34	WCH-1	IR 490	973+25	983+54	RT	2A					1029												
34-38	WYL-2	IR 490	978+50	1029+27	LT	2A				0.97													
34-35	WYL-3	RAMP C-7	85+00	91+00	RT	2A				0.12													
34-35	WEL-2	IR 490	978+50	991+00	LT	2A			0.24														
34-38	WEL-3	RAMP C-7 / IR 490	85+50	1029+39	RT	2A			0.85														
34	WCH-2	IR 490	978+50	983+50	LT	2A					500												
34-37	WLL-1	IR 490	983+54	1016+00	RT	2A		0.62															
34-36	WLL-2	IR 490	983+54	1014+50	LT	2A		0.59															
34-37	PB-1	IR 490	983+00	1018+00	RT	2A						3500											
34-35	PB-2	IR 490	984+48	991+22	LT	2A						660	1										
34-35	PB-3	RAMP C-7	85+00	91+00	RT	2A						610											
34-37	PB-4	RAMP C-7 / IR 490	86+50	1023+64	LT	2A						3730											
34	ATT-1	IR 490	983+00		RT	2A	1																
35	WCH-3	IR 490	991+00	993+00	LT	2A					200												
35	WCH-4	IR 490	991+00	993+00	LT	2A					200												
35	WDL-1	IR 490	993+00	997+00	LT	2A						400											
35	ATT-2	IR 490	991+22		LT	2A	1																
36-37	WCH-5	IR 490	1012+61	1015+48	RT	2A					287												
36-37	WCH-6	IR 490	1012+61	1015+48	RT	2A					287												
36-37	WCH-7	IR 490	1014+50	1024+81	LT	2A					1031												
36-37	WEL-4	IR 490	1015+50	1025+50	RT	2A			0.19														
36-37	WCH-8	IR 490	1016+00	1025+50	RT	2A					950												
37	PB-5	RAMP C-8	5+50	8+00	LT	2A						240											
37	PB-6	IR 490 / RAMP W-S	1015+48	5+00	RT	2A						720	1										
37	ATT-3	IR 490	1015+48		RT	2A	1																
TOTALS CARRIED TO SHEET 19							3	1.21	3.56	4484	400	0	9460	2									

CALCULATED
JRS
CHECKED
VDK

MAINTENANCE OF TRAFFIC SUBSUMMARY

SHEET NO.	REFERENCE NO.	LOCATION	STATION		SIDE	PHASE	614				615	622															
			FROM	TO			WORK ZONE IMPACT ATTENUATOR (UNIDIRECTIONAL) EACH	WORK ZONE LANE LINE, CLASS I, 4" MILE	WORK ZONE EDGE LINE, CLASS I, 4", WHITE MILE	WORK ZONE EDGE LINE, CLASS I, 4", YELLOW MILE	WORK ZONE CHANNELIZING LINE, CLASS I, 8" FT	WORK ZONE DOTTED LINE, CLASS I FT	PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A SY	PORTABLE BARRIER, 32" FT	PORTABLE BARRIER, "Y" CONNECTOR EA												
40	WYL-1	IR 490	978+44	979+28	RT	2B			0.02																		
40-41	WEL-1	IR 490	978+44	990+15	RT	2B			0.23																		
40	WCH-1	IR 490	979+28	982+54	RT	2B					326																
40	WCH-2	IR 490	979+78	983+54	RT	2B					376																
40-41	WDL-1	IR 490	983+54	990+15	RT	2B						661															
41-43	WEL-2	IR 490 / RAMP B-C	991+00	16+00	LT	2B			0.48																		
41-42	WDL-2	IR 490	998+00	1011+50	LT	2B						1350															
41-43	PB-1	IR 490 / RAMP B-C	991+00	16+00	LT	2B							2520														
42-43	WYL-2	IR 490 / RAMP B-C	1013+00	15+00	LT	2B			0.05																		
42-43	WEL-3	IR 490	1011+00	1015+50	RT	2B			0.09																		
42	WCH-3	IR 490	1011+50	1013+00	LT	2B					150																
42	WCH-4	IR 490	1011+50	1013+50	LT	2B					200																
42-43	PB-2	IR 490	1011+26	1015+50	RT	2B							440														
42	PB-3	IR 490	1012+93	1014+76	LT	2B							190														
42	PB-4	IR 490	1012+93	1014+09	LT	2B							120														
43	ATT-1	RAMP B-C	16+00		LT	2B	1																				
TOTALS FROM THIS SHEET							1	0.00	0.87		1052	2011	0	3270	0												
TOTALS CARRIED FROM SHEET 17							2	1.05	4.93		10315	3508	386	8140	0												
TOTALS CARRIED FROM SHEET 18							3	1.21	3.56		4484	400	0	9460	2												
TOTALS CARRIED TO GENERAL SUMMARY							6	2.26	9.36		15851	5919	386	20870	2												

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CALCULATED JRS
CHECKED VDK

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HORIZONTAL SCALE IN FEET

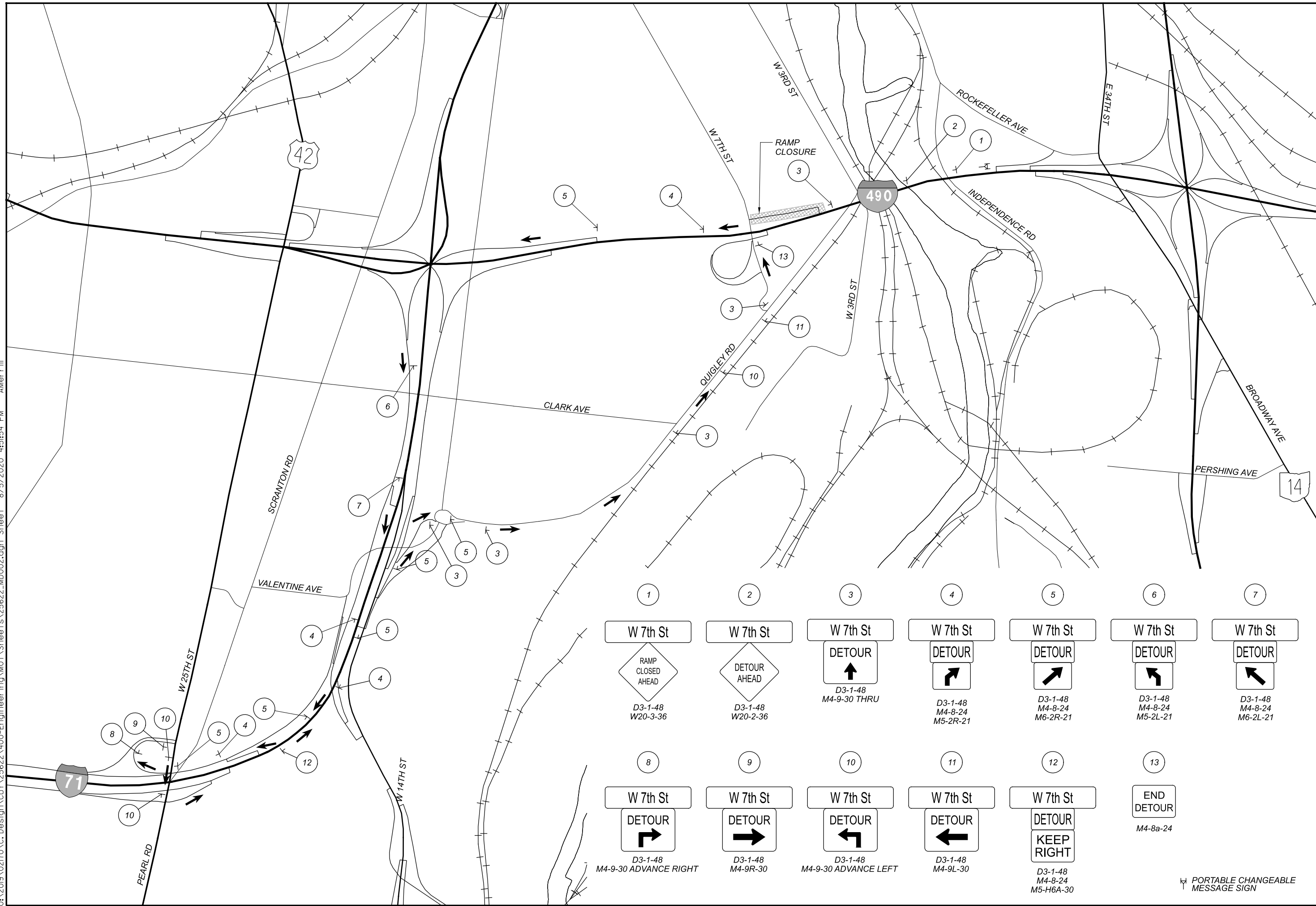
**DETOUR PLAN
IR 490 EB TO BROADWAY AVE**

CUY-490-1.00

- | | | | | | | | | | |
|--|--|--|--|--|---|---|---|---|---------------------------|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| Broadway Ave
RAMP
CLOSED
AHEAD
D3-1-48
W20-3-36 | Broadway Ave
DETOUR
AHEAD
D3-1-48
W20-2-36 | Broadway Ave
DETOUR
←
D3-1-48
M4-9-30 ADVANCE LEFT | Broadway Ave
DETOUR
←
D3-1-48
M4-9L-30 | Broadway Ave
DETOUR
↑
D3-1-48
M4-9-30 THRU | Broadway Ave
DETOUR
↗
D3-1-48
M4-8-24
M5-2R-21 | Broadway Ave
DETOUR
↗
D3-1-48
M4-8-24
M6-2R-21 | Broadway Ave
DETOUR
↖
D3-1-48
M4-8-24
M5-2L-21 | Broadway Ave
DETOUR
↖
D3-1-48
M4-8-24
M6-2L-21 | END
DETOUR
M4-8a-24 |

PORTABLE CHANGEABLE
MESSAGE SIGN

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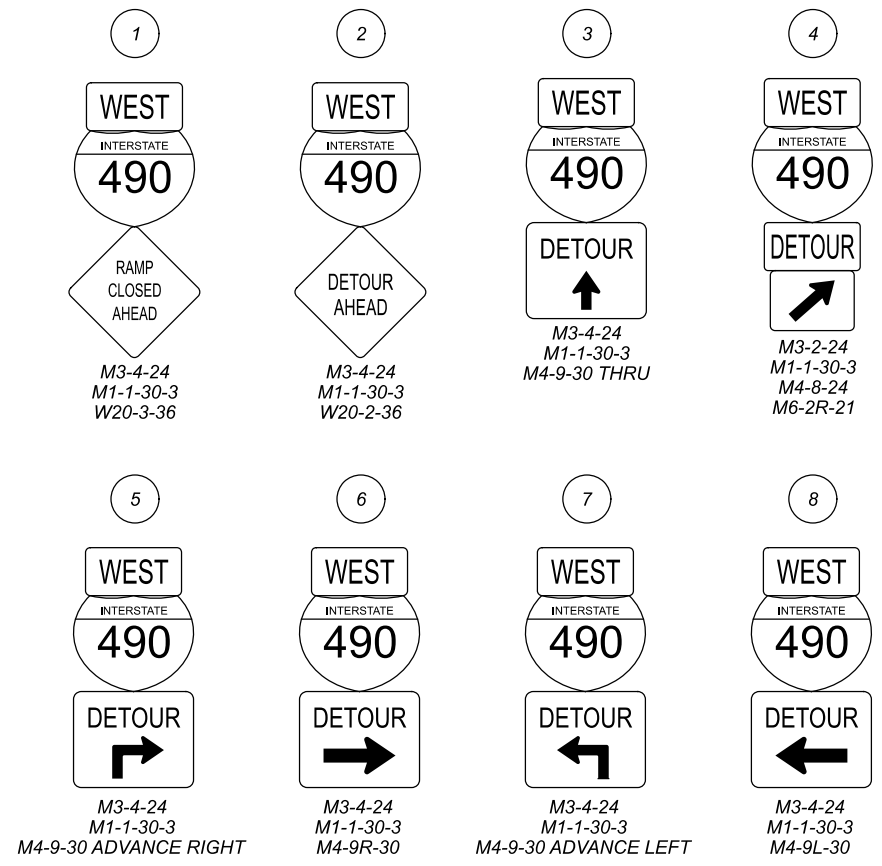
0 500 1000
HORIZONTAL SCALE IN FEET

DETOUR PLAN
IR 490 WB TO W 7TH ST

1	2	3	4	5	6	7
W 7th St	W 7th St	W 7th St	W 7th St	W 7th St	W 7th St	W 7th St
RAMP CLOSED AHEAD	DETOUR AHEAD	DETOUR ↑	DETOUR ↗	DETOUR ↗	DETOUR ↖	DETOUR ↖
D3-1-48 W20-3-36	D3-1-48 W20-2-36	D3-1-48 M4-9-30 THRU	D3-1-48 M4-8-24 M5-2R-21	D3-1-48 M4-8-24 M6-2R-21	D3-1-48 M4-8-24 M5-2L-21	D3-1-48 M4-8-24 M6-2L-21
8	9	10	11	12	13	
W 7th St	W 7th St	W 7th St	W 7th St	W 7th St	END DETOUR	
DETOUR ↘	DETOUR →	DETOUR ↙	DETOUR ←	DETOUR KEEP RIGHT		
D3-1-48 M4-9-30 ADVANCE RIGHT	D3-1-48 M4-9R-30	D3-1-48 M4-9-30 ADVANCE LEFT	D3-1-48 M4-9L-30	D3-1-48 M4-8-24 M5-H6A-30	M4-8a-24	

PORTABLE CHANGEABLE MESSAGE SIGN

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CALCULATED JRS CHECKED VDK

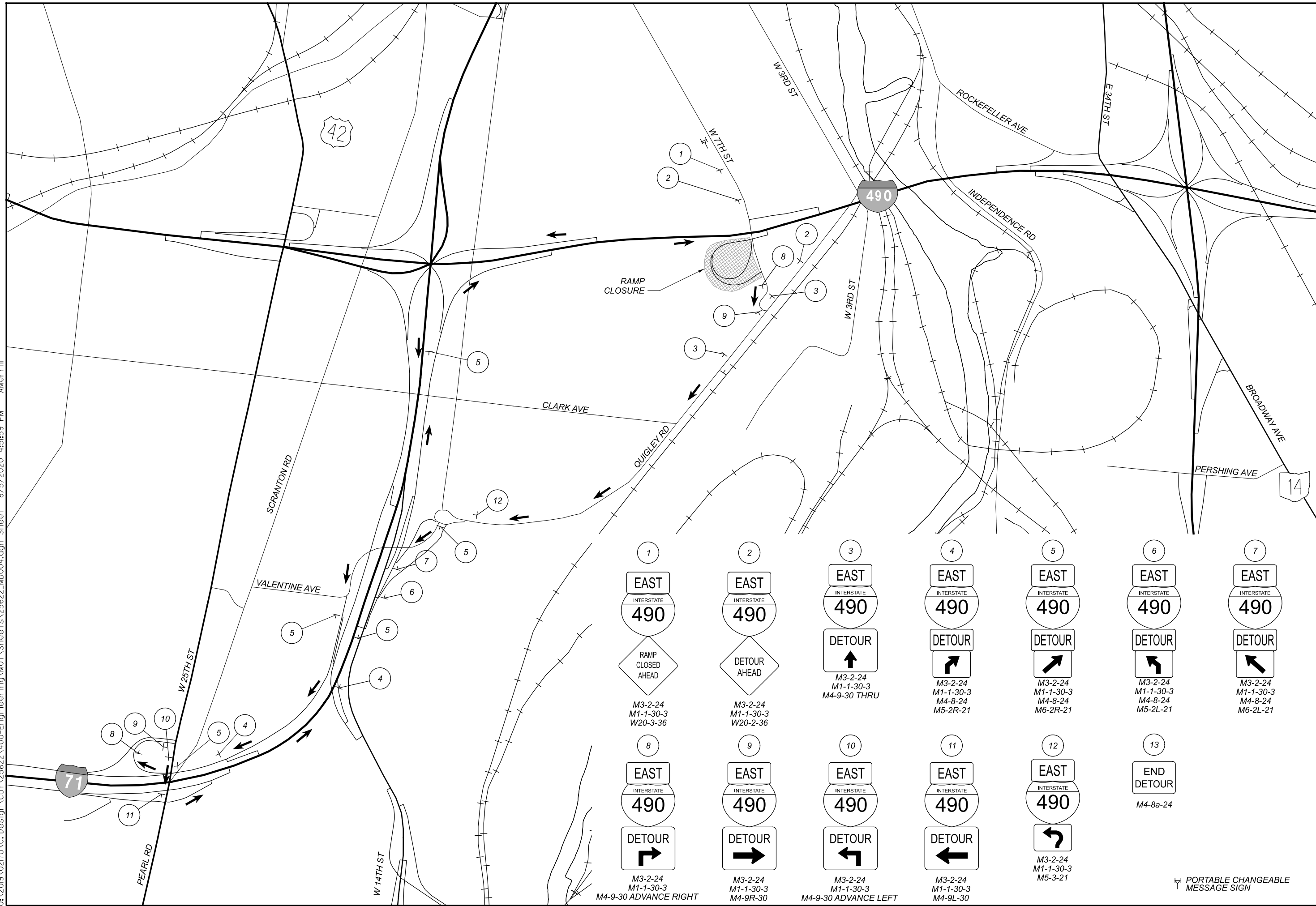
DETOUR PLAN
ROCKEFELLER AVE TO IR 490 WB

CUY-490-1.00

22
 182

PORTABLE CHANGEABLE MESSAGE SIGN

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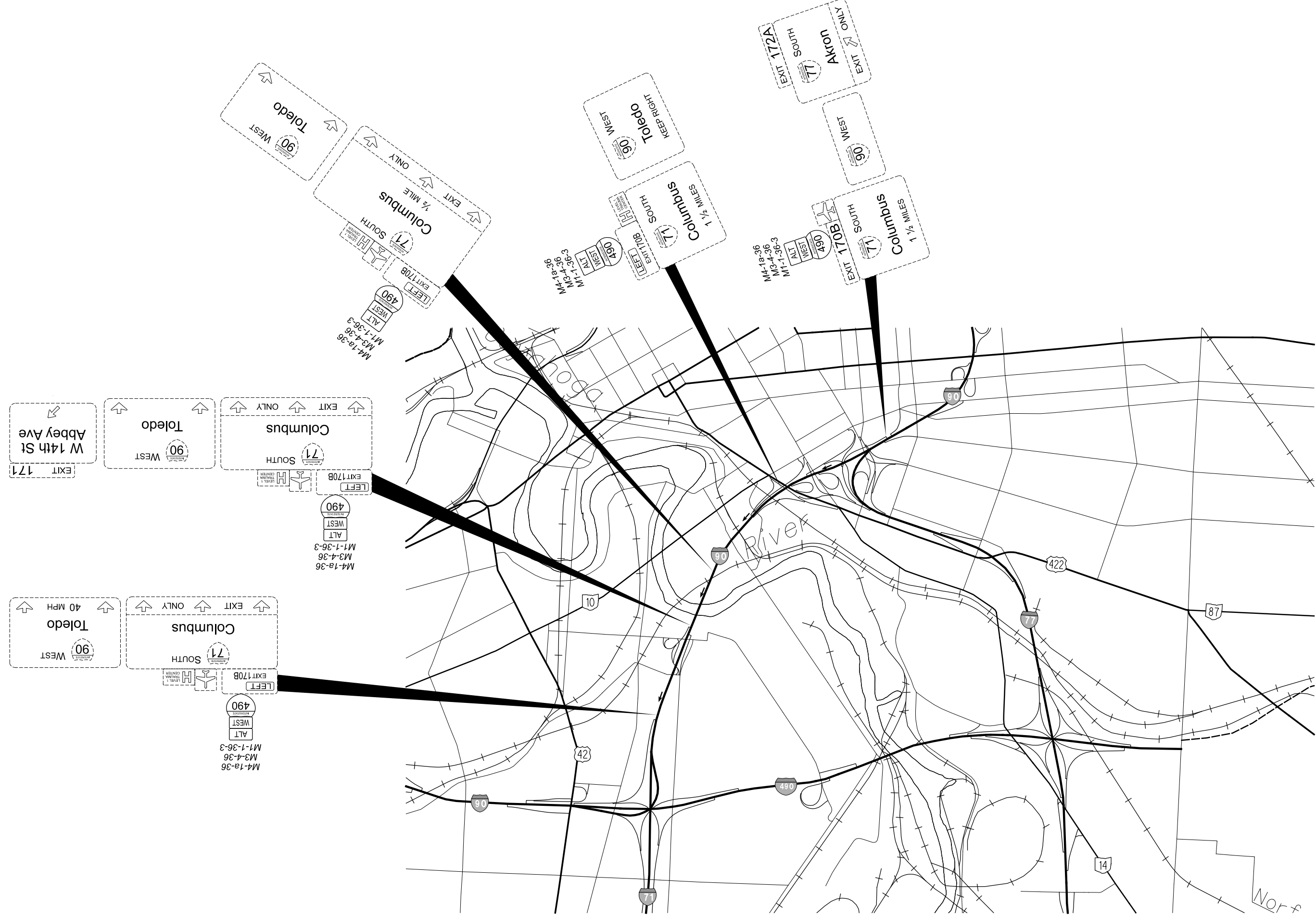
CALCULATED JRS
CHECKED VDK

0 500 1000
HORIZONTAL SCALE IN FEET

DETOUR PLAN
W 7TH ST TO IR 490 EB

1	2	3	4	5	6	7
EAST INTERSTATE 490	EAST INTERSTATE 490	EAST INTERSTATE 490	EAST INTERSTATE 490	EAST INTERSTATE 490	EAST INTERSTATE 490	EAST INTERSTATE 490
RAMP CLOSED AHEAD	DETOUR AHEAD	DETOUR ↑ M3-2-24 M1-1-30-3 M4-9-30 THRU	DETOUR ↗ M3-2-24 M1-1-30-3 M4-8-24 M5-2R-21	DETOUR ↘ M3-2-24 M1-1-30-3 M4-8-24 M6-2R-21	DETOUR ↙ M3-2-24 M1-1-30-3 M4-8-24 M5-2L-21	DETOUR ↖ M3-2-24 M1-1-30-3 M4-8-24 M6-2L-21
8	9	10	11	12	13	
EAST INTERSTATE 490	EAST INTERSTATE 490	EAST INTERSTATE 490	EAST INTERSTATE 490	EAST INTERSTATE 490	END DETOUR	
DETOUR → M3-2-24 M1-1-30-3 M4-9-30 ADVANCE RIGHT	DETOUR → M3-2-24 M1-1-30-3 M4-9R-30	DETOUR ← M3-2-24 M1-1-30-3 M4-9-30 ADVANCE LEFT	DETOUR ← M3-2-24 M1-1-30-3 M4-9L-30	DETOUR ↶ M3-2-24 M1-1-30-3 M5-3-21	M4-8a-24	

PORTABLE CHANGEABLE MESSAGE SIGN

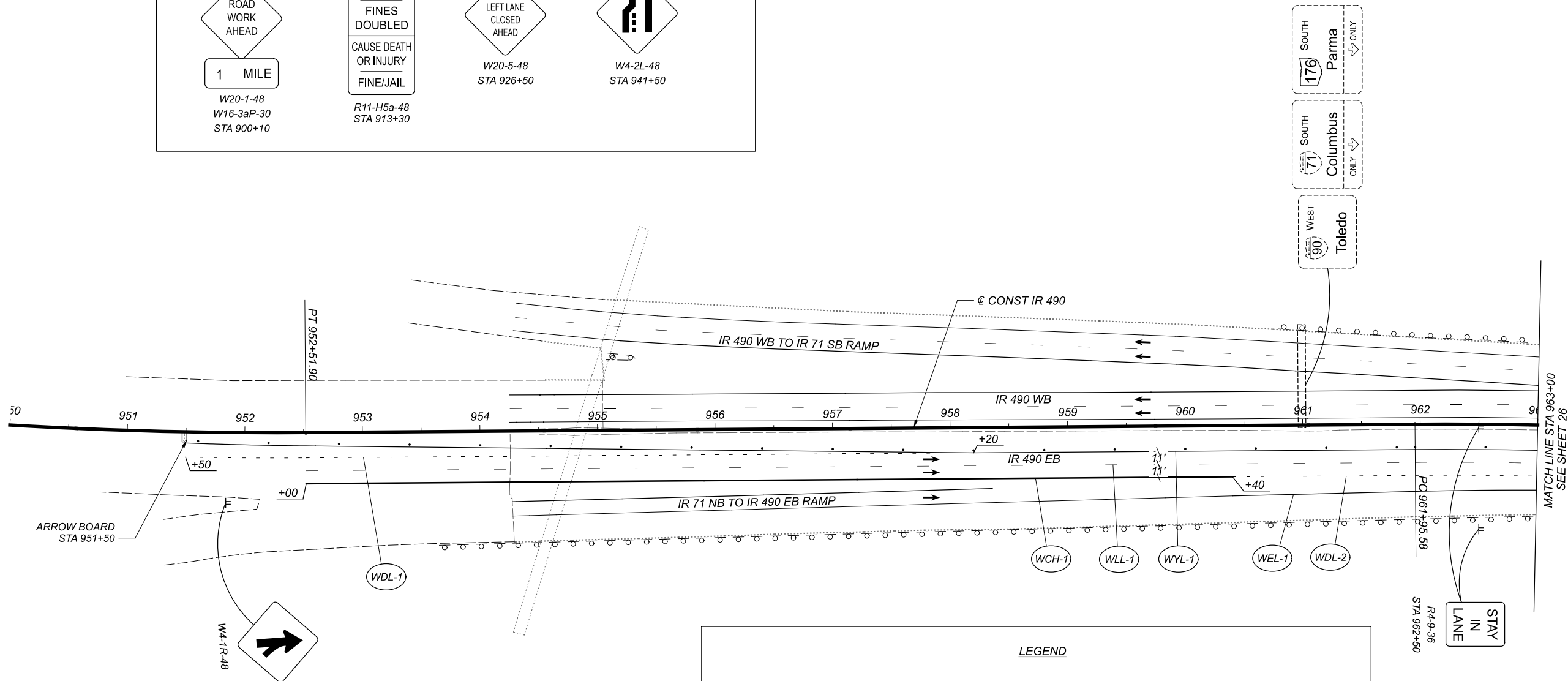
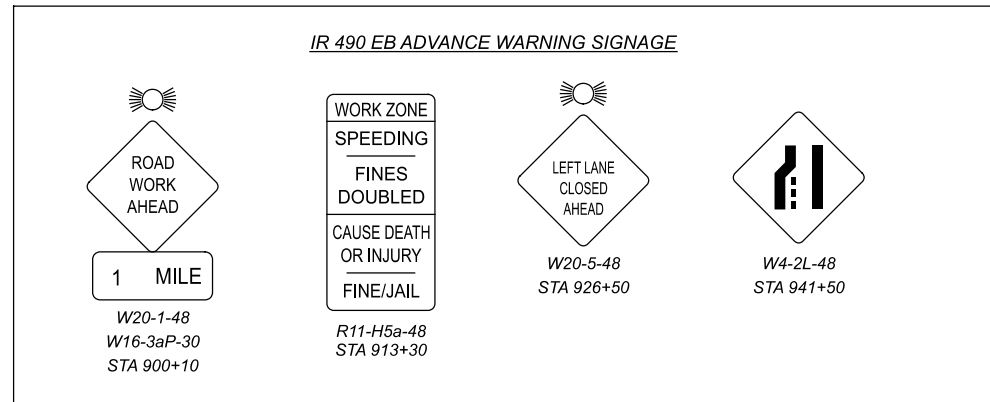


CALCULATED JRS
 CHECKED VDK

ALTERNATE ROUTE PLAN
IR 77 SB TO IR 490 WB

CUY-490-1.00

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LEGEND

(ATT-X) ITEM 614 - WORK ZONE IMPACT ATTENUATOR	WORK AREA
(PB-X) ITEM 622 - PORTABLE BARRIER	TEMPORARY PAVEMENT (PLACED DURING PHASE 1)
(TP-X) ITEM 615 - PAVEMENT FOR MAINTAINING TRAFFIC	• • • MOT DRUMS
(WEL-X) ITEM 614 - WORK ZONE EDGE LINE, 4", WHITE	PORTABLE BARRIER
(WYL-X) ITEM 614 - WORK ZONE EDGE LINE, 4", YELLOW	DIRECTION OF TRAFFIC
(WCH-X) ITEM 614 - WORK ZONE CHANNELIZING LINE, 8"	
(WLL-X) ITEM 614 - WORK ZONE LANE LINE, 4"	
(WDL-X) ITEM 614 - WORK ZONE DOTTED LINE, 4"	



MAINTENANCE OF TRAFFIC PHASE 1

CUY - 490 - 1.00

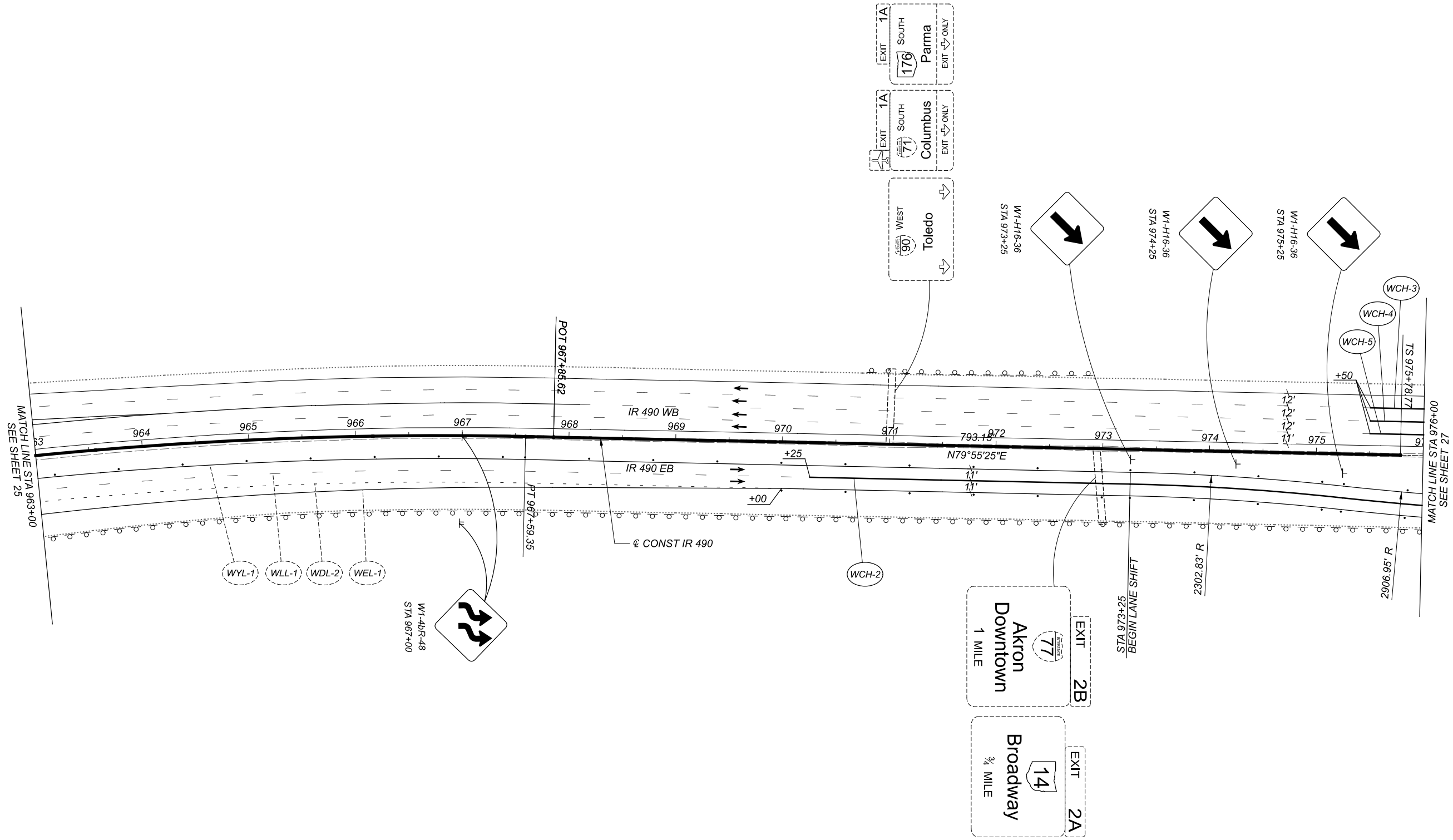
CALCULATED JRS CHECKED VDK



R4-9-36
STA 962+50

STAY IN LANE

MATCH LINE STA 963+00
SEE SHEET 26



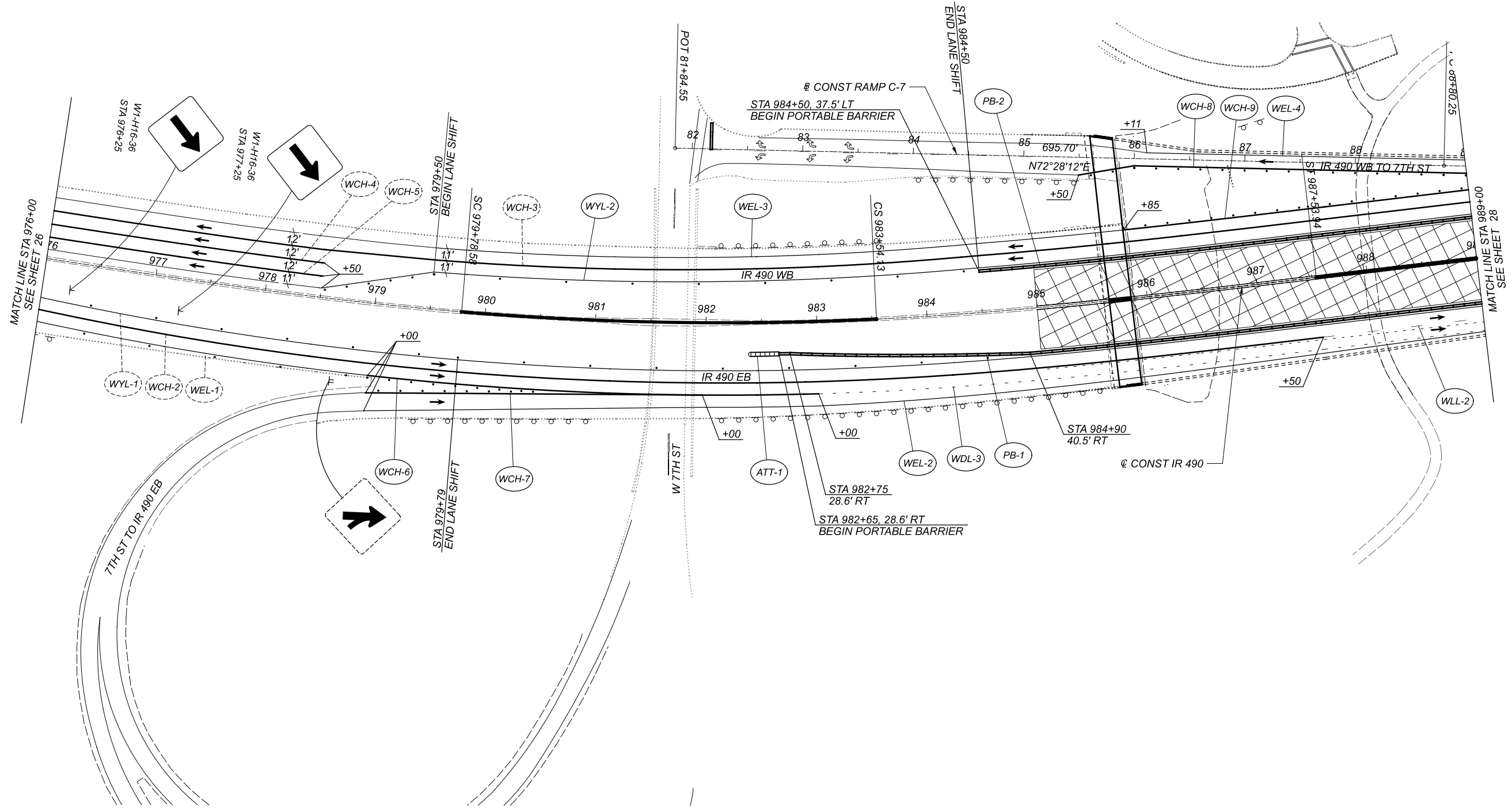
CALCULATED
JRS
CHECKED
VDK

0 50 100
HORIZONTAL
SCALE IN FEET

**MAINTENANCE OF TRAFFIC
PHASE 1**

CUY-1-490-

FOR LEGEND SEE SHEET 25



CALCULATED
JRS
CHECKED
VDK

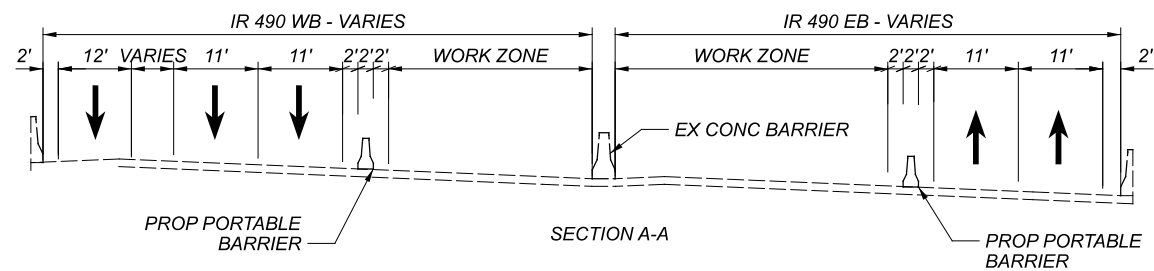
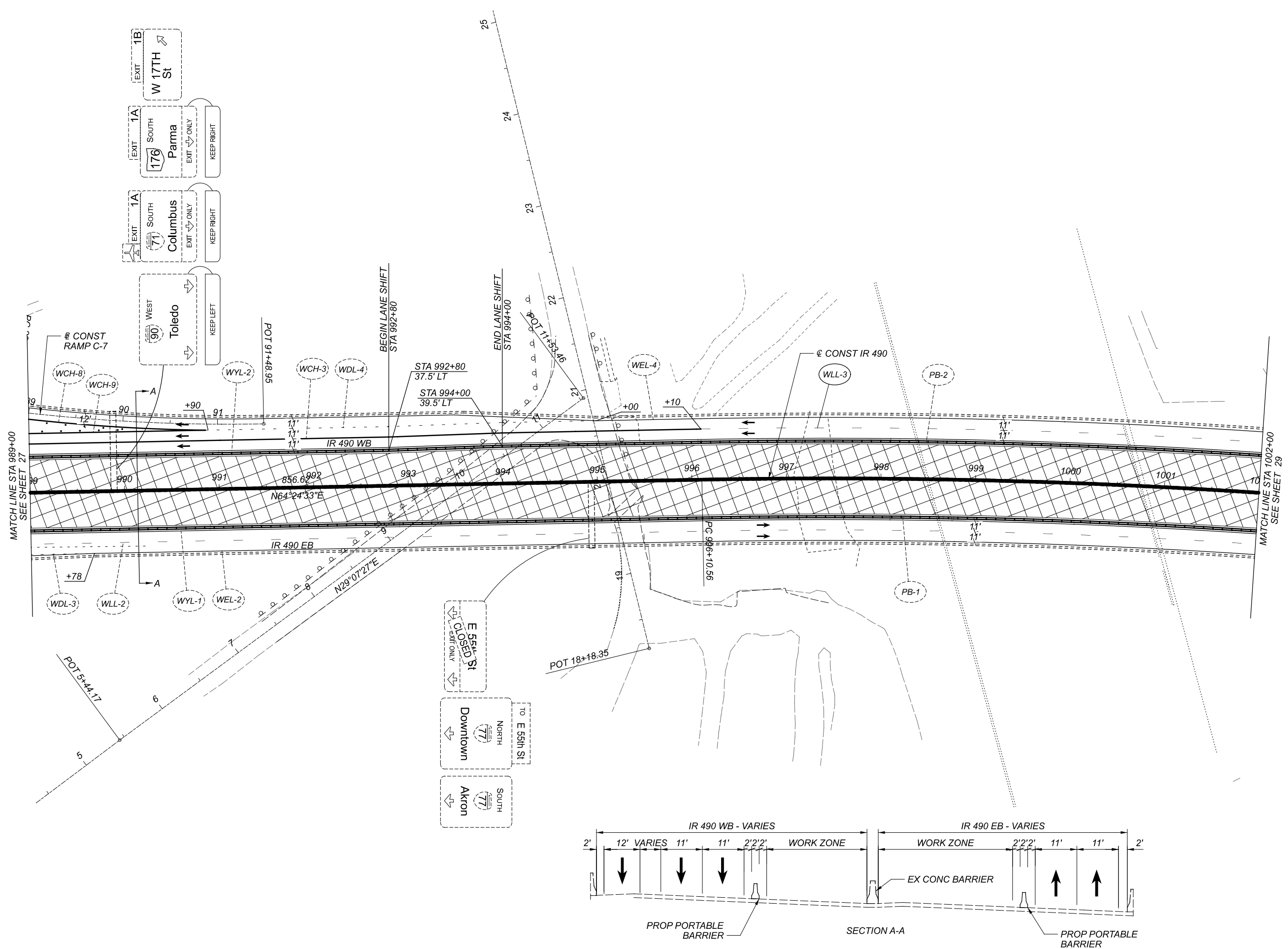
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HORIZONTAL
SCALE IN FEET

**MAINTENANCE OF TRAFFIC
PHASE 1**

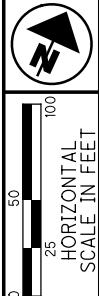
CUY-490-1.00

FOR LEGEND SEE SHEET 25

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CALCULATED JRS
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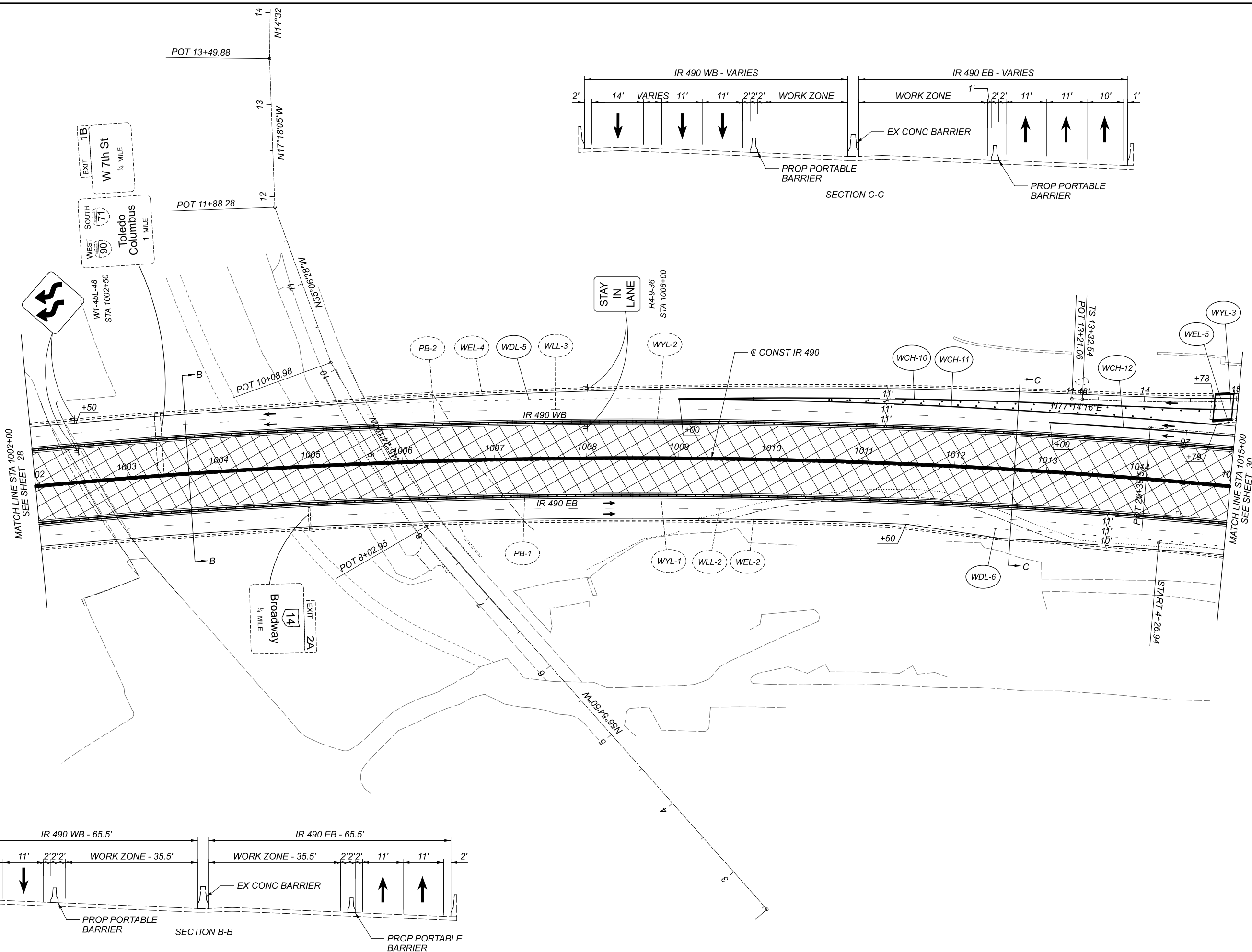


**MAINTENANCE OF TRAFFIC
PHASE 1**

CUY-490-1.00

FOR LEGEND SEE SHEET 25

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CALCULATED
JRS
CHECKED
VDK

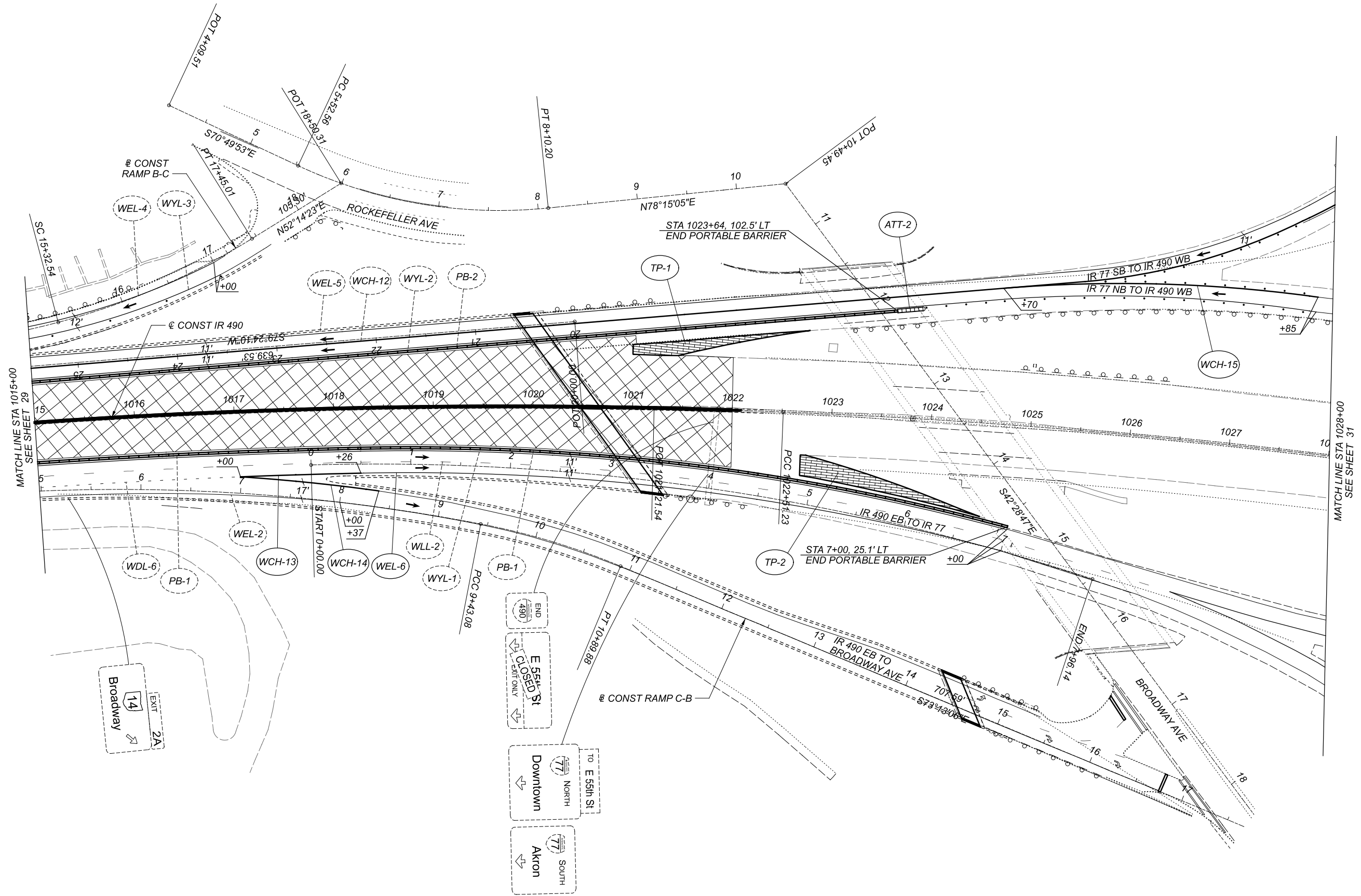
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25
HORIZONTAL
SCALE IN FEET

**MAINTENANCE OF TRAFFIC
PHASE 1**

CUY-490-1.00

FOR LEGEND SEE SHEET 25

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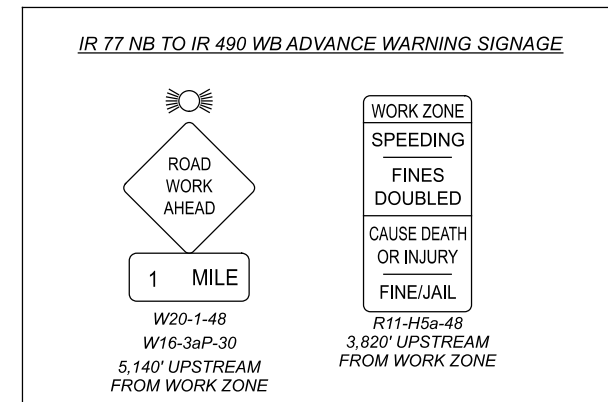
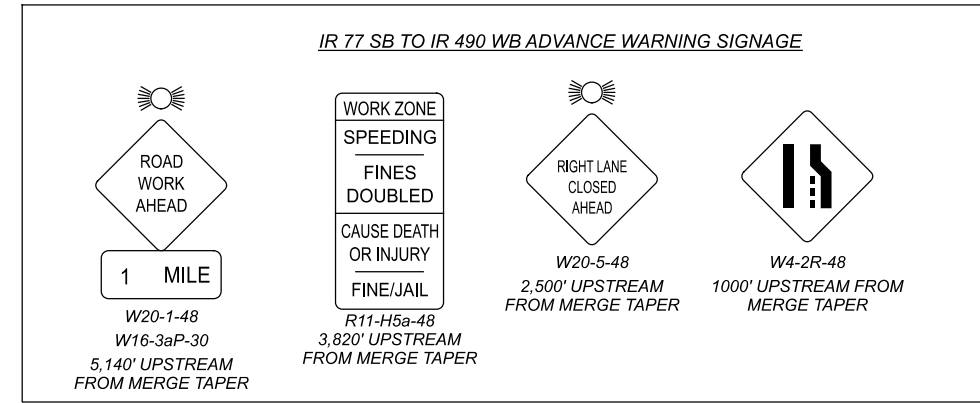
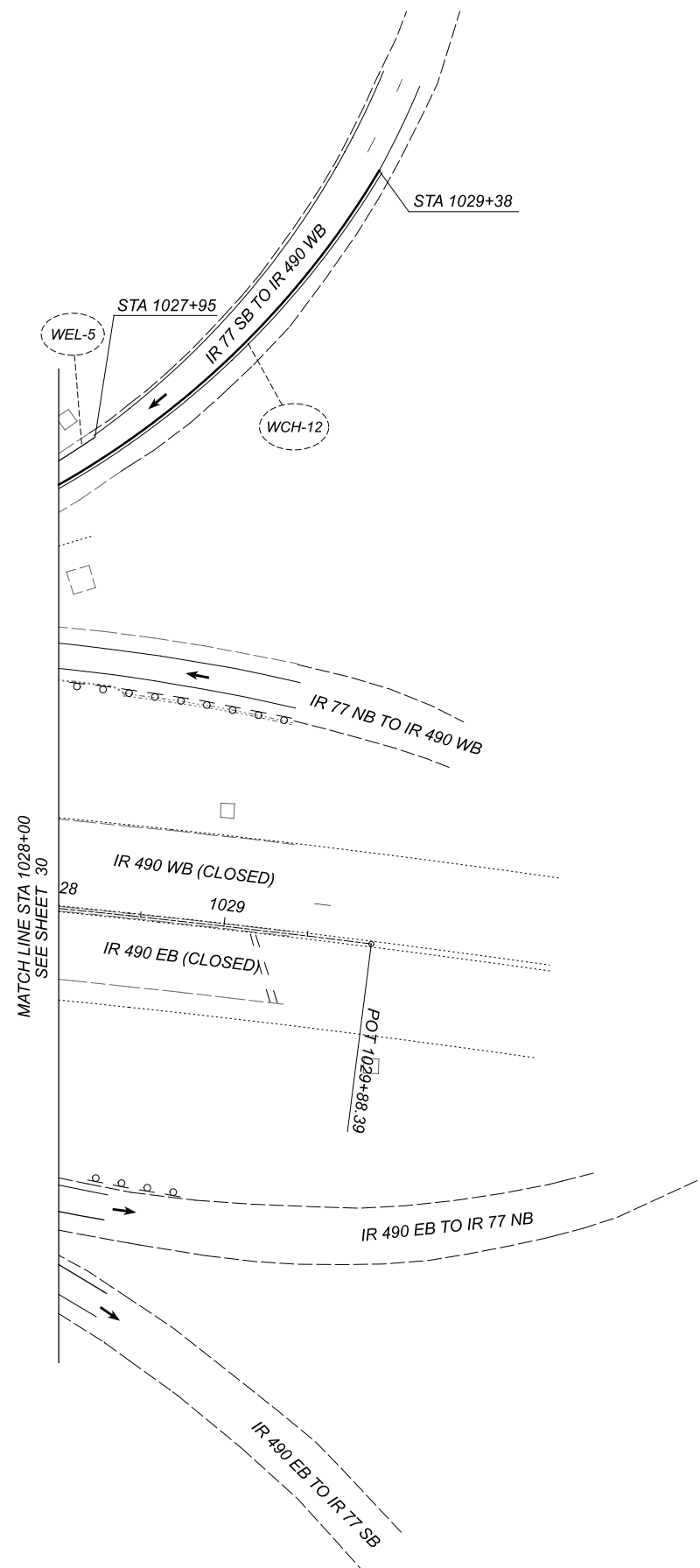
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CHECKED VDK

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HORIZONTAL SCALE IN FEET

**MAINTENANCE OF TRAFFIC
PHASE 1**

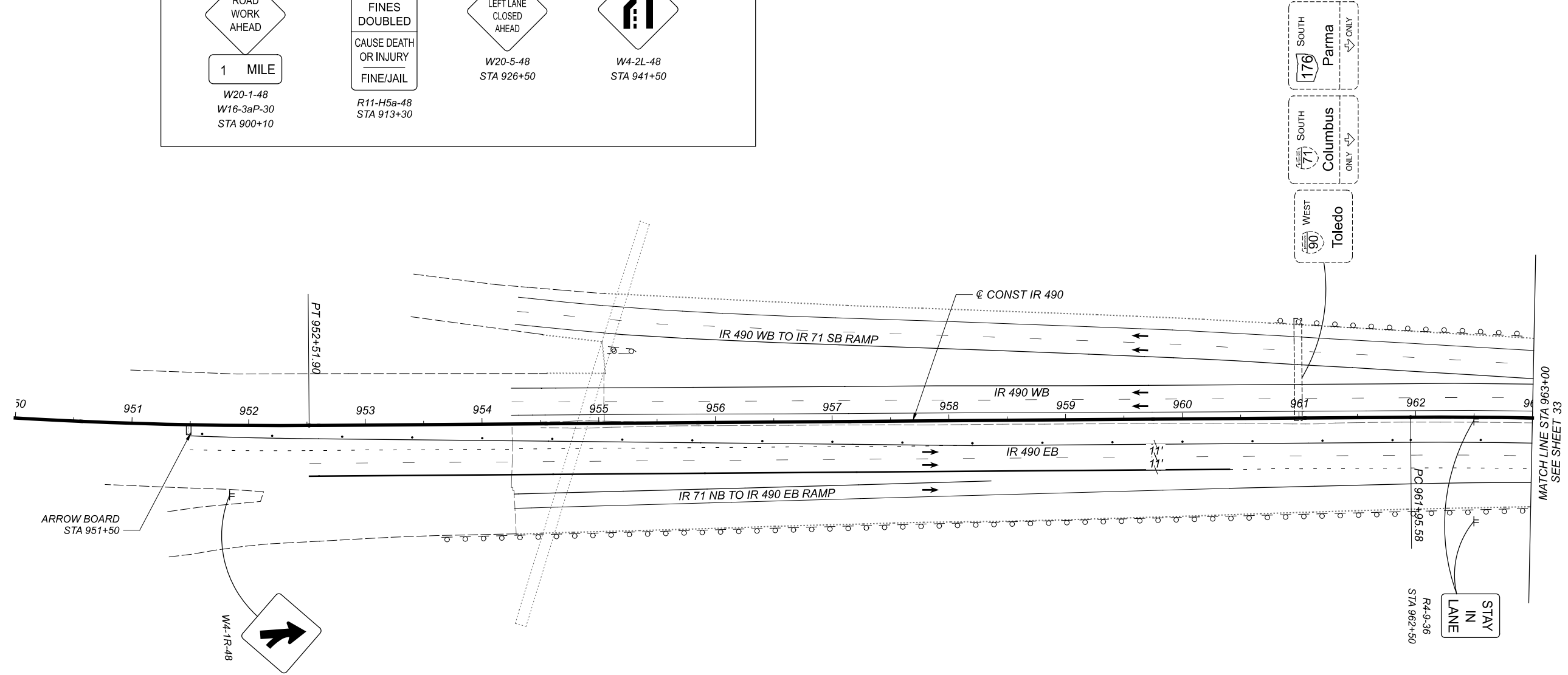
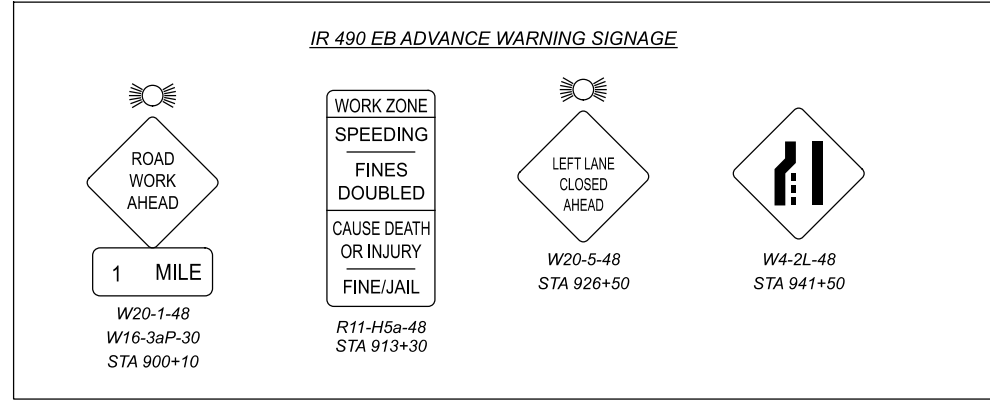
CUY-490-1.00

FOR LEGEND SEE SHEET 25



MAINTENANCE OF TRAFFIC PHASE 1

CUY-490-1.00

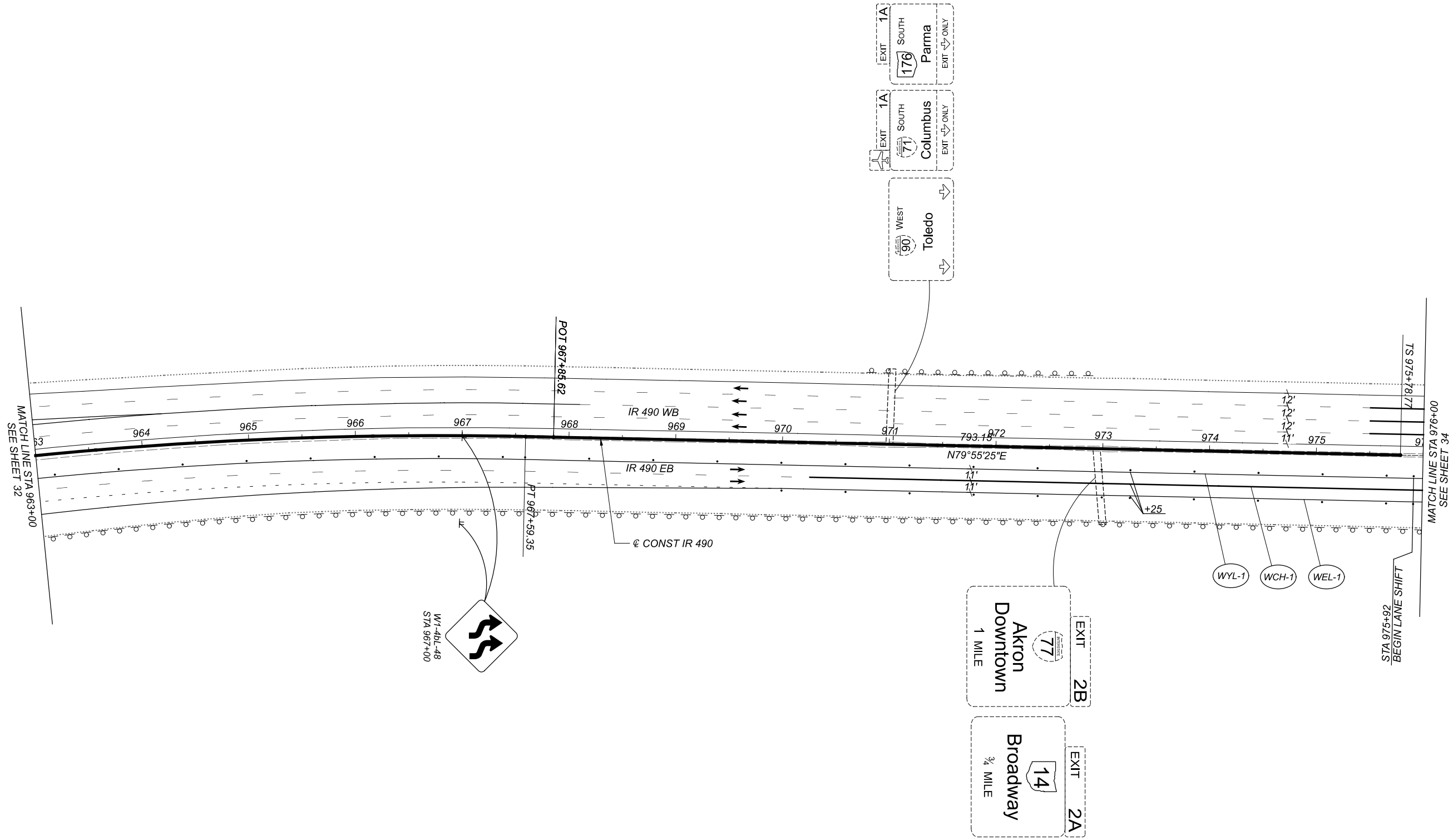


CALCULATED JRS
CHECKED VDK

**MAINTENANCE OF TRAFFIC
PHASE 2A**

CUY - 490 - 1.00

NOTE: PAVEMENT MARKINGS TO REMAIN FROM PREVIOUS PHASES ARE NOT LABELED
FOR LEGEND SEE SHEET 25



NOTE: PAVEMENT MARKINGS TO REMAIN FROM PREVIOUS PHASES ARE NOT LABELED

FOR LEGEND SEE SHEET 25

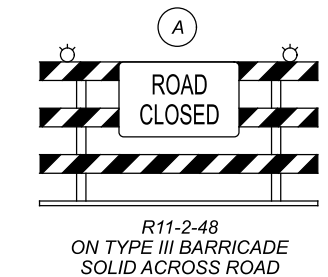
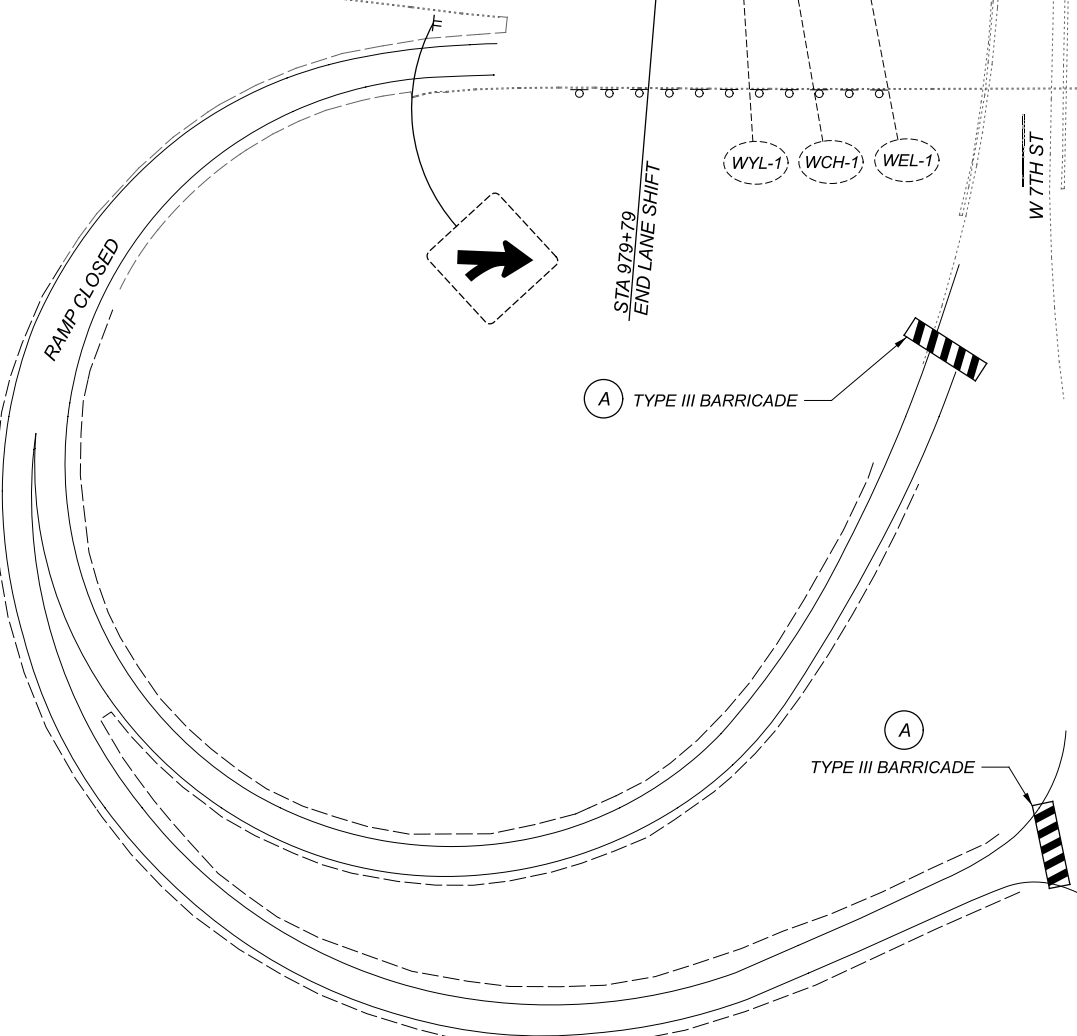
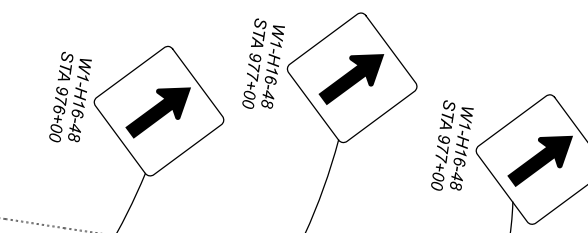
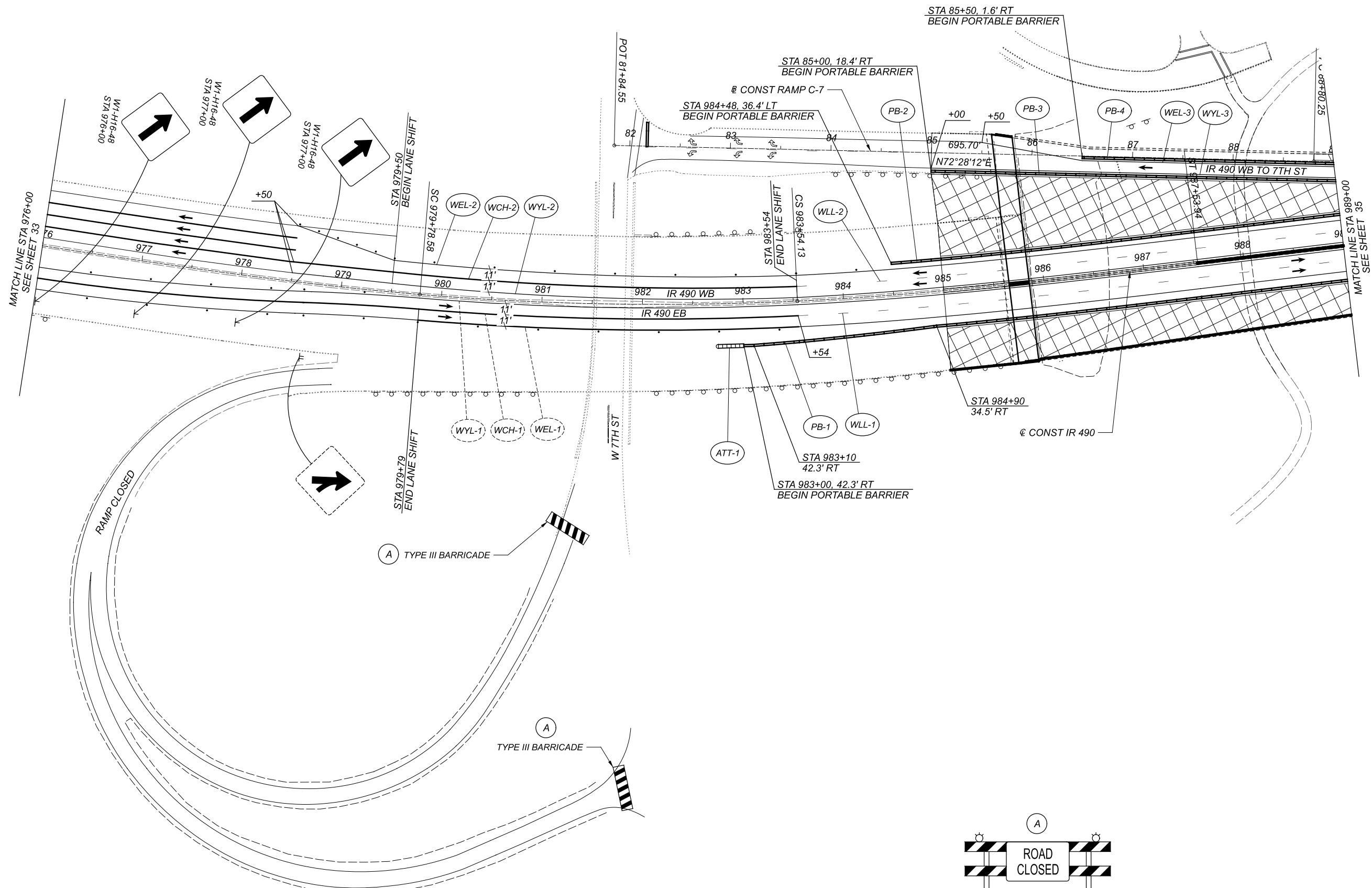
CALCULATED
JRS
CHECKED
VDK

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HORIZONTAL
SCALE IN FEET

**MAINTENANCE OF TRAFFIC
PHASE 2A**

CUY-1-490-2A

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NOTE: PAVEMENT MARKINGS TO REMAIN FROM PREVIOUS PHASES ARE NOT LABELED
FOR LEGEND SEE SHEET 25

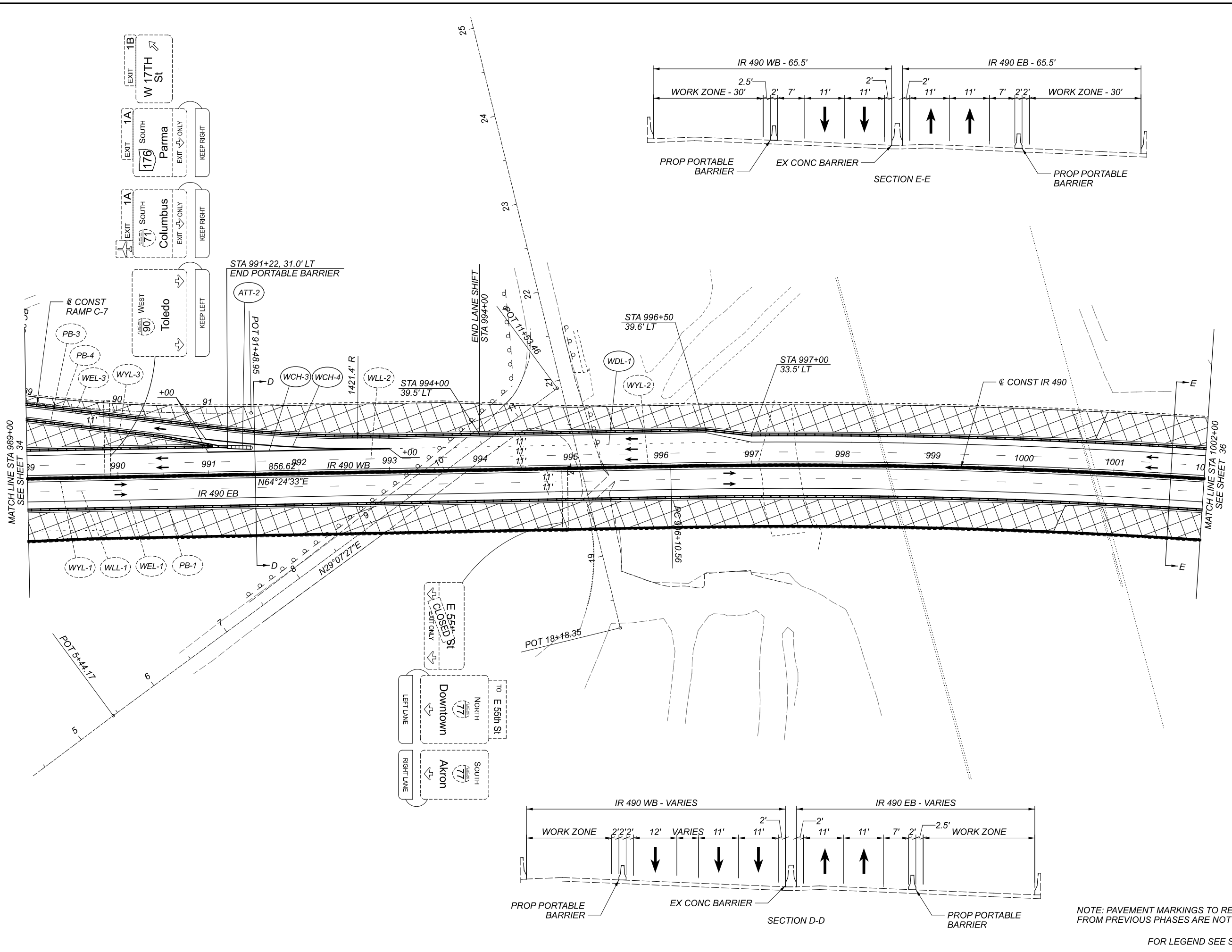
CALCULATED JRS CHECKED VDK

HORIZONTAL SCALE IN FEET

**MAINTENANCE OF TRAFFIC
PHASE 2A**

CUY-490-1.00

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CALCULATED
JRS
CHECKED
VDK

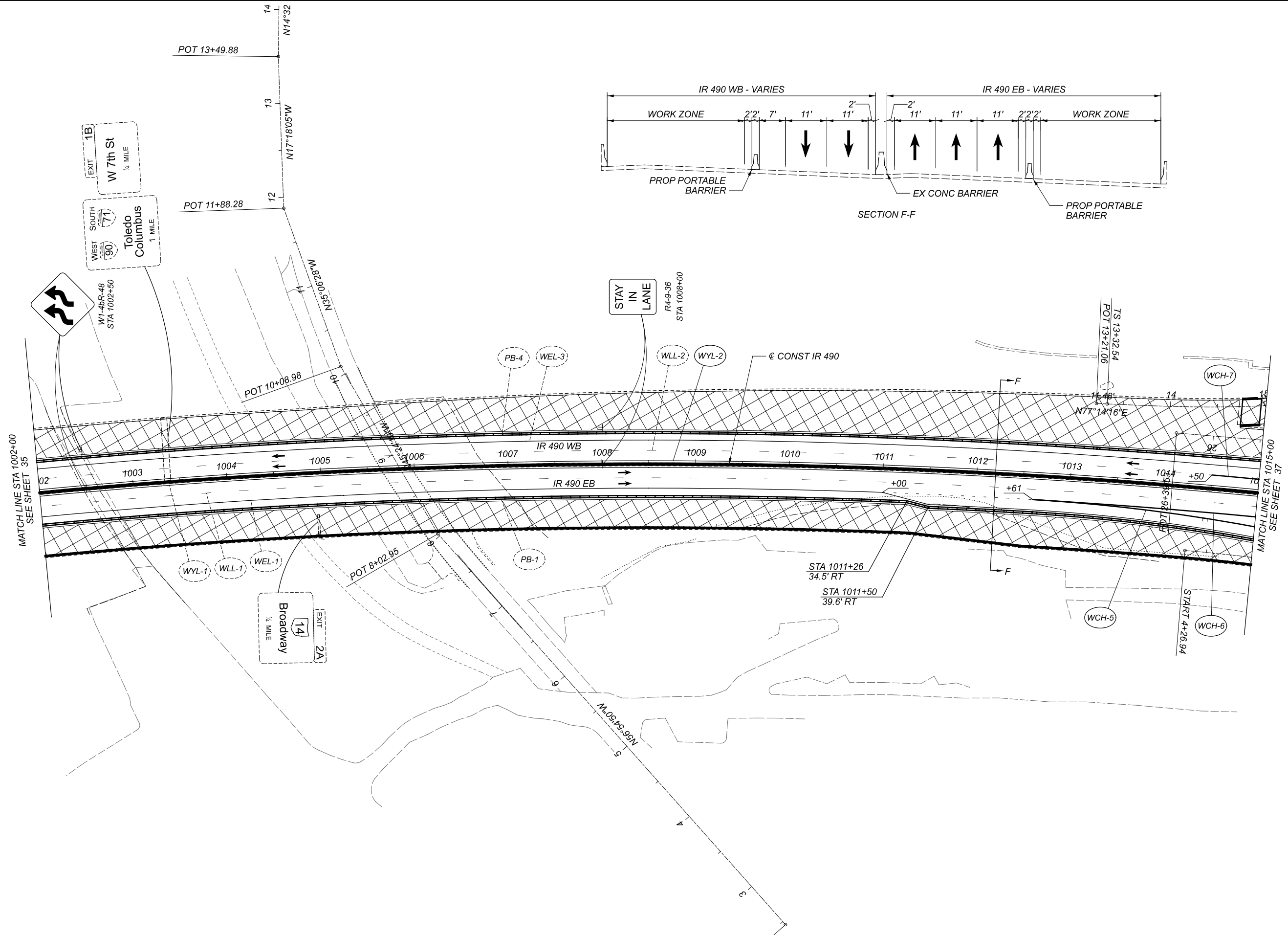
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HORIZONTAL
SCALE IN FEET

**MAINTENANCE OF TRAFFIC
PHASE 2A**

CUY-490-1.00

NOTE: PAVEMENT MARKINGS TO REMAIN FROM PREVIOUS PHASES ARE NOT LABELED
FOR LEGEND SEE SHEET 25

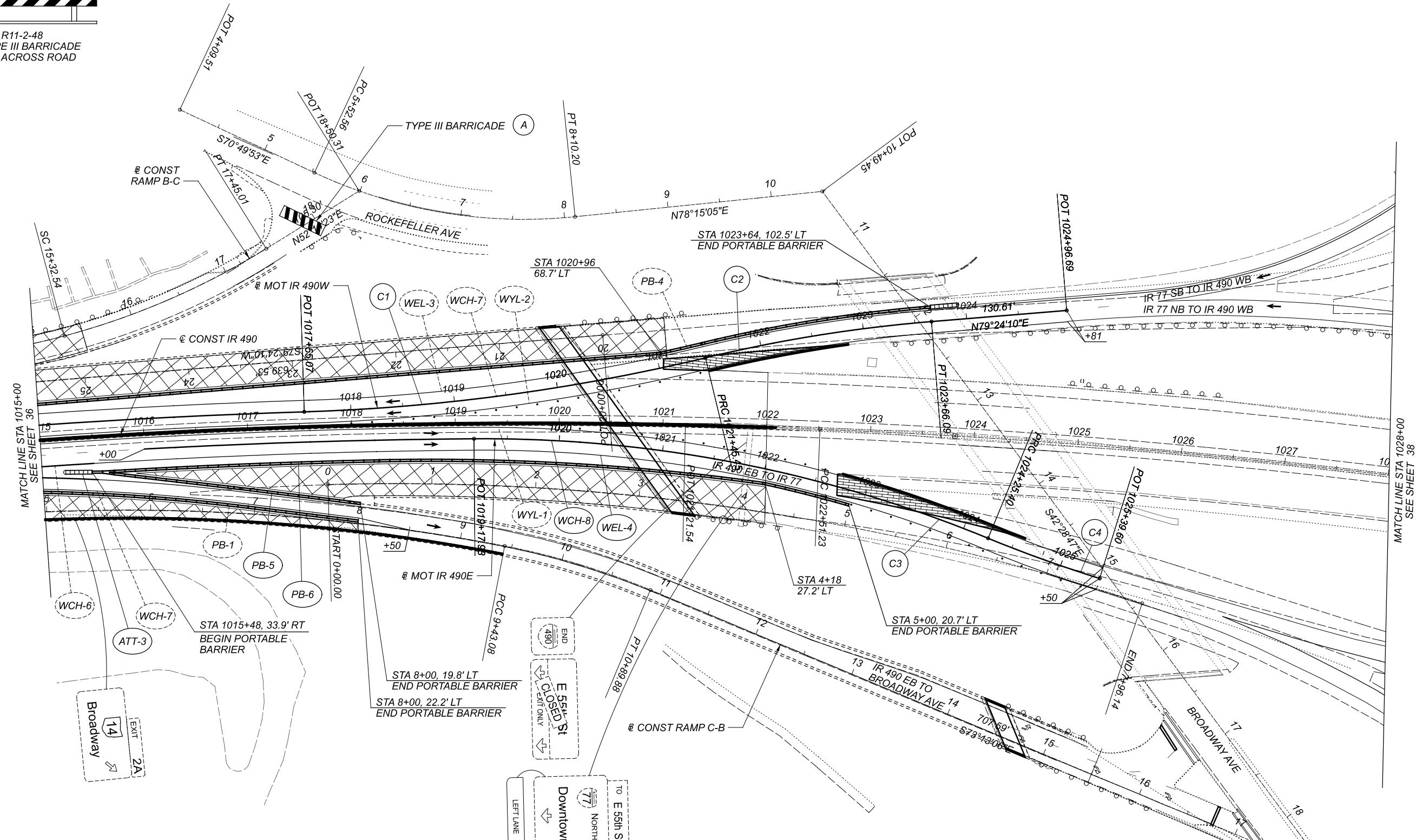
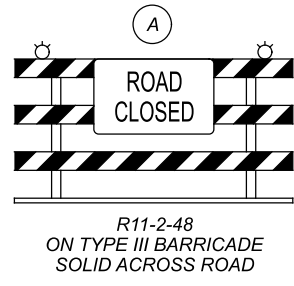
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**MAINTENANCE OF TRAFFIC
PHASE 2A**

CUY - 490 - 1.00

NOTE: PAVEMENT MARKINGS TO REMAIN FROM PREVIOUS PHASES ARE NOT LABELED
FOR LEGEND SEE SHEET 25



CURVE 1 (MOT IR 490W)	CURVE 2 (MOT IR 490W)	CURVE 3 (MOT IR 490E)	CURVE 4 (MOT IR 490E)
P.I. = Sta. 1019+50.94	P.I. = Sta. 1022+55.98	P.I. = Sta. 1021+75.08	P.I. = Sta. 1024+82.54
$\Delta = 11^{\circ}42'41''$ LT	$\Delta = 08^{\circ}49'32''$ RT	$\Delta = 22^{\circ}50'11''$ RT	$\Delta = 05^{\circ}08'21''$ LT
Dc = $03^{\circ}00'00''$	Dc = $04^{\circ}00'00''$	Dc = $04^{\circ}30'00''$	Dc = $04^{\circ}30'00''$
R = 1909.86'	R = 1432.39'	R = 1273.24'	R = 1273.24'
T = 195.87'	T = 110.54'	T = 257.15'	T = 57.14'
L = 390.38'	L = 220.64'	L = 507.47'	L = 114.20'
E = 10.02'	E = 4.26'	E = 25.71'	E = 1.28'

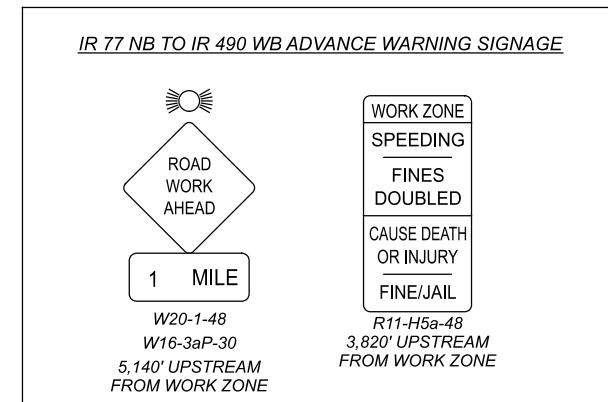
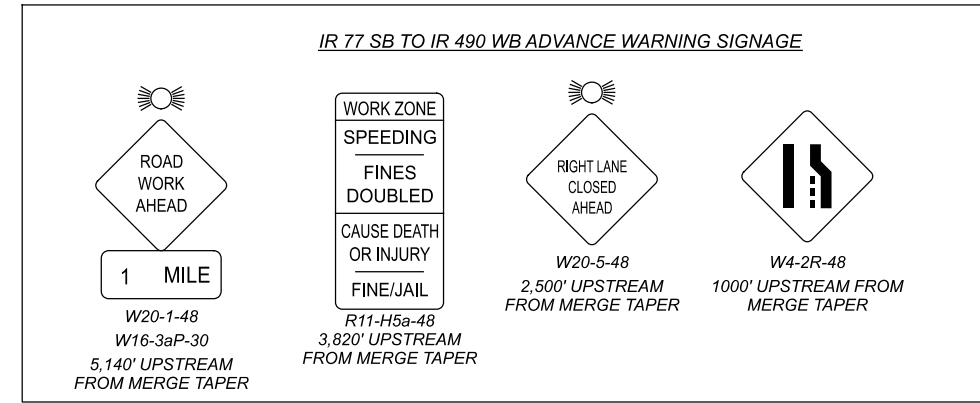
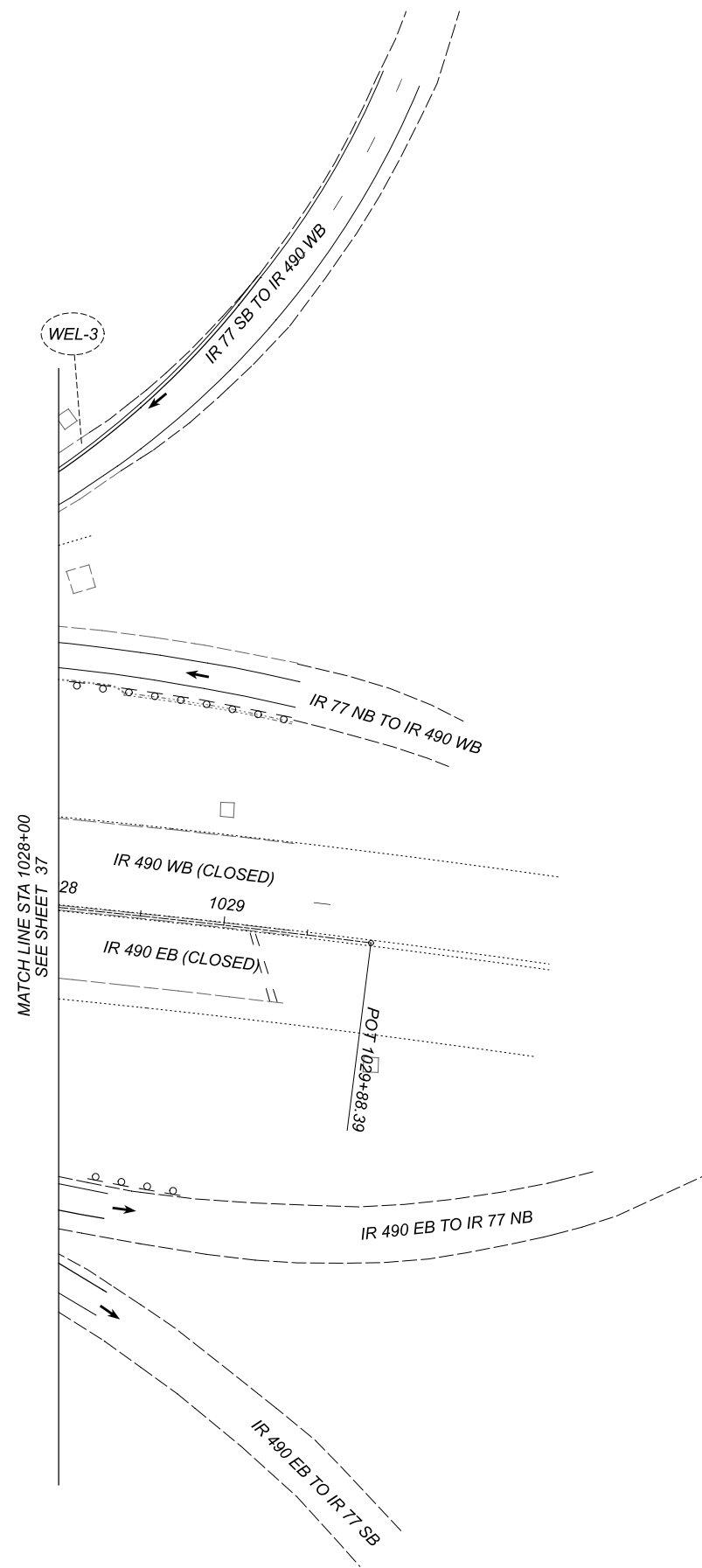
NOTE: PAVEMENT MARKINGS TO REMAIN FROM PREVIOUS PHASES ARE NOT LABELED

FOR LEGEND SEE SHEET 25

MAINTENANCE OF TRAFFIC
PHASE 2A

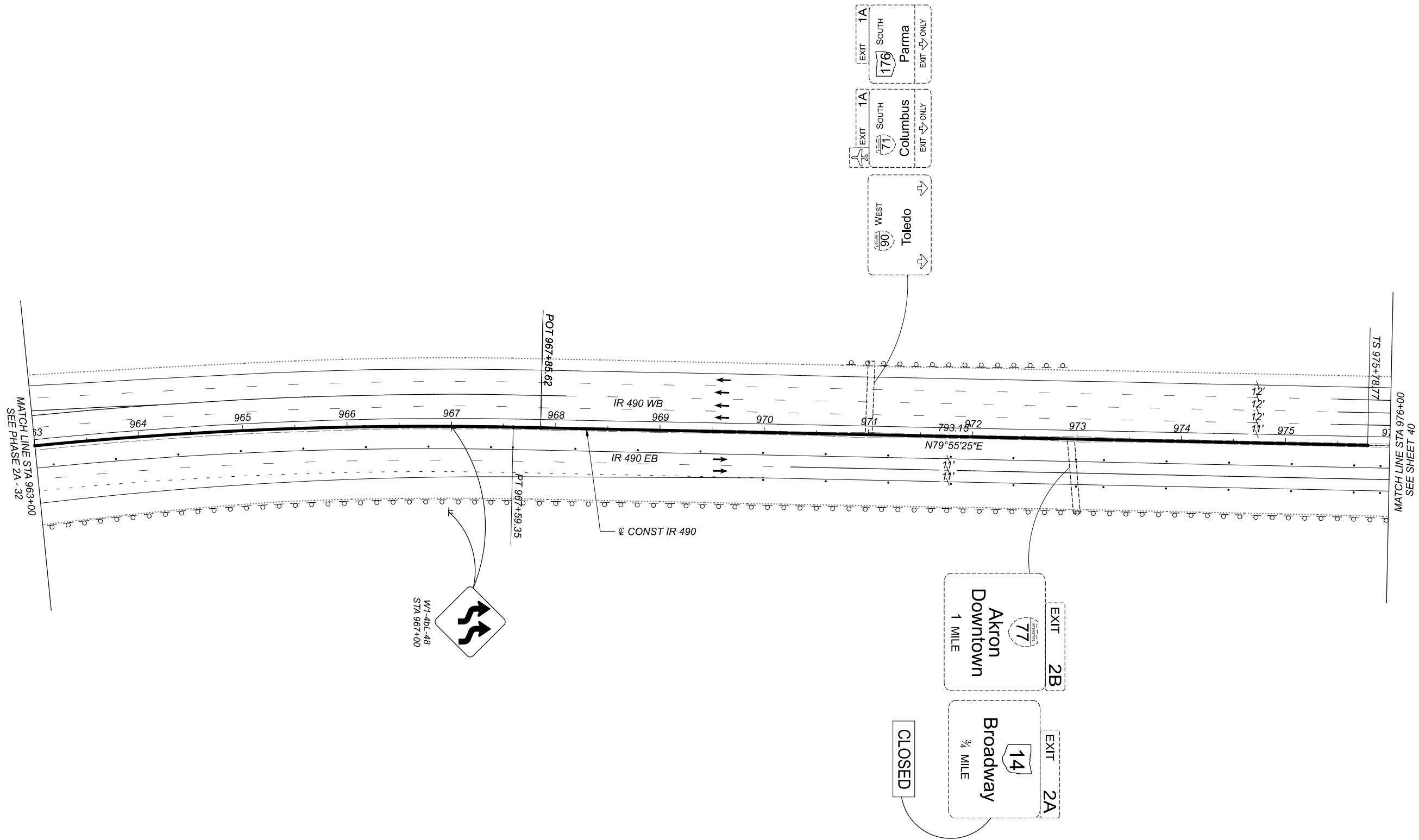
CUY-490-1.00

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**MAINTENANCE OF TRAFFIC
PHASE 2A**

CUY-490-1.00



NOTE: PAVEMENT MARKINGS TO REMAIN FROM PREVIOUS PHASES ARE NOT LABELED

FOR LEGEND SEE SHEET 25

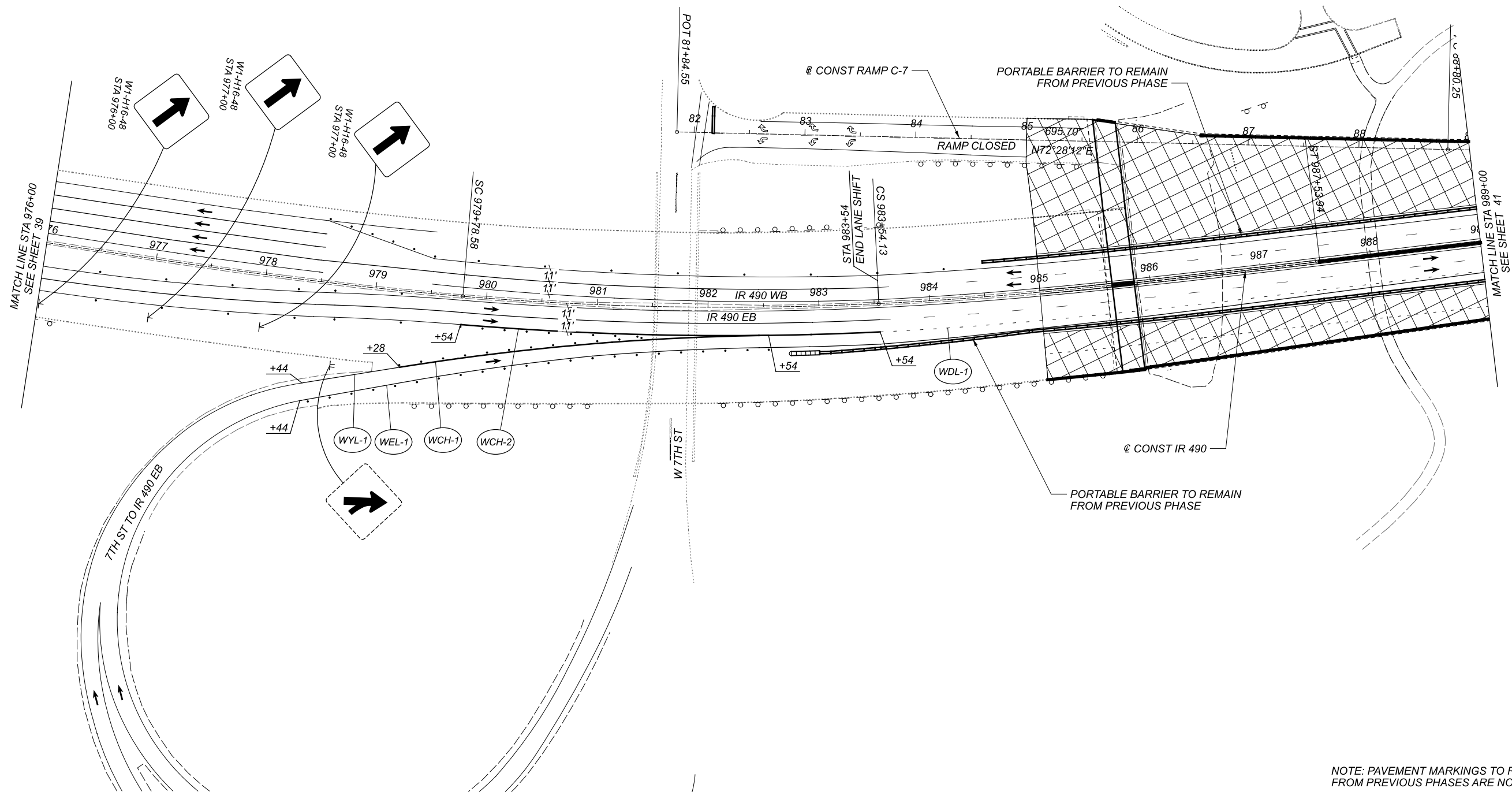
CALCULATED
JRS
CHECKED
VDK

0 25 50 100
HORIZONTAL SCALE IN FEET

**MAINTENANCE OF TRAFFIC
PHASE 2B**

CUY-1-490-400

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CALCULATED
JRS
CHECKED
VDK

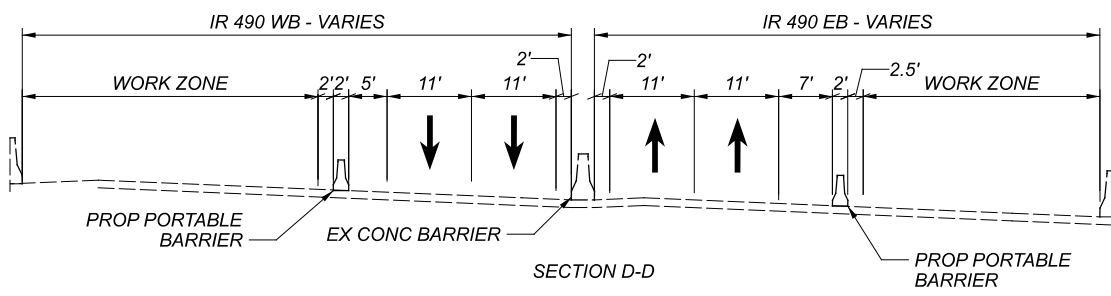
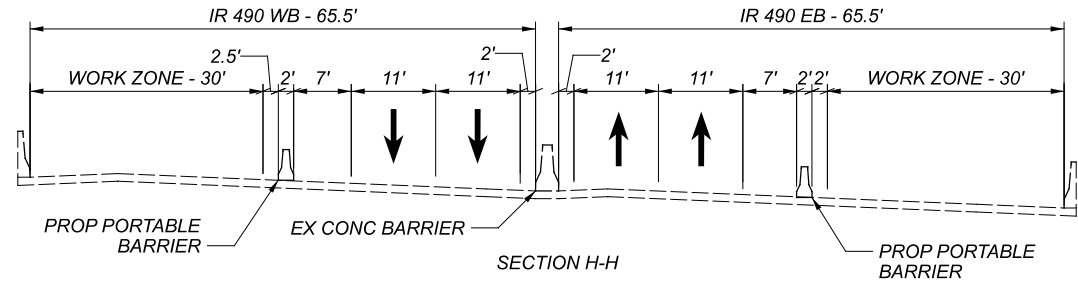
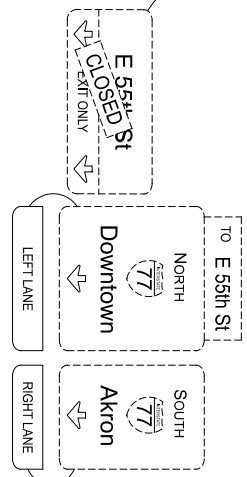
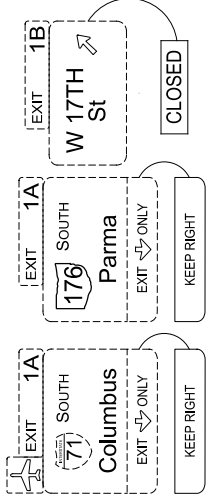
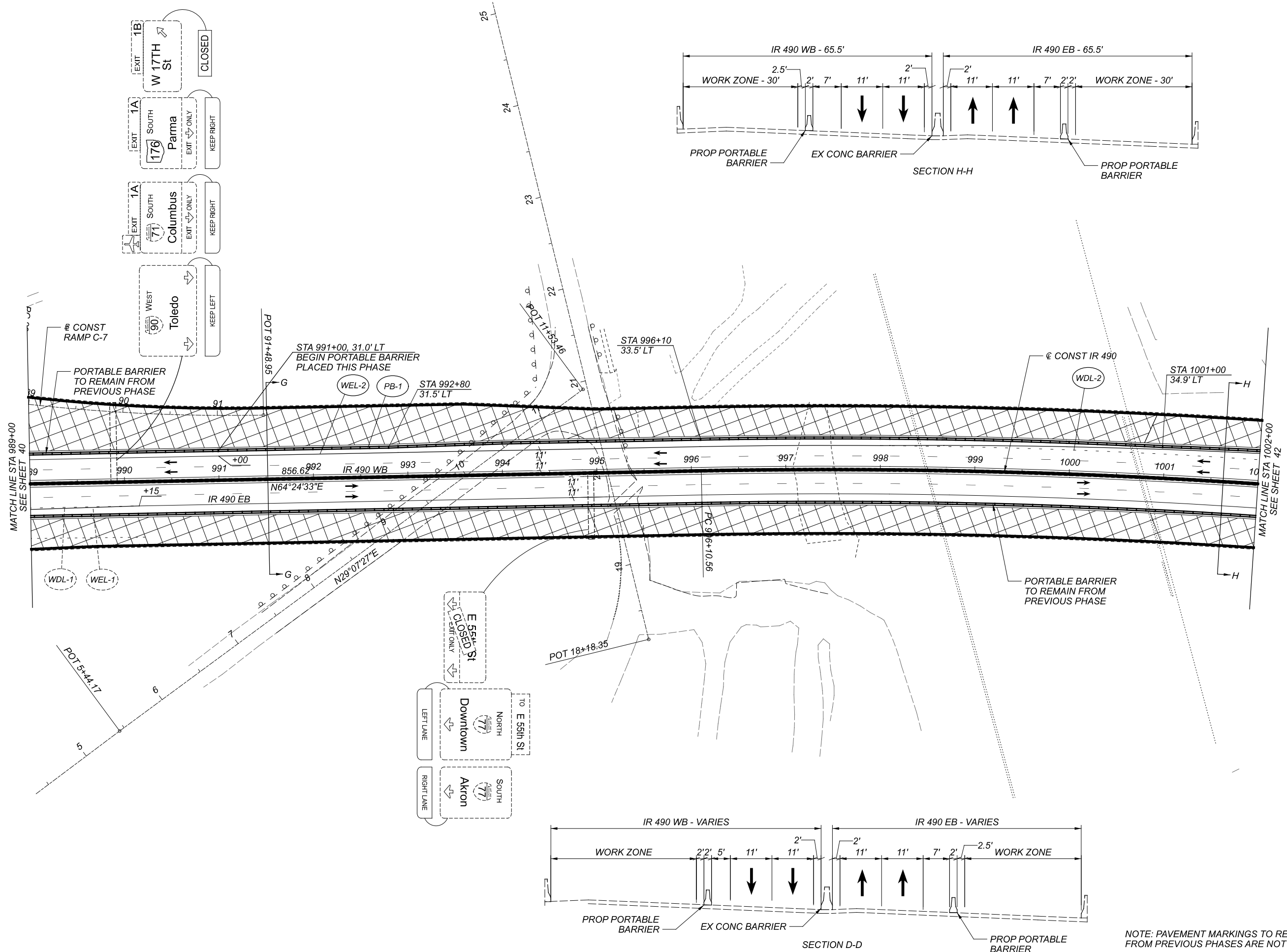
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25
HORIZONTAL
SCALE IN FEET

**MAINTENANCE OF TRAFFIC
PHASE 2B**

CUY - 490 - 1.00

NOTE: PAVEMENT MARKINGS TO REMAIN FROM PREVIOUS PHASES ARE NOT LABELED
FOR LEGEND SEE SHEET 25

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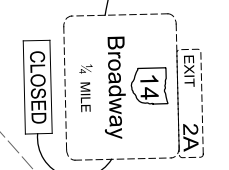
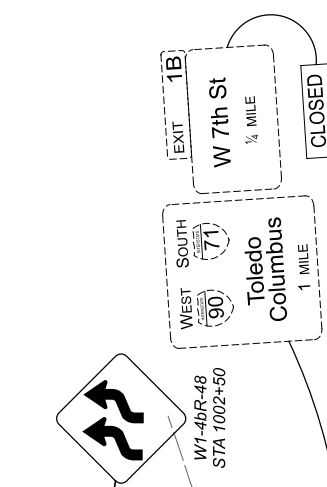
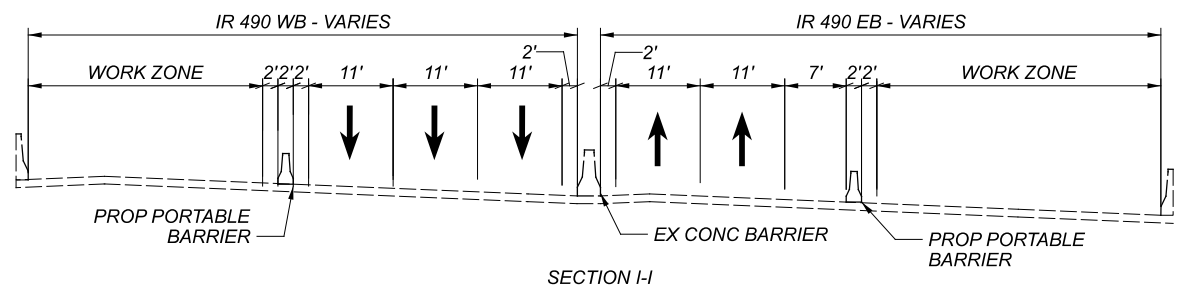
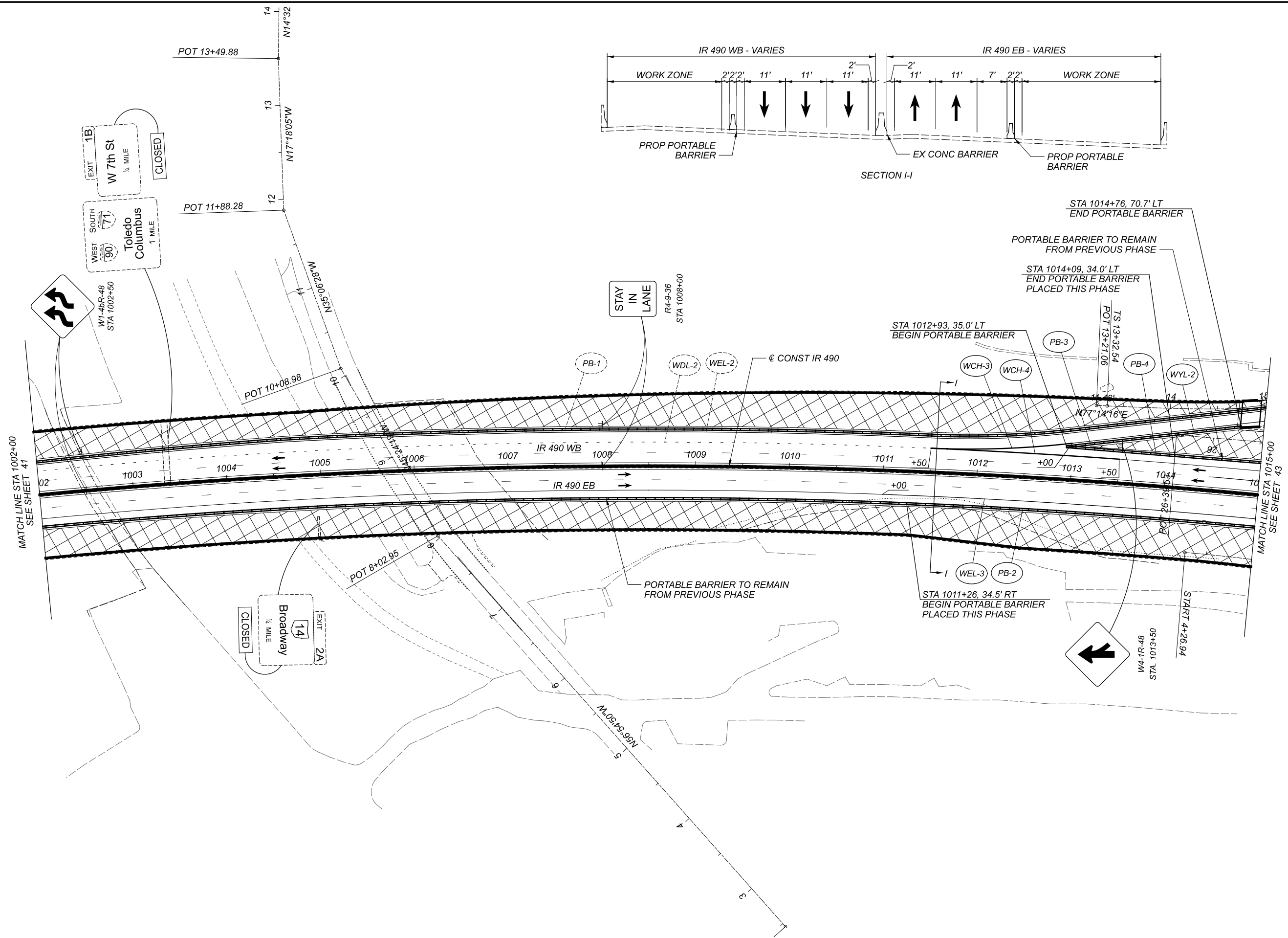
**MAINTENANCE OF TRAFFIC
PHASE 2B**

CUY-490-1.00

NOTE: PAVEMENT MARKINGS TO REMAIN FROM PREVIOUS PHASES ARE NOT LABELED

FOR LEGEND SEE SHEET 25

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CALCULATED JRS
CHECKED VDK

**MAINTENANCE OF TRAFFIC
PHASE 2B**

CUY-490-1.00

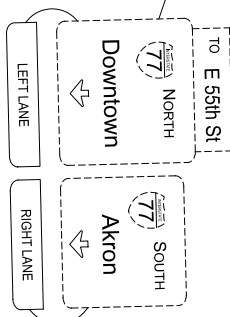
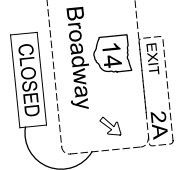
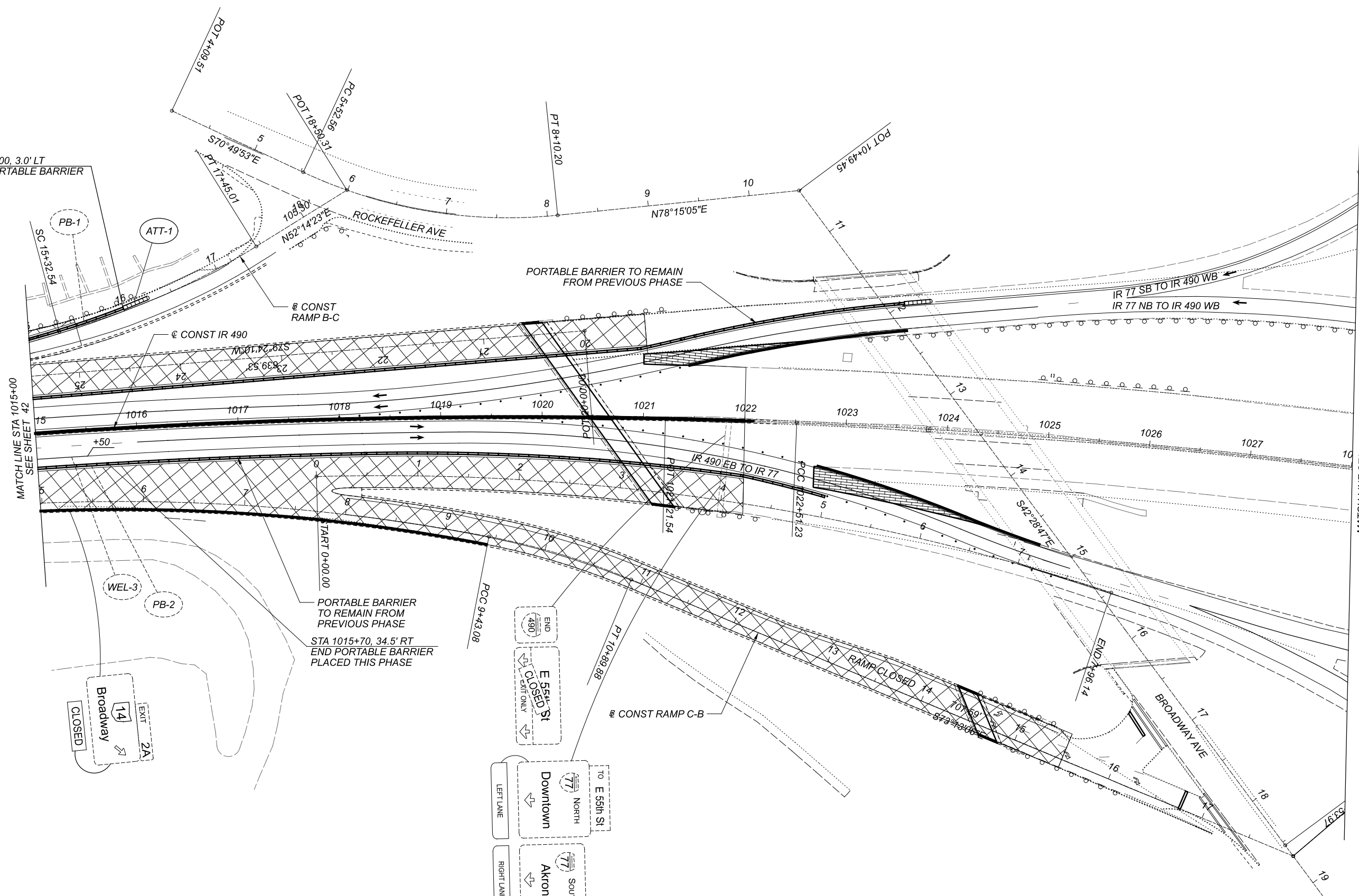
NOTE: PAVEMENT MARKINGS TO REMAIN FROM PREVIOUS PHASES ARE NOT LABELED
FOR LEGEND SEE SHEET 25

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STA 16+00, 3.0' LT
END PORTABLE BARRIER

MATCH LINE STA 1015+00
SEE SHEET 42

MATCH LINE STA 1028+00
SEE PHASE 2A - 38



CALCULATED JRS
CHECKED VDK

0 50 100
HORIZONTAL SCALE IN FEET

**MAINTENANCE OF TRAFFIC
PHASE 2B**

CUY - 490 - 1.00

NOTE: PAVEMENT MARKINGS TO REMAIN FROM PREVIOUS PHASES ARE NOT LABELED

FOR LEGEND SEE SHEET 25

O:\2019\02170.C. Design\CUY\25622\400-Engineering\Roadway\Sheets\25622_GG00.dgn Sheet 8/5/2020 4:53:13 PM AMerrill

SHEET NUM.										PART.	ITEM	ITEM EXT	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
OFFICE CALC	13	14	15	19	46	47	48									
															ROADWAY	
LS											201	11000	LS		CLEARING AND GRUBBING	
					4,066						202	23000	4,066	SY	PAVEMENT REMOVED	
					43						202	30700	43	FT	CONCRETE BARRIER REMOVED	
					546						202	32000	546	FT	CURB REMOVED	
					707						202	38000	707	FT	GUARDRAIL REMOVED	
					1						202	42010	1	EACH	ANCHOR ASSEMBLY REMOVED, TYPE E	
					3						202	42040	3	EACH	ANCHOR ASSEMBLY REMOVED, TYPE T	
					3						202	47000	3	EACH	BRIDGE TERMINAL ASSEMBLY REMOVED	
0.35											209	60500	0.35	MILE	LINEAR GRADING	
					812.5						606	15050	812.5	FT	GUARDRAIL, TYPE MGS	
					2						606	26150	2	EACH	ANCHOR ASSEMBLY, MGS TYPE E	
					3						606	26550	3	EACH	ANCHOR ASSEMBLY, MGS TYPE T	
					3						606	35002	3	EACH	MGS BRIDGE TERMINAL ASSEMBLY, TYPE 1	
					3						606	35102	3	EACH	MGS BRIDGE TERMINAL ASSEMBLY, TYPE 2	
					2						622	10201	2	EACH	BARRIER TRANSITION, AS PER PLAN	13
															EROSION CONTROL	
	2										659	00100	2	EACH	SOIL ANALYSIS TEST	
	185										659	00300	185	CY	TOPSOIL	
	1,660										659	10000	1,660	SY	SEEDING AND MULCHING	
	83										659	14000	83	SY	REPAIR SEEDING AND MULCHING	
	83										659	15000	83	SY	INTER-SEEDING	
	0.23										659	20000	0.23	TON	COMMERCIAL FERTILIZER	
	0.34										659	31000	0.34	ACRE	LIME	
	10										659	35000	10	MGAL	WATER	
	4										659	40000	4	MSF	MOWING	
25,000											832	30000	25,000	EACH	EROSION CONTROL	
															DRAINAGE	
					1,147						605	14000	1,147	FT	6" BASE PIPE UNDERDRAINS	
															PAVEMENT	
	50					4,070					204	10000	4,120	SY	SUBGRADE COMPACTION	
	2										204	45000	2	HOUR	PROOF ROLLING	
						2,250					255	20000	2,250	FT	FULL DEPTH PAVEMENT SAWING	
						1,130					301	46000	1,130	CY	ASPHALT CONCRETE BASE, PG64-22	
	10					679					304	20000	689	CY	AGGREGATE BASE	
						488					407	20000	488	GAL	NON-TRACKING TACK COAT, SEE TABLE 407.06-1 FOR APPLICATION RATE	
						170					442	20000	170	CY	ASPHALT CONCRETE SURFACE COURSE, 12.5 MM, TYPE A (448)	
						198					442	20200	198	CY	ASPHALT CONCRETE INTERMEDIATE COURSE, 19 MM, TYPE A (448)	
					568						609	24510	568	FT	CURB, TYPE 4-C	

GENERAL SUMMARY

CUY - 490 - 1.00

ROADWAY SUBSUMMARY																					
SHEET NO.	REFERENCE NO.	LOCATION	STATION		SIDE	202						605		606					609	622	
						PAVEMENT REMOVED	CONCRETE BARRIER REMOVED	GUARDRAIL REMOVED	CURB REMOVED	ANCHOR ASSEMBLY REMOVED, TYPE E	ANCHOR ASSEMBLY REMOVED, TYPE T	BRIDGE TERMINAL ASSEMBLY REMOVED	6" BASE PIPE UNDERDRAINS	GUARDRAIL, TYPE MGS	ANCHOR ASSEMBLY, MGS TYPE E	ANCHOR ASSEMBLY, MGS TYPE T	MGS BRIDGE TERMINAL ASSEMBLY, TYPE 1	MGS BRIDGE TERMINAL ASSEMBLY, TYPE 2	CURB, TYPE 4-C	BARRIER TRANSITION, AS PER PLAN	
			SY	FT		FT	FT	EA	EA	EA	FT	FT	EA	EA	EA	EA	EA	FT	EA		
			FROM	TO																	
49	C-1	RAMP C-7	85+00	85+59	LT				45											45	
49	C-2	RAMP C-7	85+00	85+56	RT				56											56	
49	C-3	IR 490	985+00	985+64	LT				50											43	
49	C-4	IR 490	985+00	985+67	RT				58											68	
49	GR-1	IR 490	983+99	985+76	RT			164			1		150.0			1					
49	UD-1	RAMP C-7	85+00	85+65	RT							64									
49	UD-2	IR 490	985+00	985+65	LT							153									
49	UD-3	IR 490	985+00	985+66	LT/RT							178									
49	UD-4	IR 490	985+00	985+67	RT							68									
49	CB-1	IR 490	985+45	985+65	CL																
49	R-1	RAMP C-7	85+00	85+65	LT/RT	269															1
49	R-2	IR 490	985+00	985+65	LT	468															
49	R-3	IR 490	985+00	985+67	RT	570															
49	R-4	IR 490	985+45	985+65	CL		20														
50	C-1	IR 490	1019+98	1020+99	LT				101											101	
50	C-2	IR 490	1021+31	1022+00	RT				35											49	
50	GR-1	IR 490	1019+98	1022+67	LT			112		1		1	200.0	1		1					
50	GR-2	IR 490	1021+30	1022+14	RT			87			1		75.0		1		1				
50	CB-1	IR 490	1020+67	1020+90	CL																1
50	R-1	IR 490	1019+98	1022+00	LT	1322															
50	R-2	IR 490	1020+67	1022+00	RT	954															
50	R-3	IR 490	1020+67	1020+90	CL		23														
50	UD-1	IR 490	1020+06	1021+00	LT							95									
50	UD-2	IR 490	1020+25	1021+03	LT							79									
50	UD-3	IR 490	1020+34	1022+00	LT							168									
50	UD-4	IR 490	1020+64	1022+00	LT							136									
50	UD-5	IR 490	1021+23	1022+00	RT							77									
51	C-1	RAMP B-C	14+98	15+50	LT				52											52	
51	GR-1	RAMP B-C	14+90	17+57	LT																
51	R-1	RAMP B-C	14+94	15+50	LT/RT	162		129			1		187.5	1		1					
51	UD-1	RAMP B-C	14+94	15+50	RT							57									
52	C-1	RAMP C-B	14+49	15+50	LT				97											102	
52	C-2	RAMP C-B	14+84	15+50	RT				52											52	
52	GR-1	RAMP C-B	14+46	15+35	LT						1		75.0		1		1				
52	GR-2	RAMP C-B	14+82	16+16	RT						1		125.0		1		1				
52	R-1	RAMP C-B	14+49	15+50	LT/RT	321															
52	UD-1	RAMP C-B										25									
52	UD-2	RAMP C-B										47									
TOTALS CARRIED TO GENERAL SUMMARY						4066	43	707	546	1	3	3	1147	812.5	2	3	3	3	568	2	

PAVEMENT CALCULATIONS											
STATION TO STATION	SIDE	MATERIAL	CAD MEASURED AREAS - SUBGRADE	CAD MEASURED AREAS - PAVEMENT	204	255	301	304	407	442	
					SUBGRADE COMPACTION	FULL DEPTH PAVEMENT SAWING	10" ASPHALT CONCRETE BASE, PG64-22	6" AGGREGATE BASE	NON-TRACKING TACK COAT SEE TABLE 407.06-1 FOR APPLICATION RATE	1.50" ASPHALT CONCRETE SURFACE COURSE, 12.5MM, TYPE A (448)	1.75" ASPHALT CONCRETE INTERMEDIATE COURSE, 19MM, TYPE A (448)
					SQ FT	SQ FT	SQ YD	FT	CU YD	CU YD	GAL
RAMP C-7											
STA 85+00.00 TO STA 85+61.97	LT/RT	ASPHALT	2674	2426	297	235	75	45	32	11	13
EASTBOUND I-490											
STA 985+00 TO STA 85+65.39	RT	ASPHALT	5226	5124	581	325	158	95	68	24	28
WESTBOUND I-490											
STA 985+00 TO STA 85+65.39	LT	ASPHALT	4315	4213	479	380	130	78	56	20	23
RAMP B-C											
STA 14+96.55 TO STA 15+50.00	LT/RT	ASPHALT	1619	1455	180	125	45	27	19	7	8
EASTBOUND I-490											
STA 1020+67.19 TO STA 1022+00.00	RT	ASPHALT	8693	8590	966	430	265	159	115	40	46
WESTBOUND I-490											
STA 1020+67.19 TO STA 1022+00.00	LT	ASPHALT	12083	11932	1343	465	368	221	159	55	64
RAMP C-B											
STA 14+75.44 TO STA 15+50.00	LT/RT	ASPHALT	3142	2890	349	290	89	54	39	13	16
TOTAL CARRIED TO GENERAL SUMMARY					4195	2250	1130	679	488	170	198

SIGNING SUBSUMMARY												
SHEET NO.	REFERENCE NO.	LOCATION	STATION	SIDE	CODE	SIZE (INCHES)		630	630	630	630	
						W	H	GROUND MOUNTED SUPPORT, NO. 3 POST	SIGN, FLAT SHEET	REMOVAL OF GROUND MOUNTED SIGN AND DISPOSAL	REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL	
						LIN FT	SQ FT	EACH	EACH			
55	S-1	I-490	985+45	LT	R5-1	48	x	48	34.0	16.0		
55	S-2	I-490	985+55	RT	R5-1A	42	x	30	31.0	8.8		
55	R-1	I-490	985+67	LT	E5-H1a	72	x	60			2	2
55	R-2	I-490	985+77	RT							1	2
SHEET TOTALS CARRIED TO GENERAL SUMMARY								65.0	54.8	3	4	

CALCULATED
MRO
CHECKED
ARM

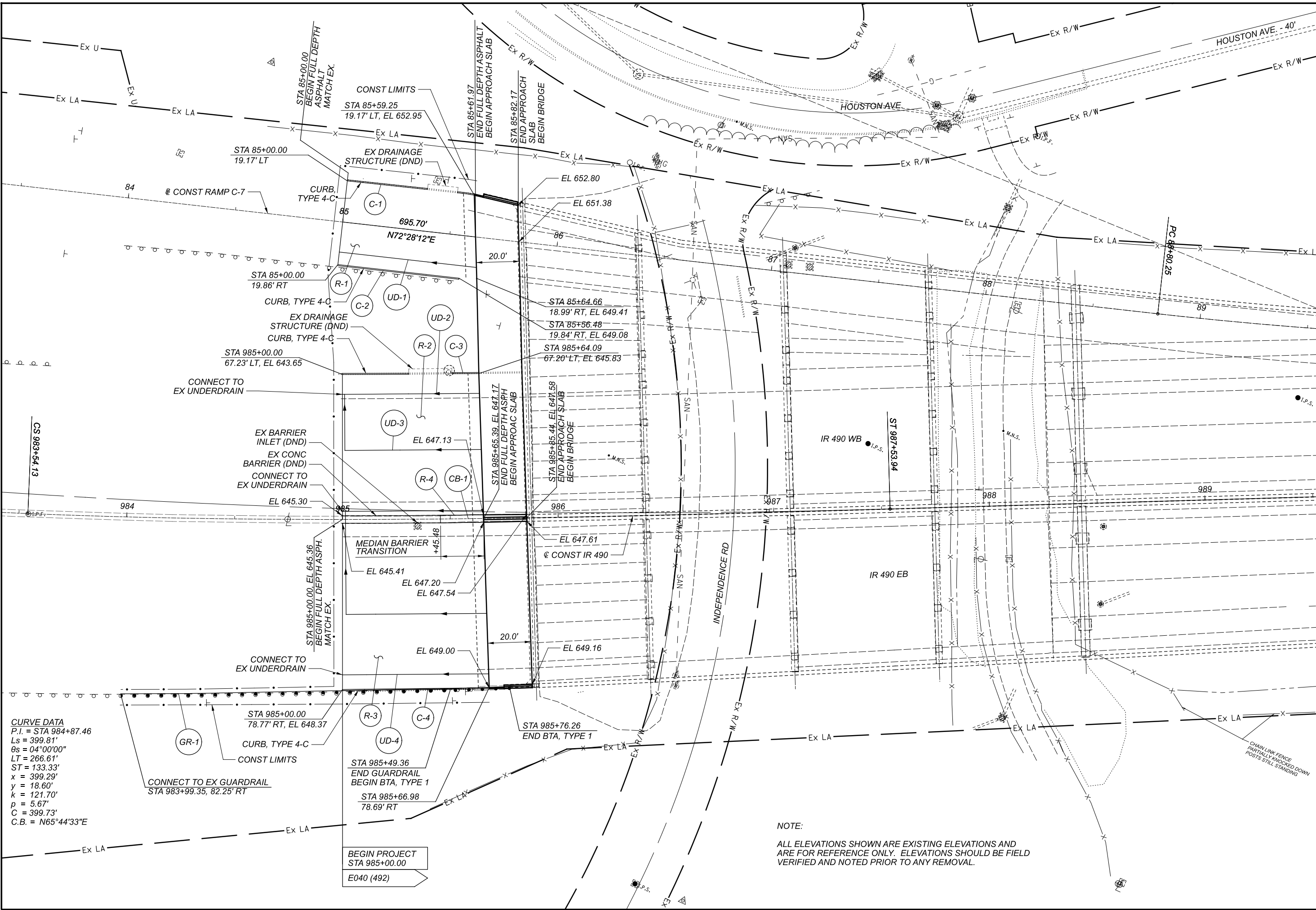
PAVEMENT CALCULATIONS AND SIGNING SUBSUMMARY

CUY - 490 - 1.00

PAVEMENT MARKING SUBSUMMARY table with columns: SHEET NO., REFERENCE NO., LOCATION, STATION (FROM TO), SIDE, and various marking types (RPM, RAISED PAVEMENT MARKER REMOVED, CHANNELIZING LINE, etc.) with numerical values.

PAVEMENT MARKING SUBSUMMARY table with columns: SHEET NO., REFERENCE NO., LOCATION, STATION (FROM TO), SIDE, and various marking types (RPM, RAISED PAVEMENT MARKER REMOVED, CHANNELIZING LINE, etc.) with numerical values, including a SHEET TOTALS row.

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CURVE DATA
P.I. = STA 984+87.46
Ls = 399.81'
Bs = 04°00'00"
LT = 266.61'
ST = 133.33'
x = 399.29'
y = 18.60'
k = 121.70'
p = 5.67'
C = 399.73'
C.B. = N65°44'33"E

CONNECT TO EX GUARDRAIL
STA 983+99.35, 82.25' RT

BEGIN PROJECT
STA 985+00.00
E040 (492)

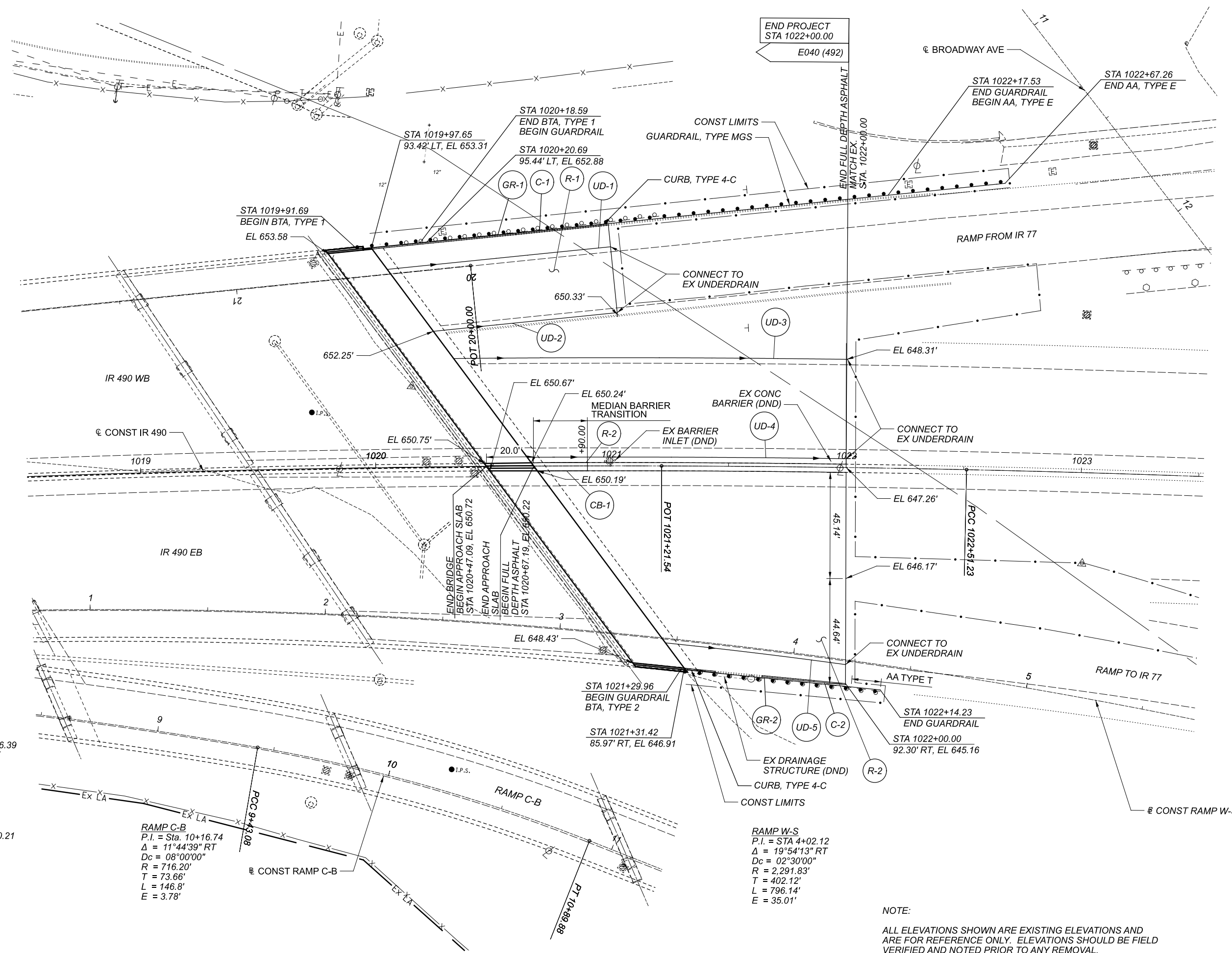
NOTE:
ALL ELEVATIONS SHOWN ARE EXISTING ELEVATIONS AND ARE FOR REFERENCE ONLY. ELEVATIONS SHOULD BE FIELD VERIFIED AND NOTED PRIOR TO ANY REMOVAL.

CALCULATED
KEM
CHECKED
RDC

0 20 40
10
HORIZONTAL
SCALE IN FEET

PLAN - IR 490 - STA 984+00 TO STA 989+00
(WEST END OF BRIDGE)

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IR 490
 P.I. = Sta. 1021+86.39
 $\Delta = 01^{\circ}04'52''$ RT
 $D_c = 00^{\circ}50'01''$
 $R = 6,872.29'$
 $T = 64.85'$
 $L = 129.69'$
 $E = 0.31'$

IR 490
 P.I. = Sta. 1008+80.21
 $\Delta = 20^{\circ}56'05''$ RT
 $D_c = 00^{\circ}50'01''$
 $R = 6,872.29'$
 $T = 1,269.65'$
 $L = 2,510.98'$
 $E = 116.3'$

RAMP C-B
 P.I. = Sta. 10+16.74
 $\Delta = 11^{\circ}44'39''$ RT
 $D_c = 08^{\circ}00'00''$
 $R = 716.20'$
 $T = 73.66'$
 $L = 146.8'$
 $E = 3.78'$

RAMP W-S
 P.I. = STA 4+02.12
 $\Delta = 19^{\circ}54'13''$ RT
 $D_c = 02^{\circ}30'00''$
 $R = 2,291.83'$
 $T = 402.12'$
 $L = 796.14'$
 $E = 35.01'$

NOTE:
 ALL ELEVATIONS SHOWN ARE EXISTING ELEVATIONS AND ARE FOR REFERENCE ONLY. ELEVATIONS SHOULD BE FIELD VERIFIED AND NOTED PRIOR TO ANY REMOVAL.



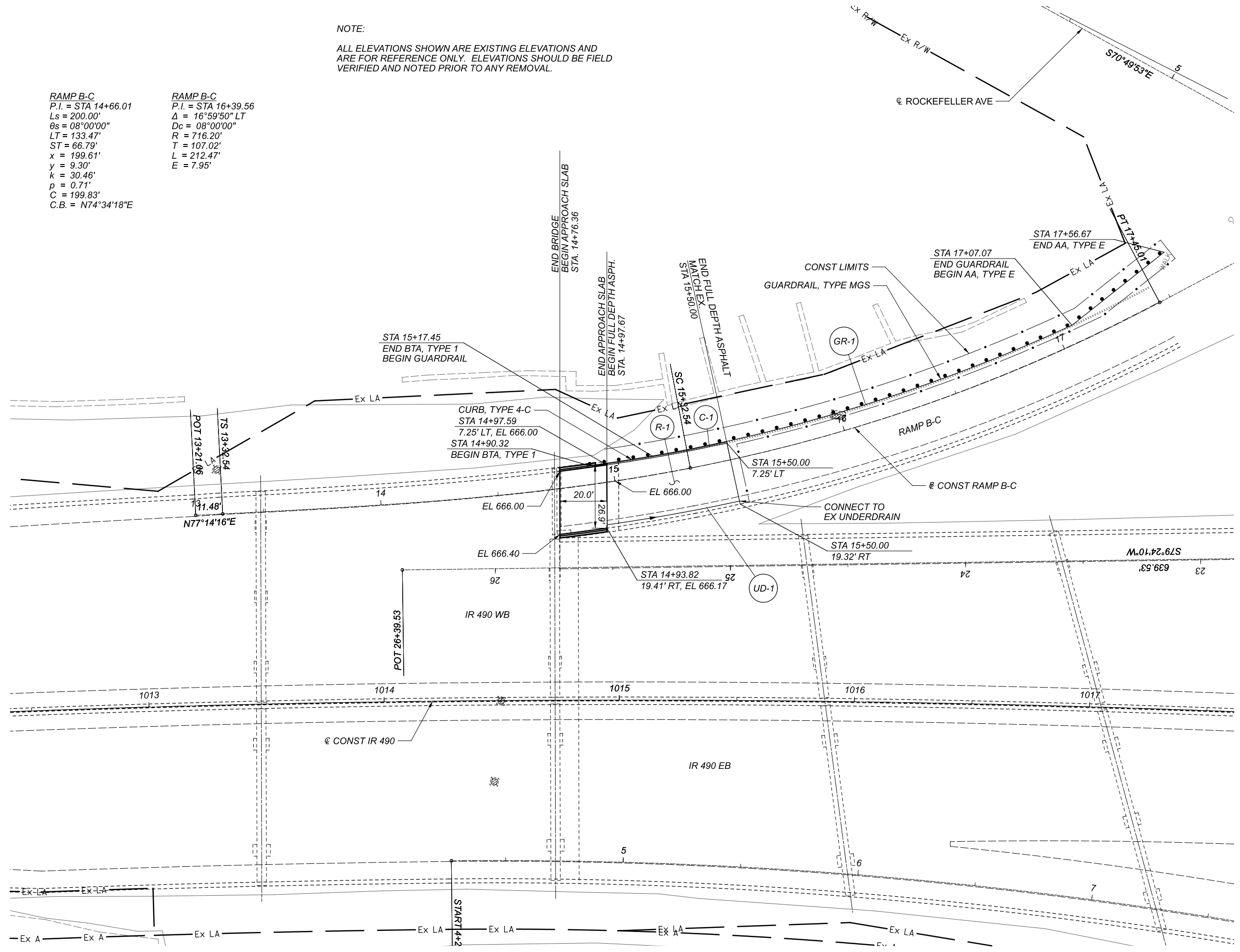
CALCULATED KEM CHECKED RDC
PLAN - IR 490 - STA 1018+50 TO STA 1023+50 (EAST END OF BRIDGE)

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NOTE:
 ALL ELEVATIONS SHOWN ARE EXISTING ELEVATIONS AND ARE FOR REFERENCE ONLY. ELEVATIONS SHOULD BE FIELD VERIFIED AND NOTED PRIOR TO ANY REMOVAL.

RAMP B-C
 P.I. = STA 14+66.01
 Ls = 200.00'
 θs = 08°00'00"
 LT = 133.47'
 ST = 66.79'
 x = 199.61'
 y = 9.30'
 k = 30.46'
 p = 0.71'
 C = 199.83'
 C.B. = N74°34'18"E

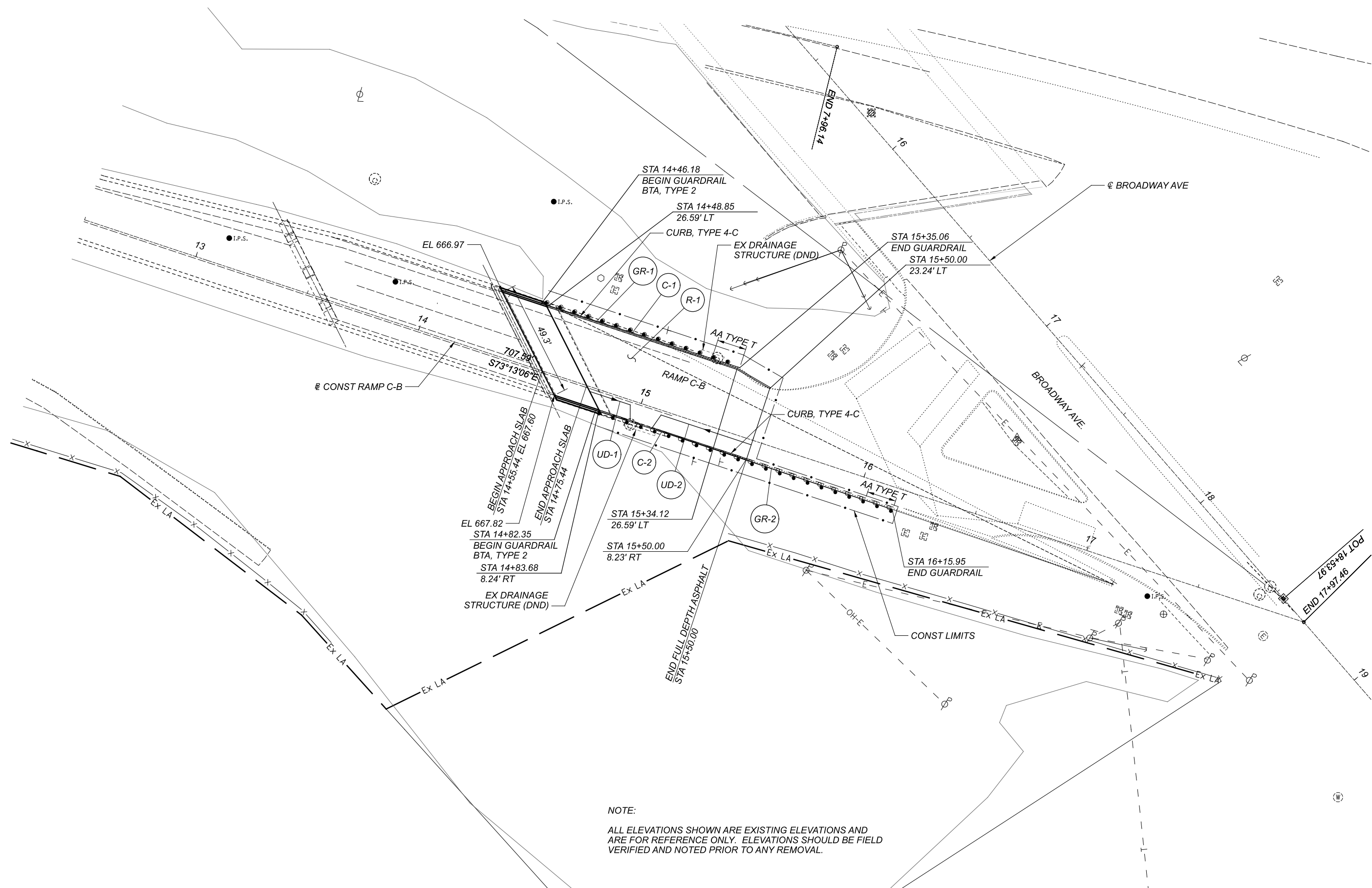
RAMP B-C
 P.I. = STA 16+39.56
 Δ = 16°59'50" LT
 Dc = 08°00'00"
 R = 716.20'
 T = 107.02'
 L = 212.47'
 E = 7.95'



PLAN
 RAMP B-C

CUY-490-1.00

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NOTE:
 ALL ELEVATIONS SHOWN ARE EXISTING ELEVATIONS AND
 ARE FOR REFERENCE ONLY. ELEVATIONS SHOULD BE FIELD
 VERIFIED AND NOTED PRIOR TO ANY REMOVAL.

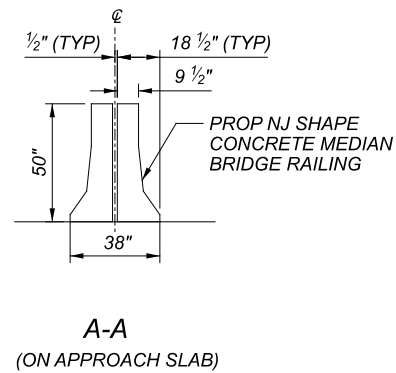
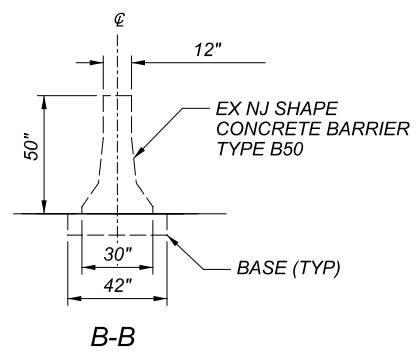
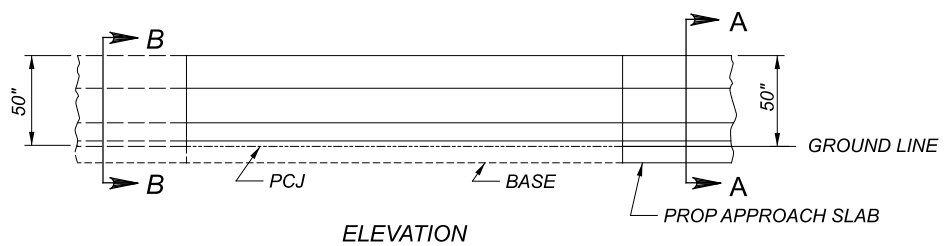
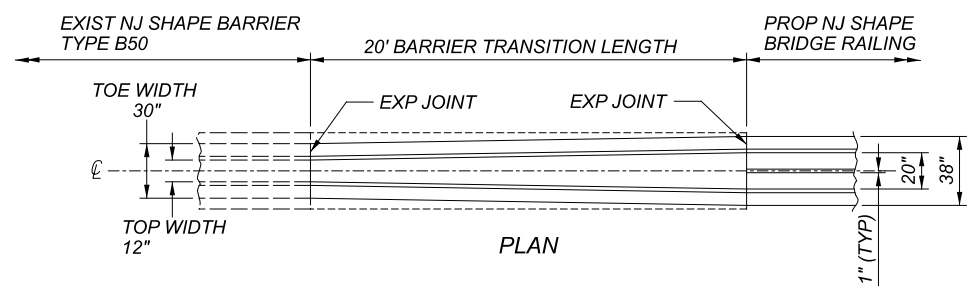
CALCULATED
 KEM
 CHECKED
 RDC

0 20 40
 HORIZONTAL
 SCALE IN FEET

PLAN
 RAMP C-B

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BARRIER TRANSITION, AS PER PLAN

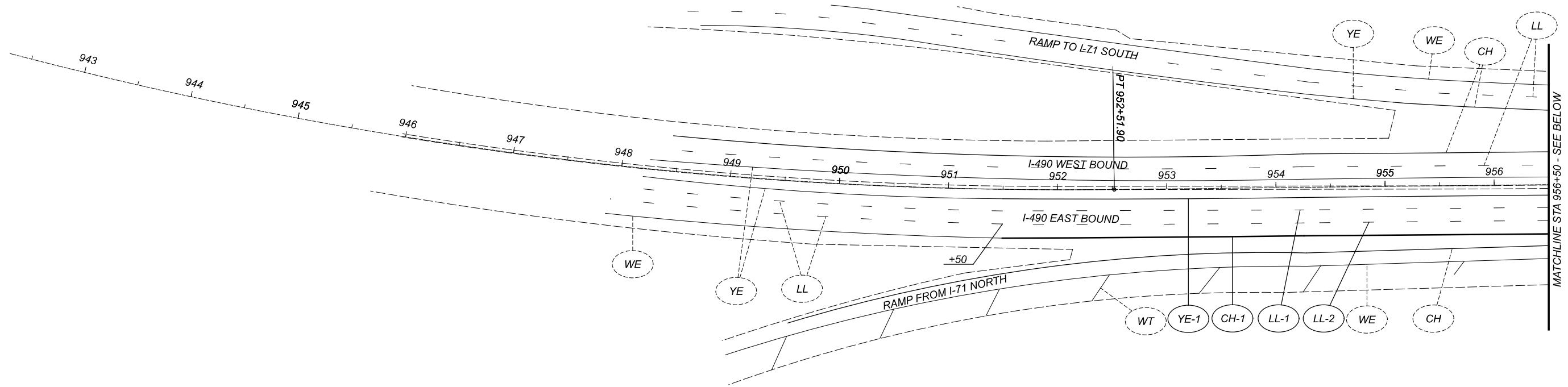


CALCULATED
JRS
CHECKED
VDK

ROADWAY DETAILS
BARRIER TRANSITION, AS PER PLAN

CUY - 490 - 1.00

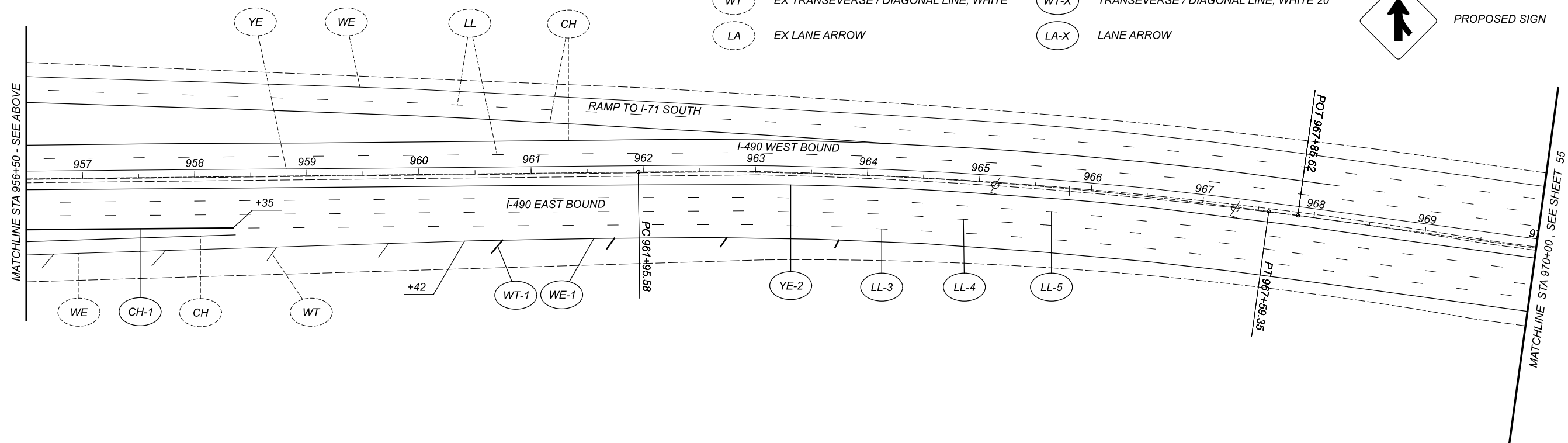
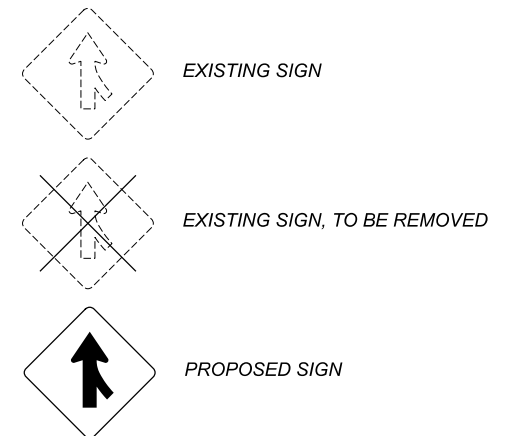
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NOTE:
SEE TYPICAL SECTIONS FOR LANE WIDTHS

- | | | | |
|----|--------------------------------------|------|---------------------------------------|
| CH | EX CHANNELIZING LINE | CH-X | CHANNELIZING LINE, 12" |
| DL | EX DOTTED LINE, WHITE | DL-X | DOTTED LINE, WHITE 5" |
| WE | EX EDGE LINE, WHITE | WE-X | EDGE LINE, WHITE 6" |
| YE | EX EDGE LINE, YELLOW | YE-X | EDGE LINE, YELLOW 6" |
| LL | EX LANE LINE, WHITE | LL-X | LANE LINE, WHITE 5" |
| WT | EX TRANSVERSE / DIAGONAL LINE, WHITE | WT-X | TRANSVERSE / DIAGONAL LINE, WHITE 20" |
| LA | EX LANE ARROW | LA-X | LANE ARROW |

LEGEND



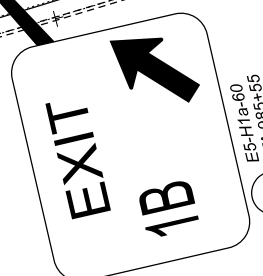
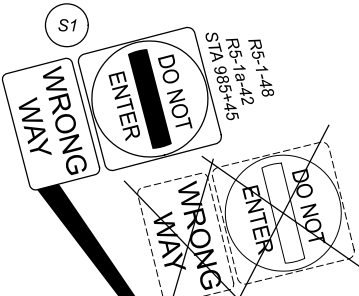
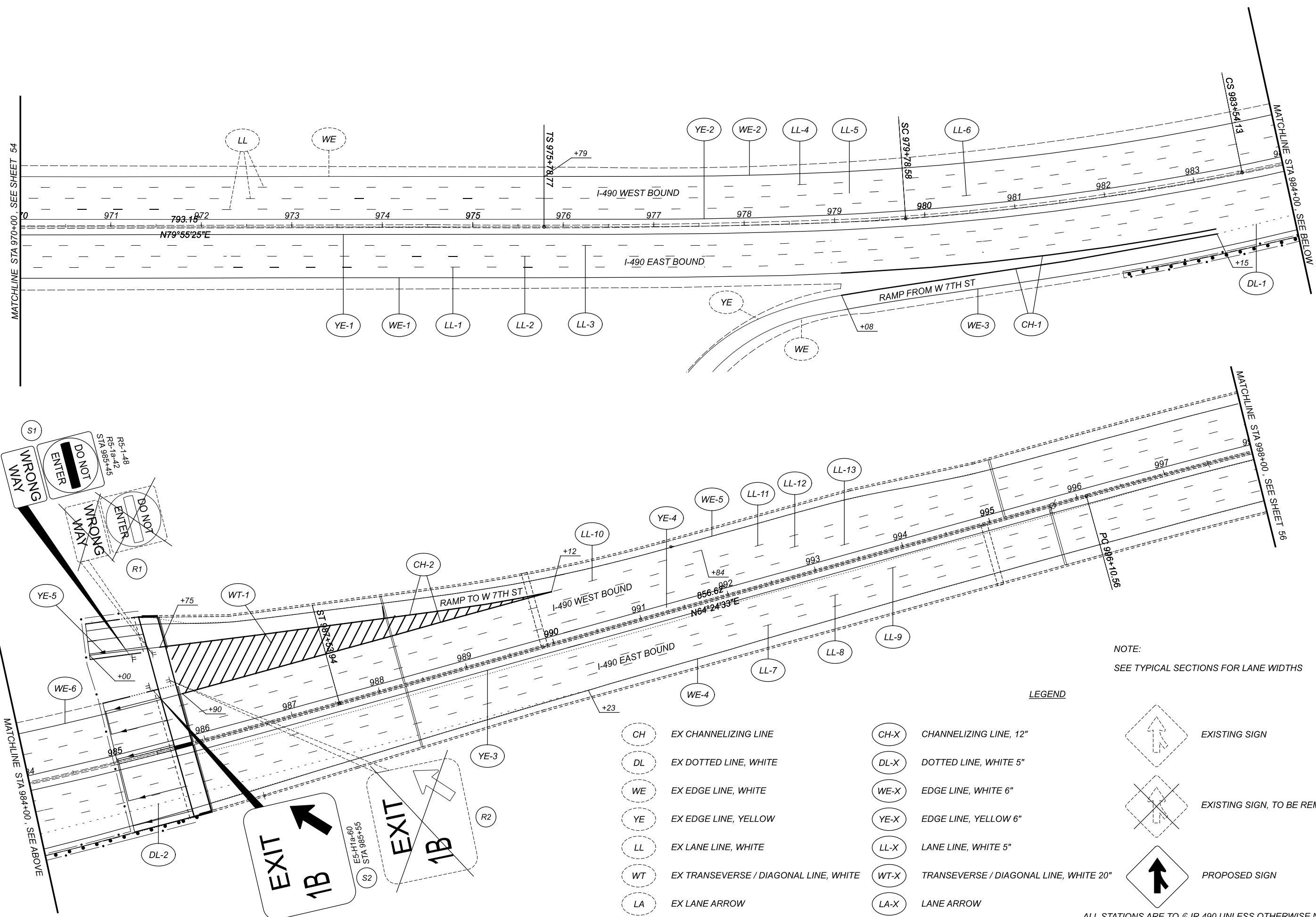
ALL STATIONS ARE TO € IR 490 UNLESS OTHERWISE NOTED.



SIGNING AND PAVEMENT MARKINGS
IR 490

CUY - 490 - 1.00

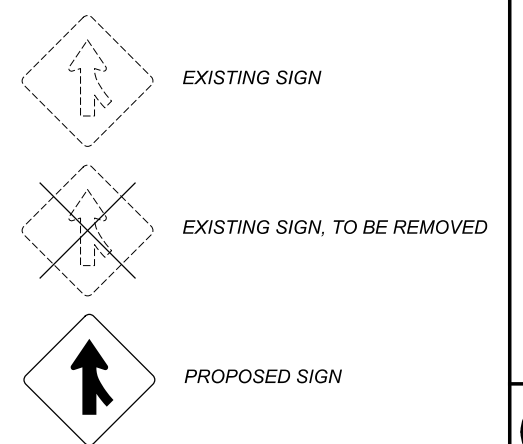
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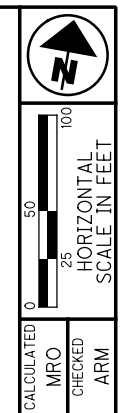
NOTE:
SEE TYPICAL SECTIONS FOR LANE WIDTHS

(CH)	EX CHANNELIZING LINE	(CH-X)	CHANNELIZING LINE, 12"
(DL)	EX DOTTED LINE, WHITE	(DL-X)	DOTTED LINE, WHITE 5"
(WE)	EX EDGE LINE, WHITE	(WE-X)	EDGE LINE, WHITE 6"
(YE)	EX EDGE LINE, YELLOW	(YE-X)	EDGE LINE, YELLOW 6"
(LL)	EX LANE LINE, WHITE	(LL-X)	LANE LINE, WHITE 5"
(WT)	EX TRANSVERSE / DIAGONAL LINE, WHITE	(WT-X)	TRANSVERSE / DIAGONAL LINE, WHITE 20"
(LA)	EX LANE ARROW	(LA-X)	LANE ARROW

LEGEND



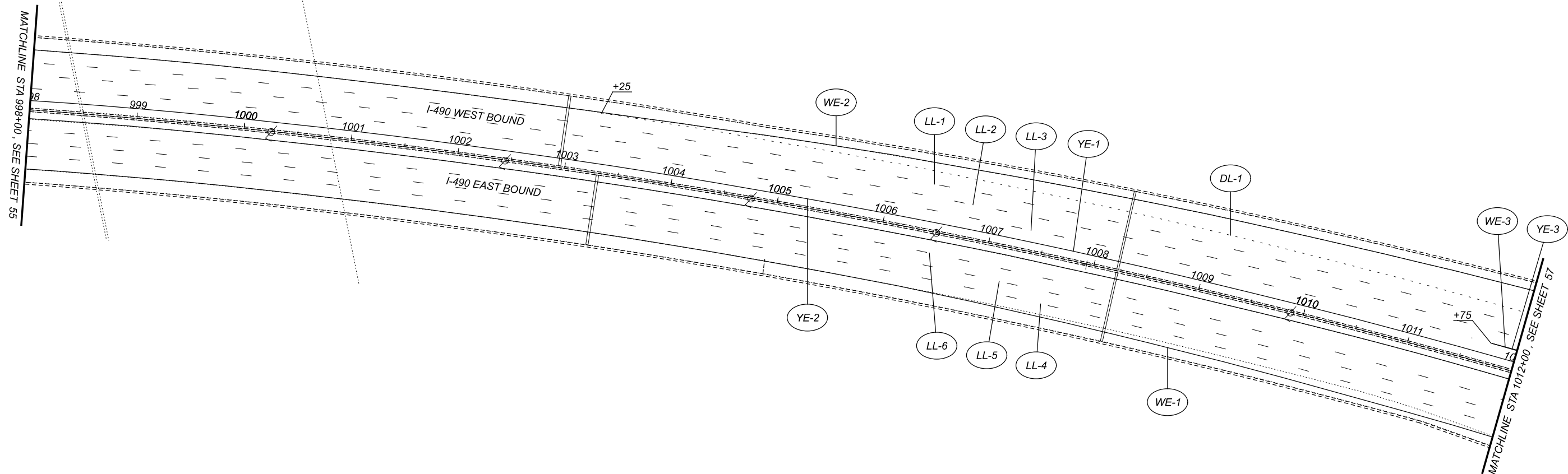
ALL STATIONS ARE TO € IR 490 UNLESS OTHERWISE NOTED.



**SIGNING AND PAVEMENT MARKINGS
IR 490**


















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NOTE:
SEE TYPICAL SECTIONS FOR LANE WIDTHS

LEGEND

 CH	EX CHANNELIZING LINE	 CH-X	CHANNELIZING LINE, 12"		EXISTING SIGN
 DL	EX DOTTED LINE, WHITE	 DL-X	DOTTED LINE, WHITE 5"		EXISTING SIGN, TO BE REMOVED
 WE	EX EDGE LINE, WHITE	 WE-X	EDGE LINE, WHITE 6"		PROPOSED SIGN
 YE	EX EDGE LINE, YELLOW	 YE-X	EDGE LINE, YELLOW 6"		
 LL	EX LANE LINE, WHITE	 LL-X	LANE LINE, WHITE 5"		
 WT	EX TRANVERSE / DIAGONAL LINE, WHITE	 WT-X	TRANVERSE / DIAGONAL LINE, WHITE 20"		
 LA	EX LANE ARROW	 LA-X	LANE ARROW		

ALL STATIONS ARE TO @ IR 490 UNLESS OTHERWISE NOTED.

CALCULATED
MRO
CHECKED
ARM

HORIZONTAL SCALE IN FEET

SIGNING AND PAVEMENT MARKINGS
IR 490

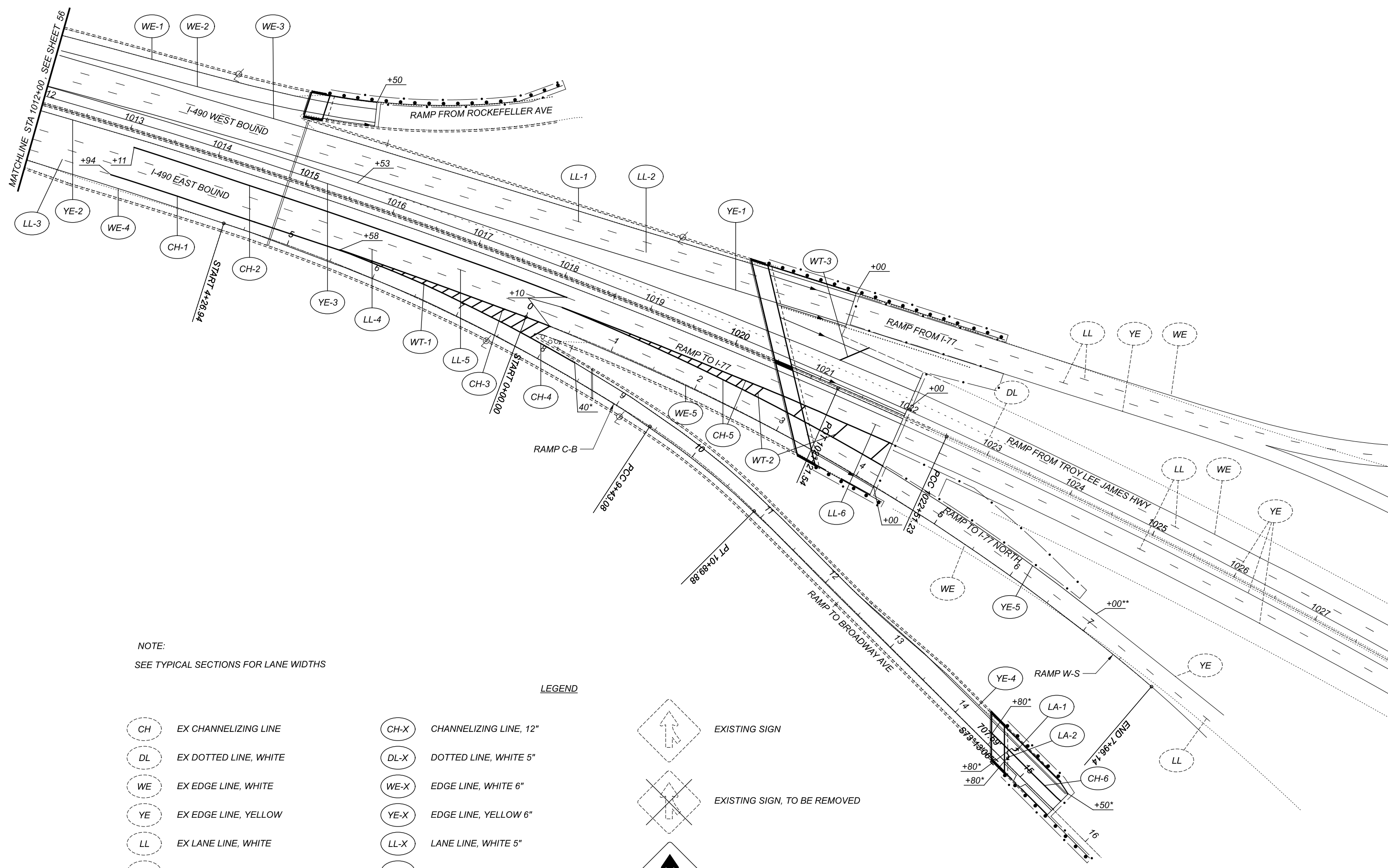
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CALCULATED
MRO
CHECKED
ARM

SIGNING AND PAVEMENT MARKINGS
IR 490

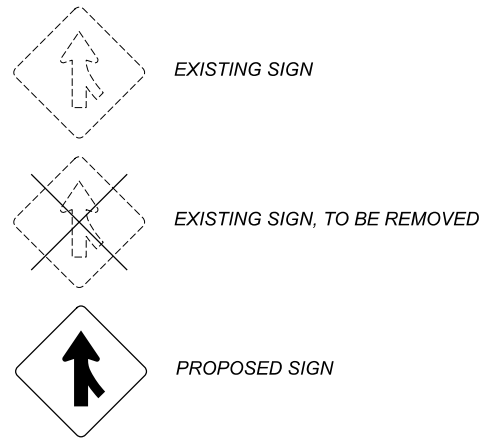
CUY-490-1.00



NOTE:
SEE TYPICAL SECTIONS FOR LANE WIDTHS

LEGEND

CH	EX CHANNELIZING LINE	CH-X	CHANNELIZING LINE, 12"
DL	EX DOTTED LINE, WHITE	DL-X	DOTTED LINE, WHITE 5"
WE	EX EDGE LINE, WHITE	WE-X	EDGE LINE, WHITE 6"
YE	EX EDGE LINE, YELLOW	YE-X	EDGE LINE, YELLOW 6"
LL	EX LANE LINE, WHITE	LL-X	LANE LINE, WHITE 5"
WT	EX TRANSVERSE / DIAGONAL LINE, WHITE	WT-X	TRANSVERSE / DIAGONAL LINE, WHITE 20"
LA	EX LANE ARROW	LA-X	LANE ARROW

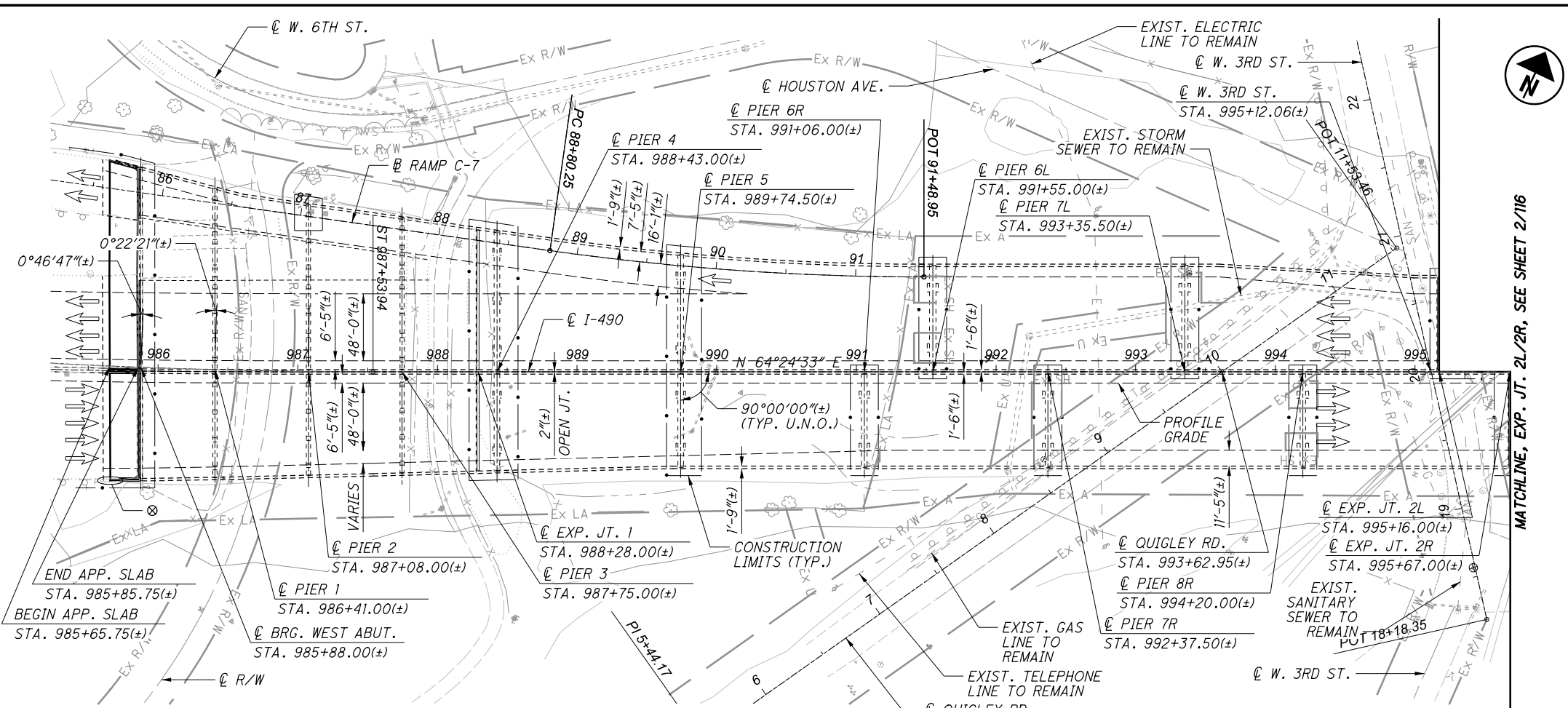


+50** = STATION TO RAMP W-S
+50* = STATION TO RAMP C-B

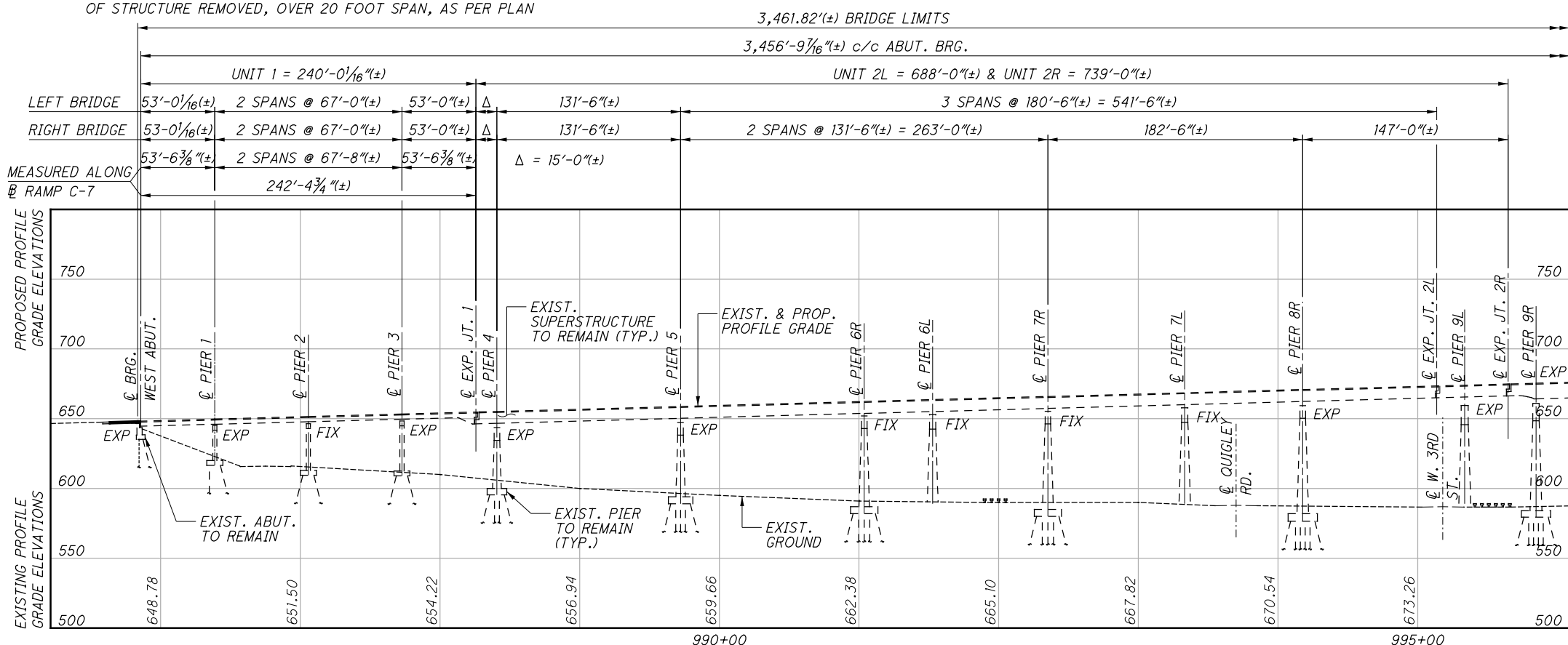
ALL STATIONS ARE TO @ IR490 UNLESS OTHERWISE NOTED.

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PLAN



ELEVATION

NOTES

- EXISTING UTILITIES ARE TO REMAIN UNLESS NOTED OTHERWISE.
- FOR BENCHMARK DATA, SEE SHEET 2/182.
- FOR SUMMARY OF PROPOSED REPAIR WORK, SEE SHEET 7/116.
- VERTICAL CURVE INFORMATION SHOWN ON EXIST. 1986 PLANS.
- ALL LENGTHS SHOWN ON THE PROFILE ON THIS SHEET ARE MEASURED ALONG C I-490 , UNLESS NOTED OTHERWISE.

TRAFFIC DATA

CURRENT ADT (2020) = 83,000 DESIGN ADT (2040) = 110,000
 CURRENT ADTT (2020) = 6,640 DESIGN ADTT (2040) = 8,800
 DIRECTIONAL DISTRIBUTION = 0.53

EXISTING & PROPOSED STRUCTURE

TYPE: CONTINUOUS STEEL BEAM (UNIT 1), CONTINUOUS WELDED STEEL GIRDER WITH FLOOR SYSTEM (UNITS 2, 3, AND 4), CONTINUOUS MULTIPLE WELDED STEEL GIRDER (UNITS 5, 6, AND C-B) WITH REINFORCED CONCRETE DECK AND REINFORCED CONCRETE SUBSTRUCTURE

SPANS: MEASURED ALONG C I-490 :
 UNIT 1 - 53'-0 $\frac{1}{16}$ "(±), 67'-0"(±), 53'-0"(±)
 UNIT 2L - 15'-0"(±) CANTILEVER, 131'-6"(±), 180'-6"(±), 180'-6"(±), 180'-6"(±)
 UNIT 3L - 20'-0"(±) CANTILEVER, 237'-0"(±), 330'-0"(±), 174'-0"(±), 20'-0"(±) CANTILEVER
 UNIT 4L - 178'-0 $\frac{1}{16}$ "(±), 188'-11 $\frac{3}{16}$ "(±), 145'-0 $\frac{1}{16}$ "(±), 15'-0"(±) CANTILEVER
 UNIT 2R - 15'-0"(±) CANTILEVER, 131'-6"(±), 131'-6"(±), 131'-6"(±), 182'-6"(±), 147'-0"(±)
 UNIT 3R - 20'-0"(±) CANTILEVER, 201'-0"(±), 340'-0"(±), 185'-0"(±), 20'-0"(±) CANTILEVER
 UNIT 4R - 164'-0 $\frac{1}{16}$ "(±), 166'-11 $\frac{3}{16}$ "(±), 145'-0 $\frac{1}{16}$ "(±), 15'-0"(±) CANTILEVER
 UNIT 5 - 119'-0"(±), 135'-0"(±), 135'-2 $\frac{1}{4}$ "(±), 134'-9 $\frac{3}{16}$ "(±), 124'-11 $\frac{5}{16}$ "(±), 10'-0"(±) CANTILEVER
 UNIT 6 - 104'-9 $\frac{1}{4}$ "(±), 117'-7 $\frac{1}{2}$ "(±), 119'-8 $\frac{5}{16}$ "(±), 122'-9 $\frac{1}{2}$ "(±), 96'-10 $\frac{1}{8}$ "(±)
 MEASURED ALONG C RAMP C-B :
 UNIT 6C-B - 114'-6 $\frac{1}{4}$ "(±), 122'-11 $\frac{3}{4}$ "(±), 124'-9"(±), 124'-9"(±), 96'-0"(±)

ROADWAY: I-490 - WIDTH VARIES TOE-TO-TOE OF PARAPETS, 65'-10"(±) TO 142'-3"(±) LEFT BRIDGE AND 65'-10"(±) TO 102'-7"(±) RIGHT BRIDGE, WITH 2"(±) OPEN JOINT BETWEEN MEDIAN PARAPETS
 RAMP C-B - WIDTH VARIES, 26'-10"(±) TO 34'-10"(±) TOE-TO-TOE OF PARAPETS

LOADING: HS20-44, CASE I, AND THE ALTERNATE MILITARY LOADING, FUTURE WEARING SURFACE = 30 PSF
 SKEW: UNIT 1 - NONE WITH RESPECT TO LOCAL TANGENT AT S.T. STA. 987+54.50
 UNITS 2 AND 3 - NONE
 UNITS 4, 5, AND 6 - VARIES, SEE PLAN
 UNIT 6C-B - 45°00'00"(±) R.F. WITH RESPECT TO LOCAL TANGENT AT P.T. STA. 10+89.88

WEARING SURFACE: 1 $\frac{1}{4}$ "(±) LATEX MODIFIED CONCRETE (1986) OR 1 $\frac{1}{2}$ "(±) MICRO-SILICA MODIFIED CONCRETE SPOT REPAIRS (1998)
 APPROACH SLABS: AS-1-81 (25'-0" LONG) (1986)
 AS-1-15 (20'-0" LONG) (2021)

ALIGNMENT: UNITS 1 THRU 6 - SPIRAL LEFT, TANGENT, AND 0°50'(±) CURVE RIGHT
 UNIT 6C-B - 3°00'(±) CURVE RIGHT, 8°00'(±) CURVE RIGHT, AND TANGENT

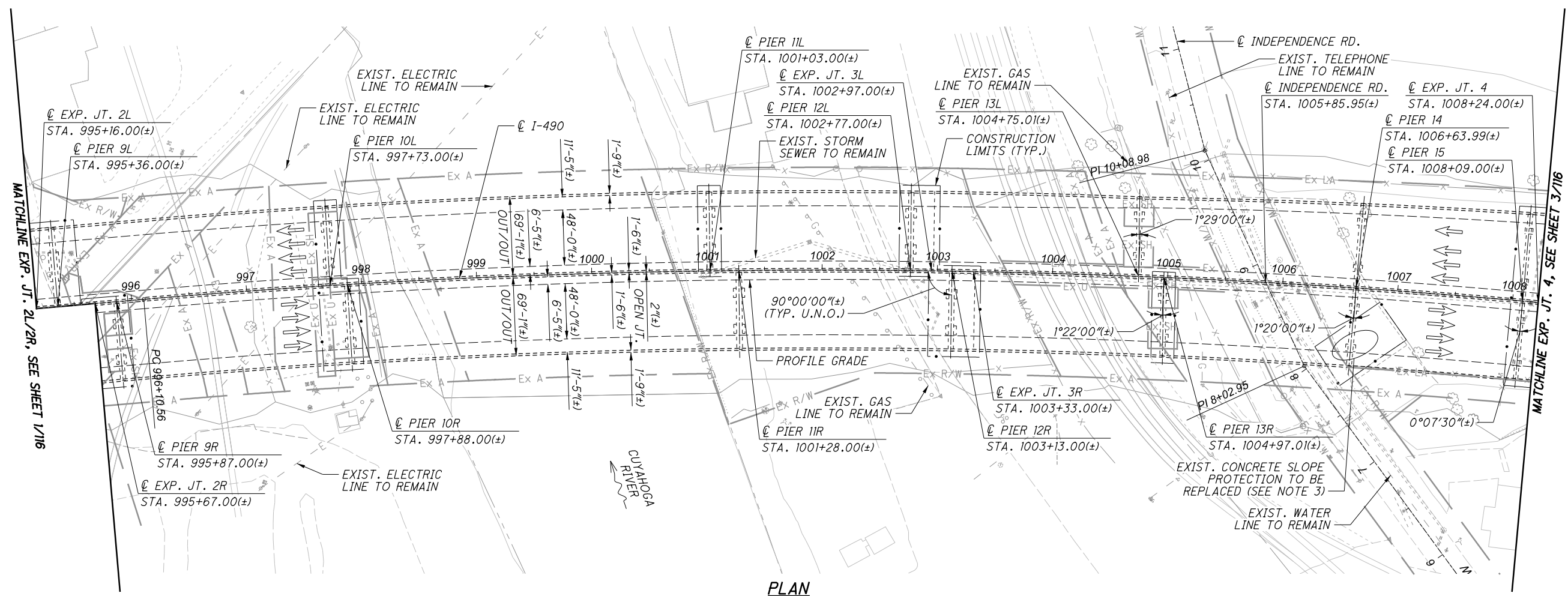
SUPERELEVATION: VARIES, 0.020(±) FT/FT MAX.
 DATE BUILT: 1986 WEARING SURFACE REPAIRS: 1998
 STRUCTURE FILE NUMBER: 1811991

COORDINATES: LATITUDE 41°28'42.13" N
 LONGITUDE 81°40'26.71" W
 DECK AREA: 478,632 SF

DR. R. SUPERIOR AVE., SUITE 1000 • CLEVELAND, OHIO 44113

DATE	08/05/20
REVIEWED	MJL
DRAWN	JAM
DESIGNED	JAM
CHECKED	PAT
STRUCTURE FILE NUMBER	1811991
CUYAHOGA COUNTY	STA. 985+85.75
SITE PLAN - 1	STA. 1020+47.57
BRIDGE NO. CUY-490-0100	I-490 OVER CUYAHOGA RIVER
CUY-490-01.00	PID No. 25622
1 / 116	
58	182

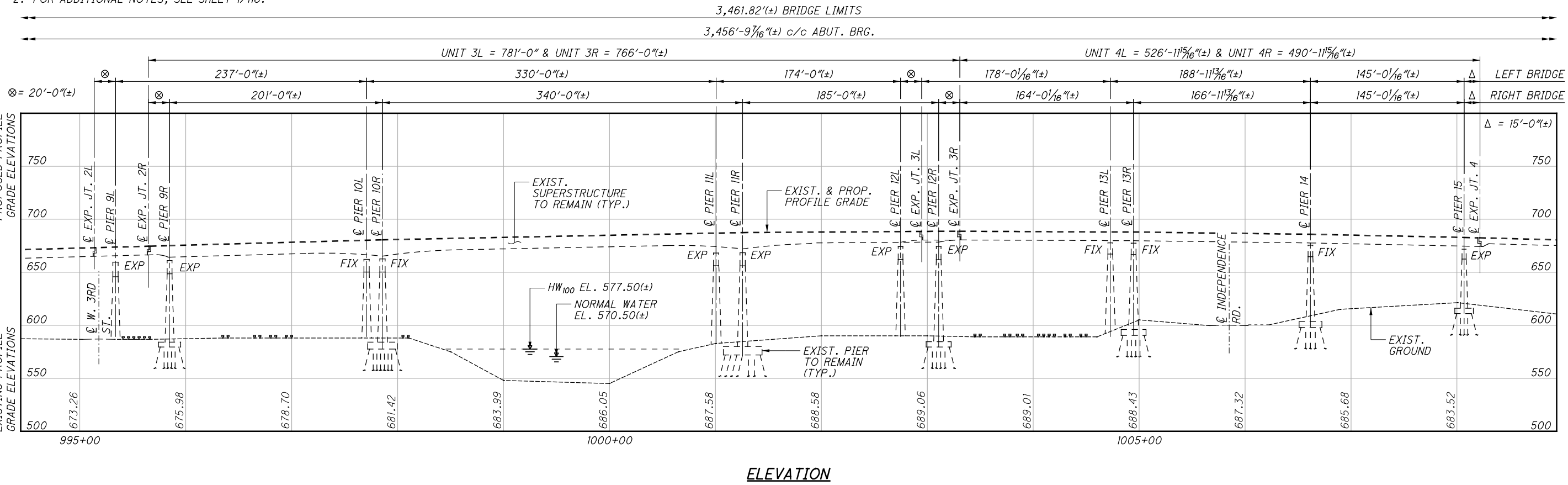
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PLAN

NOTES

- ALL LENGTHS SHOWN ON THE PROFILE ON THIS SHEET ARE MEASURED ALONG \hat{C} I-490, UNLESS NOTED OTHERWISE.
- FOR ADDITIONAL NOTES, SEE SHEET 1/116.
- APPROX. 15'x30' AREA OF DETERIORATED CONCRETE SLOPE PROTECTION TO BE REMOVED AT THE SOUTH COLUMN OF PIER 14R AND REPLACED ACCORDING TO C&MS 601.



ELEVATION



DATE	08/05/20
REVIEWED	MJL
STRUCTURE FILE NUMBER	181991
DRAWN	JAM
CHECKED	PAT
DESIGNED	JAM
CUYAHOGA COUNTY	STA. 985+85.75
	STA. 1020+47.57

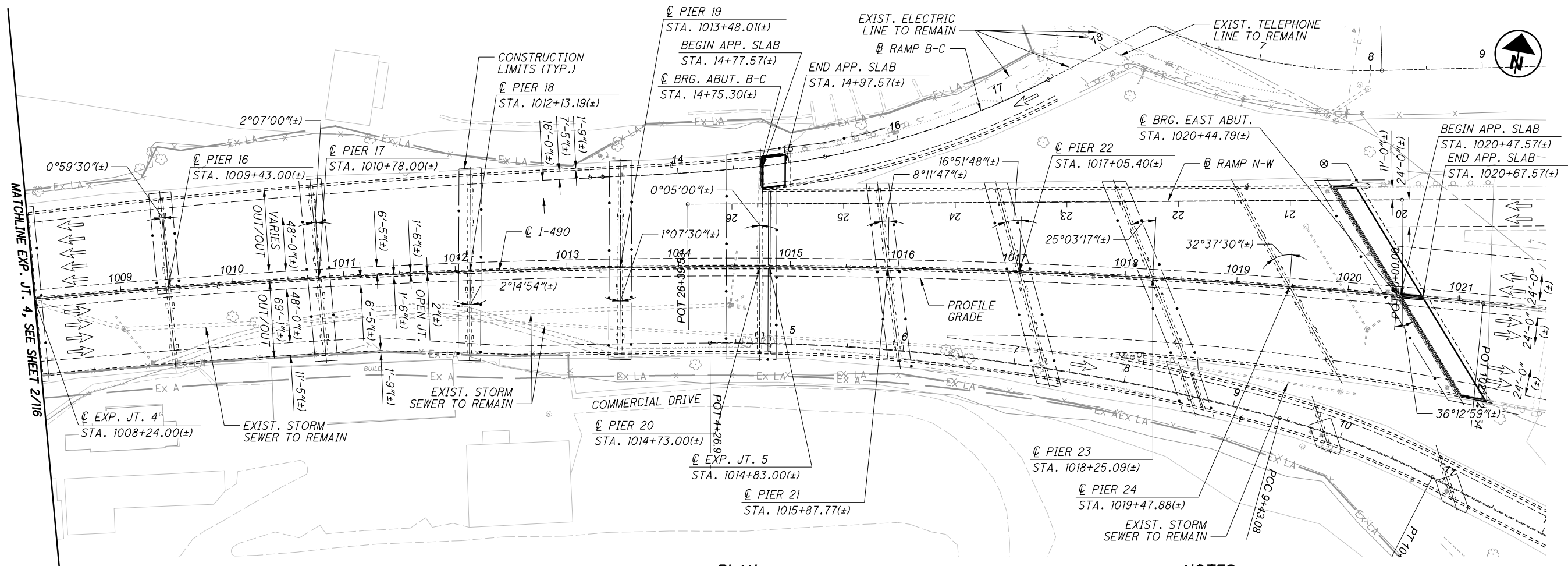
SITE PLAN - 2
BRIDGE NO. CUY-490-0100
I-490 OVER CUYAHOGA RIVER

CUY-490-01.00
PID No. 25622

2 / 116

59
182

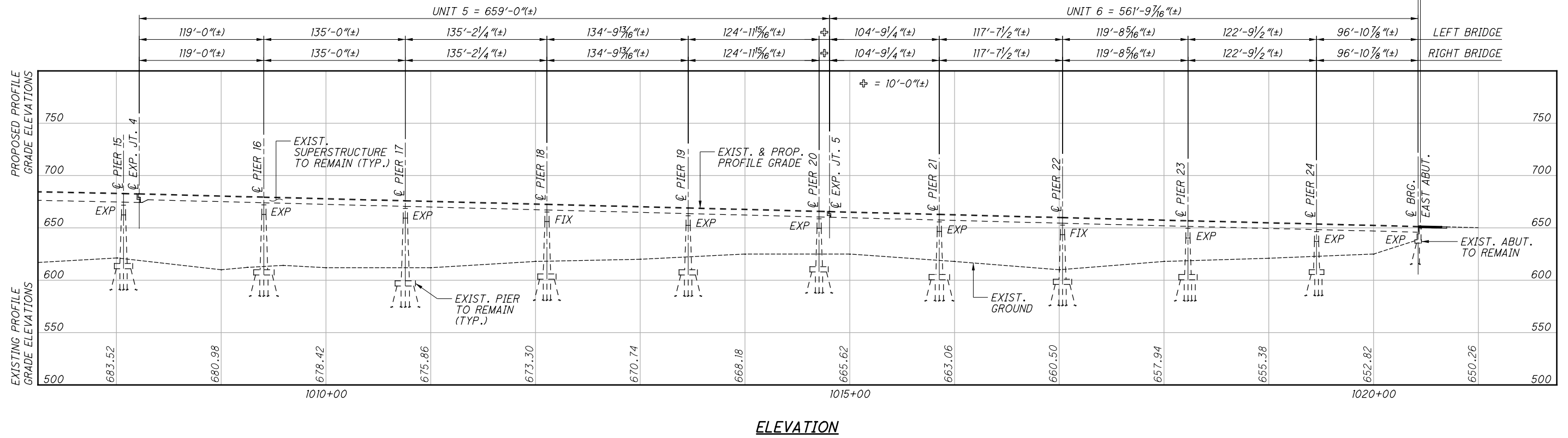
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⊗ = EXIST. 15'± CONCRETE BARRIER EXTENSION FOR GUARDRAIL ATTACHMENT TO BE REMOVED AND INCLUDED FOR PAYMENT WITH ITEM 202 - PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN

- NOTES**
- ALL LENGTHS SHOWN ON THE PROFILE ON THIS SHEET ARE MEASURED ALONG \bar{C} I-490, UNLESS NOTED OTHERWISE.
 - FOR ADDITIONAL NOTES, SEE SHEET 1/116.

3,461.82± BRIDGE LIMITS
3,456'-9¹/₁₆"± c/c ABUT. BRG.



DATE 08/05/20
REVIEWED MJL
STRUCTURE FILE NUMBER 181991

DRAWN JAM
CHECKED PAT

DESIGNED JAM
CHECKED PAT

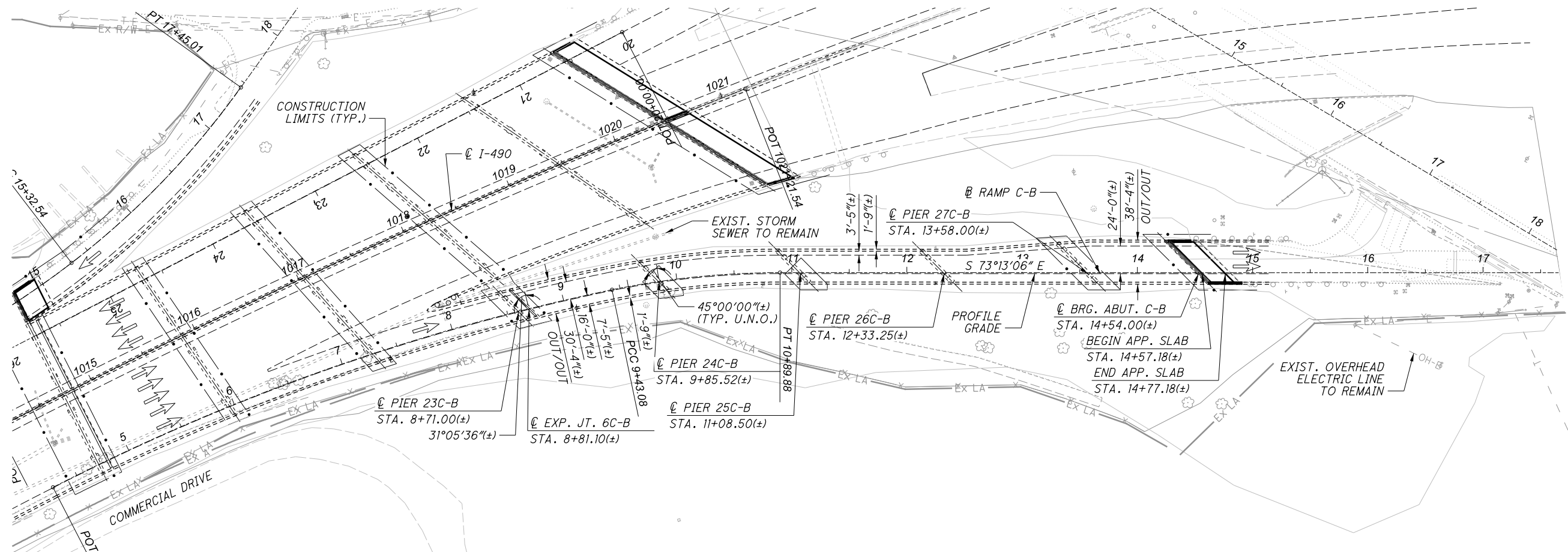
CUYAHOGA COUNTY
STA. 985+85.75
STA. 1020+47.57

SITE PLAN - 3
BRIDGE NO. CUY-490-0100
I-490 OVER CUYAHOGA RIVER

CUY-490-01.00
PID No. 25622

3 / 116
60
182

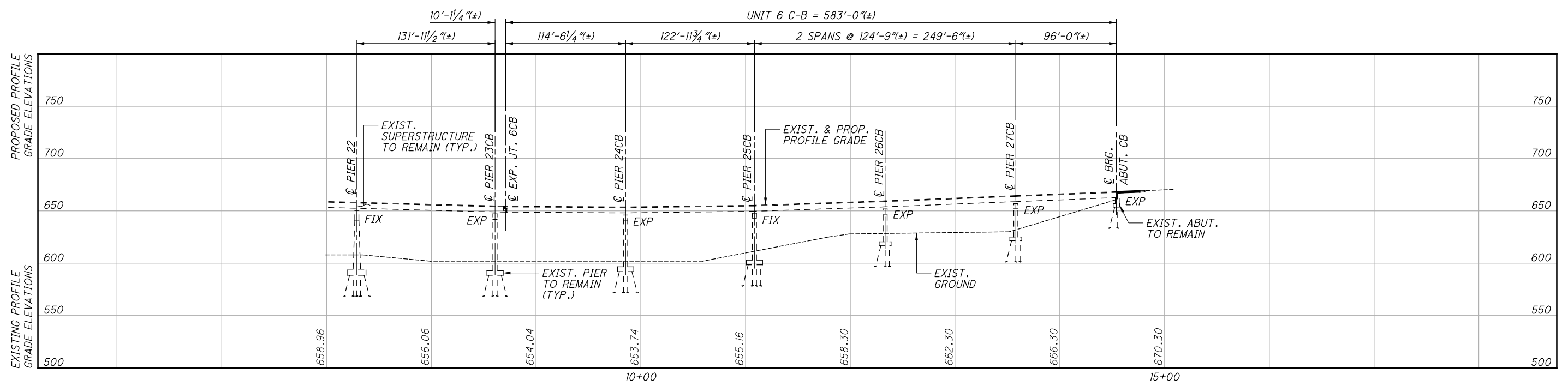
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PLAN

NOTES

1. ALL LENGTHS SHOWN ON THE PROFILE ON THIS SHEET ARE MEASURED ALONG RAMP C-B, UNLESS NOTED OTHERWISE.
2. FOR ADDITIONAL NOTES, SEE SHEET 1/116.



ELEVATION



DATE 08/05/20
REVIEWED MJL
STRUCTURE FILE NUMBER 181991

DRAWN JAM
CHECKED PAT
DESIGNED JAM

CUYAHOGA COUNTY
STA. 985+85.75
STA. 1020+47.57

SITE PLAN - 4
BRIDGE NO. CUY-490-0100
I-490 OVER CUYAHOGA RIVER

CUY-490-01.00
PID No. 25622

4 / 116

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182

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

DESCRIPTION: THIS WORK CONSISTS OF REMOVING, STORING, AND REINSTALLING THE EXISTING PARAPET-MOUNTED CHAIN LINK FENCE AT LOCATIONS WHERE THE PARAPET IS TO BE REBUILT AND REPAIRING OR REPLACING DAMAGED AREAS OF THE EXISTING PARAPET-MOUNTED CHAIN LINK FENCE IN ACCORDANCE WITH THE DETAILS SHOWN IN THE PLANS ON SHEETS 107/116 AND 108/116.

MATERIALS: STRUCTURAL STEEL FOR BASE PLATES SHALL BE ASTM A709 GRADE 36 OR 50, GALVANIZED IN ACCORDANCE WITH C&MS 711.02. REPLACEMENT POSTS, LINE RAILS, EXPANSION COUPLINGS, BRACKETS, FENCE FABRIC, AND MISCELLANEOUS HARDWARE SHALL BE CHAIN LINK FENCE INDUSTRY STANDARD, COMPATIBLE IN SIZE, COLOR, AND FIT-UP WITH EXISTING FENCE COMPONENTS TO REMAIN. FURNISH MATERIALS IN CONFORMANCE WITH C&MS 607.

ANTICIPATED REPAIR QUANTITIES: BASED ON A VISUAL INSPECTION PERFORMED IN APRIL 2020, THE DEFECTS IN THE EXISTING FENCE THAT ARE TO BE CORRECTED BY THIS WORK INCLUDE THE FOLLOWING:

- BROKEN TOP LINE RAIL COUPLINGS
- BROKEN BOTTOM LINE RAIL BRACKETS
- BROKEN LINE RAIL EXPANSION SLEEVES (JOINT 6)
- BENT/DAMAGED UNSALVAGEABLE FENCE POSTS WITH BASE PLATES
- DAMAGED OR MISSING (DUE TO PREVIOUS REPAIR) BOTTOM LINE RAILS
- DAMAGED OR MISSING (DUE TO PREVIOUS REPAIR) TOP LINE RAILS
- DAMAGED FENCE FABRIC

BASED ON THE APRIL 2020 INSPECTION, PORTIONS OF THE EXISTING CHAIN LINK FENCE WILL REQUIRE REMOVAL AND REPLACEMENT WITH NEW MATERIALS BECAUSE THE DAMAGE TO POSTS AND FENCE FABRIC EXTENDS OVER MULTIPLE SEQUENTIAL PANELS OR A PREVIOUS REPAIR OMITTED THE LINE RAILS. FOR FENCE REPAIR LOCATIONS AND ESTIMATED QUANTITIES, SEE SHEETS 50 TO 59/116.

THE INFORMATION ABOVE SHALL BE CONSIDERED TENTATIVE AND APPROXIMATE AND AN ALLOWANCE INCLUDED IN THE BID FOR ADDITIONAL DETERIORATION OR DAMAGE THAT MAY BE FOUND AT THE TIME OF CONSTRUCTION. AT THE START OF EACH CONSTRUCTION PHASE THAT CLOSES THE ADJACENT LANE OR RAMP TO TRAFFIC, THE CONTRACTOR, TOGETHER WITH THE ENGINEER, SHALL INSPECT THE EXISTING FENCE TO DETERMINE THE EXACT LOCATIONS OF DEFECTIVE, DAMAGED, OR MISSING FENCE COMPONENTS TO BE REPLACED. ALL EXISTING FENCE ON THE BRIDGE SHALL BE RESTORED TO A SAFE AND SERVICEABLE CONDITION, AS FOLLOWS: POST SPACINGS NOT EXCEEDING TEN (10) FEET CENTER-TO-CENTER; ALL POSTS STRAIGHT, VERTICAL, AND FIRMLY ANCHORED TO THE CONCRETE PARAPET; TOP AND BOTTOM LINE RAILS CONTINUOUS AND FIRMLY ATTACHED TO POSTS; TENSION RODS AND OTHER HARDWARE TIGHT AND SECURE; AND FENCE FABRIC HAVING NO GAPS, BULGES, OR SNAGS. THE PAY LENGTH FOR THIS WORK WILL BE THE FULL LENGTH OF THE EXISTING FENCE REBUILT.

MEASUREMENT AND PAYMENT: THE DEPARTMENT WILL MEASURE THIS WORK BY THE NUMBER OF FEET ACCEPTED IN PLACE. THE BID PRICE SHALL INCLUDE ALL LABOR, MATERIALS, EQUIPMENT, AND INCIDENTALS NECESSARY TO COMPLETE THE WORK. THE DEPARTMENT WILL PAY FOR THE ACCEPTED QUANTITIES AT THE CONTRACT UNIT PRICE BID FOR ITEM 607 - FENCE REBUILT, TYPE CL, AS PER PLAN.

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 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.

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:

1. REPLACEMENT OF THE EXISTING APPROACH SLABS.
2. REPLACEMENT OF PARAPET TRANSITIONS TO ACCEPT MGS BRIDGE TERMINAL ASSEMBLY, TYPE 1 OR TYPE 2, AND REPLACEMENT OF APPROACH GUARDRAIL.
3. 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.
4. REPAIR OF THE EXISTING INTERMEDIATE FINGER EXPANSION JOINTS, JOINTS 1 THRU 5, INCLUDING REPLACEMENT OF MISSING/DAMAGED FINGERS AT JOINTS 2 AND 3.
5. REPLACEMENT OF THE EXISTING NEOPRENE DRAINAGE TROUGHS BELOW JOINTS 1 THRU 5 WITH NEW GALVANIZED STEEL DRAINAGE TROUGHS, INCLUDING 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.
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.
7. 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.
8. PAINTING OF THE BEAM/GIRDER ENDS AT THE ABUTMENTS AND INTERMEDIATE EXPANSION JOINTS.
9. BRIDGE DECK AND PARAPET REPAIRS, INCLUDING WEARING SURFACE AND FULL-DEPTH DECK SLAB REPAIRS, PARAPET PATCHING, AND PARTIAL OR FULL-HEIGHT PARAPET RECONSTRUCTION WHERE WARRANTED.
10. REPAIR OF EXISTING PARAPET-MOUNTED CHAIN LINK FENCE.
11. SUBSTRUCTURE CONCRETE PATCHING AND CRACK REPAIR.
12. SUPERSTRUCTURE AND SUBSTRUCTURE CONCRETE SEALING.
13. REPLACEMENT OF THE EXISTING CONCRETE SLOPE PROTECTION AT THE SOUTH COLUMN OF PIER 14R.

SUGGESTED CONSTRUCTION PROCEDURE:

PRE-PHASE WORK, USING OUTSIDE SHOULDER CLOSURE:

1. PERFORM CLEAN-OUT OF ALL SCUPPERS ALONG THE EXTERIOR PARAPETS.
2. CLEAN ALL DEBRIS FROM OUTSIDE SHOULDERS IN BOTH DIRECTIONS.

PHASE 1 CONSTRUCTION:

1. IMPLEMENT PHASE 1 MAINTENANCE OF TRAFFIC. SHIFT TRAFFIC AND MAINTAIN TWO LANES OF I-490 TRAFFIC IN EACH DIRECTION ON THE OUTER PORTIONS OF THE EXISTING BRIDGE DECKS AND EXISTING APPROACH SLABS.
2. SAW CUT THE EXISTING WEST ABUTMENT APPROACH SLABS AND TOP OF BACKWALL AT OFFSETS OF 38'-5" LEFT AND RIGHT OF C I-490. SAW CUT THE EXISTING EAST ABUTMENT APPROACH SLABS AND TOP OF BACKWALL AT OFFSETS OF 17'-7" RIGHT AND LEFT OF @ RAMP N-W AND @ RAMP W-S, RESPECTIVELY.
3. PERFORM WORK AT THE WEST ABUTMENT AND EAST ABUTMENT:
 - A. REMOVE INNER PORTIONS OF EXISTING APPROACH SLABS AND MEDIAN PARAPET.



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

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

CUY-490-01.00
PID No. 25622

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PHASE 1 CONSTRUCTION (CONTINUED):

- B. REMOVE INNER PORTIONS OF EXISTING TOPS OF BACKWALL, EXPANSION JOINTS, AND ENDS OF BRIDGE DECK.
- C. REMOVE AND REPLACE EXISTING END CROSSFRAMES WITHIN THE SAME LIMITS. RESET BEARINGS OF BEAMS M AND N AT THE WEST ABUTMENT AFTER EXISTING CROSSFRAME REMOVAL AND BEFORE PROPOSED CROSSFRAME INSTALLATION.
- D. INSTALL INNER PORTION OF PROPOSED STRIP SEAL EXPANSION JOINTS.
- E. CONSTRUCT INNER PORTIONS OF PROPOSED ENDS OF DECK, TOPS OF BACKWALL, AND APPROACH SLABS; BUILD TO LONGITUDINAL CONSTRUCTION JOINT LOCATED 1'-0" FROM CUT LINE.
- 4. PERFORM REPAIRS TO INNER PORTIONS OF EXISTING MAINLINE BRIDGE DECK, FINGER JOINTS, AND MEDIAN PARAPETS.
- 5. PERFORM CLEAN-OUT OF ALL SCUPPERS ALONG THE MEDIAN PARAPETS.
- 6. CLEAN ALL DEBRIS FROM INSIDE SHOULDERS IN BOTH DIRECTIONS.

PHASE 2A CONSTRUCTION:

- 1. IMPLEMENT PHASE 2 MAINTENANCE OF TRAFFIC. SHIFT TRAFFIC AND MAINTAIN TWO LANES OF I-490 TRAFFIC IN EACH DIRECTION ON THE INNER PORTIONS OF THE EXISTING BRIDGE DECKS AND PROPOSED APPROACH SLABS. CLOSE RAMP 7-C FROM W. 7TH ST. AND RAMP B-C FROM ROCKEFELLER AVENUE.
- 2. PERFORM WORK AT THE WEST ABUTMENT, EASTBOUND:
 - A. REMOVE OUTER PORTION OF EXISTING APPROACH SLAB AND EXISTING PARAPET ON ABUTMENT WINGWALL.
 - B. REMOVE OUTER PORTION OF EXISTING TOP OF BACKWALL, EXPANSION JOINT, AND END OF BRIDGE DECK.
 - C. REMOVE AND REPLACE EXISTING END CROSSFRAMES WITHIN THE SAME LIMITS.
 - D. INSTALL OUTER PORTION OF PROPOSED STRIP SEAL EXPANSION JOINT.
 - E. CONSTRUCT OUTER PORTION OF PROPOSED END OF DECK, TOP OF BACKWALL, APPROACH SLAB, AND PARAPET ON ABUTMENT WINGWALL.
- 3. PERFORM WORK AT ABUTMENT B-C:
 - A. REMOVE EXISTING APPROACH SLAB AND EXISTING NORTH PARAPET ON ABUTMENT WINGWALL.
 - B. REMOVE EXISTING TOP OF BACKWALL, EXPANSION JOINT, AND END OF BRIDGE DECK.
 - C. REMOVE AND REPLACE ALL EXISTING END CROSSFRAMES.
 - D. INSTALL PROPOSED STRIP SEAL EXPANSION JOINT.
 - E. CONSTRUCT PROPOSED END OF DECK, TOP OF BACKWALL, APPROACH SLAB, AND NORTH PARAPET ON ABUTMENT WINGWALL.
- 4. PERFORM REPAIRS TO OUTER PORTIONS EXISTING MAINLINE BRIDGE DECK, FINGER JOINTS, EXTERIOR PARAPETS, AND VANDAL PROTECTION FENCE WHERE TRAFFIC IS TO BE MAINTAINED IN PHASE 2B.

PHASE 2B CONSTRUCTION:

- 1. CONTINUE TO MAINTAIN TWO LANES OF I-490 TRAFFIC IN EACH DIRECTION AS IN PHASE 2A. REOPEN RAMP 7-C FROM W. 7TH ST. AND RAMP B-C FROM ROCKEFELLER AVENUE.
- 2. PERFORM WORK AT THE WEST ABUTMENT, WESTBOUND, AND THE EAST ABUTMENT:
 - A. REMOVE OUTER PORTIONS OF EXISTING APPROACH SLABS AND EXISTING PARAPETS ON THE EAST ABUTMENT WINGWALLS.
 - B. REMOVE OUTER PORTIONS OF EXISTING TOPS OF BACKWALL, EXPANSION JOINTS, AND ENDS OF BRIDGE DECK.

PHASE 2B CONSTRUCTION (CONTINUED):

- C. REMOVE AND REPLACE EXISTING END CROSSFRAMES WITHIN THE SAME LIMITS. RESET BEARING OF BEAM D AT THE WEST ABUTMENT AFTER EXISTING CROSSFRAME REMOVAL AND BEFORE PROPOSED CROSSFRAME INSTALLATION.
- D. INSTALL OUTER PORTIONS OF PROPOSED STRIP SEAL EXPANSION JOINTS.
- E. CONSTRUCT OUTER PORTIONS OF PROPOSED ENDS OF DECK, TOPS OF BACKWALL, APPROACH SLABS, AND THE PARAPETS ON THE EAST ABUTMENT WINGWALLS.
- 3. PERFORM REMAINING REPAIRS TO OUTER PORTIONS EXISTING MAINLINE BRIDGE DECK, FINGER JOINTS, EXTERIOR PARAPETS, AND VANDAL PROTECTION FENCE.
- 4. CLOSE RAMP C-7 TO W. 7TH ST. FOR A MAXIMUM OF 28 CALENDAR DAYS AT ANY POINT DURING PHASE 2B IN ORDER TO PERFORM WORK ON EXIT RAMP.

PHASE 3 CONSTRUCTION:

- 1. AFTER COMPLETION OF THE OPPORTUNITY CORRIDOR PROJECT, RETURN I-490 TO NORMAL CONFIGURATION OF FOUR LANES IN EACH DIRECTION. CLOSE RAMP C-B TO BROADWAY AVE. AND DETOUR TRAFFIC TO E. 55TH ST. EXIT.
- 2. PERFORM WORK AT ABUTMENT C-B:
 - A. REMOVE EXISTING APPROACH SLAB AND EXISTING PARAPETS ON ABUTMENT WINGWALLS.
 - B. REMOVE EXISTING TOP OF BACKWALL, EXPANSION JOINT, AND END OF BRIDGE DECK.
 - C. REMOVE AND REPLACE ALL EXISTING END CROSSFRAMES.
 - D. INSTALL PROPOSED STRIP SEAL EXPANSION JOINT.
 - E. CONSTRUCT PROPOSED END OF DECK, TOP OF BACKWALL, APPROACH SLAB, AND PARAPETS ON ABUTMENT WINGWALLS.
- 3. PERFORM WORK AT JOINT 6:
 - A. REMOVE EXISTING EXPANSION JOINT AND ENDS OF BRIDGE DECK.
 - B. REMOVE AND REPLACE ALL EXISTING END CROSSFRAMES.
 - C. INSTALL PROPOSED STRIP SEAL EXPANSION JOINT.
 - D. CONSTRUCT PROPOSED ENDS OF DECK.
- 4. PERFORM REPAIRS TO EXISTING RAMP C-B BRIDGE DECK, EXTERIOR PARAPETS, AND VANDAL PROTECTION FENCE.

WORK BELOW THE BRIDGE DECK:

WORK BELOW THE BRIDGE DECK IS NOT RESTRICTED TO A SPECIFIC CONSTRUCTION PHASE BUT MAY BE SUBJECT TO COMPLETION OF OTHER WORK AT A GIVEN LOCATION. THIS WORK INCLUDES:

- 1. MODIFY THE BRIDGE DRAINAGE SYSTEM (AFTER SCUPPER CLEANING IS COMPLETE):
 - A. REMOVE EXISTING NEOPRENE DRAINAGE TROUGHS, STEEL ANGLES, AND STEEL COLLECTOR PIPES BELOW JOINTS 1 THRU 5 ON I-490 MAINLINE AND JOINT 6 ON RAMP C-B. INSTALL RETROFIT CLEANOUTS WHERE EXISTING COLLECTOR PIPE WAS CONNECTED TO EXISTING SCUPPER PIPE.
 - B. REMOVE EXISTING STEEL DOWNSPOUT PIPES FROM PIERS.
 - C. PERFORM CLEANOUT OF EXISTING SCUPPER PIPES, INLETS, CATCH BASINS, AND STORM SEWERS TO REMAIN.
 - D. INSTALL PROPOSED GALVANIZED STEEL DOWNSPOUT PIPES ON PIER.
 - E. INSTALL PROPOSED GALVANIZED STEEL DRAINAGE TROUGHS BELOW JOINTS 1 THRU 5 ON I-490 MAINLINE.
 - F. INSTALL PROPOSED GALVANIZED STEEL COLLECTOR PIPES.

WORK BELOW THE BRIDGE DECK (CONTINUED):

- 2. REPLACE LOOSE AND MISSING BOLTS IN SUPERSTRUCTURE FRAMING.
- 3. REPLACE MISSING SAFETY CABLE AND REMOVE SAFETY CABLE ATTACHED TO HANDRAIL AND REATTACH TO SUPPORT.
- 4. PAINT THE BEAM/GIRDER ENDS AT THE ABUTMENTS AND INTERMEDIATE EXPANSION JOINTS (AFTER PROPOSED END CROSSFRAMES, EXPANSION JOINTS, AND/OR PROPOSED DRAINAGE TROUGHS ARE INSTALLED).
- 5. PERFORM SUBSTRUCTURE CONCRETE PATCHING AND CRACK REPAIR.
- 6. PERFORM SUBSTRUCTURE CONCRETE SEALING (AFTER CONCRETE PATCHING AND CRACK REPAIR IS COMPLETE).
- 7. REPLACE CONCRETE SLOPE PROTECTION AT THE SOUTH COLUMN OF PIER 14R.

THE ABOVE IS A SUGGESTED CONSTRUCTION PROCEDURE. THE CONTRACTOR SHALL SUBMIT HIS OR HER PROPOSED CONSTRUCTION PROCEDURE AND SCHEDULE TO THE ENGINEER FOR APPROVAL BEFORE BEGINNING CONSTRUCTION. NO CONSTRUCTION OPERATIONS WILL BE PERMITTED WITHOUT PRIOR APPROVAL.

PLAN ABBREVIATIONS:

ABUT.	ABUTMENT
APP.	APPROACH
BRG.	BEARING
CL	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
PL	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



DATE 08/05/20
REVIEWED MJL
STRUCTURE FILE NUMBER 1811991

DRAWN PAT
PAT REVISED
DESIGNED PAT
CHECKED JAM/CJS

STRUCTURE GENERAL NOTES - 4
BRIDGE NO. CUY-490-0100
I-490 OVER CUYAHOGA RIVER

CUY-490-01.00
PID No. 25622

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FUNDING		ESTIMATED QUANTITIES											CALC. BY: PAT DATE: 08/04/20	
													CHKD. BY: JAM DATE: 08/05/20	
---/---/---	ITEM	ITEM EXTENSION	TOTAL	UNIT	DESCRIPTION	WEST ABUTMENT	EAST ABUTMENT	ABUTMENT B-C	ABUTMENT C-B	PIERS	SUPER-STRUCTURE	GENERAL	REF. SHEET NUMBER	
	202	11203	LS		PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN							LS	5/116	
	202	22900	1,341	SY	APPROACH SLAB REMOVED							1,341		
	202	32800	50	SY	CONCRETE SLOPE PROTECTION REMOVED							50		
	503	11100	LS		COFFERDAMS AND EXCAVATION BRACING							LS		
	503	21100	8	CY	UNCLASSIFIED EXCAVATION	2	2	2	2					
	509	10000	16,043	LB	EPOXY COATED REINFORCING STEEL	3,106	3,645	769	1,715		6,808			
	509	20001	2,000	LB	REINFORCING STEEL, REPLACEMENT OF EXISTING REINFORCING STEEL, AS PER PLAN	250	250	125	125	250	1,000		5/116	
	510	10000	1,054	EACH	DOWEL HOLES WITH NONSHRINK, NONMETALLIC GROUT	458	444	52	100					
	511	34444	33	CY	CLASS QC2 CONCRETE, BRIDGE DECK						33			
	511	34448	15	CY	CLASS QC2 CONCRETE, BRIDGE DECK (PARAPET)						15			
	511	45710	55	CY	CLASS QC1 CONCRETE, ABUTMENT	17	21	5	12					
	512	10100	21,722	SY	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)	231	288	85	112	8,426	12,535	45		
	512	10600	3,536	FT	CONCRETE REPAIR BY EPOXY INJECTION	2	70		36	2,615	813			
	512	74000	13,070	SY	REMOVAL OF EXISTING COATINGS FROM CONCRETE SURFACES	212	247	67	67		12,477			
	513	10200	15,800	LB	STRUCTURAL STEEL MEMBERS, LEVEL UF						15,800			
	513	95020	LS		STRUCTURAL STEEL, MISC.: INSPECTION SAFETY CABLE SYSTEM REPAIR							LS	5/116	
	513	95030	1	EACH	STRUCTURAL STEEL, MISC.: FINGER JOINT EXPANSION PLATE REPAIR						1		5/116	
	513	95030	3	EACH	STRUCTURAL STEEL, MISC.: FINGER JOINT SINGLE FINGER REPAIR						3		5/116	
	513	95030	125	EACH	STRUCTURAL STEEL, MISC.: REPLACE LOOSE OR MISSING BOLT						125		6/116	
	514	00050	41,800	SF	SURFACE PREPARATION OF EXISTING STRUCTURAL STEEL						41,800			
	514	00056	41,800	SF	FIELD PAINTING OF EXISTING STRUCTURAL STEEL, PRIME COAT						41,800		6/116	
	514	00060	43,800	SF	FIELD PAINTING STRUCTURAL STEEL, INTERMEDIATE COAT						43,800		6/116	
	514	00066	43,800	SF	FIELD PAINTING STRUCTURAL STEEL, FINISH COAT						43,800		6/116	
	514	00504	40	MNHR	GRINDING FINS, TEARS, SLIVERS ON EXISTING STRUCTURAL STEEL						40			
	514	10000	27	EACH	FINAL INSPECTION REPAIR						27			
	516	11210	508	FT	STRUCTURAL EXPANSION JOINT INCLUDING ELASTOMERIC STRIP SEAL						508			
	516	11211	34	FT	STRUCTURAL EXPANSION JOINT INCLUDING ELASTOMERIC STRIP SEAL, AS PER PLAN						34		8/116	
	516	14600	28	FT	STRUCTURAL JOINT OR JOINT SEALER, MISC.: MEDIAN BARRIER SEAL						28		6/116	
	516	46701	3	EACH	RESET BEARING, AS PER PLAN						3		6/116	
	516	47001	LS		JACKING AND TEMPORARY SUPPORT OF SUPERSTRUCTURE, AS PER PLAN							LS	6/116	
	518	62100	173	FT	STRUCTURE DRAINAGE, MISC.: DRAINAGE TROUGH SYSTEM, EXPANSION JOINT 1						173		6/116	
	518	62100	135	FT	STRUCTURE DRAINAGE, MISC.: DRAINAGE TROUGH SYSTEM, EXPANSION JOINT 2						135		6/116	
	518	62100	135	FT	STRUCTURE DRAINAGE, MISC.: DRAINAGE TROUGH SYSTEM, EXPANSION JOINT 3						135		6/116	
	518	62100	143	FT	STRUCTURE DRAINAGE, MISC.: DRAINAGE TROUGH SYSTEM, EXPANSION JOINT 4						143		6/116	
	518	62100	144	FT	STRUCTURE DRAINAGE, MISC.: DRAINAGE TROUGH SYSTEM, EXPANSION JOINT 5						144		6/116	
	518	62100	2,970	FT	STRUCTURE DRAINAGE, MISC.: 10" GALVANIZED STEEL PIPE, INCLUDING SPECIALS						2,970		6/116	
	518	62200	35	EACH	STRUCTURE DRAINAGE, MISC.: SCUPPER CLEANOUT						35		6/116	
	518	62200	1	EACH	STRUCTURE DRAINAGE, MISC.: SCUPPER GRATE REPLACEMENT						1		6/116	
	518	63300	LS		STRUCTURE DRAINAGE, MISC.: BRIDGE DRAINAGE SYSTEM CLEANING							LS	6/116	
	526	15001	1,140	SY	REINFORCED CONCRETE APPROACH SLABS (T=13"), AS PER PLAN							1,140	7/116	
	526	90010	513	FT	TYPE A INSTALLATION							513		
ESTIMATED QUANTITIES CONTINUE ON SHEET 10/116														



REVIEWED DATE: 08/05/20
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 STRUCTURE FILE NUMBER: 181991
 DRAWN PAT
 PAT REVISED
 DESIGNED PAT
 PAT CHECKED
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ESTIMATED QUANTITIES - 1
 BRIDGE NO. CUY-490-0100
 I-490 OVER CUYAHOGA RIVER

CUY-490-01.00
 PID No. 25622

FUNDING	ESTIMATED QUANTITIES											CALC. BY: PAT DATE: 08/04/20		
														CHKD. BY: JAM
--/--/--	ITEM	ITEM EXTENSION	TOTAL	UNIT	DESCRIPTION	WEST ABUTMENT	EAST ABUTMENT	ABUTMENT B-C	ABUTMENT C-B	PIERS	SUPER-STRUCTURE	GENERAL	REF. SHEET NUMBER	
	601	21000	50	SY	CONCRETE SLOPE PROTECTION							50		
	607	22001	8,160	FT	FENCE REBUILT, TYPE CL, AS PER PLAN						8,160		7/116	
	844	10001	1,718	SF	CONCRETE PATCHING WITH GALVANIC ANODE PROTECTION, AS PER PLAN		15		54	655	994			
	848	10000	10,920	SY	MICRO SILICA MODIFIED CONCRETE OVERLAY USING HYDRODEMOLITION						10,920			
	848	20000	10,920	SY	SURFACE PREPARATION USING HYDRODEMOLITION						10,920			
	848	30000	76	CY	MICRO SILICA MODIFIED CONCRETE OVERLAY (VARIABLE THICKNESS), MATERIAL ONLY						76			
	848	50000	546	SY	HAND CHIPPING						546			
	848	50100	LS		TEST SLAB							LS		
	848	50200	50	CY	FULL DEPTH REPAIR						50			
	848	50320	10,920	SY	EXISTING CONCRETE OVERLAY REMOVED						10,920			



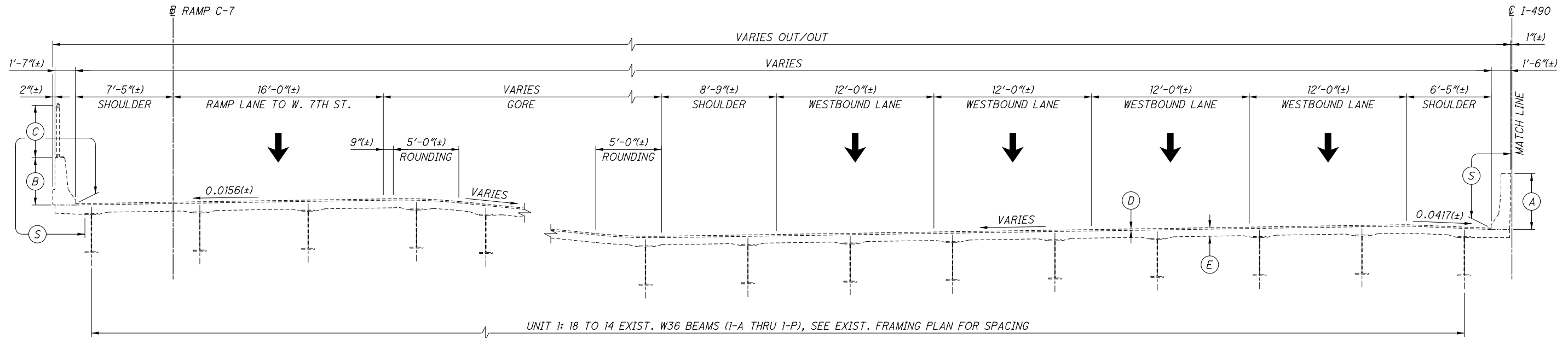
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 REVISED: JAM
 REVIEWED: MJL
 DATE: 08/05/20
 STRUCTURE FILE NUMBER: 181991

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

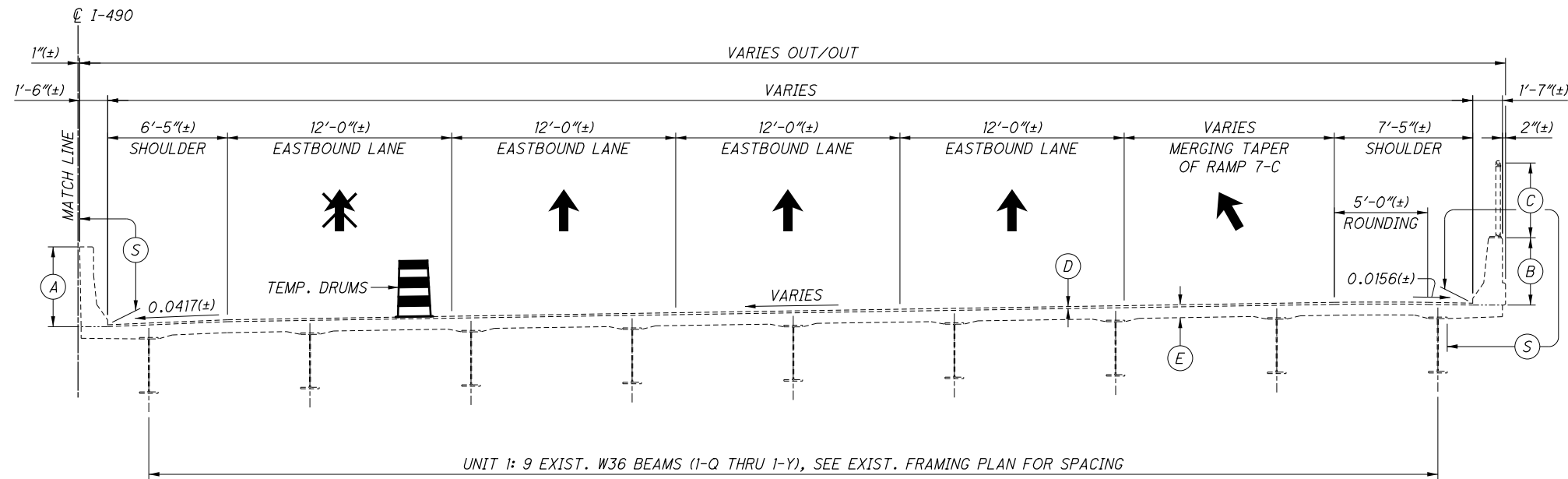
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 PID No. 25622

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LEFT SIDE



RIGHT SIDE

EXISTING TRANSVERSE SECTION - UNIT 1
SHOWN AT STA. 986+80(±) IN SPAN 2

LEGEND

- (A) EXIST. 4'-3¹/₄"(±) MEDIAN PARAPET
- (B) EXIST. 3'-7¹/₄"(±) EXTERIOR PARAPET
- (C) EXIST. 4'-0"(±) VANDAL PROTECTION FENCE
- (D) EXIST. 1¹/₄"(±) LATEX MODIFIED CONCRETE WEARING SURFACE (1986 ORIGINAL CONSTRUCTION) OR EXIST. 1¹/₂"(±) MICRO-SILICA MODIFIED CONCRETE OVERLAY (1998 WEARING SURFACE REPAIRS)
- (E) EXIST. REINFORCED CONCRETE DECK SLAB, 7³/₄"(±) MIN. TO 8¹/₄"(±) MAX. TOTAL THICKNESS INCLUDING WEARING SURFACE, SEE EXIST. PLANS FOR MORE INFORMATION
- (S) REMOVAL OF EXISTING COATINGS FROM CONCRETE SURFACES AND SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)
- ✕ EXIST. LANE TEMPORARILY CLOSED AS PART OF MAINTENANCE OF TRAFFIC FOR THE OPPORTUNITY CORRIDOR PROJECT



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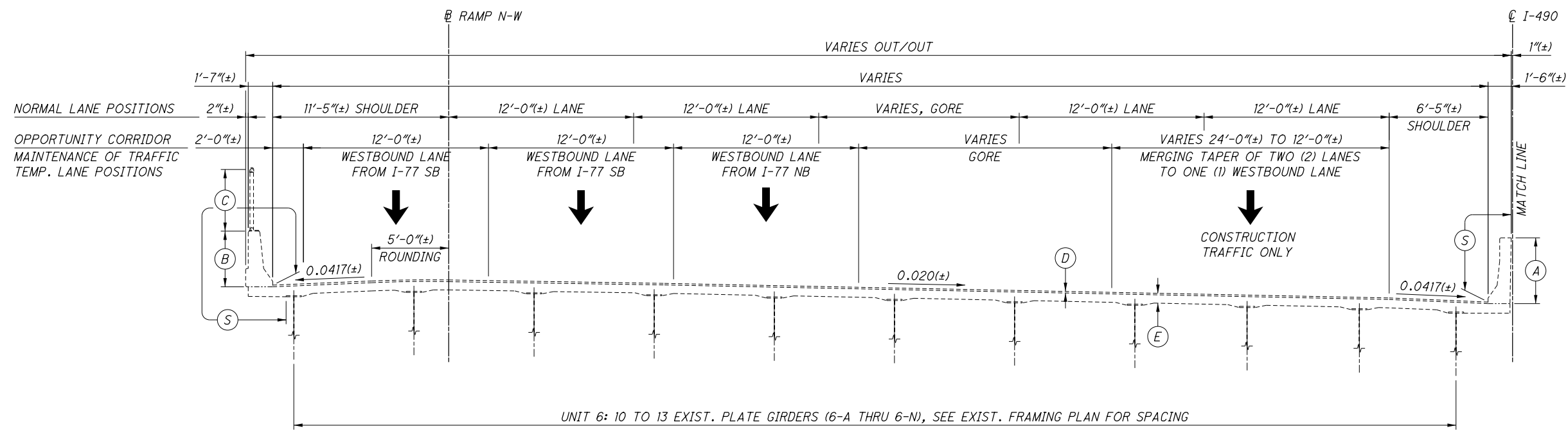
PHASE CONSTRUCTION DETAILS - 1
BRIDGE NO. CUY-490-0100
I-490 OVER CUYAHOGA RIVER

CUY-490-01.00
PID No. 25622

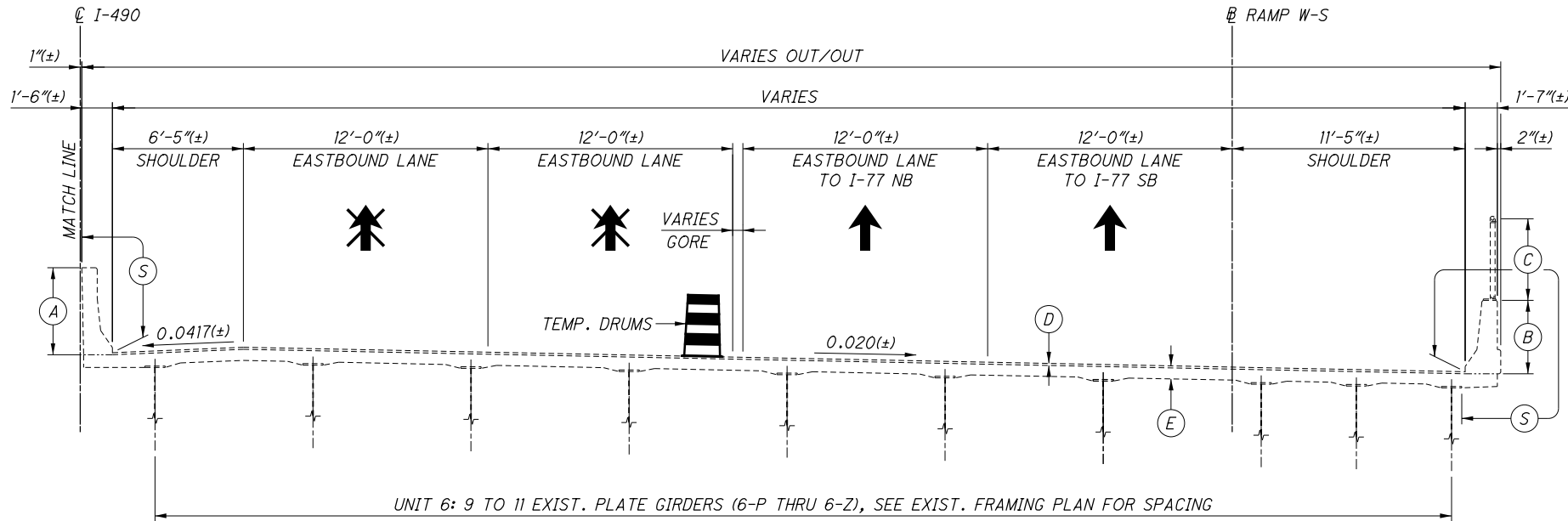
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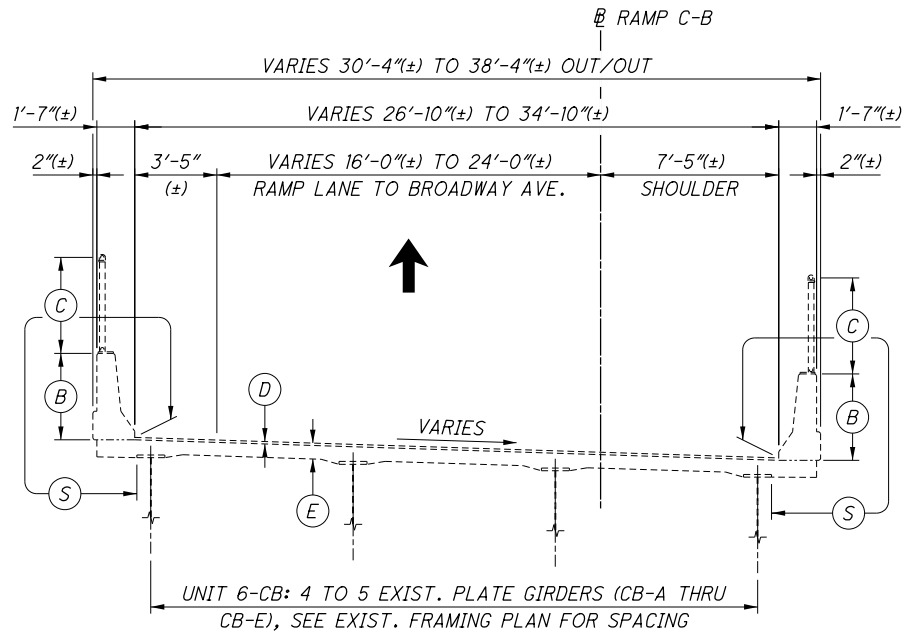
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LEFT SIDE



RIGHT SIDE



EXISTING TRANSVERSE SECTION - UNIT 6
SHOWN AT STA. 1018+30(±) IN SPANS 23 & 24

LEGEND

- (A) EXIST. 4'-3 1/4" (±) MEDIAN PARAPET
- (B) EXIST. 3'-7 1/4" (±) EXTERIOR PARAPET
- (C) EXIST. 4'-0" (±) VANDAL PROTECTION FENCE
- (D) EXIST. 1/4" (±) LATEX MODIFIED CONCRETE WEARING SURFACE (1986 ORIGINAL CONSTRUCTION) OR EXIST. 1/2" (±) MICRO-SILICA MODIFIED CONCRETE OVERLAY (1998 WEARING SURFACE REPAIRS)
- (E) EXIST. REINFORCED CONCRETE DECK SLAB, 7 3/4" (±) MIN. TO 8 1/2" (±) MAX. TOTAL THICKNESS INCLUDING WEARING SURFACE, SEE EXIST. PLANS FOR MORE INFORMATION
- (S) REMOVAL OF EXISTING COATINGS FROM CONCRETE SURFACES AND SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)
- X EXIST. LANE TEMPORARILY CLOSED AS PART OF MAINTENANCE OF TRAFFIC FOR THE OPPORTUNITY CORRIDOR PROJECT

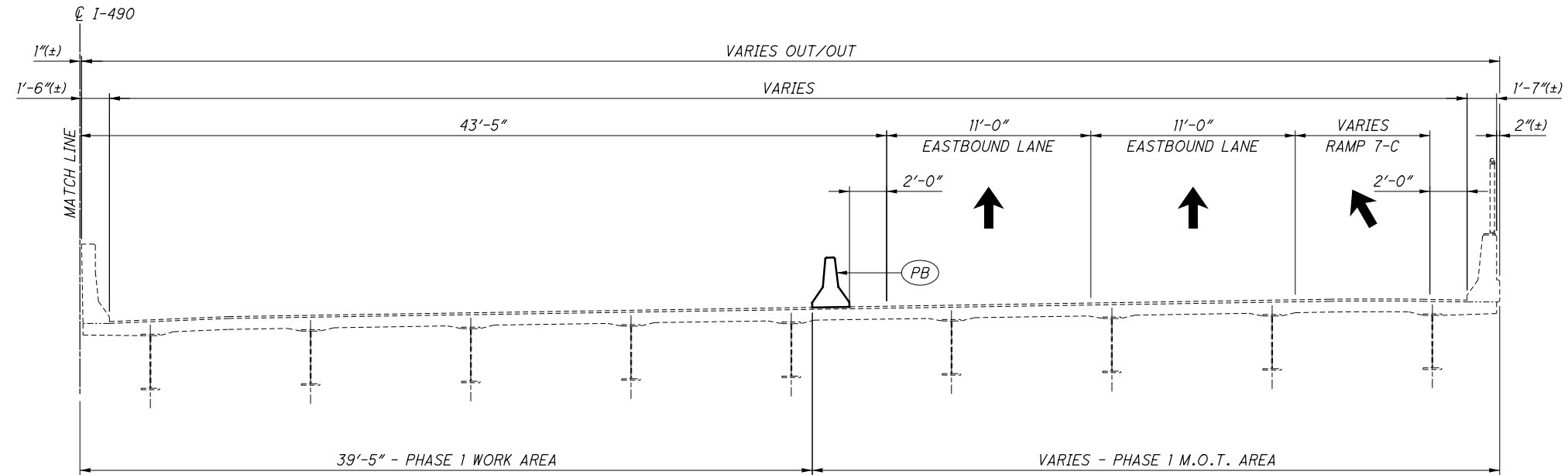
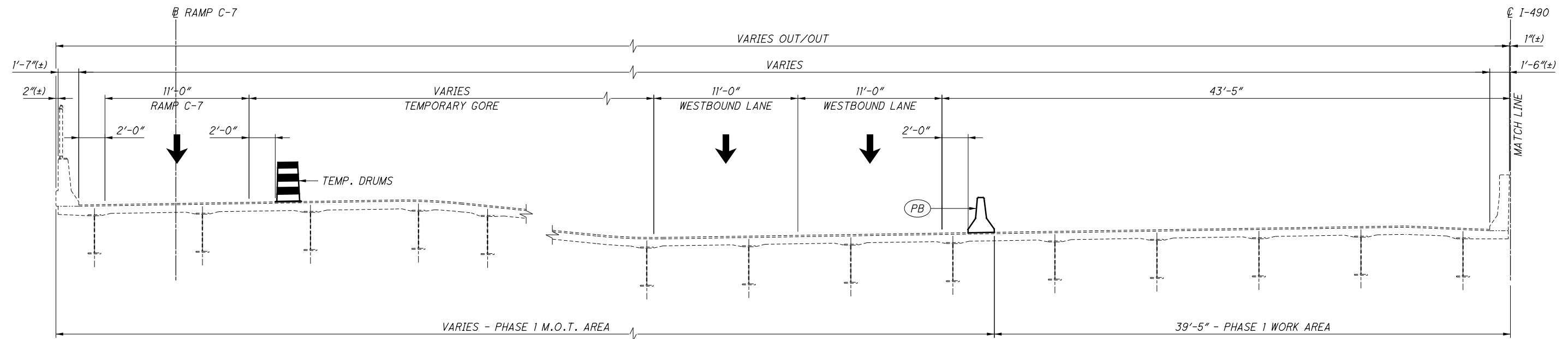


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REVIEWED	MJL	STRUCTURE FILE NUMBER	181991
DATE	08/05/20		

PHASE CONSTRUCTION DETAILS - 2
BRIDGE NO. CUY-490-0100
I-490 OVER CUYAHOGA RIVER

CUY-490-01.00
PID No. 25622

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

LEGEND

(PB) PORTABLE BARRIER, UNANCHORED ON EXIST. BRIDGE DECK, ANCHORED WITH 2 ANCHORS PER BARRIER SEGMENT ON EXIST. APPROACH SLABS

PHASE 1 CONSTRUCTION

1. MAINTAIN I-490 TRAFFIC AS SHOWN ON OUTER PORTION OF EXISTING BRIDGE DECKS AND APPROACH SLABS.
2. ALL ENTRANCE AND EXIT RAMP ARE TO REMAIN OPEN DURING PHASE 1.
3. PERFORM WORK ON THE INNER PORTIONS OF EXISTING BRIDGE DECK AND APPROACH SLABS.
4. FOR DETAILS OF WORK IN THIS PHASE, SEE SUGGESTED CONSTRUCTION PROCEDURE ON SHEET 8/116.

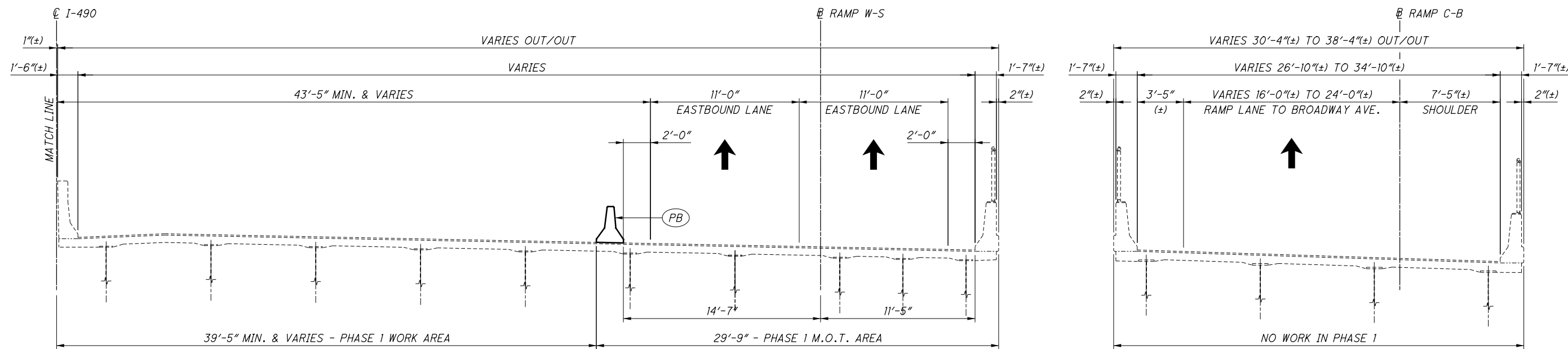
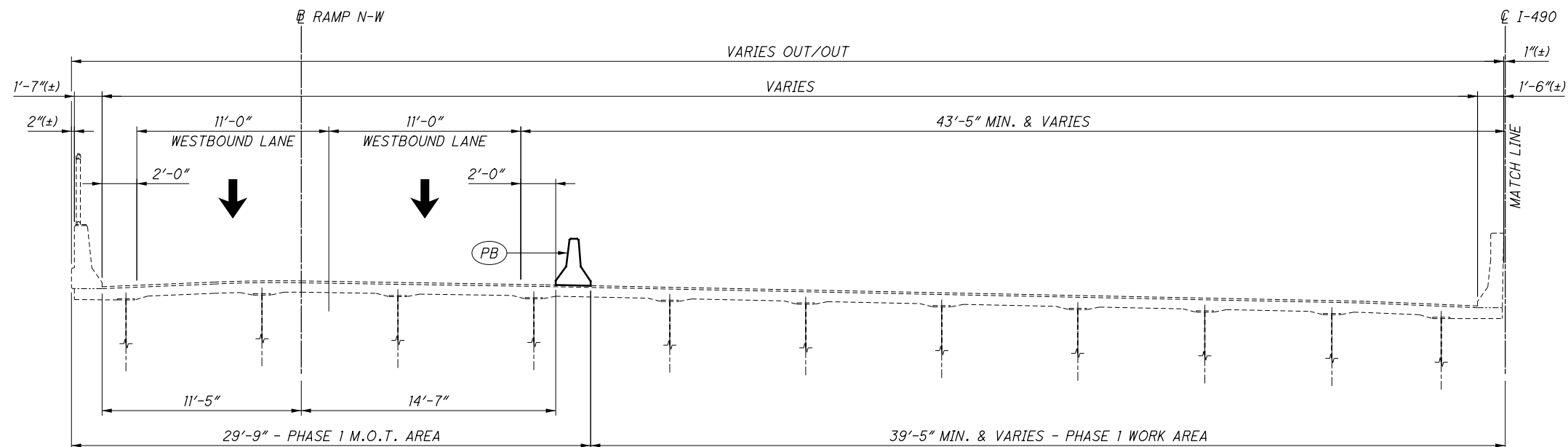


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DATE	08/05/20		

PHASE CONSTRUCTION DETAILS - 3
 BRIDGE NO. CUY-490-0100
 I-490 OVER CUYAHOGA RIVER

CUY-490-01.00
 PID No. 25622

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PHASE 1 CONSTRUCTION TRANSVERSE SECTION - UNIT 6
 SHOWN AT STA. 1018+30(±) IN SPANS 23 & 24

LEGEND

(PB) PORTABLE BARRIER, UNANCHORED ON EXIST. BRIDGE DECK, ANCHORED WITH 2 ANCHORS PER BARRIER SEGMENT ON EXIST. APPROACH SLABS

PHASE 1 CONSTRUCTION

1. MAINTAIN I-490 TRAFFIC AS SHOWN ON OUTER PORTION OF EXISTING BRIDGE DECKS AND APPROACH SLABS.
2. ALL ENTRANCE AND EXIT RAMP ARE TO REMAIN OPEN DURING PHASE 1.
3. PERFORM WORK ON THE INNER PORTIONS OF EXISTING BRIDGE DECK AND APPROACH SLABS.
4. FOR DETAILS OF WORK IN THIS PHASE, SEE SUGGESTED CONSTRUCTION PROCEDURE ON SHEET 8/116.

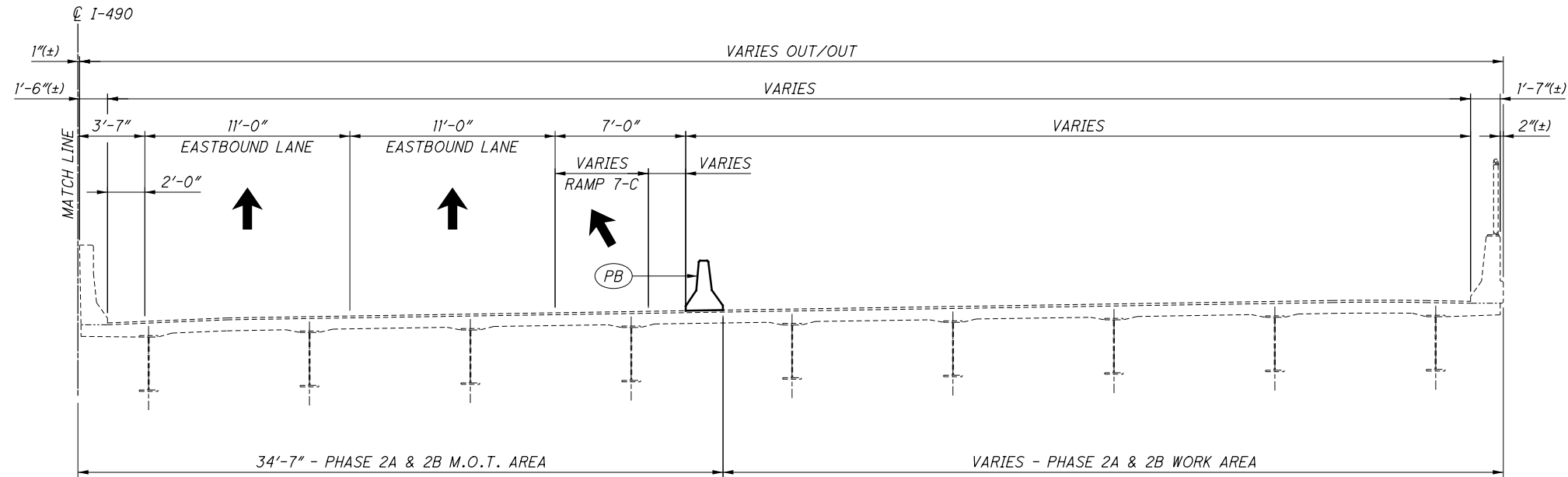
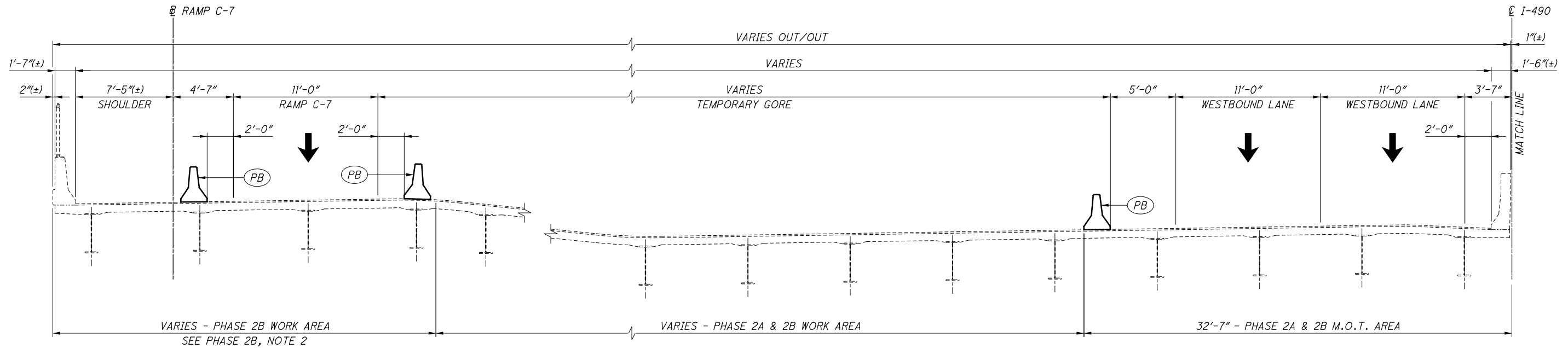


DESIGNED	PAT	CHECKED	JAM
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REVIEWED	MJL	STRUCTURE FILE NUMBER	1811991
DATE	08/05/20		

PHASE CONSTRUCTION DETAILS - 4
 BRIDGE NO. CUY-490-0100
 I-490 OVER CUYAHOGA RIVER

CUY-490-01.00
 PID No. 25622

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PHASE 2A & 2B CONSTRUCTION TRANSVERSE SECTION - UNIT 1

SHOWN AT STA. 986+80(±) IN SPAN 2

PHASE 2A CONSTRUCTION

1. MAINTAIN I-490 TRAFFIC AS SHOWN ON INNER PORTION OF EXISTING BRIDGE DECKS AND APPROACH SLABS.
2. RAMP 7-C FROM W. 7TH ST. AND RAMP B-C FROM ROCKEFELLER AVE. ARE CLOSED DURING PHASE 2A.
3. PERFORM WORK ON THE ENTRANCE RAMPS AND THOSE PORTIONS OF EXISTING BRIDGE DECK AND APPROACH SLABS NEEDED TO MAINTAIN TRAFFIC IN PHASE 2B.
4. FOR DETAILS OF WORK IN THIS PHASE, SEE SUGGESTED CONSTRUCTION PROCEDURE ON SHEET 8/116.

PHASE 2B CONSTRUCTION

1. CONTINUE TO MAINTAIN I-490 TRAFFIC AS SHOWN.
2. ALL ENTRANCE AND EXIT RAMPS ARE TO REMAIN OPEN DURING THIS PHASE, EXCEPT RAMP C-7 TO W. 7TH ST. IS TO BE CLOSED FOR A MAXIMUM OF 28 CALENDAR DAYS TO PERFORM WORK ON THE EXIT RAMP.
3. PERFORM WORK ON THE OUTER PORTIONS OF EXISTING BRIDGE DECK AND APPROACH SLABS.
4. FOR DETAILS OF WORK IN THIS PHASE, SEE SUGGESTED CONSTRUCTION PROCEDURE ON SHEET 8/116.

LEGEND

(PB) PORTABLE BARRIER, UNANCHORED ON EXIST. BRIDGE DECK AND PROP. APPROACH SLABS

PHASE 3 CONSTRUCTION

1. AFTER COMPLETION OF THE OPPORTUNITY CORRIDOR PROJECT, RETURN I-490 TO NORMAL CONFIGURATION OF FOUR (4) LANES IN EACH DIRECTION.
2. RAMP C-B TO BROADWAY AVE. IS CLOSED DURING THIS PHASE, WITH TRAFFIC DETOURED TO E. 55TH ST.
3. PERFORM WORK ON RAMP C-B TO BROADWAY AVE.
4. FOR DETAILS OF WORK IN THIS PHASE, SEE SUGGESTED CONSTRUCTION PROCEDURE ON SHEET 8/116.

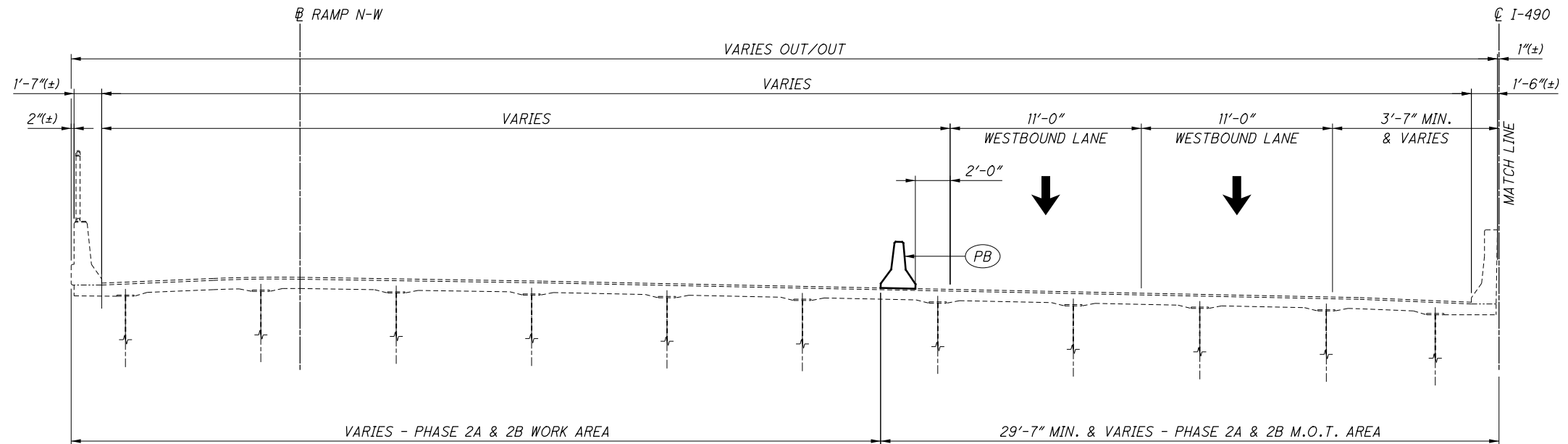


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REVIEWED	MJL	STRUCTURE FILE NUMBER	181991
DATE	08/05/20		

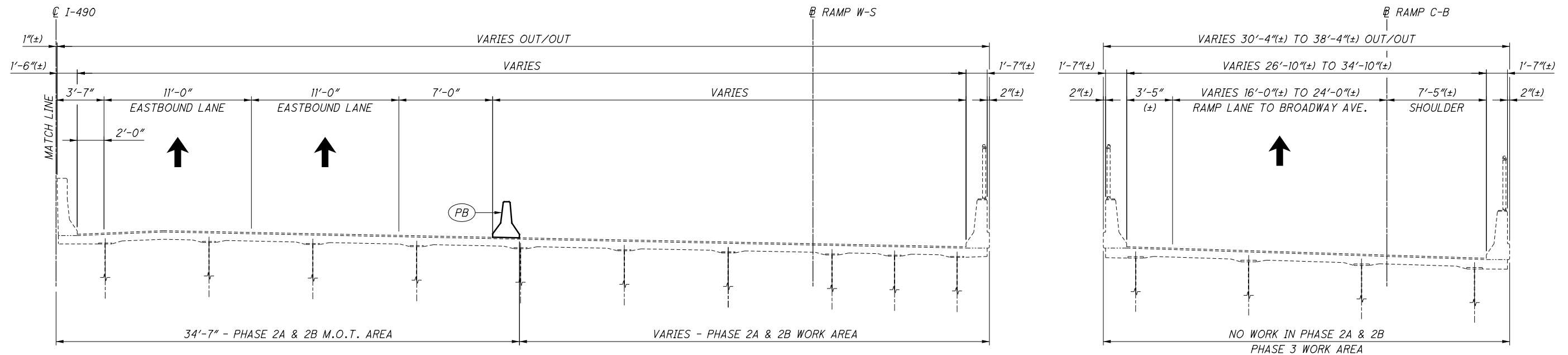
PHASE CONSTRUCTION DETAILS - 5
 BRIDGE NO. CUY-490-0100
 I-490 OVER CUYAHOGA RIVER

CUY-490-01.00
 PID No. 25622

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LEFT SIDE



RIGHT SIDE

PHASE 2A & 2B CONSTRUCTION TRANSVERSE SECTION - UNIT 6

SHOWN AT STA. 1018+30(±) IN SPANS 23 & 24

LEGEND

(PB) PORTABLE BARRIER, UNANCHORED ON EXIST. BRIDGE DECK AND PROP. APPROACH SLABS

PHASE 2A CONSTRUCTION

1. MAINTAIN I-490 TRAFFIC AS SHOWN ON INNER PORTION OF EXISTING BRIDGE DECKS AND APPROACH SLABS.
2. RAMP 7-C FROM W. 7TH ST. AND RAMP B-C FROM ROCKEFELLER AVE. ARE CLOSED DURING PHASE 2A.
3. PERFORM WORK ON THE ENTRANCE RAMPS AND THOSE PORTIONS OF EXISTING BRIDGE DECK AND APPROACH SLABS NEEDED TO MAINTAIN TRAFFIC IN PHASE 2B.
4. FOR DETAILS OF WORK IN THIS PHASE, SEE SUGGESTED CONSTRUCTION PROCEDURE ON SHEET 8/116.

PHASE 2B CONSTRUCTION

1. CONTINUE TO MAINTAIN I-490 TRAFFIC AS SHOWN.
2. ALL ENTRANCE AND EXIT RAMPS ARE TO REMAIN OPEN DURING THIS PHASE, EXCEPT RAMP C-7 TO W. 7TH ST. IS TO BE CLOSED FOR A MAXIMUM OF 28 CALENDAR DAYS TO PERFORM WORK ON THE EXIT RAMP.
3. PERFORM WORK ON THE OUTER PORTIONS OF EXISTING BRIDGE DECK AND APPROACH SLABS.
4. FOR DETAILS OF WORK IN THIS PHASE, SEE SUGGESTED CONSTRUCTION PROCEDURE ON SHEET 8/116.

PHASE 3 CONSTRUCTION

1. AFTER COMPLETION OF THE OPPORTUNITY CORRIDOR PROJECT, RETURN I-490 TO NORMAL CONFIGURATION OF FOUR (4) LANES IN EACH DIRECTION.
2. RAMP C-B TO BROADWAY AVE. IS CLOSED DURING THIS PHASE, WITH TRAFFIC DETOURED TO E. 55TH ST.
3. PERFORM WORK ON RAMP C-B TO BROADWAY AVE.
4. FOR DETAILS OF WORK IN THIS PHASE, SEE SUGGESTED CONSTRUCTION PROCEDURE ON SHEET 8/116.



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REVIEWED	MJL	STRUCTURE FILE NUMBER	181991
DATE	08/05/20		

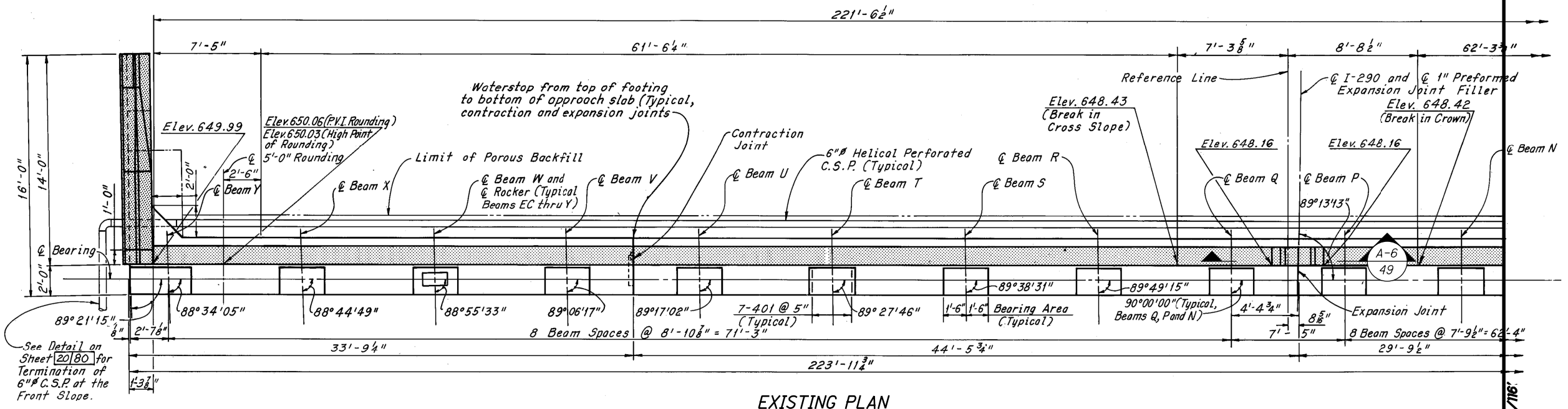
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BRIDGE NO. CUY-490-0100
I-490 OVER CUYAHOGA RIVER

CUY-490-01.00
PID No. 25622

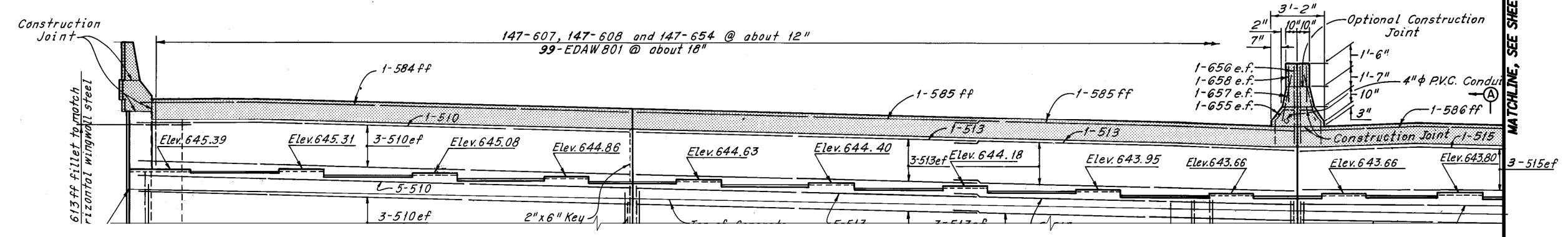
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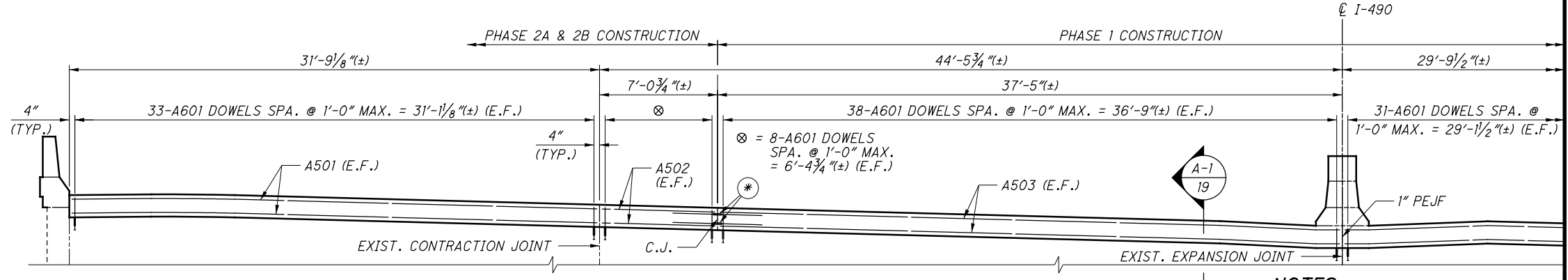
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EXISTING PLAN



EXISTING PARTIAL ELEVATION



PROPOSED PARTIAL ELEVATION

LEGEND

- ITEM 202 - PORTIONS OF STRUCTURE REMOVED, OVER 20' SPAN, AS PER PLAN
- AREA OF DELAMINATION TO BE REPAIRED PER ITEM 844 - CONCRETE PATCHING WITH GALVANIC ANODE PROTECTION, AS PER PLAN
- AREA OF CONCRETE DELAMINATION LOCATION NUMBER
- EXISTING CRACK TO BE REPAIRED LOCATION NUMBER
- THREADED MECHANICAL CONNECTOR, PROVIDING 3'-1" MIN. LAP, SHALL BE RICHMOND SCREW ANCHOR THREADED DOWEL BAR ASSEMBLY, LENTON REBAR SPLICING MECHANISM, OR APPROVED EQUAL AND THE COST SHALL BE INCLUDED WITH ITEM 509 - EPOXY COATED REINFORCING STEEL FOR PAYMENT

ESTIMATED PATCHING QUANTITIES		
LOCATION	WIDTH X HEIGHT	AREA (SF)
	NO	
	DETERIORATION	
	NOTED	
TOTAL AREA MEASURED		-
TOTAL AREA ESTIMATED *		-

* SEE NOTE 2

ESTIMATED CRACK REPAIR QUANTITIES		
LOCATION	DESCRIPTION	LENGTH
	NO	
	DETERIORATION	
	NOTED	
TOTAL LENGTH MEASURED		-
TOTAL LENGTH ESTIMATED *		-

* SEE NOTE 2

NOTES

1. EXISTING PLAN AND ELEVATION VIEW LINE WORK ON THIS SHEET COMES FROM SCANS OF THE 1986 RECORD PLANS. REFERENCES TO I-290 SHOULD BE REPLACED WITH I-490.
2. PHYSICAL INVENTORY OF MEASURED QUANTITIES OF DETERIORATION WAS PERFORMED IN AUGUST 2018. THE EXACT DIMENSIONS AND LOCATIONS OF PATCHES AND CRACK REPAIRS SHALL BE DETERMINED BY THE ENGINEER IN THE FIELD FOR FINAL PAY QUANTITY.
3. ESTIMATED PATCHING AND CRACK REPAIR QUANTITIES HAVE BEEN INCREASED BY 50% OVER MEASURED QUANTITIES TO ALLOW FOR ADDITIONAL DETERIORATION.
4. FOR PARAPET REPLACEMENT DETAILS, SEE SHEET 49/116.
5. THE MINIMUM LAP LENGTH FOR ABUTMENT REINFORCING STEEL SHALL BE 2'-5" FOR #5 BARS.



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REVISED:
REVIEWED: MJL
DATE: 08/05/20
STRUCTURE FILE NUMBER: 181991

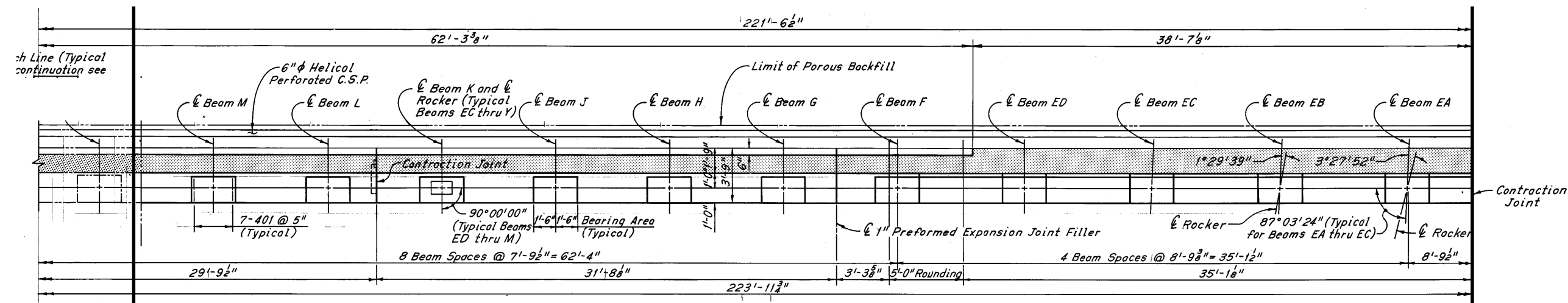
WEST ABUTMENT REPAIR DETAILS - 1
BRIDGE NO. CUY-490-0100
I-490 OVER CUYAHOGA RIVER

CUY-490-01.00
PID No. 25622

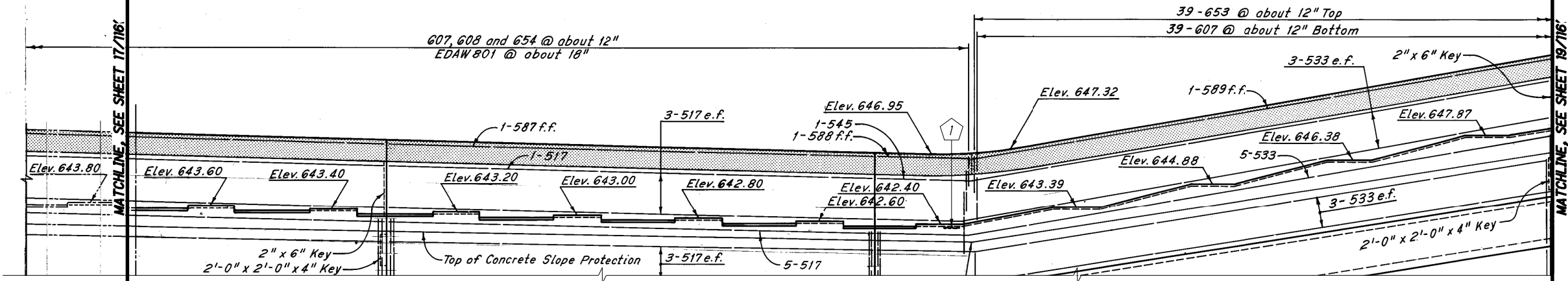
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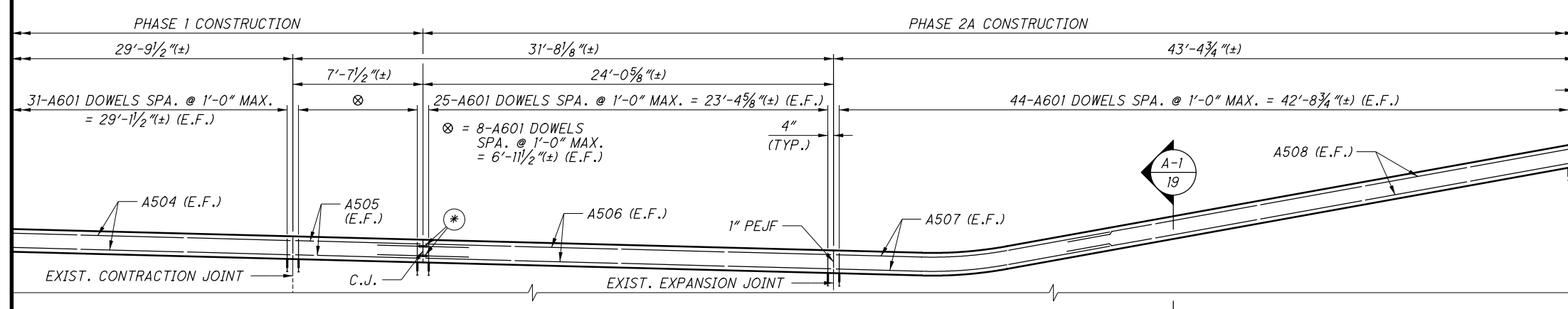
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EXISTING PLAN



EXISTING PARTIAL ELEVATION



PROPOSED PARTIAL ELEVATION

LEGEND

- ITEM 202 - PORTIONS OF STRUCTURE REMOVED, OVER 20' SPAN, AS PER PLAN
- AREA OF DELAMINATION TO BE REPAIRED PER ITEM 844 - CONCRETE PATCHING WITH GALVANIC ANODE PROTECTION, AS PER PLAN
- AREA OF CONCRETE DELAMINATION LOCATION NUMBER
- EXISTING CRACK TO BE REPAIRED LOCATION NUMBER
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ESTIMATED PATCHING QUANTITIES		
LOCATION	WIDTH X HEIGHT	AREA (SF)
	NO	
	DETERIORATION	
	NOTED	
TOTAL AREA MEASURED		-
TOTAL AREA ESTIMATED *		-

* SEE NOTE 2

ESTIMATED CRACK REPAIR QUANTITIES		
LOCATION	DESCRIPTION	LENGTH
1	STEM	1.00'
TOTAL LENGTH MEASURED		1.00'
TOTAL LENGTH ESTIMATED *		1.50'

* SEE NOTE 2

NOTES

1. EXISTING PLAN AND ELEVATION VIEW LINE WORK ON THIS SHEET COMES FROM SCANS OF THE 1986 RECORD PLANS. REFERENCES TO I-290 SHOULD BE REPLACED WITH I-490.
2. PHYSICAL INVENTORY OF MEASURED QUANTITIES OF DETERIORATION WAS PERFORMED IN AUGUST 2018. THE EXACT DIMENSIONS AND LOCATIONS OF PATCHES AND CRACK REPAIRS SHALL BE DETERMINED BY THE ENGINEER IN THE FIELD FOR FINAL PAY QUANTITY.
3. ESTIMATED PATCHING AND CRACK REPAIR QUANTITIES HAVE BEEN INCREASED BY 50% OVER MEASURED QUANTITIES TO ALLOW FOR ADDITIONAL DETERIORATION.
4. FOR PARAPET REPLACEMENT DETAILS, SEE SHEET 49/116.
5. THE MINIMUM LAP LENGTH FOR ABUTMENT REINFORCING STEEL SHALL BE 2'-5" FOR #5 BARS.



REVIEWED DATE 08/05/20
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 STRUCTURE FILE NUMBER 181991

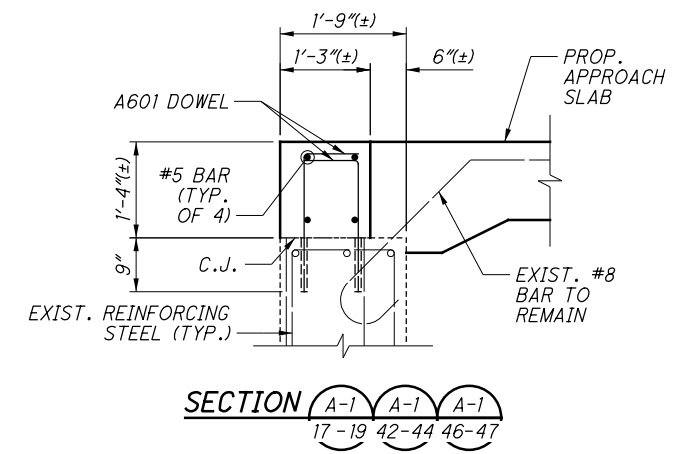
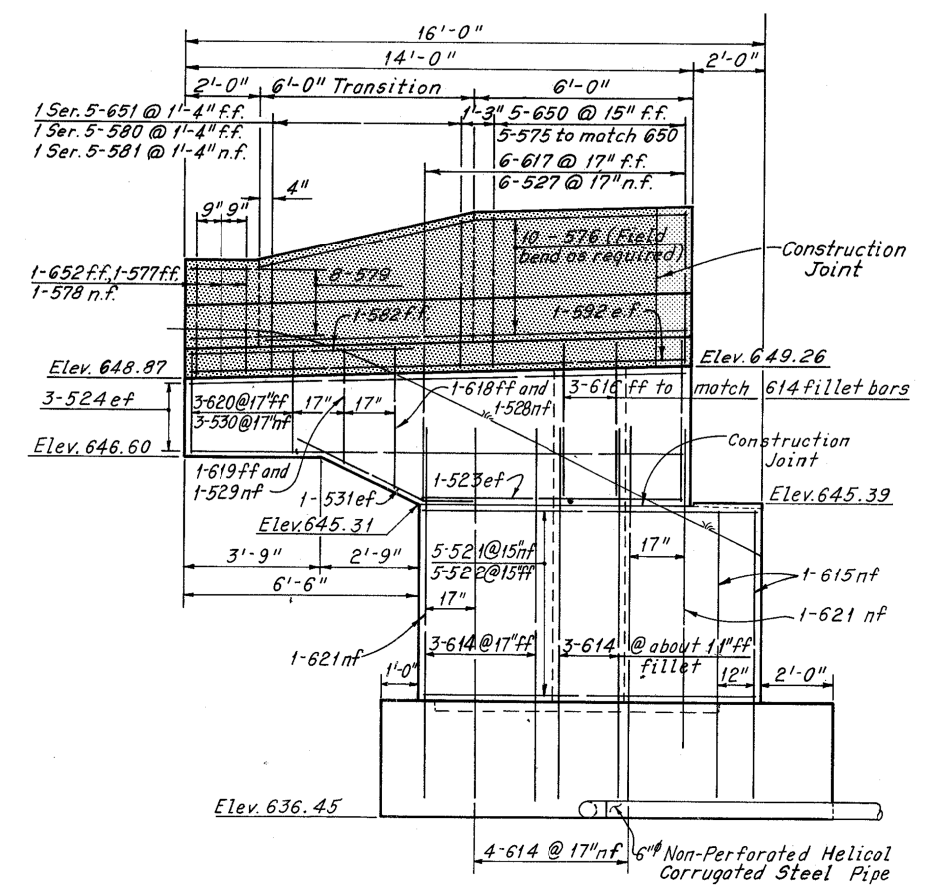
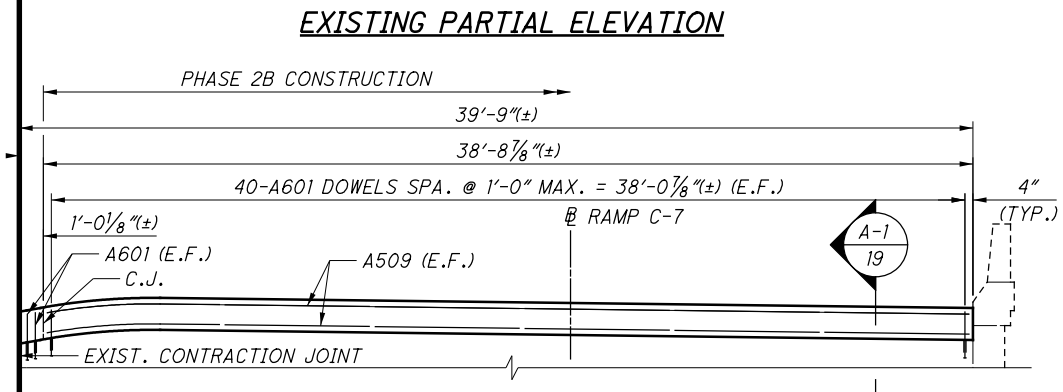
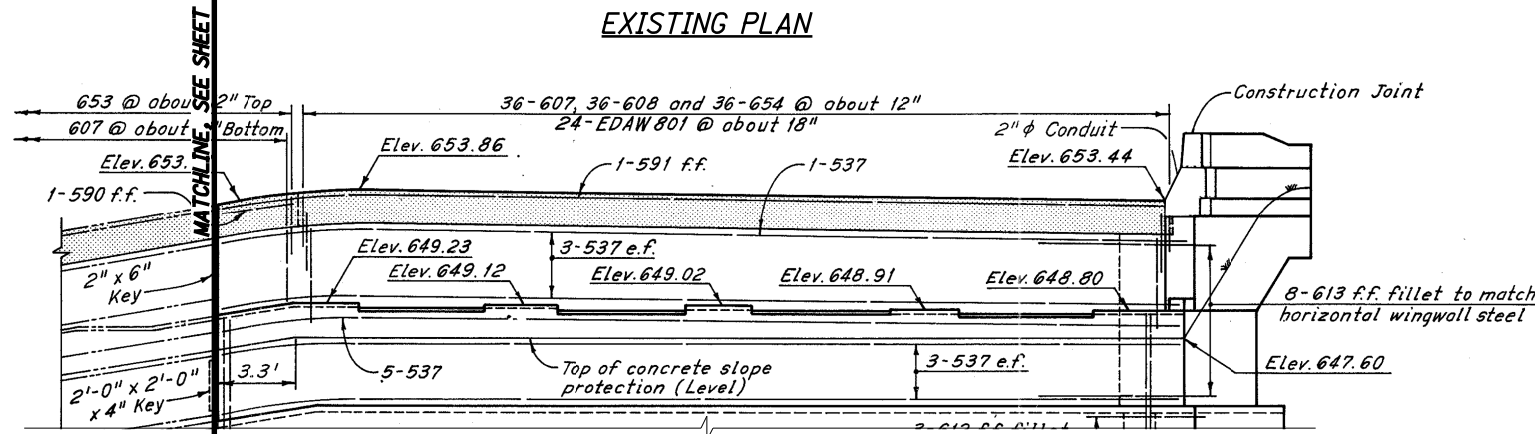
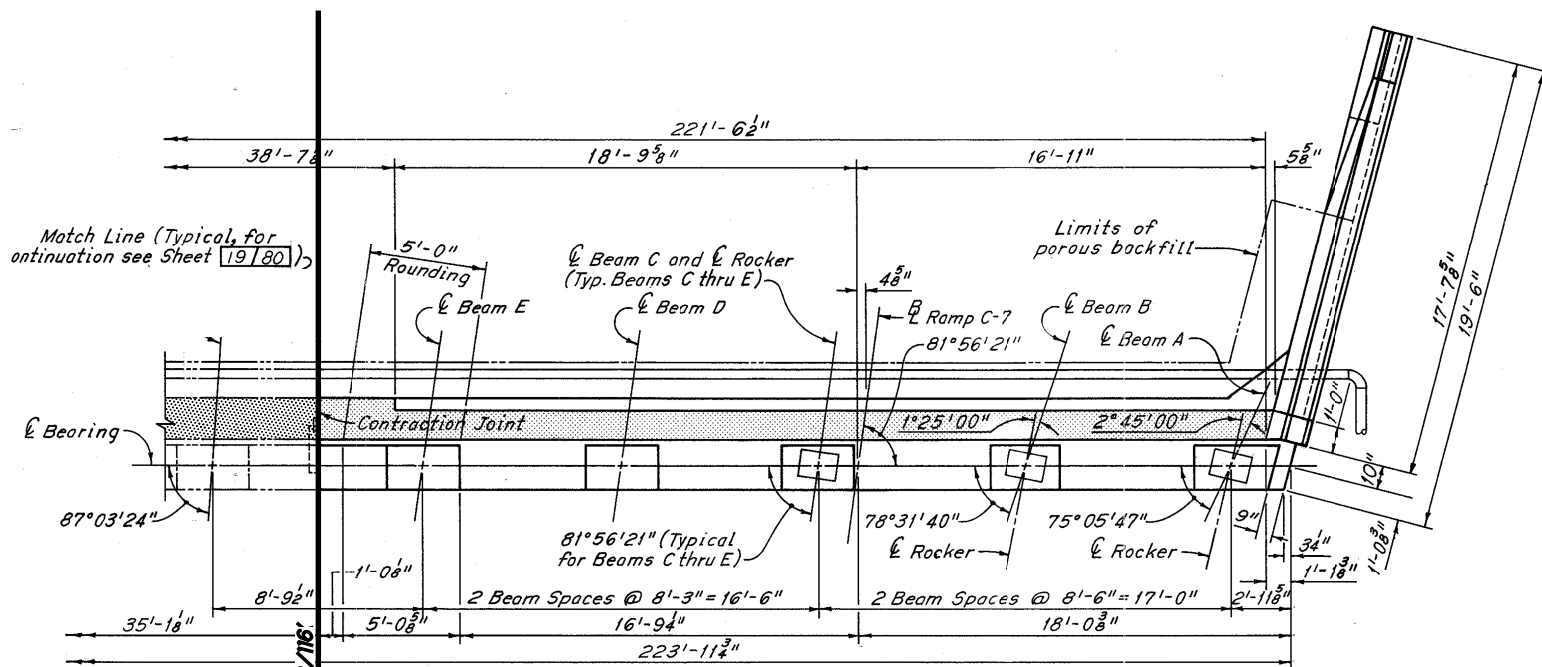
DRAWN JAM
 REVISIONS

DESIGNED JAM
 CHECKED CUS

WEST ABUTMENT REPAIR DETAILS - 2
 BRIDGE NO. CUY-490-0100
 I-490 OVER CUYAHOGA RIVER

CUY-490-01.00
 PID No. 25622

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LEGEND

- ITEM 202 - PORTIONS OF STRUCTURE REMOVED, OVER 20' SPAN, AS PER PLAN
- AREA OF DELAMINATION TO BE REPAIRED PER ITEM 844 - CONCRETE PATCHING WITH GALVANIC ANODE PROTECTION, AS PER PLAN
- AREA OF CONCRETE DELAMINATION LOCATION NUMBER
- EXISTING CRACK TO BE REPAIRED LOCATION NUMBER
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ESTIMATED PATCHING QUANTITIES		
LOCATION	WIDTH X HEIGHT	AREA (SF)
	NO	
	DETERIORATION	
	NOTED	
TOTAL AREA MEASURED		-
TOTAL AREA ESTIMATED *		-

* SEE NOTE 2

ESTIMATED CRACK REPAIR QUANTITIES		
LOCATION	DESCRIPTION	LENGTH
	NO	
	DETERIORATION	
	NOTED	
TOTAL LENGTH MEASURED		-
TOTAL LENGTH ESTIMATED *		-

* SEE NOTE 2

NOTES

- EXISTING PLAN AND ELEVATION VIEW LINE WORK ON THIS SHEET COMES FROM SCANS OF THE 1986 RECORD PLANS. REFERENCES TO I-290 SHOULD BE REPLACED WITH I-490.
- PHYSICAL INVENTORY OF MEASURED QUANTITIES OF DETERIORATION WAS PERFORMED IN AUGUST 2018. THE EXACT DIMENSIONS AND LOCATIONS OF PATCHES AND CRACK REPAIRS SHALL BE DETERMINED BY THE ENGINEER IN THE FIELD FOR FINAL PAY QUANTITY.
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- FOR PARAPET REPLACEMENT DETAILS, SEE SHEET 49/116.
- THE MINIMUM LAP LENGTH FOR ABUTMENT REINFORCING STEEL SHALL BE 2'-5" FOR #5 BARS.

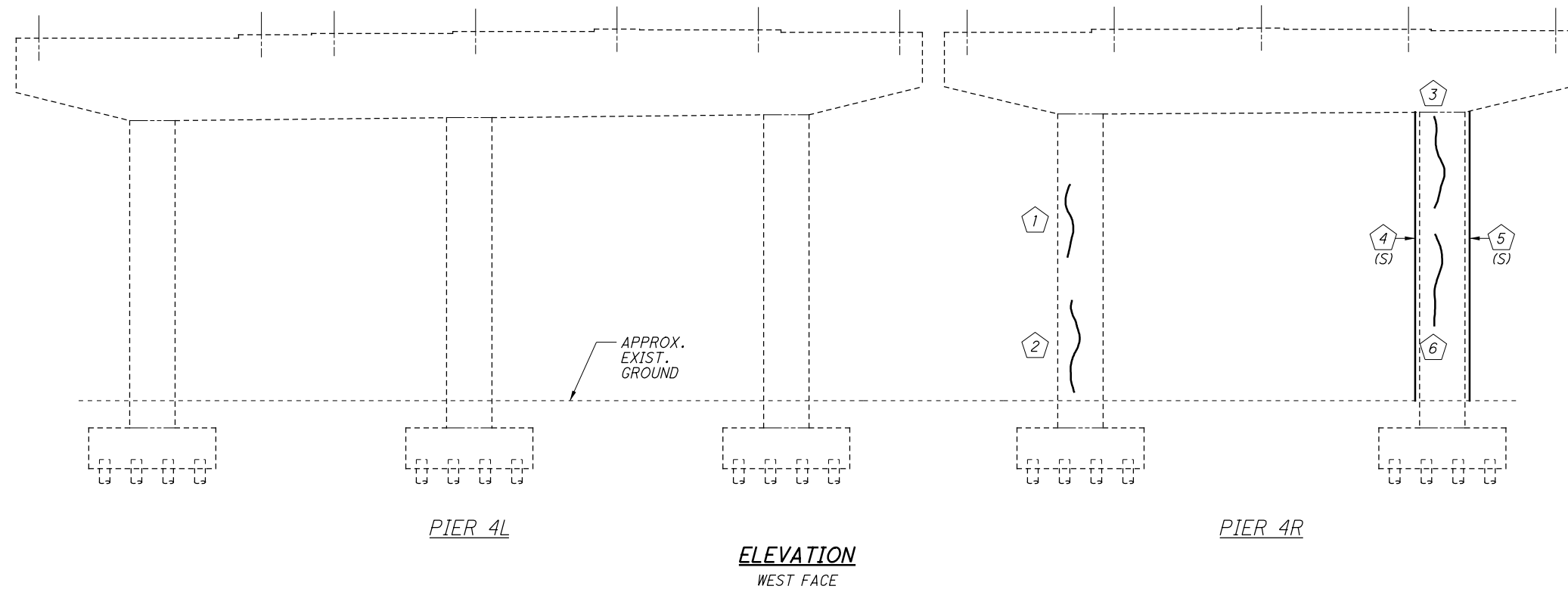


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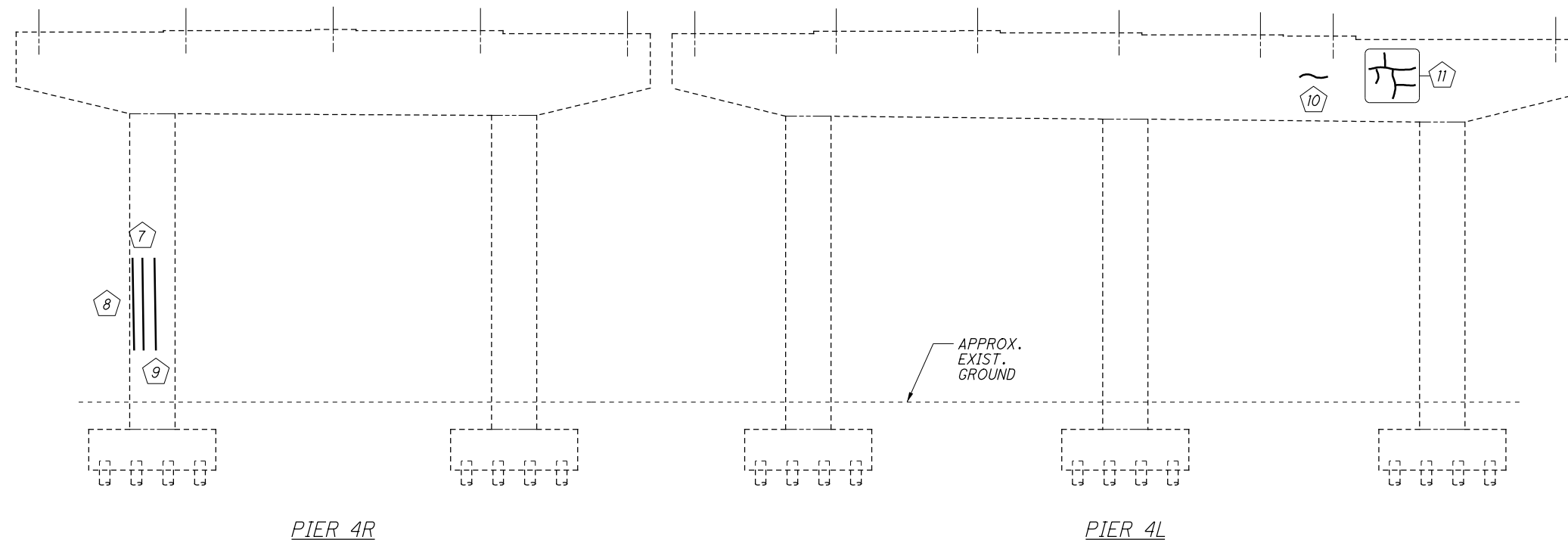
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 BRIDGE NO. CUY-490-0100
 I-490 OVER CUYAHOGA RIVER

CUY-490-01.00
 PID No. 25622

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ELEVATION
WEST FACE



ELEVATION
EAST FACE

ESTIMATED PATCHING QUANTITIES		
LOCATION	WIDTH X HEIGHT	AREA (SF)
	NO	
	DETERIORATION	
	NOTED	
TOTAL AREA MEASURED		-
TOTAL AREA ESTIMATED *		-

* SEE NOTE 2

ESTIMATED CRACK REPAIR QUANTITIES		
LOCATION	DESCRIPTION	LENGTH
1	COLUMN FACE	8.00'
2	COLUMN FACE	10.00'
3	COLUMN FACE	10.00'
4	COLUMN SIDE	32.00'
5	COLUMN SIDE	32.00'
6	COLUMN FACE	10.00'
7	COLUMN FACE	10.00'
8	COLUMN FACE	10.00'
9	COLUMN FACE	10.00'
10	CAP FACE	3.00'
11	CAP FACE	14.00'
TOTAL LENGTH MEASURED		149.00'
TOTAL LENGTH ESTIMATED *		223.50'

* SEE NOTE 2

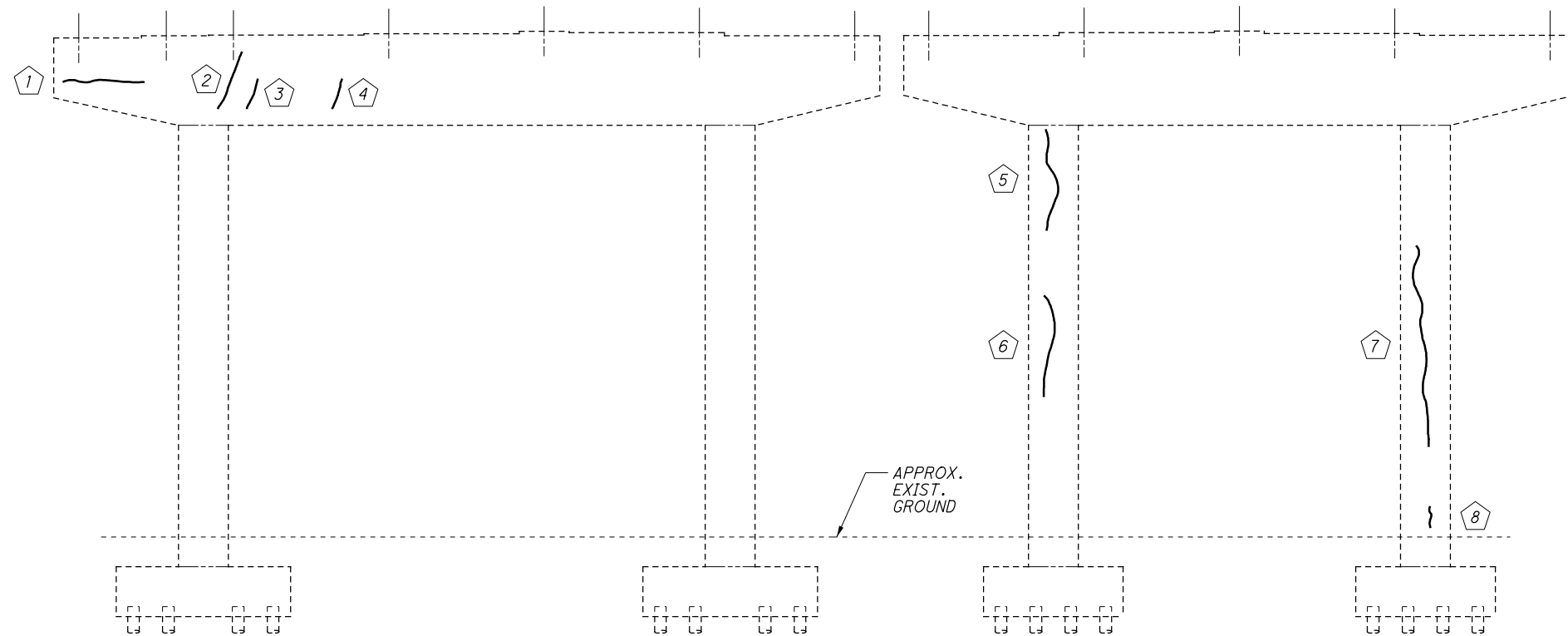
LEGEND

- AREA OF DELAMINATION TO BE REPAIRED PER ITEM 844 - CONCRETE PATCHING WITH GALVANIC ANODE PROTECTION, AS PER PLAN
- AREA OF CONCRETE DELAMINATION LOCATION NUMBER
- EXISTING CRACK TO BE REPAIRED LOCATION NUMBER
- (B) BOTTOM OF PIER CAP
- (S) SIDE OF PIER COLUMN
- (T) TRANSVERSE CRACKS

NOTES

1. PHYSICAL INVENTORY OF MEASURED QUANTITIES OF DETERIORATION WAS PERFORMED BETWEEN JULY AND SEPTEMBER 2018. THE EXACT DIMENSIONS AND LOCATIONS OF PATCHES AND CRACK REPAIRS SHALL BE DETERMINED BY THE ENGINEER IN THE FIELD FOR FINAL PAY QUANTITY.
2. ESTIMATED PATCHING AND CRACK REPAIR QUANTITIES HAVE BEEN INCREASED BY 50% OVER MEASURED QUANTITIES TO ALLOW FOR ADDITIONAL DETERIORATION.

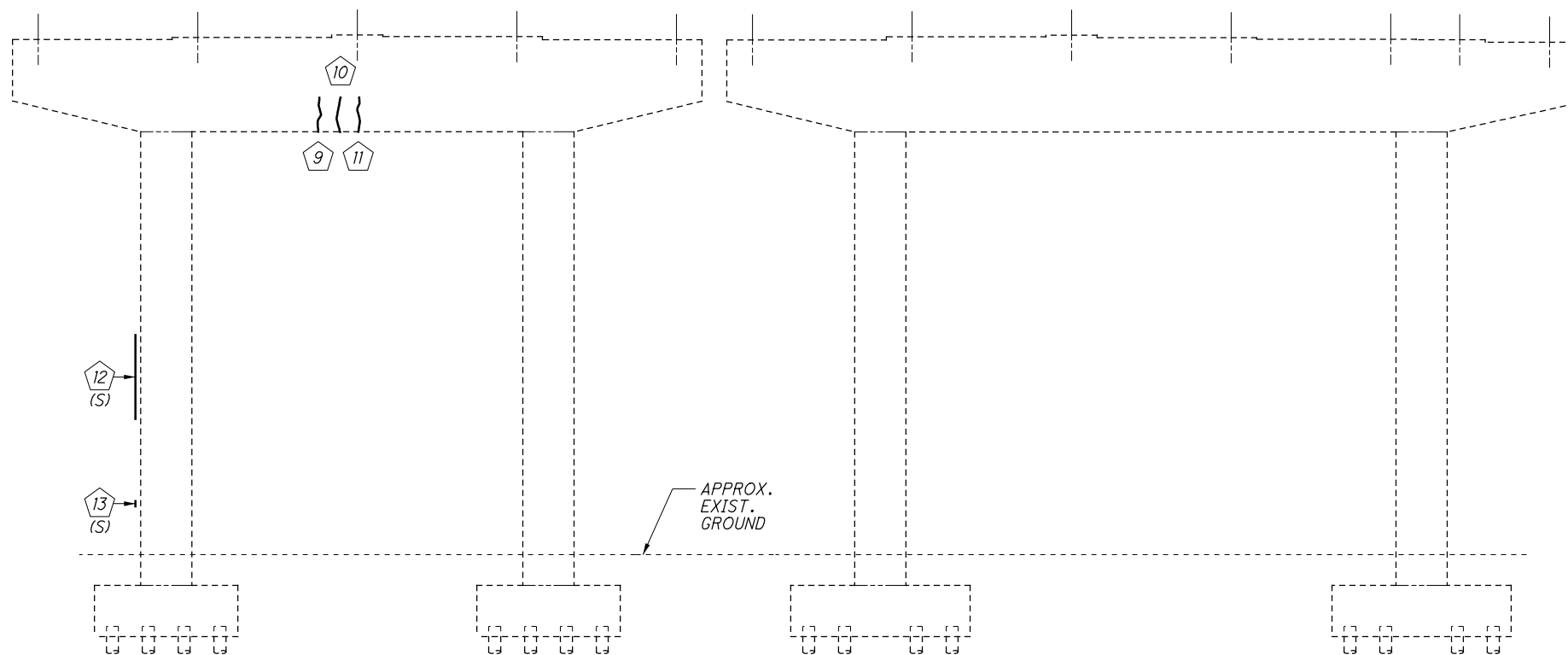
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PIER 5L

PIER 5R

ELEVATION
WEST FACE



PIER 5R

PIER 5L

ELEVATION
EAST FACE

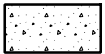


ESTIMATED PATCHING QUANTITIES		
LOCATION	WIDTH X HEIGHT	AREA (SF)
	NO	
	DETERIORATION	
	NOTED	
TOTAL AREA MEASURED		-
TOTAL AREA ESTIMATED *		-

* SEE NOTE 2

ESTIMATED CRACK REPAIR QUANTITIES		
LOCATION	DESCRIPTION	LENGTH
1	CAP FACE	8.00'
2	CAP FACE	6.00'
3	CAP FACE	3.00'
4	CAP FACE	3.00'
5	COLUMN FACE	10.00'
6	COLUMN FACE	10.00'
7	COLUMN FACE	20.00'
8	COLUMN FACE	2.00'
9	CAP FACE	3.50'
10	CAP FACE	3.50'
11	CAP FACE	3.50'
12	COLUMN SIDE	10.00'
13	COLUMN SIDE	4.00'
TOTAL LENGTH MEASURED		86.50'
TOTAL LENGTH ESTIMATED *		129.75'

* SEE NOTE 2

LEGEND

-  AREA OF DELAMINATION TO BE REPAIRED PER ITEM 844 - CONCRETE PATCHING WITH GALVANIC ANODE PROTECTION, AS PER PLAN
-  AREA OF CONCRETE DELAMINATION LOCATION NUMBER
-  EXISTING CRACK TO BE REPAIRED LOCATION NUMBER
- (B) BOTTOM OF PIER CAP
- (S) SIDE OF PIER COLUMN
- (T) TRANSVERSE CRACKS

NOTES

1. PHYSICAL INVENTORY OF MEASURED QUANTITIES OF DETERIORATION WAS PERFORMED BETWEEN JULY AND SEPTEMBER 2018. THE EXACT DIMENSIONS AND LOCATIONS OF PATCHES AND CRACK REPAIRS SHALL BE DETERMINED BY THE ENGINEER IN THE FIELD FOR FINAL PAY QUANTITY.
2. ESTIMATED PATCHING AND CRACK REPAIR QUANTITIES HAVE BEEN INCREASED BY 50% OVER MEASURED QUANTITIES TO ALLOW FOR ADDITIONAL DETERIORATION.



DATE 08/05/20
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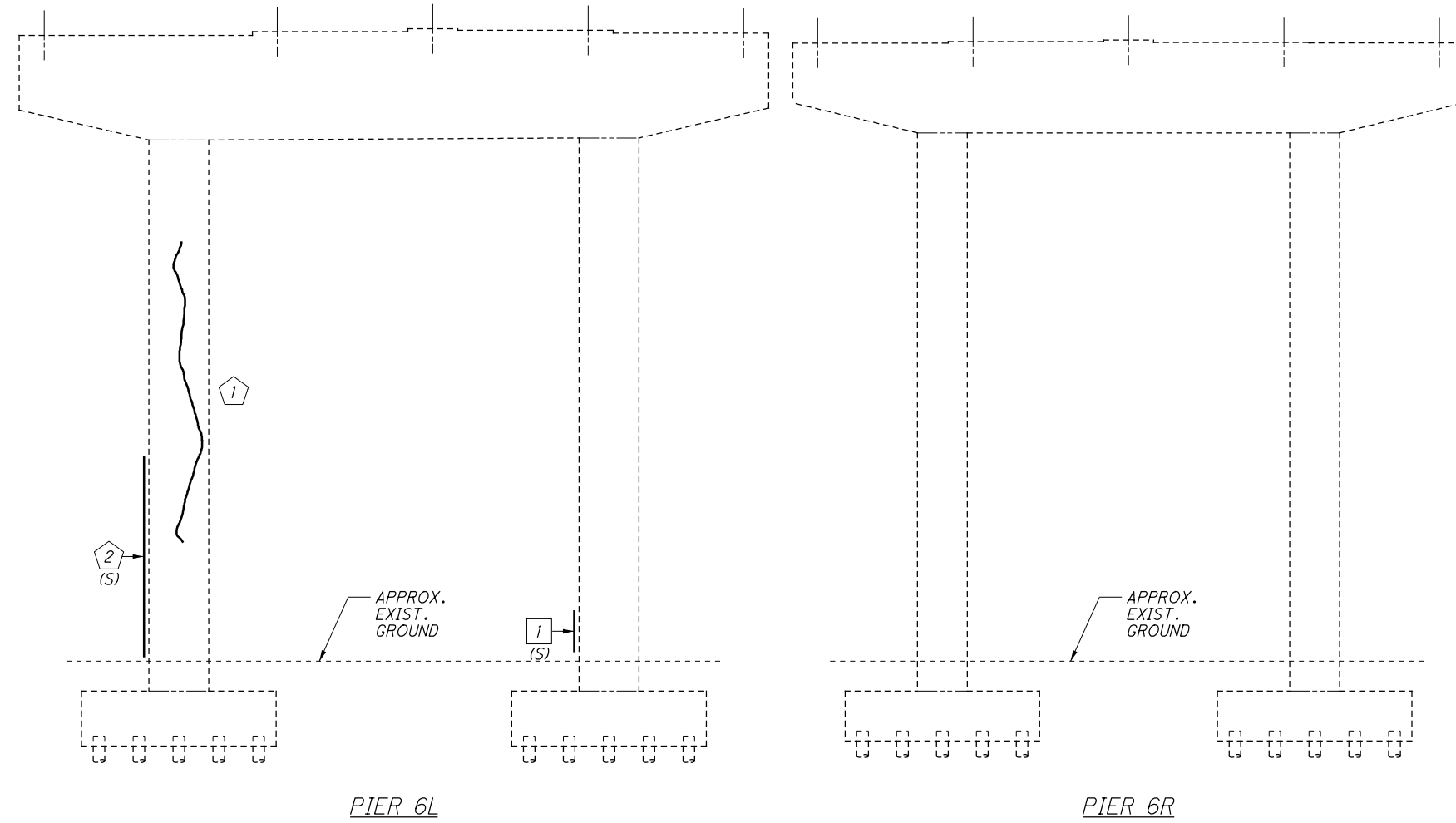
PIER 5 REPAIR DETAILS
BRIDGE NO. CUY-490-0100
I-490 OVER CUYAHOGA RIVER

CUY-490-01.00
PID No. 25622

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ELEVATION
WEST FACE

ESTIMATED PATCHING QUANTITIES		
LOCATION	WIDTH X HEIGHT	AREA (SF)
1	2'-0" x 4'-0"	8.00
TOTAL AREA MEASURED		8.00
TOTAL AREA ESTIMATED *		12.00

* SEE NOTE 2

ESTIMATED CRACK REPAIR QUANTITIES		
LOCATION	DESCRIPTION	LENGTH
1	COLUMN FACE	30.00'
2	COLUMN SIDE	20.00'
TOTAL LENGTH MEASURED		50.00'
TOTAL LENGTH ESTIMATED *		75.00'

* SEE NOTE 2

LEGEND

- AREA OF DELAMINATION TO BE REPAIRED PER ITEM 844 - CONCRETE PATCHING WITH GALVANIC ANODE PROTECTION, AS PER PLAN
- AREA OF CONCRETE DELAMINATION LOCATION NUMBER
- EXISTING CRACK TO BE REPAIRED LOCATION NUMBER
- (B) BOTTOM OF PIER CAP
- (S) SIDE OF PIER COLUMN
- (T) TRANSVERSE CRACKS

NOTES

1. PHYSICAL INVENTORY OF MEASURED QUANTITIES OF DETERIORATION WAS PERFORMED BETWEEN JULY AND SEPTEMBER 2018. THE EXACT DIMENSIONS AND LOCATIONS OF PATCHES AND CRACK REPAIRS SHALL BE DETERMINED BY THE ENGINEER IN THE FIELD FOR FINAL PAY QUANTITY.
2. ESTIMATED PATCHING AND CRACK REPAIR QUANTITIES HAVE BEEN INCREASED BY 50% OVER MEASURED QUANTITIES TO ALLOW FOR ADDITIONAL DETERIORATION.



REVIEWED DATE 08/05/20
MJJ
STRUCTURE FILE NUMBER 181991

DESIGNED BY JAM
CHECKED BY PAT

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REVISED

PIER 6 REPAIR DETAILS - 1
BRIDGE NO. CUY-490-0100
I-490 OVER CUYAHOGA RIVER

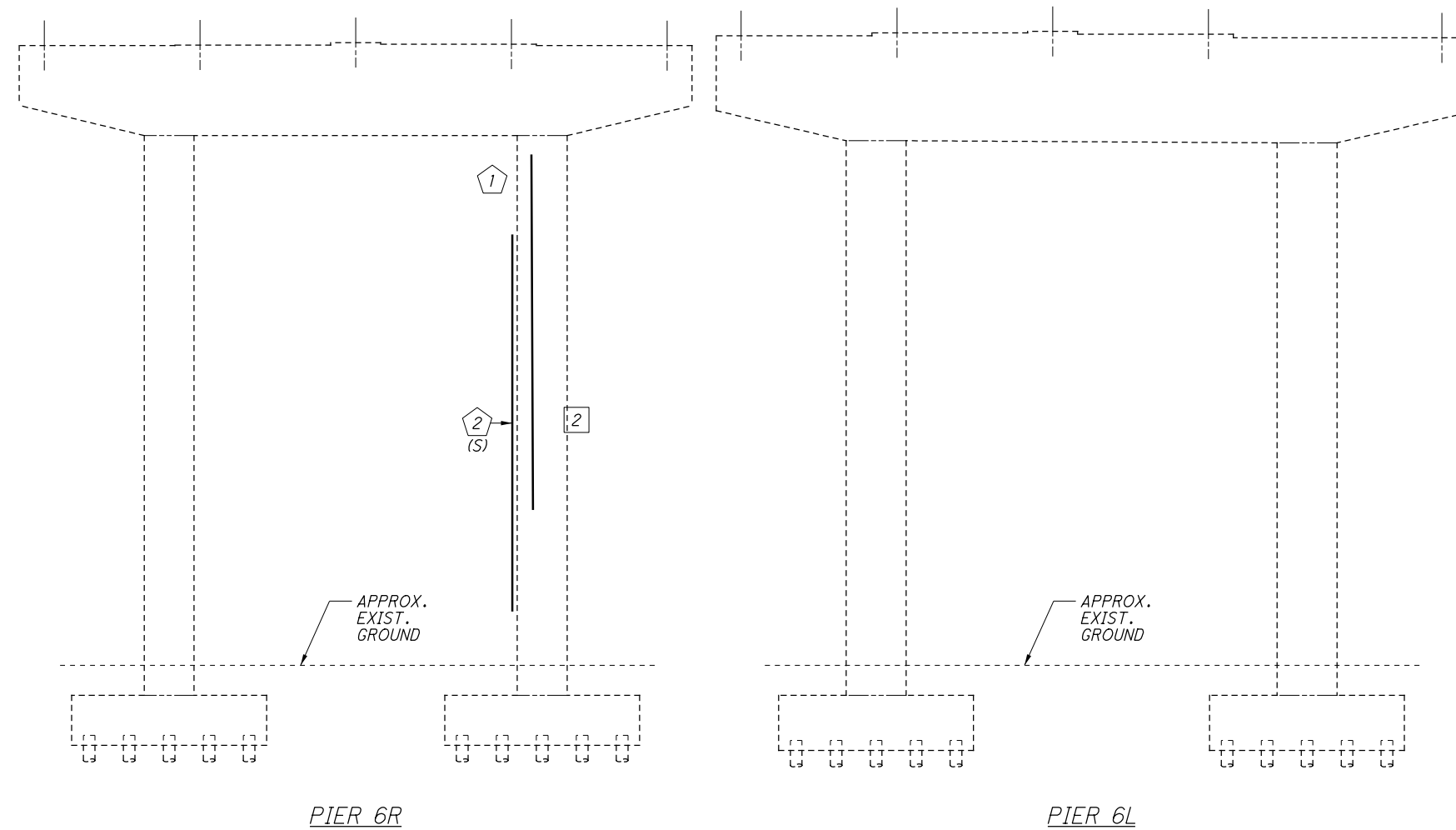
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PID No. 25622

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ELEVATION
EAST FACE




ESTIMATED PATCHING QUANTITIES		
LOCATION	WIDTH X HEIGHT	AREA (SF)
	NO	
	DETERIORATION	
	NOTED	
TOTAL AREA MEASURED		-
TOTAL AREA ESTIMATED *		-

* SEE NOTE 2

ESTIMATED CRACK REPAIR QUANTITIES		
LOCATION	DESCRIPTION	LENGTH
1	COLUMN FACE	35.33'
2	COLUMN SIDE	37.50'
TOTAL LENGTH MEASURED		72.83'
TOTAL LENGTH ESTIMATED *		109.25'

* SEE NOTE 2

LEGEND

-  AREA OF DELAMINATION TO BE REPAIRED PER ITEM 844 - CONCRETE PATCHING WITH GALVANIC ANODE PROTECTION, AS PER PLAN
-  AREA OF CONCRETE DELAMINATION LOCATION NUMBER
-  EXISTING CRACK TO BE REPAIRED LOCATION NUMBER
- (B) BOTTOM OF PIER CAP
- (S) SIDE OF PIER COLUMN
- (T) TRANSVERSE CRACKS

NOTES

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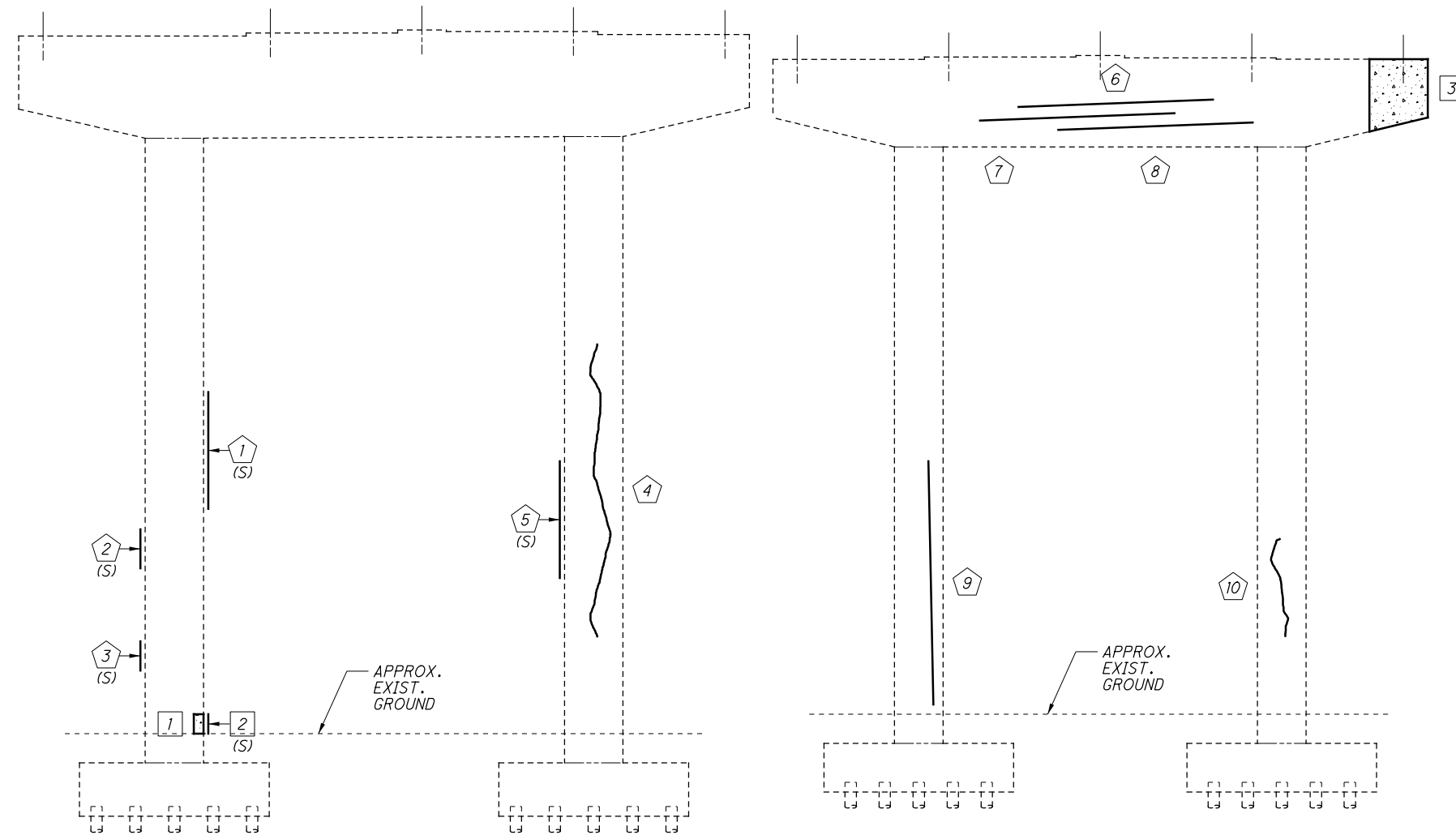
PIER 6 REPAIR DETAILS - 2
BRIDGE NO. CUY-490-0100
I-490 OVER CUYAHOGA RIVER

CUY-490-01.00
PID No. 25622

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PIER 7L

ELEVATION
WEST FACE

PIER 7R

ESTIMATED PATCHING QUANTITIES		
LOCATION	WIDTH X HEIGHT	AREA (SF)
1	1'-0" x 2'-0"	2.00
2	1'-0" x 2'-0"	2.00
3	6'-0" x 6'-9"	40.50
TOTAL AREA MEASURED		44.50
TOTAL AREA ESTIMATED *		66.75

* SEE NOTE 2

ESTIMATED CRACK REPAIR QUANTITIES		
LOCATION	DESCRIPTION	LENGTH
1	COLUMN SIDE	12.00'
2	COLUMN SIDE	4.00'
3	COLUMN SIDE	3.00'
4	COLUMN FACE	30.00'
5	COLUMN SIDE	12.00'
6	CAP FACE	20.00'
7	CAP FACE	20.00'
8	CAP FACE	20.00'
9	COLUMN FACE	25.00'
10	COLUMN FACE	10.00'
TOTAL LENGTH MEASURED		156.00'
TOTAL LENGTH ESTIMATED *		234.00'

* SEE NOTE 2

LEGEND

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 CHECKED: JAM PAT
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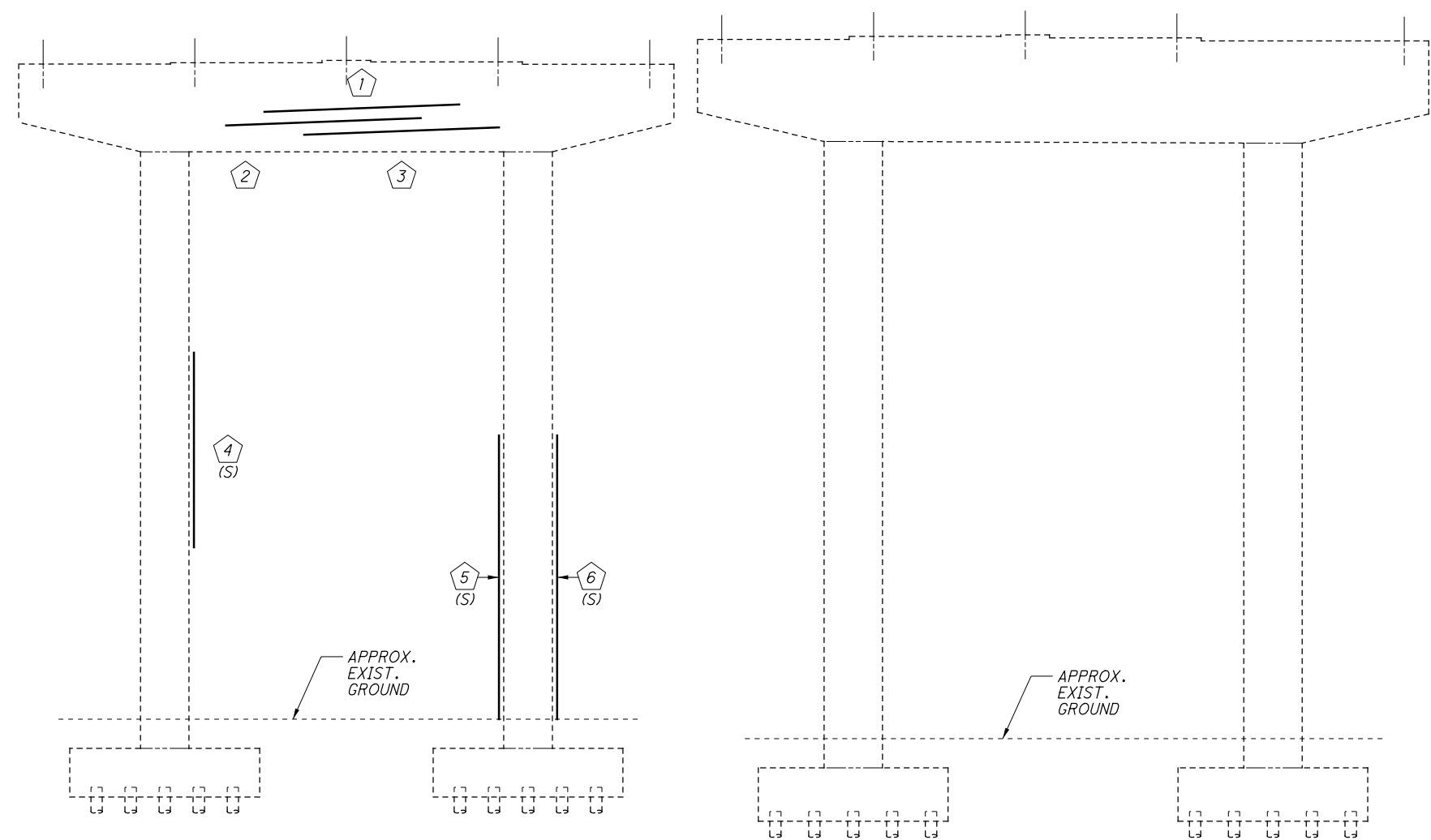
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 BRIDGE NO. CUY-490-0100
 I-490 OVER CUYAHOGA RIVER

CUY-490-01.00
 PID No. 25622

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PIER 7R

ELEVATION
EAST FACE

PIER 7L

ESTIMATED PATCHING QUANTITIES		
LOCATION	WIDTH X HEIGHT	AREA (SF)
	NO	
	DETERIORATION	
	NOTED	
TOTAL AREA MEASURED		-
TOTAL AREA ESTIMATED *		-

* SEE NOTE 2

ESTIMATED CRACK REPAIR QUANTITIES		
LOCATION	DESCRIPTION	LENGTH
1	CAP FACE	20.00'
2	CAP FACE	20.00'
3	CAP FACE	20.00'
4	COLUMN SIDE	20.00'
5	COLUMN SIDE	29.17'
6	COLUMN SIDE	29.17'
TOTAL LENGTH MEASURED		138.34'
TOTAL LENGTH ESTIMATED *		207.51'

* SEE NOTE 2

LEGEND

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- AREA OF CONCRETE DELAMINATION LOCATION NUMBER
- EXISTING CRACK TO BE REPAIRED LOCATION NUMBER
- (B) BOTTOM OF PIER CAP
- (S) SIDE OF PIER COLUMN
- (T) TRANSVERSE CRACKS

NOTES

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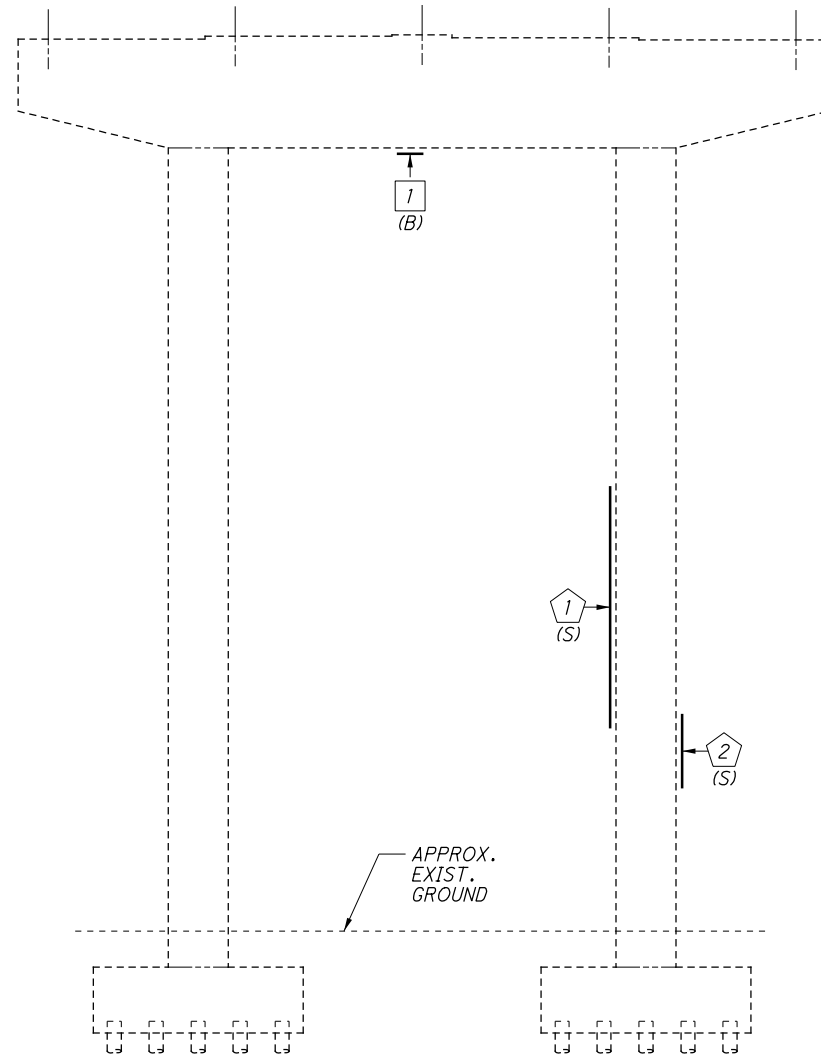
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PIER 7 REPAIR DETAILS - 2
 BRIDGE NO. CUY-490-0100
 I-490 OVER CUYAHOGA RIVER

CUY-490-01.00
 PID No. 25622

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PIER 8R ELEVATION
WEST FACE

ESTIMATED PATCHING QUANTITIES		
LOCATION	WIDTH X HEIGHT	AREA (SF)
1	2'-0" x 1'-0"	2.00
TOTAL AREA MEASURED		2.00
TOTAL AREA ESTIMATED *		3.00

* SEE NOTE 2

ESTIMATED CRACK REPAIR QUANTITIES		
LOCATION	DESCRIPTION	LENGTH
1	COLUMN SIDE	20.00'
2	COLUMN SIDE	6.00'
TOTAL LENGTH MEASURED		26.00'
TOTAL LENGTH ESTIMATED *		39.00'

* SEE NOTE 2

LEGEND



AREA OF DELAMINATION TO BE REPAIRED PER ITEM 844 - CONCRETE PATCHING WITH GALVANIC ANODE PROTECTION, AS PER PLAN



AREA OF CONCRETE DELAMINATION LOCATION NUMBER



EXISTING CRACK TO BE REPAIRED LOCATION NUMBER



BOTTOM OF PIER CAP



SIDE OF PIER COLUMN



TRANSVERSE CRACKS

NOTES

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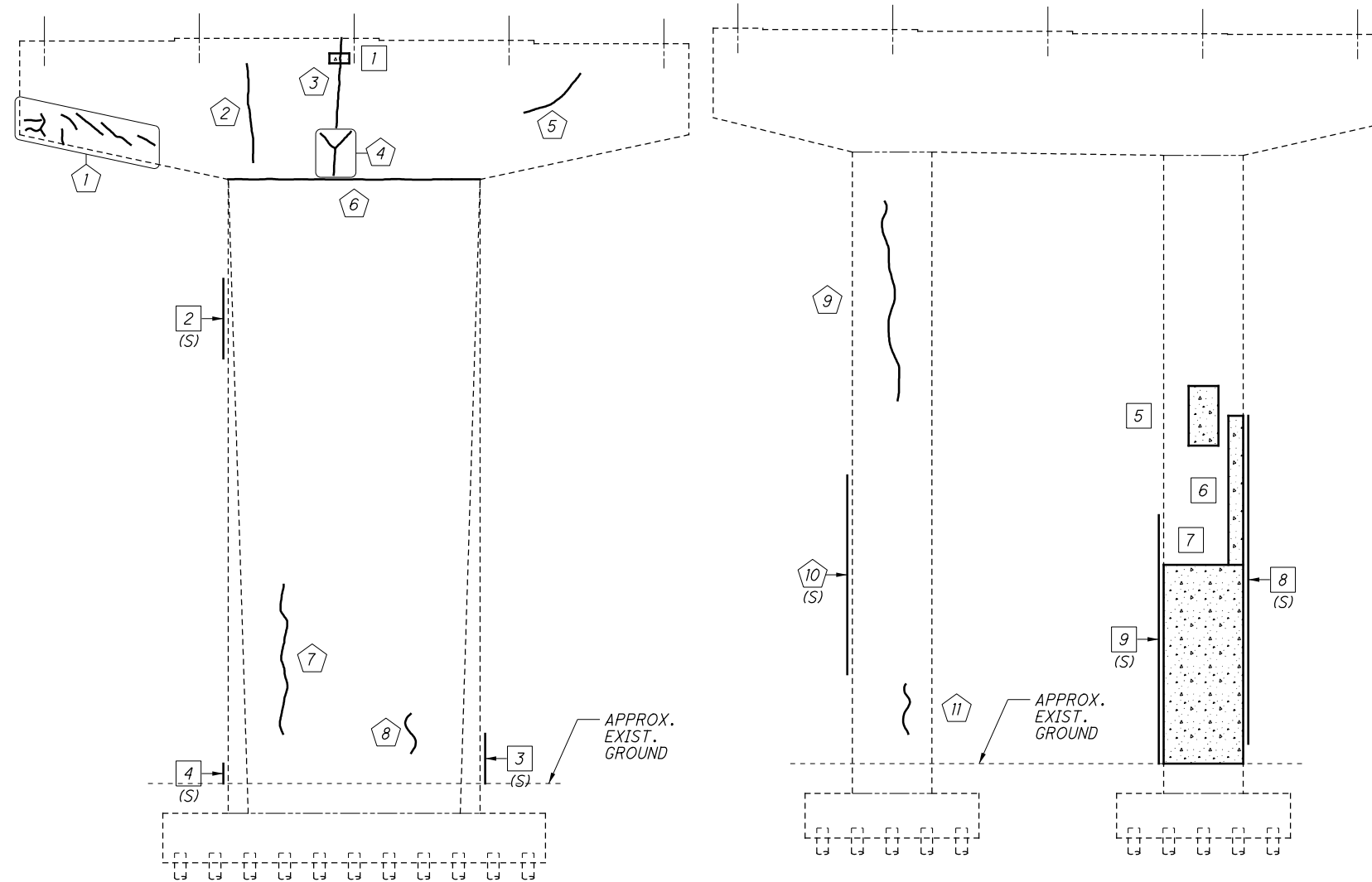
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CHECKED	REVISED	STRUCTURE FILE NUMBER	
PAT		181991	

PIER 8 REPAIR DETAILS
BRIDGE NO. CUY-490-0100
I-490 OVER CUYAHOGA RIVER

CUY-490-01.00
PID No. 25622

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PIER 9L

PIER 9R

ELEVATION
WEST FACE

ESTIMATED PATCHING QUANTITIES		
LOCATION	WIDTH X HEIGHT	AREA (SF)
1	2'-0" x 1'-0"	2.00
2	1'-0" x 8'-0"	8.00
3	1'-0" x 5'-0"	5.00
4	1'-0" x 2'-0"	2.00
5	3'-0" x 6'-0"	18.00
6	1'-6" x 15'-0"	22.50
7	8'-0" x 20'-0"	160.00
8	2'-6" x 33'-0"	82.50
9	1'-6" x 25'-0"	37.50
TOTAL AREA MEASURED		337.50
TOTAL AREA ESTIMATED *		506.25

* SEE NOTE 2

ESTIMATED CRACK REPAIR QUANTITIES		
LOCATION	DESCRIPTION	LENGTH
1	CAP FACE	17.50'
2	CAP FACE	10.00'
3	CAP FACE	9.00'
4	CAP FACE	7.00'
5	CAP FACE	6.00'
6	CAP/STEM JOINT	25.33'
7	STEM FACE	15.00'
8	STEM FACE	4.00'
9	COLUMN FACE	20.00'
10	COLUMN SIDE	20.00'
11	COLUMN FACE	5.00'
TOTAL LENGTH MEASURED		138.83'
TOTAL LENGTH ESTIMATED *		208.25'

* SEE NOTE 2

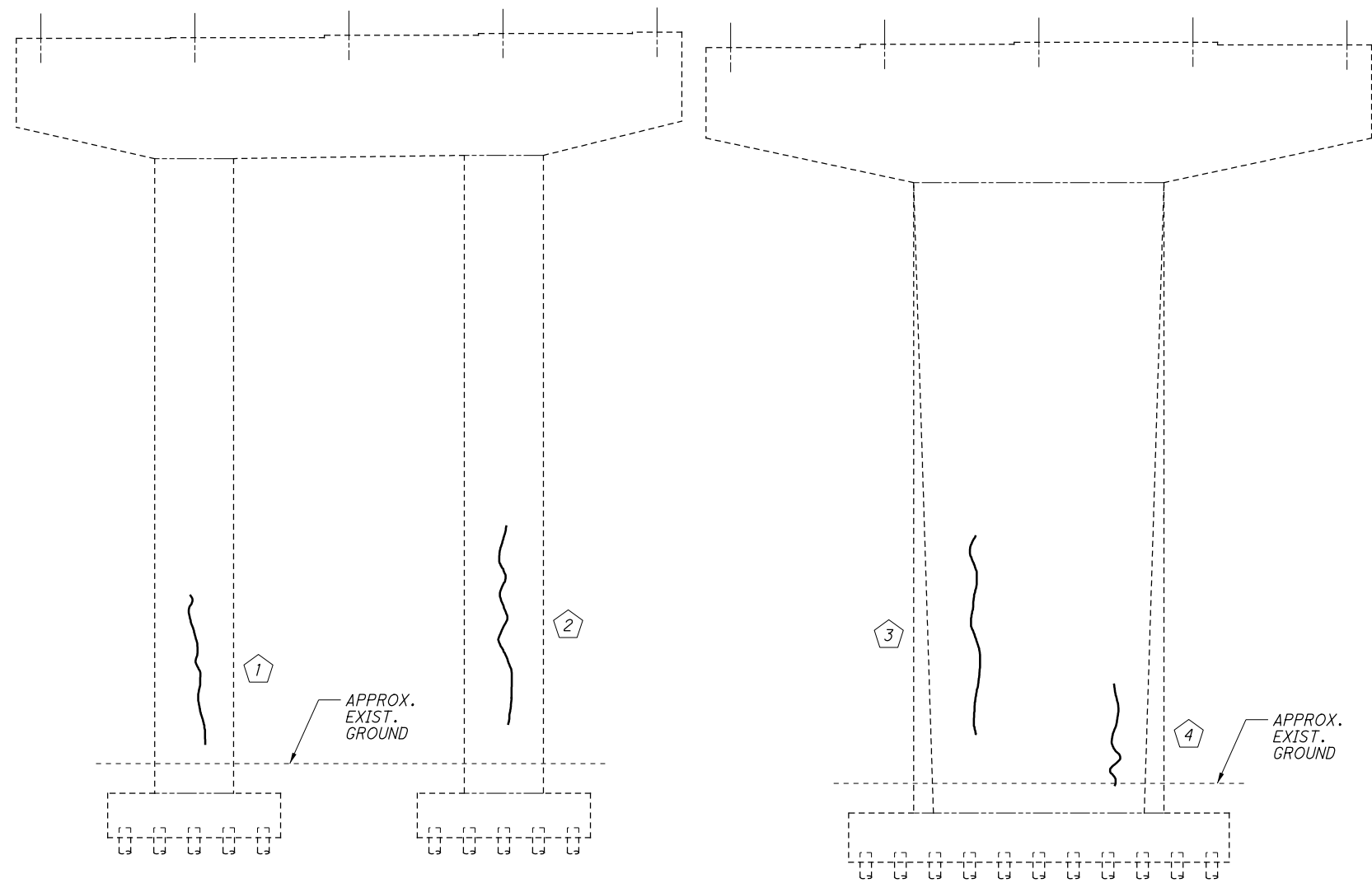
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- AREA OF DELAMINATION TO BE REPAIRED PER ITEM 844 - CONCRETE PATCHING WITH GALVANIC ANODE PROTECTION, AS PER PLAN
- AREA OF CONCRETE DELAMINATION LOCATION NUMBER
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- (S) SIDE OF PIER COLUMN
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ELEVATION
EAST FACE

ESTIMATED PATCHING QUANTITIES		
LOCATION	WIDTH X HEIGHT	AREA (SF)
	NO	
	DETERIORATION	
	NOTED	
TOTAL AREA MEASURED		-
TOTAL AREA ESTIMATED *		-

* SEE NOTE 2

ESTIMATED CRACK REPAIR QUANTITIES		
LOCATION	DESCRIPTION	LENGTH
1	COLUMN FACE	15.00'
2	COLUMN FACE	20.00'
3	STEM FACE	20.00'
4	STEM FACE	10.00'
TOTAL LENGTH MEASURED		65.00'
TOTAL LENGTH ESTIMATED *		97.50'

* SEE NOTE 2

LEGEND

- AREA OF DELAMINATION TO BE REPAIRED PER ITEM 844 - CONCRETE PATCHING WITH GALVANIC ANODE PROTECTION, AS PER PLAN
- AREA OF CONCRETE DELAMINATION LOCATION NUMBER
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REVIEWED	MJL	STRUCTURE FILE NUMBER
DATE	08/05/20	181991

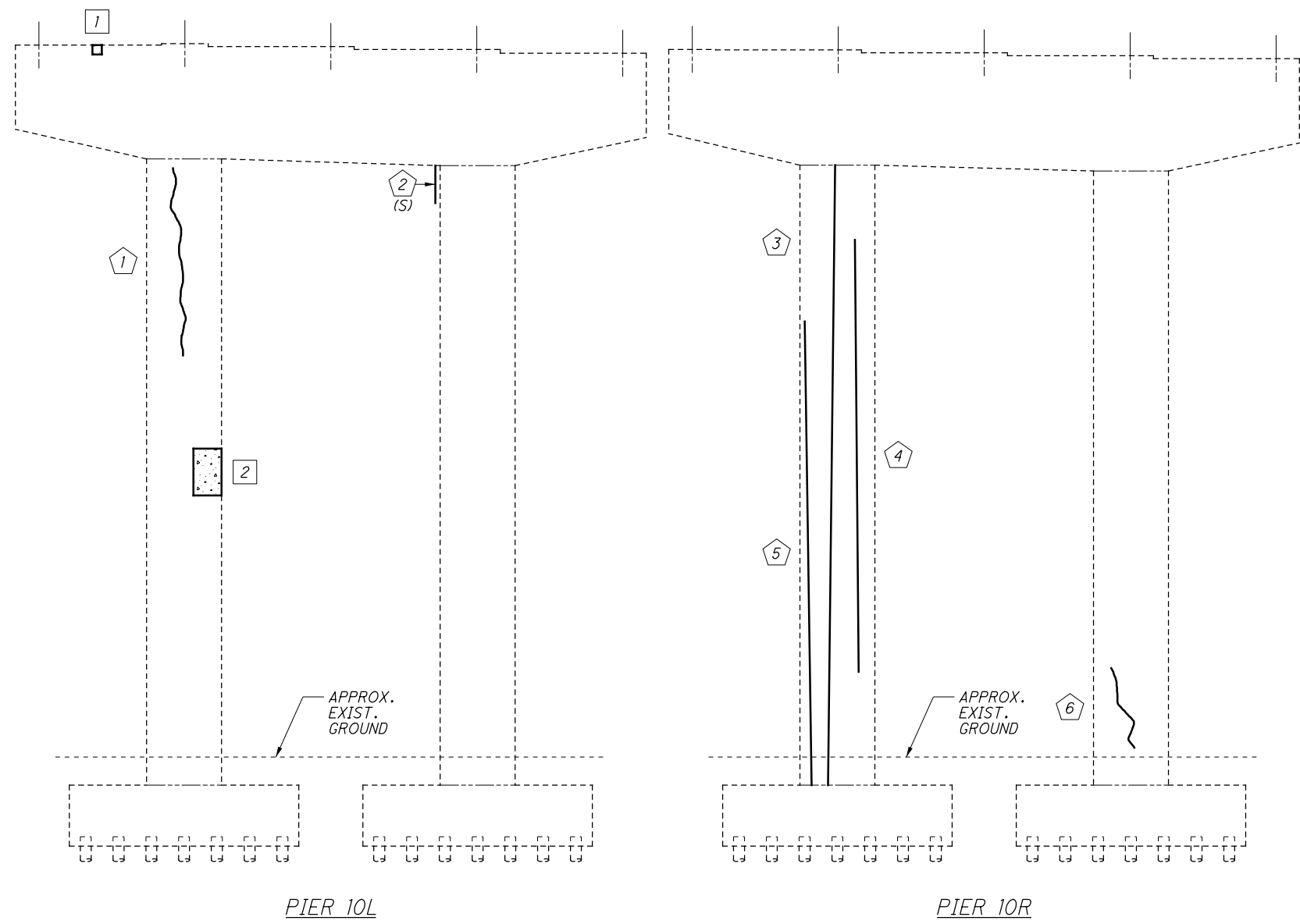
PIER 9 REPAIR DETAILS - 2
BRIDGE NO. CUY-490-0100
I-490 OVER CUYAHOGA RIVER

CUY-490-01.00
PID No. 25622

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


ESTIMATED PATCHING QUANTITIES		
LOCATION	WIDTH X HEIGHT	AREA (SF)
1	1'-0" x 1'-0"	1.00
2	3'-0" x 5'-0"	15.00
TOTAL AREA MEASURED		16.00
TOTAL AREA ESTIMATED *		24.00

* SEE NOTE 2

ESTIMATED CRACK REPAIR QUANTITIES		
LOCATION	DESCRIPTION	LENGTH
1	COLUMN FACE	20.00'
2	COLUMN SIDE	4.00'
3	COLUMN FACE	66.25'
4	COLUMN FACE	46.00'
5	COLUMN FACE	49.50'
6	COLUMN FACE	10.00'
TOTAL LENGTH MEASURED		195.75'
TOTAL LENGTH ESTIMATED *		293.63'

* SEE NOTE 2

LEGEND

-  AREA OF DELAMINATION TO BE REPAIRED PER ITEM 844 - CONCRETE PATCHING WITH GALVANIC ANODE PROTECTION, AS PER PLAN
-  AREA OF CONCRETE DELAMINATION LOCATION NUMBER
-  EXISTING CRACK TO BE REPAIRED LOCATION NUMBER
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DATE	08/05/20		

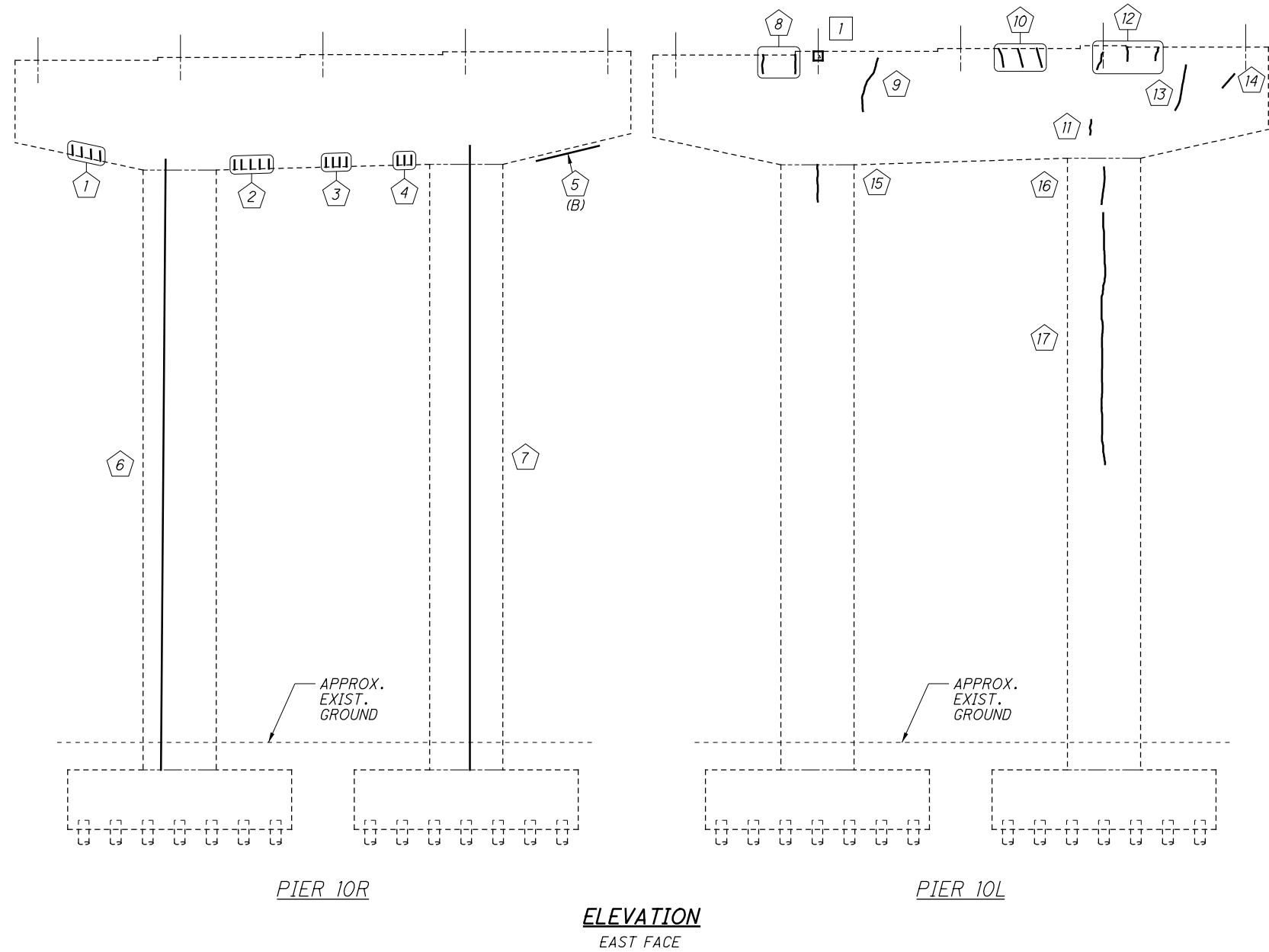
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 BRIDGE NO. CUY-490-0100
 I-490 OVER CUYAHOGA RIVER

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 PID No. 25622

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ESTIMATED PATCHING QUANTITIES		
LOCATION	WIDTH X HEIGHT	AREA (SF)
1	1'-0" x 1'-0"	1.00
TOTAL AREA MEASURED		1.00
TOTAL AREA ESTIMATED *		1.50

* SEE NOTE 2

ESTIMATED CRACK REPAIR QUANTITIES		
LOCATION	DESCRIPTION	LENGTH
1	CAP FACE	4.00'
2	CAP FACE	5.00'
3	CAP FACE	4.00'
4	CAP FACE	3.00'
5	CAP BOTTOM	7.00'
6	COLUMN FACE	66.75'
7	COLUMN FACE	68.25'
8	CAP FACE	4.00'
9	CAP FACE	6.00'
10	CAP FACE	6.00'
11	CAP FACE	1.50'
12	CAP FACE	5.00'
13	CAP FACE	5.00'
14	CAP FACE	2.00'
15	COLUMN FACE	4.00'
16	COLUMN FACE	4.00'
17	COLUMN FACE	27.50'
TOTAL LENGTH MEASURED		223.00'
TOTAL LENGTH ESTIMATED *		334.50'

* SEE NOTE 2

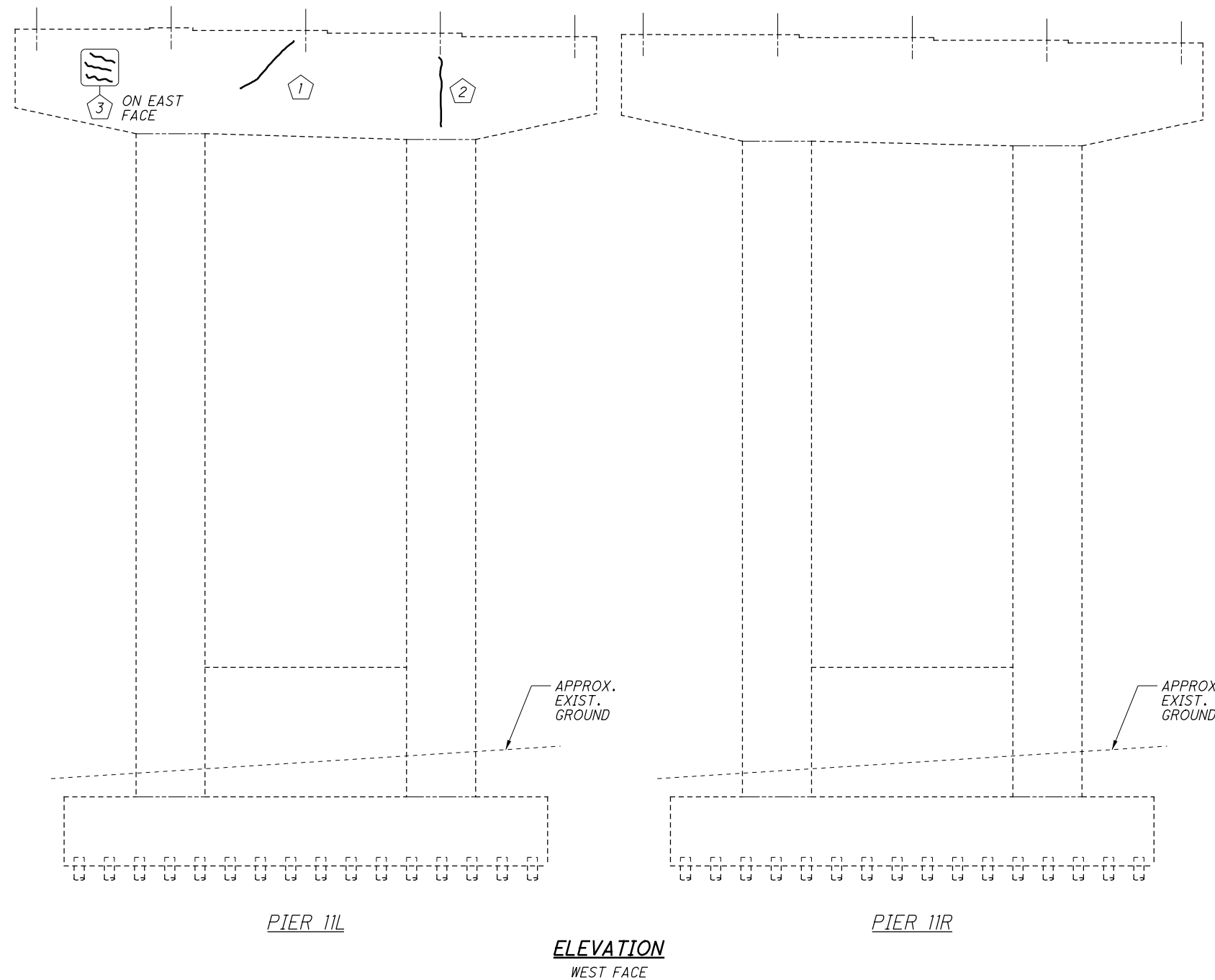
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- AREA OF DELAMINATION TO BE REPAIRED PER ITEM 844 - CONCRETE PATCHING WITH GALVANIC ANODE PROTECTION, AS PER PLAN
- AREA OF CONCRETE DELAMINATION LOCATION NUMBER
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

ESTIMATED PATCHING QUANTITIES		
LOCATION	WIDTH X HEIGHT	AREA (SF)
	NO	
	DETERIORATION	
	NOTED	
TOTAL AREA MEASURED		-
TOTAL AREA ESTIMATED *		-

* SEE NOTE 2

ESTIMATED CRACK REPAIR QUANTITIES		
LOCATION	DESCRIPTION	LENGTH
1	CAP FACE	8.00'
2	CAP FACE	8.00'
3	CAP FACE	9.00'
TOTAL LENGTH MEASURED		25.00'
TOTAL LENGTH ESTIMATED *		37.50'

* SEE NOTE 2

LEGEND

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REVIEWED: MJL
DATE: 08/05/20
STRUCTURE FILE NUMBER: 1811991

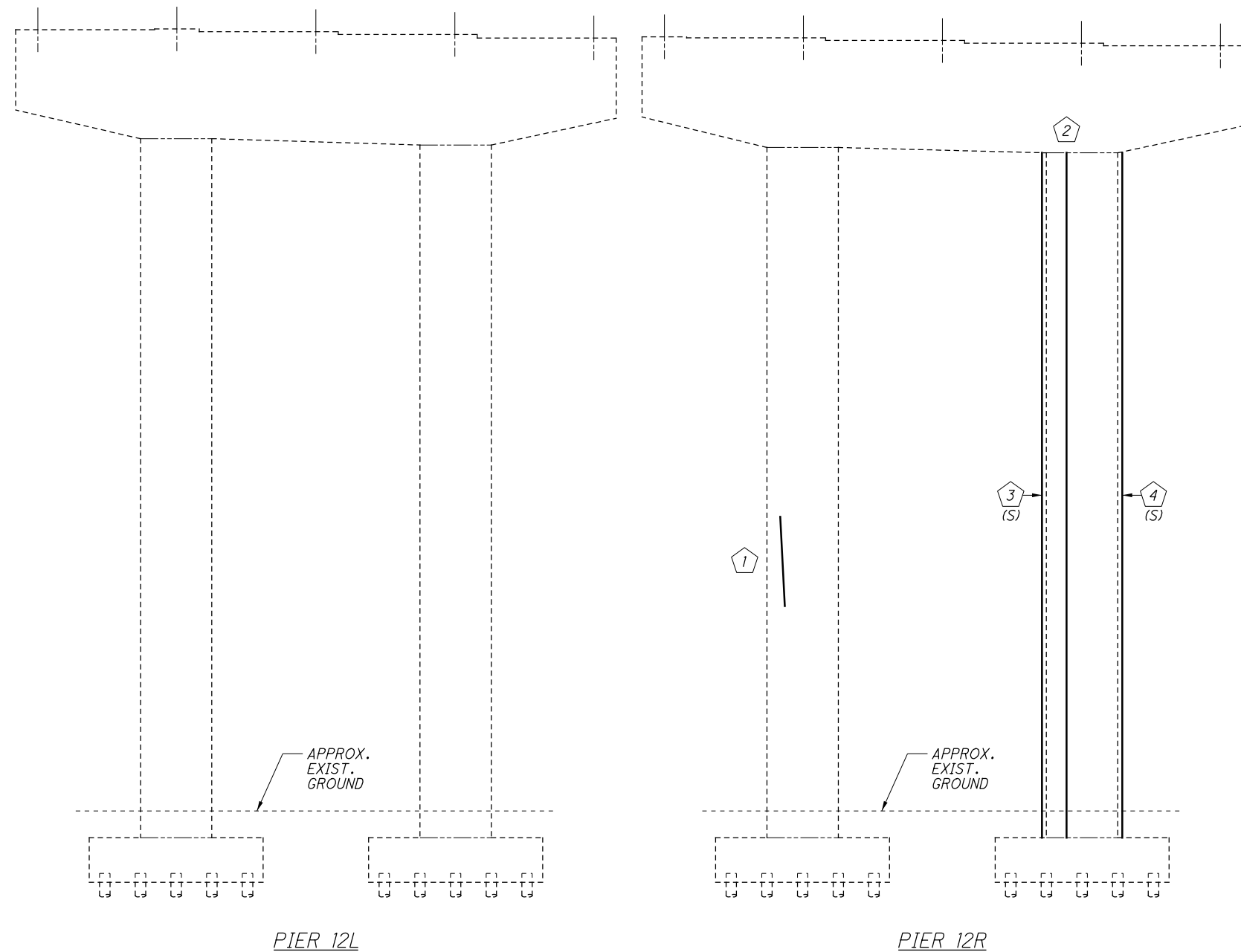
PIER 11 REPAIR DETAILS
BRIDGE NO. CUY-490-0100
I-490 OVER CUYAHOGA RIVER

CUY-490-01.00
PID No. 25622

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ELEVATION
WEST FACE

ESTIMATED PATCHING QUANTITIES		
LOCATION	WIDTH X HEIGHT	AREA (SF)
	NO	
	DETERIORATION	
	NOTED	
TOTAL AREA MEASURED		-
TOTAL AREA ESTIMATED *		-

* SEE NOTE 2

ESTIMATED CRACK REPAIR QUANTITIES		
LOCATION	DESCRIPTION	LENGTH
1	COLUMN FACE	10.00'
2	COLUMN SIDE	77.00'
3	COLUMN FACE	77.00'
4	COLUMN SIDE	77.00'
TOTAL LENGTH MEASURED		241.00'
TOTAL LENGTH ESTIMATED *		361.50'

* SEE NOTE 2

LEGEND

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REVIEWED DATE 08/05/20
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DRAWN JAM
CHECKED PAT

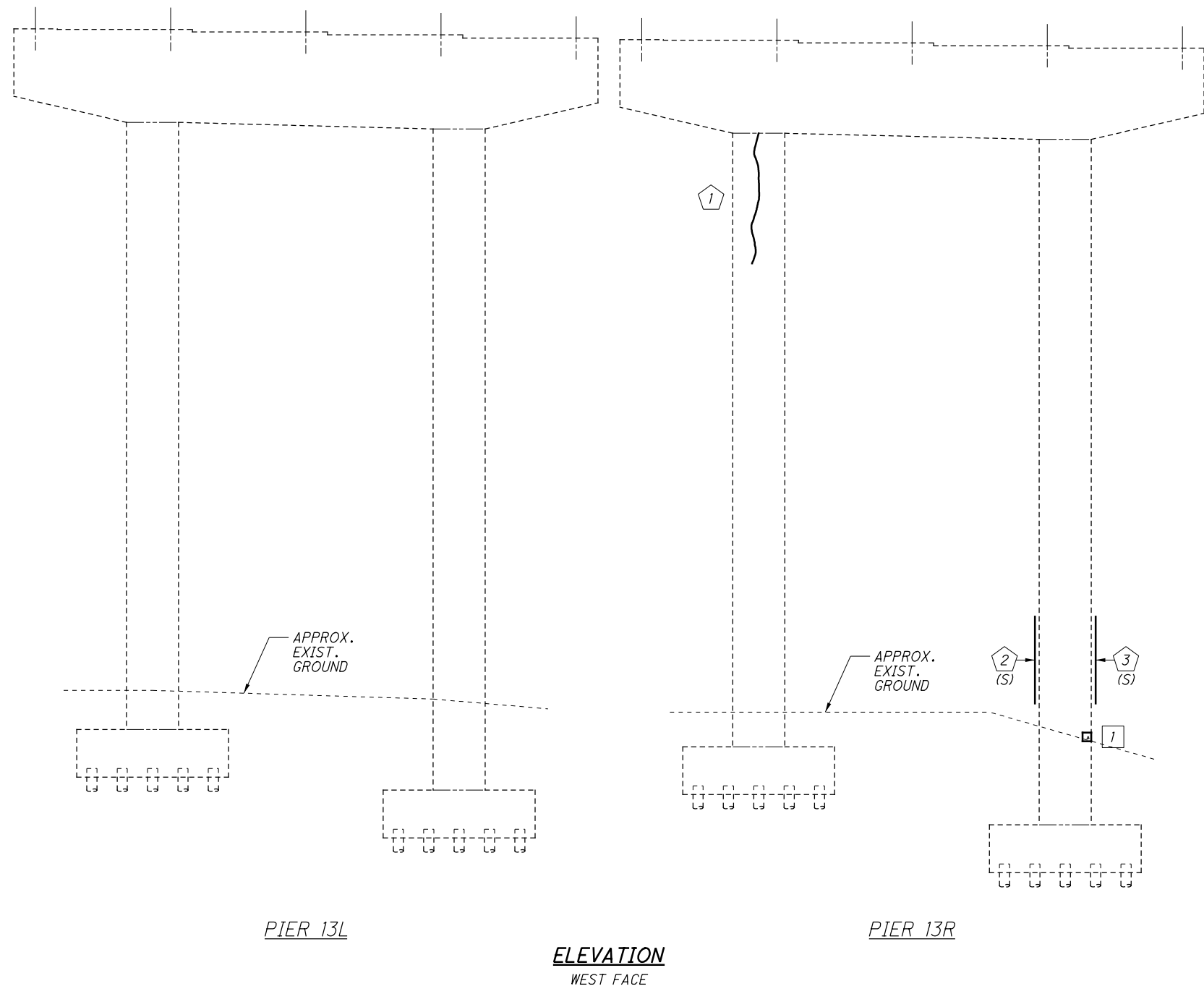
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I-490 OVER CUYAHOGA RIVER

CUY-490-01.00
PID No. 25622

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

ESTIMATED PATCHING QUANTITIES		
LOCATION	WIDTH X HEIGHT	AREA (SF)
1	1'-0" x 1'-0"	1.00
TOTAL AREA MEASURED		1.00
TOTAL AREA ESTIMATED *		1.50

* SEE NOTE 2

ESTIMATED CRACK REPAIR QUANTITIES		
LOCATION	DESCRIPTION	LENGTH
1	COLUMN FACE	15.00'
2	COLUMN SIDE	10.00'
3	COLUMN SIDE	10.00'
TOTAL LENGTH MEASURED		35.00'
TOTAL LENGTH ESTIMATED *		52.50'

* SEE NOTE 2

LEGEND

-  AREA OF DELAMINATION TO BE REPAIRED PER ITEM 844 - CONCRETE PATCHING WITH GALVANIC ANODE PROTECTION, AS PER PLAN
-  AREA OF CONCRETE DELAMINATION LOCATION NUMBER
-  EXISTING CRACK TO BE REPAIRED LOCATION NUMBER
- (B) BOTTOM OF PIER CAP
- (S) SIDE OF PIER COLUMN
- (T) TRANSVERSE CRACKS

NOTES

1. PHYSICAL INVENTORY OF MEASURED QUANTITIES OF DETERIORATION WAS PERFORMED BETWEEN JULY AND SEPTEMBER 2018. THE EXACT DIMENSIONS AND LOCATIONS OF PATCHES AND CRACK REPAIRS SHALL BE DETERMINED BY THE ENGINEER IN THE FIELD FOR FINAL PAY QUANTITY.
2. ESTIMATED PATCHING AND CRACK REPAIR QUANTITIES HAVE BEEN INCREASED BY 50% OVER MEASURED QUANTITIES TO ALLOW FOR ADDITIONAL DETERIORATION.



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

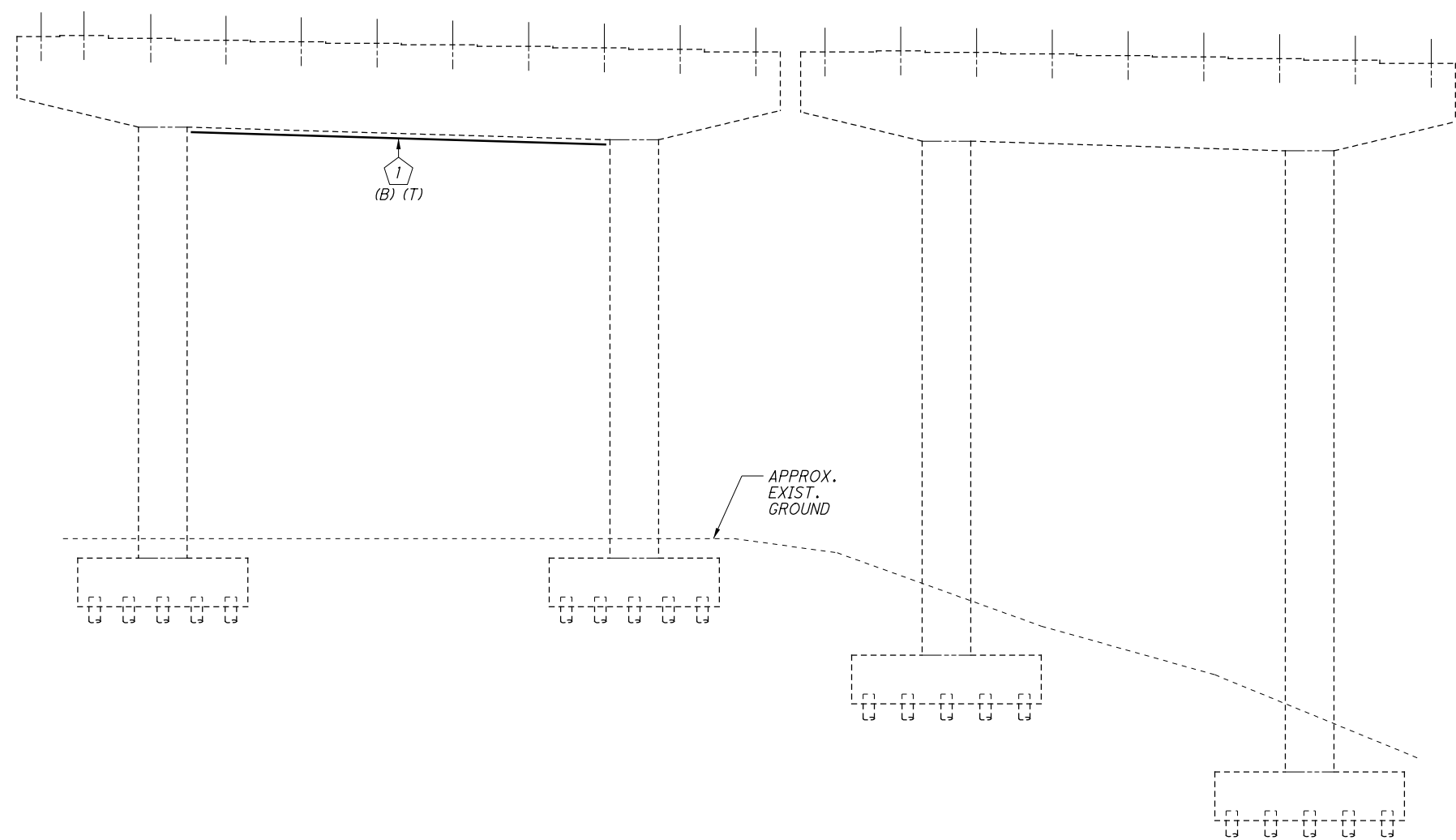
PIER 13 REPAIR DETAILS
 BRIDGE NO. CUY-490-0100
 I-490 OVER CUYAHOGA RIVER

CUY-490-01.00
 PID No. 25622

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PIER 16L

ELEVATION
WEST FACE

PIER 16R




ESTIMATED PATCHING QUANTITIES		
LOCATION	WIDTH X HEIGHT	AREA (SF)
	NO	
	DETERIORATION	
	NOTED	
TOTAL AREA MEASURED		-
TOTAL AREA ESTIMATED *		-

* SEE NOTE 2

ESTIMATED CRACK REPAIR QUANTITIES		
LOCATION	DESCRIPTION	LENGTH
1	CAP BOTTOM	8.00'
TOTAL LENGTH MEASURED		8.00'
TOTAL LENGTH ESTIMATED *		12.00'

* SEE NOTE 2

LEGEND

-  AREA OF DELAMINATION TO BE REPAIRED PER ITEM 844 - CONCRETE PATCHING WITH GALVANIC ANODE PROTECTION, AS PER PLAN
-  AREA OF CONCRETE DELAMINATION LOCATION NUMBER
-  EXISTING CRACK TO BE REPAIRED LOCATION NUMBER
- (B) BOTTOM OF PIER CAP
- (S) SIDE OF PIER COLUMN
- (T) TRANSVERSE CRACKS

NOTES

1. PHYSICAL INVENTORY OF MEASURED QUANTITIES OF DETERIORATION WAS PERFORMED BETWEEN JULY AND SEPTEMBER 2018. THE EXACT DIMENSIONS AND LOCATIONS OF PATCHES AND CRACK REPAIRS SHALL BE DETERMINED BY THE ENGINEER IN THE FIELD FOR FINAL PAY QUANTITY.
2. ESTIMATED PATCHING AND CRACK REPAIR QUANTITIES HAVE BEEN INCREASED BY 50% OVER MEASURED QUANTITIES TO ALLOW FOR ADDITIONAL DETERIORATION.



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

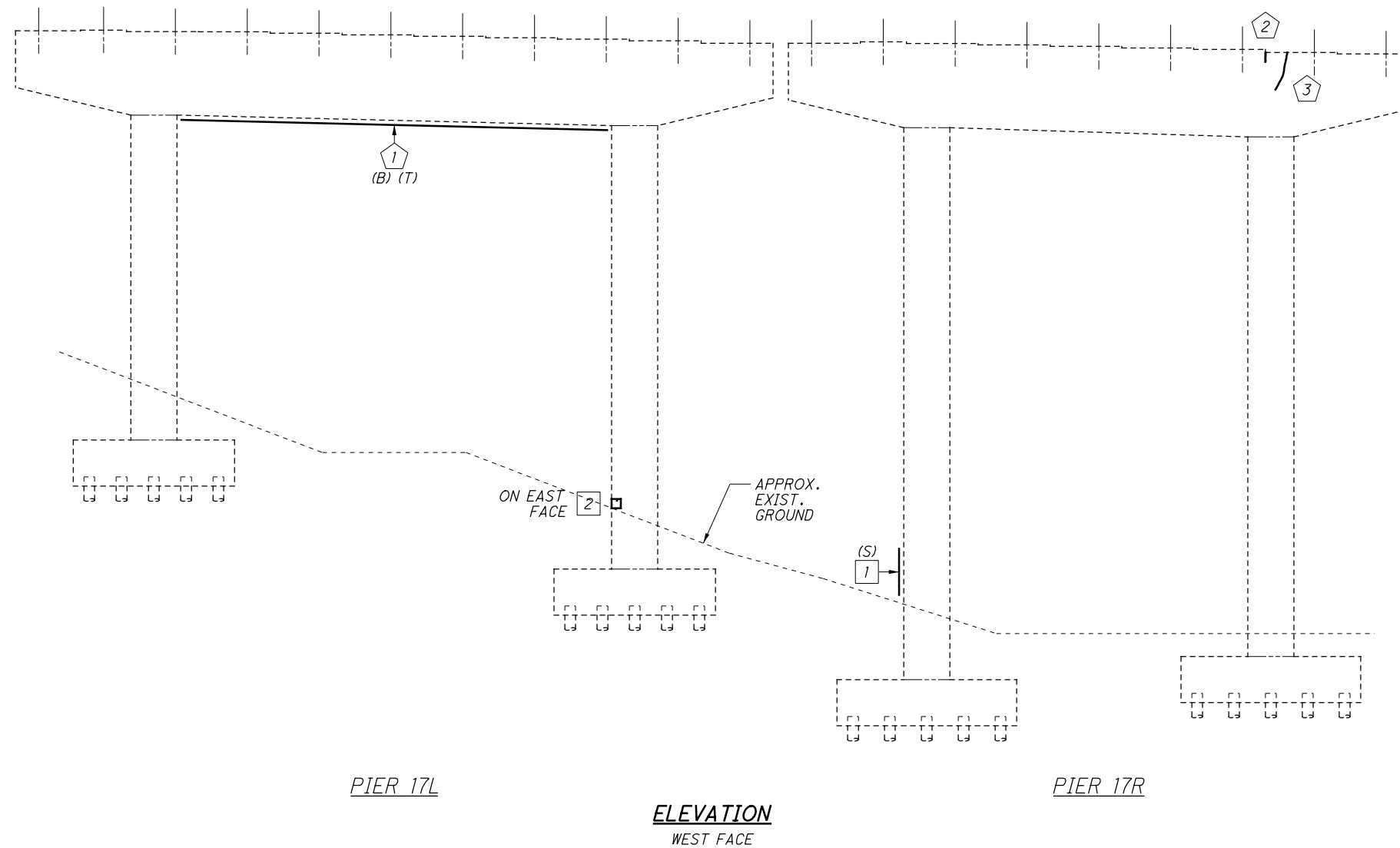
PIER 16 REPAIR DETAILS
BRIDGE NO. CUY-490-0100
I-490 OVER CUYAHOGA RIVER

CUY-490-01.00
PID No. 25622

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ESTIMATED PATCHING QUANTITIES		
LOCATION	WIDTH X HEIGHT	AREA (SF)
1	3'-0" x 5'-0"	15.00
2	1'-0" x 1'-0"	1.00
TOTAL AREA MEASURED		16.00
TOTAL AREA ESTIMATED *		24.00

* SEE NOTE 2

ESTIMATED CRACK REPAIR QUANTITIES		
LOCATION	DESCRIPTION	LENGTH
1	CAP BOTTOM	8.00'
2	CAP FACE	1.00'
3	CAP FACE	4.00'
TOTAL LENGTH MEASURED		13.00'
TOTAL LENGTH ESTIMATED *		19.50'

* SEE NOTE 2

LEGEND

-  AREA OF DELAMINATION TO BE REPAIRED PER ITEM 844 - CONCRETE PATCHING WITH GALVANIC ANODE PROTECTION, AS PER PLAN
-  AREA OF CONCRETE DELAMINATION LOCATION NUMBER
-  EXISTING CRACK TO BE REPAIRED LOCATION NUMBER
- (B) BOTTOM OF PIER CAP
- (S) SIDE OF PIER COLUMN
- (T) TRANSVERSE CRACKS

NOTES

1. PHYSICAL INVENTORY OF MEASURED QUANTITIES OF DETERIORATION WAS PERFORMED BETWEEN JULY AND SEPTEMBER 2018. THE EXACT DIMENSIONS AND LOCATIONS OF PATCHES AND CRACK REPAIRS SHALL BE DETERMINED BY THE ENGINEER IN THE FIELD FOR FINAL PAY QUANTITY.
2. ESTIMATED PATCHING AND CRACK REPAIR QUANTITIES HAVE BEEN INCREASED BY 50% OVER MEASURED QUANTITIES TO ALLOW FOR ADDITIONAL DETERIORATION.



REVIEWED DATE 08/05/20
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 STRUCTURE FILE NUMBER

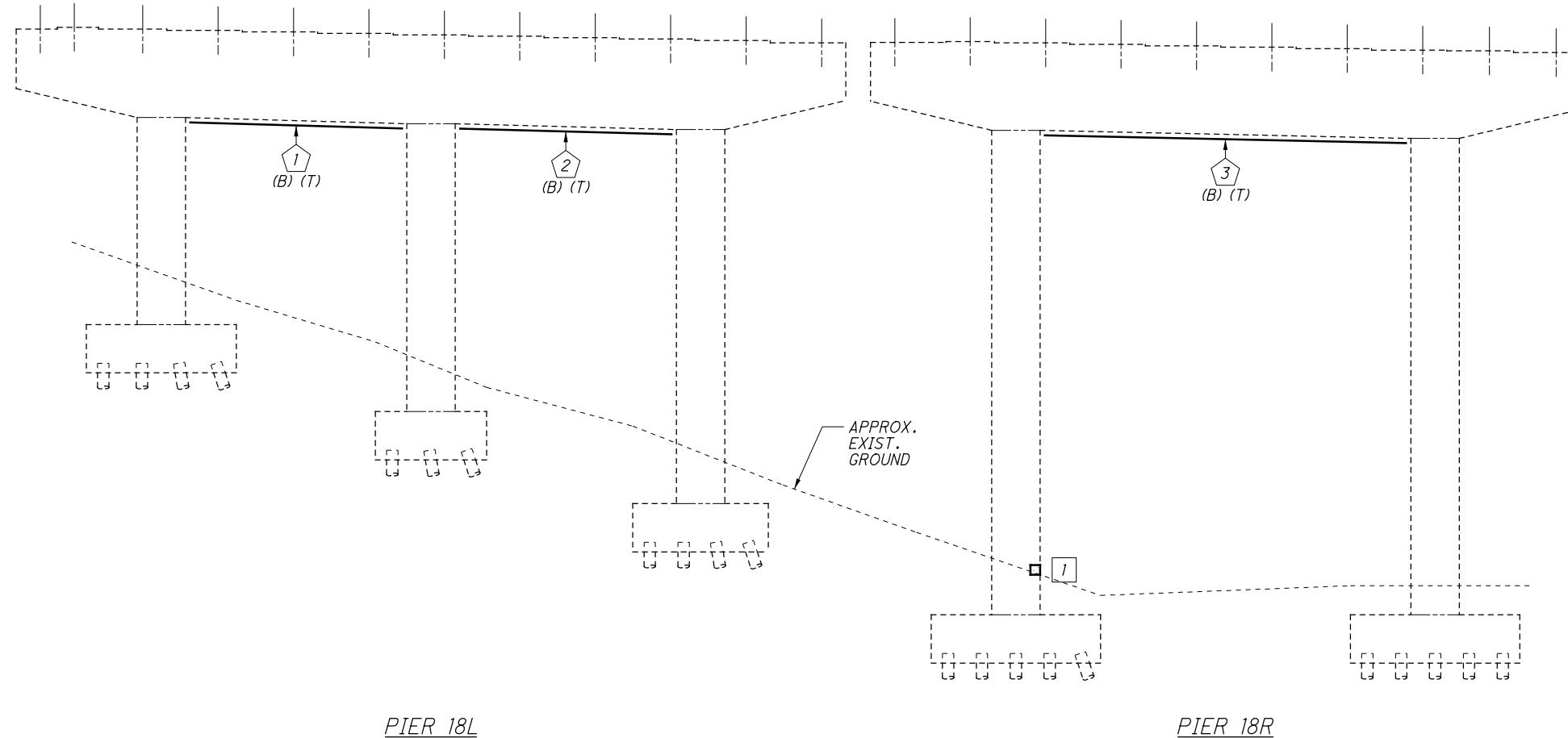
PIER 17 REPAIR DETAILS
 BRIDGE NO. CUY-490-0100
 I-490 OVER CUYAHOGA RIVER

CUY-490-01.00
 PID No. 25622

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PIER 18L

ELEVATION
WEST FACE

PIER 18R




ESTIMATED PATCHING QUANTITIES		
LOCATION	WIDTH X HEIGHT	AREA (SF)
1	1'-0" x 1'-0"	1.00
TOTAL AREA MEASURED		1.00
TOTAL AREA ESTIMATED *		1.50

* SEE NOTE 2

ESTIMATED CRACK REPAIR QUANTITIES		
LOCATION	DESCRIPTION	LENGTH
1	CAP BOTTOM	4.00'
2	CAP BOTTOM	4.00'
3	CAP BOTTOM	8.00'
TOTAL LENGTH MEASURED		16.00'
TOTAL LENGTH ESTIMATED *		24.00'

* SEE NOTE 2

LEGEND

-  AREA OF DELAMINATION TO BE REPAIRED PER ITEM 844 - CONCRETE PATCHING WITH GALVANIC ANODE PROTECTION, AS PER PLAN
-  AREA OF CONCRETE DELAMINATION LOCATION NUMBER
-  EXISTING CRACK TO BE REPAIRED LOCATION NUMBER
- (B) BOTTOM OF PIER CAP
- (S) SIDE OF PIER COLUMN
- (T) TRANSVERSE CRACKS

NOTES

1. PHYSICAL INVENTORY OF MEASURED QUANTITIES OF DETEIORATION WAS PERFORMED BETWEEN JULY AND SEPTEMBER 2018. THE EXACT DIMENSIONS AND LOCATIONS OF PATCHES AND CRACK REPAIRS SHALL BE DETERMINED BY THE ENGINEER IN THE FIELD FOR FINAL PAY QUANTITY.
2. ESTIMATED PATCHING AND CRACK REPAIR QUANTITIES HAVE BEEN INCREASED BY 50% OVER MEASURED QUANTITIES TO ALLOW FOR ADDITIONAL DETEIORATION.



REVIEWED DATE 08/05/20
MJJL
STRUCTURE FILE NUMBER 181991

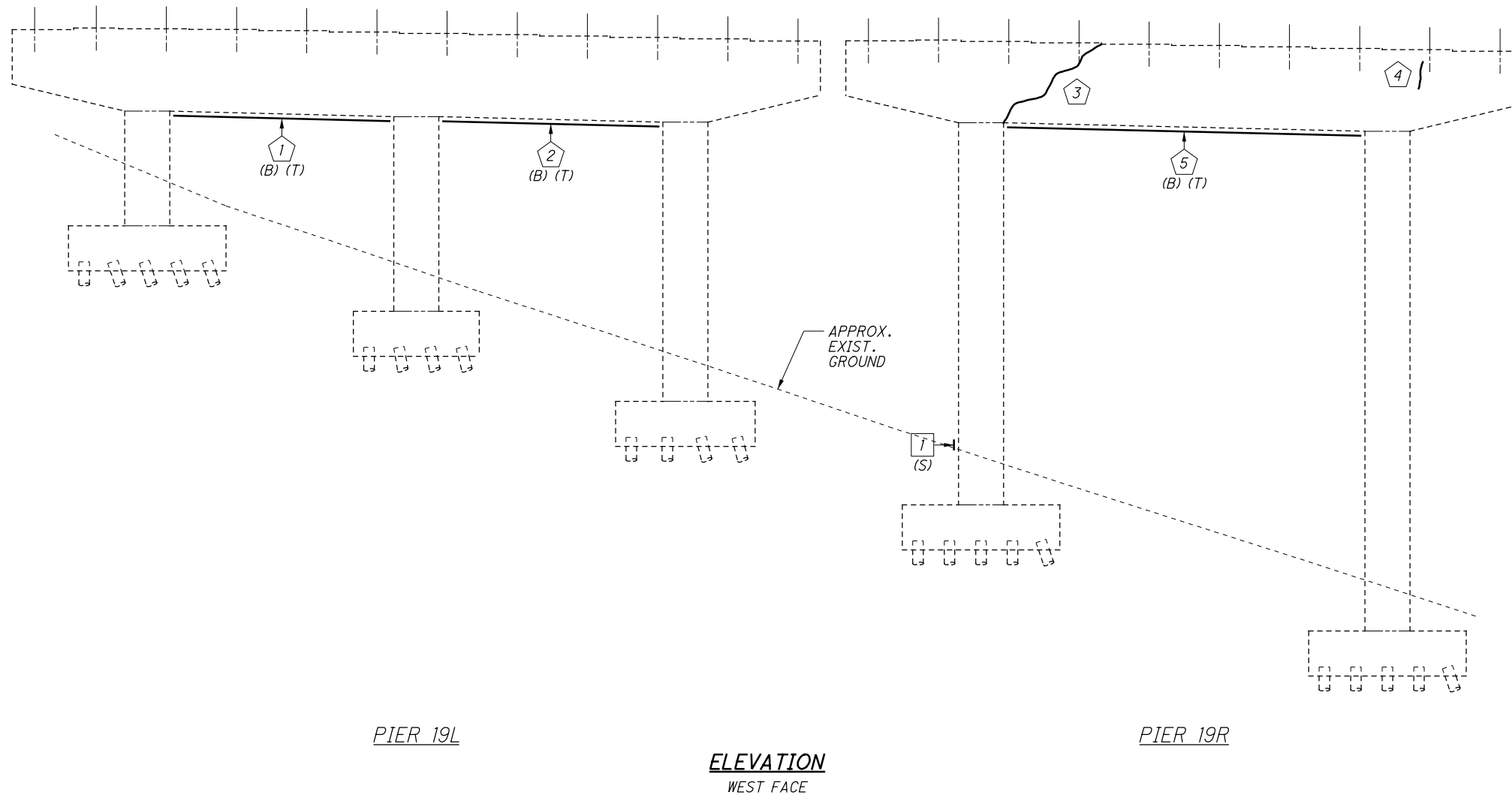
PIER 18 REPAIR DETAILS
BRIDGE NO. CUY-490-0100
I-490 OVER CUYAHOGA RIVER

CUY-490-01.00
PID No. 25622

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ESTIMATED PATCHING QUANTITIES		
LOCATION	WIDTH X HEIGHT	AREA (SF)
1	1'-0" x 1'-0"	1.00
TOTAL AREA MEASURED		1.00
TOTAL AREA ESTIMATED *		1.50

* SEE NOTE 2

ESTIMATED CRACK REPAIR QUANTITIES		
LOCATION	DESCRIPTION	LENGTH
1	CAP BOTTOM	4.00'
2	CAP BOTTOM	4.00'
3	CAP FACE	14.00'
4	CAP FACE	3.00'
5	CAP BOTTOM	8.00'
TOTAL LENGTH MEASURED		33.00'
TOTAL LENGTH ESTIMATED *		49.50'

* SEE NOTE 2

LEGEND

- AREA OF DELAMINATION TO BE REPAIRED PER ITEM 844 - CONCRETE PATCHING WITH GALVANIC ANODE PROTECTION, AS PER PLAN
- AREA OF CONCRETE DELAMINATION LOCATION NUMBER
- EXISTING CRACK TO BE REPAIRED LOCATION NUMBER
- (B) BOTTOM OF PIER CAP
- (S) SIDE OF PIER COLUMN
- (T) TRANSVERSE CRACKS

NOTES

1. PHYSICAL INVENTORY OF MEASURED QUANTITIES OF DETERIORATION WAS PERFORMED BETWEEN JULY AND SEPTEMBER 2018. THE EXACT DIMENSIONS AND LOCATIONS OF PATCHES AND CRACK REPAIRS SHALL BE DETERMINED BY THE ENGINEER IN THE FIELD FOR FINAL PAY QUANTITY.
2. ESTIMATED PATCHING AND CRACK REPAIR QUANTITIES HAVE BEEN INCREASED BY 50% OVER MEASURED QUANTITIES TO ALLOW FOR ADDITIONAL DETERIORATION.



DATE 08/05/20
REVIEWED MJL
JUL
STRUCTURE FILE NUMBER 181991

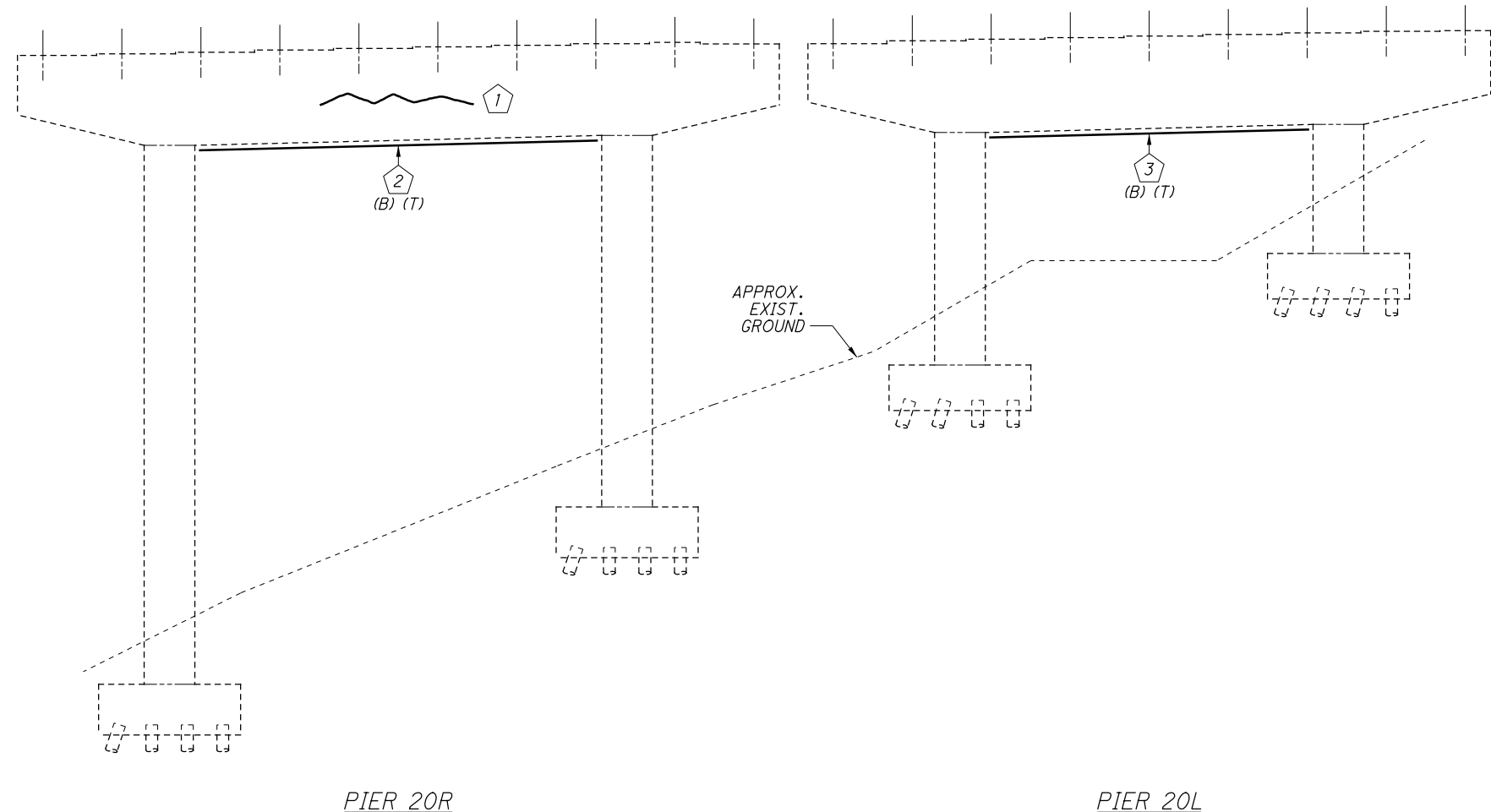
PIER 19 REPAIR DETAILS
BRIDGE NO. CUY-490-0100
I-490 OVER CUYAHOGA RIVER

CUY-490-01.00
PID No. 25622

37/116

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182

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PIER 20R

ELEVATION
EAST FACE

PIER 20L

ESTIMATED PATCHING QUANTITIES		
LOCATION	WIDTH X HEIGHT	AREA (SF)
	NO	
	DETERIORATED	
	NOTED	
TOTAL AREA MEASURED		-
TOTAL AREA ESTIMATED *		-

* SEE NOTE 2

ESTIMATED CRACK REPAIR QUANTITIES		
LOCATION	DESCRIPTION	LENGTH
1	CAP FACE	15.00'
2	CAP BOTTOM	8.00'
3	CAP BOTTOM	8.00'
TOTAL LENGTH MEASURED		31.00'
TOTAL LENGTH ESTIMATED *		46.50'

* SEE NOTE 2

LEGEND

- AREA OF DELAMINATION TO BE REPAIRED PER ITEM 844 - CONCRETE PATCHING WITH GALVANIC ANODE PROTECTION, AS PER PLAN
- AREA OF CONCRETE DELAMINATION LOCATION NUMBER
- EXISTING CRACK TO BE REPAIRED LOCATION NUMBER
- (B) BOTTOM OF PIER CAP
- (S) SIDE OF PIER COLUMN
- (T) TRANSVERSE CRACKS

NOTES

1. PHYSICAL INVENTORY OF MEASURED QUANTITIES OF DETERIORATION WAS PERFORMED BETWEEN JULY AND SEPTEMBER 2018. THE EXACT DIMENSIONS AND LOCATIONS OF PATCHES AND CRACK REPAIRS SHALL BE DETERMINED BY THE ENGINEER IN THE FIELD FOR FINAL PAY QUANTITY.
2. ESTIMATED PATCHING AND CRACK REPAIR QUANTITIES HAVE BEEN INCREASED BY 50% OVER MEASURED QUANTITIES TO ALLOW FOR ADDITIONAL DETERIORATION.



REVIEWED DATE 08/05/20
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STRUCTURE FILE NUMBER 181991

DESIGNED JAM
CHECKED PAT

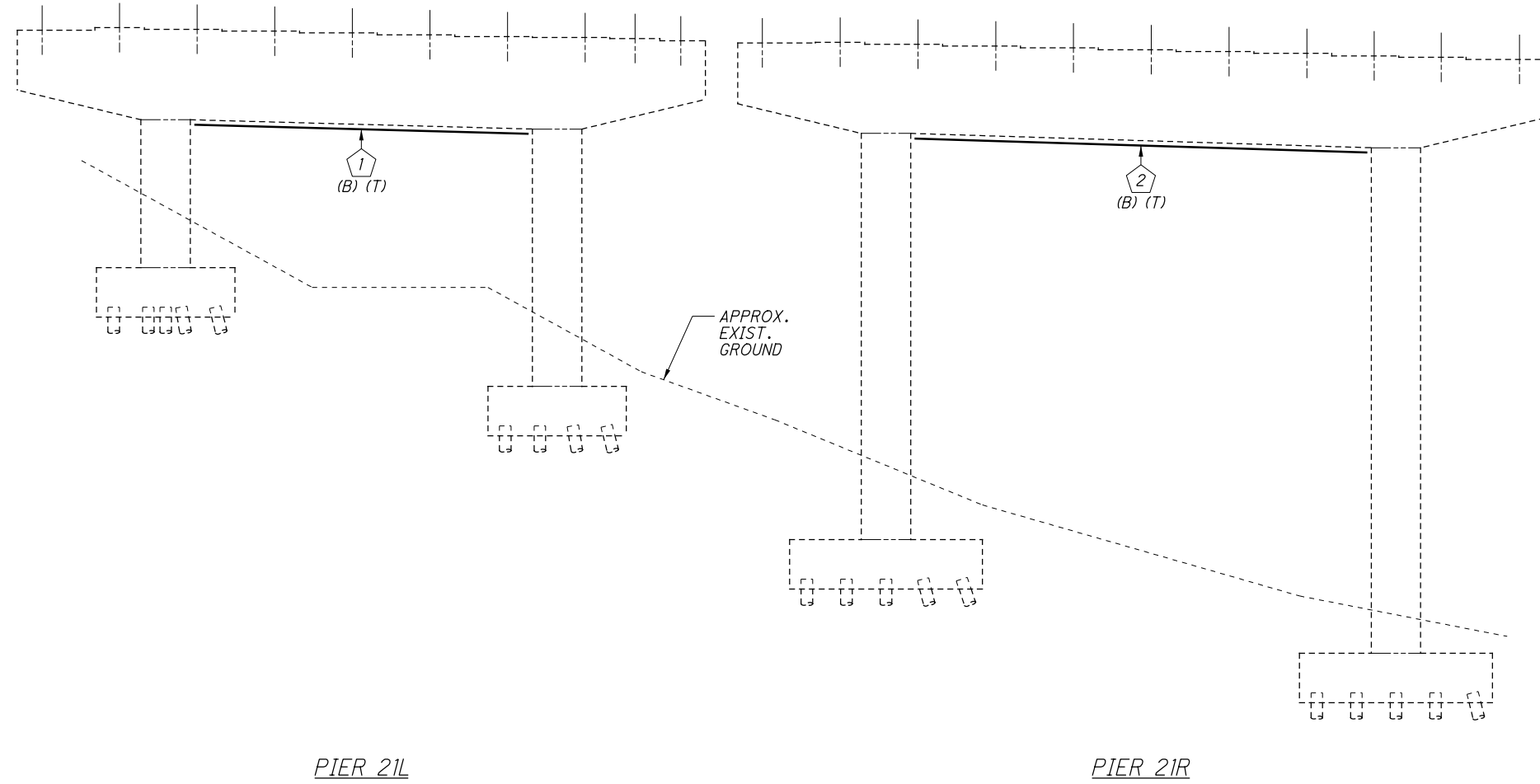
PIER 20 REPAIR DETAILS
BRIDGE NO. CUY-490-0100
I-490 OVER CUYAHOGA RIVER

CUY-490-01.00
PID No. 25622

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PIER 21L

PIER 21R

ELEVATION
WEST FACE




ESTIMATED PATCHING QUANTITIES		
LOCATION	WIDTH X HEIGHT	AREA (SF)
	NO	
	DETERIORATION	
	NOTED	
TOTAL AREA MEASURED		-
TOTAL AREA ESTIMATED *		-

* SEE NOTE 2

ESTIMATED CRACK REPAIR QUANTITIES		
LOCATION	DESCRIPTION	LENGTH
1	CAP BOTTOM	8.00'
2	CAP BOTTOM	8.00'
TOTAL LENGTH MEASURED		16.00'
TOTAL LENGTH ESTIMATED *		24.00'

* SEE NOTE 2

LEGEND

-  AREA OF DELAMINATION TO BE REPAIRED PER ITEM 844 - CONCRETE PATCHING WITH GALVANIC ANODE PROTECTION, AS PER PLAN
-  AREA OF CONCRETE DELAMINATION LOCATION NUMBER
-  EXISTING CRACK TO BE REPAIRED LOCATION NUMBER
- (B) BOTTOM OF PIER CAP
- (S) SIDE OF PIER COLUMN
- (T) TRANSVERSE CRACKS

NOTES

1. PHYSICAL INVENTORY OF MEASURED QUANTITIES OF DETERIORATION WAS PERFORMED BETWEEN JULY AND SEPTEMBER 2018. THE EXACT DIMENSIONS AND LOCATIONS OF PATCHES AND CRACK REPAIRS SHALL BE DETERMINED BY THE ENGINEER IN THE FIELD FOR FINAL PAY QUANTITY.
2. ESTIMATED PATCHING AND CRACK REPAIR QUANTITIES HAVE BEEN INCREASED BY 50% OVER MEASURED QUANTITIES TO ALLOW FOR ADDITIONAL DETERIORATION.



REVIEWED DATE 08/05/20
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STRUCTURE FILE NUMBER 1811991

DRAWN JAM
REVISOR

DESIGNED JAM
CHECKED PAT

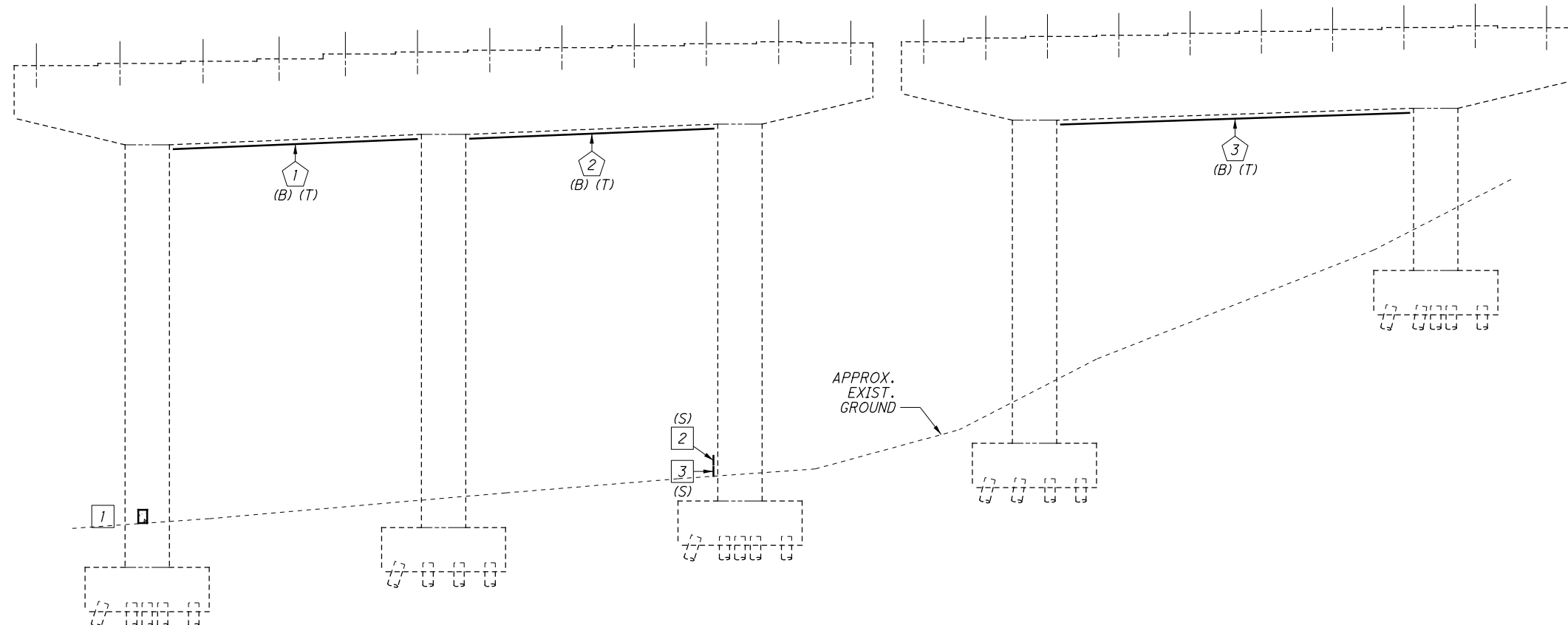
PIER 21 REPAIR DETAILS
BRIDGE NO. CUY-490-0100
I-490 OVER CUYAHOGA RIVER

CUY-490-01.00
PID No. 25622

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PIER 22R

ELEVATION
EAST FACE

PIER 22L




ESTIMATED PATCHING QUANTITIES		
LOCATION	WIDTH X HEIGHT	AREA (SF)
1	1'-0" x 1'-6"	1.50
2	1'-0" x 1'-0"	1.00
3	1'-0" x 1'-0"	1.00
TOTAL AREA MEASURED		3.50
TOTAL AREA ESTIMATED *		5.25

* SEE NOTE 2

ESTIMATED CRACK REPAIR QUANTITIES		
LOCATION	DESCRIPTION	LENGTH
1	CAP BOTTOM	4.00'
2	CAP BOTTOM	4.00'
3	CAP BOTTOM	8.00'
TOTAL LENGTH MEASURED		16.00'
TOTAL LENGTH ESTIMATED *		24.00'

* SEE NOTE 2

LEGEND

-  AREA OF DELAMINATION TO BE REPAIRED PER ITEM 844 - CONCRETE PATCHING WITH GALVANIC ANODE PROTECTION, AS PER PLAN
-  AREA OF CONCRETE DELAMINATION LOCATION NUMBER
-  EXISTING CRACK TO BE REPAIRED LOCATION NUMBER
- (B) BOTTOM OF PIER CAP
- (S) SIDE OF PIER COLUMN
- (T) TRANSVERSE CRACKS

NOTES

1. PHYSICAL INVENTORY OF MEASURED QUANTITIES OF DETERIORATION WAS PERFORMED BETWEEN JULY AND SEPTEMBER 2018. THE EXACT DIMENSIONS AND LOCATIONS OF PATCHES AND CRACK REPAIRS SHALL BE DETERMINED BY THE ENGINEER IN THE FIELD FOR FINAL PAY QUANTITY.
2. ESTIMATED PATCHING AND CRACK REPAIR QUANTITIES HAVE BEEN INCREASED BY 50% OVER MEASURED QUANTITIES TO ALLOW FOR ADDITIONAL DETERIORATION.



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

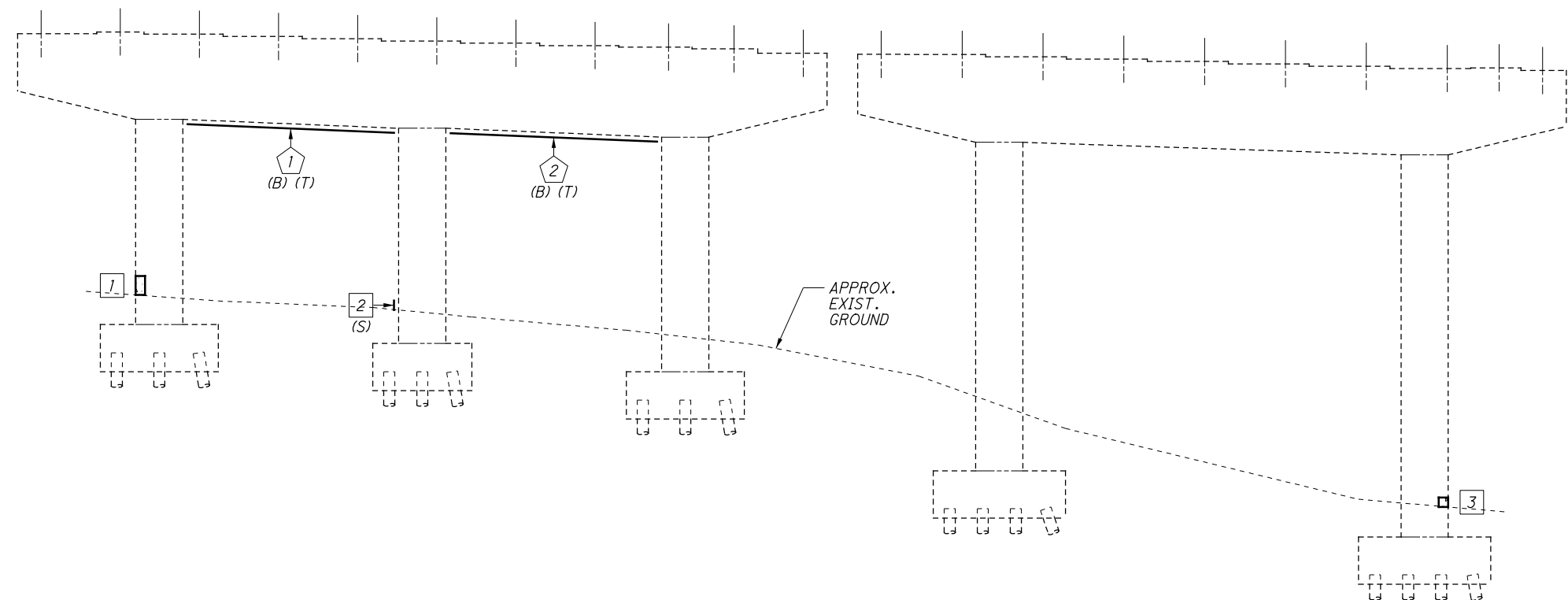
PIER 22 REPAIR DETAILS
 BRIDGE NO. CUY-490-0100
 I-490 OVER CUYAHOGA RIVER

CUY-490-01.00
 PID No. 25622

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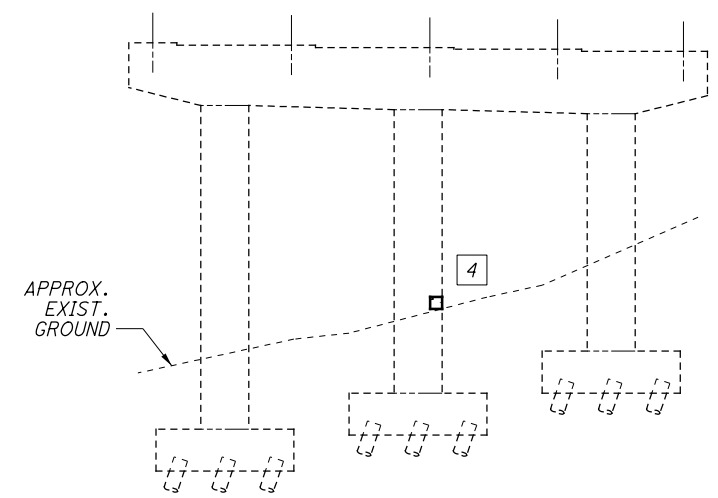
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PIER 23L

PIER 23R

ELEVATION
WEST FACE



PIERS 27C-B ELEVATION
EAST FACE

ESTIMATED PATCHING QUANTITIES		
LOCATION	WIDTH X HEIGHT	AREA (SF)
1	1'-0" x 2'-0"	2.00
2	1'-0" x 1'-0"	1.00
3	1'-0" x 1'-0"	1.00
4	1'-0" x 1'-0"	1.00
TOTAL AREA MEASURED		5.00
TOTAL AREA ESTIMATED *		7.50

* SEE NOTE 2

ESTIMATED CRACK REPAIR QUANTITIES		
LOCATION	DESCRIPTION	LENGTH
1	CAP BOTTOM	4.00'
2	CAP BOTTOM	4.00'
TOTAL LENGTH MEASURED		8.00'
TOTAL LENGTH ESTIMATED *		12.00'

* SEE NOTE 2

LEGEND

- AREA OF DELAMINATION TO BE REPAIRED PER ITEM 844 - CONCRETE PATCHING WITH GALVANIC ANODE PROTECTION, AS PER PLAN
- AREA OF CONCRETE DELAMINATION LOCATION NUMBER
- EXISTING CRACK TO BE REPAIRED LOCATION NUMBER
- (B) BOTTOM OF PIER CAP
- (S) SIDE OF PIER COLUMN
- (T) TRANSVERSE CRACKS

NOTES

1. PHYSICAL INVENTORY OF MEASURED QUANTITIES OF DETERIORATION WAS PERFORMED BETWEEN JULY AND SEPTEMBER 2018. THE EXACT DIMENSIONS AND LOCATIONS OF PATCHES AND CRACK REPAIRS SHALL BE DETERMINED BY THE ENGINEER IN THE FIELD FOR FINAL PAY QUANTITY.
2. ESTIMATED PATCHING AND CRACK REPAIR QUANTITIES HAVE BEEN INCREASED BY 50% OVER MEASURED QUANTITIES TO ALLOW FOR ADDITIONAL DETERIORATION.



DESIGNED: JAM
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DRAWN: JAM
REVISED:
REVIEWED: MJL
DATE: 08/05/20
STRUCTURE FILE NUMBER: 181991

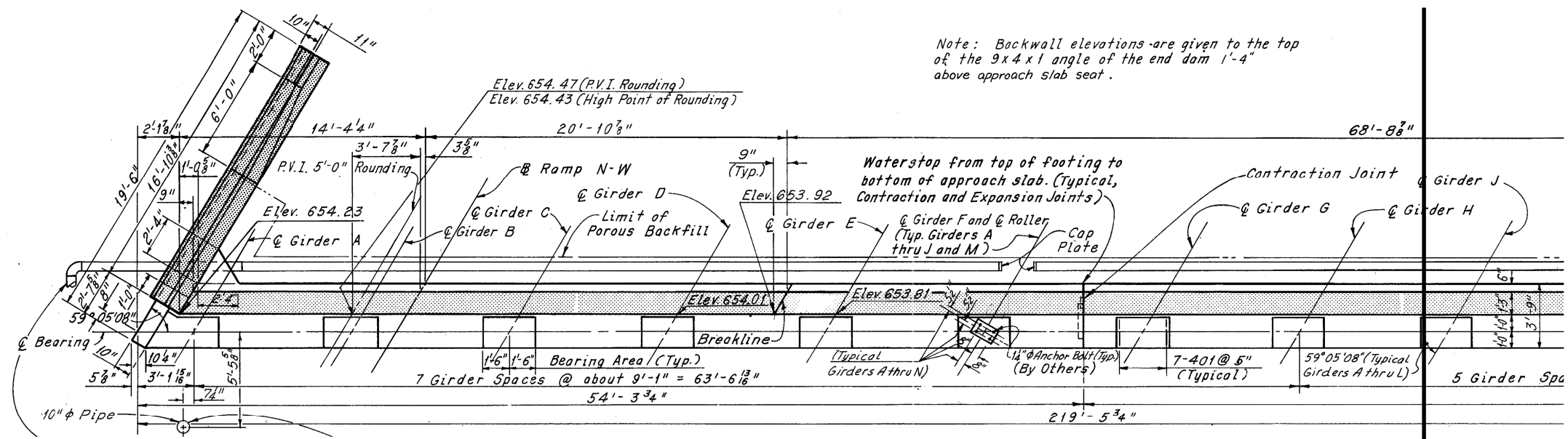
PIER 23 & PIER 27C-B REPAIR DETAILS
BRIDGE NO. CUY-490-0100
I-490 OVER CUYAHOGA RIVER

CUY-490-01.00
PID No. 25622

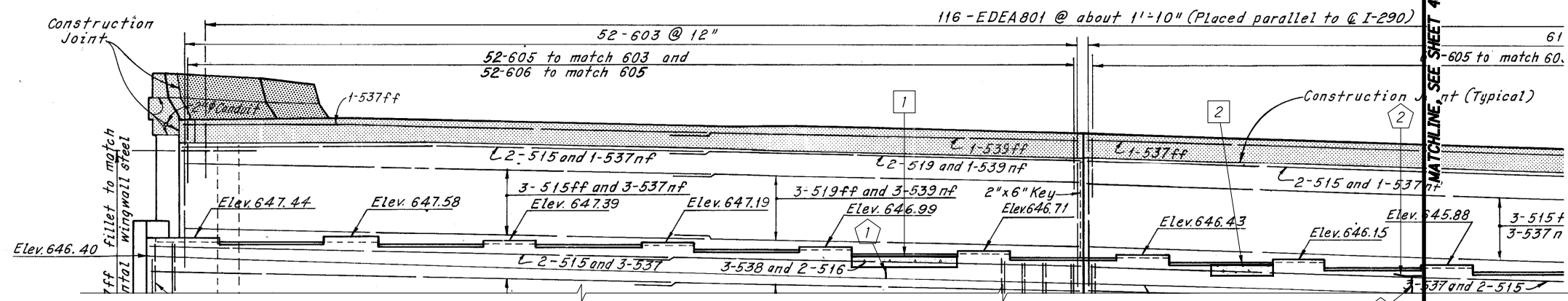
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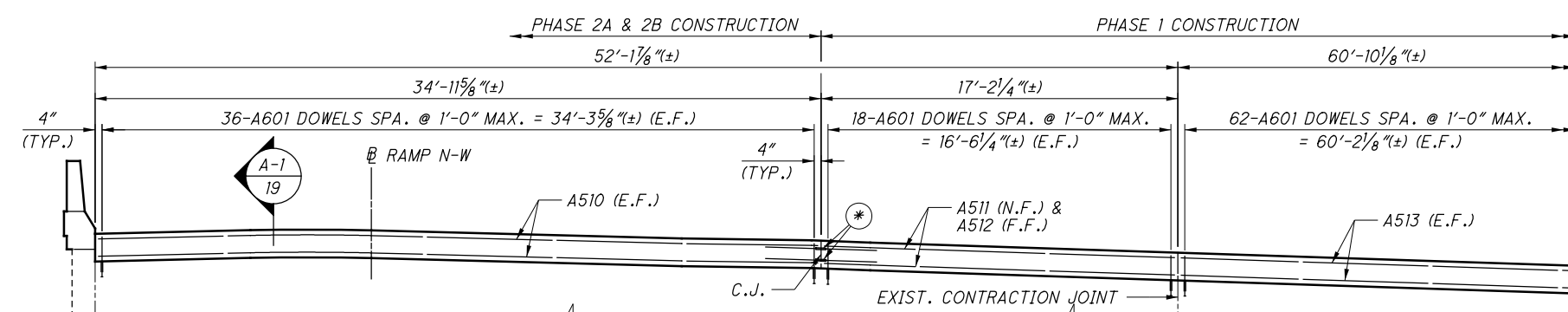
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EXISTING PLAN



EXISTING PARTIAL ELEVATION



PROPOSED PARTIAL ELEVATION

NOTES

- EXISTING PLAN AND ELEVATION VIEW LINE WORK ON THIS SHEET COMES FROM SCANS OF THE 1986 RECORD PLANS. REFERENCES TO I-290 SHOULD BE REPLACED WITH I-490.
- PHYSICAL INVENTORY OF MEASURED QUANTITIES OF DETERIORATION WAS PERFORMED IN AUGUST 2018. THE EXACT DIMENSIONS AND LOCATIONS OF PATCHES AND CRACK REPAIRS SHALL BE DETERMINED BY THE ENGINEER IN THE FIELD FOR FINAL PAY QUANTITY.
- ESTIMATED PATCHING AND CRACK REPAIR QUANTITIES HAVE BEEN INCREASED BY 50% OVER MEASURED QUANTITIES TO ALLOW FOR ADDITIONAL DETERIORATION.
- FOR PARAPET REPLACEMENT DETAILS, SEE SHEET 49/116.
- THE MINIMUM LAP LENGTH FOR ABUTMENT REINFORCING STEEL SHALL BE 2'-5\"/>

LEGEND

- ITEM 202 - PORTIONS OF STRUCTURE REMOVED, OVER 20' SPAN, AS PER PLAN
- AREA OF DELAMINATION TO BE REPAIRED PER ITEM 844 - CONCRETE PATCHING WITH GALVANIC ANODE PROTECTION, AS PER PLAN
- AREA OF CONCRETE DELAMINATION LOCATION NUMBER
- EXISTING CRACK TO BE REPAIRED LOCATION NUMBER
- THREADED MECHANICAL CONNECTOR, PROVIDING 3'-1\"/>

ESTIMATED PATCHING QUANTITIES		
LOCATION	WIDTH X HEIGHT	AREA (SF)
1	6'-0" x 1'-0"	6.00
2	3'-6" x 1'-0"	3.50
TOTAL AREA MEASURED		9.50
TOTAL AREA ESTIMATED *		14.25

* SEE NOTE 2

ESTIMATED CRACK REPAIR QUANTITIES		
LOCATION	DESCRIPTION	LENGTH
1	STEM	1.00'
2	STEM	1.50'
3	STEM	1.50'
TOTAL LENGTH MEASURED		4.00'
TOTAL LENGTH ESTIMATED *		6.00'

* SEE NOTE 2

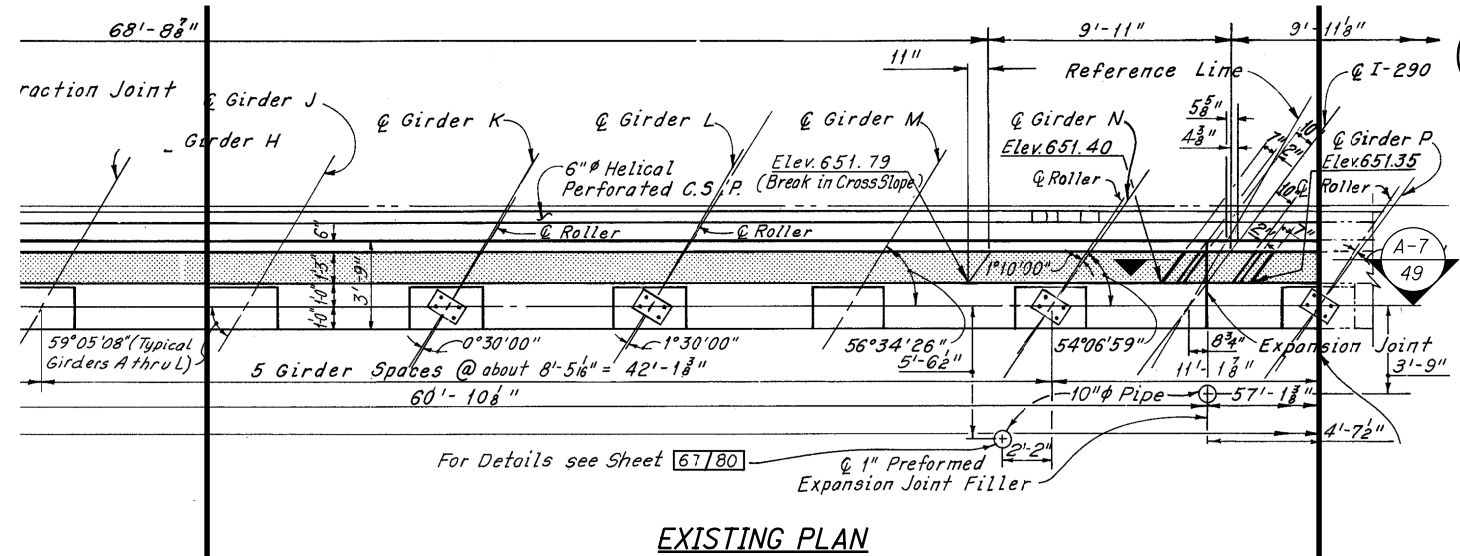


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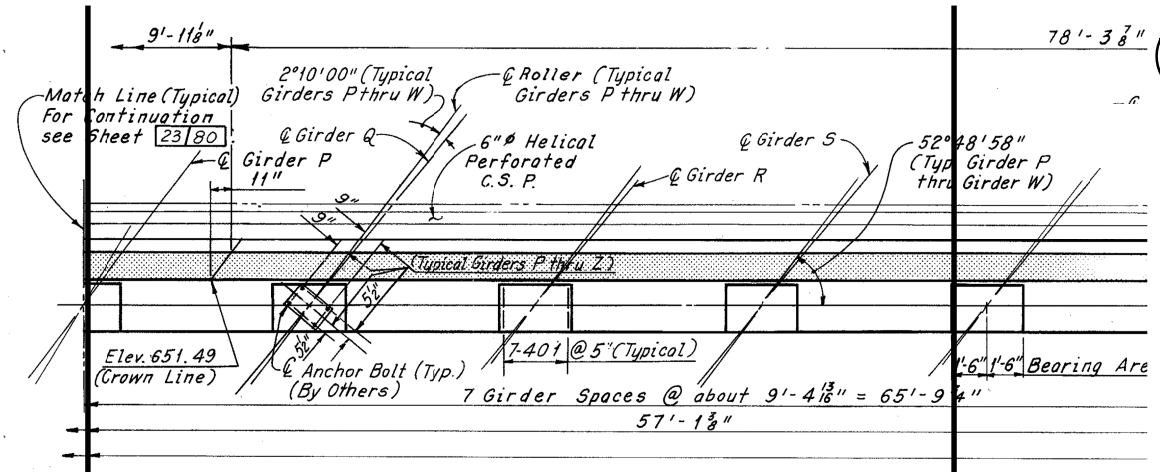
EAST ABUTMENT REPAIR DETAILS - 1
 BRIDGE NO. CUY-490-0100
 I-490 OVER CUYAHOGA RIVER

CUY-490-01.00
 PID No. 25622

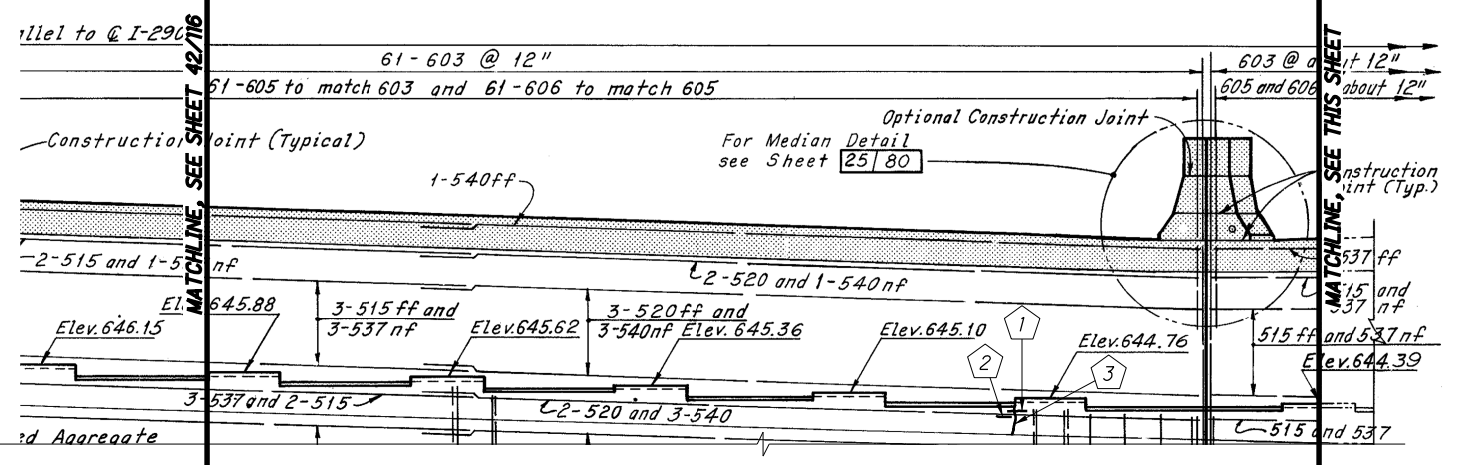
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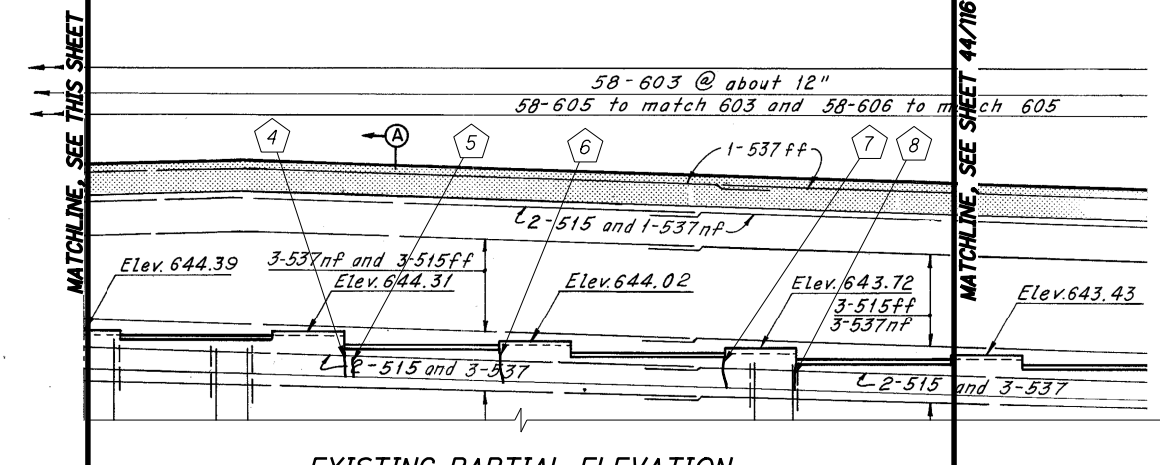
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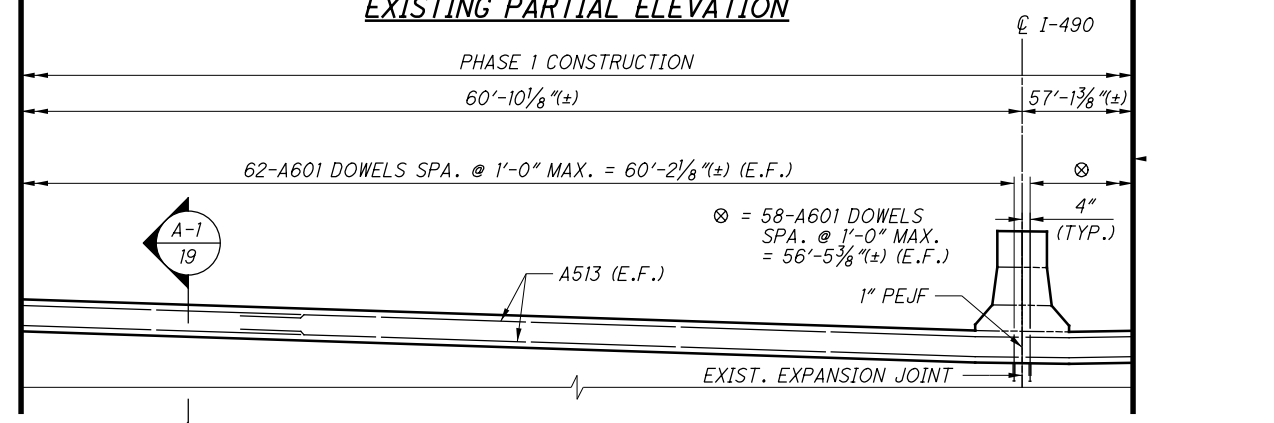
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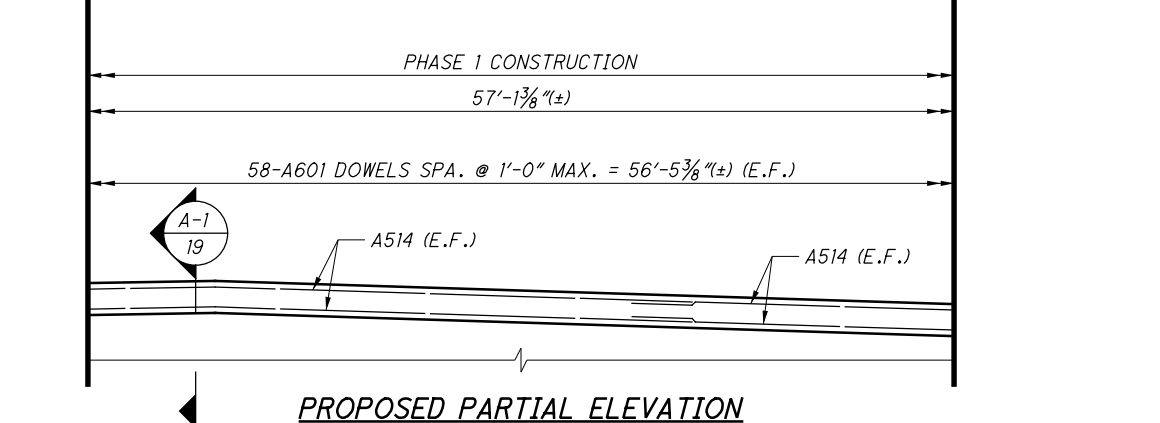
EXISTING PARTIAL ELEVATION



EXISTING PARTIAL ELEVATION



PROPOSED PARTIAL ELEVATION



PROPOSED PARTIAL ELEVATION

LEGEND

- ITEM 202 - PORTIONS OF STRUCTURE REMOVED, OVER 20' SPAN, AS PER PLAN
- AREA OF DELAMINATION TO BE REPAIRED PER ITEM 844 - CONCRETE PATCHING WITH GALVANIC ANODE PROTECTION, AS PER PLAN
- AREA OF CONCRETE DELAMINATION LOCATION NUMBER
- EXISTING CRACK TO BE REPAIRED LOCATION NUMBER
- THREADED MECHANICAL CONNECTOR, PROVIDING 3'-1" MIN. LAP, SHALL BE RICHMOND SCREW ANCHOR THREADED DOWEL BAR ASSEMBLY, LENTON REBAR SPLICING MECHANISM, OR APPROVED EQUAL AND THE COST SHALL BE INCLUDED WITH ITEM 509 - EPOXY COATED REINFORCING STEEL FOR PAYMENT

ESTIMATED PATCHING QUANTITIES		
LOCATION	WIDTH X HEIGHT	AREA (SF)
	NO	
	DETERIORATION	
	NOTED	
TOTAL AREA MEASURED		-
TOTAL AREA ESTIMATED *		-

* SEE NOTE 2

ESTIMATED CRACK REPAIR QUANTITIES		
LOCATION	DESCRIPTION	LENGTH
1	STEM	1.50'
2	STEM	1.00'
3	STEM	2.50'
4	STEM	3.50'
5	STEM	2.50'
6	STEM	3.50'
7	STEM	3.00'
8	STEM	3.00'
TOTAL LENGTH MEASURED		20.50'
TOTAL LENGTH ESTIMATED *		30.75'

* SEE NOTE 2

NOTES

1. EXISTING PLAN AND ELEVATION VIEW LINE WORK ON THIS SHEET COMES FROM SCANS OF THE 1986 RECORD PLANS. REFERENCES TO I-290 SHOULD BE REPLACED WITH I-490.
2. PHYSICAL INVENTORY OF MEASURED QUANTITIES OF DETERIORATION WAS PERFORMED IN AUGUST 2018. THE EXACT DIMENSIONS AND LOCATIONS OF PATCHES AND CRACK REPAIRS SHALL BE DETERMINED BY THE ENGINEER IN THE FIELD FOR FINAL PAY QUANTITY.
3. ESTIMATED PATCHING AND CRACK REPAIR QUANTITIES HAVE BEEN INCREASED BY 50% OVER MEASURED QUANTITIES TO ALLOW FOR ADDITIONAL DETERIORATION.
4. FOR PARAPET REPLACEMENT DETAILS, SEE SHEET 49/116.
5. THE MINIMUM LAP LENGTH FOR ABUTMENT REINFORCING STEEL SHALL BE 2'-5" FOR #5 BARS.



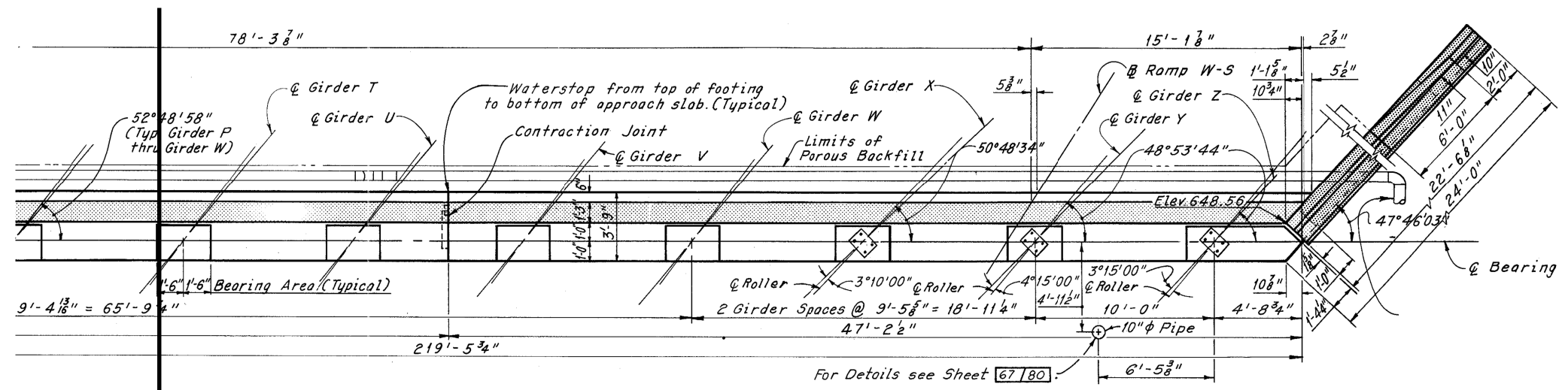
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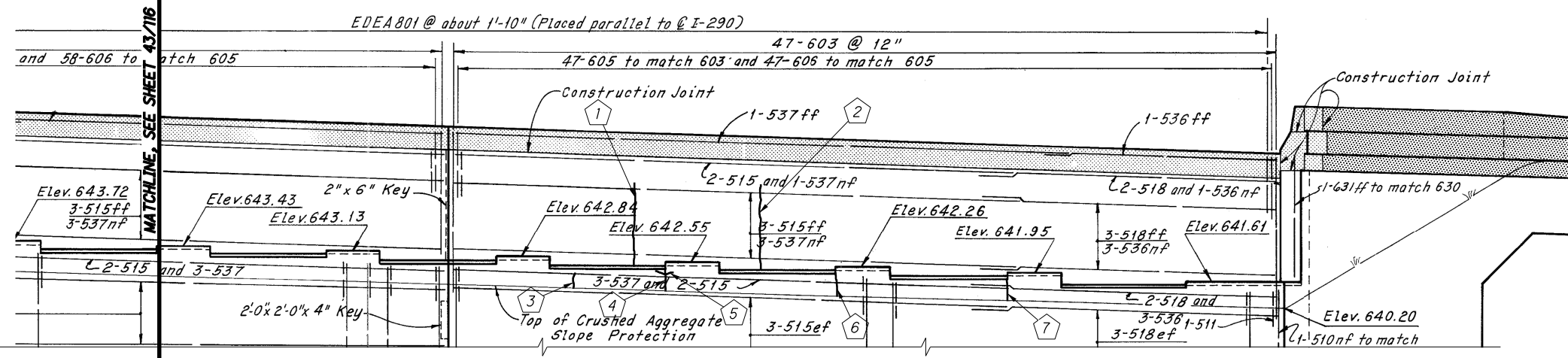
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 I-490 OVER CUYAHOGA RIVER

CUY-490-01.00
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 43/116
 100/182

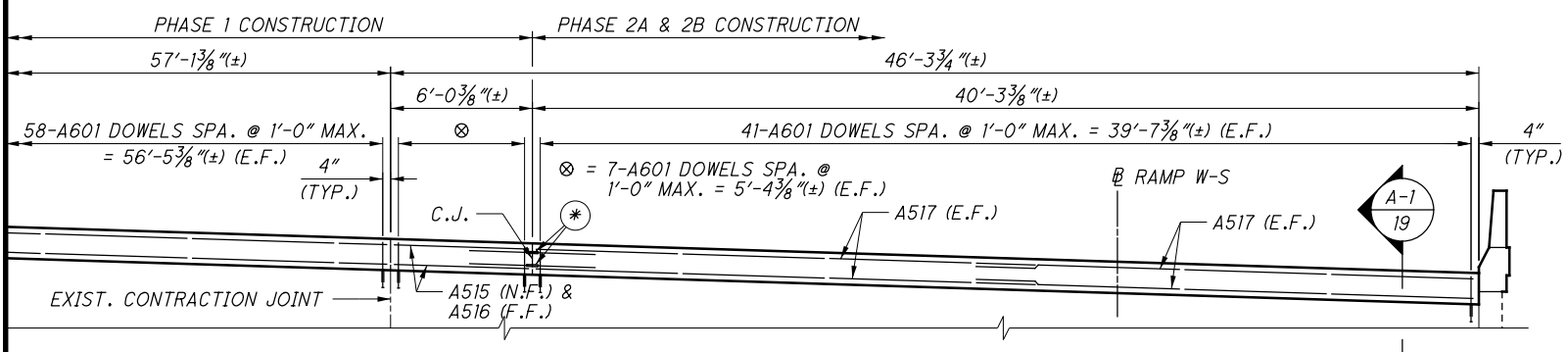
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EXISTING PLAN



EXISTING PARTIAL ELEVATION



PROPOSED PARTIAL ELEVATION

LEGEND

- ITEM 202 - PORTIONS OF STRUCTURE REMOVED, OVER 20' SPAN, AS PER PLAN
- AREA OF DELAMINATION TO BE REPAIRED PER ITEM 844 - CONCRETE PATCHING WITH GALVANIC ANODE PROTECTION, AS PER PLAN
- AREA OF CONCRETE DELAMINATION LOCATION NUMBER
- EXISTING CRACK TO BE REPAIRED LOCATION NUMBER
- THREADED MECHANICAL CONNECTOR, PROVIDING 3'-1" MIN. LAP, SHALL BE RICHMOND SCREW ANCHOR THREADED DOWEL BAR ASSEMBLY, LENTON REBAR SPLICING MECHANISM, OR APPROVED EQUAL AND THE COST SHALL BE INCLUDED WITH ITEM 509 - EPOXY COATED REINFORCING STEEL FOR PAYMENT

ESTIMATED PATCHING QUANTITIES		
LOCATION	WIDTH X HEIGHT	AREA (SF)
	NO	
	DETERIORATION	
	NOTED	
TOTAL AREA MEASURED		-
TOTAL AREA ESTIMATED *		-

* SEE NOTE 2

ESTIMATED CRACK REPAIR QUANTITIES		
LOCATION	DESCRIPTION	LENGTH
1	BACKWALL	4.50'
2	BACKWALL	4.50'
3	STEM	2.50'
4	STEM	3.00'
5	STEM	1.50'
6	STEM	3.00'
7	STEM	3.00'
TOTAL LENGTH MEASURED		22.00'
TOTAL LENGTH ESTIMATED *		33.00'

* SEE NOTE 2

NOTES

1. EXISTING PLAN AND ELEVATION VIEW LINE WORK ON THIS SHEET COMES FROM SCANS OF THE 1986 RECORD PLANS. REFERENCES TO I-290 SHOULD BE REPLACED WITH I-490.
2. PHYSICAL INVENTORY OF MEASURED QUANTITIES OF DETERIORATION WAS PERFORMED IN AUGUST 2018. THE EXACT DIMENSIONS AND LOCATIONS OF PATCHES AND CRACK REPAIRS SHALL BE DETERMINED BY THE ENGINEER IN THE FIELD FOR FINAL PAY QUANTITY.
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4. FOR PARAPET REPLACEMENT DETAILS, SEE SHEET 49/116.
5. THE MINIMUM LAP LENGTH FOR ABUTMENT REINFORCING STEEL SHALL BE 2'-5" FOR #5 BARS.

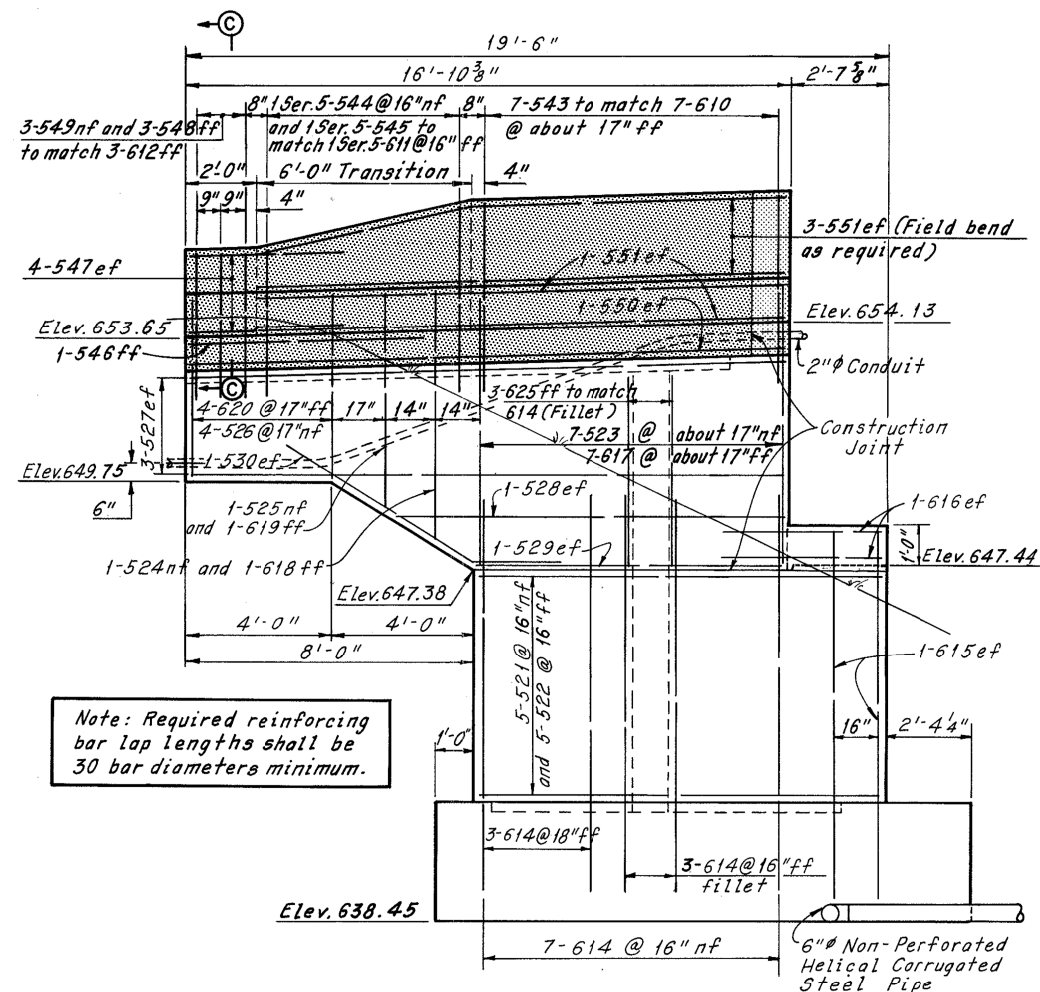


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CHECKED	JAM	
DRAWN	JAM	REVISED
REVIEWED	MJL	STRUCTURE FILE NUMBER
DATE	08/05/20	181991

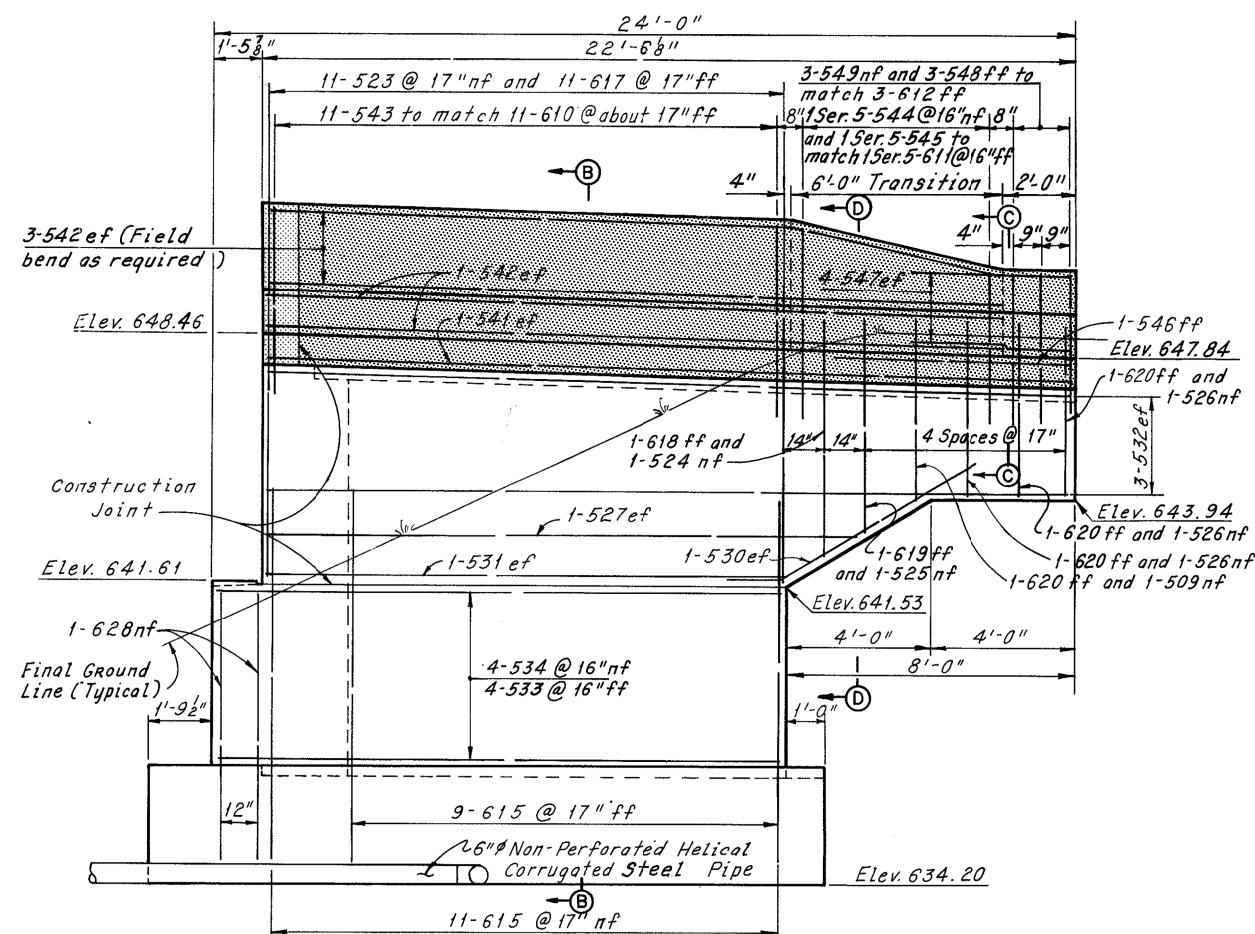
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 BRIDGE NO. CUY-490-0100
 I-490 OVER CUYAHOGA RIVER

CUY-490-01.00
 PID No. 25622

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NORTH WINGWALL EXISTING ELEVATION
PILES NOT SHOWN FOR CLARITY



SOUTH WINGWALL EXISTING ELEVATION
PILES NOT SHOWN FOR CLARITY

LEGEND

- ITEM 202 - PORTIONS OF STRUCTURE REMOVED, OVER 20' SPAN, AS PER PLAN
- AREA OF DELAMINATION TO BE REPAIRED PER ITEM 844 - CONCRETE PATCHING WITH GALVANIC ANODE PROTECTION, AS PER PLAN
- AREA OF CONCRETE DELAMINATION LOCATION NUMBER
- EXISTING CRACK TO BE REPAIRED LOCATION NUMBER
- THREADED MECHANICAL CONNECTOR, PROVIDING 3'-1" MIN. LAP, SHALL BE RICHMOND SCREW ANCHOR THREADED DOWEL BAR ASSEMBLY, LENTON REBAR SPLICING MECHANISM, OR APPROVED EQUAL AND THE COST SHALL BE INCLUDED WITH ITEM 509 - EPOXY COATED REINFORCING STEEL FOR PAYMENT

ESTIMATED PATCHING QUANTITIES		
LOCATION	WIDTH X HEIGHT	AREA (SF)
	NO	
	DETERIORATION	
	NOTED	
TOTAL AREA MEASURED		-
TOTAL AREA ESTIMATED *		-

* SEE NOTE 2

ESTIMATED CRACK REPAIR QUANTITIES		
LOCATION	DESCRIPTION	LENGTH
	NO	
	DETERIORATION	
	NOTED	
TOTAL LENGTH MEASURED		-
TOTAL LENGTH ESTIMATED *		-

* SEE NOTE 2

NOTES

1. EXISTING PLAN AND ELEVATION VIEW LINE WORK ON THIS SHEET COMES FROM SCANS OF THE 1986 RECORD PLANS. REFERENCES TO I-290 SHOULD BE REPLACED WITH I-490.
2. PHYSICAL INVENTORY OF MEASURED QUANTITIES OF DETERIORATION WAS PERFORMED IN AUGUST 2018. THE EXACT DIMENSIONS AND LOCATIONS OF PATCHES AND CRACK REPAIRS SHALL BE DETERMINED BY THE ENGINEER IN THE FIELD FOR FINAL PAY QUANTITY.
3. ESTIMATED PATCHING AND CRACK REPAIR QUANTITIES HAVE BEEN INCREASED BY 50% OVER MEASURED QUANTITIES TO ALLOW FOR ADDITIONAL DETERIORATION.
4. FOR PARAPET REPLACEMENT DETAILS, SEE SHEET 49/116.
5. THE MINIMUM LAP LENGTH FOR ABUTMENT REINFORCING STEEL SHALL BE 2'-5" FOR #5 BARS.

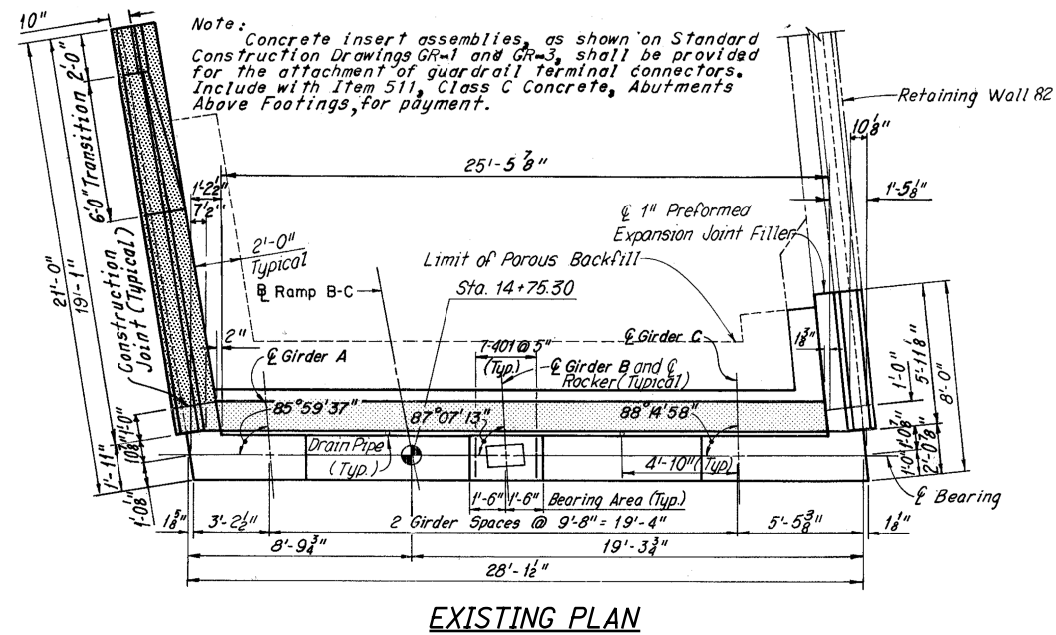


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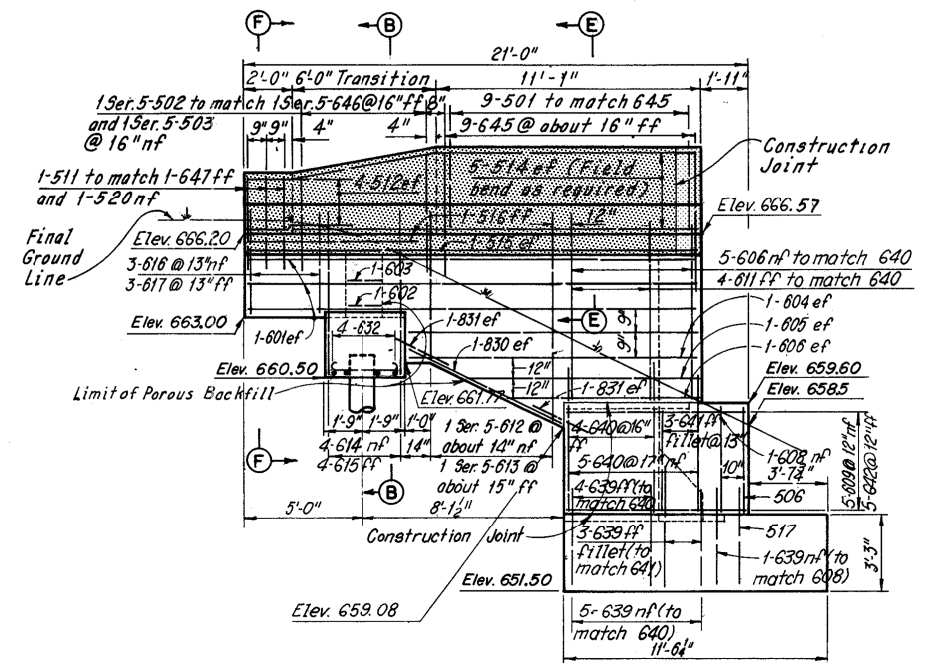
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 I-490 OVER CUYAHOGA RIVER

CUY-490-01.00
 PID No. 25622
 45/116
 102
 182

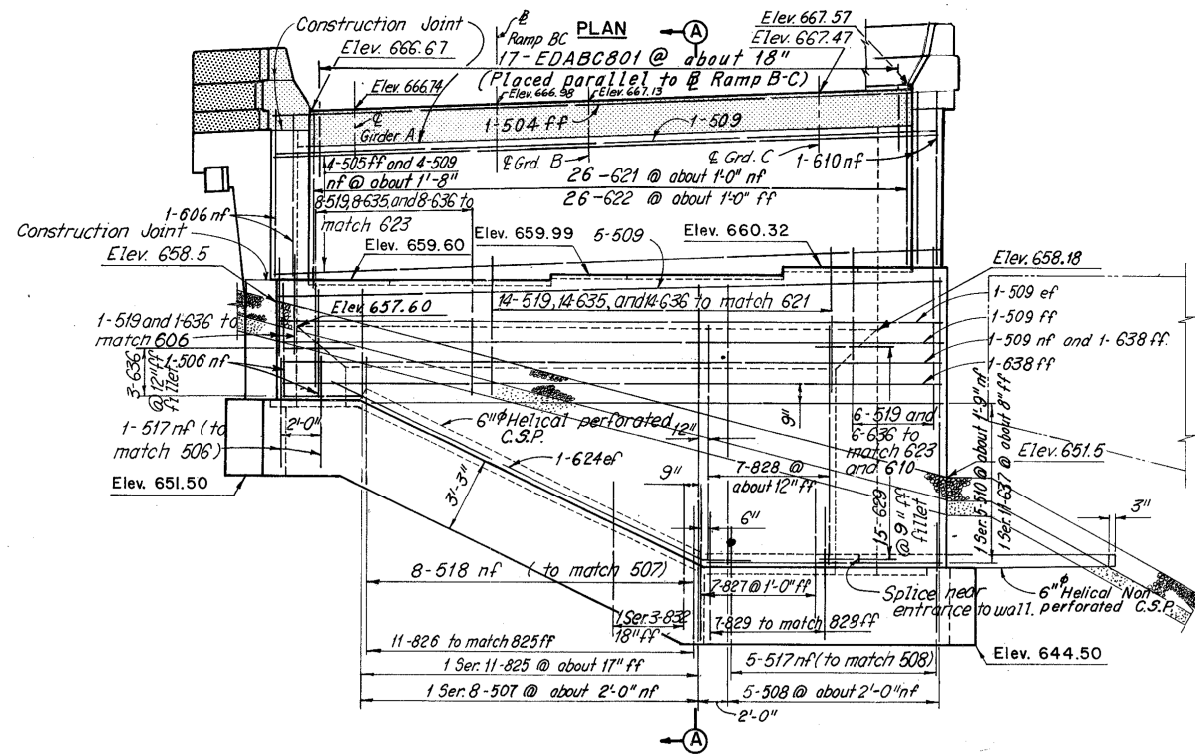
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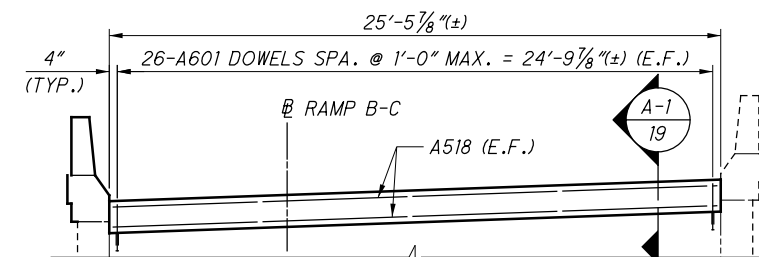
EXISTING PLAN



NORTH WINGWALL EXISTING ELEVATION
PILES NOT SHOWN FOR CLARITY



EXISTING PARTIAL ELEVATION
PILES NOT SHOWN FOR CLARITY



PROPOSED PARTIAL ELEVATION

LEGEND

- ITEM 202 - PORTIONS OF STRUCTURE REMOVED, OVER 20' SPAN, AS PER PLAN
- AREA OF DELAMINATION TO BE REPAIRED PER ITEM 844 - CONCRETE PATCHING WITH GALVANIC ANODE PROTECTION, AS PER PLAN
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ESTIMATED PATCHING QUANTITIES		
LOCATION	WIDTH X HEIGHT	AREA (SF)
	NO	
	DETERIORATION	
	NOTED	
TOTAL AREA MEASURED		-
TOTAL AREA ESTIMATED *		-

* SEE NOTE 2

ESTIMATED CRACK REPAIR QUANTITIES		
LOCATION	DESCRIPTION	LENGTH
	NO	
	DETERIORATION	
	NOTED	
TOTAL LENGTH MEASURED		-
TOTAL LENGTH ESTIMATED *		-

* SEE NOTE 2

NOTES

1. EXISTING PLAN AND ELEVATION VIEW LINE WORK ON THIS SHEET COMES FROM SCANS OF THE 1986 RECORD PLANS. REFERENCES TO I-290 SHOULD BE REPLACED WITH I-490.
2. PHYSICAL INVENTORY OF MEASURED QUANTITIES OF DETERIORATION WAS PERFORMED IN AUGUST 2018. THE EXACT DIMENSIONS AND LOCATIONS OF PATCHES AND CRACK REPAIRS SHALL BE DETERMINED BY THE ENGINEER IN THE FIELD FOR FINAL PAY QUANTITY.
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4. FOR PARAPET REPLACEMENT DETAILS, SEE SHEET 49/116.
5. THE MINIMUM LAP LENGTH FOR ABUTMENT REINFORCING STEEL SHALL BE 2'-5" FOR #5 BARS.

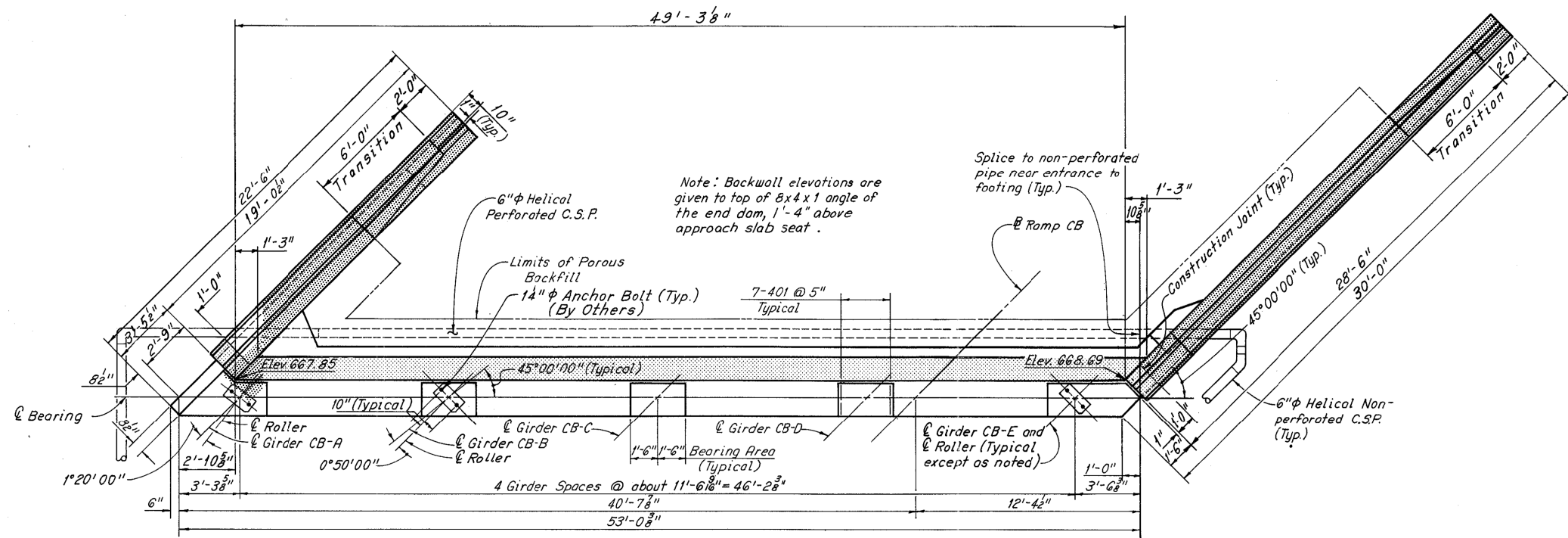


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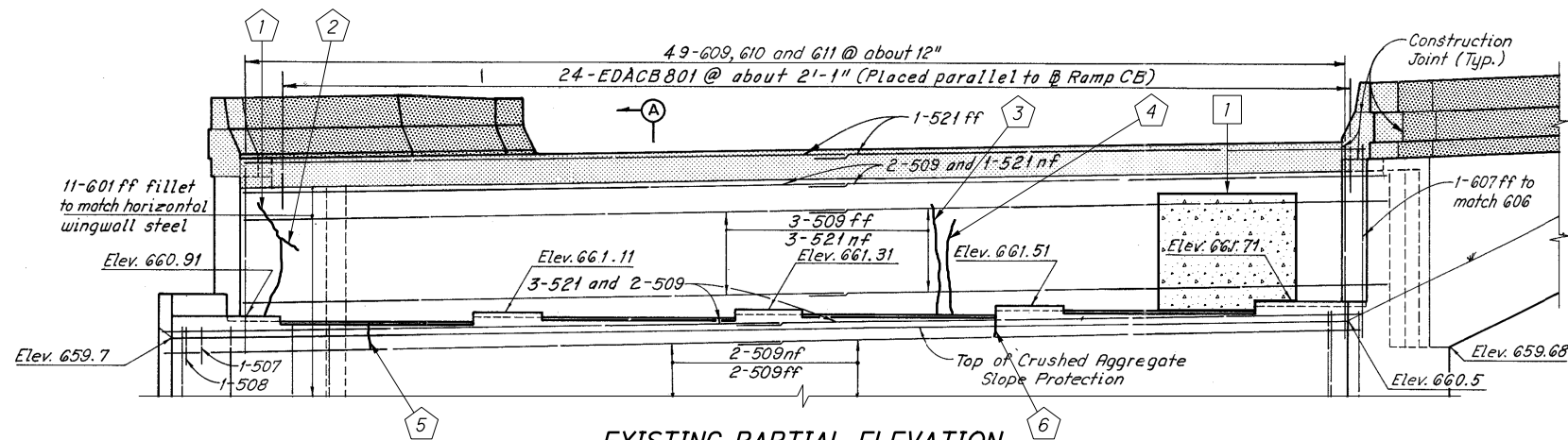
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 I-490 OVER CUYAHOGA RIVER

CUY-490-01.00
 PID No. 25622

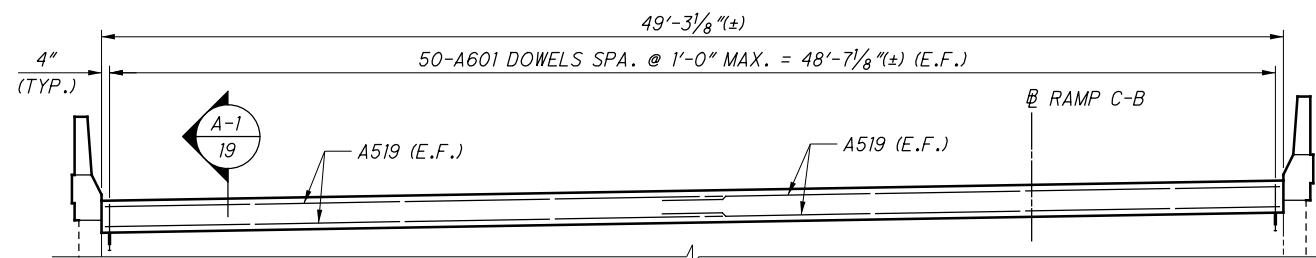
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EXISTING PLAN



EXISTING PARTIAL ELEVATION



PROPOSED PARTIAL ELEVATION

LEGEND

- ITEM 202 - PORTIONS OF STRUCTURE REMOVED, OVER 20' SPAN, AS PER PLAN
- AREA OF DELAMINATION TO BE REPAIRED PER ITEM 844 - CONCRETE PATCHING WITH GALVANIC ANODE PROTECTION, AS PER PLAN
- X AREA OF CONCRETE DELAMINATION LOCATION NUMBER
- X EXISTING CRACK TO BE REPAIRED LOCATION NUMBER
- * THREADED MECHANICAL CONNECTOR, PROVIDING 3'-1" MIN. LAP, SHALL BE RICHMOND SCREW ANCHOR THREADED DOWEL BAR ASSEMBLY, LENTON REBAR SPLICING MECHANISM, OR APPROVED EQUAL AND THE COST SHALL BE INCLUDED WITH ITEM 509 - EPOXY COATED REINFORCING STEEL FOR PAYMENT

ESTIMATED PATCHING QUANTITIES		
LOCATION	WIDTH X HEIGHT	AREA (SF)
1	6'-0" x 6'-0"	36.00
TOTAL AREA MEASURED		36.00
TOTAL AREA ESTIMATED *		54.00

* SEE NOTE 2

ESTIMATED CRACK REPAIR QUANTITIES		
LOCATION	DESCRIPTION	LENGTH
1	BACKWALL	6.50'
2	BACKWALL	1.00'
3	BACKWALL	5.50'
4	BACKWALL	5.00'
5	STEM	2.25'
6	STEM	3.50'
TOTAL LENGTH MEASURED		23.75'
TOTAL LENGTH ESTIMATED *		35.63'

* SEE NOTE 2

NOTES

1. EXISTING PLAN AND ELEVATION VIEW LINE WORK ON THIS SHEET COMES FROM SCANS OF THE 1986 RECORD PLANS. REFERENCES TO I-290 SHOULD BE REPLACED WITH I-490.
2. PHYSICAL INVENTORY OF MEASURED QUANTITIES OF DETERIORATION WAS PERFORMED IN AUGUST 2018. THE EXACT DIMENSIONS AND LOCATIONS OF PATCHES AND CRACK REPAIRS SHALL BE DETERMINED BY THE ENGINEER IN THE FIELD FOR FINAL PAY QUANTITY.
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4. FOR PARAPET REPLACEMENT DETAILS, SEE SHEET 49/116.
5. THE MINIMUM LAP LENGTH FOR ABUTMENT REINFORCING STEEL SHALL BE 2'-5" FOR #5 BARS.



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REVISED:
REVIEWED: MJL
DATE: 08/05/20
STRUCTURE FILE NUMBER: 181991

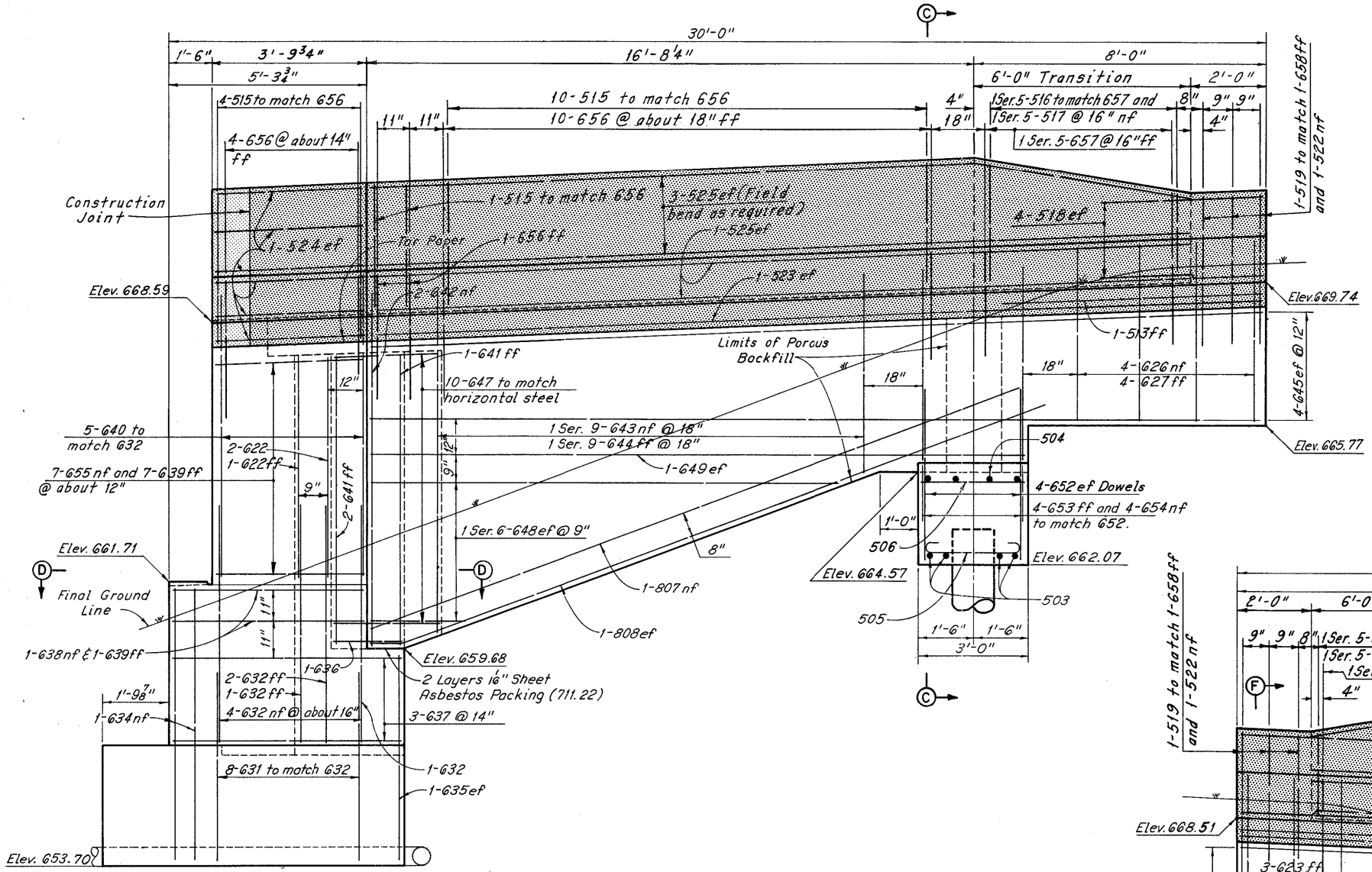
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BRIDGE NO. CUY-490-0100
I-490 OVER CUYAHOGA RIVER

CUY-490-01.00
PID No. 25622

47/116

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182

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SOUTH WINGWALL EXISTING ELEVATION
PILES NOT SHOWN FOR CLARITY

LEGEND

- ITEM 202 - PORTIONS OF STRUCTURE REMOVED, OVER 20' SPAN, AS PER PLAN
- AREA OF DELAMINATION TO BE REPAIRED PER ITEM 844 - CONCR. PATCHING WITH GALVANIC ANODE PROTECTION, AS PER PLAN
- AREA OF CONCRETE DELAMINATION LOCATION NUMBER
- EXISTING CRACK TO BE REPAIRED LOCATION NUMBER
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NOTES

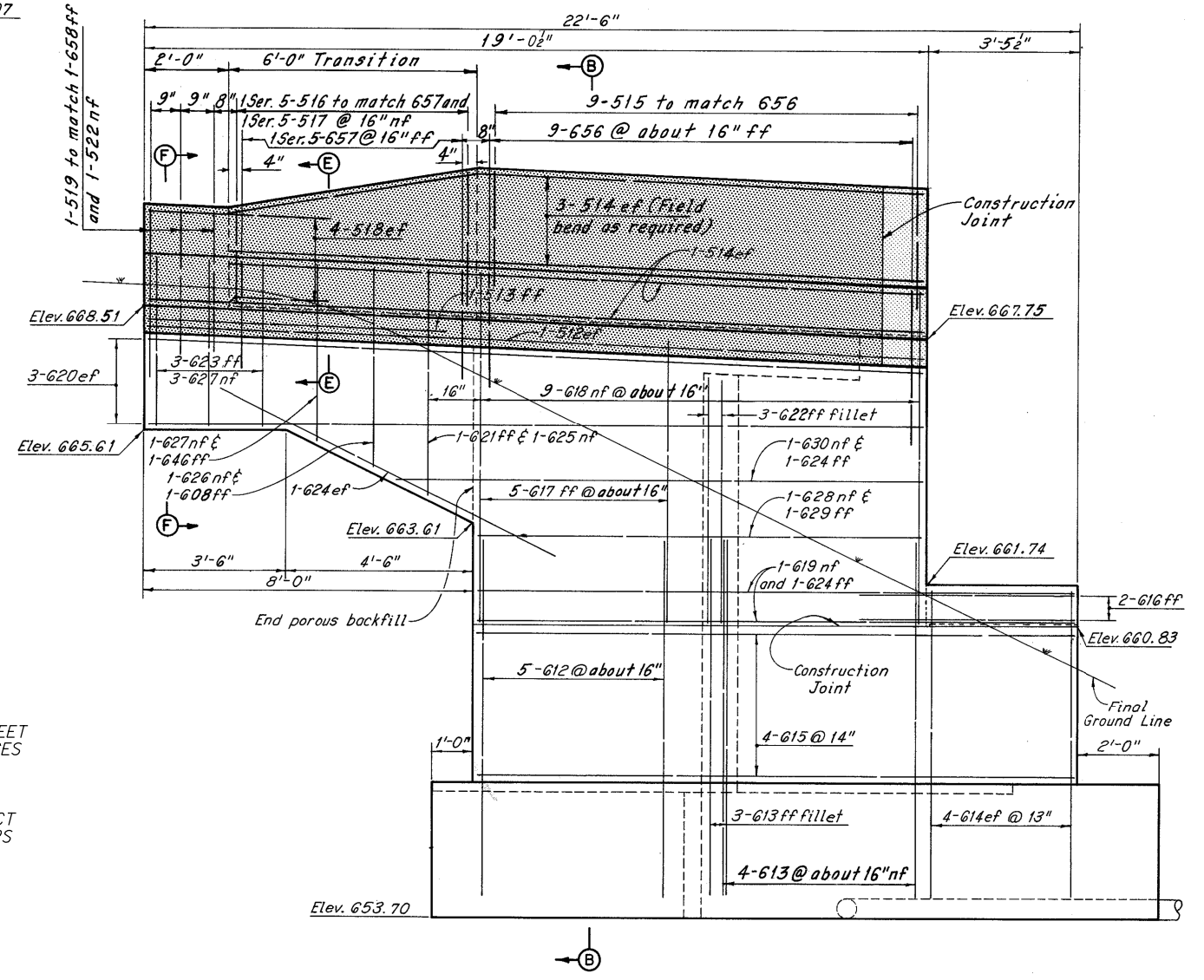
1. EXISTING PLAN AND ELEVATION VIEW LINE WORK ON THIS SHEET COMES FROM SCANS OF THE 1986 RECORD PLANS. REFERENCES TO I-290 SHOULD BE REPLACED WITH I-490.
2. PHYSICAL INVENTORY OF MEASURED QUANTITIES OF DETERIORATION WAS PERFORMED IN AUGUST 2018. THE EXACT DIMENSIONS AND LOCATIONS OF PATCHES AND CRACK REPAIRS SHALL BE DETERMINED BY THE ENGINEER IN THE FIELD FOR FINAL PAY QUANTITY.
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4. FOR PARAPET REPLACEMENT DETAILS, SEE SHEET 49/116.
5. THE MINIMUM LAP LENGTH FOR ABUTMENT REINFORCING STEEL SHALL BE 2'-5" FOR #5 BARS.

ESTIMATED PATCHING QUANTITIES		
LOCATION	WIDTH X HEIGHT	AREA (SF)
	NO	
	DETERIORATION NOTED	
	TOTAL AREA MEASURED	-
	TOTAL AREA ESTIMATED *	-

* SEE NOTE 2

ESTIMATED CRACK REPAIR QUANTITIES		
LOCATION	DESCRIPTION	LENGTH
	NO	
	DETERIORATION NOTED	
	TOTAL LENGTH MEASURED	-
	TOTAL LENGTH ESTIMATED *	-

* SEE NOTE 2



NORTH WINGWALL EXISTING ELEVATION
PILES NOT SHOWN FOR CLARITY

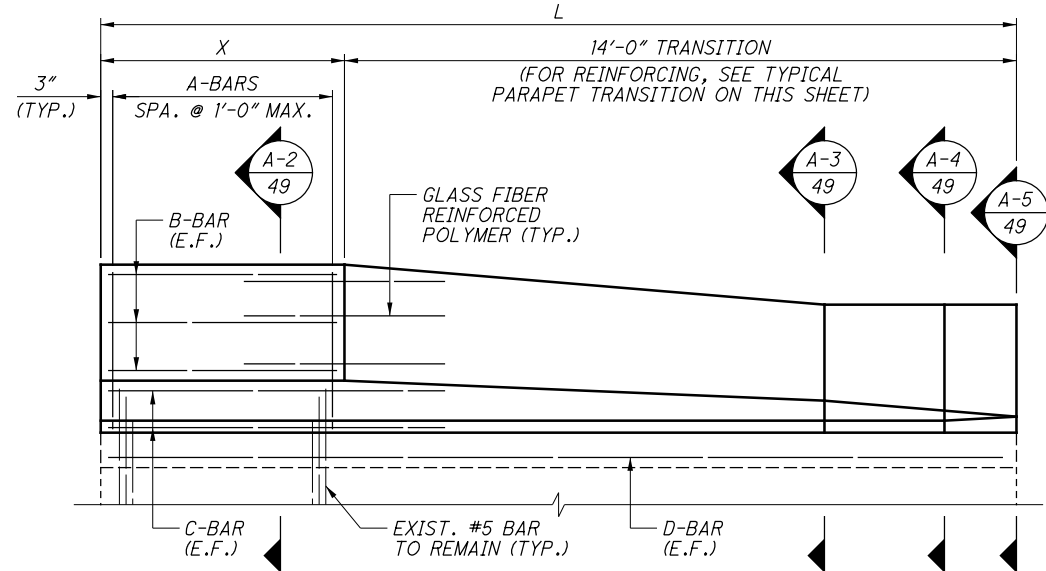


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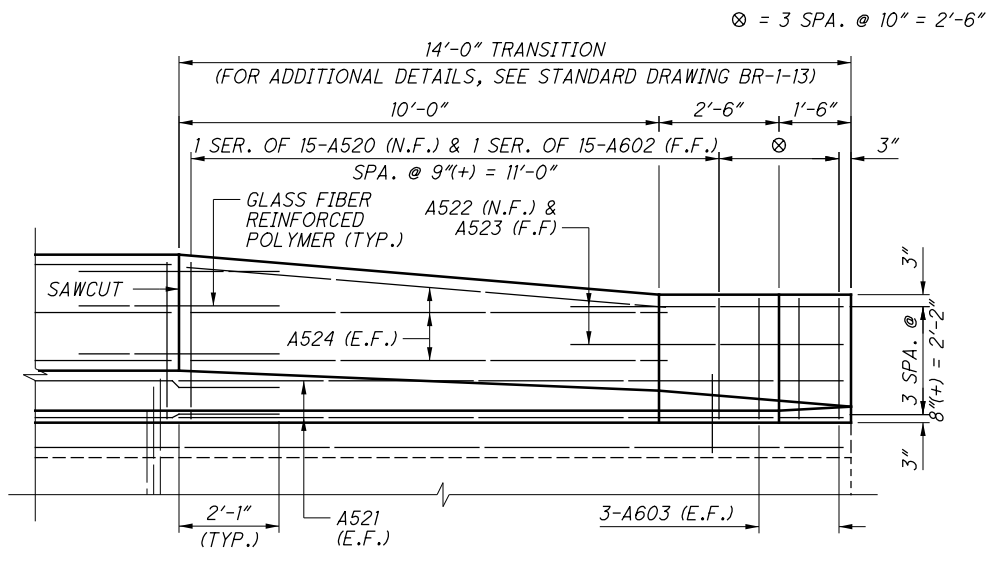
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BRIDGE NO. CUY-490-0100
I-490 OVER CUYAHOGA RIVER

CUY-490-01.00
PID No. 25622

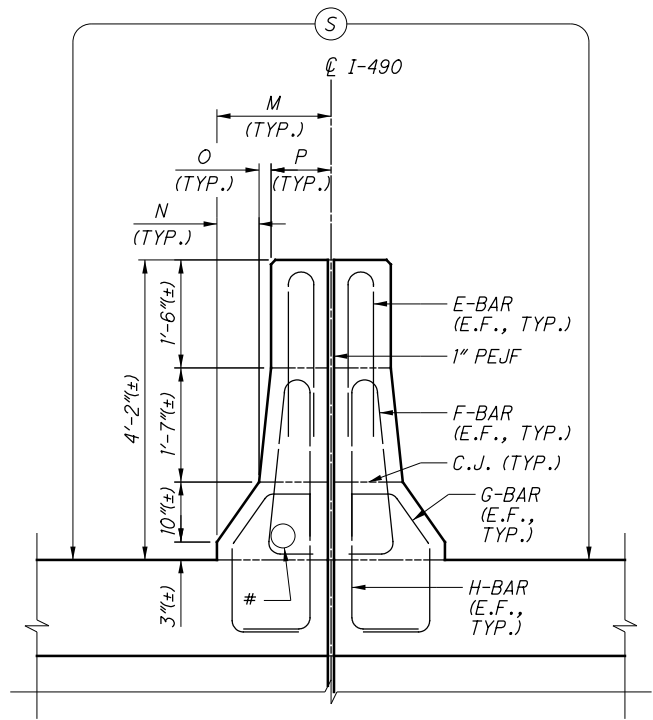
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TYPICAL ELEVATION

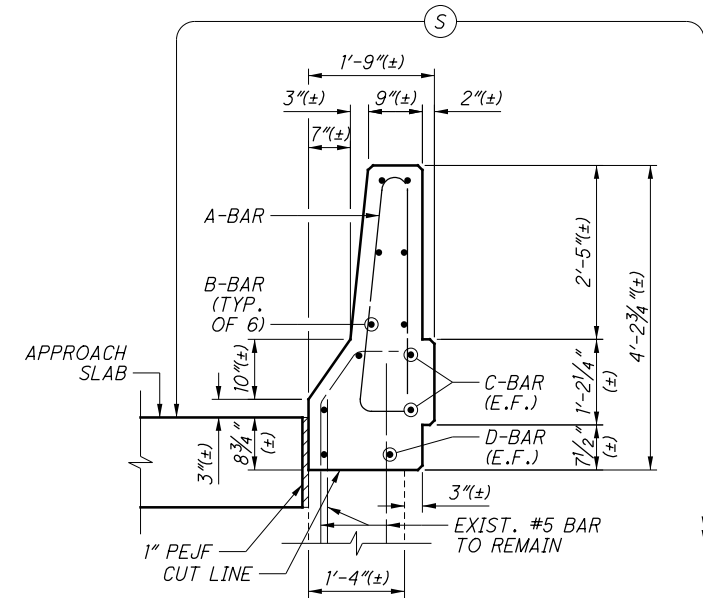


TYPICAL PARAPET TRANSITION

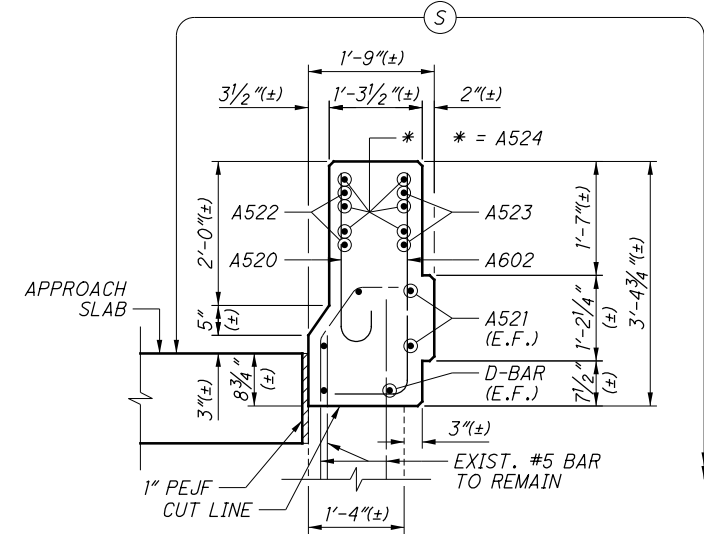


SECTION A-6/A-7
17/43

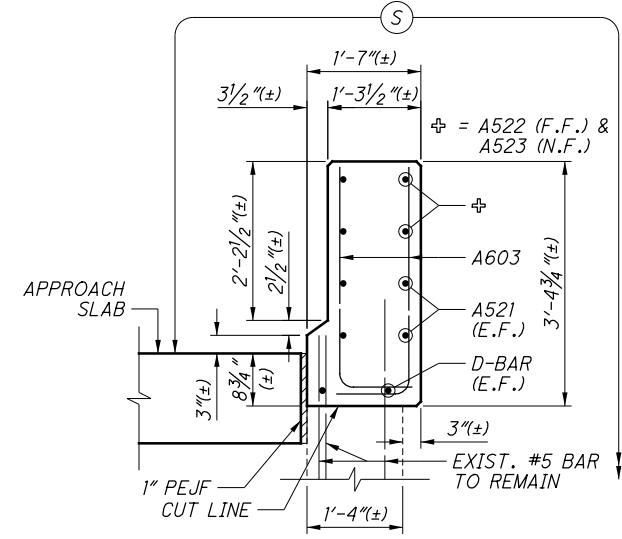
ABUTMENT BACKWALL REINFORCING NOT SHOWN FOR CLARITY



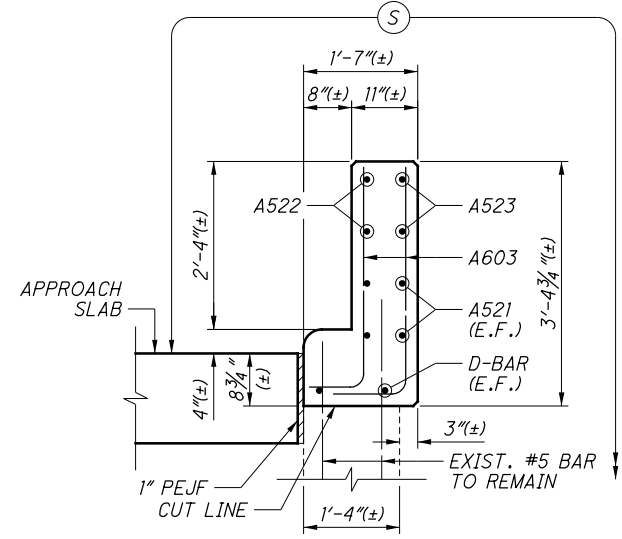
SECTION A-2
49



SECTION A-3
49



SECTION A-4
49



SECTION A-5
49

ABUTMENT WINGWALL PARAPET REINFORCING							
ABUTMENT	WINGWALL	L	X	A-BAR	B-BAR	C-BAR	D-BAR
WEST	SOUTH	14'-0"(\pm)	0'-0"(\pm)	-	-	-	A526
EAST	NORTH	16'-10"(\pm)	2'-10"(\pm)	4-A525	A527	A528	A529
EAST	SOUTH	21'-0"(\pm)	7'-0"(\pm)	8-A525	A530	A531	A532
B-C	NORTH	19'-1"(\pm)	5'-1"(\pm)	6-A525	A533	A534	A535
C-B	NORTH	19'-1"(\pm)	5'-1"(\pm)	6-A525	A533	A534	A535
C-B	SOUTH	28'-6"(\pm)	14'-6"(\pm)	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"(\pm)	7"(\pm)	2"(\pm)	10"(\pm)	A604	A605	A606	A607
EAST	1'-11 1/2"(\pm)	8 5/8"(\pm)	2 1/2"(\pm)	1'-0 3/8"(\pm)	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 17 TO 19 AND 42 TO 48/116.
- 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)



DATE 08/05/20
REVIEWED MJL
DRAWN JAM
DESIGNED JAM
CHECKED PAT

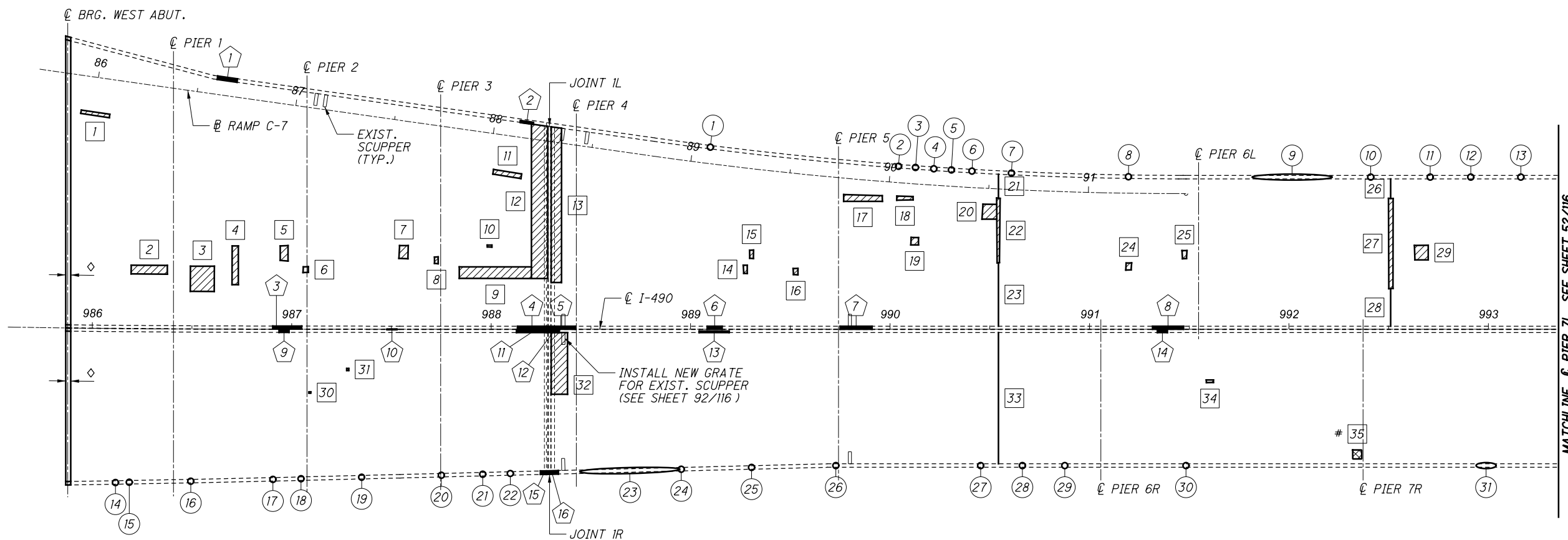
ABUTMENT PARAPET REPLACEMENT DETAILS
BRIDGE NO. CUY-490-0100
I-490 OVER CUYAHOGA RIVER

CUY-490-01.00
PID No. 25622

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





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DECK PLAN

LEGEND

-  AREA OF EXISTING OVERLAY TO BE REMOVED BY HYDRODEMOLITION AND REPLACED WITH MICRO SILICIA MODIFIED CONCRETE OVERLAY PER ITEM 848
-  AREA OF DECK TO BE REPAIRED PER ITEM 848 - FULL DEPTH REPAIR
-  DECK REPAIR LOCATION NUMBER
-  PARAPET REPAIR LOCATION NUMBER
-  FENCE REPAIR LOCATION NUMBER
-  FULL DEPTH REPAIR OF PIER ACCESS MANHOLE LOCATION
-  PORTION OF EXISTING DECK SLAB TO BE REMOVED AND RECONSTRUCTED FOR EXPANSION JOINT REPLACEMENT

NOTES

1. FOR REPAIR LOCATION DETAILS AND QUANTITIES, SEE SHEET 51/116.



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

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

CUY-490-01.00
 PID No. 25622

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ESTIMATED WEARING SURFACE REPAIR QUANTITIES				
LOCATION	LENGTH X WIDTH (FT)	OVERLAY AREA (SF)	FULL DEPTH AREA (SF)	CRACK LENGTH (FT)
1	15.00 x 2.00	30.00	-	-
2	18.00 x 4.50	81.00	-	-
3	12.00 x 13.00	156.00	-	-
4	3.00 x 20.00	60.00	-	-
5	4.00 x 8.00	32.00	-	-
6	3.00 x 3.00	9.00	-	-
7	4.50 x 6.50	29.25	-	-
8	2.00 x 3.00	6.00	-	-
9	36.00 x 6.00	216.00	-	-
10	2.50 x 1.00	2.50	-	-
11	14.50 x 2.50	36.25	-	-
12	8.00 x 77.00	616.00	-	-
13	5.00 x 78.00	390.00	-	-
14	2.00 x 4.00	8.00	-	-
15	2.00 x 4.00	8.00	-	-
16	2.50 x 3.50	8.75	-	-
17	19.50 x 3.00	58.50	-	-
18	8.00 x 2.00	16.00	-	-
19	4.00 x 4.00	16.00	-	-
20	7.50 x 7.50	56.25	-	-
21	-	-	-	12
22	2.00 x 32.50	65.00	-	-
23	-	-	-	32
24	3.00 x 4.00	12.00	-	-
25	2.50 x 4.00	10.00	-	-
26	-	-	-	66
27	2.50 x 45.00	112.50	-	-
28	-	-	-	19
29	7.00 x 7.50	52.50	-	-
30	1.00 x 1.00	1.00	-	-
31	1.00 x 1.00	1.00	-	-
32	8.00 x 31.00	248.00	-	-
33	-	-	-	66
34	3.50 x 1.50	5.25	-	-
35 #	4.50 x 4.50	-	20.25	-
TOTAL MEASURED		2,342.75	20.25	195
TOTAL ESTIMATED *		3,162.71	27.34	263

* SEE NOTE 6

ESTIMATED PARAPET REPAIR QUANTITIES						
LOCATION	WIDTH X HEIGHT (FT)	REPAIR AREA (SF)	CRACK LENGTH (FT)	REBUILD TOP (FT)	REBUILD PARAPET (FT)	REPLACE SEAL (FT)
1	-	-	-	-	10	-
2	1.00 x 1.00	1.00	-	-	-	-
3	14.50 x 4.19	60.72	-	-	-	-
4	14.50 x 4.19	60.72	-	-	-	-
5	14.50 x 4.19	60.72	-	-	-	-
6	7.50 x 4.19	31.41	-	-	-	-
7	16.00 x 4.19	67.00	-	-	-	-
8	15.50 x 4.19	64.91	-	-	-	-
9	5.00 x 4.19	20.94	-	-	-	-
10	-	-	-	-	-	5
11	15.00 x 4.19	62.81	-	-	-	-
12	6.50 x 4.19	27.22	-	-	-	-
13	15.00 x 1.08	16.25	-	-	-	-
14	5.00 x 1.08	5.42	-	-	-	-
15	-	-	-	3	-	-
16	-	-	-	6	-	-
TOTAL MEASURED		479.10	-	9	10	5
TOTAL ESTIMATED *		646.79	-	N/A	N/A	N/A

* SEE NOTE 6

ESTIMATED FENCE REPAIR QUANTITIES								
LOCATION	FENCE FABRIC (FT)	FENCE POST (EACH)	BOTTOM RAIL (FT)	TOP RAIL (FT)	BOT. RAIL BRACKET (EACH)	TOP RAIL COUPLING (EACH)	FENCE POST CAP (EACH)	BRACE ROD (EACH)
1	-	-	-	-	1	-	-	-
2	-	-	-	-	1	-	-	-
3	-	-	-	-	1	-	-	-
4	-	-	-	-	1	-	-	-
5	-	-	-	-	1	-	-	-
6	-	-	-	-	1	-	-	-
7	-	-	-	-	1	-	-	-
8	-	-	-	-	1	-	-	-
9	40	-	10	-	-	-	-	-
10	-	-	-	-	1	-	-	-
11	-	-	-	-	1	-	-	-
12	-	-	-	-	1	-	-	-
13	5	-	-	-	-	-	-	-
14	-	2	2	-	-	-	-	-
15	-	-	-	-	-	1	-	-
16	-	-	-	-	-	1	-	-
17	-	-	-	-	-	1	-	-
18	-	1	-	-	-	-	-	-
19	-	-	-	-	-	1	-	-
20	-	-	-	-	-	1	-	-
21	-	-	-	-	-	1	-	-
22	-	-	-	-	-	1	-	-
23	-	-	50	-	-	-	-	-
24	-	-	-	-	-	1	-	-
25	-	-	-	-	-	1	-	-
26	-	-	-	-	-	1	-	-
27	-	-	-	-	-	1	-	-
28	-	-	-	-	-	1	-	-
29	-	-	-	-	-	1	-	-
30	-	-	-	-	-	1	-	-
31	10	-	-	-	-	-	-	-
TOTAL	55	3	62	-	11	14	-	-

LEGEND

- X DECK REPAIR LOCATION NUMBER
- X PARAPET REPAIR LOCATION NUMBER
- X FENCE REPAIR LOCATION NUMBER
- # FULL DEPTH REPAIR OF PIER ACCESS MANHOLE LOCATION (SEE NOTE 3)

NOTES

1. FOR REPAIR LOCATIONS, SEE SHEET 50/116.
2. FOR PARAPET REPAIR DETAILS, SEE SHEET 49/116.
3. FOR PIER ACCESS MANHOLE REMOVAL AND RECONSTRUCTION DETAILS, SEE SHEETS 107 TO 108/116.
4. FOR ADDITIONAL FENCE REPAIR INFORMATION, SEE GENERAL NOTE ON SHEET 7/116.
5. PHYSICAL INVENTORY OF MEASURED QUANTITIES OF DETERIORATION WAS PERFORMED IN APRIL 2020. THE EXACT DIMENSIONS AND LOCATIONS OF WEARING SURFACE, PARAPET, AND FENCE REPAIRS SHALL BE DETERMINED BY THE ENGINEER IN THE FIELD FOR FINAL PAY QUANTITY.
6. ESTIMATED OVERLAY REPAIR, FULL DEPTH DECK REPAIR, PARAPET REPAIR, AND CRACK REPAIR QUANTITIES HAVE BEEN INCREASED BY 35% OVER MEASURED QUANTITIES TO ALLOW FOR ADDITIONAL DETERIORATION.

PAY ITEM NOTES

1. WEARING SURFACE AND PARAPET CRACK REPAIR TO BE PAID UNDER ITEM 512 - CONCRETE REPAIR BY EPOXY INJECTION
2. PARAPET CONCRETE SURFACE REPAIR TO BE PAID UNDER ITEM 844 - CONCRETE PATCHING WITH GALVANIC ANODE PROTECTION, AS PER PLAN
3. REBUILDING OF PARAPETS TO BE PAID UNDER ITEM 509 - EPOXY COATED REINFORCING STEEL AND ITEM 511 - CLASS QC2 CONCRETE, BRIDGE DECK (PARAPET)
4. REPLACEMENT OF MEDIAN BARRIER SEAL TO BE PAID UNDER ITEM 516 - STRUCTURAL JOINT OR JOINT SEALER, MISC.: MEDIAN BARRIER SEAL
5. FENCE REPAIRS TO BE PAID UNDER ITEM 607 - FENCE REBUILT, TYPE CL, AS PER PLAN



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

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

CUY-490-01.00
 PID No. 25622

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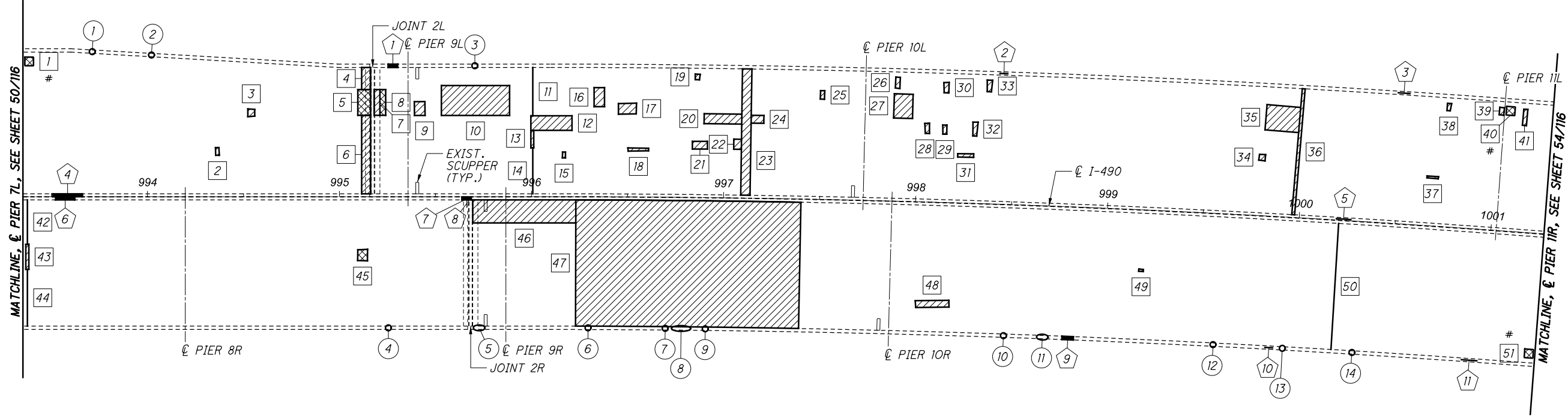
DESIGNED	JAM	CHECKED	PAT
DRAWN	JAM	REVISED	
REVIEWED	MJL	DATE	08/05/20
		STRUCTURE FILE NUMBER	181991

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

CUY-490-01.00
 PID No. 25622








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DECK PLAN

LEGEND

-  AREA OF EXISTING OVERLAY TO BE REMOVED BY HYDRODEMOLITION AND REPLACED WITH MICRO SILICIA MODIFIED CONCRETE OVERLAY PER ITEM 848
-  AREA OF DECK TO BE REPAIRED PER ITEM 848 - FULL DEPTH REPAIR
-  DECK REPAIR LOCATION NUMBER
-  PARAPET REPAIR LOCATION NUMBER
-  FENCE REPAIR LOCATION NUMBER
-  FULL DEPTH REPAIR OF PIER ACCESS MANHOLE LOCATION
-  PORTION OF EXISTING DECK SLAB TO BE REMOVED AND RECONSTRUCTED FOR EXPANSION JOINT REPLACEMENT

NOTES

1. FOR REPAIR LOCATION DETAILS AND QUANTITIES, SEE SHEET 53/116.

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ESTIMATED WEARING SURFACE REPAIR QUANTITIES				
LOCATION	LENGTH X WIDTH (FT)	OVERLAY AREA (SF)	FULL DEPTH AREA (SF)	CRACK LENGTH (FT)
1 #	4.50 x 4.50	-	20.25	-
2	2.00 x 4.00	8.00	-	-
3	3.50 x 4.00	14.00	-	-
4	4.50 x 11.50	51.75	-	-
5	7.00 x 13.50	-	94.50	-
6	4.50 x 41.00	184.50	-	-
7	3.00 x 13.50	40.50	-	-
8	3.00 x 13.50	-	40.50	-
9	5.50 x 7.00	38.50	-	-
10	35.50 x 15.50	550.25	-	-
11	-	-	-	25
12	21.50 x 8.00	172.00	-	-
13	1.50 x 9.00	13.50	-	-
14	-	-	-	24
15	1.50 x 3.00	4.50	-	-
16	5.50 x 10.00	55.00	-	-
17	9.50 x 5.50	52.25	-	-
18	11.00 x 1.50	16.50	-	-
19	2.50 x 3.00	7.50	-	-
20	20.00 x 5.00	100.00	-	-
21	8.00 x 4.00	32.00	-	-
22	4.00 x 5.00	20.00	-	-
23	5.00 x 66.00	330.00	-	-
24	6.50 x 4.00	26.00	-	-
25	2.00 x 4.50	9.00	-	-
26	2.00 x 6.00	12.00	-	-
27	10.00 x 13.00	130.00	-	-
28	2.50 x 5.50	13.75	-	-
29	2.00 x 5.00	10.00	-	-
30	3.00 x 5.50	16.50	-	-
31	8.00 x 2.00	16.00	-	-
32	2.50 x 7.50	18.75	-	-
33	3.00 x 6.00	18.00	-	-
34	3.50 x 3.00	10.50	-	-
35	17.50 x 13.00	227.50	-	-
36	1.50 x 66.00	99.00	-	-
37	6.00 x 1.00	6.00	-	-
38	2.00 x 3.50	7.00	-	-
39	3.00 x 4.00	12.00	-	-
40 #	4.50 x 4.50	-	20.25	-
41	2.00 x 8.50	17.00	-	-
42	-	-	-	23
43	1.50 x 13.00	19.50	-	-
44	-	-	-	30
45	5.50 x 6.00	-	33.00	-
46	54.00 x 12.00	648.00	-	-
47	117.00 x 66.00	7,722.00	-	-
48	18.00 x 4.00	72.00	-	-
49	2.50 x 1.00	2.50	-	-
50	-	-	-	66
51 #	4.50 x 4.50	-	20.25	-
TOTAL MEASURED		10,803.75	228.75	168
TOTAL ESTIMATED *		14,585.06	308.81	227

* SEE NOTE 6

ESTIMATED PARAPET REPAIR QUANTITIES						
LOCATION	WIDTH X HEIGHT (FT)	REPAIR AREA (SF)	CRACK LENGTH (FT)	REBUILD TOP (FT)	REBUILD PARAPET (FT)	REPLACE SEAL (FT)
1	2.00 x 1.00	2.00	5	-	-	-
2	-	-	4	-	-	-
3	-	-	6	-	-	-
4	15.50 x 4.19	64.91	-	-	-	-
5	-	-	7.5	-	-	-
6	10.00 x 4.19	41.88	-	-	-	-
7	-	-	-	-	3	-
8	-	-	-	2	-	-
9	-	-	-	6	-	-
10	-	-	4	-	-	-
11	-	-	8	-	-	-
TOTAL MEASURED		108.78	34.5	8	3	-
TOTAL ESTIMATED *		146.85	46.6	N/A	N/A	N/A

* SEE NOTE 6

ESTIMATED FENCE REPAIR QUANTITIES								
LOCATION	FENCE FABRIC (FT)	FENCE POST (EACH)	BOTTOM RAIL (FT)	TOP RAIL (FT)	BOT. RAIL BRACKET (EACH)	TOP RAIL COUPLING (EACH)	FENCE POST CAP (EACH)	BRACE ROD (EACH)
1	-	-	-	-	1	-	-	-
2	-	-	-	-	-	1	-	-
3	-	-	-	-	-	1	-	-
4	-	-	-	-	-	1	-	-
5	-	-	-	-	-	-	-	1
6	-	-	-	-	-	1	-	-
7	-	-	-	-	-	1	-	-
8	10	-	-	-	-	-	-	-
9	-	-	-	-	-	1	-	-
10	-	-	-	-	-	1	-	-
11	15	-	-	-	-	-	-	-
12	2	-	-	-	-	-	-	-
13	2	-	-	-	-	-	-	-
14	-	-	-	-	-	1	-	-
TOTAL	29	-	-	-	1	8	-	1

LEGEND

- X DECK REPAIR LOCATION NUMBER
- X PARAPET REPAIR LOCATION NUMBER
- X FENCE REPAIR LOCATION NUMBER
- # FULL DEPTH REPAIR OF PIER ACCESS MANHOLE LOCATION (SEE NOTE 3)

NOTES

1. FOR REPAIR LOCATIONS, SEE SHEET 52/116.
2. FOR PARAPET REPAIR DETAILS, SEE SHEET 49/116.
3. FOR PIER ACCESS MANHOLE REMOVAL AND RECONSTRUCTION DETAILS, SEE SHEETS 107 TO 108/116.
4. FOR ADDITIONAL FENCE REPAIR INFORMATION, SEE GENERAL NOTE ON SHEET 7/116.
5. PHYSICAL INVENTORY OF MEASURED QUANTITIES OF DETEIORATION WAS PERFORMED IN APRIL 2020. THE EXACT DIMENSIONS AND LOCATIONS OF WEARING SURFACE, PARAPET, AND FENCE REPAIRS SHALL BE DETERMINED BY THE ENGINEER IN THE FIELD FOR FINAL PAY QUANTITY.
6. ESTIMATED OVERLAY REPAIR, FULL DEPTH DECK REPAIR, PARAPET REPAIR, AND CRACK REPAIR QUANTITIES HAVE BEEN INCREASED BY 35% OVER MEASURED QUANTITIES TO ALLOW FOR ADDITIONAL DETEIORATION.

PAY ITEM NOTES

1. WEARING SURFACE AND PARAPET CRACK REPAIR TO BE PAID UNDER ITEM 512 - CONCRETE REPAIR BY EPOXY INJECTION
2. PARAPET CONCRETE SURFACE REPAIR TO BE PAID UNDER ITEM 844 - CONCRETE PATCHING WITH GALVANIC ANODE PROTECTION, AS PER PLAN
3. REBUILDING OF PARAPETS TO BE PAID UNDER ITEM 509 - EPOXY COATED REINFORCING STEEL AND ITEM 511 - CLASS QC2 CONCRETE, BRIDGE DECK (PARAPET)
4. REPLACEMENT OF MEDIAN BARRIER SEAL TO BE PAID UNDER ITEM 516 - STRUCTURAL JOINT OR JOINT SEALER, MISC.: MEDIAN BARRIER SEAL
5. FENCE REPAIRS TO BE PAID UNDER ITEM 607 - FENCE REBUILT, TYPE CL, AS PER PLAN



DATE 08/05/20
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STRUCTURE FILE NUMBER 181991

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CHECKED PAT
REVISED

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

PID No. 25622
CUY-490-01.00

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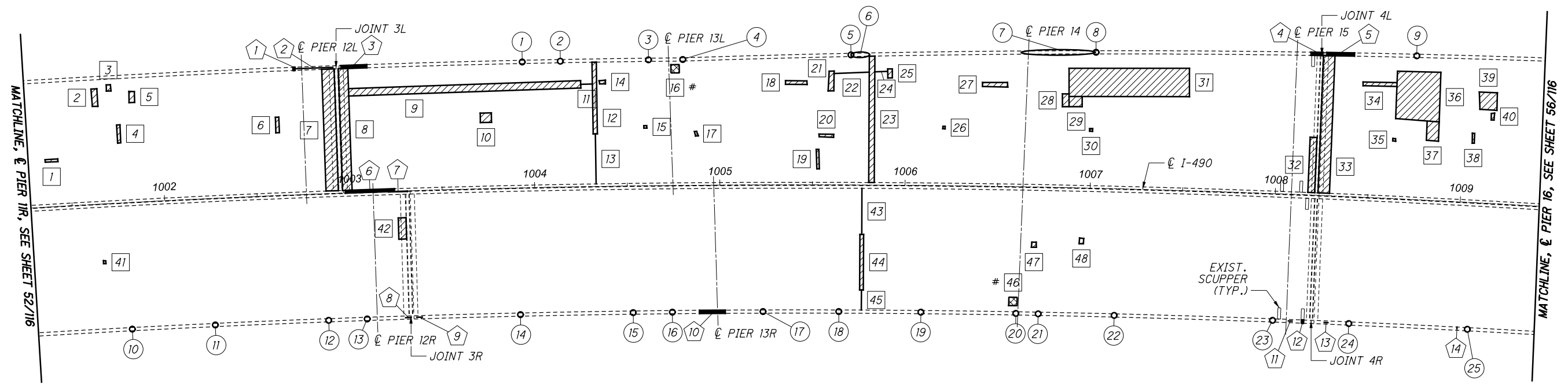
DESIGNED	JAM	PAT
CHECKED	JAM	
DRAWN	JAM	REVISED
REVIEWED	MJL	DATE
		08/05/20
		STRUCTURE FILE NUMBER
		181991

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

CUY-490-01.00
 PID No. 25622


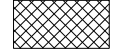





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DECK PLAN

LEGEND

-  AREA OF EXISTING OVERLAY TO BE REMOVED BY HYDRODEMOLITION AND REPLACED WITH MICRO SILICIA MODIFIED CONCRETE OVERLAY PER ITEM 848
-  AREA OF DECK TO BE REPAIRED PER ITEM 848 - FULL DEPTH REPAIR
-  DECK REPAIR LOCATION NUMBER
-  PARAPET REPAIR LOCATION NUMBER
-  FENCE REPAIR LOCATION NUMBER
-  FULL DEPTH REPAIR OF PIER ACCESS MANHOLE LOCATION
-  PORTION OF EXISTING DECK SLAB TO BE REMOVED AND RECONSTRUCTED FOR EXPANSION JOINT REPLACEMENT

NOTES

1. FOR REPAIR LOCATION DETAILS AND QUANTITIES, SEE SHEET 55/116.

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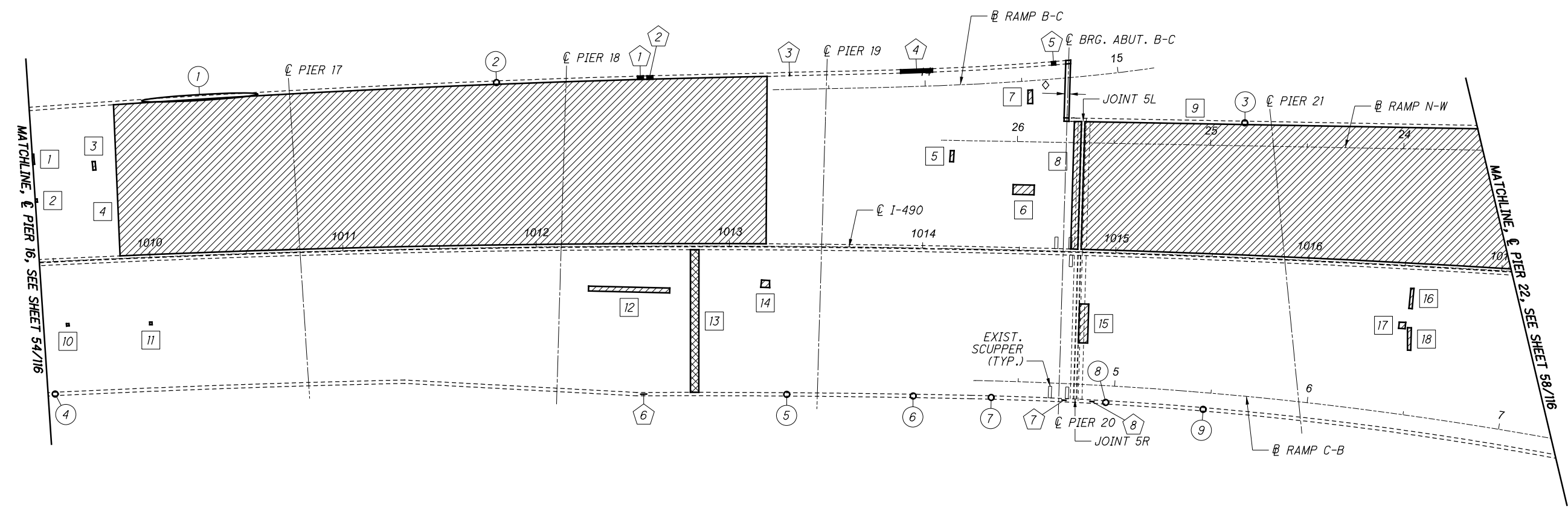
DESIGNED	JAM	CHECKED	PAT
DRAWN	JAM	REVISED	
REVIEWED	MJL	STRUCTURE FILE NUMBER	181991
DATE	08/05/20		

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

CUY-490-01.00
 PID No. 25622








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DECK PLAN

LEGEND

-  AREA OF EXISTING OVERLAY TO BE REMOVED BY HYDRODEMOLITION AND REPLACED WITH MICRO SILICIA MODIFIED CONCRETE OVERLAY PER ITEM 848
-  AREA OF DECK TO BE REPAIRED PER ITEM 848 - FULL DEPTH REPAIR
-  DECK REPAIR LOCATION NUMBER
-  PARAPET REPAIR LOCATION NUMBER
-  FENCE REPAIR LOCATION NUMBER
-  FULL DEPTH REPAIR OF PIER ACCESS MANHOLE LOCATION
-  PORTION OF EXISTING DECK SLAB TO BE REMOVED AND RECONSTRUCTED FOR EXPANSION JOINT REPLACEMENT

NOTES

1. FOR REPAIR LOCATION DETAILS AND QUANTITIES, SEE SHEET 57/116.

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ESTIMATED WEARING SURFACE REPAIR QUANTITIES				
LOCATION	LENGTH X WIDTH (FT)	OVERLAY AREA (SF)	FULL DEPTH AREA (SF)	CRACK LENGTH (FT)
1	2.00 x 5.50	11.00	-	-
2	2.00 x 1.50	3.00	-	-
3	1.50 x 4.50	6.75	-	-
4	337.00 x 82.50	27,802.50	-	-
5	2.00 x 6.00	12.00	-	-
6	11.00 x 5.00	55.00	-	-
7	2.50 x 7.00	17.50	-	-
8	4.00 x 66.00	264.00	-	-
9	213.00 x 68.50	14,590.50	-	-
10	1.00 x 1.00	1.00	-	-
11	1.00 x 1.00	1.00	-	-
12	42.00 x 2.50	105.00	-	-
13	4.50 x 74.00	-	333.00	-
14	4.50 x 4.00	18.00	-	-
15	5.00 x 20.00	100.00	-	-
16	2.00 x 11.00	22.00	-	-
17	3.50 x 3.50	12.25	-	-
18	2.00 x 12.00	24.00	-	-
TOTAL MEASURED		43,045.50	333.00	-
TOTAL ESTIMATED *		58,111.43	449.55	-

* SEE NOTE 6

ESTIMATED PARAPET REPAIR QUANTITIES						
LOCATION	WIDTH X HEIGHT (FT)	REPAIR AREA (SF)	CRACK LENGTH (FT)	REBUILD TOP (FT)	REBUILD PARAPET (FT)	REPLACE SEAL (FT)
1	3.00 x 2.50	7.50	-	-	-	-
2	3.00 x 2.50	7.50	-	-	-	-
3	-	-	1.5	-	-	-
4	-	-	16.5	-	-	-
5	6.00 x 2.50	15.00	-	-	-	-
6	-	-	3	-	-	-
7	-	-	2	-	-	-
8	-	-	2	-	-	-
TOTAL MEASURED		30.00	25	-	-	-
TOTAL ESTIMATED *		40.50	33.8	N/A	N/A	N/A

* SEE NOTE 6

ESTIMATED FENCE REPAIR QUANTITIES								
LOCATION	FENCE FABRIC (FT)	FENCE POST (EACH)	BOTTOM RAIL (FT)	TOP RAIL (FT)	BOT. RAIL BRACKET (EACH)	TOP RAIL COUPLING (EACH)	FENCE POST CAP (EACH)	BRACE ROD (EACH)
1	60	5	-	-	-	-	-	-
2	2	-	-	-	-	-	-	-
3	-	-	-	-	-	1	-	-
4	-	-	-	-	-	1	-	-
5	-	-	-	-	-	1	-	-
6	-	-	-	-	-	1	-	-
7	-	-	-	-	-	1	-	-
8	-	-	-	-	-	1	-	-
9	-	-	-	-	-	1	-	-
TOTAL	62	5	-	-	-	7	-	-

LEGEND

- X DECK REPAIR LOCATION NUMBER
- X PARAPET REPAIR LOCATION NUMBER
- X FENCE REPAIR LOCATION NUMBER
- # FULL DEPTH REPAIR OF PIER ACCESS MANHOLE LOCATION (SEE NOTE 3)

NOTES

1. FOR REPAIR LOCATIONS, SEE SHEET 56/116.
2. FOR PARAPET REPAIR DETAILS, SEE SHEET 49/116.
3. FOR PIER ACCESS MANHOLE REMOVAL AND RECONSTRUCTION DETAILS, SEE SHEETS 107 TO 108/116.
4. FOR ADDITIONAL FENCE REPAIR INFORMATION, SEE GENERAL NOTE ON SHEET 7/116.
5. PHYSICAL INVENTORY OF MEASURED QUANTITIES OF DETERIORATION WAS PERFORMED IN APRIL 2020. THE EXACT DIMENSIONS AND LOCATIONS OF WEARING SURFACE, PARAPET, AND FENCE REPAIRS SHALL BE DETERMINED BY THE ENGINEER IN THE FIELD FOR FINAL PAY QUANTITY.
6. ESTIMATED OVERLAY REPAIR, FULL DEPTH DECK REPAIR, PARAPET REPAIR, AND CRACK REPAIR QUANTITIES HAVE BEEN INCREASED BY 35% OVER MEASURED QUANTITIES TO ALLOW FOR ADDITIONAL DETERIORATION.

PAY ITEM NOTES

1. WEARING SURFACE AND PARAPET CRACK REPAIR TO BE PAID UNDER ITEM 512 - CONCRETE REPAIR BY EPOXY INJECTION
2. PARAPET CONCRETE SURFACE REPAIR TO BE PAID UNDER ITEM 844 - CONCRETE PATCHING WITH GALVANIC ANODE PROTECTION, AS PER PLAN
3. REBUILDING OF PARAPETS TO BE PAID UNDER ITEM 509 - EPOXY COATED REINFORCING STEEL AND ITEM 511 - CLASS QC2 CONCRETE, BRIDGE DECK (PARAPET)
4. REPLACEMENT OF MEDIAN BARRIER SEAL TO BE PAID UNDER ITEM 516 - STRUCTURAL JOINT OR JOINT SEALER, MISC.: MEDIAN BARRIER SEAL
5. FENCE REPAIRS TO BE PAID UNDER ITEM 607 - FENCE REBUILT, TYPE CL, AS PER PLAN



REVIEWED DATE 08/05/20
MJJL
STRUCTURE FILE NUMBER 181991

DRAWN JAM
JAM
REVISOR
PAT

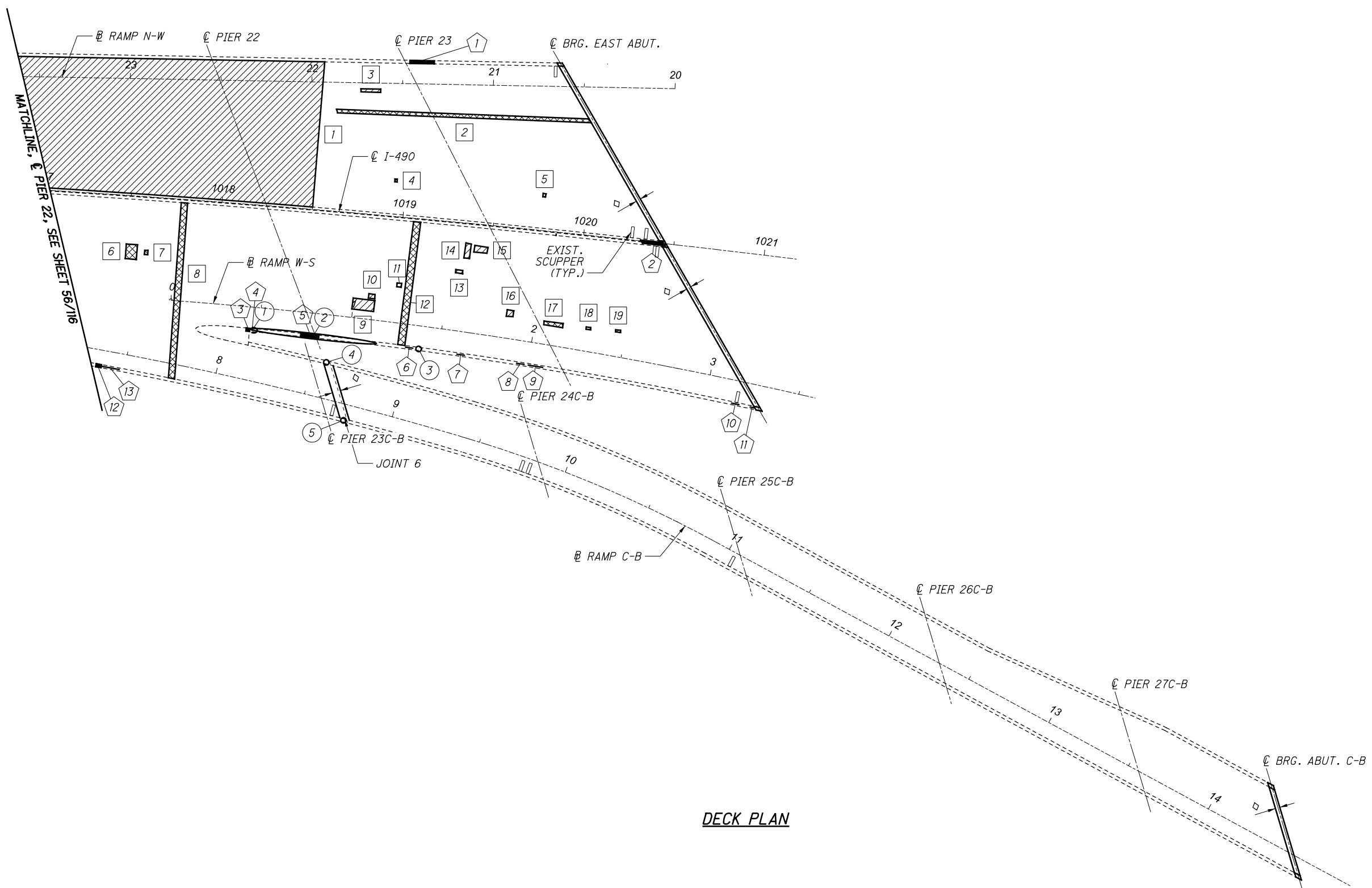
WEARING SURFACE REPAIR DETAILS - 4A
BRIDGE NO. CUY-490-0100
I-490 OVER CUYAHOGA RIVER

CUY-490-01.00
PID No. 25622

57/116

114
182

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DECK PLAN

LEGEND

- AREA OF EXISTING OVERLAY TO BE REMOVED BY HYDRODEMOLITION AND REPLACED WITH MICRO SILICIA MODIFIED CONCRETE OVERLAY PER ITEM 848
- AREA OF DECK TO BE REPAIRED PER ITEM 848 - FULL DEPTH REPAIR
- DECK REPAIR LOCATION NUMBER
- PARAPET REPAIR LOCATION NUMBER
- FENCE REPAIR LOCATION NUMBER
- FULL DEPTH REPAIR OF PIER ACCESS MANHOLE LOCATION
- PORTION OF EXISTING DECK SLAB TO BE REMOVED AND RECONSTRUCTED FOR EXPANSION JOINT REPLACEMENT

NOTES

1. FOR REPAIR LOCATION DETAILS AND QUANTITIES, SEE SHEET 59/116.



DESIGNED	JAM	CHECKED	PAT
DRAWN	JAM	REVISED	
REVIEWED	MJL	STRUCTURE FILE NUMBER	1811991
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. 25622

58/116

115
182

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ESTIMATED WEARING SURFACE REPAIR QUANTITIES				
LOCATION	LENGTH X WIDTH (FT)	OVERLAY AREA (SF)	FULL DEPTH AREA (SF)	CRACK LENGTH (FT)
1	157.00 x 76.00	11,932.00	-	-
2	11.00 x 2.00	22.00	-	-
3	139.00 x 2.00	-	278.00	-
4	1.00 x 1.50	1.50	-	-
5	1.50 x 2.00	3.00	-	-
6	6.50 x 8.00	-	52.00	-
7	2.00 x 2.50	-	5.00	-
8	3.50 x 97.00	-	339.50	-
9	12.00 x 6.00	72.00	-	-
10	3.50 x 2.50	8.75	-	-
11	2.50 x 2.00	5.00	-	-
12	4.00 x 68.50	-	274.00	-
13	4.00 x 2.00	8.00	-	-
14	3.50 x 8.50	29.75	-	-
15	7.50 x 3.50	26.25	-	-
16	3.50 x 3.50	12.25	-	-
17	10.50 x 2.50	-	26.25	-
18	2.50 x 1.50	3.75	-	-
19	2.50 x 1.50	3.75	-	-
TOTAL MEASURED		12,128.00	974.75	-
TOTAL ESTIMATED *		16,372.80	1,315.91	-

* SEE NOTE 6

ESTIMATED PARAPET REPAIR QUANTITIES						
LOCATION	WIDTH X HEIGHT (FT)	REPAIR AREA (SF)	CRACK LENGTH (FT)	REBUILD TOP (FT)	REBUILD PARAPET (FT)	REPLACE SEAL (FT)
1	-	-	13.5	13.5	-	-
2	-	-	-	-	-	12.5
3	2.00 x 2.00	4.00	-	-	-	-
4	-	-	2	-	-	-
5	-	-	10	-	-	-
6	-	-	4	-	-	-
7	-	-	4	-	-	-
8	-	-	4	-	-	-
9	-	-	8	-	-	-
10	-	-	4	-	-	-
11	-	-	2	-	-	-
TOTAL MEASURED		4.00	51.5	13.5	-	12.5
TOTAL ESTIMATED *		5.40	69.5	N/A	N/A	N/A

* SEE NOTE 6

ESTIMATED FENCE REPAIR QUANTITIES								
LOCATION	FENCE FABRIC (FT)	FENCE POST (EACH)	BOTTOM RAIL (FT)	TOP RAIL (FT)	BOT. RAIL BRACKET (EACH)	TOP RAIL COUPLING (EACH)	FENCE POST CAP (EACH)	BRACE ROD (EACH)
1	4	-	-	-	-	-	-	-
2	-	-	70	70	-	-	-	-
3	-	1	-	-	-	-	-	-
4	-	-	-	-	1	-	-	-
5	-	-	-	-	1	-	-	-
TOTAL	4	1	70	70	2	-	-	-

LEGEND

- X DECK REPAIR LOCATION NUMBER
- X PARAPET REPAIR LOCATION NUMBER
- X FENCE REPAIR LOCATION NUMBER
- # FULL DEPTH REPAIR OF PIER ACCESS MANHOLE LOCATION (SEE NOTE 3)

NOTES

1. FOR REPAIR LOCATIONS, SEE SHEET 58/116.
2. FOR PARAPET REPAIR DETAILS, SEE SHEET 49/116.
3. FOR PIER ACCESS MANHOLE REMOVAL AND RECONSTRUCTION DETAILS, SEE SHEETS 107 TO 108/116.
4. FOR ADDITIONAL FENCE REPAIR INFORMATION, SEE GENERAL NOTE ON SHEET 7/116.
5. PHYSICAL INVENTORY OF MEASURED QUANTITIES OF DETERIORATION WAS PERFORMED IN APRIL 2020. THE EXACT DIMENSIONS AND LOCATIONS OF WEARING SURFACE, PARAPET, AND FENCE REPAIRS SHALL BE DETERMINED BY THE ENGINEER IN THE FIELD FOR FINAL PAY QUANTITY.
6. ESTIMATED OVERLAY REPAIR, FULL DEPTH DECK REPAIR, PARAPET REPAIR, AND CRACK REPAIR QUANTITIES HAVE BEEN INCREASED BY 35% OVER MEASURED QUANTITIES TO ALLOW FOR ADDITIONAL DETERIORATION.

PAY ITEM NOTES

1. WEARING SURFACE AND PARAPET CRACK REPAIR TO BE PAID UNDER ITEM 512 - CONCRETE REPAIR BY EPOXY INJECTION
2. PARAPET CONCRETE SURFACE REPAIR TO BE PAID UNDER ITEM 844 - CONCRETE PATCHING WITH GALVANIC ANODE PROTECTION, AS PER PLAN
3. REBUILDING OF PARAPETS TO BE PAID UNDER ITEM 509 - EPOXY COATED REINFORCING STEEL AND ITEM 511 - CLASS QC2 CONCRETE, BRIDGE DECK (PARAPET)
4. REPLACEMENT OF MEDIAN BARRIER SEAL TO BE PAID UNDER ITEM 516 - STRUCTURAL JOINT OR JOINT SEALER, MISC.: MEDIAN BARRIER SEAL
5. FENCE REPAIRS TO BE PAID UNDER ITEM 607 - FENCE REBUILT, TYPE CL, AS PER PLAN



REVIEWED DATE 08/05/20
MJJL
STRUCTURE FILE NUMBER 181991

DRAWN JAM
CHECKED PAT
REVISED

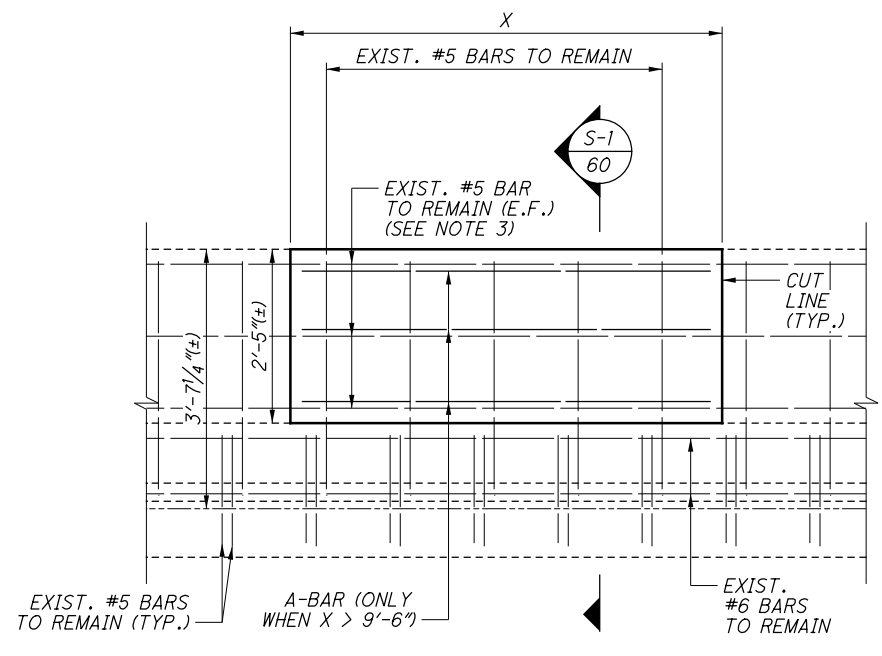
WEARING SURFACE REPAIR DETAILS - 5A
BRIDGE NO. CUY-490-0100
I-490 OVER CUYAHOGA RIVER

CUY-490-01.00
PID No. 25622

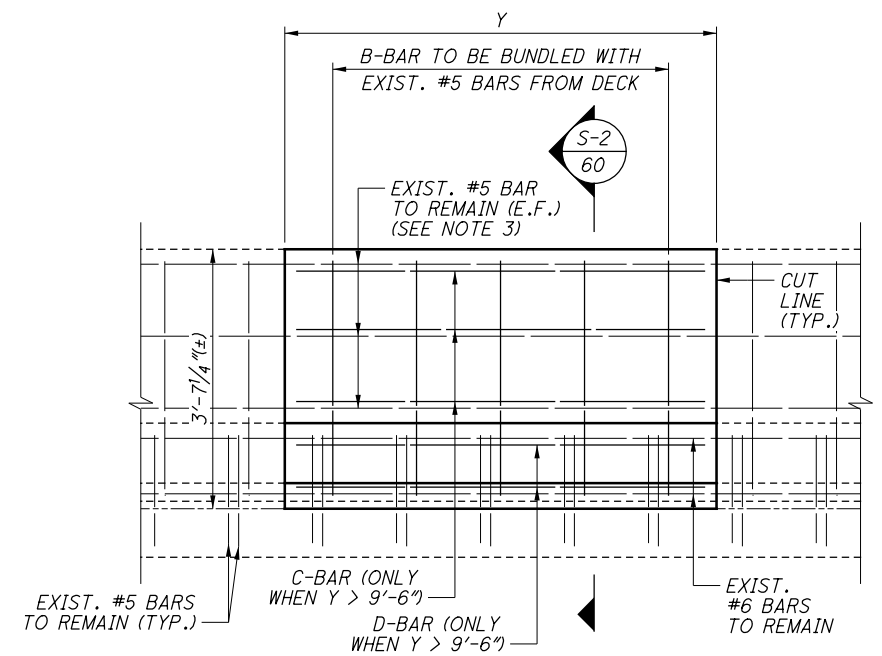
59/116

116
182

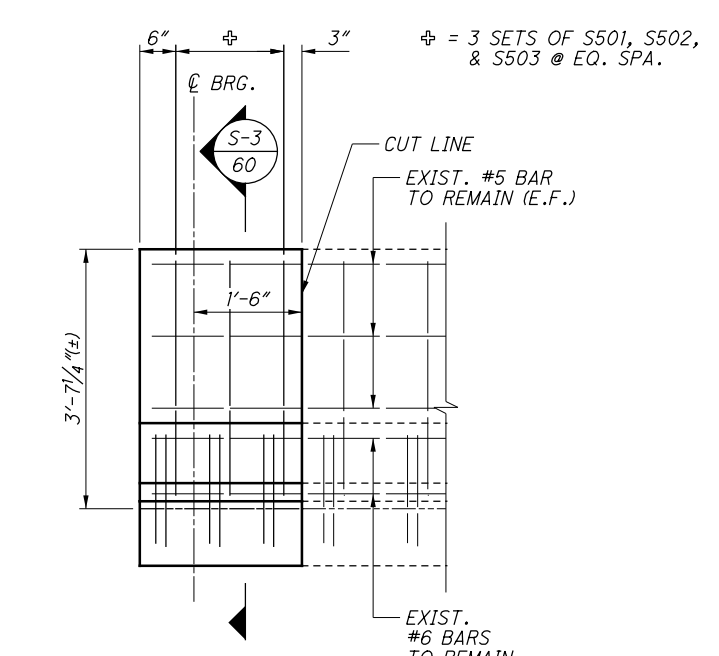
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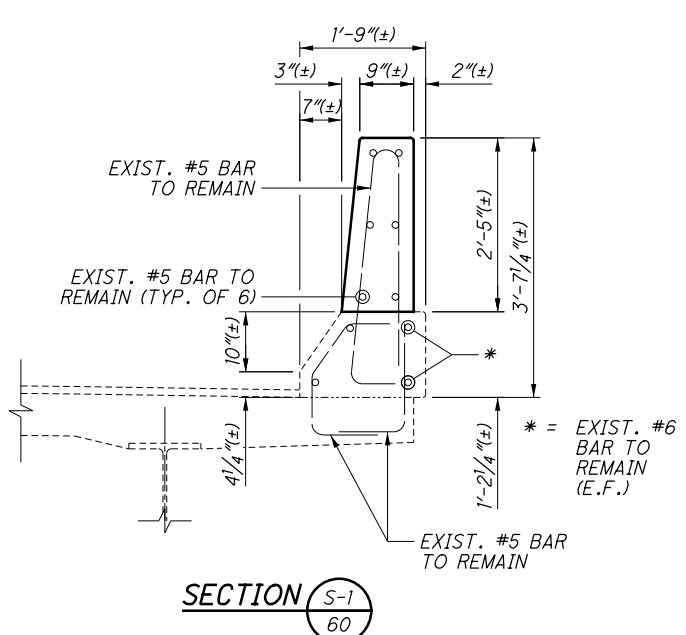
TYPICAL REBUILT TOP OF EXTERIOR PARAPET ELEVATION



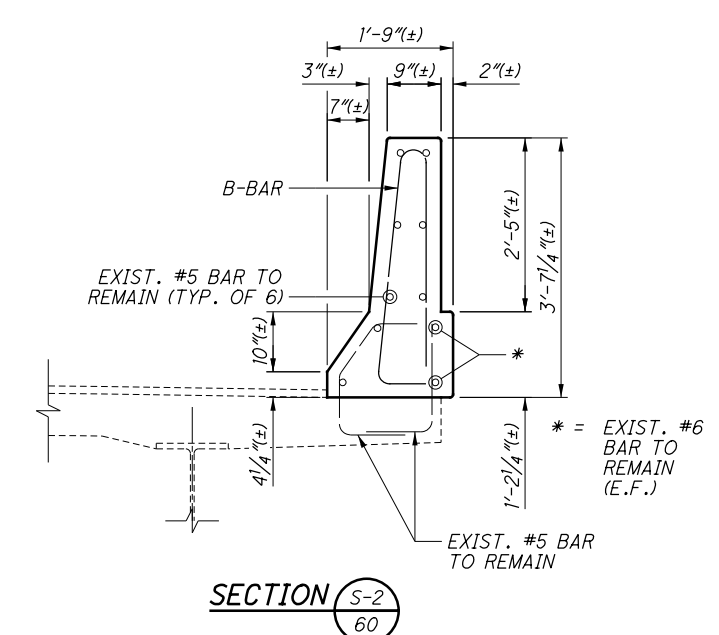
TYPICAL FULL HEIGHT REPLACEMENT OF EXTERIOR PARAPET ELEVATION



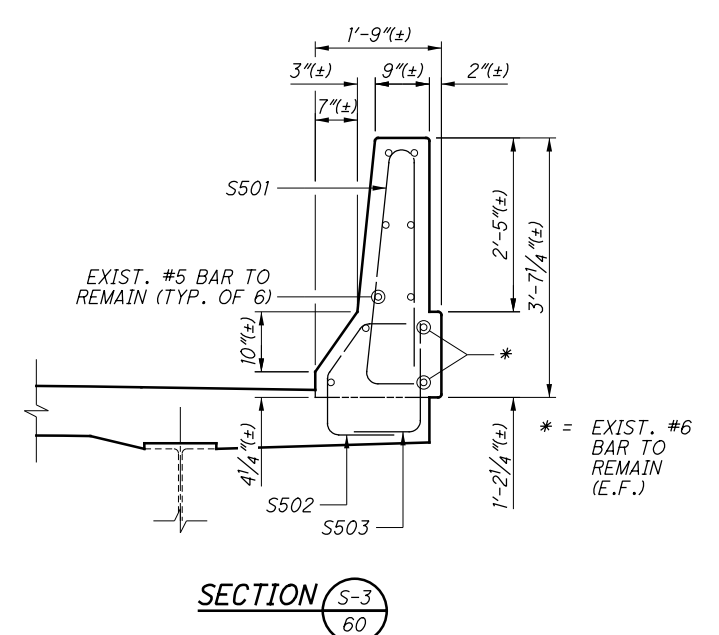
TYPICAL EXTERIOR PARAPET AT EXPANSION JOINT REPLACEMENT ELEVATION



SECTION S-1
TYPICAL REBUILT TOP OF EXTERIOR PARAPET DECK REINFORCING NOT SHOWN FOR CLARITY



SECTION S-2
TYPICAL FULL HEIGHT REPLACEMENT OF EXTERIOR PARAPET DECK REINFORCING NOT SHOWN FOR CLARITY



SECTION S-3
TYPICAL EXTERIOR PARAPET AT EXPANSION JOINT REPLACEMENT DECK REINFORCING NOT SHOWN FOR CLARITY

REBUILT TOP OF EXTERIOR PARAPET REINFORCING				
WEARING SURFACE DETAILS	SHEET NO.	LOCATION	X	A-BAR
1/1A	50/116	15	3'-0"	-
1/1A	50/116	16	6'-0"	-
2/2A	52/116	9	6'-0"	-
3/3A	54/116	3	14'-0"	S504
3/3A	54/116	10	14'-0"	S504
5/5A	58/116	1	13'-6"	S505

FULL HEIGHT REPLACEMENT OF EXTERIOR PARAPET REINFORCING						
WEARING SURFACE DETAILS	SHEET NO.	LOCATION	Y	B-BAR	C-BAR	D-BAR
1/1A	50/116	1	10'-0"	9-S501	S506	S601
3/3A	54/116	4	6'-6"	6-S501	-	-
3/3A	54/116	5	15'-0"	13-S501	S507	S602

NOTES

- FOR REBUILT TOP AND FULL HEIGHT REPLACEMENT SUPERSTRUCTURE EXTERIOR PARAPET LOCATIONS, SEE SHEETS 50 TO 59/116.
- WHEN THE REBUILT OR REPLACEMENT PARAPET IS LOCATED NEXT TO AN EXISTING EXPANSION JOINT TO REMAIN, SALVAGE THE EXISTING EXPANSION JOINT ARMOR AND REINSTALL WITH THE NEW CONCRETE.
- WHEN THE REBUILT OR REPLACEMENT EXTERIOR PARAPET SECTION (X OR Y DIMENSION) IS LESS THAN 9'-6", THEN THE ENTIRE EXISTING HORIZONTAL #5 OR #6 BARS IS TO REMAIN.

WHEN THE REBUILT OR REPLACEMENT EXTERIOR PARAPET SECTION (X OR Y DIMENSION) IS GREATER THAN 9'-6", THEN CUT THE EXISTING HORIZONTAL #5 OR #6 BARS AT 4'-6" FROM EACH VERTICAL CUT LINE AND LAP NEW HORIZONTAL REINFORCING (A, C, OR D-BARS).
- FENCE NOT SHOWN ON SUPERSTRUCTURE EXTERIOR PARAPET FOR CLARITY. FOR FENCE DETAILS, SEE SHEETS 107 TO 108/116.

DLZ
614 N. SUPERIOR AVE., SUITE 1000 • CLEVELAND, OHIO 44113

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

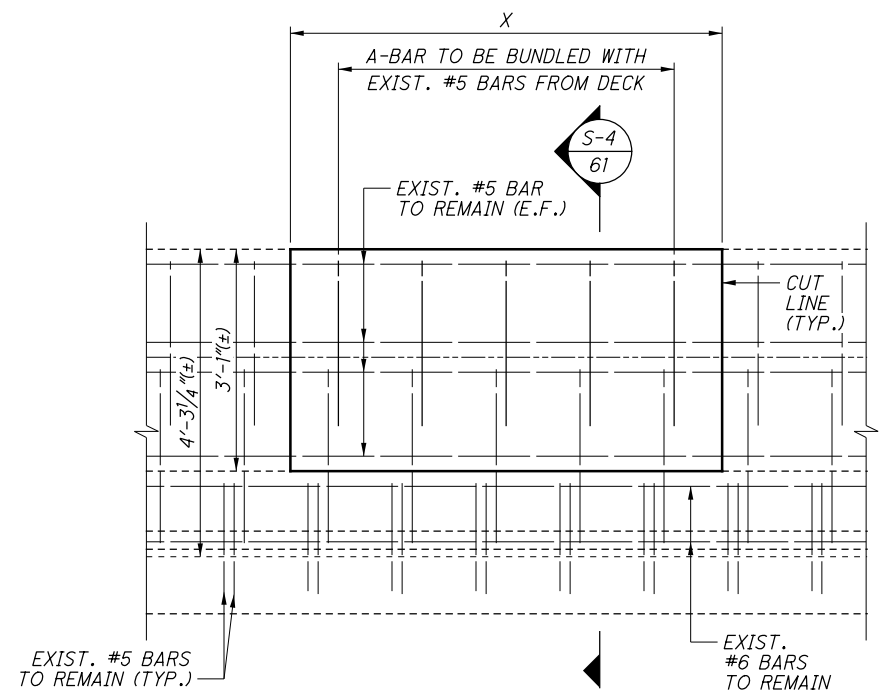
SUPERSTRUCTURE EXTERIOR PARAPET REPAIR DETAILS
BRIDGE NO. CUY-490-0100
I-490 OVER CUYAHOGA RIVER

CUI-490-01.00
PID No. 25622

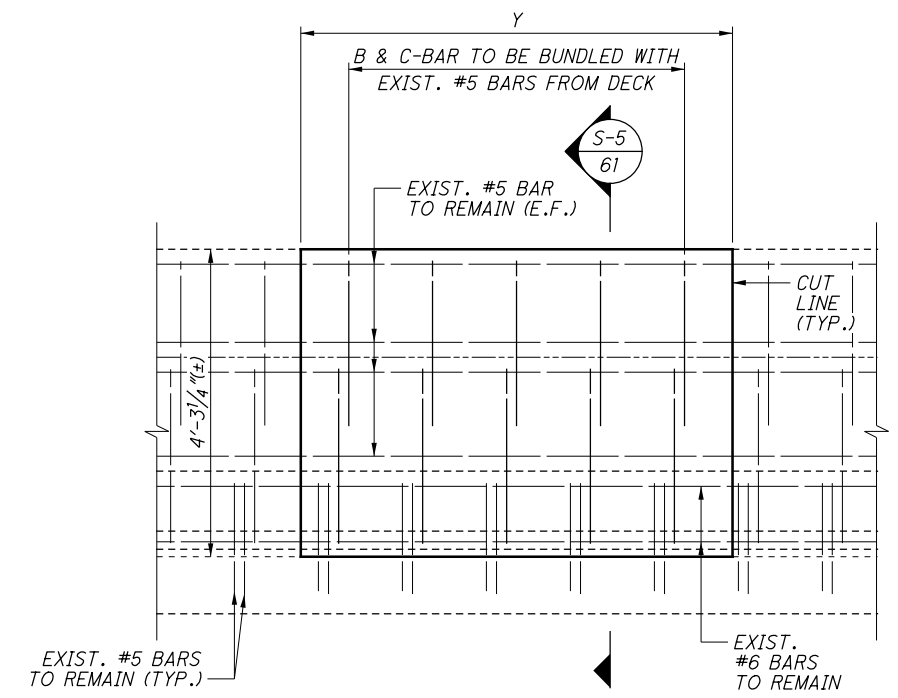
117

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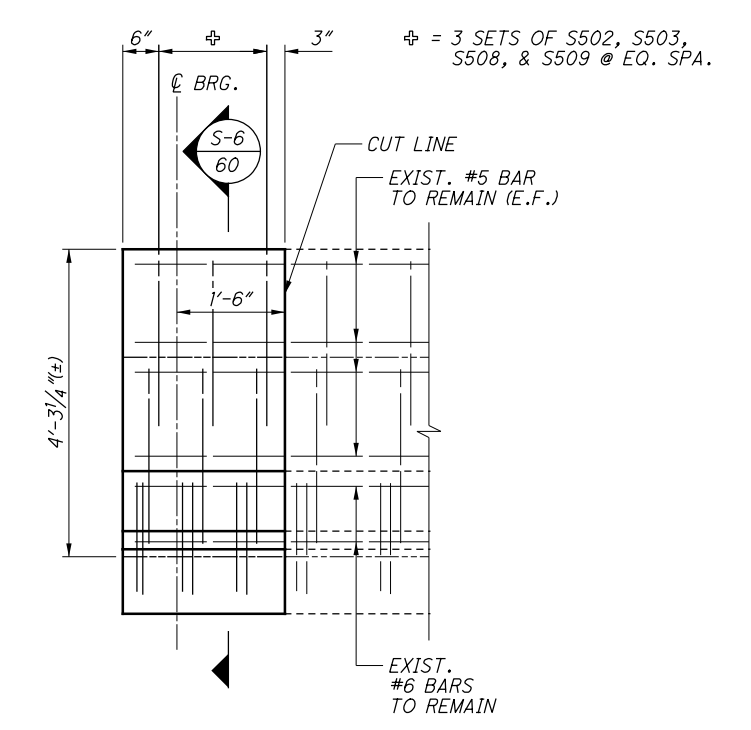
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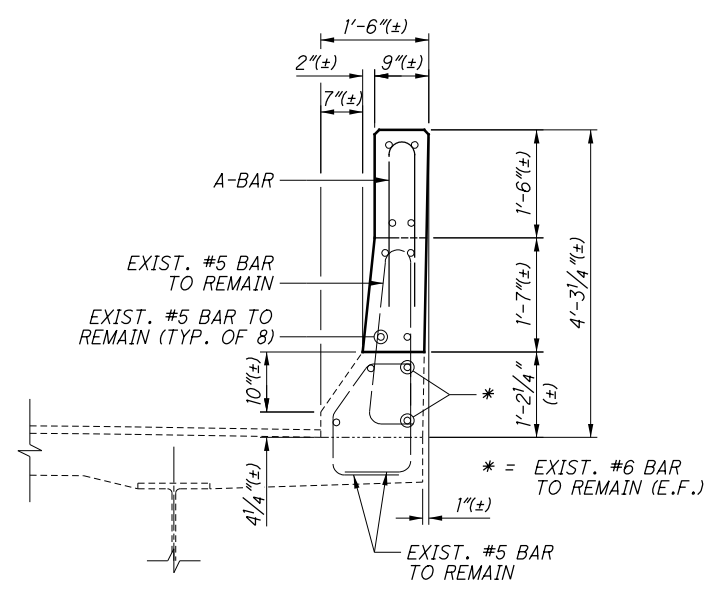
**TYPICAL REBUILT TOP OF
MEDIAN PARAPET ELEVATION**



**TYPICAL FULL HEIGHT REPLACEMENT OF
MEDIAN PARAPET ELEVATION**

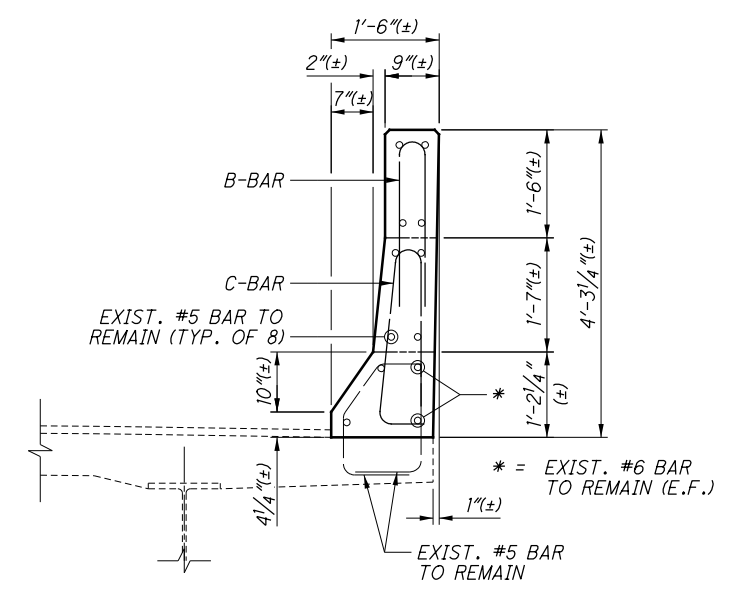


**TYPICAL MEDIAN PARAPET AT EXPANSION
JOINT REPLACEMENT ELEVATION**



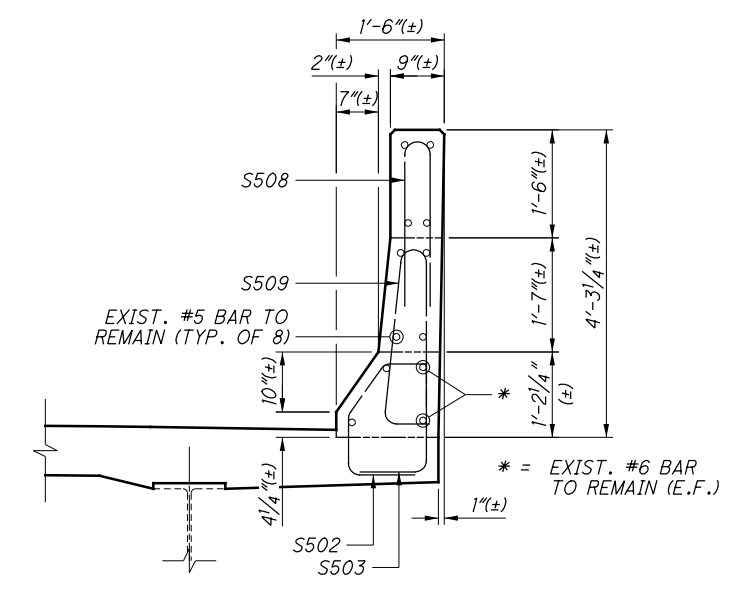
**SECTION S-4
61**

TYPICAL REBUILT TOP OF MEDIAN PARAPET
DECK REINFORCING NOT SHOWN FOR CLARITY



**SECTION S-5
61**

TYPICAL FULL HEIGHT REPLACEMENT OF MEDIAN PARAPET
DECK REINFORCING NOT SHOWN FOR CLARITY



**SECTION S-6
61**

TYPICAL MEDIAN PARAPET AT EXPANSION JOINT REPLACEMENT
DECK REINFORCING NOT SHOWN FOR CLARITY

REBUILD TOP OF MEDIAN PARAPET REINFORCING				
WEARING SURFACE DETAILS	SHEET NO.	LOCATION	X	A-BAR
2/2A	52/116	8	2'-0"	2-S508

FULL HEIGHT REPLACEMENT OF MEDIAN PARAPET REINFORCING					
WEARING SURFACE DETAILS	SHEET NO.	LOCATION	Y	B-BAR	C-BAR
2/2A	52/116	7	3'-0"	3-S508	3-S509

NOTES

- FOR REBUILT TOP AND FULL HEIGHT REPLACEMENT SUPERSTRUCTURE MEDIAN PARAPET LOCATIONS, SEE SHEETS 50 TO 59/116.
- WHEN THE REBUILT OR REPLACEMENT PARAPET IS LOCATED NEXT TO AN EXISTING EXPANSION JOINT TO REMAIN, SALVAGE THE EXISTING EXPANSION JOINT ARMOR AND REINSTALL WITH THE NEW CONCRETE.

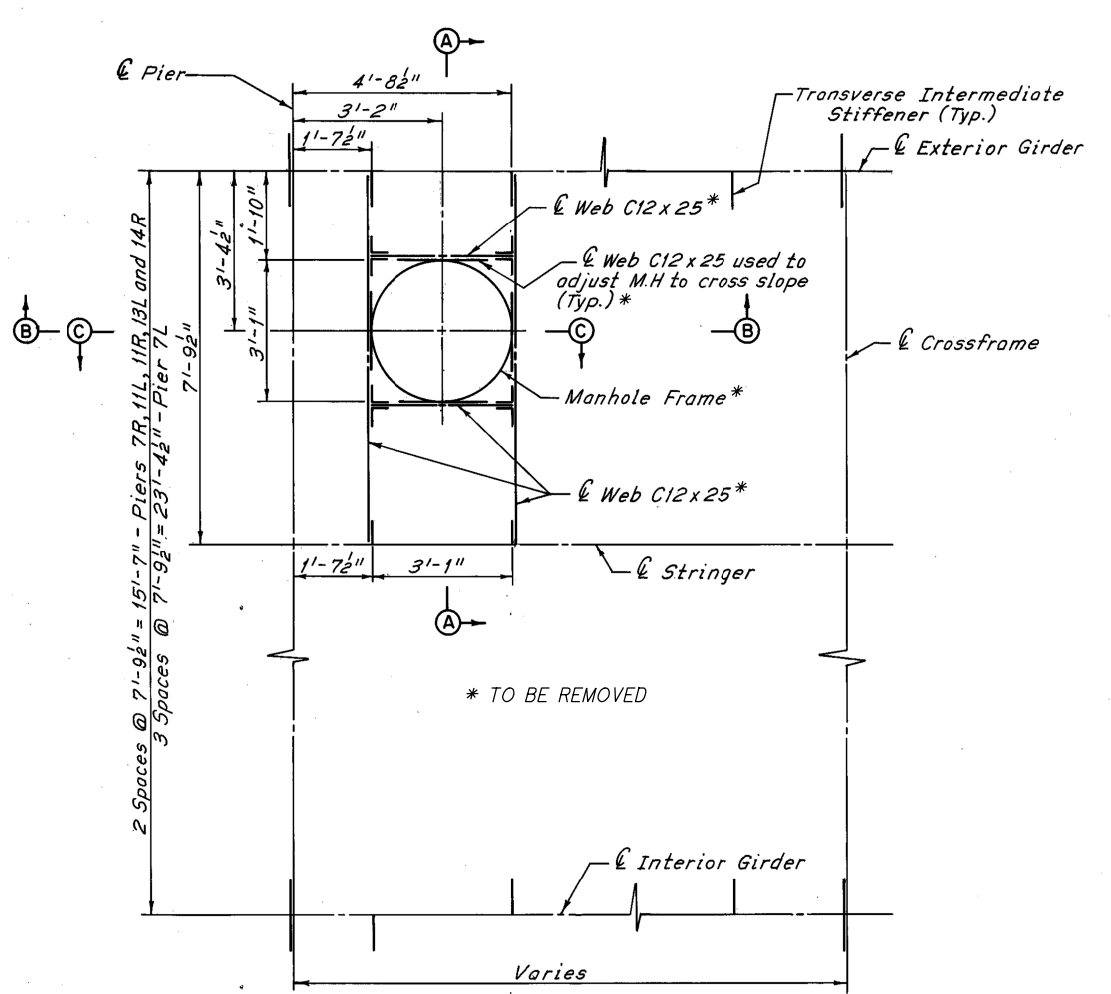


DESIGNED	JAM	CHECKED	PAT
DRAWN	JAM	REVISED	
REVIEWED	MJL	STRUCTURE FILE NUMBER	1811991
DATE	08/05/20		

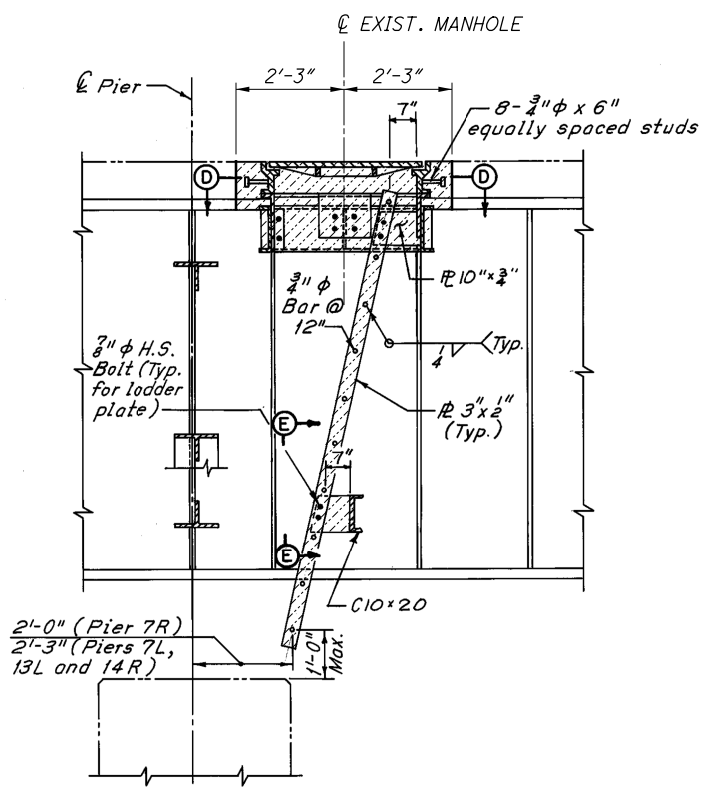
SUPERSTRUCTURE MEDIAN PARAPET REPAIR DETAILS
BRIDGE NO. CUY-490-0100
I-490 OVER CUYAHOGA RIVER

CUY-490-01.00
PID No. 25622

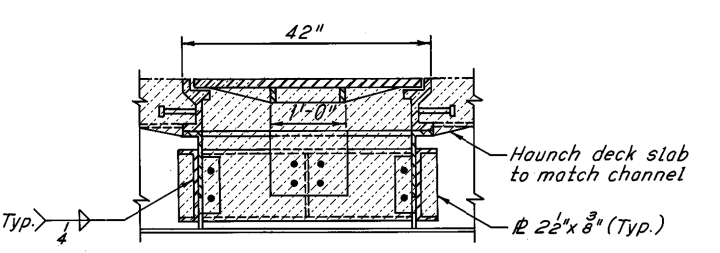
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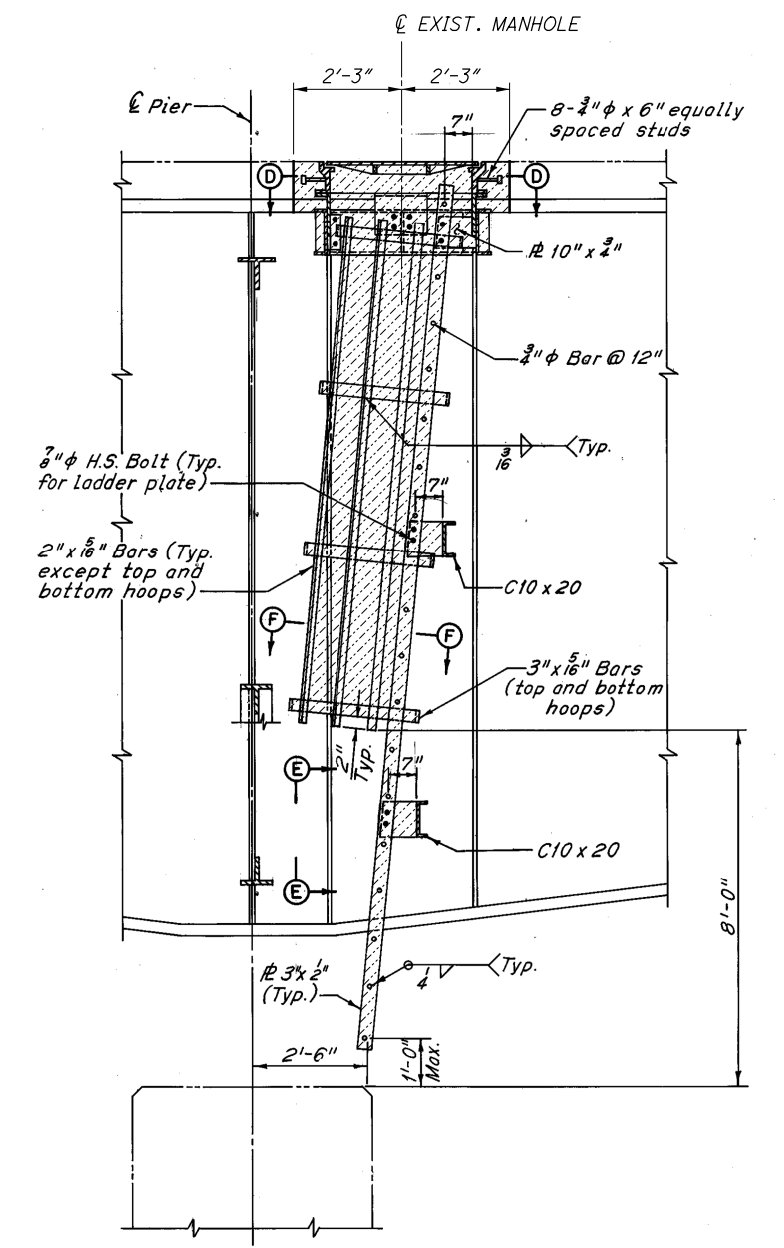
FRAMING PLAN
 1/2" = 1'-0"
 (C10x20 Ladder Support not shown)
 NOTE: EXISTING GIRDERS, STRINGERS, AND CROSSFRAMES TO REMAIN.



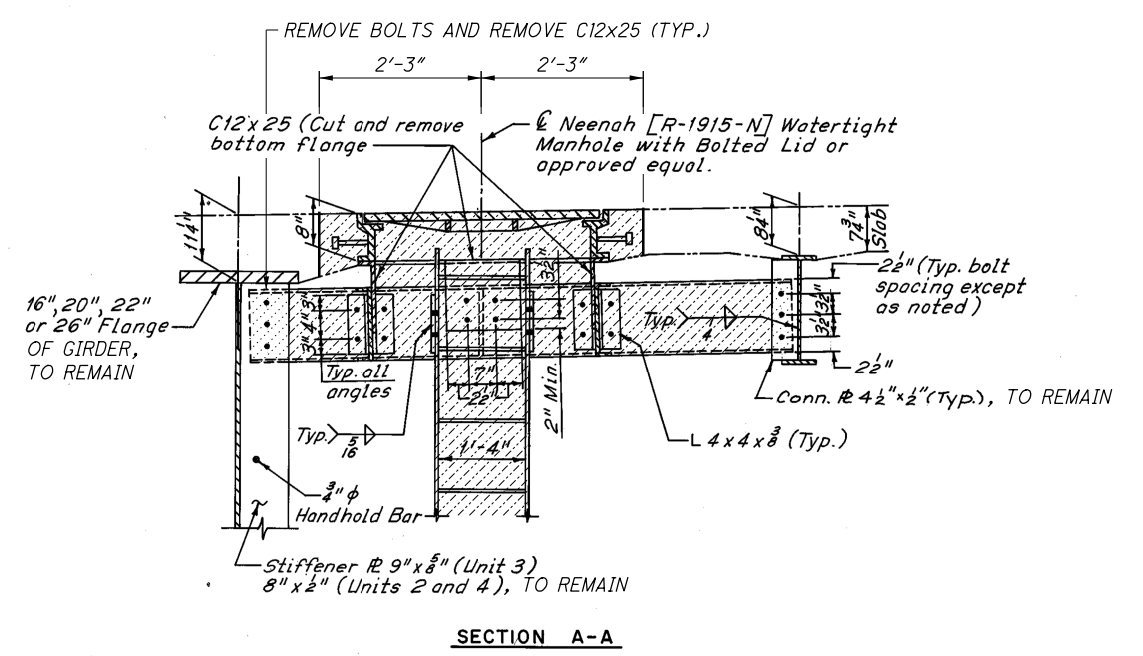
SECTION B-B
 (90" Web - Piers 7L, 7R, 13L and 14R)
 1/2" = 1'-0"



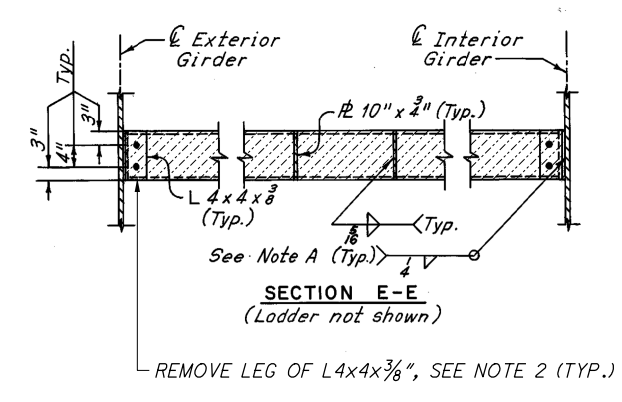
SECTION C-C
 (Ladder not shown)



SECTION B-B
 (180" Web - Piers 11L and 11R)



SECTION A-A
 NOTE: EXISTING GIRDERS AND STRINGERS TO REMAIN.



SECTION E-E
 (Ladder not shown)

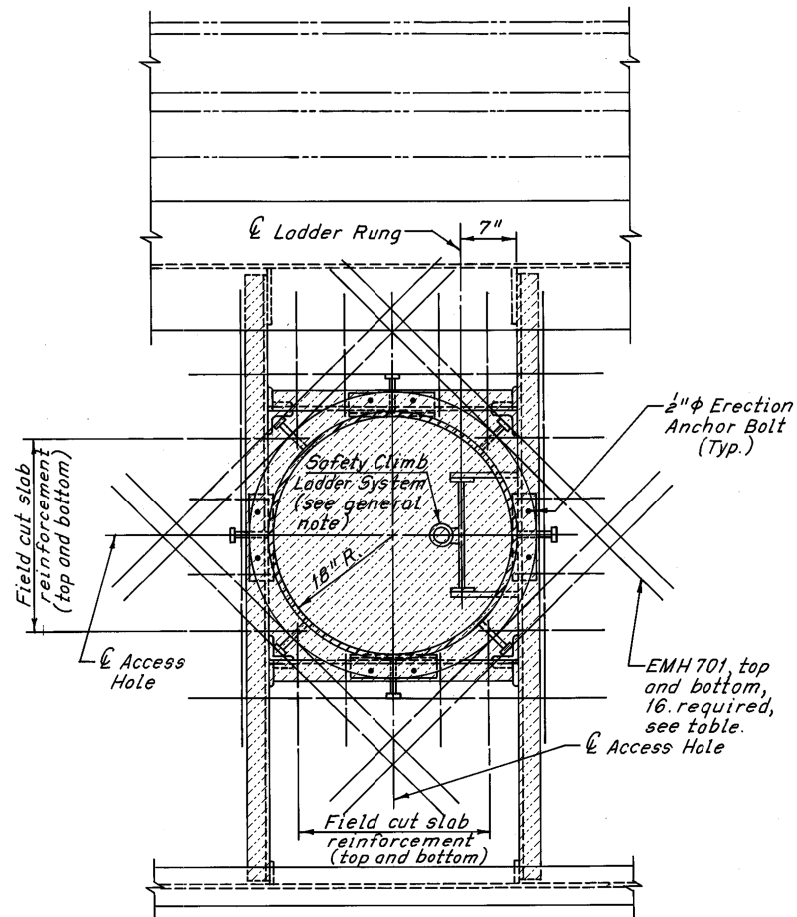
LEGEND

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

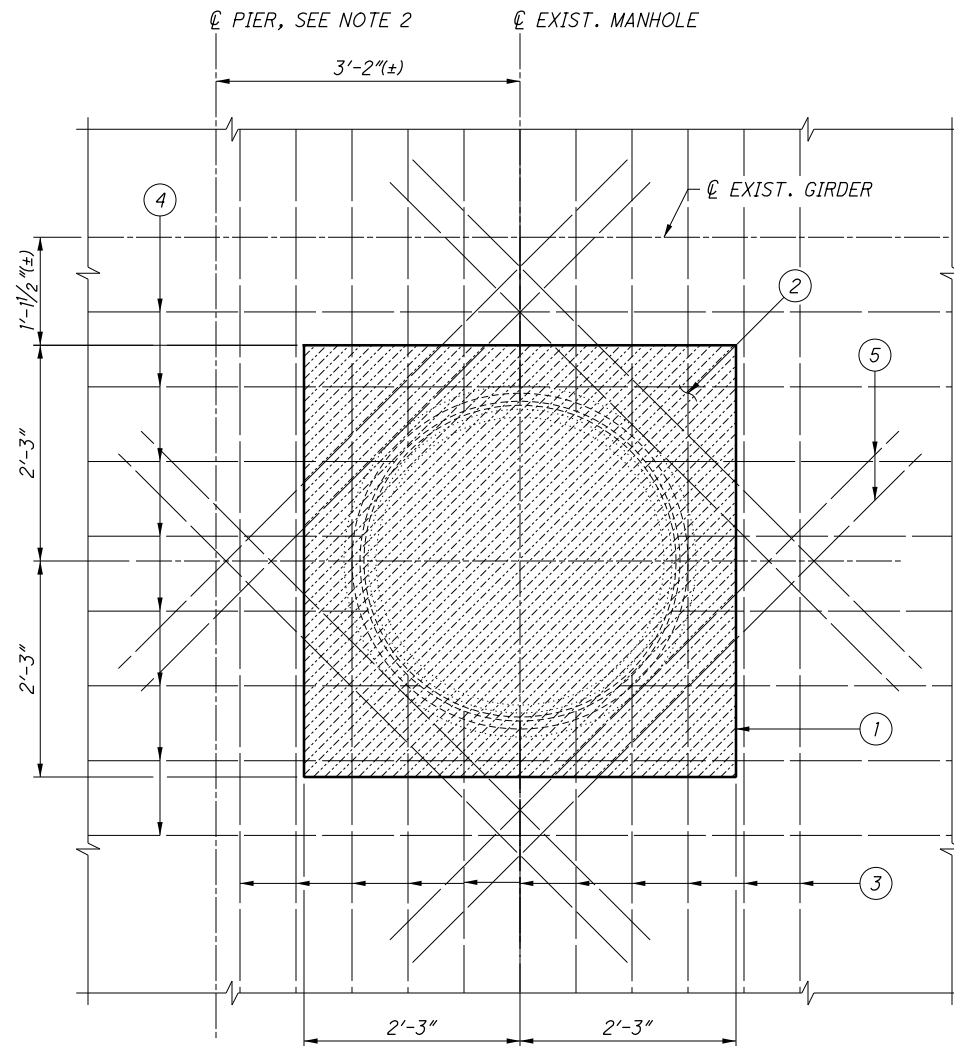
NOTES

1. THE DETAILS ON THIS SHEET COME FROM SCANS OF THE 1986 RECORD PLANS. ALL FRAMING IS EXISTING, UNLESS NOTED OTHERWISE, AND ALL DIMENSIONS ARE (+).
2. REMOVE EXISTING MANHOLE LID AND FRAME, EXISTING STEEL LADDER, AND ALL SUPPORTING STRUCTURAL STEEL MEMBERS. EXERCISE CARE IN REMOVAL OF PORTIONS OF EXISTING ANGLES WELDED TO WEBS OF EXISTING STEEL GIRDERS. CUT OFF THE PROJECTING LEG OF THE ANGLE PARALLEL TO THE WEB AND GRIND THE CUT EDGE SMOOTH.
3. FOR SECTION D-D, PART PLAN OF DECK SLAB REMOVAL, AND PART PLAN OF DECK SLAB RECONSTRUCTION, SEE SHEET 63/116.

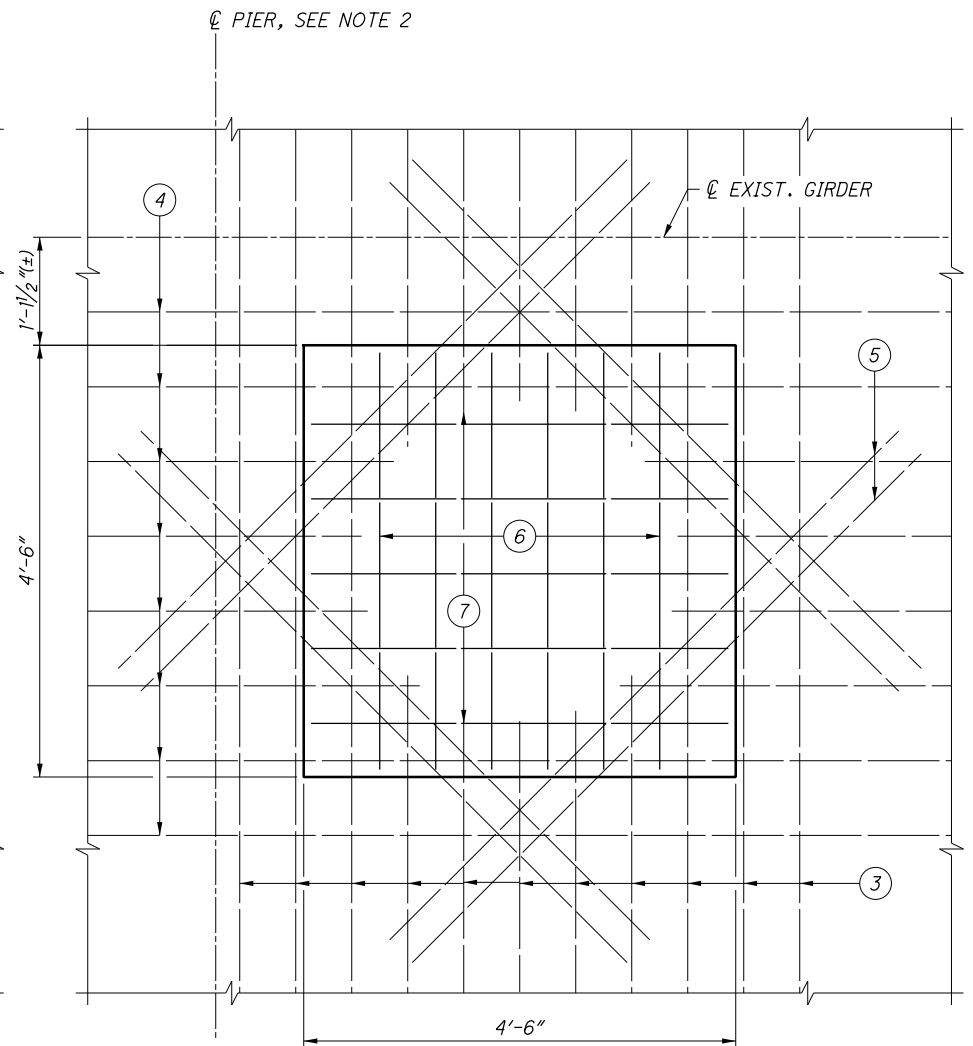
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SECTION D-D
(Showing Slab
reinforcement)
(NOT TO SCALE, SEE NOTE 1)



PART PLAN - DECK SLAB REMOVAL



PART PLAN - DECK SLAB RECONSTRUCTION

LEGEND

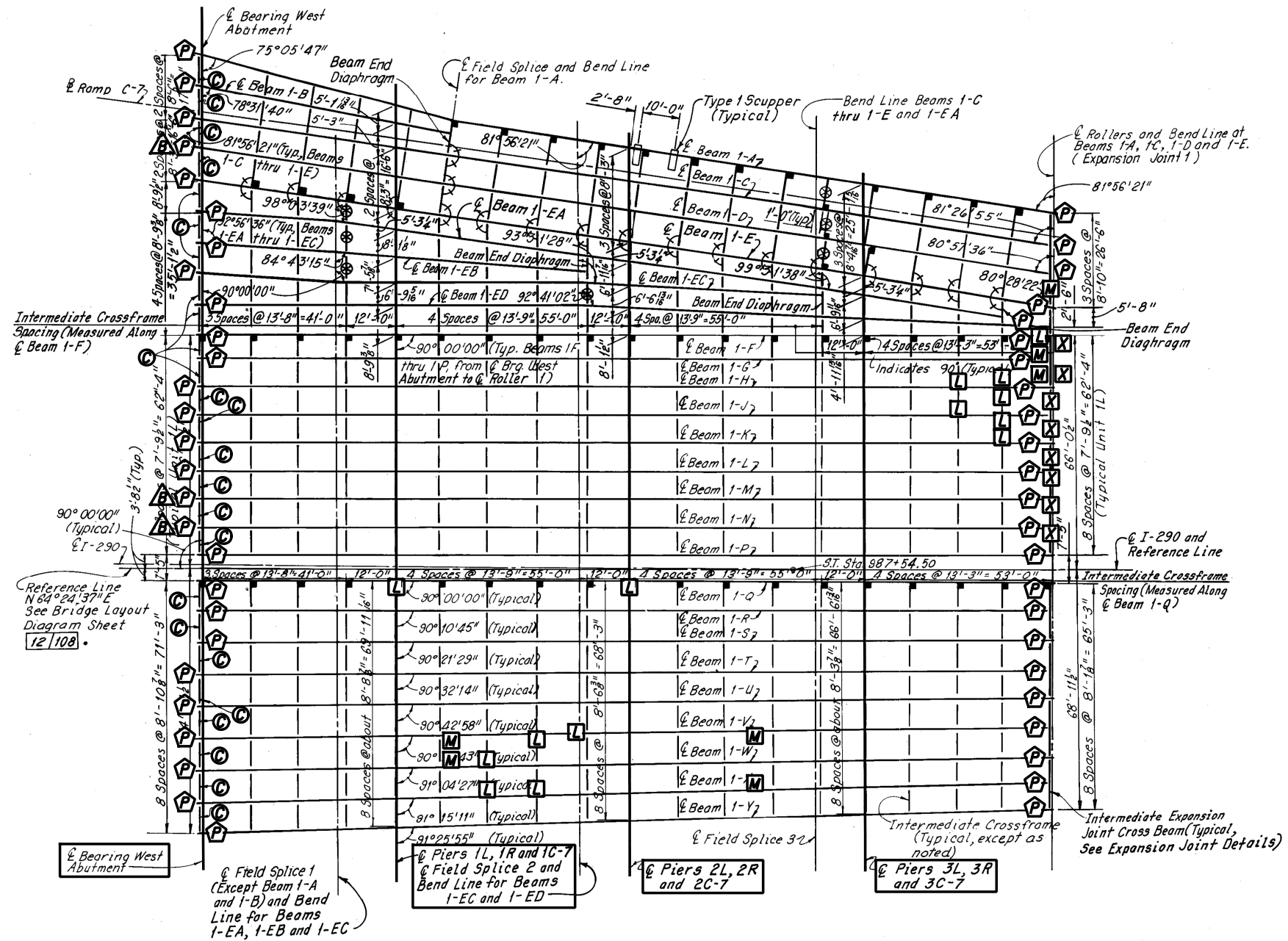
- ① SAW CUT 2" DEEP THROUGH EXISTING WEARING SURFACE AND INTO EXISTING DECK SLAB FOR FULL PERIMETER OF REMOVAL AREA
- ② REMOVE EXISTING DECK SLAB CONCRETE AND PRESERVE ALL EXISTING REINFORCING STEEL BARS WITHIN REMOVAL AREA
- ③ EXIST. #6 TRANSVERSE BARS @ 7"(±) c/c, TOP AND BOTTOM, TO REMAIN (TYP.)
- ④ EXIST. #6 LONGITUDINAL BARS @ 9 1/2"(±) c/c, TOP AND BOTTOM, TO REMAIN (TYP.)
- ⑤ EXIST. #7 BARS, TOP AND BOTTOM, TO REMAIN (TYP.)
- ⑥ 6-S603, 5 SPA. @ 7"(±) c/c = 2'-11"(±), TOP AND BOTTOM, PLACE BARS MIDWAY BETWEEN EXISTING #6 TRANSVERSE BARS, SEE NOTE 4
- ⑦ 5-S603, 4 SPA. @ 9 1/2"(±) c/c = 3'-2"(±), TOP AND BOTTOM, PLACE BARS MIDWAY BETWEEN EXISTING #6 LONGITUDINAL BARS, SEE NOTE 4

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

NOTES

- 1. SECTION D-D COMES FROM SCANS OF THE 1986 RECORD PLANS. ALL FRAMING IS EXISTING, UNLESS NOTED OTHERWISE, AND ALL DIMENSIONS ARE (±). FOR LOCATION, SEE SHEET 62/116.
- 2. PART PLAN OF DECK SLAB REMOVAL AND PART PLAN OF DECK SLAB RECONSTRUCTION ARE TYPICAL OF SIX (6) LOCATIONS: PIERS 7L, 7R, 11L, 11R, 13L AND 14R.
- 3. CONCRETE FOR DECK SLAB RECONSTRUCTION PER THE DETAILS ON THIS SHEET IS INCLUDED IN THE ESTIMATED QUANTITY FOR ITEM 848 - FULL DEPTH REPAIR.
- 4. THE EXACT LOCATIONS OF EXISTING DECK SLAB REINFORCING STEEL WITHIN THE AREA OF THE SLAB TO BE RECONSTRUCTED ARE NOT ACCURATELY KNOWN. A GREATER NUMBER OF BARS THAN DEPICTED IN THE PART PLAN VIEWS MAY HAVE BEEN CUT TO FIT AROUND THE MANHOLE. THE REINFORCING STEEL LIST INCLUDES A CONTINGENCY QUANTITY OF FOUR (4) ADDITIONAL S603 BARS PER MANHOLE REMOVAL LOCATION FOR USE AS USE AS DIRECTED BY THE ENGINEER.

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FRAMING PLAN - UNIT 1

LEGEND

- L** LOOSE BOLT LOCATION - REMOVE EXIST. BOLT & INSTALL NEW BOLT
- X** MISSING BOLT LOCATION - INSTALL NEW BOLT
- M** MISDRILLED HOLE LOCATION - FOR INFORMATION ONLY
- C** REPLACED CROSSFRAME LOCATION - EXIST. END CROSSFRAME TO BE REMOVED & REPLACED WITH NEW CROSSFRAME PER STANDARD DRAWING GSD-1-19
- S** MISSING SAFETY CABLE LOCATION - REPLACE SAFETY CABLE, SEE DETAILS ON SHEET 76/116
- R** SAFETY CABLE ATTACHED TO HANDRAIL LOCATION - REMOVE CABLE ATTACHMENT TO HANDRAIL & REATTACH TO SUPPORT, SEE DETAILS ON SHEET 76/116
- P** FIELD PAINTING STRUCTURAL STEEL LOCATION - PAINT ALL STEEL SURFACES FOR 10' LENGTH, SEE GENERAL NOTE ON SHEET 6/116
- B** RESET BEARING LOCATION - SHIM FLOATING BEARING

REPAIR LOCATIONS	
TYPE	NUMBER
L	14
X	8
M	7
C	25
S	-
R	-
P	50
B	3

RESET BEARING INFORMATION	
BEAM	SHIM PLATE SIZE
D	19"x10"x1/8" THICK
M	19"x10"x1/4" THICK
N	19"x10"x1/2" THICK

NOTES

1. PLAN VIEW LINE WORK ON THIS SHEET COMES FROM SCANS OF THE 1986 RECORD PLANS. REFERENCES TO I-290 SHOULD BE REPLACED WITH I-490. ALL FRAMING IS EXISTING, UNLESS NOTED OTHERWISE, AND ALL DIMENSIONS ARE (±).



DATE 08/05/20
 REVIEWED MJL
 STRUCTURE FILE NUMBER 1811991
 DRAWN JAM
 CHECKED IMF

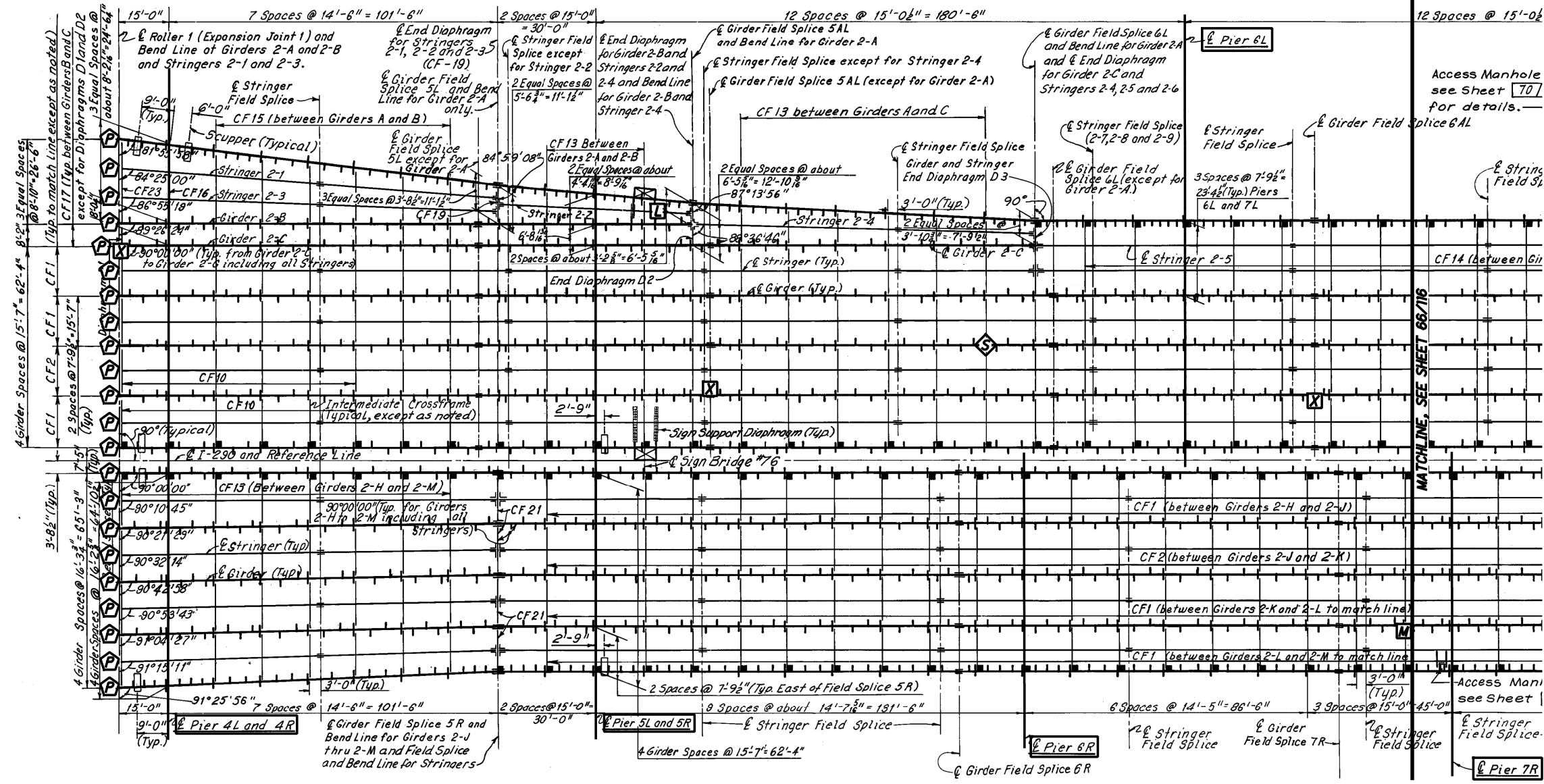
MISCELLANEOUS STEEL REPAIR DETAILS - 1
 BRIDGE NO. CUY-490-0100
 I-490 OVER CUYAHOGA RIVER

CUY-490-01.00
 PID No. 25622

64/116

121
 182

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FRAMING PLAN - UNIT 2 (PART 1)

LEGEND

- L** LOOSE BOLT LOCATION - REMOVE EXIST. BOLT & INSTALL NEW BOLT
- X** MISSING BOLT LOCATION - INSTALL NEW BOLT
- M** MISDRILLED HOLE LOCATION - FOR INFORMATION ONLY
- C** REPLACED CROSSFRAME LOCATION - EXIST. END CROSSFRAME TO BE REMOVED & REPLACED WITH NEW CROSSFRAME PER STANDARD DRAWING GSD-1-19
- S** MISSING SAFETY CABLE LOCATION - REPLACE SAFETY CABLE, SEE DETAILS ON SHEET 76/116
- D** SAFETY CABLE ATTACHED TO HANDRAIL LOCATION - REMOVE CABLE ATTACHMENT TO HANDRAIL & REATTACH TO SUPPORT, SEE DETAILS ON SHEET 76/116
- P** FIELD PAINTING STRUCTURAL STEEL LOCATION - PAINT ALL STEEL SURFACES FOR 10' LENGTH, SEE GENERAL NOTE ON SHEET 6/116
- B** RESET BEARING LOCATION - SHIM FLOATING BEARING

REPAIR LOCATIONS	
TYPE	NUMBER
L	1
X	3
M	1
C	-
S	1
D	-
P	22
B	-

NOTES

1. PLAN VIEW LINE WORK ON THIS SHEET COMES FROM SCANS OF THE 1986 RECORD PLANS. REFERENCES TO I-290 SHOULD BE REPLACED WITH I-490. ALL FRAMING IS EXISTING, UNLESS NOTED OTHERWISE, AND ALL DIMENSIONS ARE (+).



DATE: 08/05/20
 REVIEWED: JAM
 DRAWN: JAM
 CHECKED: IMF
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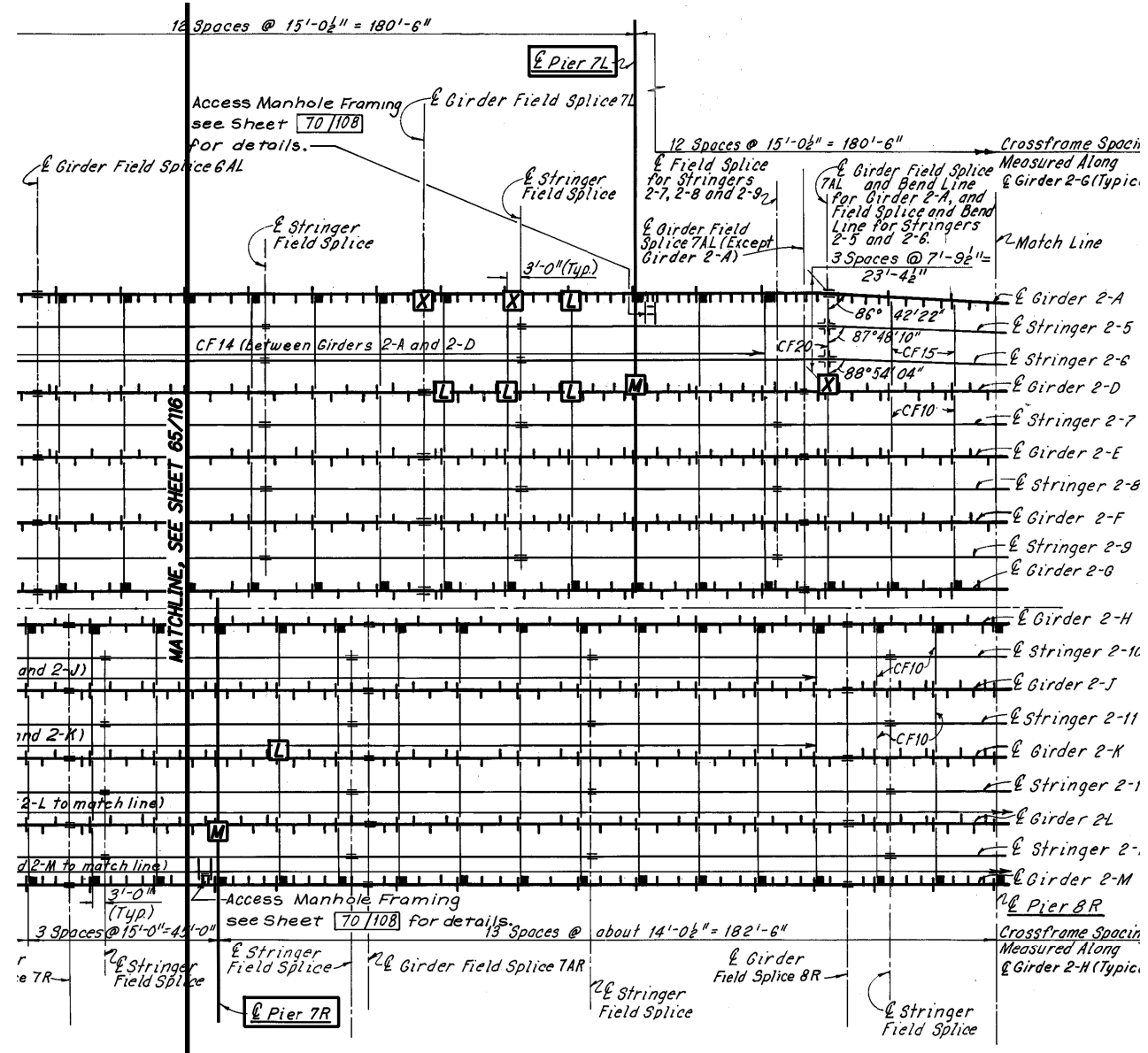
MISCELLANEOUS STEEL REPAIR DETAILS - 2
 BRIDGE NO. CUY-490-0100
 I-490 OVER CUYAHOGA RIVER

CUY-490-01.00
 PID No. 25622

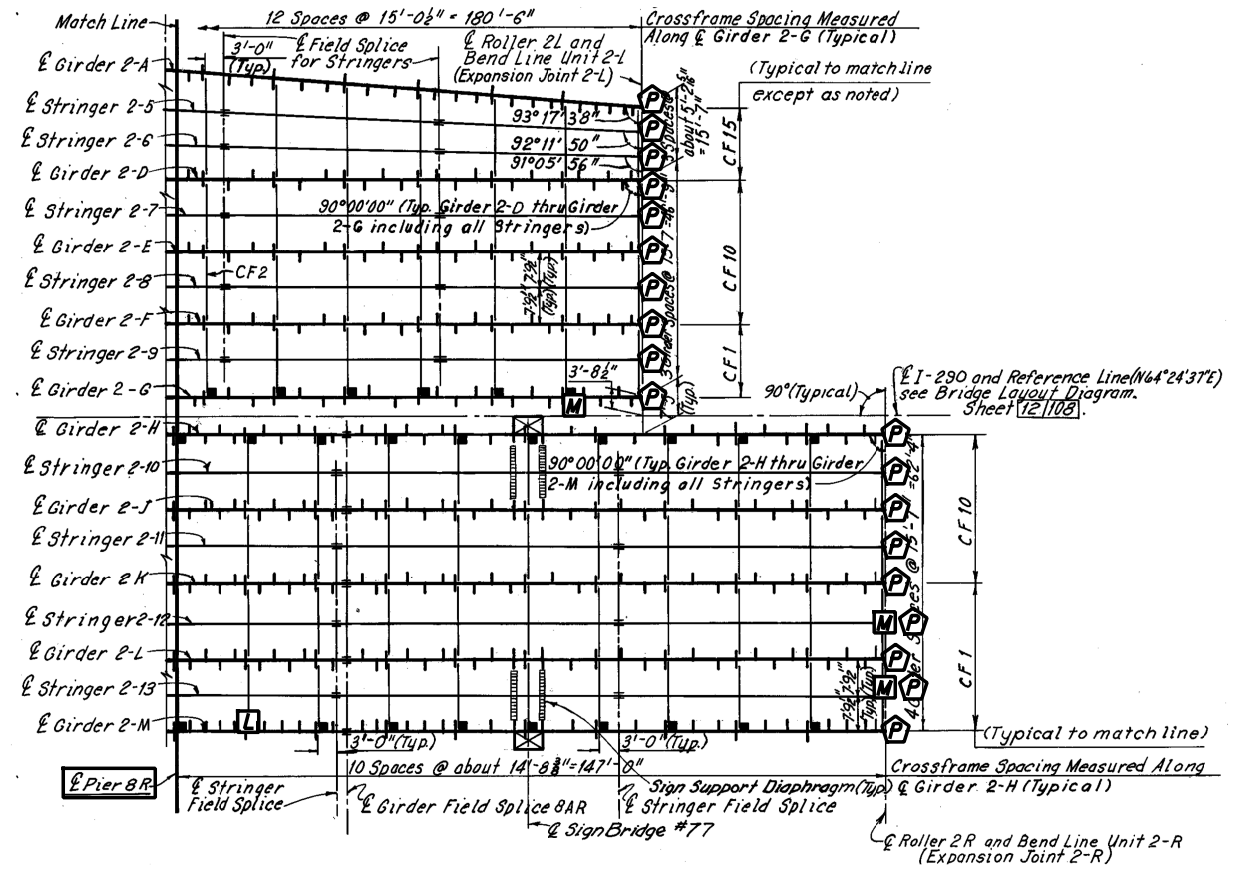
65/116

122
 182

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FRAMING PLAN - UNIT 2 (PART 2)



FRAMING PLAN - UNIT 2 (PART 3)

LEGEND

- L** LOOSE BOLT LOCATION - REMOVE EXIST. BOLT & INSTALL NEW BOLT
- X** MISSING BOLT LOCATION - INSTALL NEW BOLT
- M** MISDRILLED HOLE LOCATION - FOR INFORMATION ONLY
- C** REPLACED CROSSFRAME LOCATION - EXIST. END CROSSFRAME TO BE REMOVED & REPLACED WITH NEW CROSSFRAME PER STANDARD DRAWING GSD-1-19
- S** MISSING SAFETY CABLE LOCATION - REPLACE SAFETY CABLE, SEE DETAILS ON SHEET 76/116
- R** SAFETY CABLE ATTACHED TO HANDRAIL LOCATION - REMOVE CABLE ATTACHMENT TO HANDRAIL & REATTACH TO SUPPORT, SEE DETAILS ON SHEET 76/116
- P** FIELD PAINTING STRUCTURAL STEEL LOCATION - PAINT ALL STEEL SURFACES FOR 10' LENGTH, SEE GENERAL NOTE ON SHEET 6/116
- B** RESET BEARING LOCATION - SHIM FLOATING BEARING

REPAIR LOCATIONS	
TYPE	NUMBER
L	6
X	3
M	5
C	-
S	-
R	-
P	19
B	-

NOTES

1. PLAN VIEW LINE WORK ON THIS SHEET COMES FROM SCANS OF THE 1986 RECORD PLANS. REFERENCES TO I-290 SHOULD BE REPLACED WITH I-490. ALL FRAMING IS EXISTING, UNLESS NOTED OTHERWISE, AND ALL DIMENSIONS ARE (+).

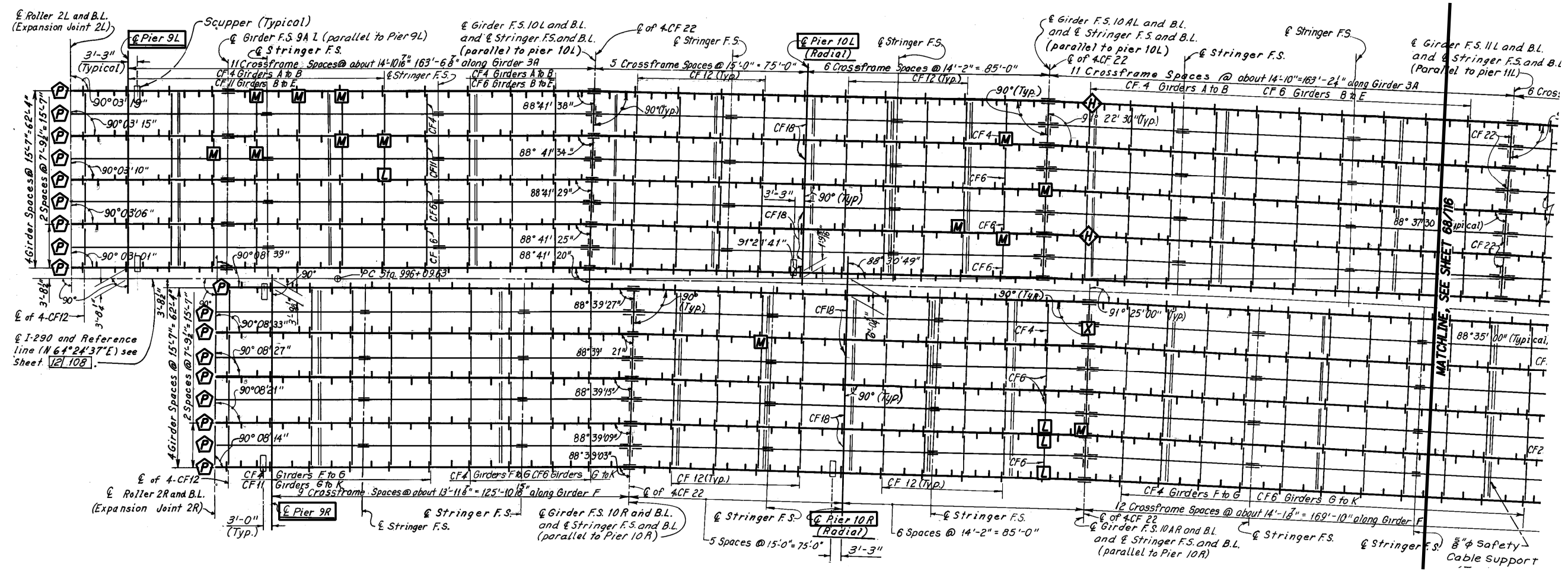


DATE: 08/05/20
 REVIEWED: MJL
 DRAWN: JAM
 DESIGNED: JAM
 CHECKED: IMF

MISCELLANEOUS STEEL REPAIR DETAILS - 3
 BRIDGE NO. CUY-490-0100
 I-490 OVER CUYAHOGA RIVER

CUY-490-01.00
 PID No. 25622

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FRAMING PLAN - UNIT 3 (PART 1)

LEGEND

- L** LOOSE BOLT LOCATION - REMOVE EXIST. BOLT & INSTALL NEW BOLT
- X** MISSING BOLT LOCATION - INSTALL NEW BOLT
- M** MISDRILLED HOLE LOCATION - FOR INFORMATION ONLY
- C** REPLACED CROSSFRAME LOCATION - EXIST. END CROSSFRAME TO BE REMOVED & REPLACED WITH NEW CROSSFRAME PER STANDARD DRAWING GSD-1-19
- S** MISSING SAFETY CABLE LOCATION - REPLACE SAFETY CABLE, SEE DETAILS ON SHEET 76/116
- R** SAFETY CABLE ATTACHED TO HANDRAIL LOCATION - REMOVE CABLE ATTACHMENT TO HANDRAIL & REATTACH TO SUPPORT, SEE DETAILS ON SHEET 76/116
- P** FIELD PAINTING STRUCTURAL STEEL LOCATION - PAINT ALL STEEL SURFACES FOR 10' LENGTH, SEE GENERAL NOTE ON SHEET 6/116
- B** RESET BEARING LOCATION - SHIM FLOATING BEARING

REPAIR LOCATIONS	
TYPE	NUMBER
L	4
X	1
M	13
C	-
S	-
R	2
P	18
B	-

NOTES

1. PLAN VIEW LINE WORK ON THIS SHEET COMES FROM SCANS OF THE 1986 RECORD PLANS. REFERENCES TO I-290 SHOULD BE REPLACED WITH I-490. ALL FRAMING IS EXISTING, UNLESS NOTED OTHERWISE, AND ALL DIMENSIONS ARE (±).



DATE 08/05/20
 REVIEWED MJL
 DRAWN JAM
 CHECKED IMF
 STRUCTURE FILE NUMBER 181991

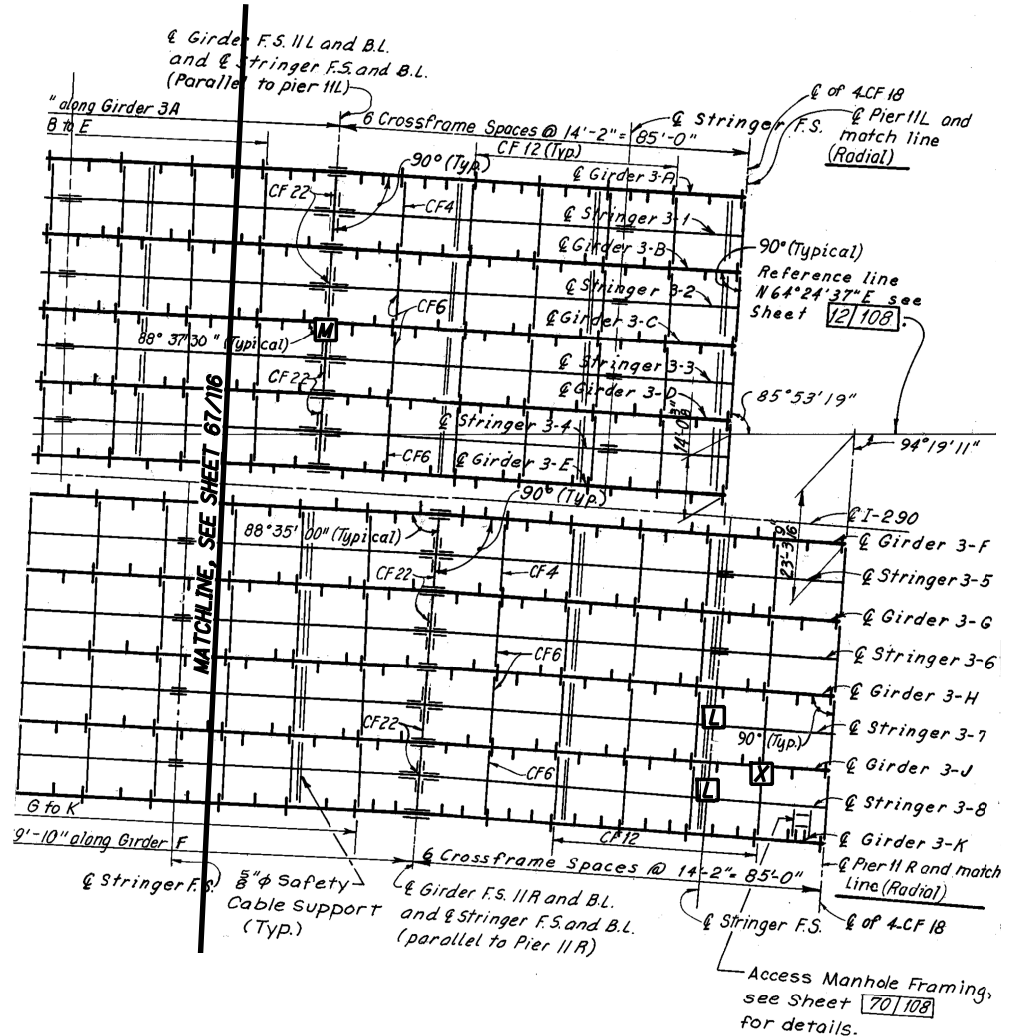
MISCELLANEOUS STEEL REPAIR DETAILS - 4
 BRIDGE NO. CUY-490-0100
 I-490 OVER CUYAHOGA RIVER

CUY-490-01.00
 PID No. 25622

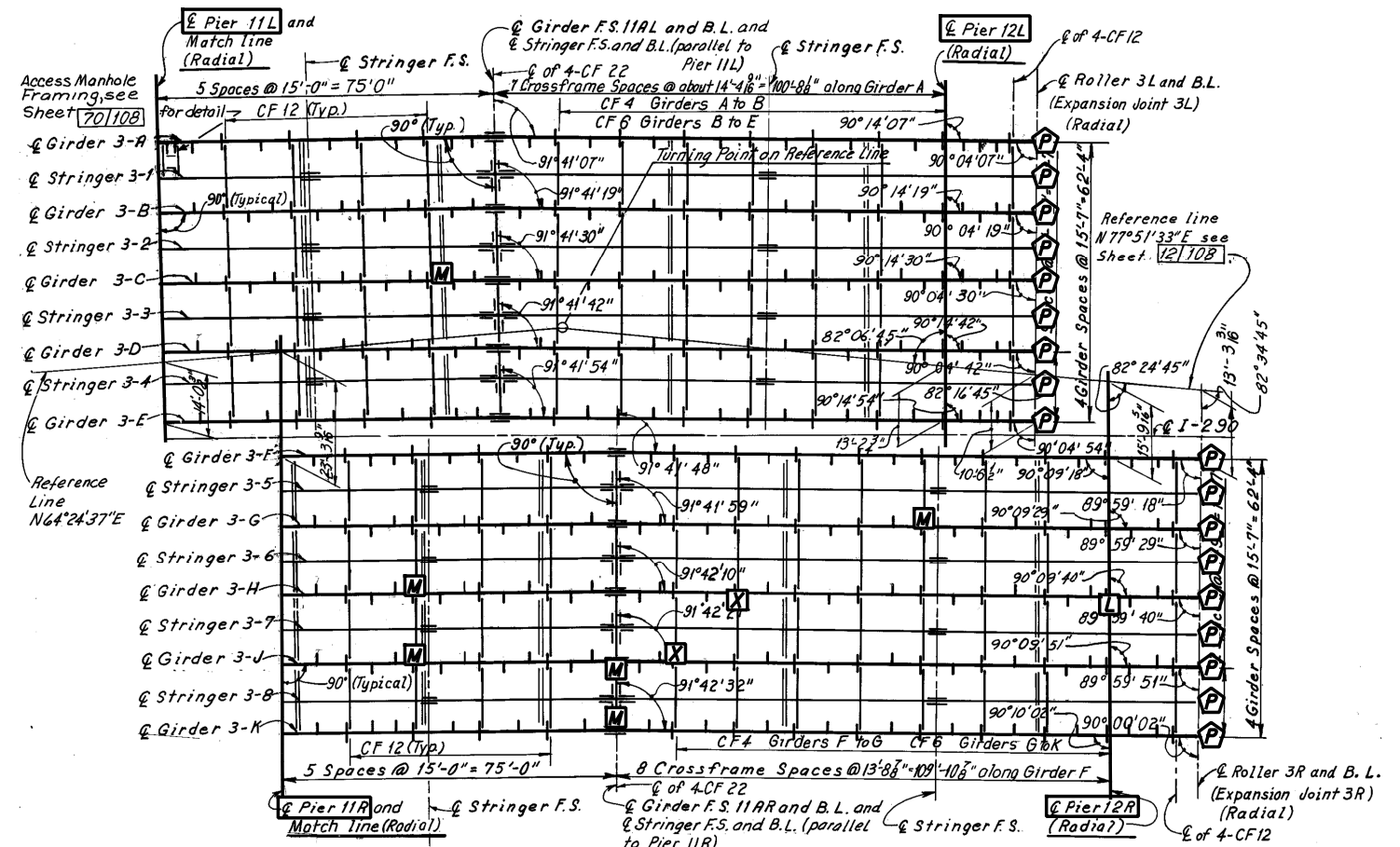
67/116

124
 182

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FRAMING PLAN - UNIT 3 (PART 2)



FRAMING PLAN - UNIT 3 (PART 3)

LEGEND

- L LOOSE BOLT LOCATION - REMOVE EXIST. BOLT & INSTALL NEW BOLT
- X MISSING BOLT LOCATION - INSTALL NEW BOLT
- M MISDRILLED HOLE LOCATION - FOR INFORMATION ONLY
- C REPLACED CROSSFRAME LOCATION - EXIST. END CROSSFRAME TO BE REMOVED & REPLACED WITH NEW CROSSFRAME PER STANDARD DRAWING GSD-1-19
- S MISSING SAFETY CABLE LOCATION - REPLACE SAFETY CABLE, SEE DETAILS ON SHEET 76/116
- R SAFETY CABLE ATTACHED TO HANDRAIL LOCATION - REMOVE CABLE ATTACHMENT TO HANDRAIL & REATTACH TO SUPPORT, SEE DETAILS ON SHEET 76/116
- P FIELD PAINTING STRUCTURAL STEEL LOCATION - PAINT ALL STEEL SURFACES FOR 10' LENGTH, SEE GENERAL NOTE ON SHEET 6/116
- B RESET BEARING LOCATION - SHIM FLOATING BEARING

REPAIR LOCATIONS	
TYPE	NUMBER
L	3
X	3
M	7
C	-
S	-
R	-
P	18
B	-

NOTES

1. PLAN VIEW LINE WORK ON THIS SHEET COMES FROM SCANS OF THE 1986 RECORD PLANS. REFERENCES TO I-290 SHOULD BE REPLACED WITH I-490. ALL FRAMING IS EXISTING, UNLESS NOTED OTHERWISE, AND ALL DIMENSIONS ARE (±).

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MISCELLANEOUS STEEL REPAIR DETAILS - 5

BRIDGE NO. CUY-490-0100

I-490 OVER CUYAHOGA RIVER

DATE: 08/05/20

REVIEWED: MJL

DRAWN: JAM

DESIGNED: JAM

STRUCTURE FILE NUMBER: 181991

CHECKED: IMF

REVISIONS:

CUY-490-01.00

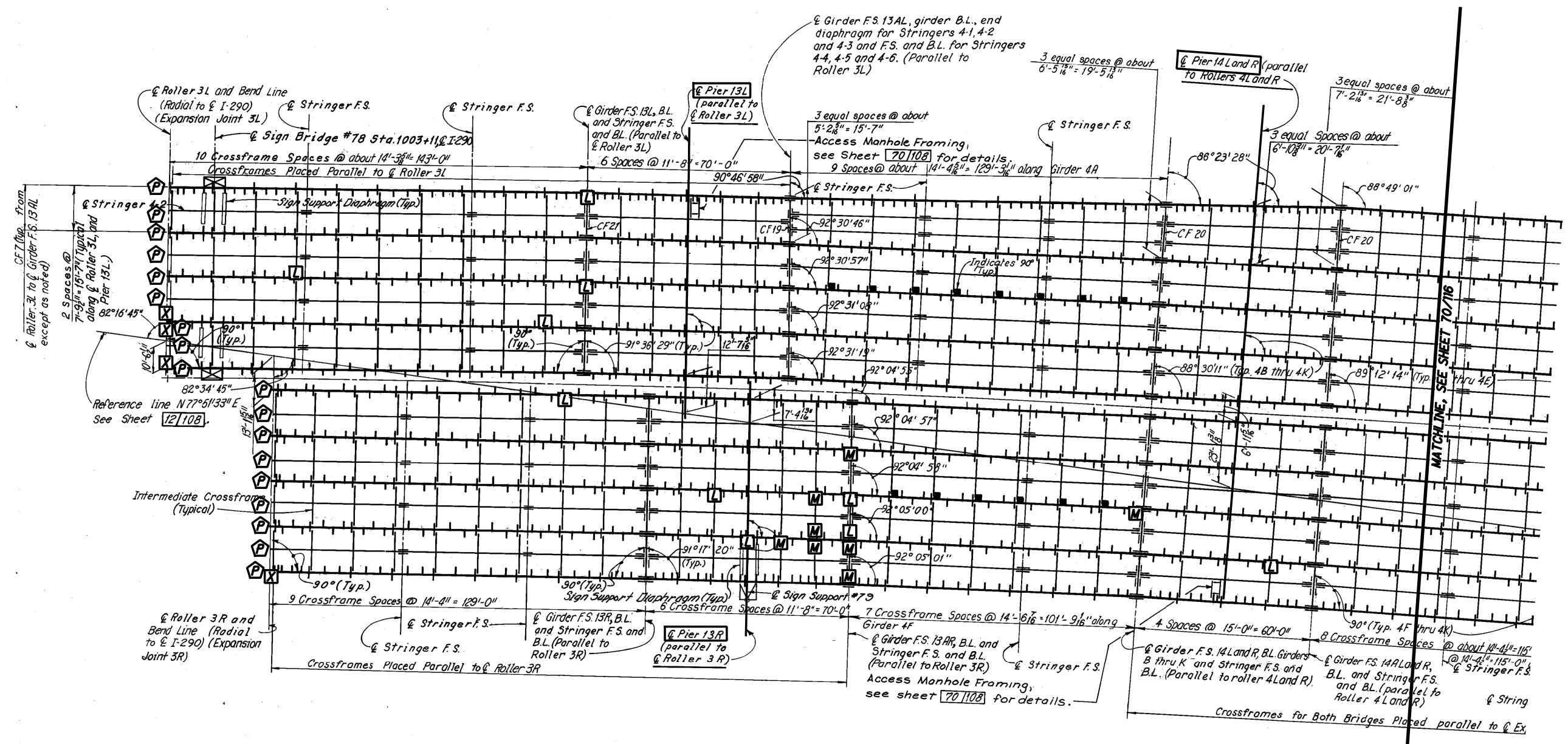
PID No. 25622

68/116

125

182

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FRAMING PLAN - UNIT 4 (PART 1)

LEGEND

- L** LOOSE BOLT LOCATION - REMOVE EXIST. BOLT & INSTALL NEW BOLT
- X** MISSING BOLT LOCATION - INSTALL NEW BOLT
- M** MISDRILLED HOLE LOCATION - FOR INFORMATION ONLY
- C** REPLACED CROSSFRAME LOCATION - EXIST. END CROSSFRAME TO BE REMOVED & REPLACED WITH NEW CROSSFRAME PER STANDARD DRAWING GSD-1-19
- S** MISSING SAFETY CABLE LOCATION - REPLACE SAFETY CABLE, SEE DETAILS ON SHEET 76/116
- R** SAFETY CABLE ATTACHED TO HANDRAIL LOCATION - REMOVE CABLE ATTACHMENT TO HANDRAIL & REATTACH TO SUPPORT, SEE DETAILS ON SHEET 76/116
- P** FIELD PAINTING STRUCTURAL STEEL LOCATION - PAINT ALL STEEL SURFACES FOR 10' LENGTH, SEE GENERAL NOTE ON SHEET 6/116
- B** RESET BEARING LOCATION - SHIM FLOATING BEARING

REPAIR LOCATIONS	
TYPE	NUMBER
L	10
X	4
M	8
C	-
S	-
R	-
P	18
B	-

NOTES

1. PLAN VIEW LINE WORK ON THIS SHEET COMES FROM SCANS OF THE 1986 RECORD PLANS. REFERENCES TO I-290 SHOULD BE REPLACED WITH I-490. ALL FRAMING IS EXISTING, UNLESS NOTED OTHERWISE, AND ALL DIMENSIONS ARE (+).



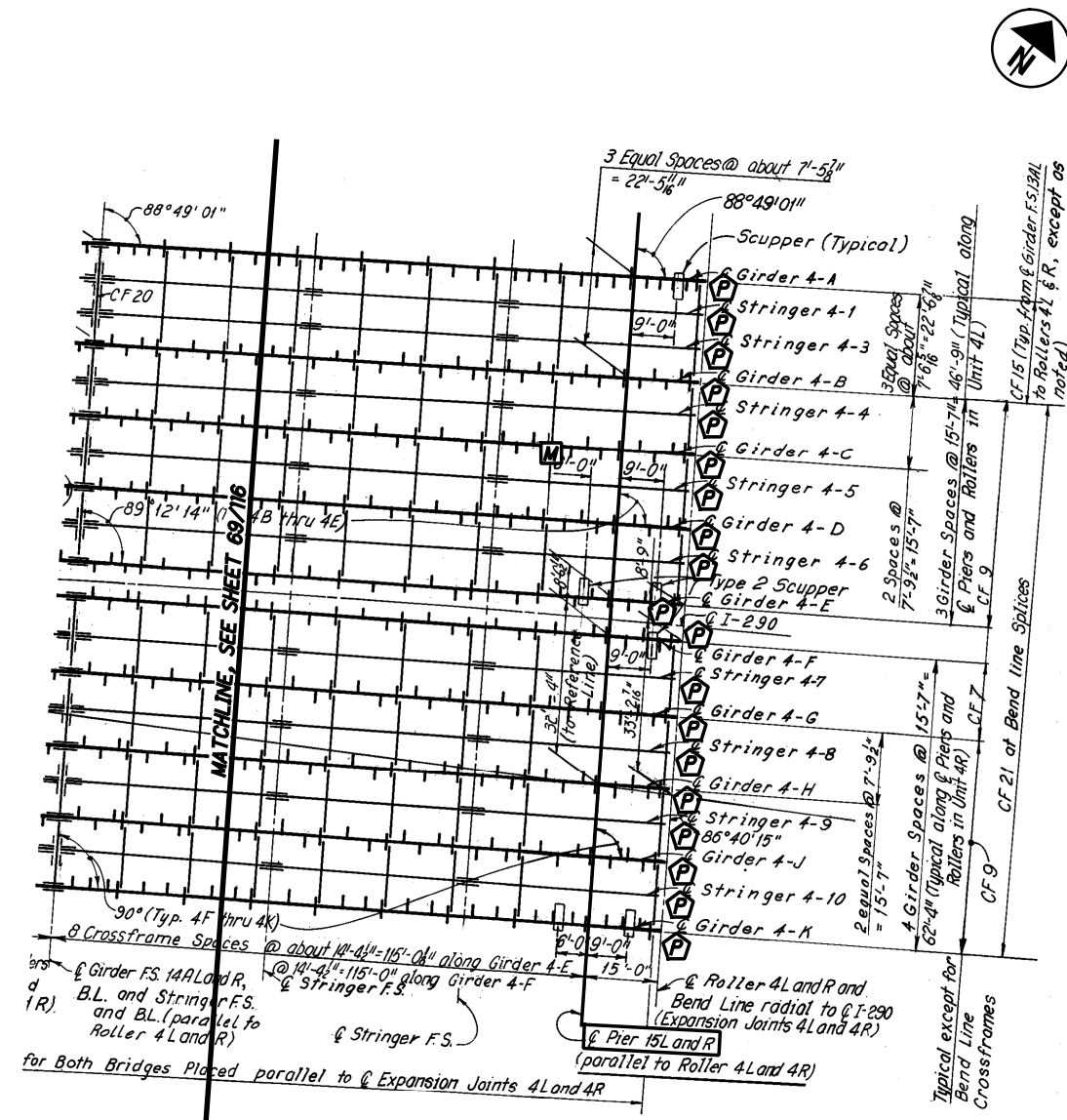
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 REVISED BY
 REVIEWED BY JAM
 DATE 08/05/20
 STRUCTURE FILE NUMBER 181991

MISCELLANEOUS STEEL REPAIR DETAILS - 6
 BRIDGE NO. CUY-490-0100
 I-490 OVER CUYAHOGA RIVER

CUY-490-01.00
 PID No. 25622

69/116

126
 182



FRAMING PLAN - UNIT 4 (PART 2)

LEGEND

- L** LOOSE BOLT LOCATION - REMOVE EXIST. BOLT & INSTALL NEW BOLT
- X** MISSING BOLT LOCATION - INSTALL NEW BOLT
- M** MISDRILLED HOLE LOCATION - FOR INFORMATION ONLY
- C** REPLACED CROSSFRAME LOCATION - EXIST. END CROSSFRAME TO BE REMOVED & REPLACED WITH NEW CROSSFRAME PER STANDARD DRAWING GSD-1-19
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- P** FIELD PAINTING STRUCTURAL STEEL LOCATION - PAINT ALL STEEL SURFACES FOR 10' LENGTH, SEE GENERAL NOTE ON SHEET 6/116
- B** RESET BEARING LOCATION - SHIM FLOATING BEARING

REPAIR LOCATIONS	
TYPE	NUMBER
L	-
X	-
M	1
C	-
S	-
R	-
P	19
B	-

NOTES

1. PLAN VIEW LINE WORK ON THIS SHEET COMES FROM SCANS OF THE 1986 RECORD PLANS. REFERENCES TO I-290 SHOULD BE REPLACED WITH I-490. ALL FRAMING IS EXISTING, UNLESS NOTED OTHERWISE, AND ALL DIMENSIONS ARE (±).

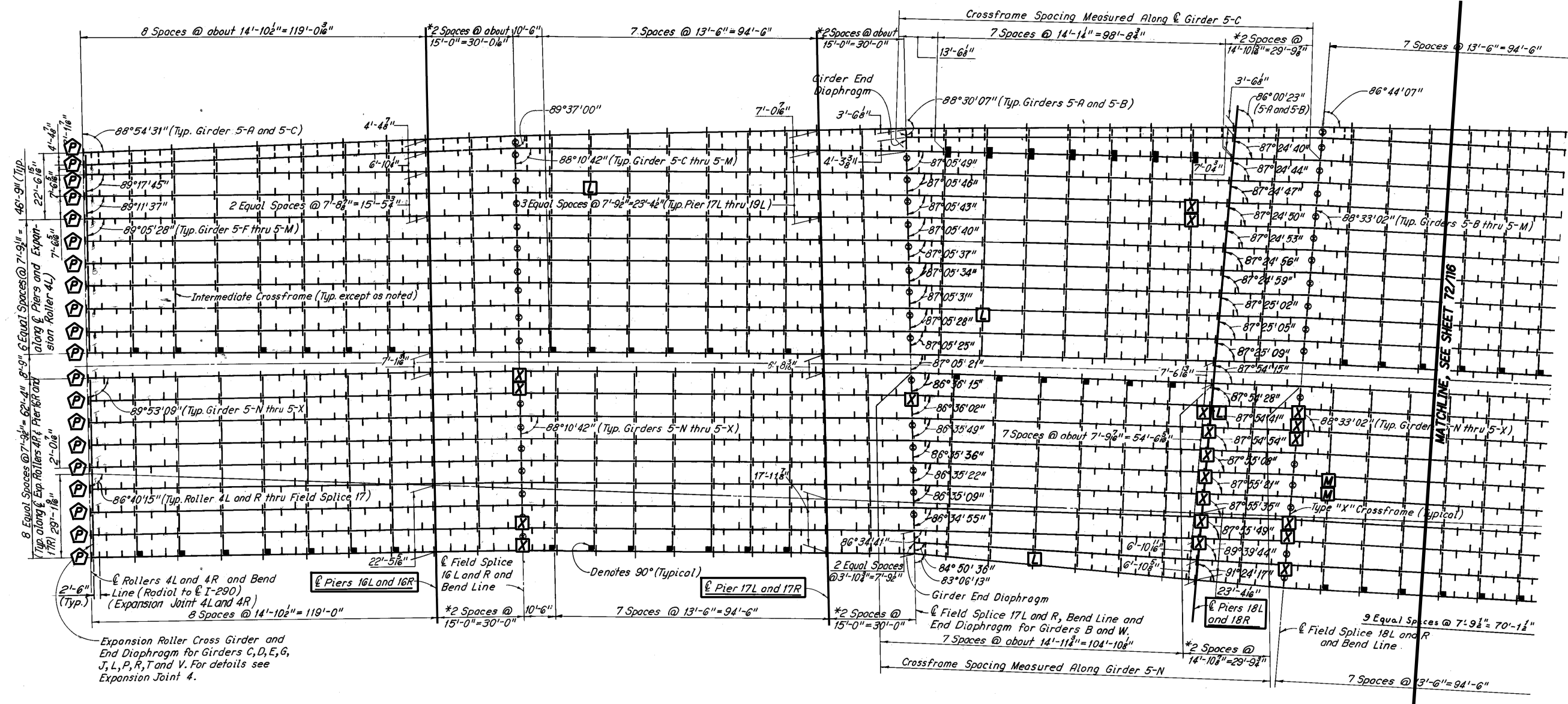


DESIGNED: JAM
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DRAWN: JAM
REVISED:
REVIEWED: M JUL
DATE: 08/05/20
STRUCTURE FILE NUMBER: 181991

MISCELLANEOUS STEEL REPAIR DETAILS - 7
BRIDGE NO. CUY-490-0100
I-490 OVER CUYAHOGA RIVER

CUY-490-01.00
PID No. 25622

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FRAMING PLAN - UNIT 5 (PART 1)

LEGEND

- LOOSE BOLT LOCATION - REMOVE EXIST. BOLT & INSTALL NEW BOLT
- MISSING BOLT LOCATION - INSTALL NEW BOLT
- MISDRILLED HOLE LOCATION - FOR INFORMATION ONLY
- REPLACED CROSSFRAME LOCATION - EXIST. END CROSSFRAME TO BE REMOVED & REPLACED WITH NEW CROSSFRAME PER STANDARD DRAWING GSD-1-19
- MISSING SAFETY CABLE LOCATION - REPLACE SAFETY CABLE, SEE DETAILS ON SHEET 76/116
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- FIELD PAINTING STRUCTURAL STEEL LOCATION - PAINT ALL STEEL SURFACES FOR 10' LENGTH, SEE GENERAL NOTE ON SHEET 6/116
- RESET BEARING LOCATION - SHIM FLOATING BEARING

REPAIR LOCATIONS	
TYPE	NUMBER
	4
	20
	2
	-
	-
	-
	20
	-

NOTES

1. PLAN VIEW LINE WORK ON THIS SHEET COMES FROM SCANS OF THE 1986 RECORD PLANS. REFERENCES TO I-290 SHOULD BE REPLACED WITH I-490. ALL FRAMING IS EXISTING, UNLESS NOTED OTHERWISE, AND ALL DIMENSIONS ARE (+).



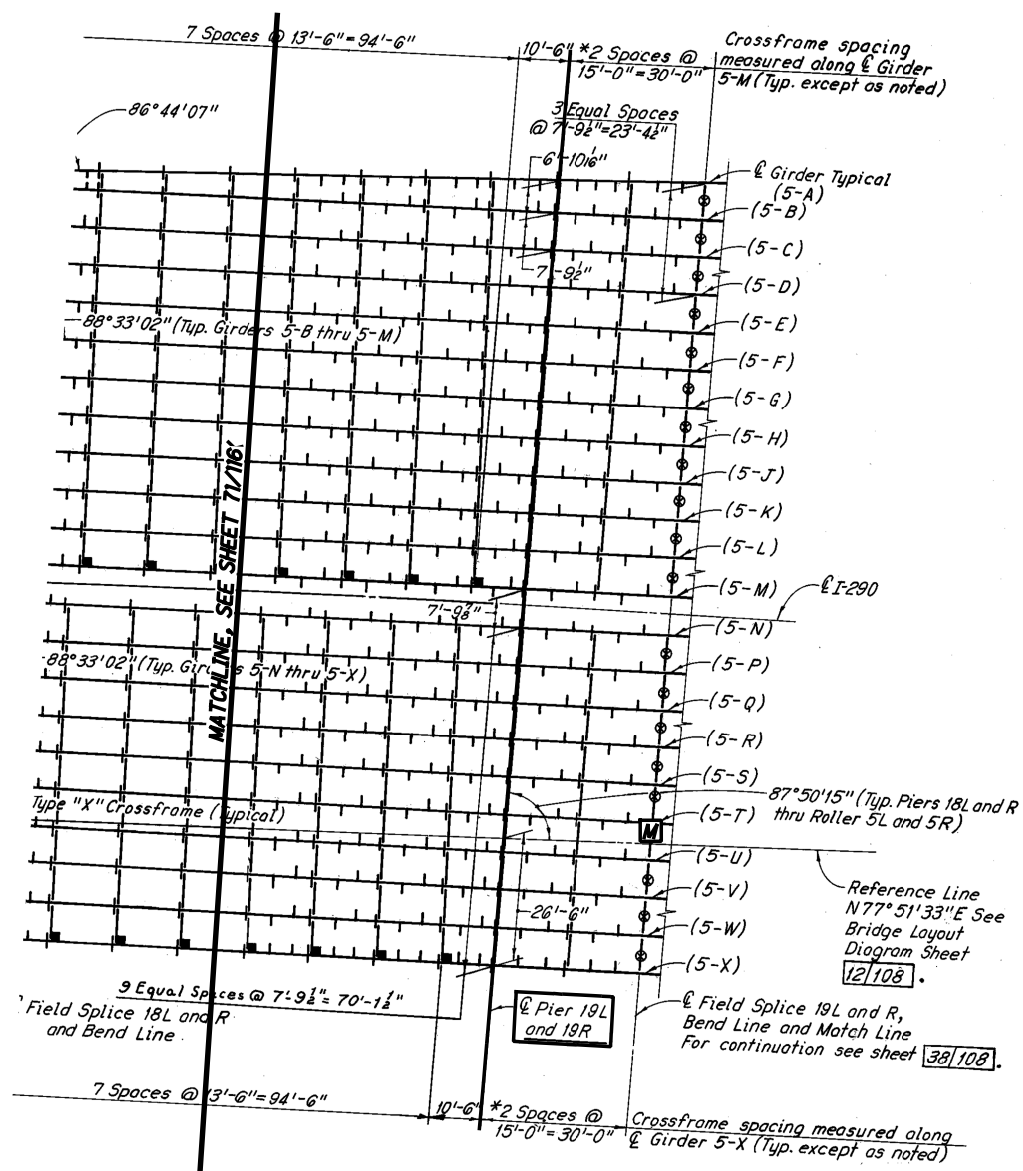
DATE 08/05/20
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 CHECKED IMF
 STRUCTURE FILE NUMBER 181991

MISCELLANEOUS STEEL REPAIR DETAILS - 8
 BRIDGE NO. CUY-490-0100
 I-490 OVER CUYAHOGA RIVER

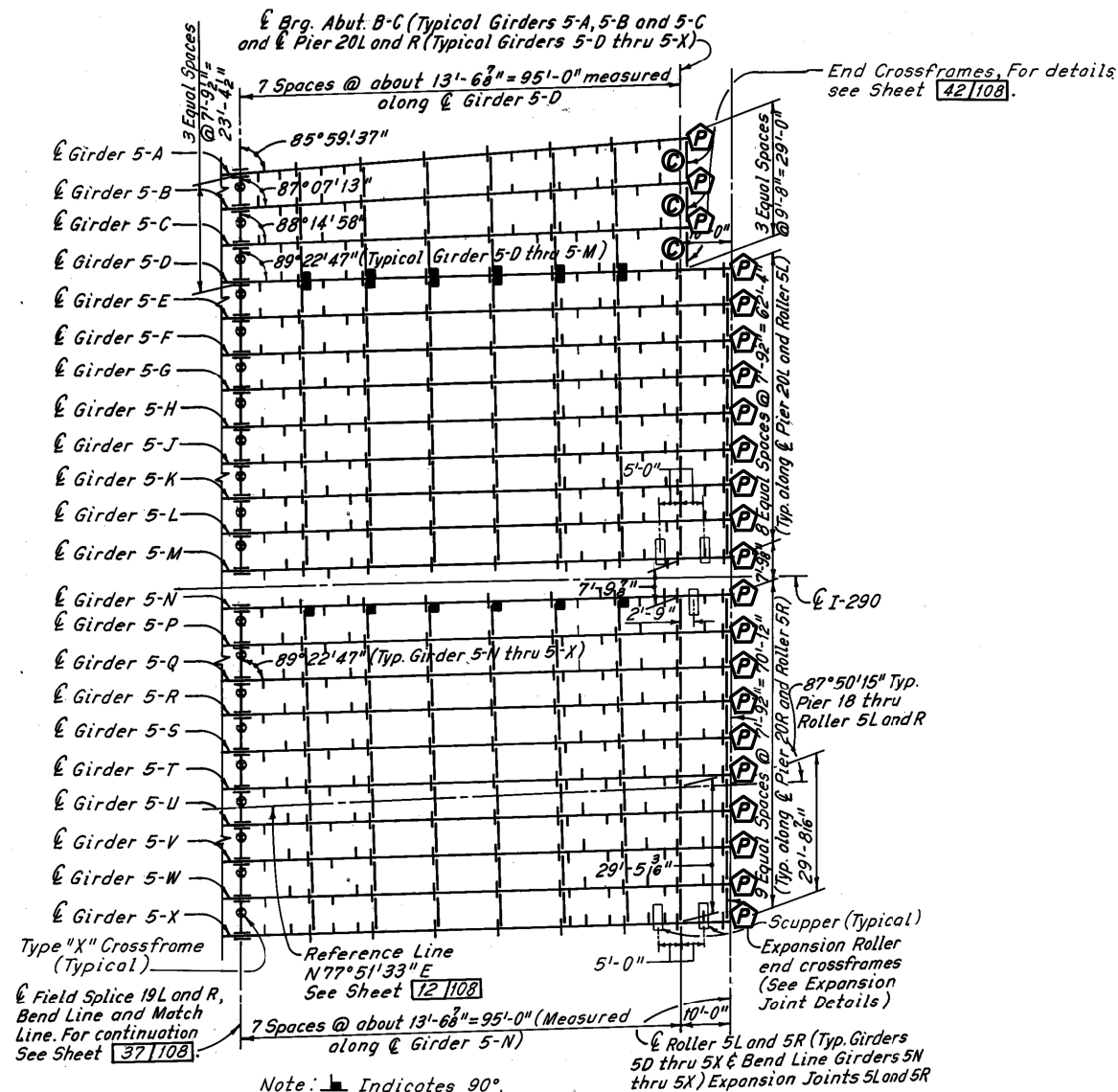
CUY-490-01.00
 PID No. 25622

71/116

128
 182



FRAMING PLAN - UNIT 5 (PART 2)



FRAMING PLAN - UNIT 5 (PART 3)

LEGEND

- L** LOOSE BOLT LOCATION - REMOVE EXIST. BOLT & INSTALL NEW BOLT
- X** MISSING BOLT LOCATION - INSTALL NEW BOLT
- M** MISDRILLED HOLE LOCATION - FOR INFORMATION ONLY
- C** REPLACED CROSSFRAME LOCATION - EXIST. END CROSSFRAME TO BE REMOVED & REPLACED WITH NEW CROSSFRAME PER STANDARD DRAWING GSD-1-19
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- P** FIELD PAINTING STRUCTURAL STEEL LOCATION - PAINT ALL STEEL SURFACES FOR 10' LENGTH, SEE GENERAL NOTE ON SHEET 6/116
- B** RESET BEARING LOCATION - SHIM FLOATING BEARING

REPAIR LOCATIONS	
TYPE	NUMBER
L	-
X	-
M	1
C	3
S	-
R	-
P	22
B	-

NOTES

1. PLAN VIEW LINE WORK ON THIS SHEET COMES FROM SCANS OF THE 1986 RECORD PLANS. REFERENCES TO I-290 SHOULD BE REPLACED WITH I-490. ALL FRAMING IS EXISTING, UNLESS NOTED OTHERWISE, AND ALL DIMENSIONS ARE (±).

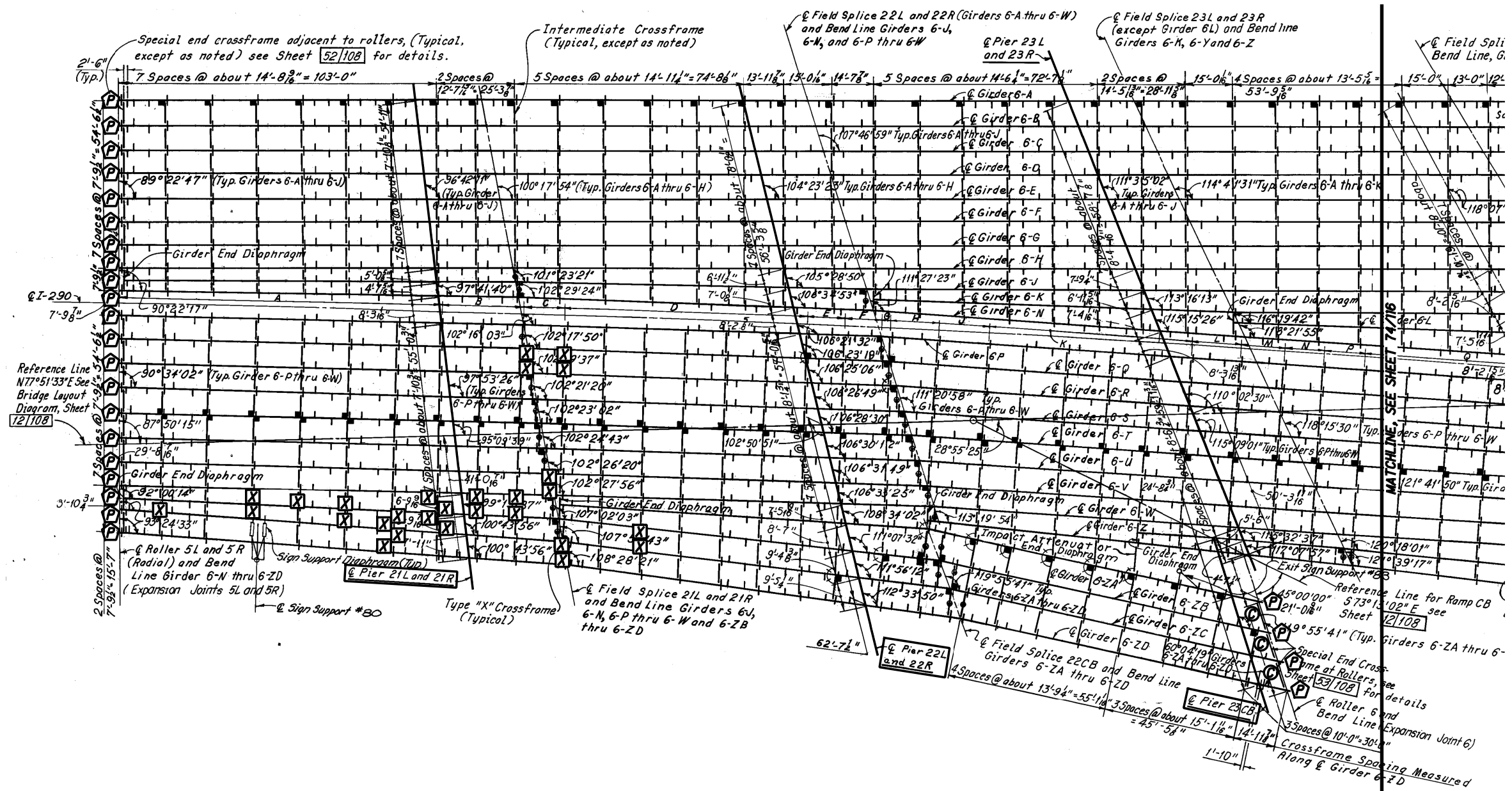
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DRAWN	JAM	REVISED	
REVIEWED	MJL	STRUCTURE FILE NUMBER	181991
DATE	08/05/20		

MISCELLANEOUS STEEL REPAIR DETAILS - 9
BRIDGE NO. CUY-490-0100
I-490 OVER CUYAHOGA RIVER

CUY-490-01.00
PID No. 25622



FRAMING PLAN - UNIT 6 (PART 1)

LEGEND

- L** LOOSE BOLT LOCATION - REMOVE EXIST. BOLT & INSTALL NEW BOLT
- X** MISSING BOLT LOCATION - INSTALL NEW BOLT
- M** MISDRILLED HOLE LOCATION - FOR INFORMATION ONLY
- C** REPLACED CROSSFRAME LOCATION - EXIST. END CROSSFRAME TO BE REMOVED & REPLACED WITH NEW CROSSFRAME PER STANDARD DRAWING GSD-1-19
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- P** FIELD PAINTING STRUCTURAL STEEL LOCATION - PAINT ALL STEEL SURFACES FOR 10' LENGTH, SEE GENERAL NOTE ON SHEET 6/116
- B** RESET BEARING LOCATION - SHIM FLOATING BEARING

REPAIR LOCATIONS	
TYPE	NUMBER
L	-
X	28
M	-
C	3
S	-
R	-
P	25
B	-

NOTES

1. PLAN VIEW LINE WORK ON THIS SHEET COMES FROM SCANS OF THE 1986 RECORD PLANS. REFERENCES TO I-290 SHOULD BE REPLACED WITH I-490. ALL FRAMING IS EXISTING, UNLESS NOTED OTHERWISE, AND ALL DIMENSIONS ARE (+).

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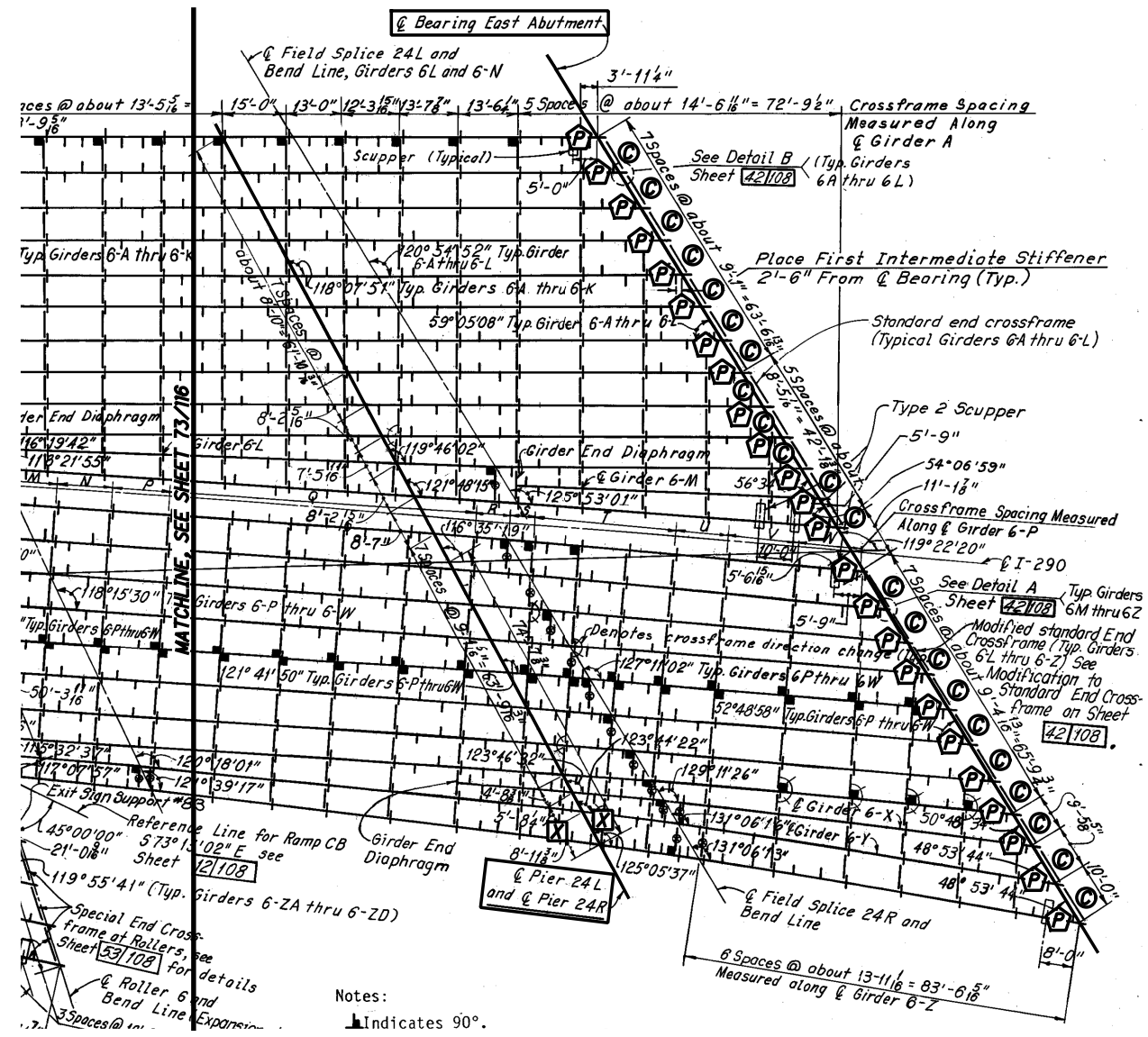
DATE 08/05/20
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 DRAWN JAM
 CHECKED JMF

MISCELLANEOUS STEEL REPAIR DETAILS - 10
 BRIDGE NO. CUY-490-0100
 I-490 OVER CUYAHOGA RIVER

CUY-490-01.00
 PID No. 25622

73/116
 130
 182

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FRAMING PLAN - UNIT 6 (PART 2)

LEGEND

- L** LOOSE BOLT LOCATION - REMOVE EXIST. BOLT & INSTALL NEW BOLT
- X** MISSING BOLT LOCATION - INSTALL NEW BOLT
- M** MISDRILLED HOLE LOCATION - FOR INFORMATION ONLY
- C** REPLACED CROSSFRAME LOCATION - EXIST. END CROSSFRAME TO BE REMOVED & REPLACED WITH NEW CROSSFRAME PER STANDARD DRAWING GSD-1-19
- S** MISSING SAFETY CABLE LOCATION - REPLACE SAFETY CABLE, SEE DETAILS ON SHEET 76/116
- R** SAFETY CABLE ATTACHED TO HANDRAIL LOCATION - REMOVE CABLE ATTACHMENT TO HANDRAIL & REATTACH TO SUPPORT, SEE DETAILS ON SHEET 76/116
- P** FIELD PAINTING STRUCTURAL STEEL LOCATION - PAINT ALL STEEL SURFACES FOR 10' LENGTH, SEE GENERAL NOTE ON SHEET 6/116
- B** RESET BEARING LOCATION - SHIM FLOATING BEARING

REPAIR LOCATIONS	
TYPE	NUMBER
L	-
X	2
M	-
C	22
S	-
R	-
P	24
B	-

NOTES

1. PLAN VIEW LINE WORK ON THIS SHEET COMES FROM SCANS OF THE 1986 RECORD PLANS. REFERENCES TO I-290 SHOULD BE REPLACED WITH I-490. ALL FRAMING IS EXISTING, UNLESS NOTED OTHERWISE, AND ALL DIMENSIONS ARE (±).



DESIGNED BY: JAM
 CHECKED BY: IMF
 DRAWN BY: JAM
 REVISED BY:
 REVIEWED BY: MJL
 DATE: 08/05/20
 STRUCTURE FILE NUMBER: 181991

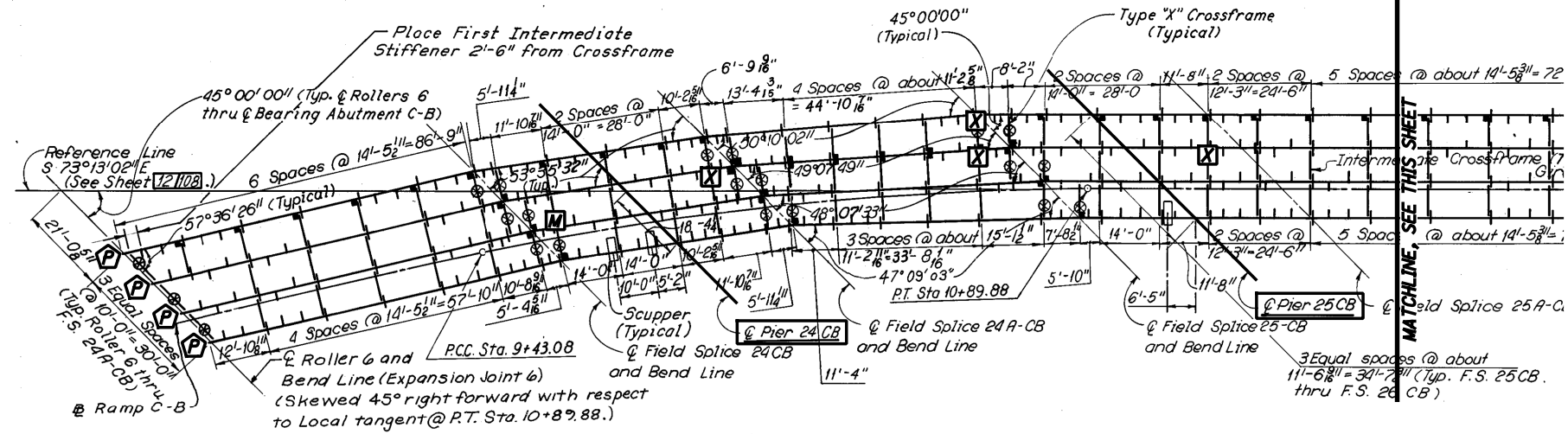
MISCELLANEOUS STEEL REPAIR DETAILS - 11
 BRIDGE NO. CUY-490-0100
 I-490 OVER CUYAHOGA RIVER

CUY-490-01.00
 PID No. 25622

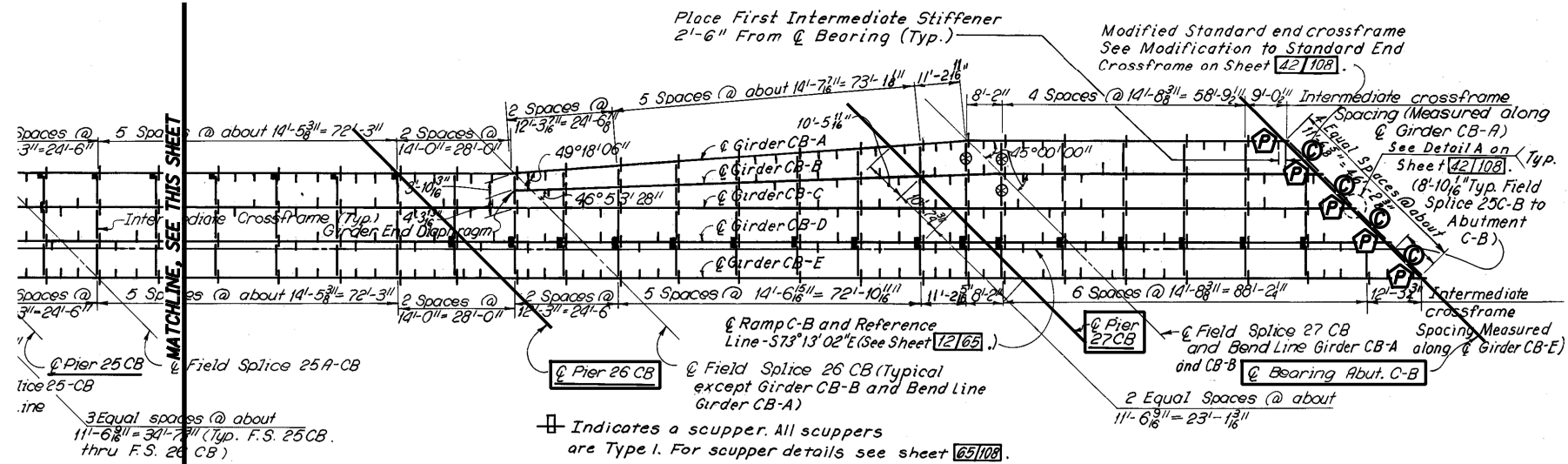
74/116

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FRAMING PLAN - UNIT 6-CB (PART 1)



FRAMING PLAN - UNIT 6-CB (PART 2)

LEGEND

- L LOOSE BOLT LOCATION - REMOVE EXIST. BOLT & INSTALL NEW BOLT
- X MISSING BOLT LOCATION - INSTALL NEW BOLT
- M MISDRILLED HOLE LOCATION - FOR INFORMATION ONLY
- C REPLACED CROSSFRAME LOCATION - EXIST. END CROSSFRAME TO BE REMOVED & REPLACED WITH NEW CROSSFRAME PER STANDARD DRAWING GSD-1-19
- S MISSING SAFETY CABLE LOCATION - REPLACE SAFETY CABLE, SEE DETAILS ON SHEET 76/116
- H SAFETY CABLE ATTACHED TO HANDRAIL LOCATION - REMOVE CABLE ATTACHMENT TO HANDRAIL & REATTACH TO SUPPORT, SEE DETAILS ON SHEET 76/116
- P FIELD PAINTING STRUCTURAL STEEL LOCATION - PAINT ALL STEEL SURFACES FOR 10' LENGTH, SEE GENERAL NOTE ON SHEET 6/116
- B RESET BEARING LOCATION - SHIM FLOATING BEARING

REPAIR LOCATIONS	
TYPE	NUMBER
L	-
X	4
M	1
C	4
S	-
H	-
P	9
B	-

NOTES

1. PLAN VIEW LINE WORK ON THIS SHEET COMES FROM SCANS OF THE 1986 RECORD PLANS. REFERENCES TO I-290 SHOULD BE REPLACED WITH I-490. ALL FRAMING IS EXISTING, UNLESS NOTED OTHERWISE, AND ALL DIMENSIONS ARE (±).

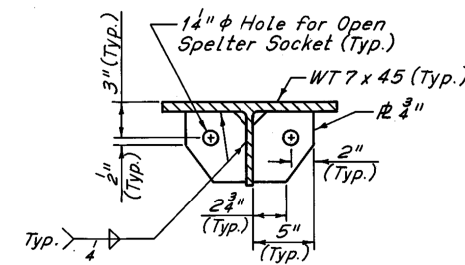
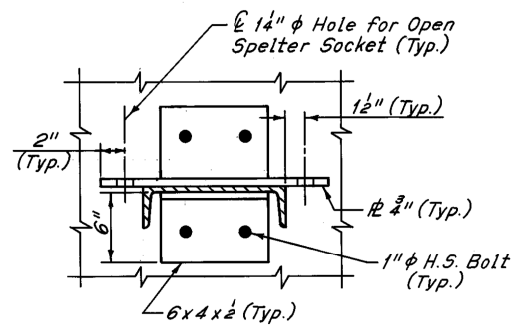
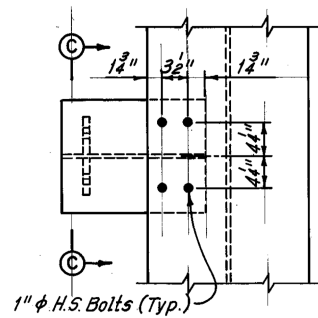
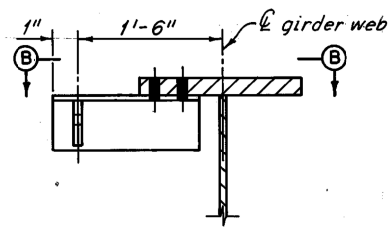
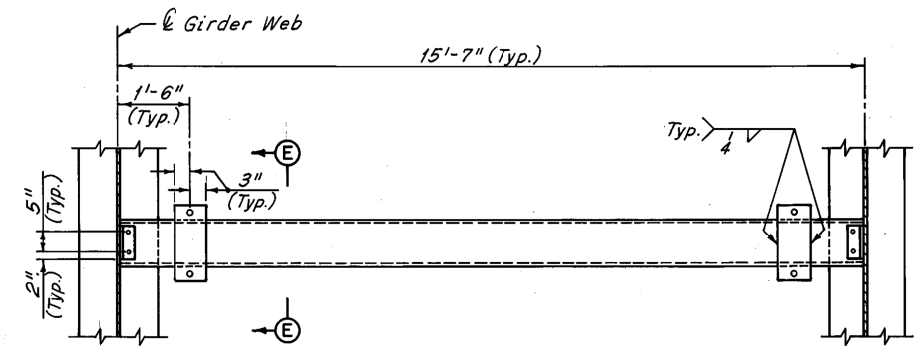
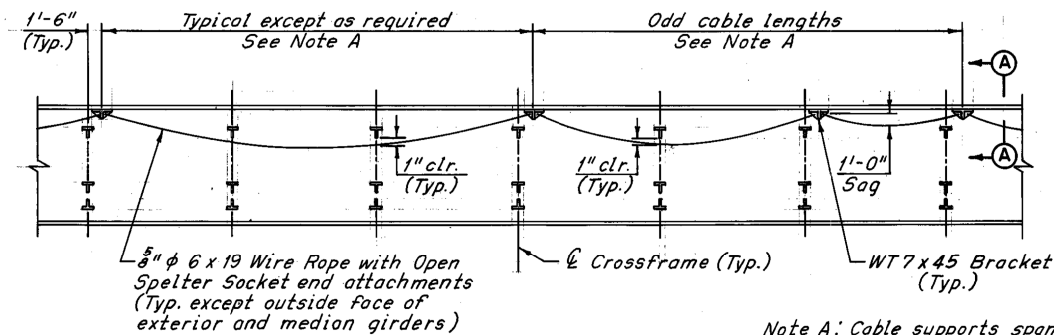
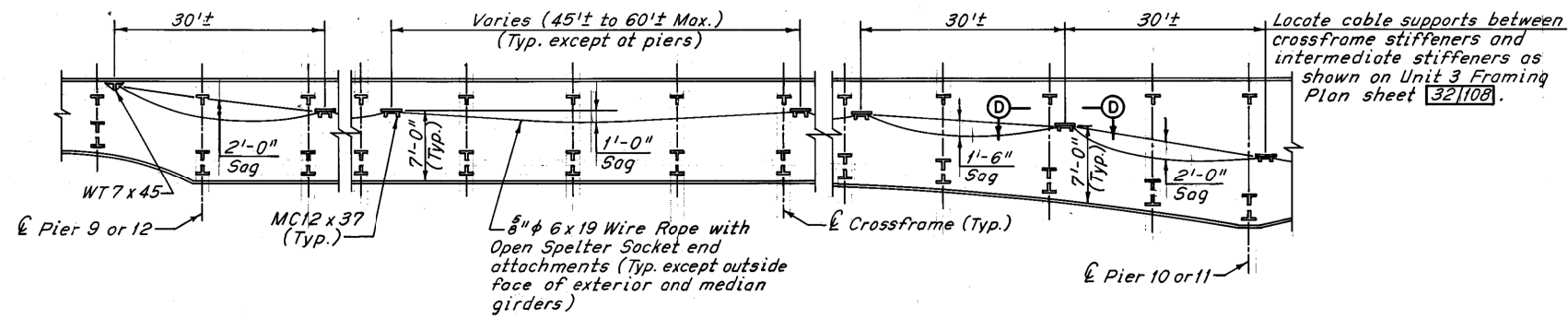


DATE: 08/05/20
 REVIEWED: MJL
 DRAWN: JAM
 DESIGNED: JAM
 CHECKED: IMF

MISCELLANEOUS STEEL REPAIR DETAILS - 12
 BRIDGE NO. CUY-490-0100
 I-490 OVER CUYAHOGA RIVER

CUY-490-01.00
 PID No. 25622

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NOTES

1. DETAILS AND SECTIONS ON THIS SHEET COME FROM SCANS OF THE 1986 RECORD PLANS. ALL MEMBERS ARE EXISTING, UNLESS NOTED OTHERWISE, AND ALL DIMENSIONS ARE (±).
2. FOR LOCATIONS OF SAFETY CABLE REPAIRS, SEE SHEETS 65 TO 67/116.



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

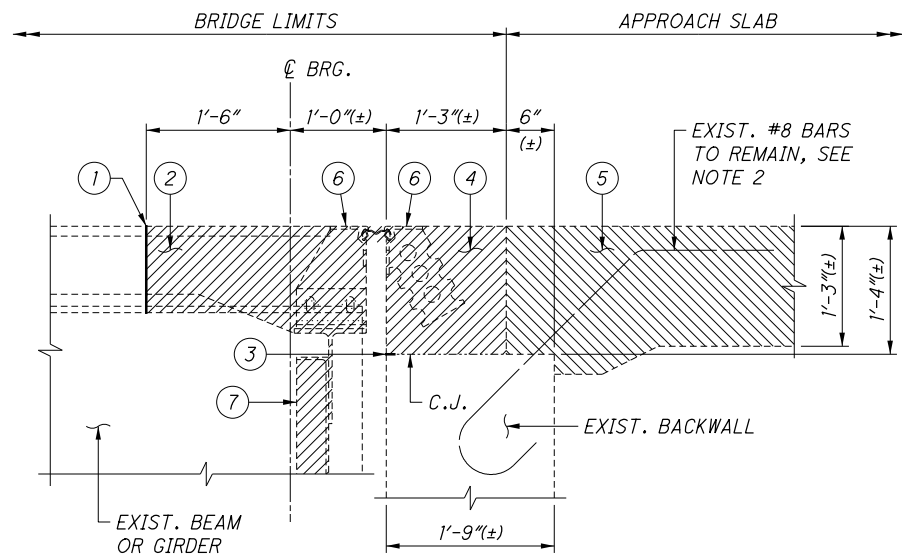
CLIMBING SYSTEM REPAIR DETAILS
BRIDGE NO. CUY-490-0100
I-490 OVER CUYAHOGA RIVER

CUY-490-01.00
PID No. 25622

76/116

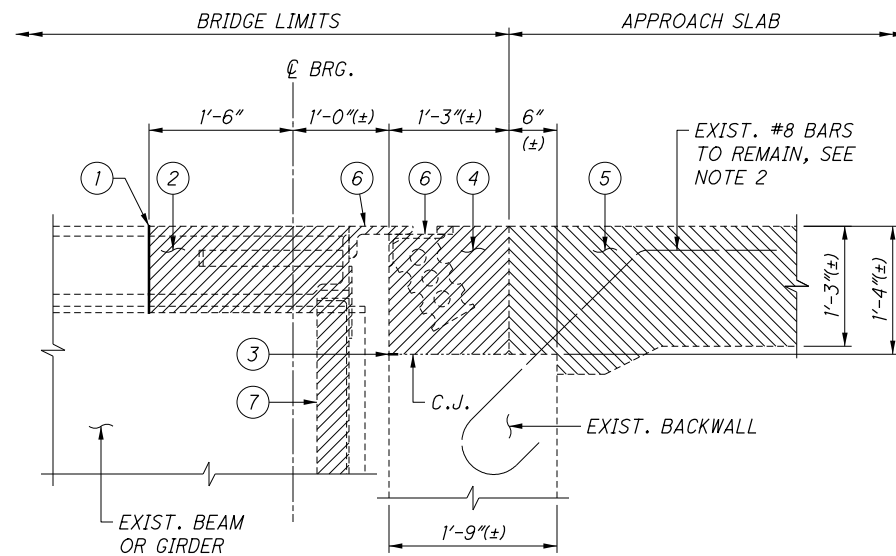
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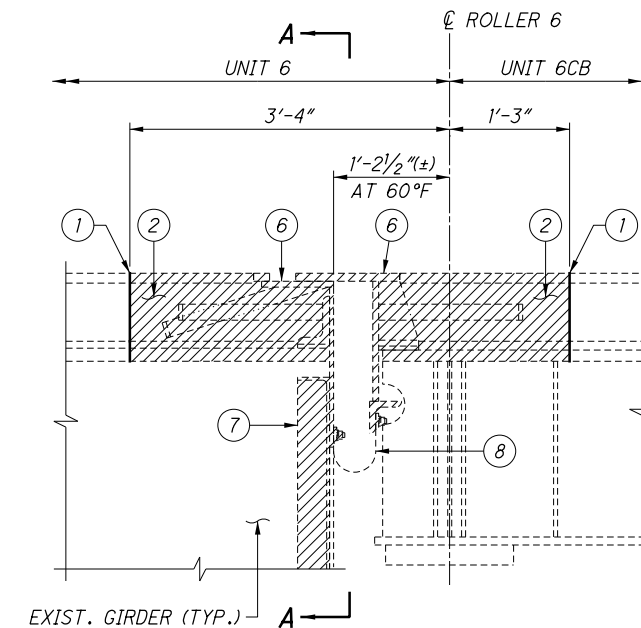
TYPICAL REMOVAL AT WEST ABUTMENT AND ABUTMENT B-C

(EXISTING STRIP SEAL JOINT)



TYPICAL REMOVAL AT EAST ABUTMENT AND ABUTMENT C-B

(EXISTING SLIDING PLATE JOINT)



TYPICAL REMOVAL AT ROLLER 6, RAMP C-B

(EXISTING SLIDING PLATE JOINT, EXPANSION JOINT 6)

LEGEND

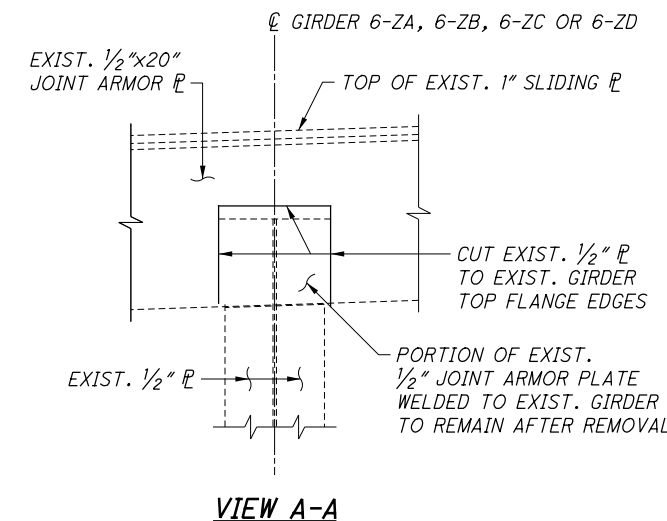
- ① SAW CUT 2" DEEP THROUGH EXISTING WEARING SURFACE AND INTO EXISTING DECK SLAB
- ② PORTION OF EXISTING DECK SLAB TO BE REMOVED AND RECONSTRUCTED, SEE NOTE 1
- ③ SAW CUT 1" DEEP AT EXISTING CONSTRUCTION JOINT
- ④ PORTION OF EXISTING ABUTMENT BACKWALL TO BE REMOVED AND RECONSTRUCTED, SEE NOTE 2
- ⑤ EXISTING APPROACH SLAB TO BE REMOVED
- ⑥ EXISTING STEEL JOINT ARMOR TO BE REMOVED; REMOVAL INCLUDES ALL PORTIONS OF SUPPORT ASSEMBLIES, EMBEDDED ANCHOR PLATES, STRIP SEAL GLAND, ETC.
- ⑦ EXISTING END CROSSFRAME TO BE REMOVED
- ⑧ EXISTING NEOPRENE TROUGH TO BE REMOVED

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

ITEM 202 - APPROACH SLAB REMOVED

NOTES

1. EXISTING DECK SLAB REMOVAL SHALL INCLUDE REMOVAL OF ALL EXISTING REINFORCING STEEL BARS INSTALLED PARALLEL TO THE EXPANSION JOINT THAT ARE COMPLETELY EXPOSED BY CONCRETE REMOVAL OPERATIONS. ALL OTHER EXISTING REINFORCING STEEL BARS ARE TO REMAIN.
2. EXISTING ABUTMENT BACKWALL REMOVAL SHALL INCLUDE REMOVAL OF ALL EXISTING REINFORCING STEEL BARS WITHIN THE REMOVAL LIMITS EXCEPT FOR THE EXISTING #8 BENT BARS EXTENDING OUT OF THE APPROACH SLAB SEAT. CUT OFF EXISTING #6 VERTICAL REINFORCING STEEL BARS AT THE APPROACH SLAB SEAT.
3. EXISTING STRUCTURE COMPONENTS SHOWN ON THIS SHEET ARE TO REMAIN UNLESS NOTED OTHERWISE. FOR PROPOSED EXPANSION JOINT DETAILS, SEE SHEET 81/116.
4. FOR EXISTING FRAMING PLAN, SEE SHEETS 64 THRU 75/116.

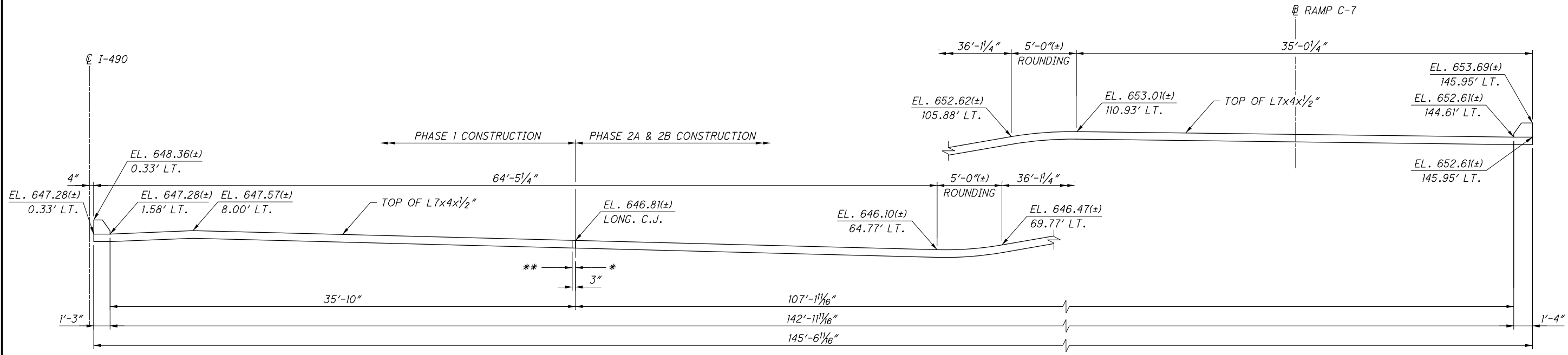


DESIGNED	PAT	CHECKED	JAM
DRAWN	PAT	REVISED	
REVIEWED	MJL	STRUCTURE FILE NUMBER	181991
DATE	08/05/20		

EXPANSION JOINT REMOVAL DETAILS
 BRIDGE NO. CUY-490-0100
 I-490 OVER CUYAHOGA RIVER

CUY-490-01.00
 PID No. 25622

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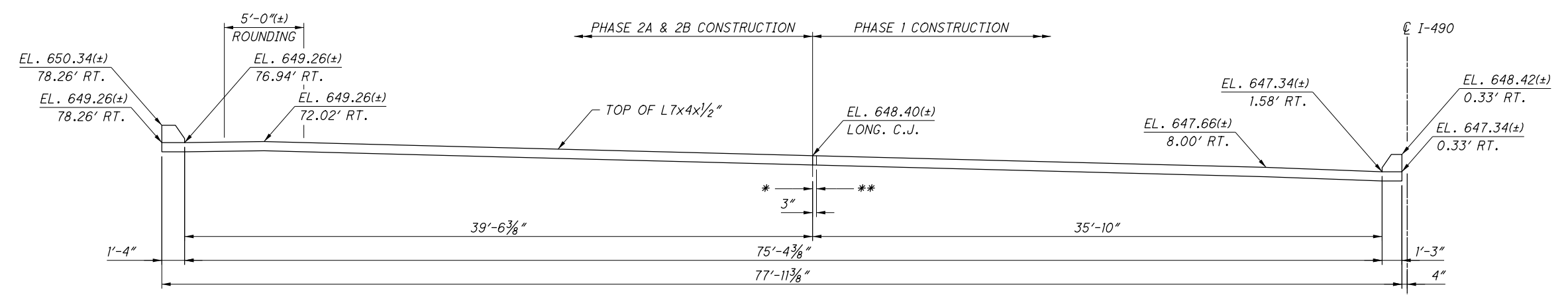


WEST ABUTMENT LEFT SIDE EXPANSION JOINT ARMOR PROFILE

LOOKING AT FACE OF WEST ABUTMENT (DOWN-STATION)
(DIMENSIONS ARE SHOWN ALONG JOINT, OFFSETS ARE PERPENDICULAR TO CL I-490)

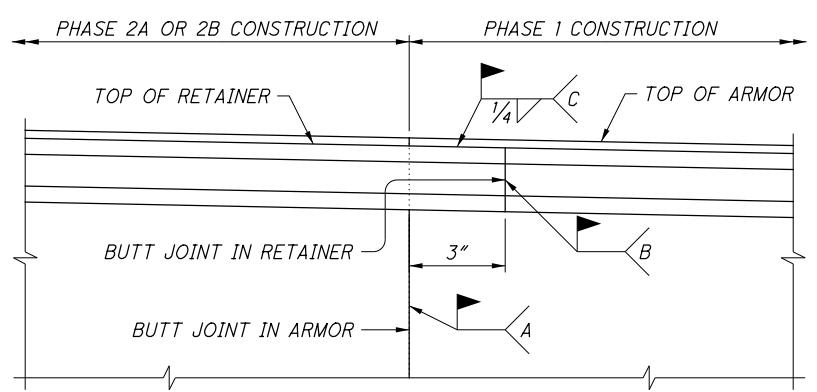
ABUTMENT EXPANSION JOINT OPENINGS	
TEMPERATURE	DIMENSION A
30°F	1 7/8"
40°F	1 3/16"
50°F	1 1/16"
60°F	1 5/8"
70°F	1 1/2"
80°F	1 1/16"
90°F	1 5/16"

SEE STD. DWG. EXJ-4-87 FOR LOCATION OF DIM. A



WEST ABUTMENT RIGHT SIDE EXPANSION JOINT ARMOR PROFILE

LOOKING AT FACE OF WEST ABUTMENT (DOWN-STATION)
(DIMENSIONS ARE SHOWN ALONG JOINT, OFFSETS ARE PERPENDICULAR TO CL I-490)



TYPICAL EXPANSION JOINT ARMOR FIELD SPLICE AT PHASE CONSTRUCTION JOINT

(EAST ABUTMENT AND WEST ABUTMENT)

WELD NOTES

- A. TRANSVERSE JOINTS IN END DAM ARMOR SHALL HAVE COMPLETE PENETRATION BUTT WELDS.
- B. JOINTS IN RETAINERS SHALL HAVE WATERTIGHT PARTIAL PENETRATION BUTT WELDS COMPLETELY AROUND THE OUTER PERIPHERY OF THE ABUTTING SURFACES. WELDS THAT WILL BE IN CONTACT WITH THE SEAL GLAND SHALL BE GROUND SMOOTH.
- C. TOP OF RETAINER ONLY.

LEGEND

- * - BUTT JOINT IN L4x7x1/2" (ABUTMENT) OR MC12x45 (SUPERSTRUCTURE)
- ** - BUTT JOINT IN STEEL RETAINERS

NOTES

- 1. STRIP SEAL GLAND SIZE SHALL BE 3" FOR BOTH JOINTS. INSTALL STRIP SEAL GLAND AT EACH BRIDGE JOINT IN ONE CONTINUOUS PIECE AFTER COMPLETION OF ALL DECK CONSTRUCTION.
- 2. FOR EXPANSION JOINT DETAILS NOT SHOWN, REFER TO ODOT STANDARD DRAWING EXJ-4-87.
- 3. SEE THIS SHEET FOR TABLE OF EXPANSION JOINT OPENINGS.
- 4. ALL MATERIALS, EQUIPMENT, AND LABOR REQUIRED TO FABRICATE AND INSTALL THE NEW STRIP SEAL JOINTS SHALL BE INCLUDED FOR PAYMENT WITH ITEM 516 - STRUCTURAL EXPANSION JOINT INCLUDING ELASTOMERIC STRIP SEAL.
- 5. FOR PHASE CONSTRUCTION DETAILS, SEE SHEETS 11 TO 16/116.



REVIEWED DATE 08/05/20
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STRUCTURE FILE NUMBER 181991

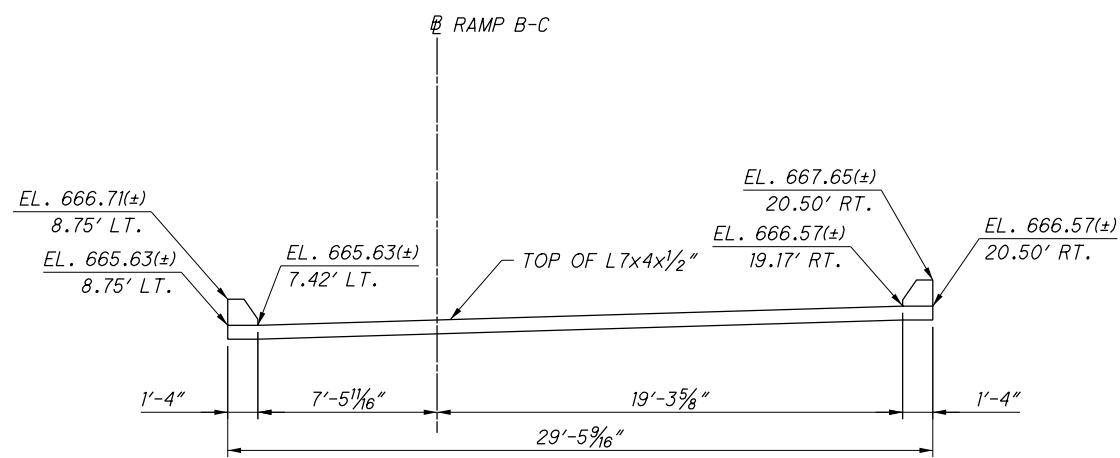
WEST ABUTMENT EXPANSION JOINT DETAILS
BRIDGE NO. CUY-490-0100
I-490 OVER CUYAHOGA RIVER

CUY-490-01.00
PID No. 25622

78/116

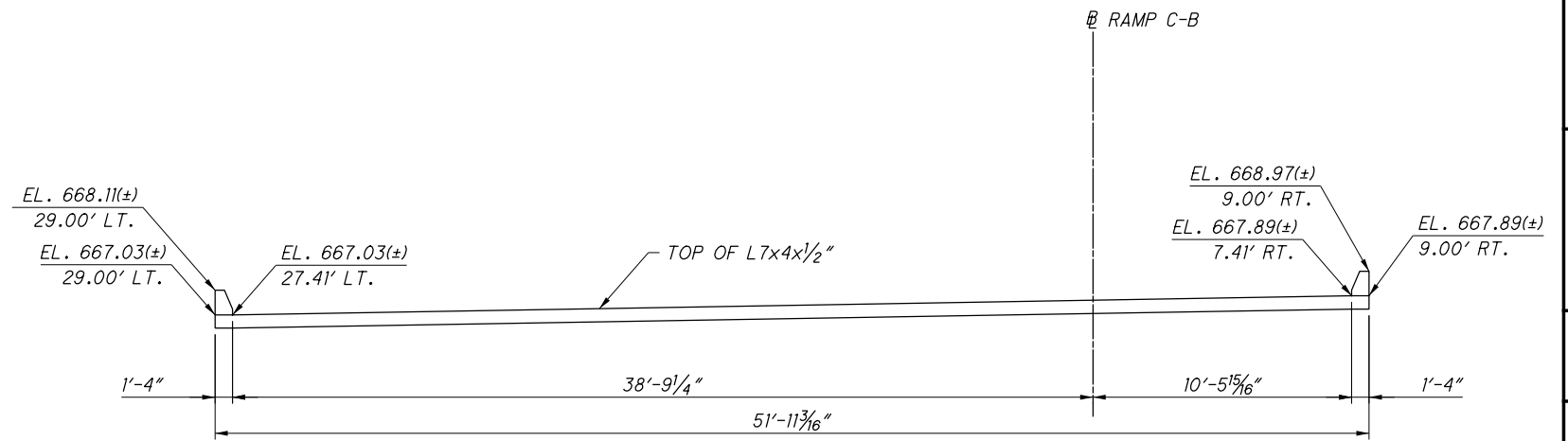
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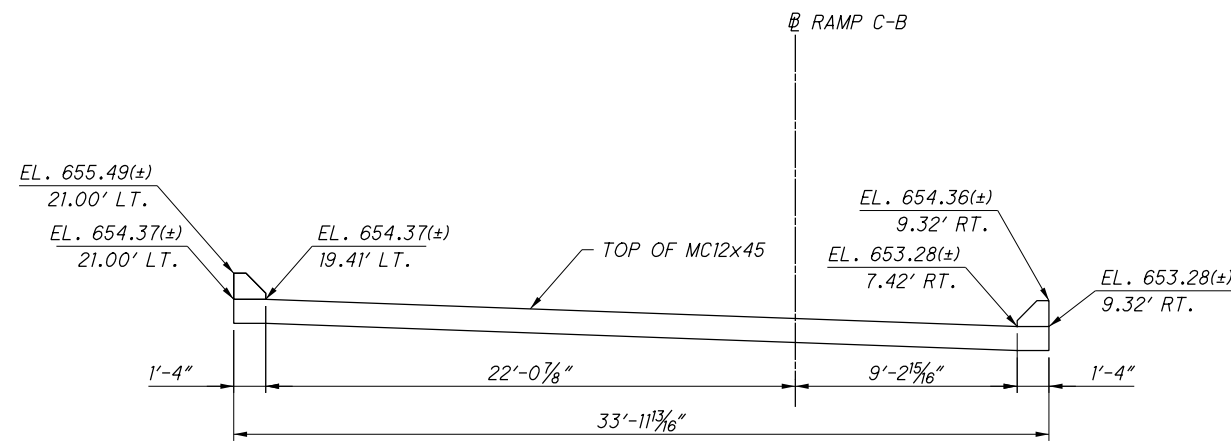
ABUTMENT B-C EXPANSION JOINT ARMOR PROFILE

LOOKING AT FACE OF ABUTMENT B-C (UP-STATION)
(DIMENSIONS ARE SHOWN ALONG JOINT, OFFSETS ARE PERPENDICULAR TO RAMP B-C)



ABUTMENT C-B EXPANSION JOINT ARMOR PROFILE

LOOKING AT FACE OF ABUTMENT C-B (UP-STATION)
(DIMENSIONS ARE SHOWN ALONG JOINT, OFFSETS ARE PERPENDICULAR TO RAMP C-B)



RAMP C-B JOINT 6 EXPANSION JOINT ARMOR PROFILE

LOOKING UP-STATION
(DIMENSIONS ARE SHOWN ALONG JOINT, OFFSETS ARE PERPENDICULAR TO RAMP C-B)

EXPANSION JOINT OPENINGS - DIMENSION A			
TEMPERATURE	ABUTMENT B-C	JOINT 6	ABUTMENT C-B
30°F	2 9/16"	3 1/8"	3 1/16"
40°F	2 3/8"	2 7/8"	2 13/16"
50°F	2 1/8"	2 5/8"	2 5/8"
60°F	1 5/8"	2 3/8"	2 7/16"
70°F	1 3/4"	2 1/8"	2 1/4"
80°F	1 1/8"	1 7/8"	2 1/16"
90°F	1 5/16"	1 5/8"	1 7/8"

SEE STD. DWG. EXJ-4-87
FOR LOCATION OF DIM. A

NOTES

1. STRIP SEAL GLAND SIZE SHALL BE 4" FOR THE ABUTMENT B-C JOINT AND 5" FOR THE RAMP C-B AND ABUTMENT C-B JOINTS. INSTALL STRIP SEAL GLAND AT EACH BRIDGE JOINT IN ONE CONTINUOUS PIECE AFTER COMPLETION OF ALL DECK CONSTRUCTION.
2. FOR EXPANSION JOINT DETAILS NOT SHOWN, REFER TO ODOT STANDARD DRAWING EXJ-4-87.
3. SEE THIS SHEET FOR TABLE OF EXPANSION JOINT OPENINGS.
4. ALL MATERIALS, EQUIPMENT, AND LABOR REQUIRED TO FABRICATE AND INSTALL THE NEW STRIP SEAL JOINTS SHALL BE INCLUDED FOR PAYMENT WITH ITEM 516 - STRUCTURAL EXPANSION JOINT INCLUDING ELASTOMERIC STRIP SEAL.



DATE 08/05/20
REVIEWED MJL
STRUCTURE FILE NUMBER 181991
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IMF REVISOR
DESIGNED IMF
IMF CHECKED JAM
JAM

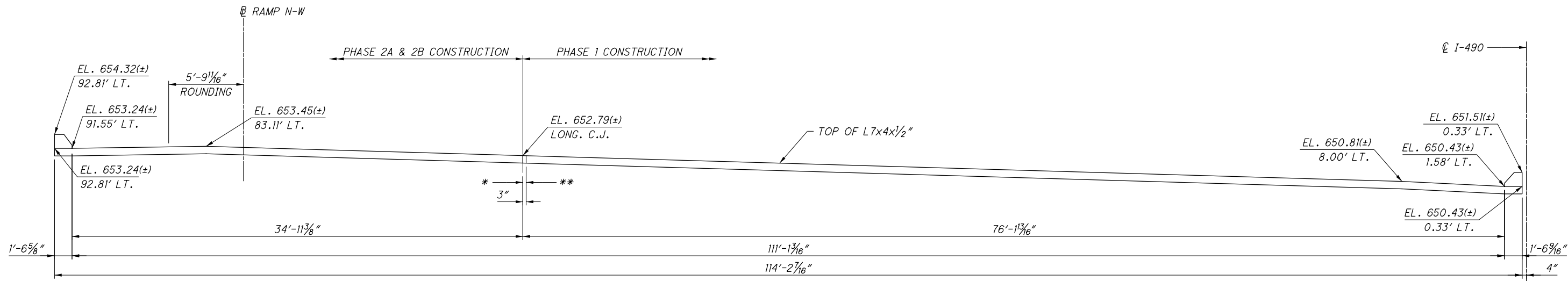
RAMP B-C & C-B JOINT DETAILS
BRIDGE NO. CUY-490-0100
I-490 OVER CUYAHOGA RIVER

CUY-490-01.00
PID No. 25622

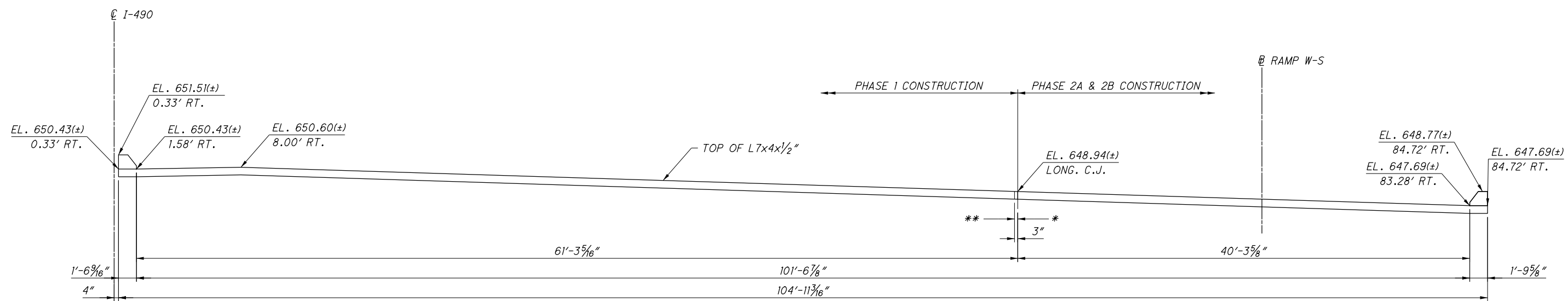
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EAST ABUTMENT LEFT SIDE EXPANSION JOINT ARMOR PROFILE
 LOOKING AT FACE OF EAST ABUTMENT (UP-STATION)
 (DIMENSIONS ARE SHOWN ALONG JOINT, OFFSETS ARE PERPENDICULAR TO CL I-490)



EAST ABUTMENT RIGHT SIDE EXPANSION JOINT ARMOR PROFILE
 LOOKING AT FACE OF EAST ABUTMENT (UP-STATION)
 (DIMENSIONS ARE SHOWN ALONG JOINT, OFFSETS ARE PERPENDICULAR TO CL I-490)

ABUTMENT EXPANSION JOINT OPENINGS	
TEMPERATURE	DIMENSION A
30°F	3 1/16"
40°F	2 7/8"
50°F	2 5/8"
60°F	2 1/16"
70°F	2 1/4"
80°F	2"
90°F	1 3/16"

SEE STD. DWG. EXJ-4-87 FOR LOCATION OF DIM. A

LEGEND

- * - BUTT JOINT IN L4x7x1/2" (ABUTMENT) OR MC12x45 (SUPERSTRUCTURE)
- ** - BUTT JOINT IN STEEL RETAINERS

NOTES

1. STRIP SEAL GLAND SIZE SHALL BE 5" FOR BOTH JOINTS. INSTALL STRIP SEAL GLAND AT EACH BRIDGE JOINT IN ONE CONTINUOUS PIECE AFTER COMPLETION OF ALL DECK CONSTRUCTION.
2. FOR EXPANSION JOINT DETAILS NOT SHOWN, REFER TO ODOT STANDARD DRAWING EXJ-4-87.
3. SEE THIS SHEET FOR TABLE OF EXPANSION JOINT OPENINGS.
4. ALL MATERIALS, EQUIPMENT, AND LABOR REQUIRED TO FABRICATE AND INSTALL THE NEW STRIP SEAL JOINTS SHALL BE INCLUDED FOR PAYMENT WITH ITEM 516 - STRUCTURAL EXPANSION JOINT INCLUDING ELASTOMERIC STRIP SEAL.
5. FOR PHASE CONSTRUCTION DETAILS, SEE SHEETS 11 TO 16/116.
6. FOR TYPICAL EXPANSION JOINT ELEVATION AT PHASE CONSTRUCTION JOINT, SEE SHEET 78/116.



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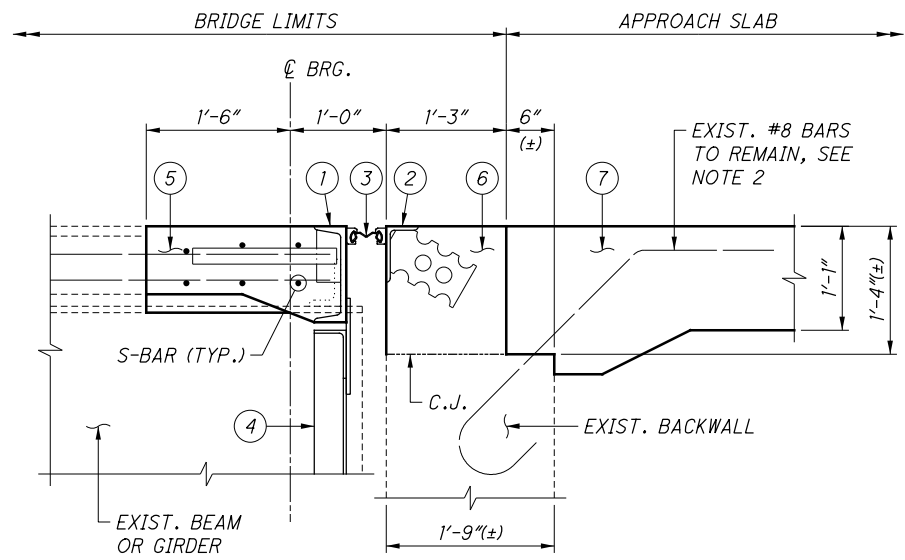
EAST ABUTMENT EXPANSION JOINT DETAILS
 BRIDGE NO. CUY-490-0100
 I-490 OVER CUYAHOGA RIVER

CUY-490-01.00
 PID No. 25622

80/116

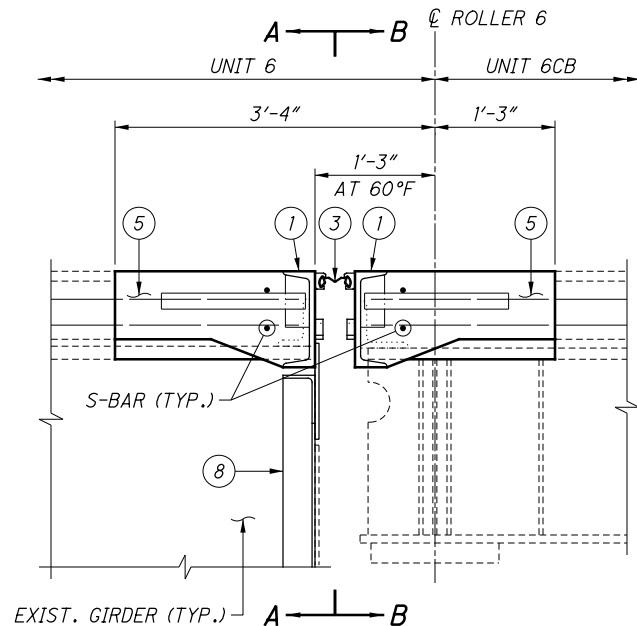
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TYPICAL PROPOSED EXPANSION JOINT AT ABUTMENTS

(PROPOSED STRIP SEAL JOINT)



PROPOSED EXPANSION JOINT 6 AT ROLLER 6, RAMP C-B

(PROPOSED STRIP SEAL JOINT)

RECONSTRUCTED EDGE OF DECK REINFORCING	
LOCATION	S-BAR, TOP & BOTTOM
WEST ABUTMENT, LEFT SIDE	6 LENGTHS OF 3-S604, 2 SPA. @ 7" c/c = 1'-2"
WEST ABUTMENT, RIGHT SIDE	3 LENGTHS OF 3-S604, 2 SPA. @ 7" c/c = 1'-2"
EAST ABUTMENT, LEFT SIDE	5 LENGTHS OF 1-S604
EAST ABUTMENT, RIGHT SIDE	4 LENGTHS OF 1-S604
ABUTMENT B-C	2 LENGTHS OF 3-S605, 2 SPA. @ 6 1/2" c/c = 1'-1"
ABUTMENT C-B	2 LENGTHS OF 1-S604
JOINT 6, BOTH SIDES	2 LENGTHS OF 1-S605

DECK REINFORCING NOTES

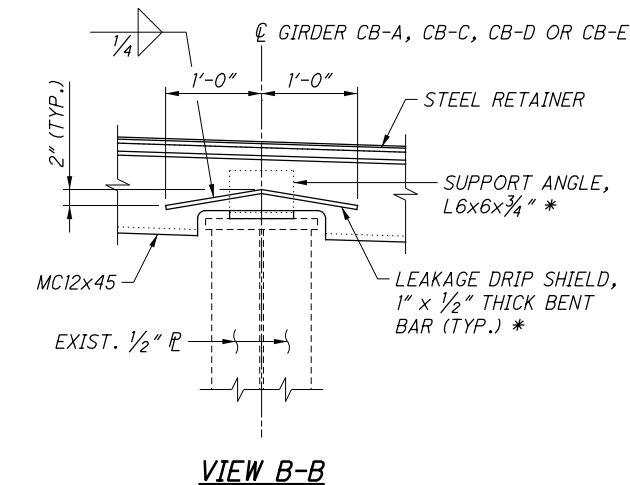
- A. PLACE THE RECONSTRUCTED EDGE OF DECK REINFORCING BARS PARALLEL TO THE EXPANSION JOINT AND 6" FROM THE PROPOSED EDGE OF DECK.
- B. THE MINIMUM LAP LENGTH FOR No. 6 BARS SHALL BE 3'-7". THE BARS HAVE BEEN DETAILED TO PROVIDE THE MINIMUM LAP LENGTH OR GREATER. ADJUST THE ACTUAL LAP LENGTH AS REQUIRED TO ENSURE 2" CLEAR COVER IS PROVIDED AT DECK SLAB EDGES.
- C. COORDINATE THE INSTALLATION OF RECONSTRUCTED EDGE OF DECK REINFORCING WITH THE INSTALLATION OF PROPOSED EXPANSION JOINT ARMOR SO AS TO MINIMIZE INTERFERENCE BETWEEN JOINT ARMOR ANCHOR BARS AND EDGE OF DECK REINFORCING BARS.

LEGEND

- ① PROPOSED SUPERSTRUCTURE SIDE JOINT ARMOR PER STANDARD DRAWING EXJ-4-87
- ② PROPOSED ABUTMENT SIDE JOINT ARMOR PER STANDARD DRAWING EXJ-4-87
- ③ PROPOSED STRIP SEAL GLAND: 3" FOR WEST ABUTMENT, 4" FOR ABUTMENT B-C, OR 5" FOR EAST ABUTMENT, JOINT 6, AND ABUTMENT C-B
- ④ PROPOSED END CROSSFRAME PER STANDARD DRAWING GSD-1-19, SEE EXISTING FRAMING PLAN FOR BEAM OR GIRDER SPACING
- ⑤ PORTION OF EXISTING DECK SLAB TO BE REMOVED AND RECONSTRUCTED, REPLACE EXISTING REINFORCING STEEL REMOVED WITH NEW BARS PER THE TABLE ABOVE
- ⑥ PORTION OF EXISTING ABUTMENT BACKWALL TO BE REMOVED AND RECONSTRUCTED
- ⑦ PROPOSED APPROACH SLAB, 20'-0" LONG, PER STANDARD DRAWING AS-1-15
- ⑧ SPECIAL END CROSSFRAME AT ROLLERS PER STANDARD DRAWING GSD-1-19 AS MODIFIED BY THE DETAILS SHOWN ON THIS SHEET

* DENOTES A JOINT ARMOR COMPONENT THAT IS IN ADDITION TO OR DIFFERS FROM THAT SHOWN ON STANDARD DRAWING EXJ-4-87, INCLUDED FOR PAYMENT UNDER ITEM 516 - STRUCTURAL EXPANSION JOINT INCLUDING ELASTOMERIC STRIP SEAL, AS PER PLAN

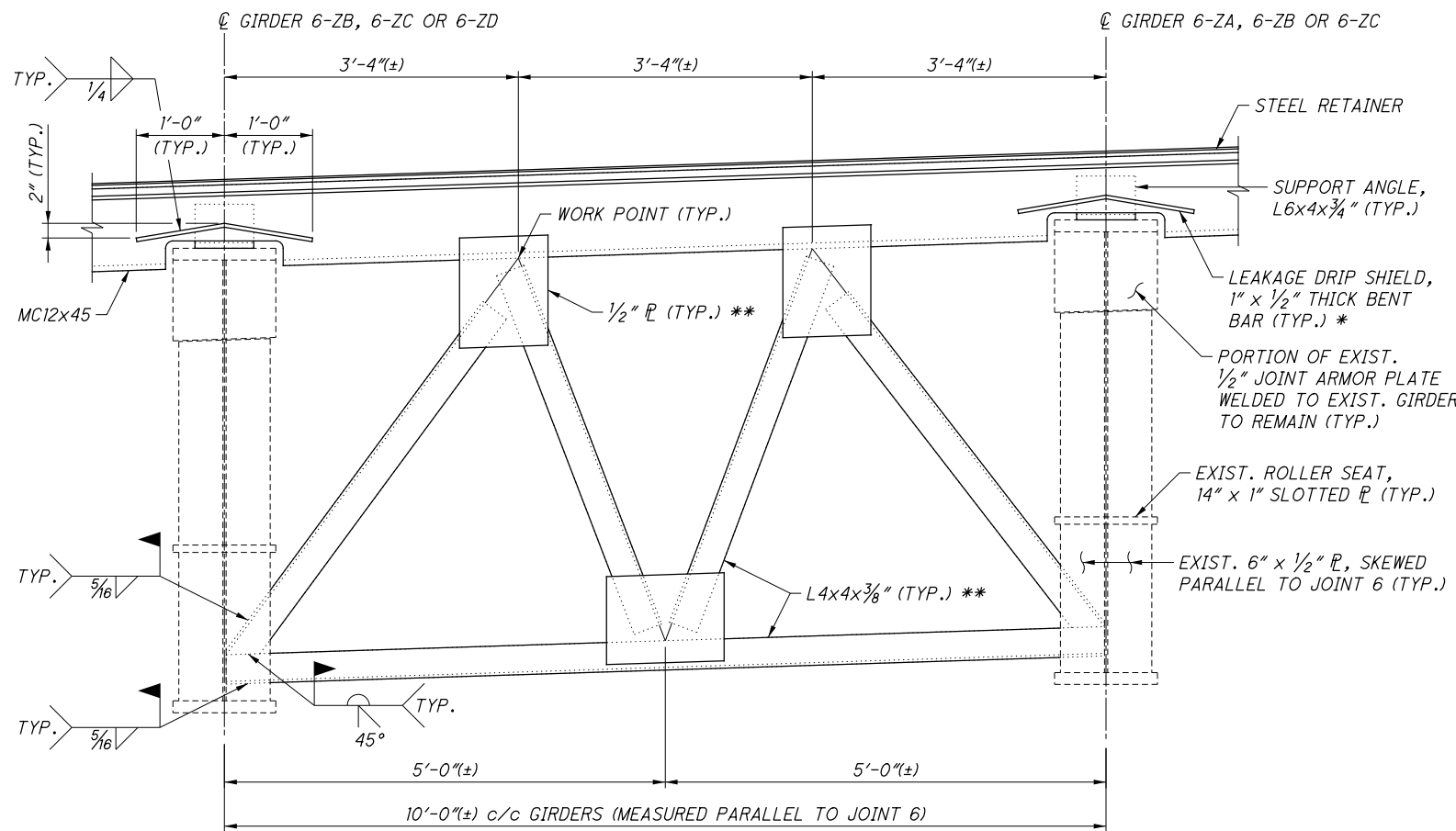
** END CROSSFRAME MATERIALS ARE INCLUDED FOR PAYMENT UNDER ITEM 513 - STRUCTURAL STEEL MEMBERS, LEVEL UF



VIEW B-B

NOTES

1. FOR PROPOSED EXPANSION JOINT DETAILS NOT SHOWN, SEE STANDARD DRAWINGS EXJ-4-87 AND GSD-1-19.
2. DECK SLAB AND ABUTMENT BACKWALL REINFORCING STEEL IS NOT SHOWN FOR CLARITY. EXISTING #8 BENT BARS FOR APPROACH SLABS ARE TO REMAIN.
3. EXISTING STRUCTURE COMPONENTS SHOWN ON THIS SHEET ARE TO REMAIN UNLESS NOTED OTHERWISE. FOR EXISTING EXPANSION JOINT REMOVAL DETAILS, SEE SHEET 77/116.
4. THE TYPICAL SPECIAL END CROSSFRAME DETAIL SHOWN ON THIS SHEET MODIFIES THE STANDARD END CROSSFRAME PER STANDARD DRAWING GSD-1-19. ONLY THE WELDING SYMBOLS THAT DIFFER FROM THOSE OF THE STANDARD DRAWING ARE SHOWN. FOR NOTES AND ADDITIONAL DETAILS, REFER TO STANDARD DRAWING GSD-1-19.
5. FOR EXISTING FRAMING PLAN, SEE SHEETS 64 THRU 75/116.

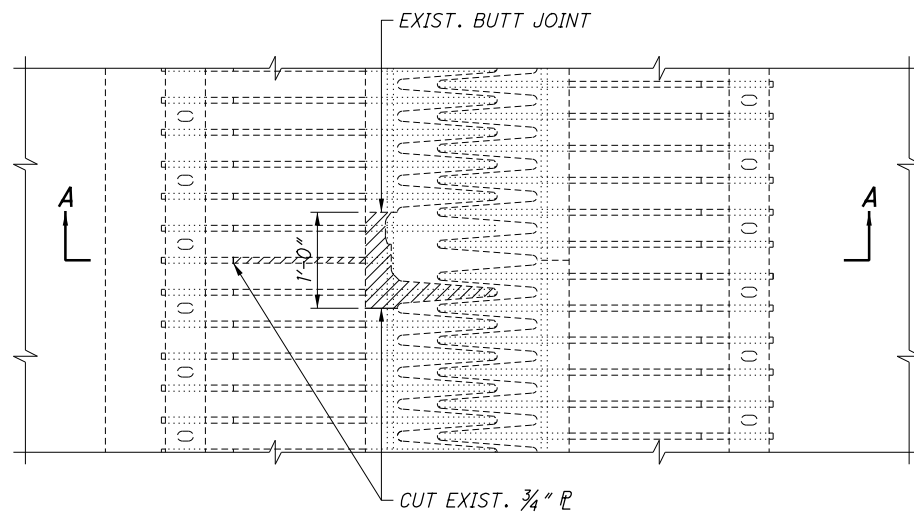


VIEW A-A

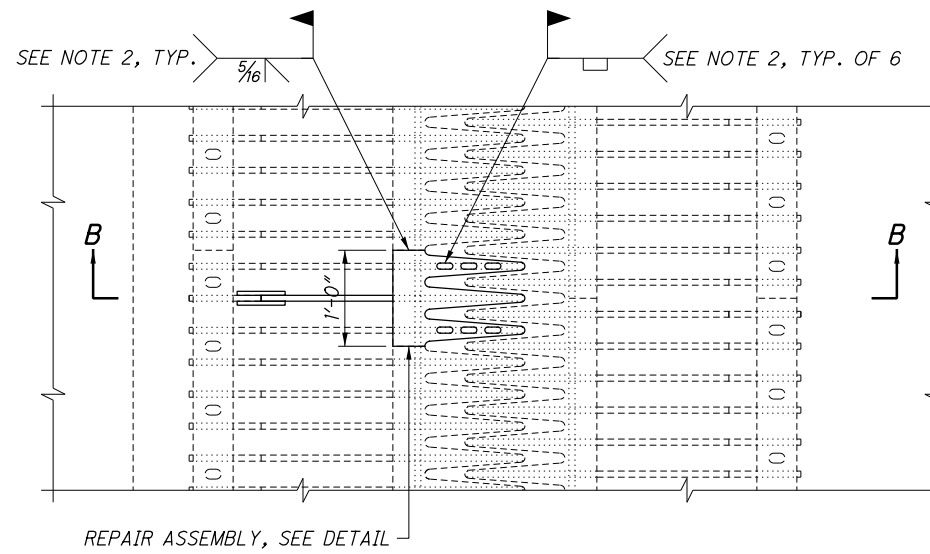
TYPICAL SPECIAL END CROSSFRAME AT ROLLER 6, RAMP C-B

(END CROSSFRAME IN ADJACENT BAYS NOT SHOWN FOR CLARITY)
(SEE NOTE 4)

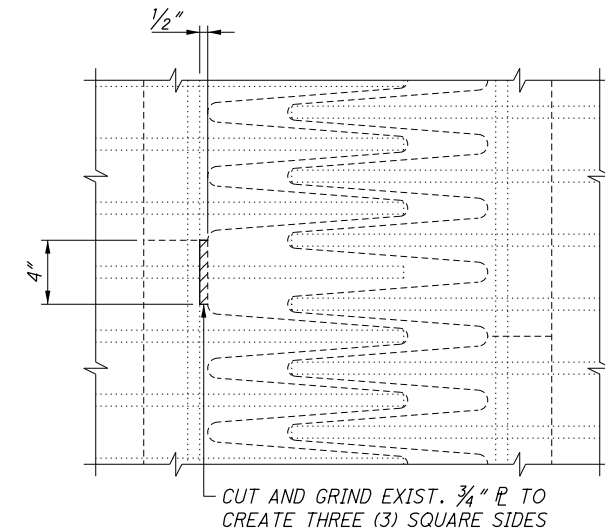
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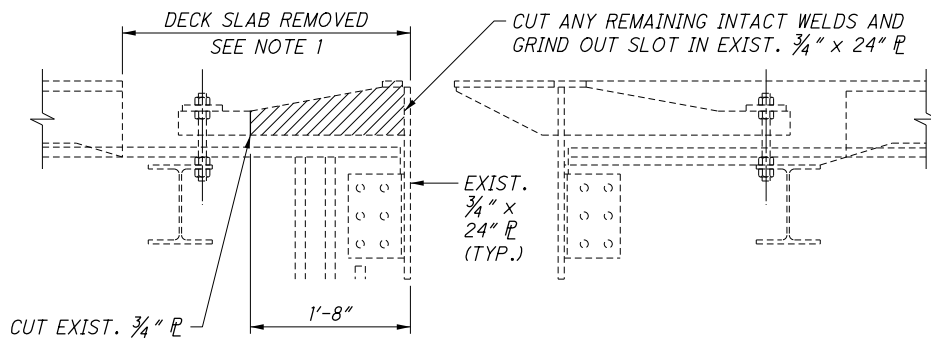
PART PLAN - JOINT 2L
EXISTING DAMAGE REMOVAL
AT MISSING FINGERS



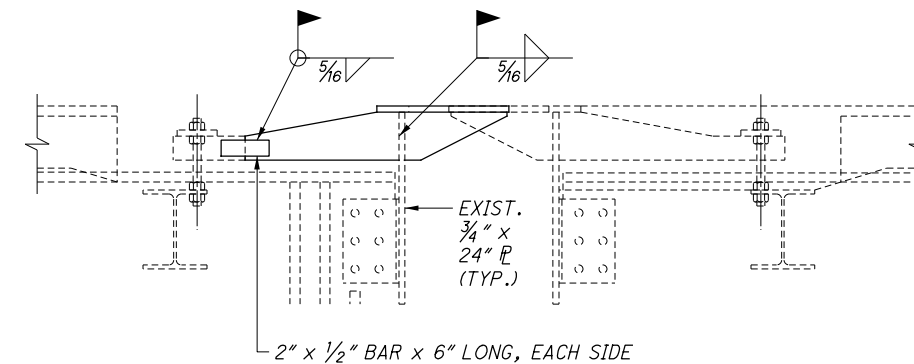
PART PLAN - JOINT 2L
PROPOSED REPAIR



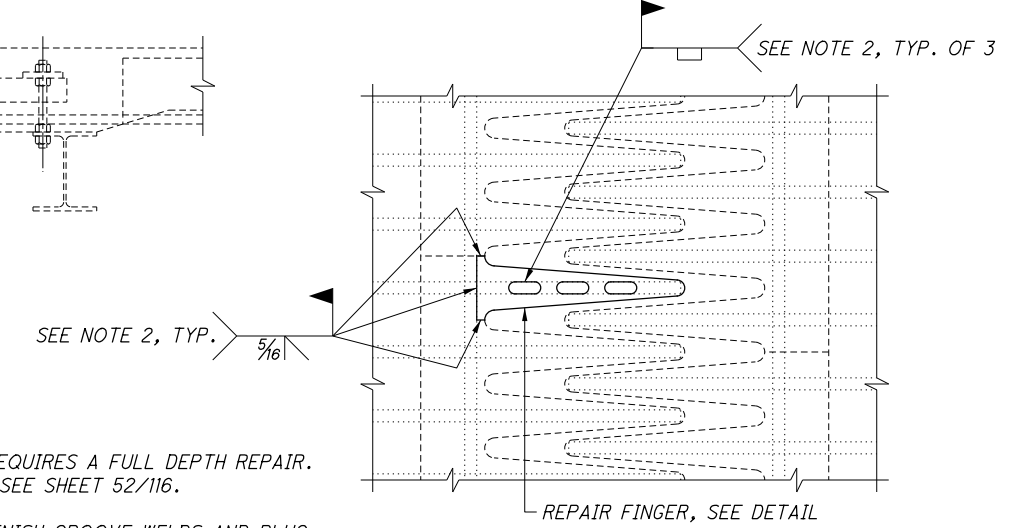
PART PLAN - JOINTS 2R, 3L & 3R
EXISTING DAMAGE REMOVAL
AT MISSING FINGER



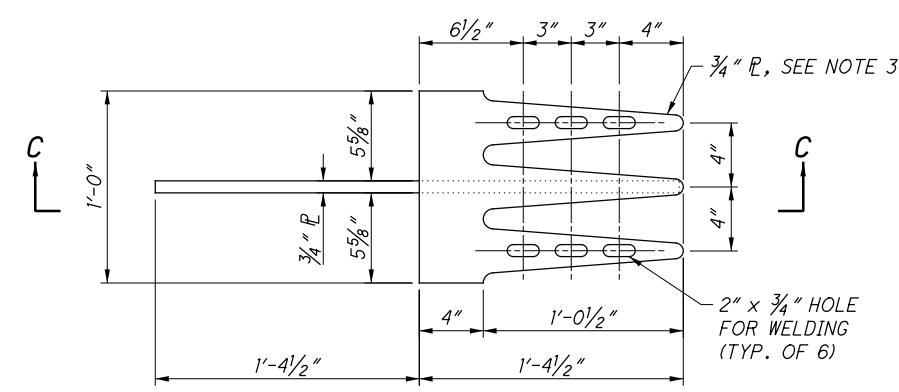
SECTION A-A



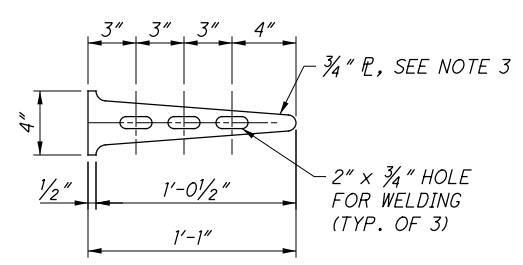
SECTION B-B



PART PLAN - JOINTS 2R, 3L & 3R
PROPOSED REPAIR



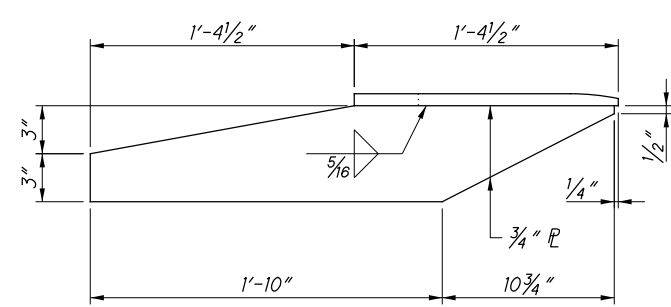
REPAIR ASSEMBLY DETAIL



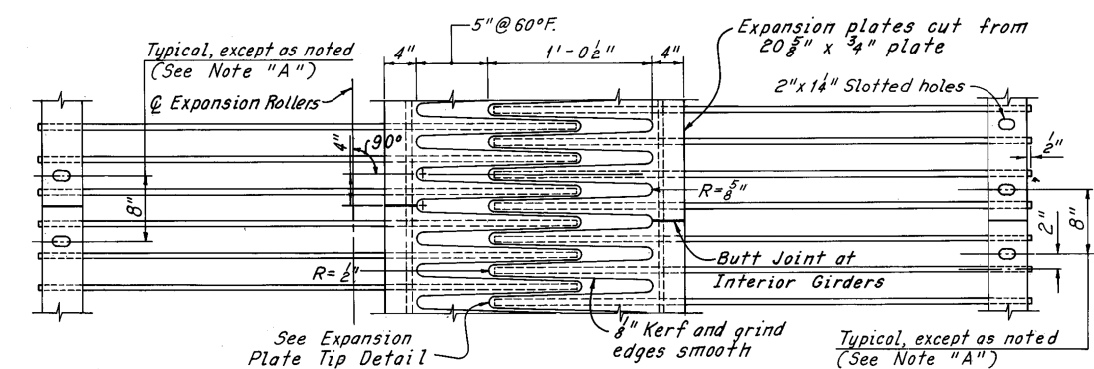
REPAIR FINGER DETAIL

NOTES

1. DECK SLAB REQUIRES A FULL DEPTH REPAIR. FOR LIMITS, SEE SHEET 52/116.
2. GRIND AND FINISH GROOVE WELDS AND PLUG WELDS FLUSH WITH THE TOP SURFACE OF THE EXPANSION PLATE.
3. THE DIMENSIONS OF THE EXPANSION PLATE FINGERS AND THE TREATMENT OF THE EDGES AND TIPS OF THE FINGERS SHALL BE AS PER THE DETAILS BELOW, TAKEN FROM THE 1986 ORIGINAL CONSTRUCTION PLANS.

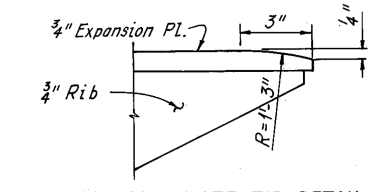


SECTION C-C



EXPANSION PLATE DETAIL

(NOT TO SCALE)



EXPANSION PLATE TIP DETAIL

(NOT TO SCALE)



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

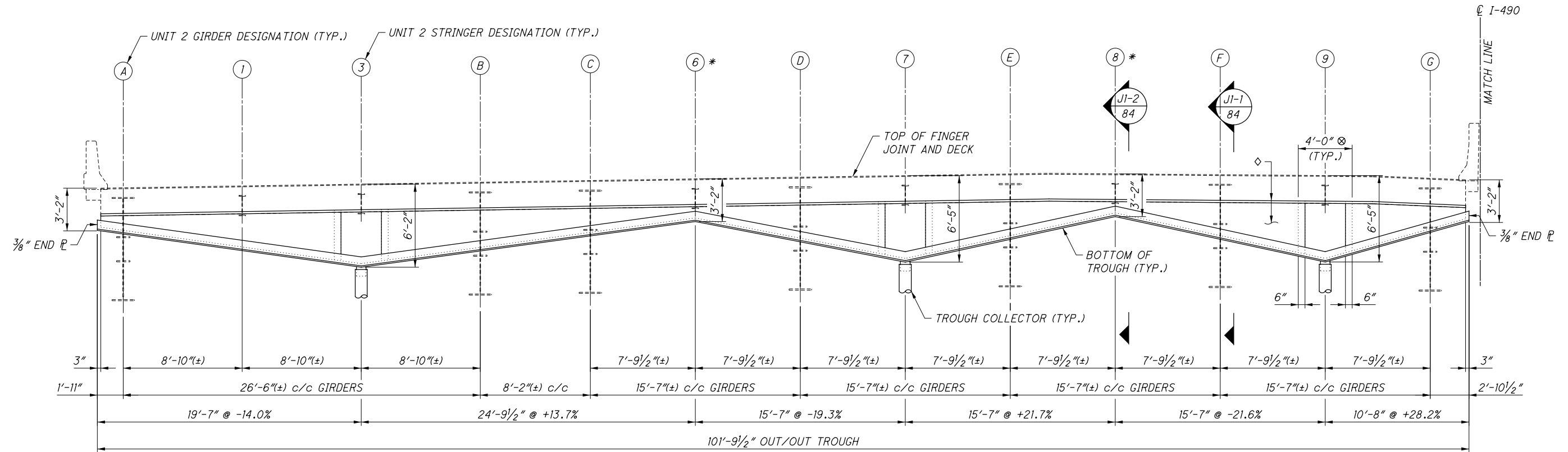
FINGER JOINT REPAIR DETAILS
BRIDGE NO. CUY-490-0100
I-490 OVER CUYAHOGA RIVER

CUY-490-01.00
PID No. 25622

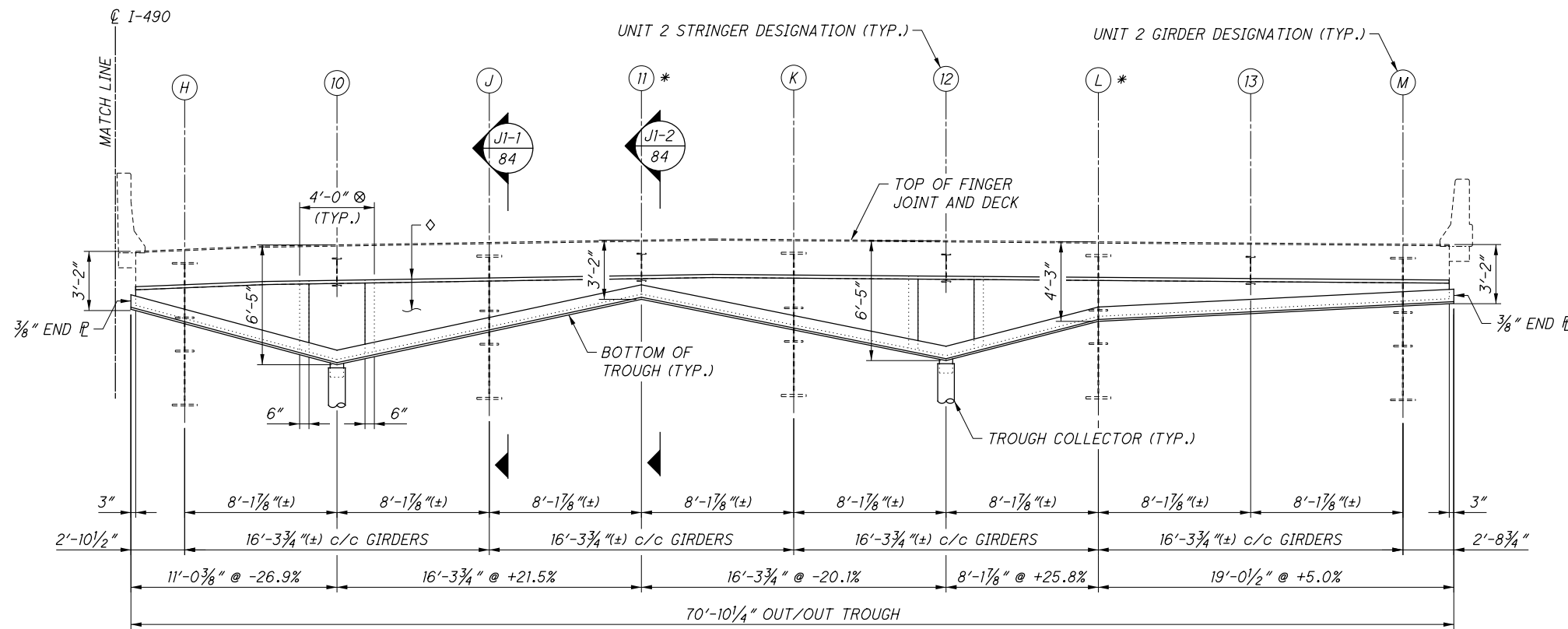
82/116

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182

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TROUGH ELEVATION - JOINT 1L



TROUGH ELEVATION - JOINT 1R

LEGEND

- * - SUGGESTED LOCATION OF OPTIONAL FIELD SPLICE IN TROUGH, SEE NOTE 2
- ◇ - FLASHING BACKER PLATE AND NEOPRENE FLASHING, ON BOTH FACES OF TROUGH (TYP.), SEE NOTES 3 & 4
- ⊗ - ACCESS FLAP FOR TROUGH AND COLLECTOR CLEANING, INSTALL A 4'-0" WIDTH OF NEOPRENE FLASHING AS A FREE-HANGING SECTION THAT OVERLAPS THE ADJACENT NEOPRENE FLASHING ON THE INTERIOR OF THE TROUGH (TYP. BOTH FACES AT EACH TROUGH COLLECTOR)

NOTES

1. STRUCTURAL STEEL FOR THE TROUGHS, FLASHING BACKER PLATES, END PLATES, AND SUPPORTS SHALL BE ASTM A709 GRADE 50, GALVANIZED IN ACCORDANCE WITH CMS 711.02.
2. THE LOCATION OF FIELD SPLICES IN THE TROUGH PLATES ARE AT THE CONTRACTOR'S OPTION. ALL TROUGH SPLICES AND END PLATE CORNER JOINTS SHALL BE WATERTIGHT FULL PENETRATION BUTT WELDS. REPAIR GALVANIZING DAMAGED BY FIELD WELDING IN ACCORDANCE WITH CMS 711.02.
3. AT THE CONTRACTOR'S OPTION, FLASHING BACKER PLATES MAY BE INSTALLED IN INDIVIDUAL LENGTHS EQUAL TO THAT REQUIRED TO FIT BETWEEN THE WEBS OF EXISTING GIRDERS AND/OR STRINGERS. SPLICING OF FLASHING BACKER PLATES IS NOT REQUIRED, BUT FIT-UP SHALL BE SUCH THAT THERE ARE NO GAPS OF GREATER THAN 1/4 INCH IN THE PORTION OF THE BENT PLATE SUPPORTING THE NEOPRENE FLASHING.
4. NEOPRENE FLASHING SHALL BE CONTINUOUS EXCEPT AS SHOWN FOR CLEANING ACCESS AT TROUGH COLLECTORS.
5. TROUGH SUPPORTS SHALL BE INSTALLED AT EACH GIRDER AND EACH STRINGER OF UNIT 2. TROUGH SUPPORTS ARE NOT SHOWN IN TROUGH ELEVATIONS FOR CLARITY. FOR TROUGH SUPPORT DETAILS, SEE SHEET 91/116.
6. TROUGH GRADES, FROM LEFT TO RIGHT, ARE INDICATED AS (+) FOR SLOPING UP AND (-) FOR SLOPING DOWN.



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

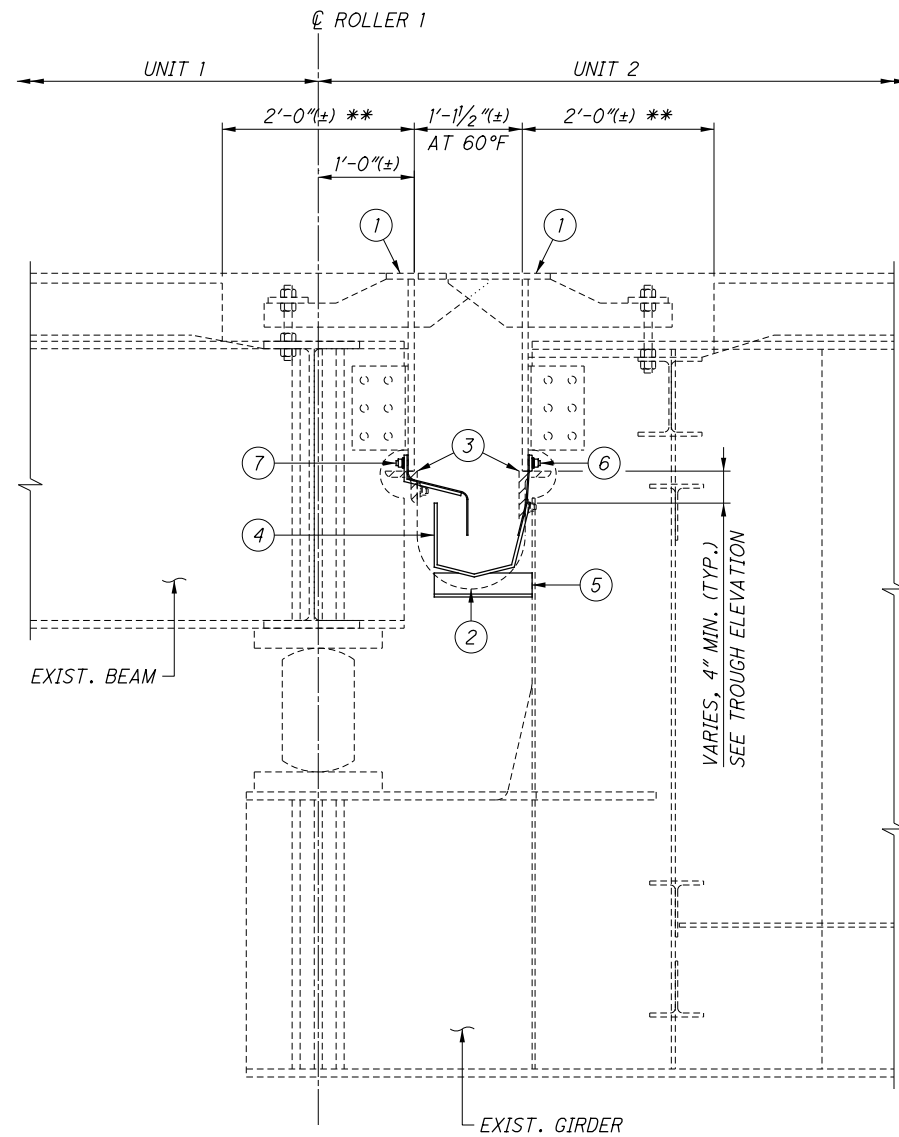
TROUGH ELEVATIONS - EXPANSION JOINT 1
BRIDGE NO. CUY-490-0100
I-490 OVER CUYAHOGA RIVER

CUY-490-01.00
PID No. 25622

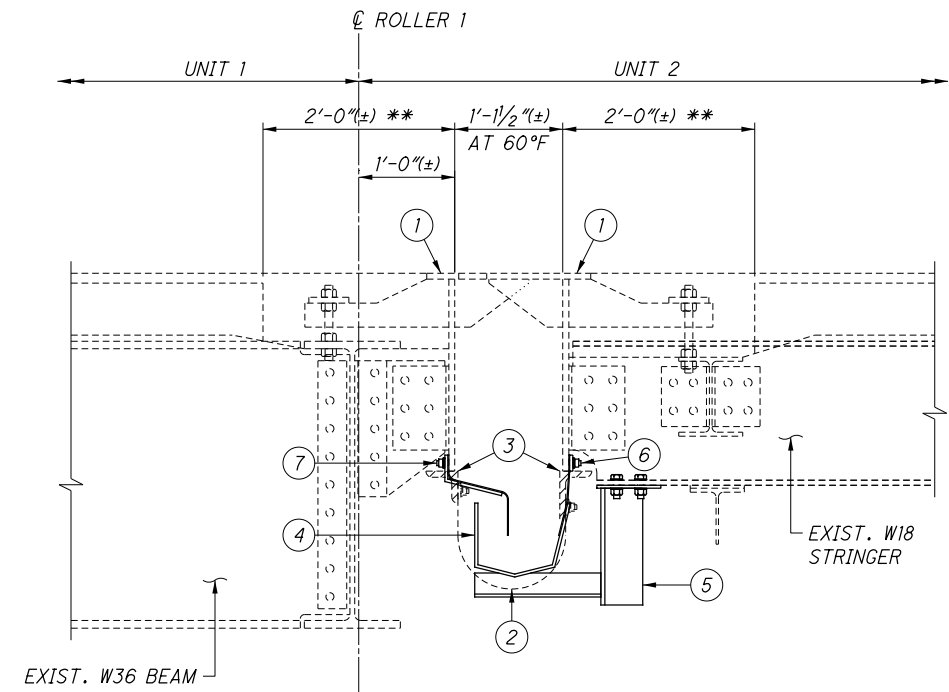
83/116

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182

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SECTION JI-1
83
EXPANSION JOINT 1
(TROUGH REPLACEMENT)



SECTION JI-2
83
EXPANSION JOINT 1
(TROUGH REPLACEMENT)

LEGEND

- ① EXISTING STEEL FINGER JOINT ASSEMBLY TO REMAIN
 - ② EXISTING NEOPRENE TROUGH TO BE REMOVED *
 - ③ EXISTING STEEL ANGLES, L4x4x3/4" AND L6x4x3/4", WELDED TO BOTTOM EDGE OF EXISTING FINGER JOINT ASSEMBLY 3/4" PLATES, TO BE REMOVED *
 - ④ PROPOSED TROUGH, SEE NOTE 1
 - ⑤ PROPOSED TROUGH SUPPORT, SEE NOTE 1
 - ⑥ PROPOSED CANTILEVER SIDE FLASHING, SEE NOTE 1
 - ⑦ PROPOSED SUPPORTED SIDE FLASHING, SEE NOTE 1
- * INCLUDED FOR PAYMENT UNDER ITEM 202 - PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN
- ** LIMITS OF EXISTING LATEX MODIFIED CONCRETE DECK JOINT BULKHEAD AS SHOWN IN EXISTING PLANS

NOTES

- 1. FOR DETAILS OF PROPOSED TROUGH, TROUGH SUPPORT ANGLES, AND FLASHING, SEE SHEET 91/116.
- 2. FOR JOINT 1 TROUGH ELEVATIONS, SEE SHEET 83/116.



DATE 08/05/20
REVIEWED MJL
STRUCTURE FILE NUMBER 181991
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PAT REVISED
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CHECKED JAM

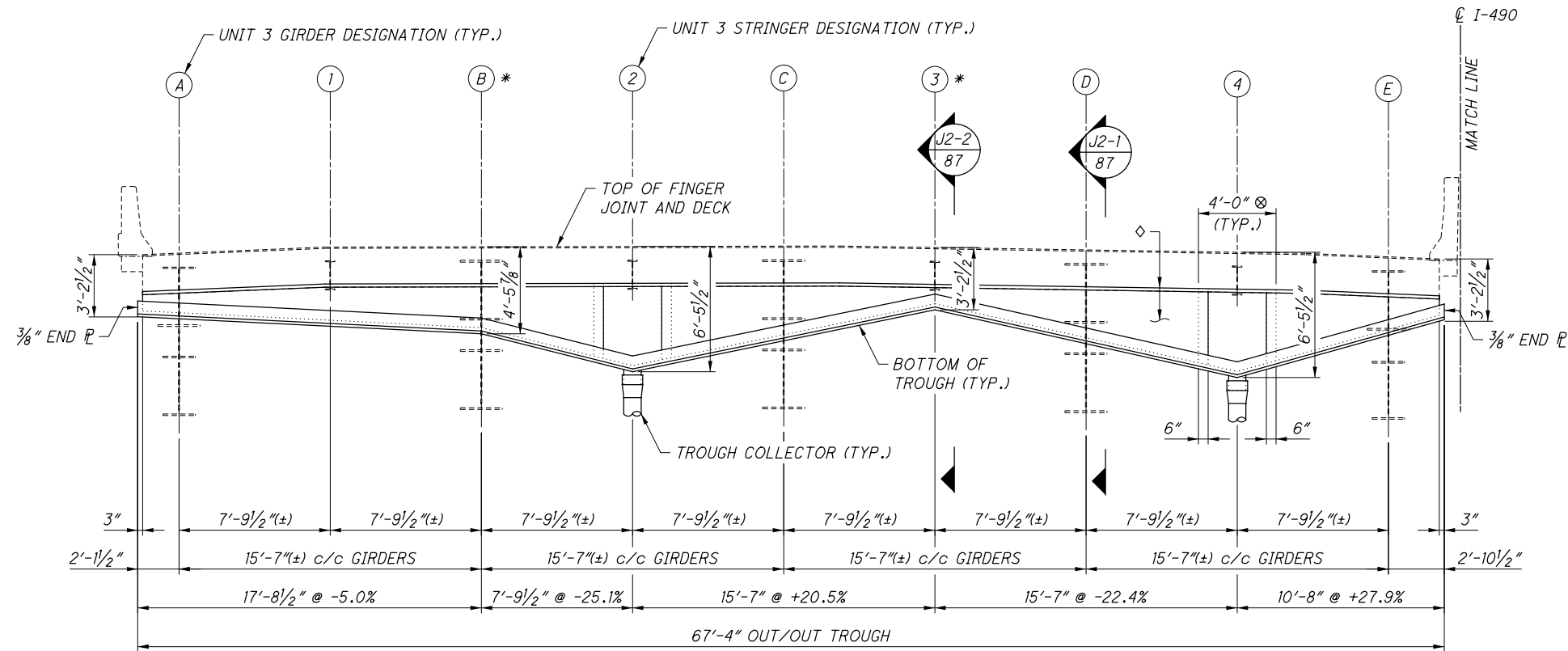
DRAINAGE TROUGH SECTIONS - EXPANSION JOINT 1
BRIDGE NO. CUY-490-0100
I-490 OVER CUYAHOGA RIVER

CUY-490-01.00
PID No. 25622

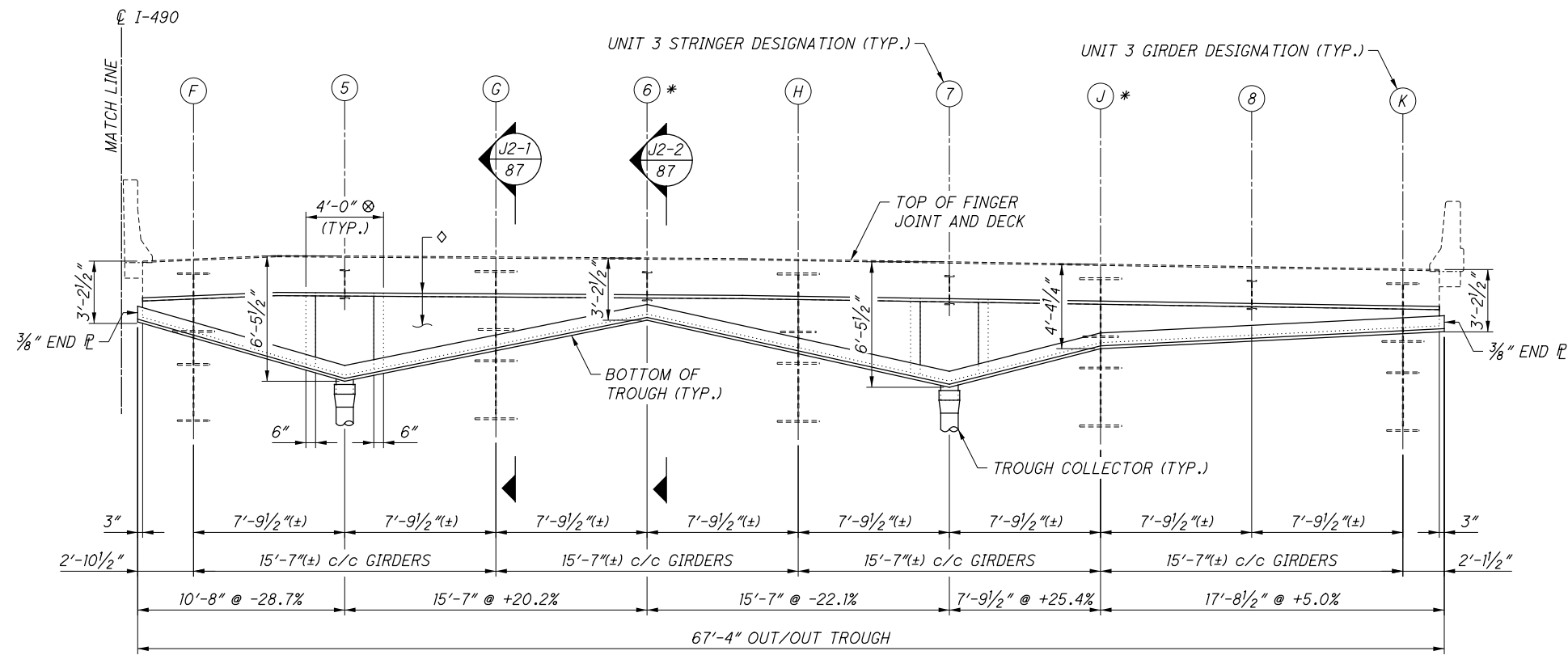
84/116

141
182

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TROUGH ELEVATION - JOINT 2L



TROUGH ELEVATION - JOINT 2R

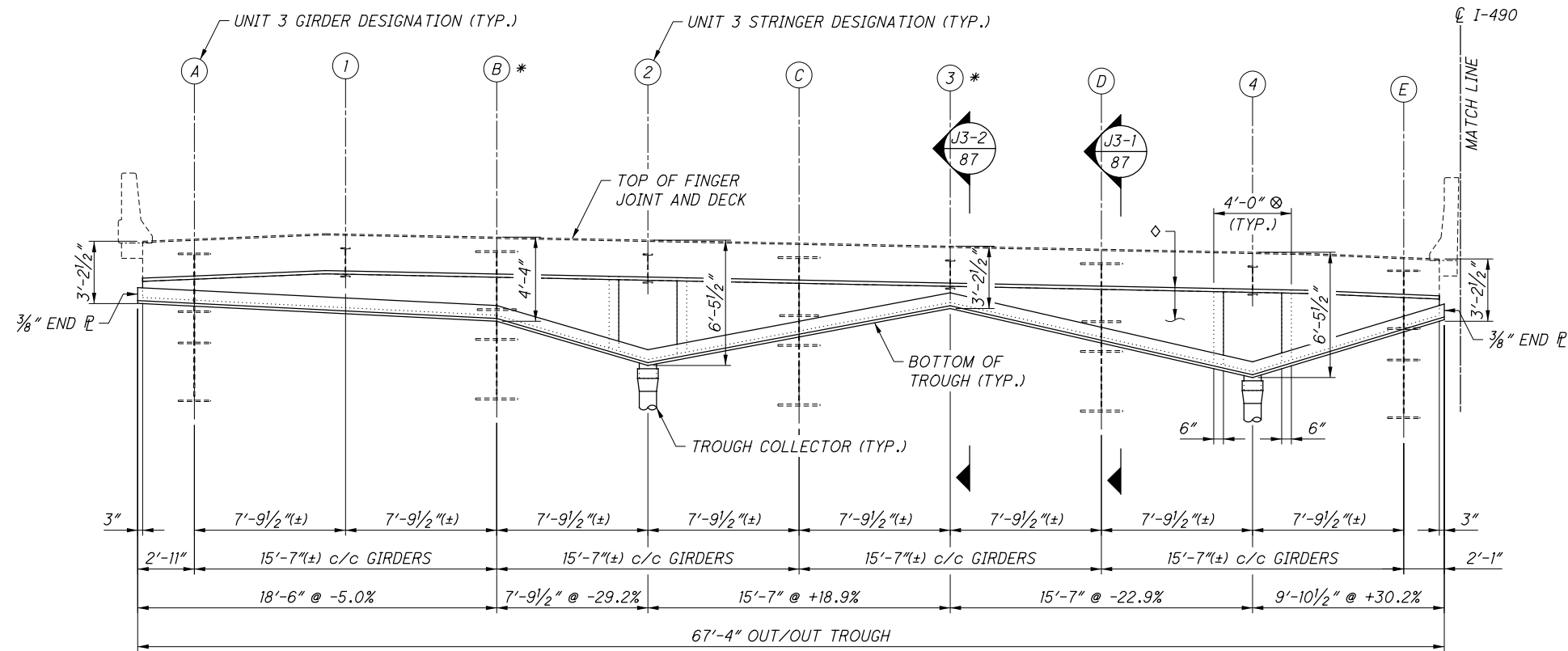
LEGEND

- * - SUGGESTED LOCATION OF OPTIONAL FIELD SPLICE IN TROUGH, SEE NOTE 2
- ◇ - FLASHING BACKER PLATE AND NEOPRENE FLASHING, ON BOTH FACES OF TROUGH (TYP.), SEE NOTES 3 & 4
- ⊗ - ACCESS FLAP FOR TROUGH AND COLLECTOR CLEANING, INSTALL A 4'-0" WIDTH OF NEOPRENE FLASHING AS A FREE-HANGING SECTION THAT OVERLAPS THE ADJACENT NEOPRENE FLASHING ON THE INTERIOR OF THE TROUGH (TYP. BOTH FACES AT EACH TROUGH COLLECTOR)

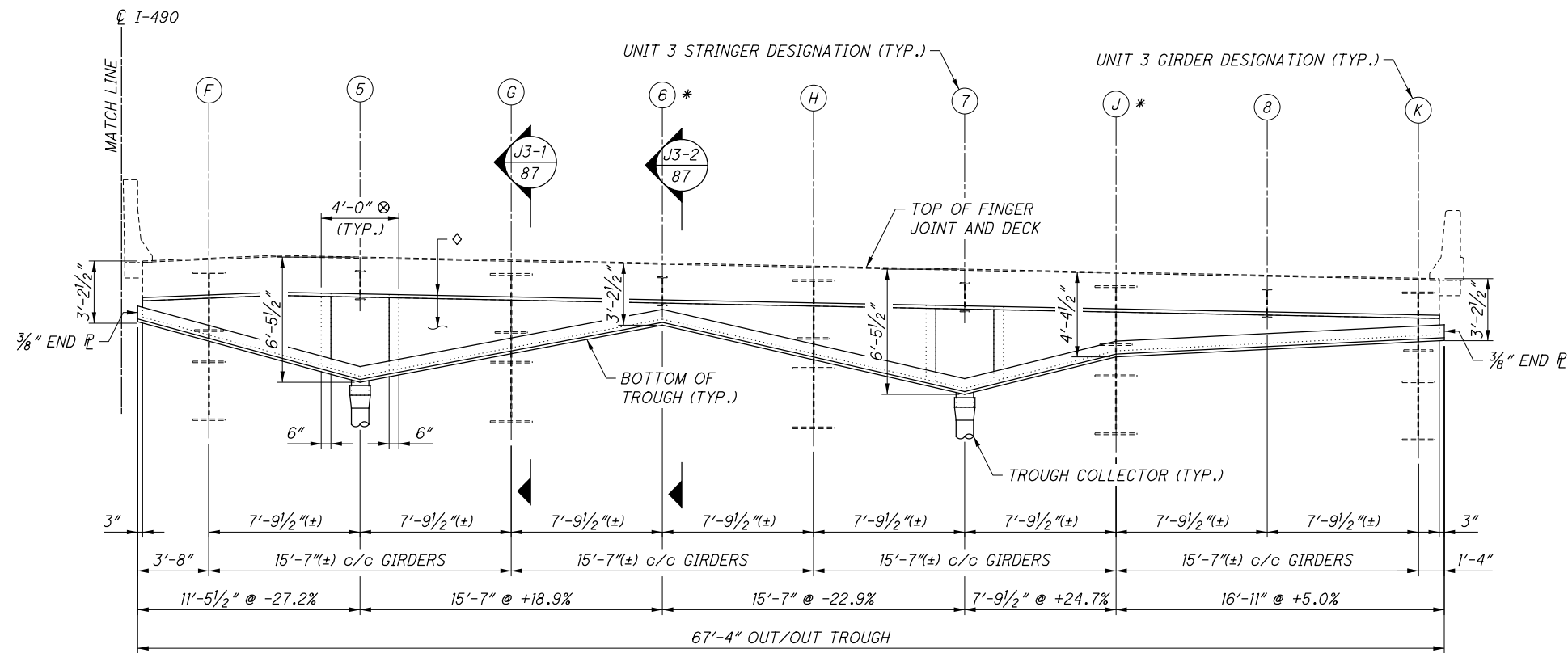
NOTES

1. STRUCTURAL STEEL FOR THE TROUGHS, FLASHING BACKER PLATES, END PLATES, AND SUPPORTS SHALL BE ASTM A709 GRADE 50, GALVANIZED IN ACCORDANCE WITH CMS 711.02.
2. THE LOCATION OF FIELD SPLICES IN THE TROUGH PLATES ARE AT THE CONTRACTOR'S OPTION. ALL TROUGH SPLICES AND END PLATE CORNER JOINTS SHALL BE WATERTIGHT FULL PENETRATION BUTT WELDS. REPAIR GALVANIZING DAMAGED BY FIELD WELDING IN ACCORDANCE WITH CMS 711.02.
3. AT THE CONTRACTOR'S OPTION, FLASHING BACKER PLATES MAY BE INSTALLED IN INDIVIDUAL LENGTHS EQUAL TO THAT REQUIRED TO FIT BETWEEN THE WEBS OF EXISTING GIRDERS AND/OR STRINGERS. SPLICING OF FLASHING BACKER PLATES IS NOT REQUIRED, BUT FIT-UP SHALL BE SUCH THAT THERE ARE NO GAPS OF GREATER THAN 1/4 INCH IN THE PORTION OF THE BENT PLATE SUPPORTING THE NEOPRENE FLASHING.
4. NEOPRENE FLASHING SHALL BE CONTINUOUS EXCEPT AS SHOWN FOR CLEANING ACCESS AT TROUGH COLLECTORS.
5. TROUGH SUPPORTS SHALL BE INSTALLED AT EACH GIRDER AND EACH STRINGER OF UNIT 3. TROUGH SUPPORTS ARE NOT SHOWN IN TROUGH ELEVATIONS FOR CLARITY. FOR TROUGH SUPPORT DETAILS, SEE SHEET 91/116.
6. TROUGH GRADES, FROM LEFT TO RIGHT, ARE INDICATED AS (+) FOR SLOPING UP AND (-) FOR SLOPING DOWN.

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TROUGH ELEVATION - JOINT 3L



TROUGH ELEVATION - JOINT 3R

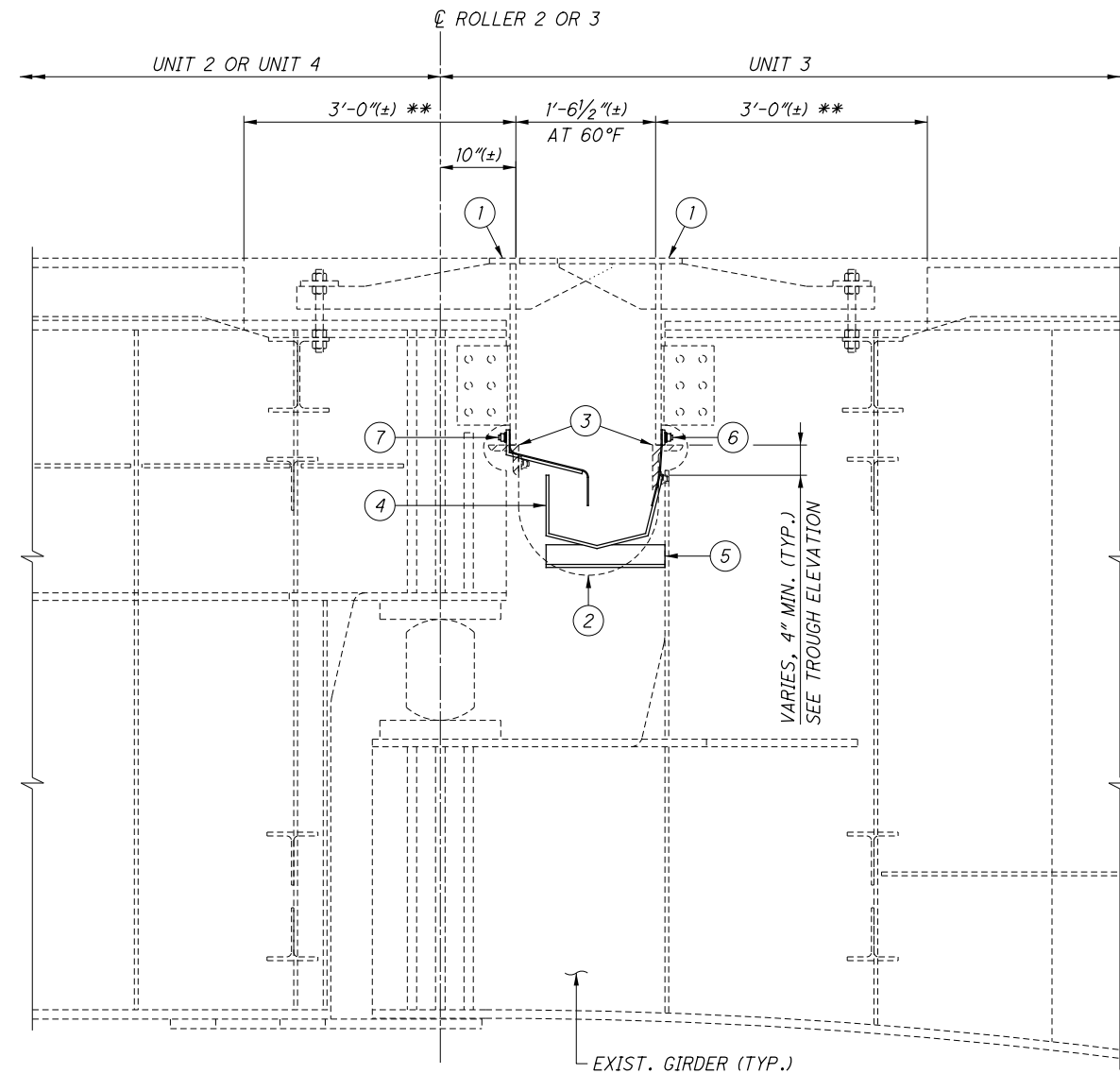
LEGEND

- * - SUGGESTED LOCATION OF OPTIONAL FIELD SPLICE IN TROUGH, SEE NOTE 2
- ◇ - FLASHING BACKER PLATE AND NEOPRENE FLASHING, ON BOTH FACES OF TROUGH (TYP.), SEE NOTES 3 & 4
- ⊗ - ACCESS FLAP FOR TROUGH AND COLLECTOR CLEANING, INSTALL A 4'-0" WIDTH OF NEOPRENE FLASHING AS A FREE-HANGING SECTION THAT OVERLAPS THE ADJACENT NEOPRENE FLASHING ON THE INTERIOR OF THE TROUGH (TYP. BOTH FACES AT EACH TROUGH COLLECTOR)

NOTES

1. STRUCTURAL STEEL FOR THE TROUGHS, FLASHING BACKER PLATES, END PLATES, AND SUPPORTS SHALL BE ASTM A709 GRADE 50, GALVANIZED IN ACCORDANCE WITH CMS 711.02.
2. THE LOCATION OF FIELD SPLICES IN THE TROUGH PLATES ARE AT THE CONTRACTOR'S OPTION. ALL TROUGH SPLICES AND END PLATE CORNER JOINTS SHALL BE WATERTIGHT FULL PENETRATION BUTT WELDS. REPAIR GALVANIZING DAMAGED BY FIELD WELDING IN ACCORDANCE WITH CMS 711.02.
3. AT THE CONTRACTOR'S OPTION, FLASHING BACKER PLATES MAY BE INSTALLED IN INDIVIDUAL LENGTHS EQUAL TO THAT REQUIRED TO FIT BETWEEN THE WEBS OF EXISTING GIRDERS AND/OR STRINGERS. SPLICING OF FLASHING BACKER PLATES IS NOT REQUIRED, BUT FIT-UP SHALL BE SUCH THAT THERE ARE NO GAPS OF GREATER THAN 1/4 INCH IN THE PORTION OF THE BENT PLATE SUPPORTING THE NEOPRENE FLASHING.
4. NEOPRENE FLASHING SHALL BE CONTINUOUS EXCEPT AS SHOWN FOR CLEANING ACCESS AT TROUGH COLLECTORS.
5. TROUGH SUPPORTS SHALL BE INSTALLED AT EACH GIRDER AND EACH STRINGER OF UNIT 3. TROUGH SUPPORTS ARE NOT SHOWN IN TROUGH ELEVATIONS FOR CLARITY. FOR TROUGH SUPPORT DETAILS, SEE SHEET 91/116.
6. TROUGH GRADES, FROM LEFT TO RIGHT, ARE INDICATED AS (+) FOR SLOPING UP AND (-) FOR SLOPING DOWN.

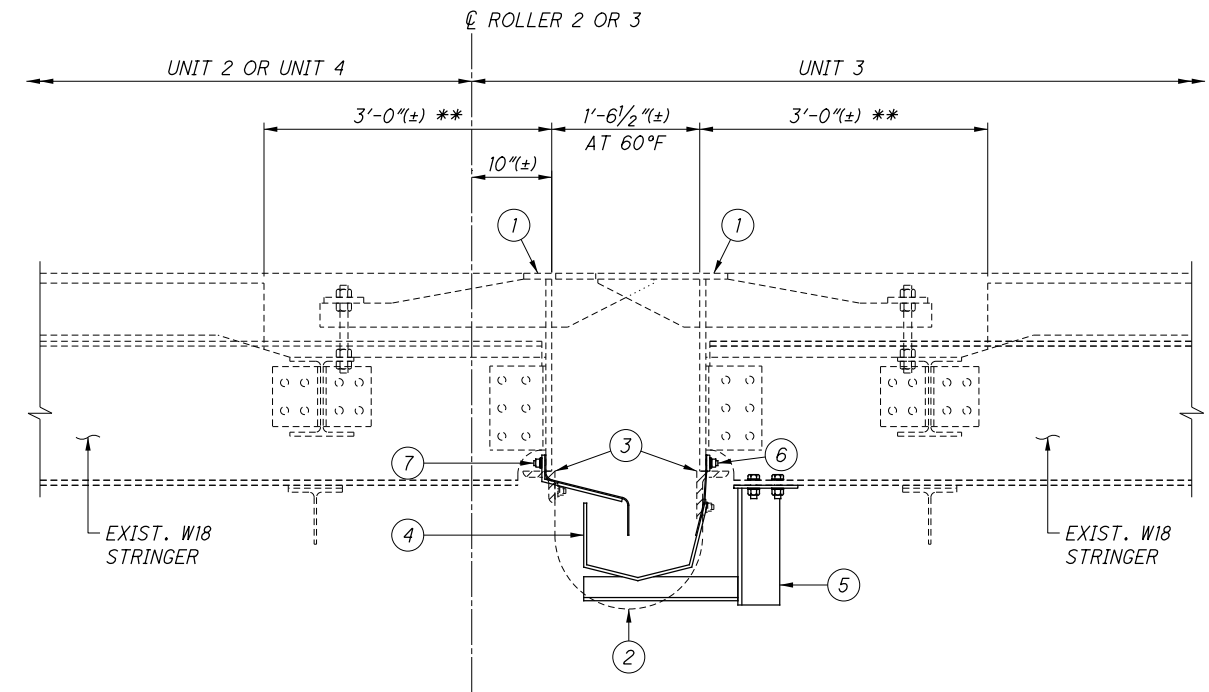
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SECTION $\frac{J2-1}{85}$ $\frac{J3-1}{86}$

EXPANSION JOINT 2 AND 3
(TROUGH REPLACEMENT)

EXPANSION JOINT 2 SHOWN, EXPANSION JOINT 3
SIMILAR, MIRRORED ABOUT ϕ ROLLER



SECTION $\frac{J2-2}{85}$ $\frac{J3-2}{86}$

EXPANSION JOINT 2 AND 3
(TROUGH REPLACEMENT)

EXPANSION JOINT 2 SHOWN, EXPANSION JOINT 3
SIMILAR, MIRRORED ABOUT ϕ ROLLER

LEGEND

- ① EXISTING STEEL FINGER JOINT ASSEMBLY TO REMAIN
- ② EXISTING NEOPRENE TROUGH TO BE REMOVED *
- ③ EXISTING STEEL ANGLES, L4x4x $\frac{3}{4}$ " AND L6x4x $\frac{3}{4}$ ", WELDED TO BOTTOM EDGE OF EXISTING FINGER JOINT ASSEMBLY $\frac{3}{4}$ " PLATES, TO BE REMOVED *
- ④ PROPOSED TROUGH, SEE NOTE 1
- ⑤ PROPOSED TROUGH SUPPORT, SEE NOTE 1
- ⑥ PROPOSED CANTILEVER SIDE FLASHING, SEE NOTE 1
- ⑦ PROPOSED SUPPORTED SIDE FLASHING, SEE NOTE 1

* INCLUDED FOR PAYMENT UNDER ITEM 202 - PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN

** LIMITS OF EXISTING LATEX MODIFIED CONCRETE DECK JOINT BULKHEAD AS SHOWN IN EXISTING PLANS

NOTES

- 1. FOR DETAILS OF PROPOSED TROUGH, TROUGH SUPPORT ANGLES, AND FLASHING, SEE SHEET 91/116.
- 2. FOR JOINT 2 TROUGH ELEVATIONS, SEE SHEET 85/116.
- 3. FOR JOINT 3 TROUGH ELEVATIONS, SEE SHEET 86/116.



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DATE	08/05/20		

TROUGH SECTIONS - EXPANSION JOINTS 2 & 3

BRIDGE NO. CUY-490-0100
I-490 OVER CUYAHOGA RIVER

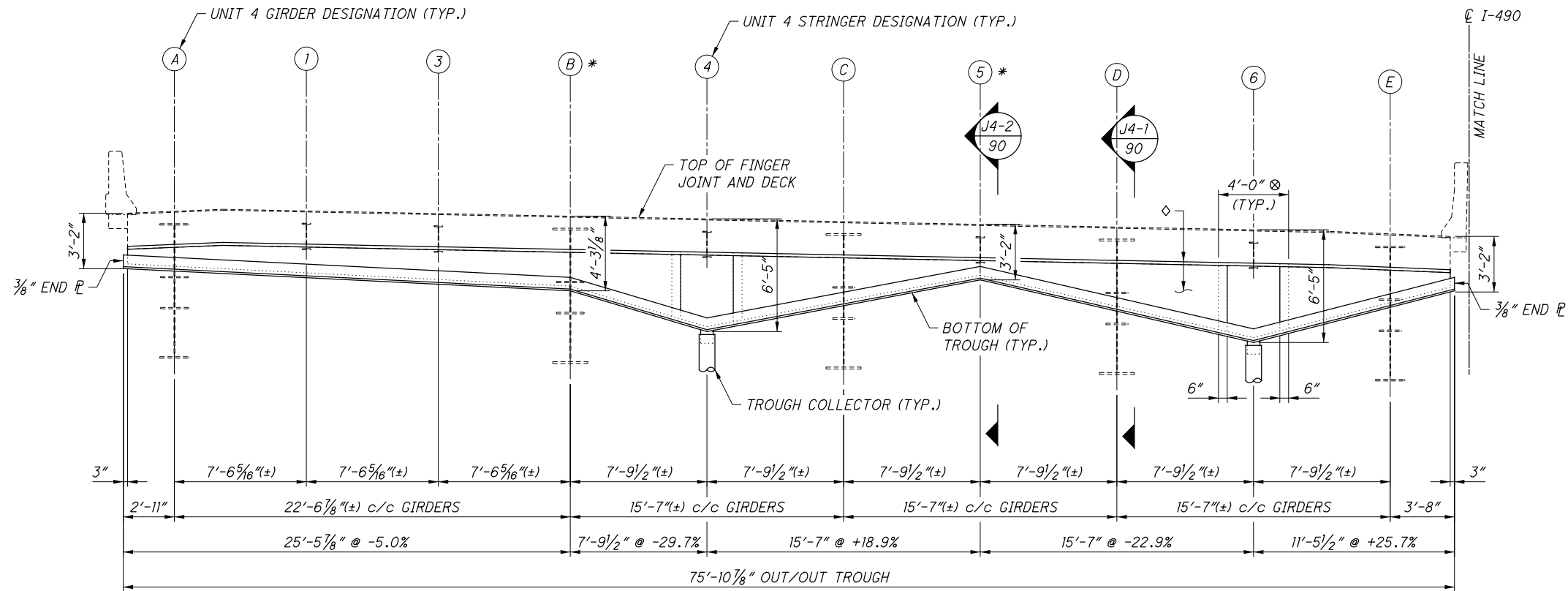
CUY-490-01.00

PID No. 25622

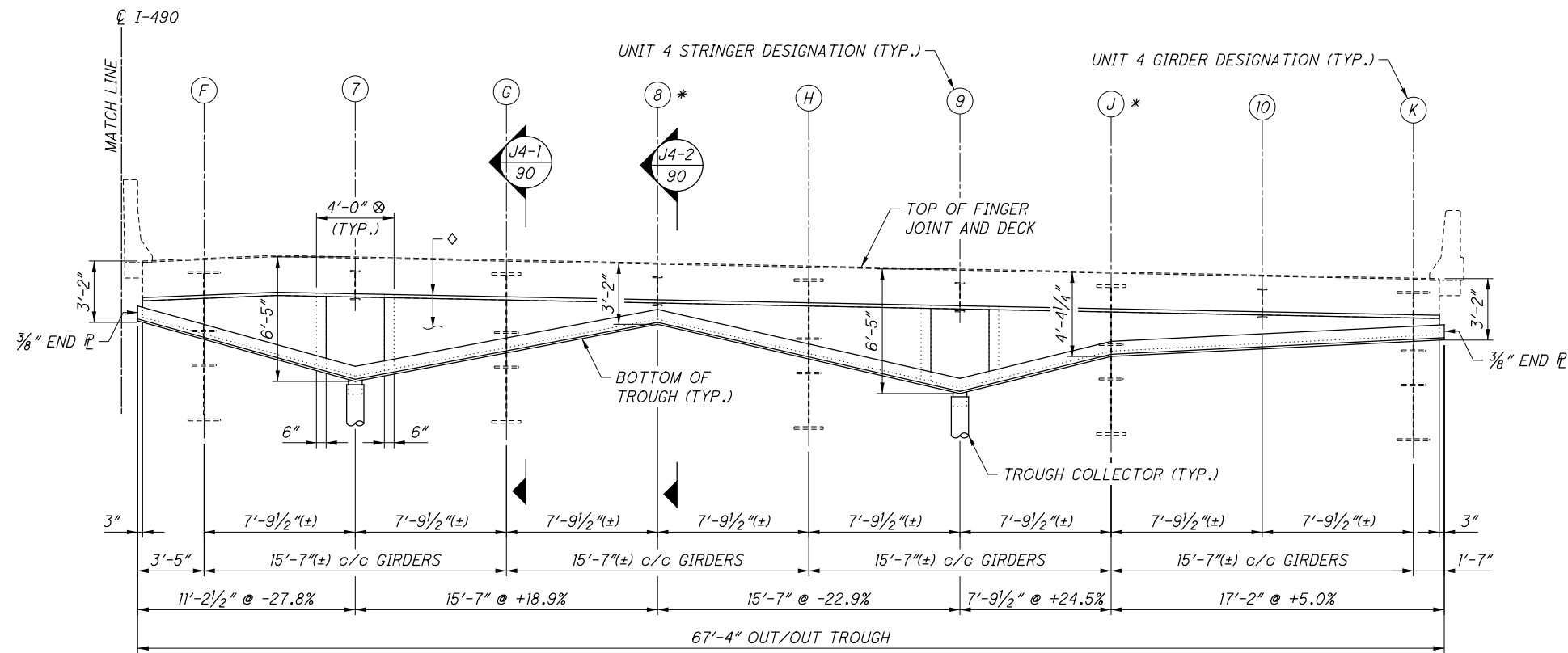
87/116

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182

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TROUGH ELEVATION - JOINT 4L



TROUGH ELEVATION - JOINT 4R

LEGEND

- * - SUGGESTED LOCATION OF OPTIONAL FIELD SPLICE IN TROUGH, SEE NOTE 2
- ◇ - FLASHING BACKER PLATE AND NEOPRENE FLASHING, ON BOTH FACES OF TROUGH (TYP.), SEE NOTES 3 & 4
- ⊗ - ACCESS FLAP FOR TROUGH AND COLLECTOR CLEANING, INSTALL A 4'-0" WIDTH OF FLASHING AS A FREE-HANGING SECTION THAT OVERLAPS THE ADJACENT NEOPRENE FLASHING ON THE INTERIOR OF THE TROUGH (TYP. BOTH FACES AT EACH TROUGH COLLECTOR)

NOTES

1. STRUCTURAL STEEL FOR THE TROUGHS, FLASHING BACKER PLATES, END PLATES, AND SUPPORTS SHALL BE ASTM A709 GRADE 50, GALVANIZED IN ACCORDANCE WITH CMS 711.02.
2. THE LOCATION OF FIELD SPLICES IN THE TROUGH PLATES ARE AT THE CONTRACTOR'S OPTION. ALL TROUGH SPLICES AND END PLATE CORNER JOINTS SHALL BE WATERTIGHT FULL PENETRATION BUTT WELDS. REPAIR GALVANIZING DAMAGED BY FIELD WELDING IN ACCORDANCE WITH CMS 711.02.
3. AT THE CONTRACTOR'S OPTION, FLASHING BACKER PLATES MAY BE INSTALLED IN INDIVIDUAL LENGTHS EQUAL TO THAT REQUIRED TO FIT BETWEEN THE WEBS OF EXISTING GIRDERS AND/OR STRINGERS. SPLICING OF FLASHING BACKER PLATES IS NOT REQUIRED, BUT FIT-UP SHALL BE SUCH THAT THERE ARE NO GAPS OF GREATER THAN 1/4 INCH IN THE PORTION OF THE BENT PLATE SUPPORTING THE NEOPRENE FLASHING.
4. NEOPRENE FLASHING SHALL BE CONTINUOUS EXCEPT AS SHOWN FOR CLEANING ACCESS AT TROUGH COLLECTORS.
5. TROUGH SUPPORTS SHALL BE INSTALLED AT EACH GIRDER AND EACH STRINGER OF UNIT 4. TROUGH SUPPORTS ARE NOT SHOWN IN TROUGH ELEVATIONS FOR CLARITY. FOR TROUGH SUPPORT DETAILS, SEE SHEET 91/116.
6. TROUGH GRADES, FROM LEFT TO RIGHT, ARE INDICATED AS (+) FOR SLOPING UP AND (-) FOR SLOPING DOWN.



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DATE	08/05/20		

TROUGH ELEVATIONS - EXPANSION JOINT 4

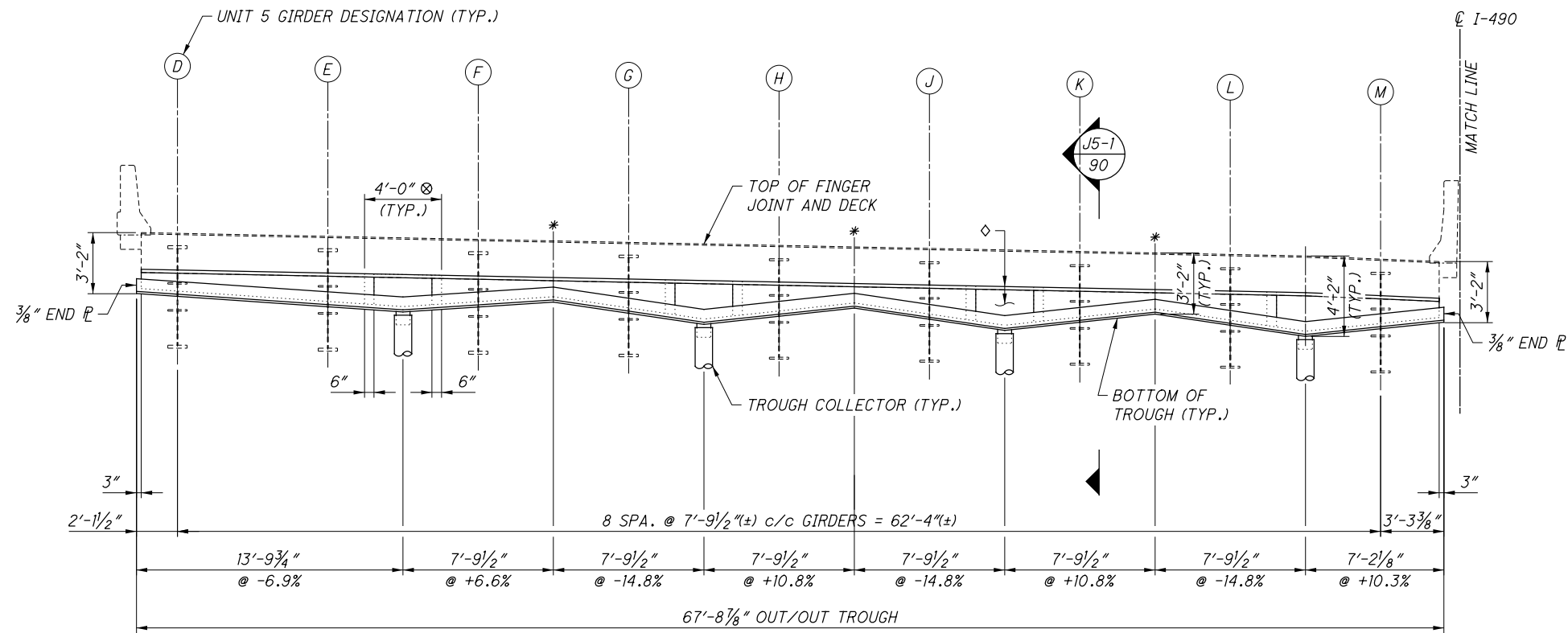
BRIDGE NO. CUY-490-0100
I-490 OVER CUYAHOGA RIVER

CUY-490-01.00
PID No. 25622

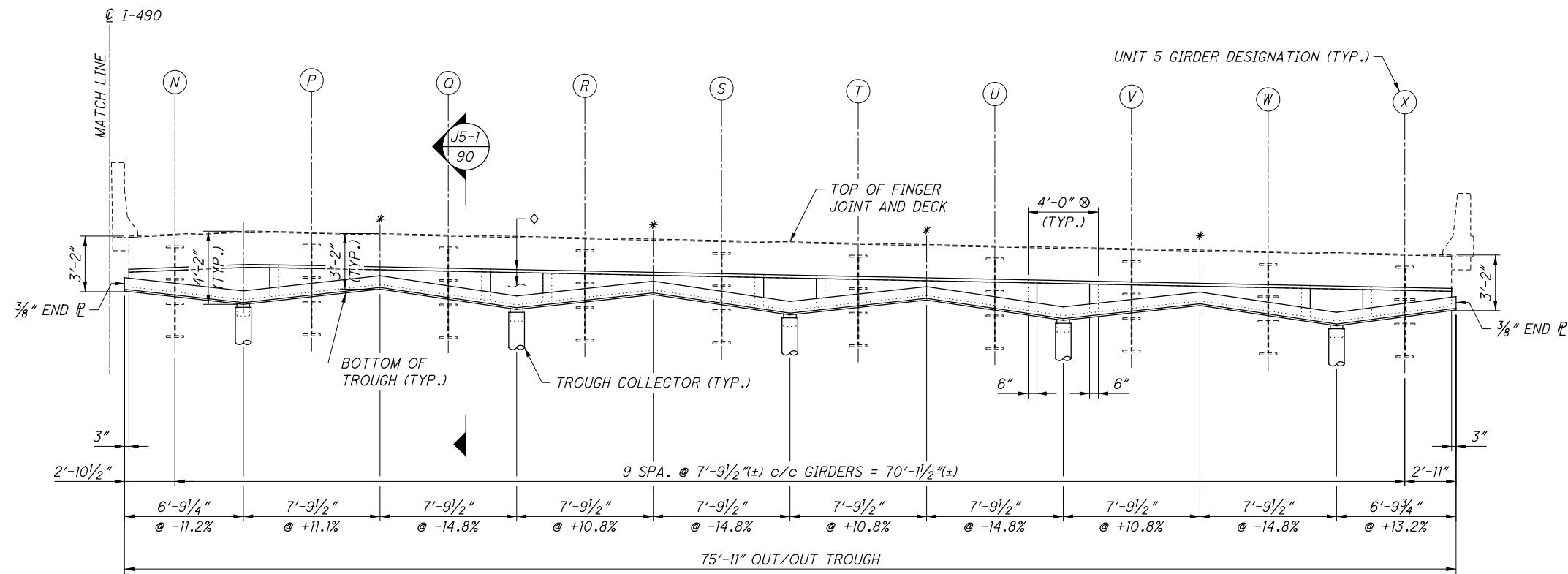
88/116

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182

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TROUGH ELEVATION - JOINT 5L



TROUGH ELEVATION - JOINT 5R

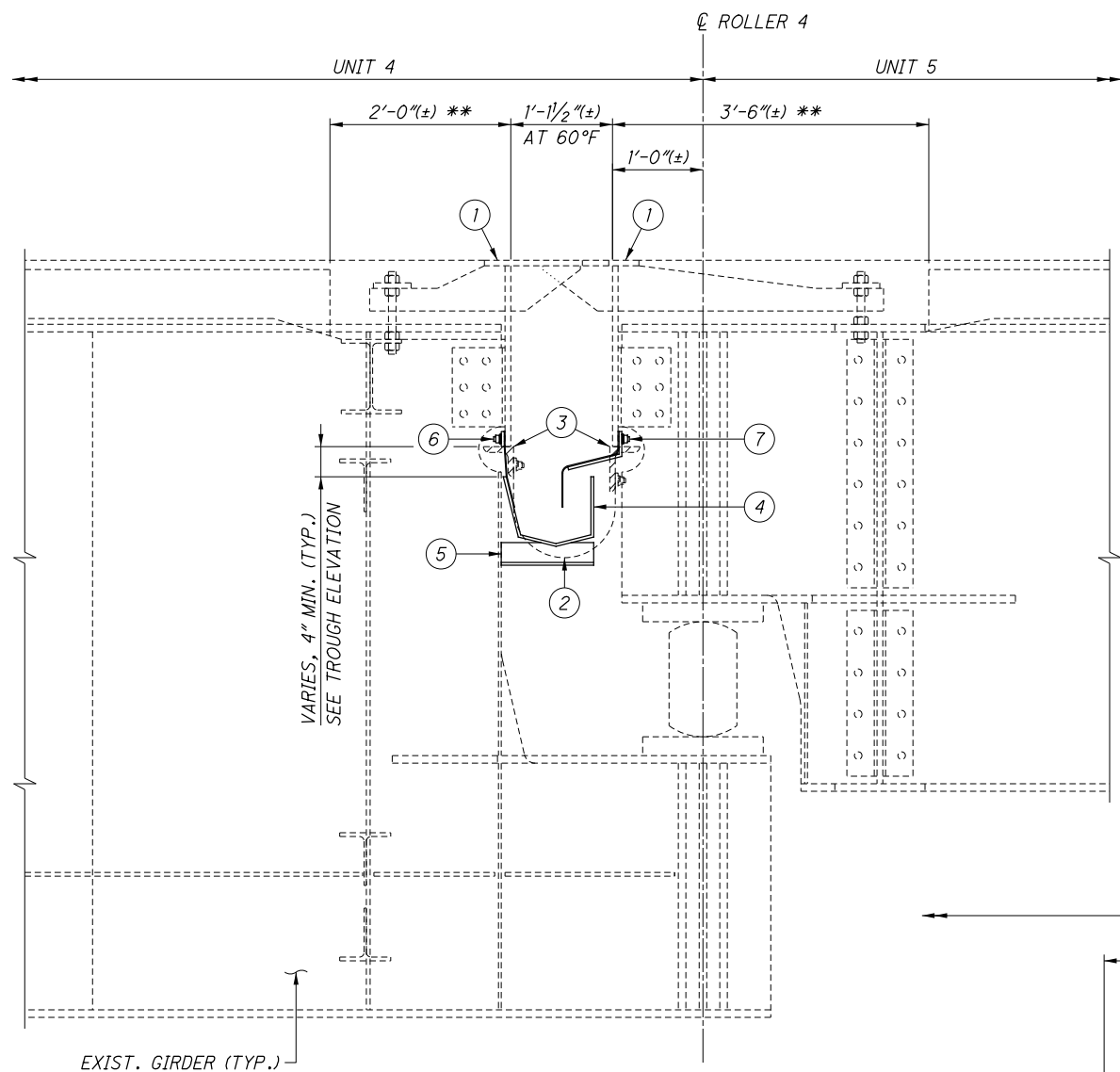
LEGEND

- * - SUGGESTED LOCATION OF OPTIONAL FIELD SPLICE IN TROUGH, SEE NOTE 2
- ◇ - FLASHING BACKER PLATE AND NEOPRENE FLASHING, ON BOTH FACES OF TROUGH (TYP.), SEE NOTES 3 & 4
- ⊗ - ACCESS FLAP FOR TROUGH AND COLLECTOR CLEANING, INSTALL A 4'-0" WIDTH OF NEOPRENE FLASHING AS A FREE-HANGING SECTION THAT OVERLAPS THE ADJACENT NEOPRENE FLASHING ON THE INTERIOR OF THE TROUGH (TYP. BOTH FACES AT EACH TROUGH COLLECTOR)

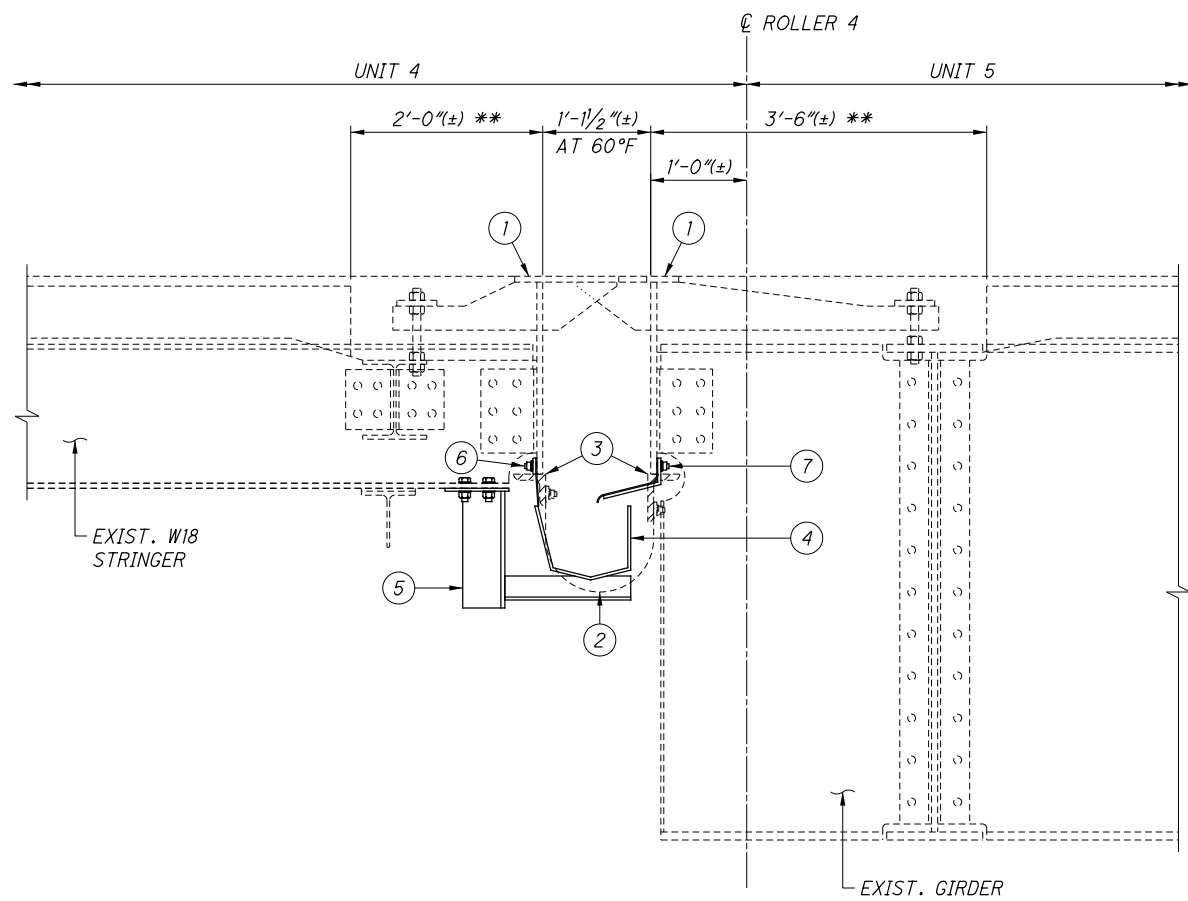
NOTES

1. STRUCTURAL STEEL FOR THE TROUGHS, FLASHING BACKER PLATES, END PLATES, AND SUPPORTS SHALL BE ASTM A709 GRADE 50, GALVANIZED IN ACCORDANCE WITH CMS 711.02.
2. THE LOCATION OF FIELD SPLICES IN THE TROUGH PLATES ARE AT THE CONTRACTOR'S OPTION. ALL TROUGH SPLICES AND END PLATE CORNER JOINTS SHALL BE WATERTIGHT FULL PENETRATION BUTT WELDS. REPAIR GALVANIZING DAMAGED BY FIELD WELDING IN ACCORDANCE WITH CMS 711.02.
3. AT THE CONTRACTOR'S OPTION, FLASHING BACKER PLATES MAY BE INSTALLED IN INDIVIDUAL LENGTHS EQUAL TO THAT REQUIRED TO FIT BETWEEN THE WEBS OF EXISTING GIRDERS AND/OR STRINGERS. SPLICING OF FLASHING BACKER PLATES IS NOT REQUIRED, BUT FIT-UP SHALL BE SUCH THAT THERE ARE NO GAPS OF GREATER THAN 1/4 INCH IN THE PORTION OF THE BENT PLATE SUPPORTING THE NEOPRENE FLASHING.
4. NEOPRENE FLASHING SHALL BE CONTINUOUS EXCEPT AS SHOWN FOR CLEANING ACCESS AT TROUGH COLLECTORS.
5. TROUGH SUPPORTS SHALL BE INSTALLED AT EACH GIRDER AND EACH STRINGER OF UNIT 5. TROUGH SUPPORTS ARE NOT SHOWN IN TROUGH ELEVATIONS FOR CLARITY. FOR TROUGH SUPPORT DETAILS, SEE SHEET 91/116.
6. TROUGH GRADES, FROM LEFT TO RIGHT, ARE INDICATED AS (+) FOR SLOPING UP AND (-) FOR SLOPING DOWN.

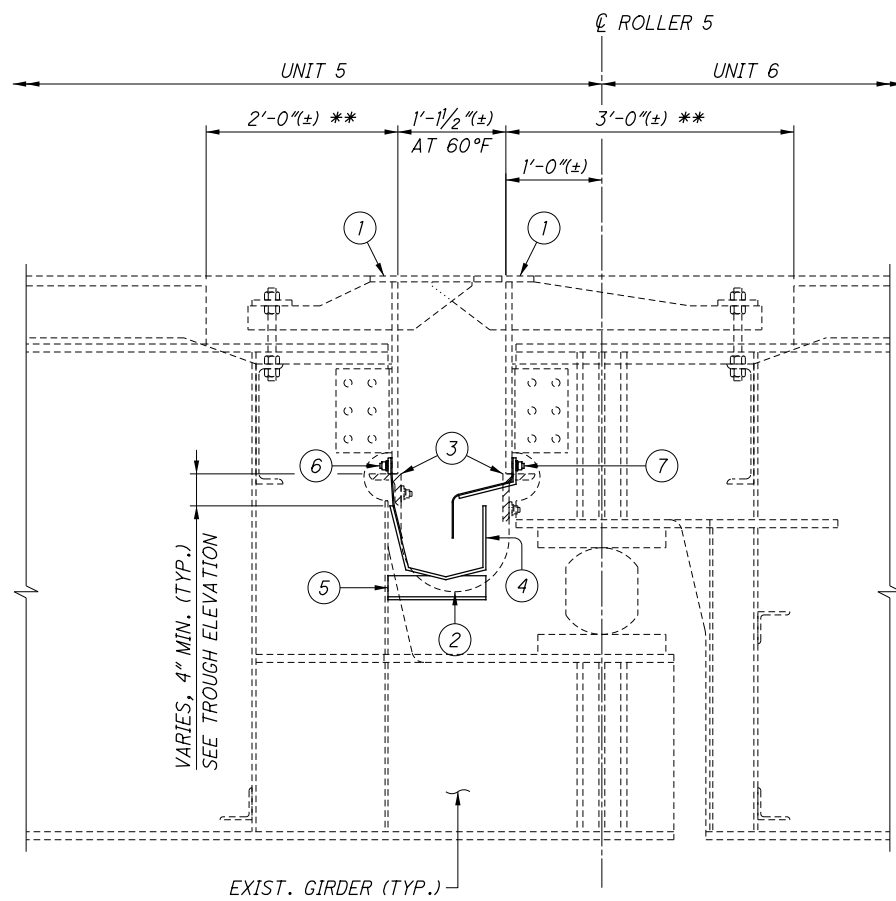
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SECTION J4-1
88
EXPANSION JOINT 4
(TROUGH REPLACEMENT)



SECTION J4-2
88
EXPANSION JOINT 4
(TROUGH REPLACEMENT)



SECTION J5-1
89
EXPANSION JOINT 5
(TROUGH REPLACEMENT)

LEGEND

- ① EXISTING STEEL FINGER JOINT ASSEMBLY TO REMAIN
- ② EXISTING NEOPRENE TROUGH TO BE REMOVED *
- ③ EXISTING STEEL ANGLES, L4x4x3/4" AND L6x4x3/4", WELDED TO BOTTOM EDGE OF EXISTING FINGER JOINT ASSEMBLY 3/4" PLATES, TO BE REMOVED *
- ④ PROPOSED TROUGH, SEE NOTE 1
- ⑤ PROPOSED TROUGH SUPPORT, SEE NOTE 1
- ⑥ PROPOSED CANTILEVER SIDE FLASHING, SEE NOTE 1
- ⑦ PROPOSED SUPPORTED SIDE FLASHING, SEE NOTE 1

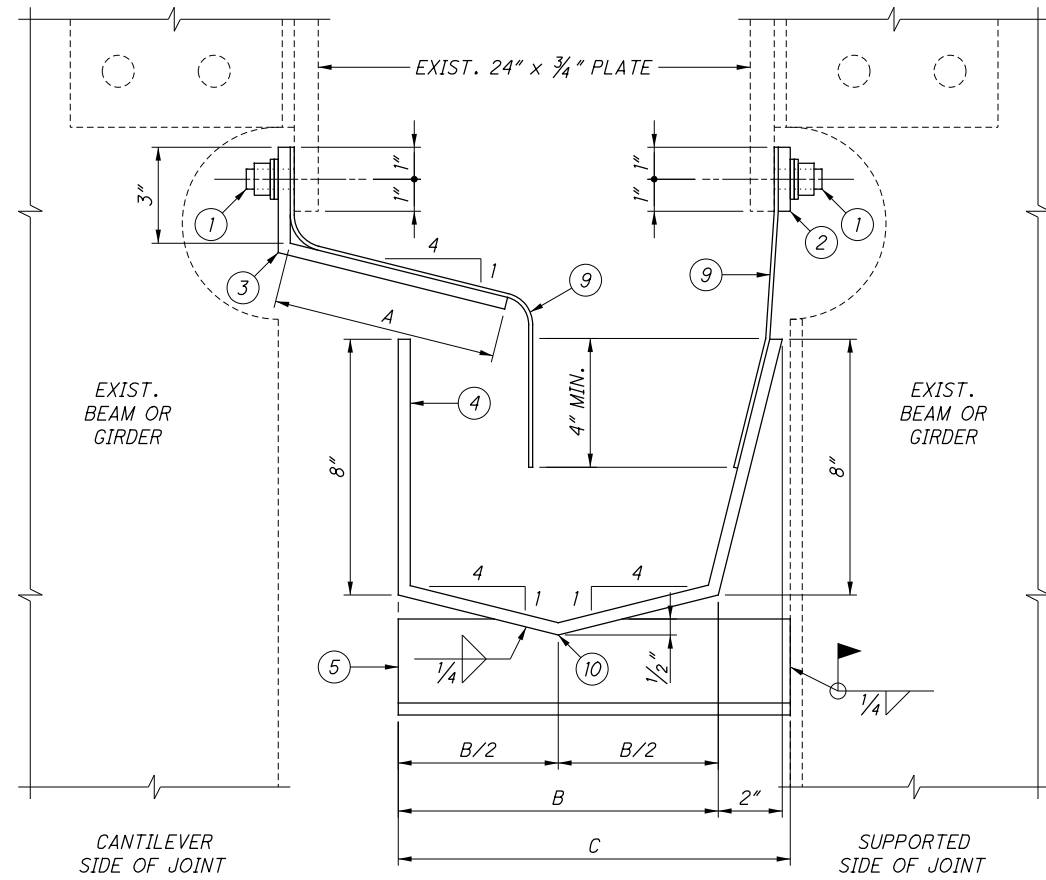
* INCLUDED FOR PAYMENT UNDER ITEM 202 - PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN

** LIMITS OF EXISTING LATEX MODIFIED CONCRETE DECK JOINT BULKHEAD AS SHOWN IN EXISTING PLANS

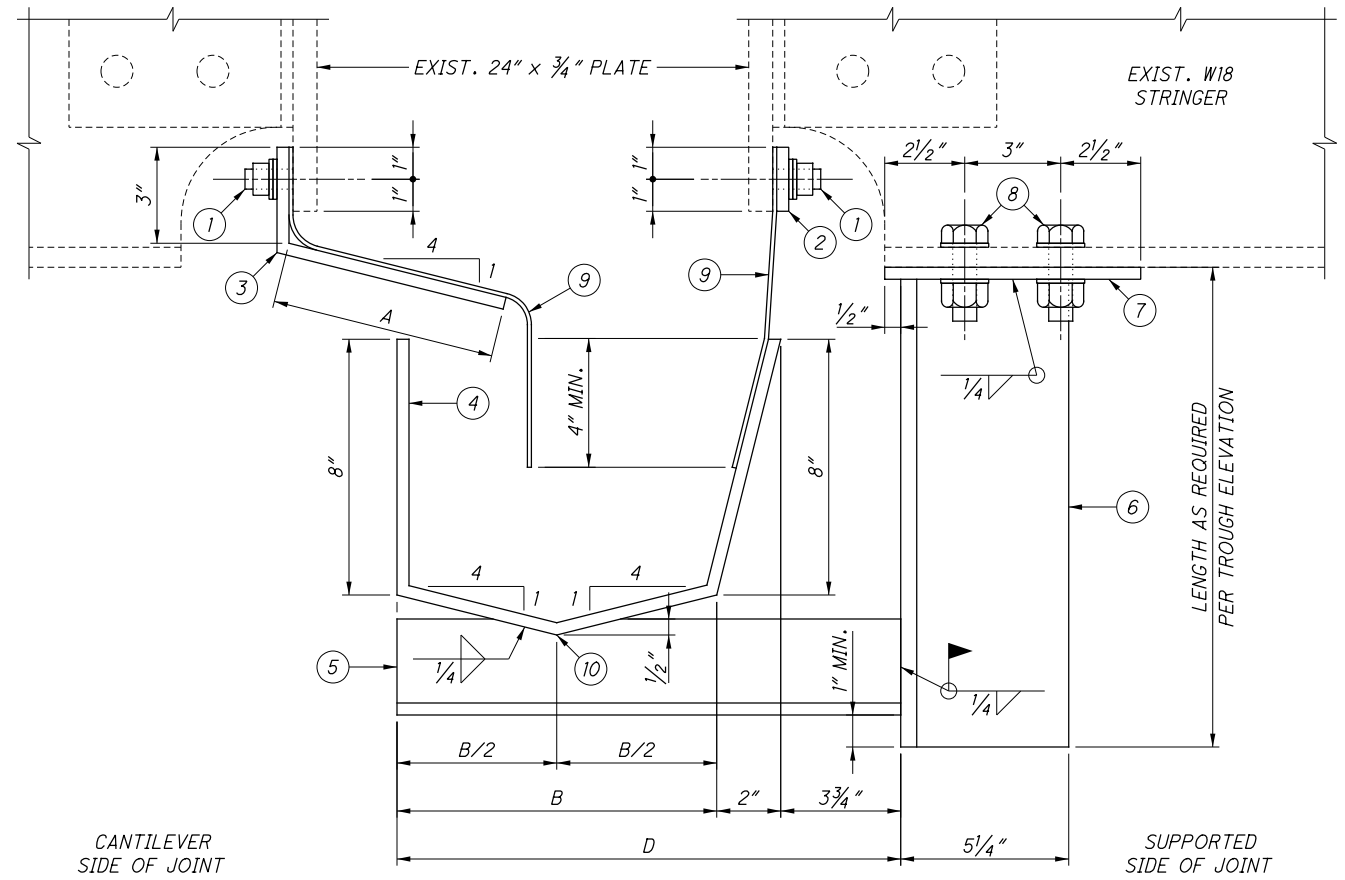
NOTES

- 1. FOR DETAILS OF PROPOSED TROUGH, TROUGH SUPPORT ANGLES, AND FLASHING, SEE SHEET 91/116.
- 2. FOR JOINT 4 TROUGH ELEVATIONS, SEE SHEET 88/116.
- 3. FOR JOINT 5 TROUGH ELEVATIONS, SEE SHEET 89/116.

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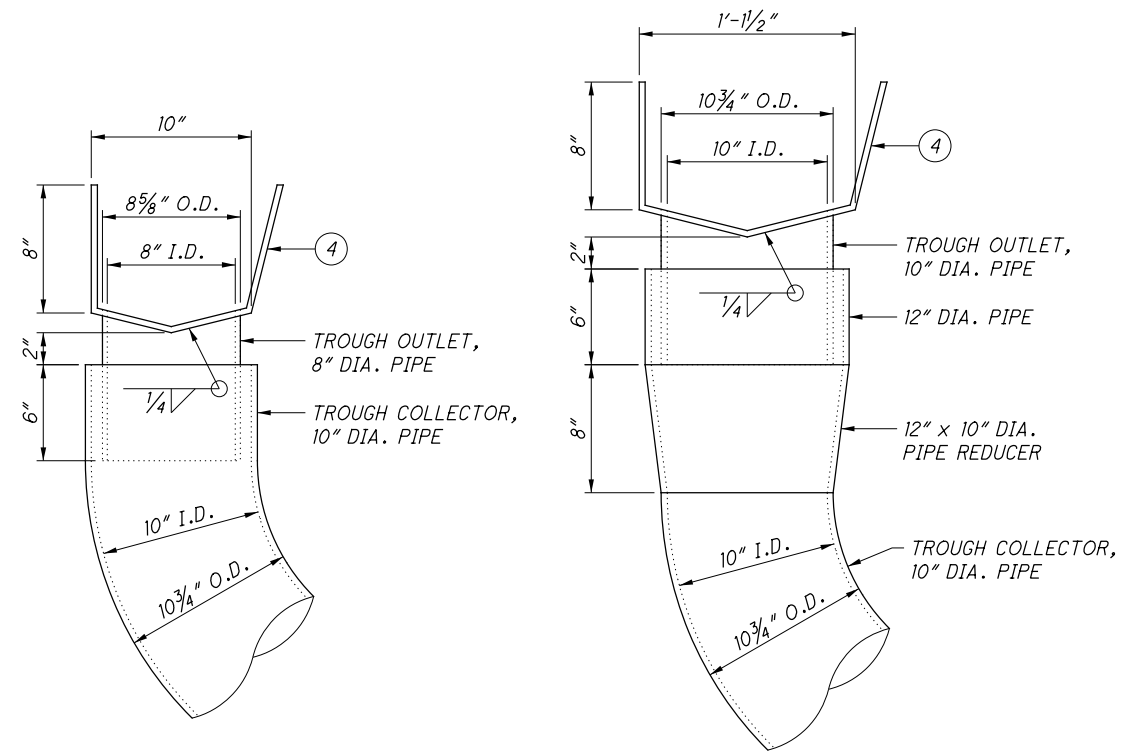


PROPOSED TROUGH DETAIL
ATTACHMENT TO EXISTING BEAM OR GIRDER



PROPOSED TROUGH DETAIL
ATTACHMENT TO EXISTING STRINGER

TROUGH DIMENSIONS				
JOINT NO.	DIM. A	DIM. B	DIM. C	DIM. D
1, 4 & 5	7"	10"	1'-0 1/4"	1'-3 3/4"
2 & 3	10"	1'-1 1/2"	1'-3 3/4"	1'-7 1/4"



TROUGH OUTLET DETAIL
JOINTS 1, 4 & 5

TROUGH OUTLET DETAIL
JOINTS 2 & 3

LEGEND

- ① 5/8" DIA. END WELDED STUDS, FULLY THREADED, AT 6" c/c MAX. SPACING WITH NUT, LOCK WASHER, AND FLAT WASHER
- ② 3/8" x 2" BAR WITH 3/4" DIA. HOLES AT 6" c/c MAX. SPACING
- ③ 3/8" BENT PLATE WITH 3/4" DIA. HOLES AT 6" c/c MAX. SPACING
- ④ 3/8" BENT PLATE STEEL TROUGH
- ⑤ L3x2x3/8" SUPPORT ANGLE
- ⑥ WT5x15 SUPPORT HANGER
- ⑦ 8" x 7" x 3/8" PLATE WITH FOUR (4) 7/8" DIA. BOLT HOLES
- ⑧ 3/4" DIA. BOLT WITH NUT AND TWO (2) FLAT WASHERS, EACH SIDE
- ⑨ NEOPRENE FLASHING
- ⑩ THE VERTICAL DIMENSIONS SHOWN ON THE TROUGH ELEVATIONS (EXISTING DECK SURFACE TO BOTTOM OF PROPOSED TROUGH) ARE GIVEN TO THIS POINT

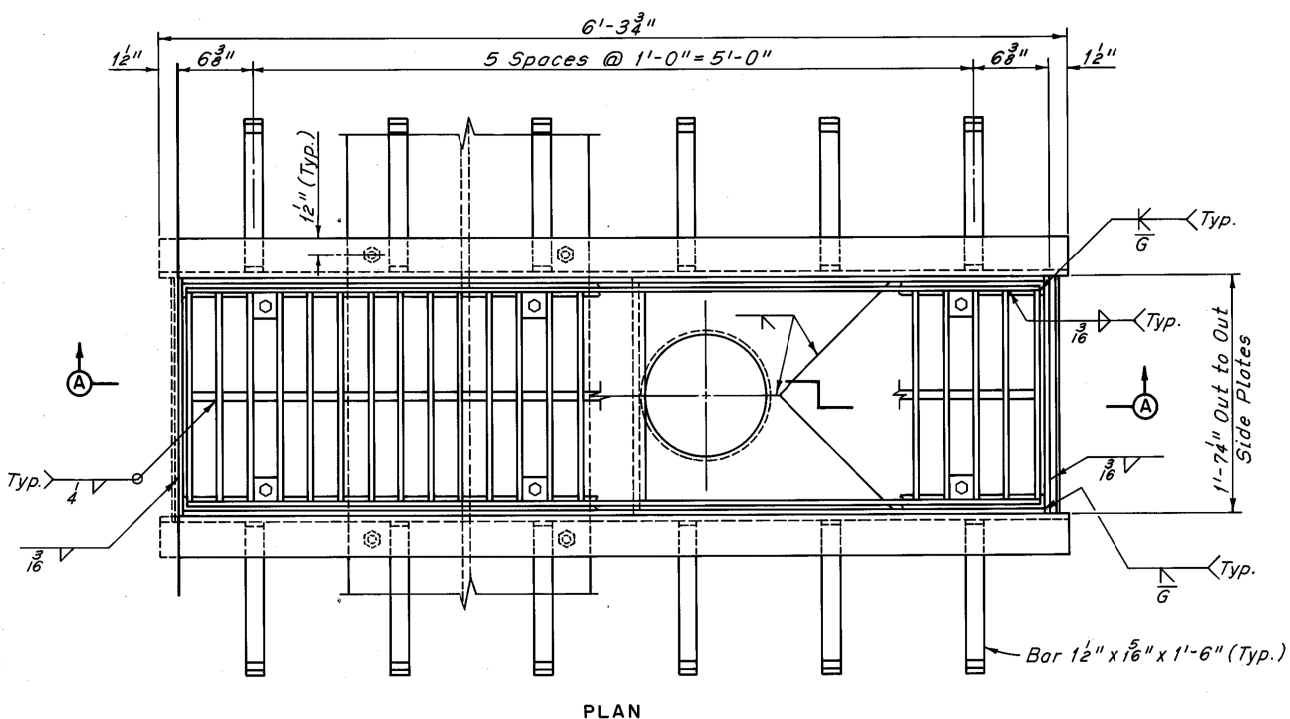
INSTALLATION SEQUENCE

1. REMOVE EXISTING NEOPRENE TROUGH, EXISTING STEEL ANGLES, AND EXISTING COLLECTOR PIPES NEAR EXTERIOR GIRDERS.
2. INSTALL PROPOSED 5/8" END WELDED STUDS ON EXISTING 24" x 3/4" PLATES OF EXISTING STEEL FINGER JOINT ASSEMBLY.
3. FOR JOINTS 1-4, DRILL 7/8" DIA. HOLES IN BOTTOM FLANGE OF EXISTING STRINGERS AND INSTALL PROPOSED SUPPORT HANGERS.
4. INSTALL PROPOSED STEEL TROUGH AND SUPPORT ANGLES.
5. INSTALL PROPOSED NEOPRENE FLASHING WITH STEEL BAR ON THE SUPPORTED SIDE OF THE JOINT, AND INSTALL PROPOSED NEOPRENE FLASHING WITH STEEL BENT PLATE ON THE CANTILEVER SIDE OF THE JOINT.
6. INSTALL PROPOSED CONDUCTOR PIPES.

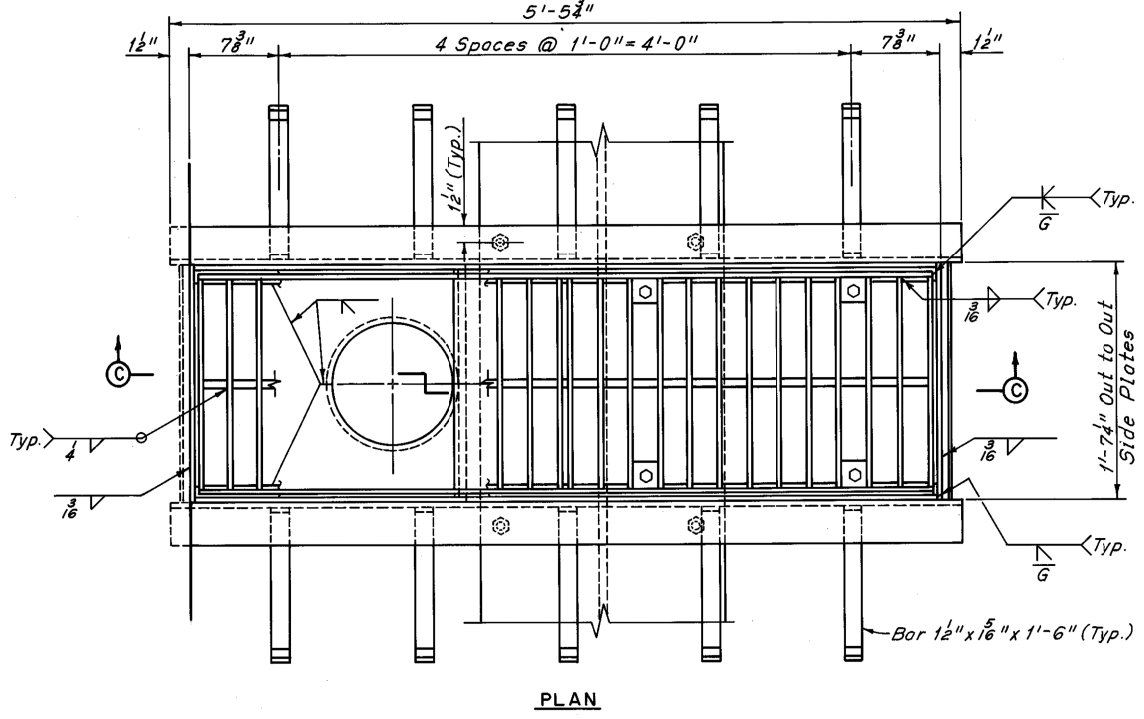
NOTES

1. GALVANIZE ALL STRUCTURAL STEEL PLATES, SHAPES, AND PIPE FOR PROPOSED DRAINAGE TROUGHs IN ACCORDANCE WITH 711.02.

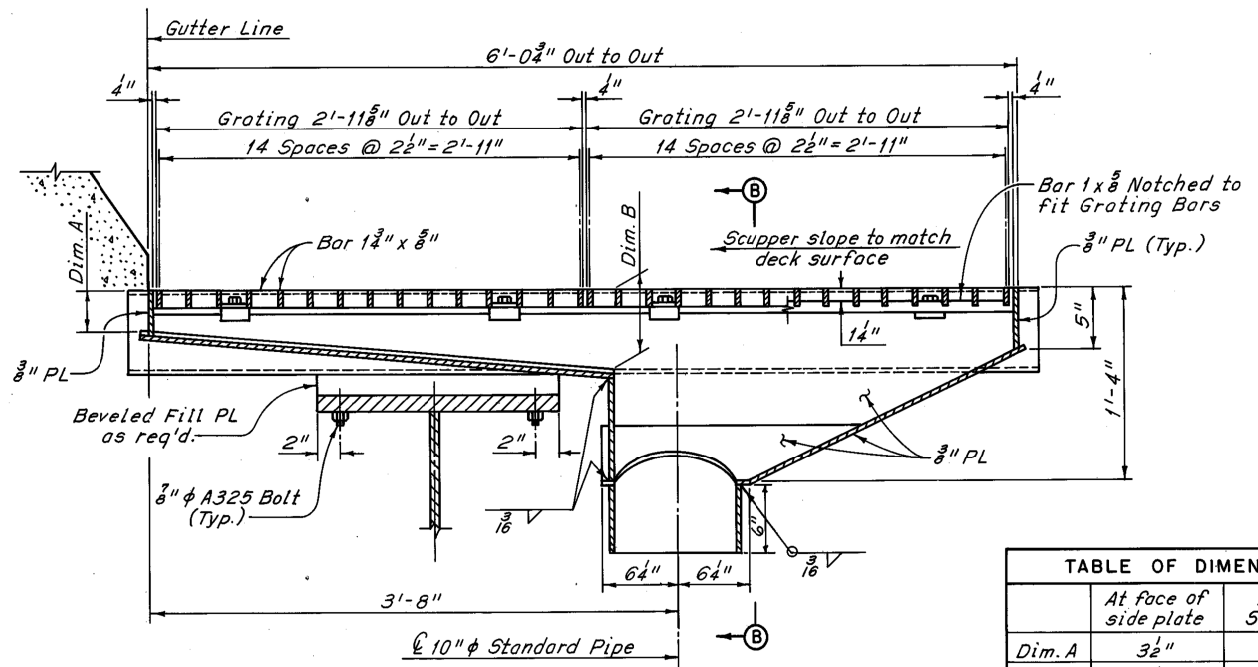
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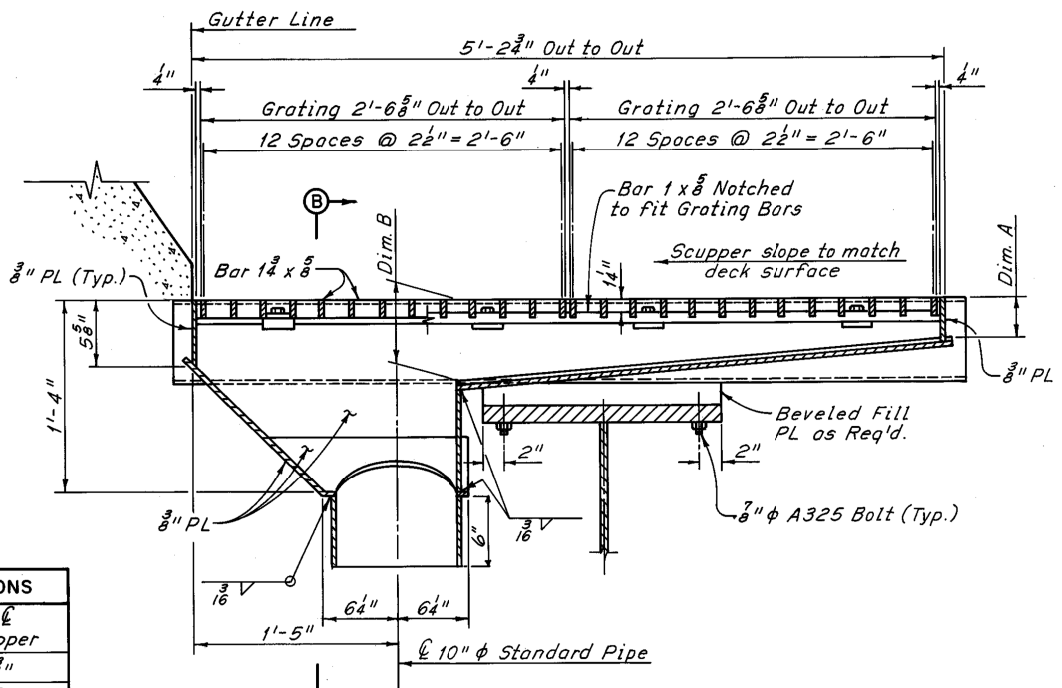
PLAN



PLAN

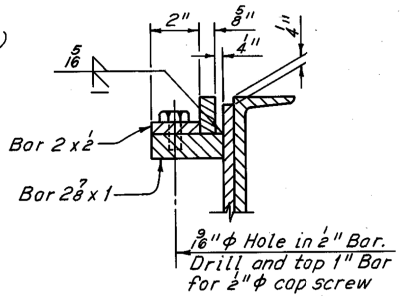


SECTION A-A

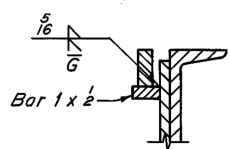


SECTION C-C

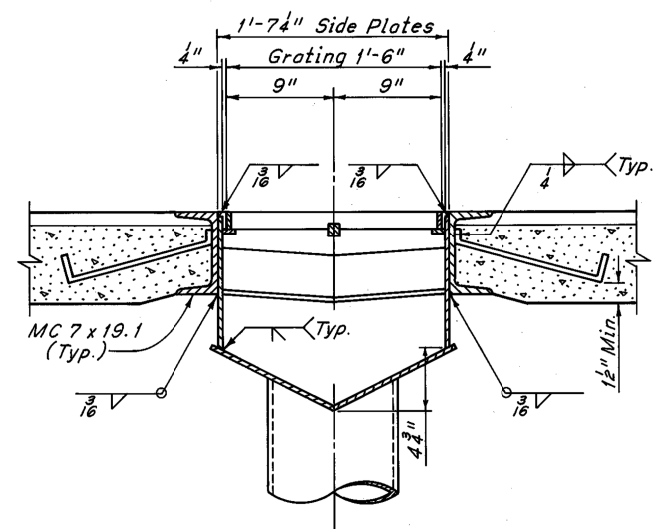
TABLE OF DIMENSIONS		
	At face of side plate	At Scupper
Dim. A	3 1/2"	3 1/2"
Dim. B	7 3/8"	7 3/8"



SECTION THRU GRATING FASTENING



SECTION THRU GRADING SUPPORT

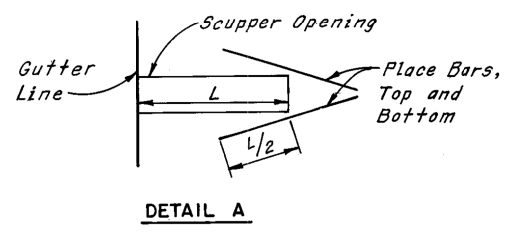


SECTION B-B
(Girder Flange not shown)

NOTES

- PLANS, SECTION, AND DETAIL LINE WORK ON THIS SHEET COME FROM THE 1986 RECORD PLANS. THESE HAVE BEEN PROVIDED FOR CONTRACTOR'S INFORMATION. REFERENCES TO I-290 SHOULD BE REPLACED WITH I-490.
- THE EXISTING SCUPPERS AND THEIR COMPONENTS SHOWN ON THIS SHEET ARE TO REMAIN UNLESS NOTED OTHERWISE.
- CLEAN ALL SCUPPERS IN ACCORDANCE WITH ITEM 518 - STRUCTURE DRAINAGE, MISC.; SCUPPER CLEANOUT.
- THE FIRST EXISTING MEDIAN SCUPPER IN UNIT 2, LOCATED 6' EAST OF JOINT 1R, HAS A BROKEN GRATE AND IS PARTIALLY FILLED WITH ASPHALT CONCRETE. REMOVE AND DISPOSE OF THESE MATERIALS IN ACCORDANCE WITH ITEM 202 - PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN.
- AT THE LOCATION DESCRIBED ABOVE, FURNISH AND INSTALL A NEW GRATE FOR A "TYPE 1 SCUPPER" PER THE DETAILS ON THIS SHEET IN ACCORDANCE WITH ITEM 518 - STRUCTURE DRAINAGE, MISC.; SCUPPER GRATE REPLACEMENT.

TYPE 1 SCUPPER



DETAIL A

TYPE 2 SCUPPER



DESIGNED PT JFM
CHECKED JFM
DRAWN CUF
REVIEWED MVL
DATE 08/05/20
STRUCTURE FILE NUMBER 181991

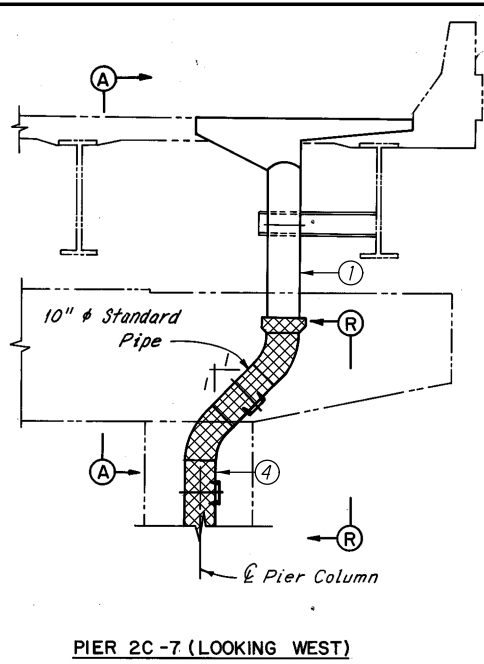
DRAINAGE REPAIRS & CLEANING DETAILS - 1
BRIDGE NO. CUY-490-0100
I-490 OVER CUYAHOGA RIVER

CUY-490-01.00
PID No. 25622

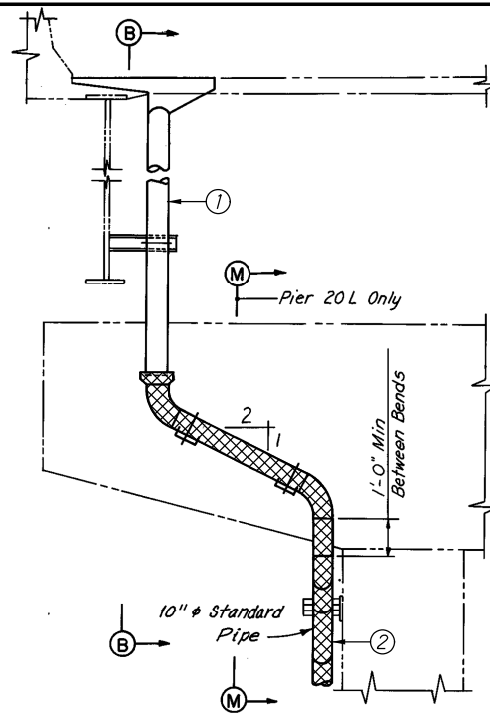
92/116

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182

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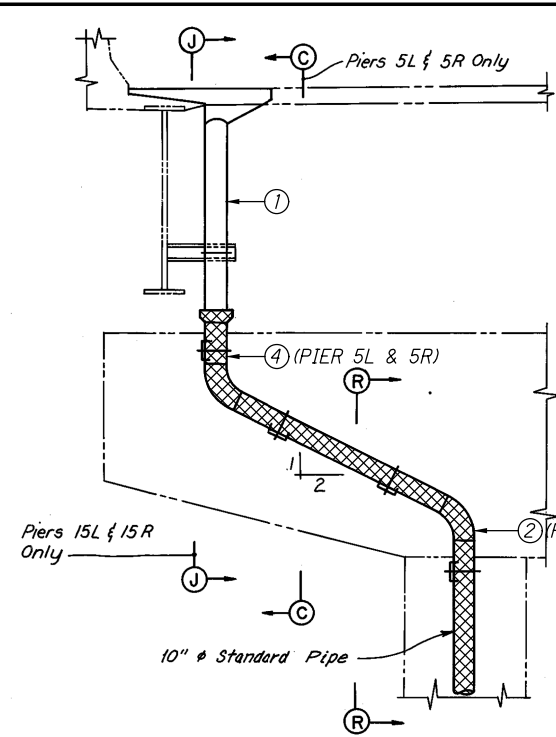


PIER 2C-7 (LOOKING WEST)

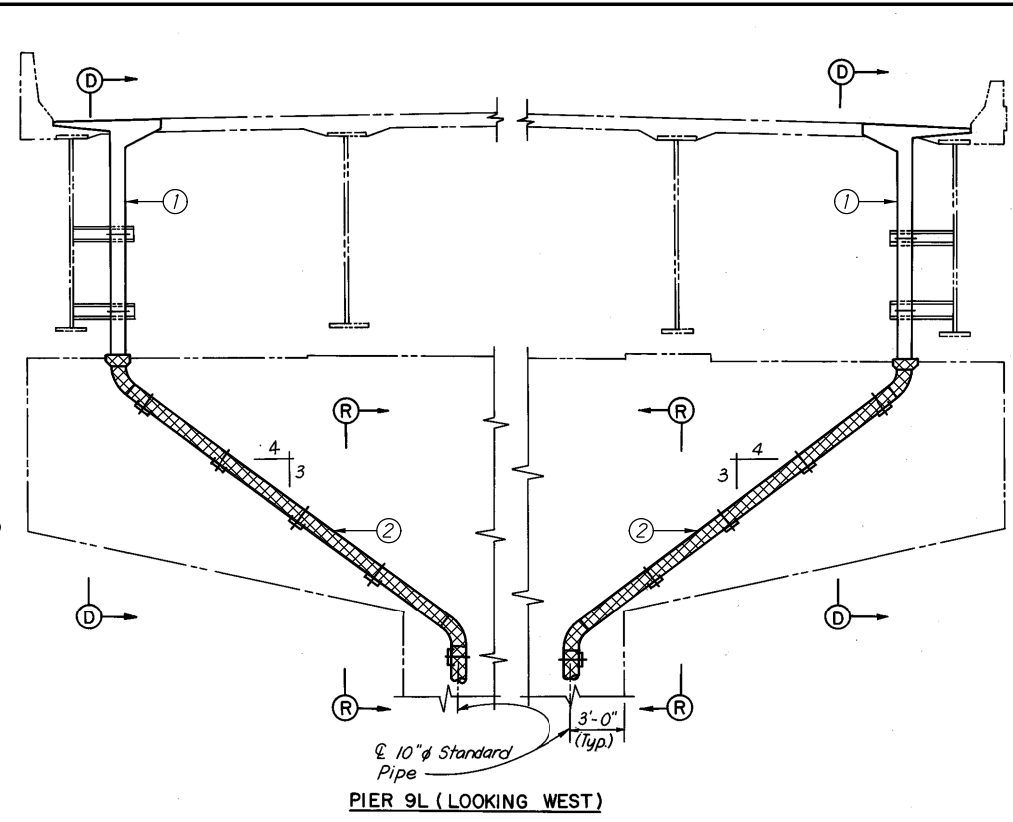


PIER 4L NORTH GUTTER (LOOKING EAST)
PIER 4L NORTH MEDIAN (OPPOSITE HAND, LOOKING EAST)
PIER 4R SOUTH MEDIAN (LOOKING EAST)
PIER 20L NORTH MEDIAN (LOOKING WEST)

Note: For Pier 4R South Gutter
See Sheet 94/116

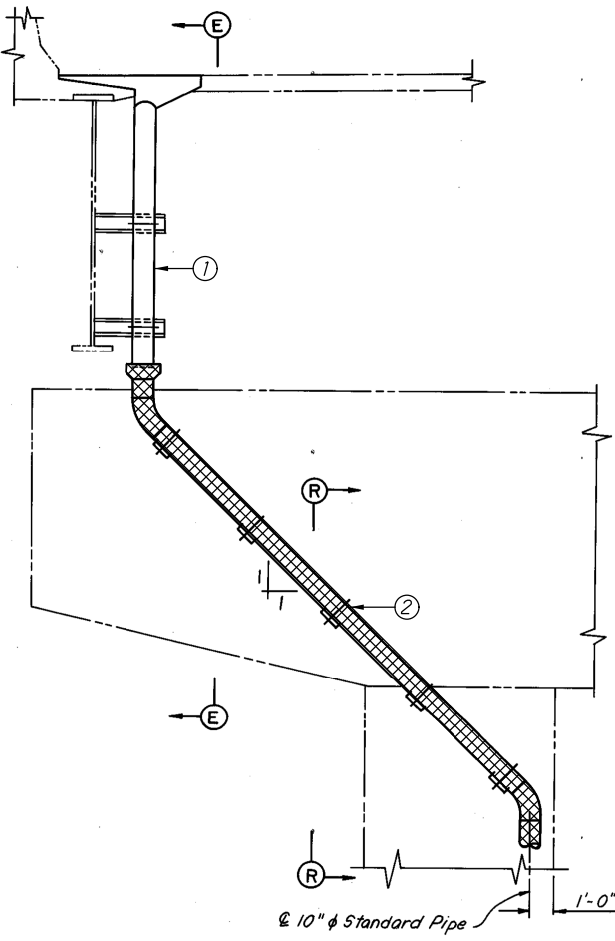


PIERS 5L & 5R (LOOKING WEST)
PIER 15R SOUTH GUTTER (LOOKING WEST)
PIER 15L NORTH GUTTER (OPPOSITE HAND, LOOKING WEST)

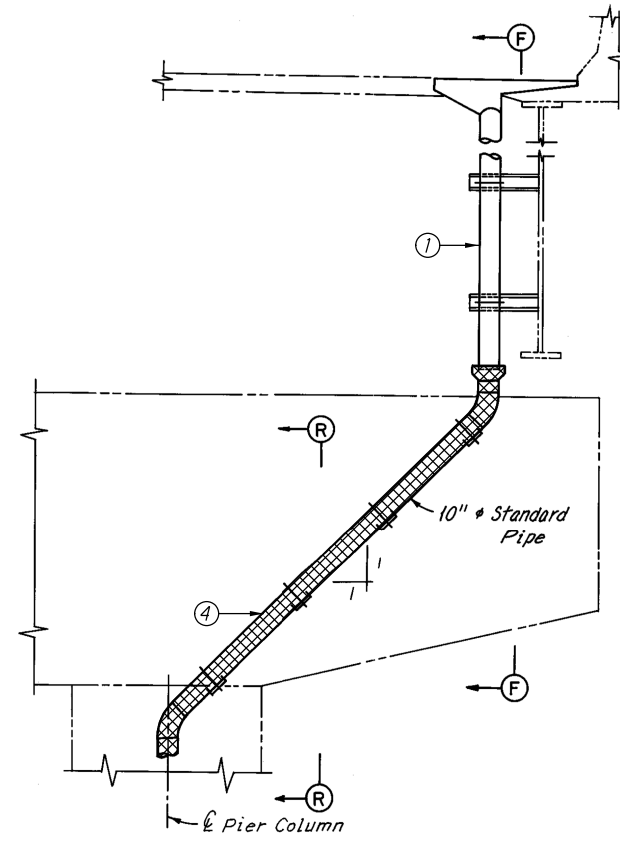


PIER 9L (LOOKING WEST)

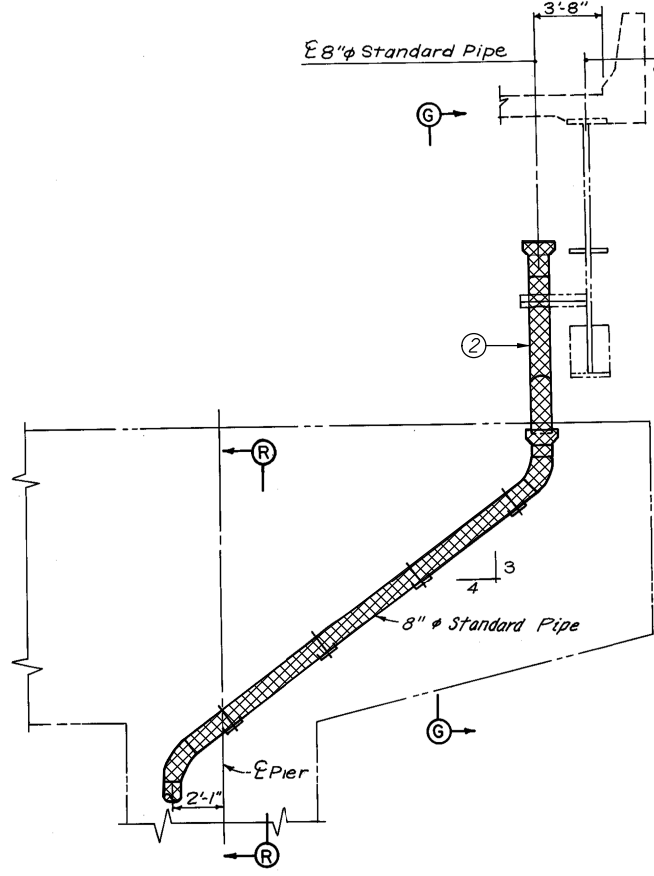
NOTES
 1. FOR LEGEND AND NOTES, SEE SHEET 96/116.



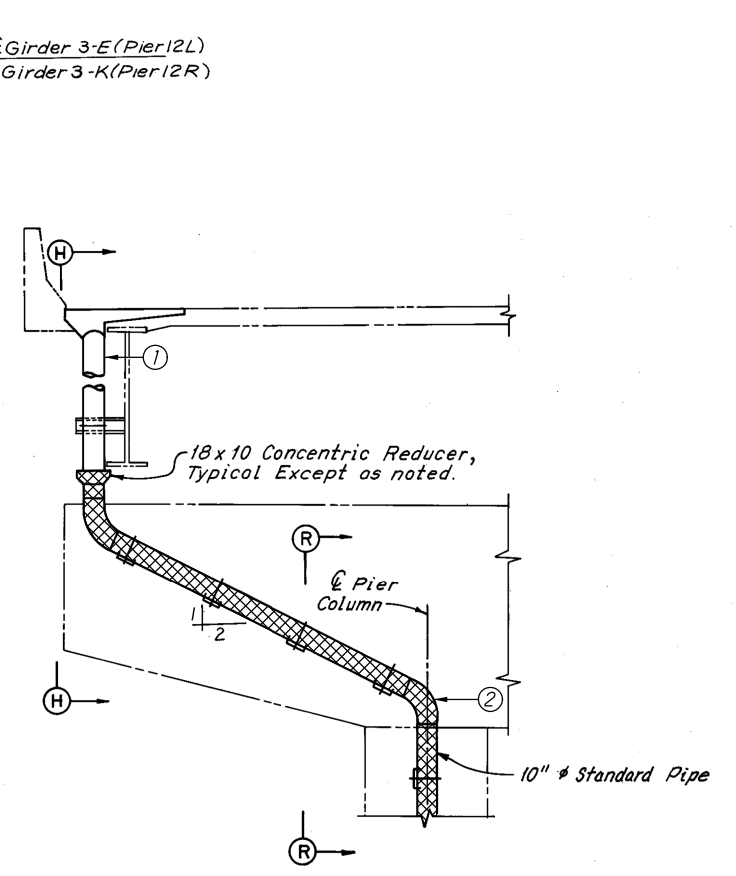
PIER 9R SOUTH MEDIAN (LOOKING EAST)
PIER 9R SOUTH GUTTER (OPPOSITE HAND, LOOKING EAST)



PIERS 10L & 10R (LOOKING EAST)



PIERS 12L & 12R (LOOKING EAST)



PIER 15L NORTH MEDIAN (LOOKING WEST)
PIER 15R SOUTH MEDIAN (OPPOSITE HAND, LOOKING WEST)

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DRAWN	CJF	REVISED	
REVIEWED	MJL	STRUCTURE FILE NUMBER	181991
DATE	08/05/20		

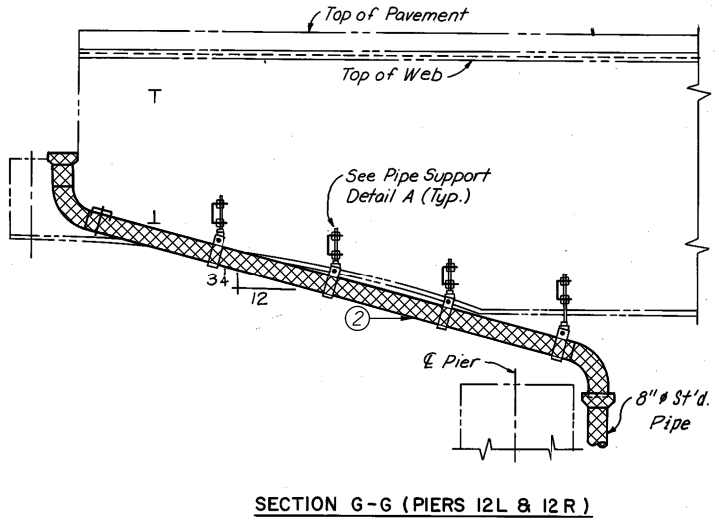
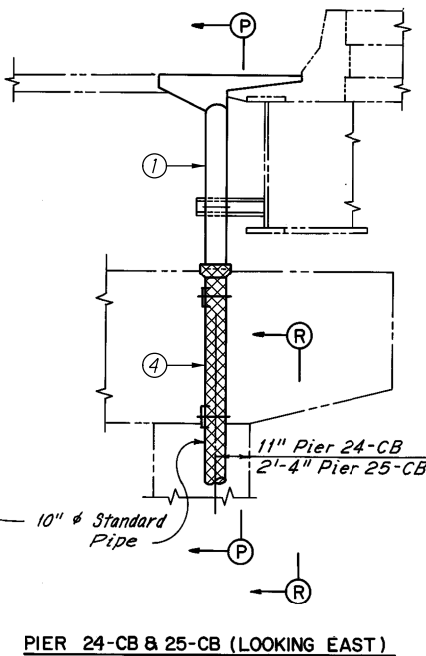
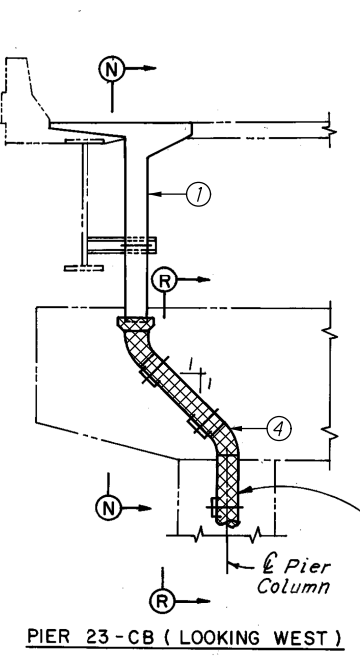
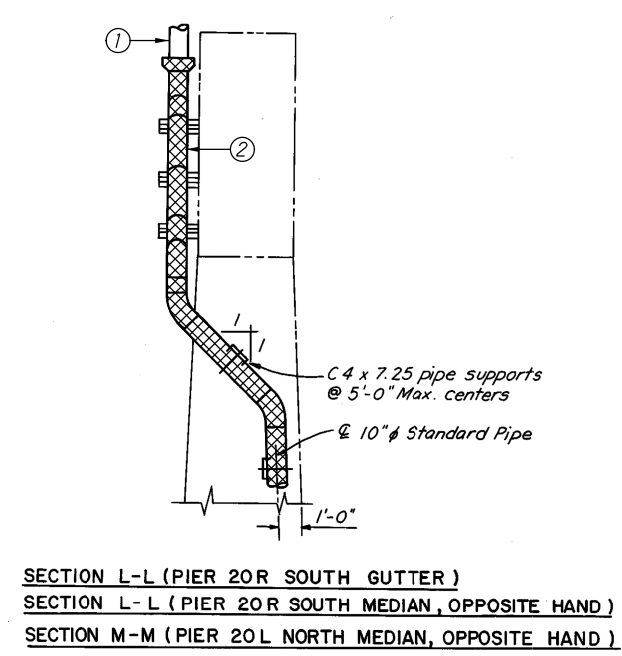
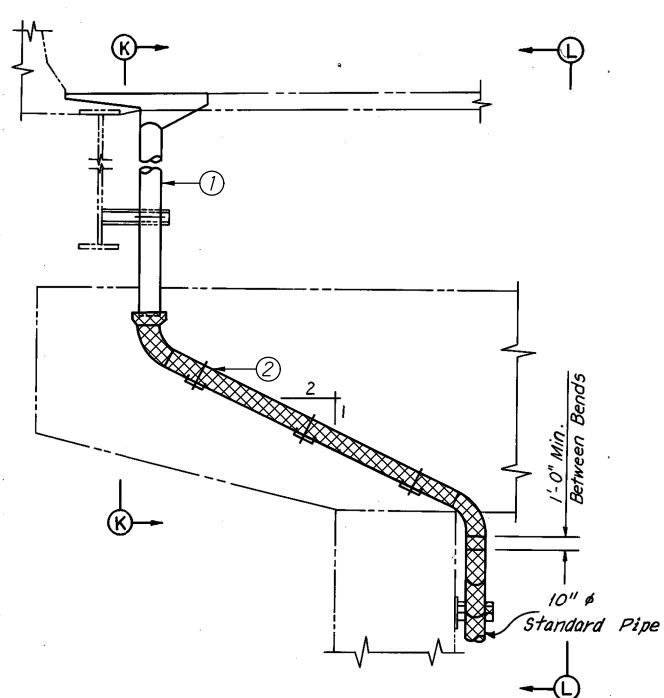
DRAINAGE REPAIRS & CLEANING DETAILS - 2
 BRIDGE NO. CUY-490-0100
 I-490 OVER CUYAHOGA RIVER

CUY-490-01.00
 PID No. 25622

93/116

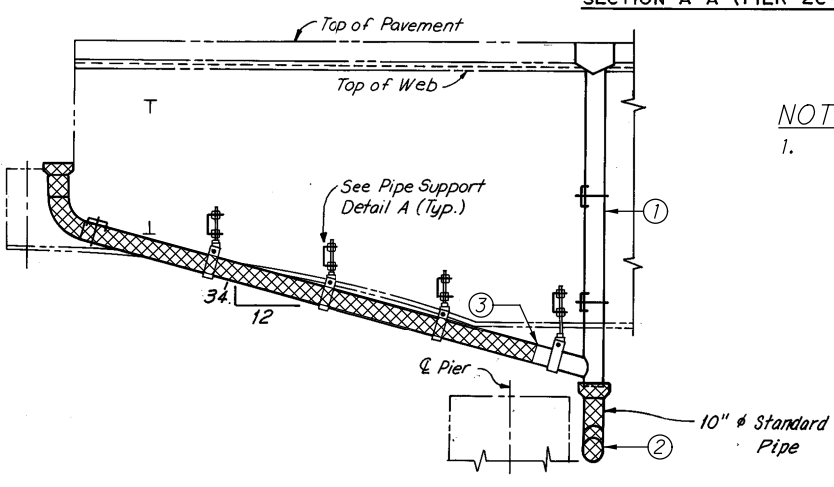
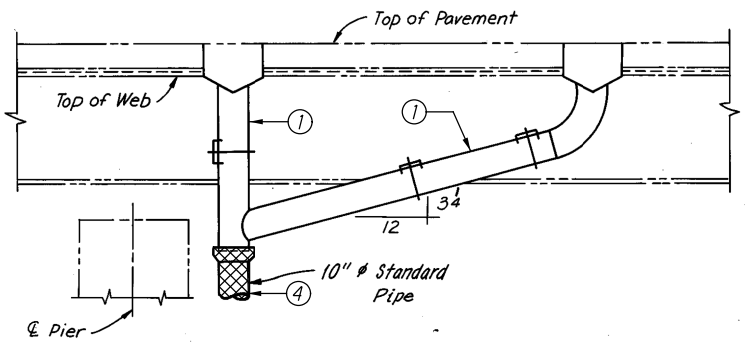
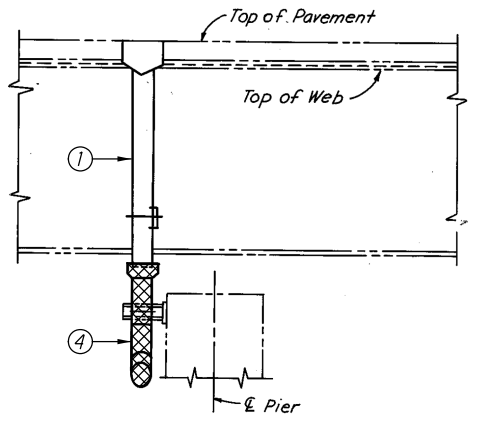
150
182

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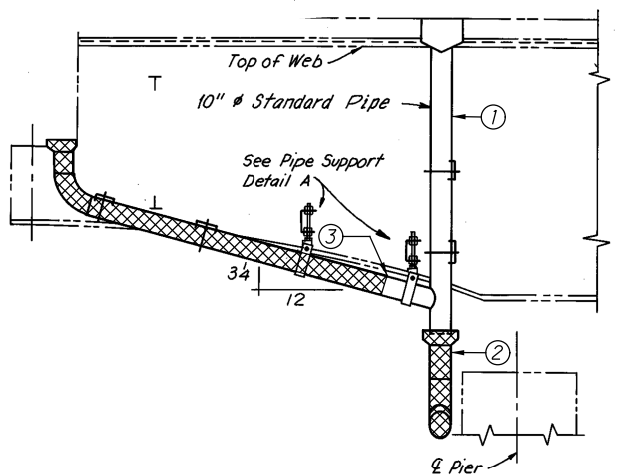
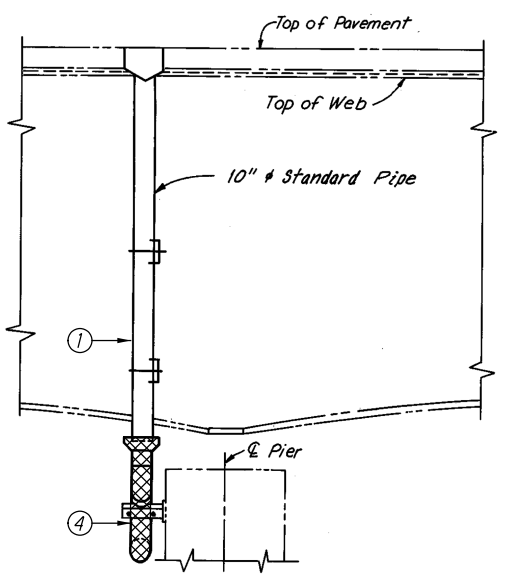
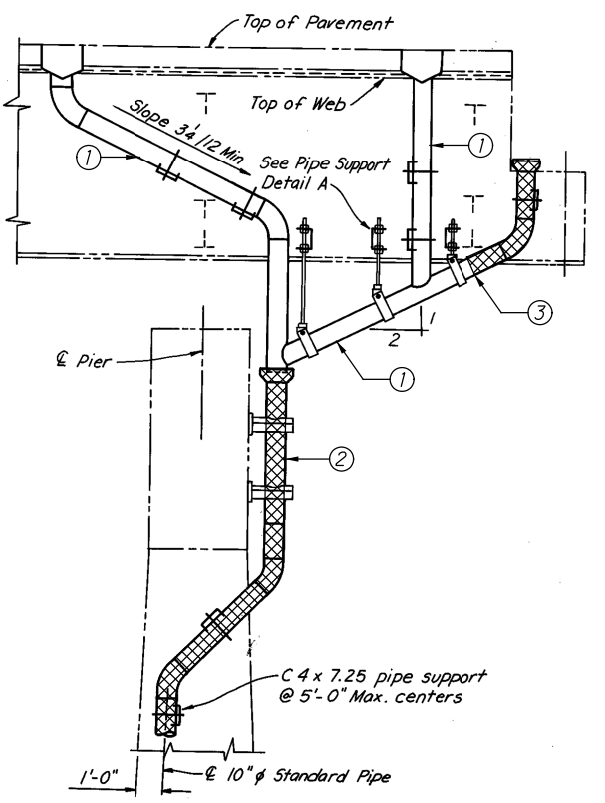
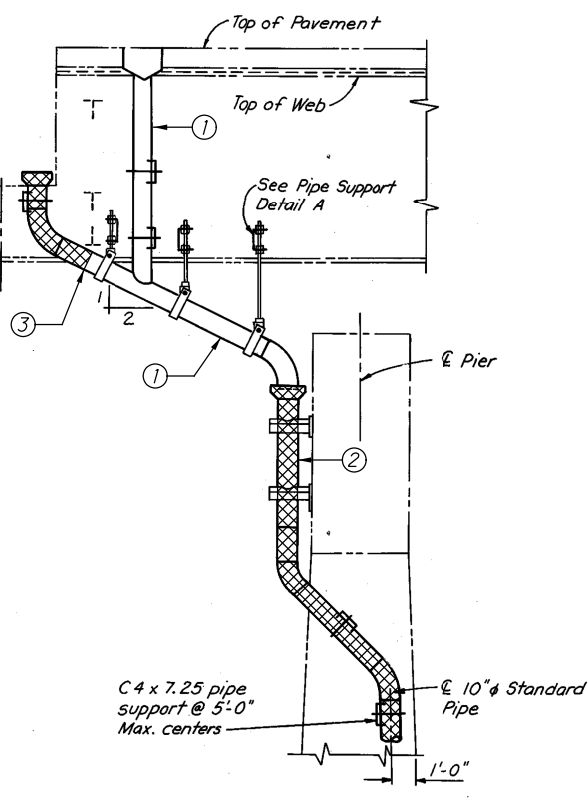


PIER 20R SOUTH GUTTER (LOOKING WEST)
PIER 20R SOUTH MEDIAN (OPPOSITE HAND, LOOKING WEST)
PIER 4R SOUTH GUTTER (OPPOSITE HAND, LOOKING EAST)

Note: For Pier 20L North Median
 See Sheet 93/116



NOTES
 1. FOR LEGEND AND NOTES,
 SEE SHEET 96/116.



SECTION B-B (PIER 4L NORTH MEDIAN)
SECTION B-B (PIER 4R SOUTH MEDIAN, OPPOSITE HAND)
SECTION L-L (PIER 4R SOUTH GUTTER, OPPOSITE HAND)

SECTION B-B (PIER 4L NORTH GUTTER)

SECTION F-F (PIERS 10L & 10R)

SECTION E-E (PIER 9R)



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

DESIGNED: PT
 CHECKED: JFM

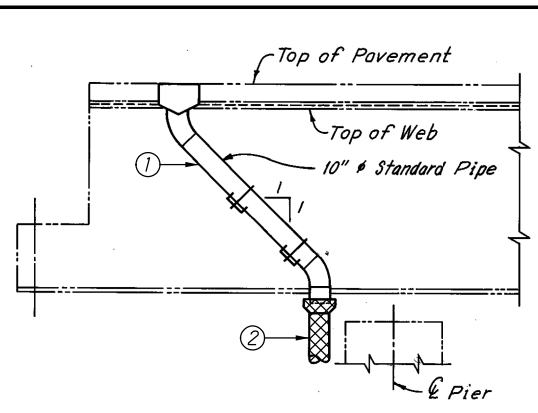
DRAINAGE REPAIRS & CLEANING DETAILS - 3
 BRIDGE NO. CUY-490-0100
 I-490 OVER CUYAHOGA RIVER

CUY-490-01.00
 PID No. 25622

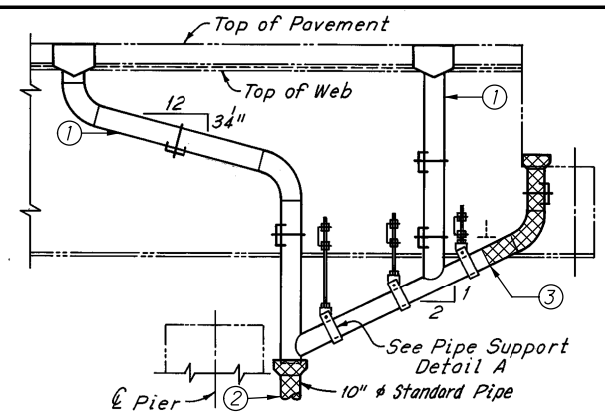
94/116

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 182

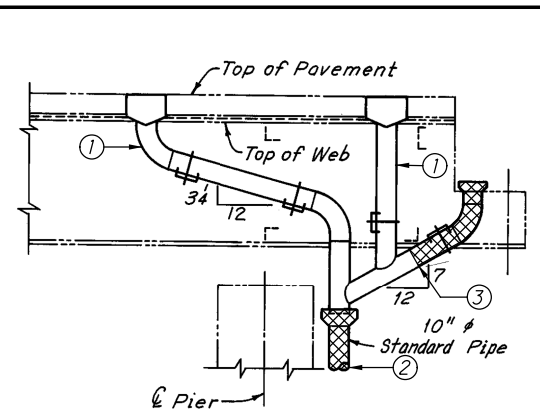
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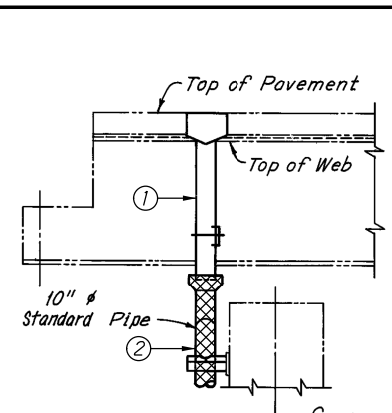
SECTION H-H (PIER 15R SOUTH MEDIAN)
SECTION J-J (PIER 15L NORTH GUTTER)



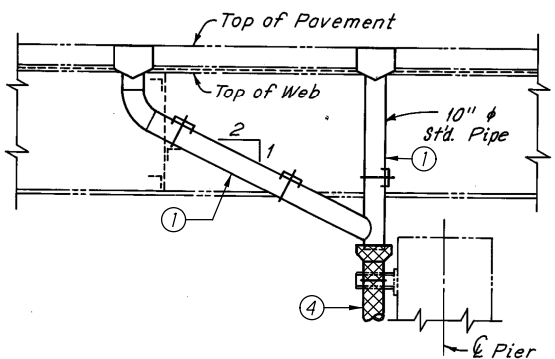
SECTION H-H (PIER 15L NORTH MEDIAN)
SECTION J-J (PIER 15R SOUTH GUTTER)



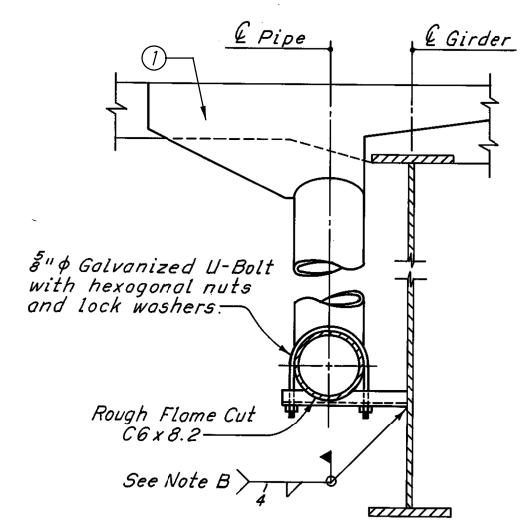
SECTION B-B (PIER 20L NORTH MEDIAN)
SECTION K-K (PIER 20R SOUTH GUTTER)



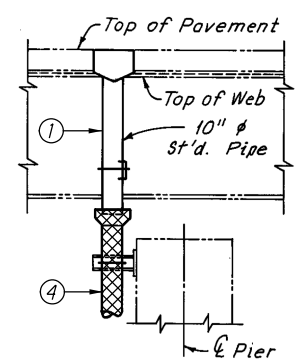
SECTION K-K (PIER 20R SOUTH MEDIAN)



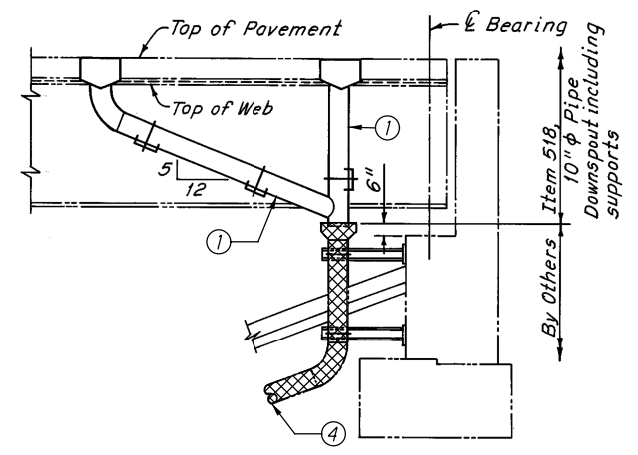
SECTION P-P (PIER 24-CB)



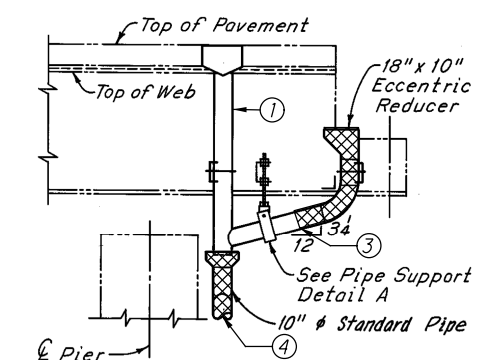
PIPE SUPPORT DETAIL ON GIRDERS



SECTION P-P (PIER 25-CB)

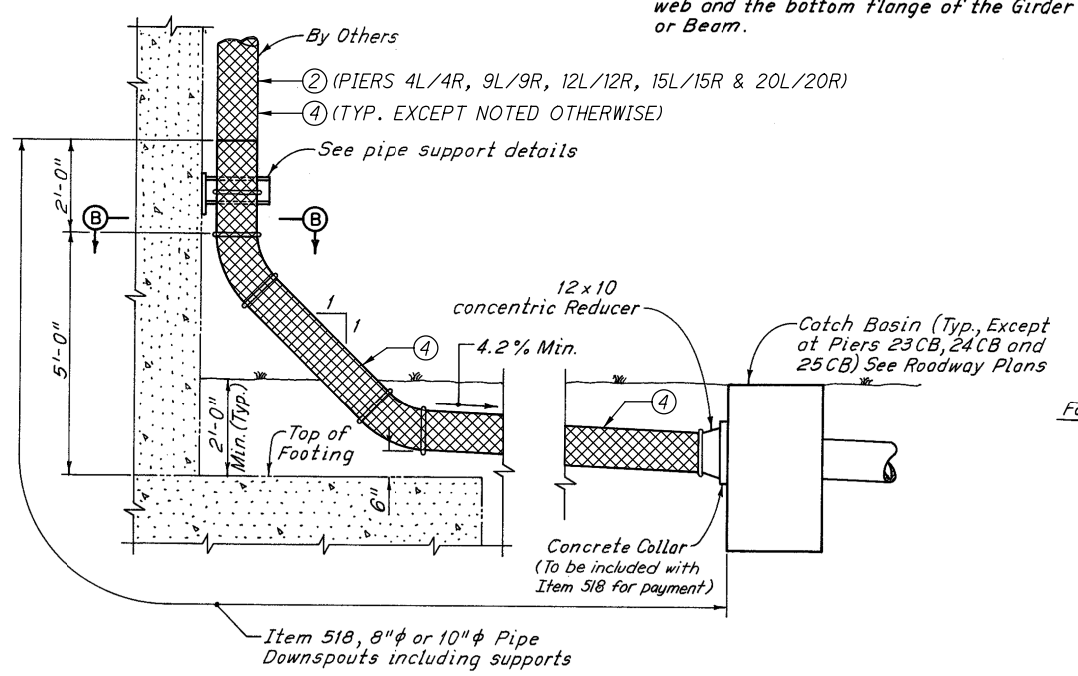


EAST ABUTMENT (NORTH MEDIAN)

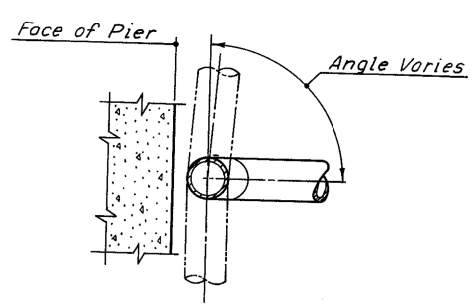


SECTION N-N (PIER 23-CB)

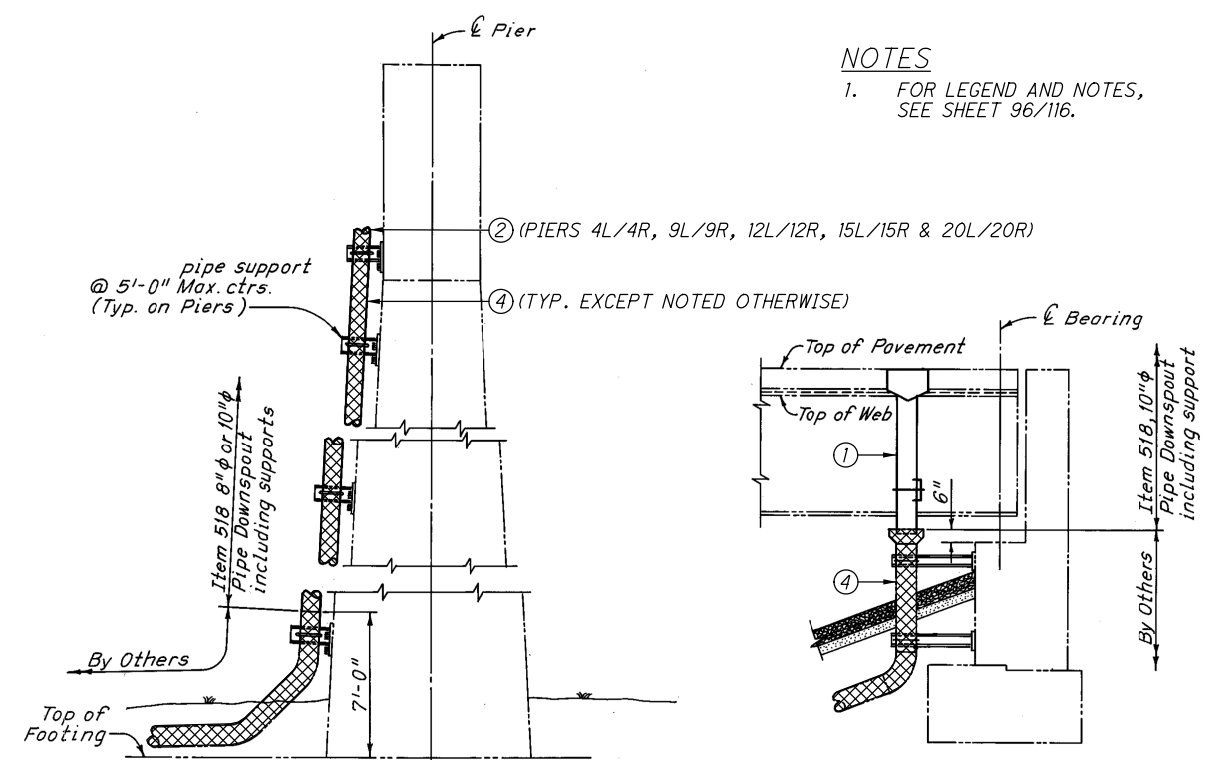
Note B: All pipe support welds shall be located in the region between mid depth of the web and the bottom flange of the girder or beam.



DRAINAGE PIPE DETAIL AT PIERS



SECTION B-B



SECTION R-R

EAST ABUTMENT (EXCEPT NORTH MEDIAN)

NOTES
1. FOR LEGEND AND NOTES, SEE SHEET 96/116.

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DRAWN	CJF	REVIS	
REVIEWED	MJL	STRUCTURE FILE NUMBER	1811991
DATE	08/05/20		

DRAINAGE REPAIRS & CLEANING DETAILS - 4

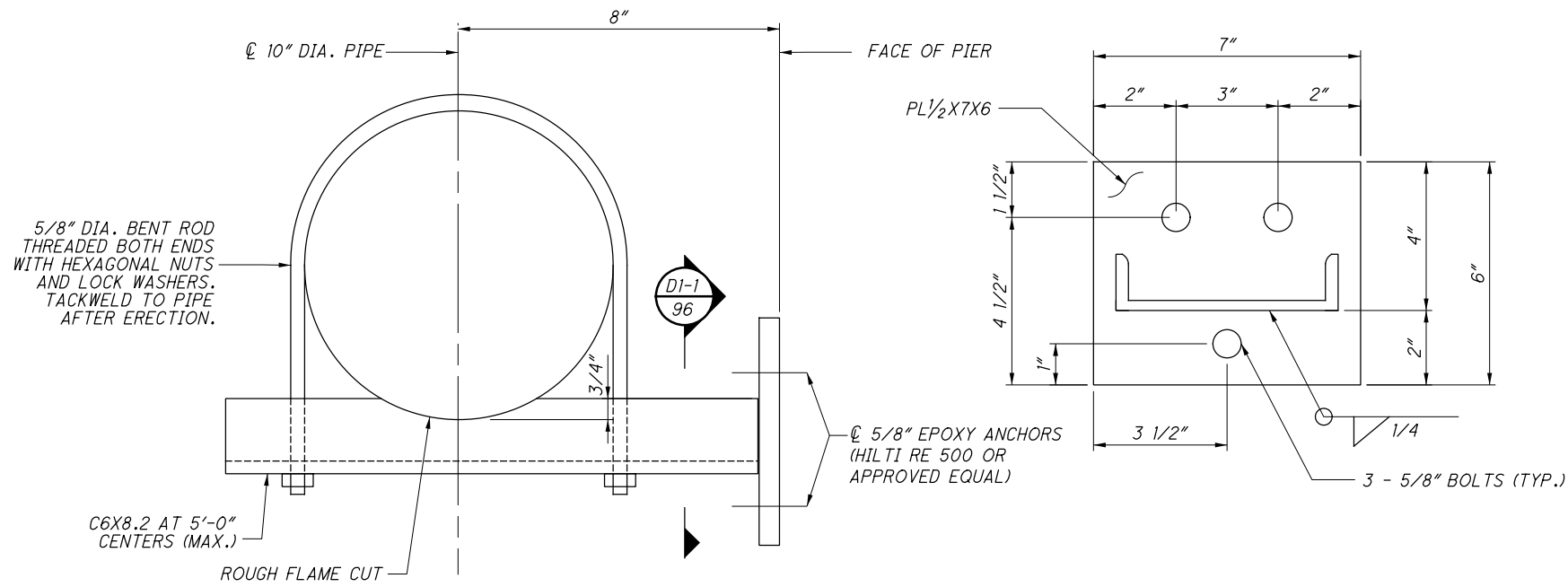
BRIDGE NO. CUY-490-0100
I-490 OVER CUYAHOGA RIVER

CUY-490-01.00
PID No. 25622

95/116

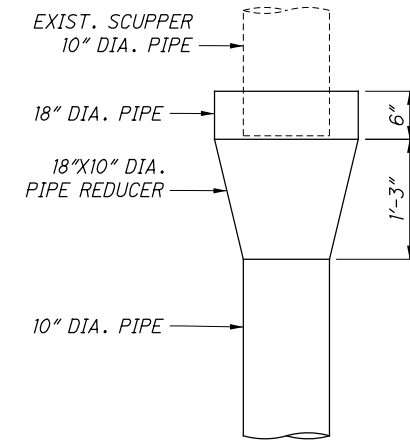
152
182

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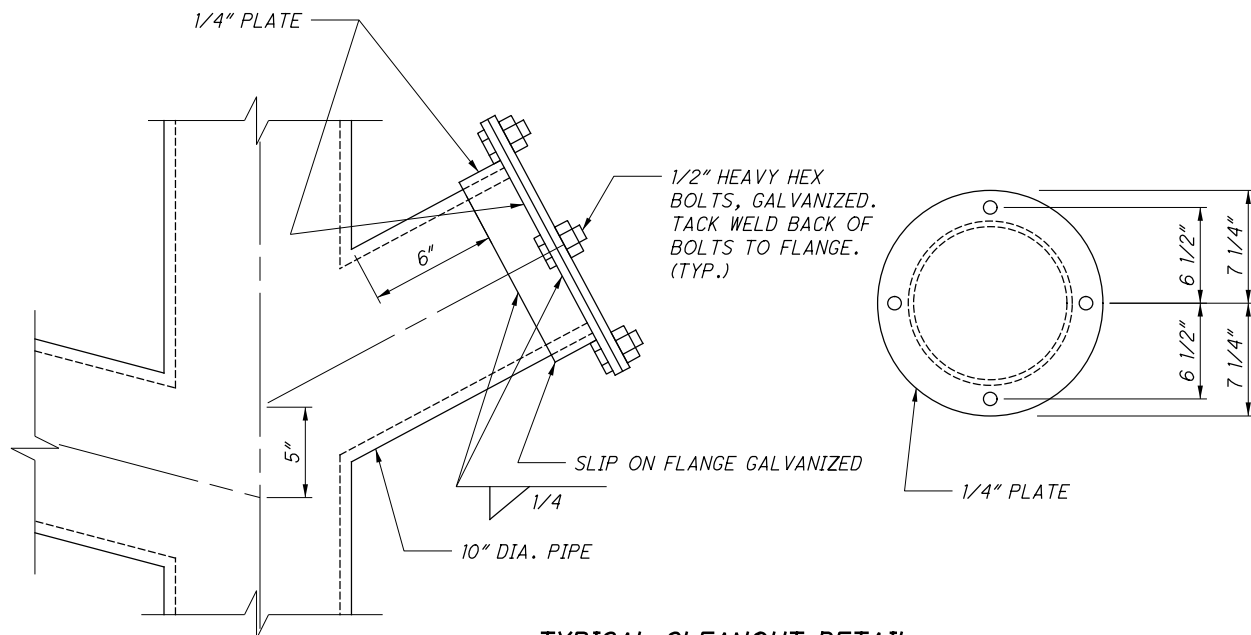


PIPE SUPPORT DETAIL AT PIERS

SECTION D1-1
96



SCUPPER HOPPER



TYPICAL CLEANOUT DETAIL

LEGEND

- ① EXISTING DRAINAGE MATERIALS TO REMAIN. COMPONENTS TO BE CLEANED AND FLUSHED OF DEBRIS. CLEAN ALL SCUPPERS IN ACCORDANCE WITH ITEM 518 - STRUCTURE DRAINAGE, MISC.: SCUPPER CLEANOUT. CLEAN ALL DOWNSPOUTS IN ACCORDANCE WITH ITEM 518 - STRUCTURE DRAINAGE, MISC.: BRIDGE DRAINAGE SYSTEM CLEANING.
- ② EXISTING DRAINAGE MATERIALS TO BE REMOVED AND REPLACED AT NEW LOCATION, SEE NOTE 3.
- ③ EXISTING DRAINAGE MATERIALS TO BE REMOVED. INSTALL CLEANOUT AT CUT LINE, SEE NOTE 4.
- ④ EXISTING DRAINAGE MATERIALS TO BE REMOVED AND REPLACED. INSTALL PROPOSED DRAINAGE COMPONENTS AT EXISTING LOCATION IN ACCORDANCE WITH ITEM 518 - STRUCTURE DRAINAGE, MISC.: 10" GALVANIZED STEEL PIPE, INCLUDING SPECIALS.

INDICATES EXISTING DRAINAGE MATERIALS TO BE REMOVED IN ACCORDANCE WITH ITEM 202 - PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN.

NOTES

- 1. ELEVATION AND SECTION VIEW LINWORK ON SHEETS 92/116 THRU 95/116 COMES FROM SCANS OF THE 1986 RECORD PLAN.
- 2. ALL PROPOSED PIPES ARE 10" DIAM. GALVANIZED STEEL PIPE. ALL PIPE SUPPORTS ARE GALVANIZED STEEL.
- 3. FOR PROPOSED DRAINAGE DETAILS AT EXPANSION JOINTS 1 THRU 5, SEE SHEETS 97/116 THRU 102/116
- 4. FOR CLEANOUT DETAIL, SEE SHEET 96/116
- 5. FOR SCUPPER HOPPER & PIPE SUPPORT DETAIL AT PIERS, SEE SHEET 96/116



DATE 08/05/20
REVIEWED MJL
MUL
STRUCTURE FILE NUMBER 1811991

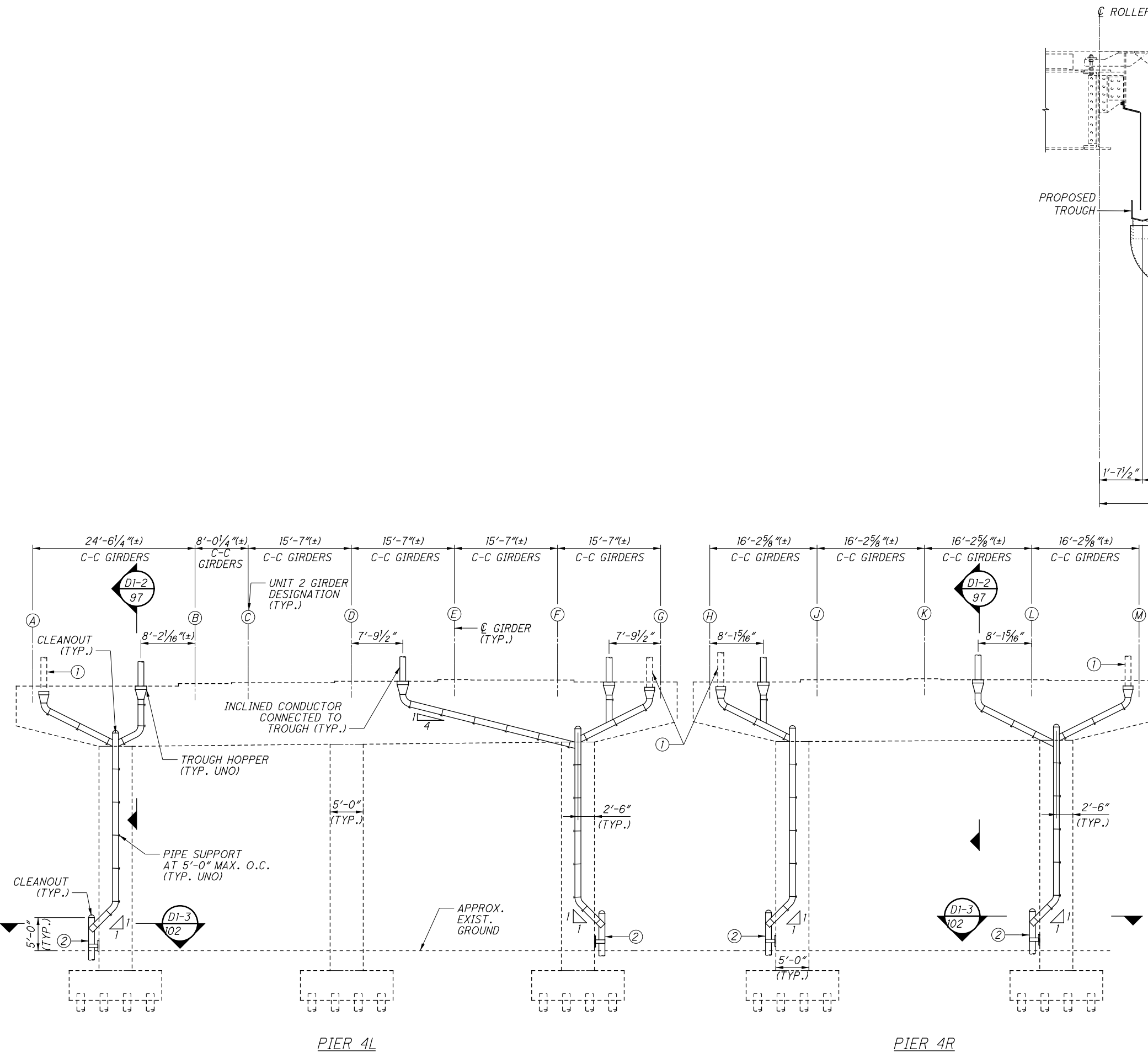
DRAINAGE REPAIRS & CLEANING DETAILS - 5
BRIDGE NO. CUY-490-0100
I-490 OVER CUYAHOGA RIVER

CUY-490-01.00
PID No. 25622

96/116

153
182

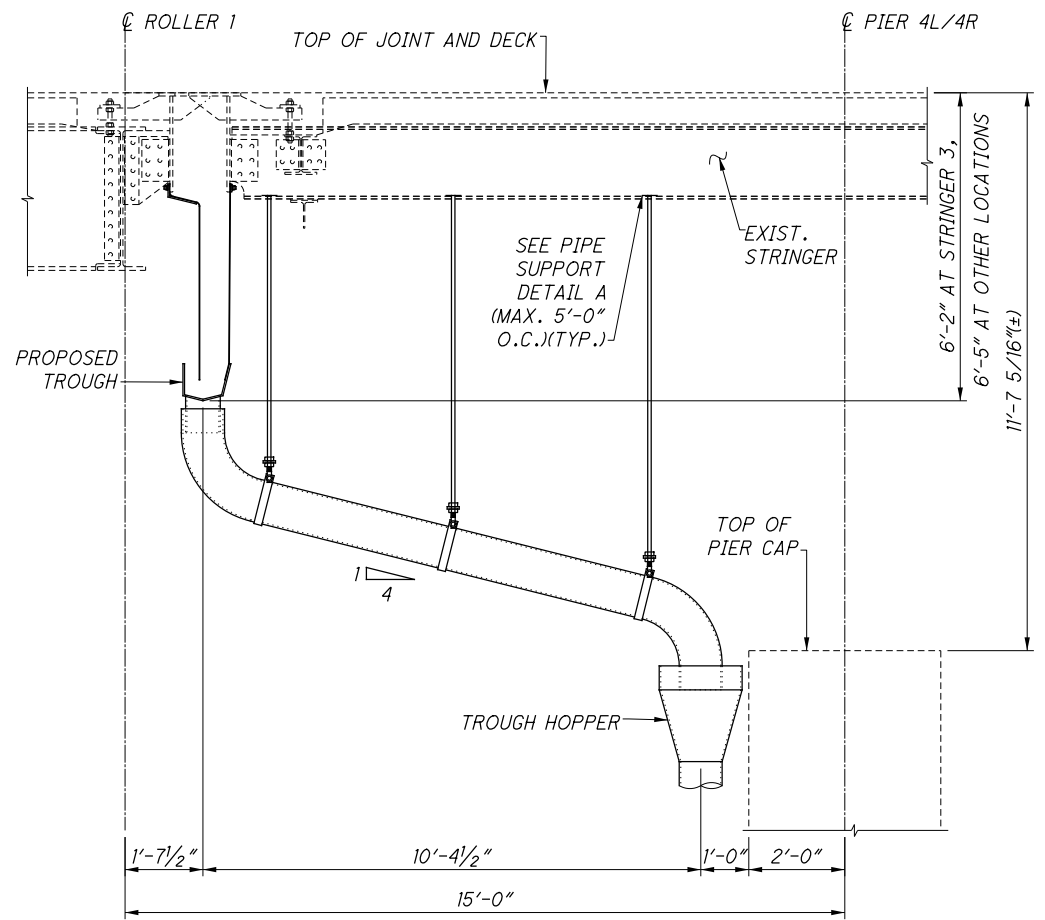
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PIER 4L

ELEVATION
WEST FACE

PIER 4R



SECTION D1-2/97

(TYPICAL AT TROUGH COLLECTOR)

LEGEND

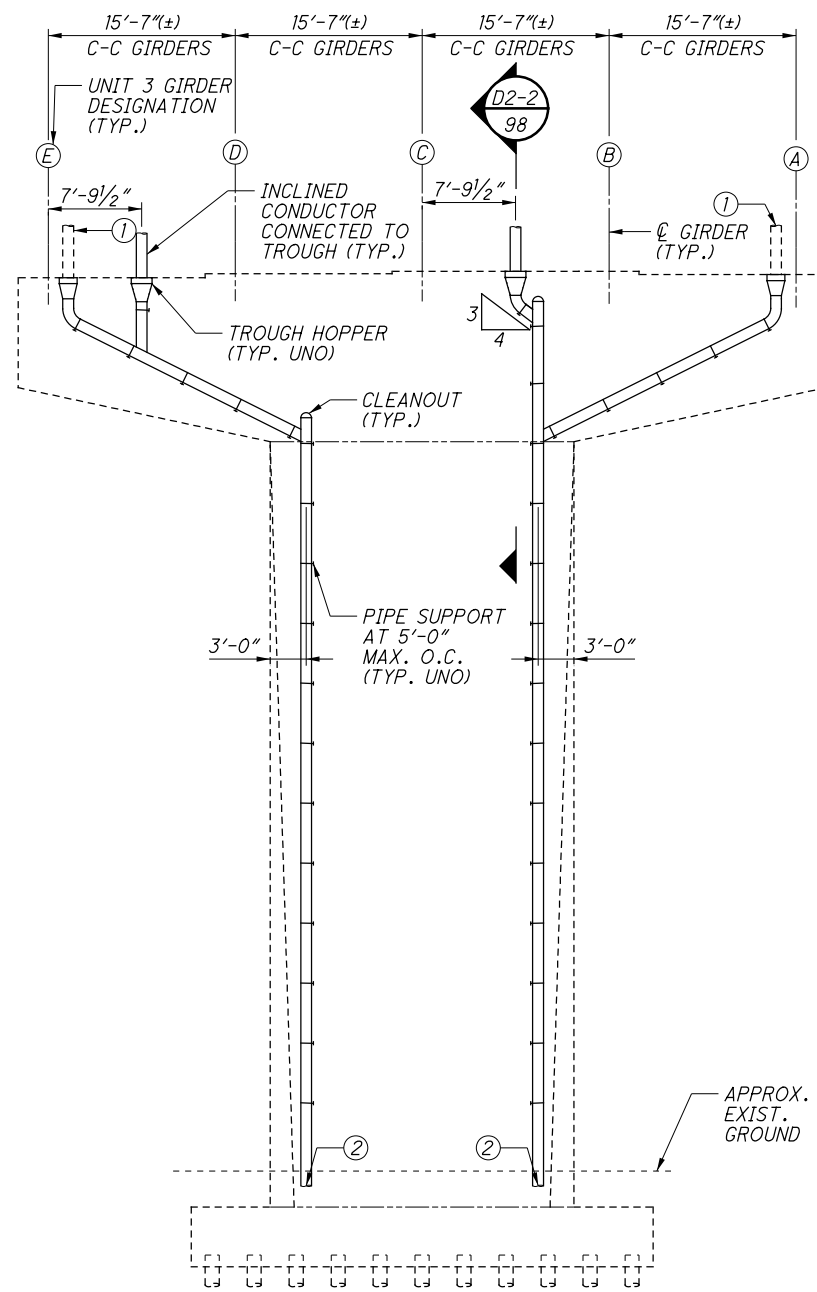
- ① EXISTING SCUPPER AND SCUPPER PIPE TO REMAIN. INSTALL PROPOSED SCUPPER HOPPER. SEE NOTES 4 THRU 6.
- ② SEE DRAINAGE PIPE DETAIL AT PIERS ON SHEET 95/116

NOTES

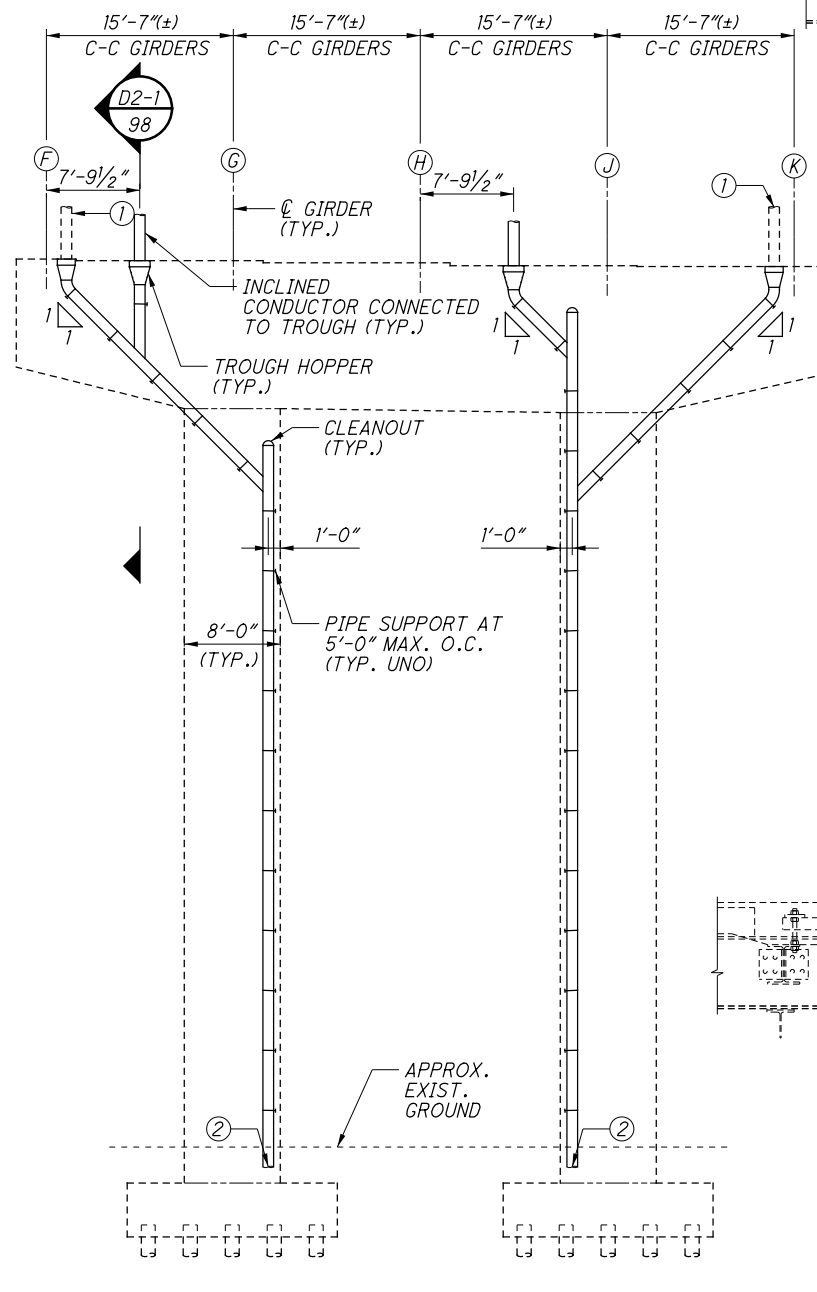
1. ALL PROPOSED PIPES ARE 10" DIAM. GALVANIZED STEEL PIPE IN ACCORDANCE WITH ITEM 518 - STRUCTURE DRAINAGE, MISC.: 10" GALVANIZED STEEL PIPE, INCLUDING SPECIALS.
2. THE MINIMUM RADIUS ON ALL PIPE BENDS IS 12" TO THE INSIDE OF THE BEND.
3. ALL SLOPES ARE 2:1 UNLESS NOTED OTHERWISE.
4. FOR DETAILS OF EXISTING SCUPPER AND SCUPPER PIPE, SEE SHEETS 92/116 THRU 96/116
5. INSTALL PROPOSED SCUPPER HOPPER AT END OF EXISTING SCUPPER PIPE. CUT END OF EXIST. SCUPPER PIPE AS REQUIRED TO FIT WITH PROPOSED DRAINAGE COMPONENTS.
6. FOR PROPOSED SCUPPER HOPPER DETAIL, SEE SHEET 96/116
7. FOR PROPOSED TROUGH DETAILS, SEE SHEETS 83/116 THRU 91/116
8. FOR PIPE SUPPORT DETAIL AT PIERS, SEE SHEET 96/116
9. FOR CLEANOUT DETAIL, SEE SHEET 96/116
10. FOR PROPOSED TROUGH HOPPER DETAIL AND PIPE SUPPORT DETAILS A & B, SEE SHEET 102/116
11. FOR EXISTING PIER DIMENSIONS, SEE 1986 RECORD PLANS. REFERENCES TO I-290 SHOULD BE REPLACED WITH I-490.

DLZ <small>614 N. SUPERIOR AVE., SUITE 1000 • CLEVELAND, OHIO 44113</small>	
DESIGNED: PT CHECKED: JFM DRAWN: C.J.F. REVISED:	REVIEWED: MJL DATE: 08/05/20 STRUCTURE FILE NUMBER: 1811991
TROUGH DRAINAGE DETAILS - 1 BRIDGE NO. CUY-490-0100 I-490 OVER CUYAHOGA RIVER	
CUY-490-01.00 PID No. 25622	
97/116	
154 182	

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**PIER 9L
ELEVATION**
EAST FACE



**PIER 9R
ELEVATION**
WEST FACE

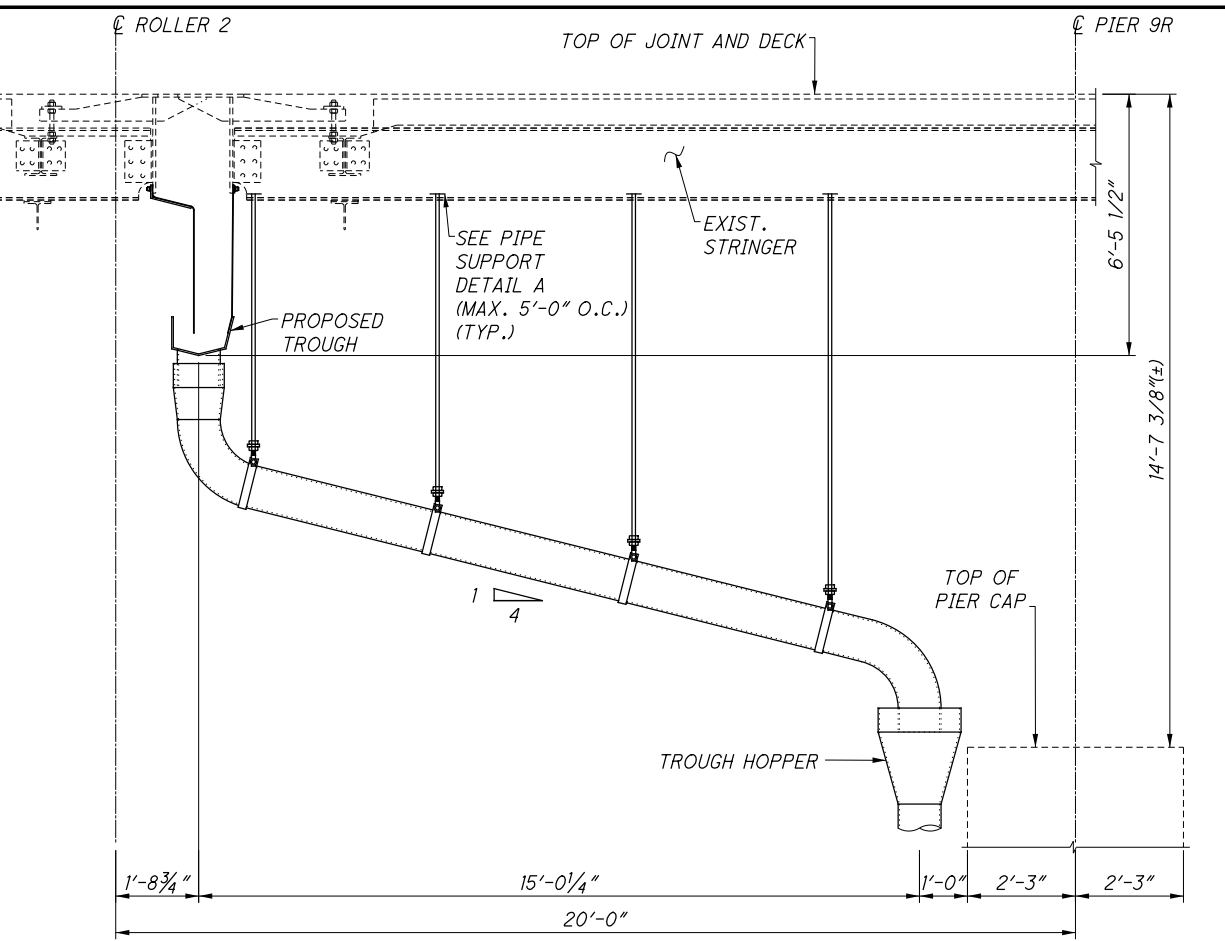
LEGEND

- ① EXISTING SCUPPER AND SCUPPER PIPE TO REMAIN. INSTALL PROPOSED SCUPPER HOPPER. SEE NOTES 4 THRU 6.
- ② SEE DRAINAGE PIPE DETAIL AT PIERS ON SHEET 95/116

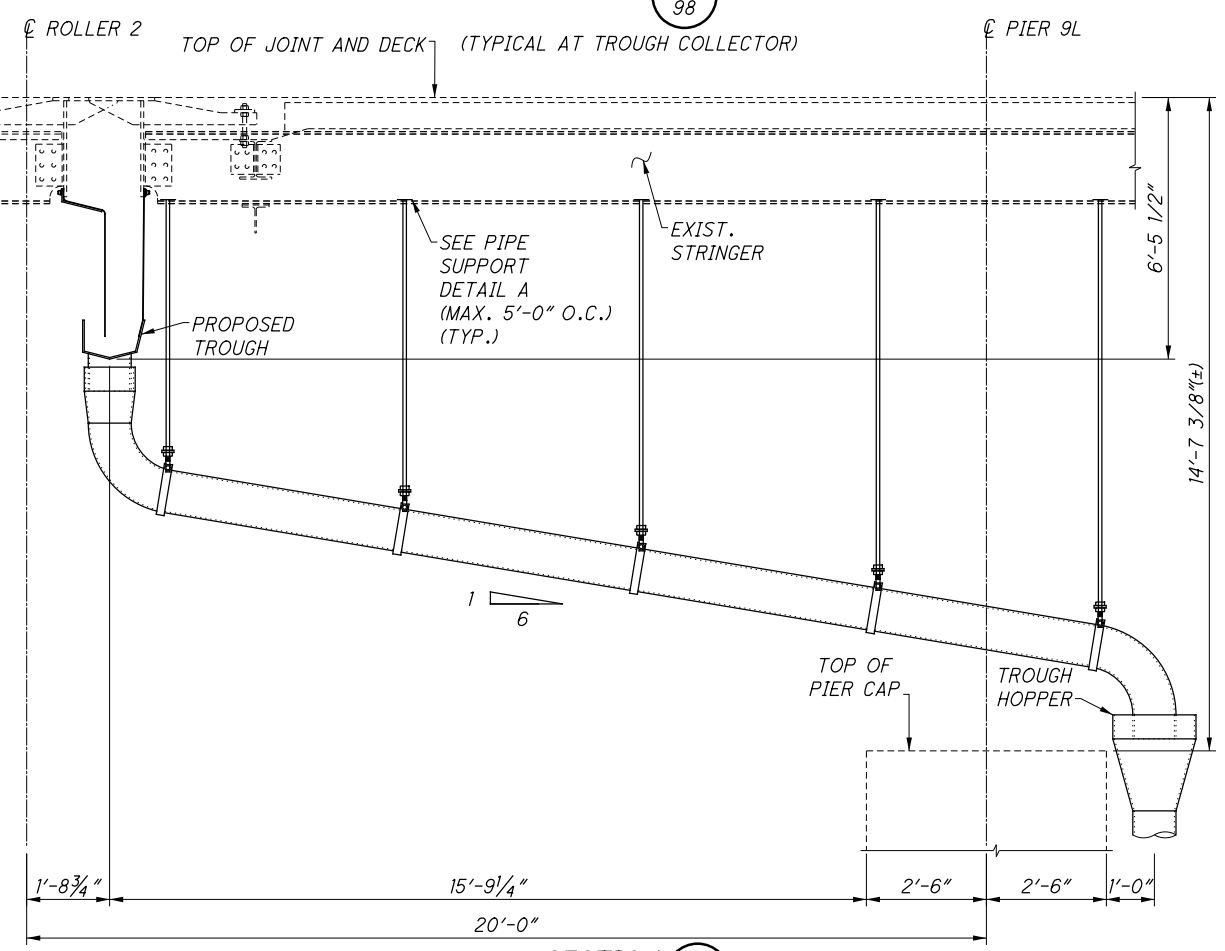
NOTES

- 1. ALL PROPOSED PIPES ARE 10" DIAM. GALVANIZED STEEL PIPE IN ACCORDANCE WITH ITEM 518 - STRUCTURE DRAINAGE, MISC.: 10" GALVANIZED STEEL PIPE, INCLUDING SPECIALS.
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- 3. ALL SLOPES ARE 2:1 UNLESS NOTED OTHERWISE.
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- 5. INSTALL PROPOSED SCUPPER HOPPER AT END OF EXISTING SCUPPER PIPE. CUT END OF EXIST. SCUPPER PIPE AS REQUIRED TO FIT WITH PROPOSED DRAINAGE COMPONENTS.
- 6. FOR PROPOSED SCUPPER HOPPER DETAIL, SEE SHEET 96/116
- 7. FOR PROPOSED TROUGH DETAILS, SEE SHEETS 83/116 THRU 91/116
- 8. FOR PIPE SUPPORT DETAIL AT PIERS, SEE SHEET 96/116
- 9. FOR CLEANOUT DETAIL, SEE SHEET 96/116
- 10. FOR PROPOSED TROUGH HOPPER DETAIL AND PIPE SUPPORT DETAILS A & B, SEE SHEET 102/116
- 11. FOR EXISTING PIER DIMENSIONS, SEE 1986 RECORD PLANS. REFERENCES TO I-290 SHOULD BE REPLACED WITH I-490.



**SECTION D2-1
98**



**SECTION D2-2
98**

(TYPICAL AT TROUGH COLLECTOR)



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DRAWN	CJF	REVISED	
REVIEWED	MJL	STRUCTURE FILE NUMBER	1811991
DATE	08/05/20		

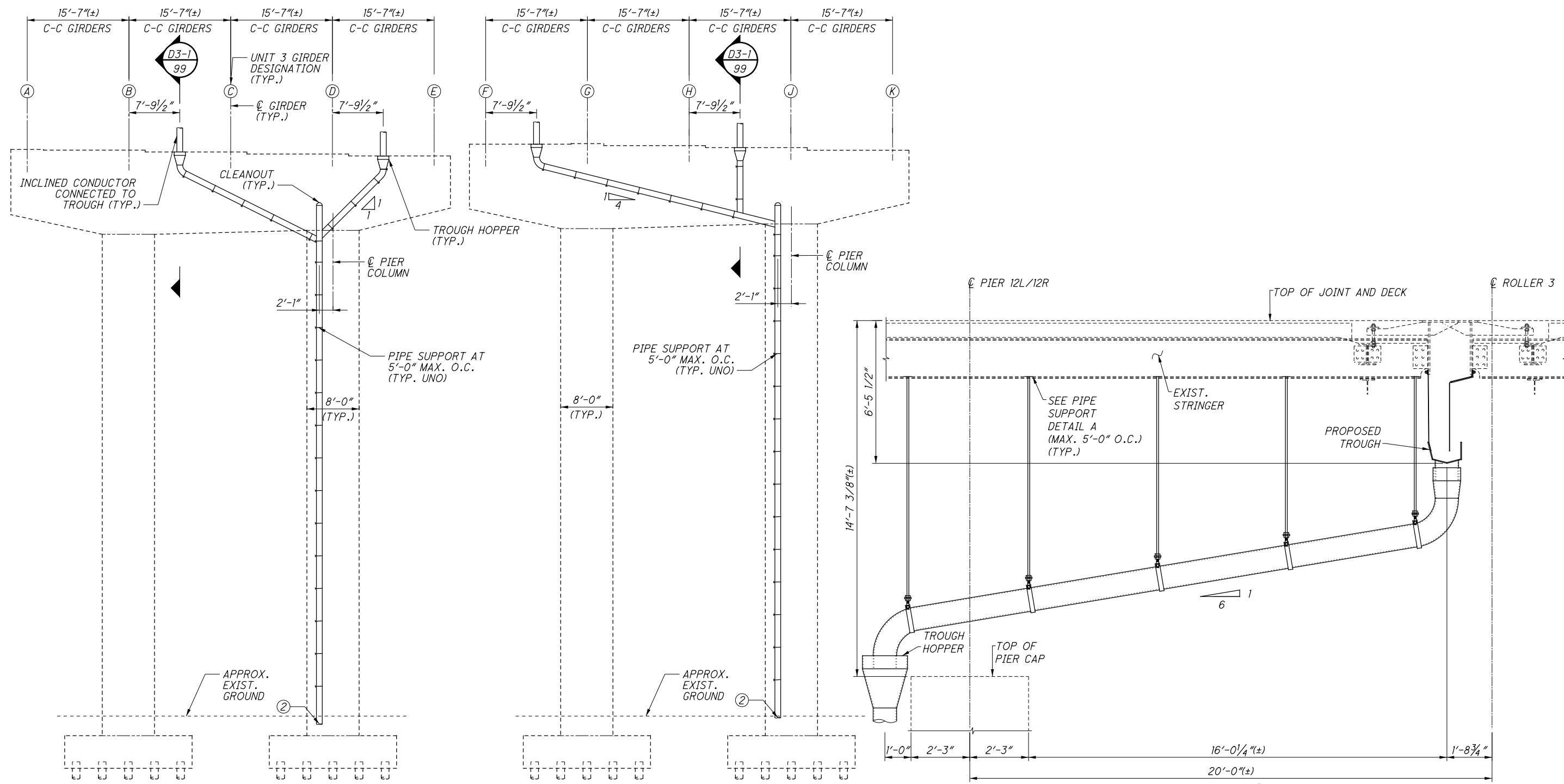
TROUGH DRAINAGE DETAILS - 2
BRIDGE NO. CUY-490-0100
I-490 OVER CUYAHOGA RIVER

CUY-490-01.00
PID No. 25622

98/116

155
182

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PIER 12L

PIER 12R

SECTION **D3-1**
99

(TYPICAL AT TROUGH COLLECTOR)

LEGEND

- ① EXISTING SCUPPER AND SCUPPER PIPE TO REMAIN. INSTALL PROPOSED SCUPPER HOPPER. SEE NOTES 4 THRU 6.
- ② SEE DRAINAGE PIPE DETAIL AT PIERS ON SHEET 95/116

NOTES

- 1. ALL PROPOSED PIPES ARE 10" DIAM. GALVANIZED STEEL PIPE IN ACCORDANCE WITH ITEM 518 - STRUCTURE DRAINAGE, MISC.: 10" GALVANIZED STEEL PIPE, INCLUDING SPECIALS.
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ELEVATION
WEST FACE

- 5. INSTALL PROPOSED SCUPPER HOPPER AT END OF EXISTING SCUPPER PIPE. CUT END OF EXIST. SCUPPER PIPE AS REQUIRED TO FIT WITH PROPOSED DRAINAGE COMPONENTS.
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- 7. FOR PROPOSED TROUGH DETAILS, SEE SHEETS 83/116 THRU 91/116
- 8. FOR PIPE SUPPORT DETAIL AT PIERS, SEE SHEET 96/116
- 9. FOR CLEANOUT DETAIL, SEE SHEET 96/116
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- 11. FOR EXISTING PIER DIMENSIONS, SEE 1986 RECORD PLANS. REFERENCES TO I-290 SHOULD BE REPLACED WITH I-490.



REVIEWED DATE 08/05/20
MJJ
STRUCTURE FILE NUMBER 181991

DRAWN C.J.F.
CHECKED J.F.M.

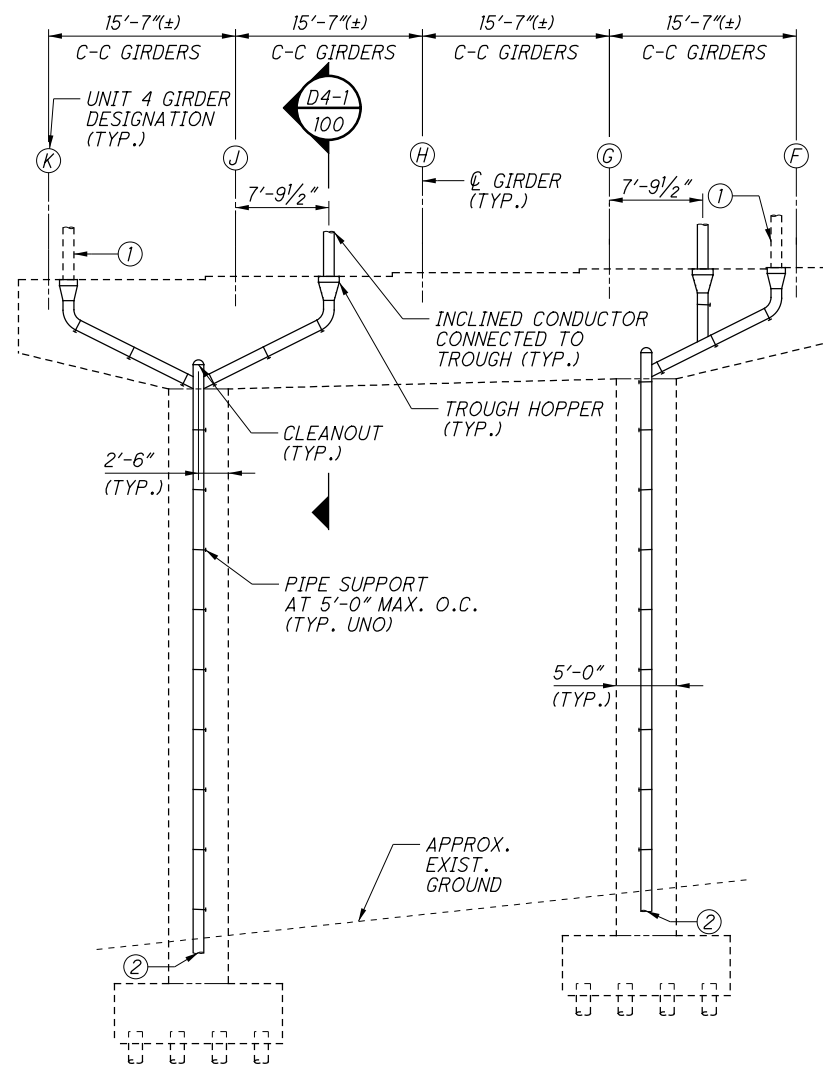
TROUGH DRAINAGE DETAILS - 3
BRIDGE NO. CUY-490-0100
I-490 OVER CUYAHOGA RIVER

CUY-490-01.00
PID No. 25622

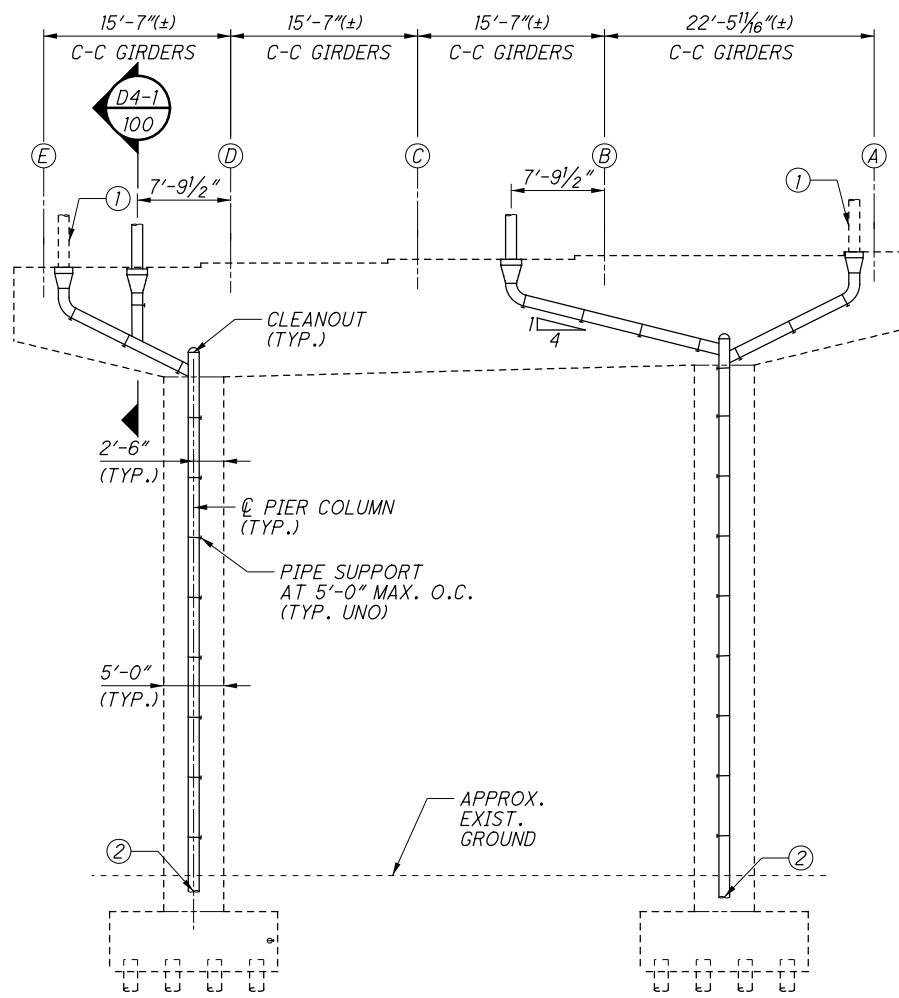
99/116

156
182

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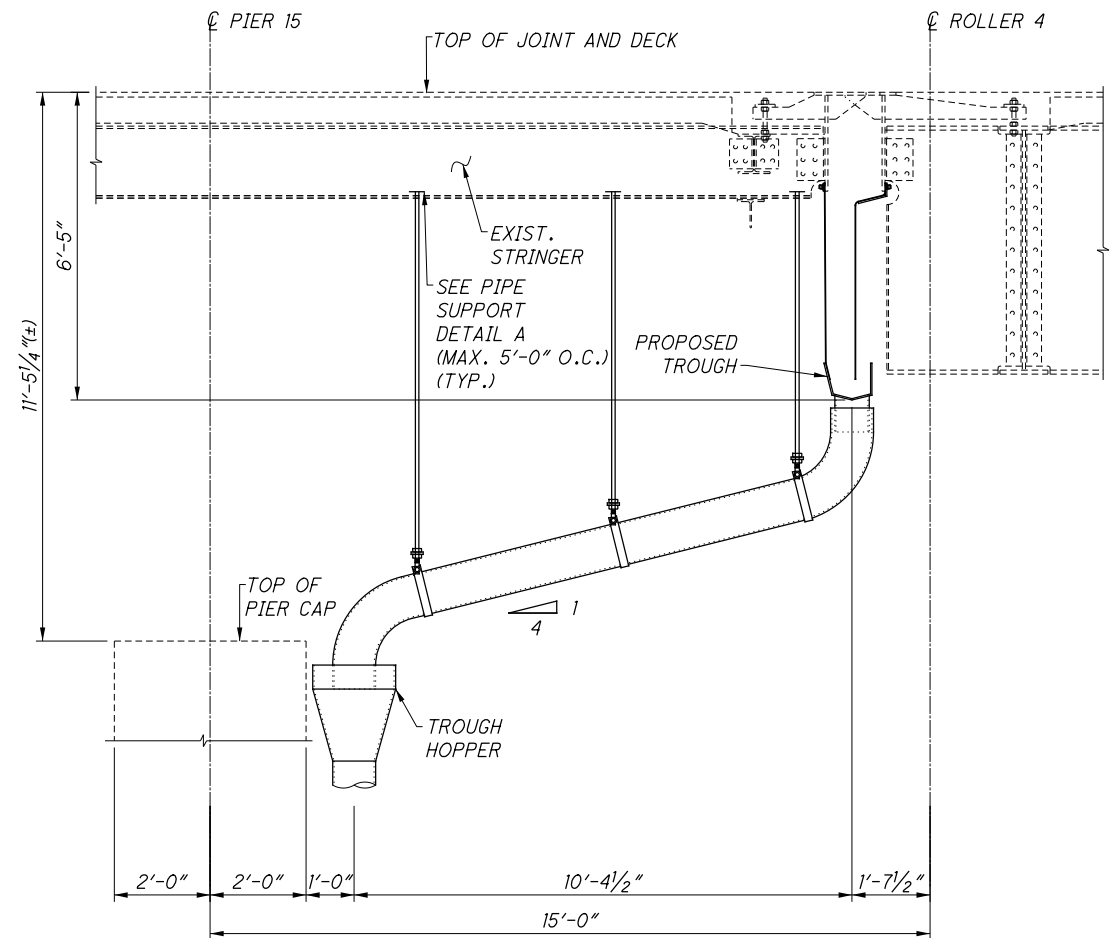


PIER 15R



PIER 15L

ELEVATION
EAST FACE



SECTION D4-1 100

(TYPICAL AT TROUGH COLLECTOR)

LEGEND

- ① EXISTING SCUPPER AND SCUPPER PIPE TO REMAIN. INSTALL PROPOSED SCUPPER HOPPER. SEE NOTES 4 THRU 6.
- ② SEE DRAINAGE PIPE DETAIL AT PIERS ON SHEET 95/116

NOTES

1. ALL PROPOSED PIPES ARE 10" DIAM. GALVANIZED STEEL PIPE IN ACCORDANCE WITH ITEM 518 - STRUCTURE DRAINAGE, MISC.: 10" GALVANIZED STEEL PIPE, INCLUDING SPECIALS.
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5. INSTALL PROPOSED SCUPPER HOPPER AT END OF EXISTING SCUPPER PIPE. CUT END OF EXIST. SCUPPER PIPE AS REQUIRED TO FIT WITH PROPOSED DRAINAGE COMPONENTS.
6. FOR PROPOSED SCUPPER HOPPER DETAIL, SEE SHEET 96/116
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8. FOR PIPE SUPPORT DETAIL AT PIERS, SEE SHEET 96/116
9. FOR CLEANOUT DETAIL, SEE SHEET 96/116
10. FOR PROPOSED TROUGH HOPPER DETAIL AND PIPE SUPPORT DETAILS A & B, SEE SHEET 102/116
11. FOR EXISTING PIER DIMENSIONS, SEE 1986 RECORD PLANS. REFERENCES TO I-290 SHOULD BE REPLACED WITH I-490.



DATE 08/05/20
REVIEWED MJL
STRUCTURE FILE NUMBER 181991

DRAWN C.J.F.
CHECKED J.F.M.

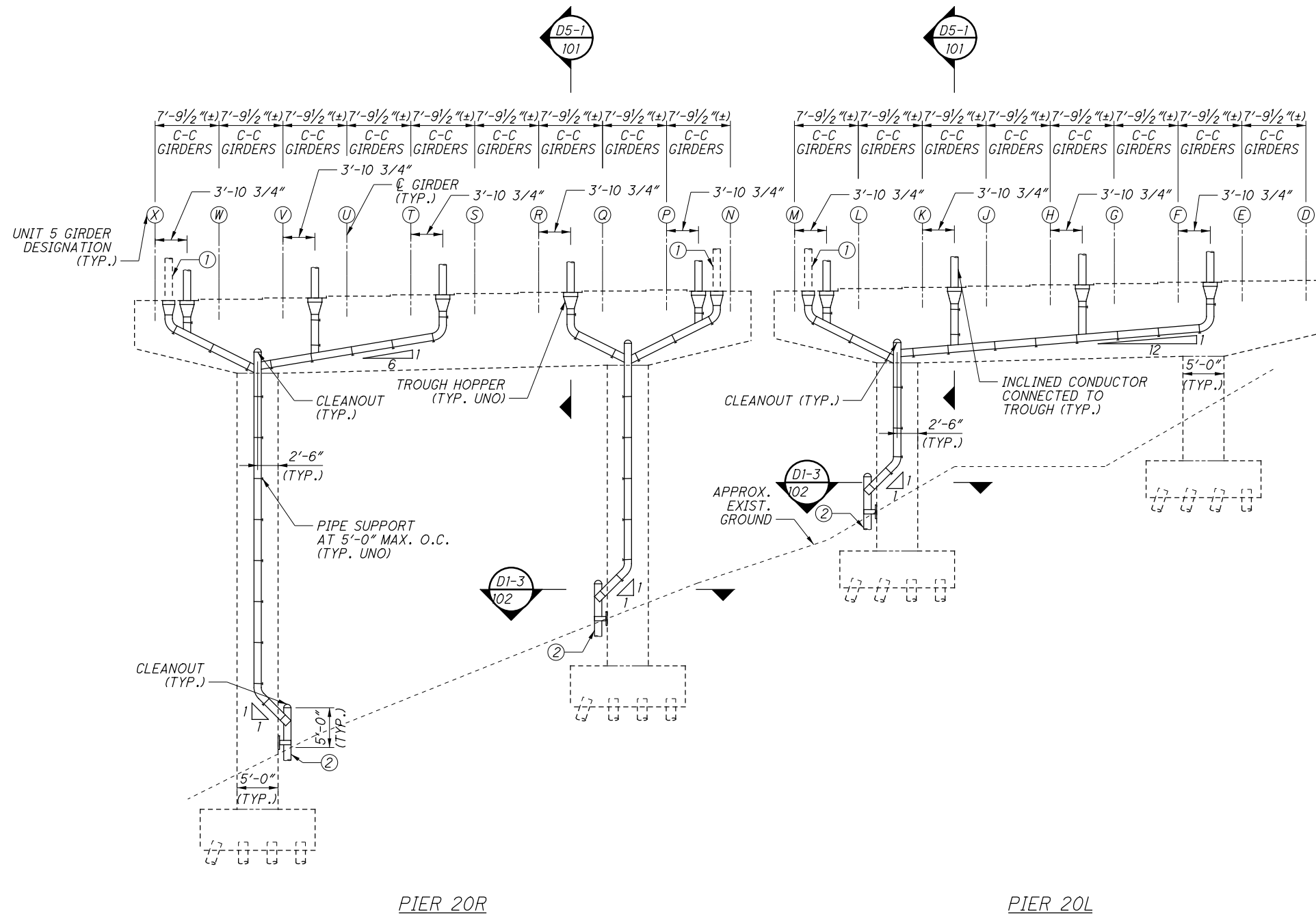
TROUGH DRAINAGE DETAILS - 4
BRIDGE NO. CUY-490-0100
I-490 OVER CUYAHOGA RIVER

CUY-490-01.00
PID No. 25622

100/116

157
182

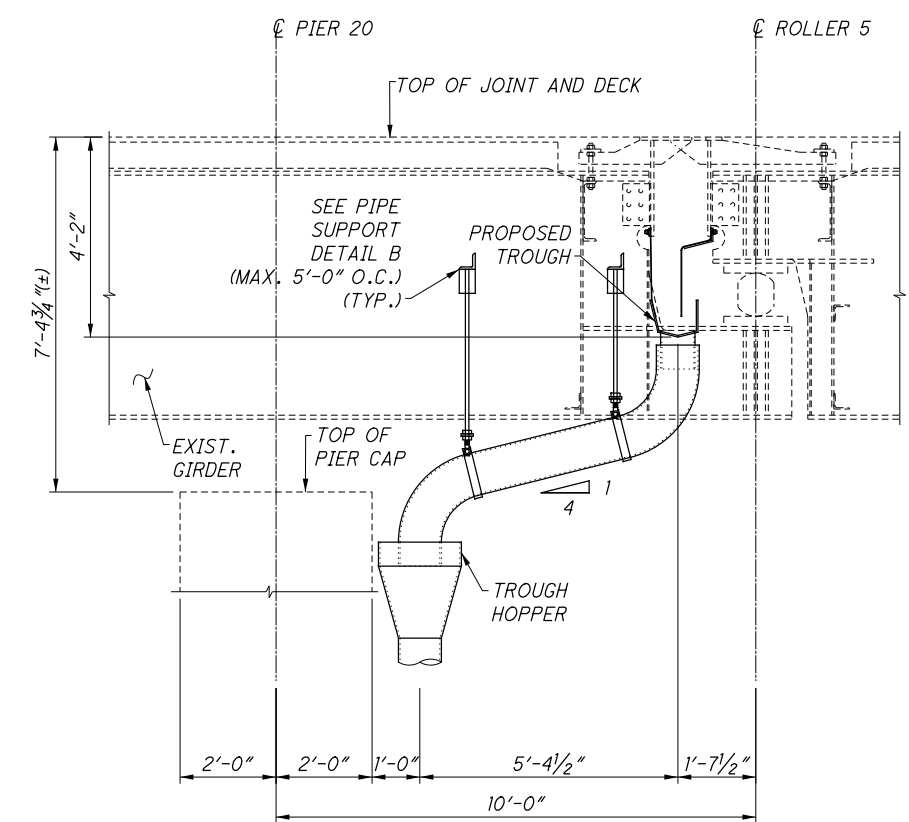
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PIER 20R

PIER 20L

ELEVATION
EAST FACE



SECTION D5-1/101
(TYPICAL AT TROUGH COLLECTOR)

LEGEND

- ① EXISTING SCUPPER AND SCUPPER PIPE TO REMAIN. INSTALL PROPOSED SCUPPER HOPPER. SEE NOTES 4 THRU 6.
- ② SEE DRAINAGE PIPE DETAIL AT PIERS ON SHEET 95/116

NOTES

1. ALL PROPOSED PIPES ARE 10" DIAM. GALVANIZED STEEL PIPE IN ACCORDANCE WITH ITEM 518 - STRUCTURE DRAINAGE, MISC.: 10" GALVANIZED STEEL PIPE, INCLUDING SPECIALS.
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11. FOR EXISTING PIER DIMENSIONS, SEE 1986 RECORD PLANS. REFERENCES TO I-290 SHOULD BE REPLACED WITH I-490.



DESIGNED	PT	CHECKED	JFM
DRAWN	CJF	REVISED	
REVIEWED	MJL	DATE	08/05/20
STRUCTURE FILE NUMBER			181991

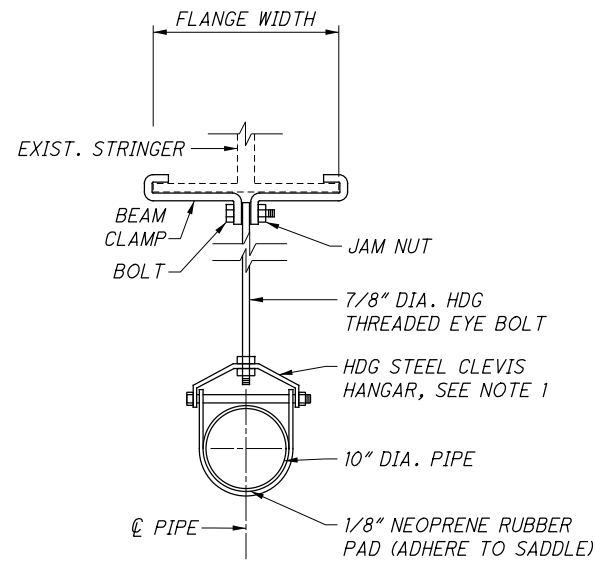
TROUGH DRAINAGE DETAILS - 5
BRIDGE NO. CUY-490-0100
I-490 OVER CUYAHOGA RIVER

CUY-490-01.00
PID No. 25622

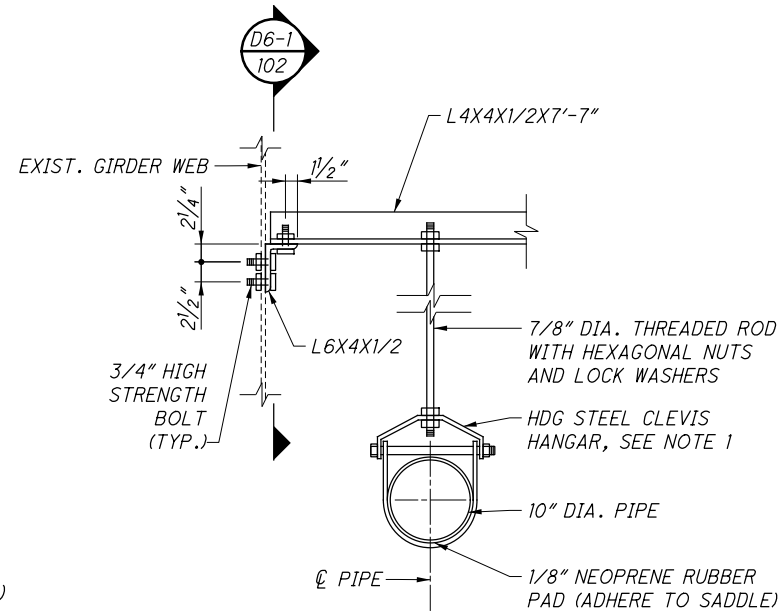
101/116

158
182

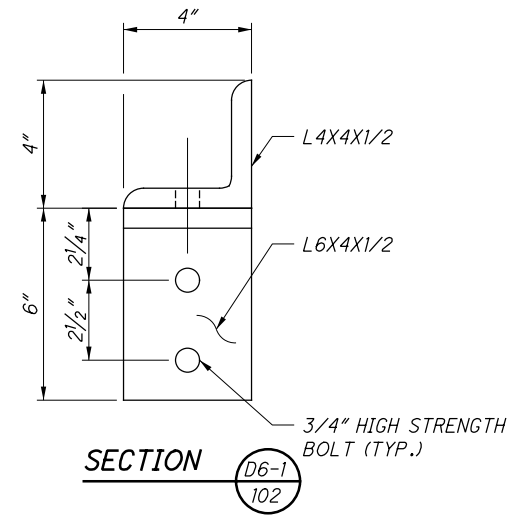
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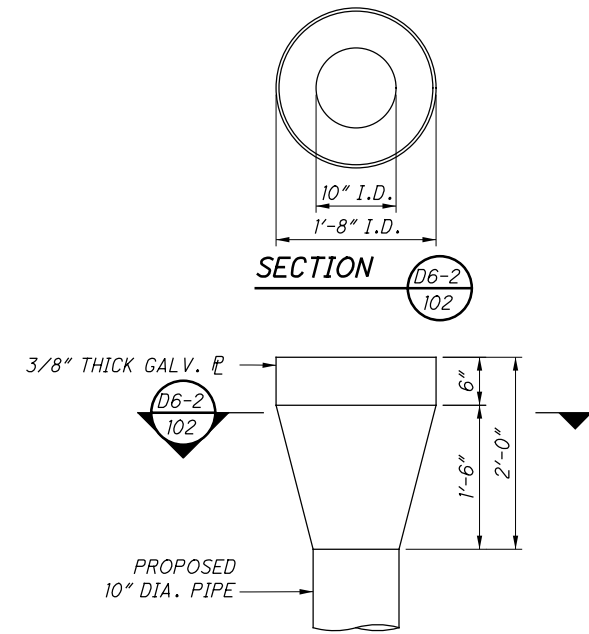
PIPE SUPPORT DETAIL A



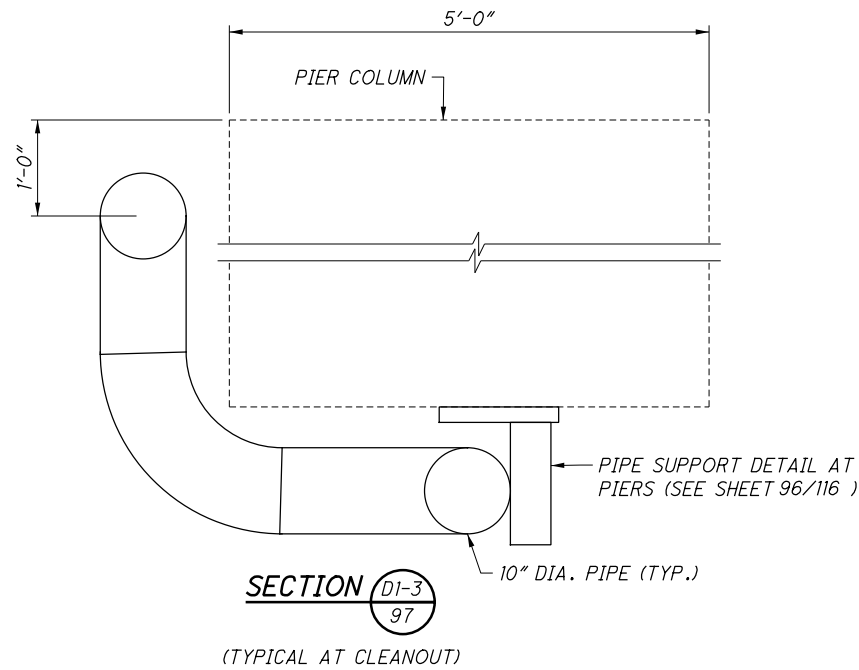
PIPE SUPPORT DETAIL B



SECTION D6-1/102



TROUGH HOPPER DETAIL



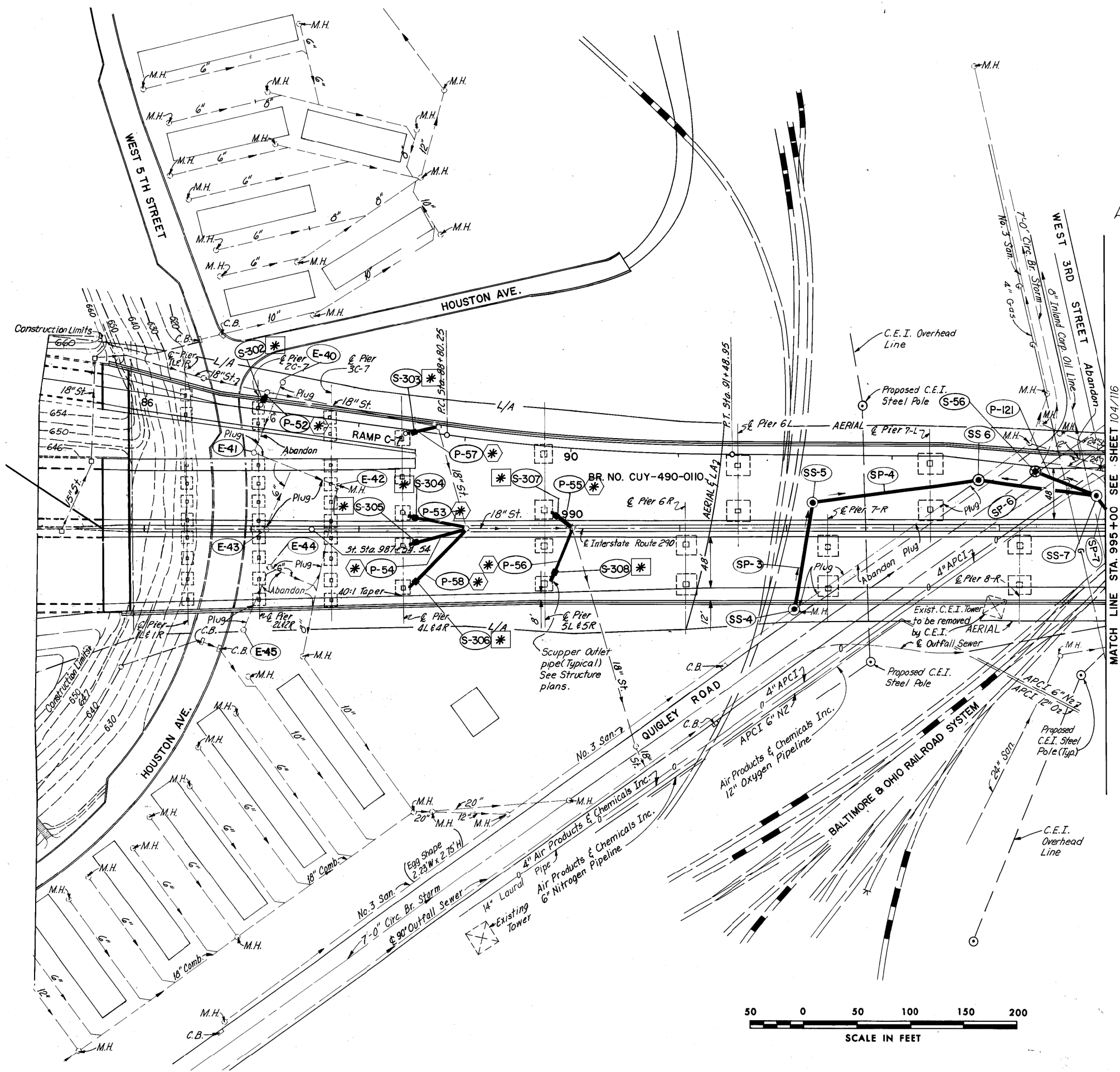
SECTION D1-3/97

(TYPICAL AT CLEANOUT)

NOTES

1. SIZE THE HDG STEEL CLEVIS HANGER TO ACCEPT THE 10" ID PIPE PLUS TWICE THE 1/8" THICKNESS OF THE NEOPRENE PAD.
2. CUT 7/8" HDG THREADED EYE BOLTS AND 7/8" THREADED RODS TO LENGTH IN THE FIELD. GRIND CUT ENDS SMOOTH AND COAT WITH ZINC RICH, COLD GALVANIZED SPRAY PAINT.
3. SPACING OF PIPE SUPPORTS NOT TO EXCEED 5'-0" CENTER TO CENTER. ADJUST SUPPORTS TO SLOPE PIPE OVER THE LENGTH AS REQUIRED.
4. ALL FITTING, HANGER, CLAMPS AND HARDWARE TO SUPPORT THE PIPE SHALL BE IN ACCORDANCE WITH ITEM 518 - STRUCTURE DRAINAGE, MISC.: 10" GALVANIZED STEEL PIPE, INCLUDING SPECIALS.
5. THE MINIMUM RADIUS ON ALL PIPE BENDS IS 12" TO THE INSIDE OF THE BEND.

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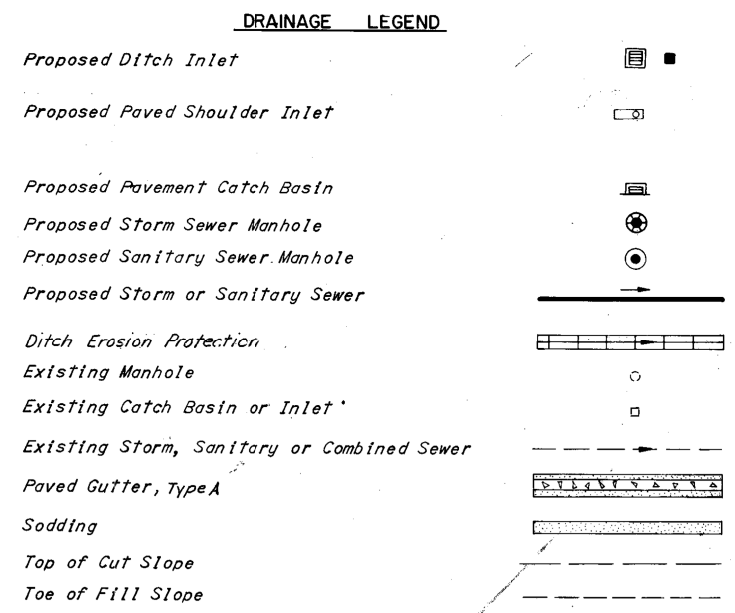


LEGEND

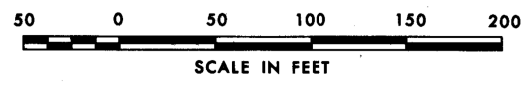
- * CLEAN STORM SEWER PIPE IN ACCORDANCE WITH ITEM 518 - STRUCTURE DRAINAGE, MISC.: BRIDGE DRAINAGE SYSTEM CLEANING.
- * CLEAN DITCH INLET OR CATCH BASIN IN ACCORDANCE WITH ITEM 518 - STRUCTURE DRAINAGE, MISC.: BRIDGE DRAINAGE SYSTEM CLEANING.

NOTES

1. PLAN VIEW LINE WORK ON THIS SHEET COMES FROM SCANS OF THE 1986 RECORD PLANS. THE TOPOGRAPHIC FEATURES UNDER THE BRIDGE ARE SHOWN AS THEY EXISTED IN 1986 AND MAY NOT MATCH THE CURRENT CONDITIONS UNDER THE BRIDGE. THE INTENT OF THIS SHEET IS TO IDENTIFY THE EXISTING STORM SEWERS TO BE CLEANED. FOR CURRENT TOPOGRAPHIC FEATURES UNDER THE BRIDGE, SEE THE SITE PLAN.
2. ESTIMATED LINEAR FEET OF STORM SEWER PROVIDED FOR INFORMATION ONLY.



STORM SEWER CLEANING TABLE	
PIPE REF. NO.	EST. LINEAR FT.
P-52	5
P-53	47
P-54	47
P-55	17
P-56	46
P-57	23
P-58	72
TOTAL THIS SHEET	257



614 N. SUPERIOR AVE., SUITE 1000 • CLEVELAND, OHIO 44113

DESIGNED	PT	CHECKED	JFM
DRAWN	CJF	REVISED	
REVIEWED	MJL	STRUCTURE FILE NUMBER	1819191
DATE	08/05/20		

STORM SEWER CLEANING DETAILS - 1

BRIDGE NO. CUY-490-0100
I-490 OVER CUYAHOGA RIVER

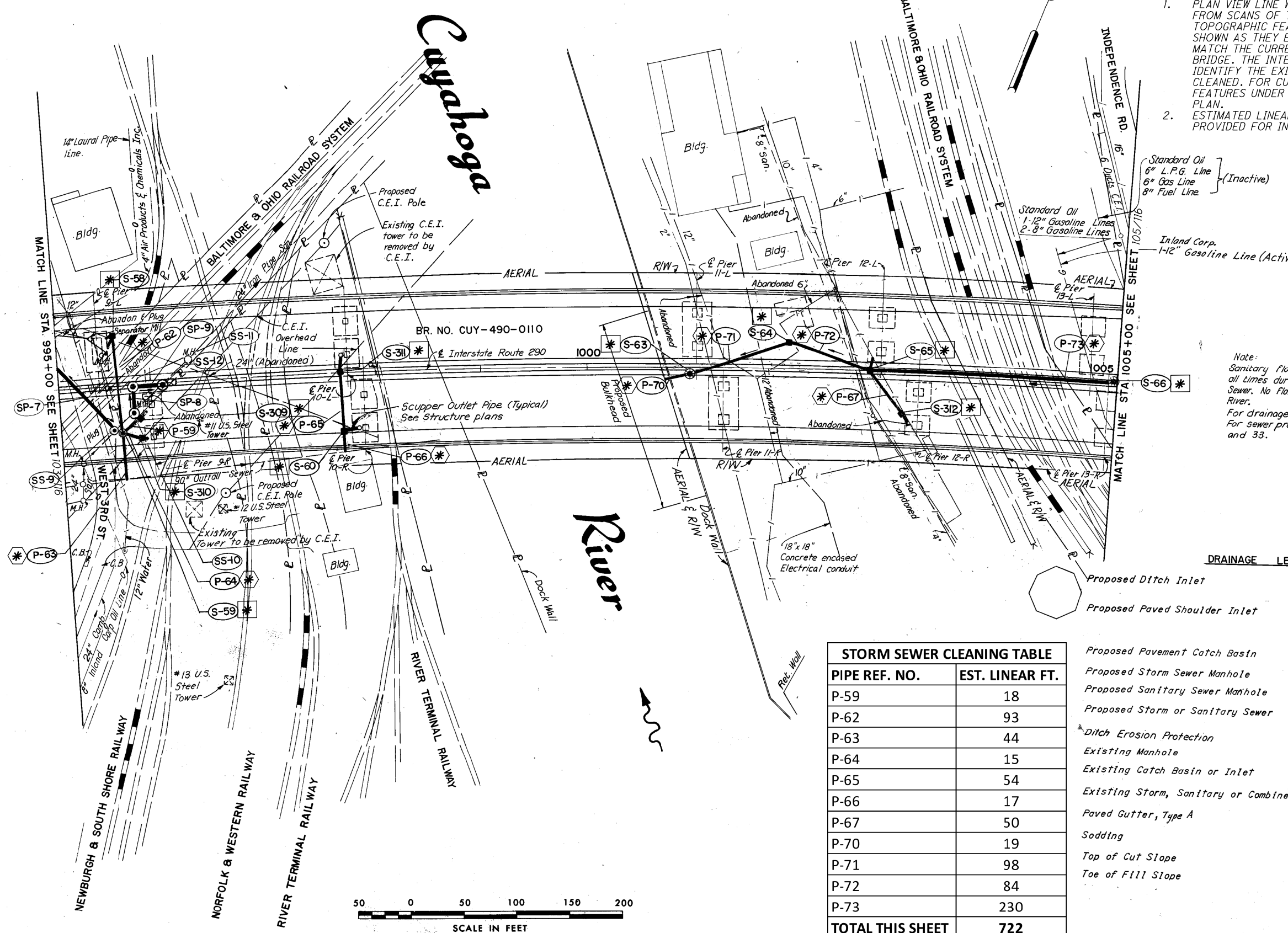
CUY-490-01.00

PID No. 25622

103/116

160

182



LEGEND

- * CLEAN STORM SEWER PIPE IN ACCORDANCE WITH ITEM 518 - STRUCTURE DRAINAGE, MISC.: BRIDGE DRAINAGE SYSTEM CLEANING.
- * CLEAN DITCH INLET OR CATCH BASIN IN ACCORDANCE WITH ITEM 518 - STRUCTURE DRAINAGE, MISC.: BRIDGE DRAINAGE SYSTEM CLEANING.

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2. ESTIMATED LINEAR FEET OF STORM SEWER PROVIDED FOR INFORMATION ONLY.

Note:
Sanitary flow must be maintained at all times during relocation of the Sanitary Sewer. No flow shall empty into the Cuyahoga River.
For drainage quantities see sheet 26.
For sewer profiles, see sheets 31, 31A and 33.

DRAINAGE LEGEND

- Proposed Pavement Catch Basin
- Proposed Storm Sewer Manhole
- Proposed Sanitary Sewer Manhole
- Proposed Storm or Sanitary Sewer
- Ditch Erosion Protection
- Existing Manhole
- Existing Catch Basin or Inlet
- Existing Storm, Sanitary or Combined Sewer
- Paved Gutter, Type A
- Sodding
- Top of Cut Slope
- Toe of Fill Slope

STORM SEWER CLEANING TABLE	
PIPE REF. NO.	EST. LINEAR FT.
P-59	18
P-62	93
P-63	44
P-64	15
P-65	54
P-66	17
P-67	50
P-70	19
P-71	98
P-72	84
P-73	230
TOTAL THIS SHEET	722

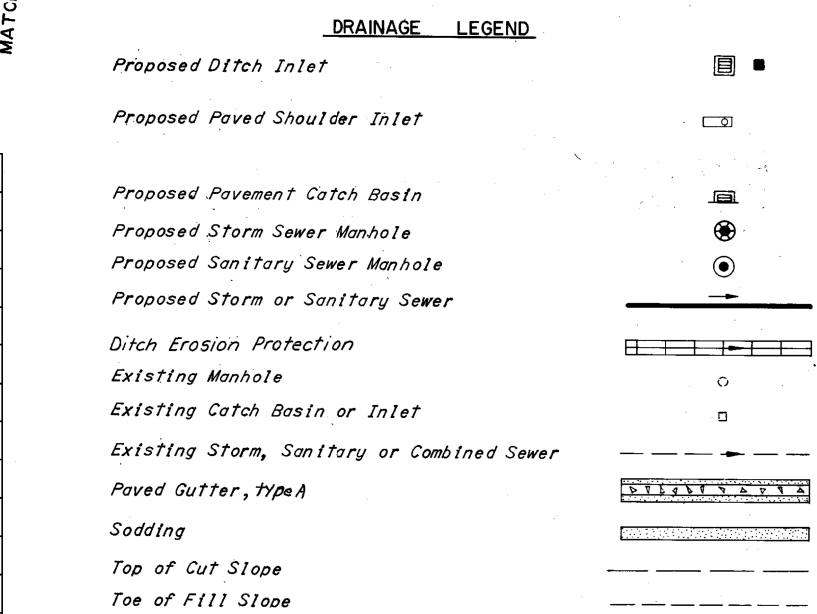
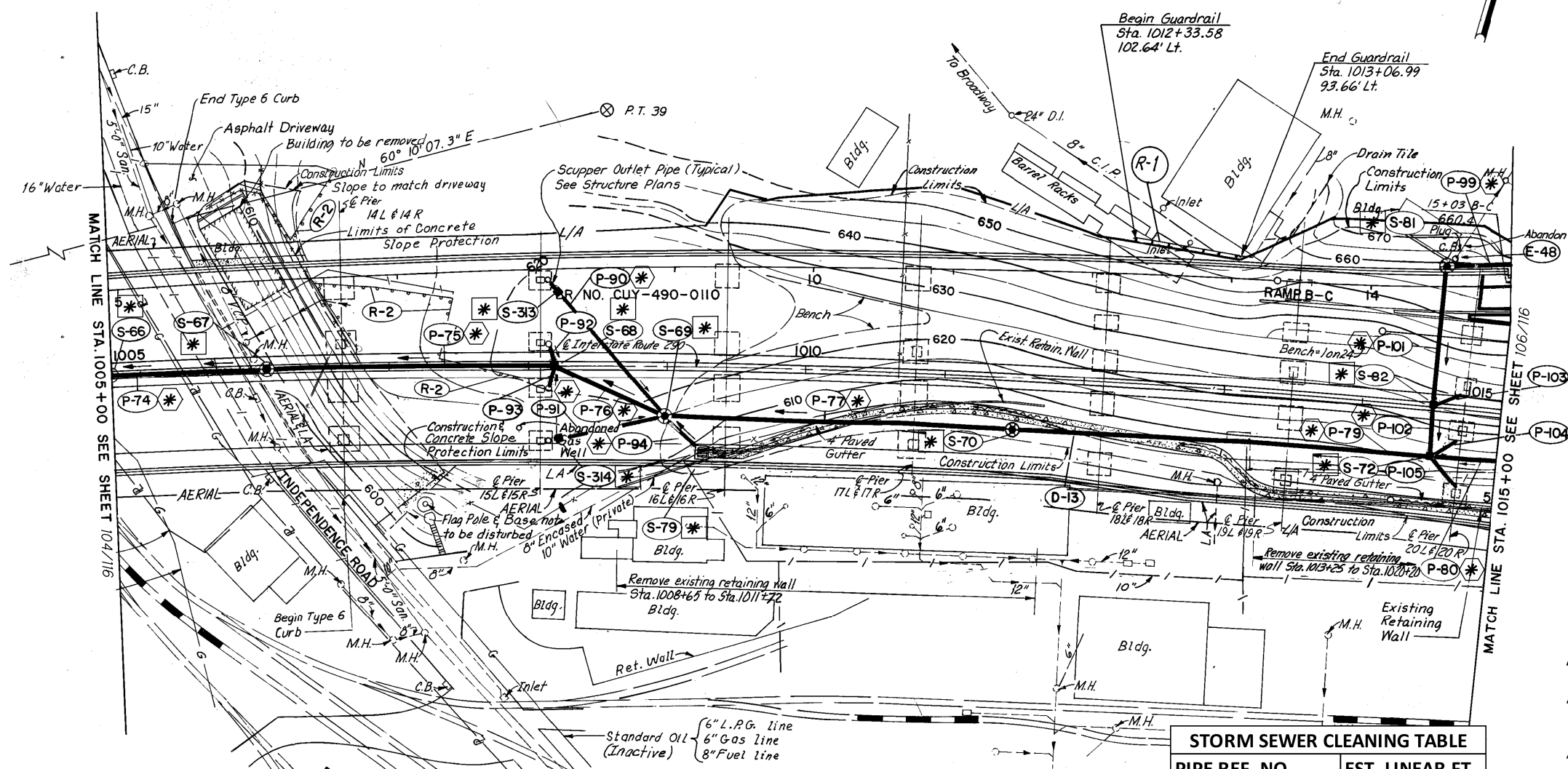
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LEGEND

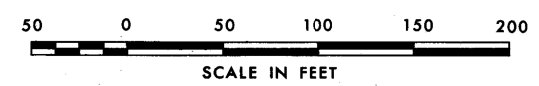
- ⊗ CLEAN STORM SEWER PIPE IN ACCORDANCE WITH ITEM 518 - STRUCTURE DRAINAGE, MISC.: BRIDGE DRAINAGE SYSTEM CLEANING.
- * CLEAN DITCH INLET OR CATCH BASIN IN ACCORDANCE WITH ITEM 518 - STRUCTURE DRAINAGE, MISC.: BRIDGE DRAINAGE SYSTEM CLEANING.

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2. ESTIMATED LINEAR FEET OF STORM SEWER PROVIDED FOR INFORMATION ONLY.



STORM SEWER CLEANING TABLE	
PIPE REF. NO.	EST. LINEAR FT.
P-74	112
P-75	208
P-76	88
P-77	250
P-79	300
P-80	355
P-94	40
P-99	145
P-101	104
P-102	36
P-90	118
P-91	77
TOTAL THIS SHEET	1833



DLZ
614 N. SUPERIOR AVE., SUITE 1000 • CLEVELAND, OHIO 44113

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

DESIGNED: JFM
CHECKED: JFM
DRAWN: CUF
REVISSED: JFM

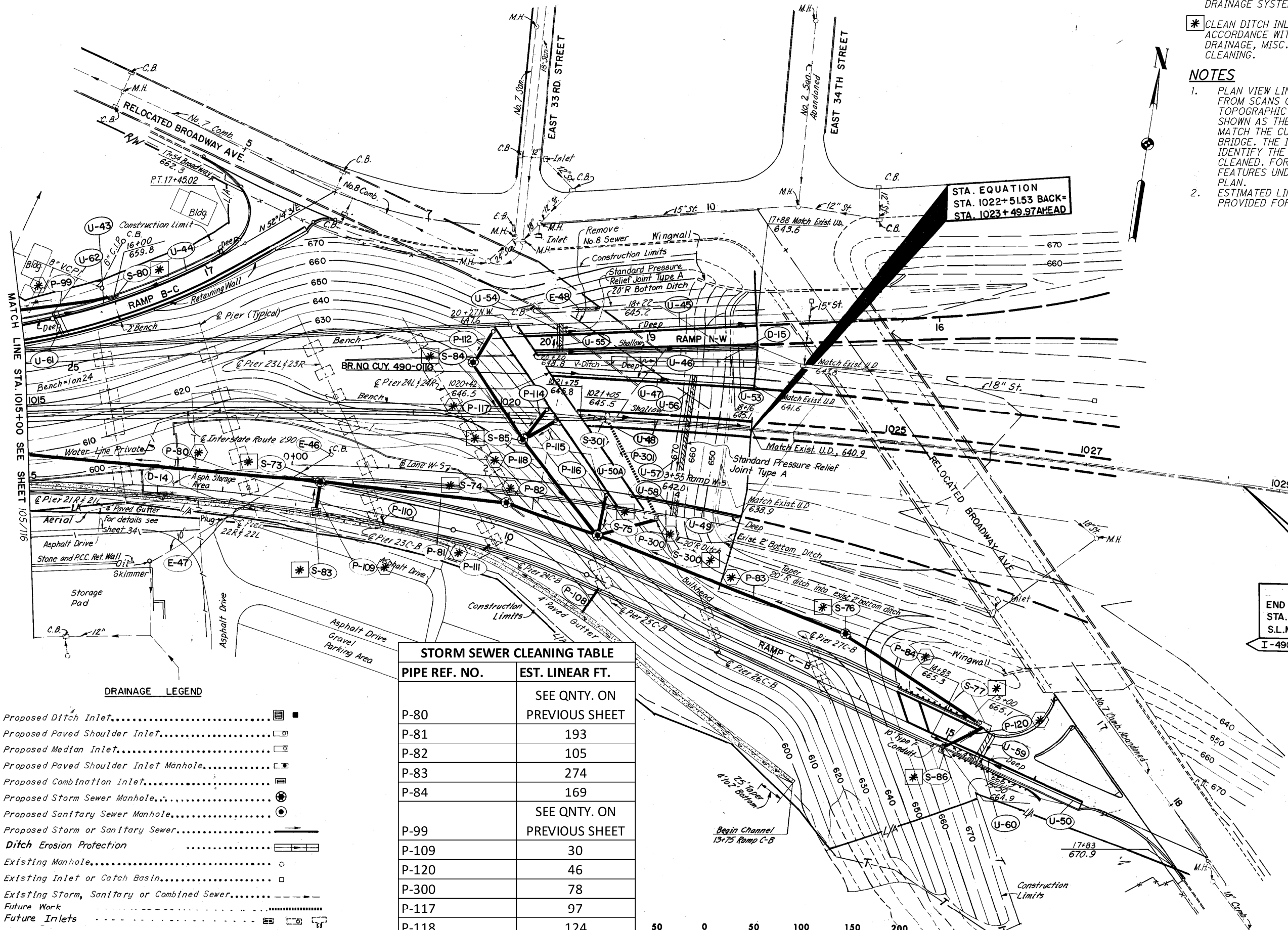
STORM SEWER CLEANING DETAILS - 3
BRIDGE NO. CUY-490-0100
I-490 OVER CUYAHOGA RIVER

CUY-490-01.00
PID No. 25622

105/116

162
182

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LEGEND

- * CLEAN STORM SEWER PIPE IN ACCORDANCE WITH ITEM 518 - STRUCTURE DRAINAGE, MISC.: BRIDGE DRAINAGE SYSTEM CLEANING.
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STA. EQUATION
STA. 1022+51.53 BACK=
STA. 1023+49.97AHEAD

END WORK
STA. 1028+64.82
S.L.M. 1.80
I-490-3(10)28

DRAINAGE LEGEND

- Proposed Ditch Inlet.....
- Proposed Paved Shoulder Inlet.....
- Proposed Median Inlet.....
- Proposed Paved Shoulder Inlet Manhole.....
- Proposed Combination Inlet.....
- Proposed Storm Sewer Manhole.....
- Proposed Sanitary Sewer Manhole.....
- Proposed Storm or Sanitary Sewer.....
- Ditch Erosion Protection.....
- Existing Manhole.....
- Existing Inlet or Catch Basin.....
- Existing Storm, Sanitary or Combined Sewer.....
- Future Work.....
- Future Inlets.....
- Paved Gutter type A.....

STORM SEWER CLEANING TABLE

PIPE REF. NO.	EST. LINEAR FT.
P-80	SEE QNTY. ON PREVIOUS SHEET
P-81	193
P-82	105
P-83	274
P-84	169
P-99	SEE QNTY. ON PREVIOUS SHEET
P-109	30
P-120	46
P-300	78
P-117	97
P-118	124
TOTAL THIS SHEET	1116



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DATE: 08/05/20

REVIEWED: MJL

DESIGNED: PT

DRAWN: CUF

CHECKED: JFM

REVISIONS:

BRIDGE NO. CUY-490-0100

I-490 OVER CUYAHOGA RIVER

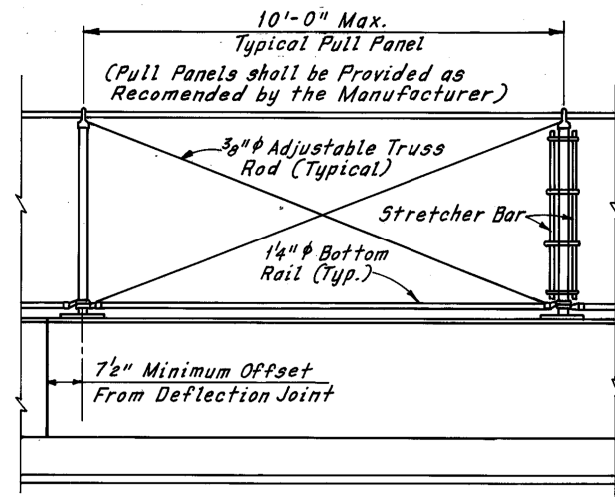
STORM SEWER CLEANING DETAILS - 4

PID No. 25622

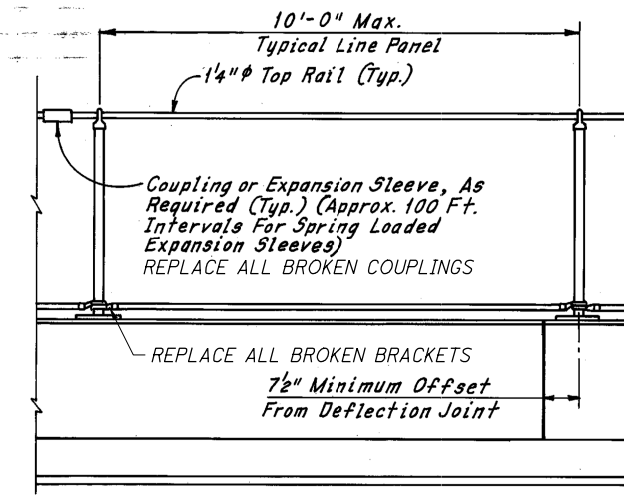
106/116
163

182

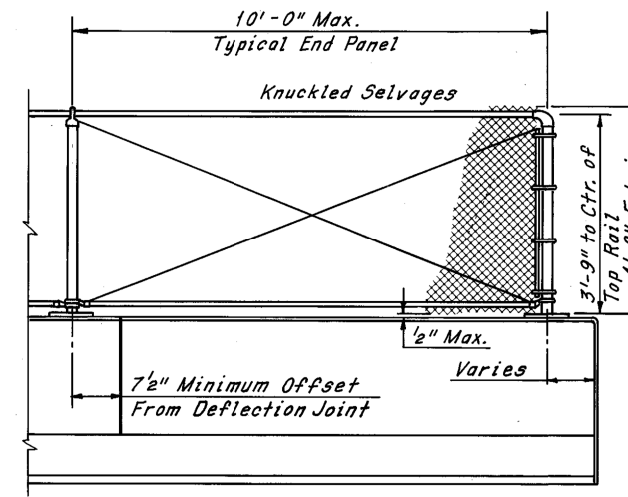
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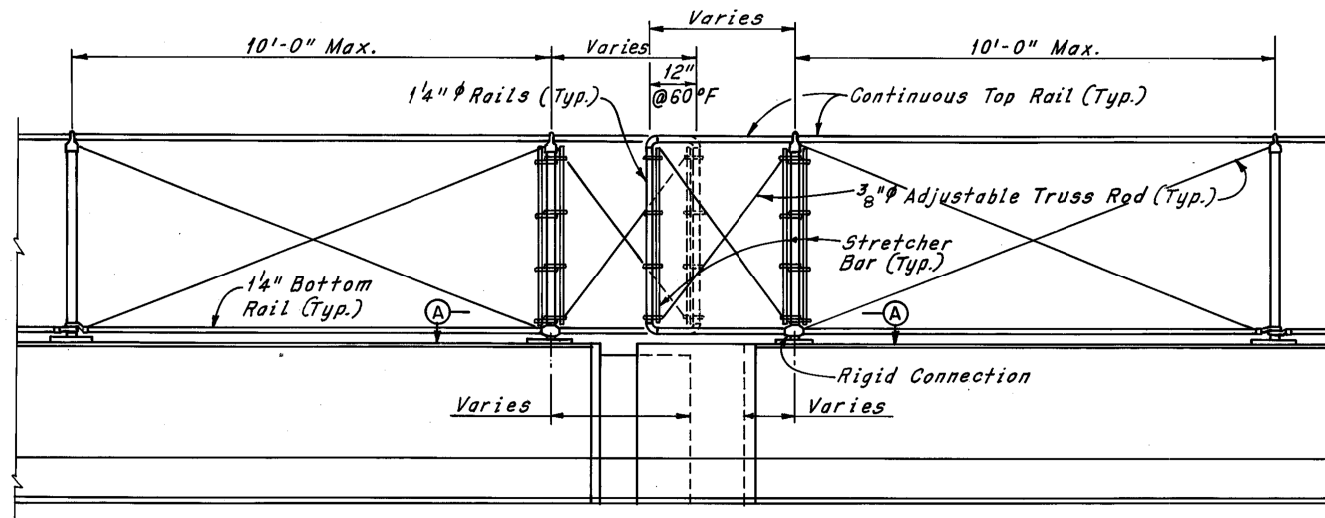
TYPICAL PULL PANEL



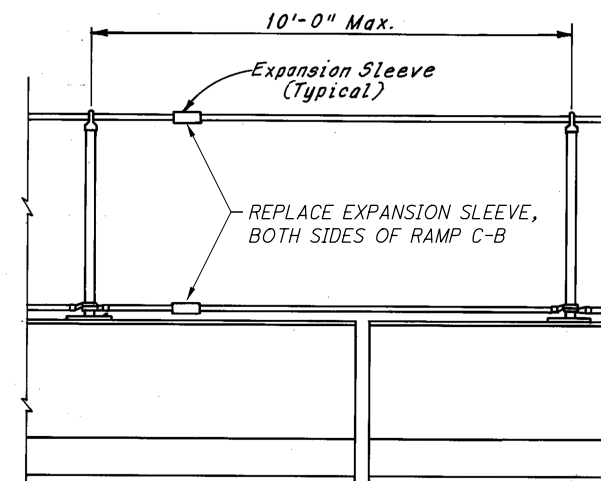
TYPICAL LINE PANEL



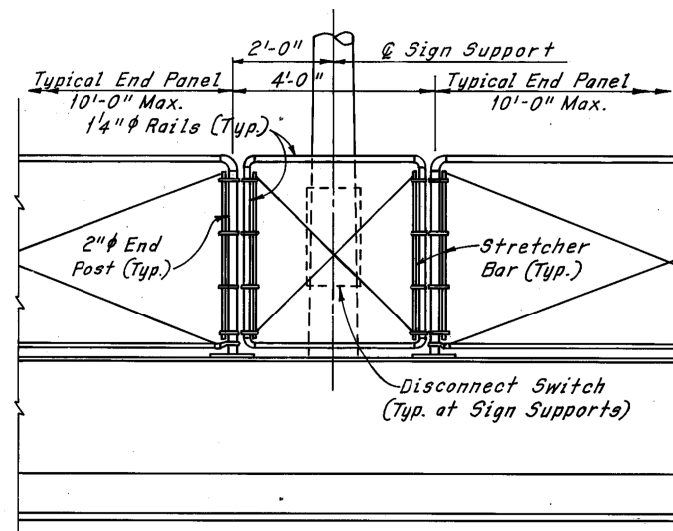
TYPICAL END PANEL



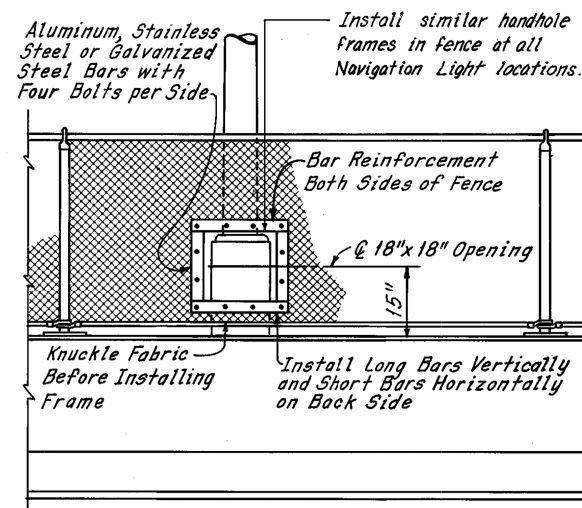
DETAIL AT EXPANSION JOINT
(Typical, except at Expansion Joint 6)



DETAIL AT EXPANSION JOINT 6

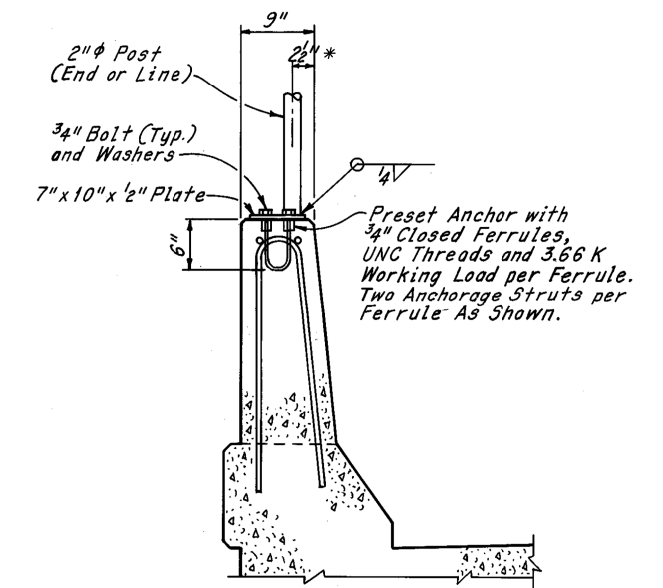


DETAIL AT SIGN SUPPORT

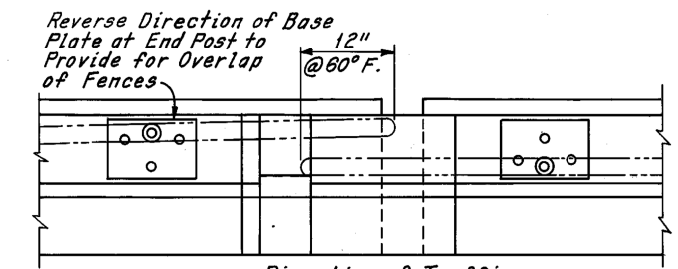


DETAIL AT LIGHT POLE

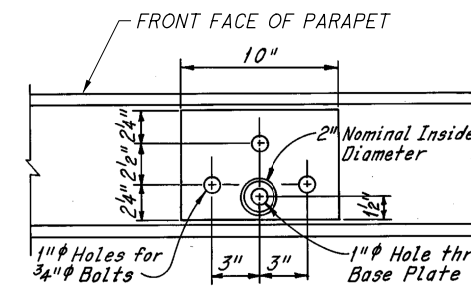
* THE AS-BUILT ORIENTATION OF EXISTING FENCE POSTS IS REVERSED, WITH POSTS 2 1/2" (±) FROM BACK FACE OF PARAPET



TYPICAL SECTION



SECTION A-A



PLAN VIEW BASE PLATE

NOTES

- THE DETAILS ON THIS SHEET COME FROM SCANS OF THE 1986 RECORD PLANS. ALL FENCE ITEMS ARE EXISTING, UNLESS NOTED OTHERWISE, AND ALL DIMENSIONS ARE (±).
- THE EXISTING FENCE POST, TOP RAIL, AND BOTTOM RAIL SIZES ARE LABELED BY NOMINAL DIAMETER. PROVIDE REPLACEMENT MATERIALS WHERE REQUIRED AS FOLLOWS:
 2" NOMINAL DIAMETER = 2.38" OUTSIDE DIAMETER
 1 1/4" NOMINAL DIAMETER = 1.66" OUTSIDE DIAMETER
- THE EXISTING "TYPICAL SECTION" AND "PLAN VIEW BASE PLATE" ARE SHOWN FOR INFORMATION ONLY. REPLACEMENT FENCE POSTS WITH BASE PLATE SHALL BE AS PER THE DETAILS ON SHEET 108/116.
- FOR FENCE REPLACEMENT LOCATIONS, SEE SHEETS 50 TO 58/116.
- FOR ADDITIONAL INFORMATION ON REQUIRED FENCE REPAIRS, SEE THE GENERAL NOTES, SHEET 7/116.



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

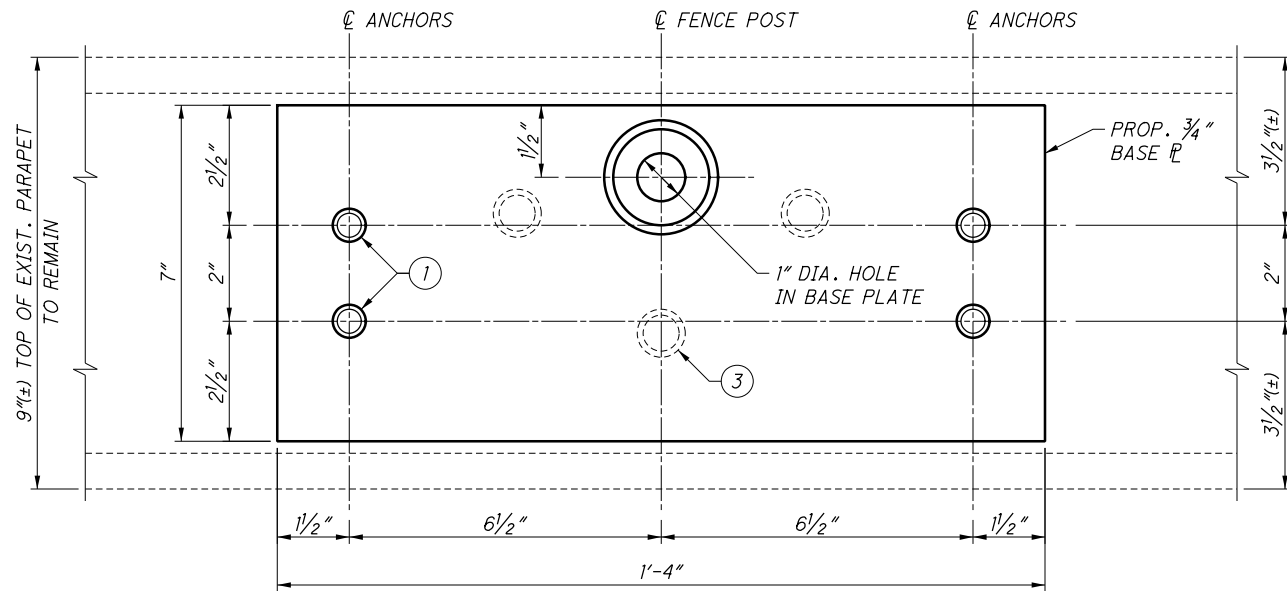
FENCE REPAIR DETAILS - 1
 BRIDGE NO. CUY-490-0100
 I-490 OVER CUYAHOGA RIVER

CUY-490-01.00
 PID No. 25622

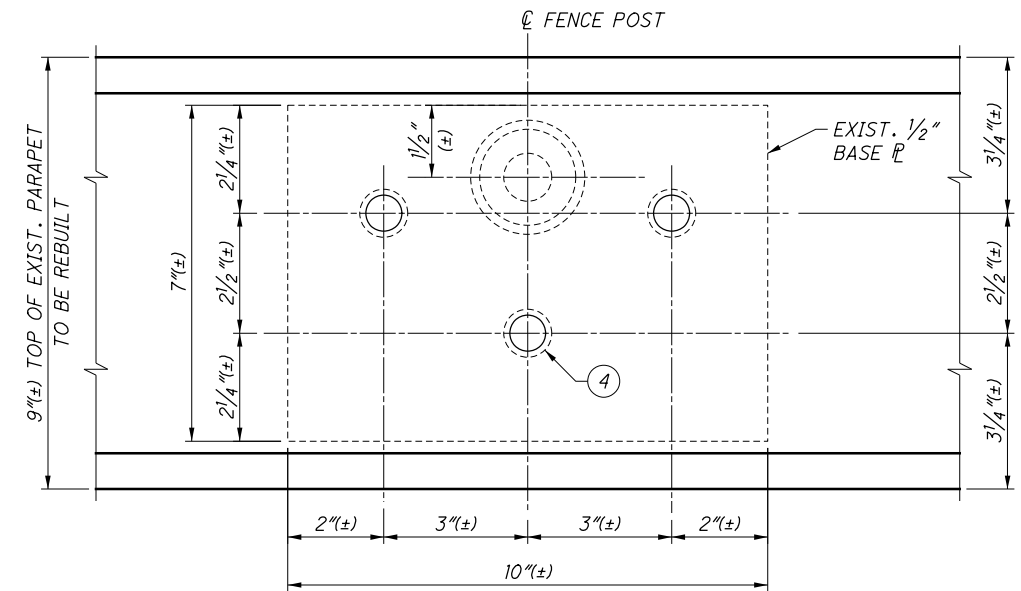
107/116

164
 182

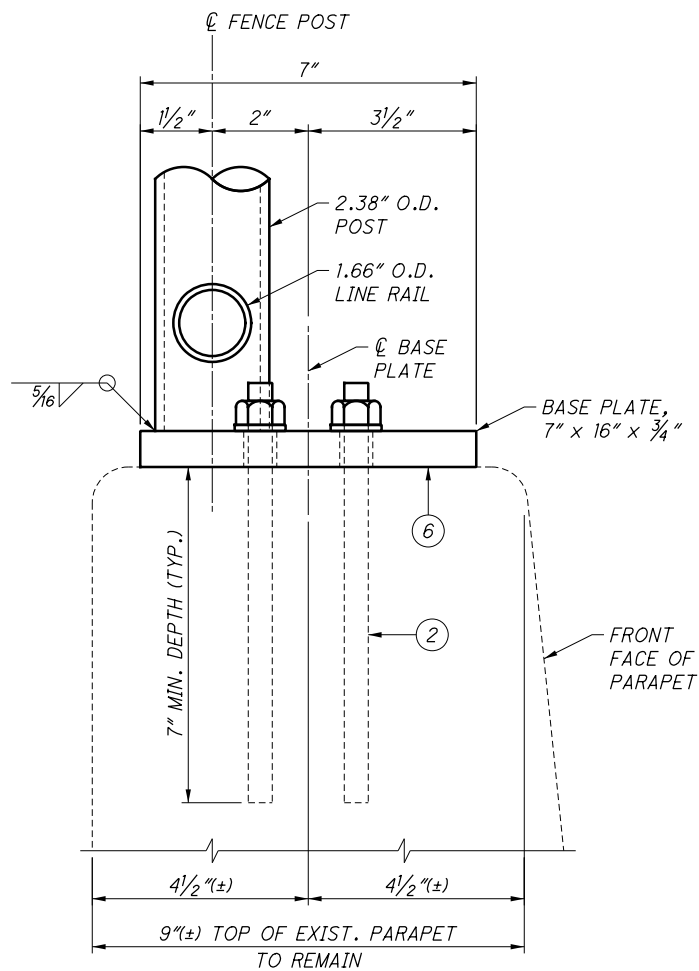
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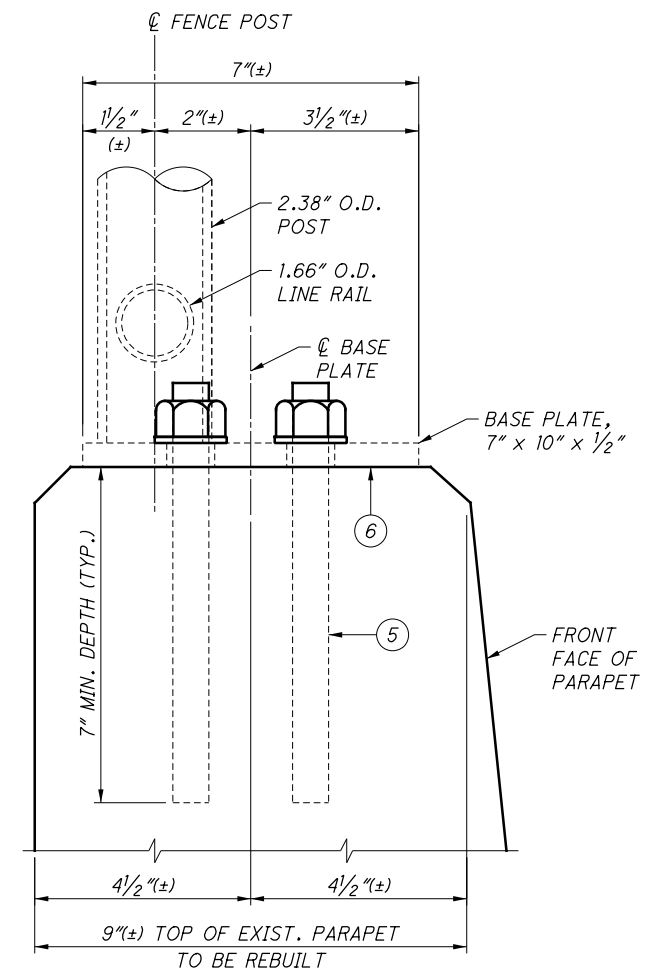
PLAN - PROPOSED FENCE POST BASE PLATE
PROPOSED FENCE POST INSTALLED ON EXISTING PARAPET



PLAN - EXISTING FENCE POST BASE PLATE
EXISTING FENCE POST REINSTALLED ON REBUILT PARAPET



END VIEW - PROPOSED FENCE POST BASE PLATE
PROPOSED FENCE POST INSTALLED ON EXISTING PARAPET



END VIEW - EXISTING FENCE POST BASE PLATE
EXISTING FENCE POST REINSTALLED ON REBUILT PARAPET

LEGEND

- ① 1/16" DIA. HOLE FOR 1/2" DIA. H.S. THREADED ANCHOR, 9" LONG (TYP.)
- ② 1/2" DIA. H.S. THREADED ANCHOR, 9" LONG, WITH NUT AND WASHER (TYP.)
- ③ EXIST. 3/4" DIA. THREADED INSERT TO REMAIN, REMOVE EXIST. BOLT (TYP.)
- ④ 1" DIA. HOLE FOR 3/4" DIA. H.S. THREADED ANCHOR, 9" LONG (TYP.)
- ⑤ 3/4" DIA. H.S. THREADED ANCHOR, 9" LONG, WITH NUT AND WASHER (TYP.)
- ⑥ CAULKING COMPOUND, SEE NOTE 4

NOTES

1. FURNISH REPLACEMENT FENCE POSTS WITH A 3/4" BASE PLATE PER THE DETAILS ON THIS SHEET FOR LOCATIONS WHERE THE EXISTING FENCE POST IS BENT OR OTHERWISE DAMAGED.
2. AT LOCATIONS WHERE THE EXISTING PARAPET IS TO REMAIN AND A REPLACEMENT FENCE POST IS REQUIRED: INSTALL THE REPLACEMENT FENCE POST USING DRILLED-IN ADHESIVE ANCHORS IN ACCORDANCE WITH STANDARD DRAWING VPF-1-90. FOUR (4) 1/2" DIA. ANCHORS ARE REQUIRED PER LOCATION.
3. AT LOCATIONS WHERE THE EXISTING PARAPET IS REBUILT AND THE EXISTING FENCE POST IS TO REMAIN: CAREFULLY REMOVE EXISTING BOLTS AND EMBEDDED ANCHORS FROM THE EXISTING BASE PLATE. FURNISH AND INSTALL THREADED ROD ANCHORS, AS SHOWN, CAST-IN-PLACE WITH THE PARAPET CONCRETE TO REINSTALL THE EXISTING FENCE POST. THREE (3) 3/4" DIA. ANCHORS ARE REQUIRED PER LOCATION.
4. FURNISH AND INSTALL SHIM PLATES (AS REQUIRED TO INSTALL POSTS PLUMB) AND CAULKING COMPOUND FOR ALL PROPOSED REPLACEMENT AND EXISTING REINSTALLED FENCE POSTS IN ACCORDANCE WITH STANDARD DRAWING VPF-1-90.
5. THREADED ROD ANCHORS SHALL BE IN ACCORDANCE WITH THE MATERIAL REQUIREMENTS OF STANDARD DRAWING VPF-1-90.
6. FOR ADDITIONAL INFORMATION ON REQUIRED FENCE REPAIRS, SEE THE GENERAL NOTES, SHEET 7/116.

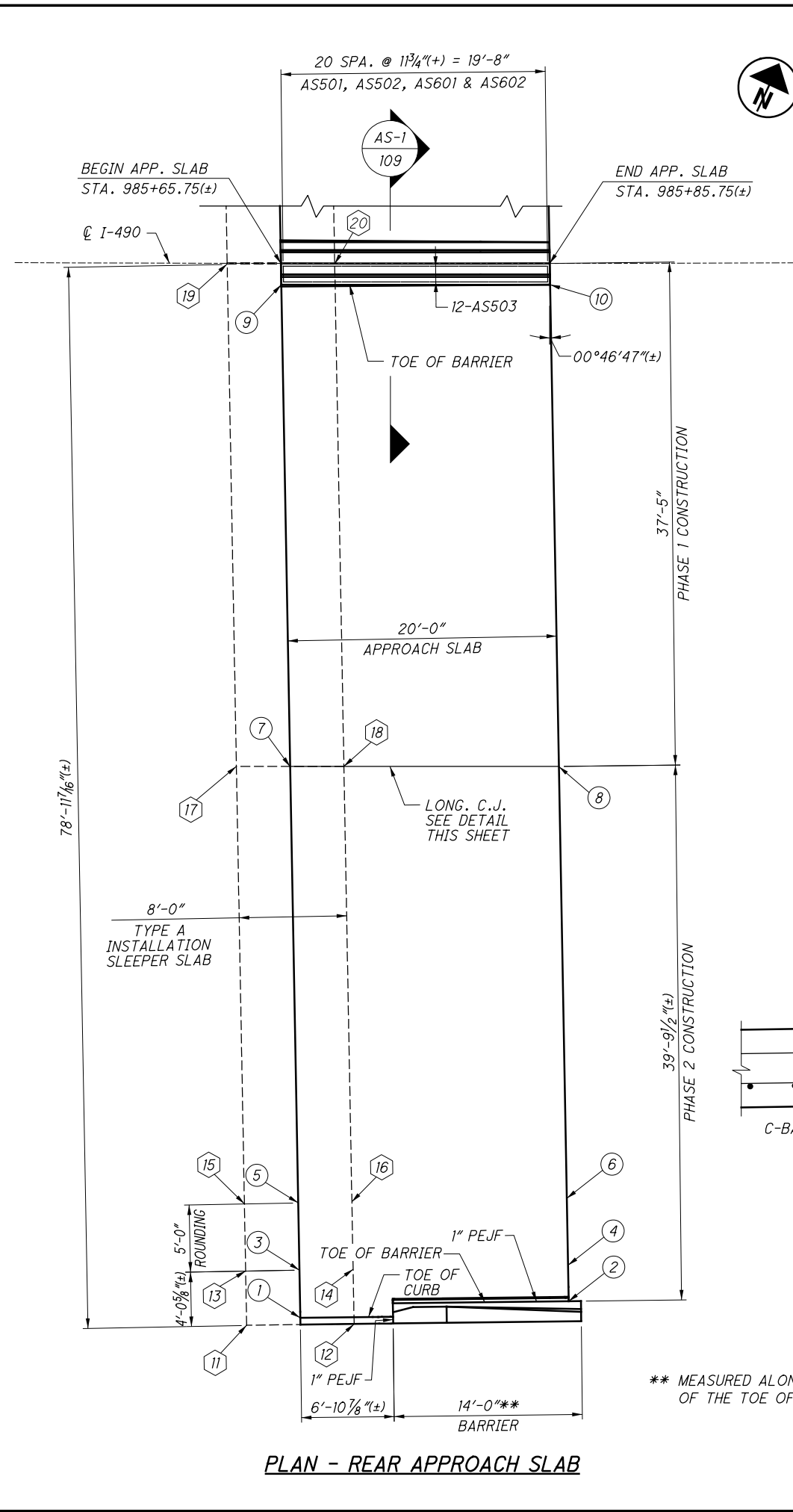


DESIGNED	PAT	CHECKED	JAM
DRAWN	PAT	REVISED	
REVIEWED	MJL	STRUCTURE FILE NUMBER	181991
DATE	08/05/20		

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

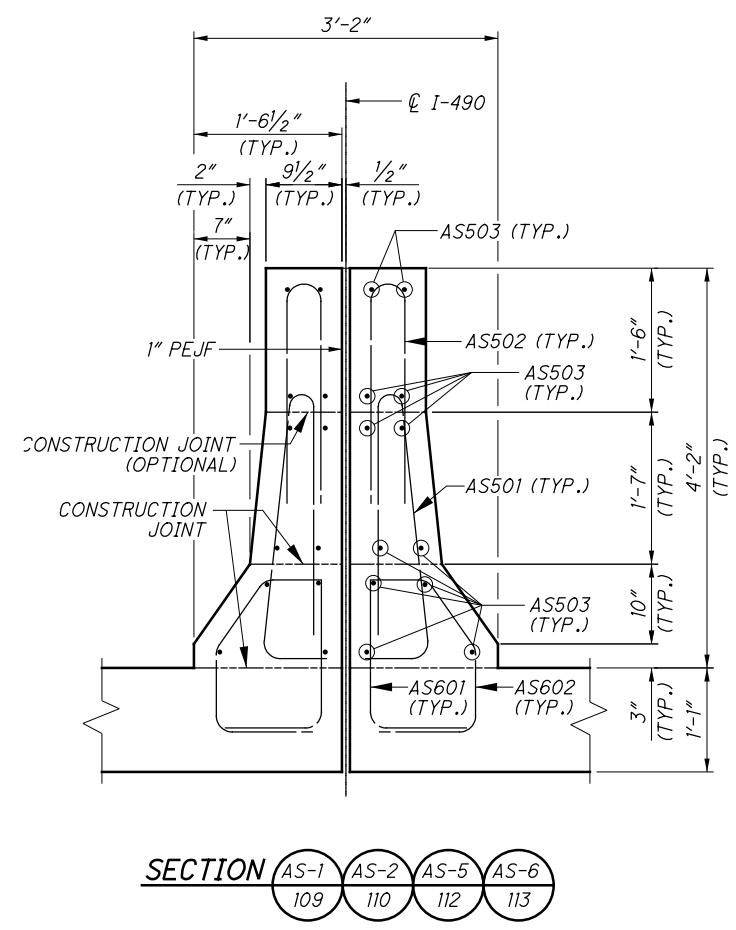
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PID No. 25622

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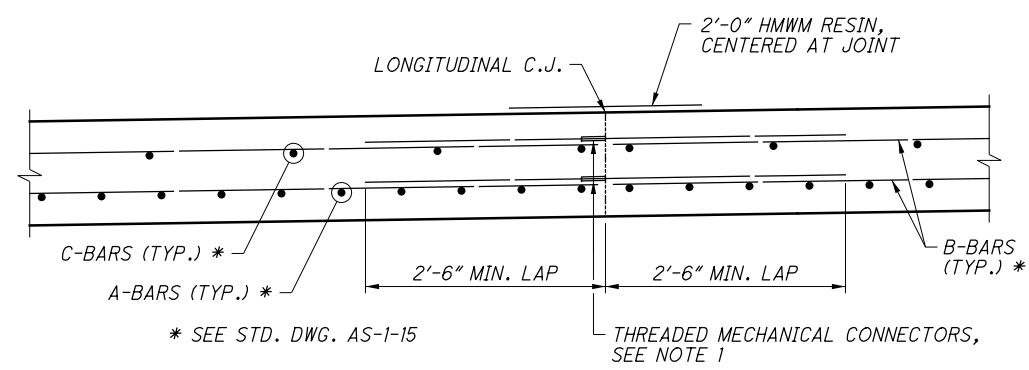


PLAN - REAR APPROACH SLAB

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



SECTION AS-1 AS-2 AS-5 AS-6
109 110 112 113



APPROACH SLAB CONSTRUCTION JOINT DETAIL

APPROACH SLAB ELEVATIONS

LOCATION		REAR
①	STATION	985+66.84
	OFFSET	78.44
	ELEVATION	648.97
②	STATION	985+86.58
	OFFSET	77.21
	ELEVATION	649.17
③	STATION	985+66.84
	OFFSET	74.88
	ELEVATION	648.93
④	STATION	985+86.54
	OFFSET	74.52
	ELEVATION	649.13
⑤	STATION	985+66.71
	OFFSET	69.89
	ELEVATION	648.90
⑥	STATION	985+86.46
	OFFSET	69.55
	ELEVATION	649.10
⑦	STATION	985+66.04
	OFFSET	37.41
	ELEVATION	647.96
⑧	STATION	985+85.92
	OFFSET	37.41
	ELEVATION	648.38
⑨	STATION	985+65.33
	OFFSET	1.58
	ELEVATION	647.20
⑩	STATION	985+85.33
	OFFSET	1.58
	ELEVATION	647.61

SLEEPER SLAB ELEVATIONS

LOCATION		REAR
⑪	STATION	985+62.90
	OFFSET	78.99
	ELEVATION	647.95
⑫	STATION	985+70.80
	OFFSET	78.89
	ELEVATION	648.00
⑬	STATION	985+62.82
	OFFSET	74.96
	ELEVATION	647.92
⑭	STATION	985+70.72
	OFFSET	74.81
	ELEVATION	647.95
⑮	STATION	985+62.72
	OFFSET	69.97
	ELEVATION	647.75
⑯	STATION	985+70.63
	OFFSET	69.81
	ELEVATION	647.88
⑰	STATION	985+62.06
	OFFSET	37.41
	ELEVATION	646.84
⑱	STATION	985+70.03
	OFFSET	37.40
	ELEVATION	946.96
⑲	STATION	985+61.30
	OFFSET	0.04
	ELEVATION	645.98
⑳	STATION	985+69.30
	OFFSET	0.04
	ELEVATION	646.16

ALL ELEVATIONS ARE ±

NOTES

1. THREADED MECHANICAL CONNECTORS SHALL BE RICHMOND SCREW ANCHOR THREADED DOWEL BAR ASSEMBLY, LENTON REBAR SPLICING MECHANISM, OR APPROVED EQUAL. COST SHALL BE INCLUDED FOR PAYMENT WITH ITEM 526, REINFORCED CONCRETE APPROACH SLABS (T=13"), AS PER PLAN.
2. SEAL THE LONGITUDINAL CONSTRUCTION JOINT WITH HIGH MOLECULAR WEIGHT METHACRYLATE (HMWM). THE WIDTH OF THE SEALING SHALL BE TWO FEET (2'), CENTERED OVER THE JOINT. PAYMENT SHALL BE MADE UNDER ITEM 526, REINFORCED CONCRETE APPROACH SLABS (T=13"), AS PER PLAN.
3. FOR REINFORCING STEEL LIST, SEE SHEET 116 / 116.

DLZ
6th Fl. Superior Ave., Suite 1000 • Cleveland, Ohio 44113

WEST ABUTMENT APPROACH SLAB DETAILS - 1
BRIDGE NO. CUY-490-0100
I-490 OVER CUYAHOGA RIVER

DESIGNED: KJS
CHECKED: CLH

DRAWN: DAF
REVISED:

REVIEWED: MJL
DATE: 08/05/20

STRUCTURE FILE NUMBER: 181991

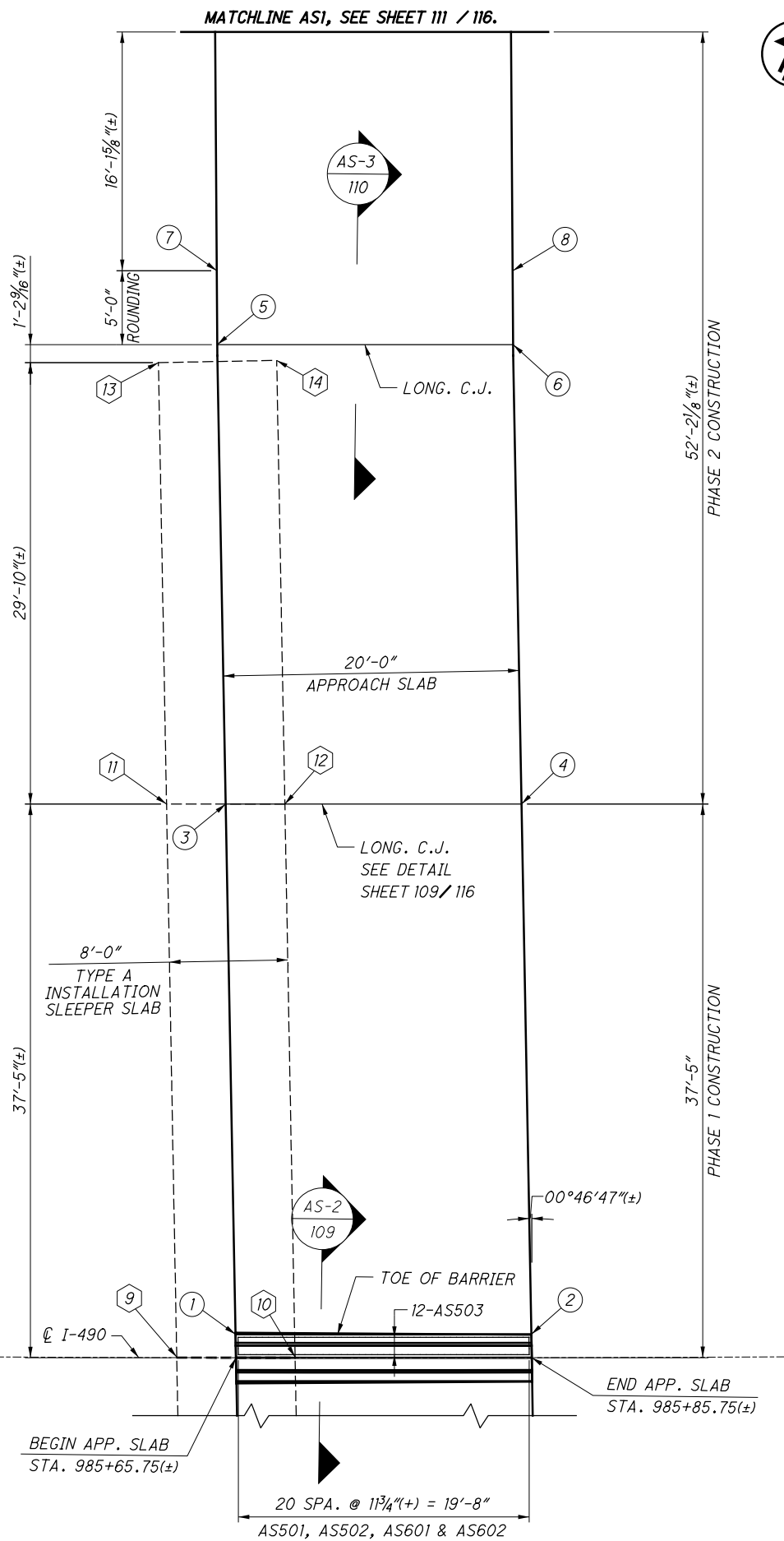
PID No. 25622

CUY-490-01.00

109/116

166
182

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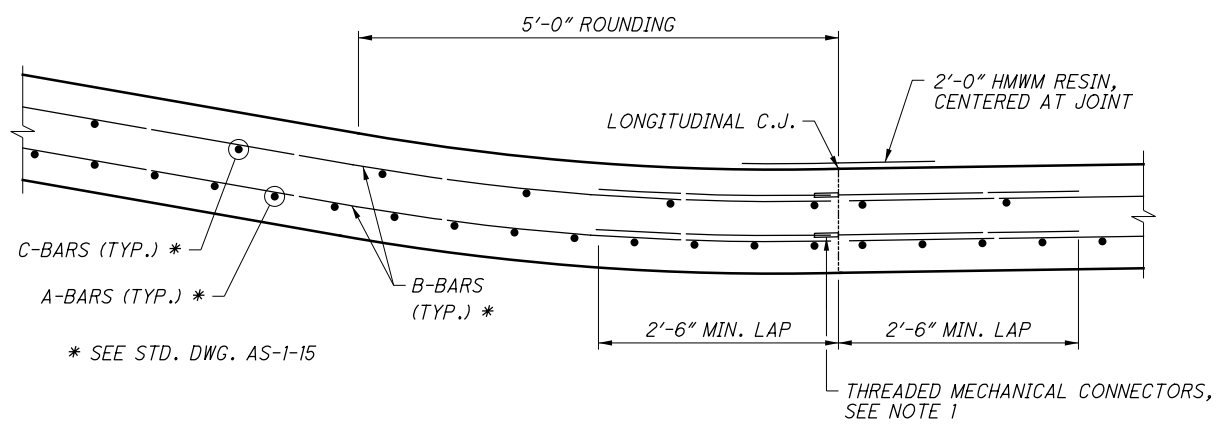
PLAN - REAR APPROACH SLAB



APPROACH SLAB ELEVATIONS		
LOCATION	REAR	
①	STATION	985+65.40
	OFFSET	-1.58
	ELEVATION	647.13
②	STATION	985+85.45
	OFFSET	-1.58
	ELEVATION	647.54
③	STATION	985+64.69
	OFFSET	-37.42
	ELEVATION	646.27
④	STATION	985+84.81
	OFFSET	-37.42
	ELEVATION	646.90
⑤	STATION	985+64.07
	OFFSET	-68.46
	ELEVATION	645.92
⑥	STATION	985+84.29
	OFFSET	-68.46
	ELEVATION	646.55
⑦	STATION	985+64.02
	OFFSET	-73.46
	ELEVATION	646.30
⑧	STATION	985+84.26
	OFFSET	-73.46
	ELEVATION	646.88

SLEEPER SLAB ELEVATIONS		
LOCATION	REAR	
⑨	STATION	985+61.43
	OFFSET	-0.04
	ELEVATION	645.98
⑩	STATION	985+69.44
	OFFSET	-0.04
	ELEVATION	646.17
⑪	STATION	985+60.66
	OFFSET	-37.41
	ELEVATION	645.06
⑫	STATION	985+68.72
	OFFSET	-37.42
	ELEVATION	645.33
⑬	STATION	985+60.04
	OFFSET	-67.24
	ELEVATION	644.62
⑭	STATION	985+68.13
	OFFSET	-67.40
	ELEVATION	644.90

ALL ELEVATIONS ARE ±



SECTION AS-3/110

NOTES

1. THREADED MECHANICAL CONNECTORS SHALL BE RICHMOND SCREW ANCHOR THREADED DOWEL BAR ASSEMBLY, LENTON REBAR SPLICING MECHANISM, OR APPROVED EQUAL. COST SHALL BE INCLUDED FOR PAYMENT WITH ITEM 526, REINFORCED CONCRETE APPROACH SLABS (T=13"), AS PER PLAN.
2. SEAL THE LONGITUDINAL CONSTRUCTION JOINT WITH HIGH MOLECULAR WEIGHT METHACRYLATE (HMWM). THE WIDTH OF THE SEALING SHALL BE TWO FEET (2'), CENTERED OVER THE JOINT. PAYMENT SHALL BE MADE UNDER ITEM 526, REINFORCED CONCRETE APPROACH SLABS (T=13"), AS PER PLAN.
3. FOR REINFORCING STEEL LIST, SEE SHEET 116 /116.



DESIGNED: KJS
CHECKED: CLH
DRAWN: DAF
REVISED:
REVIEWED: MJL
DATE: 08/05/20
STRUCTURE FILE NUMBER: 181991

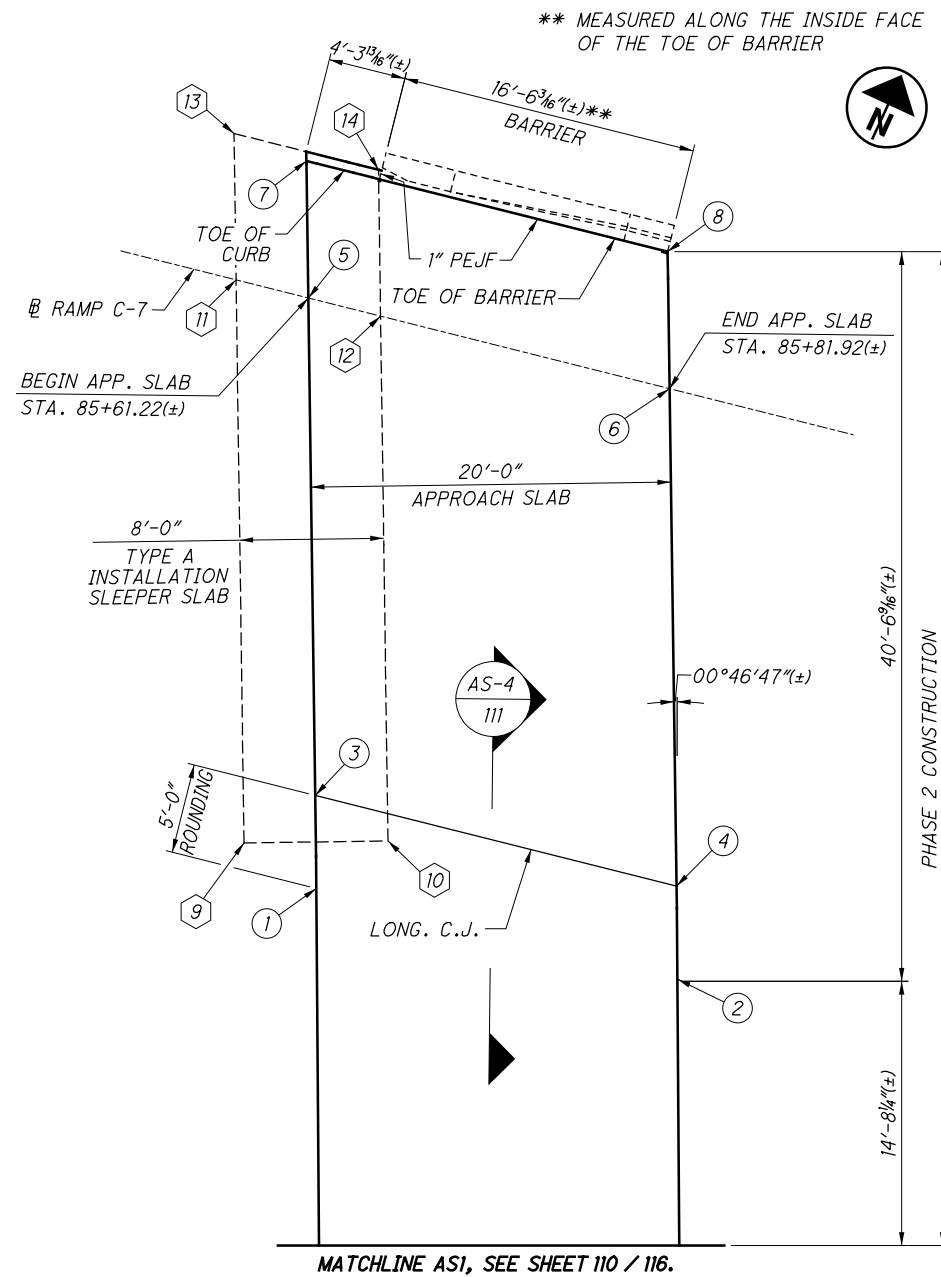
WEST ABUTMENT APPROACH SLAB DETAILS - 2
BRIDGE NO. CUY-490-0100
I-490 OVER CUYAHOGA RIVER

CUY-490-01.00
PID No. 25622

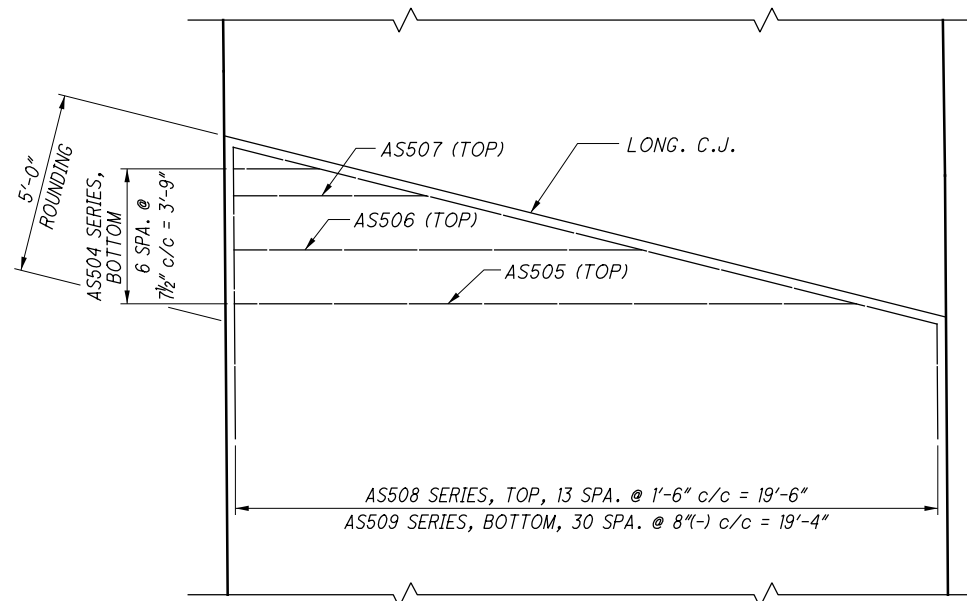
110/116

167
182

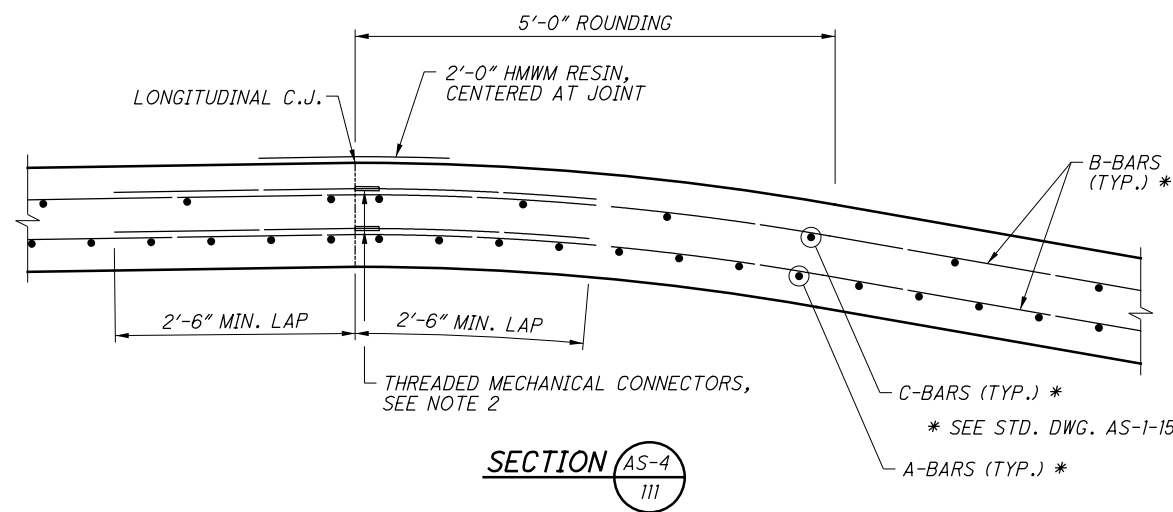
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PLAN - REAR APPROACH SLAB



PART PLAN - REAR APPROACH SLAB REINFORCING



SECTION AS-4 111

APPROACH SLAB ELEVATIONS

LOCATION	REAR
①	STATION 985+63.69
	OFFSET -109.44
	ELEVATION 649.26
②	STATION 985+84.09
	OFFSET -104.41
	ELEVATION 649.43
③	STATION 985+84.09
	OFFSET -114.61
	ELEVATION 649.68
④	STATION 985+84.06
	OFFSET -109.57
	ELEVATION 649.85
⑤	STATION 985+63.18
	OFFSET -142.25
	ELEVATION 652.34
⑥	STATION 985+83.70
	OFFSET -137.21
	ELEVATION 652.17
⑦	STATION 985+63.05
	OFFSET -149.87
	ELEVATION 653.02
⑧	STATION 985+83.60
	OFFSET -144.83
	ELEVATION 652.80

SLEEPER SLAB ELEVATIONS

LOCATION	REAR
⑨	STATION 985+59.59
	OFFSET -111.96
	ELEVATION 648.53
⑩	STATION 985+67.74
	OFFSET -112.09
	ELEVATION 648.36
⑪	STATION 985+59.06
	OFFSET -143.25
	ELEVATION 651.29
⑫	STATION 985+67.29
	OFFSET -141.25
	ELEVATION 651.23
⑬	STATION 985+58.92
	OFFSET -151.39
	ELEVATION 651.99
⑭	STATION 985+67.16
	OFFSET -149.39
	ELEVATION 651.90

ALL ELEVATIONS ARE ±

NOTES

- THIS DRAWING PROVIDES DETAILS TO SUPPLEMENT THE STANDARD DRAWING. FOR APPROACH SLAB REINFORCING STEEL AND DETAILS NOT SHOWN, REFER TO STANDARD DRAWING AS-1-15.
- THREADED MECHANICAL CONNECTORS SHALL BE RICHMOND SCREW ANCHOR THREADED DOWEL BAR ASSEMBLY, LENTON REBAR SPLICING MECHANISM, OR APPROVED EQUAL. COST SHALL BE INCLUDED FOR PAYMENT WITH ITEM 526, REINFORCED CONCRETE APPROACH SLABS (T=13"), AS PER PLAN.
- SEAL THE LONGITUDINAL CONSTRUCTION JOINT WITH HIGH MOLECULAR WEIGHT METHACRYLATE (HMW). THE WIDTH OF THE SEALING SHALL BE TWO FEET (2'), CENTERED OVER THE JOINT. PAYMENT SHALL BE MADE UNDER ITEM 526, REINFORCED CONCRETE APPROACH SLABS (T=13"), AS PER PLAN.
- FOR REINFORCING STEEL LIST, SEE SHEET 116 / 116.



DATE 08/05/20
REVIEWED MJL
STRUCTURE FILE NUMBER 181991
DRAWN DAF
CHECKED REVISED
DESIGNED KJS
CHECKED CLH

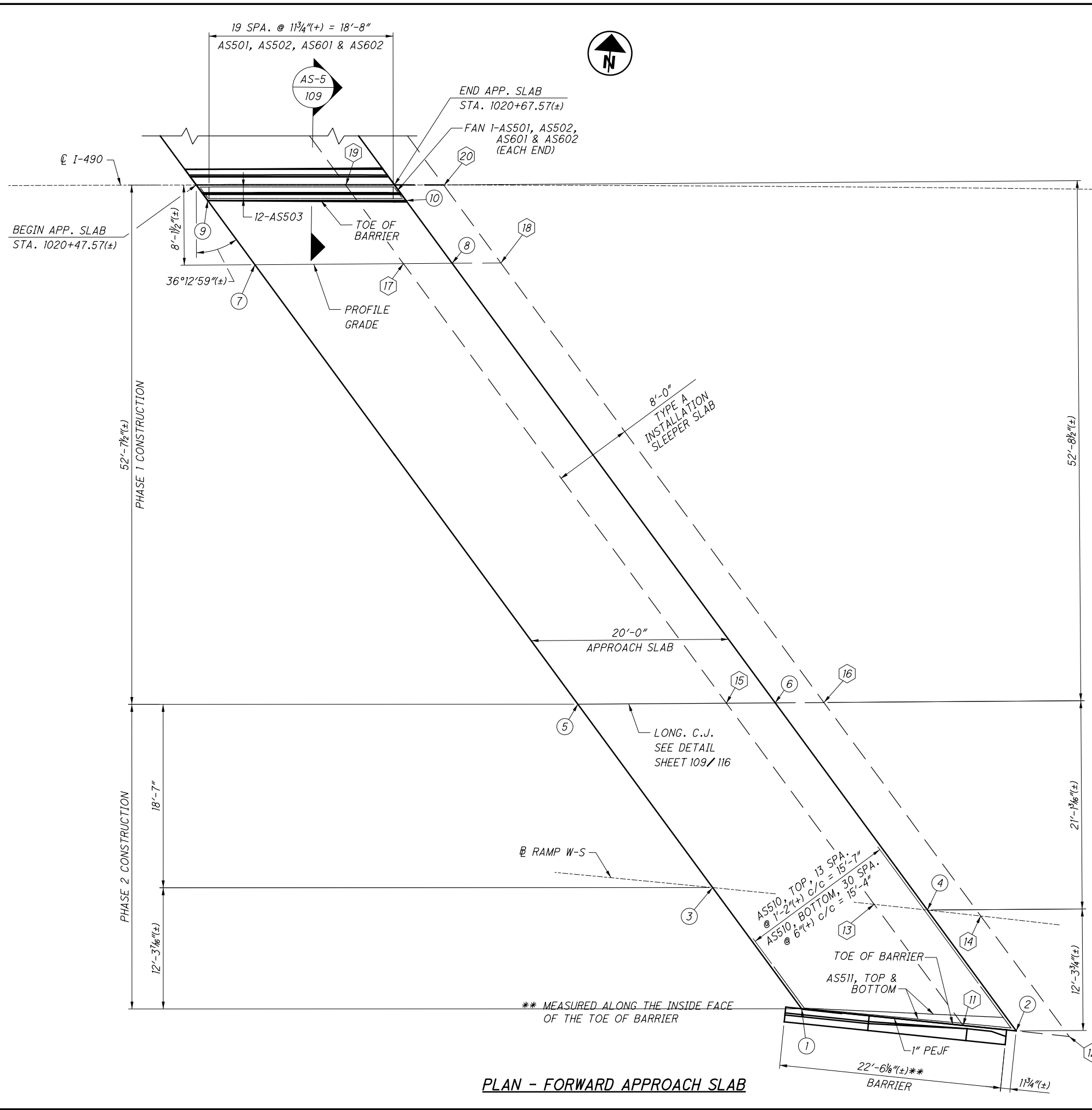
WEST ABUTMENT APPROACH SLAB DETAILS - 3
BRIDGE NO. CUY-490-0100
I-490 OVER CUYAHOGA RIVER

CUY-490-01.00
PID No. 25622

111 / 116

168
182

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APPROACH SLAB ELEVATIONS		
	LOCATION	FORWARD
①	STATION	1021+09.30
	OFFSET	83.31
	ELEVATION	648.43
②	STATION	1021+31.34
	OFFSET	85.37
	ELEVATION	646.91
③	STATION	1021+00.08
	OFFSET	71.09
	ELEVATION	648.11
④	STATION	1021+22.11
	OFFSET	73.21
	ELEVATION	647.32
⑤	STATION	1020+86.21
	OFFSET	52.58
	ELEVATION	648.96
⑥	STATION	1021+06.36
	OFFSET	52.34
	ELEVATION	648.39
⑦	STATION	1020+53.26
	OFFSET	8.09
	ELEVATION	650.49
⑧	STATION	1020+73.25
	OFFSET	7.94
	ELEVATION	650.10
⑨	STATION	1020+48.46
	OFFSET	1.58
	ELEVATION	650.67
⑩	STATION	1020+68.53
	OFFSET	1.58
	ELEVATION	650.19

SLEEPER SLAB ELEVATIONS		
	LOCATION	FORWARD
⑪	STATION	1021+25.89
	OFFSET	84.87
	ELEVATION	645.92
⑫	STATION	1021+36.78
	OFFSET	85.86
	ELEVATION	645.71
⑬	STATION	1021+16.65
	OFFSET	72.67
	ELEVATION	646.23
⑭	STATION	1021+27.55
	OFFSET	73.75
	ELEVATION	646.14
⑮	STATION	1021+01.39
	OFFSET	52.40
	ELEVATION	647.45
⑯	STATION	1021+11.31
	OFFSET	52.27
	ELEVATION	647.17
⑰	STATION	1020+68.26
	OFFSET	7.98
	ELEVATION	649.13
⑱	STATION	1020+78.23
	OFFSET	7.89
	ELEVATION	648.86
⑳	STATION	1020+62.49
	OFFSET	0.04
	ELEVATION	649.29
㉑	STATION	1020+72.43
	OFFSET	0.04
	ELEVATION	648.98

ALL ELEVATIONS ARE ±

NOTES

- THIS DRAWING PROVIDES DETAILS TO SUPPLEMENT THE STANDARD DRAWING. FOR APPROACH SLAB REINFORCING STEEL AND DETAILS NOT SHOWN, REFER TO STANDARD DRAWING AS-1-15.
- THREADED MECHANICAL CONNECTORS SHALL BE RICHMOND SCREW ANCHOR THREADED DOWEL BAR ASSEMBLY, LENTON REBAR SPLICING MECHANISM, OR APPROVED EQUAL. COST SHALL BE INCLUDED FOR PAYMENT WITH ITEM 526, REINFORCED CONCRETE APPROACH SLABS (T=13"), AS PER PLAN.
- SEAL THE LONGITUDINAL CONSTRUCTION JOINT WITH HIGH MOLECULAR WEIGHT METHACRYLATE (HMWM). THE WIDTH OF THE SEALING SHALL BE TWO FEET (2'), CENTERED OVER THE JOINT. PAYMENT SHALL BE MADE UNDER ITEM 526, REINFORCED CONCRETE APPROACH SLABS (T=13"), AS PER PLAN.
- FOR REINFORCING STEEL LIST, SEE SHEET 116 /116.

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MJJ
STRUCTURE FILE NUMBER
181991

DATE
08/05/20

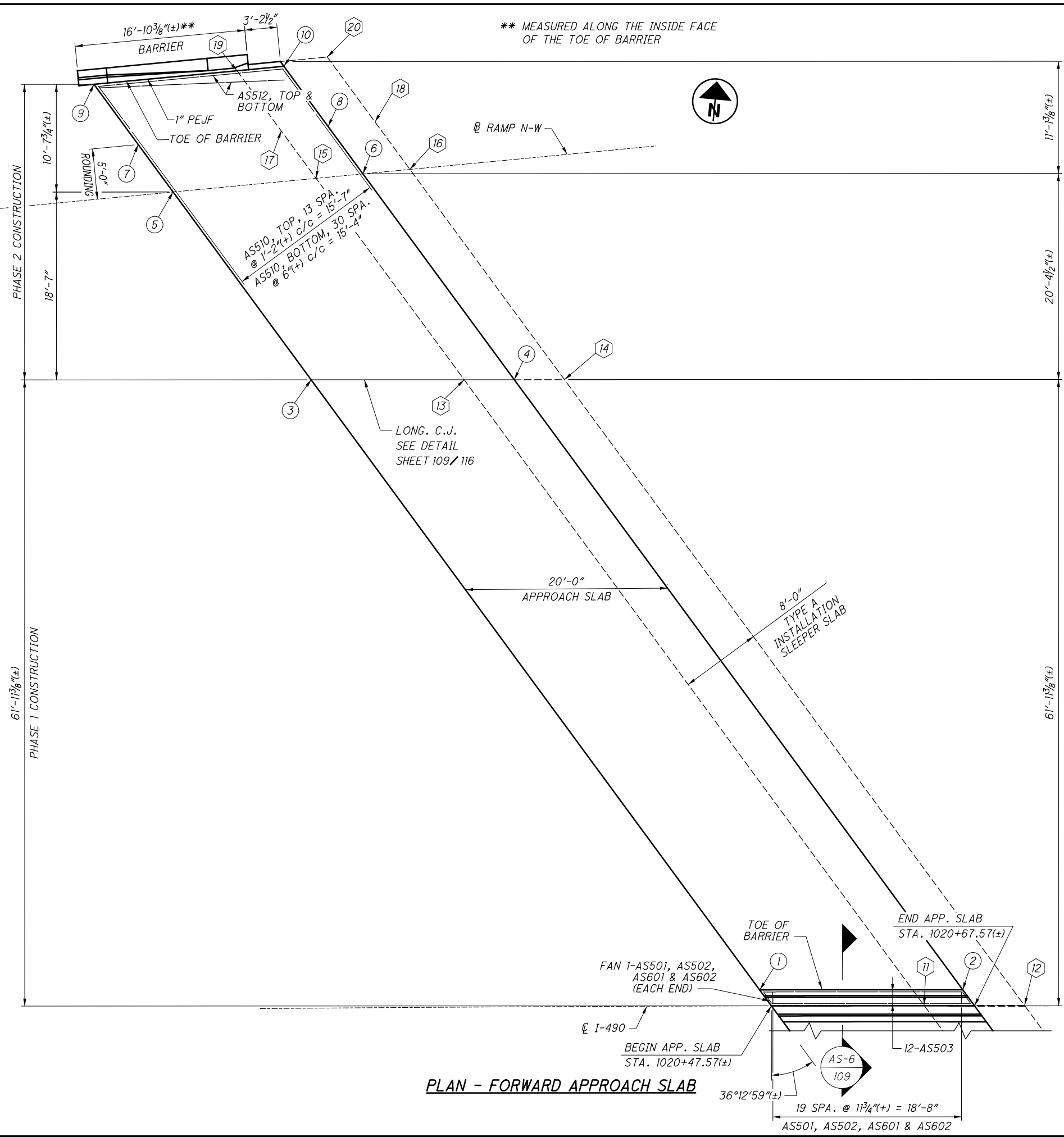
EAST ABUTMENT APPROACH SLAB DETAILS - 1

BRIDGE NO. CUY-490-0100
I-490 OVER CUYAHOGA RIVER

CUY-490-01.00
PID No. 25622

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169 / 182

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



APPROACH SLAB ELEVATIONS		
LOCATION		FORWARD
①	STATION	1020+46.17
	OFFSET	-1.58
	ELEVATION	650.75
②	STATION	1020+66.26
	OFFSET	-1.58
	ELEVATION	650.24
③	STATION	1020+02.32
	OFFSET	-62.17
	ELEVATION	652.26
④	STATION	1020+22.23
	OFFSET	-62.03
	ELEVATION	652.33
⑤	STATION	1019+88.97
	OFFSET	-80.87
	ELEVATION	652.99
⑥	STATION	1020+07.55
	OFFSET	-82.50
	ELEVATION	652.76
⑦	STATION	1019+85.61
	OFFSET	-85.60
	ELEVATION	653.28
⑧	STATION	1020+04.18
	OFFSET	-87.22
	ELEVATION	652.94
⑨	STATION	1019+81.35
	OFFSET	-91.60
	ELEVATION	653.58
⑩	STATION	1019+99.91
	OFFSET	-93.20
	ELEVATION	653.28

SLEEPER SLAB ELEVATIONS		
LOCATION		FORWARD
⑪	STATION	1020+62.43
	OFFSET	-0.04
	ELEVATION	649.29
⑫	STATION	1020+72.36
	OFFSET	-0.04
	ELEVATION	648.98
⑬	STATION	1020+17.32
	OFFSET	-62.06
	ELEVATION	651.20
⑭	STATION	1020+27.15
	OFFSET	-62.01
	ELEVATION	651.18
⑮	STATION	1020+02.96
	OFFSET	-82.09
	ELEVATION	651.74
⑯	STATION	1020+12.14
	OFFSET	-82.91
	ELEVATION	651.66
⑰	STATION	1019+99.59
	OFFSET	-86.81
	ELEVATION	651.92
⑱	STATION	1019+08.76
	OFFSET	-87.62
	ELEVATION	651.81
⑲	STATION	1019+95.33
	OFFSET	-92.80
	ELEVATION	652.27
⑳	STATION	1020+04.15
	OFFSET	-94.08
	ELEVATION	652.16

ALL ELEVATIONS ARE ±

NOTES

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- FOR REINFORCING STEEL LIST, SEE SHEET 116 / 116.



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DATE	08/05/20		

EAST ABUTMENT APPROACH SLAB DETAILS - 2
 BRIDGE NO. CUY-490-0100
 I-490 OVER CUYAHOGA RIVER

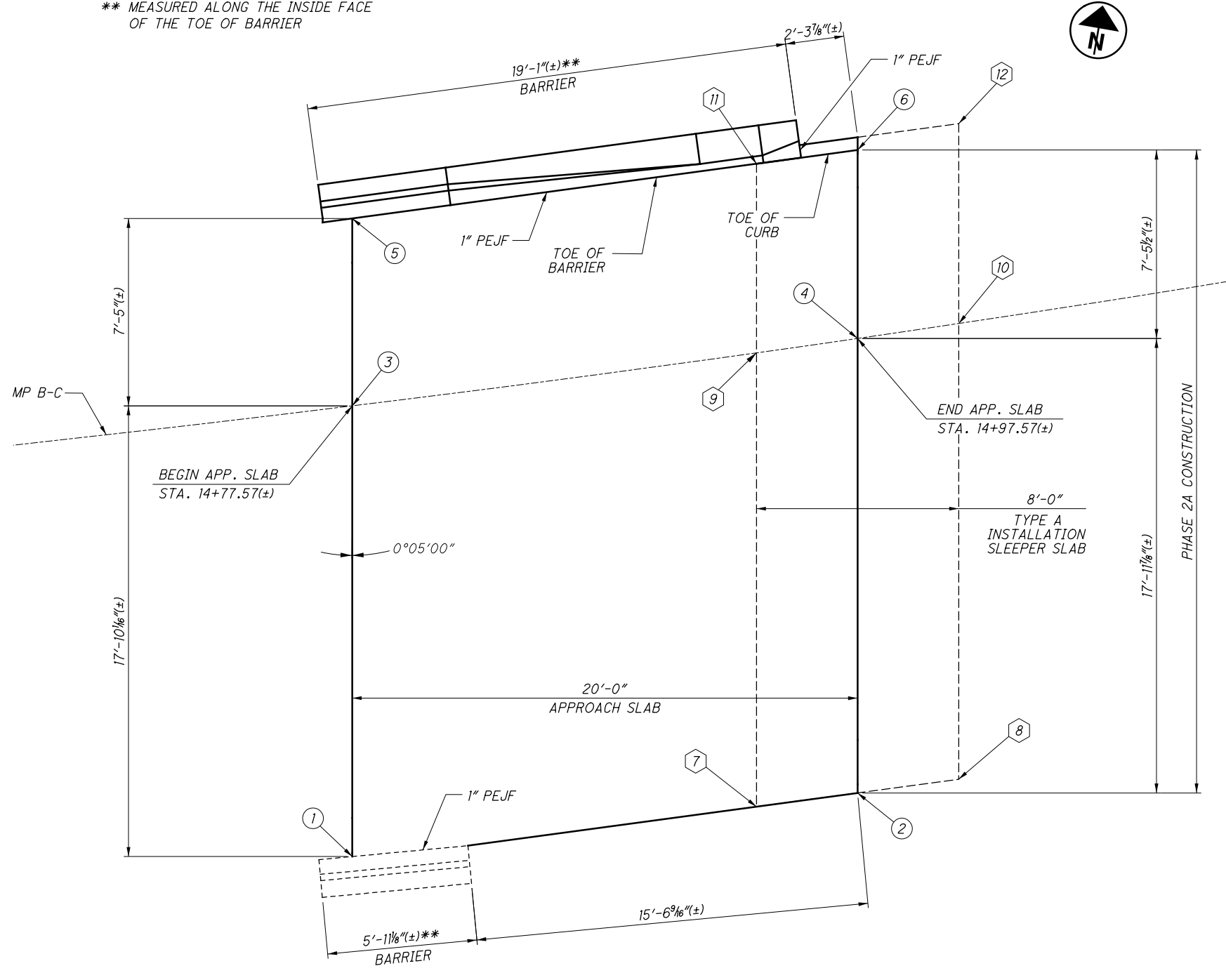
CUY-490-01.00
 PID No. 25622

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



PLAN - FORWARD APPROACH SLAB

APPROACH SLAB ELEVATIONS

LOCATION	FORWARD
①	STATION 14+75.44
	OFFSET 17.71
	ELEVATION 666.47
②	STATION 14+95.24
	OFFSET 17.81
	ELEVATION 666.23
③	STATION 14+77.61
	OFFSET 0.00
	ELEVATION 666.00
④	STATION 14+97.75
	OFFSET 0.00
	ELEVATION 666.08
⑤	STATION 14+78.48
	OFFSET -7.36
	ELEVATION 665.75
⑥	STATION 14+98.83
	OFFSET -7.38
	ELEVATION 666.00

SLEEPER SLAB ELEVATIONS

LOCATION	FORWARD
⑦	STATION 14+91.20
	OFFSET 17.79
	ELEVATION 665.20
⑧	STATION 14+99.17
	OFFSET 17.84
	ELEVATION 665.11
⑨	STATION 14+93.71
	OFFSET 0.00
	ELEVATION 664.99
⑩	STATION 15+01.79
	OFFSET 0.00
	ELEVATION 665.02
⑪	STATION 14+94.75
	OFFSET -7.41
	ELEVATION 664.87
⑫	STATION 15+05.41
	OFFSET -7.82
	ELEVATION 664.91

ALL ELEVATIONS ARE ±

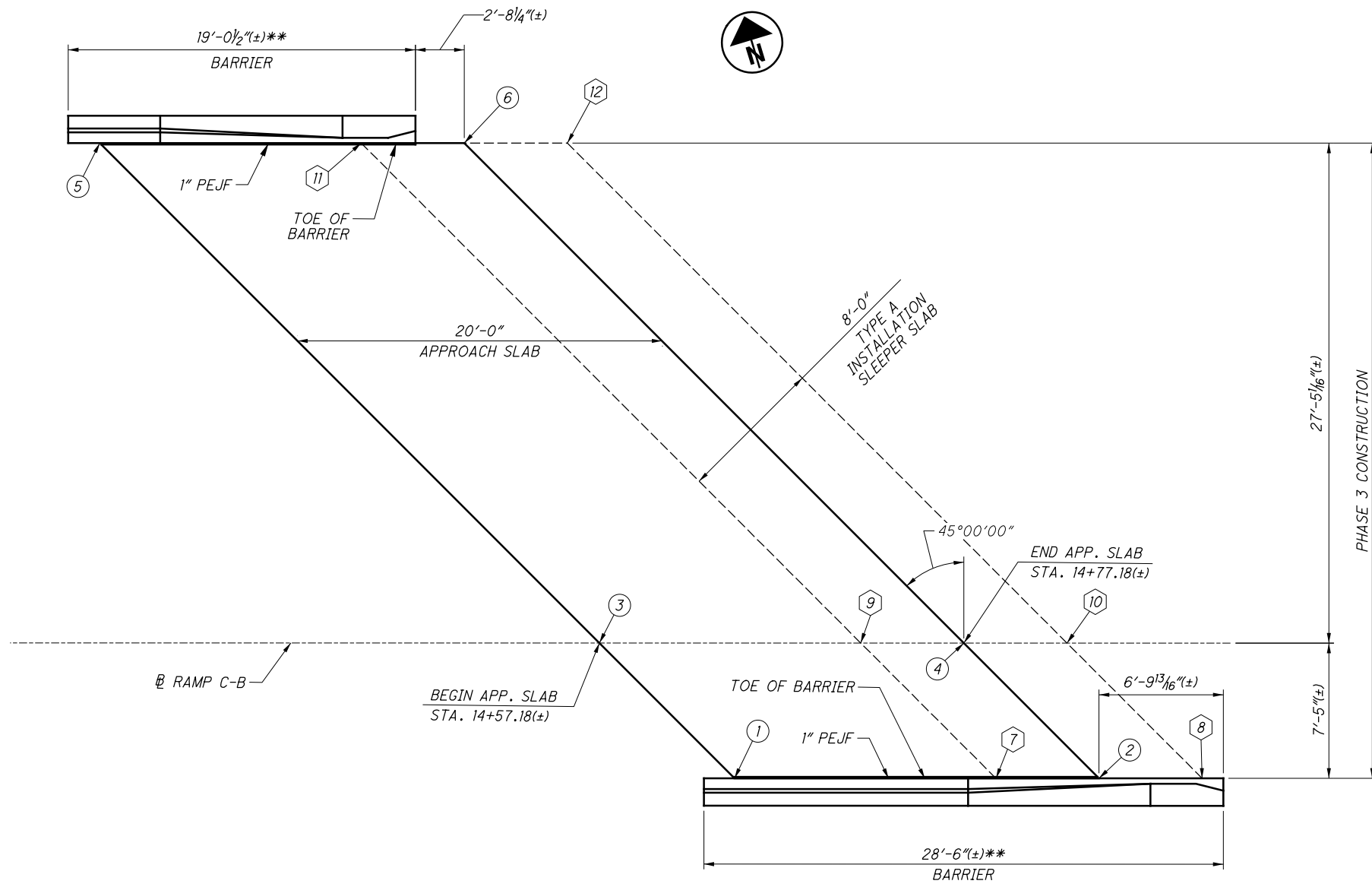


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ABUTMENT B-C APPROACH SLAB DETAILS
 BRIDGE NO. CUY-490-0100
 I-490 OVER CUYAHOGA RIVER

CUY-490-01.00
 PID No. 25622

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PLAN - FORWARD APPROACH SLAB

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

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 ±



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 DRAWN: DAF
 REVISED:
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 STRUCTURE FILE NUMBER: 181991

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

CUY-490-01.00
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