

GENERAL LOCATION OF CONTRACT

# THE STATE OF DELAWARE DEPARTMENT OF TRANSPORTATION



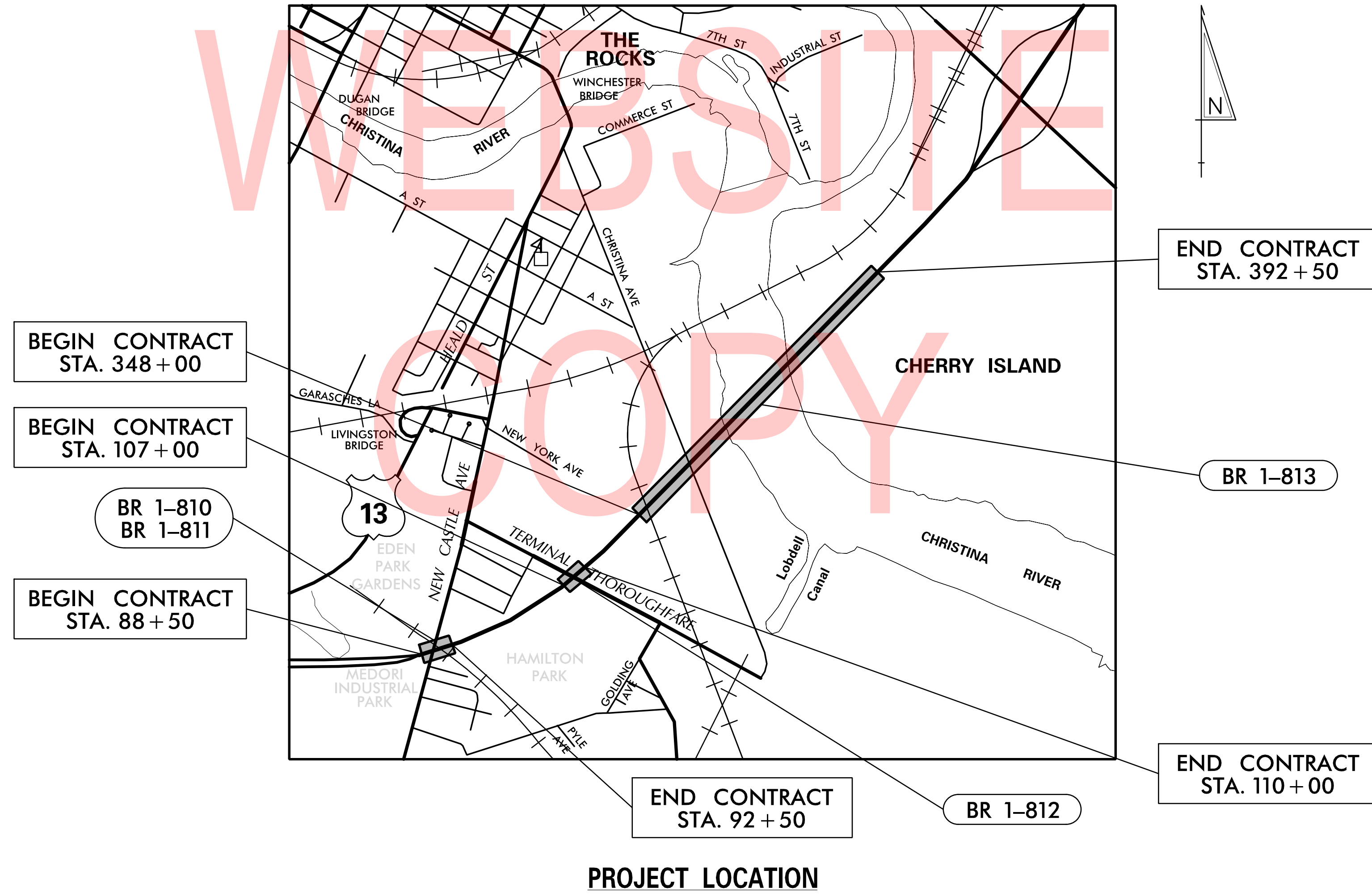
CONSTRUCTION PLANS FOR:

## REHABILITATION OF BRIDGES 1-810, 1-811, 1-812 AND 1-813 ON I-495

U.S. CUSTOMARY  
UNITS

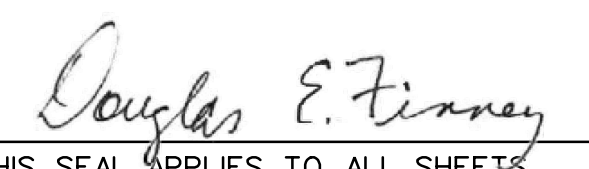

CONTRACT NUMBER: **T201707404**  
 FEDERAL AID PROJECT NUMBER: **BHN-N060(20)**  
 COUNTY: **NEW CASTLE** M.R. #: **N60**

DESIGN DESIGNATION			
MRD #: N60	ROAD NAME: INTERSTATE HIGHWAY ROUTE I-495		D.H.V. PROJECTED: 11,645
FUNCTIONAL CLASS: INTERSTATE	DESIGN SPEED: 70 M.P.H.	YEAR: 2040	
TYPE OF CONSTRUCTION: STRUCTURE MAINTENANCE	TRUCKS: 14.79%		
A.A.D.T. CURRENT: 103,145	YEAR: 2018	DIRECTION OF DISTRIBUTION: 56.4%	
A.A.D.T. PROJECTED: 128,386	YEAR: 2040		
APPROVED DESIGN EXCEPTIONS			
DESIGN PARAMETER	REQUIRED	PROVIDED	DATE
ADDENDA /REVISIONS			
ASSOCIATED CONTRACTS			
CONTRACT NO.	CONTRACT NAME		
70-04-016	INTERSTATE HIGHWAY ROUTE I-495 CHRISTINA RIVER BRIDGE - SUBSTRUCTURE		
71-05-003	ROUTE I-495 - BETWEEN NEW CASTLE AVE. AND CHRISTINA RIVER		
71-05-007	INTERSTATE HIGHWAY ROUTE I-495 CHRISTINA RIVER BRIDGE - SUPERSTRUCTURE		
94-074-06	BRIDGE 813 ON I-495 OVER CHRISTINA RIVER		
94-074-11	REHABILITATION AND PAINTING OF BRIDGE 1-813 ON I-495 OVER CHRISTINA RIVER		



PROJECT LOCATION

APPROVED FOR ADVERTISEMENT  
  
 DIRECTOR OF TRANSPORTATION SOLUTIONS      01/06/2020  
 DATE

PREPARED BY  
 T.Y. LIN INTERNATIONAL  
      12/9/2019  
 DATE  
 THIS SEAL APPLIES TO ALL SHEETS BEARING THE "TY" SECTION DESIGNATION.  
  
 SEAL

LAST REVISED: 08/16/2017  
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INDEX OF SHEETS		
SECTION	SHEET DESCRIPTION	SHEET NO(S)
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WEBSITE  
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ADDENDA / REVISIONS		NOT TO SCALE	REHABILITATION OF BRIDGES 1-810, 1-811, 1-812 AND 1-813 ON I-495	CONTRACT	BRIDGE NO.	INDEX OF SHEETS	IS-01
				T201707404	DESIGNED BY: JWS		SECTION
				COUNTY	CHECKED BY: DJC		TY
				NEW CASTLE			SHEET NO.
							2

<b>ADDENDUM PREPARED BY</b> DELDOT – TRANSPORTATION SOLUTIONS XXXXXXXXXXXXXXXXXXXXX		
THIS SEAL APPLIES TO THE FOLLOWING SHEETS CHANGED UNDER ADDENDUM *X: XX, XX-XX, XX	DATE	SEAL

<b>REVISION PREPARED BY</b> DELDOT – TRANSPORTATION SOLUTIONS XXXXXXXXXXXXXXXXXXXXX		
THIS SEAL APPLIES TO THE FOLLOWING SHEETS CHANGED UNDER REVISION *X: XX, XX-XX, XX	DATE	SEAL

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ADDENDA / REVISIONS	<b>NOT TO SCALE</b>	<b>REHABILITATION OF BRIDGES 1-810, 1-811, 1-812 AND 1-813 ON I-495</b>	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="font-size: 8px;">CONTRACT</td> <td style="font-size: 8px;">BRIDGE NO.</td> </tr> <tr> <td style="font-size: 8px;">T201707404</td> <td></td> </tr> <tr> <td style="font-size: 8px;">COUNTY</td> <td style="font-size: 8px;">DESIGNED BY: JWS</td> </tr> <tr> <td style="font-size: 8px;">NEW CASTLE</td> <td style="font-size: 8px;">CHECKED BY: DJC</td> </tr> </table>	CONTRACT	BRIDGE NO.	T201707404		COUNTY	DESIGNED BY: JWS	NEW CASTLE	CHECKED BY: DJC	<b>ADDENDA AND REVISIONS</b>	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="font-size: 8px;">AR-01</td> </tr> <tr> <td style="font-size: 8px;">SECTION</td> </tr> <tr> <td style="font-size: 8px;">TY</td> </tr> <tr> <td style="font-size: 8px;">SHEET NO.</td> </tr> <tr> <td style="text-align: center; font-size: 8px;">3</td> </tr> </table>	AR-01	SECTION	TY	SHEET NO.	3
CONTRACT	BRIDGE NO.																	
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NEW CASTLE	CHECKED BY: DJC																	
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**GENERAL NOTES**

- THIS PROJECT IS TO BE CONSTRUCTED IN ACCORDANCE WITH THE DELAWARE DEPARTMENT OF TRANSPORTATION "STANDARD SPECIFICATIONS", DATED AUGUST 2016 AND THE DELAWARE DEPARTMENT OF TRANSPORTATION "STANDARD CONSTRUCTION DETAILS", DATED 2018, INCLUDING ALL REVISIONS UP TO THE DATE OF ADVERTISEMENT.
- ELECTRONIC DESIGN DATA FILES THAT WILL BE MADE AVAILABLE TO THE AWARDED CONTRACTOR, INCLUDE:

( X )	NONE
( )	ASCII DATA FILES WITH COORDINATES AND ELEVATIONS FOR PROPOSED POINTS AS SELECTED BY THE ENGINEER.
( )	EXISTING DIGITAL TERRAIN MODEL, IN .DTM FILE FORMAT, COMPATIBLE WITH SOFTWARE CURRENTLY USED BY DELDOT.
( )	PROPOSED DIGITAL TERRAIN MODEL, IN .DTM FILE FORMAT, COMPATIBLE WITH SOFTWARE CURRENTLY USED BY DELDOT.
( )	DESIGN FILE, IN .DGN FILE FORMAT, THAT CONTAINS 3D FEATURE LINES FOR THE PROPOSED DESIGN. 3D FEATURE LINES ARE FOR THE PROPOSED TOP SURFACE ELEVATION ONLY.

NOTE: THE DOCUMENT ENTITLED "RELEASE FOR DELIVERY OF DOCUMENTS IN ELECTRONIC FORM TO A CONTRACTOR" MUST BE SIGNED BY ALL PARTIES PRIOR TO THE DELIVERY OF ANY ELECTRONIC PROJECT FILES.

NOTE: THERE MAY BE SOME AREAS OF THE PROJECT NOT INCLUDED IN THE ELECTRONIC DESIGN DATA FILE(S). IT IS THE CONTRACTOR'S RESPONSIBILITY TO REVIEW THE DESIGN DATA FILE AND DETERMINE THE LIMITS OF THE PROJECT INCLUDED.

- PROJECT FILES THAT WILL BE MADE AVAILABLE TO THE CONTRACTOR, INCLUDE:

( )	CROSS SECTIONS
( )	RIGHT-OF-WAY PLANS (WILL BE MADE AVAILABLE TO THE AWARDED CONTRACTOR)

**PROJECT NOTES**

**SECTION 100**

- ANY DAMAGE TO ITEMS NOTED TO BE RELOCATED OR RESET BY THE CONTRACTOR, AT THE DISCRETION OF THE ENGINEER, SHALL BE REPAIRED AND/OR REPLACED IN KIND AT THE CONTRACTOR'S EXPENSE.

**SECTION 200**

- ITEMS TO BE REMOVED UNDER ITEM 211000 - REMOVAL OF STRUCTURES AND OBSTRUCTIONS SHALL INCLUDE, BUT NOT BE LIMITED TO THE FOLLOWING:

**BR 1-810**

- REMOVAL OF BRIDGE JOINTS
- PARTIAL REMOVAL OF BRIDGE DECK AND BARRIER
- REMOVAL OF APPROACH SLABS

**BR 1-811**

- REMOVAL OF BRIDGE JOINTS
- PARTIAL REMOVAL OF BRIDGE DECK AND BARRIER

**BR 1-812**

- REMOVAL OF BRIDGE JOINTS
- PARTIAL REMOVAL OF BRIDGE DECK AND BARRIER
- REMOVAL OF APPROACH SLABS

**BR 1-813**

- PARTIAL REMOVAL OF BRIDGE DECK
- EXTERIOR BRIDGE BARRIER
- PARTIAL REMOVAL OF WINGWALLS
- NAVIGATION LIGHTS (TO BE SALVAGED AND REINSTALLED)
- STAND PIPES (TO BE SALVAGED AND REINSTALLED)
- STEEL MANHOLES IN MEDIAN BRIDGE BARRIER (PIERS 15E, 15W, 18E, AND 18W)
- ACCESS LADDERS AND STEEL SUPPORT STRUCTURES (PIERS 15E, 15W, 18E, AND 18W)

**SECTION 800**

- MAINTENANCE OF TRAFFIC: MAINTENANCE OF TRAFFIC WILL BE IN ACCORDANCE WITH THE CONSTRUCTION PHASING AND MAINTENANCE OF TRAFFIC (MOT) PLANS. PAYMENT FOR MOT DEVICES WILL BE MADE UNDER THEIR RESPECTIVE BID ITEM.

**MISCELLANEOUS**

- UTILITIES: SEE UTILITY STATEMENT FOR FURTHER INFORMATION ON UTILITY COORDINATION.
  - RIGHT-OF-WAY: ALL WORK SHALL BE PERFORMED WITHIN THE EXISTING RIGHT-OF-WAY.
  - ENVIRONMENTAL COMPLIANCE: SEE ENVIRONMENTAL COMPLIANCE PLAN FOR FURTHER RESTRICTIONS/GUIDANCE ASSOCIATED WITH THIS PROJECT.
  - AS-BUILT PLANS OF THE EXISTING STRUCTURE ARE AVAILABLE AND SHALL BE OBTAINED THROUGH THE DEPARTMENT AND USED IN CONJUNCTION WITH THESE DRAWINGS WHEN DETERMINING EXISTING DIMENSIONS. ALL DIMENSIONS SHOWN ON THESE DRAWINGS WERE TAKEN FROM THE EXISTING PLANS AND SHOULD BE VERIFIED IN THE FIELD. THE EXISTING PLANS ARE AS FOLLOWS:
- | CONTRACT  | DESCRIPTION   |
|-----------|---|
| 70-04-016 | INTERSTATE HIGHWAY ROUTE I-495 CHRISTINA RIVER BRIDGE - SUBSTRUCTURE      |
| 71-05-003 | ROUTE I-495 - BETWEEN NEW CASTLE AVE. AND CHRISTINA RIVER                 |
| 71-05-007 | INTERSTATE HIGHWAY ROUTE I-495 CHRISTINA RIVER BRIDGE - SUPERSTRUCTURE    |
| 94-076-06 | BRIDGE 813 ON I-495 OVER CHRISTINA RIVER                                  |
| 94-074-11 | REHABILITATION AND PAINTING OF BRIDGE 1-813 ON I-495 OVER CHRISTINA RIVER |
- ANY DAMAGE DONE BY THE CONTRACTOR'S OPERATIONS TO THE EXISTING FACILITIES NOT DESIGNATED FOR REPAIRS UNDER THE CONTRACT SHALL BE REPAIRED OR REPLACED AT THE CONTRACTOR'S EXPENSE.
  - THE CONTRACTOR SHALL CONTACT THE CHIEF OF SCHEDULING FOR DART FIRST STATE, 14 DAYS PRIOR TO THE START OF CONSTRUCTION AT 302-576-6191 OR BY EMAIL NOTIFICATION TO DOT\_Detours@state.de.us.

**RAILROAD COORDINATION - NORFOLK SOUTHERN**

- ALL WORK ON, OVER, UNDER, OR ADJACENT TO NORFOLK SOUTHERN (NS) RIGHT-OF-WAY SHALL BE DONE IN ACCORDANCE WITH THE NORFOLK SOUTHERN "SPECIAL PROVISIONS FOR PROTECTION OF RAILWAY INTERESTS" (NS SPECIAL PROVISIONS).
- NORFOLK SOUTHERN CONTACT INFORMATION:  
NORFOLK SOUTHERN CORPORATION  
BRIDGE AND STRUCTURES DEPARTMENT  
ATTN. MR. S.A. OVERBEY, ENGINEER PUBLIC IMPROVEMENTS  
1200 PEACHTREE STREET NE  
ATLANTA, GA 30309  
PHONE: (404) 582-5588  
EMAIL: SCOTT.OVERBEY@NSCORP.COM
- "ONE CALL" SERVICES DO NOT LOCATE BURIED RAILROAD SIGNAL AND COMMUNICATIONS LINES. THE CONTRACTOR SHALL CONTACT THE RAILROAD'S REPRESENTATIVE TWO (2) DAYS IN ADVANCE OF THOSE PLACES WHERE EXCAVATION, PILE DRIVING, OR HEAVY LOADS MAY DAMAGE RAILROAD UNDERGROUND LINES ON RAILROAD PROPERTY. UPON REQUEST FROM THE CONTRACTOR OR AGENCY, RAILROAD SIGNAL FORCES WILL LOCATE AND PAINT MARK OR FLAG RAILROAD UNDERGROUND SIGNAL, COMMUNICATION, AND POWER LINES IN THE AREA TO BE DISTURBED FOR THE CONTRACTOR. THE CONTRACTOR SHALL AVOID EXCAVATION OR OTHER DISTURBANCE OF THESE LINES WHICH ARE CRITICAL TO THE SAFETY OF THE RAILROAD AND THE PUBLIC. IF DISTURBANCE OR EXCAVATION IS REQUIRED NEAR A BURIED RAILROAD SIGNAL, COMMUNICATION, OR POWER LINE, THE LINE SHALL BE POTHOLED MANUALLY WITH CAREFUL HAND EXCAVATION BY THE CONTRACTOR AND PROTECTED BY THE CONTRACTOR DURING THE COURSE OF THE DISTURBANCE UNDER THE SUPERVISION AND DIRECTION OF A RAILROAD SIGNAL REPRESENTATIVE.
- ALL UTILITY INSTALLATIONS OR RELOCATIONS ON NORFOLK SOUTHERN RIGHT-OF-WAY THAT ARE REQUIRED IN CONJUNCTION WITH THIS PROJECT CAN BE INSTALLED OR RELOCATED AS PART OF THE PROJECT PROVIDED THE CONSTRUCTION IS PERFORMED BY THE PROJECT CONTRACTOR OR PROJECT CONTRACTOR'S SUB-CONTRACTOR. HOWEVER, THE UTILITY MUST SUBMIT AN APPLICATION FOR THE INSTALLATION OR RELOCATION TO DELDOT FOR APPROPRIATE HANDLING FOR LICENSE AGREEMENT AND APPLICABLE FEES. FOR UTILITY APPLICATIONS GO TO: WWW.NSCORP.COM > REAL ESTATE > NS SERVICES > WIRE, PIPELINE, AND FIBER OPTICS PROJECTS. NOTE: LICENSE AGREEMENT MUST BE EXECUTED PRIOR TO UTILITY BEING INSTALLED OR RELOCATED.
- FOR PROJECTS EXCEEDING 30 DAYS OF CONSTRUCTION, CONTRACTOR SHALL PROVIDE THE FLAGMAN A SMALL WORK AREA WITH A DESK/COUNTER AND CHAIR WITHIN THE FIELD/SITE TRAILER, INCLUDING THE USE OF BATHROOM FACILITIES, WHERE THE FLAGMAN CAN CHECK IN/OUT WITH THE PROJECT, AS WELL AS TO THE FLAGMAN'S HOME TERMINAL. THE WORK AREA SHOULD PROVIDE ACCESS TO TWO (2) ELECTRICAL OUTLETS FOR RECHARGING RADIO(S), AND A LAPTOP COMPUTER; AND HAVE THE ABILITY TO PRINT OFF NEEDED DOCUMENTATION AND ORDERS AS NEEDED AT THE FIELD/SITE TRAILER. THIS SHOULD AID IN MAXIMIZING THE FLAGMAN'S TIME AND EFFICIENCY ON THE PROJECT.
- NORFOLK SOUTHERN WILL BE PROVIDED AS-BUILT DRAWINGS OF THE BRIDGES SHOWING THE ACTUAL CLEARANCES AS CONSTRUCTED. DEPTH, SIZE, AND LOCATION OF ALL FOUNDATION COMPONENTS SHALL BE SHOWN ON THE DRAWINGS.
- CONTRACTOR SHALL DESIGN TEMPORARY SHIELDING OVER NORFOLK SOUTHERN IN ACCORDANCE WITH AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS AND NORFOLK SOUTHERN DESIGN CRITERIA.

ADDENDA / REVISIONS

NOT TO SCALE

REHABILITATION OF BRIDGES  
1-810, 1-811, 1-812  
AND 1-813 ON I-495

CONTRACT	BRIDGE NO.
T201707404	
COUNTY	DESIGNED BY: JWS
NEW CASTLE	CHECKED BY: DJC

NOTES

PN-01
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# BRIDGE PROJECT NOTES

## 1. DEMOLITION:

THE CONTRACTOR SHALL PREVENT DEBRIS FROM FALLING INTO THE AREAS BELOW THE BRIDGE. CONTRACTOR SHALL CONSTRUCT PROTECTIVE SHIELDS TO PREVENT DEBRIS FROM FALLING FROM THE BRIDGE. THE CONTRACTOR SHALL PROMPTLY REMOVE FALLEN DEBRIS TO THE SATISFACTION OF THE ENGINEER. IF THE ENGINEER DETERMINES THAT PROTECTIVE DEVICES ARE NOT BEING EMPLOYED, THE WORK SHALL BE SUSPENDED UNTIL PROTECTION IS PROVIDED.

THE COST OF FURNISHING, INSTALLING, MAINTAINING, REMOVING AND DISPOSING OF ALL SHIELDING, PLATFORMS, NETS, SCREENS OR OTHER PROTECTIVE DEVICES SHALL BE INCLUDED IN THE UNIT PRICES BID FOR ITEM #604001 - PROTECTIVE SHIELD.

DURING WORK THE CONTRACTOR SHALL USE CARE TO COLLECT ALL DEBRIS AND WATER USED FOR CONSTRUCTION PROMPTLY AND PREVENT ANY POLLUTION OF THE PROJECT AREA. THE COLLECTION AND DISPOSAL OF CONSTRUCTION WATER AND DEBRIS WILL NOT BE MEASURED, BUT WILL BE CONSIDERED INCIDENTAL TO THE WORK ITEM WHICH GENERATED THE WATER AND DEBRIS.

BLASTING OR USE OF EXPLOSIVES IS NOT PERMITTED FOR ANY PART OF STRUCTURE REMOVAL OPERATIONS.

## 2. PORTLAND CEMENT CONCRETE:

USE PORTLAND CEMENT CONCRETE FOR CAST-IN-PLACE ELEMENTS AS FOLLOWS:  
(f'c = 28-DAY COMPRESSIVE STRENGTH)

CLASS A - PARAPET, BACKWALL, WINGWALLS (f'c = 4.5 ksi)  
CLASS D - DECK, APPROACH SLAB (f'c = 4.5 ksi)

CONTRACTOR SHALL SUPPLY CONCRETE FOR THE BRIDGE DECK, PARAPETS, APPROACH SLABS AND WINGWALLS THAT INCLUDES A SHRINKAGE-REDUCING/COMPENSATING ADMIXTURE. THE ADMIXTURE MAY BE SUPPLIED BY ONE PRODUCT THAT PROVIDES BOTH EXPANSION AND PORE WATER SURFACE TENSION OR TWO SEPARATE PRODUCTS EACH ADDED AT DOSAGE RECOMMENDED BY MANUFACTURER'S TECHNICAL DATA SHEETS AND HAVING THE FOLLOWING CHARACTERISTICS:

- (A) DESIGNED TO PROVIDE BOTH THE FOLLOWING CHARACTERISTICS:
  - I. EXPANDS AT A RATE THAT CLOSELY COMPENSATES FOR SHRINKAGE OF THE CONCRETE MIX.
  - II. REDUCES THE CAPILLARY SURFACE TENSION OF THE CONCRETE PORE WATER.
- (B) PROVIDES AT LEAST 80% SHRINKAGE REDUCTION AS MEASURED AND DOCUMENTED BY FIELD PERFORMANCE.
- (C) FORMULATED FOR USE IN FREEZING AND THAWING WEATHER.

ALL ADMIXTURES MUST BE COMPATIBLE WITH ALL OTHER CONCRETE-MIX DESIGN CONSTITUENTS. CALCIUM CHLORIDE IS NOT PERMITTED; NO CHEMICAL ADMIXTURES WHICH CONTAIN MORE THAN 0.1% CHLORIDE BY WEIGHT WILL BE PERMITTED FOR USE. DOSAGE RATE AND MIXING SEQUENCE SHALL BE PER MANUFACTURER'S RECOMMENDATIONS.

- CONTRACTOR HAS THE OPTION TO SLIP-FORM THE BRIDGE BARRIERS IN ACCORDANCE WITH SPECIAL PROVISION ITEM NO. 610510 WITH THE APPROVAL OF THE ENGINEER AND TO BE PAID UNDER ITEM 610008. IF THE CONTRACTOR ELECTS TO SLIP-FORM THE BARRIER, LONGITUDINAL REINFORCEMENT SHALL BE CONTINUOUS FOR NO MORE THAN THREE CONSECUTIVE BARRIER SECTIONS (MAX. 30 FEET). CONTRACTION JOINTS IN THE BARRIER SHALL BE PRESENT WHERE THE LONGITUDINAL REINFORCEMENT IS NOT CONTINUOUS.

- CHAMFER ALL EXPOSED EDGES 3/4" UNLESS OTHERWISE NOTED.

## 3. BAR REINFORCEMENT:

REINFORCING STEEL SHALL CONFORM TO AASHTO M31 (ASTM A615), GRADE 60.

REINFORCING STEEL SHALL HAVE A 3" CLEAR COVER IF CAST AGAINST EARTH OR A 2" CLEAR COVER ELSEWHERE, UNLESS OTHERWISE SPECIFIED ON THE PLANS.

ALL REINFORCING STEEL SHALL BE PROTECTED WITH FUSION BONDED EPOXY, UNLESS NOTED OTHERWISE. EPOXY COATED REINFORCING STEEL SHALL CONFORM TO ASTM A775.

ANY FIELD CUTTING OR FIELD BENDING MUST BE APPROVED BY THE ENGINEER. PAYMENT SHALL BE INCIDENTAL TO THE BAR REINFORCEMENT ITEM.

GALVANIZED REINFORCING STEEL MAY BE SUBSTITUTED FOR EPOXY-COATED REINFORCING STEEL AT NO ADDITIONAL COST TO DELDOT WITH APPROVAL OF THE BRIDGE DESIGN ENGINEER.

WELDING OF REINFORCEMENT DURING FABRICATION OR CONSTRUCTION IS NOT PERMITTED UNLESS SPECIFIED.

## 4. TEMPORARY MOUNTED BARRIERS:

TEMPORARY MOUNTED BARRIERS SHALL BE NCHRP 350/MASH ACCEPTABLE.

THE CONTRACTOR SHALL SUBMIT TO THE ENGINEER FOR APPROVAL A WORKING DRAWING SUBMITTAL DETAILING THE MANUFACTURER'S RECOMMENDED MEANS AND METHODS TO ANCHOR THE PORTABLE P.C.C. STRUCTURE MOUNTED BARRIER (DESIGNED FOR TL-3 IMPACT LOADING) AND TO REPAIR THE BOLT HOLES IN THE DECK. THE CONTRACTOR SHALL ADJUST THE LOCATION OF ANCHORS TO AVOID CONFLICT WITH BAR REINFORCEMENT IN THE DECK. PORTABLE P.C.C. STRUCTURE MOUNTED BARRIER SHALL NOT BE PINNED ACROSS BRIDGE EXPANSION JOINTS. CONTRACTOR SHALL SUBMIT DETAIL FOR THIS CONDITION IN WORKING DRAWING SUBMITTAL. PAYMENT INCIDENTAL TO ITEM 807003 - FURNISH AND INSTALL TEMPORARY PCC SAFETY BARRIER, PINNED IN CONCRETE.

## 5. DESIGN SPECIFICATIONS:

- (A) DELDOT BRIDGE DESIGN MANUAL, 2019 EDITION.
- (B) AASHTO LRFD BRIDGE SPECIFICATIONS, 2017, 8TH EDITION, CUSTOMARY U.S. UNITS.
- (C) PROVIDE MATERIALS AND PERFORM WORK IN ACCORDANCE WITH THE DELDOT STANDARD SPECIFICATIONS, AUGUST 2016, INCLUDING ALL REVISIONS UP TO THE DATE OF ADVERTISEMENT.

## 6. LOADING:

DESIGN LIVE LOADS INCLUDE HL-93 LOADING.

DEAD LOADS INCLUDE 25 PSF FOR FUTURE WEARING SURFACE ON DECK SLAB AND 15 PSF FOR STAY-IN-PLACE FORMS.

THERMAL LOADS AND MOVEMENTS ARE BASED ON THE MODERATE TEMPERATURE RANGE AS STIPULATED IN THE AASHTO LRFD DESIGN SPECIFICATIONS AS 0°F TO 120°F FOR STEEL. THE NORMAL TEMPERATURE SHALL BE CONSIDERED TO BE 68°F.

FOR SEISMIC LOADS, CONSIDER SEISMIC PERFORMANCE ZONE I, WITH A SITE CLASS = E AND OPERATIONAL CATEGORY = ESSENTIAL.

FOR REINFORCEMENT DISTRIBUTION REQUIREMENTS, CONSIDER CLASS 2 EXPOSURE CRITERIA FOR DECKS.

PROPOSED EXTERIOR BARRIERS ON BR 1-813 MEET NCHRP 350 TEST LEVEL 5 (TL-5).

## 7. EXISTING CONDITIONS:

ALL EXISTING DIMENSIONS AND ELEVATIONS SHOWN ARE BASED ON THE BEST AVAILABLE INFORMATION AND ARE APPROXIMATE ONLY. THE CONTRACTOR SHALL FIELD VERIFY ALL EXISTING DIMENSIONS, GEOMETRY, AND ELEVATIONS AS NECESSARY PRIOR TO ORDERING ANY MATERIALS AND COMMENCING CONSTRUCTION TO ENSURE PROPER FIT OF THE PROPOSED CONSTRUCTION. PAYMENT SHALL BE INCIDENTAL TO ITEM 763501 - CONSTRUCTION ENGINEERING.

THE CONTRACTOR SHALL NOT CONSIDER ANY OF THE DATA ON THE EXISTING STRUCTURE SUPPLIED IN THE ORIGINAL DESIGN DRAWINGS OR MADE AVAILABLE BY THE DEPARTMENT OR ITS AUTHORIZED AGENTS AS POSITIVE REPRESENTATIONS OF ANY OF THE CONDITIONS THAT WILL BE ENCOUNTERED IN THE FIELD.

THE INFORMATION SHOWN ON THE PLANS FOR THE EXISTING BRIDGES ARE NOT PART OF THE PLANS, PROPOSAL, OR CONTRACT AND IS NOT TO BE CONSIDERED A BASIS FOR COMPUTATION OF UNIT PRICES USED FOR BIDDING PURPOSES. THERE IS NO EXPRESSED OR IMPLIED AGREEMENT THAT INFORMATION IS CORRECTLY SHOWN. THE BIDDER IS NOT TO RELY ON THIS INFORMATION, BUT IS TO ASSUME THE POSSIBILITY THAT CONDITIONS AFFECTING THE COST AND/OR QUANTITIES OF THE WORK TO BE PERFORMED MAY DIFFER FROM THOSE INDICATED.

## 8. CONTINGENT QUANTITIES:

THESE CONTRACT DRAWINGS HAVE BEEN PREPARED BASED ON ORIGINAL CONTRACT PLANS AND FIELD INSPECTION NOTES. ACTUAL CONDITIONS MAY REQUIRE MODIFICATION IN CONSTRUCTION DETAILS AND WORK QUANTITIES. ALL DIMENSIONS AND DETAILS SHOWN ON THE PLANS SHALL BE VERIFIED BY THE CONTRACTOR PRIOR TO ORDERING ANY MATERIALS. THE ESTIMATED QUANTITIES FOR THE FOLLOWING PAY ITEMS INCLUDE 25% CONTINGENCY FACTORS TO ACCOUNT FOR THE ANTICIPATED VARIATIONS IN THE ACTUAL QUANTITY.

- ITEM 628001 - REPAIR OF CONCRETE STRUCTURE BY EPOXY INJECTION
- ITEM 628040 - SHALLOW SPALL REPAIR
- ITEM 628041 - DEEP SPALL REPAIR
- ITEM 628042 - REHABILITATION OF PORTLAND CEMENT CONCRETE MASONRY

ADDENDA / REVISIONS

NOT TO SCALE

REHABILITATION OF BRIDGES  
1-810, 1-811, 1-812  
AND 1-813 ON I-495

CONTRACT	BRIDGE NO.
T201707404	
COUNTY	DESIGNED BY: JWS
NEW CASTLE	CHECKED BY: DJC

BRIDGE PROJECT NOTES

PN-02
SECTION
TY
SHEET NO.
6

BRIDGE NO. 1-810 QUANTITIES			
ITEM NO.	ITEM TITLE	UNIT	QUANTITY
610005	PORTLAND CEMENT CONCRETE MASONRY, SUBSTRUCTURE, CLASS A	CY	6
610008	PORTLAND CEMENT CONCRETE MASONRY, PARAPET, CLASS A	CY	3
610017	PORTLAND CEMENT CONCRETE MASONRY, SUPERSTRUCTURE, CLASS D	CY	13
610018	PORTLAND CEMENT CONCRETE MASONRY, APPROACH SLAB, CLASS D	CY	98
611000	BAR REINFORCEMENT	LB	23600
624000	PREFABRICATED EXPANSION JOINT SYSTEM, 3"	LF	136
624010	SILICONE JOINT SEAL, 1"	LF	106
624502	SILICONE COATED FOAM JOINT SEAL	LF	128
628041	DEEP SPALL REPAIR	CF	8
628051	DECK REPAIR, 1" TO 3" DEPTH	SF	25
628070	DRILLING HOLES AND INSTALLING DOWELS	EA	136
762001	SAW CUTTING, CONCRETE, FULL DEPTH	LF	128

BRIDGE NO. 1-811 QUANTITIES			
ITEM NO.	ITEM TITLE	UNIT	QUANTITY
610005	PORTLAND CEMENT CONCRETE MASONRY, SUBSTRUCTURE, CLASS A	CY	3
610008	PORTLAND CEMENT CONCRETE MASONRY, PARAPET, CLASS A	CY	6
610017	PORTLAND CEMENT CONCRETE MASONRY, SUPERSTRUCTURE, CLASS D	CY	33
611000	BAR REINFORCEMENT	LB	18500
624000	PREFABRICATED EXPANSION JOINT SYSTEM, 3"	LF	270
628051	DECK REPAIR, 1" TO 3" DEPTH	SF	25
628070	DRILLING HOLES AND INSTALLING DOWELS	EA	406

BRIDGE NO. 1-812 QUANTITIES			
ITEM NO.	ITEM TITLE	UNIT	QUANTITY
610005	PORTLAND CEMENT CONCRETE MASONRY, SUBSTRUCTURE, CLASS A	CY	1
610008	PORTLAND CEMENT CONCRETE MASONRY, PARAPET, CLASS A	CY	1
610017	PORTLAND CEMENT CONCRETE MASONRY, SUPERSTRUCTURE, CLASS D	CY	6
610018	PORTLAND CEMENT CONCRETE MASONRY, APPROACH SLAB, CLASS D	CY	84
611000	BAR REINFORCEMENT	LB	19100
624010	SILICONE JOINT SEAL, 1"	LF	130
624502	SILICONE COATED FOAM JOINT SEAL	LF	206
628051	DECK REPAIR, 1" TO 3" DEPTH	SF	25
628070	DRILLING HOLES AND INSTALLING DOWELS	EA	56
762001	SAW CUTTING, CONCRETE, FULL DEPTH	LF	103

BRIDGE NO. 1-813 QUANTITIES			
ITEM NO.	ITEM TITLE	UNIT	QUANTITY
604001	PROTECTIVE SHIELD	LS	1
610005	PORTLAND CEMENT CONCRETE MASONRY, SUBSTRUCTURE, CLASS A	CY	14
610008	PORTLAND CEMENT CONCRETE MASONRY, PARAPET, CLASS A	CY	1130
610017	PORTLAND CEMENT CONCRETE MASONRY, SUPERSTRUCTURE, CLASS D	CY	1860
611001	BAR REINFORCEMENT, EPOXY COATED	LB	689100
613000	EPOXY CONCRETE SEALER	SF	1460
613001	SILICONE-BASED ACRYLIC CONCRETE SEALER	SF	91100
613002	SILANE-BASED CONCRETE DECK SEALER	SF	70800
615512	BRIDGE SCUPPERS	EA	30
615517	BRIDGE DRAINAGE SYSTEM	LF	2300
628001	REPAIR OF CONCRETE STRUCTURE BY EPOXY INJECTION	LF	90
628040	SHALLOW SPALL REPAIR	CF	260
628041	DEEP SPALL REPAIR	CF	160
628042	REHABILITATION OF PORTLAND CEMENT CONCRETE MASONRY	CY	29
628070	DRILLING HOLES AND INSTALLING DOWELS	EA	392
628504	REHABILITATION OF EXISTING CONCRETE STRUCTURE, FRP WRAP	LS	1
720021	GALVANIZED STEEL BEAM GUARDRAIL, TYPE 1-31	LF	107
721009	GUARDRAIL TO BARRIER CONNECTION (EXIT TYPE 31)	EA	2
721010	GUARDRAIL TO BARRIER CONNECTION, APPROACH TYPE 1-31	EA	2
760504	DEEP CUT HYDRODEMOLITION	SY	4900

### LOAD RATING SUMMARY (BRIDGE 1-813)

DESIGN VEHICLE	RATING FACTOR	RATING WEIGHT (TON)	CONTROLLING MEMBER	CONTROLLING POINT	LOAD EFFECT
HL-93 TRUCK (INVENTORY)	0.63	N/A	SPAN 18: GIRDER	309.0	FLANGE STRESS
HL-93 TANDEM (INVENTORY)	0.75	N/A	SPAN 18: GIRDER	309.0	FLANGE STRESS
HL-93 TRUCK TRAIN (INVENTORY)	0.70	N/A	SPAN 18: GIRDER	309.0	FLANGE STRESS
HS-20 (INVENTORY)	1.25	45.00	SPAN 18: GIRDER	310.0	FLANGE STRESS
HL-93 TRUCK (OPERATING)	0.82	N/A	SPAN 18: GIRDER	310.0	SHEAR
HL-93 TANDEM (OPERATING)	0.98	N/A	SPAN 18: GIRDER	309.0	FLANGE STRESS
HL-93 TRUCK TRAIN (OPERATING)	0.91	N/A	SPAN 18: GIRDER	310.0	SHEAR
HS-20 (OPERATING)	1.62	58.34	SPAN 18: GIRDER	310.0	SHEAR
DE S220	1.60	31.93	SPAN 18: GIRDER	305.0	FLANGE STRESS
DE S335	1.10	38.33	SPAN 16: GIRDER	105.0	FLANGE STRESS
DE S437	1.06	38.76	SPAN 18: GIRDER	305.0	FLANGE STRESS
DE T330	1.25	37.56	SPAN 18: GIRDER	305.0	FLANGE STRESS
DE T435	1.13	39.44	SPAN 16: GIRDER	105.0	FLANGE STRESS
DE T540	1.03	41.09	SPAN 18: GIRDER	305.0	FLANGE STRESS

BRIDGE INDEX OF SHEETS		
SHEET NO.	DWG. NO.	TABLE OF CONTENTS
6	PN-02	BRIDGE PROJECT NOTES
7	IS-02	LOAD RATING, QUANTITIES AND INDEX OF BRIDGE SHEETS

BRIDGE NO. 1-810 INDEX OF SHEETS		
SHEET NO.	DWG. NO.	TABLE OF CONTENTS
8	PE-01	BRIDGE PLAN AND ELEVATION
9	AS-01	APPROACH SLAB PLAN
10	DT-01	EXPANSION JOINT AND APPROACH SLAB DETAILS
11	DT-02	DECK PLAN AND BARRIER DETAILS
12	BR-01	REINFORCING BAR SUMMARY

BRIDGE NO. 1-811 INDEX OF SHEETS		
SHEET NO.	DWG. NO.	TABLE OF CONTENTS
13	PE-01	BRIDGE PLAN AND ELEVATION
14	DK-01	DECK PLAN DETAILS
15	DT-01	EXPANSION JOINT DETAILS
16	DT-02	BARRIER DETAILS
17	BR-01	REINFORCING BAR SUMMARY

BRIDGE NO. 1-812 INDEX OF SHEETS		
SHEET NO.	DWG. NO.	TABLE OF CONTENTS
18	PE-01	BRIDGE PLAN AND ELEVATION
19	AS-01	APPROACH SLAB PLAN
20	DT-01	DECK-OVER AND APPROACH SLAB DETAILS
21	DT-02	DECK PLAN AND BARRIER DETAILS
22	BR-01	REINFORCING BAR SUMMARY

BRIDGE NO. 1-813 INDEX OF SHEETS		
SHEET NO.	DWG. NO.	TABLE OF CONTENTS
23	PE-01	BRIDGE PLAN AND ELEVATION
24	PE-02	BRIDGE PLAN AND ELEVATION
25	PE-03	BRIDGE PLAN AND ELEVATION
26	TS-01	BRIDGE TYPICAL SECTIONS
27	DT-01	CONCRETE REPAIR DETAILS
28	SR-01	SUPERSTRUCTURE DEMOLITION DETAILS
29	SR-02	WINGWALL DEMOLITION DETAILS
30	SR-03	PROTECTIVE SHIELD DETAILS - 1
31	SR-04	PROTECTIVE SHIELD DETAILS - 2
32	WW-01	WINGWALL DETAILS
33	PR-01	PIER 15W REPAIRS
34	PR-02	PIER 15E REPAIRS
35	PR-03	PIER 18W REPAIRS
36	PR-04	PIER 18E REPAIRS
37	DK-01	OVERHANG REINFORCEMENT DETAILS
38	DT-02	PIER DRAINAGE DETAILS
39	DT-03	SCUPPER DETAILS
40	DT-04	MEDIAN BARRIER MANHOLE INFILL PLANS AND ELEVATIONS
41	DT-05	MEDIAN BARRIER MANHOLE INFILL SECTIONS AND DETAILS
42	PA-01	FASCIA BARRIER DETAILS
43	BR-01	REINFORCING BAR SUMMARY - 1
44	BR-02	REINFORCING BAR SUMMARY - 2

ADDENDA / REVISIONS

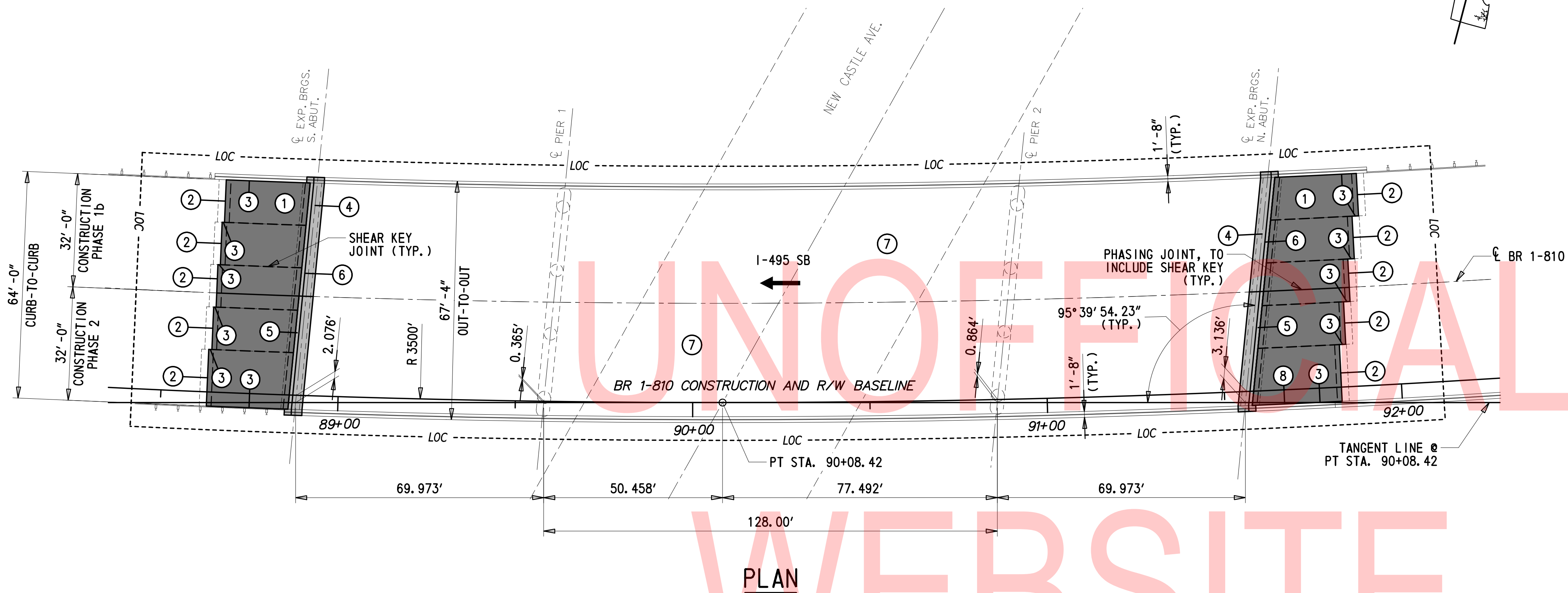
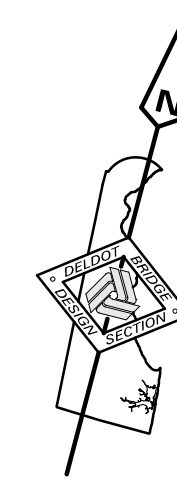
NOT TO SCALE

REHABILITATION OF BRIDGES  
1-810, 1-811, 1-812  
AND 1-813 ON I-495

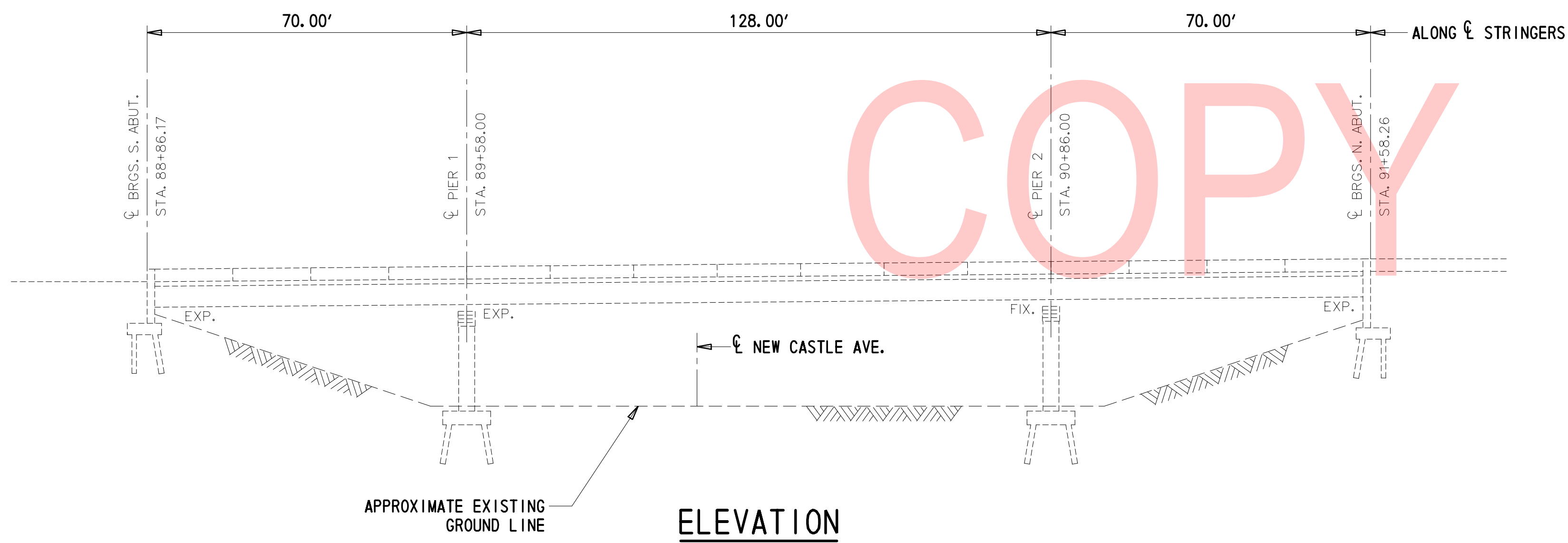
CONTRACT	BRIDGE NO.
T201707404	
COUNTY	DESIGNED BY: JWS
NEW CASTLE	CHECKED BY: DJC

LOAD RATING, QUANTITIES  
AND INDEX OF  
BRIDGE SHEETS

IS-02
SECTION
TY
SHEET NO.
7



NOTE: EXISTING R/W IS OUTSIDE THE LIMIT OF THIS PLAN VIEW PER CONTRACT 71-05-003.



**REPAIR LEGEND:**

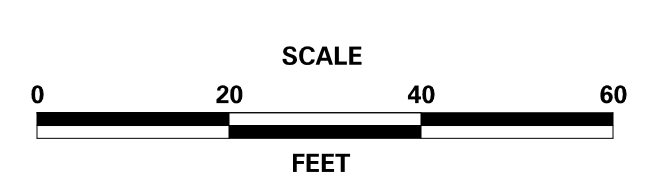
- ① REMOVE 10" CONCRETE OVERLAY ON APPROACH SLABS. REPLACE OVERLAY WITH REINFORCED CONCRETE SLAB. CLASS D CONCRETE SHALL BE USED TO CONSTRUCT THE SLAB. REMOVAL OF EXISTING OVERLAY TO BE PAID UNDER ITEM NO. 211000. BAR REINFORCEMENT TO BE PAID UNDER ITEM NO. 611000. CLASS D CONCRETE TO BE PAID UNDER ITEM NO. 610018.
- ② SAWCUT EXISTING P.C.C PAVEMENT AT EDGE OF CONCRETE OVERLAY TO PROVIDE 1 1/2" GAP BETWEEN PAVEMENT AND OVERLAY. INSTALL SILICONE COATED FOAM JOINT SEAL. FULL-DEPTH SAWCUT OF P.C.C. PAVEMENT TO BE PAID UNDER ITEM NO. 762001. SILICONE COATED FOAM JOINT SEAL TO BE PAID UNDER ITEM NO. 624502.
- ③ APPLY SILICONE JOINT SEAL TO FULL LENGTH OF JOINT AT END OF APPROACH SLAB AND BETWEEN APPROACH SLAB AND BARRIER. SILICONE JOINT SEAL TO BE PAID UNDER ITEM NO. 624010.
- ④ SAWCUT AND REMOVE 3' OF BRIDGE DECK AND BARRIER. SALVAGE LONGITUDINAL REINFORCEMENT IN BARRIER. DO NOT DAMAGE SHEAR CONNECTORS. ANY DAMAGED SHEAR CONNECTORS SHALL BE REPLACED AT CONTRACTOR'S SOLE EXPENSE. DOWEL REBAR INTO EXISTING DECK. RECONSTRUCT DECK USING CLASS D CONCRETE. RECONSTRUCT BARRIER USING CLASS A CONCRETE. SAWCUT AND REMOVAL TO BE PAID UNDER ITEM NO. 211000. DOWELS AND BAR REINFORCEMENT TO BE PAID UNDER ITEM NOS. 628070 AND 611000. CLASS A CONCRETE TO BE PAID UNDER ITEM NO. 610008. CLASS D CONCRETE TO BE PAID UNDER ITEM NO. 610017.
- ⑤ SAWCUT AND REMOVE BACKWALL HEADER AND 2' OF APPROACH BARRIER. SALVAGE EXISTING REINFORCEMENT IN HEADER AND BARRIER. RECONSTRUCT BACKWALL HEADER AND BARRIER USING CLASS A CONCRETE. REMOVAL TO BE PAID UNDER ITEM NO. 211000. CLASS A CONCRETE TO BE PAID UNDER ITEM NO. 610005 FOR BACKWALL HEADER AND ITEM NO. 610008 FOR BARRIER.
- ⑥ REPLACE EXISTING STRIP SEAL EXPANSION JOINT. EXPANSION JOINT TO BE PAID UNDER ITEM NO. 624000.
- ⑦ REPAIR DECK SPALLS. DECK REPAIRS TO BE PAID UNDER ITEM NO. 628051.
- ⑧ REPAIR SPALLS IN MEDIAN BARRIER. REPAIRS TO BE PAID UNDER ITEM NO. 628041.

**CROSS-REFERENCE NOTES:**

1. FOR CONCRETE SLAB PLANS, SEE AS-01.
2. FOR EXPANSION JOINT AND APPROACH SLAB DETAILS, SEE DT-01.
3. FOR DECK PLAN AND BARRIER DETAILS, SEE DT-02.

PAVEMENT SECTION(S)	
	DECK CONCRETE/BACKWALL HEADER
	CONCRETE SLAB

ADDENDA / REVISIONS



**REHABILITATION OF BRIDGES  
1-810, 1-811, 1-812  
AND 1-813 ON I-495**

CONTRACT T201707404	BRIDGE NO. <b>BR 1-810</b>
COUNTY NEW CASTLE	DESIGNED BY: DT
	CHECKED BY: JWS

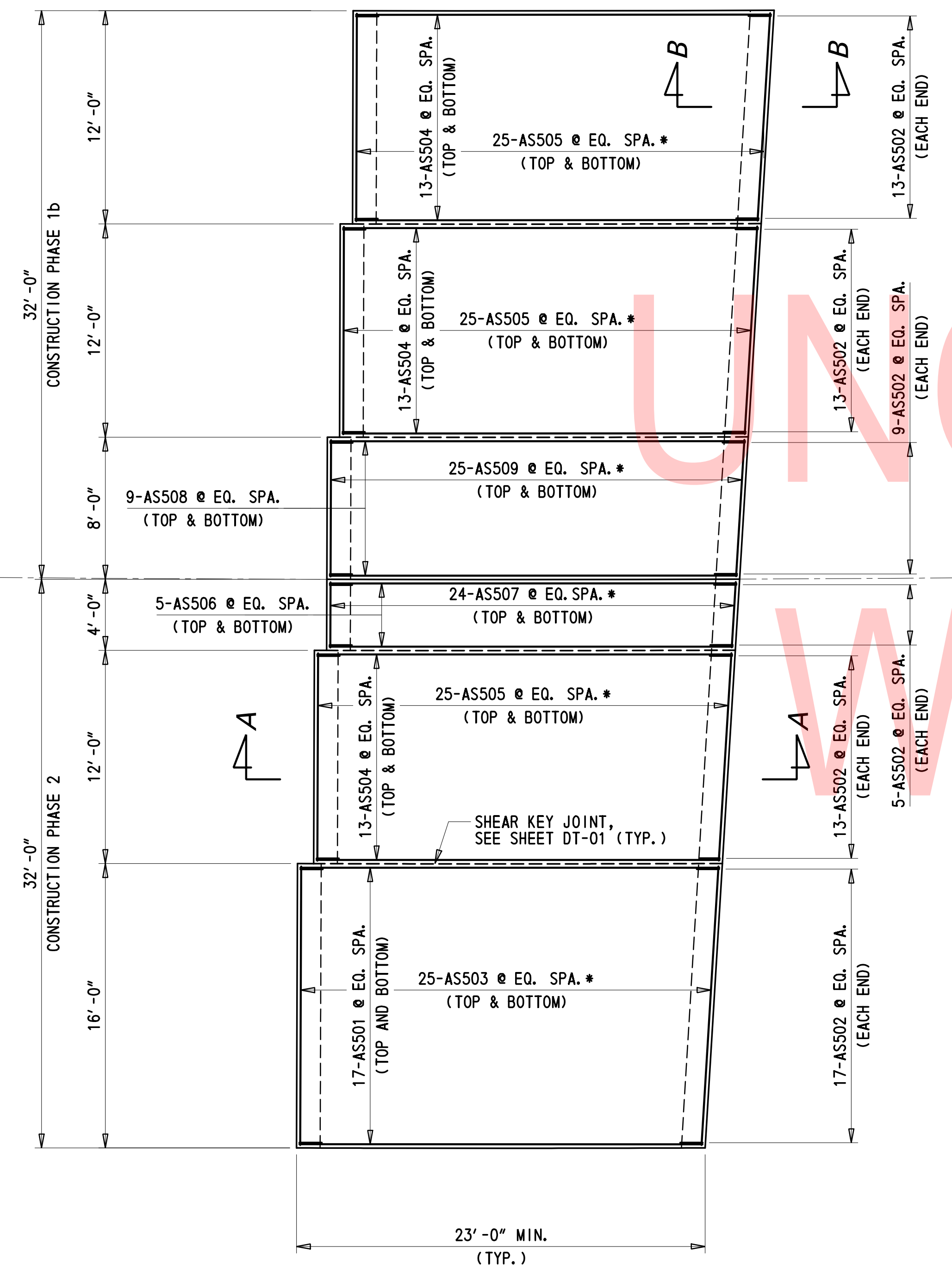
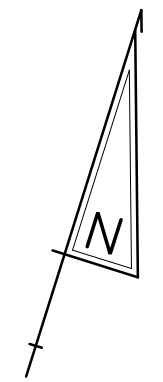
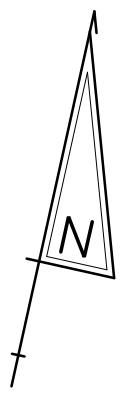
**BRIDGE PLAN  
AND ELEVATION**

PE-01
SECTION
TY
SHEET NO.
8

2/10/2020 T:\Dover\Projects\425025\600\_CADD\05\_Official\Plans\PE01\_BR1-810.dgn

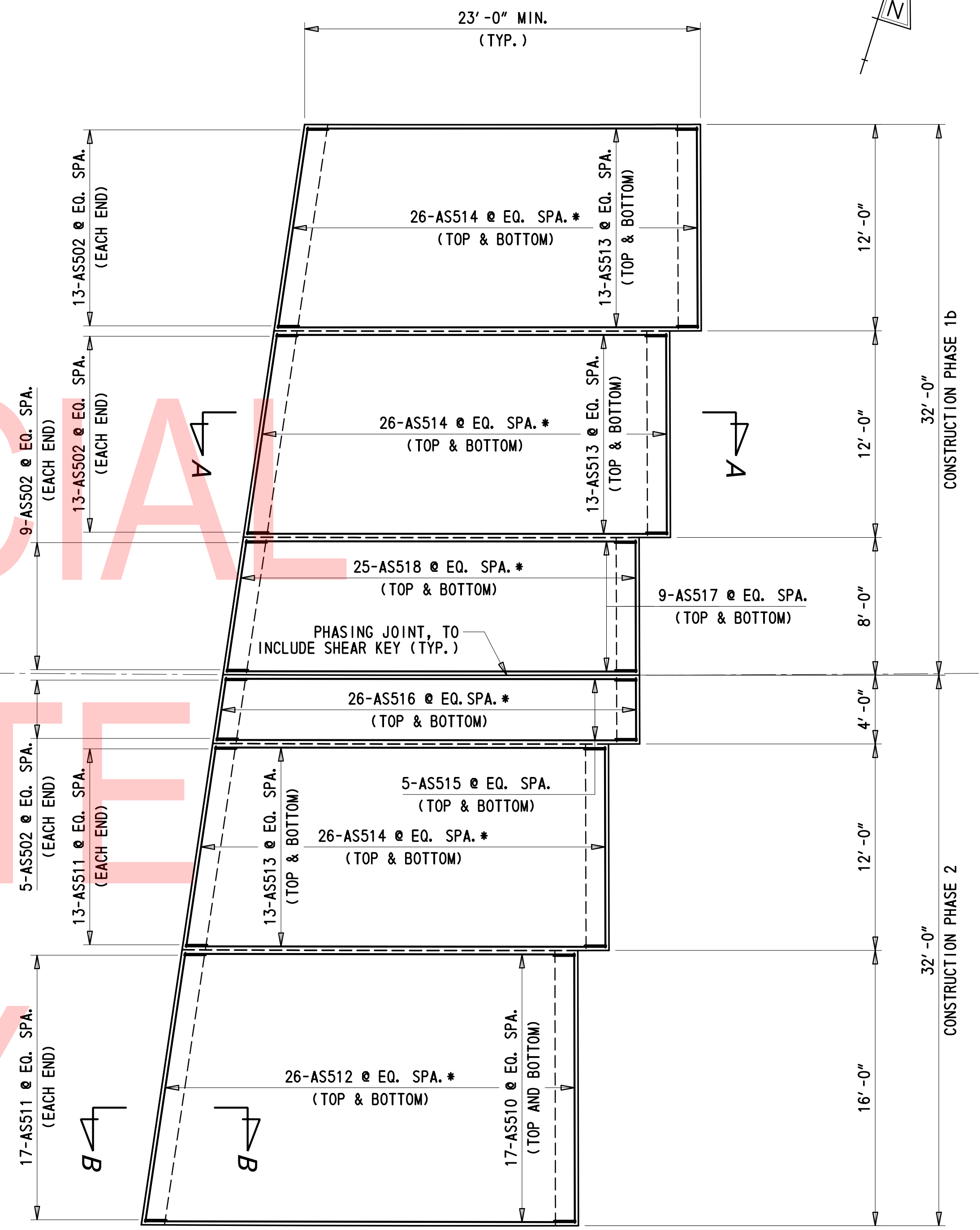


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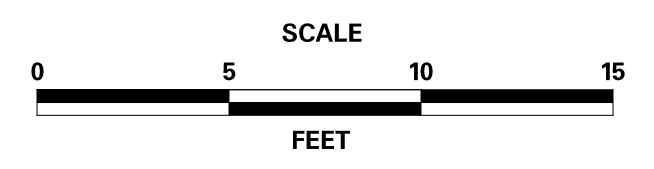
**SOUTH APPROACH SLAB PLAN**  
1" = 5'

\* TRANS. BARS NEAR THE DECK JOINT SHALL BE SPLAYED. BARS SHALL HAVE A MIN. SPA. OF 3" AND A MAX. SPACING OF 12". FIELD CUT BARS AS NEEDED. PAYMENT INCIDENTAL TO 611000.



**NORTH APPROACH SLAB PLAN**  
1" = 5'

ADDENDA / REVISIONS

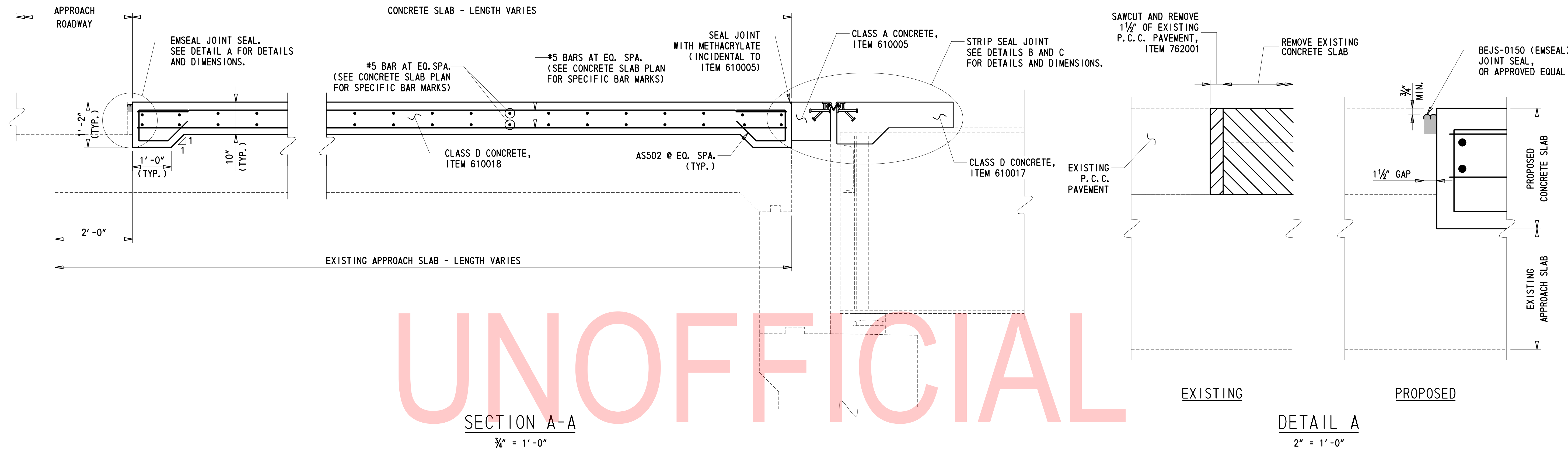


**REHABILITATION OF BRIDGES**  
1-810, 1-811, 1-812  
AND 1-813 ON I-495

CONTRACT	BRIDGE NO.	<b>BR 1-810</b>
T201707404	DESIGNED BY:	DT
COUNTY	CHECKED BY:	DJC
NEW CASTLE		

**APPROACH SLAB PLAN**

AS-01
SECTION
TY
SHEET NO.
9



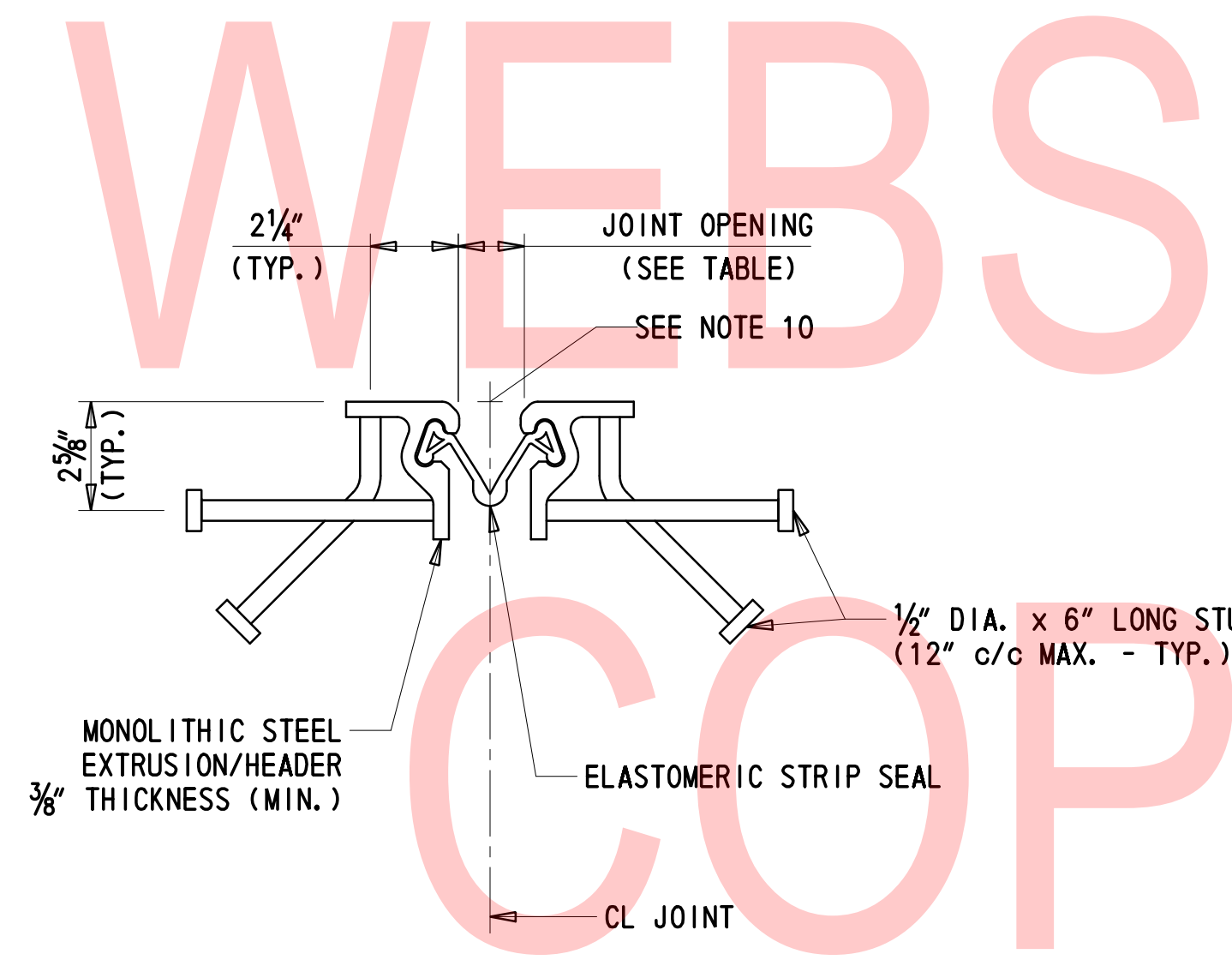
UNOFFICIAL

SECTION A-A  
3/4" = 1'-0"

DETAIL A  
2" = 1'-0"

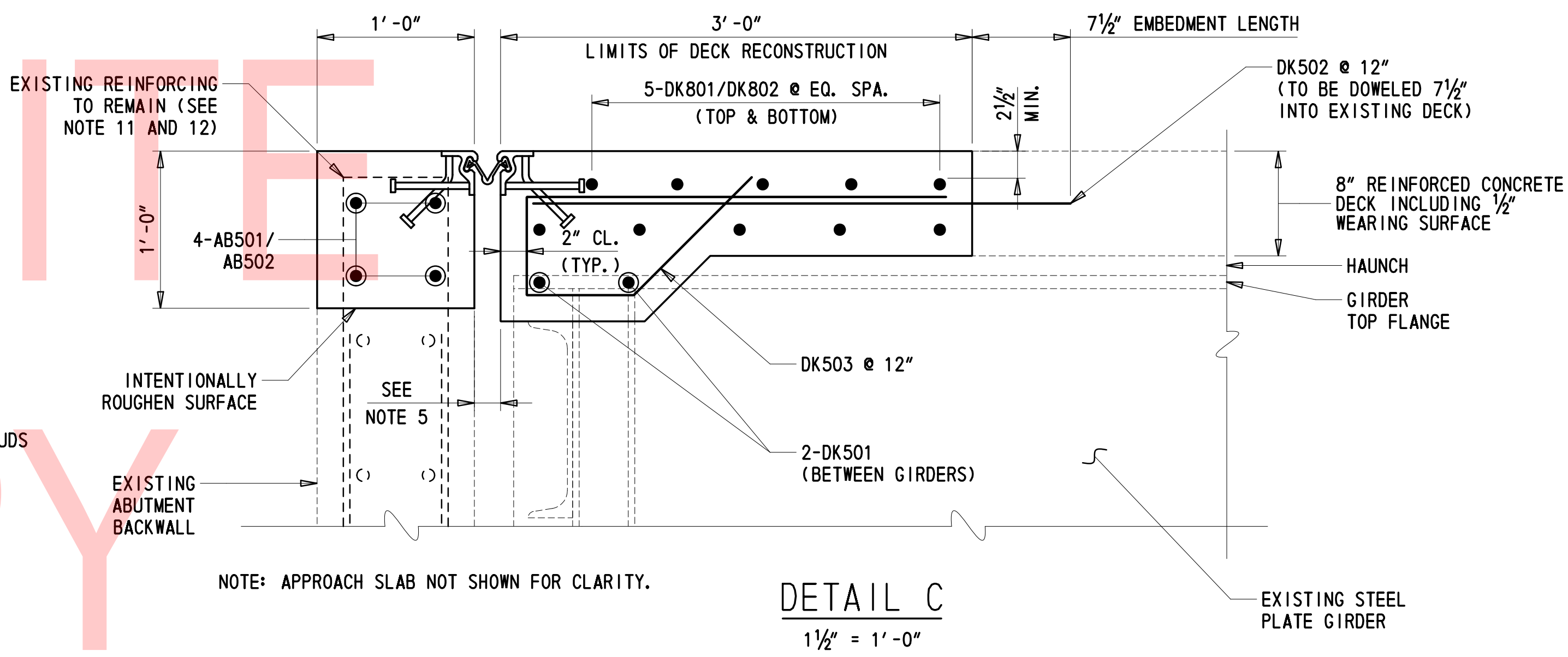
- NOTES:**
- STEEL FOR DECK JOINTS AND STEEL EXTRUSIONS SHALL BE AASHTO M270, GR. 36 (ASTM A36) AT MINIMUM.
  - FURNISH ANCHOR STUDS MEETING THE REQUIREMENTS OF AASHTO M 169, COLD DRAWN BARS, UNS DESIGNATION G 10150, G 10180, OR G 10200, EITHER SEMI- OR FULLY KILNED.
  - ELASTOMERIC STRIP SEAL SHALL MEET ASTM D-2628-91(2016) MODIFIED (RECOVERY TESTS EXCLUDED).
  - THE STRIP SEAL JOINT, EMSEAL JOINT SEAL, AND HOT POURED JOINT SEALANT SHALL BE CAPABLE OF SEALING THE DECK TO PREVENT MOISTURE AND OTHER CONTAMINANTS FROM DESCENDING THROUGH THE JOINT.
  - THE CONTRACTOR SHALL ADJUST THE STRIP SEAL OPEN JOINT AS REQUIRED BY THE WIDTH OF THE STEEL EXTRUSION USED SO AS TO PROVIDE A 1 1/2" JOINT OPENING AT 68°F.
  - THE STRIP SEAL JOINT SYSTEM IS PAID FOR UNDER ITEM NO. 624000 - PREFABRICATED EXPANSION JOINT SYSTEM, 3". THE EMSEAL JOINT SEAL IS PAID FOR UNDER ITEM NO. 624502 - SILICONE COATED FOAM JOINT SEAL. THE HOT POURED JOINT SEALANT IS INCIDENTAL TO ITEM NO. 610005 AND SHALL MEET THE REQUIREMENTS OF SECTION 1042.01.3 C) OF THE STANDARD SPECIFICATION.
  - THE STRIP SEAL JOINT STEEL SHALL BE GALVANIZED AFTER FABRICATION IN ACCORDANCE WITH SECTION 1039 OF THE STANDARD SPECIFICATION.
  - LUBRICANT-ADHESIVE FOR USE IN INSTALLING AND BONDING NEOPRENE SEAL ELEMENTS TO STEEL JOINT COMPONENTS SHALL BE A ONE QUART MOISTURE-CURING POLYURETHANE AND HYDROCARBON SOLVENT MIXTURE HAVING THE FOLLOWING PHYSICAL PROPERTIES:
 

AVERAGE WEIGHT, POUNDS PER GALLON	8 +/- 10%
SOLIDS CONTENT	65%
ADHESIVE SHALL REMAIN LIQUID FROM	5°F TO 120°F
FILM STRENGTH, AS PER ASTM D-412	2,000 PSI
ELONGATION	250%
  - AT AREAS WHERE STEEL MEMBERS ARE TO BE SPliced, USE OF COMPLETE JOINT PENETRATION (CJP) AND PARTIAL JOINT PENETRATION (PJP) WELD ARE BOTH PERMITTED. THE THICKNESS OF PJP WELD MUST BE MINIMUM HALF OF THE STEEL MEMBER THICKNESS.
  - THE STRIP SEAL JOINTS SHALL BE SET TO MATCH THE EXISTING ELEVATION OF THE BRIDGE DECK.
  - EXISTING REINFORCING STEEL SHALL BE CUT AND/OR BENT TO ACCOMMODATE NEW EXPANSION JOINT ASSEMBLY FOR BACKWALL HEADER RECONSTRUCTION.
  - BAR REINFORCEMENT WHICH IS DESIGNATED TO REMAIN AND BE INCORPORATED INTO BACKWALL HEADER AND BARRIER RECONSTRUCTION SHALL BE CLEANED BY GRIT BLASTING. GRIT BLASTING OF REINFORCEMENT IS CONSIDERED INCIDENTAL TO ITEM NO. 624000.

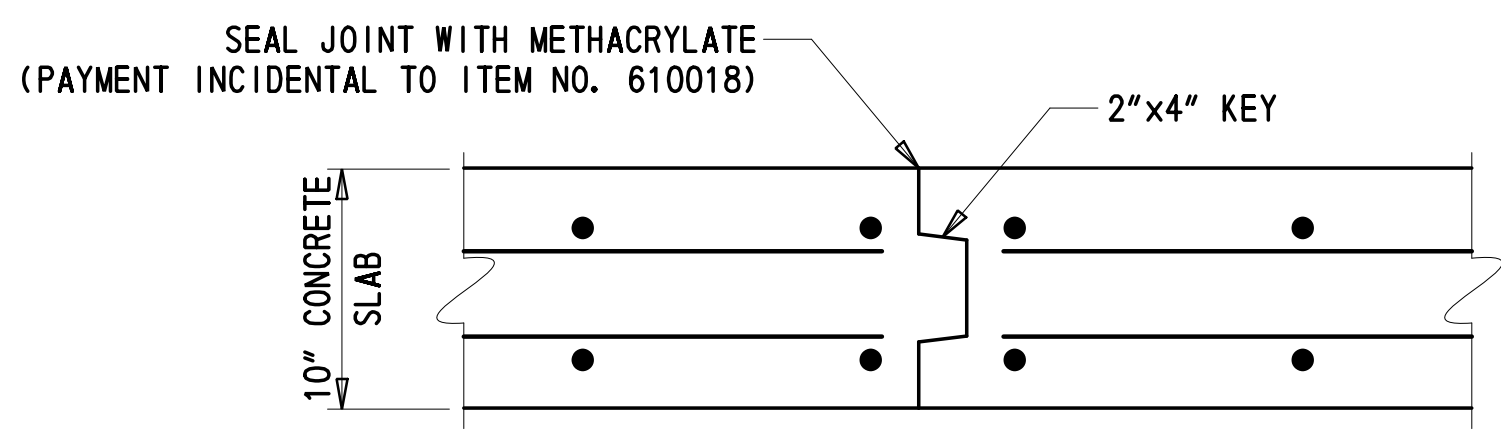


DETAIL B  
3" = 1'-0"

LOCATION	JOINT OPENING (INCH)								MOVEMENT CLASSIFICATION
	TEMPERATURE (°F)								
	0	20	40	60	68	80	100	120	
SOUTH ABUTMENT	2.54	2.24	1.93	1.62	1.50	1.32	1.01	0.70	3"
NORTH ABUTMENT	1.87	1.76	1.65	1.54	1.50	1.43	1.33	1.22	3"



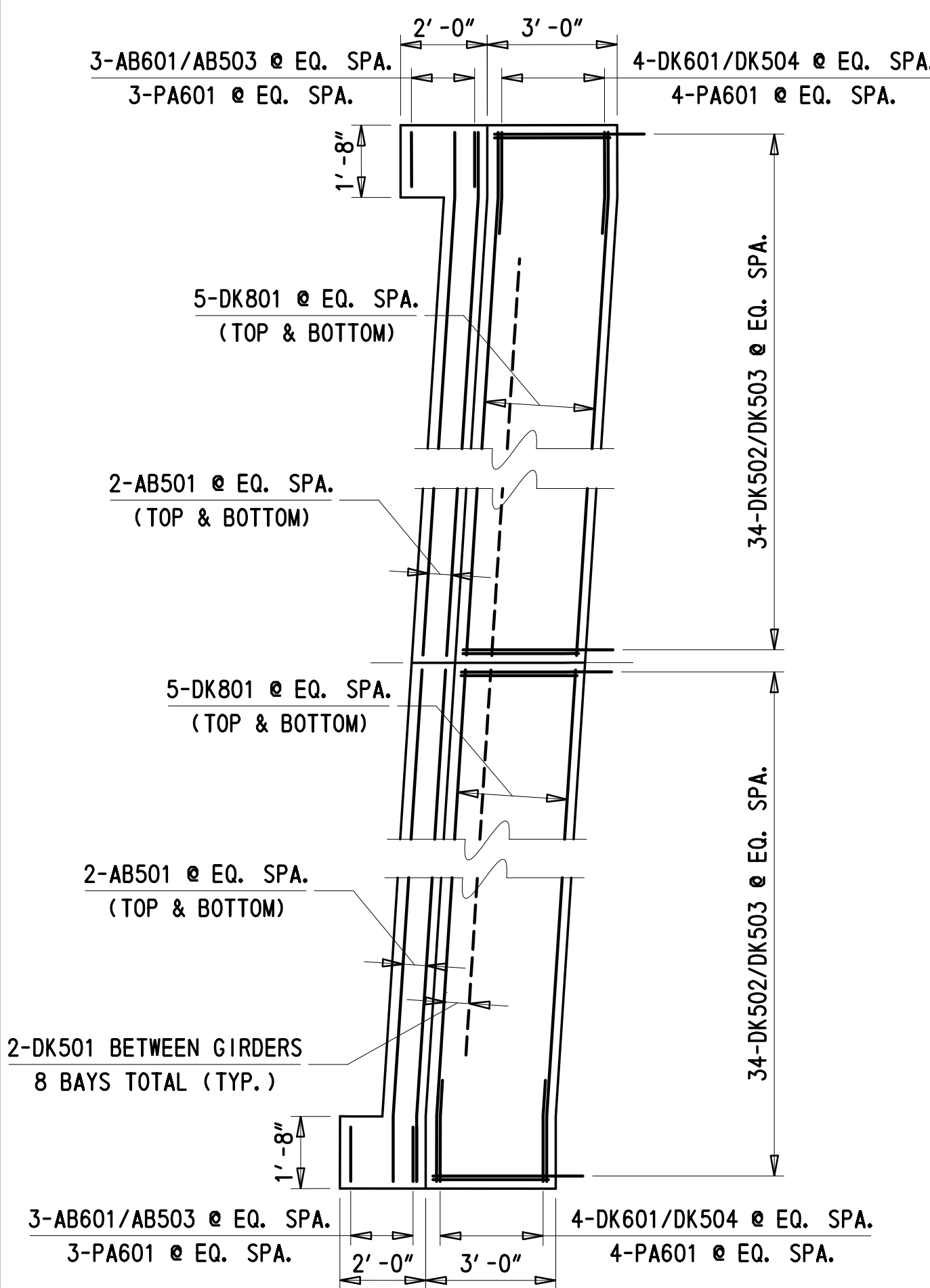
DETAIL C  
1 1/2" = 1'-0"



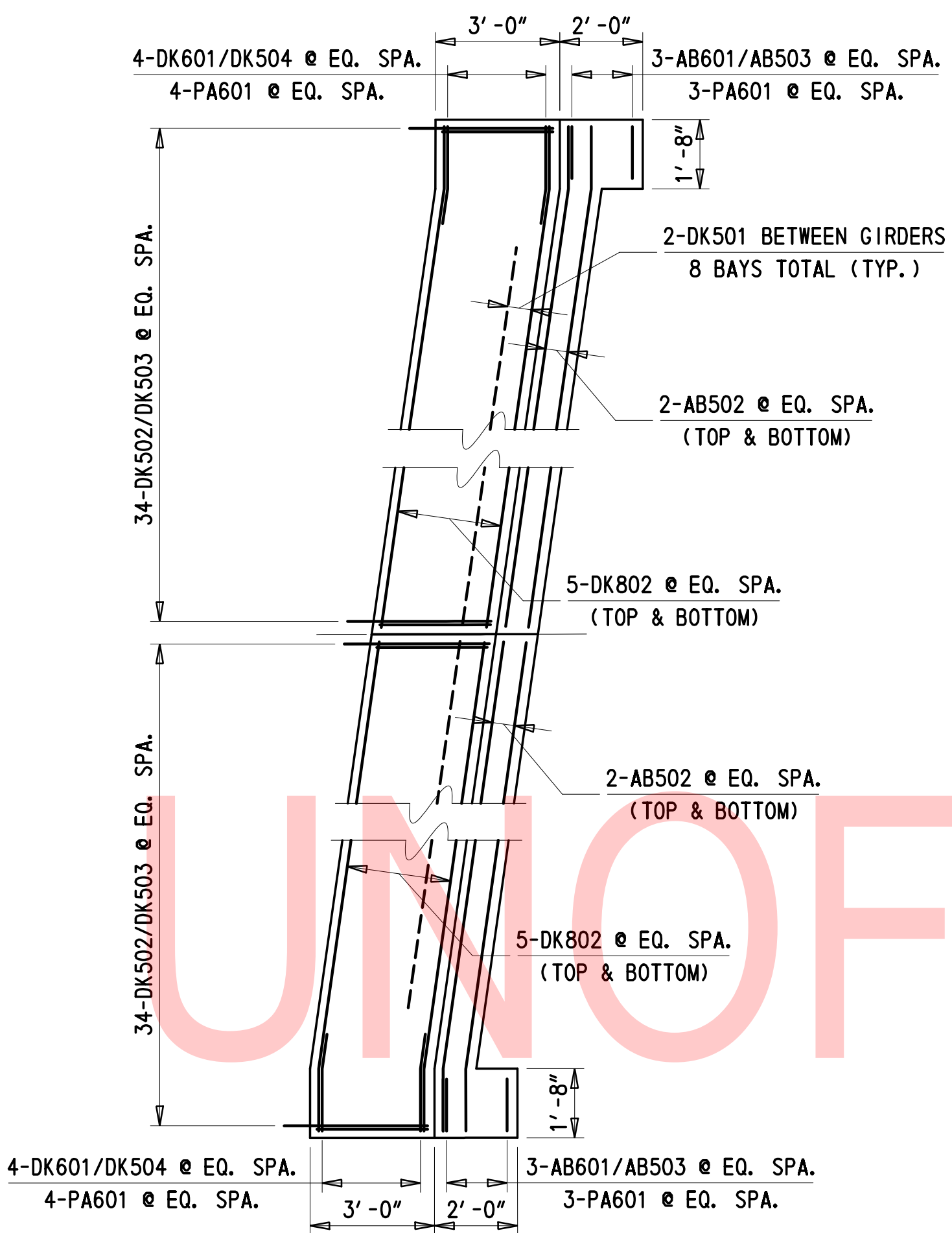
SHEAR KEY JOINT DETAIL  
1 1/2" = 1'-0"

2/10/2020 T:\Dover\Projects\425025\06\600\_CADD\05\_Official\Plans\DT01\_BR1-810.dgn

ADDENDA / REVISIONS	SCALE AS NOTED	REHABILITATION OF BRIDGES 1-810, 1-811, 1-812 AND 1-813 ON I-495	CONTRACT T201707404 COUNTY NEW CASTLE	BRIDGE NO. <b>BR 1-810</b> DESIGNED BY: DT CHECKED BY: JWS	<b>EXPANSION JOINT AND APPROACH SLAB DETAILS</b>	DT-01 SECTION TY SHEET NO. 10
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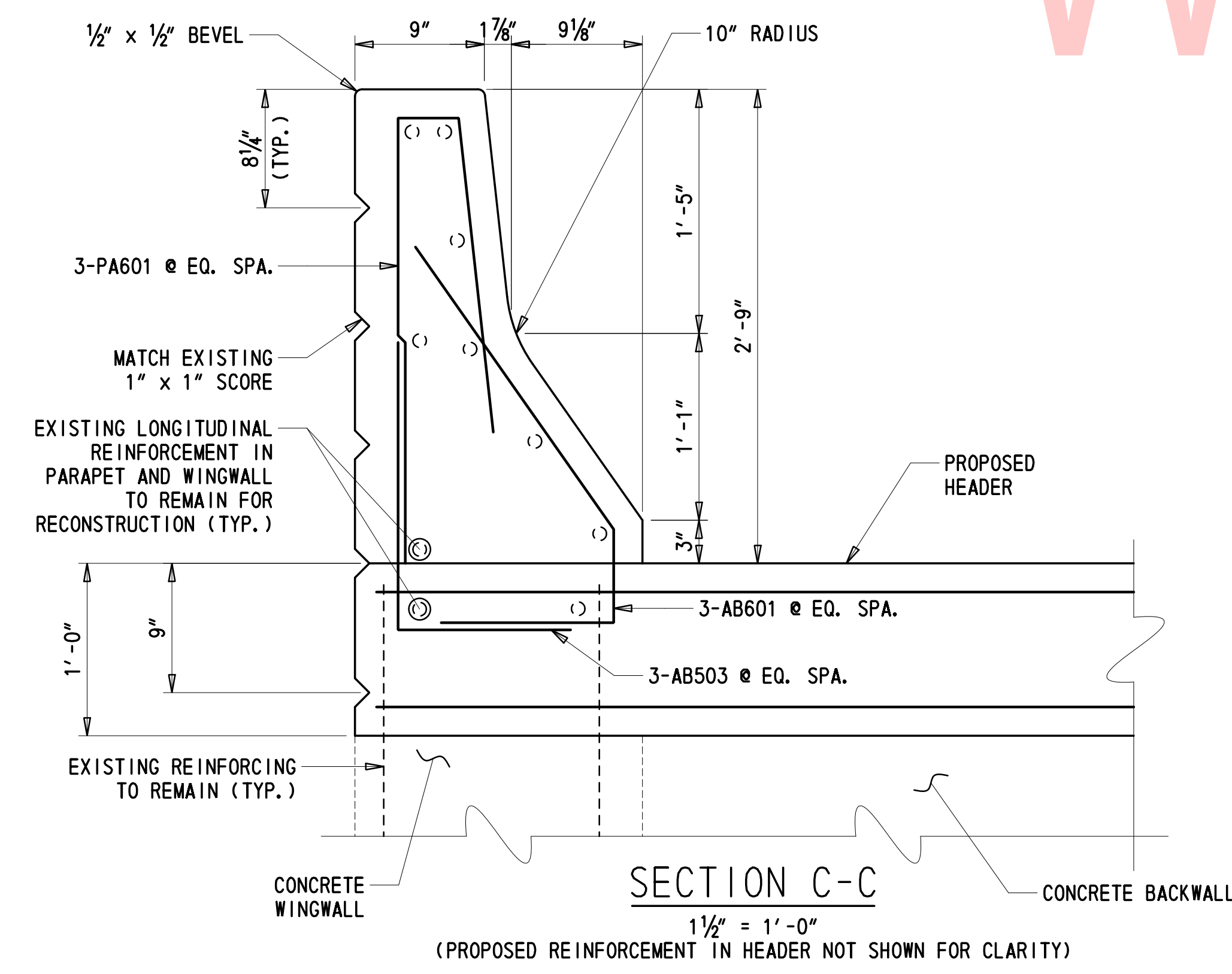
BR 1-810 - SOUTH ABUTMENT JOINT



BR 1-810 - NORTH ABUTMENT JOINT

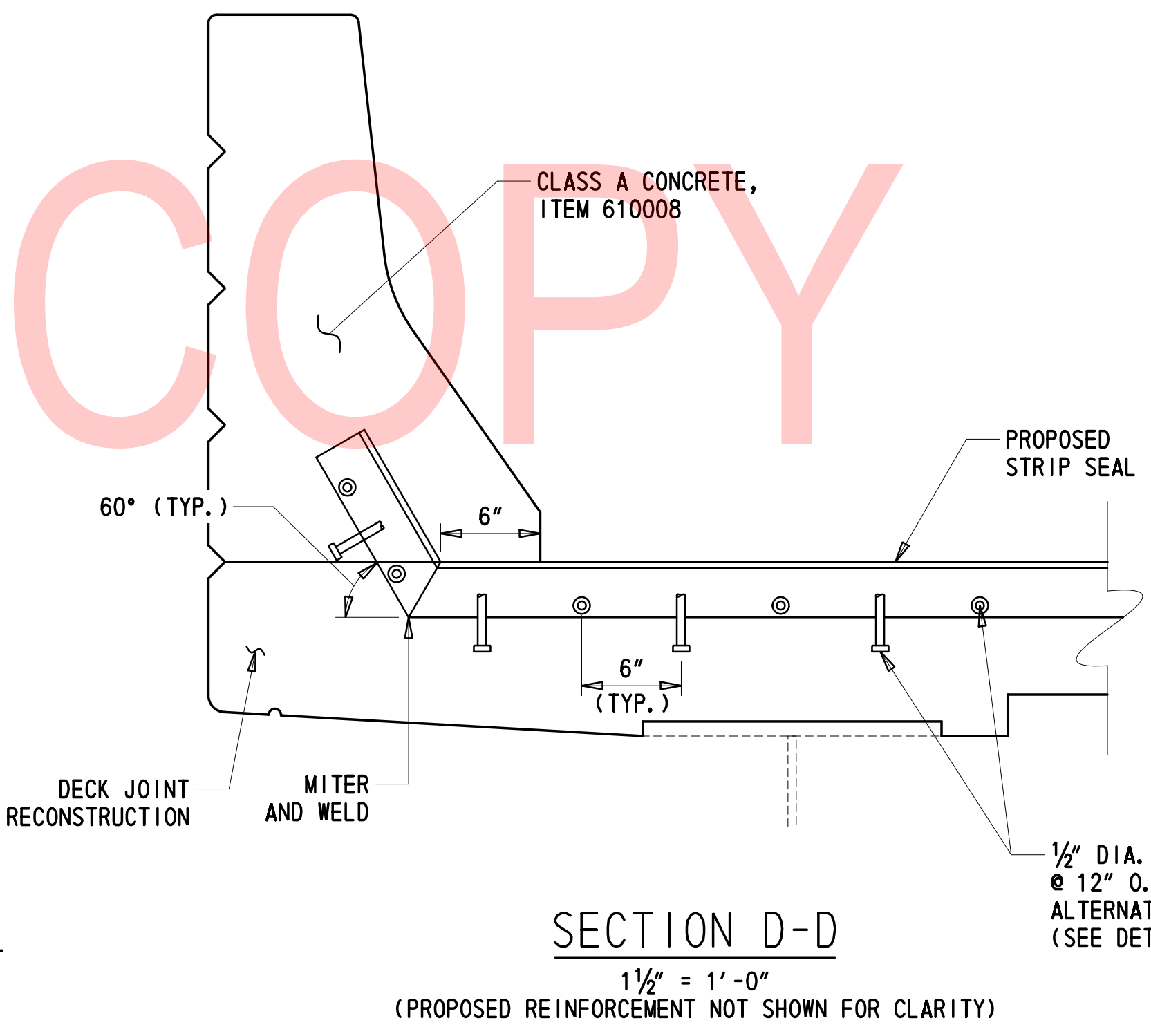
DECK PLANS

1" = 3'-0"



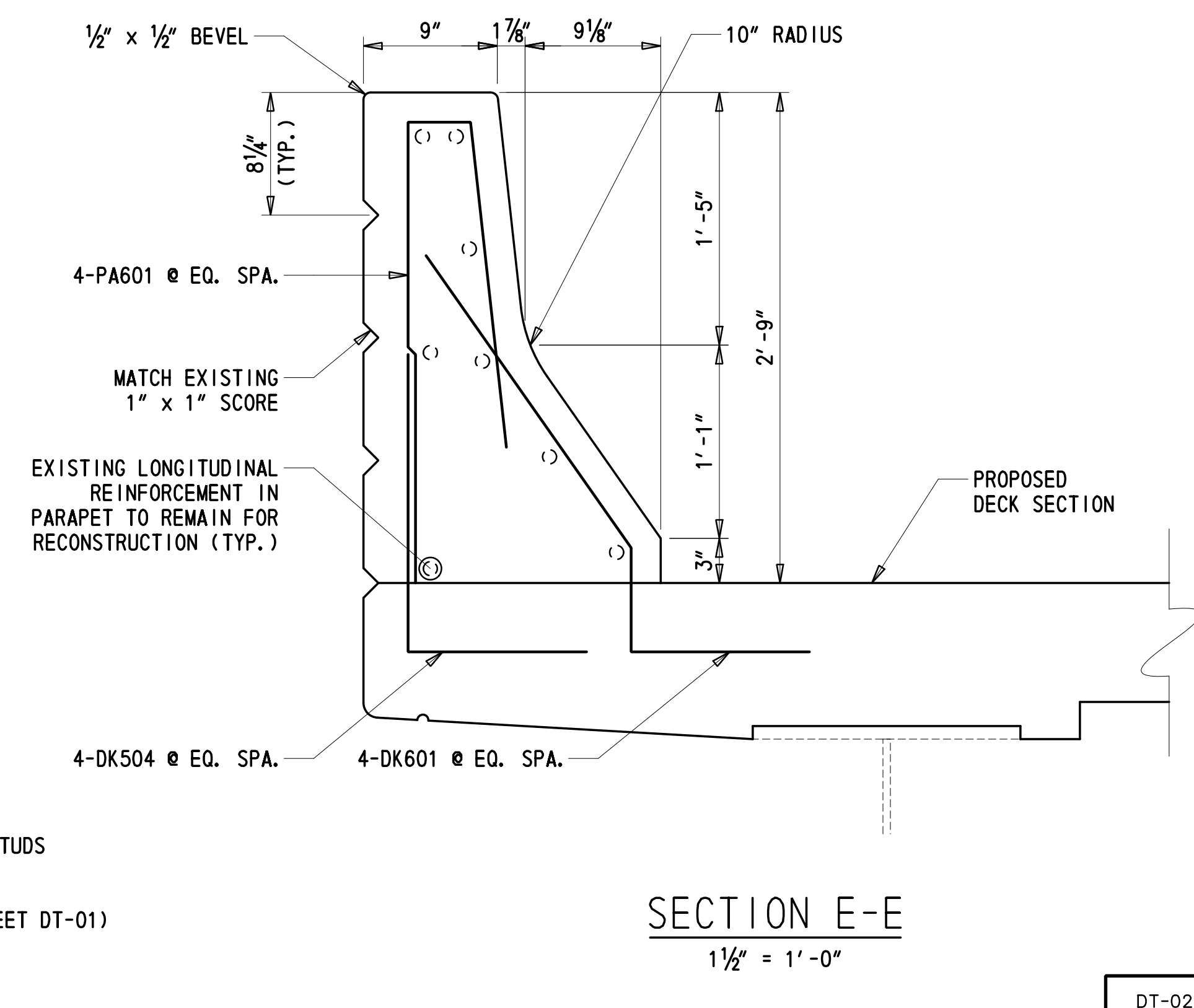
SECTION C-C

1 1/2" = 1'-0"  
(PROPOSED REINFORCEMENT IN HEADER NOT SHOWN FOR CLARITY)



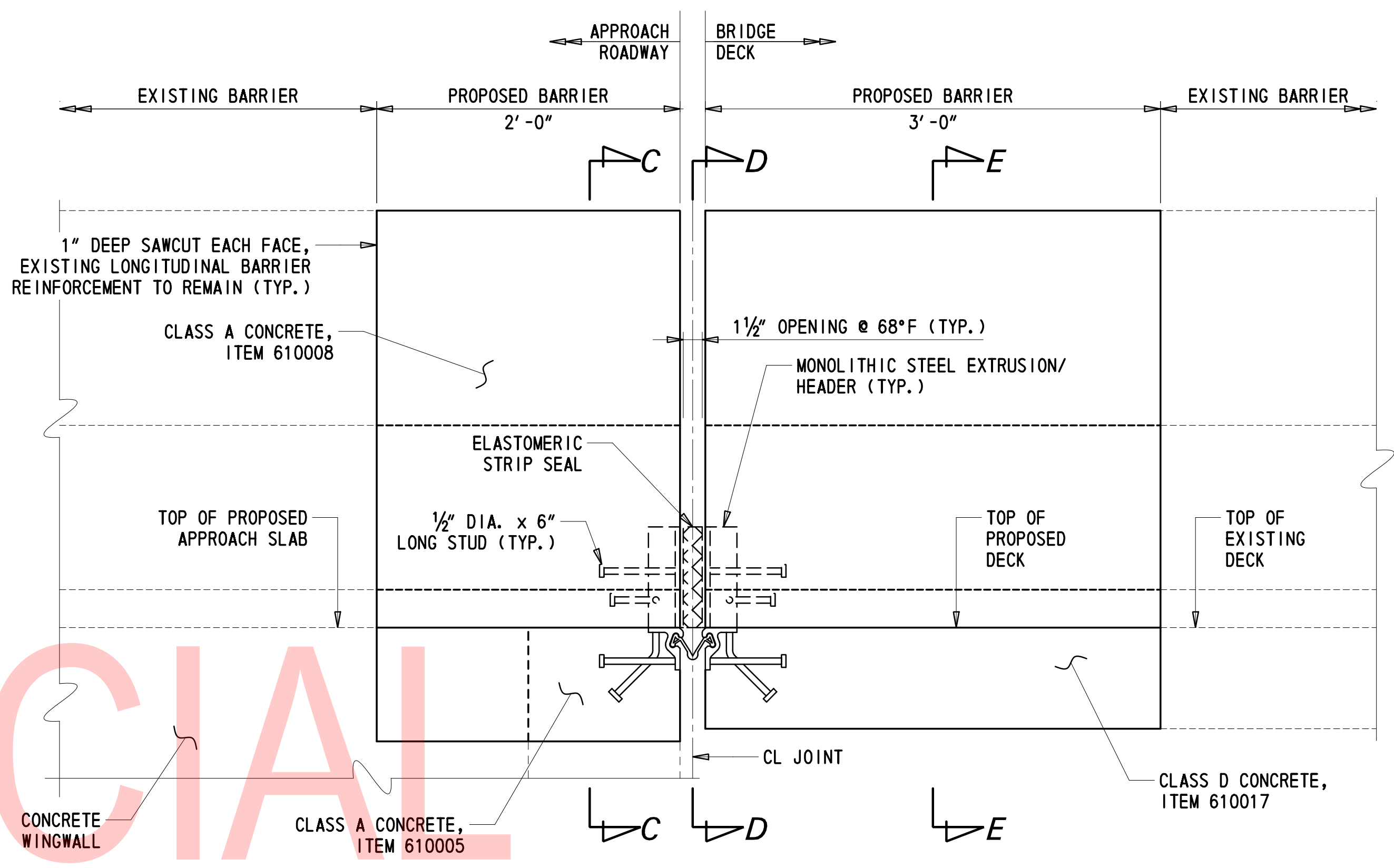
SECTION D-D

1 1/2" = 1'-0"  
(PROPOSED REINFORCEMENT NOT SHOWN FOR CLARITY)



SECTION E-E

1 1/2" = 1'-0"



SECTION B-B

1 1/2" = 1'-0"  
(REINFORCEMENT NOT SHOWN FOR CLARITY)

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ADDENDA / REVISIONS

SCALE AS NOTED

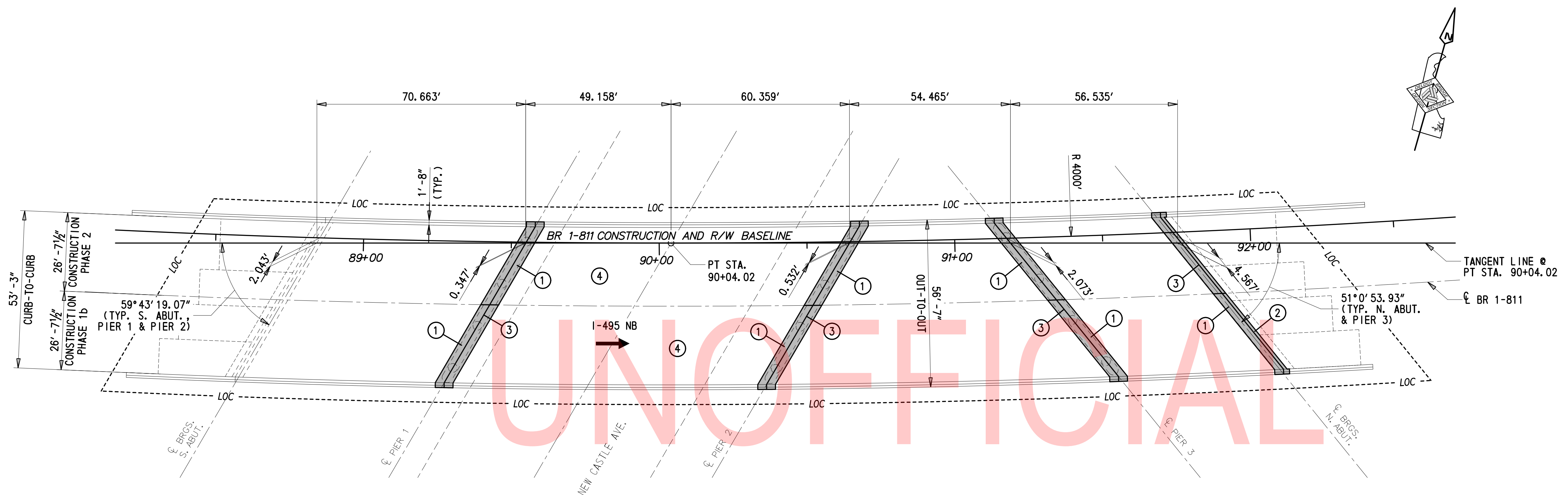
REHABILITATION OF BRIDGES  
1-810, 1-811, 1-812  
AND 1-813 ON I-495

CONTRACT	BRIDGE NO.	BR 1-810
T201707404	DESIGNED BY:	DT
COUNTY	CHECKED BY:	JWS
NEW CASTLE		

DECK PLAN AND  
BARRIER DETAILS

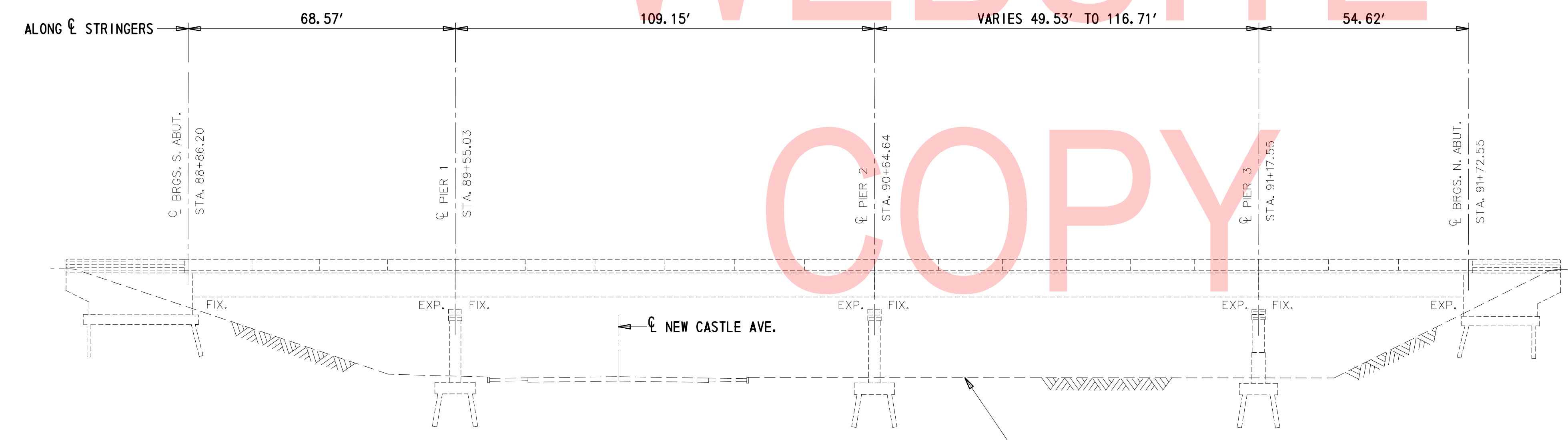
DT-02
SECTION
TY
SHEET NO.
11





**PLAN**

NOTE: EXISTING R/W IS OUTSIDE THE LIMIT OF THIS PLAN VIEW PER CONTRACT 71-05-003.



**ELEVATION**

**REPAIR LEGEND:**

- ① SAWCUT AND REMOVE 3' OF BRIDGE DECK AND BARRIER. SALVAGE LONGITUDINAL REINFORCEMENT IN BARRIER. DO NOT DAMAGE SHEAR CONNECTORS. ANY DAMAGED SHEAR CONNECTORS SHALL BE REPLACED AT CONTRACTOR'S SOLE EXPENSE. DOWEL REBAR INTO EXISTING DECK. RECONSTRUCT DECK USING CLASS D CONCRETE. RECONSTRUCT BARRIER USING CLASS A CONCRETE. SAWCUT AND REMOVAL TO BE PAID UNDER ITEM NO. 211000. DOWELS AND BAR REINFORCEMENT TO BE PAID UNDER ITEM NOS. 628070 AND 611000. CLASS A CONCRETE TO BE PAID UNDER ITEM NO. 610008. CLASS D CONCRETE TO BE PAID UNDER ITEM NO. 610017.
- ② SAWCUT AND REMOVE BACKWALL HEADER AND 2' OF APPROACH BARRIER. SALVAGE EXISTING REINFORCEMENT IN HEADER AND BARRIER. RECONSTRUCT BACKWALL HEADER AND BARRIER USING CLASS A CONCRETE. REMOVAL TO BE PAID UNDER ITEM NO. 211000. CLASS A CONCRETE TO BE PAID UNDER ITEM NO. 610005 FOR BACKWALL HEADER AND ITEM NO. 610008 FOR BARRIER.
- ③ REPLACE EXISTING STRIP SEAL EXPANSION JOINT. EXPANSION JOINT TO BE PAID UNDER ITEM NO. 624000.
- ④ REPAIR DECK SPALLS. DECK REPAIRS TO BE PAID UNDER ITEM NO. 628051.

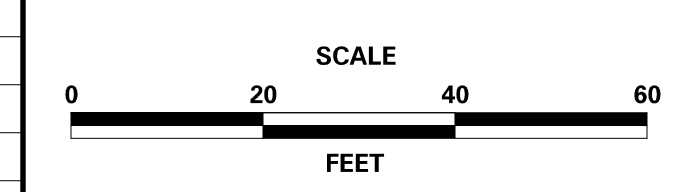
**CROSS-REFERENCE NOTES:**

- 1. FOR DECK PLAN DETAILS, SEE DK-01.
- 2. FOR EXPANSION JOINT DETAILS, SEE DT-01.
- 3. FOR BARRIER DETAILS, SEE DT-02.

**PAVEMENT SECTION(S)**



**ADDENDA / REVISIONS**



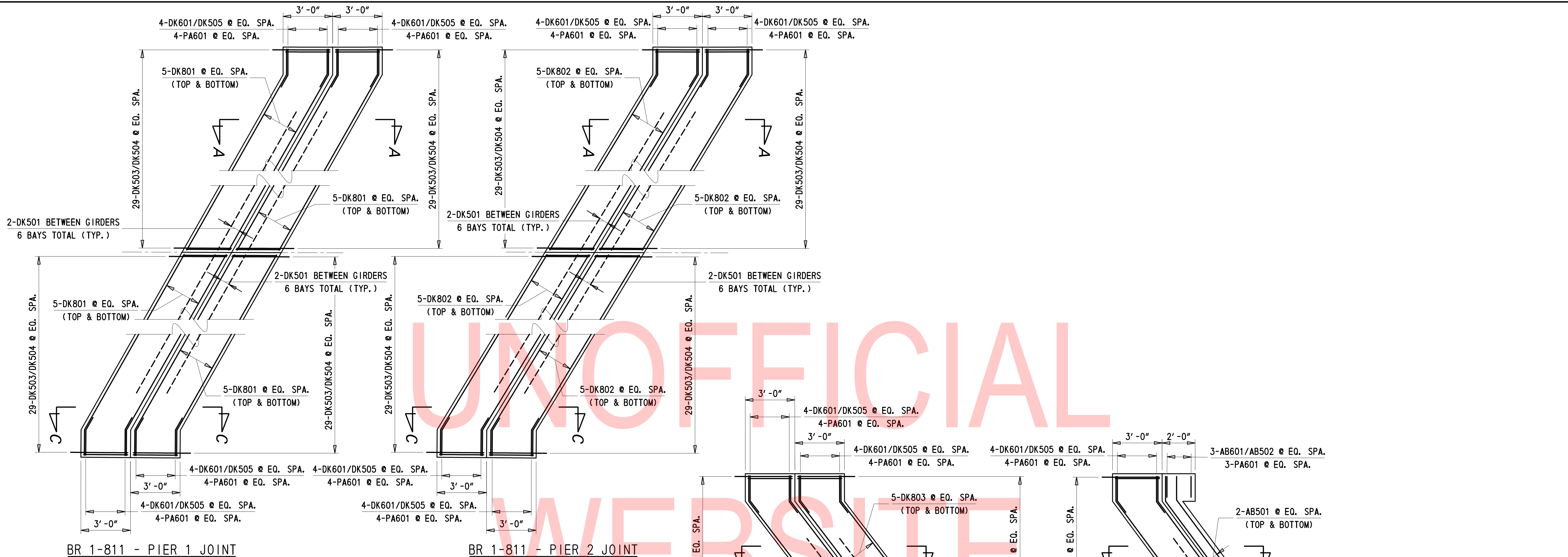
**REHABILITATION OF BRIDGES  
1-810, 1-811, 1-812  
AND 1-813 ON I-495**

CONTRACT	BRIDGE NO.	<b>BR 1-811</b>
T201707404	DESIGNED BY: DT	
COUNTY	CHECKED BY: JWS	
NEW CASTLE		

**BRIDGE PLAN  
AND ELEVATION**

PE-01
SECTION
TY
SHEET NO.
13

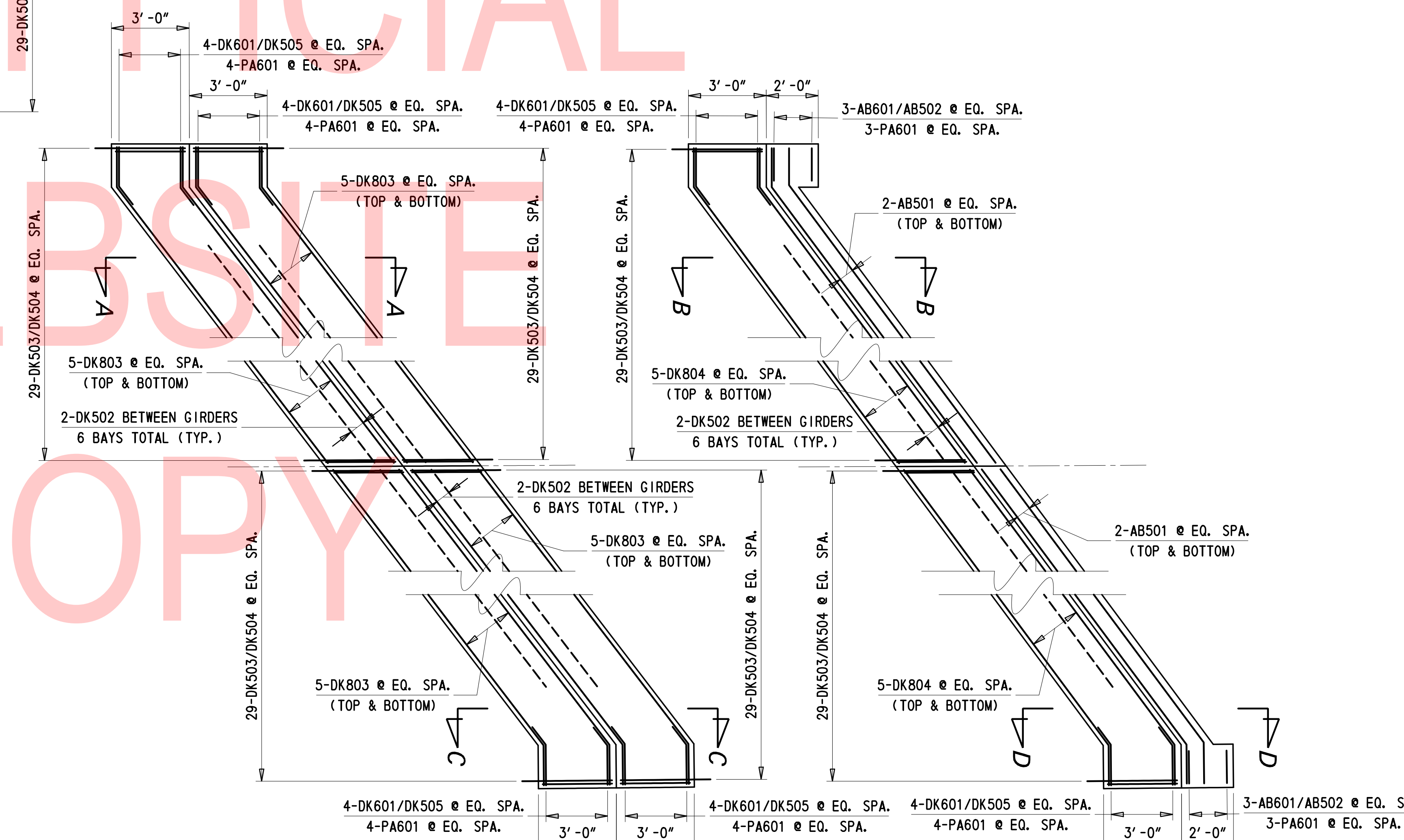
2/10/2020 T:\Dover\Projects\425025\06\600\_CADD\05\_Official\Plans\PE01\_BR1-811.dgn



BR 1-811 - PIER 1 JOINT

BR 1-811 - PIER 2 JOINT

DECK PLANS  
1" = 3'-0"



BR 1-811 - PIER 3 JOINT

BR 1-811 - NORTH ABUTMENT JOINT

DECK PLANS  
1" = 3'-0"

ADDENDA / REVISIONS

SCALE AS NOTED

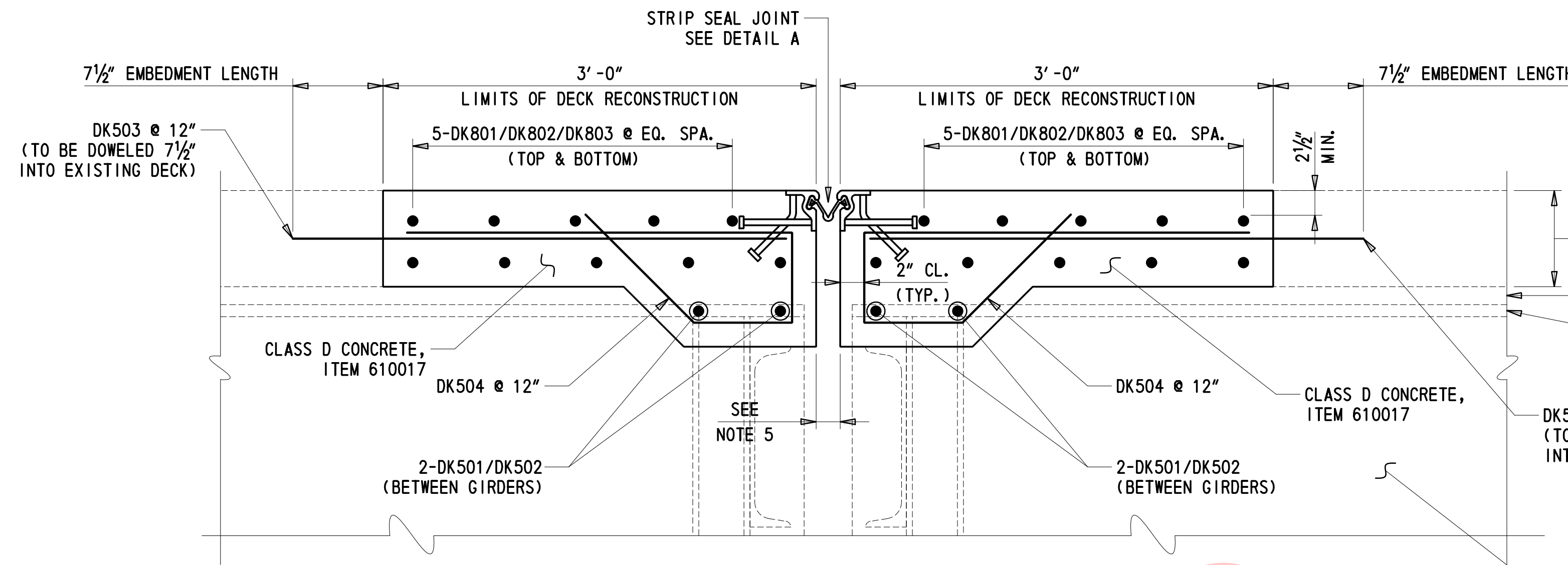
REHABILITATION OF BRIDGES  
1-810, 1-811, 1-812  
AND 1-813 ON I-495

CONTRACT	BRIDGE NO.	BR 1-811
T201707404	DESIGNED BY:	DT
COUNTY	CHECKED BY:	JWS
NEW CASTLE		

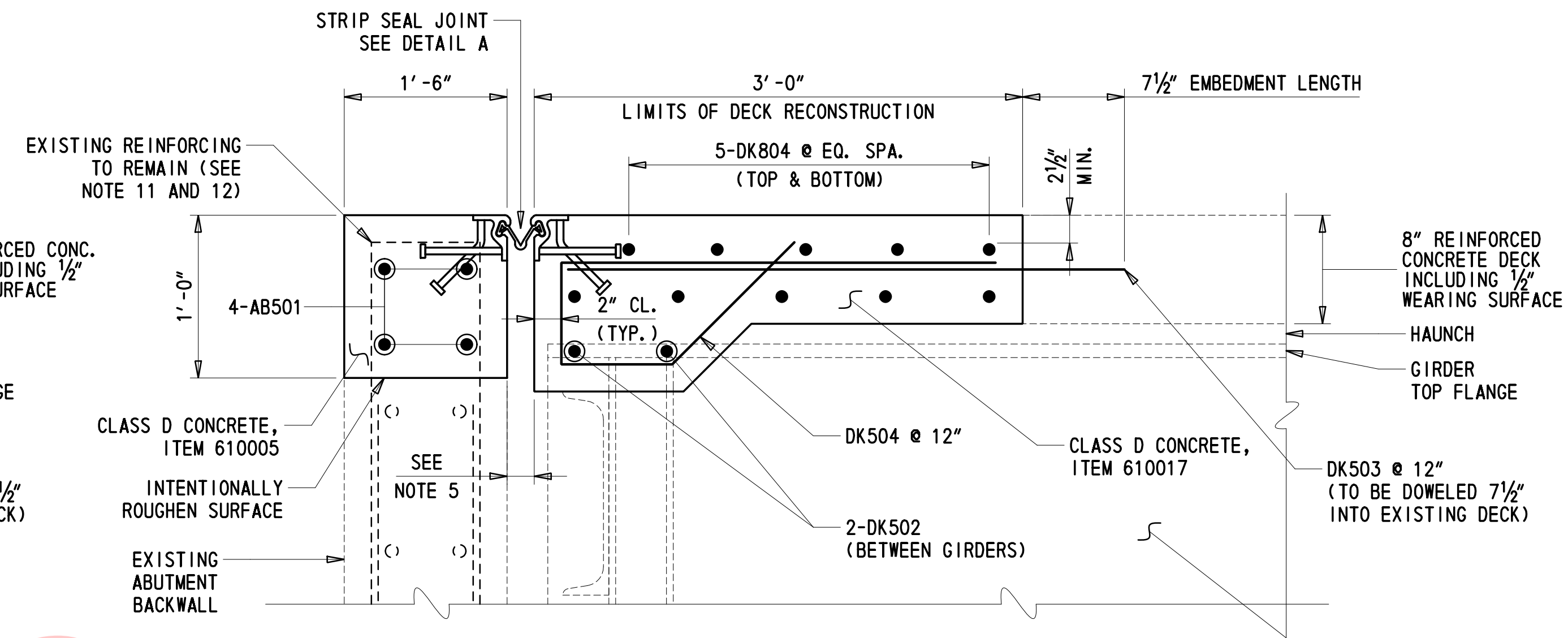
DECK PLAN DETAILS

DK-01
SECTION
TY
SHEET NO.
14

2/10/2020 T:\Dover\Projects\425025\06\600\_CADD\05\_Official\Plans\DK01\_BR1-811.dgn



SECTION A-A  
1 1/2" = 1'-0"



SECTION B-B  
1 1/2" = 1'-0"

UNOFFICIAL

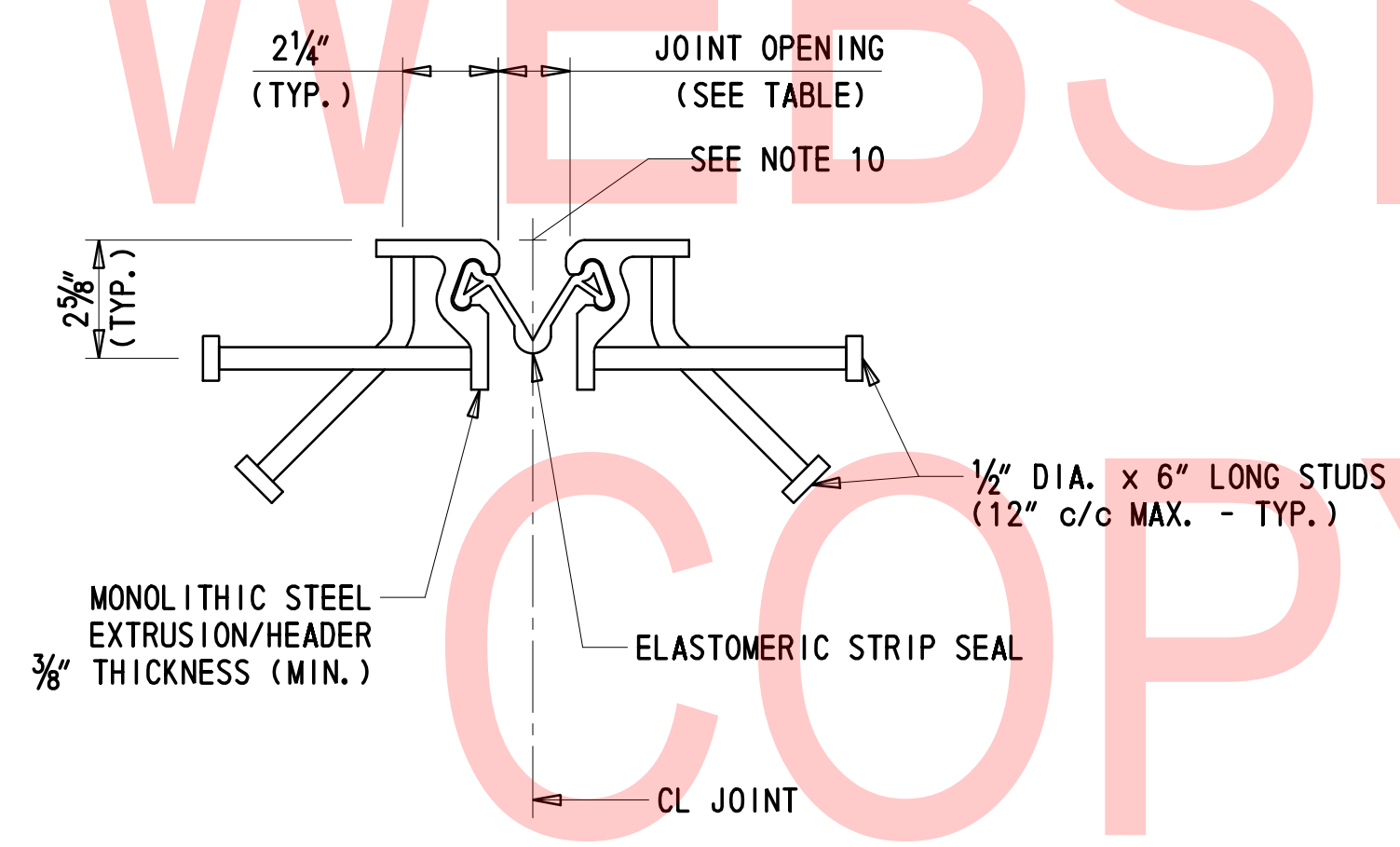
WEBSITE

COPY

NOTES:

- STEEL FOR DECK JOINTS AND STEEL EXTRUSIONS SHALL BE AASHTO M270, GR. 36 (ASTM A36) AT MINIMUM.
- FURNISH ANCHOR STUDS MEETING THE REQUIREMENTS OF AASHTO M 169, COLD DRAWN BARS, UNS DESIGNATION G 10150, G 10180, OR G 10200, EITHER SEMI- OR FULLY KILNED.
- ELASTOMERIC STRIP SEAL SHALL MEET ASTM D-2628-91(2016) MODIFIED (RECOVERY TESTS EXCLUDED).
- THE STRIP SEAL JOINT SHALL BE CAPABLE OF SEALING THE DECK TO PREVENT MOISTURE AND OTHER CONTAMINANTS FROM DESCENDING THROUGH THE JOINT.
- THE CONTRACTOR SHALL ADJUST THE STRIP SEAL OPEN JOINT AS REQUIRED BY THE WIDTH OF THE STEEL EXTRUSION USED SO AS TO PROVIDE A 1 1/2" JOINT OPENING AT 68°F.
- THE STRIP SEAL JOINT SYSTEM IS PAID FOR UNDER ITEM NO. 624000 - PREFABRICATED EXPANSION JOINT SYSTEM, 3".
- THE STRIP SEAL JOINT STEEL SHALL BE GALVANIZED AFTER FABRICATION IN ACCORDANCE WITH SECTION 1039 OF THE STANDARD SPECIFICATION.
- LUBRICANT-ADHESIVE FOR USE IN INSTALLING AND BONDING NEOPRENE SEAL ELEMENTS TO STEEL JOINT COMPONENTS SHALL BE A ONE QUART MOISTURE-CURING POLYURETHANE AND HYDROCARBON SOLVENT MIXTURE HAVING THE FOLLOWING PHYSICAL PROPERTIES:  

AVERAGE WEIGHT, POUNDS PER GALLON	8 +/- 10%
SOLIDS CONTENT	65%
ADHESIVE SHALL REMAIN LIQUID FROM	5°F TO 120°F
FILM STRENGTH, AS PER ASTM D-412	2,000 PSI
ELONGATION	250%
- AT AREAS WHERE STEEL MEMBERS ARE TO BE SPliced, USE OF COMPLETE JOINT PENETRATION (CJP) AND PARTIAL JOINT PENETRATION (PJP) WELD ARE BOTH PERMITTED. THE THICKNESS OF PJP WELD MUST BE MINIMUM HALF OF THE STEEL MEMBER THICKNESS.
- THE STRIP SEAL JOINTS SHALL BE SET TO MATCH THE EXISTING ELEVATION OF THE BRIDGE DECK.
- EXISTING REINFORCING STEEL SHALL BE CUT AND/OR BENT TO ACCOMMODATE NEW EXPANSION JOINT ASSEMBLY FOR BACKWALL HEADER RECONSTRUCTION.
- BAR REINFORCEMENT WHICH IS DESIGNATED TO REMAIN AND BE INCORPORATED INTO BACKWALL HEADER AND BARRIER RECONSTRUCTION SHALL BE CLEANED BY GRIT BLASTING. GRIT BLASTING OF REINFORCEMENT IS CONSIDERED INCIDENTAL TO ITEM NO. 624000.



DETAIL A  
3" = 1'-0"

LOCATION	JOINT OPENING ( INCH )								MOVEMENT CLASSIFICATION
	TEMPERATURE ( °F )								
	0	20	40	60	68	80	100	120	
PIER 1	1.82	1.73	1.63	1.54	1.50	1.44	1.35	1.26	3"
PIER 2	2.00	1.85	1.71	1.56	1.50	1.41	1.26	1.12	3"
PIER 3	1.99	1.85	1.70	1.56	1.50	1.41	1.27	1.13	3"
NORTH ABUTMENT	1.73	1.66	1.60	1.53	1.50	1.46	1.39	1.32	3"

ADDENDA / REVISIONS

SCALE AS NOTED

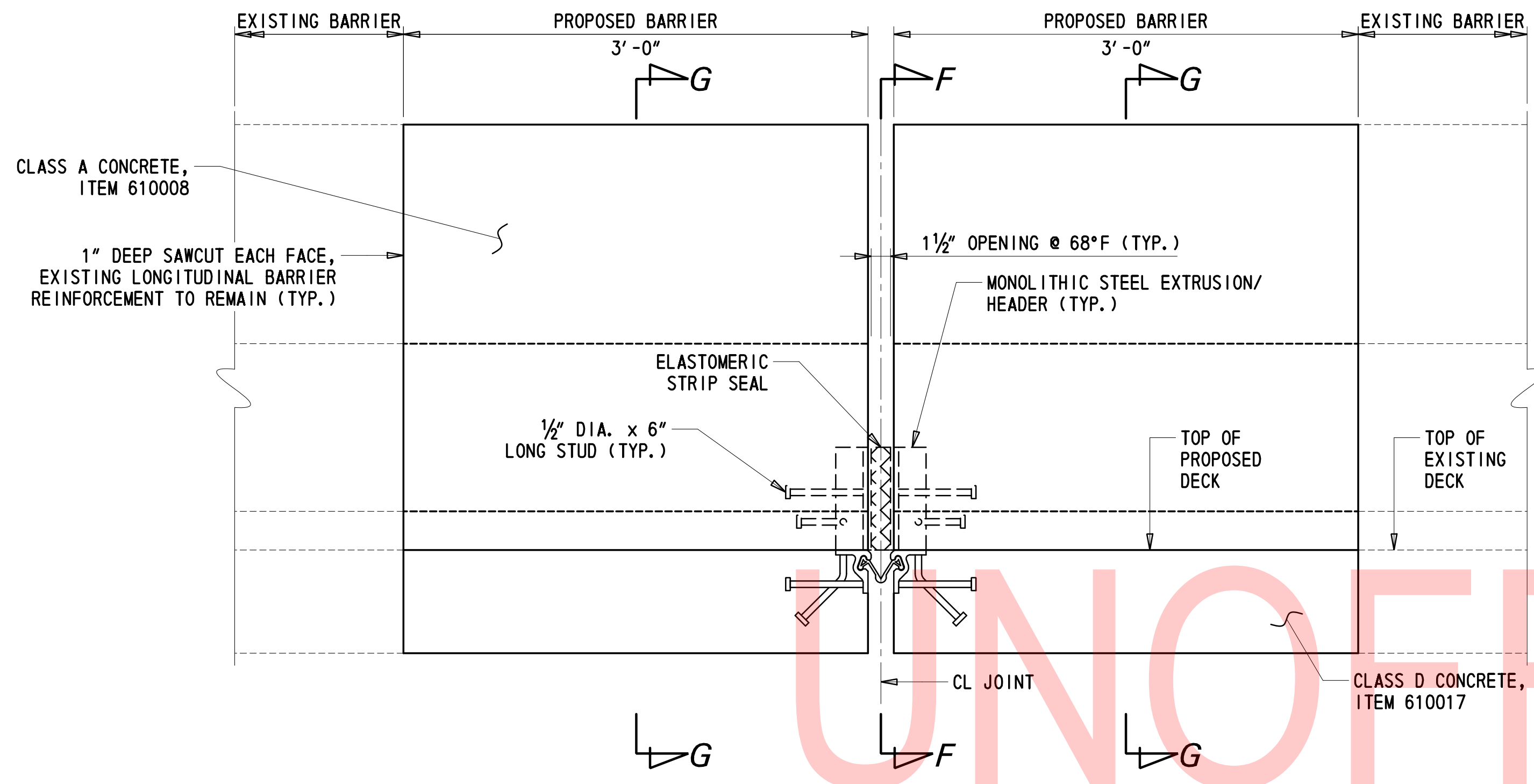
REHABILITATION OF BRIDGES  
1-810, 1-811, 1-812  
AND 1-813 ON I-495

CONTRACT T201707404	BRIDGE NO. BR 1-811
COUNTY NEW CASTLE	DESIGNED BY: DT
	CHECKED BY: JWS

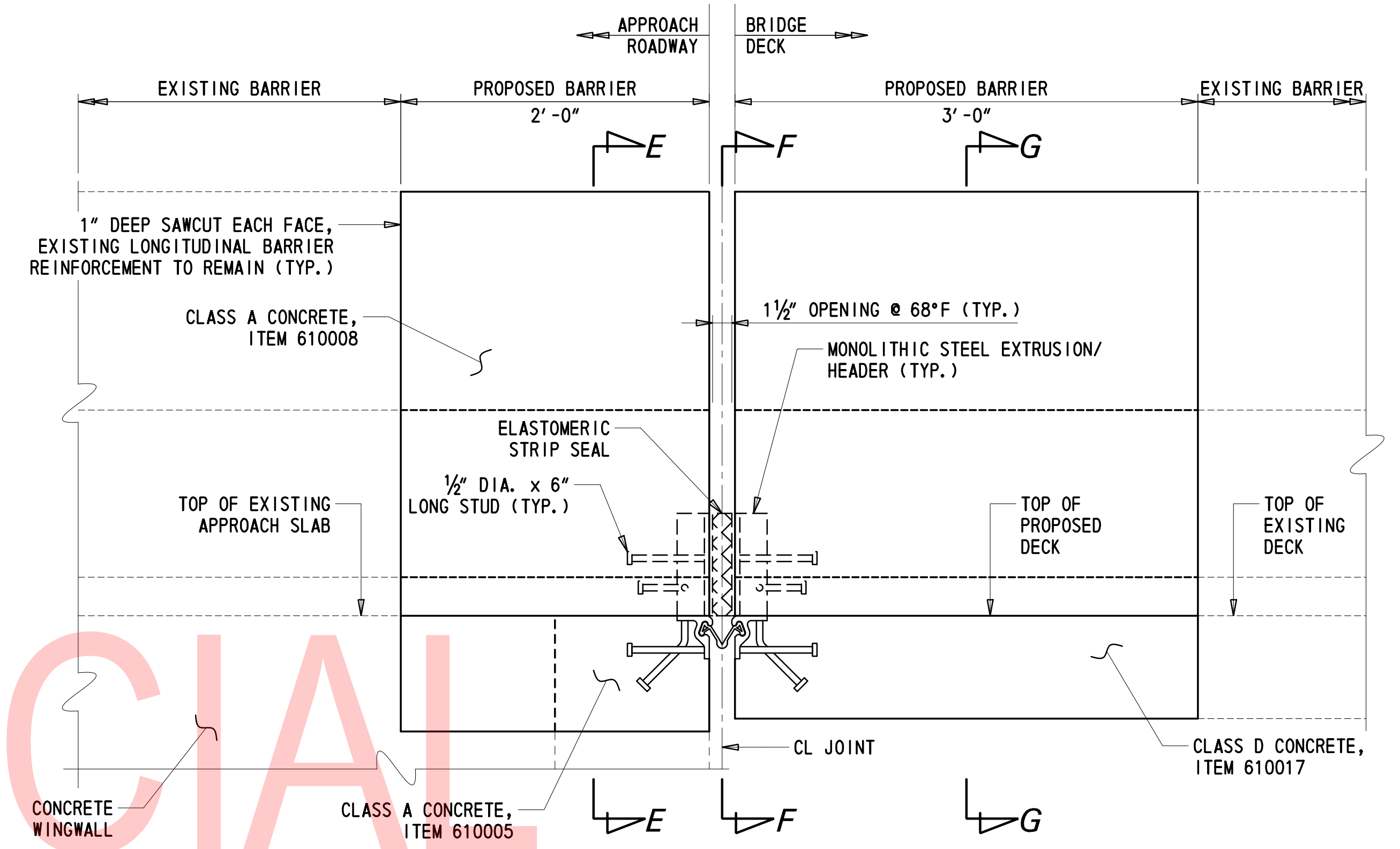
EXPANSION JOINT DETAILS

DT-01
SECTION TY
SHEET NO. 15

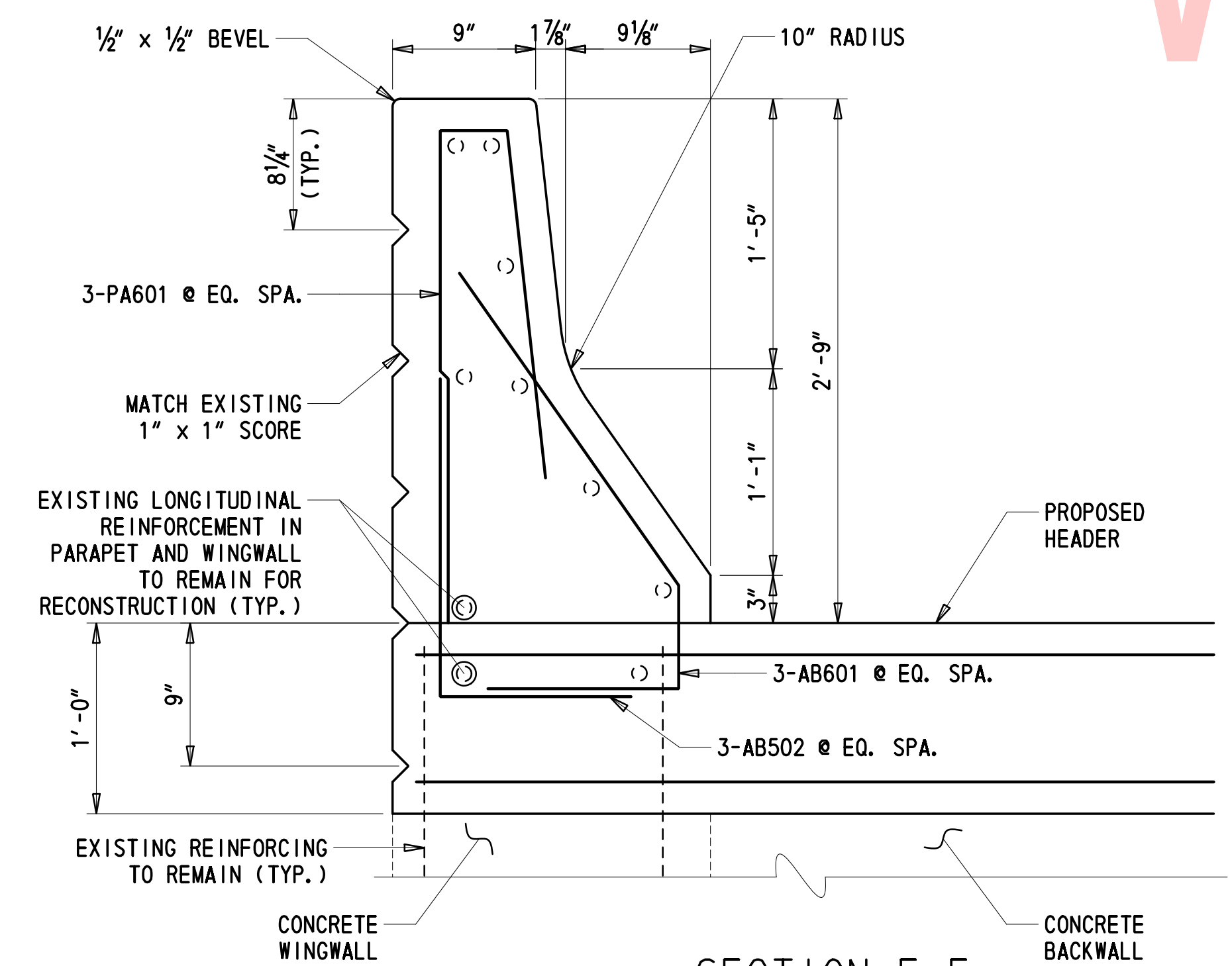
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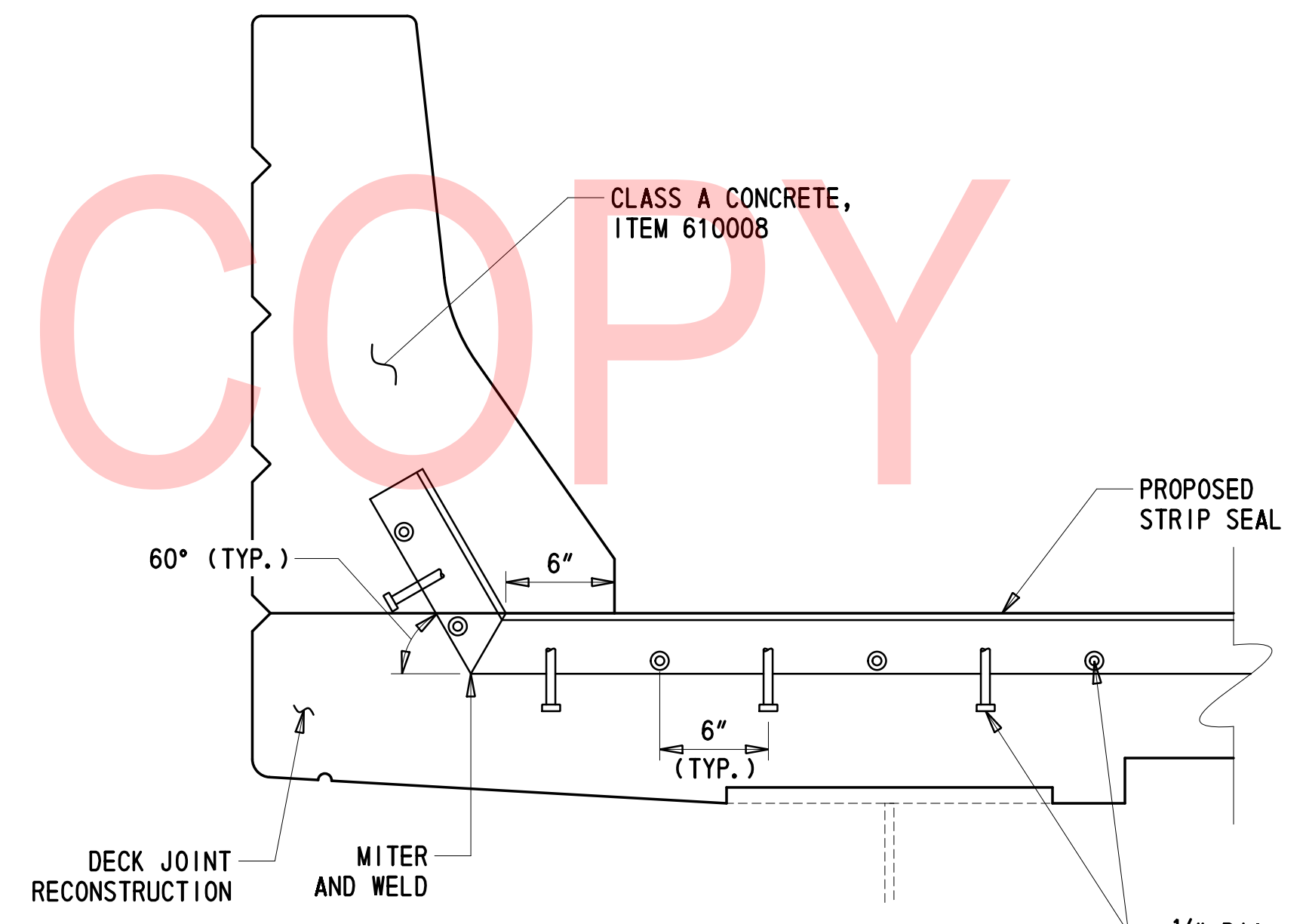
**SECTION C-C**  
 $1\frac{1}{2}'' = 1'-0''$   
 (REINFORCEMENT NOT SHOWN FOR CLARITY)



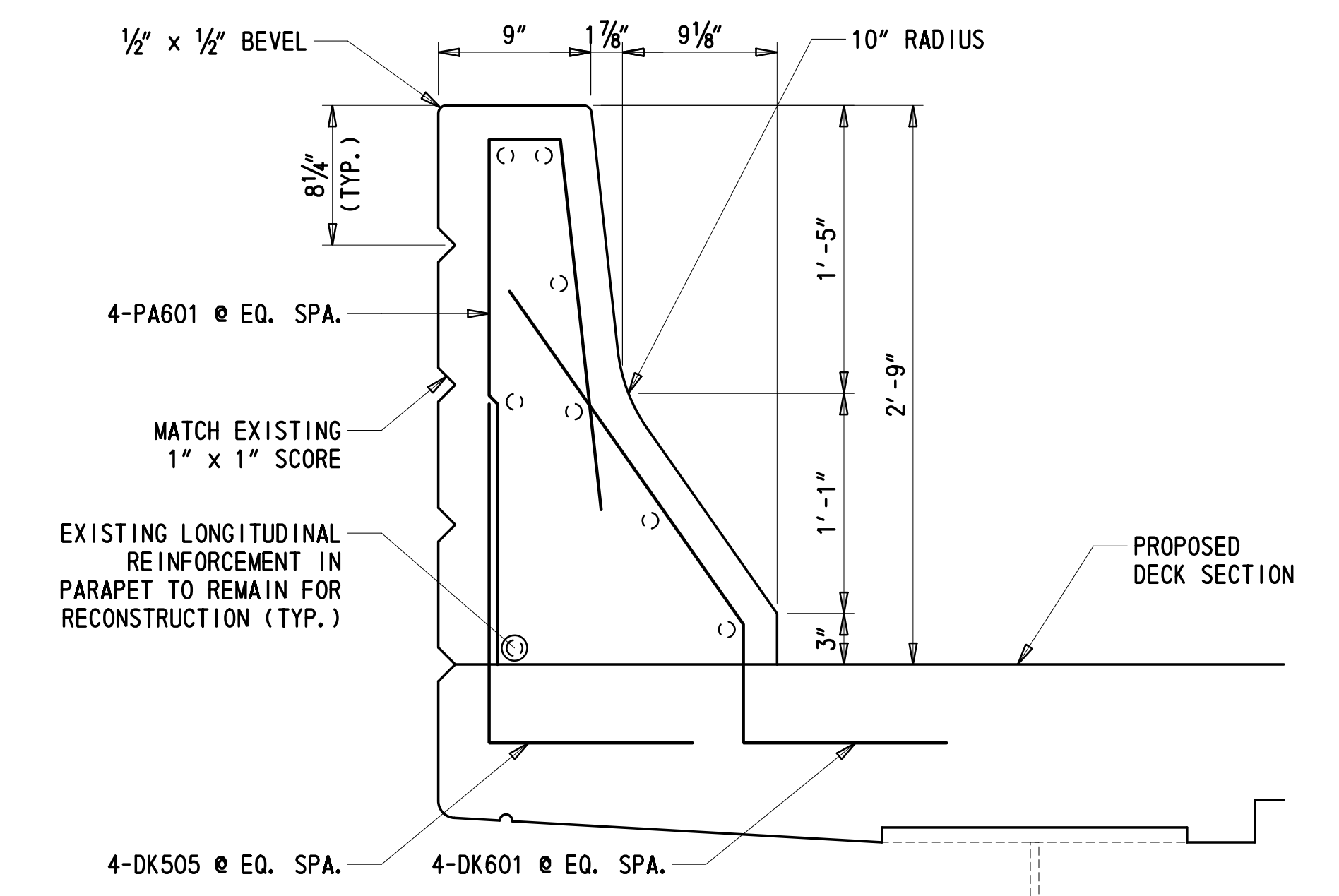
**SECTION D-D**  
 $1\frac{1}{2}'' = 1'-0''$   
 (REINFORCEMENT NOT SHOWN FOR CLARITY)



**SECTION E-E**  
 $1\frac{1}{2}'' = 1'-0''$   
 (PROPOSED REINFORCEMENT IN HEADER NOT SHOWN FOR CLARITY)



**SECTION F-F**  
 $1\frac{1}{2}'' = 1'-0''$   
 (PROPOSED REINFORCEMENT NOT SHOWN FOR CLARITY)



**SECTION G-G**  
 $1\frac{1}{2}'' = 1'-0''$

ADDENDA / REVISIONS

SCALE AS NOTED

**REHABILITATION OF BRIDGES**  
**1-810, 1-811, 1-812**  
**AND 1-813 ON I-495**

CONTRACT	BRIDGE NO.	<b>BR 1-811</b>
T201707404	DESIGNED BY:	DT
COUNTY	CHECKED BY:	JWS
NEW CASTLE		

**BARRIER DETAILS**

DT-02
SECTION
TY
SHEET NO.
16

UNOFFICIAL  
WEBSITE  
COPY

2/10/2020 T:\Dover\Projects\425025\06\600\_CADD\05\_Official\Plans\DT02\_BRI-811.dgn



① ANY MARK NUMBER WITH SUFFIX 'E' DENOTES EPOXY COATED REINFORCING STEEL.

② ALL MARK 'LOCATION PREFIXES' SHALL CONSIST OF TWO LETTERS AND ARE AS FOLLOWS: AB = ABUTMENT, AS = APPROACH SLAB, BC = BOX CULVERT, BW = BACKWALL, CL = COLUMN, DK = DECK, DL = DOWEL, FT = FOOTING, HW = HEADWALL, MS = MISC. BARS, PA = PARAPET, PR = PIER, SC = SHEETPILE CAP, SL = SLAB, TW = TOEWALL, WL = WALL (UNIQUE LOCATION), WW = WINGWALL

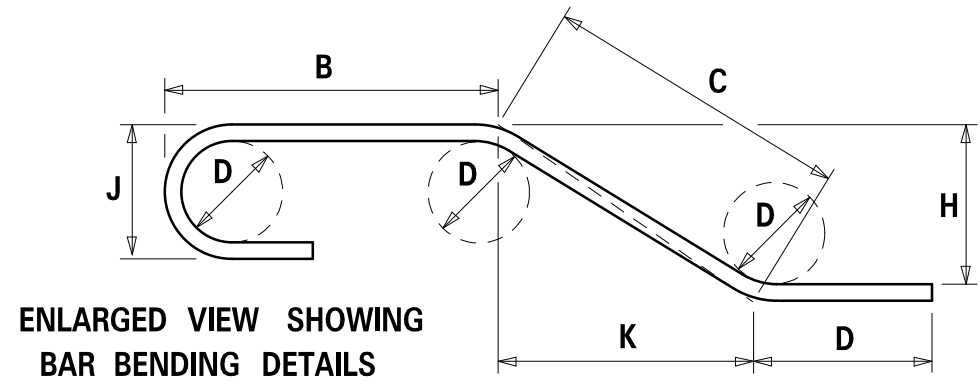
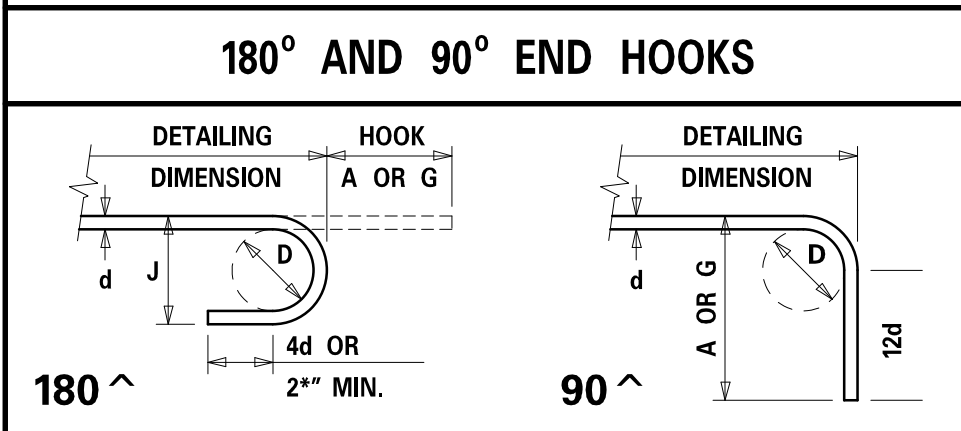
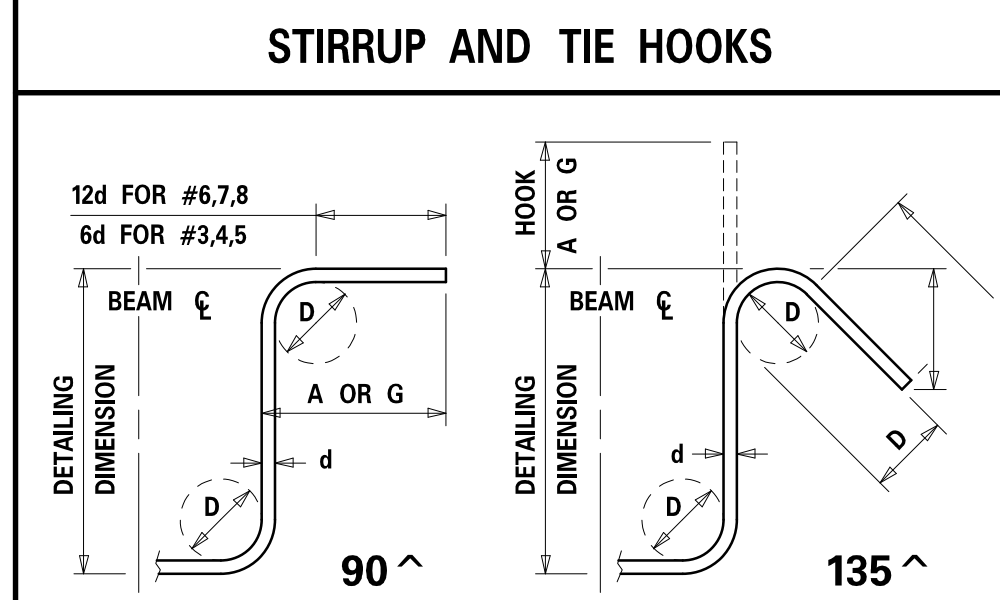
SPECIFICATIONS					BENDING DIMENSIONS (FEET-INCHES /QUARTER INCH)										
QTY.	SIZE	LENGTH	MARK	TYPE	A	B	C	D	E	F/R	G	H	J	K	O
<b>BR 1-811</b>															
48	5	8-11 1/2	DK501	STR											
36	5	9-8 1/2	DK502	STR											
406	5	3-5 1/2	DK503	STR											
406	5	6-00	DK504	16	2-80	0-72	0-81	1-03				0-90		0-90	1-51
56	5	2-80	DK505	20		1-80	1-00								
56	6	3-70	DK601	SP1	1-00	0-70	2-00					1-13		1-73	2-23
40	8	31-102	DK801	16			30-42	1-60				0-90		1-40	31-83
40	8	32-43	DK802	16			30-103	1-60				0-92		1-33	32-23
40	8	34-90	DK803	16			33-30	1-60				0-110		1-23	34-53
20	8	34-43	DK804	16			32-103	1-60				0-103		1-30	34-13
<hr/>															
62	6	4-90	PA601	16		2-70	0-40	1-100				1-93		0-23	0-63
<hr/>															
8	5	34-43	AB501	16			32-103	1-60				0-103		1-30	34-13
6	5	2-80	AB502	20		1-80	1-00								
6	6	3-70	AB601	16		1-00	0-70	2-00				1-13		1-73	2-23

SPECIFICATIONS					BENDING DIMENSIONS (FEET-INCHES /QUARTER INCH)										
QTY.	SIZE	LENGTH	MARK	TYPE	A	B	C	D	E	F/R	G	H	J	K	O
<b>NORTHBOUND BRIDGE</b>															

SPECIFICATIONS					BENDING DIMENSIONS (FEET-INCHES /QUARTER INCH)										
QTY.	SIZE	LENGTH	MARK	TYPE	A	B	C	D	E	F/R	G	H	J	K	O

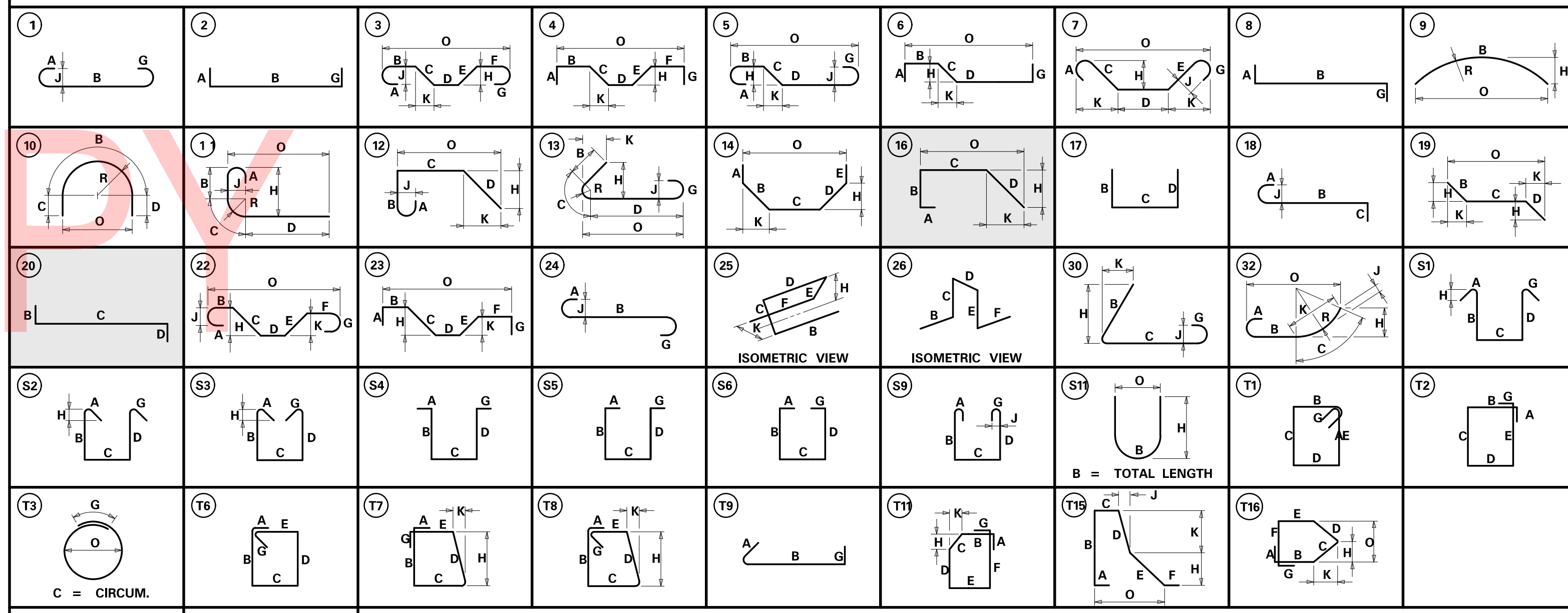
UNOFFICIAL  
WEBSITE

ASTM STANDARD ENGLISH REINFORCING BARS				RECOMMENDED END HOOKS, APPLICABLE TO ALL GRADES				STIRRUP AND TIE HOOKS, APPLICABLE TO ALL GRADES			
BAR SIZE	NOMINAL DIMENSIONS			180° HOOKS		90° HOOKS		90° HOOK		135° HOOK	
	DIAMETER (INCHES)	AREA (INCHES <sup>2</sup> )	WEIGHT (LBS./FT.)	D	A OR G	J	A OR G	D	A OR G	A OR G	A OR G
3	0.375	0.110	0.376	2 1/4"	5"	3"	6"	1 1/2"	4"	4"	2 1/2"
4	0.500	0.200	0.668	3"	6"	4"	8"	2"	4 1/2"	4 1/2"	3"
5	0.625	0.310	1.043	3 3/4"	7"	5"	10"	2 1/2"	6"	5 1/2"	3 3/4"
6	0.750	0.440	1.502	4 1/2"	8"	6"	1-0"	4 1/2"	1-0"	8"	4 1/2"
7	0.875	0.600	2.044	5 1/4"	10"	7"	1-2"	5 1/4"	1-2"	9"	5 1/4"
8	1.000	0.790	2.670	6"	11"	8"	1-4"	6"	1-4"	10 1/2"	6"
9	1.128	1.000	3.400	9 1/2"	1-3"	11 3/4"	1-7"				
10	1.270	1.270	4.303	10 3/4"	1-5"	1-1 1/4"	1-10"				
11	1.410	1.560	5.313	1-0"	1-7"	1-2 3/4"	2-0"				
14	1.693	2.250	7.650	1-6 1/4"	2-3"	1-9 3/4"	2-7"				
18	2.257	4.000	13.600	2-0"	3-0"	2-4 1/2"	3-5"				

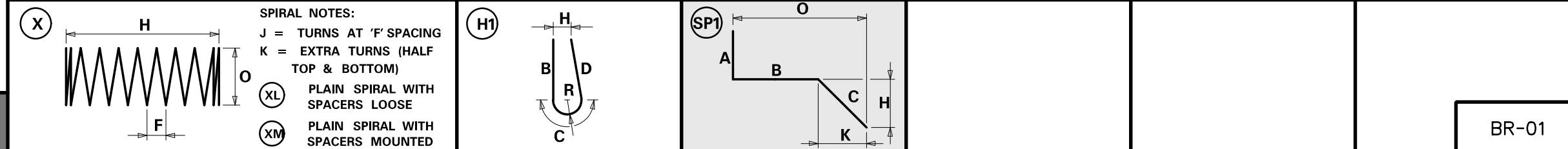


- NOTES:**
- FIGURES SHOWN IN CIRCLES REPRESENT BAR BEND TYPES.
  - STANDARD BAR BENDS INCLUDE ONLY THOSE TYPES BELOW, INDICATED AS SUCH.
  - ALL DIMENSIONS OUT-TO-OUT, EXCEPT "A" AND "C" ON STD. 180° AND 135° HOOKS.
  - "J" DIMENSIONS ON 180° HOOKS TO BE SHOWN ONLY WHERE NECESSARY TO RESTRICT HOOK SIZE, OTHERWISE STANDARD 'ACI' HOOKS ARE TO BE USED.
  - WHERE "J" IS NOT SHOWN, "J" WILL BE KEPT EQUAL TO OR LESS THAN "H" ON TYPES 3, 5 AND 22. WHERE "J" CAN EXCEED "H", IT SHALL BE SHOWN.
  - "H" DIMENSIONS OF STIRRUPS TO BE SHOWN AS NEEDED TO FIT WITHIN THE CONCRETE.
  - UNLESS OTHERWISE NOTED, DIAMETER "D" IS THE SAME FOR ALL BENDS AND HOOKS ON A BAR (EXCEPT FOR BEND TYPES 11 AND 13).
  - WHERE SLOPE DIFFERS FROM 45° OFFSET, "H" AND "K" MUST BE SHOWN.
  - WHERE BARS ARE TO BE BENT MORE ACCURATELY THAN STANDARD BENDING TOLERANCES, BENDING DIMENSIONS REQUIRING CLOSER FABRICATION SHOULD HAVE LIMITS INDICATED.
  - FOR RECOMMENDED DIAMETER "D", OF BENDS, HOOKS, ETC., REFER TO TABLE ABOVE, 'CRS1' OR 'ACI' TABLES WHERE APPLICABLE AND REQUIRED.
  - TYPE S1-S6, S11, T1-T3 AND T6-T9 APPLICABLE TO BAR SIZES #3 THROUGH #8.
  - (\*) INDICATES BAR LENGTH INCLUDES MECHANICAL CONNECTOR.
  - (\*\*) INDICATES BAR LENGTH INCLUDES THREADS FOR MECHANICAL CONNECTOR.

**STANDARD BAR BENDS**



**SPECIAL BAR BENDS**



ADDENDA / REVISIONS

NOT TO SCALE

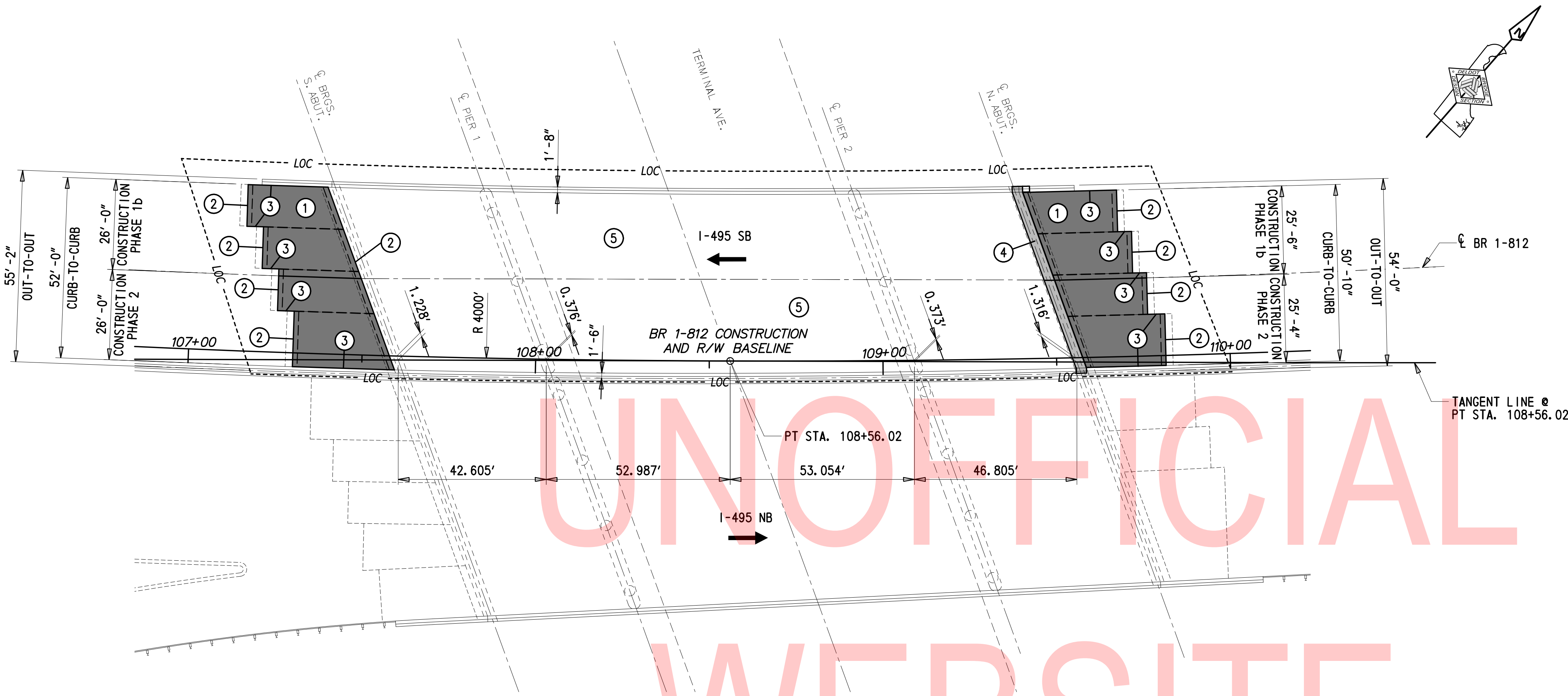
**REHABILITATION OF BRIDGES**  
 1-810, 1-811, 1-812  
 AND 1-813 ON I-495

CONTRACT T201707404	BRIDGE NO. <b>BR 1-811</b>
COUNTY NEW CASTLE	DESIGNED BY: DT
	CHECKED BY: JWS

**REINFORCING BAR SUMMARY**

BR-01  
 SECTION  
 TY  
 SHEET NO.  
 17

2/10/2020 T:\Dover\Projects\425025\06\600\_CADD\05\_Official\Plans\BR01\_BR1-811.dgn



UNOFFICIAL  
WEBSITE

**PLAN**

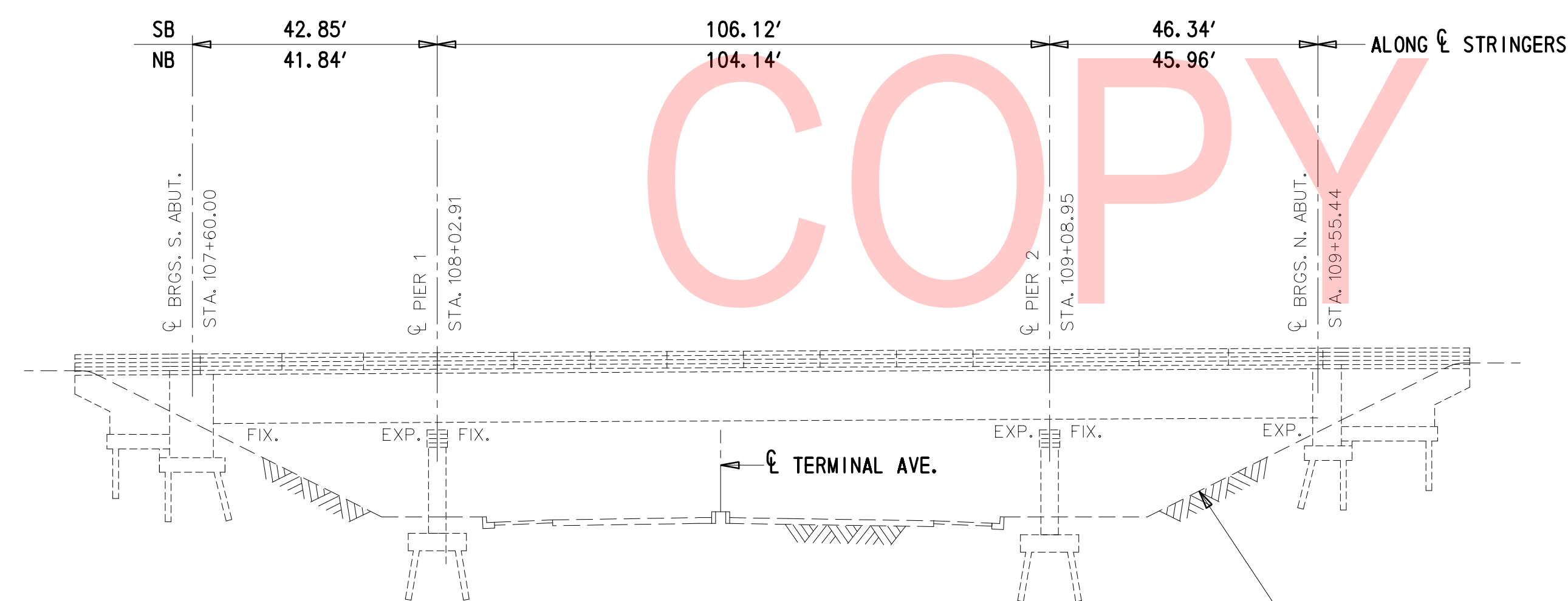
NOTE: EXISTING R/W IS OUTSIDE THE LIMIT OF THIS PLAN VIEW PER CONTRACT 71-05-003.

**REPAIR LEGEND:**

- ① REMOVE 10" CONCRETE OVERLAY ON APPROACH SLABS. REPLACE OVERLAY WITH REINFORCED CONCRETE SLAB. CLASS D CONCRETE SHALL BE USED TO CONSTRUCT THE SLAB. REMOVAL OF EXISTING OVERLAY TO BE PAID UNDER ITEM NO. 211000. BAR REINFORCEMENT TO BE PAID UNDER ITEM NO. 611000. CLASS D CONCRETE TO BE PAID UNDER ITEM NO. 610018.
- ② SAWCUT EXISTING P.C.C PAVEMENT AT EDGE OF CONCRETE OVERLAY TO PROVIDE 1 1/2" GAP BETWEEN PAVEMENT AND OVERLAY. INSTALL SILICONE COATED FOAM JOINT SEAL. FULL-DEPTH SAWCUT OF P.C.C. PAVEMENT TO BE PAID UNDER ITEM NO. 762001. SILICONE COATED FOAM JOINT SEAL TO BE PAID UNDER ITEM NO. 624502.
- ③ APPLY SILICONE JOINT SEAL TO FULL LENGTH OF JOINT AT END OF APPROACH SLAB AND BETWEEN APPROACH SLAB AND BARRIER. SILICONE JOINT SEAL TO BE PAID UNDER ITEM NO. 624010.
- ④ SAWCUT AND REMOVE 2' OF BRIDGE DECK AND BARRIER. SALVAGE LONGITUDINAL REINFORCEMENT IN BARRIER. DO NOT DAMAGE SHEAR CONNECTORS. ANY DAMAGED SHEAR CONNECTORS SHALL BE REPLACED AT CONTRACTOR'S SOLE EXPENSE. SAWCUT AND REMOVE BACKWALL HEADER, INCLUDING EXISTING REINFORCEMENT, AND 2' OF APPROACH FASCIA BARRIER. PARTIALLY RECONSTRUCT BACKWALL HEADER USING CLASS A CONCRETE TO LIMITS INDICATED IN PLANS. DOWEL REBAR INTO EXISTING DECK. RECONSTRUCT DECK USING CLASS D CONCRETE. RECONSTRUCT BARRIER USING CLASS A CONCRETE. DURING RECONSTRUCTION, PROVIDE 1 1/2" JOINT IN THE DECK AND PARAPET TO ACCOMMODATE SILICONE COATED FOAM JOINT SEAL. SAWCUT AND REMOVAL TO BE PAID UNDER ITEM NO. 211000. DOWELS AND BAR REINFORCEMENT TO BE PAID UNDER ITEM NOS. 628070 AND 611000. CLASS A CONCRETE TO BE PAID UNDER ITEM NO. 610005 FOR BACKWALL HEADER AND ITEM NO. 610008 FOR BARRIER. CLASS D CONCRETE TO BE PAID UNDER ITEM NO. 610017. SILICONE COATED FOAM JOINT SEAL TO BE PAID UNDER ITEM NO. 624502.
- ⑤ REPAIR DECK SPALLS. DECK REPAIRS TO BE PAID UNDER ITEM NO. 628051.

**CROSS-REFERENCE NOTES:**

1. FOR CONCRETE SLAB PLANS, SEE AS-01.
2. FOR DECK-OVER AND APPROACH SLAB DETAILS, SEE DT-01.
3. FOR DECK PLAN AND BARRIER DETAILS, SEE DT-02.



**ELEVATION**

PAVEMENT SECTION(S)	
	DECK CONCRETE/BACKWALL HEADER
	CONCRETE SLAB

ADDENDA / REVISIONS

NOT TO SCALE

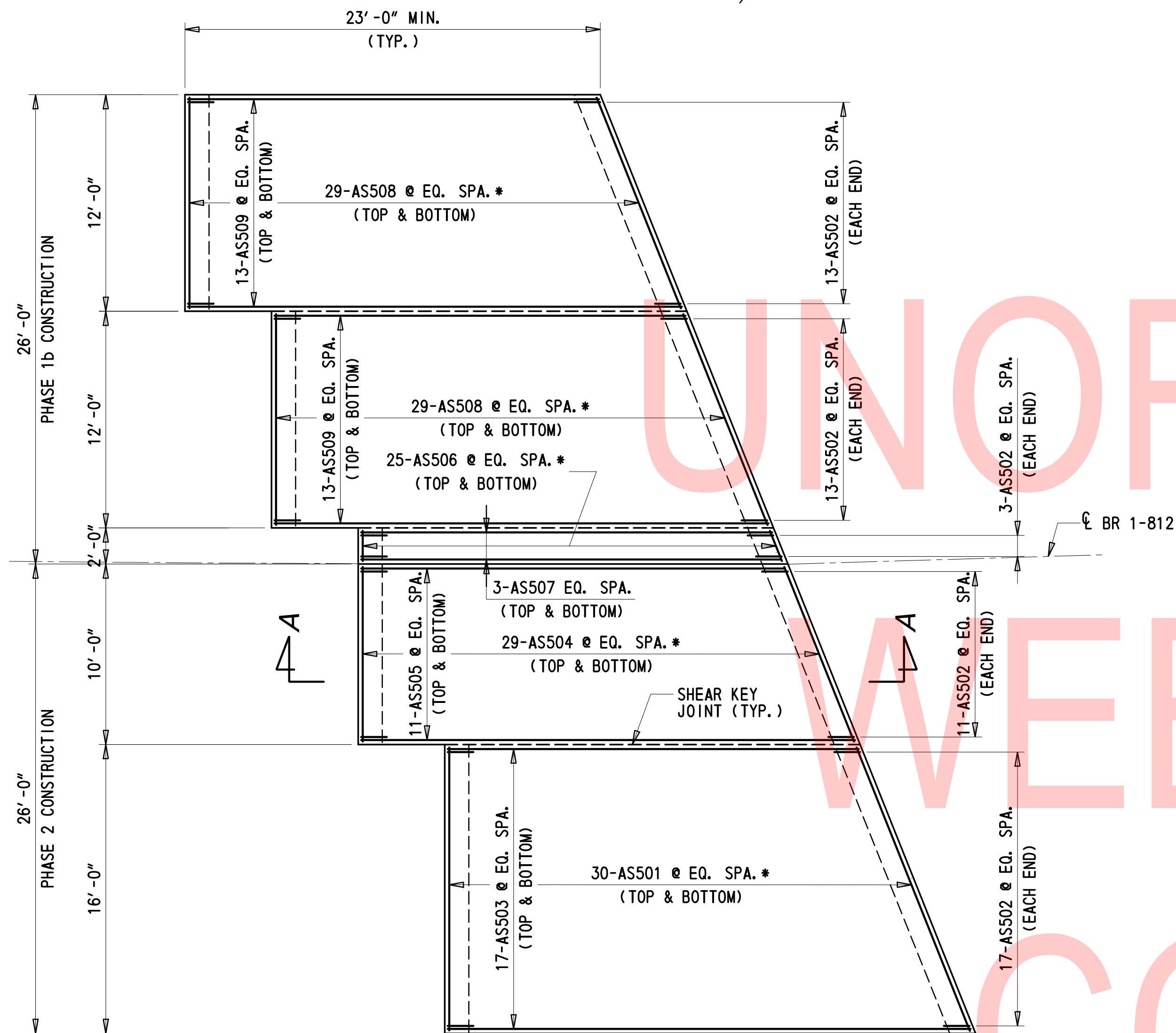
**REHABILITATION OF BRIDGES  
1-810, 1-811, 1-812  
AND 1-813 ON I-495**

CONTRACT T201707404	BRIDGE NO. <b>BR 1-812</b>
COUNTY NEW CASTLE	DESIGNED BY: DT
	CHECKED BY: JWS

**BRIDGE PLAN  
AND ELEVATION**

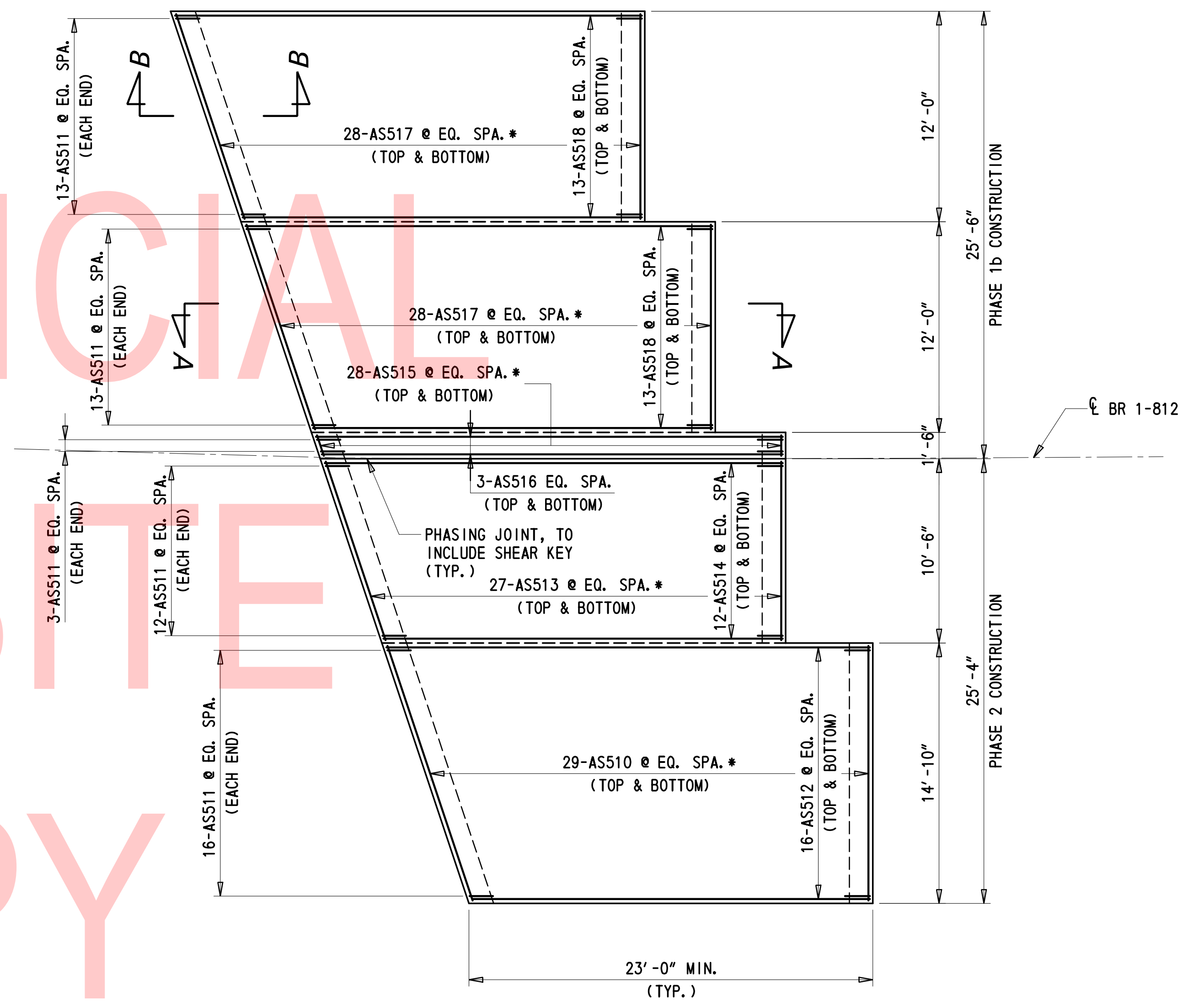
PE-01
SECTION
TY
SHEET NO.
18

\* TRANS. BARS NEAR THE DECK JOINT SHALL BE SPLAYED.  
 BARS SHALL HAVE A MIN. SPA. OF 3" AND A MAX.  
 SPACING OF 12". FIELD CUT BARS AS NEEDED.  
 PAYMENT INCIDENTAL TO 611000.



SOUTH APPROACH SLAB PLAN

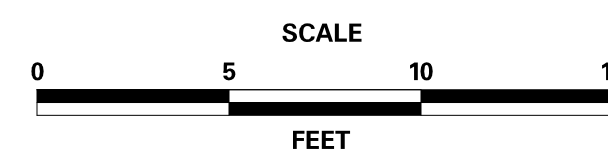
1" = 5'



NORTH APPROACH SLAB PLAN

1" = 5'

ADDENDA / REVISIONS

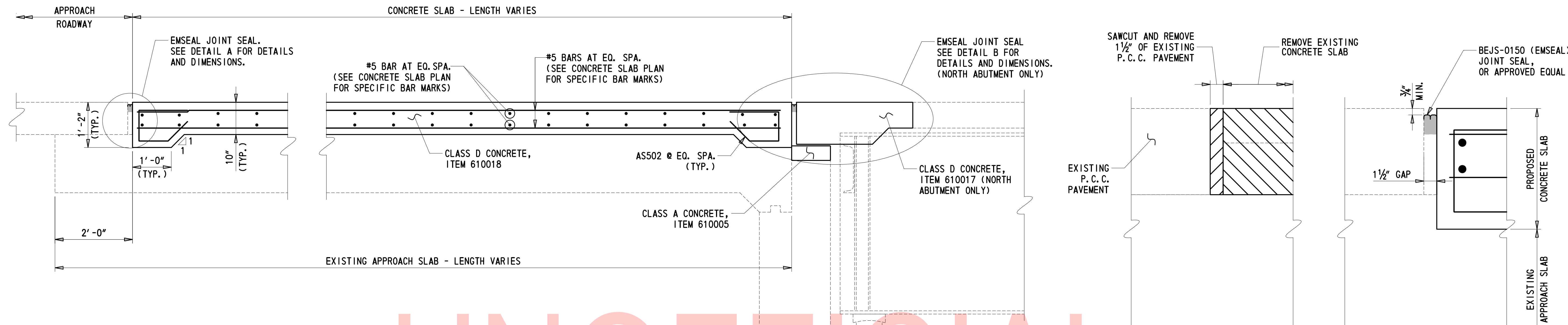


REHABILITATION OF BRIDGES  
 1-810, 1-811, 1-812  
 AND 1-813 ON I-495

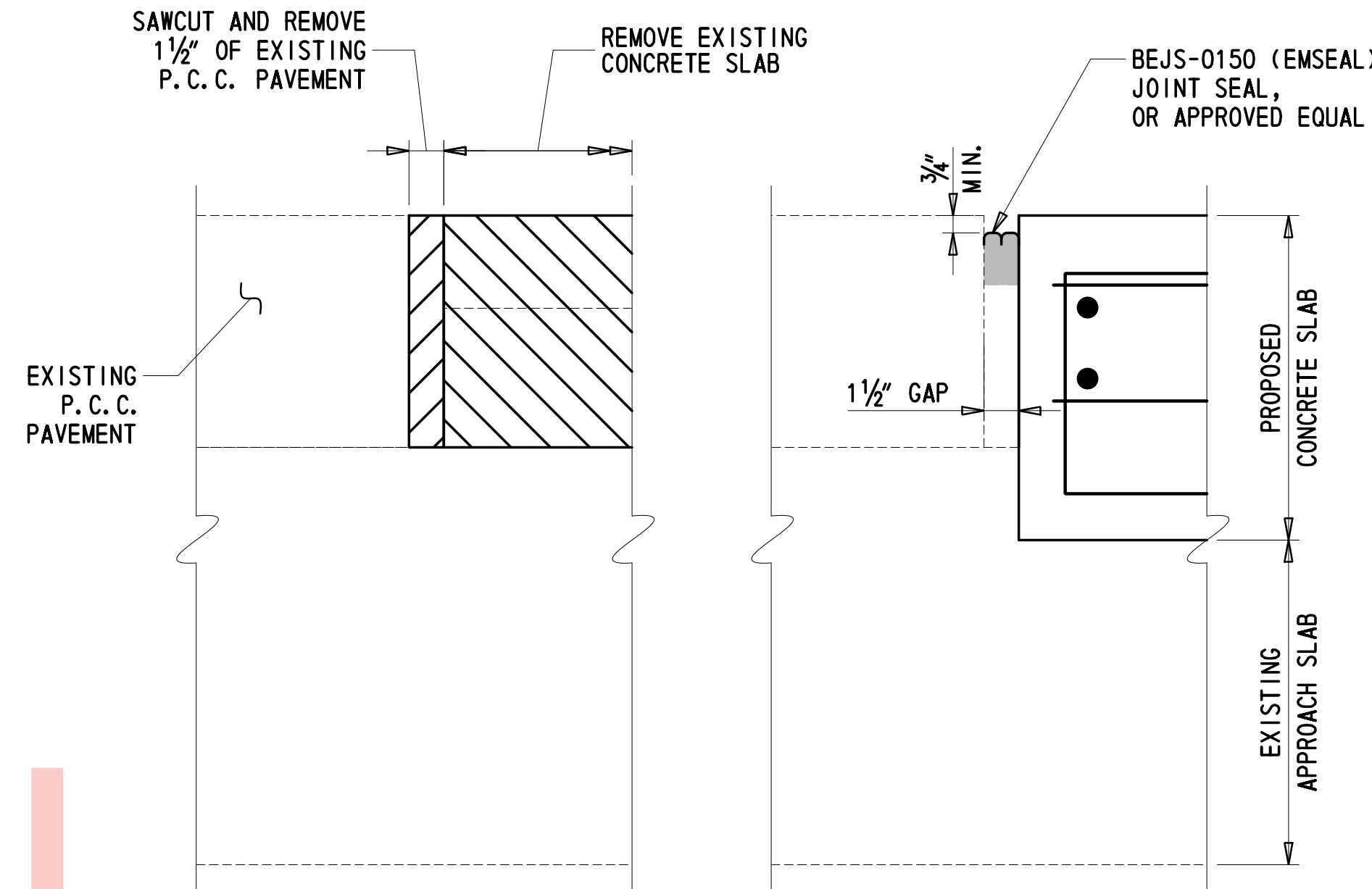
CONTRACT	BRIDGE NO.	<b>BR 1-812</b>
T201707404	DESIGNED BY:	DT
COUNTY	CHECKED BY:	DJC
NEW CASTLE		

APPROACH SLAB PLAN

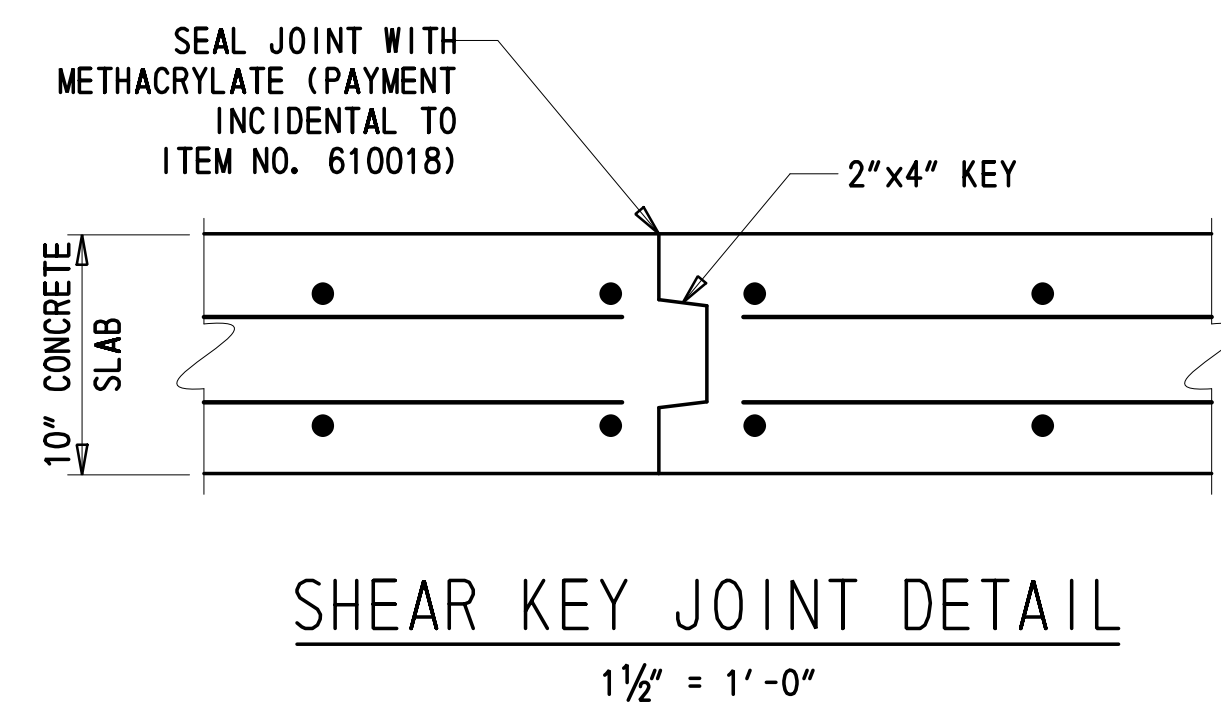
AS-01
SECTION
TY
SHEET NO.
19



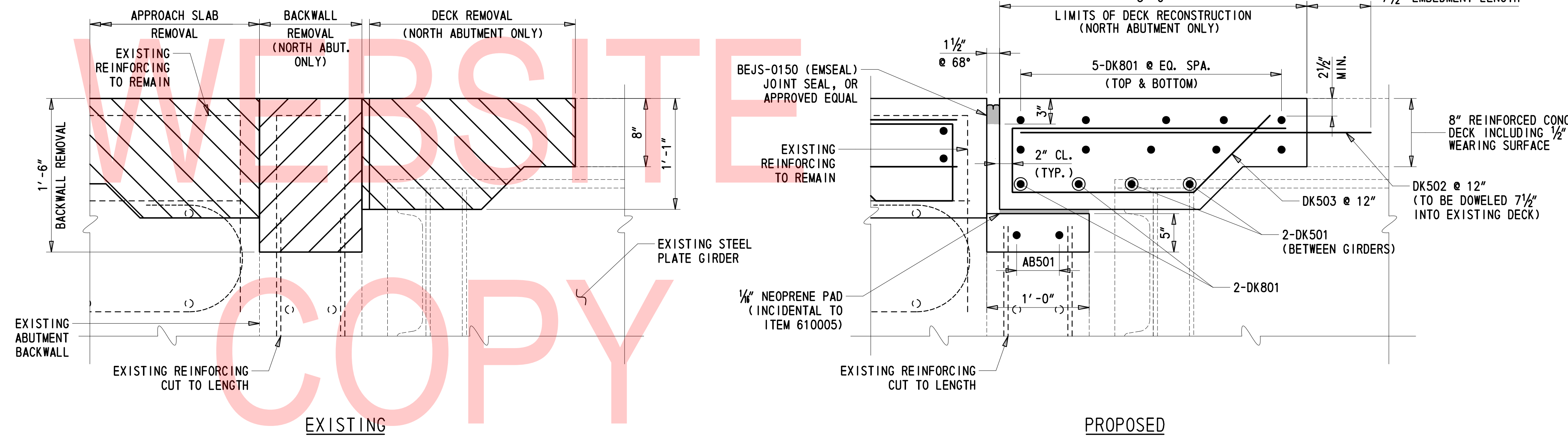
SECTION A-A  
3/4" = 1'-0"



EXISTING PROPOSED  
DETAIL A  
2" = 1'-0"



SHEAR KEY JOINT DETAIL  
1 1/2" = 1'-0"

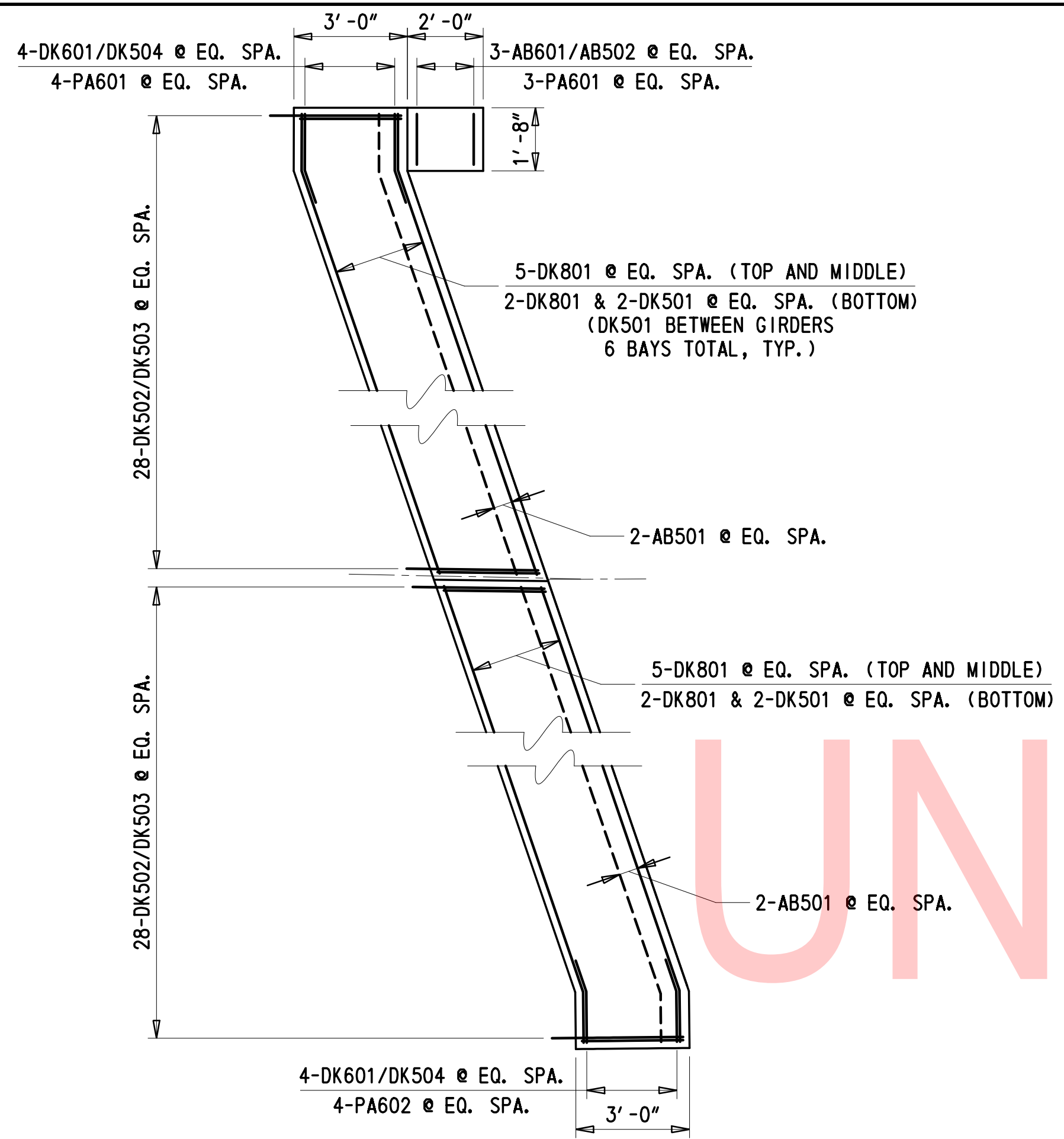


DETAIL B  
1 1/2" = 1'-0"

- NOTES:**
1. THE EMSEAL JOINT SEAL SHALL BE CAPABLE OF SEALING THE DECK TO PREVENT MOISTURE AND OTHER CONTAMINANTS FROM DESCENDING THROUGH THE JOINT.
  2. THE EMSEAL JOINT SEAL SYSTEM IS PAID FOR UNDER ITEM NO. 624502 - SILICONE COATED FOAM JOINT SEAL.
  3. BAR REINFORCEMENT WHICH IS DESIGNATED TO REMAIN AND BE INCORPORATED INTO BACKWALL HEADER AND BARRIER RECONSTRUCTION SHALL BE CLEANED BY GRIT BLASTING. GRIT BLASTING OF REINFORCEMENT IS CONSIDERED INCIDENTAL TO ITEM NO. 624502.

LOCATION	TEMPERATURE (°F)								MOVEMENT CLASSIFICATION
	0	20	40	60	68	80	100	120	
NORTH ABUTMENT	1.73	1.66	1.59	1.53	1.50	1.46	1.39	1.32	3"

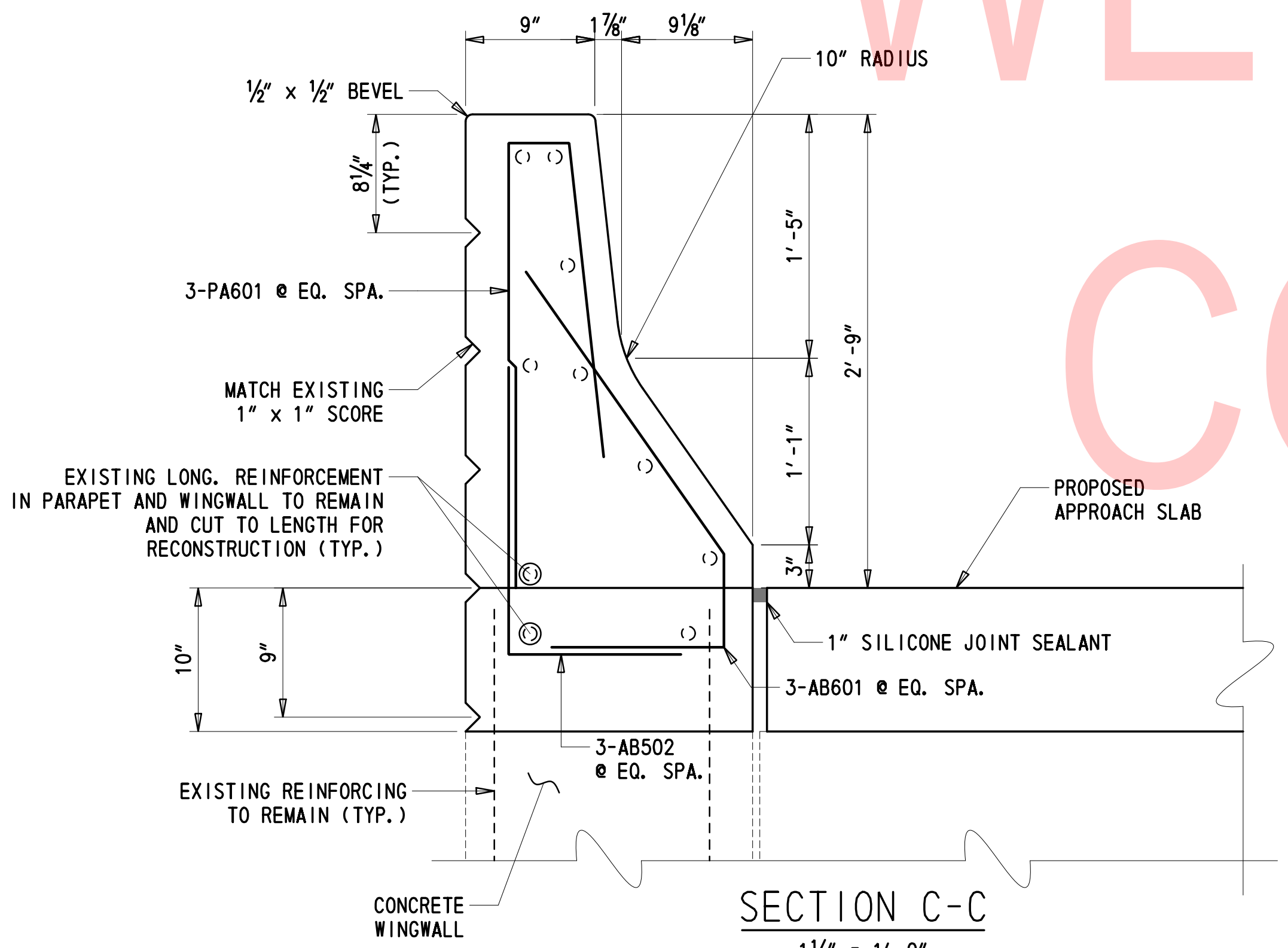
2/10/2020 T:\Dover\Projects\425025\600\_CADD\05\_Official\Plans\DT01\_BR1-812.dgn



BR 1-812 - NORTH ABUTMENT JOINT

DECK PLANS

1" = 3'-0"



SECTION C-C

1 1/2" = 1'-0"  
(PROPOSED REINFORCEMENT IN APPROACH SLAB NOT SHOWN FOR CLARITY)

EXISTING REINFORCING TO REMAIN FOR RECONSTRUCTION (TYP.)

1" DEEP SAWCUT EACH FACE, EXISTING LONGITUDINAL BARRIER REINFORCEMENT TO REMAIN (TYP.)

TOP OF EXISTING DECK

EXISTING BARRIER JOINT

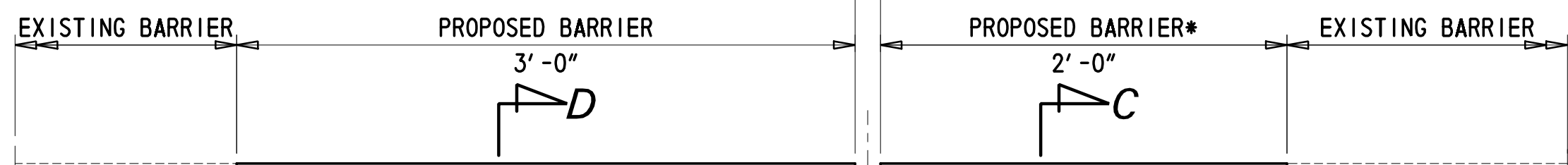
TOP OF PROPOSED DECK

CLASS D CONCRETE, ITEM 610017

CL JOINT

SECTION B-B

1 1/2" = 1'-0"  
(VERTICAL REINFORCEMENT NOT SHOWN FOR CLARITY)



CLASS A CONCRETE, ITEM 610008

1 1/2" OPENING @ 68°F (TYP.)

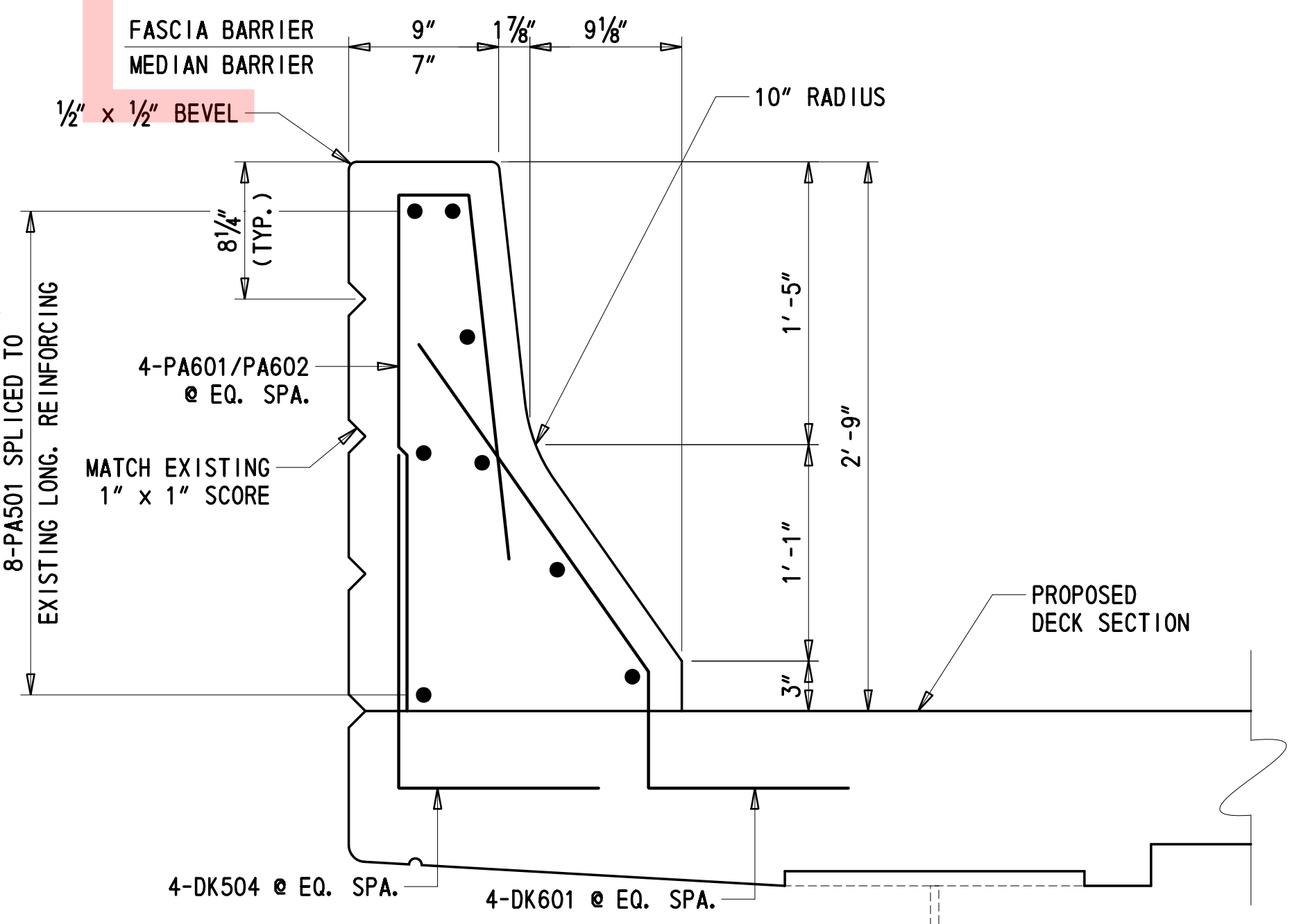
EMSEAL JOINT SEAL

TOP OF PROPOSED APPROACH SLAB

EXISTING LONGITUDINAL REINFORCEMENT IN PARAPET AND WINGWALL TO REMAIN AND CUT TO LENGTH FOR RECONSTRUCTION (TYP.)

CONCRETE WINGWALL

\* ONLY THE FASCIA APPROACH BARRIER TO BE RECONSTRUCTED. THE MEDIAN APPROACH BARRIER TO REMAIN.



SECTION D-D

1 1/2" = 1'-0"

ADDENDA / REVISIONS

SCALE AS NOTED

REHABILITATION OF BRIDGES  
1-810, 1-811, 1-812  
AND 1-813 ON I-495

CONTRACT	BRIDGE NO.	<b>BR 1-812</b>
T201707404	DESIGNED BY:	DT
COUNTY	CHECKED BY:	JWS
NEW CASTLE		

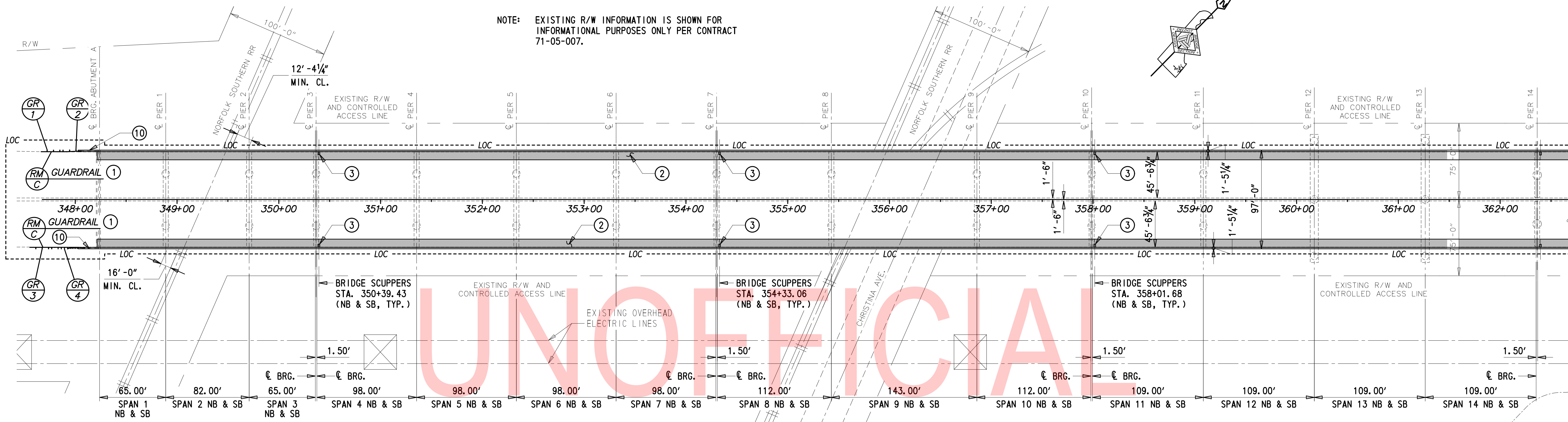
DECK PLAN AND  
BARRIER DETAILS

DT-02
SECTION
TY 5
SHEET NO.
21

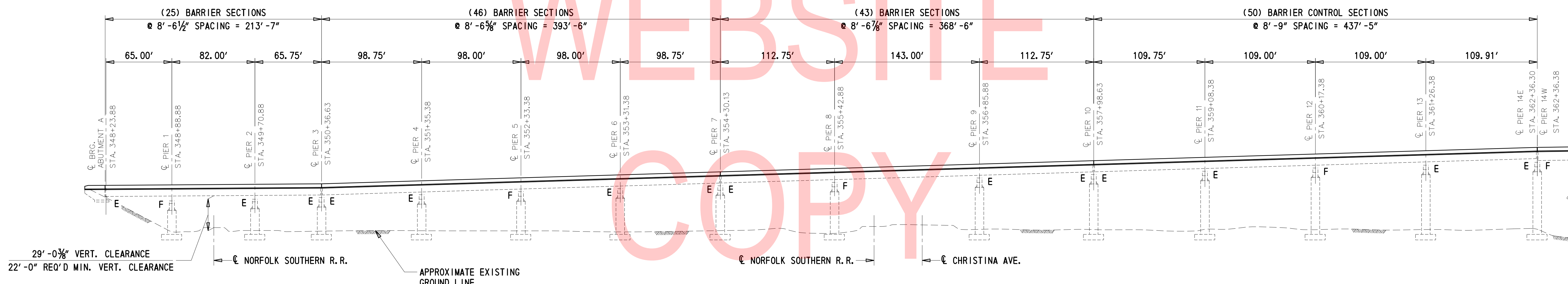
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NOTE: EXISTING R/W INFORMATION IS SHOWN FOR INFORMATIONAL PURPOSES ONLY PER CONTRACT 71-05-007.



PLAN - SPANS 1-13



ELEVATION

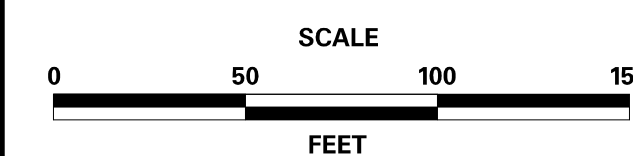
REPAIR LEGEND:

- ① - REPLACE GUARDRAIL-TO-BARRIER CONNECTIONS AND ADD GUARDRAIL TRANSITIONS.
- ② - REMOVE AND REPLACE THE NB AND SB DECK OVERHANG AND FASCIA BARRIER. APPLY SILANE-BASED CONCRETE SEALER TO THE BRIDGE DECK AND SILICONE ACRYLIC CONCRETE SEALER TO THE BARRIER.
- ③ - INSTALL BRIDGE SCUPPER AND DRAINAGE SYSTEM.
- ④ - REMOVE ACCESS HATCH AND RECONSTRUCT MEDIAN BARRIER.
- ⑤ - REPAIR CRACKS, SPALLS AND DELAMINATIONS TO THE PIER CAP AND COLUMN.
- ⑥ - APPLY EPOXY CONCRETE SEALER TO TOP OF PIER CAP AND 1'-0" DOWN FACE OF PIER CAP. APPLY SILICONE ACRYLIC CONCRETE SEALER TO SIDE AND UNDERSIDE OF PIER CAP.
- ⑦ - APPLY SILICONE ACRYLIC CONCRETE SEALER TO PIER COLUMN.
- ⑧ - STRENGTHEN PIER COLUMN WITH FIBER REINFORCED POLYMER (FRP) WRAP.
- ⑨ - SALVAGE AND REINSTALL NAVIGATION LIGHTING.
- ⑩ - DEMOLISH AND RECONSTRUCT TOP OF WINGWALL AND WINGWALL BARRIER.

GUARDRAIL SCHEDULE

NO.	ITEM DESCRIPTION / TYPE	BEGIN STA.	OFFSET	LENGTH
1	STEEL BEAM GUARDRAIL, TYPE 1-27 TO 1-31 TRANSITION	N/A	MATCH EXIST.	25.00'
2	GUARDRAIL TO BARRIER CONNECTION, EXIT, TYPE 1-31	N/A	-47.06'	14.23'
3	STEEL BEAM GUARDRAIL, TYPE 1-27 TO 1-31 TRANSITION	N/A	MATCH EXIST.	28.13'
4	GUARDRAIL TO BARRIER CONNECTION, APPROACH, TYPE 1-31	N/A	47.06'	19.75'

ADDENDA / REVISIONS

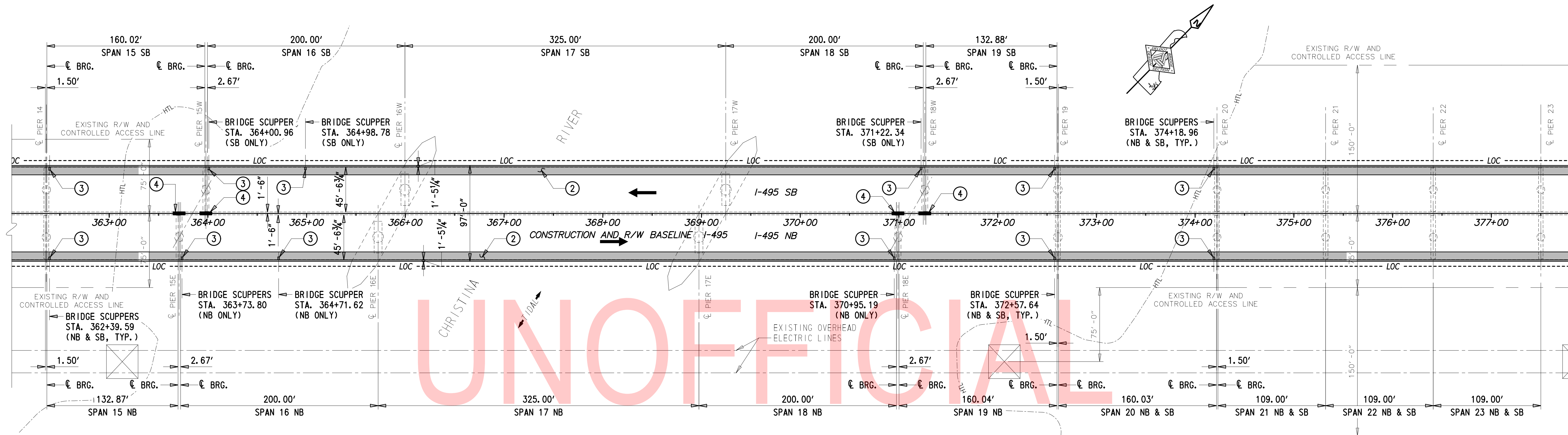


REHABILITATION OF BRIDGES  
1-810, 1-811, 1-812  
AND 1-813 ON I-495

CONTRACT T201707404	BRIDGE NO. <b>BR 1-813</b>
COUNTY NEW CASTLE	DESIGNED BY: JWS CHECKED BY: DJC

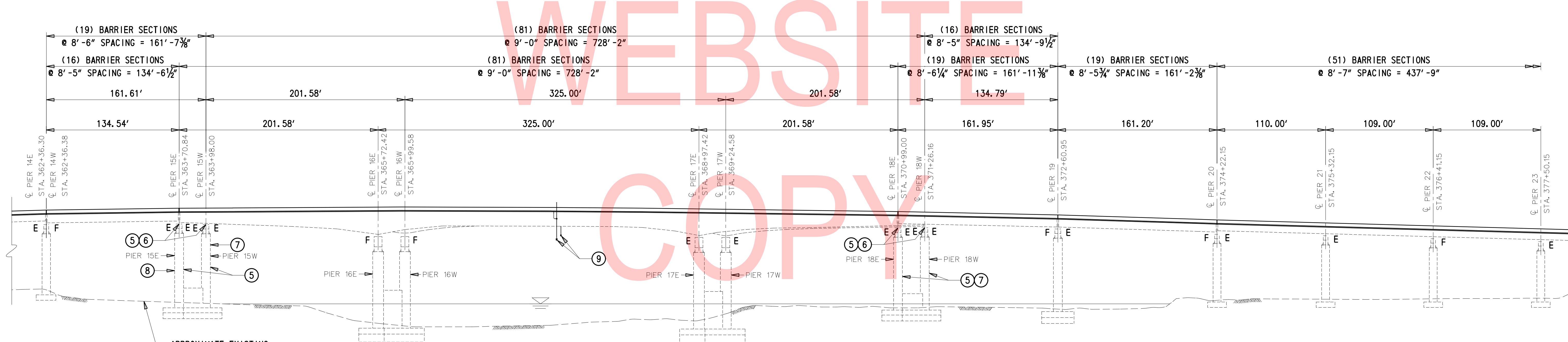
BRIDGE PLAN  
AND ELEVATION

PE-01  
SECTION  
TY  
SHEET NO.  
23



NOTE: EXISTING R/W INFORMATION IS SHOWN FOR INFORMATIONAL PURPOSES ONLY PER CONTRACT 71-05-007.

PLAN - SPANS 15-23

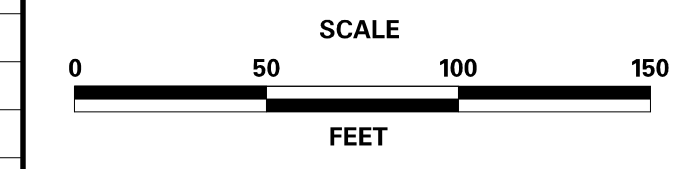


ELEVATION

REPAIR LEGEND:

- ① - REPLACE GUARDRAIL-TO-BARRIER CONNECTIONS AND ADD GUARDRAIL TRANSITIONS.
- ② - REMOVE AND REPLACE THE NB AND SB DECK OVERHANG AND FASCIA BARRIER. APPLY SILANE-BASED CONCRETE SEALER TO THE BRIDGE DECK AND SILICONE ACRYLIC CONCRETE SEALER TO THE BARRIER.
- ③ - INSTALL BRIDGE SCUPPER AND DRAINAGE SYSTEM.
- ④ - REMOVE ACCESS HATCH AND RECONSTRUCT MEDIAN BARRIER.
- ⑤ - REPAIR CRACKS, SPALLS AND DELAMINATIONS TO THE PIER CAP AND COLUMN.
- ⑥ - APPLY EPOXY CONCRETE SEALER TO TOP OF PIER CAP AND 1'-0" DOWN FACE OF PIER CAP. APPLY SILICONE ACRYLIC CONCRETE SEALER TO SIDE AND UNDERSIDE OF PIER CAP.
- ⑦ - APPLY SILICONE ACRYLIC CONCRETE SEALER TO PIER COLUMN.
- ⑧ - STRENGTHEN PIER COLUMN WITH FIBER REINFORCED POLYMER (FRP) WRAP.
- ⑨ - SALVAGE AND REINSTALL NAVIGATION LIGHTING.
- ⑩ - DEMOLISH AND RECONSTRUCT TOP OF WINGWALL AND WINGWALL BARRIER.

ADDENDA / REVISIONS



REHABILITATION OF BRIDGES  
1-810, 1-811, 1-812  
AND 1-813 ON I-495

CONTRACT T201707404	BRIDGE NO. BR 1-813
COUNTY NEW CASTLE	DESIGNED BY: JWS CHECKED BY: DJC

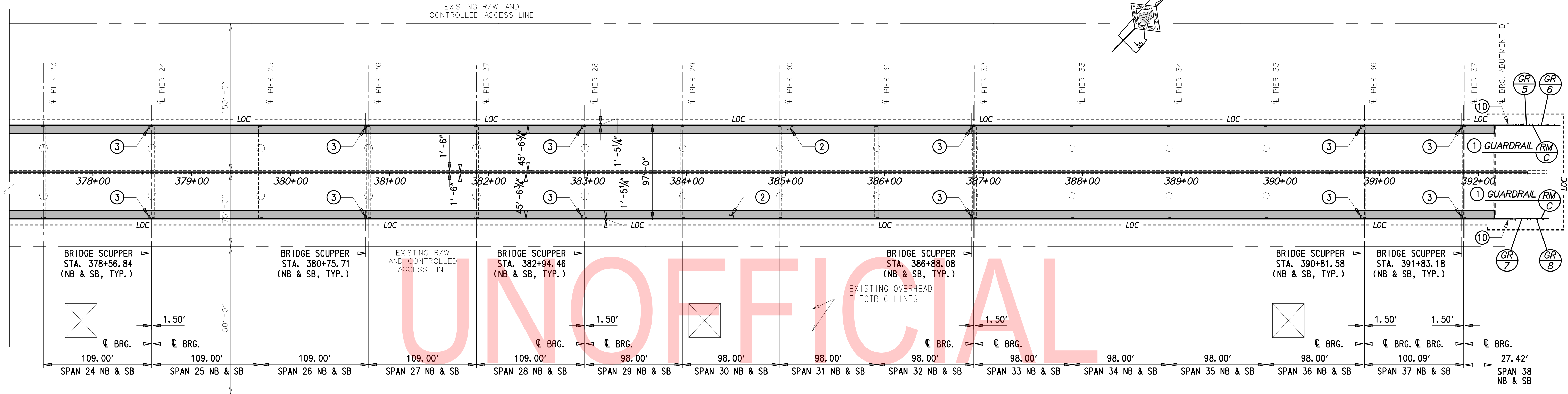
BRIDGE PLAN  
AND ELEVATION

PE-02
SECTION TY
SHEET NO. 24

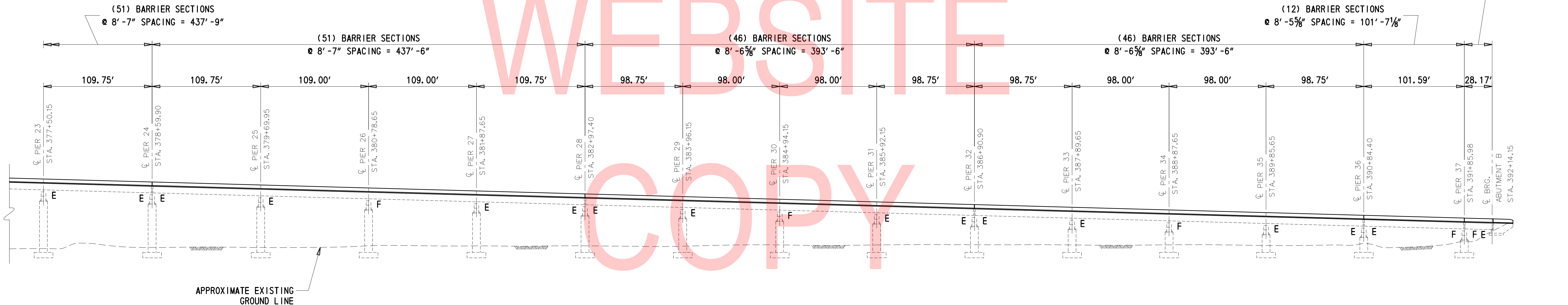
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NOTE: EXISTING R/W INFORMATION IS SHOWN FOR INFORMATIONAL PURPOSES ONLY PER CONTRACT 71-05-007.



PLAN - SPANS 24-38



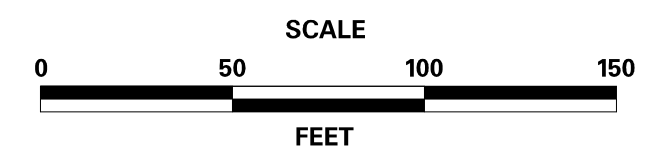
ELEVATION

REPAIR LEGEND:

- ① - REPLACE GUARDRAIL-TO-BARRIER CONNECTIONS AND ADD GUARDRAIL TRANSITIONS.
- ② - REMOVE AND REPLACE THE NB AND SB DECK OVERHANG AND FASCIA BARRIER. APPLY SILANE-BASED CONCRETE SEALER TO THE BRIDGE DECK AND SILICONE ACRYLIC CONCRETE SEALER TO THE BARRIER.
- ③ - INSTALL BRIDGE SCUPPER AND DRAINAGE SYSTEM.
- ④ - REMOVE ACCESS HATCH AND RECONSTRUCT MEDIAN BARRIER.
- ⑤ - REPAIR CRACKS, SPALLS AND DELAMINATIONS TO THE PIER CAP AND COLUMN.
- ⑥ - APPLY EPOXY CONCRETE SEALER TO TOP OF PIER CAP AND 1'-0" DOWN FACE OF PIER CAP. APPLY SILICONE ACRYLIC CONCRETE SEALER TO SIDE AND UNDERSIDE OF PIER CAP.
- ⑦ - APPLY SILICONE ACRYLIC CONCRETE SEALER TO PIER COLUMN.
- ⑧ - STRENGTHEN PIER COLUMN WITH FIBER REINFORCED POLYMER (FRP) WRAP.
- ⑨ - SALVAGE AND REINSTALL NAVIGATION LIGHTING.
- ⑩ - DEMOLISH AND RECONSTRUCT TOP OF WINGWALL AND WINGWALL BARRIER.

GUARDRAIL SCHEDULE				
NO.	ITEM DESCRIPTION / TYPE	BEGIN STA.	OFFSET	LENGTH
5	GUARDRAIL TO BARRIER CONNECTION, APPROACH, TYPE 1-31	N/A	-47.06'	19.75'
6	STEEL BEAM GUARDRAIL, TYPE 1-27 TO 1-31 TRANSITION	N/A	MATCH EXIST.	28.13'
7	GUARDRAIL TO BARRIER CONNECTION, EXIT, TYPE 1-31	N/A	47.06'	14.23'
8	STEEL BEAM GUARDRAIL, TYPE 1-27 TO 1-31 TRANSITION	N/A	MATCH EXIST.	25.00'

ADDENDA / REVISIONS



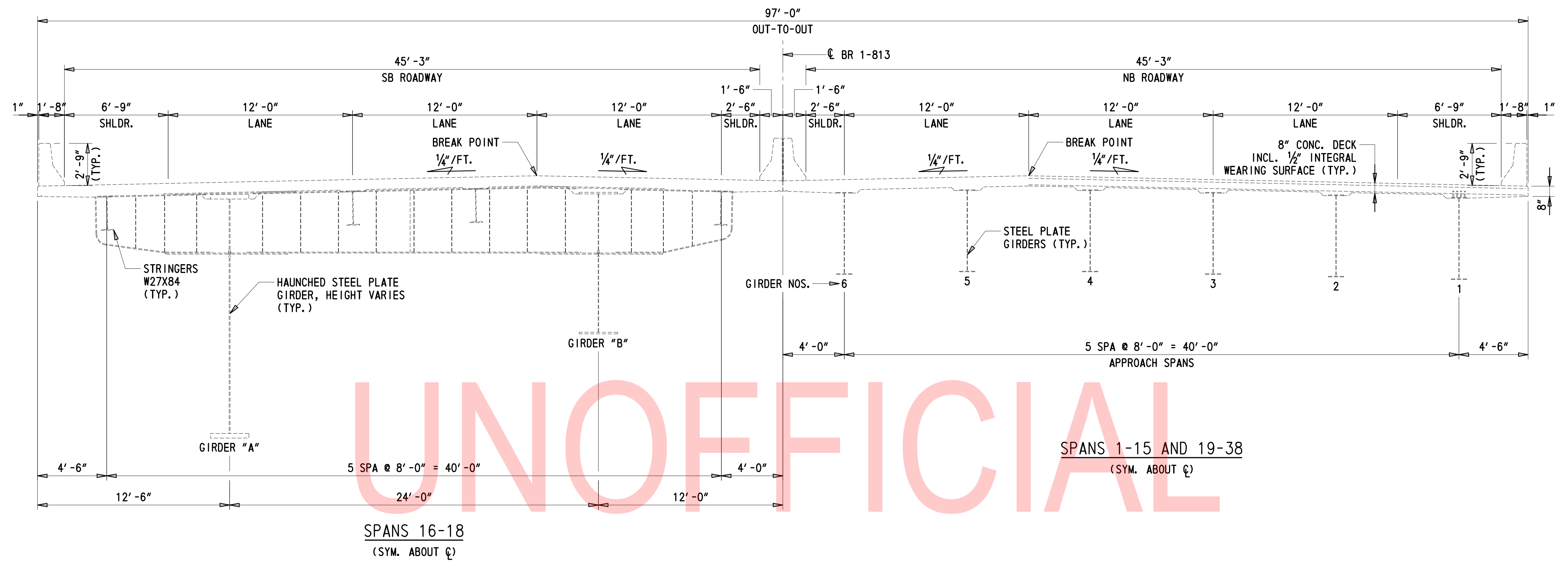
REHABILITATION OF BRIDGES  
1-810, 1-811, 1-812  
AND 1-813 ON I-495

CONTRACT T201707404	BRIDGE NO. BR 1-813
COUNTY NEW CASTLE	DESIGNED BY: JWS CHECKED BY: DJC

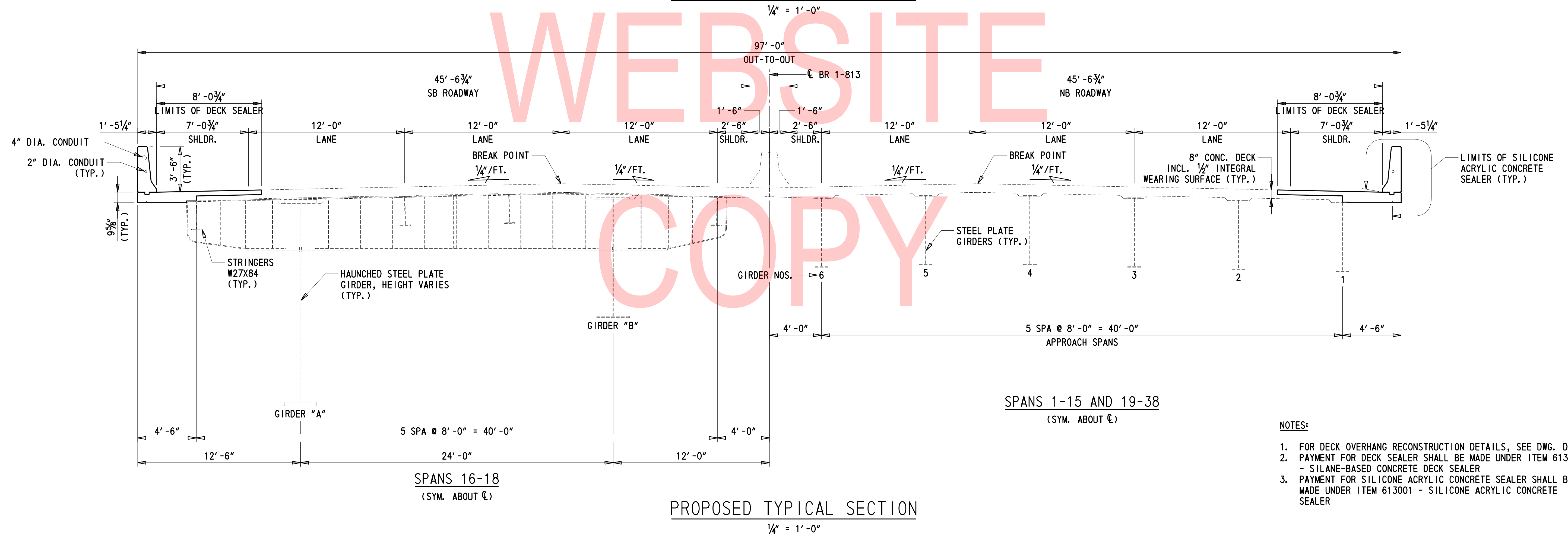
BRIDGE PLAN  
AND ELEVATION

PE-03
SECTION TY
SHEET NO. 25

2/10/2020 T:\Dover\Projects\425025\06\600\_CADD\05\_Official\Plans\PE03\_BR1-813.dgn



EXISTING TYPICAL SECTION



PROPOSED TYPICAL SECTION

NOTES:

1. FOR DECK OVERHANG RECONSTRUCTION DETAILS, SEE DWG. DK-01.
2. PAYMENT FOR DECK SEALER SHALL BE MADE UNDER ITEM 613002 - SILANE-BASED CONCRETE DECK SEALER
3. PAYMENT FOR SILICONE ACRYLIC CONCRETE SEALER SHALL BE MADE UNDER ITEM 613001 - SILICONE ACRYLIC CONCRETE SEALER

ADDENDA / REVISIONS

SCALE AS NOTED

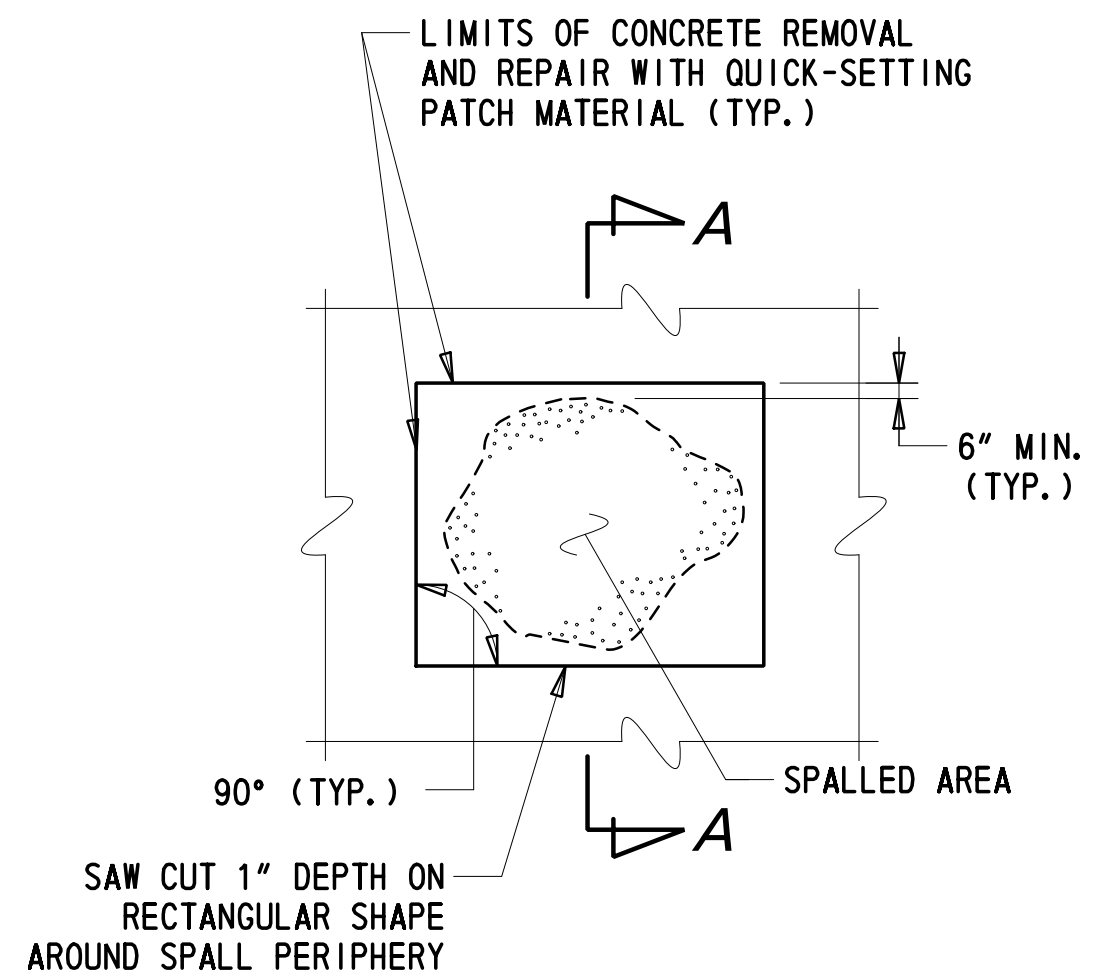
REHABILITATION OF BRIDGES  
1-810, 1-811, 1-812  
AND 1-813 ON I-495

CONTRACT  
T201707404  
COUNTY  
NEW CASTLE

BRIDGE NO. **BR 1-813**  
DESIGNED BY: RMB  
CHECKED BY: JWS

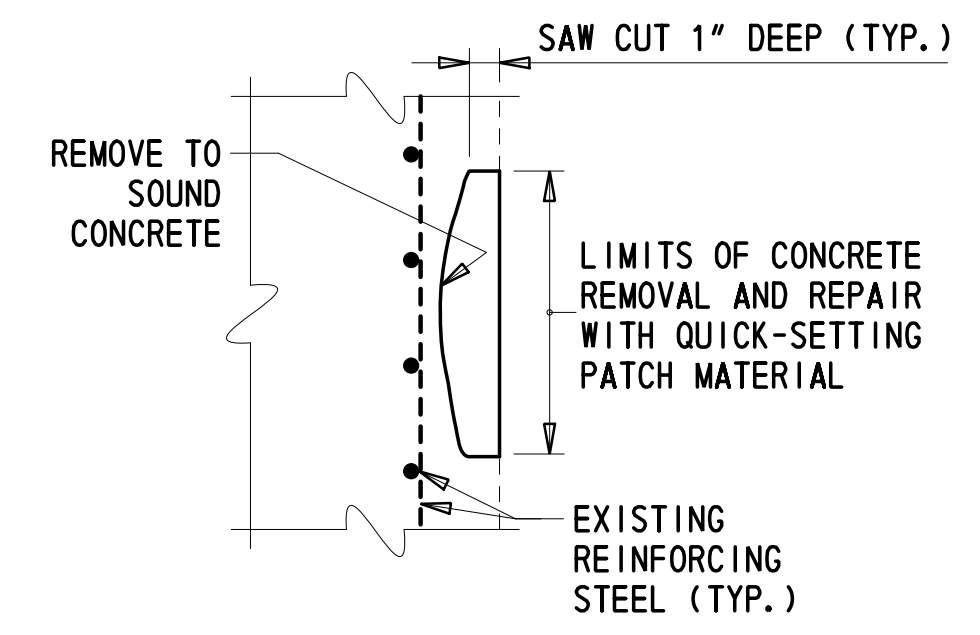
BRIDGE TYPICAL SECTIONS

TS-01  
SECTION  
TY  
SHEET NO.  
26

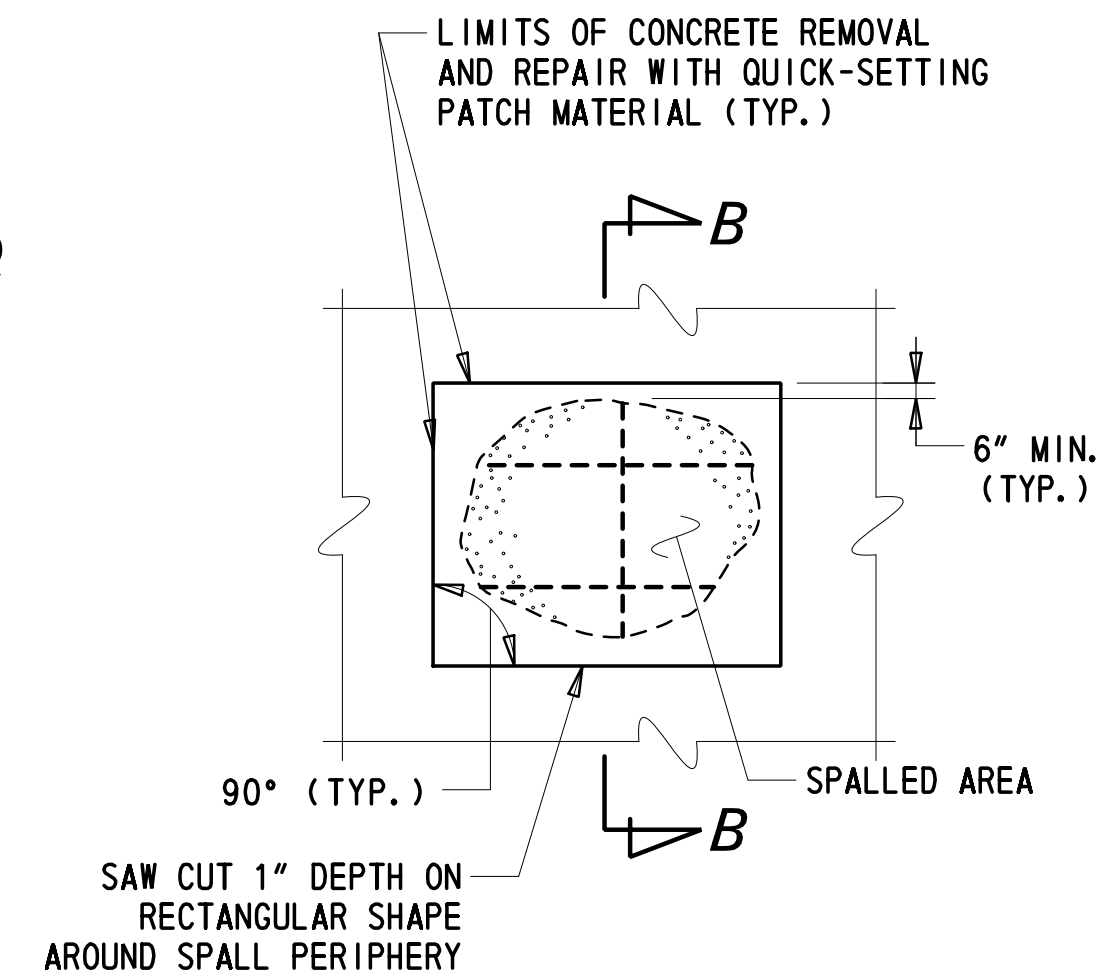


PLAN

SHALLOW SPALL REPAIR

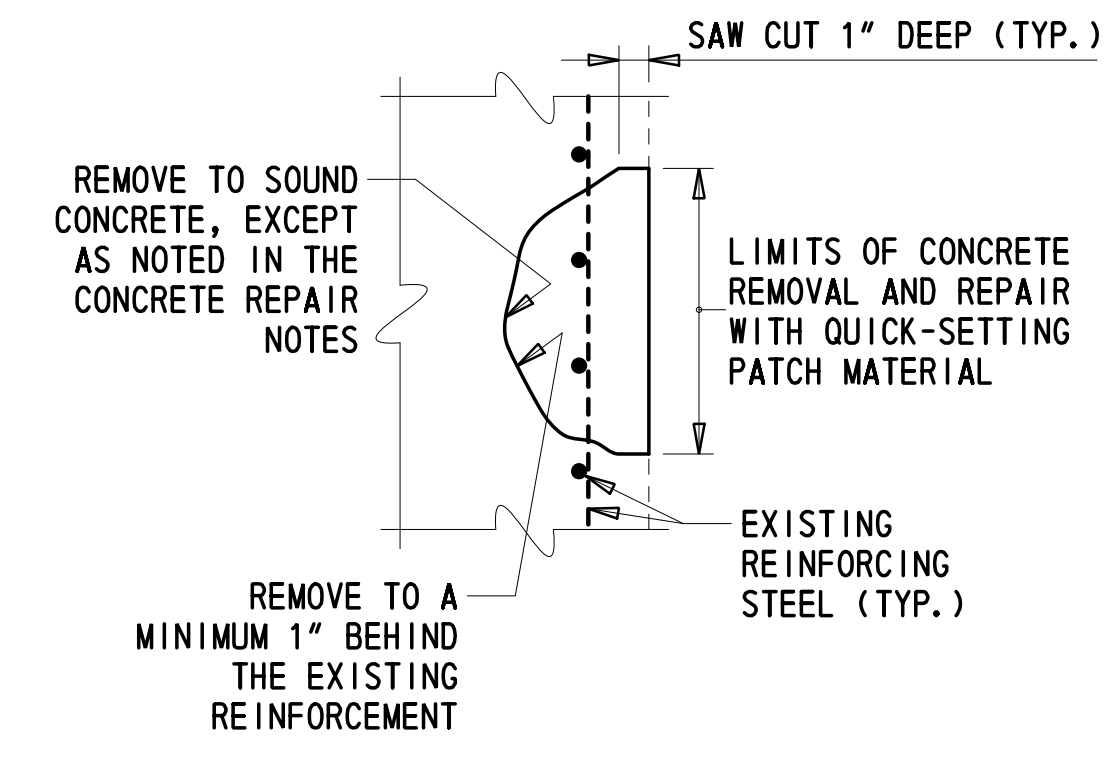


SECTION A-A

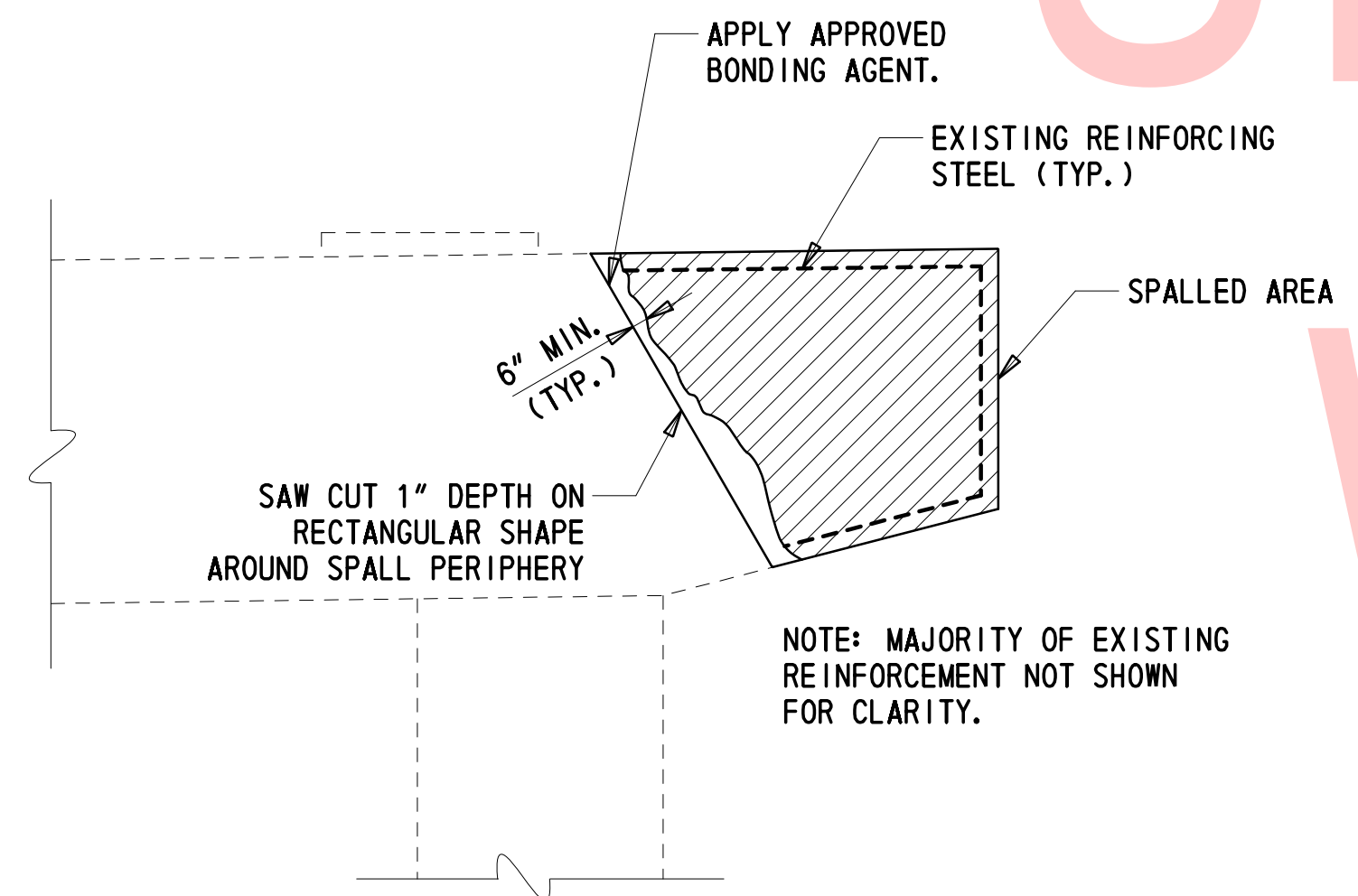


PLAN

DEEP SPALL REPAIR



SECTION B-B



REHABILITATION OF PCC MASONRY

NOTE: MAJORITY OF EXISTING REINFORCEMENT NOT SHOWN FOR CLARITY.

SUBSTRUCTURE PROTECTIVE COATINGS LIMITS

1. APPLY EPOXY CONCRETE SEALER TO THE TOPSIDE OF CAPBEAMS AND 1'-0" DOWN THE FACE OF CAPBEAMS ON PIERS 15W, 15E, 18W AND 18E. TO BE PAID FOR UNDER ITEM 613000.
2. APPLY SILICONE ACRYLIC CONCRETE SEALER TO THE SIDES AND BOTTOM OF CAPBEAMS ON PIERS 15W, 15E, 18W AND 18E. ALSO APPLY SILICONE ACRYLIC CONCRETE SEALER TO PIER COLUMNS 15W, 18W AND 18E DOWN TO THE PIER WALL. TO BE PAID FOR UNDER ITEM 613001.

GENERAL FRP NOTES

1. THE CONTRACTOR SHALL PROVIDE A CARBON FRP SYSTEM TO STRENGTHEN AND PROTECT PIER 15E IN ACCORDANCE WITH SPECIAL PROVISION 628504.
2. WORK SHALL NOT BEGIN UNTIL ALL SUBMITTALS REQUIRED IN SPECIAL PROVISION 628504 HAVE BEEN RECEIVED AND APPROVED BY THE ENGINEER.
3. ALL CONCRETE SURFACES SHALL BE REPAIRED AND CLEANED IN ACCORDANCE WITH SPECIAL PROVISION 628504 AND MANUFACTURER'S RECOMMENDATION.
4. UNLESS OTHERWISE SPECIFIED, FRP PLACEMENT CAN ONLY OCCUR WHEN CONCRETE TEMPERATURES ARE IN EXCESS OF 45 DEGREES F BUT NO NOT EXCEED 100 DEGREES F.
5. IF THE DESIGN REQUIRES THE FRP TO WRAP AROUND AN EDGE, THEN THE EDGE SHALL BE ROUNDED TO A MINIMUM 1" RADIUS.
6. A TECHNICAL REPRESENTATIVE FROM THE MANUFACTURER SHALL BE PRESENT DURING THE INITIAL INSTALLATION TO APPROVE WITH THE ENGINEER THE DEGREE OF PREPARATION AND APPLICATION OF THE FRP WRAP SYSTEM. THE REPRESENTATIVE SHALL REMAIN ON-SITE UNTIL THE ENGINEER DETERMINES THAT THE CONTRACTOR IS FAMILIAR WITH THE CORRECT INSTALLATION PROCEDURES.
7. AS A MINIMUM, A SINGLE PLY CARBON FRP SYSTEM WITH A MODULUS = 14,000 KSI SHALL BE USED WITH A MINIMUM PLY LAMINATE THICKNESS = 0.004"

SHALLOW SPALL REPAIR NOTES

1. SHALLOW SPALLS ARE DEFINED AS PATCHES THAT DO NOT EXTEND BELOW THE TOP MAT OF REBAR.
2. ALL WORK INVOLVING METHODS OF CONCRETE REMOVAL; CLEANING OF CONCRETE SURFACE; SURFACE PREPARATION; AND CONCRETE PLACEMENT SHALL BE PERFORMED IN ACCORDANCE WITH SUBSECTION 628.03(E) OF THE STANDARD SPECIFICATIONS. PAYMENT INCIDENTAL TO 628040 - SHALLOW SPALL REPAIR.
3. FOR ANY SHALLOW SPALL REPAIR TO TAKE PLACE WITHIN THE SPLASH ZONE OR UNDERWATER, THE CONTRACTOR SHALL SUBMIT A WORKING DRAWING FOR APPROVAL IN ACCORDANCE WITH SUBSECTION 628.03(E)(2).

DEEP SPALL REPAIR NOTES

1. DEEP SPALLS ARE DEFINED AS PATCHES THAT EXTEND BELOW THE TOP MAT OF REINFORCEMENT.
2. ALL WORK INVOLVING METHODS OF CONCRETE REMOVAL; CLEANING OF CONCRETE SURFACE AND EXISTING REINFORCEMENT; REPAIRING OR REPLACING DAMAGED REINFORCEMENT AS RESULT OF CONSTRUCTION ACTIVITIES OR SECTION LOSS; PRESENCE OF CONTRACTION OR EXPANSION JOINTS; SURFACE PREPARATION; AND CONCRETE PLACEMENT SHALL BE PERFORMED IN ACCORDANCE WITH SUBSECTION 628.03(E) OF THE STANDARD SPECIFICATIONS. PAYMENT INCIDENTAL TO 628041 - DEEP SPALL REPAIR.
3. FOR ANY DEEP SPALL REPAIR TO TAKE PLACE WITHIN THE SPLASH ZONE OR UNDERWATER, THE CONTRACTOR SHALL SUBMIT A WORKING DRAWING IN ACCORDANCE WITH SUBSECTION 628.03(E)(2).

REHABILITATION OF PCC MASONRY

1. REHABILITATION OF PCC MASONRY IS DEFINED AS DEEP SPALL PATCHES THAT EXCEED THE 0.5 C.Y. THRESHOLD IN A SINGLE AREA.
2. ALL WORK INVOLVING METHODS OF CONCRETE REMOVAL; CLEANING OF CONCRETE SURFACE AND EXISTING REINFORCEMENT; REPAIRING OR REPLACING DAMAGED REINFORCEMENT AS RESULT OF CONSTRUCTION ACTIVITIES OR SECTION LOSS; PRESENCE OF CONTRACTION OR EXPANSION JOINTS; SURFACE PREPARATION; AND CONCRETE PLACEMENT SHALL BE PERFORMED IN ACCORDANCE WITH SUBSECTION 628.03(E) OF THE STANDARD SPECIFICATIONS. PAYMENT INCIDENTAL TO 628042 - REHABILITATION OF PCC MASONRY.
3. FOR ANY WORK INCLUDED UNDER REHABILITATION OF PCC MASONRY TO TAKE PLACE WITHIN THE SPLASH ZONE OR UNDERWATER, THE CONTRACTOR SHALL SUBMIT A WORKING DRAWING IN ACCORDANCE WITH SUBSECTION 628.03(E)(2).

CONCRETE REPAIR NOTES

1. WHERE CRACKS AND SPALLS/DELAMINATIONS EXIST CONCURRENTLY, COMPLETE THE SPALLS REPAIR COMPLETELY REMOVING THE ASSOCIATED CRACK. IF THE CRACK EXTENDS LESS THAN 1'-0" BEYOND THE LIMITS OF THE SPALLS REPAIR, EXTEND THE LIMITS OF THE SPALLS REPAIR TO ENCOMPASS THE CRACK. IF THE CRACK EXTENDS DEEPER THAN THE LIMITS OF CONCRETE REMOVAL, THE CONTRACTOR SHALL REMOVE THE ADDITIONAL CONCRETE UNTIL THE CRACK IS FULLY REMOVED. IF THE DEPTH OF REMOVAL REACHES MORE THAN 6" FROM THE ORIGINAL FACE OF CONCRETE, ALL WORK ON THE REPAIR SHALL STOP AND THE ENGINEER SHALL BE NOTIFIED IMMEDIATELY. IF THE CRACK EXTENDS MORE THAN 1'-0" BEYOND THE LIMITS OF THE SPALLS REPAIR INTO SOUND CONCRETE THE CRACK SHALL BE REPAIRED BY EPOXY INJECTION BEYOND THE LIMITS OF THE SPALLS REPAIR AND PAID FOR UNDER ITEM 628001 - REPAIR OF CONCRETE STRUCTURES BY EPOXY INJECTION. PAYMENT FOR CRACK REMOVAL LOCATED WITHIN SPALLS REPAIR WILL BE CONSIDERED INCIDENTAL TO ITEM 628041 - DEEP SPALLS REPAIR.
2. CONCRETE REMOVALS ON THE COLUMNS SHALL EXTEND TO SOUND CONCRETE OR 6", WHICHEVER IS LESS. IN THE EVENT THAT SOUND CONCRETE IS NOT REACHED AFTER 6" OF REMOVAL, THE CONTRACTOR SHALL STOP REMOVALS IN THIS AREA AND INFORM THE ENGINEER.
3. THE CONCRETE REMOVALS SHALL NOT EXTEND MORE THAN ONE QUARTER OF THE COLUMN PERIMETER AT A TIME FOR THE ENTIRE HEIGHT OF THE COLUMN. AT NO TIME SHALL CONCRETE ON MORE THAN ONE QUARTER OF THE PERIMETER BE REMOVED. IF DETERIORATION EXTENDS MORE THAN ONE QUARTER OF THE COLUMN PERIMETER THEN THE REPAIRS SHALL BE STAGED, WITH STAGE 2 BEING PERFORMED AFTER STAGE 1 REPAIRS HAVE BEEN COMPLETED.
4. NO CONCRETE REMOVAL SHALL TAKE PLACE WITHIN 12" OF A NEWLY PLACED CONCRETE REPAIR. THEREFORE WHEN PLACING CONCRETE IN AN AREA WHERE FURTHER REMOVALS WILL TAKE PLACE, THE CONTRACTOR SHALL PLACE CONCRETE TO 12" OF THE FUTURE REMOVAL AREA.
5. THE VERTICAL LENGTH OF ANY REPAIR SHALL NOT EXCEED 15-FEET. IF A REPAIR AREA IS MORE THAN 15-FEET IN HEIGHT THEN THE CONTRACTOR SHALL STAGE THE REMOVALS.
6. CONCRETE REMOVALS ON THE CAPBEAMS SHALL EXTEND TO SOUND CONCRETE OR 2", WHICHEVER IS LESS. IN THE EVENT THAT SOUND CONCRETE IS NOT REACHED AFTER 2" OF REMOVAL, THE CONTRACTOR SHALL STOP REMOVALS IN THIS AREA AND INFORM THE ENGINEER.
7. THE EXTERIOR LANE ABOVE THE AREA WHERE CAPBEAM REPAIRS ARE BEING PERFORMED SHALL BE CLOSED TO TRAFFIC UNTIL THE REPAIRS ARE COMPLETED.

ADDENDA / REVISIONS

NOT TO SCALE

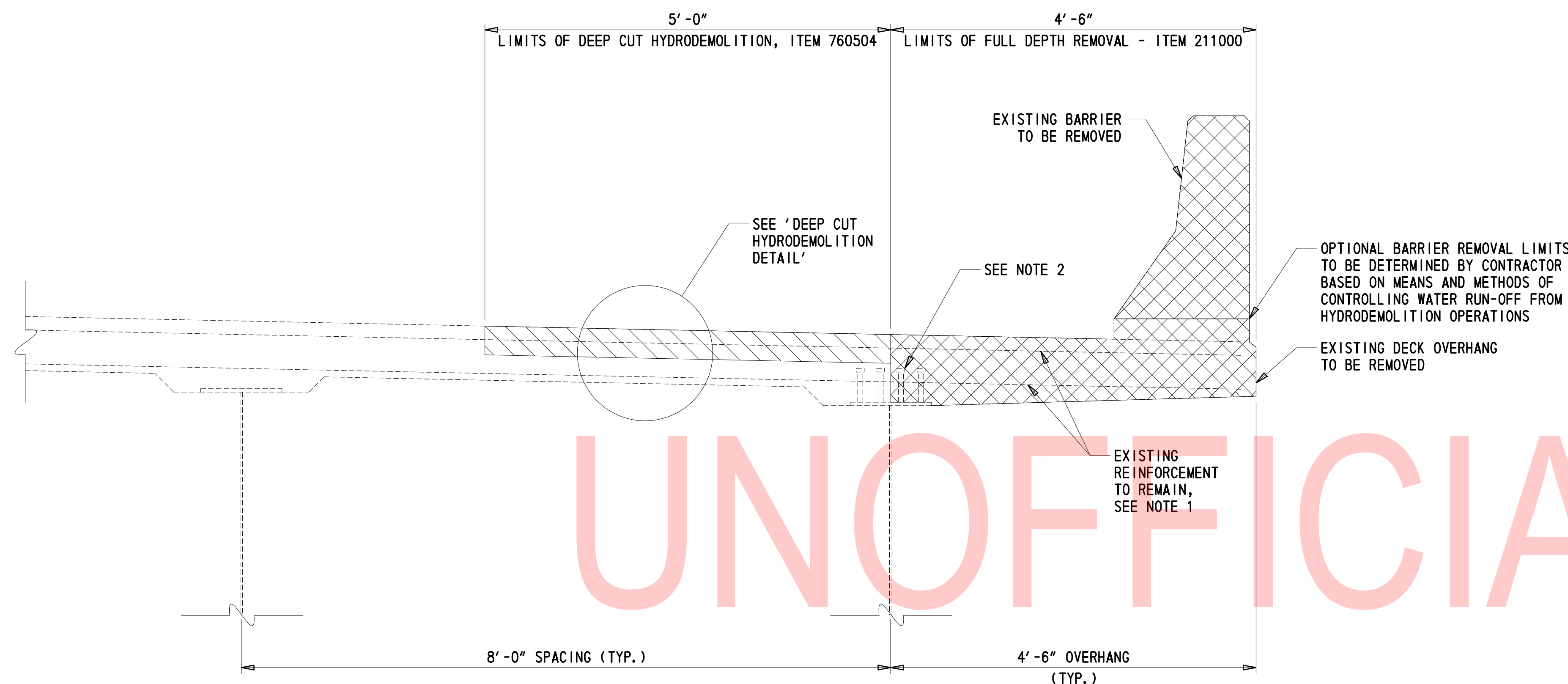
**REHABILITATION OF BRIDGES  
1-810, 1-811, 1-812  
AND 1-813 ON I-495**

CONTRACT	BRIDGE NO.	<b>BR 1-813</b>
T201707404	DESIGNED BY:	RMB
COUNTY	CHECKED BY:	JWS
NEW CASTLE		

**CONCRETE REPAIR DETAILS**

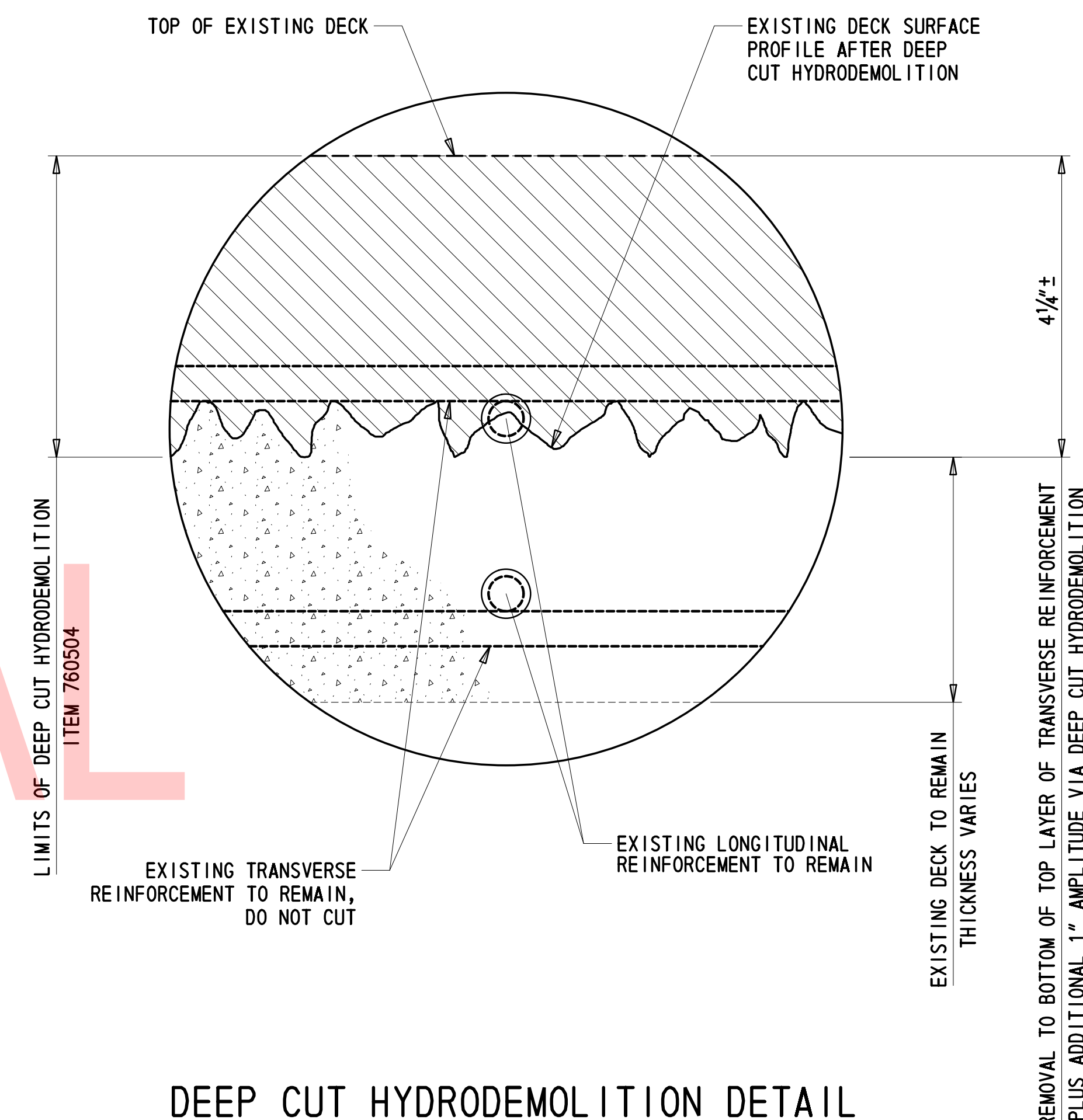
DT-01
SECTION
TY
SHEET NO.
27

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**TYPICAL LIMITS OF DEMOLITION**

1" = 1'-0"  
 (SPANS 1-15 AND 19-38 SHOWN, SPANS 16-18 SIMILAR)  
 (NORTHBOUND BRIDGE SHOWN, SOUTHBOUND BRIDGE SIMILAR)



**DEEP CUT HYDRODEMOLITION DETAIL**

NOT TO SCALE

**SUGGESTED SEQUENCE OF CONSTRUCTION:**

THIS SEQUENCE OF CONSTRUCTION REPRESENTS THE GENERAL ORDER OF OPERATIONS TO RECONSTRUCT THE FASCIA BARRIER AND OVERHANG. IT IS NOT INTENDED TO REPRESENT ALL ACTIVITIES NECESSARY TO COMPLETE THE WORK AS SPECIFIED. THE CONTRACTOR MAY ALTER THIS SUGGESTED SEQUENCE AND THE REMOVAL AND RECONSTRUCTION LIMITS SUBJECT TO PRIOR APPROVAL BY THE ENGINEER.

1. INSTALL TEMPORARY WORKS INCLUDING PROTECTIVE SHIELDS AS NECESSARY TO PROTECT THE WORK ZONE AND AREAS UNDER AND ADJACENT TO CONSTRUCTION.
2. REMOVE EXISTING FASCIA BARRIER TO THE LIMITS SHOWN.
3. PERFORM DEEP CUT HYDRODEMOLITION TO THE LIMITS SHOWN.
4. REMOVE THE EXISTING OVERHANG TO THE LIMITS SHOWN.
5. RECONSTRUCT THE DECK OVERHANG. SEE DWG. DK-01 FOR DETAILS.
6. CONSTRUCT THE NEW 42" F-SHAPE BARRIER. SEE DWG. PA-01 FOR DETAILS.

**DEMOLITION NOTES:**

1. EXISTING TOP AND BOTTOM TRANSVERSE REINFORCEMENT BARS TO REMAIN SHALL BE INTEGRATED INTO NEW OVERHANG. DEEP CUT HYDRODEMOLITION SHALL BE PERFORMED TO THE DEPTH SHOWN IN THE 'DEEP CUT HYDRODEMOLITION DETAIL' SHOWN ON THIS SHEET. NEW OVERHANG BARS WILL BE LAPPED WITH TOP BARS. SEE DWG. DK-01 FOR ADDITIONAL DETAILS.

EXISTING BARS TO REMAIN SHALL BE CLEANED IN ACCORDANCE WITH SECTION 628.03(E)(7). BARS WITH CORROSION, BROKEN, OR WITH INADEQUATE BOND SHALL BE REPAIRED IN ACCORDANCE WITH SECTION 628.03(E)(7). PAYMENT FOR THIS WORK SHALL BE INCIDENTAL TO ITEM 611001 - BAR REINFORCEMENT, EPOXY COATED.

ALL EXISTING LONGITUDINAL REINFORCEMENT WITHIN THE LIMITS OF FULL DEPTH REMOVAL SHALL BE REMOVED AND REPLACED. EXISTING LONGITUDINAL REINFORCEMENT NOT SHOWN FOR CLARITY. SEE DWG. DK-01 FOR ADDITIONAL DETAILS.

2. EXISTING SHEAR STUD CONNECTORS ON TOP FLANGE OF FASCIA GIRDERS SHALL REMAIN IN PLACE FOLLOWING FULL DEPTH REMOVAL OF THE OVERHANG. EXISTING STUD SHEAR CONNECTORS SHALL BE CLEANED OF ALL LOOSE CONCRETE, DEBRIS, OIL, ETC. PAYMENT FOR CLEANING EXISTING STUD SHEAR CONNECTORS SHALL BE INCIDENTAL TO ITEM 211000. EXISTING STUD SHEAR CONNECTORS DAMAGED DURING REMOVAL OPERATIONS SHALL BE REPLACED IN-KIND AT THE CONTRACTOR'S EXPENSE. CONTRACTOR MAY CHOOSE TO REMOVE AND REPLACE IN-KIND ALL SHEAR CONNECTORS ON FASCIA GIRDERS AT NO ADDITIONAL COST TO THE DEPARTMENT.

3. CARE SHALL BE TAKEN NOT TO DAMAGE EXISTING EXPANSION AND FINGER JOINTS, INCLUDING ALL ARMORING ASSOCIATED WITH JOINTS, DURING REMOVAL OPERATIONS. STEEL ARMORING SHALL BE CLEANED OF ALL LOOSE CONCRETE, DEBRIS, OIL, ETC. PAYMENT FOR CLEANING EXISTING JOINTS SHALL BE INCIDENTAL TO ITEM 211000. JOINTS DAMAGED DURING REMOVAL OPERATIONS SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.

4. VEHICLES AND EQUIPMENT SHALL NOT BE PERMITTED ON AREAS OF THE DECK THAT HAVE RECEIVED DEEP CUT HYDRODEMOLITION.

**LEGEND:**

- LIMITS OF REMOVAL, DEEP CUT HYDRODEMOLITION (ITEM 760504)
- LIMITS OF REMOVAL (ITEM 211000)

ADDENDA / REVISIONS

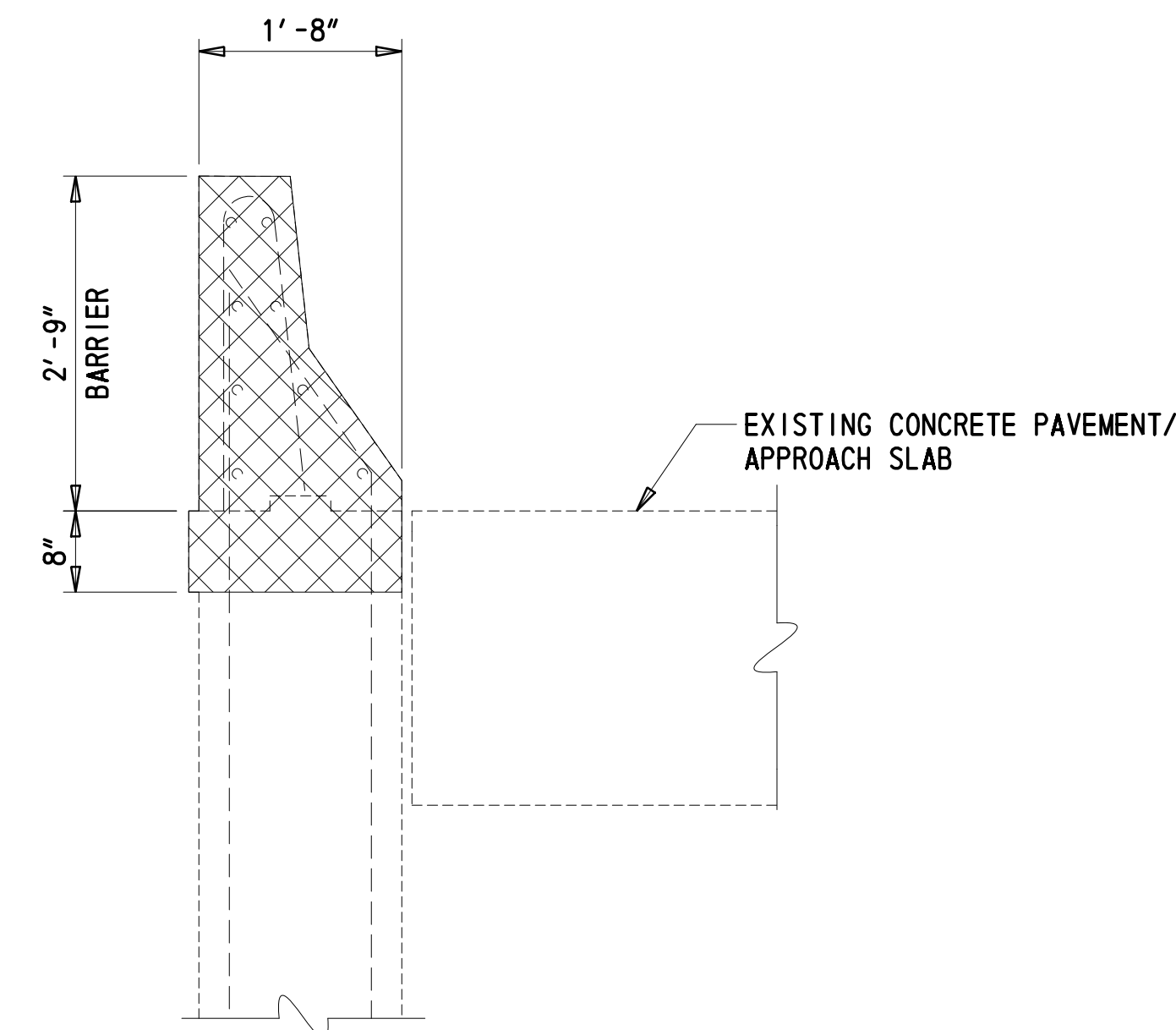
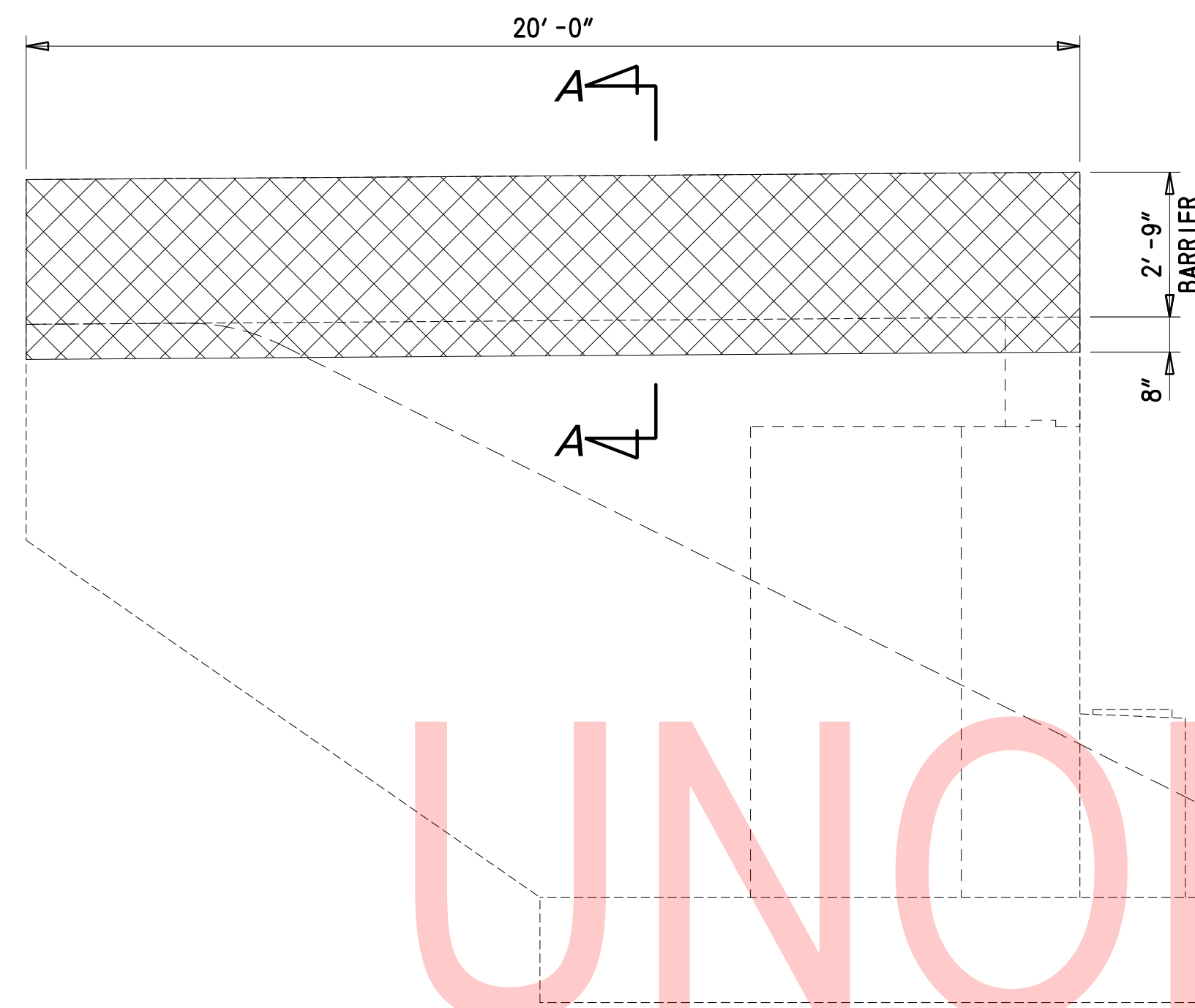
SCALE AS NOTED

**REHABILITATION OF BRIDGES**  
 1-810, 1-811, 1-812  
 AND 1-813 ON I-495

CONTRACT	BRIDGE NO.	<b>BR 1-813</b>
T201707404	DESIGNED BY:	RMB
COUNTY	CHECKED BY:	JWS
NEW CASTLE		

**SUPERSTRUCTURE**  
**DEMOLITION DETAILS**

SR-01
SECTION
TY
SHEET NO.
28



**SECTION A-A**  
 $\frac{3}{4}'' = 1'-0''$

**TYPICAL WINGWALL ELEVATION**  
 $\frac{3}{8}'' = 1'-0''$

UNOFFICIAL  
 WEBSITE  
 COPY

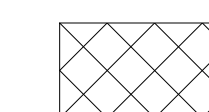
**CROSS REFERENCE NOTES:**

- FOR WINGWALL RECONSTRUCTION DETAILS, SEE DWG. WW-01.

**NOTES:**

- WINGWALL LIMITS OF REMOVAL SHOWN ON THIS SHEET APPLY TO ALL FOUR WINGWALLS ON BR 1-813.
- CLEAN ANY EXPOSED REINFORCEMENT IN ACCORDANCE WITH SECTION 628.03(E)(7). PAYMENT SHALL BE INCIDENTAL TO ITEM 610005.
- DO NOT DAMAGE EXISTING CONCRETE PAVEMENT OR APPROACH SLAB. ANY DAMAGE TO THE CONCRETE PAVEMENT OR APPROACH SLAB SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.

**LEGEND:**



LIMITS OF REMOVAL (ITEM 211000)

ADDENDA / REVISIONS

SCALE AS NOTED

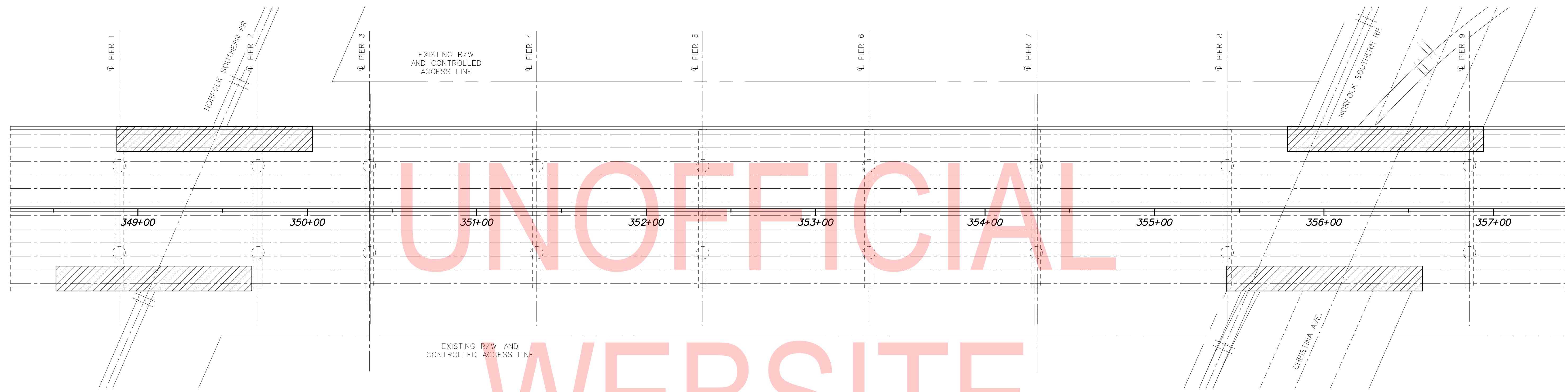
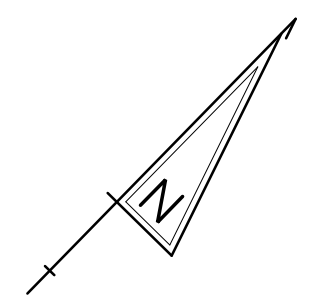
**REHABILITATION OF BRIDGES**  
 1-810, 1-811, 1-812  
 AND 1-813 ON I-495

CONTRACT  
 T201707404  
 COUNTY  
 NEW CASTLE

BRIDGE NO. **BR 1-813**  
 DESIGNED BY: RMB  
 CHECKED BY: JWS

**WINGWALL DEMOLITION  
 DETAILS**

SR-02  
 SECTION  
 TY  
 SHEET NO.  
 29



UNOFFICIAL

WEBSITE

RAILROAD PROTECTIVE SHIELD PLAN

1" = 30'

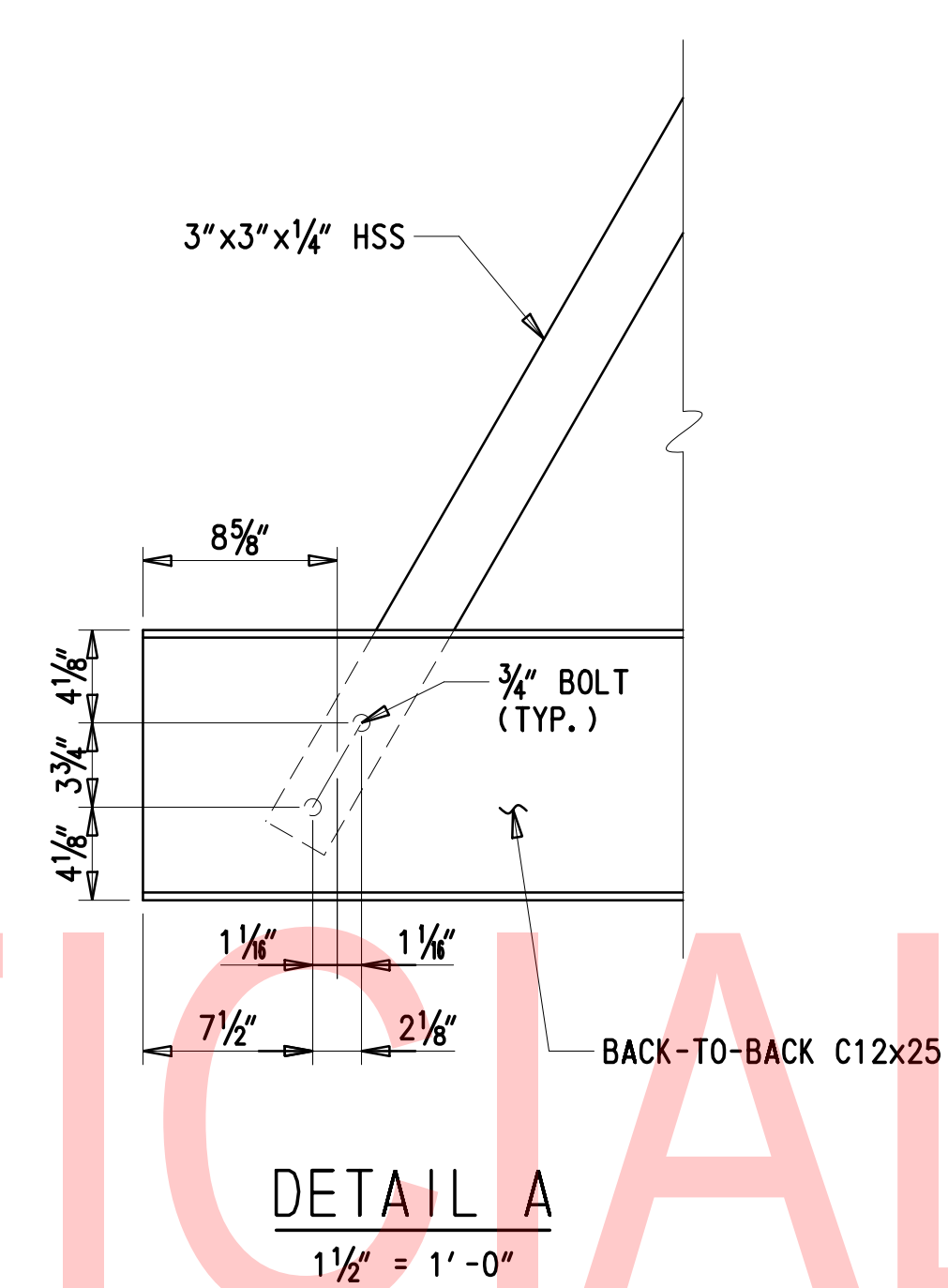
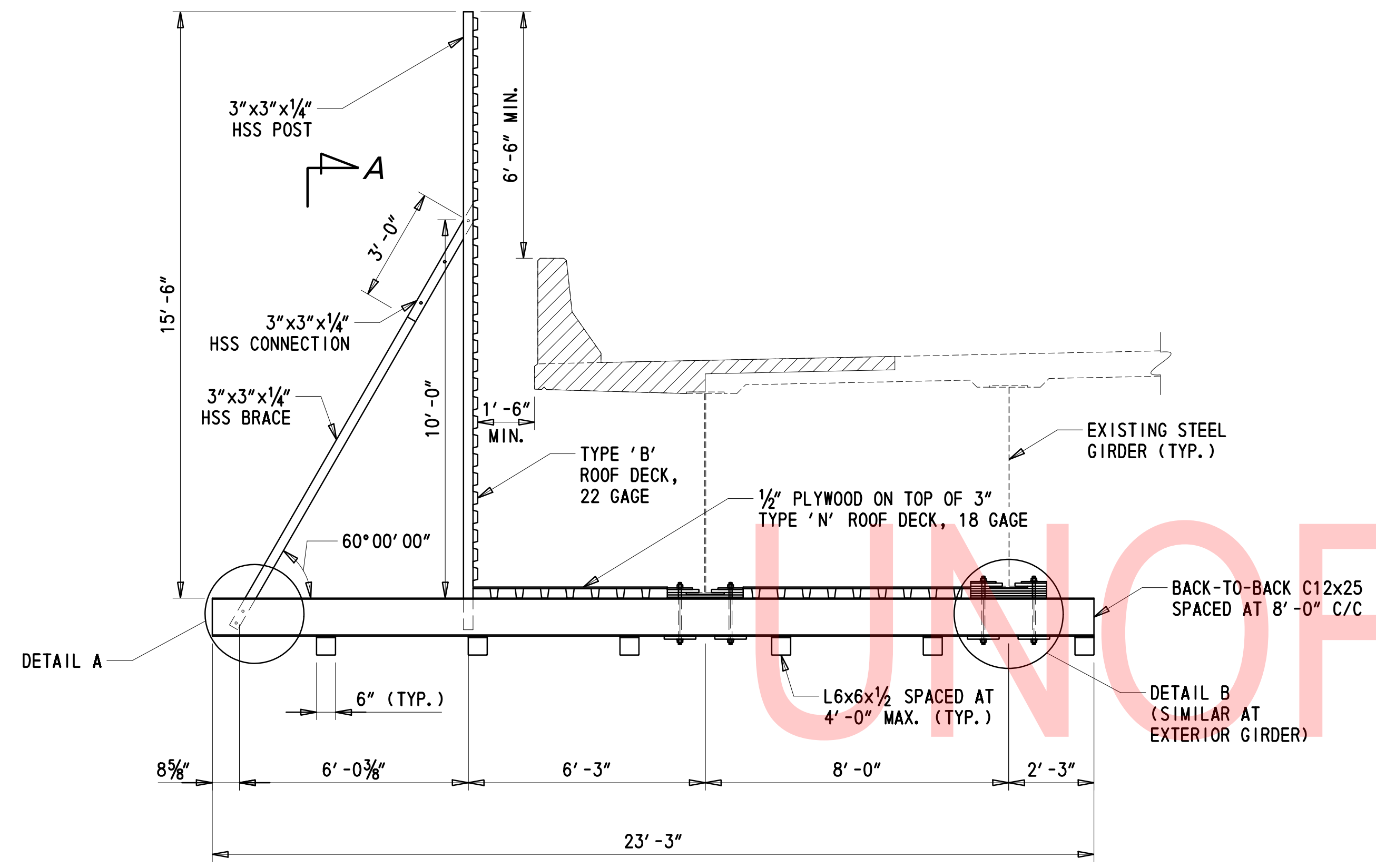
PROTECTIVE SHIELD NOTES:

1. HATCHED AREAS INDICATE PROTECTIVE SHIELDING WITHIN THE RAILROAD RIGHT-OF-WAY AND OVER CHRISTINA AVENUE. THE REGION OF PROTECTIVE SHIELDING OVER THE RAILROAD WILL REQUIRE COORDINATION AND APPROVAL FROM THE RAILROAD OWNER.
2. CONTRACTOR SHALL BE RESPONSIBLE FOR THE DESIGN OF THE PROTECTIVE SHIELD AND SUPPORT SYSTEM AND SHALL PROVIDE A COMPLETE SET OF DRAWINGS AND DESIGN CALCULATIONS TO THE ENGINEER FOR REVIEW AND APPROVAL, WHICH ARE SIGNED AND SEALED BY A PROFESSIONAL ENGINEER LICENSED IN THE STATE OF DELAWARE. TEMPORARY PROTECTIVE SHIELD SHALL BE DESIGNED IN ACCORDANCE WITH SECTION 604.
3. A MINIMUM VERTICAL CLEARANCE OF 22'-0" ABOVE TOP OF HIGH RAIL OF THE NORFOLK SOUTHERN TRACK SHALL BE MAINTAINED AT ALL TIMES.
4. A SUGGESTED TEMPORARY PROTECTIVE SHIELD IS PROVIDED ON DWG. SR-04. DIMENSIONS SHALL BE ADJUSTED FOR PROTECTIVE SHIELD OVER RAILROAD TO MEET RAILROAD REQUIREMENTS.
5. EXTEND TEMPORARY PROTECTIVE SHIELD A MINIMUM OF 5' BEYOND THE EDGE OF DECK, MEASURED PARALLEL TO SUPPORT.
6. CONNECTING TEMPORARY SHIELD TO EXISTING STRINGERS, GIRDERS, COLUMNS, ETC. BY WELDING AND/OR DRILLING HOLES FOR BOLTS IS NOT ALLOWED.
7. STRUCTURAL STEEL INCLUDING SHIMS SHALL CONFORM TO ASTM A 709 GRADE 50.
8. TIMBER SHALL BE SOUTHERN YELLOW PINE NO. 2 OR APPROVED EQUAL.
9. ROOF DECKING SHALL BE FROM THE FOLLOWING MANUFACTURER'S OR APPROVED EQUAL:
  - A. DACS INC.
  - B. ASC STEEL ROOF DECK
  - C. VERO DECKING INC.
10. METAL SCREWS SHALL BE FROM FOLLOWING MANUFACTURER'S OR APPROVED EQUAL:
  - A. SIMPSON STRONG-TIE
  - B. HILTI INC.
  - C. ITW BUILDEX
11. ALL BOLTS SHALL CONFORM TO ASTM A325.
12. ALL WASHERS SHALL CONFORM TO ASTM F436.
13. ALL PLATES SHALL CONFORM TO ASTM A709.
14. ALL NUTS SHALL CONFORM TO ASTM A563.
15. ALL THREADED RODS SHALL CONFORM TO ASTM A307.

COPY

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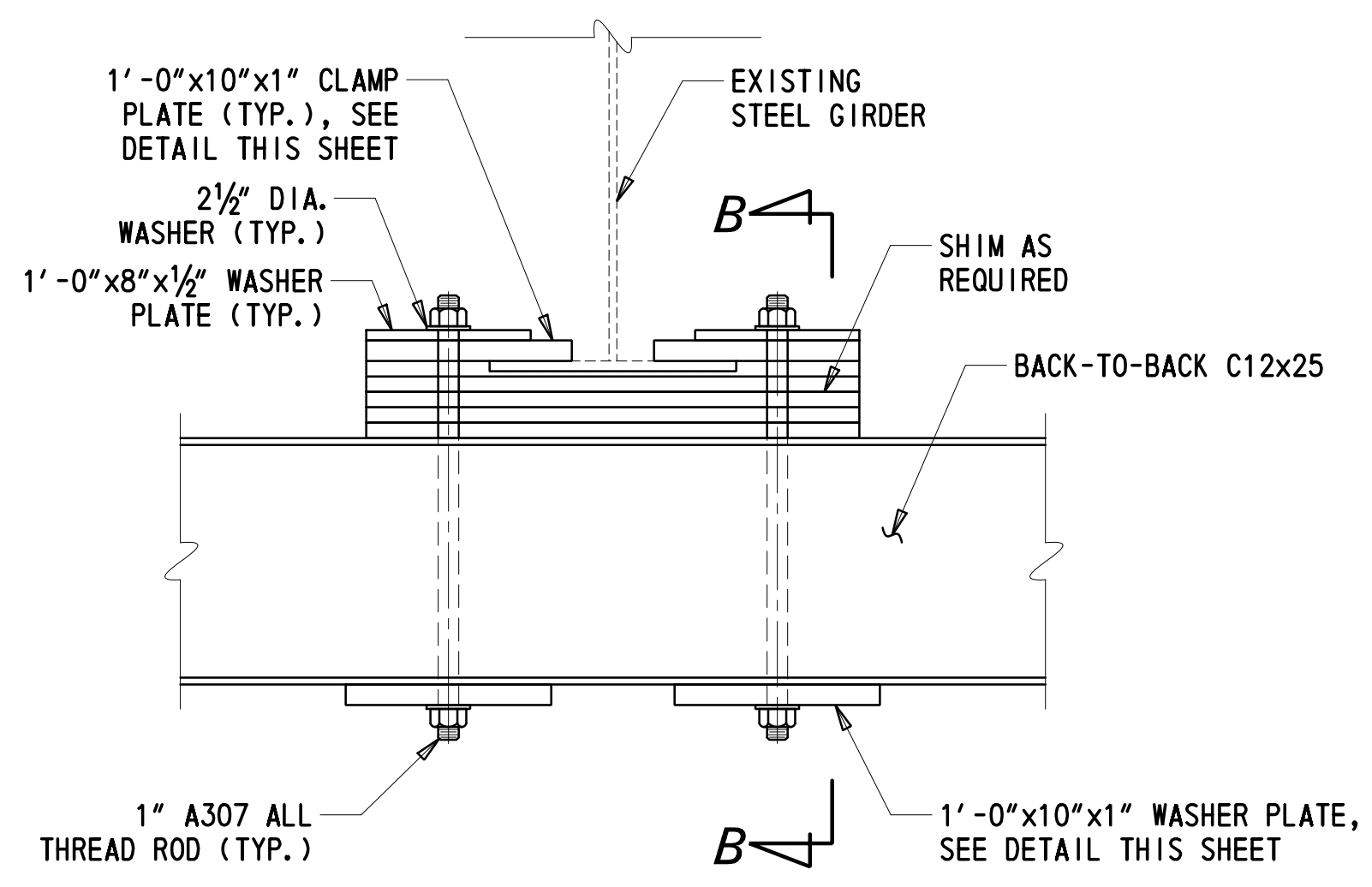
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th style="text-align: left;">ADDENDA / REVISIONS</th> </tr> <tr> <td style="height: 20px;"> </td> </tr> <tr> <td style="height: 20px;"> </td> </tr> <tr> <td style="height: 20px;"> </td> </tr> </table>	ADDENDA / REVISIONS				<p>SCALE</p> <p>FEET</p>	<p><b>REHABILITATION OF BRIDGES</b>  <b>1-810, 1-811, 1-812</b>  <b>AND 1-813 ON I-495</b></p>	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="font-size: small;">CONTRACT</td> <td style="font-size: small;">BRIDGE NO.</td> <td style="text-align: center;"><b>BR 1-813</b></td> </tr> <tr> <td style="font-size: small;">T201707404</td> <td style="font-size: small;">DESIGNED BY:</td> <td>JWS</td> </tr> <tr> <td style="font-size: small;">COUNTY</td> <td style="font-size: small;">CHECKED BY:</td> <td>DJC</td> </tr> <tr> <td style="font-size: small;">NEW CASTLE</td> <td colspan="2"></td> </tr> </table>	CONTRACT	BRIDGE NO.	<b>BR 1-813</b>	T201707404	DESIGNED BY:	JWS	COUNTY	CHECKED BY:	DJC	NEW CASTLE			<p><b>PROTECTIVE SHIELD</b>  <b>DETAILS - 1</b></p>	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="text-align: center;">SR-03</td> </tr> <tr> <td style="text-align: center;">SECTION</td> </tr> <tr> <td style="text-align: center;">TY</td> </tr> <tr> <td style="text-align: center;">SHEET NO.</td> </tr> <tr> <td style="text-align: center;">30</td> </tr> </table>	SR-03	SECTION	TY	SHEET NO.	30
ADDENDA / REVISIONS																										
CONTRACT	BRIDGE NO.	<b>BR 1-813</b>																								
T201707404	DESIGNED BY:	JWS																								
COUNTY	CHECKED BY:	DJC																								
NEW CASTLE																										
SR-03																										
SECTION																										
TY																										
SHEET NO.																										
30																										



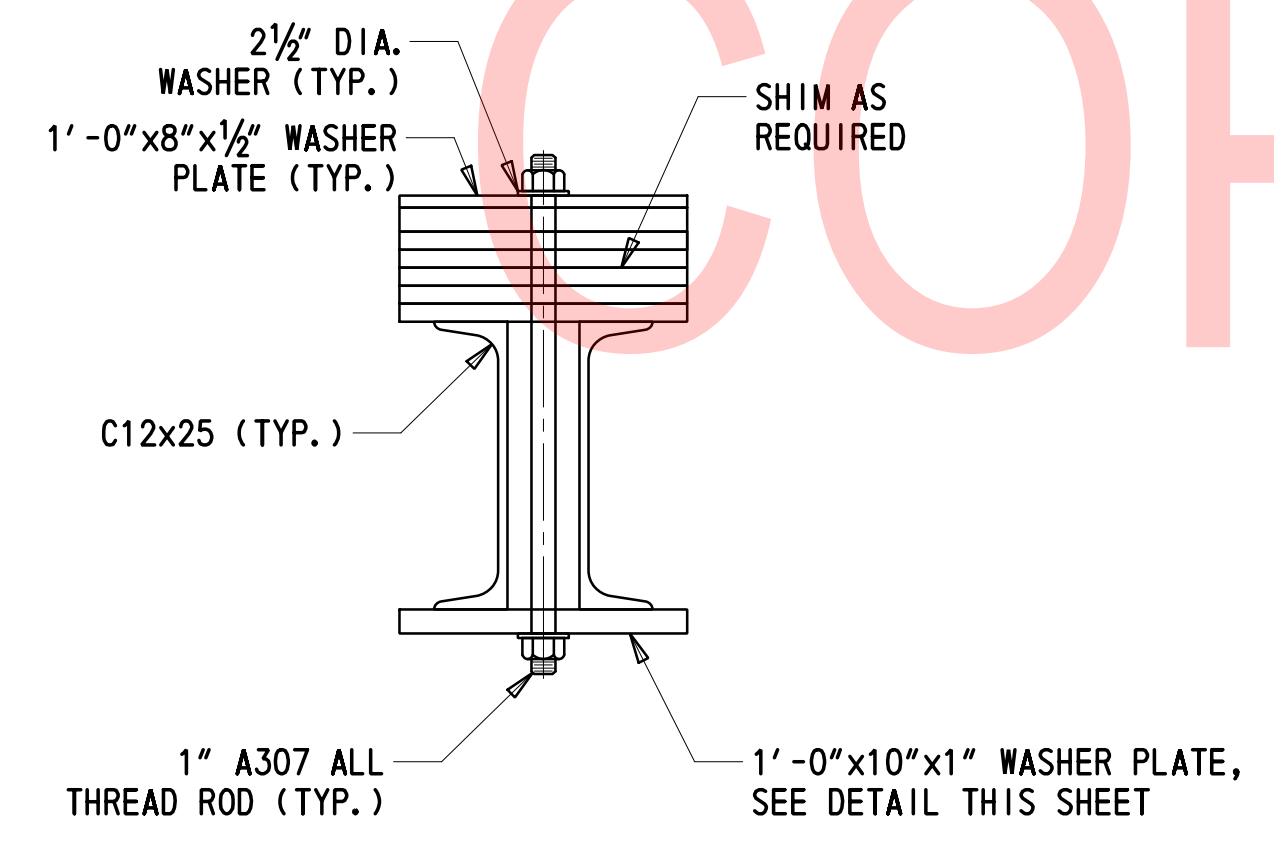
CROSS REFERENCE NOTES:  
 1. FOR PROTECTIVE SHIELD NOTES, SEE DWG. SR-03.

**SUGGESTED TEMPORARY PROTECTIVE SHIELD**  
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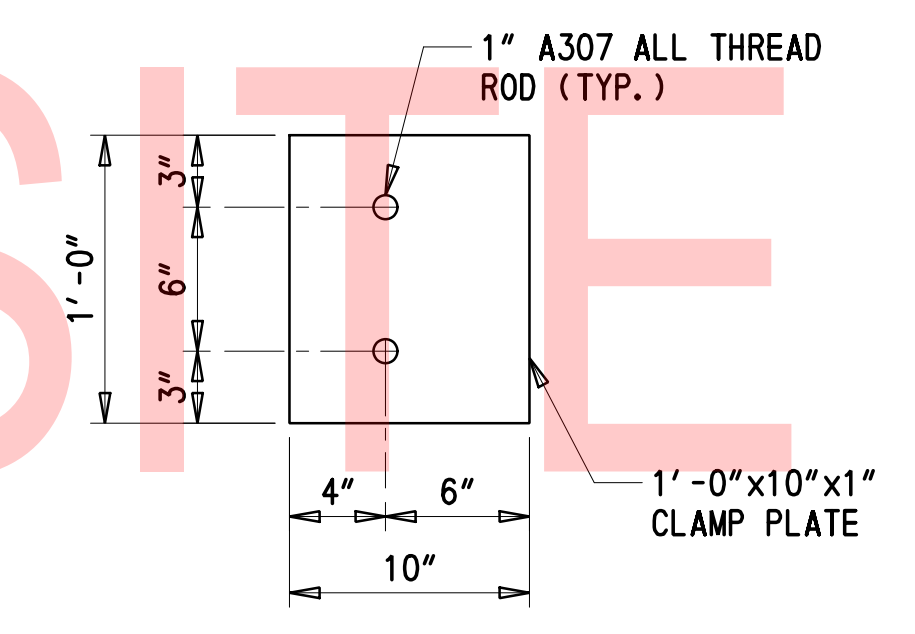
NOTE: A MINIMUM VERTICAL CLEARANCE OF 22'-0" ABOVE TOP OF HIGH RAIL OF THE NORFOLK SOUTHERN TRACK SHALL BE MAINTAINED AT ALL TIMES.



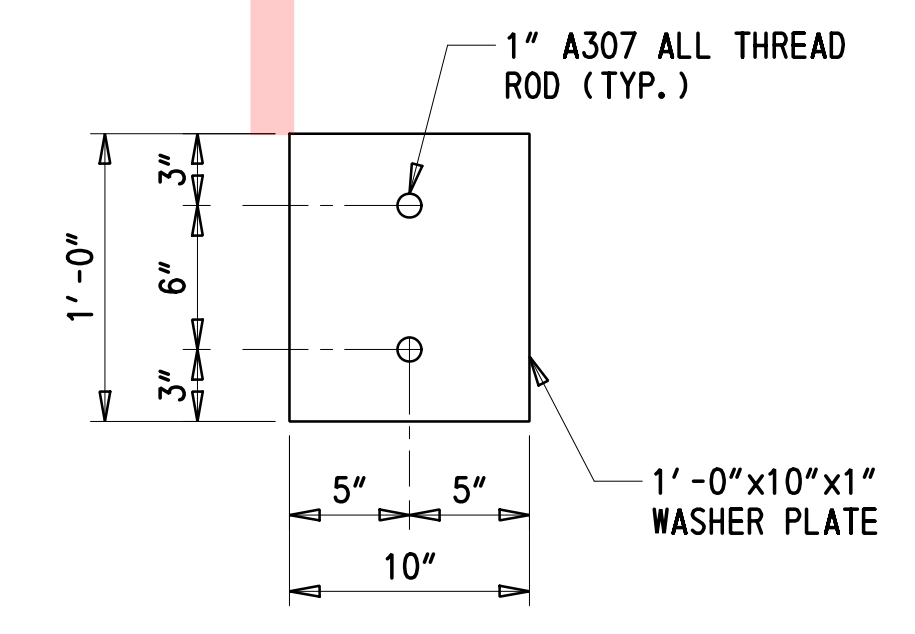
**DETAIL B**  
 $1\frac{1}{2}'' = 1' - 0''$



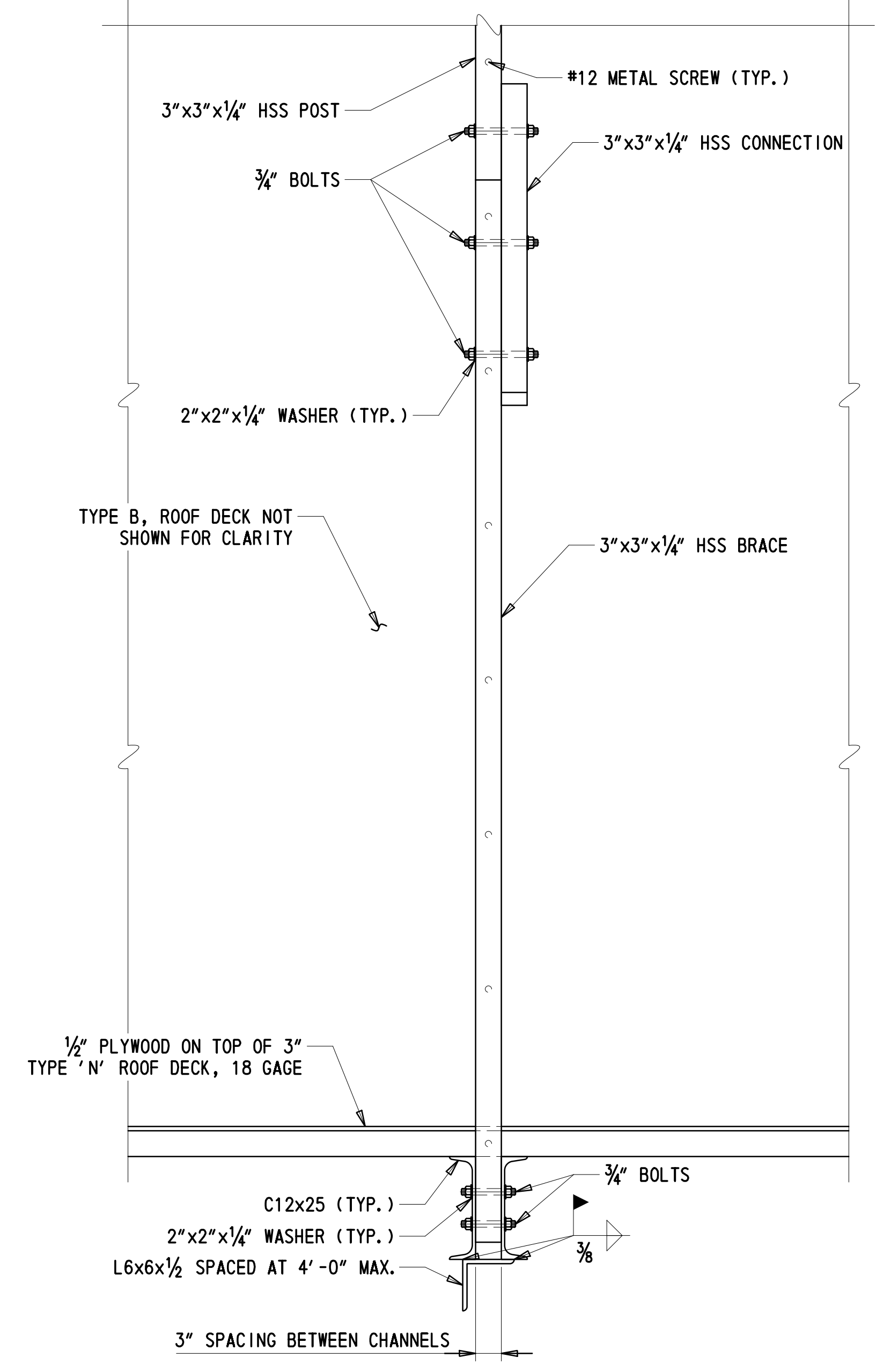
**SECTION B-B**  
 $1\frac{1}{2}'' = 1' - 0''$



**CLAMP PLATE DETAIL**  
 $1\frac{1}{2}'' = 1' - 0''$



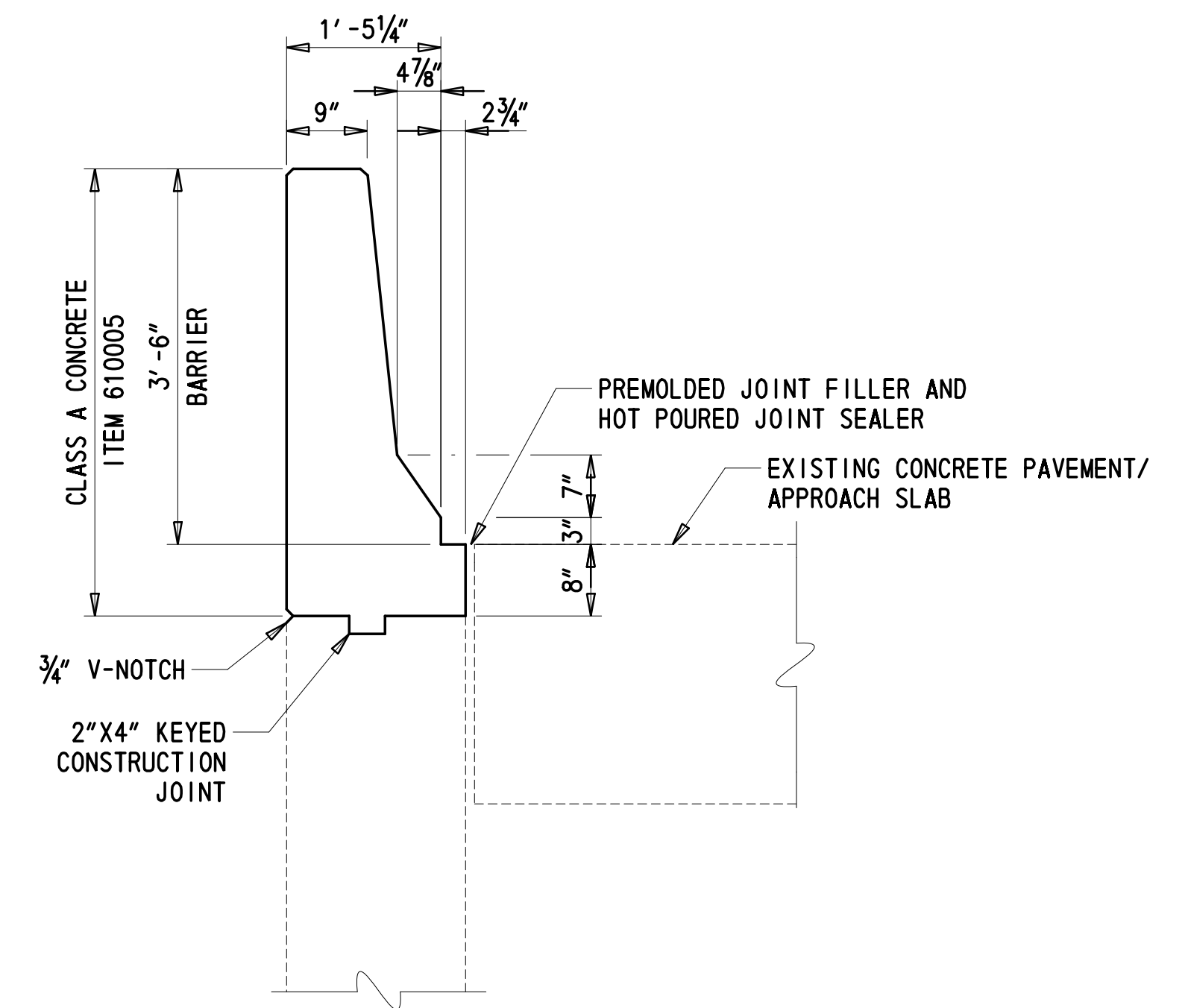
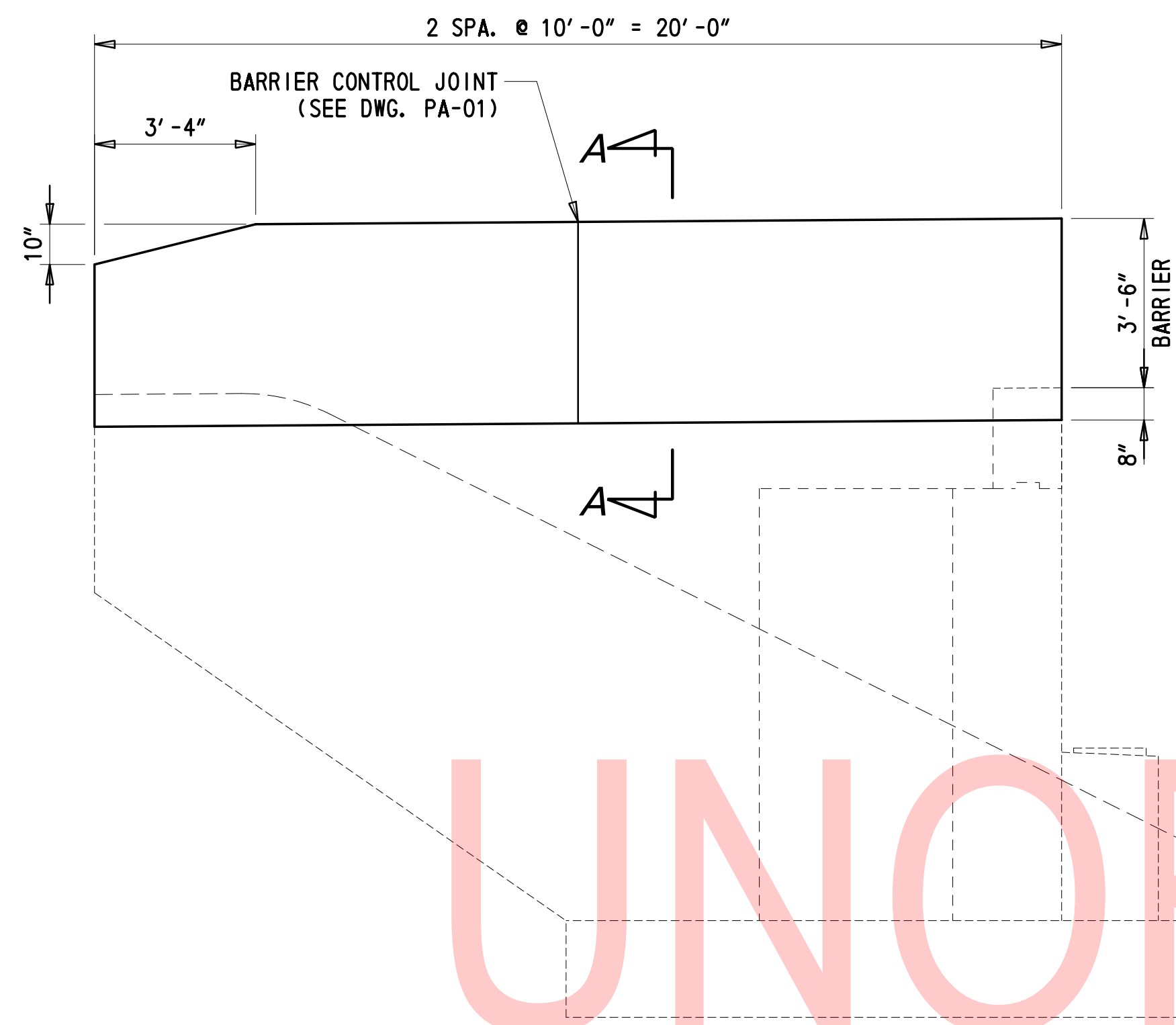
**WASHER PLATE DETAIL**  
 $1\frac{1}{2}'' = 1' - 0''$



**SECTION A-A**  
 $1' = 1' - 0''$

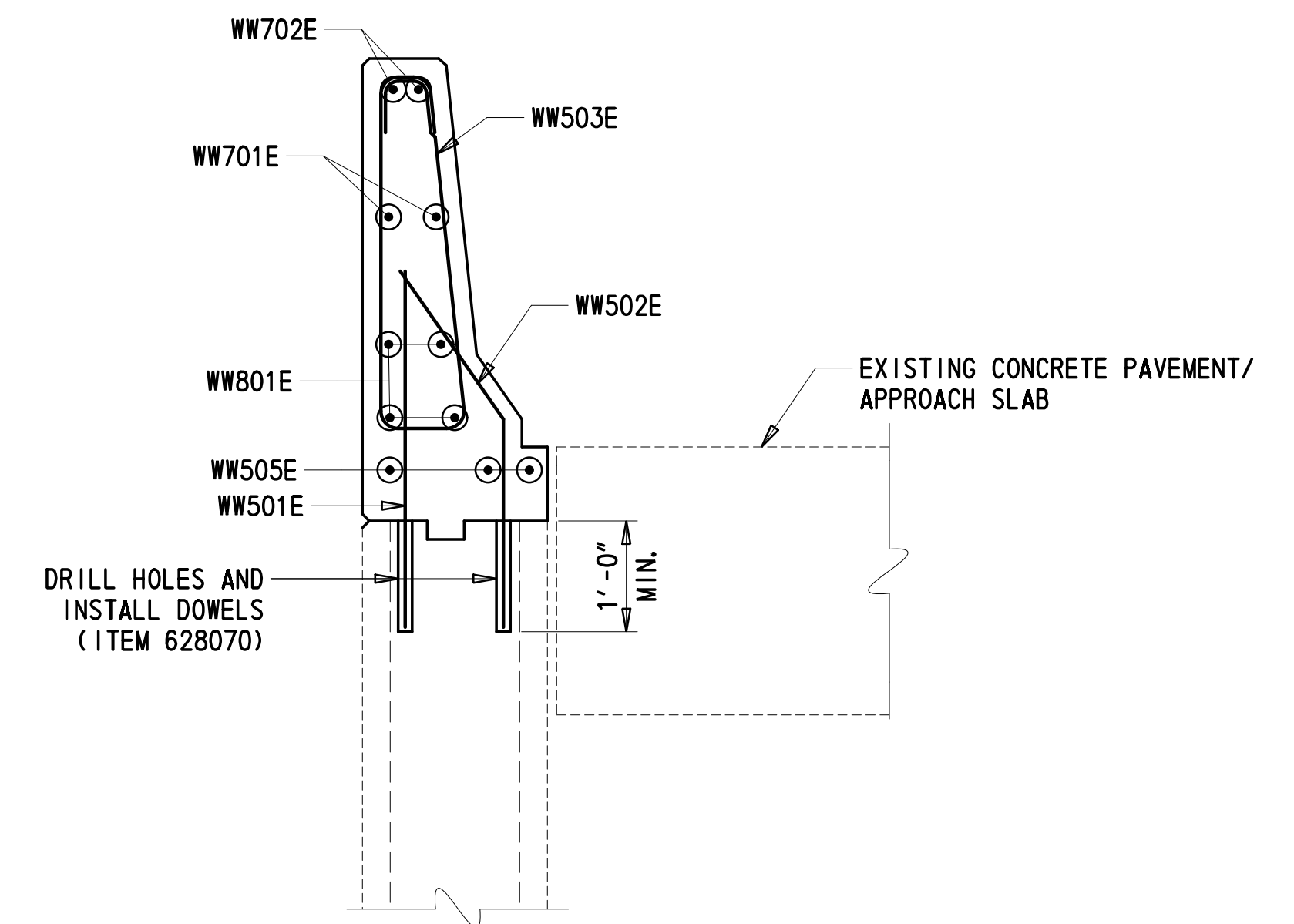
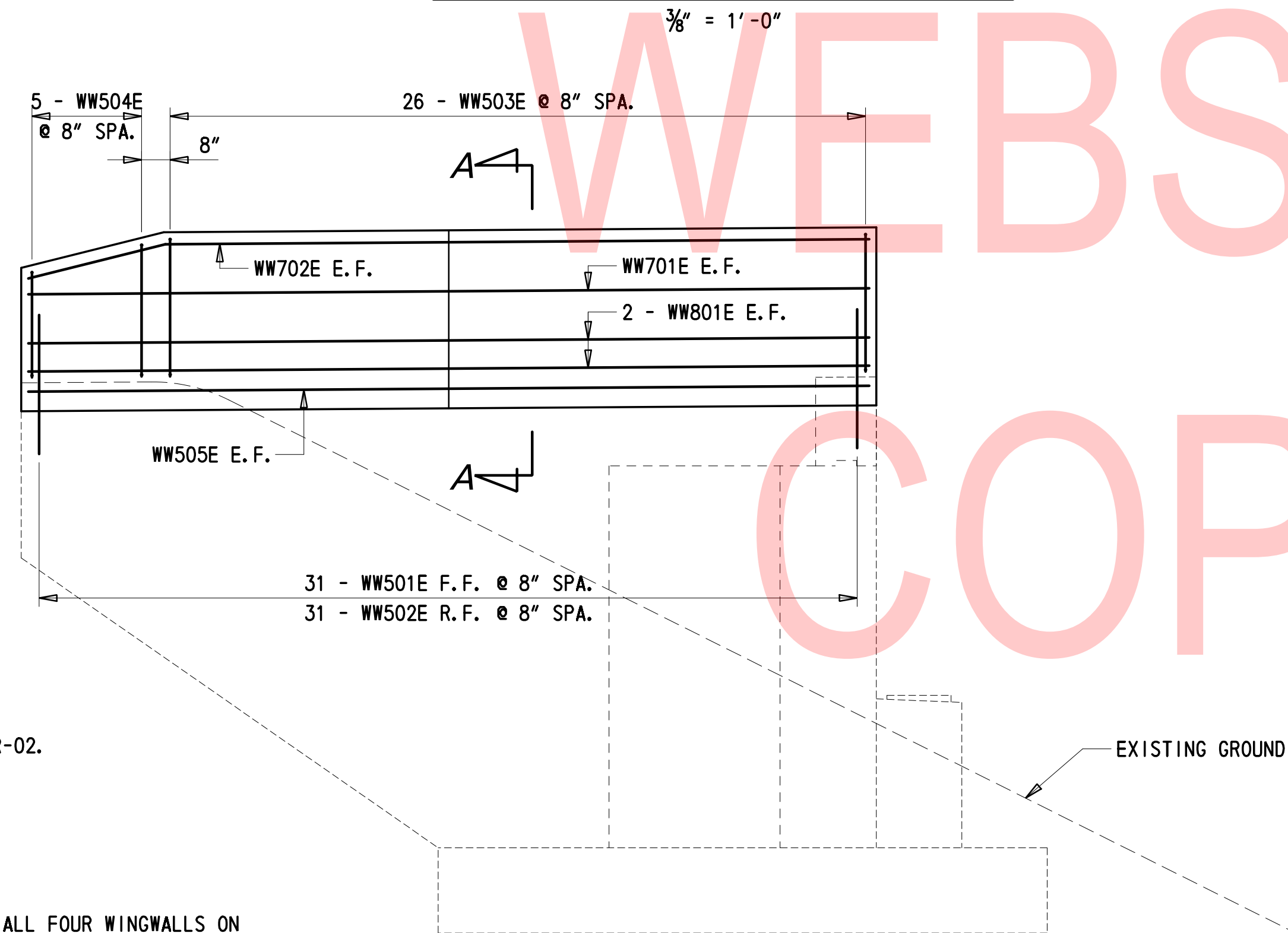
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ADDENDA / REVISIONS		SCALE AS NOTED	REHABILITATION OF BRIDGES 1-810, 1-811, 1-812 AND 1-813 ON I-495	CONTRACT	BRIDGE NO.	BR 1-813	PROTECTIVE SHIELD DETAILS - 2	SR-04
				T201707404	DESIGNED BY: JWS	SECTION		TY
				COUNTY	CHECKED BY: DJC		SHEET NO.	31
				NEW CASTLE				



**SECTION A-A**  
3/4" = 1'-0"

**TYPICAL WINGWALL ELEVATION**



**SECTION A-A REINFORCING**  
3/4" = 1'-0"

**CROSS REFERENCE NOTES:**

1. FOR LIMITS OF WINGWALL DEMOLITION, SEE DWG. SR-02.
2. SEE DWG. PA-01 FOR CONTROL JOINT DETAILS.

**NOTES:**

1. WINGWALL DETAILS SHOWN ON THIS SHEET APPLY TO ALL FOUR WINGWALLS ON BR 1-813.
2. INTENTIONALLY ROUGHEN SURFACE AND REMOVE ALL LOOSE CONCRETE TO PROVIDE A SOUND BOND BETWEEN EXISTING AND NEW CONCRETE IN ACCORDANCE WITH SECTION 610.03(G)(1).
3. APPLY AN EPOXY BONDING COMPOUND BETWEEN EXISTING AND NEW CONCRETE IN ACCORDANCE WITH 610.03(G)(1). PAYMENT SHALL BE INCIDENTAL TO ITEM 610005.
4. PREMOLDED JOINT FILLER AND HOT POURED JOINT SEALER SHALL BE INCIDENTAL TO ITEM 610005.

**TYPICAL WINGWALL ELEVATION REINFORCING**

3/8" = 1'-0"

ADDENDA / REVISIONS

SCALE AS NOTED

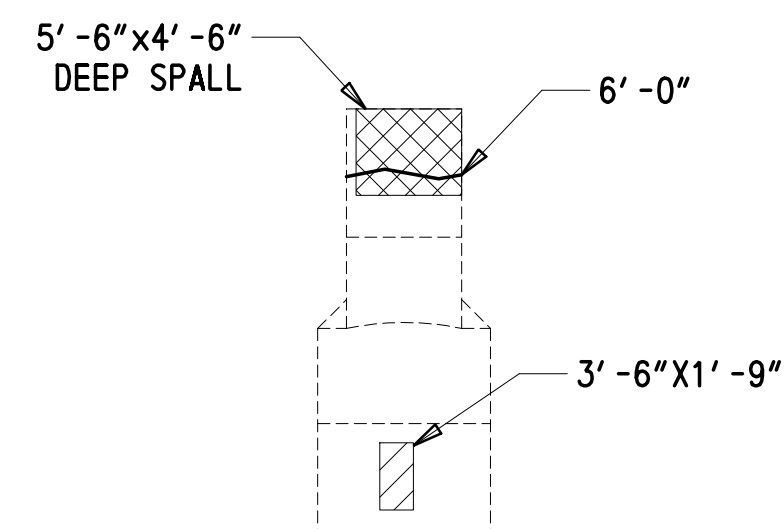
**REHABILITATION OF BRIDGES**  
**1-810, 1-811, 1-812**  
**AND 1-813 ON I-495**

CONTRACT	BRIDGE NO.	<b>BR 1-813</b>
T201707404	DESIGNED BY:	RMB
COUNTY	CHECKED BY:	JWS
NEW CASTLE		

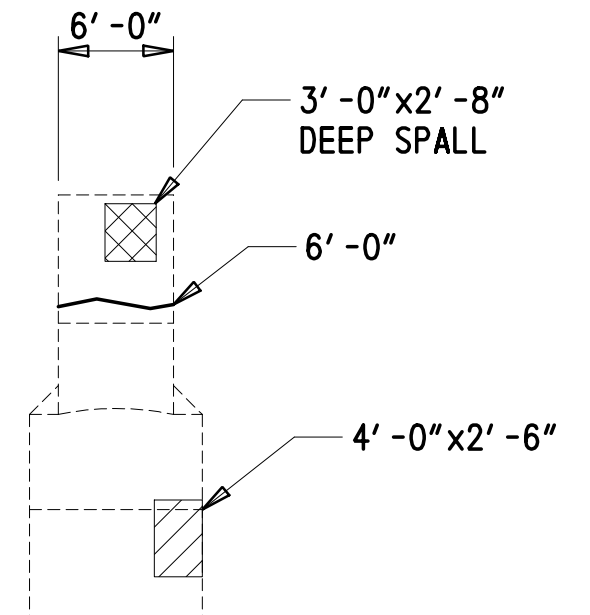
**WINGWALL DETAILS**

WW-01
SECTION
TY
SHEET NO.
32

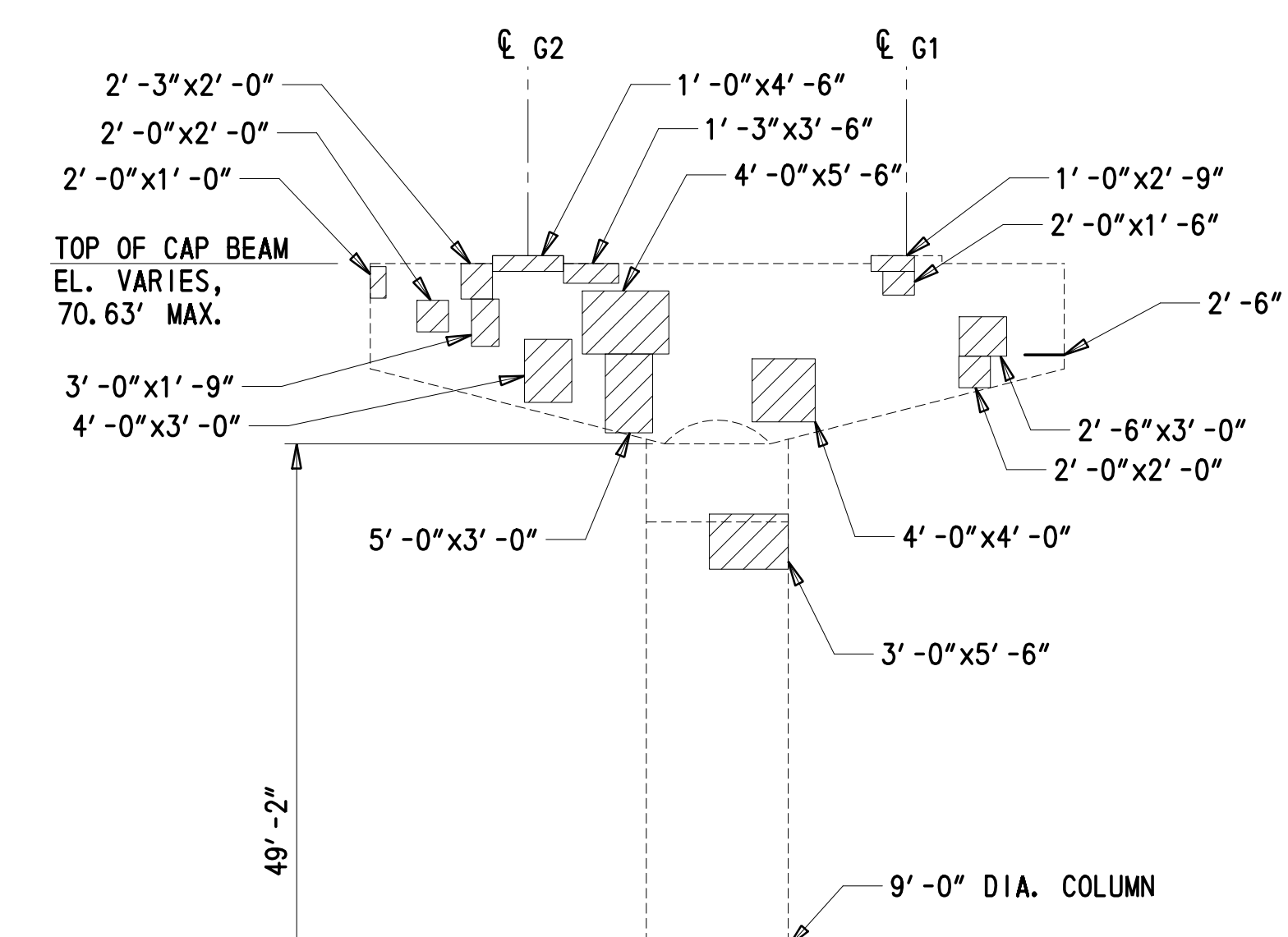




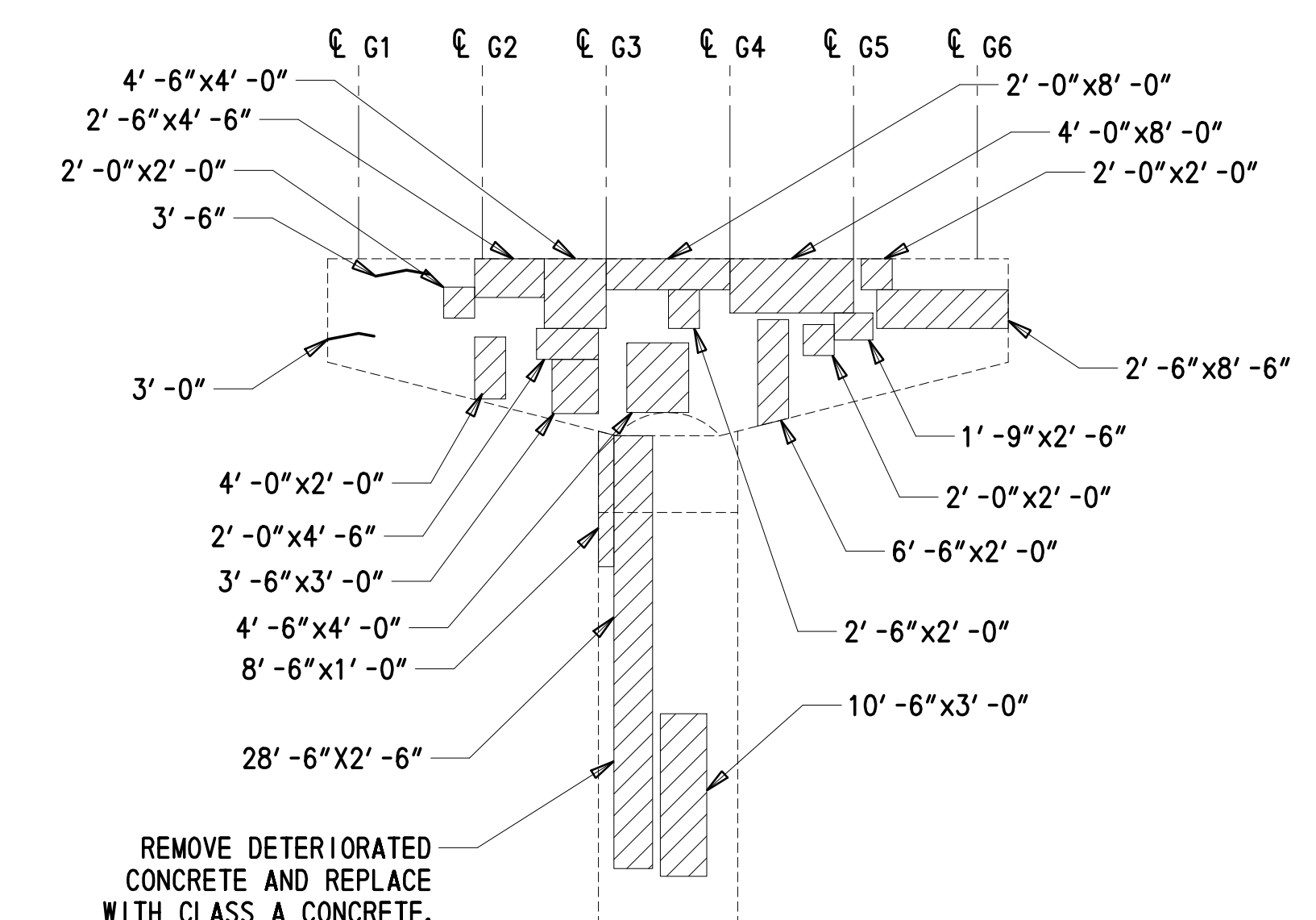
**PIER 15W, END VIEW**  
(LOOKING WEST)  
1" = 10'-0"



**PIER 15W, END VIEW**  
(LOOKING EAST)  
1" = 10'-0"

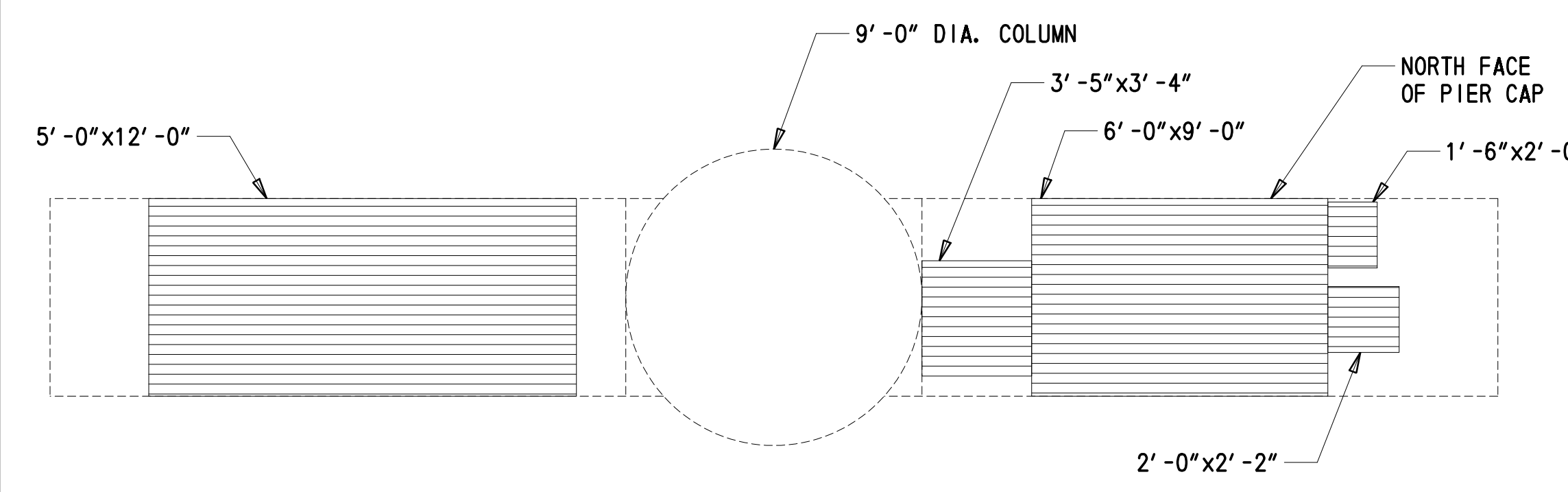


**PIER 15W, SIDE VIEW**  
(LOOKING SOUTH)  
1" = 10'-0"



**PIER 15W, SIDE VIEW**  
(LOOKING NORTH)  
1" = 10'-0"

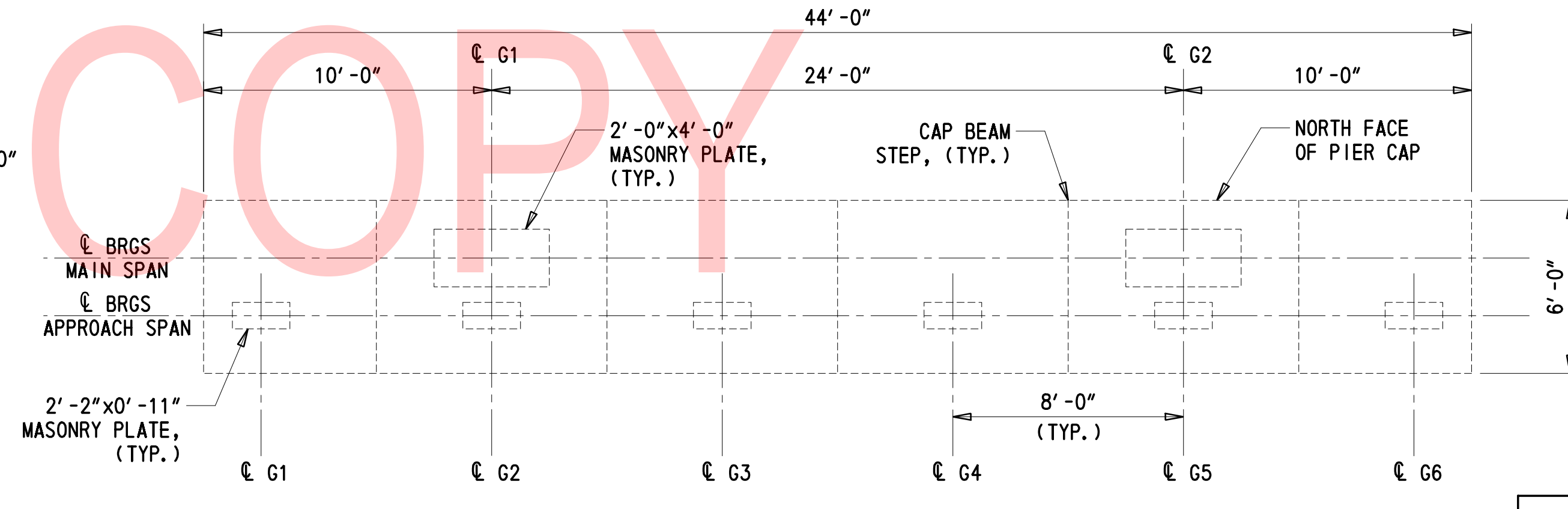
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**PIER 15W, CAP UNDERSIDE**  
1/4" = 1'-0"

**NOTES:**

1. SEE DWG. DT-01 FOR TYPICAL REPAIR DETAILS AND NOTES.



**PIER 15W, CAP TOPSIDE**  
1/4" = 1'-0"

**CROSS-REFERENCE NOTES:**

1. SEE DWG. PN-04 AND PN-05 FOR CAP REPAIR RESTRICTIONS.

LEGEND	
	DEEP SPALL REPAIR, ITEM 628041 (HEIGHT X WIDTH)
	SHALLOW SPALL REPAIR, ITEM 628040 (HEIGHT X WIDTH)
	REHABILITATION OF PORTLAND CEMENT CONCRETE MASONRY, ITEM 628042 (HEIGHT X WIDTH)
	REPAIR OF CONCRETE STRUCTURE BY EPOXY INJECTION, ITEM 628001 SEE DT-01, CONCRETE REPAIR NOTE 1 (LENGTH)

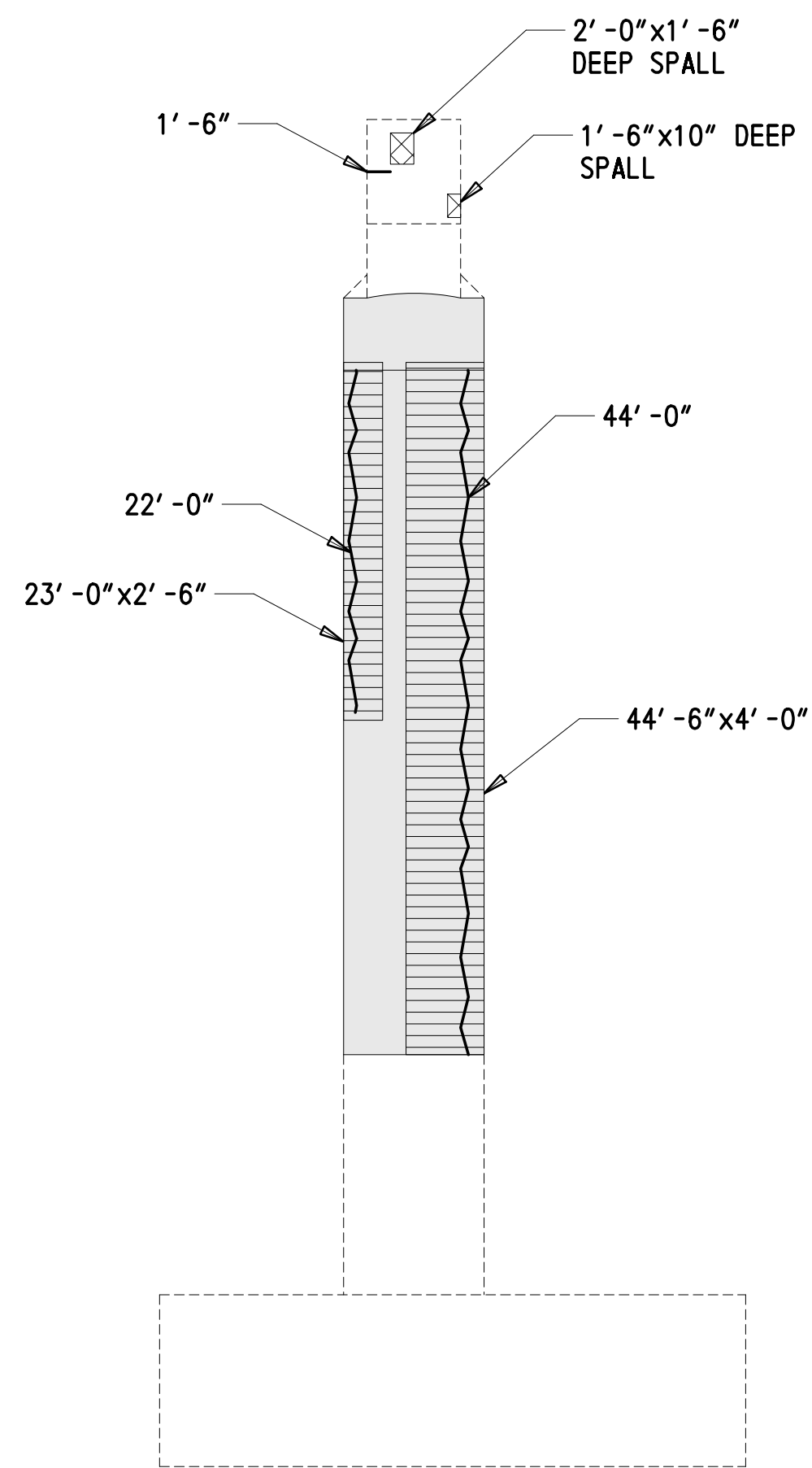
CONCRETE REPAIR QUANTITIES		
PIER 15W		PAID FOR UNDER ITEM NO.
DEEP SPALL REPAIR	21 CF	628041
SHALLOW SPALL REPAIR	92 CF	628040
REHABILITATION OF PORTLAND CEMENT CONCRETE MASONRY	4 CY	628042
REPAIR OF CONCRETE STRUCTURE BY EPOXY INJECTION	19 LF	628001

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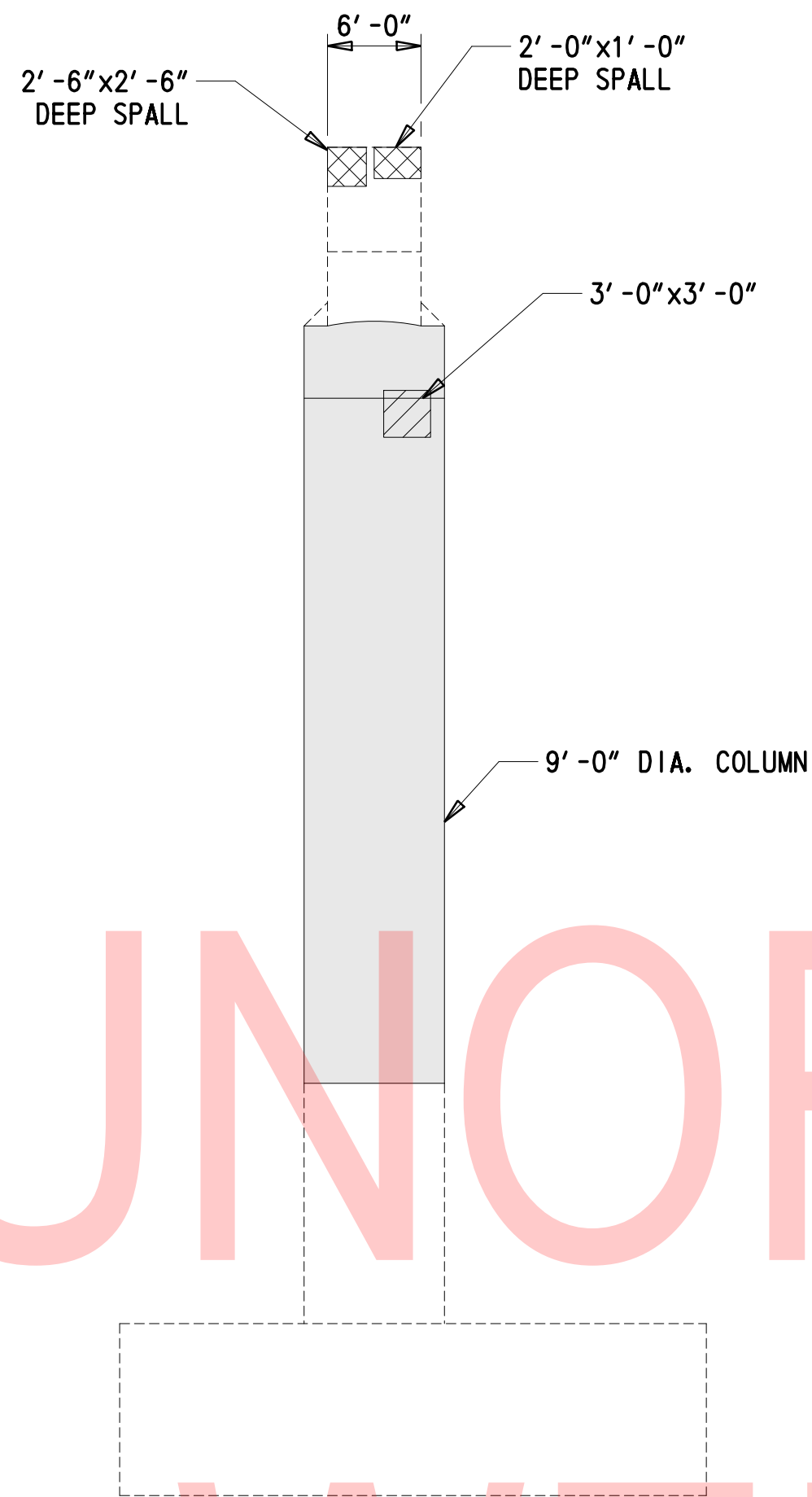
ADDENDA / REVISIONS	SCALE AS NOTED	REHABILITATION OF BRIDGES 1-810, 1-811, 1-812 AND 1-813 ON I-495

CONTRACT T201707404	BRIDGE NO. <b>BR 1-813</b>	PIER 15W REPAIRS
COUNTY NEW CASTLE	DESIGNED BY: PW	
	CHECKED BY: JWS	

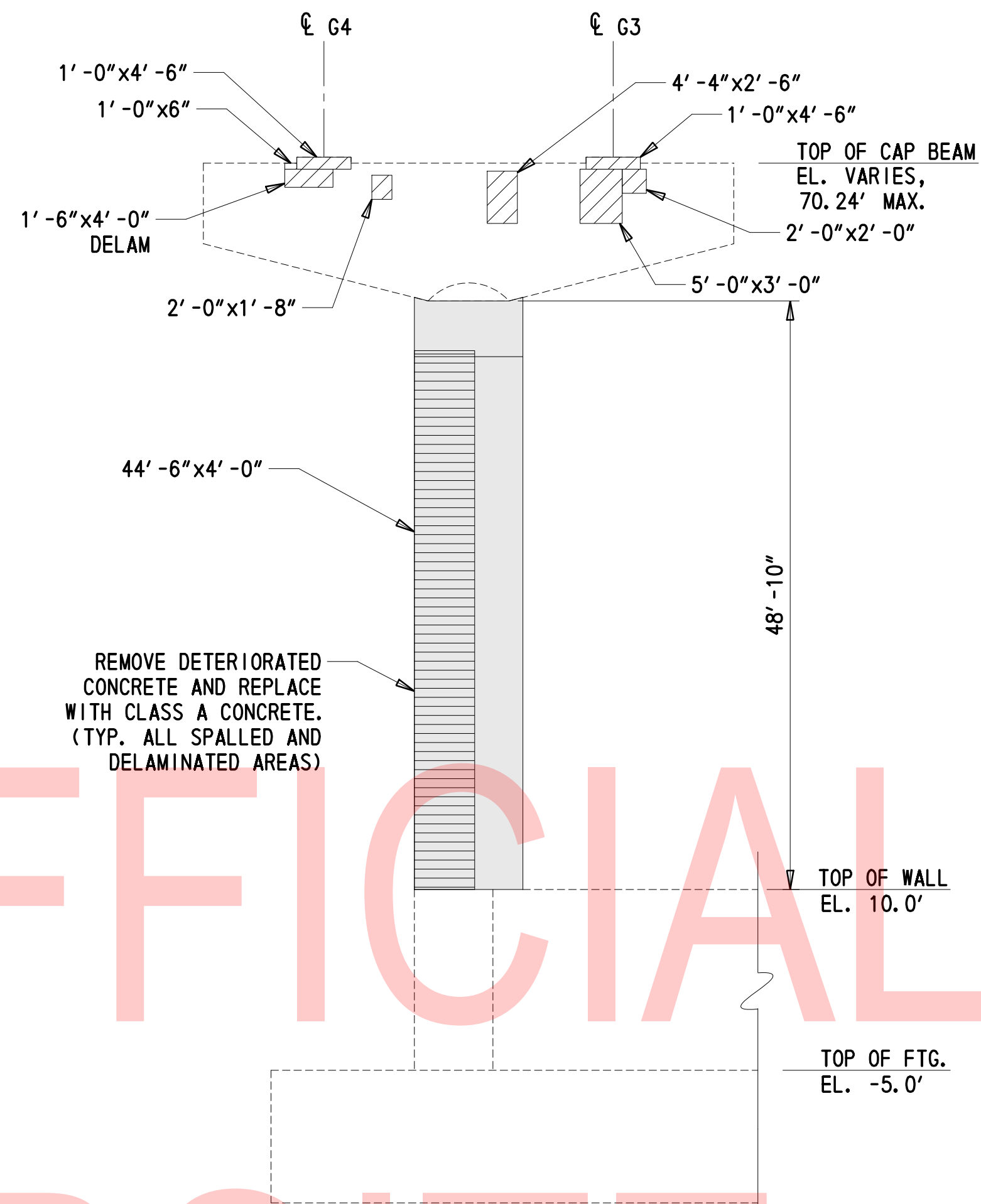
PR-01	SECTION	TY	SHEET NO.
			33



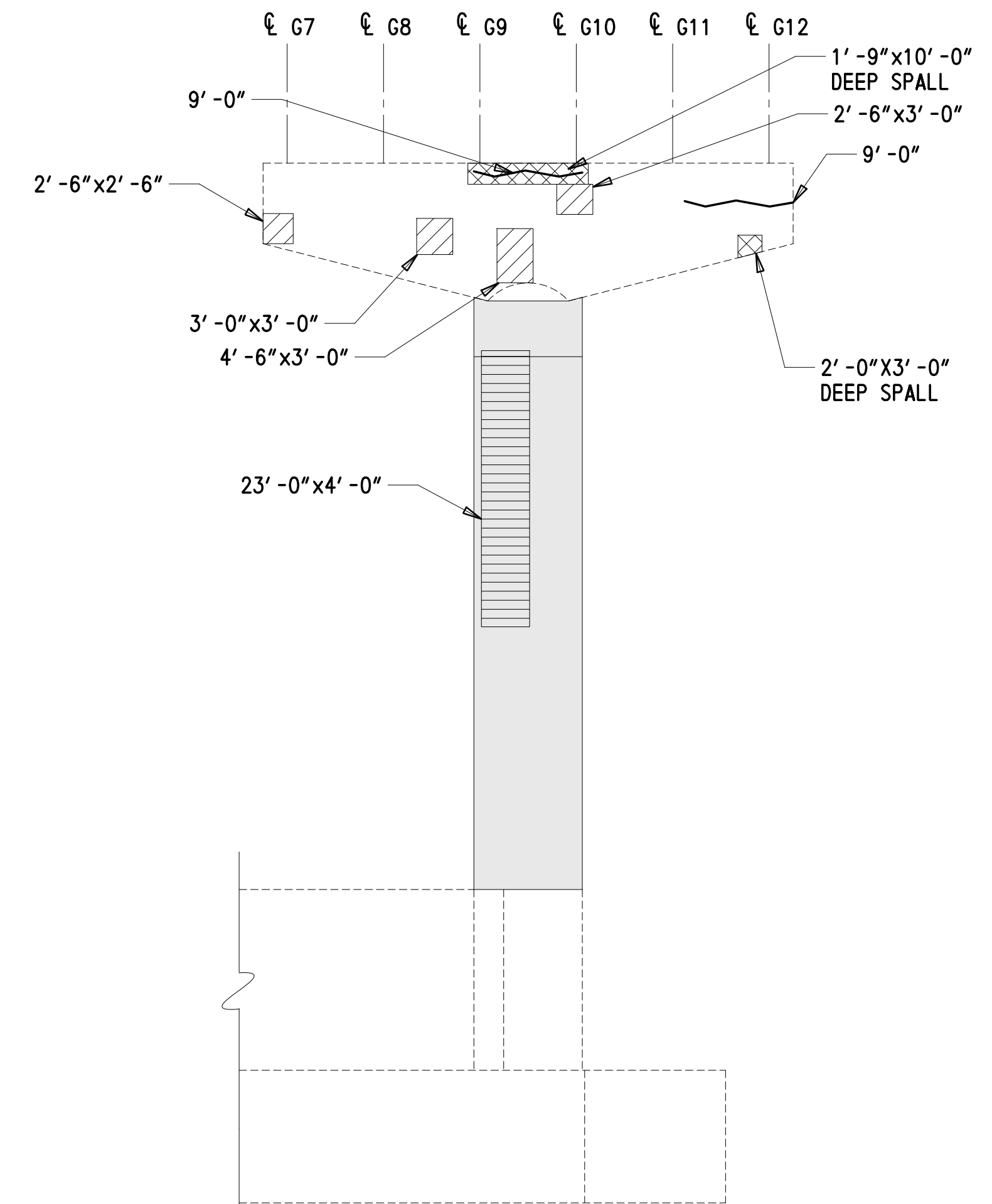
**PIER 15E, END VIEW**  
(LOOKING WEST)  
1" = 10'-0"



**PIER 15E, END VIEW**  
(LOOKING EAST)  
1" = 10'-0"

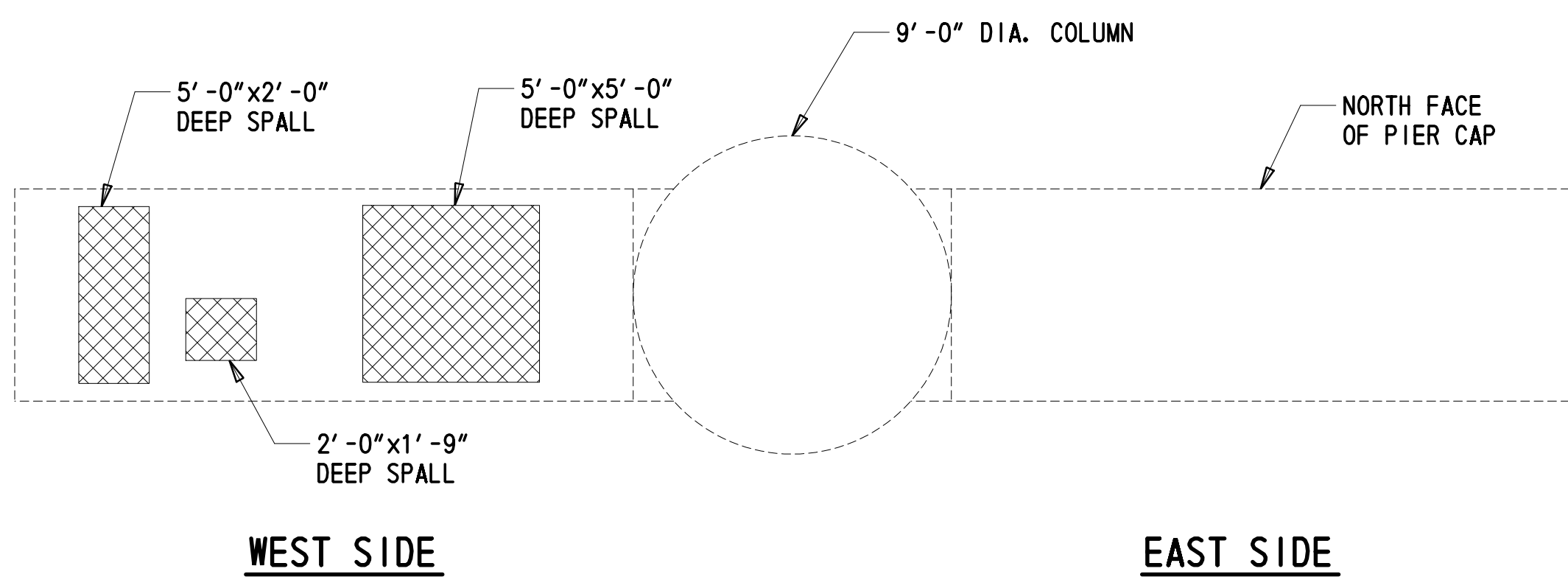


**PIER 15E, SIDE VIEW**  
(LOOKING SOUTH)  
1" = 10'-0"



**PIER 15E, SIDE VIEW**  
(LOOKING NORTH)  
1" = 10'-0"

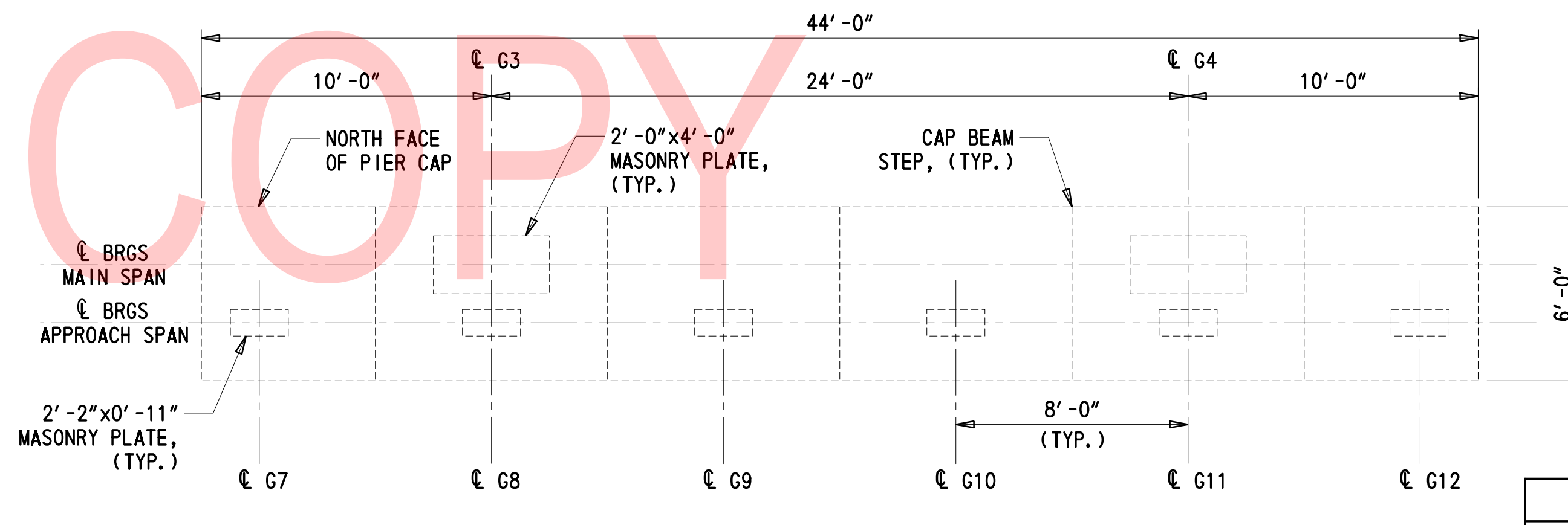
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**PIER 15E, CAP UNDERSIDE**  
1/4" = 1'-0"

**NOTES:**

1. SEE DWG. DT-01 FOR TYPICAL REPAIR DETAILS AND NOTES.



**PIER 15E, CAP TOPSIDE**  
1/4" = 1'-0"

**CROSS-REFERENCE NOTES:**

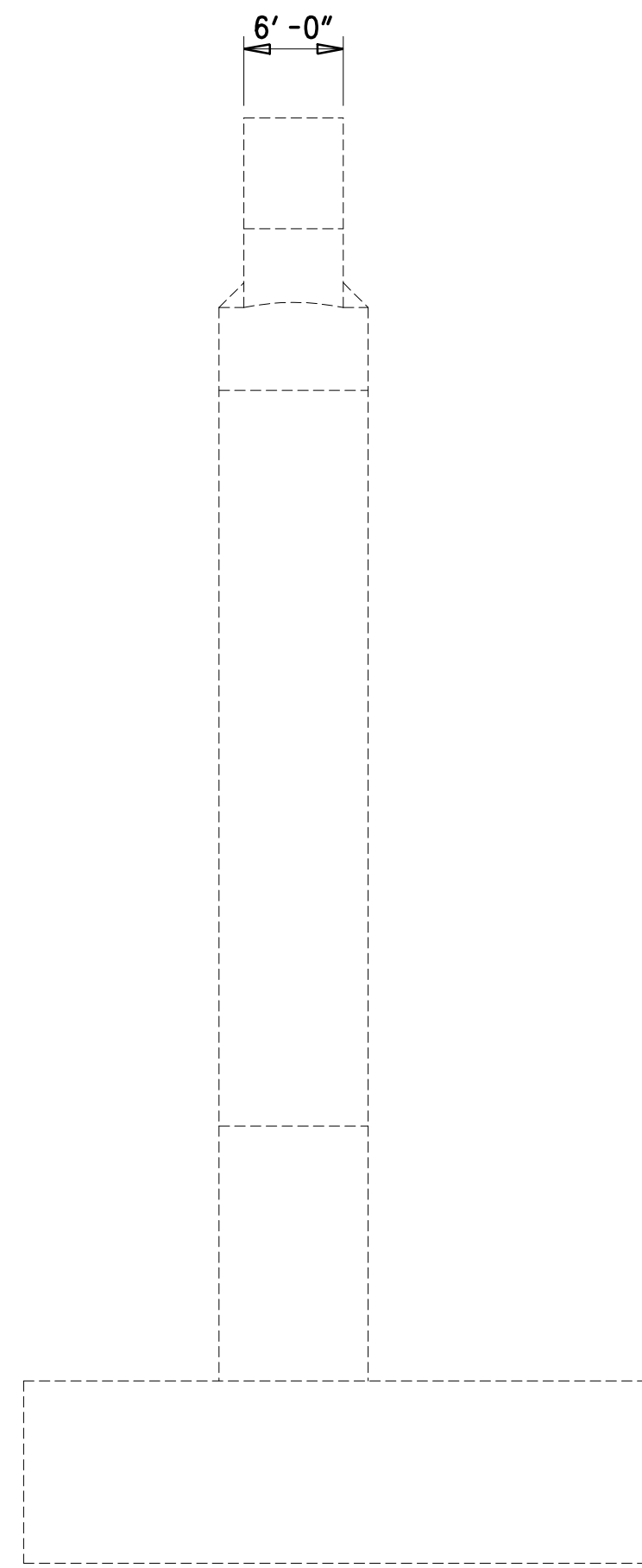
1. SEE DWG. PN-04 AND PN-05 FOR CAP REPAIR RESTRICTIONS.

LEGEND	
	DEEP SPALL REPAIR, ITEM 628041 (HEIGHT X WIDTH)
	SHALLOW SPALL REPAIR, ITEM 628040 (HEIGHT X WIDTH)
	REHABILITATION OF PORTLAND CEMENT CONCRETE MASONRY, ITEM 628042 (HEIGHT X WIDTH)
	REPAIR OF CONCRETE STRUCTURE BY EPOXY INJECTION, ITEM 628001 SEE DT-01; CONCRETE REPAIR NOTE 1 (LENGTH)
	LIMITS OF FRP WRAP, ITEM 628504

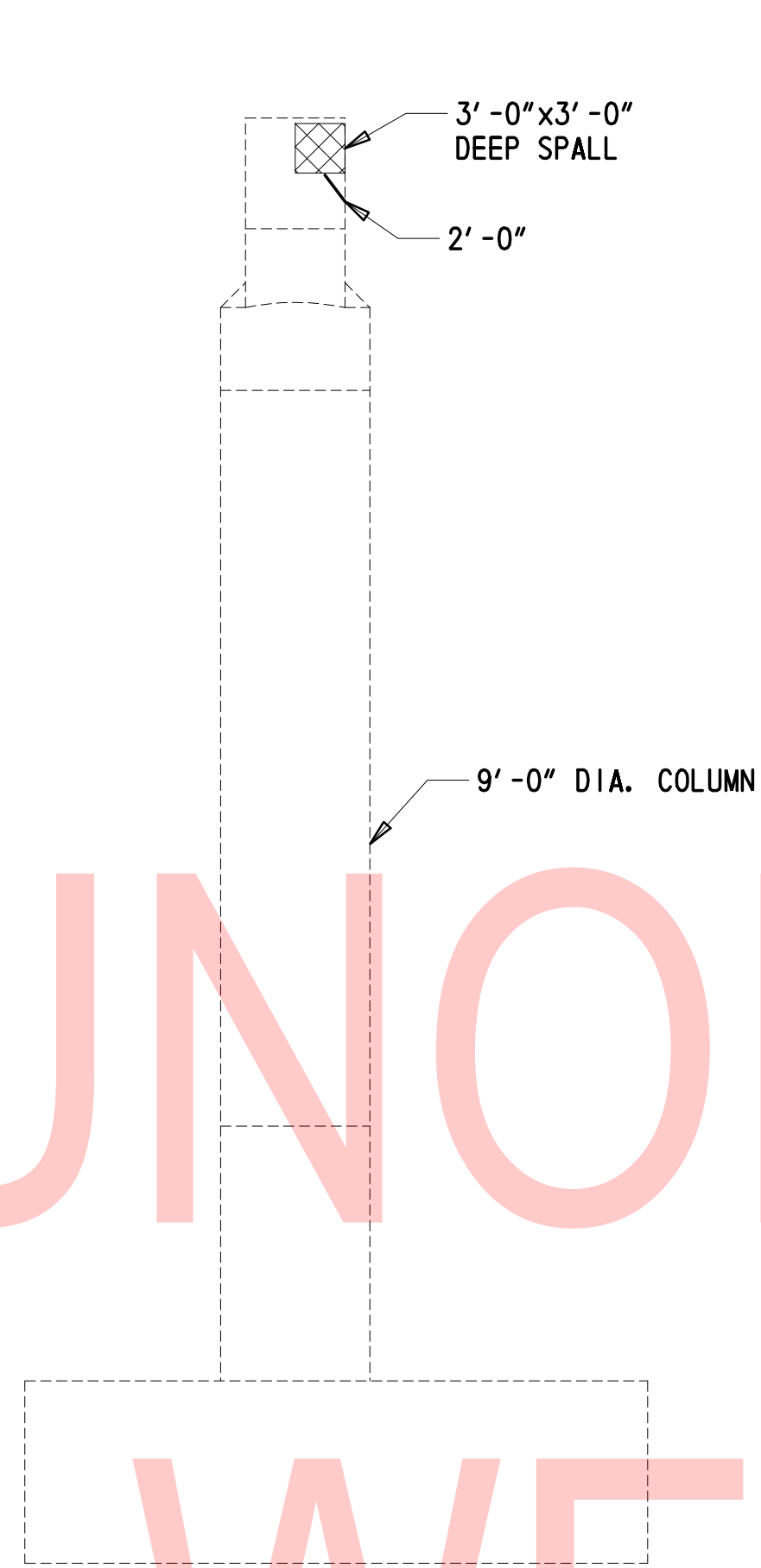
CONCRETE REPAIR QUANTITIES		
PIER 15E		PAID FOR UNDER ITEM NO.
DEEP SPALL REPAIR	46 CF	628041
SHALLOW SPALL REPAIR	20 CF	628040
REHABILITATION OF PORTLAND CEMENT CONCRETE MASONRY	12 CY	628042
REPAIR OF CONCRETE STRUCTURE BY EPOXY INJECTION	14 LF	628001
FRP WRAP	1 LS	628504

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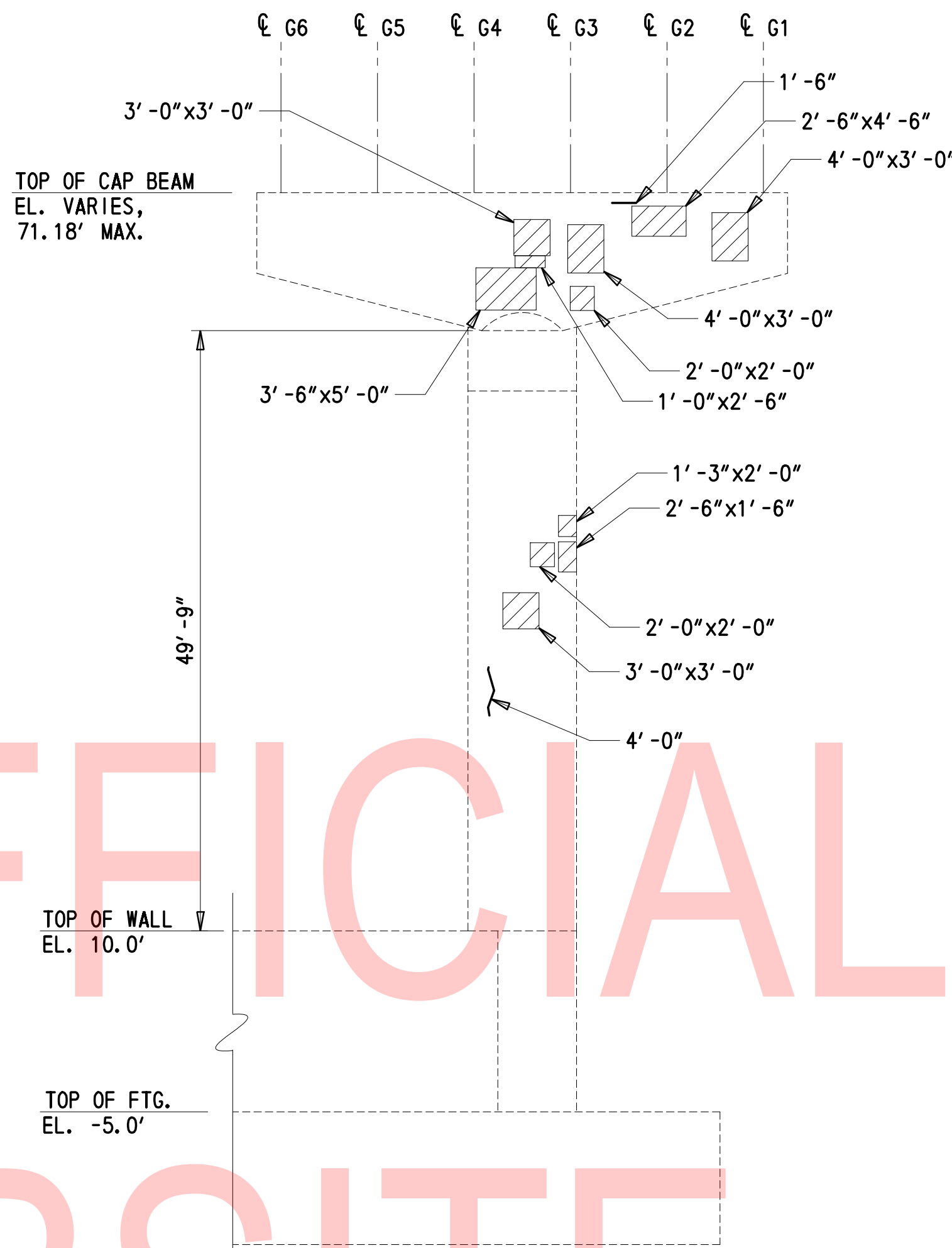
ADDENDA / REVISIONS	SCALE AS NOTED	REHABILITATION OF BRIDGES 1-810, 1-811, 1-812 AND 1-813 ON I-495	CONTRACT T201707404	BRIDGE NO. BR 1-813	PR-02
			COUNTY NEW CASTLE	DESIGNED BY: PW	SECTION TY
			CHECKED BY: JWS	PIER 15E REPAIRS	SHEET NO. 34



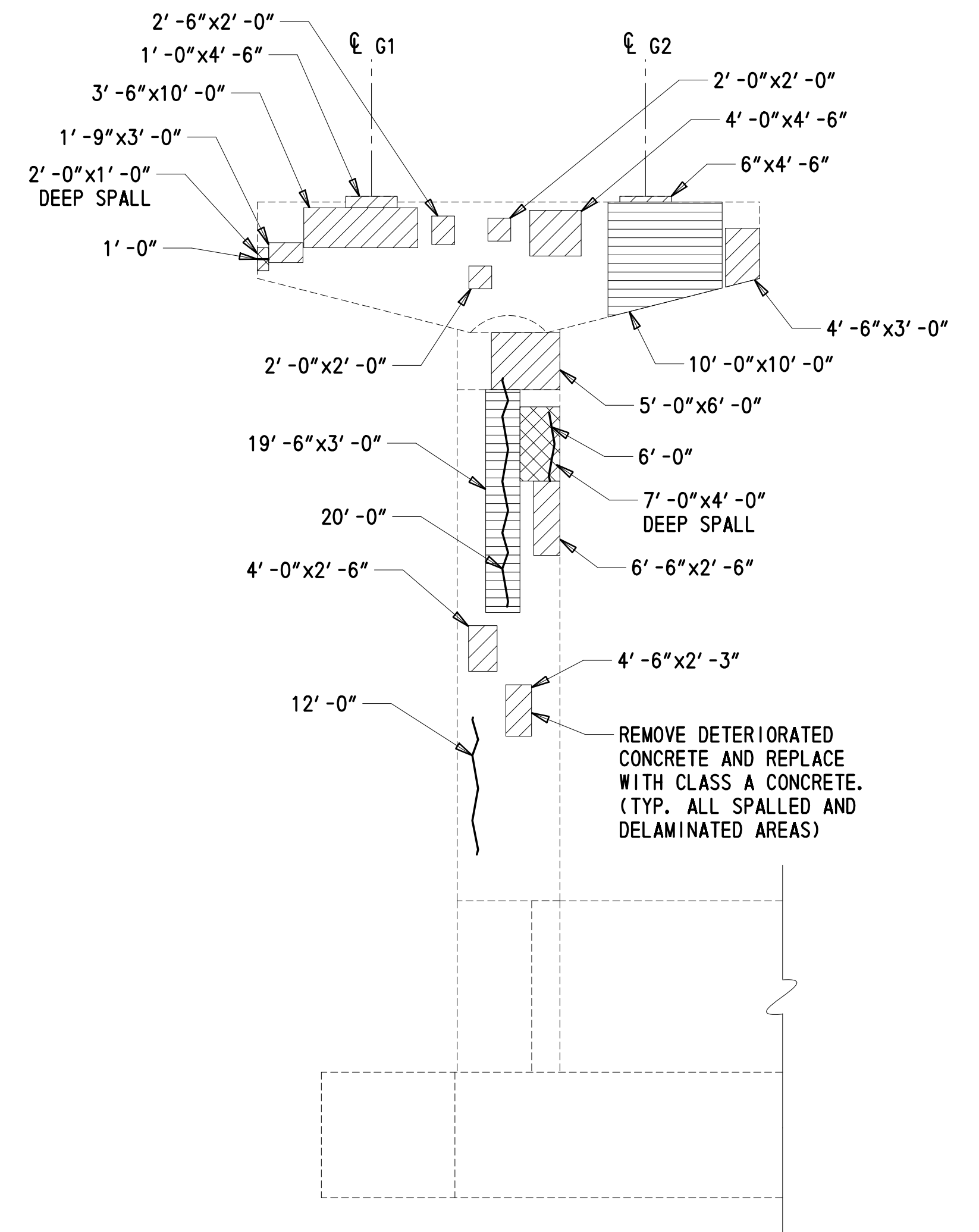
**PIER 18W, END VIEW**  
(LOOKING WEST)  
1" = 10'-0"



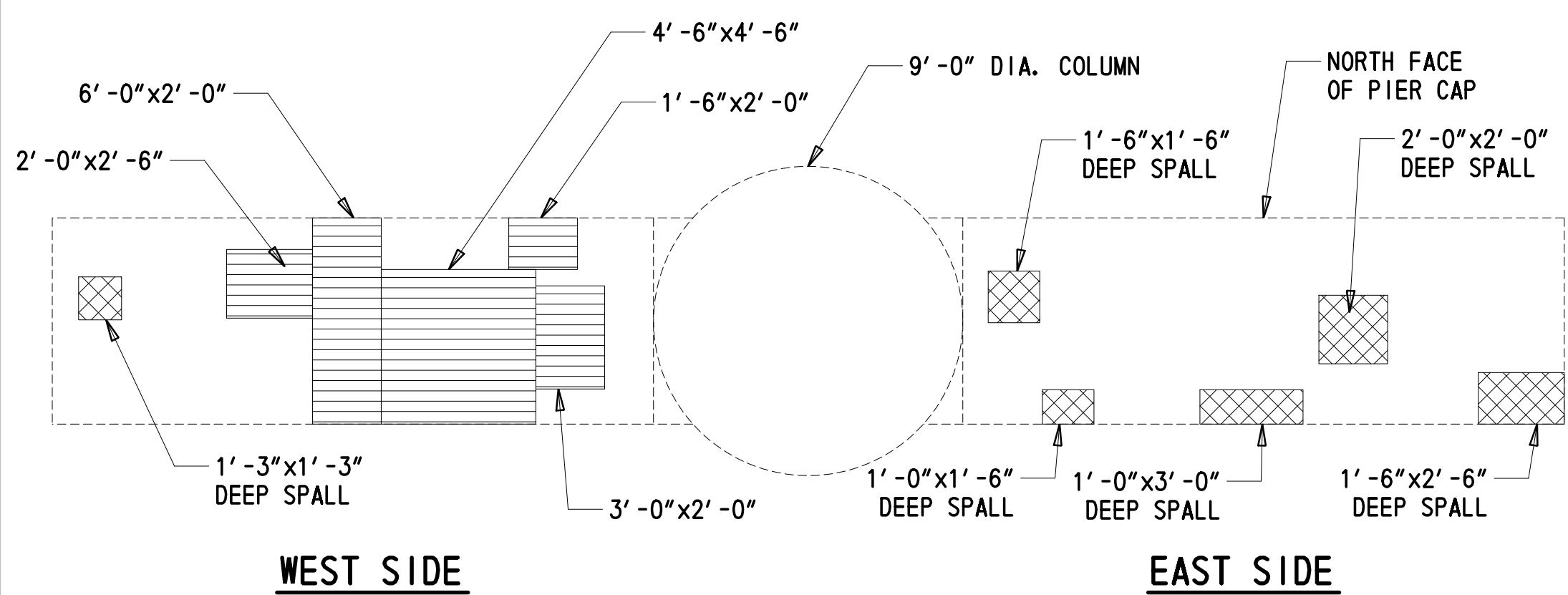
**PIER 18W, END VIEW**  
(LOOKING EAST)  
1" = 10'-0"



**PIER 18W, SIDE VIEW**  
(LOOKING SOUTH)  
1" = 10'-0"



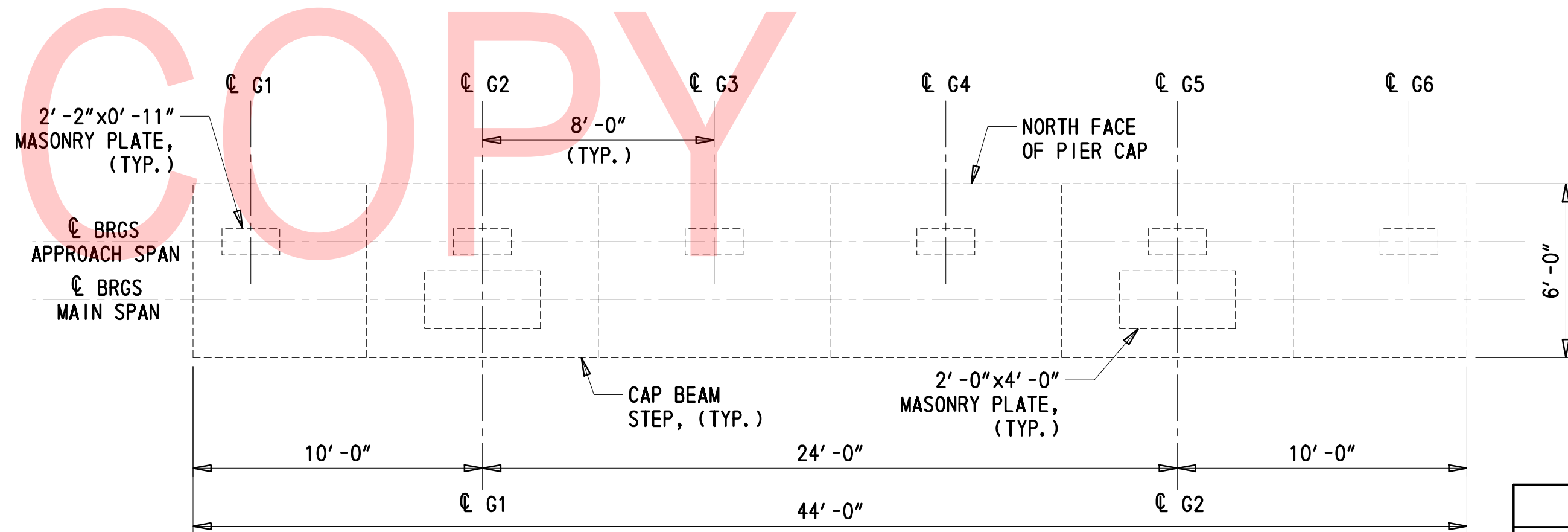
**PIER 18W, SIDE VIEW**  
(LOOKING NORTH)  
1" = 10'-0"



**PIER 18W, CAP UNDERSIDE**  
1/4" = 1'-0"

**NOTES:**

1. SEE DWG. DT-01 FOR TYPICAL REPAIR DETAILS AND NOTES.



**PIER 18W, CAP TOPSIDE**  
1/4" = 1'-0"

**CROSS-REFERENCE NOTES:**

1. SEE DWG. PN-04 AND PN-05 FOR CAP REPAIR RESTRICTIONS.

LEGEND	
	DEEP SPALL REPAIR, ITEM 628041 (HEIGHT X WIDTH)
	SHALLOW SPALL REPAIR, ITEM 628040 (HEIGHT X WIDTH)
	REHABILITATION OF PORTLAND CEMENT CONCRETE MASONRY, ITEM 628042 (HEIGHT X WIDTH)
	REPAIR OF CONCRETE STRUCTURE BY EPOXY INJECTION, ITEM 628001 (SEE DT-01, CONCRETE REPAIR NOTE 1 (LENGTH))

CONCRETE REPAIR QUANTITIES		
PIER 18W		PAID FOR UNDER ITEM NO.
DEEP SPALL REPAIR	35 CF	628041
SHALLOW SPALL REPAIR	52 CF	628040
REHABILITATION OF PORTLAND CEMENT CONCRETE MASONRY	4 CY	628042
REPAIR OF CONCRETE STRUCTURE BY EPOXY INJECTION	25 LF	628001

ADDENDA / REVISIONS

SCALE AS NOTED

**REHABILITATION OF BRIDGES**  
1-810, 1-811, 1-812  
AND 1-813 ON I-495

CONTRACT  
T201707404  
COUNTY  
NEW CASTLE

BRIDGE NO. **BR 1-813**  
DESIGNED BY: PW  
CHECKED BY: JWS

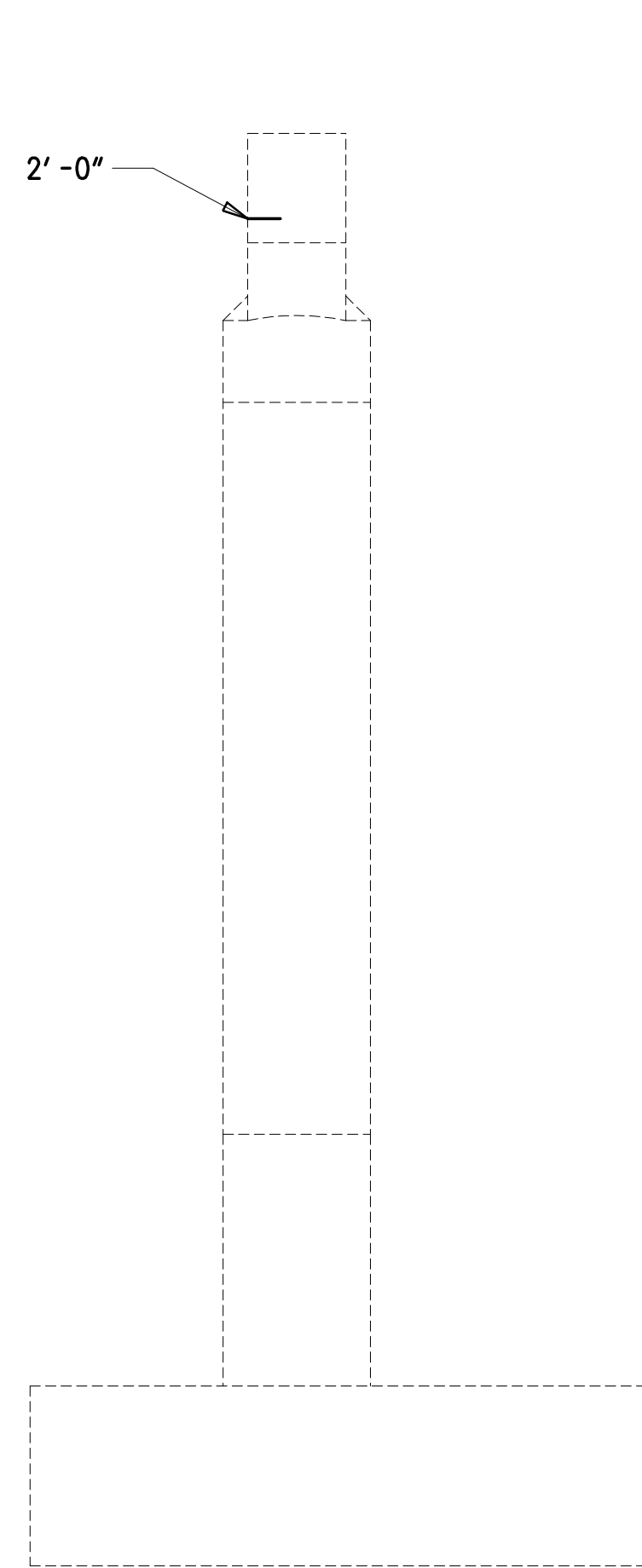
**PIER 18W REPAIRS**

PR-03  
SECTION  
TY  
SHEET NO.  
35

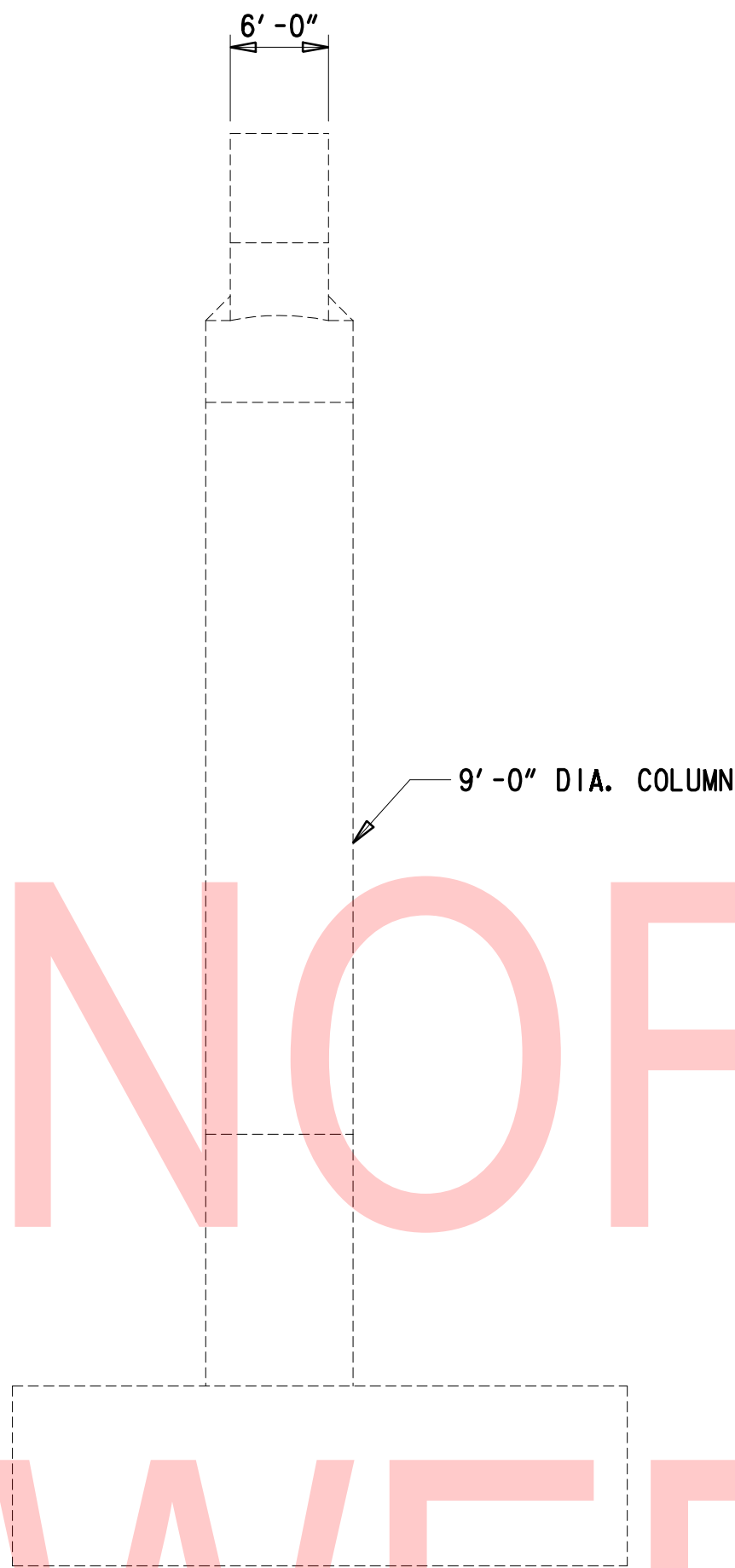
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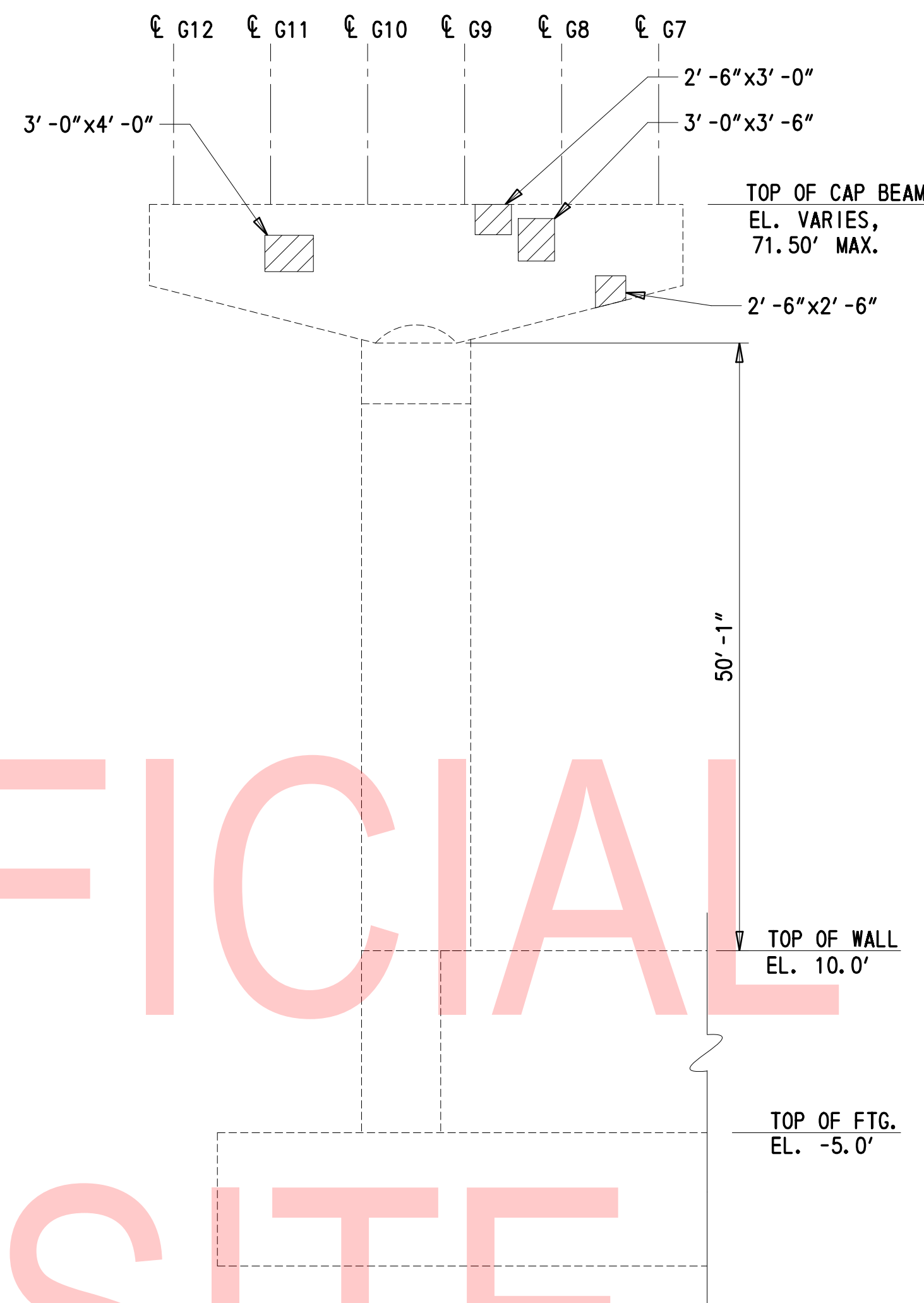
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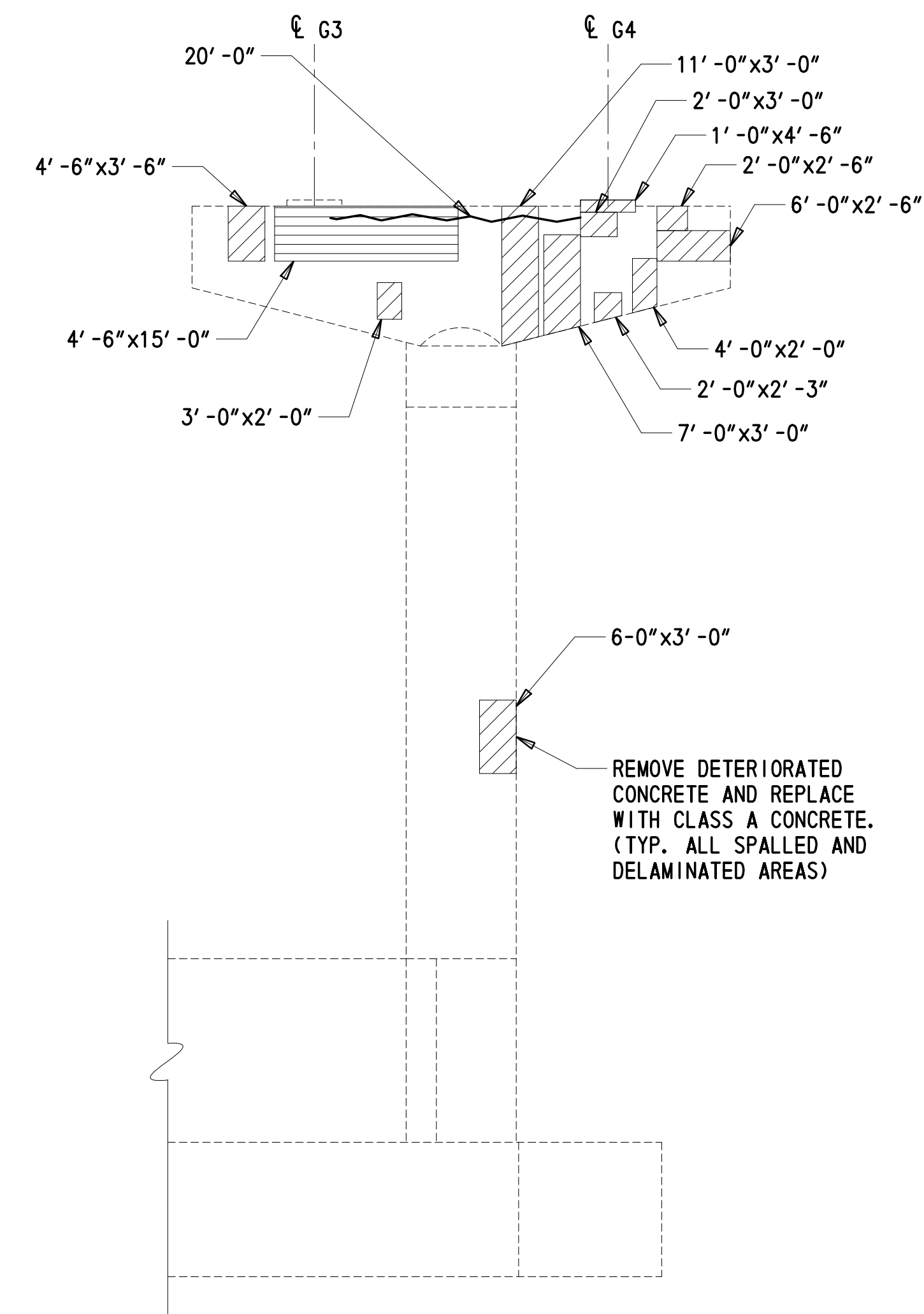
**PIER 18E, END VIEW**  
(LOOKING WEST)  
1" = 10'-0"



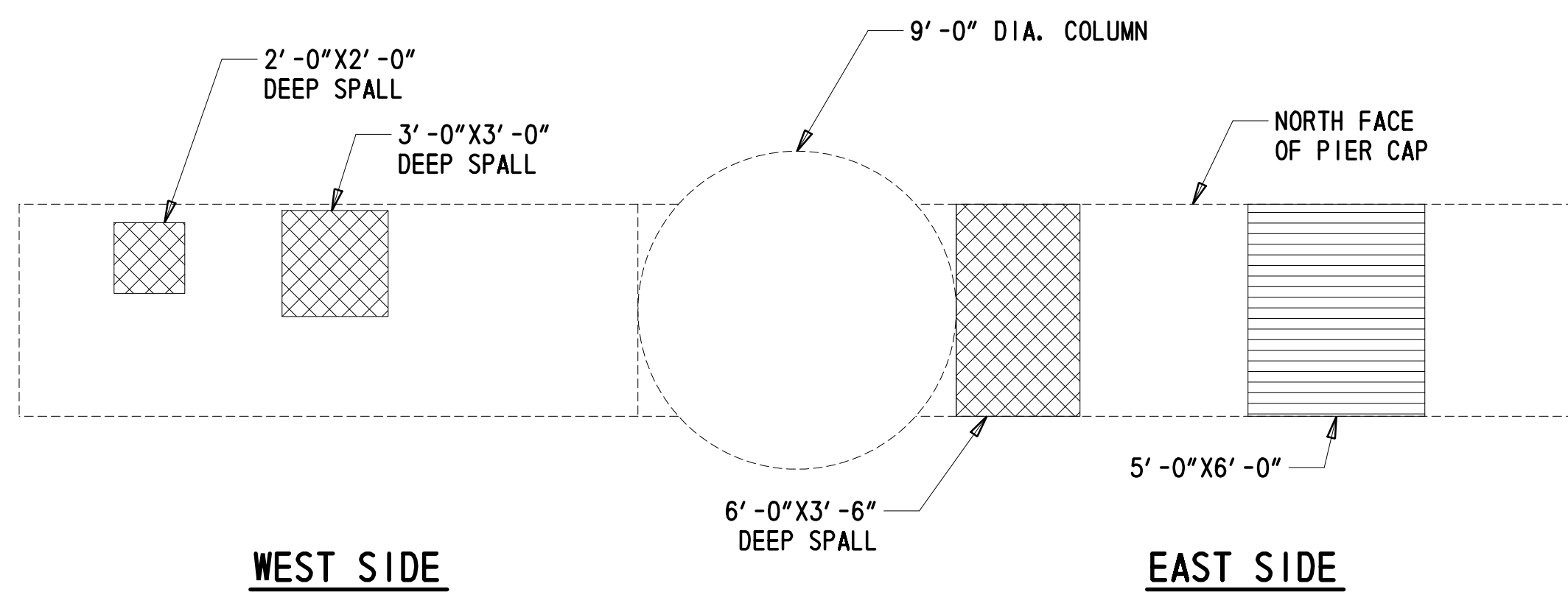
**PIER 18E, END VIEW**  
(LOOKING EAST)  
1" = 10'-0"



**PIER 18E, SIDE VIEW**  
(LOOKING SOUTH)  
1" = 10'-0"



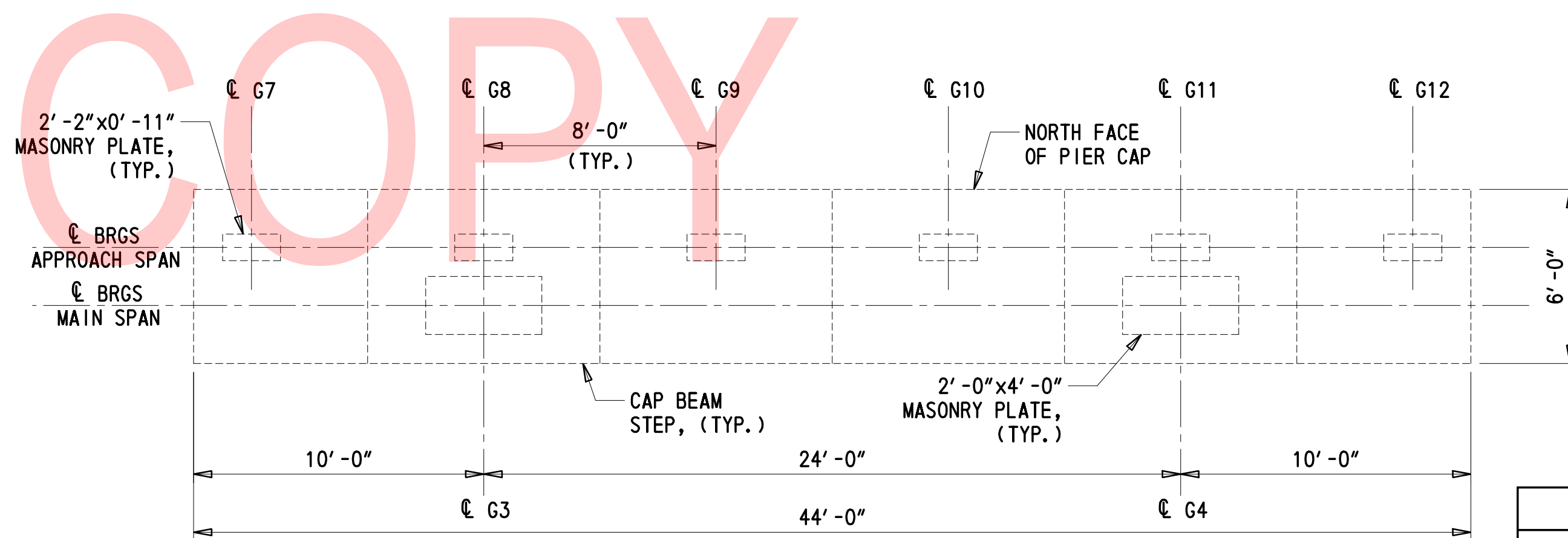
**PIER 18E, SIDE VIEW**  
(LOOKING NORTH)  
1" = 10'-0"



**PIER 18E, CAP UNDERSIDE**  
1/4" = 1'-0"

**NOTES:**

1. SEE DWG. DT-01 FOR TYPICAL REPAIR DETAILS AND NOTES.



**PIER 18E, CAP TOPSIDE**  
1/4" = 1'-0"

**CROSS-REFERENCE NOTES:**

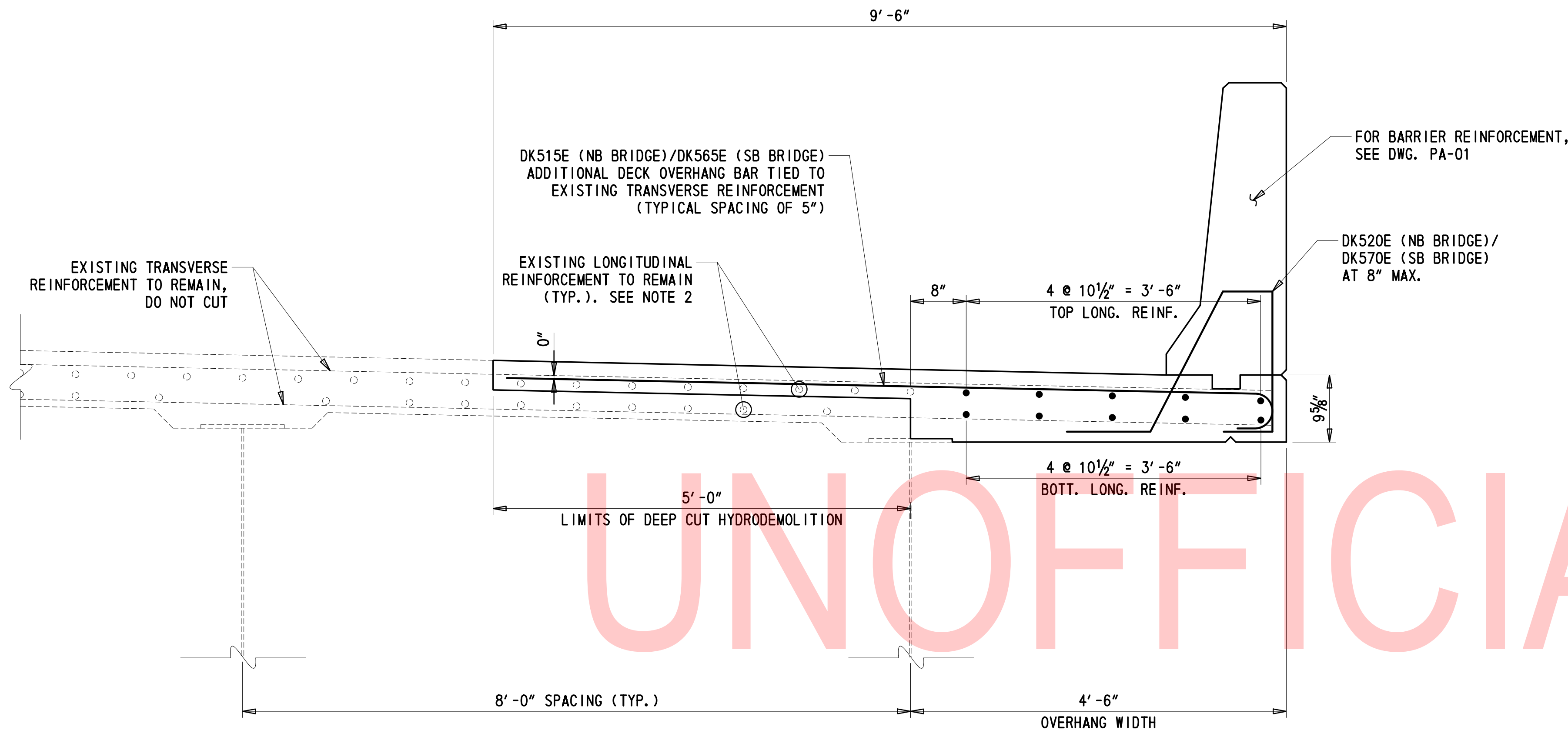
1. SEE DWG. PN-04 AND PN-05 FOR CAP REPAIR RESTRICTIONS.

LEGEND	
	DEEP SPALL REPAIR, ITEM 628041 (HEIGHT X WIDTH)
	SHALLOW SPALL REPAIR, ITEM 628040 (HEIGHT X WIDTH)
	REHABILITATION OF PORTLAND CEMENT CONCRETE MASONRY, ITEM 628042 (HEIGHT X WIDTH)
	REPAIR OF CONCRETE STRUCTURE BY EPOXY INJECTION, ITEM 628001 SEE DT-01, CONCRETE REPAIR NOTE 1 (LENGTH)

CONCRETE REPAIR QUANTITIES		
PIER 18E		PAID FOR UNDER ITEM NO.
DEEP SPALL REPAIR	22 CF	628041
SHALLOW SPALL REPAIR	37 CF	628040
REHABILITATION OF PORTLAND CEMENT CONCRETE MASONRY	3 CY	628042
REPAIR OF CONCRETE STRUCTURE BY EPOXY INJECTION	12 LF	628001

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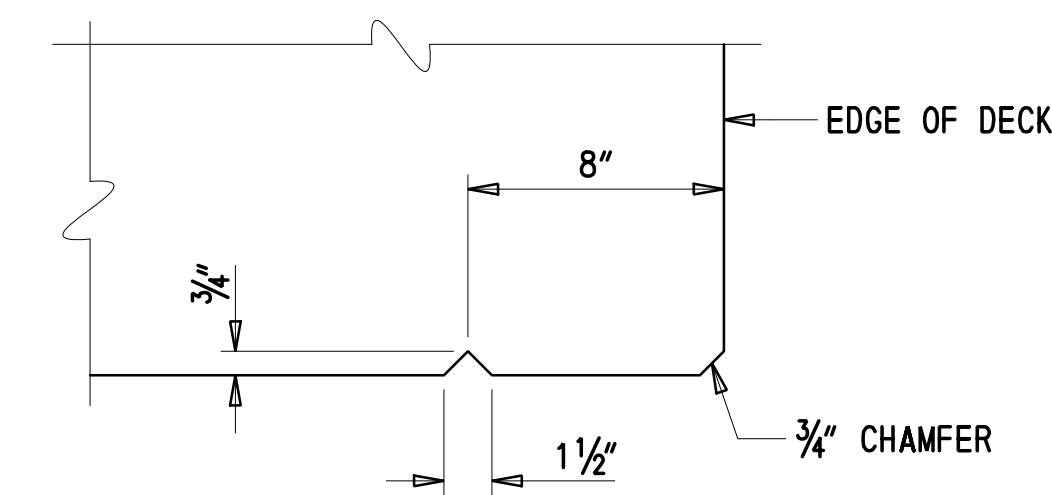
ADDENDA / REVISIONS		SCALE AS NOTED	REHABILITATION OF BRIDGES 1-810, 1-811, 1-812 AND 1-813 ON I-495	CONTRACT	BRIDGE NO.	BR 1-813	PIER 18E REPAIRS	PR-04
				T201707404	DESIGNED BY: PW			SECTION
				COUNTY	CHECKED BY: JWS		TY	
				NEW CASTLE			SHEET NO.	
							36	



DECK OVERHANG LONGITUDINAL REINFORCEMENT								
	NORTHBOUND BRIDGE				SOUTHBOUND BRIDGE			
	TOP LONG. REIN.	BOTT. LONG. REIN.	TOP LONG. REIN.	BOTT. LONG. REIN.	TOP LONG. REIN.	BOTT. LONG. REIN.	TOP LONG. REIN.	BOTT. LONG. REIN.
SPANS	BAR MARK	QTY.	BAR MARK	QTY.	BAR MARK	QTY.	BAR MARK	QTY.
1-3	DK501E	25	DK501E	25	DK551E	25	DK551E	25
4-7	DK502E	45	DK502E	45	DK552E	45	DK552E	45
8-10	DK503E	45	DK503E	45	DK553E	45	DK553E	45
11-14	DK504E	50	DK504E	50	DK554E	50	DK554E	50
15	DK505E	15	DK505E	15	DK555E	20	DK555E	20
16-18	DK506E	85	DK506E	85	DK556E	85	DK556E	85
19	DK507E	20	DK507E	20	DK557E	15	DK557E	15
20	DK508E	20	DK508E	20	DK558E	20	DK558E	20
21-24	DK509E	50	DK509E	50	DK559E	50	DK559E	50
25-28	DK510E	50	DK510E	50	DK560E	50	DK560E	50
29-32	DK511E	45	DK511E	45	DK561E	45	DK561E	45
33-36	DK512E	45	DK512E	45	DK562E	45	DK562E	45
37	DK513E	15	DK513E	15	DK563E	15	DK563E	15
38	DK514E	5	DK514E	5	DK564E	5	DK564E	5

**OVERHANG REINFORCEMENT DETAIL**

1" = 1'-0"  
 (SPANS 1-15 AND 19-38 SHOWN, SPANS 16-18 SIMILAR)  
 (NORTHBOUND BRIDGE SHOWN, SOUTHBOUND BRIDGE SIMILAR)



**DRIP NOTCH DETAIL**

NOT TO SCALE

**NOTES:**

- FOR DEEP CUT HYDRODEMOLITION DETAILS, SEE DWG. SR-01.
- THE EXISTING LONGITUDINAL REINFORCEMENT WITHIN THE FIRST BAY IS TO REMAIN. IF THE TOP MAT OF REINFORCEMENT IS LOOSE, IT SHALL BE RETIED TO THE TRANSVERSE REINFORCEMENT. EXISTING BARS TO REMAIN SHALL BE CLEANED IN ACCORDANCE WITH SECTION 628.03(E)7. BARS WITH CORROSION, BROKEN, OR WITH INADEQUATE BOND SHALL BE REPAIRED IN ACCORDANCE WITH SECTION 628.03(E)7. PAYMENT FOR THIS WORK WILL BE INCIDENTAL TO ITEM 611001 - BAR REINFORCEMENT, EPOXY COATED.
- THE MINIMUM LAP LENGTH FOR DECK OVERHANG LONGITUDINAL REINFORCEMENT SHALL BE 2'-3".

ADDENDA / REVISIONS

SCALE AS NOTED

REHABILITATION OF BRIDGES  
 1-810, 1-811, 1-812  
 AND 1-813 ON I-495

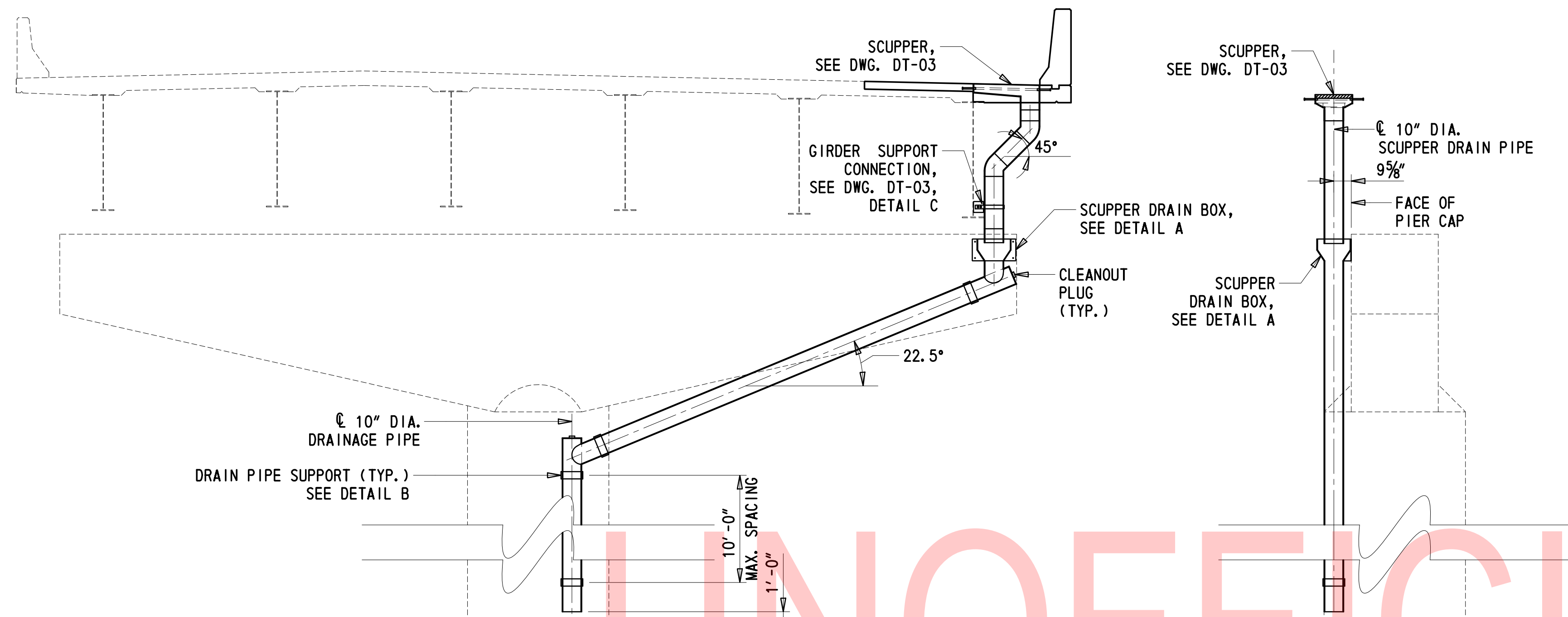
CONTRACT	BRIDGE NO.	<b>BR 1-813</b>
T201707404	DESIGNED BY:	RMB
COUNTY	CHECKED BY:	JWS
NEW CASTLE		

OVERHANG REINFORCEMENT  
 DETAILS

DK-01
SECTION
TY
SHEET NO.
37

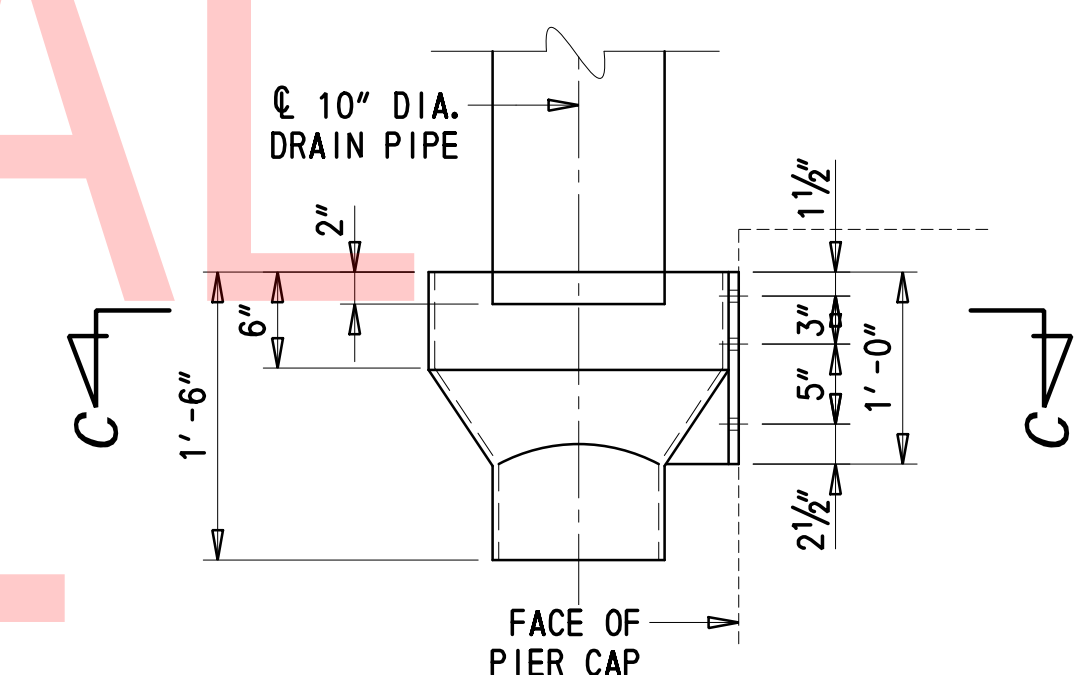
**NOTES:**

1. PROVIDE MATERIALS AND WORKMANSHIP IN ACCORDANCE WITH DELAWARE DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS AND AASHTO/AWS WELDING SPECIFICATIONS.
2. SCUPPER AND JOINT DRAIN PIPES AND FITTINGS SHALL BE FABRICATED USING PVC IN ACCORDANCE WITH DELAWARE DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATION 1031.04.
3. ALL WORK ASSOCIATED WITH FURNISHING AND INSTALLING SCUPPERS SHALL BE PAID UNDER ITEM 615512 - BRIDGE SCUPPERS.
4. ALL WORK ASSOCIATED WITH FURNISHING AND INSTALLING THE SCUPPER DRAIN AND JOINT DRAIN SHALL BE PAID UNDER ITEM 615517- BRIDGE DRAINAGE SYSTEM. THIS INCLUDES PIPE FITTINGS, DRAIN BOX, DRAIN PIPE SUPPORT, GIRDER SUPPORT CONNECTIONS, CLEANOUTS, AND CONNECTING THE DRAINAGE SYSTEM TO PROPOSED SCUPPERS AND EXISTING JOINT DRAINAGE SYSTEM.
5. GALVANIZE ALL STEEL MATERIALS IN ACCORDANCE WITH SECTION 826, AFTER FABRICATION.
6. SUBMIT SHOP DRAWING FOR SCUPPERS, DRAIN BOX, DRAIN PIPE SUPPORT, GIRDER SUPPORT CONNECTION, AND GRATES FOR APPROVAL.
7. SEE DWG. PE-01 TO PE-03 FOR LOCATIONS OF SCUPPERS AND SCUPPER DRAINS.
8. SEE DWG. DT-03 FOR SCUPPER NOTES AND DETAILS.
9. THE SCUPPER PIPE LOCATED AT THE MIDSPAN OF SPAN 16 SHALL TERMINATE 6" BELOW THE BOTTOM OF THE GIRDER, AND SHALL NOT BE CONNECT TO THE SUBSTRUCTURE. SEE DWG. DT-03, DETAIL C.

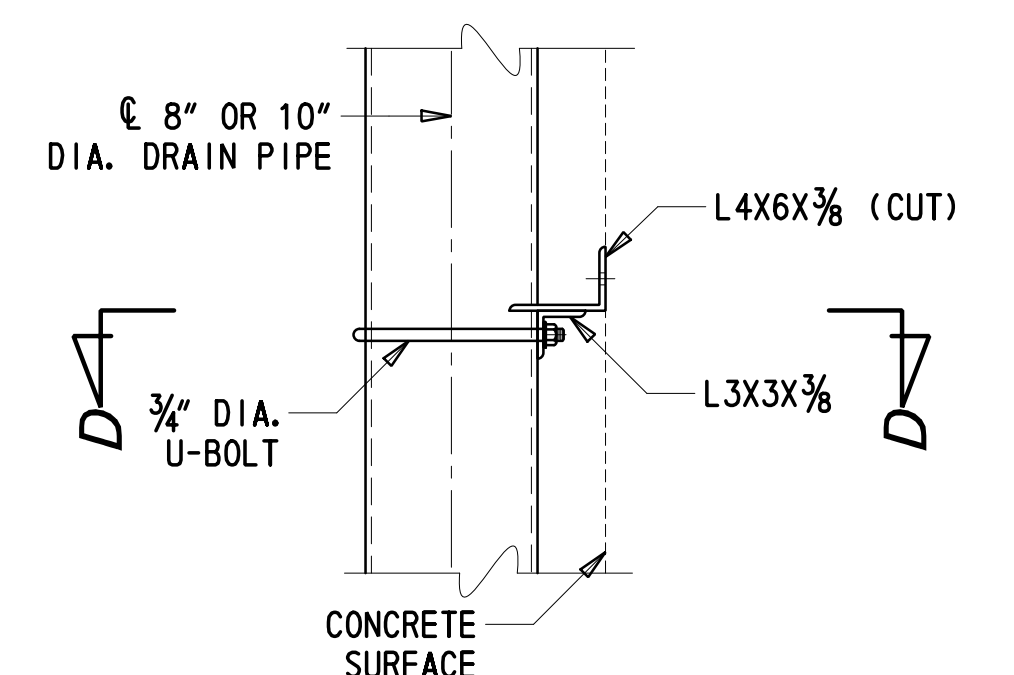


**APPROACH PIERS DRAINAGE**

**SCUPPER DRAIN SIDE VIEW**

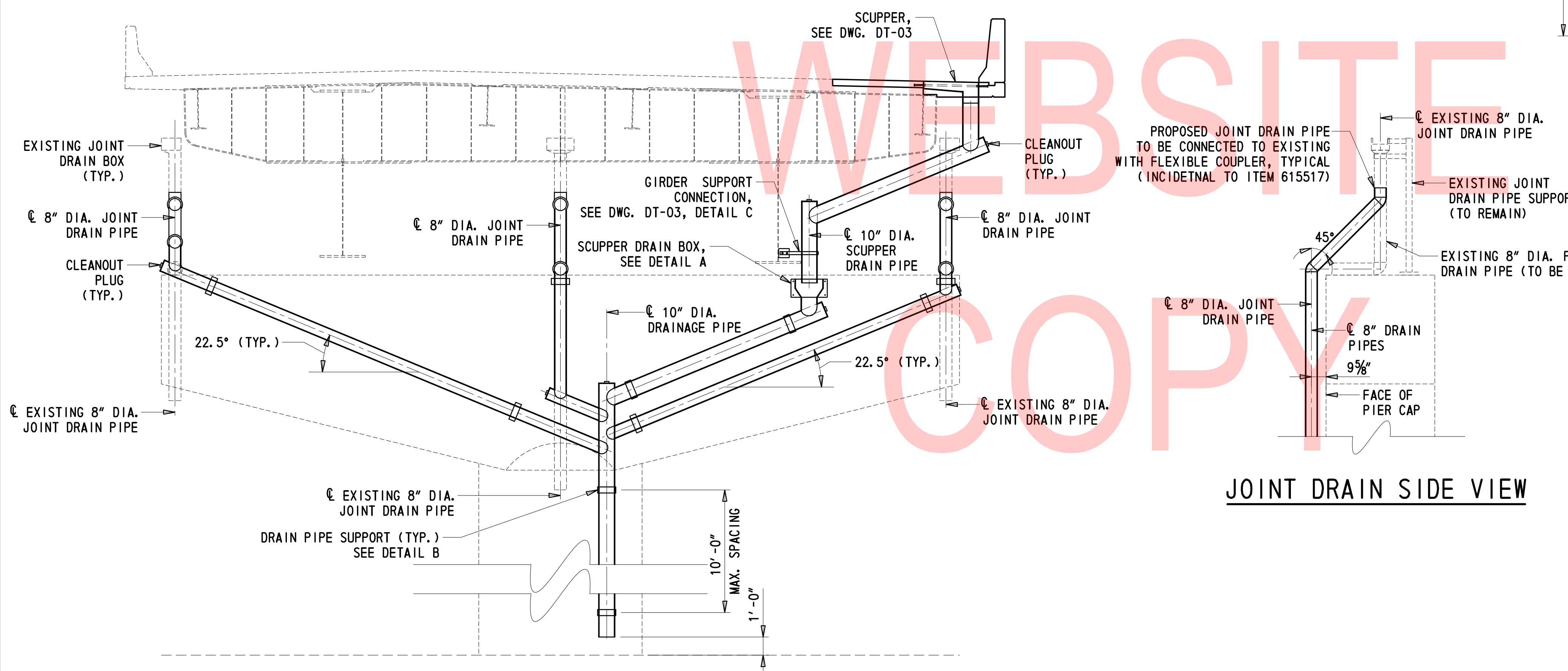


**DETAIL A**

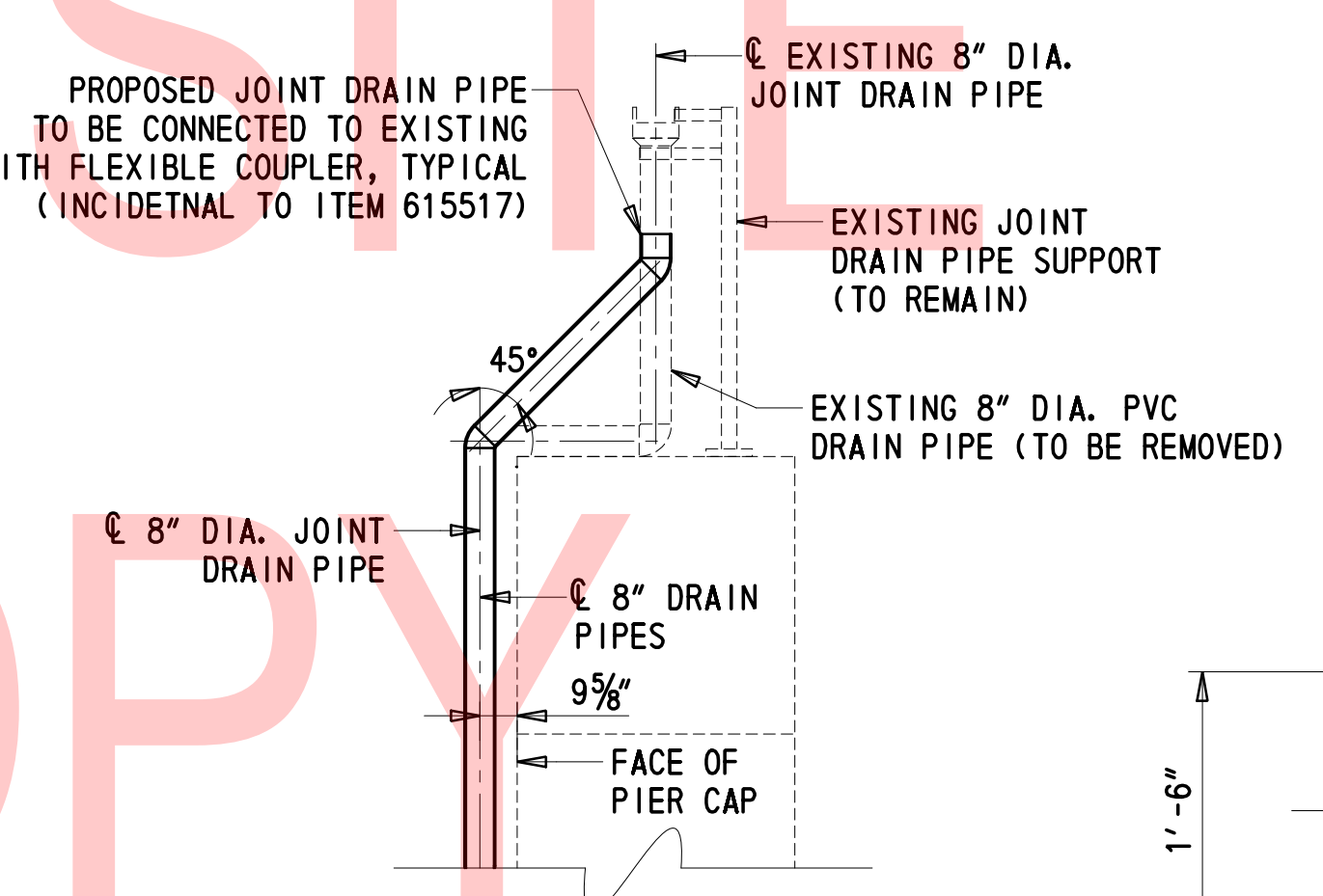


**DETAIL B**

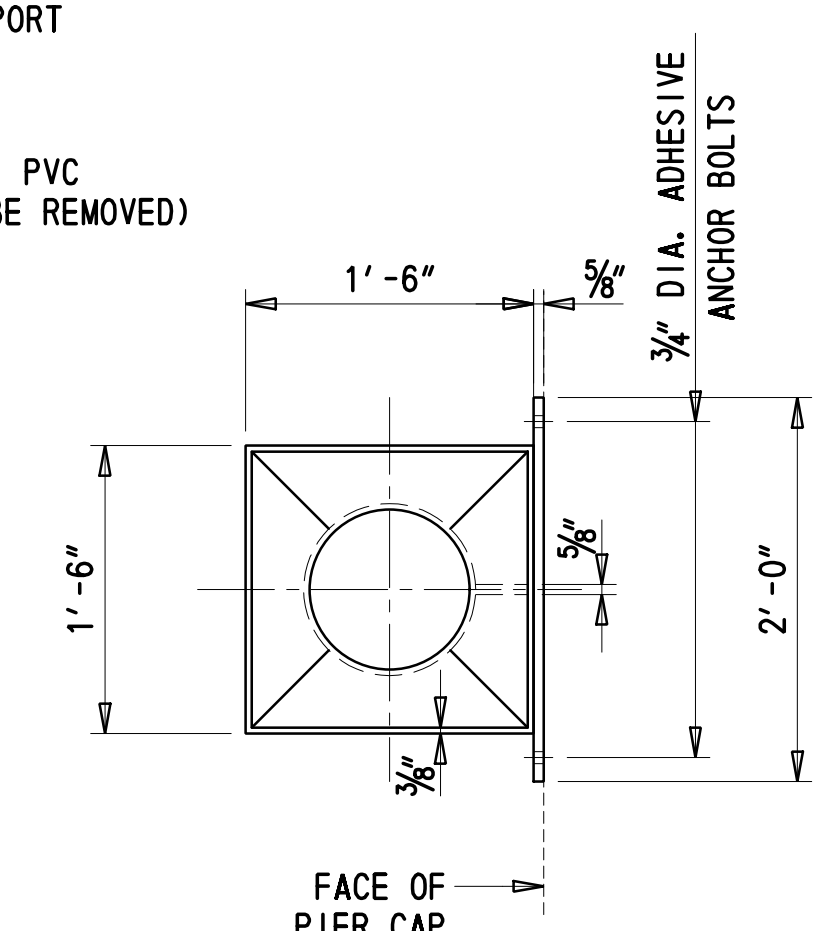
NOTE: DETAIL SHOWN FOR PLANE CONCRETE SURFACES. MODIFY DETAILS AS REQUIRED FOR ROUND CONCRETE SURFACES.



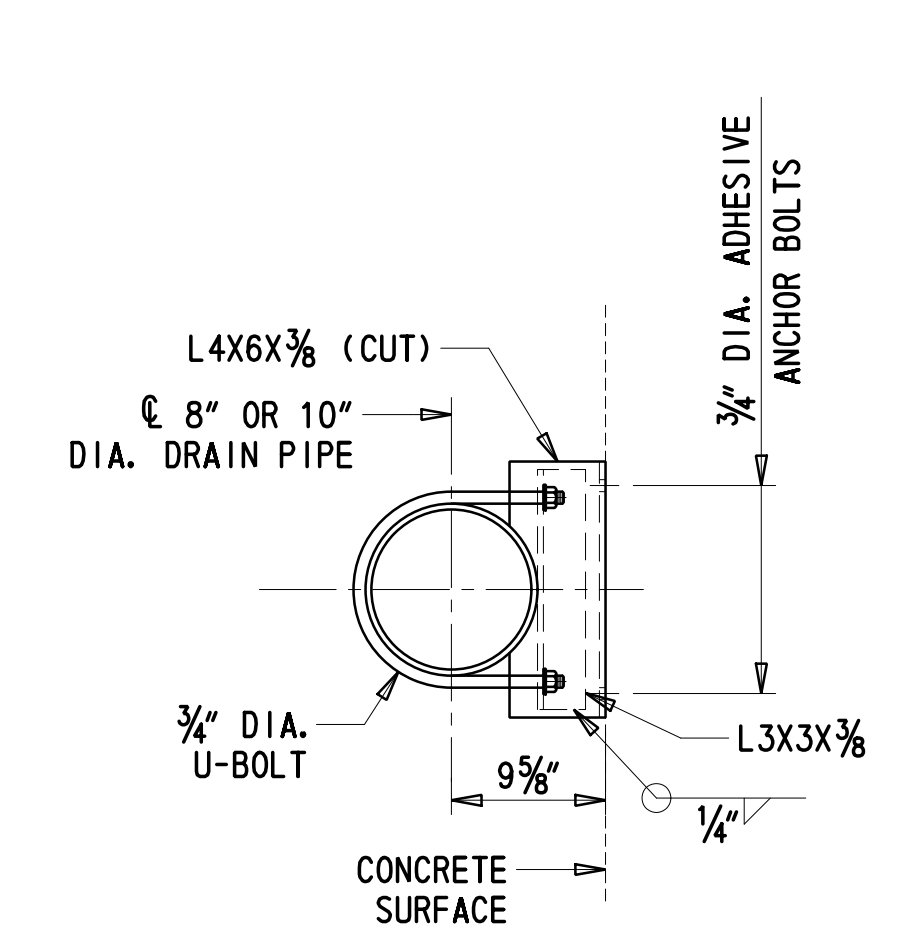
**PIERS 15 & 18 DRAINAGE**



**JOINT DRAIN SIDE VIEW**



**SECTION C-C**



**SECTION D-D**

ADDENDA / REVISIONS

SCALE AS NOTED

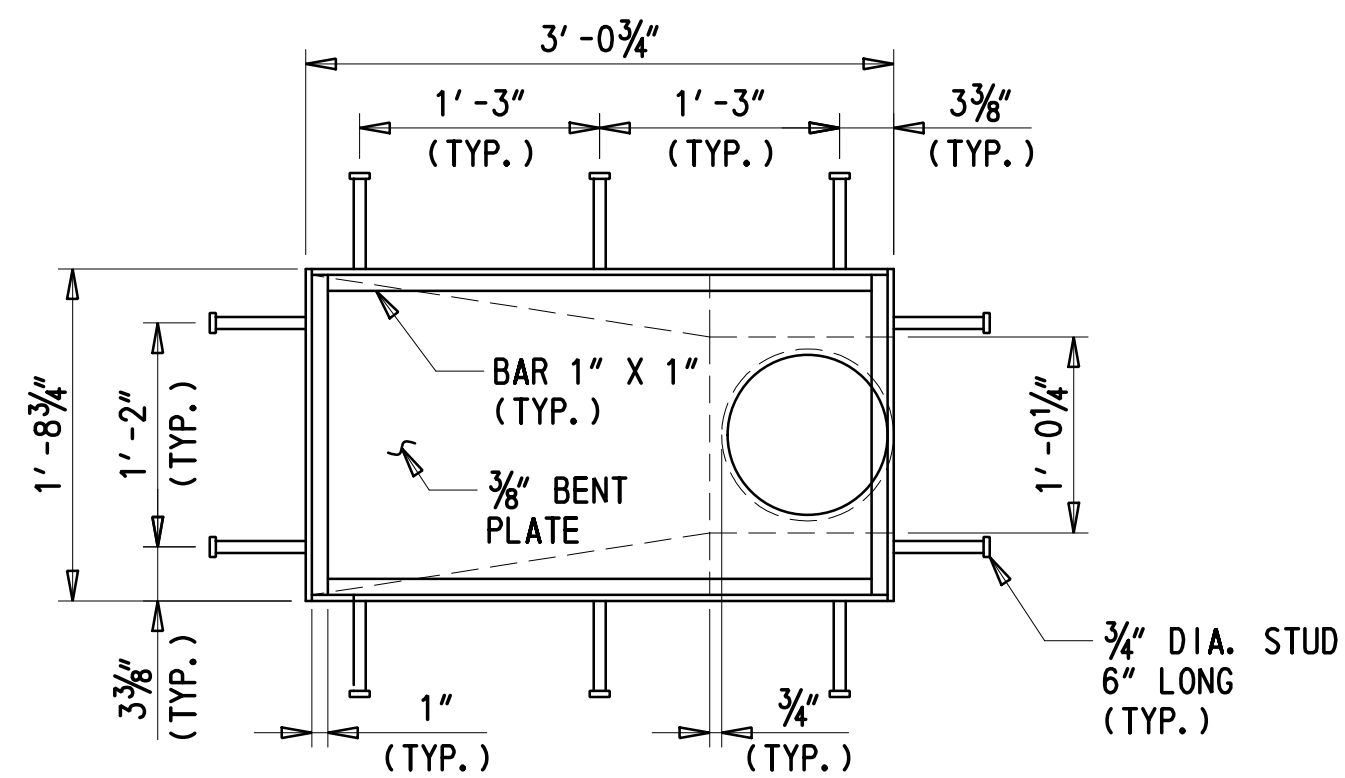
REHABILITATION OF BRIDGES  
1-810, 1-811, 1-812  
AND 1-813 ON I-495

CONTRACT	BRIDGE NO.	<b>BR 1-813</b>
T201707404	DESIGNED BY:	DJC
COUNTY	CHECKED BY:	JWS
NEW CASTLE		

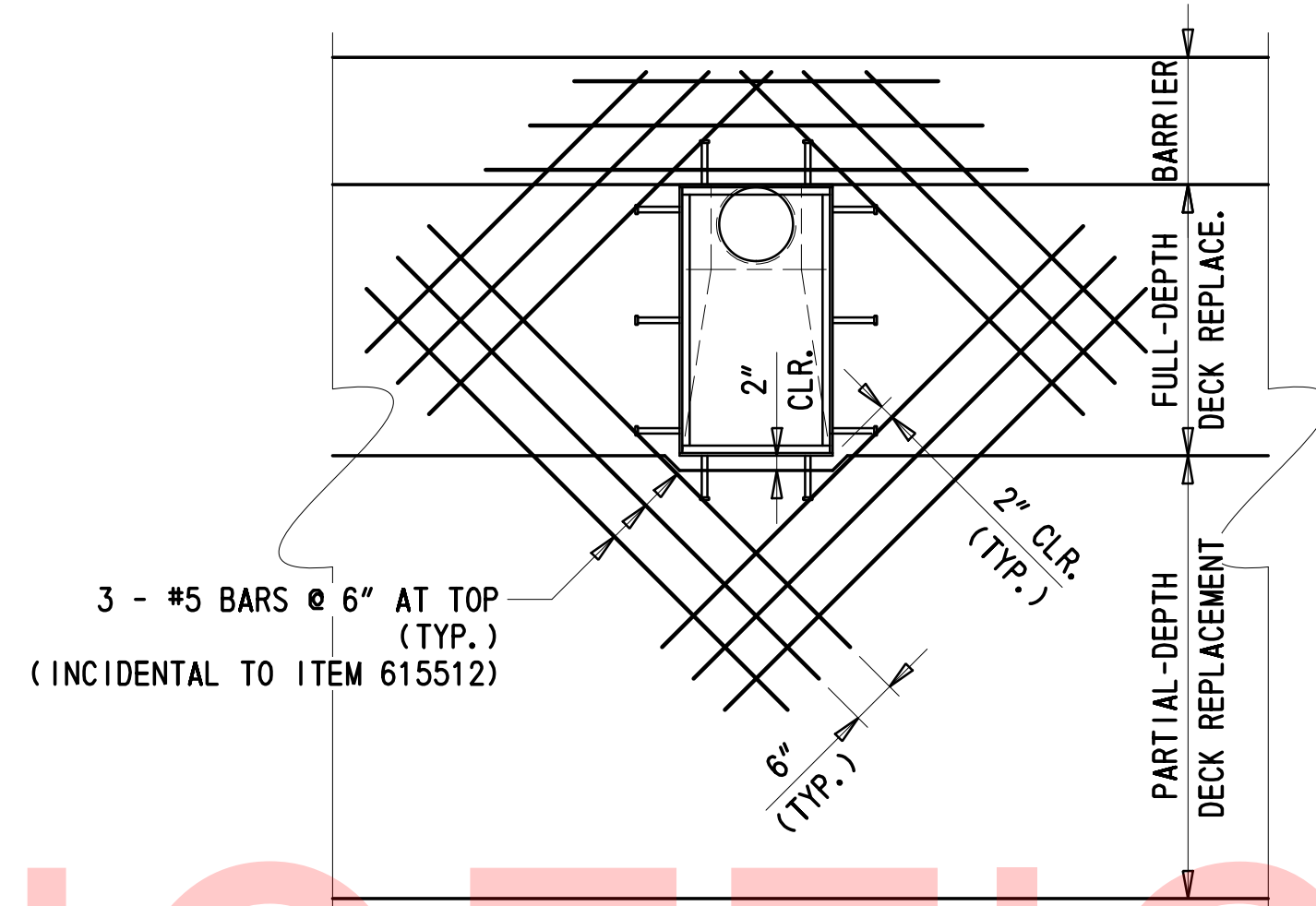
PIER DRAINAGE DETAILS

DT-02
SECTION
TY
SHEET NO.
38

2/10/2020 T:\Dover\Projects\425025\600\_CADD\05\_Official\Plans\DT02\_BRI-813.dgn

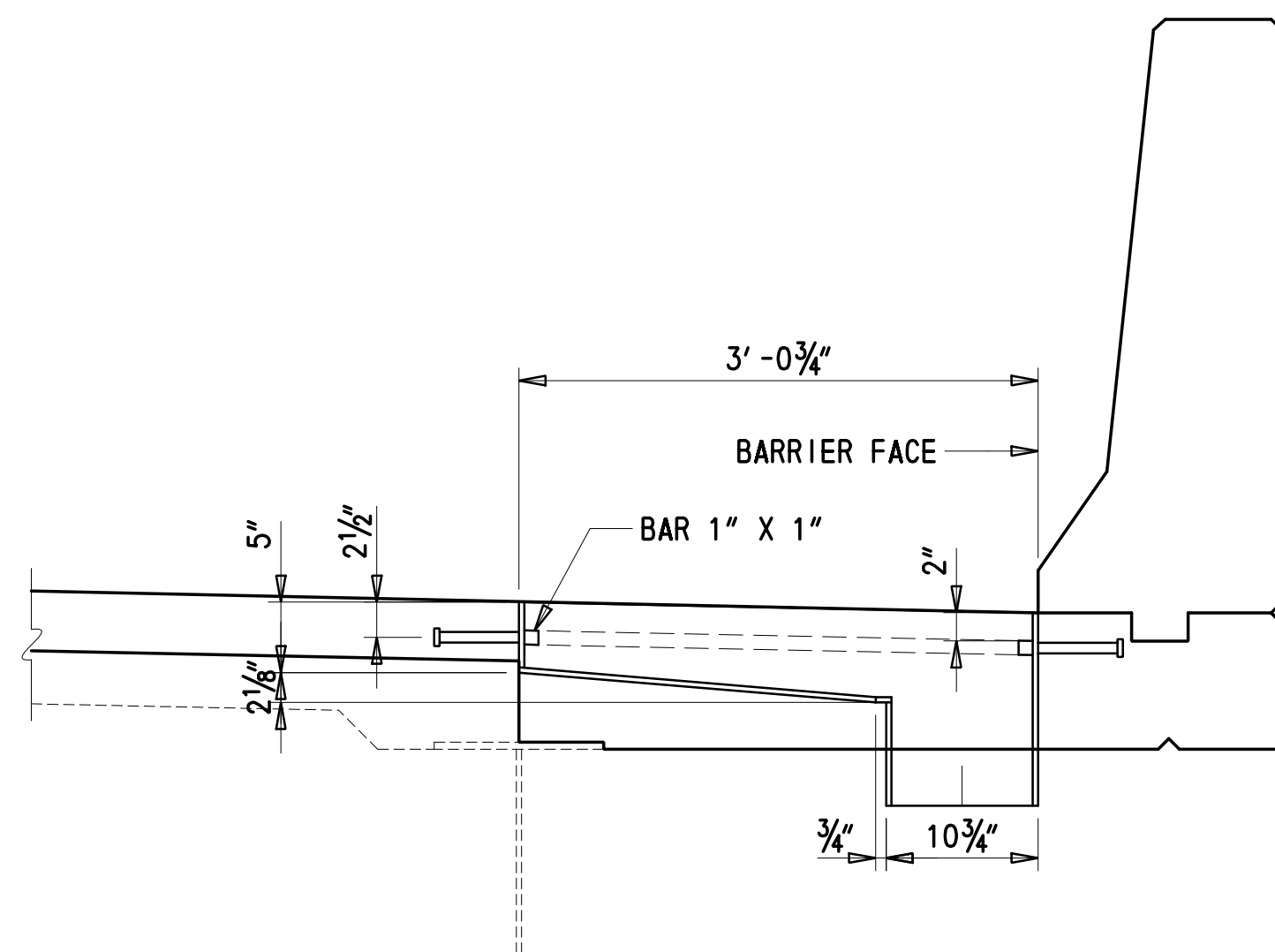


**SCUPPER PLAN**

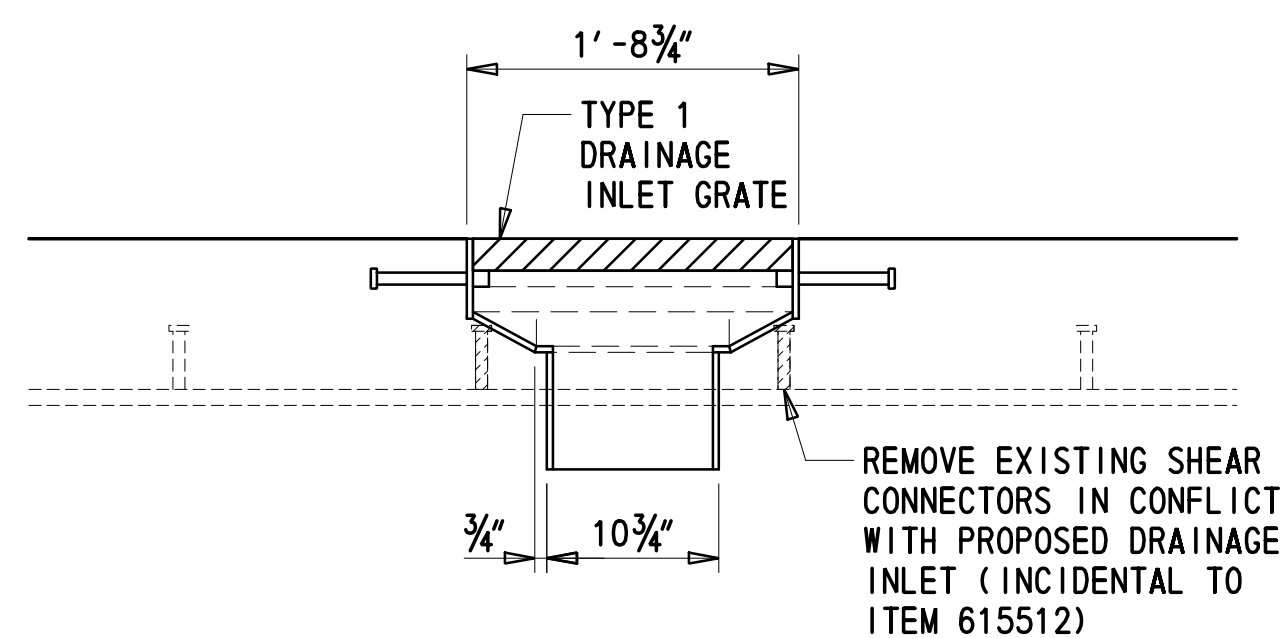


**ADDITIONAL DECK REINFORCEMENT AT SCUPPER**

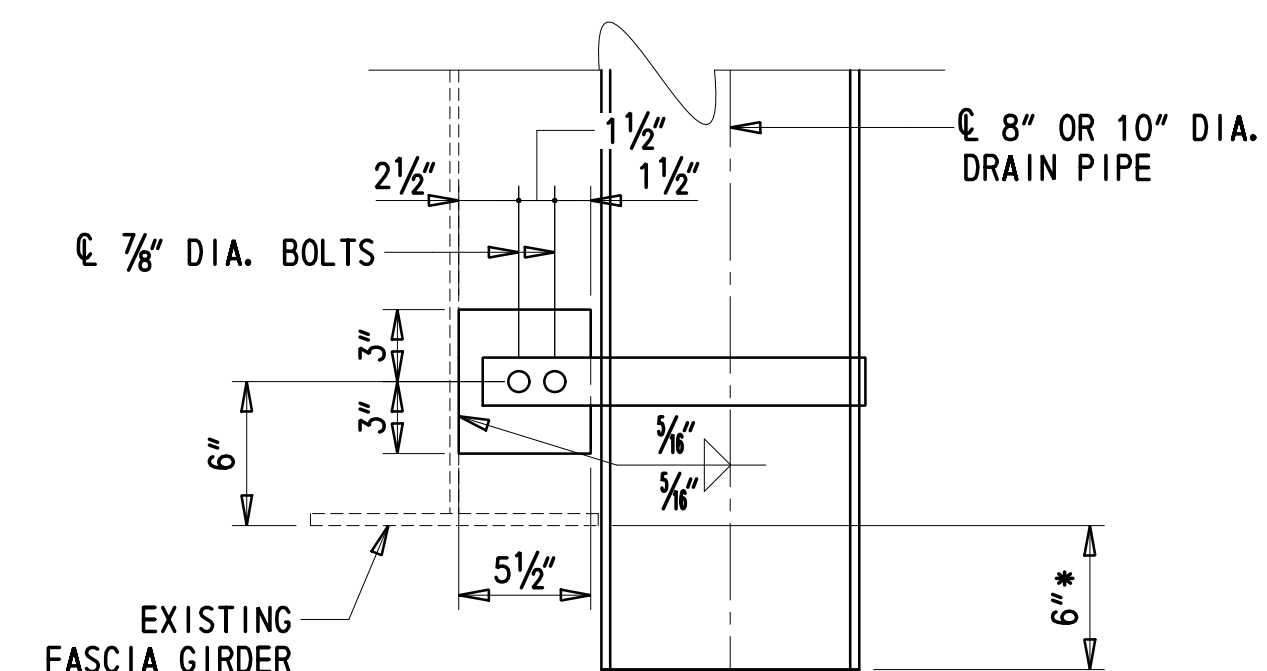
NOTE: CUT LONGITUDINAL DECK REINFORCEMENT AND REPOSITION TRANSVERSE DECK REINFORCEMENT TO ACCOMMODATE SCUPPERS (INCIDENTAL TO ITEM 615512), NOT SHOWN FOR CLARITY.



**SECTION A-A**



**SECTION B-B**



**DETAIL C**

NOTE: SCUPPER DRAINS AT MIDSPAN OF SPAN 16 SHALL TERMINATE A MINIMUM OF 6" PAST THE BOTTOM OF THE GIRDER

**NOTES:**

1. ALL REINFORCEMENT STEEL BARS SHOWN MEET THE REQUIREMENTS OF SECTION 1037 OF THE STANDARD SPECIFICATIONS. DO NOT WELD GRADE 60 STEEL BARS UNLESS SPECIFIED.
2. PROVIDE MATERIALS AND WORKMANSHIP IN ACCORDANCE WITH DELAWARE DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS AND AASHTO/AWS WELDING SPECIFICATIONS.
3. SCUPPERS SHALL BE FABRICATED USING STRUCTURAL STEEL AASHTO M 270, GR. 36 (ASTM A 709, GR. 36)
4. PROVIDE WELDED STUDS CONFORMING TO AASHTO M 169 (ASTM A 108) GR. 1015, 1018, OR 1020.
5. GALVANIZE ALL STEEL MATERIALS AFTER FABRICATION IN ACCORDANCE WITH SECTION 1039 OF THE STANDARD SPECIFICATION.
6. ALL WORK ASSOCIATED WITH FURNISHING AND INSTALLING SCUPPERS SHALL BE PAID UNDER ITEM 615512 - BRIDGE SCUPPERS AND SHALL INCLUDE ADDITIONAL DECK REINFORCING BARS, ADDITIONAL DECK DEMOLITION, INLET GRATES, AND REMOVAL OF GIRDER SHEAR CONNECTORS.
6. SCUPPERS AND GRATES SHALL BE PROVIDED AS DETAILED OR A APPROVED PRE-MANUFACTURED EQUAL. SUBMIT SHOP DRAWING FOR SCUPPERS AND GRATES FOR APPROVAL.

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WEBSITE  
COPY

ADDENDA / REVISIONS

SCALE AS NOTED

**REHABILITATION OF BRIDGES  
1-810, 1-811, 1-812  
AND 1-813 ON I-495**

CONTRACT

T201707404

COUNTY

NEW CASTLE

BRIDGE NO.

**BR 1-813**

DESIGNED BY: DJC

CHECKED BY: JWS

**SCUPPER DETAILS**

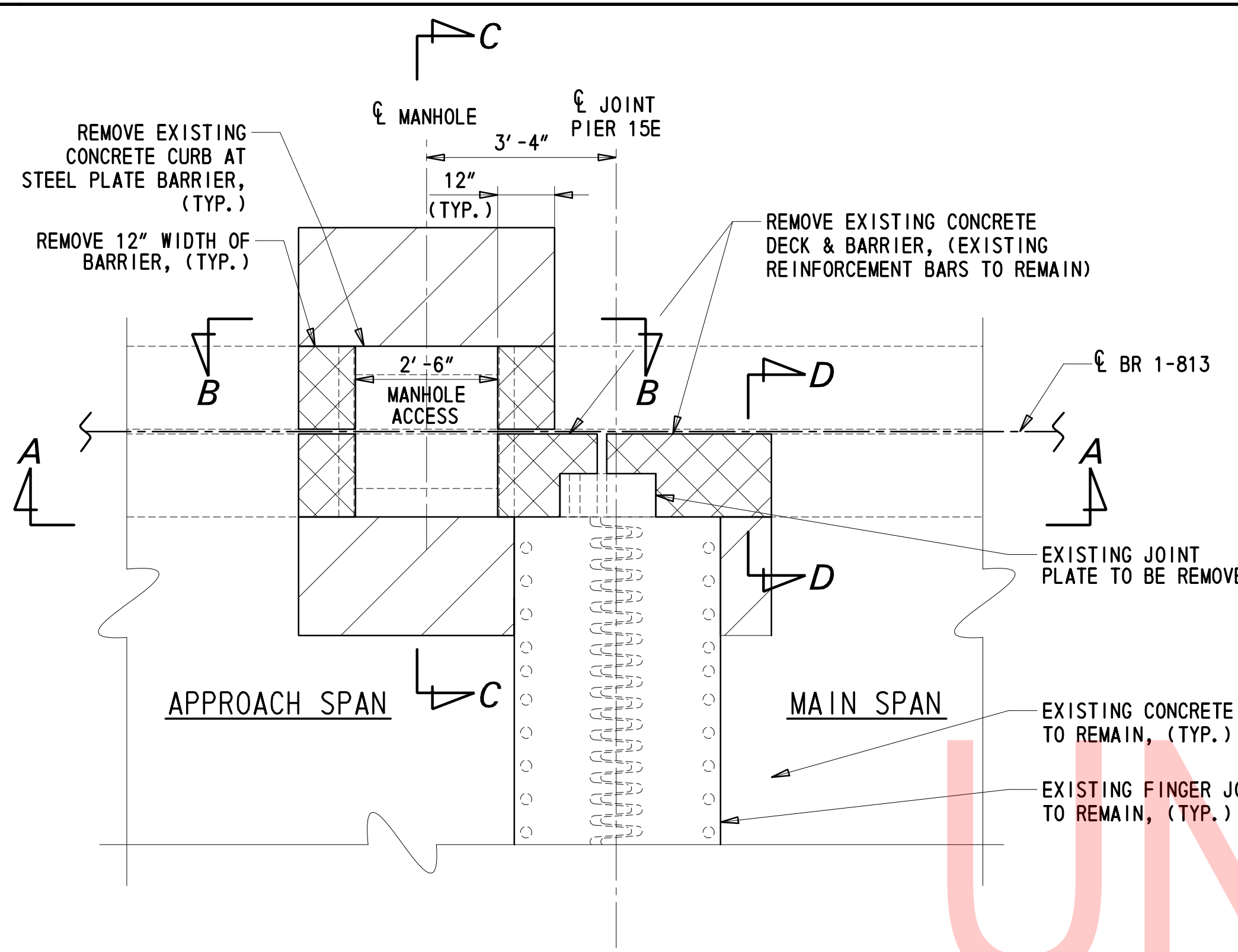
DT-03

SECTION

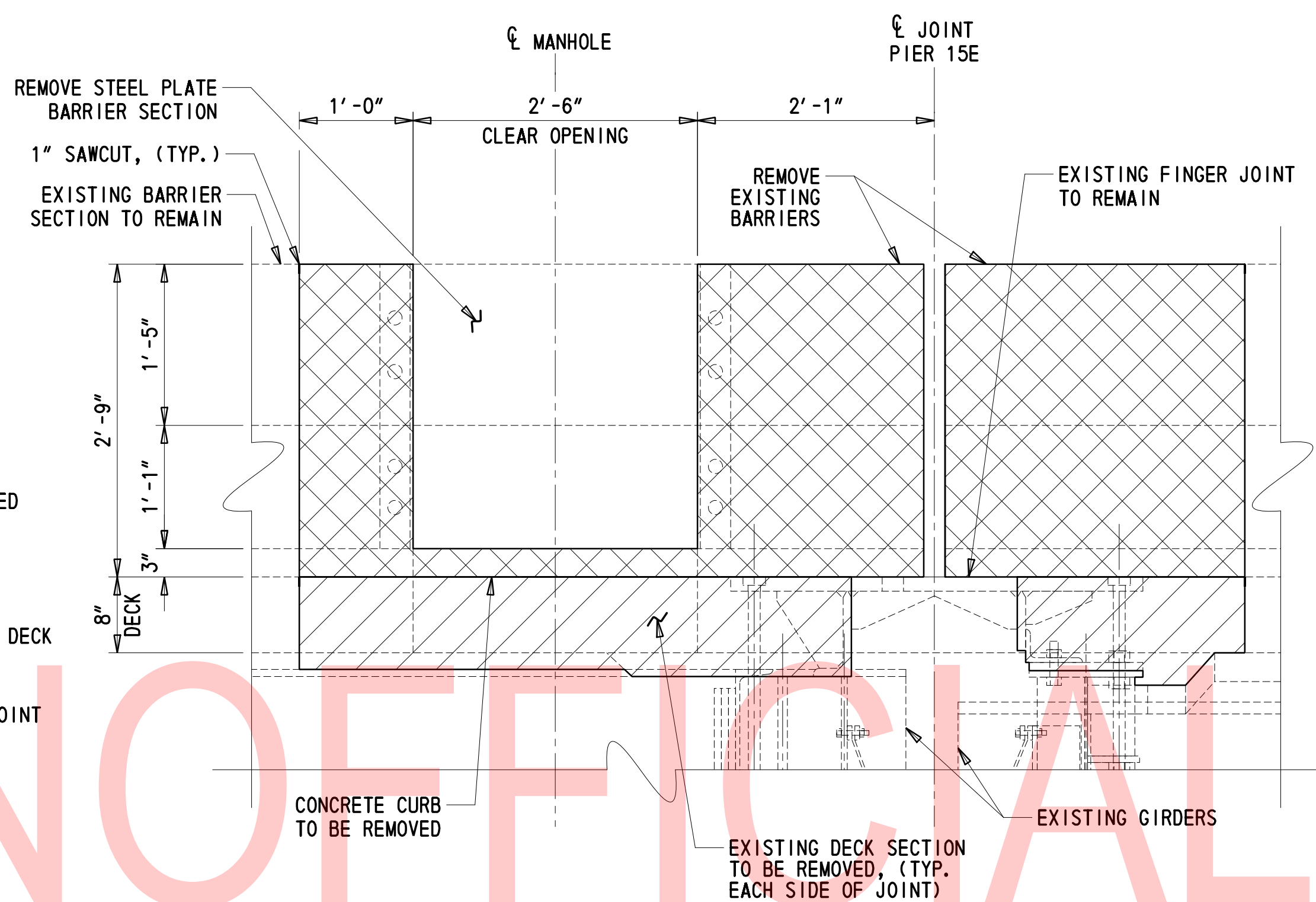
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SHEET NO.

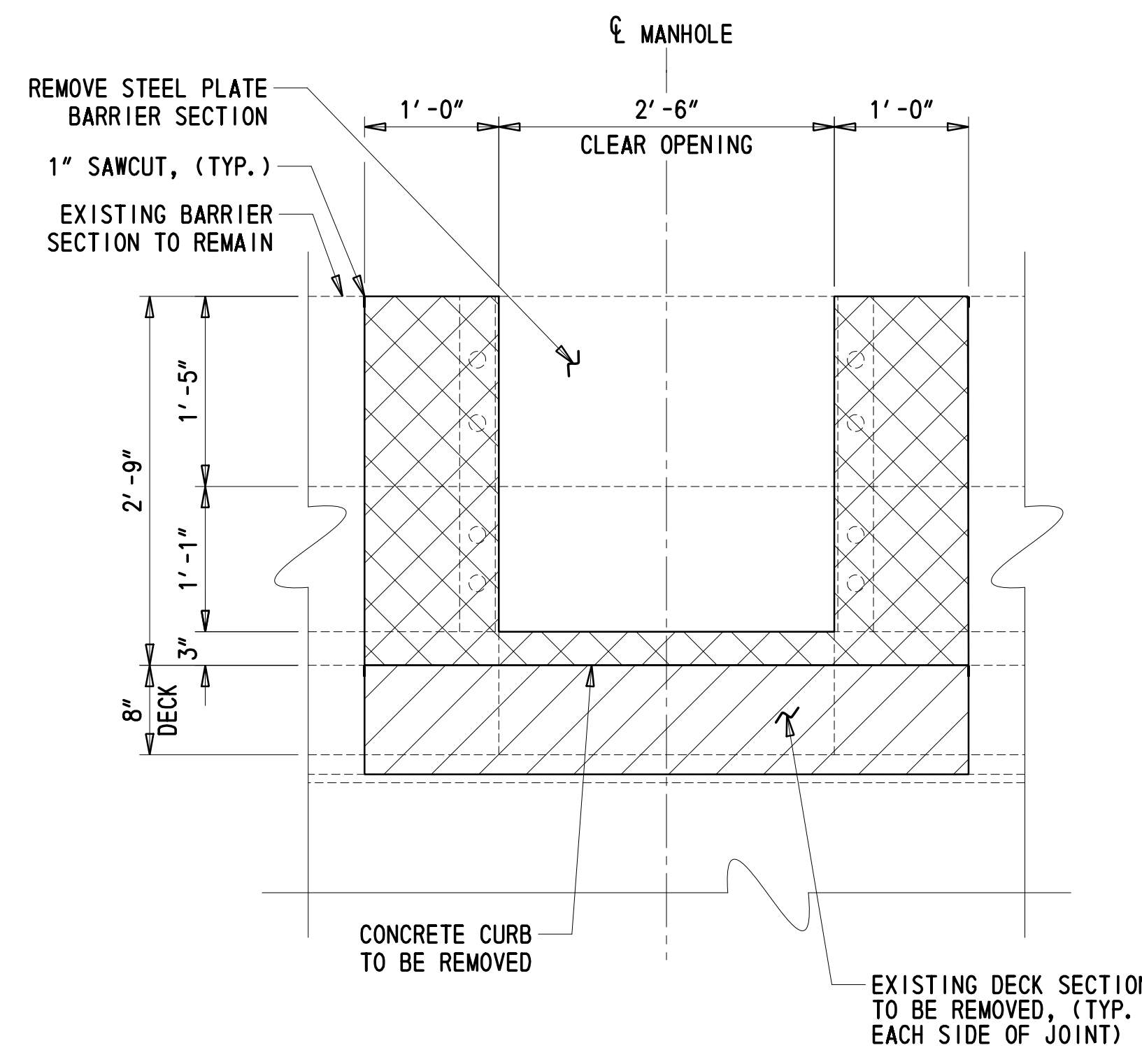
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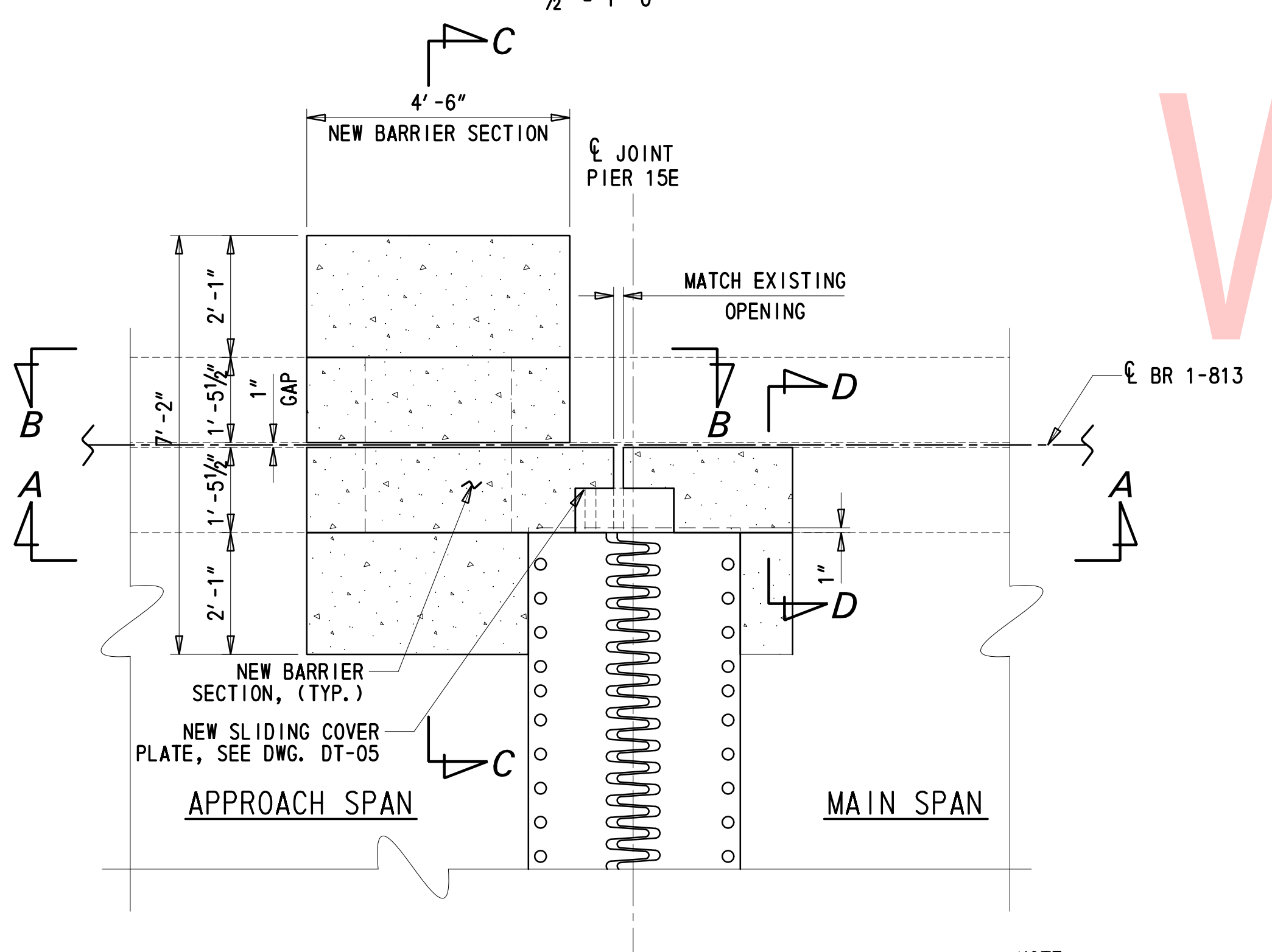
**REMOVAL PLAN**  
1/2" = 1'-0"



**MEDIAN BARRIER - REMOVAL ELEVATION A-A**  
1" = 1'-0"

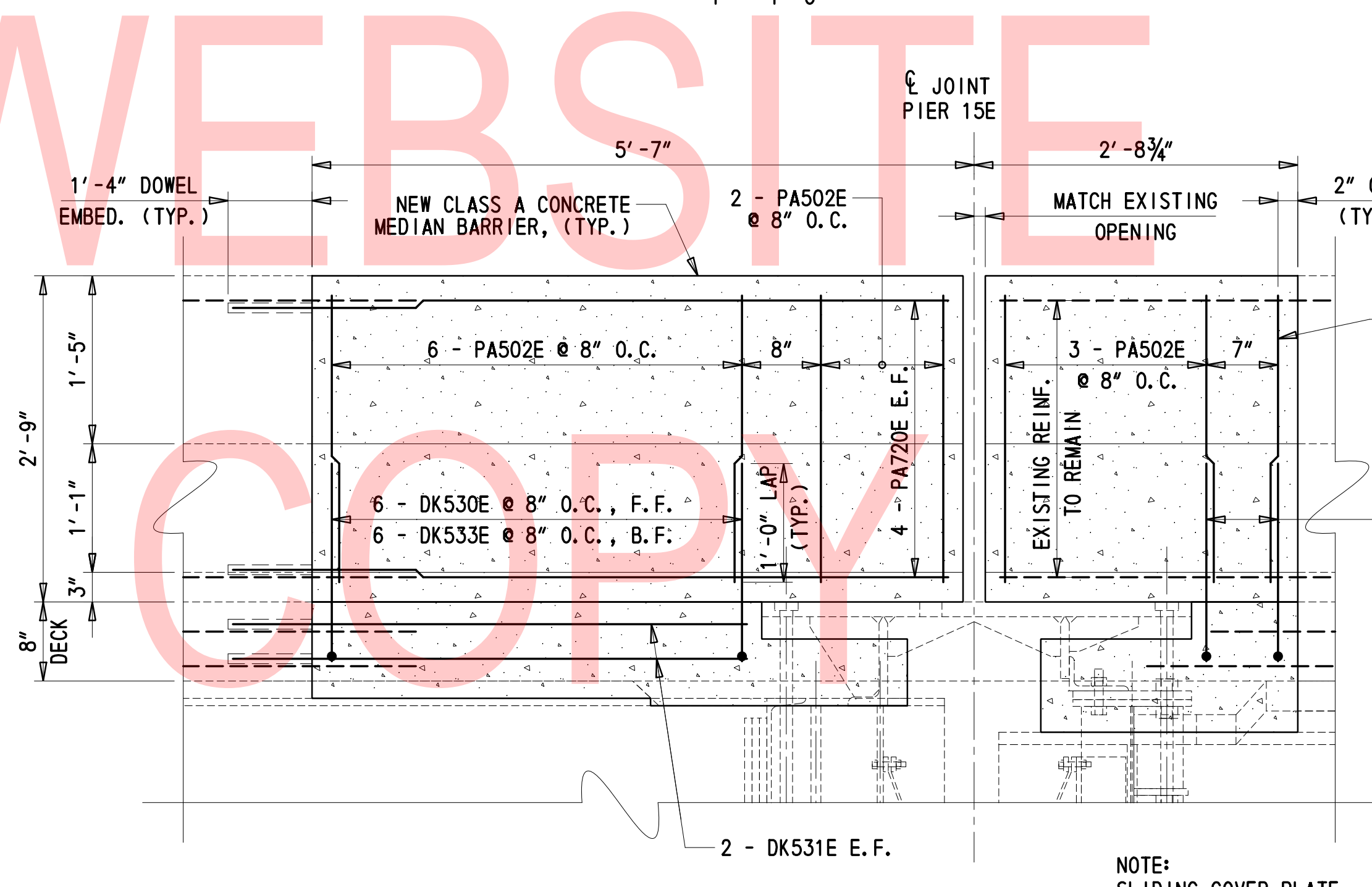


**MEDIAN BARRIER - REMOVAL ELEVATION B-B**  
1" = 1'-0"



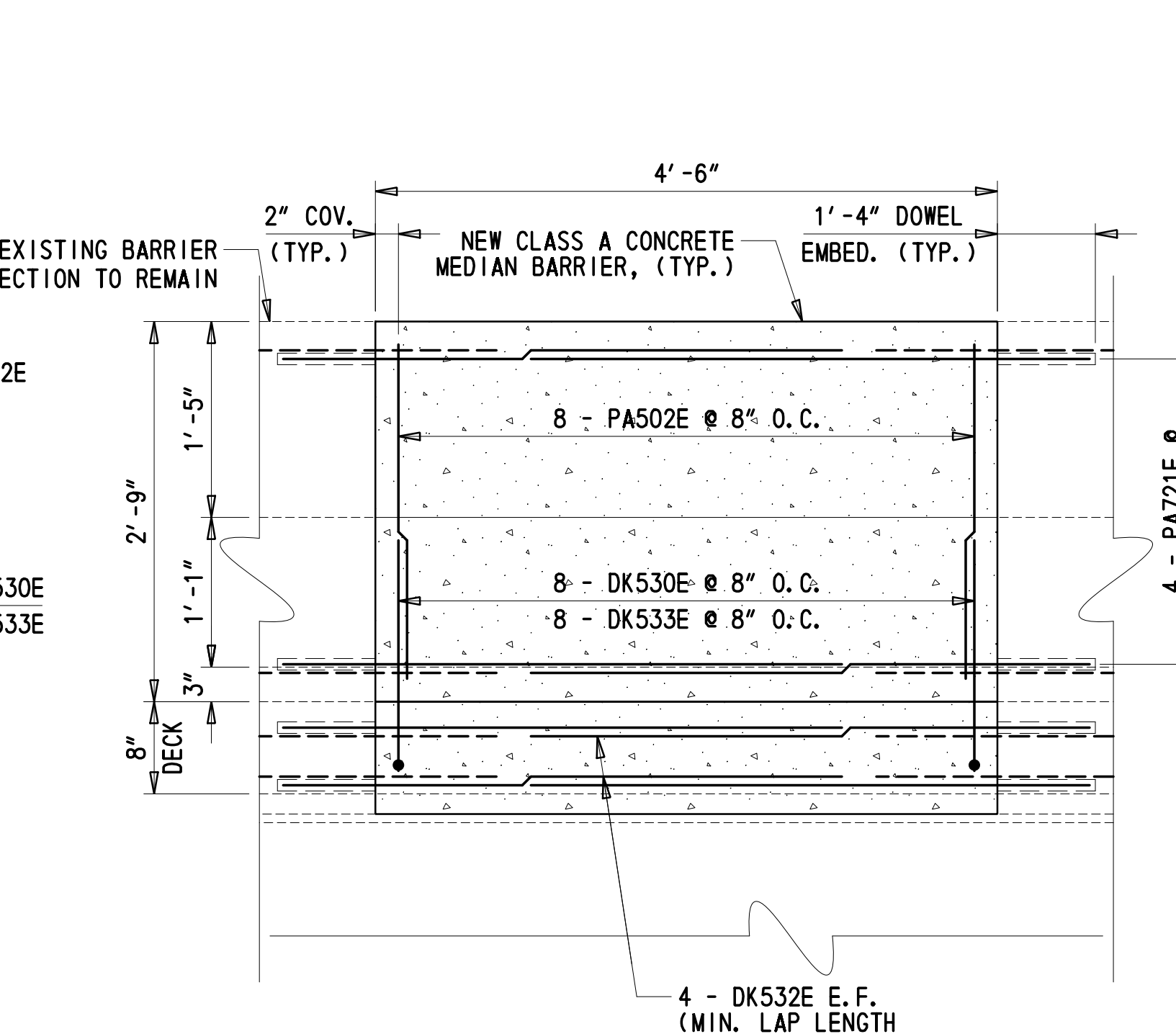
NOTE: REINFORCEMENT NOT SHOWN FOR CLARITY.

**PROPOSED PLAN**  
1/2" = 1'-0"



NOTE: SLIDING COVER PLATE NOT SHOWN FOR CLARITY.

**MEDIAN BARRIER - PROPOSED ELEVATION A-A**  
1" = 1'-0"



NOTE: MIN. LAP LENGTH OF 2'-3", TYP.)

**MEDIAN BARRIER - PROPOSED ELEVATION B-B**  
1" = 1'-0"

**LEGEND:**

- = REMOVE CONCRETE DECK (ITEM 211000)
- = REMOVE CONCRETE BARRIER / STEEL PLATE MANHOLES (ITEM 211000)

**NOTES:**

1. JOINT AT PIER 15E SHOWN. JOINTS AT PIERS 15W, 18E AND 18W ARE SIMILAR.
2. FOR SECTIONS C-C AND D-D, AND NOTES SEE DWG. DT-05.
3. FOR MANHOLE REMOVAL LOCATIONS SEE DWG. PE-01 TO PE-03.

ADDENDA / REVISIONS

SCALE AS NOTED

**REHABILITATION OF BRIDGES**  
1-810, 1-811, 1-812  
AND 1-813 ON I-495

CONTRACT T201707404	BRIDGE NO. BR 1-813
COUNTY NEW CASTLE	DESIGNED BY: DJC
	CHECKED BY: JWS

**MEDIAN BARRIER MANHOLE**  
INFILL PLANS AND  
ELEVATIONS

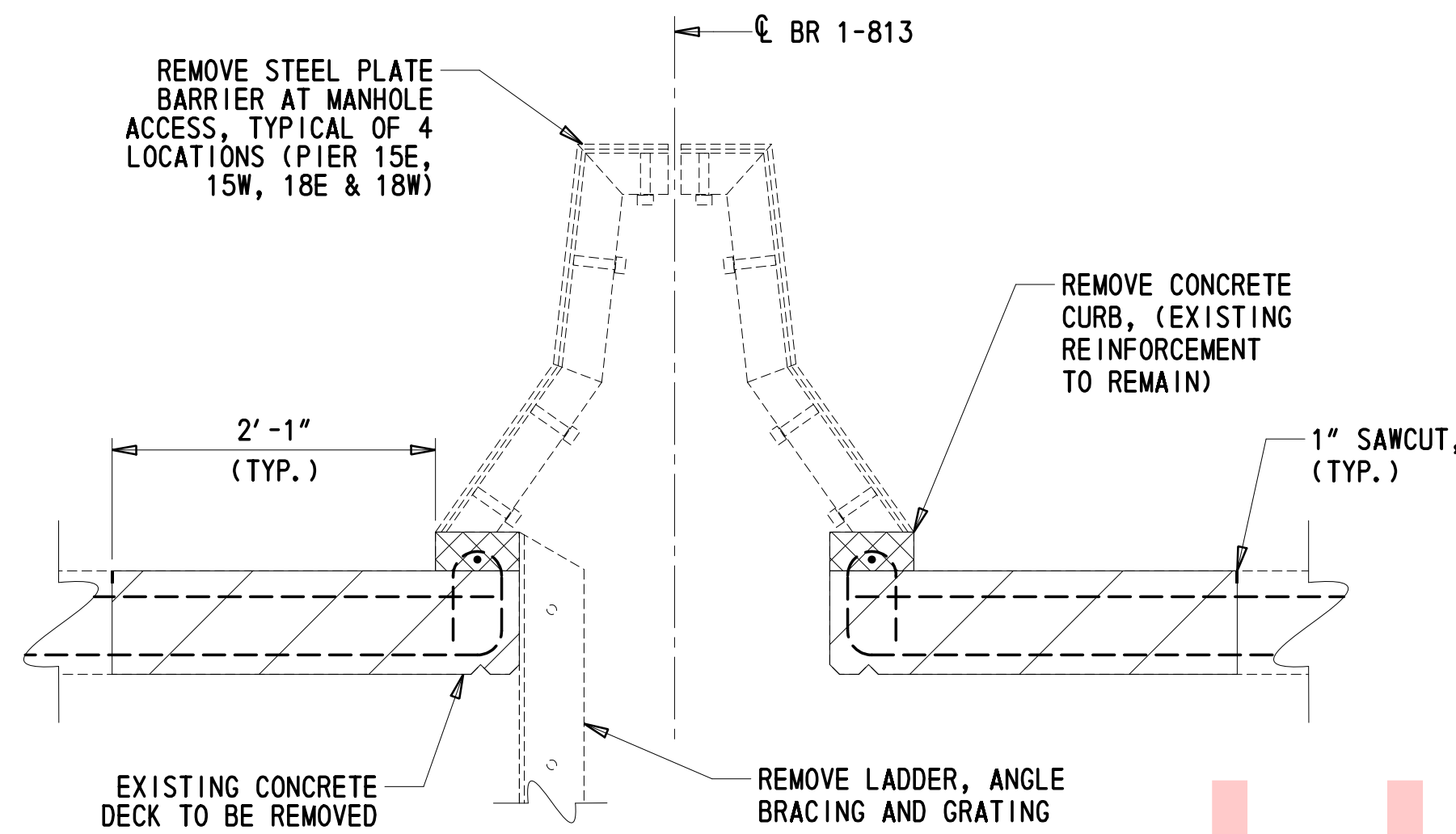
DT-04
SECTION TY
SHEET NO. 40

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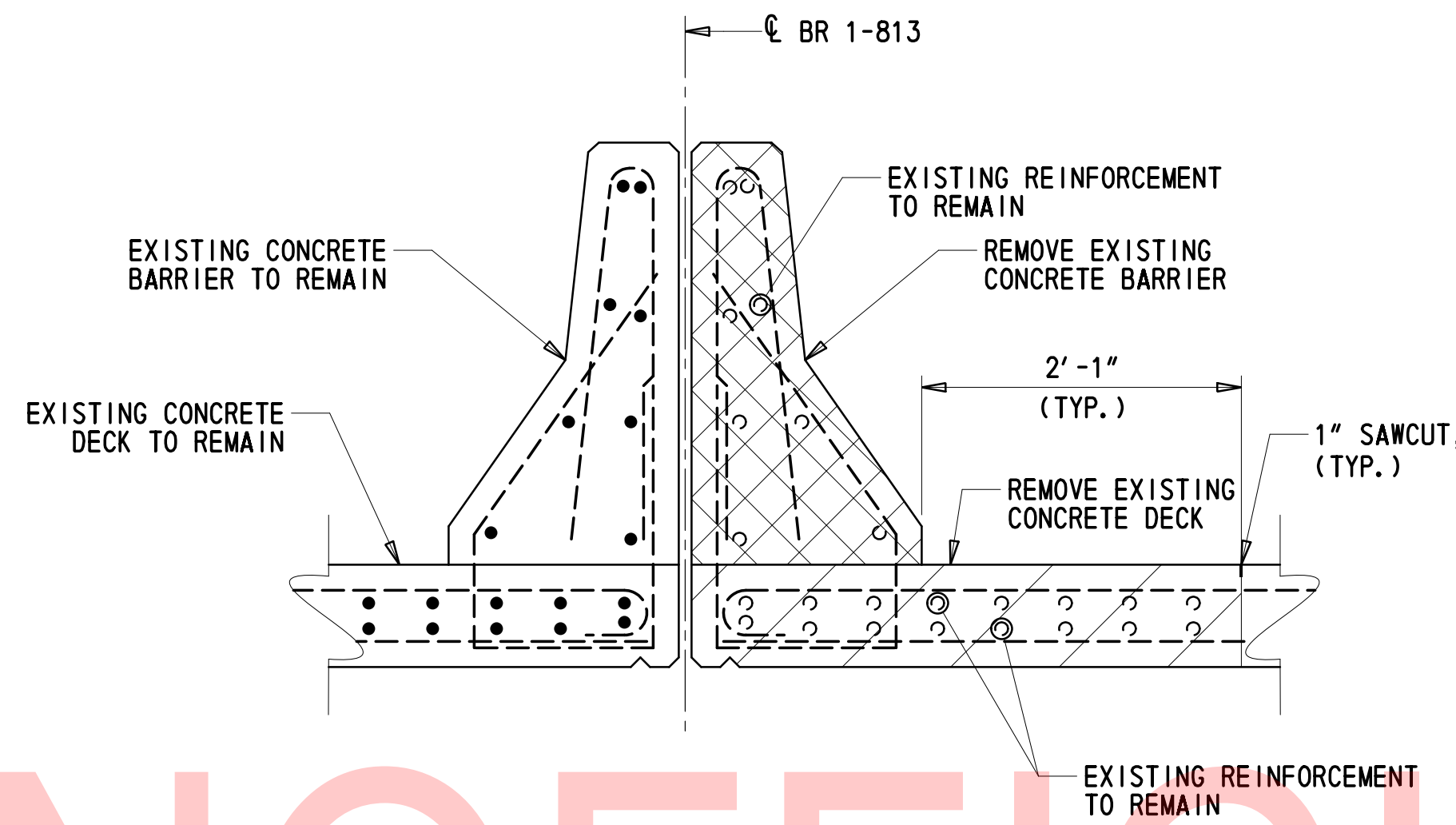


**NOTES:**

- ALL REINFORCEMENT STEEL BARS SHOWN MEET THE REQUIREMENTS OF SECTION 1037 OF THE STANDARD SPECIFICATIONS. DO NOT WELD GRADE 60 STEEL BARS UNLESS SPECIFIED.
- PROVIDE MATERIALS AND WORKMANSHIP IN ACCORDANCE WITH DELAWARE DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS AND AASHTO/AWS WELDING SPECIFICATIONS.
- ALL STEEL SHALL BE GALVANIZED IN ACCORDANCE WITH SECTION 1039 OF THE STANDARD SPECIFICATIONS.
- PROVIDE AASHTO M 270, GRADE 36 (ASTM A 709, GRADE 36) UNLESS OTHERWISE SPECIFIED ON DESIGN DRAWINGS. ANCHOR STUDS TO BE IN ACCORDANCE WITH SECTION 1039 OF THE STANDARD SPECIFICATIONS. STUDS MAY BE PIGGY BACKED TO ACHIEVE REQUIRED LENGTH.
- USE FLATHEAD STAINLESS STEEL ASTM F 738 OR F 593 (TYPE 304) FOR COUNTERSUNK SCREWS WITH INSERTS. ALL CONCRETE INSERTS AND COUNTERSUNK MACHINE SCREWS ARE 3/4" DIAMETER UNLESS OTHERWISE SPECIFIED.
- BEFORE PLACING BLOCKOUT CONCRETE APPLY APPROVED EPOXY BONDING AGENT TO TRANSVERSE DECK CONSTRUCTION JOINTS.
- PLACE CLASS D CEMENT CONCRETE IN THE BLOCKOUT AREA EXCEPT AS SPECIFIED OR INDICATED. THIS WORK IS INCIDENTAL TO DECK CONCRETE EXCEPT AS SPECIFIED OR INDICATED.
- MAINTAIN 4" MIN. BETWEEN EDGE OF STEEL TO THE EDGE OF CONCRETE AT TEMPERATURE OF 0°F. GRIND ALL EDGES EXPOSED TO TRAFFIC OR PEDESTRIANS TO 3/16" MIN. RADIUS.
- BARRIER SLIDING COVER PLATE SHALL BE INCIDENTAL TO ITEM 610008.

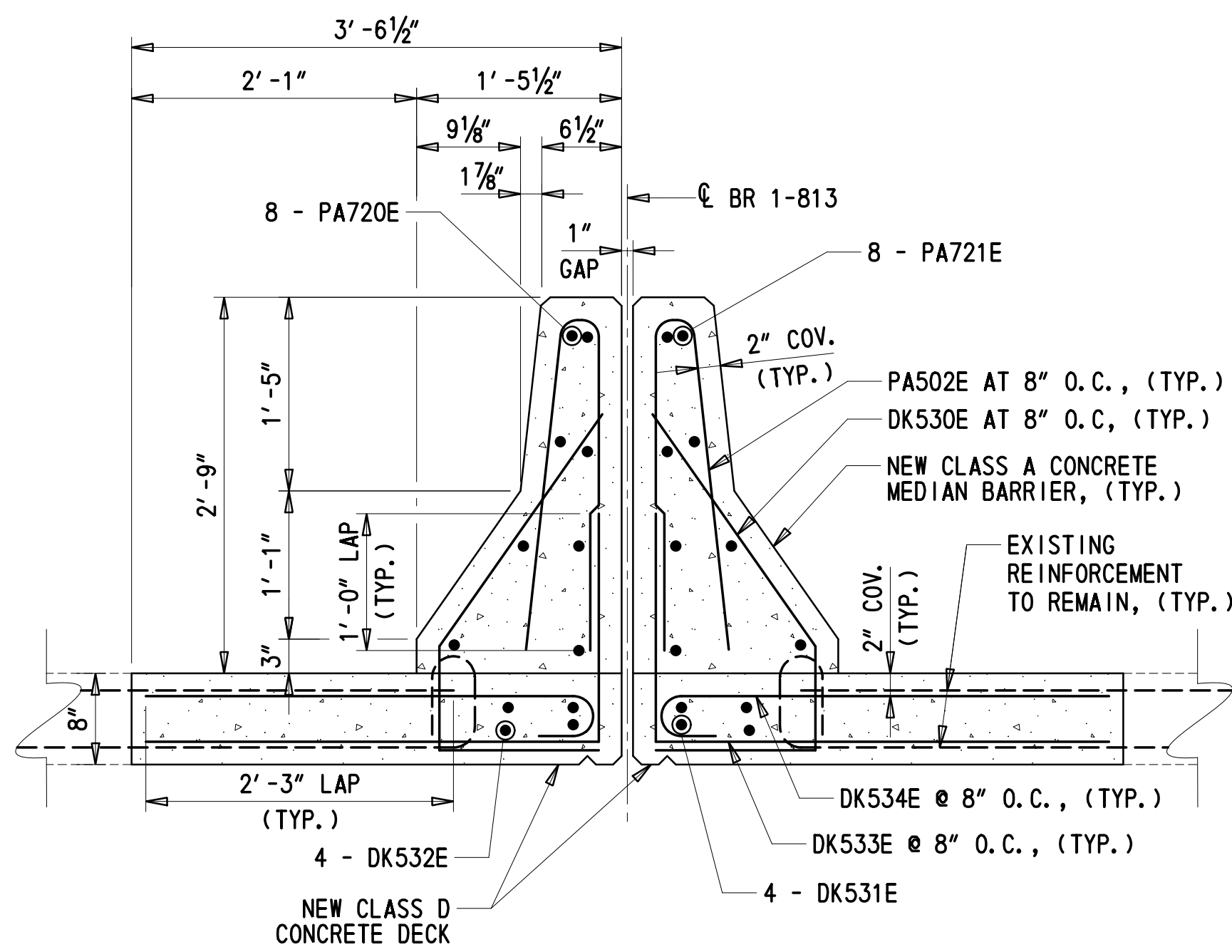


**SECTION C-C  
(REMOVAL)**  
1" = 1'-0"

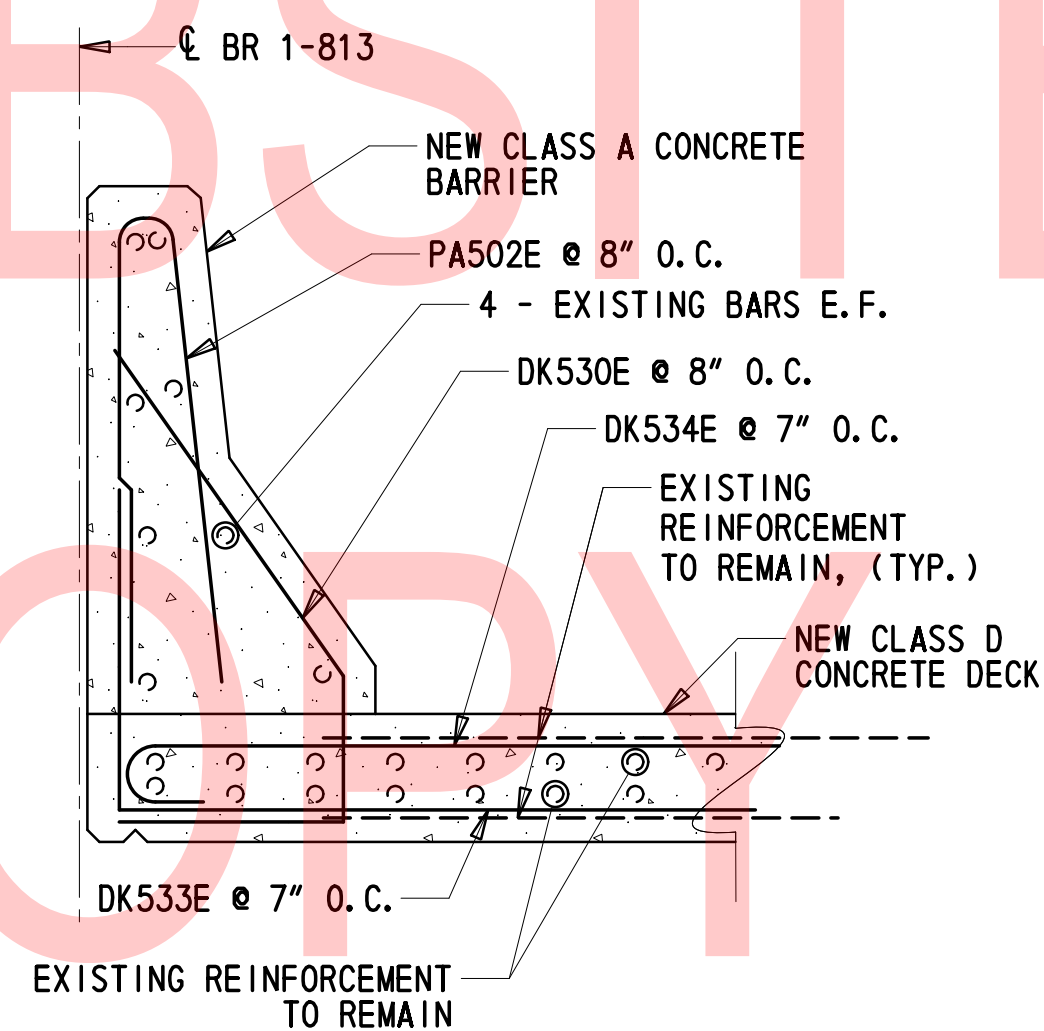


**SECTION D-D  
(REMOVAL)**  
1" = 1'-0"

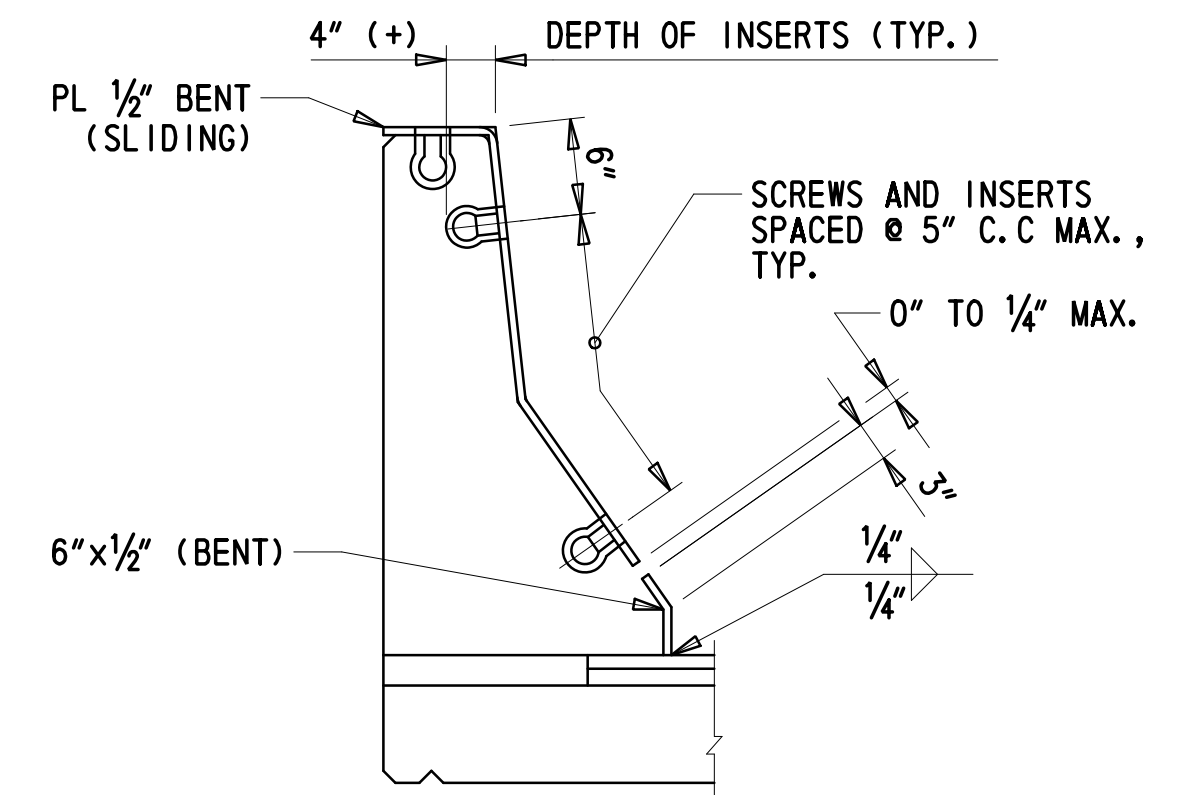
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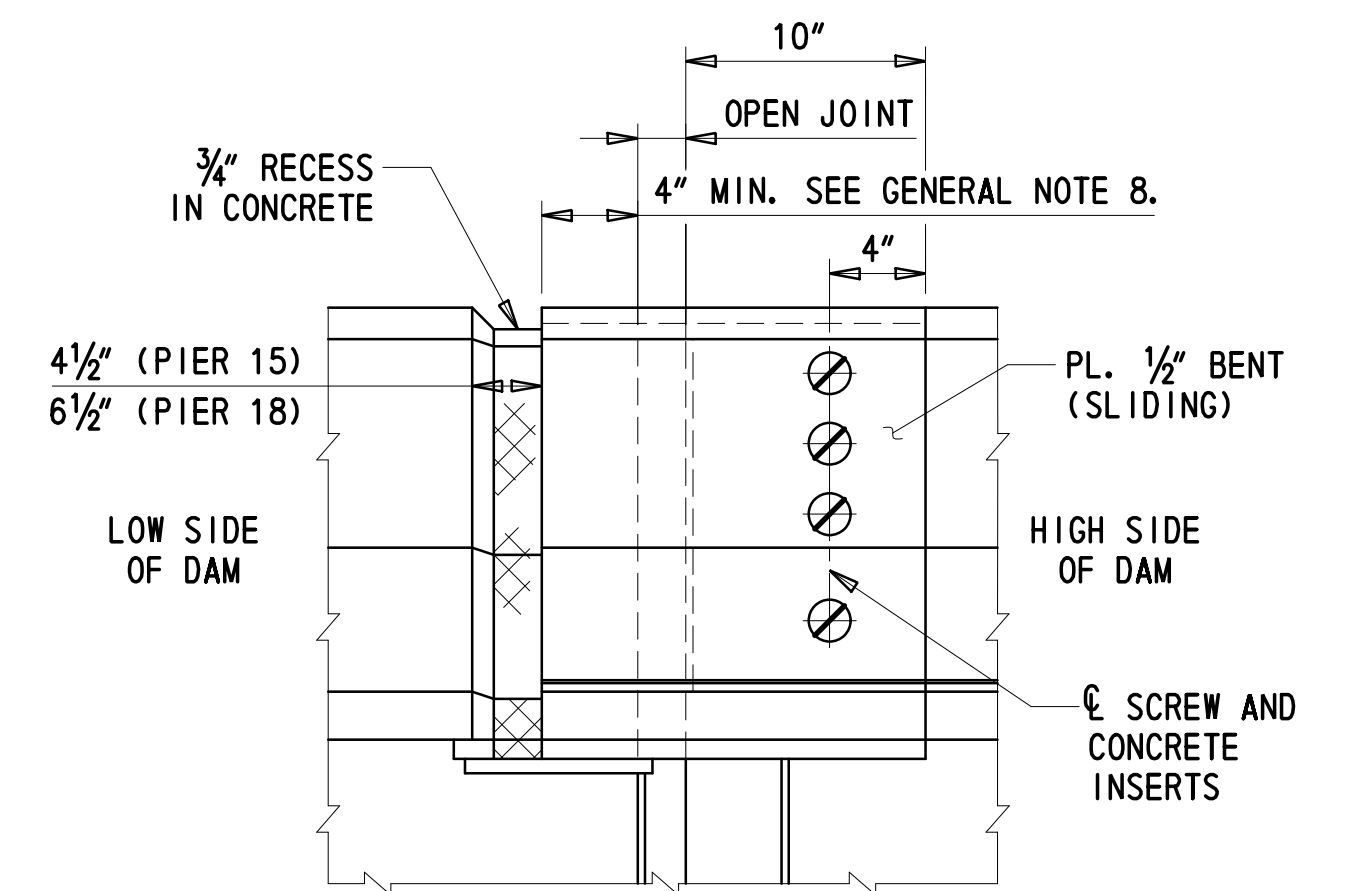
**SECTION C-C  
(PROPOSED)**  
1" = 1'-0"



**SECTION D-D  
(PROPOSED)**  
1" = 1'-0"



**BARRIER SLIDING COVER PLATE SECTION**



**BARRIER SLIDING COVER PLATE DETAIL**

NOTE: FORM CONCRETE RECESS AREA IN BARRIER AND GRIND TO PROVIDE SMOOTH SURFACE, APPLY ONE COAT OF ASPHALT CEMENT PAINT WA-1 OR PERFORMANCE GRADED ASPHALT CEMENT PG 64-22 TO ALLOW BENT SLIDING PLATE TO MOVE FREELY WITHOUT FRICTION.

**LEGEND:**

- = REMOVE CONCRETE DECK (ITEM 211000)
- = REMOVE CONCRETE BARRIER / STEEL PLATE MANHOLES (ITEM 211000)

**NOTES:**

- FOR THE LOCATION OF SECTIONS C-C AND D-D, SEE DWG. DT-04.

ADDENDA / REVISIONS

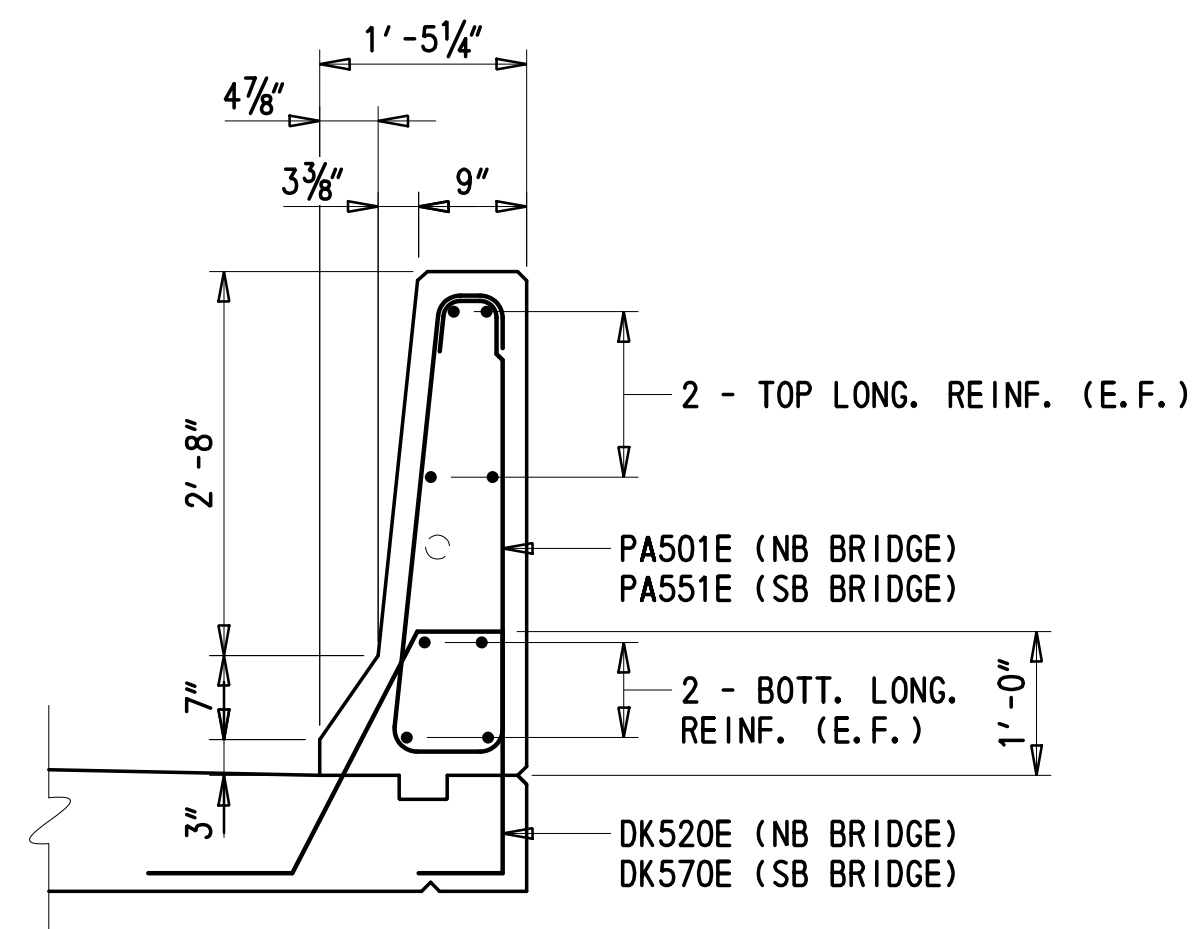
SCALE AS NOTED

**REHABILITATION OF BRIDGES  
1-810, 1-811, 1-812  
AND 1-813 ON I-495**

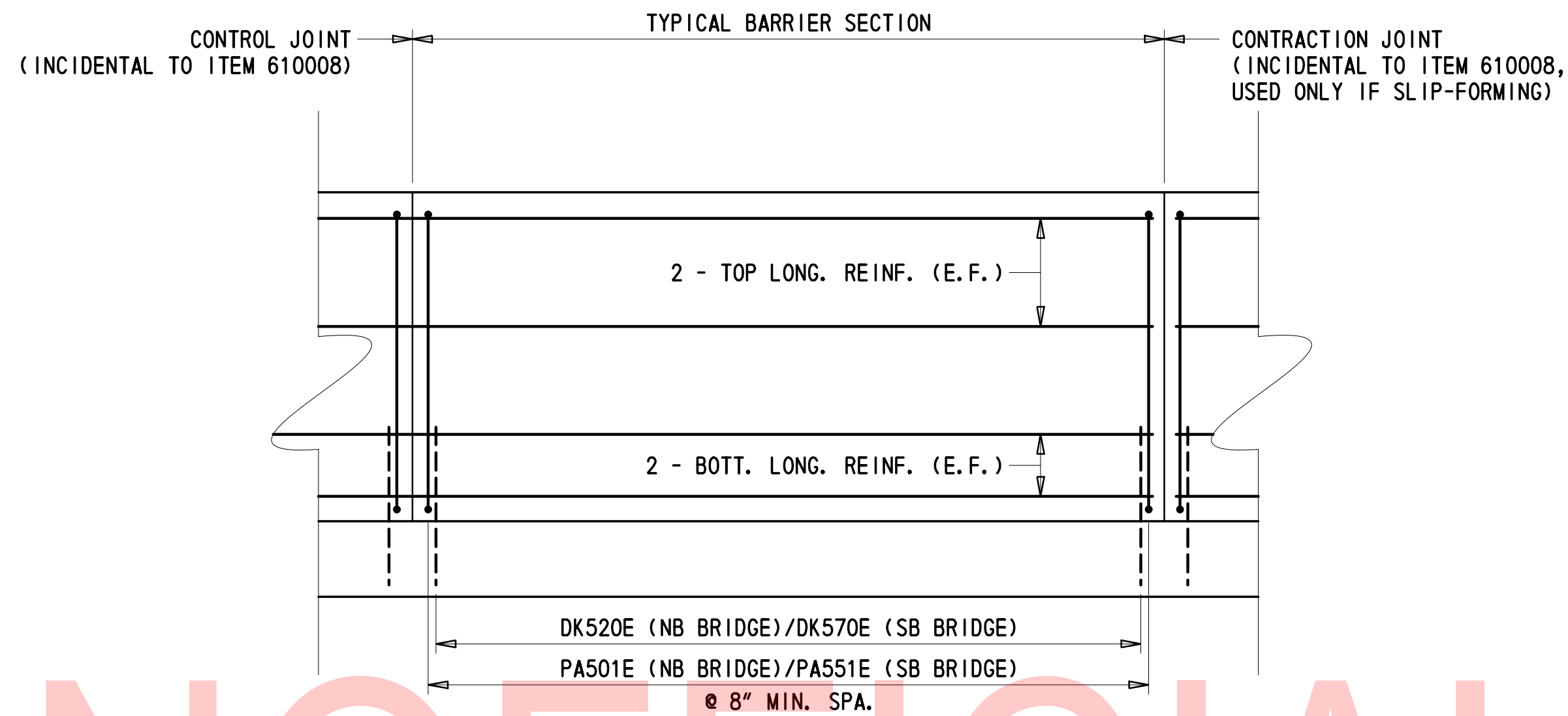
CONTRACT	BRIDGE NO.	<b>BR 1-813</b>
T201707404	DESIGNED BY:	DJC
COUNTY	CHECKED BY:	JWS
NEW CASTLE		

**MEDIAN BARRIER MANHOLE  
INFILL SECTIONS AND  
DETAILS**

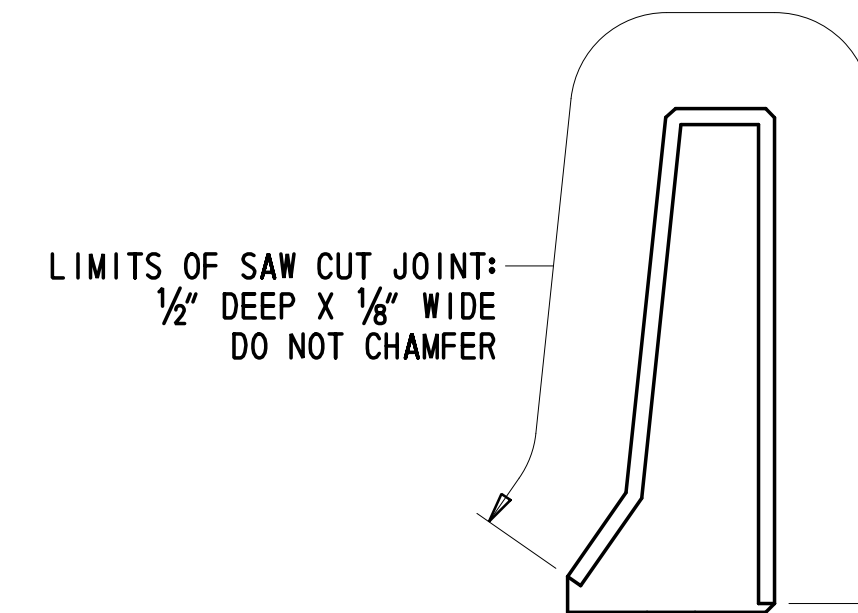
DT-05
SECTION
TY
SHEET NO.
41



**TYPICAL BARRIER SECTION**  
3/4" = 1'-0"



**TYPICAL BARRIER ELEVATION**  
3/4" = 1'-0"  
NOTE: CONDUITS NOT SHOWN FOR CLARITY.

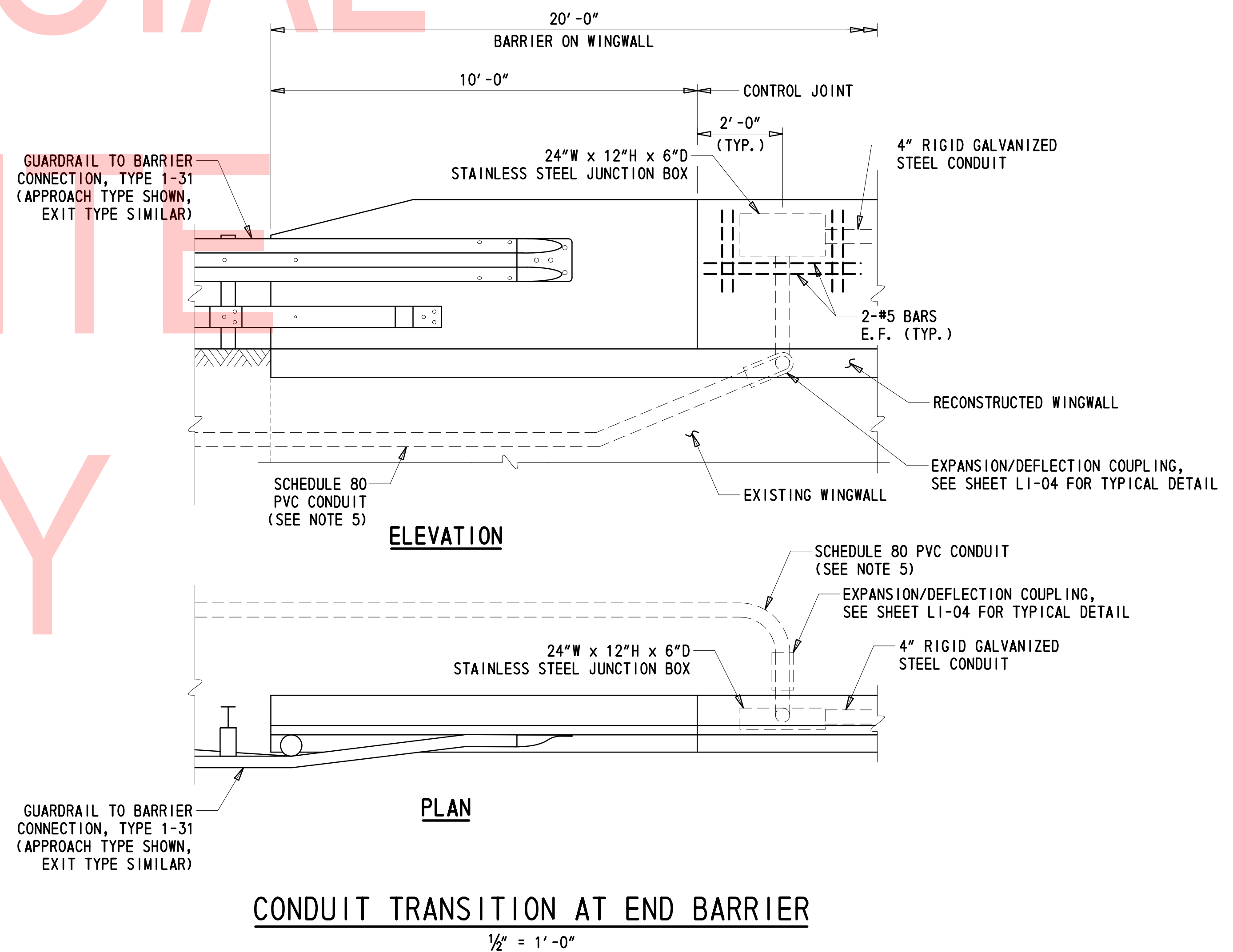


**CONTROL JOINT**  
3/4" = 1'-0"

SPANS	FASCIA BARRIER LONGITUDINAL REINFORCEMENT							
	NORTHBOUND BRIDGE				SOUTHBOUND BRIDGE			
	BAR MARK	QTY.	BAR MARK	QTY.	BAR MARK	QTY.	BAR MARK	QTY.
1-3	PA701E	20	PA801E	20	PA751E	20	PA851E	20
4-7	PA702E	36	PA802E	36	PA752E	36	PA852E	36
8-10	PA703E	36	PA803E	36	PA753E	36	PA853E	36
11-14	PA704E	40	PA804E	40	PA754E	40	PA854E	40
15	PA705E	12	PA805E	12	PA755E	16	PA855E	16
16-18	PA706E	68	PA806E	68	PA756E	68	PA856E	68
19	PA707E	16	PA807E	16	PA757E	12	PA857E	12
20	PA708E	16	PA808E	16	PA758E	16	PA858E	16
21-24	PA709E	40	PA809E	40	PA759E	40	PA859E	40
25-28	PA710E	40	PA810E	40	PA760E	40	PA860E	40
29-32	PA711E	36	PA811E	36	PA761E	36	PA861E	36
33-36	PA712E	36	PA812E	36	PA762E	36	PA862E	36
37	PA713E	12	PA813E	12	PA763E	12	PA863E	12
38	PA714E	4	PA814E	4	PA764E	4	PA864E	4

**NOTES:**

- FOR BARRIER CONTROL JOINT LOCATIONS SEE PE-01 TO PE-03.
- BARRIER JOINT OPENINGS SHALL MATCH EXISTING DECK JOINT OPENINGS.
- THE MINIMUM LAP LENGTH FOR FASCIA BARRIER LONGITUDINAL REINFORCEMENT SHALL BE 3'-11" FOR #7 BARS AND 4'-5" FOR #8 BARS.
- REINFORCEMENT SHOWN AROUND JUNCTION BOXES (2-#5 BARS, E.F.) TYPICAL FOR ALL JUNCTION BOXES. REINFORCEMENT INCIDENTAL TO ITEM 830501 - JUNCTION BOX ON STRUCTURE.
- ALL JUNCTION BOXES INSTALLED IN TRAFFIC BARRIER SHALL BE NEMA 4X, STAINLESS STEEL. JUNCTION BOXES INTENDED FOR ITMS SHALL BE 24"W x 12"H x 6"D. JUNCTION BOXES INTENDED FOR ELECTRICAL AND LIGHTING SHALL BE 12"W x 8"H x 8"D.
- AT ITMS CONDUIT TRANSITION IN END BARRIER, CONDUIT BEND RADIUS SHALL NOT EXCEED 45 DEGREES.



**CONDUIT TRANSITION AT END BARRIER**  
1/2" = 1'-0"

ADDENDA / REVISIONS

SCALE AS NOTED

REHABILITATION OF BRIDGES  
1-810, 1-811, 1-812  
AND 1-813 ON I-495

CONTRACT	BRIDGE NO.	<b>BR 1-813</b>
T201707404	DESIGNED BY:	DJC
COUNTY	CHECKED BY:	JWS
NEW CASTLE		

FASCIA BARRIER  
DETAILS

PA-01
SECTION
TY
SHEET NO.
42

① ANY MARK NUMBER WITH SUFFIX 'E' DENOTES EPOXY COATED REINFORCING STEEL.

② ALL MARK 'LOCATION PREFIXES' SHALL CONSIST OF TWO LETTERS AND ARE AS FOLLOWS: AB = ABUTMENT, AS = APPROACH SLAB, BC = BOX CULVERT, BW = BACKWALL, CL = COLUMN, DK = DECK, DL = DOWEL, FT = FOOTING, HW = HEADWALL, MS = MISC. BARS, PA = PARAPET, PR = PIER, SC = SHEETPILE CAP, SL = SLAB, TW = TOEWALL, WL = WALL (UNIQUE LOCATION), WW = WINGWALL

Table with columns: SPECIFICATIONS (QTY, SIZE, LENGTH, MARK, TYPE) and BENDING DIMENSIONS (FEET-INCHES /QUARTER INCH) [A-O]. Includes rows for NORTHBOUND BRIDGE and various reinforcement bar specifications.

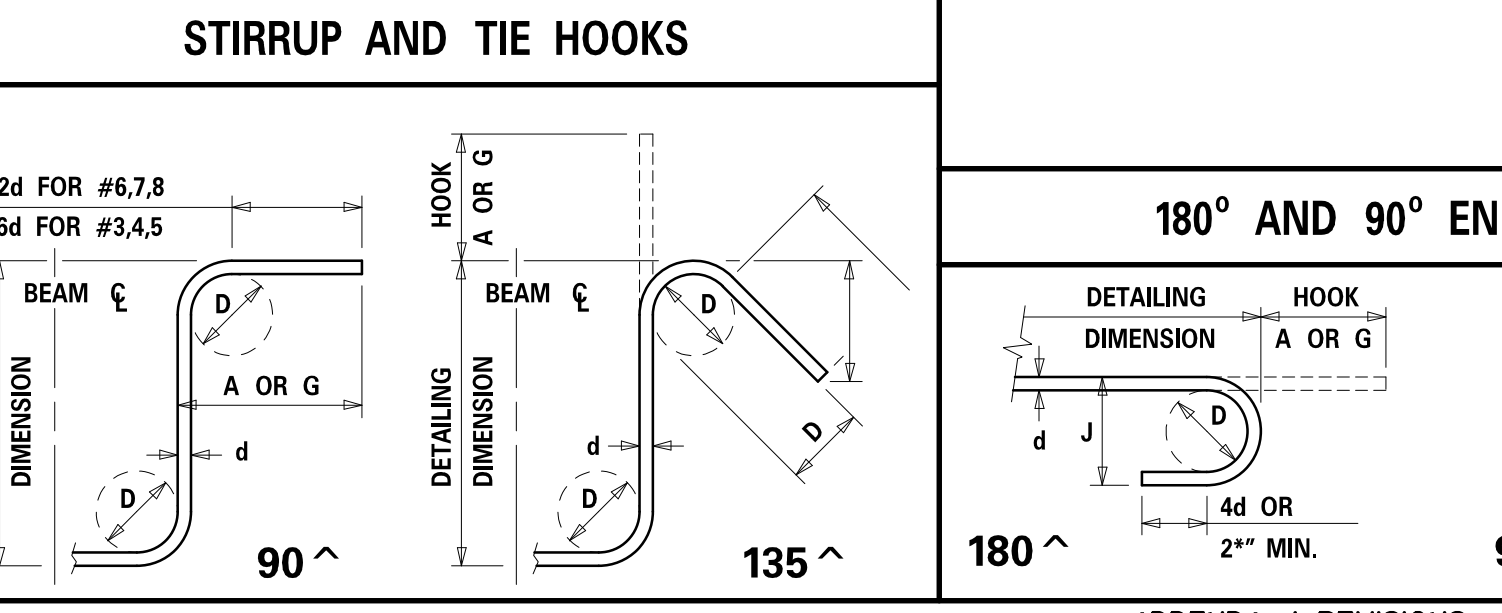
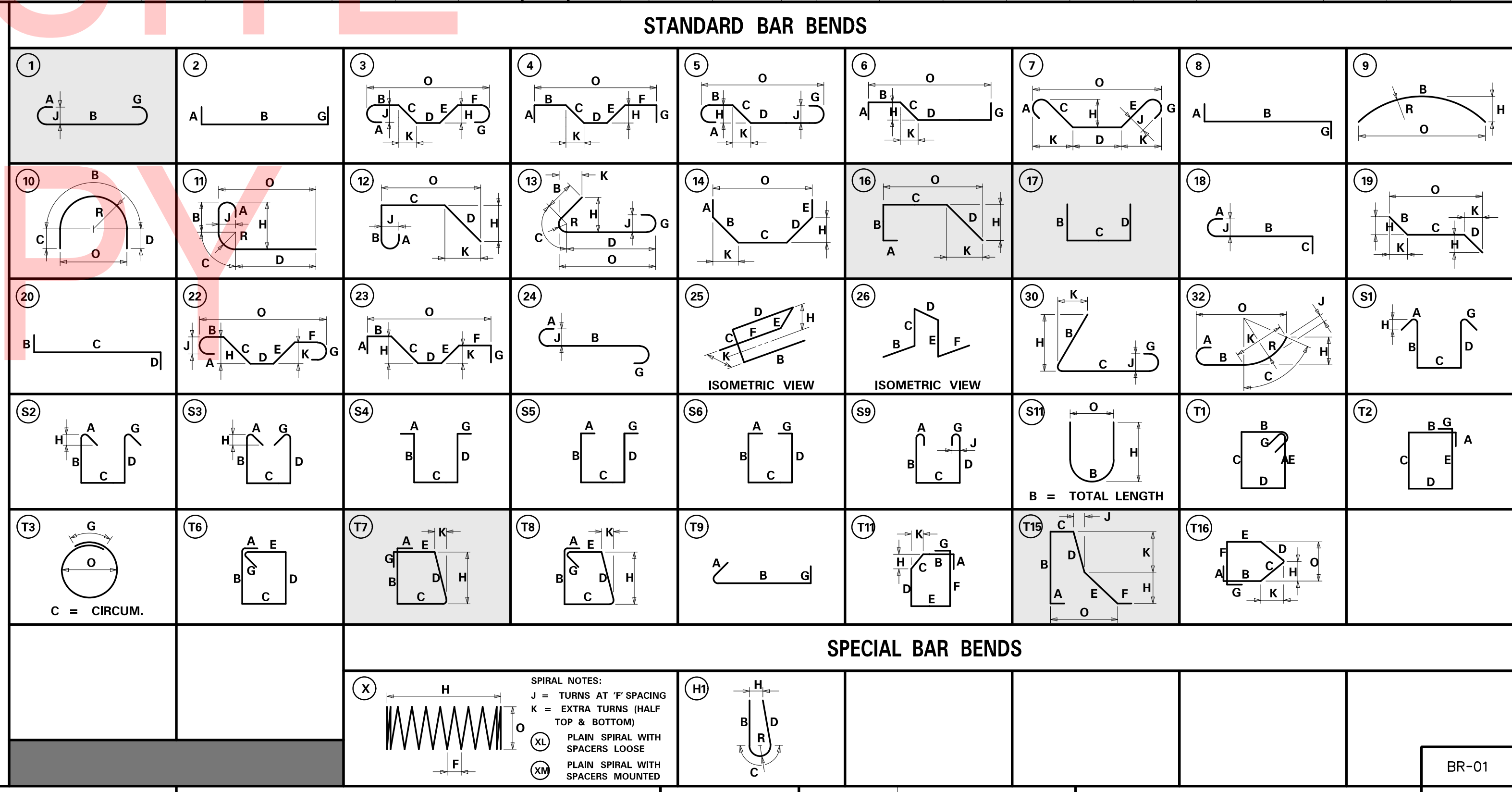
Table with columns: SPECIFICATIONS (QTY, SIZE, LENGTH, MARK, TYPE) and BENDING DIMENSIONS (FEET-INCHES /QUARTER INCH) [A-O]. Includes rows for NORTHBOUND BRIDGE and various reinforcement bar specifications.

Table with columns: SPECIFICATIONS (QTY, SIZE, LENGTH, MARK, TYPE) and BENDING DIMENSIONS (FEET-INCHES /QUARTER INCH) [A-O]. Includes rows for NORTHBOUND BRIDGE and various reinforcement bar specifications.

UNOFFICIAL WEBSITE

Table for ASTM STANDARD ENGLISH REINFORCING BARS. Columns: BAR SIZE, NOMINAL DIMENSIONS (DIAMETER, AREA, WEIGHT), and HOOKS (180° and 90°).

- NOTES: 1. FIGURES SHOWN IN CIRCLES REPRESENT BAR BEND TYPES. 2. STANDARD BAR BENDS INCLUDE ONLY THOSE TYPES BELOW... 11. TYPE S1-S6, S11, T1-T3 AND T6-T9 APPLICABLE TO BAR SIZES #3 THROUGH #8.



2/10/2020 T:\Dover\Projects\425025-06\600\_CADD\05\_Official\Plans\BR01\_BR1-813.dgn

① ANY MARK NUMBER WITH SUFFIX 'E' DENOTES EPOXY COATED REINFORCING STEEL.

② ALL MARK 'LOCATION PREFIXES' SHALL CONSIST OF TWO LETTERS AND ARE AS FOLLOWS: AB = ABUTMENT, AS = APPROACH SLAB, BC = BOX CULVERT, BW = BACKWALL, CL = COLUMN, DK = DECK, DL = DOWEL, FT = FOOTING, HW = HEADWALL, MS = MISC. BARS, PA = PARAPET, PR = PIER, SC = SHEETPILE CAP, SL = SLAB, TW = TOEWALL, WL = WALL (UNIQUE LOCATION), WW = WINGWALL

Table with columns: SPECIFICATIONS (QTY, SIZE, LENGTH, MARK, TYPE) and BENDING DIMENSIONS (FEET-INCHES /QUARTER INCH) (A, B, C, D, E, F/R, G, H, J, K, O). Rows include SOUTHBOUND BRIDGE items with quantities and dimensions.

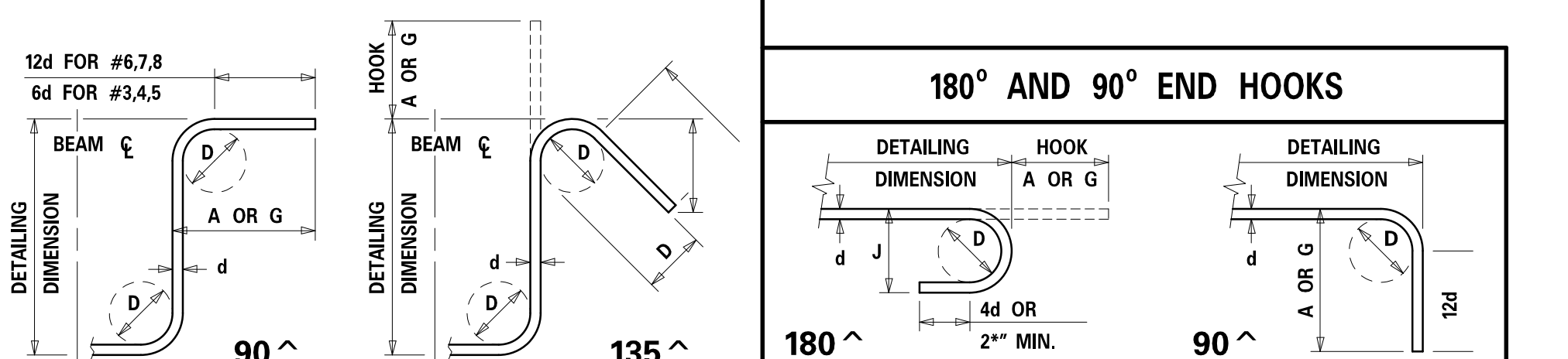
Table with columns: SPECIFICATIONS (QTY, SIZE, LENGTH, MARK, TYPE) and BENDING DIMENSIONS (FEET-INCHES /QUARTER INCH) (A, B, C, D, E, F/R, G, H, J, K, O). Rows include SOUTHBOUND BRIDGE items with quantities and dimensions.

Table with columns: SPECIFICATIONS (QTY, SIZE, LENGTH, MARK, TYPE) and BENDING DIMENSIONS (FEET-INCHES /QUARTER INCH) (A, B, C, D, E, F/R, G, H, J, K, O). This table is mostly empty.

Table with columns: ASTM STANDARD ENGLISH REINFORCING BARS, RECOMMENDED END HOOKS, APPLICABLE TO ALL GRADES, and STIRRUP AND TIE HOOKS, APPLICABLE TO ALL GRADES.

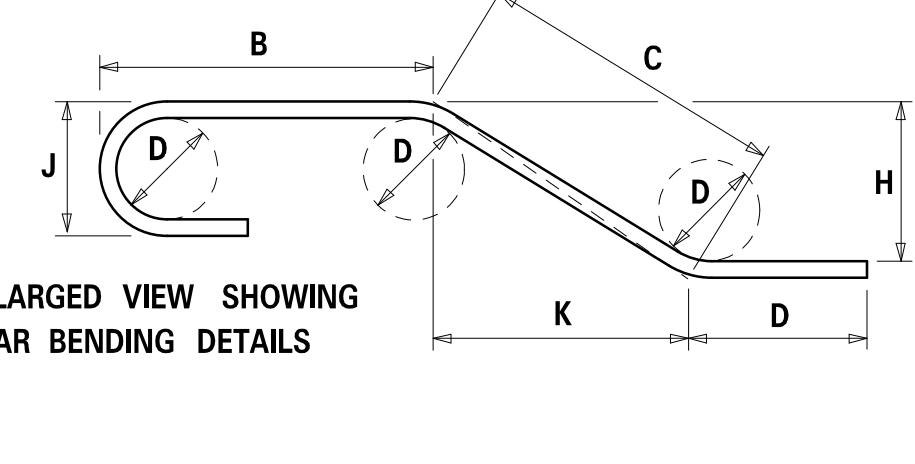
Table with columns: BAR SIZE, NOMINAL DIMENSIONS (DIAMETER, AREA, WEIGHT), and hook dimensions (180°, 90° HOOKS, 90° HOOK, 135° HOOK).

STIRRUP AND TIE HOOKS

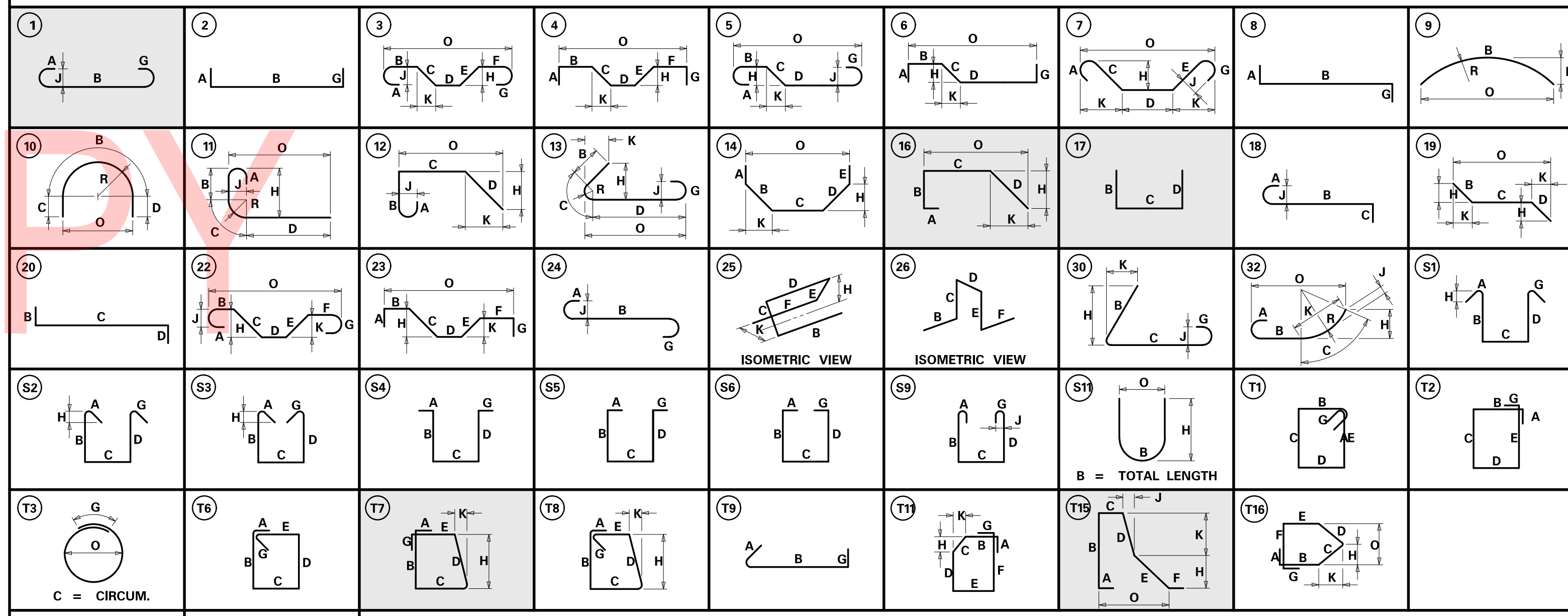


NOTES:

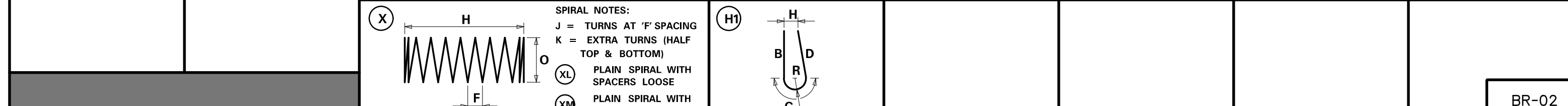
- 1. FIGURES SHOWN IN CIRCLES REPRESENT BAR BEND TYPES.
2. STANDARD BAR BENDS INCLUDE ONLY THOSE TYPES BELOW, INDICATED AS SUCH.
3. ALL DIMENSIONS OUT-TO-OUT, EXCEPT "A" AND "C" ON STD. 180° AND 135° HOOKS.
4. "J" DIMENSIONS ON 180° HOOKS TO BE SHOWN ONLY WHERE NECESSARY TO RESTRICT HOOK SIZE...
5. WHERE "J" IS NOT SHOWN, "J" WILL BE KEPT EQUAL TO OR LESS THAN "H" ON TYPES 3, 5 AND 22.
6. "H" DIMENSIONS OF STIRRUPS TO BE SHOWN AS NEEDED TO FIT WITHIN THE CONCRETE.
7. UNLESS OTHERWISE NOTED, DIAMETER "D" IS THE SAME FOR ALL BENDS AND HOOKS ON A BAR...
8. WHERE SLOPE DIFFERS FROM 45° OFFSET, "H" AND "K" MUST BE SHOWN.
9. WHERE BARS ARE TO BE BENT MORE ACCURATELY THAN STANDARD BENDING TOLERANCES...
10. FOR RECOMMENDED DIAMETER "D", OF BENDS, HOOKS, ETC., REFER TO TABLE ABOVE...
11. TYPE S1-S6, S11, T1-T3 AND T6-T9 APPLICABLE TO BAR SIZES #3 THROUGH #8.
12. (\*) INDICATES BAR LENGTH INCLUDES MECHANICAL CONNECTOR.
13. (\*\*\*) INDICATES BAR LENGTH INCLUDES THREADS FOR MECHANICAL CONNECTOR.



STANDARD BAR BENDS

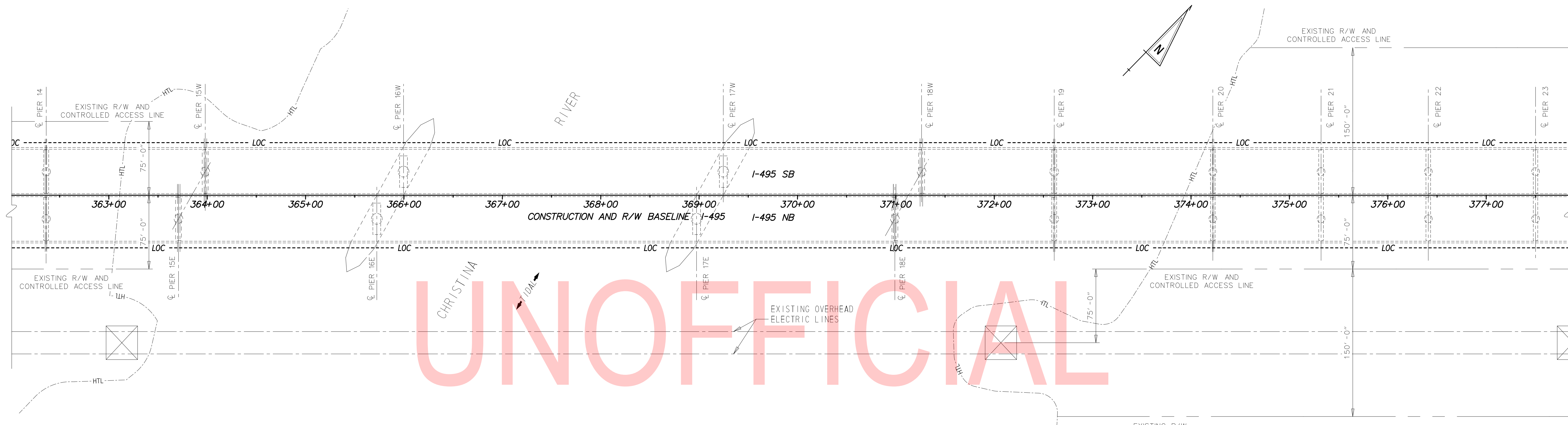


SPECIAL BAR BENDS



ADDENDA / REVISIONS table with columns for description and date.

REHABILITATION OF BRIDGES 1-810, 1-811, 1-812 AND 1-813 ON I-495. Includes CONTRACT T201707404, COUNTY NEW CASTLE, BRIDGE NO. BR 1-813, DESIGNED BY: RMB, CHECKED BY: JWS, REINFORCING BAR SUMMARY - 2, SECTION TY, SHEET NO. 44.



**ENVIRONMENTAL COMPLIANCE NOTES**

**1. GENERAL NOTES:**

- A. THE PURPOSE OF THIS SHEET IS TO IDENTIFY THOSE ITEMS ASSOCIATED WITH ENVIRONMENTAL COMPLIANCE. IMPACT CALCULATIONS ARE FOR THE AGENCY PERMIT REPORTING PURPOSES ONLY AND ARE NOT TO BE USED FOR BIDDING PURPOSES.
- B. IF A DEPARTURE FROM THE APPROVED PLANS (WHICH WOULD AFFECT ANY NATURAL AND/OR CULTURAL RESOURCES) IS NECESSARY, CONTACT THE ENVIRONMENTAL STUDIES SECTION AT (302)760-2264 TO ALLOW FOR COORDINATION WITH THE APPROPRIATE RESOURCE AGENCIES AND APPROVAL.
- C. USE OF THIS SHEET DOES NOT ALLEVIATE THE CONTRACTOR'S RESPONSIBILITY TO COMPLY WITH ALL CONDITIONS SET FORTH IN THE ENVIRONMENTAL STATEMENT AND PERMITS.

**2. NATURAL RESOURCE ISSUES:**

- A. PERMIT REQUIREMENTS/APPROVALS \*:
  - U.S. ARMY CORPS OF ENGINEERS (COE): NONE
  - DNREC - WETLANDS & SUBAQUEOUS LANDS (WLSL): NONE
  - DNREC - WATER QUALITY (WQC) & COASTAL ZONE CONSISTENCY (CZM): NONE
  - NCC DEPT. OF LAND USE (NCC): NONE
  - CITY OF WILMINGTON (COW): NONE
  - US COAST GUARD (USCG): NONE
- B. CONSTRUCTION RESTRICTIONS:
  - FISHERIES - NO IN-WATER WORK IS TO OCCUR FROM MARCH 1 TO JUNE 30 (INCLUSIVE), ANY CALENDAR YEAR
  - ENDANGERED SPECIES - NONE
  - MIGRATORY BIRDS - NONE

**3. CULTURAL RESOURCE:**

- A. BASED ON CURRENT COORDINATION, THE PROJECT IS CLEAR FOR CULTURAL RESOURCES AND EXEMPT FROM SHPO REVIEW UNDER STIPULATION 11 OF DELDOT'S PROGRAMMATIC AGREEMENT WITH FEDERAL HIGHWAYS ADMINISTRATION (FHWA) AND DELAWARE STATE HISTORIC PRESERVATION OFFICE (SHPO). AS A RESULT, DELDOT CULTURAL RESOURCE STAFF HAVE ISSUED A FINDING OF NO HISTORIC PROPERTIES AFFECTED FOR THIS PROJECT. THERE ARE NO CULTURAL RESOURCE CONCERNS AS LONG AS THE PROJECT SCOPE IS NOT MODIFIED AND ALL STAGING AND STOCKPILING REMAIN WITHIN THE EXISTING ROADWAY FOOTPRINT. SHOULD IT BE NECESSARY TO ADD ADDITIONAL ACCESS LOCATIONS, OTHER STOCKPILING/STAGING AREAS, OR OTHERWISE ALTER THE SCOPE OF THE PROJECT, DELDOT ENVIRONMENTAL STUDIES STAFF WILL NEED TO REVIEW THESE CHANGES FOR POTENTIAL CULTURAL RESOURCES CONCERNS.

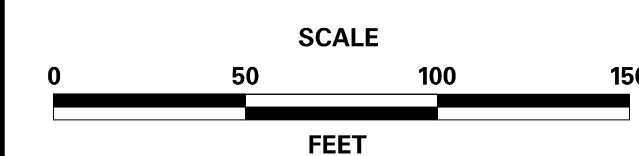
**4. PROTECTION OF RESOURCES:**

- A. NO RESOURCES WILL BE IMPACTED.

LEGEND	
-----HTL-----	HIGH TIDE LINE

UNOFFICIAL WEBSITE COPY

ADDENDA / REVISIONS



**REHABILITATION OF BRIDGES  
1-810, 1-811, 1-812  
AND 1-813 ON I-495**

CONTRACT	BRIDGE NO.
T201707404	DESIGNED BY: DJC
COUNTY	CHECKED BY: JWS
NEW CASTLE	

**ENVIRONMENTAL COMPLIANCE PLAN**

EC-01
SECTION
TY
SHEET NO.
45

# GENERAL MOT NOTES

1. AMERICAN TRAFFIC SAFETY SERVICES ASSOCIATION (ATSSA) CERTIFIED TRAFFIC CONTROL SUPERVISOR REQUIREMENT FOR THIS PROJECT.

( )	THE CONTRACTOR SHALL NOT BE REQUIRED TO HAVE AN ATSSA SUPERVISOR ASSIGNED TO THIS PROJECT.
( X )	THE CONTRACTOR SHALL HAVE AN ATSSA SUPERVISOR ASSIGNED TO THIS PROJECT. THE CONTRACTOR'S GENERAL SUPERINTENDENT FOR THIS PROJECT OR ANOTHER ATSSA CERTIFIED MEMBER OF THE CONTRACTOR'S PROJECT STAFF MAY BE THE ATSSA SUPERVISOR. PAYMENT FOR ATSSA SUPERVISOR IS INCIDENTAL TO ITEM 801000.

2. THIS PROJECT IS CONSIDERED A SIGNIFICANT PROJECT AS DEFINED BY DELDOT'S WORK ZONE MOBILITY PROCEDURES AND GUIDELINES. A TYPE B TRANSPORTATION MANAGEMENT PLAN (TMP) HAS BEEN PREPARED AND IS AVAILABLE FOR VIEWING BY CONTACTING THE DEPARTMENT'S SAFETY PROGRAMS MANAGER AT (302)659-4060. ALL MONITORING REQUIREMENTS OF THE TMP SHALL BE CONDUCTED BY DELDOT FORCES UNLESS OTHERWISE DIRECTED BY THE ENGINEER. MODIFICATIONS TO THE TMP SHALL BE COMPLETED BY THE CONTRACTOR IF CHANGES TO THE TIME RESTRICTIONS OR THE TRAFFIC CONTROL PLAN ARE DESIRED. THE MODIFIED TMP SHALL BE PREPARED BY A PROFESSIONAL ENGINEER, REGISTERED IN THE STATE OF DELAWARE.

4. MAINTENANCE OF TRAFFIC DURING LANE CLOSURES AND LANE SHIFTS SHALL CONFORM TO TYPICAL APPLICATIONS TA-34, TA-36, TA-37, TA-42 AND TA-44 OF THE DELAWARE MUTCD AND IN ACCORDANCE WITH THESE PLAN SHEETS. THE BARRIERS USED AS PART OF THE TYPICAL APPLICATIONS SHALL BE PINNED AS REQUIRED BASED ON THE LOCATION OF THE WORK AREA THROUGHOUT CONSTRUCTION.

5. THE BARRIER SHALL BE INSTALLED AT 17:1 APPROACHING THE WORK ZONE. THE LENGTH OF NEED SHALL BE AS SHOWN ON THE TRAFFIC CONTROL PLAN.

6. SPEED LIMIT CANNOT BE REDUCED WITHOUT FIRST CONFIRMING WITH DELDOT TRAFFIC SAFETY. DELDOT PROJECT MANAGER WILL COORDINATE WITH TMC FOR SPEED REDUCTION FROM 65 MPH TO 55 MPH WITHIN CONSTRUCTION AREA.

7. CONTRACTOR MUST SWEEP PRIOR TO SHIFTING TRAFFIC. SWEEPING TO BE PAID UNDER ITEM 801000 - MAINTENANCE OF TRAFFIC.

8. THE REFLECTIVE LENSES ONLY OF ANY EXISTING PLOWABLE RAISED PAVEMENT MARKERS IN CONFLICT WITH PROPOSED TEMPORARY STRIPING SHALL BE REMOVED. PAYMENT FOR REMOVAL AND REINSTALLATION OF THE REFLECTIVE LENSES WILL BE INCIDENTAL TO ITEM NO. 801000 - MAINTENANCE OF TRAFFIC.

I-495 - ALLOWABLE TEMPORARY DOUBLE LANE CLOSURE HOURS  
CONSTRUCTION PHASE 1 & 2: (LANE CLOSURE AND SHIFTING SETUP, PHASE CHANGING, ETC.)  
CONSTRUCTION PHASE 3: (STRIPING OPERATIONS)

	12:00 AM	1:00 AM	2:00 AM	3:00 AM	4:00 AM	5:00 AM	6:00 AM	7:00 AM	8:00 AM	9:00 AM	10:00 AM	11:00 AM	12:00 PM	1:00 PM	2:00 PM	3:00 PM	4:00 PM	5:00 PM	6:00 PM	7:00 PM	8:00 PM	9:00 PM	10:00 PM	11:00 PM
SUNDAY																								
MONDAY																								
TUESDAY																								
WEDNESDAY																								
THURSDAY																								
FRIDAY																								
SATURDAY																								

**LEGEND:**

 LANE CLOSED       LANE OPEN

# SEQUENCE OF CONSTRUCTION

**CONSTRUCTION PHASE 1A (BR 1-813):**

- INSTALL PHASE 1A TEMPORARY TRAFFIC CONTROL DEVICES AS SHOWN IN THE PLANS.
- THE EXISTING PAVEMENT STRIPING SHALL BE REMOVED USING HYDRO BLASTING, AND REPLACED WITH TEMPORARY PAINT PAVEMENT MARKINGS FOR THE NARROW TRAVEL LANES DURING CONSTRUCTION.
- SHIFT TRAFFIC ONTO THE LEFT SHOULDER, PROVIDING AT LEAST TWO 12' LANES THROUGHOUT THE CONSTRUCTION AREA.
- PERFORM WORK ASSOCIATED WITH BR 1-813.
  - REMOVE NAVIGATION LIGHTING AND INSTALL TEMPORARY NAVIGATION LIGHTING OVER THE RIVER.
  - PLACE PROTECTIVE SHIELDING AND HYDRO DEMOLISH THE FASCIA BARRIER AND DECK OVERHANG.
  - PARTIALLY DEMO THE WINGWALLS TO THE LIMITS SHOWN IN THE PLANS.
  - PERFORM CONCRETE REPAIRS TO THE EXTERIOR SIDE OF THE PIER CAPS AND PIER COLUMNS.
  - INSTALL BRIDGE SCUPPERS AND DRAINAGE SYSTEM.
  - RECONSTRUCT THE TOP OF THE WINGWALLS.
  - RECONSTRUCT THE DECK OVERHANG AND FASCIA BARRIER.
  - INSTALL NAVIGATION LIGHTING.

**CONSTRUCTION PHASE 1B (BR 1-810, 1-811, 1-812, AND 1-813):**

- INSTALL REMAINING PHASE 1B TEMPORARY TRAFFIC CONTROL DEVICES AS SHOWN IN THE PLANS.
- THE EXISTING PAVEMENT STRIPING SHALL BE REMOVED USING HYDRO BLASTING, AND REPLACED WITH TEMPORARY PAINT PAVEMENT MARKINGS FOR THE NARROW TRAVEL LANES DURING CONSTRUCTION.
- SHIFT TRAFFIC ON THE LEFT SHOULDER, PROVIDING AT LEAST TWO 11' LANES THROUGHOUT THE CONSTRUCTION AREA ON BR 1-812, AT LEAST TWO 11'-6" LANES THROUGHOUT THE CONSTRUCTION AREA ON BR 1-811, AND AT LEAST TWO 12' LANES THROUGHOUT THE CONSTRUCTION AREA ON BR 1-810 AND 1-813.
- PERFORM WORK ASSOCIATED WITH BR 1-810.
  - DEMO AND RECONSTRUCT APPROACH SLABS.
  - REMOVE AND REPLACE JOINTS AT NORTH AND SOUTH ABUTMENT.
- PERFORM WORK ASSOCIATED WITH BR 1-811.
  - REMOVE AND REPLACE JOINTS AT NORTH ABUTMENT AND PIERS 1, 2 AND 3.
- PERFORM WORK ASSOCIATED WITH BR 1-812.
  - DEMO AND RECONSTRUCT APPROACH SLABS ON SOUTHBOUND BRIDGE.
  - REMOVE AND REPLACE JOINT AT NORTH ABUTMENT ON SOUTHBOUND BRIDGE.
- PERFORM REMAINING WORK ASSOCIATED WITH BR 1-813 (SEE CONSTRUCTION PHASE 1A, ACTIVITIES 4a THROUGH 4h).
- REMOVE PHASE 1 TEMPORARY TRAFFIC CONTROL DEVICES.
- RESTORE STRIPING.









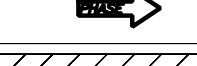



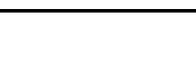

**CONSTRUCTION PHASE 2 (BR 1-810, 1-811, 1-812, AND 1-813):**

- INSTALL PHASE 2 TEMPORARY TRAFFIC CONTROL DEVICES AS SHOWN IN THE PLANS.
- THE EXISTING PAVEMENT STRIPING SHALL BE REMOVED USING HYDRO BLASTING, AND REPLACED WITH TEMPORARY PAINT PAVEMENT MARKINGS FOR THE NARROW TRAVEL LANES DURING CONSTRUCTION.
- SHIFT TRAFFIC ONTO THE RIGHT SHOULDER, PROVIDING AT LEAST TWO 11' LANES THROUGHOUT THE CONSTRUCTION AREA ON BR 1-812, AT LEAST TWO 11'-6" LANES THROUGHOUT THE CONSTRUCTION AREA ON BR 1-811, AND AT LEAST TWO 12' LANES THROUGHOUT THE CONSTRUCTION AREA ON BR 1-810 AND 1-813.
- PERFORM WORK ASSOCIATED WITH BR 1-810.
  - DEMO AND RECONSTRUCT APPROACH SLABS.
  - REMOVE AND REPLACE JOINTS AT NORTH AND SOUTH ABUTMENT.
- PERFORM WORK ASSOCIATED WITH BR 1-811.
  - REMOVE AND REPLACE JOINTS AT NORTH ABUTMENT AND PIERS 1, 2 AND 3.
- PERFORM WORK ASSOCIATED WITH BR 1-812.
  - DEMO AND RECONSTRUCT APPROACH SLABS ON SOUTHBOUND BRIDGE.
  - REMOVE AND REPLACE JOINT AT NORTH ABUTMENT ON SOUTHBOUND BRIDGE.
- PERFORM WORK ASSOCIATED WITH BR 1-813.
  - PLACE PROTECTIVE SHIELDING AND REMOVE THE ACCESS HATCHES AND THE MEDIAN BARRIER IN THE MAIN SPAN TO THE LIMITS SHOWN IN THE PLANS.
  - PERFORM CONCRETE REPAIRS TO THE INTERIOR SIDE OF THE PIER CAPS.
  - RECONSTRUCT THE MEDIAN BARRIER AT ALL ACCESS HATCH LOCATIONS.
  - INSTALL FRP WRAP ON COLUMN OF PIER 15E.
- REMOVE PHASE 2 TEMPORARY TRAFFIC CONTROL DEVICES.

**CONSTRUCTION PHASE 3:**

- SHIFT TRAFFIC TO THE ORIGINAL TRAFFIC PATTERN.
- REMOVE THE TEMPORARY STRIPING USING HYDRO BLASTING AND INSTALL ALL REQUIRED FINAL PERMANENT STRIPING IN IT'S ORIGINAL TRAFFIC PATTERN USING LANE AND/OR SHOULDER CLOSURES IN ACCORDANCE WITH TA-35D, TA-35E OR TA-35G OF THE DEMUTCD.

# PROPOSED SYMBOLS

CONSTRUCTION PHASING & M.O.T	
	BARRICADE, TYPE 3
	CONCRETE SAFETY BARRIER - PORTABLE
	CONSTRUCTION SAFETY FENCE / LENGTH
	CONSTRUCTION SAFETY FENCE
	CONSTRUCTION WARNING SIGN LOCATION
	CONSTRUCTION WARNING SIGN
	CRASH CUSHION ARRAY
	DRUM - TRAFFIC CONTROL
	FLAGGER LOCATION
	PHASING TRAFFIC FLOW ARROW
	TEMPORARY CONSTRUCTION
	TEMPORARY PAVEMENT MARKING ARROW
	TRUCK WITH MOUNTED ATTENUATOR
	WORK AREA - ACTIVE PHASE

ADDENDA / REVISIONS

NOT TO SCALE

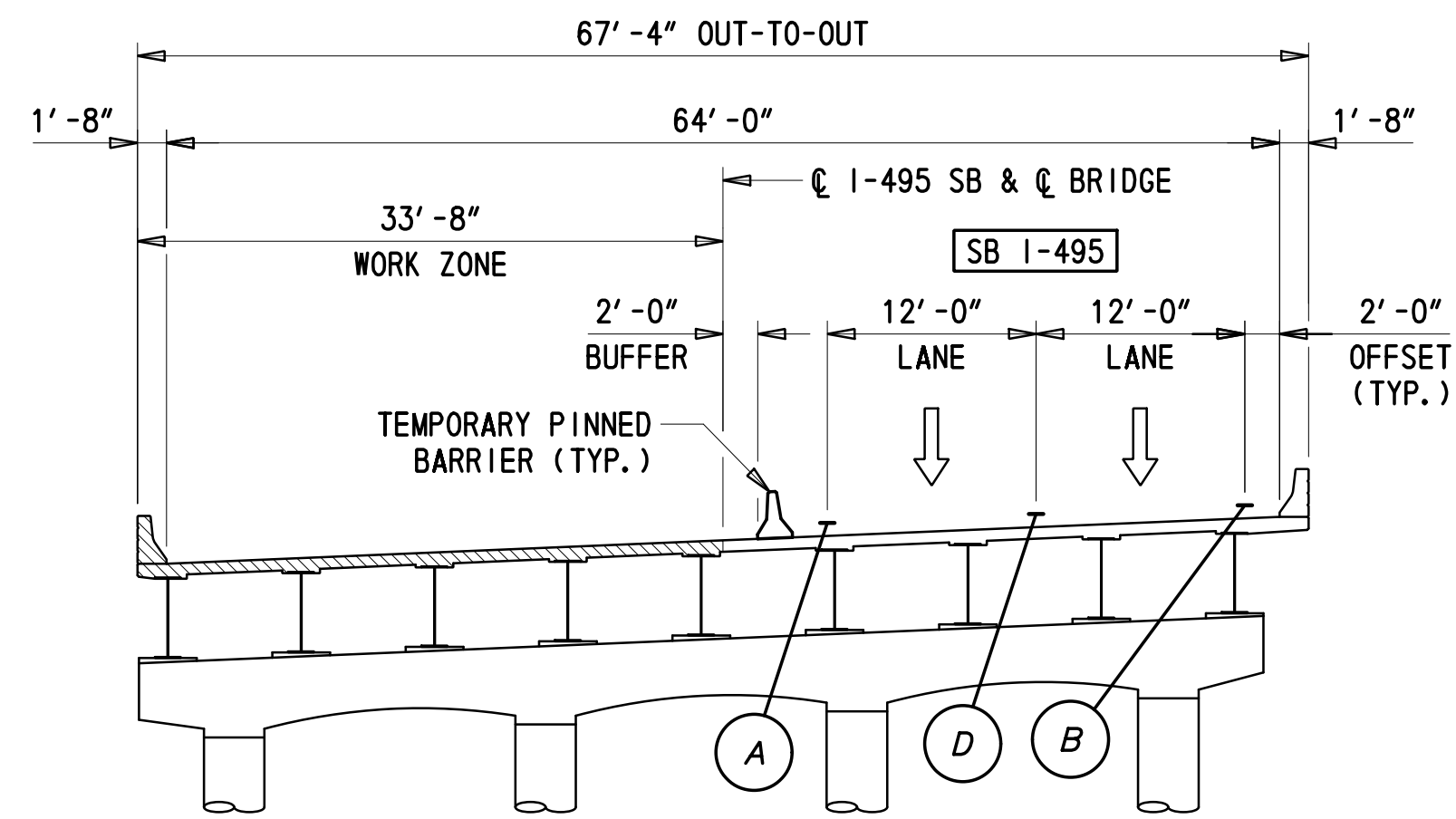
REHABILITATION OF BRIDGES  
1-810, 1-811, 1-812  
AND 1-813 ON I-495

CONTRACT  
T201707404  
COUNTY  
NEW CASTLE

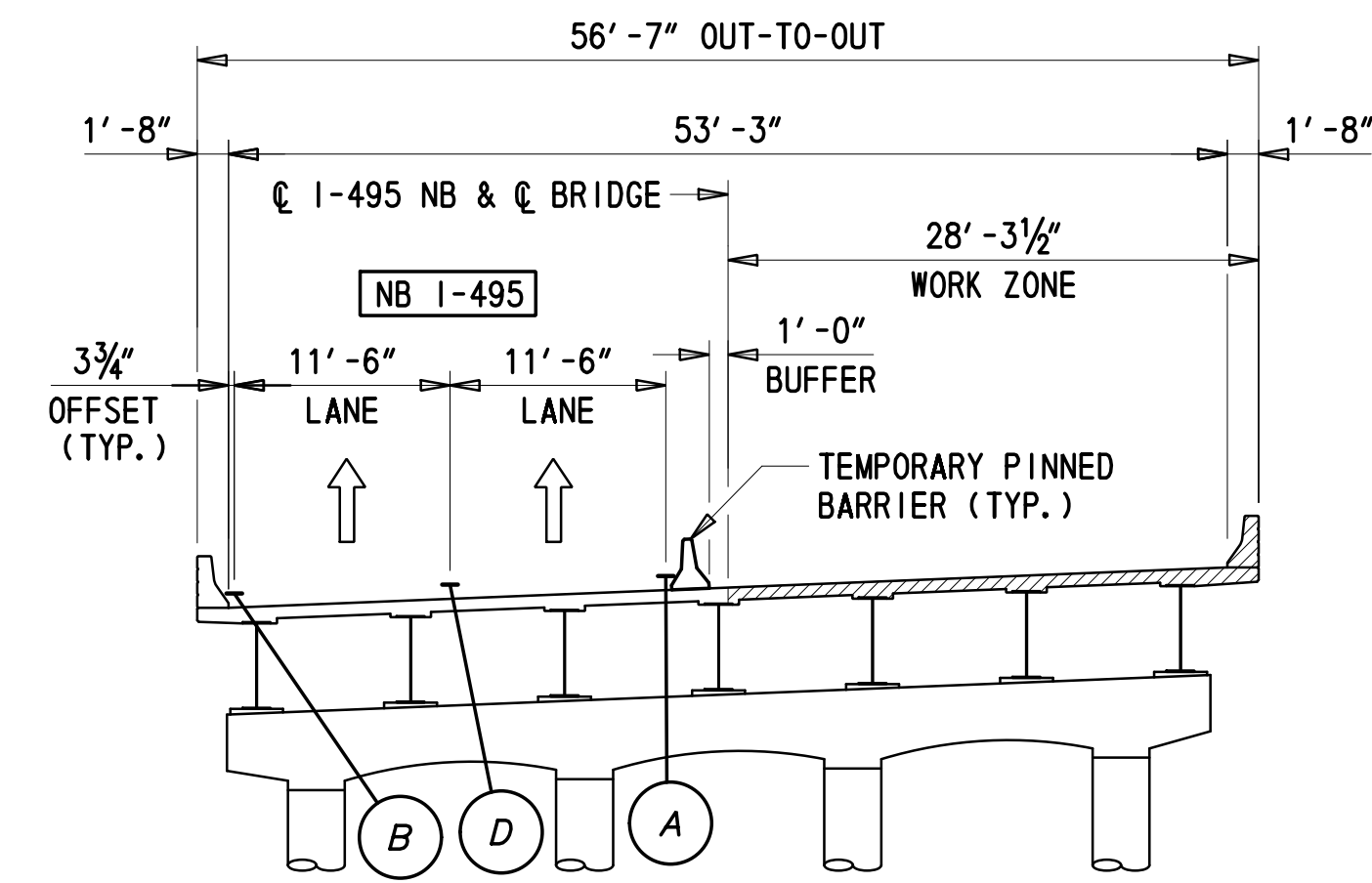
BRIDGE NO.  
DESIGNED BY: JWS  
CHECKED BY: RR

MOT NOTES

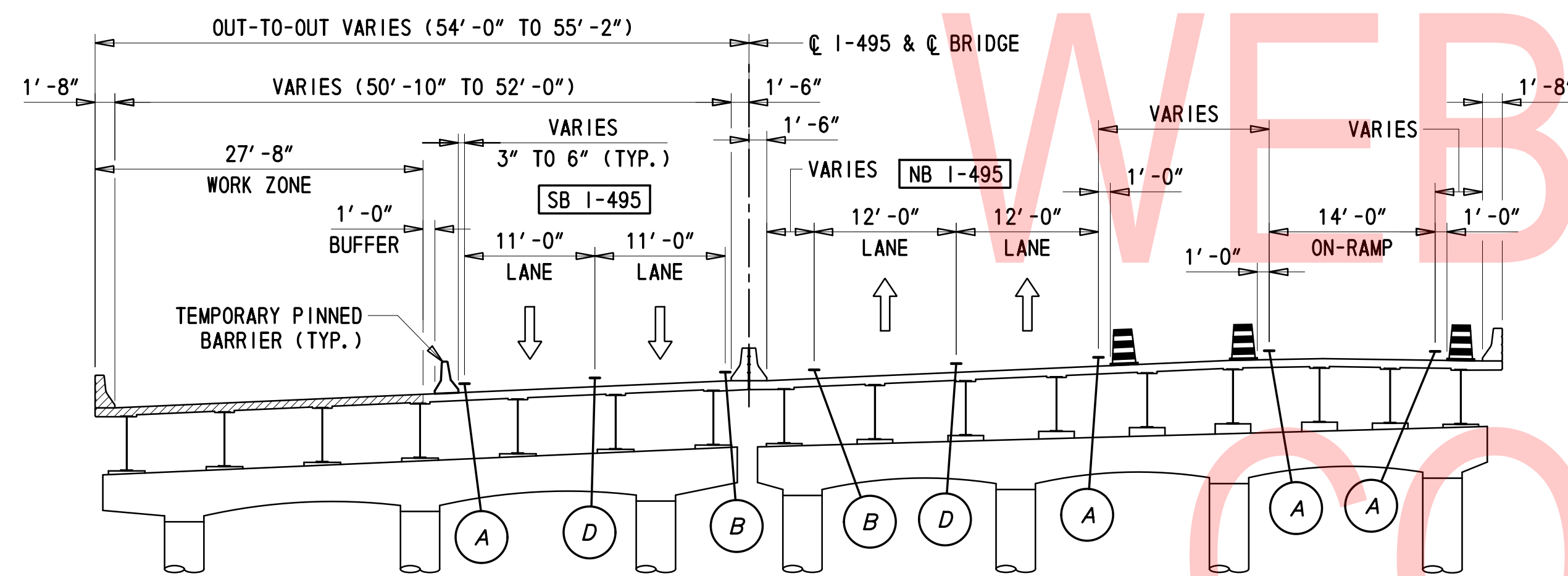
PN-03  
SECTION  
TY  
SHEET NO.  
46



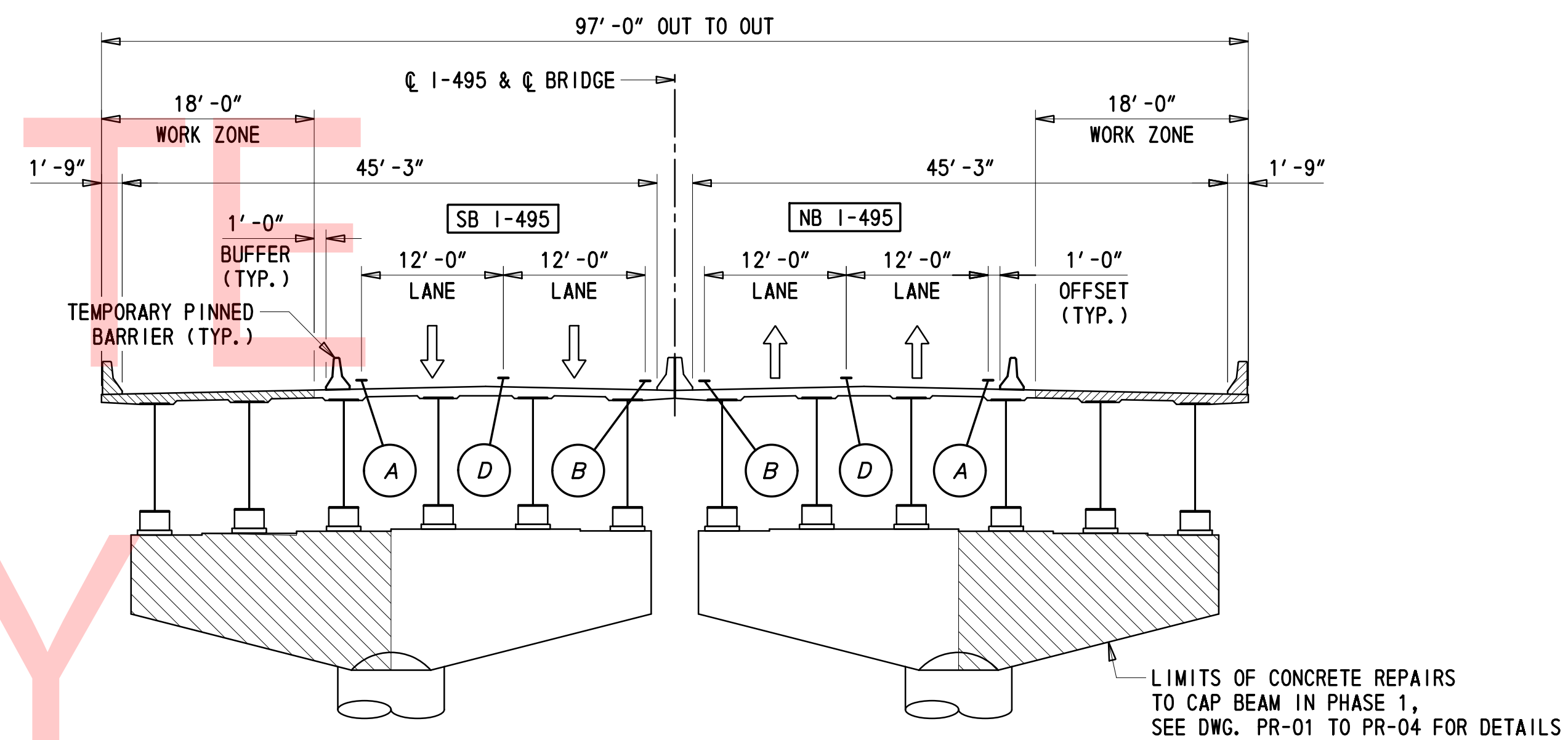
SECTION - BRIDGE 1-810 PHASE 1B



SECTION - BRIDGE 1-811 PHASE 1B



SECTION - BRIDGE 1-812 PHASE 1B



SECTION - BRIDGE 1-813 PHASE 1A AND 1B

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ADDENDA / REVISIONS

NOT TO SCALE

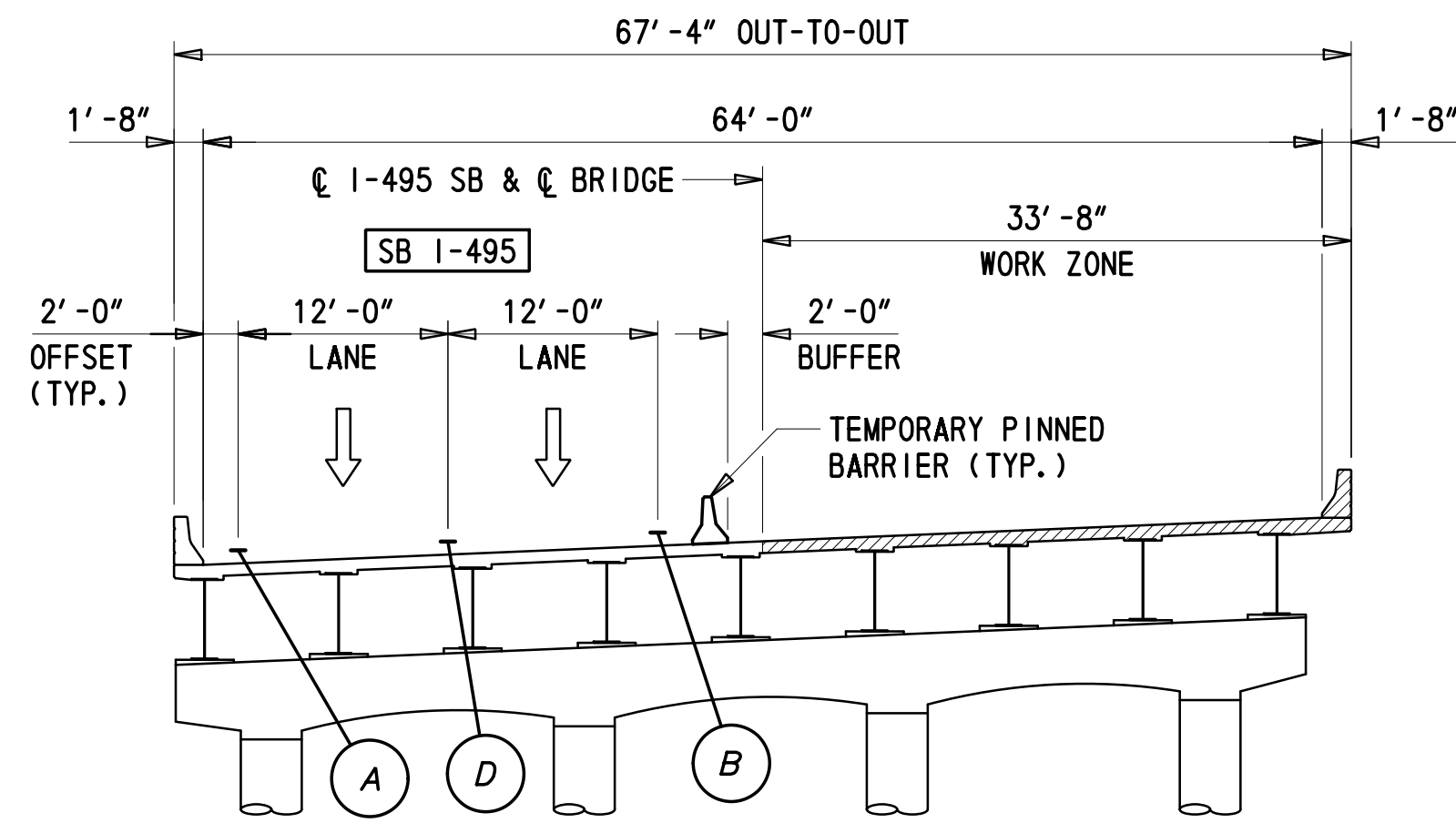
REHABILITATION OF BRIDGES  
1-810, 1-811, 1-812  
AND 1-813 ON I-495

CONTRACT	BRIDGE NO.
T201707404	
COUNTY	DESIGNED BY: JWS
NEW CASTLE	CHECKED BY: RR

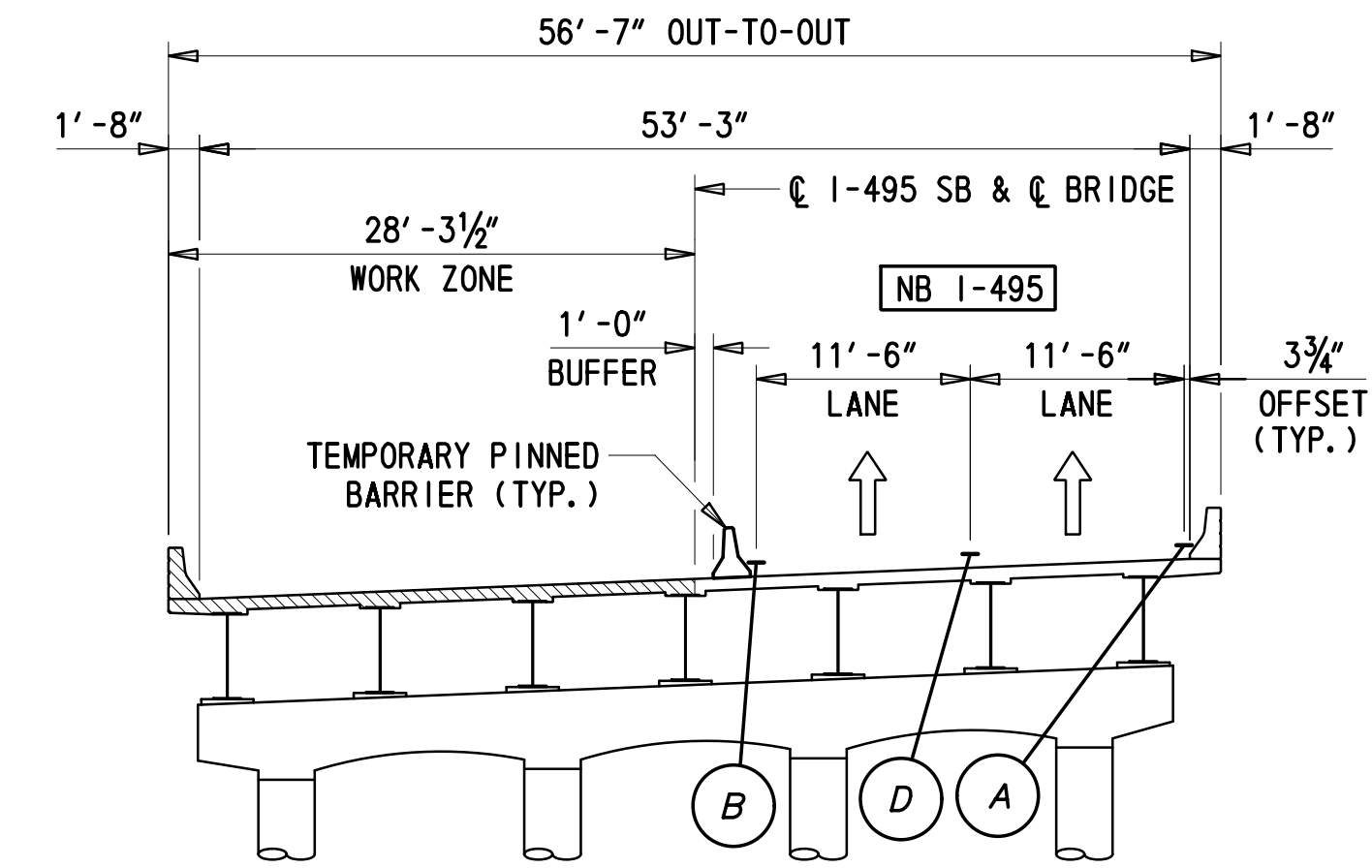
MOT TYPICAL SECTIONS  
PHASE 1A AND 1B

PN-04
SECTION
TY
SHEET NO.
47

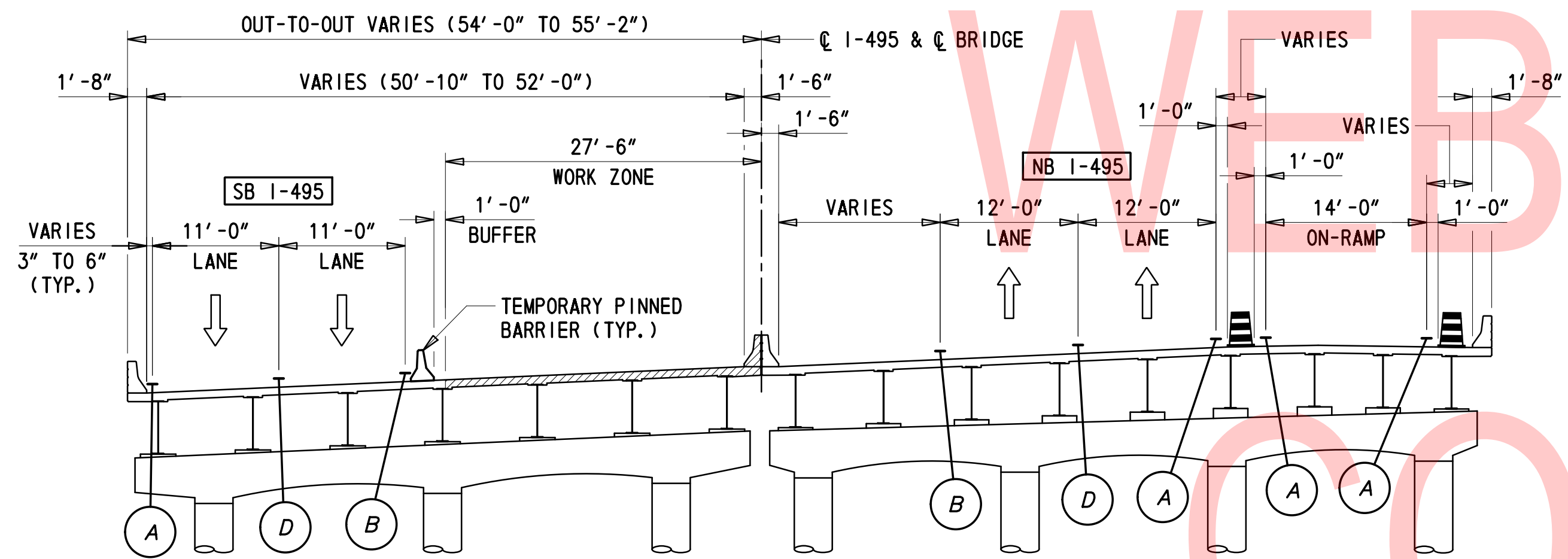
TEMPORARY PAVEMENT MARKINGS LEGEND	
SYMBOL	ITEM
(A)	EPOXY RESIN PAINT PAVEMENT STRIPING, WHITE 5" SOLID (ITEM 817013)
(B)	EPOXY RESIN PAINT PAVEMENT STRIPING, BLACK 5" SOLID (ITEM 817018)
(C)	EPOXY RESIN PAINT PAVEMENT STRIPING, YELLOW 5" SOLID (ITEM 817013)
(D)	EPOXY RESIN PAINT PAVEMENT STRIPING, WHITE/BLACK 8" BROKEN - 10' LINE & 30' GAP (ITEM 817022)



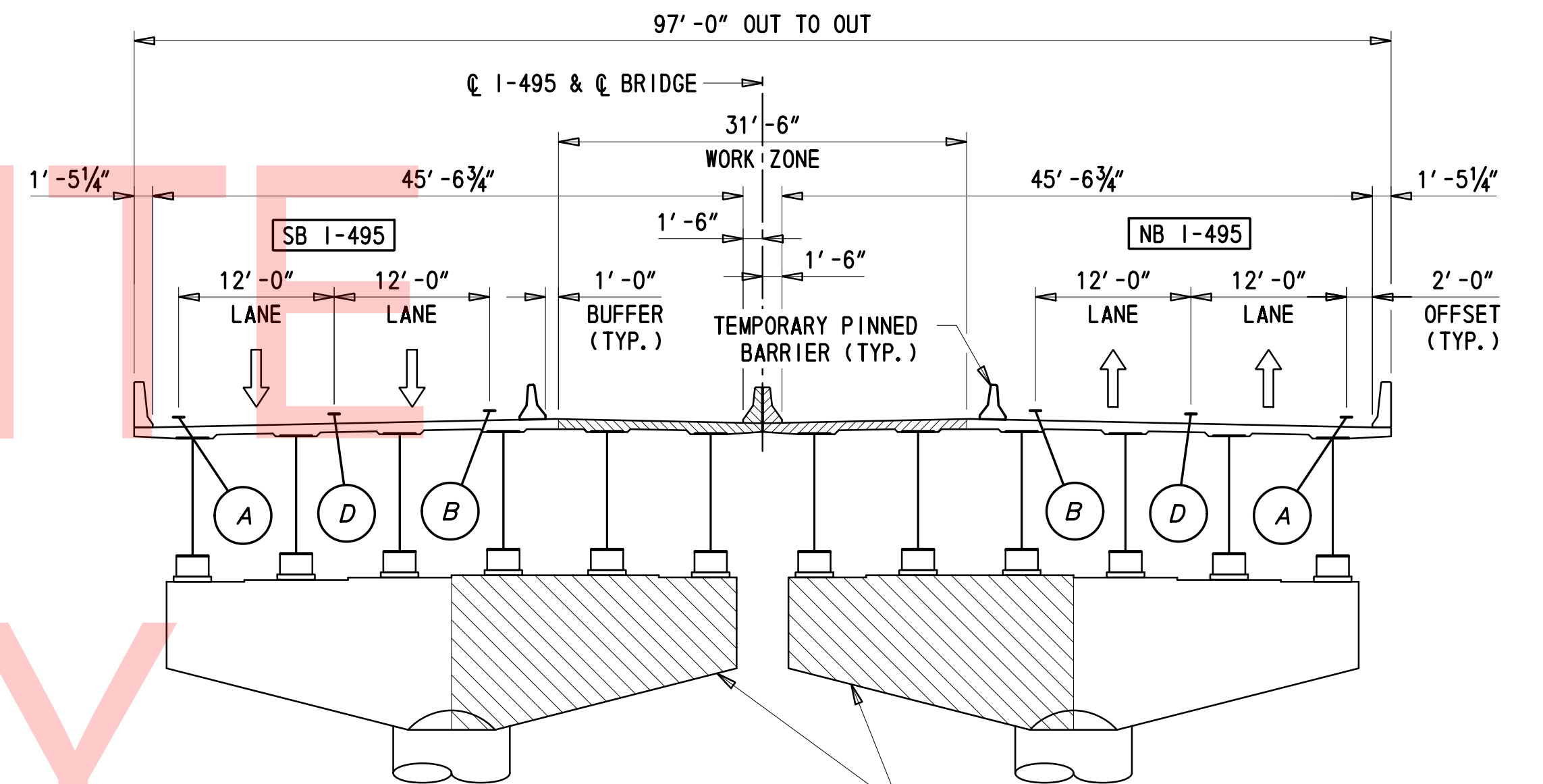
SECTION - BRIDGE 1-810 PHASE 2



SECTION - BRIDGE 1-811 PHASE 2



SECTION - BRIDGE 1-812 PHASE 2



SECTION - BRIDGE 1-813 PHASE 2

LIMITS OF CONCRETE REPAIRS TO CAP BEAM IN PHASE 2, SEE DWG. PR-01 TO PR-04 FOR DETAILS

TEMPORARY PAVEMENT MARKINGS LEGEND	
SYMBOL	ITEM
(A)	EPOXY RESIN PAINT PAVEMENT STRIPING, WHITE 5" SOLID (ITEM 817013)
(B)	EPOXY RESIN PAINT PAVEMENT STRIPING, BLACK 5" SOLID (ITEM 817018)
(C)	EPOXY RESIN PAINT PAVEMENT STRIPING, YELLOW 5" SOLID (ITEM 817013)
(D)	EPOXY RESIN PAINT PAVEMENT STRIPING, WHITE/BLACK 8" BROKEN - 10' LINE & 30' GAP (ITEM 817022)

ADDENDA / REVISIONS

NOT TO SCALE

REHABILITATION OF BRIDGES  
1-810, 1-811, 1-812  
AND 1-813 ON I-495

CONTRACT	BRIDGE NO.
T201707404	DESIGNED BY: JWS
COUNTY	CHECKED BY: RR
NEW CASTLE	

MOT TYPICAL SECTIONS  
PHASE 2

PN-05

SECTION

TY

SHEET NO.

48



**PORTABLE CHANGEABLE MESSAGE SIGNS**

**PRIOR TO LANE CLOSURE**  
(10 DAYS PRIOR TO BEGINNING OF LANE CLOSURE)

**DURING LANE CLOSURE**

(DISPLAY FOR 5 DAYS AFTER IMPLEMENTATION OF LANE CLOSURE)

PCMS-1

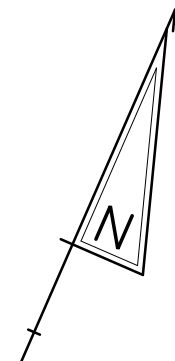
PCMS-1

**BRIDGE  
WORK  
STARTING**

**XX/XXXX  
EXPECT  
DELAYS**

**NEW  
TRAFFIC  
PATTERN**

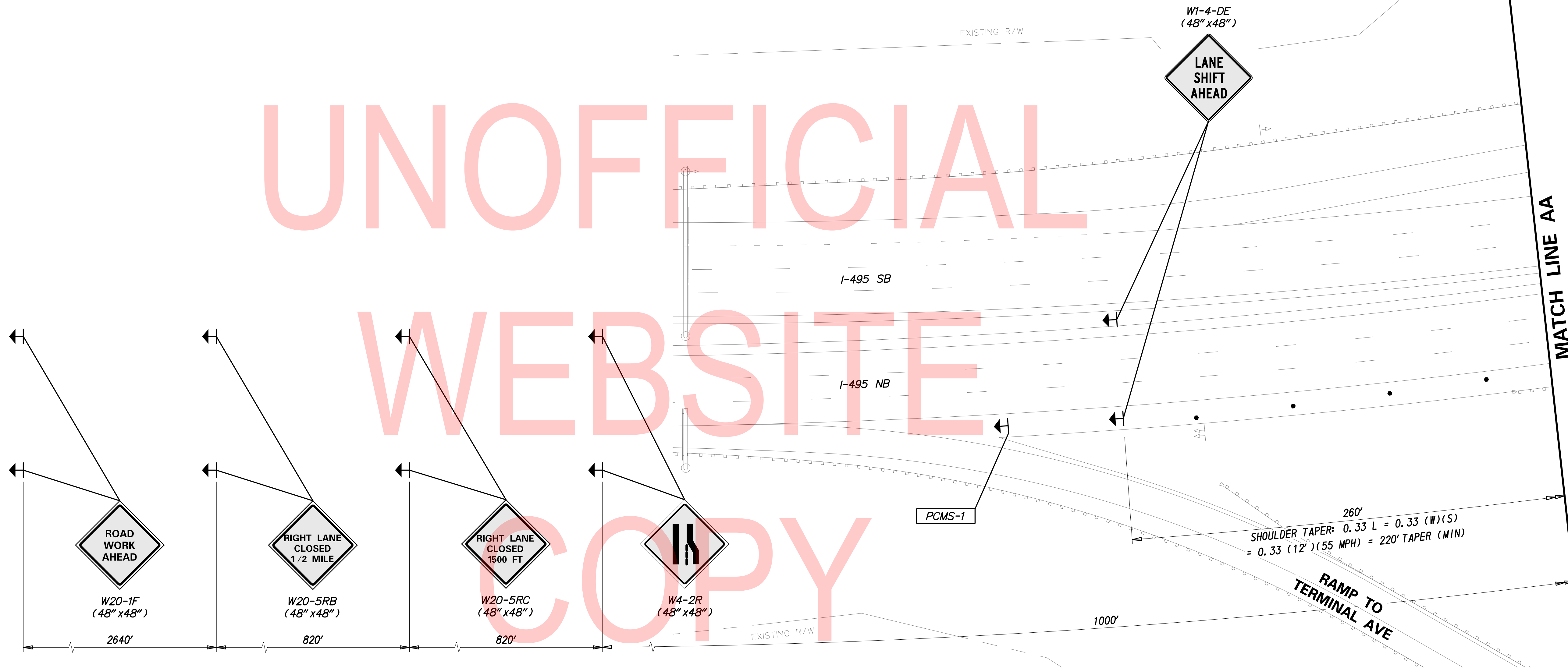
**USE  
CAUTION**



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WEBSITE

COPY



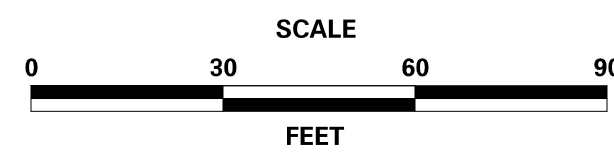
**PHASE 1A - TEMPORARY PAVEMENT MARKINGS LEGEND**

SYMBOL	ITEM	QUANTITY
A	EPOXY RESIN PAINT PAVEMENT STRIPING, WHITE 5" SOLID (ITEM 817013)	13,834 LF
	EPOXY RESIN PAINT PAVEMENT STRIPING, BLACK 3" SOLID (ITEM 817018)	13,834 LF
B	EPOXY RESIN PAINT PAVEMENT STRIPING, YELLOW 5" SOLID (ITEM 817013)	10,258 LF
C	EPOXY RESIN PAINT PAVEMENT STRIPING, WHITE/BLACK 8" DOTTED - 3' LINE & 9' GAP (ITEM 817022)	408 LF
D	EPOXY RESIN PAINT PAVEMENT STRIPING, WHITE 8" BROKEN - 10' LINE & 30' GAP (ITEM 817022)	2,560 LF

**NOTES:**

- PLACE ALL PERMANENT WARNING SIGNS (ITEM NO. 810001) AS SHOWN ON THIS SHEET PRIOR TO THE BEGINNING OF CONSTRUCTION.
- ALL LOCATIONS SHOWN ARE APPROXIMATE.
- MESSAGE AND LOCATIONS OF PCMS SHALL BE COORDINATED WITH DISTRICT SAFETY OFFICE PRIOR TO IMPLEMENTATION.
- PERMANENT REGULATORY SIGNS THAT ARE BEING REPLACED BY TEMPORARY REGULATORY SIGNS SHALL BE COVERED OR REMOVED FOR THE DURATION OF THE CONSTRUCTION PHASE. SIGNS SHALL BE RESTORED TO THE ORIGINAL LOCATION PRIOR TO REMOVING TRAFFIC CONTROL.
- RELOCATE PCMS BOARDS AND LANE CLOSURE SIGNS WHEN CHANGING PHASES.

ADDENDA / REVISIONS



**REHABILITATION OF BRIDGES  
1-810, 1-811, 1-812  
AND 1-813 ON I-495**

CONTRACT

T201707404

COUNTY

NEW CASTLE

BRIDGE NO.

DESIGNED BY: JWS

CHECKED BY: RR

**CONSTRUCTION PHASING,  
M.O.T., AND EROSION  
CONTROL PLAN - PHASE 1A**

CS-01

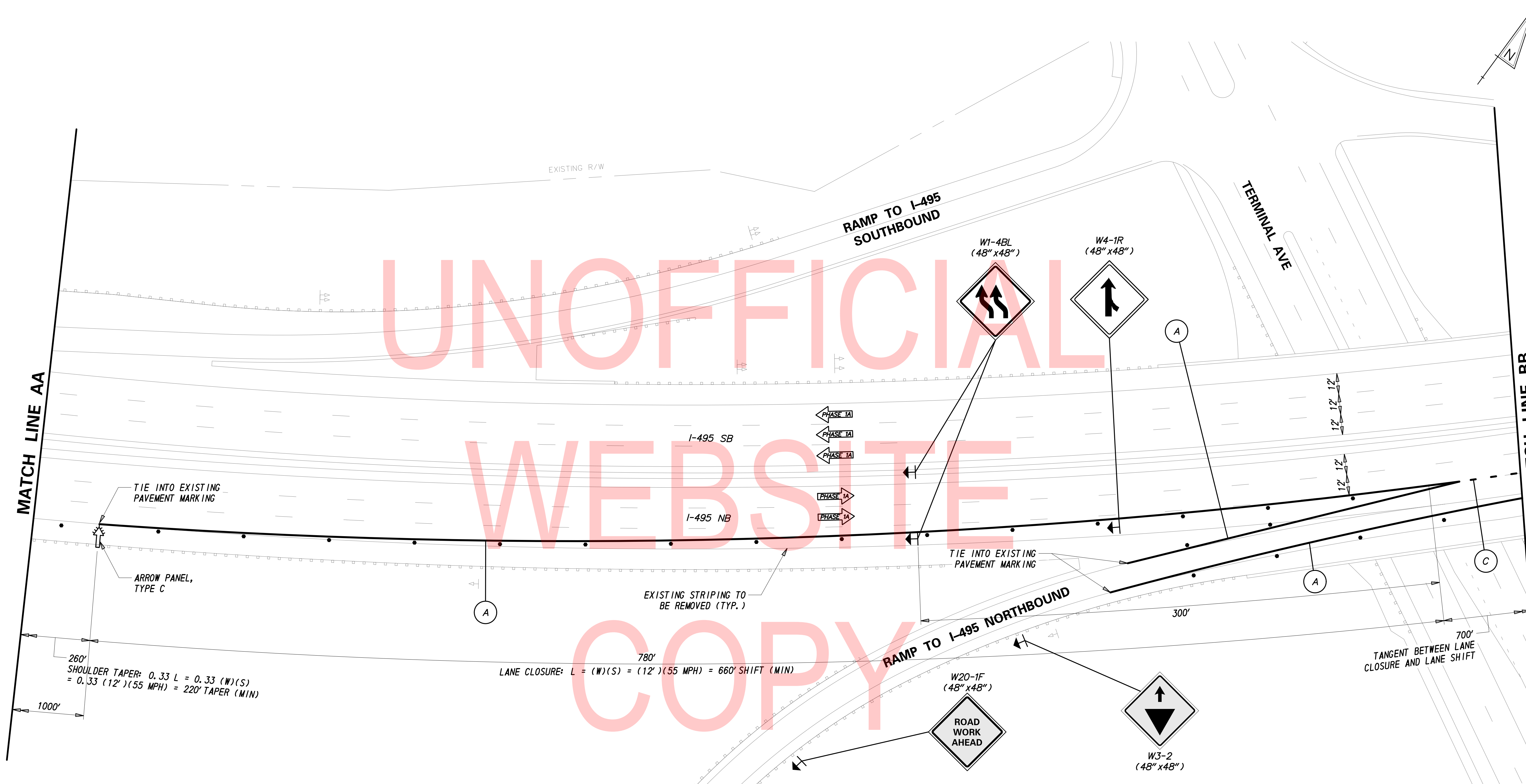
SECTION

TY

SHEET NO.

49

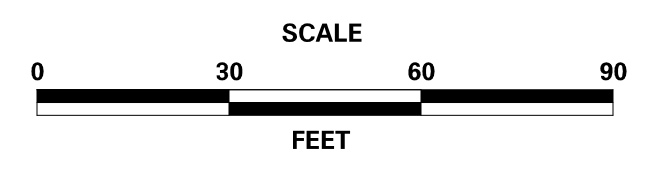
UNOFFICIAL  
WEBSITE  
COPY



PHASE 1A - TEMPORARY PAVEMENT MARKINGS LEGEND	
SYMBOL	ITEM
(A)	EPOXY RESIN PAINT PAVEMENT STRIPING, WHITE 5" SOLID (ITEM 817013)
(B)	EPOXY RESIN PAINT PAVEMENT STRIPING, BLACK 5" SOLID (ITEM 817018)
(C)	EPOXY RESIN PAINT PAVEMENT STRIPING, WHITE/BLACK 8" BROKEN - 3' LINE & 9' GAP (ITEM 817022)

- NOTES:
1. PLACE ALL PERMANENT WARNING SIGNS (ITEM NO. 810001) AS SHOWN ON THIS SHEET PRIOR TO THE BEGINNING OF CONSTRUCTION.
  2. ALL LOCATIONS SHOWN ARE APPROXIMATE.
  3. PERMANENT REGULATORY SIGNS THAT ARE BEING REPLACED BY TEMPORARY REGULATORY SIGNS SHALL BE COVERED OR REMOVED FOR THE DURATION OF THE CONSTRUCTION PHASE. SIGNS SHALL BE RESTORED TO THE ORIGINAL LOCATION PRIOR TO REMOVING TRAFFIC CONTROL.
  4. CONTRACTOR SHALL REMOVE ANY EXISTING PAVEMENT STRIPING THAT CONFLICTS WITH PROPOSED TEMPORARY PAVEMENT MARKINGS.
  5. RELOCATE LANE CLOSURE SIGNS WHEN CHANGING PHASES.

ADDENDA / REVISIONS



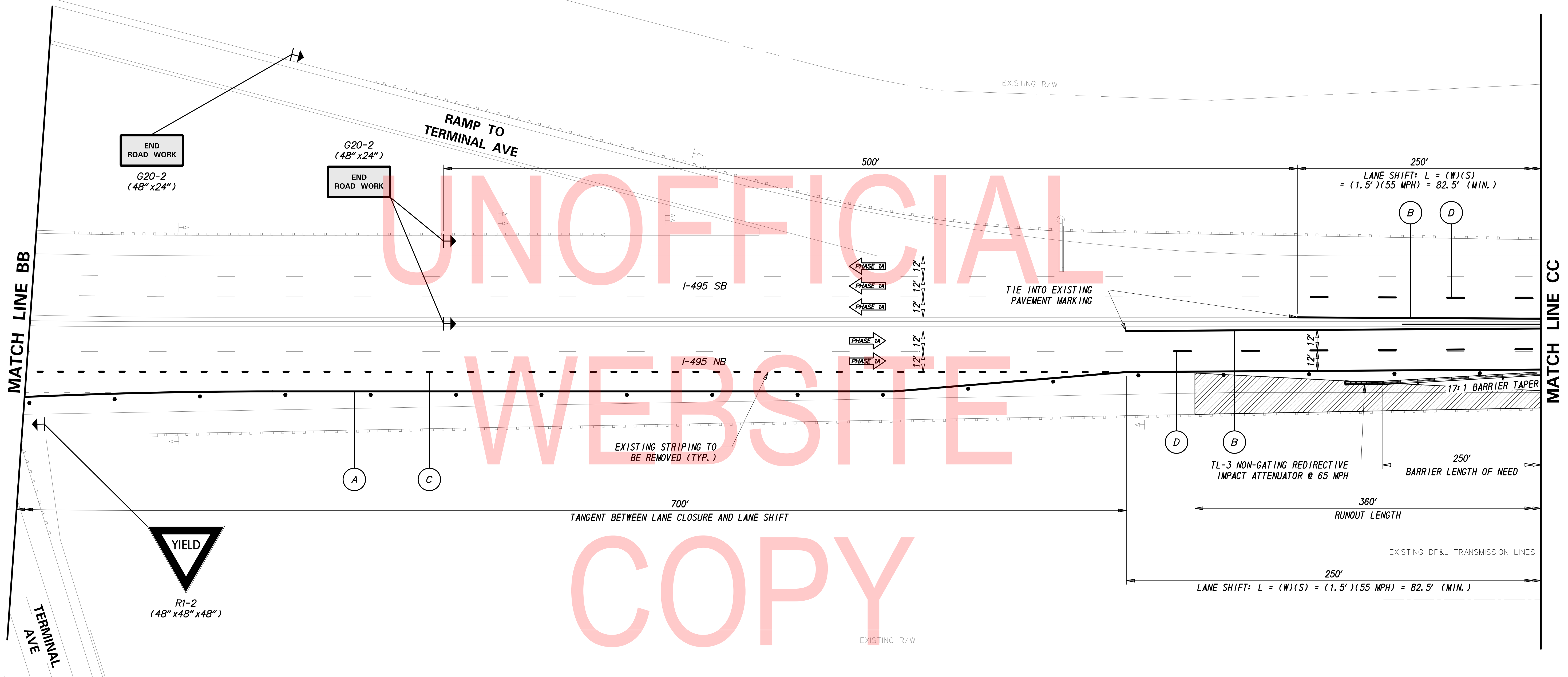
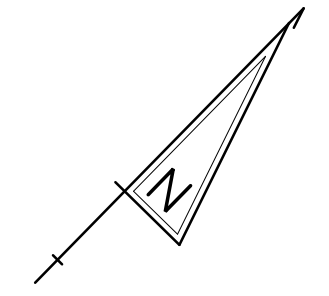
**REHABILITATION OF BRIDGES  
1-810, 1-811, 1-812  
AND 1-813 ON I-495**

CONTRACT	BRIDGE NO.
T201707404	
COUNTY	DESIGNED BY: JWS
NEW CASTLE	CHECKED BY: RR

**CONSTRUCTION PHASING,  
M.O.T., AND EROSION  
CONTROL PLAN - PHASE 1A**

CS-02
SECTION
TY
SHEET NO.
50

2/10/2020 T:\Dover\Projects\425025\06\600\_CADD\05\_01\Official\Plans\CS02\_PHASE1A.dgn



UNOFFICIAL  
WEBSITE  
COPY

PHASE 1A - TEMPORARY PAVEMENT MARKINGS LEGEND	
SYMBOL	ITEM
A	EPOXY RESIN PAINT PAVEMENT STRIPING, WHITE 5" SOLID (ITEM 817013)
	EPOXY RESIN PAINT PAVEMENT STRIPING, BLACK 5" SOLID (ITEM 817018)
B	EPOXY RESIN PAINT PAVEMENT STRIPING, YELLOW 5" SOLID (ITEM 817013)
C	EPOXY RESIN PAINT PAVEMENT STRIPING, WHITE/BLACK 8" BROKEN - 3' LINE & 9' GAP (ITEM 817022)
D	EPOXY RESIN PAINT PAVEMENT STRIPING, WHITE/BLACK 8" BROKEN - 10' LINE & 30' GAP (ITEM 817022)

**NOTES:**

- PLACE ALL PERMANENT WARNING SIGNS (ITEM NO. 810001) AS SHOWN ON THIS SHEET PRIOR TO THE BEGINNING OF CONSTRUCTION.
- ALL LOCATIONS SHOWN ARE APPROXIMATE.
- PERMANENT REGULATORY SIGNS THAT ARE BEING REPLACED BY TEMPORARY REGULATORY SIGNS SHALL BE COVERED OR REMOVED FOR THE DURATION OF THE CONSTRUCTION PHASE. SIGNS SHALL BE RESTORED TO THE ORIGINAL LOCATION PRIOR TO REMOVING TRAFFIC CONTROL.
- CONTRACTOR SHALL REMOVE ANY EXISTING PAVEMENT STRIPING THAT CONFLICTS WITH PROPOSED TEMPORARY PAVEMENT MARKINGS.
- RELOCATE LANE CLOSURE SIGNS WHEN CHANGING PHASES.

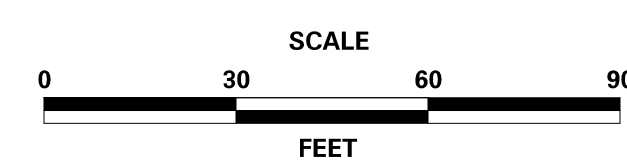
BARRIER LENGTH OF NEED: APPROACHING TRAFFIC - I-495 NB

$$\frac{L_a + (b/a)(L) - L_s}{(b/a) + (L_s / L_s)} = \frac{20.25 + (1/17)(150) - 1}{(1/17) + (20.25/360)} = 250'$$

RUNOUT LENGTH = 360'

AREA BEHIND RUNOUT LENGTH

ADDENDA / REVISIONS

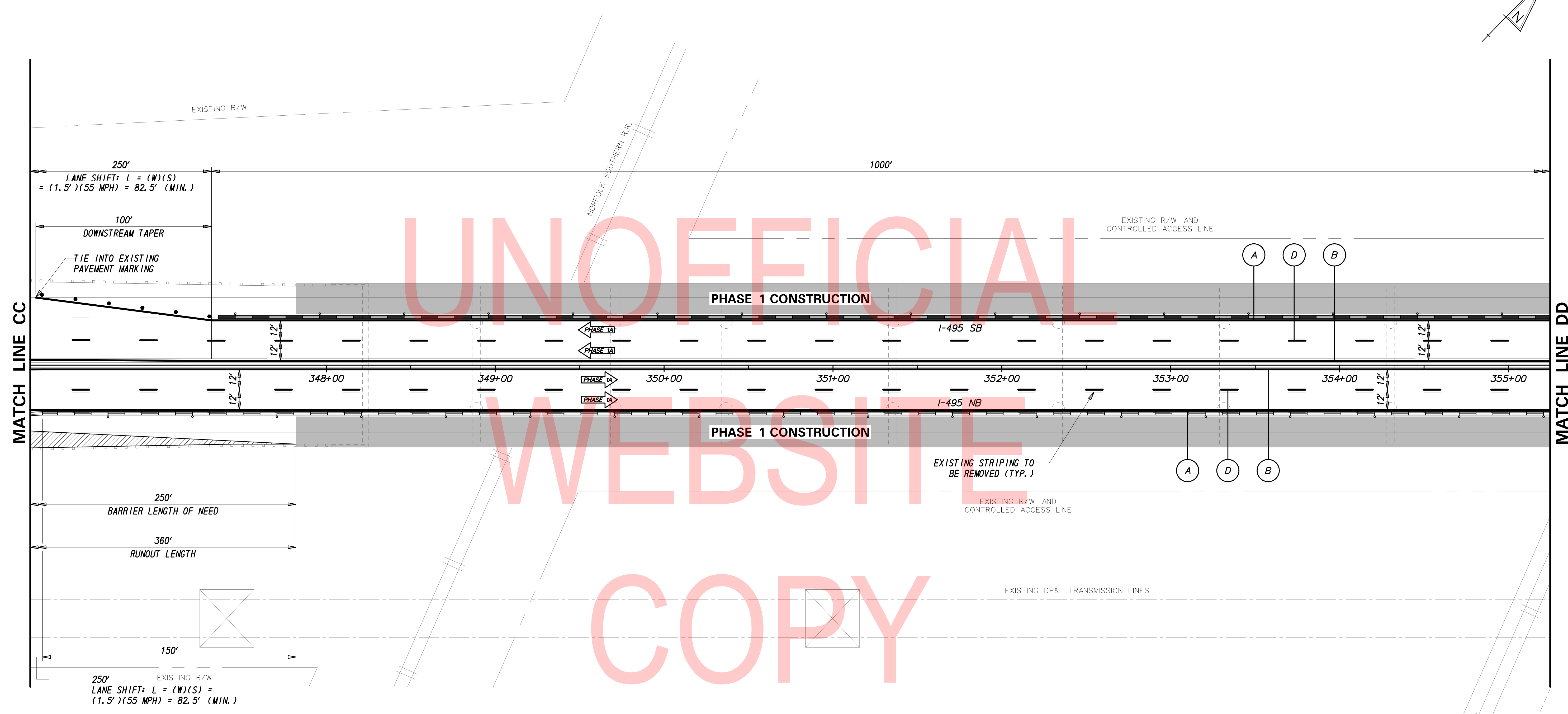
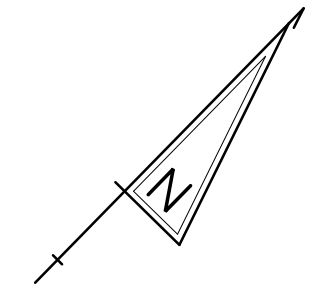


**REHABILITATION OF BRIDGES  
1-810, 1-811, 1-812  
AND 1-813 ON I-495**

CONTRACT	BRIDGE NO.
T201707404	
COUNTY	DESIGNED BY: JWS
NEW CASTLE	CHECKED BY: RR

**CONSTRUCTION PHASING,  
M.O.T., AND EROSION  
CONTROL PLAN - PHASE 1A**

CS-03  
SECTION  
TY  
SHEET NO.  
51



UNOFFICIAL  
WEBSITE  
COPY

MATCH LINE CC

MATCH LINE DD

PHASE 1A - TEMPORARY PAVEMENT MARKINGS LEGEND	
SYMBOL	ITEM
A	EPOXY RESIN PAINT PAVEMENT STRIPING, WHITE 5" SOLID (ITEM 817013)
	EPOXY RESIN PAINT PAVEMENT STRIPING, BLACK 5" SOLID (ITEM 817018)
B	EPOXY RESIN PAINT PAVEMENT STRIPING, YELLOW 5" SOLID (ITEM 817013)
D	EPOXY RESIN PAINT PAVEMENT STRIPING, WHITE/BLACK 8" BROKEN - 10' LINE & 30' GAP (ITEM 817022)

- NOTES:
- PLACE ALL PERMANENT WARNING SIGNS (ITEM NO. 810001) AS SHOWN ON THIS SHEET PRIOR TO THE BEGINNING OF CONSTRUCTION.
  - ALL LOCATIONS SHOWN ARE APPROXIMATE.
  - PERMANENT REGULATORY SIGNS THAT ARE BEING REPLACED BY TEMPORARY REGULATORY SIGNS SHALL BE COVERED OR REMOVED FOR THE DURATION OF THE CONSTRUCTION PHASE. SIGNS SHALL BE RESTORED TO THE ORIGINAL LOCATION PRIOR TO REMOVING TRAFFIC CONTROL.
  - CONTRACTOR SHALL REMOVE ANY EXISTING PAVEMENT STRIPING THAT CONFLICTS WITH PROPOSED TEMPORARY PAVEMENT MARKINGS.
  - RELOCATE LANE CLOSURE SIGNS WHEN CHANGING PHASES.

BARRIER LENGTH OF NEED: APPROACHING TRAFFIC - I-495 NB

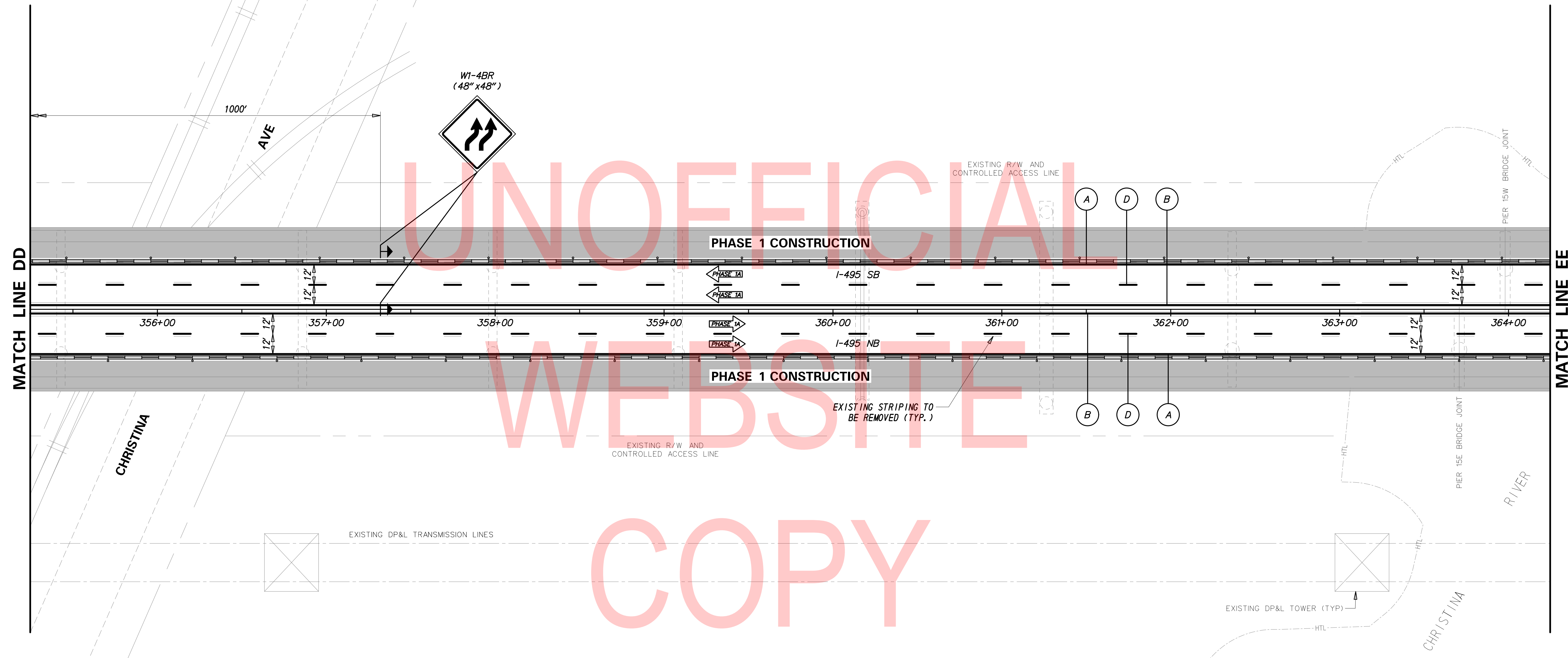
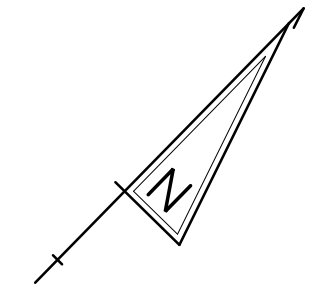
$$L_s + (b/a)(L) - L_s = \frac{20.25 + (1/17)(150) - 1}{(1/17) + (20.25/360)} = 250'$$

RUNOUT LENGTH = 360'

AREA BEHIND RUNOUT LENGTH

2/10/2020 T:\Dover\Projects\425025\06\600\_CADD\05\_Official\Plans\CS04\_PHASE1A.dgn

ADDENDA / REVISIONS	<p>SCALE 0 30 60 90 FEET</p>	<p><b>REHABILITATION OF BRIDGES</b> 1-810, 1-811, 1-812 AND 1-813 ON I-495</p>	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td>CONTRACT</td> <td>BRIDGE NO.</td> </tr> <tr> <td>T201707404</td> <td></td> </tr> <tr> <td>COUNTY</td> <td>DESIGNED BY: JWS</td> </tr> <tr> <td>NEW CASTLE</td> <td>CHECKED BY: RR</td> </tr> </table>	CONTRACT	BRIDGE NO.	T201707404		COUNTY	DESIGNED BY: JWS	NEW CASTLE	CHECKED BY: RR	<p><b>CONSTRUCTION PHASING, M.O.T., AND EROSION CONTROL PLAN - PHASE 1A</b></p>	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td>CS-04</td> </tr> <tr> <td>SECTION</td> </tr> <tr> <td>TY</td> </tr> <tr> <td>SHEET NO.</td> </tr> <tr> <td>52</td> </tr> </table>	CS-04	SECTION	TY	SHEET NO.	52
CONTRACT	BRIDGE NO.																	
T201707404																		
COUNTY	DESIGNED BY: JWS																	
NEW CASTLE	CHECKED BY: RR																	
CS-04																		
SECTION																		
TY																		
SHEET NO.																		
52																		

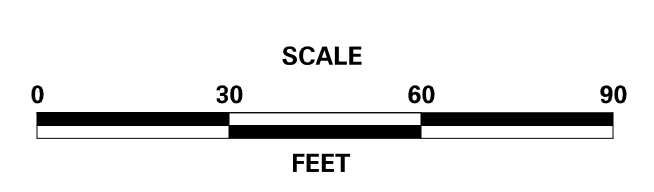


UNOFFICIAL  
WEBSITE  
COPY

PHASE 1A - TEMPORARY PAVEMENT MARKINGS LEGEND	
SYMBOL	ITEM
Ⓐ	EPOXY RESIN PAINT PAVEMENT STRIPING, WHITE 5" SOLID (ITEM 817013)
	EPOXY RESIN PAINT PAVEMENT STRIPING, BLACK 5" SOLID (ITEM 817018)
Ⓑ	EPOXY RESIN PAINT PAVEMENT STRIPING, YELLOW 5" SOLID (ITEM 817013)
Ⓓ	EPOXY RESIN PAINT PAVEMENT STRIPING, WHITE/BLACK 8" BROKEN - 10' LINE & 30' GAP (ITEM 817022)

- NOTES:
- PLACE ALL PERMANENT WARNING SIGNS (ITEM NO. 810001) AS SHOWN ON THIS SHEET PRIOR TO THE BEGINNING OF CONSTRUCTION.
  - ALL LOCATIONS SHOWN ARE APPROXIMATE.
  - PERMANENT REGULATORY SIGNS THAT ARE BEING REPLACED BY TEMPORARY REGULATORY SIGNS SHALL BE COVERED OR REMOVED FOR THE DURATION OF THE CONSTRUCTION PHASE. SIGNS SHALL BE RESTORED TO THE ORIGINAL LOCATION PRIOR TO REMOVING TRAFFIC CONTROL.
  - CONTRACTOR SHALL REMOVE ANY EXISTING PAVEMENT STRIPING THAT CONFLICTS WITH PROPOSED TEMPORARY PAVEMENT MARKINGS.
  - RELOCATE LANE CLOSURE SIGNS WHEN CHANGING PHASES.

ADDENDA / REVISIONS



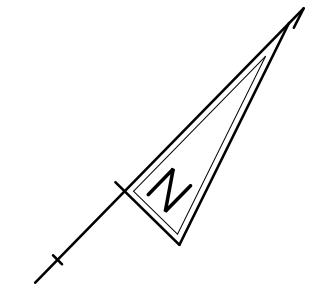
**REHABILITATION OF BRIDGES  
1-810, 1-811, 1-812  
AND 1-813 ON I-495**

CONTRACT T201707404	BRIDGE NO.
COUNTY NEW CASTLE	DESIGNED BY: JWS
	CHECKED BY: RR

**CONSTRUCTION PHASING,  
M.O.T., AND EROSION  
CONTROL PLAN - PHASE 1A**

CS-05
SECTION TY
SHEET NO. 53

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MATCH LINE EE

MATCH LINE FF



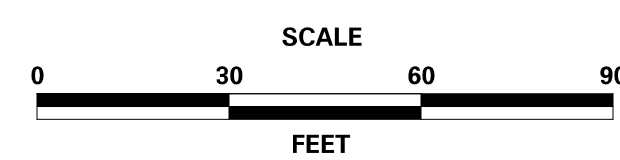
UNOFFICIAL WEBSITE COPY

PHASE 1A - TEMPORARY PAVEMENT MARKINGS LEGEND	
SYMBOL	ITEM
Ⓐ	EPOXY RESIN PAINT PAVEMENT STRIPING, WHITE 5" SOLID (ITEM 817013)
	EPOXY RESIN PAINT PAVEMENT STRIPING, BLACK 5" SOLID (ITEM 817018)
Ⓑ	EPOXY RESIN PAINT PAVEMENT STRIPING, YELLOW 5" SOLID (ITEM 817013)
Ⓓ	EPOXY RESIN PAINT PAVEMENT STRIPING, WHITE/BLACK 8" BROKEN - 10' LINE & 30' GAP (ITEM 817022)

**NOTES:**

1. PLACE ALL PERMANENT WARNING SIGNS (ITEM NO. 810001) AS SHOWN ON THIS SHEET PRIOR TO THE BEGINNING OF CONSTRUCTION.
2. ALL LOCATIONS SHOWN ARE APPROXIMATE.
3. PERMANENT REGULATORY SIGNS THAT ARE BEING REPLACED BY TEMPORARY REGULATORY SIGNS SHALL BE COVERED OR REMOVED FOR THE DURATION OF THE CONSTRUCTION PHASE. SIGNS SHALL BE RESTORED TO THE ORIGINAL LOCATION PRIOR TO REMOVING TRAFFIC CONTROL.
4. CONTRACTOR SHALL REMOVE ANY EXISTING PAVEMENT STRIPING THAT CONFLICTS WITH PROPOSED TEMPORARY PAVEMENT MARKINGS.
5. RELOCATE LANE CLOSURE SIGNS WHEN CHANGING PHASES.

ADDENDA / REVISIONS

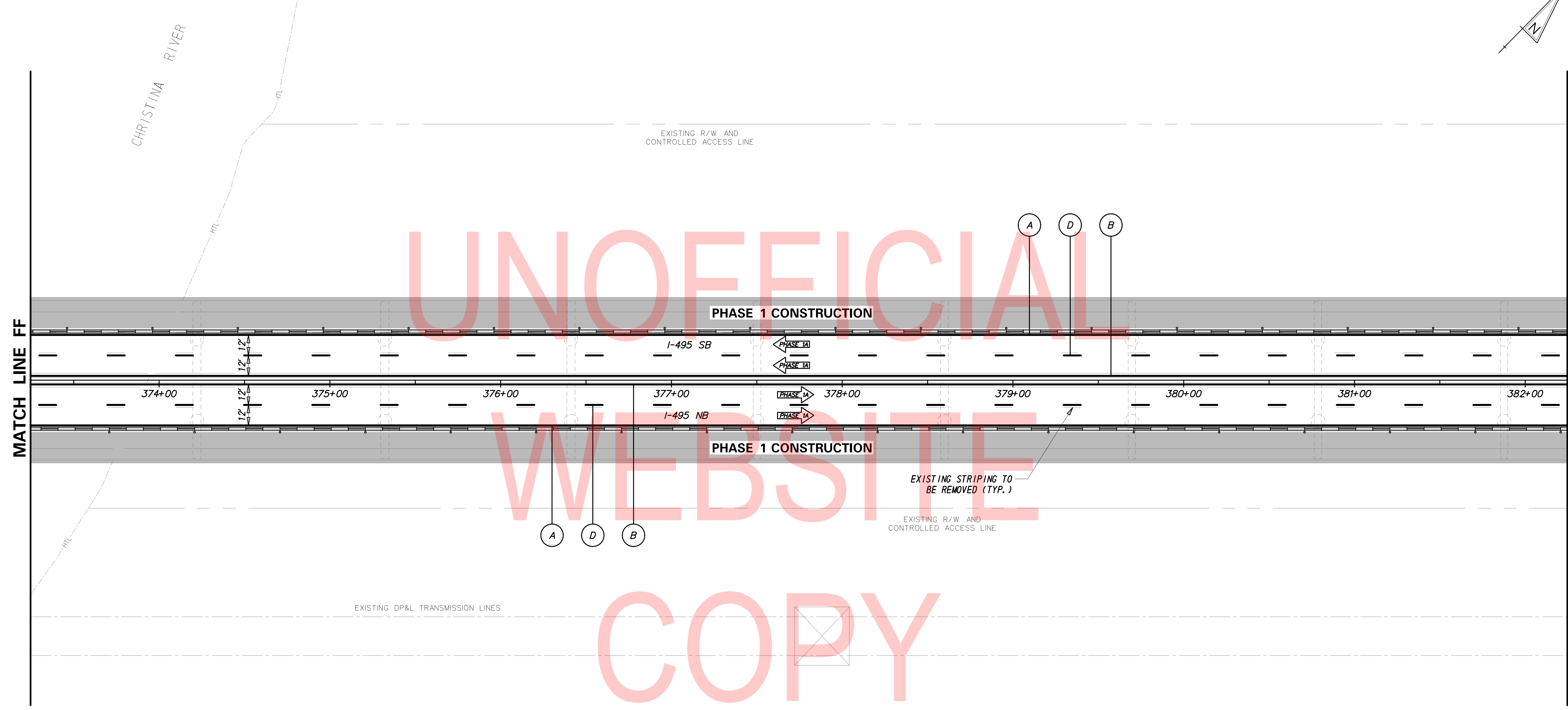
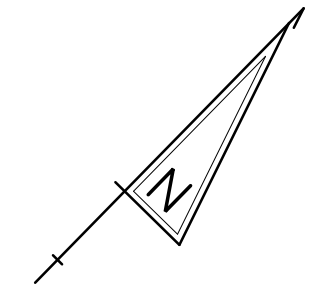


**REHABILITATION OF BRIDGES  
1-810, 1-811, 1-812  
AND 1-813 ON I-495**

CONTRACT	BRIDGE NO.
T201707404	
COUNTY	DESIGNED BY: JWS
NEW CASTLE	CHECKED BY: RR

**CONSTRUCTION PHASING,  
M.O.T., AND EROSION  
CONTROL PLAN - PHASE 1A**

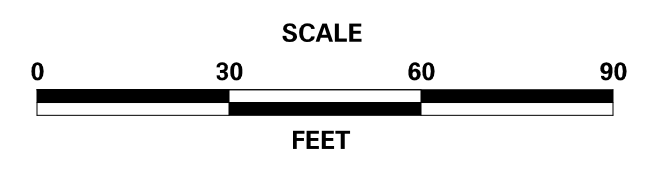
CS-06
SECTION
TY
SHEET NO.
54



PHASE 1A - TEMPORARY PAVEMENT MARKINGS LEGEND	
SYMBOL	ITEM
Ⓐ	EPOXY RESIN PAINT PAVEMENT STRIPING, WHITE 5" SOLID (ITEM 817013)
	EPOXY RESIN PAINT PAVEMENT STRIPING, BLACK 5" SOLID (ITEM 817018)
Ⓑ	EPOXY RESIN PAINT PAVEMENT STRIPING, YELLOW 5" SOLID (ITEM 817013)
Ⓓ	EPOXY RESIN PAINT PAVEMENT STRIPING, WHITE/BLACK 8" BROKEN - 10' LINE & 30' GAP (ITEM 817022)

- NOTES:
1. PLACE ALL PERMANENT WARNING SIGNS (ITEM NO. 810001) AS SHOWN ON THIS SHEET PRIOR TO THE BEGINNING OF CONSTRUCTION.
  2. ALL LOCATIONS SHOWN ARE APPROXIMATE.
  3. PERMANENT REGULATORY SIGNS THAT ARE BEING REPLACED BY TEMPORARY REGULATORY SIGNS SHALL BE COVERED OR REMOVED FOR THE DURATION OF THE CONSTRUCTION PHASE. SIGNS SHALL BE RESTORED TO THE ORIGINAL LOCATION PRIOR TO REMOVING TRAFFIC CONTROL.
  4. CONTRACTOR SHALL REMOVE ANY EXISTING PAVEMENT STRIPING THAT CONFLICTS WITH PROPOSED TEMPORARY PAVEMENT MARKINGS.
  5. RELOCATE LANE CLOSURE SIGNS WHEN CHANGING PHASES.

ADDENDA / REVISIONS



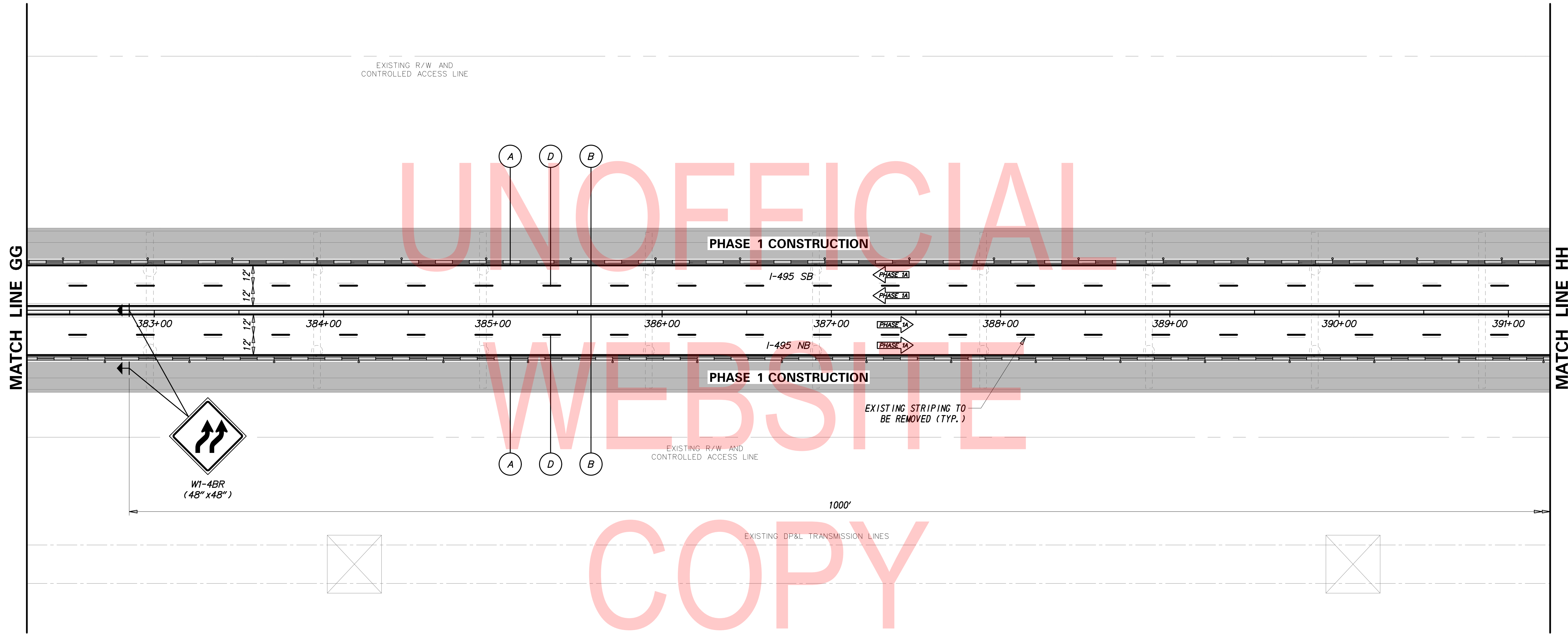
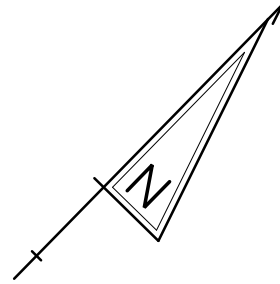
**REHABILITATION OF BRIDGES  
1-810, 1-811, 1-812  
AND 1-813 ON I-495**

CONTRACT T201707404	BRIDGE NO.
COUNTY NEW CASTLE	DESIGNED BY: JWS
	CHECKED BY: RR

**CONSTRUCTION PHASING,  
M.O.T., AND EROSION  
CONTROL PLAN - PHASE 1A**

CS-07
SECTION TY
SHEET NO. 55

2/10/2020 T:\Dover\Projects\425025\06\600\_CADD\05\_Official\Plans\CS07\_PHASE1A.dgn

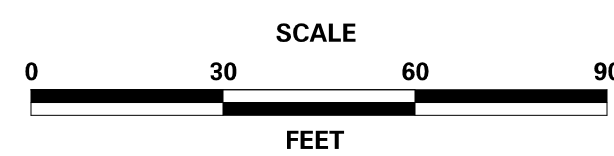


PHASE 1A - TEMPORARY PAVEMENT MARKINGS LEGEND	
SYMBOL	ITEM
Ⓐ	EPOXY RESIN PAINT PAVEMENT STRIPING, WHITE 5" SOLID (ITEM 817013)
	EPOXY RESIN PAINT PAVEMENT STRIPING, BLACK 5" SOLID (ITEM 817018)
Ⓑ	EPOXY RESIN PAINT PAVEMENT STRIPING, YELLOW 5" SOLID (ITEM 817013)
Ⓓ	EPOXY RESIN PAINT PAVEMENT STRIPING, WHITE/BLACK 8" BROKEN - 10' LINE & 30' GAP (ITEM 817022)

NOTES:

1. PLACE ALL PERMANENT WARNING SIGNS (ITEM NO. 810001) AS SHOWN ON THIS SHEET PRIOR TO THE BEGINNING OF CONSTRUCTION.
2. ALL LOCATIONS SHOWN ARE APPROXIMATE.
3. PERMANENT REGULATORY SIGNS THAT ARE BEING REPLACED BY TEMPORARY REGULATORY SIGNS SHALL BE COVERED OR REMOVED FOR THE DURATION OF THE CONSTRUCTION PHASE. SIGNS SHALL BE RESTORED TO THE ORIGINAL LOCATION PRIOR TO REMOVING TRAFFIC CONTROL.
4. CONTRACTOR SHALL REMOVE ANY EXISTING PAVEMENT STRIPING THAT CONFLICTS WITH PROPOSED TEMPORARY PAVEMENT MARKINGS.
5. RELOCATE LANE CLOSURE SIGNS WHEN CHANGING PHASES.

ADDENDA / REVISIONS



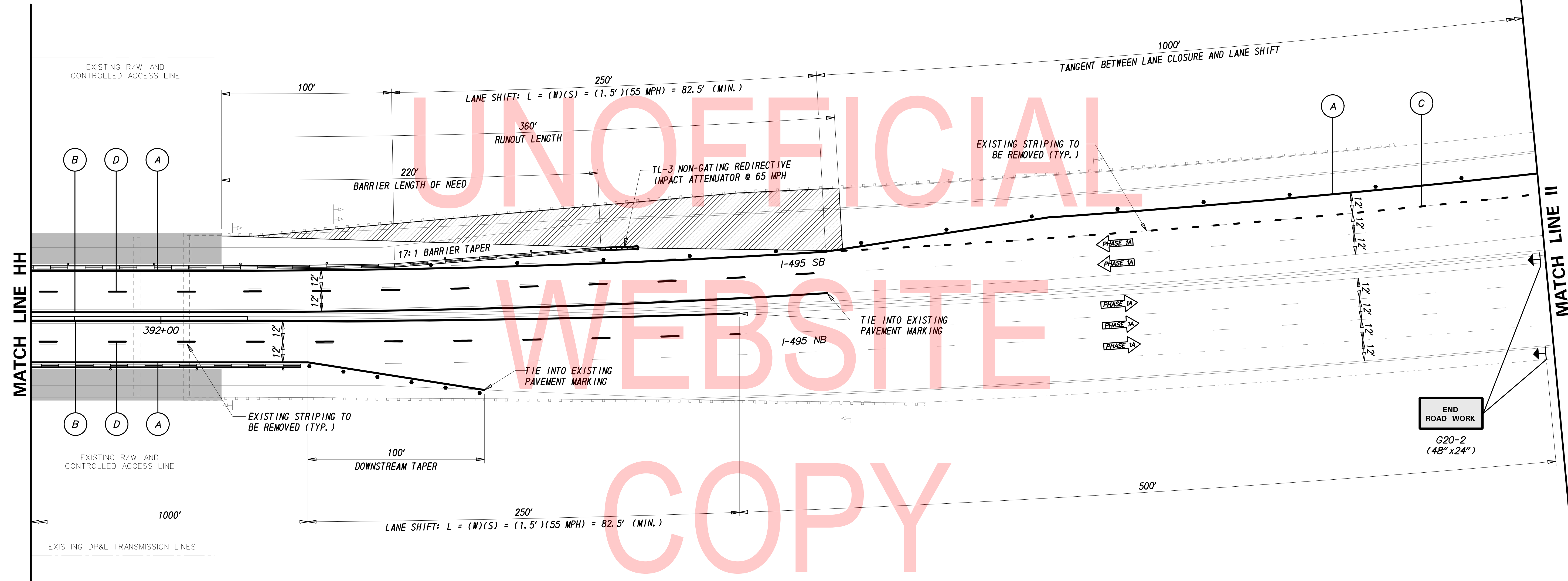
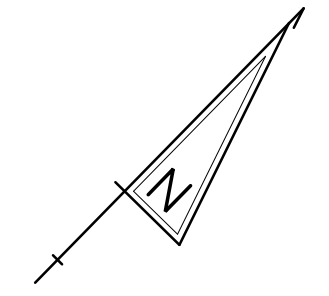
REHABILITATION OF BRIDGES  
1-810, 1-811, 1-812  
AND 1-813 ON I-495

CONTRACT	BRIDGE NO.
T201707404	DESIGNED BY: JWS
COUNTY	CHECKED BY: RR
NEW CASTLE	

CONSTRUCTION PHASING,  
M.O.T., AND EROSION  
CONTROL PLAN - PHASE 1A

CS-08
SECTION
TY
SHEET NO.
56





UNOFFICIAL  
WEBSITE  
COPY

PHASE 1A - TEMPORARY PAVEMENT MARKINGS LEGEND	
SYMBOL	ITEM
A	EPOXY RESIN PAINT PAVEMENT STRIPING, WHITE 5" SOLID (ITEM 817013)
	EPOXY RESIN PAINT PAVEMENT STRIPING, BLACK 5" SOLID (ITEM 817018)
B	EPOXY RESIN PAINT PAVEMENT STRIPING, YELLOW 5" SOLID (ITEM 817013)
C	EPOXY RESIN PAINT PAVEMENT STRIPING, WHITE/BLACK 8" BROKEN - 3' LINE & 9' GAP (ITEM 817022)
D	EPOXY RESIN PAINT PAVEMENT STRIPING, WHITE/BLACK 8" BROKEN - 10' LINE & 30' GAP (ITEM 817022)

- NOTES:
- PLACE ALL PERMANENT WARNING SIGNS (ITEM NO. 810001) AS SHOWN ON THIS SHEET PRIOR TO THE BEGINNING OF CONSTRUCTION.
  - ALL LOCATIONS SHOWN ARE APPROXIMATE.
  - PERMANENT REGULATORY SIGNS THAT ARE BEING REPLACED BY TEMPORARY REGULATORY SIGNS SHALL BE COVERED OR REMOVED FOR THE DURATION OF THE CONSTRUCTION PHASE. SIGNS SHALL BE RESTORED TO THE ORIGINAL LOCATION PRIOR TO REMOVING TRAFFIC CONTROL.
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  - RELOCATE LANE CLOSURE SIGNS WHEN CHANGING PHASES.

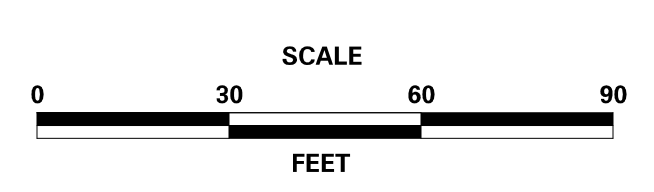
BARRIER LENGTH OF NEED: APPROACHING TRAFFIC - I-495 NB

$$\frac{L_s + (b/a)(L_s) - L_s}{(b/a) + (L_s / L_r)} = \frac{20.25 + (1/17)(100) - 1}{(1/17) + (20.25/360)} = 220'$$

RUNOUT LENGTH = 360'

AREA BEHIND RUNOUT LENGTH

ADDENDA / REVISIONS



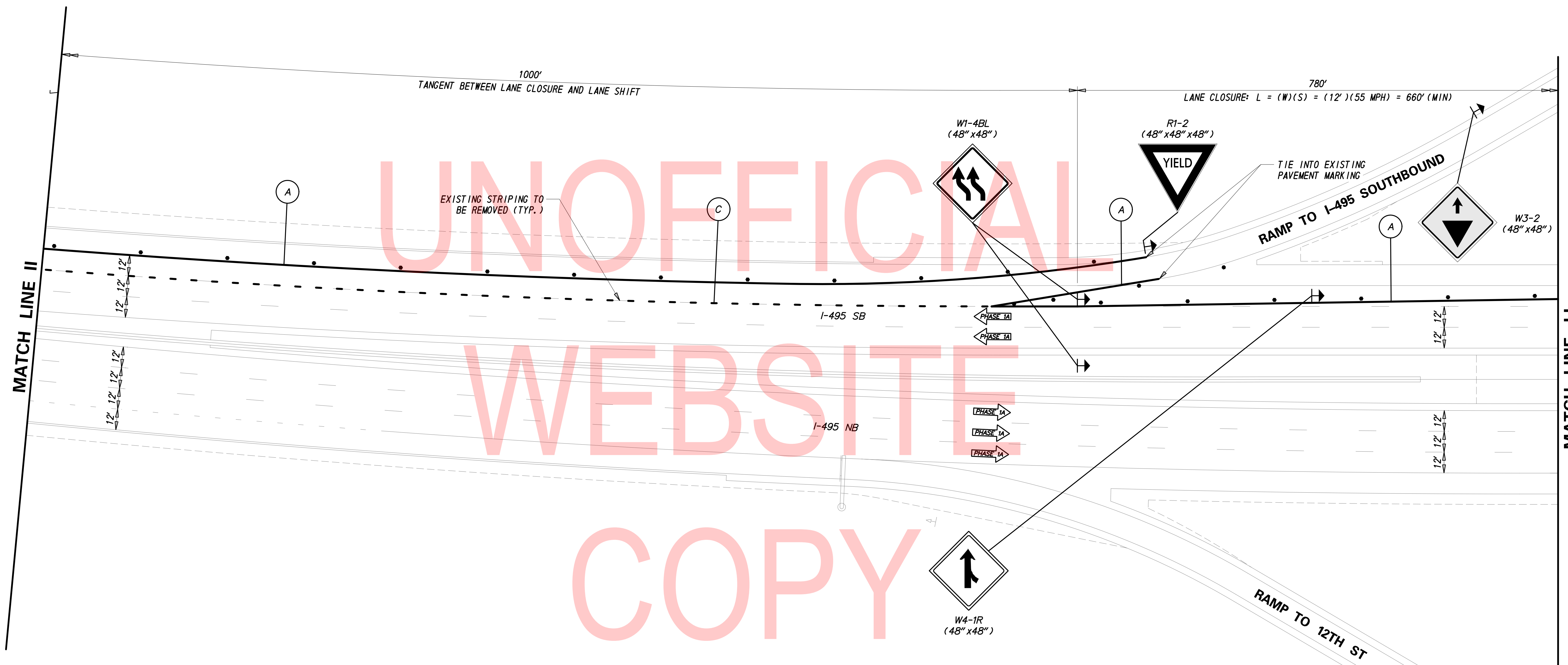
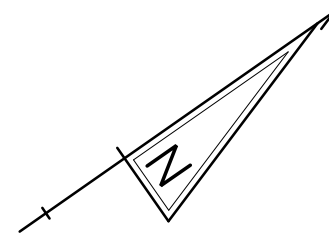
**REHABILITATION OF BRIDGES  
1-810, 1-811, 1-812  
AND 1-813 ON I-495**

CONTRACT	BRIDGE NO.
T201707404	
COUNTY	DESIGNED BY: JWS
NEW CASTLE	CHECKED BY: RR

**CONSTRUCTION PHASING,  
M.O.T., AND EROSION  
CONTROL PLAN - PHASE 1A**

CS-09
SECTION
TY
SHEET NO.
57

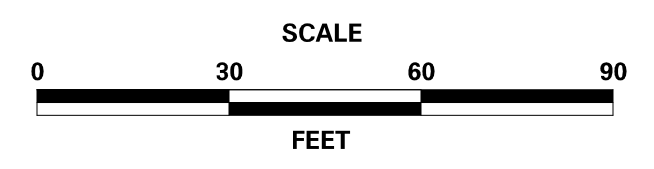
2/10/2020 T:\Dover\Projects\425025\06\600\_CADD\05\_Official\Plans\CS09\_PHASE-1A.dgn



PHASE 1A - TEMPORARY PAVEMENT MARKINGS LEGEND	
SYMBOL	ITEM
A	EPOXY RESIN PAINT PAVEMENT STRIPING, WHITE 5" SOLID (ITEM 817013)
	EPOXY RESIN PAINT PAVEMENT STRIPING, BLACK 5" SOLID (ITEM 817018)
C	EPOXY RESIN PAINT PAVEMENT STRIPING, WHITE/BLACK 8" BROKEN - 3' LINE & 9' GAP (ITEM 817022)

- NOTES:
1. PLACE ALL PERMANENT WARNING SIGNS (ITEM NO. 810001) AS SHOWN ON THIS SHEET PRIOR TO THE BEGINNING OF CONSTRUCTION.
  2. ALL LOCATIONS SHOWN ARE APPROXIMATE.
  3. PERMANENT REGULATORY SIGNS THAT ARE BEING REPLACED BY TEMPORARY REGULATORY SIGNS SHALL BE COVERED OR REMOVED FOR THE DURATION OF THE CONSTRUCTION PHASE. SIGNS SHALL BE RESTORED TO THE ORIGINAL LOCATION PRIOR TO REMOVING TRAFFIC CONTROL.
  4. CONTRACTOR SHALL REMOVE ANY EXISTING PAVEMENT STRIPING THAT CONFLICTS WITH PROPOSED TEMPORARY PAVEMENT MARKINGS.
  5. RELOCATE LANE CLOSURE SIGNS WHEN CHANGING PHASES.

ADDENDA / REVISIONS



**REHABILITATION OF BRIDGES  
1-810, 1-811, 1-812  
AND 1-813 ON I-495**

CONTRACT	BRIDGE NO.
T201707404	
COUNTY	DESIGNED BY: JWS
NEW CASTLE	CHECKED BY: RR

**CONSTRUCTION PHASING,  
M.O.T., AND EROSION  
CONTROL PLAN - PHASE 1A**

CS-10
SECTION
TY
SHEET NO.
58

2/10/2020 T:\Dover\Projects\425025\06\600\_CADD\05\_Official\Plans\CS10\_PHASE\_1A.dgn

**PORTABLE CHANGEABLE MESSAGE SIGNS**

**PRIOR TO LANE CLOSURE**  
(10 DAYS PRIOR TO BEGINNING OF LANE CLOSURE)

**DURING LANE CLOSURE**  
(DISPLAY FOR 5 DAYS AFTER IMPLEMENTATION OF LANE CLOSURE)

PCMS-2

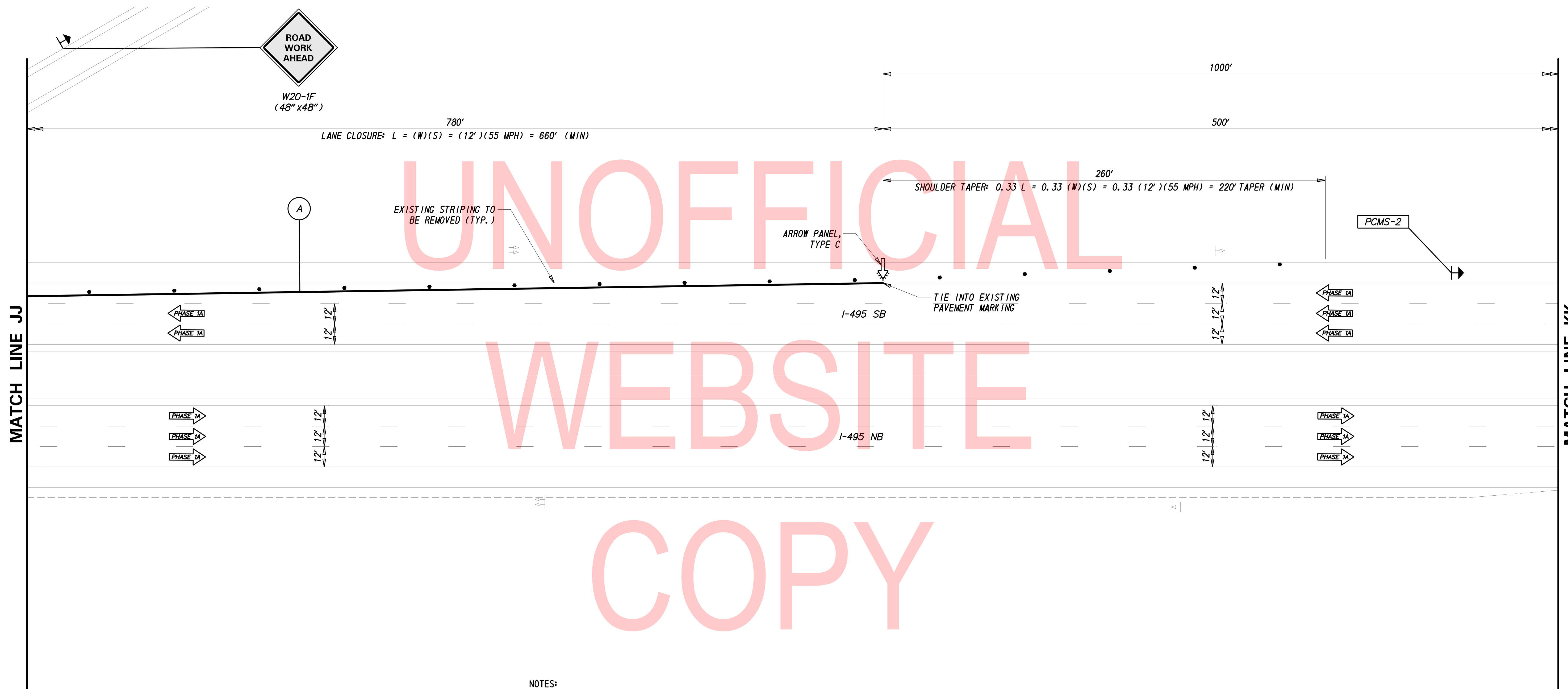
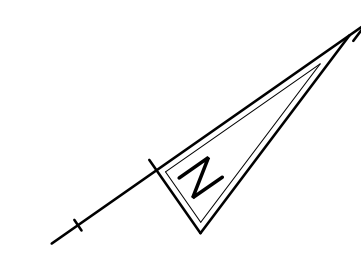
PCMS-2

BRIDGE  
WORK  
STARTING

XX/XXX  
EXPECT  
DELAYS

NEW  
TRAFFIC  
PATTERN

USE  
CAUTION



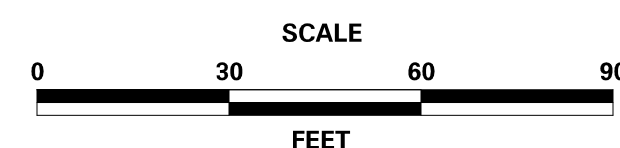
UNOFFICIAL  
WEBSITE  
COPY

PHASE 1A - TEMPORARY PAVEMENT MARKINGS LEGEND	
SYMBOL	ITEM
A	EPOXY RESIN PAINT PAVEMENT STRIPING, WHITE 5" SOLID (ITEM 817013)
	EPOXY RESIN PAINT PAVEMENT STRIPING, BLACK 5" SOLID (ITEM 817018)

**NOTES:**

1. PLACE ALL PERMANENT WARNING SIGNS (ITEM NO. 810001) AS SHOWN ON THIS SHEET PRIOR TO THE BEGINNING OF CONSTRUCTION.
2. ALL LOCATIONS SHOWN ARE APPROXIMATE.
3. MESSAGE AND LOCATIONS OF PCMS SHALL BE COORDINATED WITH DISTRICT SAFETY OFFICE PRIOR TO IMPLEMENTATION.
4. PERMANENT REGULATORY SIGNS THAT ARE BEING REPLACED BY TEMPORARY REGULATORY SIGNS SHALL BE COVERED OR REMOVED FOR THE DURATION OF THE CONSTRUCTION PHASE. SIGNS SHALL BE RESTORED TO THE ORIGINAL LOCATION PRIOR TO REMOVING TRAFFIC CONTROL.
5. CONTRACTOR SHALL REMOVE ANY EXISTING PAVEMENT STRIPING THAT CONFLICTS WITH PROPOSED TEMPORARY PAVEMENT MARKINGS.
6. RELOCATE PCMS BOARDS AND LANE CLOSURE SIGNS WHEN CHANGING PHASES.

ADDENDA / REVISIONS

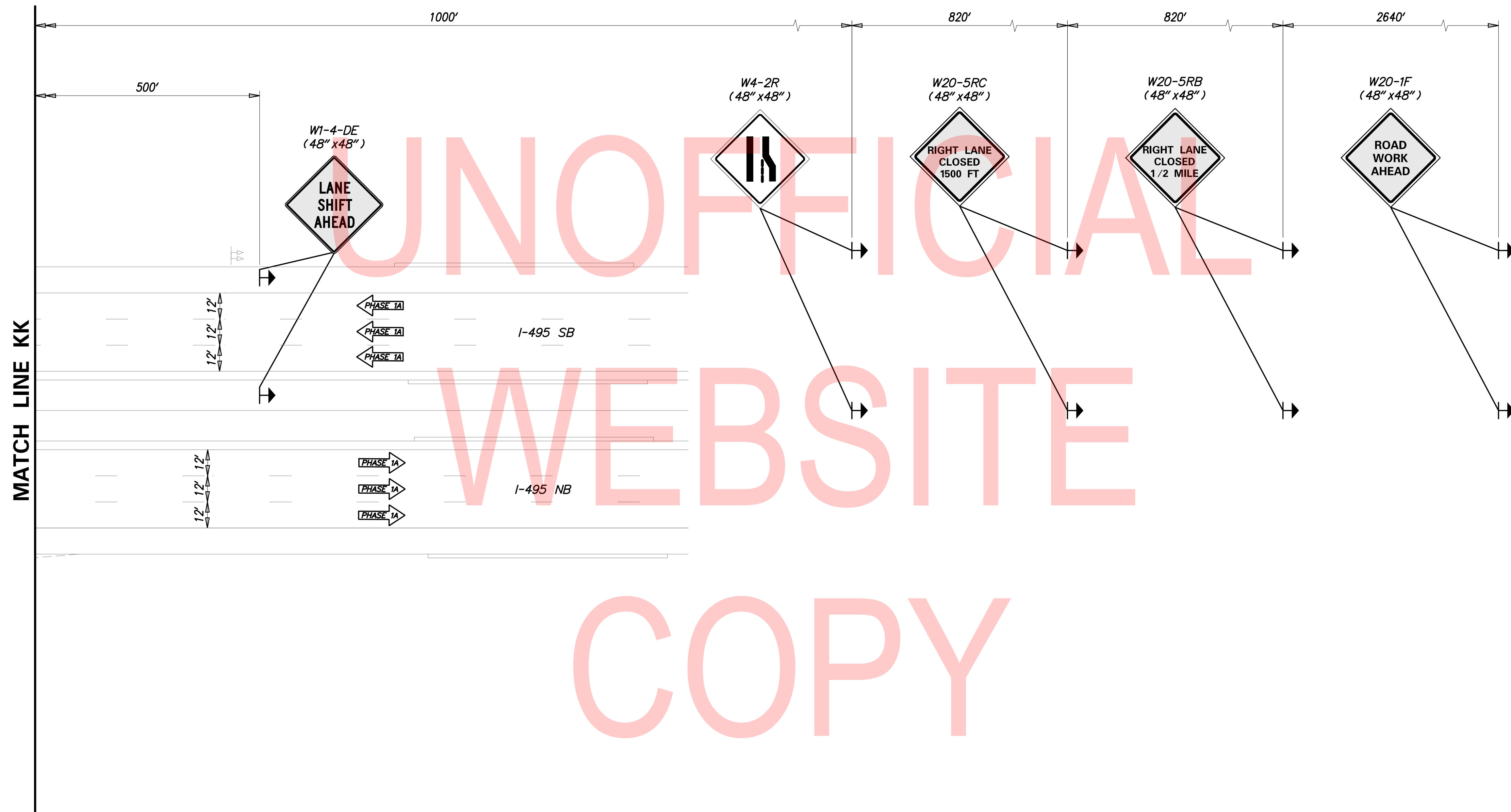
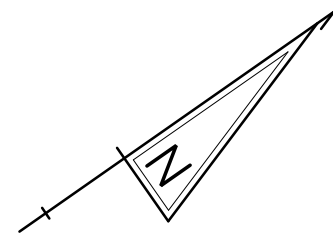


**REHABILITATION OF BRIDGES**  
1-810, 1-811, 1-812  
AND 1-813 ON I-495

CONTRACT	BRIDGE NO.
T201707404	
COUNTY	DESIGNED BY: JWS
NEW CASTLE	CHECKED BY: RR

**CONSTRUCTION PHASING,  
M.O.T., AND EROSION  
CONTROL PLAN - PHASE 1A**

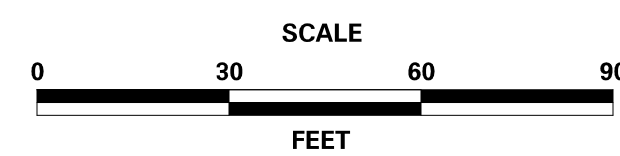
CS-11
SECTION
TY
SHEET NO.
59



**NOTES:**

1. PLACE ALL PERMANENT WARNING SIGNS (ITEM NO. 810001) AS SHOWN ON THIS SHEET PRIOR TO THE BEGINNING OF CONSTRUCTION.
2. ALL LOCATIONS SHOWN ARE APPROXIMATE.
3. PERMANENT REGULATORY SIGNS THAT ARE BEING REPLACED BY TEMPORARY REGULATORY SIGNS SHALL BE COVERED OR REMOVED FOR THE DURATION OF THE CONSTRUCTION PHASE. SIGNS SHALL BE RESTORED TO THE ORIGINAL LOCATION PRIOR TO REMOVING TRAFFIC CONTROL.
4. RELOCATE LANE CLOSURE SIGNS WHEN CHANGING PHASES.

ADDENDA / REVISIONS



**REHABILITATION OF BRIDGES  
1-810, 1-811, 1-812  
AND 1-813 ON I-495**

CONTRACT	BRIDGE NO.
T201707404	
COUNTY	DESIGNED BY: JWS
NEW CASTLE	CHECKED BY: RR

**CONSTRUCTION PHASING,  
M.O.T., AND EROSION  
CONTROL PLAN - PHASE 1A**

CS-12
SECTION
TY
SHEET NO.
60

**PORTABLE CHANGEABLE MESSAGE SIGNS**

**DURING LANE CLOSURE**

(DISPLAY FOR 5 DAYS AFTER IMPLEMENTATION OF LANE CLOSURE)

PCMS-3

**NEW  
TRAFFIC  
PATTERN**

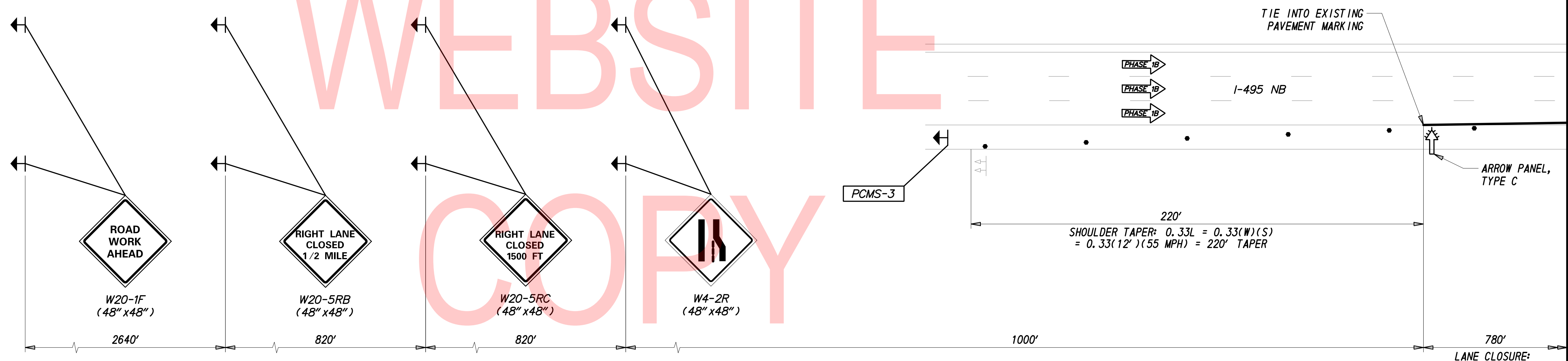
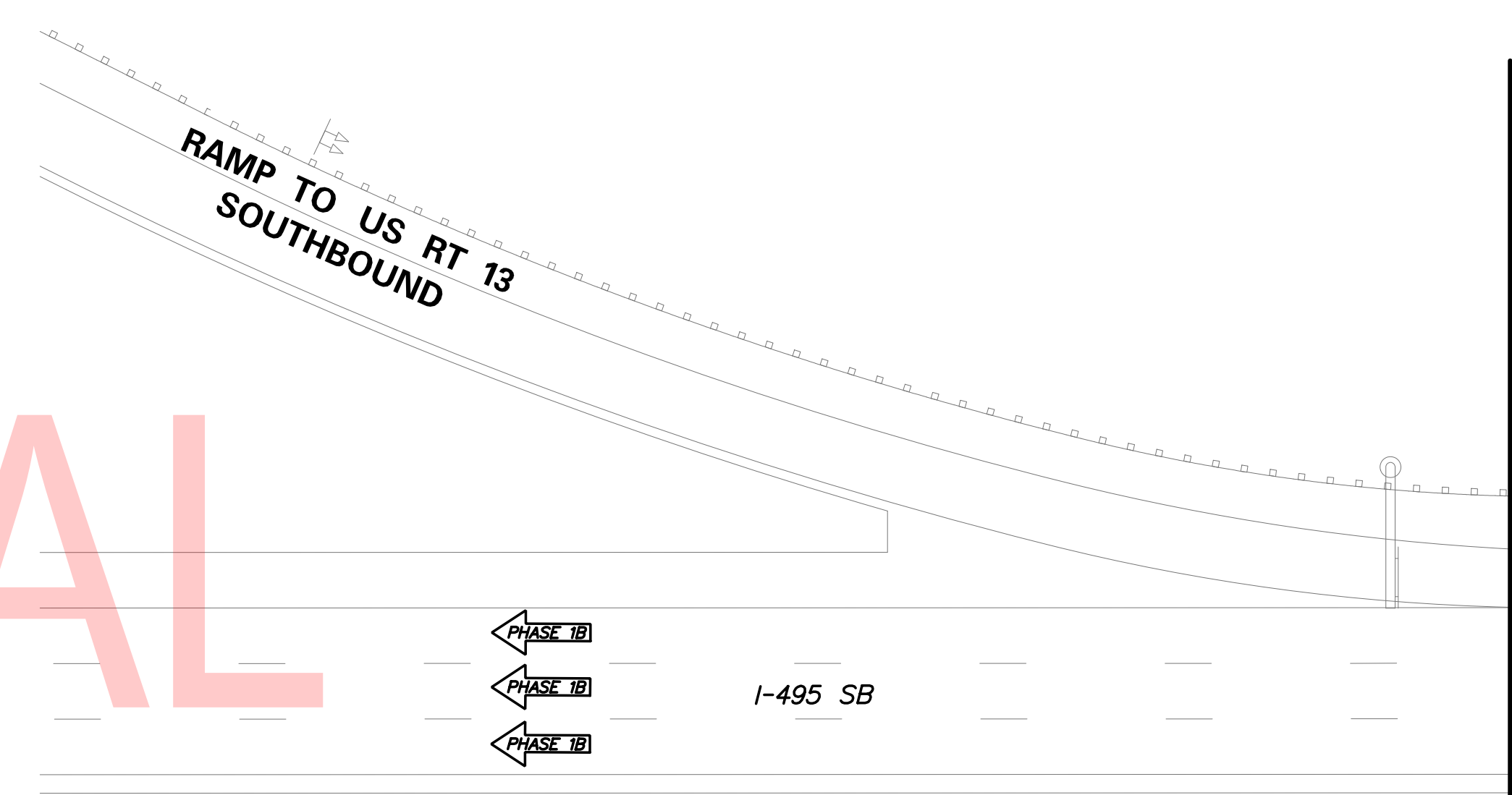
**USE  
CAUTION**



UNOFFICIAL

WEBSITE

COPY



MATCH LINE AA

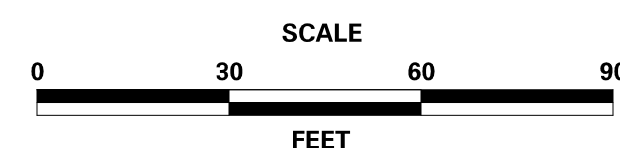
**PHASE 1B - TEMPORARY PAVEMENT MARKINGS LEGEND**

SYMBOL	ITEM	QUANTITY
A	EPOXY RESIN PAINT PAVEMENT STRIPING, WHITE 5" SOLID (ITEM 817013)	9,482 LF
	EPOXY RESIN PAINT PAVEMENT STRIPING, BLACK 3" SOLID (ITEM 817018)	9,482 LF
B	EPOXY RESIN PAINT PAVEMENT STRIPING, YELLOW 5" SOLID (ITEM 817013)	4,487 LF
C	EPOXY RESIN PAINT PAVEMENT STRIPING, WHITE/BLACK 8" DOTTED - 3' LINE & 9' GAP (ITEM 817022)	384 LF
D	EPOXY RESIN PAINT PAVEMENT STRIPING, WHITE 8" BROKEN - 10' LINE & 30' GAP (ITEM 817022)	1,110 LF

**NOTES:**

1. PLACE ALL PERMANENT WARNING SIGNS (ITEM NO. 810001) AS SHOWN ON THIS SHEET PRIOR TO THE BEGINNING OF CONSTRUCTION.
2. ALL LOCATIONS SHOWN ARE APPROXIMATE.
3. MESSAGE AND LOCATIONS OF PCMS SHALL BE COORDINATED WITH DISTRICT SAFETY OFFICE PRIOR TO IMPLEMENTATION.
4. PERMANENT REGULATORY SIGNS THAT ARE BEING REPLACED BY TEMPORARY REGULATORY SIGNS SHALL BE COVERED OR REMOVED FOR THE DURATION OF THE CONSTRUCTION PHASE. SIGNS SHALL BE RESTORED TO THE ORIGINAL LOCATION PRIOR TO REMOVING TRAFFIC CONTROL.
5. CONTRACTOR SHALL REMOVE ANY EXISTING PAVEMENT STRIPING THAT CONFLICTS WITH PROPOSED TEMPORARY PAVEMENT MARKINGS.
6. RELOCATE PCMS BOARDS AND LANE CLOSURE SIGNS WHEN CHANGING PHASES.

ADDENDA / REVISIONS



**REHABILITATION OF BRIDGES  
1-810, 1-811, 1-812  
AND 1-813 ON I-495**

CONTRACT	BRIDGE NO.
T201707404	
COUNTY	DESIGNED BY: JWS
NEW CASTLE	CHECKED BY: RR

**CONSTRUCTION PHASING,  
M.O.T., AND EROSION  
CONTROL PLAN - PHASE 1B**

CS-13
SECTION
TY
SHEET NO.
61

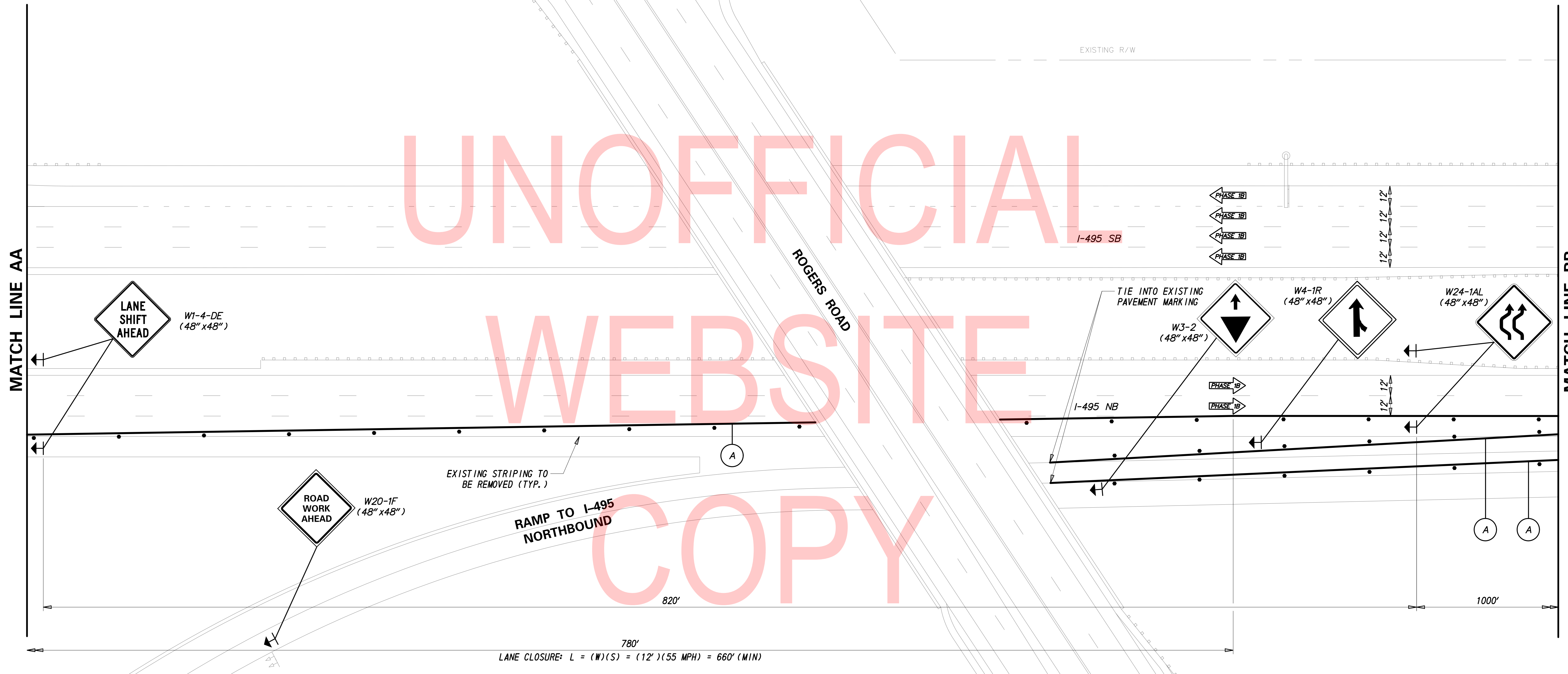
2/10/2020 T:\Dover\Projects\425025\06\600\_CADD\05\_Official\Plans\CS13\_PHASE\_1B.dgn



UNOFFICIAL

WEBSITE

COPY



LANE CLOSURE:  $L = (W)(S) = (12')(55 \text{ MPH}) = 660' (\text{MIN})$

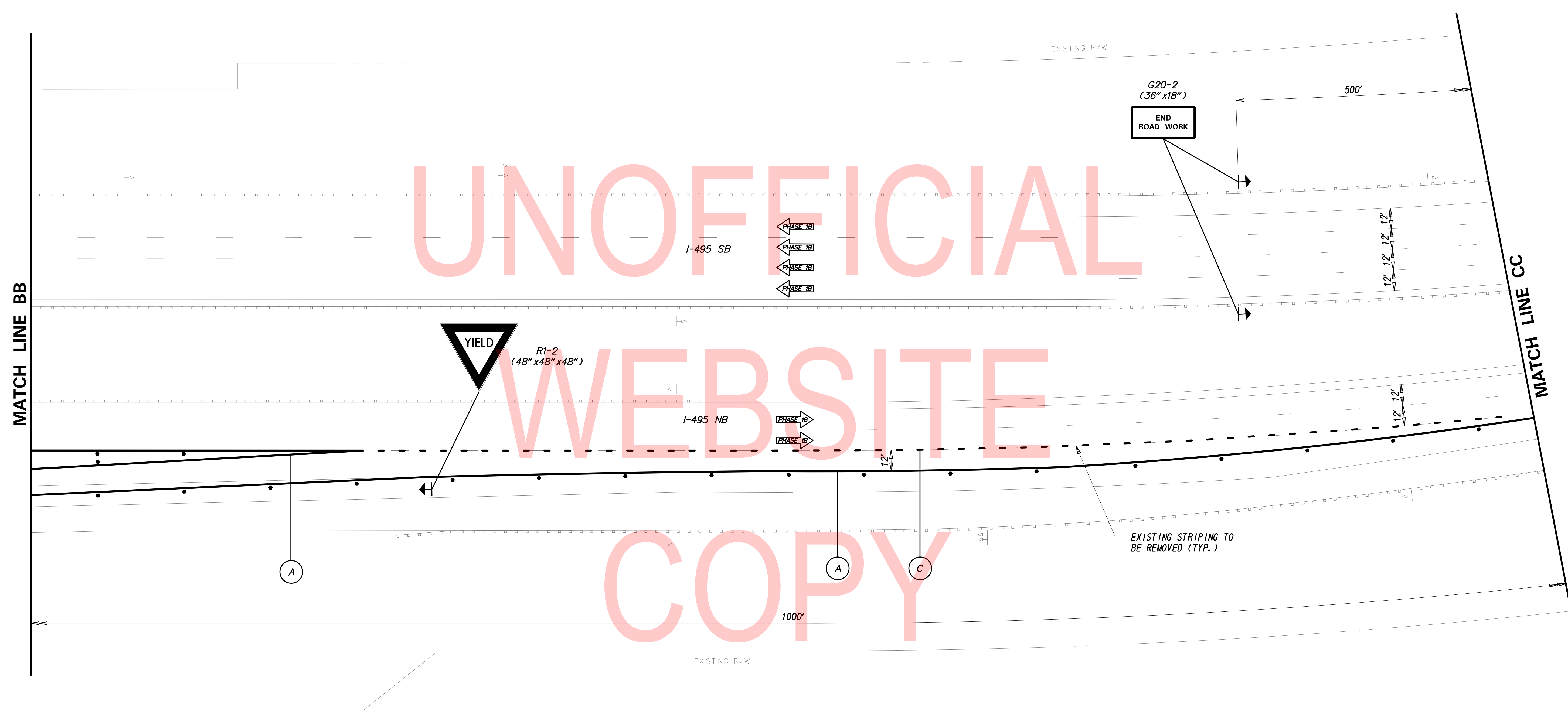
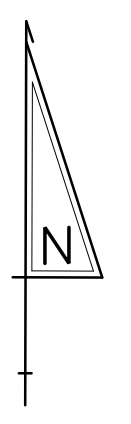
NOTES:

1. PLACE ALL PERMANENT WARNING SIGNS (ITEM NO. 810001) AS SHOWN ON THIS SHEET PRIOR TO THE BEGINNING OF CONSTRUCTION.
2. ALL LOCATIONS SHOWN ARE APPROXIMATE.
3. PERMANENT REGULATORY SIGNS THAT ARE BEING REPLACED BY TEMPORARY REGULATORY SIGNS SHALL BE COVERED OR REMOVED FOR THE DURATION OF THE CONSTRUCTION PHASE. SIGNS SHALL BE RESTORED TO THE ORIGINAL LOCATION PRIOR TO REMOVING TRAFFIC CONTROL.
4. CONTRACTOR SHALL REMOVE ANY EXISTING PAVEMENT STRIPING THAT CONFLICTS WITH PROPOSED TEMPORARY PAVEMENT MARKINGS.
5. RELOCATE LANE CLOSURE SIGNS WHEN CHANGING PHASES.

PHASE 1B - TEMPORARY PAVEMENT MARKINGS LEGEND	
SYMBOL	ITEM
(A)	EPOXY RESIN PAINT PAVEMENT STRIPING, WHITE 5" SOLID (ITEM 817013)
(A)	EPOXY RESIN PAINT PAVEMENT STRIPING, BLACK 5" SOLID (ITEM 817018)

2/10/2020 T:\Dover\Projects\425025\06\600\_CADD\05\_Official\Plans\CS14\_PHASE-1B.dgn

<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 50%;">ADDENDA / REVISIONS</th> <th style="width: 50%;"></th> </tr> </thead> <tbody> <tr> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> </tr> </tbody> </table>	ADDENDA / REVISIONS						<p>SCALE</p> <p>FEET</p>	<p><b>REHABILITATION OF BRIDGES</b>  <b>1-810, 1-811, 1-812</b>  <b>AND 1-813 ON I-495</b></p>	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="font-size: small;">CONTRACT</td> <td style="font-size: small;">BRIDGE NO.</td> </tr> <tr> <td style="font-size: x-small;">T201707404</td> <td> </td> </tr> <tr> <td style="font-size: small;">COUNTY</td> <td style="font-size: small;">DESIGNED BY: JWS</td> </tr> <tr> <td style="font-size: x-small;">NEW CASTLE</td> <td style="font-size: x-small;">CHECKED BY: RR</td> </tr> </table>	CONTRACT	BRIDGE NO.	T201707404		COUNTY	DESIGNED BY: JWS	NEW CASTLE	CHECKED BY: RR	<p><b>CONSTRUCTION PHASING,</b>  <b>M.O.T., AND EROSION</b>  <b>CONTROL PLAN - PHASE 1B</b></p>	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="font-size: x-small;">CS-14</td> </tr> <tr> <td style="font-size: x-small;">SECTION</td> </tr> <tr> <td style="font-size: x-small;">TY</td> </tr> <tr> <td style="font-size: x-small;">SHEET NO.</td> </tr> <tr> <td style="font-size: x-small;">62</td> </tr> </table>	CS-14	SECTION	TY	SHEET NO.	62
ADDENDA / REVISIONS																								
CONTRACT	BRIDGE NO.																							
T201707404																								
COUNTY	DESIGNED BY: JWS																							
NEW CASTLE	CHECKED BY: RR																							
CS-14																								
SECTION																								
TY																								
SHEET NO.																								
62																								

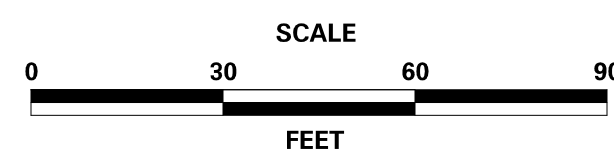


PHASE 1B - TEMPORARY PAVEMENT MARKINGS LEGEND	
SYMBOL	ITEM
Ⓐ	EPOXY RESIN PAINT PAVEMENT STRIPING, WHITE 5" SOLID (ITEM 817013)
	EPOXY RESIN PAINT PAVEMENT STRIPING, BLACK 5" SOLID (ITEM 817018)
Ⓒ	EPOXY RESIN PAINT PAVEMENT STRIPING, WHITE/BLACK 8" BROKEN - 3' LINE & 9' GAP (ITEM 817022)

NOTES:

- PLACE ALL PERMANENT WARNING SIGNS (ITEM NO. 810001) AS SHOWN ON THIS SHEET PRIOR TO THE BEGINNING OF CONSTRUCTION.
- ALL LOCATIONS SHOWN ARE APPROXIMATE.
- PERMANENT REGULATORY SIGNS THAT ARE BEING REPLACED BY TEMPORARY REGULATORY SIGNS SHALL BE COVERED OR REMOVED FOR THE DURATION OF THE CONSTRUCTION PHASE. SIGNS SHALL BE RESTORED TO THE ORIGINAL LOCATION PRIOR TO REMOVING TRAFFIC CONTROL.
- CONTRACTOR SHALL REMOVE ANY EXISTING PAVEMENT STRIPING THAT CONFLICTS WITH PROPOSED TEMPORARY PAVEMENT MARKINGS.
- RELOCATE LANE CLOSURE SIGNS WHEN CHANGING PHASES.

ADDENDA / REVISIONS

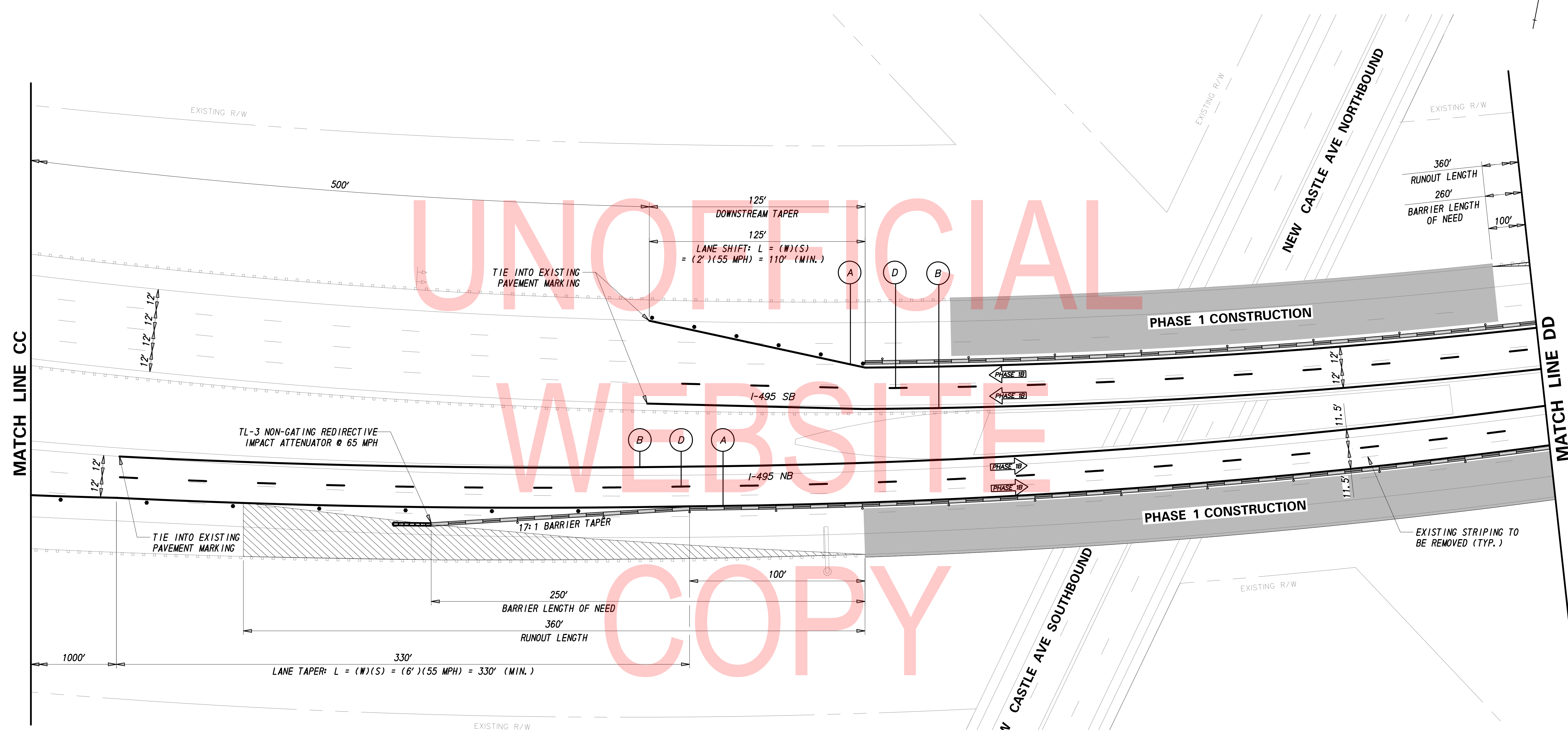


REHABILITATION OF BRIDGES  
1-810, 1-811, 1-812  
AND 1-813 ON I-495

CONTRACT	BRIDGE NO.
T201707404	
COUNTY	DESIGNED BY: JWS
NEW CASTLE	CHECKED BY: RR

CONSTRUCTION PHASING,  
M.O.T., AND EROSION  
CONTROL PLAN - PHASE 1B

CS-15
SECTION
TY
SHEET NO.
63



UNOFFICIAL  
WEBSITE  
COPY

PHASE 1B - TEMPORARY PAVEMENT MARKINGS LEGEND	
SYMBOL	ITEM
Ⓐ	EPOXY RESIN PAINT PAVEMENT STRIPING, WHITE 5" SOLID (ITEM 817013)
	EPOXY RESIN PAINT PAVEMENT STRIPING, BLACK 5" SOLID (ITEM 817018)
Ⓑ	EPOXY RESIN PAINT PAVEMENT STRIPING, YELLOW 5" SOLID (ITEM 817013)
Ⓓ	EPOXY RESIN PAINT PAVEMENT STRIPING, WHITE/BLACK 8" BROKEN - 10' LINE & 30' GAP (ITEM 817022)

**NOTES:**

- PLACE ALL PERMANENT WARNING SIGNS (ITEM NO. 810001) AS SHOWN ON THIS SHEET PRIOR TO THE BEGINNING OF CONSTRUCTION.
- ALL LOCATIONS SHOWN ARE APPROXIMATE.
- PERMANENT REGULATORY SIGNS THAT ARE BEING REPLACED BY TEMPORARY REGULATORY SIGNS SHALL BE COVERED OR REMOVED FOR THE DURATION OF THE CONSTRUCTION PHASE. SIGNS SHALL BE RESTORED TO THE ORIGINAL LOCATION PRIOR TO REMOVING TRAFFIC CONTROL.
- CONTRACTOR SHALL REMOVE ANY EXISTING PAVEMENT STRIPING THAT CONFLICTS WITH PROPOSED TEMPORARY PAVEMENT MARKINGS.
- RELOCATE LANE CLOSURE SIGNS WHEN CHANGING PHASES.

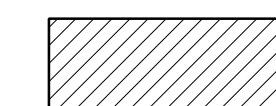
BARRIER LENGTH OF NEED: APPROACHING TRAFFIC - I-495 NB

$$\frac{L_1 + (b/a)(L_2) - L_2}{(b/a) + (L_2 / L_1)} = \frac{30 + (1/17)(100) - 0.333}{(1/17) + (30/360)} = 250.0'$$

BARRIER LENGTH OF NEED: APPROACHING TRAFFIC - I-495 SB

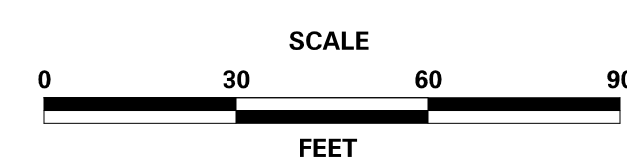
$$\frac{L_1 + (b/a)(L_2) - L_2}{(b/a) + (L_2 / L_1)} = \frac{38 + (1/17)(100) - 2}{(1/17) + (38/360)} = 254.8'$$

RUNOUT LENGTH = 360'



AREA BEHIND RUNOUT LENGTH

ADDENDA / REVISIONS



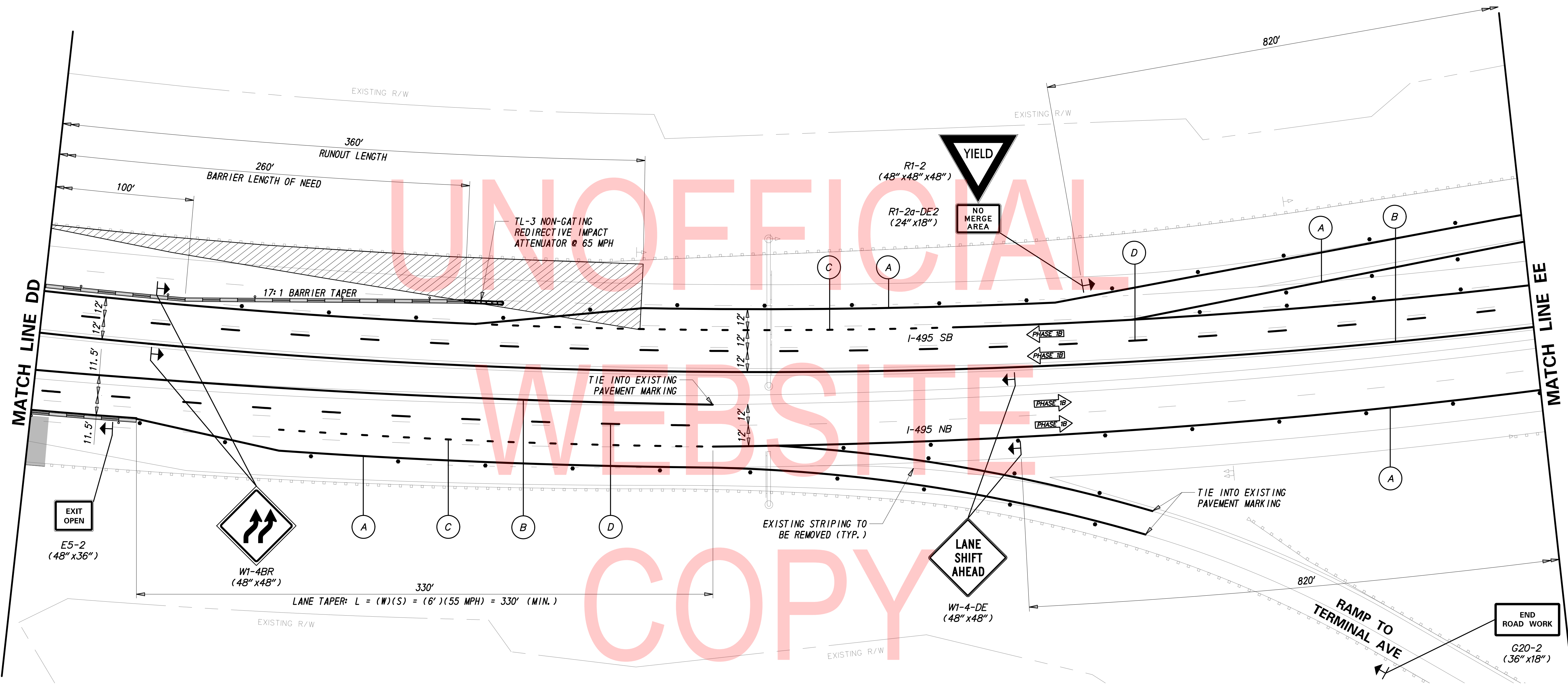
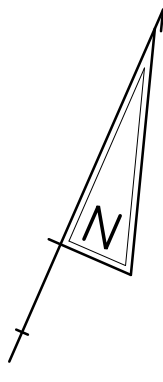
**REHABILITATION OF BRIDGES  
1-810, 1-811, 1-812  
AND 1-813 ON I-495**

CONTRACT	BRIDGE NO.
T201707404	
COUNTY	DESIGNED BY: JWS
NEW CASTLE	CHECKED BY: RR

**CONSTRUCTION PHASING,  
M.O.T., AND EROSION  
CONTROL PLAN - PHASE 1B**

CS-16
SECTION
TY
SHEET NO.
64





UNOFFICIAL  
WEBSITE  
COPY

PHASE 1B - TEMPORARY PAVEMENT MARKINGS LEGEND	
SYMBOL	ITEM
A	EPOXY RESIN PAINT PAVEMENT STRIPING, WHITE 5" SOLID (ITEM 817013)
	EPOXY RESIN PAINT PAVEMENT STRIPING, BLACK 5" SOLID (ITEM 817018)
B	EPOXY RESIN PAINT PAVEMENT STRIPING, YELLOW 5" SOLID (ITEM 817013)
C	EPOXY RESIN PAINT PAVEMENT STRIPING, WHITE/BLACK 8" BROKEN - 3' LINE & 9' GAP (ITEM 817022)
D	EPOXY RESIN PAINT PAVEMENT STRIPING, WHITE/BLACK 8" BROKEN - 10' LINE & 30' GAP (ITEM 817022)

**NOTES:**

- PLACE ALL PERMANENT WARNING SIGNS (ITEM NO. 810001) AS SHOWN ON THIS SHEET PRIOR TO THE BEGINNING OF CONSTRUCTION.
- ALL LOCATIONS SHOWN ARE APPROXIMATE.
- PERMANENT REGULATORY SIGNS THAT ARE BEING REPLACED BY TEMPORARY REGULATORY SIGNS SHALL BE COVERED OR REMOVED FOR THE DURATION OF THE CONSTRUCTION PHASE. SIGNS SHALL BE RESTORED TO THE ORIGINAL LOCATION PRIOR TO REMOVING TRAFFIC CONTROL.
- CONTRACTOR SHALL REMOVE ANY EXISTING PAVEMENT STRIPING THAT CONFLICTS WITH PROPOSED TEMPORARY PAVEMENT MARKINGS.
- RELOCATE LANE CLOSURE SIGNS WHEN CHANGING PHASES.

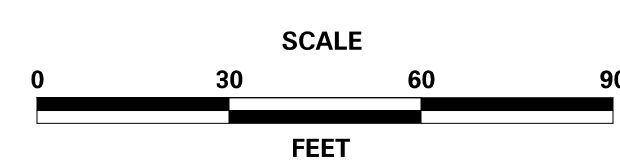
BARRIER LENGTH OF NEED: APPROACHING TRAFFIC - I-495 SB

$$\frac{L_1 + (b/a)(L) - L_2}{(b/a) + (L_1 / L_2)} = \frac{38 + (1/17)(100) - 2}{(1/17) + (38/360)} = 254.8'$$

RUNOUT LENGTH = 360'



ADDENDA / REVISIONS



**REHABILITATION OF BRIDGES  
1-810, 1-811, 1-812  
AND 1-813 ON I-495**

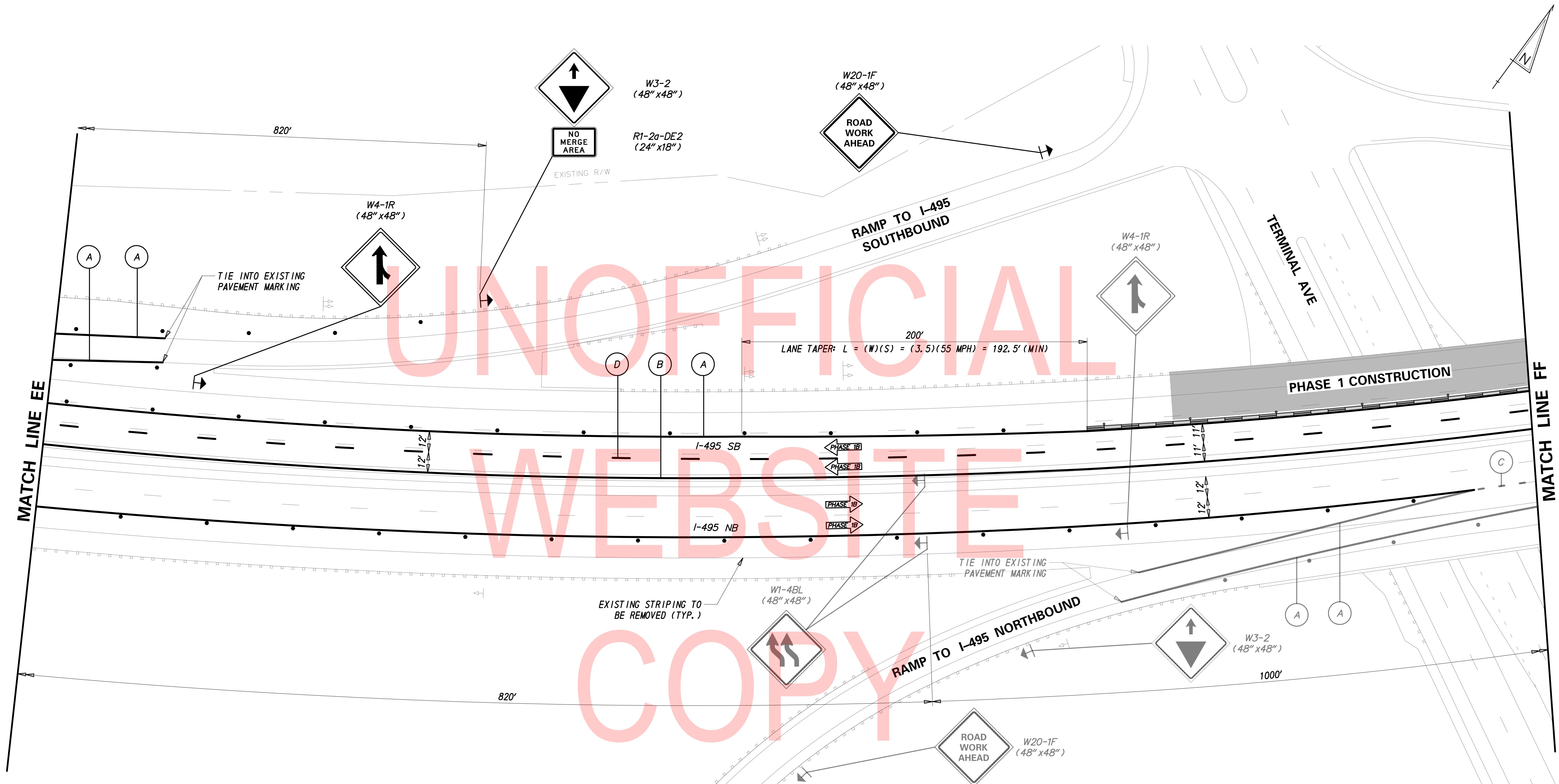
CONTRACT	BRIDGE NO.
T201707404	
COUNTY	DESIGNED BY: JWS
NEW CASTLE	CHECKED BY: RR

**CONSTRUCTION PHASING,  
M.O.T., AND EROSION  
CONTROL PLAN - PHASE 1B**

CS-17
SECTION
TY
SHEET NO.
65

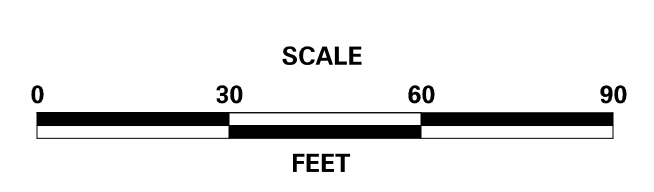
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2/10/2020 T:\Dover\Projects\425025\06\600\_CADD\05\_Official\Plans\CS18\_PHASE\_1B.dgn



PHASE 1B - TEMPORARY PAVEMENT MARKINGS LEGEND	
SYMBOL	ITEM
A	EPOXY RESIN PAINT PAVEMENT STRIPING, WHITE 5" SOLID (ITEM 817013)
	EPOXY RESIN PAINT PAVEMENT STRIPING, BLACK 5" SOLID (ITEM 817018)
B	EPOXY RESIN PAINT PAVEMENT STRIPING, YELLOW 5" SOLID (ITEM 817013)
C	EPOXY RESIN PAINT PAVEMENT STRIPING, WHITE/BLACK 8" BROKEN - 3' LINE & 9' GAP (ITEM 817022)
D	EPOXY RESIN PAINT PAVEMENT STRIPING, WHITE/BLACK 8" BROKEN - 10' LINE & 30' GAP (ITEM 817022)

- NOTES:
- PLACE ALL PERMANENT WARNING SIGNS (ITEM NO. 810001) AS SHOWN ON THIS SHEET PRIOR TO THE BEGINNING OF CONSTRUCTION.
  - ALL LOCATIONS SHOWN ARE APPROXIMATE.
  - PERMANENT REGULATORY SIGNS THAT ARE BEING REPLACED BY TEMPORARY REGULATORY SIGNS SHALL BE COVERED OR REMOVED FOR THE DURATION OF THE CONSTRUCTION PHASE. SIGNS SHALL BE RESTORED TO THE ORIGINAL LOCATION PRIOR TO REMOVING TRAFFIC CONTROL.
  - CONTRACTOR SHALL REMOVE ANY EXISTING PAVEMENT STRIPING THAT CONFLICTS WITH PROPOSED TEMPORARY PAVEMENT MARKINGS.
  - RELOCATE LANE CLOSURE SIGNS WHEN CHANGING PHASES.

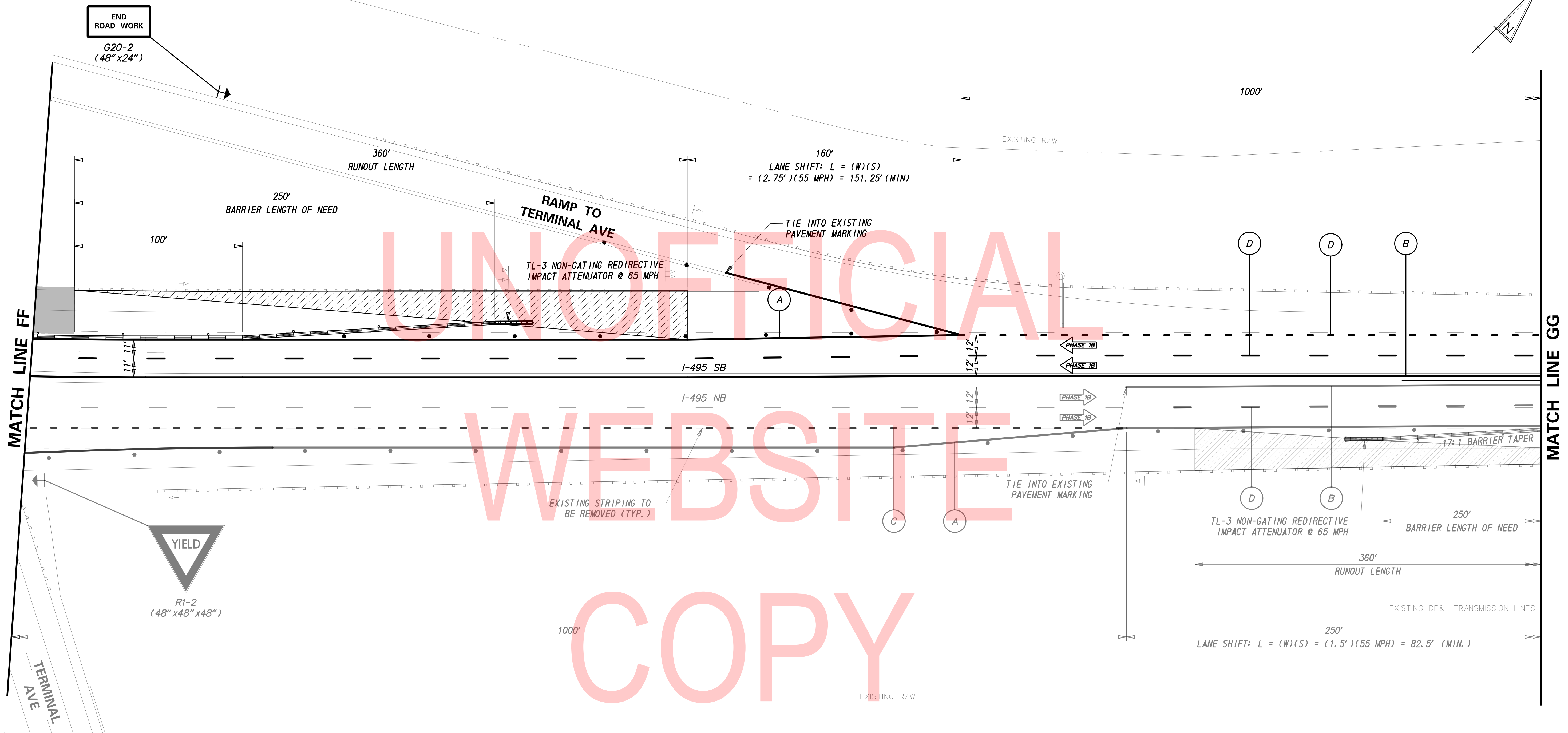
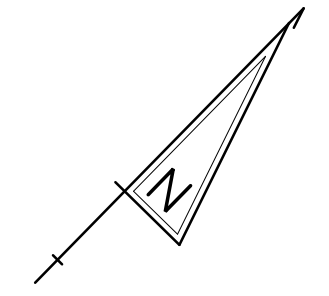


**REHABILITATION OF BRIDGES  
1-810, 1-811, 1-812  
AND 1-813 ON I-495**

CONTRACT T201707404	BRIDGE NO.
COUNTY NEW CASTLE	DESIGNED BY: JWS
	CHECKED BY: RR

**CONSTRUCTION PHASING,  
M.O.T., AND EROSION  
CONTROL PLAN - PHASE 1B**

CS-18
SECTION TY
SHEET NO. 66



UNOFFICIAL  
WEBSITE  
COPY

PHASE 1B - TEMPORARY PAVEMENT MARKINGS LEGEND	
SYMBOL	ITEM
A	EPOXY RESIN PAINT PAVEMENT STRIPING, WHITE 5" SOLID (ITEM 817013)
	EPOXY RESIN PAINT PAVEMENT STRIPING, BLACK 5" SOLID (ITEM 817018)
B	EPOXY RESIN PAINT PAVEMENT STRIPING, YELLOW 5" SOLID (ITEM 817013)
C	EPOXY RESIN PAINT PAVEMENT STRIPING, WHITE/BLACK 8" BROKEN - 3' LINE & 9' GAP (ITEM 817022)
D	EPOXY RESIN PAINT PAVEMENT STRIPING, WHITE/BLACK 8" BROKEN - 10' LINE & 30' GAP (ITEM 817022)

**NOTES:**

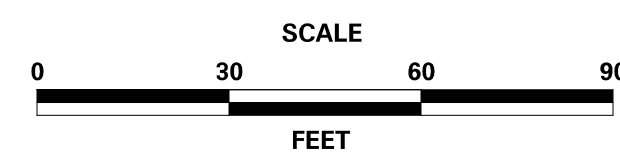
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- CONTRACTOR SHALL REMOVE ANY EXISTING PAVEMENT STRIPING THAT CONFLICTS WITH PROPOSED TEMPORARY PAVEMENT MARKINGS.
- RELOCATE LANE CLOSURE SIGNS WHEN CHANGING PHASES.

BARRIER LENGTH OF NEED: APPROACHING TRAFFIC  

$$\frac{L_s + (b/a)(L) - L_s}{(b/a) + (L_s / L_s)} = \frac{20.25 + (1/17)(150) - 1}{(1/17) + (20.25/360)} = 250'$$

RUNOUT LENGTH = 360'  
 AREA BEHIND RUNOUT LENGTH

ADDENDA / REVISIONS



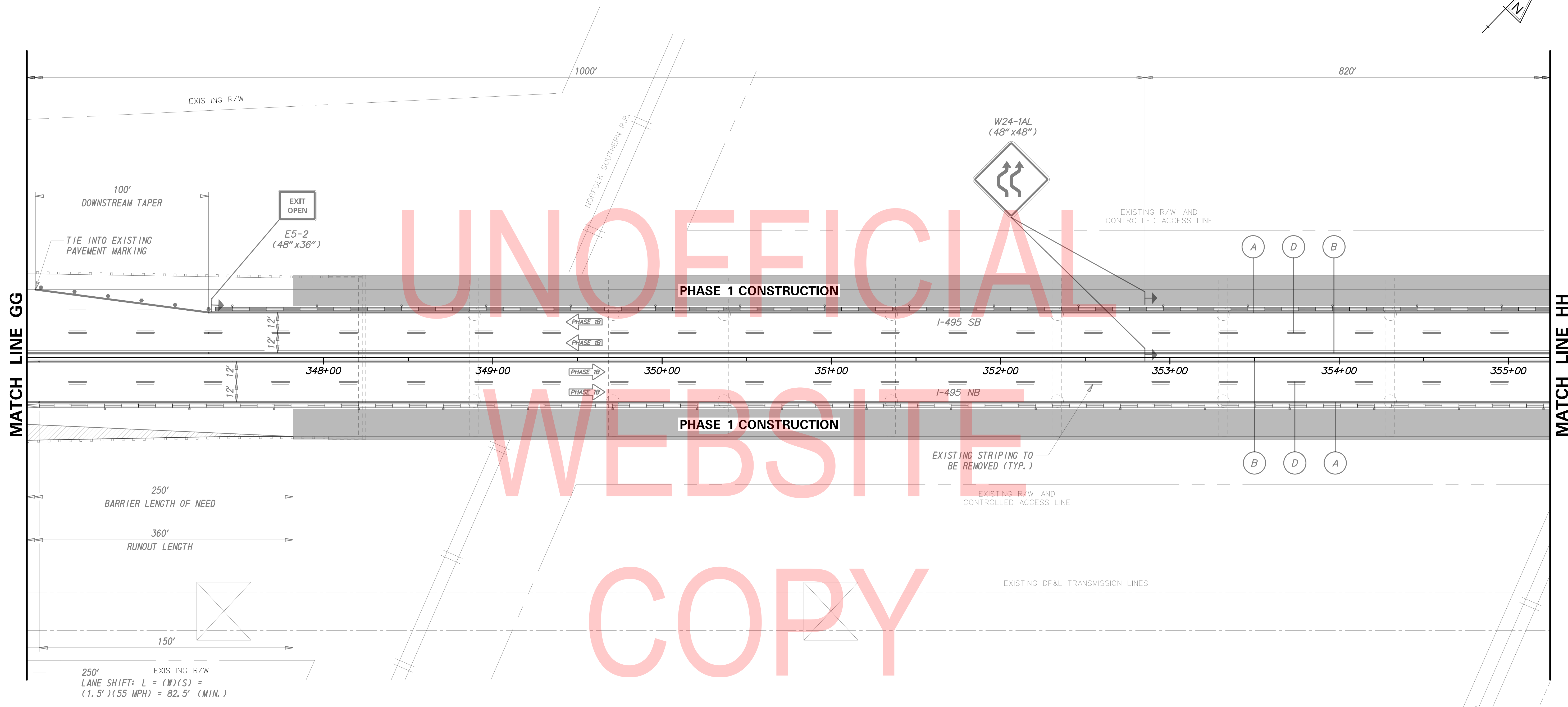
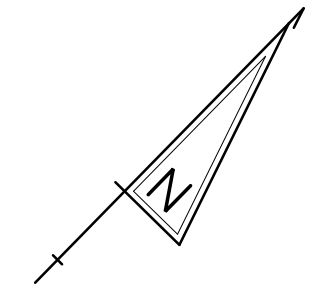
**REHABILITATION OF BRIDGES  
 1-810, 1-811, 1-812  
 AND 1-813 ON I-495**

CONTRACT T201707404	BRIDGE NO.
COUNTY NEW CASTLE	DESIGNED BY: JWS
	CHECKED BY: RR

**CONSTRUCTION PHASING,  
 M.O.T., AND EROSION  
 CONTROL PLAN - PHASE 1B**

CS-19
SECTION TY
SHEET NO. 67

2/10/2020 T:\Dover\Projects\425025\06\600\_CADD\05\_Official\Plans\CS19\_PHASE\_1B.dgn




PHASE 1B - TEMPORARY PAVEMENT MARKINGS LEGEND	
SYMBOL	ITEM
A	EPOXY RESIN PAINT PAVEMENT STRIPING, WHITE 5" SOLID (ITEM 817013)
	EPOXY RESIN PAINT PAVEMENT STRIPING, BLACK 5" SOLID (ITEM 817018)
B	EPOXY RESIN PAINT PAVEMENT STRIPING, YELLOW 5" SOLID (ITEM 817013)
D	EPOXY RESIN PAINT PAVEMENT STRIPING, WHITE/BLACK 8" BROKEN - 10' LINE & 30' GAP (ITEM 817022)

- NOTES:
- PLACE ALL PERMANENT WARNING SIGNS (ITEM NO. 810001) AS SHOWN ON THIS SHEET PRIOR TO THE BEGINNING OF CONSTRUCTION.
  - ALL LOCATIONS SHOWN ARE APPROXIMATE.
  - PERMANENT REGULATORY SIGNS THAT ARE BEING REPLACED BY TEMPORARY REGULATORY SIGNS SHALL BE COVERED OR REMOVED FOR THE DURATION OF THE CONSTRUCTION PHASE. SIGNS SHALL BE RESTORED TO THE ORIGINAL LOCATION PRIOR TO REMOVING TRAFFIC CONTROL.
  - CONTRACTOR SHALL REMOVE ANY EXISTING PAVEMENT STRIPING THAT CONFLICTS WITH PROPOSED TEMPORARY PAVEMENT MARKINGS.
  - RELOCATE LANE CLOSURE SIGNS WHEN CHANGING PHASES.

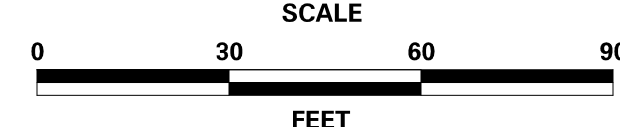
BARRIER LENGTH OF NEED: APPROACHING TRAFFIC

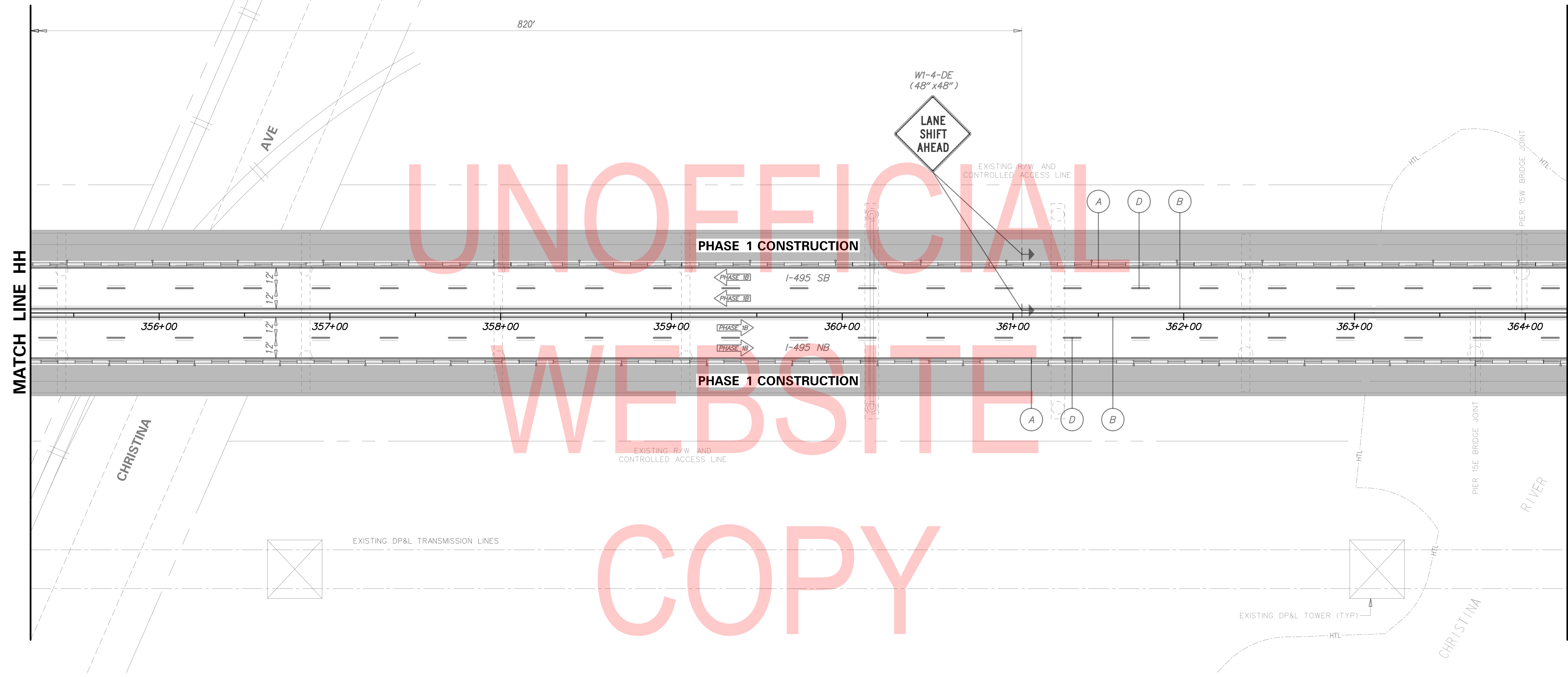
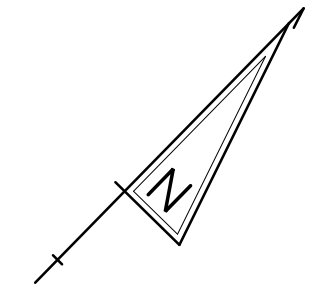
$$L_a + (b/a)(L) - L_s = \frac{20.25 + (1/17)(150) - 1}{(1/17) + (20.25/360)} = 250'$$

RUNOUT LENGTH = 360'

 AREA BEHIND RUNOUT LENGTH

2/10/2020 T:\Dover\Projects\425025\06\600\_CADD\05\_Official\Plans\CS20\_PHASE1B.dgn

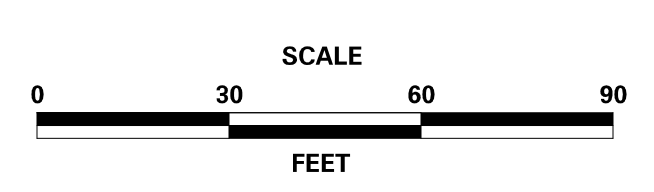
<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;">ADDENDA / REVISIONS</th> </tr> </thead> <tbody> <tr><td> </td></tr> <tr><td> </td></tr> <tr><td> </td></tr> <tr><td> </td></tr> </tbody> </table>	ADDENDA / REVISIONS					<p>SCALE</p>  <p>FEET</p>	<p><b>REHABILITATION OF BRIDGES</b>  <b>1-810, 1-811, 1-812</b>  <b>AND 1-813 ON I-495</b></p>	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td>CONTRACT T201707404</td> <td>BRIDGE NO.</td> </tr> <tr> <td>COUNTY NEW CASTLE</td> <td>DESIGNED BY: JWS</td> </tr> <tr> <td></td> <td>CHECKED BY: RR</td> </tr> </table>	CONTRACT T201707404	BRIDGE NO.	COUNTY NEW CASTLE	DESIGNED BY: JWS		CHECKED BY: RR	<p><b>CONSTRUCTION PHASING,  M.O.T., AND EROSION  CONTROL PLAN - PHASE 1B</b></p>	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td>CS-20</td></tr> <tr><td>SECTION</td></tr> <tr><td>TY</td></tr> <tr><td>SHEET NO.</td></tr> <tr><td>68</td></tr> </table>	CS-20	SECTION	TY	SHEET NO.	68
ADDENDA / REVISIONS																					
CONTRACT T201707404	BRIDGE NO.																				
COUNTY NEW CASTLE	DESIGNED BY: JWS																				
	CHECKED BY: RR																				
CS-20																					
SECTION																					
TY																					
SHEET NO.																					
68																					



PHASE 1B - TEMPORARY PAVEMENT MARKINGS LEGEND	
SYMBOL	ITEM
(A)	EPOXY RESIN PAINT PAVEMENT STRIPING, WHITE 5" SOLID (ITEM 817013)
(B)	EPOXY RESIN PAINT PAVEMENT STRIPING, BLACK 5" SOLID (ITEM 817018)
(C)	EPOXY RESIN PAINT PAVEMENT STRIPING, YELLOW 5" SOLID (ITEM 817013)
(D)	EPOXY RESIN PAINT PAVEMENT STRIPING, WHITE/BLACK 8" BROKEN - 10' LINE & 30' GAP (ITEM 817022)

- NOTES:
1. PLACE ALL PERMANENT WARNING SIGNS (ITEM NO. 810001) AS SHOWN ON THIS SHEET PRIOR TO THE BEGINNING OF CONSTRUCTION.
  2. ALL LOCATIONS SHOWN ARE APPROXIMATE.
  3. PERMANENT REGULATORY SIGNS THAT ARE BEING REPLACED BY TEMPORARY REGULATORY SIGNS SHALL BE COVERED OR REMOVED FOR THE DURATION OF THE CONSTRUCTION PHASE. SIGNS SHALL BE RESTORED TO THE ORIGINAL LOCATION PRIOR TO REMOVING TRAFFIC CONTROL.
  4. CONTRACTOR SHALL REMOVE ANY EXISTING PAVEMENT STRIPING THAT CONFLICTS WITH PROPOSED TEMPORARY PAVEMENT MARKINGS.
  5. RELOCATE LANE CLOSURE SIGNS WHEN CHANGING PHASES.

ADDENDA / REVISIONS



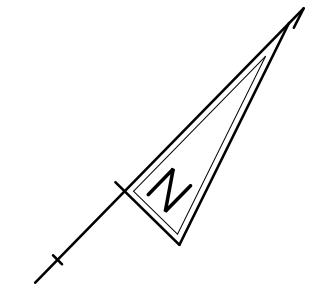
**REHABILITATION OF BRIDGES  
1-810, 1-811, 1-812  
AND 1-813 ON I-495**

CONTRACT T201707404	BRIDGE NO.
COUNTY NEW CASTLE	DESIGNED BY: JWS
	CHECKED BY: RR

**CONSTRUCTION PHASING,  
M.O.T., AND EROSION  
CONTROL PLAN - PHASE 1B**

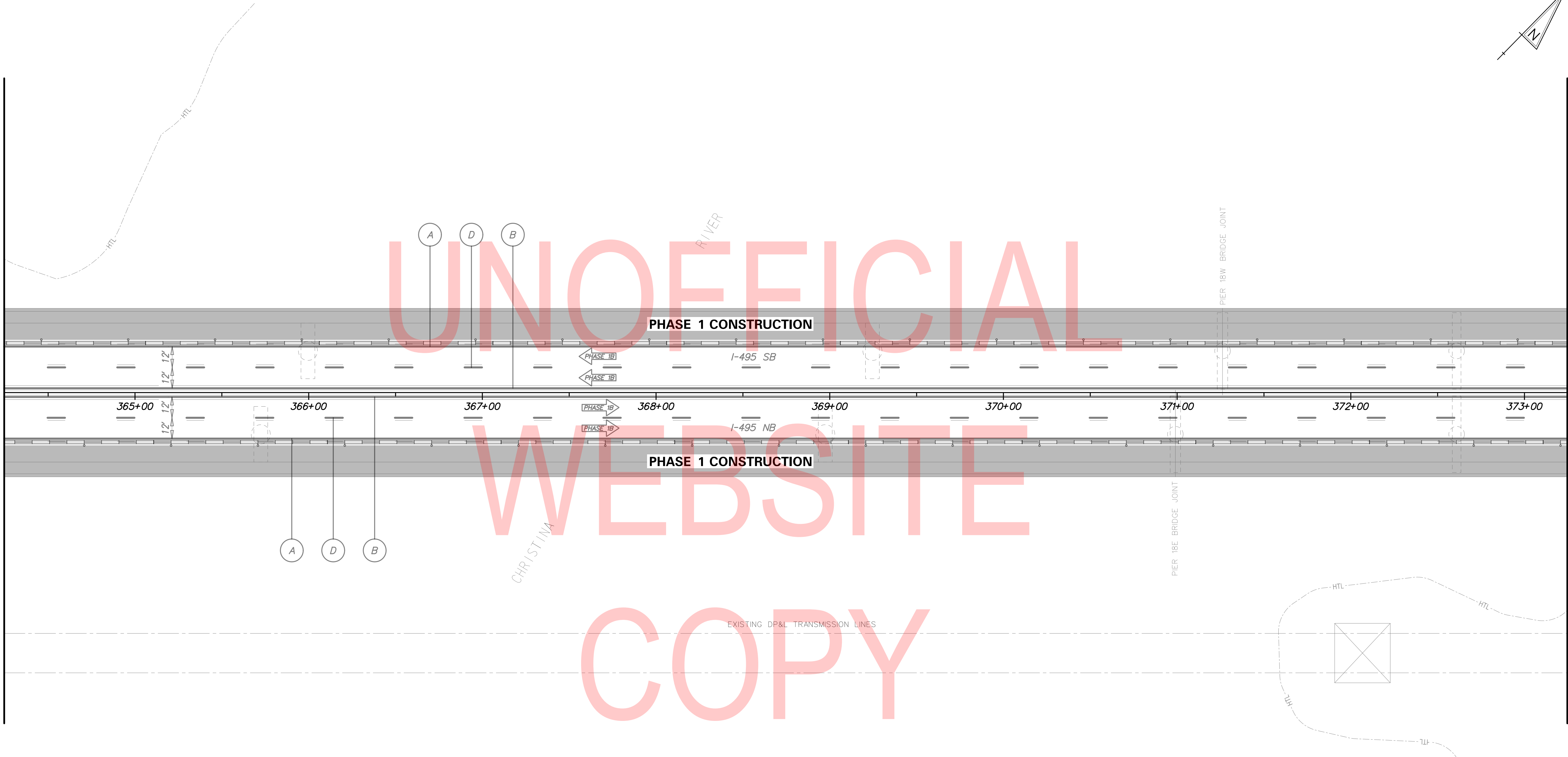
CS-21
SECTION TY
SHEET NO. 69

2/10/2020 T:\Dover\Projects\425025\06\600\_CADD\05\_Official\Plans\CS21\_PHASE\_1B.dgn



MATCH LINE II

MATCH LINE JJ



UNOFFICIAL

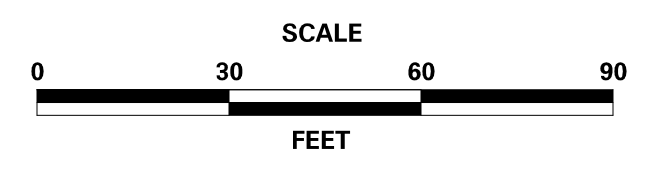
WEBSITE

COPY

PHASE 1B - TEMPORARY PAVEMENT MARKINGS LEGEND	
SYMBOL	ITEM
Ⓐ	EPOXY RESIN PAINT PAVEMENT STRIPING, WHITE 5" SOLID (ITEM 817013)
	EPOXY RESIN PAINT PAVEMENT STRIPING, BLACK 5" SOLID (ITEM 817018)
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- NOTES:
- PLACE ALL PERMANENT WARNING SIGNS (ITEM NO. 810001) AS SHOWN ON THIS SHEET PRIOR TO THE BEGINNING OF CONSTRUCTION.
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  - RELOCATE LANE CLOSURE SIGNS WHEN CHANGING PHASES.

ADDENDA / REVISIONS



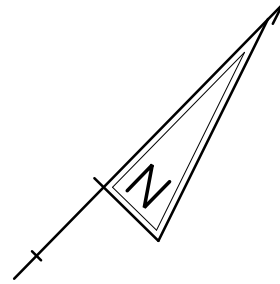
**REHABILITATION OF BRIDGES  
1-810, 1-811, 1-812  
AND 1-813 ON I-495**

CONTRACT T201707404	BRIDGE NO.
COUNTY NEW CASTLE	DESIGNED BY: JWS
	CHECKED BY: RR

**CONSTRUCTION PHASING,  
M.O.T., AND EROSION  
CONTROL PLAN - PHASE 1B**

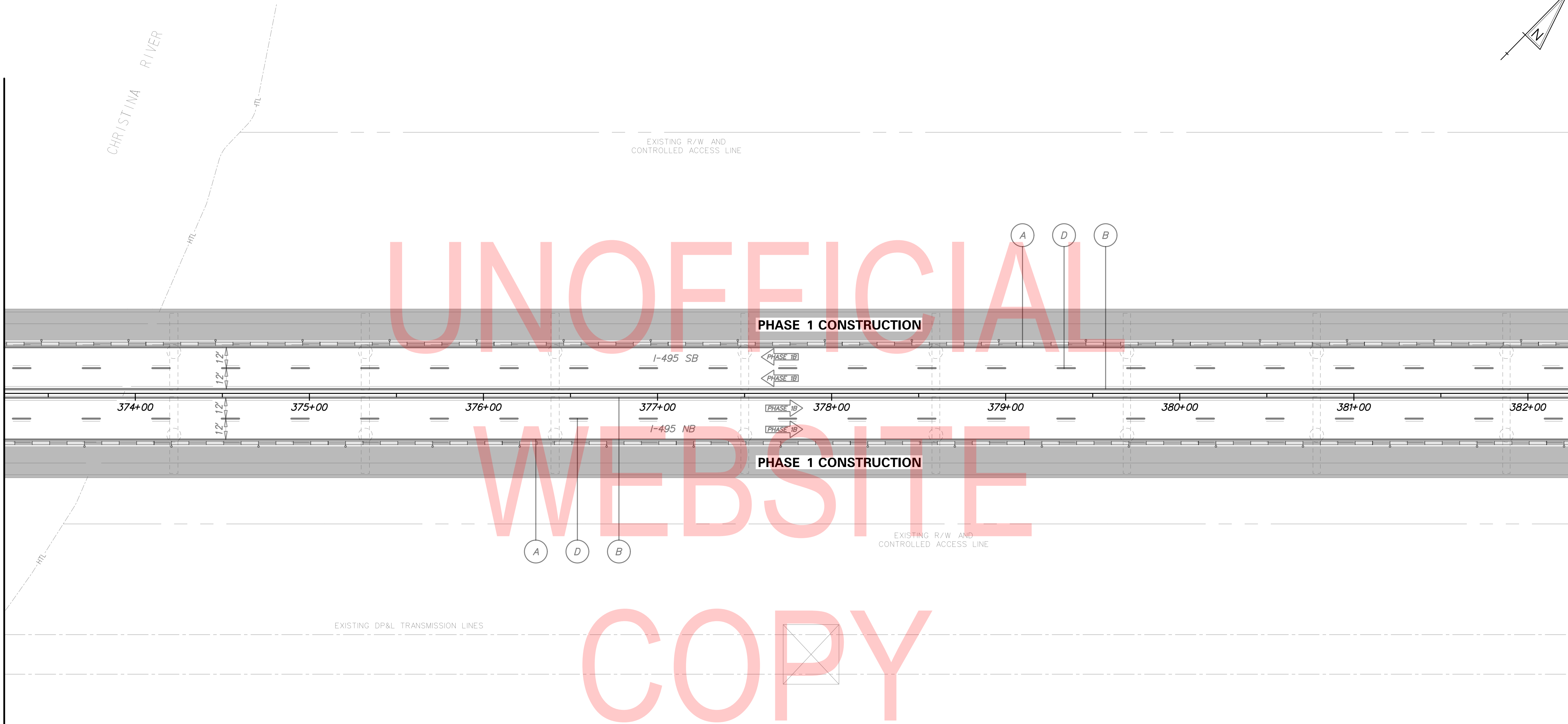
CS-22
SECTION TY
SHEET NO. 70

2/10/2020 T:\Dover\Projects\425025\06\600\_CADD\05\_Official\Plans\CS22\_PHASE-1B.dgn



MATCH LINE JJ

MATCH LINE KK



UNOFFICIAL

WEBSITE

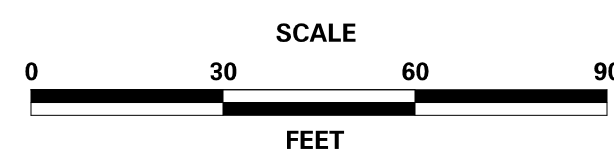
COPY

PHASE 1B - TEMPORARY PAVEMENT MARKINGS LEGEND	
SYMBOL	ITEM
(A)	EPOXY RESIN PAINT PAVEMENT STRIPING, WHITE 5" SOLID (ITEM 817013)
	EPOXY RESIN PAINT PAVEMENT STRIPING, BLACK 5" SOLID (ITEM 817018)
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(D)	EPOXY RESIN PAINT PAVEMENT STRIPING, WHITE/BLACK 8" BROKEN - 10' LINE & 30' GAP (ITEM 817022)

**NOTES:**

1. PLACE ALL PERMANENT WARNING SIGNS (ITEM NO. 810001) AS SHOWN ON THIS SHEET PRIOR TO THE BEGINNING OF CONSTRUCTION.
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ADDENDA / REVISIONS

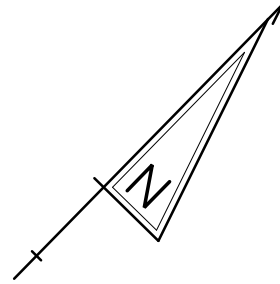


**REHABILITATION OF BRIDGES  
1-810, 1-811, 1-812  
AND 1-813 ON I-495**

CONTRACT T201707404	BRIDGE NO.	
COUNTY NEW CASTLE	DESIGNED BY: JWS	
	CHECKED BY: RR	

**CONSTRUCTION PHASING,  
M.O.T., AND EROSION  
CONTROL PLAN - PHASE 1B**

CS-23
SECTION TY
SHEET NO. 71



MATCH LINE KK

MATCH LINE LL

EXISTING R/W AND CONTROLLED ACCESS LINE

UNOFFICIAL

A D B

PHASE 1 CONSTRUCTION

I-495 SB

PHASE 1B

PHASE 1B

383+00

384+00

385+00

386+00

387+00

388+00

389+00

390+00

391+00

I-495 NB

PHASE 1B

PHASE 1B

PHASE 1 CONSTRUCTION

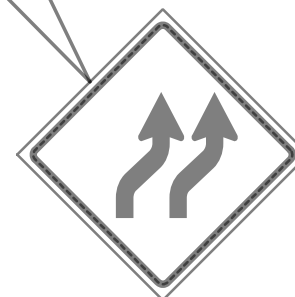
EXISTING R/W AND CONTROLLED ACCESS LINE

A D B

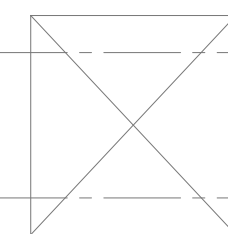
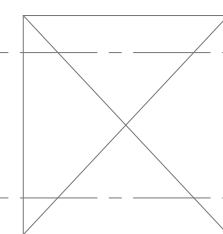
1000'

EXISTING DP&L TRANSMISSION LINES

COPY



W1-4BR  
(48" x 48")

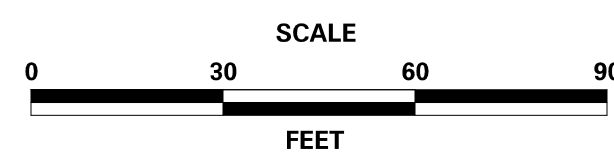


PHASE 1B - TEMPORARY PAVEMENT MARKINGS LEGEND	
SYMBOL	ITEM
A	EPOXY RESIN PAINT PAVEMENT STRIPING, WHITE 5" SOLID (ITEM 817013)
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D	EPOXY RESIN PAINT PAVEMENT STRIPING, WHITE/BLACK 8" BROKEN - 10' LINE & 30' GAP (ITEM 817022)

NOTES:

1. PLACE ALL PERMANENT WARNING SIGNS (ITEM NO. 810001) AS SHOWN ON THIS SHEET PRIOR TO THE BEGINNING OF CONSTRUCTION.
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5. RELOCATE LANE CLOSURE SIGNS WHEN CHANGING PHASES.

ADDENDA / REVISIONS



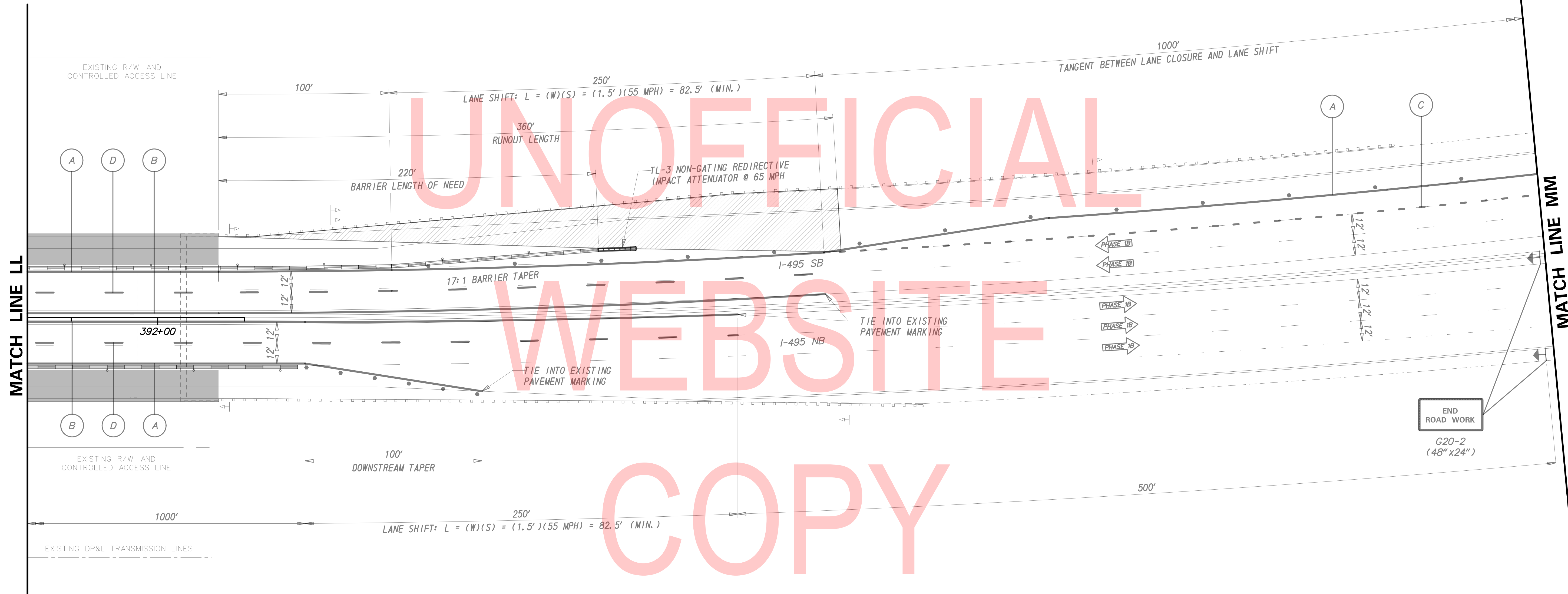
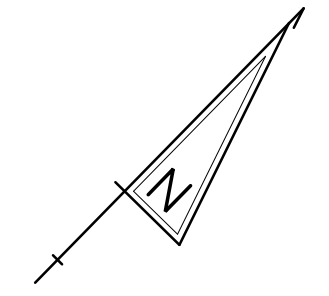
**REHABILITATION OF BRIDGES  
1-810, 1-811, 1-812  
AND 1-813 ON I-495**

CONTRACT	BRIDGE NO.
T201707404	
COUNTY	DESIGNED BY: JWS
NEW CASTLE	CHECKED BY: RR

**CONSTRUCTION PHASING,  
M.O.T., AND EROSION  
CONTROL PLAN - PHASE 1B**

CS-24
SECTION
TY
SHEET NO.
72





UNOFFICIAL  
WEBSITE  
COPY

PHASE 1B - TEMPORARY PAVEMENT MARKINGS LEGEND	
SYMBOL	ITEM
A	EPOXY RESIN PAINT PAVEMENT STRIPING, WHITE 5" SOLID (ITEM 817013)
	EPOXY RESIN PAINT PAVEMENT STRIPING, BLACK 5" SOLID (ITEM 817018)
B	EPOXY RESIN PAINT PAVEMENT STRIPING, YELLOW 5" SOLID (ITEM 817013)
C	EPOXY RESIN PAINT PAVEMENT STRIPING, WHITE/BLACK 8" BROKEN - 3' LINE & 9' GAP (ITEM 817022)
D	EPOXY RESIN PAINT PAVEMENT STRIPING, WHITE/BLACK 8" BROKEN - 10' LINE & 30' GAP (ITEM 817022)

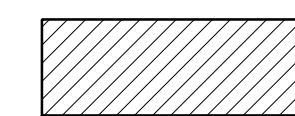
**NOTES:**

- PLACE ALL PERMANENT WARNING SIGNS (ITEM NO. 810001) AS SHOWN ON THIS SHEET PRIOR TO THE BEGINNING OF CONSTRUCTION.
- ALL LOCATIONS SHOWN ARE APPROXIMATE.
- PERMANENT REGULATORY SIGNS THAT ARE BEING REPLACED BY TEMPORARY REGULATORY SIGNS SHALL BE COVERED OR REMOVED FOR THE DURATION OF THE CONSTRUCTION PHASE. SIGNS SHALL BE RESTORED TO THE ORIGINAL LOCATION PRIOR TO REMOVING TRAFFIC CONTROL.
- CONTRACTOR SHALL REMOVE ANY EXISTING PAVEMENT STRIPING THAT CONFLICTS WITH PROPOSED TEMPORARY PAVEMENT MARKINGS.
- RELOCATE LANE CLOSURE SIGNS WHEN CHANGING PHASES.

BARRIER LENGTH OF NEED: APPROACHING TRAFFIC

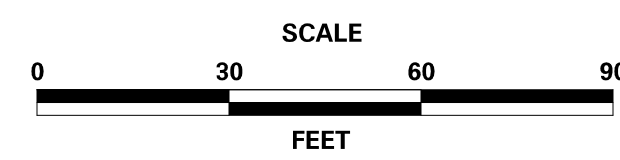
$$\frac{L_s + (b/a)(L_c) - L_s}{(b/a) + (L_c / L_s)} = \frac{20.25 + (1/17)(100) - 1}{(1/17) + (20.25/360)} = 220'$$

RUNOUT LENGTH = 360'



AREA BEHIND RUNOUT LENGTH

ADDENDA / REVISIONS

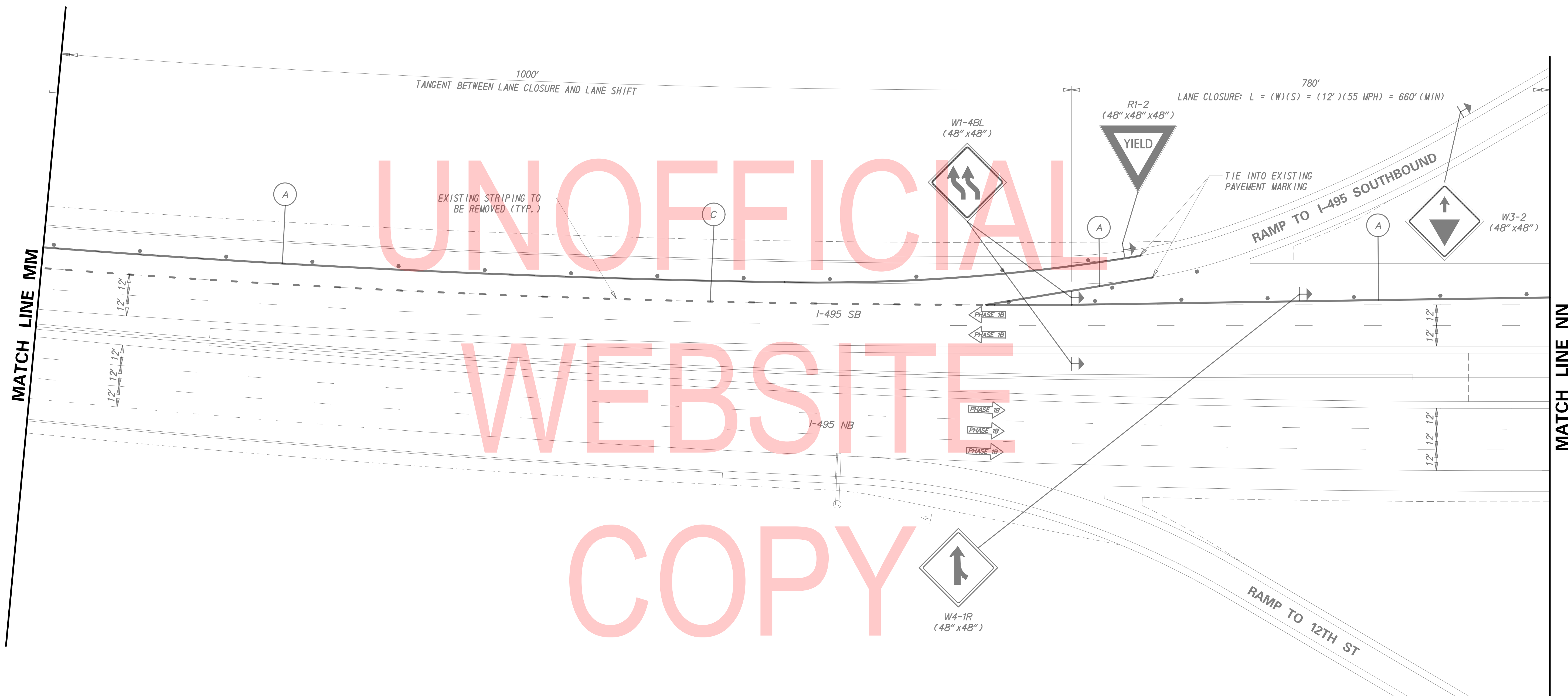
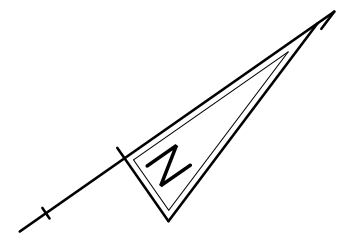


**REHABILITATION OF BRIDGES  
1-810, 1-811, 1-812  
AND 1-813 ON I-495**

CONTRACT	BRIDGE NO.
T201707404	
COUNTY	DESIGNED BY: JWS
NEW CASTLE	CHECKED BY: RR

**CONSTRUCTION PHASING,  
M.O.T., AND EROSION  
CONTROL PLAN - PHASE 1B**

CS-25
SECTION
TY
SHEET NO.
73



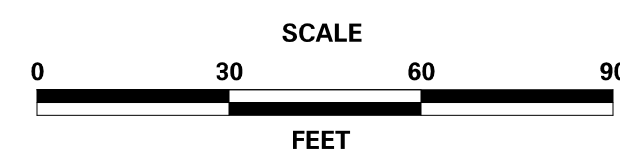
UNOFFICIAL  
WEBSITE  
COPY

PHASE 1B - TEMPORARY PAVEMENT MARKINGS LEGEND	
SYMBOL	ITEM
(A)	EPOXY RESIN PAINT PAVEMENT STRIPING, WHITE 5" SOLID (ITEM 817013)
	EPOXY RESIN PAINT PAVEMENT STRIPING, BLACK 5" SOLID (ITEM 817018)
(C)	EPOXY RESIN PAINT PAVEMENT STRIPING, WHITE/BLACK 8" BROKEN - 3' LINE & 9' GAP (ITEM 817022)

**NOTES:**

1. PLACE ALL PERMANENT WARNING SIGNS (ITEM NO. 810001) AS SHOWN ON THIS SHEET PRIOR TO THE BEGINNING OF CONSTRUCTION.
2. ALL LOCATIONS SHOWN ARE APPROXIMATE.
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4. CONTRACTOR SHALL REMOVE ANY EXISTING PAVEMENT STRIPING THAT CONFLICTS WITH PROPOSED TEMPORARY PAVEMENT MARKINGS.
5. RELOCATE LANE CLOSURE SIGNS WHEN CHANGING PHASES.

ADDENDA / REVISIONS



**REHABILITATION OF BRIDGES  
1-810, 1-811, 1-812  
AND 1-813 ON I-495**

CONTRACT	BRIDGE NO.
T201707404	
COUNTY	DESIGNED BY: JWS
NEW CASTLE	CHECKED BY: RR

**CONSTRUCTION PHASING,  
M.O.T., AND EROSION  
CONTROL PLAN - PHASE 1B**

CS-26
SECTION
TY
SHEET NO.
74

**PORTABLE CHANGEABLE MESSAGE SIGNS**

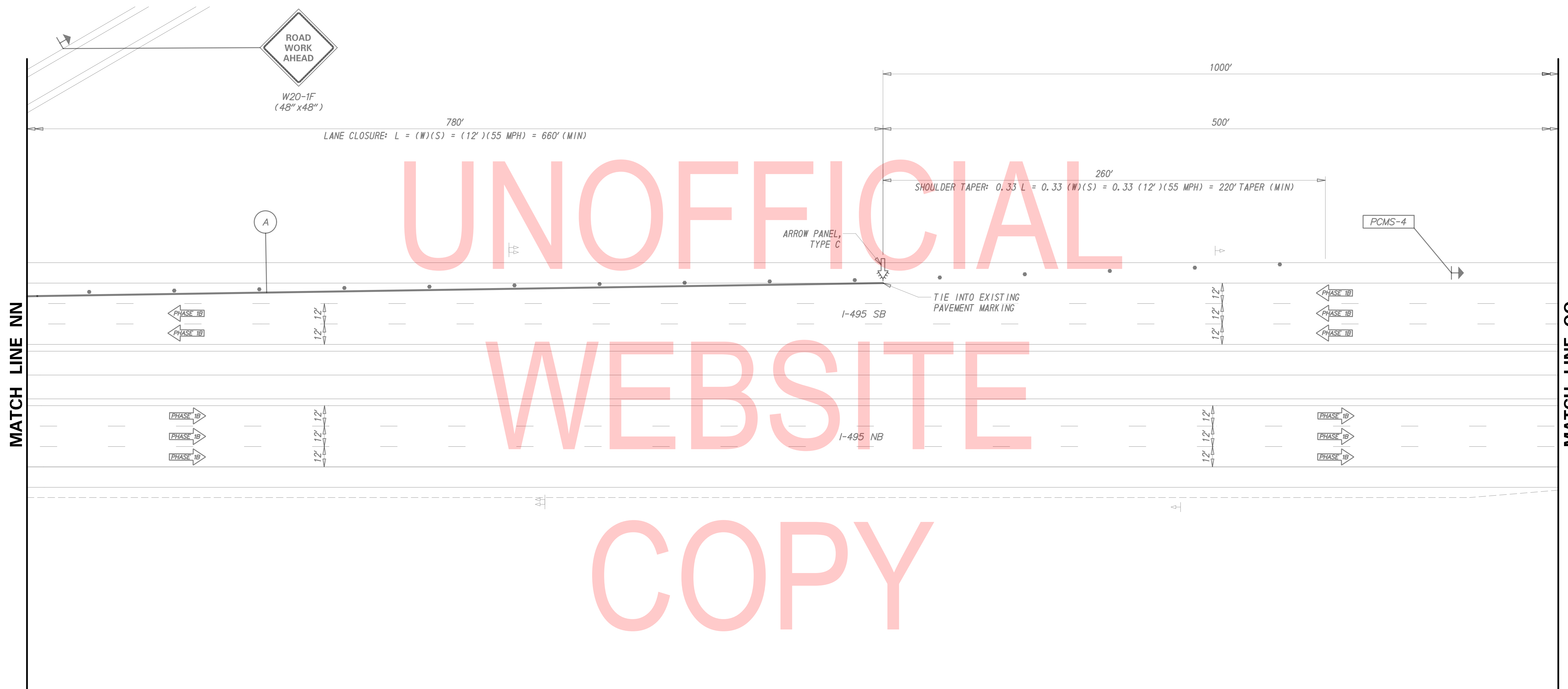
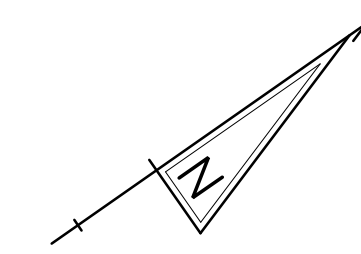
**DURING LANE CLOSURE**

(DISPLAY FOR 5 DAYS AFTER IMPLEMENTATION OF LANE CLOSURE)

PCMS-4

**NEW  
TRAFFIC  
PATTERN**

**USE  
CAUTION**



UNOFFICIAL  
WEBSITE  
COPY

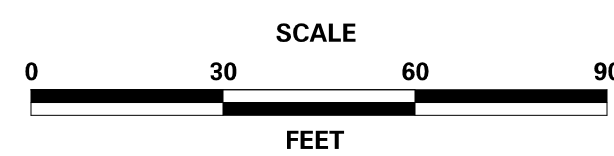
**PHASE 1B - TEMPORARY PAVEMENT MARKINGS LEGEND**

SYMBOL	ITEM
A	EPOXY RESIN PAINT PAVEMENT STRIPING, WHITE 5" SOLID (ITEM 817013)
	EPOXY RESIN PAINT PAVEMENT STRIPING, BLACK 5" SOLID (ITEM 817018)

**NOTES:**

1. PLACE ALL PERMANENT WARNING SIGNS (ITEM NO. 810001) AS SHOWN ON THIS SHEET PRIOR TO THE BEGINNING OF CONSTRUCTION.
2. ALL LOCATIONS SHOWN ARE APPROXIMATE.
3. MESSAGE AND LOCATIONS OF PCMS SHALL BE COORDINATED WITH DISTRICT SAFETY OFFICE PRIOR TO IMPLEMENTATION.
4. PERMANENT REGULATORY SIGNS THAT ARE BEING REPLACED BY TEMPORARY REGULATORY SIGNS SHALL BE COVERED OR REMOVED FOR THE DURATION OF THE CONSTRUCTION PHASE. SIGNS SHALL BE RESTORED TO THE ORIGINAL LOCATION PRIOR TO REMOVING TRAFFIC CONTROL.
5. CONTRACTOR SHALL REMOVE ANY EXISTING PAVEMENT STRIPING THAT CONFLICTS WITH PROPOSED TEMPORARY PAVEMENT MARKINGS.
6. RELOCATE PCMS BOARDS AND LANE CLOSURE SIGNS WHEN CHANGING PHASES.

ADDENDA / REVISIONS

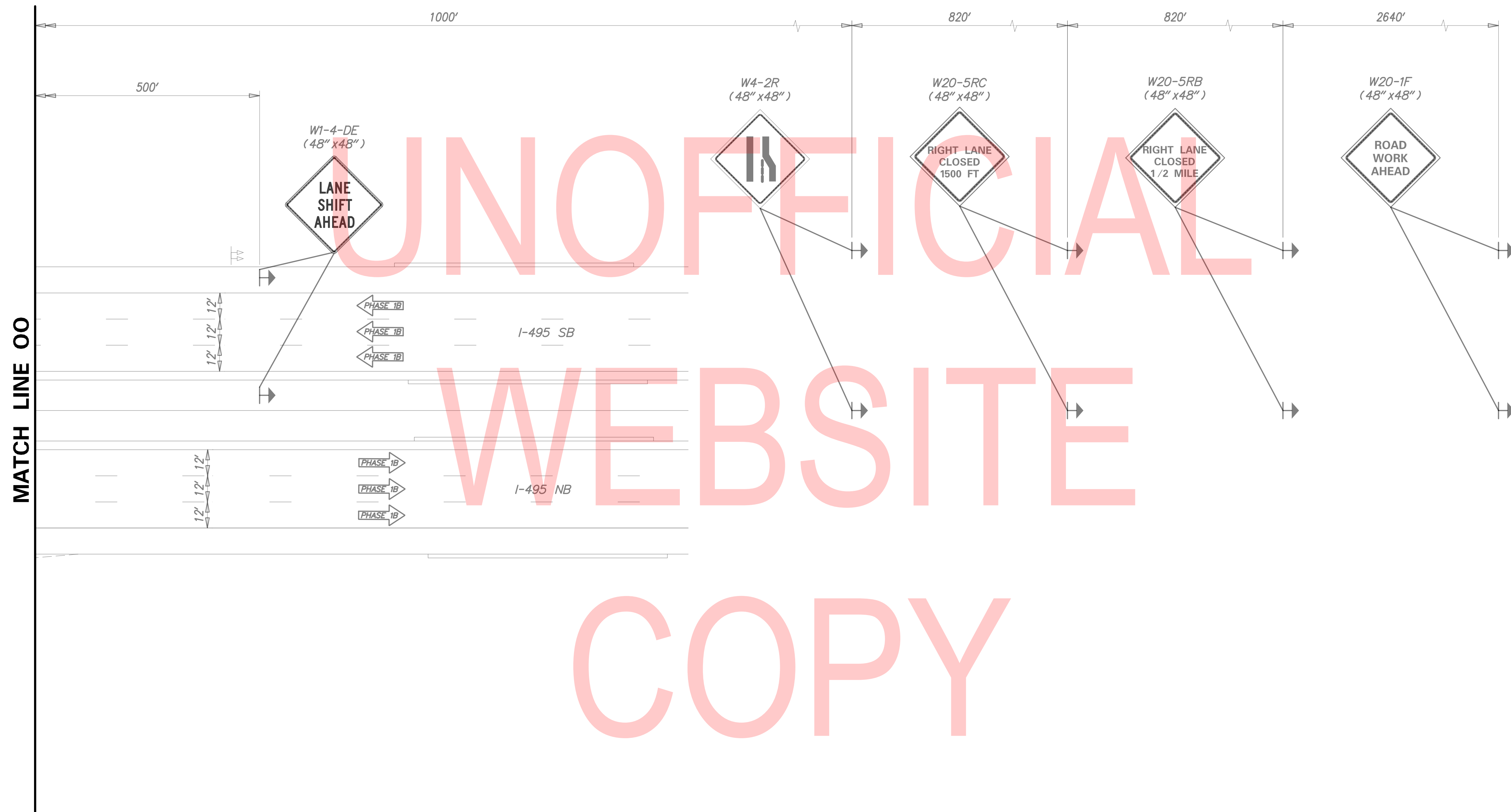
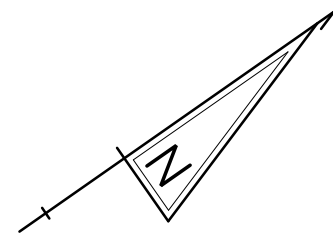


**REHABILITATION OF BRIDGES  
1-810, 1-811, 1-812  
AND 1-813 ON I-495**

CONTRACT	BRIDGE NO.
T201707404	
COUNTY	DESIGNED BY: JWS
NEW CASTLE	CHECKED BY: RR

**CONSTRUCTION PHASING,  
M.O.T., AND EROSION  
CONTROL PLAN - PHASE 1B**

CS-27
SECTION
TY
SHEET NO.
75



- NOTES:
1. PLACE ALL PERMANENT WARNING SIGNS (ITEM NO. 810001) AS SHOWN ON THIS SHEET PRIOR TO THE BEGINNING OF CONSTRUCTION.
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  3. PERMANENT REGULATORY SIGNS THAT ARE BEING REPLACED BY TEMPORARY REGULATORY SIGNS SHALL BE COVERED OR REMOVED FOR THE DURATION OF THE CONSTRUCTION PHASE. SIGNS SHALL BE RESTORED TO THE ORIGINAL LOCATION PRIOR TO REMOVING TRAFFIC CONTROL.
  4. RELOCATE LANE CLOSURE SIGNS WHEN CHANGING PHASES.

2/10/2020 T:\Dover\Projects\425025\06\600\_CADD\05\_Official\Plans\CS28\_PHASE-1B.dgn

	SCALE 0 30 60 90 FEET	<b>REHABILITATION OF BRIDGES 1-810, 1-811, 1-812 AND 1-813 ON I-495</b>	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td>CONTRACT</td><td>BRIDGE NO.</td></tr> <tr><td>T201707404</td><td></td></tr> <tr><td>COUNTY</td><td>DESIGNED BY: JWS</td></tr> <tr><td>NEW CASTLE</td><td>CHECKED BY: RR</td></tr> </table>	CONTRACT	BRIDGE NO.	T201707404		COUNTY	DESIGNED BY: JWS	NEW CASTLE	CHECKED BY: RR	<b>CONSTRUCTION PHASING, M.O.T., AND EROSION CONTROL PLAN - PHASE 1B</b>	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td>CS-28</td></tr> <tr><td>SECTION</td></tr> <tr><td>TY</td></tr> <tr><td>SHEET NO.</td></tr> <tr><td>76</td></tr> </table>	CS-28	SECTION	TY	SHEET NO.	76
CONTRACT	BRIDGE NO.																	
T201707404																		
COUNTY	DESIGNED BY: JWS																	
NEW CASTLE	CHECKED BY: RR																	
CS-28																		
SECTION																		
TY																		
SHEET NO.																		
76																		
ADDENDA / REVISIONS																		

**PORTABLE CHANGEABLE MESSAGE SIGNS**

**DURING LANE CLOSURE**

(DISPLAY FOR 5 DAYS AFTER IMPLEMENTATION OF LANE CLOSURE)

PCMS-5

**NEW  
TRAFFIC  
PATTERN**

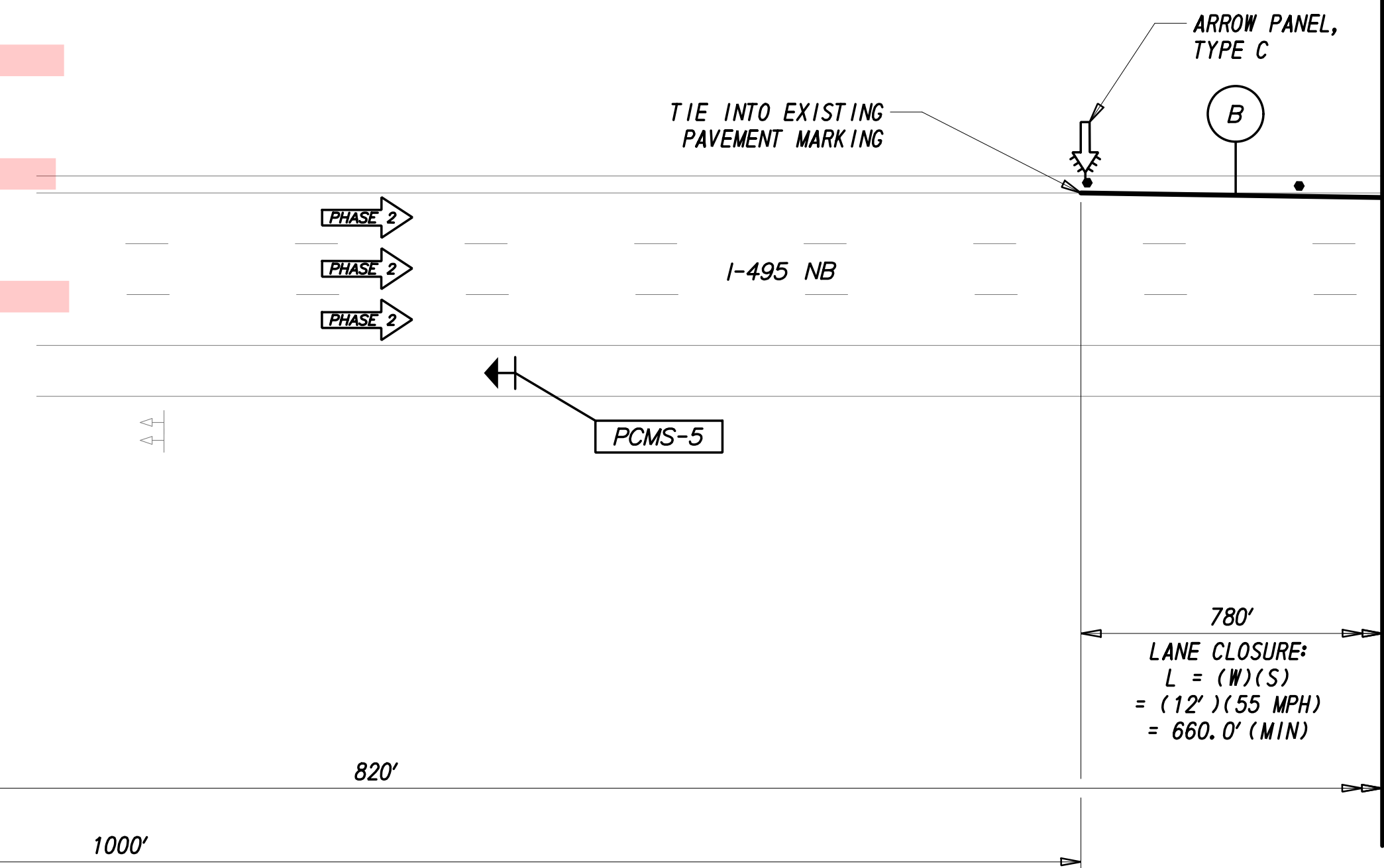
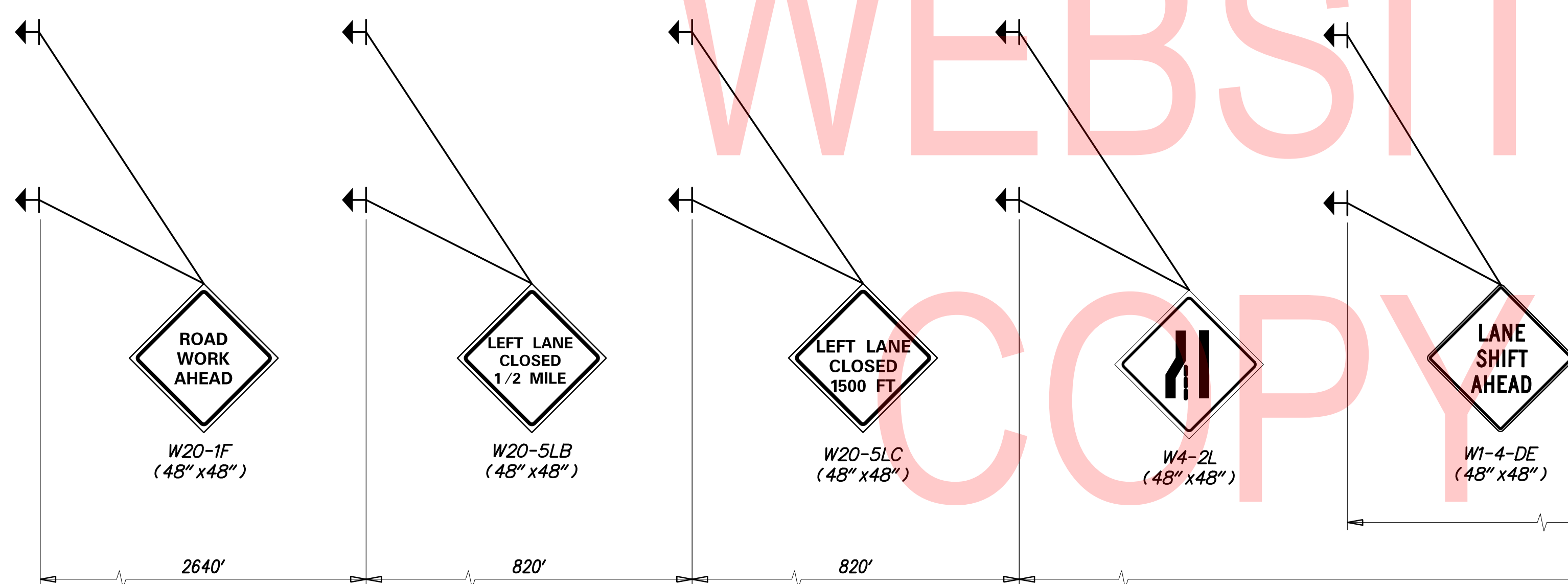
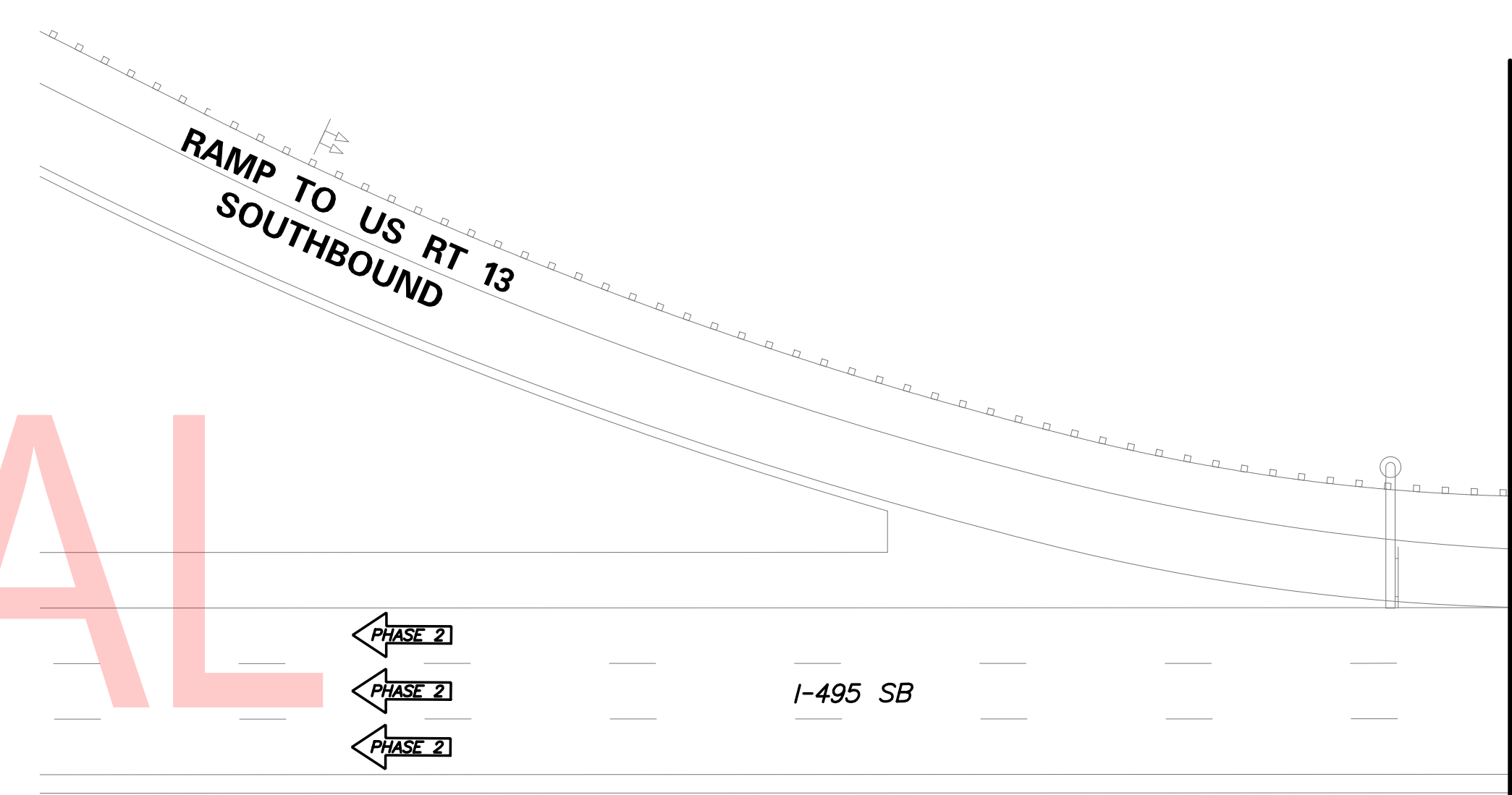
**USE  
CAUTION**



UNOFFICIAL

WEBSITE

COPY



MATCH LINE AA

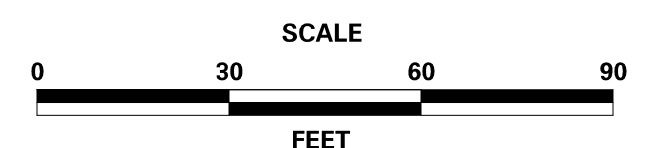
**PHASE 2 - TEMPORARY PAVEMENT MARKINGS LEGEND**

SYMBOL	ITEM	QUANTITY
(A)	EPOXY RESIN PAINT PAVEMENT STRIPING, WHITE 5" SOLID (ITEM 817013)	15,877 LF
(B)	EPOXY RESIN PAINT PAVEMENT STRIPING, BLACK 3" SOLID (ITEM 817018)	15,877 LF
(C)	EPOXY RESIN PAINT PAVEMENT STRIPING, YELLOW 5" SOLID (ITEM 817013)	15,334 LF
(D)	EPOXY RESIN PAINT PAVEMENT STRIPING, WHITE/BLACK 8" DOTTED - 3' LINE & 9' GAP (ITEM 817022)	375 LF
(E)	EPOXY RESIN PAINT PAVEMENT STRIPING, WHITE 8" BROKEN - 10' LINE & 30' GAP (ITEM 817022)	3,380 LF

**NOTES:**

1. PLACE ALL PERMANENT WARNING SIGNS (ITEM NO. 810001) AS SHOWN ON THIS SHEET PRIOR TO THE BEGINNING OF CONSTRUCTION.
2. ALL LOCATIONS SHOWN ARE APPROXIMATE.
3. MESSAGE AND LOCATIONS OF PCMS SHALL BE COORDINATED WITH DISTRICT SAFETY OFFICE PRIOR TO IMPLEMENTATION.
4. PERMANENT REGULATORY SIGNS THAT ARE BEING REPLACED BY TEMPORARY REGULATORY SIGNS SHALL BE COVERED OR REMOVED FOR THE DURATION OF THE CONSTRUCTION PHASE. SIGNS SHALL BE RESTORED TO THE ORIGINAL LOCATION PRIOR TO REMOVING TRAFFIC CONTROL.
5. CONTRACTOR SHALL REMOVE ANY EXISTING PAVEMENT STRIPING THAT CONFLICTS WITH PROPOSED TEMPORARY PAVEMENT MARKINGS.
6. RELOCATE PCMS BOARDS AND LANE CLOSURE SIGNS WHEN CHANGING PHASES.

ADDENDA / REVISIONS



**REHABILITATION OF BRIDGES  
1-810, 1-811, 1-812  
AND 1-813 ON I-495**

CONTRACT T201707404	BRIDGE NO.
COUNTY NEW CASTLE	DESIGNED BY: JWS
	CHECKED BY: RR

**CONSTRUCTION PHASING,  
M.O.T., AND EROSION  
CONTROL PLAN - PHASE 2**

CS-29
SECTION TY
SHEET NO. 77

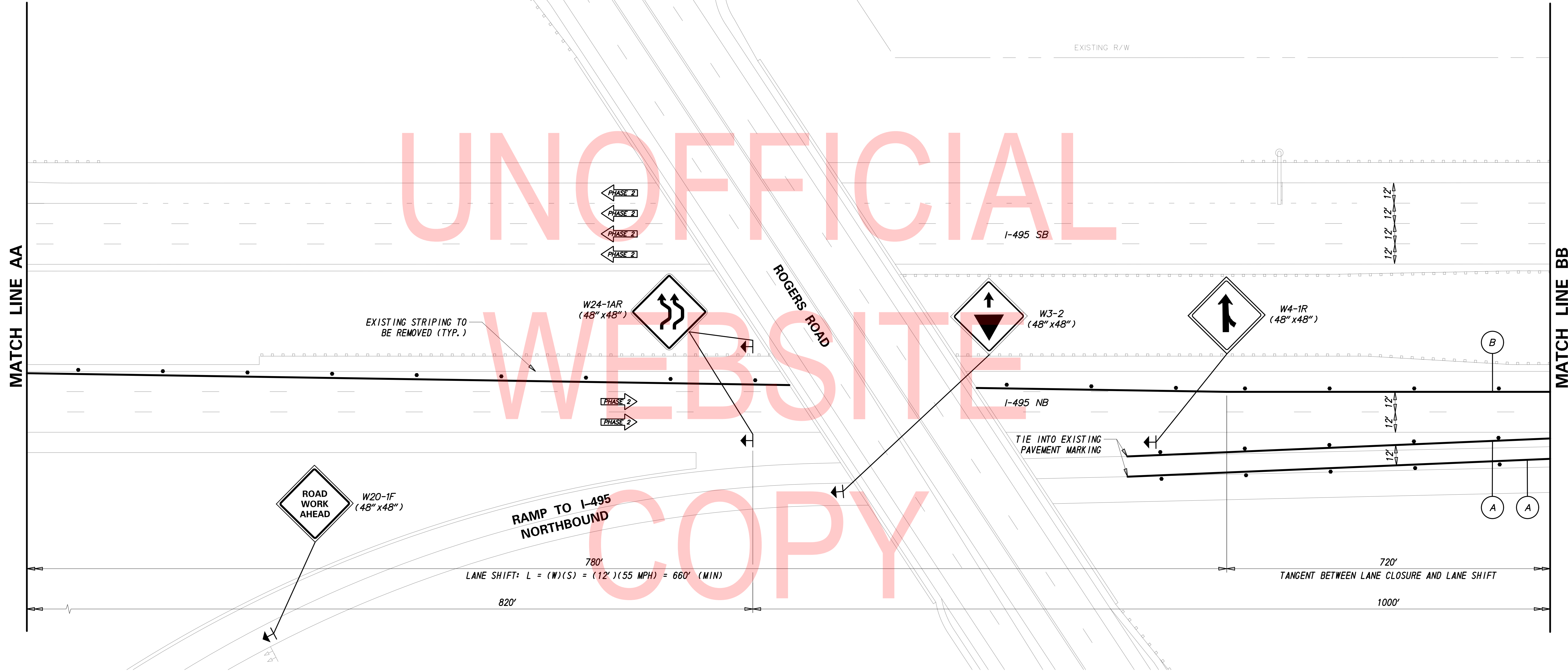
2/10/2020 T:\Dover\Projects\425025\06\600\_CADD\05\_Official\Plans\CS29\_PHASE-2.dgn



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WEBSITE

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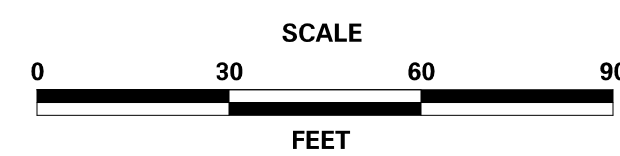


PHASE 2 - TEMPORARY PAVEMENT MARKINGS LEGEND	
SYMBOL	ITEM
(A)	EPOXY RESIN PAINT PAVEMENT STRIPING, WHITE 5" SOLID (ITEM 817013)
	EPOXY RESIN PAINT PAVEMENT STRIPING, BLACK 5" SOLID (ITEM 817018)
(B)	EPOXY RESIN PAINT PAVEMENT STRIPING, YELLOW 5" SOLID (ITEM 817013)

**NOTES:**

1. PLACE ALL PERMANENT WARNING SIGNS (ITEM NO. 810001) AS SHOWN ON THIS SHEET PRIOR TO THE BEGINNING OF CONSTRUCTION.
2. ALL LOCATIONS SHOWN ARE APPROXIMATE.
3. PERMANENT REGULATORY SIGNS THAT ARE BEING REPLACED BY TEMPORARY REGULATORY SIGNS SHALL BE COVERED OR REMOVED FOR THE DURATION OF THE CONSTRUCTION PHASE. SIGNS SHALL BE RESTORED TO THE ORIGINAL LOCATION PRIOR TO REMOVING TRAFFIC CONTROL.
4. CONTRACTOR SHALL REMOVE ANY EXISTING PAVEMENT STRIPING THAT CONFLICTS WITH PROPOSED TEMPORARY PAVEMENT MARKINGS.
5. RELOCATE LANE CLOSURE SIGNS WHEN CHANGING PHASES.

ADDENDA / REVISIONS

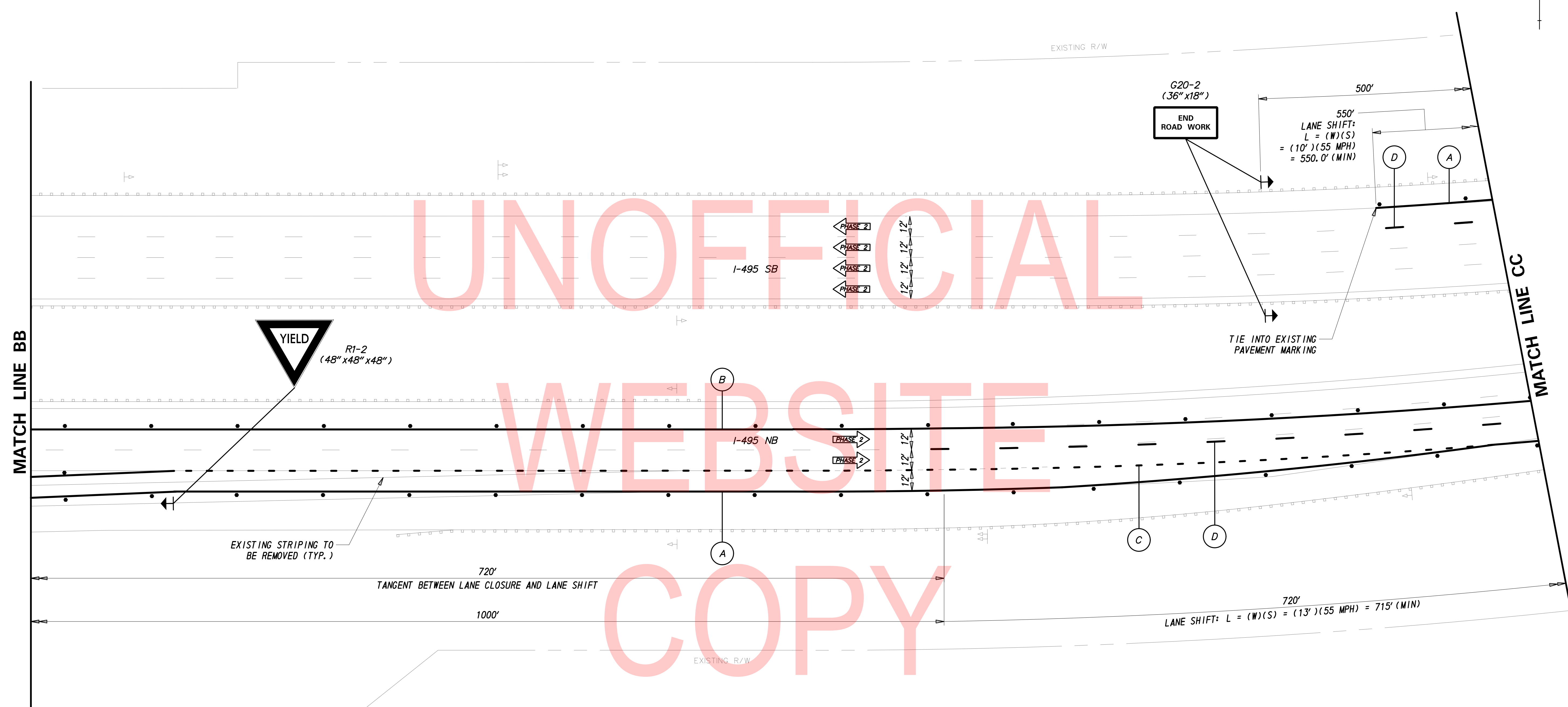
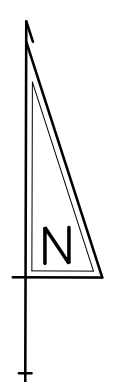


**REHABILITATION OF BRIDGES  
1-810, 1-811, 1-812  
AND 1-813 ON I-495**

CONTRACT T201707404	BRIDGE NO.
COUNTY NEW CASTLE	DESIGNED BY: JWS
	CHECKED BY: RR

**CONSTRUCTION PHASING,  
M.O.T., AND EROSION  
CONTROL PLAN - PHASE 2**

CS-30
SECTION TY
SHEET NO. 78



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WEBSITE

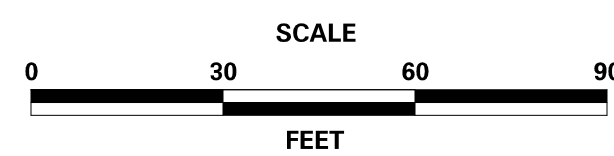
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PHASE 2 - TEMPORARY PAVEMENT MARKINGS LEGEND	
SYMBOL	ITEM
Ⓐ	EPOXY RESIN PAINT PAVEMENT STRIPING, WHITE 5" SOLID (ITEM 817013)
	EPOXY RESIN PAINT PAVEMENT STRIPING, BLACK 5" SOLID (ITEM 817018)
Ⓑ	EPOXY RESIN PAINT PAVEMENT STRIPING, YELLOW 5" SOLID (ITEM 817013)
Ⓒ	EPOXY RESIN PAINT PAVEMENT STRIPING, WHITE/BLACK 8" BROKEN - 3' LINE & 9' GAP (ITEM 817022)
Ⓓ	EPOXY RESIN PAINT PAVEMENT STRIPING, WHITE/BLACK 8" BROKEN - 10' LINE & 30' GAP (ITEM 817022)

**NOTES:**

1. PLACE ALL PERMANENT WARNING SIGNS (ITEM NO. 810001) AS SHOWN ON THIS SHEET PRIOR TO THE BEGINNING OF CONSTRUCTION.
2. ALL LOCATIONS SHOWN ARE APPROXIMATE.
3. PERMANENT REGULATORY SIGNS THAT ARE BEING REPLACED BY TEMPORARY REGULATORY SIGNS SHALL BE COVERED OR REMOVED FOR THE DURATION OF THE CONSTRUCTION PHASE. SIGNS SHALL BE RESTORED TO THE ORIGINAL LOCATION PRIOR TO REMOVING TRAFFIC CONTROL.
4. CONTRACTOR SHALL REMOVE ANY EXISTING PAVEMENT STRIPING THAT CONFLICTS WITH PROPOSED TEMPORARY PAVEMENT MARKINGS.
5. RELOCATE LANE CLOSURE SIGNS WHEN CHANGING PHASES.

ADDENDA / REVISIONS



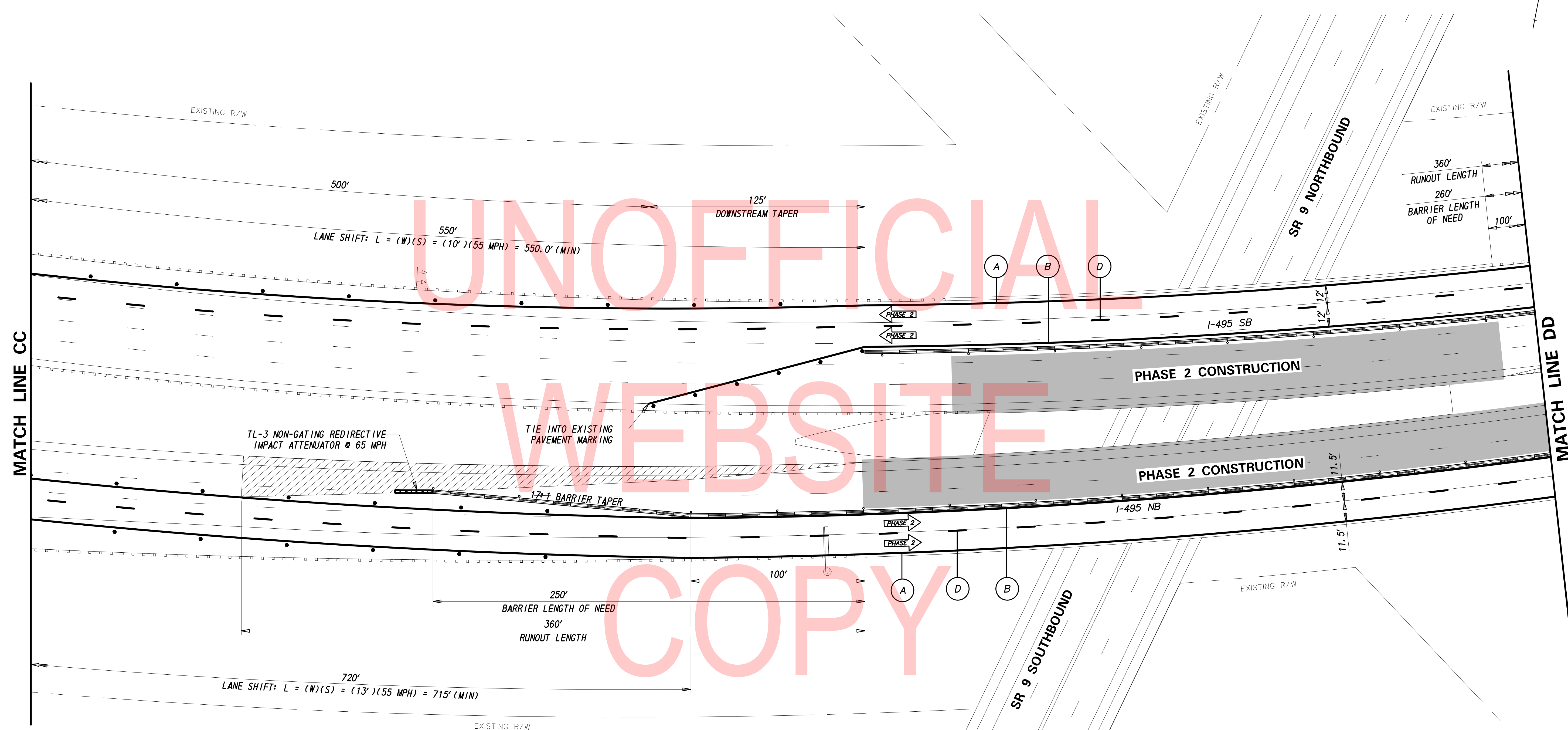
**REHABILITATION OF BRIDGES  
1-810, 1-811, 1-812  
AND 1-813 ON I-495**

CONTRACT T201707404	BRIDGE NO.
COUNTY NEW CASTLE	DESIGNED BY: JWS
	CHECKED BY: RR

**CONSTRUCTION PHASING,  
M.O.T., AND EROSION  
CONTROL PLAN - PHASE 2**

CS-31
SECTION TY
SHEET NO. 79

2/10/2020 T:\Dover\Projects\425025\06\600\_CADD\05\_Official\Plans\CS31\_PHASE-2.dgn



PHASE 2 - TEMPORARY PAVEMENT MARKINGS LEGEND	
SYMBOL	ITEM
Ⓐ	EPOXY RESIN PAINT PAVEMENT STRIPING, WHITE 5" SOLID (ITEM 817013)
	EPOXY RESIN PAINT PAVEMENT STRIPING, BLACK 5" SOLID (ITEM 817018)
Ⓑ	EPOXY RESIN PAINT PAVEMENT STRIPING, YELLOW 5" SOLID (ITEM 817013)
Ⓓ	EPOXY RESIN PAINT PAVEMENT STRIPING, WHITE/BLACK 8" BROKEN - 10' LINE & 30' GAP (ITEM 817022)

- NOTES:
- PLACE ALL PERMANENT WARNING SIGNS (ITEM NO. 810001) AS SHOWN ON THIS SHEET PRIOR TO THE BEGINNING OF CONSTRUCTION.
  - ALL LOCATIONS SHOWN ARE APPROXIMATE.
  - PERMANENT REGULATORY SIGNS THAT ARE BEING REPLACED BY TEMPORARY REGULATORY SIGNS SHALL BE COVERED OR REMOVED FOR THE DURATION OF THE CONSTRUCTION PHASE. SIGNS SHALL BE RESTORED TO THE ORIGINAL LOCATION PRIOR TO REMOVING TRAFFIC CONTROL.
  - CONTRACTOR SHALL REMOVE ANY EXISTING PAVEMENT STRIPING THAT CONFLICTS WITH PROPOSED TEMPORARY PAVEMENT MARKINGS.
  - RELOCATE LANE CLOSURE SIGNS WHEN CHANGING PHASES.

BARRIER LENGTH OF NEED: APPROACHING TRAFFIC - I-495 NB

$$\frac{L_1 + (b/a)(L_1) - L_2}{(b/a) + (L_1 / L_2)} = \frac{30.2 + (1/17)(100) - 0.5}{(1/17) + (30.2/360)} = 249.3' \text{ (MIN)}$$

BARRIER LENGTH OF NEED: APPROACHING TRAFFIC - I-495 SB

$$\frac{L_1 + (b/a)(L_1) - L_2}{(b/a) + (L_1 / L_2)} = \frac{38 + (1/17)(100) - 2}{(1/17) + (38/360)} = 254.8' \text{ (MIN)}$$

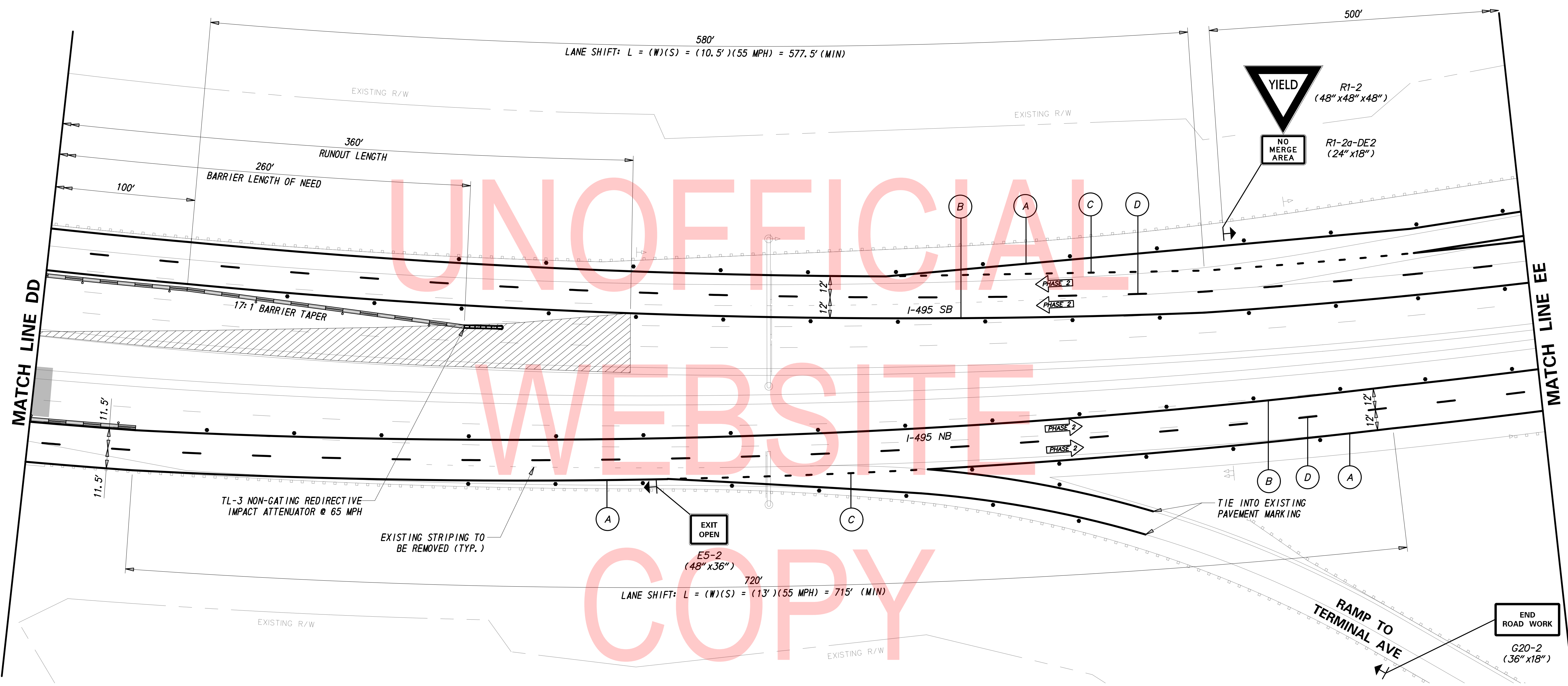
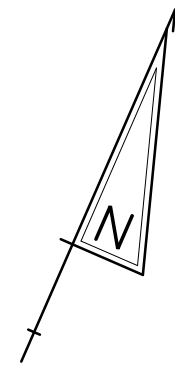
RUNOUT LENGTH = 360'

AREA BEHIND RUNOUT LENGTH

2/10/2020 T:\Dover\Projects\425025\06\600\_CADD\05\_Official\Plans\CS32\_PHASE-2.dgn

ADDENDA / REVISIONS  	SCALE  FEET	<b>REHABILITATION OF BRIDGES</b> <b>1-810, 1-811, 1-812</b> <b>AND 1-813 ON I-495</b>	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td>CONTRACT</td> <td>BRIDGE NO.</td> </tr> <tr> <td>T201707404</td> <td></td> </tr> <tr> <td>COUNTY</td> <td>DESIGNED BY: JWS</td> </tr> <tr> <td>NEW CASTLE</td> <td>CHECKED BY: RR</td> </tr> </table>	CONTRACT	BRIDGE NO.	T201707404		COUNTY	DESIGNED BY: JWS	NEW CASTLE	CHECKED BY: RR	<b>CONSTRUCTION PHASING,</b> <b>M.O.T., AND EROSION</b> <b>CONTROL PLAN - PHASE 2</b>	CS-32 SECTION TY SHEET NO. 80
CONTRACT	BRIDGE NO.												
T201707404													
COUNTY	DESIGNED BY: JWS												
NEW CASTLE	CHECKED BY: RR												





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WEBSITE  
COPY

PHASE 2 - TEMPORARY PAVEMENT MARKINGS LEGEND	
SYMBOL	ITEM
A	EPOXY RESIN PAINT PAVEMENT STRIPING, WHITE 5" SOLID (ITEM 817013)
	EPOXY RESIN PAINT PAVEMENT STRIPING, BLACK 5" SOLID (ITEM 817018)
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C	EPOXY RESIN PAINT PAVEMENT STRIPING, WHITE/BLACK 8" BROKEN - 3' LINE & 9' GAP (ITEM 817022)
D	EPOXY RESIN PAINT PAVEMENT STRIPING, WHITE/BLACK 8" BROKEN - 10' LINE & 30' GAP (ITEM 817022)

**NOTES:**

1. PLACE ALL PERMANENT WARNING SIGNS (ITEM NO. 810001) AS SHOWN ON THIS SHEET PRIOR TO THE BEGINNING OF CONSTRUCTION.
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5. RELOCATE LANE CLOSURE SIGNS WHEN CHANGING PHASES.

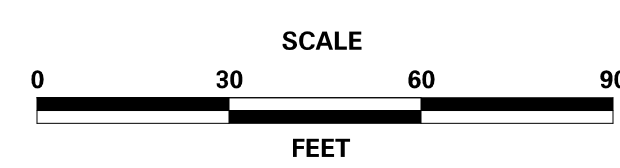
BARRIER LENGTH OF NEED: APPROACHING TRAFFIC - I-495 SB

$$\frac{L_1 + (b/a)(L) - L_1}{(b/a) + (L_1 / L)} = \frac{38 + (1/17)(100) - 2}{(1/17) + (38/360)} = 254.8' \text{ (MIN)}$$

RUNOUT LENGTH = 360'

AREA BEHIND RUNOUT LENGTH

ADDENDA / REVISIONS



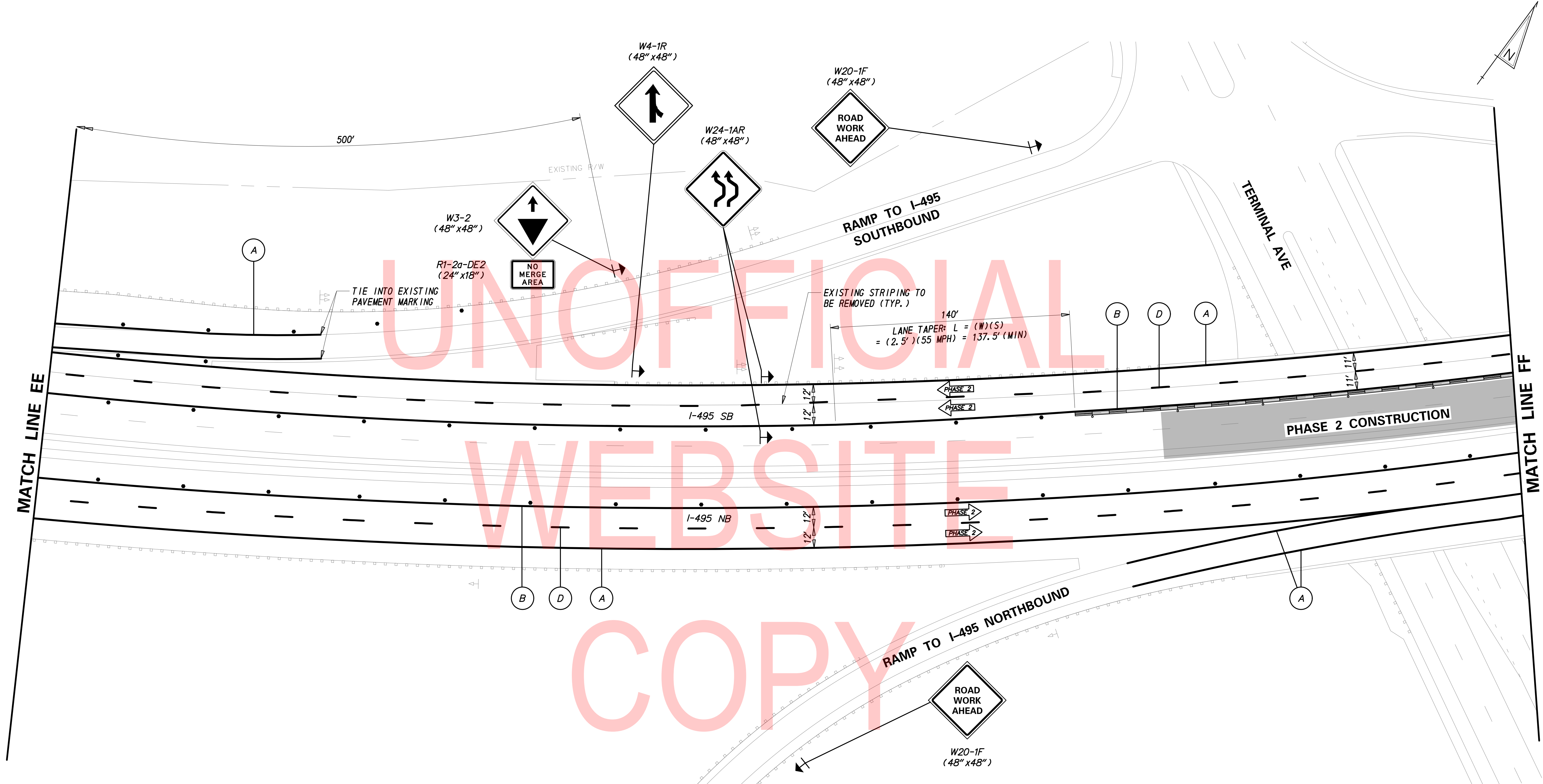
**REHABILITATION OF BRIDGES  
1-810, 1-811, 1-812  
AND 1-813 ON I-495**

CONTRACT T201707404	BRIDGE NO.
COUNTY NEW CASTLE	DESIGNED BY: JWS
	CHECKED BY: RR

**CONSTRUCTION PHASING,  
M.O.T., AND EROSION  
CONTROL PLAN - PHASE 2**

CS-33
SECTION TY
SHEET NO. 81

2/10/2020 T:\Dover\Projects\425025\06\600\_CADD\05\_Official\Plans\CS34\_PHASE-2.dgn



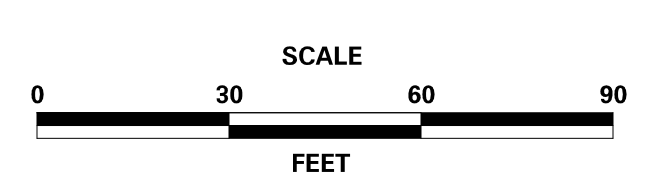
UNOFFICIAL  
WEBSITE  
COPY

PHASE 2 - TEMPORARY PAVEMENT MARKINGS LEGEND	
SYMBOL	ITEM
A	EPOXY RESIN PAINT PAVEMENT STRIPING, WHITE 5" SOLID (ITEM 817013)
	EPOXY RESIN PAINT PAVEMENT STRIPING, BLACK 5" SOLID (ITEM 817018)
B	EPOXY RESIN PAINT PAVEMENT STRIPING, YELLOW 5" SOLID (ITEM 817013)
D	EPOXY RESIN PAINT PAVEMENT STRIPING, WHITE/BLACK 8" BROKEN - 10' LINE & 30' GAP (ITEM 817022)

NOTES:

1. PLACE ALL PERMANENT WARNING SIGNS (ITEM NO. 810001) AS SHOWN ON THIS SHEET PRIOR TO THE BEGINNING OF CONSTRUCTION.
2. ALL LOCATIONS SHOWN ARE APPROXIMATE.
3. PERMANENT REGULATORY SIGNS THAT ARE BEING REPLACED BY TEMPORARY REGULATORY SIGNS SHALL BE COVERED OR REMOVED FOR THE DURATION OF THE CONSTRUCTION PHASE. SIGNS SHALL BE RESTORED TO THE ORIGINAL LOCATION PRIOR TO REMOVING TRAFFIC CONTROL.
4. CONTRACTOR SHALL REMOVE ANY EXISTING PAVEMENT STRIPING THAT CONFLICTS WITH PROPOSED TEMPORARY PAVEMENT MARKINGS.
5. RELOCATE LANE CLOSURE SIGNS WHEN CHANGING PHASES.

ADDENDA / REVISIONS	

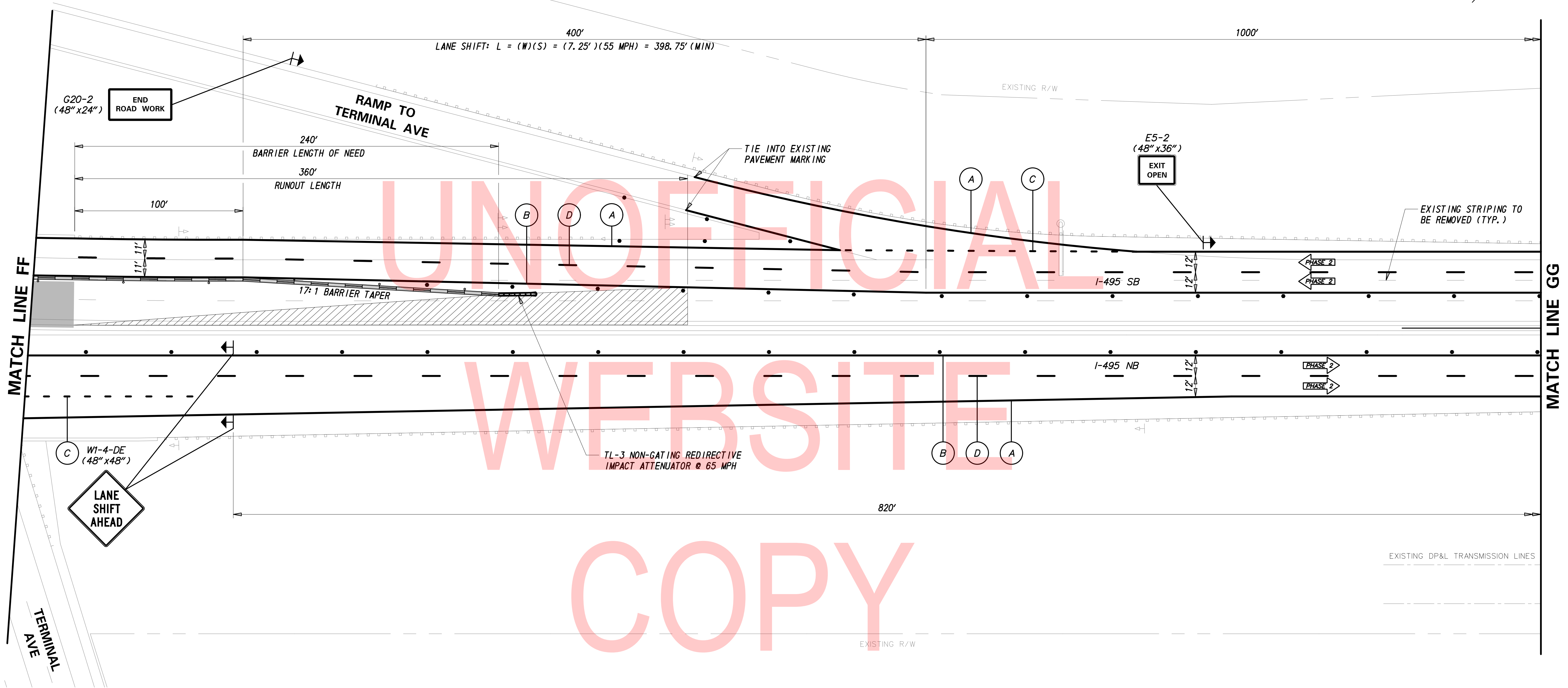
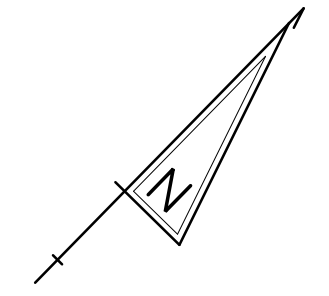


**REHABILITATION OF BRIDGES  
1-810, 1-811, 1-812  
AND 1-813 ON I-495**

CONTRACT T201707404	BRIDGE NO.
COUNTY NEW CASTLE	DESIGNED BY: JWS
	CHECKED BY: RR

**CONSTRUCTION PHASING,  
M.O.T., AND EROSION  
CONTROL PLAN - PHASE 2**

CS-34
SECTION TY
SHEET NO. 82



UNOFFICIAL  
WEBSITE  
COPY

PHASE 2 - TEMPORARY PAVEMENT MARKINGS LEGEND	
SYMBOL	ITEM
A	EPOXY RESIN PAINT PAVEMENT STRIPING, WHITE 5" SOLID (ITEM 817013)
	EPOXY RESIN PAINT PAVEMENT STRIPING, BLACK 5" SOLID (ITEM 817018)
B	EPOXY RESIN PAINT PAVEMENT STRIPING, YELLOW 5" SOLID (ITEM 817013)
C	EPOXY RESIN PAINT PAVEMENT STRIPING, WHITE/BLACK 8" BROKEN - 3' LINE & 9' GAP (ITEM 817022)
D	EPOXY RESIN PAINT PAVEMENT STRIPING, WHITE/BLACK 8" BROKEN - 10' LINE & 30' GAP (ITEM 817022)

**NOTES:**

- PLACE ALL PERMANENT WARNING SIGNS (ITEM NO. 810001) AS SHOWN ON THIS SHEET PRIOR TO THE BEGINNING OF CONSTRUCTION.
- ALL LOCATIONS SHOWN ARE APPROXIMATE.
- MESSAGE AND LOCATIONS OF PCMS SHALL BE COORDINATED WITH DISTRICT SAFETY OFFICE PRIOR TO IMPLEMENTATION.
- PERMANENT REGULATORY SIGNS THAT ARE BEING REPLACED BY TEMPORARY REGULATORY SIGNS SHALL BE COVERED OR REMOVED FOR THE DURATION OF THE CONSTRUCTION PHASE. SIGNS SHALL BE RESTORED TO THE ORIGINAL LOCATION PRIOR TO REMOVING TRAFFIC CONTROL.
- RELOCATE LANE CLOSURE SIGNS WHEN CHANGING PHASES.

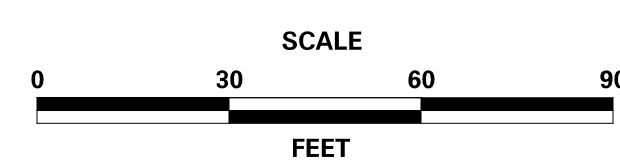
BARRIER LENGTH OF NEED: APPROACHING TRAFFIC - I-495 SB  

$$L_r + (b/a)(L) - L_r = 28.75 + (1/17)(100) - 2 = 235.3' \text{ (MIN)}$$

$$(b/a) + (L_r / L_r) = (1/17) + (28.75/360)$$

RUNOUT LENGTH = 360'  
 AREA BEHIND RUNOUT LENGTH

ADDENDA / REVISIONS



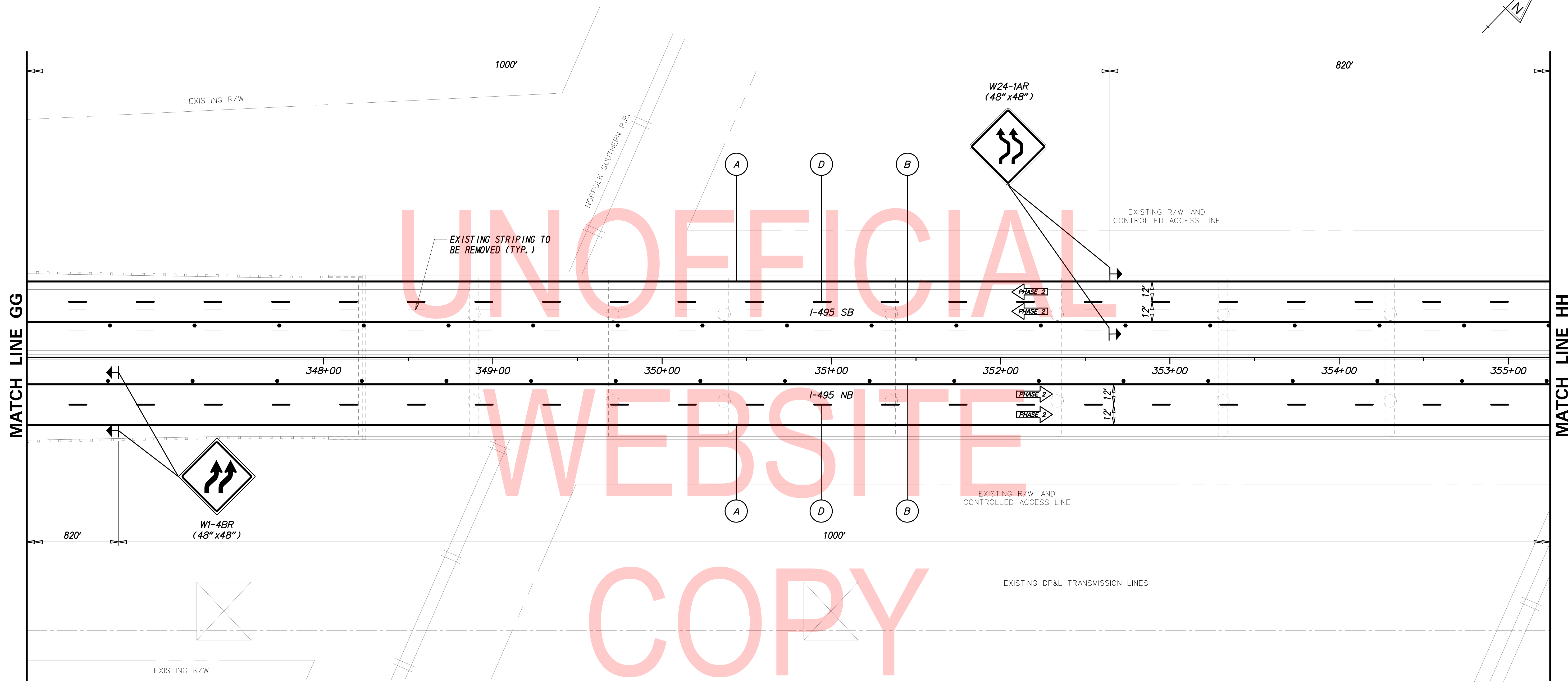
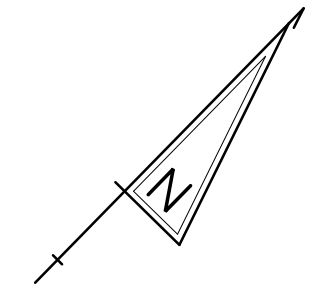
**REHABILITATION OF BRIDGES  
 1-810, 1-811, 1-812  
 AND 1-813 ON I-495**

CONTRACT T201707404	BRIDGE NO.
COUNTY NEW CASTLE	DESIGNED BY: JWS
	CHECKED BY: RR

**CONSTRUCTION PHASING,  
 M.O.T., AND EROSION  
 CONTROL PLAN - PHASE 2**

CS-35
SECTION TY
SHEET NO. 83

2/10/2020 T:\Dover\Projects\425025\06\600\_CADD\05\_Official\Plans\CS35\_PHASE-2.dgn



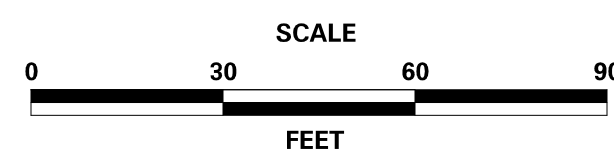
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WEBSITE  
COPY

PHASE 2 - TEMPORARY PAVEMENT MARKINGS LEGEND	
SYMBOL	ITEM
(A)	EPOXY RESIN PAINT PAVEMENT STRIPING, WHITE 5" SOLID (ITEM 817013)
(B)	EPOXY RESIN PAINT PAVEMENT STRIPING, BLACK 5" SOLID (ITEM 817018)
(C)	EPOXY RESIN PAINT PAVEMENT STRIPING, YELLOW 5" SOLID (ITEM 817013)
(D)	EPOXY RESIN PAINT PAVEMENT STRIPING, WHITE/BLACK 8" BROKEN - 10' LINE & 30' GAP (ITEM 817022)

**NOTES:**

1. PLACE ALL PERMANENT WARNING SIGNS (ITEM NO. 810001) AS SHOWN ON THIS SHEET PRIOR TO THE BEGINNING OF CONSTRUCTION.
2. ALL LOCATIONS SHOWN ARE APPROXIMATE.
3. PERMANENT REGULATORY SIGNS THAT ARE BEING REPLACED BY TEMPORARY REGULATORY SIGNS SHALL BE COVERED OR REMOVED FOR THE DURATION OF THE CONSTRUCTION PHASE. SIGNS SHALL BE RESTORED TO THE ORIGINAL LOCATION PRIOR TO REMOVING TRAFFIC CONTROL.
4. CONTRACTOR SHALL REMOVE ANY EXISTING PAVEMENT STRIPING THAT CONFLICTS WITH PROPOSED TEMPORARY PAVEMENT MARKINGS.
5. RELOCATE LANE CLOSURE SIGNS WHEN CHANGING PHASES.

ADDENDA / REVISIONS

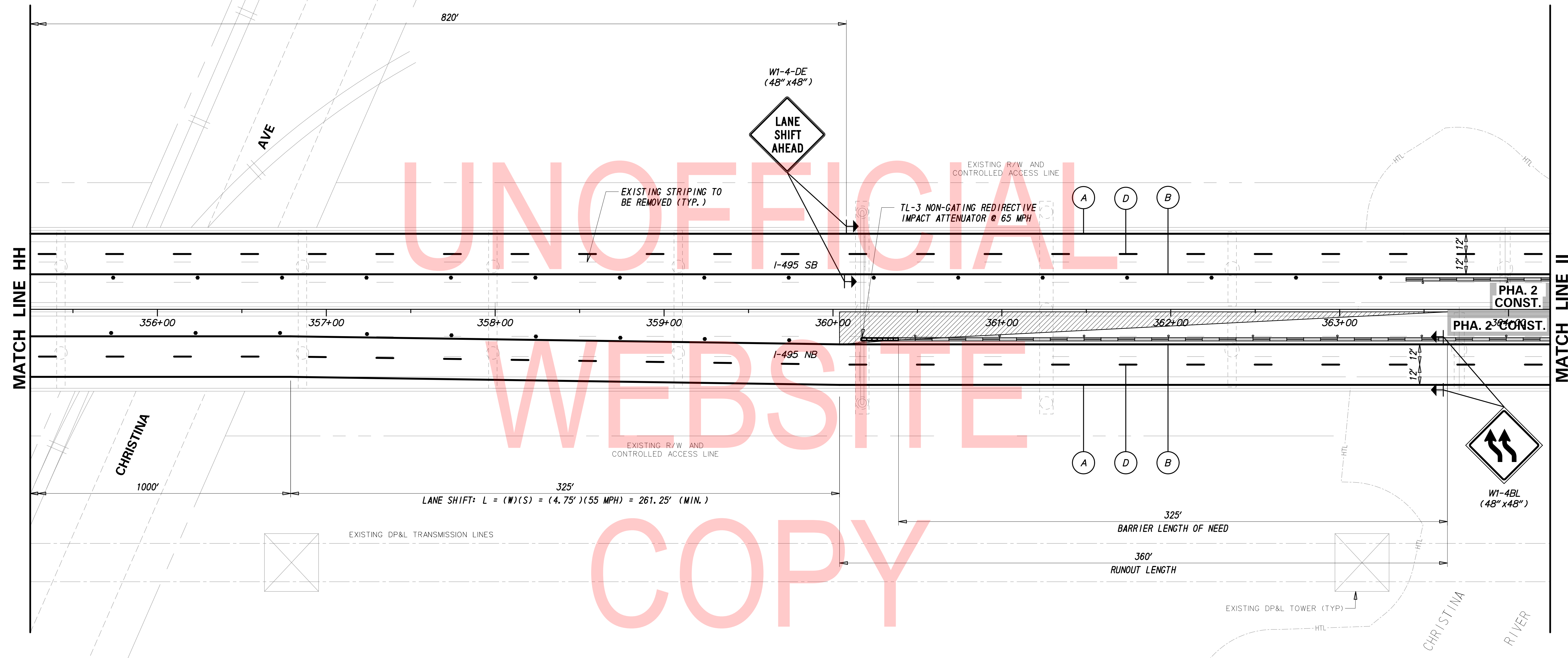
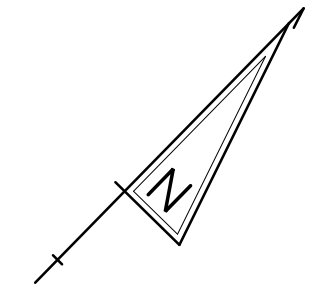


**REHABILITATION OF BRIDGES  
1-810, 1-811, 1-812  
AND 1-813 ON I-495**

CONTRACT T201707404	BRIDGE NO.
COUNTY NEW CASTLE	DESIGNED BY: JWS
	CHECKED BY: RR

**CONSTRUCTION PHASING,  
M.O.T., AND EROSION  
CONTROL PLAN - PHASE 2**

CS-36
SECTION TY
SHEET NO. 84



UNOFFICIAL WEBSITE COPY

PHASE 2 - TEMPORARY PAVEMENT MARKINGS LEGEND	
SYMBOL	ITEM
(A)	EPOXY RESIN PAINT PAVEMENT STRIPING, WHITE 5" SOLID (ITEM 817013)
	EPOXY RESIN PAINT PAVEMENT STRIPING, BLACK 5" SOLID (ITEM 817018)
(B)	EPOXY RESIN PAINT PAVEMENT STRIPING, YELLOW 5" SOLID (ITEM 817013)
(D)	EPOXY RESIN PAINT PAVEMENT STRIPING, WHITE/BLACK 8" BROKEN - 10' LINE & 30' GAP (ITEM 817022)

- NOTES:
1. PLACE ALL PERMANENT WARNING SIGNS (ITEM NO. 810001) AS SHOWN ON THIS SHEET PRIOR TO THE BEGINNING OF CONSTRUCTION.
  2. ALL LOCATIONS SHOWN ARE APPROXIMATE.
  3. PERMANENT REGULATORY SIGNS THAT ARE BEING REPLACED BY TEMPORARY REGULATORY SIGNS SHALL BE COVERED OR REMOVED FOR THE DURATION OF THE CONSTRUCTION PHASE. SIGNS SHALL BE RESTORED TO THE ORIGINAL LOCATION PRIOR TO REMOVING TRAFFIC CONTROL.
  4. CONTRACTOR SHALL REMOVE ANY EXISTING PAVEMENT STRIPING THAT CONFLICTS WITH PROPOSED TEMPORARY PAVEMENT MARKINGS.
  5. RELOCATE LANE CLOSURE SIGNS WHEN CHANGING PHASES.

BARRIER LENGTH OF NEED: APPROACHING TRAFFIC

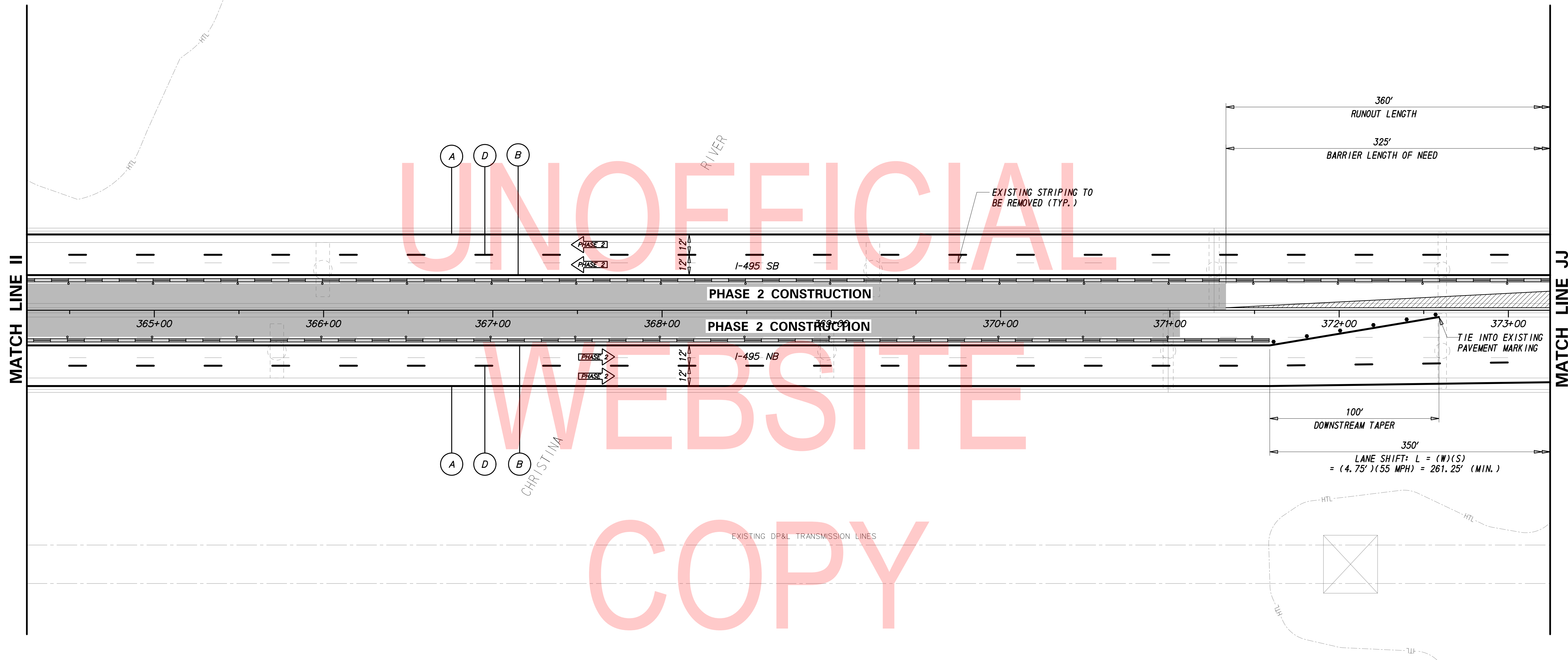
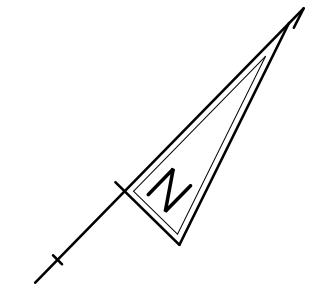
$$\frac{L_s - L_a}{L_s / L_a} = \frac{19.25 - 2}{19.25 / 360} = 325'$$

RUNOUT LENGTH = 360'

AREA BEHIND RUNOUT LENGTH

2/10/2020 T:\Dover\Projects\425025\06\600\_CADD\05\_Official\Plans\CS37\_PHASE-2.dgn

ADDENDA / REVISIONS	<p>SCALE</p> <p>FEET</p>	<p><b>REHABILITATION OF BRIDGES</b>  <b>1-810, 1-811, 1-812</b>  <b>AND 1-813 ON I-495</b></p>	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td>CONTRACT</td> <td>BRIDGE NO.</td> </tr> <tr> <td>T201707404</td> <td></td> </tr> <tr> <td>COUNTY</td> <td>DESIGNED BY: JWS</td> </tr> <tr> <td>NEW CASTLE</td> <td>CHECKED BY: RR</td> </tr> </table>	CONTRACT	BRIDGE NO.	T201707404		COUNTY	DESIGNED BY: JWS	NEW CASTLE	CHECKED BY: RR	<p><b>CONSTRUCTION PHASING,</b>  <b>M.O.T., AND EROSION</b>  <b>CONTROL PLAN - PHASE 2</b></p>	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td>CS-37</td> </tr> <tr> <td>SECTION</td> </tr> <tr> <td>TY</td> </tr> <tr> <td>SHEET NO.</td> </tr> <tr> <td>85</td> </tr> </table>	CS-37	SECTION	TY	SHEET NO.	85
CONTRACT	BRIDGE NO.																	
T201707404																		
COUNTY	DESIGNED BY: JWS																	
NEW CASTLE	CHECKED BY: RR																	
CS-37																		
SECTION																		
TY																		
SHEET NO.																		
85																		



UNOFFICIAL  
WEBSITE  
COPY

PHASE 2 - TEMPORARY PAVEMENT MARKINGS LEGEND	
SYMBOL	ITEM
Ⓐ	EPOXY RESIN PAINT PAVEMENT STRIPING, WHITE 5" SOLID (ITEM 817013)
	EPOXY RESIN PAINT PAVEMENT STRIPING, BLACK 5" SOLID (ITEM 817018)
Ⓑ	EPOXY RESIN PAINT PAVEMENT STRIPING, YELLOW 5" SOLID (ITEM 817013)
Ⓓ	EPOXY RESIN PAINT PAVEMENT STRIPING, WHITE/BLACK 8" BROKEN - 10' LINE & 30' GAP (ITEM 817022)

**NOTES:**

- PLACE ALL PERMANENT WARNING SIGNS (ITEM NO. 810001) AS SHOWN ON THIS SHEET PRIOR TO THE BEGINNING OF CONSTRUCTION.
- ALL LOCATIONS SHOWN ARE APPROXIMATE.
- PERMANENT REGULATORY SIGNS THAT ARE BEING REPLACED BY TEMPORARY REGULATORY SIGNS SHALL BE COVERED OR REMOVED FOR THE DURATION OF THE CONSTRUCTION PHASE. SIGNS SHALL BE RESTORED TO THE ORIGINAL LOCATION PRIOR TO REMOVING TRAFFIC CONTROL.
- CONTRACTOR SHALL REMOVE ANY EXISTING PAVEMENT STRIPING THAT CONFLICTS WITH PROPOSED TEMPORARY PAVEMENT MARKINGS.
- RELOCATE LANE CLOSURE SIGNS WHEN CHANGING PHASES.

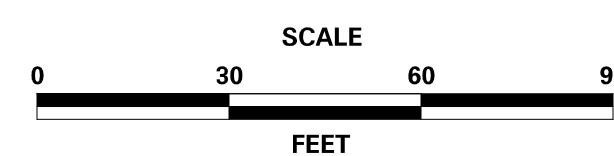
BARRIER LENGTH OF NEED: APPROACHING TRAFFIC

$$\frac{L_s - L_a}{L_s / L_a} = \frac{19.25 - 2}{19.25 / 360} = 325'$$

RUNOUT LENGTH = 360'

AREA BEHIND RUNOUT LENGTH

ADDENDA / REVISIONS

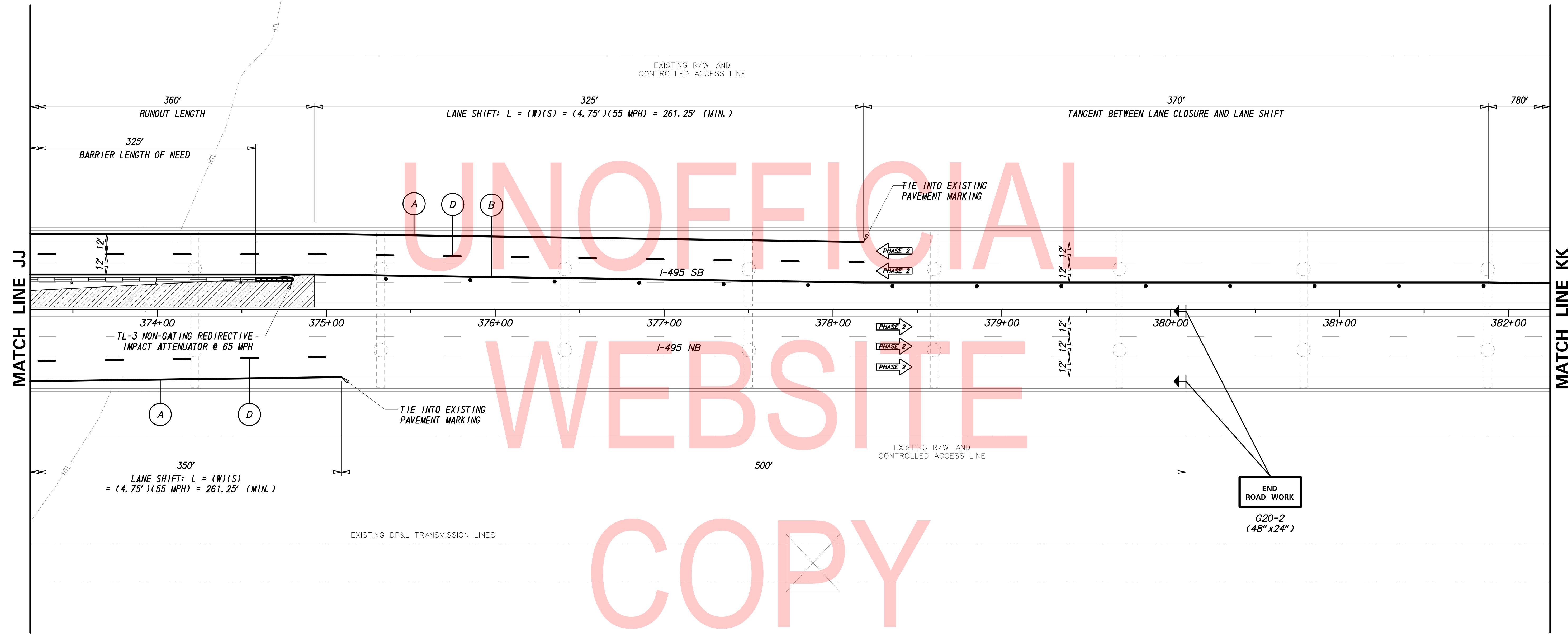
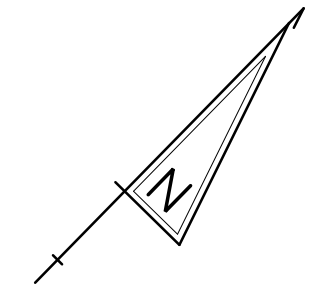


**REHABILITATION OF BRIDGES  
1-810, 1-811, 1-812  
AND 1-813 ON I-495**

CONTRACT	BRIDGE NO.
T201707404	
COUNTY	DESIGNED BY: JWS
NEW CASTLE	CHECKED BY: RR

**CONSTRUCTION PHASING,  
M.O.T., AND EROSION  
CONTROL PLAN - PHASE 2**

CS-38
SECTION
TY
SHEET NO.
86



PHASE 2 - TEMPORARY PAVEMENT MARKINGS LEGEND	
SYMBOL	ITEM
Ⓐ	EPOXY RESIN PAINT PAVEMENT STRIPING, WHITE 5" SOLID (ITEM 817013)
	EPOXY RESIN PAINT PAVEMENT STRIPING, BLACK 5" SOLID (ITEM 817018)
Ⓑ	EPOXY RESIN PAINT PAVEMENT STRIPING, YELLOW 5" SOLID (ITEM 817013)
Ⓓ	EPOXY RESIN PAINT PAVEMENT STRIPING, WHITE/BLACK 8" BROKEN - 10' LINE & 30' GAP (ITEM 817022)

- NOTES:
1. PLACE ALL PERMANENT WARNING SIGNS (ITEM NO. 810001) AS SHOWN ON THIS SHEET PRIOR TO THE BEGINNING OF CONSTRUCTION.
  2. ALL LOCATIONS SHOWN ARE APPROXIMATE.
  3. PERMANENT REGULATORY SIGNS THAT ARE BEING REPLACED BY TEMPORARY REGULATORY SIGNS SHALL BE COVERED OR REMOVED FOR THE DURATION OF THE CONSTRUCTION PHASE. SIGNS SHALL BE RESTORED TO THE ORIGINAL LOCATION PRIOR TO REMOVING TRAFFIC CONTROL.
  4. CONTRACTOR SHALL REMOVE ANY EXISTING PAVEMENT STRIPING THAT CONFLICTS WITH PROPOSED TEMPORARY PAVEMENT MARKINGS.
  5. RELOCATE LANE CLOSURE SIGNS WHEN CHANGING PHASES.

BARRIER LENGTH OF NEED: APPROACHING TRAFFIC

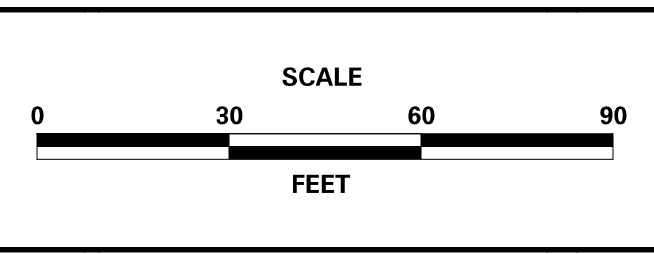
$$\frac{L_s - L_a}{L_s / L_a} = \frac{19.25 - 2}{19.25 / 360} = 325'$$

RUNOUT LENGTH = 360'

AREA BEHIND RUNOUT LENGTH

2/10/2020 T:\Dover\Projects\425025\06\600\_CADD\05\_Official\Plans\CS39\_PHASE-2.dgn

ADDENDA / REVISIONS



**REHABILITATION OF BRIDGES  
1-810, 1-811, 1-812  
AND 1-813 ON I-495**

CONTRACT T201707404	BRIDGE NO.
COUNTY NEW CASTLE	DESIGNED BY: JWS
	CHECKED BY: RR

<b>CONSTRUCTION PHASING, M.O.T., AND EROSION CONTROL PLAN - PHASE 2</b>	
SECTION TY	SHEET NO. 87

CS-39

**PORTABLE CHANGEABLE MESSAGE SIGNS**

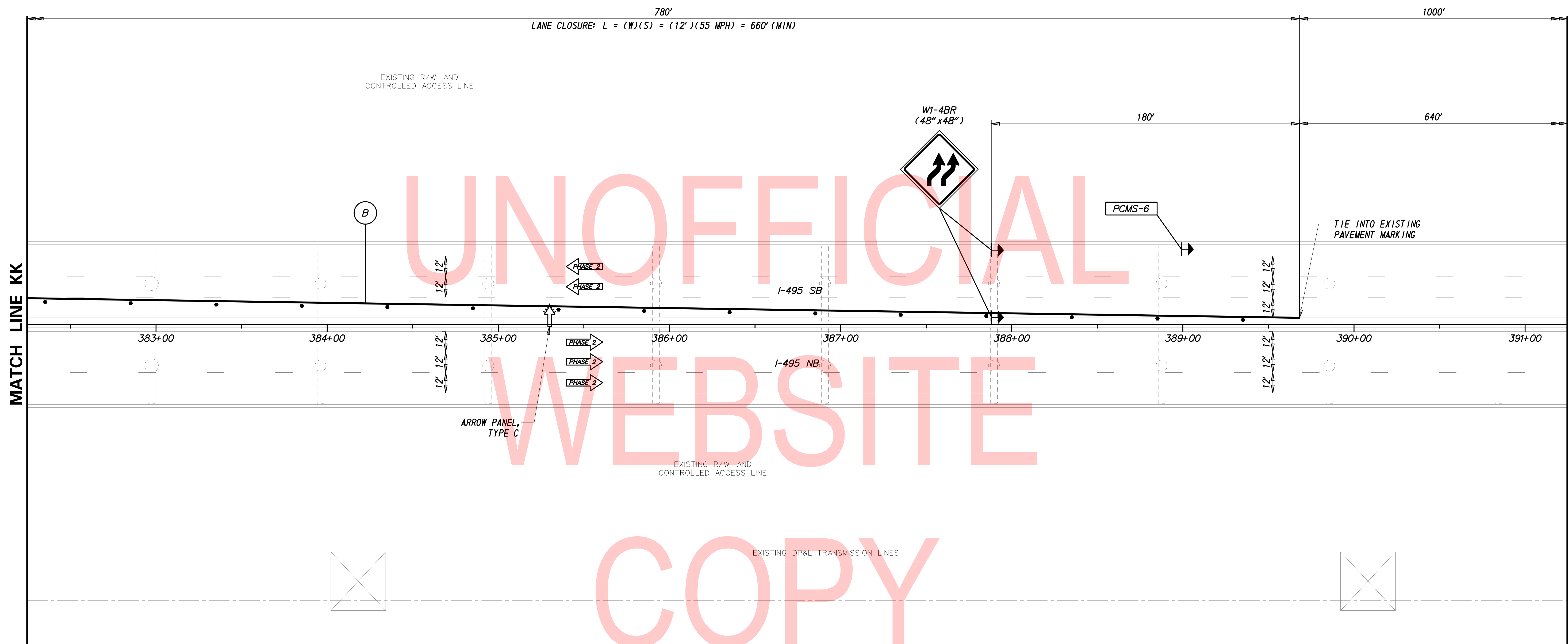
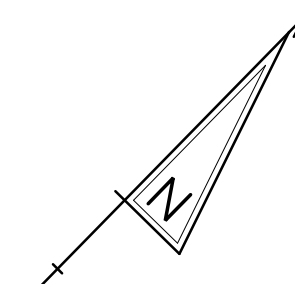
**DURING LANE CLOSURE**

(DISPLAY FOR 5 DAYS AFTER IMPLEMENTATION OF LANE CLOSURE)

PCMS-6

**NEW  
TRAFFIC  
PATTERN**

**USE  
CAUTION**



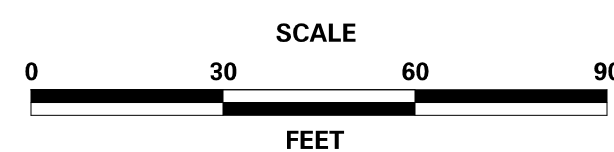
UNOFFICIAL  
WEBSITE  
COPY

PHASE 2 - TEMPORARY PAVEMENT MARKINGS LEGEND	
SYMBOL	ITEM
ⓑ	EPOXY RESIN PAINT PAVEMENT STRIPING, YELLOW 5" SOLID (ITEM 817013)

**NOTES:**

1. PLACE ALL PERMANENT WARNING SIGNS (ITEM NO. 810001) AS SHOWN ON THIS SHEET PRIOR TO THE BEGINNING OF CONSTRUCTION.
2. ALL LOCATIONS SHOWN ARE APPROXIMATE.
3. MESSAGE AND LOCATIONS OF PCMS SHALL BE COORDINATED WITH DISTRICT SAFETY OFFICE PRIOR TO IMPLEMENTATION.
4. PERMANENT REGULATORY SIGNS THAT ARE BEING REPLACED BY TEMPORARY REGULATORY SIGNS SHALL BE COVERED OR REMOVED FOR THE DURATION OF THE CONSTRUCTION PHASE. SIGNS SHALL BE RESTORED TO THE ORIGINAL LOCATION PRIOR TO REMOVING TRAFFIC CONTROL.
5. CONTRACTOR SHALL REMOVE ANY EXISTING PAVEMENT STRIPING THAT CONFLICTS WITH PROPOSED TEMPORARY PAVEMENT MARKINGS.
6. RELOCATE PCMS BOARDS AND LANE CLOSURE SIGNS WHEN CHANGING PHASES.

ADDENDA / REVISIONS



**REHABILITATION OF BRIDGES  
1-810, 1-811, 1-812  
AND 1-813 ON I-495**

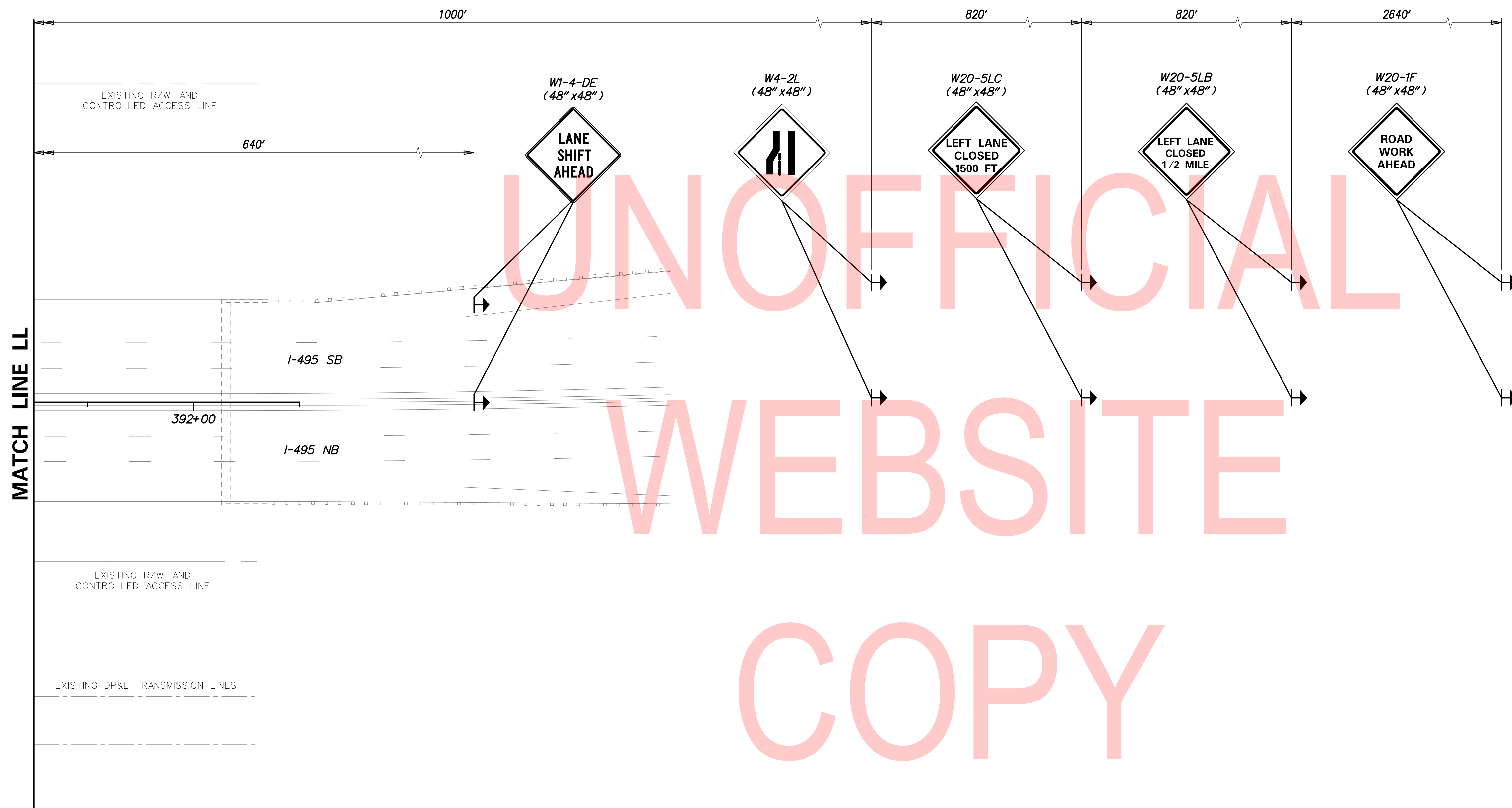
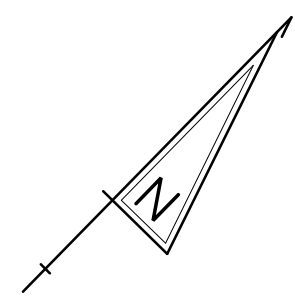
CONTRACT	BRIDGE NO.
T201707404	
COUNTY	DESIGNED BY: JWS
NEW CASTLE	CHECKED BY: RR

**CONSTRUCTION PHASING,  
M.O.T., AND EROSION  
CONTROL PLAN - PHASE 2**

CS-40
SECTION
TY
SHEET NO.
88

2/10/2020 T:\Dover\Projects\425025\06\600\_CADD\05\_Official\Plans\CS40\_PHASE-2.dgn

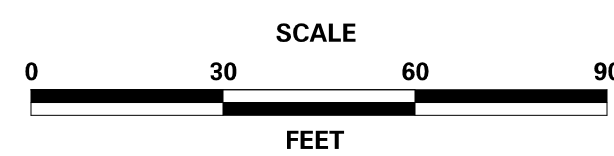




**NOTES:**

1. PLACE ALL PERMANENT WARNING SIGNS (ITEM NO. 810001) AS SHOWN ON THIS SHEET PRIOR TO THE BEGINNING OF CONSTRUCTION.
2. ALL LOCATIONS SHOWN ARE APPROXIMATE.
3. PERMANENT REGULATORY SIGNS THAT ARE BEING REPLACED BY TEMPORARY REGULATORY SIGNS SHALL BE COVERED OR REMOVED FOR THE DURATION OF THE CONSTRUCTION PHASE. SIGNS SHALL BE RESTORED TO THE ORIGINAL LOCATION PRIOR TO REMOVING TRAFFIC CONTROL.
4. PLACE ADDITIONAL "ROAD WORK AHEAD" (W20-01F) SIGNS ON 12TH STREET ON-RAMP TO I-495.

ADDENDA / REVISIONS

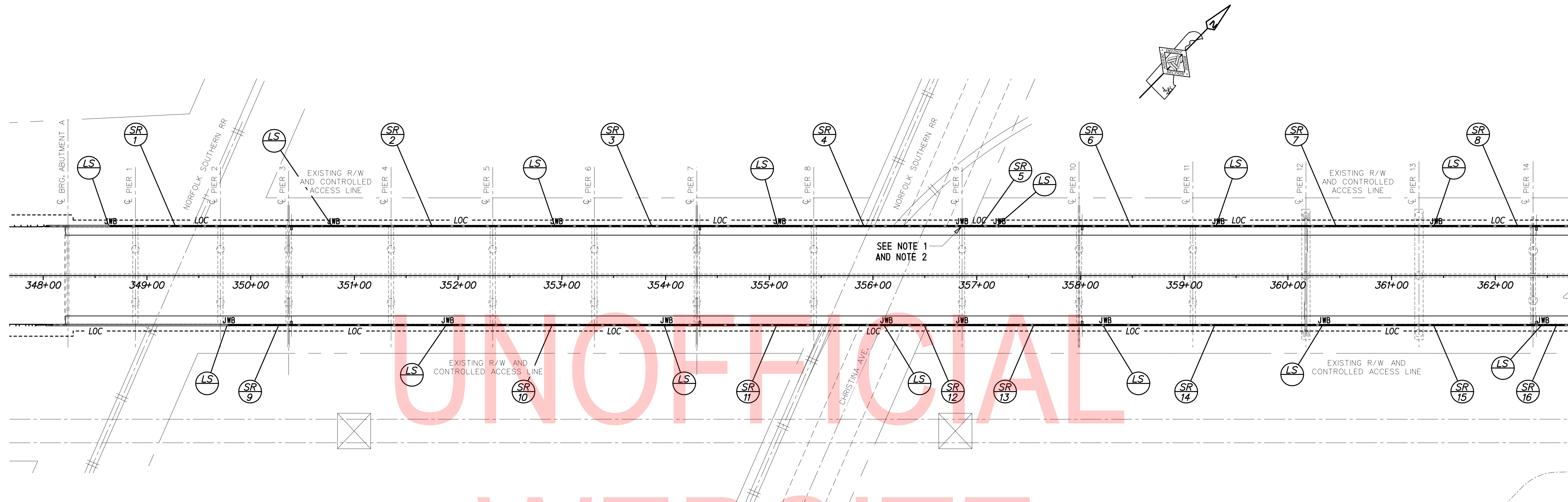


**REHABILITATION OF BRIDGES  
1-810, 1-811, 1-812  
AND 1-813 ON I-495**

CONTRACT	BRIDGE NO.
T201707404	DESIGNED BY: JWS
COUNTY	CHECKED BY: RR
NEW CASTLE	

**CONSTRUCTION PHASING,  
M.O.T., AND EROSION  
CONTROL PLAN - PHASE 2**

CS-41
SECTION
TY
SHEET NO.
89



UNOFFICIAL

WEBSITE

**LIGHTING PLAN - SPANS 1-14**

LIGHTING SERVICE SCHEDULE					
SERVICE RUN	# OF CONDUITS	SIZE	DISTANCE (L.F.)	DESCRIPTION	INSTALLATION
1	1	2"	215	(EMPTY)	BARRIER
2	1	2"	215	(EMPTY)	BARRIER
3	1	2"	215	(EMPTY)	BARRIER
4	1	2"	176	(EMPTY)	BARRIER
5	1	2"	36	(2)-#6, (1)-#6 GND	BARRIER
6	1	2"	211	(2)-#6, (1)-#6 GND	BARRIER
7	1	2"	210	(2)-#6, (1)-#6 GND	BARRIER
8	1	2"	207*	(2)-#6, (1)-#6 GND	BARRIER
9	1	2"	211	(EMPTY)	BARRIER
10	1	2"	211	(EMPTY)	BARRIER
11	1	2"	212	(EMPTY)	BARRIER
12	1	2"	73	(EMPTY)	BARRIER
13	1	2"	138	(EMPTY)	BARRIER
14	1	2"	211	(EMPTY)	BARRIER
15	1	2"	211	(EMPTY)	BARRIER
16	1	2"	210*	(EMPTY)	BARRIER

NOTE: SERVICE RUN DISTANCE REFLECTS CONDUIT LENGTH ONLY.  
 \* DISTANCE CONTINUES ON ADJACENT PLAN SHEET

**CROSS-REFERENCE NOTES:**

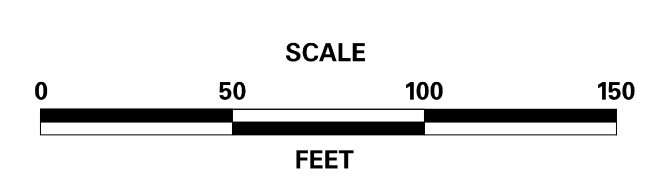
- SEE DWG. LI-04 FOR BARRIER DETAIL AT LOCATIONS FOR FUTURE LIGHTING STANDARDS.

**NOTES:**

- INSTALL CONDUIT FROM PROPOSED BARRIER MOUNTED JUNCTION BOX TO THE UNDERSIDE OF THE DECK AND ATTACH TO EXISTING 'LL' CONDULET FITTING. SEE DWG. LI-04 FOR SERVICE DETAIL AT PIER 9W.
- CONNECT EXISTING FEEDS FROM EXISTING METER AND PANELBOARD TO NEW POWER FEEDS IN PROPOSED BARRIER MOUNTED JUNCTION BOX. ELECTRICAL SPLICES TO BE PAID UNDER ITEM 832501 - SPLICING OF ELECTRICAL CABLE, ABOVEGROUND.

LIGHTING SYMBOL LEGEND	
SYMBOL	DESCRIPTION
JWB	PROPOSED LIGHTING JUNCTION BOX IN BARRIER
---	PROPOSED LIGHTING SERVICE RUN
SR X	PROPOSED SERVICE RUN IDENTIFIER
LS	FUTURE LIGHTING STANDARD IDENTIFIER

ADDENDA / REVISIONS



**REHABILITATION OF BRIDGES**  
 1-810, 1-811, 1-812  
 AND 1-813 ON I-495

CONTRACT T201707404	BRIDGE NO. <b>BR 1-813</b>
COUNTY NEW CASTLE	DESIGNED BY: AMG CHECKED BY: SPT

**LIGHTING PLAN**

LI-01
SECTION
TY
SHEET NO.
90

2/10/2020 T:\Dover\Projects\425025\06\600\_CADD\05\_Official\Plans\LI01\_BR1-813.dgn

WEBSITE LIGHTING PLAN - SPANS 15-23

UNOFFICIAL COPY

UNOFFICIAL

WEBSITE

LIGHTING SERVICE SCHEDULE					
SERVICE RUN	# OF CONDUITS	SIZE	DISTANCE (L.F.)	DESCRIPTION	INSTALLATION
8	1	2"	207*	(2)-#6, (1)-#6 GND	BARRIER
16	1	2"	210*	(EMPTY)	BARRIER
17	1	2"	208	(2)-#6, (1)-#6 GND	BARRIER
18	1	2"	42	(2)-#6, (1)-#6 GND	BARRIER
19	1	2"	123	(2)-#6, (1)-#6 GND	BARRIER
20	1	2"	9	(2)-#10, (1)-#10 GND	BARRIER
21	1	2"	41	(2)-#6, (1)-#6 GND	BARRIER
22	1	2"	161	(2)-#6, (1)-#6 GND	BARRIER
23	1	2"	52	(EMPTY)	BARRIER
24	1	2"	208	(EMPTY)	BARRIER
25	1	2"	206	(EMPTY)	BARRIER
26	1	2"	211	(EMPTY)	BARRIER
27	1	2"	217*	(EMPTY)	BARRIER
28	1	2"	210	(EMPTY)	BARRIER
29	1	2"	206	(EMPTY)	BARRIER
30	1	2"	61	(EMPTY)	BARRIER
31	1	2"	9	(2)-#10, (1)-#10 GND	BARRIER
32	1	2"	145	(EMPTY)	BARRIER
33	1	2"	213	(EMPTY)	BARRIER
34	1	2"	207	(EMPTY)	BARRIER
35	1	2"	212	(EMPTY)	BARRIER
36	1	2"	211	(EMPTY)	BARRIER
37	1	2"	211*	(EMPTY)	BARRIER

NOTE: SERVICE RUN DISTANCE REFLECTS CONDUIT LENGTH ONLY.  
\* DISTANCE CONTINUES ON ADJACENT PLAN SHEET

CROSS-REFERENCE NOTES:

- SEE DWG. LI-04 FOR BARRIER DETAIL AT LOCATIONS FOR FUTURE LIGHTING STANDARDS.

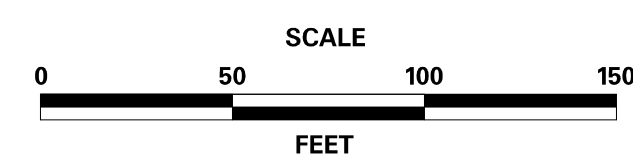
NOTES:

- INSTALL CONDUIT FROM PROPOSED BARRIER MOUNTED JUNCTION BOXES ALONG THE UNDERSIDE OF THE DECK AND CONNECT TO EXISTING CONDUIT.
- LOCATION OF PROPOSED BARRIER MOUNTED JUNCTION BOXES SUBJECT TO CHANGE DEPENDING ON ACTUAL LOCATION OF GIRDER-MOUNTED NAVIGATION LIGHTING BRACKET.
- CONNECT EXISTING FEEDS FROM FENDER NAVIGATION LIGHTS TO NEW POWER FEEDS IN PROPOSED BARRIER MOUNTED JUNCTION BOXES. ELECTRICAL SPLICES TO BE PAID UNDER ITEM 832501 - SPLICING OF ELECTRICAL CABLE, ABOVEGROUND.

LIGHTING SYMBOL LEGEND

SYMBOL	DESCRIPTION
JWB	PROPOSED LIGHTING JUNCTION BOX IN BARRIER
---	PROPOSED LIGHTING SERVICE RUN
SR X	PROPOSED SERVICE RUN IDENTIFIER
LS	FUTURE LIGHTING STANDARD IDENTIFIER

ADDENDA / REVISIONS

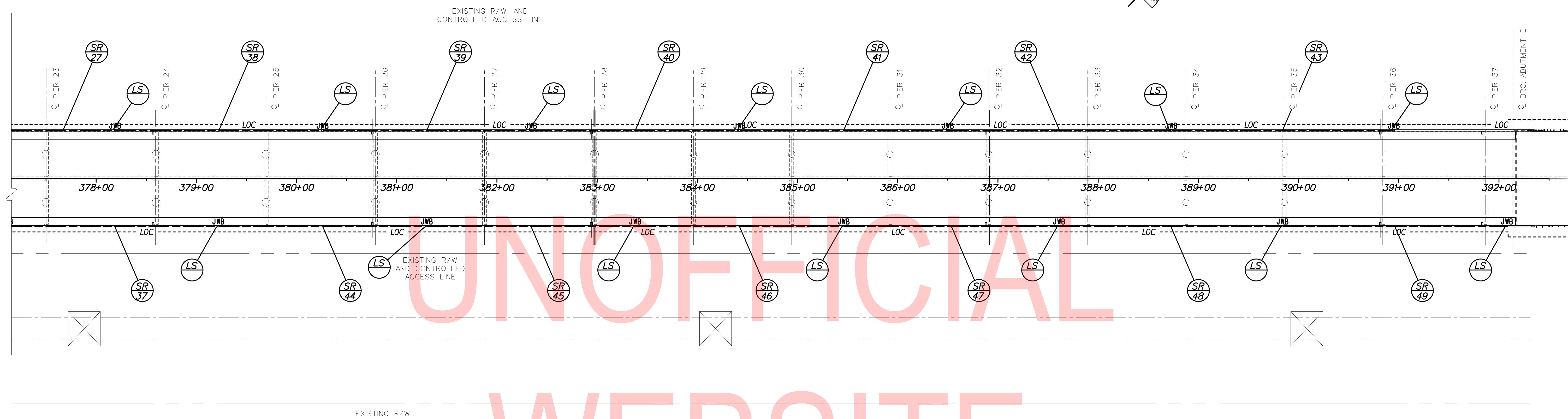
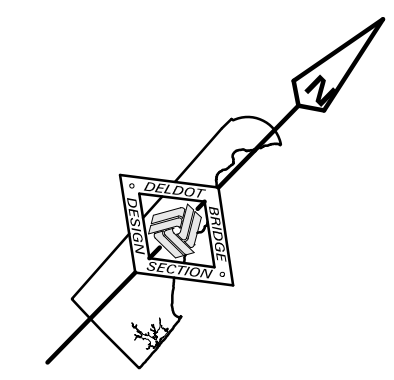


REHABILITATION OF BRIDGES  
1-810, 1-811, 1-812  
AND 1-813 ON I-495

CONTRACT	BRIDGE NO.	BR 1-813
T201707404	DESIGNED BY:	AMG
COUNTY	CHECKED BY:	SPT
NEW CASTLE		

LIGHTING PLAN

LI-02
SECTION
TY
SHEET NO.
91



**LIGHTING PLAN - SPANS 24-38**

**LIGHTING SERVICE SCHEDULE**

SERVICE RUN	# OF CONDUITS	SIZE	DISTANCE (L.F.)	DESCRIPTION	INSTALLATION
27	1	2"	217*	(EMPTY)	BARRIER
37	1	2"	211*	(EMPTY)	BARRIER
38	1	2"	207	(EMPTY)	BARRIER
39	1	2"	208	(EMPTY)	BARRIER
40	1	2"	208	(EMPTY)	BARRIER
41	1	2"	208	(EMPTY)	BARRIER
42	1	2"	223	(EMPTY)	BARRIER
43	1	2"	222	(EMPTY)	BARRIER
44	1	2"	208	(EMPTY)	BARRIER
45	1	2"	208	(EMPTY)	BARRIER
46	1	2"	208	(EMPTY)	BARRIER
47	1	2"	215	(EMPTY)	BARRIER
48	1	2"	223	(EMPTY)	BARRIER
49	1	2"	224	(EMPTY)	BARRIER

NOTE: SERVICE RUN DISTANCE REFLECTS CONDUIT LENGTH ONLY.  
 \* DISTANCE CONTINUES ON ADJACENT PLAN SHEET

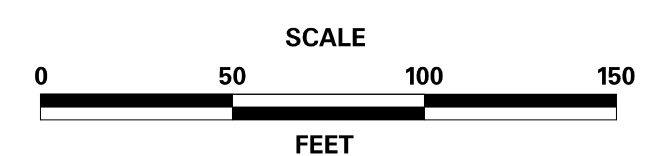
**CROSS-REFERENCE NOTES:**

- SEE DWG. LI-04 FOR BARRIER DETAIL AT LOCATIONS FOR FUTURE LIGHTING STANDARDS.

**LIGHTING SYMBOL LEGEND**

SYMBOL	DESCRIPTION
JWB	PROPOSED LIGHTING JUNCTION BOX IN BARRIER
---	PROPOSED LIGHTING SERVICE RUN
SR X	PROPOSED SERVICE RUN IDENTIFIER
LS	FUTURE LIGHTING STANDARD IDENTIFIER

ADDENDA / REVISIONS



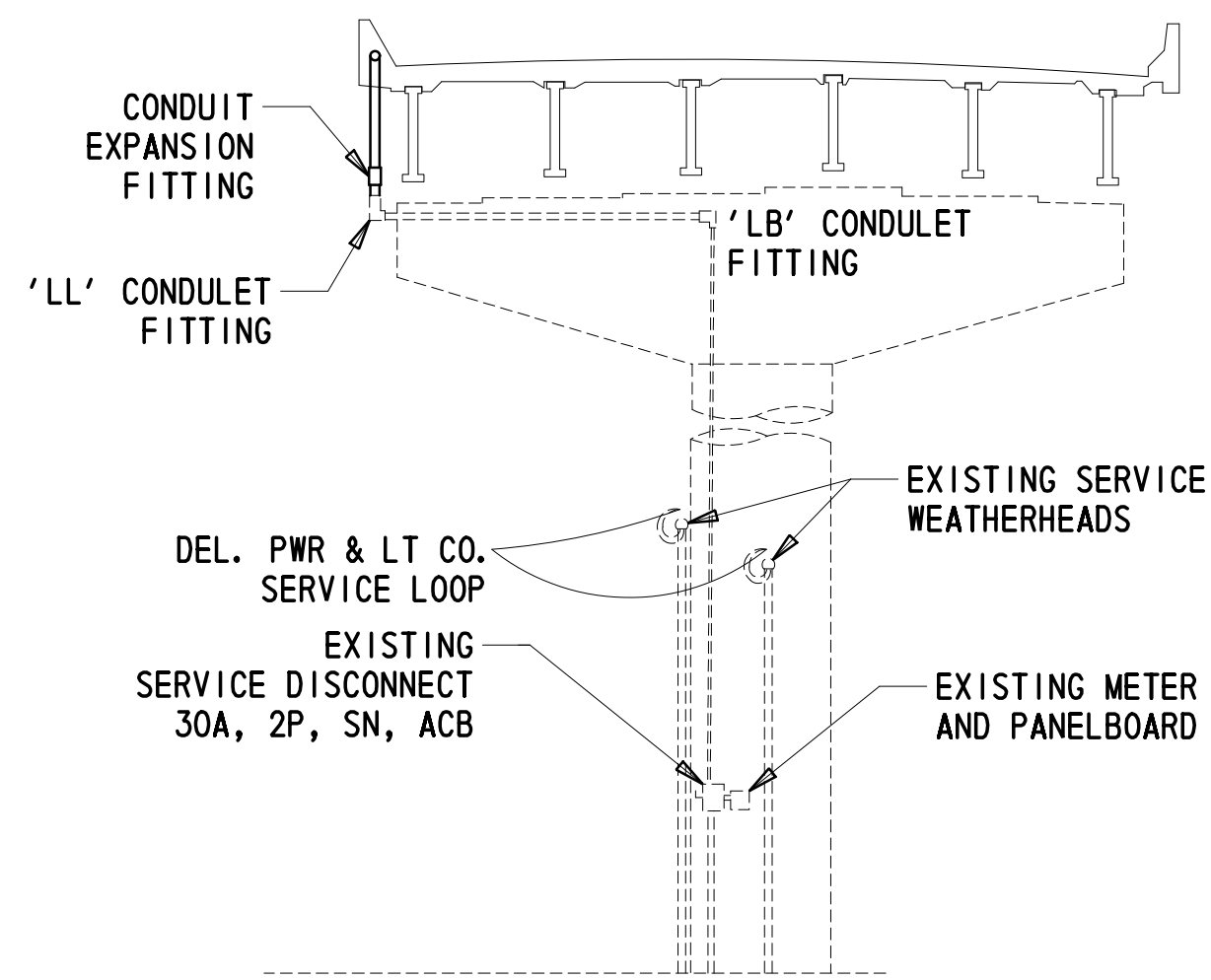
**REHABILITATION OF BRIDGES  
 1-810, 1-811, 1-812  
 AND 1-813 ON I-495**

CONTRACT	BRIDGE NO.	<b>BR 1-813</b>
T201707404	DESIGNED BY:	AMG
COUNTY	CHECKED BY:	SPT
NEW CASTLE		

**LIGHTING PLAN**

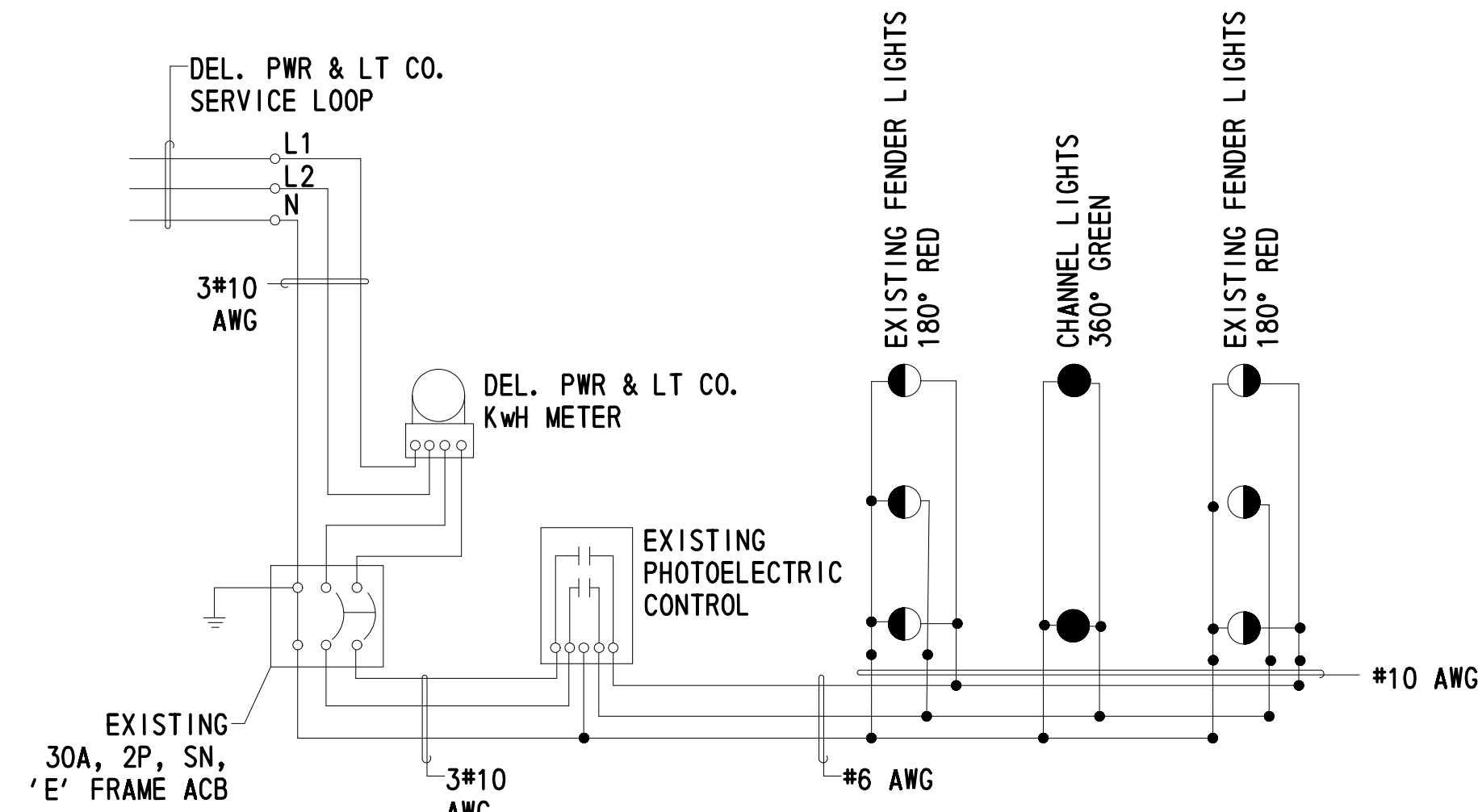
LI-03
SECTION
TY
SHEET NO.
92

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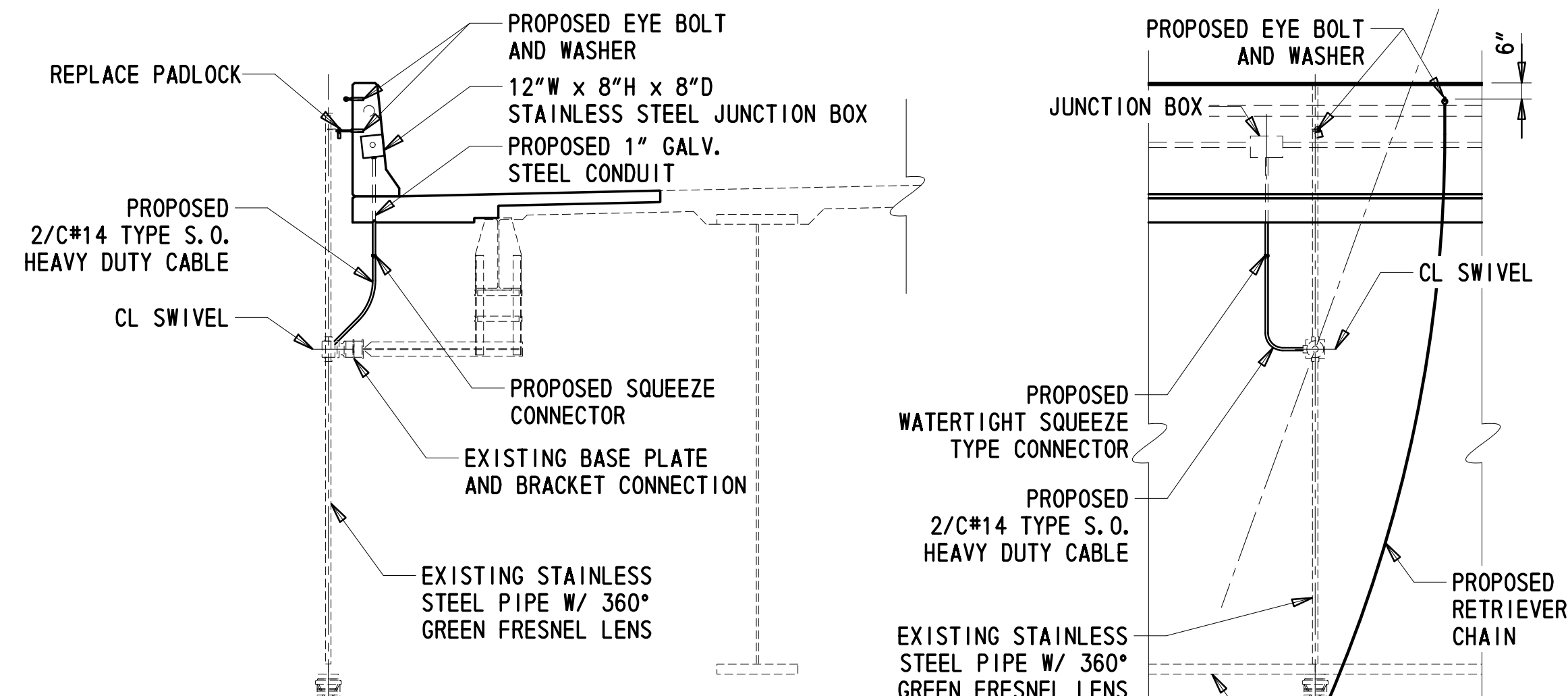


**SERVICE DETAIL AT PIER 9W**

NTS  
NOTE:  
CONDUIT FITTINGS TO BE ACCESSIBLE FROM TOP OF PIER.



**NAVIGATION LIGHTS SCHEMATIC DIAGRAM**

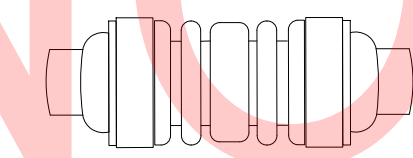


**NAVIGATION LIGHTS**

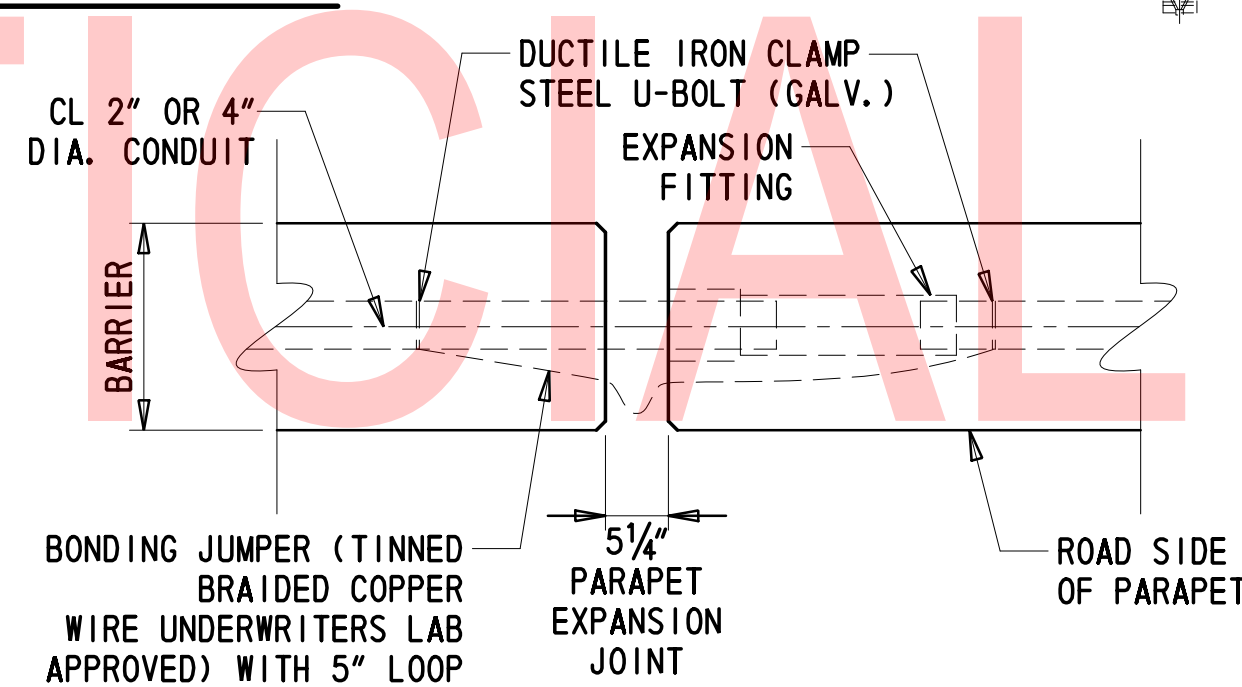
1/4" = 1'-0"

- NOTES:
- CENTER CHANNEL LIGHT ON NORTHBOUND AND SOUTHBOUND SIDES OF BRIDGE SHALL BE SALVAGED AND REINSTALLED AFTER RECONSTRUCTION OF DECK OVERHANG AND BARRIER. ANY DAMAGE TO THE NAVIGATION LIGHTS DURING REMOVAL AND REINSTALLATION, AT THE DISCRETION OF THE ENGINEER, SHALL BE REPAIRED AND/OR REPLACED AT THE CONTRACTOR'S EXPENSE.
  - FENDER CHANNEL MARGIN LIGHTS ARE EXISTING TO REMAIN. MAINTAIN INTEGRITY OF CONDUIT AND CONDUCTORS DURING CONSTRUCTION.
  - THE CONTRACTOR SHALL MAINTAIN A COMPLETE FUNCTIONAL CHANNEL NAVIGATIONAL LIGHTING SYSTEM DURING ENTIRE CONSTRUCTION PERIOD. PAYMENT SHALL BE INCIDENTAL TO ITEM 763522.
  - LIGHTING JUNCTION BOXES SHALL BE 12"W x 8"H x 8"D DEEP, NEMA 4X, STAINLESS STEEL.

**EXPANSION/DEFLECTION COUPLING**

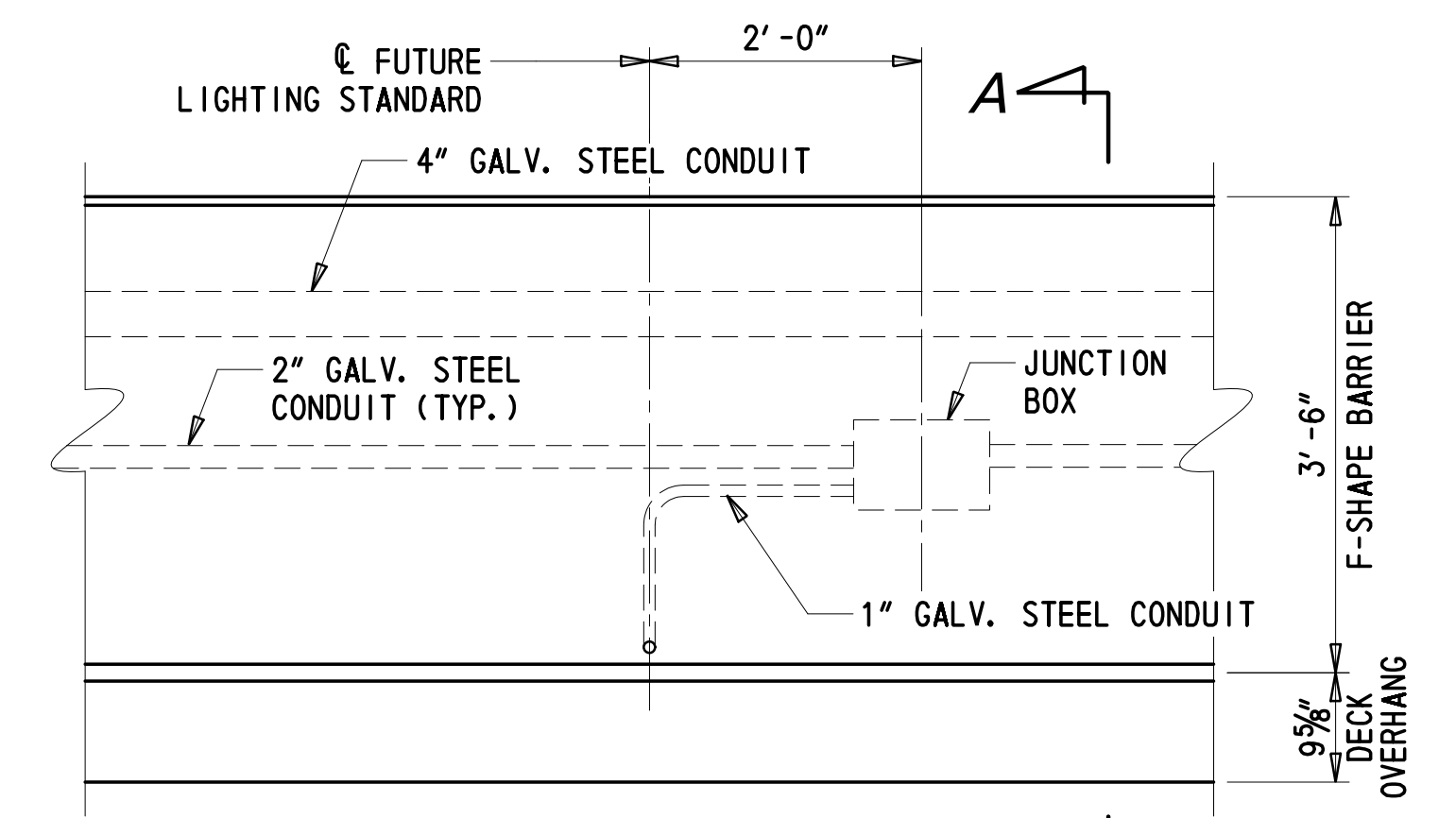


- NTS
- ELECTRICAL CONTRACTOR TO RUN CIRCUIT FOR LIGHTING FROM THE JUNCTION WELL TO THE BRIDGE EXPANSION/DEFLECTION COUPLING PRIOR TO ENTERING BARRIER CONDUIT FITTING. BASIS OF DESIGN IS THOMAS AND BETTS XD1NM-TB NON METALLIC EXPANSION/DEFLECTION COUPLING OR APPROVED EQUAL. CONNECTION SHALL BE WATERTIGHT. (TYPICAL)

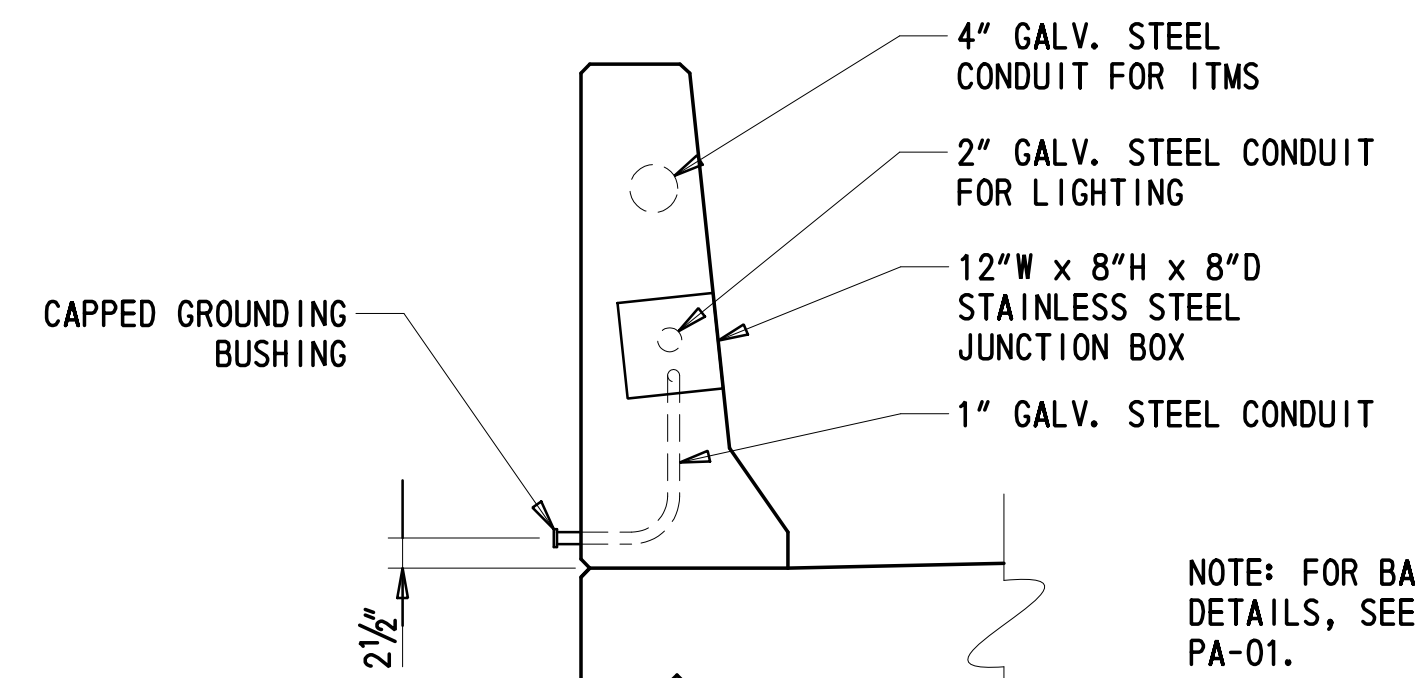


**BARRIER CONDUIT EXPANSION JOINT**

NTS  
PAYMENT FOR BARRIER CONDUIT EXPANSION JOINT SHALL BE INCIDENTAL TO ITEM NO. 610008.



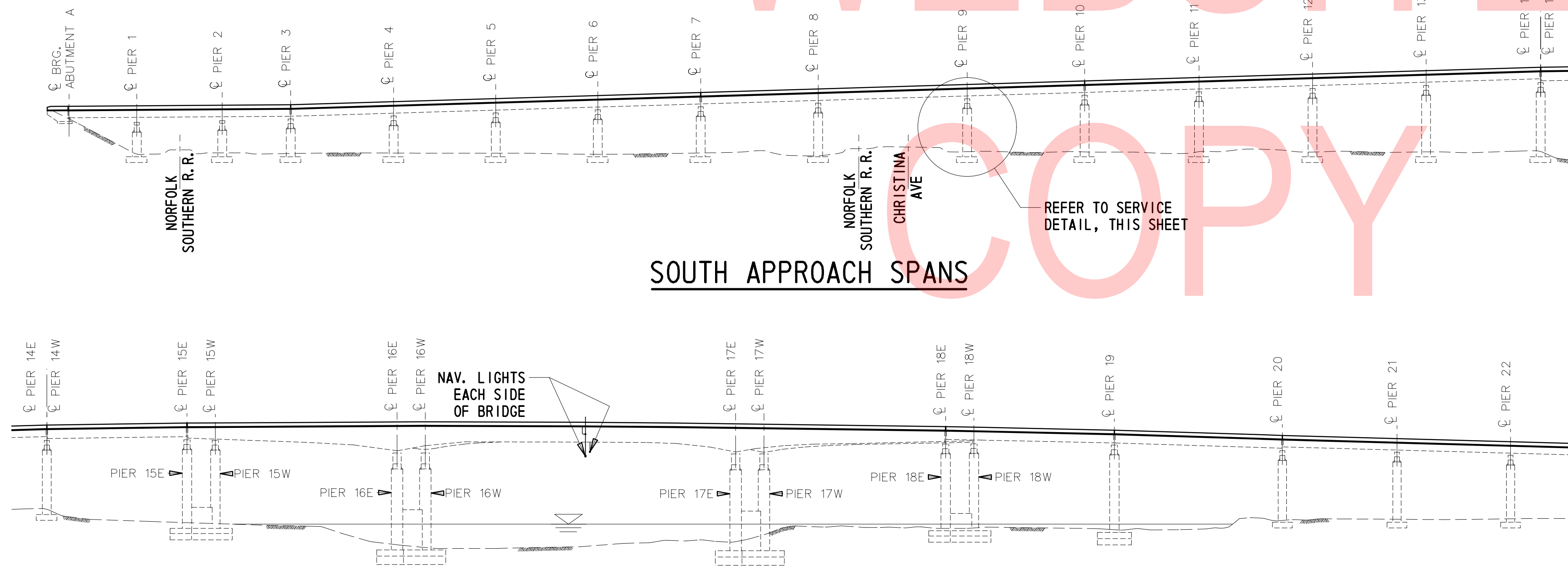
**ELEVATION**



**SECTION A-A**

**JUNCTION BOX AT LIGHTING STANDARD**

1" = 1'-0"



**SOUTH APPROACH SPANS**

**MAIN SPANS**

NOTE:  
FOR PLAN VIEW AND CONDUIT RUN SCHEDULE, SEE DWGS. LI-01 TO LI-03.

ADDENDA / REVISIONS

SCALE AS NOTED

REHABILITATION OF BRIDGES  
1-810, 1-811, 1-812  
AND 1-813 ON I-495

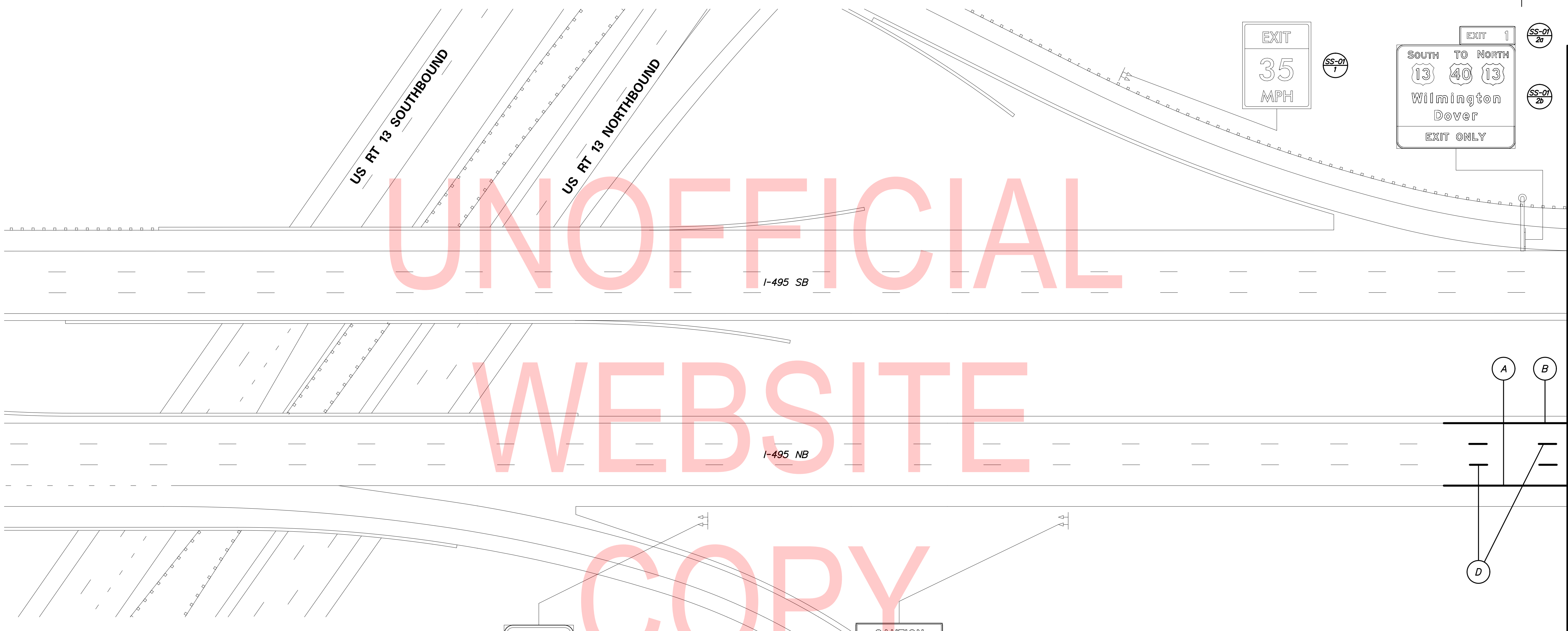
CONTRACT T201707404	BRIDGE NO. BR 1-813
COUNTY NEW CASTLE	DESIGNED BY: AMG CHECKED BY: SPT

BRIDGE LIGHTING  
DETAILS

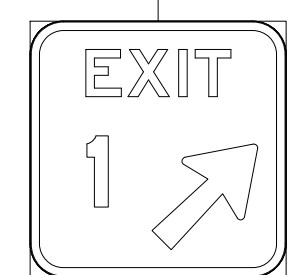
LI-04
SECTION TY
SHEET NO. 93

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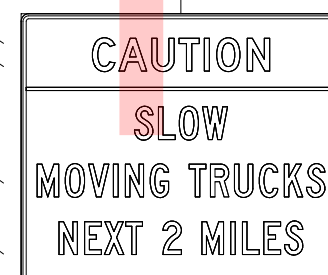
UNOFFICIAL  
WEBSITE  
COPY



PAVEMENT MARKINGS LEGEND		
SYMBOL	ITEM	QUANTITY
A	EPOXY RESIN PAINT PAVEMENT STRIPING, WHITE 5" SOLID (ITEM 817013)	24,290 LF
	EPOXY RESIN PAINT PAVEMENT STRIPING, BLACK 3" SOLID (ITEM 817018)	24,290 LF
B	EPOXY RESIN PAINT PAVEMENT STRIPING, YELLOW 5" SOLID (ITEM 817013)	20,554 LF
C	EPOXY RESIN PAINT PAVEMENT STRIPING, WHITE/BLACK 8" DOTTED - 3' LINE & 9' GAP (ITEM 817022)	258 LF
D	EPOXY RESIN PAINT PAVEMENT STRIPING, WHITE 8" BROKEN - 10' LINE & 30' GAP (ITEM 817022)	10,640 LF



SS-01  
3

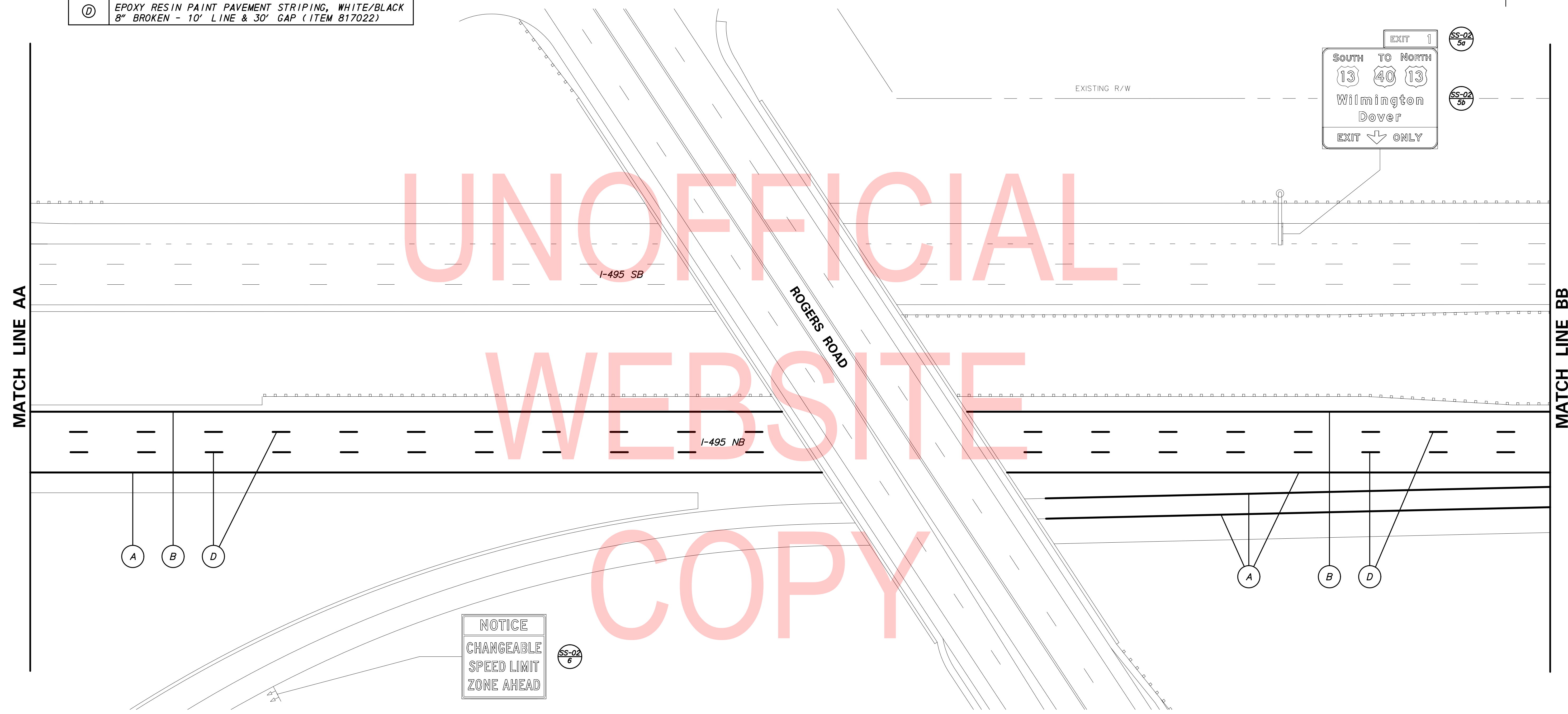
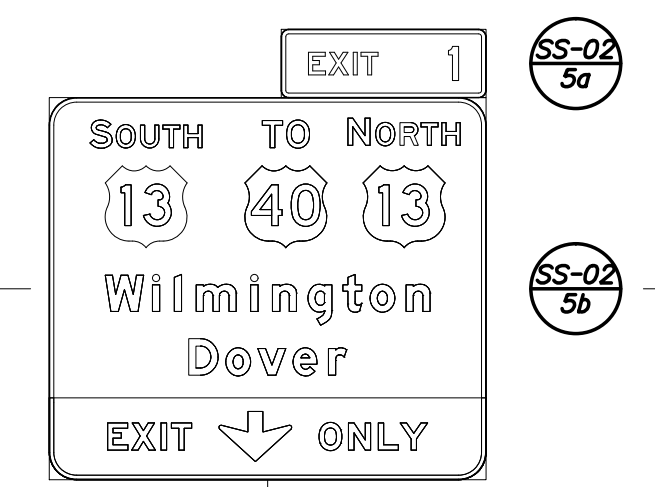
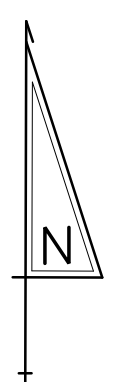


SS-01  
4

MATCH LINE AA

ADDENDA / REVISIONS			<b>REHABILITATION OF BRIDGES</b> 1-810, 1-811, 1-812 AND 1-813 ON I-495	CONTRACT	BRIDGE NO.	<b>SIGNING, STRIPING &amp; CONDUIT PLAN</b>	SS-01
				T201707404	DESIGNED BY: JWS		SECTION
		NEW CASTLE	CHECKED BY: DJC	SHEET NO.	94		

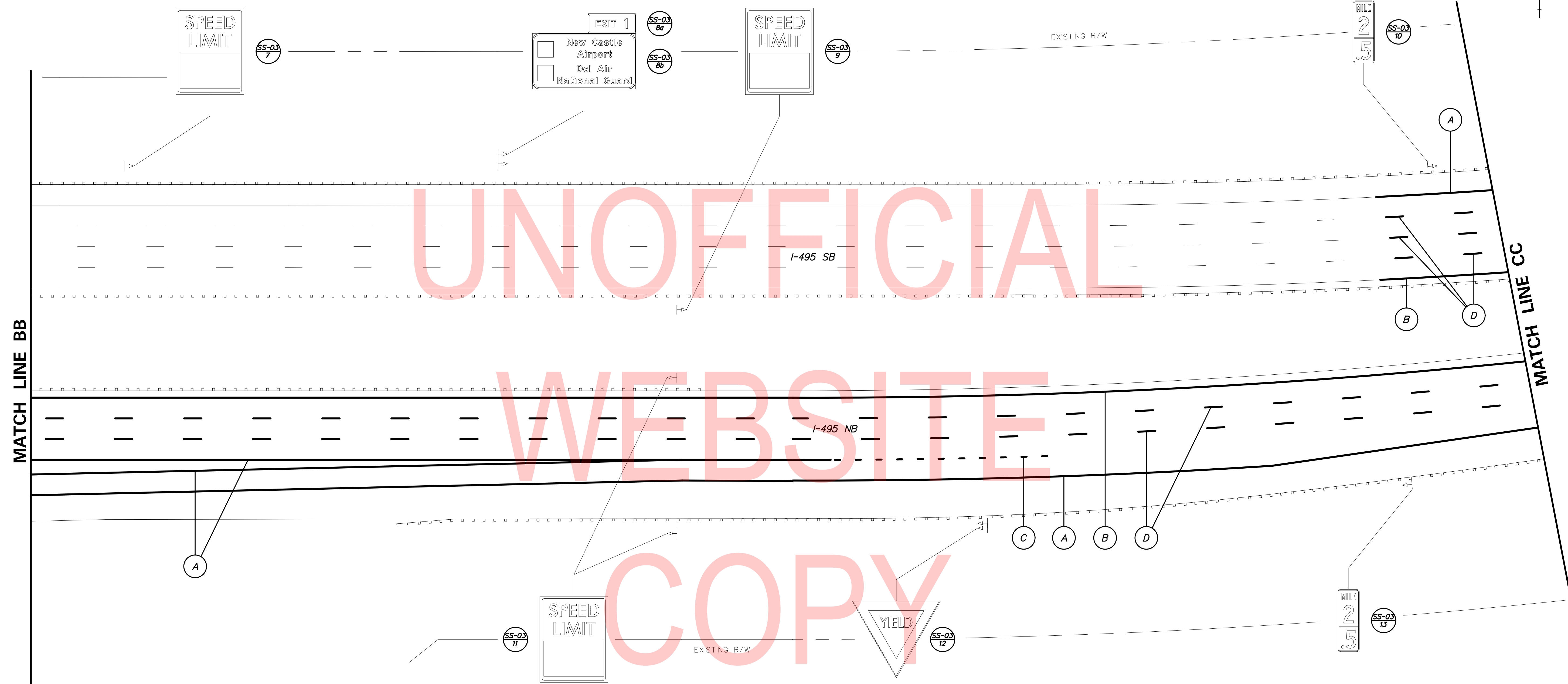
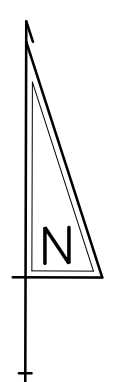
PAVEMENT MARKINGS LEGEND	
SYMBOL	ITEM
(A)	EPOXY RESIN PAINT PAVEMENT STRIPING, WHITE 5" SOLID (ITEM 817013)
(B)	EPOXY RESIN PAINT PAVEMENT STRIPING, BLACK 5" SOLID (ITEM 817018)
(C)	EPOXY RESIN PAINT PAVEMENT STRIPING, YELLOW 5" SOLID (ITEM 817013)
(D)	EPOXY RESIN PAINT PAVEMENT STRIPING, WHITE/BLACK 8" BROKEN - 10' LINE & 30' GAP (ITEM 817022)



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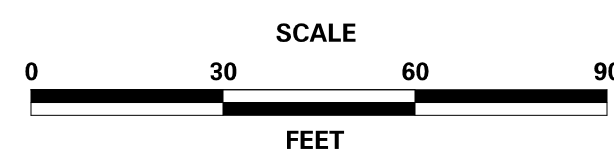
2/10/2020 T:\Dover\Projects\425025\06\600\_CADD\05\_Official\Plans\SS02.dgn

<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;">ADDENDA / REVISIONS</th> </tr> </thead> <tbody> <tr><td> </td></tr> <tr><td> </td></tr> <tr><td> </td></tr> <tr><td> </td></tr> </tbody> </table>	ADDENDA / REVISIONS					<p>SCALE 0 30 60 90 FEET</p>	<p><b>REHABILITATION OF BRIDGES</b> 1-810, 1-811, 1-812 AND 1-813 ON I-495</p>	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td>CONTRACT T201707404</td> <td>BRIDGE NO.</td> </tr> <tr> <td>COUNTY NEW CASTLE</td> <td>DESIGNED BY: JWS CHECKED BY: DJC</td> </tr> </table>	CONTRACT T201707404	BRIDGE NO.	COUNTY NEW CASTLE	DESIGNED BY: JWS CHECKED BY: DJC	<p><b>SIGNING, STRIPING &amp; CONDUIT PLAN</b></p>	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td>SS-02</td> </tr> <tr> <td>SECTION TY</td> </tr> <tr> <td>SHEET NO. 95</td> </tr> </table>	SS-02	SECTION TY	SHEET NO. 95
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CONTRACT T201707404	BRIDGE NO.																
COUNTY NEW CASTLE	DESIGNED BY: JWS CHECKED BY: DJC																
SS-02																	
SECTION TY																	
SHEET NO. 95																	



PAVEMENT MARKINGS LEGEND	
SYMBOL	ITEM
A	EPOXY RESIN PAINT PAVEMENT STRIPING, WHITE 5" SOLID (ITEM 817013)
	EPOXY RESIN PAINT PAVEMENT STRIPING, BLACK 5" SOLID (ITEM 817018)
B	EPOXY RESIN PAINT PAVEMENT STRIPING, YELLOW 5" SOLID (ITEM 817013)
C	EPOXY RESIN PAINT PAVEMENT STRIPING, WHITE/BLACK 8" BROKEN - 3' LINE & 9' GAP (ITEM 817022)
D	EPOXY RESIN PAINT PAVEMENT STRIPING, WHITE/BLACK 8" BROKEN - 10' LINE & 30' GAP (ITEM 817022)

ADDENDA / REVISIONS



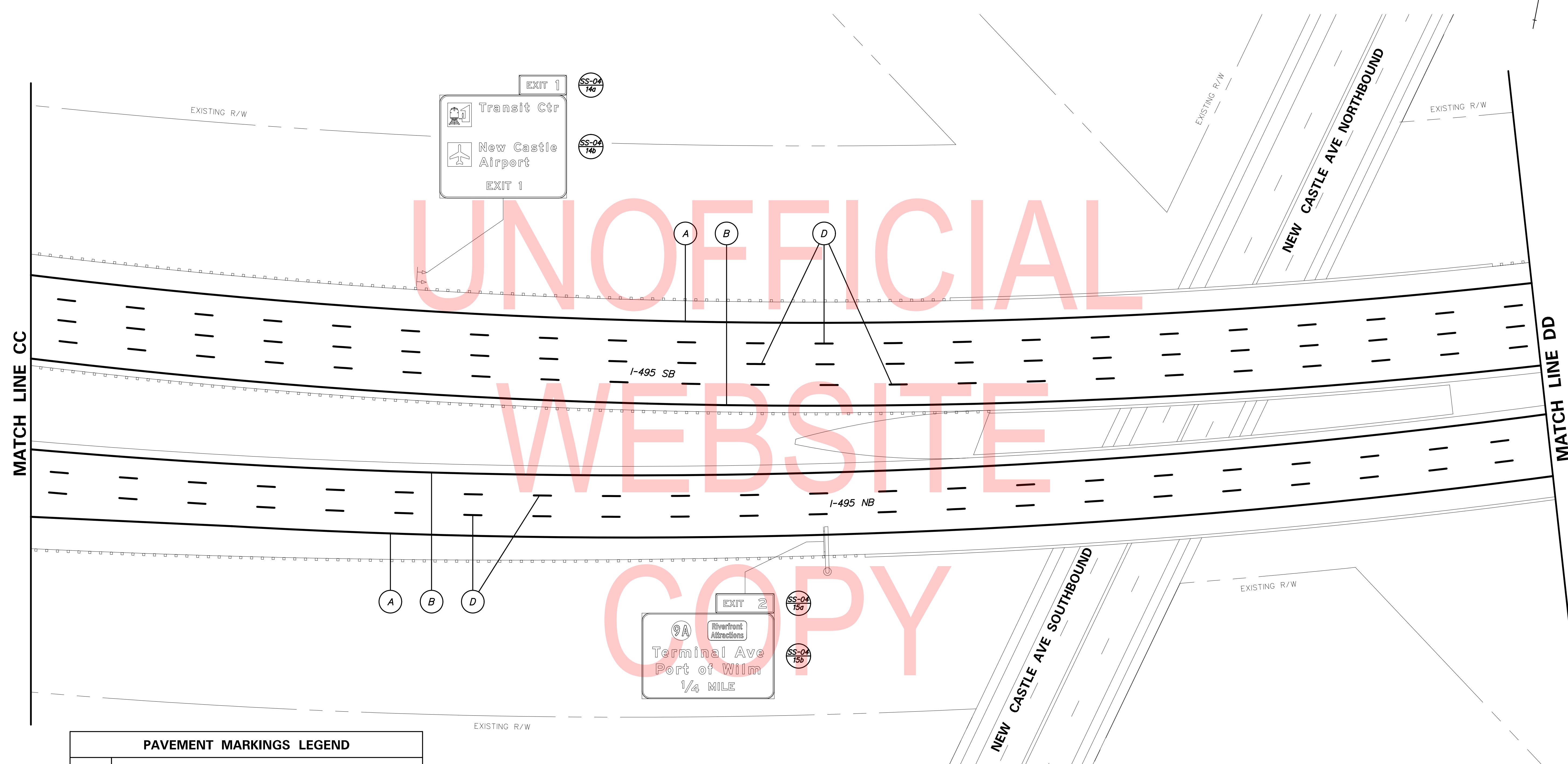
**REHABILITATION OF BRIDGES  
1-810, 1-811, 1-812  
AND 1-813 ON I-495**

CONTRACT T201707404	BRIDGE NO.
COUNTY NEW CASTLE	DESIGNED BY: JWS
	CHECKED BY: DJC

**SIGNING, STRIPING  
& CONDUIT PLAN**

SS-03
SECTION TY
SHEET NO. 96

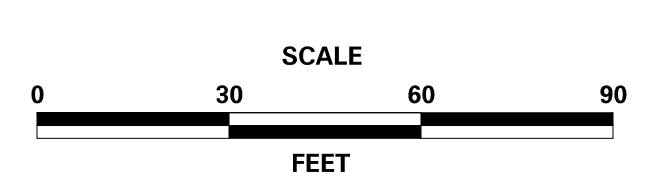




UNOFFICIAL  
WEBSITE  
COPY

PAVEMENT MARKINGS LEGEND	
SYMBOL	ITEM
A	EPOXY RESIN PAINT PAVEMENT STRIPING, WHITE 5" SOLID (ITEM 817013)
	EPOXY RESIN PAINT PAVEMENT STRIPING, BLACK 5" SOLID (ITEM 817018)
B	EPOXY RESIN PAINT PAVEMENT STRIPING, YELLOW 5" SOLID (ITEM 817013)
D	EPOXY RESIN PAINT PAVEMENT STRIPING, WHITE/BLACK 8" BROKEN - 10' LINE & 30' GAP (ITEM 817022)

ADDENDA / REVISIONS



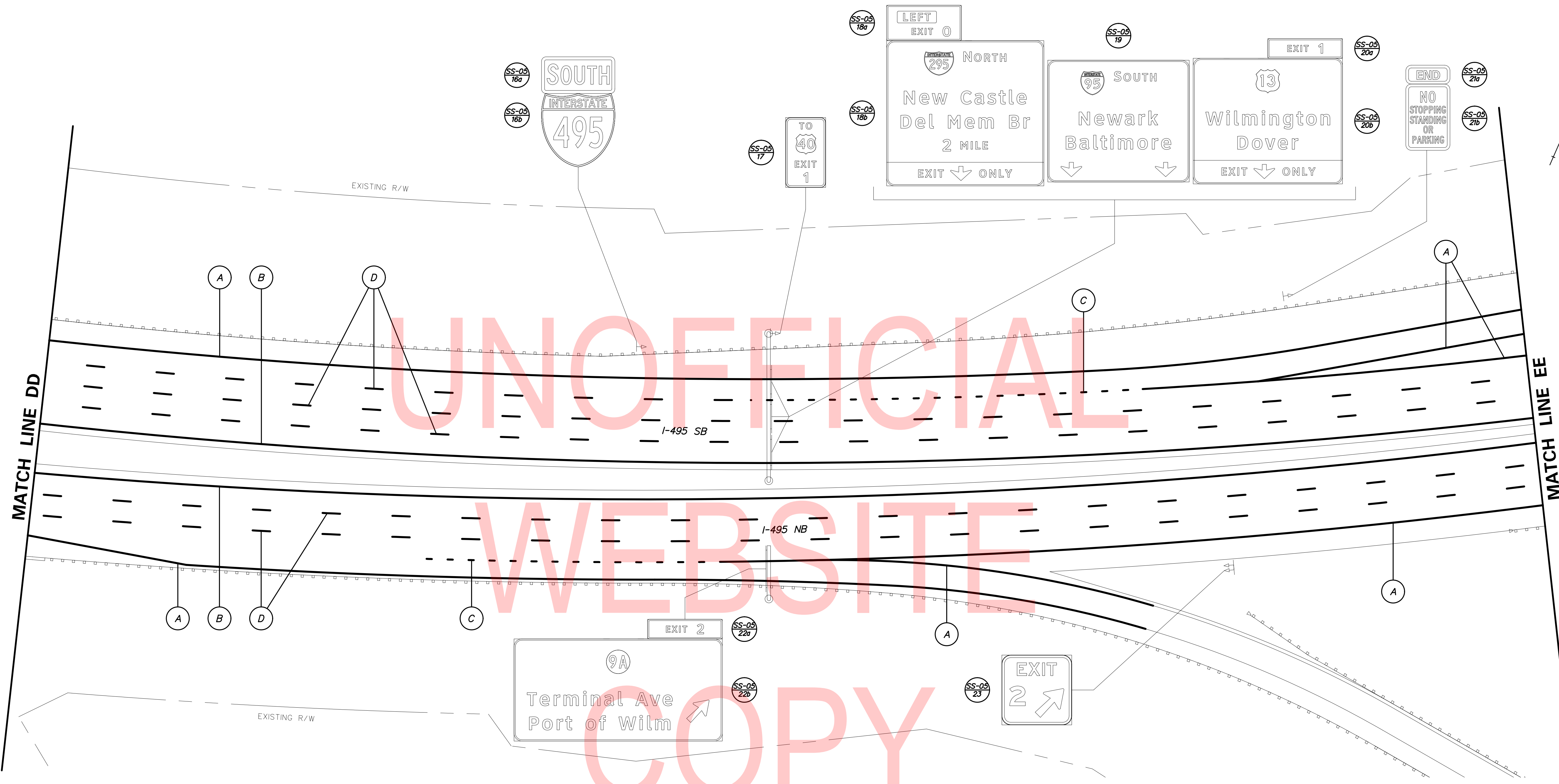
**REHABILITATION OF BRIDGES**  
1-810, 1-811, 1-812  
AND 1-813 ON I-495

CONTRACT T201707404	BRIDGE NO.
COUNTY NEW CASTLE	DESIGNED BY: JWS
	CHECKED BY: DJC

**SIGNING, STRIPING  
& CONDUIT PLAN**

SS-04
SECTION
TY
SHEET NO.
97

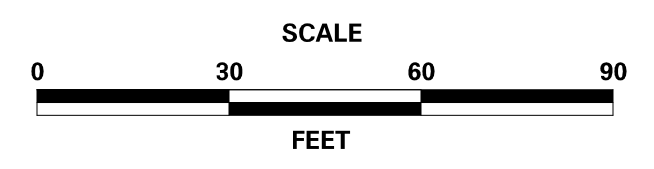
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UNOFFICIAL  
WEBSITE  
COPY

PAVEMENT MARKINGS LEGEND	
SYMBOL	ITEM
A	EPOXY RESIN PAINT PAVEMENT STRIPING, WHITE 5" SOLID (ITEM 817013)
	EPOXY RESIN PAINT PAVEMENT STRIPING, BLACK 5" SOLID (ITEM 817018)
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D	EPOXY RESIN PAINT PAVEMENT STRIPING, WHITE/BLACK 8" BROKEN - 10' LINE & 30' GAP (ITEM 817022)

ADDENDA / REVISIONS



**REHABILITATION OF BRIDGES**  
1-810, 1-811, 1-812  
AND 1-813 ON I-495

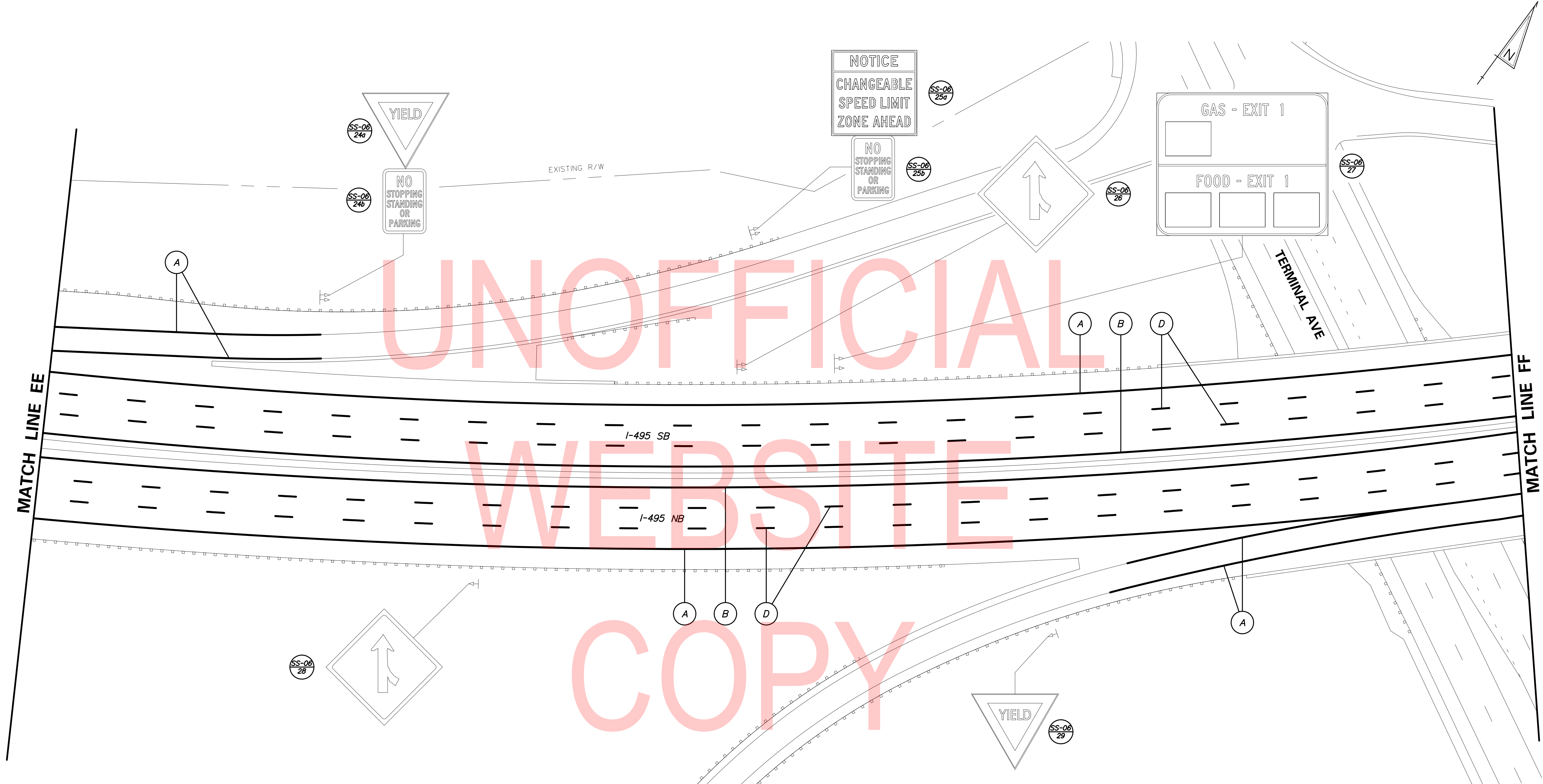
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COUNTY NEW CASTLE	DESIGNED BY: JWS
	CHECKED BY: DJC

**SIGNING, STRIPING  
& CONDUIT PLAN**

SS-05
SECTION TY
SHEET NO. 98

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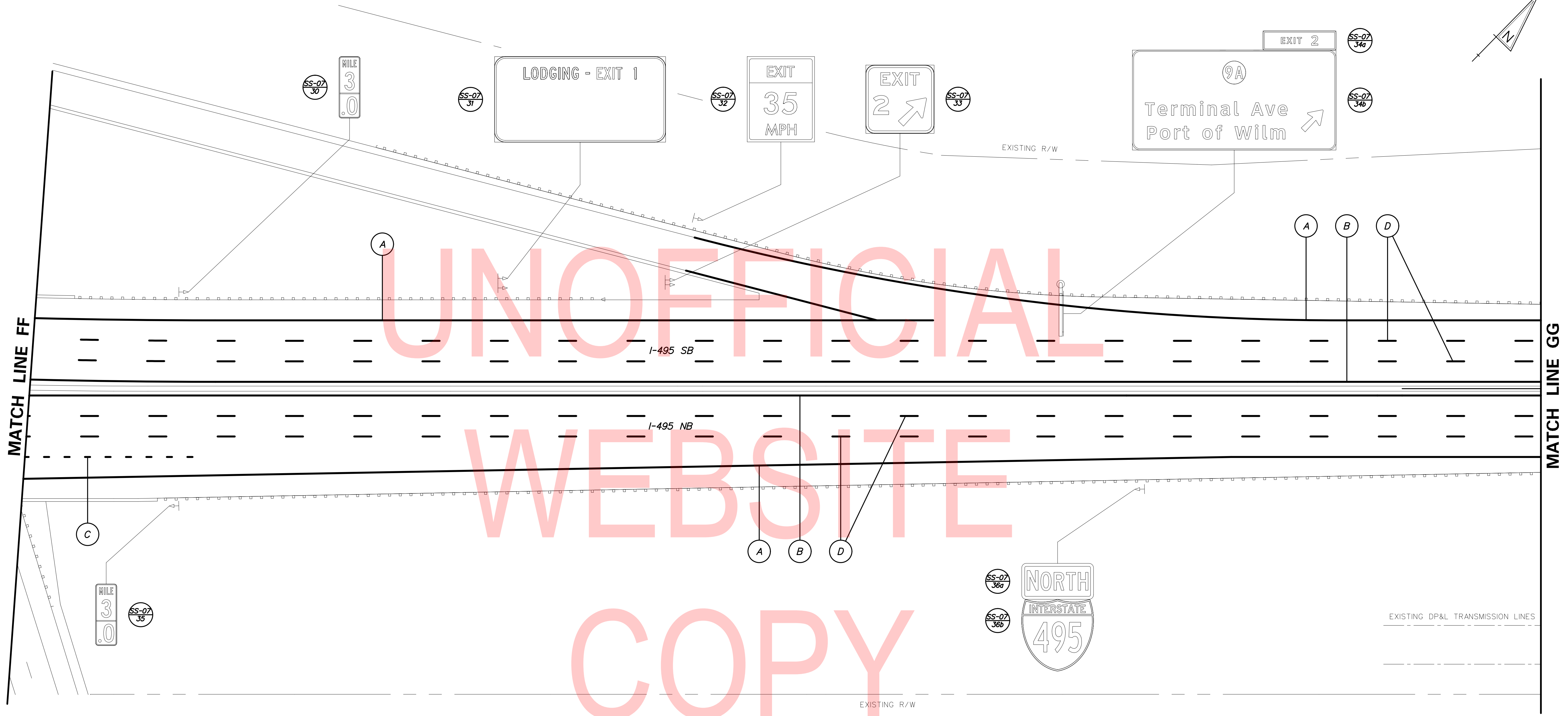
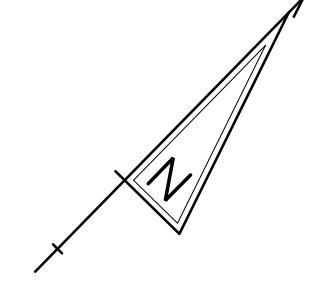
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UNOFFICIAL  
WEBSITE  
COPY

PAVEMENT MARKINGS LEGEND	
SYMBOL	ITEM
A	EPOXY RESIN PAINT PAVEMENT STRIPING, WHITE 5" SOLID (ITEM 817013)
	EPOXY RESIN PAINT PAVEMENT STRIPING, BLACK 5" SOLID (ITEM 817018)
B	EPOXY RESIN PAINT PAVEMENT STRIPING, YELLOW 5" SOLID (ITEM 817013)
D	EPOXY RESIN PAINT PAVEMENT STRIPING, WHITE/BLACK 8" BROKEN - 10' LINE & 30' GAP (ITEM 817022)

<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;">ADDENDA / REVISIONS</th> </tr> </thead> <tbody> <tr><td> </td></tr> <tr><td> </td></tr> <tr><td> </td></tr> </tbody> </table>	ADDENDA / REVISIONS				<p>SCALE</p> <p>FEET</p>	<p><b>REHABILITATION OF BRIDGES</b> 1-810, 1-811, 1-812 AND 1-813 ON I-495</p>	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td>CONTRACT T201707404</td> <td>BRIDGE NO.</td> </tr> <tr> <td>COUNTY NEW CASTLE</td> <td>DESIGNED BY: JWS CHECKED BY: DJC</td> </tr> </table>	CONTRACT T201707404	BRIDGE NO.	COUNTY NEW CASTLE	DESIGNED BY: JWS CHECKED BY: DJC	<p><b>SIGNING, STRIPING &amp; CONDUIT PLAN</b></p>	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td>SS-06</td></tr> <tr><td>SECTION</td></tr> <tr><td>TY</td></tr> <tr><td>SHEET NO.</td></tr> <tr><td>99</td></tr> </table>	SS-06	SECTION	TY	SHEET NO.	99
ADDENDA / REVISIONS																		
CONTRACT T201707404	BRIDGE NO.																	
COUNTY NEW CASTLE	DESIGNED BY: JWS CHECKED BY: DJC																	
SS-06																		
SECTION																		
TY																		
SHEET NO.																		
99																		

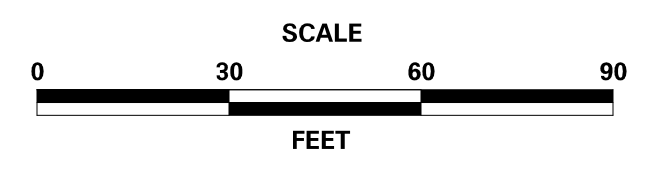


MATCH LINE FF

MATCH LINE GG

PAVEMENT MARKINGS LEGEND	
SYMBOL	ITEM
A	EPOXY RESIN PAINT PAVEMENT STRIPING, WHITE 5" SOLID (ITEM 817013)
	EPOXY RESIN PAINT PAVEMENT STRIPING, BLACK 5" SOLID (ITEM 817018)
B	EPOXY RESIN PAINT PAVEMENT STRIPING, YELLOW 5" SOLID (ITEM 817013)
C	EPOXY RESIN PAINT PAVEMENT STRIPING, WHITE/BLACK 8" BROKEN - 3' LINE & 9' GAP (ITEM 817022)
D	EPOXY RESIN PAINT PAVEMENT STRIPING, WHITE/BLACK 8" BROKEN - 10' LINE & 30' GAP (ITEM 817022)

ADDENDA / REVISIONS



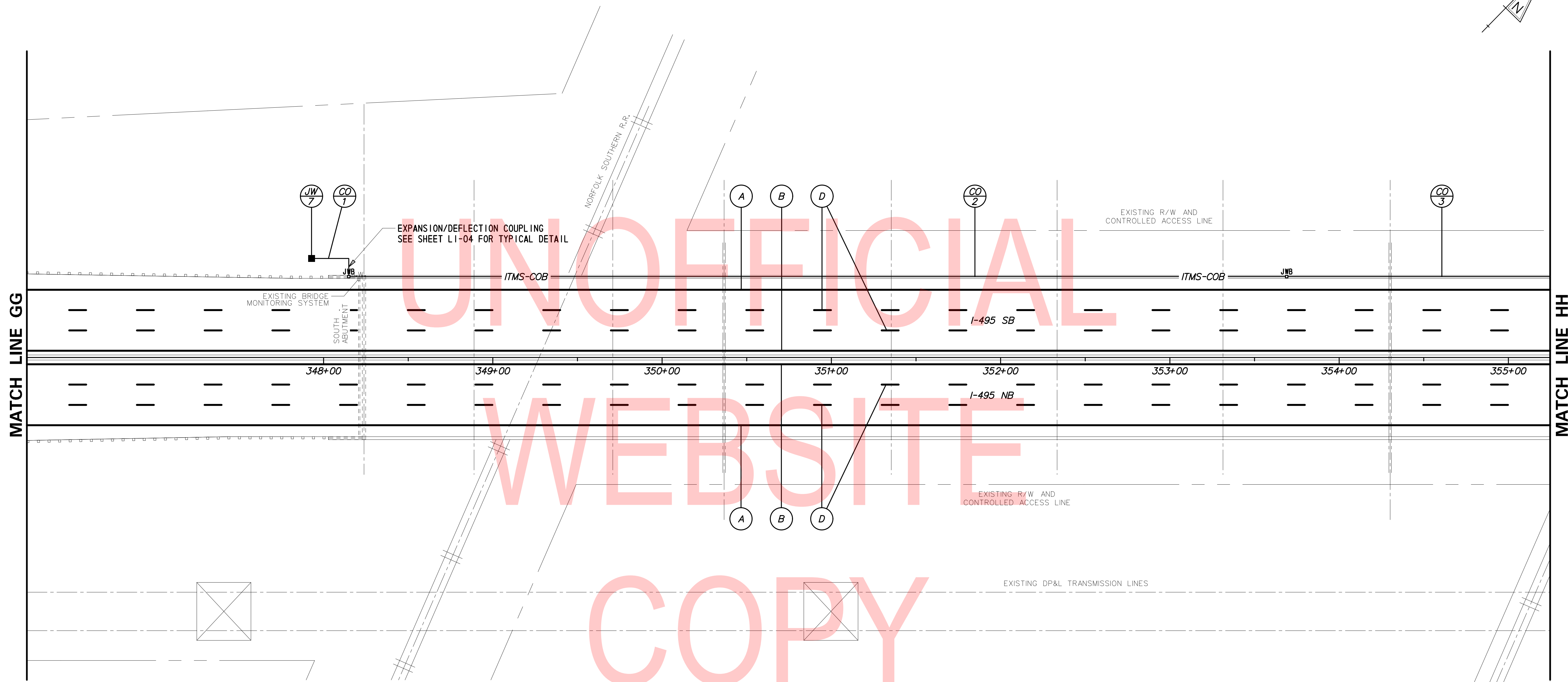
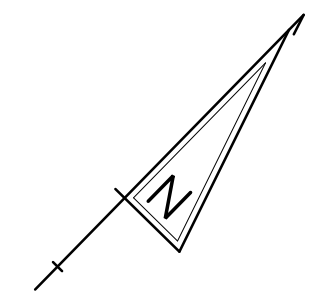
**REHABILITATION OF BRIDGES  
1-810, 1-811, 1-812  
AND 1-813 ON I-495**

CONTRACT T201707404	BRIDGE NO.
COUNTY NEW CASTLE	DESIGNED BY: JWS
	CHECKED BY: DJC

**SIGNING, STRIPING  
& CONDUIT PLAN**

SS-07
SECTION TY
SHEET NO. 100

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WEBSITE  
COPY

NOTE: HAVE PROPOSED ITMS CONDUIT TIE INTO EXISTING BRIDGE MONITORING SYSTEM LOCATED IN SOUTHWEST CORNER OF BRIDGE APPROACH ON SB BRIDGE.

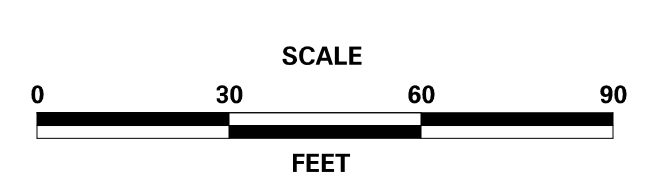
PAVEMENT MARKINGS LEGEND	
SYMBOL	ITEM
Ⓐ	EPOXY RESIN PAINT PAVEMENT STRIPING, WHITE 5" SOLID (ITEM 817013)
	EPOXY RESIN PAINT PAVEMENT STRIPING, BLACK 5" SOLID (ITEM 817018)
Ⓑ	EPOXY RESIN PAINT PAVEMENT STRIPING, YELLOW 5" SOLID (ITEM 817013)
Ⓓ	EPOXY RESIN PAINT PAVEMENT STRIPING, WHITE/BLACK 8" BROKEN - 10' LINE & 30' GAP (ITEM 817022)

ITMS CONDUIT RUN SCHEDULE					
CO	# OF CONDUITS	SIZE	LENGTH	E/T	AMOUNT AND TYPE OF CABLE / WIRE
1**	1	4.0"	32'	T	EMPTY
2	1	4.0"	555'	E	EMPTY
3	1	4.0"	550'*	E	EMPTY

\* CONDUIT RUN CONTINUES ON ADJACENT SHEET  
 \*\* PROPOSE SCHEDULE 80 PVC  
 E = EMBED  
 T = TRENCH

CONDUIT SYMBOL LEGEND	
SYMBOL	DESCRIPTION
- ITMS-COB -	PROPOSED ITMS CONDUIT RUN
Ⓒ	PROPOSED CONDUIT RUN IDENTIFIER
JWB	PROPOSED CONDUIT JUNCTION BOX IN BARRIER

ADDENDA / REVISIONS



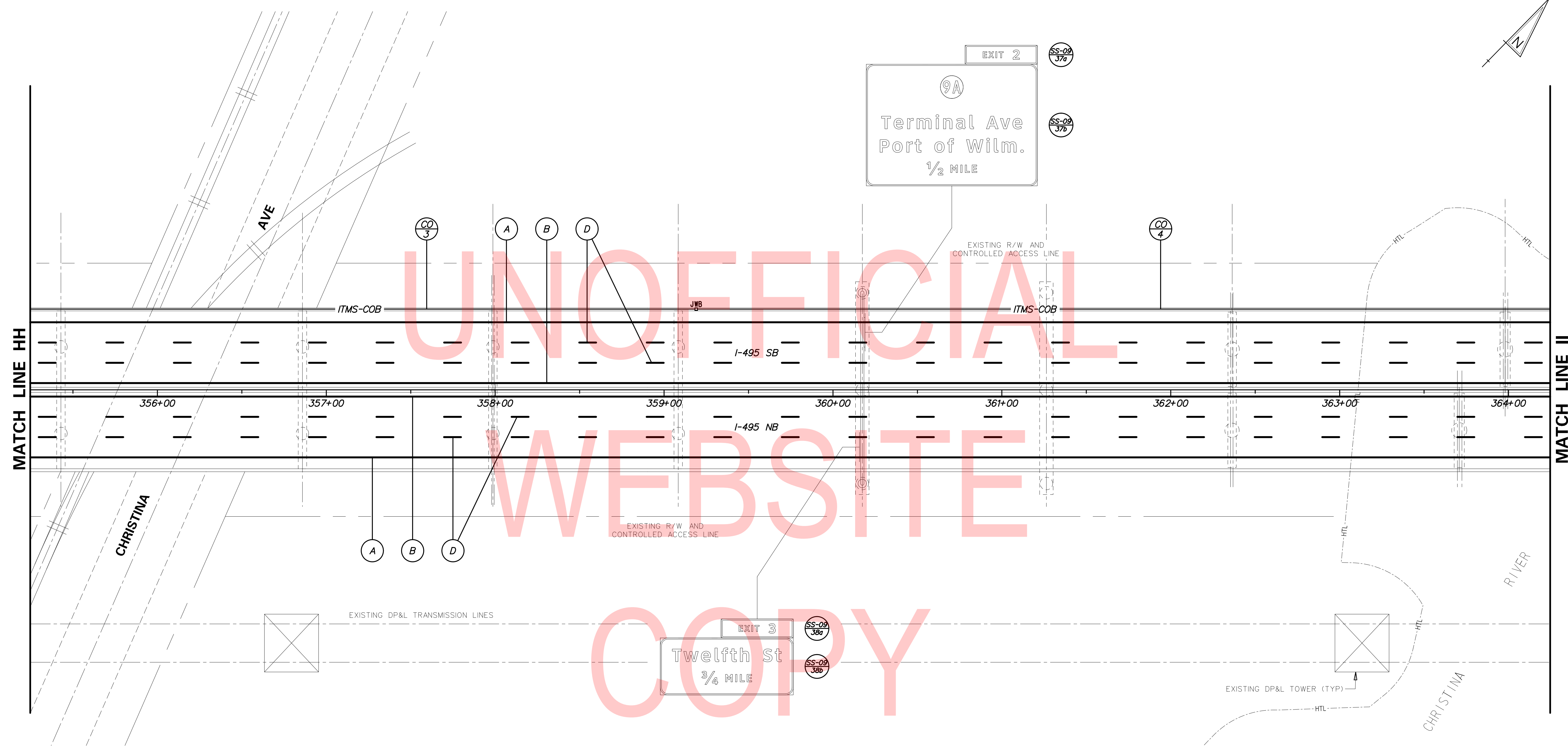
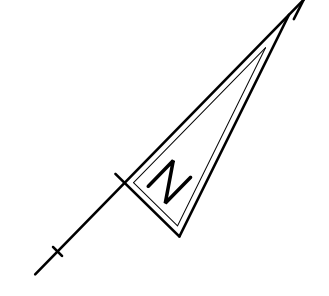
**REHABILITATION OF BRIDGES**  
 1-810, 1-811, 1-812  
 AND 1-813 ON I-495

CONTRACT T201707404	BRIDGE NO.
COUNTY NEW CASTLE	DESIGNED BY: JWS
	CHECKED BY: DJC

**SIGNING, STRIPING & CONDUIT PLAN**

SS-08
SECTION TY
SHEET NO. 101

2/10/2020 T:\Dover\Projects\425025\06\600\_CADD\05\_Official\Plans\SS08.dgn



UNOFFICIAL  
WEBSITE  
COPY

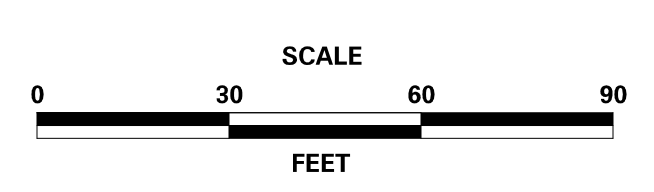
PAVEMENT MARKINGS LEGEND	
SYMBOL	ITEM
Ⓐ	EPOXY RESIN PAINT PAVEMENT STRIPING, WHITE 5" SOLID (ITEM 817013)
	EPOXY RESIN PAINT PAVEMENT STRIPING, BLACK 5" SOLID (ITEM 817018)
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Ⓓ	EPOXY RESIN PAINT PAVEMENT STRIPING, WHITE/BLACK 8" BROKEN - 10' LINE & 30' GAP (ITEM 817022)

ITMS CONDUIT RUN SCHEDULE					
CO	# OF CONDUITS	SIZE	LENGTH	E/T	AMOUNT AND TYPE OF CABLE / WIRE
3	1	4.0"	550' *	E	EMPTY
4	1	4.0"	550' *	E	EMPTY

\* CONDUIT RUN CONTINUES ON ADJACENT SHEET      E = EMBED      T = TRENCH

CONDUIT SYMBOL LEGEND	
SYMBOL	DESCRIPTION
- ITMS-COB -	PROPOSED ITMS CONDUIT RUN
Ⓒ/X	PROPOSED CONDUIT RUN IDENTIFIER
JWB	PROPOSED CONDUIT JUNCTION BOX IN BARRIER

ADDENDA / REVISIONS



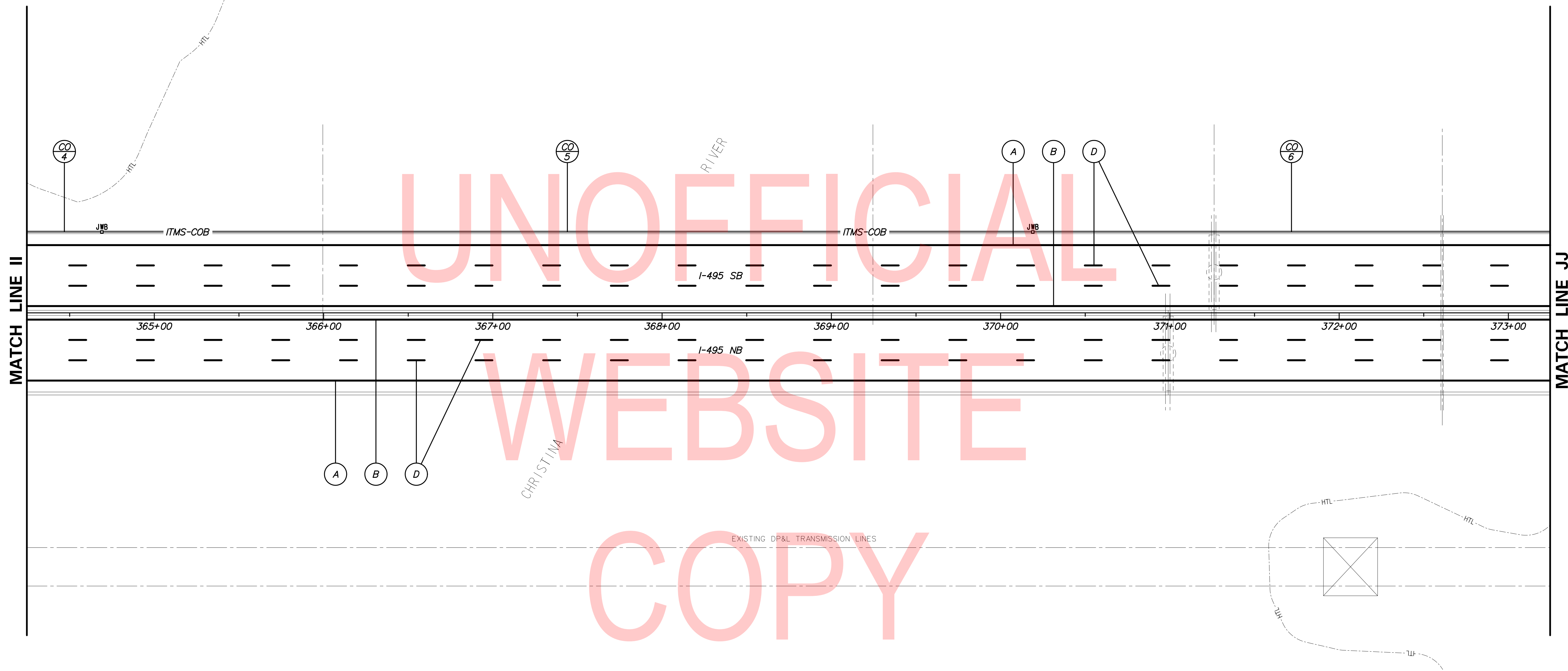
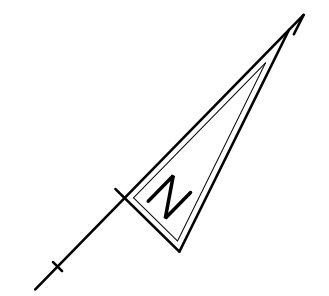
**REHABILITATION OF BRIDGES  
1-810, 1-811, 1-812  
AND 1-813 ON I-495**

CONTRACT T201707404	BRIDGE NO.
COUNTY NEW CASTLE	DESIGNED BY: JWS
	CHECKED BY: DJC

**SIGNING, STRIPING  
& CONDUIT PLAN**

SS-09
SECTION TY
SHEET NO. 102

2/10/2020 T:\Dover\Projects\425025\06\600\_CADD\05\_Official\Plans\SS09.dgn



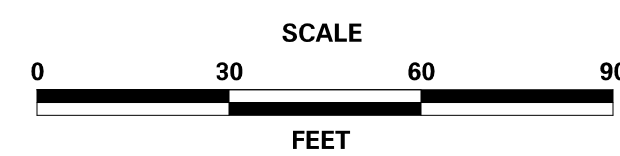
PAVEMENT MARKINGS LEGEND	
SYMBOL	ITEM
A	EPOXY RESIN PAINT PAVEMENT STRIPING, WHITE 5" SOLID (ITEM 817013)
	EPOXY RESIN PAINT PAVEMENT STRIPING, BLACK 5" SOLID (ITEM 817018)
B	EPOXY RESIN PAINT PAVEMENT STRIPING, YELLOW 5" SOLID (ITEM 817013)
D	EPOXY RESIN PAINT PAVEMENT STRIPING, WHITE/BLACK 8" BROKEN - 10' LINE & 30' GAP (ITEM 817022)

ITMS CONDUIT RUN SCHEDULE					
CO	# OF CONDUITS	SIZE	LENGTH	E/T	AMOUNT AND TYPE OF CABLE / WIRE
4	1	4.0"	550' *	E	EMPTY
5	1	4.0"	550'	E	EMPTY
6	1	4.0"	550' *	E	EMPTY

\* CONDUIT RUN CONTINUES ON ADJACENT SHEET  
 E = EMBED  
 T = TRENCH

CONDUIT SYMBOL LEGEND	
SYMBOL	DESCRIPTION
- ITMS-COB -	PROPOSED ITMS CONDUIT RUN
CO X	PROPOSED CONDUIT RUN IDENTIFIER
JWB	PROPOSED CONDUIT JUNCTION BOX IN BARRIER

ADDENDA / REVISIONS

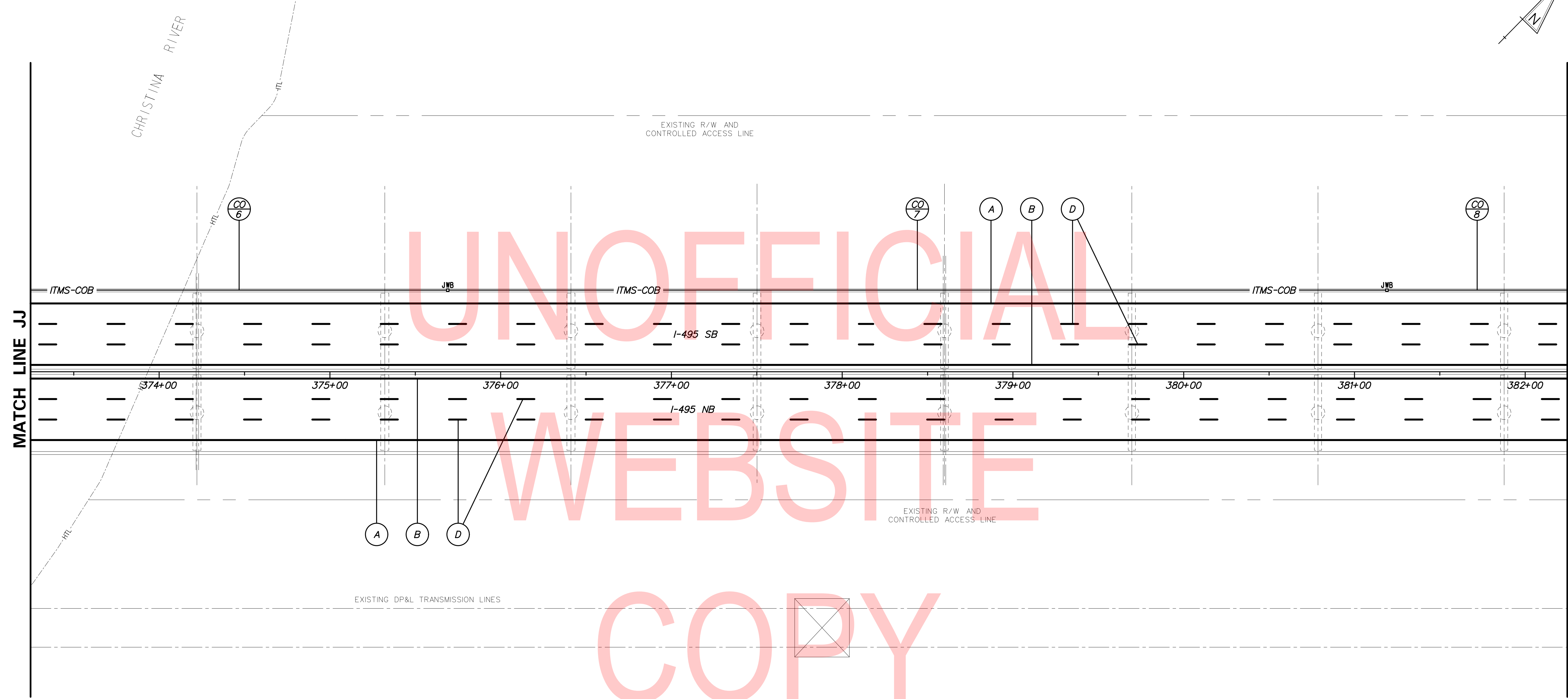
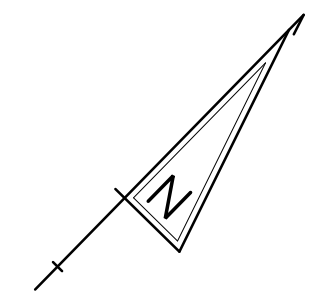


REHABILITATION OF BRIDGES  
 1-810, 1-811, 1-812  
 AND 1-813 ON I-495

CONTRACT	BRIDGE NO.
T201707404	
COUNTY	DESIGNED BY: JWS
NEW CASTLE	CHECKED BY: DJC

SIGNING, STRIPING  
 & CONDUIT PLAN

SS-10
SECTION
TY
SHEET NO.
103



UNOFFICIAL  
WEBSITE  
COPY

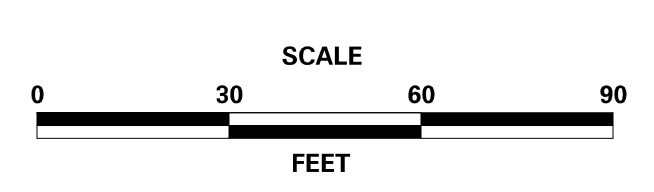
PAVEMENT MARKINGS LEGEND	
SYMBOL	ITEM
Ⓐ	EPOXY RESIN PAINT PAVEMENT STRIPING, WHITE 5" SOLID (ITEM 817013)
	EPOXY RESIN PAINT PAVEMENT STRIPING, BLACK 5" SOLID (ITEM 817018)
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Ⓓ	EPOXY RESIN PAINT PAVEMENT STRIPING, WHITE/BLACK 8" BROKEN - 10' LINE & 30' GAP (ITEM 817022)

ITMS CONDUIT RUN SCHEDULE					
CO	# OF CONDUITS	SIZE	LENGTH	E/T	AMOUNT AND TYPE OF CABLE / WIRE
6	1	4.0"	550' *	E	EMPTY
7	1	4.0"	550'	E	EMPTY
8	1	4.0"	550' *	E	EMPTY

\* CONDUIT RUN CONTINUES ON ADJACENT SHEET  
E = EMBED  
T = TRENCH

CONDUIT SYMBOL LEGEND	
SYMBOL	DESCRIPTION
— ITMS-COB —	PROPOSED ITMS CONDUIT RUN
Ⓒ/X	PROPOSED CONDUIT RUN IDENTIFIER
JWB	PROPOSED CONDUIT JUNCTION BOX IN BARRIER

ADDENDA / REVISIONS



**REHABILITATION OF BRIDGES**  
1-810, 1-811, 1-812  
AND 1-813 ON I-495

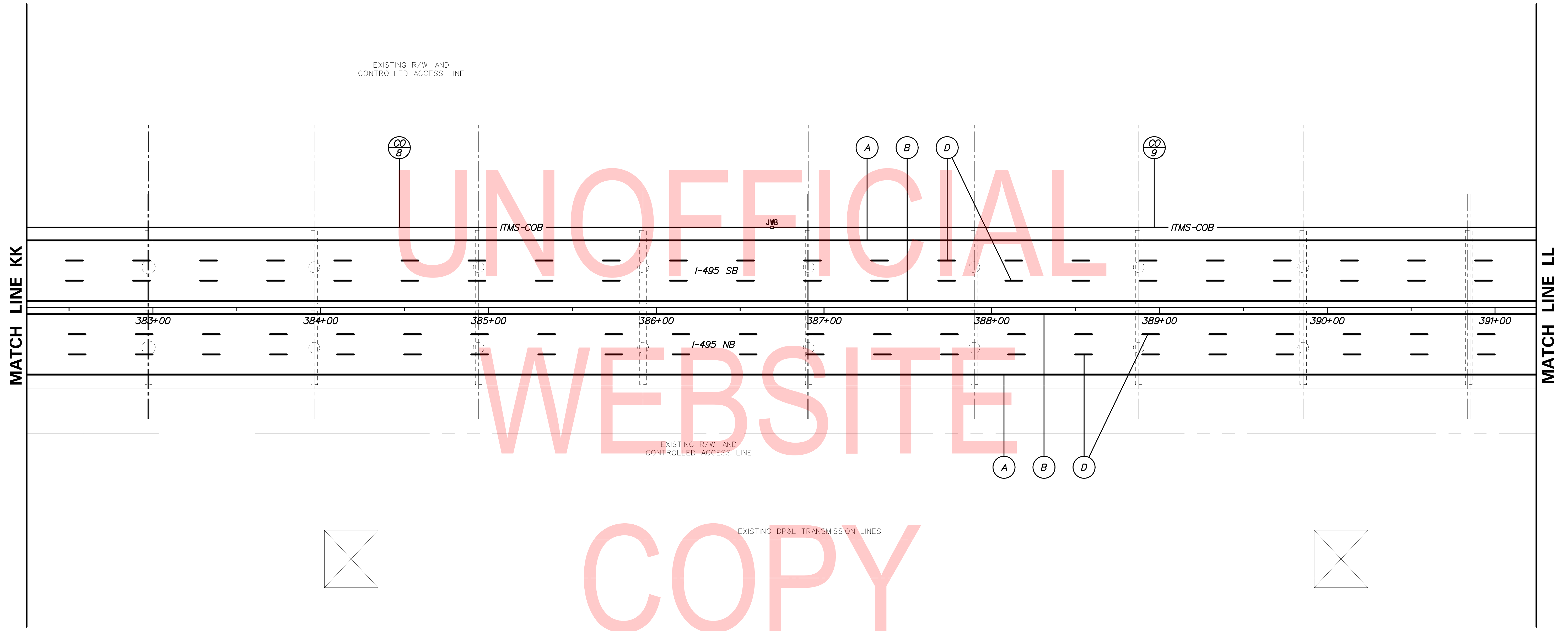
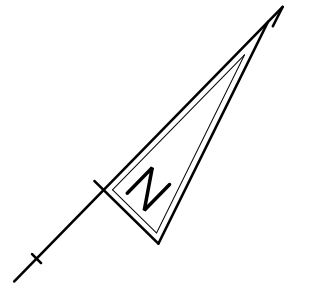
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COUNTY NEW CASTLE	DESIGNED BY: JWS
	CHECKED BY: DJC

**SIGNING, STRIPING  
& CONDUIT PLAN**

SS-11
SECTION
TY
SHEET NO.
104

2/10/2020 T:\Dover\Projects\425025\06\600\_CADD\05\_Official\Plans\SS11.dgn





CO 8

A

B

D

CO 9

A

B

D

**PAVEMENT MARKINGS LEGEND**

SYMBOL	ITEM
A	EPOXY RESIN PAINT PAVEMENT STRIPING, WHITE 5" SOLID (ITEM 817013)
	EPOXY RESIN PAINT PAVEMENT STRIPING, BLACK 5" SOLID (ITEM 817018)
B	EPOXY RESIN PAINT PAVEMENT STRIPING, YELLOW 5" SOLID (ITEM 817013)
D	EPOXY RESIN PAINT PAVEMENT STRIPING, WHITE/BLACK 8" BROKEN - 10' LINE & 30' GAP (ITEM 817022)

**ITMS CONDUIT RUN SCHEDULE**

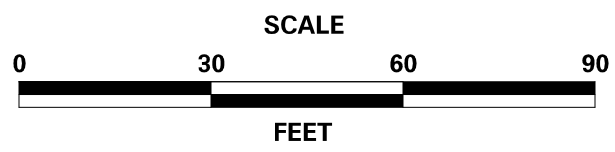
CO	# OF CONDUITS	SIZE	LENGTH	E/T	AMOUNT AND TYPE OF CABLE / WIRE
8	1	4.0"	550' *	E	EMPTY
9	1	4.0"	550' *	E	EMPTY

\* CONDUIT RUN CONTINUES ON ADJACENT SHEET      E = EMBED      T = TRENCH

**CONDUIT SYMBOL LEGEND**

SYMBOL	DESCRIPTION
- ITMS-COB -	PROPOSED ITMS CONDUIT RUN
CO X	PROPOSED CONDUIT RUN IDENTIFIER
JWB	PROPOSED CONDUIT JUNCTION BOX IN BARRIER

ADDENDA / REVISIONS



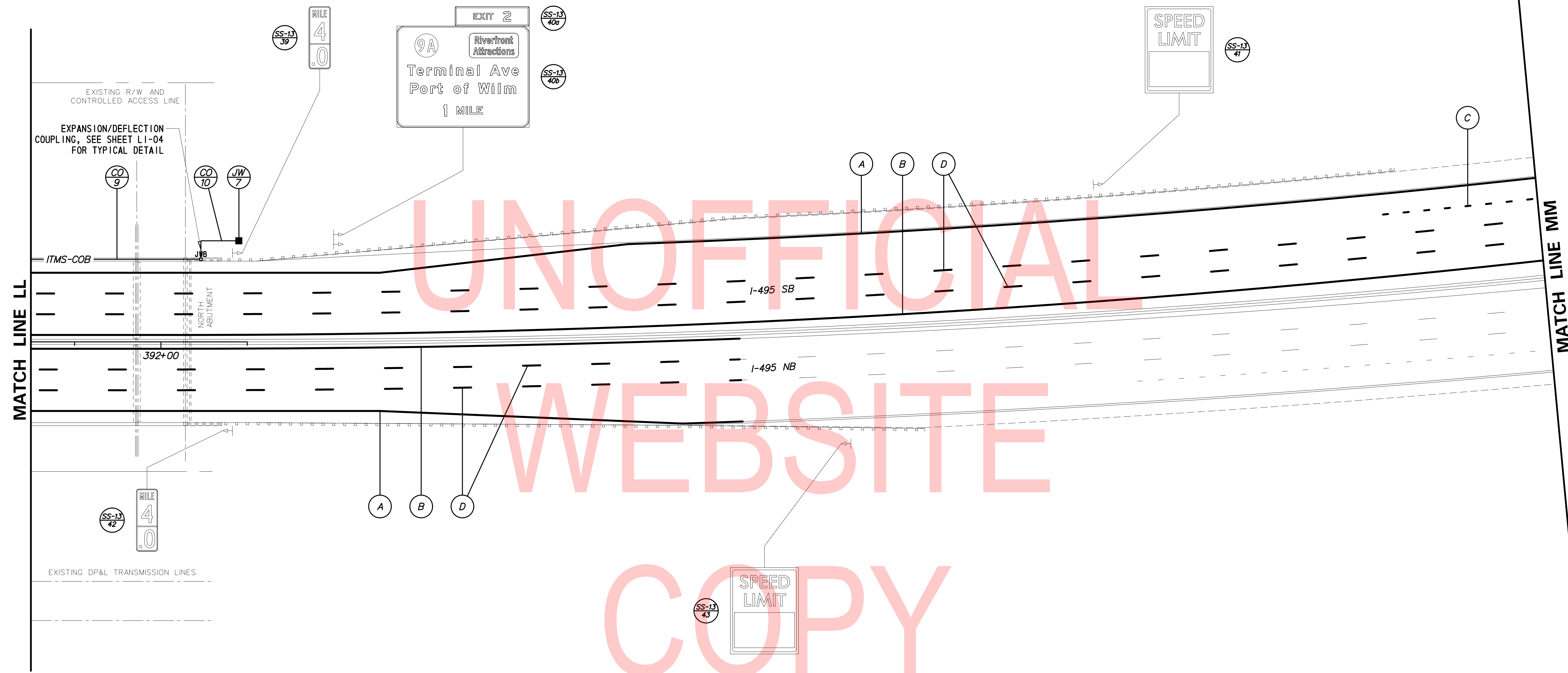
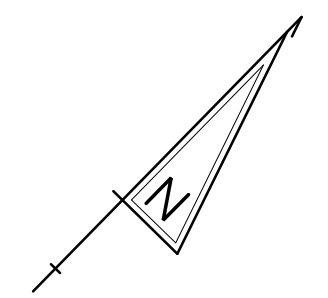
**REHABILITATION OF BRIDGES  
1-810, 1-811, 1-812  
AND 1-813 ON I-495**

CONTRACT T201707404	BRIDGE NO.
COUNTY NEW CASTLE	DESIGNED BY: JWS
	CHECKED BY: DJC

**SIGNING, STRIPING  
& CONDUIT PLAN**

SS-12
SECTION TY
SHEET NO. 105

2/10/2020 T:\Dover\Projects\425025\06\600\_CADD\05\_Official\Plans\SS12.dgn



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**PAVEMENT MARKINGS LEGEND**

SYMBOL	ITEM
A	EPOXY RESIN PAINT PAVEMENT STRIPING, WHITE 5" SOLID (ITEM 817013)
	EPOXY RESIN PAINT PAVEMENT STRIPING, BLACK 5" SOLID (ITEM 817018)
B	EPOXY RESIN PAINT PAVEMENT STRIPING, YELLOW 5" SOLID (ITEM 817013)
C	EPOXY RESIN PAINT PAVEMENT STRIPING, WHITE/BLACK 8" BROKEN - 3' LINE & 9' GAP (ITEM 817022)
D	EPOXY RESIN PAINT PAVEMENT STRIPING, WHITE/BLACK 8" BROKEN - 10' LINE & 30' GAP (ITEM 817022)

**ITMS CONDUIT RUN SCHEDULE**

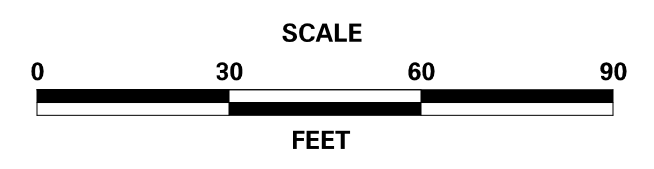
CO	# OF CONDUITS	SIZE	LENGTH	E/T	AMOUNT AND TYPE OF CABLE / WIRE
9	1	4.0"	555'*	E	EMPTY
**10	1	4.0"	32'	T	EMPTY

\* CONDUIT RUN CONTINUES ON ADJACENT SHEET  
 \*\* PROPOSE SCHEDULE 80 PVC  
 E = EMBED  
 T = TRENCH

**CONDUIT SYMBOL LEGEND**

SYMBOL	DESCRIPTION
— ITMS-COB —	PROPOSED ITMS CONDUIT RUN
⊙ CO X	PROPOSED CONDUIT RUN IDENTIFIER
JWB	PROPOSED CONDUIT JUNCTION BOX IN BARRIER

ADDENDA / REVISIONS



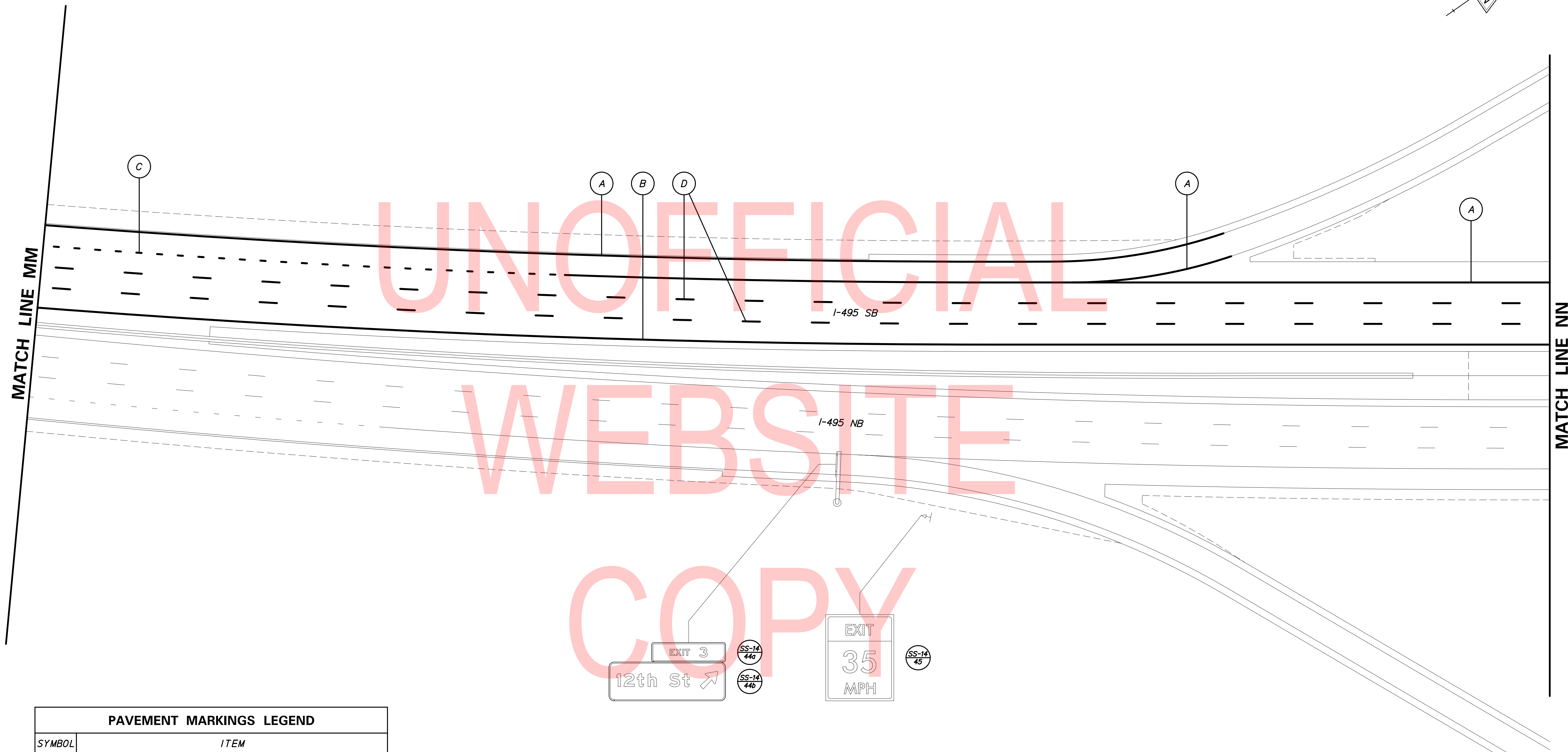
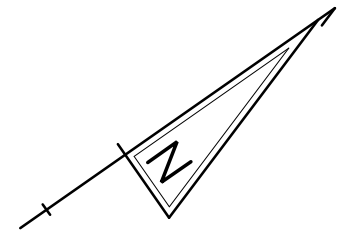
**REHABILITATION OF BRIDGES**  
 1-810, 1-811, 1-812  
 AND 1-813 ON I-495

CONTRACT T201707404	BRIDGE NO.
COUNTY NEW CASTLE	DESIGNED BY: JWS
	CHECKED BY: DJC

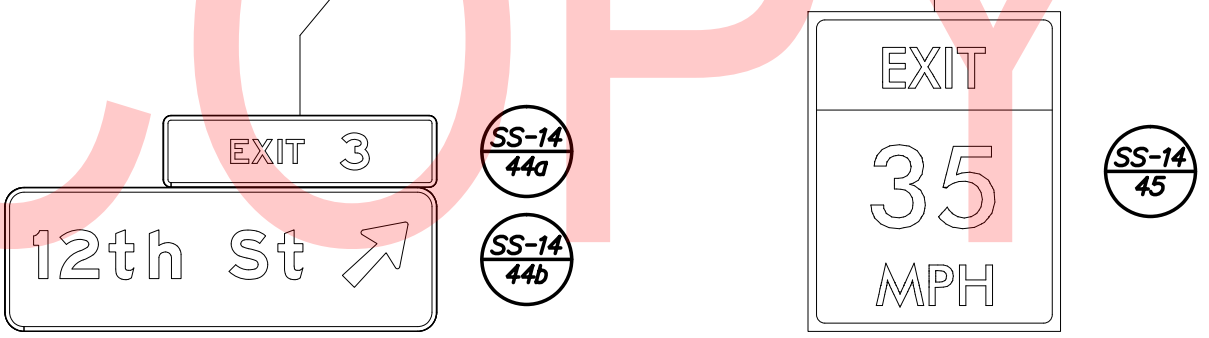
**SIGNING, STRIPING & CONDUIT PLAN**

SS-13
SECTION
TY
SHEET NO.
106

2/10/2020 T:\Dover\Projects\425025\06\600\_CADD\05\_Official\Plans\SS13.dgn

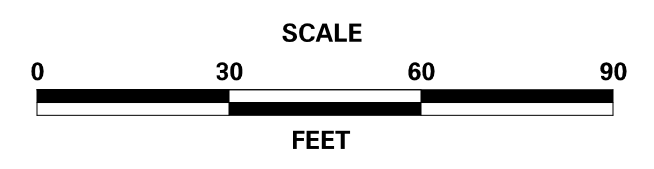


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WEBSITE  
COPY



PAVEMENT MARKINGS LEGEND	
SYMBOL	ITEM
A	EPOXY RESIN PAINT PAVEMENT STRIPING, WHITE 5" SOLID (ITEM 817013)
	EPOXY RESIN PAINT PAVEMENT STRIPING, BLACK 5" SOLID (ITEM 817018)
B	EPOXY RESIN PAINT PAVEMENT STRIPING, YELLOW 5" SOLID (ITEM 817013)
C	EPOXY RESIN PAINT PAVEMENT STRIPING, WHITE/BLACK 8" BROKEN - 3' LINE & 9' GAP (ITEM 817022)
D	EPOXY RESIN PAINT PAVEMENT STRIPING, WHITE/BLACK 8" BROKEN - 10' LINE & 30' GAP (ITEM 817022)

ADDENDA / REVISIONS



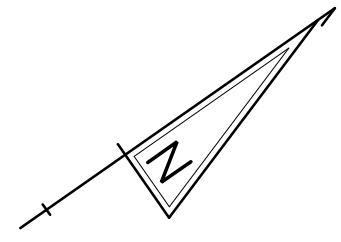
**REHABILITATION OF BRIDGES**  
1-810, 1-811, 1-812  
AND 1-813 ON I-495

CONTRACT T201707404	BRIDGE NO.
COUNTY NEW CASTLE	DESIGNED BY: JWS
	CHECKED BY: DJC

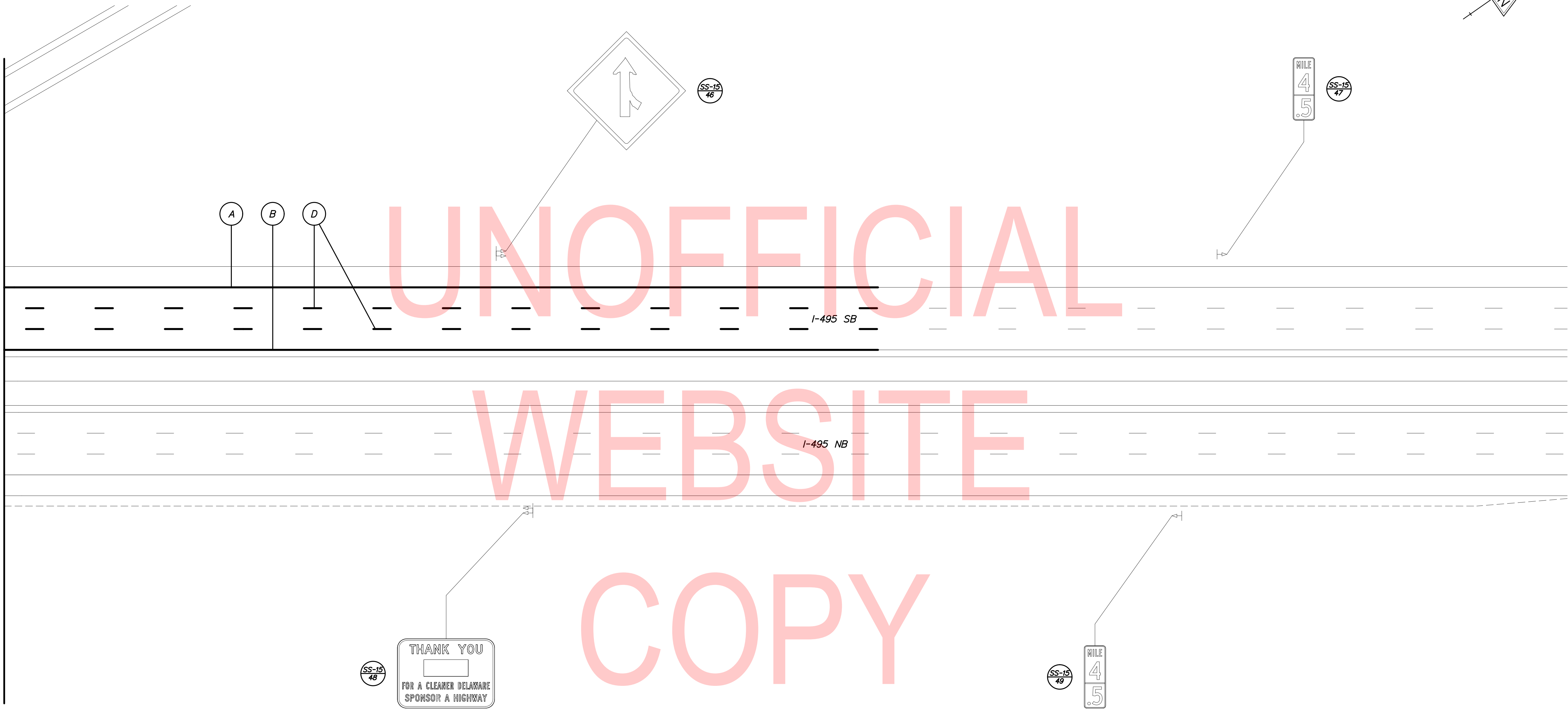
**SIGNING, STRIPING  
& CONDUIT PLAN**

SS-14
SECTION TY
SHEET NO. 107

2/10/2020 T:\Dover\Projects\425025\06\600\_CADD\05\_Official\Plans\SS14.dgn

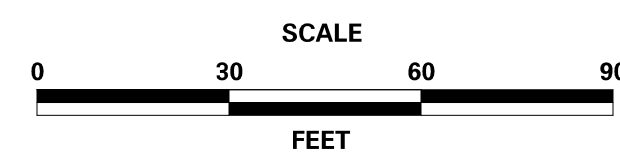


MATCH LINE NN



PAVEMENT MARKINGS LEGEND	
SYMBOL	ITEM
Ⓐ	EPOXY RESIN PAINT PAVEMENT STRIPING, WHITE 5" SOLID (ITEM 817013)
	EPOXY RESIN PAINT PAVEMENT STRIPING, BLACK 5" SOLID (ITEM 817018)
Ⓑ	EPOXY RESIN PAINT PAVEMENT STRIPING, YELLOW 5" SOLID (ITEM 817013)
Ⓓ	EPOXY RESIN PAINT PAVEMENT STRIPING, WHITE/BLACK 8" BROKEN - 10' LINE & 30' GAP (ITEM 817022)

ADDENDA / REVISIONS



**REHABILITATION OF BRIDGES**  
1-810, 1-811, 1-812  
AND 1-813 ON I-495

CONTRACT T201707404	BRIDGE NO.
COUNTY NEW CASTLE	DESIGNED BY: JWS
	CHECKED BY: DJC

**SIGNING, STRIPING  
& CONDUIT PLAN**

SS-15
SECTION TY
SHEET NO. 108

