

DESIGN DESIGNATION

CURRENT ADT. (1994) _ _ _ = 1060
DESIGN YEAR ADT. (2014) _ _ = 1370
DHV _ _ _ _ _ = 137
D _ _ _ _ _ = 55 %
T _ _ _ _ _ = 10 %
V _ _ _ _ _ = 35 M.P.H.
LEGAL SPEED _ _ _ _ _ = 35 M.P.H.
FUNCTIONAL CLASSIFICATION _ _ = MAJOR COLLECTOR (RURAL)

DESIGN EXCEPTION

BRIDGE WIDTH

APPROVAL DATE

2-22-94

STATE OF OHIO
DEPARTMENT OF TRANSPORTATION
HAS - 250 - 19.11
CADIZ TOWNSHIP
HARRISON COUNTY

RECONSTRUCTION OF EXISTING SEPARATED CROSSING
WITH THE COLUMBUS & OHIO RIVER RAILROAD

HAS-250-19.11

OHIO

FHWA
REGION 5FEDERAL
PROJECT1
28

HARRISON COUNTY
HAS-250-19.11

SURFACE TRANSPORTATION
PROGRAM PROJECT
PID 11272

LIMITED ACCESS

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

1995 SPECIFICATIONS

The standard specifications of the State of Ohio, Department of Transportation, including changes and supplemental specifications listed in the proposal shall govern this improvement.

I hereby approve these plans and declare that the making of this improvement will not require the closing to traffic of the highway and that provisions for the maintenance and safety of traffic will be as set forth on the plans and estimates.

Approved John H. McQuinn
Date 05/04/94 District Deputy Director of Transportation

Approved B.D. Hankelmann/DEH
Date 6-30-94 Engineer, Bureau of Bridges and Structural Design

Approved Christopher L. Rymasz
Date 7-18-94 Deputy Director, Design

Approved Jeffrey Wray
Date 7-18-94 Director, Department of Transportation

CONVENTIONAL SIGNS

County Line _____
Corporation Line _____
Township Line _____
Section Line _____
Center Line 351 352 353
Tree Stumps (to be removed)
Utility Poles: Telephone , Power

Limited Access (only) LA _____
Proposed Right of Way (only) R/W _____
Existing Right of Way R/W _____
Property Line _____
Railroad _____
Guardrail (existing) (proposed)
Construction Limits Const. Limits _____

INDEX OF SHEETS

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LINE DATA

U.S. 250

BEGIN PROJECT STA. 14+50
END PROJECT STA. 16+25
NET LENGTH OF PROJECT = 175 L.F. OR 0.033 MILE

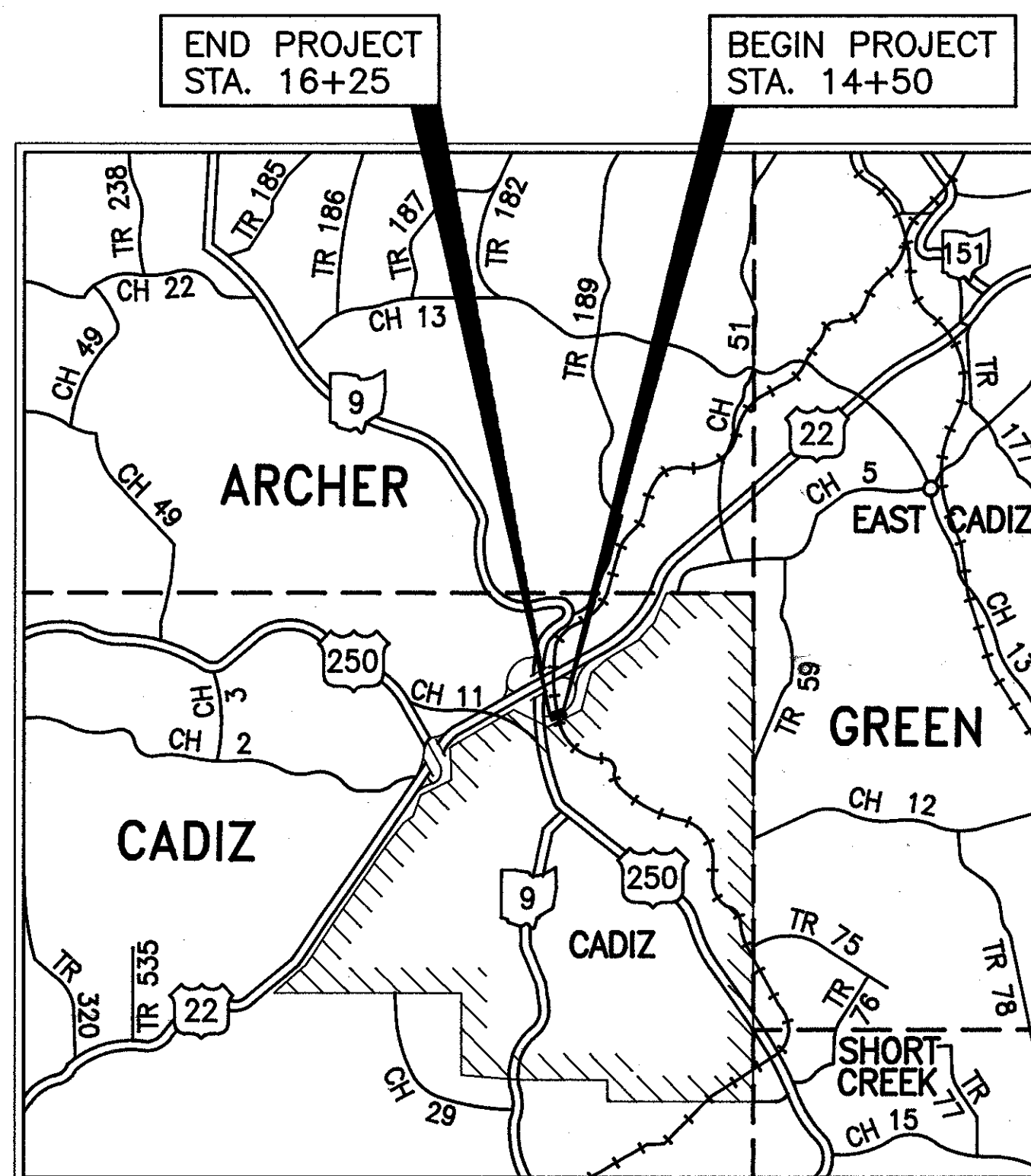
BEGIN WORK STA. 13+00
END WORK STA. 17+88.82
NET LENGTH OF WORK = 488.82 L.F. OR 0.093 MILE

UNDERGROUND UTILITIES
TWO WORKING DAYS
BEFORE YOU DIG
Call 800-362-2764 (Toll free)
OHIO UTILITIES PROTECTION SERVICE
NON-MEMBERS
MUST BE CALLED DIRECTLY

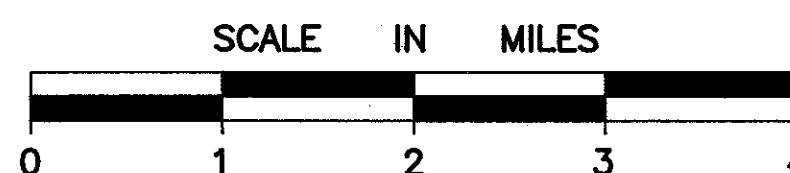
Plan Prepared By:

TRUMBULL CONSULTANTS, INC.
ENGINEERS
CANFIELD, OHIO 44406

STRUCTURE PLANS REVIEWED BY
Burgess & Niple, Limited
Engineers and Architects

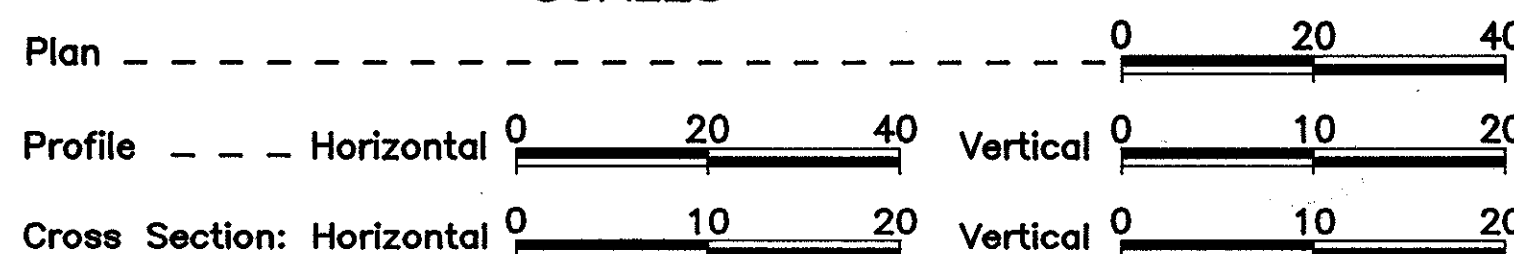


LOCATION MAP



PORTIONS TO BE IMPROVED
STATE AND FEDERAL ROUTES
OTHER ROADS

SCALES



SUPPLEMENTAL SPECIFICATIONS	
802	3-23-95
815	7-17-95
849	6-14-95
910	7-17-95
949	6-14-95

SUPPLEMENTAL PRINTS OF STANDARD CONSTRUCTION DRAWINGS

BP-1.1	2-21-92	GR-1.1	5-6-91	PCB-91	4-24-92	AS-1-81	9-15-94	MT-97.10	4-29-88
BP-2.1	10-28-94	GR-1.2	10-30-92	MC-4	7-26-76	BR-1	12-15-94	MT-99.10	11-14-86
BP-2.2	10-28-94			MC-6	1-30-84	EXJ-2-81	4-2-84	MT-105.10	7-1-92
BP-2.3	2-21-92	GR-2.1	5-6-91	MC-9.2	5-6-91	SD-1-69	6-12-69	MT-105.11	7-1-92
BP-3.1	2-21-92	GR-3.1	5-6-91	MC-9A	1-11-85	TC-41.10	8-29-84	TC-41.20	6-21-94
F-2	5-1-76	GR-3.2	5-6-91	I-2	12-18-84	MT-96.11	9-9-88	TC-42.20	3-26-79
F-3	5-1-76	GR-4.1	5-6-91	MC-11	8-1-78	MT-96.20	9-9-88	TC-52.10	4-3-79
						MT-96.25	9-9-88	TC-52.20	4-3-79

Project: HARRISON COUNTY, HAS-250-19.11
Date of Letting _____ 19____, Contract No. _____

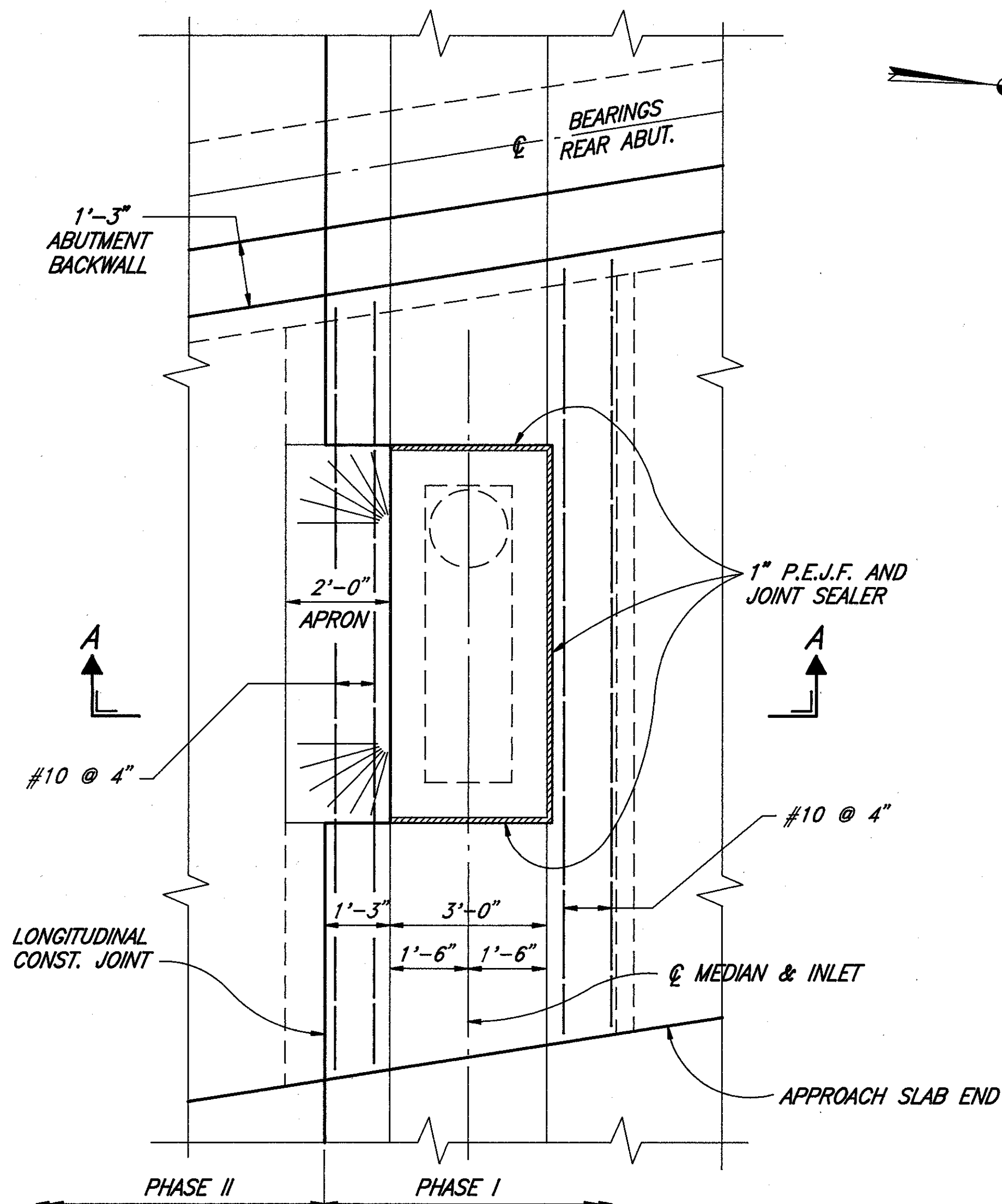
DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

APPROVED:

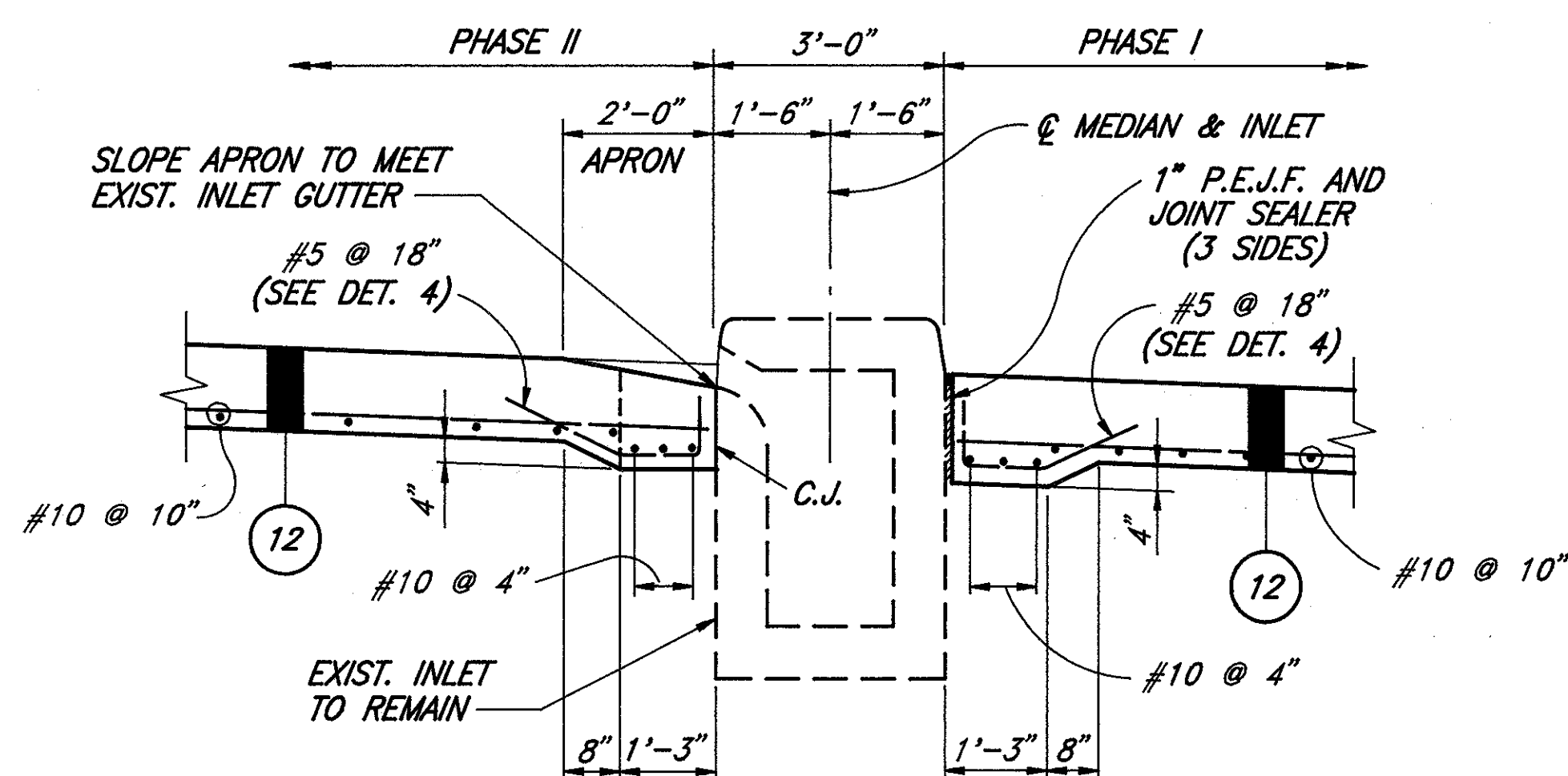
DIVISION ADMINISTRATOR DATE

TYPICAL SECTIONS

TYPE 611



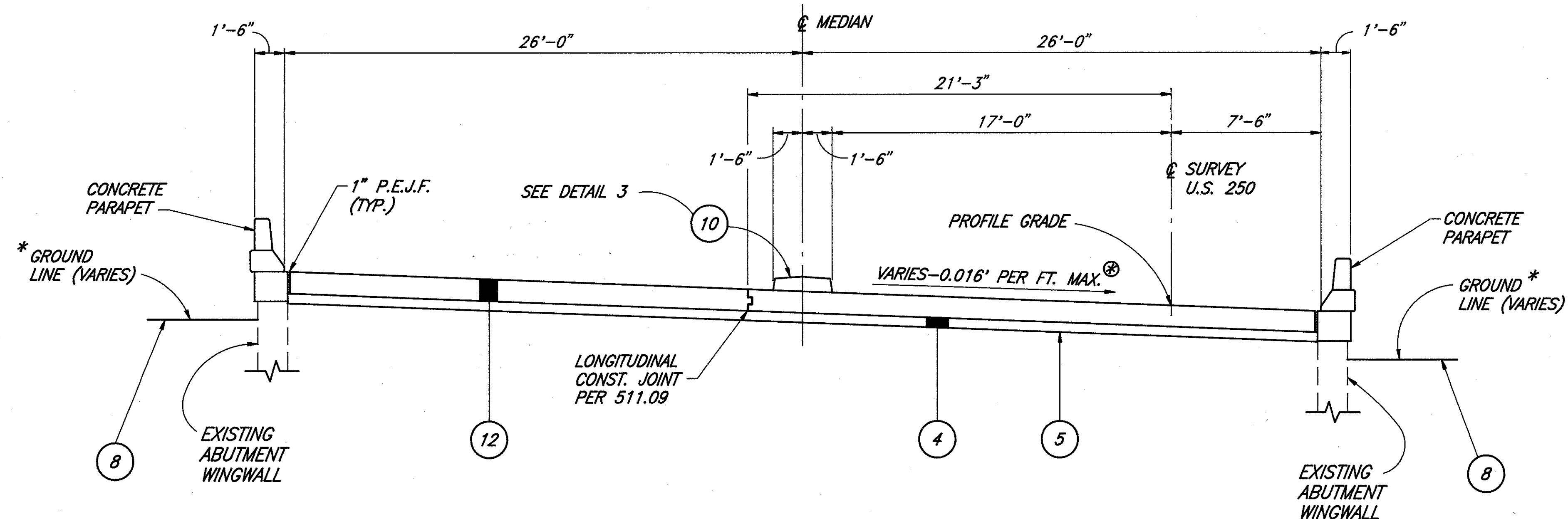
**PARTIAL PLAN
EXISTING INLET DETAIL**
(REAR ABUTMENT ONLY)



SECTION A-A

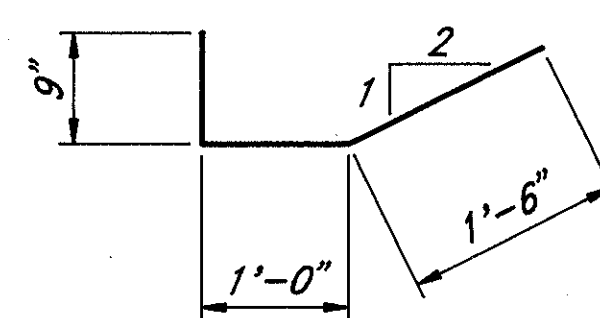
STA. 14+84.50 TO STA. 14+91.50 = 7.00 LIN. FT.

NOTE: FOR CONSTRUCTION OF THE DEPRESSED APRON, REFER
TO STANDARD CONSTRUCTION DWG. I-2



APPROACH SLAB

STA. 14+82.72 TO STA. 14+97.72 = 15.00 LIN. FT.
STA. 15+72.28 TO STA. 15+87.28 = 15.00 LIN. FT.
TOTAL = 30.00 LIN. FT.



DETAIL 4
(BENT BAR AT EDGE BEAM)
(22 REQ'D)

ITEM 611 REINFORCED CONCRETE APPROACH SLAB (T=12"), AS PER PLAN

THE REINFORCING STEEL FOR THE APPROACH SLABS OF THIS STRUCTURE
SHALL BE EPOXY COATED IN CONFORMANCE WITH 509.

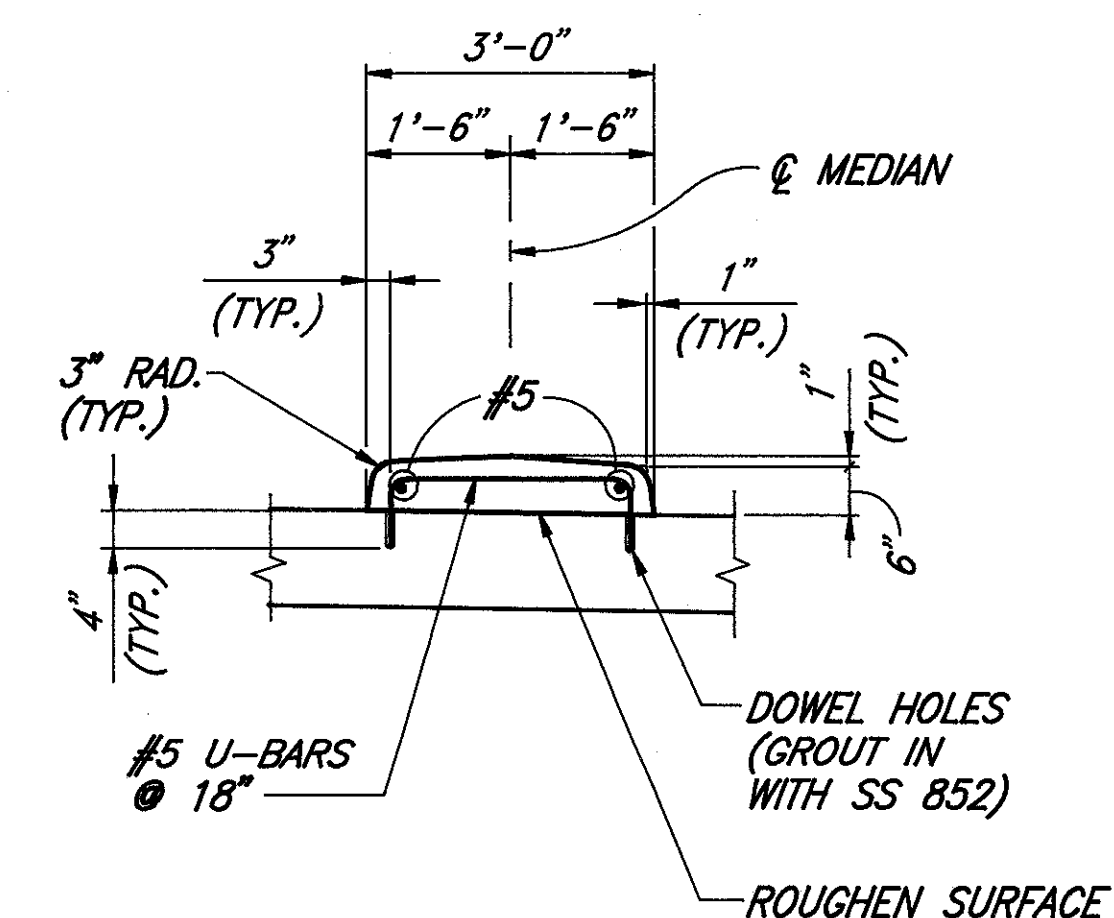
TWO SEPARATE THICKNESSES OF CLEAR OR OPAQUE POLYETHYLENE FILM,
705.06, SHALL BE PLACED ON THE PREPARED SUBBASE AND WHERE THE
APPROACH SLAB IS TO BE CONSTRUCTED. THE POLYETHYLENE FILMS SHALL
COMPLETELY COVER THE FULL LENGTH AND WIDTH OF THE SUBBASE
BETWEEN THE SIDEWALL FORMS FOR THE APPROACH SLAB.

ALL APPROACH SLAB REINFORCEMENT SHALL BE AS PER STANDARD
CONSTRUCTION DRAWING AS-1-81 EXCEPT EDGE BEAM REINFORCEMENT
AS SHOWN IN THE EXISTING INLET DETAIL.

PAYMENT FOR CONSTRUCTING THE APPROACH SLAB AS SHOWN IN THE
DETAIL, INCLUDING APRON, 1" P.E.J.F. AND JOINT SEALER, AND MATERIALS,
LABOR AND INSTALLATION SHALL BE INCLUDED IN THIS ITEM 611 REINFORCED
CONCRETE APPROACH SLAB (T=12"), AS PER PLAN.

* SEE CROSS SECTIONS

⊗ SEE SUPERELEVATION
TABLE, SHEET 4



DETAIL 3

GENERAL NOTES

ROUNDING

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

ELEVATION DATUM

ALL ELEVATIONS ARE BASED ON U.S.G.S. DATUMS

UTILITIES

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

COLUMBIA GAS
300 LURAY DR.
WINTERSVILLE, OH 43952
PH. 614-264-7385
ATTN: DALE HICKMAN

GTE TELEPHONE OPERATIONS
P.O. BOX 629
NEW PHILADELPHIA, OH 44663
PH. 216-364-0363
ATTN: STAN SNIDER

VILL. OF CADIZ WATER
P.O. BOX 153
CADIZ, OH 43907
PH. 614-942-3884
ATTN: TOM CARTER

OHIO POWER
215 N. FRONT ST.
COLUMBUS, OH 43215
PH. 614-464-7911
ATTN: STANLEY WILSON
PUBLIC PROJECTS COORDINATOR

THE LOCATIONS OF THE UNDERGROUND UTILITIES SHOWN ON THE PLANS ARE AS OBTAINED FROM THE OWNERS AS REQUIRED BY SECTION 153.64 O.R.C.

CONTINGENCY QUANTITIES

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

WORK LIMITS

THE WORK LIMITS SHOWN ON THESE PLANS ARE FOR PHYSICAL CONSTRUCTION ONLY. THE INSTALLATION AND OPERATION OF ALL TEMPORARY TRAFFIC CONTROL AND TEMPORARY TRAFFIC CONTROL DEVICES REQUIRED BY THESE PLANS SHALL BE PROVIDED BY THE CONTRACTOR WHETHER INSIDE OR OUTSIDE THESE WORK LIMITS.

REMOVAL OF TREES OR STUMPS

ALL TREES AND STUMPS SPECIFICALLY MARKED FOR REMOVAL WITHIN THE CONSTRUCTION LIMITS SHALL BE REMOVED UNDER THE LUMP SUM BID FOR ITEM 201, CLEARING AND GRUBBING. THE FOLLOWING IS AN APPROXIMATE ESTIMATE OF THE NUMBER OF TREES AND STUMPS TO BE REMOVED:

SIZES	No. TREES	No. STUMPS	TOTAL
18"			NONE

CONNECTION BETWEEN EXISTING AND PROPOSED GUARDRAIL

WHEN IT IS NECESSARY TO SPLICE PROPOSED GUARDRAIL TO EXISTING GUARDRAIL, ONLY THE EXISTING GUARDRAIL SHALL BE CUT, DRILLED, OR PUNCHED. THE CONNECTION SHALL BE MADE USING A "W-BEAM RAIL SPLICE" AS SHOWN ON STANDARD CONSTRUCTION DRAWING GR-1.1 AND GR-1.2. PAYMENT SHALL BE INCLUDED IN THE CONTRACT PRICE FOR THE RESPECTIVE GUARDRAIL ITEMS.

ITEM 607 - FENCE REBUILT, TYPE 47

THIS ITEM SHALL INCLUDE THE CAREFUL RECONDITIONING AND RE-ERECTION OF FENCE AND COMPONENT PARTS AS DETAILED ON THE PLANS AND AS DIRECTED BY THE ENGINEER. FENCE OR COMPONENT PARTS WHICH ARE DAMAGED OR ARE OTHERWISE UNSATISFACTORY FOR REUSE SHALL BE REPLACED IN KIND BY THE CONTRACTOR. ANY NEW PARTS WHICH ARE NEEDED, AS DETERMINED BY THE ENGINEER, SHALL BE SUPPLIED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE STATE.

THE AMOUNT OF REBUILT FENCE TO BE PAID FOR WILL BE THE NUMBER OF LINEAR FEET REBUILT, COMPLETE IN PLACE AND MEASURED AS PROVIDED FOR IN 607.10 AND WILL BE PAID FOR AT THE CONTRACT PRICE PER LINEAR FOOT FOR ITEM 607, FENCE REBUILT, TYPE 47.

THE FOLLOWING ESTIMATED QUANTITY HAS BEEN ADDED TO THE GENERAL SUMMARY TO BE USED AS DIRECTED BY THE ENGINEER.

607 FENCE REBUILT, TYPE 47 80 LIN. FT.

ITEM 659, SEEDING AND MULCHING

SEEDING AND MULCHING SHALL BE APPLIED TO ALL AREAS OF EXPOSED SOIL BETWEEN THE RIGHT-OF-WAY LINES, AND WITHIN THE CONSTRUCTION LIMITS FOR AREAS OUTSIDE THE RIGHT-OF-WAY LINES COVERED BY WORK AGREEMENT OR SLOPE EASEMENT. QUANTITY CALCULATIONS FOR ITEM 659, SEEDING AND MULCHING, ARE BASED ON THESE LIMITS.

WATERING PERMANENT SEEDED AREAS

THE FOLLOWING ESTIMATED QUANTITY IS TO BE USED AS DIRECTED BY THE ENGINEER TO PROMOTE GROWTH AND TO CARE FOR PERMANENT SEEDED AREAS PER 659.09:

659 WATER 1.0 M GAL.

TEMPORARY SOIL EROSION AND SEDIMENT CONTROL

THE FOLLOWING ESTIMATED QUANTITIES ARE TO BE USED AS DIRECTED BY THE ENGINEER FOR TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES:

207 STRAW OR HAY BALES 100 EACH
207 FILTER FABRIC FENCE 200 LIN. FT.

CONTRACTION AND/OR EXPANSION JOINTS

ALTHOUGH SPECIFIC LOCATIONS OF CERTAIN CONTRACTION AND EXPANSION JOINTS HAVE BEEN DETAILED ON THIS PLAN, NO WAIVER OF THE SPECIFICATIONS IS INTENDED. PROVISION OF EXPANSION JOINTS AT ALL MAJOR STRUCTURES AND THE MAXIMUM SPACING BETWEEN CONTRACTION JOINTS SHALL, IN ALL CASES, BE IN ACCORDANCE WITH STANDARD CONSTRUCTION DRAWING BP-2.2 AND THE SPECIFICATIONS.

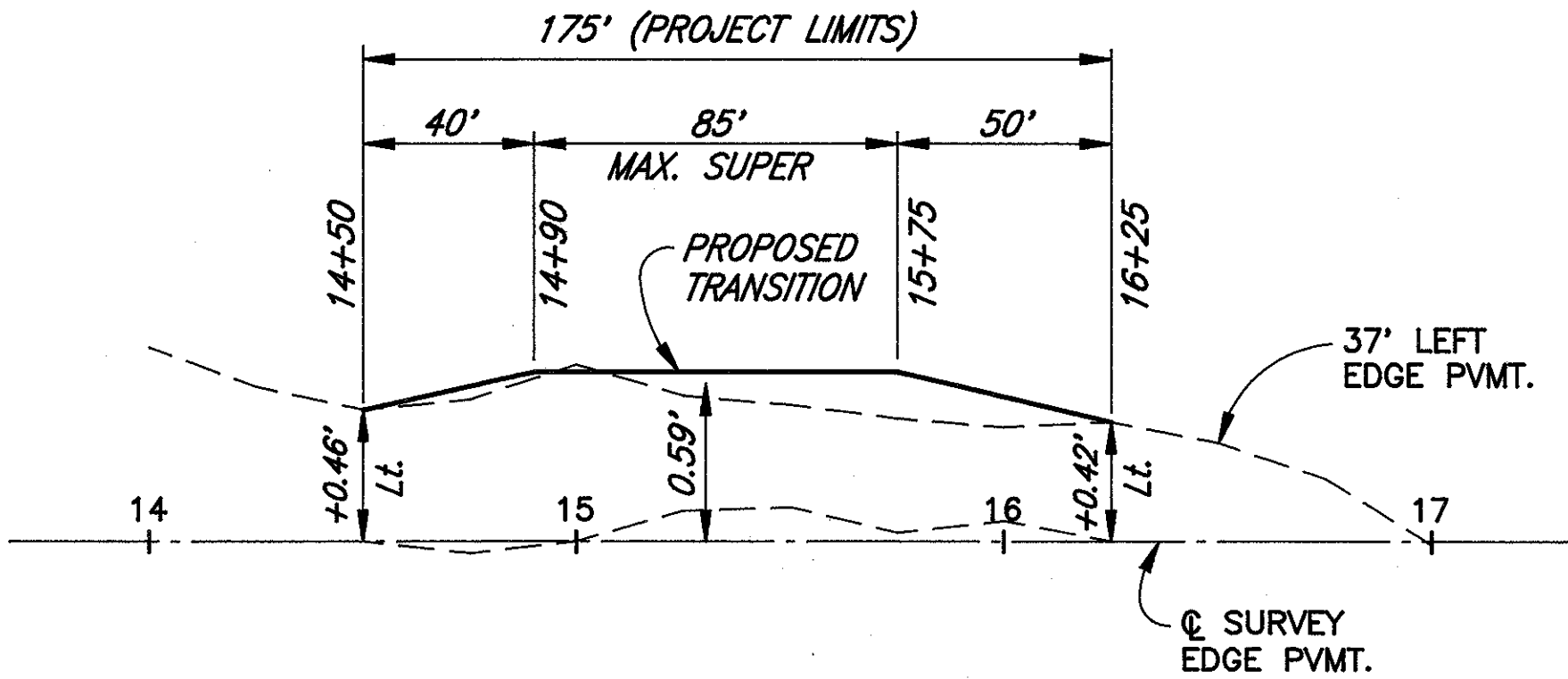
ITEM 404 - ASPHALT CONCRETE, AC-20, AS PER PLAN

MATERIALS FURNISHED FOR FINE AND COURSE AGGREGATES USED IN THIS ITEM SHALL EXCLUDE ALL STONE AND CRUSHED CARBONATE STONE.

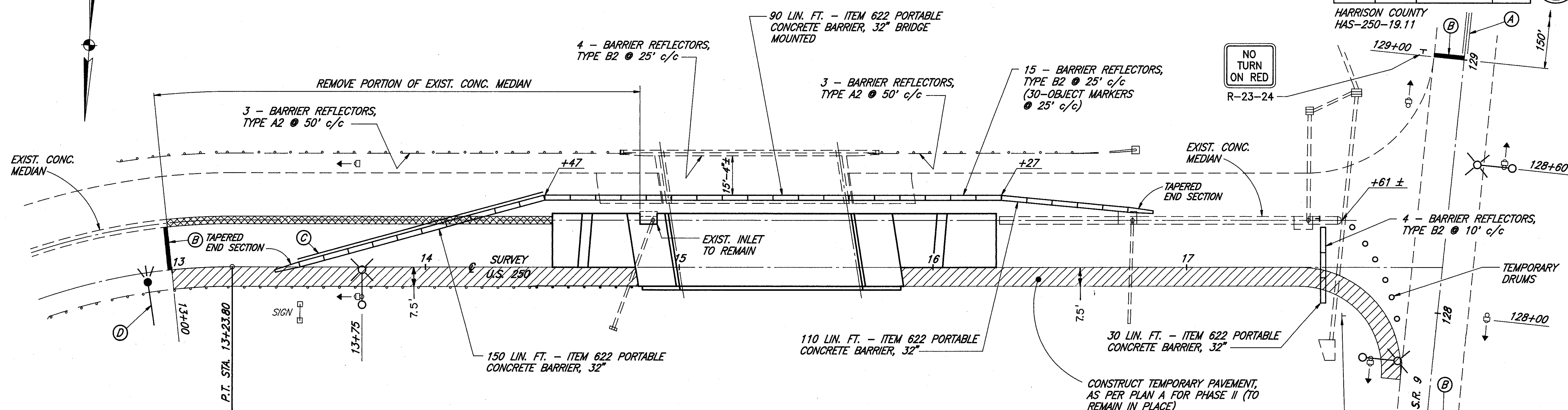
ITEM 407 - TACK COAT

THE RATE OF APPLICATION OF THE 407 TACK COAT SHALL BE SUBJECT TO ADJUSTMENT AS DIRECTED BY THE ENGINEER. PLAN QUANTITIES INDICATE AN AVERAGE APPLICATION RATE OF .075 GALLONS PER SQUARE YARD OF TACK COAT FOR ESTIMATING PURPOSES ONLY.

SUPERELEVATION TABLE					
STATION	37' Lt. EDGE PAVEMENT	BACK OF CURB		C SURVEY EDGE PAVEMENT	REMARKS
		20' Lt.	17' Lt.		
14+50	1219.39	1219.13	1219.10	1218.93	MEET EXISTING
+75	1219.13	1218.88	1218.84	1218.59	
15+00	1218.89	1218.62	1218.57	1218.30	
+25	1218.59	1218.32	1218.27	1218.00	
+50	1218.30	1218.03	1217.98	1217.71	
+75	1218.00	1217.73	1217.68	1217.41	
16+00	1217.68	1217.44	1217.40	1217.17	
+25	1217.34	1217.10	1217.20	1216.92	MEET EXISTING



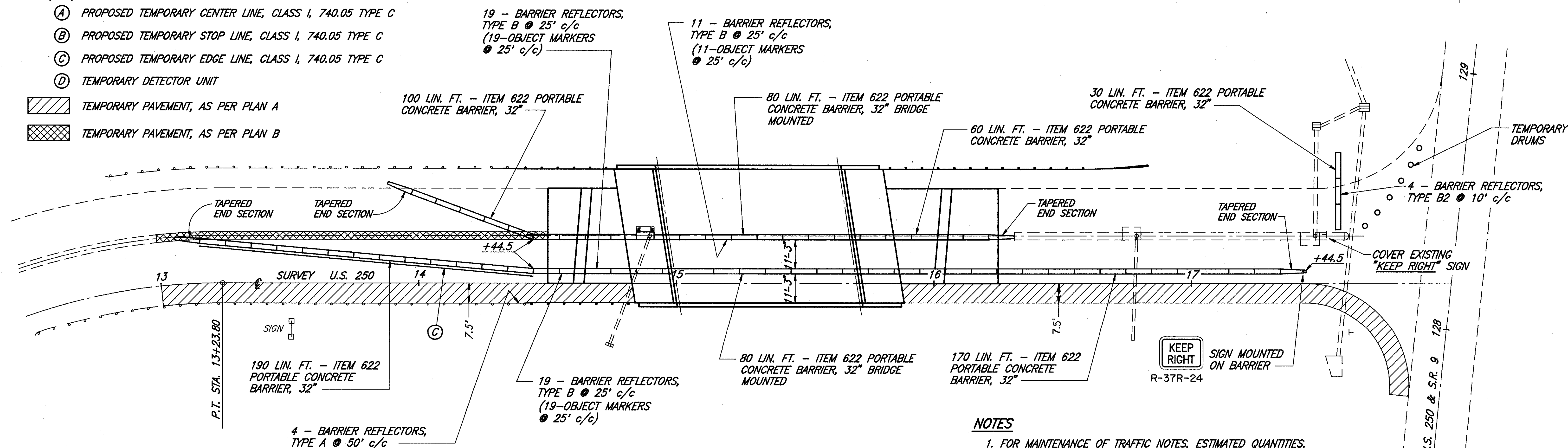
SUPERELEVATION TRANSITION DIAGRAM



LEGEND

- ← □ PROPOSED TEMPORARY SIGNAL UNIT
- PROPOSED TEMPORARY LIGHT POLE
- (A) PROPOSED TEMPORARY CENTER LINE, CLASS I, 740.05 TYPE C
- (B) PROPOSED TEMPORARY STOP LINE, CLASS I, 740.05 TYPE C
- (C) PROPOSED TEMPORARY EDGE LINE, CLASS I, 740.05 TYPE C
- (D) TEMPORARY DETECTOR UNIT
- ▨ TEMPORARY PAVEMENT, AS PER PLAN A
- ▩ TEMPORARY PAVEMENT, AS PER PLAN B

PHASE I MAINTENANCE OF TRAFFIC



PHASE II MAINTENANCE OF TRAFFIC

NOTES

1. FOR MAINTENANCE OF TRAFFIC NOTES, ESTIMATED QUANTITIES, AND TIMING SETTINGS, SEE SHEET No. 6.
2. FOR STRUCTURE PHASE CONSTRUCTION, SEE SHEET No. 27.
3. FOR ADDITIONAL DETAILS AND INFORMATION, SEE STANDARD DRAWINGS MT-96.11, MT-96.20, AND MT-96.25.

MAINTENANCE OF TRAFFIC
GENERAL NOTES

CALC. BY: G.J.R. DATE: 1-4-94
CHKD. BY: J.M.M. DATE: 3-17-94

F.H.W.A. REGION	STATE	PROJECT	
5	OHIO		

HARRISON COUNTY
HAS-250-19.11

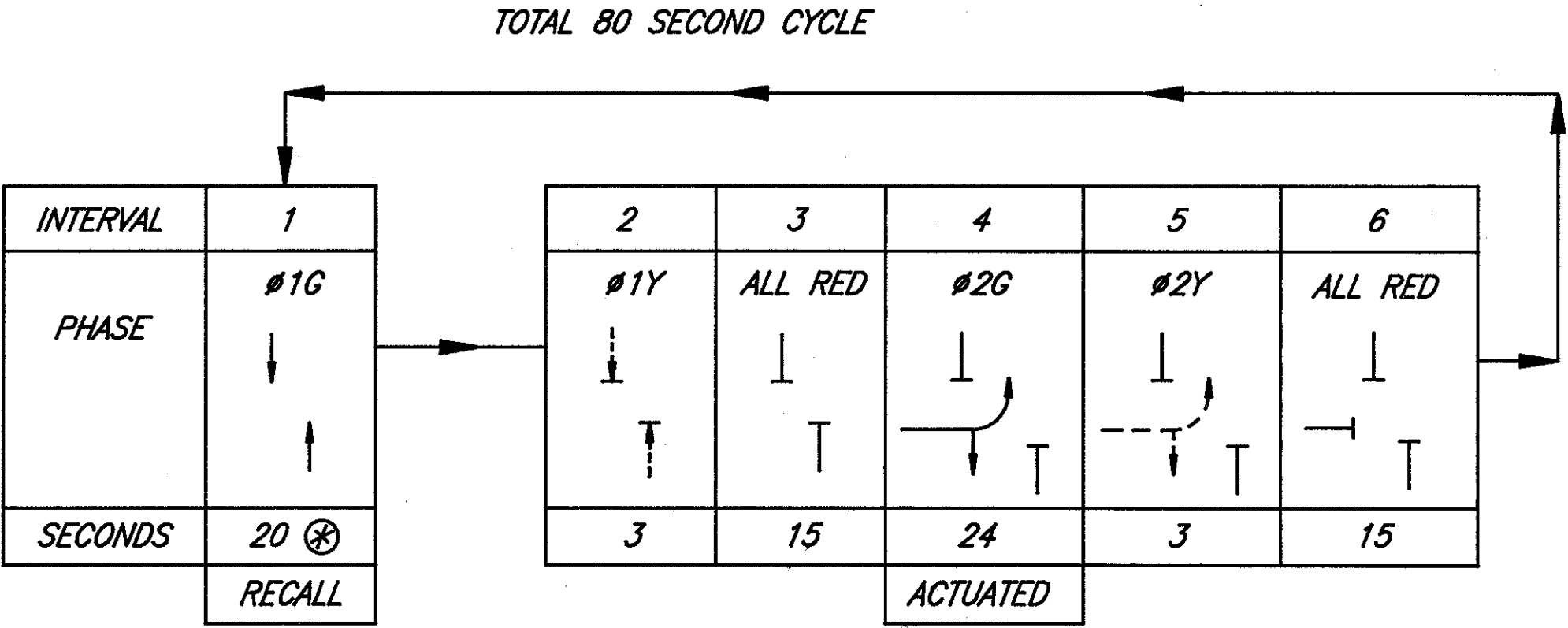
6
28

MAINTENANCE OF TRAFFIC
ESTIMATED QUANTITIES

ITEM		UNIT
ITEM 614	TEMPORARY STOP LINE, CLASS 1, 740.05 TYPE C	41 LIN. FT.
ITEM 614	TEMPORARY CENTER LINE, CLASS 1, 740.05 TYPE C	0.06 MILE
ITEM 614	TEMPORARY EDGE LINE, CLASS 1, 740.05 TYPE C	0.04 MILE
ITEM 614	BARRIER REFLECTOR, TYPE A2	6 EACH
ITEM 614	BARRIER REFLECTOR, TYPE B2	27 EACH
ITEM 614	BARRIER REFLECTOR, TYPE A	4 EACH
ITEM 614	BARRIER REFLECTOR, TYPE B	49 EACH
ITEM 614	TEMPORARY RAISED PAVEMENT MARKER	536 EACH
ITEM 614	OBJECT MARKER	79 EACH
ITEM 615	TEMPORARY PAVEMENT, AS PER PLAN A	334 SQ. YD.
ITEM 615	TEMPORARY PAVEMENT, AS PER PLAN B	50 SQ. YD.
ITEM 616	CALCIUM CHLORIDE	1 TON
ITEM 616	WATER	1 M GAL
ITEM 622	PORTABLE CONCRETE BARRIER, 32" (PHASE I)	290 LIN. FT.
ITEM 622	PORTABLE CONCRETE BARRIER, 32" BRIDGE MOUNTED (PHASE I)	90 LIN. FT.
ITEM 622	PORTABLE CONCRETE BARRIER, 32" (PHASE II)	550 LIN. FT.
ITEM 622	PORTABLE CONCRETE BARRIER, 32" BRIDGE MOUNTED (PHASE II)	160 LIN. FT.

QUANTITIES CARRIED TO GENERAL SUMMARY

PHASING AND SIGNAL TIMING SETTINGS



⊗ MINIMUM UNTIL ACTUATED

2 - PHASE SIGNAL

THE TEMPORARY DETECTOR UNIT SHALL BE:

- (1) A MAGNETIC SENSOR ATTACHED TO A LIGHT WOOD POST AT ROADSIDE IF ONLY A SINGLE APPROACH LANE,
- (2) LOOPS OR MAGNETOMETERS IMBEDDED IN OR FASTENED TO THE DRIVE SURFACE (IMBEDMENT SHALL NOT BE USED FOR CONCRETE OR ASPHALT CONCRETE UNLESS THE SURFACE IS TO BE SURFACED OVER LATER AS A PART OF THE WORK) OR
- (3) SONIC DETECTORS, MOUNTED ON A SUITABLE SUPPORT BESIDE OR OVER THE ROAD.

THE SIGNAL CONTROLLER SHALL BE ACTUATED FOR PHASE 2.

MAINTAINING TRAFFIC

THE CONTRACTOR SHALL MAINTAIN TRAFFIC AT ALL TIMES IN ACCORDANCE WITH THE REQUIREMENTS OF SPEC. 614 AND THE CONSTRUCTION SEQUENCE DESCRIBED BELOW. TWO-WAY TRAFFIC SHALL BE MAINTAINED AT ALL TIMES BY USE OF THE EXISTING PAVEMENT, THE NEW PAVEMENT, ITEM 615 TEMPORARY PAVEMENT, AS PER PLAN AND PORTIONS OF THE EXISTING AND NEW BRIDGE DECKS.

ALTERNATING ONE-WAY TRAFFIC SHALL BE MAINTAINED BY USE OF TEMPORARY SIGNALS AS SHOWN ON SHEET No. 5. TRAFFIC SHALL BE SEPARATED FROM THE WORK AREA BY MEANS OF ITEM 622 PORTABLE CONCRETE BARRIER AND THE EXISTING CONCRETE MEDIAN.

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

CONSTRUCTION SEQUENCE

PHASE I

BEFORE STARTING ANY BRIDGE RECONSTRUCTION WHICH REQUIRES THE CLOSING OF A PORTION OF THE EXISTING PAVEMENT TO TRAFFIC, ALL PORTABLE CONCRETE BARRIERS, SIGNALS, SIGNS, LIGHTS, AND TEMPORARY PAVEMENT MARKINGS SHOWN FOR PHASE I SHALL BE FURNISHED AND ERECTED BY THE CONTRACTOR. ALSO, PORTIONS OF THE EXISTING CONCRETE MEDIAN SHALL BE REMOVED AND REPLACED WITH TEMPORARY PAVEMENT, AS PER PLAN B. FLAGGERS SHALL BE UTILIZED FOR THE PROTECTION OF VEHICULAR TRAFFIC UNTIL ERECTION OF THESE ITEMS ARE COMPLETE.

WHEN THE ABOVE REQUIREMENTS HAVE BEEN SATISFIED, THE EASTBOUND LANE SHALL BE OPENED FOR TRAFFIC AND CONSTRUCTION OF THE WESTBOUND PORTION OF THE BRIDGE AND PAVEMENT SHALL PROCEED IN ACCORDANCE WITH THE SEQUENCE SHOWN ON SHEET Nos. 5 AND 27. THE CONTRACTOR IS REQUIRED TO CONSTRUCT THE TEMPORARY PAVEMENT, AS PER PLAN A FOR PHASE II.

PHASE II

AFTER ALL PHASE I CONSTRUCTION HAS BEEN COMPLETED, THE CONTRACTOR SHALL PLACE THE PORTABLE CONCRETE BARRIERS AND SIGNS AS SHOWN FOR PHASE II.

MOVEMENT OF PORTABLE CONCRETE BARRIERS AND SIGNS BETWEEN PHASES SHALL BE ACCOMPLISHED IN ONE (1) WORKING DAY. FLAGGERS SHALL BE UTILIZED FOR THE PROTECTION OF VEHICULAR TRAFFIC UNTIL RELOCATION OF THE PORTABLE CONCRETE BARRIERS AND SIGNS ARE COMPLETE.

THE COMPLETED PORTION OF THE NEW BRIDGE, NEW PAVEMENT AND TEMPORARY PAVEMENT SHALL BE OPENED TO TRAFFIC AND CONSTRUCTION OF THE REMAINING PORTION OF THE BRIDGE AND PAVEMENT SHALL PROCEED IN ACCORDANCE WITH THE SEQUENCE SHOWN ON SHEET Nos. 5 AND 27.

PHASE III

AFTER COMPLETION OF PHASE II CONSTRUCTION, THE ROADWAY SHALL BE OPENED TO TWO LANES OF TRAFFIC. THE CONTRACTOR SHALL REMOVE THE TEMPORARY PAVEMENT, AS PER PLAN B AND CONSTRUCT ITEM 612, CONCRETE MEDIAN, AS PER PLAN. FLAGGERS SHALL BE UTILIZED FOR THE PROTECTION OF TRAFFIC UNTIL THE CONSTRUCTION OF THE MEDIAN IS COMPLETE.

COVERING OF SIGNS

WHERE THE PLANS CALL FOR A PERMANENT SIGN TO BE COVERED, THE CONTRACTOR SHALL DO SO IN SUCH A MANNER TO AVOID DAMAGING THE PERMANENT SIGN WHEN THE COVER IS REMOVED. THE COVER SHALL BE TOTALLY OPAQUE. THE USE OF ADHESIVE TAPE APPLIED DIRECTLY TO A SIGN FACE IS STRICTLY PROHIBITED.

ITEM 615 - TEMPORARY PAVEMENT, AS PER PLAN A

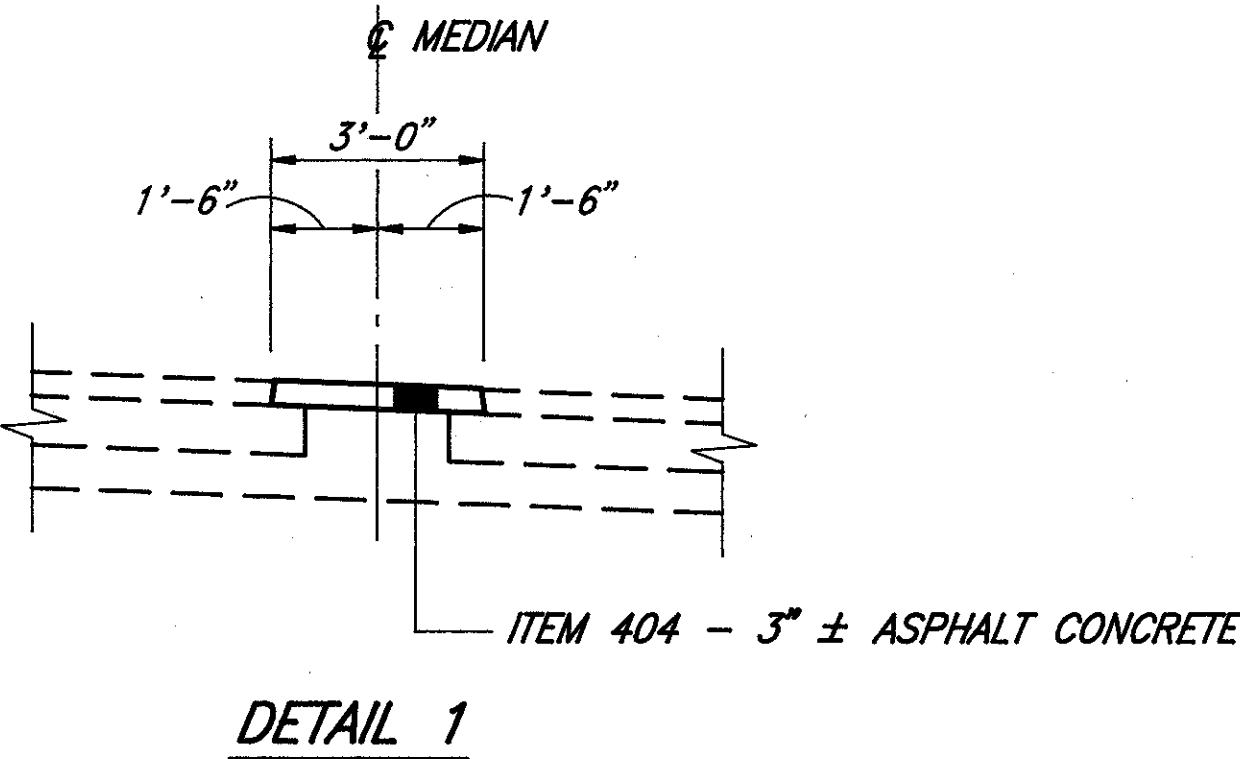
TEMPORARY PAVEMENT COURSE MAKE-UP FOR THIS PROJECT SHALL CONSIST OF THE FOLLOWING:

ITEM 404 - 3" ASPHALT CONCRETE, AC-20, AS PER PLAN

ITEM 301 - 5" BITUMINOUS AGGREGATE BASE

TEMPORARY PAVEMENT, AS PER PLAN A SHALL BE CONSTRUCTED AS SHOWN ON SHEET Nos. 2 AND 5. THE TEMPORARY PAVEMENT, AS PER PLAN SHALL REMAIN IN PLACE AND BECOME PART OF THE PERMANENT SHOULDER.

ITEM 615 - TEMPORARY PAVEMENT, AS PER PLAN B



TEMPORARY PAVEMENT, AS PER PLAN B SHALL BE CONSTRUCTED AS SHOWN IN DETAIL 1 AND ON SHEET No. 5. AFTER COMPLETION OF PHASE II CONSTRUCTION, THE CONTRACTOR SHALL REMOVE THE TEMPORARY PAVEMENT AND CONSTRUCT ITEM 612, CONCRETE MEDIAN, AS PER PLAN.

ITEM 614, BARRIER REFLECTORS

REFLECTORS AND THEIR MOUNTING SHALL CONFORM TO SUPPLEMENTAL SPECIFICATION 802 EXCEPT THAT SPACING SHALL BE AS SHOWN ON THE PLAN.

ITEM 622, PORTABLE CONCRETE BARRIER

IT IS ANTICIPATED THAT THE SAME BARRIER WILL BE USED IN VARIOUS PHASES OF CONSTRUCTION. MOVEMENT OF THE CONCRETE BARRIER BETWEEN PHASES SHALL BE ACCOMPLISHED IN ONE WORKING DAY. FLAGGERS SHALL BE UTILIZED FOR PROTECTION OF VEHICULAR TRAFFIC UNTIL MOVEMENT OF THE BARRIER IS COMPLETE.

GENERAL

THIS ITEM OF WORK SHALL CONSIST OF FURNISHING, INSTALLING, MAINTAINING, AND SUBSEQUENTLY REMOVING TEMPORARY RAISED PAVEMENT MARKERS (TRPM'S). THE MARKERS SHALL BE YELLOW OR WHITE, AS DESCRIBED IN THE PLAN.

MATERIAL

ALL MARKERS SHALL BE OF SUFFICIENT STRENGTH AND PROPERLY SHAPED SO AS NOT TO BE DISLODGED OR BROKEN, OR THE REFLECTOR DISLODGED OR BROKEN, OR THE REFLECTOR DISLODGED OR DAMAGED BY IMPACTS FROM VEHICLES TIRES, INCLUDING THOSE OF HIGH PRESSURE TRUCK TIRES LOADED TO 4500 POUNDS.

RETROREFLECTORS SHALL BE PROVIDED IN ONE OR TWO DIRECTIONS ON EACH MARKER AS REQUIRED BY THE USAGE AND SHALL RETURN WHITE OR YELLOW LIGHT AS IS APPROPRIATE FOR THE APPLICATION.

THE REFLECTOR SHALL HAVE AN EFFECTIVE AREA OF 0.35 SQUARE INCHES FOR TYPE A OR 3.0 SQUARE INCHES FOR TYPE B. ITS BRIGHTNESS OR SPECIFIC INTENSITY (WHEN TESTED AT 0.2 DEGREE ANGLE OF OBSERVATION AND THE FOLLOWING ANGLES OF INCIDENCE) SHALL MEET OR EXCEED THE FOLLOWING:

SPECIFIC INTENSITY

INCIDENCE ANGLE (DEGREES)	TYPE A	
	WHITE	YELLOW
0	1.0	0.6
20	0.4	0.24
45	-	-

	TYPE B	
	WHITE	YELLOW
0	3.0	1.8
20	1.2	0.72
45	0.3	0.2

ANGLE OF INCIDENCE FORMED BY A RAY FROM LIGHT SOURCE TO THE MARKER AND THE NORMAL TO THE LEADING EDGE OF THE MARKER FACE (ALSO HORIZONTAL ENTRANCE ANGLE).

ANGLE OF OBSERVATION FORMED BY A RAY FROM LIGHT SOURCE TO THE MARKER AND THE RETURNED RAY FROM THE MARKER TO THE MEASURING RECEPTOR.

SPECIFIC INTENSITY IS THE MEAN CANDLEPOWER OF THE REFLECTED LIGHT (AT GIVEN INCIDENCE AND DIVERGENCE ANGLES) FOR EACH FOOT-CANDLE AT THE REFLECTOR (ON A PLANE PERPENDICULAR TO THE INCIDENT LIGHT).

TYPE A MARKERS ARE INTENDED TO PROVIDE HIGH VISIBILITY BOTH DAY AND NIGHT. THEIR DAYTIME VISIBILITY SHALL BE ASSURED BY SIZE, SHAPE AND COLOR AS FOLLOWS:

1) THE MARKERS SHALL BE A HIGH VISIBILITY YELLOW OR WHITE COLOR WHICH WILL NOT DEGRADE SUBSTANTIALLY DUE TO TRAFFIC WEAR AND WHICH WILL MATCH THE COLOR OF THE REFLECTOR.

2) WHEN VIEWED FROM ABOVE, THE MARKERS SHALL HAVE A VISIBLE AREA OF NOT LESS THAN 14 SQUARE INCHES.

3) WHEN VIEWED FROM THE FRONT, PARALLEL TO THE PAVEMENT, AS FROM APPROACHING TRAFFIC, THE MARKER SHALL HAVE A WIDTH OF APPROXIMATELY 4 INCHES AND A VISIBLE AREA OF NOT LESS THAN 1.5 SQUARE INCHES.

TYPE B MARKERS ARE INTENDED TO PROVIDE HIGH VISIBLITY AT NIGHT BY RETROREFLECTING AUTOMOTIVE HEADLIGHT BACK TO DRIVER.

INSTALLATION

TEMPORARY RAISED PAVEMENT MARKERS SHALL BE ATTACHED TO CLEAN, DRY PAVEMENT BY A BUTYL ADHESIVE PAD, A BITUMINOUS ADHESIVE OR OTHER CONSTRUCTION GRADE ADHESIVES (SUCH AS FRANKLIN PANEL AND METAL ADHESIVE) SUITABLE TO ANCHOR THE MARKER UNDER THE ABOVE CONDITIONS. WHEN IT IS NECESSARY TO ATTACH MARKERS TO NEW CONCRETE PAVEMENT WITH CURING COMPOUND REMAINING, THE CURING COMPOUND MEMBRANE SHALL BE REMOVED BY SANDBLASTING OR OTHER MECHANICAL CLEANING METHOD. MARKERS SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.

THE CONTRACTOR SHALL IMMEDIATELY REPLACE, AT HIS EXPENSE, ANY MARKERS WHICH FAIL (BROKEN HOUSING, HOUSING WORN TO THE EXTENT THAT DAYTIME VISIBILITY IS SIGNIFICANTLY DIMINISHED OR OF AN UNACCEPTABLE COLOR, DETACHED OR BROKEN REFLECTOR, HOUSING DETACHED FROM ADHESIVE).

MARKERS ARE LIKELY TO BE REMOVED BY SNOW PLOWING OPERATIONS, THUS THEY ARE NOT CONSIDERED SUITABLE FOR USE DURING THE PERIOD FROM OCTOBER 15 UNTIL APRIL 30. THE CONTRACTOR IS ADVISED TO SCHEDULE HIS WORK AND/OR THE USE OF THESE DEVICES TO AVOID THIS PERIOD. SHOULD THE CONTRACTOR CHOOSE TO USE TRPM'S DURING THIS PERIOD AND THEY ARE SUBSEQUENTLY REMOVED OR DESTROYED BY SNOW AND ICE CONTROL ACTIVITIES, THE CONTRACTOR SHALL IMMEDIATELY, AT HIS EXPENSE, PROVIDE A SUBSTITUTE TRAFFIC GUIDANCE SYSTEM EFFECTIVE DURING DAY AND NIGHT WHICH IS ACCEPTABLE TO THE ENGINEER.

THE MARKERS SHALL BE PLACED ACCURATELY TO DEPICT STRAIGHT OR UNIFORMLY CURVING LINES. WHEN USED TO SUPPLEMENT TEMPORARY PAVEMENT MARKINGS, THEY SHALL BE PLACED ON OR IMMEDIATELY ADJACENT TO THE PAVEMENT MARKING. LOCATIONS SHALL BE ADJUSTED UP TO ONE FOOT LONGITUDINALLY OR SIX INCHES LATERALLY TO AVOID PLACEMENT ON JOINTS, OR ON CRACKED OR DETERIORATED PAVEMENT. MARKERS SHALL NOT BE PLACED DIRECTLY ON PAVEMENT MARKINGS IF THIS DISTRACTS FROM THEIR ABILITY TO REMAIN ATTACHED TO THE PAVEMENT.

APPLICATION

1) WHEN REQUIRED TO SUPPLEMENT PAVEMENT MARKING, TEMPORARY RAISED PAVEMENT MARKERS SHALL BE PLACED AS FOLLOWS:

LINE	TYPE	SPACING
EDGE LINE	A OR B	20' C/C
LANE LINE	A OR B	40' C/C *
CENTER LINE (SINGLE/BROKEN)	A OR B	40' C/C *
CENTER LINE (DOUBLE/SOLID)	A OR B	2 UNITS SIDE BY SIDE 4 INCHES APART 20' C/C
CHANNELIZING LINE (INCLUDES EXIT GORE NOSE)	A OR B	10' C/C

* CENTERED IN GAP

2) WHEN USED TO SIMULATE (REPLACE) PAVEMENT MARKING, TEMPORARY RAISED PAVEMENT MARKERS SHALL BE PLACED AS FOLLOWS:

LINE	TYPE	SPACING
EDGE LINE	A	5' C/C
LANE LINE	A	4 @ 3.33' C/C 30' GAP (40' CYCLE)
CENTER LINE (DOUBLE/SOLID)	A	2 UNITS SIDE BY SIDE 5' C/C
CENTER LINE (SINGLE/BROKEN)	A	4 @ 3.33' C/C 30' GAP (40' CYCLE)
CHANNELIZING LINE (INCLUDES EXIT GORE NOSE)	A	5' C/C
EDGE LINE (TWO COLOR) (WHITE/YELLOW)	A	BACK TO BACK 5' C/C

YELLOW MARKERS USED TO SEPARATE OPPOSITE FLOWS OF TRAFFIC (CENTER LINES) SHALL INCLUDE REFLECTIONS FOR BOTH DIRECTIONS. ALL OTHER YELLOW AND WHITE MARKERS SHALL PROVIDE RETROREFLECTIVITY FOR ONE DIRECTION ONLY.

REMOVAL

REMOVAL SHALL BE ACCOMPLISHED IN A MANNER THAT LITTLE OR NONE OF THE ADHESIVE REMAINS ON THE PAVEMENT. PERMANENT PAVEMENT SURFACES SHALL NOT BE SCARRED, BROKEN OR ROUGHENED SIGNIFICANTLY.

PAVEMENT

BASIS OF PAYMENT SHALL BE AT THE CONTRACT UNIT PRICE PER EACH MARKER AND SHALL INCLUDE ALL LABOR, EQUIPMENT, HARDWARE AND INCIDENTALS REQUIRED TO PERFORM THE WORK. IT SHALL ALSO INCLUDE REPLACEMENT AT NO ADDITIONAL COST OF ALL TEMPORARY RAISED PAVEMENT MARKERS WHICH, IN THE JUDGEMENT OF THE ENGINEER, FAIL FOR ANY REASON, EXCEPT DUE TO FAILURE OF THE PAVEMENT TO WHICH THEY ARE ATTACHED.

ITEM	UNIT	DESCRIPTION
614	536 EACH	TEMPORARY RAISED PAVEMENT MARKERS (QUANTITIES CARRIED TO SHEET 6)

STATIONING			SPACING	TYPE A			TYPE B OR A			REMARKS
FROM	TO	SIDE	(FT)	W	Y	Y/Y	W	Y	Y/Y	(LINE TYPE)
PHASE I										
STA. 14+47	STA. 16+27	Rt.	5'	37	37					
STA. 13+00	STA. 16+27	Lt.	5'	65	65					
STA. 16+27	STA. 17+61	Lt.	5'	28						
PHASE II										
(EASTBOUND)										
STA. 14+44.5	STA. 17+61	Lt.	5'	65						
STA. 13+00	STA. 17+44.5	Rt.	5'		89					
(WESTBOUND)										
STA. 14+44.5	STA. 17+44.5	Lt.	5'		61					
STA. 13+00	STA. 14+44.5	Rt.	5'	28						
STA. 14+44.5	STA. 17+44.5	Rt.	5'	61						
TOTALS				284	252					
				536						

REVISED BY:	DATE:
210120	DATE
614 TEMPORARY RAISED PAVEMENT MARKERS	03/30/88 03/23/90 03/28/90 07/03/90
PLAN INSERT SHEET	

C A L C U L A T I O N S

CALC. BY: G.J.R. DATE 1-4-94
CHKD. BY: J.M.M. DATE 3-17-94

F.H.W.A. REGION	STATE	PROJECT	
5	OHIO		

HARRISON COUNTY
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ITEM 203 - SUBGRADE COMPACTION

STA. 14+50 TO 14+82.72 = 32.72 L.F.
STA. 15+87.28 TO 16+25 = 37.72 L.F.
70.44 L.F.

WIDTH = 41.50'

$70.44' \times 41.50' \times \frac{1}{9} = 324.8$ SQ. YD.

AT APPROACH SLABS

WIDTH = 52'

STA. 14+82.72 TO 14+97.72 = 15 L.F.
STA. 15+72.28 TO 15+87.28 = 15 L.F.
30 L.F.

$30' \times 52' \times \frac{1}{9} = 173.3$ SQ. YD.

TOTAL = $324.8 + 173.3 = 498.1$
= 498 SQ. YD.

ITEM 301 - BITUMINOUS AGGREGATE BASE

ROADWAY - 5" THICK
7'-6" LEFT SIDE OF ROAD

STA. 14+50 TO 14+77 ± = 27.00 L.F.
STA. 15+81 ± TO 16+25 = 44.00 L.F.
71.00 L.F.

$71.00' \times 7.5' \times 0.42' \times \frac{1}{27} = 8.3$
= 9 CU. YD.

ITEM 304 - AGGREGATE BASE

ROADWAY - 6" THICK, 40' WIDE

STA. 14+50 TO 14+82.72 = 32.72 L.F.
STA. 15+87.28 TO 16+25 = 37.72 L.F.
70.44 L.F.

$70.44' \times 40' \times 0.50' \times \frac{1}{27} = 52.2$

APPROACH SLAB - 6" THICK, 51.67' WIDE

STA. 14+82.72 TO 14+97.72 = 15 L.F.
STA. 15+72.28 TO 15+87.28 = 15 L.F.
30 L.F.

$30' \times 51.67' \times 0.50' \times \frac{1}{27} = 28.7$

TOTAL = $52.2 + 28.7 = 80.9 = 81$ CU. YD.

ITEM 451 - 9" REINFORCED CONCRETE PAVEMENT

STA. 14+50 TO 14+82.72 = 32.72 L.F.
STA. 15+87.28 TO 16+25 = 37.72 L.F.
70.44 L.F.

WIDTH = 37'

$70.44' \times 37' \times \frac{1}{9} = 289.6 = 290$ SQ. YD.

ITEM 402 - 1 3/4" ASPHALT CONCRETE, AC-20

WIDTH = 24'-6" (LEFT OF MEDIAN)
WIDTH = 17' (RIGHT OF MEDIAN)

TOTAL WIDTH = 41'-6"

STA. 14+50 TO 14+82.72 = 32.72 L.F.
STA. 15+87.28 TO 16+25 = 37.72 L.F.
70.44 L.F.

$70.44' \times 41.5' \times 0.146' \times \frac{1}{27} = 15.8$
= 16 CU. YD.

ITEM 404 - 1 1/4" ASPHALT CONCRETE, AC-20 AS PER PLAN

WIDTH = 24'-6" (LEFT OF MEDIAN)
WIDTH = 17' (RIGHT OF MEDIAN)

TOTAL WIDTH = 41'-6"

STA. 14+50 TO 14+82.72 = 32.72 L.F.
STA. 15+87.28 TO 16+25 = 37.72 L.F.
70.44 L.F.

$70.44' \times 41.5' \times 0.104' \times \frac{1}{27} = 11.3$
= 12 CU. YD.

ITEM 407 - TACK COAT

AT 0.075 GAL./SQ. YD.

WIDTH = 17' (EACH SIDE OF MEDIAN)

TOTAL WIDTH = 34'

STA. 14+50 TO 14+82.72 = 32.72 L.F.
STA. 15+87.28 TO 16+25 = 37.72 L.F.
70.44 L.F.

$70.44' \times 34' \times \frac{1}{9} \times 0.075 = 20$ GAL.

ITEM 611 - APPROACH SLAB, AS PER PLAN

WIDTH = 52'

STA. 14+82.72 TO 14+97.72 = 15 L.F.
STA. 15+72.28 TO 15+87.28 = 15 L.F.
30 L.F.

$30' \times 52' \times \frac{1}{9} = 174$ SQ. YD.

ITEM 615 - TEMPORARY PAVEMENT, AS PER PLAN A

STA. 13+00 TO 14+82.72 = 182.72 L.F.
STA. 15+87.28 TO 127+70± = 217.72 L.F.
400.44 L.F.

⊗ S.R. 9 STATIONING

WIDTH = 7'-6" RIGHT SIDE OF ROAD

$400.44' \times 7.5' \times \frac{1}{9} = 333.7$
= 334 SQ. YD.

ITEM 615 - TEMPORARY PAVEMENT, AS PER PLAN B

STA. 13+00 TO 14+50 = 150 L.F.

WIDTH = 3'

$150' \times 3' \times \frac{1}{9} = 50$ SQ. YD.

ITEM 642 - EDGE LINE, TYPE 2

(YELLOW ALONG MEDIAN, WHITE ALONG BERM)

STA. 13+00 TO 17+50 ± = 450 L.F.

EACH SIDE OF ROAD
(BOTH DIRECTIONS)

$450 \times 4 = 1800$ L.F.
= 0.34 MILE

ITEM 659 - SEEDING AND MULCHING

QUANTITY TAKEN FROM CROSS SECTIONS

TOTAL = 3152 SQ. FT.

$\frac{3152}{9} = 350$ SQ. YD.

ITEM 659 - COMMERCIAL FERTILIZER

3152 SQ.FT. ⊗ 20 LBS. PER 1000 SQ. FT.

$3152 \times \frac{20}{1000} \times \frac{1}{2000} = 0.03$ TON

ITEM 659 - AGRICULTURAL LIMING

3152 SQ. FT. ⊗ 100 LBS. PER 1000 SQ. FT.

$3152 \times \frac{100}{1000} \times \frac{1}{2000} = 0.16$ TON

ITEM 202 - PAVEMENT REMOVED

STA. 14+50 TO 14+72.72 = 22.72 L.F.
STA. 15+97.28 TO 16+25 = 27.72 L.F.
50.44 L.F.

WIDTH = 35'

$50.44' \times 35' \times \frac{1}{9} = 196$ SQ. YD.

ITEM 202 - APPROACH SLAB REMOVED

WIDTH = 37'

STA. 14+72.72 TO 14+97.72 = 25 L.F.
STA. 15+72.28 TO 15+97.28 = 25 L.F.
50 L.F.

$50' \times 37' \times \frac{1}{9} = 206$ SQ. YD.

ITEM 202 - FENCE REMOVED FOR REUSE

TYPICAL AT EACH WINGWALL
APPROX. LENGTH = 20 L.F.

$4 \times 20' = 80$ LIN. FT.

GENERAL SUMMARY

CALC. BY S.J.R. DATE 1-4-94
CHKD. BY J.M.M. DATE 3-17-94

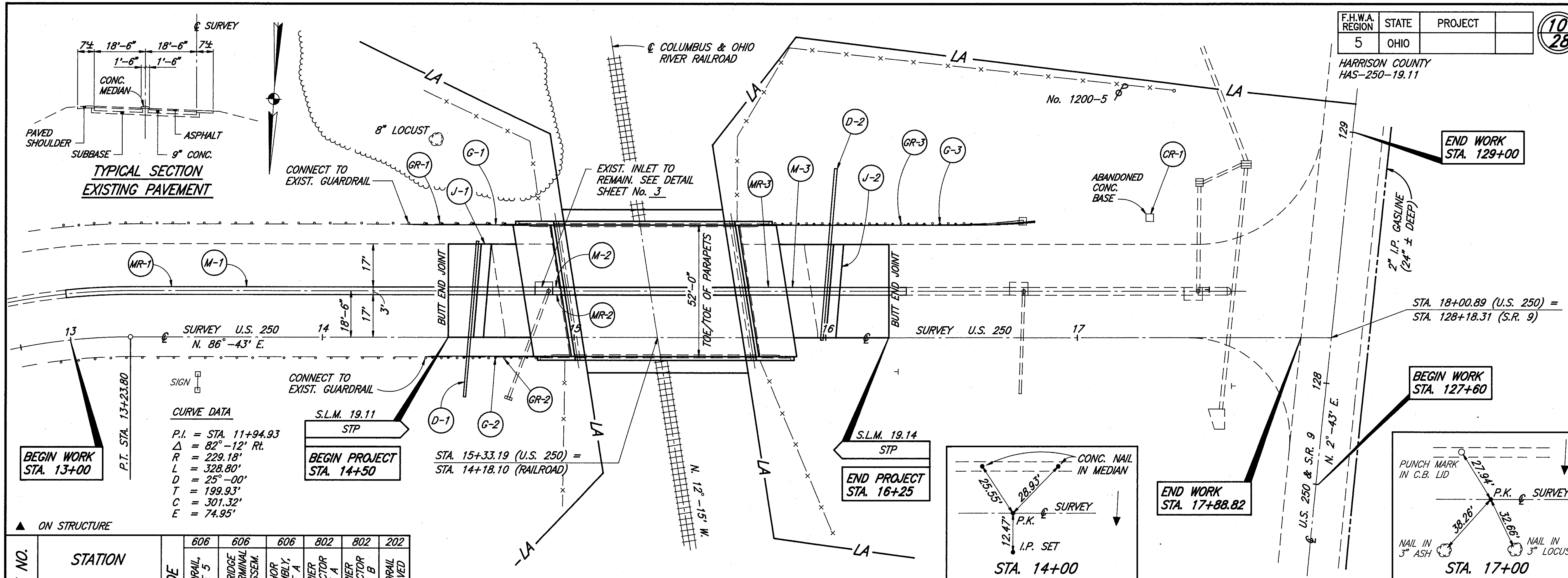
F.H.W.A. REGION	STATE	PROJECT	
5	OHIO		

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TOTALS FROM SHEET NUMBERS					PARTICIPATION			ITEM	ITEM EXT.	TOTAL	UNIT	DESCRIPTION
4	6	8	10	12								
LUMP								201	11000	LUMP		---- ROADWAY ----
		206						202	22900	206	S.Y.	CLEARING AND GRUBBING
		196						202	23000	196	S.Y.	APPROACH SLAB REMOVED
			1					202	23900	1	S.Y.	PAVEMENT REMOVED
			84					202	30600	84	S.Y.	CONCRETE BASE REMOVED
								202	30600	84	S.Y.	CONCRETE MEDIAN REMOVED
			175					202	38000	175	L.F.	GUARDRAIL REMOVED
		80						202	75200	80	L.F.	FENCE REMOVED FOR REUSE
				100				203	12000	100	C.Y.	EXCAVATION NOT INCLUDING EMBANKMENT CONSTRUCTION
				3				203	20000	3	C.Y.	EMBANKMENT
		498						203	50000	498	S.Y.	SUBGRADE COMPACTION
			162.50					606	13000	162.50	L.F.	GUARDRAIL, TYPE 5
			1					606	25000	1	EACH	ANCHOR ASSEMBLY, TYPE A
			2					606	35000	2	EACH	BRIDGE TERMINAL ASSEMBLY, TYPE 1
			1					606	35100	1	EACH	BRIDGE TERMINAL ASSEMBLY, TYPE 2
80								607	16000	80	L.F.	FENCE REBUILT, TYPE 47
												---- EROSION CONTROL ----
200								207	30000	200	L.F.	FILTER FABRIC FENCE (SEE PROPOSAL NOTE)
100								207	70000	100	EACH	STRAW OR HAY BALES
		350						659	10000	350	S.Y.	SEEDING AND MULCHING
		0.03						659	20000	0.03	TON	COMMERCIAL FERTILIZER
		0.16						659	30000	0.16	TON	AGRICULTURAL LIMING
1								659	35000	1	MGAL	WATER
												---- DRAINAGE ----
			130					605	11100	130	L.F.	6" SHALLOW PIPE UNDERDRAIN, 707.01 OR 707.21
												---- PAVEMENT ----
		9						301	10002	9	C.Y.	BITUMINOUS AGGREGATE BASE, AC-20
		81						304	20000	81	C.Y.	AGGREGATE BASE (SEE PROPOSAL NOTE)
		16						402	20000	16	C.Y.	ASPHALT CONCRETE, AC-20
		12						404	20001	12	C.Y.	ASPHALT CONCRETE, AC-20, AS PER PLAN
		20						407	10000	20	GAL	TACK COAT (SEE SHEET 4)
		290						451	14000	290	S.Y.	9" REINFORCED CONCRETE PAVEMENT
			74					SPECIAL	45130000	74	L.F.	PRESSURE RELIEF JOINT, TYPE A
		174						611	10001	174	S.Y.	REINFORCED CONCRETE APPROACH SLAB (T=12"), AS PER PLAN (SEE SHEET 3)
			84					612	42001	84	S.Y.	CONCRETE MEDIAN, AS PER PLAN (SEE SHEETS 2 & 3)
												---- TRAFFIC CONTROL ----
		0.34						642	00102	0.34	MILE	EDGE LINE, TYPE 2
			4					802	00100	4	EACH	BARRIER REFLECTOR, TYPE A
			2					802	00200	2	EACH	BARRIER REFLECTOR, TYPE B
												---- MAINTENANCE OF TRAFFIC ----
536								614	12800	536	EACH	TEMPORARY RAISED PAVEMENT MARKER
4								614	13200	4	EACH	BARRIER REFLECTOR, TYPE A
6								614	13202	6	EACH	BARRIER REFLECTOR, TYPE A2
49								614	13300	49	EACH	BARRIER REFLECTOR, TYPE B
27								614	13302	27	EACH	BARRIER REFLECTOR, TYPE B2
79								614	13350	79	EACH	OBJECT MARKER
0.06								614	21300	0.06	MILE	TEMPORARY CENTER LINE, CLASS I, 740.05 TYPE C
0.04								614	22300	0.04	MILE	TEMPORARY EDGE LINE, CLASS I, 740.05 TYPE C
41								614	26600	41	L.F.	TEMPORARY STOP LINE, CLASS I, 740.05 TYPE C
334								615	35001	334	S.Y.	TEMPORARY PAVEMENT, AS PER PLAN A (SEE SHEET 6)
50								615	35001	50	S.Y.	TEMPORARY PAVEMENT, AS PER PLAN B (SEE SHEET 6)
1								616	10000	1	MGAL	WATER
1								616	20000	1	TON	CALCIUM CHLORIDE
840								622	40020	840	L.F.	PORTABLE CONCRETE BARRIER, 32"
250								622	40040	250	L.F.	PORTABLE CONCRETE BARRIER, 32", BRIDGE MOUNTED (SEE SHEET 27)
												FOR STRUCTURE QUANTITIES, SEE SHEET 15
LUMP								614	11000	LUMP		MAINTAINING TRAFFIC
								619	15000	LUMP		FIELD OFFICE, TYPE A
								SPECIAL	61925000	LUMP		COMPUTER EQUIPMENT FOR TYPE A FIELD OFFICE (SEE PROPOSAL NOTE)
								623	10000	LUMP		CONSTRUCTION LAYOUT STAKES
								624	10000	LUMP		MOBILIZATION

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CURVE DATA
P.I. = STA. 11+94.93
 Δ = 82°-12' Rt.
R = 229.18'
L = 328.80'
D = 25°-00'
T = 199.93'
C = 301.32'
E = 74.95'

▲ ON STRUCTURE

MARK NO.	STATION		SIDE	606	606		606	802	802	202
				GUARDRAIL, TYPE 5	BRIDGE TERMINAL ASSEM. EACH TYPE	ANCHOR ASSEMBLY; TYPE A	BARRIER REFLECTOR TYPE A	BARRIER REFLECTOR TYPE B	GUARDRAIL REMOVED	
	FROM	TO		L.F.	1	2	EACH	EACH	EACH	L.F.
G-1	14+41.23	14+78.73	Lt.	37.50		1		1	▲	
G-2	14+43.76	14+87.51	Rt.	43.75	1			1	▲	
G-3	15+76.65	16+82.90	Lt.	81.25	1		1	2		
GR-1	14+41 ±	14+78.50 ±	Lt.							37.5
GR-2	14+50 ±	14+87.50 ±	Rt.							37.5
GR-3	15+77 ±	16+77 ±	Lt.							100
TOTALS				162.5	2	1	1	4	2	175

MARK NO.	STATION		SIDE	612	SPECIAL	202	202
				CONCRETE MEDIAN, AS PER PLAN	PRESSURE RELIEF JT., TYPE A	CONCRETE MEDIAN REMOVED	CONCRETE BASE REMOVED
	FROM	TO		S.Y.	L.F.	S.Y.	S.Y.
M-1	13+00	14+84.50	Lt.	62			
M-2	14+91.50	14+94.80	Lt.	1			
M-3	15+69.35	16+32.00	Lt.	21			
J-1	14+60	14+64	L/R		37		
J-2	16+00	16+04	L/R		37		
MR-1	13+00	14+84.50	Lt.			62	
MR-2	14+91.50	14+94.80	Lt.			1	
MR-2	15+69.35	16+32.00	Lt.			21	
CR-1	17+28		Lt.				1
TOTALS				84	74	84	1

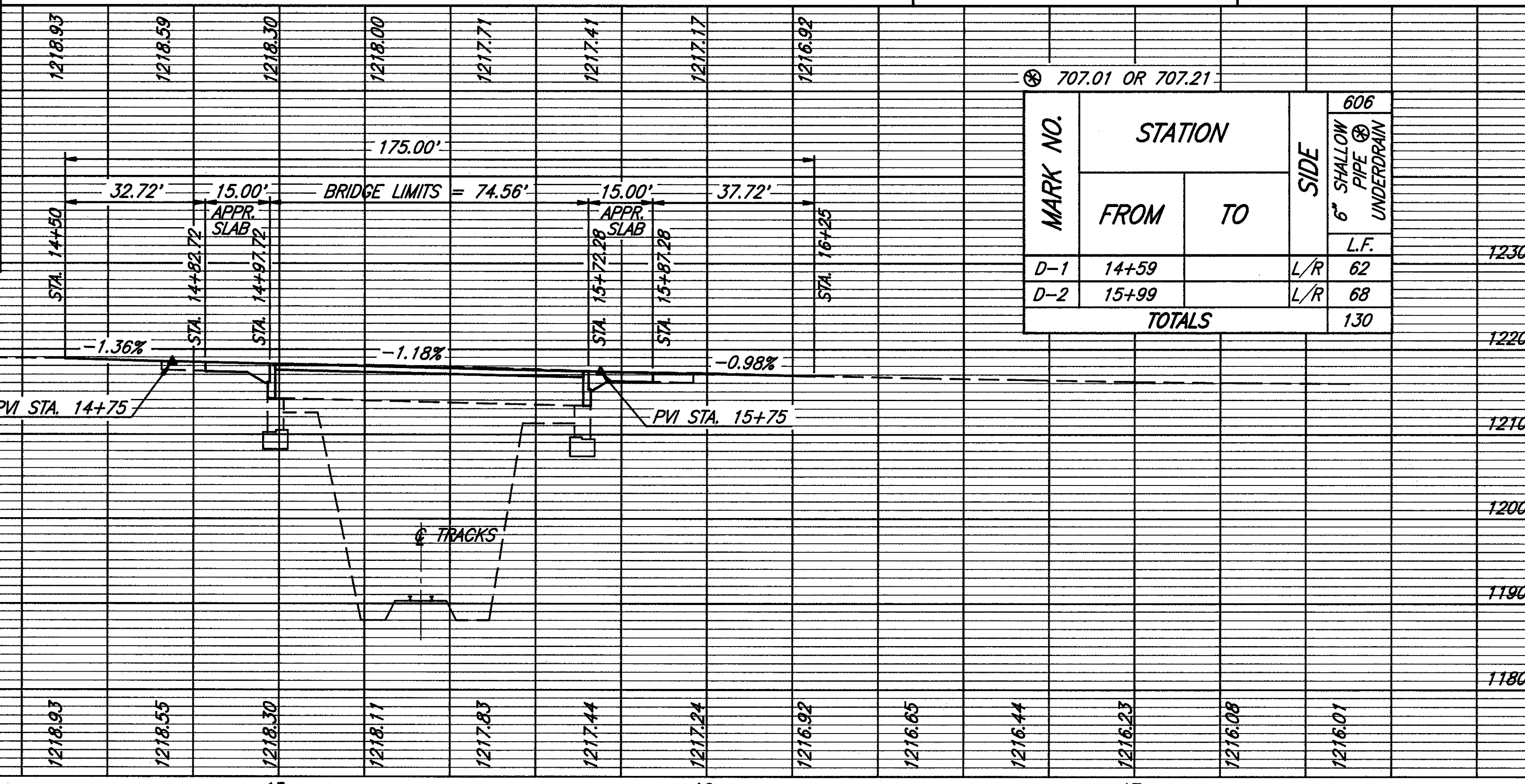
707.01 OR 707.21					
MARK NO.	STATION		SIDE	606	
				6" SHALLOW PIPE @ UNDERDRAIN	
	FROM	TO		L.F.	
D-1	14+59		L/R	62	
D-2	15+99		L/R	68	
TOTALS				130	

BENCHMARK
STA. 14+45, 78' Lt.
TOP SPIKE IN
8" LOCUST
EL. 1222.25

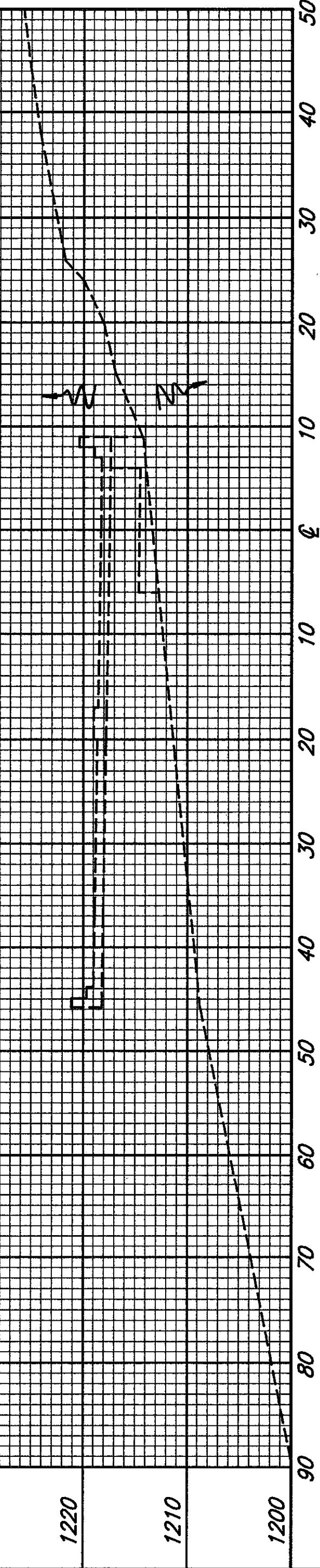
BENCHMARK
STA. 17+48.5, 61' Lt.
TOP CUT ON S.W.
CORNER OF C.B.
EL. 1213.00

EXISTING STRUCTURE
TYPE: SINGLE SPAN STEEL BEAM W/ REINF. CONC. DECK & REINF. CONC. SUBSTRUCTURE
SPAN: 70'-0"± c/c BEARINGS
ROADWAY: 53'-0"± F/F OF CONC. PARAPETS
LOADING: CF=400 (57)
WEARING SURFACE: CONCRETE
ALIGNMENT: TANGENT
SKEW: 8°-58'± R.F.
APPROACH SLABS: AS-1-54 (25' LONG)
SUPERELEVATION: 0.015'/FT.±
STRUCTURE FILE No.: 3401898
DATE BUILT: 1960

PROPOSED STRUCTURE (REHAB.)
TYPE: SINGLE SPAN STEEL BEAM (EXIST.) WITH REINF. CONC. DECK - COMPOSITE CONST.
SPAN: 70'-0"± c/c BEARINGS
ROADWAY: 52'-0"± TOE/TOE OF PARAPETS
LOADING: HS20-44 CASE II
& ALTERNATE MILITARY LOADING
WEARING SURFACE: MONOLITHIC CONCRETE
ALIGNMENT: TANGENT
SKEW: 8°-58'± R.F.
APPROACH SLABS: AS-1-81 (15'-0" LONG)
SUPERELEVATION: 0.016'/FT.

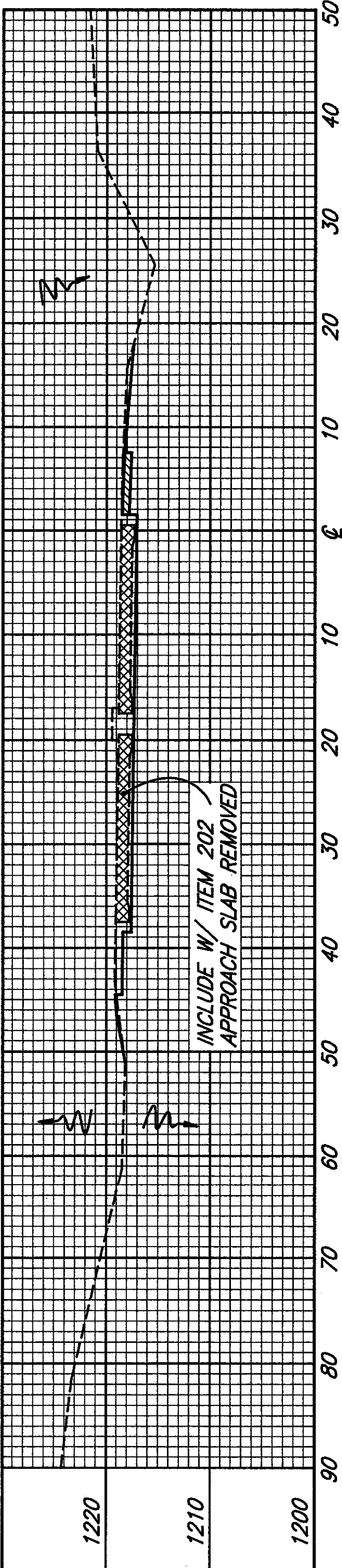


SEEDING		AREA		VOLUME	
WTH AREA		CUT	FILL	CUT	FILL
1432				38	3
30		15	2		
				15	2
30		21	2		
				23	1
30		29	0		

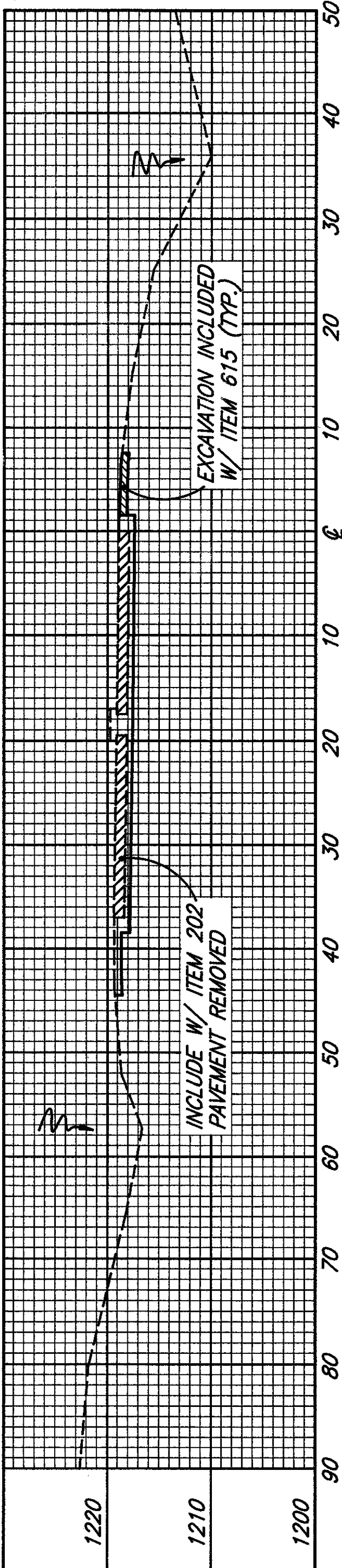


1218.30
STA. 15+00
1218.30

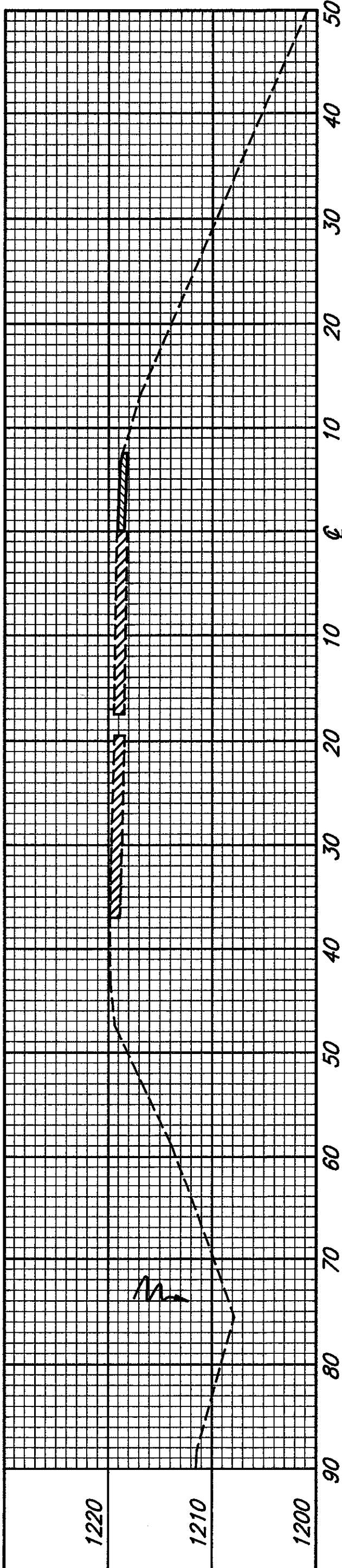
STA. 14+97.72



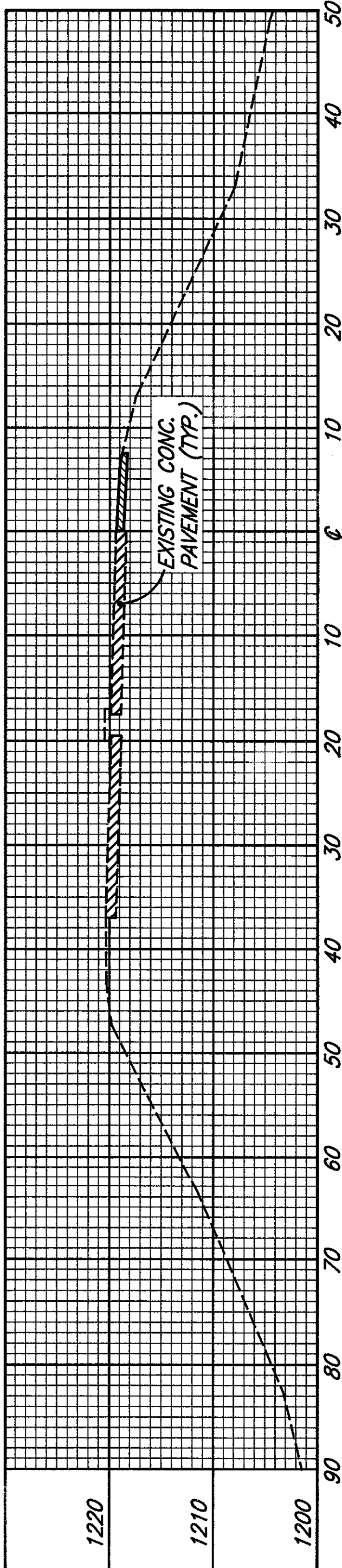
1218.59
STA. 14+75
1218.55



1218.93
STA. 14+50
1218.93



1219.19
STA. 14+00



1219.37
STA. 13+50

BACK

AHEAD

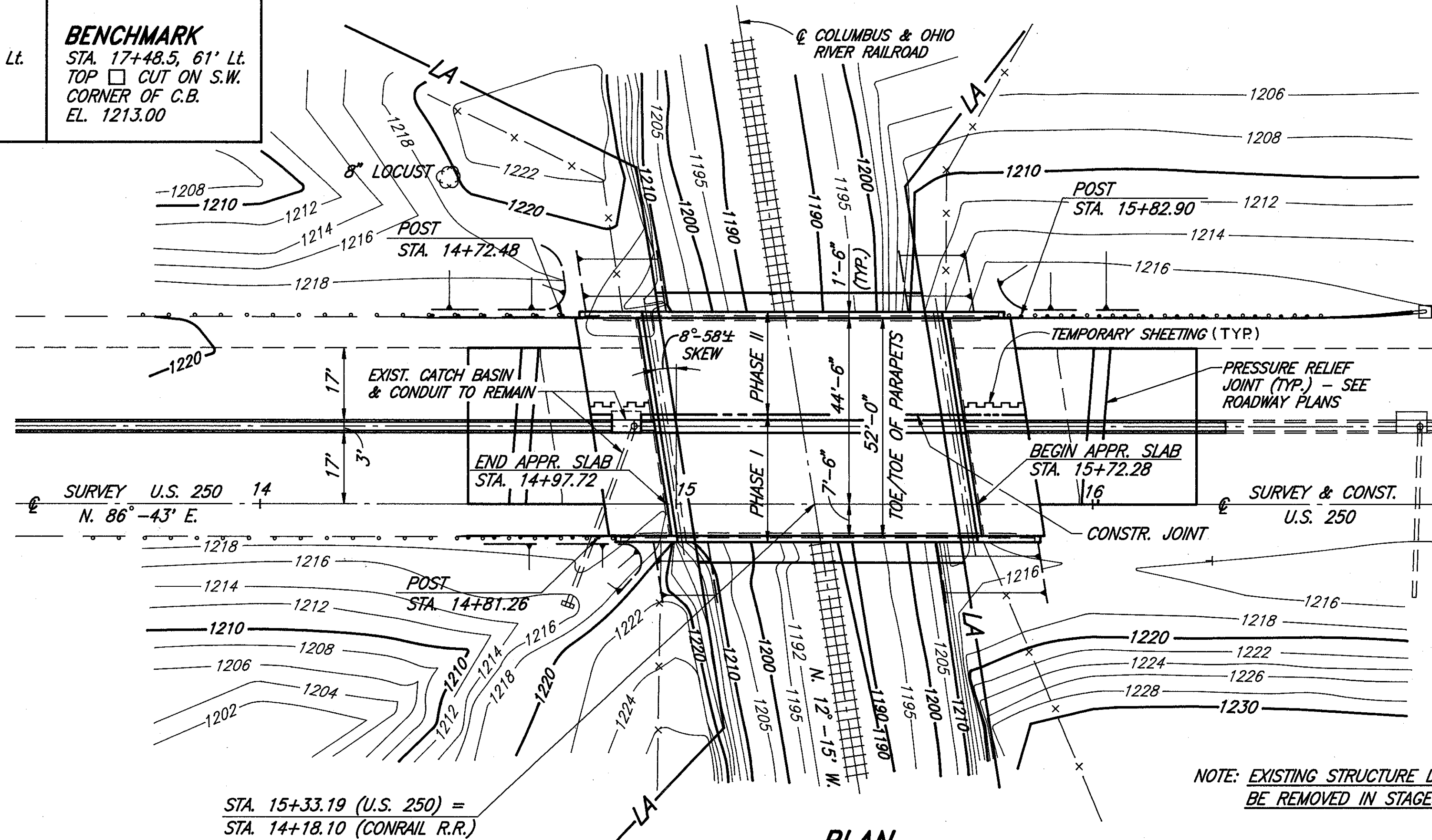
BENCHMARK
STA. 14+45, 78' Lt.
TOP SPIKE IN
8" LOCUST
EL. 1222.25

BENCHMARK
STA. 17+48.5, 61' Lt.
TOP ☐ CUT ON S.W.
CORNER OF C.B.
EL. 1213.00

F.H.W.A. REGION	STATE	PROJECT
5	OHIO	

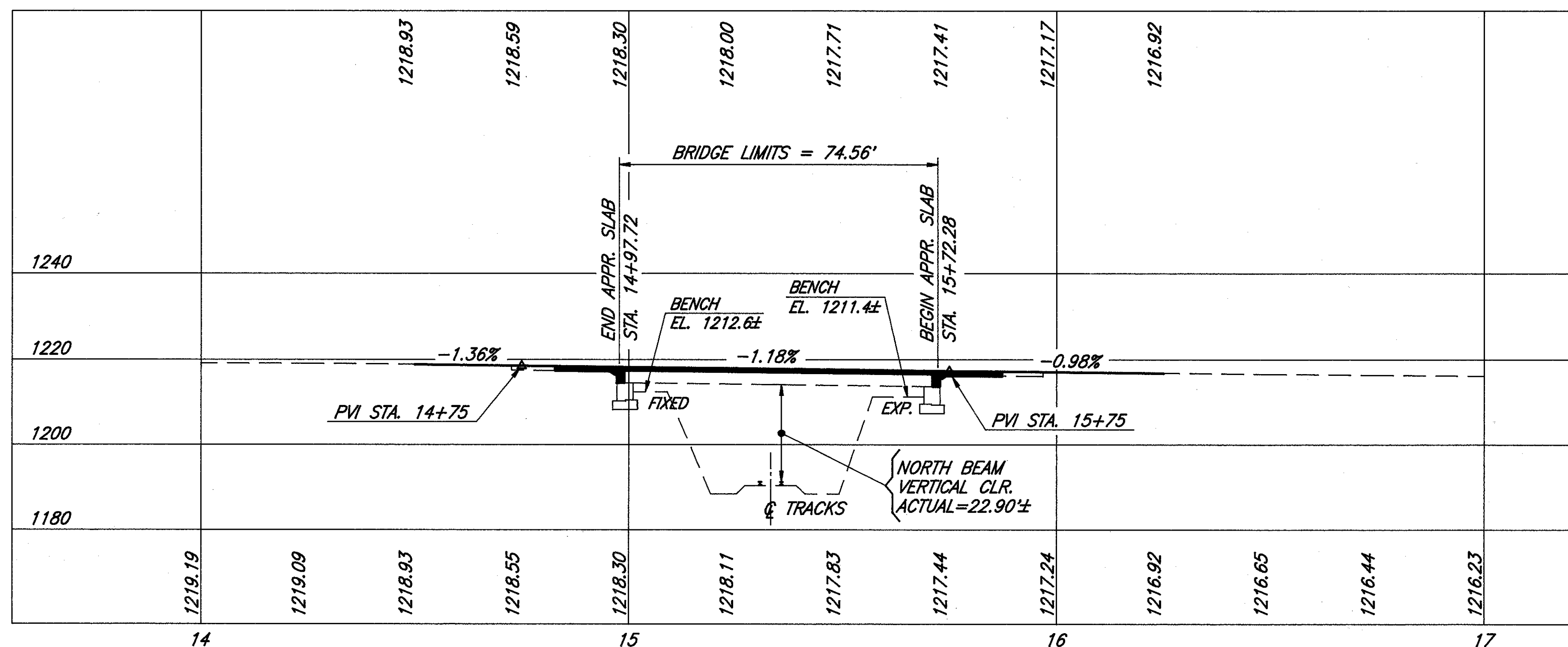
13
28

HARRISON COUNTY
HAS-250-19.11



PLAN

NOTE: EARTHWORK LIMITS SHOWN ARE APPROXIMATE.
ACTUAL SLOPES SHALL CONFORM TO PLAN
CROSS SECTIONS.



PROFILE ALONG $\mathcal{C}$ SURVEY

DESIGN DESIGNATION

CURRENT YEAR (ADT) 1994 = 1060
DESIGN YEAR (ADT) 2014 = 1370
(ADTT) = 137

EXISTING STRUCTURE

TYPE: SINGLE SPAN STEEL BEAM W/ REINF. CONC.
DECK & REINF. CONC. SUBSTRUCTURE
SPAN: 70'-0" $\pm$ c/c BEARINGS
ROADWAY: 53'-0" $\pm$ F/F OF CONC. PARAPETS
WEARING SURFACE: CONCRETE
ALIGNMENT: TANGENT
SKEW: 8°-58' $\pm$ R.F.
APPROACH SLABS: AS-1-54 (25' LONG)
SUPERELEVATION: 0.015'/FT. $\pm$
STRUCTURE FILE No.: 3401898
DATE BUILT: 1960

PROPOSED STRUCTURE (REHAB.)

TYPE: SINGLE SPAN STEEL BEAM (EXIST.) WITH
REINF. CONC. DECK - COMPOSITE CONST.
SPAN: 70'-0" $\pm$ c/c BEARINGS
ROADWAY: 52'-0" TOE/TOE OF PARAPETS
LOADING: HS20-44 CASE II
& ALTERNATE MILITARY LOADING
WEARING SURFACE: MONOLITHIC CONCRETE
ALIGNMENT: TANGENT
SKEW: 8°-58' $\pm$ R.F.
APPROACH SLABS: AS-1-81 (15'-0" LONG)
SUPERELEVATION: 0.016'/FT.

REVIEWED BY BURGESS & NIPLE, LTD.
M.P.B. 04/05/94

TRUMBULL CONSULTANTS, INC.
CANFIELD, OHIO

SITE PLAN

BRIDGE NO. HAS-250-1912
OVER COLUMBUS & OHIO RIVER R.R.

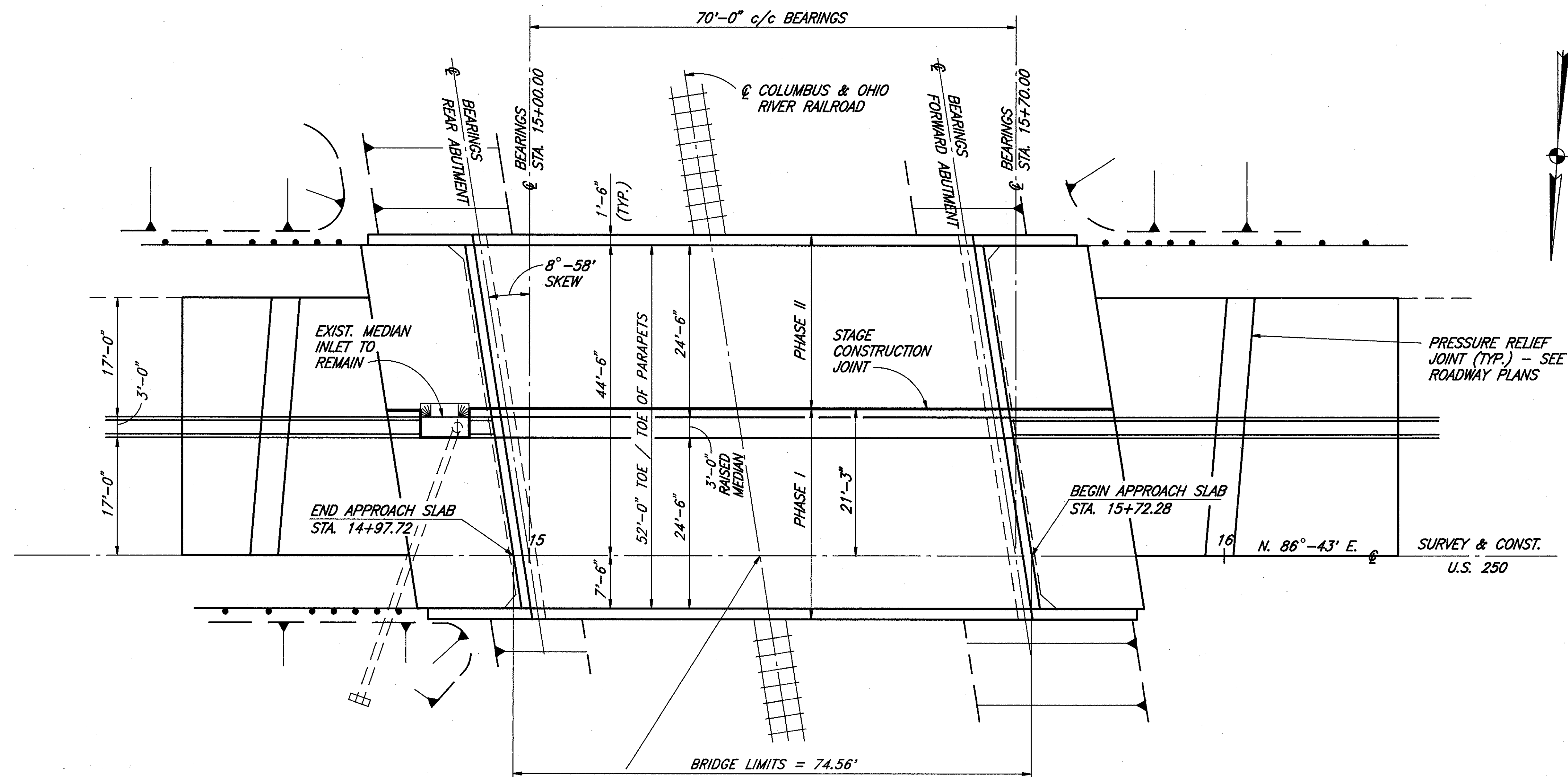
HARRISON COUNTY to STA. 14+97.72
to STA. 15+72.28

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
A.T.	A.T.		S.J.R.	J.M.M.	3/94	

F.H.W.A. REGION	STATE	PROJECT	
5	OHIO		

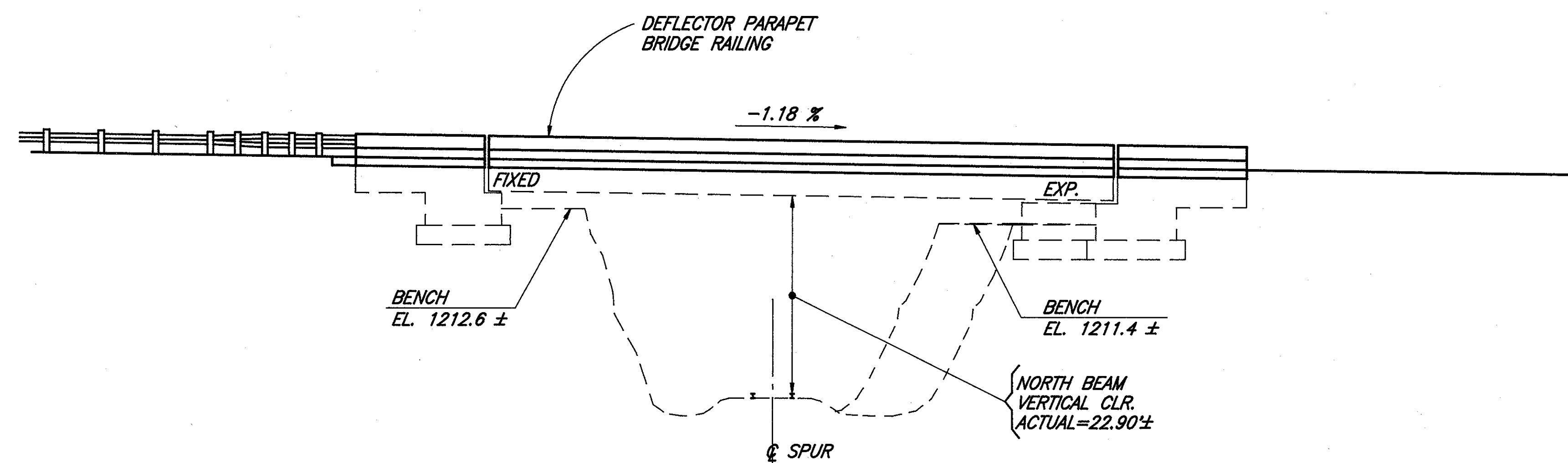
HARRISON COUNTY
HAS-250-19.11

14
28



STA. 15+33.19 (U.S. 250) =
STA. 14+18.10 (RAILROAD)

GENERAL PLAN



ELEVATION

2 / 16

TRUMBULL CONSULTANTS, INC. CANFIELD, OHIO					
GENERAL PLAN & ELEVATION					
BRIDGE NO. HAS-250-1912			OVER COLUMBUS & OHIO RIVER R.R.		
HARRISON COUNTY			STA. 14+97.72 to STA. 15+72.28		
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE
A.T.	A.T.		S.J.R.	J.M.M.	3/94

F.H.W.A. REGION	STATE	PROJECT	
5	OHIO		



HARRISON COUNTY
HAS-250-19.11

GENERAL NOTES

QUANTITY CALCULATIONS

CALC. BY S.J.R. DATE 1-17-94
CHKD. BY J.M.M. DATE 1-19-94

ESTIMATED QUANTITIES

ITEM	ITEM EXT.	TOTAL	UNIT	DESCRIPTION	ABUT- MENTS	SUPER- STRUCT	GENERAL
202	11203	LUMP		PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN			LUMP
503	11100	LUMP		COFFERDAMS, CRIBS AND SHEETING			LUMP
503	21300	LUMP		UNCLASSIFIED EXCAVATION	LUMP		
509	1582+	33,348	LB.	EPOXY COATED REINFORCING STEEL, GRADE 60	4808	28,490	50
510	11101	100	EACH	DOWEL HOLE, AS PER PLAN	4	96	
511	31502	132	CU. YD.	CLASS S CONCRETE, SUPERSTRUCTURE, (BEAMS WITH DEFLECTOR PARAPET)		132	
511+	33404	132	CU. YD.	CLASS S CONCRETE, SUPERSTRUCTURE (USING SHRINKAGE COMPENSATING CEMENT) *		132	
511+	33410	LUMP		CLASS S CONCRETE, USING SHRINKAGE COMPENSATING CEMENT, FOR PRE-PLACEMENT TESTING *		LUMP	
511	45700	41	CU. YD.	CLASS C CONCRETE, ABUTMENT (RECONSTRUCTION)	41		
SPECIAL	51267500	235	SQ. YD.	SEALING OF CONCRETE SURFACES *	62	173	
SPECIAL	51267502	110	SQ. YD.	SEALING OF CONCRETE SURFACES(EPOXY) *	110		
513	15900	2600	LB.	STRUCTURAL STEEL, REPLACEMENT OF DETERIORATED END CROSSFRAMES		2600	
513	20000	980	EACH	WELDED STUD SHEAR CONNECTOR		980	
SPECIAL	81500050	7000	SQ. FT.	SURFACE PREPARATION OF EXISTING STEEL, SYSTEM OZEU		7000	
SPECIAL	81500056	7000	SQ. FT.	FIELD PAINTING OF EXISTING STEEL, PRIME COAT, SYSTEM OZEU		7000	
SPECIAL	81500060	7000	SQ. FT.	FIELD PAINTING OF EXISTING STEEL, INTERMEDIATE COAT, SYSTEM OZEU		7000	
SPECIAL	81500066	7000	SQ. FT.	FIELD PAINTING OF EXISTING STEEL, FINISH COAT, SYSTEM OZEU		7000	
SPECIAL	81500508	70	LIN. FT.	GRINDING FLANGE EDGES *		70	
514	00610	2600	LB.	FIELD PAINTING OF NEW STEEL, SYSTEM IZEU *		2600	
516	10500	112	LIN. FT.	STRUCTURAL EXPANSION JOINT INCLUDING ELASTOMERIC COMPRESSION SEAL *		112	
518	21201	25	CU. YD.	POROUS BACKFILL WITH FILTER FABRIC, AS PER PLAN	25		
519	11100	20	SQ. FT.	PATCHING CONCRETE STRUCTURE	20		

* SEE PROPOSAL NOTE

+ ALTERNATE BID ITEM: THESE TWO ITEMS SHALL CONSTITUTE ONE
ALTERNATE BID TO CLASS S CONCRETE, SUPERSTRUCTURE.

REFERENCE SHALL BE MADE TO:

STANDARD	DRAWINGS	SUPPLEMENTAL	SPEC.
AS-1-81	DATED 9-15-94	910	DATED 7-17-95
EXJ-2-81	DATED 4-2-84	849	DATED 6-14-95
SD-1-69	DATED 6-12-69	949	DATED 6-14-95
PCB-91	DATED 4-24-92	815	DATED 7-17-95

DESIGN SPECIFICATIONS: THIS STRUCTURE CONFORMS TO THE "STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, 1992, INCLUDING THE 1993 INTERIM SPECIFICATIONS AND THE ODOT BRIDGE DESIGN MANUAL.

DESIGN DATA:
DESIGN LOADING - HS20-44 CASE II AND THE
ALTERNATE MILITARY LOADING

CONCRETE CLASS S - COMPRESSIVE STRENGTH 4500 PSI,
FOR SUPERSTRUCTURE

CONCRETE CLASS C - UNIT STRESS 1333 PSI, FOR SUBSTRUCTURE

REINFORCING STEEL - ASTM A615, A616 OR A617.
GRADE 60 - UNIT STRESS 24,000 P.S.I.

DECK PROTECTION METHOD -
EPOXY COATED REINFORCING STEEL
2 1/2" CONCRETE COVER
SEALING OF CONCRETE SURFACES

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

ITEM SPECIAL - SEALING OF CONCRETE SURFACES: A CONCRETE SEALER
SHALL BE APPLIED TO THE FOLLOWING SURFACES:

PORTIONS OF SUPERSTRUCTURE DECK AND PARAPET AS SHOWN
ON SHEET 10/16 .

ALL EXPOSED SURFACES OF ABUTMENTS AND WINGWALLS AS
SHOWN ON SHEETS 6/16 AND 8/16 .

SEE THE PROPOSAL NOTE FOR SURFACE PREPARATION REQUIREMENTS,
APPLICATION RATES, MATERIAL REQUIREMENTS AND APPLICATION
PROCEDURES.

CUT LINE CONSTRUCTION JOINT PREPARATION: SAW CUT BOUNDARIES OF PROPOSED CONCRETE REMOVALS 1" DEEP. REMOVE CONCRETE TO A ROUGH SURFACE. WHERE PRACTICABLE, THE EXISTING REINFORCING STEEL WHERE REQUIRED IN THE PLANS SHALL BE LEFT IN PLACE. INSTALL DOWEL BARS AS SPECIFIED. PRIOR TO CONCRETE PLACEMENT, ABRASIVELY CLEAN JOINT SURFACE AND EXPOSED REINFORCEMENT TO REMOVE LOOSE AND DISINTEGRATED CONCRETE AND LOOSE RUST. THEN, THE JOINT SURFACE AND EXPOSED REINFORCEMENT SHALL BE THOROUGHLY CLEANED OF ALL DIRT, DUST, OR OTHER FOREIGN MATERIAL BY THE USE OF WATER, AIR UNDER PRESSURE, OR OTHER METHODS THAT PRODUCE SATISFACTORY RESULTS. CONCRETE BONDING SURFACES SHALL BE WET WITHOUT FREE WATER AS CONCRETE IS PLACED.

EXISTING REINFORCING STEEL PARTIALLY EXPOSED BY CONCRETE REMOVAL SHOULD BE LEFT IN PLACE, EXCEPT THAT IT SHALL BE BENT AS NECESSARY TO CLEAR PROPOSED CONCRETE SURFACES BY AT LEAST 2 INCHES.

SUBSTRUCTURE CONCRETE REMOVAL: SHALL BE BY MEANS OF APPROVED PNEUMATIC HAMMERS EMPLOYING POINTED AND BLUNT CHISEL TOOLS. HYDRAULIC HOE-RAM TYPE HAMMERS WILL NOT BE PERMITTED. THE WEIGHT OF THE HAMMER SHALL NOT BE MORE THAN 35 POUNDS FOR REMOVAL WITHIN 18-INCHES OF PORTIONS TO BE PRESERVED. OUTSIDE THE 18-INCH LIMIT, A HAMMER HEAVIER THAN 35 POUNDS, BUT NOT TO EXCEED 90 POUNDS, MAY BE USED AT THE APPROVAL OF THE ENGINEER. PNEUMATIC HAMMERS SHALL NOT BE PLACED IN DIRECT CONTACT WITH REINFORCING STEEL THAT IS TO BE RETAINED IN THE REBUILT STRUCTURE.

EXISTING STRUCTURE VERIFICATION: DETAILS AND DIMENSIONS SHOWN ON THESE PLANS PERTAINING TO THE EXISTING STRUCTURE HAVE BEEN OBTAINED FROM PLANS OF THE EXISTING STRUCTURE AND/OR FROM FIELD OBSERVATIONS AND MEASUREMENTS. CONSEQUENTLY, THEY ARE INDICATIVE OF THE EXISTING STRUCTURE AND THE PROPOSED WORK BUT THEY SHALL BE CONSIDERED TENTATIVE AND APPROXIMATE. THE CONTRACTOR IS REFERRED TO CMS SECTIONS 102.05, 105.02 AND 513.02.

CONTRACT BID PRICES SHALL BE BASED UPON A RECOGNITION OF THE UNCERTAINTIES DESCRIBED ABOVE AND UPON A PREBID EXAMINATION OF THE EXISTING STRUCTURE BY THE CONTRACTOR. HOWEVER, ALL PROJECT WORK SHALL BE BASED UPON ACTUAL DETAILS AND DIMENSIONS WHICH HAVE BEEN VERIFIED BY THE CONTRACTOR IN THE FIELD.

EXISTING STRUCTURE PLANS: THE EXISTING STRUCTURE PLANS ARE ON FILE AND MAY BE EXAMINED AT THE ODOT DISTRICT ELEVEN OFFICE IN NEW PHILADELPHIA, OHIO.

EXISTING STRUCTURE: WHEN NO LONGER NEEDED TO MAINTAIN TRAFFIC, PORTIONS OF THE EXISTING STRUCTURE MAY BE REMOVED IN ACCORDANCE WITH THE SEQUENCE OF PHASE CONSTRUCTION AS SHOWN ON SHEET 15/16 .

REPLACEMENT OF EXISTING REINFORCING STEEL: ANY EXISTING REINFORCING BARS WHICH ARE TO BE INCORPORATED INTO THE NEW WORK AND WHICH ARE MADE UNUSABLE BY THE CONTRACTOR'S CONCRETE REMOVAL OPERATIONS SHALL BE REPLACED WITH NEW STEEL AT THEIR COST. ANY EXISTING REINFORCING BARS DEEMED BY THE ENGINEER TO BE UNUSABLE BECAUSE OF CORROSION SHALL BE REPLACED WITH NEW STEEL. AN ALLOWANCE OF 50 POUNDS IS INCLUDED IN ITEM 509 FOR THIS PURPOSE, LISTED IN THE "GENERAL" COLUMN OF THE ESTIMATED QUANTITIES TABLE.

3 / 16

TRUMBULL CONSULTANTS, INC. CANFIELD, OHIO					
GENERAL NOTES & ESTIMATED QUANTITIES BRIDGE NO. HAS-250-1912 OVER COLUMBUS & OHIO RIVER R.R. HARRISON COUNTY STA. 14+97.72 to STA. 15+72.28					
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE
A.T.	A.T.		S.J.R.	J.M.M.	3/94

GENERAL NOTES

PORTIONS OF STRUCTURE REMOVED, AS PER PLAN

DESCRIPTION: THIS WORK SHALL CONSIST OF THE REMOVAL OF:

SUPERSTRUCTURE

CONCRETE DECKS INCLUDING PARAPETS, DECK END CROSSFRAMES, DECK JOINTS AND OTHER APPURTENANCES FROM STEEL SUPPORTING SYSTEMS (BEAMS AND INTERMEDIATE CROSSFRAMES). CARE SHALL BE TAKEN DURING DECK REMOVAL TO PROTECT PORTIONS OF SUCH SYSTEMS THAT ARE TO BE SALVAGED AND INCORPORATED INTO THE PROPOSED STRUCTURE. IN THIS RESPECT, THE USE OF EXPLOSIVES, HEADACHE BALLS AND/OR HOE RAM TYPE OF EQUIPMENT IS PROHIBITED.

SUBSTRUCTURE

ABUTMENT BACKWALLS AND WINGWALLS TO THE LIMITS INDICATED ON SHEET 5 / 16 .

PROTECTION OF TRAFFIC: PRIOR TO DEMOLITION OF ANY PORTIONS OF THE EXISTING SUPERSTRUCTURE, THE CONTRACTOR SHALL SUBMIT HIS PLANS FOR THE PROTECTION OF TRAFFIC (VEHICULAR, PEDESTRIAN, ETC.) ADJACENT TO AND/OR UNDER THE STRUCTURE TO THE DIRECTOR FOR APPROVAL. THESE PLANS SHALL INCLUDE PROVISIONS FOR ANY DEVICES AND STRUCTURES THAT MAY BE NECESSARY TO ENSURE SUCH PROTECTION. TEMPORARY VERTICAL CLEARANCES SPECIFIED ON THE PLANS OR IN THE PROPOSAL SHALL BE MAINTAINED AT ALL TIMES EXCEPT AS OTHERWISE APPROVED BY THE DIRECTOR.

PROTECTION OF STEEL SUPPORT SYSTEMS: BEFORE DECK SLAB CUTTING IS PERMITTED, THE OUTLINE OF PRIMARY STEEL MEMBERS IN CONTACT WITH THE BOTTOM OF THE DECK SHALL BE DRAWN ON THE SURFACE OF THE DECK. SMALL DIAMETER PILOT HOLES SHALL BE DRILLED 2 INCHES OUTSIDE THESE LINES TO CONFIRM THE LOCATION OF FLANGE EDGES. DECK CUTS OVER OR WITHIN 2 INCHES OF FLANGE EDGES SHALL NOT EXTEND LOWER THAN THE BOTTOM LAYER OF DECK SLAB REINFORCING STEEL. CUTS MADE OUTSIDE 2 INCHES OF FLANGE EDGES MAY EXTEND THE FULL DEPTH OF THE DECK. DURING CUTTING OF THE DECK SLAB, CARE SHALL BE TAKEN NOT TO DAMAGE STEEL MEMBERS THAT ARE TO BE INCORPORATED INTO THE PROPOSED STRUCTURE.

REMOVAL METHODS: CONCRETE MAY BE REMOVED BY CUTTING AND BY MEANS OF HAND OPERATED PNEUMATIC HAMMERS EMPLOYING POINTED OR BLUNTED CHISEL TYPE TOOLS. FOR REMOVALS ABOVE STEEL MEMBERS, A HAMMER HEAVIER THAN 35 POUNDS BUT NOT TO EXCEED 90 POUNDS MAY BE USED AT THE APPROVAL OF THE ENGINEER, TO ENSURE ADEQUATE DEPTH CONTROL AND TO PREVENT NICKING OR GOUGING THE PRIMARY STEEL MEMBERS.

DECK REMOVALS: DUE TO THE POSSIBLE PRESENCE OF WELDED ATTACHMENTS TO EXISTING STRUCTURAL STEEL (FINISHING MACHINE, FORM SUPPORTS, ETC.), CARE SHALL BE TAKEN DURING DECK REMOVAL TO AVOID DAMAGING STRINGERS WHICH ARE TO REMAIN. STRINGERS DAMAGED BY THE CONTRACTOR'S REMOVAL OPERATIONS SHALL, AT NO COST TO THE PROJECT, BE REPLACED OR REPAIRED. PROPOSED REPAIRS, DEVELOPED BY A REGISTERED PROFESSIONAL ENGINEER, SHALL BE SUBMITTED IN WRITING FOR REVIEW AND APPROVAL BY THE DIRECTOR.

LOADING LIMITATIONS: NO PART OF THE STRUCTURE SHALL BE SUBJECTED TO UNIT STRESSES THAT EXCEED 136.5% OF THE ALLOWABLE UNIT STRESSES GIVEN IN THE AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES DUE EITHER TO DEMOLITION, ERECTION OR CONSTRUCTION METHODS, OR TO THE USE OR MOVEMENT OF DEMOLITION OR ERECTION EQUIPMENT ON OR ACROSS THE STRUCTURE. STRUCTURAL ANALYSIS COMPUTATIONS, BY A REGISTERED PROFESSIONAL ENGINEER, SHOWING THE ALLOWABLE STRESSES AND THE MAXIMUM STRESSES PRODUCED BY THE CONTRACTOR'S METHODS OR EQUIPMENT SHALL BE SUBMITTED TO THE DIRECTOR FOR REVIEW AND APPROVAL AT LEAST TWO WEEKS PRIOR TO THE START OF THE WORK.

PAYMENT: THIS WORK WILL BE PAID FOR AT THE CONTRACT LUMP SUM PRICE BID, WHICH PRICE AND PAYMENT SHALL BE FULL COMPENSATION FOR ALL LABOR, EQUIPMENT, MATERIALS AND INCIDENTALS NECESSARY TO COMPLETE THE WORK IN CONFORMANCE WITH THESE REQUIREMENTS, WITH PERTINENT PROVISIONS OF 202, AND TO SATISFACTION OF THE ENGINEER.

FIELD PAINTING OF STRUCTURAL STEEL

NEW STEEL SHALL BE CLEANED AND PRIME PAINTED IN THE SHOP AND FIELD PAINTED WITH AN INTERMEDIATE AND FINISH COAT OF PAINT USING SYSTEM IZEU. EXISTING STEEL SHALL BE FIELD CLEANED AND PAINTED WITH A PRIME, INTERMEDIATE, AND FINISH COAT OF PAINT USING SYSTEM OZEU. FOR PAY PURPOSES, CLEANING AND PRIME PAINTED NEW STEEL IS INCLUDED IN 513, INTERMEDIATE AND FINISH PAINTING OF NEW STEEL IN 514, AND FIELD CLEANING AND PAINTING EXISTING STEEL IN SEVERAL OZEU ITEMS. THE SURFACE AREA PAY QUANTITIES ARE BASED ON THE SURFACE AREA OF MAIN MEMBERS INCREASED BY 10 PERCENT TO ACCOUNT FOR THE AREA OF CROSSFRAMES, BEARINGS, AND OTHER STEEL INCIDENTALS BEING CLEANED AND PAINTED.

DECK JOINT PAINTING

AFTER CLEANING IN THE FIELD AS DIRECTED, AND PREFERABLY AFTER INSTALLATION OF JOINT SEALS, ALL UPPER EXPOSED STEEL SURFACES EXCLUDING ROADWAY SURFACES IN TRAVELED LANES SHALL BE PAINTED WITH A SYSTEM OZEU PRIME, INTERMEDIATE, AND FINISH COAT OF PAINT AS DESCRIBED IN THE PROPOSAL NOTE FOR OZEU PAINTING. COST FOR FIELD CLEANING AND PAINTING SHALL BE INCLUDED IN THE PRICE BID PER LINEAL FOOT FOR THE DECK EXPANSION JOINTS.

DECK JOINT MATERIALS

STEEL FOR DECK JOINTS THAT IS TO BE FULLY ENCASED IN CONCRETE MAY BE UNPAINTED ASTM A36 OR A588. ALL OTHER STEEL PORTIONS OF THE JOINTS SHALL BE ASTM A588. STEEL SHALL BE ABRASIVELY CLEANED IN THE SHOP PRIOR TO FINAL ASSEMBLY. SHOP PAINTING IS NOT REQUIRED.

STRUCTURE EXCAVATION

STRUCTURE EXCAVATION IN ADDITION TO THAT NECESSARY TO REMOVE PORTIONS OF THE EXISTING STRUCTURE, AND ALL NECESSARY BACKFILL, IS INCLUDED IN THE LUMP SUM BID ITEM, "UNCLASSIFIED EXCAVATION", FOR PAYMENT.

ELASTOMERIC SEALS

THE JOINT SEAL FOR EACH BRIDGE DECK JOINT SHALL BE FURNISHED IN ONE CONTINUOUS PIECE.

CONSTRUCTION CLEARANCE

CONSTRUCTION CLEARANCE OF 10 FEET HORIZONTALLY FROM THE CENTER OF TRACKS AND 21.5 FEET VERTICALLY FROM A POINT LEVEL WITH THE TOP OF THE HIGHER RAIL SHALL BE MAINTAINED AT ALL TIMES.

ADDITIONAL NOTES SHEET 7 / 16 .

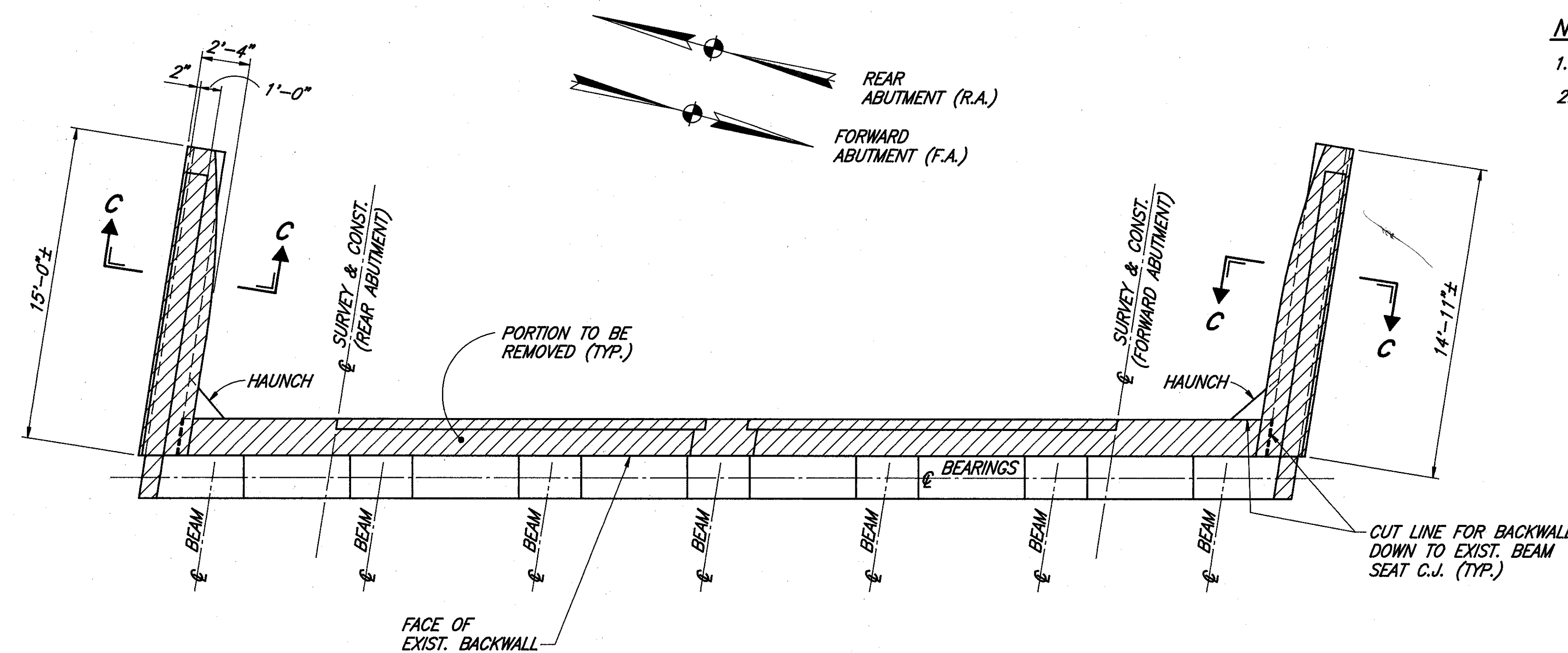
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GENERAL NOTES							
BRIDGE NO.				HAS-250-1912			
OVER COLUMBUS & OHIO RIVER R.R.							
HARRISON COUNTY				STA. 14+97.72 to STA. 15+72.28			
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED	
A.T.	A.T.		S.J.R.	J.M.M.	3/94		

NOTES

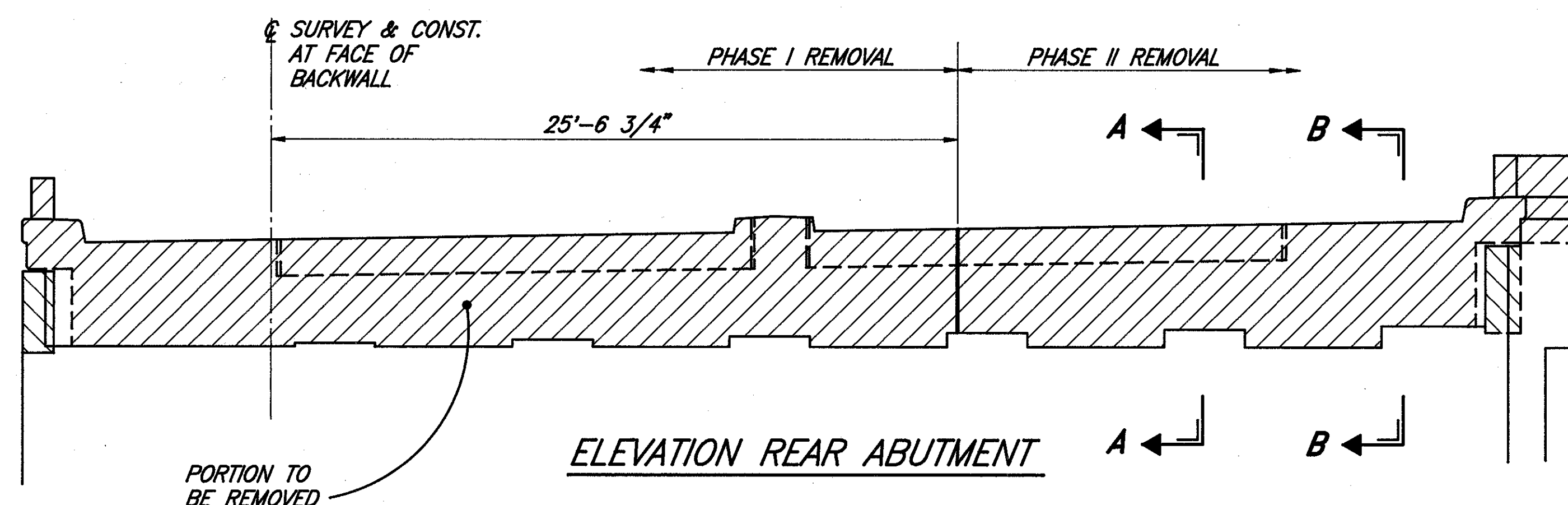
1. FOR REMOVAL NOTES, SEE SHEET 4 / 16 .

2. THE AREAS WHERE THE EXISTING CURTAIN WALLS ARE REMOVED SHALL BE REPAIRED IN ACCORDANCE WITH ITEM 519, PATCHING CONCRETE STRUCTURES. IN ADDITION, ANY AREAS NOT SHOWN IN THE PLANS DEEMED REPAIRABLE BY THE ENGINEER SHALL BE REPAIRED IN ACCORDANCE WITH THIS SPECIFICATION. PAYMENT WILL BE MADE AT THE CONTRACT PRICE FOR:

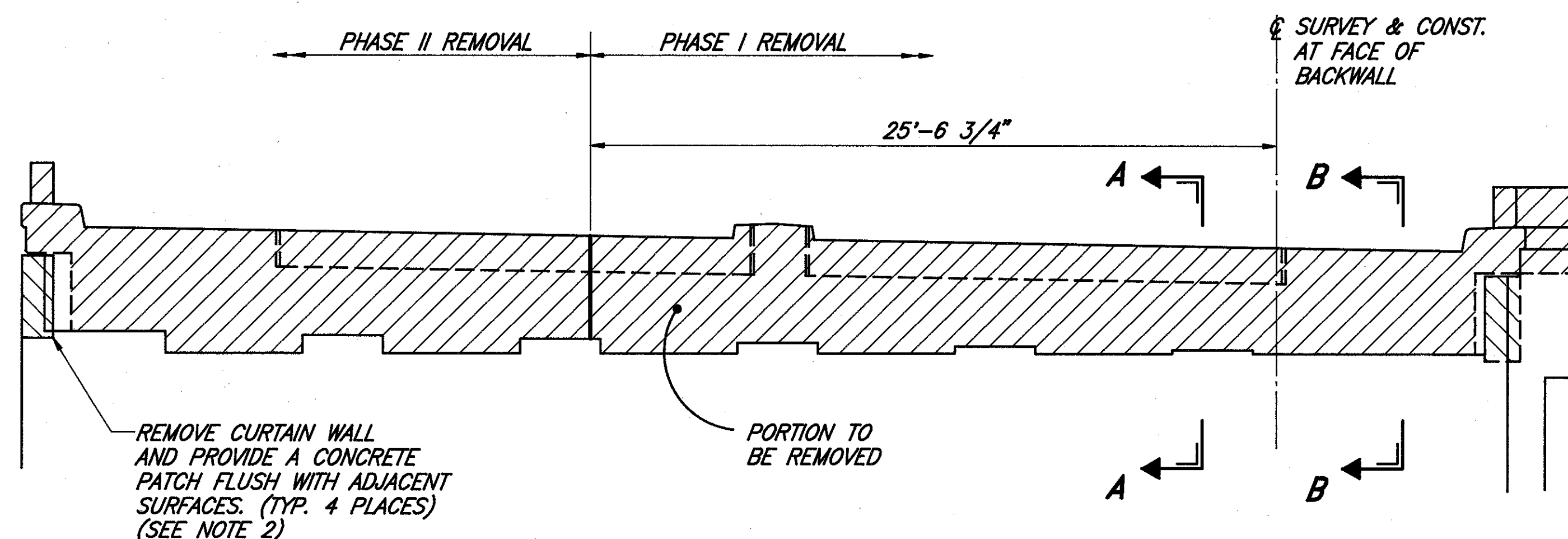
ITEM 519 20 SQ. FT. PATCHING CONCRETE STRUCTURES



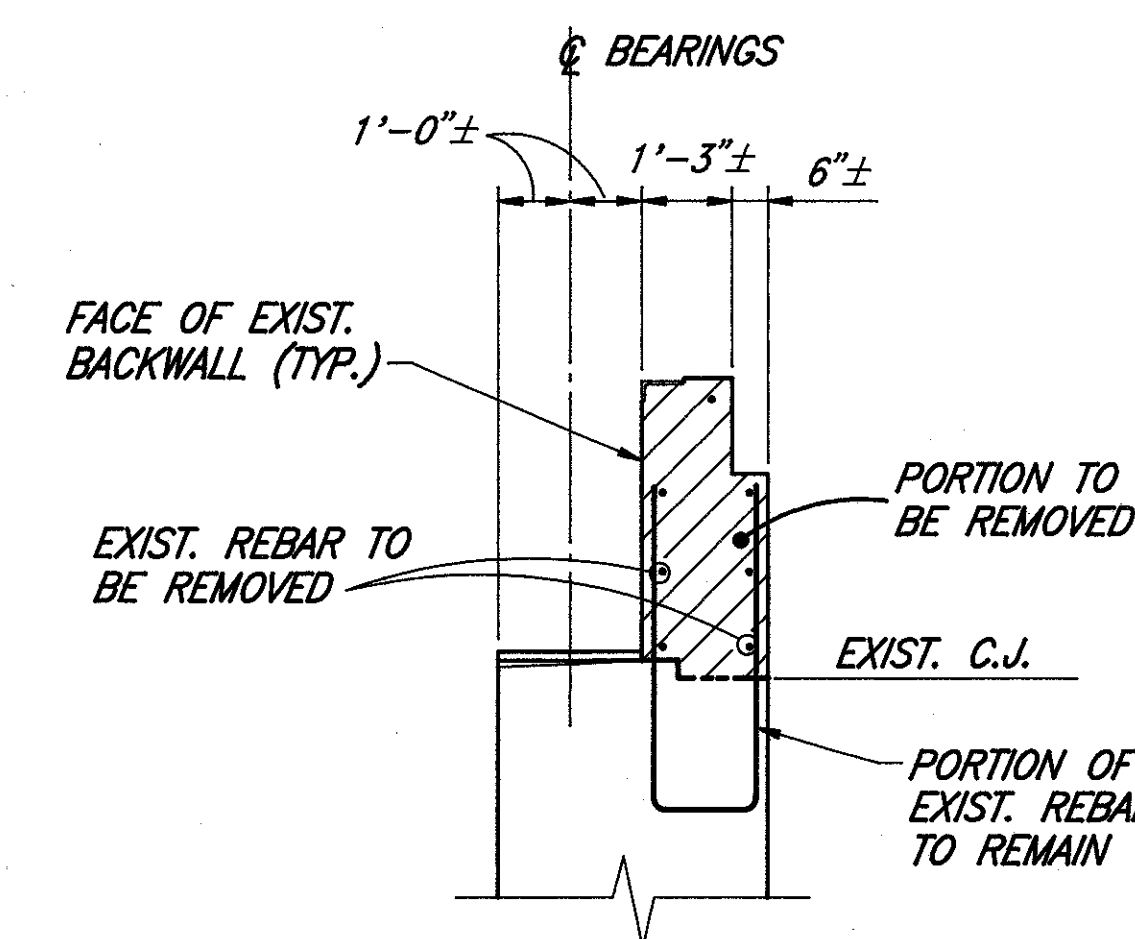
PLAN



ELEVATION REAR ABUTMENT

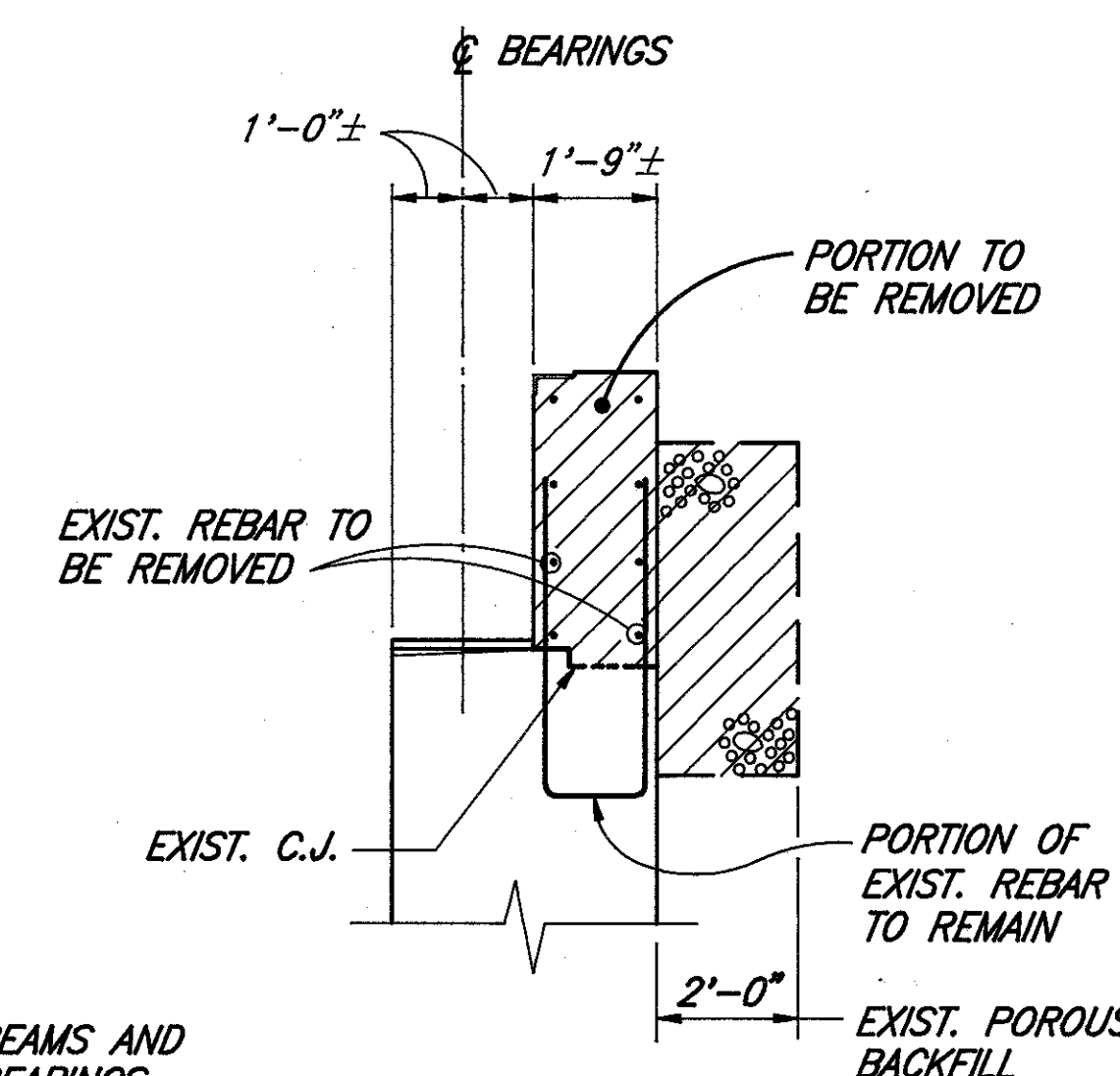


ELEVATION FORWARD ABUTMENT

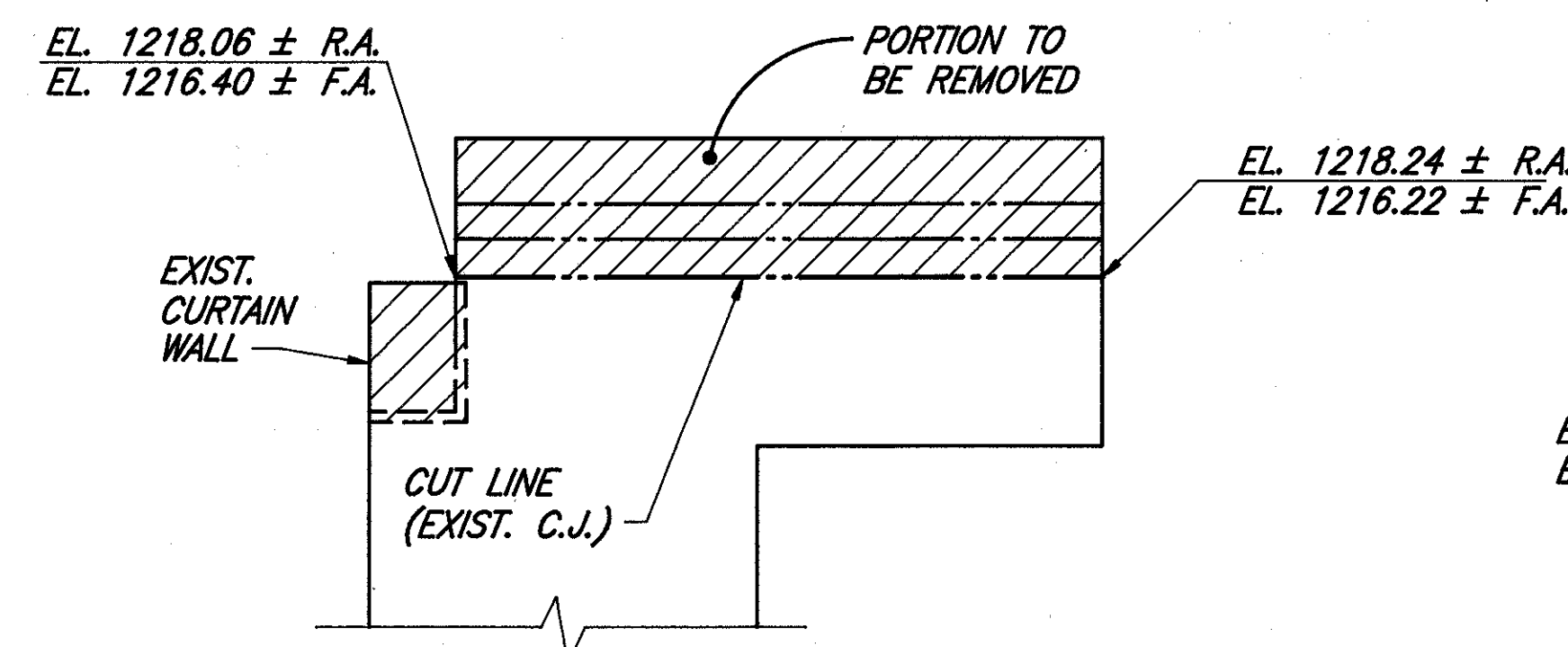


SECTION A-A *

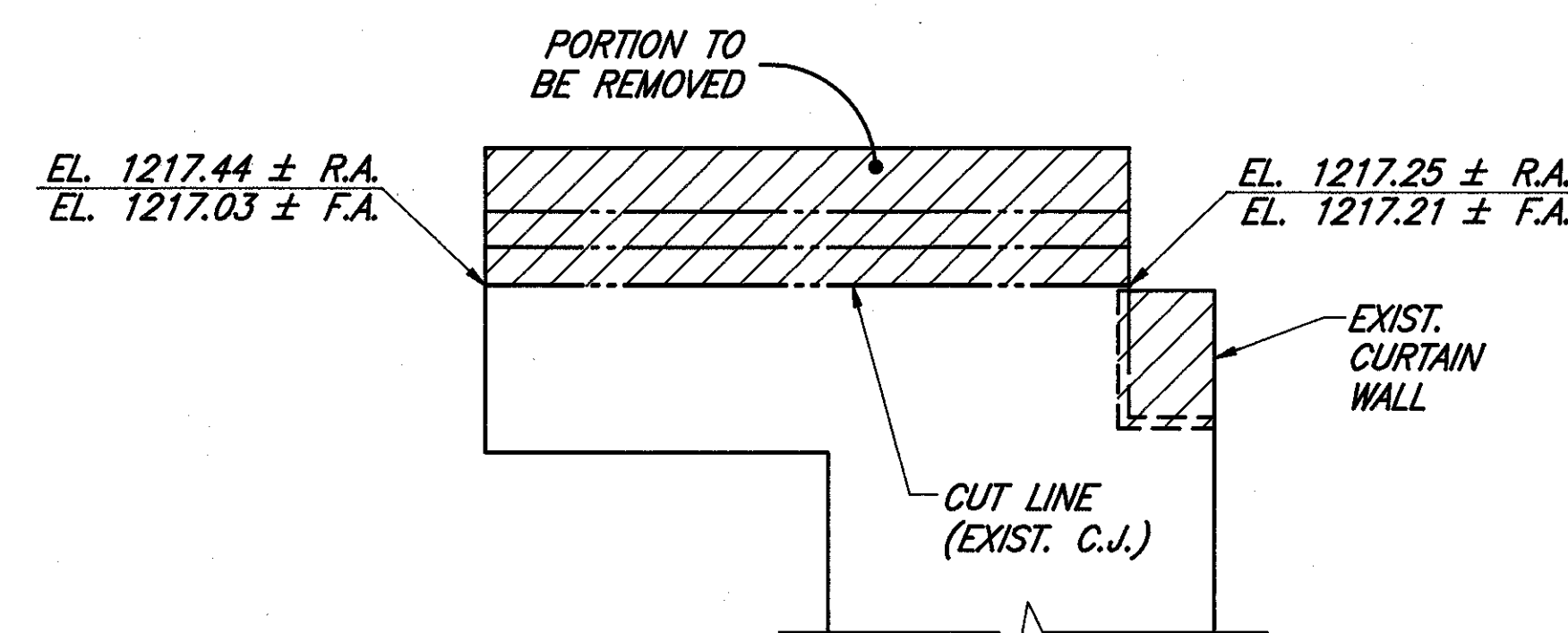
* BEAMS AND BEARINGS NOT SHOWN



SECTION B-B *



ELEVATION - LEFT - REAR WINGWALL
ELEVATION - RIGHT - FORWARD WINGWALL



ELEVATION - RIGHT - REAR WINGWALL
ELEVATION - LEFT - FORWARD WINGWALL

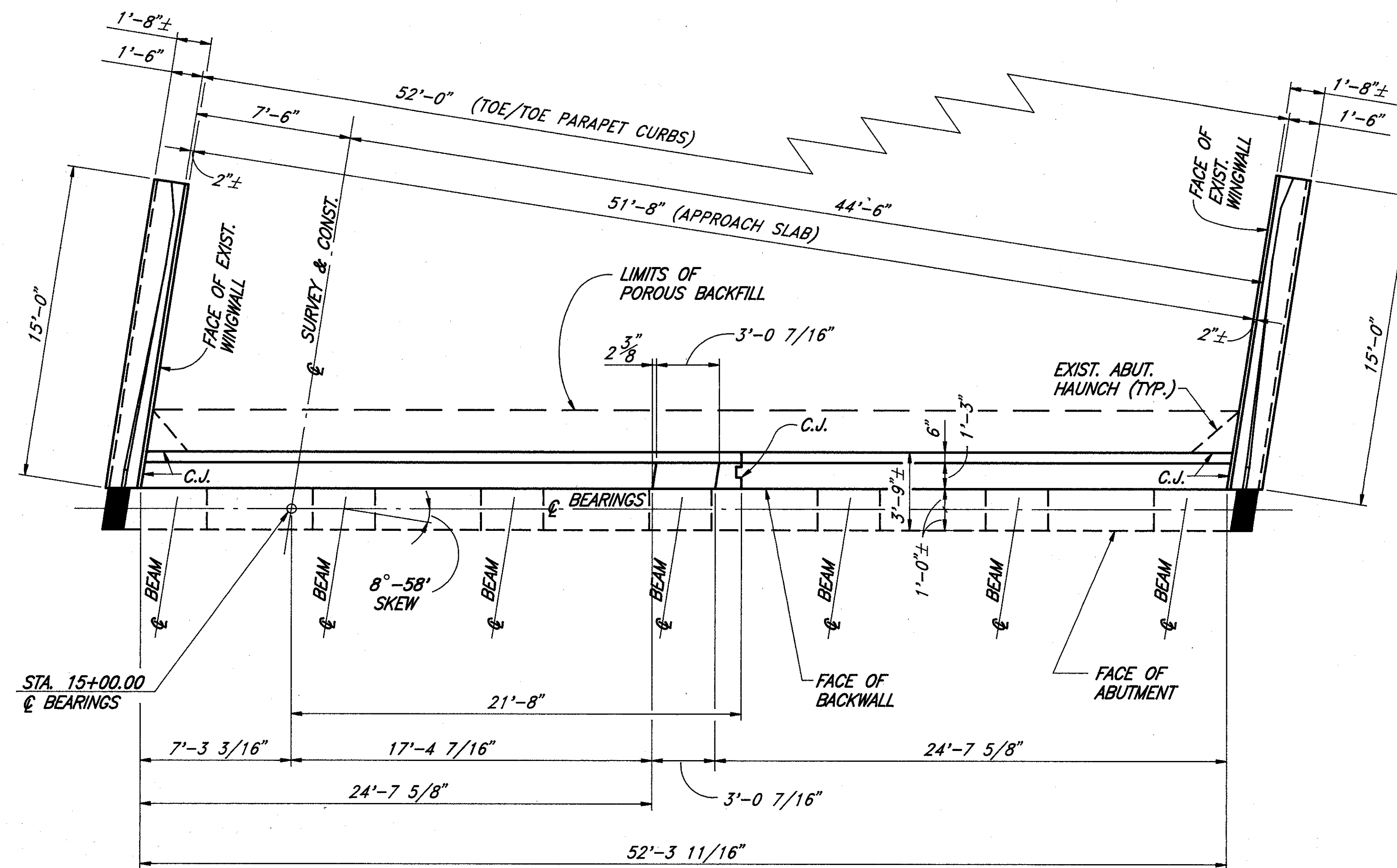
SECTION C-C

EXISTING STRUCTURE SHOWN WITH SOLID LINES.

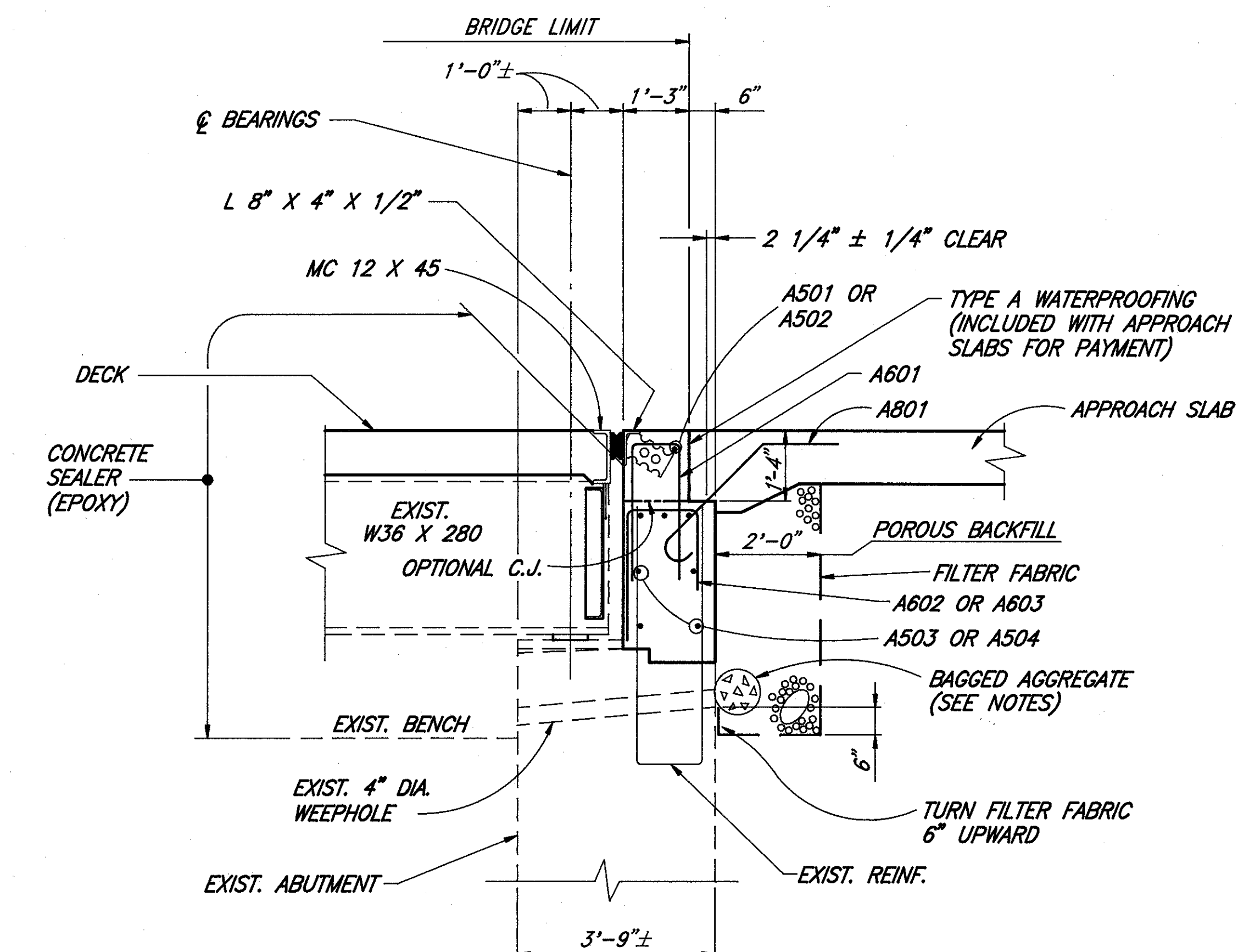
REFER TO SHEET 15 / 16 FOR PHASE CONSTRUCTION DETAILS.

TRUMBULL CONSULTANTS, INC.
CANFIELD, OHIO

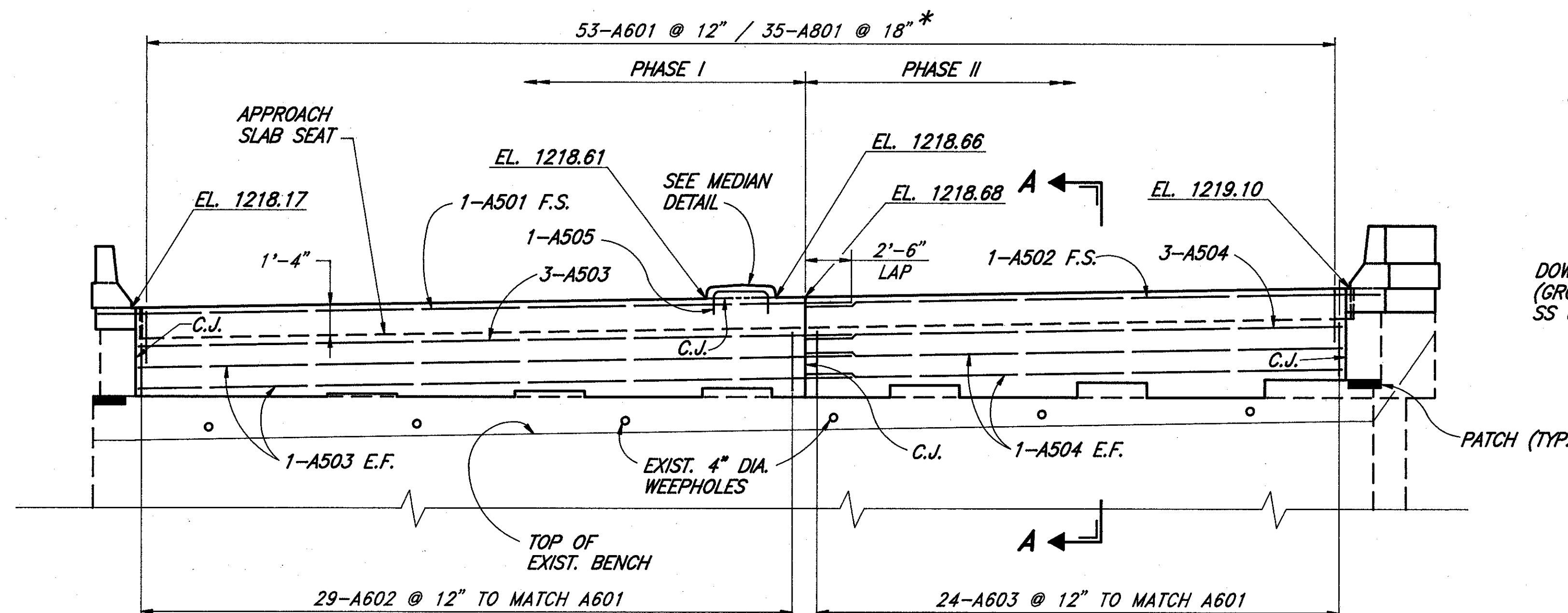
DEMOLITION PLAN				
ABUTMENT & WINGWALL				
BRIDGE NO.		HAS-250-1912		
OVER COLUMBUS & OHIO RIVER R.R.		STA. 14+97.72		
HARRISON COUNTY		to STA. 15+72.28		
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED
A.T.	A.T.		S.J.R.	J.M.M.
				DATE
				3/94



PLAN

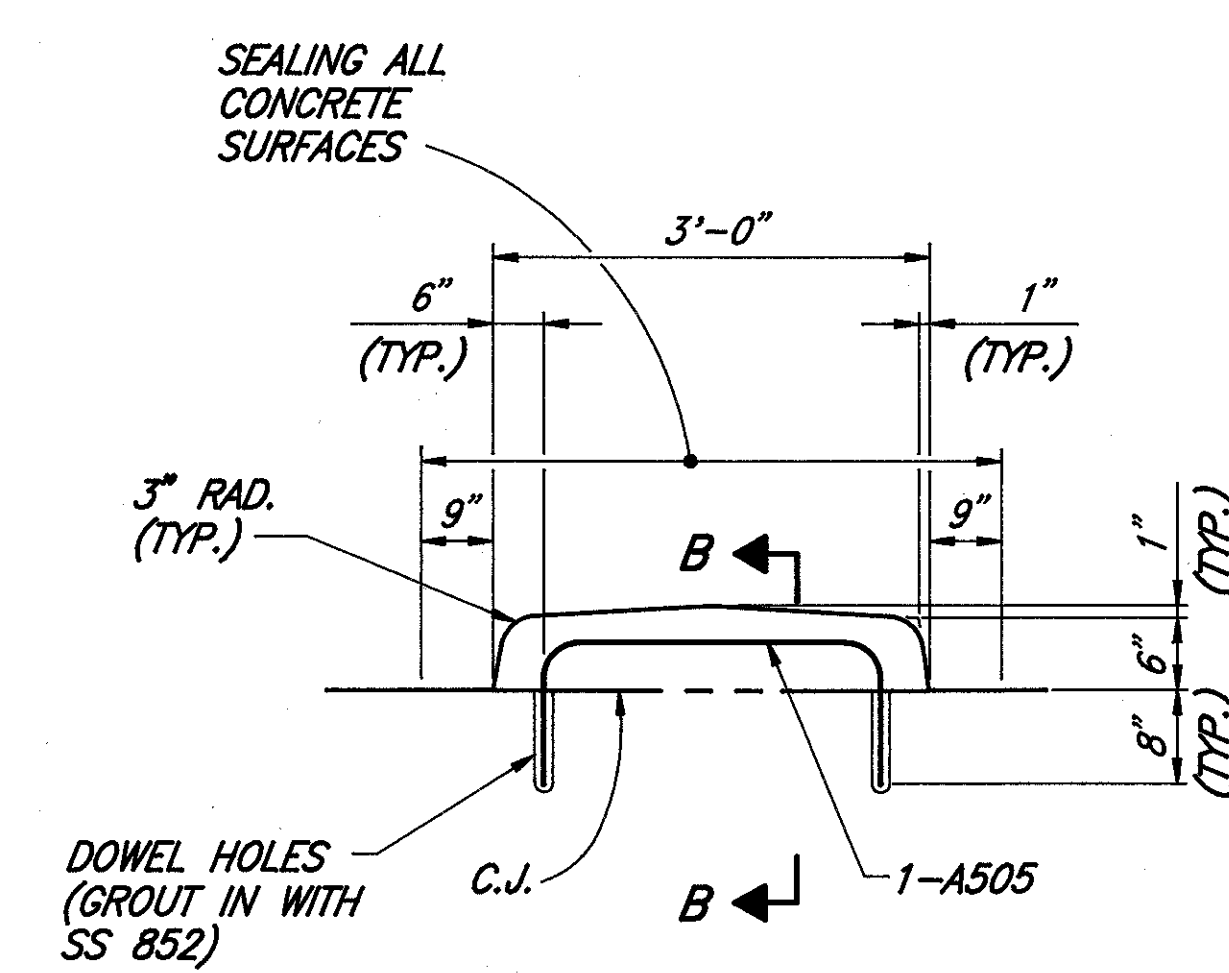


SECTION A-A

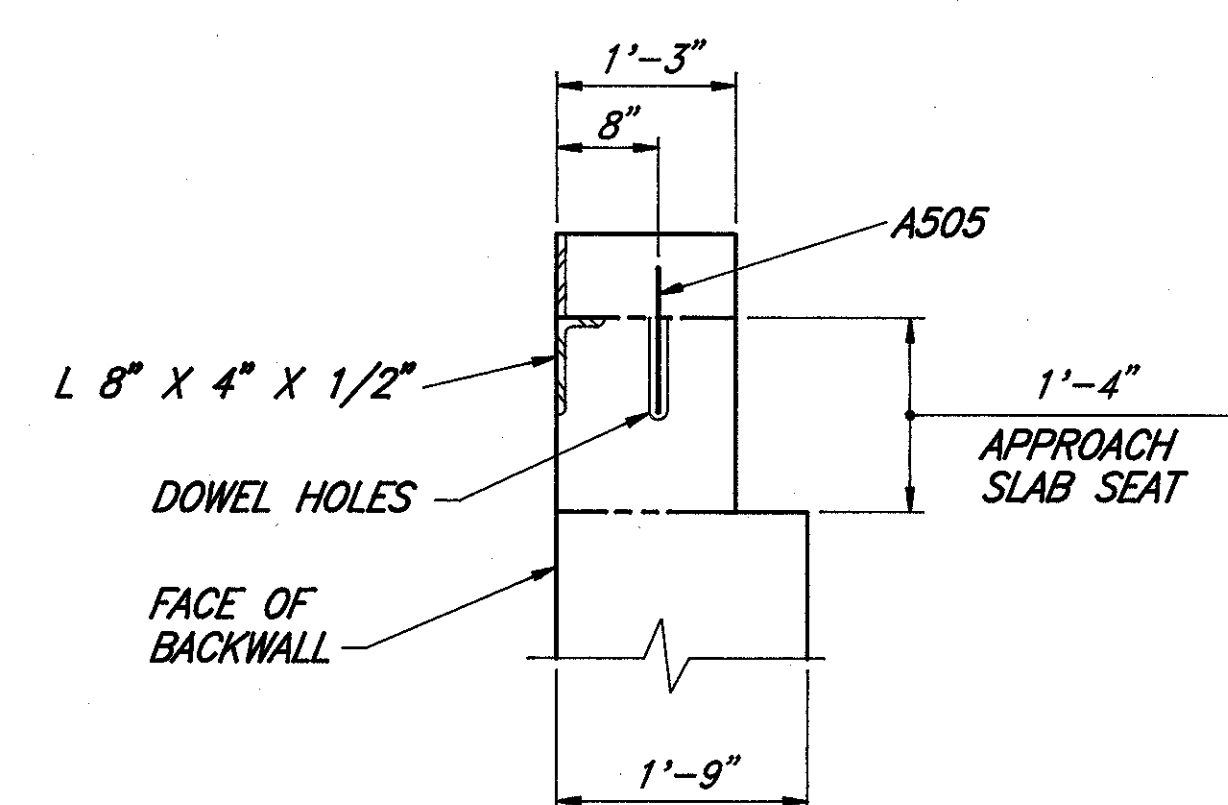


ELEVATION

* PLACE PARALLEL TO & SURVEY & CONST.



MEDIAN DETAIL



SECTION B-B

NOTES

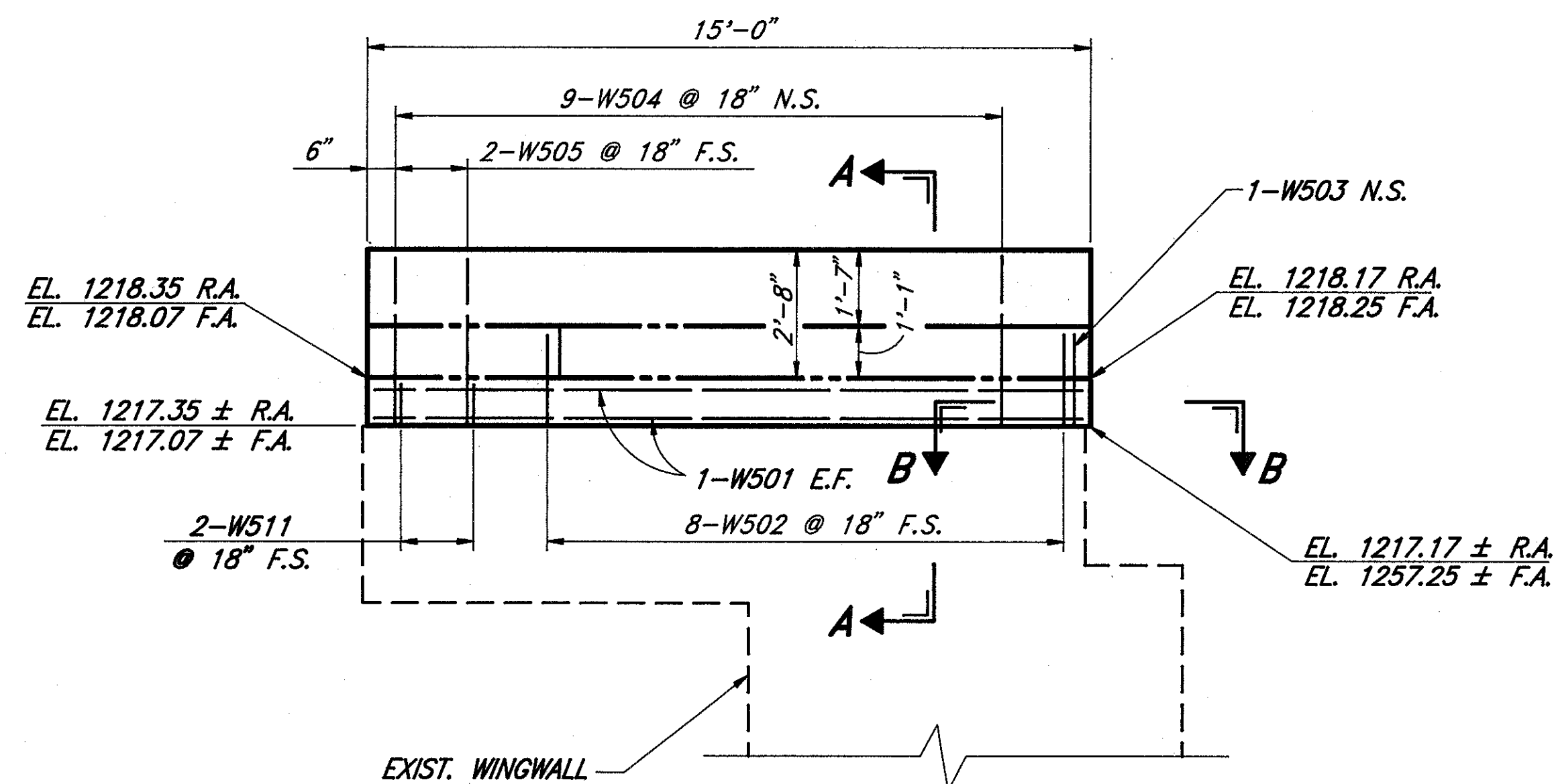
- FOR ABUTMENT NOTES AND ABBREVIATIONS, SEE SHEET 7/16.

TRUMBULL CONSULTANTS, INC. CANFIELD, OHIO						6 / 17
REAR ABUTMENT DETAIL						
BRIDGE NO.				HAS-250-1912		
OVER COLUMBUS & OHIO RIVER R.R.				STA. 14+97.72		
HARRISON COUNTY				to STA. 15+72.28		
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISION
A.T.	A.T.		S.J.R.	J.M.M.	3/94	

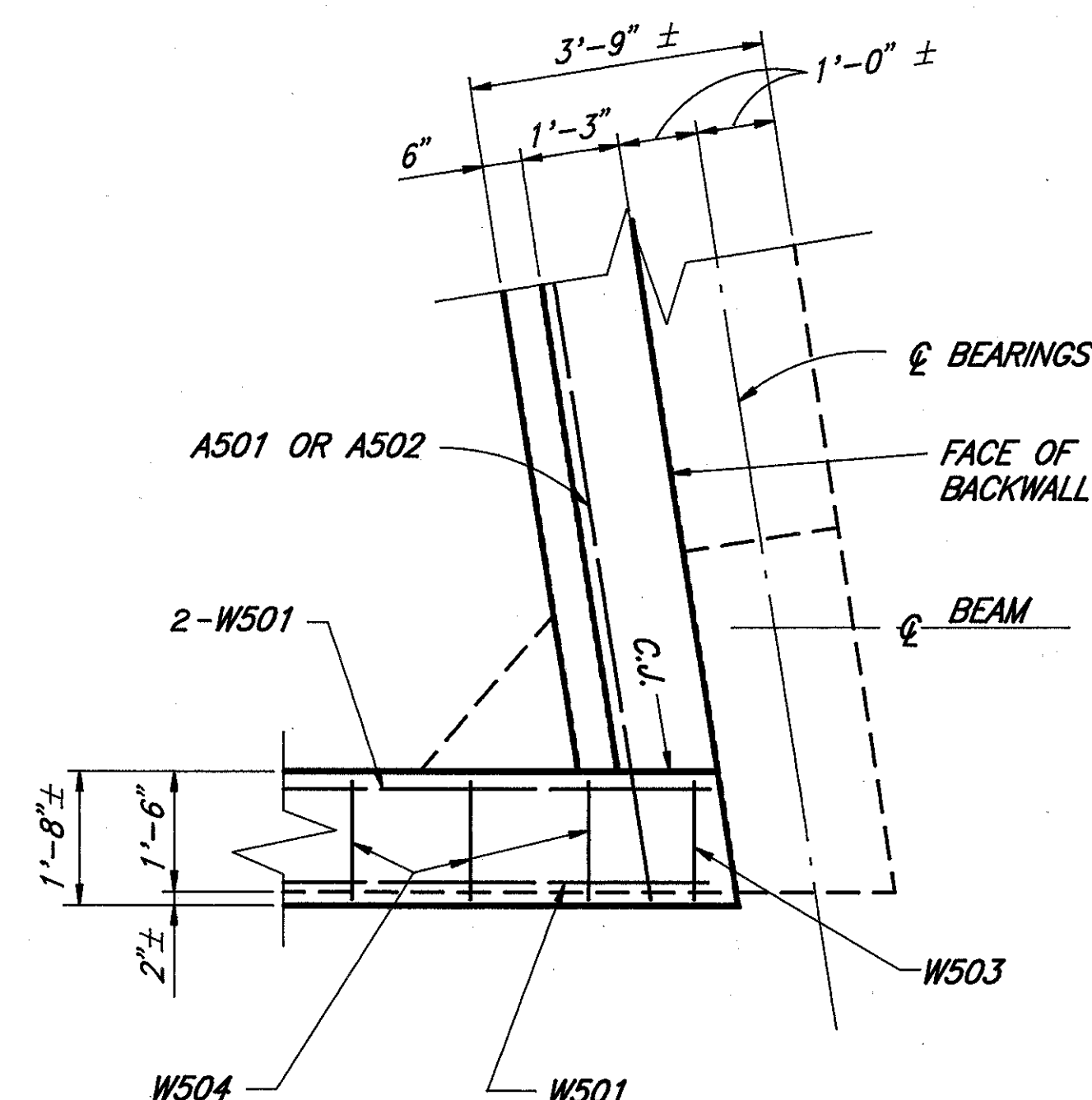
F.H.W.A. REGION	STATE	PROJECT
5	OHIO	

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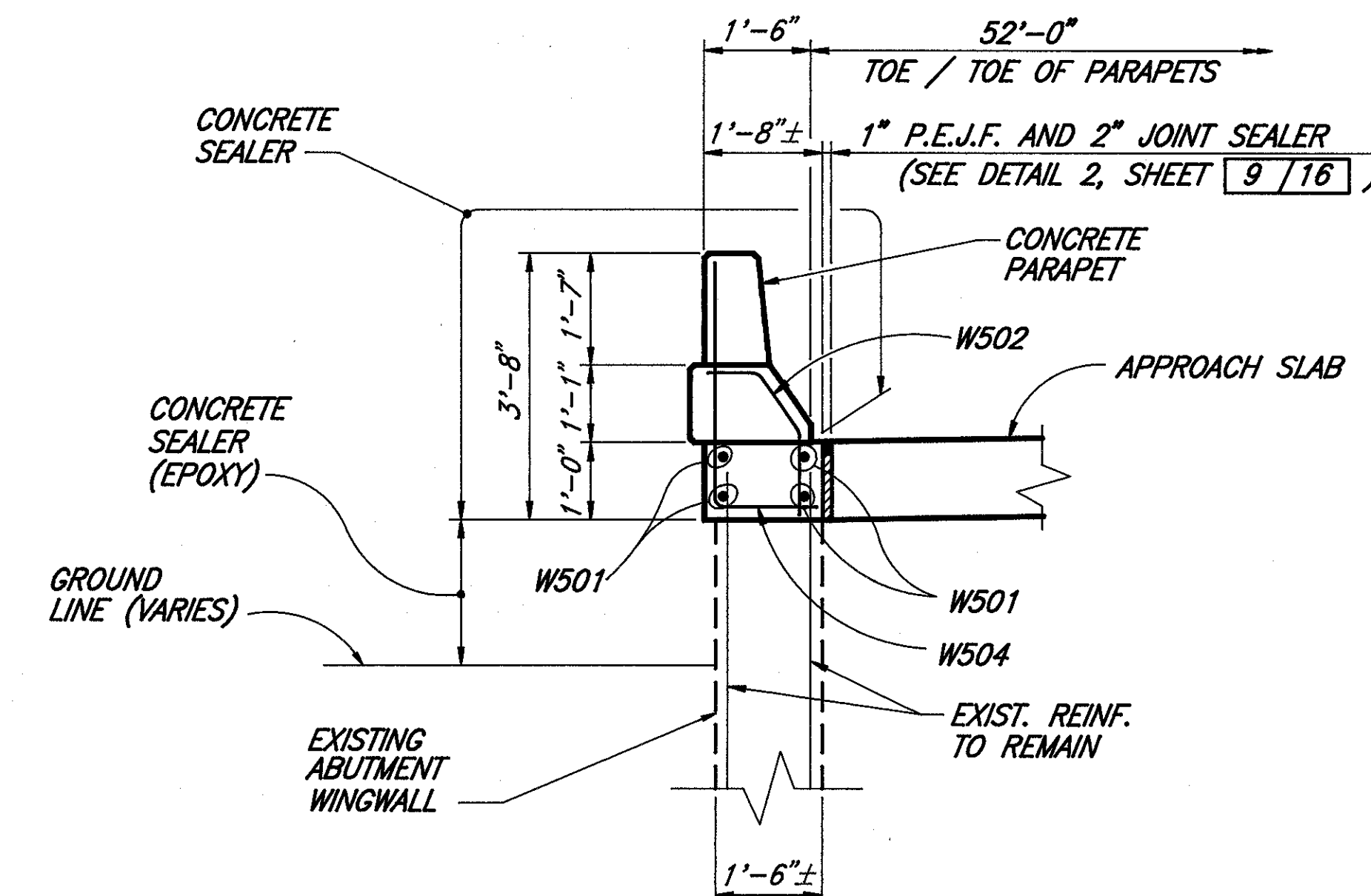
HARRISON COUNTY
HAS-250-19.11



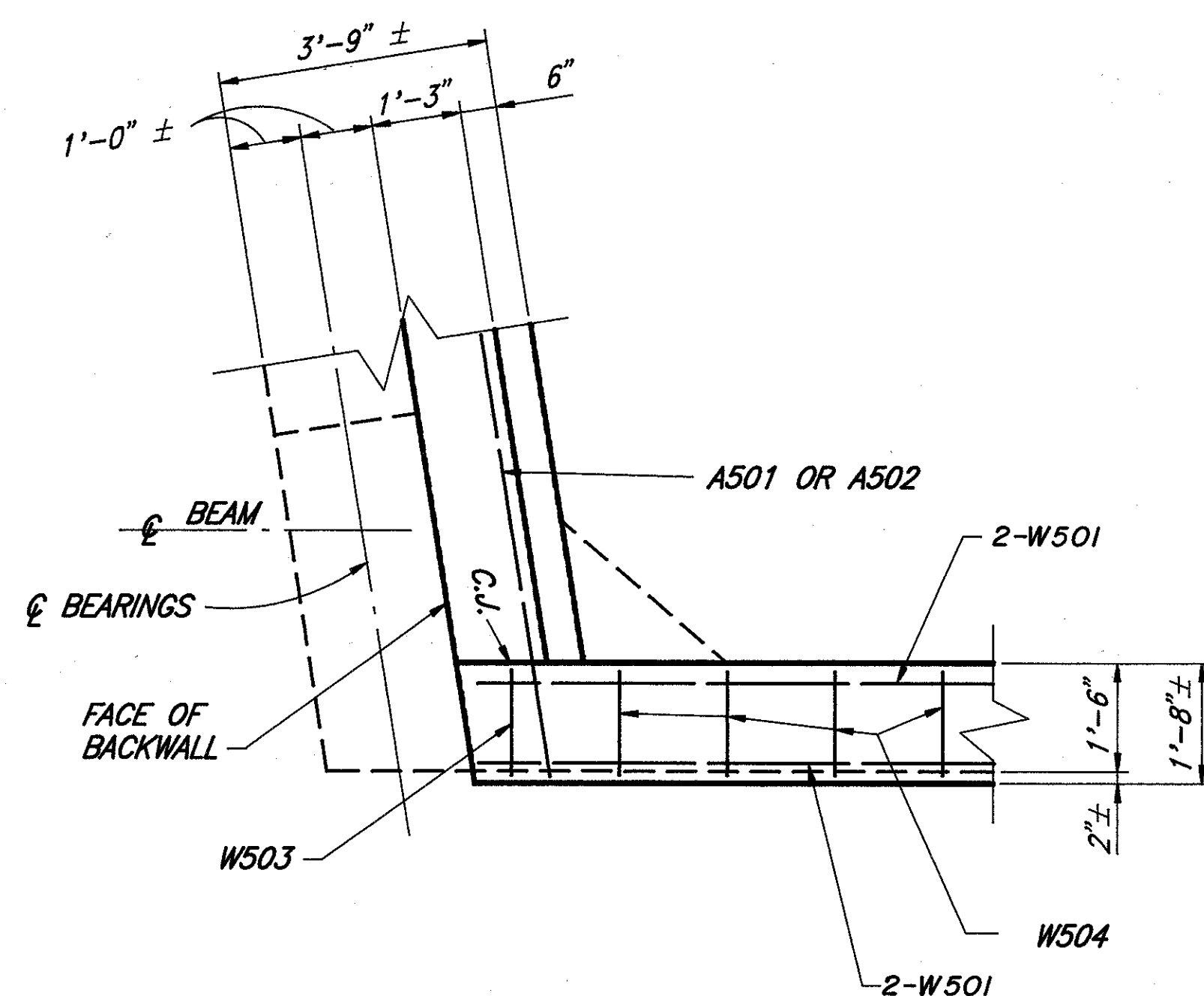
ELEVATION - RIGHT - REAR WINGWALL
ELEVATION - LEFT - FORWARD WINGWALL



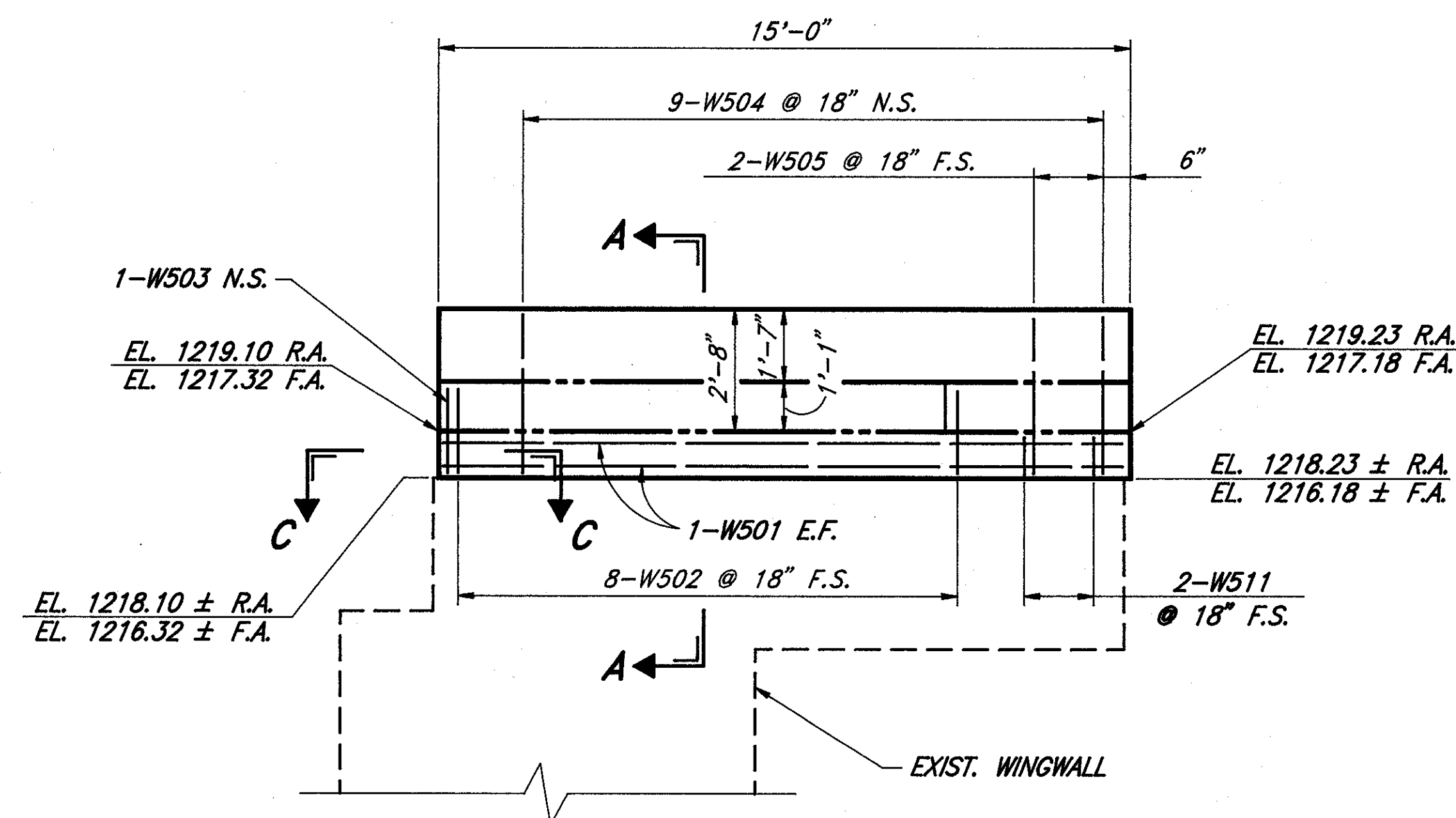
SECTION B-B



SECTION A-A
(PARTIAL DEFLECTOR PARAPET REINFORCEMENT SHOWN)
FOR ADDITIONAL DETAILS, SEE SHEET 9/16



SECTION C-C



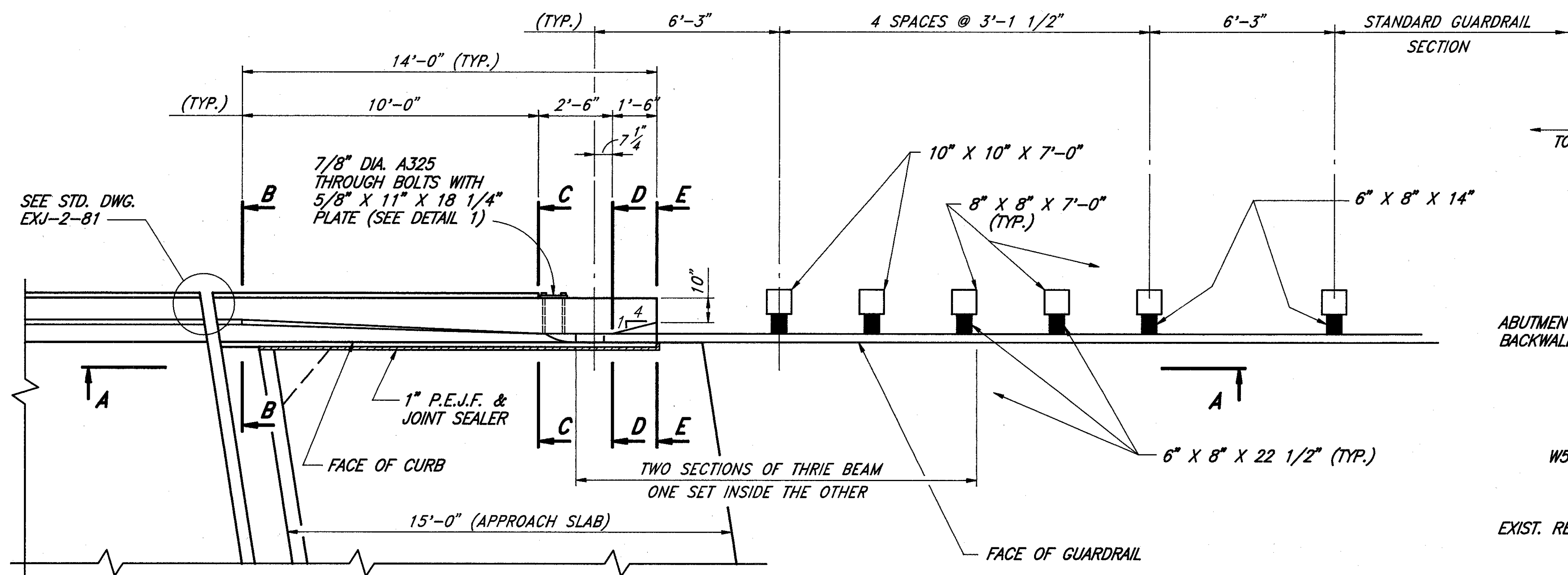
ELEVATION - LEFT - REAR WINGWALL
ELEVATION - RIGHT - FORWARD WINGWALL

NOTES

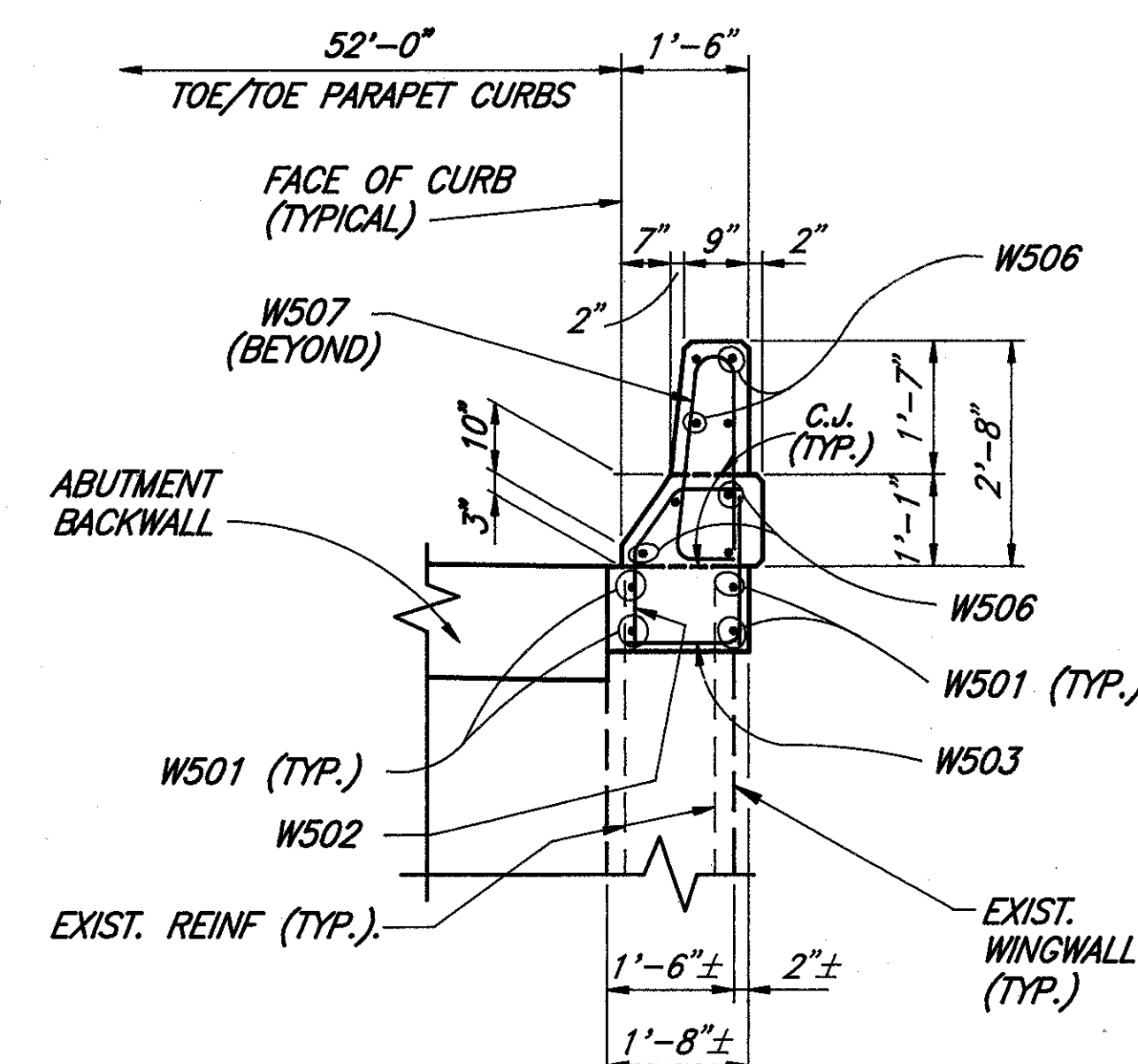
1. FOR NOTES AND ABBREVIATIONS, SEE SHEET 7/16.
2. FOR DEFLECTOR PARAPET BRIDGE RAILING TRANSITION, SEE SHEET 9/16.
3. FOR OTHER WINGWALL AND PARAPET REINFORCEMENT, SEE SHEET 9/16.

8 / 16

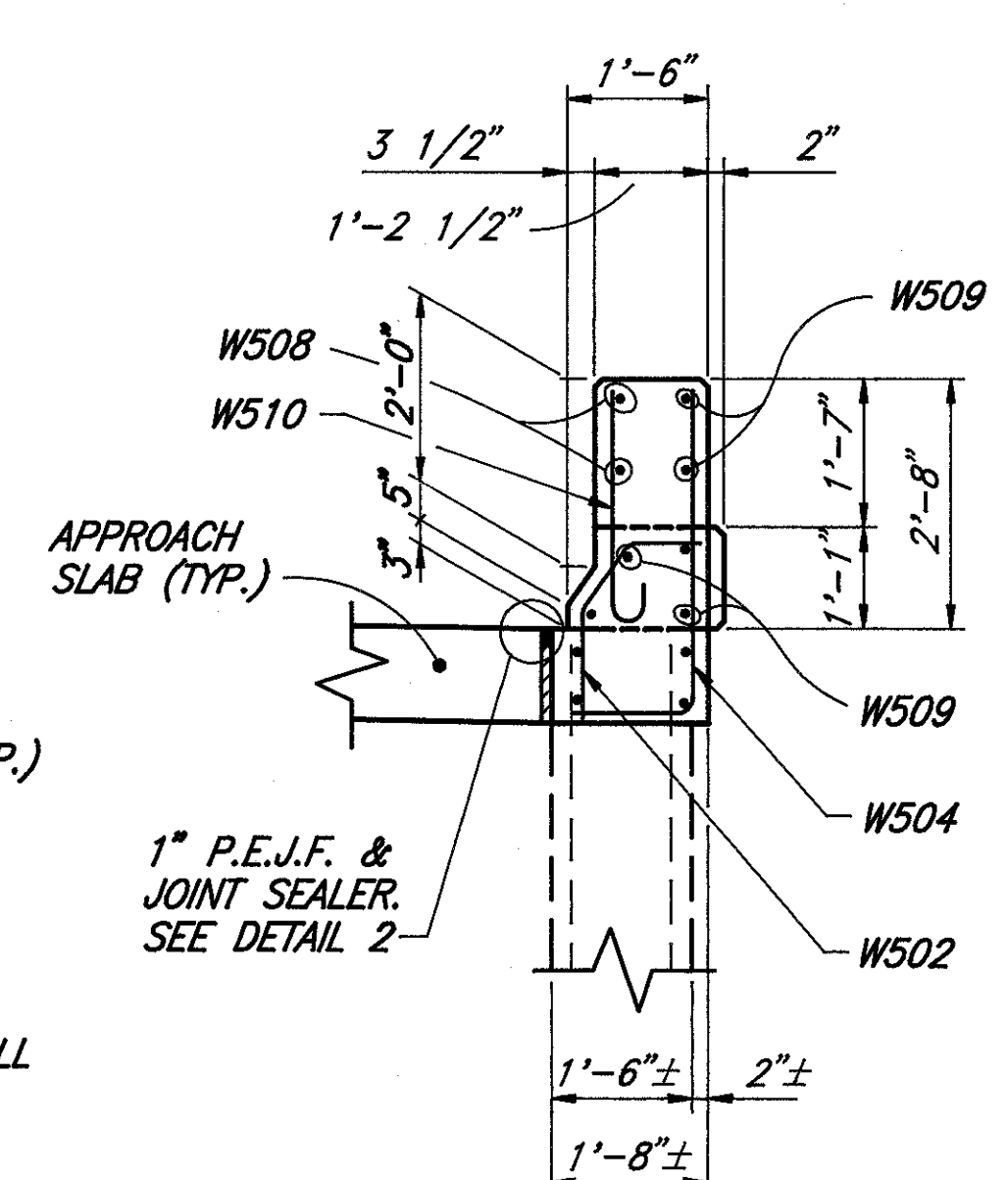
TRUMBULL CONSULTANTS, INC. CANFIELD, OHIO					
WINGWALL DETAILS					
BRIDGE NO.			HAS-250-191		
OVER COLUMBUS & OHIO RIVER R.R.			STA. 14+97.72		
HARRISON COUNTY			to STA. 15+72.28		
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE
A.T.	A.T.		S.J.R.	J.M.M.	3/94



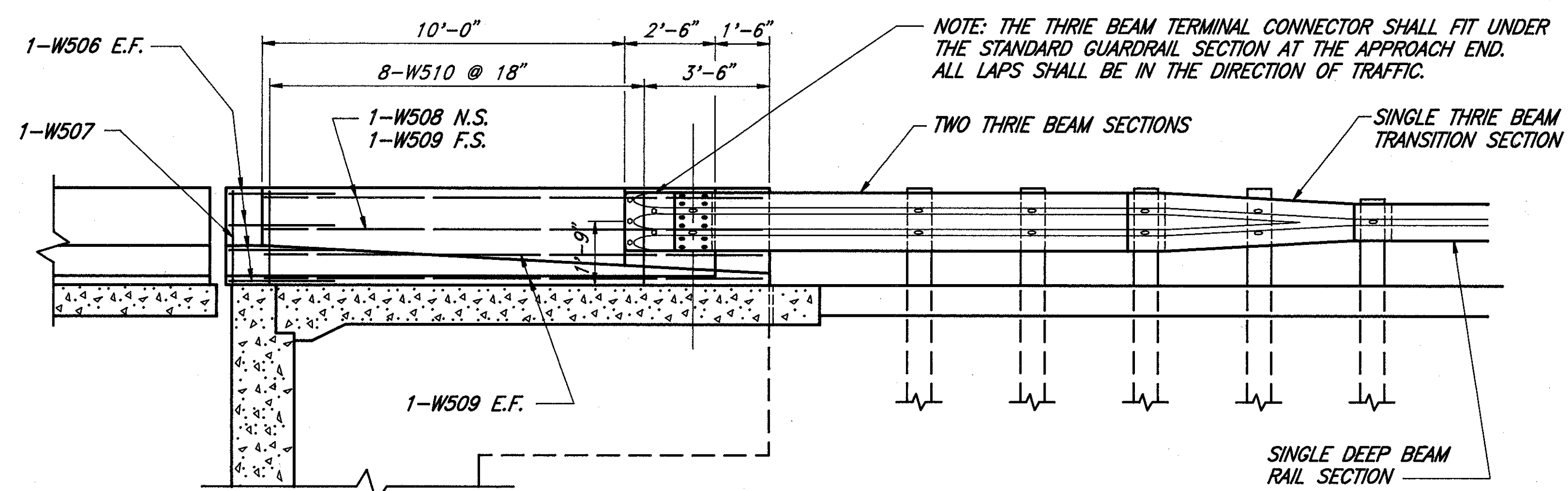
TYPICAL PARTIAL PLAN AT ABUTMENT



SECTION B-B

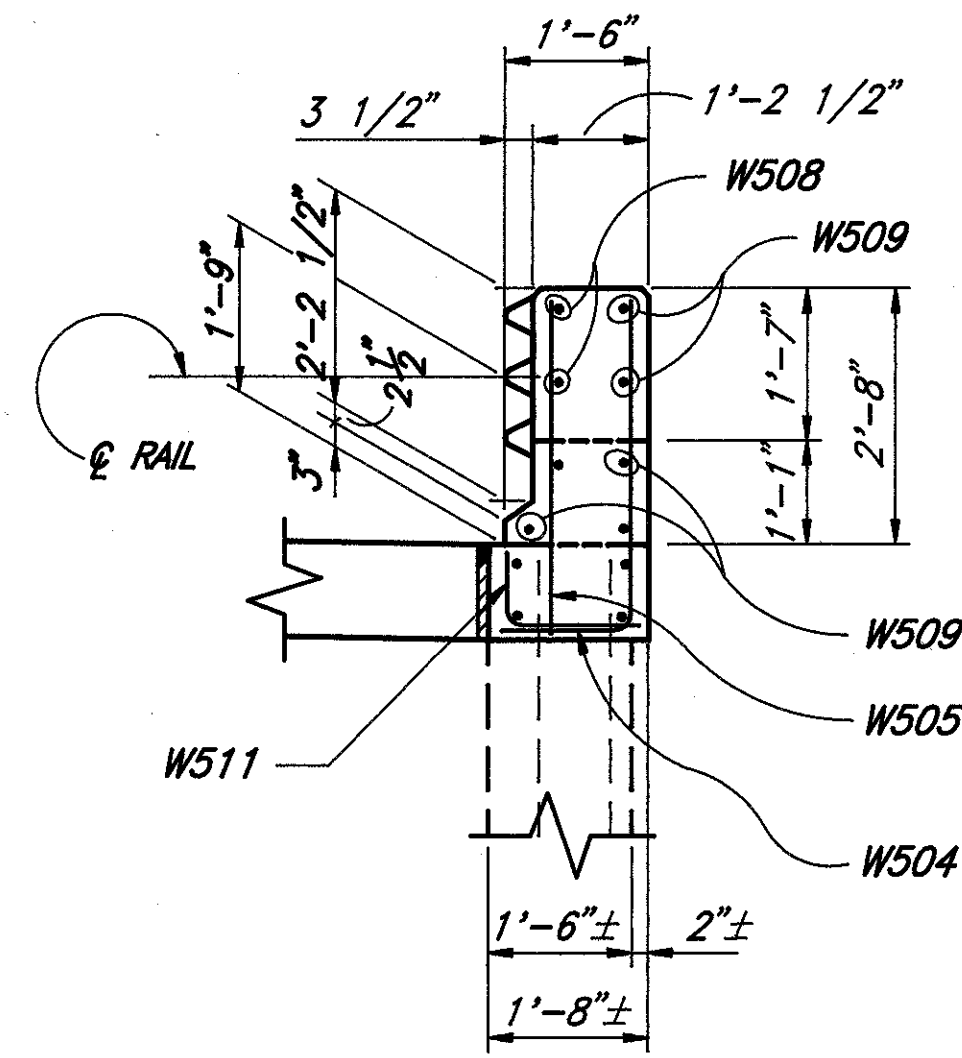


SECTION C-C

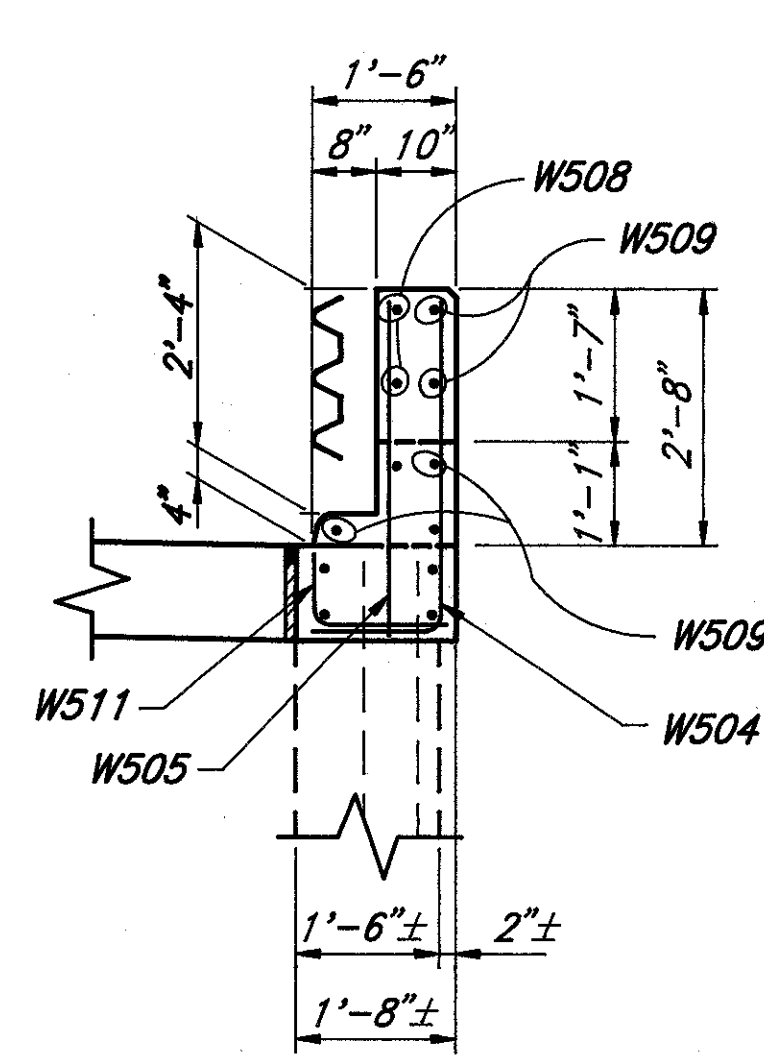


SECTION A-A

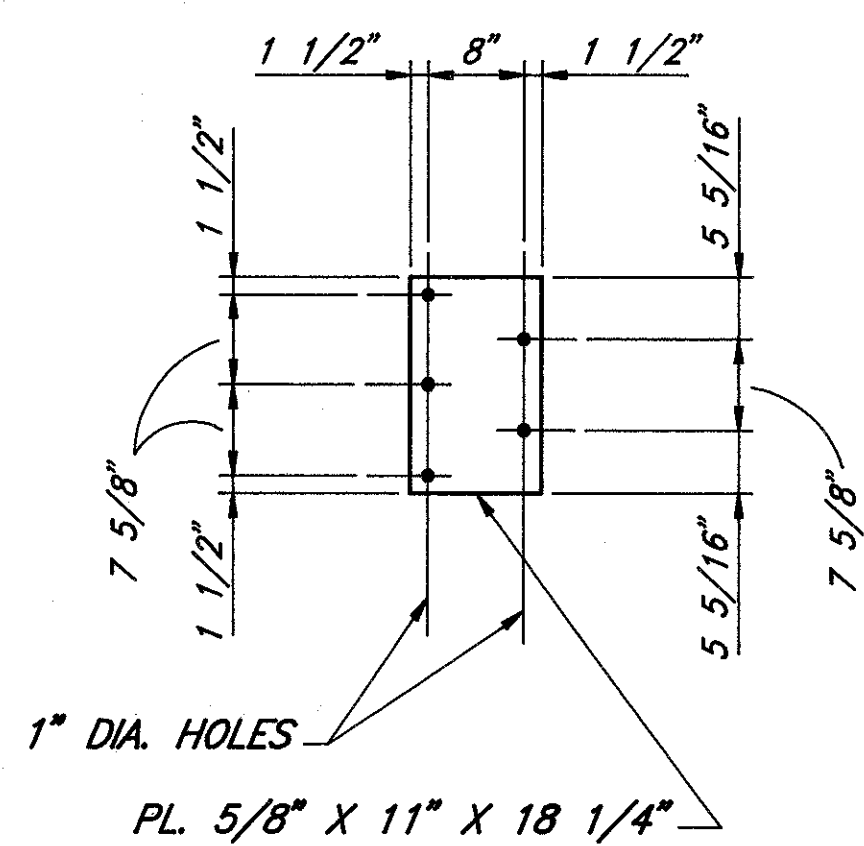
FOR ADDITIONAL PARAPET REINFORCEMENT
DETAILS, SEE SHEET 8/16



SECTION D-D



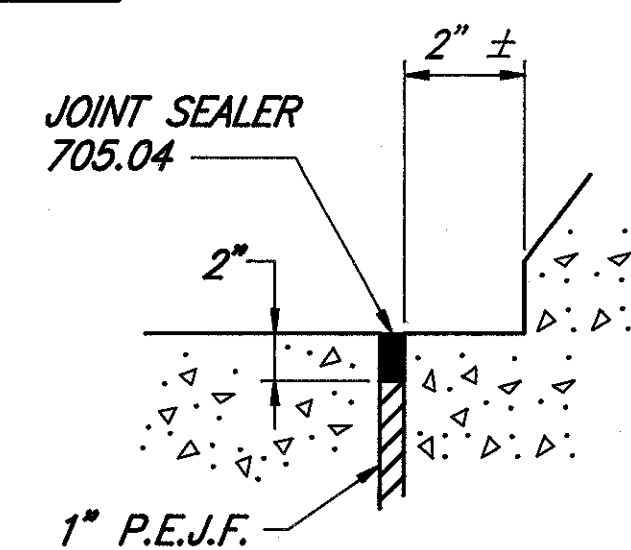
SECTION E-E



DETAIL 1

NOTES

1. PAYMENT: ADDITIONAL GUARDRAIL COST IN EXCESS OF NORMAL GUARDRAIL COST, SUCH AS: TERMINAL CONNECTOR, STEEL PLATE, BOLTS, NUTS, PLATE WASHERS AND OTHER HARDWARE SHALL BE INCLUDED WITH BRIDGE TERMINAL ASSEMBLY FOR PAYMENT. QUANTITIES OF CONCRETE AND REINFORCING STEEL FOR PARAPET ARE INCLUDED WITH THEIR APPROPRIATE ITEM UNDER ABUTMENTS FOR PAYMENT.
2. BRIDGE TERMINAL ASSEMBLY, TYPE 1 SHOWN. FOR ADDITIONAL GUARDRAIL DETAILS, SEE ROADWAY PLANS.
3. FOR REINFORCEMENT NOT SHOWN, SEE SHEET 8/16.



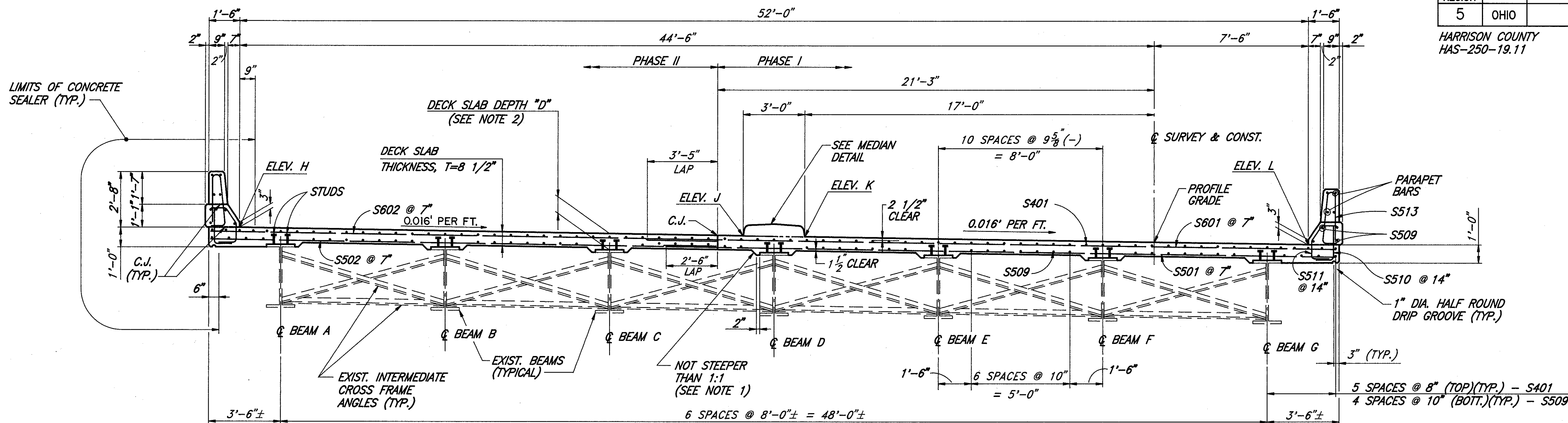
DETAIL 2

1" P.E.J.F. AND 705.04 JOINT
SEALER INCLUDED WITH APPROACH
SLABS FOR PAYMENT.

C.J. = CONSTRUCTION JOINT

9 / 16

TRUMBULL CONSULTANTS, INC. CANFIELD, OHIO						
TYPICAL DEFLECTOR PARAPET TRANSITION DETAILS						
BRIDGE NO.				HAS-250-1912		
OVER COLUMBUS & OHIO RIVER R.R.				STA. 14+97.72		
HARRISON COUNTY				to STA. 15+72.28		
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
A.T.	A.T.		S.J.R.	J.M.M.	3/94	



C.J. = CONSTRUCTION JOINT

TYPICAL CROSS SECTION

DEAD LOAD DEFLECTIONS			
SPAN			
1/4 SPAN	1/2 SPAN	3/4 SPAN	
1"	1 1/4"	1"	

NOTE: DEAD LOAD DEFLECTIONS SHOWN ARE CONSIDERED THE SAME FOR ALL BEAMS AND DECK SCREED ELEVATIONS.

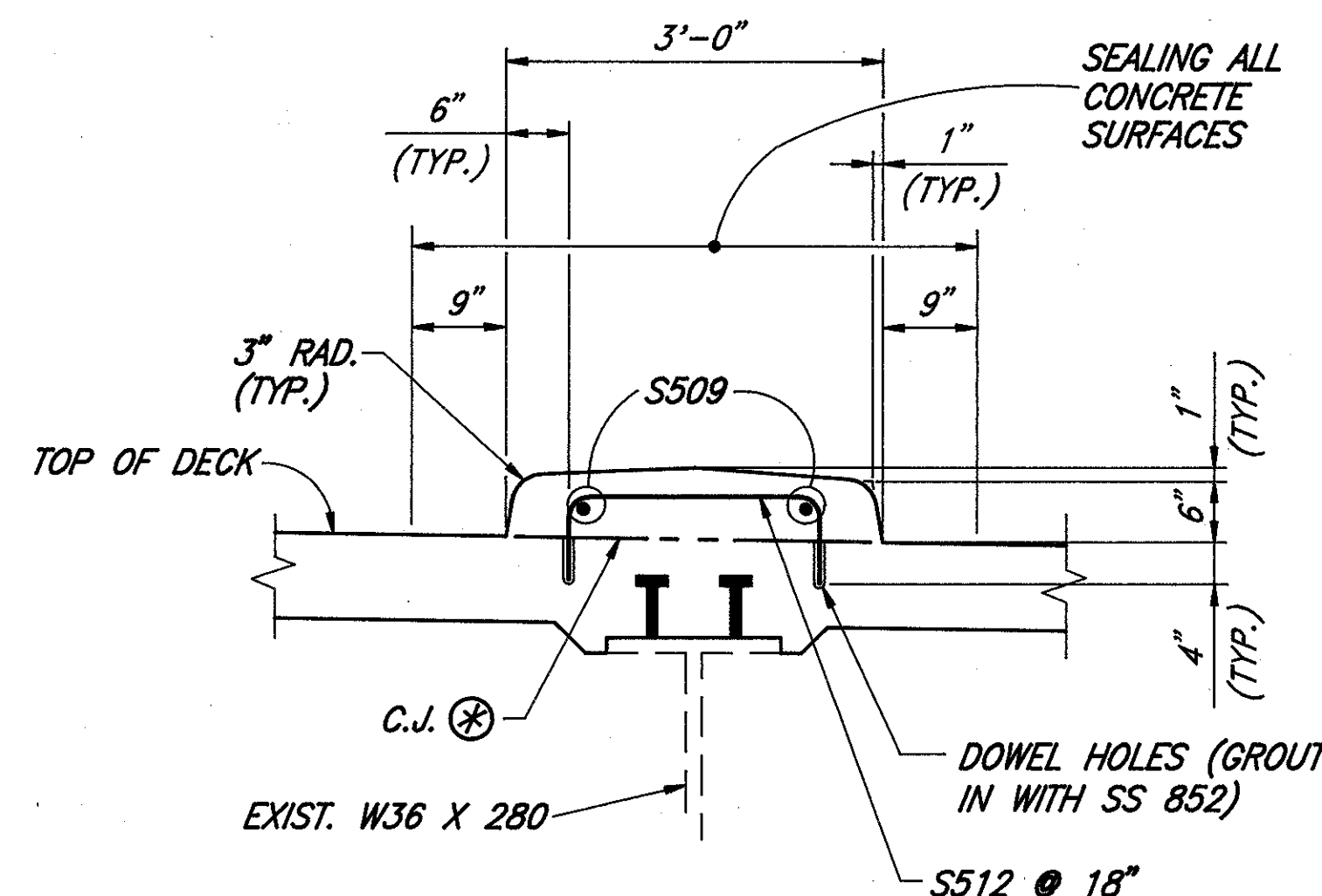
* SEE TYPICAL CROSS SECTION

DECK SCREED ELEVATIONS (SEE NOTE)						
LOCATION	SPAN					E. BRG. F. ABUT.
	E. BRG. R. ABUT.	1/4 SPAN	1/2 SPAN	3/4 SPAN		
BEAMS *	A	1219.05	1218.93	1218.75	1218.52	1218.23
	B	1218.91	1218.79	1218.60	1218.38	1218.09
	C	1218.77	1218.65	1218.46	1218.23	1217.94
	D	1218.63	1218.50	1218.32	1218.09	1217.80
	E	1218.48	1218.36	1218.17	1217.95	1217.66
	F	1218.34	1218.22	1218.03	1217.80	1217.51
	G	1218.20	1218.07	1217.89	1217.66	1217.37
POINTS *	H	1219.09	1218.97	1218.78	1218.55	1218.26
	J	1218.65	1218.53	1218.34	1218.12	1217.83
	K	1218.60	1218.48	1218.29	1218.06	1217.77
	L	1218.16	1218.04	1217.85	1217.63	1217.34

NOTE: SCREED ELEVATIONS GIVEN ARE FOR THE TOP SURFACE OF THE CONCRETE DECK PRIOR TO CONCRETE PLACEMENT. ALLOWANCES HAVE BEEN MADE FOR ANTICIPATED DEFLECTIONS OF BEAMS DUE TO THE WEIGHT OF THE CONCRETE DECK.

DECK SLAB DEPTHS ± (SEE NOTE 2)						
LOCATION	SPAN					E. BRG. F. ABUT.
	E. BRG. R. ABUT.	1/4 SPAN	1/2 SPAN	3/4 SPAN		
BEAMS *	A	11 1/4"	11 1/8"	10 7/8"	11 1/8"	11 1/2"
	B	11"	10 5/8"	10"	10 5/8"	11 1/4"
	C	10 7/8"	10 1/4"	9 5/8"	10 1/4"	10 3/4"
	D	10 1/8"	9 3/4"	9 1/4"	10"	10 3/4"
	E	10 3/8"	9 3/4"	9 1/8"	9 3/4"	10 5/8"
	F	10 3/8"	10"	9 1/2"	9 3/4"	10 1/4"
	G	10 3/8"	9 3/4"	9"	9 1/2"	10"

* SEE TYPICAL CROSS SECTION



MEDIAN DETAIL

⊗ ROUGHENED SURFACE

NOTES

1. A HAUNCH WIDTH BASED ON A SLOPE OF 1:1 SHALL BE USED FOR COMPUTING QUANTITY OF CONCRETE. THE SLOPE OF THE HAUNCH MAY BE LESS AT THE CONTRACTOR'S OPTION.
2. DECK SLAB DEPTH: THE ANTICIPATED DECK SLAB DEPTHS, D, OVER THE BEAMS ARE GIVEN IN THE TABLE OF DECK SLAB DEPTHS. THE ACTUAL SLAB DEPTHS MAY BE MORE. THEY SHOULD NOT BE LESS THAN THE DECK SLAB THICKNESS, T.

AFTER COMPLETE REMOVAL OF THE EXISTING DECK SLAB, THE CONTRACTOR SHALL DETERMINE, AT VARIOUS LOCATIONS ALONG THE SPANS, ACTUAL TOP OF BEAM ELEVATIONS. THESE SHOULD BE DEDUCTED FROM THE SCREED ELEVATIONS FOR THE SAME LOCATIONS TO OBTAIN ACTUAL SLAB DEPTHS. FOR DEPTHS LESS THAN T, THE DIRECTOR SHALL BE NOTIFIED TO ESTABLISH THE SUITABILITY OF THE PROPOSED WORK PRIOR TO DECK FORMING AND CONCRETE PLACEMENT.

THE QUANTITY OF DECK CONCRETE TO BE PAID FOR SHALL BE BASED ON THE AVERAGE DECK SLAB DEPTH OF 10 1/4 ± INCHES.

3. FOR DECK SLAB PLAN, SEE SHEET 11 / 16 .
4. FOR PARAPET DETAILS AND REINFORCING, SEE SHEET 12 / 16 .
5. JOINT SEALS FOR EACH DECK JOINT SHALL BE INSTALLED IN ONE CONTINUOUS PIECE.

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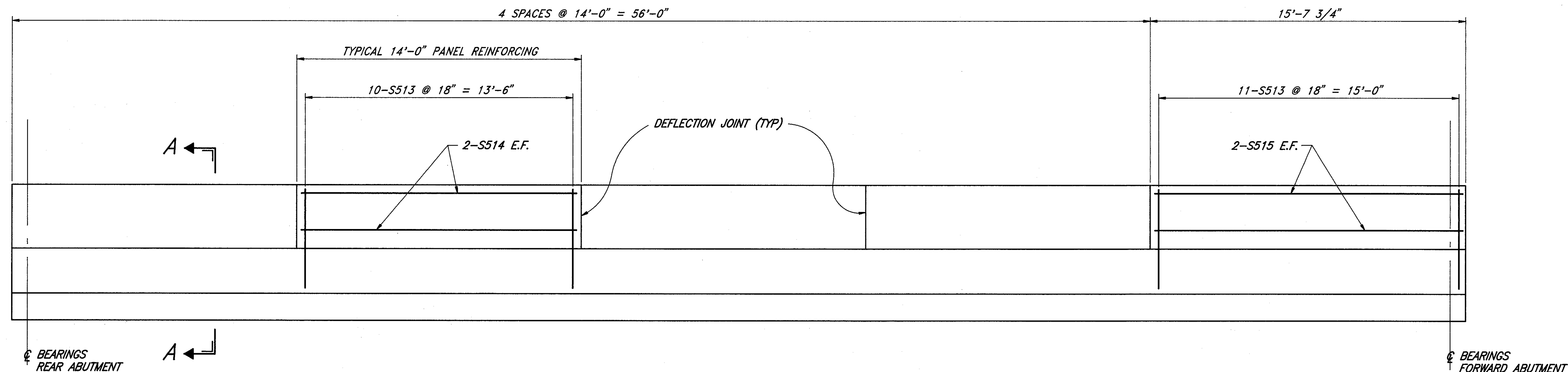
TRUMBULL CONSULTANTS, INC.
CANFIELD, OHIO

TYPICAL CROSS SECTION AND DETAILS

BRIDGE NO. HAS-250-1912
OVER COLUMBUS & OHIO RIVER R.R.

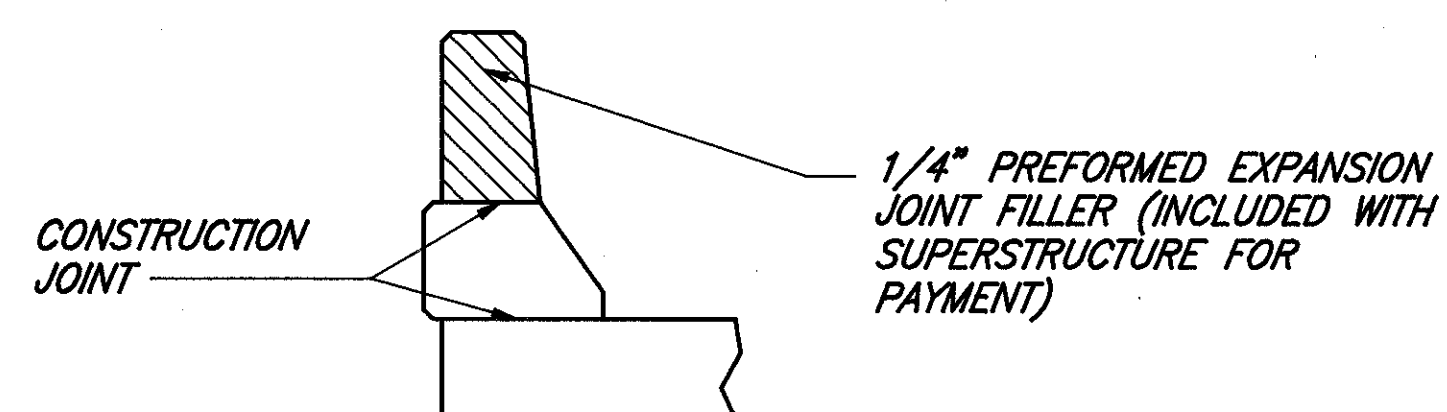
HARRISON COUNTY STA. 14+97.72
to STA. 15+72.28

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
A.T.	A.T.		S.J.R.	J.M.M.	3/94	



DEFLECTOR PARAPET ELEVATION

(TYPICAL EACH SIDE OF DECK)



SECTION A-A

DEFLECTION JOINT

NOTES

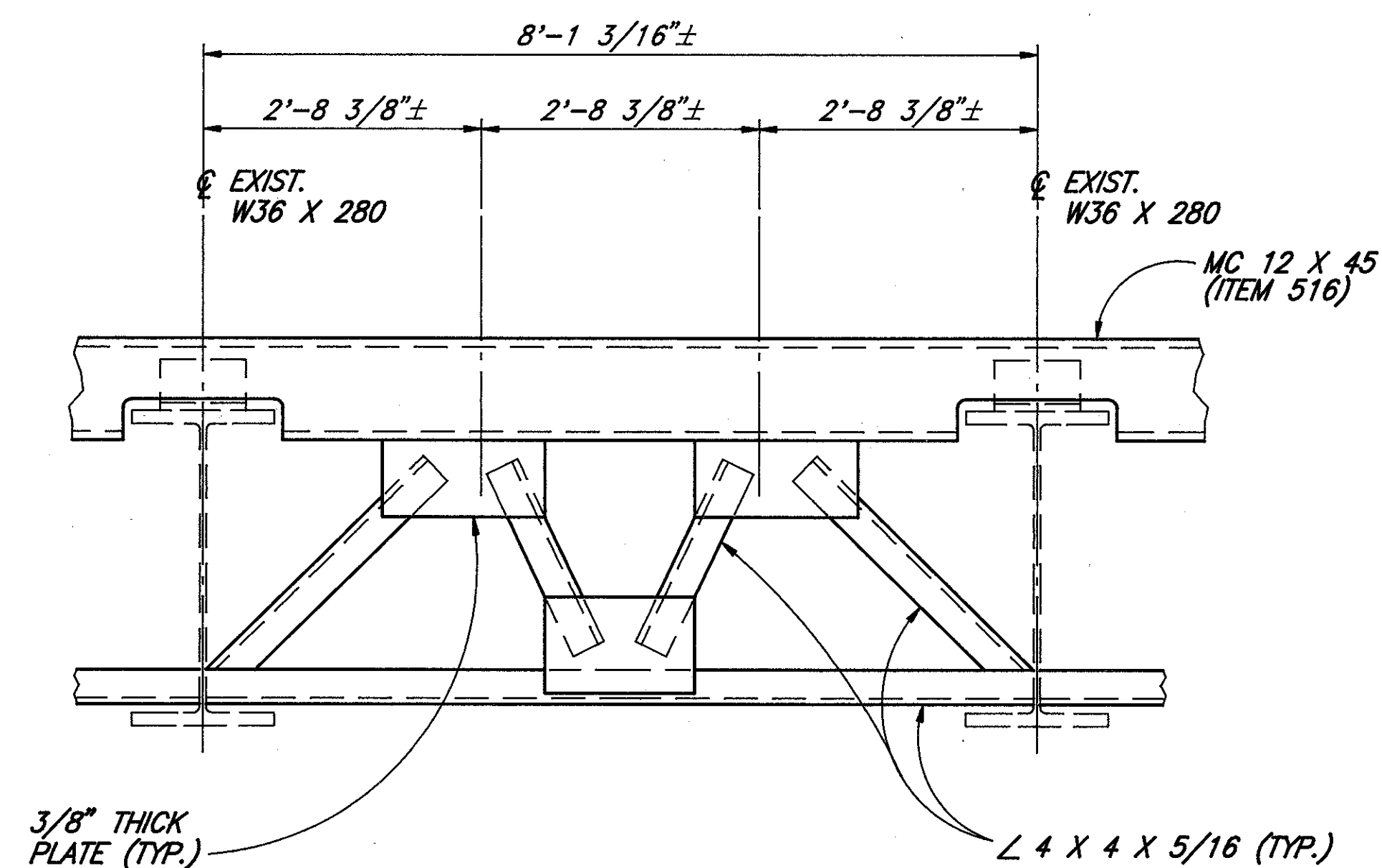
1. PREFORMED EXPANSION JOINT FILLER IN THE PARAPET DEFLECTION JOINTS MAY BE EITHER 1/4" GRAY SPONGE RUBBER OR 1/4" GRAY CELLULAR POLYVINYL CHLORIDE (PVC) SPONGE. SPONGE RUBBER FILLER SHALL CONFORM TO AASHTO M-153, TYPE 1. DENSITY OF PVC SPONGE SHALL NOT BE LESS THAN 20 LBS. PER CU. FT.
2. CONCRETE PARAPETS ABOVE UPPER CONSTRUCTION JOINT SHALL BE PLACED IN ALTERNATE SECTIONS BY THE USE OF BULKHEADS. CLOSING SECTIONS SHALL BE PLACED AFTER REMOVAL OF BULKHEADS AND AFTER PLACEMENT OF EXPANSION JOINT FILLER. EXPOSED EDGES OF THE FILLER SHALL BE FLUSH WITH THE SURFACE OF CONCRETE AND SHALL BE FREE OF MORTAR.
3. QUANTITIES OF CONCRETE AND REINFORCING STEEL FOR PARAPETS ARE INCLUDED WITH THEIR APPROPRIATE ITEM UNDER SUPERSTRUCTURE FOR PAYMENT.
4. FOR OTHER PARAPET REINFORCING, SEE SHEET 10 / 16 .

TRUMBULL CONSULTANTS, INC. CANFIELD, OHIO						12/76
DEFLECTOR PARAPET DETAILS						
BRIDGE NO. OVER COLUMBUS & OHIO RIVER R.R.				HAS-250-1912 STA. 14+97.72 to STA. 15+72.28		
HARRISON COUNTY						
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
A.T.	A.T.		S.J.R.	J.M.M.	3/94	

F.H.W.A. REGION	STATE	PROJECT	
5	OHIO		

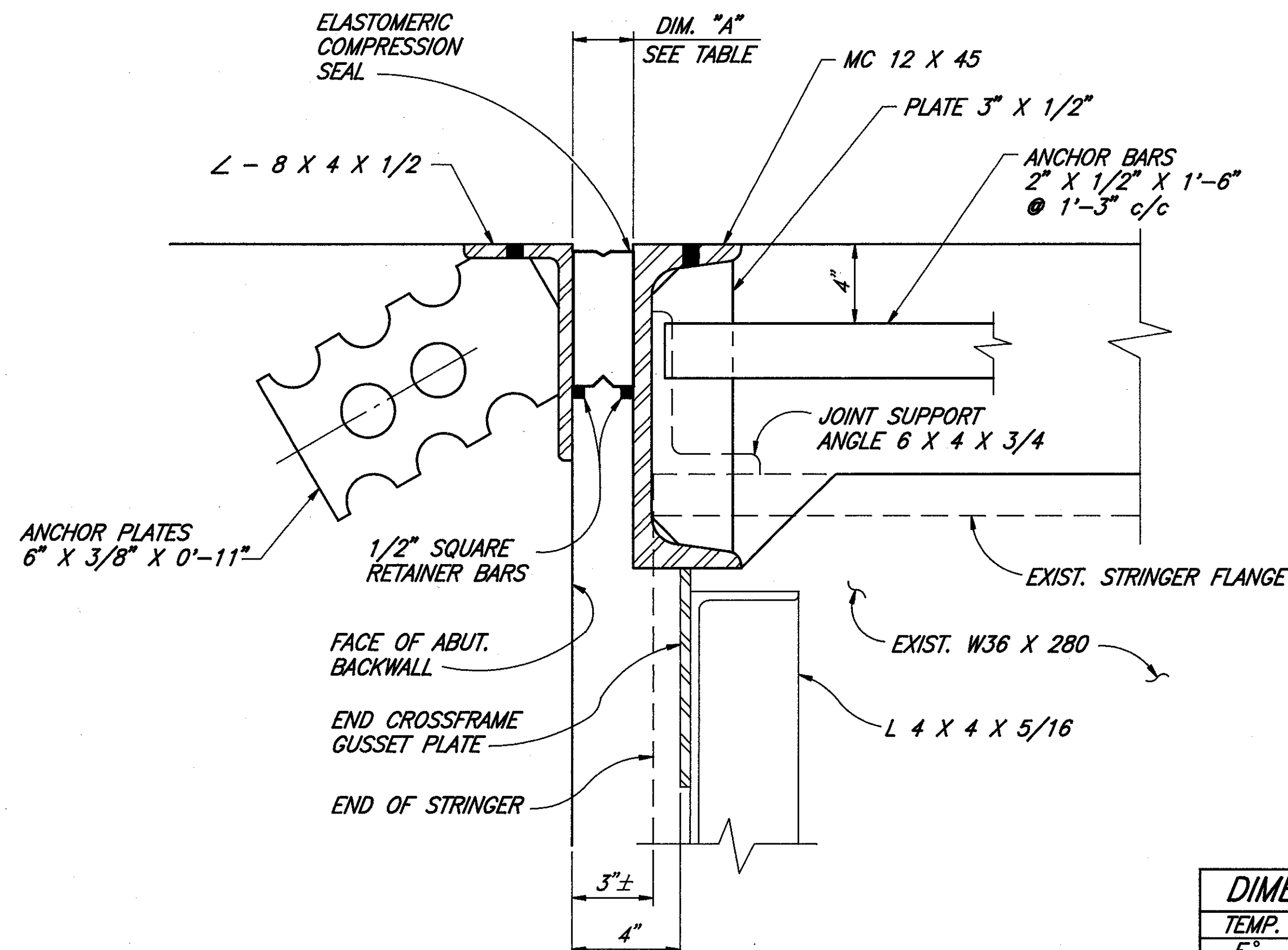
25
28

HARRISON COUNTY
HAS-250-19.11



END CROSSFRAME DETAIL
(TYPICAL EACH ABUTMENT)

NOTE: FOR ADDITIONAL END CROSSFRAME DETAILS, SEE
STANDARD DRAWINGS EXJ-2-81 AND SD-1-69.

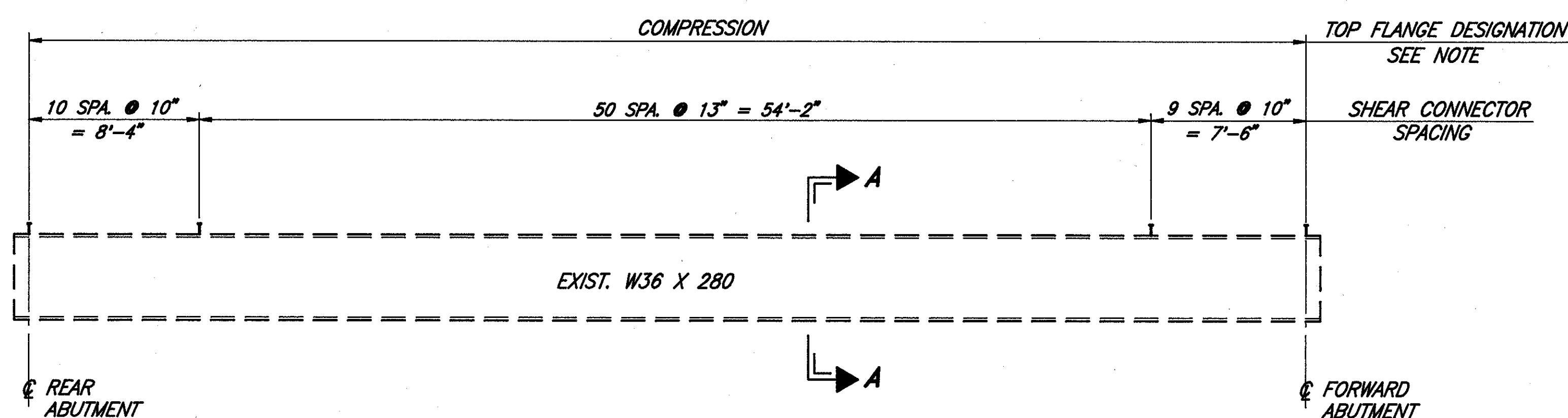


**COMPRESSION SEAL
EXPANSION JOINT DETAIL**
(AT ROADWAY)

NOTE: FOR ADDITIONAL COMPRESSION SEAL EXPANSION
JOINT DETAILS, SEE STD. BRIDGE DWG. EXJ-2-81.

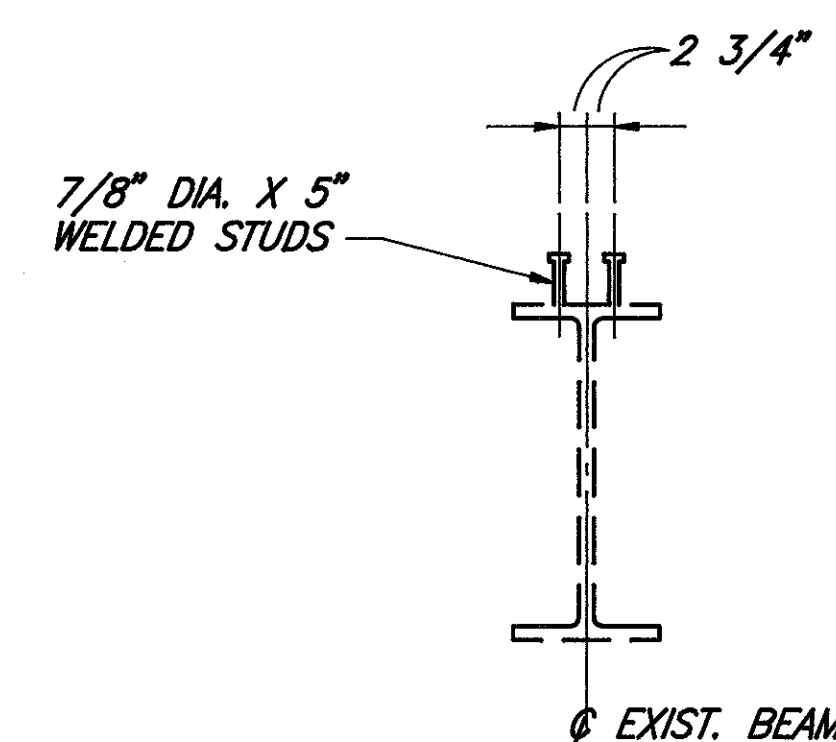
PROVIDE 4" SEAL SIZE

DIMENSION A (INCHES)		
TEMP. F°	ABUTMENTS	
	REAR	FORWARD
90°	2 1/16	2 1/16
80°	2 1/8	2 1/8
70°	2 3/16	2 3/16
60°	2 1/4	2 1/4
50°	2 5/16	2 5/16
40°	2 3/8	2 3/8
30°	2 7/16	2 7/16



BEAM ELEVATION

NOTE: WELDED ATTACHMENT OF SUPPORTS FOR CONCRETE DECK FINISHING MACHINE MAY BE
MADE TO AREAS OF THE FASCIA STRINGER FLANGES DESIGNATED "COMPRESSION".
FILLET WELDS TO COMPRESSION FLANGES SHALL BE NOT CLOSER THAN 1" FROM EDGE
OF FLANGE, BE NOT MORE THAN 2" LONG, AND BE NOT SMALLER THAN THE MINIMUM
SIZE REQUIRED BY AASHTO.



SECTION A-A

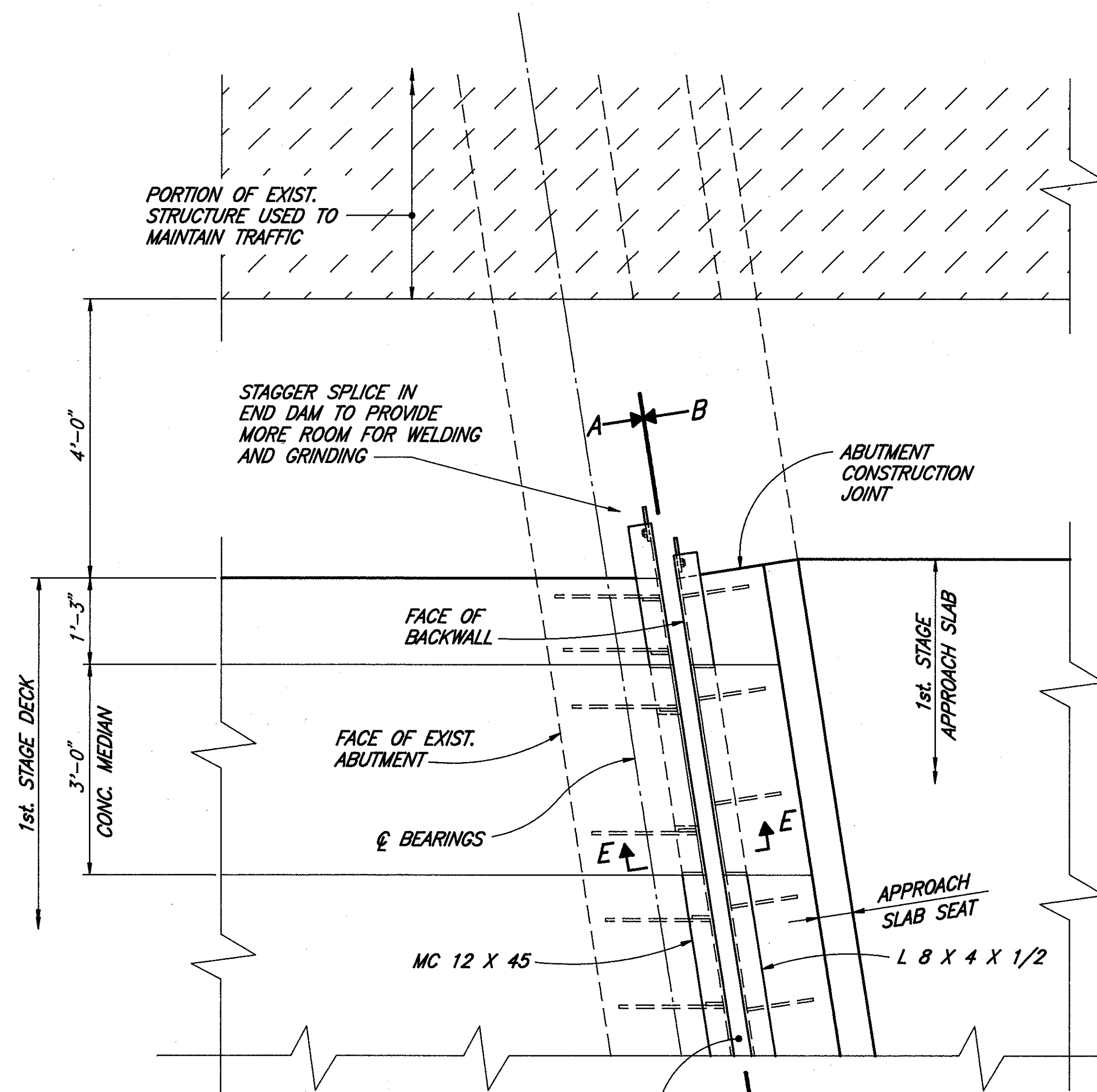
TRUMBULL CONSULTANTS, INC. CANFIELD, OHIO					
SUPERSTRUCTURE DETAILS					
BRIDGE NO. OVER COLUMBUS & OHIO RIVER R.R.			HAS-250-1912 STA. 14+97.72 to STA. 15+72.28		
HARRISON COUNTY					
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE
A.T.	A.T.		S.J.R.	J.M.M.	3/94

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F.H.W.A. REGION	STATE	PROJECT
5	OHIO	

26
28

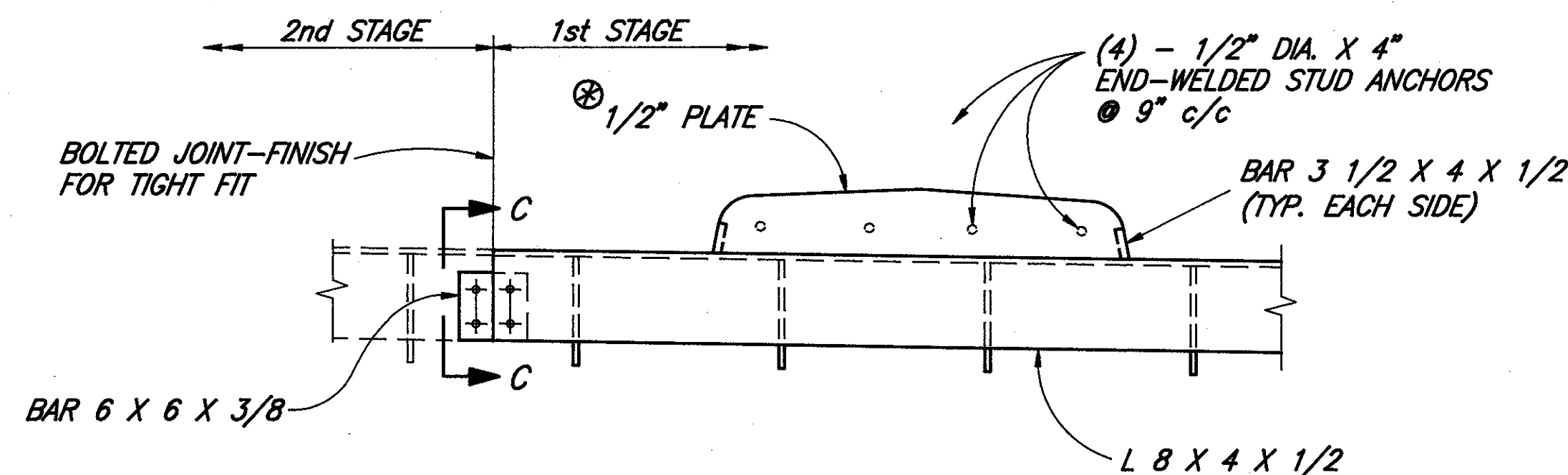
HARRISON COUNTY
HAS-250-19.11



JOINT SEAL - SHALL BE INSTALLED IN ONE CONTINUOUS PIECE AFTER COMPLETION OF END DAM INSTALLATION.

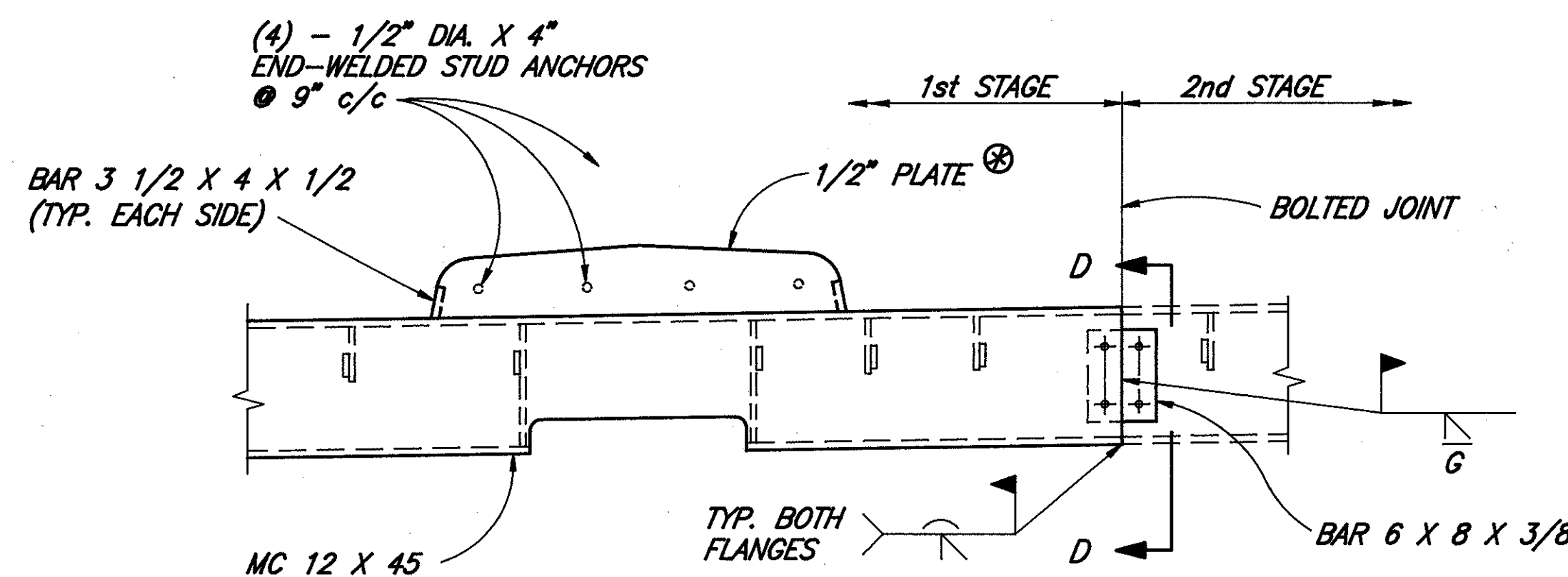
PARTIAL PLAN END DAM/FIELD SPLICE DETAIL

FORWARD ABUTMENT SHOWN
REAR ABUTMENT SIMILAR
(REFER TO STANDARD DRAWING EXJ-2-81 FOR ADDITIONAL DETAILS)

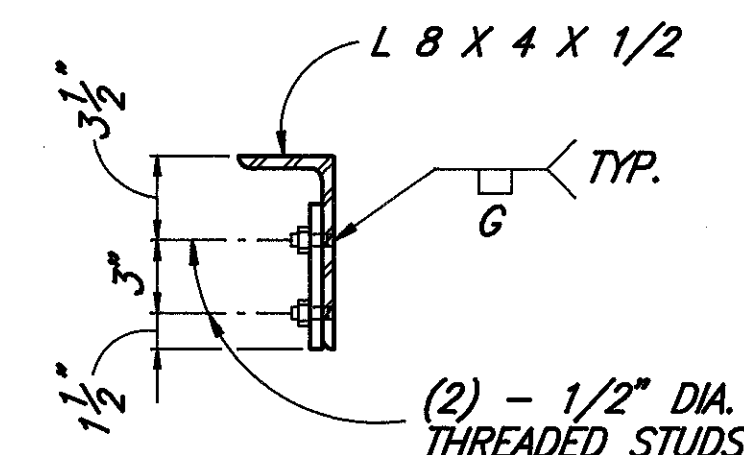


SECTION A-A

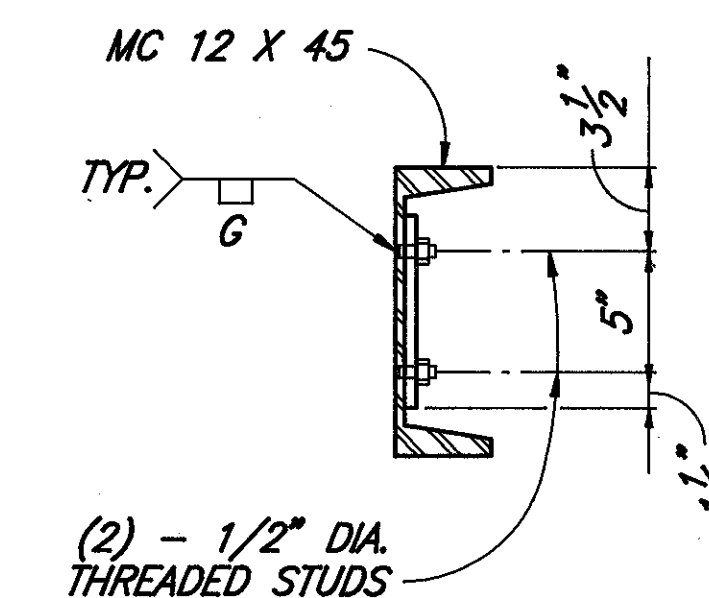
SEE SHEET 10/16 FOR MEDIAN DIMENSIONS



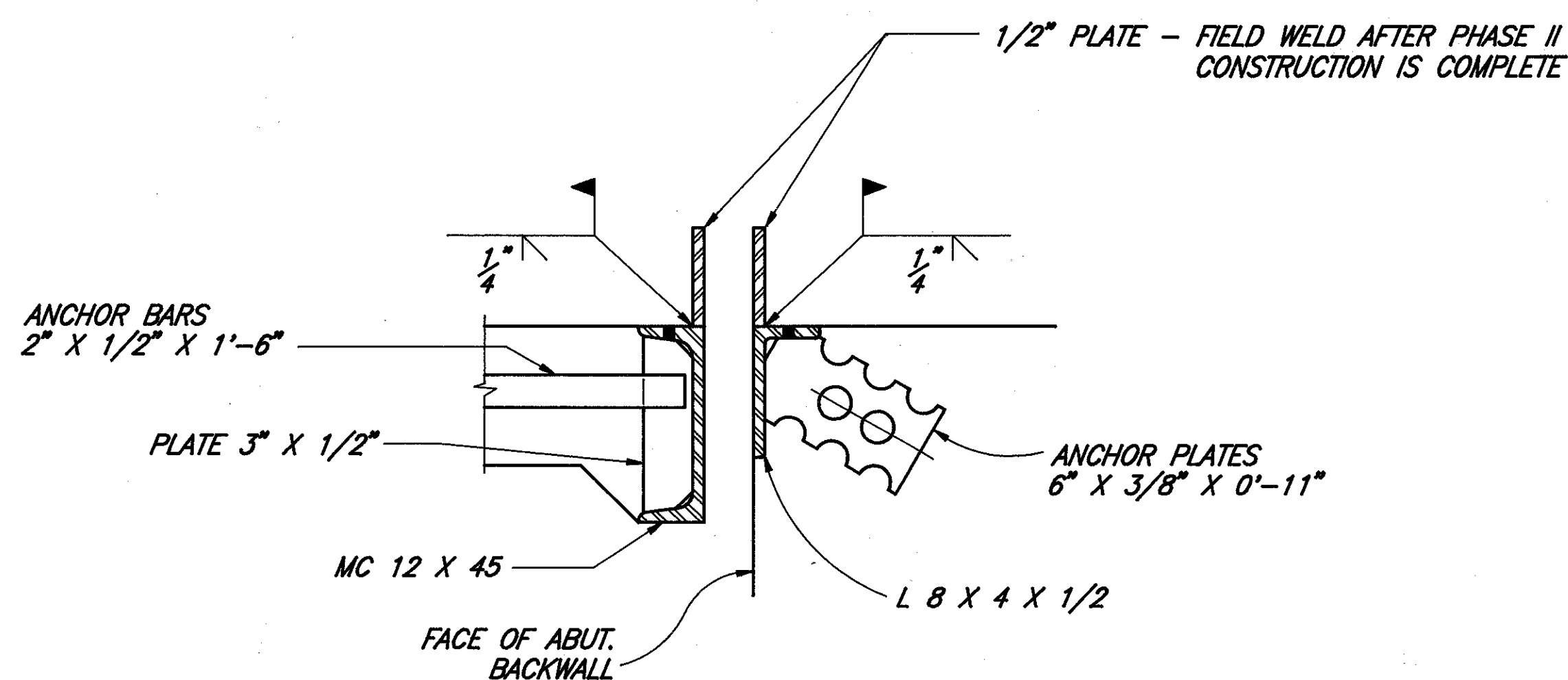
SECTION B-B



SECTION C-C



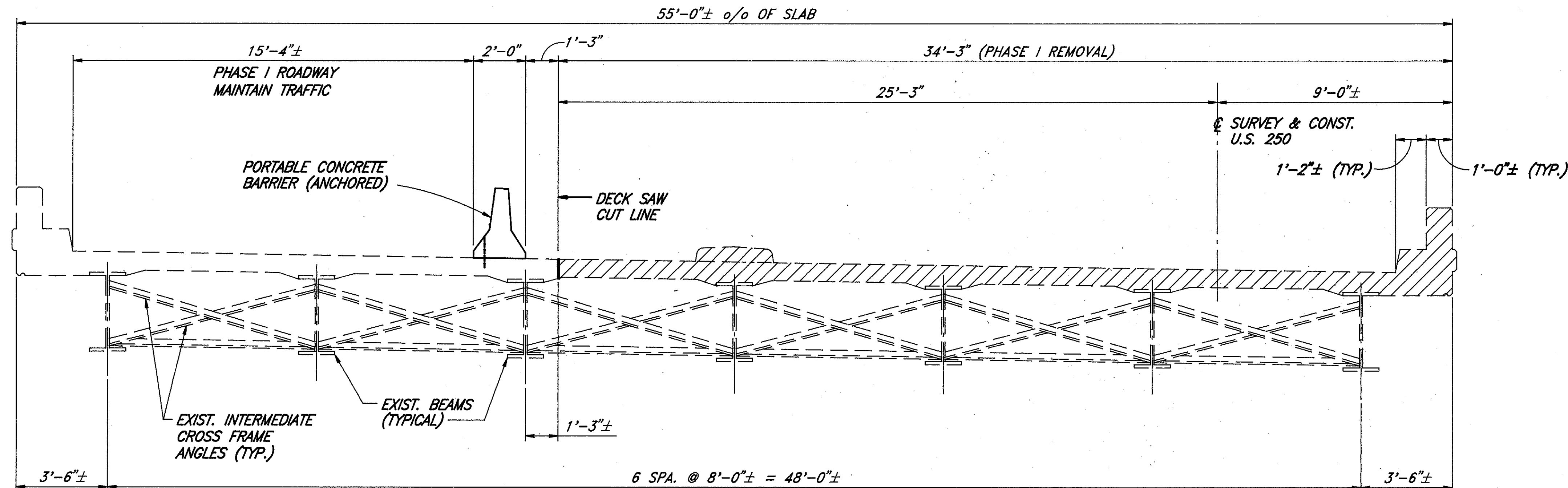
SECTION D-D



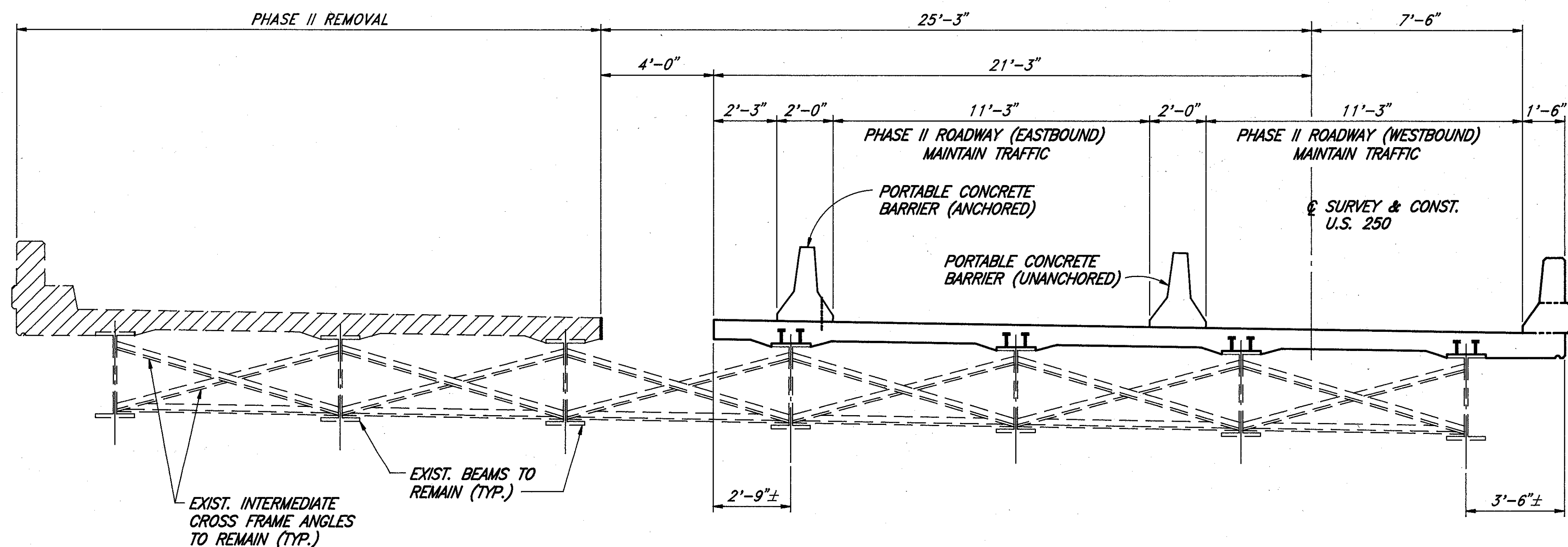
SECTION E-E

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TRUMBULL CONSULTANTS, INC. CANFIELD, OHIO					
SUPERSTRUCTURE DETAILS					
BRIDGE NO. HAS-250-1912			OVER COLUMBUS & OHIO RIVER R.R.		
HARRISON COUNTY			STA. 14+97.72 to STA. 15+72.28		
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE
A.T.	A.T.		S.J.R.	J.M.M.	3/94



PHASE I PART-WIDTH CONSTRUCTION



PHASE II PART-WIDTH CONSTRUCTION

PROPOSED WORK

1. TRAFFIC SHALL BE MAINTAINED AT ALL TIMES DURING THE CONSTRUCTION PERIOD.
2. FOR STAGE I CONSTRUCTION, PLACE PORTABLE CONCRETE BARRIERS ON STRUCTURE AND APPROACHES.
3. REMOVE THE RIGHT PORTION OF THE EXISTING STRUCTURE.
4. CONSTRUCT STAGE I COMPLETE EXCEPT FOR JOINT SEALS AND CONCRETE MEDIAN WHICH SHALL NOT BE PLACED UNTIL AFTER STAGE II CONSTRUCTION IS COMPLETE.
5. RELOCATE PORTABLE CONCRETE BARRIERS TO THE COMPLETED STAGE I CONSTRUCTION.
6. REMOVE THE LEFT PORTION OF THE EXISTING STRUCTURE.
7. CONSTRUCT STAGE II.
8. REMOVE PORTABLE CONCRETE BARRIERS.
9. RE-OPEN STRUCTURE TO TWO LANES OF TRAFFIC.
10. PLACE CONCRETE MEDIAN WHICH WAS NOT CONSTRUCTED UNDER STEP 4 ABOVE. (FLAGGERS SHALL BE UTILIZED FOR THE PROTECTION OF TRAFFIC UNTIL THE CONSTRUCTION OF THE MEDIAN IS COMPLETE.)
11. INSTALL ELASTOMERIC COMPRESSION SEALS AT ABUTMENTS, MAINTAINING TRAFFIC AT ALL TIMES.

NOTE:

1. ITEM 622 - PORTABLE CONCRETE BARRIER, 32", BRIDGE MOUNTED IS CARRIED IN THE ROADWAY QUANTITIES. ANCHORED BARRIERS SHALL HAVE 2 ANCHORS* ON TRAFFIC SIDE. WHEN NO LONGER NEEDED, ANCHORS FOR PHASE II SHALL BE REMOVED TO TWO INCHES BELOW DECK SURFACE AND THE VOID FILLED WITH NON-SHRINKING GROUT.

REFER TO STANDARD DRAWING PCB-91 FOR ADDITIONAL DETAILS.

*Per Segment

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TRUMBULL CONSULTANTS, INC.
CANFIELD, OHIO

PHASE CONSTRUCTION

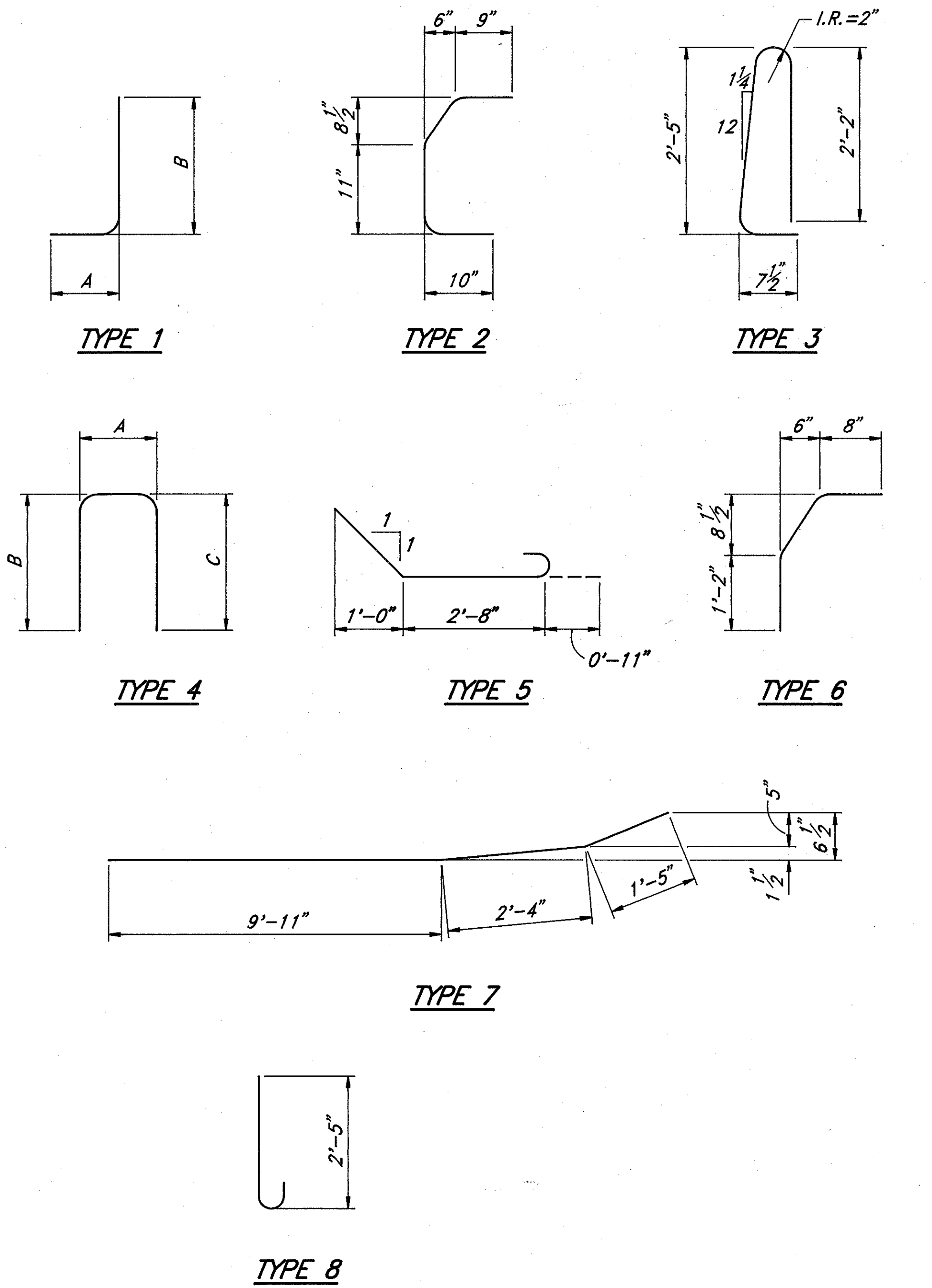
BRIDGE NO. HAS-250-1912
OVER COLUMBUS & OHIO RIVER R.R.

HARRISON COUNTY STA. 14+97.72
to STA. 15+72.28

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
A.T.	A.T.		S.J.R.	J.M.M.	3/94	

MARK	No. REQ'D.	LENGTH	TYPE	A	B	C	INCR.	WEIGHT LBS.
SUPERSTRUCTURE								
S401	213	25'-2"	STR.					3581
S501	114	32'-7"	STR.					3874
S502	116	24'-7"	STR.					2974
S503	1 SER OF 8	3'-6" to 29'-6"	STR.				3'-8 9/16"	138
S504	1 SER OF 7	7'-0" to 29'-3"	STR.				3'-8 1/2"	132
S505	1 SER OF 6	3'-0" to 21'-6"	STR.				3'-8 3/8"	77
S506	1 SER OF 5	6'-10" to 21'-8"	STR.				3'-8 1/2"	74
S507	2	33'-0"	STR.					69
S508	2	24'-10"	STR.					52
S509	180	25'-4"	STR.					4756
S510	116	2'-3 1/2"	1	0'-10"	1'-7"			277
S511	116	3'-2"	2					384
S512	48	3'-1"	4	2'-0"	0'-8"	0'-8"		154
S513	102	5'-3"	3					559
S514	32	13'-8"	STR.					456
S515	8	15'-2"	STR.					127
S601	114	33'-6"	STR.					5736
S602	116	24'-7"	STR.					4283
S603	1 SER OF 8	3'-6" to 29'-6"	STR.				3'-8 9/16"	198
S604	1 SER OF 7	7'-5" to 29'-8"	STR.				3'-8 1/2"	195
S605	1 SER OF 6	3'-0" to 21'-6"	STR.				3'-8 3/8"	110
S606	1 SER OF 5	6'-10" to 21'-8"	STR.				3'-8 1/2"	107
S607	2	34'-0"	STR.					102
S608	2	24'-10"	STR.					75
							TOTAL	28,490

MARK	No. REQ'D.	LENGTH	TYPE	A	B	C	INCR.	WEIGHT LBS.
REAR ABUTMENT								
(BACKWALL)								
RA501	1	33'-0"	STR.					35
RA502	1	24'-10"	STR.					26
RA503	7	31'-3"	STR.					228
RA504	7	23'-2"	STR.					169
RA505	1	3'-9"	4	2'-0"	1'-0"	1'-0"		4
RA601	53	5'-7"	4	0'-11"	2'-6"	2'-6"		444
RA602	29	4'-10"	4	1'-5"	2'-5"	1'-4"		210
RA603	24	5'-4"	4	1'-5"	2'-11"	1'-4"		195
RA801	35	5'-0"	5					467
(WINGWALLS)								
RW501	8	14'-8"	STR.					123
RW502	16	2'-7"	6					43
RW503	2	2'-10 1/2"	1	1'-4"	1'-8"			6
RW504	18	4'-5 1/2"	1	1'-4"	3'-3"			84
RW505	4	3'-3"	STR.					14
RW506	16	3'-6"	STR.					59
RW507	2	5'-3"	3					11
RW508	4	13'-8"	7					57
RW509	12	13'-8"	STR.					171
RW510	16	3'-0"	8					50
RW511	4	1'-10 1/2"	1	1'-4"	0'-8"			8
							TOTAL	2404
FORWARD ABUTMENT								
(BACKWALL)								
FA501	1	33'-0"	STR.					35
FA502	1	24'-10"	STR.					26
FA503	7	31'-3"	STR.					228
FA504	7	23'-2"	STR.					169
FA505	1	3'-9"	4	2'-0"	1'-0"	1'-0"		4
FA601	53	5'-7"	4	0'-11"	2'-6"	2'-6"		444
FA602	29	4'-10"	4	1'-5"	2'-5"	1'-4"		210
FA603	24	5'-4"	4	1'-5"	2'-11"	1'-4"		195
FA801	35	5'-0"	5					467
(WINGWALLS)								
FW501	8	14'-8"	STR.					123
FW502	16	2'-7"	6					43
FW503	2	2'-10 1/2"	1	1'-4"	1'-8"			6
FW504	18	4'-5 1/2"	1	1'-4"	3'-3"			84
FW505	4	3'-3"	STR.					14
FW506	16	3'-6"	STR.					59
FW507	2	5'-3"	3					11
FW508	4	13'-8"	7					57
FW509	12	13'-8"	STR.					171
FW510	16	3'-0"	8					50
FW511	4	1'-10 1/2"	1	1'-4"	0'-8"			8
							TOTAL	2404
							GRAND TOTAL	33,298



EPOXY COATING: ALL REINFORCING STEEL SHALL BE EPOXY COATED.

F.H.W.A. REGION 5 STATE OHIO PROJECT

HARRISON COUNTY HAS-250-19.11

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TRUMBULL CONSULTANTS, INC.
CANFIELD, OHIO

REINFORCING SCHEDULE

BRIDGE NO. HAS-250-1912
OVER COLUMBUS & OHIO RIVER R.R.

HARRISON COUNTY STA. 14+97.72 to STA. 15+72.28

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
A.T.	A.T.		S.J.R.	J.M.M.	3/94	

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