

STATE OF OHIO
DEPARTMENT OF TRANSPORTATION

AUG-75-10.47

OHIO

FHWA
REGION 5FEDERAL
PROJECT

1

34

IM-75-4(46)116

CONVENTIONAL SIGNS

County Line _____
Township Line _____
Section Line _____
Corporation Line _____
Center Line _____
Existing R/W _____ R/W _____
Proposed R/W _____ R/W _____
Temporary Easement _____
Property Line _____ (in existing fence) _____
Fence Line (existing) _____ (proposed) _____
Trees (to be removed) _____
Utility Poles: Telephone _____ Power _____ Light _____
Guardrail (existing) _____ (proposed) _____

AUG-75-10.47

C.R.190 (BUCKLAND-HOLDEN ROAD) OVER I-75

DUCHOUQUET TOWNSHIP

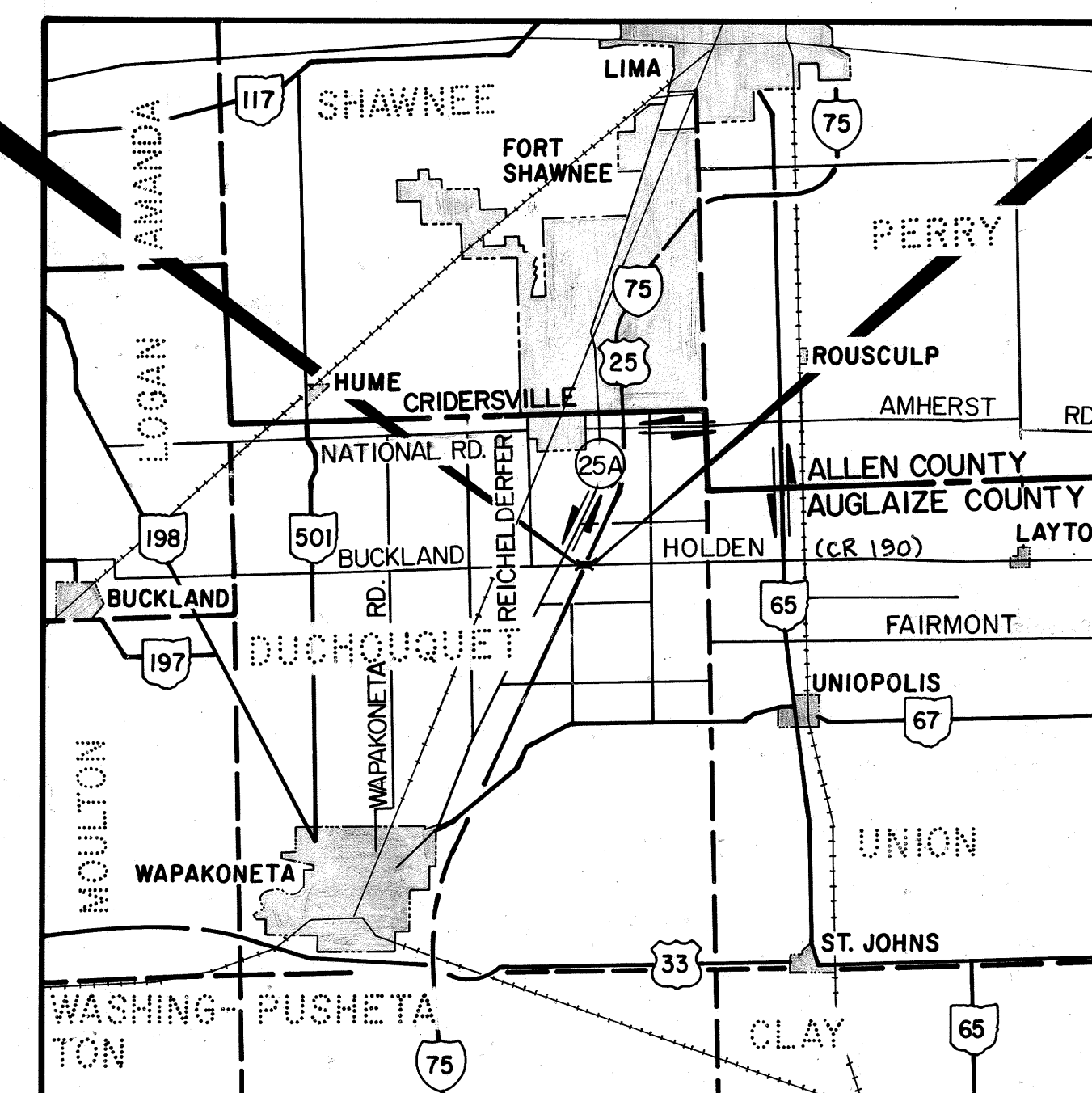
AUGLAIZE COUNTY

BEGIN WORK
STA. 7+50.00
S.L.M. 0.17END WORK
STA. 22+28.00
S.L.M. 0.42

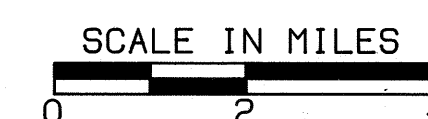
DESIGN DESIGNATION	
CURRENT ADT (1993)	= 100
DESIGN ADT (2013)	= 120
DHV	= 13.0
D (DIRECTIONAL DISTRIBUTION)	= 55%
T (PERCENT B AND C TRUCKS)	1%
V (DESIGN & LEGAL SPEED-MPH)	55
FUNCTIONAL CLASSIFICATION	RURAL COLLECTOR

DESIGN EXCEPTIONS		
ITEM	PLAN	REQUIRED
VERTICAL ALIGNMENT		
STOPPING SIGHT DISTANCE	340'	450'
APPROVED BY FHWA DATE: 9/26/91		

UNDERGROUND UTILITIES
TWO WORKING DAYS
BEFORE YOU DIG
CALL... 800-362-2764
OHIO UTILITIES PROTECTION SERVICE
NON-MEMBERS MUST
BE CALLED DIRECTLY



LOCATION AND DETOUR MAP



Portion To Be Improved _____
State, Federal & U.S. Routes _____
County & Township Roads _____
Proposed Detour _____

SCALES

Plan _____
Profile _____ Horizontal _____ Vertical _____
Cross Sections: Horizontal _____ Vertical _____

STANDARD DRAWINGS					
NUMBER	DATE	NUMBER	DATE	NUMBER	DATE
BP-3.1	2-21-92	MC-11	8-1-78	MT-95.30	10-10-88
BP-4.1	2-21-92			MT-99.10	11-14-86
				MT-105.10	7-1-92
		AS-1-81	11-27-81	MT-105.11	7-1-92
GR-1.1	5-6-91			MT-101.60	7-1-92
GR-1.2	10-30-92	TC-35.10	8-29-84		
GR-2.1	5-6-91	TC-41.10	8-29-84	BR-1	5-29-79
GR-3.1	5-6-91	TC-41.20	3-26-79	ICD-1-82	8-1-84
GR-1.3	2-21-92	TC-52.10	4-3-79		
		TC-52.20	4-3-79		

SUPPLEMENTAL SPECIFICATIONS	
NUMBER	DATE
802	4-13-90
849	12-24-85
949	9-26-86

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.

1993 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 require the closing to traffic of the highway (C.R.190) and that detours will be provided as indicated on the plans.

Approved: [Signature]
Date: 12/18/92 District Deputy Director of Transportation

Reviewed: B & N
Approved: B.D. Hanhlemmi/12/11/93
Date: 1-11-93 Engineer, Bureau of Bridges and Structural Design

Approved: Christopher L. Duncan
Date: 6-23-93 Deputy Director, Design

Approved: Jerry Whay
Date: 6-23-93 Director, Department of Transportation

LINE DATA

Length of Project _____ 0.00 L.F.
Begin Work _____ STA. 7+50
End Work _____ STA. 22+28
Length of Work _____ 1,478 L.F. or 0.280 Mi.



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

PLANS PREPARED BY
COLUMBUS ENGINEERING CONSULTANTS INCORPORATED
CONSULTING CIVIL ENGINEERS
950 MICHIGAN AVENUE
COLUMBUS, OHIO 43215
(614) 228-3500

REGISTERED ENGINEER

E-44907 12/92
NO. DATEFILE
NUMBER

PROJECT: AUG-75-10.47

DATE OF LETTING

CONTRACT NUMBER

DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

APPROVED:

DIVISION ADMINISTRATOR

DATE

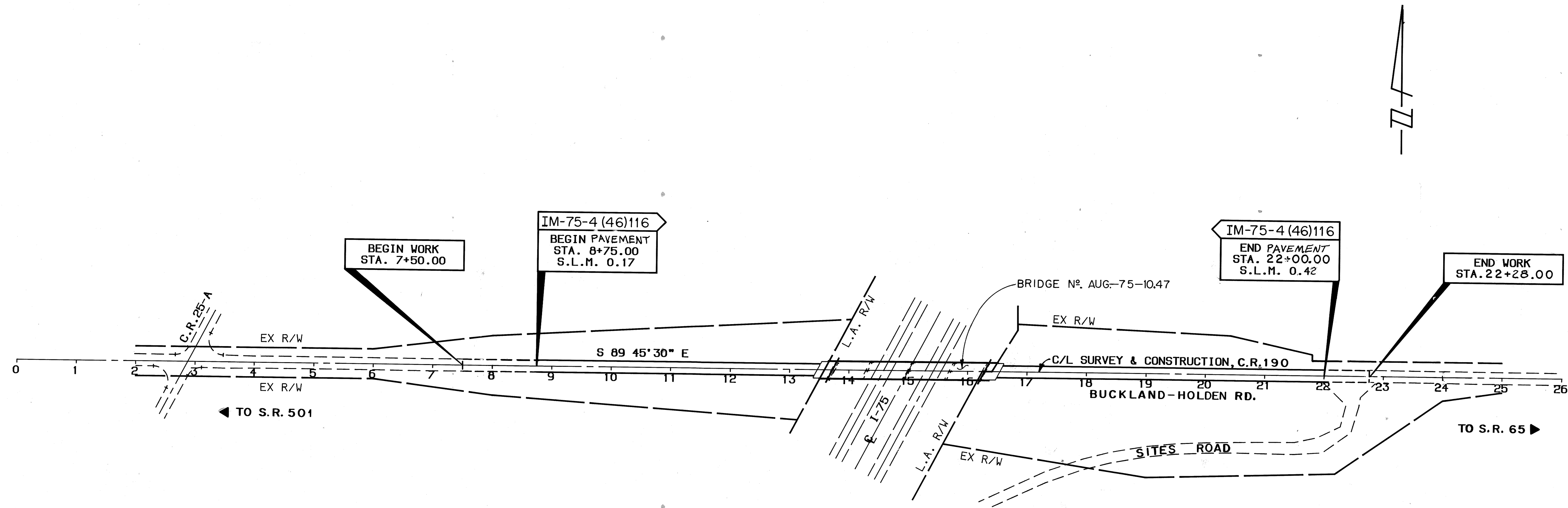
SCHEMATIC PLAN

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AUGLAIZE COUNTY
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SCALE IN FEET
100 0 100 200



BRUNING 44-232 73246

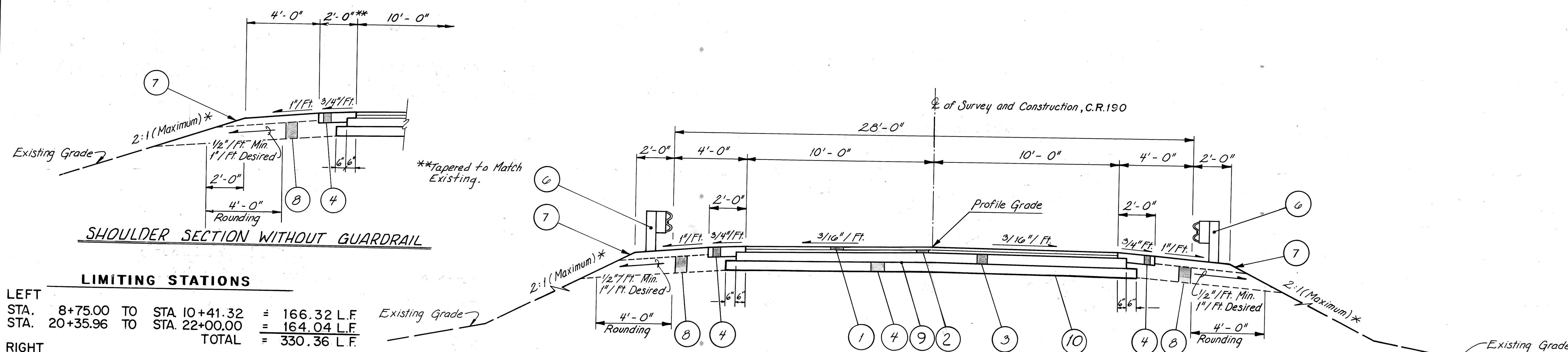
TYPICAL SECTIONS

TYPE 404 ON 301

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AUGLAIZE COUNTY
AUG-75-10.47



LIMITING STATIONS

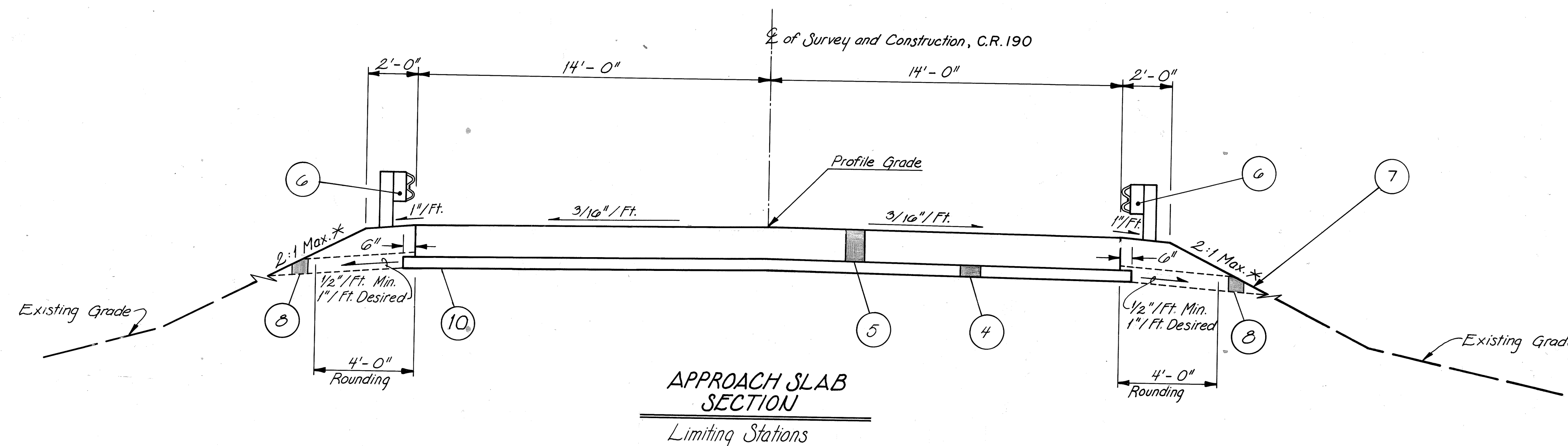
LEFT	STA. 8+75.00 TO STA. 10+41.32	= 166.32 L.F.
	STA. 20+35.96 TO STA. 22+00.00	= 164.04 L.F.
	TOTAL	= 330.36 L.F.
RIGHT	STA. 8+75.00 TO STA. 10+14.13	= 139.13 L.F.
	STA. 19+46.27 TO STA. 22+00.00	= 253.73 L.F.
	TOTAL	= 392.86 L.F.

LEGEND

- ① 404 1 1/4" Asphalt Concrete, AC-20
- ② 402 1 3/4" Asphalt Concrete, AC-20
- ③ 301 5" Bituminous Aggregate Base, AC-20
- ④ 304 6" Aggregate Base, As Per Plan (See General Notes)
- ⑤ 611 Reinforced Concrete Approach Slab, T=15"
- ⑥ 606 Guardrail, Type 5
- ⑦ 659 Seeding and Mulching
- ⑧ 605 Aggregate Drain
- ⑨ 408 Prime Coat, 0.40 Gal. Per S.Y.
- ⑩ 203 Subgrade Compaction

NORMAL SECTION

STA. 8+75 TO STA. 13+47.87	= 472.87 L.F.
STA. 16+53.54 TO STA. 22+00	= 546.46 L.F.
TOTAL	= 1019.33 L.F.



STA. 13+47.87 TO STA. 13+72.87	= 25 L.F.
STA. 16+28.54 TO STA. 16+53.54	= 25 L.F.
TOTAL	= 50 L.F.

GENERAL NOTES

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ROUNDING OF CORNERS SHOWN ON CROSS SECTIONS

THE ROUNDED CORNERS SHOWN ON THE TYPICAL SECTIONS APPLY TO ALL CROSS SECTIONS EVEN THOUGH OTHERWISE SHOWN ON THESE PLANS.

UNDERGROUND UTILITIES

THE LOCATIONS OF THE UNDERGROUND UTILITIES SHOWN ON THE PLANS ARE AS OBTAINED FROM THE OWNERS OF THE UTILITY AS REQUIRED BY SECTION 153.64 ORC.

UTILITY OWNERSHIP

THE FOLLOWING UTILITIES AND OWNERS ARE LOCATED WITHIN THE WORK LIMITS OF THIS PROJECT:

TELEPHONE: TELEPHONE SERVICE COMPANY
2 WILLIPIE STREET
WAPAKONETA, OHIO 45895
(419) 738-2118

ELECTRIC: OHIO POWER COMPANY
301 CLEVELAND AVE. S.W.
CANTON, OHIO 44701-4400
(216) 456-8173

CONTINGENCY QUANTITIES

THE CONTRACTOR SHALL NOT ORDER MATERIALS OR PERFORM WORK LISTED IN THE GENERAL SUMMARY 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 AT THE ENGINEERS DISCRETION SHALL BE MADE A MATTER OF RECORD BY INCORPORATION INTO THE FINAL CHANGE ORDER GOVERNING COMPLETION OF THIS PROJECT.

LOCATION OF GUARDRAIL

THE LOCATIONS OF GUARDRAIL RUNS AS SHOWN ON THESE PLANS, ARE SUBJECT TO ADJUSTMENT PRIOR TO FINAL ACCEPTANCE. THE ENGINEER SHALL BE SATISFIED THAT ALL INSTALLATIONS WILL AFFORD MAXIMUM PROTECTION FOR TRAFFIC.

SEEDING

QUANTITIES FOR SEEDING SHALL BE BASED ON THE SOIL AREAS BETWEEN TEN (10) FEET OUTSIDE THE WORK LIMITS, AS SHOWN ON THE CROSS SECTIONS, OR TO THE RIGHT-OF-WAY LINE, IF SUCH LINE IS LESS THAN TEN (10) FEET FROM THE WORK LIMITS.

WATERING PERMANENT SEEDED AREAS

THE FOLLOWING ESTIMATED QUANTITIES ARE TO BE USED AS DIRECTED BY THE ENGINEER TO PROMOTE GROWTH AND TO CARE FOR THE PERMANENT SEED AREAS, AS PER 659.09:

659 WATER 12 M GAL

TEMPORARY SOIL EROSION AND SEDIMENT CONTROL

THE FOLLOWING ESTIMATED QUANTITY IS TO BE USED AS DIRECTED BY THE ENGINEER FOR EROSION AND SILTATION CONTROL MEASURES:

207 STRAW OR HAY BALES 200 EACH

DUST CONTROL

THE FOLLOWING ESTIMATED AMOUNTS OF 616 CALCIUM CHLORIDE AND 616 WATER HAVE BEEN PROVIDED FOR DUST CONTROL AS DIRECTED BY THE ENGINEER:

616 WATER 5 M GAL.
616 CALCIUM CHLORIDE 1 TON

DETOUR LIMITATIONS AND MAINTAINING TRAFFIC

TWO WAY TRAFFIC SHALL BE MAINTAINED AT ALL TIMES, EXCEPT FOR A SINGLE PERIOD NOT TO EXCEED 90 CONSECUTIVE CALENDAR DAYS, THROUGH TRAFFIC WILL BE DETOURED AS SHOWN ON THE TITLE SHEET MAP. LIQUIDATED DAMAGES SHALL BE ASSESSED IN ACCORDANCE WITH SECTION 108.07 OF THE CONSTRUCTION AND MATERIAL SPECIFICATIONS FOR EACH CALENDAR DAY THAT THE ROADWAY REMAINS CLOSED TO TRAFFIC BEYOND THE SPECIFIED LIMIT.

THE CONTRACTOR SHALL NOTIFY THE DISTRICT TRAFFIC ENGINEER IN WRITING A MINIMUM OF FOURTEEN (14) DAYS IN ADVANCE OF THE DATE THE DETOUR IS NEEDED. THE STATE OF OHIO WILL INSTALL, MAINTAIN AND SUBSEQUENTLY REMOVE THE DETOUR SIGNING.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR TRAFFIC MAINTENANCE AT ALL TIMES IN ACCORDANCE WITH THE REQUIREMENTS OF ITEM 614, MAINTAINING TRAFFIC.

ITEM 407. TACK COAT

THE RATE OF APPLICATION OF 407 TACK COAT SHALL BE SUBJECT TO ADJUSTMENT, AS DIRECTED BY THE ENGINEER. PLAN QUANTITIES INDICATE AN AVERAGE APPLICATION RATE OF 0.075 GALLONS PER SQUARE YARD OF TACK COAT FOR ESTIMATING PURPOSES ONLY.

CLEARING AND GRUBBING

ALTHOUGH THERE ARE NO TREES AND/OR STUMPS SPECIFICALLY MARKED FOR REMOVAL WITHIN THE LIMITS OF THIS PROJECT, A LUMP SUM QUANTITY HAS BEEN INCLUDED IN THE GENERAL SUMMARY FOR ITEM 201, CLEARING AND GRUBBING. ALL PROVISIONS AS SET FORTH IN THE SPECIFICATIONS UNDER THIS ITEM SHALL BE INCLUDED IN THE LUMP SUM PRICE BID FOR ITEM 201, CLEARING AND GRUBBING.

ITEM 304 AGGREGATE BASE, AS PER PLAN

MATERIALS FURNISHED FOR THIS ITEM SHALL EXCLUDE ALL SLAG EXCEPT GRANULATED SLAG OR CRUSHED AIR-COOLED BLAST FURNACE SLAG.

THE CONTRACTOR'S OPTION, CRUSHED CONCRETE OBTAINED FROM CONCRETE PAVEMENT ON THIS PROJECT OR PROJECTS CONSTRUCTED UNDER ODOT SPECIFICATIONS MAY BE USED FOR ITEM 304 AGGREGATE BASE. ALL CRUSHED CONCRETE PASSING THE NO.4 SIEVE SHALL BE REPLACED BY MATERIAL OBTAINED FROM APPROVED SOURCES. THE RECYCLED CONCRETE PAVEMENT SHALL NOT CONTAIN MORE THAN 1.0% RECYCLED ASPHALT PAVEMENT. ALL OTHER REQUIREMENTS OF 304 AND 304.01 SHALL APPLY.

WORK LIMIT SIGNS

THE WORK LIMITS SHOWN ON THESE PLANS ARE FOR PHYSICAL CONSTRUCTION ONLY. THE INSTALLATION AND OPERATION OF ALL TRAFFIC CONTROL AND TRAFFIC CONTROL DEVICES REQUIRED BY THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS "LATEST EDITION SHALL BE PROVIDED BY THE CONTRACTOR WHETHER INSIDE OR OUTSIDE THE WORK LIMITS.

ELEVATION DATUM

ALL ELEVATIONS ARE BASED ON U.S.G.S. DATUM. BENCHMARKS SET BY STATE OF OHIO.

ITEM 605. AGGREGATE DRAINS

AGGREGATE DRAINS SHALL BE PLACED AT FIFTY (50) FOOT INTERVALS ON EACH SIDE OF NORMAL CROWNED SECTIONS, AND STAGGERED SO THAT EACH DRAIN IS 25 FEET FROM THE ADJACENT DRAIN ON THE OPPOSITE SIDE.

TEMPORARY PAVEMENT MARKINGS

C.R.190 SHALL NOT BE OPENED TO TRAFFIC UNTIL EITHER THE PERMANENT OR TEMPORARY MARKINGS ARE IN PLACE. TEMPORARY PAVEMENT MARKINGS SHALL BE PROVIDED AS DIRECTED BY THE ENGINEER. IF THE ITEM 614 PAVEMENT MARKINGS ARE IN PLACE PRIOR TO OPENING THE ROAD TO TRAFFIC, THIS ITEM SHALL BE NON-PERFORMED.

ITEM 614 - 0.28 MILES TEMPORARY CENTER LINE, CLASS II, 740.05 TYPE C

MAINTENANCE OF TRAFFIC

CONSTRUCTION PROCEDURE

DURING REMOVAL AND CONSTRUCTION OF BUCKLAND-HOLDEN ROAD (C.R.190) BRIDGE OVER I-75 THE CONTRACTOR MAY CLOSE ONE NORTHBOUND LANE AND/OR ONE SOUTHBOUND LANE ON I-75 TO TRAFFIC. THE CONTRACTOR MUST MAINTAIN ONE NORTHBOUND LANE AND ONE SOUTHBOUND LANE AT ALL TIMES EXCEPT DURING BEAM REMOVAL AND PLACEMENT AS NOTED ON SHEET 4B. LANE CLOSURES ON I-75 SHALL BE DONE IN ACCORDANCE WITH MT-95.30 AND WILL BE PERMITTED WITHIN A 160 DAY PERIOD. CLOSURE OF C.R.190 SHALL BE IN ACCORDANCE WITH MT-101.60.

PAYMENT FOR ALL MATERIAL, LABOR, DRUMS, BARRICADES AND ALL EQUIPMENT NECESSARY FOR MAINTAINING TRAFFIC, EXCEPT FOR ITEMS SPECIFICALLY PROVIDED FOR, SHALL BE INCLUDED IN THE LUMP SUM BID FOR ITEM 614, MAINTAINING TRAFFIC.

LAW ENFORCEMENT OFFICER

THE CONTRACTOR SHALL PROVIDE THE SERVICE OF A SPECIAL DUTY LAW ENFORCEMENT OFFICER WITH PATROL CAR FOR THE EXCLUSIVE PURPOSE OF CONTROLLING THROUGH TRAFFIC. THE ENFORCEMENT OFFICER WITH A PATROL CAR SHALL BE UTILIZED DURING INSTALLATION AND REMOVAL OF TRAFFIC CONTROL DEVICES FOR LAND RESTRICTIONS AND AT MAINTENANCE OF TRAFFIC SIGNING LOCATIONS. THE OFFICER SHALL ALWAYS BE IN A POSITION NEAR THE CONSTRUCTION SITE TO CONTROL TRAFFIC AND INFORM DRIVERS AS TO THE NATURE OF DELAY. THE CONTRACTOR, WITH THE PROJECT ENGINEER'S APPROVAL, SHALL DETERMINE WHEN AND HOW MANY OFFICERS SHALL BE REQUIRED. PAYMENT SHALL BE AS FOLLOWS:

ITEM SPECIAL, LAW ENFORCEMENT OFFICER WITH PATROL CAR 40 HOURS

ALTERNATE METHODS

IF THE CONTRACTOR SO ELECTS, HE MAY SUBMIT ALTERNATE METHODS FOR THE MAINTENANCE OF TRAFFIC, PROVIDED THE INTENT OF THE ABOVE PROVISIONS IS FOLLOWED AND NO ADDITIONAL INCONVENIENCE TO THE TRAVELING PUBLIC RESULTS THEREFROM. NO ALTERNATE PLAN SHALL PLACED INTO EFFECT UNTIL APPROVAL HAS BEEN GRANTED, IN WRITING, BY THE DIRECTOR.

ITEM 606 ANCHOR ASSEMBLY, TYPE E

THIS ITEM SHALL CONSIST OF FURNISHING AND INSTALLING AN ET-2000, OPTION "C", GUARDRAIL END TERMINAL AS MANUFACTURED BY SYRO STEEL COMPANY, 1170 N. STATE STREET, GIRARD, OHIO 44420 (TELEPHONE: 216-545-4373).

THE ANCHOR ASSEMBLY SHALL BE PLACED IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS AND AT THE LOCATIONS SHOWN IN THE PLANS.

PAYMENT FOR THE ABOVE WORK SHALL BE MADE AT THE UNIT BID PRICE FOR ITEM 606, EACH, ANCHOR ASSEMBLY, TYPE E. PAYMENT SHALL INCLUDE ALL LABOR, TOOLS, EQUIPMENT AND MATERIALS NECESSARY TO CONSTRUCT THE 25' LONG ANCHOR ASSEMBLY, INCLUDING ALL RELATED HARDWARE, NOT SEPARATELY SPECIFIED, AS REQUIRED BY THE MANUFACTURER TO CONSTRUCT A COMPLETE AND FUNCTIONAL ANCHOR ASSEMBLY. THIS ITEM SHALL ALSO INCLUDE PAYMENT OVER AND ABOVE THE COST OF STANDARD TYPE 5 GUARDRAIL FOR INSTALLING TYPE 1 BREAKAWAY POSTS (AS PER STANDARD CONSTRUCTION DRAWING GR-1.3) AT THE FOLLOWING LOCATIONS: 1) AT THE POINT WHERE THE ANCHOR ASSEMBLY AND THE GUARDRAIL RUN MEET; AND 2) AT THE NEXT THREE (3) POST LOCATIONS INTO THE GUARDRAIL RUN.

ADDITIONAL EXCAVATION

THE CROSS SECTIONS DO NOT INCLUDE THE EXCAVATION OF THE EXISTING 6"± ASPHALT CONCRETE. AN ESTIMATED QUANTITY OF 380 CU.YD. OF ITEM 203 EXCAVATION NOT INCLUDING EMBANKMENT CONSTRUCTION HAS BEEN CARRIED TO THE GENERAL SUMMARY FOR THIS PURPOSE.

AUGLAIZE COUNTY
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ITEM SPECIAL - MAILBOX SUPPORT

DESCRIPTION. THIS WORK SHALL CONSIST OF FURNISHING AND ERECTING MAILBOX SUPPORTS AND ANY ASSOCIATED MOUNTING HARDWARE IN ACCORDANCE WITH PLAN DETAILS, AND ATTACHING AN OWNER-SUPPLIED MAILBOX, AT LOCATIONS SPECIFIED IN THE PLAN OR OTHERWISE ESTABLISHED BY THE ENGINEER.

MATERIALS. WOOD POST SHALL BE NOMINAL 4"x4" SQUARE OR 4 1/2" DIAMETER ROUND, AND CONFORM TO 710.14 OF THE C.M.S..

STEEL POSTS SHALL BE NOMINAL PIPE SIZE 2" I.D., AND CONFORM TO AASHTO M 181.

HARDWARE (PLATES, SCREWS, BOLTS, ETC.) SHALL BE COMMERCIAL - GRADE GALVANIZED STEEL.

SETTING POSTS: POSTS SHALL BE SET PER THE FIRST PARAGRAPH OF 606.03 OF THE C.M.S., AND SHALL IN NO INSTANCE BE ENCASED IN CONCRETE.

MOUNTING BOXES. SUPPORT HARDWARE SHALL ACCOMMODATE EITHER A SINGLE OR A DOUBLE MAILBOX INSTALLATION, AND NO MORE THAN TWO BOXES MAY BE MOUNTED ON A SINGLE POST.

THE MAILBOX SHALL BE SECURELY AND NEATLY ATTACHED BY THE CONTRACTOR TO THE NEW SUPPORT. THE CONTRACTOR SHALL FURNISH ALL NECESSARY ATTACHMENT HARDWARE (NUTS, BOLTS, PLATES, SPACERS, AND WASHERS) AS NECESSARY ATTACHMENT TO ACCOMMODATE THE COMPLETE INSTALLATION.

IN THE ABSENCE OF A NEW BOX SUPPLIED BY THE OWNER, THE CONTRACTOR SHALL SALVAGE THE EXISTING BOX AND PLACE IT ON THE NEW SUPPORT. DUE CARE SHALL BE EXERCISED IN SUCH AN OPERATION, AND THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIRING OR REPLACING ANY BOX DAMAGED BY IMPROPER HANDLING ON HIS PART, AS JUDGED AND DIRECTED BY THE ENGINEER.

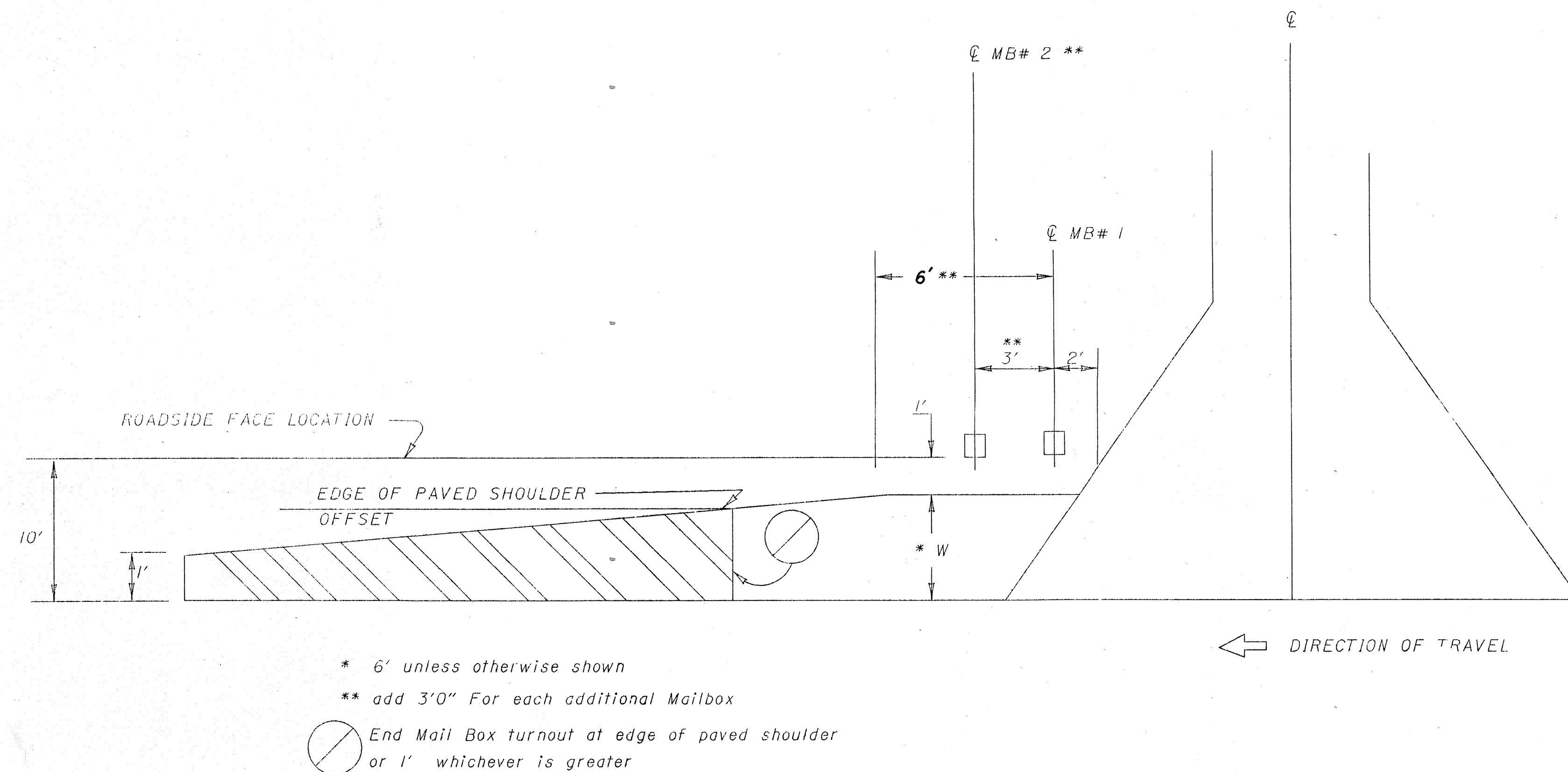
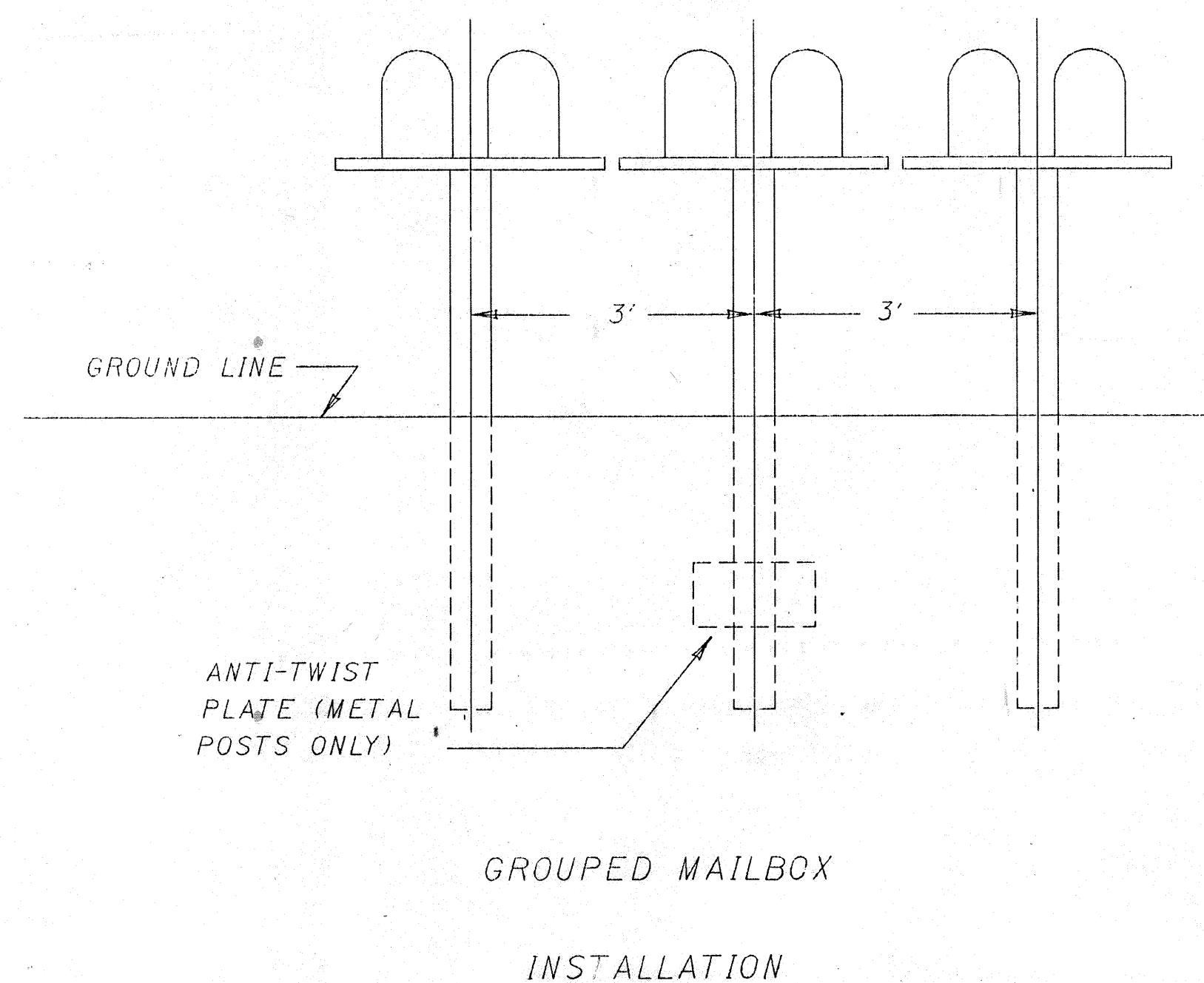
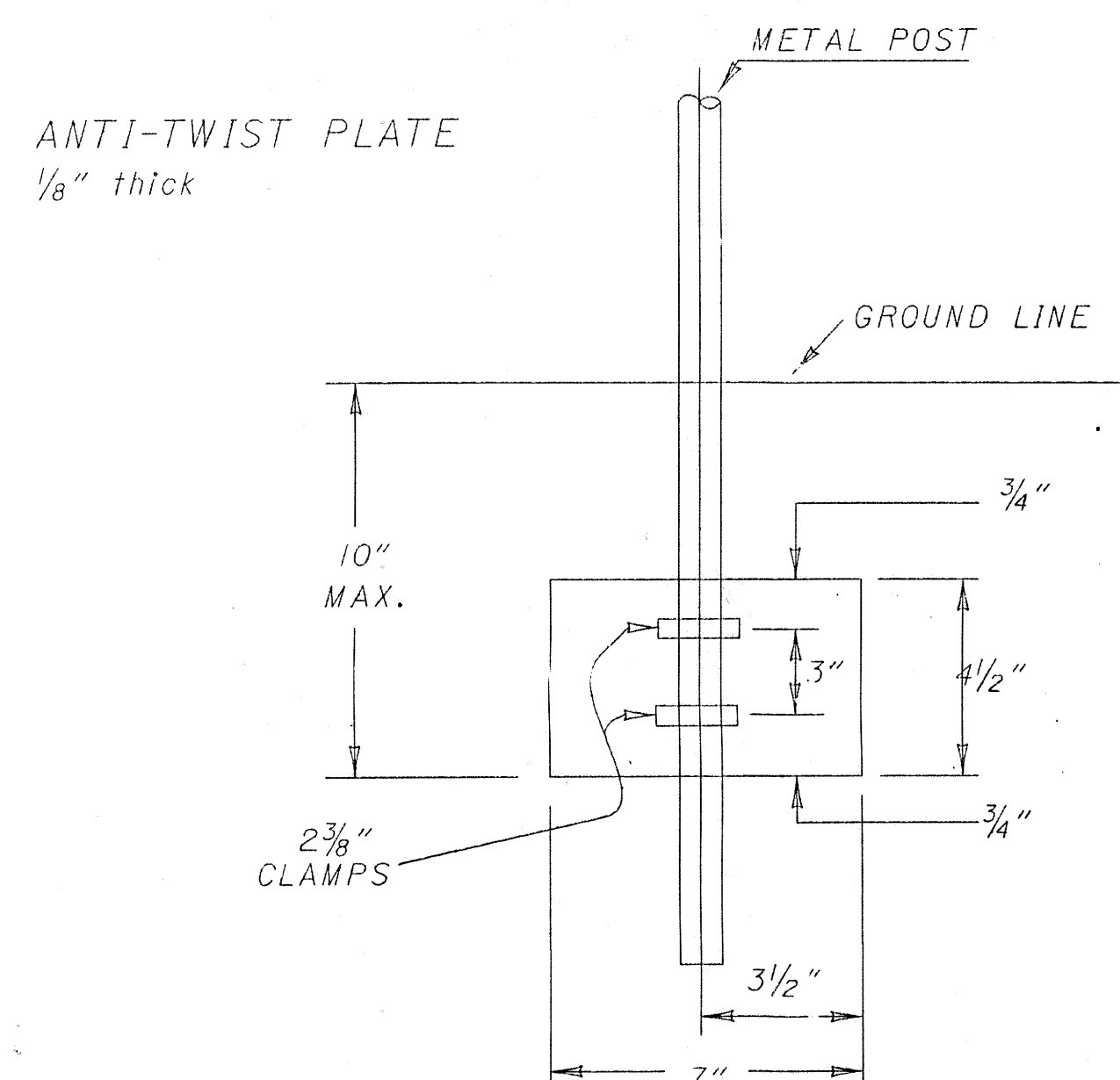
THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING WITH THE LOCAL POSTMASTER REGARDING THE TIMING OF THE MOVEMENT OF ANY MAILBOX TO A NEW LOCATION.

BASIS OF PAYMENT. PAYMENT UNDER THIS ITEM SHALL BE LIMITED TO FINAL PERMANENT INSTALLATIONS. TEMPORARY INSTALLATIONS SHALL BE IN ACCORDANCE WITH 107.12 OF THE C.M.S.. HOWEVER, THE SAME MATERIAL AND SIZE LIMITATIONS AS FOR PERMANENT INSTALLATIONS, SHALL APPLY.

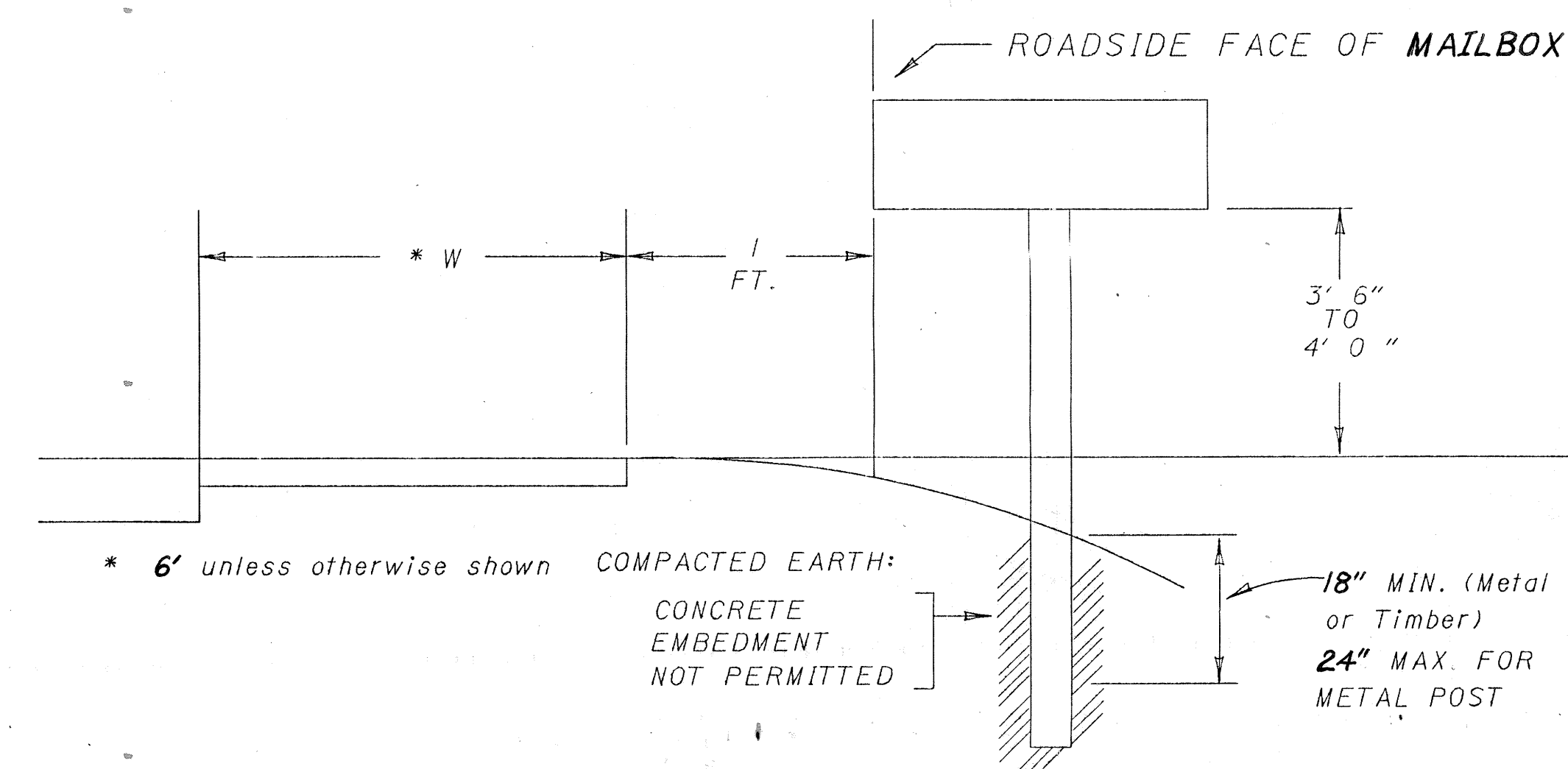
MAILBOX SUPPORTS WILL BE PAID FOR AT THE CONTRACT UNIT PRICE PER EACH, FOR THE TYPE SPECIFIED, COMPLETE IN PLACE.

PAYMENT WILL BE MADE UNDER:

ITEM	UNIT	DESCRIPTION
SPECIAL	EACH	MAILBOX SUPPORT, (SINGLE)



DRIVE WITH MAILBOX APPROACH



MAILBOX SUPPORTS

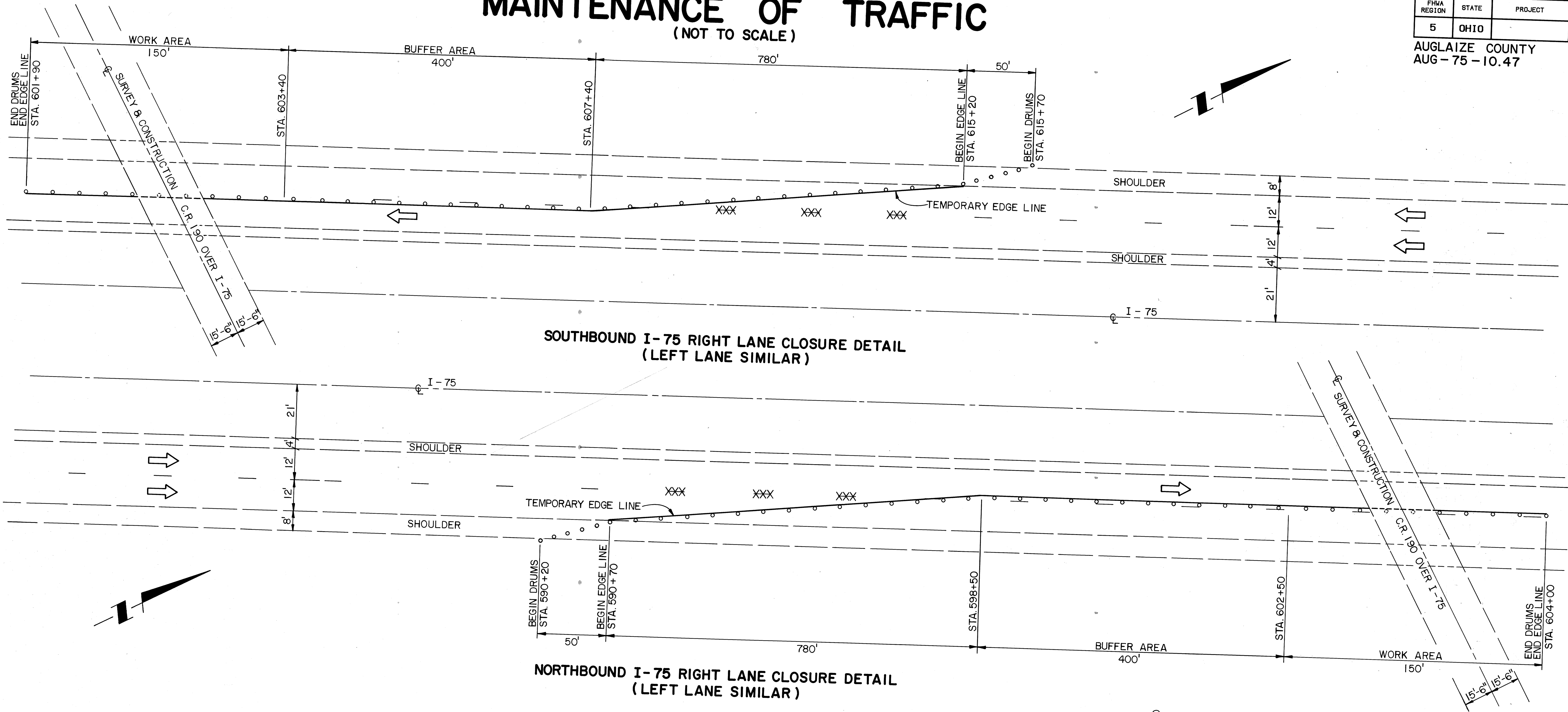
MAINTENANCE OF TRAFFIC

(NOT TO SCALE)

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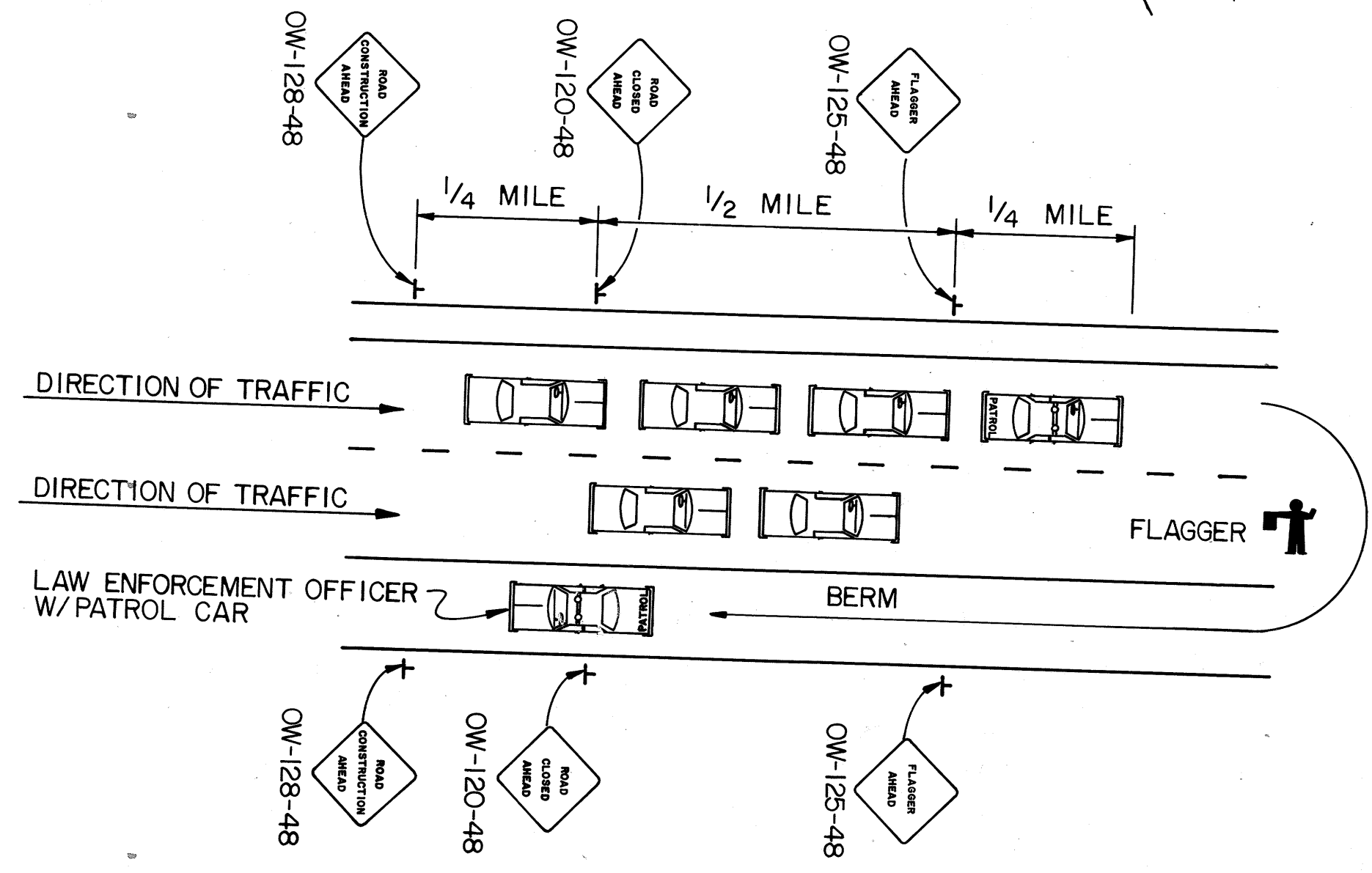
- MAINTENANCE OF TRAFFIC**
- THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN INCLUDED IN THE GENERAL SUMMARY TO BE USED AS DIRECTED BY THE ENGINEER FOR MAINTENANCE OF TRAFFIC:
- ITEM 202 RAISED PAVEMENT MARKER REMOVED 78 EACH
 - ITEM 614 TEMPORARY EDGE LINE, CLASS I 1.00 MILE

FOR ADDITIONAL DETAILS AND NOTES SEE STANDARD DRAWING MT-95.30 AND MAINTENANCE OF TRAFFIC NOTES ON SHEET 4.

LANE CLOSURE AND TRAFFIC STOPPAGE FOR REMOVAL AND PLACEMENT OF BRIDGE BEAMS

REMOVAL AND PLACEMENT OF BEAMS FOR STR. NO. AUG-75-10.47 OVER I-75 NORTHBOUND AND SOUTHBOUND LANES SHALL BE ACCOMPLISHED IN SUCH A MANNER THAT STOPPAGE OF TRAFFIC ON ALL LANES OF ANY DIRECTIONAL ROADWAY IS NOT MORE THAN FIFTEEN (15) MINUTES IN DURATION. SUFFICIENT TIME ALLOWING THE TRAFFIC BACKUP TO CLEAR MUST BE GIVEN BETWEEN CLOSINGS. LANE CLOSURES AND TRAFFIC STOPPAGE FOR THE PURPOSE OF SETTING BEAMS WILL NOT BE PERMITTED BETWEEN THE HOURS 4:00 A.M. AND MIDNIGHT (12:00 A.M.) AND DURING ANY LEGALLY ESTABLISHED HOLIDAYS. ONE (1) LAW ENFORCEMENT PATROL CAR SHALL BE USED TO PACE MOTORIST TO A STOP. AFTER TRAFFIC HAS BEEN STOPPED A FLAGGER WILL REMAIN IN THE ROADWAY TO BLOCK TRAFFIC AND THE LAW ENFORCEMENT OFFICER WITH PATROL CAR SHALL TRAVEL ALONG THE SHOULDER EVEN WITH THE BACKUP OF THE STOPPED VEHICLES. WHEN THE ENGINEER DEEMS APPROPRIATE, THE CONTRACTOR SHALL ERECT AND MAINTAIN "ROAD CONSTRUCTION AHEAD", "ROAD CLOSED AHEAD", AND "STOP AHEAD" SIGNS. THE LAW ENFORCEMENT OFFICER WITH THE PATROL CAR, SIGNS AND FLAGGERS SHALL BE LOCATED IN ACCORDANCE WITH DETAIL ON THIS SHEET. **CONFLICTING SIGNS FROM MT-95.30 SHALL BE COVERED OR REMOVED.**

TRAFFIC CONTROL DEVICES SHALL BE SET UP PRIOR TO THE START OF CONSTRUCTION AND SHALL BE PROPERLY MAINTAINED DURING THE TIME SUCH SPECIAL CONDITIONS EXIST. THEY SHALL REMAIN IN PLACE ONLY AS LONG AS THEY ARE NEEDED AND SHALL BE IMMEDIATELY REMOVED THEREAFTER. WHERE OPERATIONS ARE PERFORMED IN STAGES, THERE SHALL BE IN PLACE ONLY THOSE DEVICES THAT APPLY TO CONDITIONS PRESENT DURING THE STAGE IN PROGRESS. ALL SIGNS WITH MESSAGES WHICH DO NOT APPLY DURING A CERTAIN PERIOD SHALL BE COVERED OR SET ASIDE, OUT OF VIEW OF TRAFFIC. THE CONTRACTOR SHALL SUPPLY ALL MATERIALS, LABOR AND EQUIPMENT NECESSARY TO MAINTAIN TRAFFIC IN ACCORDANCE WITH PRECEEDING REQUIREMENTS.



PAVEMENT CALCULATIONS

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AUGLAIZE COUNTY
AUG-75-10.47

LOCATION		203		301		304*	
STATION TO STATION	TYPICAL SECTION	SUBGRADE COMPACTION	S.Y.	BITUMINOUS AGGREGATE BASE	C.Y.	AGGREGATE BASE, AS PER PLAN	C.Y.
8+75 TO 13+47.87	NORMAL	472.87 x 20x1/9	1050.8	472.87 x 21x5/12x1/27	153.2	472.87 x (22+4) x 6/12x1/27	227.7
13+47.87 TO 13+72.87	APP. SLAB	25x28x1/9	77.8			25x29x6/12x1/27	13.4
16+28.54 TO 16+53.54	APP. SLAB	25x28x1/9	77.8			25x29x6/12x1/27	13.4
16+53.54 TO 22+00.00	NORMAL	546.46 x 20x1/9	1214.4	546.46 x 21x5/12x1/27	177.1	546.46 x (22+4) x 6/12x1/27	263.1
DRIVEWAY @ STA. 9+44.LT.						880 SF x 6/12x1/27	16.3
DRIVEWAY @ STA. 9+44.LT.						204 SF x 8/12x1/27	5.0
			(2420.8)		(330.3)		(538.9)
TOTALS TO GENERAL SUMMARY			2421		330		539

LOCATION		402		404		407*	
STATION TO STATION	TYPICAL SECTION	ASPHALT CONCRETE	C.Y.	ASPHALT CONCRETE	C.Y.	TACK COAT	GAL.
8+00 TO 8+75				75x20x (1.25+2.5/2)x1/12x1/27	8.7	75x20x1/9x.075 GAL./S.Y.	12.5
8+75 TO 13+47.87	NORMAL	472.87 x 20x1.75/12x1/27	51.1	472.87 x 20x1.25/12x1/27	36.5		
16+53.54 TO 22+00.00	NORMAL	546.46 x 20x1.75/12x1/27	59.0	546.46 x 20x1.25/12x1/27	42.2		
22+00.00 TO 22+25.00				25x20x (1.25/12+3/12)x.5x1/27	3.3	25x20x1/9x0.075 GAL./S.Y.	4.2
DRIVEWAY @ STA. 9+44.LT.				880 SF x 2/12x1/27 AS PER AC-20 (DRIVEWAYS)	5.4		
			(110.1)		(90.7)		(16.7)
TOTALS TO GENERAL SUMMARY			110		91		17

LOCATION		408		605*		611	
STATION TO STATION	TYPICAL SECTION	BITUMINOUS PRIME COAT	GAL.	AGGREGATE DRAINS	L.F.	REINFORCED CONCRETE APPROACH SLAB	S.Y.
8+75 TO 13+47.87	NORMAL	472.87 x 22.0/9x0.4	462.4	9 AG.DRNS. x 2x8.0 AVG.LENGTH	144		
13+47.87 TO 13+72.87	APP. SLAB			2 AG.DRNS. x 8.0 AVG.LENGTH	16	25x28x1/9	77.8
16+28.54 TO 16+53.54	APP. SLAB			2 AG.DRNS. x 8.0 AVG.LENGTH	16	25x28x1/9	77.8
16+53.54 TO 22+00.00	NORMAL	546.46 x 22.0/9x0.4	534.3	11 AG.DRNS. x 2x8.0 AVG.LENGTH	176		
DRIVEWAY @ STA. 9+44.LT.		880 SF x 1/9x0.4	39.1				
			(1035.8)		(352)		(155.6)
TOTALS TO GENERAL SUMMARY			1036		352		156

* SEE GENERAL NOTES

ITEM 659 - WATER	
5615 S.Y. x 240 GAL x 9 S.F. x 1 MGAL	= 12MGAL
SEEDING 1000 S.F. 1 S.Y. 1000	

ITEM 659 - COMMERCIAL FERTILIZER (12-12-12)	
5615 S.Y. x 9 S.F. x 20# x 1 TON	= 0.51 TON
SEEDING 1 S.Y. 1000 S.F. 2000#	

ITEM 659 - AGRICULTURAL LIMING	
5615 S.Y. x 9 S.Y. x 100# x 1 TON	= 2.53 TON
SEEDING 1 S.Y. 1000 S.F. 2000#	
TOTALS TO GENERAL SUMMARY	

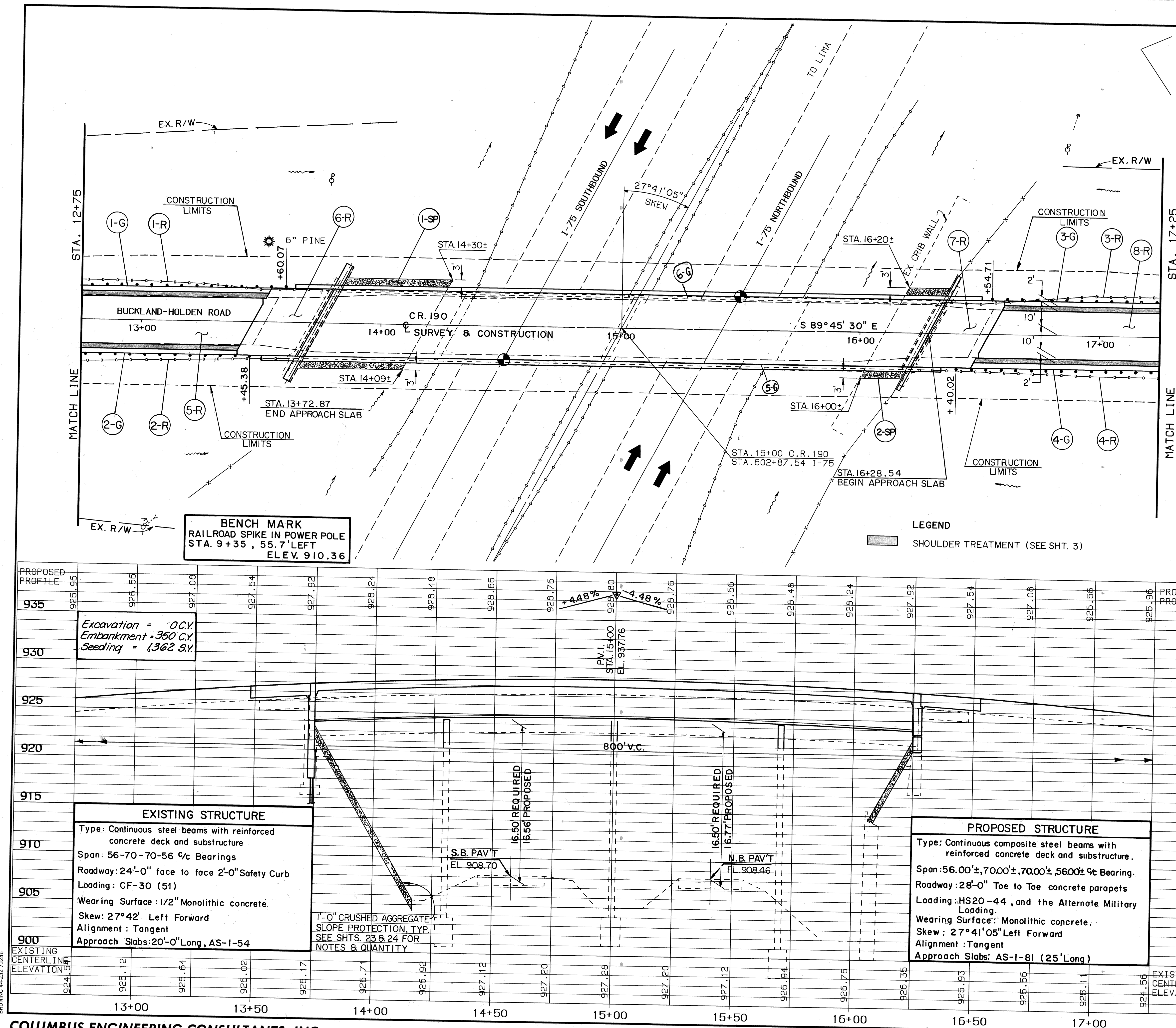
ITEM 642 - 4" CENTER LINE, YELLOW			
STATION TO STATION	SIDE	BROKEN L.F.	PAY LENGTH L.F.
7+50 TO 22+28	CL	1478	1478
TOTAL TO GENERAL SUMMARY		MILE	0.28

ITEM 642 - 4" EDGE LINE, (WHITE)		
STATION TO STATION	SIDE	L.F.
7+50 to 22+28	Lt	1478
7+50 to 22+28	Rt	1478
TOTAL		2956
TOTAL TO GENERAL SUMMARY	Mt.	0.56

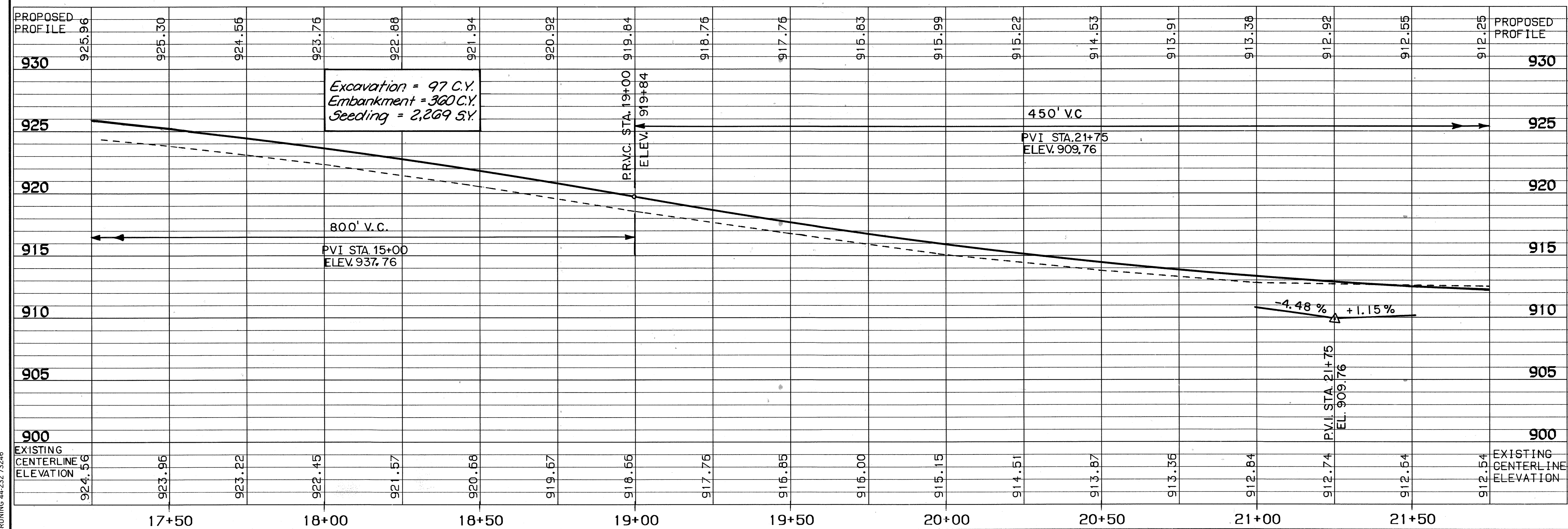
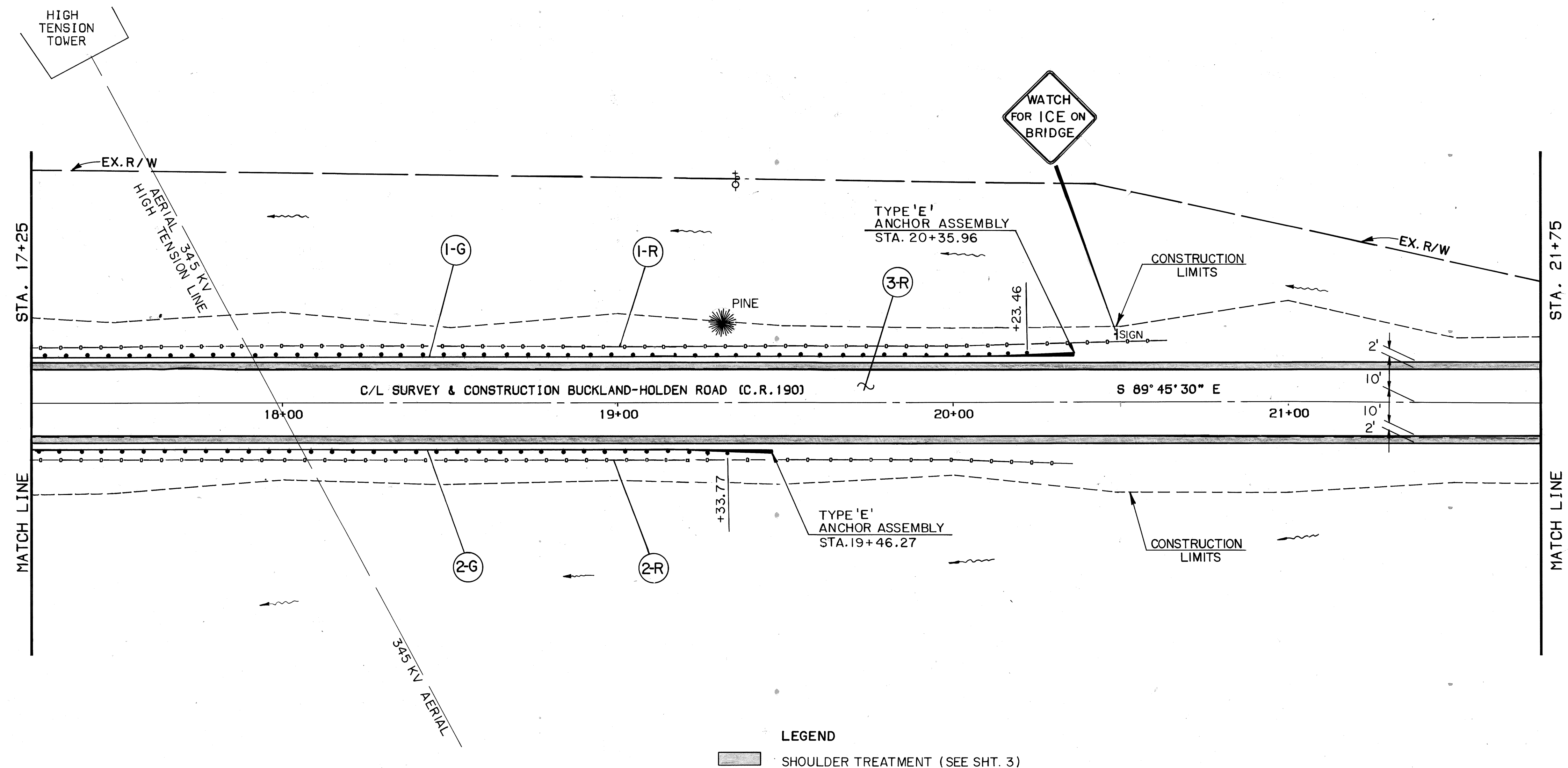
SHEET NUMBER									PARTICIPATION			ITEM	ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION	AS PER PLAN SHEET No.
ITEM	4	5	7	8	9	10	11	4B									
201	LUMP											201	11000	LUMP		ROADWAY	
202					89							202	22900	89	S.Y.	CLEARING AND GRUBBING APPROACH SLAB REMOVED	
202			167	111			56					202	23500	334	S.Y.	WEARING COURSE REMOVED	
202				546	374	650						202	38000	1570	L.F.	GUARDRAIL REMOVED	
202								78				202	54000	78	EACH	RAISED PAVEMENT MARKER REMOVED	
203	380			110		97	15					203	12000	602	C.Y.	EXCAVATION NOT INCLUDING EMBANKMENT CONSTRUCTION	
203			9	267	350	360	5					203	20000	991	C.Y.	EMBANKMENT	
203		2421										203	50000	2421	S.Y.	SUBGRADE COMPACTION	
606				469.55	335.72	507.23						606	13000	1312.5	L.F.	GUARDRAIL, TYPE 5	
606				2		2						606	26100	4	EACH	ANCHOR ASSEMBLY, TYPE E	
606					4											(SEE NOTE ON SHEET 4)	
616	5											606	35000	4	EACH	BRIDGE TERMINAL ASSEMBLY, TYPE I	
616	1											616	10000	5	MGAL	WATER	
616												616	20000	1	TON	CALCIUM CHLORIDE	
SPECIAL				1								SPECIAL	69050100	1	EACH	MAILBOX SUPPORT SYSTEM, SINGLE	(SEE NOTE & DETAILS ON SHEET 4A)
207	200											207	70000	200	EACH	EROSION CONTROL	
659			275	1601	1362	2269	108					659	10000	5615	S.Y.	SEEDING AND MULCHING	
659		0.51										659	20000	0.51	TON	COMMERCIAL FERTILIZER	
659		2.53										659	30000	2.53	TON	AGRICULTURAL LIMING	
659		12										659	35000	12	MGAL	WATER	
																DRAINAGE	
605		352										605	31100	352	L.F.	AGGREGATE DRAIN	
301		330										301	10002	330	C.Y.	PAVEMENT	
304		539										304	20001	539	C.Y.	BITUMINOUS AGGREGATE BASE, AC-20	
402		110										402	20000	110	C.Y.	AGGREGATE BASE, AS PER PLAN (SEE SHEET 4/37)	
404		91										402	20000	110	C.Y.	ASPHALT CONCRETE, AC-20	
404		5										404	20000	91	C.Y.	ASPHALT CONCRETE, AC-20	
407		17										404	25000	5	C.Y.	ASPHALT CONCRETE, AC-20 (DRIVEWAYS)	
408		1036										407	10000	17	GAL.	TACK COAT	
611		156										408	10000	1036	GAL.	BITUMINOUS PRIME COAT	
												611	25000	156	S.Y.	REINFORCED CONCRETE APPROACH SLAB (T = 15")	
642		0.56										642	00090	0.56	MILE	TRAFFIC CONTROL	
642		0.28										642	00290	0.28	MILE	EDGE LINE CENTER LINE	
802				5	8	5						802	00100	18	EACH	BARRIER REFLECTOR, TYPE A	
802					6							802	00200	6	EACH	BARRIER REFLECTOR, TYPE B	
SPECIAL	40																
614	0.28											SPECIAL	61411100	40	HOURS	MAINTENANCE OF TRAFFIC	
614								1.00				614	21700	0.28	MILE	(SEE NOTE ON SHEET 4) LAW ENFORCEMENT OFFICER WITH PATROL CAR	
												614	22300	1.00	MILE	TEMPORARY CENTER LINE, CLASS II, 740.05, TYPE C	
																TEMPORARY EDGE LINE, CLASS I, 740.05, TYPE C	
614																	
619												614	11000	LUMP		FOR STRUCTURES OVER 20' SEE SHEET NO. 23	
623												619	15000	LUMP		MAINTAINING TRAFFIC	
624												623	10000	LUMP		FIELD OFFICE, TYPE A	
												624	10000	LUMP		CONSTRUCTION LAYOUT STAKES	
																MOBILIZATION	

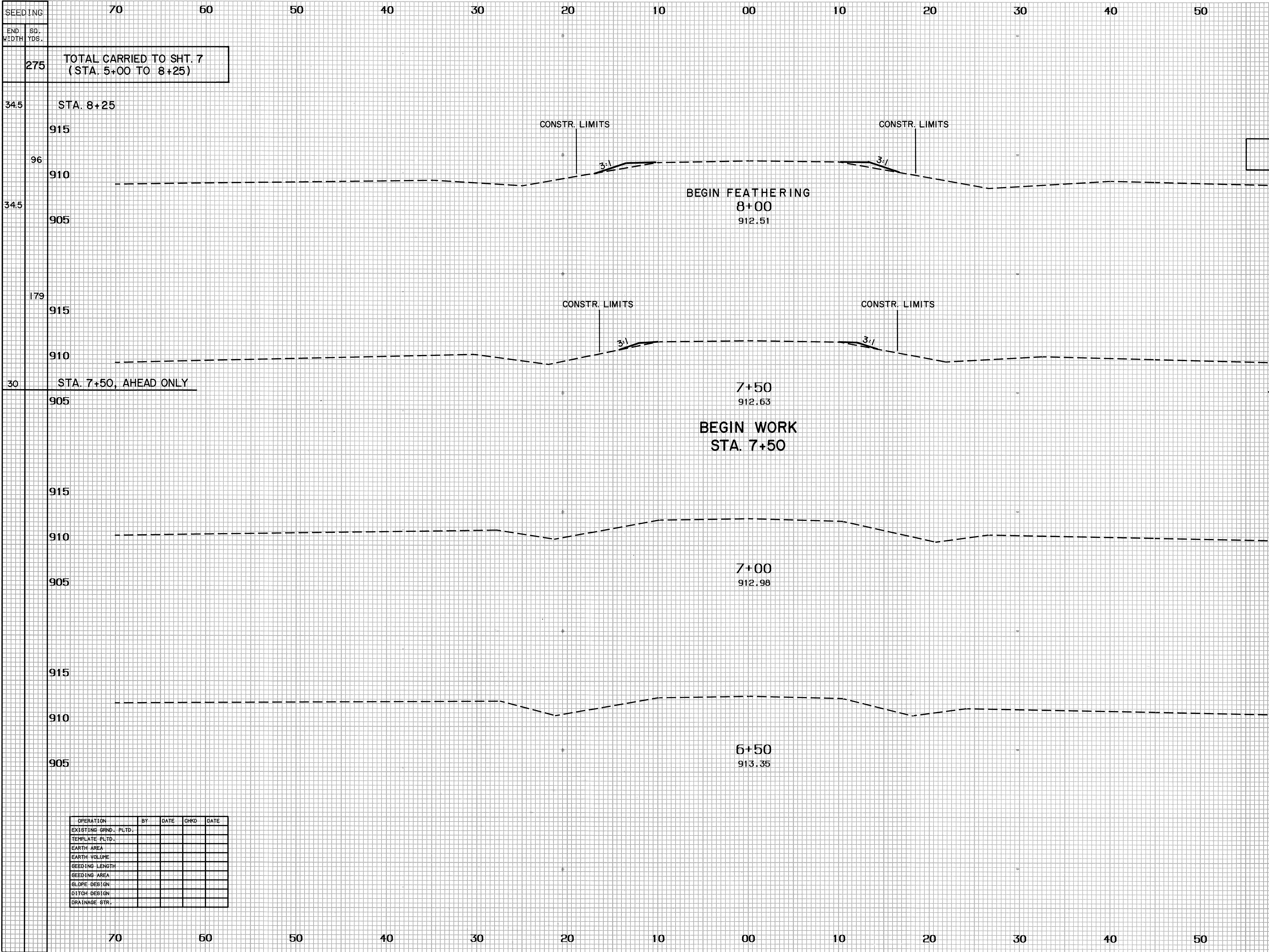
ITEM 601~ CRUSHED AGGREGATE SLOPE PROTECTION			
REF.	DIGITIZED AREA ①	THICKNESS ②	C.Y. $\frac{① \times ②}{27}$
1-SP	1,520 S.F.	1'-0"	56.3 C.Y.
2-SP	608 S.F.	1'-0"	22.5 C.Y.
TOTAL TO ESTIMATED QUANTITIES, SHT. 24 = 79 C.Y.			

QUANTITIES BY: D.E.S. 12-91 SEE ADDITIONAL EXCAVATION
CHECKED BY: M.T. 12-91 NOTE ON SHEET 4

[illegible]

AUGLAIZE COUNTY
AUG-75-10.47

[illegible]



FHA REGION	STATE	PROJECT	
5	OHIO		

AUGLAIZE COUNTY
AUG-75-10.47

12
34

END AREA		VOLUME	
		CUT	FILL
915	915	0	9
910	910	0	4
905	905	0	5
915	915	0	5
910	910	0	1.8
905	905		
915	915		
910	910		
905	905		
915	915		
910	910		
905	905		

SEEDING	
END WIDTH	SO. YDS.
42.5	
232	
41	
229	
41.5	
235	
43	
232	
40.5	

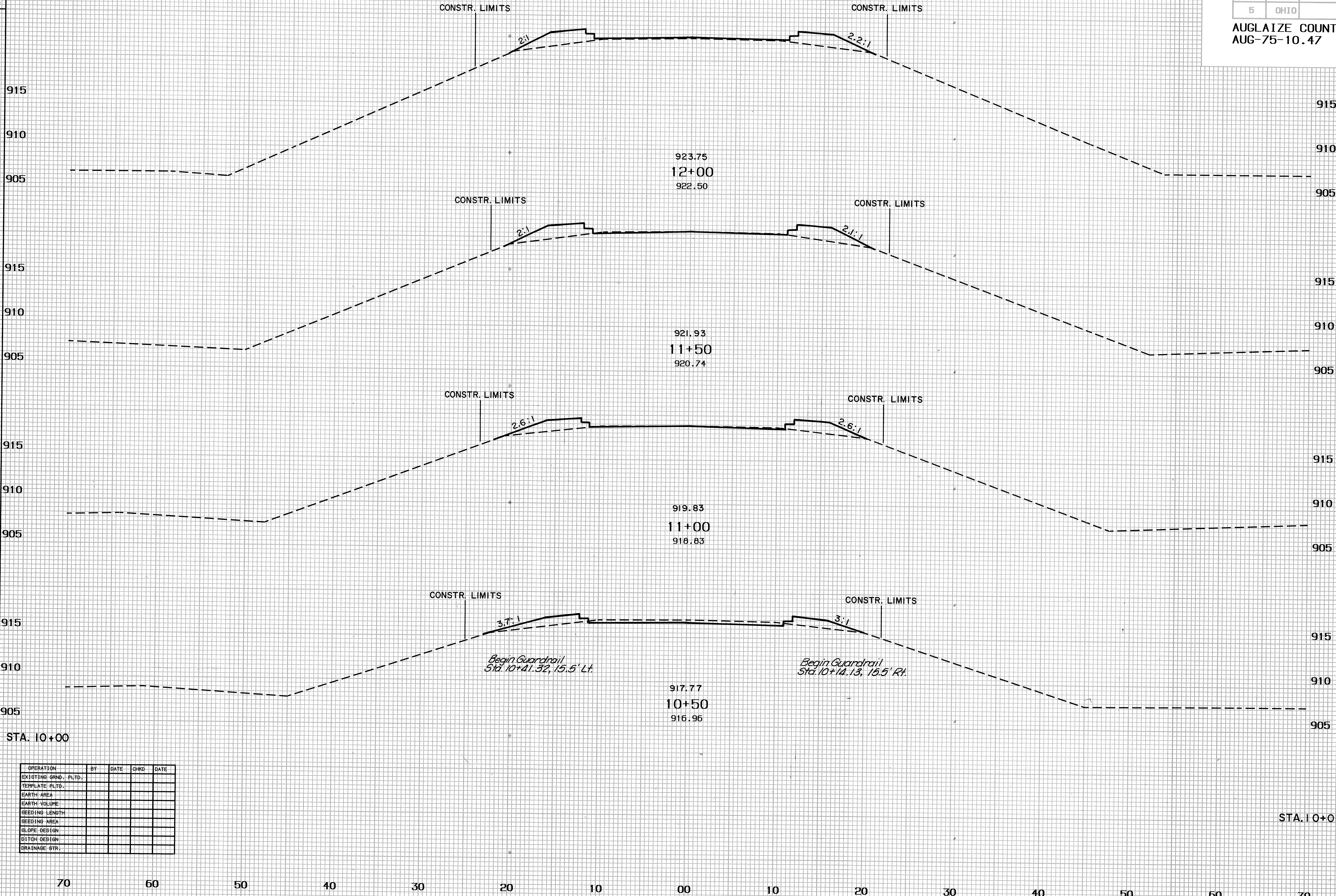
70 60 50 40 30 20 10 00 10 20 30 40 50

FHWA REGION	STATE	PROJECT	
5	OHIO		

AUGLAIZE COUNTY
AUG-75-10.47

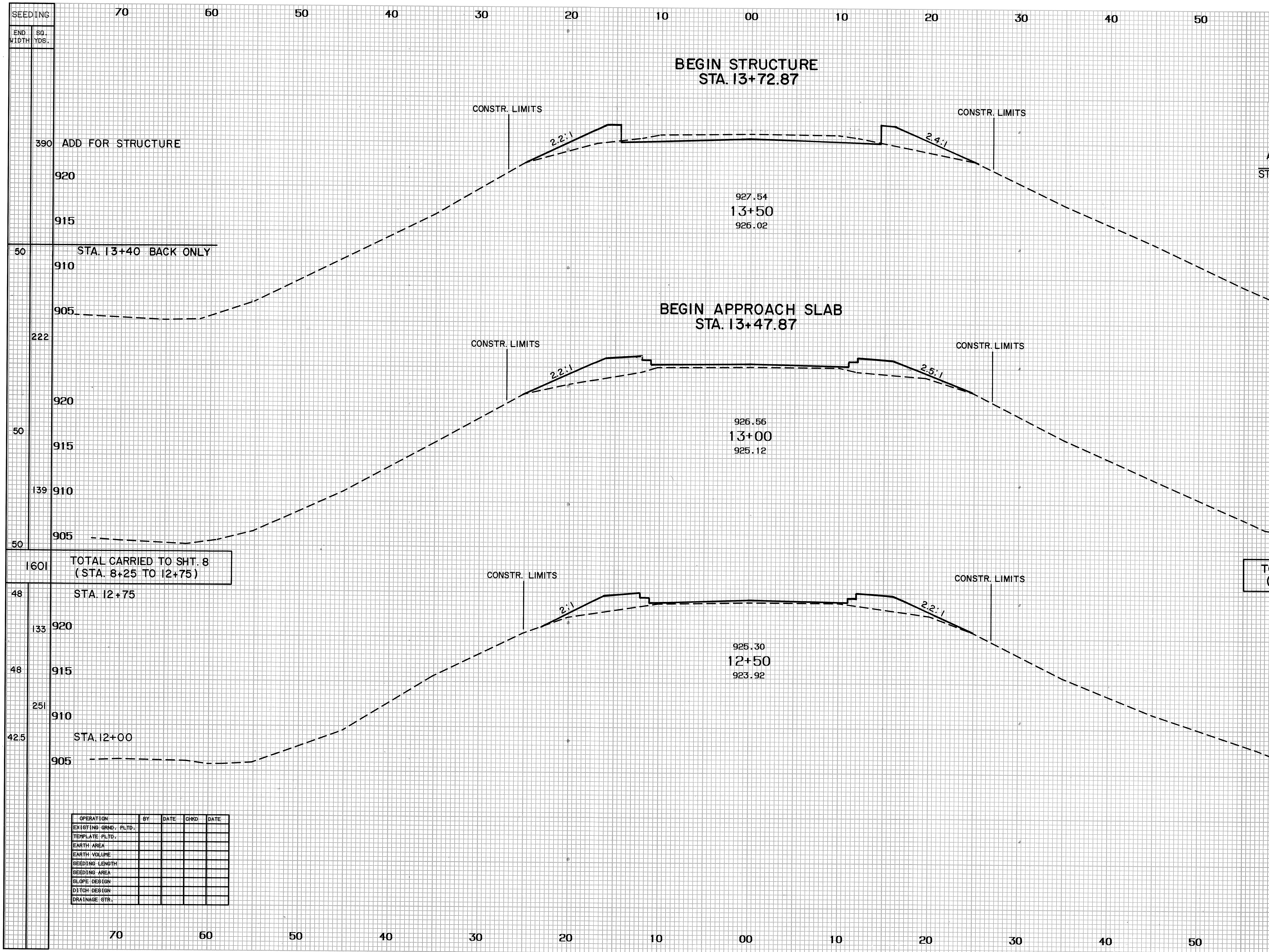
14

34



END AREA		VOLUME	
CUT	FILL	CUT	FILL
0	20.7		
		3.0	38.0
3.0	19.8		
		6.0	34.0
3.5	16.4		
		11.0	27.0
8.5	12.5		
		18.0	20.0
11.2	9.4		

OPERATION	BY	DATE	CHKD	DATE
EXISTING GRND. PLTD.				
TEMPLATE PLTD.				
EARTH AREA				
EARTH VOLUME				
SEEDING LENGTH				
SEEDING AREA				
SLOPE DESIGN				
DITCH DESIGN				
DRAINAGE STR.				



END AREA		VOLUME	
CUT	FILL	CUT	FILL
		0	61.0
0	42.4		
		0	35.0
0	41.2		
		0	73.0
0	38.0		
		0	35.0
0	38.0		
		110	267
0	32.3		
		0	30.0
0	32.3		
		0	49.0
0	20.7		

SEEDING	END WIDTH	SO. YDS.

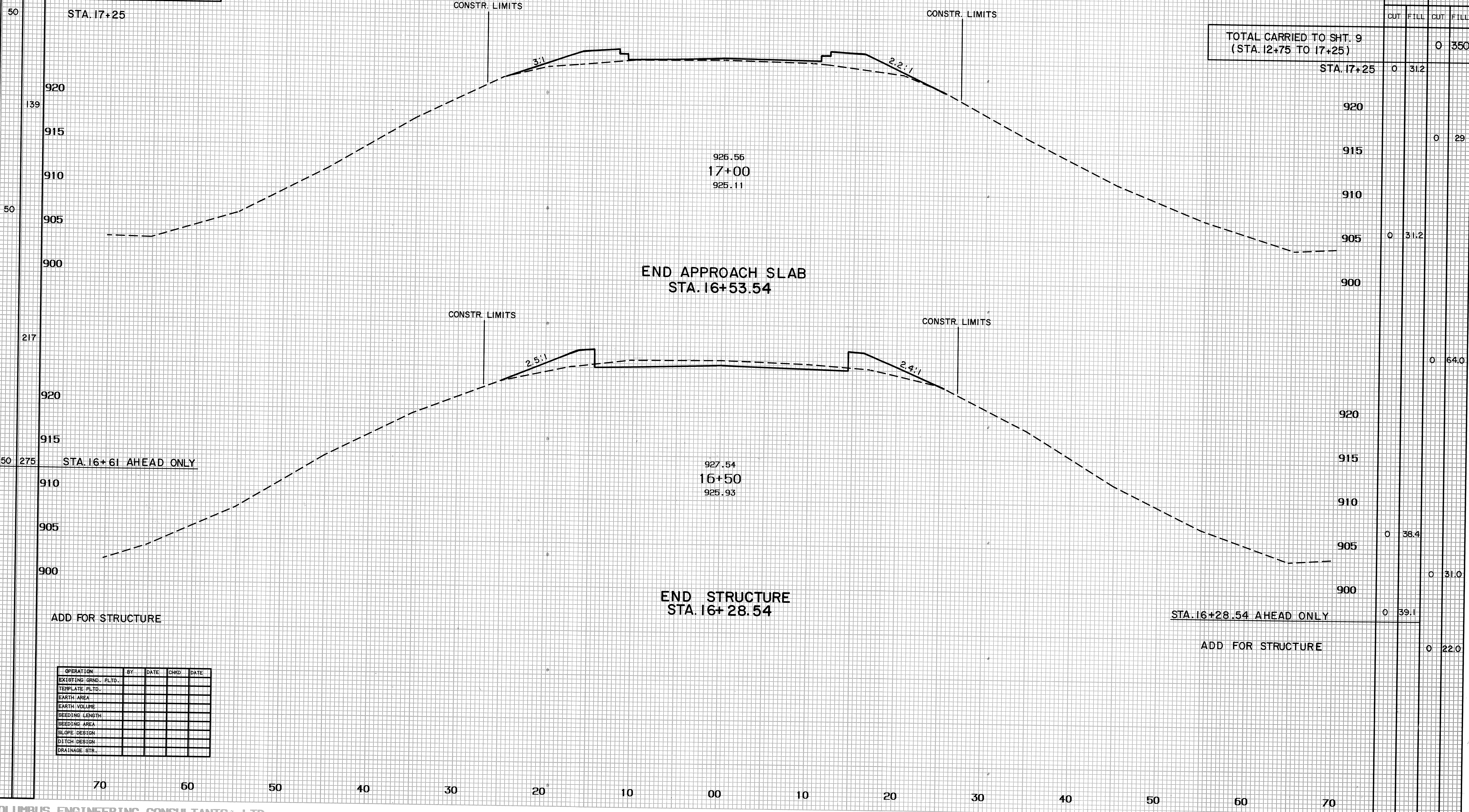
70 60 50 40 30 20 10 00 10 20 30 40 50

FHWA REGION	STATE	PROJECT
5	OHIO	

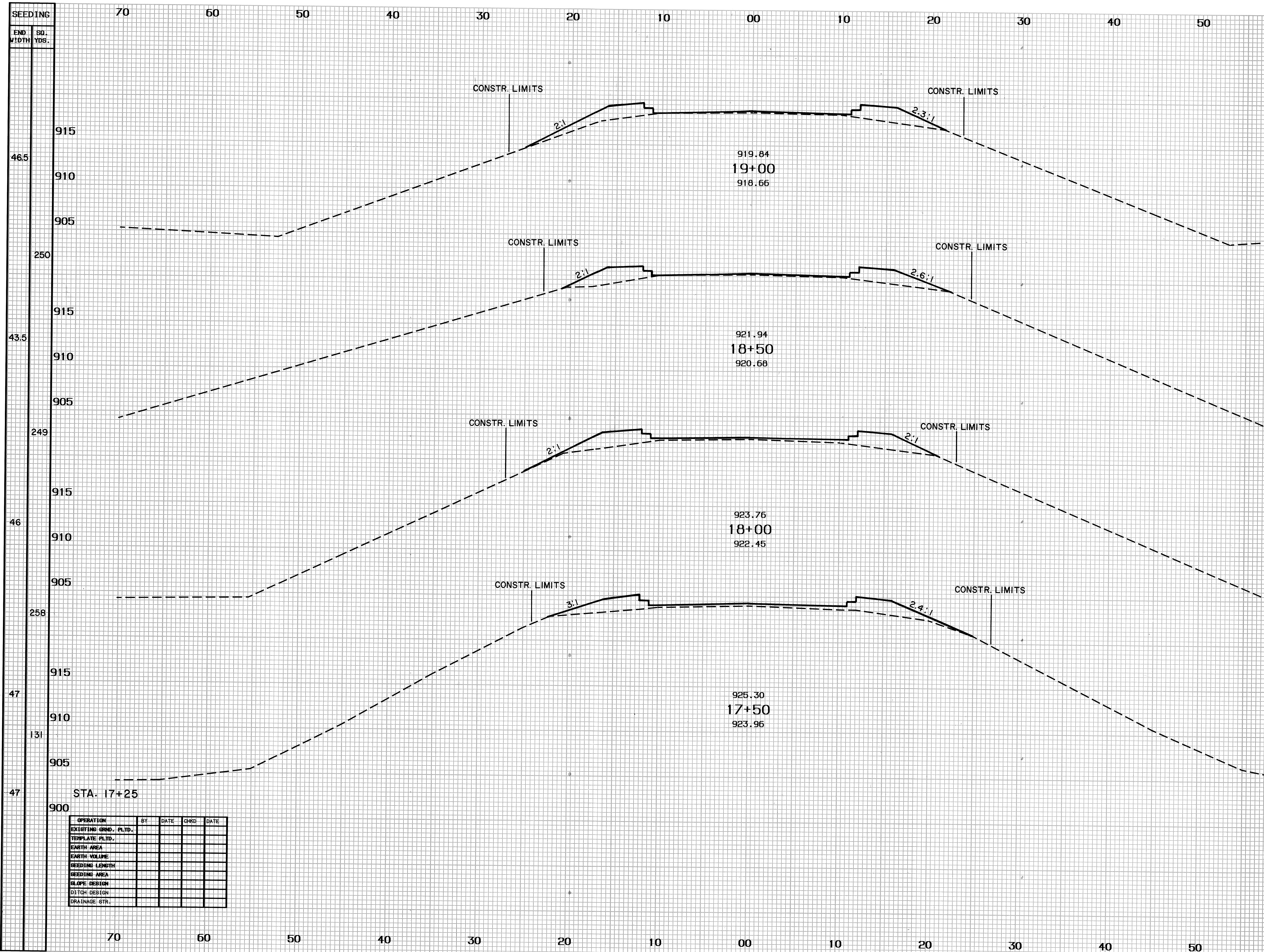
16
34

AUGLAIZE COUNTY
AUG-75-10.47

1362 TOTAL CARRIED TO SHT. 9
(STA. 12+75 TO 17+25)



OPERATION	BY	DATE	CHKD	DATE
EXISTING GRND. PLTD.				
TEMPLATE PLTD.				
EARTH AREA				
EARTH VOLUME				
SEEDING LENGTH				
SEEDING AREA				
SLOPE DESIGN				
DITCH DESIGN				
DRAINAGE STR.				



END AREA		VOLUME	
CUT	FILL	CUT	FILL
0	29.3	0	53.0
0	27.5	0	53.0
0	30.1	0	58.0
0	32.2	0	29.0
0	31.2		

OPERATION	BY	DATE	CHKD	DATE
EXISTING GRD. PLTD.				
TEMPLATE PLTD.				
EARTH AREA				
EARTH VOLUME				
SEEDING LENGTH				
SEEDING AREA				
SLOPE DESIGN				
DITCH DESIGN				
DRAINAGE GTR.				

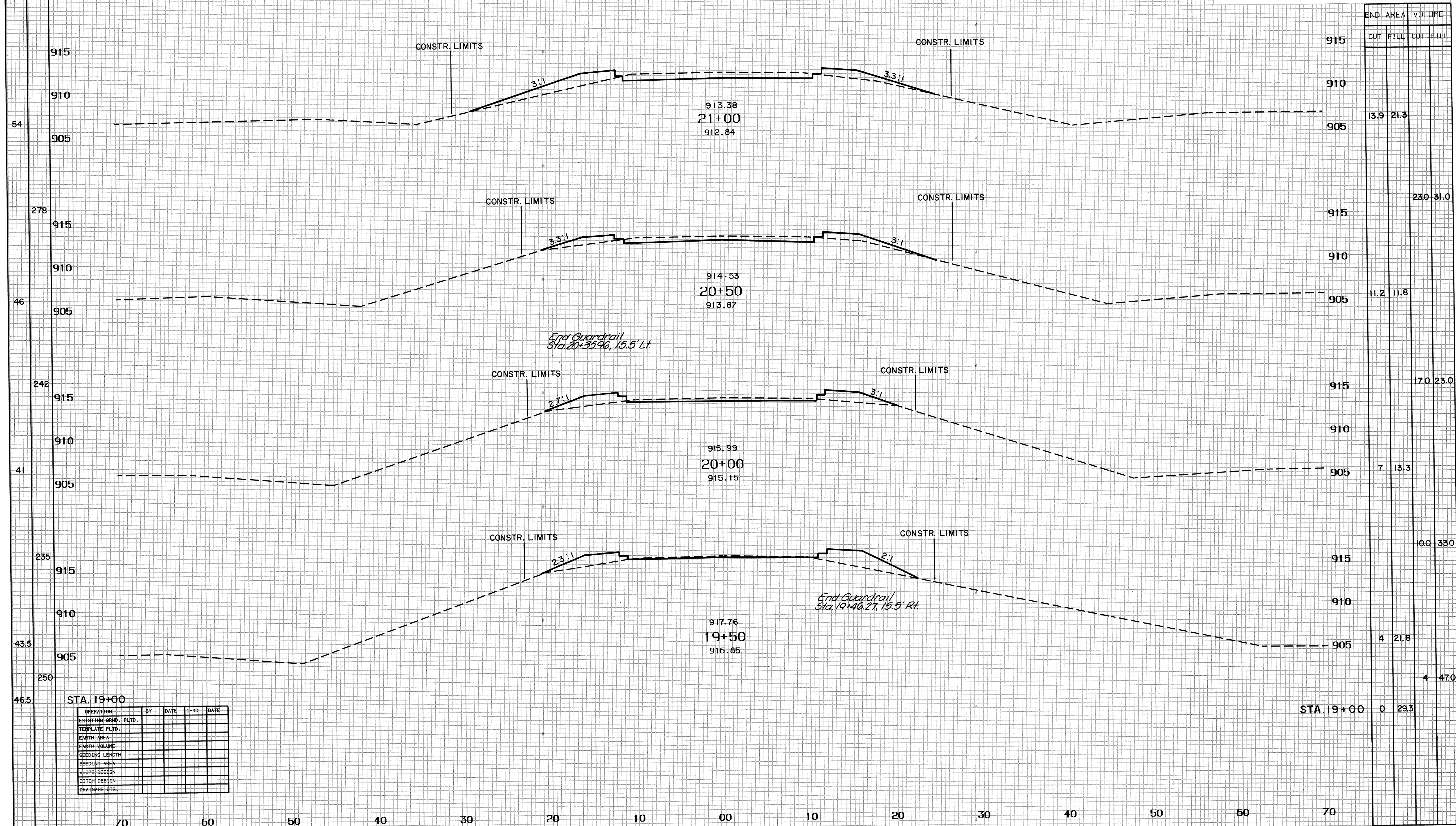
SEEDING
END SO.
WIDTH YDS.

70 60 50 40 30 20 10 00 10 20 30 40 50

FHWA REGION	STATE	PROJECT	
5	OHIO		

18
34

AUGLAIZE COUNTY
AUG-75-10.47



OPERATION	BY	DATE	CHKD	DATE
EXISTING GRND. PLTD.				
TEMPLATE PLTD.				
EARTH AREA				
EARTH VOLUME				
SEEDING LENGTH				
SEEDING AREA				
SLOPE DESIGN				
DITCH DESIGN				
DRAINAGE STR.				

SEEDING	
END WIDTH	SQ. YDS.

50

FHWA REGION	STATE	PROJECT	
5	OHIO		

AUGLAIZE COUNTY
AUG-75-10.47

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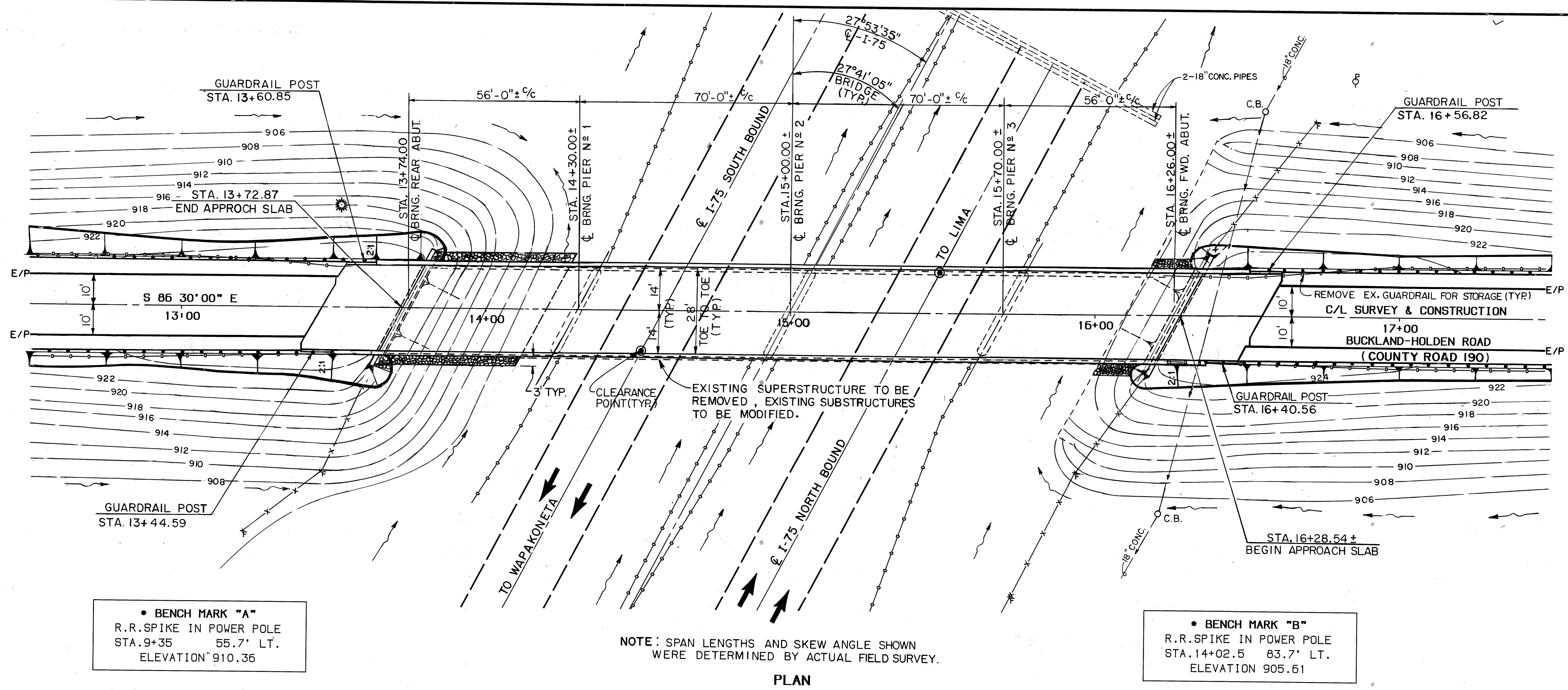
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AUGLAIZE COUNTY
AUG-75-10.47



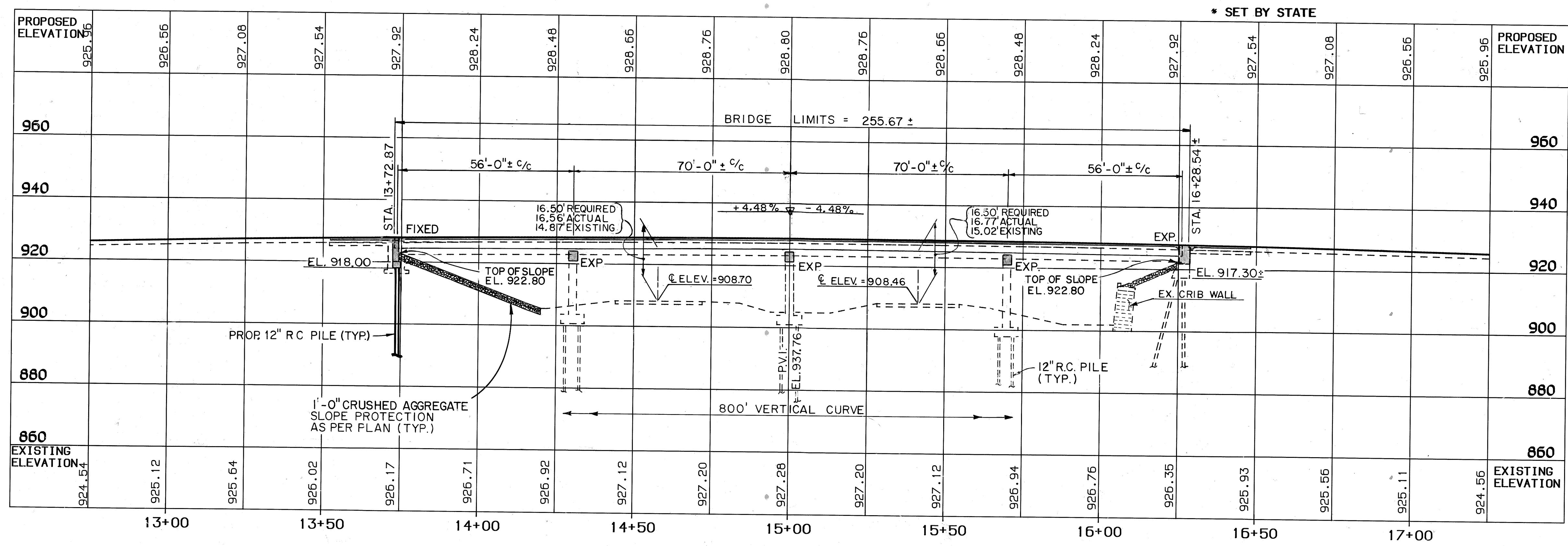
TRAFFIC DATA	
CURRENT ADT (1993):	100
ADT (2013):	120
ADDT:	80

NOTES:
EARTHWORK LIMITS: EARTHWORK LIMITS SHOWN ARE APPROXIMATE.
ACTUAL SLOPES SHALL CONFORM TO THE PLAN CROSS-SECTIONS.

- LEGEND:
- = POINT OF MIN. VERTICAL CLEARANCE.
 - ⊙ = SOIL BORING LOCATION.

PROPOSED FOUNDATION DATA		
LOCATION	TYPE	EST. AVG. PAY. LENGTH
REAR ABUT.	INTEGRAL ABUTMENT ON 12" REINF. CONC. PILES	40'

PLAN



PROFILE
(ON CL SURVEY & CONSTRUCTION)

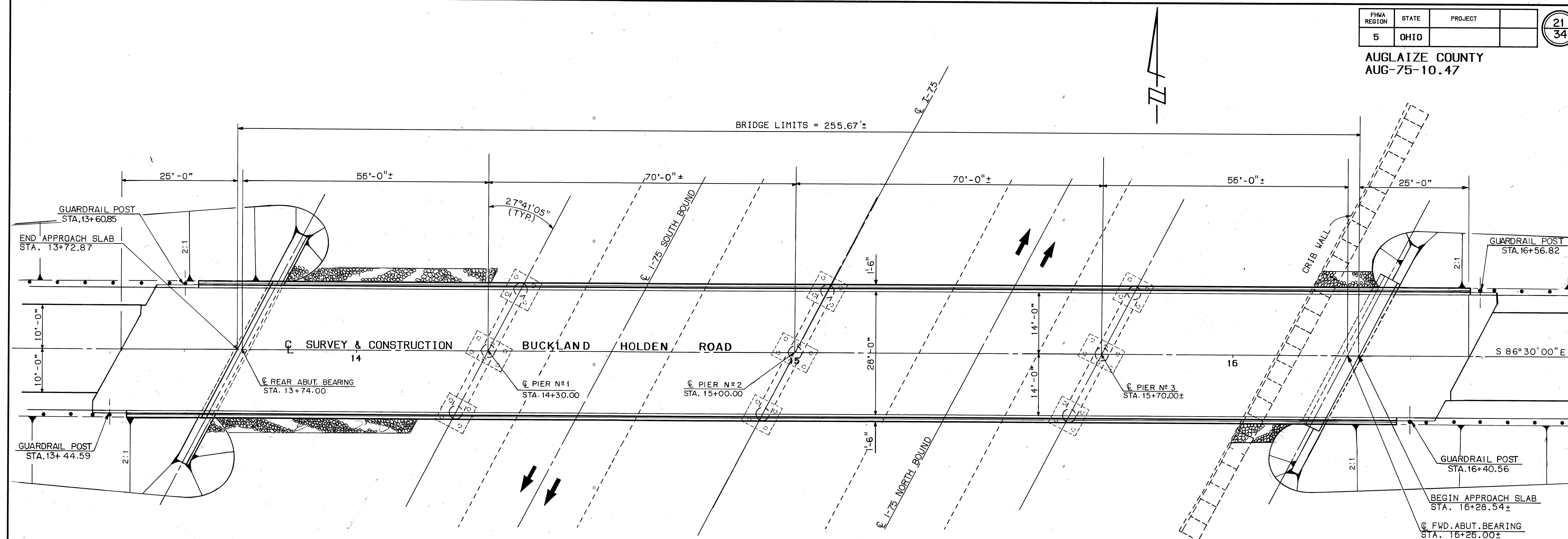
EXISTING STRUCTURE	
TYPE: CONTINUOUS STEEL BEAMS WITH REINFORCED CONCRETE DECK AND SUBSTRUCTURE	
SPANS: 56'-70'-70'-56' C/C BRGS.	
ROADWAY: 24'-0" FACE TO FACE 2'-0" SAFETY CURBS	
LOADING: CF = 30 (51)	
WEARING SURFACE: ASPHALT CONCRETE	
SKEW: 27°42' LEFT FWD.	
ALIGNMENT: TANGENT	
APPROACH SLABS: 20'-0" LONG, AS-1-54	
STRUCTURE FILE NO. 0602345	
PROPOSED STRUCTURE	
TYPE: CONTINUOUS COMPOSITE STEEL BEAMS WITH REINFORCED CONCRETE DECK AND SUBSTRUCTURE.	
SPANS: 56'-0"±, 70'-0"±, 70'-0"±, 56'-0"± C/C BEARINGS.	
ROADWAY: 28'-0" TOE TO TOE CONCRETE PARAPETS.	
LOADING: HS20-44, & ALT. MILIT. LOADING.	
SKEW: 27°-41'-05" L.F.	
WEARING SURFACE: MONOLITHIC CONCRETE.	
APPROACH SLABS: AS-1-81 (25' LONG).	
ALIGNMENT: TANGENT.	

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Civil Engineers
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Columbus, Ohio 43215
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SITE PLAN
BRIDGE NO. AUG-75-1047
BUCKLAND-HOLDEN ROAD OVER I-75
AUGLAIZE COUNTY STA. 13+72.87
STA. 16+28.54

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
M.T.	C.S.	G.U.	J.J.	J.J.	10/91	

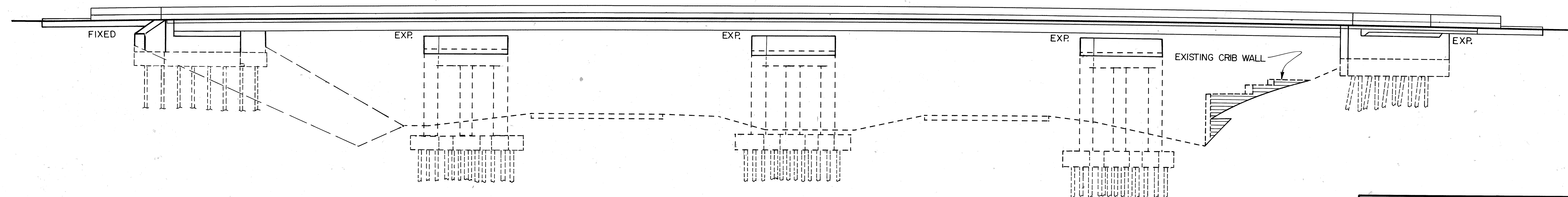
AUGLAIZE COUNTY
AUG-75-10.47



GENERAL PLAN

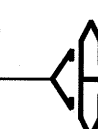
+4.48% -4.48%

P.V.I. STA. 15+00
ELEV. 937.76
L.V.C. 800'



ELEVATION

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Consulting Civil Engineers
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Columbus, Ohio 43215
(614) 228-3500



2 / 14

GENERAL PLAN & ELEVATION

BRIDGE NO. AUG-75-1047
BUCKLAND-HOLDEN ROAD OVER I-75
AUGLAIZE COUNTY
STA. 13+72.87
STA. 16+28.54

DESIGNED	DRAWN	TRADED	CHECKED	REVIEWED	DATE	REVISED
M.T.	C.S.		R.T.	J.J.		

GENERAL NOTES

REFERENCE SHALL BE MADE TO STANDARD DRAWINGS:

Drawing No.	Sheets	Date
AS-1-81	1,2 & 3	11-27-81
BR-1		5-29-79
ICD-1-82		8-1-84

And to Supplemental Specifications

849	DATED	12-24-85
949	DATED	09-26-86

DESIGN SPECIFICATIONS:

This structure conforms to "Standard Specifications for Highway Bridges" adopted by the American Association of State Highway and Transportation Officials, 1989, including the 1990 & 1991 interim specifications, and the Ohio "Supplement" to these specifications.

DESIGN DATA:

Design Loading-HS20-44 Case II and the alternate military loading.

Concrete Class S-Compressive strength= 4,500 p.s.i.

Concrete Class C-Compressive strength= 4,000 p.s.i.

Reinforcing Steel-ASTM A615, A616, or A617-Grade 60 minimum yield strength 60,000 psi

Structural Steel-ASTM A572-unit stress= 27,000 p.s.i.

DECK PROTECTION METHOD:

Epoxy coated reinforcing steel both mats, 2 1/2 inch concrete cover and sealing of concrete surfaces.

MONOLITHIC WEARING SURFACE is assumed for design purposes to be 1".

ITEM SPECIAL, SEALING OF CONCRETE SURFACES:

A concrete sealer shall be applied to the abutments and superstructure concrete surfaces as shown on sheets 6/14 9/14 10/14 11/14

See proposal note for surface preparation requirements, application rates, material requirements, and application procedures.

PROPOSED WORK:

- The Contractor shall carefully remove and dispose of the existing concrete deck, existing structural steel, as well as other necessary removals as per plan.
- The Rear Abutment shall be completely removed. Portions of the Forward Abutment shall be removed as per plan.
- Perform Rear Abutment work up to bridge seats, as per plan. Perform Foward Abutment work up to bridge seat, as per plan.
- Reconstruct pier beam seats , as per plan.
- Erect the new structural steel including beams, bearings, etc., as per plan. Temporary supports in front of the forward abutments will be required before pouring the superstructure concrete above bridge seat elevation.
- Construct proposed concrete deck, integral Rear Abutment, semi-integral Foward Abutment, parapet and wingwalls as per plan.
- Construct approach slabs and parapet transition as per plan.

PILE DESIGN LOADS: The design load for the Rear Abutment Piles is 25 tons per pile.

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.

PROTECTION OF TRAFFIC: Prior to any demolition, erection and/or construction over active traffic, the contractor shall submit his plans for the protection of traffic to the Director for approval. These plans shall include provision for any divices and structures that may be necessary to ensure such protection . The cost for this protection shall be included with 202 PORTIONS OF STRUCTURE REMOVED for payment

STRUCTURE STEEL shall be ASTM A572: The parts Designated as CVN shall meet the 711.01 notch toughness requirements of CMS. Elastomeric bearing load plates shall be ASTM A572 .

EXISTING REINFORCING STEEL partially exposed by concrete removals shall be left in place except that it shall be necessary to clear proposed concrete surfaces by at least 2 inches.

REPLACEMENT OF EXISTING REINFORCING STEEL:

Any existing reinforcing bars which are to be incorporated into the new work which are made unusable by the Contractor's concrete removal operations shall be replaced with new steel at his cost. Any existing reinforcing bars deemed by the Engineer to be unusable because of corrosion shall be replaced with new steel. An allowance of 100 pounds is included in Item 509 for this purpose.

CONCRETE REMOVAL OF FORWARD ABUTMENT:

Saw cut boundaries of proposed concrete removals 1" deep. Remove concrete to a rough surface. Where practicable, at least a 1'-0" length of protruding reinforcing steel shall be left in place unless otherwise noted. 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 reinforcements shall be thoroughly cleaned of all dirt, dust, or other foreign materials by the use of water, air under pressure, or other method that produces results satisfactory to the Engineer. The concrete bonding surface shall be wet without free water as concrete is placed.

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 hammers shall not be more than 35 pounds for removal within 18 inches of portions to be preserved. Outside the 18-inch limit, hammers heavier than 35 pounds , but not to exceed 85 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 .

CONSTRUCTION CLEARANCES: A temporary vertical clearance of 16'-0", shall be maintained under the structure except for short periods where traffic control is approved by the Director and provided by the contractor. The full existing roadway width shall be maintained clear at all times. All costs associated with maintaining traffic under the structure shall be included with roadway quantities for payment.

FHWA REGION	STATE	PROJECT	
5	OHIO		

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AUGLAIZE COUNTY
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COMPRESSION SEALS and installation lubricants shall conform to 705.11 except that for seal designs other than as shown on the plans, the proposed design shall be submitted for approval by the Director. Seal end closures shall consist of closed-cell polyurethane plugs bonded in place after seal installation.

SEAL END CLOSURES: The seal fabricator shall cut each joint seal to the proper length. A 2 inch depth of internal webbing shall be removed from each end of each seal. Two-inch-long, closed-cell polyurethane foam plugs shall be cut oversize to be compressed and inserted into the end of the compressed seals after seal installation. The seal fabricator shall also furnish cyanoacrylate adhesive for bonding the plugs in place in the field.

PREPARATION FOR INSTALLATION: Elastomeric bonding surfaces (those which are to bear against the concrete sides of the joint recess) shall be solvent cleaned with Methyl Ethyl Ketone, Toluene or other approved solvent using clean disposable cloths. Cleaned elastomeric surfaces shall be protected from any contamination until they are uniformly covered with lubricant adhesive. Formed concrete surfaces shall be abrasively cleaned to remove surface laitance and contaminants and expose fine aggregate. All loose dust or dirt shall be removed by brush or compressed air.

SEAL INSTALLATION: Immediately prior to the application of the lubricant adhesive, bonding surfaces shall be clean and dry and warmer than 45°F. Lubricant adhesive shall be applied to elastomeric bonding surfaces, and to the concrete surfaces if recommended by the seal manufacturer. The seal shall then be compressed and installed.

Following seal installation, cyanoacrylate adhessive shall be used to coat the interior sides of the end voids and the closed-cell foam plugs shall be compressed and installed.

ABUTMENT BACKFILL: A 1-inch thickness of Preformed Expansion Joint Filler shall be placed between the ends of the joint seals and backfill.

CRUSHED AGGREGATE SLOPE PROTECTION, AS PER PLAN

After completion of major modification items, existing embankment surfaces shall be restored to uniform plane surface with crushed aggregate slope protection, new embankment surfaces shall be protected as specified in 601.05. Protection shall extend longitudinally from face of abutments to (toe of slope) and laterally to at least 3'-0" beyond deck fascias. The minimum total thickness of proposed protection (restored and/or new) shall be 1'-0".

PROTECTION OF EXISTING CRIB WALL AT FORWARD ABUTMENT

The existing crib wall at forward abutment shall be repaired by the contractor at his own expense if damaged by the contractor's operations during his work on this project.

STRUCTURE EXCAVATION needed to modify the existing forward abutment shall be included with item 202 Portions of Structure Removed Over 20 Foot Span, for payment.

ITEM 511 CLASS S CONCRETE SUPERSTRUCTURE, AS PER PLAN

Membrane curing per supplemental specification 836 will not be permitted . Concrete, shall be cured by Method (A) water curing.

JOINT SEAL RECESSES may be formed, or saw cut after integral end walls have been placed. Sides of recesses shall be horizontal. If cut, cutting of both sides of the recesses shall be done simultaneously. Recess surfaces shall be clean prior to seal installation.

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3 / 14						
GENERAL NOTES						
BRIDGE NO. AUG-75-1047 BUCKLAND-HOLDEN ROAD OVER I-75						
AUGLAIZE COUNTY						
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M.T.	R.S.		C.S.	J.J.	6/92	

AUGLAIZE COUNTY
AUG-75-10.47

ESTIMATED QUANTITIES								
ITEM	ITEM EXT.	TOTAL	UNIT	DESCRIPTION	ABUT.	PIER	SUPER.	GEN.
202	11203	LUMP	SUM	PORTIONS OF STRUCTURE REMOVED OVER 20 FOOT SPAN, AS PER PLAN.				LUMP
503	21100	59	CU. YD.	UNCLASSIFIED EXCAVATION	59			
505	11100	LUMP	SUM	PILE DRIVING EQUIPMENT MOBILIZATION				LUMP
507	21100	320	LIN. FT.	12" CAST-IN-PLACE REINFORCED CONCRETE PILES	320			
509	15800	76178	LB.	EPOXY COATED REINFORCING STEEL, GRADE 60	5154	3909	67015	100
510	11100	184	EACH	DOWEL HOLE	46	138		
511	31509	296	CU. YD.	CLASS S CONCRETE, SUPERSTRUCTURE, AS PER PLAN			296	
511	33404	296	CU. YD.	CLASS S CONCRETE, SUPERSTRUCTURE, USING SHRINKAGE COMPENSATING CEMENT*			296	
511	33410	LUMP	SUM	CLASS S CONCRETE, USING SHRINKAGE COMPENSATING CEMENT FOR PRE-PLACEMENT TESTING*			LUMP	
511	43200	25	CU. YD.	CLASS C CONCRETE, PIER		25		
511	44000	36	CU. YD.	CLASS C CONCRETE ABUTMENT INCLUDING FOOTING	36			
511	45700	17	CU. YD.	CLASS C CONCRETE, ABUTMENT	17			
SPECIAL	51267502	323	SQ. YD.	SEALING OF CONCRETE SURFACES. (EPOXY) *	36	287		
SPECIAL	51267500	508	SQ. YD.	SEALING OF CONCRETE SURFACES.*			508	
513	11400	189,287	LB.	STRUCTURAL STEEL A572-50 AISC CATEGORY I*			189,287	
513	20000	3852	EACH	WELDED STUD SHEAR CONNECTOR			3852	
514	01500	189,287	LB.	FIELD PAINTING OF NEW STRUCTURAL STEEL, SYSTEM A			189,287	
516	10900	33	LIN. FT.	ELASTOMERIC COMPRESSION SEAL	33			
516	13200	39	SQ. FT.	1/2" PREFORMED EXPANSION JOINT FILLER	39			
516	13600	79	SQ. FT.	1" PREFORMED EXPANSION JOINT FILLER	79			
516	30501	50	LIN. FT.	PVC WATERSTOP, AS PER PLAN	50			
516	42600	33	LIN. FT.	ELASTOMERIC BEARING PAD, MISC.:10"x 2"	33			
516	44000	4	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE) (10"x 18"x 1 1/2" WITH 11"x 19"x 1 1/2" LOAD PLATE)		4		
516	44100	4	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE) (10"x19"x 2" WITH 11"x 20"x1 1/2" LOAD PLATE)		4		
516	44100	4	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE) (10"x19"x 3" WITH 11"x20"x 1 1/2" LOAD PLATE)		4		
518	21200	35	CU. YD.	POROUS BACKFILL WITH FILTER FABRIC	35			
518	41100	110	LIN. FT.	6" PERFORATED HELICAL CORRUGATED STEEL PIPE, 707.01	110			
518	41200	20	LIN. FT.	6" NON-PERFORATED HELICAL CORRUGATED STEEL PIPE, INCLUDING SPECIALS. 707-01	20			
601	20001	306	SQ. YD.	CRUSHED AGGREGATE SLOPE PROTECTION, AS PER PLAN	306			

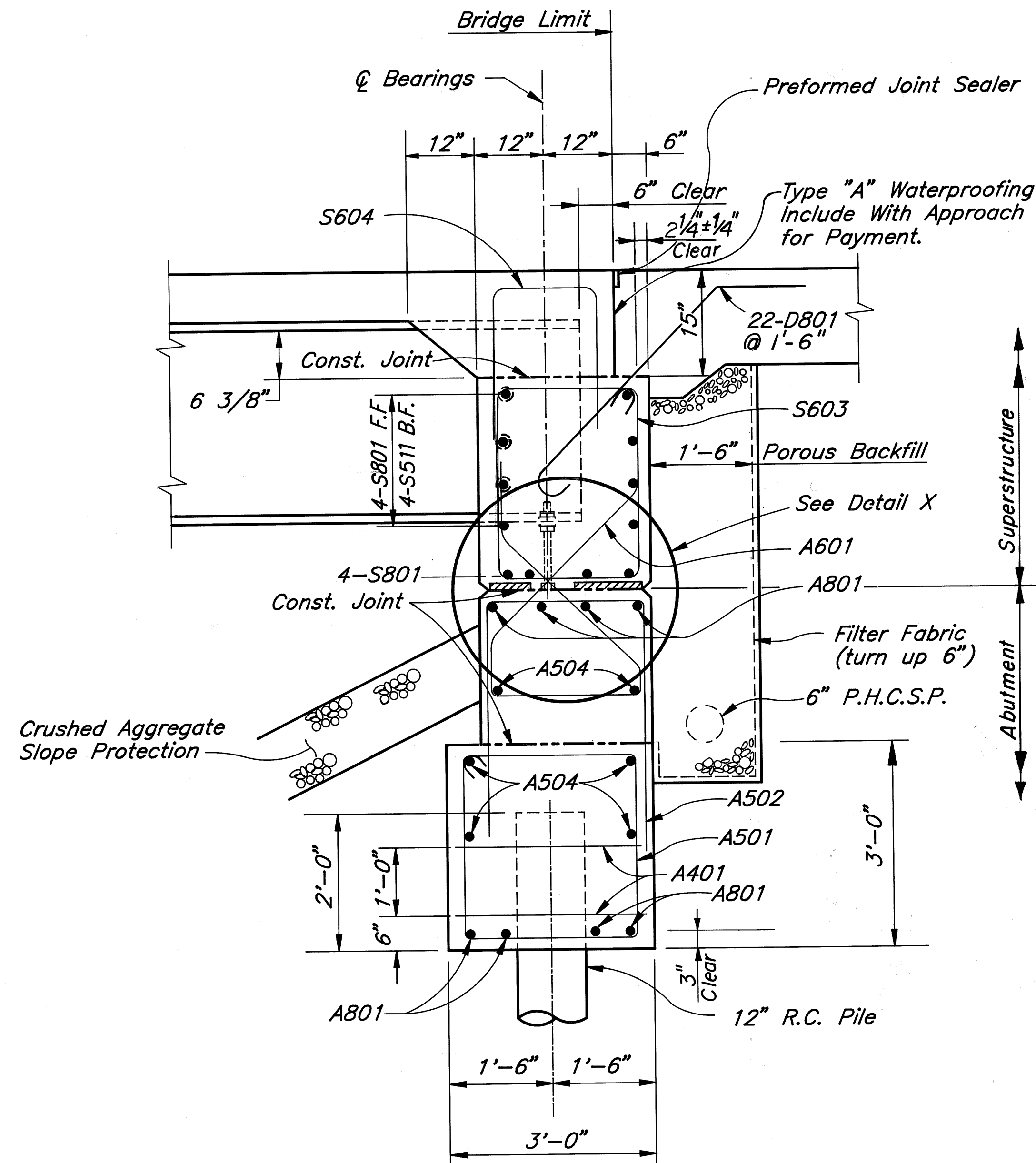
▲ THESE TWO ITEMS SHALL CONSTITUTE ONE ALTERNATE BID TO CLASS S CONCRETE SUPERSTRUCTURE, AS PER PLAN.

* SEE PROPOSAL NOTE.

CALCULATED BY: CMS
CHECKED BY: RT

DATE: 6/3/92
DATE: 10/14/92

AUGLAIZE COUNTY
AUG-75-10.47



SECTION A-A

NOTE:

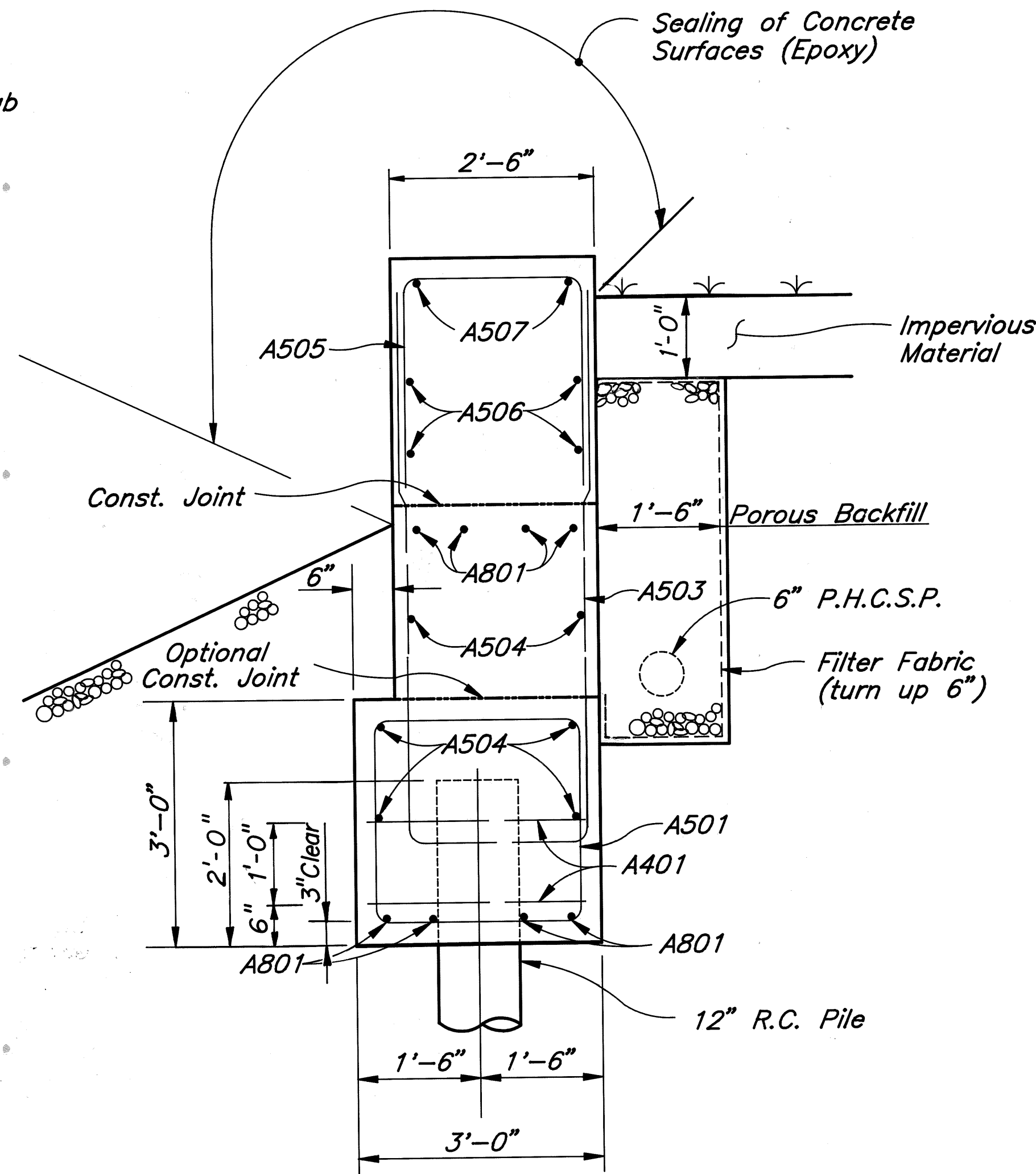
Concrete Wingwalls Above Seats Shall not be Placed Until the Structural Steel has been Erected, and the Bars which are to be Threaded Through The Beams Have Been Placed.

Porous Backfill 1'-6" Thick Shall Extend up to the Subgrade & Laterally to the Ends of Wingwalls.

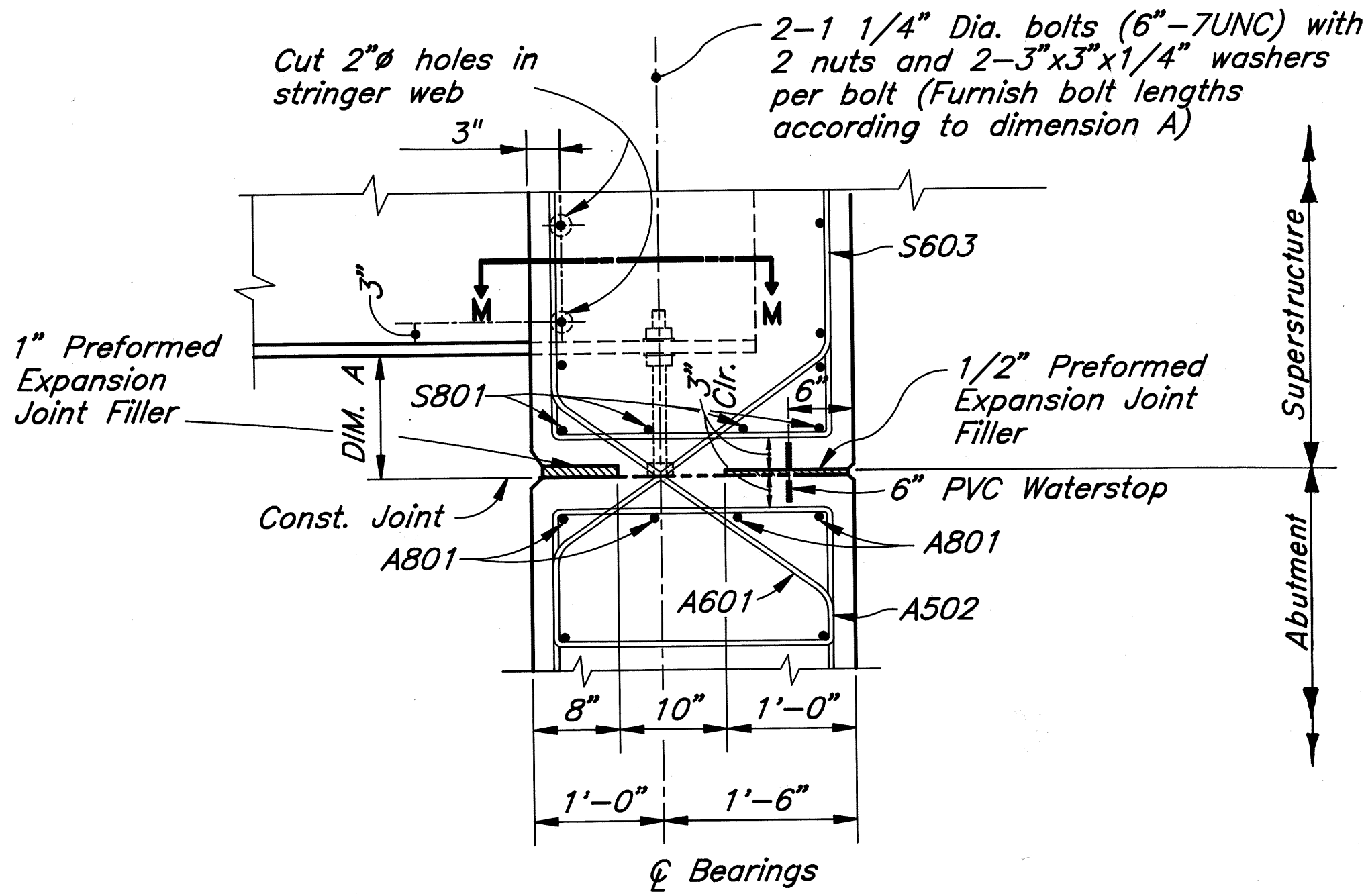
ABBREVIATIONS

P.H.C.S.P. = Perforated Helical Corrugated Steel Pipe

N.P.H.C.S.P. = Non-Perforated Helical Corrugated Steel Pipe

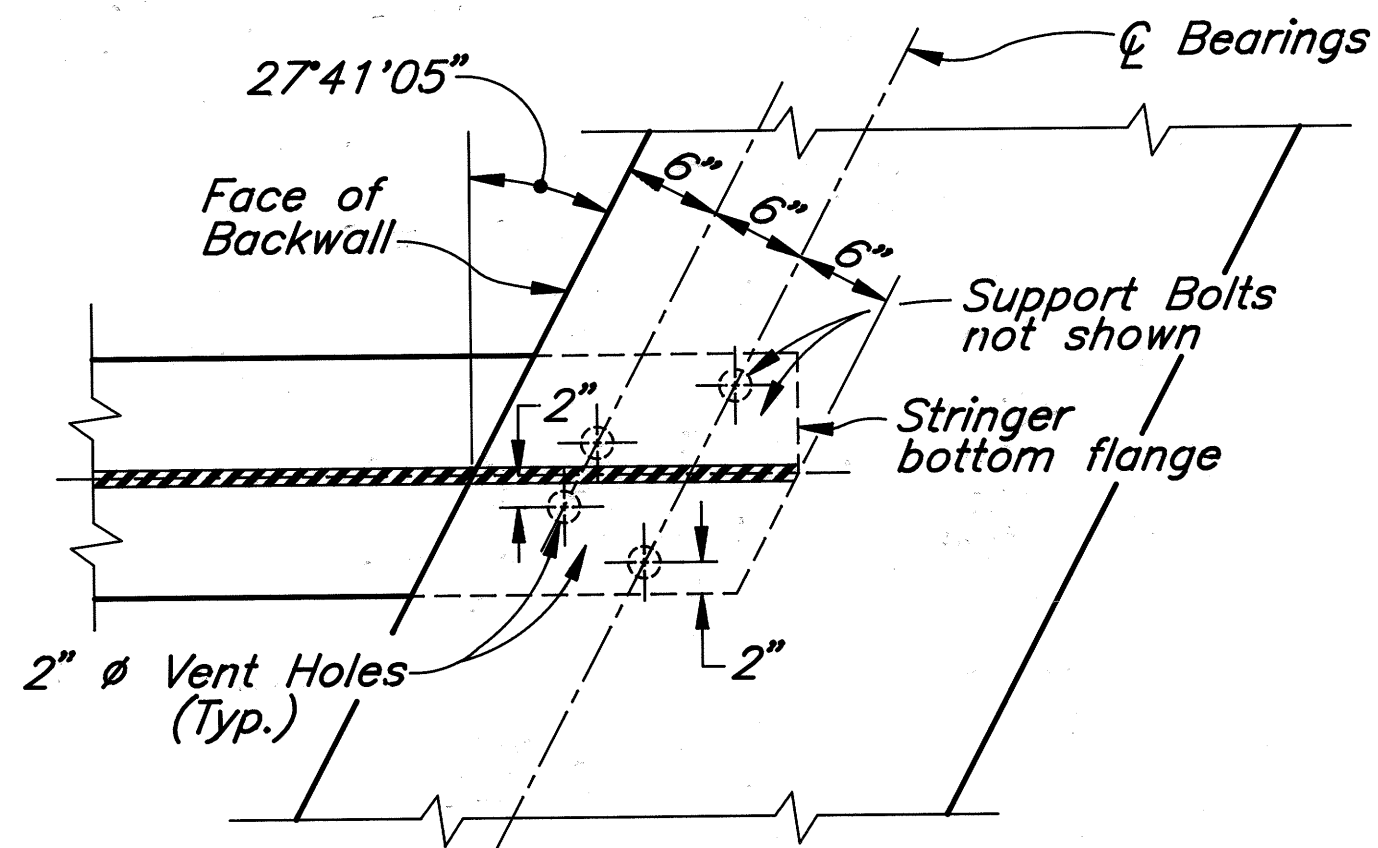


SECTION B-B



DETAIL X

For Notes and details related to waterstop, see standard drawing ICD-1-82 Sheets 1-5.

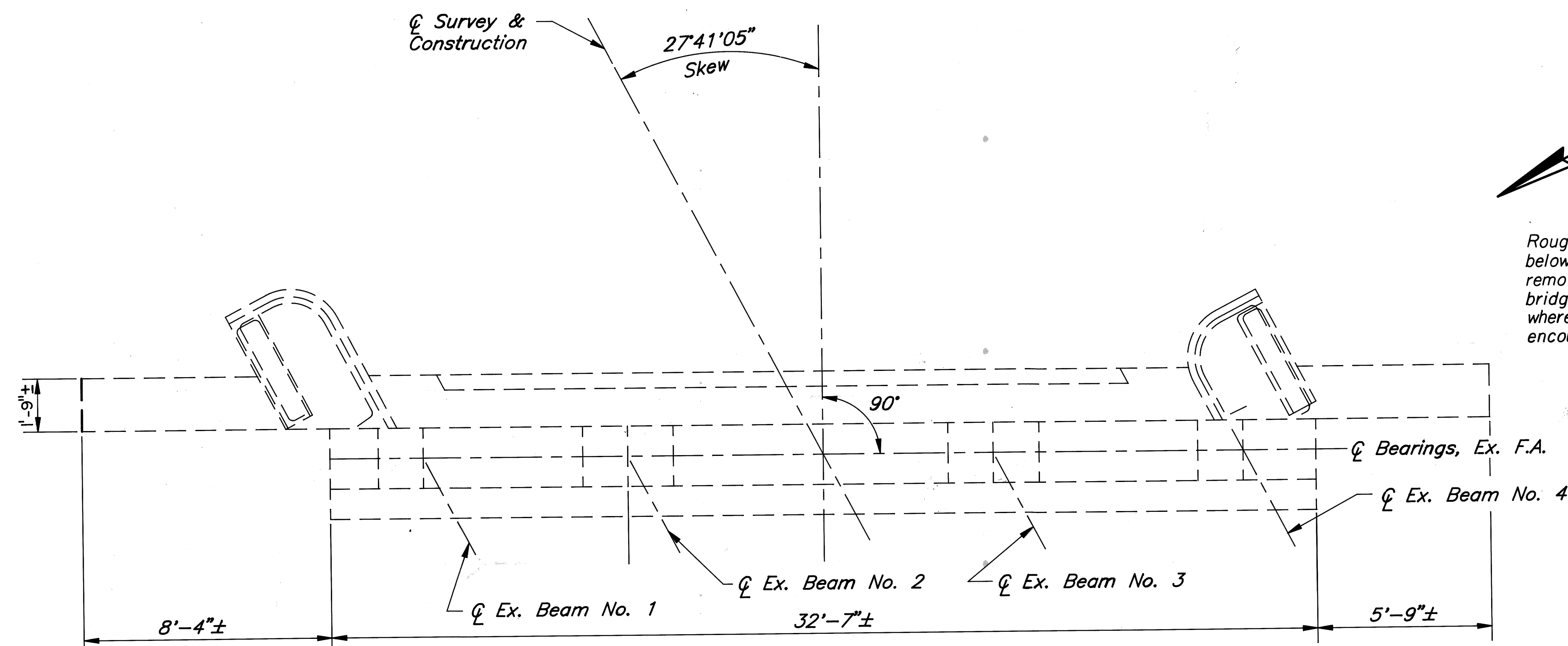


SECTION M-M

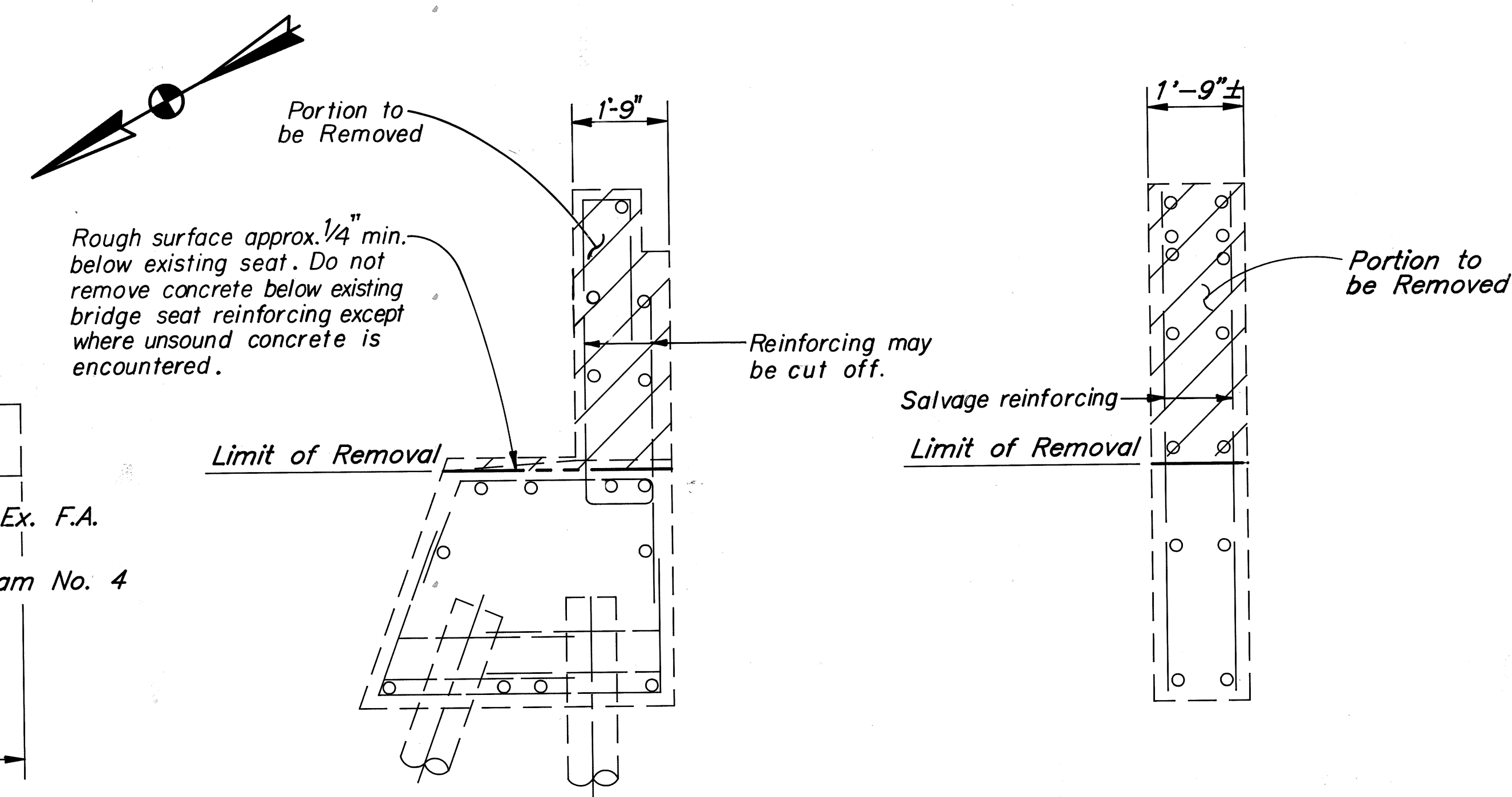
BEAM	DIM. A
4	1'-0 3/8"
3	1'-2 3/4"
2	1'-3 1/2"
1	1'-2 5/8"

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<div style="display: flex; justify-content: space-between;"> 6 / 14 </div>					
REAR ABUTMENT DETAILS BRIDGE NO. AUG-75-1047 BUCKLAND-HOLDEN ROAD OVER I-75 AUGLAIZE COUNTY					
Designed	Drawn	Traced	Checked	Reviewed	Date
R.T	M.H.		C.S.	J.J	6/92

AUGLAIZE COUNTY
AUG-75-10.47

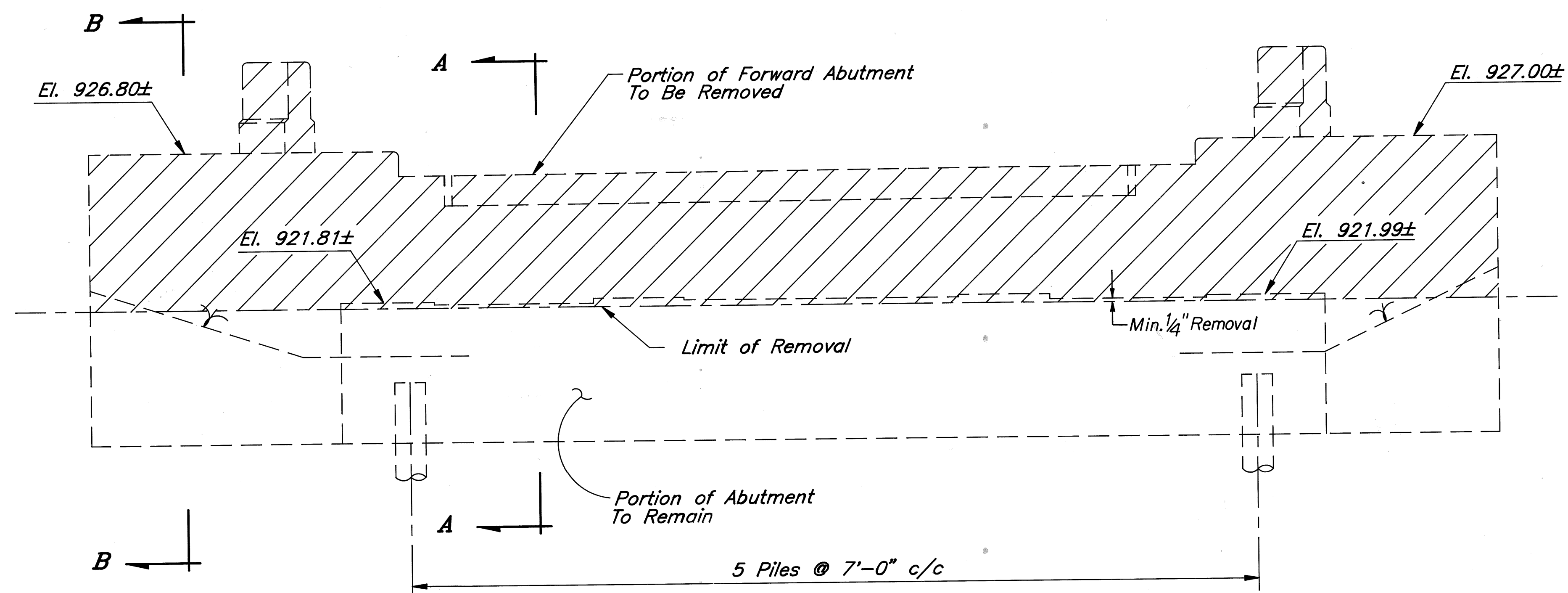


FORWARD ABUTMENT PLAN



SECTION A-A

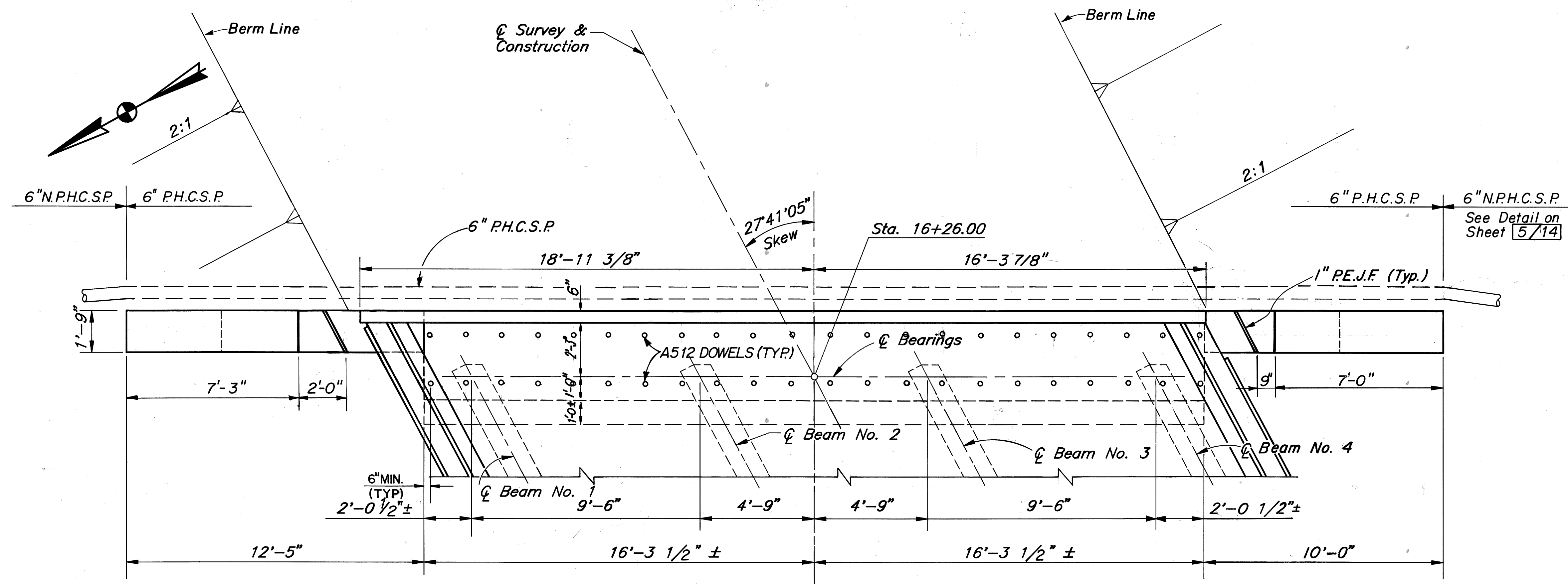
SECTION B-B



ELEVATION

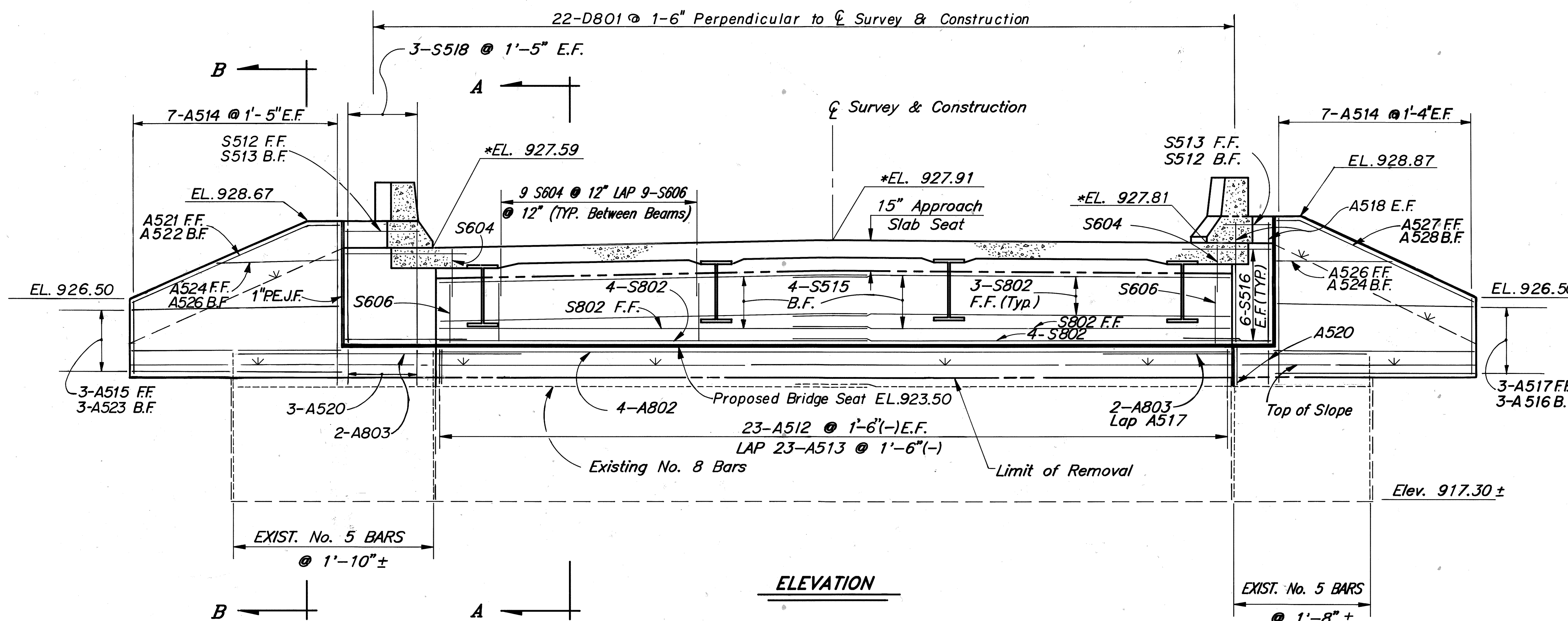
COLUMBUS ENGINEERING CONSULTANTS, INC.						
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7 / 14						
FORWARD ABUTMENT DEMOLITION DETAILS						
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FORWARD ABUTMENT PLAN
(EXISTING PILES NOT SHOWN)

** Proposed Top of Beam Elevations	
Beam No. 1	926.90
Beam No. 2	927.10
Beam No. 3	927.16
Beam No. 4	927.09



ELEVATION

ABBREVIATIONS

F.F. = Front Face
B.F. = Back Face
E.F. = Each Face

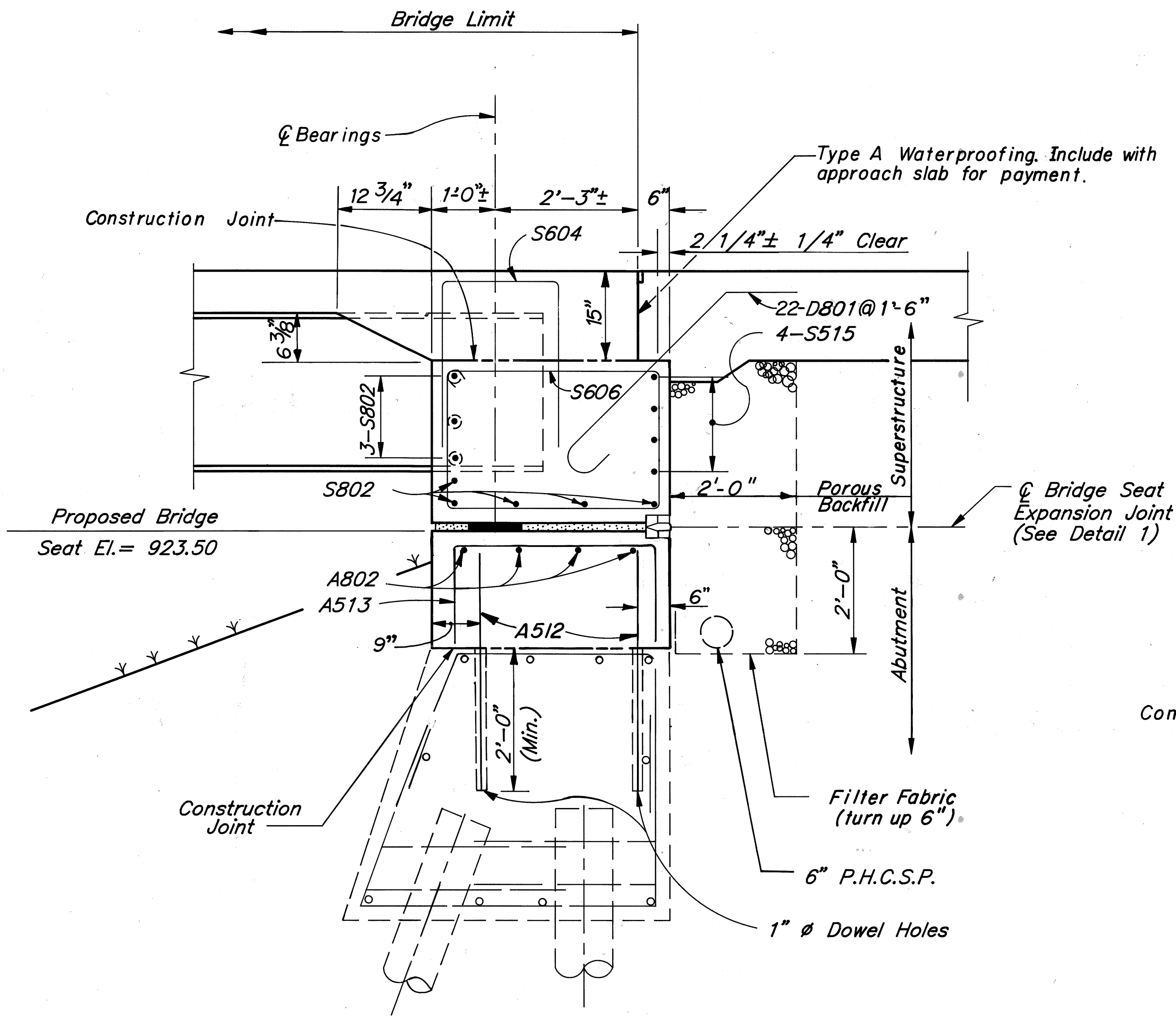
Lap #5 bars, 2'-0" Minimum
#8 bars, 3'-6" Minimum

* Elevations given @ Face of Abutment
** Top of Beam Elevations given @ ϕ Bearings

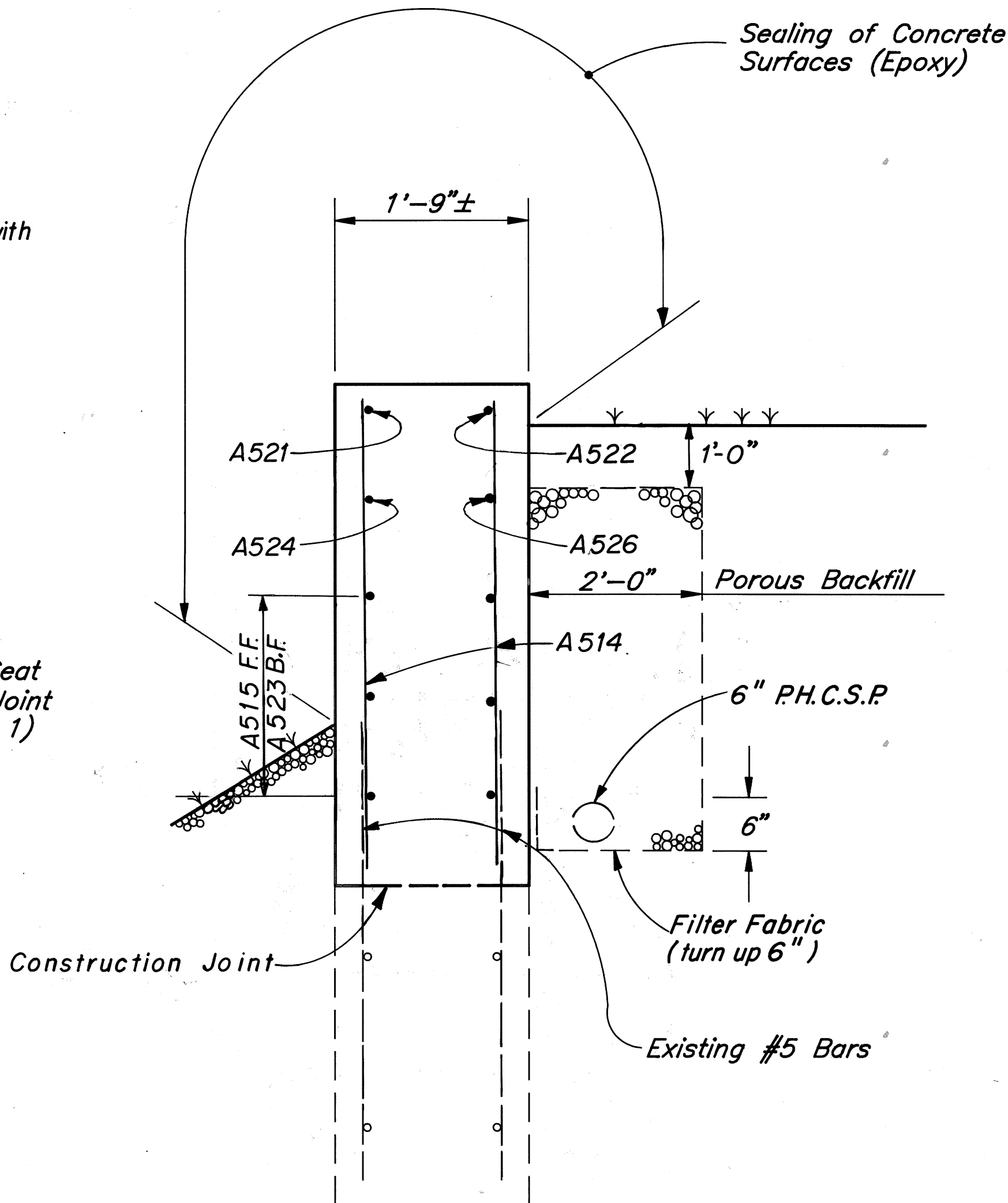
For sections A-A & B-B, see sheet 9/14.

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Consulting Civil Engineers			
FORWARD ABUTMENT DETAILS BRIDGE NO. AUG-25-1047 BUCKLAND-HOLDEN ROAD OVER I-75			
AUGLAIZE COUNTY			
Designed	Drawn	Traced	Checked
RT	MH		CS
Reviewed	Date	Revised	
JJ	6/92		

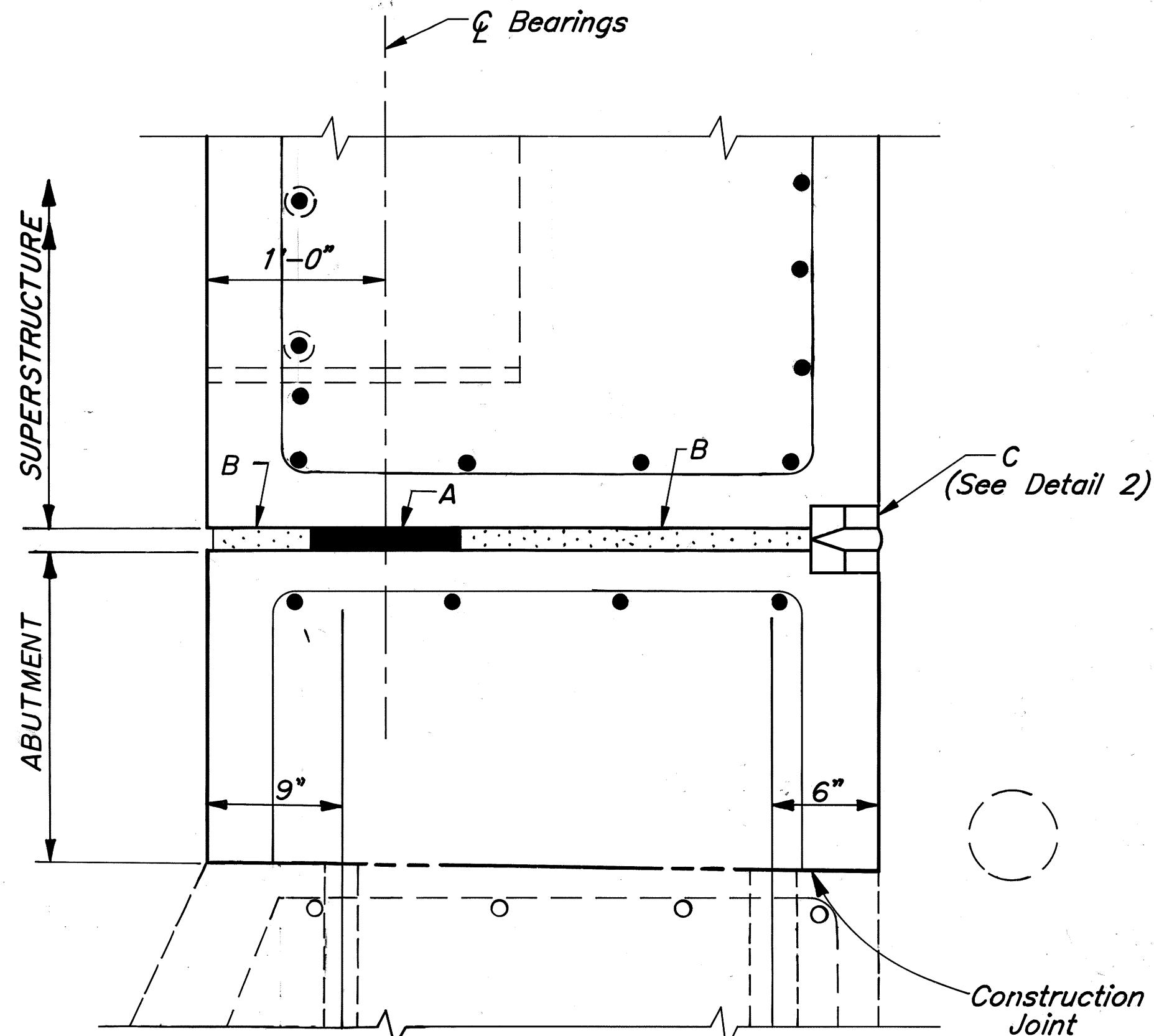
AUGLAIZE COUNTY
AUG-75-10.47



SECTION A-A



SECTION B-B



DETAIL 1

- A = Elastomeric Bearings (10"x 2") 50 Durometer.
- B = Expanded Polystyrene (2" Thick). Include with Superstructure Concrete for payment.
- C = Elastomeric Compression Seal

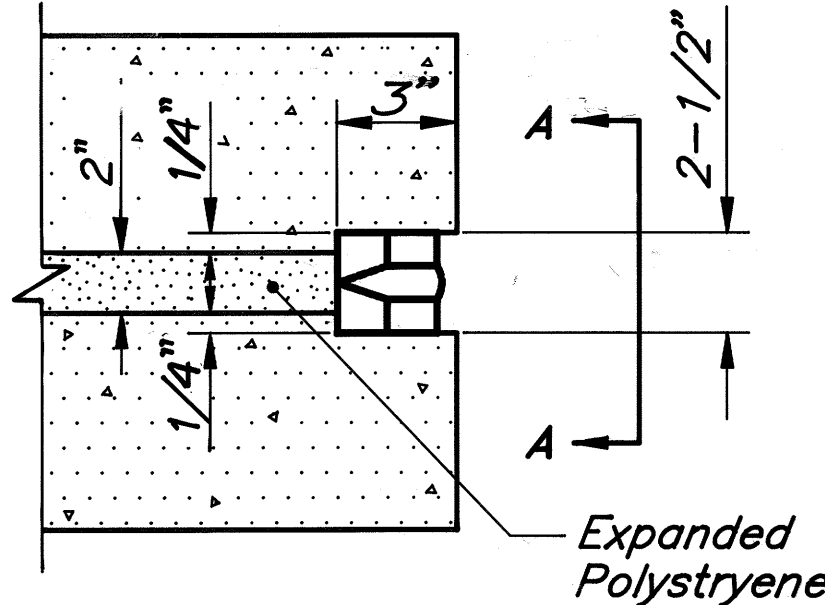
E-3000 by D.S. Brown or a similar low shear seal by Watson/Acme or approved alternate.

NOTE:
The steel beams will require temporary supports in front of forward abutment before the superstructure concrete above bridge seat is poured. Temporary supports shall be included with Class S Concrete, Superstructure for payment.

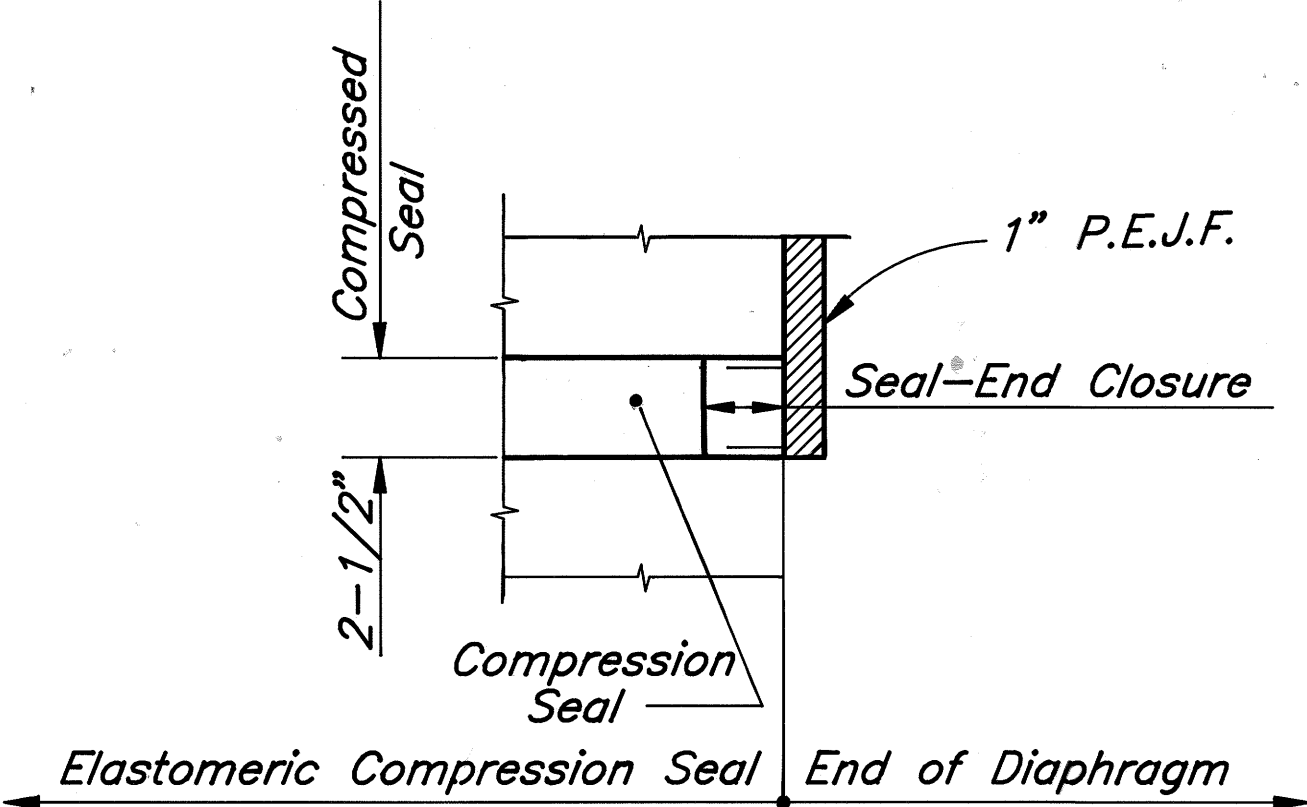
POROUS BACKFILL:
Porous backfill 1'-6" thick shall extend upward to the plane of the subgrade to 1 ft. below the embankment surface, and laterally to the ends of wingwalls.

ABBREVIATIONS

- P.H.C.S.P. = Perforated Helical Corrugated Steel Pipe
- N.P.H.C.S.P. = Non-Perforated Helical Corrugated Steel Pipe

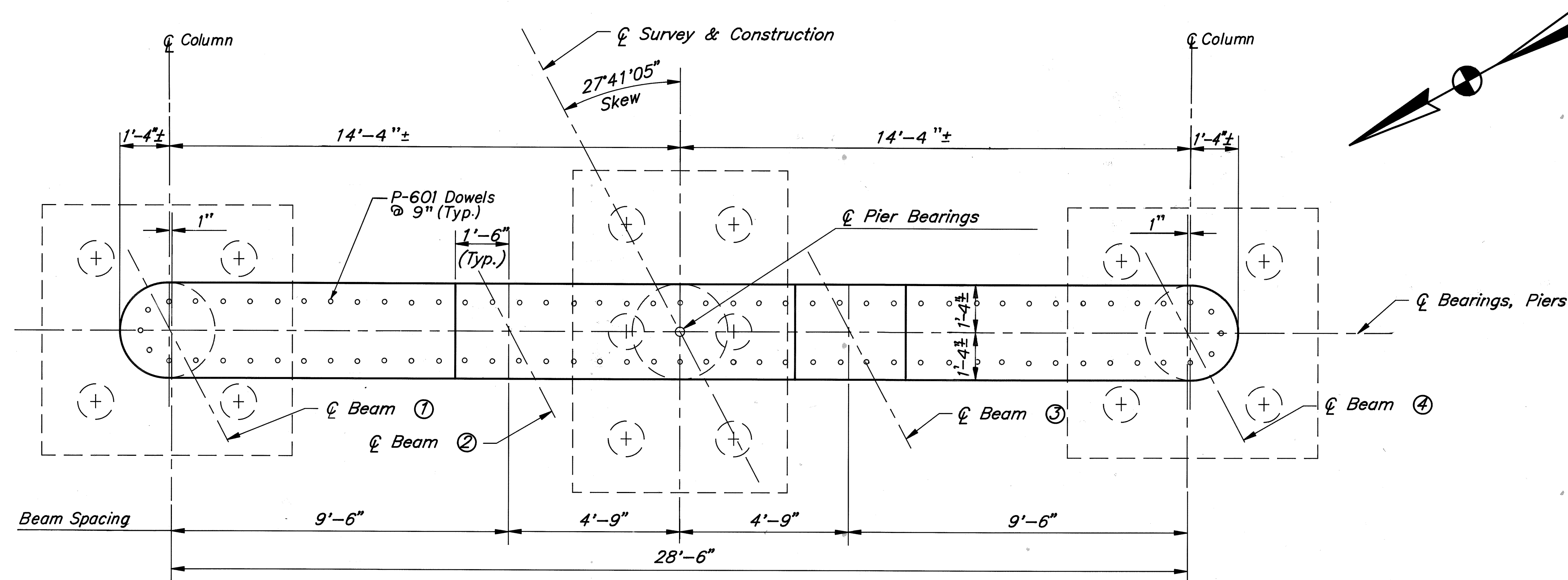


DETAIL 2

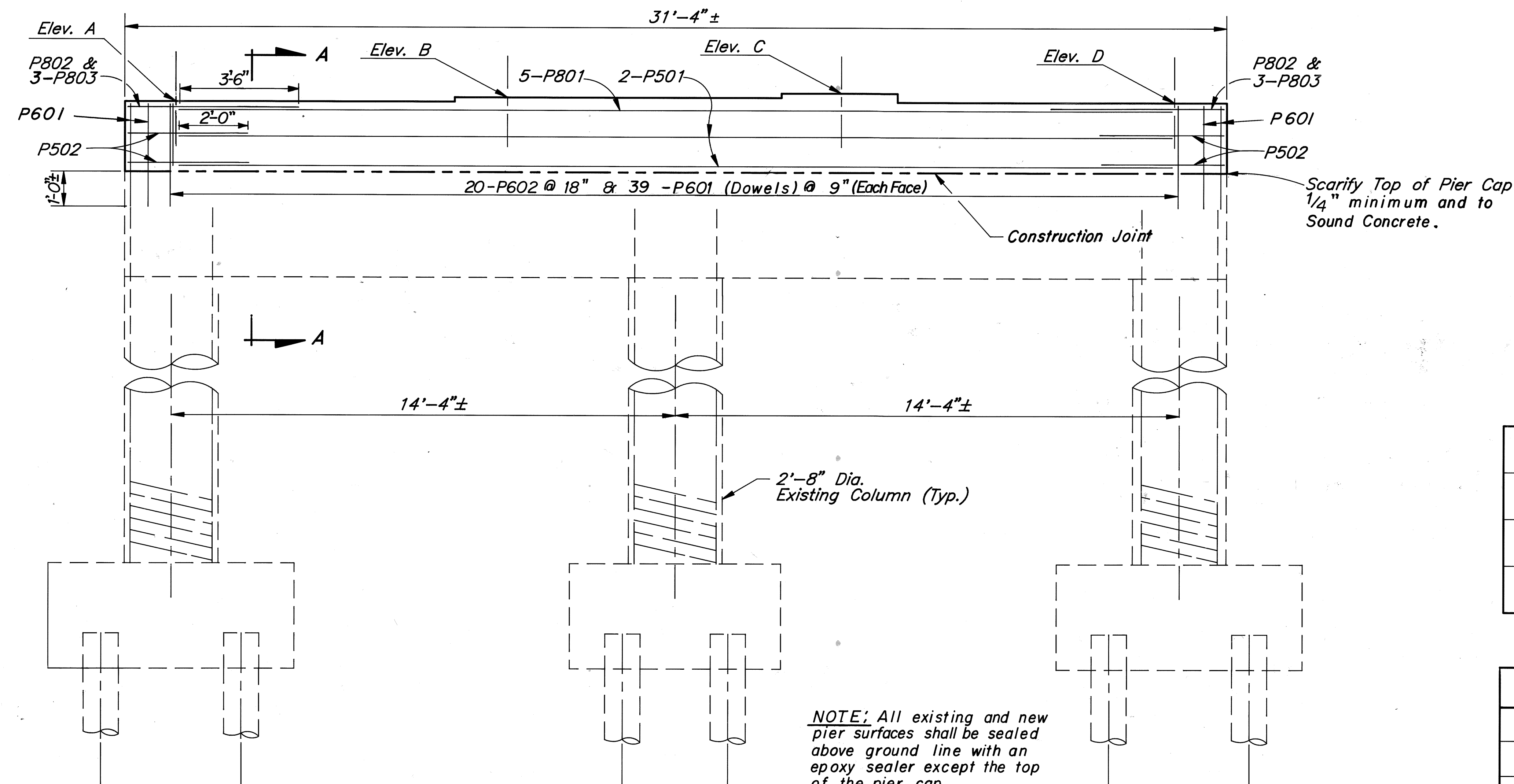


VIEW A-A

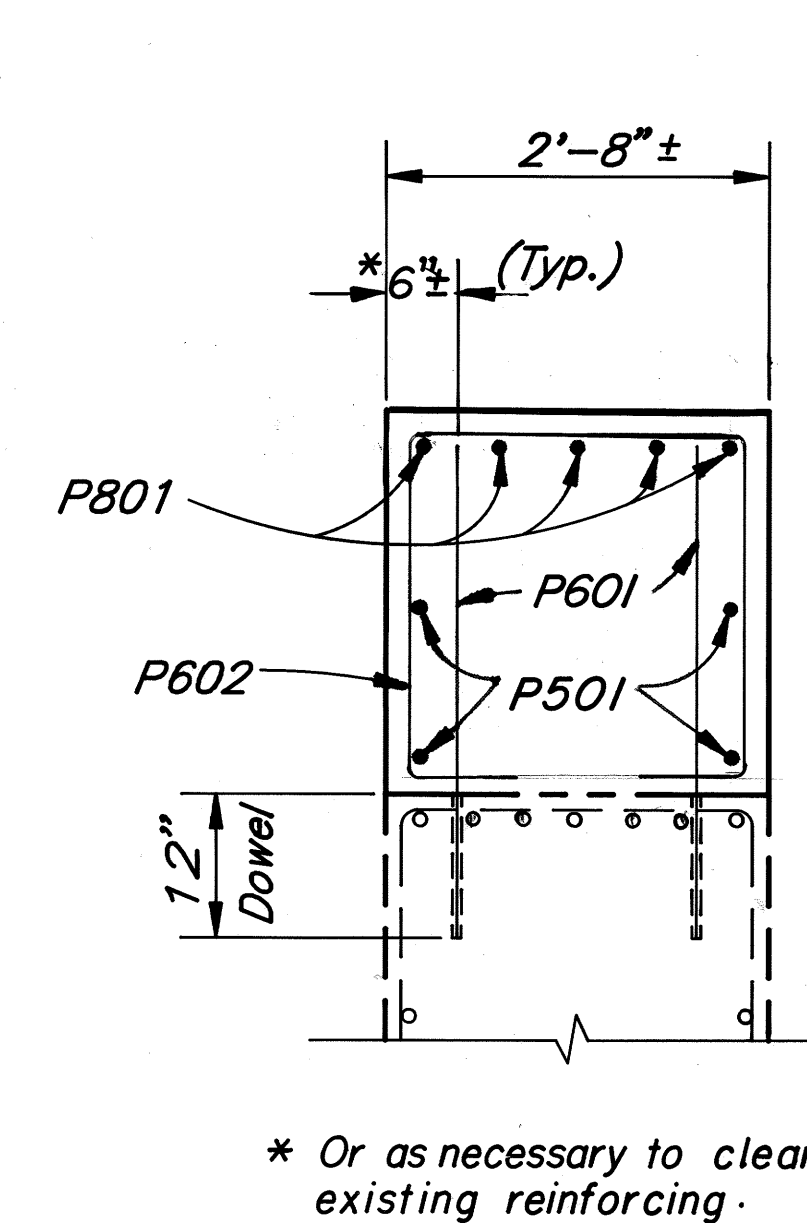
COLUMBUS ENGINEERING CONSULTANTS, INC.					
Consulting	950 Michigan Avenue				
Civil Engineers	Columbus, OH 43215				
	(614) 228-3500				
FORWARD ABUTMENT DETAILS					
BRIDGE NO. AUG-75-1047					
BUCKLAND-HOLDEN ROAD OVER I-75					
AUGLAIZE COUNTY					
Designed	Drawn	Traced	Checked	Reviewed	Date
RT	MH		CS	JJ	6/92



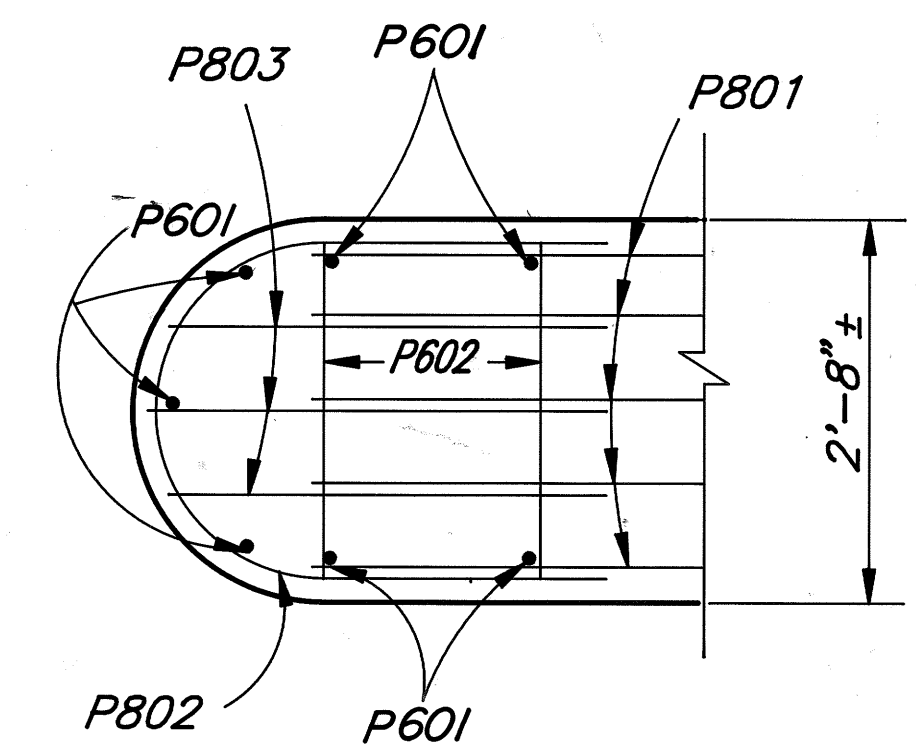
PLAN



ELEVATION



SECTION A-A



PIER END REINFORCEMENT (TOP)

Pier	Elev. A	Elev. B	Elev. C	Elev. D	Limit of Removal Elev.
1	924.87	924.97	924.94	924.77	922.20±
2	925.05	925.19	925.19	925.05	922.50±
3	924.65	924.82	924.85	924.75	922.20±

PIER BEARINGS

PIER NO. 1	Sta. 14+30.00±
PIER NO. 2	Sta. 15+00.00±
PIER NO. 3	Sta. 15+70.00±

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 Civil Engineers

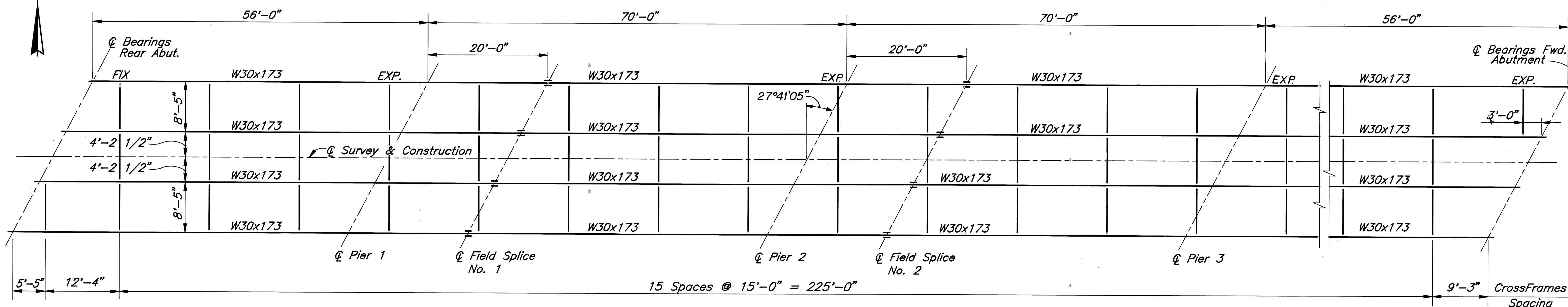
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 Columbus, OH 43215
 (614) 228-3500

PIER DETAILS
 BRIDGE NO. AUG-75-1047
 BUCKLAND-HOLDEN ROAD OVER I-75

AUGLAIZE COUNTY

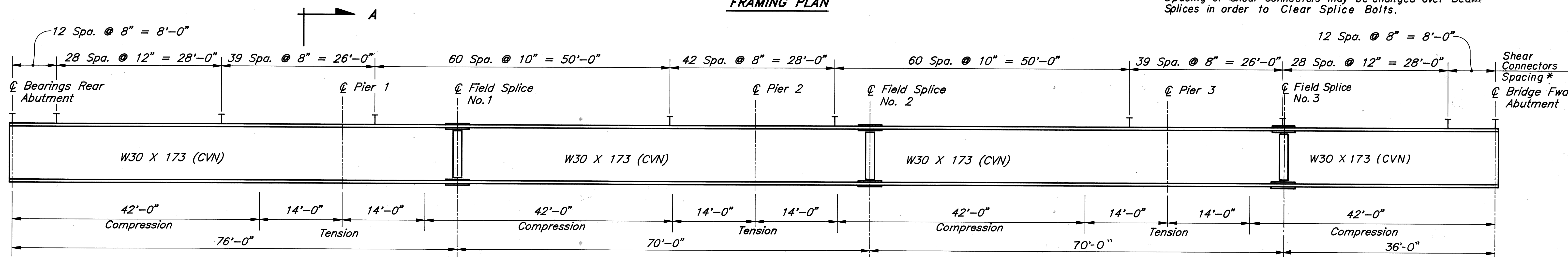
Designed	Drawn	Traced	Checked	Reviewed	Date	Revised
RT	MH		CS	JJ	6/92	

AUGLAIZE COUNTY
AUG-75-10.47

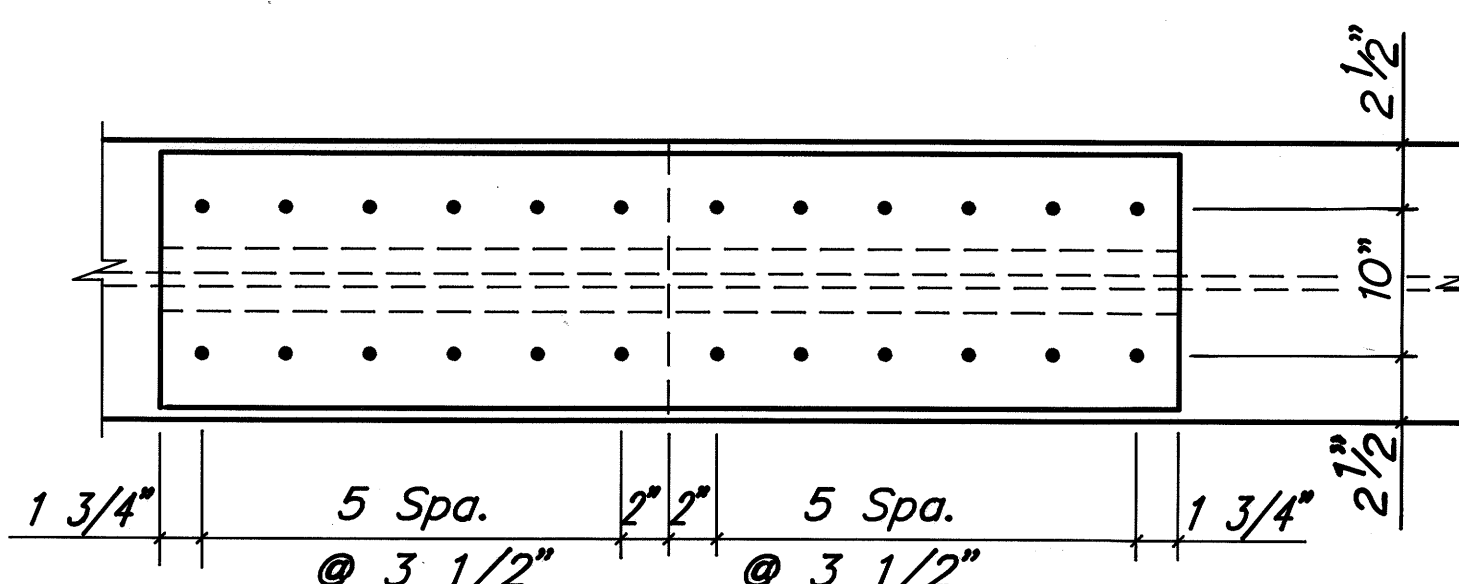


FRAMING PLAN

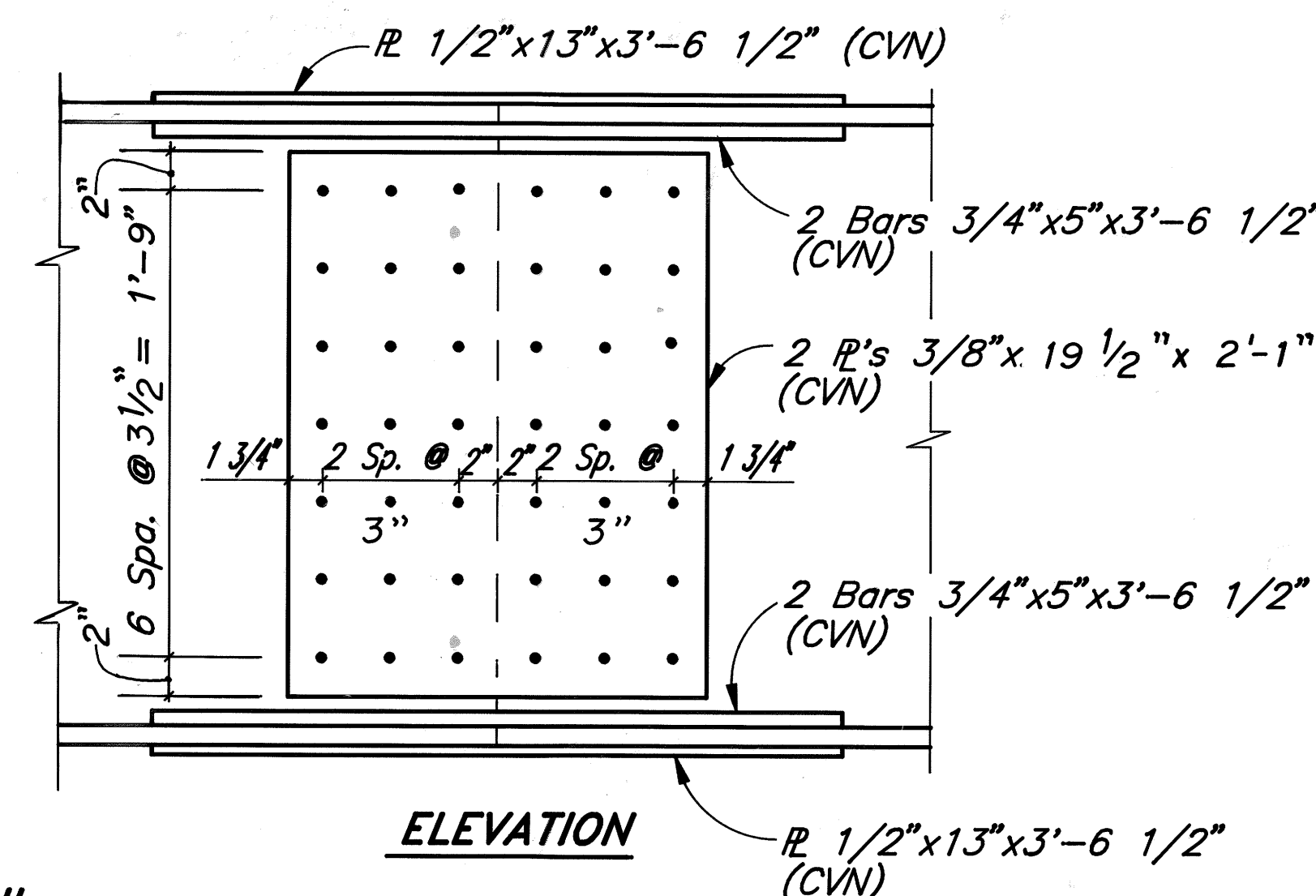
* Spacing of Shear Connectors may be changed over Beam Splices in order to Clear Splice Bolts.



BEAM ELEVATION



PLAN



ELEVATION

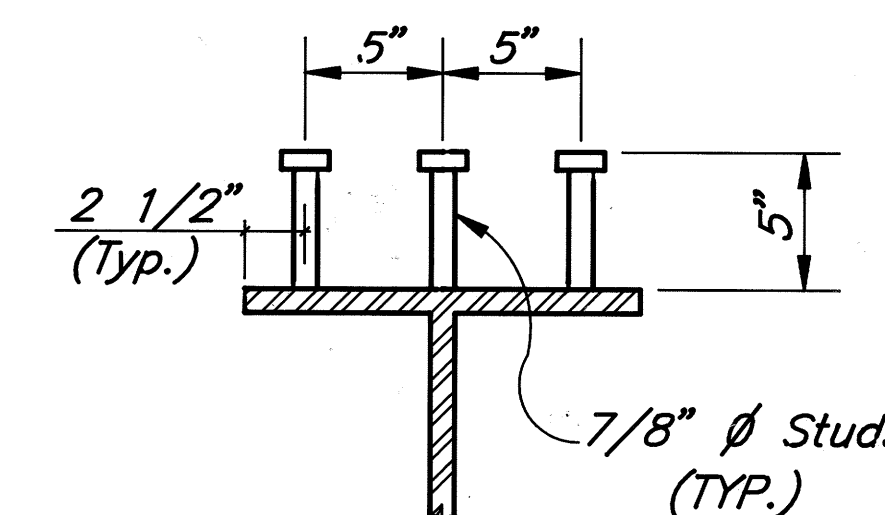
FIELD SPLICE DETAIL

NOTES:

HIGH STRENGTH BOLTS shall be 1" diameter A325 unless otherwise noted.

Where a shape or plate is designated (CVN) the material shall meet specified minimum notch toughness requirements as specified in 711.01 of CMS.

WELDED ATTACHMENT of supports for concrete deck finishing machine may be made to areas of the fascia stringer top flanges designated "Compression". Attachments shall not be made to areas designated "Tension". Fillet welds to compression flanges shall be not closer than 1" from the edge of flange, be not more than 2" long, and be not smaller than the minimum size required by AASHTO.



SECTION A-A

COLUMBUS ENGINEERING CONSULTANTS, INC.
Consulting
Civil Engineers
950 Michigan Avenue
Columbus, OH 43215
(614) 228-3500

SUPERSTRUCTURE DETAILS
BRIDGE NO. AUG-75-1047
BUCKLAND-HOLDEN ROAD OVER I-75
AUGLAIZE COUNTY

Designed	Drawn	Traced	Checked	Reviewed	Date	Revised
R.T.	M.H.		C.S.	J.J.	6/92	

AUGLAIZE COUNTY
AUG-75-10.47

SCREED ELEVATIONS TABLE

POINT	SCREEDLINE (A)		SCREEDLINE (B)		SCREEDLINE (C)	
	STATION	ELEVATION	STATION	ELEVATION	STATION	ELEVATION
Q Brng. R.A.	13+81.35	927.79	13+74.00	927.91	13+66.65	927.59
1/4 Point	13+95.35	927.99	13+88.00	928.12	13+80.65	927.80
1/2 Point	14+09.35	928.15	14+02.00	928.29	13+94.65	927.98
3/4 Point	14+23.35	928.26	14+16.00	928.42	14+08.65	928.13
Q Pier 1	14+37.35	928.36	14+30.00	928.53	14+22.65	928.25
1/4 Point	14+54.85	928.49	14+47.00	928.66	14+40.15	928.40
1/2 Point	14+72.35	928.57	14+65.00	928.77	14+57.65	928.51
3/4 Point	14+89.85	928.59	14+82.00	928.80	14+75.15	928.56
Q Pier 2	15+07.35	928.58	15+00.00	928.80	14+92.65	928.58
1/4 Point	15+24.85	928.56	15+17.00	928.80	15+10.15	928.59
1/2 Point	15+42.35	928.51	15+35.00	928.77	15+27.65	928.57
3/4 Point	15+59.85	928.40	15+52.00	928.66	15+45.15	928.48
Q Pier 3	15+77.35	928.25	15+70.00	928.53	15+62.65	928.36
1/4 Point	15+91.35	928.12	15+84.00	928.42	15+76.65	928.26
1/2 Point	16+05.35	927.98	15+98.00	928.29	15+90.65	928.14
3/4 Point	16+19.35	927.80	16+12.00	928.12	16+04.65	927.98
Q Brng. F.A.	16+33.35	927.58	16+26.00	927.91	16+18.65	927.79

* Screed elevations are for the concrete surface before concrete is placed. Allowance has been made for the anticipated deflection of structural steel. For screed line location see sheet 11/14.

NOTES:

LOAD PLATE:

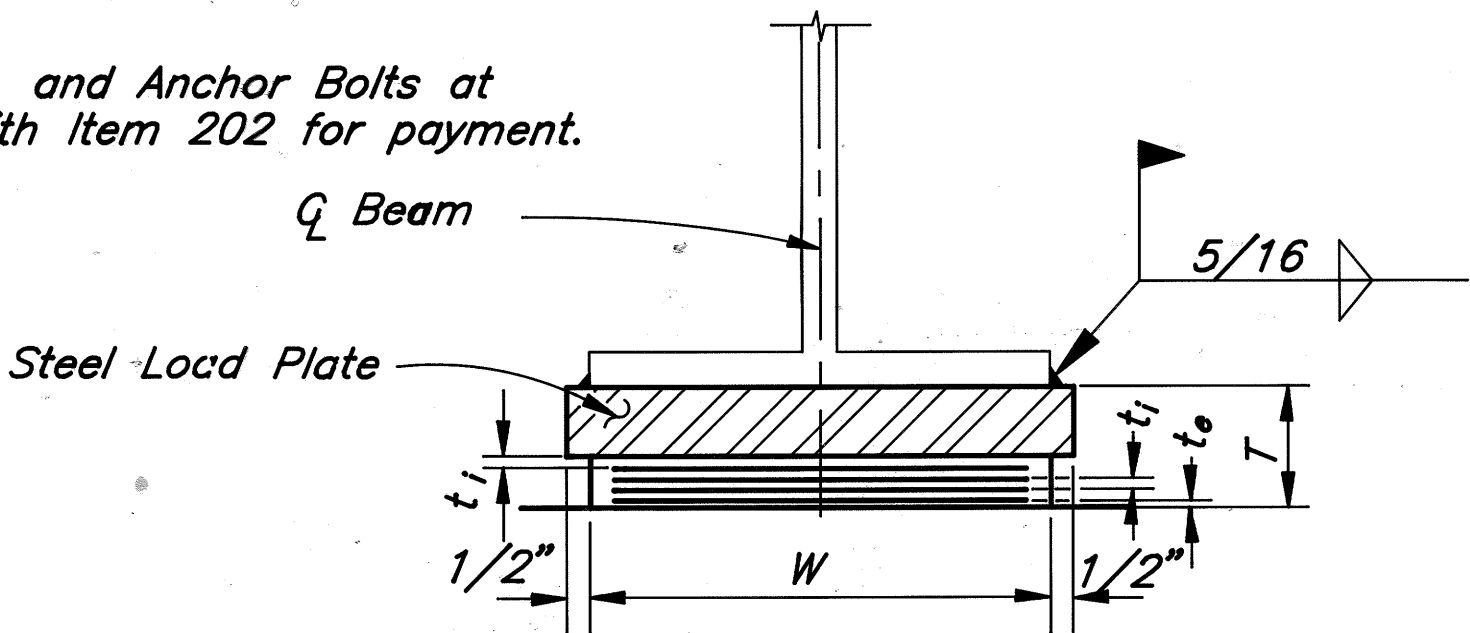
The steel load plate shall be bonded by vulcanization to the elastomer during the molding process.

Welding of the load plate to the superstructure shall be controlled so that the plate temperature at the elastomer bonded surface shall not exceed 400°F as determined by the use of pyrometric sticks or other temperature monitoring devices.

BASIS OF PAYMENT

The unit bid price shall include all materials, labor and incidentals necessary to furnish and install laminated elastomeric bearings. Payment will be made at the contract price for each laminated elastomeric bearing pad with steel load plate.

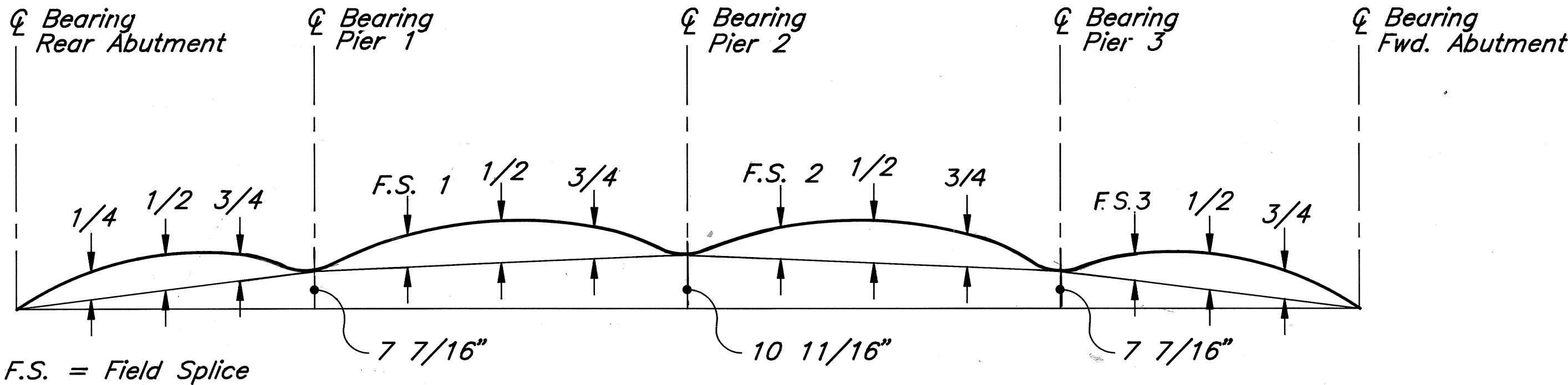
REMOVAL OF EXISTING BEARINGS and Anchor Bolts at Abutments and Piers included with item 202 for payment.



LAMINATED ELASTOMERIC EXPANSION BEARING

DEFLECTION & CAMBER

	SPAN 1			SPAN 2			SPAN 3			SPAN 4		
	1/4 Pt.	1/2 Pt.	3/4 Pt.	F.S. 1	1/2 Pt.	3/4 Pt.	F.S. 2	1/2 Pt.	3/4 Pt.	F.S. 3	1/2 Pt.	3/4 Pt.
Steel Weight Deflection	1/16"	1/8"	1/16"	1/16"	1/8"	1/16"	1/16"	1/8"	1/16"	1/16"	1/8"	1/16"
Remaining Dead Load Deflection	3/8"	3/8"	3/16"	3/8"	9/16"	5/16"	3/8"	9/16"	3/8"	3/16"	3/8"	3/8"
Vertical Curve Correction	3/8"	1/2"	3/8"	5/8"	13/16"	5/8"	5/8"	13/16"	5/8"	3/8"	1/2"	3/8"
Required Shop Camber	13/16"	1"	5/8"	1 1/16"	1 1/2"	1"	1 1/16"	1 1/2"	1 1/16"	5/8"	1"	13/16"



CAMBER DIAGRAM

LAMINATED ELASTOMERIC BEARINGS

SUPPORT	BEARING TYPE	DIMENSIONS (Inch)					N	REACTIONS			STEEL LOAD PLATE SIZE
		L	W	t _i	t _e	T		DL	LL	DL+LL *	
Pier 1	Expansion	10	18	0.251	0.195	3	4	111 Kip	57 Kip	168 Kip	11"x19"x1 1/2"
Pier 2	Expansion	10	19	0.286	0.195	3 1/2"	5	112 Kip	59 Kip	171 Kip	11"x20"x1 1/2"
Pier 3	Expansion	10	19	0.275	0.195	4 1/2"	8	112 Kip	59 Kip	171 Kip	11"x20"x1 1/2"

t_i = Thickness of Internal Layer

t_e = Thickness of External Layer

T = Total Thickness of Elastomeric Bearing

N = No. of Internal Steel Laminates

Internal Steel Laminate Thickness = 0.0747"

Durometer of Elastomer = 50 Durometer

* Maximum Design Load

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BUCKLAND-HOLDEN ROAD OVER I-75

AUGLAIZE COUNTY

Designed	Drawn	Traced	Checked	Reviewed	Date	Revised
RT	MH		CS	JJ	6/92	

REINFORCING STEEL LIST

FHWA REGION	STATE	PROJECT	
5	OHIO		

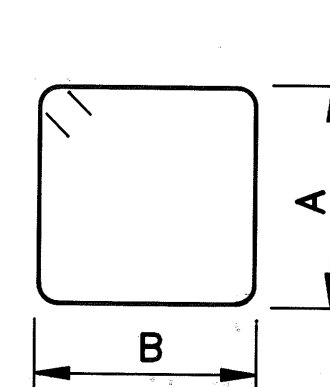
AUGLAIZE COUNTY
AUG-75-10.47

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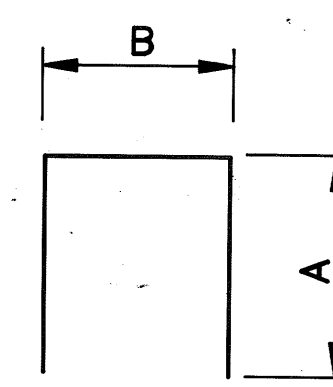
MARK	NO.	LENGTH	WEIGHT	TYPE	A	B	C	INC.	REMARKS
REAR ABUTMENT									
A401	16	9'-0"	96	1	1'-9"	2'-7"			
A501	41	11'-0"	470	1	2'-7"	2'-8"			
A502	27	9'-11"	279	2	4'-0"	2'-2"			
A503	12	14'-7"	182	2	6'-4"	2'-2"			
A504	12	28'-4"	355	STR.					
	2 SR.	5'-3"			1'-8"				
A505	OF	TO	107	2	TO	2'-2"			
	6	11'-11"			5'-0"				
A506	4	7'-9"	32	STR.					
A507	2	4'-3"	9	STR.					
A508	2	8'-2"	17	STR.					
A509	4	8'-3"	34	STR.					
A510	2	4'-7"	10	STR.					
A511	2	8'-9"	18	STR.					
FORWARD ABUTMENT									
A512	46	3'-7"	172	STR.					
A513	23	6'-0"	144	2	1'-5"	3'-5"			
A514	4-S.O.7	2'-8" TO 5'-0"	112	STR.					
A515	3	8'-11"	28	STR.					
A516	3	8'-3"	26	STR.					
A517	3	7'-5"	23						
A520	5	3'-2"	17	2	1'-6"	1'-5"			
A521	1	8'-5"	9	9	1'-0"	7'-6"	2'-2"		
A522	1	9'-3"	10	9	1'-10"	7'-6"	2'-2"		
A523	3	8'-1"	25	STR.					
A524	2	5'-0"	10	STR.					
A526	2	4'-0"	8	STR.					
A527	1	7'-6"	8	9	0'-5"	7'-2"	2'-2"		
A528	1	8'-4"	9	9	1'-3"	7'-2"	2'-2"		
A802	4	32'-3"	344	STR.					
A803	4	11'-0"	118	STR.					
D801	44	5'-6"	646	7	3'-9"				
TOTAL 5154 LBS.									

MARK	NO.	LENGTH	WEIGHT	TYPE	A	B	C	INC.	REMARKS
SUPERSTRUCTURE									
S401	336	30'-0"	6733	STR.					
S402	42	28'-6"	800	STR.					
				STR.					
S501	320	30'-0"	10013	STR.					
S502	40	31'-2"	1300	STR.					
	2 SR.	6'-0"							
S503	OF	TO	852	STR.				1'-2 3/4"	
	23	29'-6"							
S504	396	30'-8"	12666	STR.					
S505	340	2'-4"	827	4	0'-10 1/2"	1'-7"			
S506	340	3'-0"	1064	5	0'-9"				
S507	406	5'-3"	2223	6					
S508	96	7'-0"	701	STR.					
S509	32	10'-10"	361	STR.					
S510	32	12'-0"	401	STR.					
S511	8	20'-0"	167	STR.					
S512	4	3'-6"	15	STR.					
S513	4	2'-3"	9	STR.					
S514	8	4'-3"	35	STR.					
S515	8	17'-2"	143	STR.					
S516	24	5'-8"	142	STR.					
S517	16	6'-0"	100	STR.					
S518	10	4'-10"	50	STR.					
S520	8	12'-0"	100	STR.					
S521	8	12'-0"	100	STR.					
	2 SR.	6'-0"							
S601	OF	TO	1226	STR.				1'-2 3/4"	
	23	29'-6"							
S602	396	30'-8"	18240	STR.					
S603	37	10'-5"	579	1	2'-6"	2'-2"			
S604	58	8'-0"	697	2	3'-4"	1'-8"			
S605	4	10'-3"	62	2	4'-3"	2'-2"			
S606	29	12'-4"	537	1	2'-5"	3'-5"			
S607	129	27'-0"	5231	STR.					
S801	16	20'-8"	883	STR.					
S802	16	17'-9"	758	STR.					
TOTAL 67015 LBS.									
PIERS									
P501	12	28'-8"	359	STR.					
P502	12	7'-8"	96	8	2'-0"				
P601	252	3'-6"	1325	STR.					
P602	60	6'-6"	586	2	2'-3"	2'-4"			
P801	15	28'-8"	1148	STR.					
P802	6	10'-8"	171	8	3'-6"				
P803	18	4'-8"	224	STR.					
TOTAL 3909 LBS.									

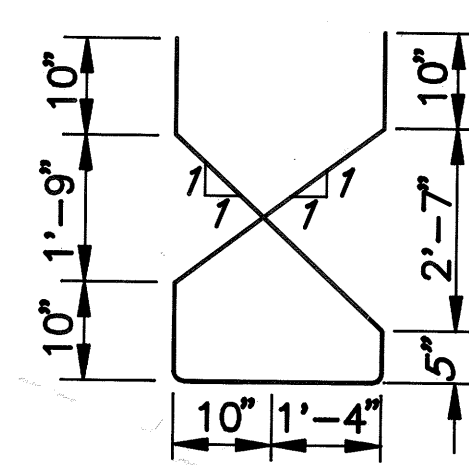
DIMENSIONS SHOWN ARE OUT TO OUT.
ALL BARS SHALL BE EPOXY COATED.



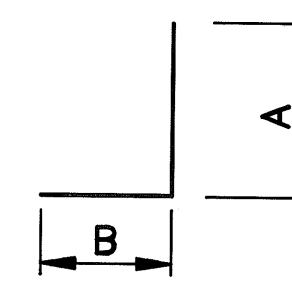
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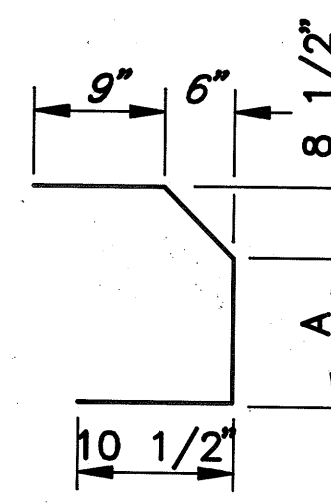
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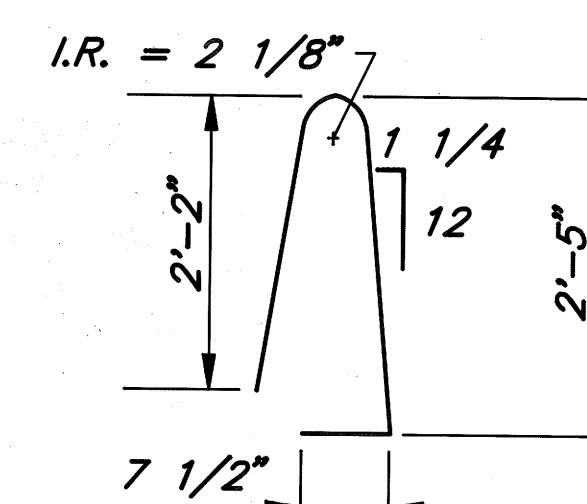
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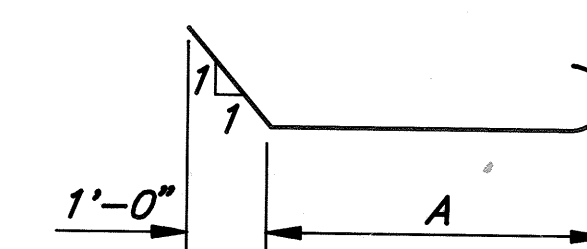
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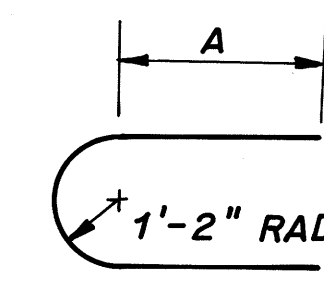
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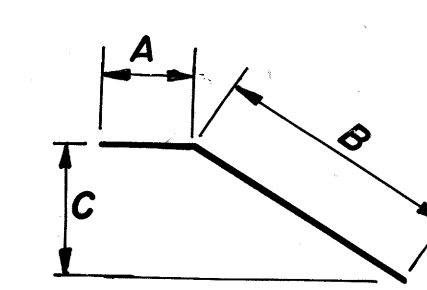
TYPE 6



TYPE 7



TYPE 8



TYPE 9

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