

# STATE OF OHIO DEPARTMENT OF TRANSPORTATION

## ASD-250-1.03 RUGGLES TOWNSHIP ASHLAND COUNTY

ASD-250-1.03	OHIO 1 20
BRF-47(19)	FHWA REGION 5
	FEDERAL PROJECT

BRF-47(19)

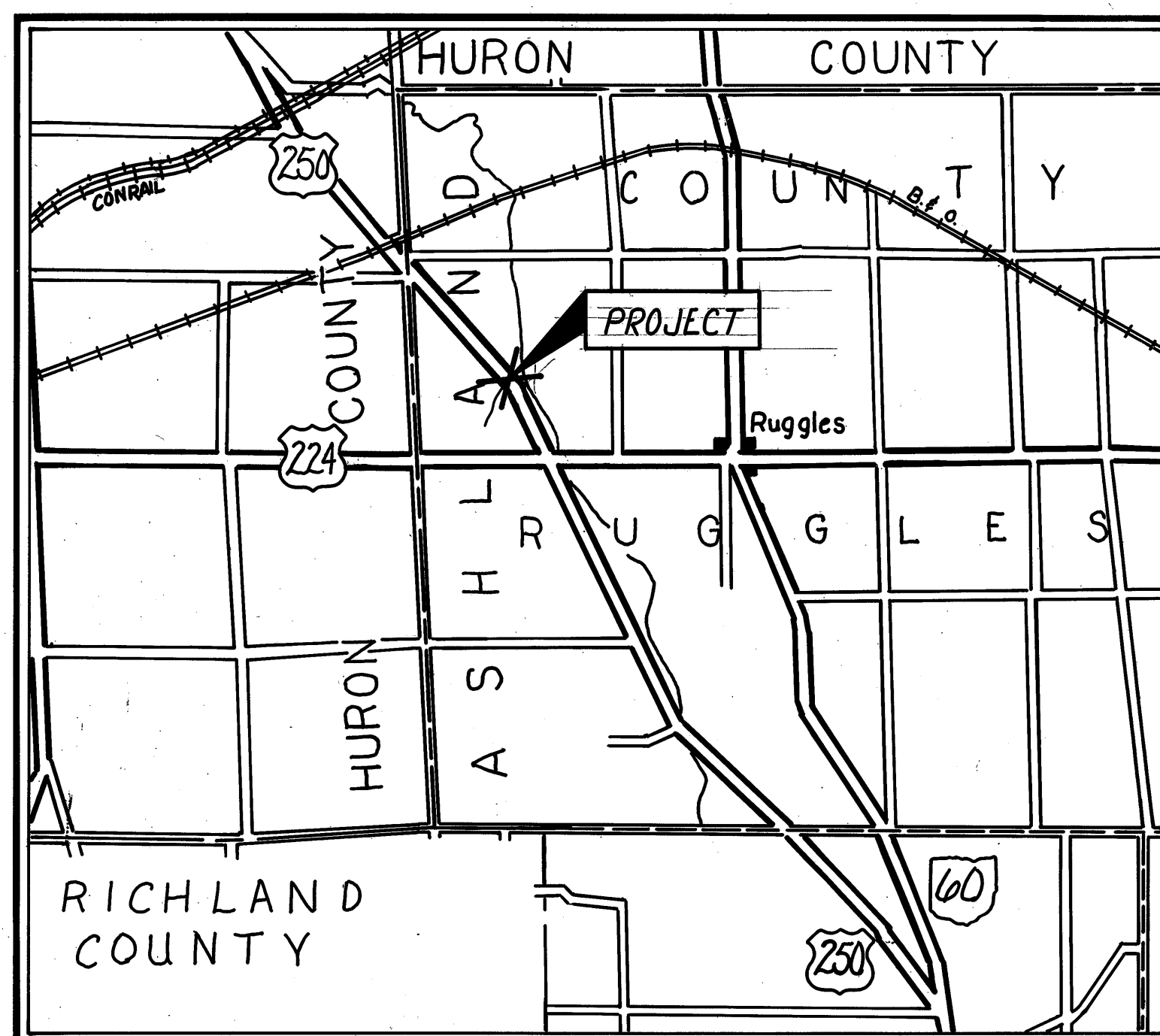
DESIGN	DESIGNATION
1984 ADT	= 2450
2004 ADT	= 3550
DHV	= 375
D	= 50%
T	= 25%
V	= 60 MPH

### CONVENTIONAL SIGNS

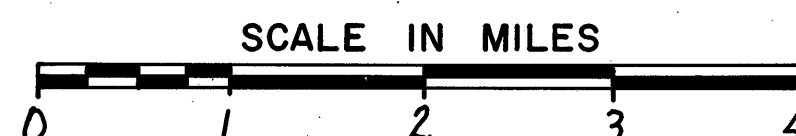
County Line                  Township Line                  Section Line                  Corporation Line  or                  Fence Line (existing)  (proposed)                  Center Line                  Trees , Stumps , (to be removed)                  Utility Poles: Telephone , Power , Light	Limited Access (only)  LA                 Right of Way (only)  RW                 Limited Access & Right of Way  LA & RW                 Existing Right of Way                  Property Line  (in existing fence)                  Railroad  or                  Guardrail (existing)  (proposed)
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RIGHT OF WAY	20



LOCATION MAP



### LINE DATA

BEGIN PROJECT	STA. 54+53.42
END PROJECT	STA. 55+54.58
NET PROJECT LENGTH	101.16 LIN. FT. OR 0.019 MILES
BEGIN WORK	STA. 51+25
END WORK	STA. 58+80
NET WORK LENGTH	755.00 LIN. FT. OR 0.143 MILES

UNDERGROUND UTILITIES

48 HOURS  
**BEFORE YOU DIG**

Call 1-800-362-2764 (Toll free)  
OHIO UTILITIES PROTECTION SERVICE

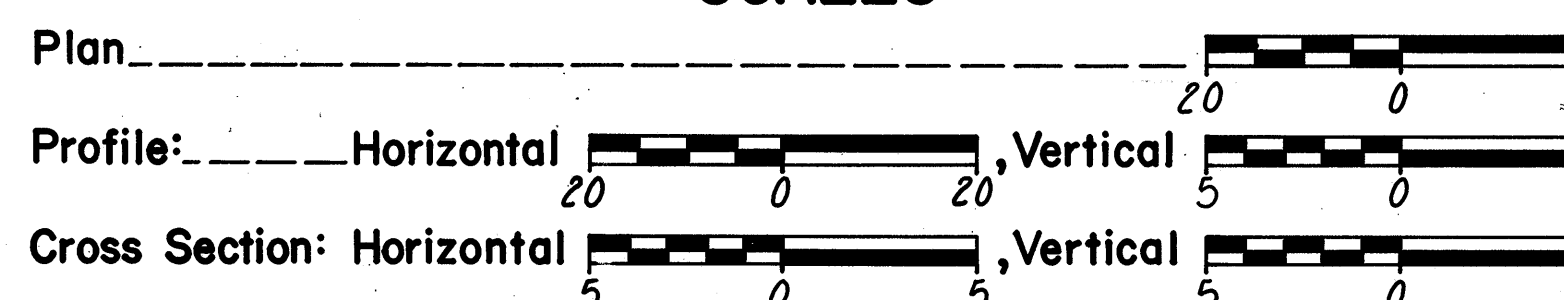
NON-MEMBERS  
MUST BE CALLED DIRECTLY

Portion to be improved

State & Federal Routes

Other Roads

### SCALES



SUPPLEMENTAL SPECIFICATIONS			
803	5-27-83	861	9-9-83
		961	9-9-83
939	6-28-82		

Approved *Harry G. Poirier*  
Date 5-8-84 District Deputy Director of Transportation

Approved *Walter J. Hastings* *JSR*  
Date 6-14-84 Engineer, Bureau of Bridges and Structural Design

Approved *Wayne H. Kauble*  
Date 11-26-84 Chief Engineer, Planning and Design

Approved *Warren J. Smith*  
Date 11-26-84 Director, Department of Transportation

SUPPLEMENTAL PRINTS OF STANDARD CONSTRUCTION DRAWINGS			
BP-5	7-16-81	AS-1-81	11-27-81
		DBR-2-73	4-10-73
GR-1	2-5-82		
GR-2B	2-5-82	PSBD-1-81	9-18-81
GR-3	2-5-82		
GR-4	2-5-82		
MC-4	7-26-76		
MC-9A	5-1-81		
MC-11	8-1-78		

Plan Prepared By:  
DISTRICT 3 DESIGN  
(ROADWAY PLANS)  
AND  
EUTHENICS, INC., CONSULTANT  
(STRUCTURE PLANS)

SEAL

Project: ASD-250-1.03 ASHLAND CO.  
Date of Letting: 1984, Contract No. \_\_\_\_\_

DEPARTMENT OF TRANSPORTATION  
FEDERAL HIGHWAY ADMINISTRATION

APPROVED:

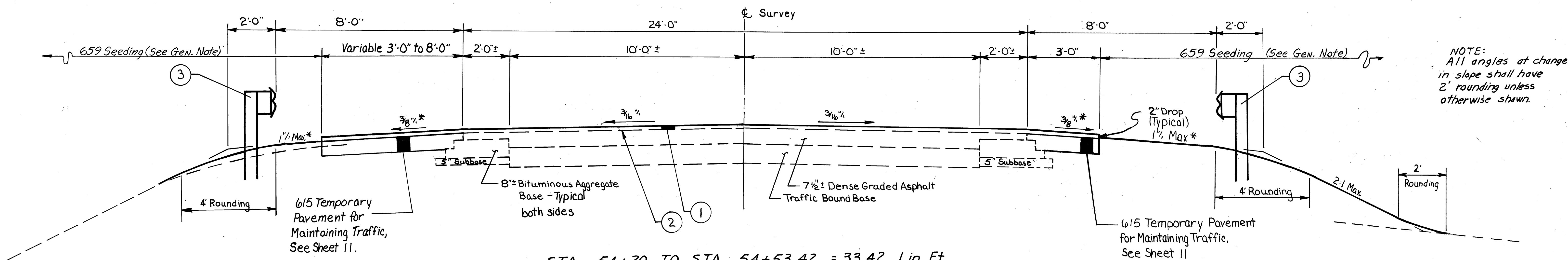
DIVISION ADMINISTRATOR \_\_\_\_\_ DATE \_\_\_\_\_

# TYPICAL SECTIONS TYPE 404

FHWA REGION	STATE	PROJECT
5	OHIO	

2  
20

ASD-250-1.03



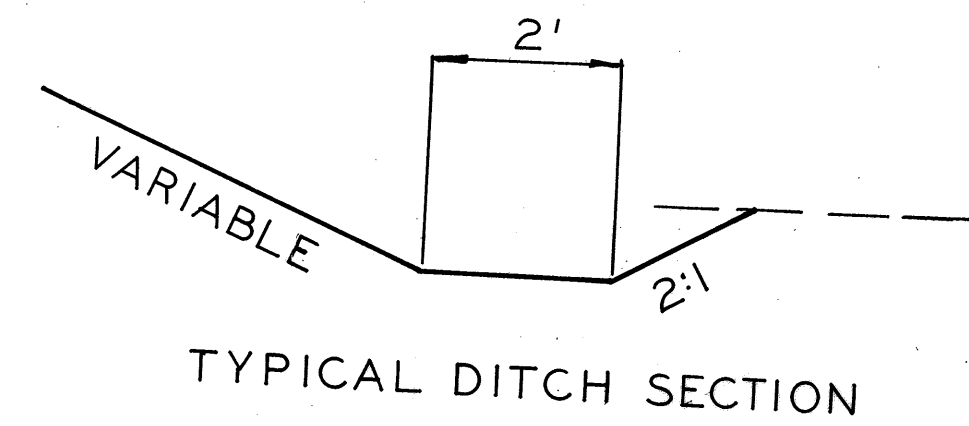
NOTE:  
All angles at change  
in slope shall have  
2' rounding unless  
otherwise shown.

STA. 54+20 TO STA. 54+53.42 = 33.42 Lin. Ft.  
STA. 55+54.58 TO STA. 55+80 = 25.42 Lin. Ft.

\* Shoulder and berm slopes shall transition  
to meet approach slabs.

LEGEND

- ① Var. (1" Min) 404 Asphalt Concrete, AC-20 (Pavement Feathers to Approach Slabs)
- ② 407 Tack Coat and Cover Aggregate, -See General Note. (Applied to Existing Pavement and Asphalt Berms.)
- ③ 606 Guard Rail, Type 5



TYPICAL DITCH SECTION



# GENERAL NOTES

ASD - 250 - 1.03

FED RD DIVISION	STATE	PROJECT	
5	OHIO		

3  
20

CALC. BY: *P.W.S. 3/84*  
CHKD. BY: *P.W.S. 3/84*

## FIELD OFFICE:

THE CONTRACTOR SHALL PROVIDE A SUITABLE FIELD OFFICE HAVING A MINIMUM OF 150 SQ. FT. OF FLOOR SPACE. PAYMENT SHALL BE AT THE LUMP SUM PRICE BID FOR ITEM 619, FIELD OFFICE.

## 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.

## ELEVATION DATUM:

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

## CONTINGENCY QUANTITIES:

THE CONTRACTOR SHALL NOT ORDER MATERIALS OR PERFORM WORK FOR PLAN ITEMS SET UP TO BE USED "AS DIRECTED BY THE ENGINEER" UNLESS AUTHORIZED BY THE ENGINEER. THE ACTUAL WORK LOCATIONS AND QUANTITIES USED AT THE ENGINEER'S DISCRETION SHALL BE MADE A MATTER OF RECORD BY INCORPORATION INTO THE FINAL CHANGE ORDER GOVERNING COMPLETION OF THIS PROJECT.

## 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 OF THE OHIO REVISED CODE.

## UTILITY NOTIFICATION:

AT LEAST TWO WORKING DAYS PRIOR TO COMMENCING CONSTRUCTION OPERATIONS IN ANY AREA WHICH MAY INVOLVE UNDERGROUND FACILITIES, THE CONTRACTOR SHALL NOTIFY THE PROJECT ENGINEER, THE REGISTERED UNDERGROUND UTILITY PROTECTION SERVICES AND THE OWNERS OF ALL UNDERGROUND UTILITY FACILITIES SHOWN IN THE PLANS.

AFTER NOTICE IS RECEIVED, THE OWNER OF ANY UNDERGROUND UTILITY FACILITY THAT IS TO REMAIN IN SERVICE DURING AND/OR AFTER CONSTRUCTION SHALL WITHIN FORTY-EIGHT (48) HOURS, EXCLUDING SATURDAYS, SUNDAYS, AND LEGAL HOLIDAYS, STAKE, MARK, OR OTHERWISE DESIGNATE THE LOCATION OF THE UNDERGROUND FACILITIES IN THE CONSTRUCTION AREA IN SUCH A MANNER AS TO INDICATE THEIR COURSE TOGETHER WITH THE APPROXIMATE DEPTH AT WHICH THEY WERE INSTALLED. THE MARKING OR LOCATING SHALL BE COORDINATED TO STAY APPROXIMATELY TWO DAYS AHEAD OF THE PLANNED CONSTRUCTION.

## UTILITY OWNERSHIP:

TELEPHONE: GENERAL TELEPHONE COMPANY  
1534 SR. 511 SOUTH - PO. BOX 9  
ASHLAND, OHIO 44805  
PHONE: (419) 289-6616

POWER: OHIO POWER COMPANY  
P.O. BOX 400  
301 CLEVELAND AVENUE S.W.  
CANTON, OHIO 44701  
PHONE: (216) 455-8931

## 407 TACK COAT:

THE TACK COAT AND COVER AGGREGATE OPERATION SHALL BE DETERMINED AS PER SPECIFICATION 407.05. PLAN QUANTITIES INDICATE AVERAGE APPLICATION RATES OF 0.10 GALLONS PER SQUARE YARD OF TACK COAT AND 7 POUNDS PER SQUARE YARD OF COVER AGGREGATE FOR ESTIMATING PURPOSES ONLY.

## LOCATION OF GUARDRAIL:

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

## REMOVAL OF TREES AND STUMPS:

ALL TREES AND STUMPS SPECIFICALLY MARKED FOR REMOVAL WITHIN THE CONSTRUCTION LIMITS OF THIS PROJECT SHALL BE REMOVED UNDER THE LUMP SUM PRICE BID FOR ITEM 201 CLEARING AND GRUBBING, EXCEPT THAT THOSE TREES FOR WHICH PROTECTION AND PRESERVATION WORK IS INDICATED ELSEWHERE IN THESE PLANS SHALL NOT BE REMOVED.

THE FOLLOWING IS AN APPROXIMATE ESTIMATE OF THE NUMBER OF TREES AND STUMPS TO BE REMOVED:

SIZES	NO. TREES	NO. STUMPS
18"	0	0
30"	0	0
48"	0	0
60"	0	0

THE ABOVE ESTIMATE IS APPROXIMATE AND THE STATE OF OHIO RESERVES THE RIGHT TO ORDER THE REMOVAL OF ADDITIONAL TREES OR STUMPS OUTSIDE THE LIMITS OF CONSTRUCTION BUT WITHIN THE RIGHT-OF-WAY AND/OR EASEMENT LINES. PAYMENT FOR THE REMOVAL OF THESE ADDITIONAL TREES OR STUMPS SHALL BE INCLUDED IN THE LUMP SUM PRICE BID FOR ITEM 201 CLEARING AND GRUBBING.

## SEEDING:

QUANTITIES FOR SEEDING, WHERE REQUIRED BY PLAN, ARE CALCULATED FOR THE SOIL AREAS BETWEEN TEN (10) FEET OUTSIDE THE WORK LIMITS, AS SHOWN ON THE CROSS SECTIONS, OR TO THE RIGHT-OF-WAY OR TEMPORARY LINES, IF SUCH LINE IS LESS THAN TEN (10) FEET FROM THE WORK LIMITS.

## WATERING PERMANENT SEEDED AREAS:

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

ITEM 659 WATER 2 M-GAL.

## EROSION CONTROL:

ITEMS 601 AND 667 ARE PROVIDED IN THE PLANS FOR EROSION CONTROL. ROCK OF A STABLE NATURE WILL NOT BE REMOVED IN ORDER TO PLACE ANY OF THESE ITEMS, AND TURF OF A STABLE NATURE WILL NOT BE REMOVED IN ORDER TO PLACE 667. THE ENGINEER SHALL CHECK AND NON-PERFORM QUANTITIES OR ADJUST LOCATIONS AND QUANTITIES FOR THESE ITEMS WHERE INDICATED BY FIELD CONDITIONS DURING CONSTRUCTION.

## DUST CONTROL:

THE FOLLOWING ESTIMATED QUANTITY HAS BEEN PROVIDED IN THE GENERAL SUMMARY TO BE USED FOR DUST CONTROL AS DIRECTED BY THE ENGINEER:

ITEM 616 WATER 5 M-GAL.

## EROSION CONTROL PADS AND ANIMAL GUARDS:

EROSION CONTROL PADS AND ANIMAL GUARDS SHALL BE PROVIDED AT THE OUTLET END OF ALL PIPE UNDERDRAINS AND FARM DRAINS, AS PER STANDARD CONSTRUCTION DRAWING MC-4, EXCEPT WHEN THEY OUTLET INTO A DRAINAGE STRUCTURE. PAYMENT FOR THE EROSION CONTROL PADS AND THE ANIMAL GUARDS SHALL BE INCLUDED IN THE PRICE BID FOR ITEM 603, 6" CONDUIT, TYPE F.

## CONNECTIONS TO EXISTING PIPE:

WHERE THE PLANS PROVIDE FOR PROPOSED CONDUIT TO BE CONNECTED TO, OR TO CROSS EITHER OVER OR UNDER AN EXISTING SEWER, IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO LOCATE THE EXISTING PIPE BOTH AS TO LINE AND GRADE BEFORE HE STARTS TO LAY THE PROPOSED CONDUIT.

PAYMENT FOR ALL OPERATIONS DESCRIBED ABOVE SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THE PERTINENT 603 CONDUIT ITEMS.

## 614 MAINTAINING TRAFFIC:

THROUGH TRAFFIC ON U.S.R. 250 SHALL BE MAINTAINED AT ALL TIMES. A MINIMUM OF ONE-LANE OF TRAFFIC SHALL BE MAINTAINED WITH TRAFFIC SIGNALS USING THE EXISTING PAVEMENT AND TEMPORARY ROADWAYS AND PAVEMENTS AS DETAILED ON SHEETS 11&12. THE LIMITS AND DURATION OF USE OF ONE-LANE TRAFFIC ZONES SHALL BE LIMITED AS PER THE NOTE ON SHEET 11, AND IN ALL CASES SHALL BE SUBJECT TO THE APPROVAL OF THE ENGINEER. THE ONE-LANE ZONE SHALL NOT BE PUT INTO EFFECT PRIOR TO APRIL 15.

## UNDERDRAINS:

PIPE UNDER-DRAINS WHICH ARE ENCOUNTERED DURING CONSTRUCTION SHALL BE PROVIDED WITH UNOBSTRUCTED OUTLETS UNDER THE DIRECTION OF THE ENGINEER.

EXISTING PIPE UNDERDRAINS WHICH ARE ENCOUNTERED ABOVE THE ELEVATION OF THE ROADWAY DITCHES SHALL BE OUTLETTED INTO THE ROADWAY DITCH BY 603 TYPE F CONDUIT. THE OPTIMUM ELEVATION SHALL BE, IF POSSIBLE, ONE FOOT ABOVE THE FLOWLINE ELEVATION OF THE DITCH.

THE LOCATION, TYPE, SIZE AND GRADE OF REQUIRED REPLACEMENTS SHALL BE DETERMINED BY THE ENGINEER DURING CONSTRUCTION AND PAYMENT SHALL BE MADE ON FINAL MEASUREMENTS.

THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN INCLUDED IN THE GENERAL SUMMARY FOR THE WORK NOTED ABOVE:

ITEM 603 6" CONDUIT, TYPE F 30 LIN. FT.

NECESSARY BENDS AND BRANCHES SHALL BE INCLUDED FOR PAYMENT IN THE PERTINENT CONDUIT ITEM. NONE OF THE ABOVE MATERIALS SHALL BE ORDERED BY THE CONTRACTOR UNTIL REQUESTED BY THE ENGINEER.

## ITEM 601 - ROCK CHANNEL PROTECTION WITH FILTER:

WHERE THIS ITEM IS CALLED FOR IN THE PLANS, THE QUANTITIES SHOWN ARE BASED ON THE DIMENSIONS OF THE ROCK ONLY AND DO NOT INCLUDE THE VOLUME OF A SIX INCH (6") STONE FILTER BED. THE COST OF THE FILTER (EITHER FABRIC OR STONE) SHALL BE INCLUDED IN THE UNIT PRICE BID FOR "ITEM 601 - ROCK CHANNEL PROTECTION WITH FILTER". WHERE THE FABRIC FILTER OPTION IS USED THE FABRIC SHALL MEET THE REQUIREMENTS OF SUPPLEMENTAL SPEC. 939 TYPE B.

THE SURFACE TO RECEIVE THE FABRIC SHALL BE PREPARED TO A RELATIVELY SMOOTH SURFACE FREE OF OBSTRUCTION AND DEBRIS. THE FABRIC SHALL BE PLACED WITH THE LONG DIMENSION PARALLEL TO THE DIRECTION OF FLOW AND SHALL BE LAID LOOSELY BUT WITHOUT WRINKLES AND CREASES. WHERE JOINTS ARE NECESSARY, STRIPS SHALL BE PLACED TO PROVIDE A TWELVE INCH (12") MINIMUM OVERLAP WITH THE UPSTREAM STRIP OVERLAPPING THE DOWNSTREAM STRIP. SECURING PINS WITH WASHERS SHALL BE PLACED AT TWO FOOT (2') MINIMUM INTERVALS ALONG JOINTS AND AT (2', 3', OR 5')\*\* INTERVALS ELSEWHERE TO PREVENT SLIPPAGE OF THE FABRIC. THE SECURING PINS SHALL BE 3/16" DIAMETER OF STEEL POINTED AT ONE END AND FABRICATED WITH A HEAD TO RETAIN A STEEL WASHER HAVING AN OUTSIDE DIAMETER NOT LESS THAN 1-1/2". PIN LENGTHS SHALL BE GREATER THAN OR EQUAL TO 18".

\*\* 2' FOR FLOW DIRECTION SLOPES STEEPER THAN 3:1, 3' FOR SLOPES 3:1 TO 4:1 AND 5' FOR SLOPES LESS STEEP THAN 4:1.



# TEMPORARY PAVEMENT MARKINGS

## NOTE B

**GENERAL**

THE CONTRACTOR SHALL FURNISH, INSTALL, MAINTAIN, AND WHEN NECESSARY, REMOVE TEMPORARY RETROREFLECTIVE PAVEMENT MARKINGS ON EXISTING, RECONSTRUCTED, RESURFACED OR TEMPORARY ROADS WITHIN THE WORK LIMITS, IN ACCORDANCE WITH THE FOLLOWING REQUIREMENTS.

THE MARKINGS SHALL BE MAINTAINED IN GOOD CONDITION DURING THE REQUIRED SERVICE PERIOD TO PROVIDE DAY AND NIGHT VISIBILITY. THE MARKINGS SHALL BE REPAIRED OR REPLACED AS DIRECTED BY THE ENGINEER TO MAINTAIN REQUIRED VISIBILITY AND/OR REFLECTIVITY AT NO ADDITIONAL COST TO THE STATE.

**MATERIALS**

UNLESS OTHERWISE INDICATED ON THE PLANS, TEMPORARY PAVEMENT MARKINGS MAY BE OF PAINT, PAVEMENT MARKING TAPE OR REMOVABLE PAVEMENT MARKING TAPE (TYPE R TAPE).

**A. PAINT**

PAINT SHALL COMPLY WITH 708.14 AND SHALL BE APPLIED IN ACCORDANCE WITH 621 EXCEPT AS MODIFIED HEREIN.

**B. PAVEMENT MARKING TAPE**

FLEXIBLE RETROREFLECTIVE PREFORMED PRESSURE SENSITIVE TAPE SHALL HAVE STRAIGHT EDGES AND BE FREE OF CRACKS. THE TAPE SHALL CONSIST OF PIGMENT AND FILLERS WITH SUFFICIENT BINDER AND PLASTICIZER TO RETAIN GLASS BEADS HAVING A REFRACTIVE INDEX MEETING THE MINIMUM REFLECTIVE INTENSITY STANDARD STATED IN THE MANUFACTURERS INFORMATION. THE TAPE SHALL BE FLEXOLITE "WET REFLECTIVE", 3M "SCOTCHLANE", OR AN APPROVED EQUAL.

THE GLASS BEADS SHALL BE DISTRIBUTED UNIFORMLY THROUGHOUT THE TAPE WITH SUFFICIENT SURFACE BEADS TO PROVIDE OPTIMUM REFLECTORIZATION AT ALL TIMES.

PAVEMENT MARKING TAPE SHALL COMPLY WITH THE COLOR REQUIREMENTS OF 708.14.

THE TAPE SHALL HAVE A PRECOATED ADHESIVE LAYER FOR PAVEMENT APPLICATION WITHOUT THE USE OF HEAT, SOLVENTS OR ADDITIONAL ADHESIVES. THE ADHESIVE SHALL BE SUFFICIENT TO RETAIN COMPLETE MARKINGS ON THE PAVEMENT SURFACE THROUGHOUT THE USEFUL LIFE OF THE MARKINGS.

IN ADDITION TO THE FOREGOING, ALL TEMPERATURE APPLICATION REQUIREMENTS AND OTHER APPLICABLE MANUFACTURERS MATERIAL AND APPLICATION INSTRUCTIONS SHALL BE FOLLOWED.

WHEN APPROVED BY THE ENGINEER THE CONTRACTOR MAY USE REMOVABLE PAVEMENT MARKING TAPE (TYPE R TAPE), IN LIEU OF THAT DESCRIBED ABOVE, TO FACILITATE REMOVAL OF MARKINGS.

**C. REMOVABLE PAVEMENT MARKING TAPE (TYPE R TAPE)**

THE MARKING MATERIAL SHALL BE A MIXTURE OF POLYMERIC MATERIALS, PIGMENTS, REINFORCING MEDIUM TO FACILITATE REMOVAL, GLASS BEADS THROUGHOUT THE PIGMENTED PORTION, AND A RETROREFLECTIVE LAYER OF GLASS BEADS BONDED TO THE TOP SURFACE.

THE TAPE SHALL BE PRECOATED WITH A PRESSURE SENSITIVE ADHESIVE CAPABLE OF TEMPORARILY BONDING TO ASPHALT CONCRETE OR PORTLAND CEMENT CONCRETE PAVEMENT AT AN AMBIENT TEMPERATURE OF NOT LESS THAN 50° F AND RISING, AT A PAVEMENT TEMPERATURE OF NOT LESS THAN 50° F NOR MORE THAN 150° F, WITHOUT THE USE OF HEAT, SOLVENTS, AND ADDITIONAL ADHESIVES OR ACTIVATORS.

MATERIALS SHALL CONFORM TO THE COLOR REQUIREMENTS OF 708.14.

THE TAPE SHALL BE REMOVABLE FROM ASPHALT AND PORTLAND CEMENT CONCRETE INTACT OR IN LARGE PIECES AT TEMPERATURES ABOVE 40° F WITHOUT USE OF HEAT, SOLVENTS, GRINDING, OR SANDBLASTING. REMOVAL SHALL NOT RESULT IN DAMAGE TO OR OBJECTIONABLE STAINING OF THE PAVEMENT.

GLASS BEADS SHALL BE PROVIDED IN A PROPER SIZE, QUANTITY AND DISTRIBUTION TO ASSURE OPTIMUM RETROREFLECTIVITY AS THE FILM WEARS. THE FOLLOWING INITIAL AVERAGE REFLECTANCE VALUES AT 86.0 ENTRANCE ANGLE AS MEASURED IN ACCORDANCE WITH THE TESTING PROCEDURES OF FEDERAL TEST METHOD 370 SHALL BE CERTIFIED:

	WHITE		YELLOW	
OBSERVATION ANGLE	0.2	0.5	0.2	0.5
SPECIFIC LUMINANCE (MCD/FT <sup>2</sup> )/FC	1770	1270	1310	810

THE TAPE SHALL BE 3-M COMPANY'S "STAMARK, DETOUR GRADE (SERIES 57L0, 5711, 6270, 6211)" OR AN APPROVED EQUAL.

THE CONTRACTOR SHALL FURNISH TO THE ENGINEER CERTIFICATION THAT THE MATERIAL SUPPLIED MEETS THE PROPERTIES SPECIFIED HEREIN.

**LAYOUT**

THE TEMPORARY MARKINGS SHALL BE ACCURATELY LAID OUT IN CONFORMANCE WITH 621.051 AND SHALL BE LOCATED IN A TRUE LINE ON THE CENTER LINE, LANE LINE, EDGE LINE, OR CHANNELIZING LINE WHERE PERMANENT MARKINGS WOULD LIE UNLESS OTHERWISE SPECIFIED IN THE PLANS.

**PLACEMENT**

TEMPORARY MARKINGS SHALL BE PLACED IN ACCORDANCE WITH LAYOUTS ON SHEETS // AND THE FOLLOWING REQUIREMENTS, UNLESS OTHERWISE SPECIFIED IN THE PLANS.

TEMPORARY MARKINGS SHALL BE COMPLETE AND IN PLACE ON ALL PAVEMENT PRIOR TO EXPOSING IT TO TRAFFIC. WHEN TEMPORARY MARKINGS ARE NO LONGER NEEDED, THEY SHALL BE REMOVED BY THE CONTRACTOR IN ACCORDANCE WITH 621.134 AND NECESSARY PAVEMENT MARKINGS INSTALLED BEFORE THE FLOW OF TRAFFIC IS CHANGED TO THE NEXT PHASE OR RETURNED TO ITS NORMAL CHANNEL.

WHERE PERMANENT PAVEMENT MARKINGS ARE CALLED FOR IN THE PLANS, THE CONTRACTOR SHALL FURNISH AND PLACE THE PERMANENT MARKINGS WITHIN 30 CALENDAR DAYS FOLLOWING COMPLETION OF ALL SURFACE COURSES IN A SINGLE ROADWAY OR PRIOR TO THE END OF THE CONSTRUCTION SEASON, WHICHEVER COMES FIRST. PERMANENT MARKINGS SHALL NOT BE PLACED OVER ANY TAPE MARKINGS.

**A. CLASS I MARKINGS**

CLASS I MARKINGS SHALL BE AS DEFINED IN 621, EXCEPT AS FOLLOWS:

- 1) LANE LINES SHALL BE 4-INCHES IN WIDTH.
- 2) TRANSVERSE LINES SHALL BE 8-INCHES IN WIDTH.
- 3) STOP LINES SHALL BE 12-INCHES IN WIDTH.
- 4) CROSS WALK LINES SHALL BE 8-INCHES IN WIDTH.

GORE MARKINGS SHALL CONSIST OF TWO CHANNELIZING LINES PLACED AT THE THEORETICAL OR TEMPORARY GORE OF RAMPS AND DIVERGING OR CONVERGING ROADWAYS.

THE PAINT APPLICATION RATE SHALL BE NOT LESS THAN 16 GALLONS PER MILE FOR SOLID 4-INCH LINES, 24 GALLONS PER MILE FOR SOLID 6-INCH LINES, 48 GALLONS PER MILE FOR SOLID 12-INCH LINES, AND 4 GALLONS PER MILE FOR 4-INCH DASHED LINES.

**B. CLASS II MARKINGS**

CENTER LINES SHALL CONSIST OF SINGLE, YELLOW 12-INCH BY 4-INCH DASHES SPACED AT A MAXIMUM OF 40-FOOT INTERVALS.

LANE LINES SHALL CONSIST OF WHITE 12-INCH BY 4-INCH DASHES SPACED AT A MAXIMUM OF 40-FOOT INTERVALS.

CHANNELIZING LINES SHALL CONSIST OF WHITE 12-INCH BY 4-INCH DASHES SPACED AT A MAXIMUM OF 20-FOOT INTERVALS.

GORE MARKINGS SHALL BE TWO CONTINUOUS, WHITE 50-FOOT BY 4-INCH LINES PLACED AT THE THEORETICAL GORE OF AN EXIT RAMP OR DIVERGING ROADWAYS.

THE PAINT APPLICATION RATE SHALL BE NOT LESS THAN 16 GALLONS PER MILE FOR GORE MARKINGS, 0.8 GALLONS PER MILE FOR CHANNELIZING LINE, AND 0.4 GALLONS PER MILE FOR LANE LINE AND CENTER LINE.

**CONFLICTING MARKINGS**

THE CONTRACTOR SHALL, PRIOR TO PLACING TEMPORARY MARKINGS, REMOVE ALL EXISTING CONFLICTING MARKINGS VISIBLE TO THE TRAVELING PUBLIC DURING DAYLIGHT OR NIGHTTIME HOURS IN ACCORDANCE WITH 621.134. THE COST FOR REMOVAL OF CONFLICTING MARKINGS SHALL BE INCIDENTAL TO THE VARIOUS PAY ITEMS.

**METHOD OF MEASUREMENT**

TEMPORARY PAVEMENT MARKINGS WILL BE MEASURED COMPLETE IN PLACE, BY CLASS AND MATERIAL, IN THE UNITS DESIGNATED. DASHED LINE QUANTITIES WILL BE THE LENGTH OF THE COMPLETED STRIPE, INCLUDING GAPS, INTERSECTIONS, AND OTHER SECTIONS OF PAVEMENT NOT NORMALLY MARKED, IN ACCORDANCE WITH 621.15.

TEMPORARY PAVEMENT MARKINGS WILL INCLUDE THE LAYOUT, APPLICATION AND REMOVAL OF THE MARKINGS, WHEN REQUIRED.

**BASIS OF PAYMENT**

PAYMENT FOR ACCEPTED QUANTITIES COMPLETE IN PLACE WILL BE MADE AT THE CONTRACT UNIT PRICE. PAYMENT SHALL BE FULL

COMPENSATION FOR ALL MATERIALS, LABOR, INCIDENTALS AND EQUIPMENT FOR PLACEMENT, MAINTENANCE AND NECESSARY REMOVAL OF THE MARKINGS.

ITEM	UNIT	DESCRIPTION
614	MILES	TEMPORARY LANE LINES, CLASS I, (PAINT, TAPE OR TYPE R TAPE)
614	MILES	TEMPORARY CENTER LINES, CLASS I, (PAINT, TAPE OR TYPE R TAPE)
614	MILES/LIN. FT.	TEMPORARY CHANNELIZING LINES, CLASS I, (PAINT, TAPE OR TYPE R TAPE)
614	MILES	TEMPORARY EDGE LINES, CLASS I, (PAINT, TAPE OR TYPE R TAPE)
614	LIN. FT.	TEMPORARY GORE MARKING, CLASS II, (PAINT, TAPE OR TYPE R TAPE)
614	LIN. FT.	TEMPORARY STOP LINES, CLASS I, (PAINT, TAPE OR TYPE R TAPE)
614	LIN. FT.	TEMPORARY CROSSWALK LINES, CLASS I, (PAINT, TAPE OR TYPE R TAPE)
614	EACH	TEMPORARY LANE ARROWS, CLASS I, (PAINT, TAPE OR TYPE R TAPE)
614	EACH	TEMPORARY WORD "ONLY" ON PAVEMENT, 72-INCH, CLASS I, (PAINT OR TAPE)
614	LIN. FT.	TEMPORARY TRANSVERSE LINES, CLASS I, (PAINT, TAPE OR TYPE R TAPE)

The following quantity is provided for Temporary Pavement Markings on the completed 404 Surface Course (Approaches and Bridge Decks)

614 Temporary Center Lines, Class II 0.03 Miles  
See Sheet 11 for additional Temporary Pavement Marking Quantities

NOTE: The permanent pavement markings will be provided by State Forces



659 COMMERCIAL FERTILIZER CALCULATION  
 659 AND 667 (FROM SUMMARY) = 1832 SQ. YDS.  
 FERTILIZER = 1832 SQ. YDS. x 9 x 20 ÷ (1000 x 2000) = 0.16 TON

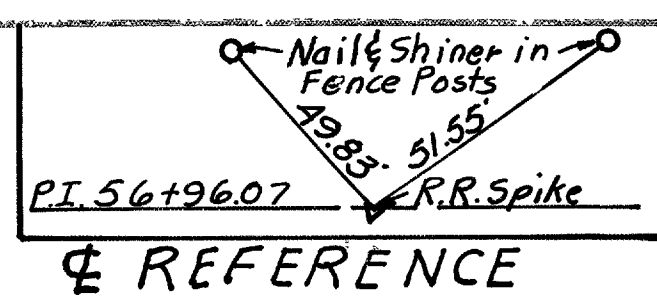
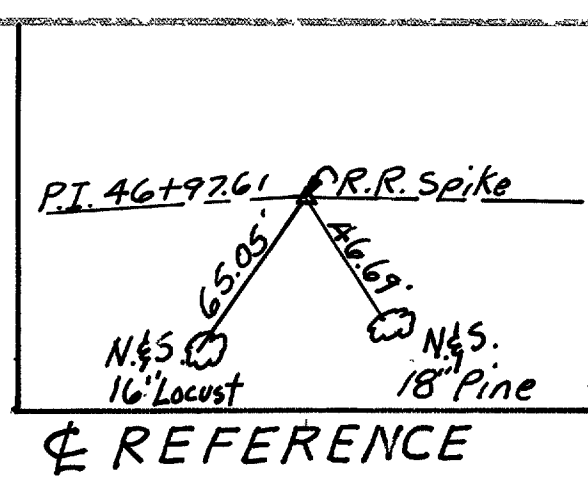
# GENERAL SUMMARY

CAL'C. BY: P.D.M. 3/84  
 CHK'D. BY: P.W.S. 3/84

FROM SHEET NUMBER							ITEM	PLAN TOTAL	UNIT	DESCRIPTION
3	4	5	6	9	11					
							ROADWAY			
							201	LUMP		CLEARING AND GRUBBING
			156				202	156	SQ.YD.	WEARING COURSE REMOVED
			398				203	398	CU.YD.	EXCAVATION NOT INCLUDING EMBANKMENT CONSTRUCTION
			199				203	199	CU.YD.	EMBANKMENT
			347.68				606	347.68	LIN.FT.	GUARDRAIL, TYPE 5
			4				606	4	EACH	ANCHOR ASSEMBLY, STANDARD TYPE A
			4				606	4	EACH	BRIDGE TERMINAL ASSEMBLY, STANDARD TYPE B
					302		615	302	SQ.YD.	TEMPORARY PAVEMENT, CLASS A, AS PER PLAN
					Lump		615	LUMP		TEMPORARY ROADS
5							616	5	M-GAL.	WATER
					355		622	355	LIN.FT.	TEMPORARY PRECAST CONCRETE BARRIER, AS PER PLAN
							EROSION CONTROL			
			1749				659	1749	SQ.YD.	SEEDING AND MULCHING
		0.16					659	0.16	TON	COMMERCIAL FERTILIZER
2			83				659	2	M-GAL.	WATER
					108		667	83	SQ.YD.	SEEDING AND JUTE MATTING
							601	108	CU.YD.	ROCK CHANNEL PROTECTION, TYPE C, WITH FILTER
							DRAINAGE			
30							603	30	LIN.FT.	6" CONDUIT, TYPE F
							TRAFFIC CONTROL			
	0.03						614	0.03	MILES	TEMPORARY CENTERLINES, CLASS II
					0.27		614	0.27	MILES	TEMPORARY EDGE LINES, CLASS I
					0.06		614	0.06	MILES	TEMPORARY CENTERLINES, CLASS I
					24		614	24	LIN.FT.	TEMPORARY STOP LINES, CLASS I
							PAVEMENT			
			27				404	27	CU.YD.	ASPHALT CONCRETE, AC-20
			45				407	45	GAL.	TACK COAT
			2				407	2	TON	COVER AGGREGATE
			222				611	222	SQ.YD.	REINFORCED CONCRETE APPROACH SLAB (T=15')
							STRUCTURES OVER 20 FEET			
							ASD-250-0104 SEE SHEET 14			
							619	LUMP		FIELD OFFICE
Lump							623	LUMP		CONSTRUCTION LAYOUT STAKES
							624	LUMP		MOBILIZATION
Lump							614	LUMP		MAINTAINING TRAFFIC



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NOTE: Existing 6" pipe underdrains (2'± off pavement edge) may be encountered south of the bridge with outlets in the vicinity of the proposed forward abutment. No outlets could be found in the field. See Underdrain General Note.

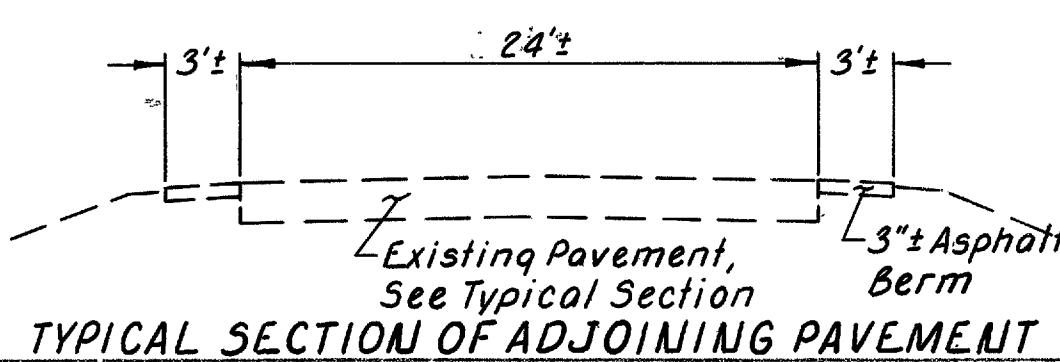
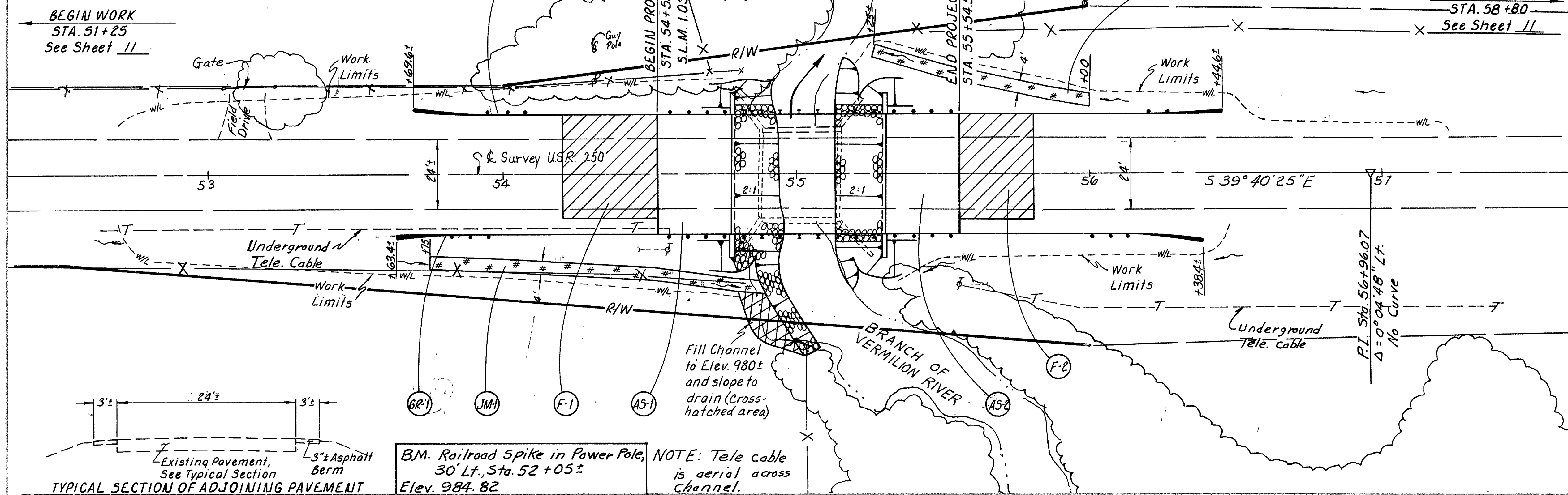
FED. RD. DIVISION	STATE	PROJECT	6
2	OHIO		20

ASD-250-1.03

Calc. by *R.D. 4/84*  
Chk'd by *P.W.S. 3/84*

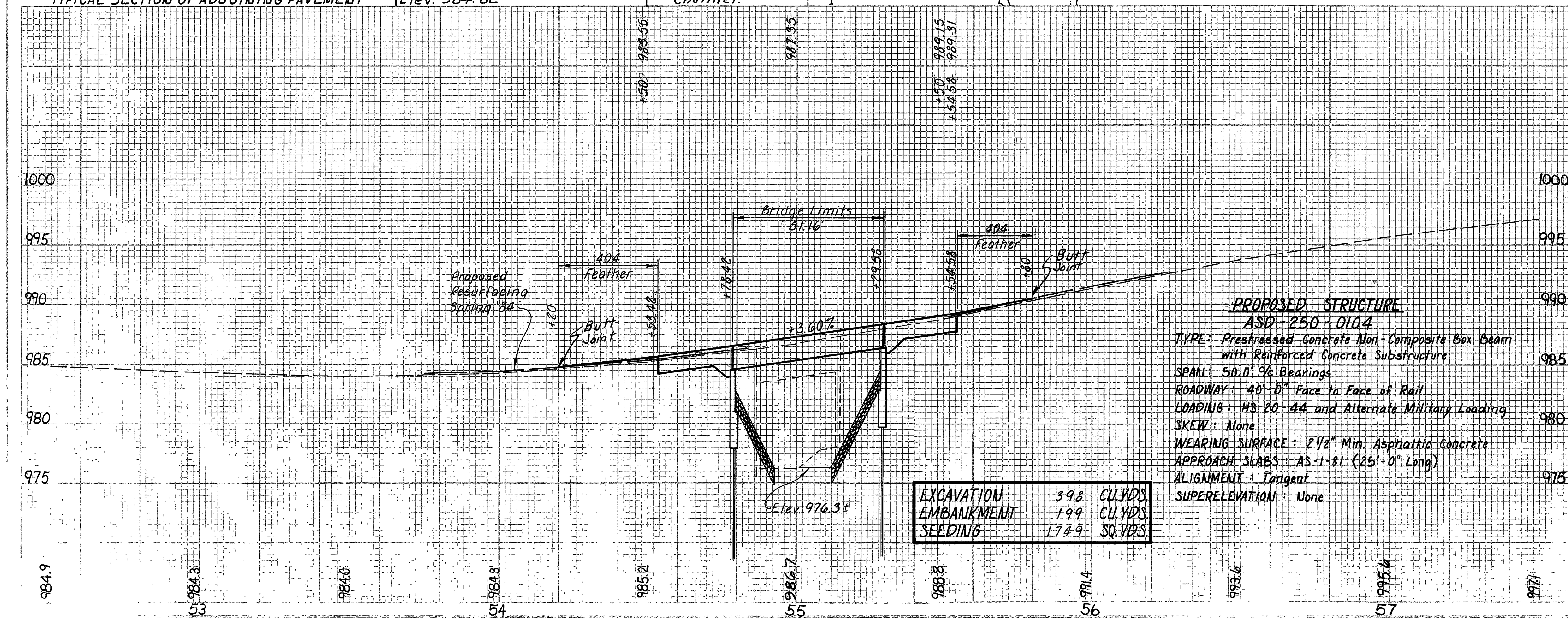
**EXISTING BRIDGE DATA**  
ASD-250-0104

TYPE: Concrete Beam  
SPAN: 26'-0" Clear  
ROADWAY: 30'-6" F/F of Conc. Railing  
SKEW: 0°  
LOADING: H-15  
SUB-STRUCTURE: Concrete Gravity  
WEARING SURFACE: 12"± Asphalt  
ALIGNMENT: Tangent  
CONDITION: Poor  
DATE BUILT: 1931



B.M. Railroad Spike in Power Pole, 30' Lt., Sta. 52+05±, Elev. 984.82

NOTE: Tele cable is aerial across channel.



EXCAVATION	398	CU. YDS.
EMBANKMENT	199	CU. YDS.
SEEDING	1749	SQ. YDS.

**PROPOSED STRUCTURE**  
ASD-250-0104

TYPE: Prestressed Concrete Non-Composite Box Beam with Reinforced Concrete Substructure

SPAN: 50.0' ± Bearings  
ROADWAY: 40'-0" Face to Face of Rail  
LOADING: HS 20-44 and Alternate Military Loading  
SKEW: None  
WEARING SURFACE: 2 1/2" Min. Asphaltic Concrete  
APPROACH SLABS: AS-1-81 (25'-0" Long)  
ALIGNMENT: Tangent  
SUPERELEVATION: None

STATION	ITEM	UNIT	QTY	STATION	ITEM	UNIT	QTY
607	Seeding and Jute Matting	Sq. Yd.		606	Anchor Assembly, Std. Type A	Each	4
202	Wearing Course Removed	Sq. Yds.		606	Standard Type B Bridge Terminal Assembly		4
404	Asphalt Concrete, AC-20	Var. Cu. Yd.	7.7	606	Guard Rail, Type 5	Lim. Ft.	347.68
611	Reinforced Concrete Approach Slab, T=15"	Sq. Yd.	111.1	Side			
407	Cover Aggregate	Ton	0.4	AS-1	54+53.42 to 54+78.42	Rt.	173.84
	Tack Coat	Gal.	11.1	AS-2	55+29.58 to 55+54.58	Lt.	173.84
				F-1	54+20 to 54+53.42	Rt.	
				F-2	55+54.58 to 55+80	Lt.	
				GR-1	53+63.42 to 50+38.42	Rt.	
				GR-2	53+69.62 to 56+44.62	Lt.	
				JM-1	53+75 to 54+88±	Rt.	
				JM-2	55+23 to 56+00	Lt.	
				TOTALS			

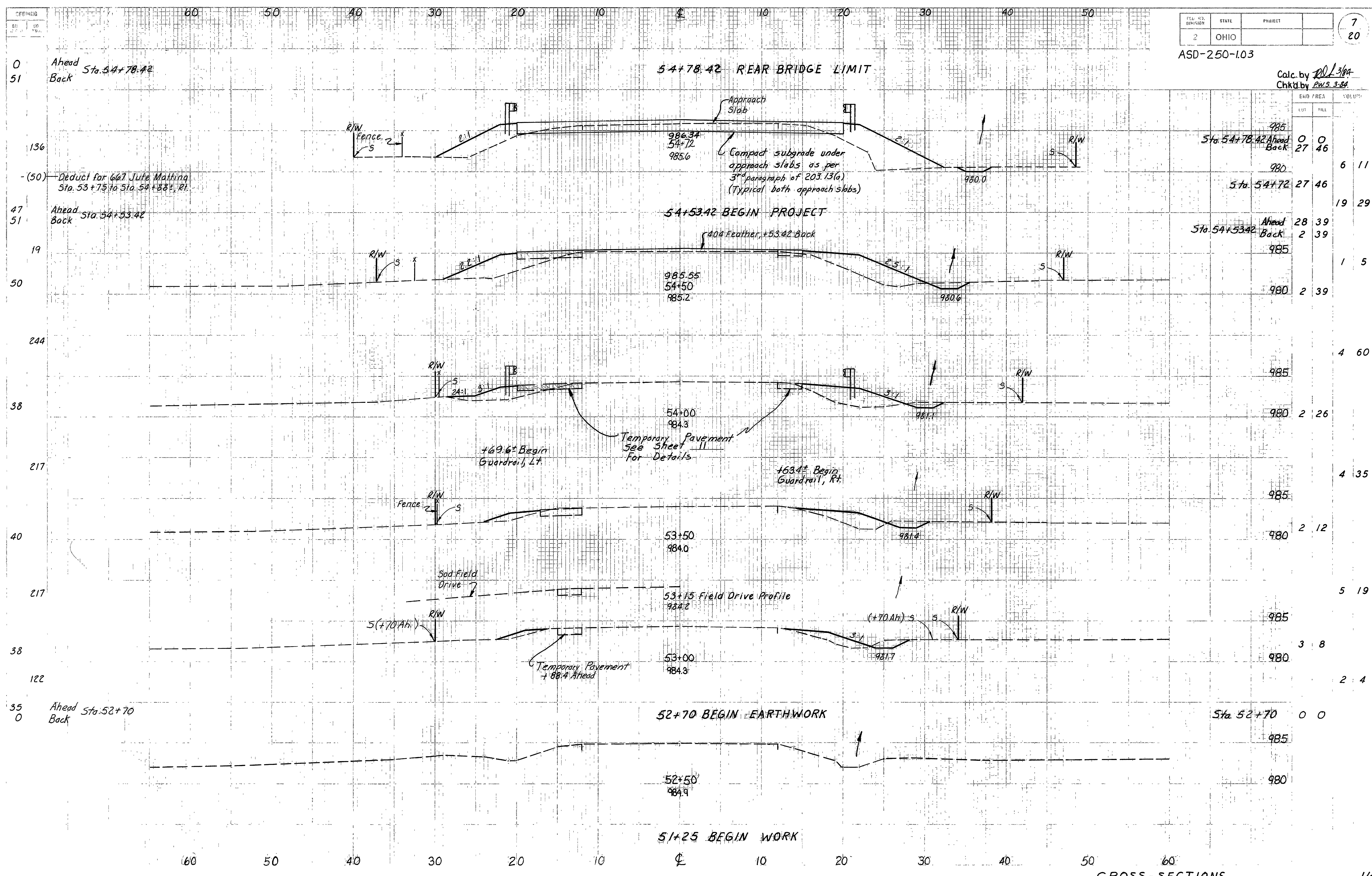
\* To provide butt joint at end of feathers

PLAN & PROFILE



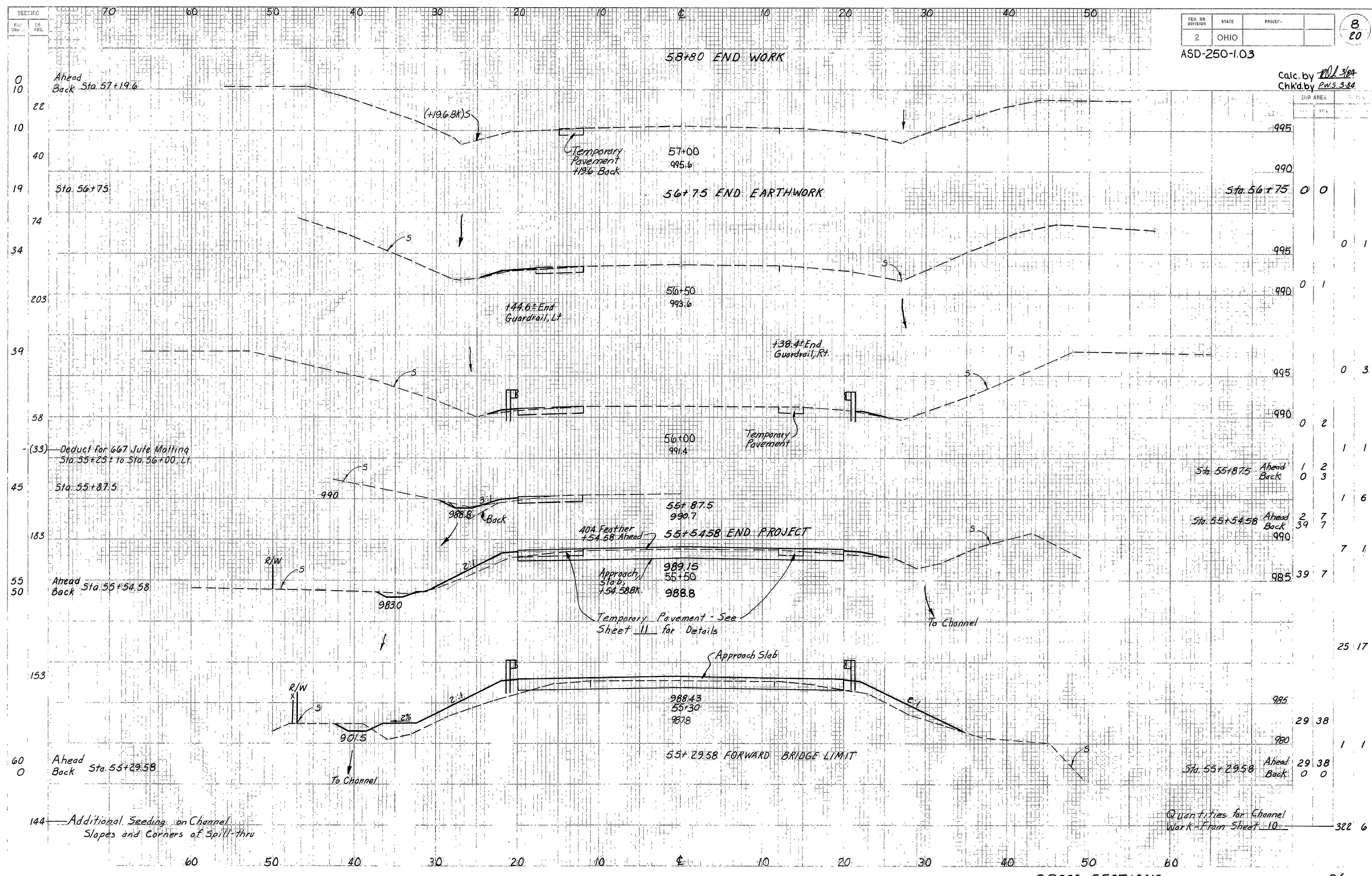
ASD-250-1.03

Calc. by *DL 3/84*  
Chkd by *RWS 3-84*



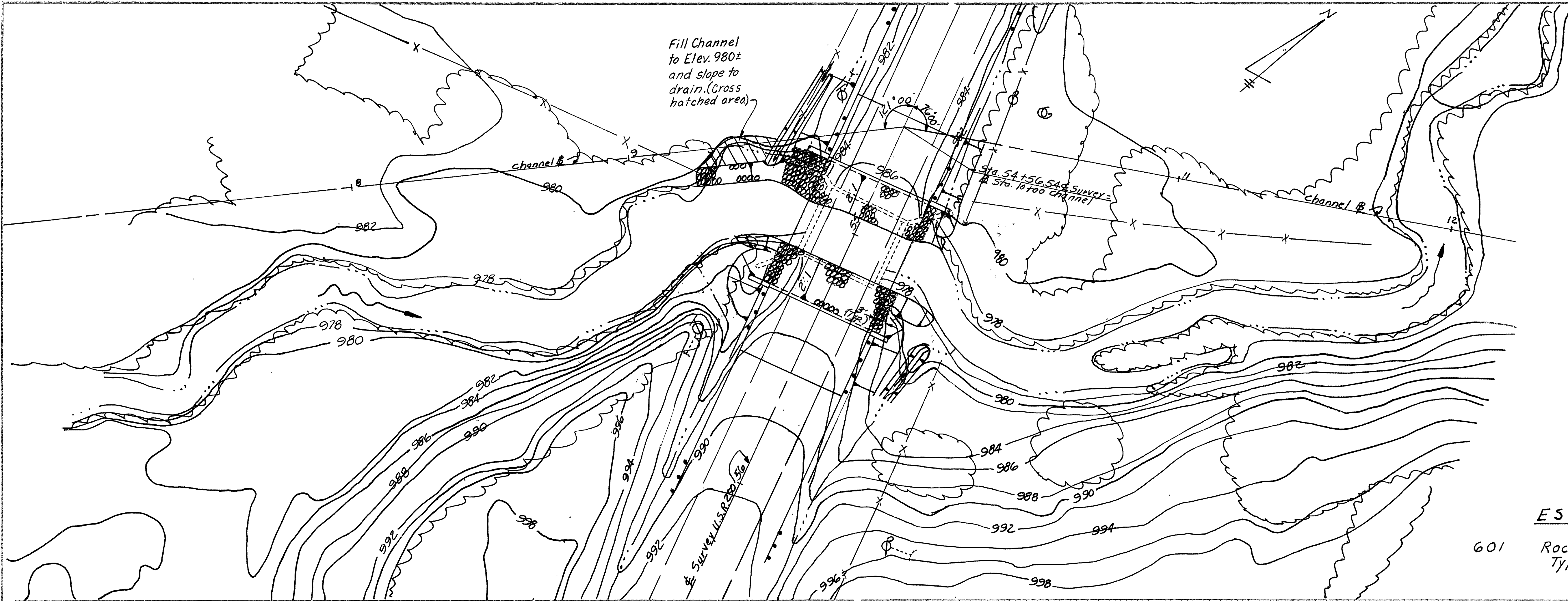


Calc. by *RW-3/84*  
 Chkd. by *RW-3/84*



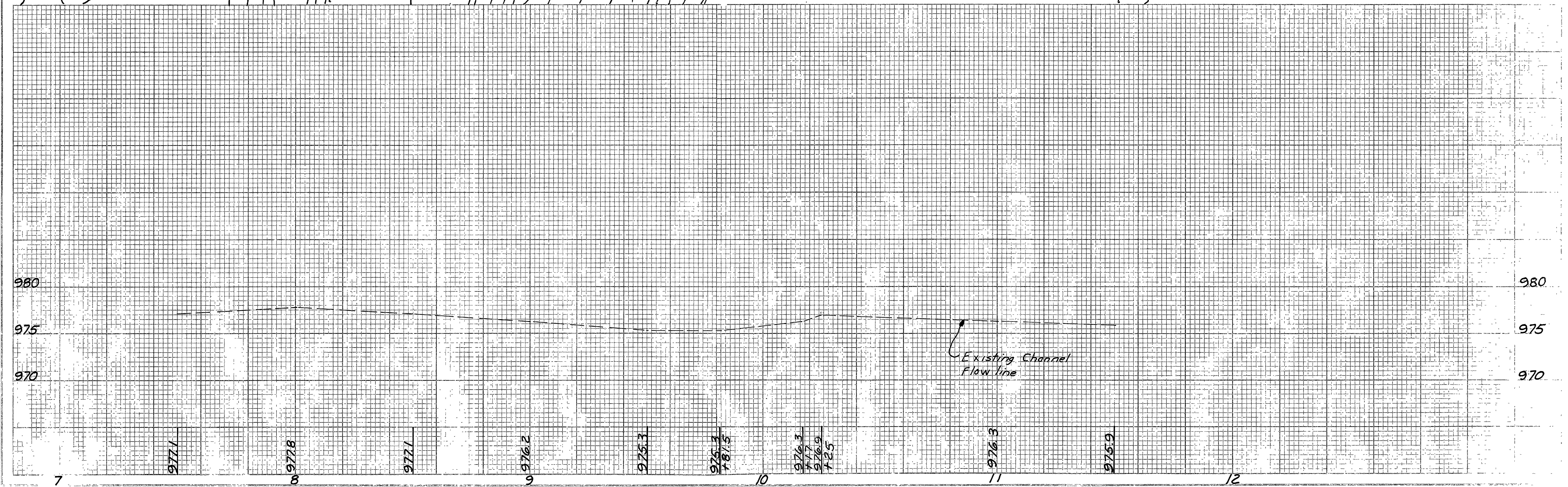


Calc. By: P.O.H. 7/84  
 Chkd. By: P.W.S. 3/84



**ESTIMATED QUANTITIES**

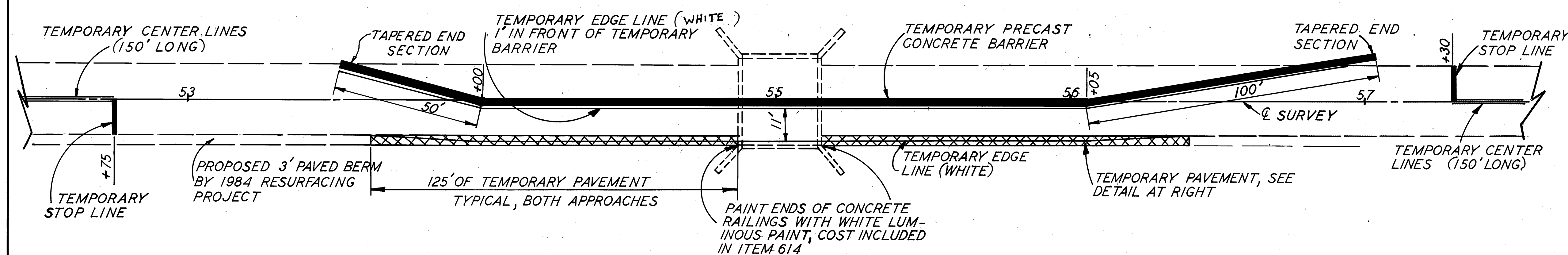
601 Rock Channel Protection Type C with Filter 108 Cu. Yds.



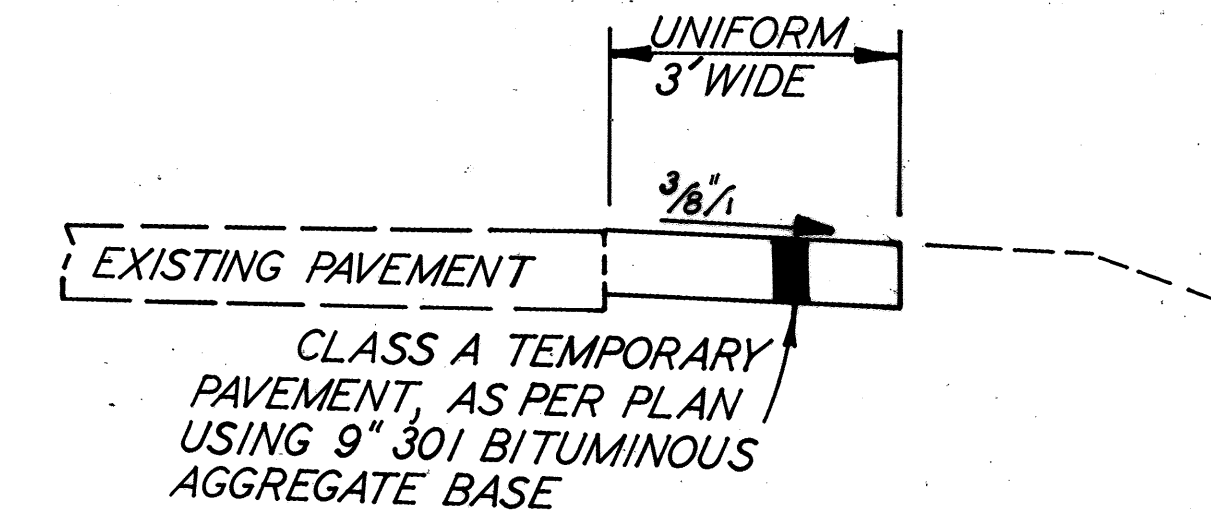




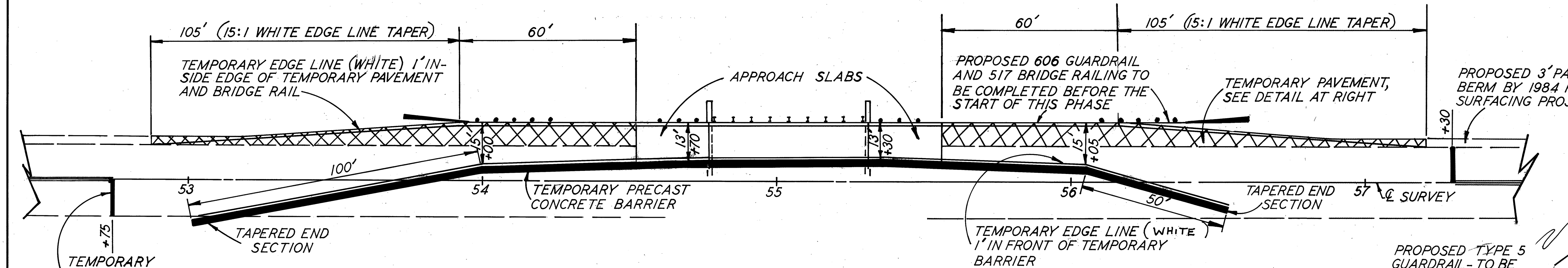




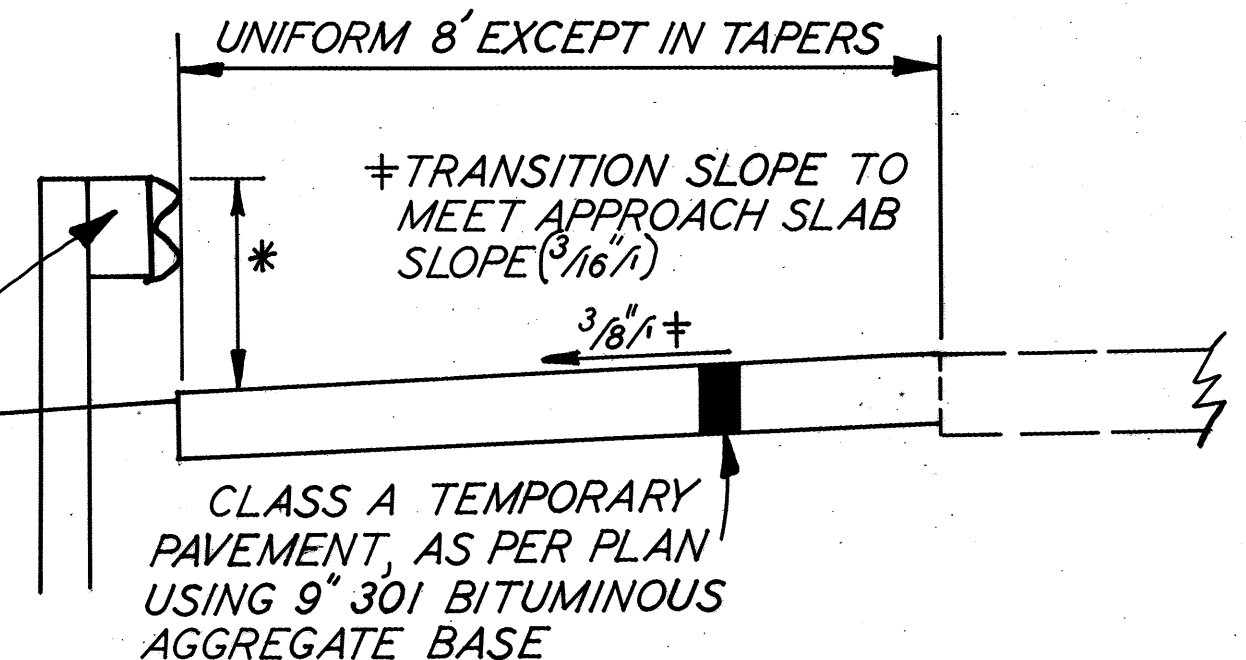
**PHASE "A" - CONSTRUCTION OF THE LEFT SIDE**



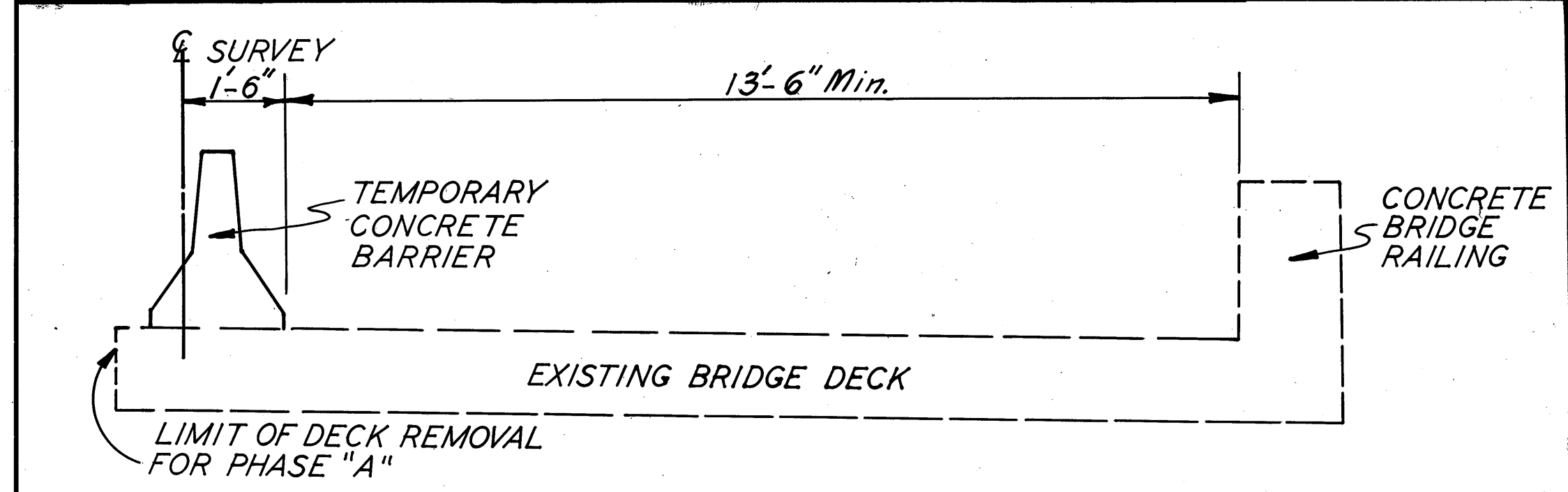
**TYPICAL SECTION FOR PHASE "A" TEMPORARY PAVEMENT**  
 THE TEMPORARY PAVEMENT SHALL BE LEFT IN PLACE AS PAVED BERM.



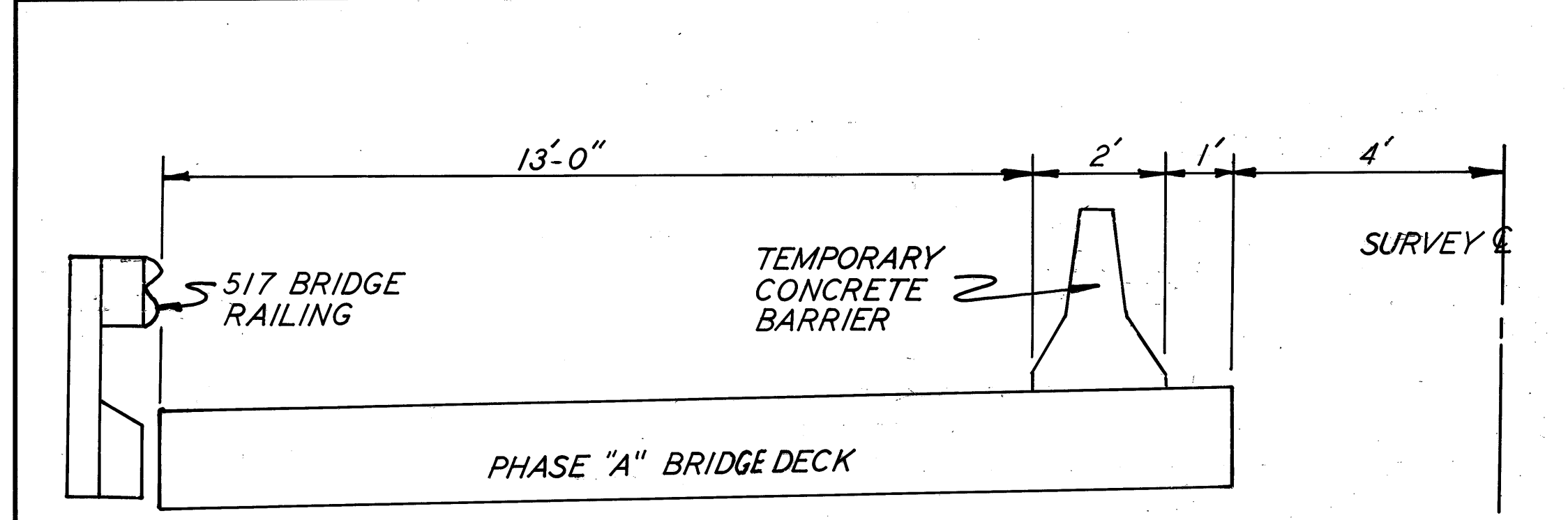
**PHASE "B" - CONSTRUCTION OF THE RIGHT SIDE**



**TYPICAL SECTION FOR PHASE "B" TEMPORARY PAVEMENT**  
 THE TEMPORARY PAVEMENT SHALL BE LEFT IN PLACE AS PAVED BERM.  
 \* MOUNT 27" ABOVE THE PROPOSED FINAL 404 FEATHERS.



**BRIDGE DECK SECTION FOR PHASE "A"**



**BRIDGE DECK SECTION FOR PHASE "B"**

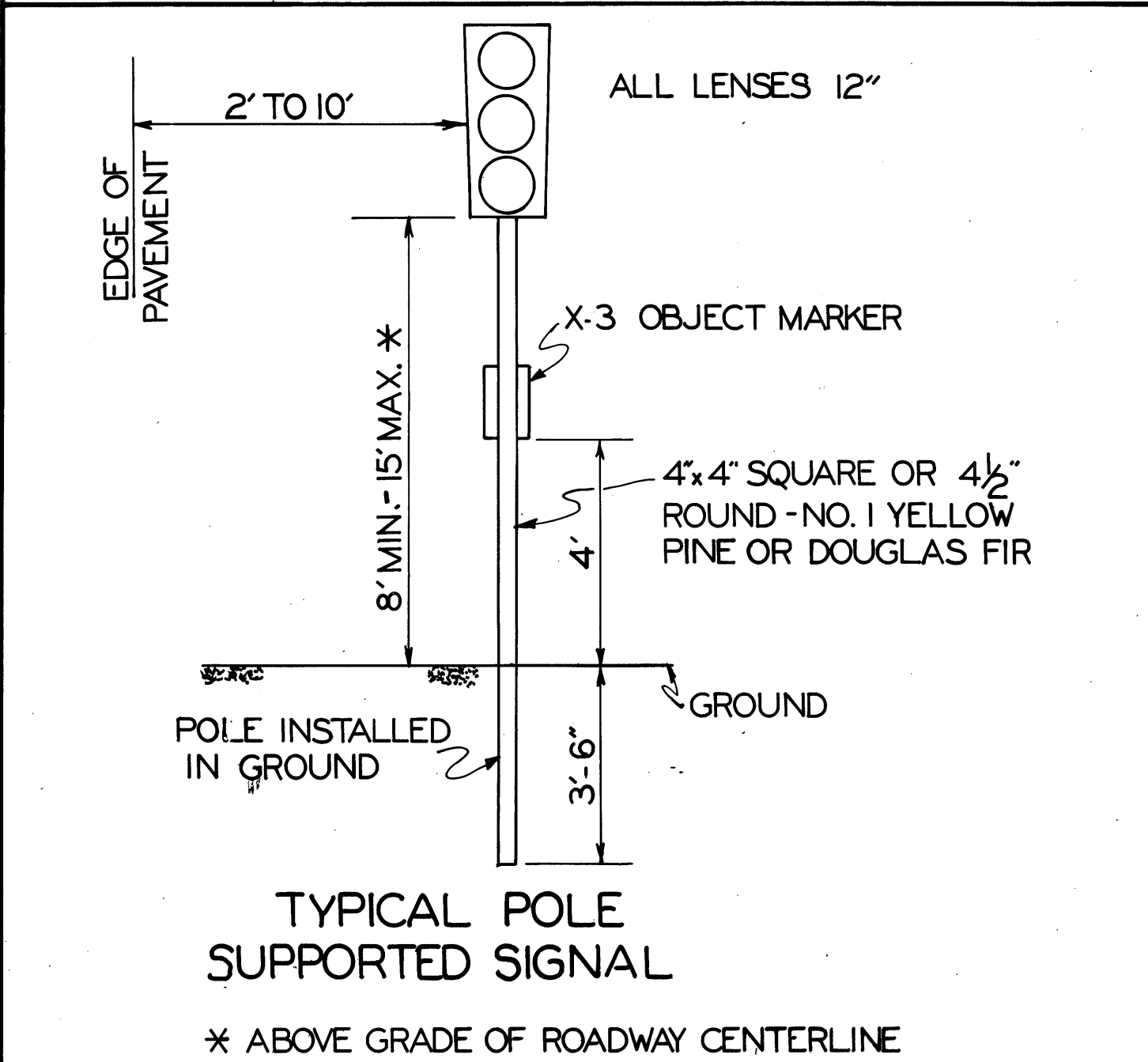
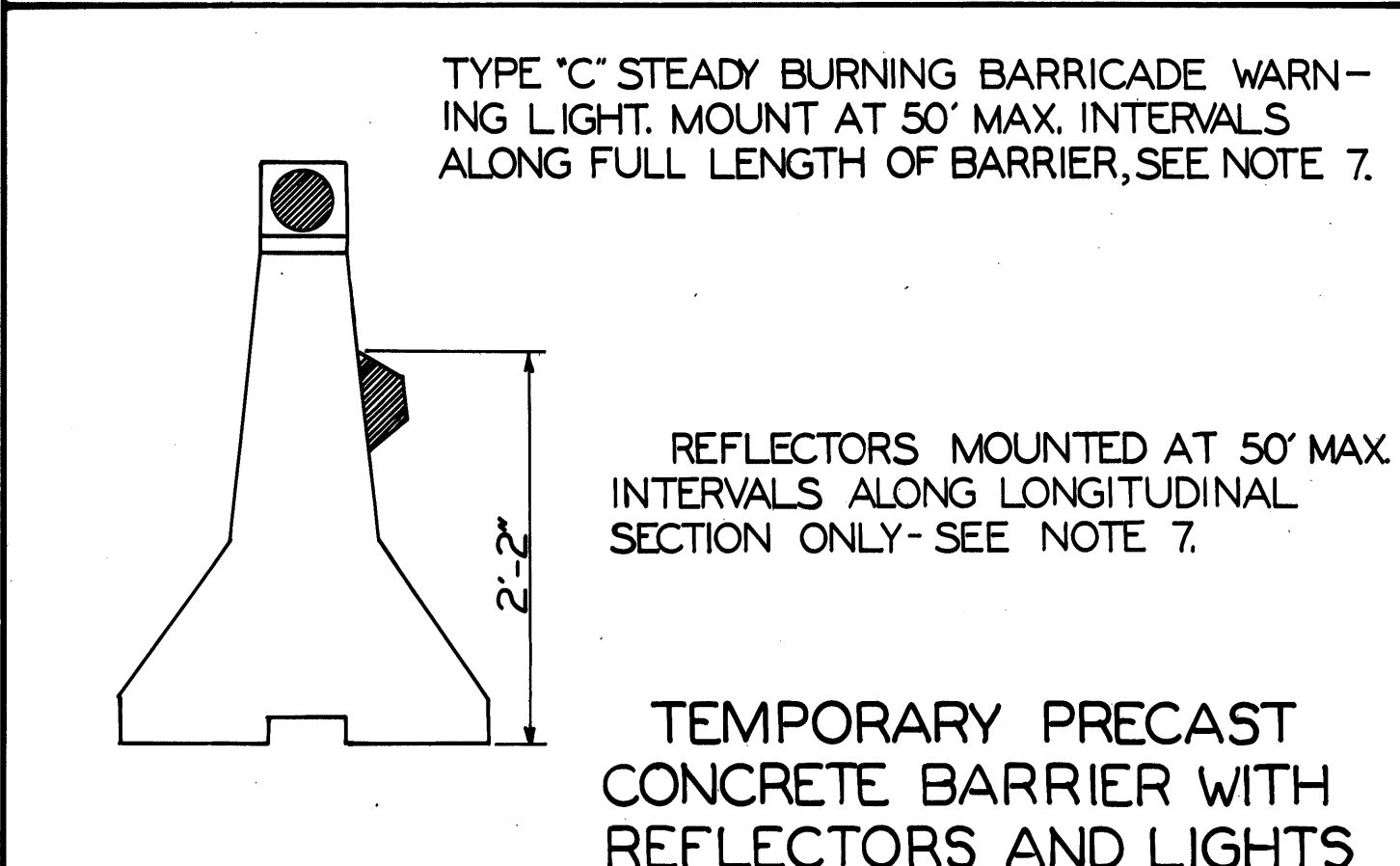
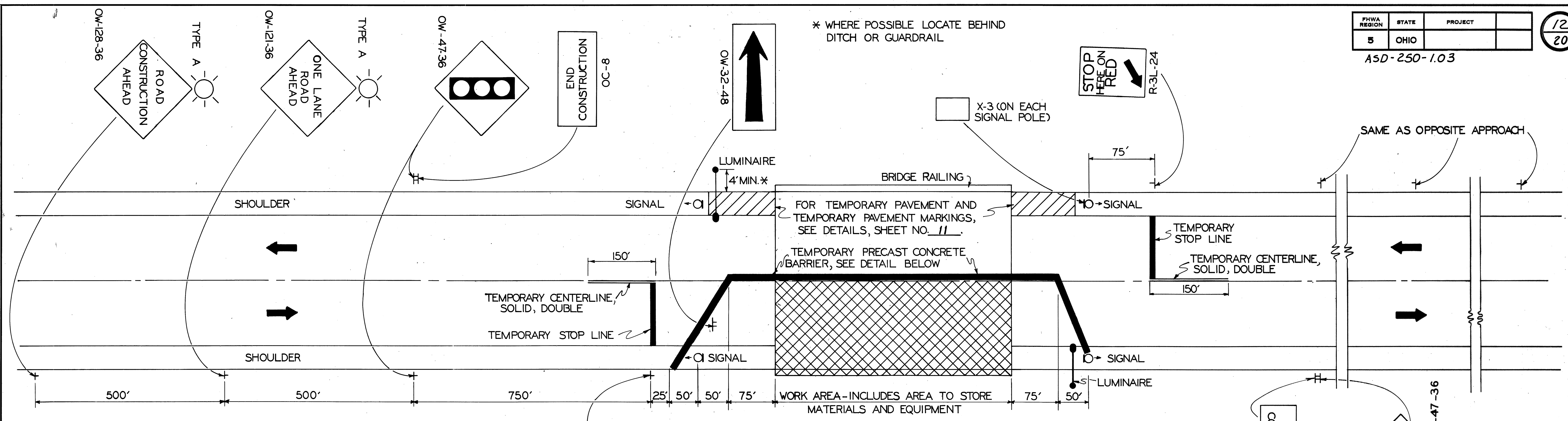
SEE SHEET 12 FOR ADDITIONAL DETAILS AND NOTES.

**ESTIMATED QUANTITIES**

	615		614		622	
	TEMPORARY PAVEMENT CLASS "A", AS PER PLAN	TEMPORARY ROADS	TEMPORARY EDGE LINES, CLASS I, WHITE	TEMPORARY CENTER LINES, CLASS I	TEMPORARY STOP LINES, CLASS I	TEMPORARY PRECAST CONCRETE BARRIER, AS PER PLAN
	SQ. YDS.	Lump	LIN. FT./MILES	MILES	LIN. FT.	LIN. FT.
PHASE "A"	83.3	Lump	623	300 LF.		
PHASE "B"	218.3	Lump	787	0.06	24	355
<b>TOTALS</b>	<b>301.6</b>	<b>Lump</b>	<b>1410 L.F. / 0.27 Mi.</b>	<b>0.06</b>	<b>24</b>	<b>355</b>

Each phase of construction shall be limited to a maximum of eight (8) consecutive weeks duration.

**TRAFFIC MAINTENANCE DETAILS**



- THE MAXIMUM LENGTH OF WORK AREA FOR ONE WAY TRAFFIC SIGNAL CONTROL IS DETERMINED BY THE CAPACITY REQUIRED TO HANDLE THE PEAK HOUR DEMAND. PRACTICAL MAXIMUM LENGTH OF WORK AREA IS 400 FEET.
- A TWO PHASE CONTROLLER WITH CABINET, CAPABLE OF BEING SET WITH THE FOLLOWING SPLITS SHALL BE FURNISHED.
 

	GREEN	AMBER	RED
PHASE A	15	3	7
PHASE B	15	3	7

THE ABOVE TIMING MAY BE CHANGED WITH APPROVAL OF THE ENGINEER. THE SIGNALS SHALL BE INSTALLED AND OPERATED IN ACCORDANCE WITH THE REQUIREMENTS OF PART 6 OF THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES. IN ADDITION ALL TRAFFIC SIGNALS AND EQUIPMENT USED IN THIS TRAFFIC SIGNAL INSTALLATION, SUCH AS A SIGNAL CABLE AND SIGNAL HEADS, SHALL BE IN CONFORMANCE WITH SPECIFICATIONS 632 AND 732. HOWEVER, THE PERFORMANCE TEST PROVISION NOTED IN SPECIFICATION 632.27, PARAGRAPH 6 AND THE WORKING DRAWING REQUIREMENTS OF 632.03 ARE WAIVED. THE CONTROLLER, FLASHERS, LOAD SWITCHES, CONFLICT MONITOR AND OTHER CONTROLLER ACCESSORIES SHALL COMPLY WITH SUPPLEMENTAL SPECIFICATIONS 861 AND 961, EXCEPT THAT THE REQUIREMENTS OF 861.03 AND 861.05 ARE WAIVED. USED EQUIPMENT MEETING CURRENT ODOT SPECIFICATIONS IS ACCEPTABLE. CONFLICT MONITORS SHALL BE FURNISHED AT ALL LOCATIONS UNLESS AN ELECTRO-MECHANICAL PRETIMED CONTROLLER WITH CAM SHAFT IS PROVIDED. WHEN THE SIGNAL IS CHANGED TO A FLASH CONDITION EITHER MANUALLY OR AUTOMATICALLY, RED SHALL BE FLASHED TO BOTH APPROACHES.
- THE TYPE A FLASHING BARRICADE WARNING LIGHTS SHOWN ON THE "ROAD CONSTRUCTION AHEAD" AND THE "ONE LANE ROAD AHEAD" SIGNS ARE REQUIRED WHENEVER A NIGHT LANE CLOSURE IS NECESSARY.

- ADADEQUATE AREA ILLUMINATION TO CLEARLY IDENTIFY BOTH ENDS OF THE WORK AREA AT NIGHT SHALL BE PROVIDED BY USING 150 WATT MINIMUM HIGH PRESSURE SODIUM LUMINAIRES OR 250 WATT MINIMUM MERCURY VAPOR LUMINAIRES. THE LUMINAIRES SHALL BE LOCATED ADJACENT TO ONE SIGNAL FOR EACH DIRECTION OF TRAFFIC AS SHOWN ABOVE. THE MOUNTING HEIGHT FOR THE LUMINAIRES SHALL BE A MINIMUM OF 27 FEET ABOVE THE PAVEMENT AND MOUNTED ON A SUPPORT OF ADEQUATE STRENGTH TO PROVIDE A SATISFACTORY INSTALLATION. THE OVERHEAD CONDUCTOR CLEARANCE SHALL BE A MINIMUM OF 20 FEET ABOVE THE PAVEMENT. THE LUMINAIRE ARMS SHALL BE OF SUFFICIENT LENGTH TO EXTEND TO THE EDGE OF THE PAVEMENT.
- TEMPORARY CENTERLINE: SOLID, DOUBLE, AS SHOWN ABOVE, SHALL BE INSTALLED AND MAINTAINED WHERE NO-PASSING LINES ARE NOT ALREADY IN PLACE. 12" STOP LINES SHALL ALSO BE INSTALLED. TEMPORARY EDGE LINE (WHITE) SHALL BE INSTALLED ALONG THE EDGE OF THE TEMPORARY PAVEMENT. PAVEMENT MARKING TAPE MAY BE USED FOR THE TEMPORARY MARKING. EXISTING CONFLICTING PAVEMENT MARKINGS BETWEEN THE WORK AREA AND THE STOP LINE, AND ON THE EXISTING PAVEMENT ADJACENT TO THE WIDENING SHALL BE REMOVED. IF RAISED PAVEMENT MARKERS ARE EXISTING ALONG THE EDGE LINE, THE REFLECTORS SHALL BE REMOVED ALONG THE TEMPORARY PAVEMENT. AFTER COMPLETION OF THE WORK, TEMPORARY MARKINGS SHALL BE REMOVED IN ACCORDANCE WITH 621.134 AND THE ORIGINAL MARKINGS AND RAISED PAVEMENT MARKER REFLECTORS SHALL BE RESTORED.
- THE HORIZONTAL OR VERTICAL ALIGNMENT OF THE ROADWAY MAY REQUIRE ADJUSTMENTS IN THE LOCATION OF THE ADVANCE WARNING SIGNS (THE DISTANCES SHOWN FOR ADVANCE WARNING SIGN SPACINGS ARE MINIMUMS). THE VERTICAL ALIGNMENT OF THE ROADWAY MAY REQUIRE ADJUSTMENTS IN THE HEIGHT OF THE SIGNAL HEADS WITHIN THE RANGE SPECIFIED IN THE TYPICAL POLE SUPPORTED SIGNAL DETAIL.

- THE TEMPORARY PRECAST CONCRETE BARRIER SHALL BE PLACED AS SHOWN ABOVE AND ON SHEET NO. // BEFORE ANY BRIDGE WORK IS STARTED. THE PRECAST BARRIER SECTIONS SHALL BE TIED TOGETHER WITH CONNECTING PINS IN ACCORDANCE WITH STANDARD DRAWING MC-9A. TONGUE AND GROOVE SECTIONS WILL NOT BE PERMITTED ON THIS PROJECT. TYPE "C" STEADY BURN BARRICADE WARNING LIGHTS SHALL BE MOUNTED ONTO THE TOP OF THE TEMPORARY AS SHOWN ON THIS SHEET. REFLECTORS SHALL ALSO BE MOUNTED ON THE FACE OF THE CONCRETE BARRIER AS SHOWN. THE REFLECTORS SHALL BE MODEL 965 BARRIER DELINEATORS AS MANUFACTURED BY THE AMERACE CORPORATION, SIGNAL PRODUCTS DIVISION, 7542 NORTH NACHEZ AVENUE, NILES, ILLINOIS 60648, OR AN APPROVED EQUAL. THE COLOR OF THE REFLECTORS SHALL MATCH THE RESPECTIVE EDGE LINE COLOR ALONG THE BARRIER.
- PAYMENT FOR ALL OF THE ABOVE, EXCEPT THE TEMPORARY PRECAST CONCRETE BARRIER AND OTHER ITEMS ITEMIZED SEPARATELY SHALL BE INCLUDED IN ITEM 614 MAINTAINING TRAFFIC. PAYMENT FOR THE TEMPORARY PRECAST CONCRETE BARRIER, AS PER PLAN, SHALL BE THE NUMBER OF LINEAR FEET PROVIDED AS PER ITEM 622.08, WHICH SHALL INCLUDE ALL COSTS OF PROVIDING, MAINTAINING, REPOSITIONING THE BARRIER SECTIONS FOR ALL CONSTRUCTION PHASES, AND SUBSEQUENTLY REMOVING THE TEMPORARY BARRIER.

NOTE: If this sheet conflicts with specific plan details, the specific details shall govern.







GENERAL NOTES

DESIGN SPECIFICATIONS

THIS STRUCTURE CONFORMS TO "STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, 1977, INCLUDING INTERIM SPECIFICATIONS AND THE OHIO "SUPPLEMENT" TO THESE SPECIFICATIONS.

THE DESIGN DATA IS AS FOLLOWS:

DESIGN LOADING - HS-20-44 AND THE ALTERNATE MILITARY LOADING  
CONCRETE CLASS C - COMPRESSIVE STRENGTH 4,000 P.S.I. SUBSTRUCTURE  
CONCRETE FOR PRESTRESSED CONCRETE BEAMS - UNIT STRESS 2,200 P.S.I.  
COMPRESSION; 444 P.S.I. TENSION

REINFORCING STEEL - ASTM A 615, A 616 OR A 617 - GRADE 60 MIN. YIELD  
60,000 P.S.I.

PRESTRESSING STEEL - ASTM A 416 - F's = 270,000 P.S.I. INITIAL STRESS  
= 0.70 F's

DECK PROTECTION METHOD - TYPE D WATERPROOFING AND ASPHALT CONCRETE  
OVERLAY

REFERENCE DRAWINGS

REFERENCE SHALL BE MADE TO STANDARD DRAWINGS:

- PSDB-1-81 SHEETS 1, 2 & 3 OF 4, DATED 9-18-81
- AS-1-81 DATED 11-27-81
- DBR-2-73 DATED 4-10-73

UTILITIES

ANY EXISTING PRIVATELY OWNED UTILITY FACILITIES ENCOUNTERED AT THE SITE OF THE WORK WHICH WILL INTERFERE WITH PORTIONS OF THE FINISHED ROADWAYS OR STRUCTURES SHALL BE REMOVED OR RELOCATED BY THE OWNER UNLESS OTHERWISE NOTED ON THE PLANS. ALL EXPENSES INCURRED IN SO DOING SHALL BE BORNE BY THE OWNER. THE CONTRACTOR AND OWNERS ARE REQUESTED TO COOPERATE BY ARRANGING THEIR WORK IN SUCH A MANNER THAT INCONVENIENCE TO EITHER WOULD BE HELD TO A MINIMUM.

THE LOCATION OF EXISTING UNDERGROUND UTILITIES IS NOT GUARANTEED TO BE COMPLETELY ACCURATE OR ALL INCLUSIVE. THE CONTRACTOR SHALL BE RESPONSIBLE TO VERIFY THE LOCATION OF ALL UTILITIES WHICH MAY BE AFFECTED BY THE CONSTRUCTION TO AVOID DAMAGE TO THE UTILITIES.

REMOVAL OF EXISTING STRUCTURE: WHEN NO LONGER NEEDED TO MAINTAIN TRAFFIC THE EXISTING STRUCTURE SHALL BE REMOVED IN PHASES, SEE SHEET 3/7.

ITEM 507 STEEL "H" PILES

"PILE HAMMER: THE PILE HAMMER USED TO INSTALL THE STEEL "H" BEARING PILES SHALL HAVE A STATE'S ENERGY RATING OF NOT LESS THAN 13,500 FOOT-POUNDS. THIS REQUIREMENT DOES NOT RELIEVE THE CONTRACTOR FROM 108.05 WHICH STATES THAT THE CONTRACTOR IS TO PROVIDE SUFFICIENT EQUIPMENT FOR PROSECUTING THE REQUIRED WORK. REFER TO "ODOT'S MANUAL OF PROCEDURES FOR STRUCTURES" TO OBTAIN THE STATE'S ENERGY RATING."

PILES SHALL BE DRIVEN TO REFUSAL ON BEDROCK. REFUSAL SHALL BE CONSIDERED AS ATTAINED BY PENETRATING SOFT BEDROCK WITH A MINIMUM RESISTANCE OF 20 BLOWS PER INCH, OR REFUSAL SHALL BE CONSIDERED AS ATTAINED AFTER THE PILE HAS CONTACTED HARD BEDROCK AND THE PILE HAS THEN RECEIVED AT LEAST 20 BLOWS.

THE DESIGN LOAD IS 40 TONS PER PILE FOR BOTH ABUTMENT PILES.

ITEM SPECIAL, SEALING OF CONCRETE SURFACES:

A concrete sealer, either silane or an epoxy sealer, shall be applied to the concrete surfaces shown on sheet [6/7]. See the Proposal for surface preparation requirements, application rates, materials requirements and application procedures.

FHWA REGION	STATE	PROJECT
5	OHIO	

14  
20

ASHLAND COUNTY  
ASD.-250-1.03

ESTIMATED QUANTITIES

ITEM	TOTAL	UNIT	DESCRIPTION	ABUT- MENTS	PIERS	SUPER- STRUCTURE	GENERAL
202	LUMP SUM	LUMP SUM	STRUCTURE REMOVED				LUMP SUM
403	14	CU. YDS.	ASPHALT CONCRETE AC-20			14	
404	8	CU. YDS.	ASPHALT CONCRETE AC-20			8	
503	LUMP SUM	LUMP SUM	COFFERDAMS, CRIBS AND SHEATING				LUMP SUM
503	96	CU. YDS.	UNCLASSIFIED EXCAVATION	96			
505	LUMP SUM	LUMP SUM	PILE DRIVING EQUIPMENT MOBILIZATION				LUMP SUM
507	420	LIN. FT.	STEEL PILES, HP 10 x 42, AS PER PLAN	420			
509	5,796	LBS.	REINFORCING STEEL, GRADE 60	5,796			
511	32	CU. YDS.	CLASS C CONCRETE, ABUTMENTS ABOVE FOOTING	32			
511	28	CU. YDS.	CLASS C CONCRETE, FOOTINGS	28			
512	244	Sq. YDS.	TYPE D WATERPROOFING			244	
515	10	EACH	PRESTRESSED CONCRETE BRIDGE MEMBERS, B21-48			10	
516	40	EACH	ELASTOMERIC BEARING PADS 1" x 8" x 12"	40			
516	136	Sq. FT.	1" PREFORMED EXPANSION JOINT FILLER			136	
516	20	EACH	1/8" x 8" x 12" PREFORMED BEARING PADS, 711.21	20			
516	82	LIN. FT.	JOINT SEALER, 705.01 OR 705.02			82	
517	102.32	LIN. FT.	RAILING (DEEP BEAM RAIL WITH STEEL TUBULAR BACKUP, TYPE 2 POSTS AND BOLTS)			102.32	
518	26	CU. YDS.	POROUS BACKFILL	26			
Spec.	25	Sq. Yd.	Sealing of Concrete Surfaces (See Proposal Note)			25	
Spec.	78	Sq. Ft.	STEEL DRIP STRIP			78	

**EUTHENICS INC.**  
CONSULTING ENGINEERS  
CLEVELAND OHIO

GENERAL NOTES AND  
ESTIMATED QUANTITIES  
BRIDGE NO. ASD.-250-0104

OVER  
BRANCH OF VERMILION RIVER  
STA. 54+78.42 TO  
STA. 55+29.58

ASHLAND COUNTY OHIO

Made LJD Trcd. JSC Ckd. JSC Rev. RAB Scale:  
Date 12-13-83 Date 12-14-83 Date 12-15-83 Date 2-15-84 Sheet 2/7

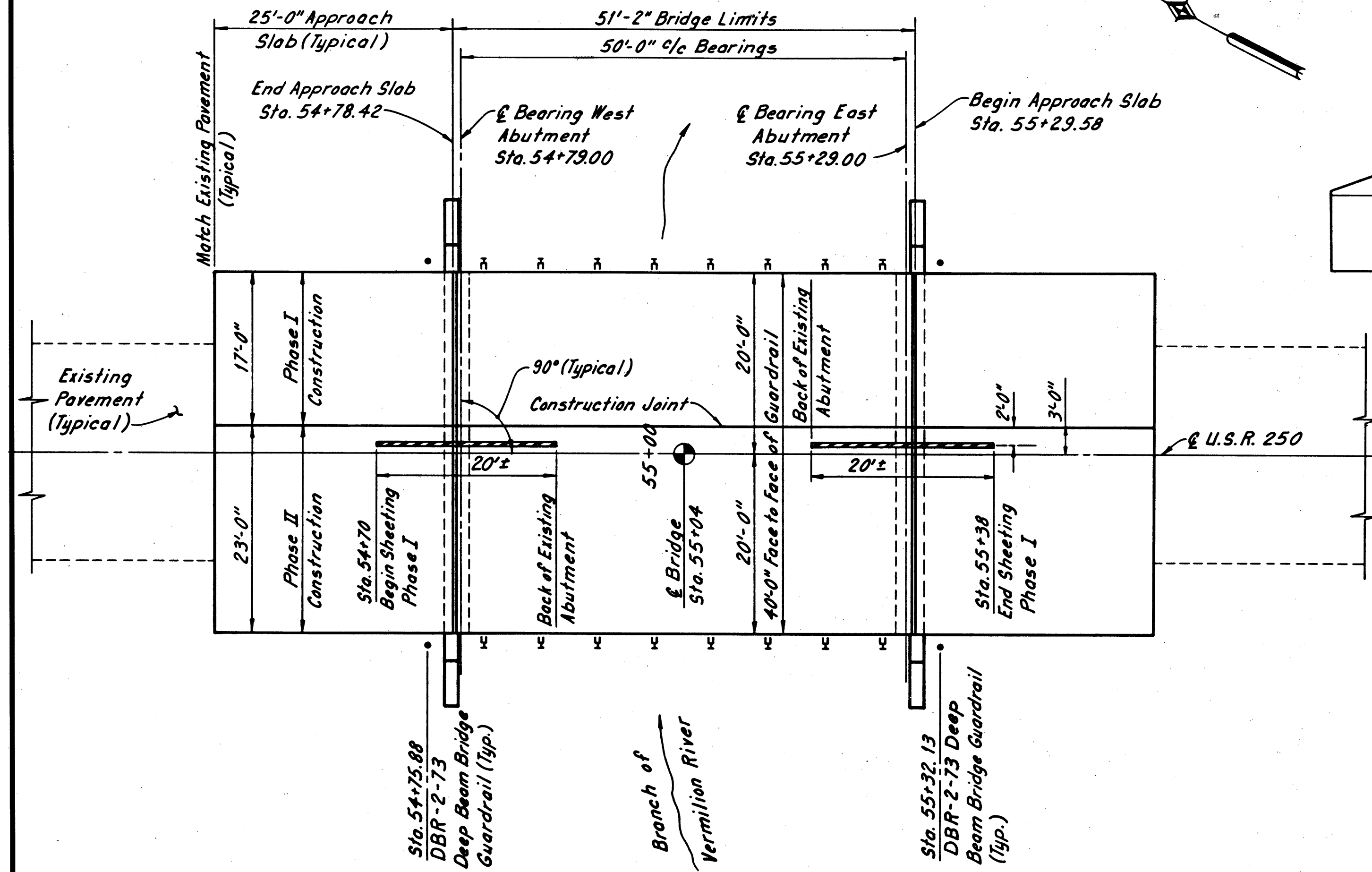


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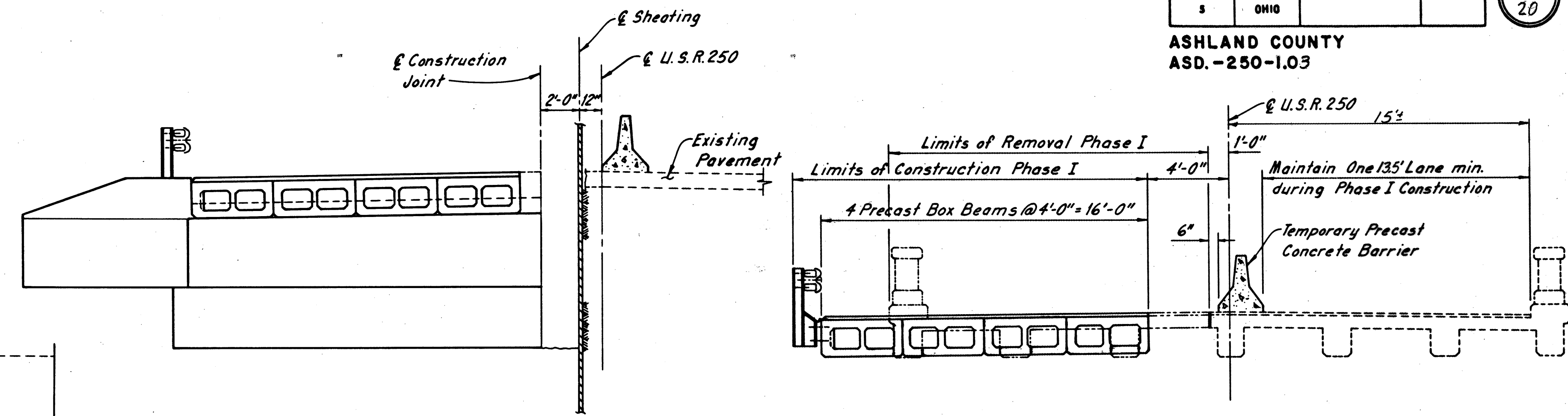
FHWA REGION	STATE	PROJECT	
5	OHIO		

15  
20

ASHLAND COUNTY  
ASD.-250-1.03

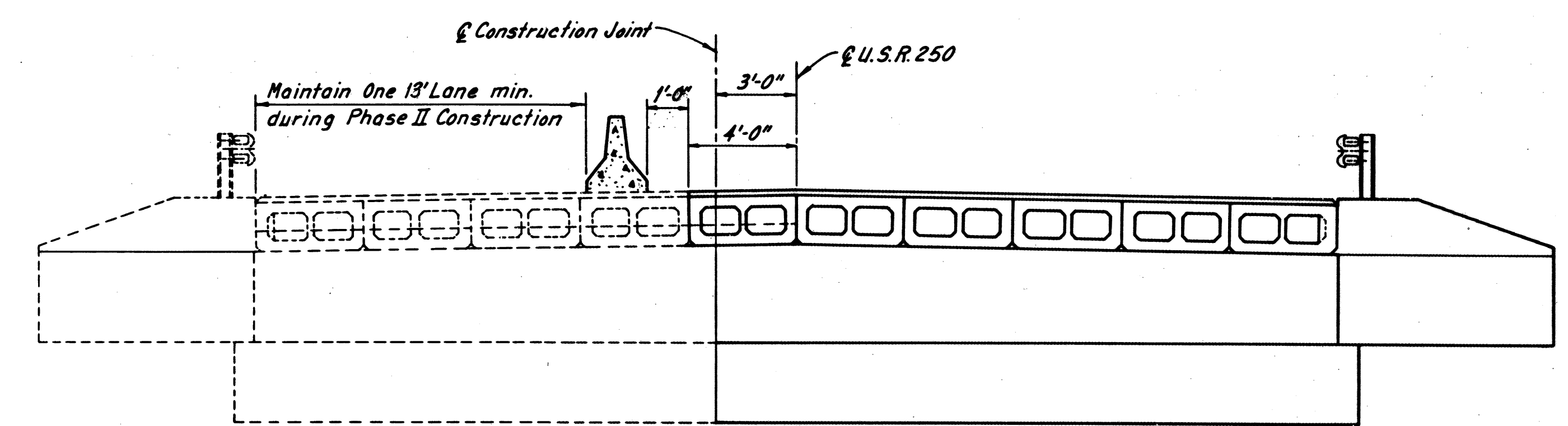


**GENERAL PLAN**  
Scale: 1"=10'

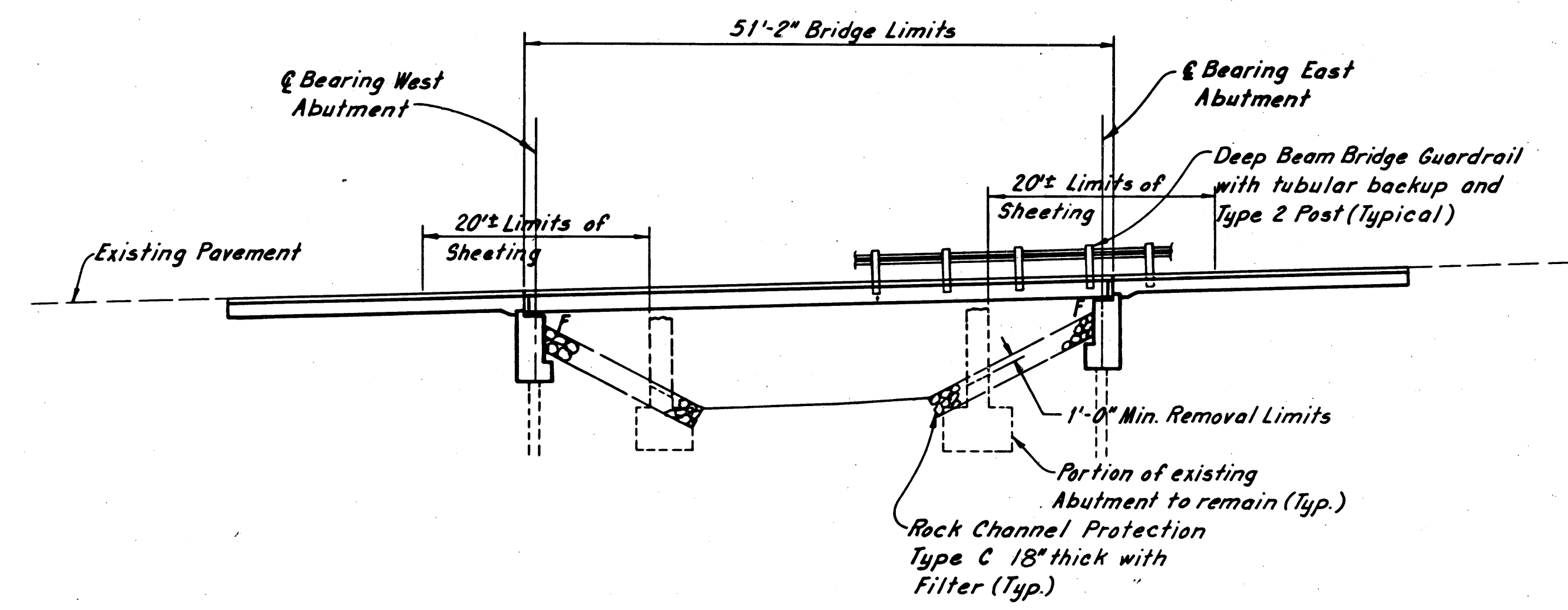


**PHASE I CONSTRUCTION**  
(East Abutment shown  
West Abutment opposite hand)  
Scale: 1/4"=1'-0"

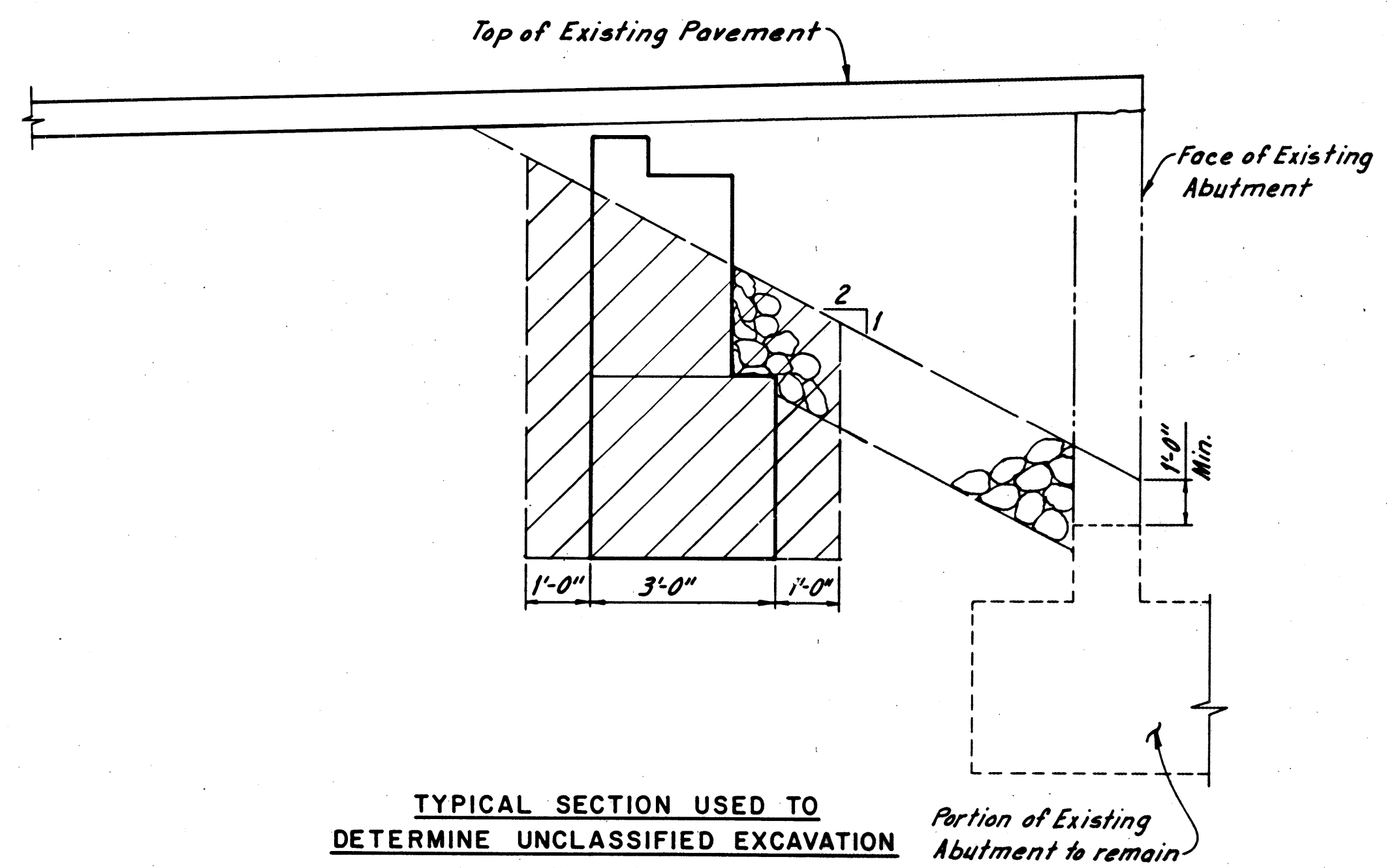
**PHASE I CONSTRUCTION**  
Scale: 1/4"=1'-0"



**PHASE II CONSTRUCTION**  
(East Abutment shown West  
Abutment opposite hand)  
Scale: 1/4"=1'-0"



**ELEVATION**  
Scale: 1"=10'



**TYPICAL SECTION USED TO  
DETERMINE UNCLASSIFIED EXCAVATION**  
No Scale

NOTE: ALL PILES SHALL BE  
HP 10 x 42 WITH AN ESTIMATED  
PAY LENGTH OF 30 FEET.

**EUTHENICS INC.**  
CONSULTING ENGINEERS  
CLEVELAND OHIO

**GENERAL PLAN & ELEVATION**  
BRIDGE NO. ASD.-250-0104  
OVER  
BRANCH OF VERMILION RIVER  
STA. 54+78.42 TO  
STA. 55+29.58

ASHLAND COUNTY OHIO

Made LJD	Drawn JSC	Checked JSC	Reviewed RAB	Scale: As Noted
Date 12-13-83	Date 12-16-83	Date 12-16-83	Date 2-15-84	Sheet 3/7

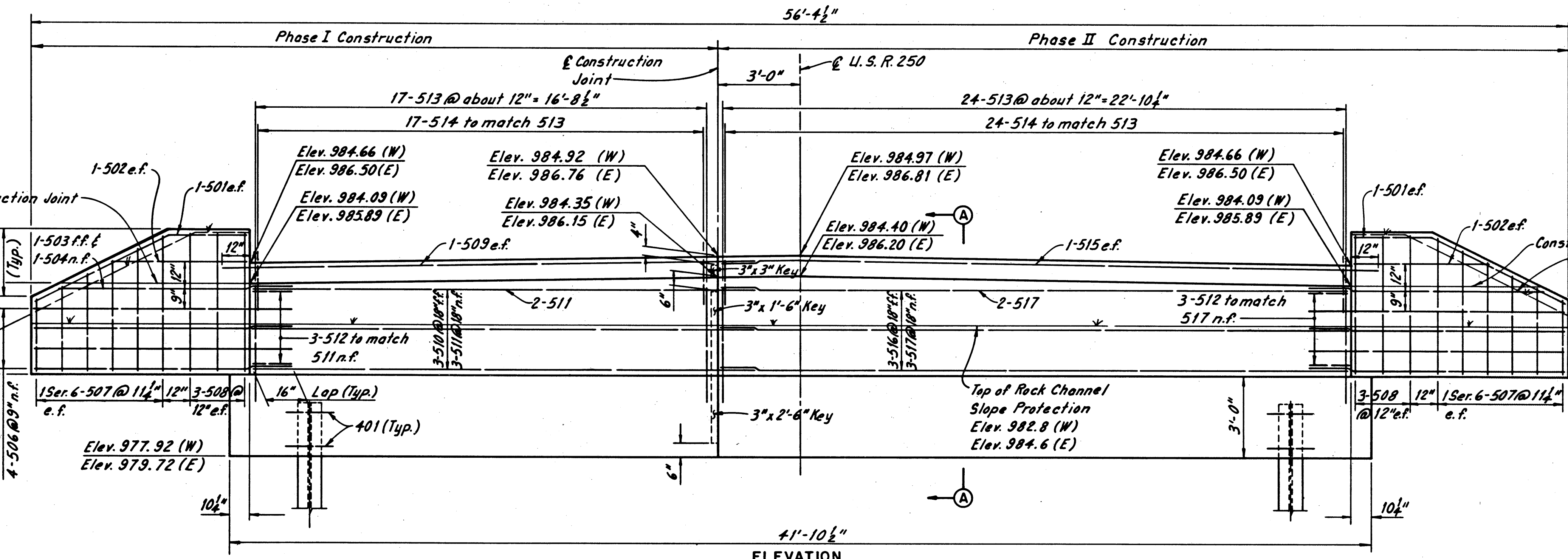
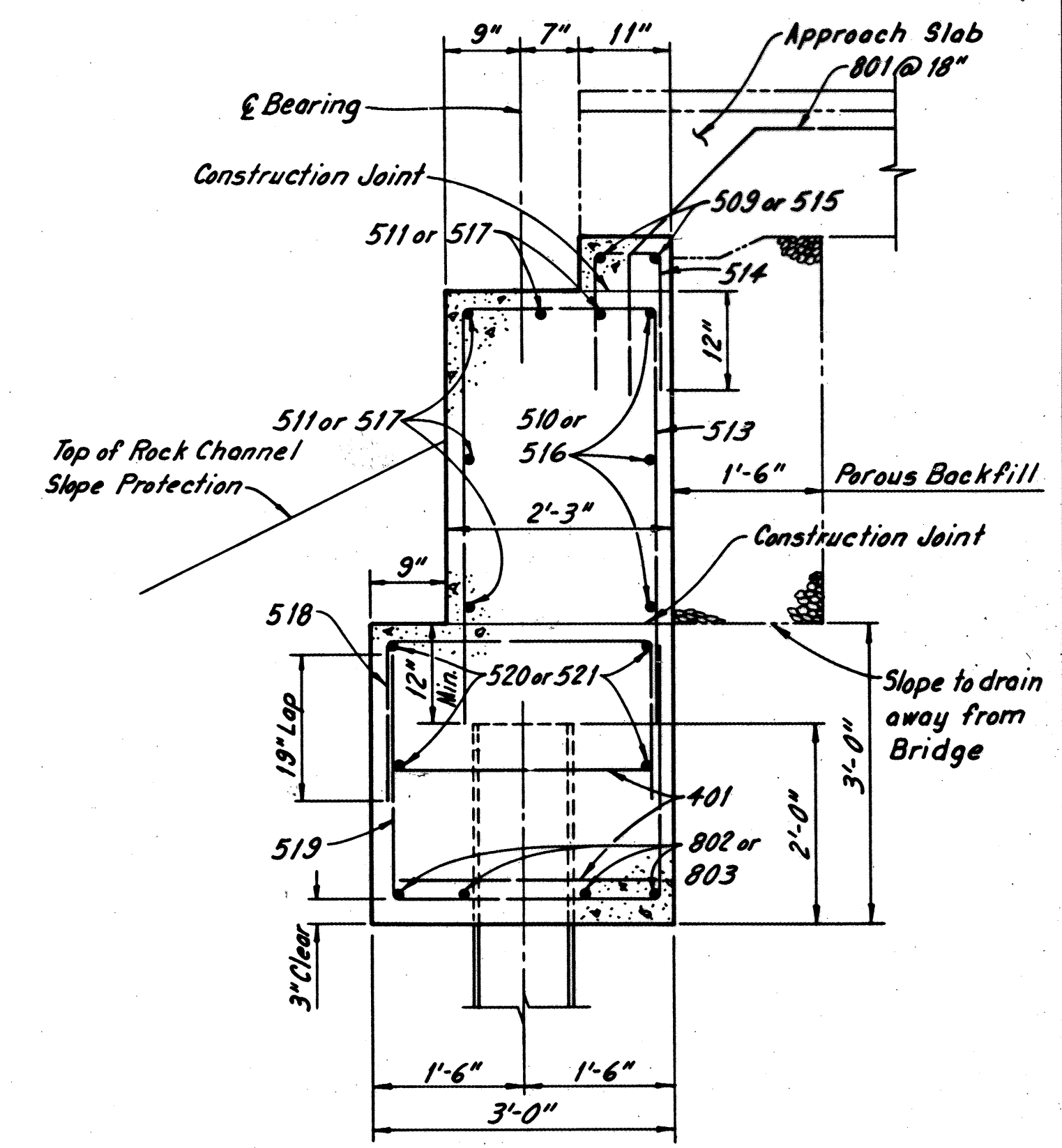
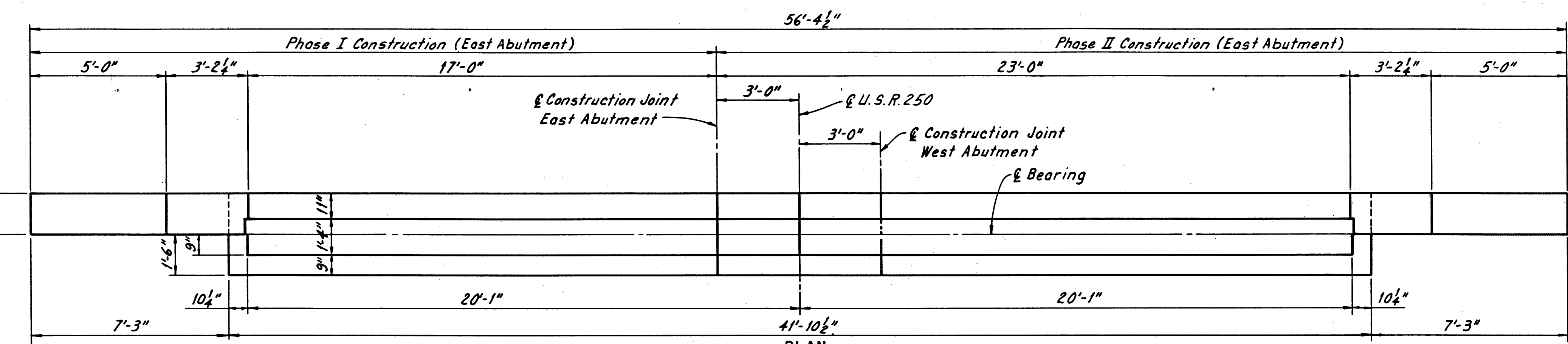
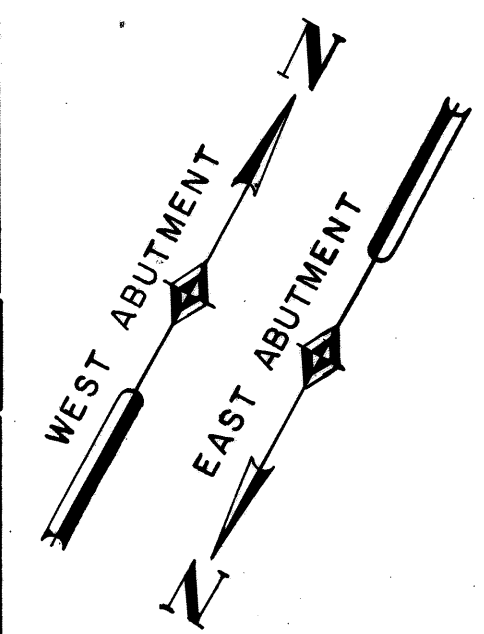


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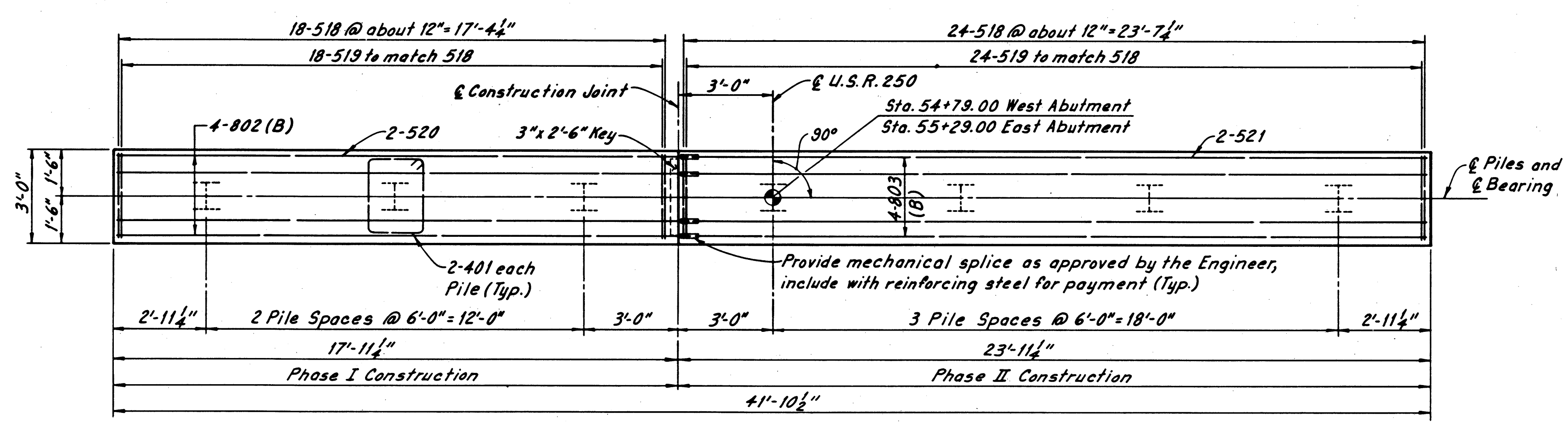
PHWA REGION	STATE	PROJECT
5	OHIO	

16  
20

ASHLAND COUNTY  
ASD.-250-1.03



- NOTES:
- 1) THE ABUTMENT BACKWALL AND PORTION OF THE WINGWALL ABOVE THE HORIZONTAL CONSTRUCTION JOINT SHALL NOT BE CAST UNTIL THE BEAMS ARE IN PLACE. PROVIDE 1" PREFORMED EXPANSION JOINT FILLER BETWEEN BEAM AND WINGWALL.
  - 2) ALL NEAR FACE #5 BARS SHALL HAVE AN EMBEDMENT LENGTH OF 12".
  - 3) ALL FAR FACE #5 BARS SHALL HAVE A LAP LENGTH OF 16".
  - 4) THE FOLLOWING ABBREVIATIONS ARE USED:  
NF = NEAR FACE      (E) = EAST  
FF = FAR FACE      (W) = WEST  
EF = EACH FACE    (B) = BOTTOM  
Typ. = TYPICAL
  - 5) REINFORCING STEEL IN THE VICINITY OF THE BRIDGE SEATS SHALL BE ACCURATELY PLACED TO AVOID INTERFERENCE WITH DRILLING OF ANCHOR BAR HOLES.
  - 6) POROUS BACKFILL SHALL EXTEND UPWARD TO THE APPROACH SLAB AND TO THE SURFACE OF THE EARTH SHOULDERS, AND OUTWARD TO THE SURFACE OF THE EMBANKMENT SLOPES.



NOTE: ALL REINFORCING BAR MARKS SHALL BE PREFIXED AS FOLLOWS:  
EA = EAST ABUTMENT (FORWARD)  
WA = WEST ABUTMENT (REAR)

**EUTHENICS INC.**  
CONSULTING ENGINEERS  
CLEVELAND OHIO

**ABUTMENTS**  
BRIDGE NO. ASD.-250-0104  
OVER  
BRANCH OF VERMILION RIVER  
STA. 54+78.42 TO  
STA. 55+29.58

ASHLAND COUNTY OHIO

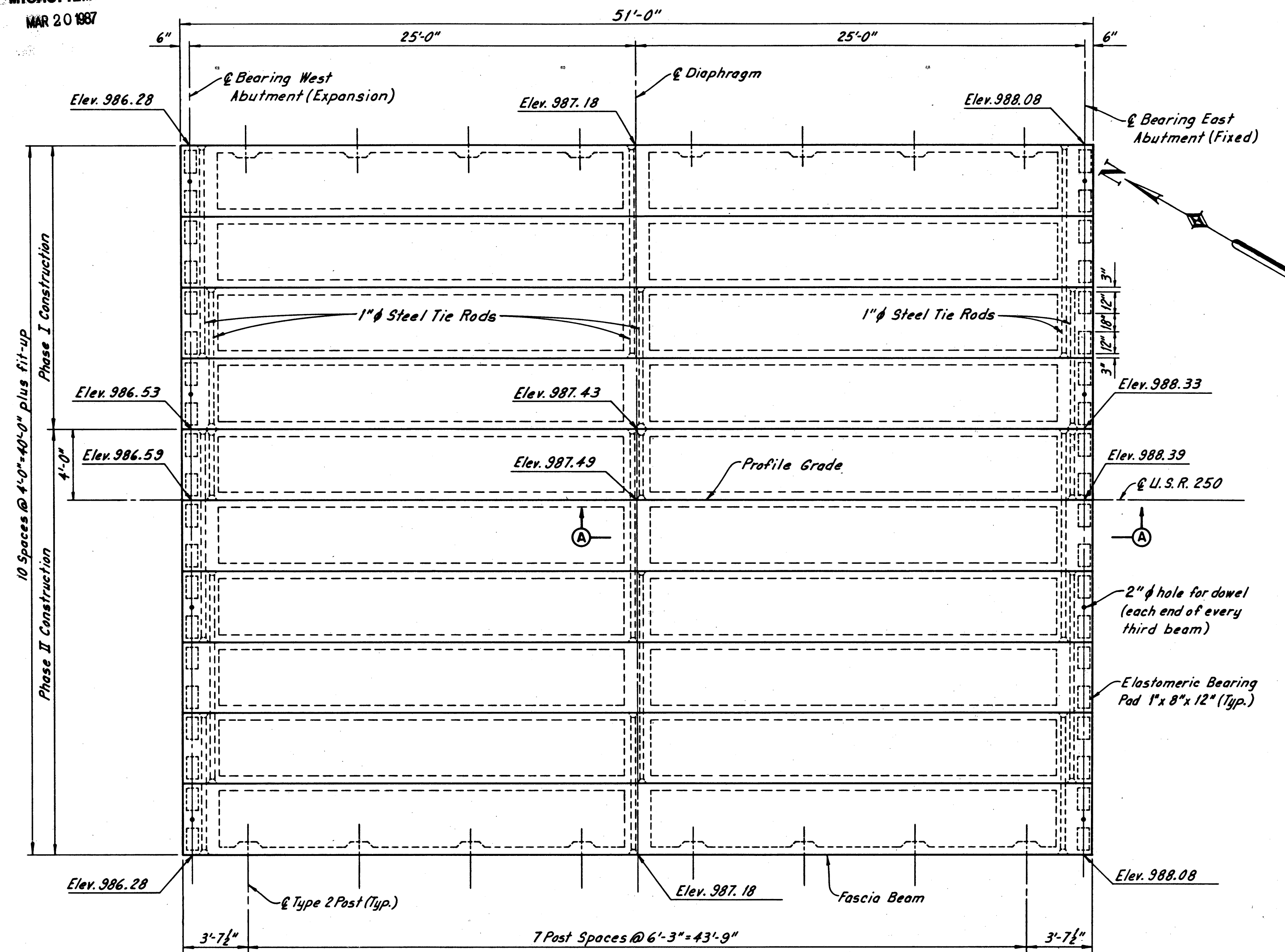
Made JSC Trcd. JSC Ckd. LJD Rev. RAB Scale: 3/4" = 1'-0"  
Date 12-9-83 Date 12-9-83 Date 12-12-83 Date 2-15-84 Sheet 4 / 7



MICROFILMED  
MAR 20 1987

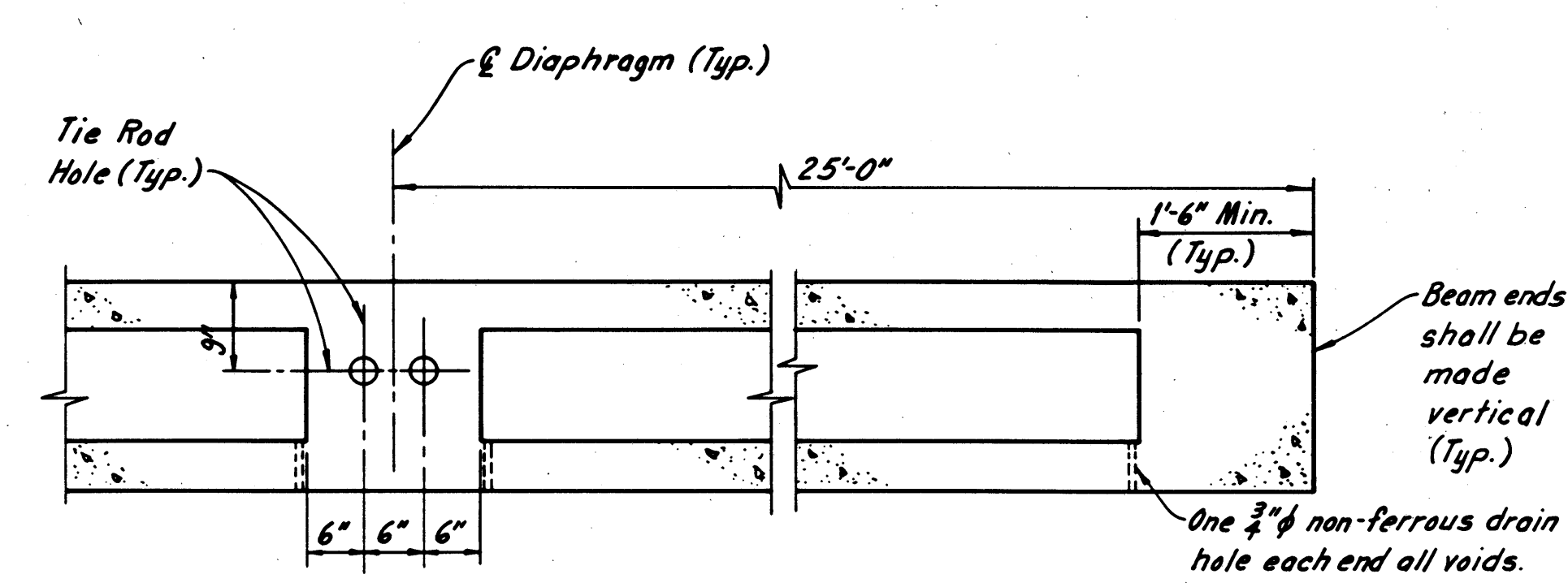
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5	OHIO		

ASHLAND COUNTY  
ASD.-250-1.03

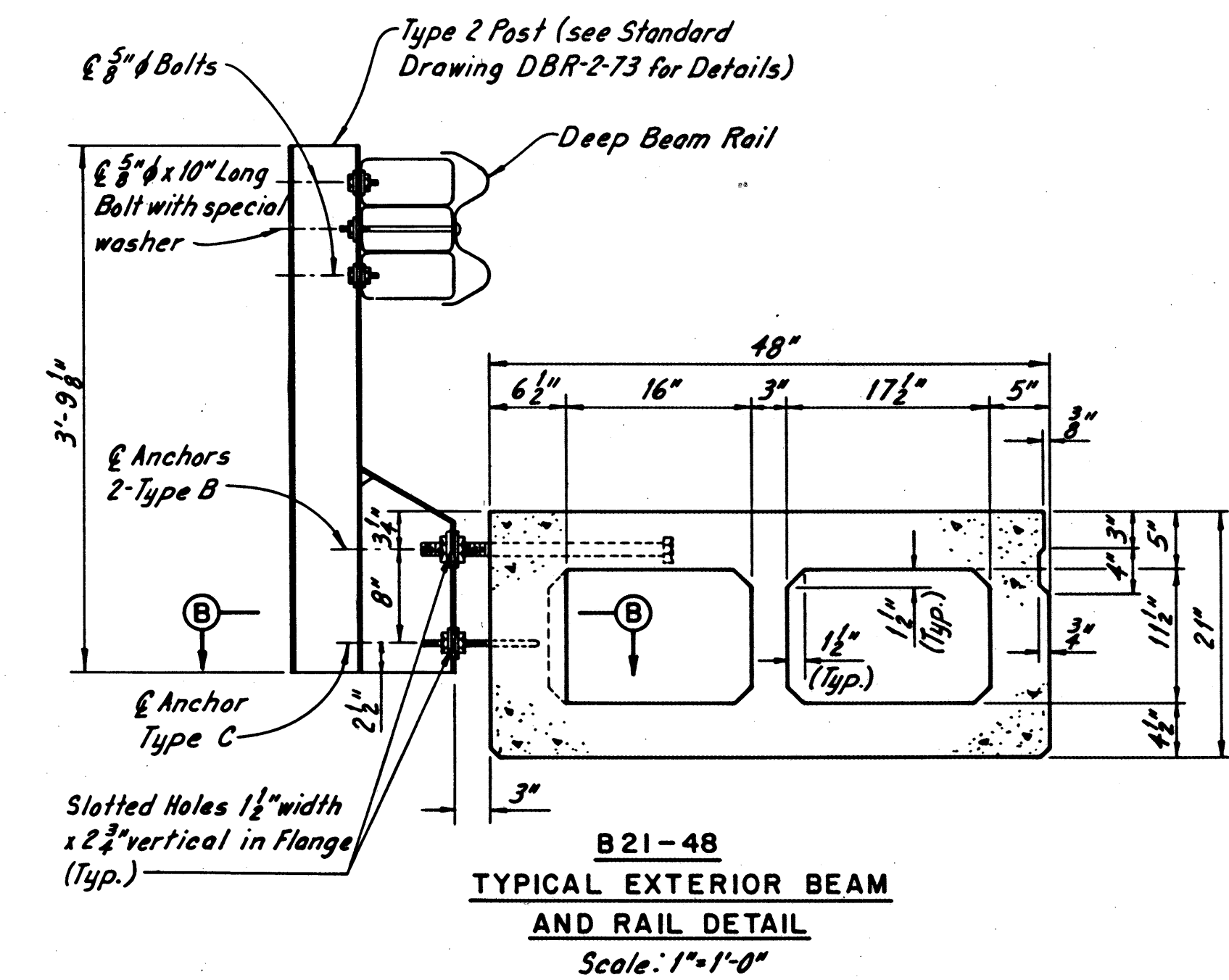


**FRAMING PLAN**  
Scale: 1/4" = 1'-0"

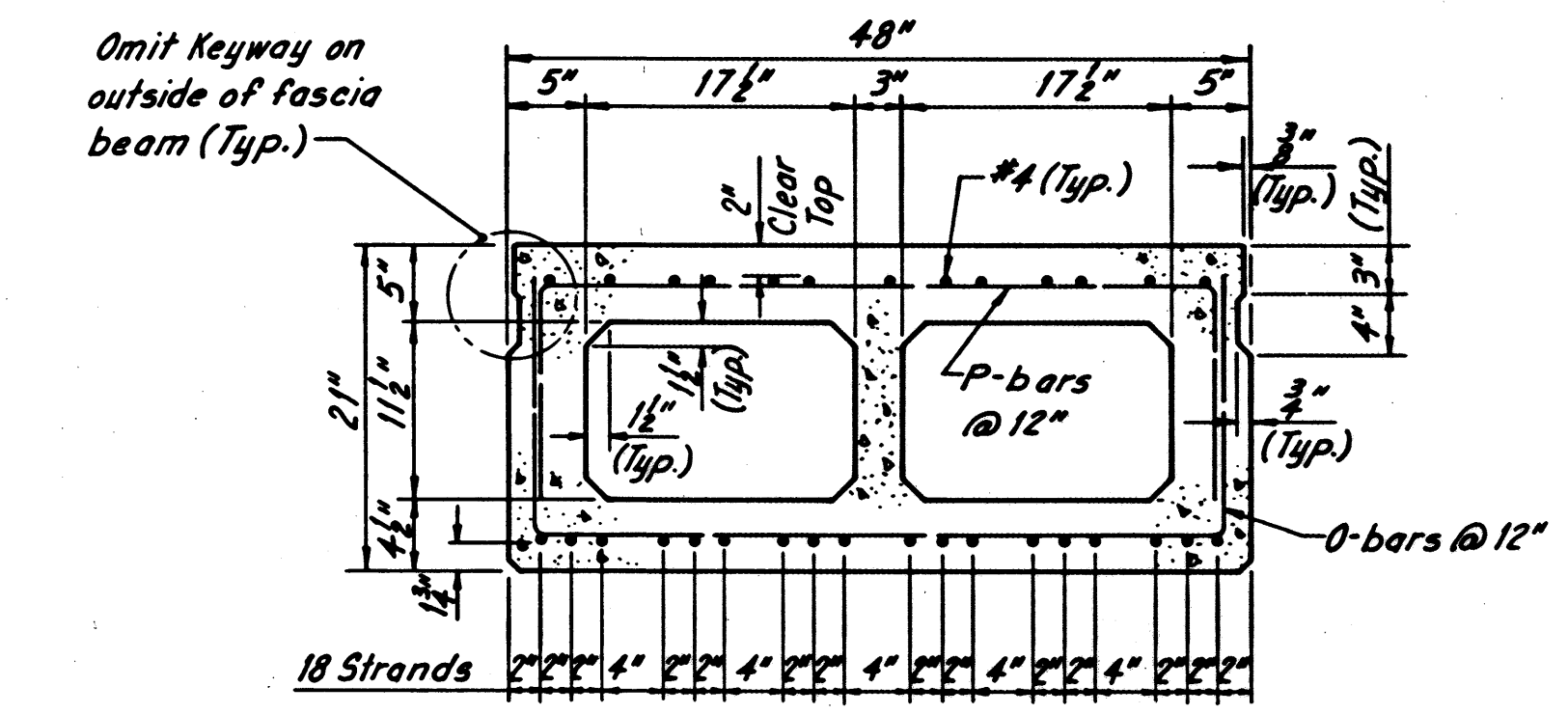
NOTE: ELEVATIONS GIVEN IN DECK PLAN ARE TO THE FINAL TOP OF PAVEMENT.



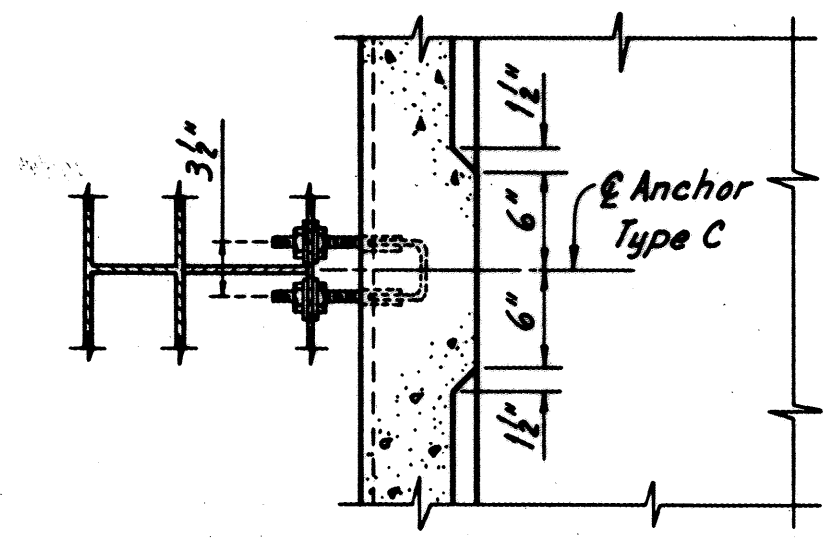
**SECTION A-A**  
Scale: 3/4" = 1'-0"



**B 21-48**  
**TYPICAL EXTERIOR BEAM AND RAIL DETAIL**  
Scale: 1" = 1'-0"



**B 21-48**  
**PRESTRESSED CONCRETE NON-COMPOSITE BOX BEAM**  
Scale: 1" = 1'-0"



**SECTION B-B**  
Scale: 1" = 1'-0"

**CAMBER NOTE**

CALCULATED CAMBER AT TIME OF PAVING, INCLUDING ALLOWANCE FOR CAMBER GROWTH DUE TO CREEP, IS 1 7/8".  
CALCULATED DEFLECTION DUE TO WEIGHT OF SURFACE COURSE AND RAILING IS 1/8".  
CAMBER OF 0" AT CENTER OF SPANS IS REQUIRED FOR CREST VERTICAL CURVE.  
NET FINAL CAMBER OF BEAMS IS 1 3/4". THIS IS 1 3/4" IN EXCESS OF THE AMOUNT REQUIRED TO PLACE THE TOP OF THE BEAM PARALLEL TO PROFILE GRADE. THIS EXCESS AMOUNT SHALL BE COMPENSATED FOR BY THICKENING THE 403 LEVELING COURSE FROM 1 1/4" AT CENTER OF SPANS TO 3" AT ENDS OF SPANS.

**NOTES:**

- PRESTRESSING STRANDS ARE TO BE 1/2" DIAMETER, SEVEN-WIRE, UNCOATED, STRESS RELIEVED STRANDS.  
THE DESIGN DATA IS AS FOLLOWS:  
As = .153 sq. in.  
F's = 270,000 psi  
INITIAL STRESS 0.7 F's = 189,000 psi  
STRESS AT RELEASE 0.63 F's = 170,100 psi
- BEAM CONCRETE STRENGTH**  
MINIMUM AT 28 DAYS F'C = 5,500 P.S.I.  
MINIMUM AT TIME OF INITIAL PRESTRESS F'CI = 4,000 P.S.I.
- DEBONDING**  
TWO OF THE BOTTOM STRANDS SHALL BE DEBONDED FOR 1'-6" MEASURED FROM THE ENDS OF THE BEAM AND DEBONDED BY USE OF APPROVED PLASTIC SHEATHS. THE DEBONDED LENGTHS SHALL BE SYMMETRICAL ABOUT THE VERTICAL C OF THE BEAM.
- FOR ADDITIONAL NOTES SEE SHEET 2/7.

**EUTHENICS INC.**  
CONSULTING ENGINEERS  
CLEVELAND OHIO

**FRAMING PLAN AND DETAILS**  
BRIDGE NO. ASD.-250-0104  
OVER  
BRANCH OF VERMILION RIVER  
STA. 54+78.42 TO  
STA. 55+29.58

Made LJD	Trcd JSC	Clkd JSC	Rev RAB	Scale: As Noted
Date 11-8-83	Date 11-9-83	Date 12-14-83	Date 2-15-84	Sheet 5/7

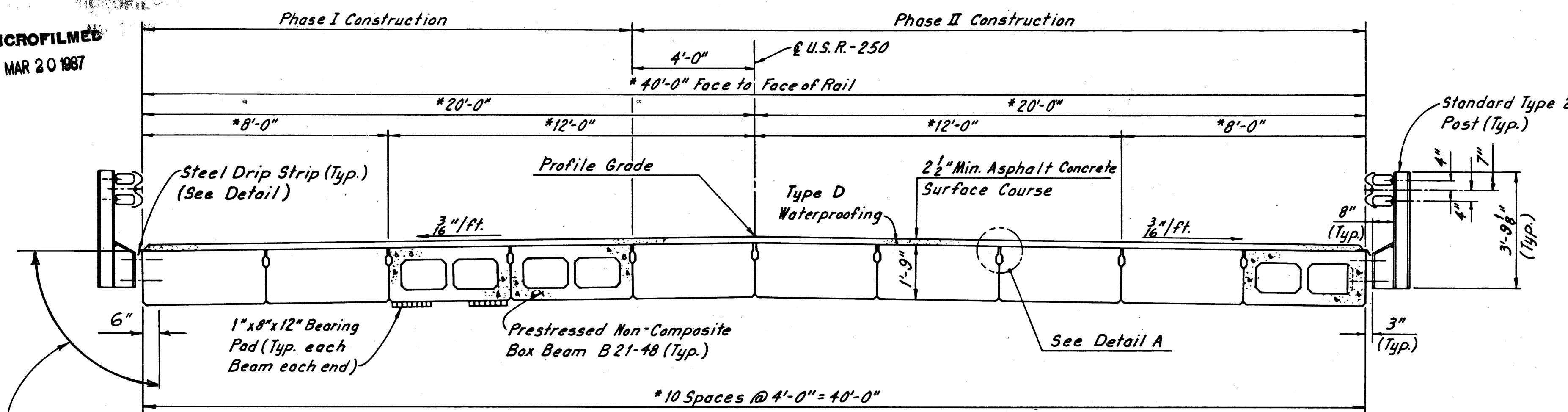


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MAR 20 1987

FHWA REGION	STATE	PROJECT
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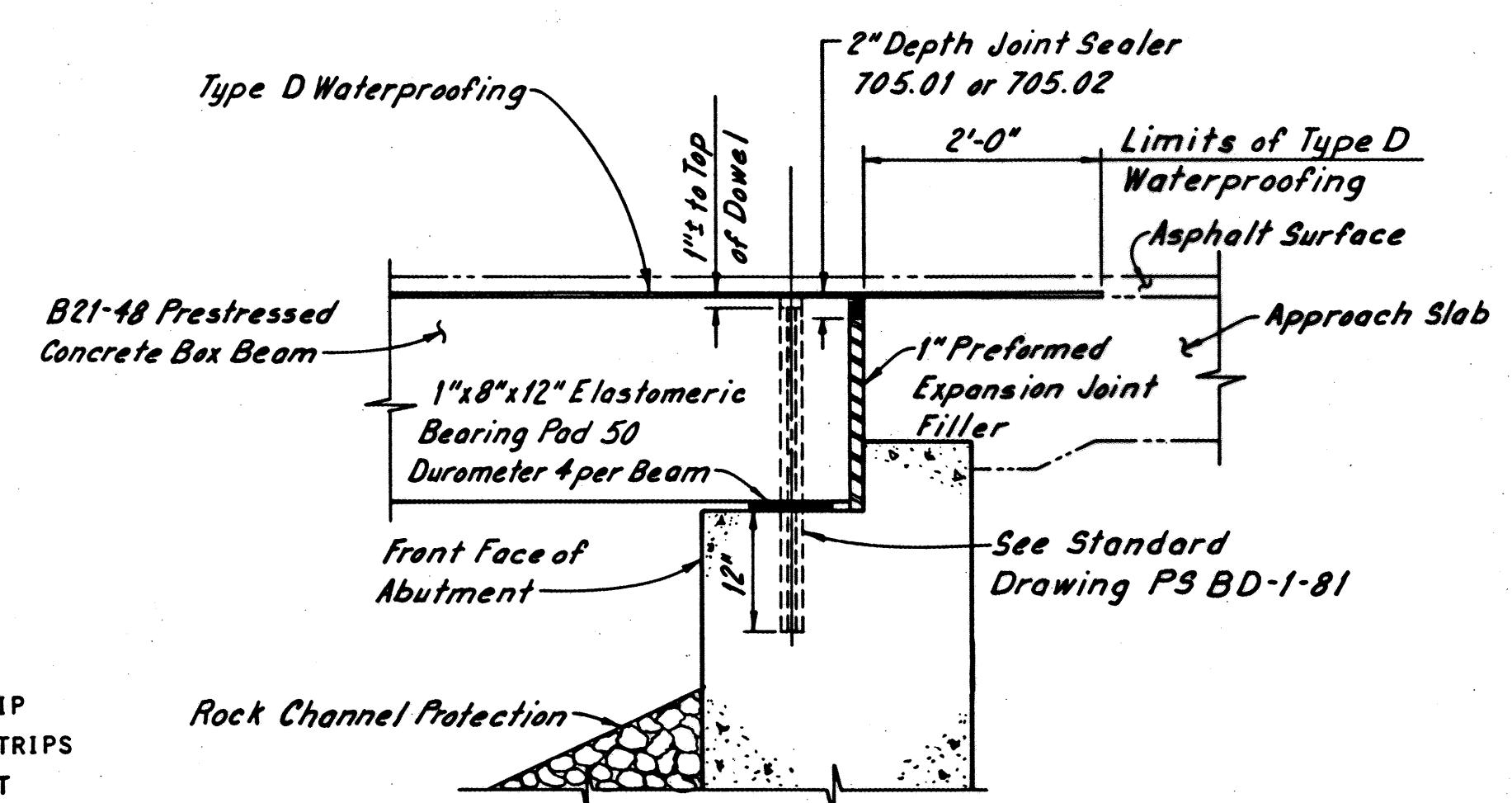
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20

ASHLAND COUNTY  
ASD.-250-1.03



TYPICAL CROSS SECTION  
Scale: 3/8" = 1'-0"

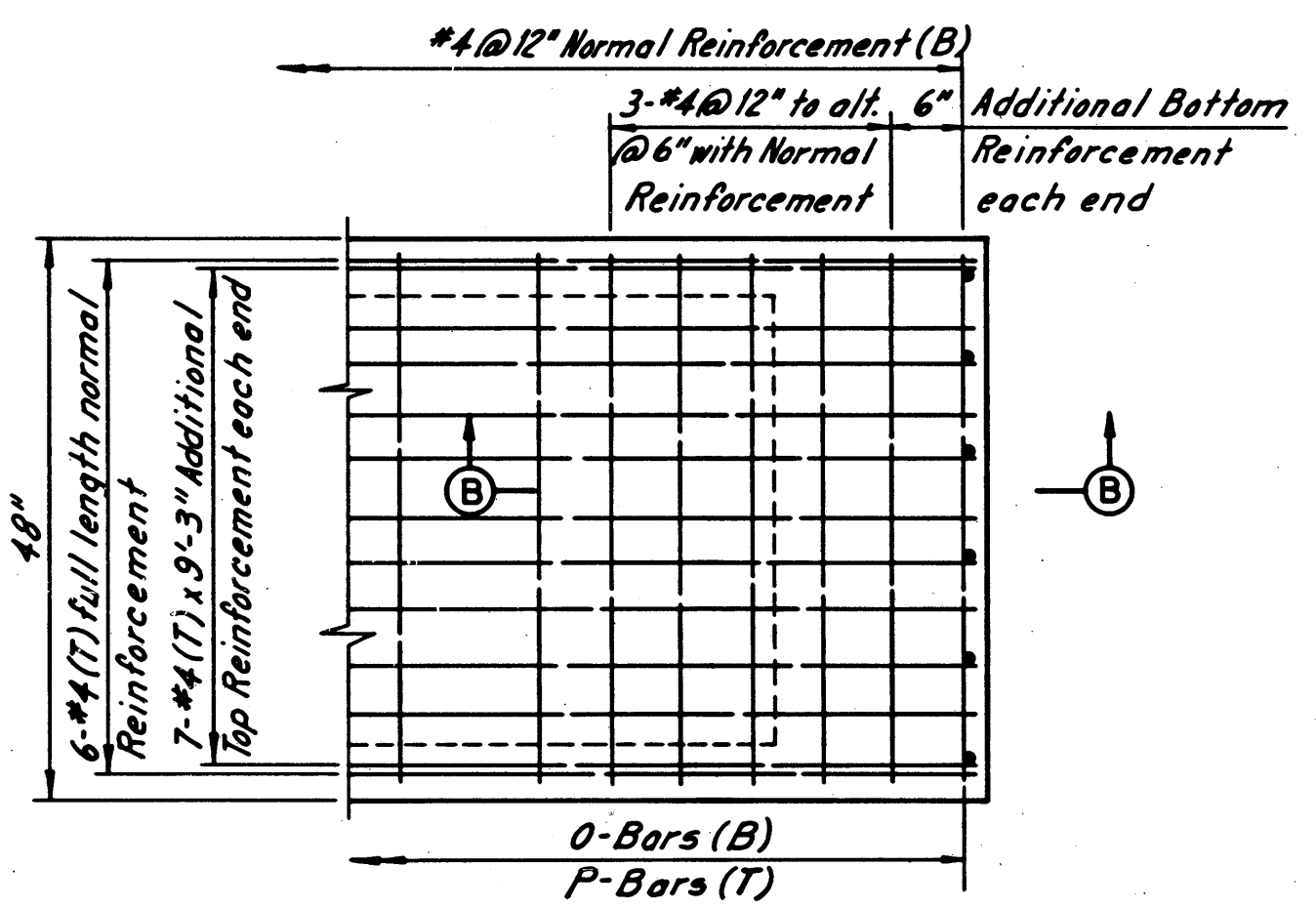
\* THESE DIMENSIONS MAY VARY TO ACCOMMODATE BEAM TOLERANCES.



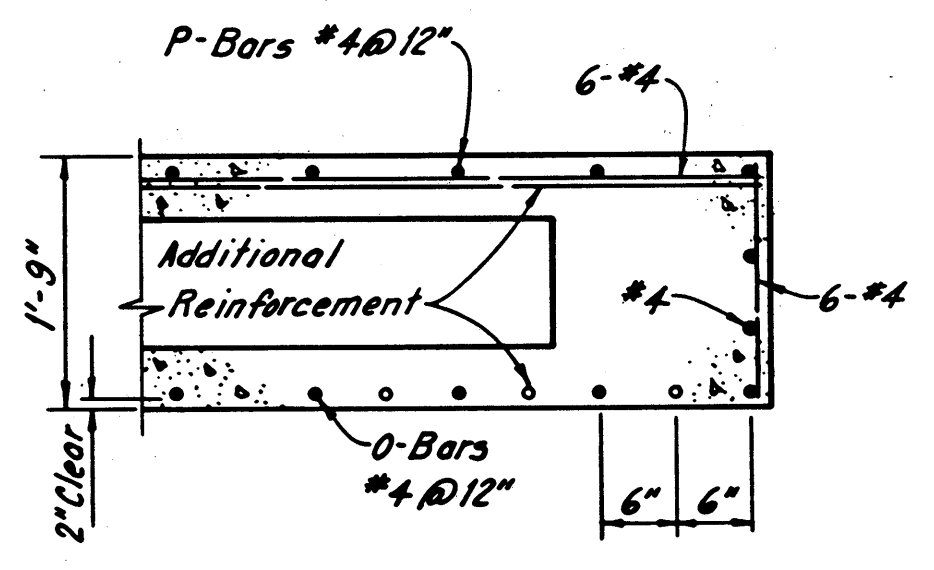
BEARING DETAIL  
Scale: 3/4" = 1'-0"

DRIP STRIP: PRIOR TO APPLYING DECK MEMBRANE WATERPROOFING, A BENT DRIP STRIP SHALL BE INSTALLED ALONG THE EDGES OF THE DECK AS SHOWN. THE STRIPS SHALL BE FASTENED AT 1'6" C/C MAXIMUM WITH 1 1/4" x 5/32" x 1/4" FLAT HEAD DRIVE PIN AND WASHER. (LENGTH x SHANK DIA. x HEAD DIA.) OR #10 GALVANIZED SCREWS AND EXPANSION ANCHORS, SUBJECT TO THE APPROVAL OF THE ENGINEER. THE STRIPS SHALL BE PLACED THE FULL LENGTH OF THE DECK, ENDING AT THE FACE OF THE ABUTMENT WINGWALL OR STEEL END DAM ANGLE. WHERE SPLICES ARE REQUIRED A 3" (MIN.) LAP SHALL BE USED WITH A FASTENER THROUGH THE LAP. STEEL FOR GALVANIZED STRIPS SHALL BE 8" x 0.105" AND SHALL MEET THE REQUIREMENTS OF ASTM A568. GALVANIZING SHALL BE IN ACCORDANCE WITH 711.02. STAINLESS STEEL SHALL BE 20 GAUGE ASTM A167, TYPE 304, MILL FINISH. PAYMENT SHALL BE AT THE CONTRACT PRICE BID FOR ITEM SPECIAL, SQ. FT., STEEL DRIP STRIP, WHICH SHALL INCLUDE ALL MATERIALS, LABOR, TOOLS AND INCIDENTALS NECESSARY TO COMPLETE THE ITEM.

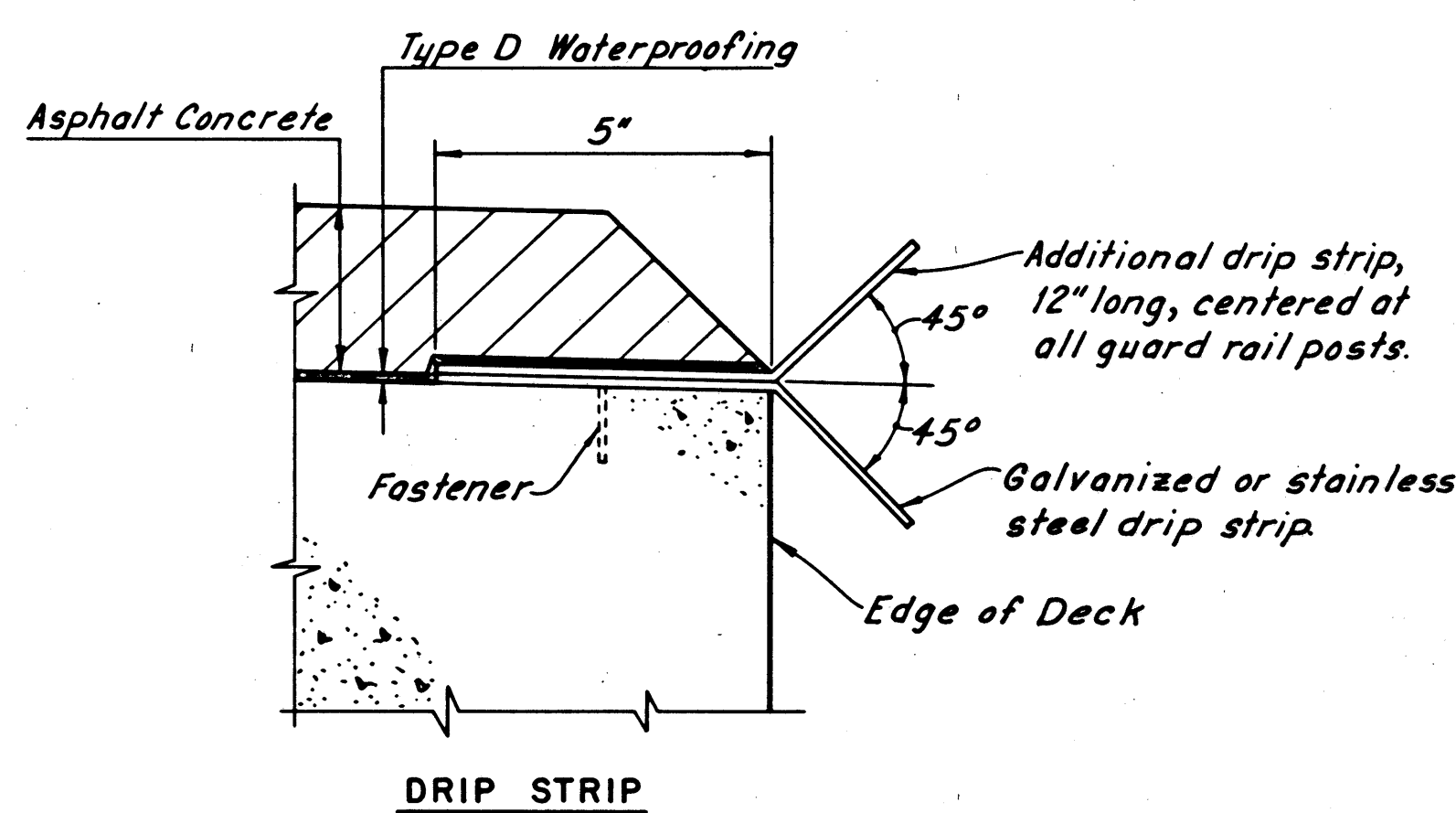
Shear Keys shall be mortared on a slope between the top edges of adjacent beams to account for non-alignment.



PLAN  
B21-48  
Scale: 3/4" = 1'-0"



SECTION B-B  
Scale: 3/4" = 1'-0"

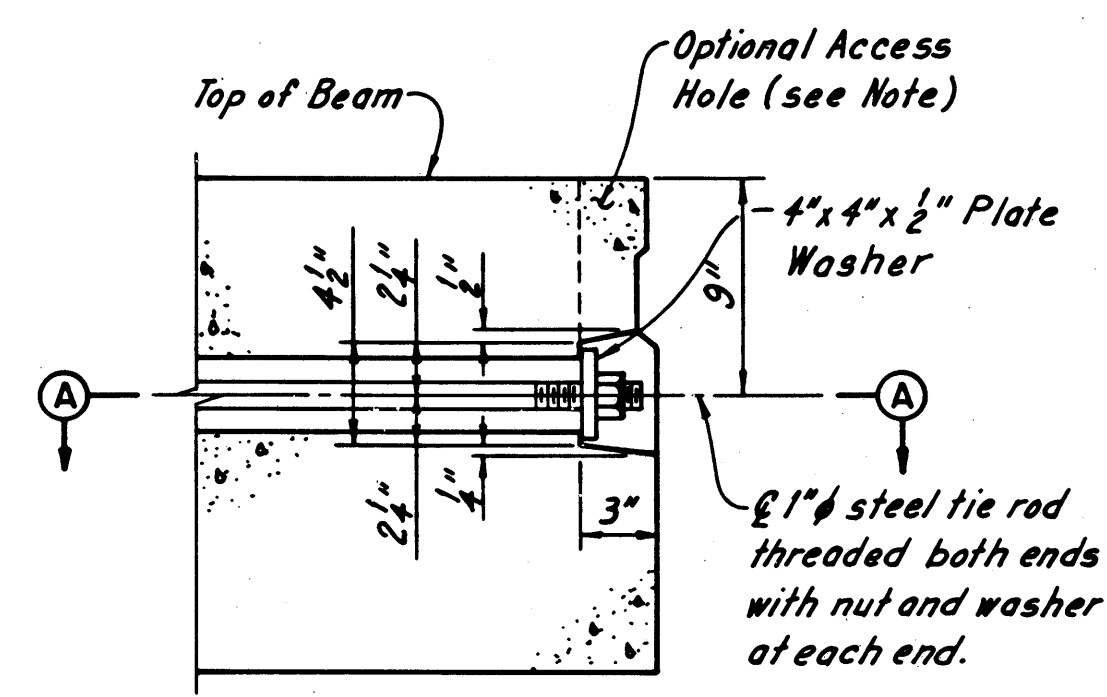


DRIP STRIP

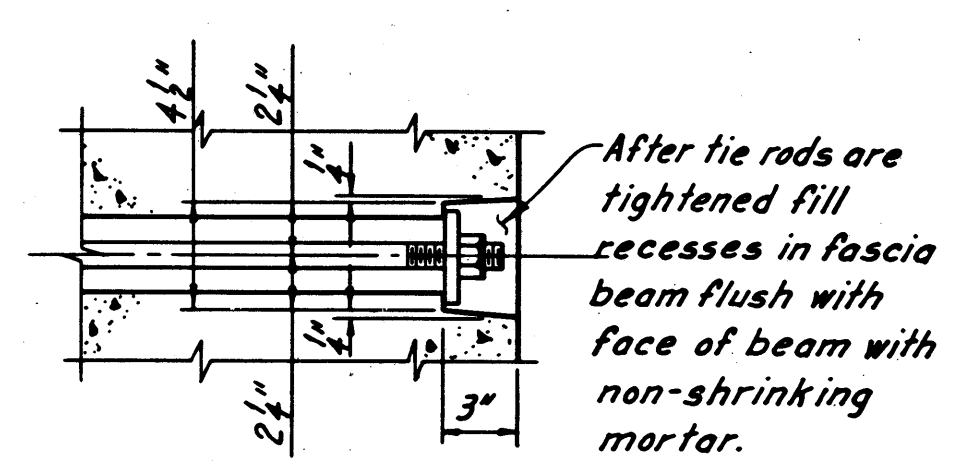
DETAIL A

DETAILS AND REINFORCEMENT OF BEAM ENDS

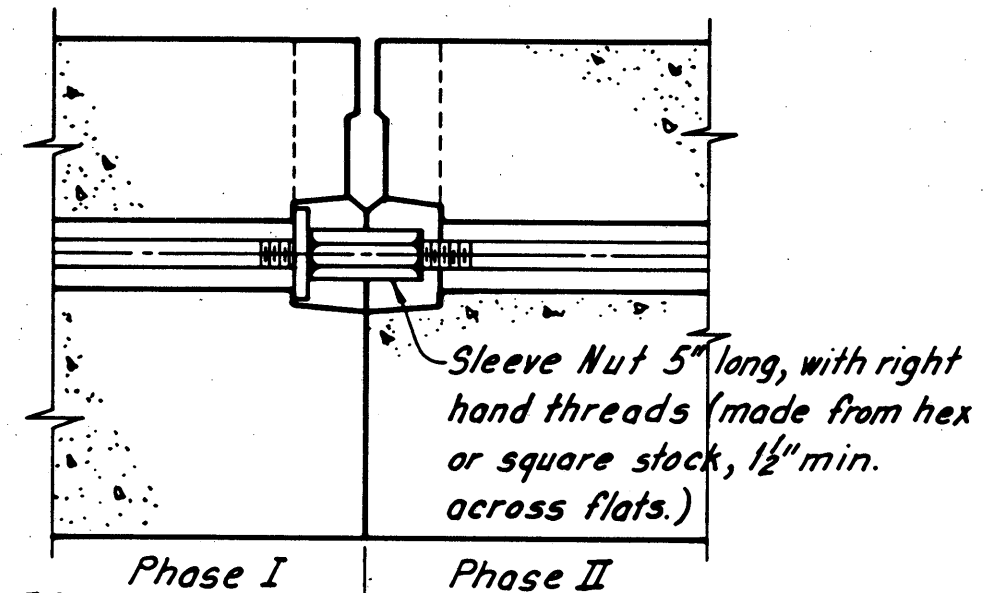
NOTE: ASPHALT CONCRETE SURFACE COURSE SHALL CONSIST OF A VARIABLE THICKNESS OF 403 AND 1 1/4" THICKNESS OF 404. THE 403 SHALL BE PLACED IN TWO OPERATIONS. THE FIRST COURSE SHALL BE OF 1 1/4" UNIFORM THICKNESS. THE SECOND COURSE SHALL BE FEATHERED TO PLACE THE SURFACE PARALLEL TO AND 1 1/4" BELOW FINAL PAVEMENT SURFACE ELEVATION. THE 404 SHALL NOT BE PLACED UNTIL AFTER BOTH PHASE I AND PHASE II ARE COMPLETE AND THE TEMPORARY PRECAST CONCRETE BARRIERS HAVE BEEN REMOVED.



ELEVATION  
Scale: 1/2" = 1'-0"



SECTION A-A  
END DETAILS OF TRANSVERSE  
TIE ROD ANCHORAGE  
Scale: 1/2" = 1'-0"



CONNECTION BETWEEN PHASE I  
AND PHASE II CONSTRUCTION  
Scale: 1/2" = 1'-0"

NOTE: ACCESS HOLE SHALL BE PROVIDED AS REQUIRED TO PERMIT PLACEMENT OF WASHERS & NUTS UNLESS THE CONTRACTOR ELECTS TO THREAD BEAMS OVER RODS PROJECTING FROM BEAMS PREVIOUSLY PLACED. WHEN USED, HOLES SHALL BE SAME SHAPE AS RECESSES SHOWN IN SECTION A-A.

**EUTHENICS INC.**  
CONSULTING ENGINEERS  
CLEVELAND OHIO

TYPICAL CROSS SECTION  
AND DETAILS  
BRIDGE NO. ASD.-250-0104  
OVER  
BRANCH OF VERMILION RIVER  
STA. 54+78.42 TO  
STA. 55+29.58

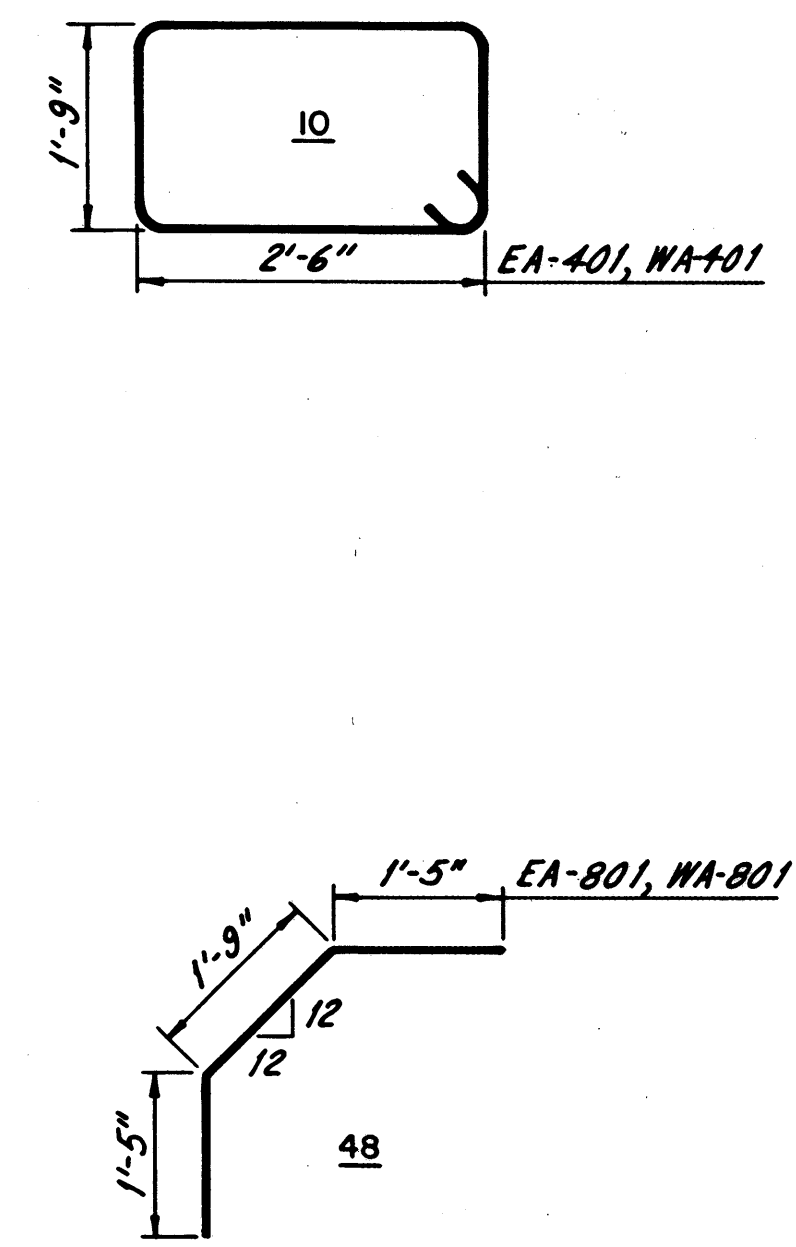
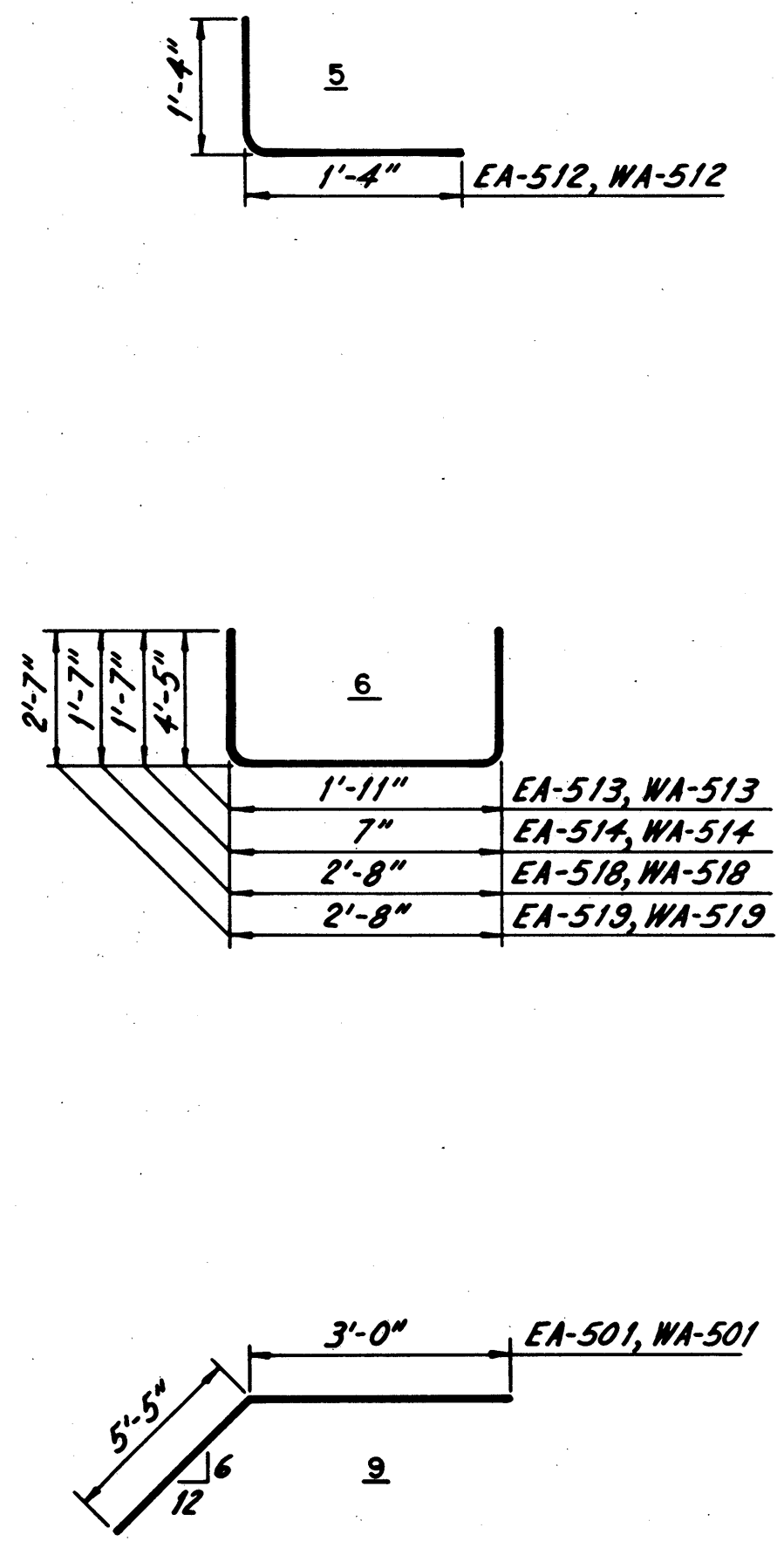
ASHLAND COUNTY OHIO

Made LJD	Trcd. JSC	Chd. JSC	Rev. RAB	Scale: As Noted
Date: 11-7-83	Date: 11-9-83	Date: 12-15-83	Date: 2-15-84	Sheet 6/7



MARK	NO.	LENGTH	TYPE	SER. INCR.	WEIGHT (LBS.)
<b>EAST ABUTMENT</b>					
EA-401	14	8'-11"	10		83
EA-501	4	8'-3"	9		34
EA-502	4	5'-0"	Str.		21
EA-503	2	8'-5"	Str.		18
EA-504	2	8'-1"	Str.		17
EA-505	8	9'-4"	Str.		78
EA-506	8	9'-0"	Str.		75
EA-507	4 Ser. 6	2'-6" 4'-10"	Str.	5 1/2"	92
EA-508	12	5'-0"	Str.		63
EA-509	2	19'-6"	Str.		41
EA-510	3	18'-6"	Str.		58
EA-511	5	18'-4"	Str.		96
EA-512	6	2'-6"	5		16
EA-513	31	10'-6"	6		339
EA-514	31	3'-6"	6		113
EA-515	2	24'-2"	Str.		50
EA-516	3	23'-2"	Str.		72
EA-517	5	23'-0"	Str.		120
EA-518	42	5'-7"	6		245
EA-519	42	7'-7"	6		332
EA-520	4	18'-6"	Str.		77
EA-521	4	23'-0"	Str.		96
EA-801	27	4'-5"	48		318
EA-802	4	18'-6"	Str.		198
EA-803	4	23'-0"	Str.		246
<b>TOTAL WEIGHT =</b>					<b>2,898</b>

MARK	NO.	LENGTH	TYPE	SER. INCR.	WEIGHT (LBS.)
<b>WEST ABUTMENT</b>					
WA-401	14	8'-11"	10		83
WA-501	4	8'-3"	9		34
WA-502	4	5'-0"	Str.		21
WA-503	2	8'-5"	Str.		18
WA-504	2	8'-1"	Str.		17
WA-505	8	9'-4"	Str.		78
WA-506	8	9'-0"	Str.		75
WA-507	4 Ser. 6	2'-6" 4'-10"	Str.	5 1/2"	92
WA-508	12	5'-0"	Str.		63
WA-509	2	19'-6"	Str.		41
WA-510	3	18'-6"	Str.		58
WA-511	5	18'-4"	Str.		96
WA-512	6	2'-6"	5		16
WA-513	31	10'-6"	6		339
WA-514	31	3'-6"	6		113
WA-515	2	24'-2"	Str.		50
WA-516	3	23'-2"	Str.		72
WA-517	5	23'-0"	Str.		120
WA-518	42	5'-7"	6		245
WA-519	42	7'-7"	6		332
WA-520	4	18'-6"	Str.		77
WA-521	4	23'-0"	Str.		96
WA-801	27	4'-5"	48		318
WA-802	4	18'-6"	Str.		198
WA-803	4	23'-0"	Str.		246
<b>TOTAL WEIGHT =</b>					<b>2,898</b>



**REINFORCING STEEL SAMPLES**  
 REFER TO CMS SECTIONS 106.03, 700, 709.01 THROUGH 709.05 AND 709.08.  
 SUFFICIENT ADDITIONAL REINFORCING STEEL SHALL BE PROVIDED FOR  
 SAMPLING. RANDOM SAMPLES SHALL BE REPLACED IN THE STRUCTURES BY THE  
 ADDITIONAL STEEL, SPLICED IN ACCORDANCE WITH 509.08.

**EUTHENICS INC.**  
 CONSULTING ENGINEERS  
 CLEVELAND OHIO

**REINFORCEMENT SCHEDULE**  
 BRIDGE NO. ASD.-250-0104  
 OVER  
 BRANCH OF VERMILION RIVER  
 STA. 54+78.42 TO  
 STA. 55+29.58

ASHLAND COUNTY OHIO

Made JSC	Trcd. JSC	Chd. LJD	Rev. RAB	Scale:
Date 12-9-83	Date 12-12-83	Date 12-12-83	Date 2-15-84	Sheet 7/7



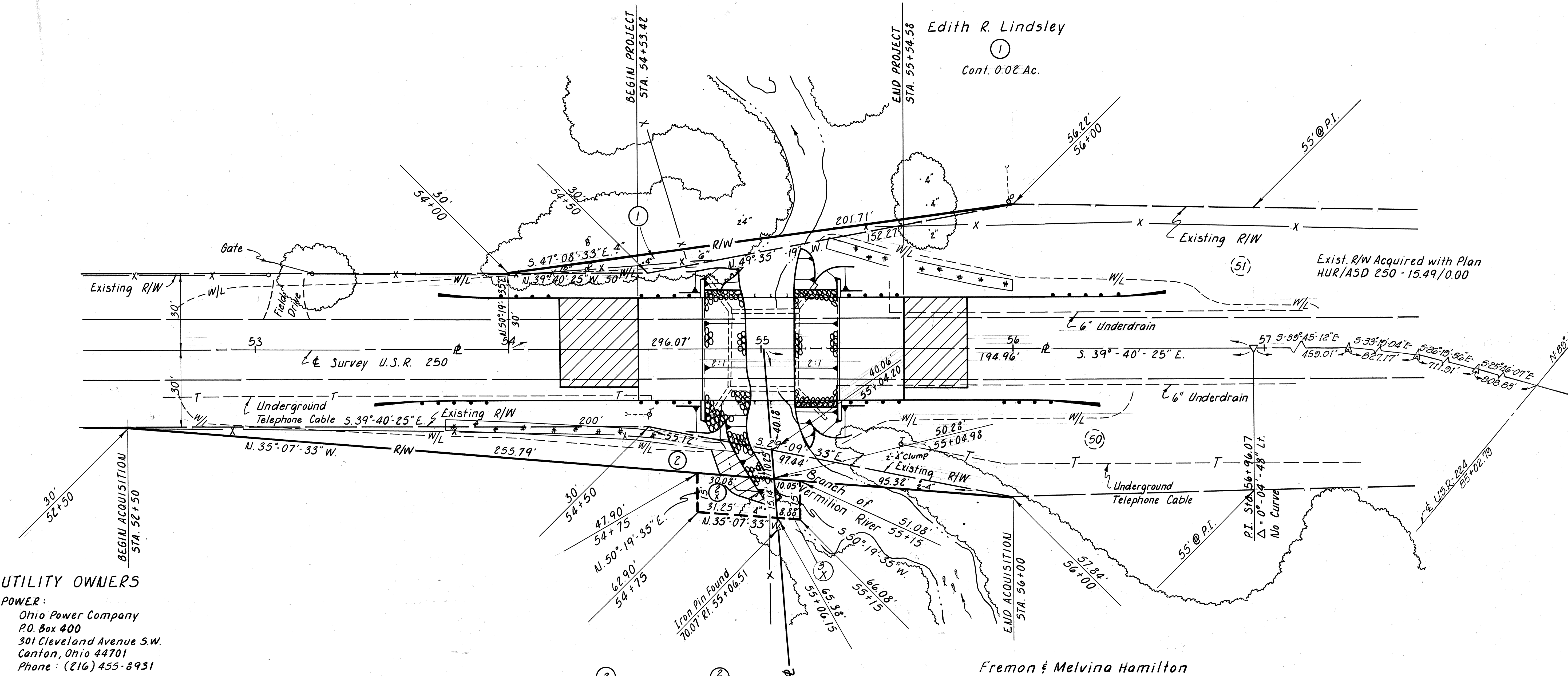
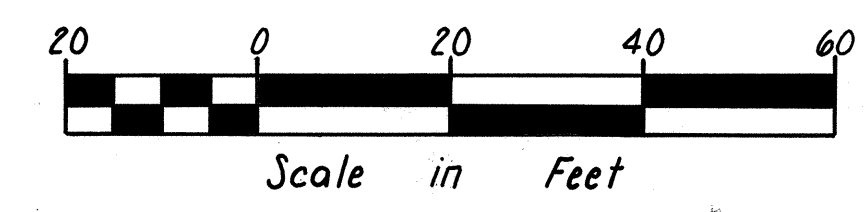
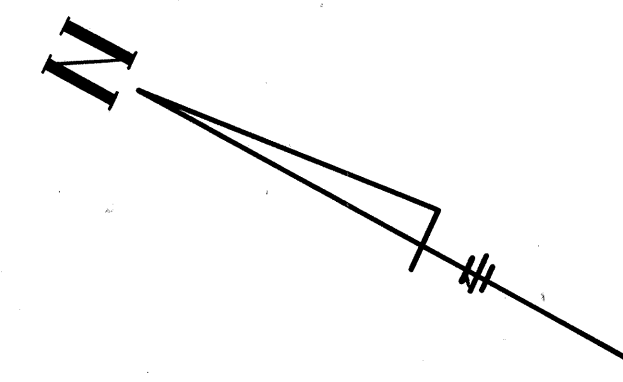
SUMMARY OF ADDITIONAL RIGHT OF WAY REQUIRED

STATE JOB NUMBER	03933(0)	FHWA REGION	5	STATE	OHIO	PROJECT	BRF-47( )
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ASD - 250 - 1.03  
RIGHT OF WAY PLAN

20  
20  
1  
1

PARCEL NO.	TYPE FUNDS	PROPERTY OWNER	AS ACQUIRED	RECORDED		DEED AREA	TOTAL P.R.O.	GROSS TAKE	P.R.O. INTAKE	NET TAKE	NET RESIDUE		BLDG.	SHEET NO.	REMARKS
				VOL	PAGE						LEFT	RIGHT			
1	State	Edith R. Lindsley	D.V. 536 Pg 3	329/260	24/423	143.82	2.78	0.02	0	0.02	141.02	—	No	1	
2	"	Ralph A. & Pauline B. Hayes	D.V. 536 Pg 6	510/531	499/549	85.1193	1.20	0.05	0	0.05	—	83.8693	No	1	
2X	"	"	"	"	"	"	"	0.01	0	0.01	—	—	No	1	Channel Work
3	"	Fremon & Melvina Hamilton	D.V. 536 Pg 10	509	982	1.121	0.33	0.01	0	0.01	—	0.781	No	1	
3X	"	"	"	"	"	"	"	145 S.F.	0	145 S.F.	—	—	No	1	Channel Work



UTILITY OWNERS

POWER:  
Ohio Power Company  
P.O. Box 400  
301 Cleveland Avenue S.W.  
Canton, Ohio 44701  
Phone: (216) 455-8931

TELEPHONE:  
General Telephone Company  
1534 S.R. 511 South - P.O. Box 9  
Ashland, Ohio 44805  
Phone: (419) 289-6616

② Cont. 0.05 Ac.  
Ralph A. & Pauline B. Hayes

② Cont. 0.01 Ac.

③ Fremon & Melvina Hamilton  
Cont. 0.01 Ac. Cont. 145 S.F.

TYPE FUNDS: STATE  
PLAN COMPLETED: 5-18-84

Revision Date	Description
7-13-84 JU	Revised Net Take Par. 2x & 3x

ASHLAND COUNTY RUGGLES TOWNSHIP SECTION 3 T-1N R-20W



MICROFILMED  
MAR 20 1987

CALC. BY: \_\_\_\_\_ DATE: \_\_\_\_\_  
CHK. BY: \_\_\_\_\_ DATE: \_\_\_\_\_

FHWA REGION	STATE	PROJECT
5	OHIO	ASD-250-0104

1  
4

ASHLAND COUNTY

INTRODUCTION

THIS REPORT PRESENTS THE RESULTS OF A SOIL INVESTIGATION CONDUCTED AT THE SITE OF THE PROPOSED BRIDGE REPLACEMENT ASD-250-0104.

THE INVESTIGATION WAS MADE FOR DETERMINATION OF THE SUBSURFACE SOIL CONDITIONS AND ITS STRUCTURAL CHARACTERISTICS AND FOR EVALUATION OF HOW THOSE CONDITIONS WOULD INFLUENCE THE RETENTION OF THE BRIDGE ABUTMENT STRUCTURES.

FIELD INVESTIGATION AND LABORATORY TESTING









BETWEEN 9-29-83 & 12-16-83, TWO (2) SUBSURFACE SOIL EXPLORATORY BORINGS WITH SAMPLING WERE CONDUCTED AT THE PROPOSED CONSTRUCTION SITE. THE TEST BORINGS WERE PERFORMED USING A HEAVY TRUCK MOUNTED SOLID STEM CONTINUOUS ROTARY DRILL EQUIPPED WITH SPLIT BARREL SAMPLING EQUIPMENT. THE SAMPLINGS WERE CONDUCTED IN ACCORDANCE WITH ASTM D-1586, AS OUTLINED BELOW:

- A. TWO INCH (2") SPLIT BARREL SAMPLES WERE TAKEN EVERY TWO FEET (2') FOR THE FIRST TWENTY FEET (20') AND 1 SAMPLE EVERY FIVE FEET (5') THEREAFTER OR AT CHANGE OF STRATA.
- B. HAMMER BLOWS PER SIX (6) INCH PENETRATION INTERVALS (0-6"; 6-12"; 12-18") WERE LOGGED WITH A 140 LB. HAMMER AT 30" DROP. STANDARD PENETRATION TEST RESULTS WERE ENTERED IN A DRILLERS LOG AND IDENTIFIED BY BORING NUMBER AND DEPTH.
- C. "NX" ROCK CORING WAS PERFORMED ON EACH OF THE TEST BORINGS.
- D. GROUNDWATER WAS NOTED AT ENCOUNTER AND ELEVATIONS WERE MEASURED AND RECORDED ON COMPLETION OF EACH TEST BORING WHEN APPROPRIATE.
- E. IN THE LABORATORY ALL SAMPLES WERE EXAMINED AND VISUALLY CLASSIFIED BY A SOILS ENGINEER AND/OR TECHNICIAN. MOISTURE CONTENT, ATTERBERG LIMITS, AND GRAIN SIZE ANALYSIS WITH HYDROMETER WERE PERFORMED ON REPRESENTATIVE SAMPLES.

ASHLAND COUNTY GEOLOGY

THIS AREA IS LOCATED IN THE GLACIATED LOW PLATEAU AREA OF THE APPALACHIAN PLATEAU PROVINCE. THE TOPOGRAPHY IS GENTLY TO SHARPLY ROLLING. THE SURFICIAL MATERIALS CONSIST OF UNSTRATIFIED CLAY, SILT, SAND, AND GRAVEL DEPOSITS OF GLACIAL ORIGIN. THESE GLACIAL DEPOSITS MAY BE AS MUCH AS 100' THICK IN SOME AREAS. SEVERAL LACUSTRINE DEPOSITS CONSISTING OF STRATIFIED SILT AND CLAY ALSO ARE PRESENT IN THE AREA. THE BEDROCK IN THIS AREA CONSISTS OF SHALES, SANDSTONE, AND SILTSTONES OF MISSISSIPPIAN AGE.

LEGEND

-  DRIVE SAMPLE AND/OR CORE BORING - PLAN VIEW.
-  DRIVE SAMPLE AND/OR CORE BORING PLOTTED TO VERTICAL SCALE ONLY - PROFILE.
-  FREE WATER OR WATER SEEPAGE.
-  FIGURES BESIDE THE BORING LOG IN PROFILE INDICATE THE NUMBER OF BLOWS OF STANDARD PENETRATION TEST.  
Y = NUMBER OF BLOWS FOR FIRST 6 INCHES.  
Z = NUMBER OF BLOWS FOR SECOND 6 INCHES.
-  SHELBY TUBE.
-  WATER ON ENCOUNTER IN BORINGS OR ON WATER SURFACE IN STREAM BED.
-  WATER ON COMPLETION.
-  \* REPRESENT COMBINED PERCENTAGE OF SILT AND CLAY.

"SOIL INFORMATION- All available soil and bedrock information which can be conveniently shown on the soil profile and/or structure foundation investigation sheets has been so reported. Additional subsurface investigations may have been made to study some special aspect of the projects. Copies of this data, if any, may be inspected in the District Deputy Director's Office, the Bureau of Tests at 1600 W. Broad St, the Pavement and Soils section of the Bureau of Location and Design or in the Bridge Bureau at 25 South Front St."

SOLAR TESTING LABORATORIES, INC.		
BRIDGE FOUNDATION INVESTIGATION FAST TRACK III BRIDGE PROGRAM O.D.O.T. DISTRICT 3 ASD - 250 - 0104 OVER BRANCH OF VERMILION RIVER		
DRAWN BY <i>CAZ</i>	CHECKED BY <i>GJA</i>	STL PROJECT NO.
SCALE 1" = 20'	DATE 12-30-83	A83305x10



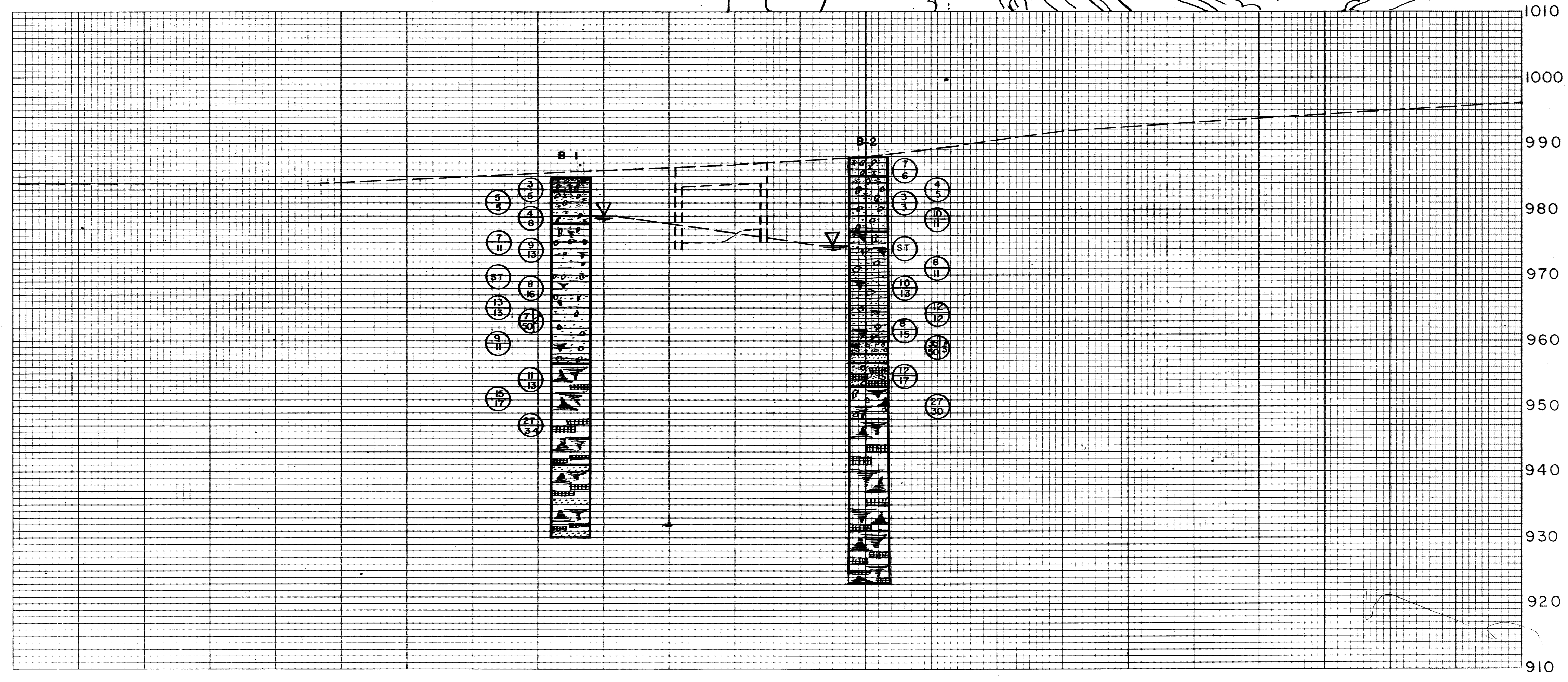
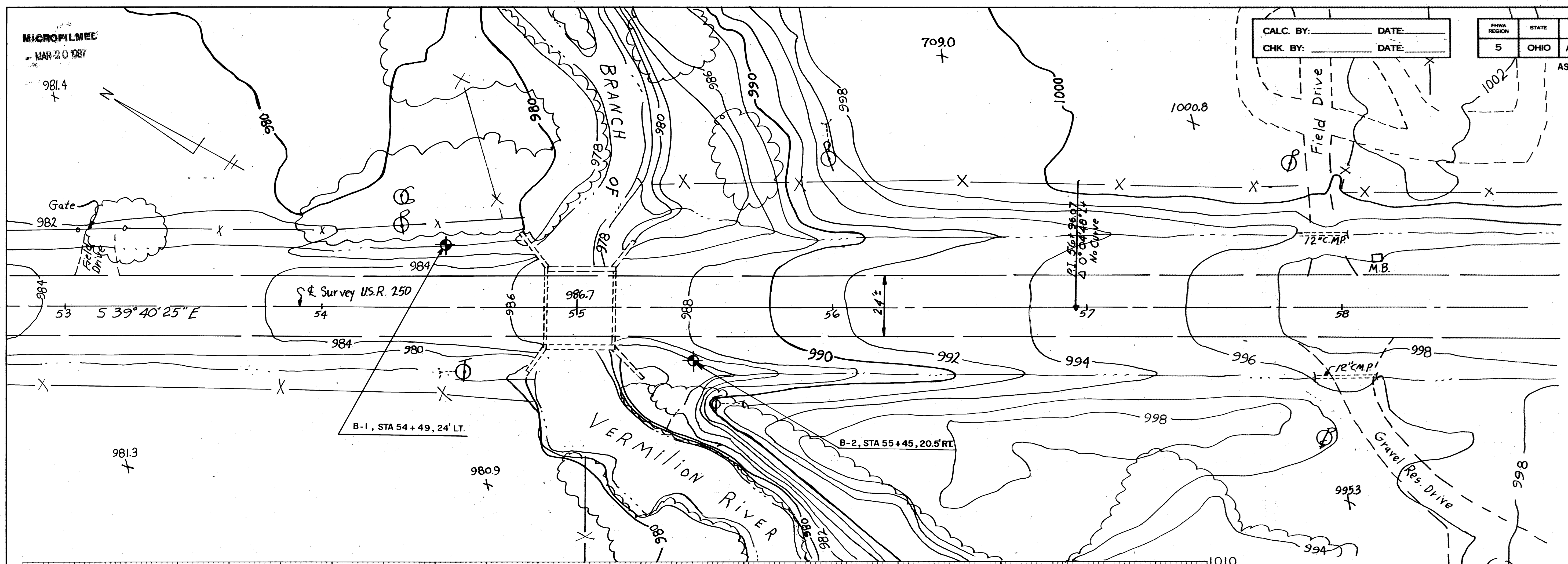
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MAR 20 1987

CALC. BY: \_\_\_\_\_ DATE: \_\_\_\_\_  
CHK. BY: \_\_\_\_\_ DATE: \_\_\_\_\_

FHWA REGION	STATE	PROJECT
5	OHIO	ASD-250-0104

2  
4

ASHLAND COUNTY



**SOLAR TESTING LABORATORIES, INC.**

BRIDGE FOUNDATION INVESTIGATION  
FAST TRACK III BRIDGE PROGRAM  
O.D.O.T. DISTRICT 3  
ASD-250-0104  
OVER BRANCH OF VERMILION RIVER

DRAWN BY *OPZ* CHECKED BY *GJA* STL PROJECT NO. \_\_\_\_\_  
SCALE 1" = 20' DATE 12-30-83 AB3305x10



MICROFILMED  
MAR 20 1987

CALC. BY: \_\_\_\_\_ DATE: \_\_\_\_\_  
CHK. BY: \_\_\_\_\_ DATE: \_\_\_\_\_

FHWA REGION	STATE	PROJECT
5	OHIO	ASD-250-0104

3  
4

ASHLAND COUNTY

SOLAR TESTING LABORATORIES, INC.

LABORATORY LOG OF BORING		B-1	BORING DATE		12-15-83														
OWNER		O.D.O.T. DISTRICT 3		PROJECT		ASD-250-0104													
LOCATION		STATION 54+49, 24' LT.																	
DRILLING METHOD		SOLID STEM AUGER																	
SURFACE ELE.		984.70'		WATER ELE.		978.70'													
DEPTH	SAMPLE	TYPE	SYMBOL	SOIL DESCRIPTION	SPLIT-BARREL PENETRATION	UNCOMPACTED COMPRESSIVE STRENGTH (T/BB/R)	UNIT DRY WT. (lb./cu. ft.)	PLASTIC LIMIT IN PERCENT	WATER CONTENT IN PERCENT	LIQUID LIMIT IN PERCENT	PHYSICAL CHARACTERISTICS					SOIL CLASSIFICATION			
											ASS. %	COARSE SAND %	FINE SAND %	SILT %	CLAY %				
1	SB			GRASS COVER, 3" TOPSOIL UNDERLAIN BY MEDIUM STIFF BROWN SILTY CLAY, LITTLE GRAVEL AND SAND, FEW ORGANICS. PROBABLE FILL (MOIST)	3-3-5			14.9											
2	SB			STIFF BROWN AND GRAY SILTY CLAY, TRACE GRAVEL, LITTLE SAND, THIN SAND SEAMS, TRACE ORGANICS, OLD WOOD. PROBABLE FILL (MOIST)	5-5-5			20.24	25.2	33.7	0.16	7.84	49.1	(42.9)*					A-6a(3)
3	SB				3-4-8														
4	SB				4-7-11														
5	SB				8-9-13			16.54	21.8	28.1	5.70	7.50	34.0	(52.8)*					A-6a(4)
6	ST			STIFF TO VERY STIFF GRAY SILTY CLAY, TRACE SAND, LITTLE GRAVEL (SHALE FRAGMENTS) FEW VERY THIN SAND AND GRAVEL LENSES.	Shelby Tube	4.27		14.5		22.5									
7	SB				6-8-16				13.4		6.8	5.0	9.90	(78.3)*					
8	SB				13-13-13			15.47	13.8	24.7	5.90	8.20	31.8	(54.1)*					A-4a(4)
9	SB				7-7-50/2"			16.62	15.2	28.6	5.20	5.99	8.11	(80.7)*					A-6a(9)
10	SB				9-9-11														
11	SB				11-11-13														
12	SB			HIGHLY ALTERED GRAY CLAY SHALE.	14-15-17														
13	SB			40.0'-45.0' REC. = 43" (71.7%) RQD = 49.2% LONGEST = 28.5" SHORTEST = 0.5"	27-34														
14	NWL																		
15	NWL			MODERATELY-SLIGHTLY ALTERED GRAY CLAY SHALE FEW INCLINED & VERTICAL FRACTURES. FEW SILTSTONE INTERLAYERS.															

SOLAR TESTING LABORATORIES, INC.

LABORATORY LOG OF BORING		B-1	BORING DATE		12-15-83														
OWNER		O.D.O.T. DISTRICT 3		PROJECT		ASD-250-0104													
LOCATION		STATION 54+49, 24' LT.																	
DRILLING METHOD		SOLID STEM AUGER																	
SURFACE ELE.		984.70'		WATER ELE.		978.70'													
DEPTH	SAMPLE	TYPE	SYMBOL	SOIL DESCRIPTION	SPLIT-BARREL PENETRATION	UNCOMPACTED COMPRESSIVE STRENGTH (T/BB/R)	UNIT DRY WT. (lb./cu. ft.)	PLASTIC LIMIT IN PERCENT	WATER CONTENT IN PERCENT	LIQUID LIMIT IN PERCENT	PHYSICAL CHARACTERISTICS					SOIL CLASSIFICATION			
											ASS. %	COARSE SAND %	FINE SAND %	SILT %	CLAY %				
15	NWL			MODERATELY-SLIGHTLY ALTERED GRAY CLAY SHALE FEW INCLINED & VERTICAL FRACTURES. FEW SILTSTONE INTERLAYERS.															
55				45.0'-55.0' REC. = 119.5" (99.62) RQD = 62.52 LONGEST = 25.75" SHORTEST = 0.5"															

SOLAR TESTING LABORATORIES, INC.

BRIDGE FOUNDATION INVESTIGATION  
FAST TRACK III BRIDGE PROGRAM  
O.D.O.T. DISTRICT 3  
ASD-250-0104  
OVER BRANCH OF VERMILION RIVER

DRAWN BY *DAZ* CHECKED BY *GJA* STL PROJECT NO.  
SCALE 1" = 20' DATE 12-30-83 AB3305x10



SOLAR TESTING LABORATORIES, INC.

LABORATORY LOG OF BORING		B-2	BORING DATE		12-16-83													
OWNER		O.D.O.T. DISTRICT 3		PROJECT		ASD-250-0104												
LOCATION		STATION 55+45, 20.5' RT.																
DRILLING METHOD		SOLID STEM AUGER																
SURFACE ELE.		987.80'		WATER ELE.		974.30'												
DEPTH	SAMPLE	TYPE	SYMBOL	SOIL DESCRIPTION	SPLIT-BARREL PENETRATION	UNCONFINED COMPRESSIVE STRENGTH (TSR)	UNIT DRY WT. (lb./cu. ft.)	PLASTIC LIMIT IN PERCENT	WATER CONTENT IN PERCENT	LIQUID LIMIT IN PERCENT	PHYSICAL CHARACTERISTICS					SOIL CLASSIFICATION		
											AGG. %	COARSE SAND %	FINE SAND %	SILT %	CLAY %			
1	SB			GRASS COVER 5" ROOT ZONE UNDERLAIN BY STIFF BROWN SILTY CLAY WITH SOME SAND AND GRAVEL. TRACE WOOD FRAGMENTS. PROBABLE FILL (MOIST)	8-7-6				13.8									
2	SB			STIFF-MEDIUM STIFF BROWN SILTY CLAY. TRACE SAND, FEW THIN SAND LENSES, TRACE GRAVEL. PROBABLE FILL (MOIST)	4-4-5				17.8	11.2	7.78	8.62	(72)	.4	*			
5	3	SB		STIFF-MEDIUM STIFF BROWN SILTY CLAY. TRACE SAND, FEW THIN SAND LENSES, TRACE GRAVEL. PROBABLE FILL (MOIST)	4-3-3			18.44	20.2	27.5	6.90	20.4	36.4	(36)	.3	*	A-4a(7)	
10	4	SB		VERY STIFF BROWN AND GRAY SILTY CLAY. LITTLE SAND AND GRAVEL. PROBABLE FILL (MOIST)	8-10-11				19.2									
15	5	ST		Shelby Tube		3.40		15.38	22.6									
15	6	SB		VERY STIFF BROWN AND GRAY SILTY CLAY. LITTLE SAND AND GRAVEL. PROBABLE FILL (MOIST)	6-8-11				15.9	3.20	14.0	15.3	(67)	.5	*			
20	7	SB		VERY STIFF GRAY SILTY CLAY. FEW SHALE FRAGMENTS, FEW SAND SEAMS AND SAND AND GRAVEL SEAMS STARTING AT 13.5' (WET TO MOIST)	7-10-13													
20	8	SB		VERY STIFF GRAY SILTY CLAY. FEW SHALE FRAGMENTS, FEW SAND SEAMS AND SAND AND GRAVEL SEAMS STARTING AT 13.5' (WET TO MOIST)	8-12-12			15.9	13.1	24.57	5.70	7.80	10.8	(75)	.7	*	A-4a(8)	
25	9	SB		VERY STIFF GRAY SILTY CLAY. FEW SHALE FRAGMENTS, FEW SAND SEAMS AND SAND AND GRAVEL SEAMS STARTING AT 13.5' (WET TO MOIST)	11-8-15				10.7									
30	10	SB		VERY DENSE GRAY SAND AND GRAVEL. TRACE SILT AND CLAY. (WET)	35-35-50/3"			17.12	8.4	20.8	34.9	30.1	18.3	(16)	.7	*	A-1-b(0)	
30				SANDSTONE BOULDER.														
35	11	SB		VERY STIFF GRAY SANDY CLAY. SOME GRAVEL. (WET)	12-12-17			14.51	13.1	20.8	34.8	29.1	20.2	(15)	.9	*	A-1-b(0)	
40	12	SB		HARD GRAY SILTY CLAY. FEW SHALE FRAGMENTS, TRACE GRAVEL. (WET)	27-30													
45	13	NXWL		HIGHLY ALTERED SOFT GRAY CLAY SHALE, FEW LAYERS OF MODERATELY ALTERED CLAY SHALE. (WET)														
45				45.0'-50.0' REC. = 38.5" (64.22) RQD = 35.82 LONGEST = 9.0" SHORTEST = FRAGMENTS														
50	14	NXWL		HIGHLY ALTERED SOFT GRAY CLAY SHALE, FEW LAYERS OF MODERATELY ALTERED CLAY SHALE. (WET)														

SOLAR TESTING LABORATORIES, INC.

LABORATORY LOG OF BORING		B-2	BORING DATE		12-16-83													
OWNER		O.D.O.T. DISTRICT 3		PROJECT		ASD-250-0104												
LOCATION		STATION 55+45, 20.5' RT.																
DRILLING METHOD		SOLID STEM AUGER																
SURFACE ELE.		987.80'		WATER ELE.		974.30'												
DEPTH	SAMPLE	TYPE	SYMBOL	SOIL DESCRIPTION	SPLIT-BARREL PENETRATION	UNCONFINED COMPRESSIVE STRENGTH (TSR)	UNIT DRY WT. (lb./cu. ft.)	PLASTIC LIMIT IN PERCENT	WATER CONTENT IN PERCENT	LIQUID LIMIT IN PERCENT	PHYSICAL CHARACTERISTICS					SOIL CLASSIFICATION		
											AGG. %	COARSE SAND %	FINE SAND %	SILT %	CLAY %			
15	15	NXWL		50.0'-55.0' REC. = 56" (93.32) RQD = 33.32 LONGEST = 7.0" SHORTEST = FRAGMENTS														
55	16	NXWL		55.0'-65.1' REC. = 122" (1002) RQD = 70.52 LONGEST = 33.0" SHORTEST = FRAGMENTS														
60				MODERATELY TO SLIGHTLY ALTERED GRAY CLAY SHALE, FEW INCLINED FRACTURES, FEW INTERLAYERS OF CLAY AND SHALE FRAGMENTS. (WET)														
65																		
70																		
75																		

SOLAR TESTING LABORATORIES, INC.

BRIDGE FOUNDATION INVESTIGATION  
FAST TRACK III BRIDGE PROGRAM  
O.D.O.T. DISTRICT 3  
ASD-250-0104  
OVER BRANCH OF VERMILION RIVER

DRAWN BY *PAZ* CHECKED BY *4.1* STL PROJECT NO. \_\_\_\_\_  
SCALE 1" = 20' DATE 12-30-83 AB330510