

MICROFILMED
FEB 4 1982

MICROFILMED
AUG 7 1984

PLAN NO. BR-38-78

ADAMS COUNTY ADA-770-0.00	OHIO	1 8
	FHWA REGION 5	
STATE	FEDERAL PROJECT	

STATE OF OHIO

DEPARTMENT OF TRANSPORTATION

ADA-770-0.00

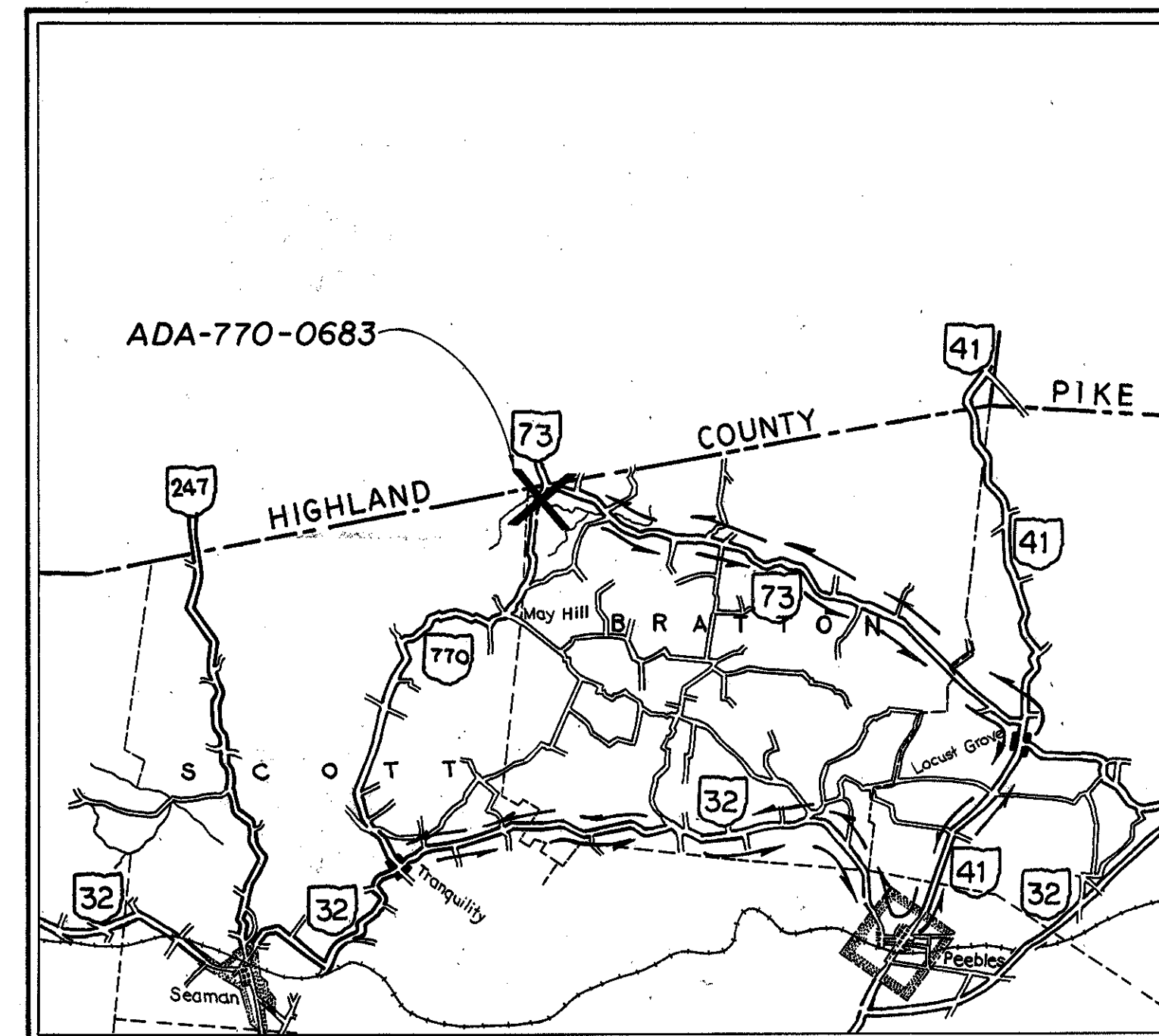
BRATTON TOWNSHIP

ADAMS COUNTY

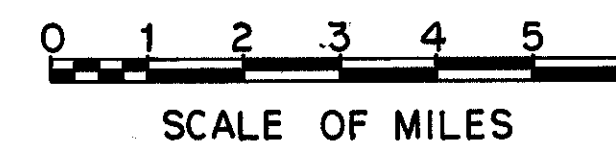
STRUCTURE - REPLACEMENT

1977 SPECIFICATIONS

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



LOCATION AND DETOUR MAP



Portion to be improved	
State Roads	
Other Roads	

INDEX OF SHEETS

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Right of Way	7-8

LINE DATA

Begin Work	Sta. 359+00
End Work	Sta. 362+50
Net Length of Work = 350 Lin. Ft. or 0.066 Mi.	
Begin Project	Sta. 359+75
End Project	Sta. 362+00
Net Length of Project = 275 Lin. Ft. or 0.052 Mi.	

SCALES

Plan	
Profile: Horizontal	
Profile: Vertical	
Cross Section: Horizontal	
Cross Section: Vertical	

SUPPLEMENTAL PRINTS OF STANDARD CONSTRUCTION DRAWINGS

GR-1	12-6-76			
GR-2B	12-6-76			
GR-4	12-6-76			
HW-4	1-1-70			
MC-3	6-1-73			
MC-1	6-13-69			

SUPPLEMENTAL 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.

The right of way for this improvement will be provided by the State of Ohio.

I hereby approve these plans and declare the making of this improvement will require the closing to traffic of the highway and that detours will be provided as indicated on the plans.

Approved James E. Hann
Date Feb 8, 1978 District Deputy Director of Transportation.

Approved Robert B. Griffin
Date 7-19-78 Engineer, Bureau of Bridges and Structural Design.

Approved George C. Malone
Date 8-8-78 Chief, Engineer, Operations.

Approved David A. Wein
Date 8-9-78 Director, Department of Transportation.

UTILITY OWNER

BELL TELEPHONE CO.
HILLSBORO, OHIO

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DRAINAGE AREA = 3567 ACRES
Q₁₀ = 1653 CFS
Q₁₀₀ = 2995 CFS
Q₁₀₀ HEADWATER ELEV. = 498.10

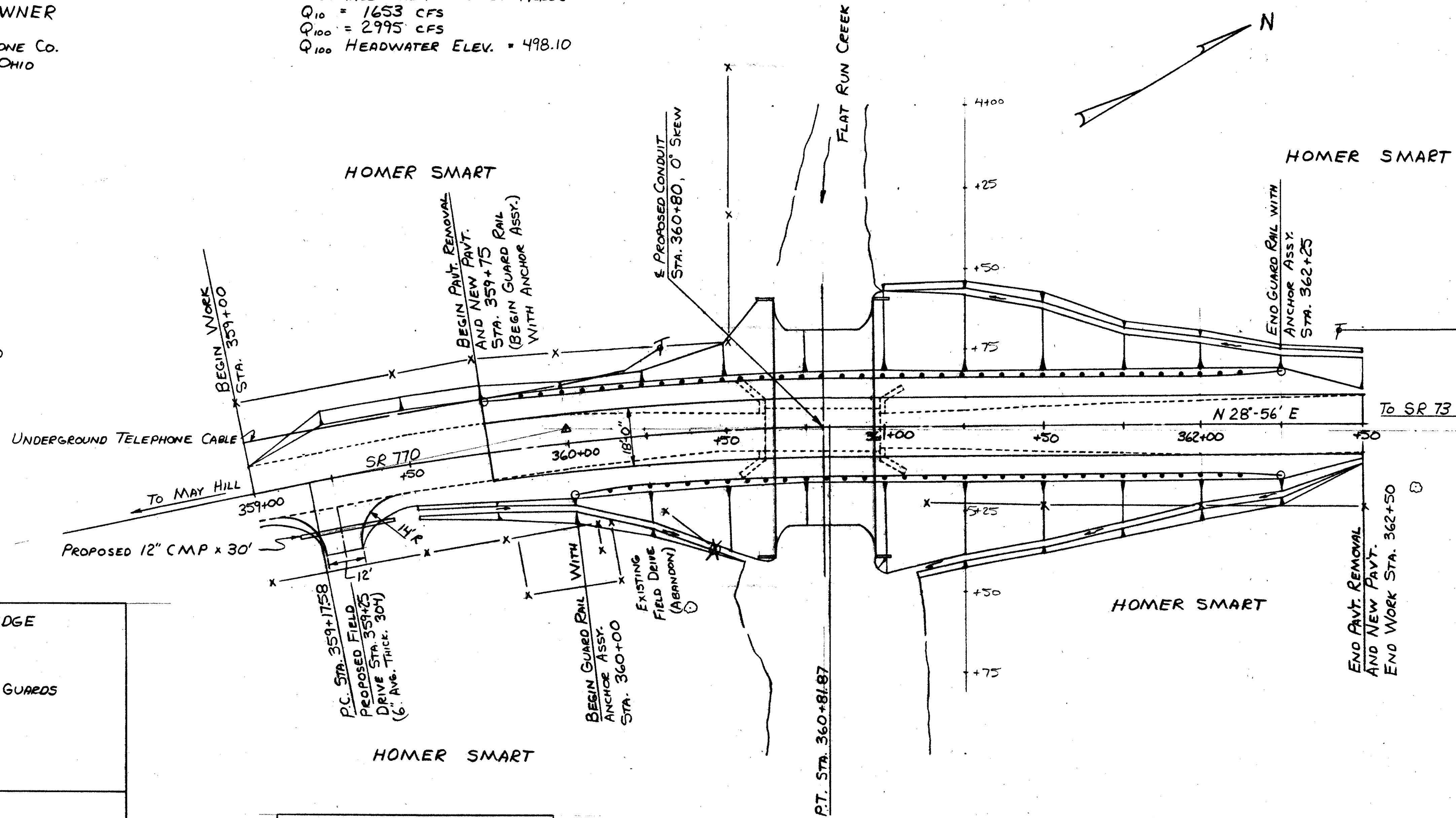
FHWA REGION	STATE	PROJECT
5	OHIO	M+R

2
8

ADA-770-0.00

CURVE DATA

Δ = 11°-30'
D = 7°
T = 82.42'
R = 818.57'
L = 164.29'
P.I. STA = 360+00



CURRENT ADT = 90

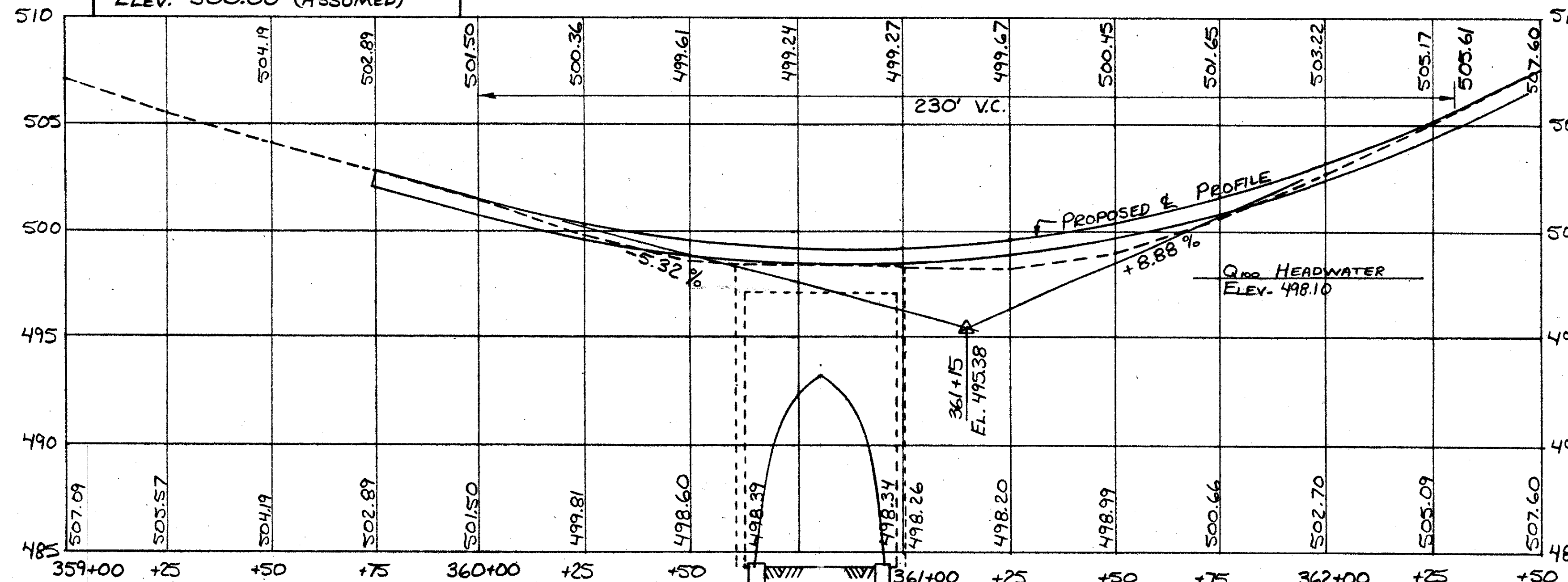
EXISTING BRIDGE

TYPE - STEEL PONY TRUSS
SPAN - 1 @ 36'-0"
WIDTH - 12.75' f/f FELLOE GUARDS
SKEW - 0°
LOADING - H-9.5
ABUTMENTS - STONE
W. SURF. - 4" BIT.
S.F.N. - 0104531

PROPOSED STRUCTURE

TYPE - STEEL CULVERT, FILLED
SPAN - 31'-0"
WIDTH - 30' f/f GUARD RAIL
LOADING - HS 20-44
SKEW - 0°

BENCH MARK
SPIKE NAIL IN 18" BUTTERNUT
STA. 360+39±, 54' RT.
ELEV. 500.00 (ASSUMED)



STATE OF OHIO
DEPARTMENT OF TRANSPORTATION
DIST. 9 BRIDGE DEPT. 2/8

SITE PLAN
BRIDGE No. ADA-770-0683
OVER FLAT RUN CREEK

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
JB	JB	JB	HJ	MPB	2-78	

ADA-770-0.00

REFERENCE SHALL BE MADE TO STANDARD DRAWINGS:

GR-2B	DATED	12-6-76
GR-4	DATED	12-6-76
HW-4	DATED	1-1-70
MC-3	DATED	6-1-73
MC-1	DATED	6-13-69

DESIGN SPECIFICATIONS: THIS STRUCTURE CONFORMS TO "STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY OFFICIALS, 1973, INCLUDING THE 1973, 1975 AND 1976 INTERIM SPECIFICATIONS AND THE OHIO "SUPPLEMENT" TO THESE SPECIFICATIONS.

DESIGN DATA:

DESIGN LOADING - HS-20-44 AND THE ALTERNATE MILITARY LOADING
CONCRETE CLASS C - UNIT STRESS 1200 P.S.I. FOR SUBSTRUCTURE
REINFORCING STEEL - ASTM A615, A616, OR A617 - UNIT STRESS 20,000 P.S.I.

REMOVAL OF EXISTING STRUCTURE:

WHEN NO LONGER NEEDED TO MAINTAIN TRAFFIC THE EXISTING STRUCTURE SHALL BE REMOVED. ABUTMENTS SHALL BE REMOVED TO ELEV. 484.40±. SUITABLE WASTE MASONRY MAY BE PLACED AS BANK PROTECTION AS DIRECTED BY THE ENGINEER.

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.

FIELD OFFICE: THE CONTRACTOR SHALL PROVIDE A SUITABLE FIELD OFFICE HAVING A MINIMUM OF 150 SQ. FT. OF FLOOR SPACE AND IN ADDITION TO THE REQUIREMENTS OF ITEM 619, HE SHALL PROVIDE AND MAINTAIN SANITARY PROVISIONS, AS PER 107.06. ALL OF THE ABOVE IS INCLUDED IN THE LUMP SUM PRICE BID FOR ITEM 619, FIELD OFFICE.

MAINTENANCE OF TRAFFIC: THE ROAD SHALL NOT BE CLOSED UNTIL ALL MATERIALS NECESSARY TO CONSTRUCT THE CONDUIT ARE ON THE SITE. AT THAT TIME THE CONTRACTOR SHALL ERECT BARRICADES AS DETAILED ON STD. DWG. MC-3 AND PROCEED TO REMOVE EXISTING BRIDGE.

MONUMENTS: MONUMENTS SHALL BE CONSTRUCTED IN ACCORDANCE WITH DETAILS SHOWN ON STD. DWG. MC-1. FOR LOCATIONS SEE SHEET NO. 7.

PLAN NOTES FOR LONG SPAN STRUCTURES
PIPE-ARCH MAXI-SPAN

DESCRIPTION:

THIS ITEM SHALL CONSIST OF FURNISHING AND ERECTING THE STRUCTURAL PLATE CORRUGATED STEEL STRUCTURE, WITH CORRUGATED PLATE COMPACTION WINGS AND HEADWALLS, AT THE LOCATION INDICATED.

MATERIALS:

MATERIAL FOR STRUCTURAL PLATE CORRUGATED STEEL STRUCTURE AND ACCESSORIES SHALL BE IN ACCORDANCE WITH 707.03. MATERIAL FOR BACKFILL SHALL MEET THE REQUIREMENTS OF 603.08.

INSTALLATION:

THE STRUCTURE SHALL BE INSTALLED IN ACCORDANCE WITH SECTION 603 OF THE CONSTRUCTION AND MATERIAL SPECIFICATIONS, STATE OF OHIO, DEPARTMENT OF TRANSPORTATION, EXCEPT AS MODIFIED HEREIN. THIS ITEM SHALL BE CONSIDERED A STRUCTURAL PLATE CORRUGATED STEEL ARCH STRUCTURE 0.218", AS PER PLAN.

603.03 SHALL BE MODIFIED AS FOLLOWS:

A TRENCH WIDTH OF 6'-0" ON EACH SIDE OF THE CONDUIT SHALL BE REQUIRED. ANY ADDITIONAL TRENCH WIDTH SHALL BE AS APPROVED BY THE ENGINEER AT NO ADDITIONAL COST TO THE STATE. THE REQUIREMENT THAT THE EMBANKMENT SHALL BE CONSTRUCTED AT LEAST TO THE SPRING LINE OF THE CONDUIT BEFORE TRENCHING FOR THE CONDUIT SHALL BE WAIVED. THE TRENCH SHALL BE EXCAVATED TO PROVIDE VERTICAL WALLS FOR AT LEAST THE LOWEST 5 FEET OF THE TRENCH. THE REMAINDER OF THE TRENCH OR EMBANKMENT SHALL BE BENCHED. BENCHES SHALL HAVE A MINIMUM WIDTH OF 5' WITH A DESIRABLE RISE OF 5' TO PERMIT OPERATIONS OF PLACING AND COMPACTING EQUIPMENT. IN LIEU OF BENCHING ABOVE THE NATURAL GROUND LINE, THE 203 EMBANKMENT CAN BE BROUGHT UP CONCURRENTLY WITH THE GRANULAR EMBANKMENT.

603.08 SHALL BE MODIFIED AS FOLLOWS:

THE BACKFILL MATERIAL, FOR A MINIMUM OF 6' BEYOND THE CONDUIT OR FULL WIDTH OF TRENCH ON EACH SIDE OF THE CONDUIT, WHICHEVER IS GREATER, SHALL BE GRANULAR MATERIAL AND SHALL BE COMPACTED WITH MECHANICAL TAMPERS AROUND THE CONDUIT AND TO AN ELEVATION 2' ABOVE THE COMPACTION WINGS IN LAYERS NOT TO EXCEED 6" IN THICKNESS. WHEN APPROVED BY THE ENGINEER, THIS GRANULAR MATERIAL MAY BE COMPACTED WITH WATER BY JETTING IF SATISFACTORY DRAINAGE IS PROVIDED FOR THE FREE WATER. WHEN COMPACTING WITH WATER, THE GRANULAR MATERIAL SHALL BE SELECT 310.02, GRADING A, WITH LESS THAN 10% PASSING THE NO. 200 SIEVE. EACH LAYER SHALL BE THOROUGHLY SATURATED WITH WATER. IN ADDITION, GRANULAR BACKFILL MATERIAL SHALL BE PLACED OVER THE CONDUIT FOR A MINIMUM WIDTH OF 6' ON EACH SIDE OF THE CONDUIT, AND TO A MINIMUM DEPTH OF 2' OVER THE CONDUIT. IT SHALL BE COMPACTED IN LAYERS APPROXIMATELY 8" THICK, AS DIRECTED BY THE ENGINEER. THE REMAINDER OF THE ADJACENT EMBANKMENT MATERIAL SHALL BE FURNISHED, PLACED, AND PAID FOR IN ACCORDANCE WITH 203. EACH LAYER OF GRANULAR BACKFILL SHALL BE COMPACTED TO A RELATIVE COMPACTION OF NOT LESS THAN 90% PER AASTO TEST METHOD NO. T-180, OR TO THE REQUIREMENTS ESTABLISHED AS SATISFACTORY BY THE ENGINEER. THE BACKFILL MATERIAL SHALL BE BROUGHT UP UNIFORMLY ON BOTH SIDES OF THE CONDUIT. COMPACTION EQUIPMENT OR METHODS THAT PRODUCE HORIZONTAL OR VERTICAL EARTH PRESSURES WHICH CAUSE EXCESSIVE DISTORTION OR DAMAGE TO THE CONDUIT SHALL NOT BE USED. HEAVY EARTH MOVING AND COMPACTION EQUIPMENT SHALL NOT BE OPERATED CLOSER THAN 6' ON EACH SIDE OF THE CONDUIT UNTIL A COVER OF 4' HAS BEEN PLACED AND PROPERLY COMPACTED OVER THE TOP OF THE CONDUIT. DURING BACKFILLING THE SHAPE WILL BE MONITORED USING INSTRUMENT AND LEVEL ROD AND THE DISTORTION CONTROLLED AS DIRECTED BY THE ENGINEER. DISTORTION IS DEFINED AS A CHANGE

IN THE DESIGN DIMENSIONS IN EXCESS OF 2%. THE BACKFILLING OPERATION SHALL BE HALTED WHEN THE BACKFILL REACHES THE BOTTOM OF THE COMPACTION WINGS; AND THE COMPACTION WINGS SHALL THEN BE FILLED WITH CLASS C CONCRETE (499 AND 511) AS APPROVED BY THE ENGINEER. BACKFILLING MAY BE RESUMED AFTER A WAIT OF NOT LESS THAN 48 HOURS AFTER THE COMPACTION WINGS ARE FILLED. IF HIGH EARLY STRENGTH CONCRETE IS USED, A 24 HOUR WAIT IS CONSIDERED ADEQUATE.

MOVEMENT CONTROL HOOKS:

MOVEMENT CONTROL HOOKS SHALL BE FURNISHED BY THE MANUFACTURER. THREE ROWS OF MOVEMENT CONTROL HOOKS SHALL BE INSTALLED FOR THE ENTIRE LENGTH OF THE STRUCTURE ON 10' TO 12' CENTERS (CIRCUMFERENTIAL SEAMS) OR AS DIRECTED BY THE ENGINEER.

INSPECTION:

THE MANUFACTURER SHALL PROVIDE A REPRESENTATIVE WHO WILL HAVE SUCH AUTHORITY AS DELEGATED BY THE ENGINEER TO APPROVE THE BACKFILL MATERIALS INCLUDING THE PLACEMENT AND COMPACTION THEREOF, TO APPROVE THE STRUCTURE MOVEMENT, AND TO REJECT ANY UNSATISFACTORY WORK. ANY COMMENTS OR DIRECTIONS THAT THE MANUFACTURER'S REPRESENTATIVE MAY HAVE, SHALL BE TRANSMITTED TO THE CONTRACTOR THROUGH THE ENGINEER.

BASIS FOR PAYMENT:

PAYMENT SHALL BE MADE AT THE CONTRACT UNIT PRICE BID PER LINEAR FOOT OF 522 STRUCTURAL PLATE CORRUGATED STEEL ARCH STRUCTURE, 0.218", AS PER PLAN, WHICH PAYMENT SHALL BE FULL COMPENSATION FOR ALL MATERIAL, LABOR AND EQUIPMENT NECESSARY TO COMPLETE THE INSTALLATION INCLUDING THE FURNISHING AND ERECTING OF THE STRUCTURAL PLATES; THE CONCRETE FILLED CORRUGATED PLATE COMPACTION WINGS; THE FURNISHING, PLACING AND COMPACTING OF THE BACKFILL MATERIAL; THE ANCHOR BOLTS; AND ALL OTHER ITEMS OF WORK NOT ITEMIZED AS A SEPARATE PAY ITEM NECESSARY TO PROVIDE A COMPLETED INSTALLATION.

GENERAL SUMMARY

ITEM	QUANTITY	UNIT	DESCRIPTION
201	LUMP	SUM	CLEARING AND GRUBBING
202	LUMP	SUM	STRUCTURE REMOVED
203	116	Cu. Yd.	EXCAVATION NOT INCLUDING EMBANKMENT CONSTRUCTION
203	1326	Cu. Yd.	EMBANKMENT
203	550	Sq. Yd.	SUBGRADE COMPACTION
301	97	Cu. Yd.	BITUMINOUS AGGREGATE BASE, AC-20 OR RT-11 OR RT-12
304	5	Cu. Yd.	AGGREGATE BASE
402	24	Cu. Yd.	ASPHALT CONCRETE, AC-20
404	24	Cu. Yd.	ASPHALT CONCRETE, AC-20
503	27	Cu. Yd.	UNCLASSIFIED EXCAVATION INCLUDING POCK
509	2178	Lbs.	REINFORCING STEEL
511	49	Cu. Yd.	CLASS C CONCRETE
522	80	LIN. FT.	30'-11" STRUCTURAL PLATE CORRUGATED STEEL ARCH STRUCTURE 0.218", AS PER PLAN.
603	30	LIN. FT.	12" CONDUIT, TYPE D
604	7	EACH	REFERENCE MONUMENTS
606	375	LIN. FT.	GUARD RAIL, TYPE 5
606	4	EACH	ANCHOR ASSEMBLY
614	LUMP	SUM	MAINTAINING TRAFFIC
619	LUMP	SUM	FIELD OFFICE
623	LUMP	SUM	CONSTRUCTION LAYOUT STAKES
659	0.02	Ton	COMMERCIAL FERTILIZER (12-12-12)
659	0.08	Ton	AGRICULTURAL LIMING
659	1551	Sq. Yd.	SEEDING AND MULCHING

REINFORCING STEEL LIST

MARK	NO.	LENGTH	WEIGHT	SHP.	BENDING DIAGRAMS
P500	12	5'-3"	66	S	
P600	16	4'-9"	115	B	
P501	108	8'-6"	958	B	
P502	36	27'-8"	1039	S	
		TOTAL	2178 LB.		

STATE OF OHIO
DEPARTMENT OF TRANSPORTATION
Dist. 9 BRIDGE DEPT. 3/8

GENERAL NOTES, GENERAL
SUMMARY, AND RESTEEL LIST
ADA-770-0683

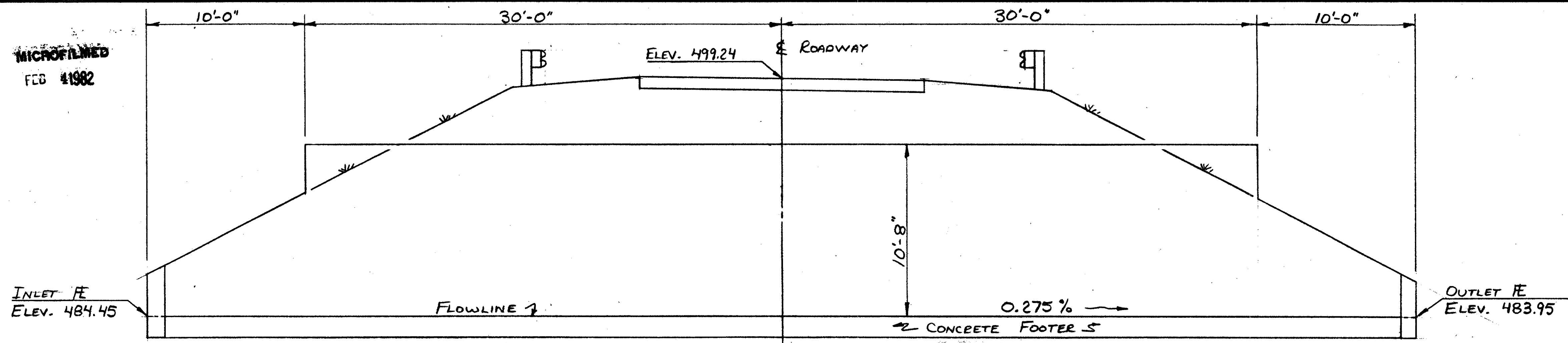
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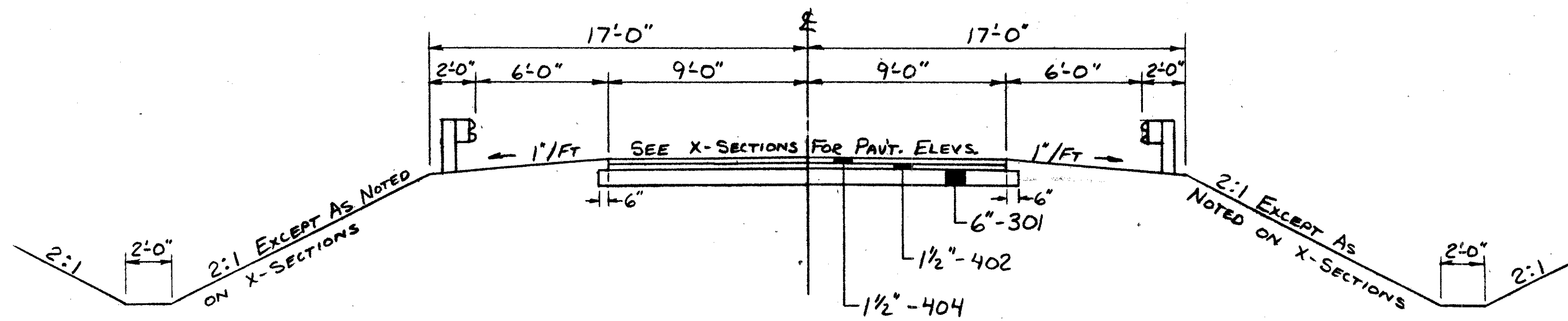
FHWA REGION	STATE	PROJECT
5	OHIO	M+R

4/8

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CONDUIT SECTION
STA. 360+80

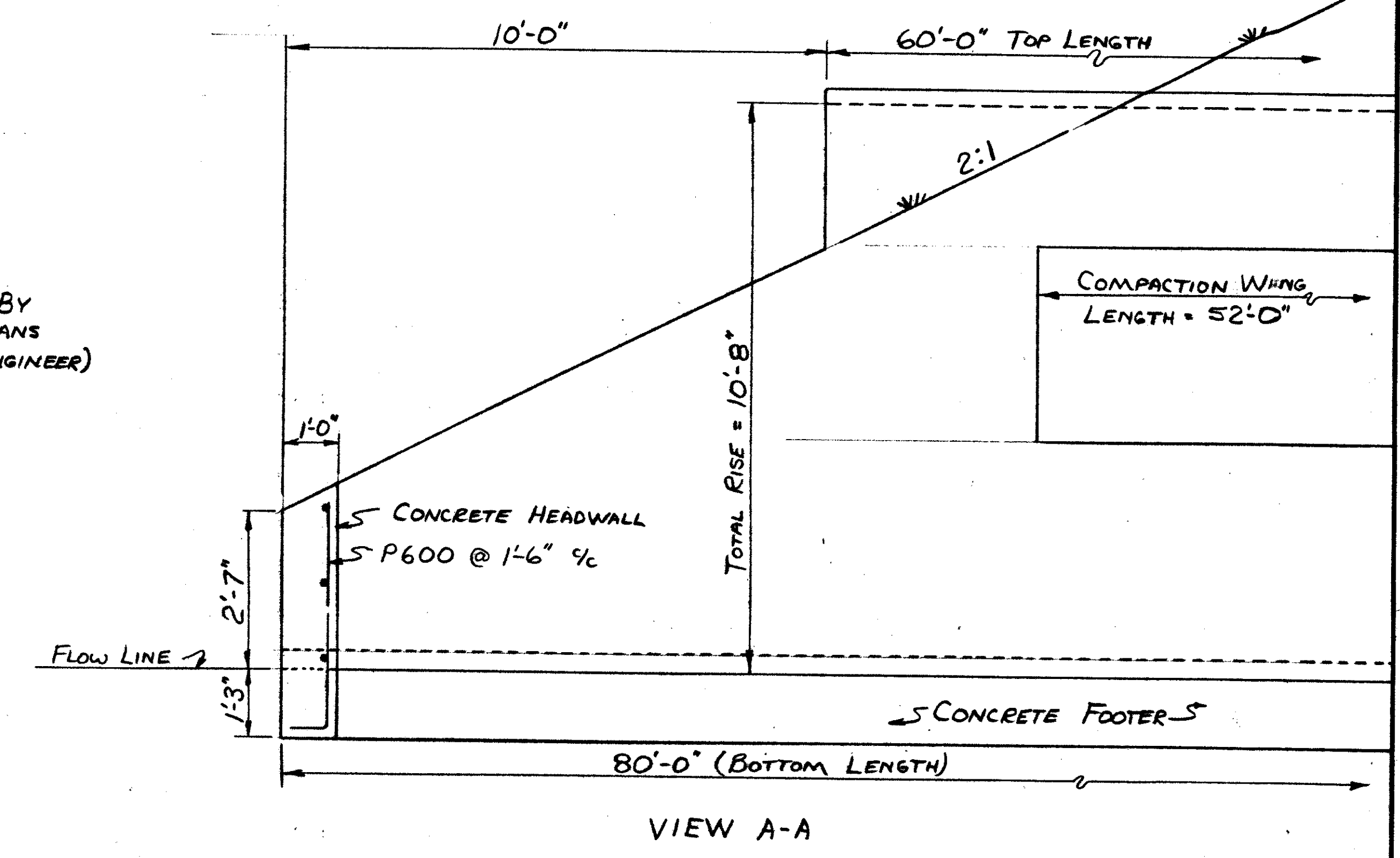
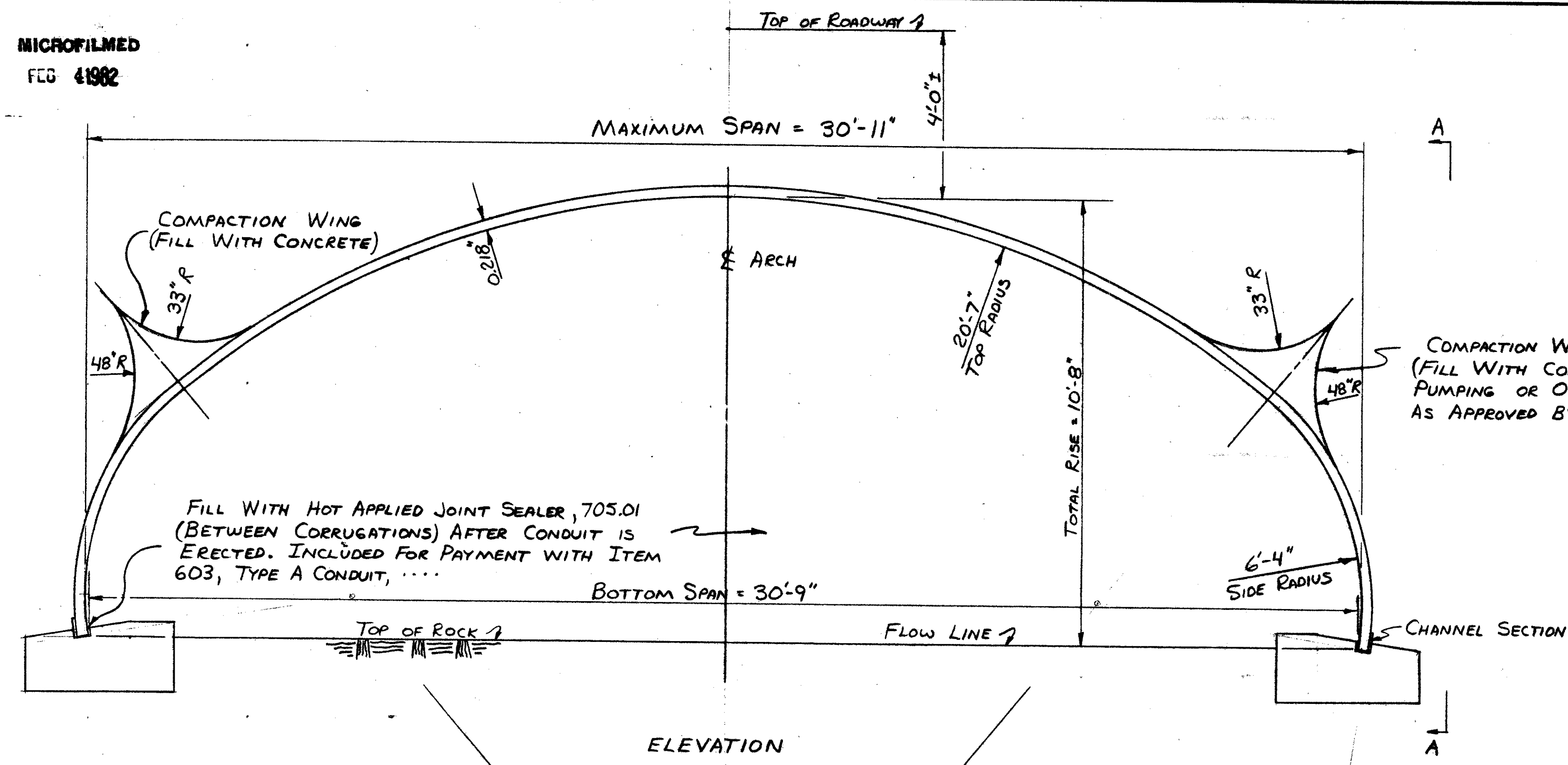


TYPICAL SECTION
STAS. 359+75 TO 362+50

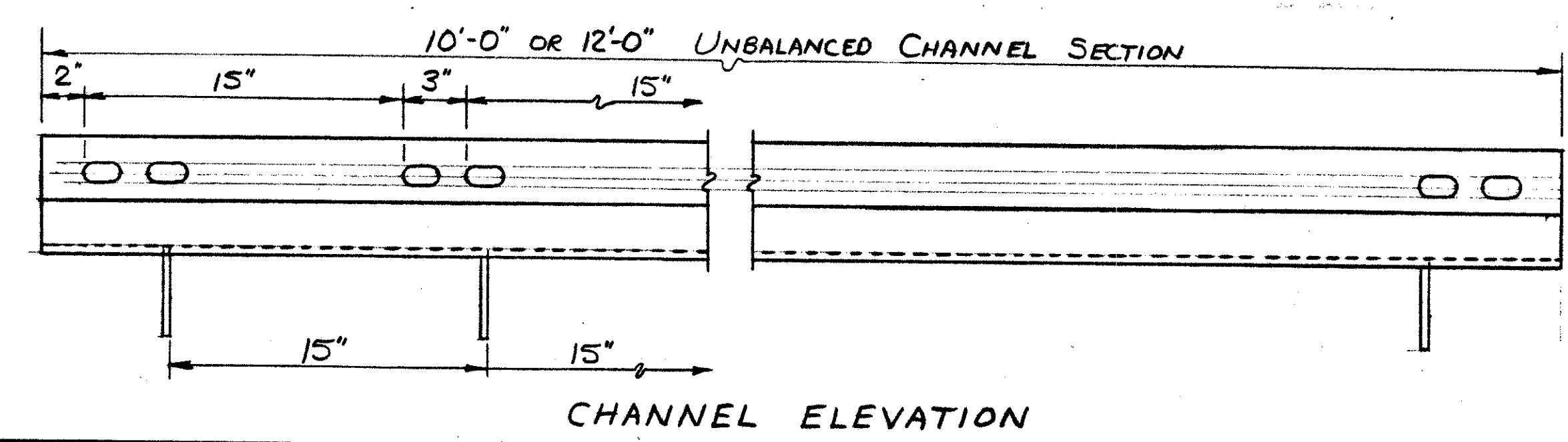
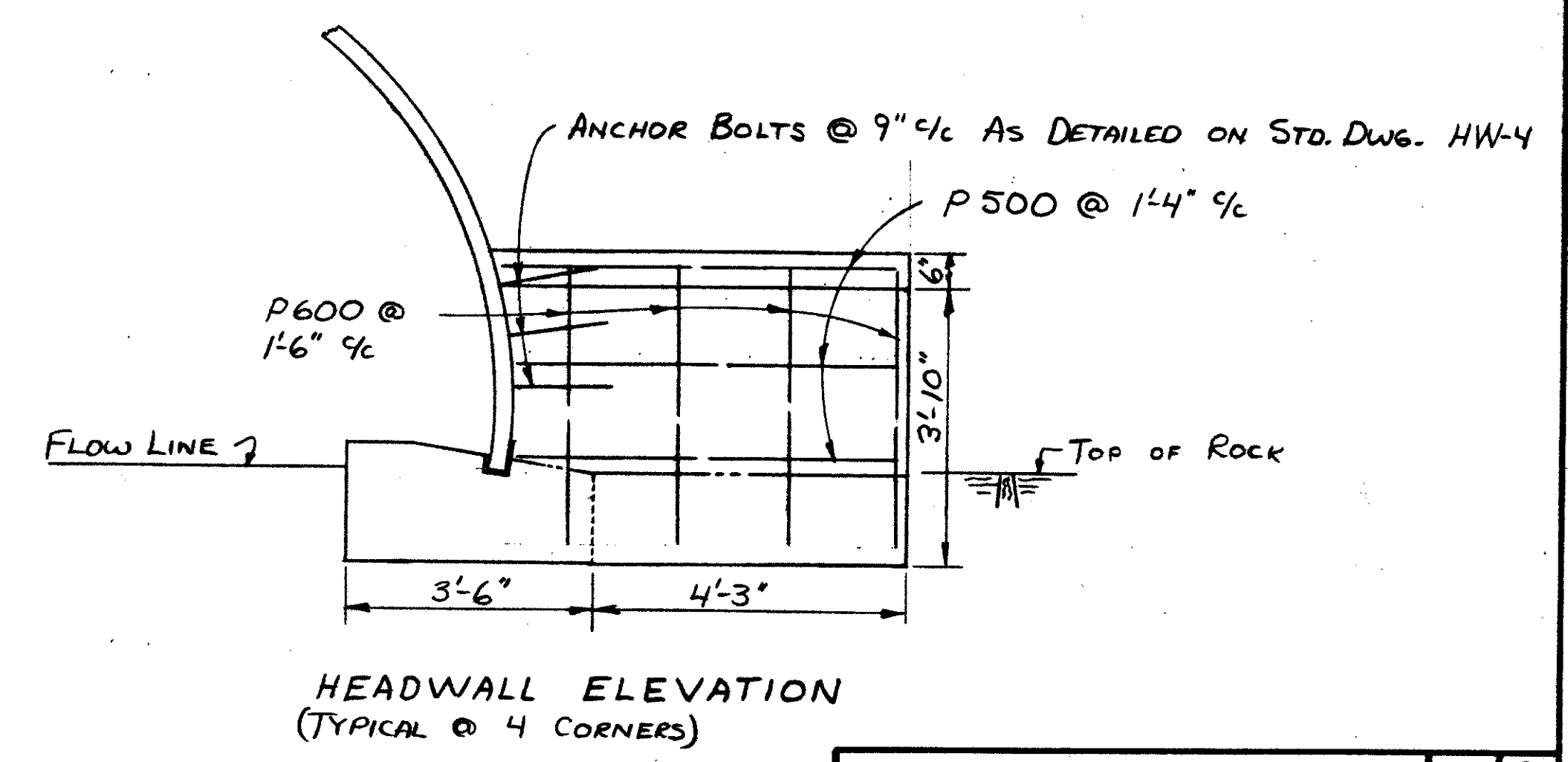
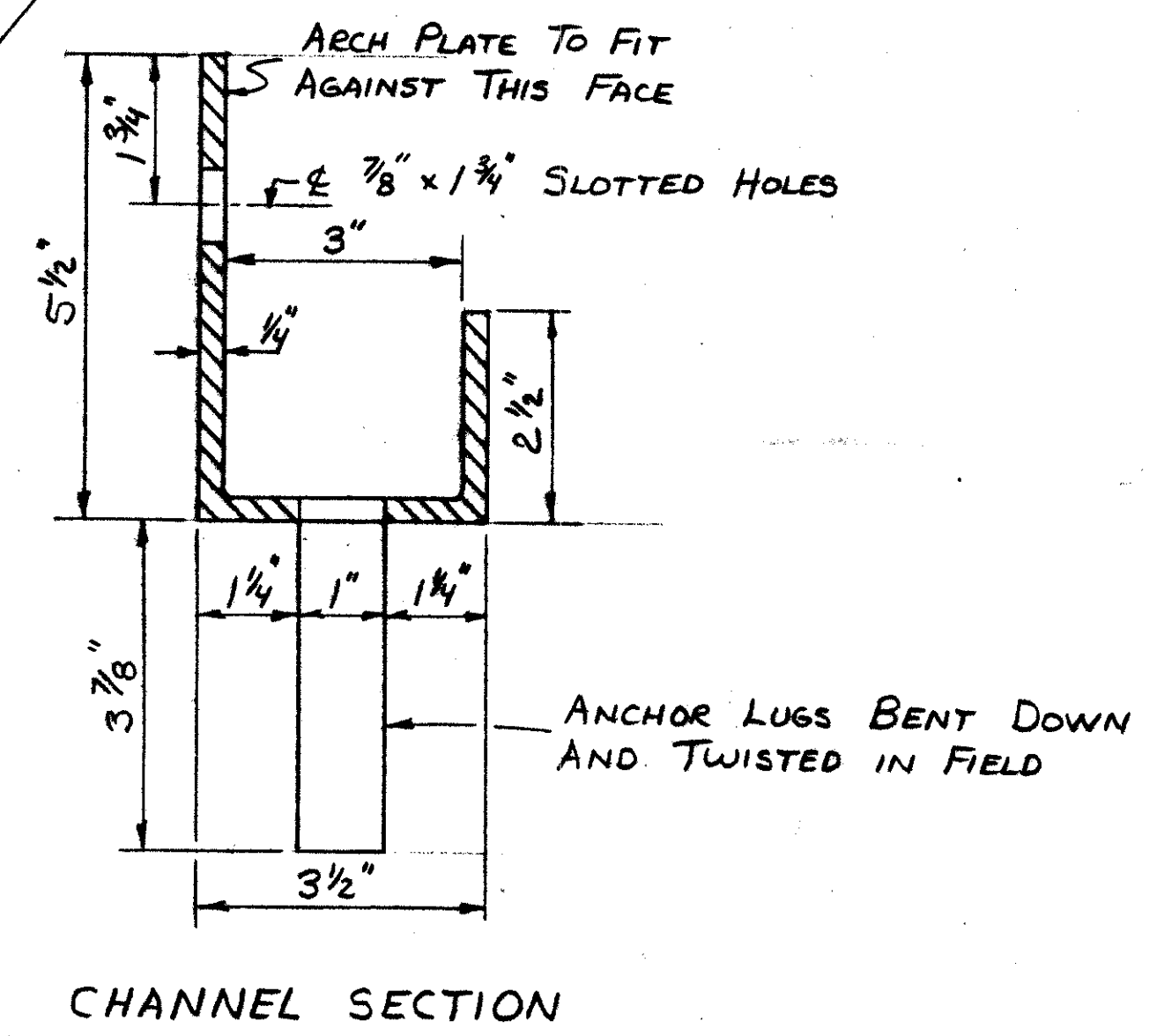
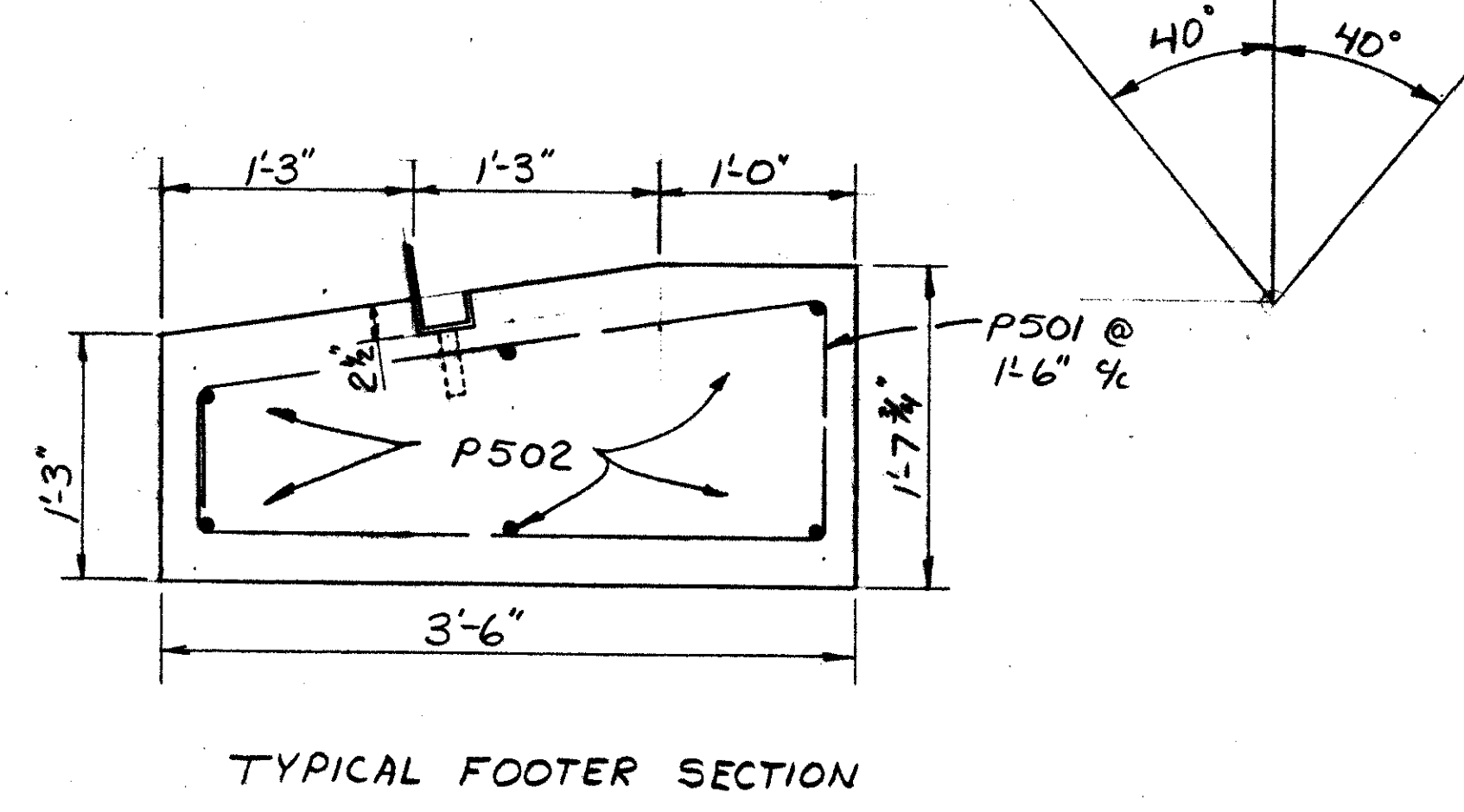
STATE OF OHIO
DEPARTMENT OF TRANSPORTATION
DIST. 9 BRIDGE DEPT. 4/8

CONDUIT SECTION, TYPICAL
SECTION
ADA-770-0683

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
JB	JB	JB	HJ	MPB	2-78	



FOOTING CONCRETE SHALL BE PLACED ON AND AGAINST UNDISTURBED ROCK. (NOT SHALE)



STATE OF OHIO DEPARTMENT OF TRANSPORTATION Dist. 9 BRIDGE DEPT.						5/8
FOOTING AND HEADWALL DETAILS						
ADA-770-0683						
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
JB	JB	JB	HJ	MPB	2-78	