

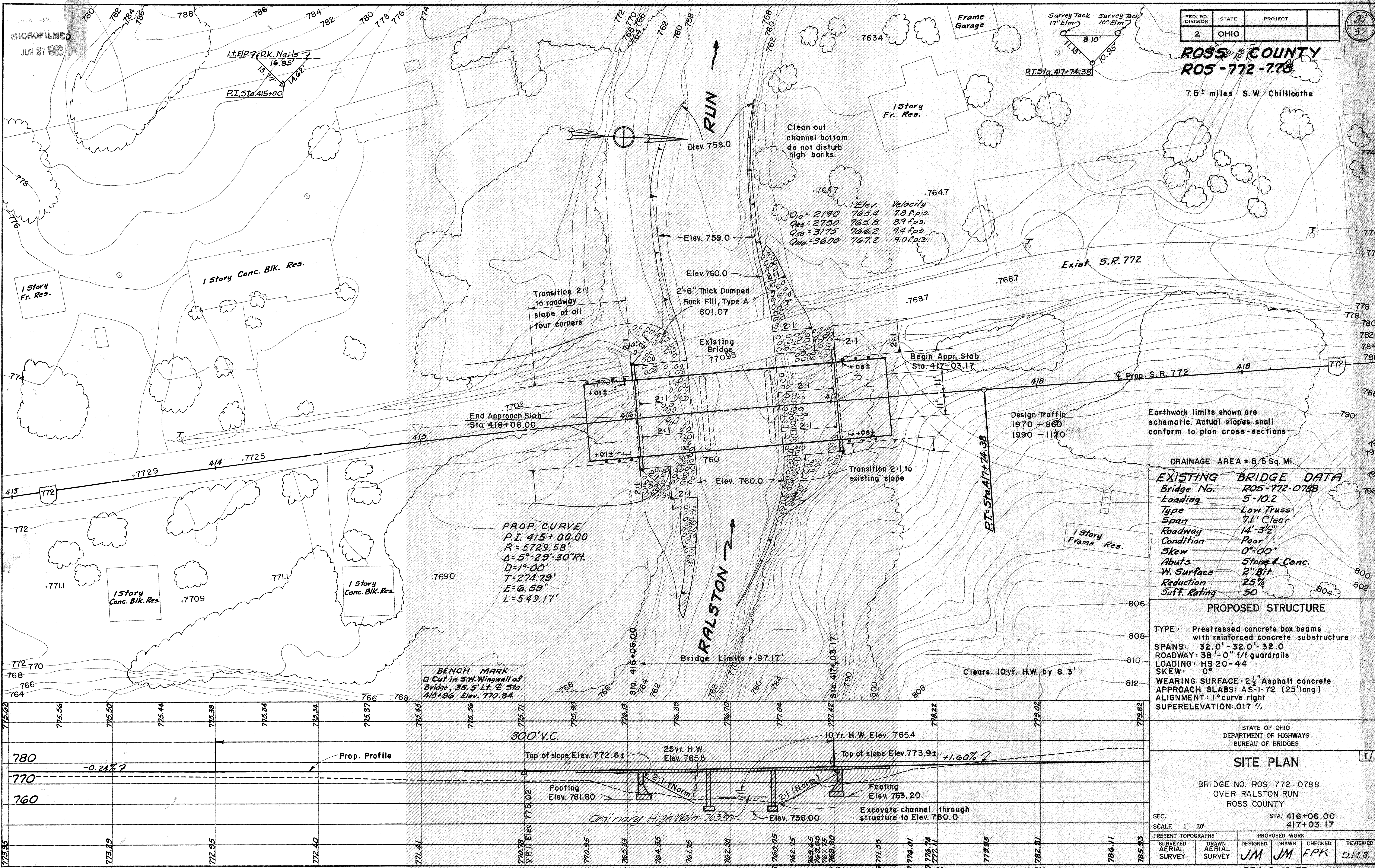
MICROFILMED  
JUN 27 1983

FED. RD. DIVISION	STATE	PROJECT
2	OHIO	

**ROSS COUNTY**  
**ROS-772-778**

7.5± miles S.W. Chillicothe

24  
37



Q <sub>10</sub> = 2190	Elev. 765.4	Velocity 7.8 f.p.s.
Q <sub>25</sub> = 2750	765.8	8.9 f.p.s.
Q <sub>50</sub> = 3175	766.2	9.4 f.p.s.
Q <sub>100</sub> = 3600	767.2	9.0 f.p.s.

**PROP. CURVE**  
P.I. 415+00.00  
R = 5729.58'  
Δ = 5°-29'-30" Rt.  
D = 1°-00'  
T = 274.79'  
E = 6.59'  
L = 549.17'

**BENCH MARK**  
□ Cut in S.W. Wingwall of Bridge, 35.5' Lt. of Sta. 415+96 Elev. 770.84

Earthwork limits shown are schematic. Actual slopes shall conform to plan cross-sections

DRAINAGE AREA = 5.5 Sq. Mi.

EXISTING BRIDGE DATA	
Bridge No.	ROS-772-0788
Loading	5-10.2
Type	Low Truss
Span	71' Clear
Roadway	14'-3 1/2"
Condition	Poor
Skew	0°-00'
Abuts.	Stone & Conc.
W. Surface	2" Bit.
Reduction	25%
Subf. Rating	50

**PROPOSED STRUCTURE**

TYPE: Prestressed concrete box beams with reinforced concrete substructure  
 SPANS: 32.0' - 32.0' - 32.0'  
 ROADWAY: 38'-0" f/f guardrails  
 LOADING: HS 20-44  
 SKEW: 0°  
 WEARING SURFACE: 2 1/2" Asphalt concrete  
 APPROACH SLABS: AS-1-72 (25' long)  
 ALIGNMENT: 1° curve right  
 SUPERELEVATION: .017 %

STATE OF OHIO  
DEPARTMENT OF HIGHWAYS  
BUREAU OF BRIDGES

**SITE PLAN**

BRIDGE NO. ROS-772-0788  
OVER RALSSTON RUN  
ROSS COUNTY

SEC. STA. 416+06 00  
SCALE 1" = 20'  
STA. 417+03.17

PRESENT TOPOGRAPHY		PROPOSED WORK			
SURVEYED AERIAL SURVEY	DRAWN AERIAL SURVEY	DESIGNED	DRAWN	CHECKED	REVIEWED
		JM	JM	FKP	D.H.S.

BFG 8-15-75

MICROFILMED

JUN 27 1983

# GENERAL NOTES

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

24-A  
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ROS-772-778

REFERENCE shall be made to Standard Drawings PSBD-1-71 Sheets 1, 2 & 3 Dated 9-1-71, DBR-2-73 Dated 4-10-73

DESIGN SPECIFICATIONS: This structure conforms to "Standard Specifications for Highway Bridges" adopted by the American Association of State Highway Officials, 1973, including the Ohio "Supplement" to these specifications.

DESIGN DATA:

Design Loading - HS 20-44 (and the Interstate Alternate Loading)

Concrete Class C - unit stress 1,200 p.s.i. for superstructure  
unit stress 1,333 p.s.i. for substructure

Concrete for Prestressed

Concrete Beams - unit stress 2,200 p.s.i. compression  
unit stress 445 p.s.i. tension

Prestressing

Strands - ASTM A416,  $f'_s = 270,000$  p.s.i.  
Initial Tension =  $0.7 f'_s$

Reinforcing Steel - ASTM A615, A616 or A617  
Unit Stress 20,000 p.s.i.

REMOVAL OF STRUCTURE: When no longer needed to maintain traffic the existing structure shall be removed.

EMBANKMENT CONSTRUCTION: After the pedestals have been built the embankments shall be constructed to the level of the subgrade for a minimum distance of 200 feet back of the abutments. Excavation shall then be made for the abutment crossbeams.

FOUNDATION BEARING PRESSURE: All footings are designed for a bearing pressure of 6 tons per sq. ft.

FOOTINGS shall be placed in bedrock at the elevation shown.

MAINTENANCE OF TRAFFIC: One lane of traffic shall be maintained on S.R. 772 at all times.

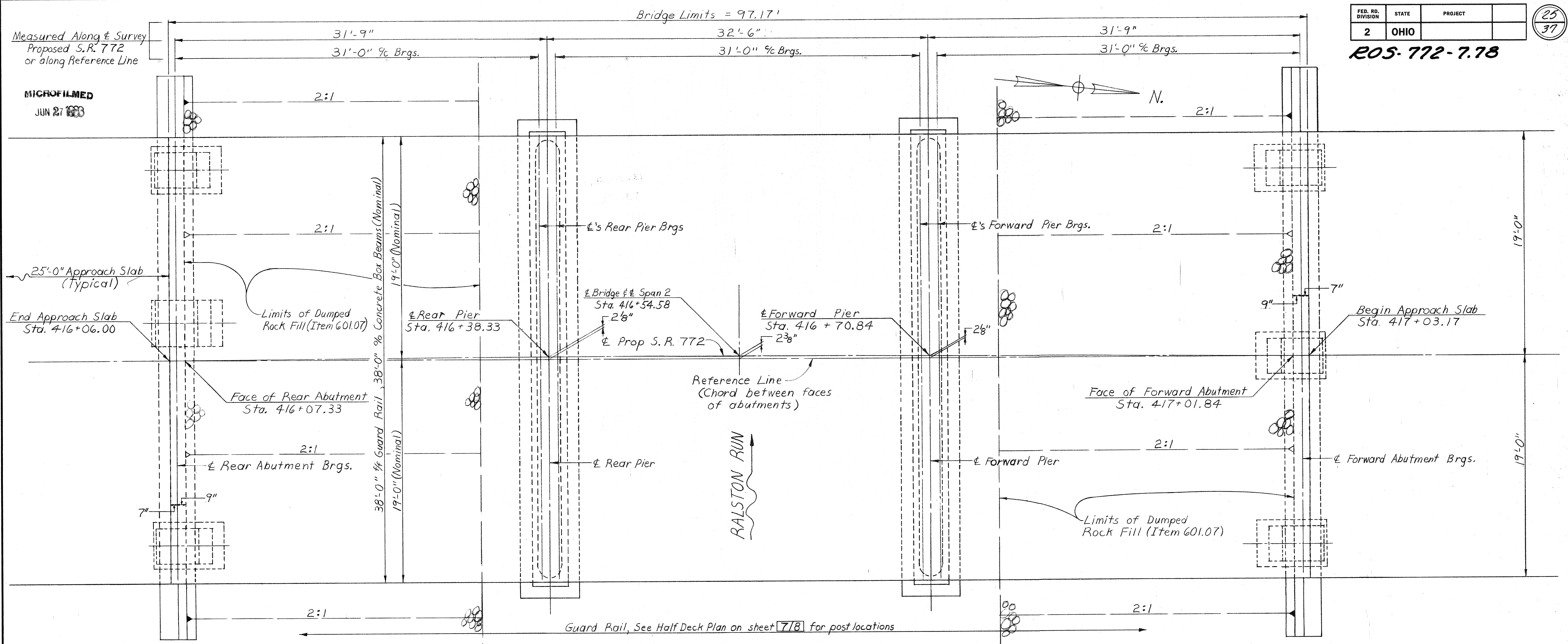
STAGE CONSTRUCTION shall be accomplished as follows: Portions of the Substructure labeled STAGE 1 shall be constructed. Then the 23' section of superstructure labeled STAGE 1 will be placed beginning at the  $\mathcal{C}$  and working outward. This will then be waterproofed and paved as shown and the temporary and permanent guard rail installed and necessary approach slab constructed to allow STAGE 1 to be opened to traffic. When STAGE 1 is fully completed and opened to traffic the existing structure shall be removed and the portions of substructure labeled STAGE 2 shall be constructed. Temporary guardrail will then be removed and STAGE 2 beams placed as shown, approach slab constructed and then STAGE 2 shall be waterproofed and paved and guard rail erected, and the entire structure shall then be opened to traffic.

BRIDGE SEAT REINFORCING steel in the vicinity of the bearing lines on the piers and abutments shall be accurately placed to avoid interference with the drilling of anchor dowel holes.

ASPHALT CONCRETE SURFACE COURSE shall consist of a variable thickness of 403 and  $1\frac{1}{4}$ " thickness of 404. The 403 shall be placed in two operations. The first course shall be of  $1\frac{1}{4}$ " uniform thickness. The second course shall be feathered to place the surface parallel to and  $1\frac{1}{4}$ " below final pavement surface elevation.

BEAM CAMBER: Calculated camber at time of paving, including allowance for camber growth due to creep, is 1.06". Adjustment of .09" at ends of spans is required for sag vertical curve. Net final camber of beams is 1.06" plus .09" adjustment for the vertical curve equals 1.15". This amount shall be compensated for by thickening the 403 leveling course from  $1\frac{1}{4}$ " at center of spans to  $2\frac{1}{2}$ " at the end of spans.

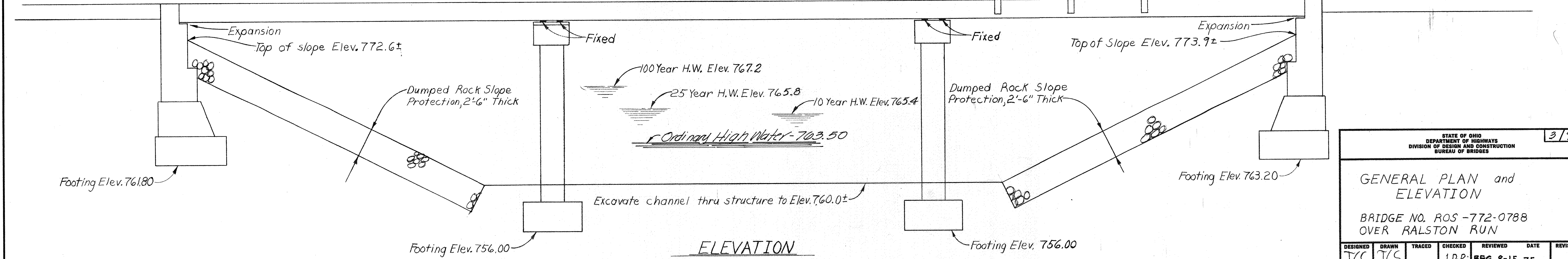
STATE OF OHIO DEPARTMENT OF HIGHWAYS DIVISION OF DESIGN AND CONSTRUCTION BUREAU OF BRIDGES						2/9
GENERAL NOTES ROS - 772-0788 OVER RALSTON RUN						
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
JGS			JOR	BFG	8-15-75	



**GENERAL PLAN**

Vertical Curve Data:  
 L.V.C.=300', P.I. Sta. 415+50, Elev.=775.02  
 G<sub>1</sub> = -2.4%, G<sub>2</sub> = +1.60%

G = VERTICAL CURVE



**ELEVATION**

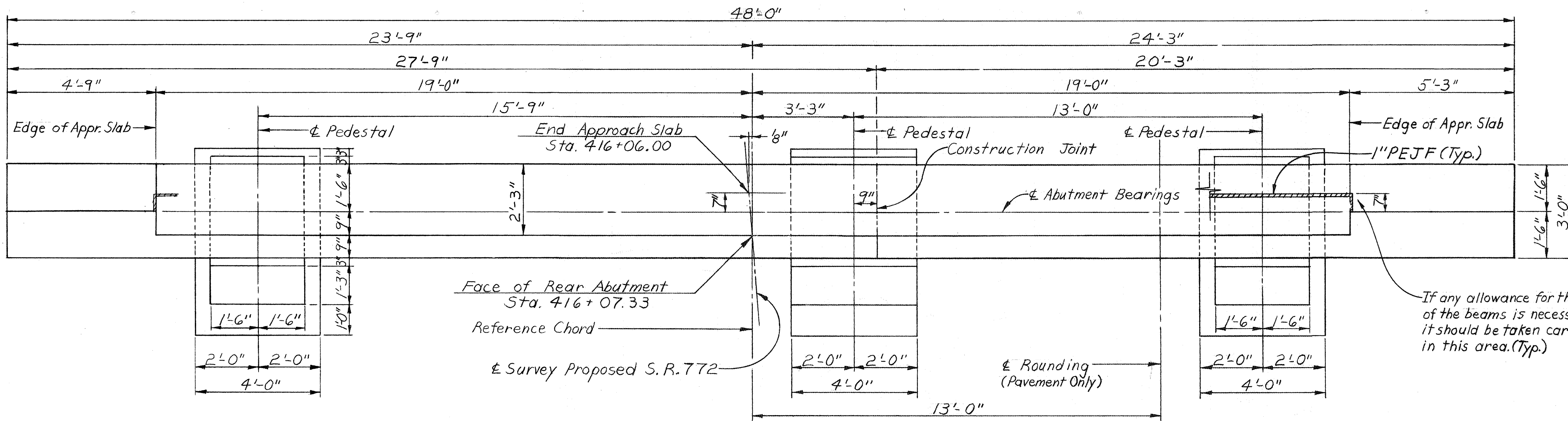
STATE OF OHIO DEPARTMENT OF HIGHWAYS DIVISION OF DESIGN AND CONSTRUCTION BUREAU OF BRIDGES							319
GENERAL PLAN and ELEVATION							
BRIDGE NO. ROS-772-0788 OVER RALSTON RUN							
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED	
J.G.S.	J.G.S.		J.D.R.	BFG	8-15-75		

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JUN 27 1983

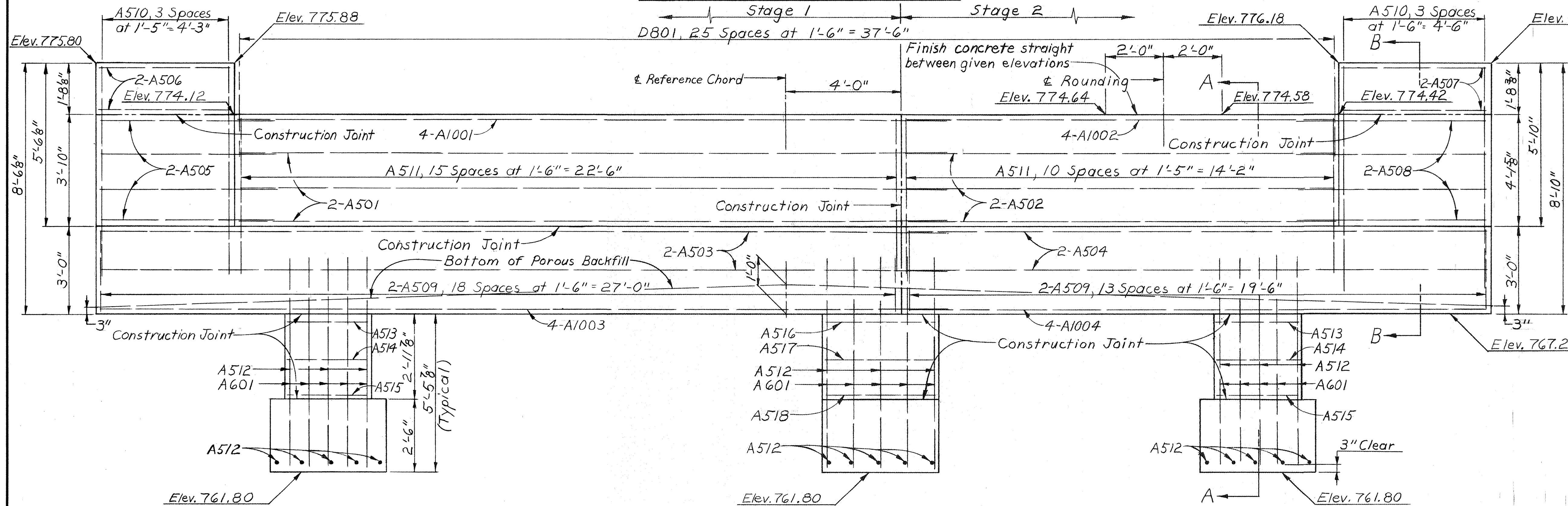
FED. RD. DIVISION	STATE	PROJECT
2	OHIO	

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R05-772-7.78

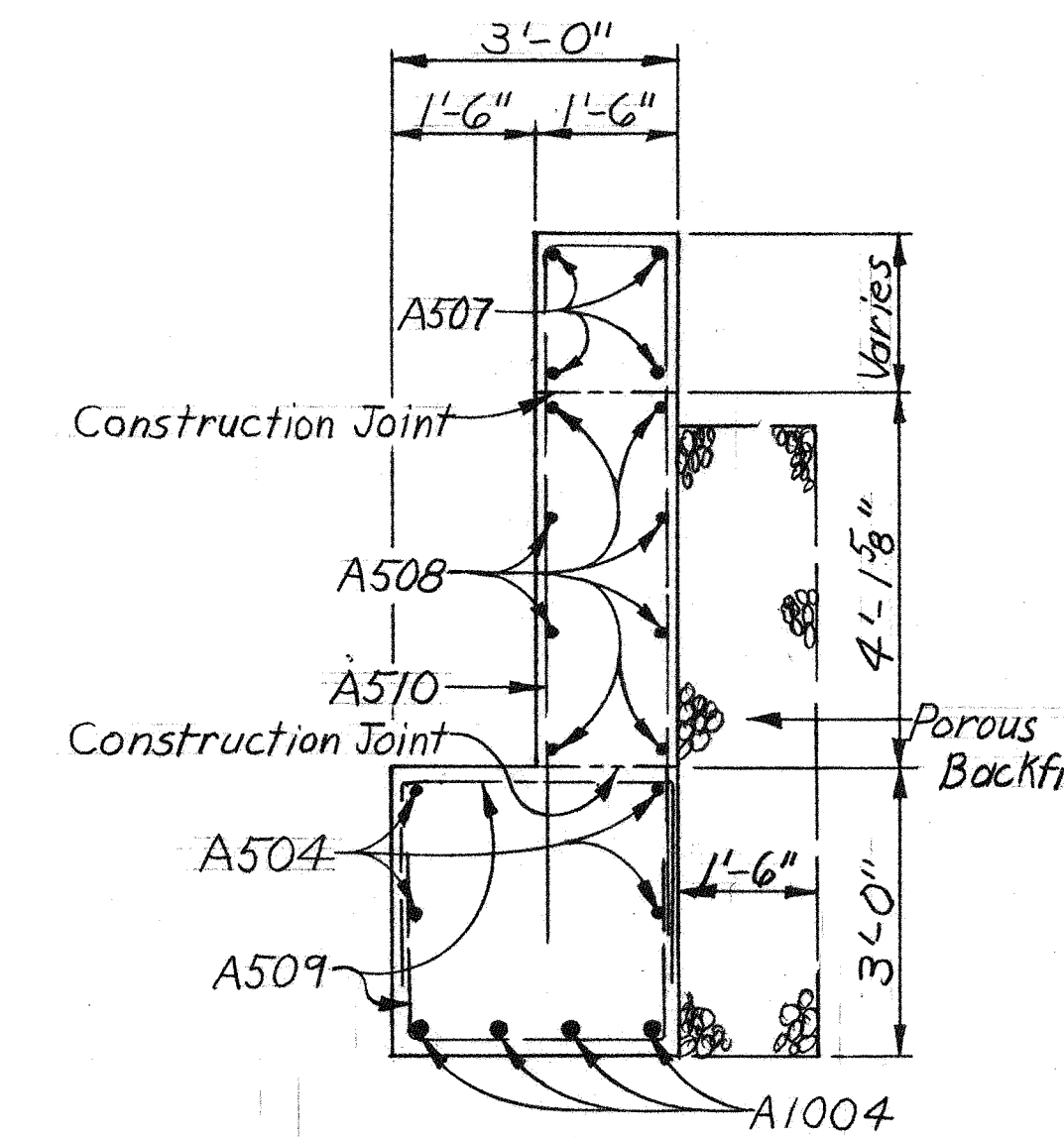


REAR ABUTMENT PLAN

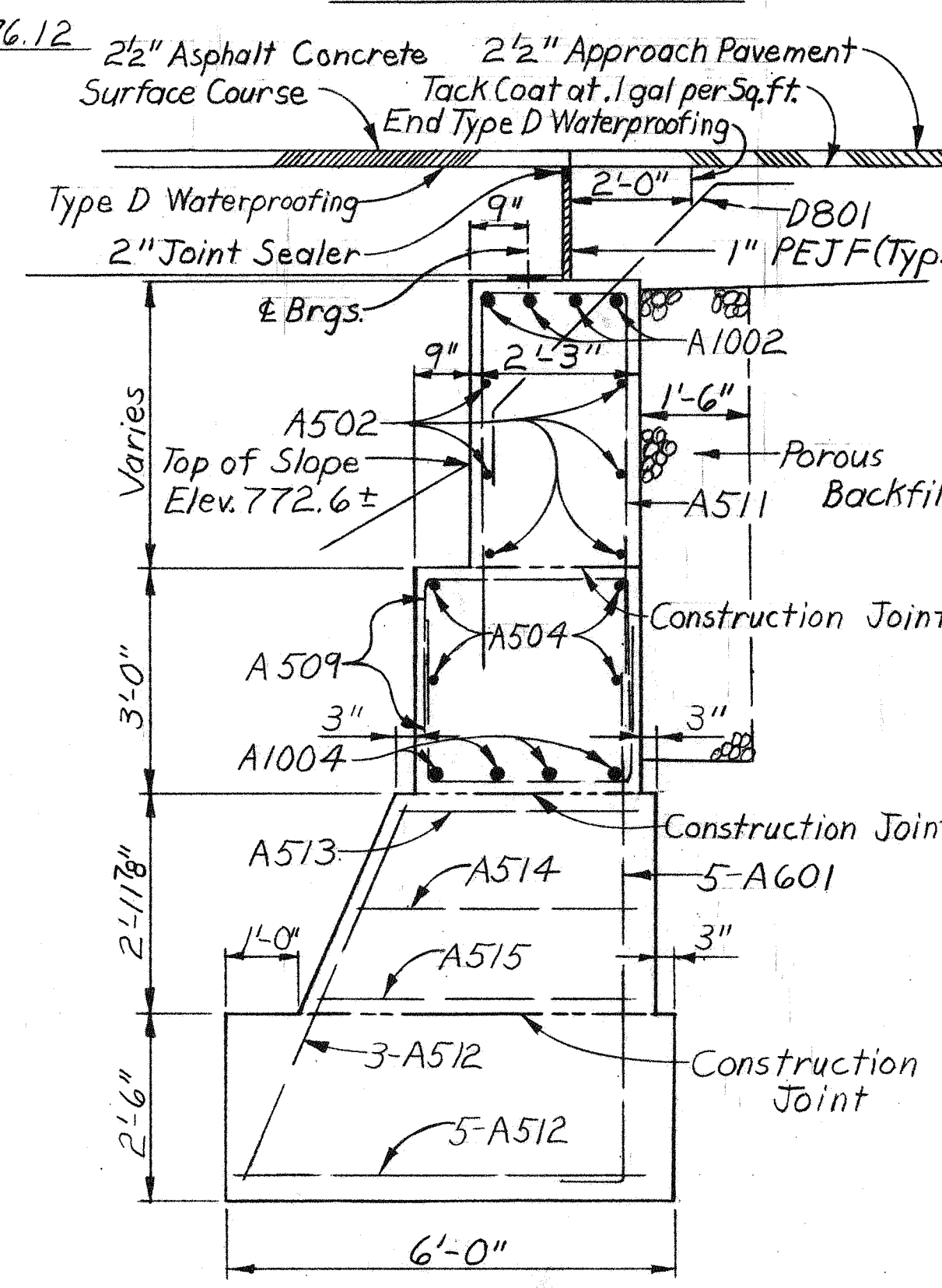


REAR ABUTMENT ELEVATION

POROUS BACKFILL shall extend upward to the plane of the subgrade, and laterally to the surface of the embankment slopes.



SECTION B-B



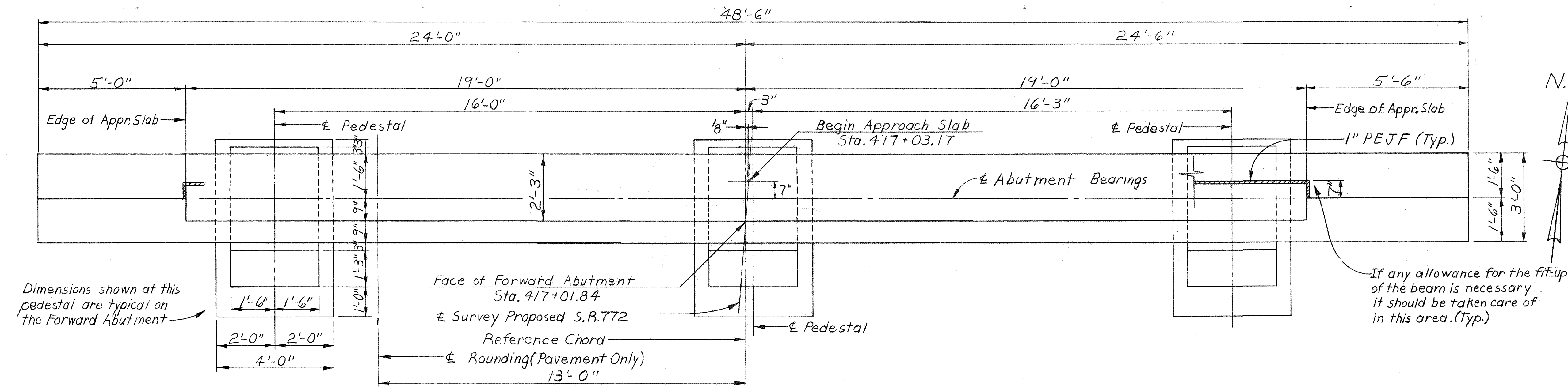
SECTION A-A

STATE OF OHIO DEPARTMENT OF HIGHWAYS DIVISION OF DESIGN AND CONSTRUCTION BUREAU OF BRIDGES						4/9
REAR ABUTMENT PLAN and ELEVATION						
BRIDGE NO. R05-772-0788 OVER RALSTON RUN						
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
J65	J65	J.O.R.	BFG		8-15-75	

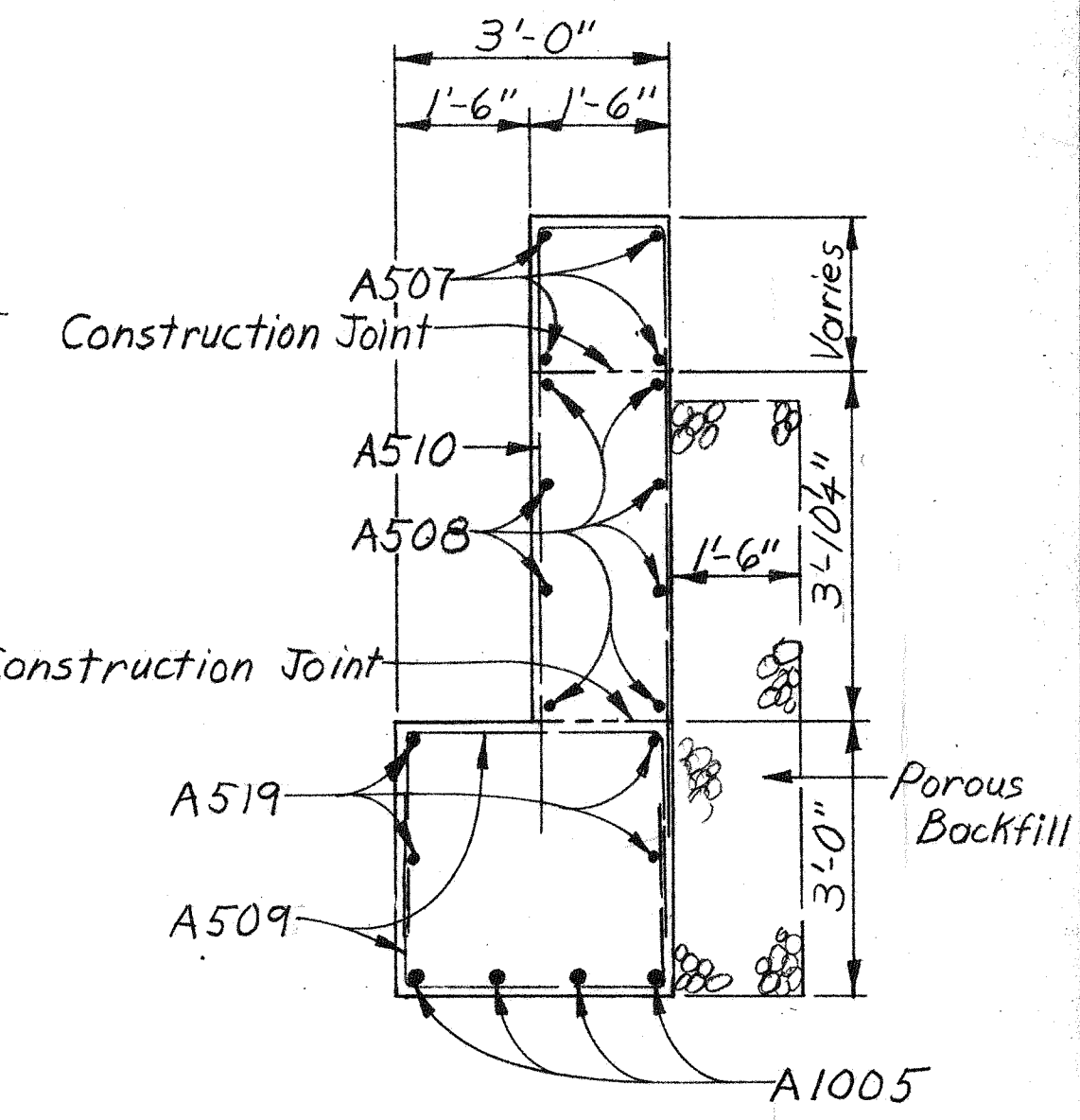
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JUN 27 1983

FED. RD. DIVISION	STATE	PROJECT	27 37
2	OHIO		

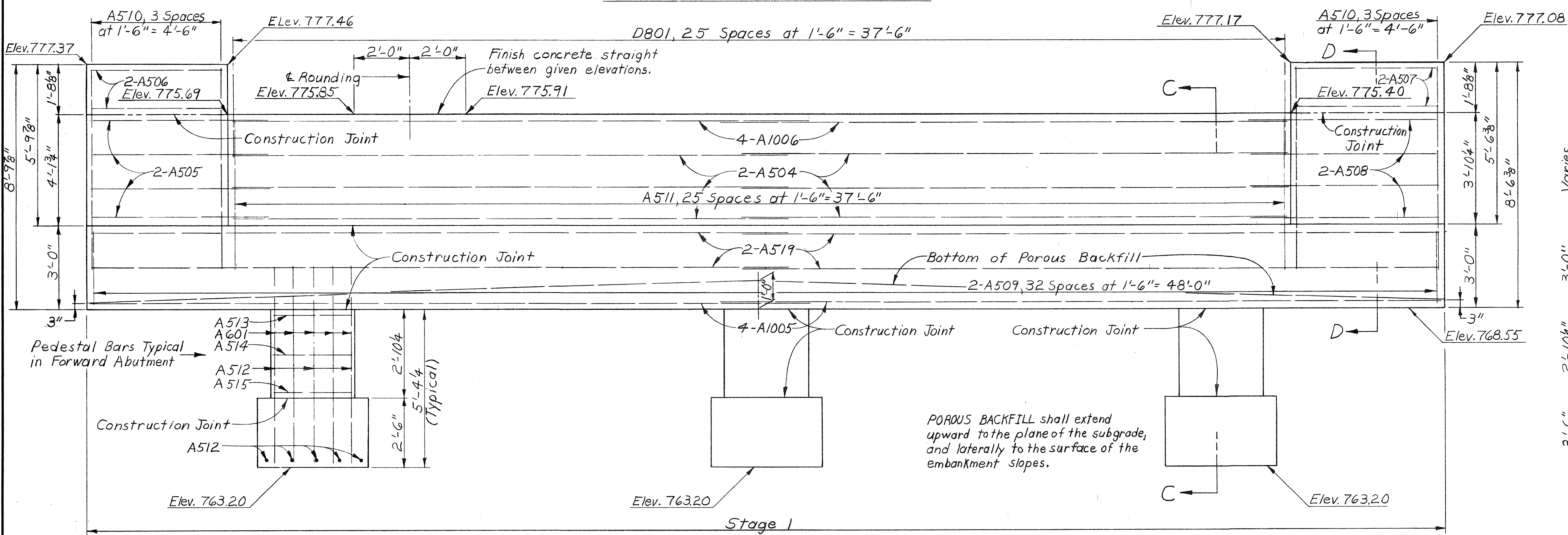
ROS-772-7.78



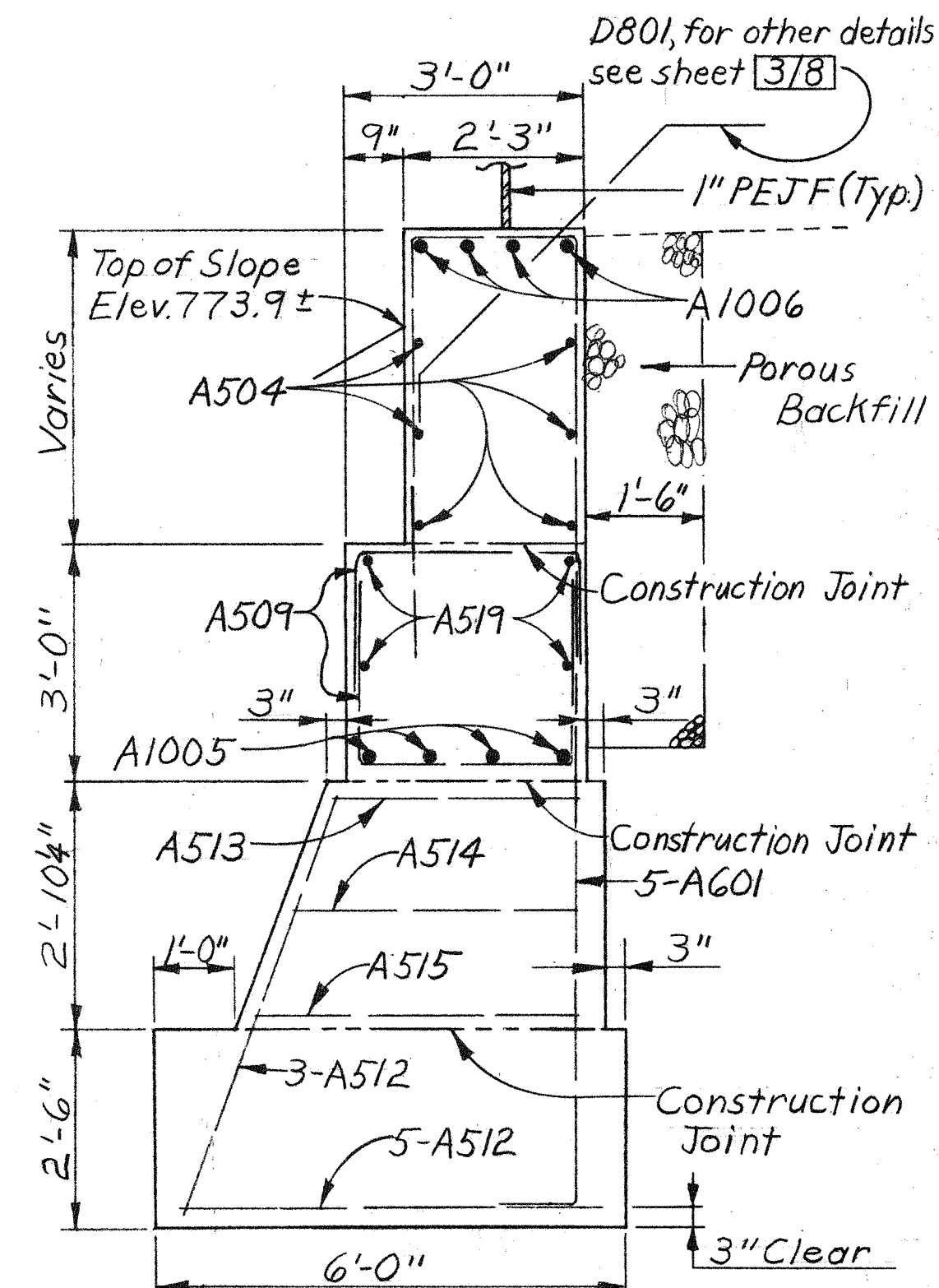
FORWARD ABUTMENT PLAN



SECTION D-D



FORWARD ABUTMENT ELEVATION



SECTION C-C

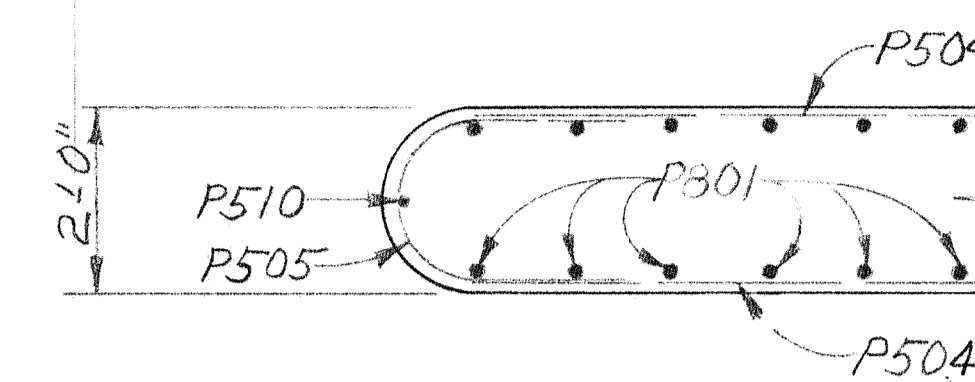
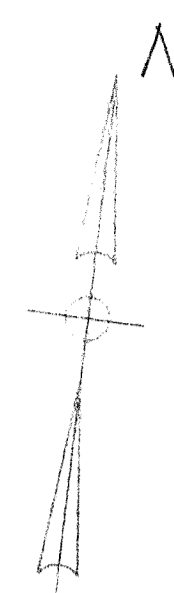
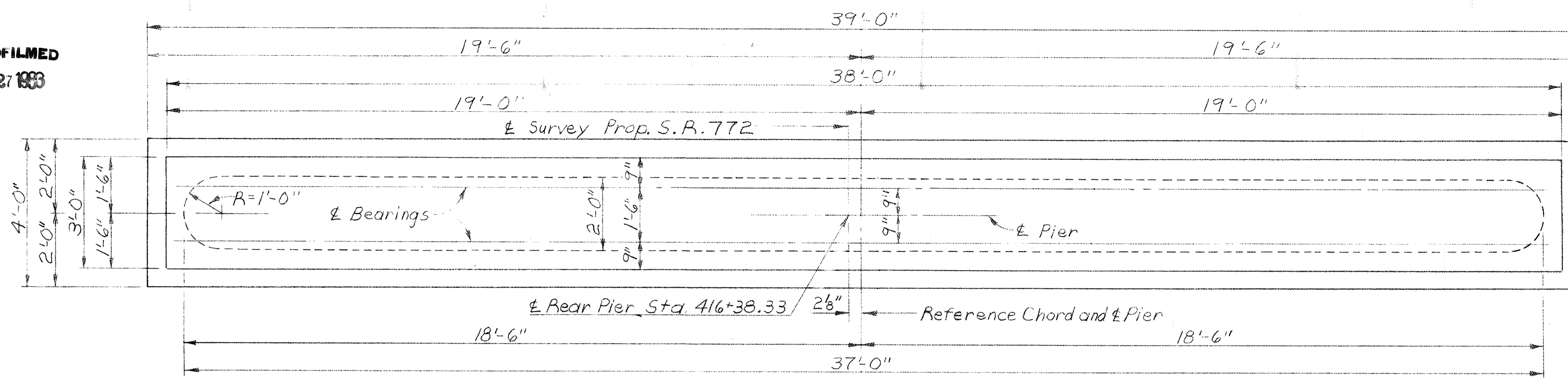
STATE OF OHIO DEPARTMENT OF HIGHWAYS DIVISION OF DESIGN AND CONSTRUCTION BUREAU OF BRIDGES						5/9
FORWARD ABUTMENT PLAN and ELEVATION						
BRIDGE NO. ROS-772-0788 OVER RALSTON RUN						
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
JGS	JGS		J.D.R.	BFG	8-15-75	

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JUN 27 1983

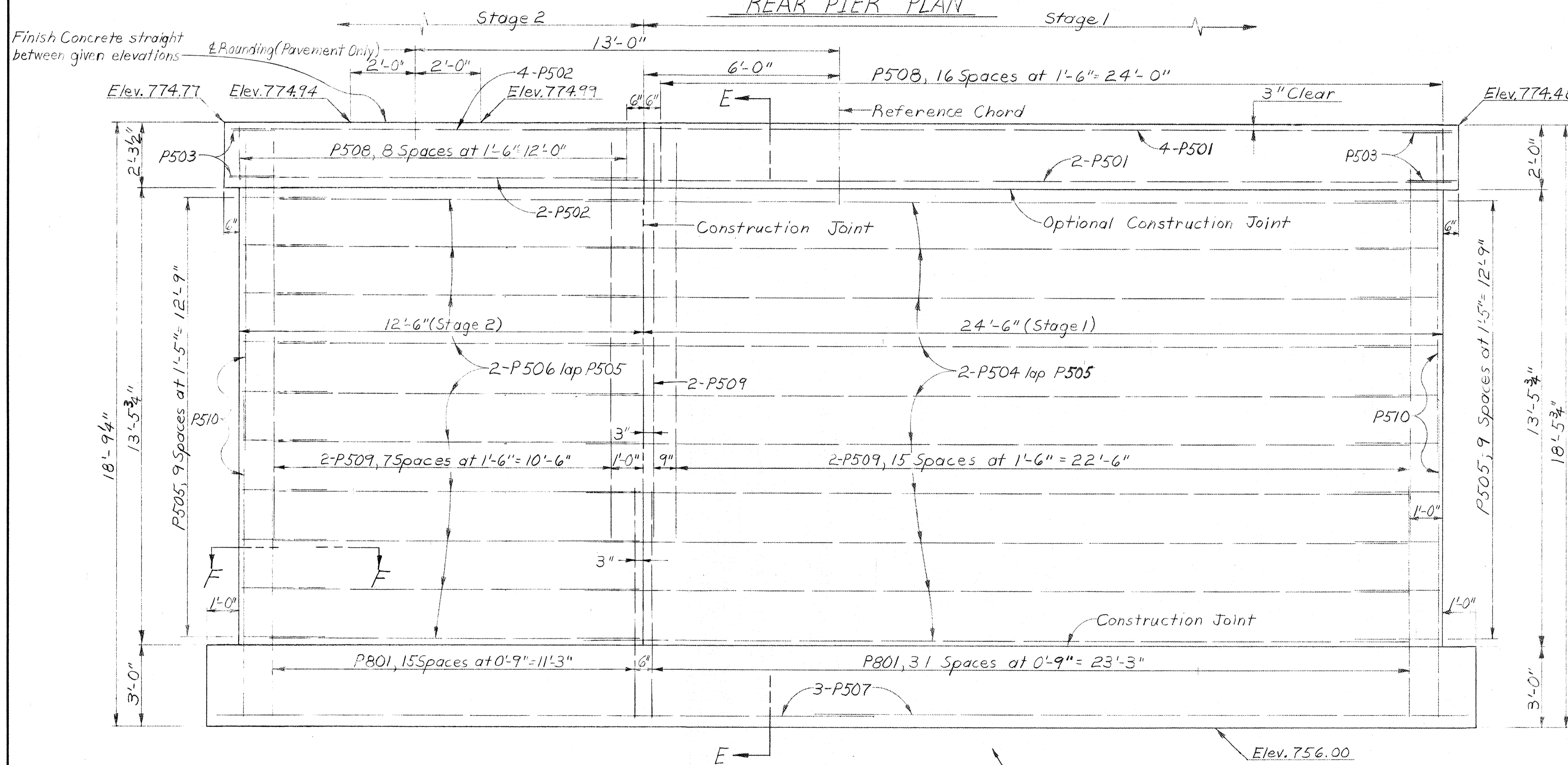
FED. RD. DIVISION	STATE	PROJECT
2	OHIO	

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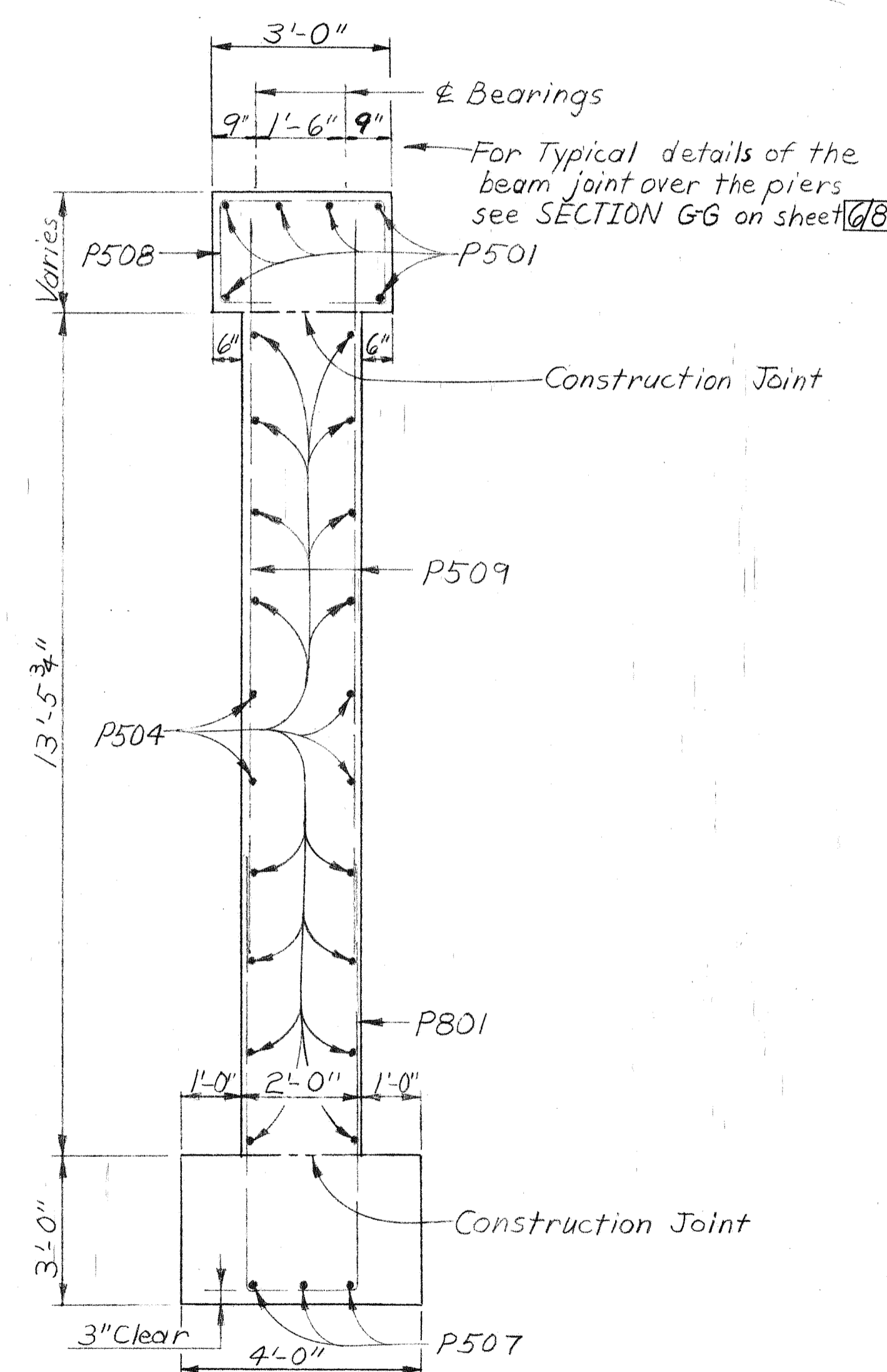
R05-772-7.78



SECTION F-F



REAR PIER ELEVATION



SECTION E-E

STATE OF OHIO  
DEPARTMENT OF HIGHWAYS  
DIVISION OF DESIGN AND CONSTRUCTION  
BUREAU OF BRIDGES

REAR PIER PLAN  
and ELEVATION  
BRIDGE NO. R05-772-0788  
OVER RALSTON RUN

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
JGS	JGS		J.D.R.	BFG	8-15-75	

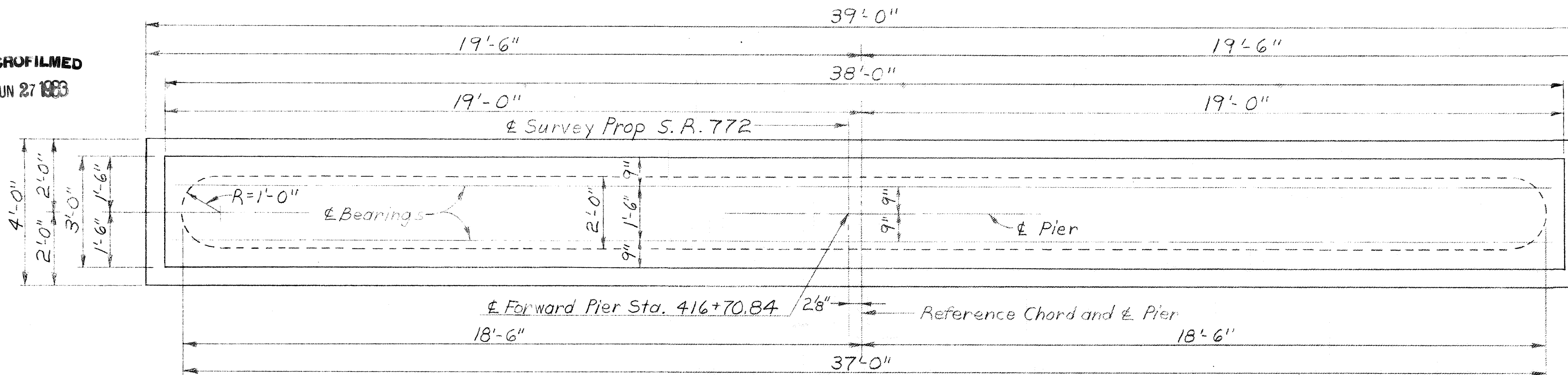
6/9

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JUN 27 1983

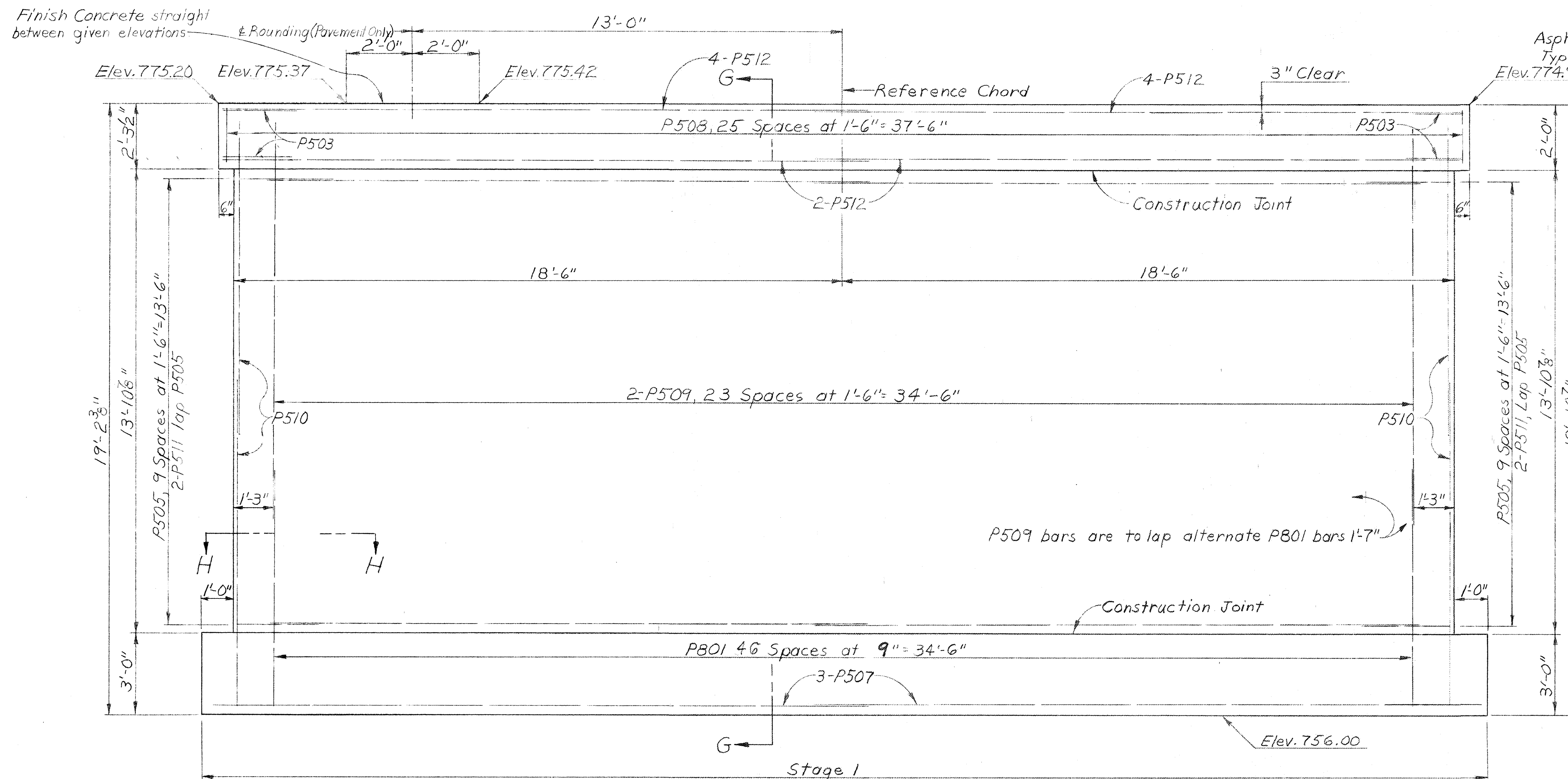
FED. RD. DIVISION	STATE	PROJECT
2	OHIO	

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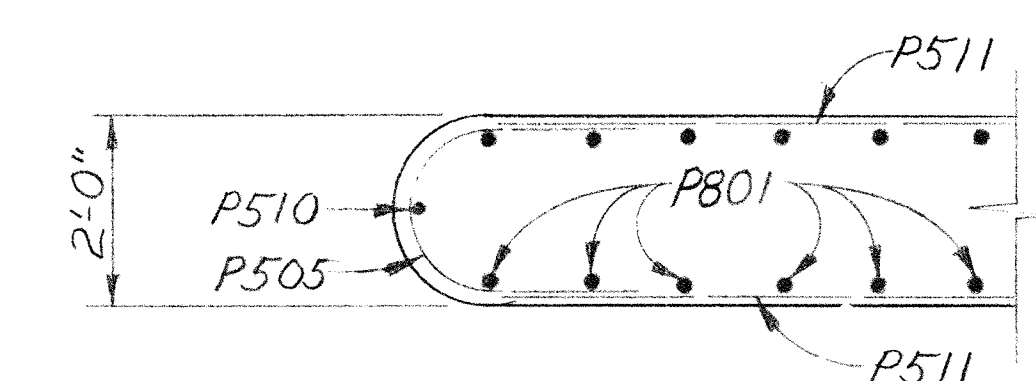
ROS-772-7.7B



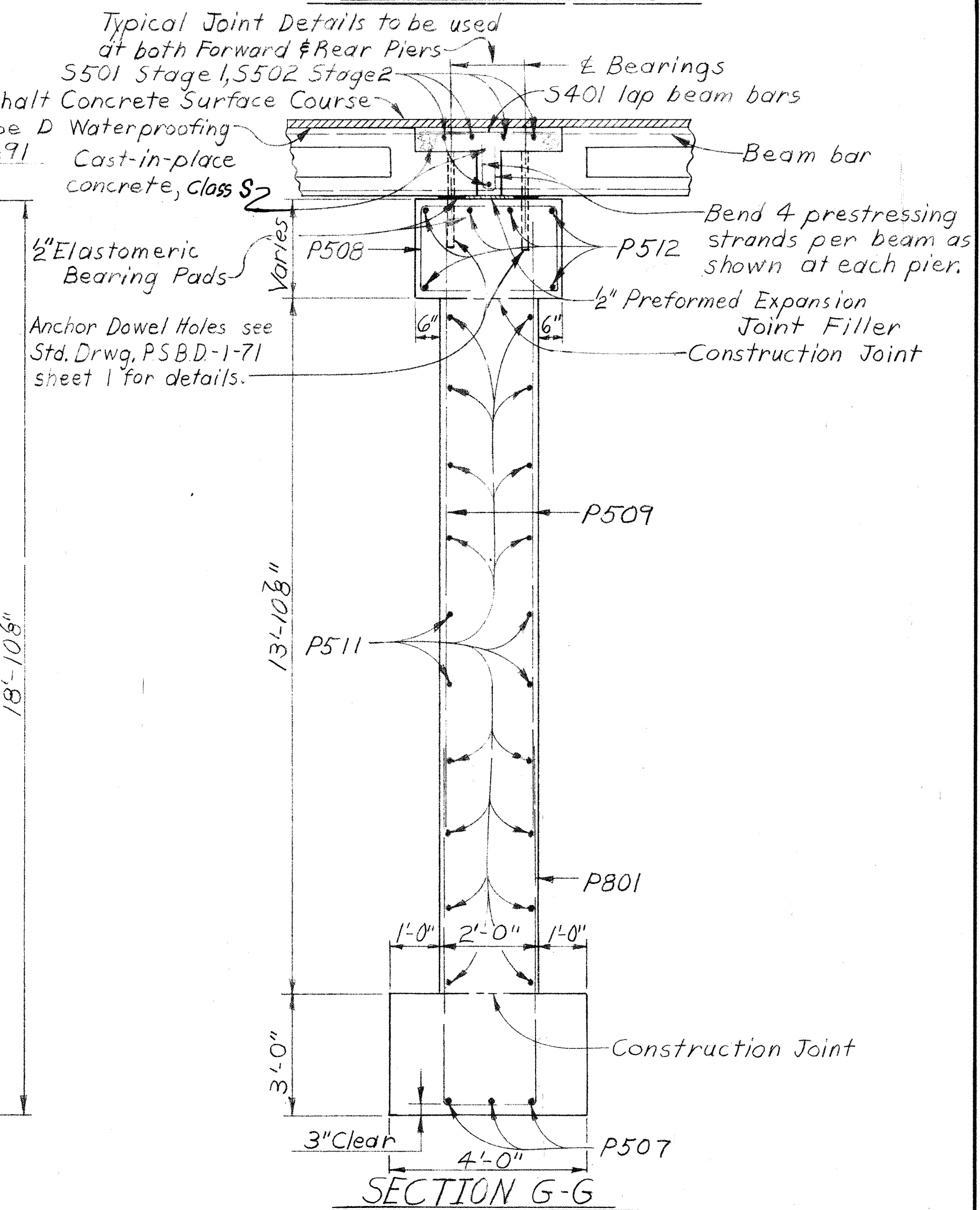
FORWARD PIER PLAN



FORWARD PIER ELEVATION



SECTION H-H

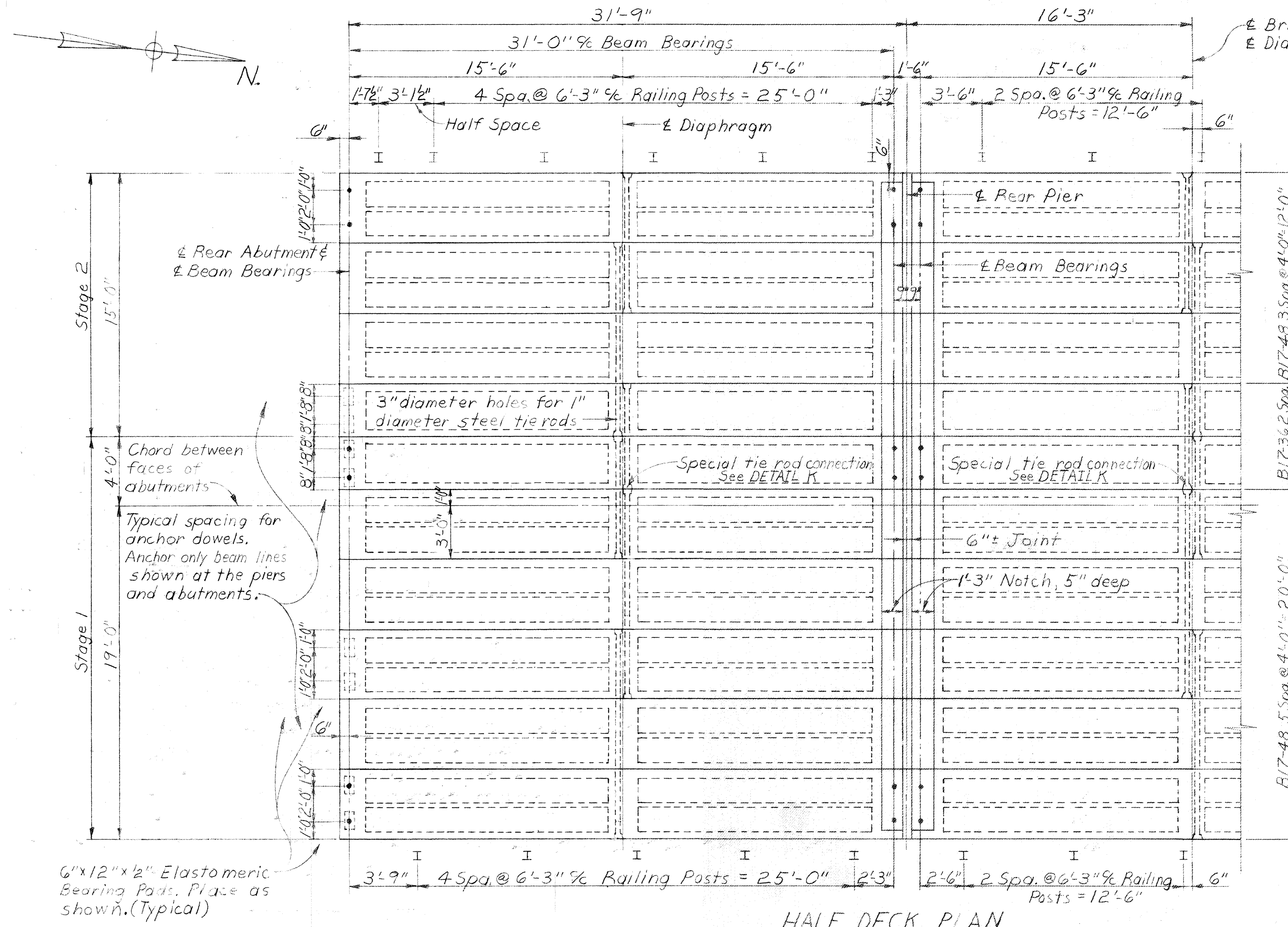
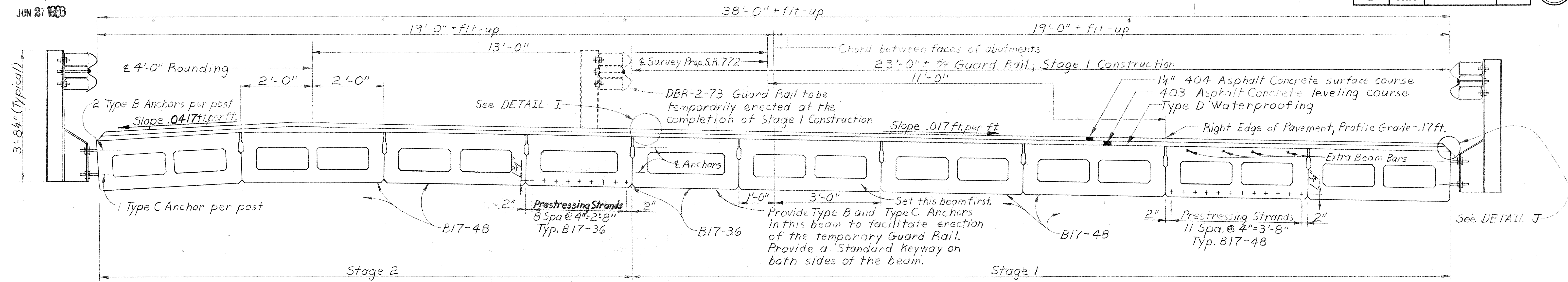


SECTION G-G

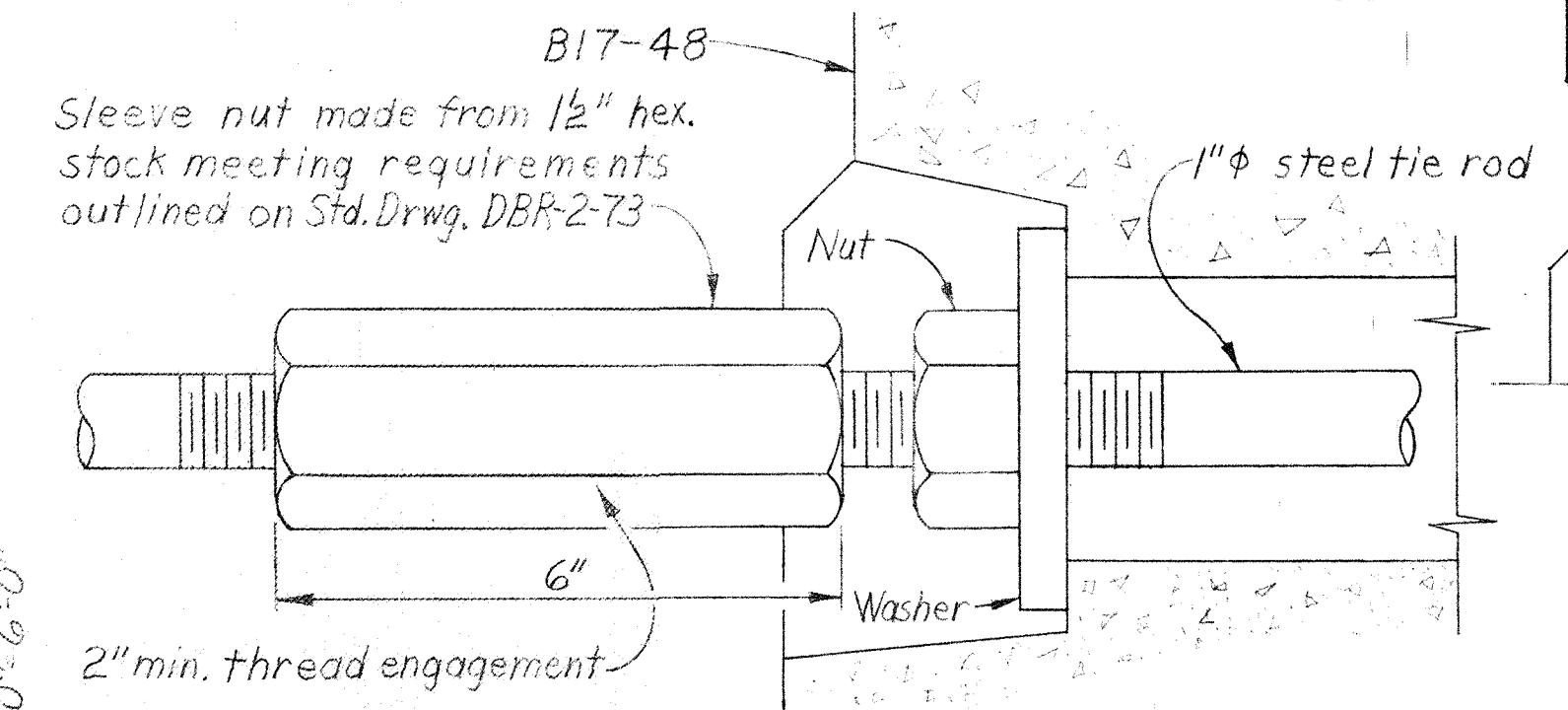
STATE OF OHIO DEPARTMENT OF HIGHWAYS DIVISION OF DESIGN AND CONSTRUCTION BUREAU OF BRIDGES						7/9
FORWARD PIER PLAN and ELEVATION						
BRIDGE NO. ROS-772-0788 OVER RALSTON RUN						
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
JGS	JGS		J.D.R.	BFG	8-15-75	

FED. RD. DIVISION	STATE	PROJECT
2	OHIO	

MICROFILMED  
JUN 27 1983



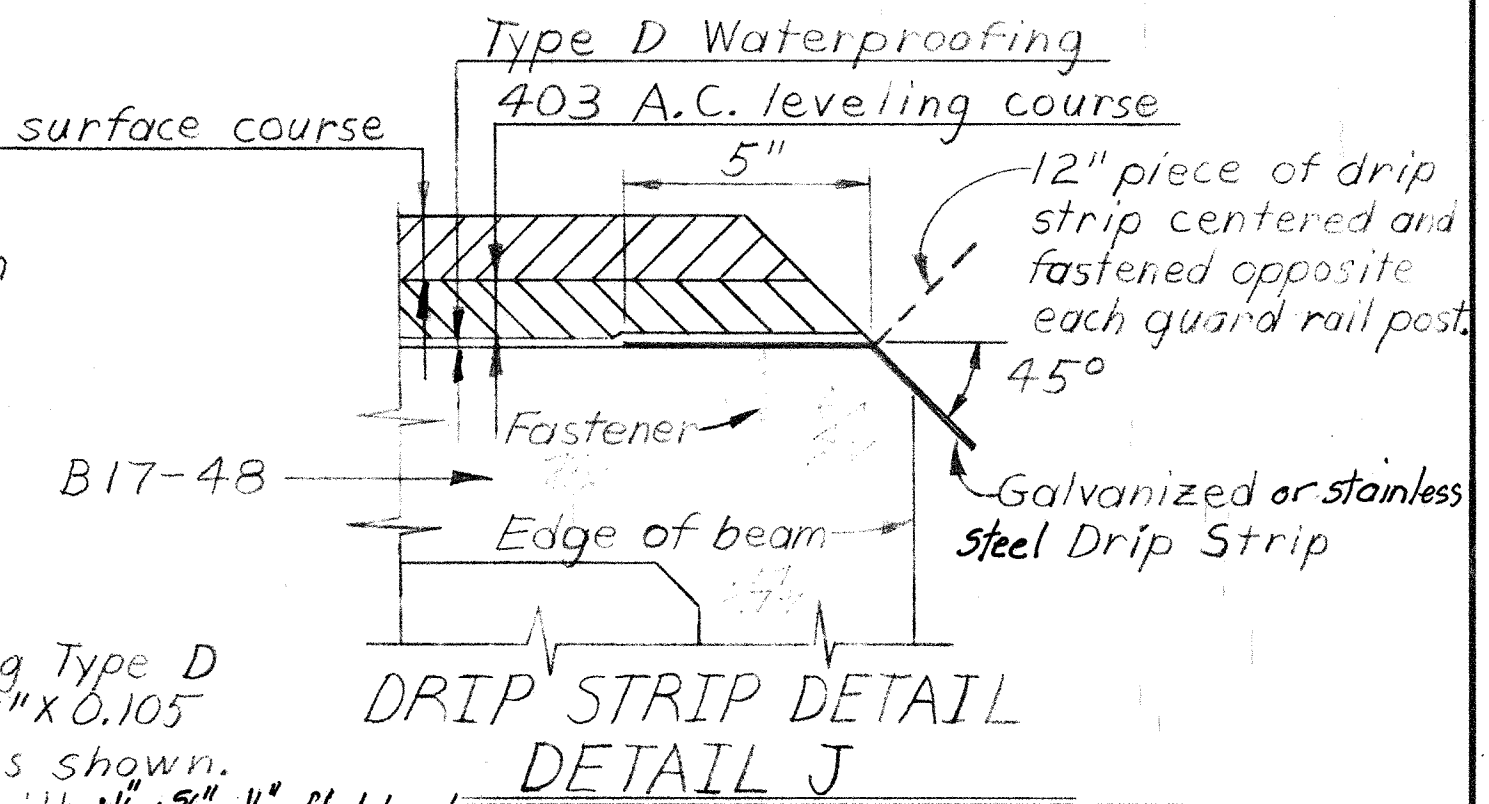
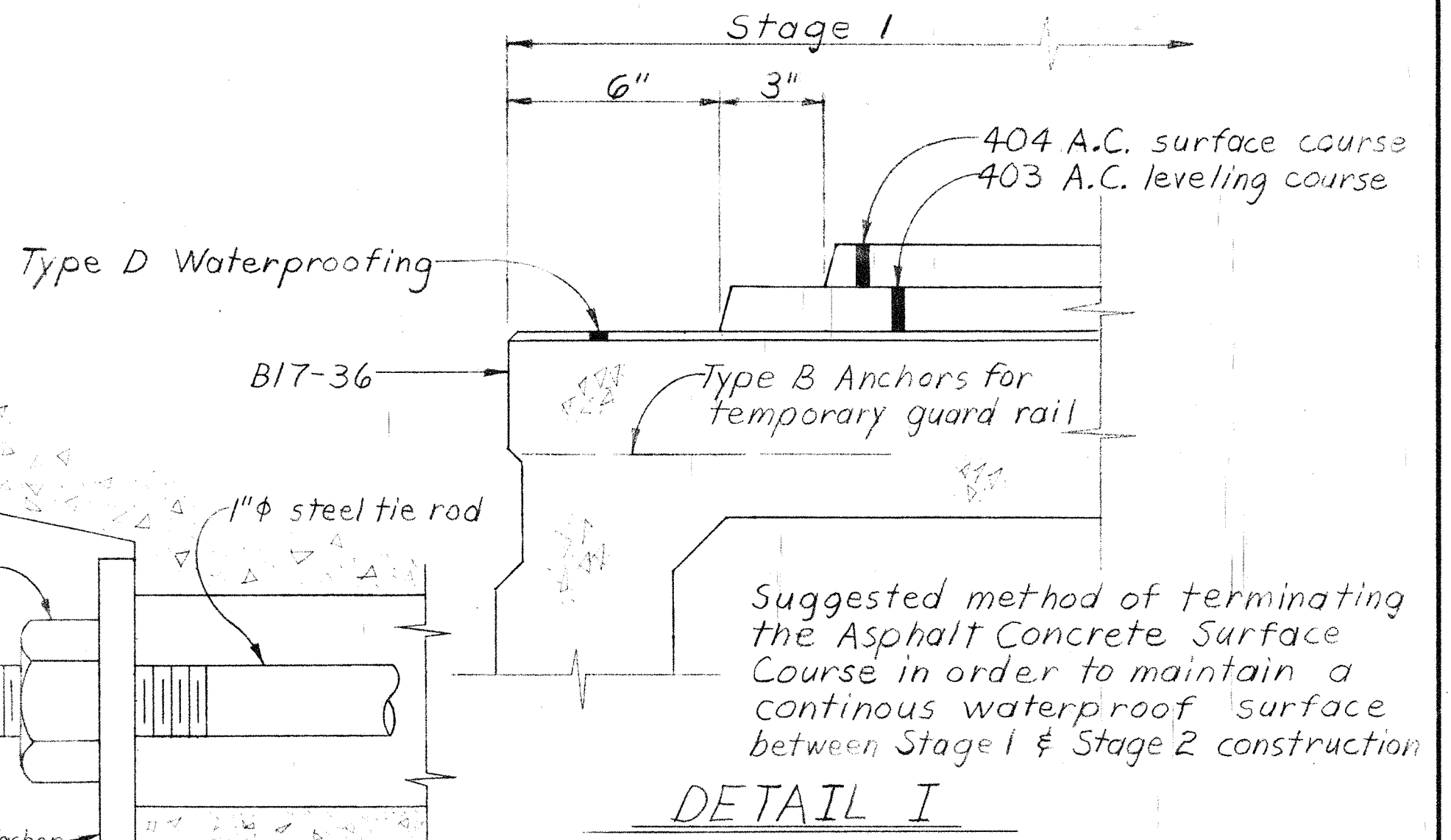
ROUNDING OF THE PAVEMENT is to be accomplished by increasing the asphalt concrete thickness to the extent necessary to achieve the required roadway cross section.



ASPHALT CONCRETE shall be 2 1/2" thick at midspan of the beams. The thickness at the abutments and Piers is anticipated to be 3 3/4" depending on camber. The actual thickness required shall be determined in the field. Variations in the thickness shall be made in the 403 leveling course. Pay quantity is based on an average total thickness of 3".

STEEL DRIP STRIP: Prior to applying Type D waterproofing a bent steel drip strip, 8" x 0.105 shall be installed along the edges of the deck as shown. The strips shall be fastened at 1'-6" maximum with 1/4" x 3/8" x 1/4" flat head drive pins and washers or #10 galvanized expansion screws, subject to the approval of the Engineer. The strips shall be placed the full length of the deck. Where splices are required a 3" (min.) lap shall be used, with a fastener through the lap. Steel shall meet the requirements of ASTM A568 and galvanizing shall be in accordance with 711.02. 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.

\* Stainless steel shall be 20 gauge ASTM A167, Type 304, mill finish.



STATE OF OHIO DEPARTMENT OF HIGHWAYS DIVISION OF DESIGN AND CONSTRUCTION BUREAU OF BRIDGES					8/9
TRANSVERSE SECTION and HALF DECK PLAN					
BRIDGE NO. ROS-772-0788 OVER RALSTON RUN					
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE
JGS	JGS		J.D.R.	BFG	8-15-75



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JUN 27 1983

REINFORCING STEEL LIST

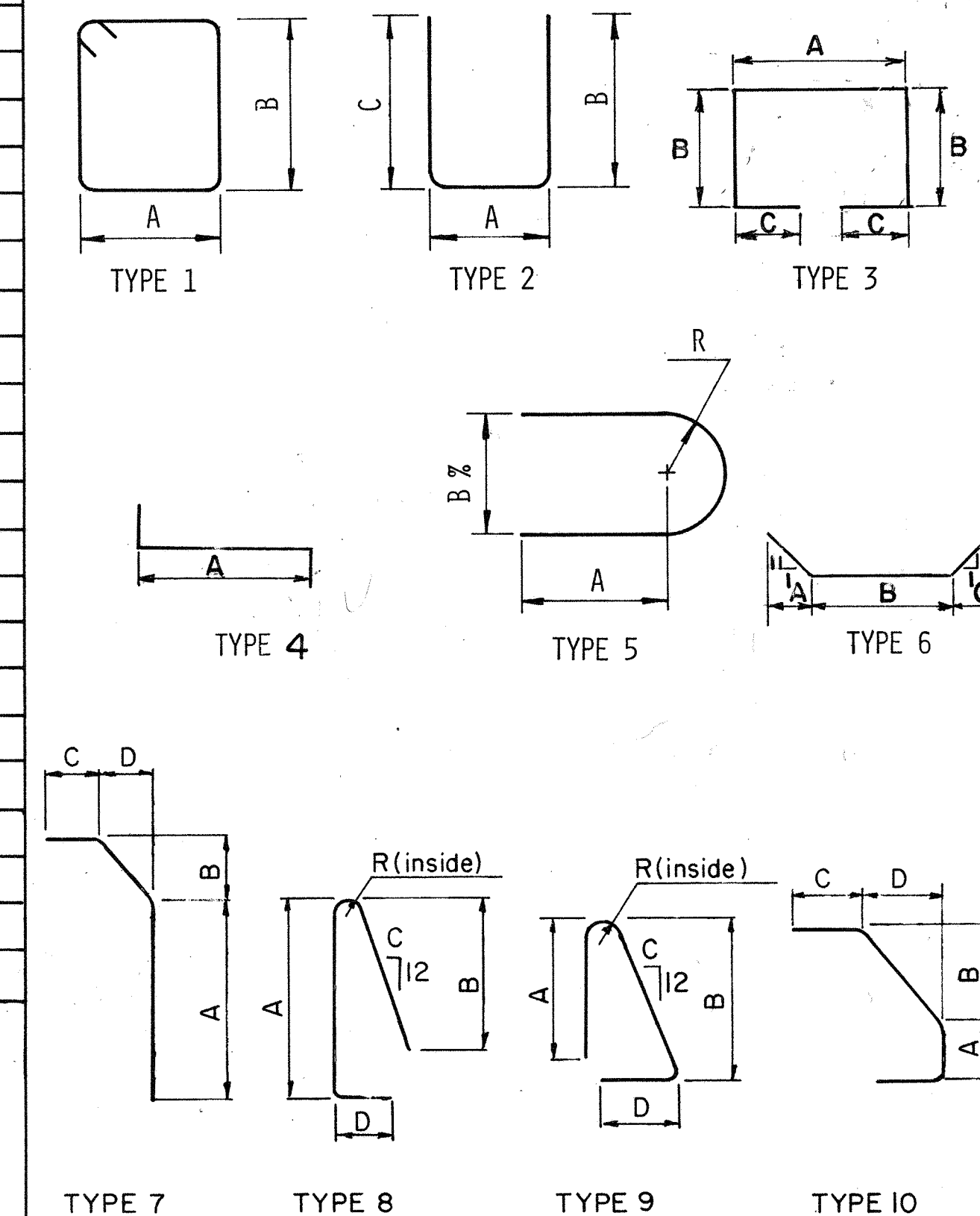
FHWA REGION 5	STATE OHIO	PROJECT	31 37
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ROS-772-778

ABUTMENTS											ABUTMENTS (Cont.)											SUPERSTRUCTURE												
MARK	Forward	Rear	TOTAL	LENGTH	WEIGHT	TYPE	A	B	C	D	R	MARK	Forward	Rear	TOTAL	LENGTH	WEIGHT	TYPE	A	B	C	D	R	MARK	TOTAL	LENGTH	WEIGHT	TYPE	A	B	C	D	R	
A1001		4	4	26'-1"	449	STR.						A518		1	1	16'-5"	17	1	3'-8"	4'-4"				S401	176	2'-8"	314	STR.						
A1002		4	4	14'-9"	254	STR.						A519	8		8	24'-10"	207	STR.						S501	10	26'-7"	277	STR.						
A1003		4	4	30'-9"	529	STR.																		S502	10	13'-0"	136	STR.						
A1004		4	4	19'-11"	343	STR.						D801	26	26	52	5'-10"	810	6	1'-1"	4'-4"	6"													
A1005	8		8	25'-8"	884	STR.																												
A1006	8		8	20'-6"	706	STR.																												
A601	15	15	30	8'-0"	360	4	7'-4"																											
PIERS																																		
A501		6	6	24'-6"	153	STR.						P801	47	48	95	17'-4"	4397	2	1'-8"	8'-0"	8'-0"													
A502		6	6	14'-9"	92	STR.						P501		6	6	26'-5"	165	STR.																
A503		4	4	29'-2"	122	STR.						P502		6	6	12'-10"	80	STR.																
A504	12	4	16	19'-11"	332	STR.						P503	4	4	8	5'-7"	47	2	2'-8"	1'-7"	1'-7"													
A505	8	8	16	6'-0"	100	STR.						P504		20	20	24'-11"	520	STR.																
A506	4	4	8	4'-2"	35	STR.						P505	20	20	40	5'-10"	243	5	1'-7"	1'-8"		9 3/8"												
A507	4	4	8	4'-8"	39	STR.						P506		20	20	11'-4"	236	STR.																
A508	8	8	16	6'-6"	108	STR.						P507	6	6	12	20'-2"	252	STR.																
A509	66	66	132	6'-9"	929	2	2'-8"	2'-2"	2'-2"			P508	26	26	52	6'-10"	371	3	2'-8"	1'-8"	8"													
A510	8	8	16	16'-3"	271	2	1'-2"	7'-2"	8'-2"			P509	48	52	100	12'-1"	1260	STR.																
A511	26	27	53	12'-10"	709	2	1'-11"	5'-7"	5'-7"			P510	4	4	8	10'-0"	83	STR.																
A512	24	24	48	5'-6"	275	STR.						P511	40		40	18'-4"	765	STR.																
A513	3	2	5	12'-1"	63	1	2'-8"	3'-2"				P512	12		12	20'-5"	256	STR.																
A514	3	2	5	13'-3"	69	1	2'-8"	3'-9"																										
A515	3	2	5	14'-5"	75	1	2'-8"	4'-4"																										
A516		1	1	14'-1"	15	1	3'-8"	3'-2"																										
A517		1	1	15'-3"	16	1	3'-8"	3'-9"																										

REFER TO CMS SECTIONS 106.03, 700, 709.01 THRU 709.05 AND 709.08. R INDICATES INSIDE RADIUS, UNLESS OTHERWISE NOTED, SUFFICIENT ADDITIONAL REINFORCING STEEL SHALL BE PROVIDED FOR SAMPLING. RANDOM SAMPLES SHALL BE REPLACED IN STRUCTURE BY THE ADDITIONAL STEEL, SPLICED IN ACCORDANCE WITH 509.08. "STD" WRITTEN IN PLACE OF A DIMENSION INDICATES A STANDARD BEND AT THE END OF THE BAR. BAR DIMENSIONS SHOWN ARE OUT TO OUT, UNLESS OTHERWISE INDICATED.

BENDING DIAGRAMS



ESTIMATED QUANTITIES

ITEM	TOTAL	UNIT	DESCRIPTION	ABUT	PIER	SUPER	GENERAL	AS-BUILT
202	LUMP		STRUCTURE REMOVED				LUMP	
403	20	CU. YD.	ASPHALT CONCRETE, AC 20				20	
404	15	CU. YD.	ASPHALT CONCRETE, AC 20				15	
503	LUMP		COFFERDAMS, CRIBS AND SHEETING				LUMP	
503	173	CU. YD.	UNCLASSIFIED EXCAVATION INCLUDING ROCK OR SHALE	100	73			
509	17,364	LB.	REINFORCING STEEL	7962	8675	727		
510	36	EACH	DOWEL HOLES	12	24			
511	57	CU. YD.	CLASS C CONCRETE, FOOTINGS	22	35			
511	65	CU. YD.	CLASS C CONCRETE, ABUTMENTS ABOVE FOOTINGS	65				
511	92	CU. YD.	CLASS C CONCRETE, PIERS ABOVE FOOTINGS		92			
511	5	CU. YD.	CLASS S CONCRETE, SUPERSTRUCTURE			5		
512	411	SQ. YD.	TYPE D WATERPROOFING			411		
515	24	EACH	PRESTRESSED CONCRETE BRIDGE MEMBERS (48" WIDE)			24		
515	6	EACH	PRESTRESSED CONCRETE BRIDGE MEMBERS (36" WIDE)			6		
516	76	SQ. FT.	1/2" PREFORMED EXPANSION JOINT FILLER		76			
516	114	SQ. FT.	1" PREFORMED EXPANSION JOINT FILLER	114				
516	120	EACH	6" X 12" X 1/2" ELASTOMERIC BEARING PADS			120		
516	80	LIN. FT	JOINT SEALER			80		
517	194.34	LIN. FT.	RAILING (DEEP BEAM RAIL WITH TUBULAR BACKUP STEEL POST AND BOLTS)			194.34		
518	37	CU. YD.	POROUS BACKFILL	37				
SPECIAL	152	SQ. FT.	STEEL DRIP STRIP			152		

STATE OF OHIO  
DEPARTMENT OF TRANSPORTATION  
DIVISION OF HIGHWAYS  
BUREAU OF BRIDGES

REINFORCING STEEL LIST  
ROS 772-0788  
OVER RALSTON RUN

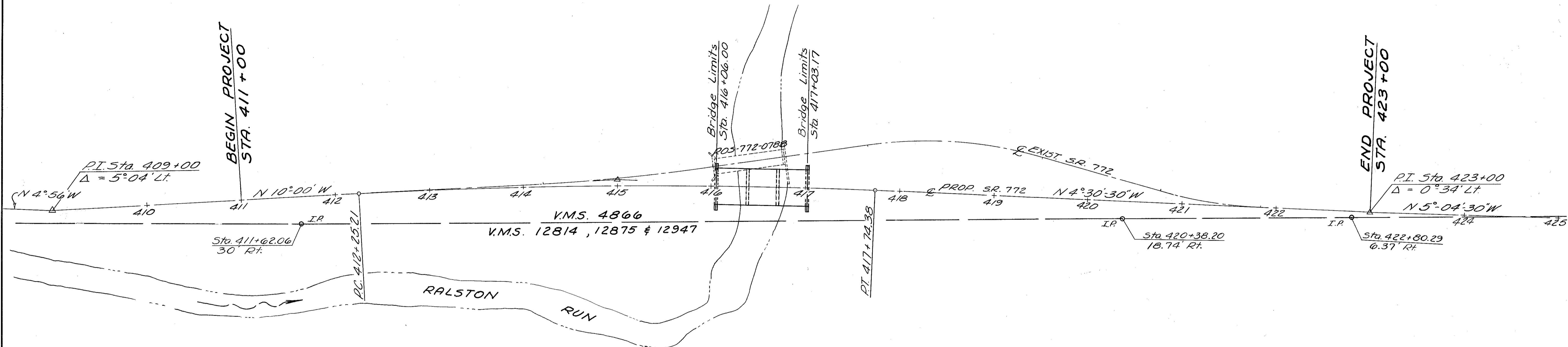
DESIGNED JGS	DRAWN	TRACED SKE	CHECKED J.D.R. 8-14-75	REVIEWED BFG	DATE 8-15-75	REVISED
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# LOCATION PLAN

STATE OF OHIO DEPARTMENT OF TRANSPORTATION  
 ROS-772-7.78  
 V.M.S. N<sup>o</sup> 4866, 12814, 12875 & 12947  
 HUNTINGTON TOWNSHIP  
 ROSS COUNTY

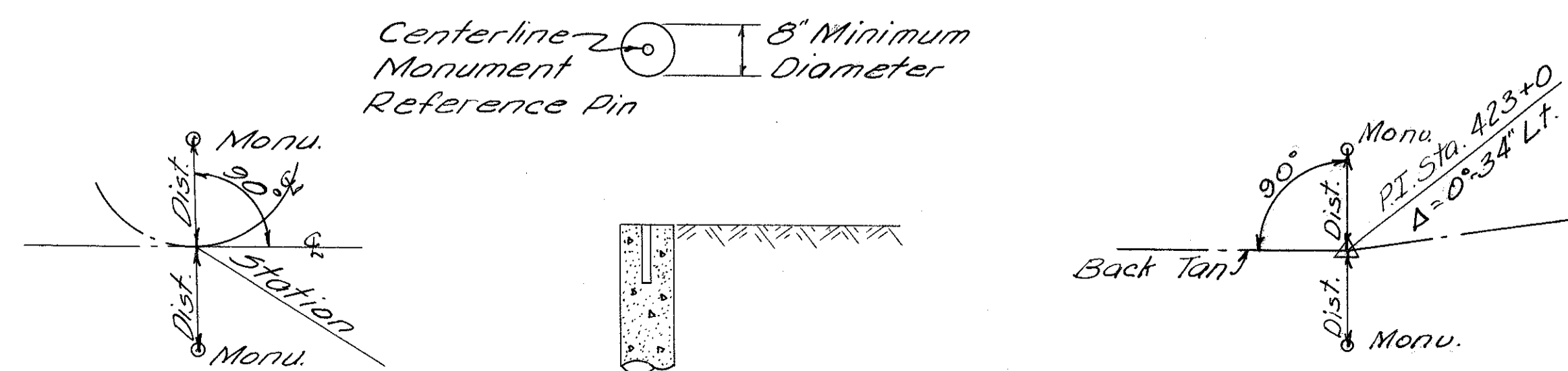
FED. RD. DIVISION	STATE	PROJECT
2	OHIO	RS-1257(5)

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**PROP. CURVE DATA**  
 P.I. 415+00  
 $\Delta = 5^{\circ}29'30''$  RT  
 $D_c = 1^{\circ}00'$   
 $L_c = 549.17'$   
 $T = 274.79'$   
 $R = 5729.58'$   
 $E = 6.59'$

~ DETAIL FOR SETTING MONUMENTS ~



SPECIAL DETAIL

REFERENCE MONUMENTS TO BE SET AFTER CONSTRUCTION

Station	Dist. fr. E	Station	Dist. fr. E
	Lt. Rt.		Lt. Rt.
410+0	18	420+0	18 18
PC. 412+25.21	18 18	423+0	18 18
415+0	18 18		
PT. 417+74.38	18 18		

Recorded in the Ross County Record of Plats; Book \_\_\_\_\_ Page \_\_\_\_\_  
 Date \_\_\_\_\_

I hereby certify that this plat is a true delineation of a survey made by the Ohio Department of Transportation.  
 Date 3/6/75  
 Carl A. Smith R.S. 5406

# SUMMARY OF ADDITIONAL R/W REQUIRED

STATE JOB NO	FED. RD. DIVISION	STATE	PROJECT
09041(0)	2	OHIO	RS-1257(5)

**R/W PLAN  
ROS-772-7.78**

35  
37  
2  
4

TOTAL NO OWNERS 14

TOTAL NO COMPLETE TAKES 0

TOTAL OWNERS WITH STRUCTURES 4

PARCEL NO	OWNER	SHEET NO	DEED RECORD			NET TAKE	PRO IN TAKE	GROSS TAKE	TOTAL PRO	RESIDUE		BLDG'S TO BE ACQ'D	REMARKS
			BOOK	PAGE	AREA					LEFT	RIGHT		
1	MARY PARKER	3	405	545	3.97	0.02	0.05	0.07	0.56	3.39			
			274	346				0.06					
2	JOHN H. KELLOUGH	3	409	381	0.79	0.16	0.13	0.29	0.13	0.50			
2-T	" " "	3						0.02				Required to build drive	
3	MASSIEVILLE DEVELOPMENT COMPANY	3	364	190	4.99	0.48	0.26	0.74	0.40		4.11	Yes	
3-X	" " "	3						0.08				Required to build channel	
3-T	" " "	3						0.28				Required to remove out buildings	
4	ELMON R. POSEY & RUTH I. POSEY	3	324	457	1.21	0.18	0.21	0.39	0.21	0.82			
4-T	" " " " " " "	3						0.05				Required to build drive	
4-X	" " " " " " "	3						0.11				Required to build channel	
5	ANTHONY LIMLE & JOY LIMLE	3&4	378	351	0.64	0.05	0.10	0.15	0.10	0.49			
5-X	" " " " " " "	3						0.07				0.02 Ac is from the 0.14Ac. Tract 0.13 Ac is from 0.50Ac Tract Required to build channel (Take is from 326 Pg. 256)	
6	GARY L. DAVIS & SHIRLEY M. DAVIS	3&4	400	259	3.07	0.53	0.44	0.97	0.44		2.09		
6-A	" " " " " " "	4				0.01	0	0.01	0			0.60Ac Take from Tract #2 & All of Tract #3 Take is from Tract #1	
7	VIOLA NEWSOME	4	371	4	1.28	0.35		0.35	0		0.93	Yes	
8	OVA LAWRENCE DILLON JR. & MARY ELIZABETH DILLON	4	361	7	1.89	0.13	0.20	0.33	0.20	1.56			
8-T	" " " " " " "	4						0.03				Required to build drive	
9	WALTER R. ELLIOTT & EVELYN J. ELLIOTT	4	310	230 & 228	0.81	0.08	0.08	0.16	0.08	0.65		P	
9-T	" " " " " " "	4						0.02				Required to build drive	
10	DAVID K. GREENE & JUDY M. GREENE	4	368	24	0.98	0.09	0.07	0.16	0.07	0.82			
10-T	" " " " " " "	4						0.09				Required to build drive	
11	JUANITA M. WARD, DENNIS L. WARD & DARLENE M. WARD	4	344	499 & 497	0.77	0.03	0.11	0.14	0.11	0.63			
			417	177 & 389									
11-A	JUANITA M. WARD	4	416	696	6.42	0.49	0.15	0.64	0.28		5.65	Yes	
11-A-T	" " " " " " "	4						0.27				Required to build drive, 0.25Ac. from Tract #1 & 0.02Ac. from Tract #2	
12	STEPHEN C. RAY & REBECCA L. RAY	3	406	93	1.03	0.20	0.21	0.41	0.21	0.62			
12-X	" " " " " " "	3						0.06				Required to build channel	
13	MARSHA K. WATKINS	3&4	405	702	1.00	0.56	0	0.56	0		0.44	Yes	

NOTE: All R/W acquired by State Funds

**SYMBOLS**  
 = Square Feet  
 P = Personal Property

Completion Date 3-26-75		By
Revised	Revision Description	
5-17-78	Completed	LLF
11-10-78	Area Change Par # 1	LLF
8-29-79	Lease removed. Par # 11	LLF

**UTILITY OWNERS**  
 Chillicothe Telephone Co.  
 58 E. Main St.  
 Chillicothe, Ohio 45601  
 Columbus & Southern Ohio Electric Co.  
 215 N. Front St.  
 Columbus, Ohio 43215  
 South Central Power Co.  
 Box 278, 110 Danville Pike  
 Hillsboro, Ohio 45133  
 Ross County Water Co. Inc.  
 33 W. Main St.  
 Chillicothe, Ohio 45601

**HUNTINGTON TWP.**  
**V.M.S. N° 4866, 12814, 12875 & 12947**

STEPHEN C. RAY &  
 REBECCA L. RAY

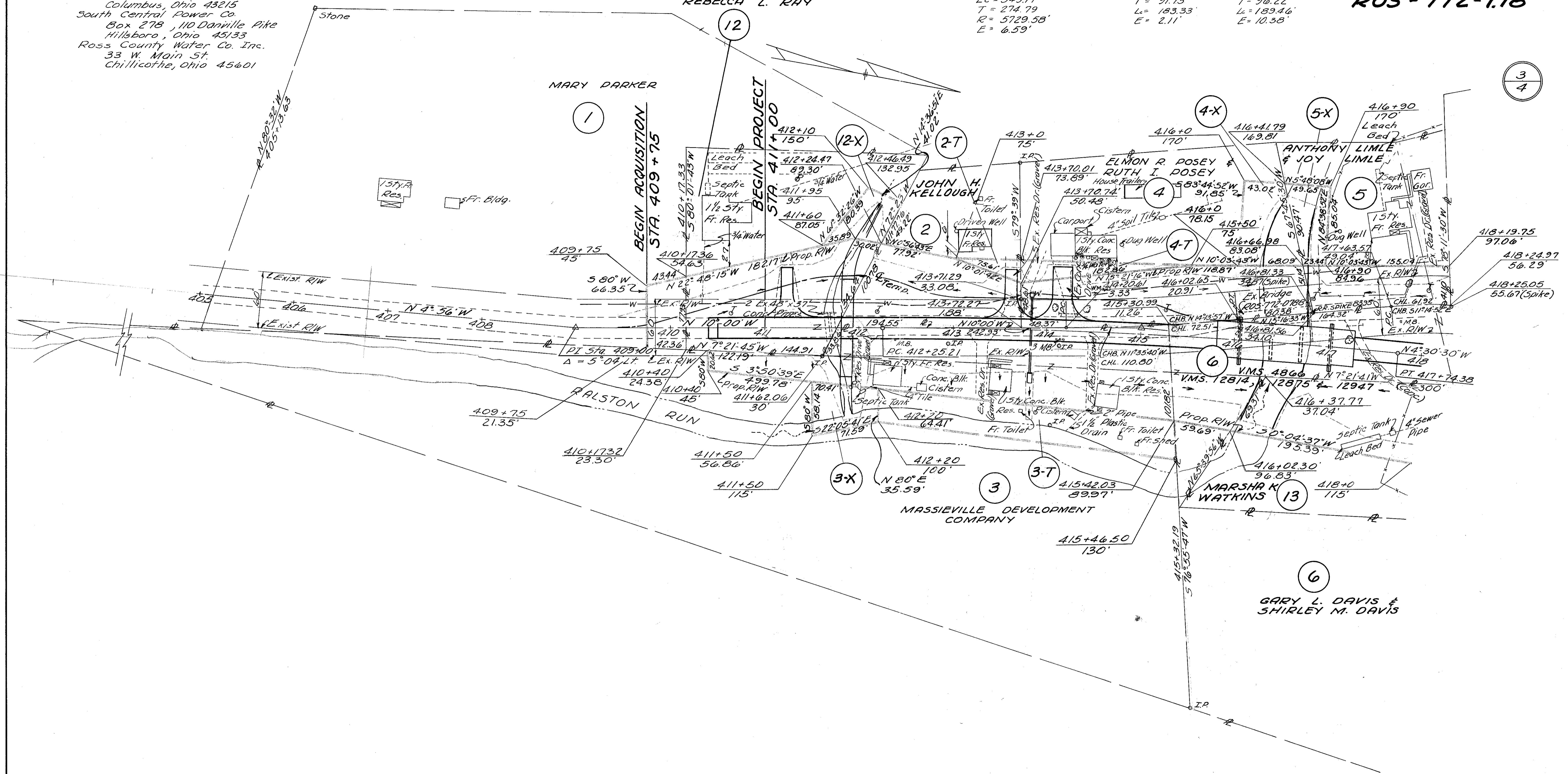
**PROP. CURVE DATA**  
 P.I. Sta 415+00.00  
 $\Delta = 5^{\circ}29'30''$  RT  
 $D_c = 1^{\circ}00'$   
 $L_c = 549.17'$   
 $T = 274.79'$   
 $R = 5729.58'$   
 $E = 6.59'$

**EXISTING CURVE DATA**  
 $\Delta = 5^{\circ}16'33''$  LT  $\Delta = 24^{\circ}37'47''$  RT  
 $D_c = 2^{\circ}52'40''$   $D_c = 13^{\circ}$   
 $R = 1990.97'$   $R = 440.74'$   
 $T = 91.73'$   $T = 96.22'$   
 $L_c = 183.33'$   $L_c = 189.46'$   
 $E = 2.11'$   $E = 10.38'$

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO	RS-1257(5)	

**R/W PLAN**  
**ROS-772-778**

36  
37



Completion Date 3-26-75			
Revised	Revision	Description	By

**STA. 405+00 TO STA. 418+00**

EXISTING CURVE DATA  
 $\Delta = 13^{\circ}51'44''$  Lt.  
 $D_c = 13^{\circ}00'$   
 $R = 440.74'$   
 $T = 53.58'$   
 $L = 106.63'$   
 $E = 3.25'$

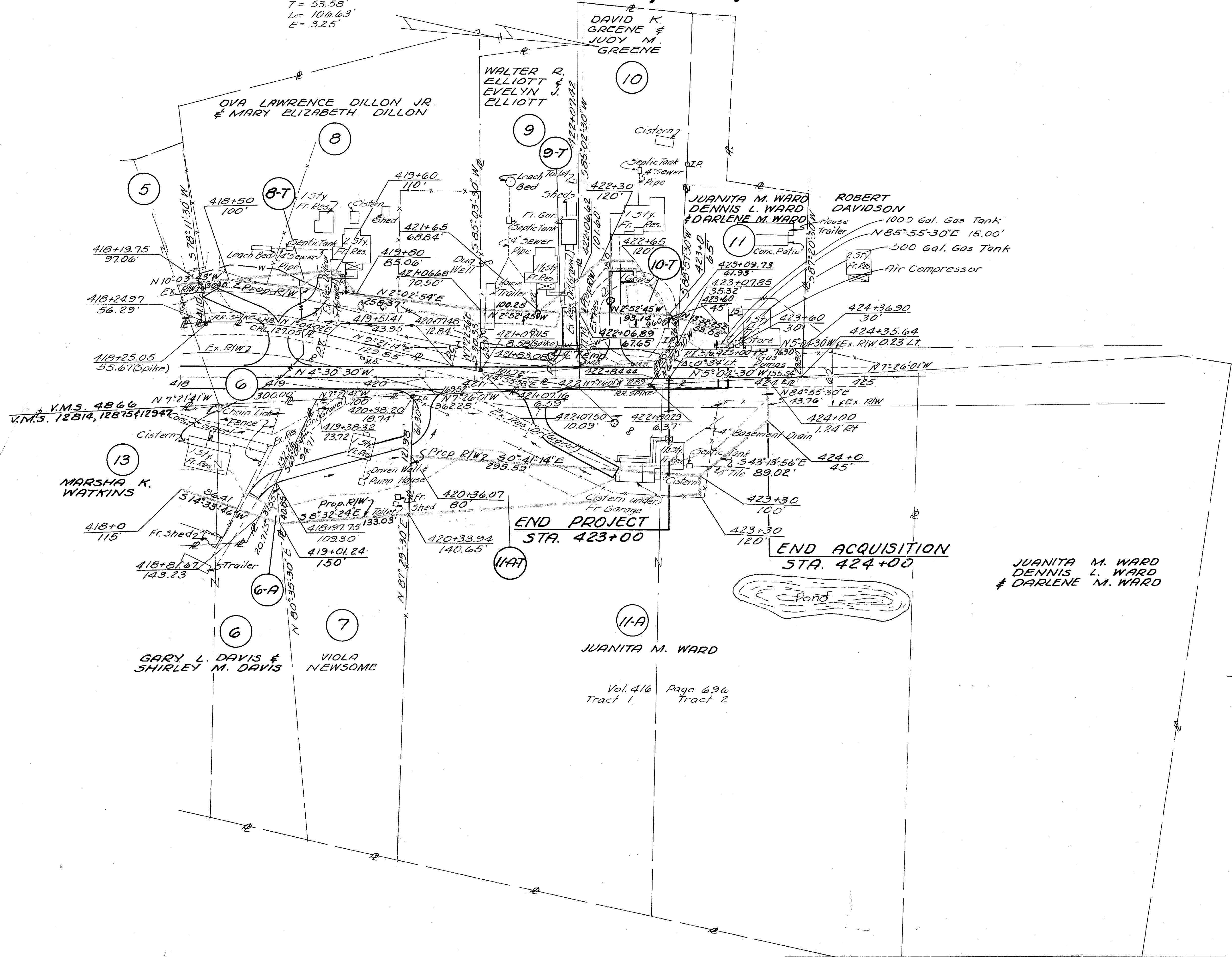
HUNTINGTON TWP.  
 V.M.S. N<sup>o</sup> 4866, 12814, 12875 & 12947

FED. RD. DIVISION	STATE	PROJECT
2	OHIO	RS-1257(5)

37  
37

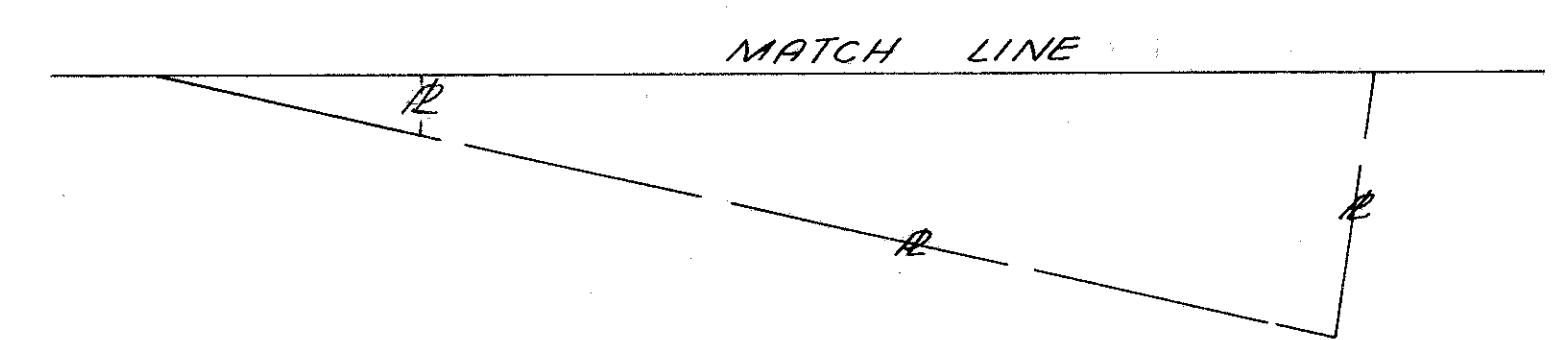
R/W PLAN  
 ROS-772-7.78

4  
4



JUANITA M. WARD  
 Vol. 416 Page 696  
 Tract 1 Tract 2

JUANITA M. WARD  
 DENNIS L. WARD  
 & DARLENE M. WARD



Completion Date 3-26-75	
Revised	Revision Description
5-17-78	Completed
By	LLF

STA. 418+00 TO STA. 425+00

GENERAL INFORMATION

INTRODUCTION

THIS REPORT CONSISTS OF THE SOILS INVESTIGATION OF 0.23 MILE OF PROPOSED SR 772, LOCATED APPROXIMATELY 0.3 MILE SOUTH OF THE SR 772-TURNER ROAD INTERSECTION.

PROPOSED GRADE INDICATES MAXIMUM PROPOSED 18-FOOT CUTS AND 15-FOOT FILL EMBANKMENTS.

GEOLOGY AND OBSERVATIONS OF THE PROJECT

THE PROJECT IS LOCATED ON THE FLOODPLAIN OF RALSTON RUN, IN AN AREA WHERE THIN GLACIAL DRIFT OVERLIES SHALE AND SANDSTONE BEDROCK, OF MISSISSIPPIAN AND DEVONIAN AGES. BEDROCK WAS OBSERVED AND MEASURED IN RALSTON RUN.

EXPLORATION

EXPLORATORY BORINGS WERE MADE BY MEANS OF TRUCK-MOUNTED MECHANICAL SOIL AUGER AND HAND AUGER (IN DIFFICULT ACCESS AREAS), ON JULY 19, 1973. INCLUDED IN THIS REPORT ARE LOGS OF BORINGS MADE FOR THE STRUCTURE FOUNDATION INVESTIGATION ON THE PROJECT.

INVESTIGATIONAL FINDINGS

MATERIALS ENCOUNTERED ON THE PROJECT WERE PREDOMINANTLY COMPRISED OF SANDY SILTS (A-4a), THAT HAVE LOW MOISTURE CONTENTS.

BEDROCK IS ANTICIPATED IN THE EXCAVATION AREA BETWEEN STATIONS 417+50 AND 422+00.

LEGEND FOR PROJECT AVERAGE RESULTS OF TESTS— 4 SAMPLES TESTED

DESCRIPTION	H.R.B. CLASS	OHIO CLASS	% AGG.	% C. SAND	% F. SAND	% SILT	% CLAY	LIQUID LIMIT	PLASTICITY INDEX	WATER CONTENT	SAMPLES TESTED
GRAVEL WITH SAND	A-1-b(0)	A-1-b	57	16	7	15	5	NP	NP	15	-
SANDY SILT	A-4(2)	A-4a	45	6	6	29	14	NP	NP	11	4
SILT AND CLAY	A-6(9)	A-6a	16	5	5	44	30	32	13	24	-
SHALE											VISUAL CLASSIFICATION
SANDSTONE											VISUAL CLASSIFICATION
COBBLES											VISUAL CLASSIFICATION
VARIOUS OTHER MATERIALS											VISUAL CLASSIFICATION
SOD=X=APPROXIMATE DEPTH.											
BERM MATERIAL.											
AUGER BORING-PLAN VIEW.											
DRIVE SAMPLE-CORE BORING-PLAN VIEW.											
AUGER BORING PLOTTED TO VERTICAL SCALE ONLY.											
DRIVE SAMPLE-CORE BORING PLOTTED TO VERTICAL SCALE ONLY.											
NUMBER OF BLOWS FOR "STANDARD PENETRATION" TEST. X=NUMBER OF BLOWS FOR FIRST 6 INCHES. Y=NUMBER OF BLOWS FOR SECOND 6 INCHES.											

NOTE: FIGURES BESIDE BORINGS INDICATE WATER CONTENT IN PERCENT. E.G. 15

SOIL PROFILE  
ROSS COUNTY

ROS-772-7.78

OHIO STATE HIGHWAY TESTING  
LABORATORY

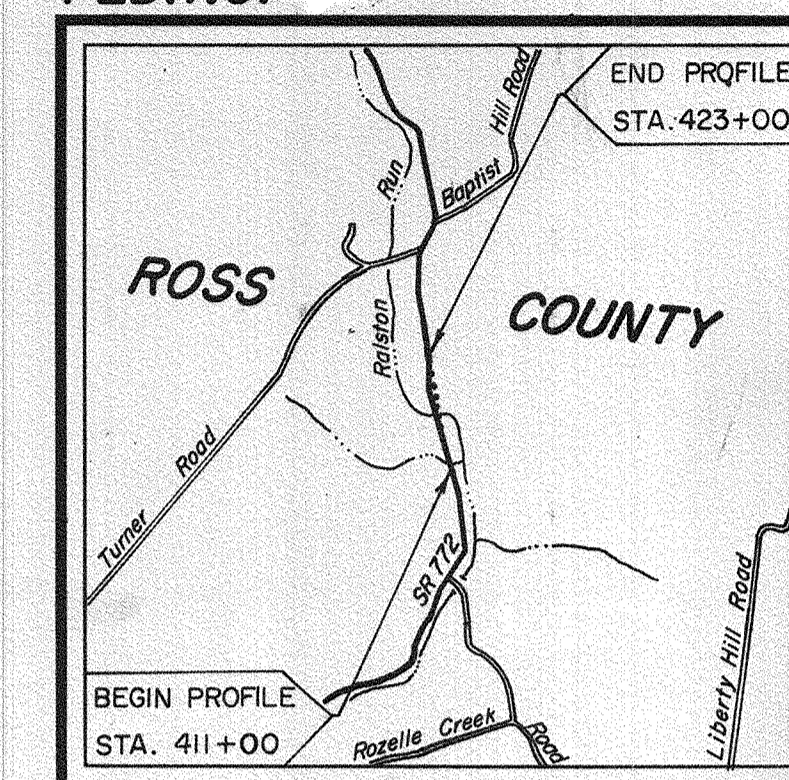
1620 W. BROAD ST. COLUMBUS, OHIO 43223

1  
5

1  
2

NOTE: INFORMATION SHOWN BY THIS SUBGRADE PROFILE WAS OBTAINED SOLELY FOR USE IN ESTABLISHING DESIGN CONTROLS FOR THE PROJECT. THE STATE OF OHIO DOES NOT GUARANTEE THE ACCURACY OF THIS DATA AND IT IS NOT TO BE CONSTRUED AS A PART OF THE PLANS GOVERNING CONSTRUCTION OF THE PROJECT.

FED. NO.



LOCATION MAP

Recon - J.S.M. - 6/20/73

Drilling - J.A.G. - 7/19/73

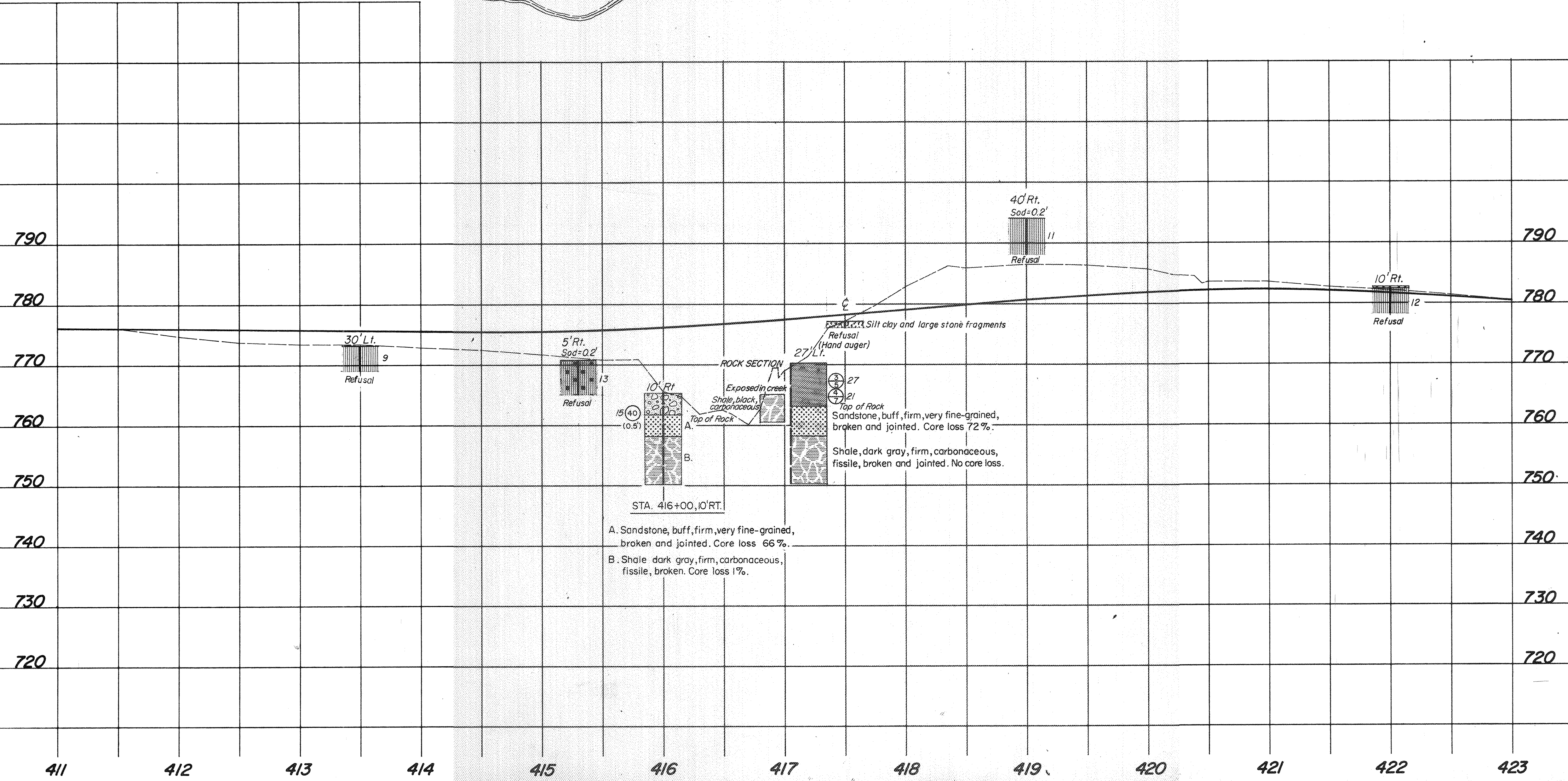
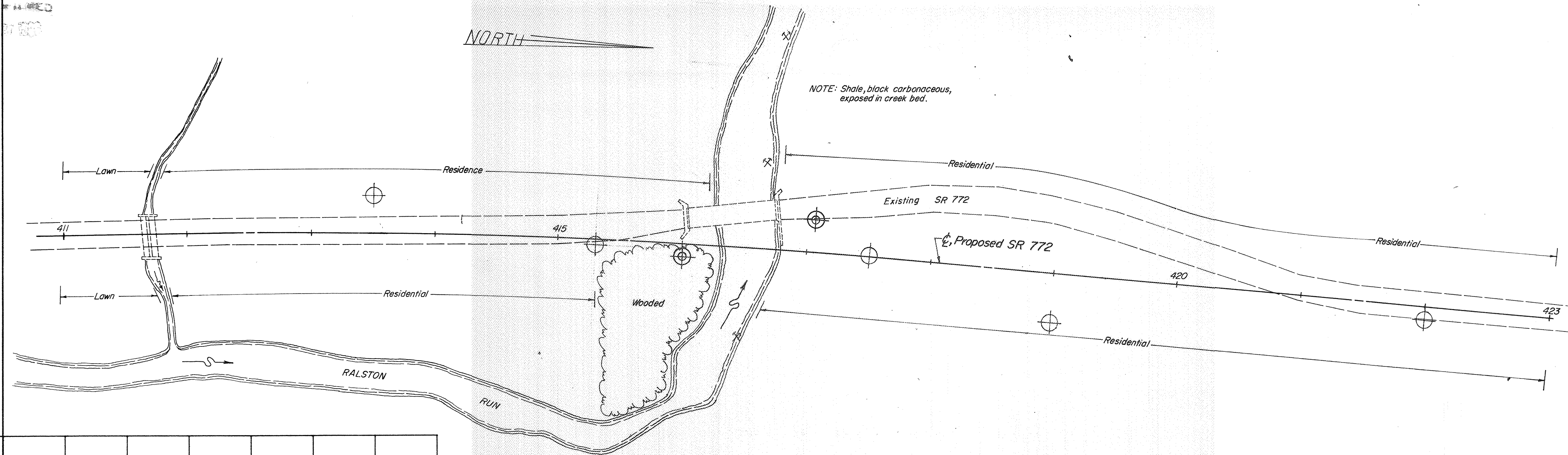
Drafting - R.A.W. - 8/29/73

SUMMARY OF SOIL TEST DATA

NOTE: NP SHOWN IN LIQUID LIMIT AND PLASTICITY INDEX COLUMNS INDICATES THAT THE MATERIAL IS NON-PLASTIC.  
\*DENOTES SAMPLE TAKEN AT OR NEAR GRADE.

STATION & OFFSET	DEPTH FROM TO	% AGG.	% C.S.	% F.S.	% SILT	% CLAY	L.L.	P.I.	W.C.	SHTL CLASS	
											DRIVE SAMPLE SOIL TEST DATA
413+50 30'Lt	0.0-4.0	40	10	6	29	15	NP	NP	9	A-4a*	
415+30 5'Rt	0.2-5.5	48	9	7	26	10	NP	NP	13	A-4a	
417+50 CL	0.0-1.0	SILT CLAY AND LARGE STONE FRAGMENTS					VISUAL*				
419+00 40'Rt	0.2-6.0	45	3	7	31	14	NP	NP	11	A-4a	
422+00 10'Rt	0.3-4.5	45	4	6	31	14	NP	NP	12	A-4a*	
DRIVE SAMPLE SOIL TEST DATA											
416+00 10'Rt	2.5-3.5	57	16	7	15	5	NP	NP	15	A-1-b	
417+05 27'Lt	2.5-3.5 5.0-6.0	6 26	3 6	5 5	53 35	33 28	32 32	12 13	27 21	A-6a A-6a	

"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 PROJECT. COPIES OF THIS DATA, IF ANY, MAY BE INSPECTED IN THE DISTRICT DEPUTY DIRECTOR'S OFFICE, THE BUREAU OF TESTS AT 1600 WEST BROAD STREET, THE PAVEMENT AND SOILS SECTION OF THE BUREAU OF ROADWAY DESIGN OR IN THE BRIDGE BUREAU AT 25 SOUTH FRONT STREET."



RECEIVED  
JUN 27 1973

3  
5  
1  
3

**GEOLOGY AND OBSERVATIONS OF THE SITE**

THE STRUCTURE SITE IS LOCATED ON THE RATHER NARROW PORTION OF THE FLOODPLAIN AND OVER RALSTON RUN, IN AN AREA WHERE SHALLOW ALLUVIUM overlies SANDSTONE AND SHALE BEDROCK, OF DEVONIAN AGE.

**EXPLORATION**

THE EXPLORATION CONSISTED OF TWO DRIVE SAMPLE-CORE BORINGS AND SEVEN HAND DRIVEN PROBES, MADE BETWEEN AUGUST 6 AND 8, 1973.

**INVESTIGATIONAL FINDINGS**

BORINGS DISCLOSED THAT RELATIVELY FLAT-LYING BEDROCK SURFACE, ENCOUNTERED AT 4 AND 7-FOOT DEPTHS, ELEVATIONS 763 AND 762 FEET, IS overlain BY SILTS, SANDS AND GRAVELS. THE BORINGS WERE TERMINATED AT 15 AND 20-FOOT DEPTHS, ELEVATION 750 FEET, AFTER PENETRATING 11 AND 13 FEET BELOW BEDROCK SURFACE.

THE HAND PROBES ENCOUNTERED RAPID INCREASE IN PENETRATION RESISTANCE WITH INCREASE IN DEPTH, AND WERE TERMINATED UPON ENCOUNTER WITH REFUSAL TO PENETRATION AT 2 TO 7-FOOT DEPTHS, ELEVATIONS 768 TO 757 FEET, CONSIDERED TO BE UPON ENCOUNTER WITH BEDROCK SURFACE, AS DISCLOSED BY THE BORINGS.

NO FREE WATER WAS ENCOUNTERED IN ANY OF THE HAND PROBES.

**LEGEND**

- Auger Boring Location - Plan View.
- Press and / or Drive Sample and / or Core Boring Location - Plan View.
- Drive Rod Penetration Resistance Sounding Location - Plan View.
- Capped Pile
- Footing
- Footing on Pile
- Top of Rock

- Horizontal Bar on Boring Log Indicates the Depth the Sample Was Taken.
- Figures Beside the Boring Log in Profile Indicate the Number of Blows for Standard Penetration Test.  
X = Number of Blows for First 6 inches.  
Y = Number of Blows for Second 6 inches.
- Drive Rod Penetration Resistance Sounding Log - Profile
- Casing
- Resistance "R" < 10,000 lbs.
- Resistance "R" > 10,000 lbs.
- Indicates Final Measurement of Penetration, in Inches.
- Indicates Free Water Elevation.
- Indicates Static Water Elevation.

**SYMBOLS OF ROCK TYPES**

- Coal
- Weathered Mudstone or Claystone
- Mudstone or Claystone
- Weathered Shale
- Shale
- Weathered Siltstone
- Siltstone
- Weathered Sandstone
- Sandstone
- Leached Dolomite
- Dolomite
- Leached Limestone
- Limestone
- Boulders or Cobbles

**GENERAL INFORMATION**

**Drive Rod Penetration Sounding Tests**

Drive rod penetration resistance tests constitute driving a 1.315-inch diameter steel rod, with a 45° cone point, into the ground, using a 122-pound drop-hammer with a free fall of five feet. At one or two-foot depth intervals, a measurement is taken to determine the amount of penetration achieved in three hammer drops. This reading is converted to an empirical value for capacity "R", in thousands of pounds (which is a measure of both the point resistance and frictional resistance on the rod), by using charts prepared by the Ohio Department of Highways, Bureau of Bridges, on the basis of correlation study of rod penetration with past performance of pile driving. For interpretation, a graph is prepared by plotting the value "R" against the depth at which the reading was taken, and connecting the plotted points. The curve so obtained reflects the density of subsurface materials in a manner that can be readily compared with data from similar tests at other locations on the structure site. From this comparison, the overall uniformity of subsurface condition may be evaluated.

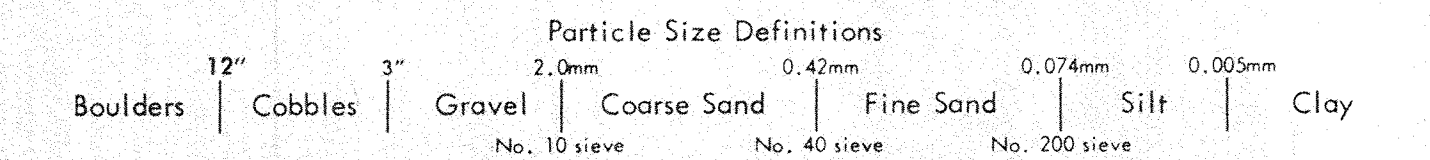
**Drive Sample Borings - Drive-Press Sample Borings**

Drive sample borings are made by means of a rotary-type drill rig, employing a 2" O.D., 1-3/8" I.D. sampler, at 2-1/2 and / or 5-foot depth intervals, driven by means of a 140 - pound drop-hammer with a free fall of 30 inches. The number of blows required to drive the sampler 12 inches is considered the standard penetration test.

Drive-press sample borings are made by means of a rotary-type drill rig, employing a 2" O.D., 1-3/8" I.D. drive sampler, and 3" O.D. thin-wall press sampler. The press sampler is advanced by continuous uniform pressure, applied by the drill rig.

The boring log sheets show a graphic plot of the information obtained, including depth and elevation of the sample, number of blows for the standard penetration tests in two 6-inch increments, depth of press samples, field sample number, sample description - based on laboratory tests and the Casagrande AC classification system - and gradation, plasticity, and moisture content determinations. Results of strength and consolidation testing, if performed, appear on separate enclosures.

At depths where materials are bouldery or gravelly to the extent that the sampler can not be driven, a wash sample is procured for visual classification, in order to determine the general character of the material. These samples are not considered sufficiently representative to warrant laboratory testing.



LOG OF BORING  
Date Started 8-6-73 Sampler Type SS Dia 1 3/8" Water Elev. \_\_\_\_\_  
Date Completed 8-7-73 Casing Length 5' Dia 3 1/2" \_\_\_\_\_  
Boring No. B-2 Station & Offset 416+00, 10' RT. (REAR ABUTMENT) Surface Elev. 765.3'

Elev.	Depth	Std. Pen. (N)	Rec. ft.	Loss ft.	Description	Sample No.	Physical Characteristics								SHTL Class.		
							% Agg.	% C.S.	% F.S.	% Silt	% Clay	L.L.	P.I.	W.C.			
765.3	0				TOP OF ROCK												
762.8 761.8	2 4	40/			BROWN SILTY SANDY GRAVEL	1	57	16	7	15	5	NP	NP	15	A-1-b		
			1.2	0.3	SANDSTONE, BUFF, FIRM, VERY FINE-GRAINED, BROKEN AND JOINTED. CORE LOSS: 66%												
758.3	6		2.9	1.1	SHALE, DARK-GRAY, FIRM, CARBONACEOUS, FISSILE, BROKEN. CORE LOSS: 1%												
	8																
	10																
	12																
750.3	14		5.0	0.0													

BOTTOM OF BORING

LOG OF BORING  
Date Started 8-8-73 Sampler Type SS Dia 1-3/8" Water Elev. \_\_\_\_\_  
Date Completed 8-8-73 Casing Length 10' Dia 3-1/2" \_\_\_\_\_  
Boring No. B-7 Station & Offset 417+05, 27' LT. (FORWARD ABUTMENT) Surface Elev. 770.2'

Elev.	Depth	Std. Pen. (N)	Rec. ft.	Loss ft.	Description	Sample No.	Physical Characteristics								SHTL Class.		
							% Agg.	% C.S.	% F.S.	% Silt	% Clay	L.L.	P.I.	W.C.			
770.2	0				TOP OF ROCK												
767.7	2				BROWN SILT & CLAY												
765.2	4	3/5				1	6	3	5	53	33	32	12	27	4-6a		
763.2	6				BROWN CLAY WITH SHALE FRAGMENTS												
	8	4/7				2	26	6	5	35	28	32	13	21	A-6a		
					TOP OF ROCK												
758.2	10		1.2	1.8	SANDSTONE, BUFF, FIRM, VERY FINE-GRAINED, BROKEN AND JOINTED. CORE LOSS: 72%												
	12																
					SHALE, DARK-GRAY, FIRM, CARBONACEOUS, FISSILE, BROKEN AND JOINTED. NO CORE LOSS.												
	14																
	16																
750.2	20		5.0	0.0													

BOTTOM OF BORING

NOTE: Information shown by this subsurface investigation was obtained solely for the use in establishing design controls for the project. The State of Ohio does not guarantee the accuracy of this data and it is not to be construed as a part of the plans governing construction of the project.

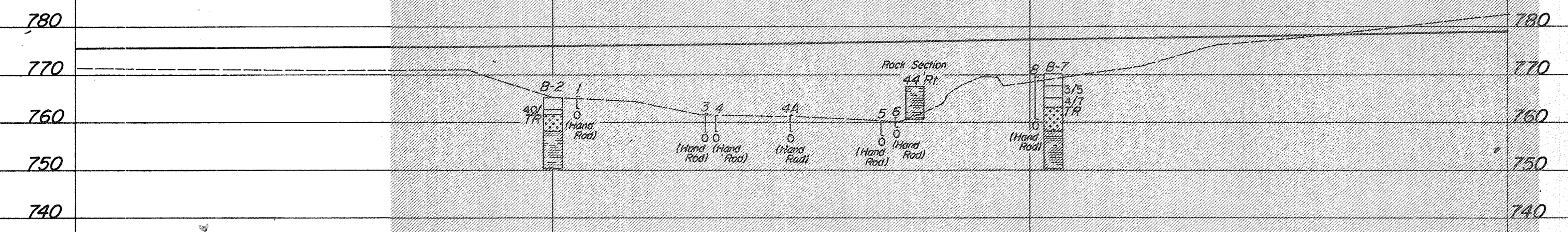
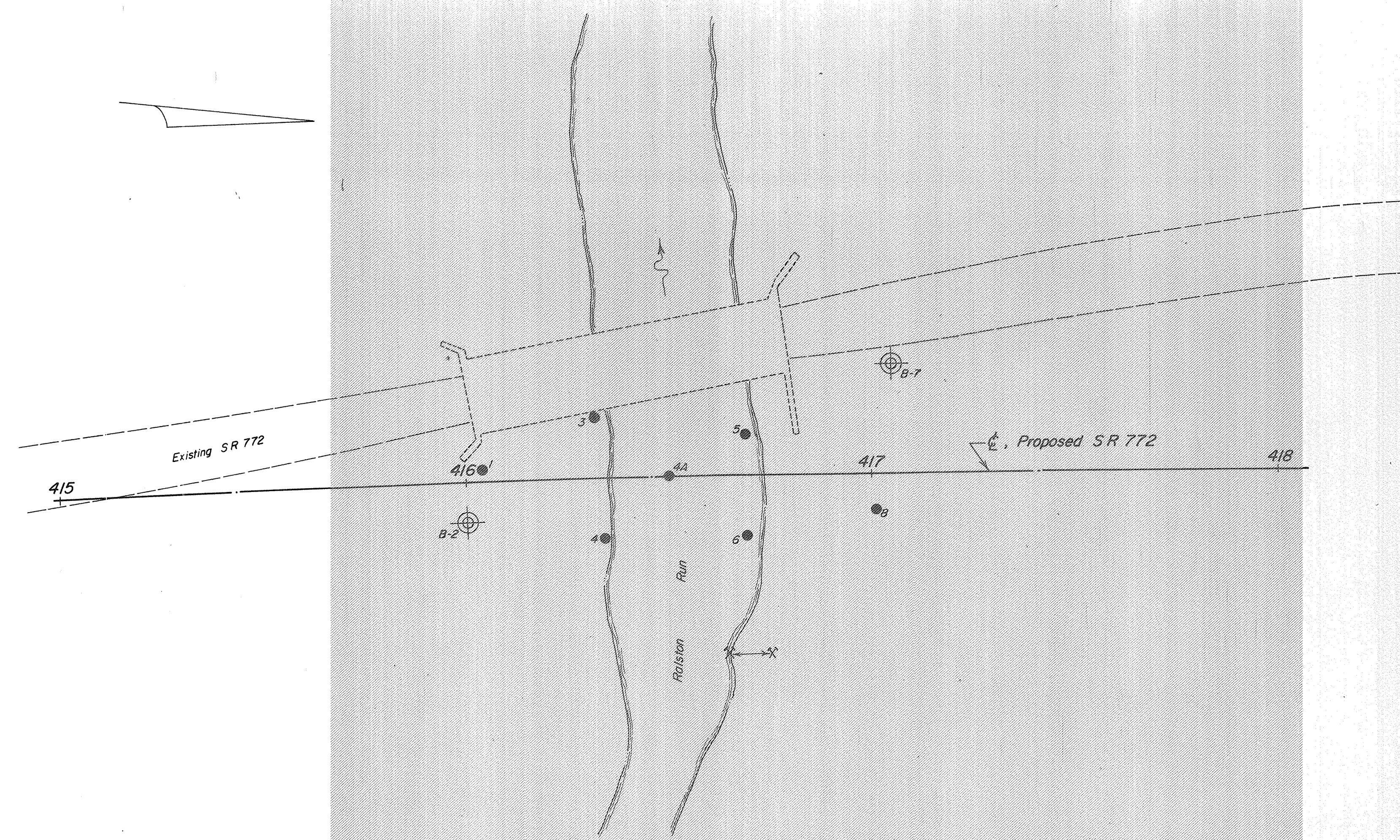
OHIO DEPARTMENT OF TRANSPORTATION  
DIVISION OF HIGHWAYS - TESTING LABORATORY  
1600 WEST BROAD STREET, COLUMBUS, OHIO 43223

STRUCTURE FOUNDATION INVESTIGATION  
BRIDGE NO. ROS-772-0788  
OVER RALSTON RUN  
SEC. ROS-772-7.78

CHECKED BY R. D. R. REVIEWED BY R. D. R. DATE 8/28/73



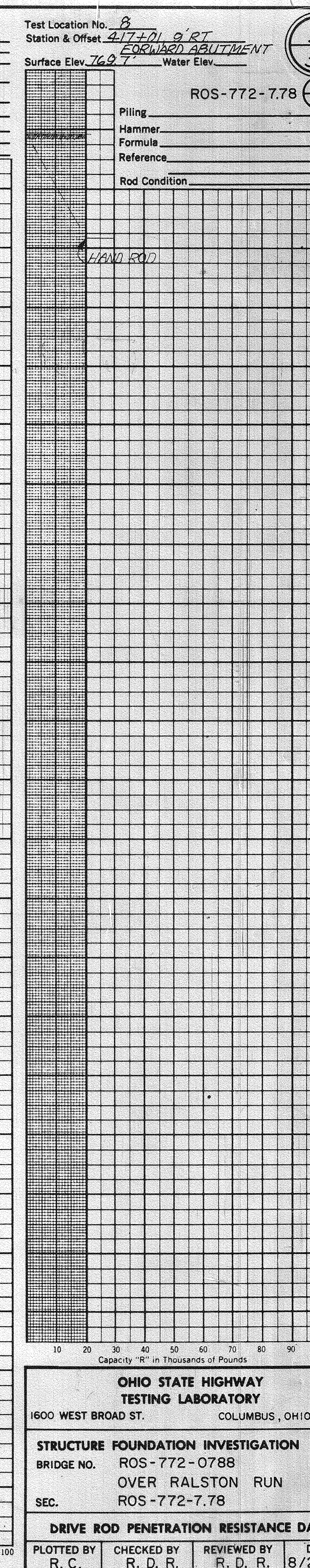
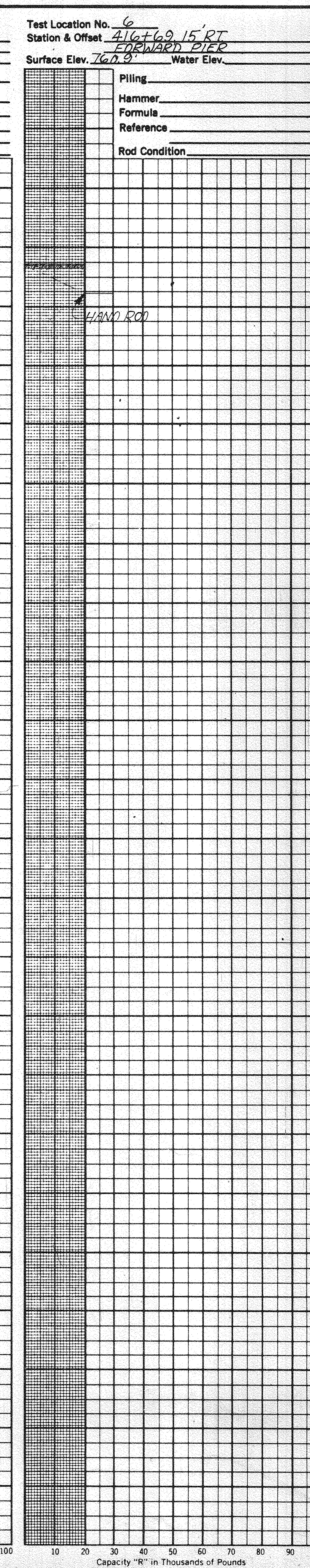
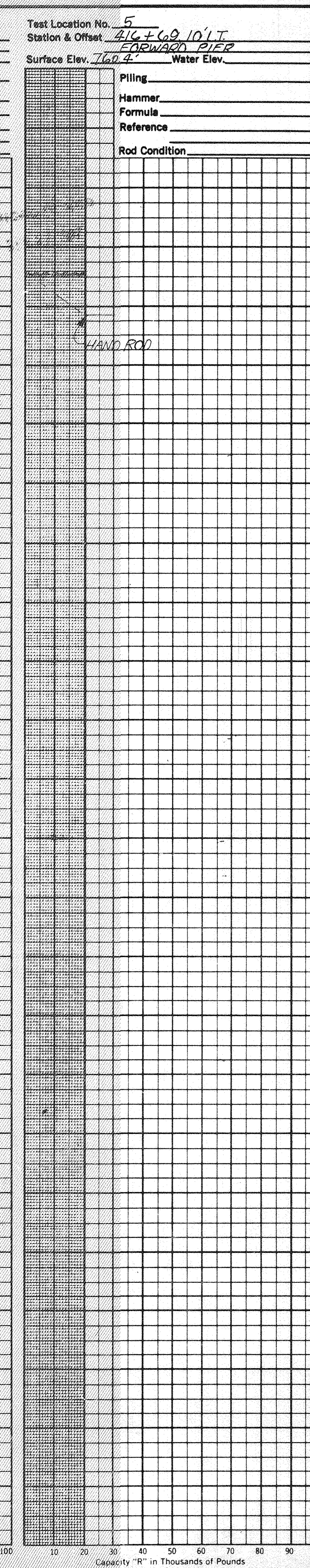
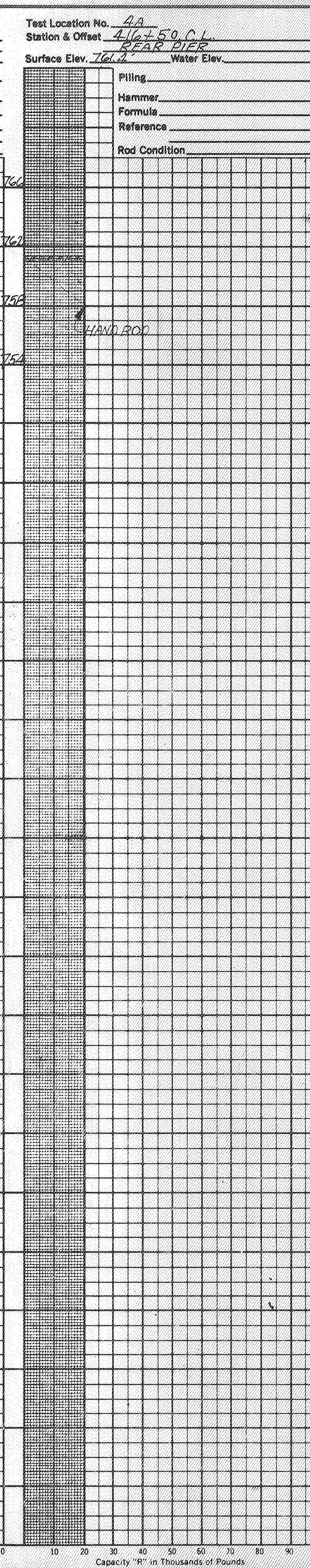
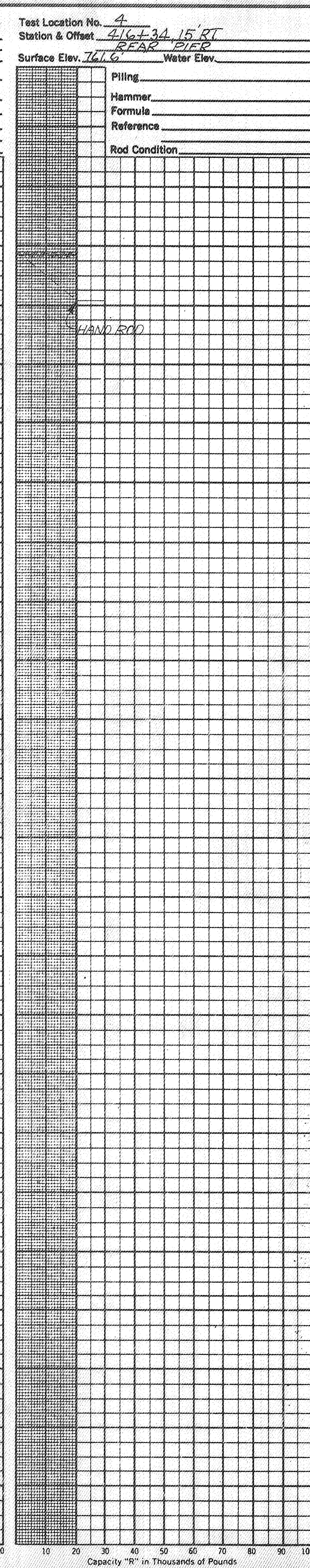
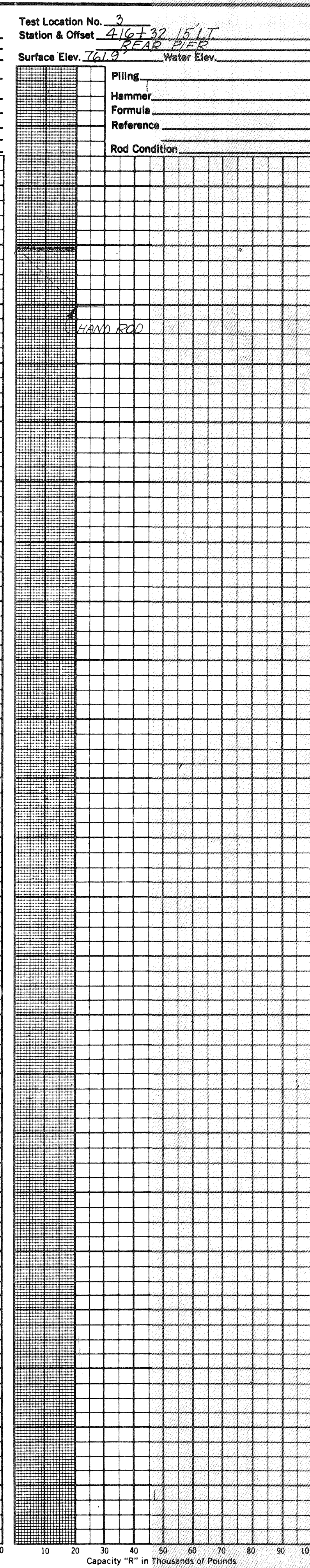
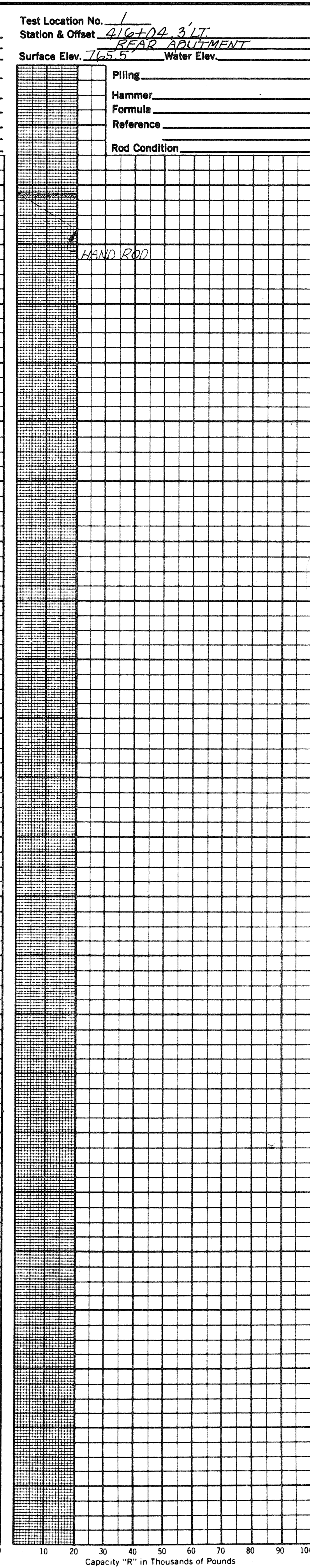
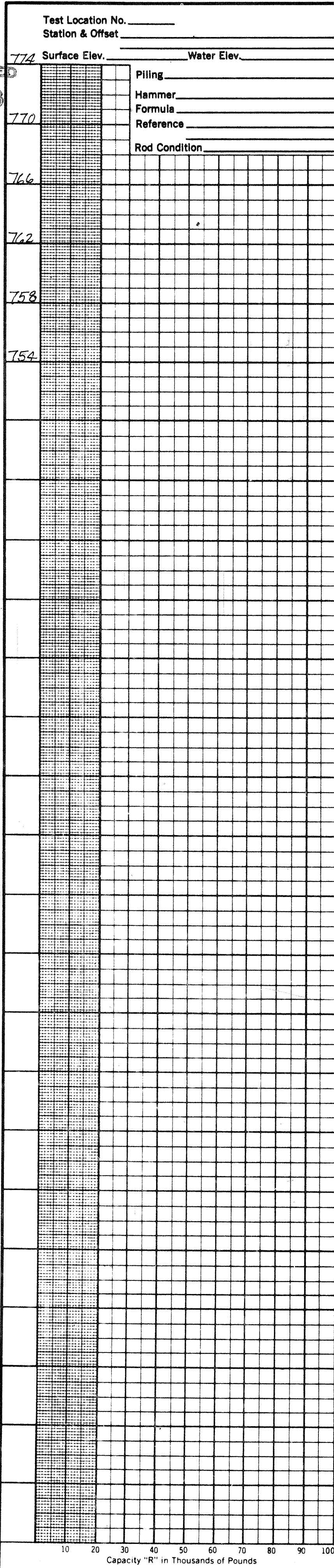
MICROFILMED  
JUN 27 1983



OHIO DEPARTMENT OF HIGHWAYS TESTING LABORATORY 1600 WEST BROAD STREET, COLUMBUS, OHIO 43223			
STRUCTURE FOUNDATION INVESTIGATION			
BRIDGE NO.	ROS - 772-0788		
SEC.	OVER RALSTON RUN ROS-772-778		
PLAN AND PROFILE			
DRAWN BY	CHECKED BY	REVIEWED BY	DATE
L. N. L.	R. D. R.	R. D. R.	8/28/73

SCALE: 1" = 20'

JUN 27 1968



5  
5

ROS-772-778  
3  
3

ROS-772-778  
BIM 2H

**OHIO STATE HIGHWAY TESTING LABORATORY**  
1600 WEST BROAD ST. COLUMBUS, OHIO 43223

**STRUCTURE FOUNDATION INVESTIGATION**  
BRIDGE NO. ROS-772-0788  
OVER RALSTON RUN  
SEC. ROS-772-7.78

**DRIVE ROD PENETRATION RESISTANCE DATA**

PLOTTED BY R. C.	CHECKED BY R. D. R.	REVIEWED BY R. D. R.	DATE 8/28/73
---------------------	------------------------	-------------------------	-----------------