

STATE OF OHIO  
DEPARTMENT OF TRANSPORTATION

BRS-1041 (2)

FHWA REGION	STATE	PROJECT
5	OHIO	BRS-1041 (2)

ROS-772-7.78  
ROSS COUNTY

MICROFILMED  
SEP 23 1987

DESIGN DESIGNATION

Current A.D.T. (1980)	2050
Design Year A.D.T. (2000)	2870
D. H. V.	123
D. (directional distribution)	55-45
T. (percent B&C Trucks)	1%
V. (design speed)	50MPH

# ROS-772-7.78

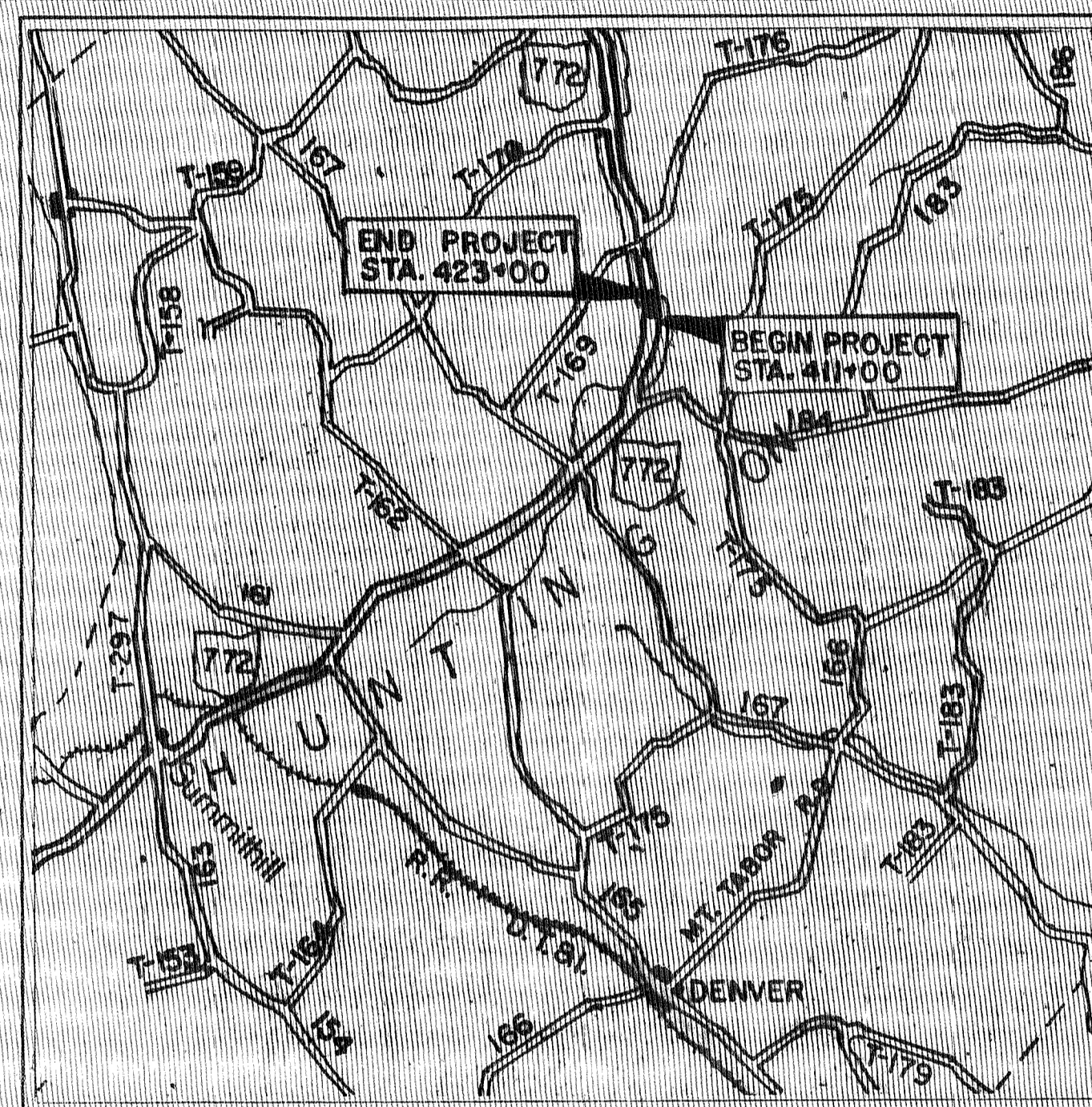
HUNTINGTON TOWNSHIP  
ROSS COUNTY

### CONVENTIONAL SIGNS

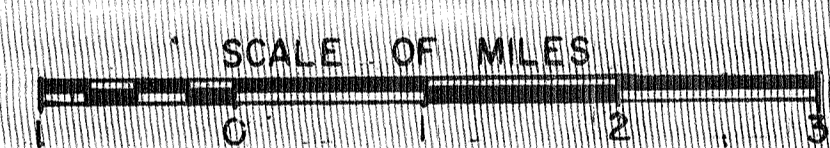
County Line	-----	Limited Access (only)	LA
Township Line	-----	Right of Way (only)	RW
Section Line	-----	Limited Access & Right of Way	LA&RW
Corporation Line	----- or -----	Existing Right of Way	-----
Fence Line (existing)	-----	Property Line	----- (in existing fence)
Fence Line (proposed)	-----	Railroad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

### INDEX OF SHEETS

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LOCATION MAP



Portion to be improved	=====
State Roads	=====
Other Roads	-----

### SCALES

Plan	0 50 100
Profile: Horizontal	0 50 100
Profile: Vertical	0 5 10

### LINE DATA

Begin Project	Sta. 411+00
End Project	Sta. 423+00
Net Length of Project	1200 Lin. Ft. or 0.227 Miles
Begin Work	Sta. 409+44
End Work	Sta. 424+00
Net Length of Work	1456 Lin. Ft. or 0.275 Miles

SUPPLEMENTAL PRINTS OF STANDARD CONSTRUCTION DRAWINGS			
BP-6	6-1-65	BP-2	12-6-76
CB-2-2ABB	5-1-79	BR-5	4-16-77
GR-2B	12-6-76	LA-1	6-1-77
GR-3	12-6-76	DBR-2-73	4-10-73
GR-4	12-6-76	GR-1	12-6-76
GR-5	1-1-71	GR-2A	12-6-76
GR-6	1-1-71	PS B D-1-71	7-1-71
HW-4	1-1-70	AS-1-72	6-30-72
MC-1	6-13-69	BP-3	12-6-76
MC-3	6-1-73	NC-11	8-1-78
MC-4	7-26-76		
LBC-45	9-18-47		

1979 SPECIFICATIONS

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

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

Approved: Gerald E. Hannon  
Date: 7-28-78 District Deputy Director of Transportation

DWI Approved: Robert B. Pfeiffer  
Date: 11-26-79 Engineer, Bureau of Bridges and Structural Design

Approved: R. E. Gentry  
Date: 1-4-80 Chief Engineer, Planning and Design

Approved: David J. Wain  
Date: 1-4-80 Director, Department of Transportation

SUPPLEMENTAL SPECIFICATIONS	
1001	1-3-77

DEPARTMENT OF TRANSPORTATION  
FEDERAL HIGHWAY ADMINISTRATION

APPROVED: \_\_\_\_\_

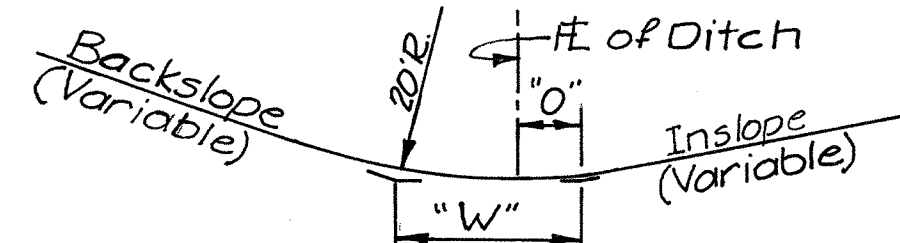
\_\_\_\_\_  
DIVISION ADMINISTRATOR

\_\_\_\_\_  
DATE

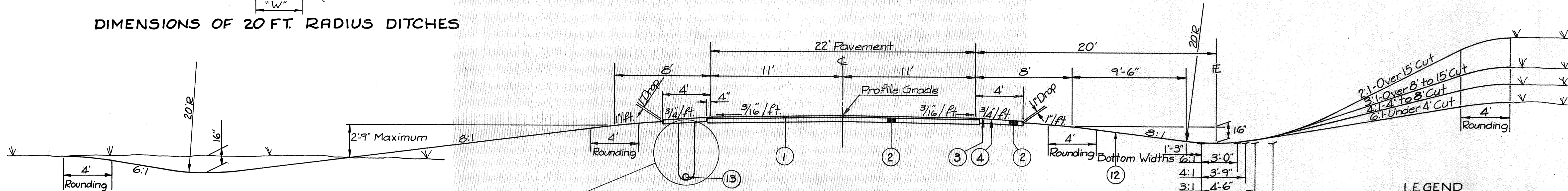
# TYPICAL SECTION

BACK SLOPE	INSLOPE											
	8:1		7:1		6:1		5:1		4:1		3:1	
	W	O	W	O	W	O	W	O	W	O	W	O
6:1	3'-0"	1'-3"	3'-3"	1'-6"	3'-6"	1'-9"	3'-9"	2'-0"	4'-3"	2'-6"	5'-0"	3'-3"
5:1	3'-3"		3'-6"		3'-9"		4'-0"		4'-6"		5'-3"	
4:1	3'-9"		4'-0"		4'-3"		4'-6"		5'-0"		5'-9"	
3:1	4'-6"		4'-9"		5'-0"		5'-3"		5'-9"		6'-6"	
2:1	6'-0"	1'-3"	6'-3"	1'-6"	6'-6"	1'-9"	6'-9"	2'-0"	7'-3"	2'-6"	8'-0"	3'-3"

404 on 301  
0 1 2 3 4 5 8'  
Scale

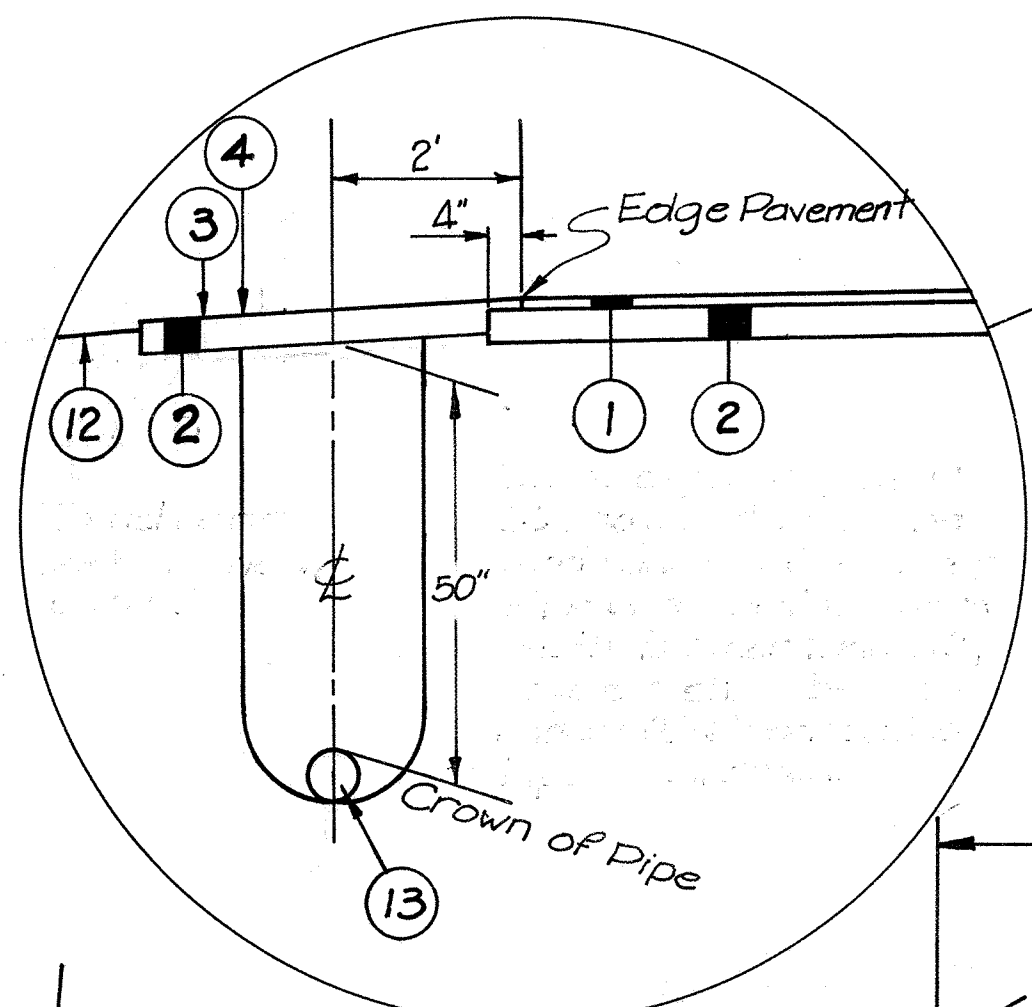


DIMENSIONS OF 20 FT. RADIUS DITCHES



TYPICAL SECTION "A"

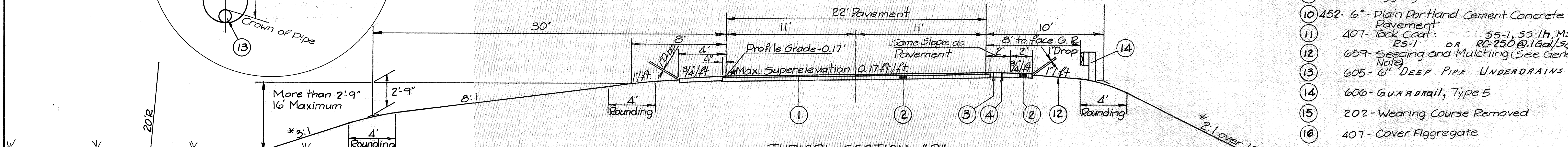
The above typical section applies between the following stations:  
Sta. 419+00 to Sta. 423+00  
400 Lin. Ft.



LEGEND

- ① 404-1 1/2" - Asphalt Concrete, AC-20
- ② 301- 4" - Bituminous Aggregate Base: AC-20, RT-11 or RT-12
- ③ 409- Seal Coat Cover Aggregate, No. 8 @ .008 Cu. Yd. per Sq. Yd.
- ④ 409- Seal Coat Bituminous Material: RT-9, RT-10, MC-800, MC-3000, RS-1, RS-2, CRS-1, CRS-2 or CBAE-800 @ 0.3 Gal. per Sq. Yd.
- ⑤ 611- Approach Slab (T=15')
- ⑦ 404- 1" - Asphalt Concrete, AC-20 (Driveways)
- ⑧ 304- 6" - Aggregate Base
- ⑨ 304- 8" - Aggregate Base
- ⑩ 452- 6" - Plain Portland Cement Concrete Pavement
- ⑪ 407- Tack Coat: 55-1, 55-1H, MS-2, RS-1 or RC-250 @ 1.6 Gal/Sq. Yd.
- ⑫ 659- Seeding and Mulching (See General Note)
- ⑬ 605- 6" DEEP PIPE UNDERDRAINS
- ⑭ 606- GUARDRAIL, Type 5
- ⑮ 202- Wearing Course Removed
- ⑯ 407- Cover Aggregate

\*Unless Otherwise Shown on Plans  
\*For Super-elevation tables, see sheet No. 5



TYPICAL SECTION "B"

The above typical section applies between the following stations:  
Sta. 414+00 to Sta. 415+81 181.00 Lin. Ft.  
Sta. 417+28.17 to Sta. 419+00 171.83 Lin. Ft.  
Total 652.83 Lin. Ft.

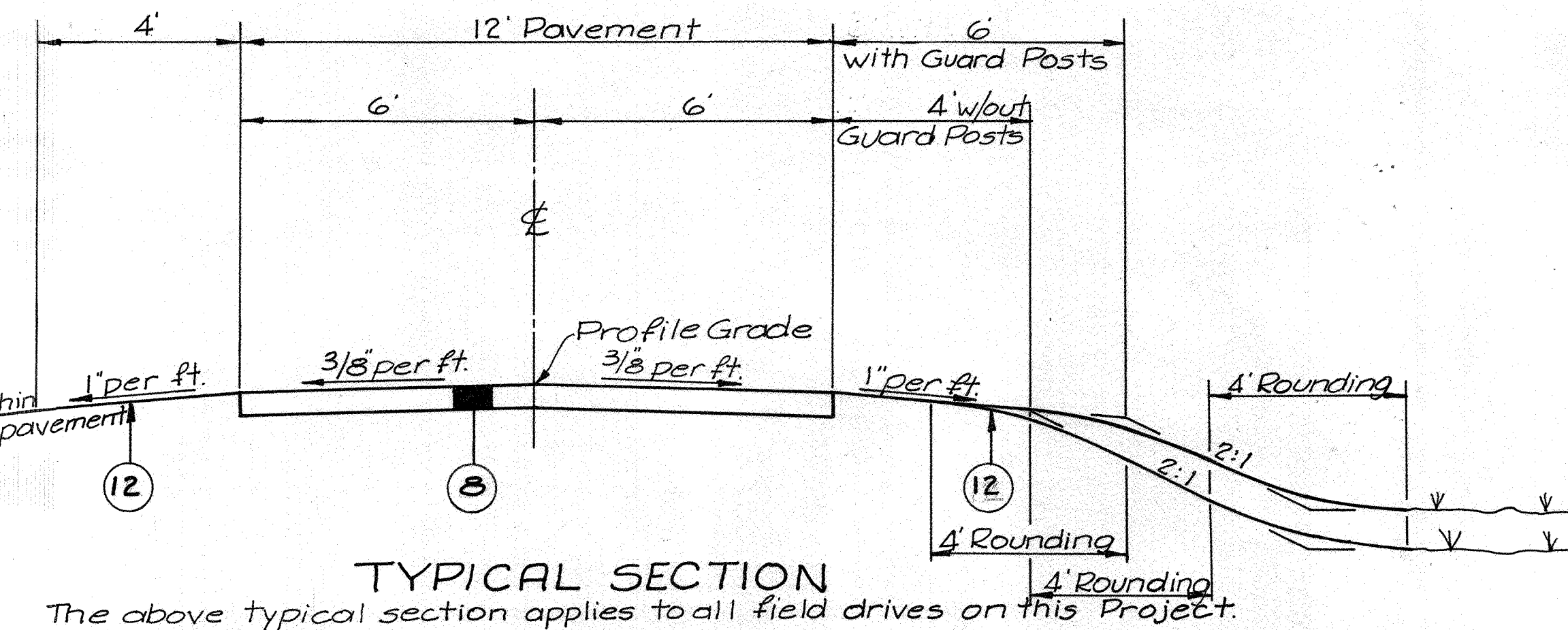
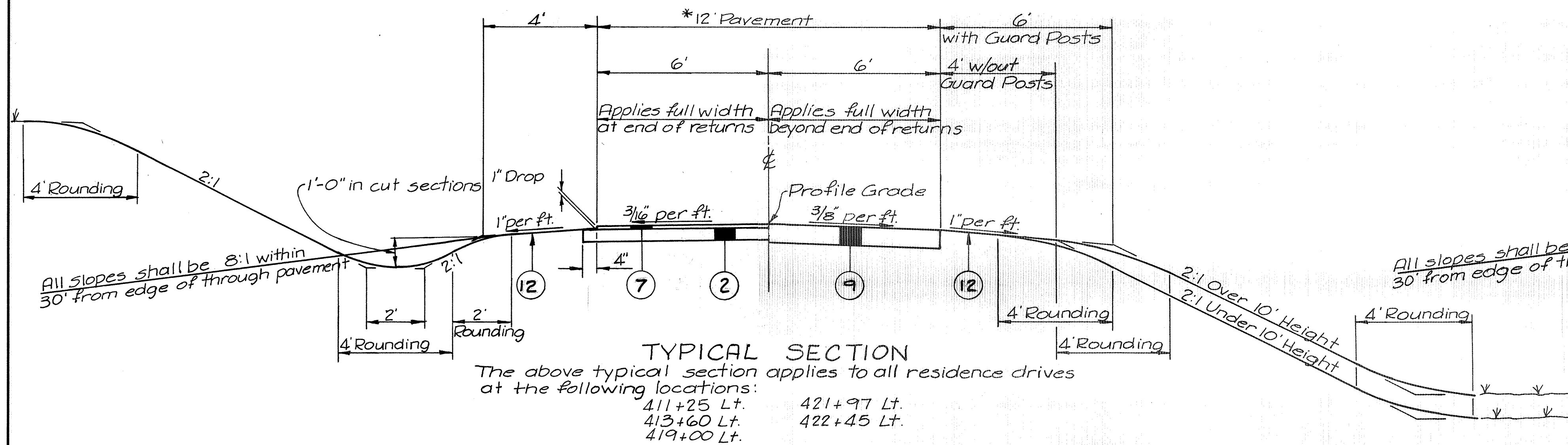
Bridge Limits & App. Slabs  
Sta. 415+81 to Sta. 417+28.17  
147.17 Lin. Ft.

# TYPICAL SECTION & DETAILS

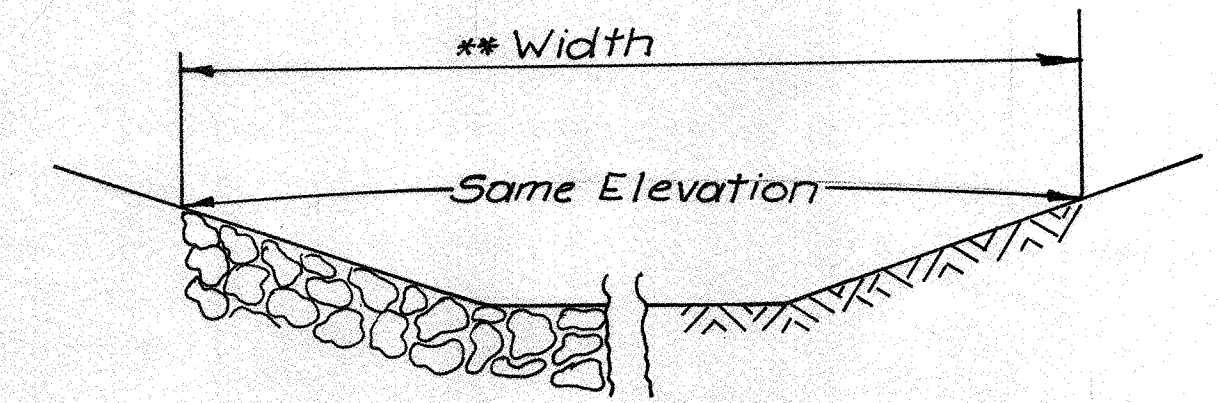
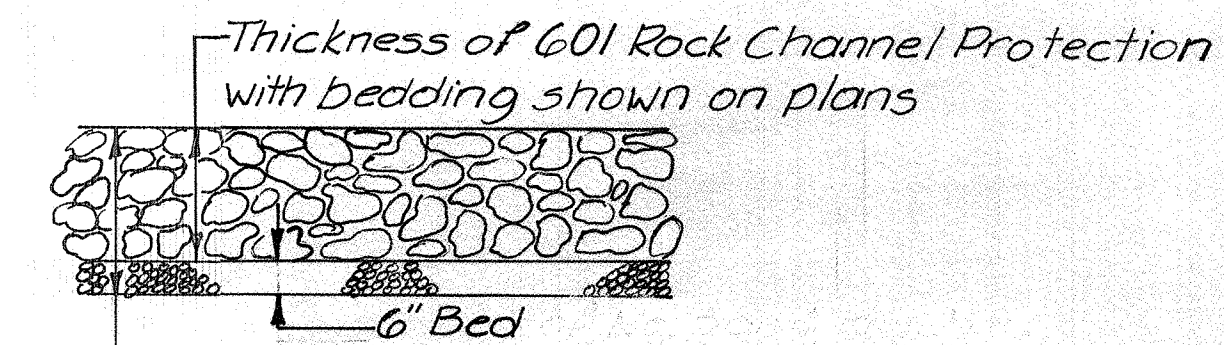
FHWA REGION	STATE	PROJECT
5	OHIO	

3  
37

ROS-772-7.78



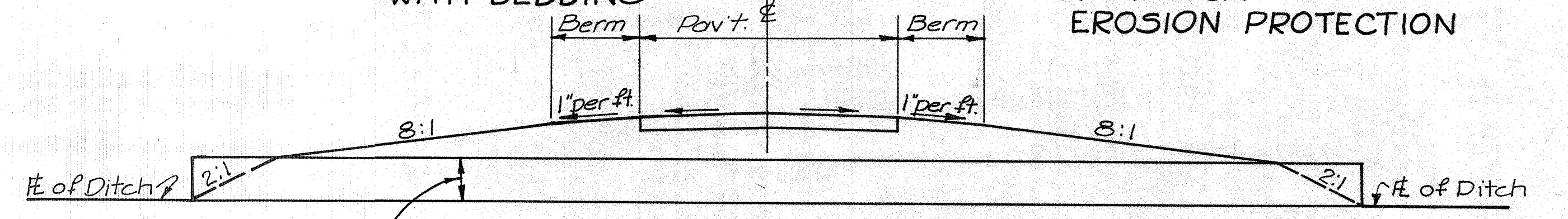
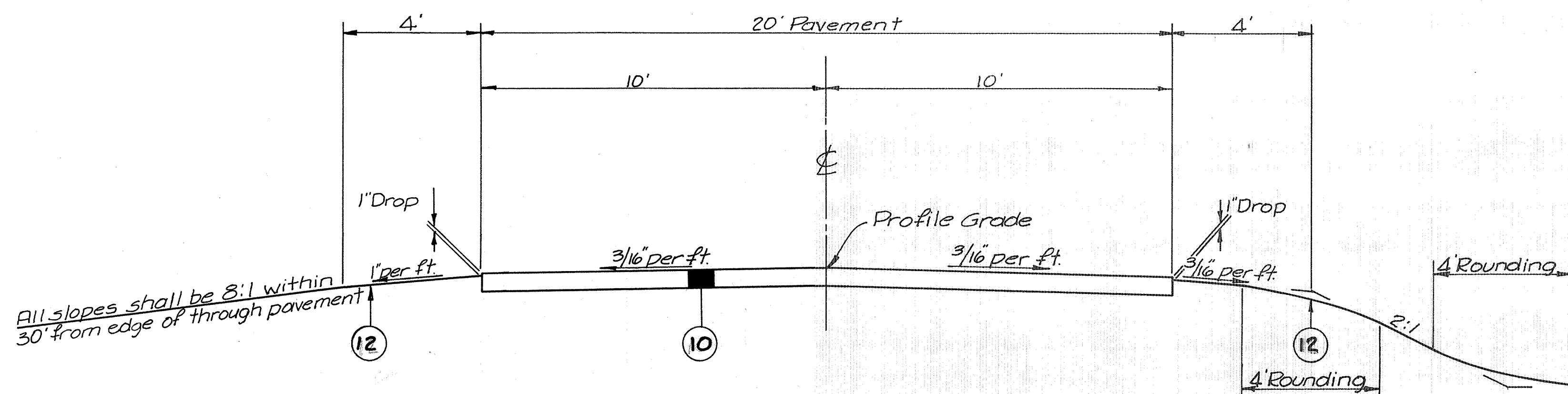
See Sheet No. 2 For Legend



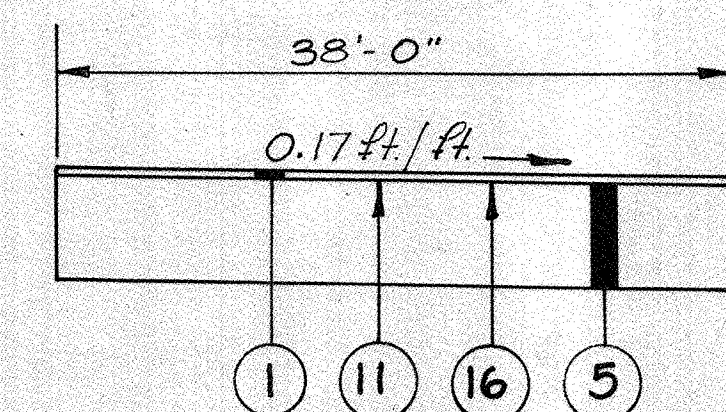
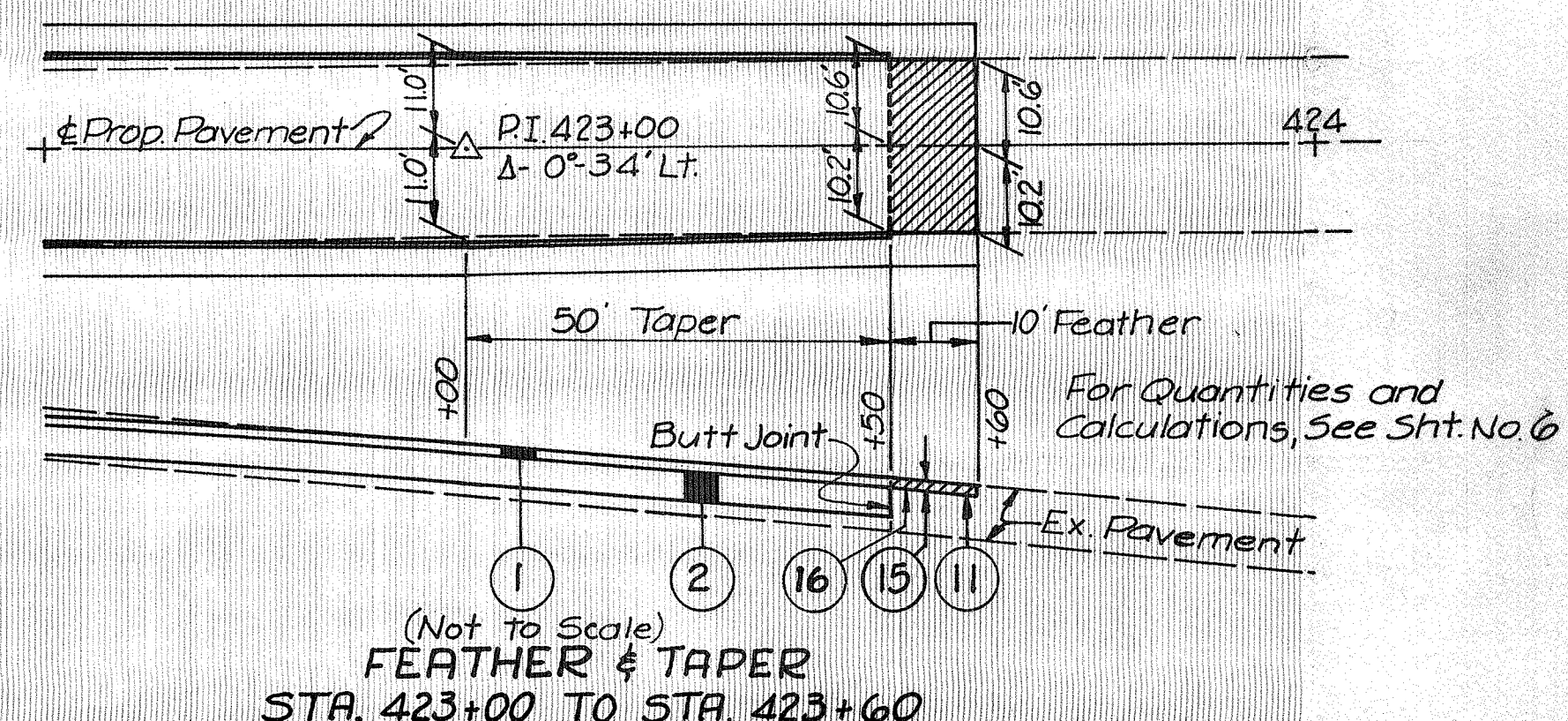
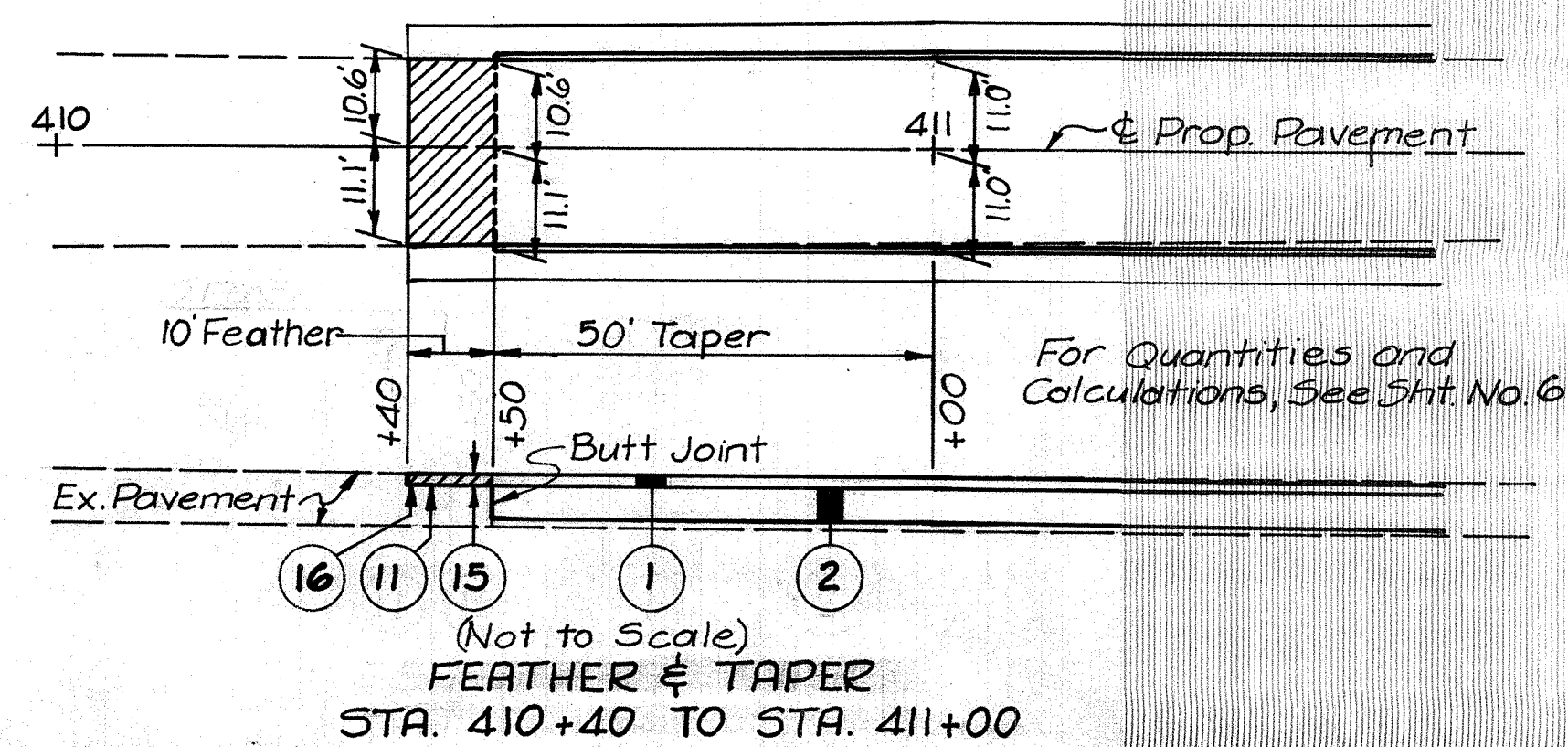
Thickness used for calculating quantity of 601 Rock Channel Protection with bedding

**601-ROCK CHANNEL PROTECTION WITH BEDDING**

\*\*Note: The widths of 601 Rock Channel Protection and G60 Sodding as shown throughout this Plan shall be measured along the slope section of the ditch.



For necessary details pertaining to conduit, See Plan & Profile or Cross Sections. (Not to Scale)



# GENERAL NOTES & DETAILS

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

4  
37

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## UNDERGROUND UTILITIES

The locations of the underground utilities shown on the plans have been obtained by diligent field checks and searches of available records. It is believed that they are essentially correct, but the State of Ohio does not guarantee their accuracy or completeness.

## CONTRACTOR'S MAINTENANCE RESPONSIBILITY

On this project, the contractor's responsibility for maintenance of the existing pavement per Item 614 shall be limited to those portions of the existing pavement lying within the proposed work limits.

## REMOVAL OF EXISTING PIPE

The removal of all existing pipe drains which would normally be removed in various excavation items shall be included for payment in the unit prices bid for the respective excavation items, unless otherwise itemized in the plans.

## EROSION CONTROL

Items 601 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. The Engineer shall check and non-perform quantities or adjust locations and quantities for these items where indicated by field conditions during construction.

## AGRICULTURAL LIMING, AS PER PLAN

The location and need for agricultural liming will be determined by laboratory tests, after rough grading operations have been performed. Quantities of agricultural liming, as shown on the plans, are sufficient for the entire project, but will be non-performed for the areas where tests show that the liming is not required.

## MONUMENTS

Monuments shall be constructed in accordance with details shown on Standard Drawing MC-1. For locations, see Sht. No. 34.

## 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"	101	0
30"	37	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 of 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.

## TEMPORARY STREAM CROSSINGS

When the Contractor elects to construct temporary equipment crossings in streams on this project, such crossings shall consist of clean, non-toxic granular or rock material. Provisions shall be made to convey anticipated high stream flows and the crossings shall be properly maintained to prevent erosion. Further, any such crossings shall meet the requirements of Part 923.4-3, paragraph a, subparagraph 3 of the Corp. of Engineers regulations as published July 10, 1977 in the Federal Register, Volume 42, No. 138, page 37147.

## FIELD OFFICE

The Contractor shall provide a suitable field office having a minimum of 300 sq. ft. of floor space.

## 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.

## SEEDING

Quantities for seeding are calculated for the soil areas between the work limits, as shown on the cross sections.

## ITEM SPECIAL, DRILLED WELL ABANDONED

The existing concrete or stone slab well cover and pumping equipment shall be removed and disposed of. The casing shall be cut off at least one foot below the proposed finished grade outside proposed pavement areas or at least one foot below the proposed subgrade elevation inside proposed pavement areas. The well shall be filled from bottom to top with clean puddled clay or concrete.

The unit price bid per each for Item Special, Drilled Well Abandoned shall include payment for all for all labor, tools, materials and incidentals necessary to complete this item.

## ESTIMATED QUANTITIES

Specific locations and usage of estimated quantities set up on this plan to be used "as directed by the Engineer" shall be made a matter of record by incorporation into the final change order governing completion of this project. Estimated quantities of materials shall not be ordered for delivery to the project unless authorized by the Engineer.

## SPRING DRAINS

Reference is made to the detailed drawing on standard drawing MC-1 showing the method of draining any spring that may be shown on the plan or encountered as determined by the Engineer. The following estimated quantities have been included in the general summary for this purpose:

Item 605-6 Unclassified Pipe Underdrain, 707.01 Type III — 60 Lin. Ft.  
or 707.12, Type III, AS PER PLAN — 10 Lin. Ft.  
Item 605-Aggregate Drains for Springs

The Contractor shall not order materials for "spring drains" until authorized by the Engineer and in the event no springs are encountered, the item shall be non-performed.

## LOCATIONS OF GUARDRAIL

The locations of guardrail runs as shown in these plans are subject to adjustment to assure that the planned installations will afford

## WATERING AND MOWING PERMANENT SEEDED AREAS.

The following estimated quantities are to be used as directed by the Engineer to promote growth and to care for the permanent seeded areas, as per 659.09.

659 Water 25 M. Gal.

## WATER POLLUTION, SOIL EROSION AND SILTATION CONTROL

The following estimated quantities are to be used as directed by the Engineer for erosion and siltation control measures. For details see the note in the Proposal.

207, Temporary Seeding and Mulching	3000 Sq. Yd.
659, Commercial Fertilizer	0.2 Ton
659, Water	10 M. Gal.
207, Temporary Slope Drains	100 Lin. Ft.
207, Temporary Benches, Dikes, Dams, and Sediment Basins	10 Cu. Yd.
659, Repair Seeding and Mulching	800 Sq. Yd.
207, Mowing	40 M. Sq. Ft.
207, Straw or Hay Bales	50 Each

In addition to the above, the Contractor shall take all feasible precautions to avoid increasing turbidity or siltation in Balston Run channel.

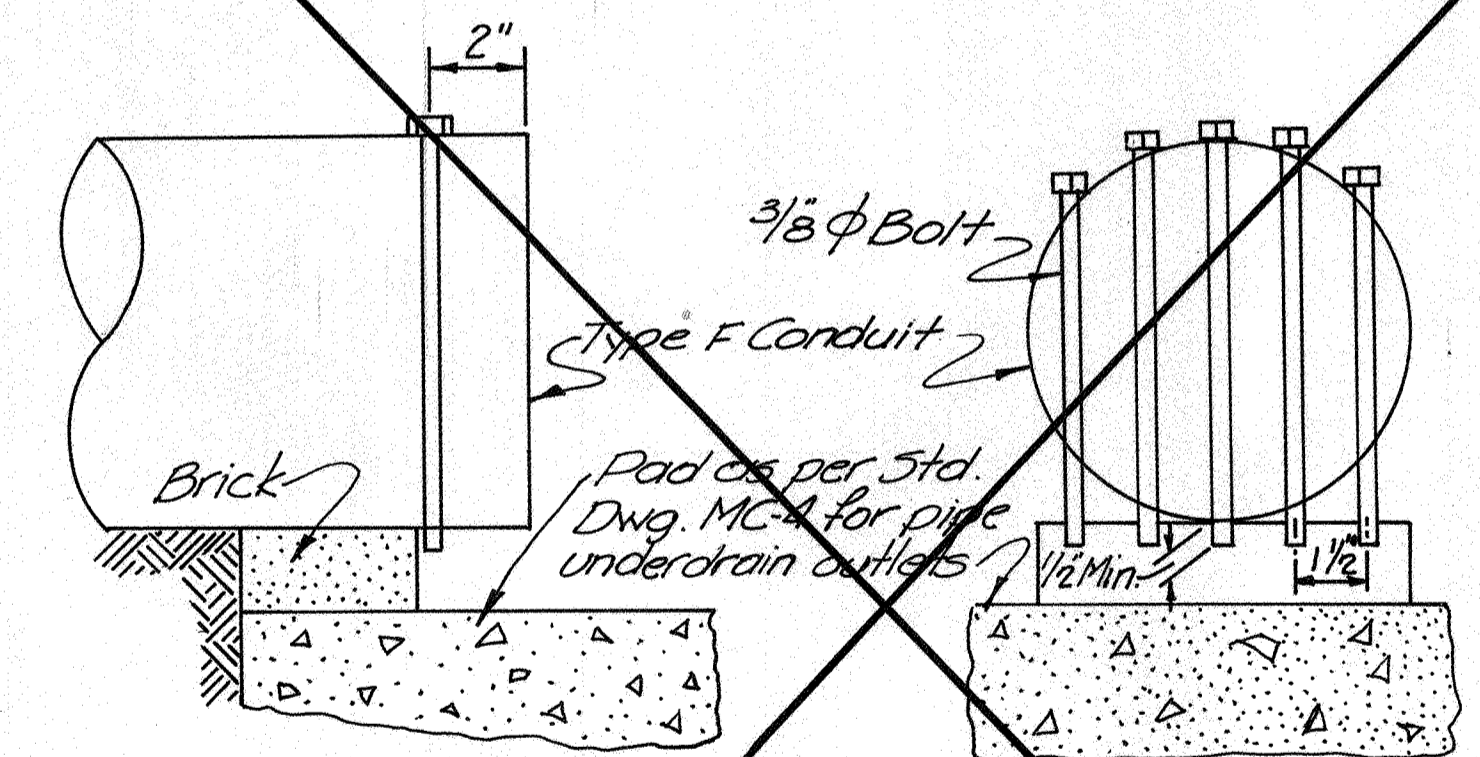
## APPROACH SLAB JACKING HOLES

The Jacking Holes as called for on Std. Dwg. AS-1-72 will not be required on this project.

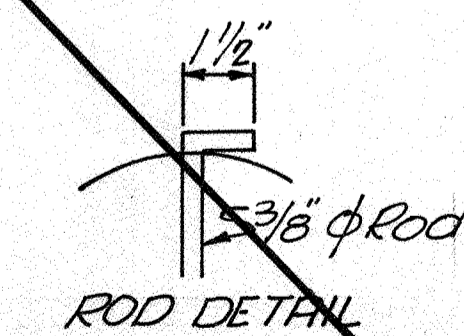
## ANIMAL GUARD FOR PIPE OUTLETS

Animal guards shall be provided at the outlet end of all pipe underdrains and farm drains except when they outlet into a drainage structure. The animal guard shall comply with the detail shown on this sheet.

Payment for all material, labor and installation shall be included in the unit price bid per each item 603 Animal Guard for Pipe Outlet.



Conduit Size	4"	6"	8"	10"	12"	15"	18"
No. of Bolts or Rods	2	3	5	6	7	9	11



The steel bolts or rods shall be galvanized in accordance with ASTM A 153. The holes in the pipe shall be 1/2" diameter. In lieu of drilling or punching holes into the pipe, a metal collar meeting all the above requirements may be clamped on the end of the pipe if, in the opinion of the Engineer, it will provide the same results.

When a pad as shown on Std. Dwg. MC-4 is required at the outlet end of the pipe, a brick may be placed between the pad and the pipe to provide clearance for the bolts or rods.

## ANIMAL GUARD FOR PIPE OUTLET

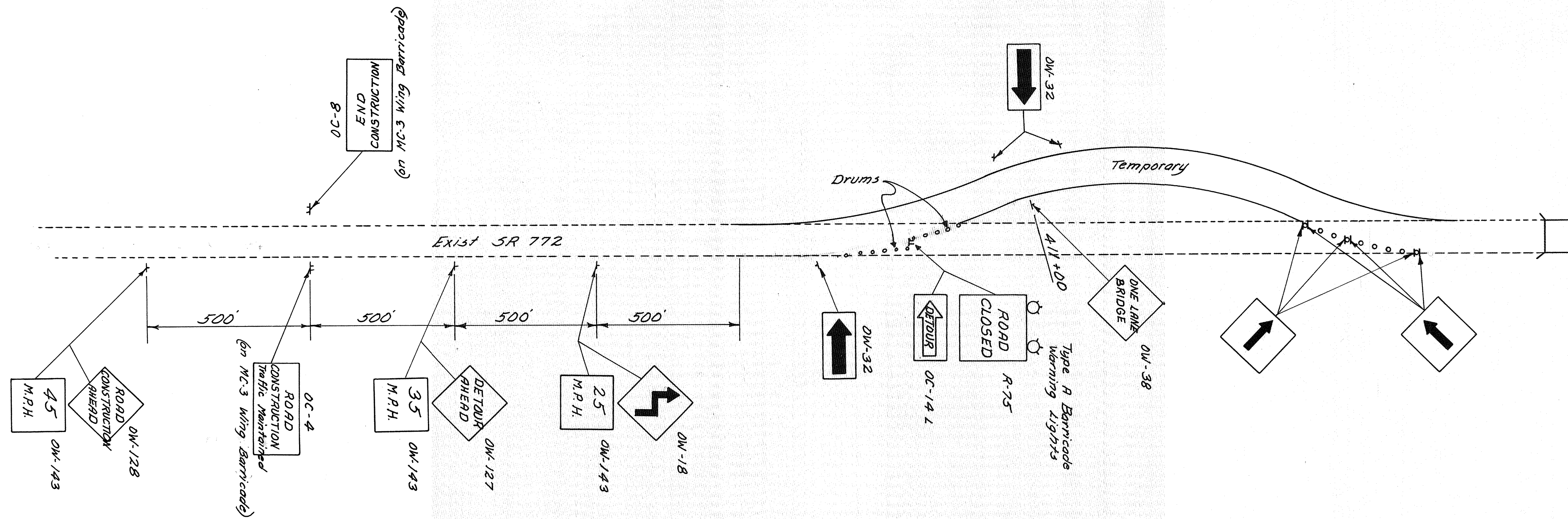


# SIGNING DETAIL FOR EXIST S.R. 772 TEMPORARY DETOUR

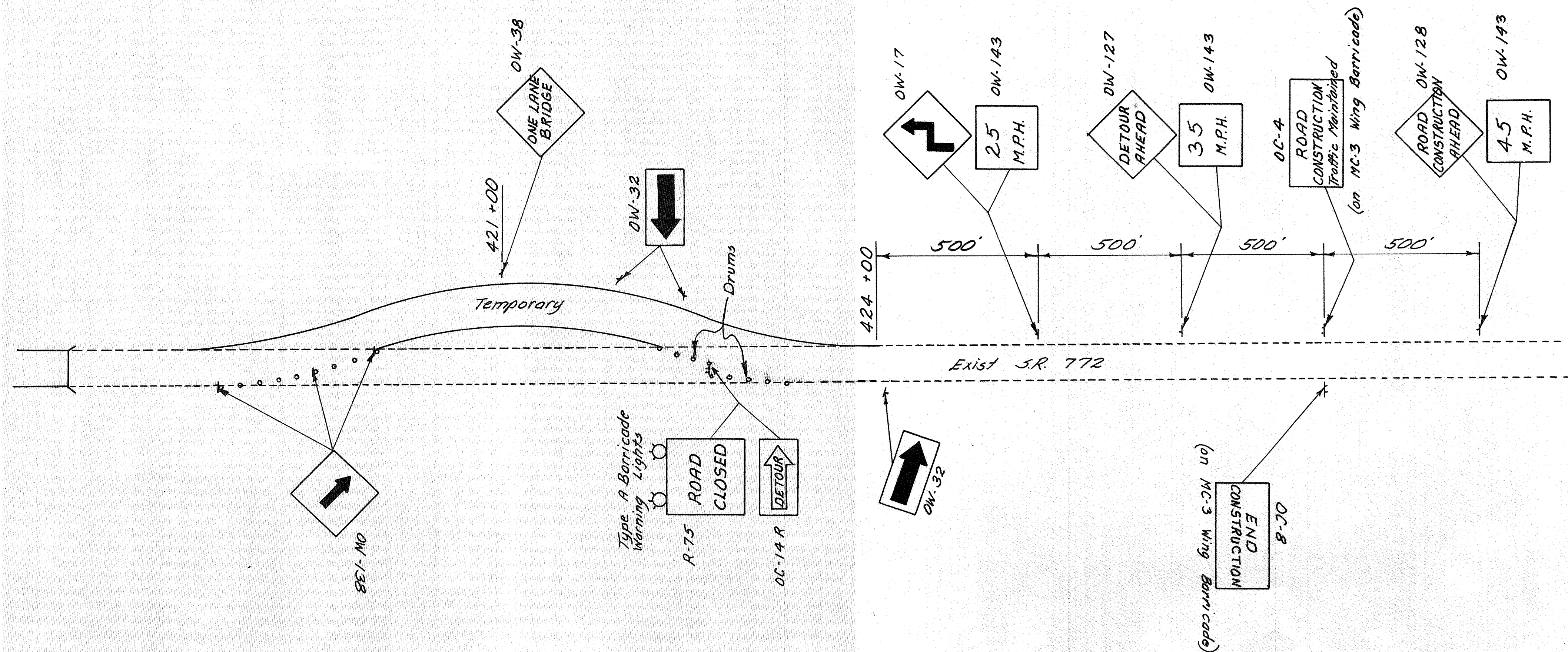
Not to Scale  
(Temporary No. 1)

FED. RD. DIVISION	STATE	PROJECT	5-A
2	OHIO		37

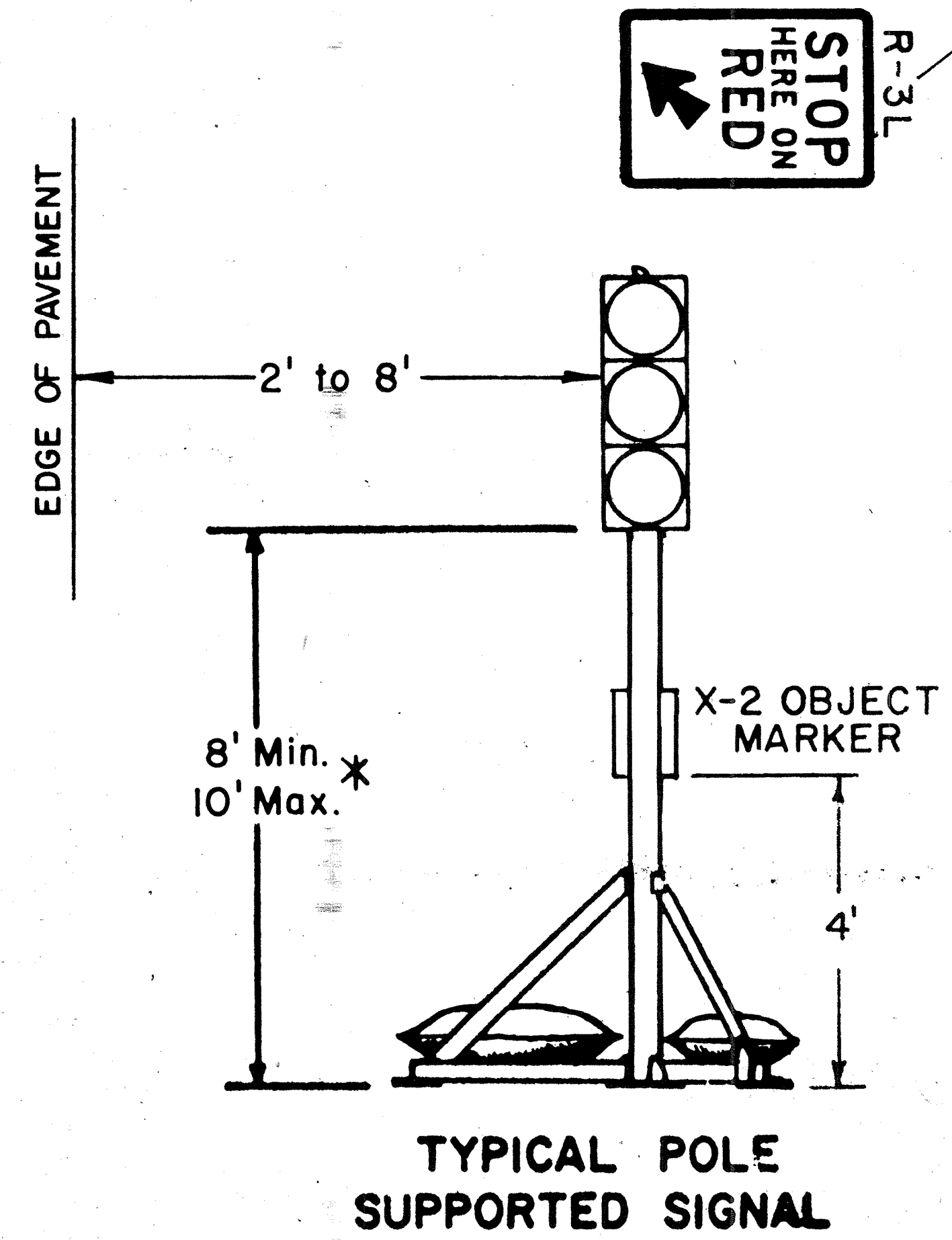
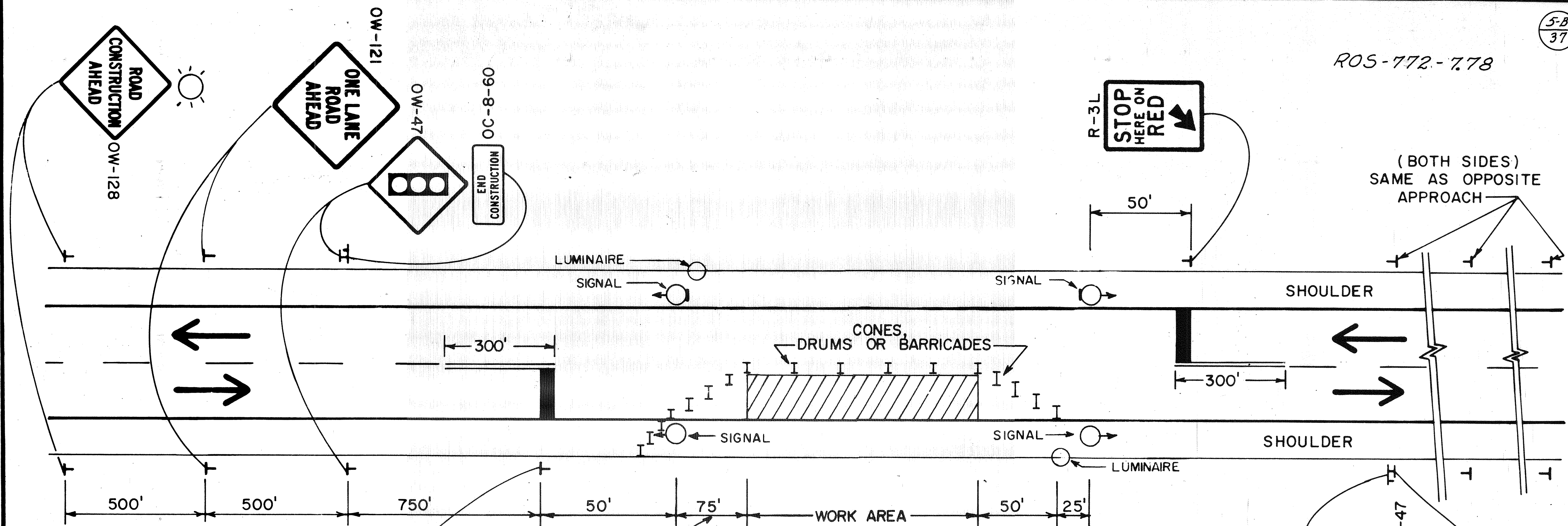
R05-772-7.78



- NOTES**
1. Provide X-8 delineators per C-24 of the Ohio Manual except where temporary guardrail may be required.
  2. Any conflicting existing center or edge lines crossed by the temporary road shall be removed by the Contractor and temporary pavement markings shall be removed as soon as the temporary road is removed from service.
  3. OC-4, OC-8 and OW-128 with OW-143 signs are to remain in the indicated locations during entire period of construction.
  4. Sign locations are approximate and may be field adjusted.



**MAINTAINING TRAFFIC**



\* Above grade of roadway centerline

**GENERAL NOTES**

1. 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 IS 400 FEET. SIGNAL TIMING SHALL BE APPROVED BY THE ENGINEER.
2. SIGNALS SHALL BE INSTALLED AND OPERATED IN ACCORDANCE WITH THE REQUIREMENTS OF PART 6 OF THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES.
3. CONES, DRUMS, OR BARRICADES SHALL BE SPACED AT 50 FOOT CENTERS WITHIN THE WORK AREA. CONES MAY BE SUBSTITUTED FOR BARRICADES OR STEEL DRUMS FOR THE LANE CLOSURES DURING DAYLIGHT HOURS ONLY.
4. ADEQUATE AREA ILLUMINATION TO CLEARLY IDENTIFY THE BEGINNING OF THE TRANSITION AT NIGHT SHALL BE PROVIDED BY USE OF A 175 WATT MINIMUM LUMINAIRE LOCATED ADJACENT TO ONE SIGNAL FOR EACH DIRECTION OF TRAFFIC AS SHOWN ABOVE.
5. TEMPORARY NO PASSING LINES AND STOP LINES SHALL BE INSTALLED. EXISTING PAVEMENT MARKING BETWEEN THE WORK AREA AND THE STOP LINES SHALL BE REMOVED OR COVERED.
6. THE TYPE B HIGH INTENSITY BARRICADE WARNING LIGHT SHOWN ON THE "ROAD CONSTRUCTION AHEAD" SIGN IS REQUIRED WHENEVER NIGHT LANE CLOSURE IS NECESSARY.
7. TYPE C STEADY BURNING BARRICADE WARNING LIGHTS SHALL BE ERECTED ON DRUMS OR BARRICADES FOR NIGHT LANE CLOSURES. MAXIMUM SPACING SHALL BE 50' CENTER TO CENTER IN ADVANCE OF THE WORK AREA AND 100' CENTER TO CENTER WITHIN THE WORK AREA.

OHIO DEPARTMENT OF TRANSPORTATION	
SIGNALIZED CLOSING	DATE
1 LANE OF A 2 LANE HIGHWAY	4/77
DR.GBD CK.RLB	

# QUANTITY CALCULATIONS

See Sheet No.	Location and Description	Side	404 Asphalt Concrete AC-20		301 Bituminous Aggregate Base	304 Aggregate Base			407 Tack Coat @ 0.1 Gal. per sq. yd.	407 Cover Aggregate	202 Wearing Course Removed	409 Seal Coat Bituminous Material @ 0.3 Gal. per sq. yd.	409 Seal Coat Aggregate @ 0.008 Cu.Yd/Sq.Yd.	203 Subgrade Compaction	452 Plain Port. Cement Concrete Pavement	611 Approach Slab (T=15")
			Driveways			4"	6"	8"								
			1"	1 1/2"												
			Sq. Yd.	Sq. Yd.	Sq. Yd.	Sq. Yd.	Sq. Yd.	Sq. Yd.	Sq. Yd.	Sq. Yd.	Sq. Yd.	Sq. Yd.	Sq. Yd.	Sq. Yd.	Sq. Yd.	
2	Typical Section "A"			977.8										977.8		
	400' x 22' x 1/4"	€														
	400' x 22.67' x 1/4"	€			1007.6											
	400' x 4' x 2' x 1/4"	Lt. & Rt.			355.6							355.6	355.6	355.6		
2	Typical Section "B"			1595.8										1595.8		
	652.83' x 22' x 1/4"	€														
	652.83' x 22.67' x 1/4"	€			1644.4											
	652.83' x 4' x 2' x 1/4"	Lt. & Rt.			580.3							580.3	580.3	580.3		
9	Plan & Profile 405+00 to 415+00		201.7		88.6			72.0				-126.4	-126.4		162.03	
10	415+00 to 425+00		209.4		188.5		517.8	437.7				-130.9	-130.9			
3	Taper & Feather Areas															
	410+40 to 411+00	€							24.1	24.1	24.1					
	21.7' x 10' x 1/4"			24.1												
	Ax. Width 21.85' x 50' x 1/4"			121.4										121.4		
	Ax. Width 22.52' x 50' x 1/4"				125.1											
	60' x 4' x 2' x 1/4"				53.3							53.3	53.3	53.3		
	423+00 to 423+60	€														
	Ax. Width 21.40' x 50' x 1/4"			118.9										118.9		
	Ax. Width 22.07' x 50' x 1/4"				122.6											
	20.8' x 10' x 1/4"			23.1					23.1	23.1	23.1					
	60' x 4' x 2' x 1/4"				53.3							53.3	53.3	53.3		
3	Approach Slabs	€														
	(25' x 38' x 1/4") 2			211.1					211.1	211.1				211.1	211.12	
Sub-Total			501.1	3072.20	4219.3	517.8	507.7		258.3	258.3	47.2	777.2	777.2	4067.5	162.03	211.12
Convert to Cu.Yd, Gal, Tons, Etc			13.9	128.0	468.8	86.3	113.3		25.8	.904		233.2	6.2			
Total			14	128.0	469	200		26	.91	48	234	7	4068	163	212	

659-COMMERCIAL FERTILIZER  
 (14,095) 9 x 29000 x 1/2000 = 1.27 Tons  
 659-AGRICULTURAL LIMING  
 (14,095) 9 x 109000 x 1/2000 = 6.34 Tons

PLAN & PROFILE STA. 405+00 TO 415+00

- (P1) 601-Rock Channel Protection w/o Bedding - 411+48-411+81 - 2' x 6' x 34' x 1/27 = 15.11 Cu.Yd.
- (P2) 601-Rock Channel Protection w/o Bedding - 411+99-412+50 - 2' x 6' x 51' x 1/27 = 22.67 Cu.Yd.
- (P3) Prop. 12' Res. Dr. Lt. 411+25  
 1" 404-Chart 70.03 Sq.Yd. 4" 301-[(26x62)-(4x62)-(22x11.16)-(24.67<sup>2</sup>)/3600] 1/4 = 49.8 Sq.Yd.  
 8" 304- 12 x 28 x 1/4 = 37.33 Sq.Yd. 409-[(62x4)+(22x11.87)-(25<sup>2</sup>π x 360/3600)] 1/4 = 22.2 Sq.Yd.
- (P4) Prop. 12' Res. Dr. Lt. 413+60  
 1" 404-Chart- 70.03 x 1/4 = 68.81 Sq.Yd. 4" 301-[(26x62)-(4x62)-(22x11.16)-(24.67<sup>2</sup>)/3600] 1/4 = 49.85 Sq.Yd.  
 8" 304- 12 x 26 x 1/4 = 34.67 Sq.Yd. 409-[(62x4)+(22x11.87)-(25<sup>2</sup>π x 360/3600)] 1/4 = 21.0 Sq.Yd.
- (P5) Prop. Mail Box Turnout Rt. 413+89  
 1" 404- 30.8 + 1.3 = 32.1 Sq.Yd. 4" 301-[(17.64+15)/2 x 2.33] 1/4 = 8.15 Sq.Yd. 409-[85+3(85+43)] 1/4 = 30.8 Sq.Yd.
- (P6) Prop. 20' Res. Dr. Lt. 414+16  
 6" 452- [(10x26)-11<sup>2</sup>]/2 + (20x31) x 1/4 = 162.03 Sq.Yd. 202-630 x 1/4 = 70 Sq.Yd.  
 409 & 4" 301- 22.21 + 4.88 = 25.85 Sq.Yd. \*Planimetered Area.

PLAN & PROFILE STA. 415+00 TO STA. 425+00

- (P7) 601-Rock Channel Protection Type B w/Bedding - 415+00-416+28 Lt. 130' x 6' x 2' x 1/27 = 57.78 Cu.Yd.
- (P8) 601-Rock Channel Protection Type B w/o Bedding - 416+00-416+22 Rt. - 22' x 6' x 2' x 1/27 = 9.78 Cu.Yd.
- (P9) 601-Rock Channel Protection Type B w/Bedding - 416+28-418+50 Lt. - 16' x 6' x 2' x 1/27 = 72.9 Cu.Yd.
- (P10) 601-Rock Channel Protection Type B w/o Bedding - 416+80-418+00 Rt. - 120' x 6' x 2' x 1/27 = 53.33 Cu.Yd.
- (P11) 601-Rock Channel Protection Type B w/Bedding - 420.5-421+39 Rt. - 283' x 6' x 2' x 1/27 = 125.78 Cu.Yd.
- (P12) 601-Rock Channel Protection Type B w/o Bedding - 421-1+45 - 123' x 6' x 2' x 1/27 = 54.67 Cu.Yd.
- (P13) Prop. 20' Res. Dr. Lt. 419+00  
 1" 404-Chart- 93.15 Sq.Yd. 4" 301-49.8 + 8 x 22 = 69.45 Sq.Yd.  
 8" 304- 2488 x 1/4 = 276.4 Sq.Yd. 409-22.2 + 4 x 8 = 25.8 Sq.Yd.
- (P14) Prop. Mail Box Turnout Rt. 419+00  
 1" 404- 30.8 + 1.3 = 32.1 Sq.Yd. 4" 301-[(17.64+15)/2 x 2.33] 1/4 = 8.15 Sq.Yd.  
 409-[85+3(85+43)] 1/4 = 30.8 Sq.Yd.

- (P15) Prop. 12' Fld. Dr. Rt. 420+50  
 6" 304-Chart- (70.03 x 22.2) / (240.5-37) 1/4 = 319.2 Sq.Yd.
- (P16) Prop. 12' Fld. Dr. Rt. 421+50  
 6" 304-Chart- 96.6 + (94.34 x 12 x 1/4) - [(66x4) - 48.12] 1/4 = 198.4 Sq.Yd.
- (P17) Prop. 12' Res. Dr. Lt. 421+97  
 1" 404-Chart 70.03 Sq.Yd. 4" 301-49.85 Sq.Yd. 409-22.2 Sq.Yd.  
 8" 304- 36' x 12' x 1/4 = 48.0 Sq.Yd.
- (P18) Prop. 12' Res. Dr. Lt. 422+45  
 1" 404-Planimeter Area 64.9 x 1/4 = 72.1 Sq.Yd. 4" 301-478 x 1/4 = 53.1 Sq.Yd.  
 8" 304-(12x73) + (12x12) 1/4 = 113.33 Sq.Yd. 409-592 x 1/4 = 21.35 Sq.Yd.
- (P19) 202-954 x 1/4 = 106 Sq.Yd.

Calc. by F.G.G. 11/14/74  
 Chkd. by D.E.H. 3/27/75



# GENERAL SUMMARY

FED. RD. DIVISION	STATE	PROJECT
2	OHIO	

7  
37

ROS-772-778

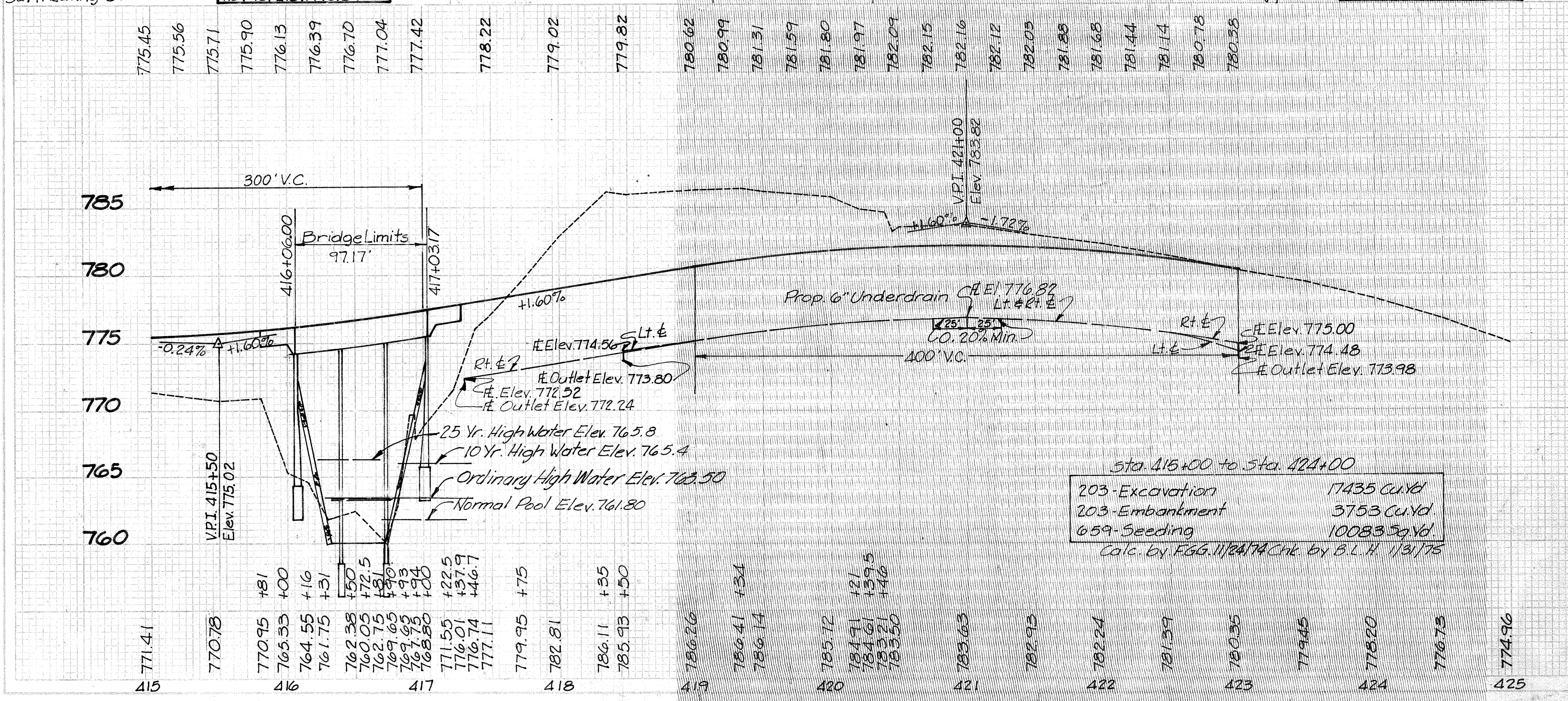
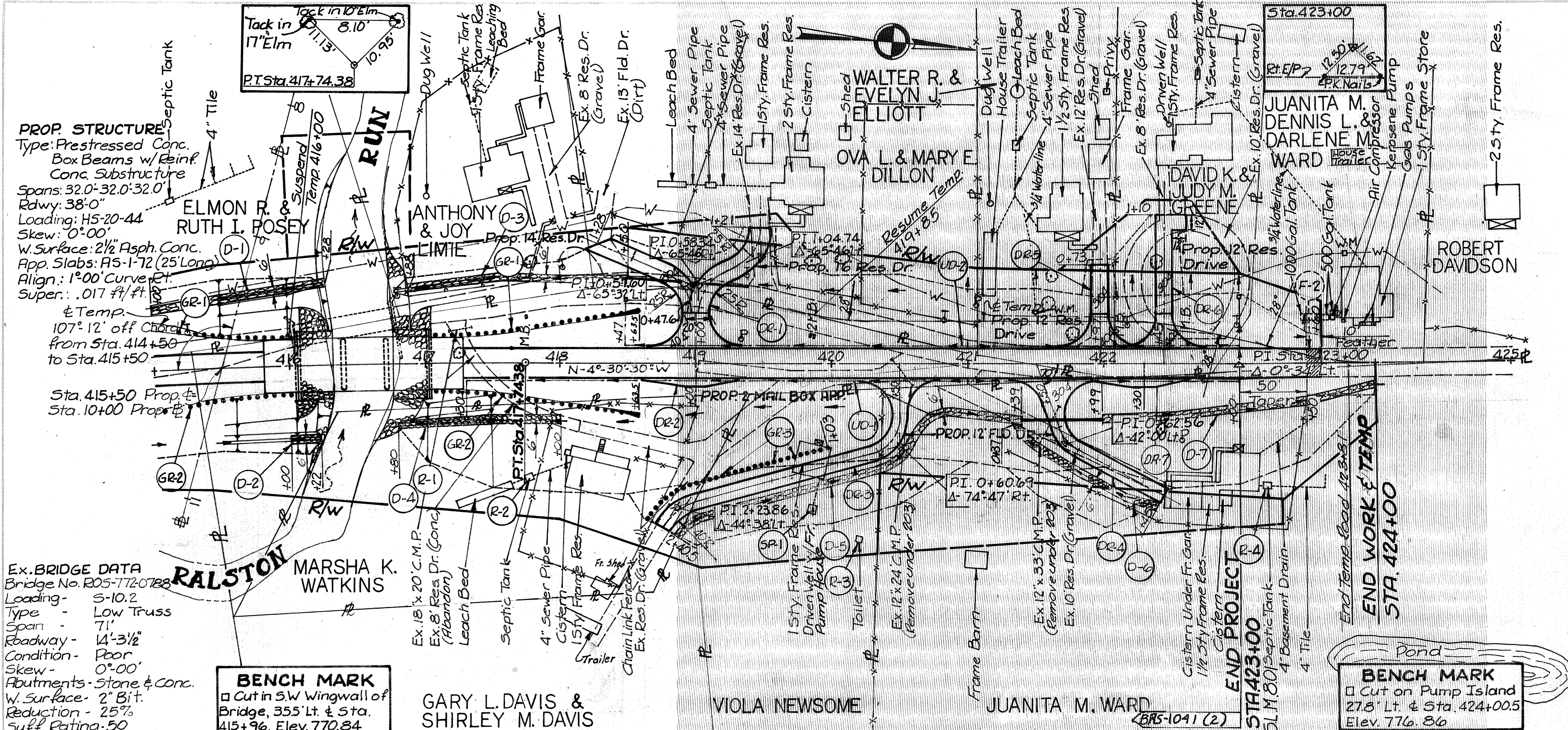
CODE 6203 EXCEPT AS NOTED

ITEM	SHEET NUMBER														ITEM	QUANT.	UNIT	DESCRIPTION
	4	5	6	9	10	19	23	32	34									
<b>ROADWAY</b>																		
201	Lump															201	Lump	Clearing and Grubbing
202					70	106										202	176	Sq.Yd. Pavement Removed
202							74									202	74	Lin.Ft. Pipe Removed Over 24"
202			48													202	48	Sq.Yd. Wearing Course Removed
202					2	1										202	3	Each Privy Vaults Removed
202					61	20										202	81	Lin.Ft. Pipe Removed 24" and Under
202					1	2										202	3	Each Septic Tank Removed
203					800	17,435	695	7		605						203	19,542	Cu.Yd. Excavation not Including Embankment Construction
203					2006	3753				104						203	5,863	Cu.Yd. Embankment
203			4068													203	4,068	Sq.Yd. Subgrade Compaction
604													12			604	12	Each Reference Monuments
606						530.66										606	530.66	Lin.Ft. Guardrail, Type 5
606						4										606	4	Each Anchor Assembly, STANDARD TYPE A
606						4										606	4	Each Bridge Terminal Assembly, STANDARD TYPE B
606						30										606	30	Each Guard Post, STANDARD
615	Lump															615	Lump	Temporary Roads
615	1860															615	1860	Sq.Yd. Temporary Pavement, Class B, as per plan
Special																Special	1	Each Drilled WATER WELL ABANDONED
<b>EROSION CONTROL (Code Y005)</b>																		
207	3000															207	3000	Sq.Yd. Temporary Seeding and Mulching
659	35															659	35	M.Gal. Water
207	100															207	100	Lin.Ft. Temporary Slope Drains
207	10															207	10	Cu.Yd. Temporary Benches, Dikes, Dams, and Sediment Basins
659	40															659	40	M.Sq.Ft. Mowing
207	50															207	50	Each Straw or Hay bales
601										486						601	486	Cu.Yd. Dumped Rock Fill, Type A
601						222		128	2							601	352	Cu.Yd. Rock Channel Protection, Type B, with Bedding
601					39	245										601	284	Cu.Yd. Rock Channel Protection, Type B, without Bedding
601								73	3							601	76	Sq.Yd. Riprap Using 6" Reinforced Concrete Slab
659					3770	10,083				202	40					659	14095	Sq.Yd. Seeding and Mulching
659	.2															659	15	Ton Commercial Fertilizer
659																659	64	Ton Agricultural Liming
659	800															659	800	Sq.Yd. Repair Seeding and Mulching
<b>DRAINAGE</b>																		
503										101						503	101	Cu.Yd. Unclassified Excavation
509										21,432						509	21,432	Lbs Reinforcing Steel
511										160.5						511	160.5	Cu.Yd. Class C Concrete
518										55						518	55	Cu.Yd. Porous Backfill
602													0.3			602	0.3	Cu.Yd. Concrete Masonry
603						26										603	26	Lin.Ft. 6" Conduit, Type B
603						30										603	30	Lin.Ft. 6" Conduit, Type F
603					44	88										603	132	Lin.Ft. 12" Conduit, Type D
603													84			603	84	Lin.Ft. 15" Conduit, Type A, 706.01, 706.02 OR 707.05
603						60										603	60	Lin.Ft. 34" x 53" Conduit, Type D, 706.04, CLASS HE-II
604																604	1	Each Catch Basin, Std. No. 2-2-B
605						1089										605	1089	Lin.Ft. 6" Deep Pipe Underdrains
605	60															605	60	Lin.Ft. 6" Unclassified Pipe Underdrains, 707.01 Type III or 707.12, Type III, AS PER PLAN
605	10															605	10	Lin.Ft. Aggregate Drains for Springs

Calc. by E.G.G. 11/4/74  
Chkd. by DE.H. 3/27/75







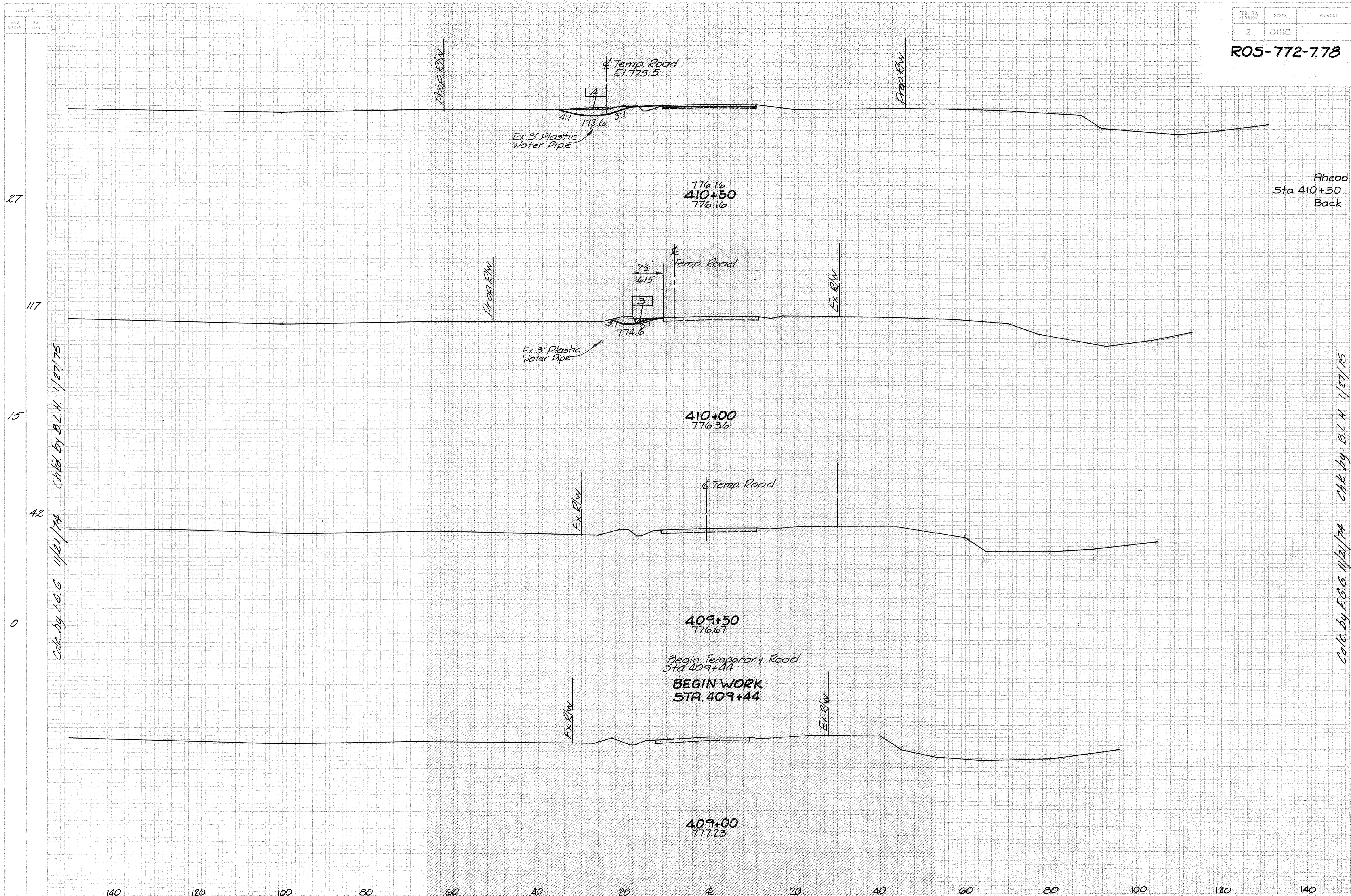
203-Excavation	17435 Cu.Yd
203-Embankment	3753 Cu.Yd
659-Seeding	100833 Sq.Yd

Calc. by F.G.G. 11/24/74 Chk. by B.L.H. 11/17/75

SEE SHEET NO.	TYPE	ESTIMATED QUANTITIES		CHECKED BY: D.E.H. 3/27/75
		Lin. Ft.	Each	
601	6" Deep Pipe	58	10	
602	6" Underdrain	73	54	
603	6" Underdrain	126	55	
604	6" Underdrain	91	89	
605	6" Underdrain	58	10	
606	6" Underdrain	73	54	
607	6" Underdrain	126	55	
608	6" Underdrain	91	89	
609	6" Underdrain	58	10	
610	6" Underdrain	73	54	
611	6" Underdrain	126	55	
612	6" Underdrain	91	89	
613	6" Underdrain	58	10	
614	6" Underdrain	73	54	
615	6" Underdrain	126	55	
616	6" Underdrain	91	89	
617	6" Underdrain	58	10	
618	6" Underdrain	73	54	
619	6" Underdrain	126	55	
620	6" Underdrain	91	89	
621	6" Underdrain	58	10	
622	6" Underdrain	73	54	
623	6" Underdrain	126	55	
624	6" Underdrain	91	89	
625	6" Underdrain	58	10	
626	6" Underdrain	73	54	
627	6" Underdrain	126	55	
628	6" Underdrain	91	89	
629	6" Underdrain	58	10	
630	6" Underdrain	73	54	
631	6" Underdrain	126	55	
632	6" Underdrain	91	89	
633	6" Underdrain	58	10	
634	6" Underdrain	73	54	
635	6" Underdrain	126	55	
636	6" Underdrain	91	89	
637	6" Underdrain	58	10	
638	6" Underdrain	73	54	
639	6" Underdrain	126	55	
640	6" Underdrain	91	89	
641	6" Underdrain	58	10	
642	6" Underdrain	73	54	
643	6" Underdrain	126	55	
644	6" Underdrain	91	89	
645	6" Underdrain	58	10	
646	6" Underdrain	73	54	
647	6" Underdrain	126	55	
648	6" Underdrain	91	89	
649	6" Underdrain	58	10	
650	6" Underdrain	73	54	
651	6" Underdrain	126	55	
652	6" Underdrain	91	89	
653	6" Underdrain	58	10	
654	6" Underdrain	73	54	
655	6" Underdrain	126	55	
656	6" Underdrain	91	89	
657	6" Underdrain	58	10	
658	6" Underdrain	73	54	
659	6" Underdrain	126	55	
660	6" Underdrain	91	89	
661	6" Underdrain	58	10	
662	6" Underdrain	73	54	
663	6" Underdrain	126	55	
664	6" Underdrain	91	89	
665	6" Underdrain	58	10	
666	6" Underdrain	73	54	
667	6" Underdrain	126	55	
668	6" Underdrain	91	89	
669	6" Underdrain	58	10	
670	6" Underdrain	73	54	
671	6" Underdrain	126	55	
672	6" Underdrain	91	89	
673	6" Underdrain	58	10	
674	6" Underdrain	73	54	
675	6" Underdrain	126	55	
676	6" Underdrain	91	89	
677	6" Underdrain	58	10	
678	6" Underdrain	73	54	
679	6" Underdrain	126	55	
680	6" Underdrain	91	89	
681	6" Underdrain	58	10	
682	6" Underdrain	73	54	
683	6" Underdrain	126	55	
684	6" Underdrain	91	89	
685	6" Underdrain	58	10	
686	6" Underdrain	73	54	
687	6" Underdrain	126	55	
688	6" Underdrain	91	89	
689	6" Underdrain	58	10	
690	6" Underdrain	73	54	
691	6" Underdrain	126	55	
692	6" Underdrain	91	89	
693	6" Underdrain	58	10	
694	6" Underdrain	73	54	
695	6" Underdrain	126	55	
696	6" Underdrain	91	89	
697	6" Underdrain	58	10	
698	6" Underdrain	73	54	
699	6" Underdrain	126	55	
700	6" Underdrain	91	89	

\* Quantities Carried to Quantity Cat. Sht. No. 6  
 All other Quantities to General Summary.

R05-772-7.78



Ahead 28 5  
 Sta. 410+50  
 Back 17 5

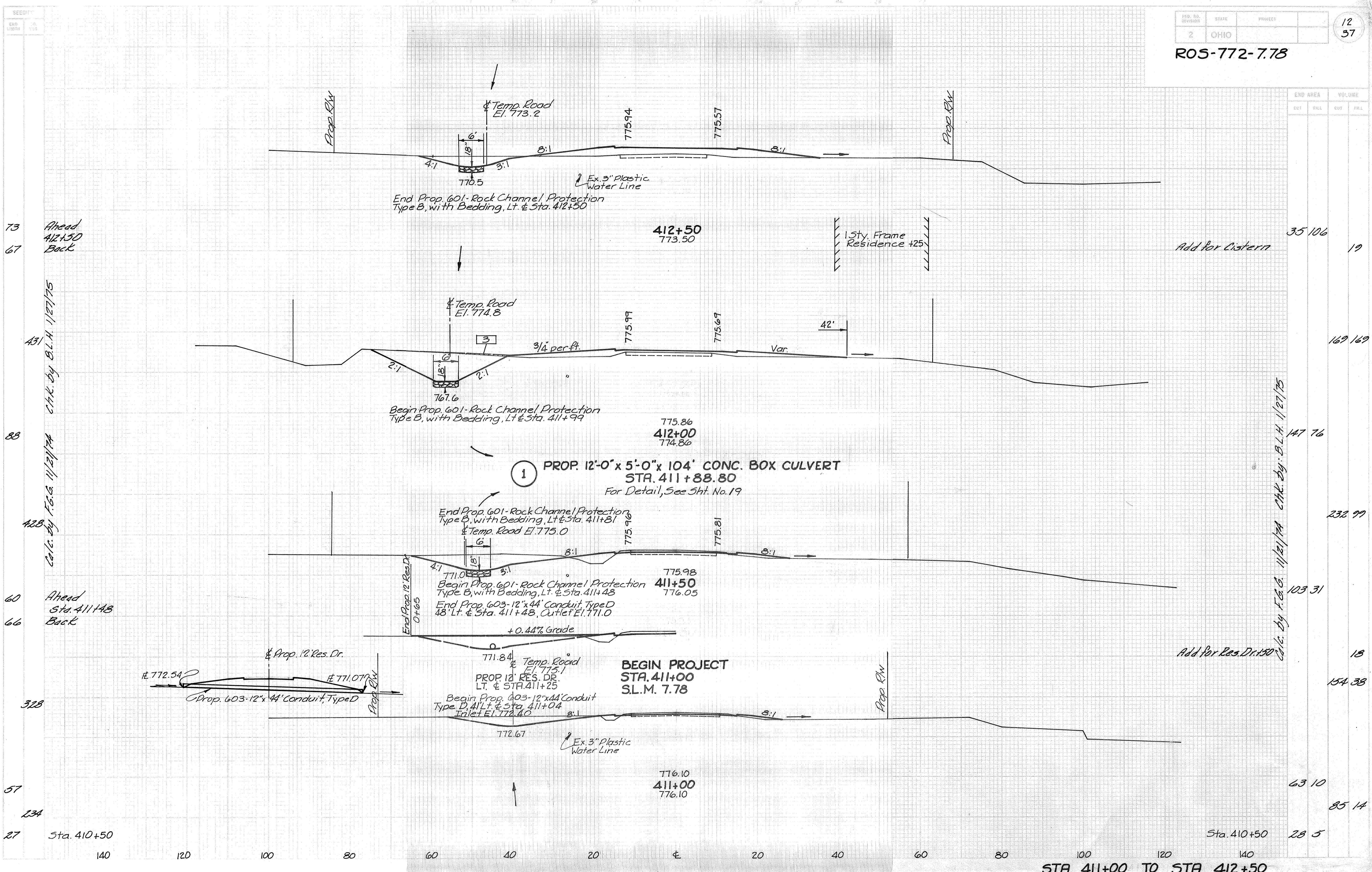
END AREA	VOLUME	
	CUT	FILL
28	5	
17	5	
7	3	
7	3	
0	0	
22	8	

Calc. by B.L.H. 1/27/75  
 Calc. by F.G.G. 11/21/74

Calc. by B.L.H. 1/27/75  
 Calc. by F.G.G. 11/21/74

STA. 409+00 TO STA. 410+50

ROS-772-7.78



END AREA	VOLUME	
	CUT	FILL
35 106		19
162 169		
147 76		
232 99		
103 31		
		13
		154 38
63 10		
		85 14
28 5		

STA. 411+00 TO STA. 412+50

73 Ahead  
412+50  
67 Back

431  
Calc. by B.L.H. 1/27/75

88  
Calc. by F.G.G. 11/21/74

60 Ahead  
Sta. 411+48  
66 Back

328

57

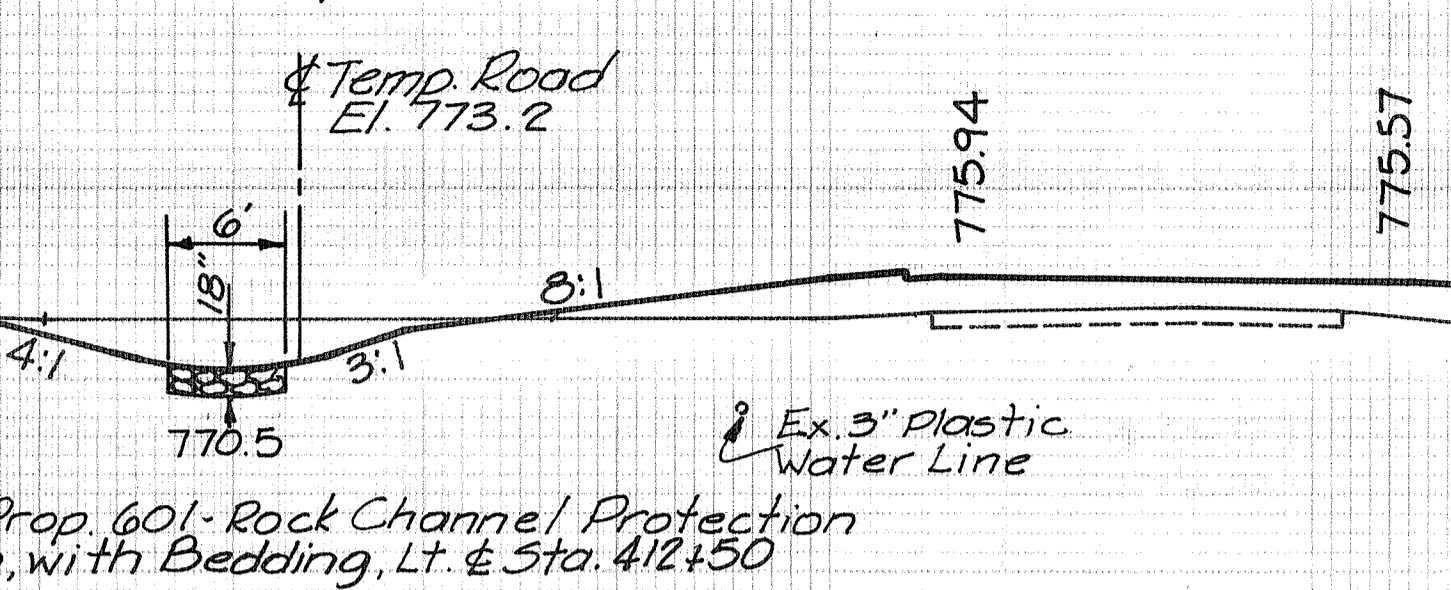
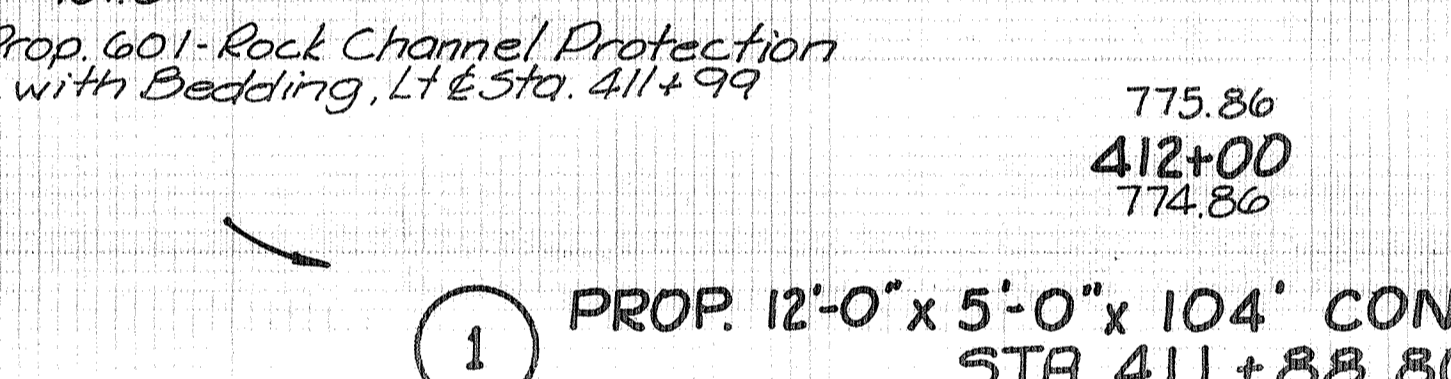
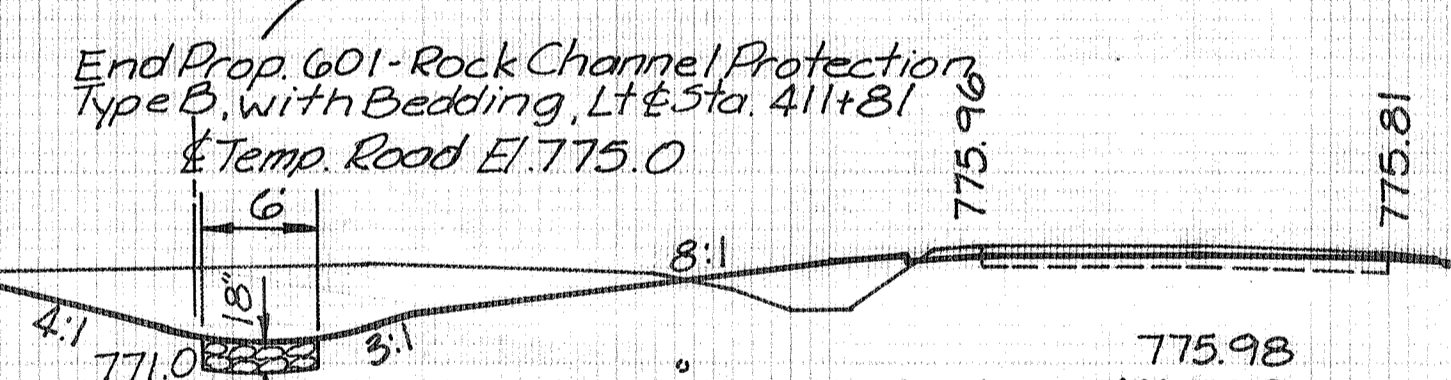
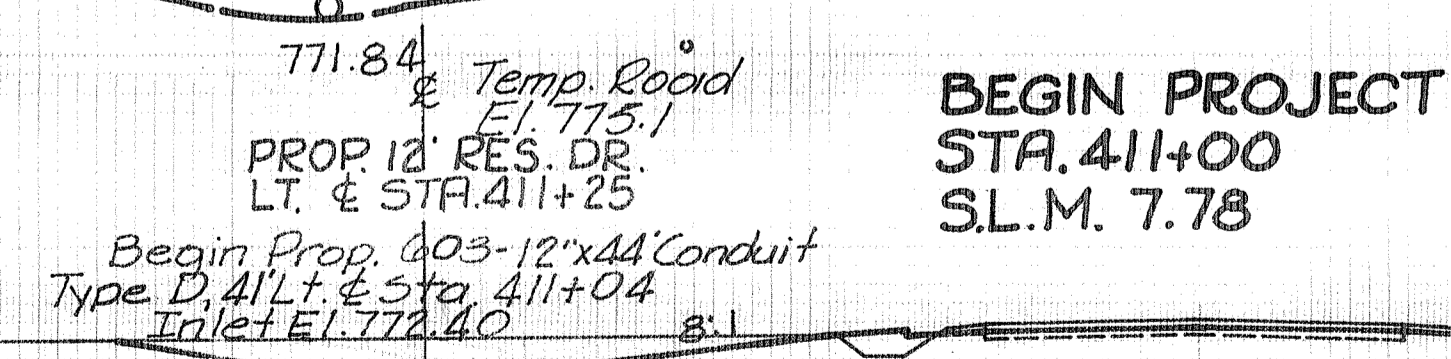
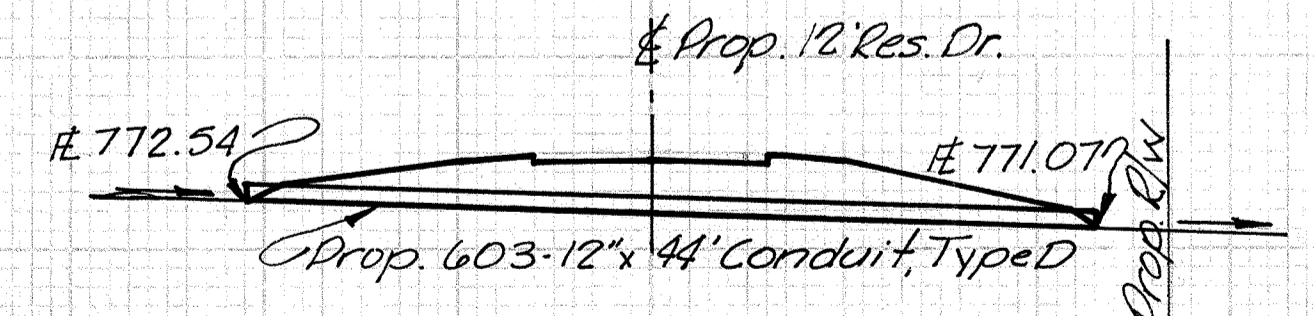
134

27 Sta. 410+50

Calc. by F.G.G. 11/21/74

Add for Res. Dr. 150

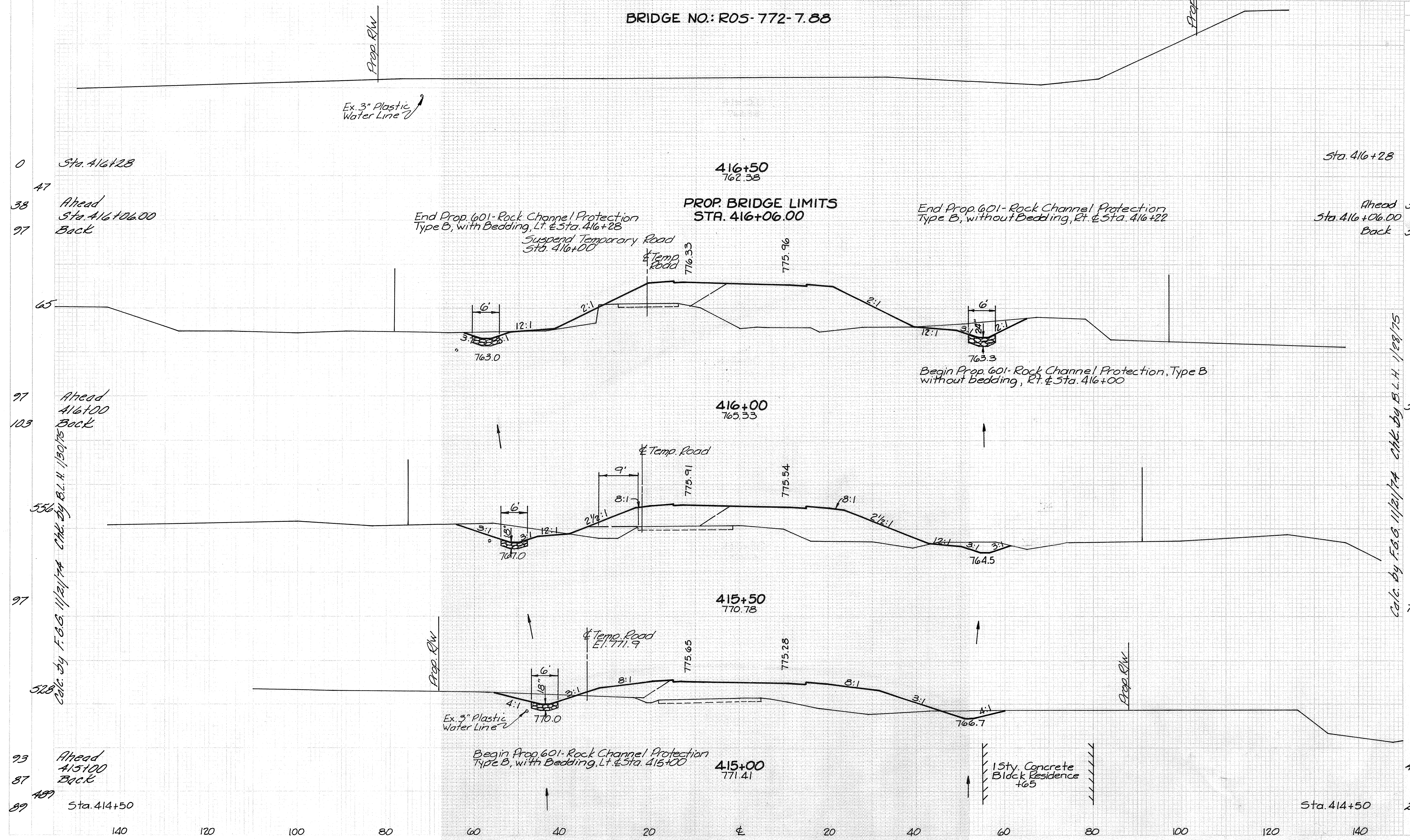
Add for Cistern





ROS-772-7.78

BRIDGE NO.: ROS-772-7.88



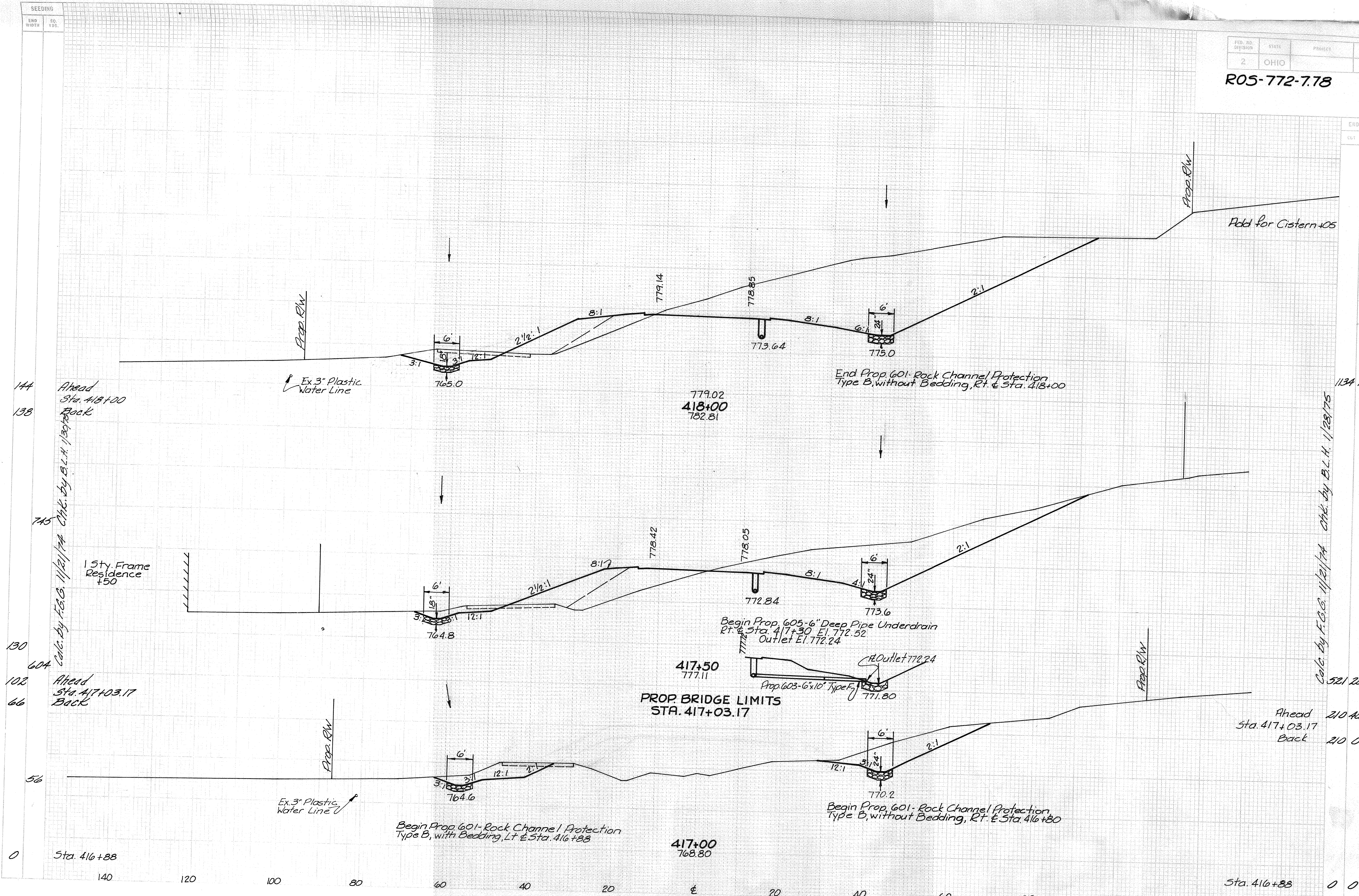
END AREA	VOLUME	
	CUT	FILL
Sta. 416+28	0	0
Ahead Sta. 416+06.00	57	22
Back Sta. 416+06.00	57	474
Ahead 416+00	57	474
Back 416+00	57	474
416+50	74	383
415+50	74	383
415+00	74	383
Sta. 414+50	27	192

STA. 415+00 TO STA. 416+50

Calc. by F.O.G. 11/21/74 C.H.C. by B.L.H. 1/29/75

Calc. by F.O.G. 11/21/74 C.H.C. by B.L.H. 1/29/75





STA.	END AREA		VOLUME	
	CUT	FILL	CUT	FILL
138				
134				
130				
126				
122				
118				
114				
110				
106				
102				
98				
94				
90				
86				
82				
78				
74				
70				
66				
62				
58				
54				
50				
46				
42				
38				
34				
30				
26				
22				
18				
14				
10				
6				
2				
0				

144 Ahead Sta. 418+00  
138 Back

745 Calc. by F.G.G. 11/21/74

130 15ty. Frame Residence +50

604 Calc. by F.G.G. 11/21/74

102 Ahead Sta. 417+03.17  
66 Back

1134 175

1533 355

521 208

634 535

Ahead 210 429  
Sta. 417+03.17  
Back 210 0

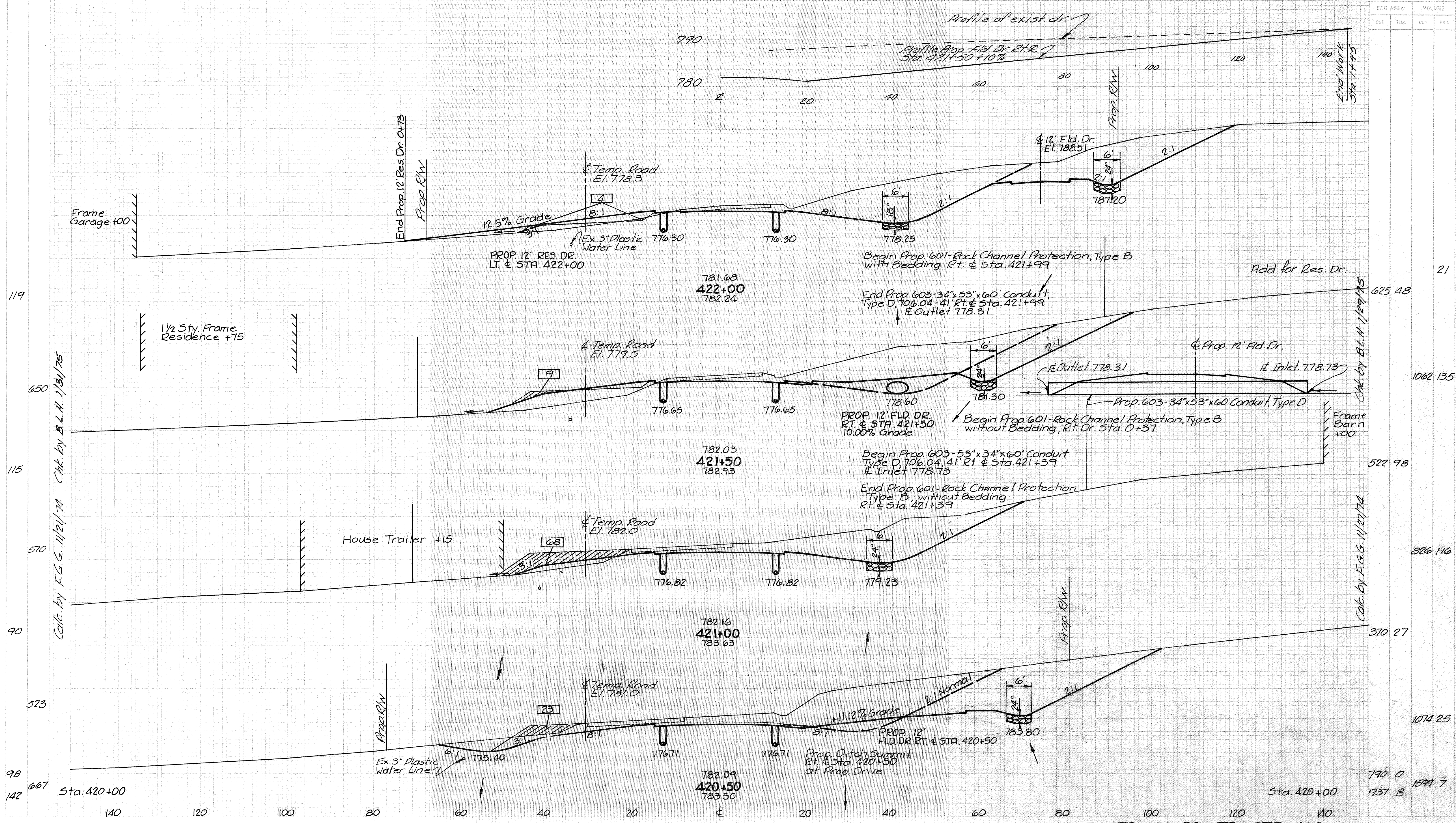
59 0

Sta. 416+88 0 0

Sta. 416+88

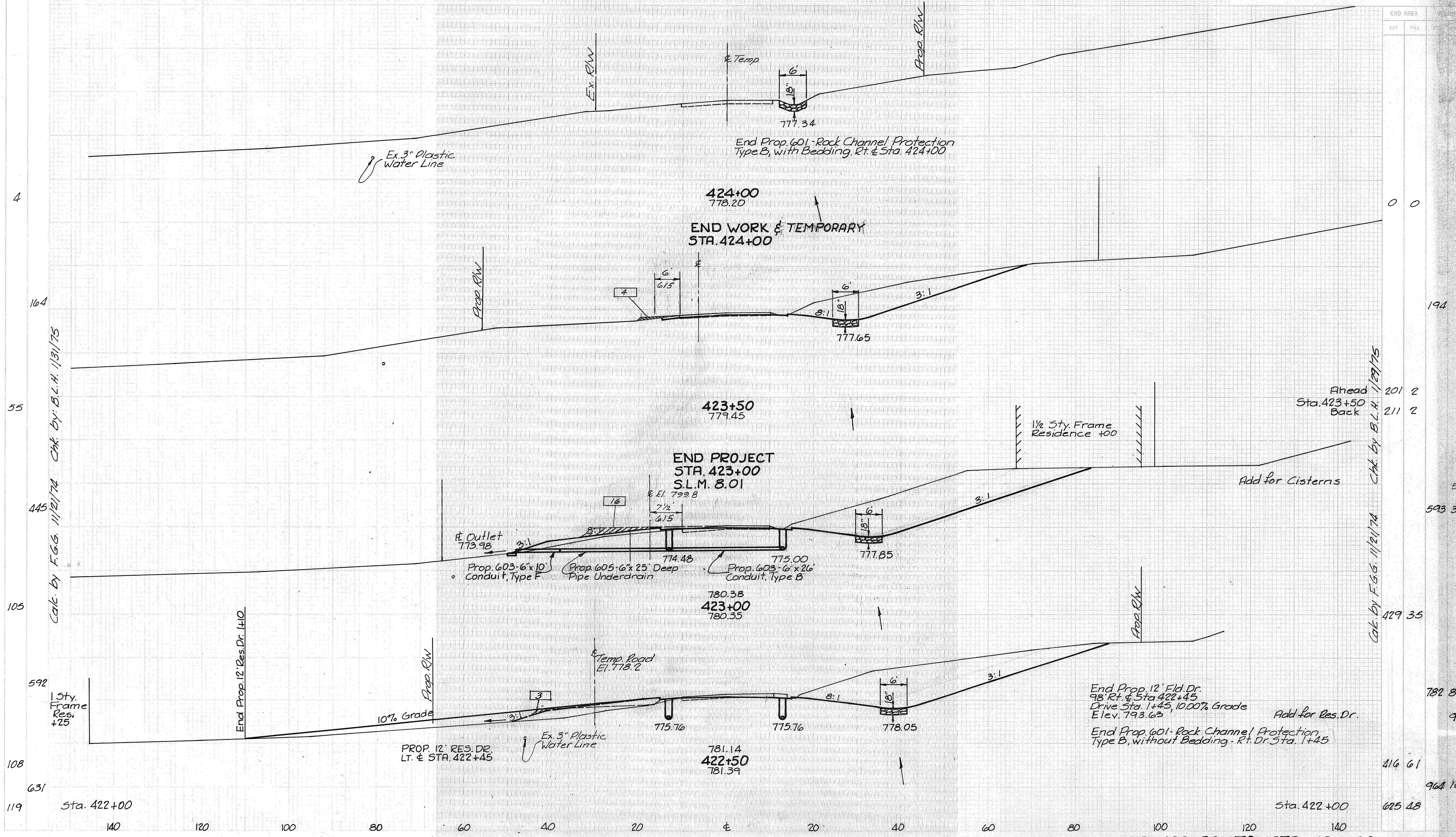
Sta. 416+88





END AREA	VOLUME	
	CUT	FILL
625	48	21
1062	135	
522	98	
826	116	
370	27	
1074	25	
790	0	1599
937	8	7

STA. 420+50 TO STA. 422+00



Calc. by F.G.G. 11/21/74 Chk. by B.L.H. 1/31/75

Calc. by F.G.G. 11/21/74 Chk. by B.L.H. 1/29/75

END AREA	END AREA	
	CUT	FILL
	0	0
	194	2
Ahead Sta. 423+50	201	2
Back	211	2
	50	
	593	35
	429	35
	782	89
	92	
	416	61
	968	101
	625	48

STA. 422+50 TO STA. 424+00

MICROFILMED  
JUN 27 1983

FHWA REGION	STATE	PROJECT	
5	OHIO		

19  
37

ROSS COUNTY  
R05-772-7.78

DRAINAGE AREA = 205 AC.  
Q<sub>25</sub> = 411 C.F.S.  
V<sub>25</sub> = 17 F.P.S.

DESIGN SPECIFICATIONS: This structure conforms to "standard specifications for Highway Bridges" adopted by the American Association of State Highway Officials, 1971, including the 1978 and 1979 interim specifications and the Ohio Supplement to these specifications.

DESIGN DATA:  
Design Loading - H520-44  
Concrete Class C - Unit Stress 1,333 p.s.i.  
Reinforcing steel - ASTM A615, A616 or A617.  
Unit stress 20,000 psi.

EMBANKMENT shall be placed symmetrically on both sides of the culvert after the top slab is in place.

FOUNDATION BEARING PRESSURE: The bottom slab is designed for a bearing pressure of 0.5 tons per sq. ft.

POROUS BACKFILL full length of box and wings extending from 6" below the weepholes to the top of the top slab or surface of approach embankment. Bagged aggregate used at each weephole shall be included with Porous backfill for payment.

REFERENCE shall be made to standard drawings LBC-45 dated 9-13-47 and MC-4 revised 7-26-76.

ESTIMATED QUANTITIES

- 202 - Pipe Removed Over 24" ----- 74 Lin. Ft.
- 203 - Exc. not including embankment Const. ----- 695 Cu. Yds.
- \* 601 - Rock Channel Protection Type B ----- 128 Cu. Yds.
- 601 - Riprap Using 6" Reinforced Conc. Slab ----- 73 Sq. Yds.
- 503 - Unclassified Excavation ----- 101 Cu. Yds.
- 509 - Reinforcing Steel ----- 21,432 Lbs.
- 511 - Class C Concrete ----- 160.5 Cu. Yds.
- 659 - Seeding and Mulching ----- 202 Sq. Yds.
- 518 - Porous Backfill ----- 55 Cu. Yds.

\* With Bedding

# Elev. 766.78 @ Sta. 10+93.56

# Elev. = 766.99

Prop. Rock Channel Protection (30" Thick) Type B w/Bedding

SECTION THRU CULVERT

Prop. Rock Channel Protection (18" Thk.) Type B w/Bedding

# Inlet = Elev. 767.51 HWC = EL. 774.27

9.08%

Prop. Riprap & Cut-Off walls as per MC-4

# Elev. 767.55 @ Sta. 9+40.50

# Elev. = 772.1 @ Sta. 8+90.4

# Elev. = 774.28 @ Sta. 8+65

Datum Line = EL. 740.0

PROP. INLET CURVE DATA

- Rad. = 50'
- Δ = 27° Lt.
- Lc = 23.56'
- T = 12.01'
- E = 1.42'
- P.I. Sta. 9+27.05

CALCULATIONS

ITEM	LENGTH	WIDTH	DEPTH	UNIT
Type B 30" Thk.	41.56'	19.82'	3.0'	= 91.5 Cu. Yds.
Type B 18" Thk.	24.64'	19.82'	2.0'	= 36.2 Cu. Yds.
601 Riprap	32.96'	19.82'		= 73 Sq. Yds.

PLAN

Prop. 22' Pav't.

Ex. 48" x 37" Conc. Pipes (To Be Removed Under 202)

PROP. OUTLET CURVE DATA

- Rad. = 114.02'
- Δ = 14°
- Lc = 27.86'
- T = 14'
- E = .85'
- P.I. Sta. 10+79.70

RALSTON RUN

P.T. Sta. 10+93.56

P.C. Sta. 10+65.7

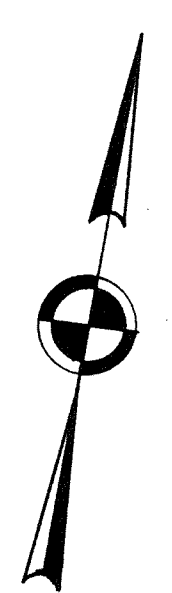
PC = 412+25.2

STA. 411+88.80 = STA. 10+00

412 R & S.R. 772

Sta. 9+48

Sta. 10+52



Sta. 8+65

Sta. 8+90.4

Flow

4:1

4:1

4:1

4:1

4:1

4:1

4:1

4:1

4:1

4:1

4:1

4:1

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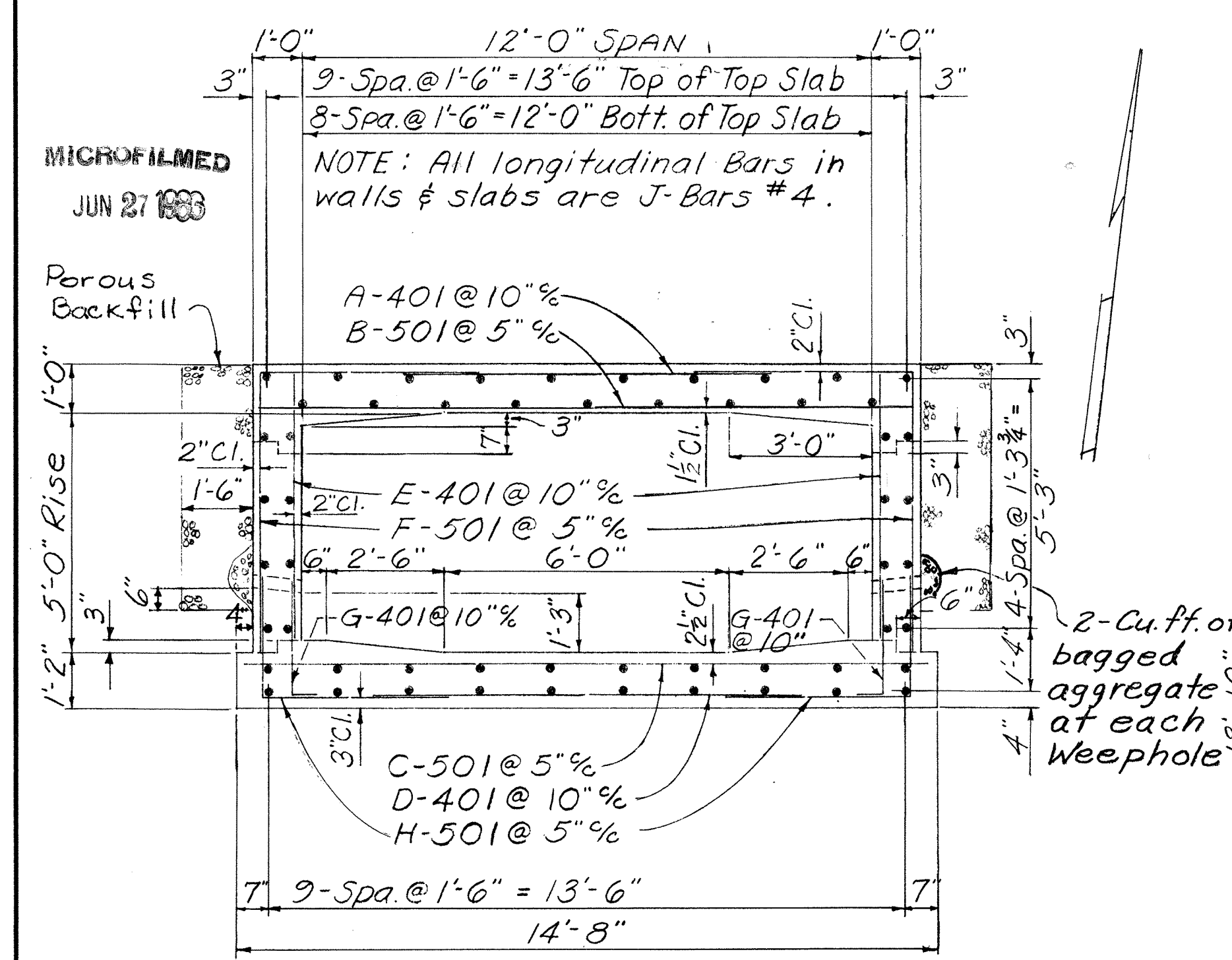
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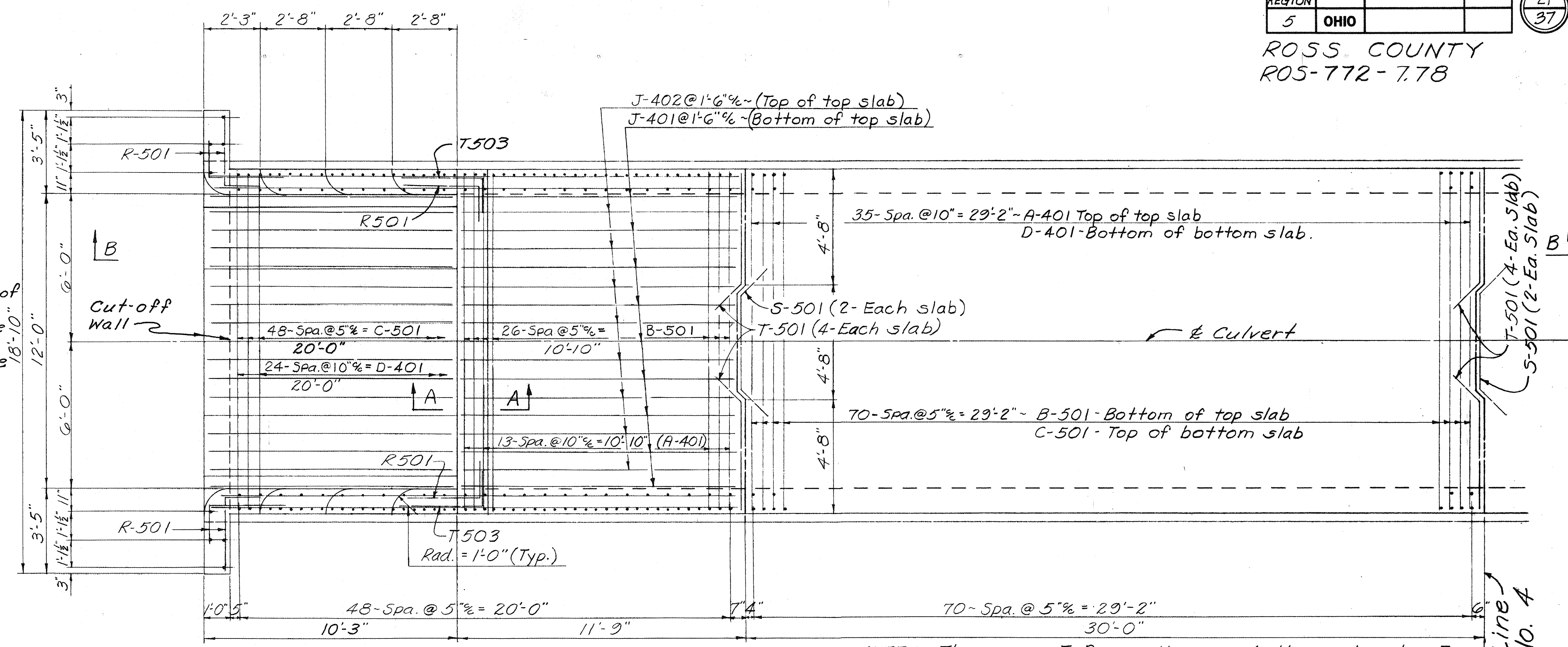
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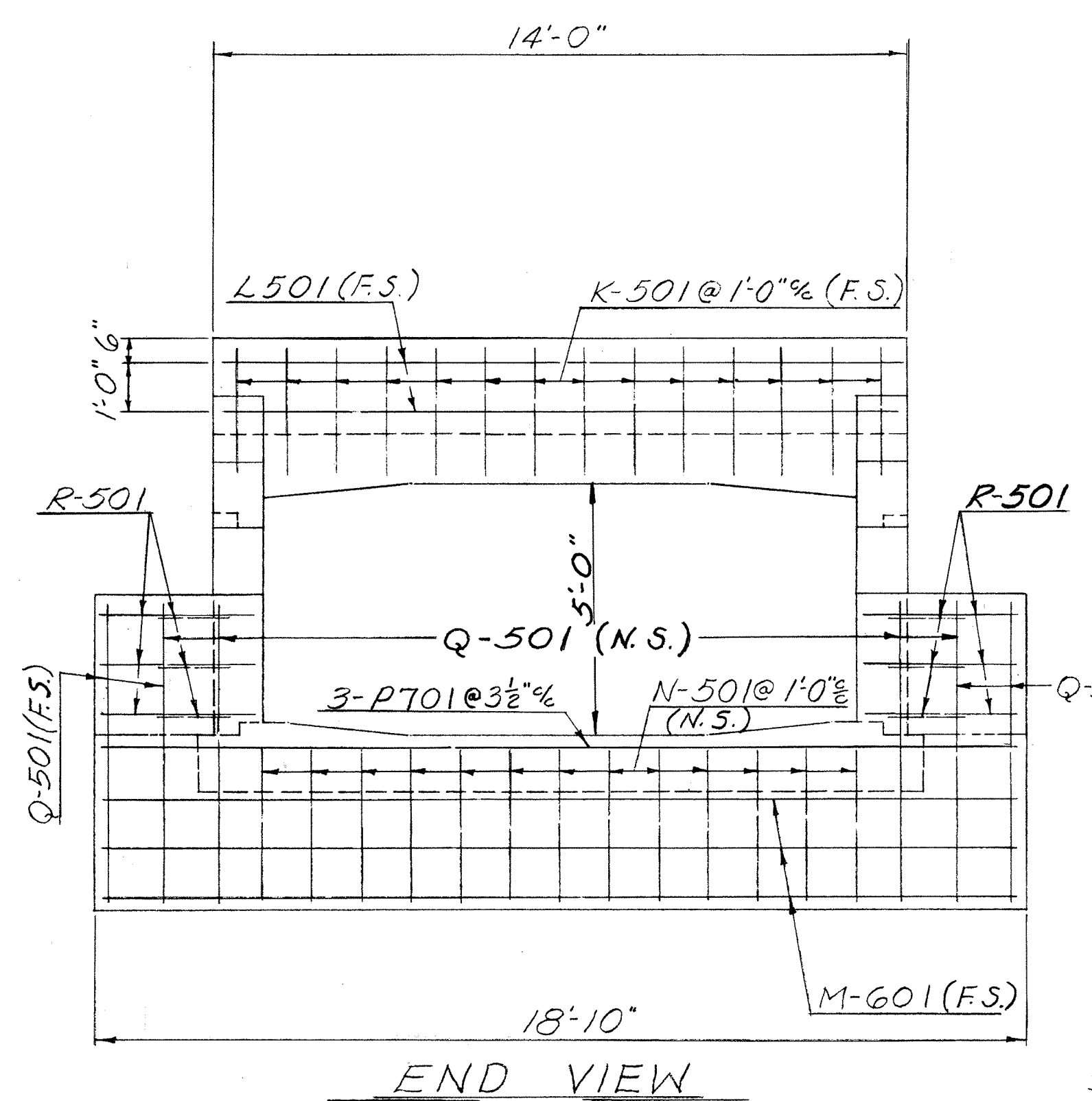




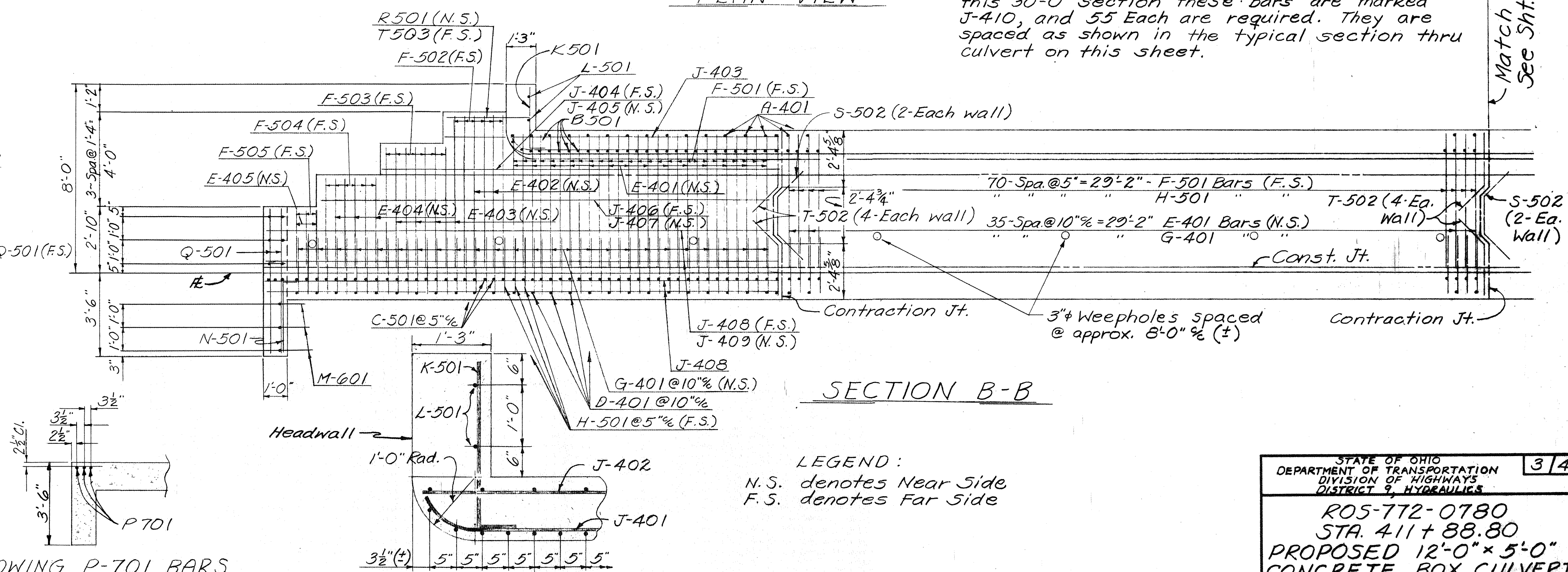
TYPICAL SECTION THRU CULVERT BARREL  
For additional details, see Standard Drawing LBC-45.



PLAN VIEW  
NOTE: There are J-Bars all around the culvert. In this 30'-0" section these bars are marked J-410, and 55 Each are required. They are spaced as shown in the typical section thru culvert on this sheet.



DETAIL SHOWING P-701 BARS IN CUT-OFF WALL



SECTION B-B

LEGEND:  
N.S. denotes Near Side  
F.S. denotes Far Side

Underside curved as shown (Entrance only).  
SECTION A-A (Enlarged)

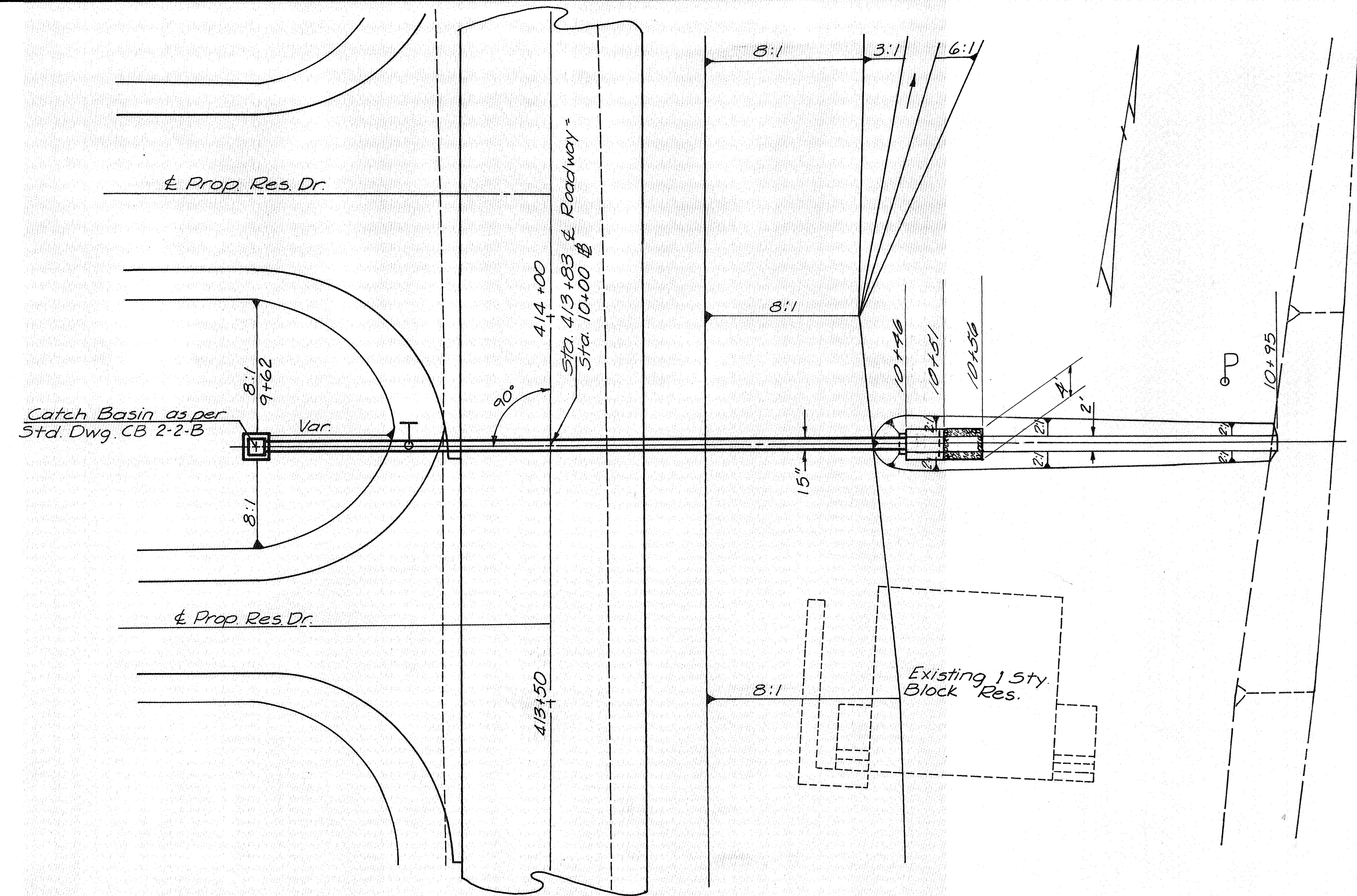
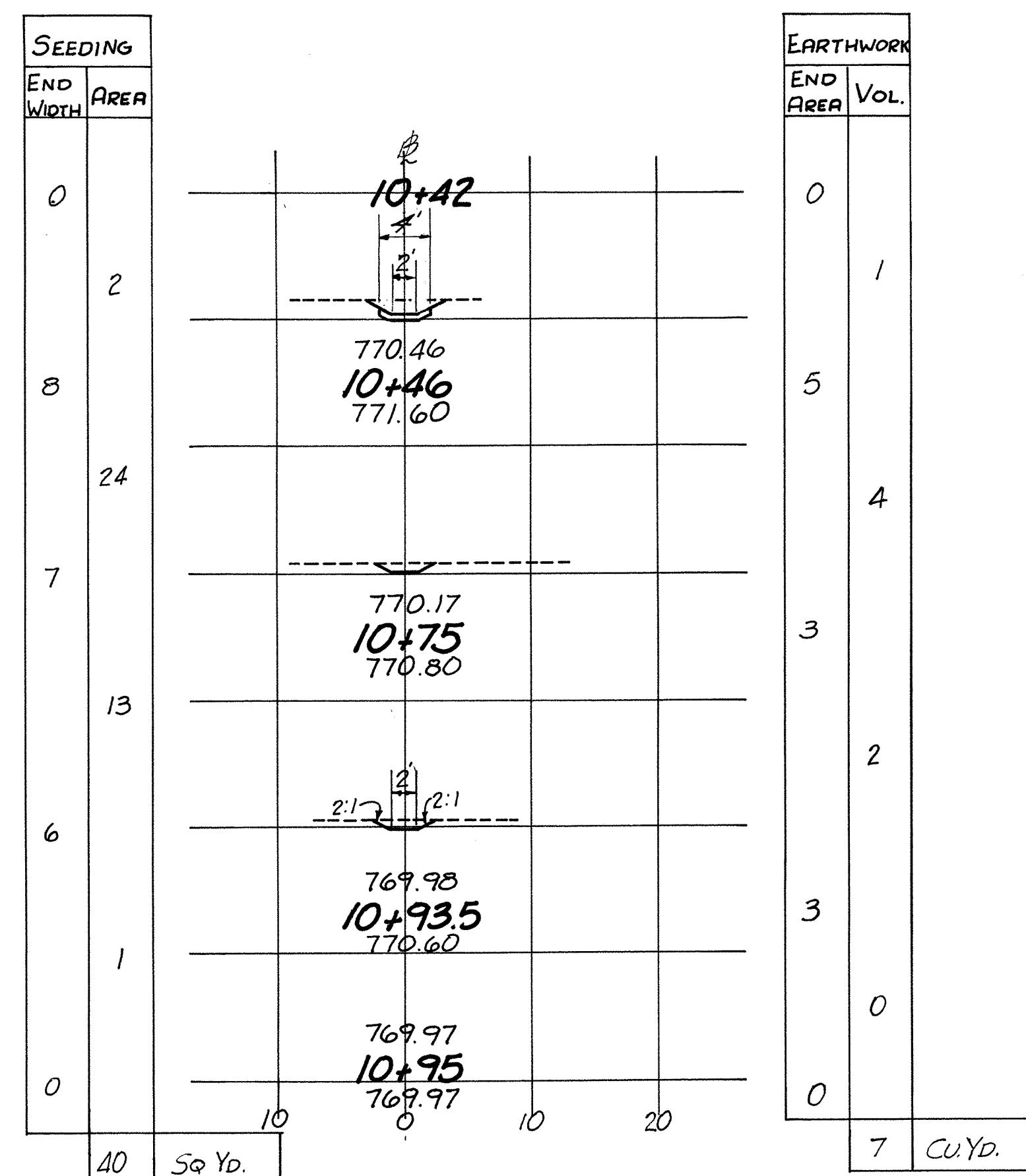
STATE OF OHIO					3/4
DEPARTMENT OF TRANSPORTATION					
DIVISION OF HIGHWAYS					
DISTRICT 9, HYDRAULICS					
ROS-772-0780					
STA. 411+88.80					
PROPOSED 12'-0" x 5'-0"					
CONCRETE BOX CULVERT					
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE
W.T.F.	J.P.A.	J.R.P.	J.B.K.		6-11-74
1-28-74		3-1-74			





R05-772-7.78

DRAINAGE AREA = 0.5 AC.  
Q = 2 CFS



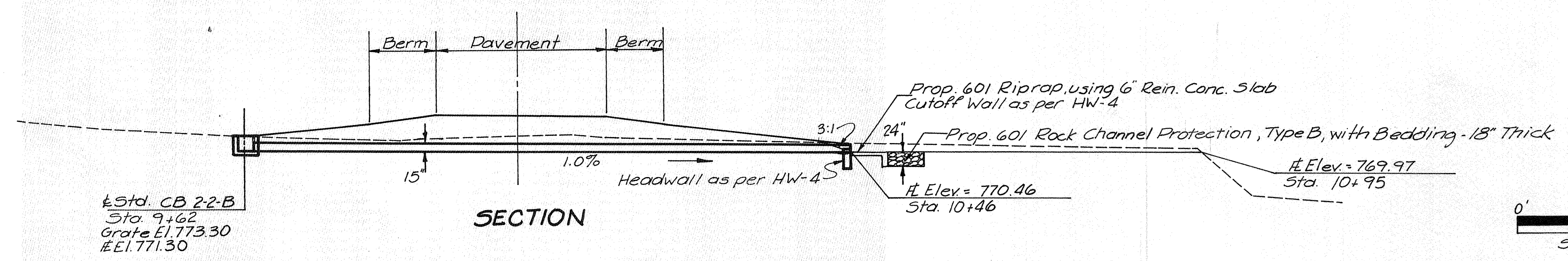
PLAN

**ESTIMATED QUANTITIES**

ITEM	DESCRIPTION	QUANT.	UNIT
203	Excavation	7	Cu. Yd.
601	Rock Channel Protection, Type B, with Bedding	2.0	Cu. Yd.
601	Riprap, using 6" Reinf. Conc. Slab	3.0	Sq. Yd.
602	Concrete Masonry	0.27 Use .3	Cu. Yd.
603	15" Conduit, Type A, 706.01, 706.02 or 707.05	84	Lin. Ft.
604	Catch Basin, Std. CB-2-2-B	1	Each
659	Seeding & Mulching	40	Sq. Yd.

**CALCULATIONS**

601 Riprap	$5' \times 4' \div 9 = 2.22$ Sq. Yd.
601 RCP Type B	$5' \times 4' \times 2' \div 27 = 1.48$ Cu. Yd.



SECTION

Datum Line = Elev. 750.0

CALC. BY	CHKD BY	TRACED	REVIEWED
JRP	D.B.B.	FGG	
1-3-74	6-14-74	9-4-74	

R05-772-0783 STA. 413+83  
PROP. 603 CONDUIT TYPE A



MICROFILMED

JUN 27 1983

# GENERAL NOTES

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

24-A  
37

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.

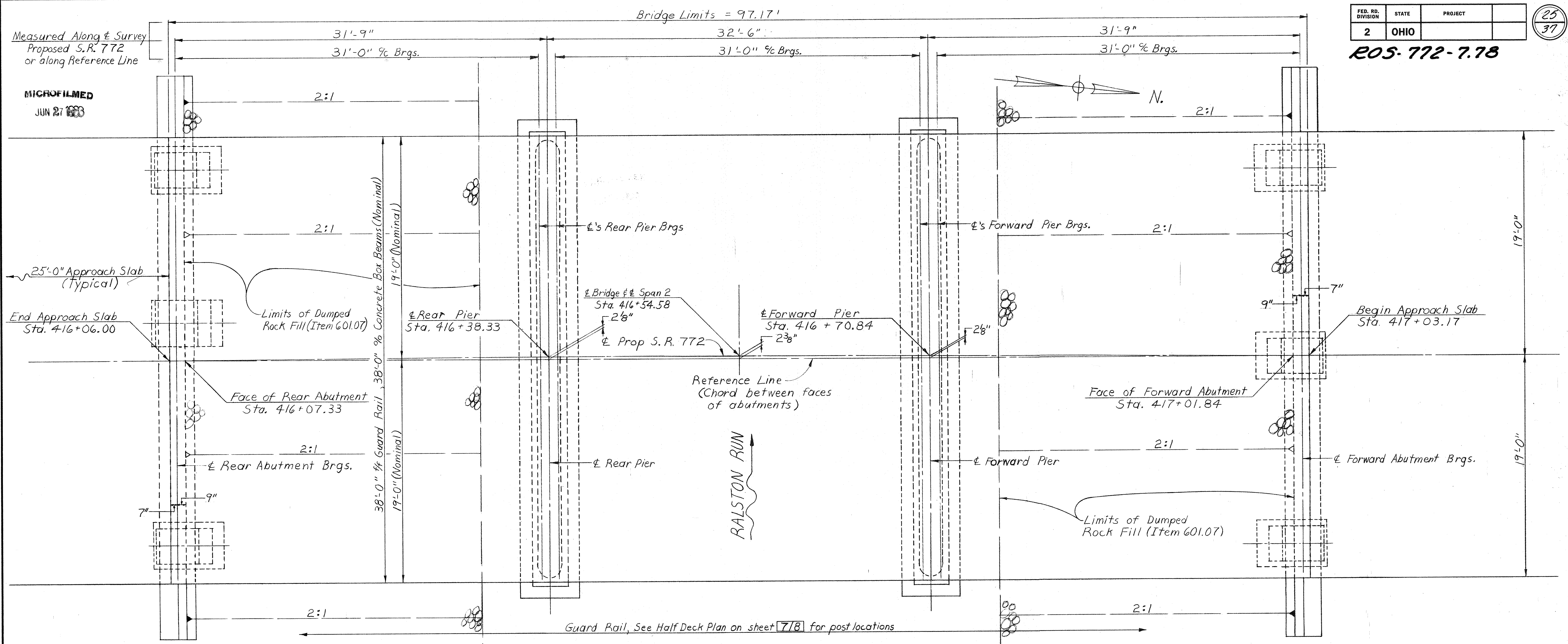
STAGE CONSTRUCTION shall be accomplished as follows: Portions of the Substructure labeled STAGE 1 shall be constructed. Then the 23' section of superstructure labeled STAGE 1 will be placed beginning at the  $\mathcal{C}$  and working outward. This will then be waterproofed and paved as shown and the 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.

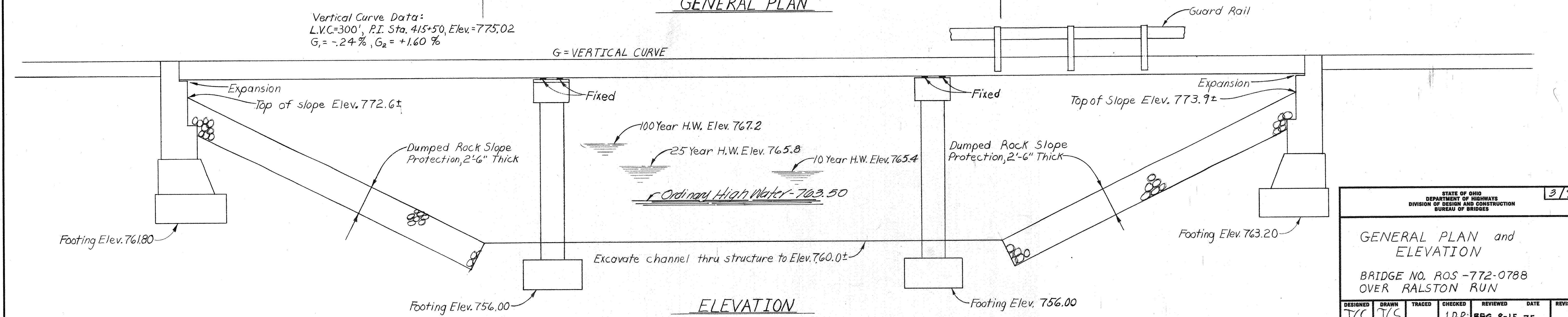
STATE OF OHIO DEPARTMENT OF HIGHWAYS DIVISION OF DESIGN AND CONSTRUCTION BUREAU OF BRIDGES						2/9
GENERAL NOTES ROS - 772-0788 OVER RALSTON RUN						
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
JGS			JOR	BFG	8-15-75	



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

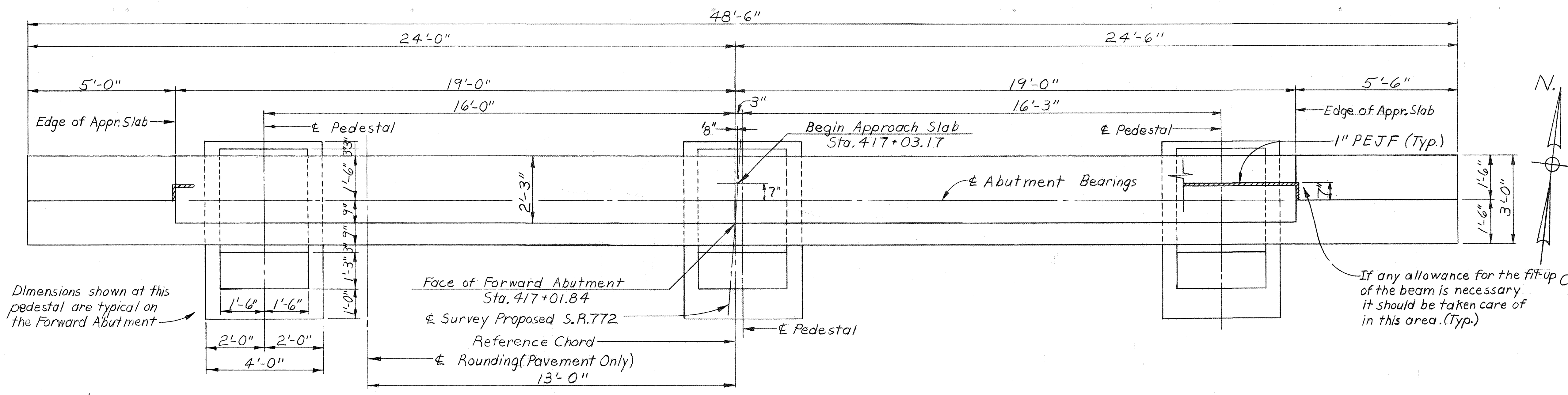
STATE OF OHIO DEPARTMENT OF HIGHWAYS DIVISION OF DESIGN AND CONSTRUCTION BUREAU OF BRIDGES							319
GENERAL PLAN and ELEVATION							
BRIDGE NO. ROS-772-0788 OVER RALSTON RUN							
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED	
J.G.S.	J.G.S.		J.D.R.	BFG	8-15-75		



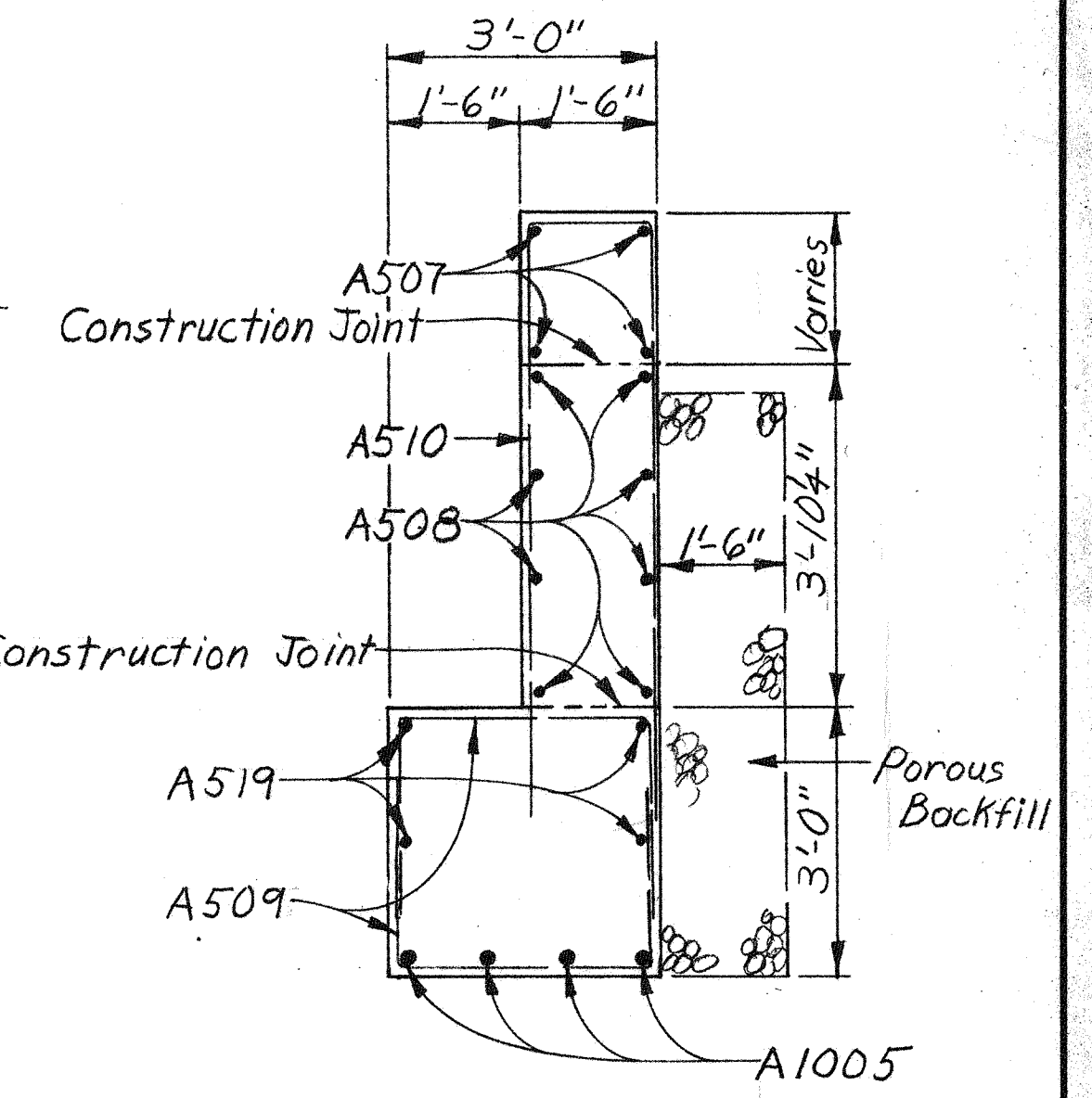
MICROFILMED  
JUN 27 1983

FED. RD. DIVISION	STATE	PROJECT	27 37
2	OHIO		

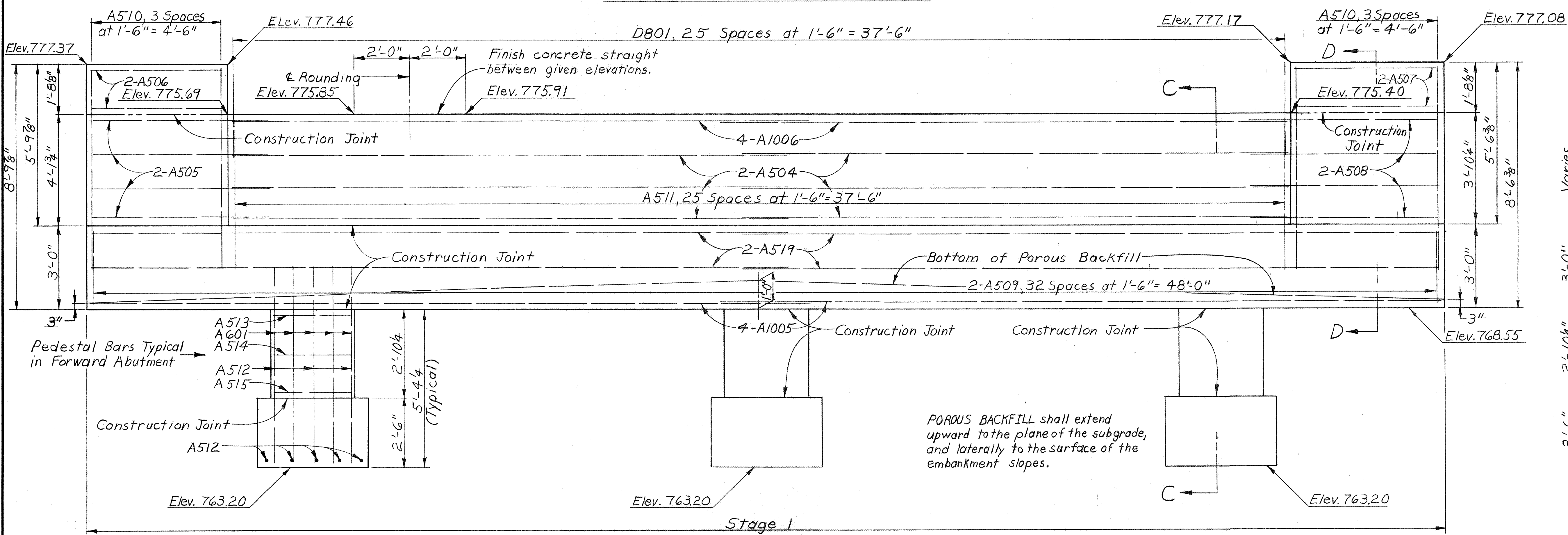
ROS-772-7.78



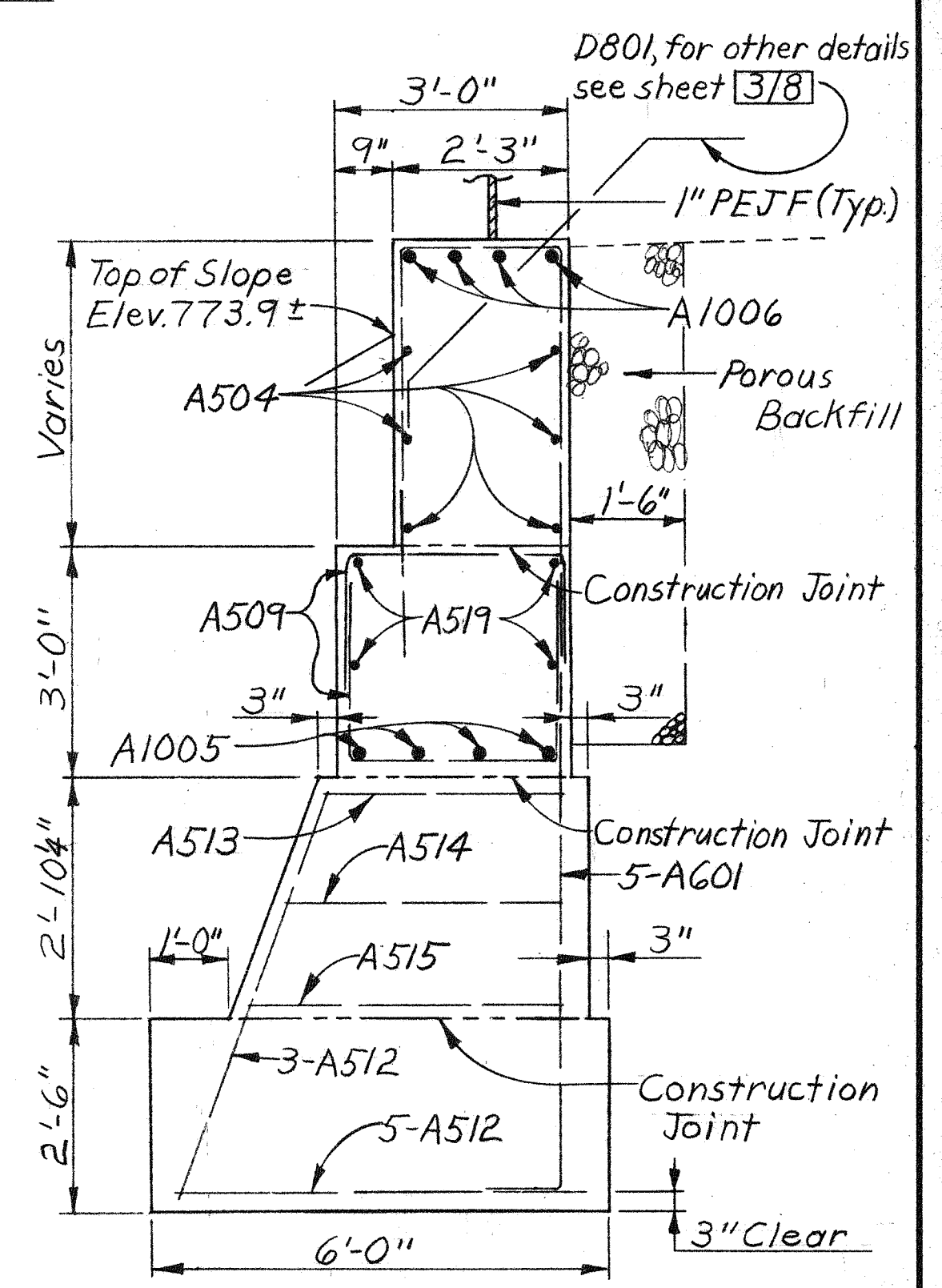
FORWARD ABUTMENT PLAN



SECTION D-D



FORWARD ABUTMENT ELEVATION



SECTION C-C

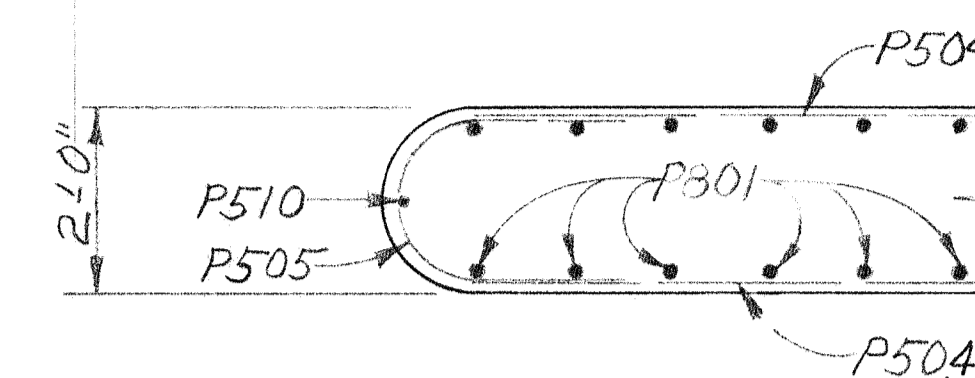
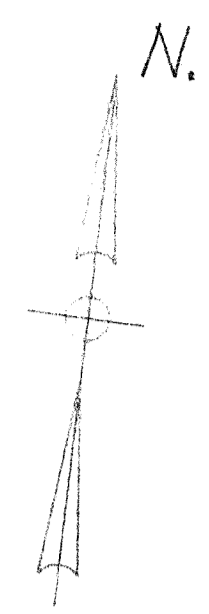
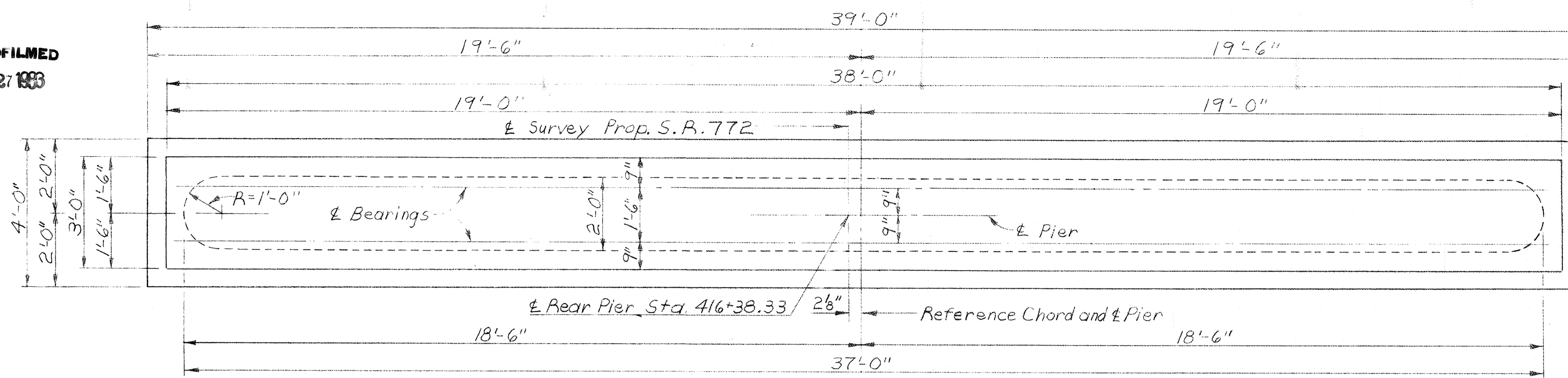
STATE OF OHIO DEPARTMENT OF HIGHWAYS DIVISION OF DESIGN AND CONSTRUCTION BUREAU OF BRIDGES						5/9
FORWARD ABUTMENT PLAN and ELEVATION						
BRIDGE NO. ROS-772-0788 OVER RALSTON RUN						
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
JGS	JGS		J.D.R.	BFG	8-15-75	

MICROFILMED  
JUN 27 1983

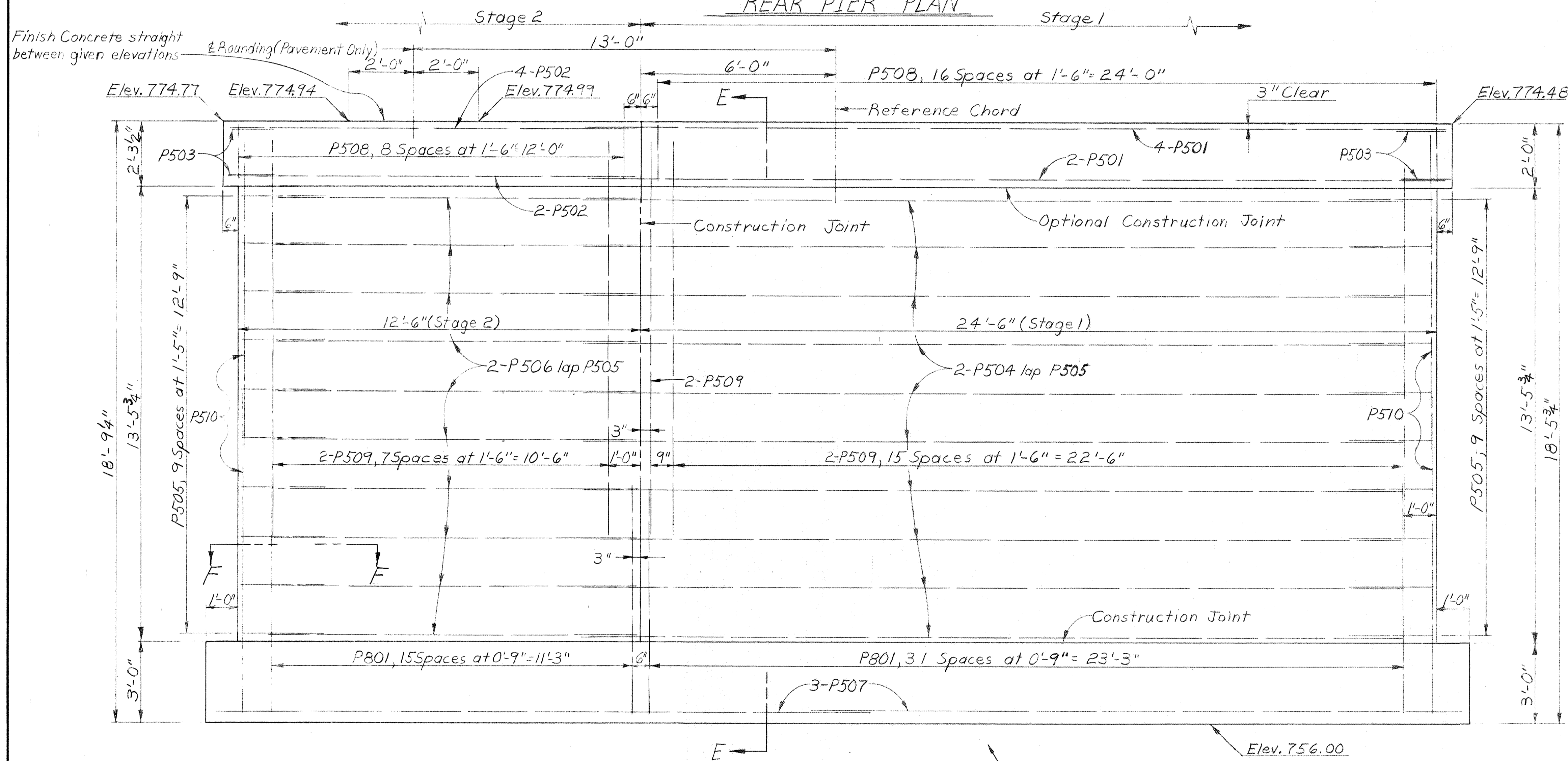
FED. RD. DIVISION	STATE	PROJECT
2	OHIO	

28  
37

R05-772-7.78



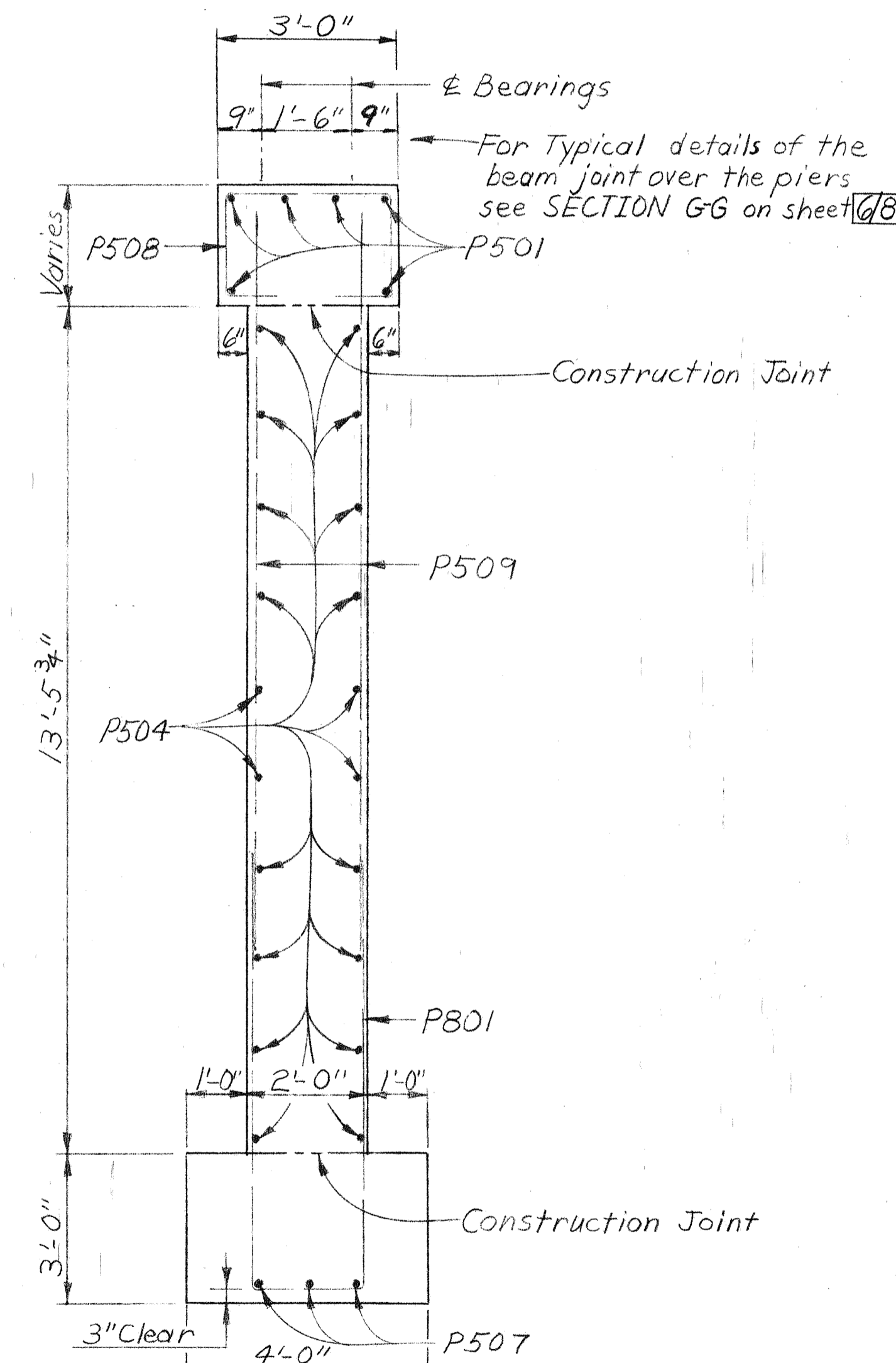
REAR PIER PLAN



REAR PIER ELEVATION

P509 bars are to lap alternate P801 bars 1'-7"

SECTION F-F



SECTION E-E

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

6/9

REAR PIER PLAN  
and ELEVATION

BRIDGE NO. R05-772-0788  
OVER RALSTON RUN

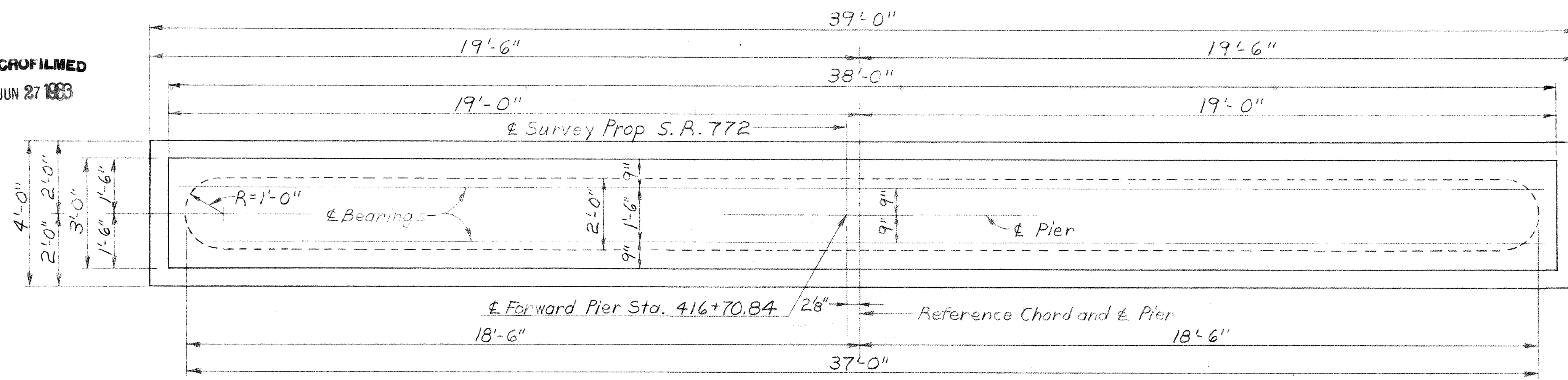
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
JGS	JGS		J.D.R.	BFG	8-15-75	

MICROFILMED  
JUN 27 1983

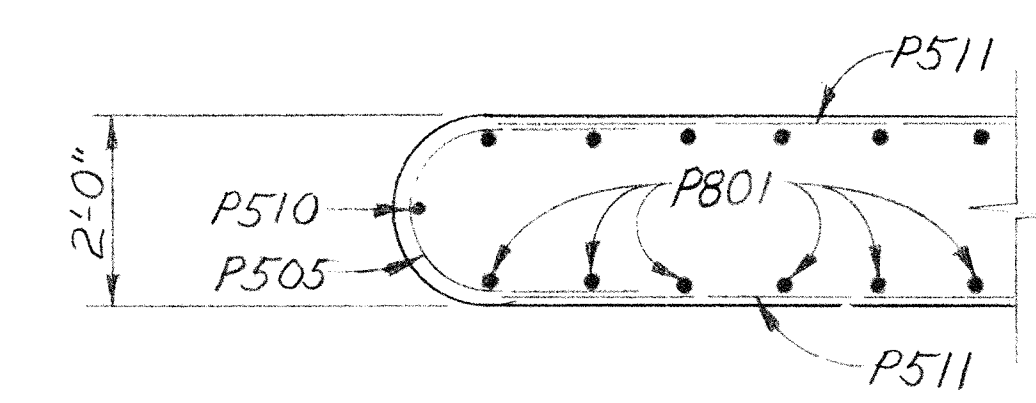
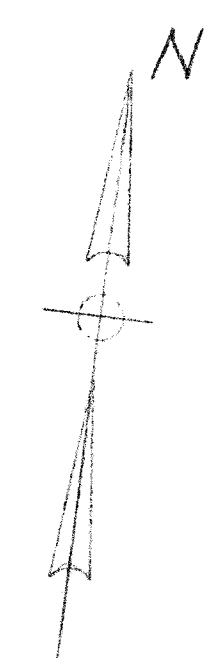
FED. RD. DIVISION	STATE	PROJECT
2	OHIO	

29  
37

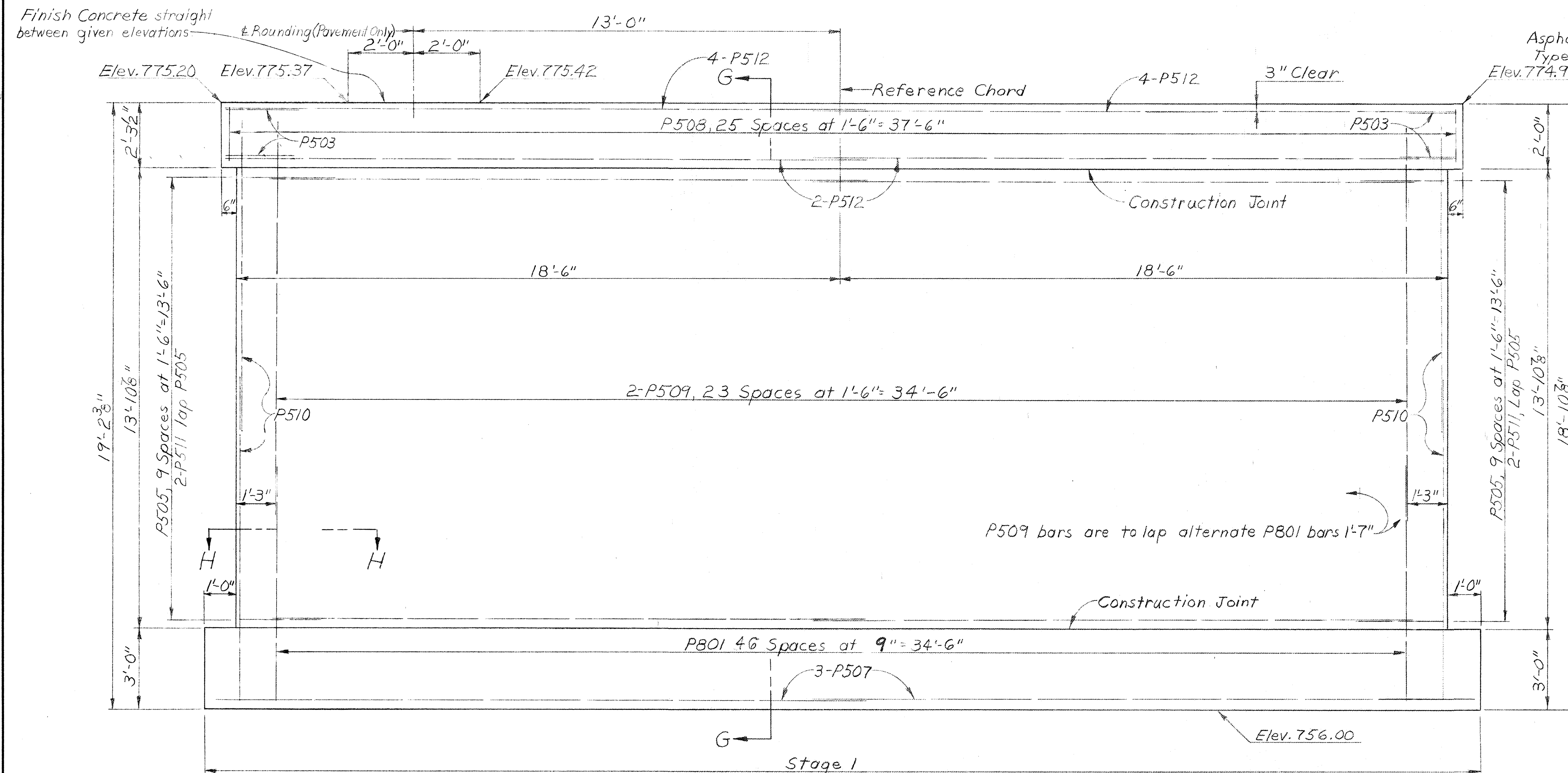
ROS-772-7.78



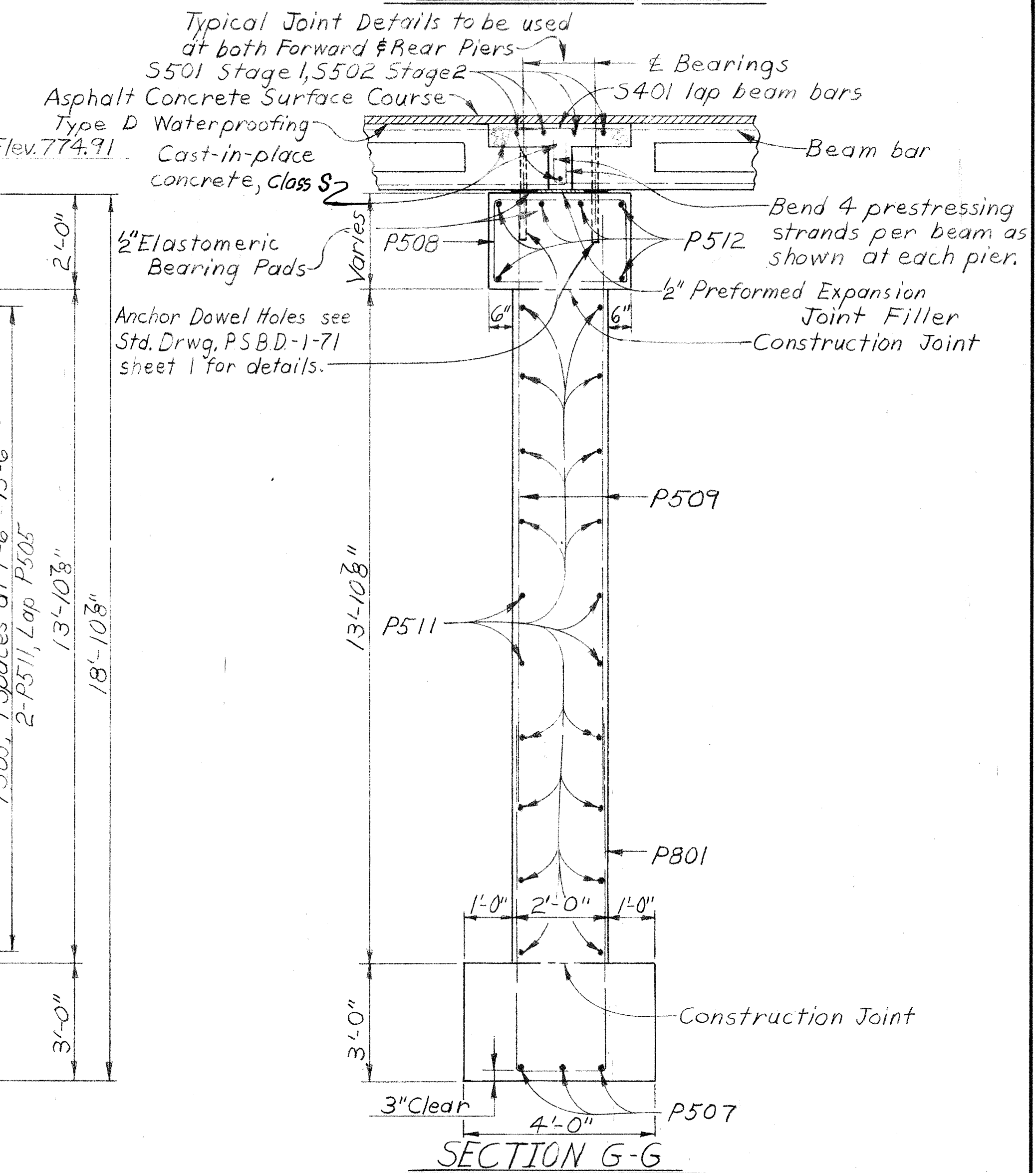
FORWARD PIER PLAN



SECTION H-H



FORWARD PIER ELEVATION



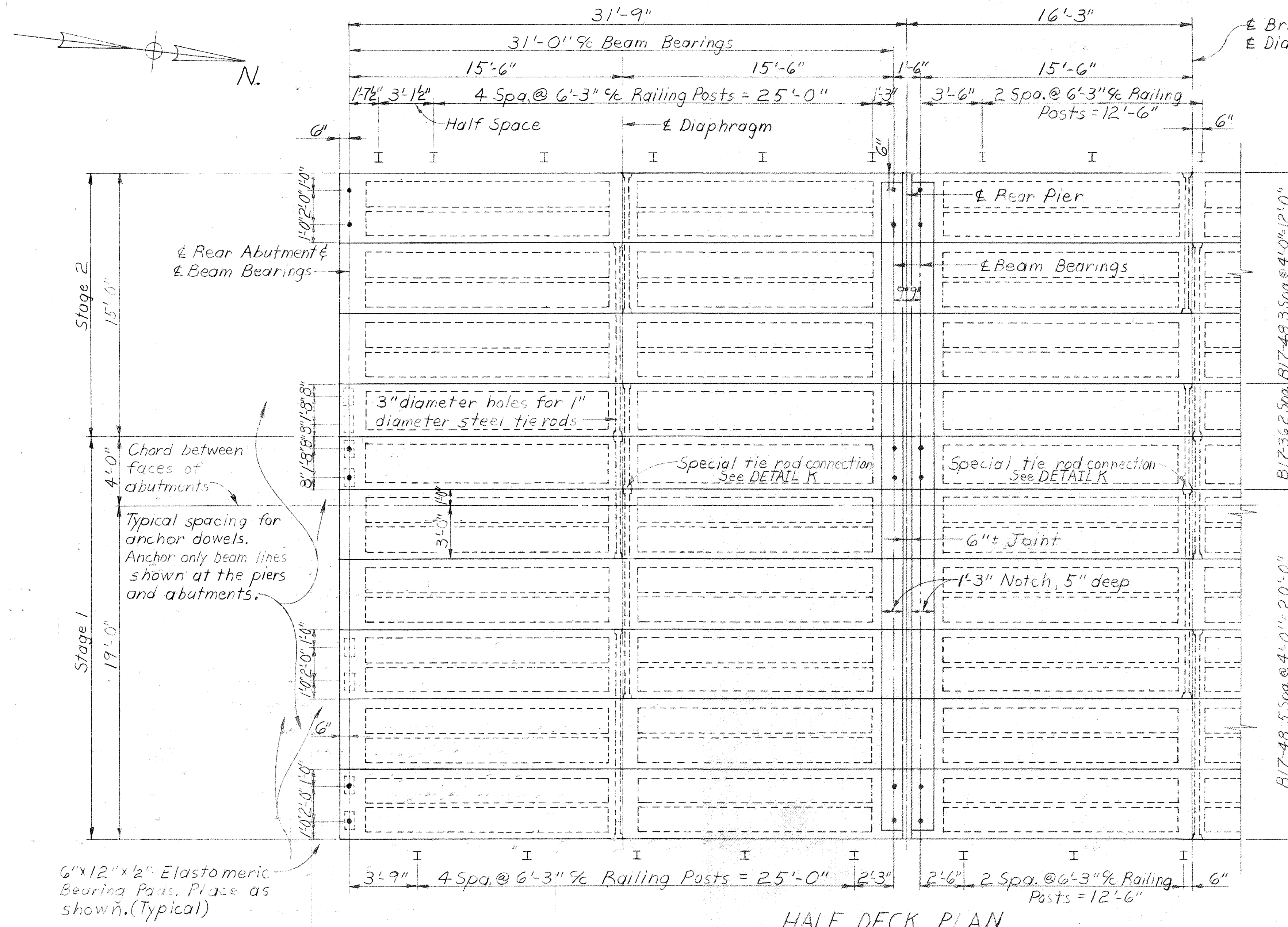
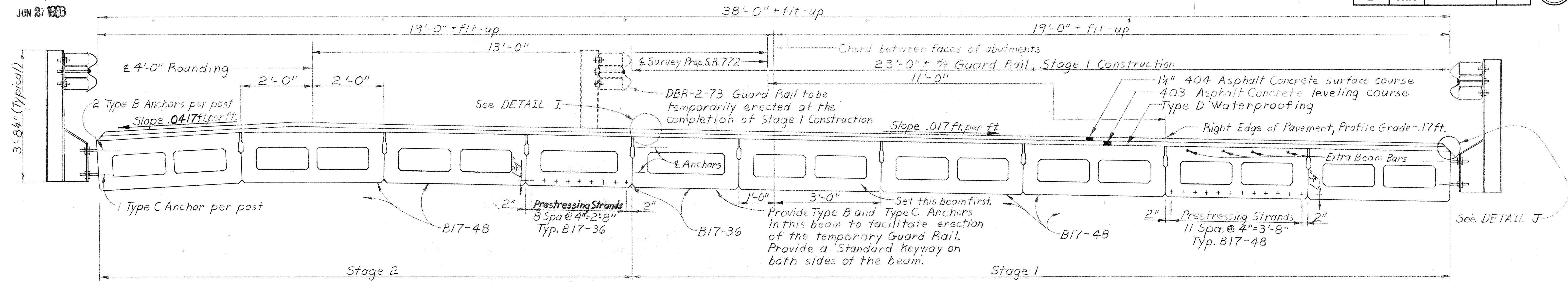
SECTION G-G

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 J.G.S.	DRAWN J.G.S.	TRACED	CHECKED J.D.R.	REVIEWED BFG	DATE 8-15-75	REVISED

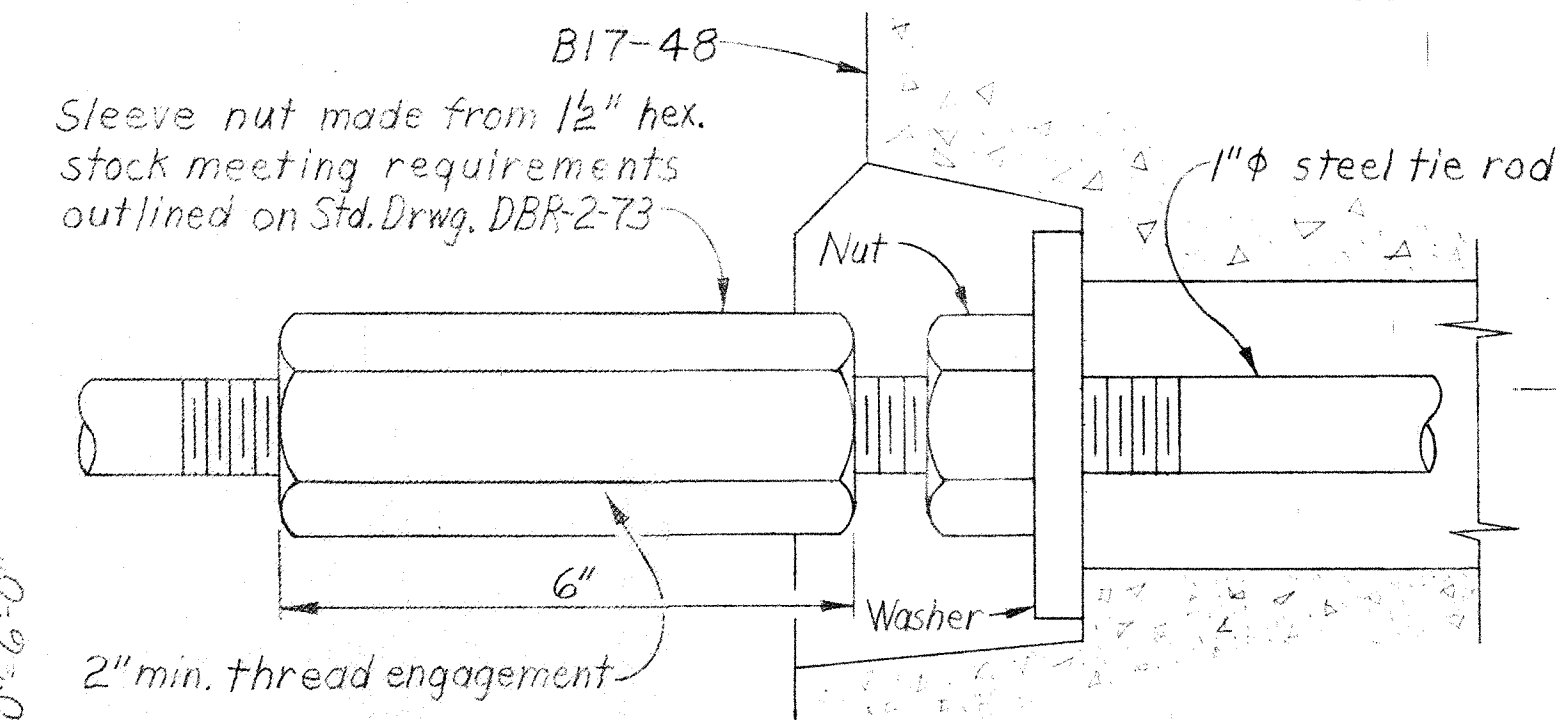


FED. RD. DIVISION	STATE	PROJECT
2	OHIO	

MICROFILMED  
JUN 27 1983



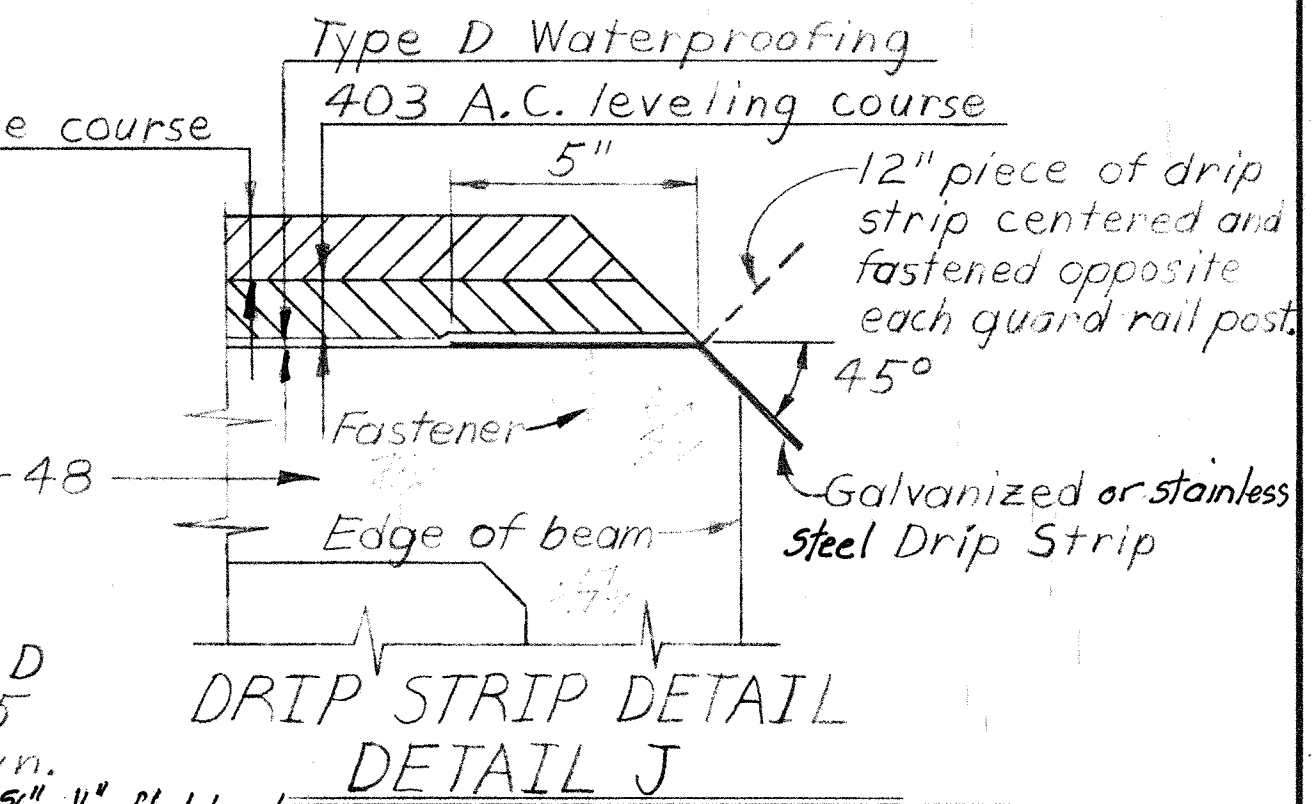
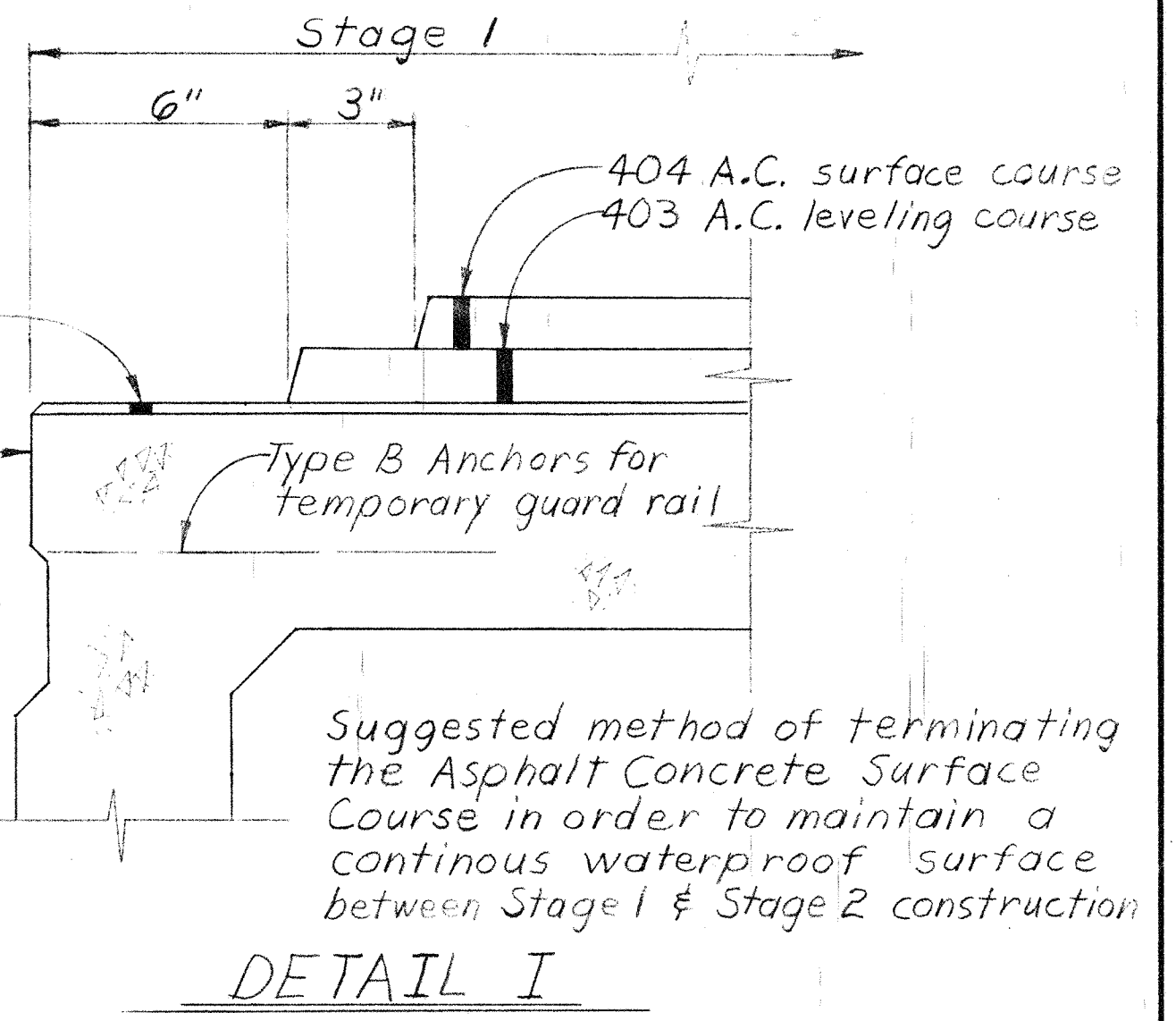
ROUNDING OF THE PAVEMENT is to be accomplished by increasing the asphalt concrete thickness to the extent necessary to achieve the required roadway cross section.



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

MICROFILMED  
JUN 27 1983

REINFORCING STEEL LIST

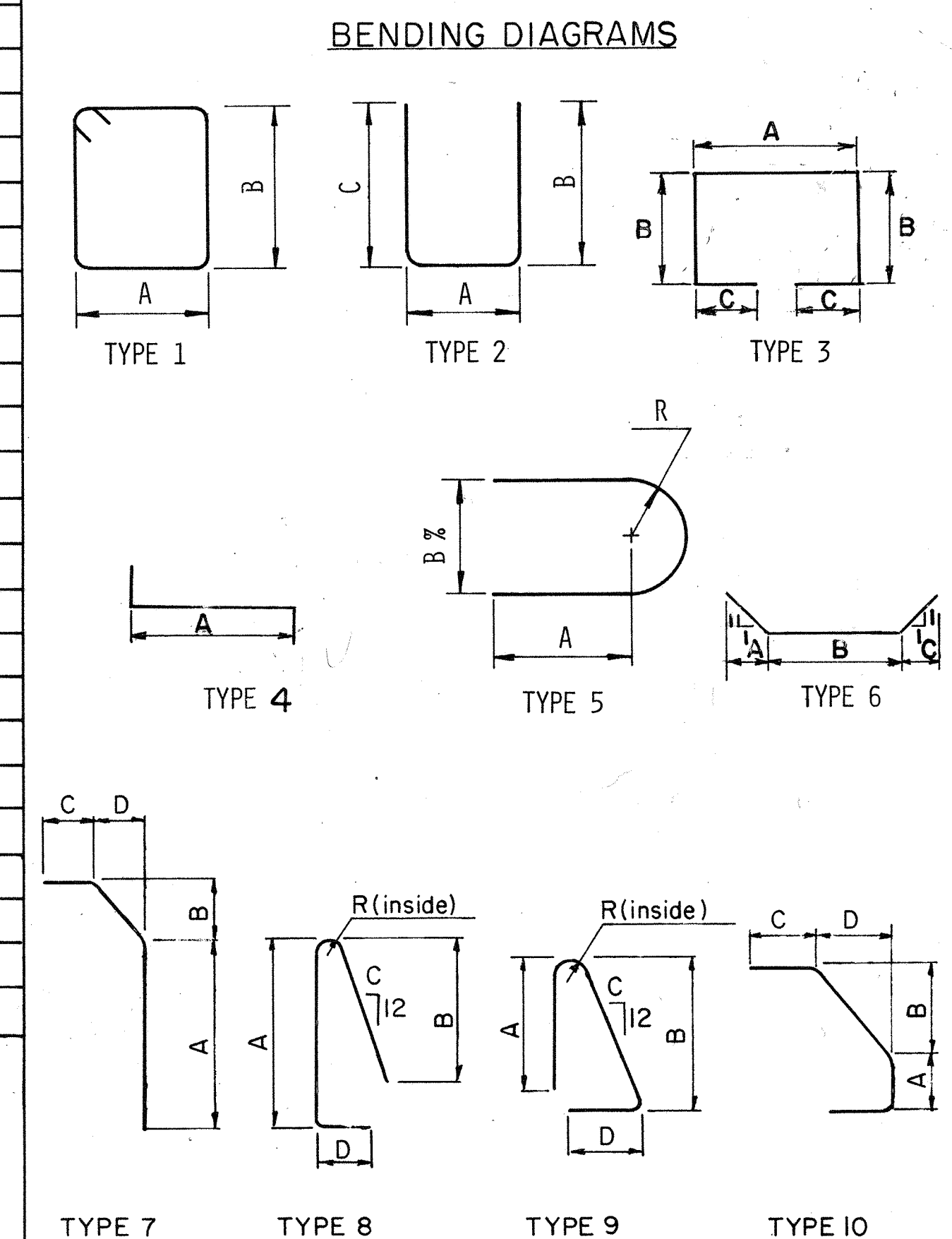
FHWA REGION	STATE	PROJECT
5	OHIO	

31  
37

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.																													
PIERS																																			
A601	15	15	30	8'-0"	360	4	7'-4"					P801	47	48	95	17'-4"	4397	2	1'-8"	8'-0"	8'-0"														
A501		6	6	24'-6"	153	STR.						P501		6	6	26'-5"	165	STR.																	
A502		6	6	14'-9"	92	STR.						P502		6	6	12'-10"	80	STR.																	
A503		4	4	29'-2"	122	STR.						P503	4	4	8	5'-7"	47	2	2'-8"	1'-7"	1'-7"														
A504	12	4	16	19'-11"	332	STR.						P504		20	20	24'-11"	520	STR.																	
A505	8	8	16	6'-0"	100	STR.						P505	20	20	40	5'-10"	243	5	1'-7"	1'-8"		9 3/8"													
A506	4	4	8	4'-2"	35	STR.						P506		20	20	11'-4"	236	STR.																	
A507	4	4	8	4'-8"	39	STR.						P507	6	6	12	20'-2"	252	STR.																	
A508	8	8	16	6'-6"	108	STR.						P508	26	26	52	6'-10"	371	3	2'-8"	1'-8"	8"														
A509	66	66	132	6'-9"	929	2	2'-8"	2'-2"	2'-2"			P509	48	52	100	12'-1"	1260	STR.																	
A510	8	8	16	16'-3"	271	2	1'-2"	7'-2"	8'-2"			P510	4	4	8	10'-0"	83	STR.																	
A511	26	27	53	12'-10"	709	2	1'-11"	5'-7"	5'-7"			P511	40		40	18'-4"	765	STR.																	
A512	24	24	48	5'-6"	275	STR.						P512	12		12	20'-5"	256	STR.																	
A513	3	2	5	12'-1"	63	1	2'-8"	3'-2"																											
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.



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	

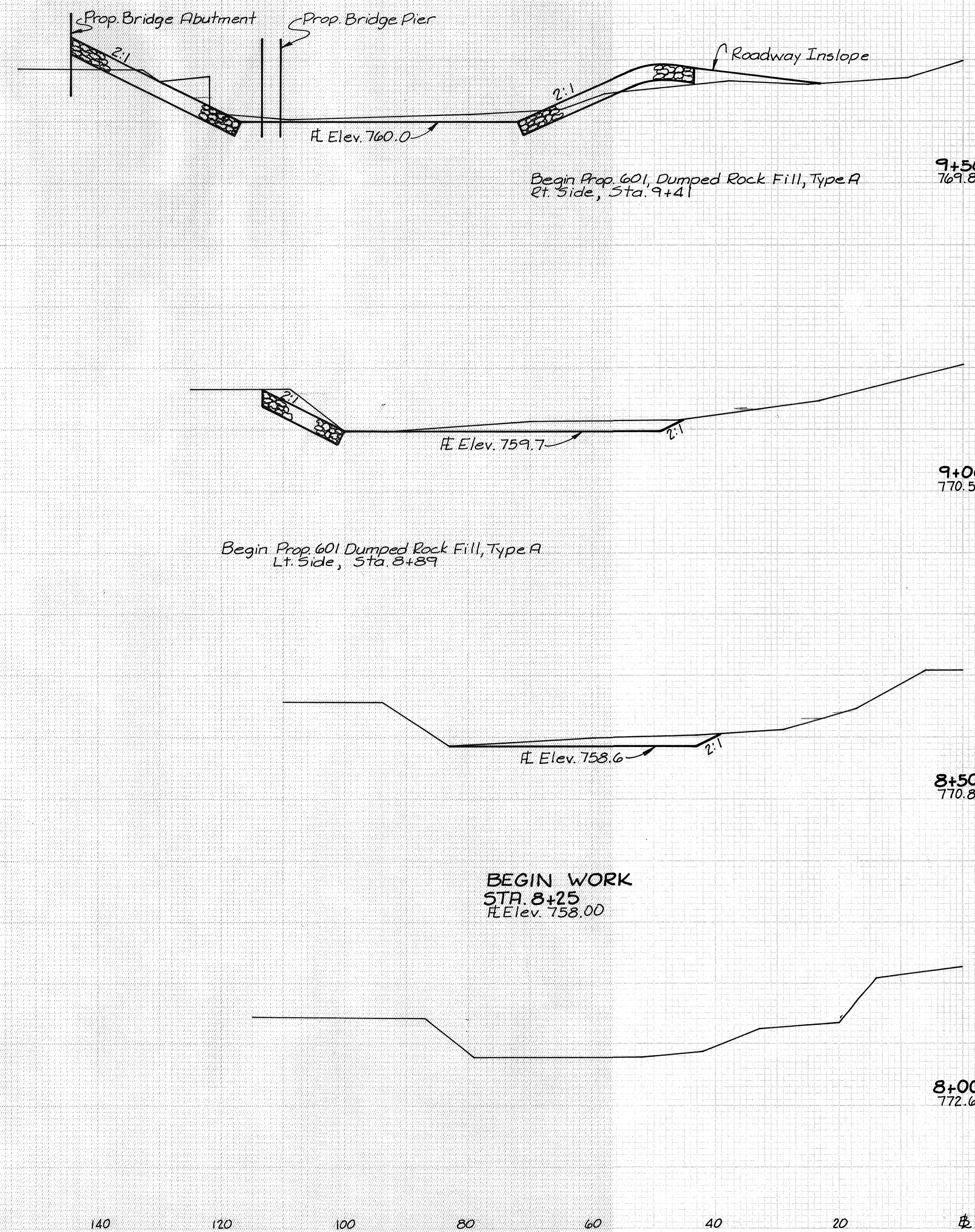
STATE OF OHIO  
DEPARTMENT OF TRANSPORTATION  
DIVISION OF HIGHWAYS  
BUREAU OF BRIDGES

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

REINFORCING STEEL LIST  
ROS 772-0788  
OVER RALSTON RUN

9/9

R05-772-7.7B



○ Dumped Rock Fill, Type A

62  
155  
3  
135  
78  
49

Ahead  
sta. 9+41  
Back

END AREA	RELIEF	
	CUT	FILL
62	3	49
107	3	89
53	0	11
91	0	13
45	0	21
21	0	0
0	0	0

Sta. 8+25 to Sta. 10+75

203-Excavation 605 Cu. Yd.

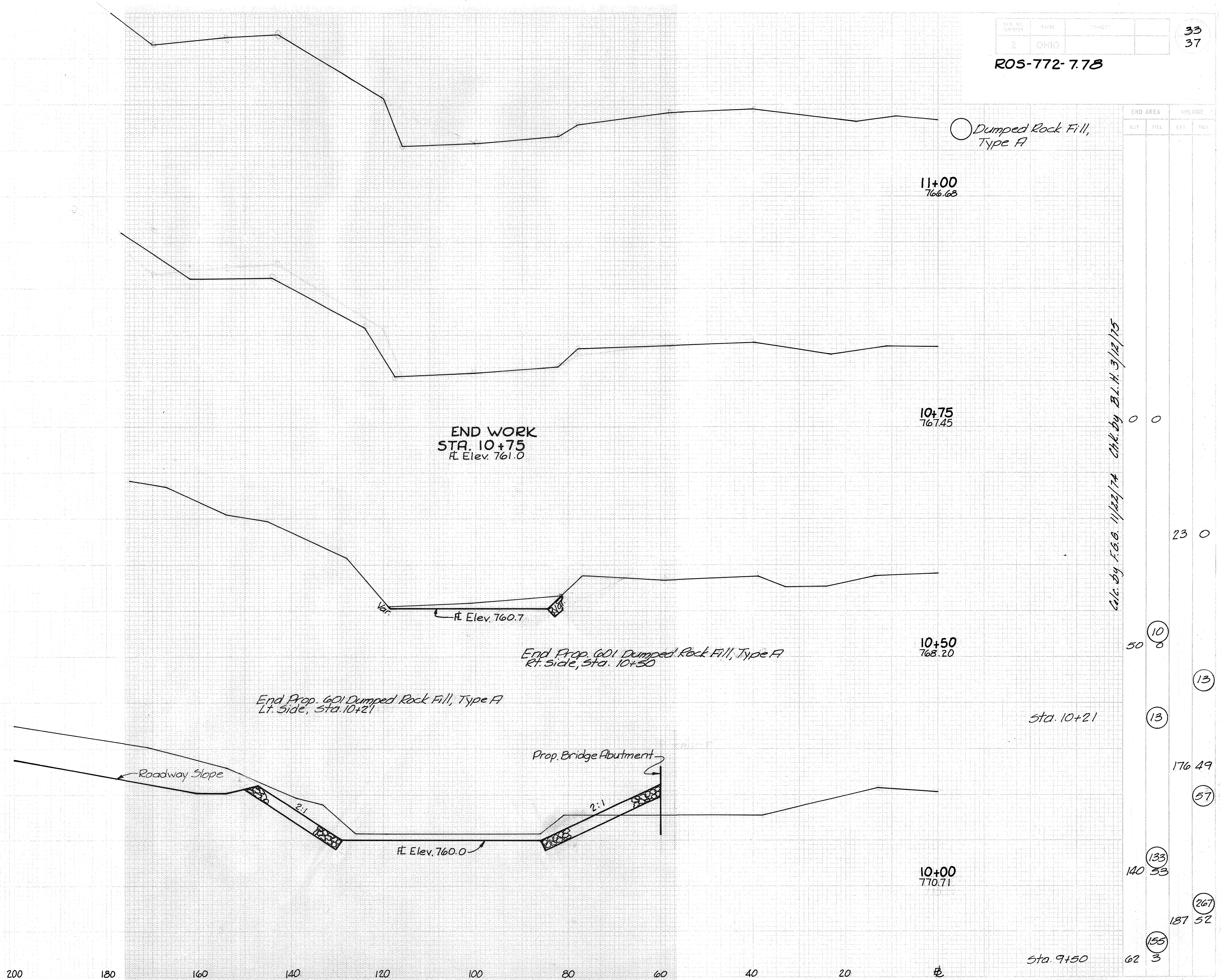
203-Embankment 104 Cu. Yd.

601-Dumped Rock Fill Type A 486 Cu. Yd.

Calc. by F.G.G. 11/22/74 Chk. by B.L.H. 5/12/75

SECTION

ROS-772-7.78



○ Dumped Rock Fill, Type A

11+00  
766.68

10+75  
767.45

END WORK  
STA. 10+75  
H. Elev. 761.0

10+50  
768.20

End Prop. 60' Dumped Rock Fill, Type A  
Rt. Side, Sta. 10+50

End Prop. 60' Dumped Rock Fill, Type A  
Lt. Side, Sta. 10+21

Roadway Slope

Prop. Bridge Abutment

H. Elev. 760.0

10+00  
770.71

Sta. 9+50

END AREA		VOLUME	
CUT	FILL	CUT	FILL
0	0		
		23	0
50	10		
	0		
			13
			13
			176.49
			57
140	133		
	33		
			267
			187.52
62	155		
	3		

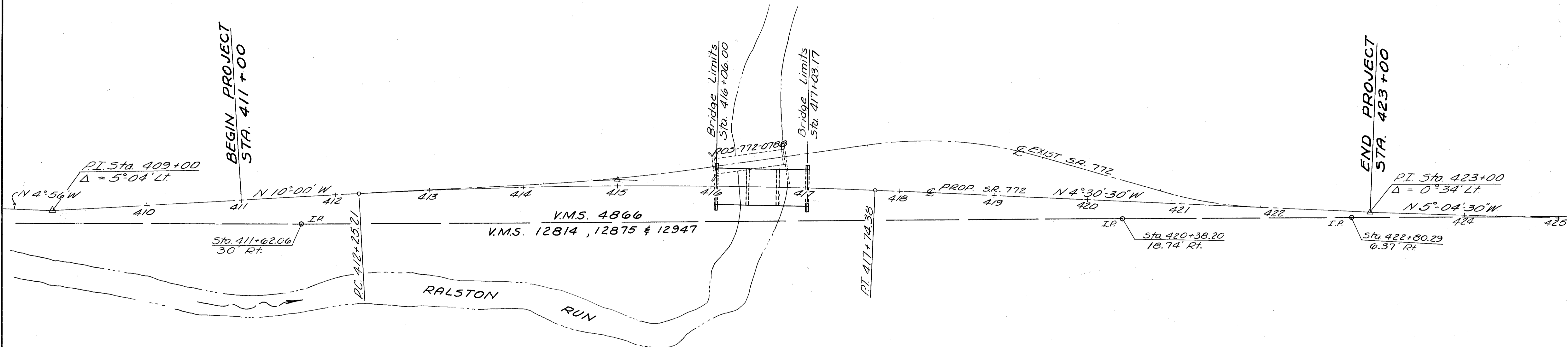
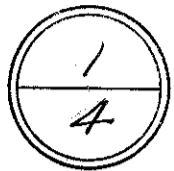
Calc. by F.G.B. 11/22/74 Chk. by B.L.H. 3/12/75

# 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

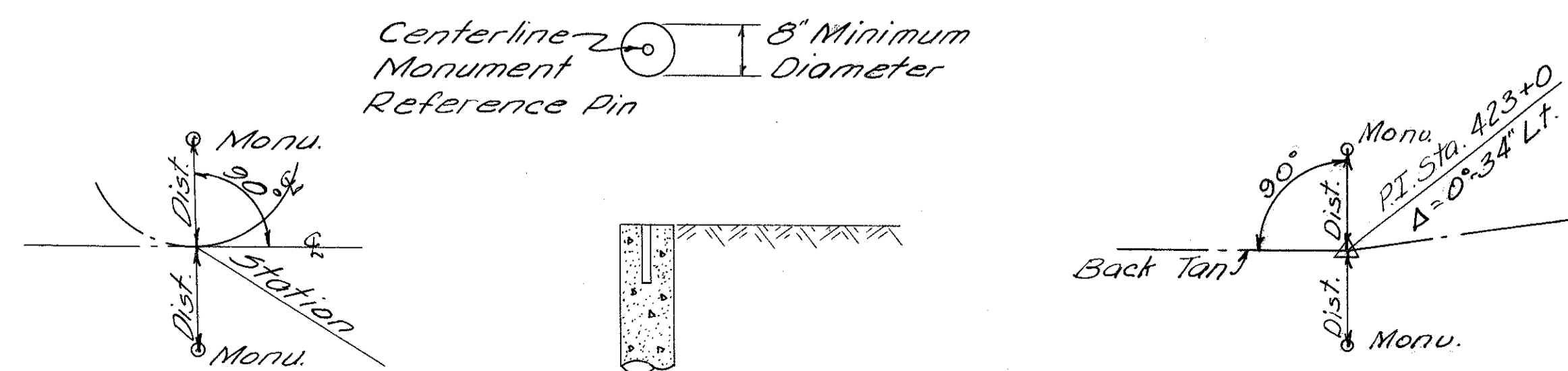
FED. RD. DIVISION	STATE	PROJECT
2	OHIO	RS-1257(5)

34  
37



**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
P.C. 412+25.21	18 18	423+0	18 18
415+0	18 18		
P.T. 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 P.S. 5406

# SUMMARY OF ADDITIONAL R/W REQUIRED

STATE JOB NO 09041(0)	FED. RD. DIVISION 2	STATE OHIO	PROJECT 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				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			0.60 Ac. 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, 0.25 Ac. from Tract #1 & 0.02 Ac. 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**

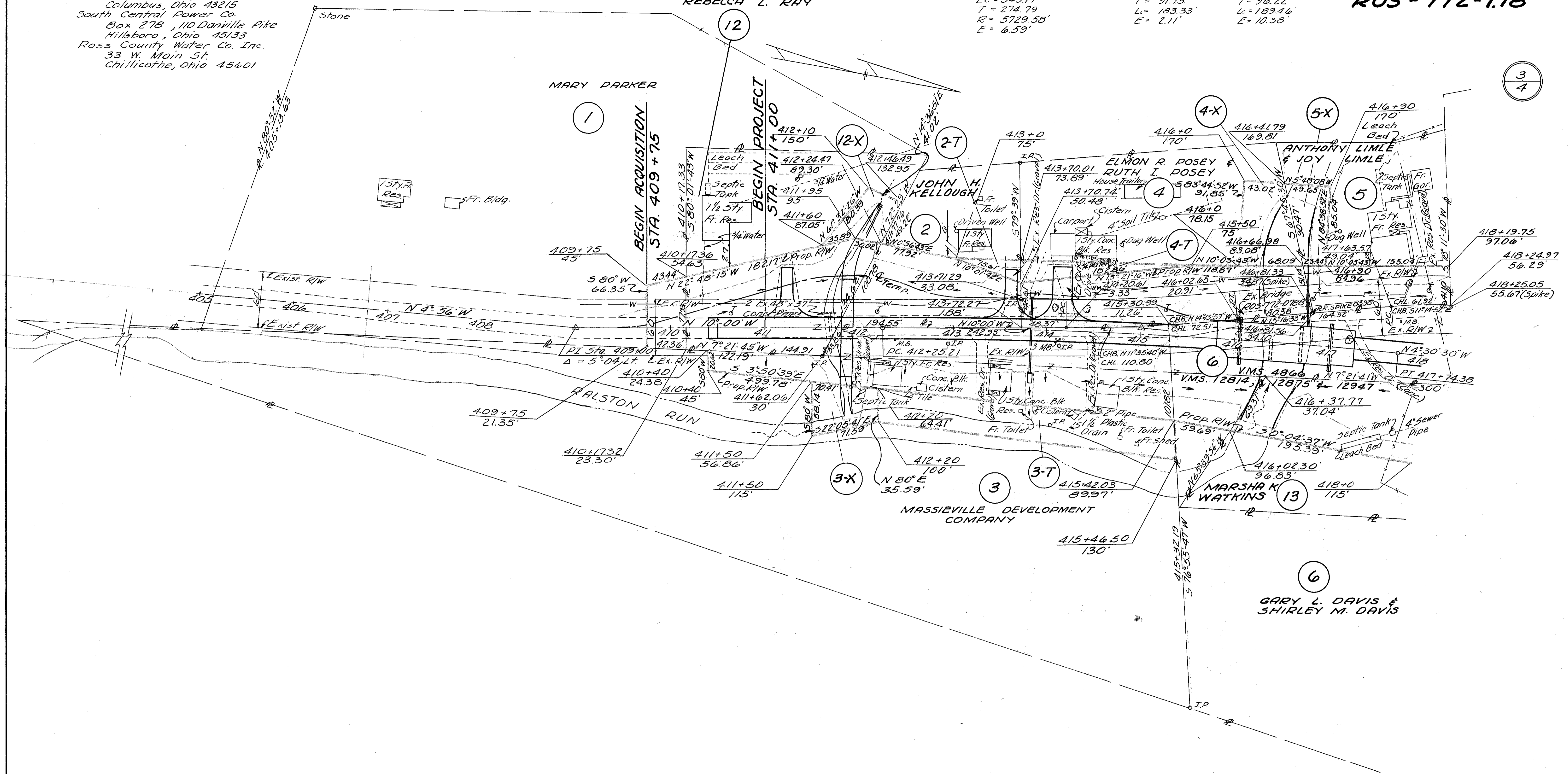
**PROP. CURVE DATA**  
 P.I. Sta 415+00.00  
 $\Delta = 5^{\circ}29'30''$  RT  
 $D_c = 1^{\circ}00'$   
 $L_c = 549.17'$   
 $T = 274.79'$   
 $R = 5729.58'$   
 $E = 6.59'$

**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)

36  
37

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



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.  
 $D_c = 13^{\circ}00'$   
 $R = 440.74'$   
 $T = 53.58'$   
 $L = 106.63'$   
 $E = 3.25'$

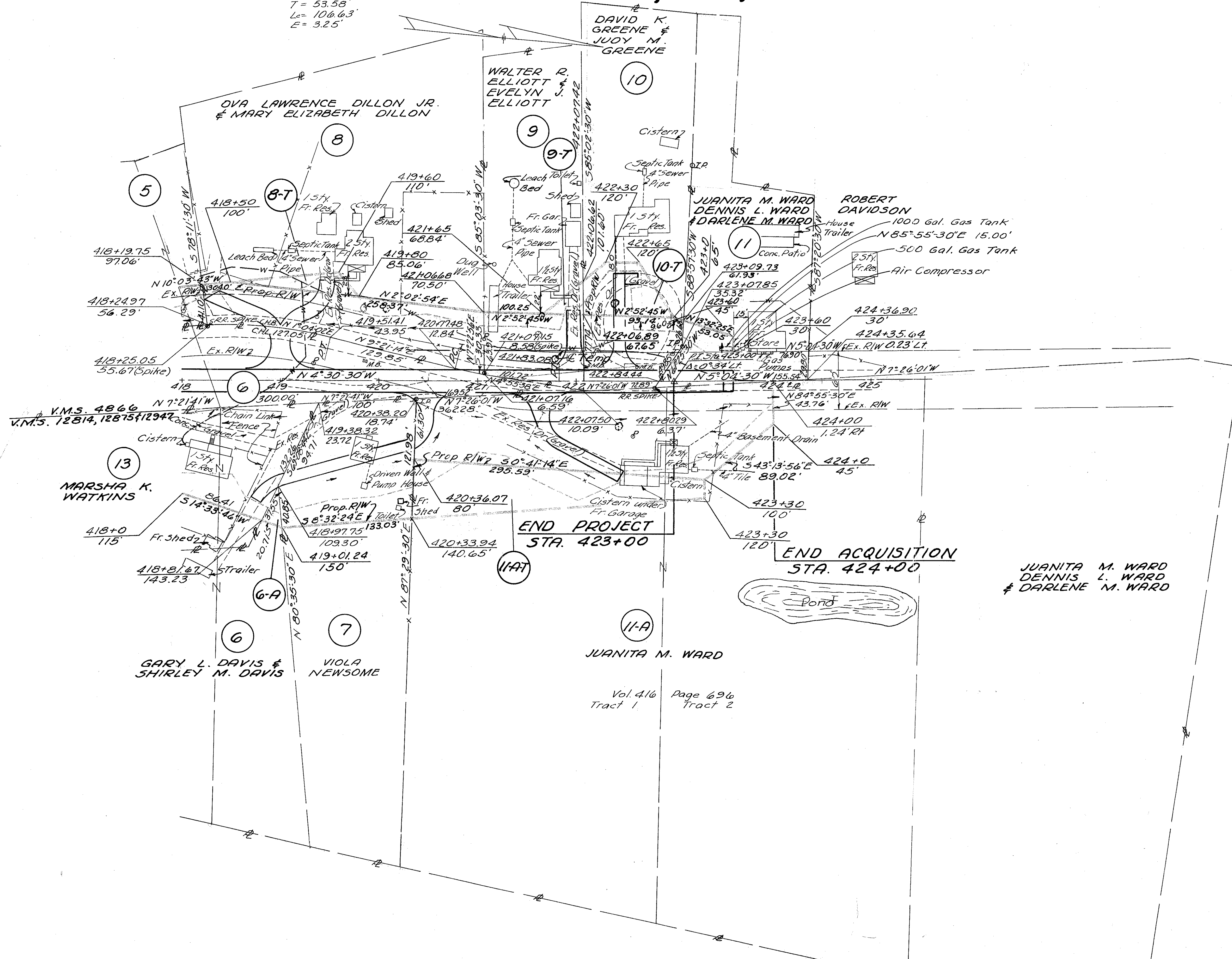
HUNTINGTON TWP.  
 V.M.S. N<sup>o</sup> 4866, 12814, 12875 & 12947

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

37  
37

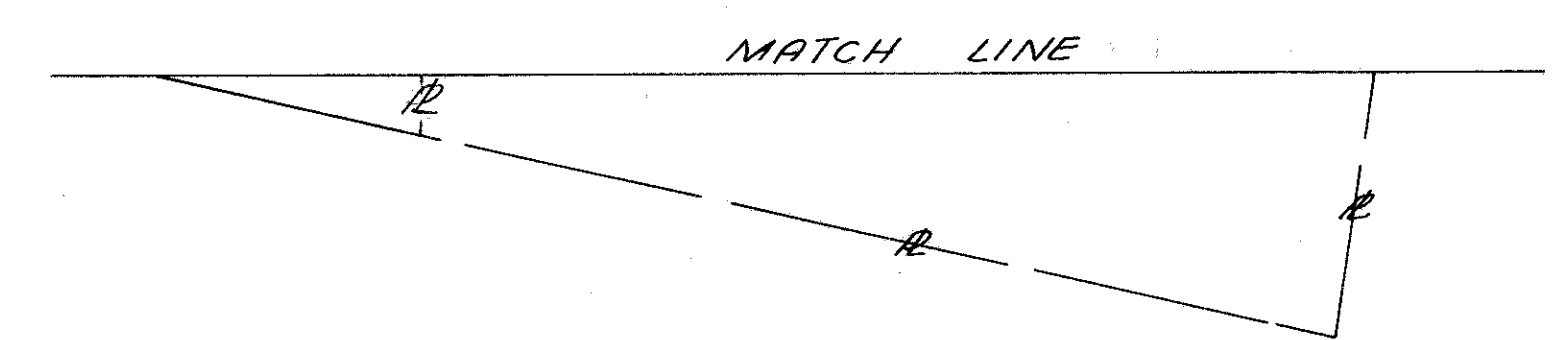
R/W PLAN  
 ROS-772-7.78

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

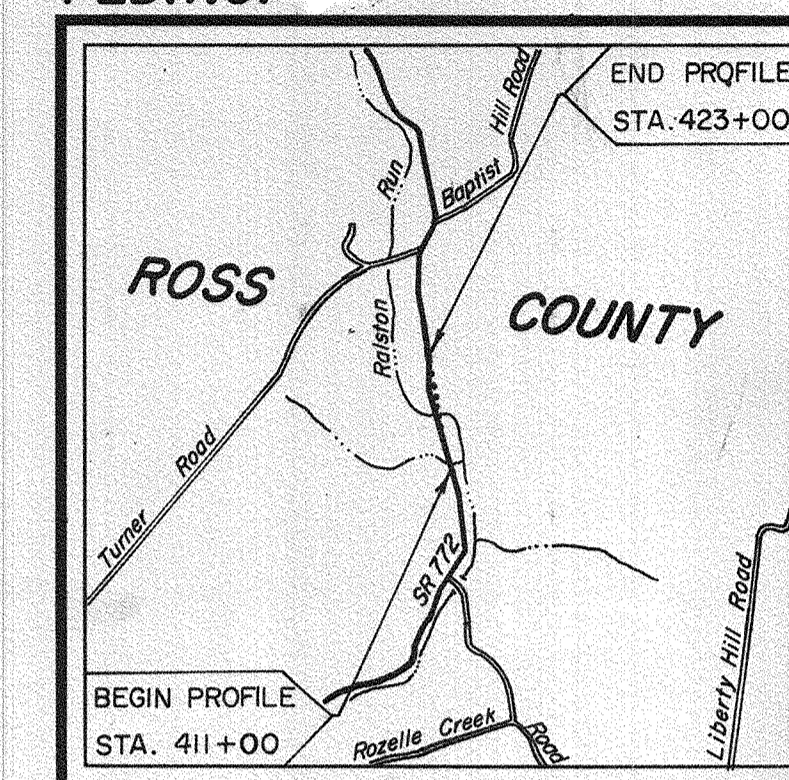
1620 W. BROAD ST. COLUMBUS, OHIO 43223

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

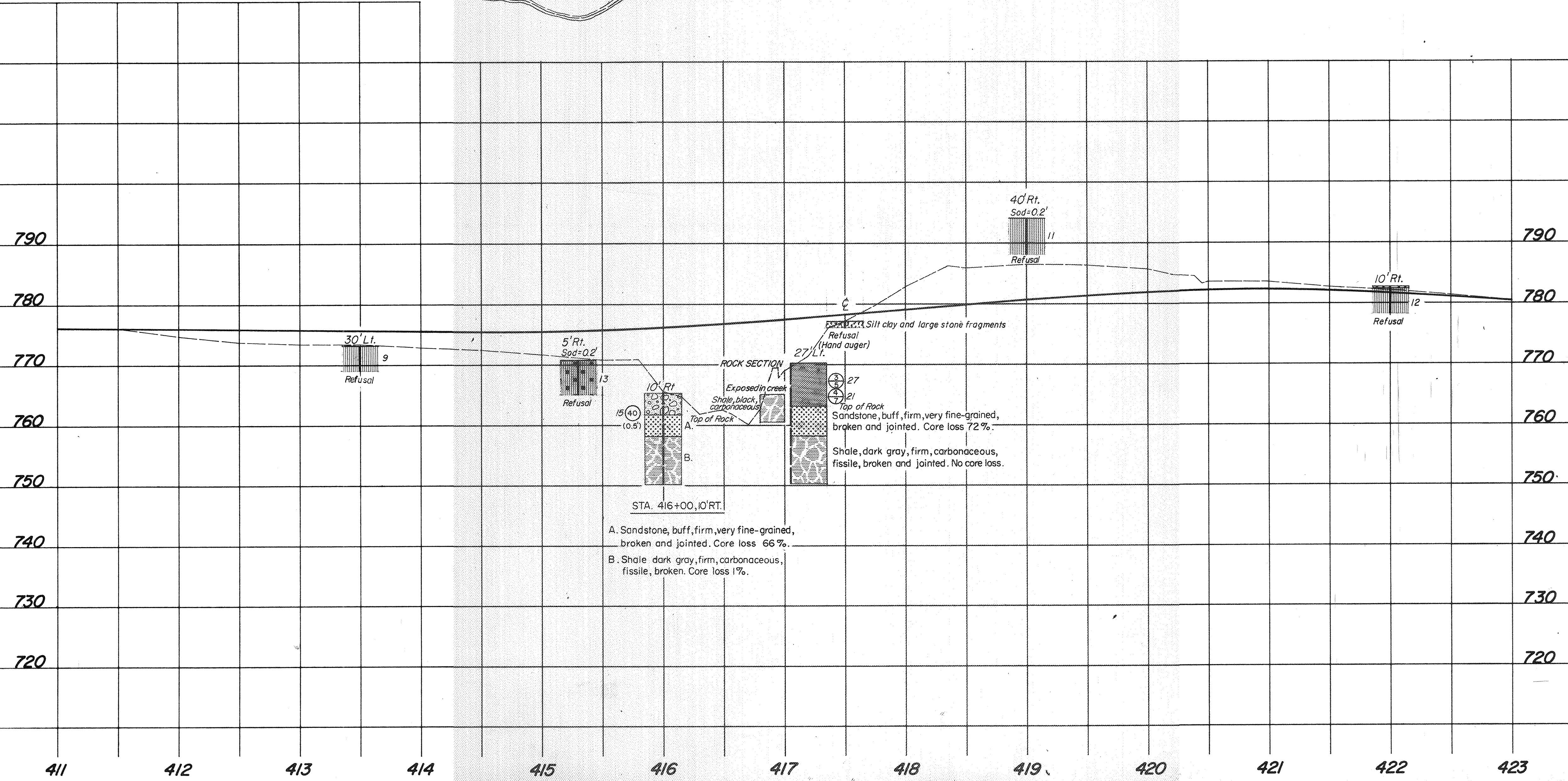
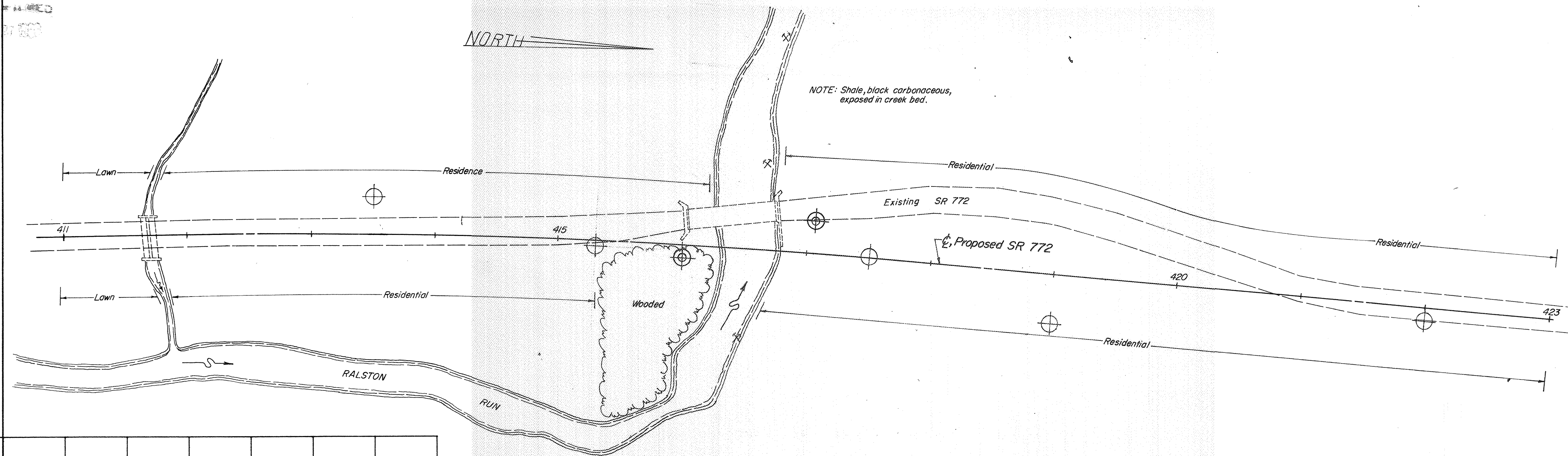
Drafting - R.A.W. - 8/29/73

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	
							L.L.	P.I.			
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	6	3	5	53	33	32	12	27	A-6a	
	5.0-6.0	26	6	5	35	28	32	13	21	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."



RECORDED  
JUN 27 1973

**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.

- 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

- Coal
- Weathered Mudstone or Claystone
- Mudstone or Claystone
- Weathered Shale
- Shale
- Weathered Siltstone
- Siltstone

**LEGEND**

- 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" <math>< 10,000</math> 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**

- 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.

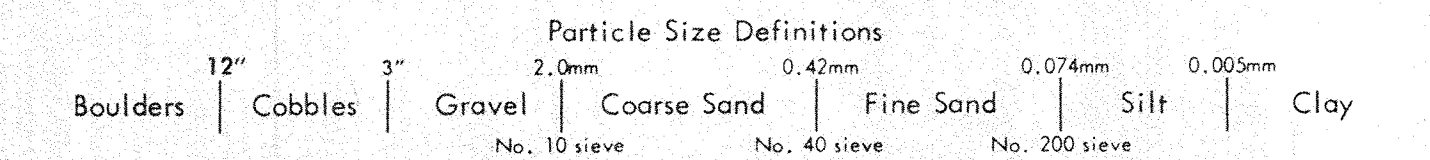
**Drive Sample Borings - Drive-Press Sample Borings**

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"  
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	LL	PI	W.C.				
765.3	0																	
762.8	2				TOP OF ROCK													
761.8	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																	
	8		2.9	1.1														
	10				SHALE, DARK-GRAY, FIRM, CARBONACEOUS, FISSILE, BROKEN. CORE LOSS: 1%													
	12																	
	14		5.0	0.0														
750.3																		

BOTTOM OF BORING

LOG OF BORING  
Date Started 8-8-73 Sampler Type SS Dia 1-3/8"  
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	LL	PI	W.C.				
770.2	0																	
767.7	2																	
	4	3/5			BROWN SILT & CLAY	1	6	3	5	53	33	32	12	27				4-6a
765.2	6																	
763.2	8	4/7			BROWN CLAY WITH SHALE FRAGMENTS	2	26	6	5	35	28	32	13	21				A-6a
	10				TOP OF ROCK													
	12		1.2	1.8	SANDSTONE, BUFF, FIRM, VERY FINE-GRAINED, BROKEN AND JOINTED. CORE LOSS: 72%													
758.2	14																	
	16		3.2	1.8														
	18				SHALE, DARK-GRAY, FIRM, CARBONACEOUS, FISSILE, BROKEN AND JOINTED. NO CORE LOSS.													
	20		5.0	0.0														

BOTTOM OF BORING

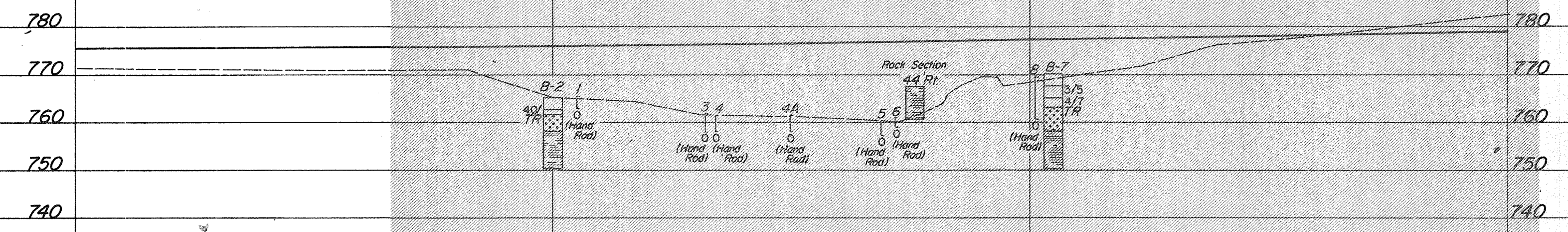
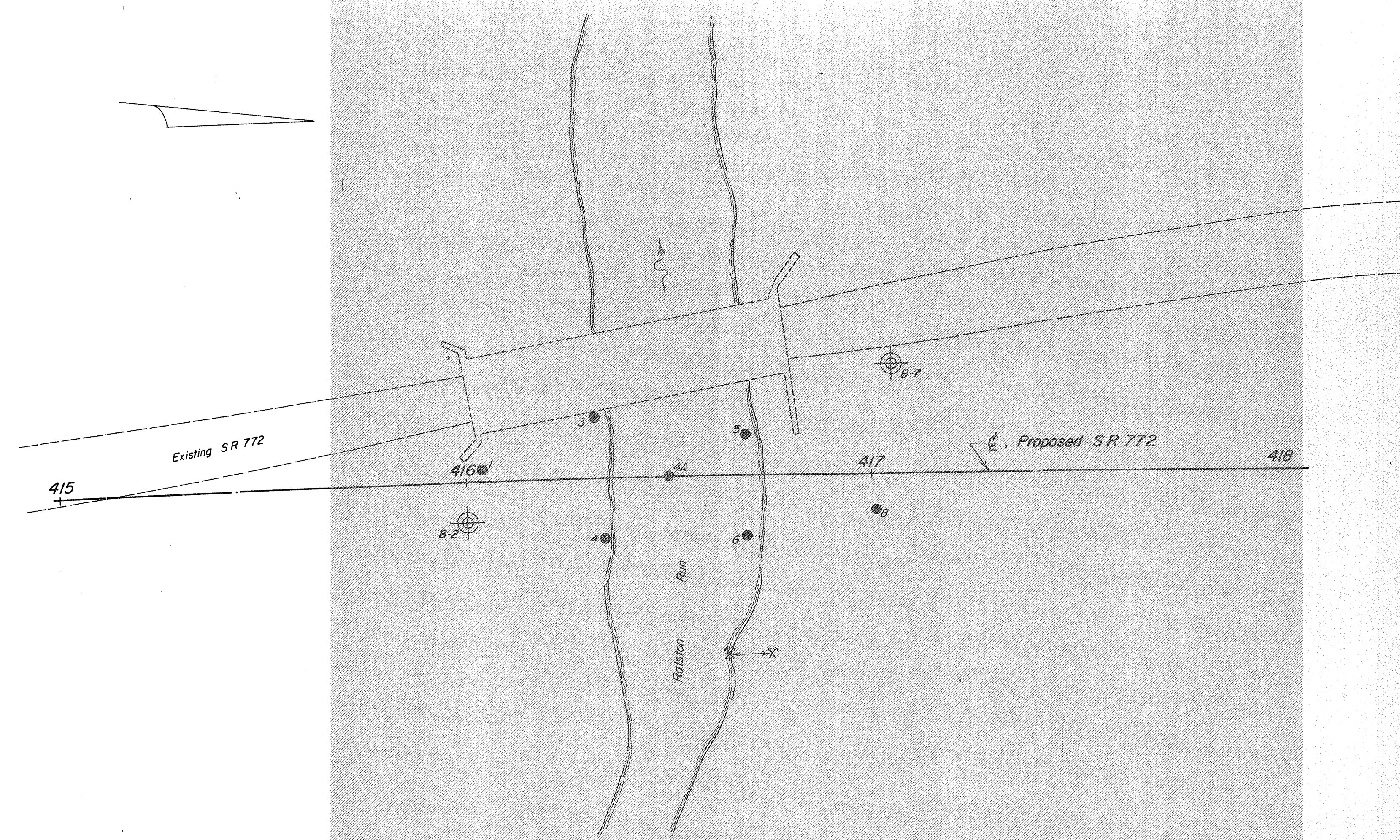
NOTE: Information shown by this subsurface investigation was obtained solely for the use in establishing design controls for the project. The State of Ohio does not guarantee the accuracy of this data and it is not to be construed as a part of the plans governing construction of the project.

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

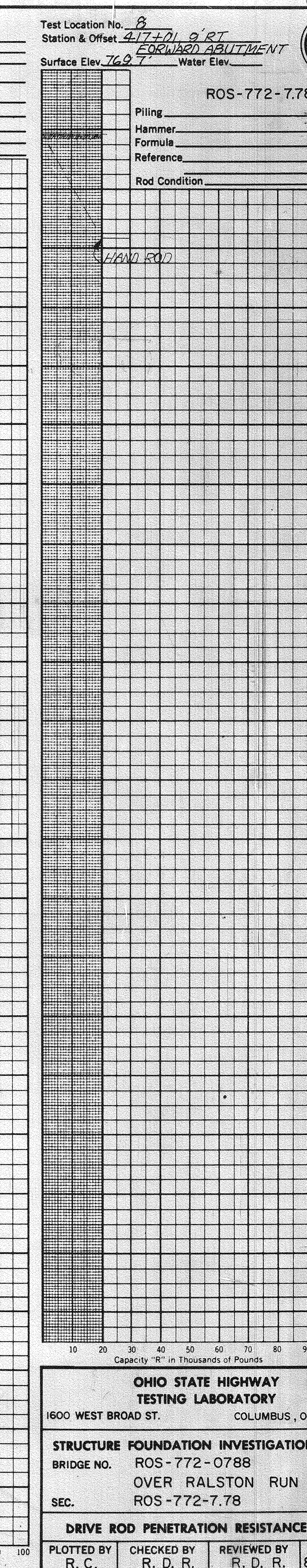
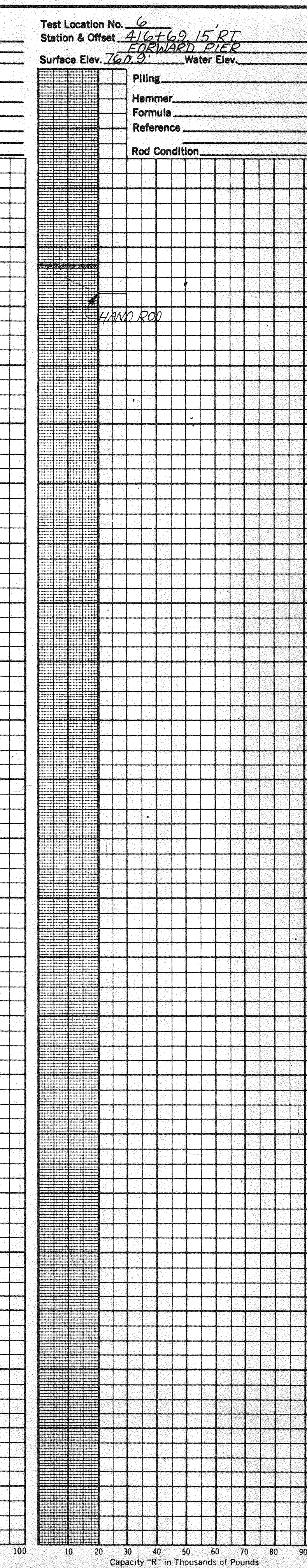
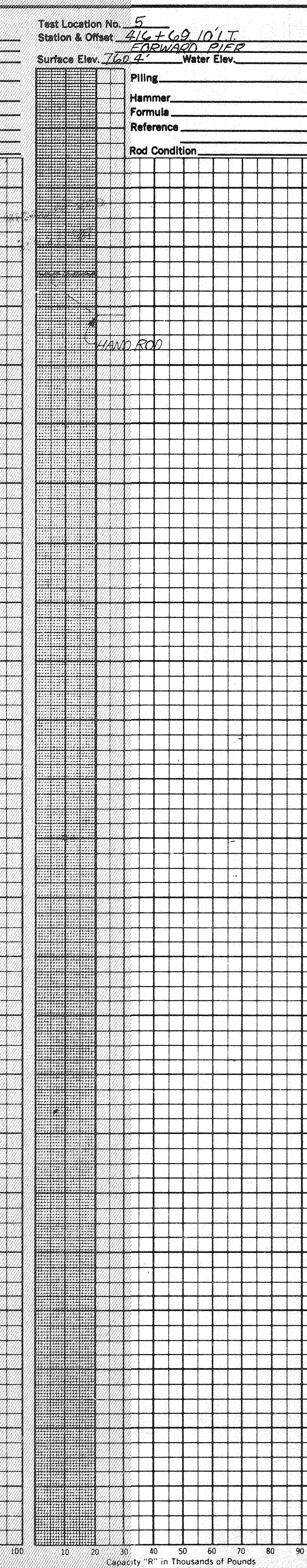
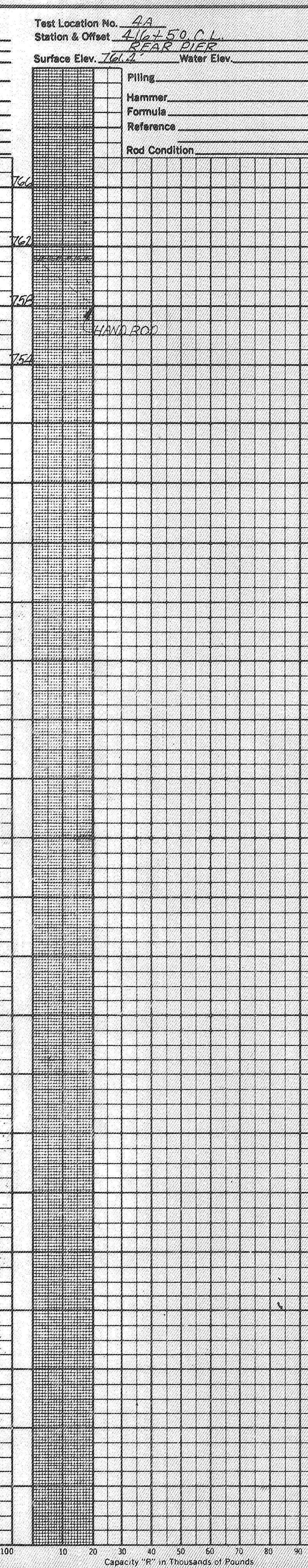
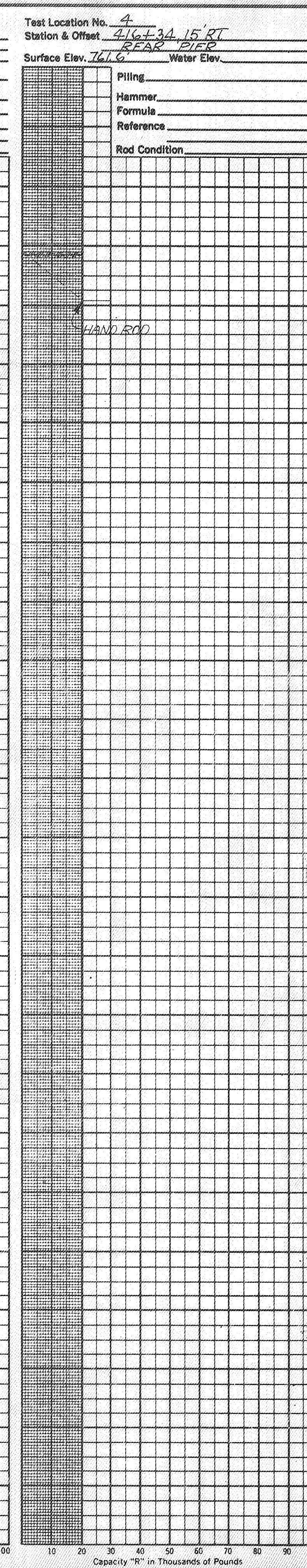
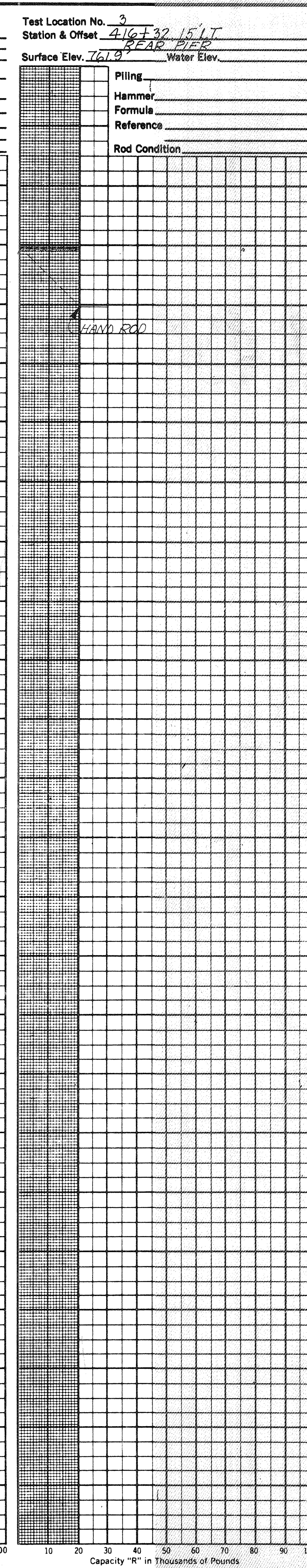
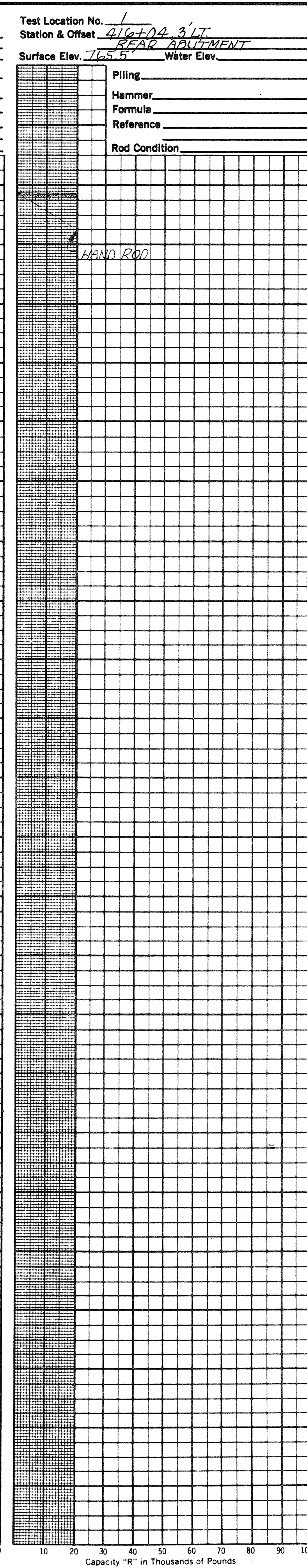
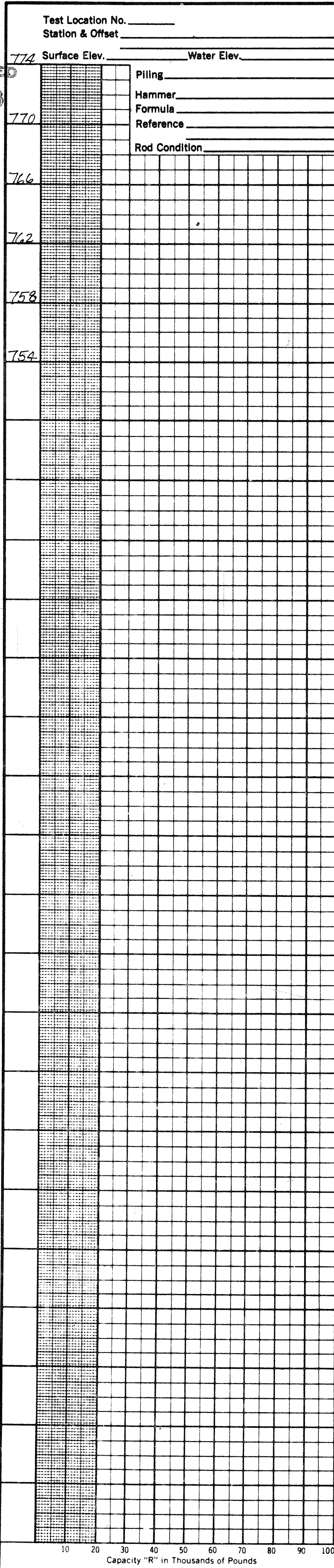
MICROFILMED  
JUN 27 1983



<b>OHIO DEPARTMENT OF HIGHWAYS</b>			
<b>TESTING LABORATORY</b>			
1600 WEST BROAD STREET, COLUMBUS, OHIO 43223			
<b>STRUCTURE FOUNDATION INVESTIGATION</b>			
BRIDGE NO.	ROS - 772-0788		
	OVER RALSTON RUN		
SEC.	ROS-772-778		
<b>PLAN AND PROFILE</b>			
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

BRIDGE B1M 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
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