HIGHWAY REMEDIAL WORK

PAINT CREEK RESERVOIR

PAINT CREEK, OHIO

FOR

STATE OF OHIO_________HIG-138-27.18

ROSS COUNTY OHIO______CO. RD. NO. I-D

HIGHLAND COUNTY OHIO___CO. RD. NO. 11-K
CO. RD. NO. 25-B
CO. RD. NO. 85-A
PAINT TWP. RD. NO. 309-B

CONVENTIONAL SIGNS

Existing Right of Way
Right of Way ——— R/W ———
Center Line
County Line
Township Line
Property Line
Pole Line Telephone Electric Combined
Pole Line (Removed by owner) Telephone Electric
Fence Line —×—×—×—×—×—
Guard Rail Construct Existing
Drain Pipe Construct Existing
Trees or Stumps to be removed Existing

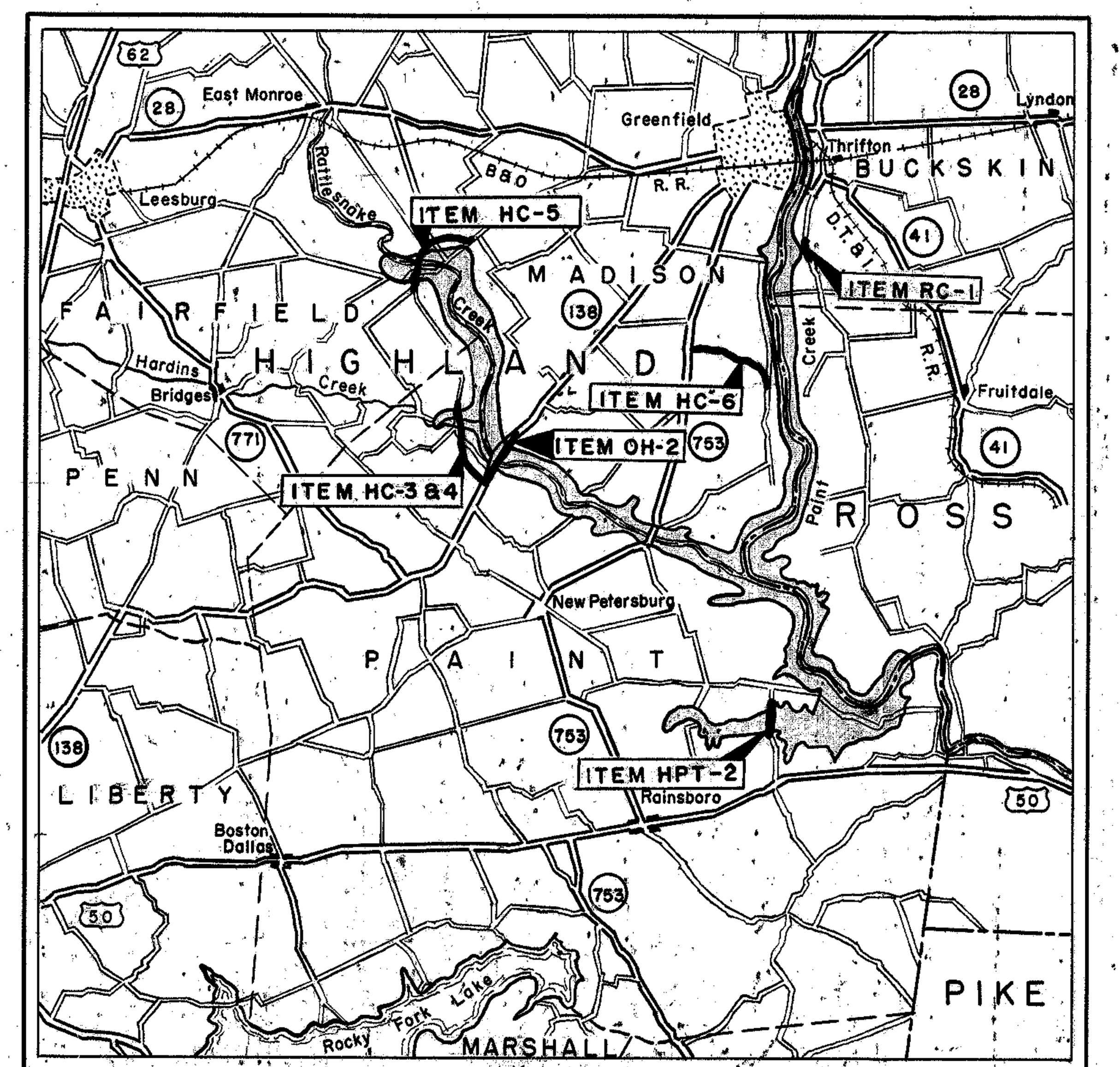
DRAWING NUMBER INDEX

GENERAL
016b-UPC4-85/1 thru 016b-UPC4-85/6
ITEM NO. OH-2 OHIO STATE ROUTE 138
016b-UPC4-85/7 thru 016b-UPC4-85/42
ITEM NO. RC-1 ROSS COUNTY ROAD 1-D
016b-UPC4-85/43 thru 016b-UPC4-85/54
ITEM NO. HC-3-4 HIGHLAND COUNTY ROAD 85-A
016b-UPC4-85/55 thru 016b-UPC4-85/111
ITEM NO. HC-5 HIGHLAND COUNTY ROAD 11-K
016b-UPC4-85/112 thru 016b-UPC4-85/176
ITEM NO. HC-6 HIGHLAND COUNTY ROAD 25-B
016b-UPC4-85/177 thru 016b-UPC4-85/210
ITEM NO. HPT-2 HIGHLAND CO., PAINT TWP. ROAD 309-B
016b-UPC4-85/211 thru 016b-UPC4-85/229
SOIL PROFILE & FOUNDATION INVESTIGATION
016b-UPC4-85/230 thru 016b-UPC4-85/271
STANDARD DRAWING
016b-UPC4-85/272 thru 016b-UPC4-85/280

INDEX OF SHEETS

HORIZONTAL & VERTICAL CONTROL

Horizontal Control is based on 1927 North American Datum
Vertical Control is based on Mean Sea Level Datum
1929 General Adjustment.



LOCATION MAP

SCALE OF MILES
0 1 2 3 4 5 6

Portion to be improved
Federal Roads
State Roads
Other Roads

LINE DATA

ITEM NO.	TITLE	LENGTH PROJECT	LENGTH WORK
OH-2	HIG-138-27.18	3025.00 L.F.	3200.00 L.F.
RC-1	ROSS CO. RD.	1461.80 L.F.	1650.00 L.F.
HC-3&4	HIGHLAND CO. RD 85-A	7064.30 L.F.	7189.30 L.F.
HC-5	HIGHLAND CO. RD 11-K	6550.00 L.F.	6700.00 L.F.
HC-6	HIGHLAND CO. RD 25-B	6890.40 L.F.	6990.40 L.F.
HPT-2	HIGHLAND CO. PAINT TWP RD. 309-B	1896.00 L.F.	1946.00 L.F. 1
	TOTALS	26,887.50 L.F.	27,675.70 L.F. 1
		or	or
		5.092 Miles	5.242 Miles

Supplemental Prints of Standard Construction Drawings

CB-2.2 A & B	6-1-65	MC-3	5-1-66	BP-5	6-1-65
GR-1	1-1-67	MC-4	6-1-65		
GR-2	6-1-65	MC-1	10-1-67		
GR-2 A	1-1-67	BP-6	6-1-65		

The right of way necessary for this improvement was provided by The United States of America.

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

STATE OF OHIO for HIG-138-27.18

Approved McLorn R. Roush Date 10-28-68
Division Deputy Director
Approved C. H. Altvater Date 10-25-68
Engineer of Bridges
Approved R. L. Catlin Date 10-24-68
Engineer of Location & Design
Approved George J. Thommen Date 10-24-68
Deputy Director of Design & Construction
Approved [illegible] Date 10-25-68
Deputy Director of Right of Way
Approved Thomas M. Major Date 10-25-68
Deputy Director of Planning & Programming
Approved [illegible] Date 10-25-68
First Assistant Director
Approved P. E. Masheter Date 10-25-68
Director of Highways

ROSS COUNTY for Ross County Road 1-D

Approved Harold M. Alexander Date 10-28-68
County Engineer
Approved Alfred Imnell Date 10-28-68
County Commissioner
Approved Emerson Brown Date 10-28-68
County Commissioner
Approved John W. Mueller Date 10-28-68
County Commissioner

HIGHLAND COUNTY for Highland County Road 11-K
Highland County Road 25-B
Highland County Road 85-A
Paint Township Road 309-B

Approved Claude W. West Date 10-29-68
County Engineer
Approved Wayne W. Fenner Date 11/4/68
County Commissioner
Approved Hugh Turner Date 11/4/68
County Commissioner
Approved Clarence Parker Date 11/4/68
County Commissioner

Stuart E. Withers
Ohio Registration P.E. #18017

REVISION	DATE	DESCRIPTION	BY
1	SEPT-72	REVISED TO WORK AS CONSTRUCTED	V.L.O.

U. S. ARMY ENGINEER DISTRICT, HUNTINGTON
CORPS OF ENGINEERS
HUNTINGTON, W. VA.

DRAWN BY:
TRACED BY:
CHECKED BY: F.H.S
SUBMITTED BY: S.E. Withers
CONSULTANT

PAINT CREEK, OHIO
PAINT CREEK RESERVOIR
REMEDIAL WORK
OHIO STATE ROUTE 138
ROSS COUNTY ROAD 1-D
HIGHLAND COUNTY ROADS 11-K, 25-B, 85-A
HIGHLAND COUNTY, PAINT TWP. RD. 309-B

RECOMMENDED: Dan B. Johnson
CHIEF ENG. DIV.
APPROVED: Maurice D. Roush
COL. C.E. DISTRICT ENGINEER
DATE: FEB 1970

BARRETT, CARGO, WITHERS & ASSOC. LTD.
CONSULTING ENGINEERS
CHILLICOTHE, OHIO

SCALE:
SPEC. NO.
DRAWING NUMBER
016b-UPC4-85/1
SHEET 1 OF 290

WORK AS CONSTRUCTED

REVISION	DATE	DESCRIPTION	BY

U. S. ARMY ENGINEER DISTRICT, HUNTINGTON
CORPS OF ENGINEERS
HUNTINGTON, W. VA.

DRAWN BY:
TRACED BY:
CHECKED BY: F.H.S.
SUBMITTED BY: S E Withers
CONSULTANT
RECOMMENDED:
CHIEF ENG. DIV.

PAINT CREEK, OHIO
PAINT CREEK RESERVOIR
HIGHWAY RELOCATIONS
VICINITY PLAN

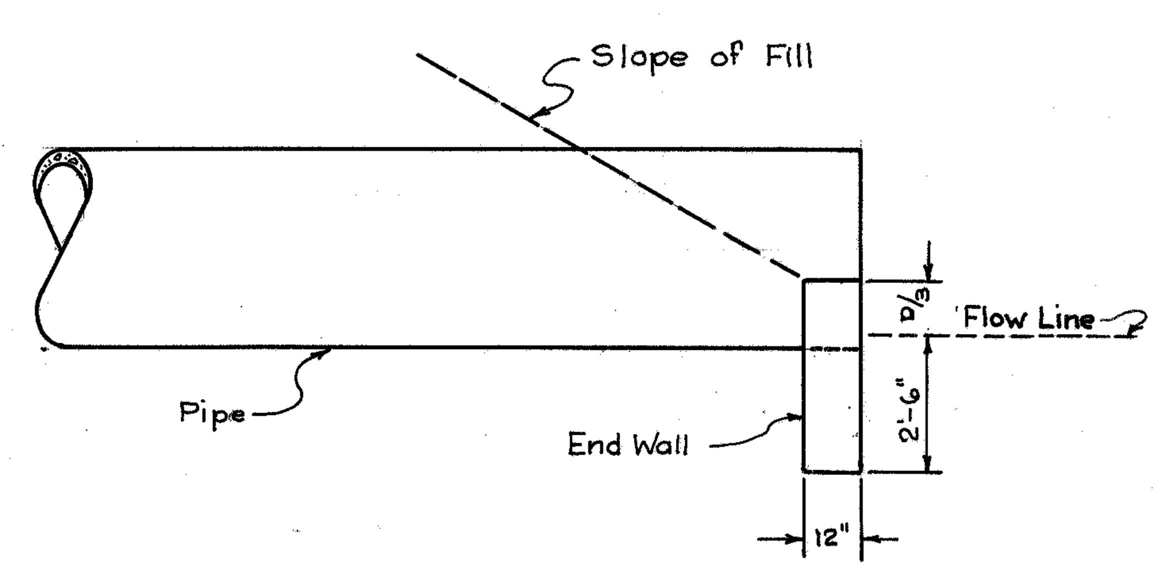
APPROVED:
COL. C.E., DISTRICT ENGINEER
DATE: FEB 1970

BARRETT, CARGO, WITHERS & ASSOC. LTD.
CONSULTING ENGINEERS
CHILLICOTHE, OHIO

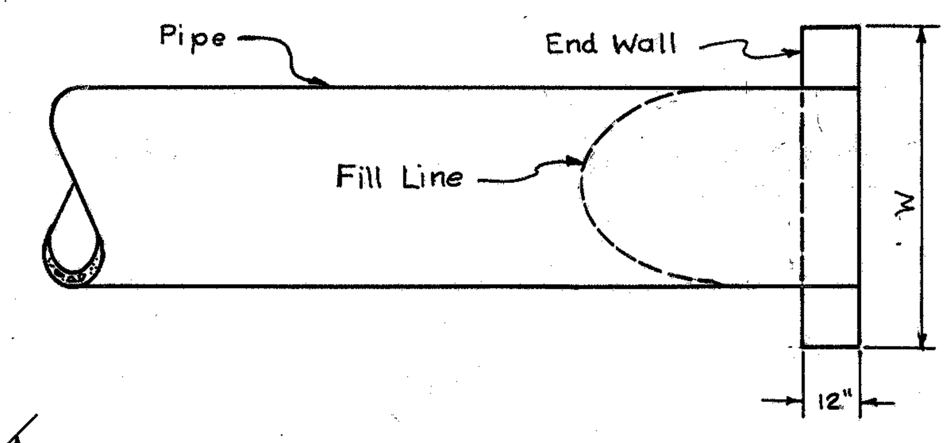
SCALE: AS SHOWN
SPEC. NO.
DRAWING NUMBER
016b-UPC4-85/2
SHEET 2 OF 290

WORK AS CONSTRUCTED

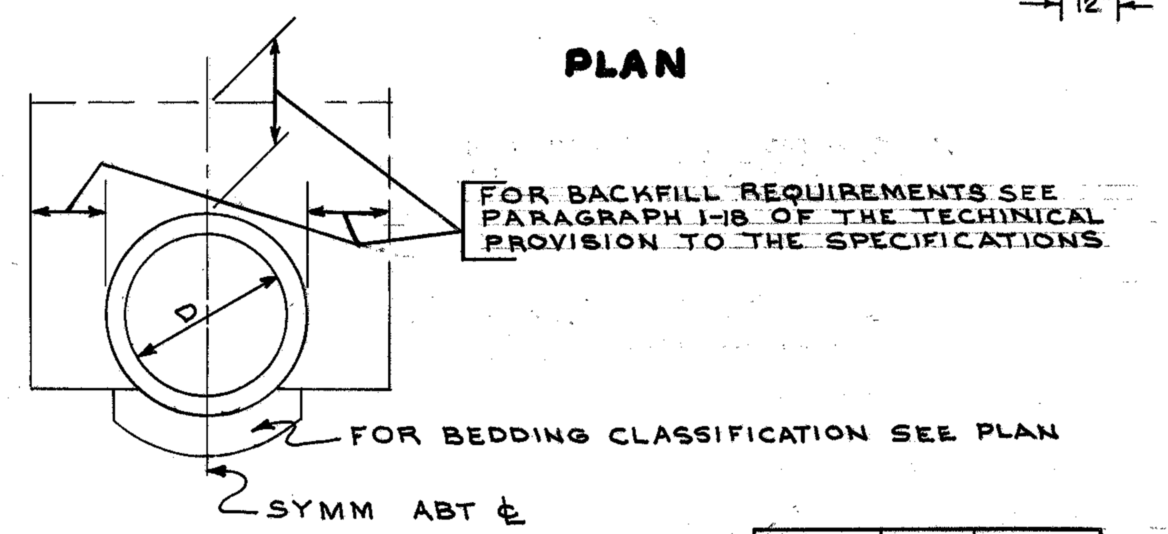
FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		



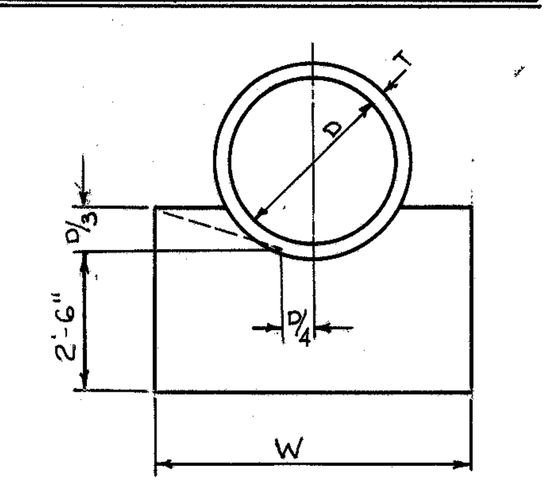
SIDE VIEW



PLAN



BACKFILL & BEDDING DETAIL

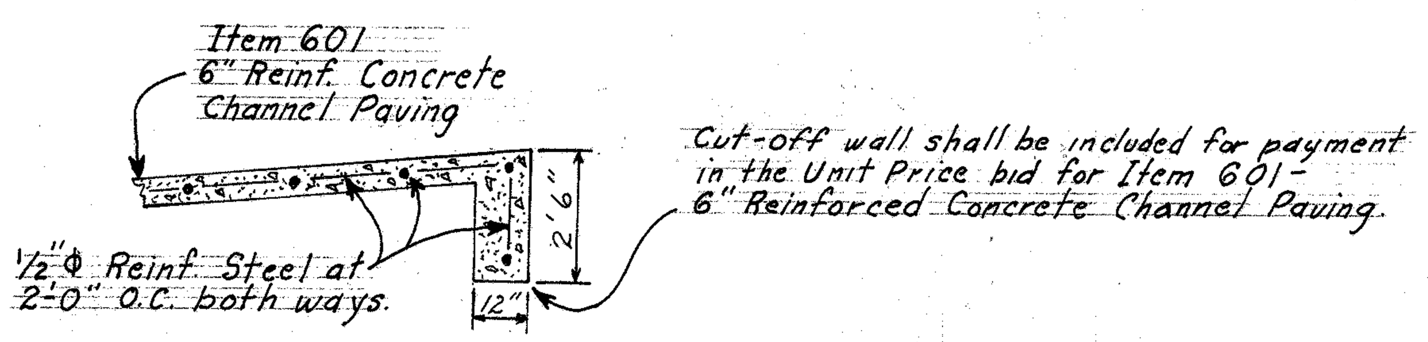


Pipe Diameter D	Width W	Concrete Cu. Yd. One End Wall
12"	2'-4"	0.23
15"	2'-8"	0.26
18"	3'-0"	0.30
21"	3'-6"	0.36
24"	4'-0"	0.41
27"	4'-6"	0.47
30"	4'-10"	0.51
33"	5'-2"	0.55
36"	5'-6"	0.59
42"	6'-10"	0.76
48"	7'-7"	0.86
54"	8'-4"	0.96

END VIEW

TYPICAL ENDWALL DETAIL

NOTE - Concrete for end walls shall be Class "C"



DETAIL OF CUTOFF WALL FOR CONCRETE CHANNEL PAVING

UNDERGROUND UTILITIES

The location of the underground utilities shown on these plans have been obtained by diligent field checks and searches of available records. It is beleved that they are essentially correct, but the Government does not guarantee their accuracy or completeness. If additional lines are encountered during construction, the Contractor shall immediately notify the Contracting Officer.

CONTRACTOR MAINTENANCE RESPONSIBILITY

The Contractors 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.

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. Those trees for which protection and preservation work are 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.

Size	Item OH-2 Trees-Stumps	Item RC-1 Trees-Stumps	Item HC-3&4 Trees-Stumps	Item HC-5 Trees-Stumps	Item HC-6 Trees-Stumps	Item HPT-2 Trees-Stumps
18"	54 - 2	8 - 0	99 - 0	77 - 1	84 - 0	25 - 0
30"	5 - 3	8 - 0	16 - 0	14 - 0	3 - 0	1 - 0
48"	1 - 0	5 - 0	5 - 0	7 - 0	0 - 0	0 - 0
60"	0 - 1	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0

The removal of additional trees or stumps outside the limits of construction but within the right of way lines may be required.

ROUNDING OF CORNERS SHOWN ON CROSS SECTIONS

The rounded corners shown on the typical sections, apply to all cross sections, even though shown otherwise on these plans.

SEEDING

Quantities for seeding are calculated for the soil area two feet beyond the work limits as shown on the cross sections.

ITEM 605 AGGREGATE DRAINS

Aggregate drains shall be placed at fifty (50') foot intervals on each side of normal crowned sections and at twenty-five (25') foot interval on the low side of superelevated sections.
An aggregate drain shall be placed at the low point of each sag vertical curve.

MAINTENANCE OF TRAFFIC

Two way traffic shall be maintained at all times by use of the existing pavement, the proposed pavement, or temporary roadways surfaced with Item 410 Aggregate and stabilized with Item 616 Calcium Chloride, unless otherwise noted below.

The limits and duration of use of temporary roadways shall be held to a minimum, and in all cases shall be subject to approval of the Contracting Officer.

Special Considerations —

ITEM OH-2 Note should be made that traffic from the existing route to County Road # 85A shall be maintained until relocated Co. Rd. # 85-A is completed and open to traffic from Station 0+00 to Station 37+00.

ITEM HC-3&4 Note should be made that the maintenance of traffic must be correlated with Item OH-2, State Route 138. See Item OH-2 above.

ITEM HC-5 In the village of Centerfield, one-way traffic will be permitted during normal working hours. The work shall be open to two-way traffic during other than working hours.

Quantities of Aggregate & Chloride for maintaining traffic on the temporary roadways are established on the respective projects where applicable.

SPECIAL LIMITATIONS ON EMBANKMENT MATERIAL AT BRIDGE ABUTMENTS

Special limitations are applicable to the fill material to be placed within the following areas:

ITEM OH-2 , S.R. 138 Sta. 1444+50 to Sta. 1451+50
ITEM HC-3&4, C.R. 85-A Sta. 46+00 to Sta. 52+00
ITEM HC-5 C.R. 11-K Sta. 6+50 to Sta. 11+00

The special limitations are established as follows:

40 % OR LESS PASSING A NO. 200 SIEVE.

(CONTINUED)

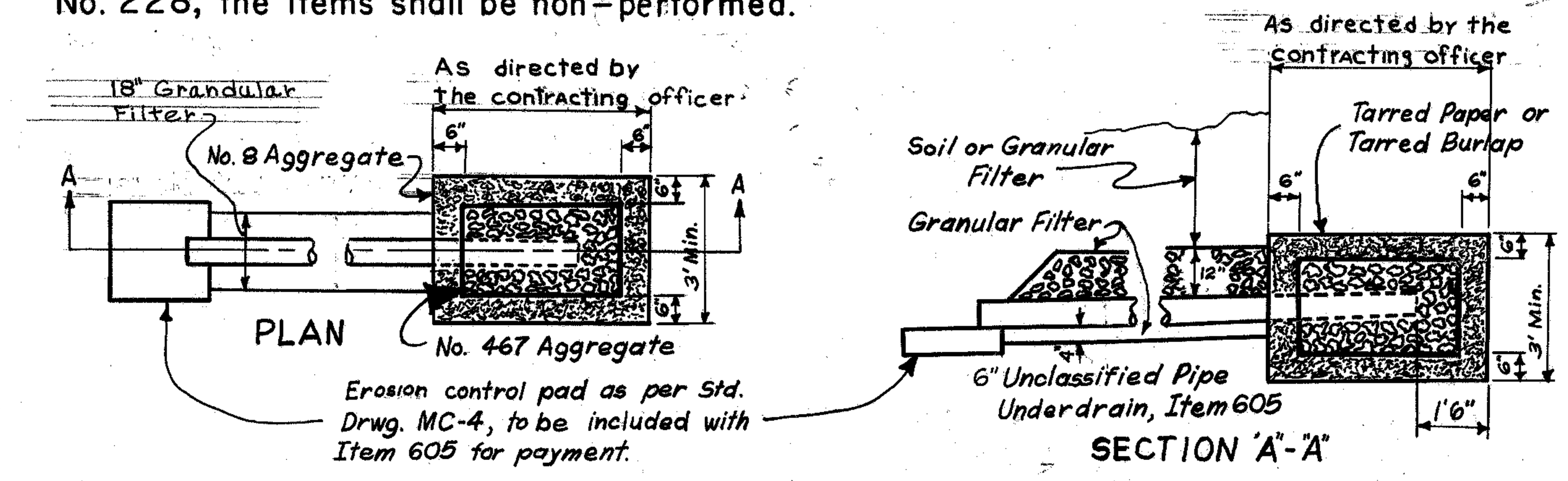
SPRING DRAINS

Any spring or spring area encountered within the roadway limits during construction shall be drained as per the following detail except as otherwise shown on sheet No. 228.

The following estimated quantities have been included in the general summary for this purpose.

Item 605 – 6" Unclassified Pipe Underdrain, 707.06 or 707.12 as per plan ---- 100 L.F.
Item 605 – Aggregate Drain for Springs, as per plan ---------------------- 30 L.F.

The Contractors shall not order materials for "Spring Drains" until authorized by the Contracting Officer. In the event no springs are encountered, other than shown on sheet No. 228, the items shall be non-performed.



Aggregates, tarred paper or tarred burlap, and necessary excavation for spring drains shall be included for payment in the unit price per linear foot for "Item 605 Aggregate Drains for Springs, as per plan."

The 6" pipe shall be covered with a granular filter [605.03(C)]. The remainder of the backfill for this item shall be granular filter or soil placed in accordance with 603.08.

SPECIAL LIMITATIONS ON EMBANKMENT MATERIAL AT BRIDGE ABUTMENTS

The Contractors may obtain the suitable material at the above locations with the direction and approval of the Contracting Officer.

No separate payment will be made for borrow with the above limitations. Payment will be included in Item 203 Borrow.

The Geometrics for Item OH-2 have been planned for a design speed of 50 miles per hour. All other projects have been planned for 45 miles per hour.

The Contractor shall notify the affected property owners at least fifteen (15) days prior to the removal of any fences within the construction limits.

Existing utilities within the work area are to be relocated by the utility companies.

NOTE:
Requirements on this drawing apply to "As Constructed."

REVISION	DATE	DESCRIPTION	BY

U. S. ARMY ENGINEER DISTRICT, HUNTINGTON
CORPS OF ENGINEERS
HUNTINGTON, W. VA.

DRAWN BY: R.D.
TRACED BY:
CHECKED BY: ESW
SUBMITTED BY: [signature] CONSULTANT
RECOMMENDED:
CHIEF ENG. DIV.

PAINT CREEK, OHIO
PAINT CREEK RESERVOIR
HIGHWAY RELOCATIONS

GENERAL NOTES AND TYPICAL DETAILS

APPROVED: COL. C.E. DISTRICT ENGINEER
DATE: FEB 1970

BARRETT, CARGO, WITHERS & ASSOC., LTD.
CONSULTING ENGINEERS
CHILLICOTHE, OHIO

SCALE: SPEC. NO.
DRAWING NUMBER 016b-UPC4-85/3
SHEET 3 OF 290

WORK AS CONSTRUCTED

FED. RD. DIVISION	STATE	PROJECT
2	OHIO	

PAVEMENT CALCULATIONS

ITEM OH-2 HIG-138-27.18

Net Length of Typical Sections = 1721.00 + 975.00 = 2696.00 Lin. Ft.

Item 404 - 2696 x 20 x 1/9 x 5/144 = 208.02 Cu. Yds.
Item 402 - 2696 x 20 x 1/9 x 7/144 = 291.23 Cu. Yds.
Item 304 - 2696 x 21 x 1/9 x 6/36 = 1,048.44 Cu. Yds.
Item 408 - 2696 x 21 x 1/9 x 0.4 = 2,516.27 Gals.
Item 310 - 2745 x 22 x 1/9 x 6/36 = 1,118.33 Cu. Yds. } Includes Approach Slab
Item 605 - 2745 ÷ 25 x 12 (Avg.) = 1317.60 Lin. Ft. }
Item 611 - 25 x 20 x 1/9 x 2 = 111.11 Sq. Yds.
Item 203 - 2696 x 20 x 1/9 = 5992 Sq. Yds.

ITEM RC-1 ROSS COUNTY ROAD No. 1-D

Net Length of Typical Sections = 886.60 + 525.00 = 1,411.80 Lin. Ft.
Taper 17' to 18' in 50' (Equivalent Length of 18' Width) = 48.61 Lin. Ft.
TOTAL = 1,460.41 Lin. Ft.

Item 404 - 1460.41 x 18 x 1/9 x 5/144 = 121.70 Cu. Yds.
Item 304 - 1460.41 x 19.333 x 1/9 x 8/36 = 697.14 + 16 (Drives) = 713.14 Cu. Yds.
Item 408 - 1460.41 x 19.333 x 1/9 x 0.4 = 1,254.85 Gals.
Item 605 - 1460.41 ÷ 25 x 7.25 (Avg.) = 423.52 Lin. Ft.
Item 203 - 1460.41 x 18 x 1/9 = 2,921 Sq. Yds.

ITEM HC-3 & 4 HIGHLAND COUNTY ROAD No. 85-A

Net Length of Typical Sections = 3072.00 + 3625.00 + 75.30 = 6,772.30 Lin. Ft.
Taper 20' to 19' in 25' (Equivalent 20' Width) = 24.37 Lin. Ft.
TOTAL = 6,796.67 Lin. Ft.

Item 404 - 6796.67 x 20 x 1/9 x 5/144 = 629.32 Cu. Yds.
Item 304 - 6796.67 x 21.333 x 1/9 x 8/36 = 3,580.08 + 108 (Drives) = 3688 Cu. Yds.
Item 408 - 6796.67 x 21.333 x 1/9 x 0.4 = 6,444.15 Gals.
Item 605 - 6796.67 ÷ 25 x 7.25 (Avg.) = 1,971.03 Lin. Ft.
Item 611 - 25 x 20 x 1/9 x 2 = 111.11 Sq. Yds.
Item 203 - 6796.67 x 20 x 1/9 = 15,104 Sq. Yds.

Add for Intersection with S.R. 138
Item 404 = 6.99 Cu. Yds.
Item 304 = 38.13 Cu. Yds.
Item 408 = 68.63 Gals.
Item 203 = 168 Sq. Yds.

Add for T.R. #395-A Approach
0+10 to 1+82.33 = 172.33 Lin. Ft.
Taper 20' to 14' in 75' (Equivalent 20' Width) = 63.75 Lin. Ft.
TOTAL = 236.08 Lin. Ft.

Item 404 - 236.08 x 20 x 1/9 x 5/144 = 21.86 Cu. Yds.
Item 304 - [(236.08 x 21.333) - (120 x .666)] 1/9 x 8/36 = 122.38 Cu. Yds.
Item 408 - [(236.08 x 21.333) - (120 x .666)] x 1/9 x 0.4 = 220.28 Gals.
Item 605 - 236.08 ÷ 25 x 7.25 (Avg.) = 68.46 Lin. Ft.
Item 203 - 236.08 x 20 x 1/9 = 525 Sq. Yds.

Add for Intersection T.R. #395-A with C.R. #85-A
Item 404 = 4.97 Cu. Yds.
Item 304 = 25.80 Cu. Yds.
Item 408 = 46.42 Gals.
Item 203 = 120 Sq. Yds.

RECAP - ITEM HC-3 & 4

ITEM NO.	404	304	408	605	611	203
Typical Section	629.32	3688.08	6444.15	1971.03	111.11	15,104
Inter. with S.R. #138	6.99	38.13	68.63			168
T.R. #395 Approach	21.86	122.38	220.28	68.46		525
Inter. with C.R. #85-A	4.97	25.80	46.42			120
TOTALS	663.14 C.Y.	3891.39 C.Y.	6779.48 Gal.	2039.49 L.F.	111.11 S.Y.	15,917 S.Y.

ITEM HC-5 HIGHLAND COUNTY ROAD No. 11-K

Net Length of Typical Section 1726.71 + 4354.21 = 6080.92 Lin. Ft.
Taper 16' to 20' in 40' (Equivalent 20' Width) = 36.00 Lin. Ft.
Taper 20' to 16' in 50' (Equivalent 20' Width) = 45.00 Lin. Ft.
TOTAL = 6161.92 Lin. Ft.

Item 404 - 6161.92 x 20 x 1/9 x 5/144 = 475.46 Cu. Yds.
Item 402 - 6161.92 x 20 x 1/9 x 7/144 = 665.64 Cu. Yds.
Item 304 - 6161.92 x 21 x 1/9 x 6/36 = 2396.30 + 25 (Drives) = 2421.30 Cu. Yds.
Item 408 - 6161.92 x 21 x 1/9 x 0.4 = 5751.13 Gals.
Item 310 - 6259.92 x 22 x 1/9 x 6/36 = 2550.34 Cu. Yds. } Includes Approach Slabs
Item 605 - 6259.92 ÷ 25 x 7.25 (Avg.) = 1815.38 Lin. Ft. }
Item 611 - 25 x 20 x 1/9 x 4 = 222.22 Sq. Yds.
Item 203 - 6161.92 x 20 x 1/9 = 13,693 Sq. Yds.

ITEM HC-5 (Continued)

Add for T.R. # 376-A Approach
Surface Area = 515 Sq. Yds.
Item 404 - 515 S.Y. x 5/144 = 17.88 Cu. Yds.
Item 402 - 515 S.Y. x 7/144 = 25.03 Cu. Yds.
Item 304 - (515+19) S.Y. x 6/36 = 89.00 Cu. Yds.
Item 408 - (515+19) S.Y. x 0.4 = 213.16 Gals.
Item 310 - (515+19+19) S.Y. x 6/36 = 92.17 Cu. Yds.
Item 605 - 200 ÷ 25 x 7.25 (Avg.) = 58.00 Lin. Ft.
Item 203 - = 515 Sq. Yds.

RECAP ITEM HC-5

ITEM NO.	404	402	304	408	310	611	605	203
Typical Section	475.46	665.64	2421.30	5751.13	2550.34	222.22	1815.38	13,693
T.R. #376-A Approach	17.88	25.03	89.00	213.60	92.17		58.00	515
TOTALS	493.34 C.Y.	690.67 C.Y.	2510.30 C.Y.	5964.73 Gal.	2642.51 C.Y.	222.22 S.Y.	1873.38 L.F.	14,208 S.Y.

ITEM HC-6 HIGHLAND COUNTY ROAD No. 25-B

Net Length of Typical Section 3113.50 + 3675.00 + 51.90 = 6840.40 Lin. Ft.
Taper 18' to 15' in 50' (Equivalent 18' Width) = 45.83 Lin. Ft.
TOTAL = 6886.23 Lin. Ft.

Item 404 - 6886.23 x 18 x 1/9 x 6/144 = 573.85 Cu. Yds.
Item 304 - 6886.23 x 19.333 x 1/9 x 8/36 = 3287.20 + 84 (Drives) = 3371.20 Cu. Yds.
Item 408 - 6886.23 x 19.333 x 1/9 x 0.4 = 5916.95 Gals.
Item 605 - 6886.23 ÷ 25 x 7.25 (Avg.) = 1997.01 Lin. Ft.
Item 203 - 6886.23 x 18 x 1/9 = 13,773 Sq. Yds.

Add for Intersection with S.R. 753
Item 404 = 4.97 Cu. Yds.
Item 304 = 27.43 Cu. Yds.
Item 408 = 49.38 Gals.
Item 203 = 120 Sq. Yds.

Add for Approach Lt. ℄ Sta. 62+93.5
Item 404 = 9.94 Cu. Yds.
Item 304 = 55.43 Cu. Yds.
Item 408 = 99.78 Gals.
Item 605 = 28.13 Lin. Ft.
Item 203 = 239 Sq. Yds.

RECAP ITEM HC-6

ITEM NO.	404	304	408	605	203
Typical Section	573.85	3371.20	5916.95	1997.01	13,773
Intersection with S.R. 753	4.97	27.43	49.38		120
Approach	9.94	55.43	99.78	28.13	239
TOTAL	588.76 C.Y.	3454.06 C.Y.	6066.11 Gal.	2025.14 L.F.	14,132 S.Y.

ITEM HPT-2 PAINT TOWNSHIP ROAD No. 309-B

Net Length of Typical Section 550.00 + 1000.00 = 1550.00 Lin. Ft.
Taper 12' to 20' in 100' (Equivalent 20' Width) = 80.00 Lin. Ft.
Taper 20' to 12' in 100' (Equivalent 20' Width) = 80.00 Lin. Ft.
TOTAL = 1710.00 Lin. Ft.

Item 404 - 1710.00 x 20 x 1/9 x 6/144 = 158.33 Cu. Yds.
Item 304 - 1710.00 x 21.333 x 1/9 x 8/36 = 900.73 Cu. Yds.
Item 408 - 1710.00 x 21.333 x 1/9 x 0.4 = 1621.33 Gals.
Item 605 - 1710.00 ÷ 25 x 7.25 (Avg.) = 495.90 Lin. Ft.
Item 203 - 1710.00 x 20 x 1/9 = 3800 Sq. Yds.

EARTHWORK & SEEDING

See Sheet No.	ITEM NUMBER LOCATION etc.	203 Excavation including Embankment Construction	Embankment	Embankment +15%	203 Borrow	659 Seeding & Mulching	659 Commercial Fertilizer (12-12-12)	659 Agricultural Liming
		Cu. Yds.	Cu. Yds.	Cu. Yds.	Cu. Yds.	Sq. Yds.	Tons	Tons
	ITEM OH-2							
13	Sta. 1434+00 to Sta. 1447+13	11,155	94,916			16,881		
18	Sta. 1448+27 to Sta. 1466+00	14,836	183,958			30,658		
26	Channel Sta. 5+50 to Sta. 23+00	52,197	0			1,031		
7	Obliterating Roadway					19,500		
	Total OH-2	78,188	278,874	321,338	243,150	68,070	6.2	30.7
	ITEM RC-1							
47	Sta. 7+00 to Sta. 21+61.80	18,792	19,735			13,784		
46	Old Roadbed					3,000		
	Total RC-1	18,792	19,735	22,695	3,903	16,784	1.6	7.6
	ITEM HC-3&4							
65	Sta. 0+10.70 to Sta. 48+66	74,031	90,558			46,808		
83	Sta. 49+45 to Sta. 70+75	9,632	122,782			26,202		
95	Channel Sta. 4+40 to Sta. 19+50	23,353	430			1,840		
	Total HC3&4	107,016	213,770	245,836	139,366	74,850	6.8	33.7
	ITEM HC-5							
122	Sta. 2+50 to Sta. 8+19	982	9,792			5,221		
126	Sta. 9+21 to Sta. 43+10	24,871	64,194			33,533		
138	Sta. 43+51.5 to Sta. 68+50	30,580	8,045			18,359		
151	Twp. Rd. 376 Sta. 0+10.87 to Sta. 2+10	42	359			479		
155	Channel Sta. 7+90 to Sta. 11+38.5	642	0			0		
157	Channel Sta. 9+04 to Sta. 11+50	102	0			0		
153	Culvert Sta. 49+00	44	0			0		
	Total HC-5	57,263	82,390	94,749	37,486	57,592	5.2	25.9
	ITEM HC-6							
187	Sta. 0+09.60 to Sta. 70+00	24,759	21,557			43,099		
206	Culvert Sta. 48+41	133	43			0		
207	Culvert Sta. 61+17	77	0			0		
	Total HC-6	24,969	21,600	24,840	0	43,099	3.9	19.4
	ITEM HPT-2							
215	Sta. 12+00 to Sta. 31+00	13,674	32,785			18,988		
	Total HPT-2	13,674	32,785	37,703	24,029	18,988	1.7	8.5
	Grand Total	299,902		747,161	447,934	278,383	25.4	125.8

U. S. ARMY ENGINEER DISTRICT, HUNTINGTON
CORPS OF ENGINEERS
HUNTINGTON, W. VA.

DRAWN BY: J.C.E.
TRACED BY:
CHECKED BY: SCW
SUBMITTED BY: S.E. Withers, CONSULTANT
RECOMMENDED
CHIEF ENG. DIV.

PAINT CREEK, OHIO
PAINT CREEK RESERVOIR
HIGHWAY RELOCATIONS
PAVEMENT CALCULATIONS
EARTHWORK & SEEDING

APPROVED
COL., C.E. DISTRICT ENGINEER
DATE: 1 FEB 1970

BARRETT, CARGO, WITHERS & ASSOC. LTD.
CONSULTING ENGINEERS
CHILLICOTHE, OHIO

SCALE:
SPEC. NO.
016b-UPC4-85/4
SHEET 4 OF 290

WORK AS CONSTRUCTED

SUMMARY OF QUANTITIES & GENERAL SUMMARY ①

FED. RD. DIVISION	STATE	PROJECT
2	OHIO	

			OH-2				RC-1		HC-3 & 4											HC-5										HC-6											HPT-2				ITEM NO.	ITEM	FINAL QUANTITY	UNIT	DESCRIPTION
3	4	7	9	10	11	12	46	53	57	58	59	60	61	62	63	90	91	92	93	114	115	116	117	118	119	120	152	153	154	179	180	181	182	183	184	185	204	205	206	207	213	214	227	228	SHEET NO.				
																																																	ROADWAY
			Lump				Lump						Lump											Lump										Lump								Lump				201	Lump	Lump	Clearing and Grubbing
			57	32	26		113								44					246						21				26	54										19					202	629	Lin.Ft.	Pipe Removed 24" and Under
																														19																202	19	Lin.Ft.	Pipe Removed Over 24"
				970	2055																																									202	3003	Lin.Ft.	Guard Rail Removed and Disposed of
											Lump																																			202	Lump	Lump	Existing Structures Removed
							Lump																																			Lump				202	Lump	Lump	Portions of Existing Structures Removed
							1600																																							202	1,550	Sq.Yds.	Removal and Disposal of Existing Flexible Pavement
																										For Individual Item Totals, See Sheet No. 4																				203	311,626	Cu.Yds.	Excavation, including Embankment Construction
																										For Individual Item Totals, See Sheet No. 4																				203	626,349	Cu.Yds.	Borrow
				5,992			2921						15,917										14,208											14,132								3800				203	61,740	Sq.Yds.	Subgrade Preparation
			318			338	526					165			600					200			150			188										300					188	150				410	2,007	Cu.Yds.	Traffic Compacted Surface Course, Type A or B
			4				3		7												8									8											4					604	34	Each	Monument Assemblies
							1120																											748	308											606	2,160	Lin.Ft.	Guard Rail, Type 1, 3 Ropes
			78.16	1270.60	1968.38	87.36					937.50	325.0	987.5	1999.72	1037.78					589.38	2000.0	1350.50		226.96	100.0																280.97	1294.03				606	14,687.50	Lin.Ft.	Guard Rail, Type 4
			Lump			Lump	Lump					Lump			Lump					Lump			Lump			Lump				Lump						Lump					Lump	Lump				614	Lump	Lump	Maintaining Traffic
			Lump			Lump	Lump					Lump			Lump					Lump			Lump			Lump										Lump					Lump	Lump				615	Lump	Lump	Temporary Roads
			1.6			1.7	2.7					1.0			3.0					1.0			0.5			1.0										1.5					1.0	0.8				616	6	M.Gals.	Water
			6.2			6.8	10.6					3.3			12.0					4.0			3.0			3.8										6.0					3.8	3.0				616	3	Tons	Calcium Chloride
				1																																										Special	1	Each	Drilled Well Abandoned
																				Lump																										Special	Lump	Lump	Underground Storage Tanks Removed and Disposed of
													1							1		1																								Special	3	Each	Cleaning Privy Vaults
																				1																										Special	2	Each	Cleaning and Disposal of Septic Tanks
		Lump																																												Special	Lump	Lump	Obliteration of Existing Roadway
		2																		1						1																				Special	4	Each	Project Sign
																																																	DRAINAGE
								19.0					1.02			2.70	34.0	1.72	1.18								1.18	1.52	13.18								2.90	1.52	5.0	2.54			1.02	42.0		602	127.37	Cu Yds.	Concrete Masonry
																														20																605	0	Lin.Ft.	Drain Tile
							44		58																						54	56														603	212	Lin.Ft.	12" Conduit, Type F
																				169																										603	169	Lin.Ft.	15" Conduit, Type A
																																64														603	64	Lin.Ft.	15" Conduit, Type F
																				68																										603	77	Lin.Ft.	15" Conduit, Type F, 707.01 or 707.02, Class B Bedding
																										60																				603	60	Lin.Ft.	18" Conduit, Type F
																																								104						603	104	Lin.Ft.	24" Conduit, Type A, 707.04, Class B Bedding
									60																																					603	60	Lin.Ft.	24" Conduit, Type F
																																											100			603	100	Lin.Ft.	30" Conduit, Type A, Class B Bedding
													60																																	603	60	Lin.Ft.	30" Conduit, Type A, 706.02 or 706.08 Class B Bedding
																													84								68									603	152	Lin.Ft.	36" Conduit, Type A, Class B Bedding
																											64																			603	64	Lin.Ft.	36" Conduit, Type A, 706.02, Class B Bedding
																80			96																											603	176	Lin.Ft.	36" Conduit, Type A, 707.04, Class B Bedding
																												60																		603	60	Lin.Ft.	42" Conduit, Type A, 706.02, Class B Bedding
																86																						68								603	154	Lin.Ft.	42" Conduit, Type A, 707.04, Class B Bedding
																																					66									603	66	Lin.Ft.	48" Conduit, Type A, Class B Bedding
																																								70						603	70	Lin.Ft.	48" Conduit, Type A, 706.02, Class B Bedding
																		126																												603	126	Lin.Ft.	48" Conduit, Type A, 707.04, Class B Bedding
																																							152							603	152	Lin.Ft.	60" Conduit, Type A, 706.03, Class B Bedding
																													70																	603	70	Lin.Ft.	96" Conduit, Type A, 706.02, Class B Bedding
								126																																						603	126	Lin.Ft.	108" Conduit, Type A, 707.03, 10-8 Gage, Class B Bedding
																																												152		603	152	Lin.Ft.	156" Conduit, Type A, 707.03, 3-1 Gage, Class B Bedding
																	156																													603	156	Lin.Ft.	156" Conduit, Type A, 707.03, 5-3 Gage, Class B Bedding
																				2																										604	2	Each	Catch Basin, Standard No. 2-2-B
30				1318			424						2040											1874										2026									496			605	9,994	Lin.Ft.	Aggregate Drains
																						10																								605	10	Lin.Ft.	Aggregate Drains for Spring, as per plan
100																						110																								605	202	Lin.Ft.	6" Unclassified Pipe Underdrain, 707.06 or 707.12
																																												Lump		605	Lump	Lump	Spring Drain, as per plan

Note: Quantities For Individual Sheets Not Corrected.

REVISION	DATE	DESCRIPTION	BY
①	Apr. 1972	Revised to Work as Constructed	V.L.O.

U. S. ARMY ENGINEER DISTRICT, HUNTINGTON
CORPS OF ENGINEERS
HUNTINGTON, W. VA.

DRAWN BY: J.C.E.
TRACED BY:
CHECKED BY: S.E.W.
SUBMITTED BY: S.E. Withers
CONSULTANT
RECOMMENDED:
CHIEF ENG. DIV.

PAINT CREEK, OHIO
PAINT CREEK RESERVOIR
HIGHWAY RELOCATIONS
SUMMARY OF QUANTITIES
& GENERAL SUMMARY

APPROVED: COL. C.E. DISTRICT ENGINEER
DATE: 1 FEB 1970

BARRETT, CARGO, WITHERS & ASSOC. LTD.
CONSULTING ENGINEERS
CHILLICOTHE, OHIO

SCALE:
SPEC. NO.
DRAWING NUMBER 016b-UPC4-85/5
SHEET 5 OF 290

WORK AS CONSTRUCTED

SUMMARY OF QUANTITIES & GENERAL SUMMARY ①

			OH-2				RC-1		HC-3 & 4											HC-5										HC-6											HPT-2				BRIDGES				ITEM	FINAL QUANTITY	UNIT	DESCRIPTION
3	4	7	9	10	11	12	46	53	57	58	59	60	61	62	63	90	91	92	93	114	115	116	117	118	119	120	152	153	154	179	180	181	182	183	184	185	204	205	206	207	213	214	227	228	32	100	160	171				
																																																				EROSION CONTROL
			50	90	153	17	210	60	8	61	247	4	82		11	10	72	28	9	96			23	44	26	259		6	44		6		14	143						9	125	69							601	11,332	Cu. Yds.	Dumped Rock Channel Protection
																17													77									14	19										601	135	Sq. Yds.	Channel Paving, Using 6" Reinforced Concrete
																											For Individual Item Totals, See Sheet No. 4																						659	292,037	Sq. Yds.	Seeding and Mulching
																											For Individual Item Totals, See Sheet No. 4																						659	25.4	Tons	Commercial Fertilizer (12-12-12)
																											For Individual Item Totals, See Sheet No. 4																						659	125.8	Tons	Agricultural Liming
				163	416	770	828		691	502		419	127	274	534					78		287	263	193	321	484				496	436	697	424	895	109	362					252	461							660	10,438	Sq. Yds.	Sodding
																																																				PAVEMENT
	*			1049			714							3892										2511											3454							901			* Carried from Sh. #4				304	14,281	Cu. Yds.	Aggregate Base
	*			1119																				2643																									310	3757	Cu. Yds.	Subbase
	*			292																				691																									402	979	Cu. Yds.	Asphalt Concrete (70-85)
	*			208			122							664										494											589							159							404	2,405	Cu. Yds.	Asphalt Concrete (70-85)
	*			2517			1255							6780										5965											6066							1622							408	22,367	Gals.	Bituminous Prime Coat, 702.09, RT-2 or RT-3
	*			112										112										223																									611	444	Sq. Yds.	Reinforced Concrete Approach Slabs, (T = 13")
																																																				BUILDING REMOVAL
				Lump																																													202	Lump	Lump	Removal of Existing Buildings (1 Story Frame Residence and 1 Frame Shed)
												Lump																																					202	Lump	Lump	Removal of Existing Buildings (1 Story Frame Residence and 1 Frame Shed)
													Lump																																				202	Lump	Lump	Removal of Existing Buildings (1 Story Frame Residence and 1 Frame Garage)
															Lump																																		202	Lump	Lump	Removal of Existing Buildings (Frame Hog Shed)
																				Lump																													202	Lump	Lump	Removal of Existing Buildings (1 Story Concrete Block Store and Pump Island
																				Lump																													202	Lump	Lump	Removal of Existing Buildings (1 Story Frame Residence)
																				Lump																													202	Lump	Lump	Removal of Existing Buildings (1 Story Frame Residence and Barn)
																				Lump																													202	Lump	Lump	Removal of Existing Buildings (1 Story Block Residence)
																						Lump																			Lump								202	Lump	Lump	Removal of Existing Buildings (2 Story Brick Residence and Pole Shed.)
																																																				STRUCTURES
																																																	Special	Lump	Lump	Bridge - S.R. #138 over Rattlesnake Creek - See Sheet No. 32
																																																	Special	Lump	Lump	Bridge - C.R. #85-A over Hardin Creek - See Sheet No. 100
																																																	Special	Lump	Lump	Bridge - C.R. # 11-K over Rattlesnake Creek - See Sheet No. 160
																																																	Special	Lump	Lump	Bridge - C.R. # 11-K over Walnut Creek - See Sheet No. 171
																																																				PILING
																																												Lump	Lump	Lump	Lump	505	Lump	Lump	First Test Pile.
																																																	507	0	Lin. Ft.	~~Prebored Holes~~
																																															166	301	507	467	Lin. Ft.	Steel Piles 10BPA2
																																												2,974	1,433	391	325	507	5,123	Lin. Ft.	Steel Piles 12BP53

Note: Quantities For Individual Sheets Not Corrected.

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

REVISION	DATE	DESCRIPTION	BY
①	Apr. 1972	Revised to Work as Constructed	V.L.O.

U. S. ARMY ENGINEER DISTRICT, HUNTINGTON
CORPS OF ENGINEERS
HUNTINGTON, W.VA.

DRAWN BY: J.C.E.
TRACED BY:
CHECKED BY: 9CW
SUBMITTED BY: 8E Withers
CONSULTANT

PAINT CREEK, OHIO
PAINT CREEK RESERVOIR
HIGHWAY RELOCATIONS
SUMMARY OF QUANTITIES
& GENERAL SUMMARY

RECOMMENDED:
CHIEF ENG. DIV.
APPROVED:
COL. C.E. DISTRICT ENGINEER
DATE: FEB 1970

BARRETT, CARGO, WITHERS & ASSOC. LTD.
CONSULTING ENGINEERS
CHILLICOTHE, OHIO

SCALE:
SPEC. NO.
DRAWING NUMBER
016b-UPC4-85/6
SHEET 6 OF 290

WORK AS CONSTRUCTED

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

HIG-138-27.18

TYPICAL SECTIONS
TYPE 404

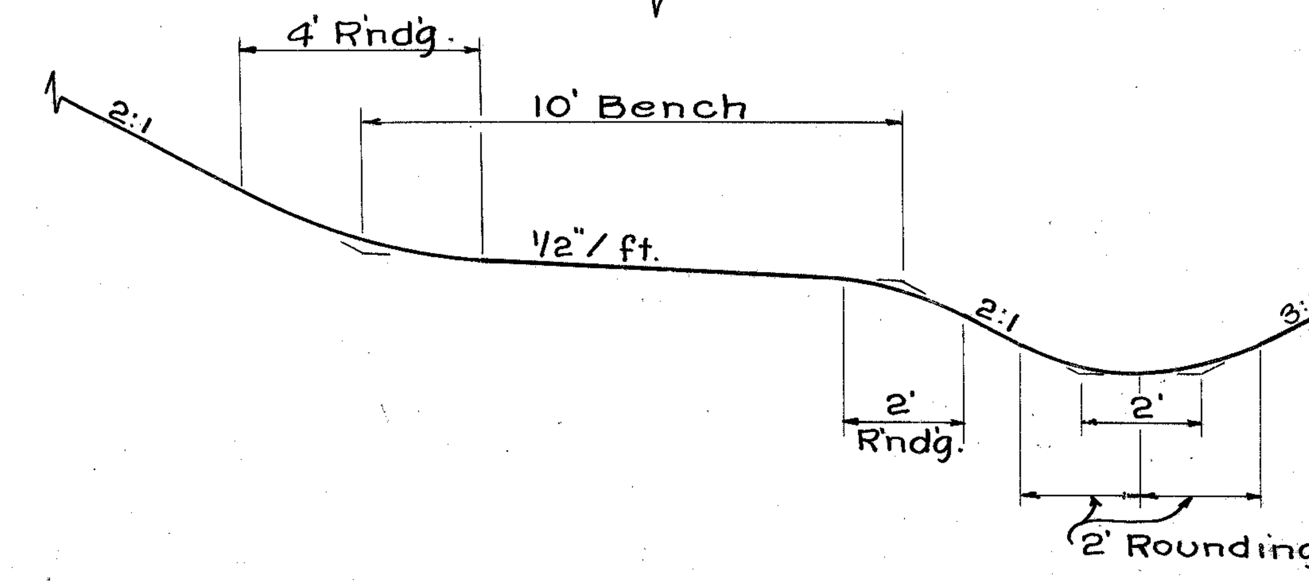
NORMAL SECTION

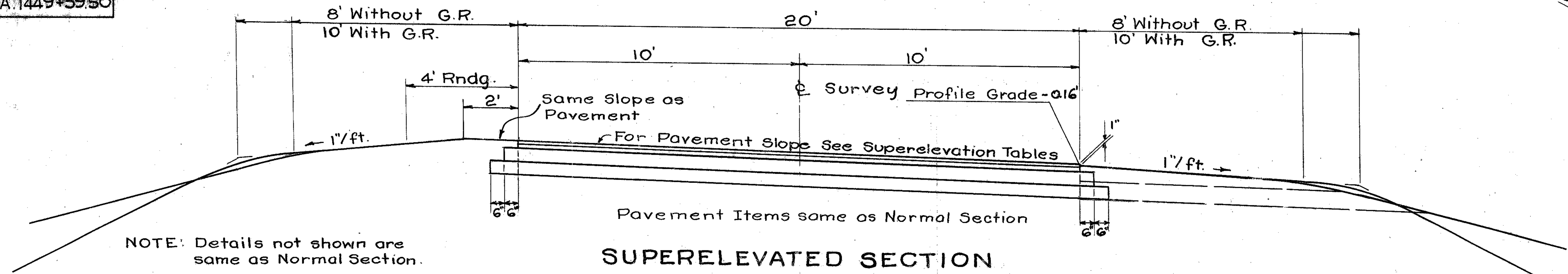
The above Typical Section applies between the following Stations :

Sta. 1435+00.00 TO Sta. 1446+10.50 = 1110.50 L.F.
Sta. 1449+39.50 TO Sta. 1455+50.00 = 610.50 L.F.
1721.00 L.F.

BRIDGE LIMITS
BRIDGE NO. HIG-138-2739
STA. 1446+35.50 TO STA. 1449+14.50

APPROACH SLABS
STA. 1446+10.50 TO STA. 1446+35.50
STA. 1449+14.50 TO STA. 1449+39.50





NOTE: Details not shown are same as Normal Section.

SUPERELEVATED SECTION

The above Typical Section applies between the following Stations:

Sta. 1455+50.00 To Sta. 1465+25 = 975.00 L.F.

NOTE: Details not shown are same as Normal Section

LEGEND

- 404 — 1 1/4" Asphalt Concrete (70-85)
- 402 — 1 3/4" Asphalt Concrete (70-85)
- 408 — Bituminous Prime Coat, 702.09 RT-2 or RT-3 applied at the rate of 0.40 gal. per sq. yd.
- 304 — 6" Aggregate Base
- 310 — 6" Subbase
- 605 — Aggregate Drains
- 606 — Guard Rail, Type 4
- 659 — Seeding and Mulching

SUPERELEVATION TABLES

STATION	PROFILE GRADE	ELEV. LT. EDGE	ELEV. ℄	ELEV. RT. EDGE	STATION	PROFILE GRADE	ELEV. LT. EDGE	ELEV. ℄	ELEV. RT. EDGE	STATION	PROFILE GRADE	ELEV. LT. EDGE	ELEV. ℄	ELEV. RT. EDGE
1455+50	850.00	849.84	850.00	849.84	1459+00	851.84	853.00	852.34	851.68	1462+56.23	864.24	865.17	864.63	864.08
+75	850.00	849.85	850.00	849.84	+25	852.33	853.49	852.83	852.17	+81.23	865.50	866.31	865.83	865.34
1456+00	850.00	849.91	850.00	849.84	+50	852.88	854.04	853.38	852.72	1463+06.23	866.77	867.47	867.04	866.61
+25	850.00	849.97	850.00	849.84	+75	853.48	854.64	853.98	853.32	+31.23	868.03	868.61	868.24	867.87
+35.01	850.00	850.00	850.00	849.84	1460+00	854.14	855.30	854.64	853.98	+56.23	869.30	869.76	869.45	869.14
+60.01	850.00	850.12	850.00	849.84	+25	854.86	856.02	855.36	854.70	+81.23	870.56	870.91	870.66	870.40
+85.01	850.00	850.23	850.04	849.84	+50	855.64	856.80	856.14	855.48	1464+06.23	871.83	872.06	871.87	871.67
1457+10.01	850.00	850.35	850.10	849.84	+75	856.47	857.63	856.97	856.31	+31.23	873.09	873.21	873.09	872.93
+35.01	850.06	850.52	850.21	849.90	1461+00	857.36	858.52	857.86	857.20	+56.23	874.36	874.36	874.36	874.20
+60.01	850.17	850.75	850.38	850.01	+25	858.31	859.47	858.81	858.15	+75	875.31	875.24	875.31	875.15
+85.01	850.33	851.03	850.60	850.17	+50	859.32	860.48	859.82	859.16	1465+00	876.57	876.41	876.57	876.41
1458+10.01	850.56	851.37	850.89	850.40	+75	860.36	861.52	860.86	860.20	1465+25	Meet	Exist.	Pav't.	
+35.01	850.84	851.77	851.23	850.68	1462+00	861.50	862.66	862.00	861.34					
+60.01	851.18	852.22	851.62	851.02	+06.23	861.79	862.95	862.29	861.63					
+85.01	851.57	852.73	852.07	851.41	+31.23	862.99	864.03	863.43	862.83					

REVISION	DATE	DESCRIPTION	BY

U. S. ARMY ENGINEER DISTRICT, HUNTINGTON
CORPS OF ENGINEERS
HUNTINGTON, W. VA.

DRAWN BY: J.K.M.
TRACED BY:
CHECKED BY: F.H.S.
SUBMITTED BY: [signature] CONSULTANT
RECOMMENDED:
CHIEF ENG. DIV.

PAINT CREEK, OHIO
PAINT CREEK RESERVOIR
RELOCATION OF OHIO STATE ROUTE 138
ITEM OH-2-CROSS SECTIONS
TYPICAL SECTIONS

APPROVED: DATE: FEB 1970
COL. C.E. DISTRICT ENGINEER

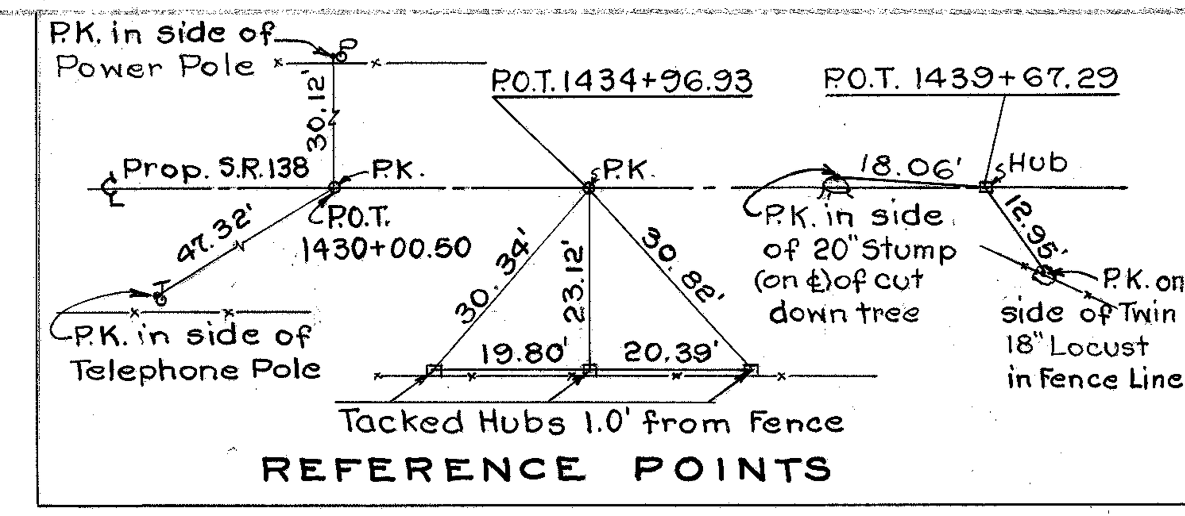
BARRETT, CARGO, WITHERS & ASSOC. LTD.
CONSULTING ENGINEERS
CHILLICOTHE, OHIO

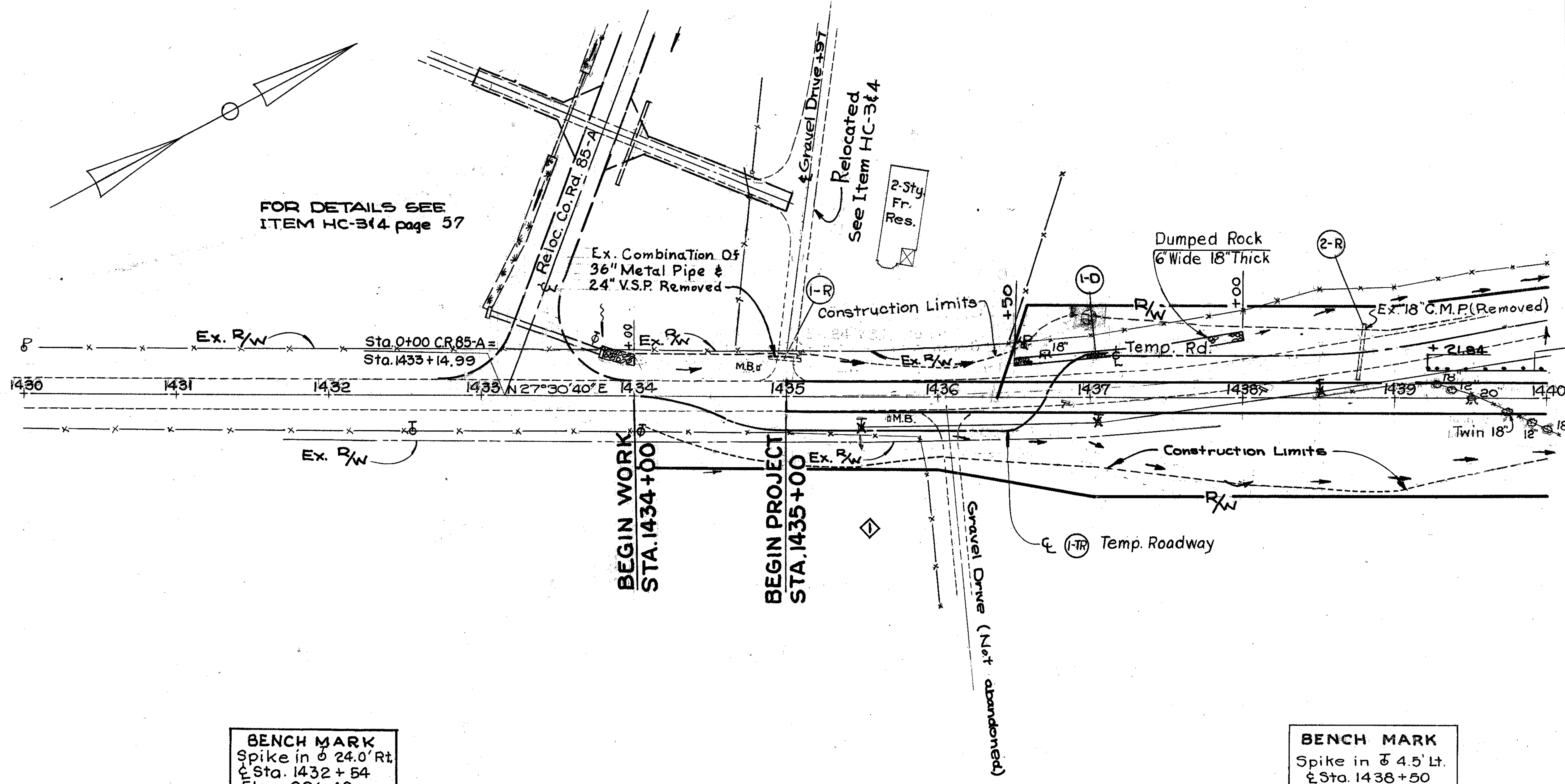
SCALE: AS SHOWN | SPEC. NO.
DRAWING NUMBER: 016b-UPC4-85/8
SHEET 8 OF 290

WORK AS CONSTRUCTED

2 | OHIO

HIG-138-27.18



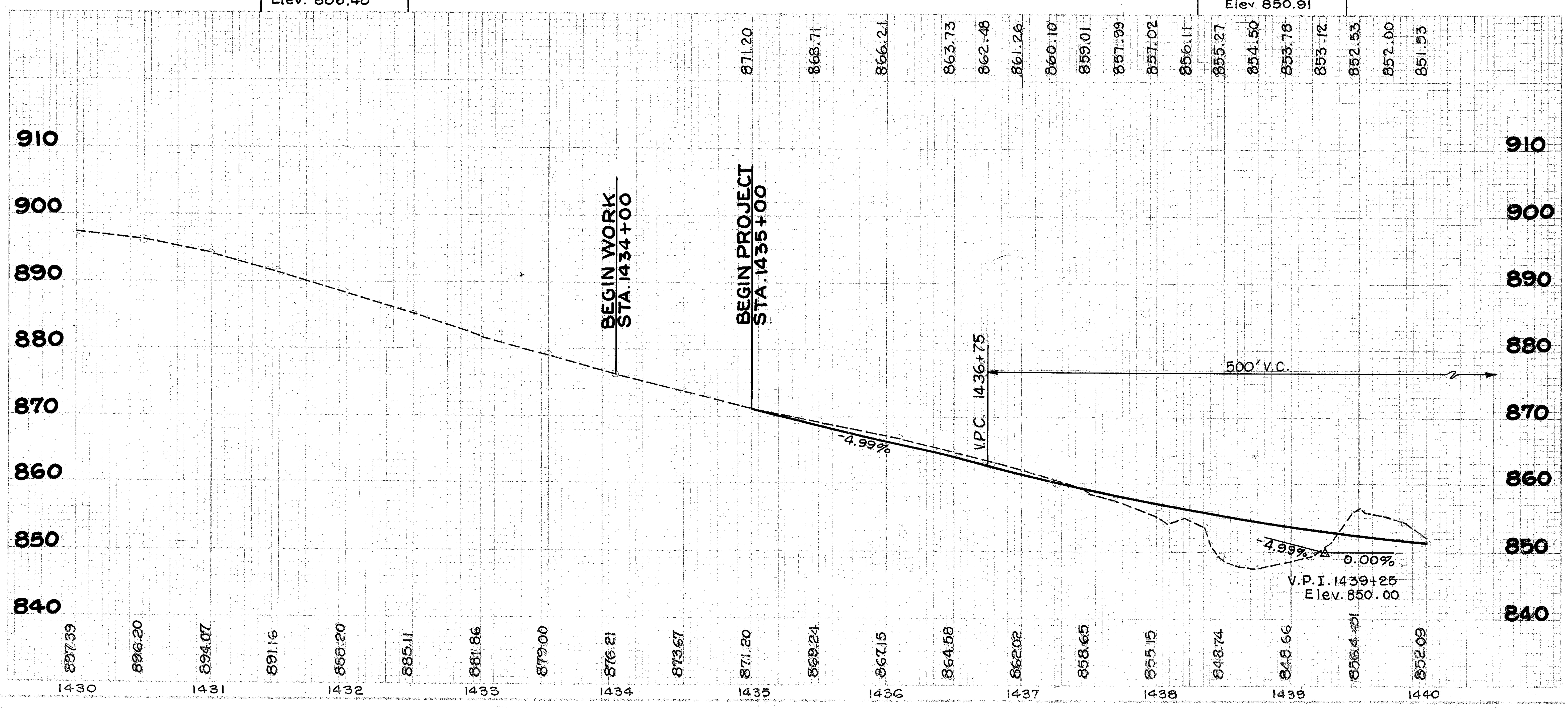


◇1 NOTE

Monument Assemblies in accordance with Std. Drwg. MC-1, 10-1-67, was placed on centerline at the following locations.

Sta. 1433+14.99
Sta. 1445+00.00
Sta. 1456+35.01
Sta. 1464+56.23

4-R Total 4 Monument Assemblies



Item 614 - Maintaining Traffic - Lump -

◇1 ESTIMATED QUANTITIES

Reference Number	Station to Station.	Side	202 Pipe Removed 24" and Under	615 Temporary Roads	601 Dumped Rock Channel Protection	606 Guard Rail Type 4	604 Monument Assemblies	410 Traffic Compacted Surface Course, A or B	616 Calcium Chloride	616 Water
			L.F.	Lump	C.Y.	L.F.	Each	Cy.	Tons	M Gal
1-R	1434+89 To 1435+11	Lt.	20.5							
2-R	1438+75	Lt.	36							
3-R	1439+21.84 to 1440+00	Lt.				78.16				
4-R	As per note above						4			
1-D	1436+50 To 1438+00	Lt.			53.23					
1-TR	1434+00 to 1439+00	R&L		Lump				318	6.2	1.6
	Totals		56.5	Lump	53.23	78.16	4	318	6.2	1.6

Revision	Date	Description	By
◇1	Apr. 1972	Revised To Work As Constructed	V.L.O.

U. S. ARMY ENGINEER DISTRICT, HUNTINGTON
CORPS OF ENGINEERS
HUNTINGTON, W. VA.

DRAWN BY: J.K.M.
TRACED BY:
CHECKED BY: F.H.S.
SUBMITTED BY: [signature] CONSULTANT
RECOMMENDED:
CHIEF ENG. DIV.

PAINT CREEK, OHIO
PAINT CREEK RESERVOIR
RELOCATION OF OHIO STATE ROUTE 138
ITEM OH-2 — ALIGNMENT & PROFILE
STA. 1430+00 TO STA. 1440+00

APPROVED: DATE: FEB 1970
COL. C.E. DISTRICT ENGINEER

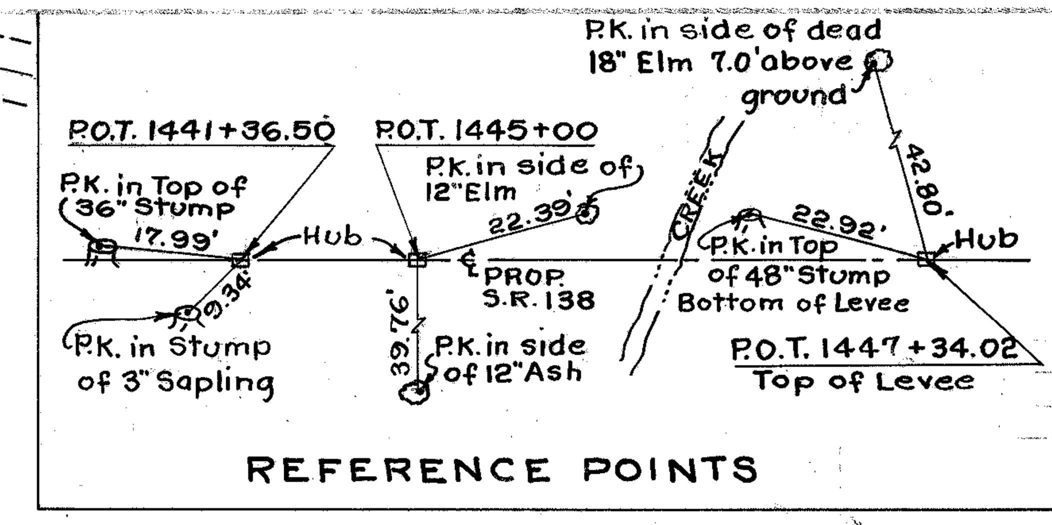
BARRETT, CARGO, WITHERS & ASSOC. LTD.
CONSULTING ENGINEERS
CHILLICOTHE, OHIO

SCALE: AS SHOWN
SPEC. NO.
DRAWING NUMBER 016b-UPC4-85/9
SHEET 9 OF 290

WORK AS CONSTRUCTED

FED. RD. DIVISION	STATE	PROJECT
2	OHIO	

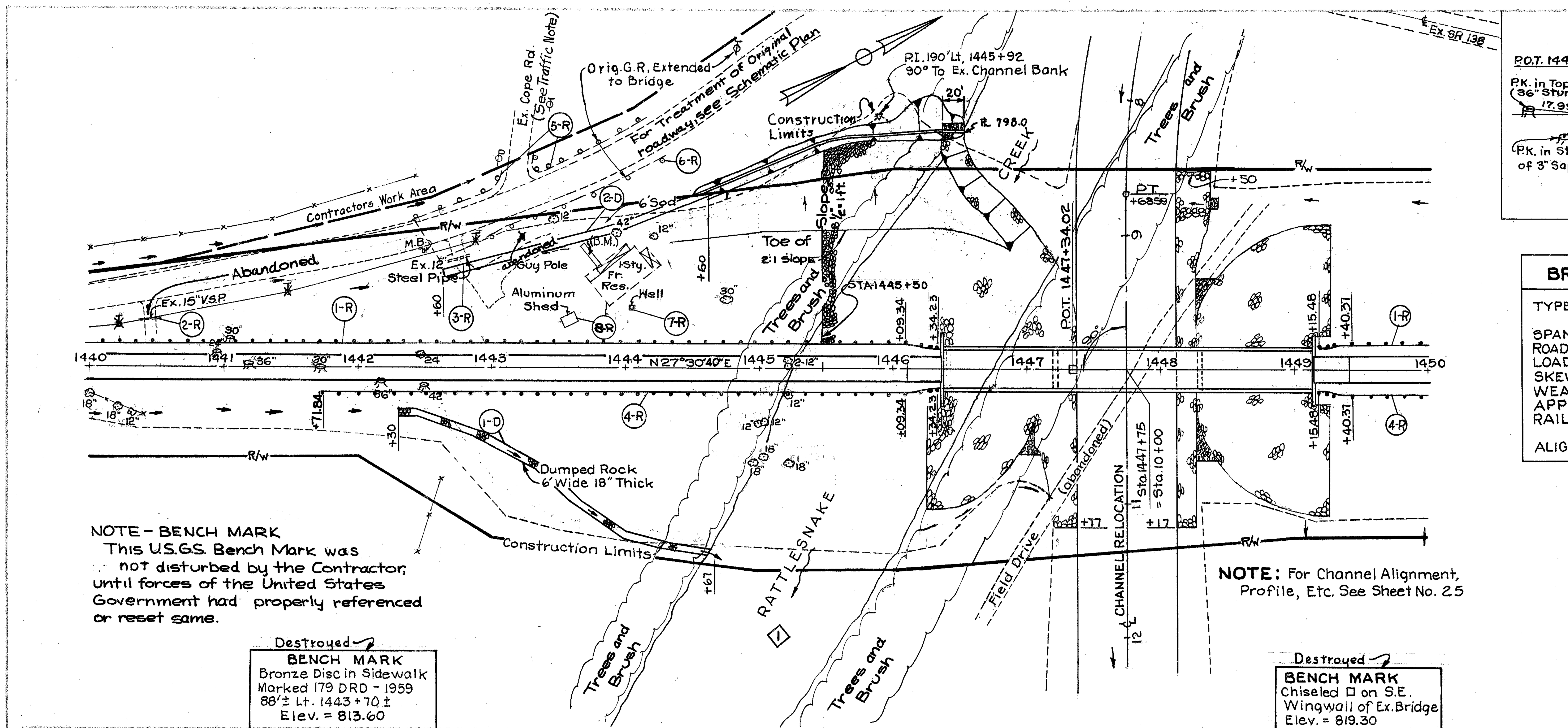
HIG-138-27.18

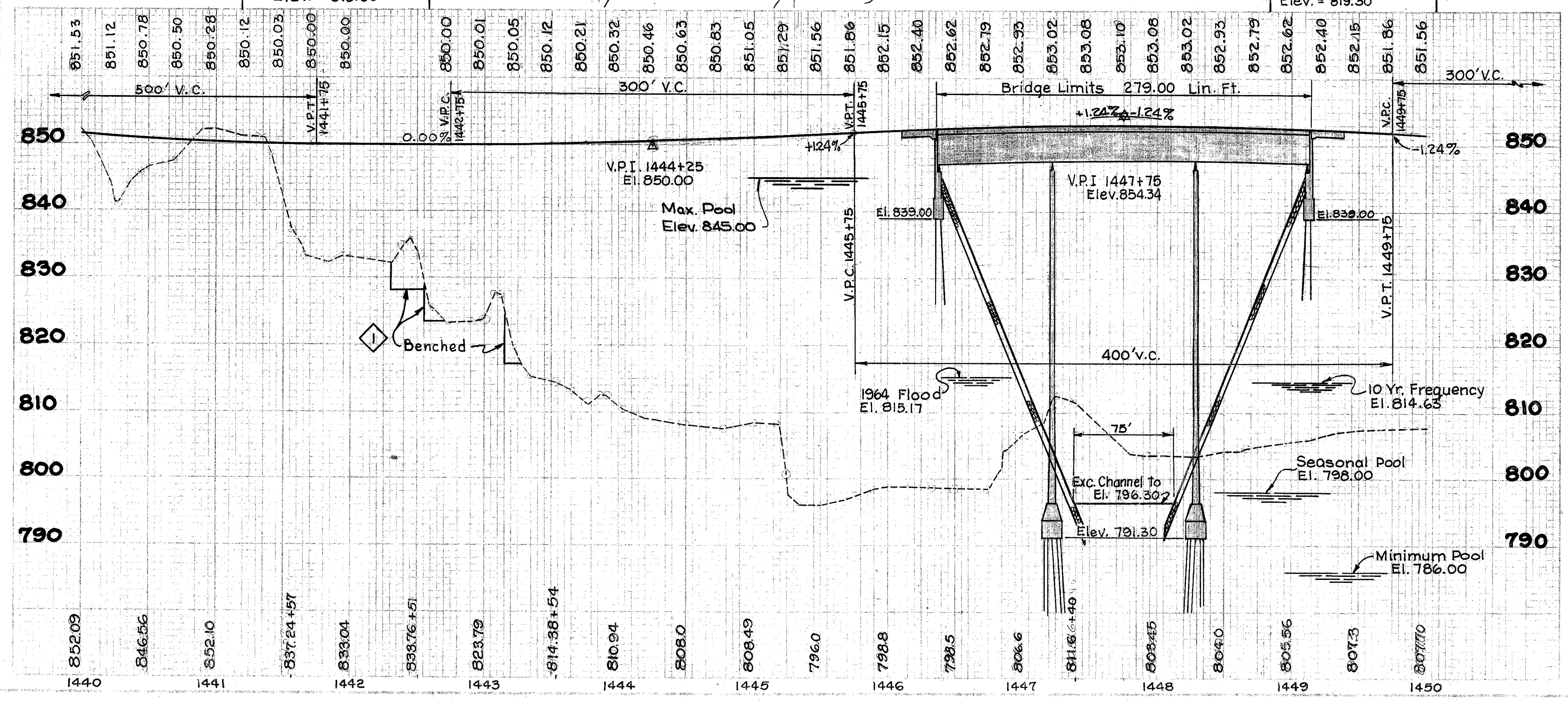


① BRIDGE WORK:
Prime Contractor:
The Gerbus Bros. Const. Co.
Cincinnati, Ohio
Sub-Contractor: (Const. Of Bridges And Approach Slabs):
Wren - Reese, Inc.
Napoleon, Ohio
Secondary Sub-Contractor: (Place Reinforcing Steel, Erect Structural Steel, Scuppers & Bridge Railing):
Armstrong Steel Erectors, Inc.
Gahanna, Ohio
Secondary Sub-Contractor: (Field Painting Structural Steel):
Buckeye Painting & Sheeting Co., Inc.
Cleveland, Ohio

BRIDGE DATA BR. NO. HIG-138-2739

TYPE: Continuous Welded Girder with Reinforced Concrete Deck and Substructure.
SPANS: 83'-6" - 107'-6" - 83'-6".
ROADWAY: 28'-0" f/f of 2'-0" Safety Curbs.
LOADING: HS 20-44.
SKEW: 0°00'
WEARING SURFACE: 1" Monolithic Concrete.
APPROACH SLABS: 25' Long.
RAILING: Deep Beam Rail with Steel Posts, Bolts and Handrail.
ALIGNMENT: Tangent.





① ESTIMATED QUANTITIES

Reference Number	Station To Station	Side	202 Pipe Removed 24" and Under	202 Guard Rail Removed and Disposed of.	606 Guard Rail Type 4	202 Removal of Exist. Bldgs.	601 Dumped Rock Channel Protection	660 Sodding	SPECIAL Drilled Wells Abandoned
			L.F.	L.F.	L.F.	Lump	C.Y.	S.Y.	Each
1-R	1440+00 to 1450+00	Lt.			818.83				
2-R	1440+37 to 1440+53	Lt.	16						
3-R	1442+67 to 1442+83	Lt.	16						
4-R	1441+71.84 to 1450+00	Rt.			559.63				
5-R	1442+44 to Ex. Bridge	Lt.		522.2					
6-R	1443+00 to Ex. Bridge	Lt.		440.9					
7-R	1444+05	Lt							1
8-R	1444+00	Lt				Lump			
1-D	1442+30 to 1444+67	Rt.					94.66		
2-D	1442+60 to 1445+00	Lt.						163.34	
	Totals		32	963.1	1378.46	Lump	94.66	163.34	1

REVISION	DATE	DESCRIPTION	BY
①	Apr. 1972	Revised To Work As Constructed	V.L.O.

U. S. ARMY ENGINEER DISTRICT, HUNTINGTON
CORPS OF ENGINEERS
HUNTINGTON, W. VA.

DRAWN BY: J.K.M.
TRACED BY:
CHECKED BY: F.H.S.
SUBMITTED BY: [signature] CONSULTANT
RECOMMENDED:
CHIEF ENG. DIV.

PAINT CREEK, OHIO
PAINT CREEK RESERVOIR
RELOCATION OF OHIO STATE ROUTE 138
ITEM OH-2 - ALIGNMENT & PROFILE
STA. 1440+00 TO STA. 1450+00

APPROVED:
DATE: FEB 1970
COL. C.E. DISTRICT ENGINEER

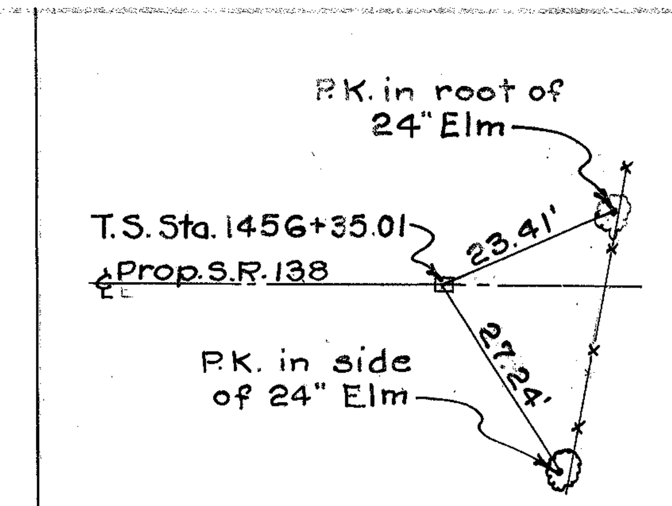
BARRETT, CARGO, WITHERS & ASSOC. LTD.
CONSULTING ENGINEERS
CHILLICOTHE, OHIO

SCALE: AS SHOWN
SPEC. NO.
DRAWING NUMBER 016b-UPC4-85/10
SHEET 10 OF 290

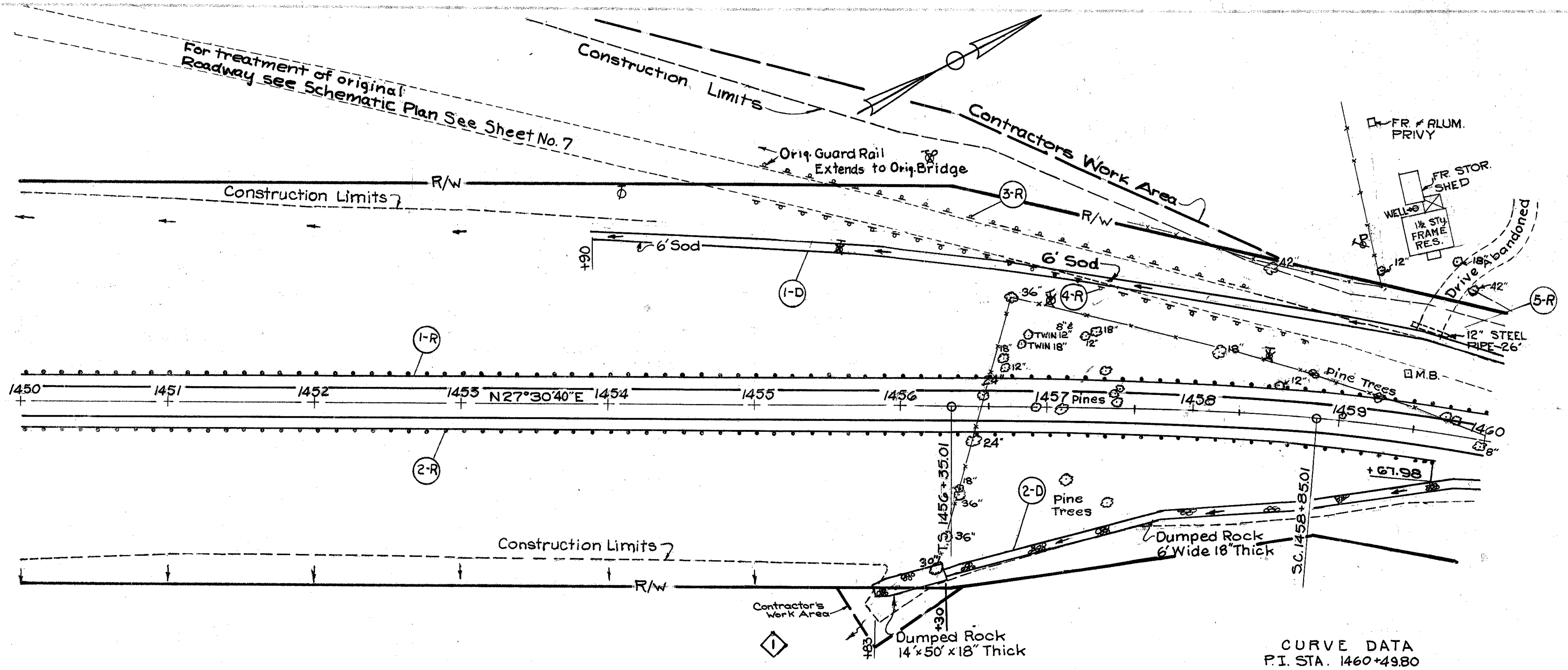
WORK AS CONSTRUCTED

FED. RD. DIVISION	STATE	PROJECT
2	OHIO	

HIG-138-27.18

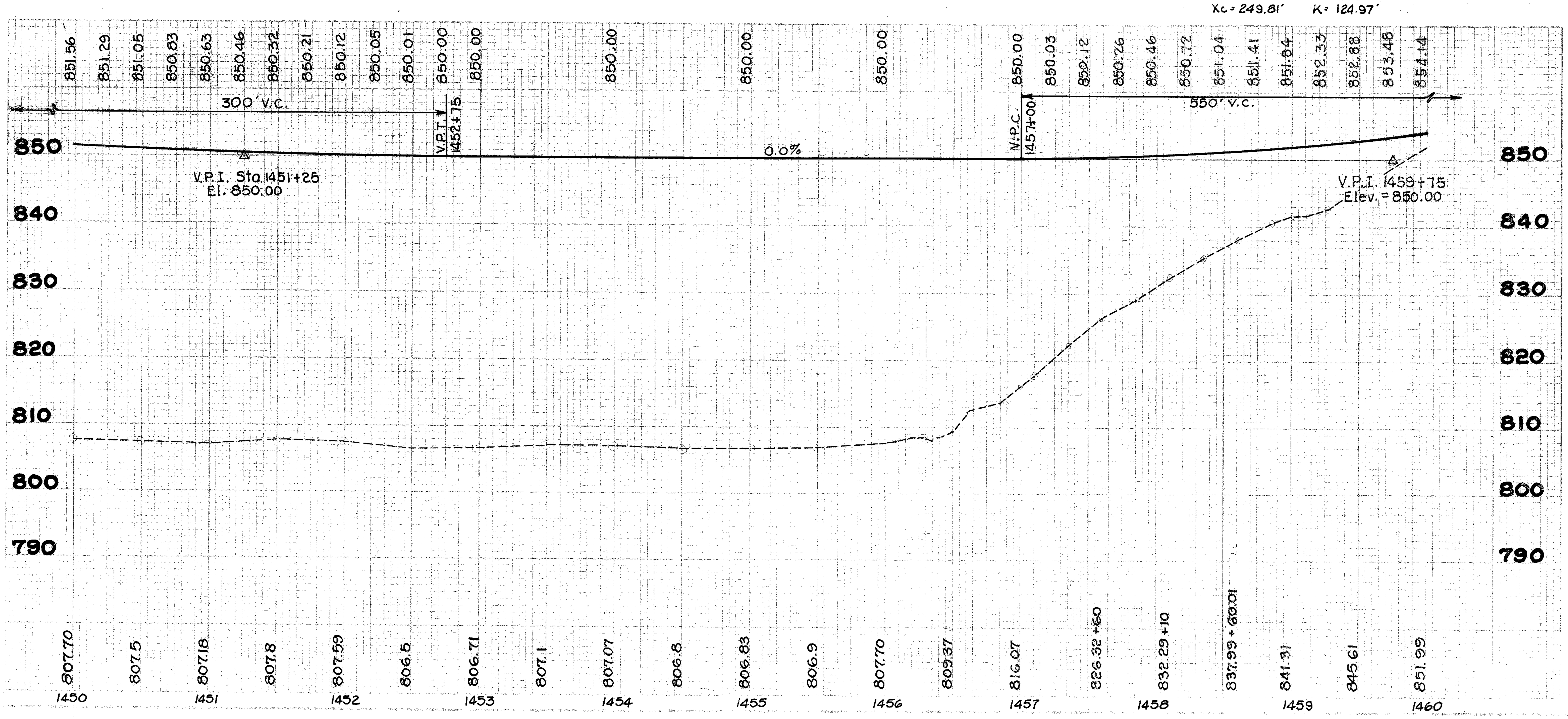


REFERENCE POINTS



CURVE DATA
P.I. STA. 1460+49.80
Δ = 22°50' 55" Rt.

Dc = 4°00'	Yc = 7.27'
Ls = 250.00'	Δc = 12°50'55"
θs = 5°00'	Lc = 321.22'
Ts = 414.79'	R = 1432.395'
Es = 30.81'	P = 1.82'
Xc = 249.81'	K = 124.97'



Reference Number	Station To Station	Side	202 Guard Rail Removed and Disposed of.	202 Pipe Removed 24" and Under	606 Guard Rail Type 4		601 Dumped Rock Channel Protection	660 Sodding		
			L.F.	L.F.	L.F.		C.Y.	S.Y.		
1-R	1450+00 to 1460+00	Lt.			1003.01					
2-R	1450+00 to 1459+67.98	Rt.			965.37					
3-R	Ex. Bridge to 1458+31	Lt.	1003.7							
4-R	Ex. Bridge to 1458+62	Lt.	1035.9							
5-R	1459+38 to 1459+64	Lt.		26.4						
1-D	1453+90 to 1460+00	Lt.						406.67		
2-D	1455+83 to 1460+00	Rt.					141.02			
	Totals		2039.6	26.4	1968.38		141.02	406.67		

Table title: ⟨1⟩ ESTIMATED QUANTITIES

REVISION	DATE	DESCRIPTION	BY
⟨1⟩	Apr. 1972	REVISED TO WORK AS CONSTRUCTED	V.L.O.

U. S. ARMY ENGINEER DISTRICT, HUNTINGTON
CORPS OF ENGINEERS
HUNTINGTON, W. VA.

DRAWN BY: J.K.M
TRACED BY:
CHECKED BY: F.H.S.
SUBMITTED BY: S.E. Withers
CONSULTANT
RECOMMENDED:
CHIEF ENG. DIV.

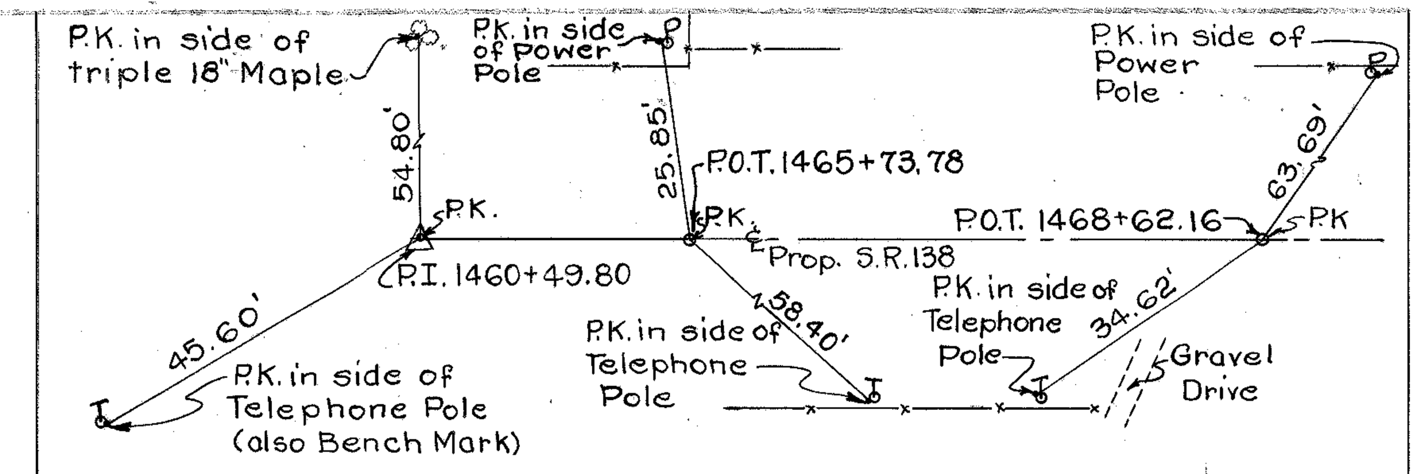
PAINT CREEK, OHIO
PAINT CREEK RESERVOIR
RELOCATION OF OHIO STATE ROUTE 138
ITEM OH-2 — ALIGNMENT & PROFILE
STA. 1450+00 TO STA. 1460+00

APPROVED:
COL. C.E., DISTRICT ENGINEER
DATE: FEB 1970

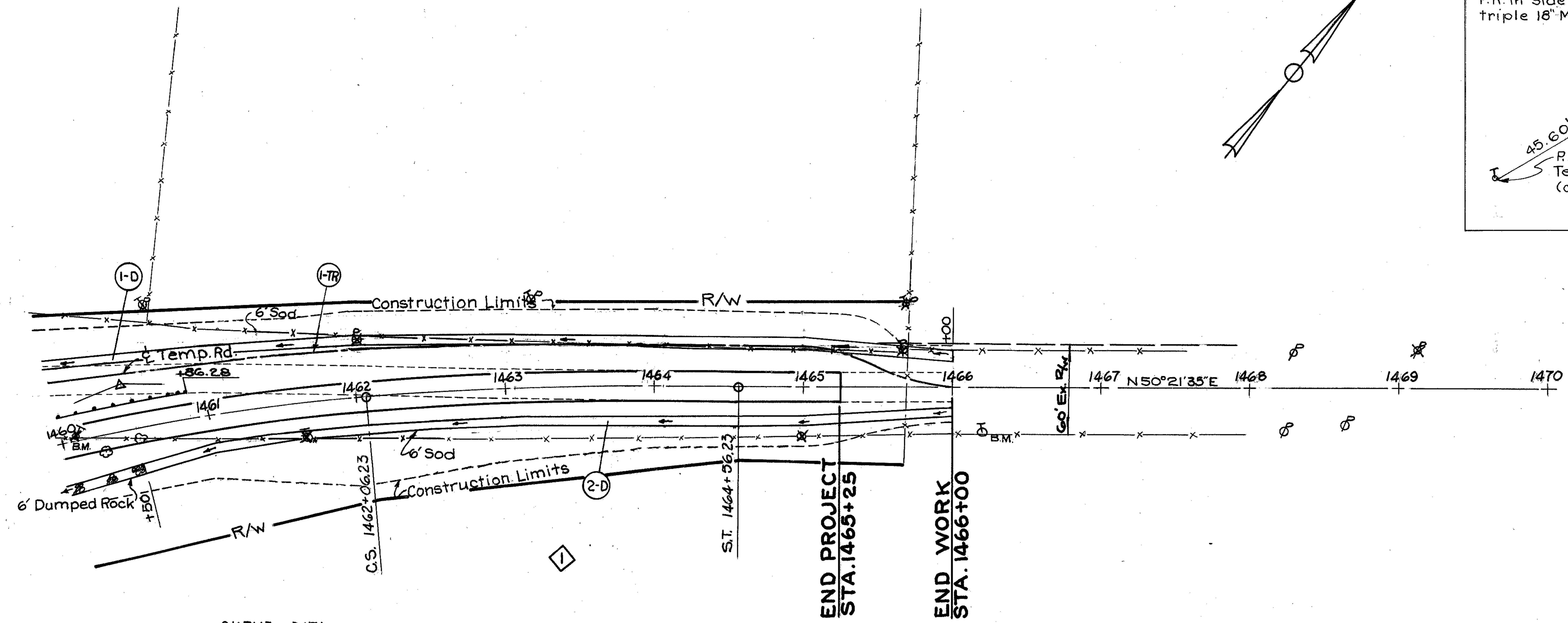
BARRETT, CARGO, WITHERS & ASSOC. LTD.
CONSULTING ENGINEERS
CHILLICOTHE, OHIO

SCALE: AS SHOWN
SPEC. NO.
DRAWING NUMBER 016b-UPC4-85/11
SHEET 11 OF 290

WORK AS CONSTRUCTED



REFERENCE POINTS

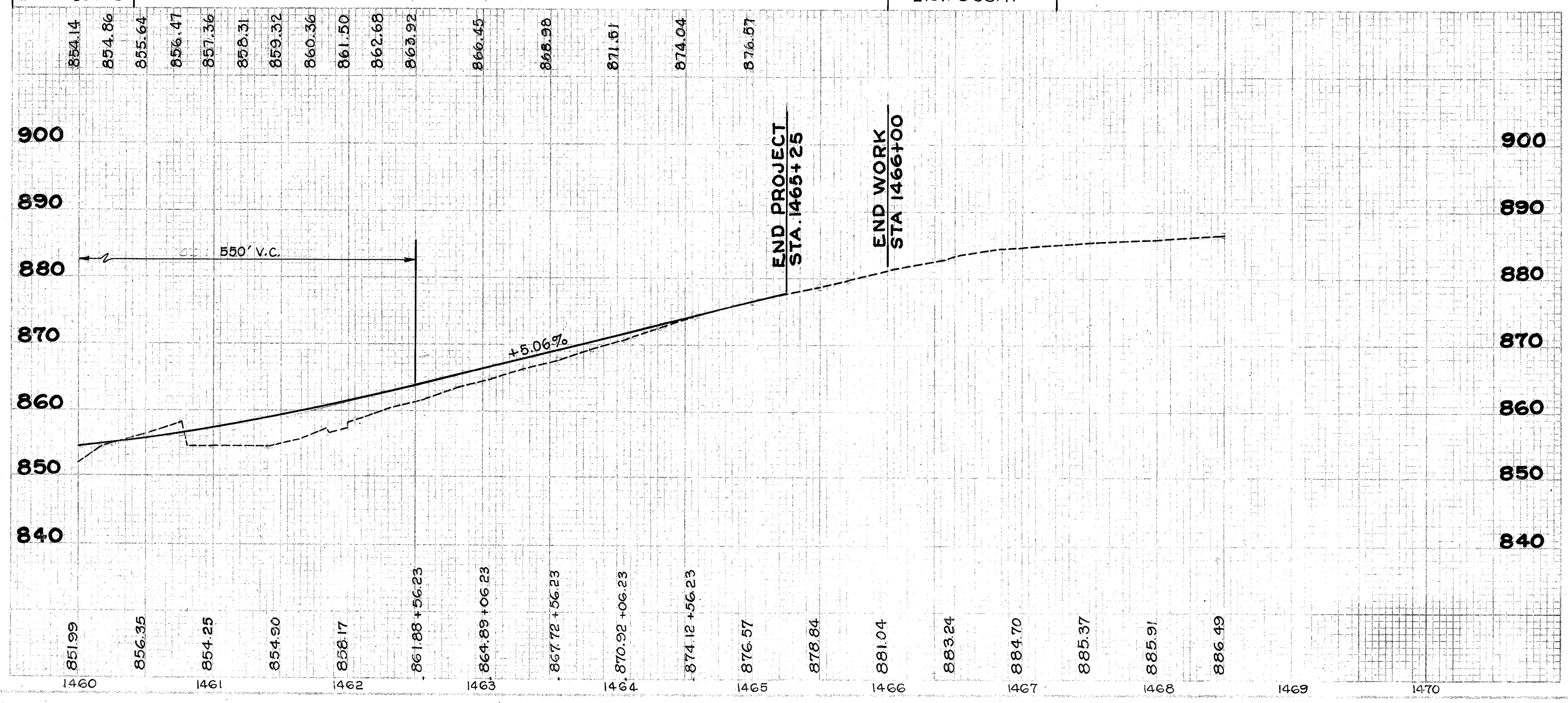


CURVE DATA
P.I. STA. 1460+49.80
Δ = 22°50' 55" Rt.

Dc = 4°00'	Yc = 7.27'
Ls = 250.00'	Δc = 12°50'55"
Θs = 5°00'	Lc = 321.22'
Ts = 414.79'	R = 1432.395'
Es = 30.81'	P = 1.82'
Xc = 249.81'	K = 124.97'

BENCH MARK
Spike in ⌀
3.5' Lt. 1460+09.5
ELEV. = 853.72

BENCH MARK
Spike in ⌀
30' Rt. ℄ 1466+20
Elev. 883.71



⟨1⟩ ESTIMATED QUANTITIES

Reference Number		Side	606 Guard Rail Type 4	601 Dumped Rock Channel Protection	660 Sodding	614 Maintaining Traffic	615 Temporary Roads	410 Traffic Compacted Surface Course Type A or B	616 Calcium Chloride	616 Water
				C.Y.	S.Y.	Lump	Lump	C.Y.	Tons	M Gal.
1-D	1460+00 to 1466+00	Lt.			372.70					
2-D	1460+00 to 1466+00	Rt.		17.86	380.68					
1-R	1460+00 to 1460+86.28	Lt.	87.36							
1-TR	1460+00 to 1466+00	Lt.				Lump	Lump	338±	6.8±	1.7±
	Totals		87.36	17.86	753.38	Lump	Lump	338±	6.8±	1.7±

REVISION	DATE	DESCRIPTION	BY
⟨1⟩	Apr. 1972	REVISED TO WORK AS CONSTRUCTED	V.L.O.

U. S. ARMY ENGINEER DISTRICT, HUNTINGTON
CORPS OF ENGINEERS
HUNTINGTON, W. VA.

DRAWN BY: JKM
TRACED BY:
CHECKED BY: F.H.S.
SUBMITTED BY: [signature] CONSULTANT
RECOMMENDED:
CHIEF ENG. DIV.

PAINT CREEK, OHIO
PAINT CREEK RESERVOIR
RELOCATION OF OHIO STATE ROUTE 138
ITEM OH-2 – ALIGNMENT & PROFILE
STA. 1460+00 TO STA. 1470+00

APPROVED:
DATE: FEB 1970
COL. C.E., DISTRICT ENGINEER

BARRETT, CARGO, WITHERS & ASSOC. LTD.
CONSULTING ENGINEERS
CHILLICOTHE, OHIO

SCALE: AS SHOWN
SPEC. NO.
DRAWING NUMBER 016b-UPC4-85/12
SHEET 12 OF 290

WORK AS CONSTRUCTED

PAINT CREEK, OHIO
PAINT CREEK RESERVOIR
RELOCATION OF OHIO STATE ROUTE 138
ITEM OH-2 – CROSS SECTIONS
STA. 1434 + 00 TO STA. 1437 + 00

REVISION	DATE	DESCRIPTION	BY
1	Apr. 1972	Revised To Work As Constructed	V.L.O.

SCALE:
DATE: FEB 1970
DRAWING NUMBER 016b-UPC4-85/13
SHEET 13 OF 290

WORK AS CONSTRUCTED

	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
STA. 1440+40	21	377		
			59	350
STA. 1440+00	59	95		
			297	152
STA. 1439+51	268	73		
			329	273
STA. 1439+00	80	216		
			77	468
STA. 1438+50	3	289		
			23	316
STA. 1438+00	22	52		
			296	96
STA. 1437+00	138	0		

PAINT CREEK, OHIO
PAINT CREEK RESERVOIR
RELOCATION OF OHIO STATE ROUTE 138
ITEM OH-2 — CROSS SECTIONS
STA. 1438+00 TO STA. 1440+40

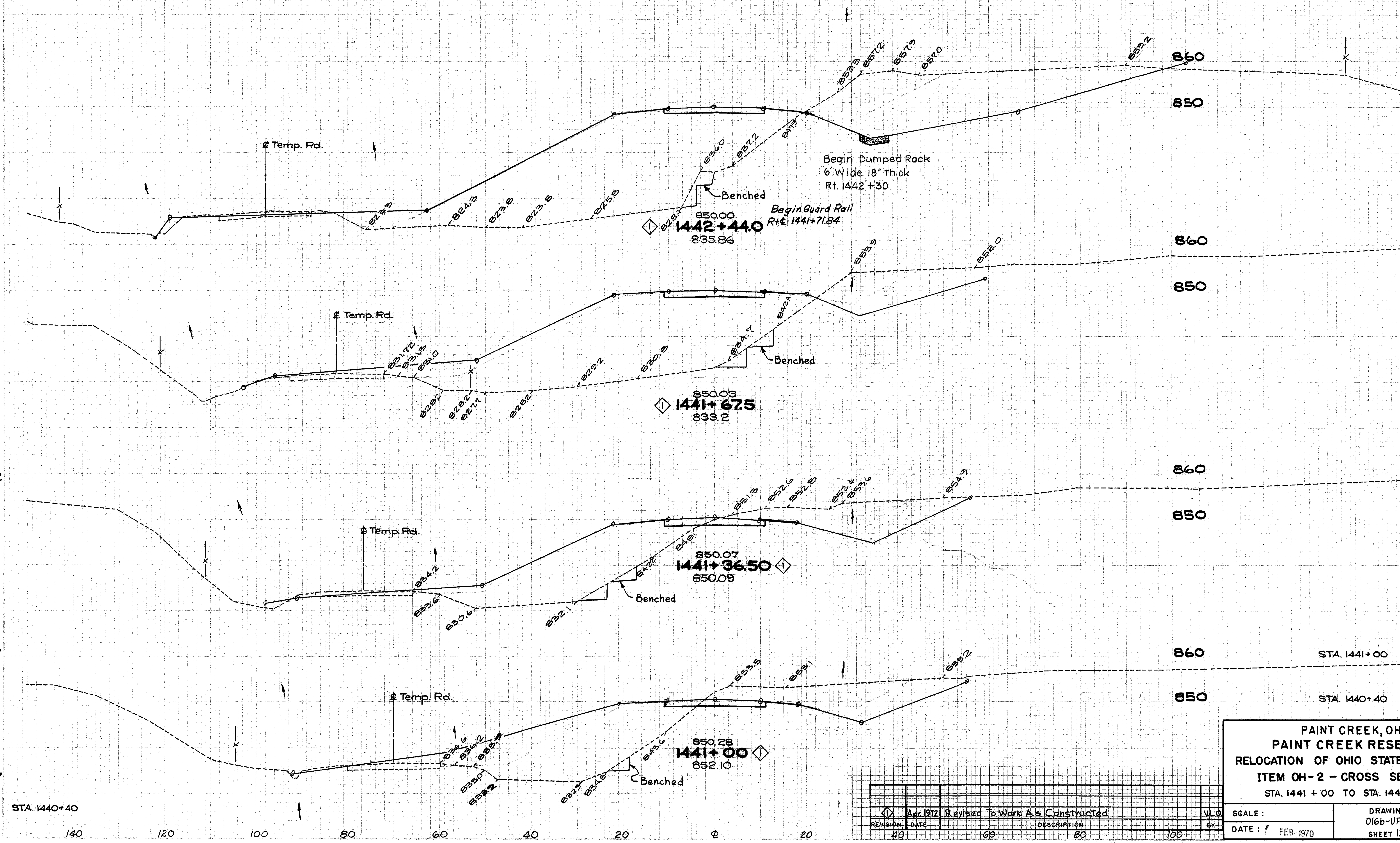
SCALE:
DATE: FEB 1970
DRAWING NUMBER 016b-UPC4-85/14
SHEET 14 OF 290

WORK AS CONSTRUCTED

FED. RD. DIVISION	STATE	PROJECT
2	OHIO	

HIG-138-27.18

SEEDING END WIDTH	SQ. YDS.
106	
	871
99	
	332
94	
	365
86	
	577
87	



END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
148	1117		
		320	2950
78	965		
		134	777
155	389		
		224	504
177	356		
		220	814
21	377		

REVISION	DATE	DESCRIPTION	BY
1	Apr. 1972	Revised To Work As Constructed	V.L.O.

PAINT CREEK, OHIO
PAINT CREEK RESERVOIR
RELOCATION OF OHIO STATE ROUTE 138
ITEM OH-2 - CROSS SECTIONS
STA. 1441 + 00 TO STA. 1442 + 44.0

SCALE :
DATE : FEB 1970
DRAWING NUMBER 016b-UPC4-85/15
SHEET 15 OF 290

WORK AS CONSTRUCTED

FED. RD. DIV. NO. 2 | STATE OHIO

HIG-138-27.18

REVISION	DATE	DESCRIPTION	BY
1	Apr. 1972	Revised To Work As Constructed	V.L.O.

PAINT CREEK, OHIO
PAINT CREEK RESERVOIR
RELOCATION OF OHIO STATE ROUTE 138
ITEM OH-2 - CROSS SECTIONS
STA. 1442 + 62 TO STA. 1443 + 54

SCALE :
DATE : FEB 1970

DRAWING NUMBER
016b-UPC4-85/16
SHEET 16 OF 290

WORK AS CONSTRUCTED

PAINT CREEK, OHIO
PAINT CREEK RESERVOIR
RELOCATION OF OHIO STATE ROUTE 138
ITEM OH-2 - CROSS SECTIONS
STA. 1444 + 00 TO STA. 1446 + 00

REVISION	DATE	DESCRIPTION	BY
1	Apr. 1972	Revised To Work As Constructed	V.L.O.

SCALE :
DATE : 1 FEB 1970
DRAWING NUMBER 016b-UPC4-85/17
SHEET 17 OF 290

WORK AS CONSTRUCTED

PAINT CREEK, OHIO
PAINT CREEK RESERVOIR
RELOCATION OF OHIO STATE ROUTE 138
ITEM OH-2 – CROSS SECTIONS
STA. 1446 + 35 TO STA. 1448 + 71

REVISION	DATE	DESCRIPTION	BY
1	Apr. 1972	Revised To Work As Constructed	V.L.O.

SCALE :
DATE : 7 FEB 1970
DRAWING NUMBER 016b-UPC4-85/18
SHEET 18 OF 290

WORK AS CONSTRUCTED

NOTE: End cut & fill Sta. 1451+00 Limit is approximate. Loose sand (Approx. Depth 4') shall be removed and recompacted in area directed by the Contracting Officer.

HIG-138-27.18

REVISION	DATE	DESCRIPTION	BY
1	Apr. 1972	Revised To Work As Constructed	V.L.O.

PAINT CREEK, OHIO
PAINT CREEK RESERVOIR
RELOCATION OF OHIO STATE ROUTE 138
ITEM OH-2 - CROSS SECTIONS
STA. 1449 + 15 TO STA. 1451 + 0.0

SCALE :
DATE : FEB 1970

DRAWING NUMBER
016b-UPC4-85/19
SHEET 19 OF 290

WORK AS CONSTRUCTED

FED. RD. DIVISION	STATE	PROJECT
2	OHIO	

HIG-138-27.18

REVISION	DATE	DESCRIPTION	BY
1	Apr. 1972	Revised To Work As Constructed	VLO

PAINT CREEK, OHIO

PAINT CREEK RESERVOIR

RELOCATION OF OHIO STATE ROUTE 138

ITEM OH-2 - CROSS SECTIONS

STA. 1452 + 00 TO STA. 1454 + 00

SCALE :

DATE : FEB 1970

DRAWING NUMBER 016b-UPC4-85/20

SHEET 20 OF 290

WORK AS CONSTRUCTED

PAINT CREEK, OHIO
PAINT CREEK RESERVOIR
RELOCATION OF OHIO STATE ROUTE 138
ITEM OH-2 - CROSS SECTIONS
STA. 1455 + 00 TO STA. 1456 + 60

1	Apr. 1972	Revised To Work As Constructed	V.L.O.
REVISION	DATE	DESCRIPTION	BY

SCALE :
DATE : FEB 1970
DRAWING NUMBER
016b-UPC4-85/21
SHEET 21 OF 290

WORK AS CONSTRUCTED

Revision	Date	Description	By
1	Apr 1972	Revised To Work As Constructed	V.L.O.

PAINT CREEK, OHIO
PAINT CREEK RESERVOIR
RELOCATION OF OHIO STATE ROUTE 138
ITEM OH-2 – CROSS SECTIONS
STA. 1457 + 60 TO STA. 1459 + 50

SCALE:
DATE: FEB 1970
DRAWING NUMBER 0166-UPC4-85/22
SHEET 22 OF 290

WORK AS CONSTRUCTED

FED. RD. DIVISION	STATE	PROJECT
2	OHIO	

HIG-138-27.18

END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
234	65		
		1489	323
523	99		
		1346	489
204	165		
		467	850
48	294		
		84	749
43	515		

REVISION	DATE	DESCRIPTION	BY
1	Apr. 1972	Revised To Work As Constructed	VLO

PAINT CREEK, OHIO
PAINT CREEK RESERVOIR
RELOCATION OF OHIO STATE ROUTE 138
ITEM OH-2 – CROSS SECTIONS
STA. 1460 + 00 TO STA. 1463+06.23

SCALE:
DATE: FEB 1970
DRAWING NUMBER 016b-UPC4-85/23
SHEET 23 OF 290

WORK AS CONSTRUCTED

REVISION	DATE	DESCRIPTION	BY
1	Apr. 1972	Revised To Work As Constructed	V.L.O.

PAINT CREEK, OHIO
PAINT CREEK RESERVOIR
RELOCATION OF OHIO STATE ROUTE 138
ITEM OH-2 – CROSS SECTIONS
STA. 1464 + 06.23 TO STA. 1466 + 00

SCALE :
DATE : 5 FEB 1970
DRAWING NUMBER 0166-UPC4-85/24
SHEET 24 OF 290

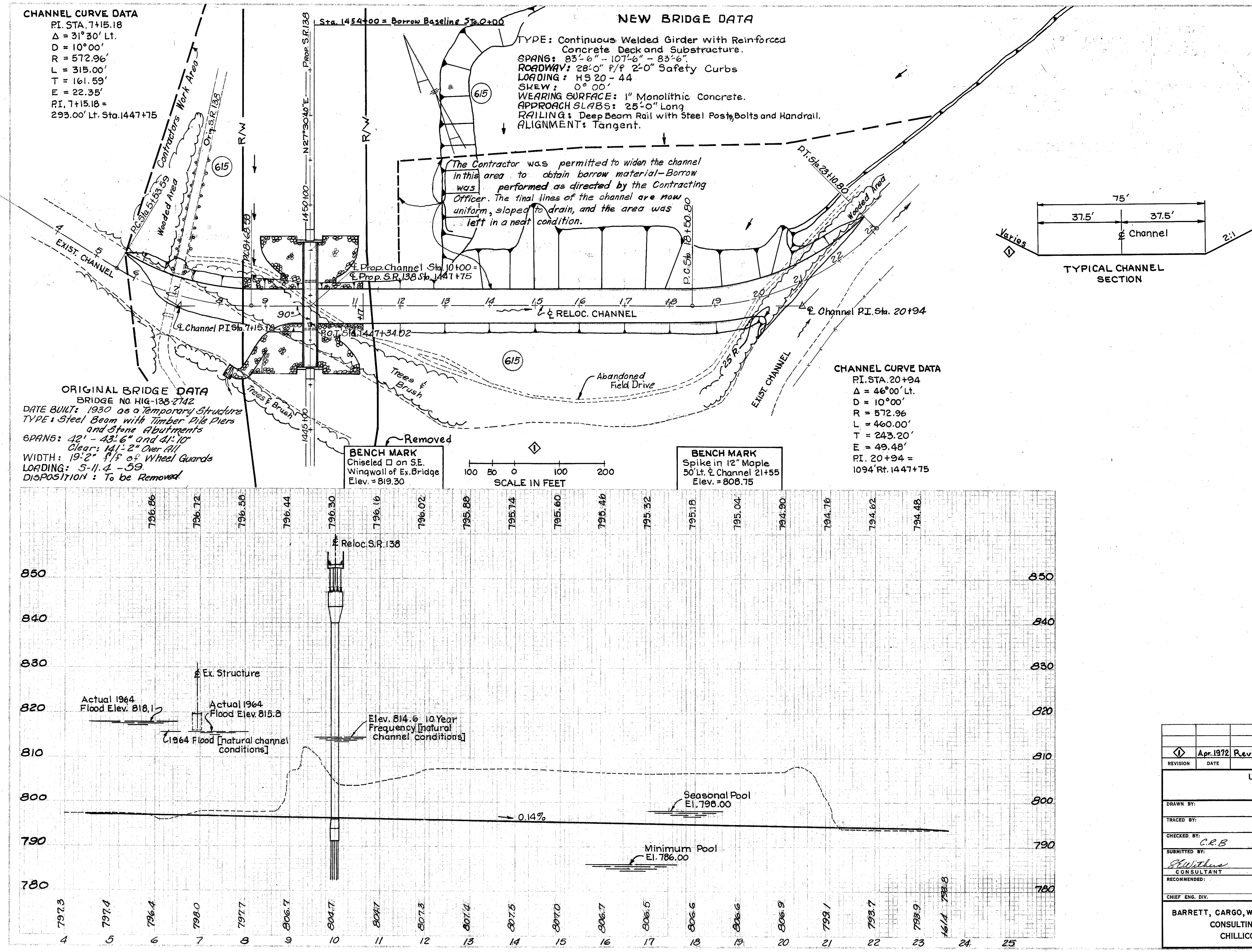
WORK AS CONSTRUCTED

HIG-138-27.18

FED. RD. DIVISION	STATE	PROJECT
2	OHIO	

CHANNEL CURVE DATA
P.I. STA. 7+15.18
Δ = 31°30′ Lt.
D = 10°00′
R = 572.96′
L = 315.00′
T = 161.59′
E = 22.35′
P.I. 7+15.18 = 293.00′ Lt. Sta. 1447+75

NEW BRIDGE DATA
TYPE: Continuous Welded Girder with Reinforced Concrete Deck and Substructure.
SPANS: 83′-6″ - 107′-6″ - 83′-6″
ROADWAY: 28′-0″ f/f 2′-0″ Safety Curbs
LOADING: HS 20-44
SKEW: 0° 00′
WEARING SURFACE: 1″ Monolithic Concrete.
APPROACH SLABS: 25′-0″ Long
RAILING: Deep Beam Rail with Steel Posts, Bolts and Handrail.
ALIGNMENT: Tangent.



ORIGINAL BRIDGE DATA
BRIDGE NO. HIG-138-2742
DATE BUILT: 1930 as a Temporary Structure
TYPE: Steel Beam with Timber Pile Piers and Stone Abutments
SPANS: 42′ - 43′-6″ and 41′-10″
Clear: 141′-2″ Over All
WIDTH: 19′-2″ f/f of Wheel Guards
LOADING: S-11.4-59
DISPOSITION: To be Removed

BENCH MARK
Chiseled □ on S.E. Wingwall of Ex. Bridge
Elev. = 819.30

BENCH MARK
Spike in 12″ Maple
50′ Lt. ℄ Channel 21+55
Elev. = 808.75

CHANNEL CURVE DATA
P.I. STA. 20+94
Δ = 46°00′ Lt.
D = 10°00′
R = 572.96
L = 460.00′
T = 243.20′
E = 49.48′
P.I. 20+94 = 1094′ Rt. 1447+75

REVISION	DATE	DESCRIPTION	BY
1	Apr. 1972	Revised To Work As Constructed	V.L.O.

U. S. ARMY ENGINEER DISTRICT, HUNTINGTON
CORPS OF ENGINEERS
HUNTINGTON, W. VA.

PAINT CREEK, OHIO
PAINT CREEK RESERVOIR
RELOCATION OF OHIO STATE ROUTE 138
RATTLESNAKE CREEK CHANNEL RELOCATION
ITEM OH-2 ALIGNMENT & PROFILE

DRAWN BY:
TRACED BY:
CHECKED BY: C.R.B.
SUBMITTED BY: [signature] CONSULTANT
RECOMMENDED:
APPROVED:
DATE: 7 FEB 1970
CHIEF ENG. DIV.
COL. C. E. DISTRICT ENGINEER

BARRETT, CARGO, WITHERS & ASSOC. LTD.
CONSULTING ENGINEERS
CHILLICOTHE, OHIO

SCALE: AS SHOWN
SPEC. NO.
DRAWING NUMBER 016b-UPC4-85/25
SHEET 25 OF 290

WORK AS CONSTRUCTED

2 | OHIO

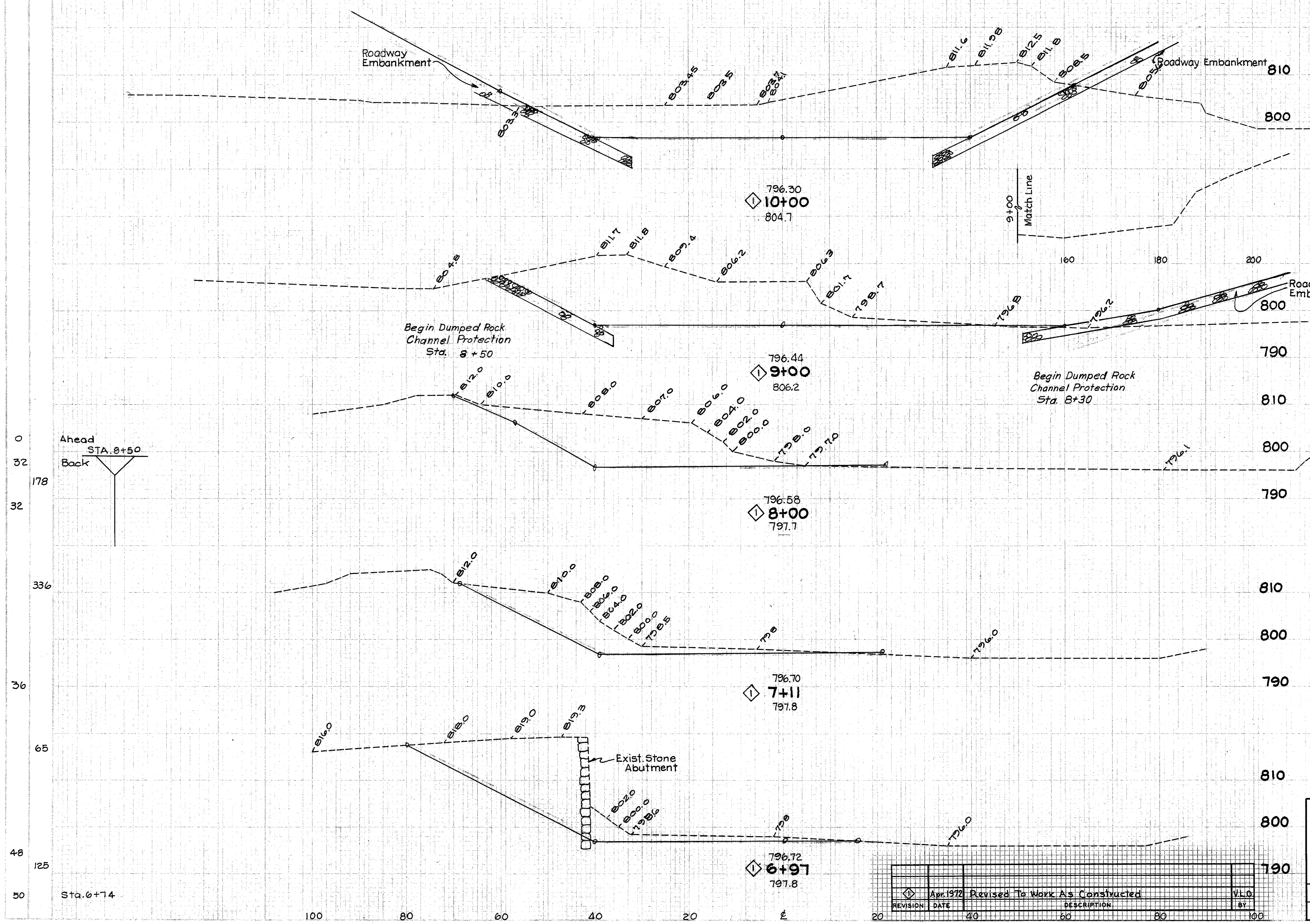
HIG-138-27.18

①	Apr. 1972	Revised To Work As Constructed	VLO
REVISION	DATE	DESCRIPTION	BY

PAINT CREEK, OHIO
PAINT CREEK RESERVOIR
RELOCATION OF OHIO STATE ROUTE 138
ITEM OH-2 — CHANNEL CROSS SECTIONS
STA. 4+00 TO STA. 6+74

SCALE:
DATE: FEB 1970
DRAWING NUMBER
016b-UPC4-85/26
SHEET 26 OF 290

WORK AS CONSTRUCTED



End Area Cut	End Area Fill	Volume Cut	Volume Fill
981	0		
		3181	0
737	0		
		2157	0
428	0		
		1089	0
233	0		
		191	0
Sta. 6+97 504	0		
		434	0
Sta. 6+74 514	0		

Revision	Date	Description	By
1	Apr. 1972	Revised To Work As Constructed	V.L.O.

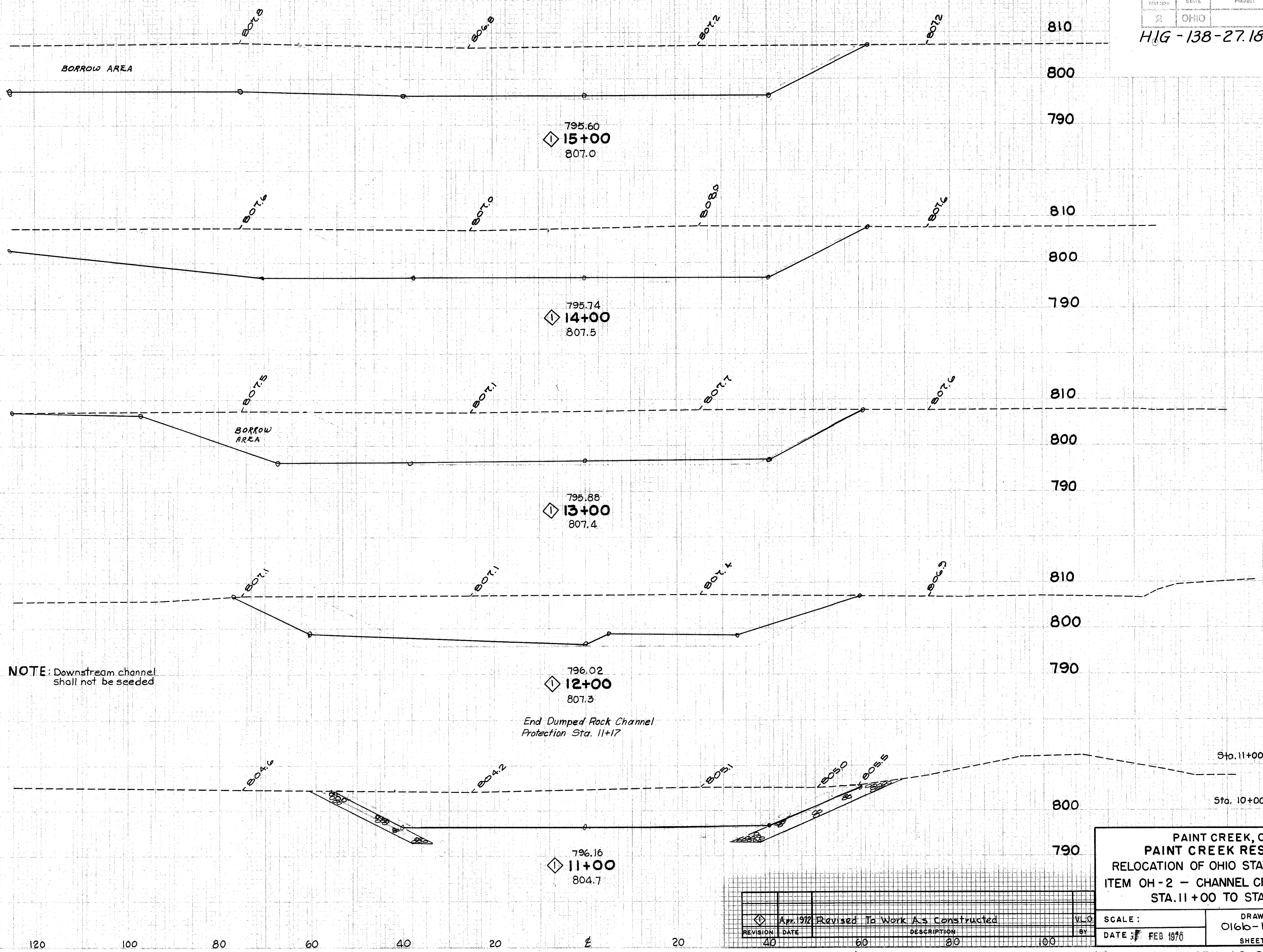
PAINT CREEK, OHIO
PAINT CREEK RESERVOIR
RELOCATION OF OHIO STATE ROUTE 138
ITEM OH-2 — CHANNEL CROSS SECTIONS
STA. 6+97 TO STA. 10+00

SCALE:
DATE: FEB 1970
DRAWING NUMBER 016b-UPC4-85/27
SHEET 27 OF 280

WORK AS CONSTRUCTED

FED. RD. DIVISION	STATE	PROJECT
2	OHIO	

HIG-138-27.18



Station	End Area Cut	End Area Fill	Volume Cut	Volume Fill
15+00	1107	0		
			4187	0
14+00	1154	0		
			4237	0
13+00	1134	0		
			4093	0
12+00	1076	0		
			3402	0
Sta. 11+00	761	0		
			3226	0
Sta. 10+00	981	0		

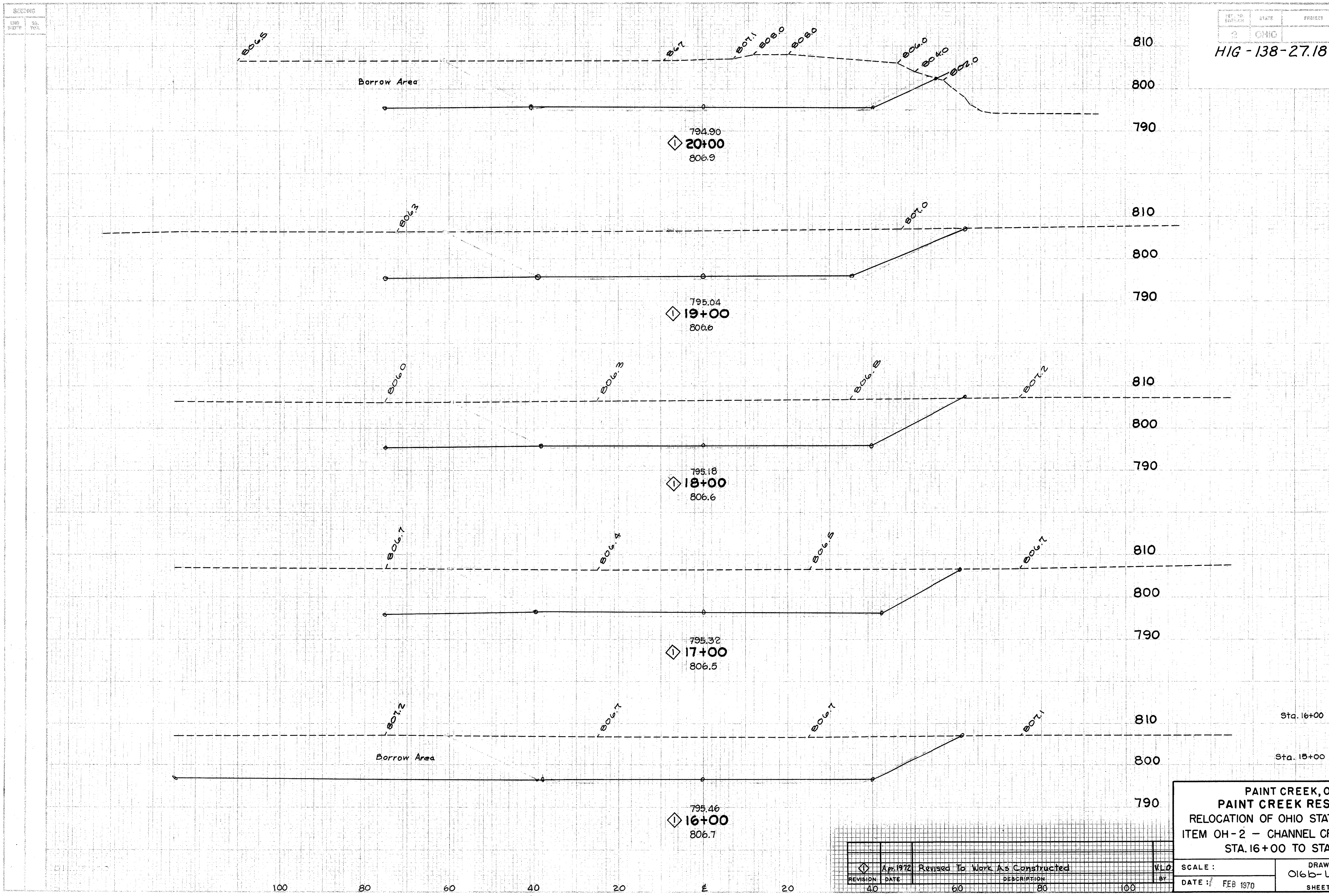
REVISION	DATE	DESCRIPTION	BY
1	Apr. 1972	Revised To Work As Constructed	V.L.O.

PAINT CREEK, OHIO
PAINT CREEK RESERVOIR
RELOCATION OF OHIO STATE ROUTE 138
ITEM OH-2 — CHANNEL CROSS SECTIONS
STA. 11+00 TO STA. 15+00

SCALE:
DATE: FEB 1970
DRAWING NUMBER 016b-UPC4-85/28
SHEET 28 OF 290

WORK AS CONSTRUCTED

HIG - 138 - 27.18



Station	End Area Cut	End Area Fill	Volume Cut	Volume Fill
	1266	0		
			4428	0
	1125	0		
			4100	0
	1089	0		
			4000	0
	1071	0		
			3994	0
Sta. 16+00	1086	0		
			4061	0
Sta. 15+00	1107	0		

Revision	Date	Description	By
1	Apr. 1972	Revised To Work As Constructed	V.L.O.

PAINT CREEK, OHIO
PAINT CREEK RESERVOIR
RELOCATION OF OHIO STATE ROUTE 138
ITEM OH-2 — CHANNEL CROSS SECTIONS
STA. 16+00 TO STA. 20+00

SCALE:
DATE: FEB 1970
DRAWING NUMBER 016b-UPC4-85/29
SHEET 29 OF 290

WORK AS CONSTRUCTED

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

HIG - 138 - 27.18

END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
0	0		
		235	0
127	0		
		1315	0
583	0		
		3424	0
1266	0		

PAINT CREEK, OHIO
PAINT CREEK RESERVOIR
RELOCATION OF OHIO STATE ROUTE 138
ITEM OH-2 — CHANNEL CROSS SECTIONS
STA. 21+00 TO STA. 23+61.4

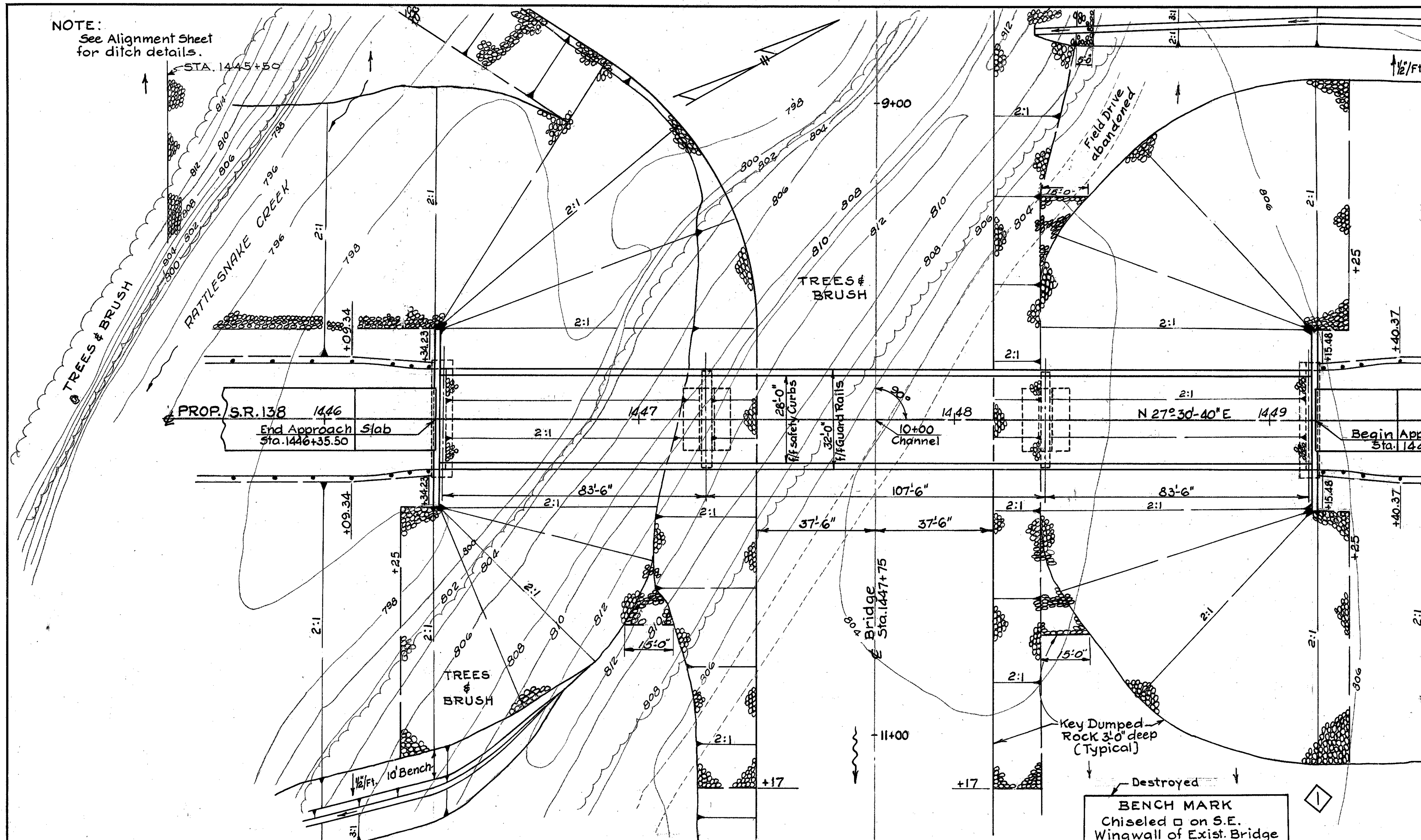
REVISION	DATE	DESCRIPTION	BY
1	Apr. 1972	Revised To Work As Constructed	V.L.O.

SCALE :
DATE : FEB 1970
DRAWING NUMBER 016b-UPC4-85/30
SHEET 30 OF 290

WORK AS CONSTRUCTED

FED. RD. DIVISION	STATE	PROJECT
2	OHIO	

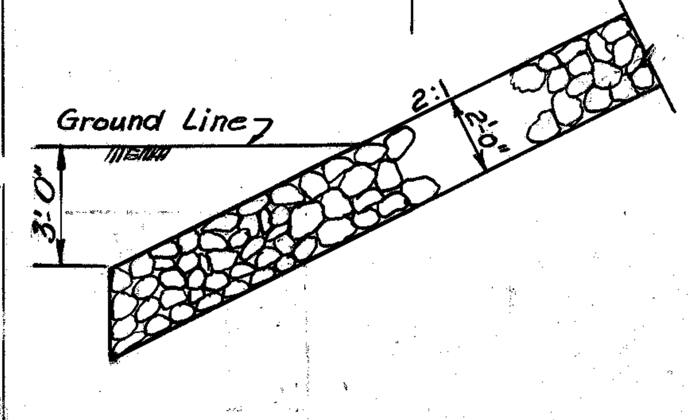
HIG-138-27.18



BRIDGE DATA

TYPE : Continuous welded Girder with reinforced Concrete Deck and Substructure.
SPANS : 83'-6" — 107'-6" — 83'-6".
ROADWAY : 28'-0" f/f of 2'-0" safety curbs.
LOADING : HS 20-44
SKEW : 0°-00'.
WEARING SURFACE : 1" Monolithic Concrete.
APPROACH SLABS : AS-1-54 [25' Long].
RAILING : Deep Beam Rail with steel Posts, Bolts and Handrail.
ALIGNMENT : Tangent.

DRAINAGE AREA	=	2.52 Sq. Mi.
10 Year NATURAL FREQ.	=	15,100 c.f.s.
10 Year VEL. [Structure]	=	7.38 FPS
10 Year HEAD LOSS	=	6 Inches



DETAIL DUMPED ROCK KEY

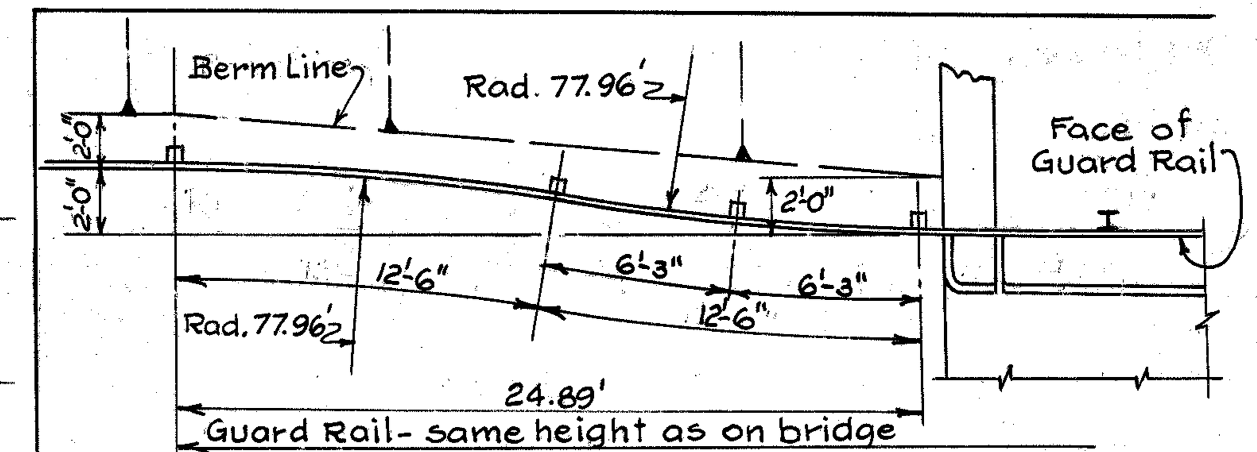
1

ORIGINAL BRIDGE DATA

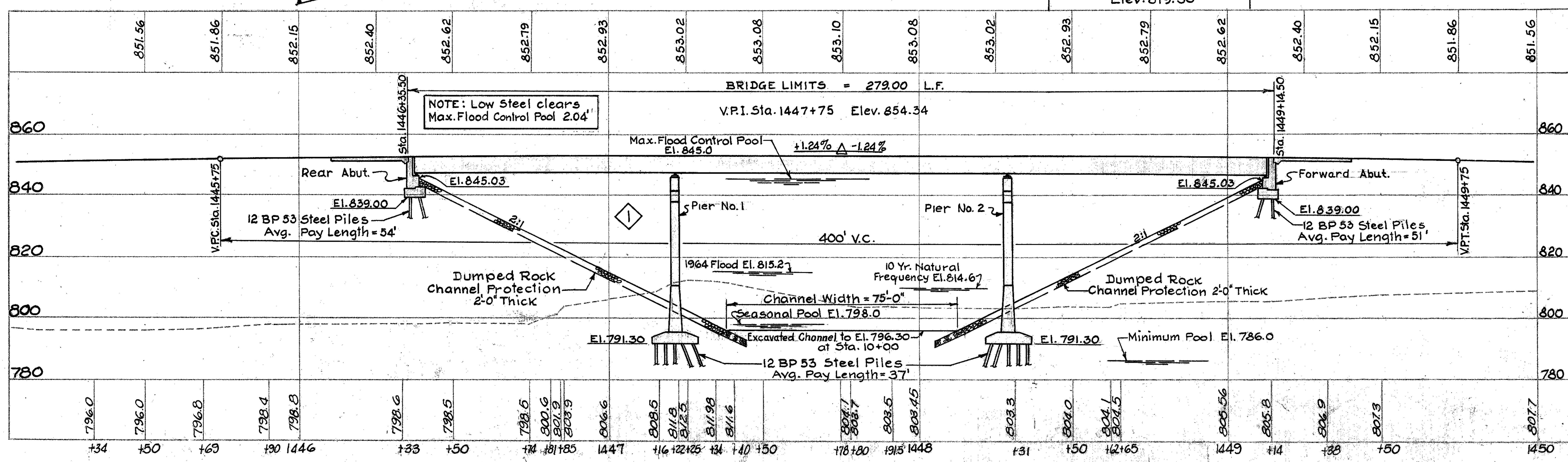
BRIDGE NO. HIG-138-2742

DATE BUILT : 1930 as a Temporary Structure.
TYPE : Steel Beam with Timber pile Piers and Stone Abutments.
SPANS : 42'-43'-6"-41'-10" Clear; 141'-2" Overall.
WIDTH : 19'-2" f/f of wheel guards.
LOADING : S-11.4-59
DISPOSITION : To be removed.

Destroyed
BENCH MARK
Chiseled □ on S.E. Wingwall of Exist. Bridge
Elev. 819.30



GUARD RAIL DETAIL FOR APPROACHES



REVISION	DATE	DESCRIPTION	BY
1	APR. 1972	REVISED TO WORK AS CONSTRUCTED	V.L.O.

U. S. ARMY ENGINEER DISTRICT, HUNTINGTON
CORPS OF ENGINEERS
HUNTINGTON, W. VA.

DRAWN BY: P.J.M.
TRACED BY: L.P.
CHECKED BY: FWS 9-29-67
SUBMITTED BY: S. Withers CONSULTANT
RECOMMENDED:
CHIEF ENG. DIV.

PAINT CREEK, OHIO
PAINT CREEK RESERVOIR
RELOCATION OF OHIO STATE ROUTE # 138
ITEM OH-2, SITE PLAN
BRIDGE No. HIG-138-2739
S.R. 138 OVER RATTLESNAKE CREEK

APPROVED: COL. C.E. DISTRICT ENGINEER
DATE: 1 FEB 1970

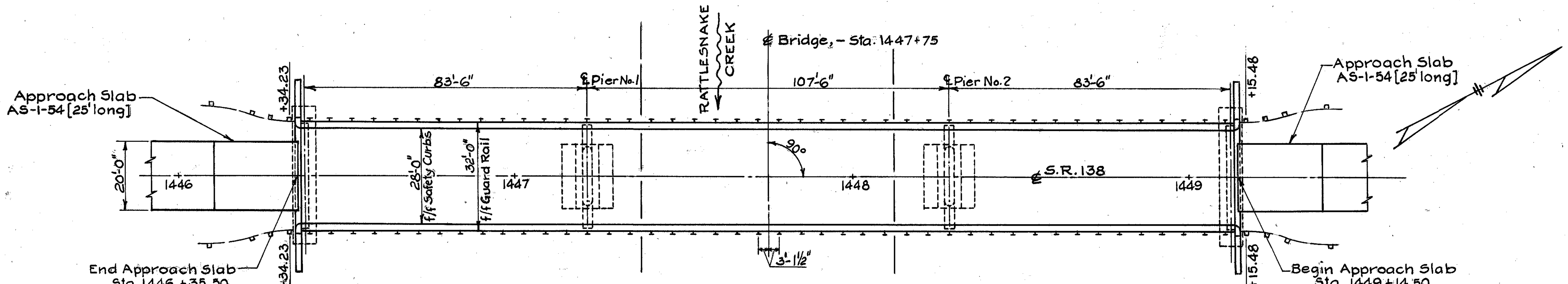
BARRETT, CARGO, WITHERS & ASSOC. LTD.
CONSULTING ENGINEERS
CHILLICOTHE, OHIO

SCALE: 0 10' 20'
SPEC. NO.
DRAWING NUMBER: 016b-UPC4-85/31
SHEET 31 OF 290

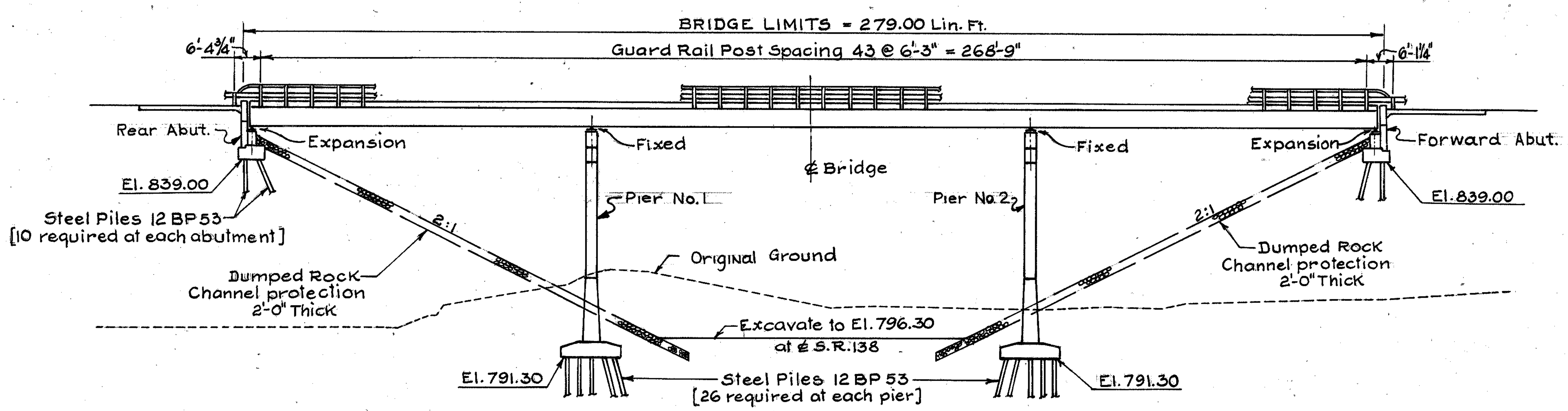
WORK AS CONSTRUCTED

FED. RD. DIVISION	STATE	PROJECT
2	OHIO	

HIG-138-27.18



GENERAL PLAN



GENERAL ELEVATION

0' 10' 20' 40'
SCALE

◇1 GENERAL NOTES

REFERENCE was made to Supplemental Specifications 808 dated 1-13-67, 811 dated 1-1-67, 825 dated 12-19-67, 828 dated 1-1-67, 832 dated 5-25-67 and 931 dated 5-25-67.

DESIGN SPECIFICATIONS : This structure conforms to the requirements of "Standard Specifications for Highway Bridges", Ninth Edition, 1965, adopted by The American Association of State Highway Officials, as modified by Ohio Department of Highways.

DESIGN DATA :
- Design Loading : HS 20-44.
- Superstructure Concrete : Class "C", f'_c = 3,000 p.s.i.
- Substructure Concrete : Class "C", f'_c = 3,300 p.s.i.
- Structural Steel : ASTM A36-basic unit stress 20,000 p.s.i.
- Reinforcing Steel : ASTM A15, A16, A160, Deformed, Intermediate or Hard Grade. Basic unit stress 20,000 p.s.i.

REMOVAL OF EXISTING STRUCTURE : When no longer needed to maintain traffic, the existing structure was removed.

~~EXCAVATION Includes the removal of fill material required for construction of the abutments and piers.~~

PROCEDURE : The embankment was placed and compacted up to the finished spill-thru slope and to the level of the subgrade for a distance of 200 feet back of the abutments, after which excavation was made for the abutments and piers and piles driven.

ABUTMENT PILES were driven to a pile tip elevation of at least 788 for the rear abutment and at least 791 for the forward abutment. The piles were driven to a minimum bearing capacity of 44 tons per pile. The Contractor pre-bored holes to elevation 810 for the rear abutment and to elevation 816 for the forward abutment to facilitate driving piles through the compacted embankment.

PIER PILES were driven to a pile tip elevation of at least 775 and to a minimum bearing capacity of 47 tons per pile.

MACHINE FINISH : The concrete bridge deck was finished by the use of a finishing machine, at the option of the Contractor.

WELDS on secondary stress carrying members are shown thus : S

PAINTING of structural steel made in accordance with Supplemental Specification 832.

FIELD WELDED ATTACHMENTS : No attachments were made by welding to the top flanges of the girders within a distance of 0.10 of the span length on either side of the interior supports. Welding for attachments to the top flanges at other parts of the spans were kept at least 2" from edge of flange.

ESTIMATED QUANTITIES

	ITEM	QUANTITY	UNIT	DESCRIPTION	ABUT'S	PIERS	SUPER	GENERAL	AS BUILT
	202	Lump	Sum	Existing structure removed.				Lump	Lump
	503	538	Cu.Yds.	Unclassified Structural Excavation	193	345			* *
*	507	520	Lin. Ft.	Prebored Holes.	520				Zero
*	507	2,080	Lin. Ft.	Steel Piles, 12 BP 53.	1,040	1,040			2,974
	509	115,363	Pounds	Reinforcing Steel.	9,902	26,170	79,291		* *
	511	269	Cu. Yds.	Class "C" Concrete, Superstructure.			269		* *
	511	180	Cu. Yds.	Class "C" Concrete, Pier Caps and Stems.		180			* *
	511	87	Cu. Yds.	Class "C" Concrete, Abutments above Footing.	87				* *
	511	133	Cu. Yds.	Class "C" Concrete, Footings.	60	73			* *
	513	264,000	Pounds	Structural Steel.			264,000		* *
	517	558.00	Lin. Ft.	Railing Galvanized			558.00		566.5
	518	62	Cu. Yds.	Porous Backfill.	62				* *
	518	60	Lin. Ft.	6" Helical perforated C.M.P. Sec. 707.06,	60				60
	518	48	Lin. Ft.	6" Helical C.M.P. Sec. 707.06, non-perforated.	48				50
	518	12	Each	Scuppers.			12		12
*	601	5,036	Cu. Yds.	Dumped Rock Channel Protection.				5,036	4,805.58
	808	269	Units	Water-reducing, Set-retarding admixture.			269		* *
	825	1,036	Sq. Yds.	Concrete Surface Treatment.	14		1,022		* *
	828	56	Lin. Ft.	Joint Sealer [End Dam].			56		* *

~~* Carried to General Summary Sheet for pay Item~~

* * Not Available

◇1

REVISION	DATE	DESCRIPTION	BY
◇1	APR. 1972	REVISED TO WORK AS CONSTRUCTED	V.L.O.

U. S. ARMY ENGINEER DISTRICT, HUNTINGTON
CORPS OF ENGINEERS
HUNTINGTON, W. VA.

DRAWN BY: W.I.C. L.P.
TRACED BY: L.P.
CHECKED BY: FHS 9-29-67
SUBMITTED BY: S.E. Withers CONSULTANT
RECOMMENDED:
CHIEF ENG. DIV.

PAINT CREEK, OHIO
PAINT CREEK RESERVOIR
RELOCATION OF OHIO STATE ROUTE 138
ITEM OH-2-GENERAL PLAN AND ELEVATION AND ESTIMATED QUANTITIES
BRIDGE No. HIG-138-2739
S.R. 138 OVER RATTLESNAKE CREEK

APPROVED: DATE:
COL. C.E. DISTRICT ENGINEER FEB 1970

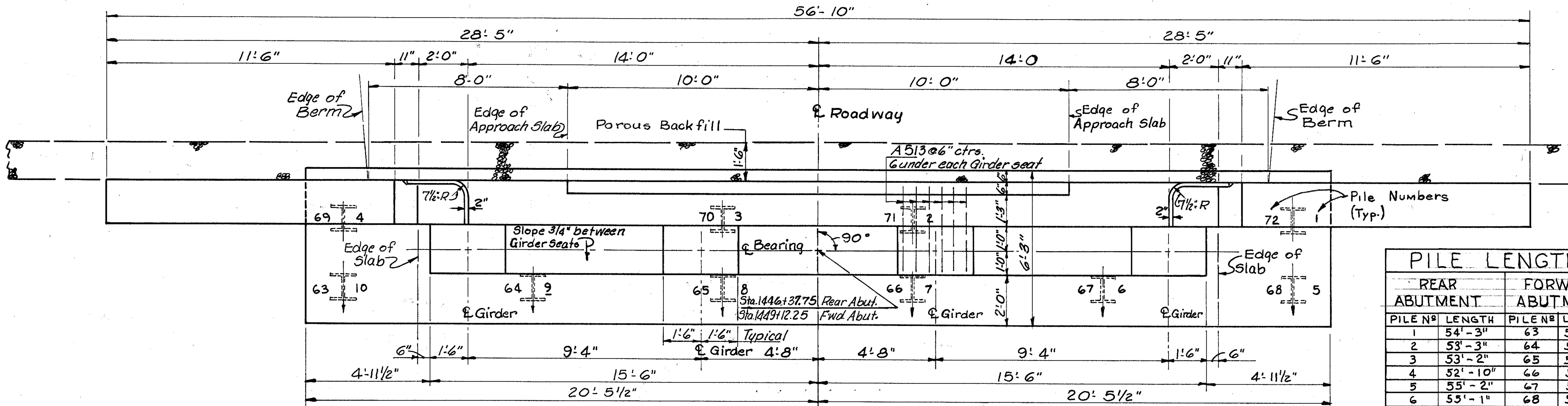
BARRETT, CARGO, WITHERS & ASSOC. LTD.
CONSULTING ENGINEERS
CHILLICOTHE, OHIO

SCALE: AS SHOWN
SPEC. NO.
DRAWING NUMBER 016b-UPC4-85/32
SHEET 32 OF 290

WORK AS CONSTRUCTED

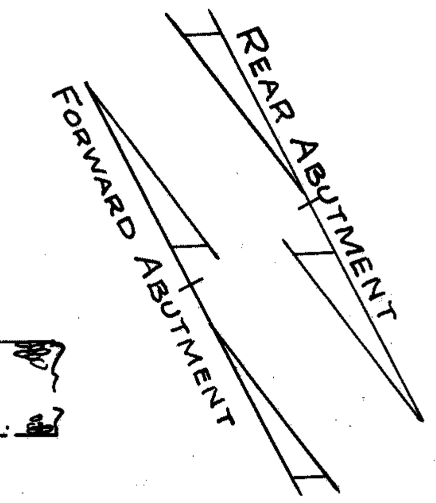
FED. RD. DIVISION	STATE	PROJECT
2	OHIO	

HIG-138-27.18



PLAN

SCALE IN FEET



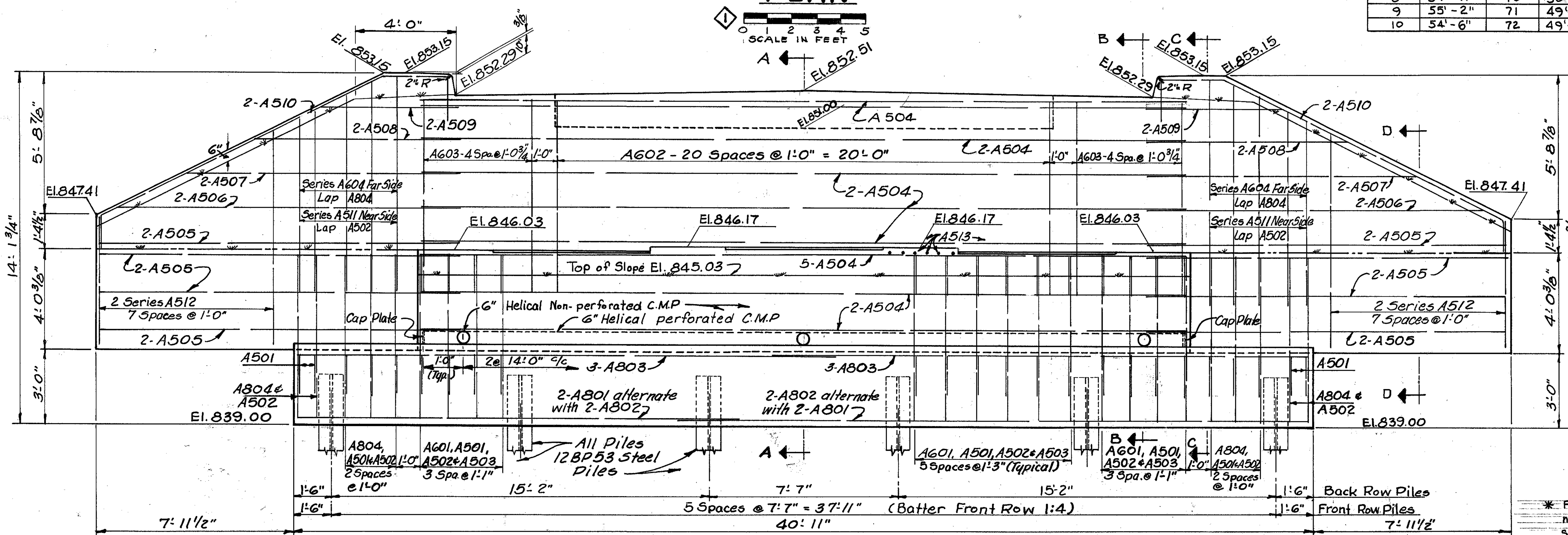
~ NOTES ~

CONCRETE is Class "C", for Abutments

POROUS BACKFILL 1'-6" thick extends from the top of the footing upward to the underside of the approach slab and to the surface of the earth shoulders, and outward to the surface of the embankment slopes.

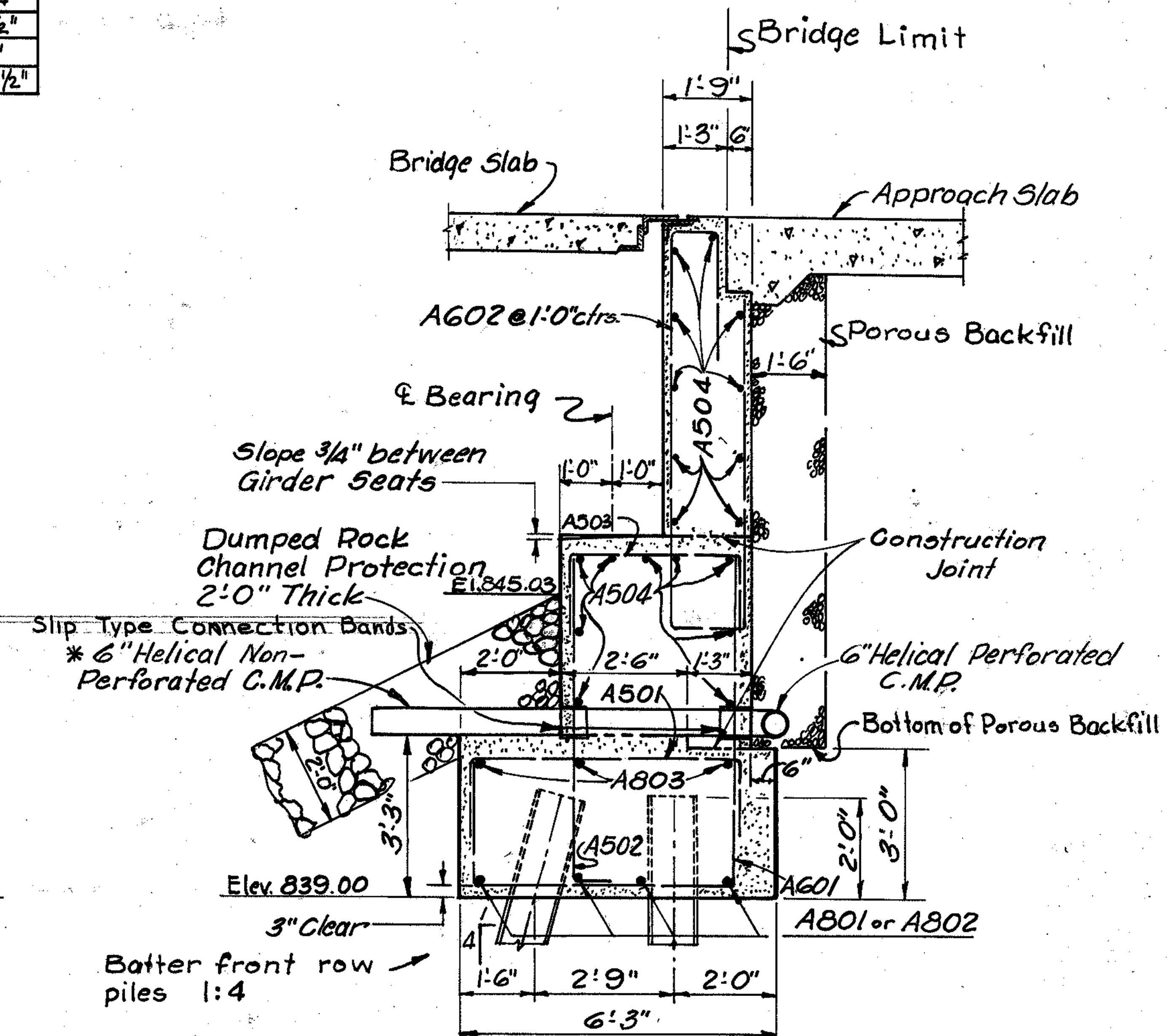
PILE LENGTHS			
REAR ABUTMENT		FORWARD ABUTMENT	
PILE Nº	LENGTH	PILE Nº	LENGTH
1	54'-3"	63	51'-10"
2	53'-3"	64	51'-9¾"
3	53'-2"	65	51'-6"
4	52'-10"	66	51'-4¾"
5	55'-2"	67	51'-9½"
6	55'-1"	68	51'-8"
7	55'-2"	69	51'-1¼"
8	54'-11"	70	50'-3½"
9	55'-2"	71	49'-9"
10	54'-6"	72	49'-10½"

1



ELEVATION

SCALE IN FEET

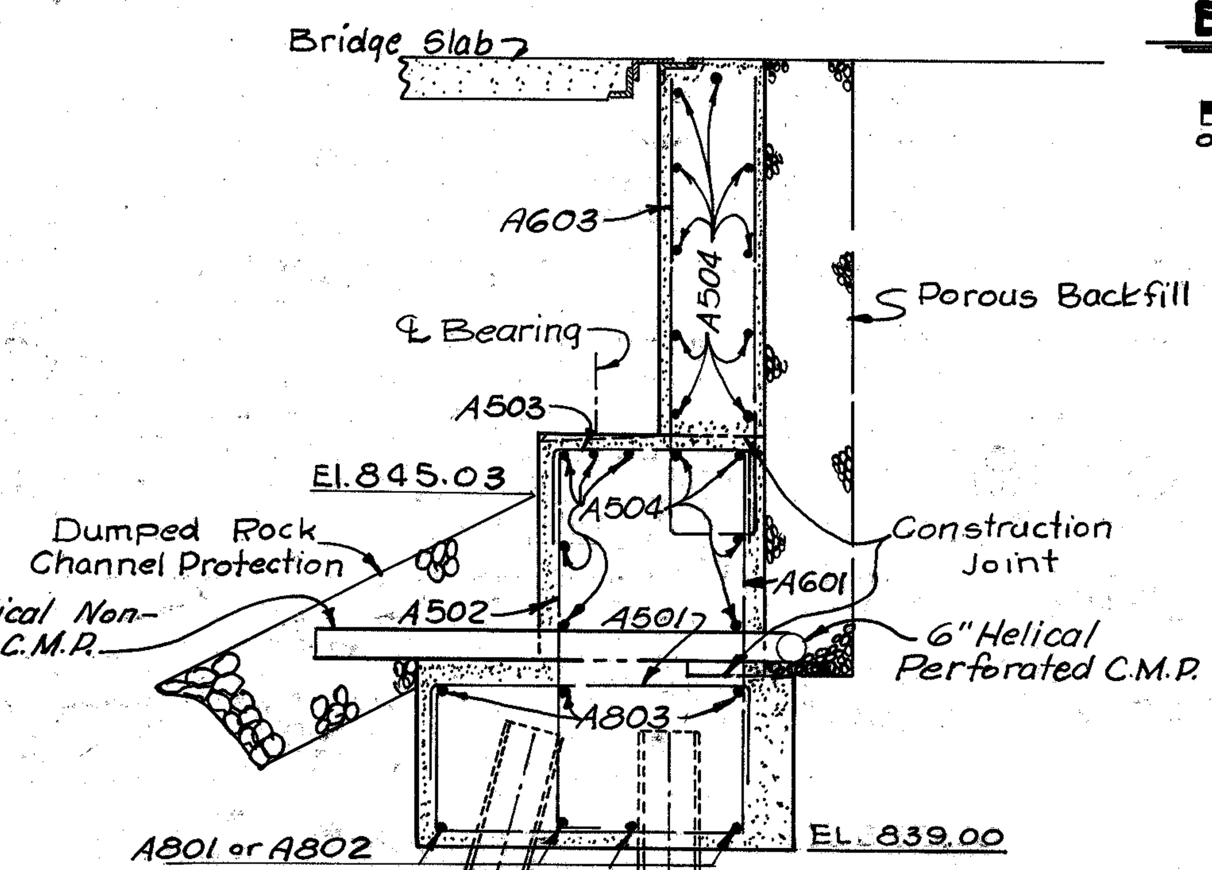


* For forming purposes, a non-perforated C.M.P. section, with slip type connectors on each end, was tight fitted inside form. After form removal, the additional pipe was fitted to the exposed connectors.

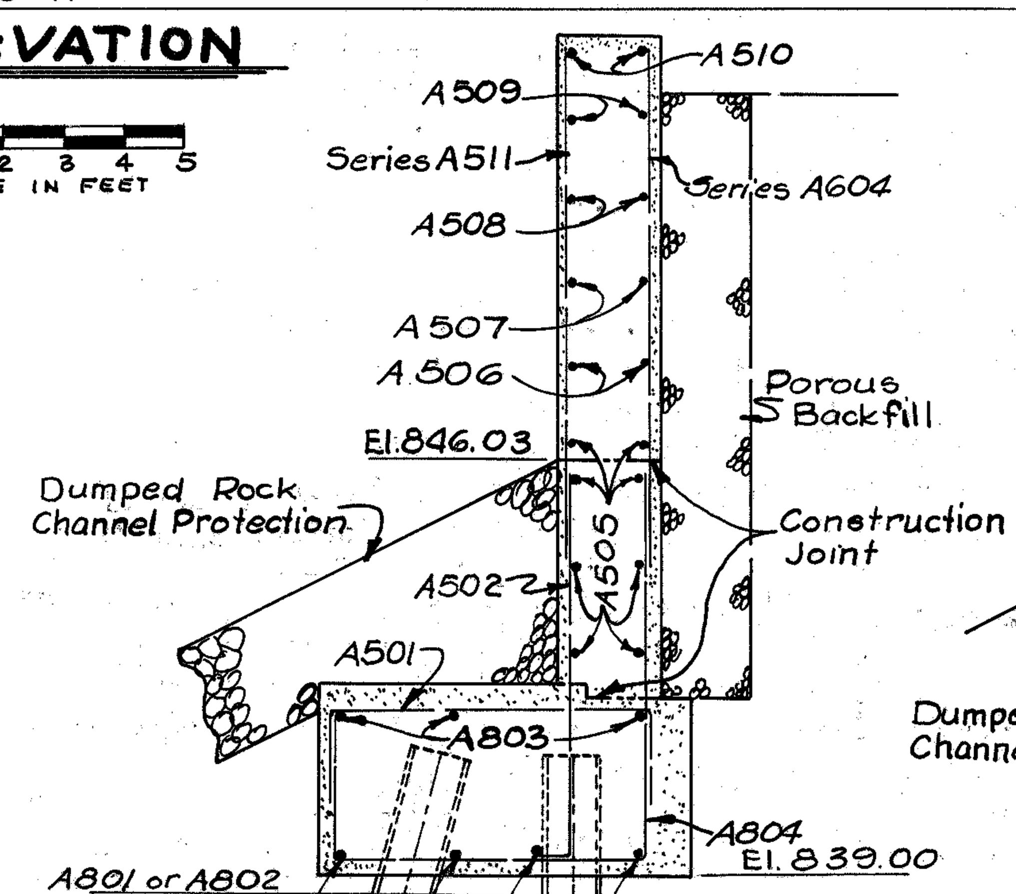
1

SECTION A-A

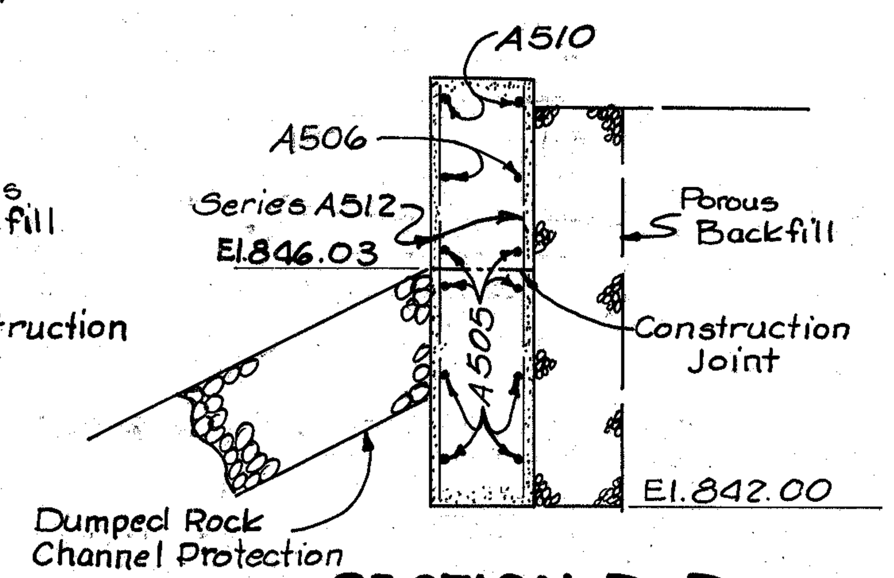
SCALE IN FEET



SECTION B-B



SECTION C-C



SECTION D-D

REVISION	DATE	DESCRIPTION	BY
1	APR. 1972	REVISED TO WORK AS CONSTRUCTED	V.L.O.

U. S. ARMY ENGINEER DISTRICT, HUNTINGTON
CORPS OF ENGINEERS
HUNTINGTON, W. VA.

PAINT CREEK, OHIO
PAINT CREEK RESERVOIR
RELOCATION OF OHIO STATE ROUTE 138
ITEM OH-2, ABUTMENT DETAILS
BRIDGE NO. HIG-138-2739
S.R. 138 OVER RATTLESNAKE CREEK

DRAWN BY: F.H.S.
TRACED BY: P.J.M.
CHECKED BY: P.R.S. 9-26-67
SUBMITTED BY: CONSULTANT
RECOMMENDED:
CHIEF ENG. DIV.
APPROVED: COL. C.E. DISTRICT ENGINEER
DATE: FEB 1970

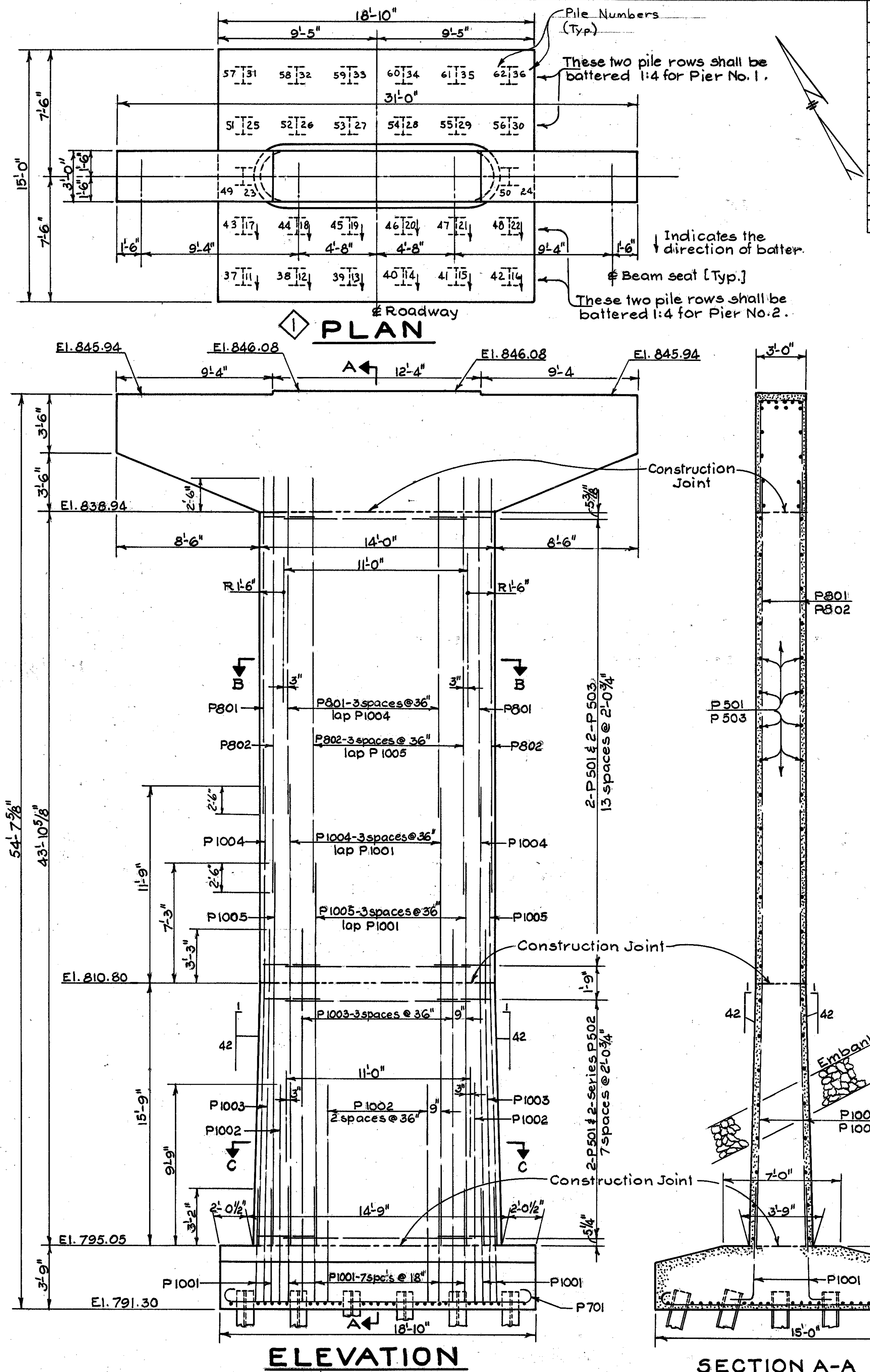
BARRETT, CARGO, WITHERS & ASSOC. LTD.
CONSULTING ENGINEERS
CHILLICOTHE, OHIO

SCALE: AS SHOWN
SPEC. NO.
DRAWING NUMBER: 016b-UPC4-85/33
SHEET 33 OF 290

WORK AS CONSTRUCTED

FED. RD. DIVISION	STATE	PROJECT
2	OHIO	

HIG-138-27.18

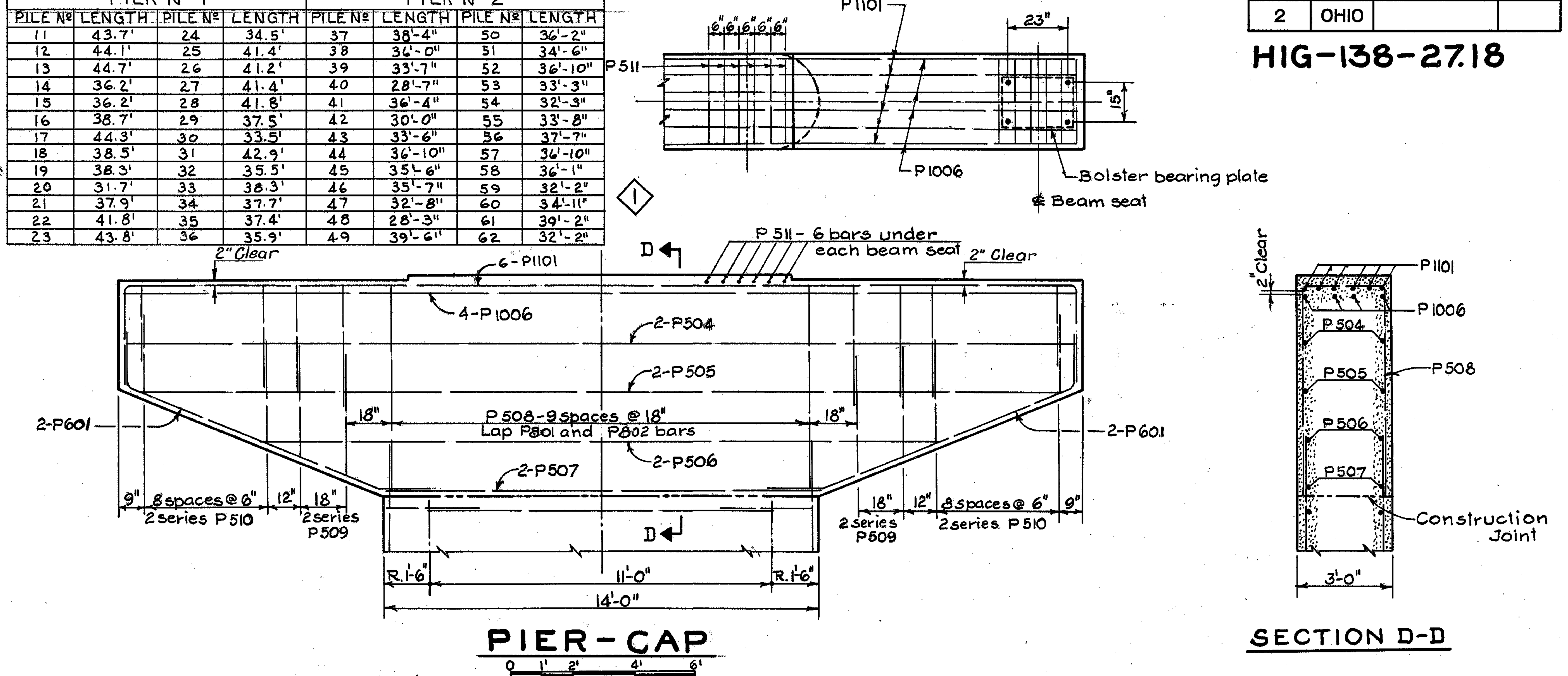


PLAN

ELEVATION

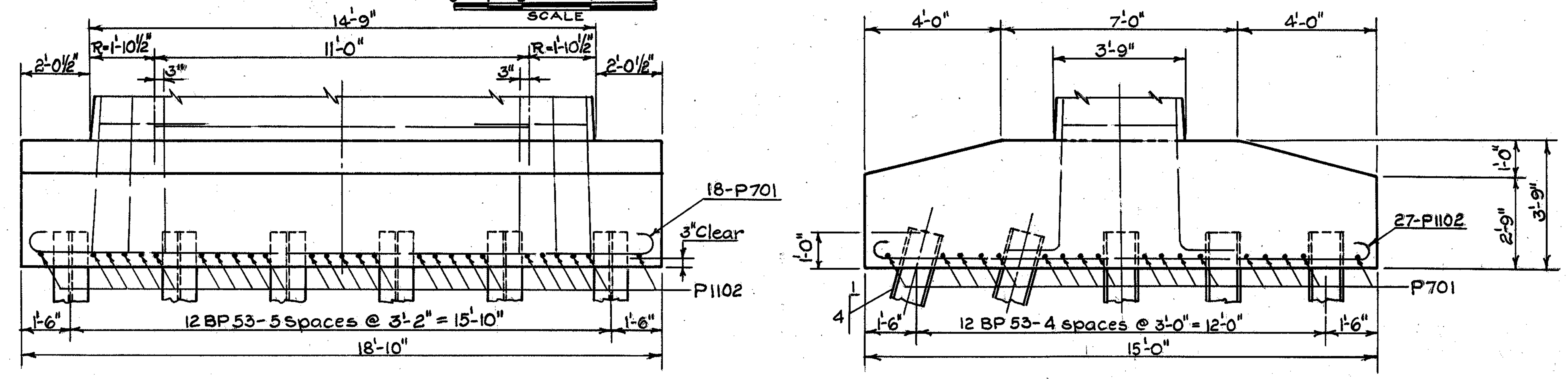
SECTION A-A

PILE LENGTHS							
PIER Nº 1				PIER Nº 2			
PILE Nº	LENGTH	PILE Nº	LENGTH	PILE Nº	LENGTH	PILE Nº	LENGTH
11	43.7'	24	34.5'	37	38'-4"	50	36'-2"
12	44.1'	25	41.4'	38	36'-0"	51	34'-6"
13	44.7'	26	41.2'	39	33'-7"	52	36'-10"
14	36.2'	27	41.4'	40	28'-7"	53	33'-3"
15	36.2'	28	41.8'	41	36'-4"	54	32'-3"
16	38.7'	29	37.5'	42	30'-0"	55	33'-8"
17	44.3'	30	33.5'	43	33'-6"	56	37'-7"
18	38.5'	31	42.9'	44	36'-10"	57	36'-10"
19	38.3'	32	35.5'	45	35'-6"	58	36'-1"
20	31.7'	33	38.3'	46	35'-7"	59	32'-2"
21	37.9'	34	37.7'	47	32'-8"	60	34'-11"
22	41.8'	35	37.4'	48	28'-3"	61	39'-2"
23	43.8'	36	35.9'	49	39'-6"	62	32'-2"

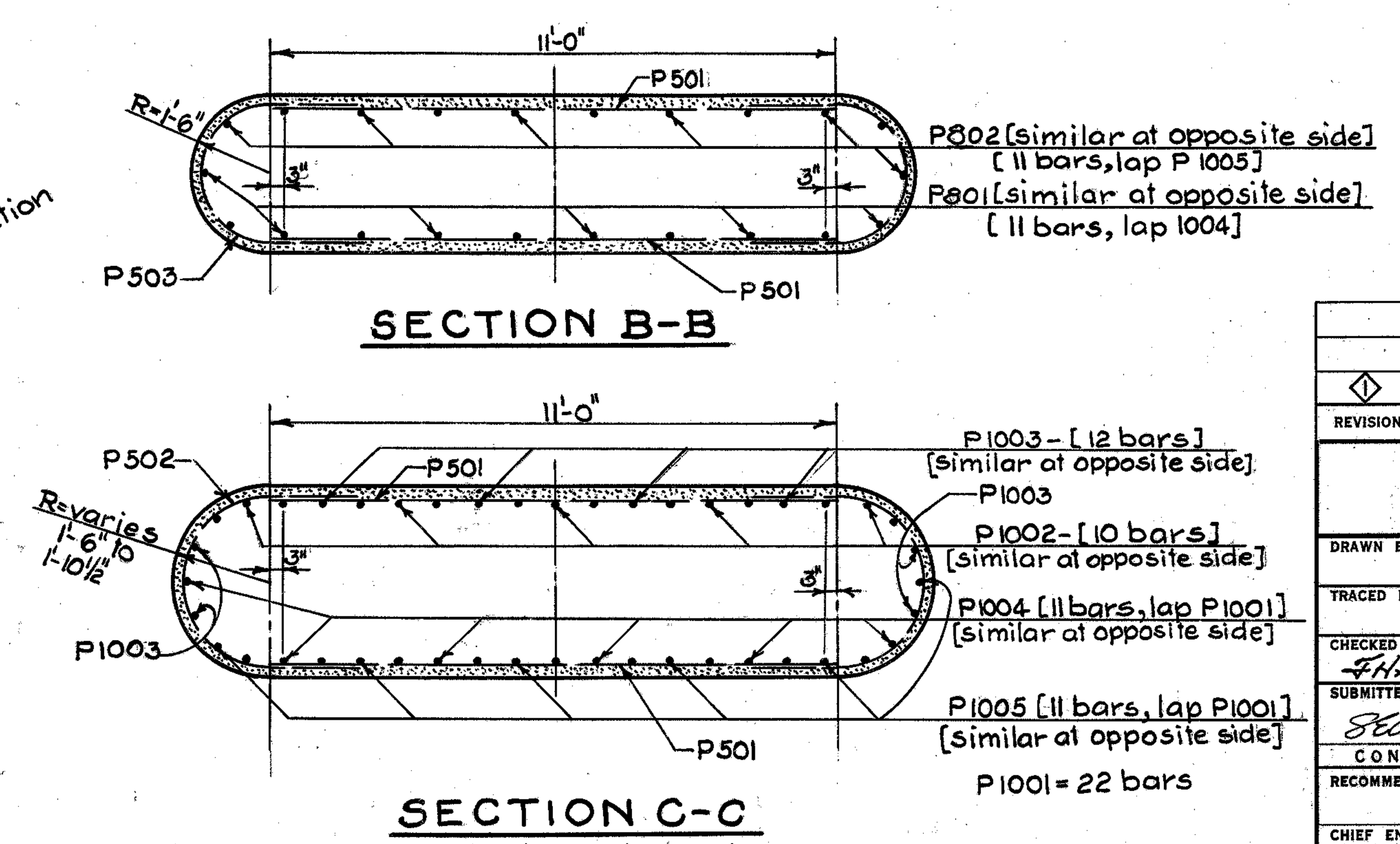


PIER-CAP

SECTION D-D



PIER — FOOTING



SECTION B-B

SECTION C-C

NOTES:

CONCRETE is Class "C"

① BRIDGE SEAT REINFORCING: Special care was taken in placing reinforcing steel in the vicinity of the bridge seat to avoid interference with the drilling of anchor bar holes.

REVISION	DATE	DESCRIPTION	BY
①	APR 1972	REVISED TO WORK AS CONSTRUCTED	V.L.O.

U. S. ARMY ENGINEER DISTRICT, HUNTINGTON
CORPS OF ENGINEERS
HUNTINGTON, W. VA.

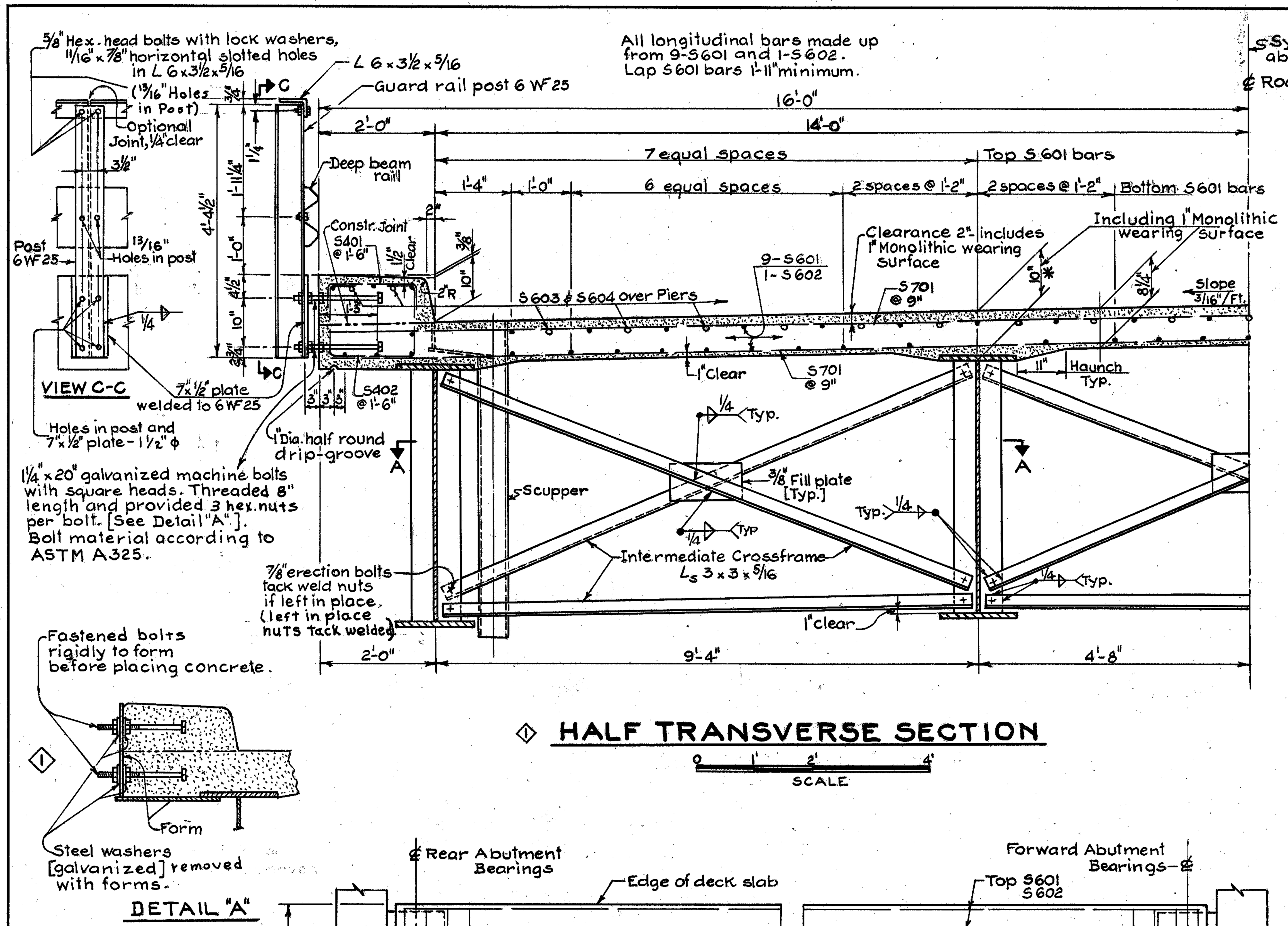
DRAWN BY: W.T.C. L.P.
TRACED BY: L.P.
CHECKED BY: F.H.S. 9-26-67
SUBMITTED BY: [signature] CONSULTANT
RECOMMENDED:
APPROVED:
CHIEF ENG. DIV.
COL. C.E. DISTRICT ENGINEER
DATE: FEB 1970

PAINT CREEK, OHIO
PAINT CREEK RESERVOIR
RELOCATION OF OHIO STATE ROUTE 138
ITEM OH-2, PIER DETAILS
BRIDGE NO. HIG-138-2739
S.R. 138 OVER RATTLESNAKE CREEK

BARRETT, CARGO, WITHERS & ASSOC. LTD.
CONSULTING ENGINEERS
CHILLICOTHE, OHIO

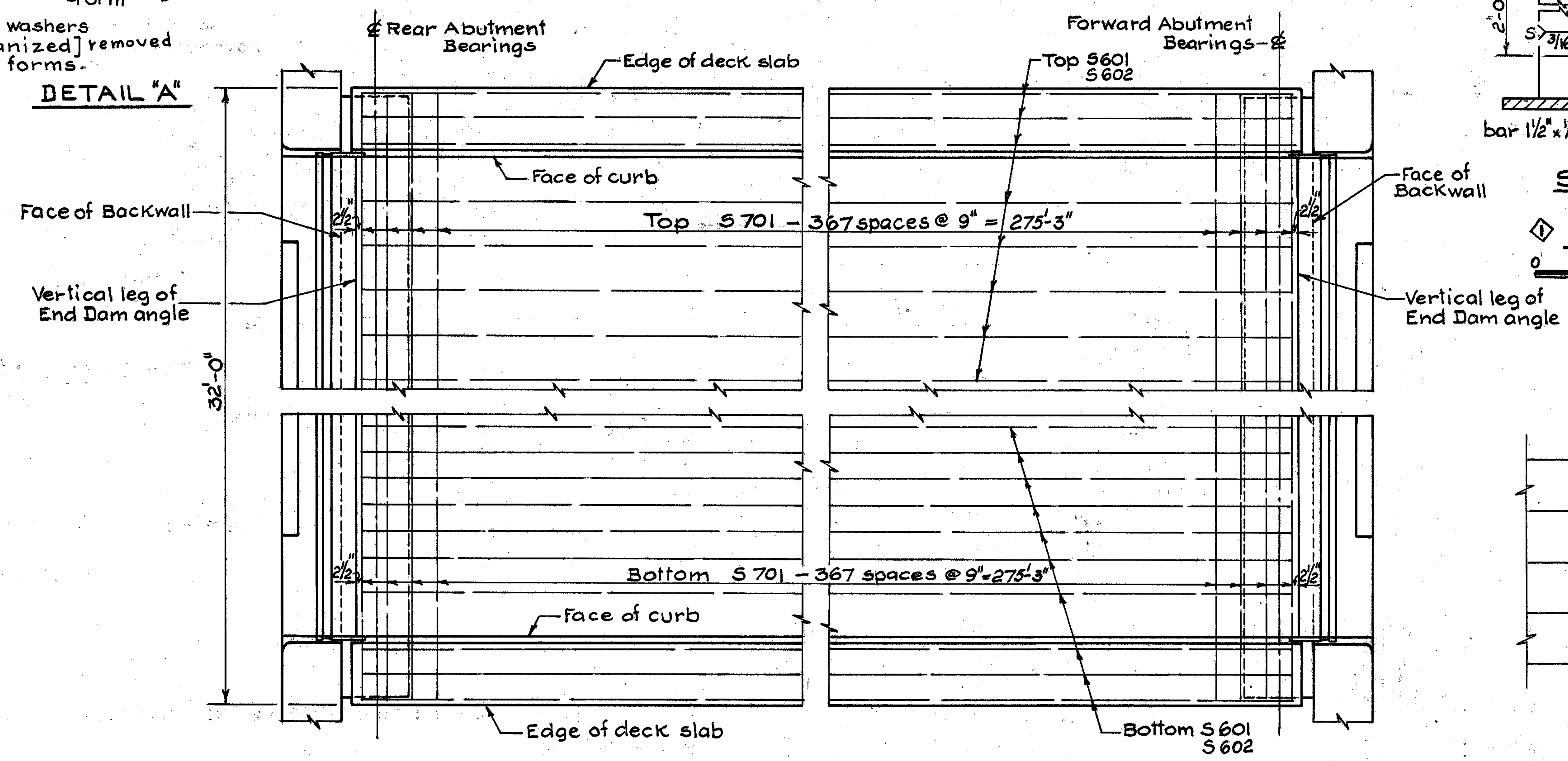
SCALE: AS SHOWN
SPEC. NO.
DRAWING NUMBER: 016b-UPC4-85/34
SHEET 34 OF 290

WORK AS CONSTRUCTED



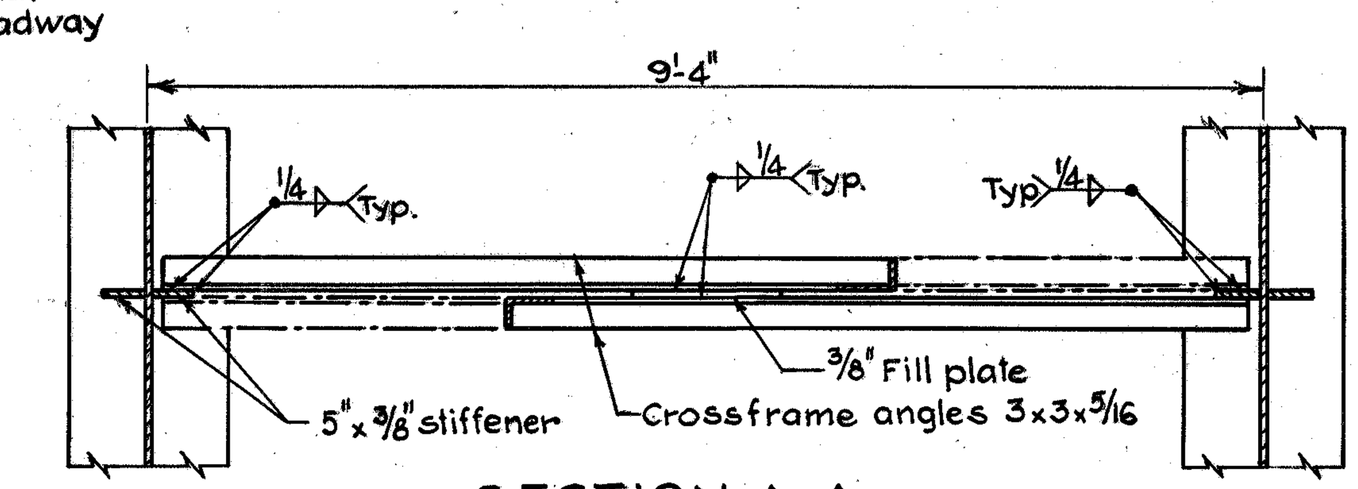
HALF TRANSVERSE SECTION

SCALE



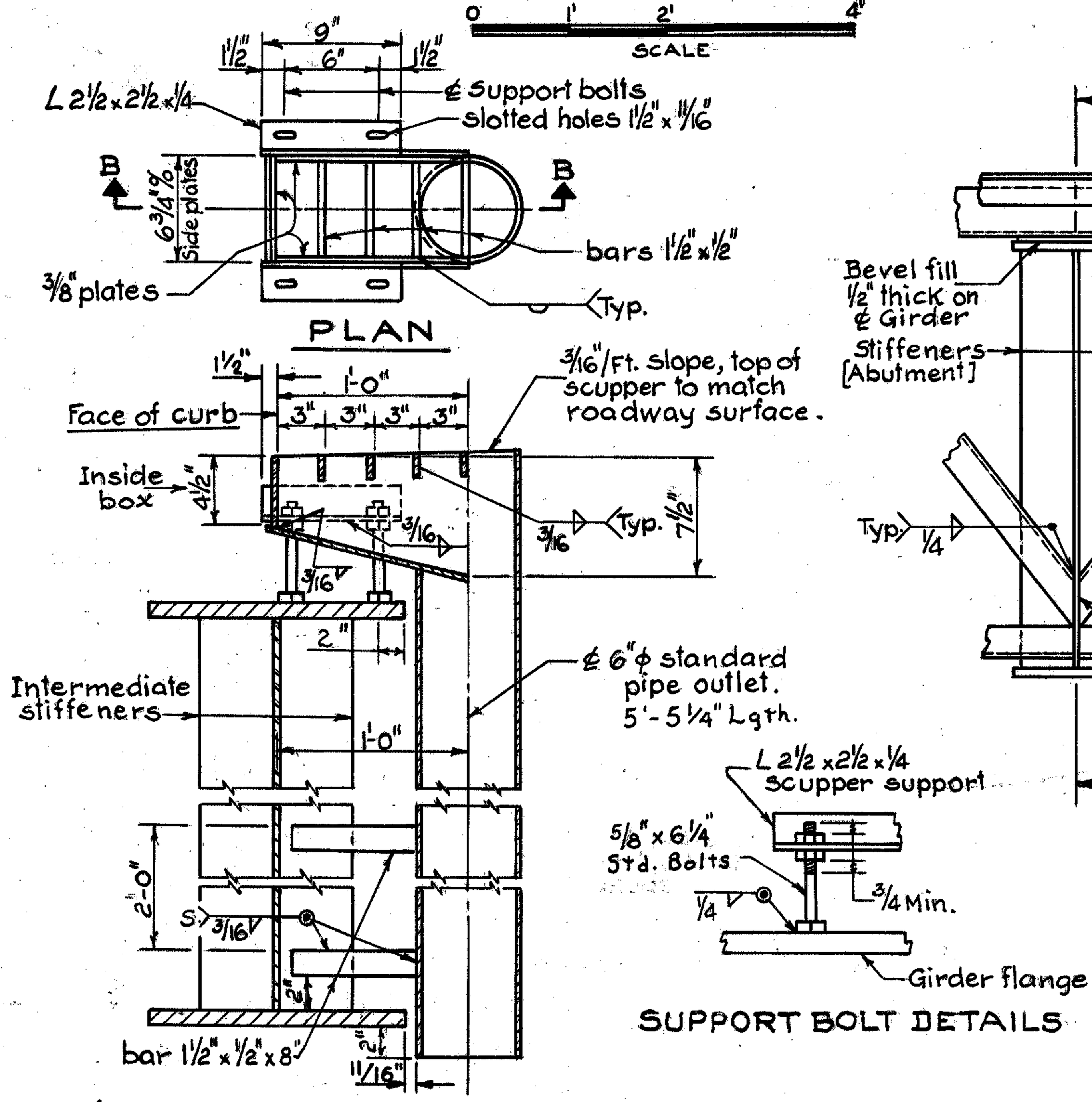
PART PLAN
SLAB REINFORCING

SCALE



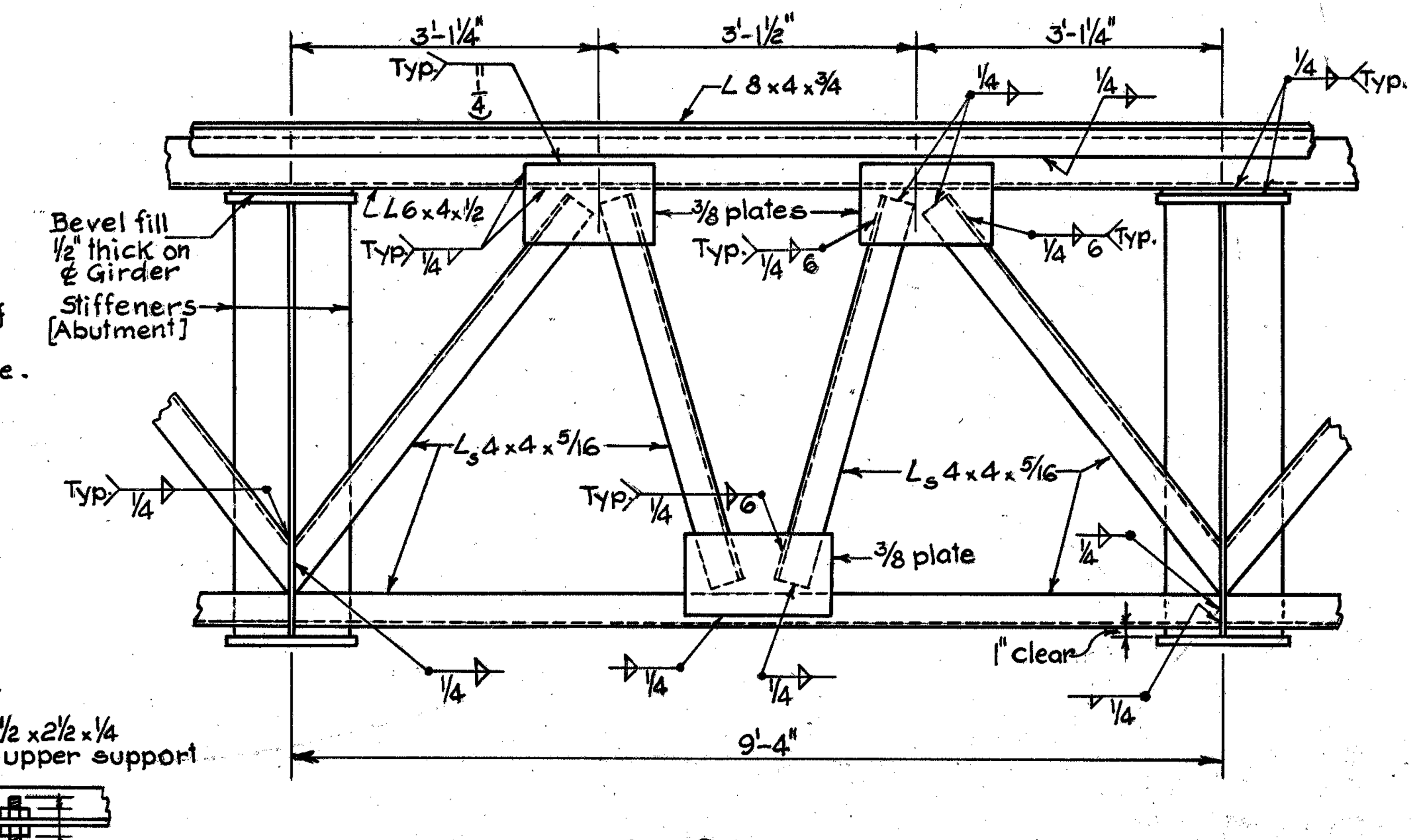
SECTION A-A

SCALE



SCUPPER

SCALE



END CROSSFRAME

SCALE

NOTES:
CONCRETE Is Class "C" for Superstructure.
DECK SLAB HAUNCH : The haunch in the deck slab adjacent to the top of the steel girders, which is shown as 11" wide, may vary from this dimension between the limits of 8" and 14" except that the maximum slope did not exceed 3" per foot.

* This is a nominal haunch dimension. Deviation from it may have been necessary because the top flange of the girder did not have the exact camber or conformation required to place it parallel to the finished grade.

ADDITIONAL NOTES:
For additional notes see GENERAL NOTES.

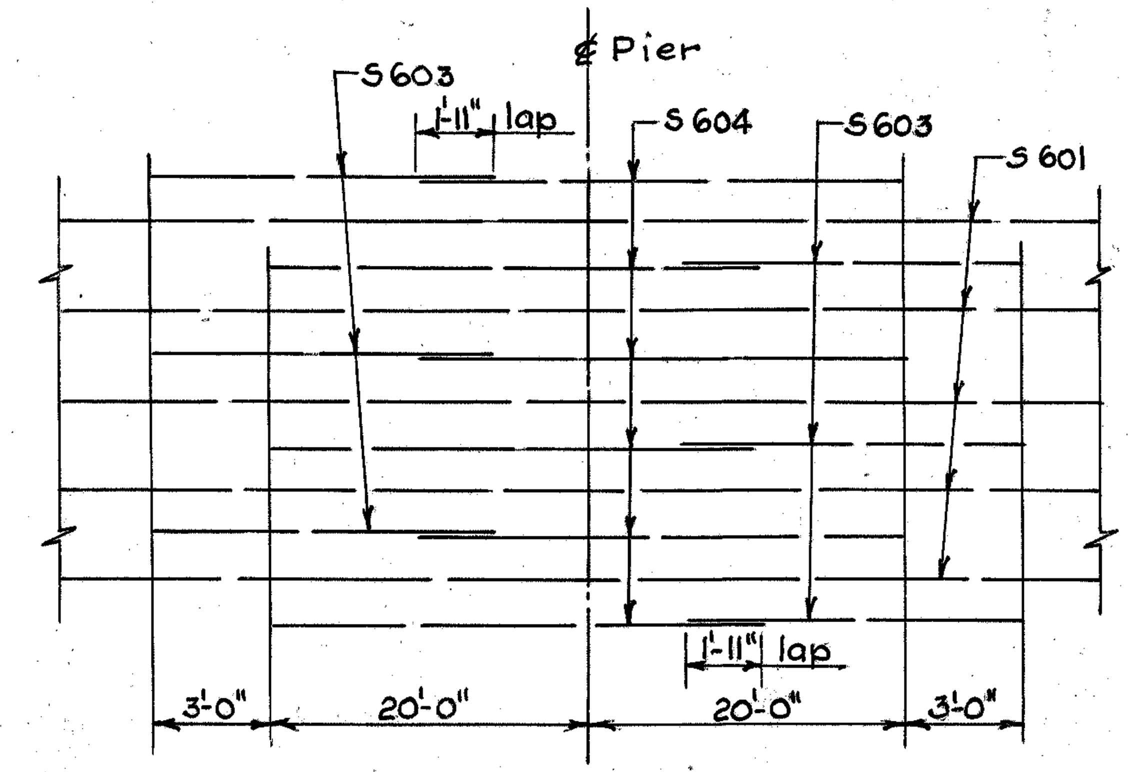


DIAGRAM SHOWING STAGGER
OF S603 AND S604 BARS OVER PIERS.

FED. RD. DIVISION	STATE	PROJECT
2	OHIO	

HIG-138-27.18

REVISION	DATE	DESCRIPTION	BY
1	Apr. 1972	Revised To Work As Constructed	V.L.D.

U. S. ARMY ENGINEER DISTRICT, HUNTINGTON
CORPS OF ENGINEERS
HUNTINGTON, W. VA.

DRAWN BY: W.I.C. L.P.
TRACED BY: L.P.
CHECKED BY: 9-25-67
SUBMITTED BY: CONSULTANT
RECOMMENDED:
CHIEF ENG. DIV.

PAINT CREEK, OHIO
PAINT CREEK RESERVOIR
RELOCATION OF OHIO STATE ROUTE 138
ITEM OH-2-SUPERSTRUCTURE DETAILS
BRIDGE NO. HIG-138-2739
S.R. 138 OVER RATTLESNAKE CREEK

APPROVED: DATE: FEB 1970
COL. C. E. DISTRICT ENGINEER

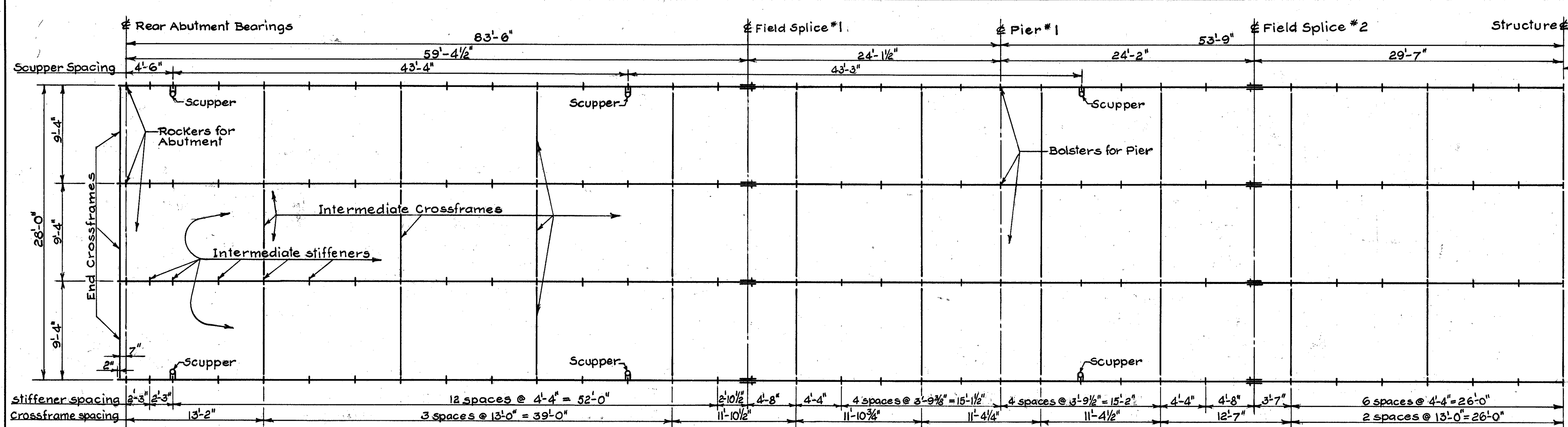
BARRETT, CARGO, WITHERS & ASSOC. LTD.
CONSULTING ENGINEERS
CHILLICOTHE, OHIO

SCALE: AS SHOWN
SPEC. NO.
DRAWING NUMBER 016b-UPC4-85/35
SHEET 35 OF 290

WORK AS CONSTRUCTED

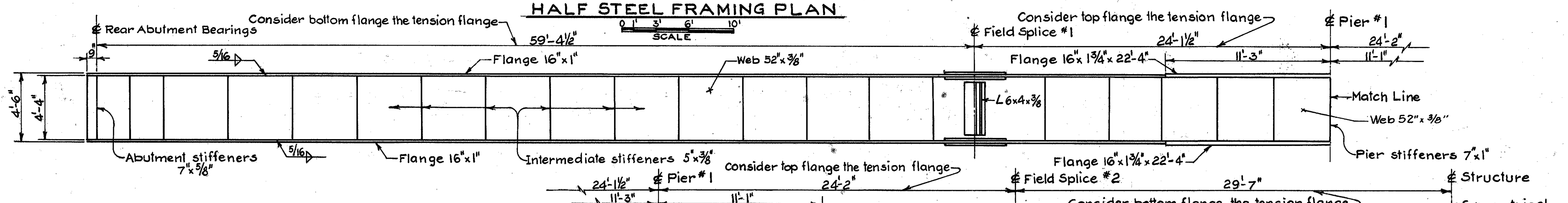
FED. RD. DIVISION	STATE	PROJECT
2	OHIO	

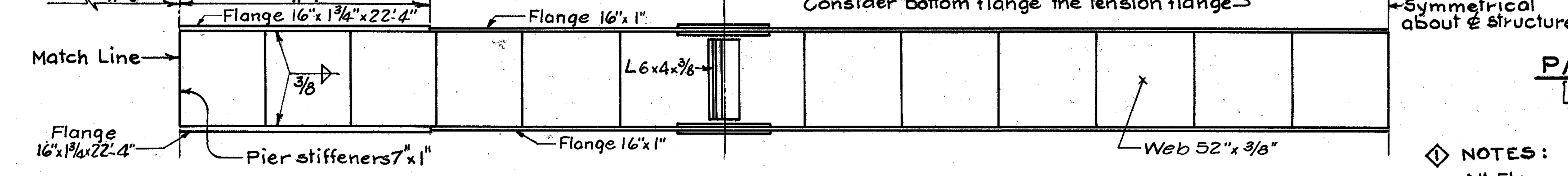
HIG-138-27.18



HALF STEEL FRAMING PLAN

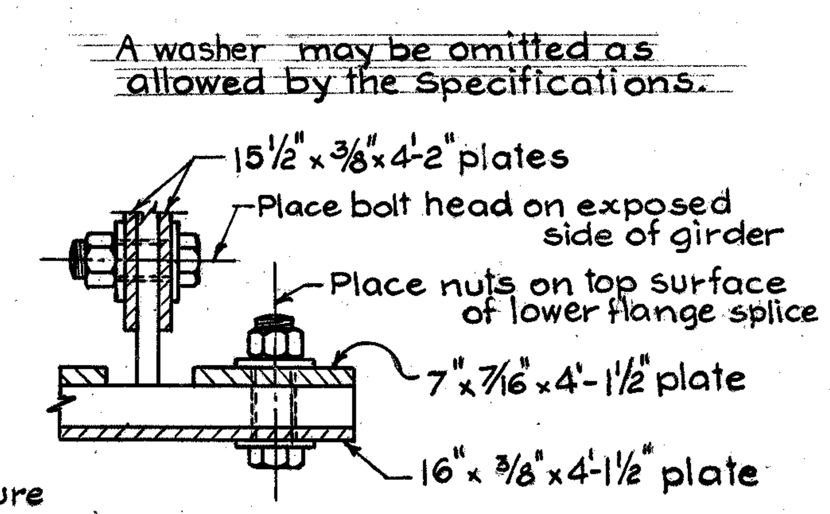
SCALE





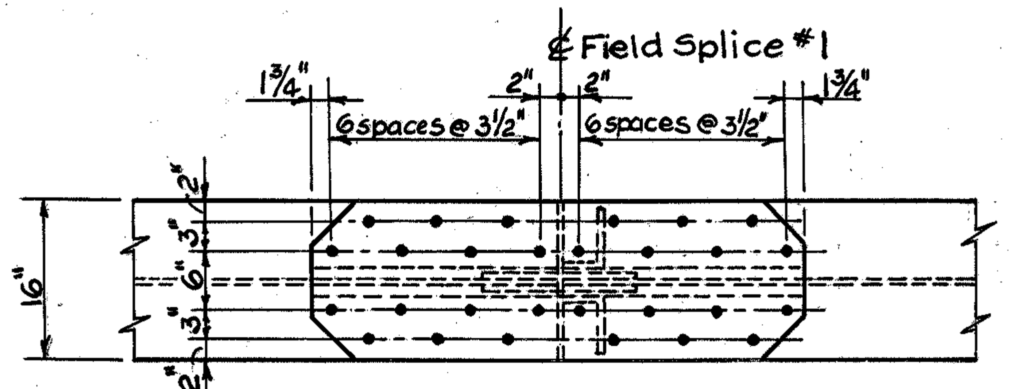
HALF GIRDER ELEVATION

SCALE



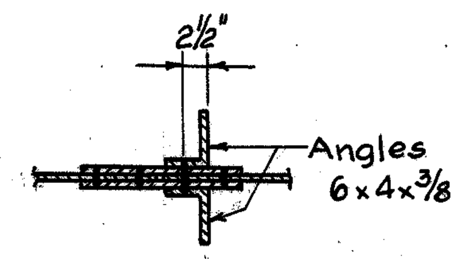
PARTIAL-SECTION

[at ℄ of Beam Splice]

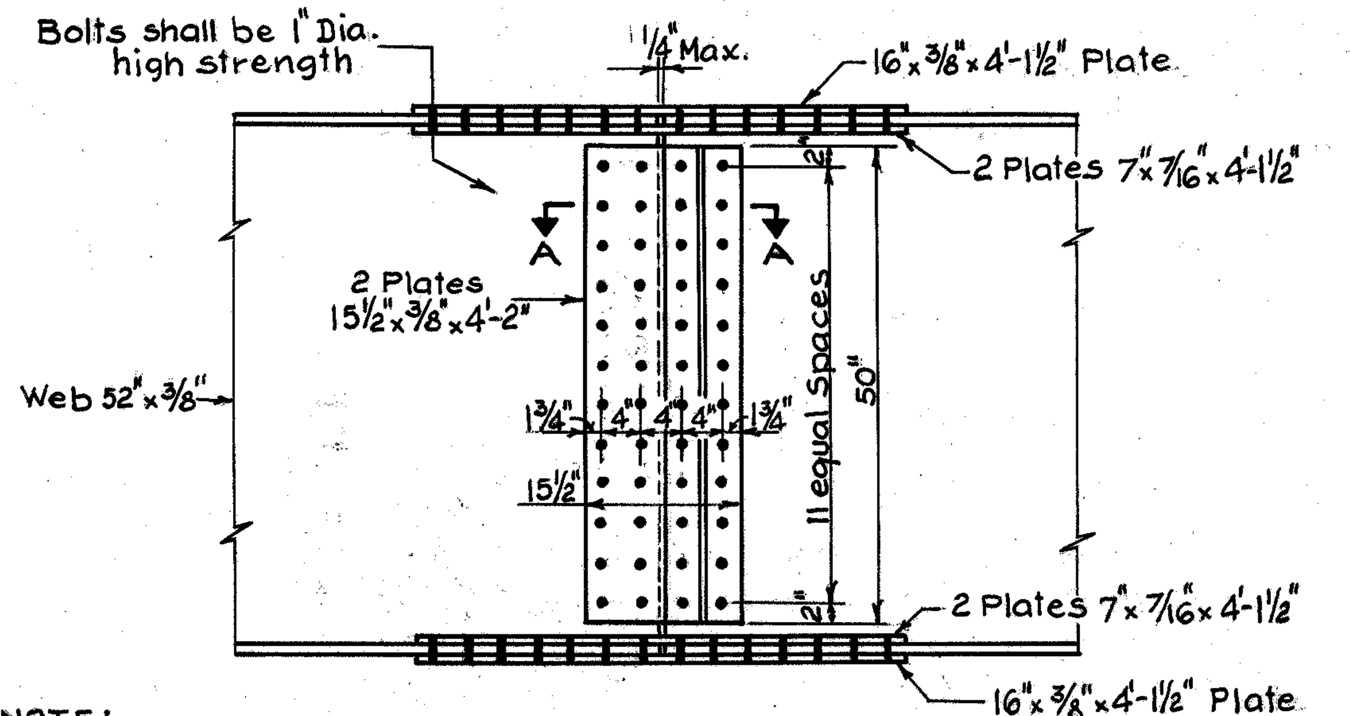


PLAN

[FIELD SPLICE #1]



SECTION A-A



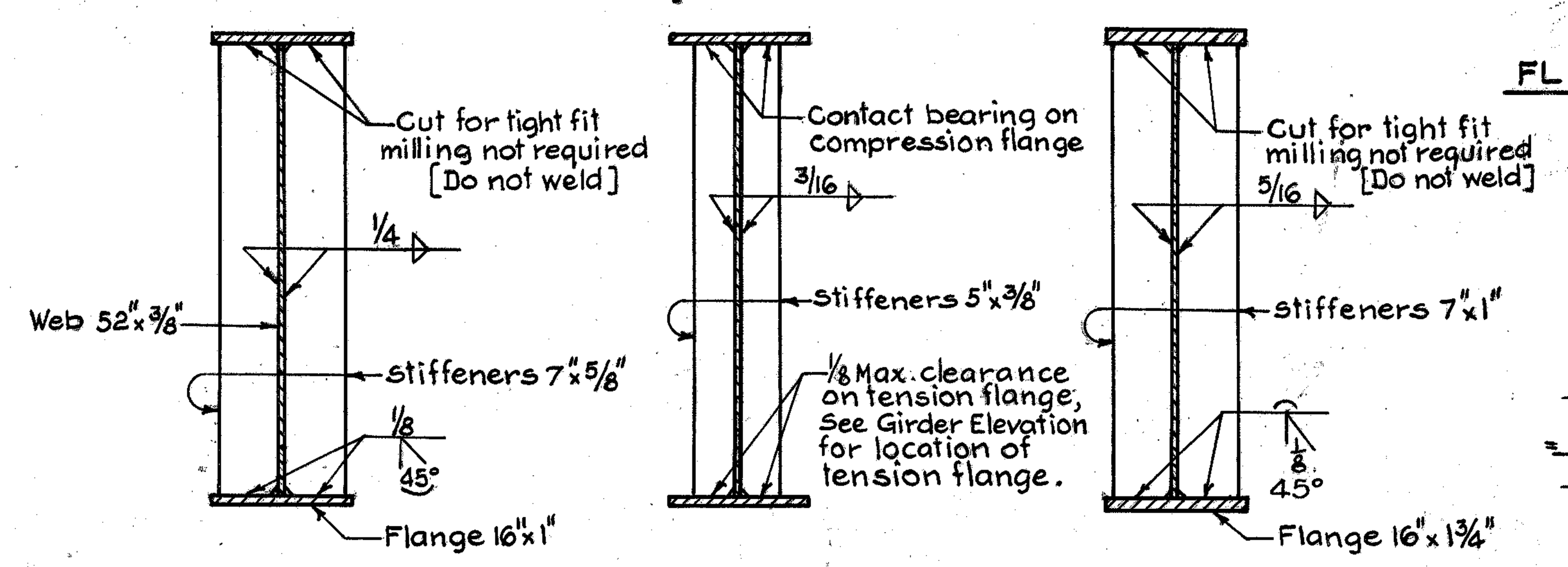
NOTE: Field Splice #2 is opposite hand

ELEVATION

[FIELD SPLICE #1]

SCALE

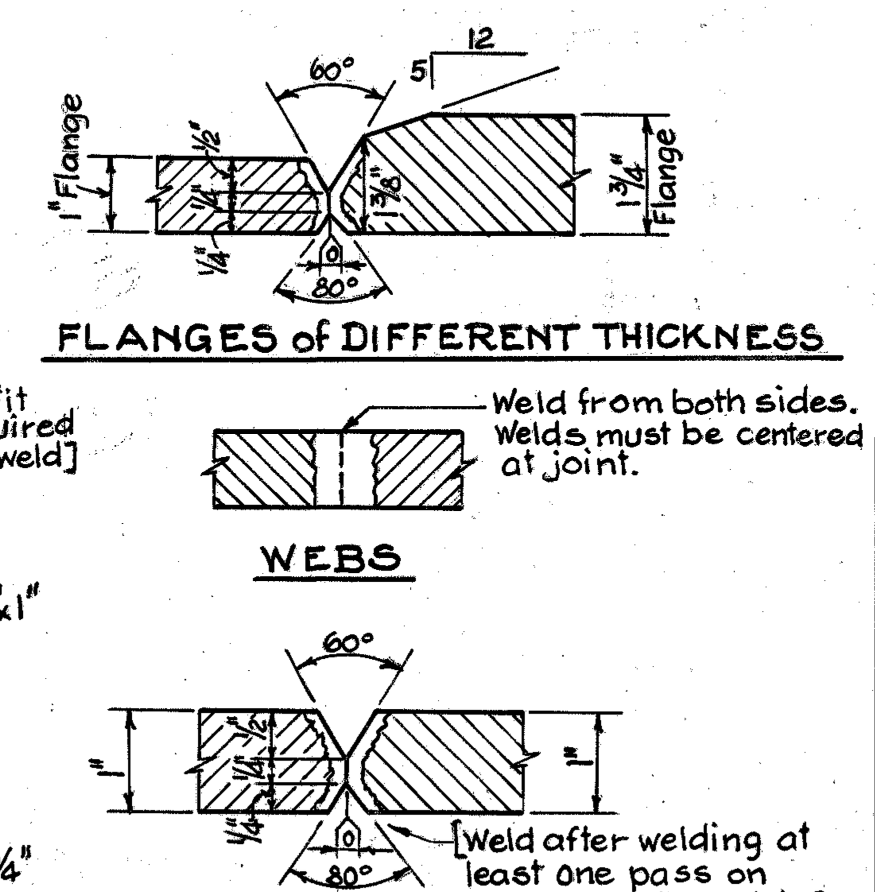
Corners of stiffener plates are clipped to clear flange to web welds.



ABUTMENT — INTERMEDIATE — PIERS

STIFFENER DETAILS

SCALE



FLANGES of DIFFERENT THICKNESS

WEBS

FLANGES

TYPICAL SHOP SPLICE WELDS

(SUBMERGED ARC WELDING)

① FIELD ASSEMBLY AND ERECTION: In final assembly of the parts bolted, drift pins were placed in a sufficient number of holes [not less than 25 percent for field erection] to provide and maintain accurate alignment of holes and parts, and sufficient bolts were installed and brought to a snug tight condition to bring the parts into complete contact.
Bolts were then be installed in remaining open holes and tightened to a snug tight fit, after which all bolts were tightened completely by calibrated wrenches or by turn-of-nut method. Drift pins were then replaced with bolts, tightened in the same manner.

① NOTES:
All Flange butt-welds were ground flush.
Additional shop splices will be permitted in the webs and flanges of girders but their location shall be approved prior to fabrication.
Radiographic examination was made of all butt-welds as required by the specifications.

REVISION	DATE	DESCRIPTION	BY
①	Apr. 1972	Revised To Work As Constructed	V.L.O.

U. S. ARMY ENGINEER DISTRICT, HUNTINGTON
CORPS OF ENGINEERS
HUNTINGTON, W. VA.

DRAWN BY: W.I.C. L.P.
TRACED BY: L.P.
CHECKED BY: F.H.S. 9-25-67
SUBMITTED BY: CONSULTANT
RECOMMENDED:
CHIEF ENG. DIV.

PAINT CREEK, OHIO
PAINT CREEK RESERVOIR
RELOCATION OF OHIO STATE ROUTE 138
ITEM OH-2-SUPERSTRUCTURE DETAILS
BRIDGE NO. HIG-138-2739
S.R. 138 OVER RATTLESNAKE CREEK

APPROVED: COL. C.E., DISTRICT ENGINEER — DATE: 4 FEB 1970

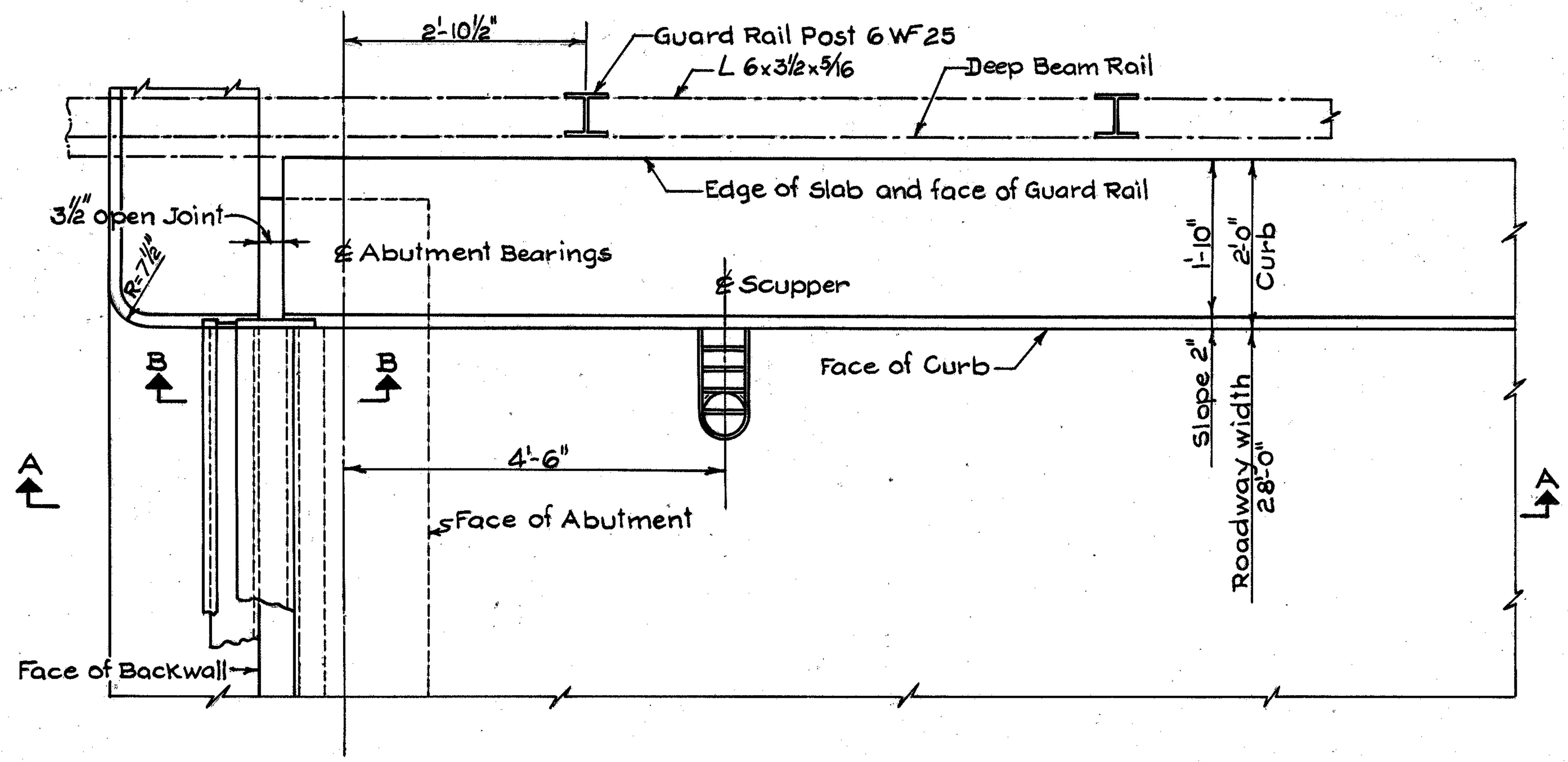
BARRETT, CARGO, WITHERS & ASSOC. LTD.
CONSULTING ENGINEERS
CHILLICOTHE, OHIO

SCALE: AS SHOWN — SPEC. NO.
DRAWING NUMBER: 016b-UPC4-85/36
SHEET 36 OF 290

WORK AS CONSTRUCTED

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

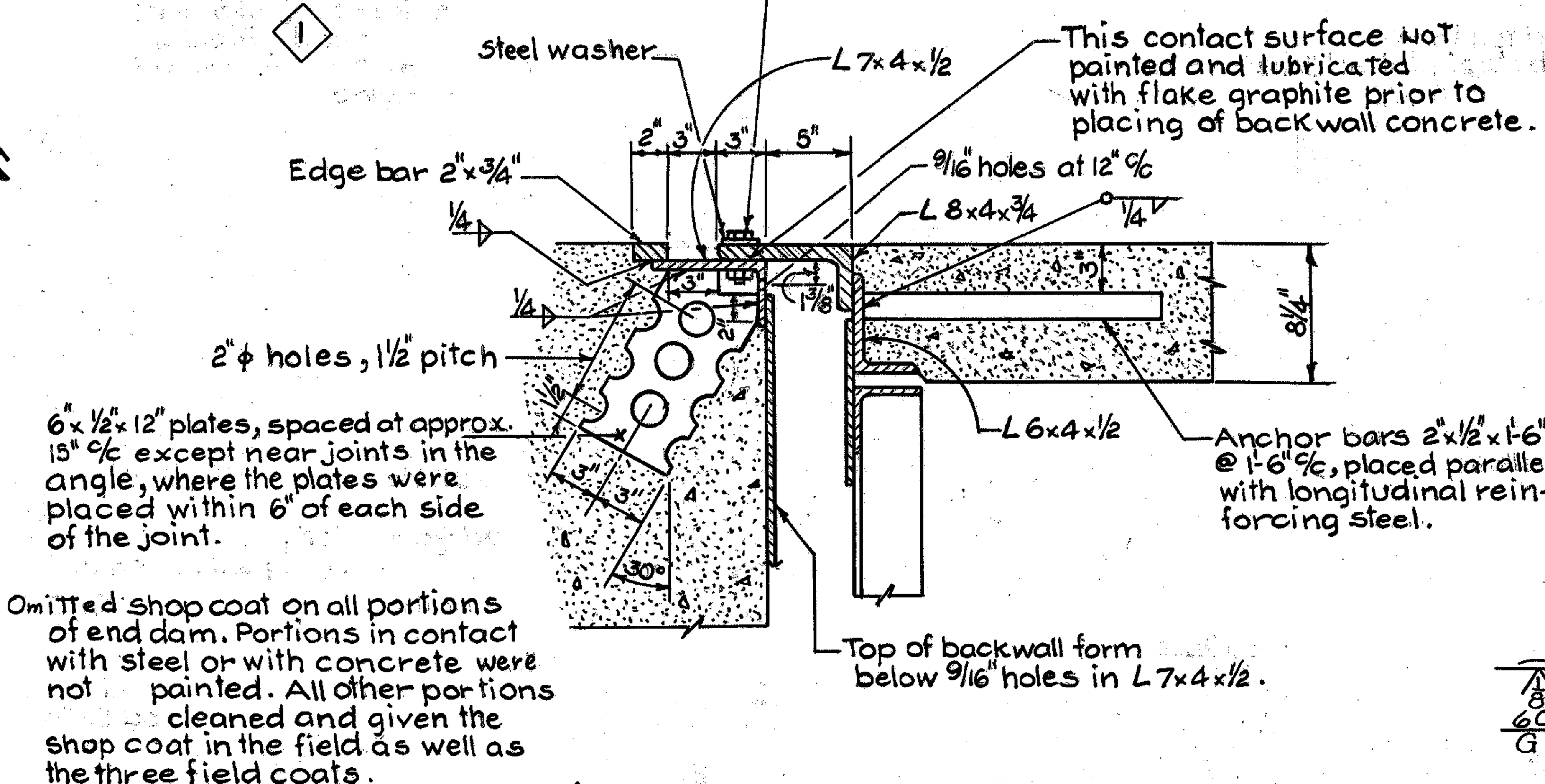
HIG-138-27.18



PART PLAN AT ABUTMENT

A welded butt joint in the end dam at the centerline of roadway, was required for that portion of the end dam attached to the superstructure. The portion attached to the backwall was placed in two segments with a joint at the centerline of roadway. This was closely butted but not welded.

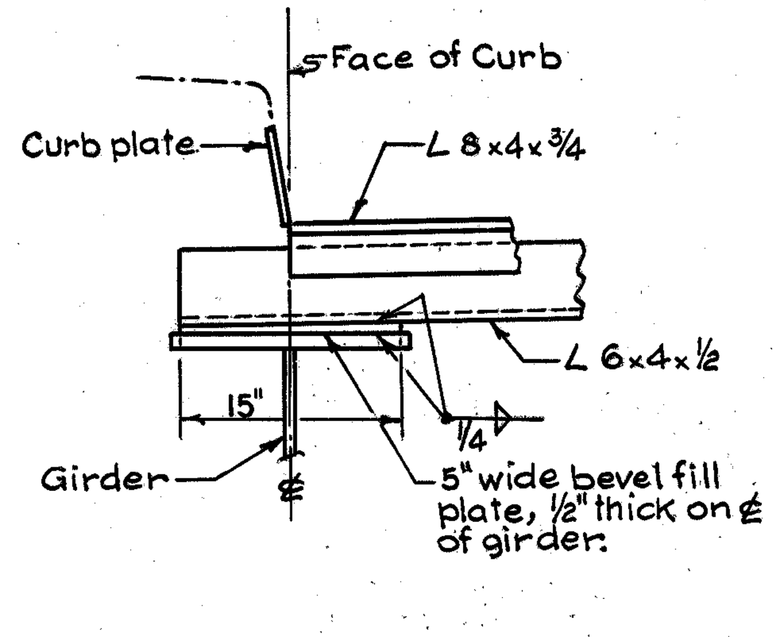
5/8x2" bolts at not more than 2'-0" c/c with nuts tack-welded to under side of lower angle. 11/16" holes in upper angle. Center 5/8" bolts in 11/16" holes. Apply flake graphite between washers and angle. Turned bolts tight and released one-half turn. Removed bolts as soon as concrete set, preferably within two hours after placing, to avoid damage due to temperature expansion or contraction of superstructure. Filled holes with bituminous material.



Omitted shop coat on all portions of end dam. Portions in contact with steel or with concrete were not painted. All other portions cleaned and given the shop coat in the field as well as the three field coats.

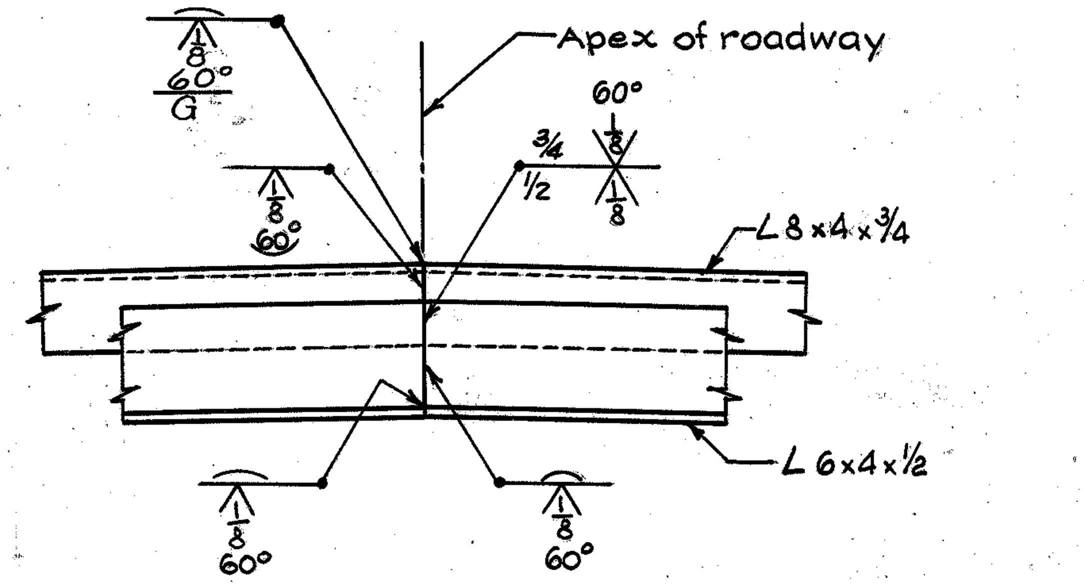
② SECTION B-B

0' 1' 2' SCALE



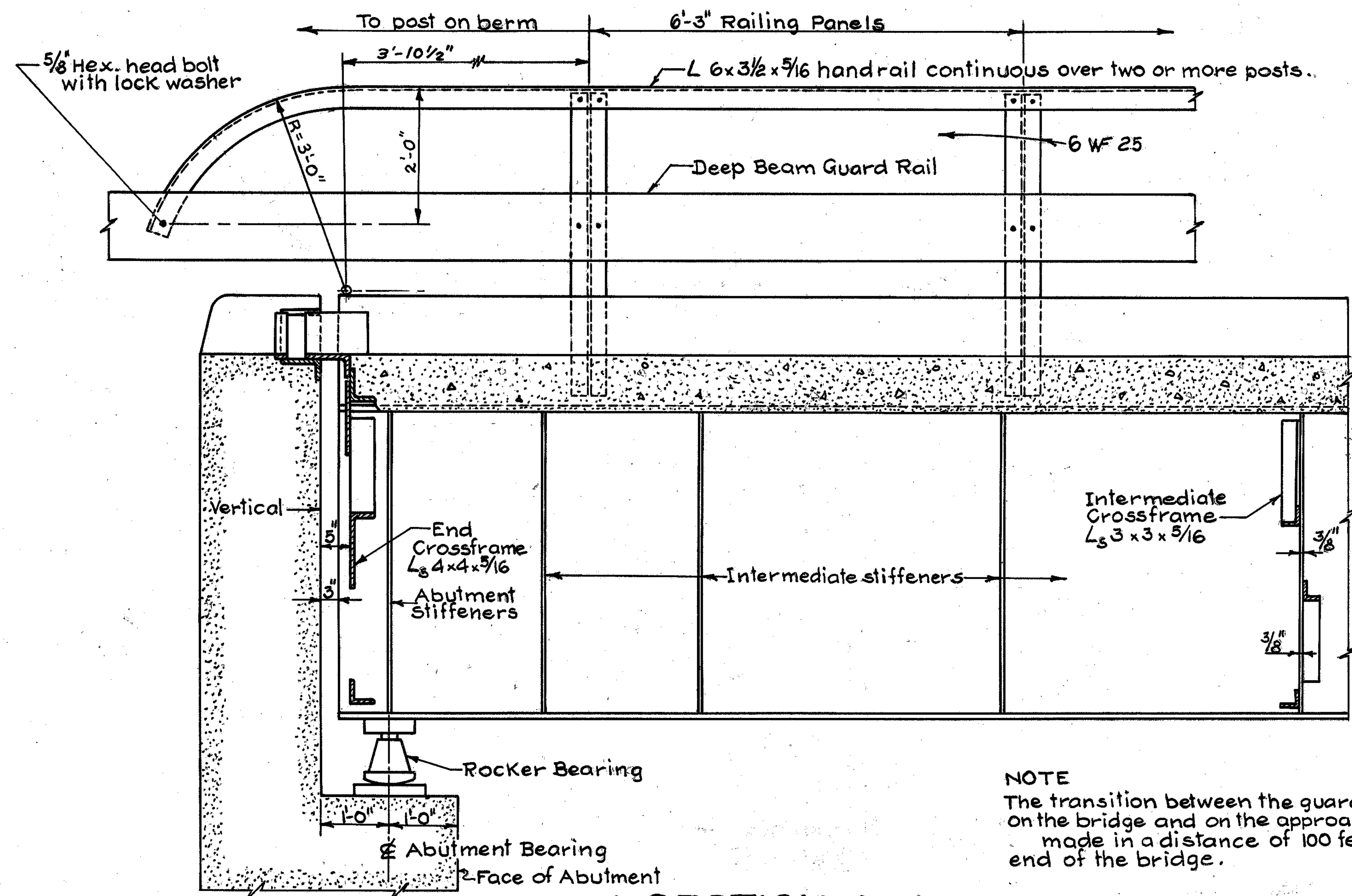
BEVEL PLATE DETAILS

0 5" 10" 20" SCALE



WELDED BUTT JOINT IN SUPERSTRUCTURE END DAM ANGLE AT ℄ OF ROADWAY

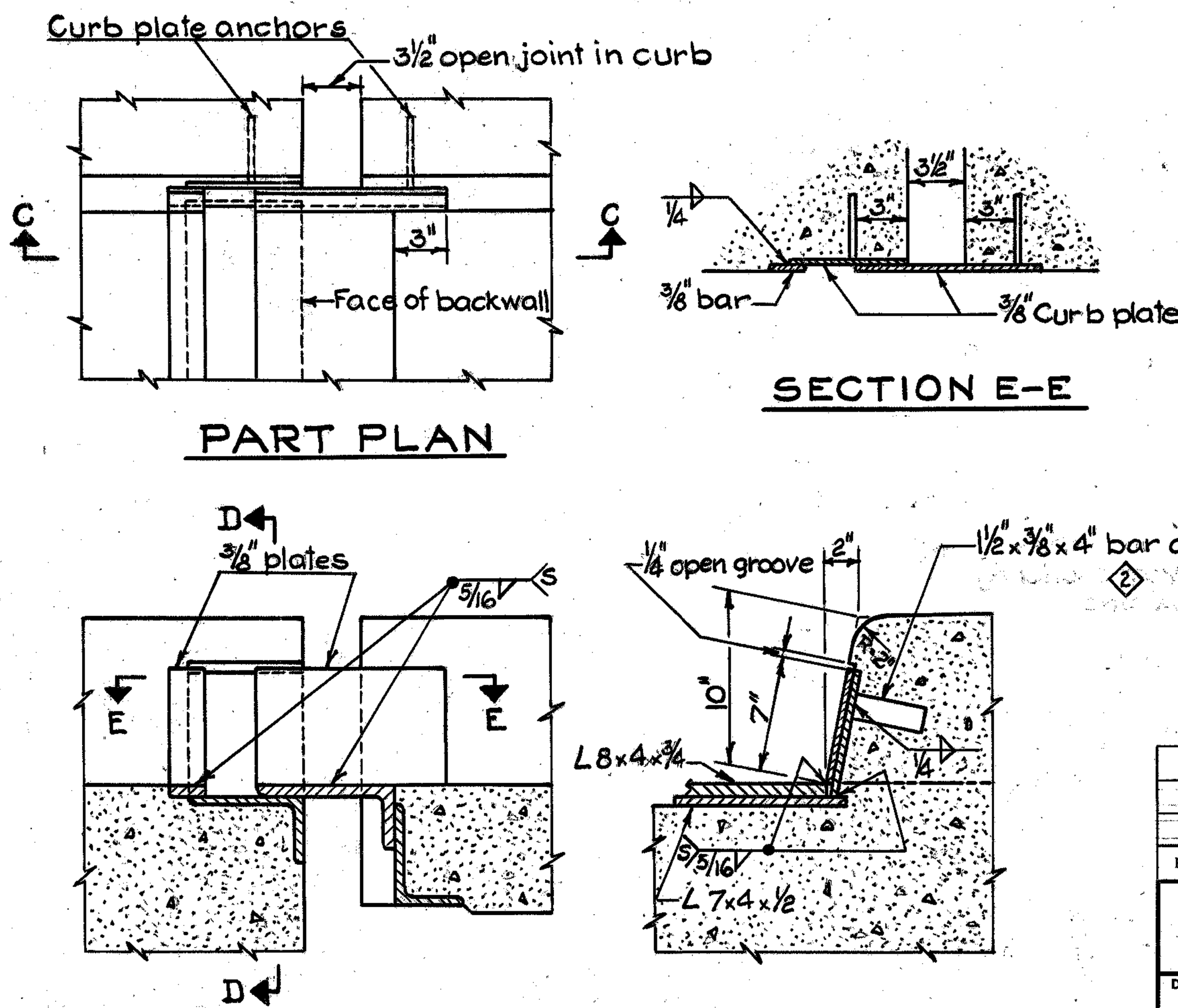
0 1' 2' SCALE



② SECTION A-A

0 1' 2' 3' SCALE

NOTE
The transition between the guard rail height on the bridge and on the approaches were made in a distance of 100 feet from each end of the bridge.



CURB PLATE DETAILS

0 1' 2' SCALE

REVISION	DATE	DESCRIPTION	BY
②	Apr. 1972	REVISED TO WORK AS CONSTRUCTED	V.L.O.
①	4-1-70	REVISED IN ACCORDANCE WITH AMENDMENT NO. 0001	T.G.H.

U. S. ARMY ENGINEER DISTRICT, HUNTINGTON
CORPS OF ENGINEERS
HUNTINGTON, W. VA.

DRAWN BY: W.I.C. L.P.
TRACED BY: L.P.
CHECKED BY: FHS 9-25-67
SUBMITTED BY: CONSULTANT
RECOMMENDED:
CHIEF ENG. DIV.

PAINT CREEK, OHIO
PAINT CREEK RESERVOIR
RELOCATION OF OHIO STATE ROUTE 138
ITEM OH-2, SUPERSTRUCTURE DETAILS
BRIDGE No. HIG-138-2739
S.R. 138 OVER RATTLESNAKE CREEK

APPROVED: COL. C. E. DISTRICT ENGINEER
DATE: FEB 1970

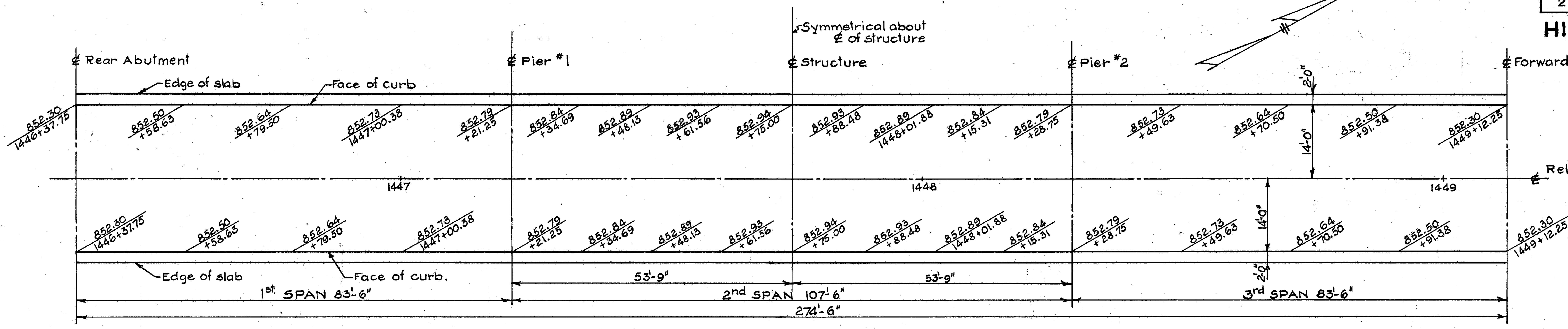
BARRETT, CARGO, WITHERS & ASSOC, LTD.
CONSULTING ENGINEERS
CHILLICOTHE, OHIO

SCALE: AS SHOWN
SPEC. NO.
DRAWING NUMBER 0166-UPC4-85/37
SHEET 37 OF 290

WORK AS CONSTRUCTED

FED. RD. DIVISION	STATE	PROJECT
2	OHIO	

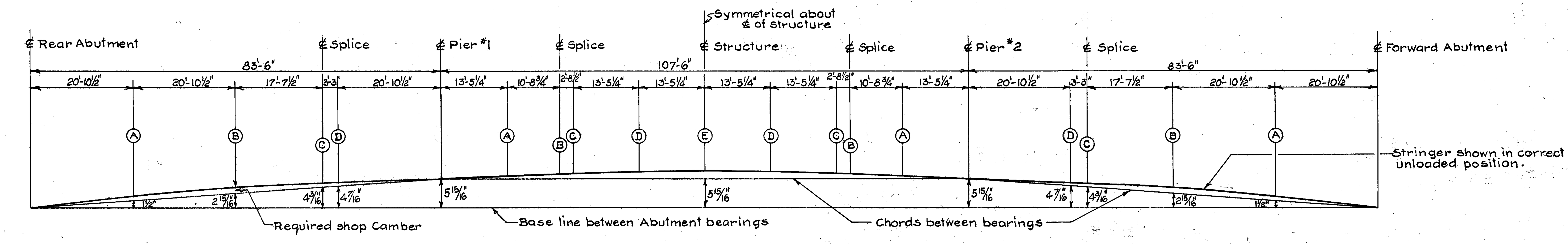
HIG-138-27.18



NOTE:
Elevations shown are deck elevations at the face of curb required before concrete deck is placed.

ELEVATION DIAGRAM

0 5 10 20
Scale in Feet



FIT-UP DIAGRAM

[Not to Scale]

DEFLECTION AND CAMBER TABLE

LOCATION	1st and 3rd SPAN A 1/4 Pt.	B Mid. Pt.	C Splice Pt.	D 3/4 Pt.	2nd SPAN A 1/8 Pt.	B Splice Pt.	C 1/4 Pt.	D 3/8 Pt.	E Mid. Pt.
Deflection due to weight of steel	0.09"	0.11"	0.05"	0.04"	.03"	.07"	.09"	0.14"	0.16"
Deflection due to remaining dead load	0.40"	0.45"	0.22"	0.17"	0.12"	0.31"	0.36"	0.58"	0.66"
Adjustment required for vertical curve	0.49"	0.65"	0.53"	0.49"	0.47"	0.75"	0.81"	1.01"	1.08"
TOTAL	0.98"	1.21"	0.80"	0.70"	0.62"	1.13"	1.26"	1.73"	1.90"
Required shop Camber	1"	1 3/16"	13/16"	11/16"	5/8"	1 1/8"	1 1/4"	1 3/4"	1 7/8"

REVISION	DATE	DESCRIPTION	BY

U. S. ARMY ENGINEER DISTRICT, HUNTINGTON
CORPS OF ENGINEERS
HUNTINGTON, W. VA.

DRAWN BY: W.I.C. L.P.
TRACED BY: L.P.
CHECKED BY: JHS 9-21-67
SUBMITTED BY: S. Withers
CONSULTANT
RECOMMENDED:
CHIEF ENG. DIV.

PAINT CREEK, OHIO
PAINT CREEK RESERVOIR
RELOCATION OF OHIO STATE ROUTE 138
ITEM OH-2-SUPERSTRUCTURE DETAILS
BRIDGE NO. HIG-138-2739
S.R. 138 OVER RATTLESNAKE CREEK

APPROVED: DATE: FEB 1970
COL. C.E., DISTRICT ENGINEER

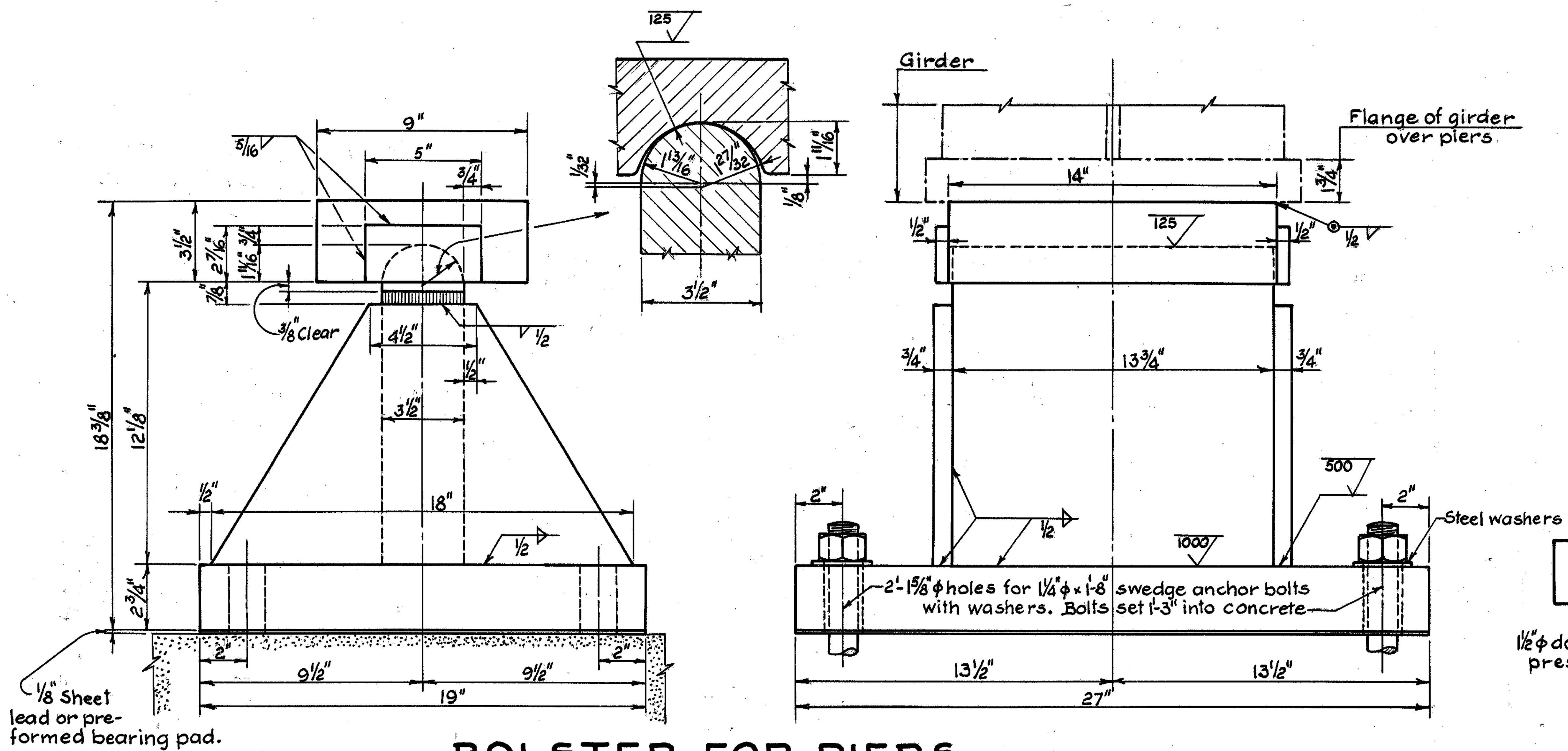
BARRETT, CARGO, WITHERS & ASSOC. LTD.
CONSULTING ENGINEERS
CHILLICOTHE, OHIO

SCALE: AS SHOWN | SPEC. NO.
DRAWING NUMBER: 016b-UPC4-B5/38
SHEET 38 OF 290

WORK AS CONSTRUCTED

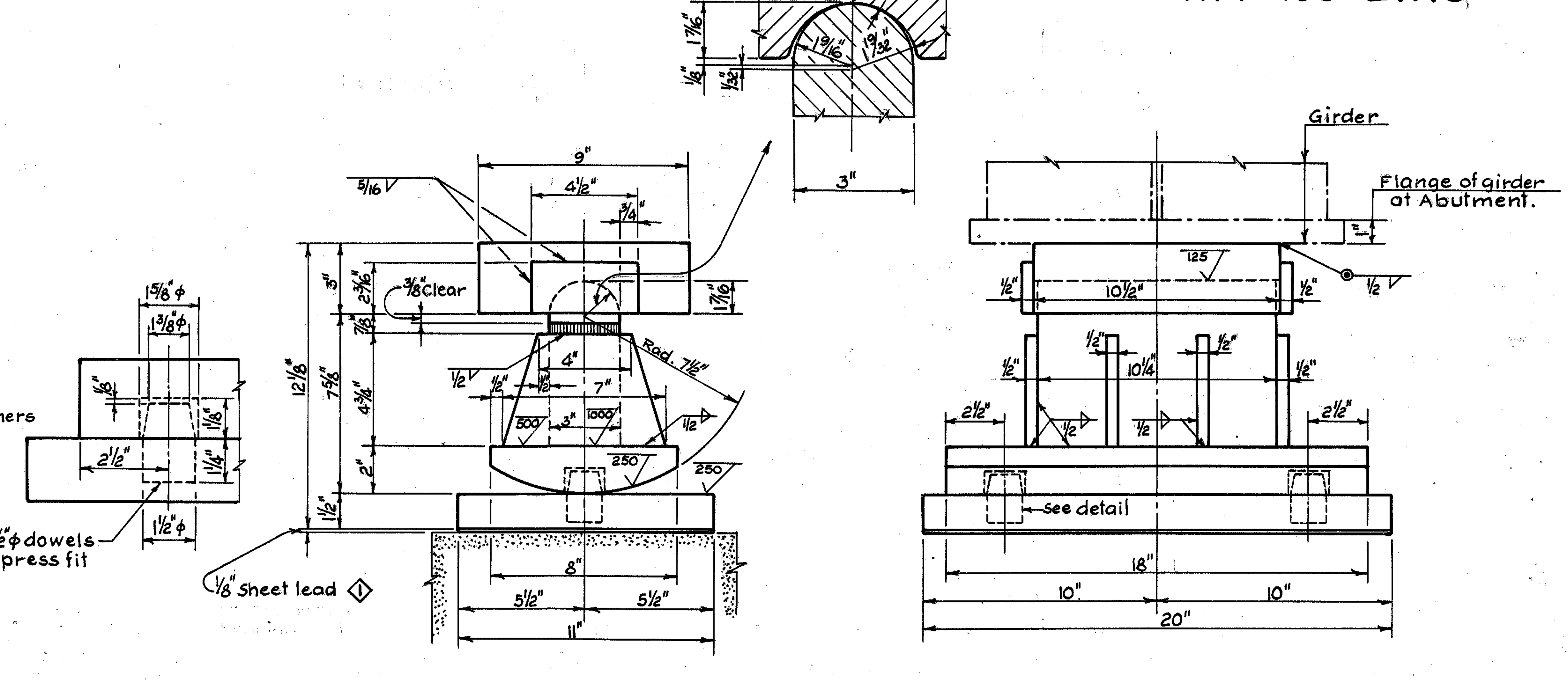
FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

HIG-138-27.18



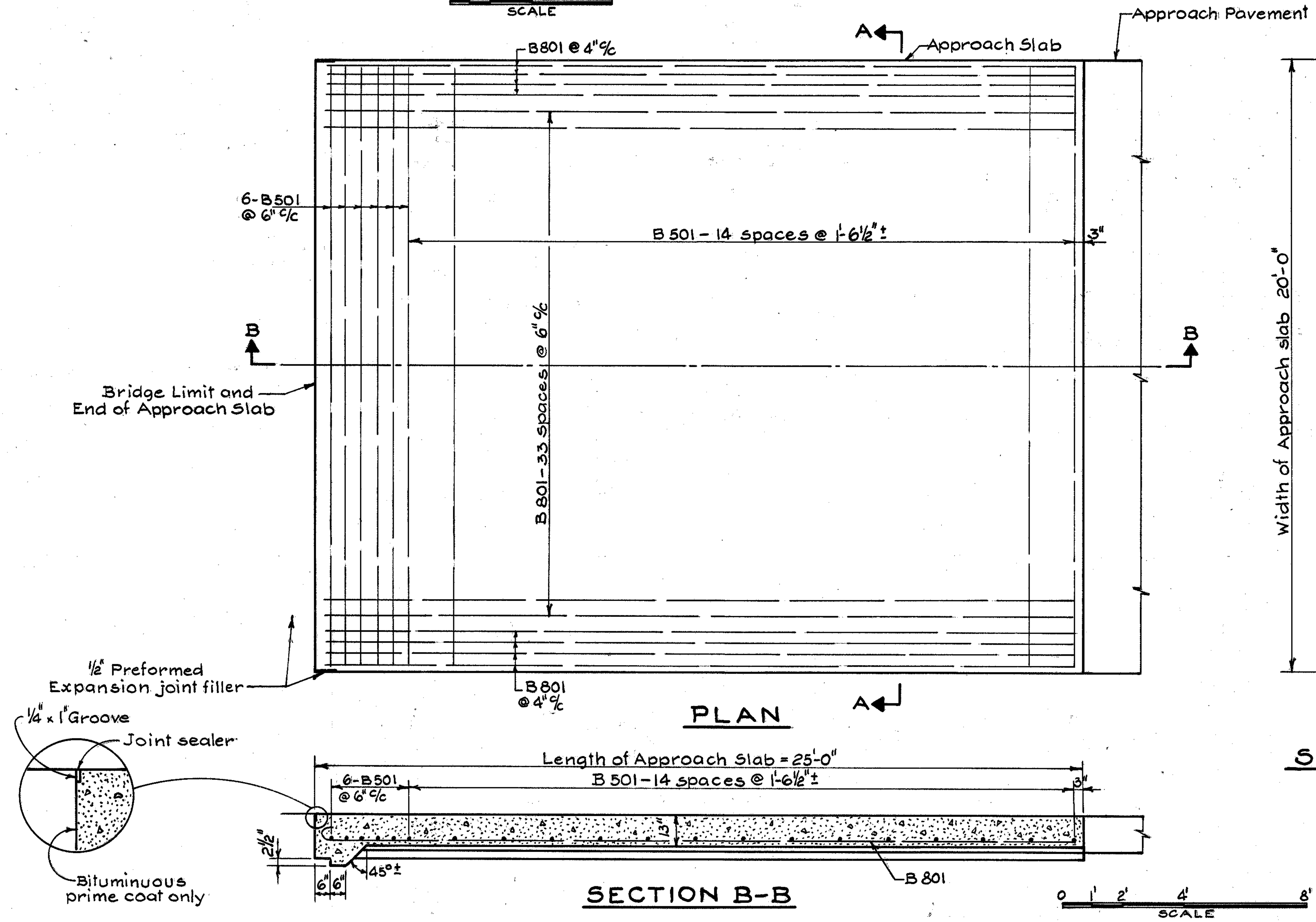
BOLSTER FOR PIERS

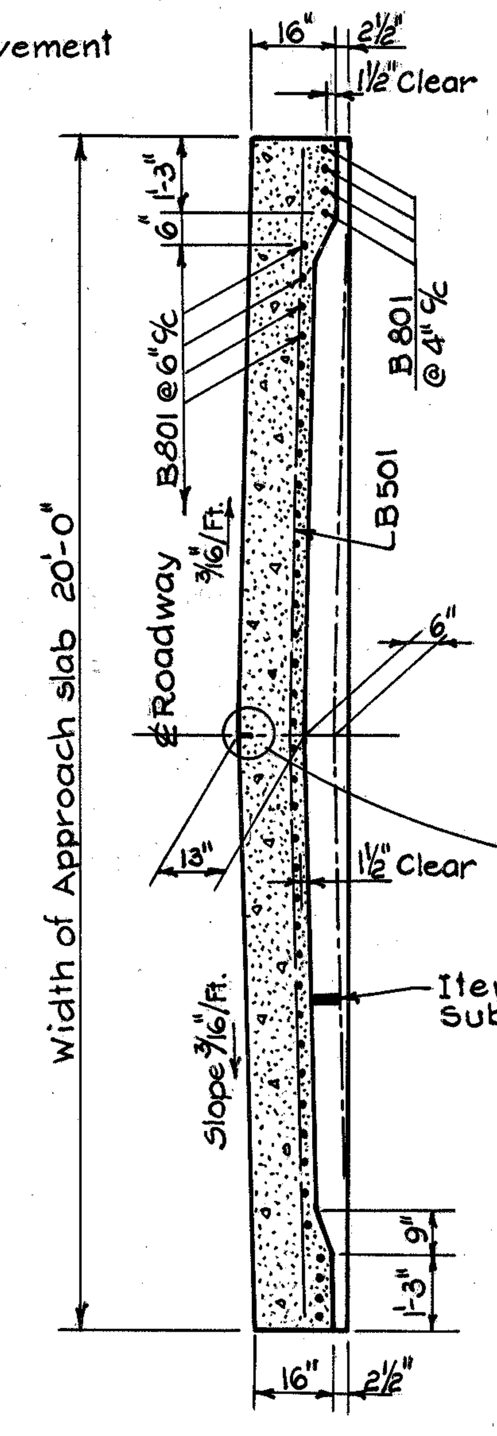
SCALE

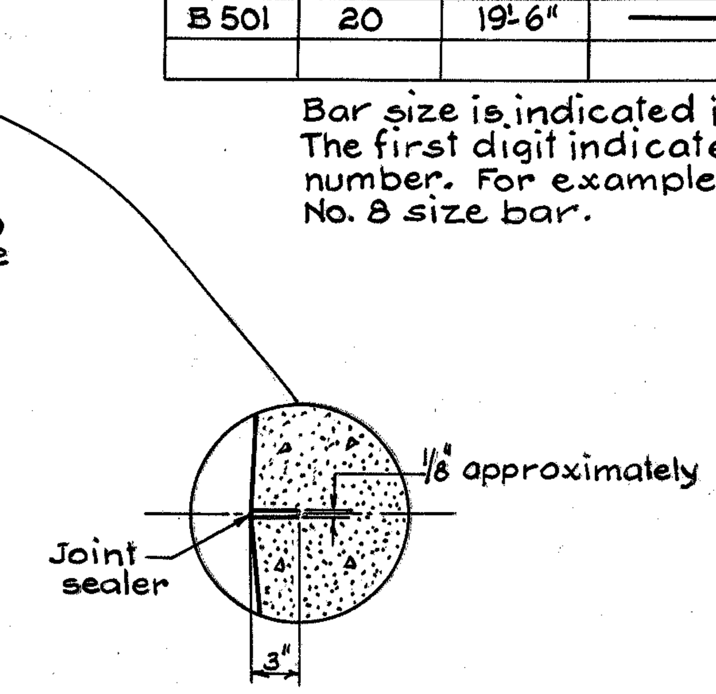


ROCKER FOR ABUTMENTS

SCALE







LONGITUDINAL SAWED JOINT
[ON THE CENTERLINE]

REINFORCED CONCRETE APPROACH SLAB

APPROACH SLAB NOTES :

① CONCRETE – Is Class "C" or Class "D".

PREFORMED EXPANSION JOINT FILLER at the edges of the approach slab, joint sealer, bituminous prime coat and reinforcing steel shall be included with the approach slab for payment.

Bar Mark	Number Required	Length	Shape	
B801	42	25'-7"	R=3 1/2", 24'-6" c/c	
B501	20	19'-6"		

Bar size is indicated in the bar mark. The first digit indicates the bar size number. For example, B801 is a No. 8 size bar.

REVISION	DATE	DESCRIPTION	BY
①	Apr. 1972	Revised To Work As Constructed	V.L.O.

U. S. ARMY ENGINEER DISTRICT, HUNTINGTON
CORPS OF ENGINEERS
HUNTINGTON, W. VA.

DRAWN BY: L.P.
TRACED BY: L.P.
CHECKED BY: FHS 9-22-67
SUBMITTED BY: [signature] CONSULTANT
RECOMMENDED:
CHIEF ENG. DIV.

PAINT CREEK, OHIO
PAINT CREEK RESERVOIR
RELOCATION OF OHIO STATE ROUTE 138
ITEM OH-2-BOLSTER, ROCKER AND APPROACH SLAB
BRIDGE NO. HIG-138-2739
S.R. 138 OVER RATTLESNAKE CREEK

APPROVED: COL. C.E. DISTRICT ENGINEER
DATE: FEB 1970

BARRETT, CARGO, WITHERS & ASSOC. LTD.
CONSULTING ENGINEERS
CHILLICOTHE, OHIO

SCALE: AS SHOWN
SPEC. NO.
DRAWING NUMBER 016b-UPC4-85/39
SHEET 39 OF 290

WORK AS CONSTRUCTED

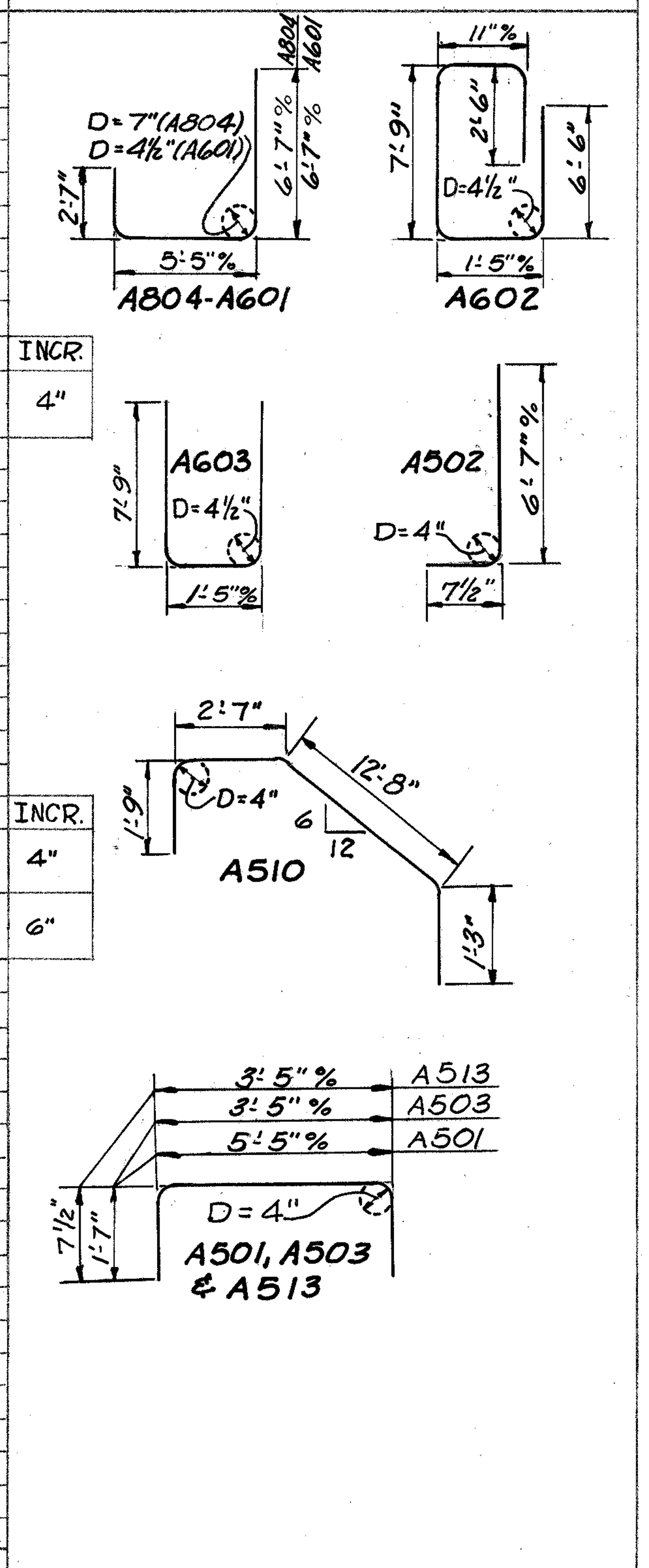
FED. RD. DIVISION	STATE	PROJECT
2	OHIO	

HIG-138-27.18

REINFORCING STEEL LIST

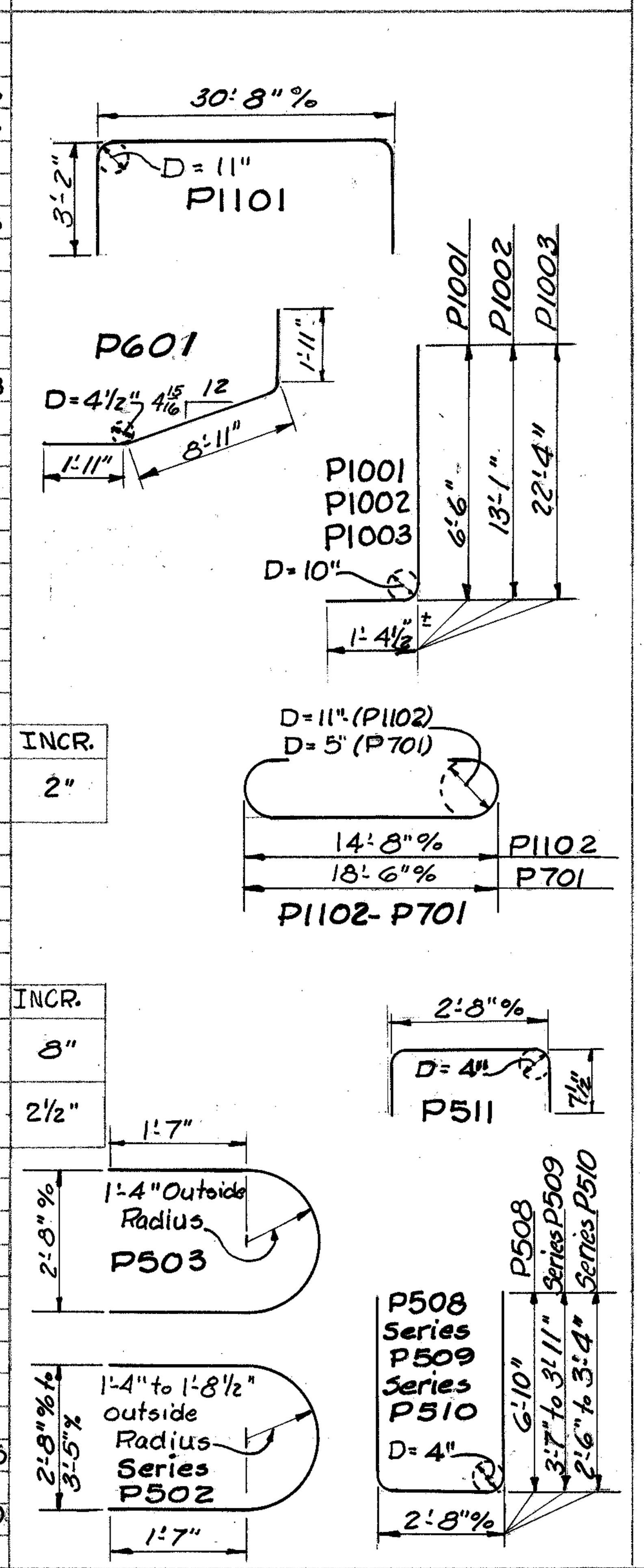
Bar Number	Number Required	Length	Shape	Weight	
ONE ABUTMENT					
A801	4	17'-9"	—	190	
A802	4	25'-4"	—	271	
A803	6	21'-7"	—	346	
A804	10	14'-2"	⊔	378	
A601	26	14'-3"	⊔	556	
A602	21	18'-5"	▯	581	
A603	10	16'-7"	⊔	249	INCR.
Series A604	2 Series of 5 bars	7'-8" to 9'-0"	—	125	4"
A501	36	8'-4"	⊓	313	
A502	36	7'-1"	L	266	
A503	26	6'-4"	⊓	172	
A504	19	30'-8"	—	608	
A505	16	14'-6"	—	242	
A506	4	13'-6"	—	56	
A507	4	10'-9"	—	45	
A508	4	8'-0"	—	33	
A509	4	5'-6"	—	23	
A510	4	18'-0"	⌐\	75	INCR.
Series A511	2 Series of 5 bars	7'-4" to 8'-8"	—	83	4"
Series A512	4 Series of 8 bars	5'-1" to 8'-7"	—	228	6"
A513	24	4'-5"	⊓	111	
TOTAL ONE ABUTMENT				4,951	
TOTAL TWO ABUTMENTS				9,902	

Bending Diagrams



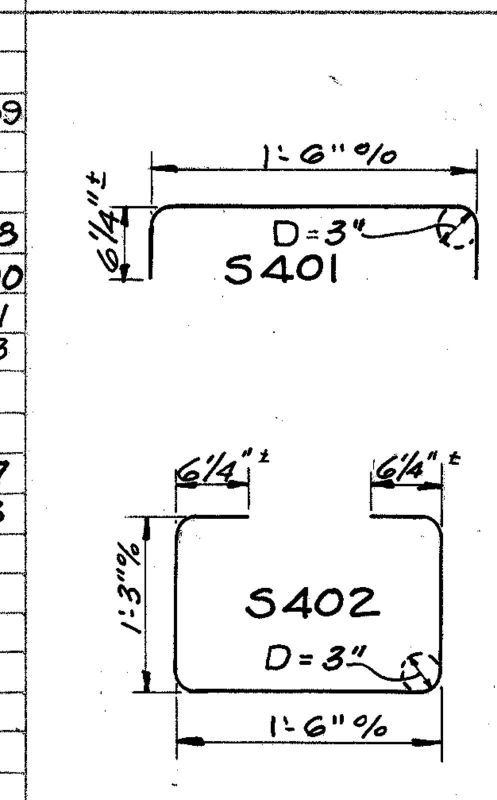
Bar Number	Number Required	Length	Shape	Weight	
ONE PIER					
P1101	6	36'-4"	⊓	1,158	
P1102	27	17'-10"	⊂⊃	2,558	
P1001	22	7'-7"	┘	718	
P1002	10	14'-2"	┘	610	
P1003	12	23'-5"	┘	1209	
P1004	11	27'-6"	—	1,302	
P1005	11	23'-0"	—	1,089	
P1006	4	30'-8"	—	528	
P801	11	21'-5"	—	629	
P802	11	25'-11"	—	761	
P701	18	20'-2"	⊂⊃	742	
P601	4	12'-8"	⁄	76	
P501	44	11'-0"	—	505	INCR.
Series P502	2 Series of 8 bars	7'-4" to 8'-6"	⊃	132	2"
P503	28	7'-4"	⊃	214	
P504	2	30'-8"	—	64	
P505	2	29'-9"	—	62	
P506	2	21'-10"	—	46	
P507	2	14'-0"	—	29	
P508	10	16'-1"	⊓	168	INCR.
Series P509	4 Series of 2 bars	9'-7" to 10'-3"	⊓	83	8"
Series P510	4 Series of 9 bars	7'-5" to 9'-1"	⊓	310	2½"
P511	24	3'-8"	⊓	92	
TOTAL ONE PIER				13,085	
TOTAL TWO PIERS				26,170	

Bending Diagrams



Bar Number	Number Required	Length	Shape	Weight
SUPERSTRUCTURE				
S701	736	31'-8"	—	47,639
S601	549	30'-0"	—	24,738
S602	61	22'-11"	—	2,100
S603	46	14'-11"	—	1,031
S604	46	30'-0"	—	2,073
S401	370	2'-4"	⊓	577
S402	370	4'-7"	▭	1,133
TOTAL SUPERSTRUCTURE				79,291
REPLACEMENT STEEL				
RE1101	1	8'-6"	—	
RE1001	1	8'-2"	—	
RE801	1	7'-6"	—	
RE701	3	7'-2"	—	
RE601	2	6'-11"	—	
RE501	1	6'-7"	—	
RE401	2	2'-4"	⊓	See S401

Bending Diagrams



BAR SIZE is indicated in the bar mark. The first digit where three digits are used, and the first two digits where four are used, indicate the bar size number. For example, A601 is a No. 6 size bar and P1001 is a No. 10 size.

REVISION	DATE	DESCRIPTION	BY

U. S. ARMY ENGINEER DISTRICT, HUNTINGTON
CORPS OF ENGINEERS
HUNTINGTON, W. VA.

DRAWN BY: P.J.M.
TRACED BY:
CHECKED BY: FHS 9-27-67
SUBMITTED BY: E. Withers
CONSULTANT
RECOMMENDED:
CHIEF ENG. DIV.

PAINT CREEK, OHIO
PAINT CREEK RESERVOIR
RELOCATION OF OHIO STATE ROUTE 138
ITEM OH-2, REINFORCING STEEL LIST
BRIDGE No. HIG-138-2739
S.R. 138 over RATTLESNAKE CREEK

APPROVED:
DATE: 7 FEB 1970
COL. C.E. DISTRICT ENGINEER

BARRETT, CARGO, WITHERS & ASSOC. LTD.
CONSULTING ENGINEERS
CHILLICOTHE, OHIO

SCALE: NONE
SPEC. NO.
DRAWING NUMBER 0166-UPC4-85/40
SHEET 40 OF 290

WORK AS CONSTRUCTED

FED. RD. DIVISION	STATE	PROJECT
2	OHIO	

HIG-138-27.18

SCHEMATIC PLAN ①

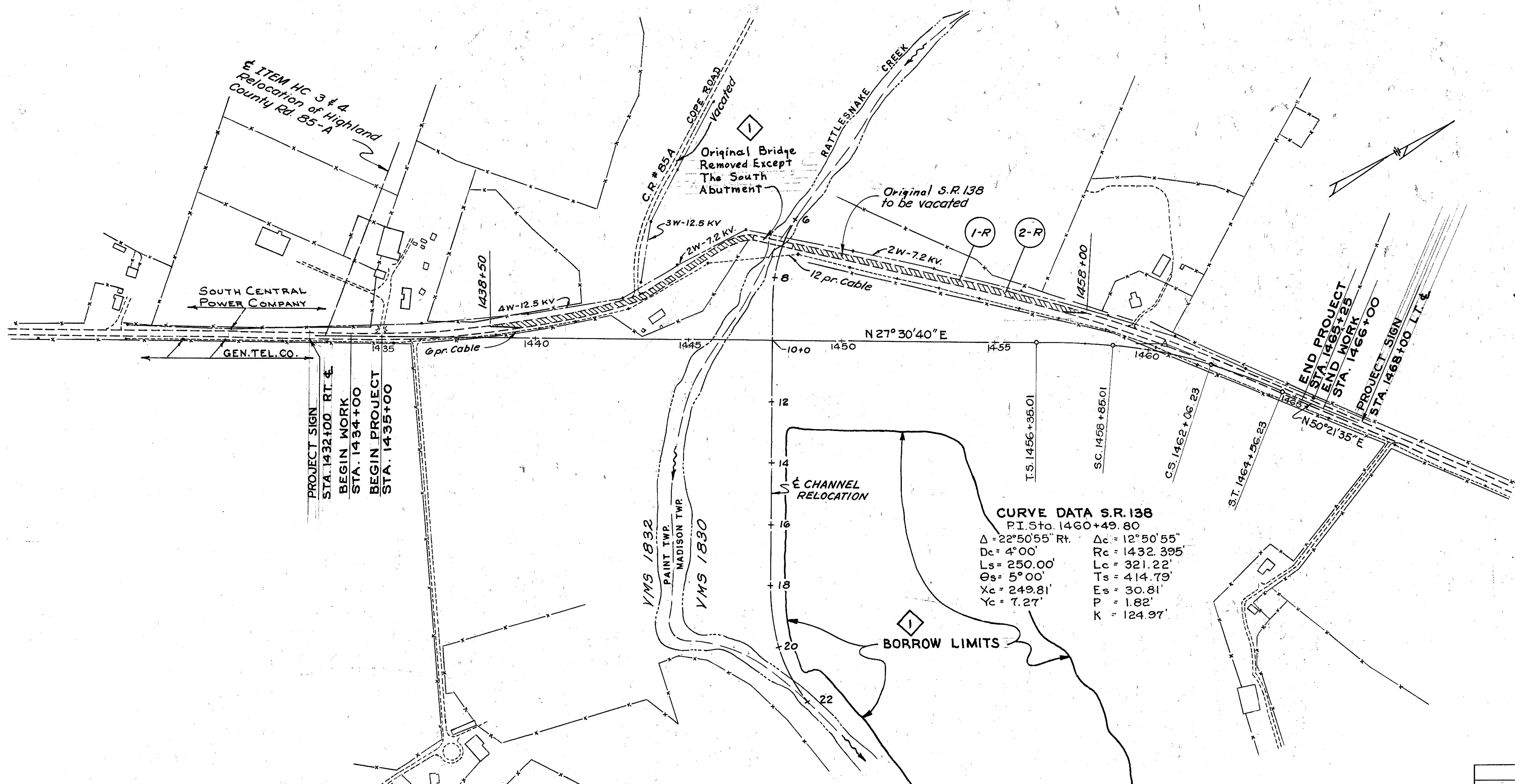
200 0 200 400
SCALE IN FEET

YMS 1830 & 1832
PAINT & MADISON TWP

ESTIMATED QUANTITIES

1-R Item Special - Obliteration of Existing Roadway _ _ Lump Sum

2-R Item 659 - Seeding and Mulching _ _ _ _ _ _ 19,500 Sq. Yds.



CURVE DATA S.R. 138

P.I. Sta. 1460+49.80

Δ = 22°50'55" Rt.	Δc = 12°50'55"
Dc = 4°00'	Rc = 1432.395'
Ls = 250.00'	Lc = 321.22'
Θs = 5°00'	Ts = 414.79'
Xc = 249.81'	Es = 30.81'
Yc = 7.27'	P = 1.82'
	K = 124.97'

UTILITY OWNERS

TELEPHONE - GENERAL TELEPHONE COMPANY OF OHIO
197 South Main Street
Marion, Ohio

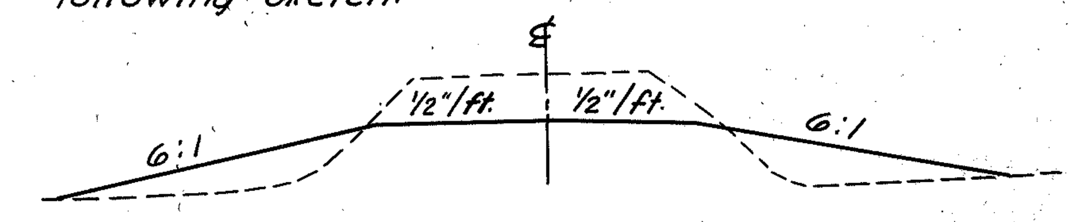
ELECTRIC - SOUTH CENTRAL POWER CO.
P.O. Box 250
LANCASTER, OHIO

Recorded in the Highland County Record of Plats: Platbook 6 at Page 55 Date: Feb. 8, 1978

INDEX FOR ITEM OH-2

① NOTE - OBLITERATION OF ORIGINAL ROADWAY

The obliteration of the original roadway, lying outside the normal work limits of the new construction, between Stations 1438+50 and 1458+00, was constituted by the removal of its existing pavement, removal of existing guard rail and the leveling and seeding of the existing road bed. Leveling of the existing road bed was performed approximately as indicated on the following sketch.



An amount of material was be removed from the top of the original road bed to provide approximately 6:1 side slopes. Compaction requirements were waived in the area of the 6:1 slopes.

Payment for the removal of existing pavement and the required grading were paid for at the lump sum bid for Item Special - Obliteration of Existing Roadway.

Payment for seeding the area was paid for at the unit price bid per square yard for Item 659, Seeding and Mulching.

Payment for the removal of the existing structure and removal of existing guard rail was as indicated elsewhere on the drawings.

REVISION	DATE	DESCRIPTION	BY
①	APR. 1972	Revised To Work As Constructed	V.L.O.

U. S. ARMY ENGINEER DISTRICT, HUNTINGTON
CORPS OF ENGINEERS
HUNTINGTON, W. VA.

PAINT CREEK, OHIO
PAINT CREEK RESERVOIR
RELOCATION OF OHIO STATE ROUTE 138
ITEM OH-2 — SCHEMATIC PLAN

DRAWN BY:	
TRACED BY:	L.P.
CHECKED BY:	C.R.B.
SUBMITTED BY:	[signature] CONSULTANT
RECOMMENDED:	APPROVED: DATE: FEB 1970
CHIEF ENG. DIV.	COL. C.E., DISTRICT ENGINEER

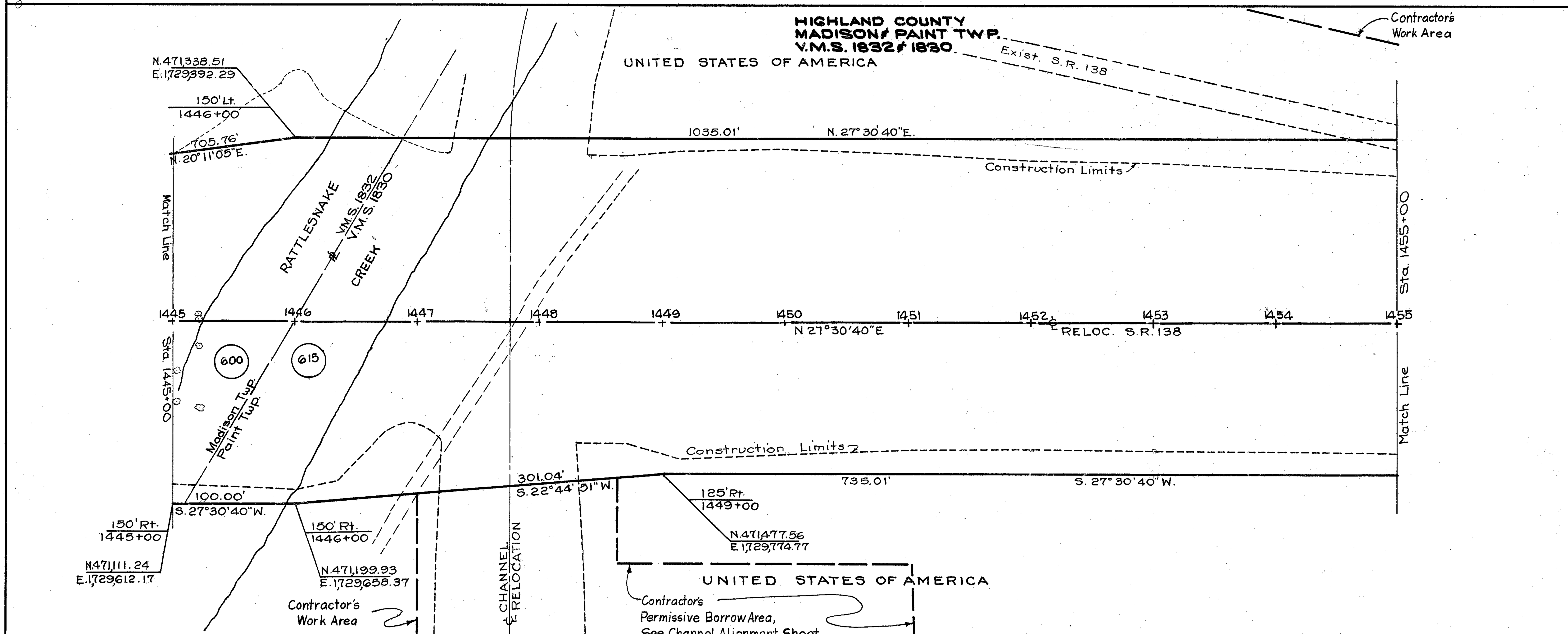
BARRETT, CARGO, WITHERS & ASSOC. LTD.
CONSULTING ENGINEERS
CHILLICOTHE, OHIO

SCALE: AS SHOWN | SPEC. NO.
DRAWING NUMBER 016b-UPC4-85/7
SHEET 7 OF 290

WORK AS CONSTRUCTED

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

HIG - 138 - 27.18



REVISION	DATE	DESCRIPTION	BY

U. S. ARMY ENGINEER DISTRICT, HUNTINGTON
CORPS OF ENGINEERS
HUNTINGTON, W. VA.

DRAWN BY:	PAINT CREEK, OHIO PAINT CREEK RESERVOIR RELOCATION OF OHIO STATE ROUTE 138 ITEM OH-2 — RIGHT-OF-WAY PLAN STA. 1434+00 TO STA. 1455+00
TRACED BY:	
CHECKED BY: C.R.B.	
SUBMITTED BY: [signature] CONSULTANT	
RECOMMENDED:	APPROVED: DATE: FEB 1970
CHIEF ENG. DIV.	COL. C. E., DISTRICT ENGINEER

BARRETT, CARGO, WITHERS & ASSOC. LTD.
CONSULTING ENGINEERS
CHILLICOTHE, OHIO

SCALE: AS SHOWN	SPEC. NO.
DRAWING NUMBER 0166-UPC4-85/41	
SHEET 41 OF 290	

WORK AS CONSTRUCTED

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

HIG - 138 - 27.18

REVISION	DATE	DESCRIPTION	BY

U. S. ARMY ENGINEER DISTRICT, HUNTINGTON
CORPS OF ENGINEERS
HUNTINGTON, W. VA.

DRAWN BY:
TRACED BY:
CHECKED BY: C.R.B.
SUBMITTED BY: S.E.Withers
CONSULTANT
RECOMMENDED:
CHIEF ENG. DIV.

PAINT CREEK, OHIO
PAINT CREEK RESERVOIR
RELOCATION OF OHIO STATE ROUTE 138
ITEM OH-2 — RIGHT-OF-WAY PLAN
STA. 1455+00 TO STA. 1466+00

APPROVED:
COL. C.E. DISTRICT ENGINEER
DATE: 17 FEB. 1970

BARRETT, CARGO, WITHERS & ASSOC. LTD.
CONSULTING ENGINEERS
CHILLICOTHE, OHIO

SCALE: AS SHOWN
SPEC. NO.
DRAWING NUMBER 016b-UPC4-85/42
SHEET 42 OF 290

WORK AS CONSTRUCTED

GENERAL INFORMATION

INTRODUCTION:

THE PROJECT CONSISTS OF SIX SITES WHICH SERVE PRIMARILY TO STRAIGHTEN AND ELEVATE THE ROADS OVER EXISTING AND RELOCATED CREEKS. THE SITES ARE ITEM OH-2 RELOCATION OF OHIO STATE ROUTE 138, ITEM RC-1 RELOCATION OF ROSS COUNTY ROAD NO. 1-D, ITEM HPT-2 RELOCATION OF PAINT TOWNSHIP ROAD NO. 309-B, ITEM HC- 3 & 4 RELOCATION OF HIGHLAND COUNTY ROAD NO. 85-A, ITEM HC-5 RELOCATION OF HIGHLAND COUNTY ROAD NO. 11-K AND ITEM HC-6 RELOCATION OF HIGHLAND COUNTY ROAD NO. 25-B. FOUR STRUCTURES ARE PROPOSED, ONE ON ITEM OH-2, TWO ON ITEM HC-5 AND ONE ON ITEM HC-4.

GEOLOGY OF THE SITE:

THE PROPOSED RELOCATED ROADWAY WILL BE SITUATED ON BOTH THE HIGHER AREAS AND ON EMBANKMENTS OVER VALLEYS. THE HIGHER GROUND ON EITHER SIDE OF THE VALLEYS IS COMPOSED OF TILL OF A GLACIAL GROUND MORAINE OVERLYING BEDROCK OF THE BRASSFIELD AND ELKHORN FORMATIONS. THE BEDROCK ENCOUNTERED IN THE VALLEYS IS OF THE BRASSFIELD OR ELKHORN GROUPS. THE STRUCTURES WILL BE SITUATED ON WATER LAID DEPOSITS IN VALLEYS CARVED ORIGINALLY BY A GLACIAL STREAM, AND FILLED BY GRANULAR MATERIAL FROM GLACIAL MELT WATER. THE GENERAL SITE IS ON THE EDGE OF THE SCIOTO LOBE OF THE WISCONSIN GLACIAL STAGE, PLEISTOCENE ERA.

DRIVE SAMPLE BORINGS:

DRIVE SAMPLE BORINGS WERE MADE BY MEANS OF HOLLOW-STEM-CONTINUOUS SPIRAL AUGERS, EMPLOYING A 2" O.D. 1 - 3/8" I.D. SPLIT SPOON SAMPLER, AT 3 FOOT DEPTH INTERVALS, DRIVEN BY MEANS OF A 140 POUND DROP HAMMER WITH A FREE FALL OF 30 INCHES. THE NUMBER OF BLOWS TO DRIVE THE SAMPLER 12 INCHES IS CONSIDERED THE STANDARD PENETRATION TEST.

ROCK CORES:

ROCK CORES WERE OBTAINED BY DRILLING WITH NX DIAMOND CORE BIT AND BARREL TO OBTAIN 2 1/8" DIAMETER CORES.

EXPLORATION:

THE EXPLORATION CONSISTED OF 54 PROFILE BORINGS AND 16 FOUNDATION BORINGS MADE FROM JULY 17, 1967 TO AUGUST 22, 1967.

INVESTIGATIONAL FINDINGS:

THE SITES WERE OVERLAIN BY TOPSOIL. THE PRIMARY ORIGINAL SURFACE SOIL CONSISTED OF GLACIAL TILL COMPOSED OF AN UNSORTED, UNSTRATIFIED MIXTURE OF CLAY, SILT, SAND AND COARSE FRAGMENTS DEPOSITED DISCONTINUOUSLY BY GLACIAL ICE. IN THE VALLEYS, THE TILL IS GENERALLY, UNDERLAIN BY SAND AND GRAVEL EXTENDING TO ROCK. GROUNDWATER DEPTHS WERE NOTED ON THE SOIL PROFILES.

BORING PROFILE NOTES:

THE SOILS WERE CLASSIFIED IN ACCORDANCE WITH THE UNIFIED SOIL CLASSIFICATION SYSTEM.

MODIFYING DESCRIPTION IN PER CENT OF DRY WEIGHT.
TRACE 1 - 10% SOME 10% - 35% AND 35% - 50%

BORING LOCATIONS ARE REFERENCED TO PROPOSE RELOCATION CENTERLINE.

BORINGS AND LABORATORY TESTING WERE PERFORMED BY BOWSER-MORNER TESTING LABORATORIES, INC.

DRIVE SAMPLE BORING - PLAN VIEW

DRIVE SAMPLE AND "NX" CORE - PLAN VIEW

WATER CONTENT NEARLY EQUAL TO OR GREATER THAN LIQUID LIMIT.

NON-PLASTIC SOIL WITH HIGH WATER CONTENT

W FREE-WATER ELEVATION (INITIAL READING)

NOTE: FIGURES TO RIGHT OF BORINGS ON THE PROFILE BORINGS INDICATE WATER CONTENT IN PERCENT.

FIGURES TO RIGHT OF BORINGS ON STRUCTURE BORINGS INDICATE NUMBER OF BLOWS FOR STANDARD PENETRATION RESISTANCE TESTS FOR EACH 6 INCHES OF PENETRATION.

SUMMARY OF SOIL TEST DATA PROFILE BORINGS

NOTE: "NP" SHOWN BELOW INDICATES THAT THE MATERIAL IS NON-PLASTIC BY VISUAL EXAMINATION OR BY ACTUAL TESTING

DRILLING

AUGER - L.H. - W.L. - G.W. 7-17-67 to 9-1-67

DRIVE SAMPLE - - L.H. - W.L. - G.W. 7-17-67 to 9-1-67

DRAFTING B.J.N.

LEGEND FOR PROJECT AVERAGE RESULTS OF TEST SAMPLES TESTED 289

DESCRIPTION	USCS CLASS	% AGG.	% C.S.	% M.S.	% F.S.	% SILT	% CLAY	LIQUID LIMIT	PLASTICITY INDEX	WATER CONTENT	SAMPLES TESTED
Well Graded, GRAVEL	GW	44	11	37	4	3	1	N.P.	N.P.	*	1
Silty, GRAVEL	GM	44	11	16	10	- 19 -		N.P.	N.P.	10	21
Clayey, GRAVEL	GC	33	4	10	12	21	20	23	12	10	1
Well Graded, Silty, GRAVEL	GW-GM	56	10	21	7	4	2	N.P.	N.P.	11	2
Silty, SAND	SM	23	12	25	17	- 23 -		N.P.	N.P.	11	75
Clayey, SAND	SC	11	8	21	16	25	19	30	12	14	30
Well Graded, Silty, SAND	SW-SM	34	14	31	12	- 9 -		N.P.	N.P.	8	14
Poorly Graded, Silty, SAND	SP-SM	33	12	32	9	10	4	N.P.	N.P.	10	5
SAND-SILT-CLAY MIXTURE	SM-SC	11	6	22	20	25	16	23	7	12	19
Organic SILT	OL	3	2	10	12	45	28	36	12	15	4
Inorganic SILT	ML	5	2	8	14	47	24	24	6	17	40
Inorganic CLAY	CL	4	3	11	15	37	30	32	14	14	66
SILT-CLAY MIXTURE	ML-CL	6	5	15	19	34	21	23	6	14	9
Elastic SILT	MH	8	3	8	12	26	43	50	20	15	1
Fat CLAY	CH	2	4	18	13	27	36	47	22	20	1
TOPSOIL					VISUAL CLASSIFICATION						
LIMESTONE					VISUAL CLASSIFICATION						
SHALE					VISUAL CLASSIFICATION						

* Sample contains free water

PAINT CREEK, OHIO
PAINT CREEK RESERVOIR
HIGHWAY RELOCATIONS
SOIL PROFILE

SCALE:
DATE: 10-67
DRAWING NUMBER 016b-UPC4- 85/230
SHEET 230 OF 290

BORING & LOCATION	STRATA DEPTH FROM - TO	ST. PEN.	REC.	% AGG.	% C.S.	% M.S.	% F.S.	% SILT	% CLAY	L.L.	P.I.	W.C.	USCS CLASS
NO. 23	0.0' - 5.0'*	12-6-5	5"	20	11	19	14	21	15	32	7	12	SM
1435+00	0.0' - 5.0'*	1-2-3	8"	21	11	16	14	21	17	33	8	15	SM
10' Rt.	5.0' - 8.0'*	3-4-5	10"	4	4	19	15	36	22	31	7	20	ML
	8.0' -10.0'	5-6-8	9"	10	5	19	19	20	27	41	7	21	SM
* Oven Dry Limits L.L. - 30, 29, 28 P.I. - 10, 6, 7													
NO. 24	0.0' - 0.62'			TOPSOIL				NOT TESTED					Visual
1439+00	0.62'- 2.0'*	6-9-8	10"	4	4	16	22	32	22	34	6	13	ML
℄	2.0' - 5.0'	6-10-11	9"	5	6	16	23	32	18	27	11	9	CL
	5.0' - 8.0'	19-13-13	10"	10	7	17	29	25	12	18	5	9	SM-SC
	8.0' -10.0'	8-8-13	11"	14	6	11	15	37	17	TESTED N.P.	N.P.	9	ML
* Oven Dry Limits L.L. - 27 P.I. - 8													
NO. 25	0.0' - 0.75'			TOPSOIL				NOT TESTED					Visual
1441+00	0.75'- 2.5'*	6-11-11	8"	1	2	11	20	43	23	27	7	15	CL
	2.5' - 6.0'	9-11-18	9"	6	5	17	19	33	20	25	5	15	ML-CL
	6.0' -10.0'	21-26-24	8"	3	6	20	15	33	23	31	13	5	CL
	6.0' -10.0'	14-29-29	8"	7	5	13	20	30	25	38	17	9	CL
* Oven Dry Limits L.L. - 25 P.I. - 15													
NO. 26	0.0' - 0.5'			TOPSOIL				NOT TESTED					Visual
1461+00	0.5' - 1.5'	7-10	9"	4	2	7	18	44	25	35	11	20	ML
NO. 27	0.0' - 0.65'	TOPSOIL WITH SAND AND GRAVEL BASE COARSE											Visual
1465+00	0.65'- 3.0'*	6-4-3	8"	15	12	13	13	29	18	33	12	15	SC
10' Rt.	* Oven Dry Limits L.L. - 33 P.I. - 16												
NO. 28	0.0' - 1.0'			TOPSOIL				NOT TESTED					Visual
1447+75	1.0' - 2.5'	6-8-11	4"	29	2	7	24	29	9	VISUAL N.P.	N.P.	6	SP-SM
400' Rt.	2.5' - 5.0'	5-4-3	9"	0	3	18	39	26	14	27	8	11	SC
	5.0' - 6.0'			10	6	46	14	21	3	TESTED N.P.	N.P.		SM
	6.0' - 8.5'*	13-13-15	10"	13	5	36	27	10	9	29	14	9	SM-SC
	8.5' -11.0'	10-27-34	8"	0	0	47	20	28	5	TESTED N.P.	N.P.	5	SM
	11.0' -13.0'			47	10	33	5	- 5 -		TESTED N.P.	N.P.		SW-SM
	13.0' -14.0'	17-49-47	12"	42	11	8	13	14	12	TESTED N.P.	N.P.	7	GM
	14.0' -15.0'	50-46-49	12"	40	10	32	8	- 10 -		VISUAL N.P.	N.P.	10	SW-SM
* Oven Dry Limits L.L. - 25 P.I. - 6													

BORING & LOCATION	STRATA DEPTH FROM - TO	ST. PEN.	REC.	% AGG.	% C.S.	% M.S.	% F.S.	% SILT	% CLAY	L.L.	P.I.	W.C.	USCS CLASS
NO. 29	0.0' - 1.12'			TOPSOIL				NOT TESTED					Visual
1447+75	1.12'- 4.0'*	4-5-6	10"	0	2	7	32	42	17	31	10	8	CL
800' Rt.	4.0' - 7.0'	5-5-8	11"	15	6	17	30	24	8	TESTED N.P.	N.P.	11	SM
	4.0' - 7.0'			26	6	22	28	15	13	TESTED N.P.	N.P		SM
	7.0' -12.0'	5-12-18	7"					NOT TESTED					GM
	7.0' -12.0'	9-15-11	7"	41	11	14	11	11	12	NOT TESTED		8	GM
	12.0' -15.0'			49	12	28	4	5	2	TESTED N.P.	N.P.		GW-GM
	12.0' -15.0'	11-15-21	0"			NO RECOVERY							GW-GM
* Oven Dry Limits L.L. - 27 P.I. - 7													
NO. 60	0.0' - 1.5'			TOPSOIL				NOT TESTED					Visual
1444+50	1.5' - 4.5'	8-11-11	9"	3	1	13	8	37	38	34	9	18	ML
℄	4.5' - 7.5'	11-7-9	8"	0	2	15	13	42	28	26	7	23	ML-CL
	7.5' -10.5'	4-15-22	11"	35	10	21	18	- 16 -		VISUAL N.P.	N.P.	8	SM
	10.5' -13.5'	5-5-9	8"	65	10	15	11	- 9 -		VISUAL N.P.	N.P.	11	GW-GM
	13.5' -16.5'	27-48-45	13"	29	12	46	5	5	3	VISUAL N.P.	N.P.	16	GM
	16.5' -19.5'	29-31-44	11"	19	18	11	36	- 16 -		VISUAL N.P	N.P.	14	SM
	19.5' -22.5'	28-37-32	12"	27	17	46	4	2	4	TESTED N.P.	N.P.	14	GM
	22.5' -34.5'	60-62-70	8"	44	10	16	14	- 16 -		VISUAL N.P.	N.P.	16	SM
	22.5' -34.5'	39-29-35	11"	41	17	20	9	- 13 -		VISUAL N.P.	N.P.	9	SM
	22.5' -34.5'	40-42-46	12"	34	16	24	2	- 24 -		VISUAL N.P	N.P.	10	SM
	22.5' -34.5'	40-44-48	9"	21	18	31	14	- 16 -		VISUAL N.P.	N.P.	13	SM
	34.5' -37.5'	56-60-63	10"	45	17	19	7	- 12 -		VISUAL N.P.	N.P.	9	SW-SM
	37.5' -48.5'	40-37-40	11"	21	16	26	20	- 17 -		VISUAL N.P.	N.P.	12	SM
	37.5' -48.5'	28-34-41	8"	19	13	35	10	- 23 -		VISUAL N.P.	N.P.	13	SM
	37.5' -48.5'	30-40-47	12"	37	25	17	6	- 15 -		VISUAL N.P.	N.P.	9	SM
	37.5' -48.5'	40-29-45	13"	34	22	21	7	- 16 -		VISUAL N.P.	N.P.	8	SM
	48.5' -50.0'	69-60-61	14"	38	31	24	2	2	3	TESTED N.P.	N.P.	11	SW-SM
NO. 63	0.0' - 1.0'			TOPSOIL				NOT TESTED					Visual
1448+28.75	1.0' - 4.0'	5-11-17	5"	11	1	20	8	33	27	26	8	8	CL
13' Rt. of	4.0' -10.0'	8-13-16	6"	46	9	12	18	- 15 -		VISUAL N.P.	N.P.	6	SM
℄	4.0' -10.0'	14-13-13	8"	30	13	37	7	6	7	TESTED N.P.	N.P.	12	SM

BORING & LOCATION	STRATA DEPTH FROM - TO	ST. PEN.	REC.	% AGG.	% C.S.	% M.S.	% F.S.	% SILT	% CLAY	L.L.	P.I.	W.C.	USCS CLASS
NO. 65	0.0' - 1.0'			TOPSOIL				NOT TESTED					Visual
1453+0	1.0' - 6.0'	8-8-8	4"	1	1	8	21	47	22	30	10	9	CL
℄	1.0' - 6.0'*	6-6-6	3"					NOT TESTED		36	14		CL
	6.0' -10.0'*	6-8-11	6"	0	0	0	1	69	30	37	6	22	ML
	10.0' -19.0'	7-9-9	8"	29	11	27	9	17	7	TESTED N.P.	N.P.	31	SM
	10.0' -19.0'	18-17-7	7"	54	10	15	9	- 12 -		VISUAL N.P.	N.P.		SM
	10.0' -19.0'	14-15-19	9"	38	17	20	12	- 13 -		VISUAL N.P.	N.P	11	SM
	19.0' -23.0'	15-20-23	13"	0	1	10	19	36	34	32	18	16	CL
	19.0' -23.0'	17-39-46	10"	10	4	15	13	39	19	22	11	6	CL
	23.0' -24.5'			BROWN SILTY, SAND				NOT TESTED					SM
	24.5' -27.0'	28-35-37	12"	0	1	3	3	74	19	TESTED N.P.	N.P.	21	ML
	27.0' -29.0'	18-30-35	13"	4	6	21	10	17	42	NOT TESTED		13	CL
	29.0' -41.0'	100+	0"			NO RECOVERY							SM
	29.0' -41.0'	31-38-47	10"	12	6	38	28	- 16 -		VISUAL N.P.	N.P.	10	SM
	29.0' -41.0'	70-83	12"	32	12	25	15	- 16 -		VISUAL N.P.	N.P	11	SM
	29.0' -41.0'	75-75+	7"			NOT TESTED							
	41.0' -46.0'	150+	0"			NO RECOVERY							SW-SM
	46.0' -50.0'	46-60-60+	5"	18	16	36	16	- 14 -		VISUAL N.P	N.P	12	SM
	46.0' -50.0'	72-75+	6"	0	9	72	5	12	2	TESTED N.P.	N.P.	10	SM
* Oven Dry Limits L.L. - 31 & 36 P.I. - 14 & 13													
NO. 66	0.0' - 0.75'			TOPSOIL				NOT TESTED					Visual
1456+50	0.75'- 6.0'	6-11-17	3"	0	0	5	13	52	30	35	23	11	CL
℄	0.75'- 6.0'	6-12-19	6"	0	5	22	15	37	21	27	15	16	CL
	6.0' -10.0'	11-20-62	4"	16	2	15	12	42	13	TESTED N.P.	N.P.	12	ML
	6.0' -10.0'	150+	2"	9	9	13	11	41	17	NOT TESTED		7	ML

PAINT CREEK, OHIO
PAINT CREEK RESERVOIR
RELOCATION OF
OHIO STATE ROUTE-138
ITEM OH-2
SUMMARY OF TEST DATA

SCALE:	DRAWING NUMBER 016b-UPC4-85/231
DATE: 10-67	SHEET 231 OF 290

PAINT CREEK, OHIO

PAINT CREEK RESERVOIR

RELOCATION OF
OHIO STATE ROUTE 138
ITEM OH-2
SOIL PROFILE

SCALE:	DRAWING NUMBER 016b-UPC4-85/232
DATE: 9-67	SHEET 232 OF 290

WORK AS CONSTRUCTED

NOTE: For information and location of Foundation Borings see Sheet 235.

HOLE NO. B-3

State Rd. 138
150' Rt. STA. 1447+80
This hole drilled and tested by the Corps of Engineers in Jan. 1968

DEPTH	SYM	CLASSIFICATION	REMARKS	WC	LL	P.I.	#4	#200
1.5	CL	Silty Sandy Clay, gray-brown, m/ stiff w/gravel		20				
4.5	SC	Clayey Sand, gray-brown, loose, w/clay lenses, well graded		21			96	19
6.0	CL-ML	Sandy Clay-Silt, gray-brown, stiff		28	23	6		
GW 9.0	SM	Silty Gravelly Sand, brown, m. dense		15			67	14
	SC	Gravelly Clayey Sand, brown, m. dense, w/clay layers		14				
				12			81	20
18.0				12				
21.8	SM	Silty Gravelly Sand, brown, dense		13			85	14

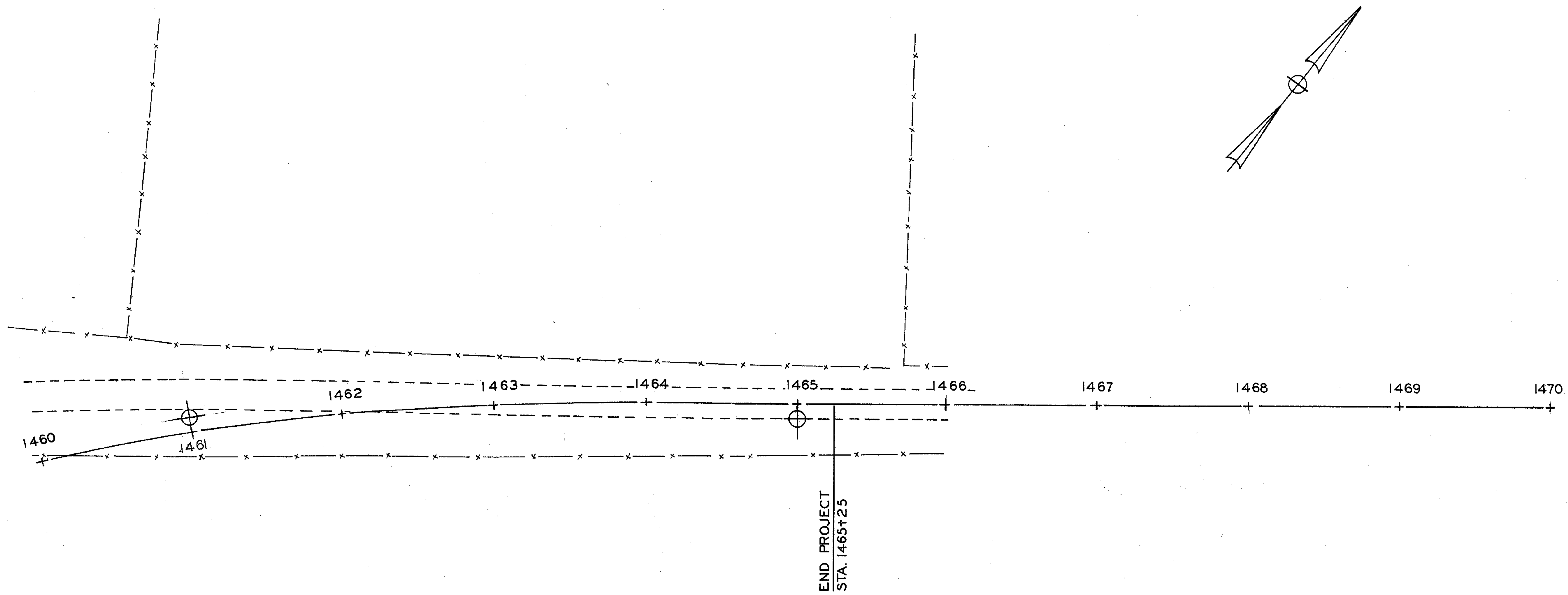
PAINT CREEK, OHIO
PAINT CREEK RESERVOIR
RELOCATION OF
OHIO STATE ROUTE 138
ITEM OH-2
SOIL PROFILE

SCALE:
DATE: 9-67
DRAWING NUMBER
016b - UPC4 - 85/233
SHEET 233 OF 290

WORK AS CONSTRUCTED

FOR INFORMATION PURPOSES ONLY

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		



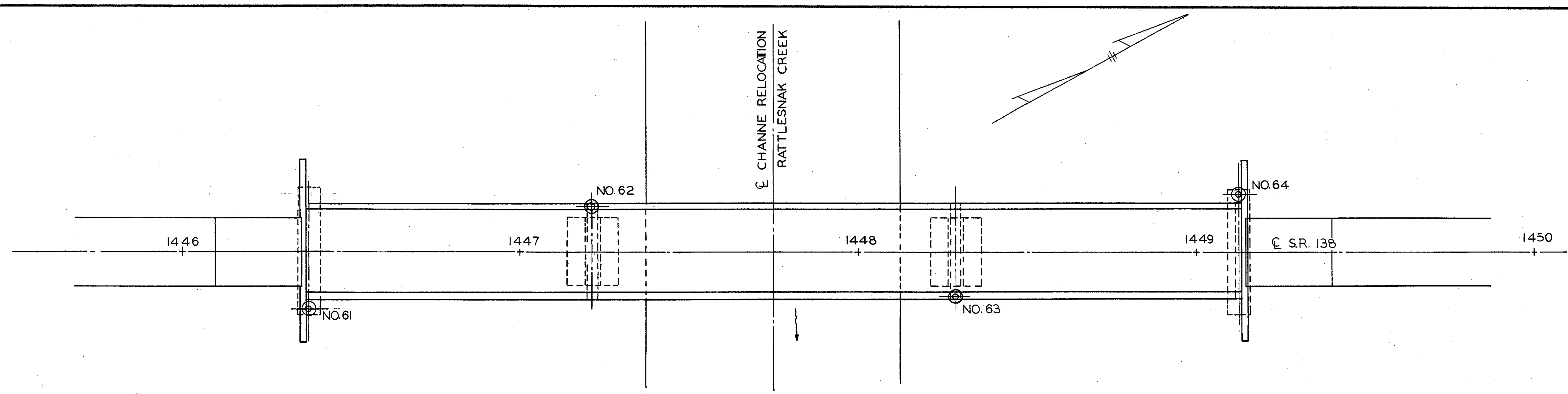
PAINT CREEK, OHIO
PAINT CREEK RESERVOIR
RELOCATION OF
OHIO STATE ROUTE-138
ITEM OH-2
SOIL PROFILE

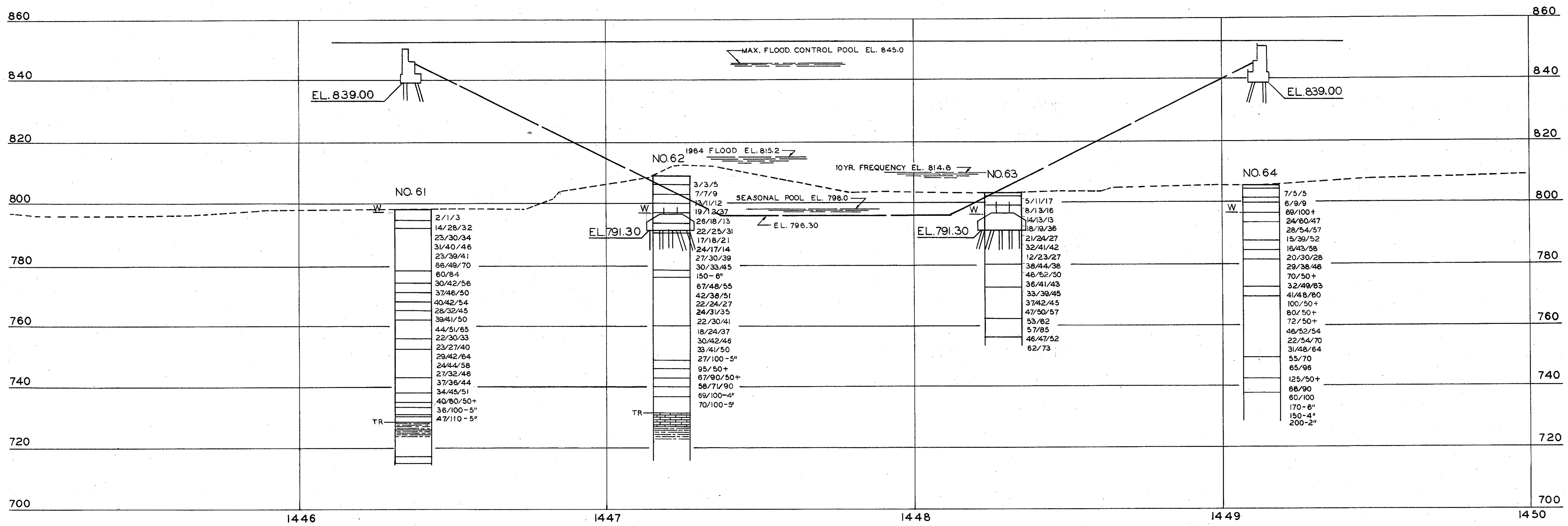
SCALE:	DRAWING NUMBER
DATE: 9-67	016b-UPC4-85/234 SHEET 234 OF 290

WORK AS CONSTRUCTED

FOR INFORMATION PURPOSES ONLY

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		





PAINT CREEK, OHIO
PAINT CREEK RESERVOIR
RELOCATION OF OHIO STATE ROUTE 138
STRUCTURE FOUNDATION INVESTIGATION
BRIDGE NO. HIG-138-27 39
S.R. 138 OVER RATTLESNAKE CREEK

SCALE:	DRAWING NUMBER
DATE: 10-67	016b-UPC4-85/235 SHEET 235 OF 290

WORK AS CONSTRUCTED

FOR INFORMATION PURPOSES ONLY

BOWSER-MORNER Testing Laboratories, Inc.

Paint Creek Reservoir
Item OH-2

LOG OF BORING

Boring No. 61
Station and Offset 1446+37.75 17'Rt. of Centerline
Date Started 8-15-67
Date Completed 8-17-67
Drilling Method Hollow Auger
Sampler Type Split Spoon Dia. 2.0" O.D.
"NX" Core Dia. 2.125" I.D.
Ground Water Elev. 797.06
Surface Elev. 798.06
Driller G.W.

Elev.	Depth	Std. Pen. (N)	Rec. ft.	Loss ft.	Description	Sample No.	% Agg	% C.S.	% M.S.	% F.S.	% Silt	% Clay	L.L.	P.I.	W.C.	USCS Class
798.06	0															
	1				Gray SAND and GRAVEL MIXTURE											
	2	2-1-3	0"			1A		No Recovery								Visual
	3															
794.56	4				Brown Silty, Sandy, GRAVEL											
	5	14-28-32	3"			2A	48	11	13	11	- 17 -		Visual NP	NP	13	GM
792.06	6				Brown Silty, Gravelly, SAND											
	7															
	8	23-30-34	10"			3A	31	20	24	13	- 12 -		Visual NP	NP	*	SM
	9															
	10															
	11	31-40-46	6"			4A	16	18	33	15	- 18 -		Visual NP	NP	11	SM
	12															
	13															
	14	23-39-41	8"			5A	22	23	28	12	- 15 -		Visual NP	NP	*	SM
	15															
	16															
	17	66-49-70	3"			6A	28	18	24	15	- 15 -		Visual NP	NP	12	SM
	18															
	19															
778.06	20	60-84	5"			7A	34	11	23	20	- 12 -		Visual NP	NP	13	SM
	21				Brown Well Graded, Gravelly, SAND-Silty, Gravelly, SAND											
	22															
	23	30-42-56	5"			8A	20	16	24	30	- 10 -		Visual NP	NP	16	SW-SM
774.06	24				Brown Silty, Gravelly, SAND											
	25															
	26	37-46-50	4"			9A	21	12	25	31	- 11 -		Visual NP	NP	*	SM
771.06	27				Brown Well Graded, SAND- Silty, SAND											
	28															
	29	40-42-54	5"			10A	13	11	26	40	- 10 -		Visual NP	NP	16	SW-SM
768.06	30				Brown Silty, SAND											
	31															
	32	28-32-45	6"			11A	3	2	12	65	- 18 -		Visual NP	NP	19	SM
765.06	33				Brown Well Graded, SAND- Silty SAND											
	34															
	35	39-41-50	8"			12A	8	9	23	49	- 11 -		Visual N.P.	N.P.	19	SW - SM
762.06	36				Gray Silty, SAND											
	37															
	38	44-51-65	2"			13A	0	0	9	59	- 32 -		Visual N.P.	N.P.	29	SM
	39															
	40															
	41	22-30-33	0"			14A		No	Recovery							Visual
	42															
	43															
	44	23-27-40	8"			15A	0	0	11	79	- 10 -		Visual N.P.	N.P.	23	SP-SM
	45															
	46															
	47	29-42-64	4"			16A	12	14	32	16	14	12	Tested N.P.	N.P.	13	SM
	48															
	49															
	50	24-44-58	4"			17A	5	9	25	38	- 23 -		Visual N.P.	N.P.	11	SM

BOWSER-MORNER Testing Laboratories, Inc.

Paint Creek Reservoir
Item OH-2

LOG OF BORING

Boring No. 61
Station and Offset 1446+37.75 17'Rt. of Centerline
Date Started 8-15-67
Date Completed 8-17-67
Drilling Method Hollow Auger
Sampler Type Split Spoon Dia. 2.0" O.D.
"NX" Core Dia. 2.125" I.D.
Ground Water Elev. 797.06
Surface Elev. 798.06
Driller G.W.

Elev.	Depth	Std. Pen. (N)	Rec. ft.	Loss ft.	Description	Sample No.	% Agg	% C.S.	% M.S.	% F.S.	% Silt	% Clay	L.L.	P.I.	W.C.	USCS Class
	51															
	52															
	53	27-32-46	6"			18A	16	15	21	34	- 14 -		Visual N.P.	N.P.	11	SM
	54															
743.06	55				Gray Silty, Clayey, SAND											
	56	32-36-44	7"			19A	9	8	25	15	19	23	21	5	9	SM - SC
	57															
	58															
	59	34-45-51	4"		Gravelly, Silty, SAND	20A	32	18	15	11	- 24 -		Visual N.P.	N.P.	7	SM
738.06	60				Gray SILT and CLAY MIXTURE											
	61															
	62	40-80-50+	10"			21A	0	0	0	18	- 82 -		Not Tested		25	Visual
735.06	63				Gray Silty, Clayey, SAND											
	64															
733.56		36-100/5"	8"			22A	8	6	24	25	15	22	18	6	13	SM - SC
	65				Gray Silty, CLAY											
	66															
731.06	67					23A	1	8	3	4	80	4	31	12	14	CL
730.56		47-110/5"	8"		Gray Silty, SAND	23A	21	23	13	48	- 15 -		Visual	NP	*	SM
	68				Rock (Roller Bit used to Varify Rock)											
	69															
728.56																Visual
	70				The Brassfield limestone formation of the clinton series is pourous, light gray to pink or brown. Highly crystaline, fossilized, bedding planes uneven and imperfect.											
	71															
726.06	72															Visual
	73				The Elkhorn formation in the medina series is a typical shale in character, extremely fine grained and predominately greasy to the touch. It varies from blue to red and at times contains sandy or lime-stone lenses. Highly friable upon exposure to weathering.											
			40"	8"		1B										Visual
	74															
	75															
	76															
	77															
	78															
	79															
	80															
717.06	81				2.0' Intrusion of Limestone											Visual
	82															
715.06	83															
714.56			120"	0"	The Elkhorn Formation	2B			(Same as above)							Visual
	84				Bottom of Boring at 83.5'											

Note: Samples 1A, 14A and 21A were insufficient for testing.

* These samples were visually saturated

PAINT CREEK, OHIO
PAINT CREEK RESERVOIR
RELOCATION OF OHIO STATE ROUTE 138
STRUCTURE FOUNDATION INVESTIGATION
BRIDGE NO. HIG-138-27 39
LOG OF BORINGS

SCALE:	DRAWING NUMBER 016b - UPC4 - 85/236
DATE: 10-67	SHEET 236 OF 290

WORK AS CONSTRUCTED

FOR INFORMATION PURPOSES ONLY

BOWSER-MORNER Testing Laboratories, Inc.

LOG OF BORING

Paint Creek Reservoir
Item OH-2

Boring No. 62 | Drilling Method Hollow Augers | Ground Water Elev. 796.26
Station and Offset 1447+21.25 13' Lt. of Centerline | Sampler Type Split Spoon Dia. 2.0" O.D. | Surface Elev. 808.26
Date Started 8-18-67 | "NX" Core Dia. 2.125" I.D. | Driller G.W.
Date Completed 8-21-67

Elev.	Depth	Std. Pen. (N)	Rec. ft.	Loss ft.	Description	Sample No.	% Agg	% C.S.	% M.S.	% F.S.	% Silt	% Clay	L.L.	P.I.	W.C.	USCS Class
808.26	0															
	1				Brown Silty, Clayey, SAND											
	2	3-3-5	5"			1A	3	4	33	25	25	10	22	4	7	SM-SC
805.26	3															
	4				Brown SILT											
	5	7-7-9	7"			2A	3	1	6	6	71	13	Tested N.P.	N.P.	7	ML
802.26	6															
	7				Brown Well Graded, Gravelly, SAND- Silty, Gravelly, SAND											
	8	13-11-12	5"			3A	46	6	15	25	- 8 -		Visual N.P.	N.P.	7	SW-SM
799.26	9															
	10				Brown Silty, CLAY											
	11	19-12-37	5"			4A	2	0	2	4	- 92 -		Not Tested		5	Visual CL
796.26	12															
	13				Brown Well Graded, Gravelly, SAND- Silty, Gravely SAND											
	14	26-18-13	9"			5A	34	11	37	7	7	4	Tested N.P.	N.P.	13	SW-SM
792.76	15															
	16				Brown Silty, Sandy, GRAVEL											
	17	22-25-31	8"			6A	48	16	14	10	- 12 -		Visual N.P.	N.P.	13	GM
789.76	18															
	19				Brown Silty, SAND											
	20	17-18-21	10"			7A	11	11	27	32	- 19 -		Visual N.P.	N.P.	15	SM
	21															
	22															
	23	24-17-14	11"			8A	23	13	25	25	- 14 -		Visual N.P.	N.P.	15	SM
	24															
	25															
	26	27-30-39	11"			9A	15	9	31	29	- 16 -		Visual N.P.	N.P.	15	SM
	27															
	28															
	29	30-33-45	10"			10A	15	17	32	20	- 16 -		Visual N.P.	N.P.	13	SM
	30															
777.76	31				Brown Well Graded, Sandy, GRAVEL- Silty, Sandy, GRAVEL											
	32	150/6"	3"			11A	77	8	6	2	- 7 -		Visual N.P.	N.P.	8	GW-GM
775.26	33															
	34				Brown Silty, Gravelly, SAND											
	35	67-48-55	8"			12A	34	16	23	12	- 15 -		Visual N.P.	N.P.	8	SM
	36															
	37															
	38	42-38-51	12"			13A	32	12	22	18	- 15 -		Visual N.P.	N.P.	9	SM
	39															
	40				Silty SAND											
	41	22-24-27	12"			14A	8	2	17	50	- 23 -		Visual N.P.	N.P.	20	SM
	42															
	43															
	44	24-31-35	11"			15A	0	0	15	66	- 19 -		Visual N.P.	N.P.	22	SM
	45															
	46															

BOWSER-MORNER Testing Laboratories, Inc.

LOG OF BORING

Paint Creek Reservoir
Item OH-2

Boring No. 62 | Drilling Method Hollow Augers | Ground Water Elev. 796.26
Station and Offset 1447+21.25 13' Lt. of Centerline | Sampler Type Split Spoon Dia. 2.0" O.D. | Surface Elev. 808.26
Date Started 8-18-67 | "NX" Core Dia. 2.125" I.D. | Driller G.W.
Date Completed 8-21-67

Elev.	Depth	Std. Pen. (N)	Rec. ft.	Loss ft.	Description	Sample No.	% Agg	% C.S.	% M.S.	% F.S.	% Silt	% Clay	L.L.	P.I.	W.C.	USCS Class
	47	22-30-41	7"			16A	0	0	11	68	- 21 -		Visual N.P.	N.P.	23	SM
	48															
	49				Gray Silty, SAND											
	50	18-24-37	11"			17A	0	0	5	50	37	8	Tested N.P.	N.P.	22	SM
	51															
	52															
	53	30-42-46	10"		Gravelly, Silty, SAND	18A	23	15	22	23	- 17 -		Visual N.P.	N.P.	15	SM
	54															
	55															
	56	33-41-50	8"			19A	12	11	13	38	- 26 -		Visual N.P.	N.P.	14	SM
	57															
	58															
	59	27-100/5"	0"			20A		No	Recovery							Visual
748.26	60															
	61				Gray Clayey, SAND											
	62	95-50+	10"			21A	3	6	23	20	29	19	23	9	9	SC 5C
745.26	63															
	64				Gray Clayey, SAND											
	65	67-90-50+	6"			22A	17	4	18	14	26	21	23	10	8	SC
742.26	66															
	67				Gray Sandy, CLAY											
	68	58-71-90	12"			23A	10	5	22	12	27	24	23	11	13	CL
739.26	69															
	70				Gray Well Graded, Gravelly, SAND											
	71	69-100/4"	10"			24A	22	18	52	4	- 4 -		Visual N.P.	N.P.	8	SW
736.26	72															
	73				Gray Silty, Gravelly, SAND											
	74	70-100/5"	9"			25A	28	10	25	22	- 15 -		Visual N.P.	N.P.	10	SM
	75															
	76															
	77															
730.76					Apparent Rock											Visual
730.26	78				The Brassfield limestone formation of the clinton series is poutous, light gray to pink or borwn. Highly crystaline, fossilized, bedding planes uneven and imperfect.											
	79															
	80															
	81															
726.26	82				The Elkhorn formation in the medina series is a typical shale in character, extremely fine grained and predominately greasy to the touch. It varies from blue to red and at times contains sandy or limestone lenses. Highly friable upon exposure to weathering.											
	83															
	84															
	85															
	86															
	87															
	88															
	89															
	90															
	91															
	92															
715.26	93		175"	5"		1B										Visual
					Bottom of Boring at 93'											
					Note: Samples 4A and 20A were insufficient for testing.											

PAINT CREEK, OHIO
PAINT CREEK RESERVOIR
RELOCATION OF OHIO STATE ROUTE 138
STRUCTURE FOUNDATION INVESTIGATION
BRIDGE NO. HIG-138-2739
LOG OF BORINGS

SCALE:	DRAWING NUMBER 016b-UPC4-85/237
DATE: 10-67	SHEET 237 OF 290

WORK AS CONSTRUCTED

2A20

Paint Creek Reservoir
Item OH-2

BOWSER-MORNER Testing Laboratories, Inc.

LOG OF BORING

Boring No. 63
Station and Offset 1448+28.75 13' Rt. of Center-line
Date Started 8-14-67
Date Completed 8-14-67

Drilling Method Hollow Auger
Sampler Type Split Spoon Dia. 2.0" O.D.
Dia.

Ground Water Elev. 796.61
Surface Elev. 803.61
Driller G.W.

Elev.	Depth	Std. Pen. (N)	Rec. ft.	Loss ft.	Description	Sample No.	% Agg	% C.S.	% M.S.	% F.S.	% Silt	% Clay	L.L.	P.I.	W.C.	USCS Class
803.61	0															
802.61	1				Topsoil			Not	Tested							Visual
	2	5-11-17	5"		Brown Silty, Sandy, CLAY	1A	11	1	20	8	33	27	26	8	8	CL
799.61	4															
	5	8-13-16	6"		Brown Silty, Gravelly, SAND	2A	46	9	12	18	- 15 -		Visual N.P.	N.P.	6	GM
	8	14-13-13	8"			3A	30	13	37	7	6	7	Tested N.P.	N.P.	12	SM
	11	18-19-36	10"			4A	22	18	29	13	- 18 -		Visual N.P.	N.P.	*	SM
	14	21-24-27	10"			5A	14	17	35	20	- 14 -		Visual N.P.	N.P.	15	SM
	17	32-41-42	3"			6A	46	10	16	13	- 15 -		Visual N.P.	N.P.	10	GM
	20	12-23-27	10"			7A	20	10	39	16	- 15 -		Visual N.P.	N.P.	*	SM
	23	38-44-38	11"			8A	4	10	49	23	- 14 -		Visual N.P.	N.P.	*	SM
780.11	24				Brown Well Graded, SAND – Silty, SAND											
	26	46-52-50	10"			9A	3	8	57	23	- 9 -		Visual N.P.	N.P.	*	SW - SM
	29	36-41-43	7"			10A	2	2	60	28	- 8 -		Visual N.P.	N.P.	17	SW - SM
773.11	30				Brown Silty, SAND											
	32	33-39-45	6"			11A	0	0	14	73	- 13 -		Visual N.P.	N.P.	*	SM
	35	37-42-45	7"			12A	3	4	25	48	- 20 -		Visual N.P.	N.P.	*	SM
	38	47-50-57	5"			13A	11	7	36	31	- 15 -		Visual N.P.	N.P.	*	SM
762.61	41	53-62	5"		Gray Well Graded, SAND- Silty, Sand	14A	16	15	16	31	- 22 -		Visual N.P.	N.P.	*	SM
	44	57-85	7"			15A	12	10	32	37	- 9 -		Visual N.P.	N.P.	10	SW - SM
756.61	47	46-47-52	7"		Gray Silty, SAND	16A	6	9	31	45	- 9 -		Visual N.P.	N.P.	14	SW - SM
753.61	50	62-73	6"		Bottom of Boring at 50.0'	17A	4	2	22	56	- 16 -		Visual N.P.	N.P.	*	SM

* These samples were visually saturated

Paint Creek Reservoir
Item OH-2

BOWSER-MORNER Testing Laboratories, Inc.

LOG OF BORING

Boring No. 64
Station and Offset 1449+12.75 17' Lt. of Center-line
Date Started 8-11-67
Date Completed 8-11-67

Drilling Method Hollow Auger
Sampler Type Split Spoon Dia. 2.0" O.D.
Dia.

Ground Water Elev. 796.62
Surface Elev. 805.62
Driller G.W.

Elev.	Depth	Std. Pen. (N)	Rec. ft.	Loss ft.	Description	Sample No.	% Agg	% C.S.	% M.S.	% F.S.	% Silt	% Clay	L.L.	P.I.	W.C.	USCS Class
805.62	0															
804.62	1				Topsoil			Not	Tested							Visual
	2	7-5-5	3"		Brown Silty, SAND	1A	3	7	40	32	- 18 -		Visual N.P.	N.P.	6	SM
801.62	4															
	5	6-9-9	6"		Brown Silty, Clayey, SAND	2A	6	10	26	26	16	16	23	7	17	SM - SC
800.12	6				Brown Silty, Sandy, GRAVEL											
	8	69-100+	8"			3A	46	10	14	15	- 15 -		Visual N.P.	N.P.	7	GM
796.62	9				Gray Silty, Clayey, SAND											
	11	24-60-47	8"			4A	16	13	29	10	15	17	23	5	13	SM- SC
793.62	12				Gray Sandy, CLAY											
	14	28-54-57	10"			5A	3	1	20	15	29	32	27	10	13	CL
	17	15-39-52	12"			6A	2	3	15	18	28	34	24	9	17	CL
787.62	18				Gray Silty, Sandy, CLAY											
	20	16-43-58	13"			7A	5	3	16	16	26	34	26	6	13	ML - CL
784.62	21				Gray Sandy, CLAY											
	23	20-30-28	15"			8A	3	1	14	17	30	35	25	8	13	CL
781.62	24				Brown Silty, Gravelly, SAND											
	26	29-38-46	12"			9A	35	9	20	17	- 19 -		Visual N.P.	N.P.	*	SM
	29	70-50+	10"			10A	33	7	19	27	- 14 -		Visual N.P.	N.P.	*	SM
	32	32-49-63	8"			11A	23	11	24	25	- 17 -		Visual N.P.	N.P.	10	SM
772.62	33				Brown Well Graded, Gravelly, SAND – Silty, Gravelly, SAND											
	35	41-48-60	7"			12A	25	11	34	21	- 9 -		Visual N.P.	N.P.	*	SW - SM
769.62	36				Gray Silty, SAND											
	38	100-50+	6"			13A	0	0	2	60	- 38 -		Visual N.P.	N.P.	*	SM
	41	80-50+	0"			14A		No.	Recovery							Visual SM
	44	72-50+	8"			15A	17	3	16	51	- 13 -		Visual N.P.	N.P.	*	SM
	47	46-52-54	10"			16A	0	1	8	72	- 19 -		Visual N.P.	N.P.	14	SM
	50	22-54-70	8"			17A	0	0	3	67	- 30 -		Visual N.P.	N.P.	*	SM
	52															

2A20

Paint Creek Reservoir
Item OH-2

BOWSER-MORNER Testing Laboratories, Inc.

LOG OF BORING

Boring No. 64
Station and Offset 1449+12.75 17' Lt. of Center-line
Date Started 8-11-67
Date Completed 8-14-67

Drilling Method Hollow Auger
Sampler Type Split Spoon Dia. 2.0" O.D.
Dia.

Ground Water Elev. 796.62
Surface Elev. 805.62
Driller G.W.

Elev.	Depth	Std. Pen. (N)	Rec. ft.	Loss ft.	Description	Sample No.	% Agg	% C.S.	% M.S.	% F.S.	% Silt	% Clay	L.L.	P.I.	W.C.	USCS Class
	53	31-48-64	9"			18A	1	0	2	77	- 20 -		Visual N.P.	N.P.	*	SM
749.62	56	55-70	8"			19A	0	1	1	75	- 23 -		Visual N.P.	N.P.	*	SM
					Gray Sandy, CLAY											
	59	65-90	6"			20A	3	5	23	17	27	25	20	10	12	CL
742.62	63	125-50+	0"			21A		No	Recovery							Visual CL
					Gray Silty, Gravelly, SAND											
	66	66-90	3"			22A	36	23	13	14	- 14 -		Visual N.P.	N.P.	*	SM
737.62	68				Gray Clayey, SAND											
	69	60-100	8"			23A	16	3	24	24	21	12	Not Tested		13	Visual SC
	72	170/0.5'	4"		Sandy, CLAY	24A	10	6	13	21	26	24	Not Tested		8	Visual CL
	75	150/0.3'	3"			25A		Not	Tested							Visual CL
728.62	77	200+/0.2'	0"					No	Recovery							Visual CL

Bottom of Boring at 77.0'

Note: Samples 14A, 21A, 23A, 24A, 25A, and 26A had insufficient sample.

* These samples were visually saturated

PAINT CREEK, OHIO
PAINT CREEK RESERVOIR
RELOCATION OF OHIO STATE ROUTE 138
STRUCTURE FOUNDATION INVESTIGATION
BRIDGE NO. HIG-138-27 39
LOG OF BORINGS

SCALE:	DRAWING NUMBER 016b-UPC4-85/238
DATE: 10-67	SHEET 238 OF 290

WORK AS CONSTRUCTED

FOR INFORMATION PURPOSES ONLY

SCHEMATIC PLAN ①

200 0 200 400
SCALE IN FEET

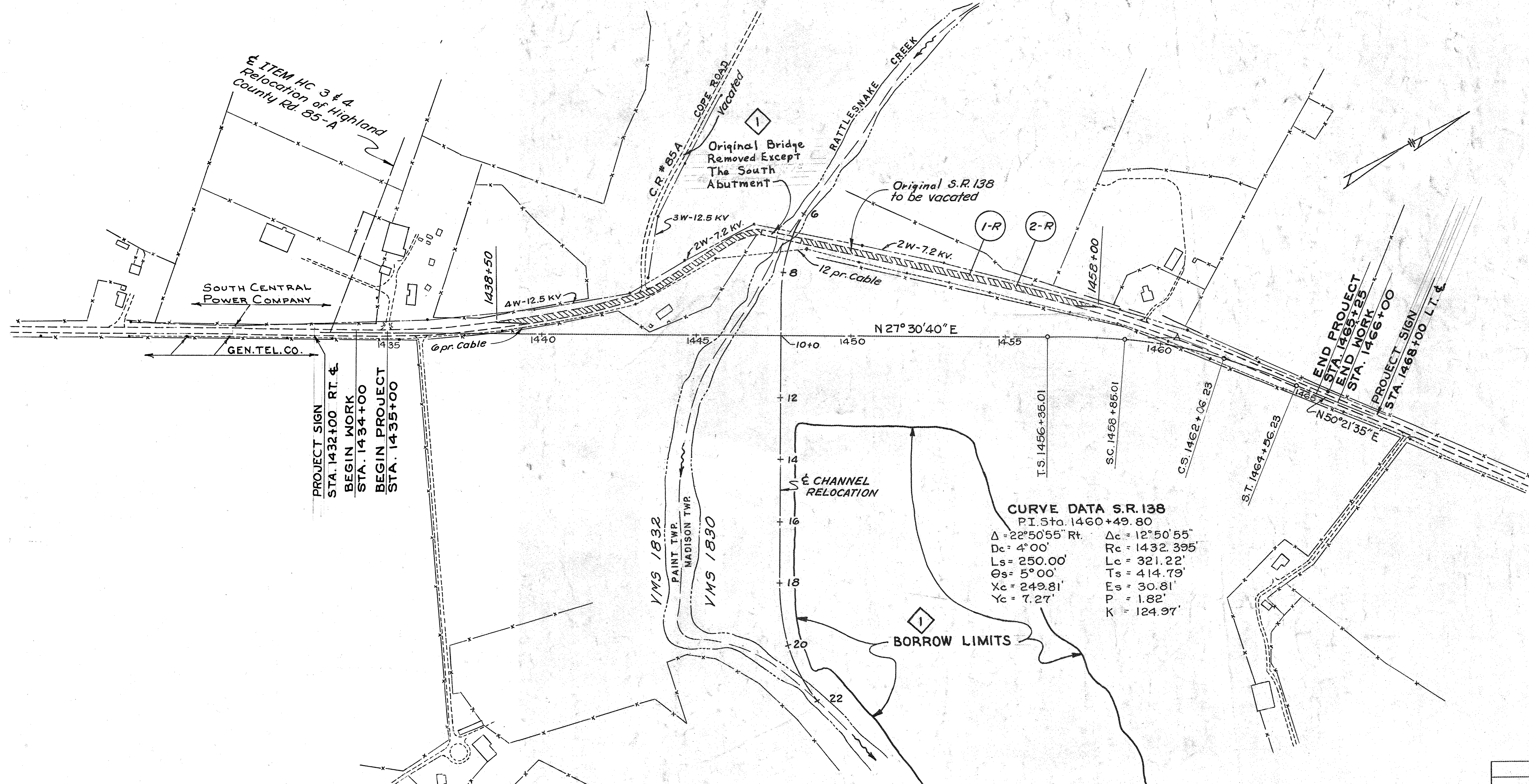
ESTIMATED QUANTITIES

1-R Item Special - Obliteration of Existing Roadway — Lump Sum
2-R Item 659 - Seeding and Mulching — 19,500 Sq. Yds.

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

HIG-138-27.18

YMS 1830 & 1832
PAINT & MADISON TWP



UTILITY OWNERS

TELEPHONE - GENERAL TELEPHONE COMPANY OF OHIO
197 South Main Street
Marion, Ohio

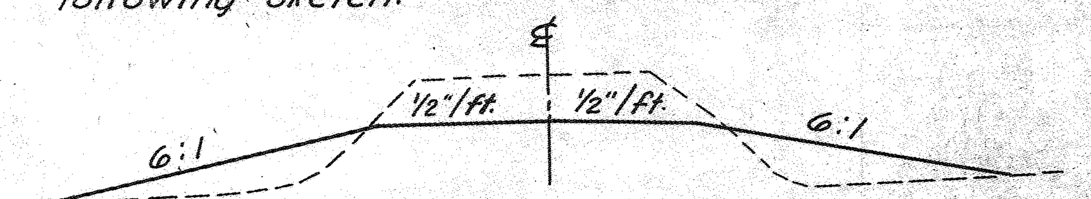
ELECTRIC - SOUTH CENTRAL POWER CO.
P.O. Box 250
LANCASTER, OHIO

Recorded in the Highland County Record of Plats: Platbook 6 at Page 55 Date: Feb. 8, 1978

INDEX FOR ITEM OH-2

① NOTE - OBLITERATION OF ORIGINAL ROADWAY

The obliteration of the original roadway, lying outside the normal work limits of the new construction, between Stations 1438+50 and 1458+00, was constituted by the removal of its existing pavement, removal of existing guard rail and the leveling and seeding of the existing road bed. Leveling of the existing road bed was performed approximately as indicated on the following sketch.



An amount of material was be removed from the top of the original road bed to provide approximately 6:1 side slopes. Compaction requirements were waived in the area of the 6:1 slopes.

Payment for the removal of existing pavement and the required grading were paid for at the lump sum bid for Item Special - Obliteration of Existing Roadway.

Payment for seeding the area was paid for at the unit price bid per square yard for Item 659, Seeding and Mulching.

Payment for the removal of the existing structure and removal of existing guard rail was as indicated elsewhere on the drawings.

REVISION	DATE	DESCRIPTION	BY
①	APR. 1972	Revised To Work As Constructed	V.L.O.

U. S. ARMY ENGINEER DISTRICT, HUNTINGTON
CORPS OF ENGINEERS
HUNTINGTON, W. VA.

PAINT CREEK, OHIO
PAINT CREEK RESERVOIR
RELOCATION OF OHIO STATE ROUTE 138
ITEM OH-2 — SCHEMATIC PLAN

DRAWN BY:
TRACED BY: L.P.
CHECKED BY: C.R.B.
SUBMITTED BY: S. Withers
CONSULTANT
RECOMMENDED:
CHIEF ENG. DIV.
APPROVED:
COL. C.E. DISTRICT ENGINEER
DATE: FEB 1970

BARRETT, CARGO, WITHERS & ASSOC. LTD.
CONSULTING ENGINEERS
CHILLICOTHE, OHIO

SCALE: AS SHOWN
SPEC. NO.
DRAWING NUMBER 016b-UPC4-85/7
SHEET 7 OF 290

WORK AS CONSTRUCTED

WORK AS CONSTRUCTED

REVISION	DATE	DESCRIPTION	BY

U. S. ARMY ENGINEER DISTRICT, HUNTINGTON
CORPS OF ENGINEERS
HUNTINGTON, W. VA.

PAINT CREEK, OHIO
PAINT CREEK RESERVOIR
RELOCATION OF OHIO STATE ROUTE 138
ITEM OH-2 — RIGHT-OF-WAY PLAN
STA. 1455+00 TO STA. 1466+00

DRAWN BY:
TRACED BY:
CHECKED BY: C.R.B.
SUBMITTED BY: S.E. Withers
CONSULTANT
RECOMMENDED:
CHIEF ENG. DIV.
APPROVED:
COL. C. E. DISTRICT ENGINEER
DATE: FEB 1970

BARRETT, CARGO, WITHERS & ASSOC. LTD.
CONSULTING ENGINEERS
CHILLICOTHE, OHIO

SCALE: AS SHOWN
SPEC. NO.
DRAWING NUMBER 016b-UPC4-85/42
SHEET 42 OF 290

WORK AS CONSTRUCTED