MICROFILMED
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REPRODUCTION

I-270-5(29)118

ON MICROFILM
BOX NO. 44-A
I-19

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO	I-270-5(29)118	

1/247

FRANKLIN COUNTY
FRA-270-26.76 N

STATE OF OHIO
DEPARTMENT OF HIGHWAYS

FRA-270-26.76 N

CITY OF COLUMBUS AND VILLAGE OF GAHANNA
MIFFLIN TOWNSHIP FRANKLIN COUNTY

PART II OF 2 PARTS
FOR PART I SEE PLANS FOR
FRA-270-25.39N
FRA -62 - 20.83

1969 SPECIFICATIONS

LIMITED ACCESS — This improvement is especially designed for through traffic and has been declared a limited access highway or freeway by action of the Director of Highways in accordance with the provisons of Section 5511.02 of the Revised Code of Ohio.

***The Standard Specifications of** the State of Ohio, Department of Highways, including changes and supplemental specifications listed in the proposal, shall govern this improvement.*

The Right of Way for this improvement will be provided by the State of Ohio.

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

Sheet No. 181, 207, 207A, 208, 212, 213, 214, 215, 216 & 217 revised 3-12-71 EBL
Sheet No. 207, 207A, 208, & 209 revised 3-26-71 EBL

CONVENTIONAL SIGNS

CENTER LINE
PROPERY LINE
R/W WITH LIMITED ACCESS — LA
R/W WITHOUT LIMITED ACCESS — R/W
LIMITED ACCESS AND R/W LINE — LA/RW
R/W EASEMENT LINE
EXISTING R/W
CORPORATION LINE
TREES & STUMPS
PROPOSED STORM SEWER
CONSTRUCTION LIMITS
EXISTING FENCE LINE
R/W FENCE
EXISTING GUARD RAIL
PROPOSED GUARD RAIL
POWER POLES
TELEPHONE POLES
LIGHT POLES
RAILROAD TRACKS
EXISTING UTILITIES — SA.S, ST.S, Gas, Water — SA.S ST.S G W
GAS METER □ GAS VALVE ◊ WATER VALVE ◊
WATER HYDRANT ♀ PROPOSED CATCH BASIN ■
PROPOSED MANHOLE ● EXISTING MANHOLE ○ MANHOLE REMOVED ⊘

INDEX

TITLE SHEET	1	INTERCHANGE GEOMETRICS	49
SCHEMATIC PLAN	2	PAVEMENT DETAILS	50- 64
TYPICAL SECTIONS	3- 7	PAVEMENT ELEVATIONS	65- 68
GENERAL NOTES	8-11	CROSS SECTIONS	69-133, 108A, B, C & D
GENERAL SUMMARY	12-15	TRAFFIC CONTROL PLANS	134-162 & 152A
PLAN & PROFILE	16-42	LIGHTING PLANS	163-177
DRAINAGE DETAILS	43	STRUCTURES OVER 20FT SPAN	178-217, 209A, 207A
CULVERT DETAILS & CHANNEL ALIGNMENT	44, 44A, 44B, 44C	RIGHT OF WAY	231-247 & 236A
STORM SEWER PROFILES	45-48		
GUARD RAIL DETAILS	48A & 48B		

Sheet Nos. 218 to 230 not used

LINE DATA

PART I FRA-270- 25.39N
FOR LINE DATA PART I & TOTAL PROJECT SEE SHEET I OF PART I

PART II FRA-270-26.76N

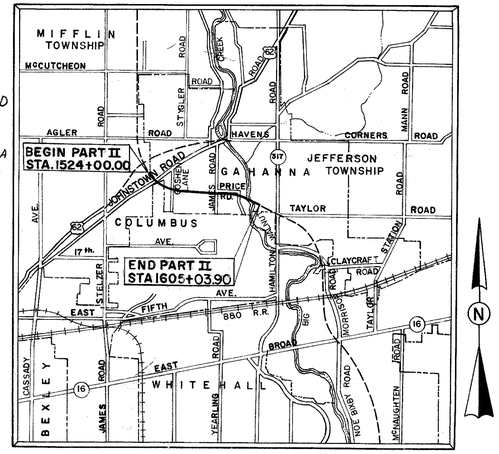
BEGIN PART II	1524+00		
CORP LINE, COLUMBUS	1531+ 35.96		
LENGTH OUTSIDE COLUMBUS		735.96 LF	
CORP LINE, COLUMBUS	1531+ 35.96		
CORP LINE, COLUMBUS	1540+ 05.08		
TOTAL PROJECT LENGTH WITHIN COLUMBUS		869.12 LF	0.164 MILES
CORP LINE, COLUMBUS	1540+ 05.08		
END PART II	1605+ 03.90		
LENGTH OUTSIDE COLUMBUS		6,498.82 LF	
TOTAL PROJECT LENGTH OUTSIDE COLUMBUS		7,234.78 LF	1.370 MILES

WORK ADDITIONS

1605+03.90 BACK = 1627+82.72 AHEAD TO 1635+25			742.28 LF
JOHNSTOWN ROAD	8+75 TO	28+10	1,935.00 LF
GOSHEN LANE	15+00 TO	27+61	1,261.00 LF
JAMES ROAD CONNECTION	20+12 TO	51+66.81	3,154.81 LF

Sheet No. 179, 181, 183, 195, 196 & 201 revised 11-3-70 EBL
Sheet Nos. 12 & 44B Revised 11-12-70 AWG
Sheet No. 202 revised 12-11-70 EBL
Sheet No. 175, 185, 201, 208, 209, & 217 revised 12-21-70 EBL

LENGTH OF PROJECT PART II	8,103.90 LF	1.534 MILES	
LENGTH OF WORK ADDITIONS	7,093.09 LF	1.343 MILES	
TOTAL LENGTH OF WORK	15,196.99 LF	2.878 MILES	



LOCATION MAP
SCALE IN MILES 0 1 2 3

PORTION TO BE IMPROVED
STATE ROADS
OTHER ROADS

SCALE
PLAN 0 50 100
PROFILE VERTICAL 0 5 10
PROFILE HORIZONTAL 0 50 100
CROSS SECTIONS 0 10 20

DESIGN DESIGNATION

1970 ADT	23800
1970 D.D.H.V	5360
DIR. DIST	60%
TRUCK	5%
DESIGN SPEED	70 M.P.H.

APPROVED DATE 5-6-70	Carl W. Schoene — CHIEF SEWERAGE ENGINEER, CITY OF COLUMBUS
APPROVED DATE 5-5-70	Robert H. Morris — VILLAGE ENGINEER, VILLAGE OF GAHANNA
APPROVED DATE 5-8-70	Theodore L. Wallace — CITY ENGINEER, CITY OF COLUMBUS
APPROVED DATE 5-7-70	— DIRECTOR OF PUBLIC SERVICE, CITY OF COLUMBUS
APPROVED DATE 2-6-70	Richard D. Jackson — DIVISION DEPUTY DIRECTOR
APPROVED DATE 8-13-70	C.H. Altvater — ENGINEER OF BRIDGES
APPROVED DATE 8-26-70	R.E. Batlin — ENGINEER OF LOCATION AND DESIGN
APPROVED DATE 8-26-70	George J. Thornyak — DEPUTY DIRECTOR OF DESIGN AND CONSTRUCTION
APPROVED DATE 9-8-70	T.H. Borrell — DEPUTY DIRECTOR OF RIGHT OF WAY
APPROVED DATE 9-9-70	Thomas M. Mayer — DEPUTY DIRECTOR OF PLANNING AND PROGRAMMING
APPROVED DATE 9-9-70	— FIRST ASSISTANT DIRECTOR
APPROVED DATE 9-9-70	P.E. Mahan — DIRECTOR OF HIGHWAYS

PLANS PREPARED & QUANTITIES VERIFIED BY
BURGESS & NIPLE, LIMITED
CONSULTING ENGINEERS
2015 WEST FIFTH AVENUE, COLUMBUS, OHIO
FOR THE STATE OF OHIO

Don A. Kreider

File No.	FRANKLIN COUNTY FRA-270-26.76 N
	Date of Letting
	Contract No.

STANDARD CONSTRUCTION DRAWINGS

AS-1-67	6-12-69	BP-4	12-1-68	FACI-1	9-15-67	MC-1	6-13-69
BP-1	6-1-65	BP-5	6-1-65	FACI-2	6-1-65	MC-3	6-20-69
BP-2	12-1-68	BP-6	6-1-65	GR-1	1-1-67	MC-4	6-13-69
BP-3	12-1-68	BP-7	1-1-66	GR-2A	1-1-67	MC-7	10-1-68
		BP-8	5-20-70	GR-2B	2-15-68	MC-8	12-1-67
		CB-2-2-A&B	6-1-65	GR-5	1-15-68	MH-1	10-1-68
		CB-4	9-1-69	GR-6	7-15-68	MH-1A	10-1-68
		CB-5	9-1-69	HL-1	11-1-65	SP-53	6-30-61
		CB-458A	6-6-68	HL-2	11-1-65	SD-1-69	6-12-69
		F-1	3-10-69	HL-3	11-1-65	RB-1-55	2-2-59
		F-3	3-10-69	HL-4	1-1-66	BR-1-67	2-1-68
		F-5	3-10-69	HW-E	6-1-65		
		F-6	10-1-66	L-1	6-1-65		

SUPPLEMENTAL SPECIFICATIONS

808	11-14-69
811	1-1-69
836	6-17-69
801	1-1-69
830	6-17-69
815	1-1-69
816	1-1-69
1001	1-1-69
938	8-12-69

DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
BUREAU OF PUBLIC ROADS
APPROVED:

DIVISION ENGINEER — DATE

ALL-STATE BLUEPRINT 440008

MICROFILMED
AUG 14 1979
REPRODUCTION

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

2
247

FRA-270-26.76N

0 1000'

IR 270 1603+48.48 = Relocation Big Walnut 19+23.57

I-270-5(29)118
End Project
Part II
FRA-270-26.76N
Sta. 1605+03.90

Sta. 1605+03.90 Back =
Sta. 1627+82.72 Ahead

End Work
Part II
Sta. 1635+25

IR 270 1545+93.45 = Goshen Lane 19+85.17

FRA-270-28.24N

Begin Work
Sta. 15+00

End Work
Sta. 28+10

FRA-270-27.19N

IR 270 1564

Channel Improvement

End Work
51+66.81

FRA-270-28.80N

30 James Road Connection

Begin Work
20+12.00

End Work
Sta. 27+61

FRA-270-26.85N

End Work
Sta. 12+95.47

I-270-5(29)118
Begin Project
Part II
FRA-270-26.76N
Sta. 1524+00
SLM 26.76N
Begin Work
Part II

IR 270 1526+73.97 = Johnstown Rd. 19+39.69

Begin Work
Sta. 8+75

GAHANNA
MIFFLIN TWP.

COLUMBUS
MIFFLIN TWP.

GAHANNA

COLUMBUS

WHITEHALL

Agler Rd.
Stygler Rd.
Ridgeview Rd.
Havens Corners Rd.
Hamilton
Taylor Rd.
Taylor Station
Claycraft Rd.
James Rd.
Big Walnut
Price Rd.
Wonderland
Morrison Creek
Rd.
16
Goshen Lane
F.A.C.I. Sign
College Park
Dawson Ave.
1564
Temp. Road
Hubler Service Road
Englewood Dr.
Proposed Johnstown Rd.
17th Ave.
Port Columbus International Airport
Fifth Ave.
Penn Central R.R.
SR 317
B&O R.R.
New Dixie Hy.
East Broad St.

SCHEMATIC PLAN

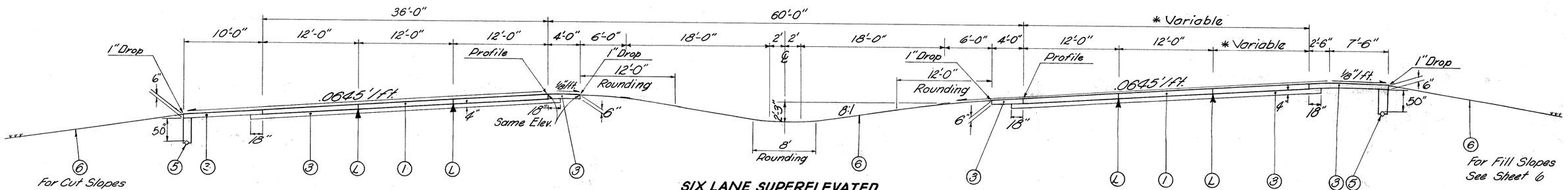
TYPICAL SECTIONS

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

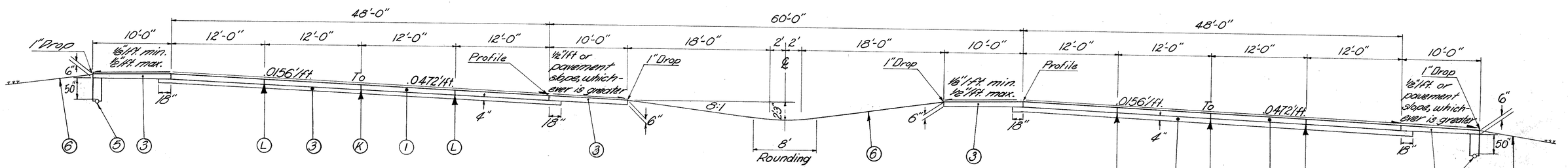
3
247

FRANKLIN COUNTY
FRA-270-26.76N

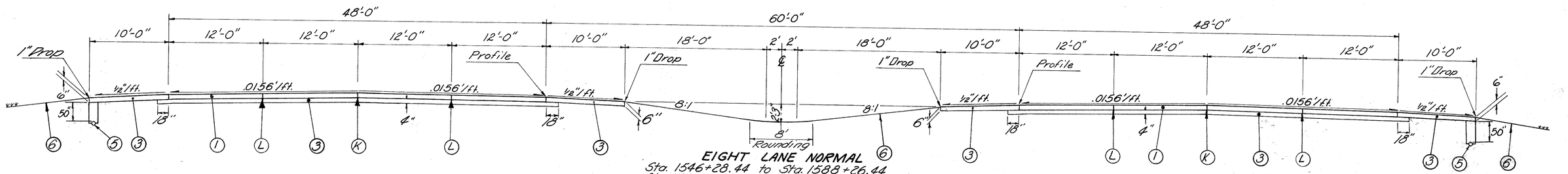
451 on 301



SIX LANE SUPERELEVATED
Sta. 1524+00.00 to Sta. 1546+28.44



EIGHT LANE SUPERELEVATED
Sta. 1588+26.44 to Sta. 1600+21.91



EIGHT LANE NORMAL
Sta. 1546+28.44 to Sta. 1588+26.44
Sta. 1600+21.91 to Sta. 1601+61.12
Sta. 1601+61.12 to Sta. 1695+03.90 Bridge Limits

LEGEND

(1) Item 451 8" Continuously Reinforced Portland Cement Concrete Pavement, as per plan. (See note in proposal.)
(3) Item 301 Bituminous Aggregate Base, 702.01 (85-100) or 702.09 RT-11 or 12 (See note in proposal.) (Thickness as shown)
(5) Item 605 6" Pipe Underdrain
(6) Item 659 Seeding and Mulching, as per plan.
(L) Standard Longitudinal Joint (K) Key Joint without Tiebars

Note: For joint details see sheets 50-64

Note: Deep 605 pipe underdrains shall be installed as soon as possible after completion of rough grading and in any event shall be placed prior to placement of the 301 Bituminous Aggregate Base under the Mainline pavement.
Note: Earth shoulder shall be one inch lower than the paved shoulder.

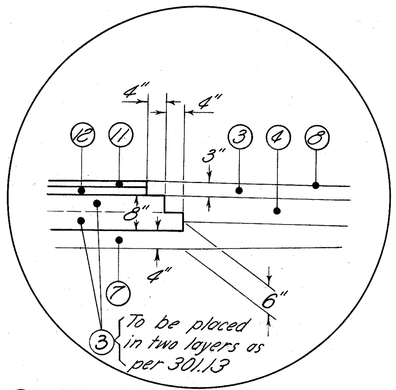
MAINLINE TYPICAL SECTIONS

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

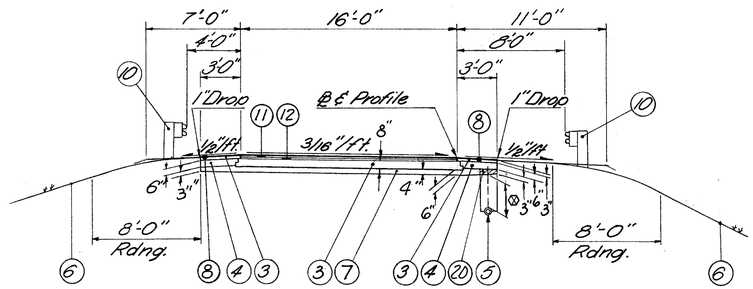
4/247

FRANKLIN COUNTY
FRA-270-26.76N

TYPICAL SECTIONS

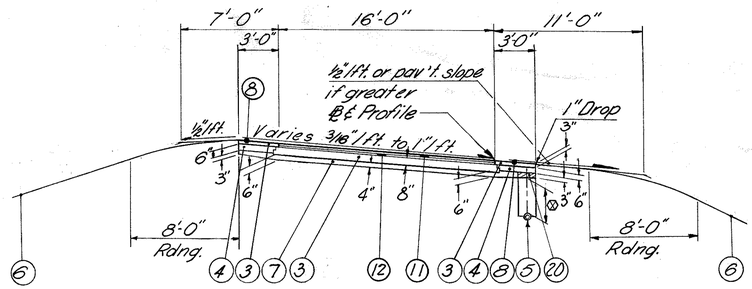


RAMP SHOULDER DETAIL



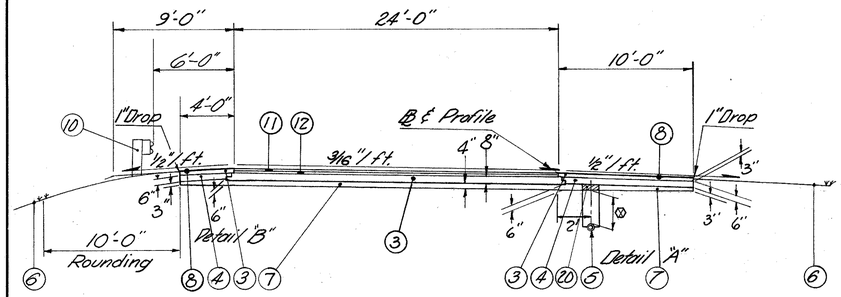
NORMAL RAMP

Left and Right side of ramps are referenced to direction of travel instead of direction of stationing.

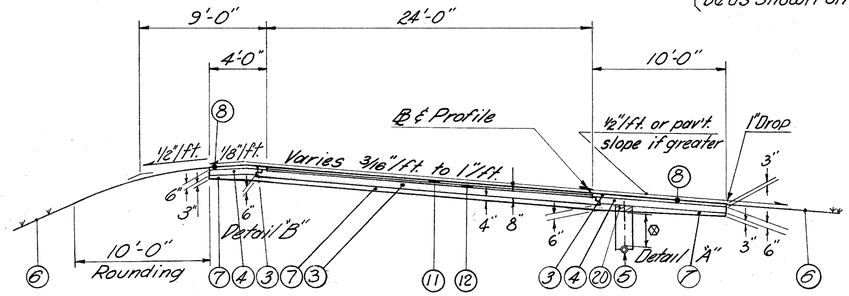


RAMP SUPERELEVATED RIGHT

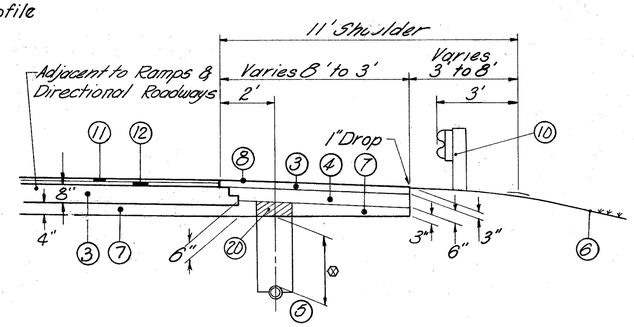
⊗ 50" Deep Underdrains
30" Shallow Underdrains
Depth of underdrains shall be as shown on profile



NORMAL TWO LANE DIRECTIONAL ROADWAY

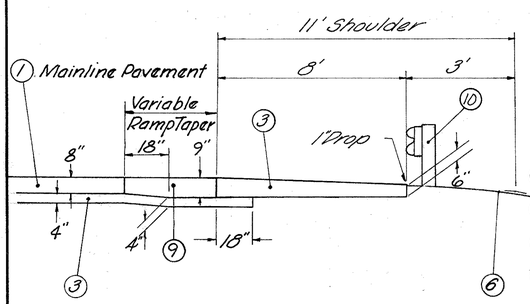


TWO LANE DIRECTIONAL ROADWAY
SUPERELEVATED RIGHT



NORMAL SPEED CHANGE LANE

Sta. C1526+68.00 to Sta. C1529+29.92
Sta. I1529+29.92 to Sta. I1531+79.92
Sta. B1536+93.00 to Sta. B1539+88.09
Sta. I1539+88.09 to Sta. I1542+38.09



NORMAL SPEED CHANGE LANE

Sta. 1598+38.79 to Sta. 1601+56. Lt.
Sta. 1600+90.00 to Sta. 1601+94. Rt.

LEGEND

(1)	Item 451	8" Continuously Reinforced Portland Cement Concrete Pavement as per plan. (See note in proposal.)
(3)	Item 301	Bituminous Aggregate Base, 702.01 (85-100) or 702.09 RT 11 or 12. (See note in proposal.) (Thickness as shown)
(4)	Item 304	Aggregate Base (Thickness as shown).
(5)	Item 605	6" Pipe Underdrain
(6)	Item 659	Seeding and Mulching, as per plan
(7)	Item 310	Subbase (thickness as shown).
(8)	Item 409	Seal Coat using .008 cu. yd N° 8 cover Aggregate per sq. yd. and 0.30 gal. Bituminous material per sq. yd (See note in proposal)
(9)	Item 451	9" Reinforced Portland Cement Concrete Pavement. (Thickness as shown)
(10)	Item 606	Guard Rail, Type 5
(11)	Item 404	1 1/4" Asphalt Concrete (70-85)
(12)	Item 402	1 3/4" Asphalt Concrete (70-85)
(20)		Excavate 310 over the underdrain and replace with 605 backfill immediately before constructing the 304 in the shoulder. Cost to be included in the price bid for 605 pipe underdrain. Payment shall be made for all subbase placed prior to this operation.

Note: For shoulder details see sheet 5
For slope details see sheet 6

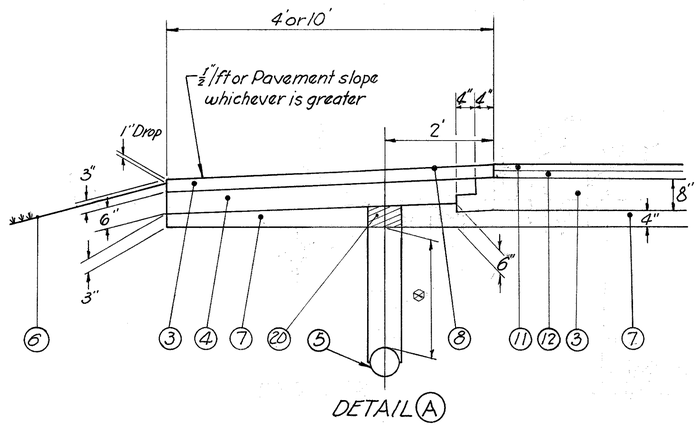
RAMP TYPICAL SECTIONS

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

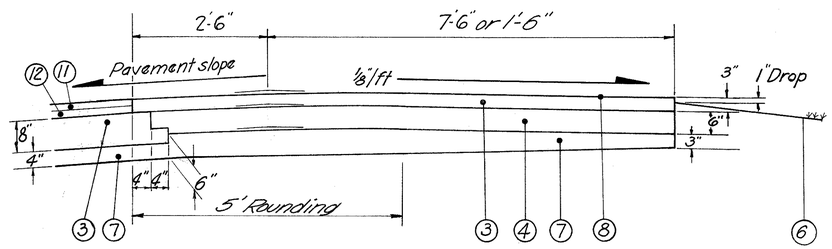
5/247

FRANKLIN COUNTY
FRA-270-26.76N

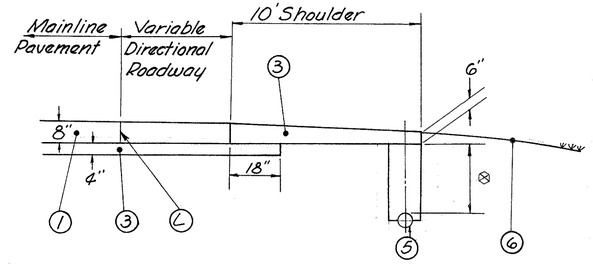
TYPICAL SECTIONS



DETAIL (A)



DETAIL (B)
When Required
50" Deep Underdrains
30" Shallow Underdrains
Depth of underdrains shall be as shown on profile.



NORMAL SPEED CHANGE LANE
Sta. 1529+98.26 to Sta. 1546+78.56 Rt.
Sta. 1549+30.00 to Sta. 1560+08.85 Lt

Note: For joint details see sheets 50-64

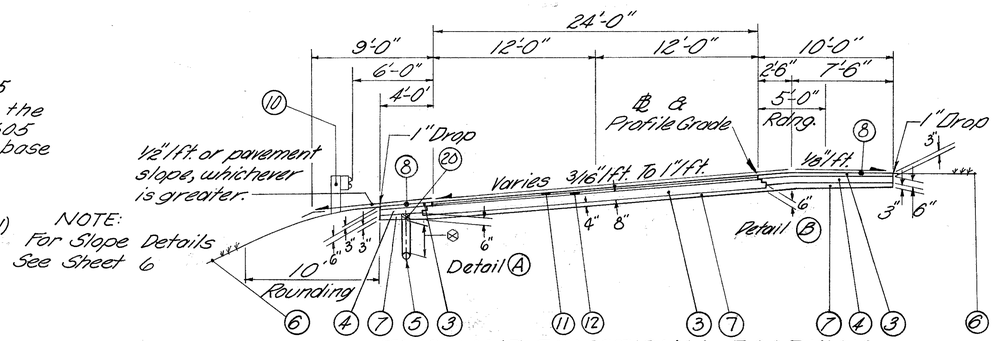
LEGEND

(1) Item 451 8" Continuously Reinforced Portland Cement Concrete Pavement as per plan. (See note in proposal)

(3) Item 301 Bituminous Aggregate Base, 702.01 (85-100) or 702.09 RT11 or 12 (See note in proposal) (Thickness as shown)
(4) Item 304 Aggregate Base (Thickness as shown)
(5) Item 605 6" Pipe Underdrain
(6) Item 659 Seeding and Mulching, as per plan
(7) Item 310 Subbase (Thickness as shown)

(20) Excavate 310 over the underdrain and replace with 605 backfill immediately before constructing the 304 in the shoulder. Cost to be included in the price bid for 605 pipe underdrain. Payment shall be made for all subbase placed prior to this operation.

(8) Item 409 Seal Coat using .008 cu.yd No. 8 Cover aggregate per sq.yd and 0.30 gal. Bituminous material per sq.yd (See note in proposal)
(9) Item 451 9" Reinforced Portland Cement Concrete Pavement (Thickness as shown)
(10) Item 606 Guard Rail, Type 5
(11) Item 404 1 1/4" Asphalt Concrete (70-85)
(12) Item 402 1 3/4" Asphalt Concrete (70-85)
(L) Standard Longitudinal Joint



TWO LANE DIRECTIONAL ROADWAY SUPERELEVATED LEFT

SHOULDER DETAILS AND RAMP TYPICAL SECTION

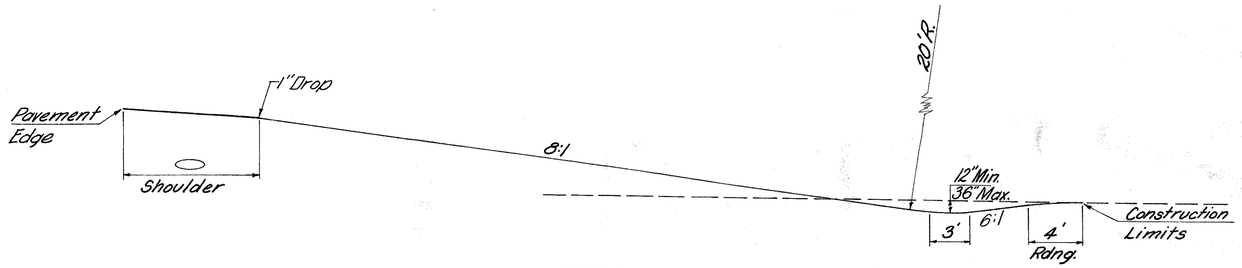
FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

6
247

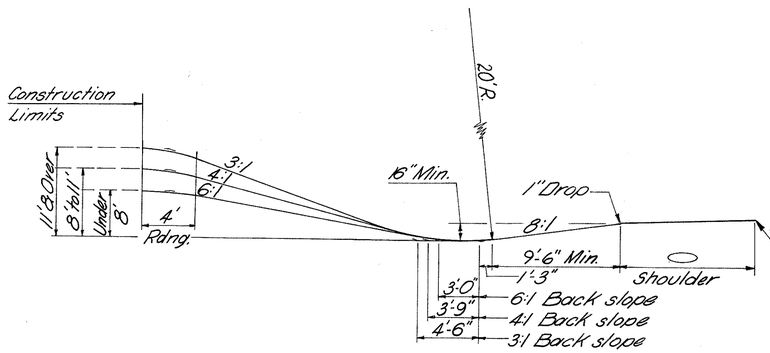
FRANKLIN COUNTY
FRA-270-26.76N

TYPICAL SECTIONS

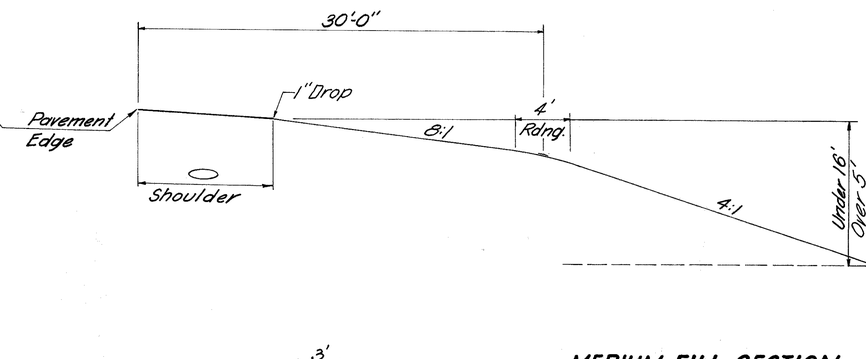
Mainline — — — — — — — — — 10' Shoulder
Ramp Left Side — — — — — — — — 7' Shoulder
Ramp Right Side — — — — — — — 11' Shoulder
Two Lane Directional Roadway Left Side - 9' Shoulder
Two Lane Directional Roadway Right Side - 10' Shoulder



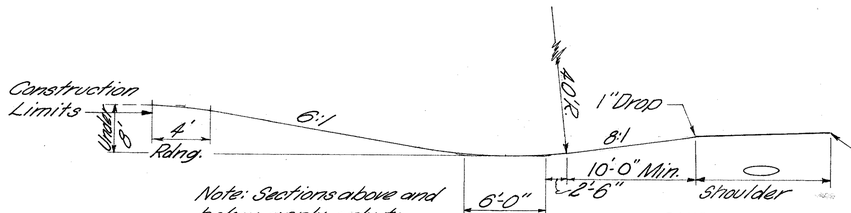
LOW FILL SECTION



CUT SECTION

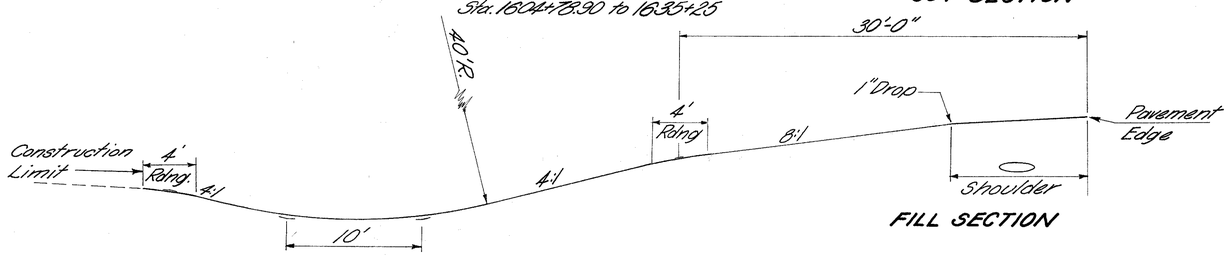


MEDIUM FILL SECTION

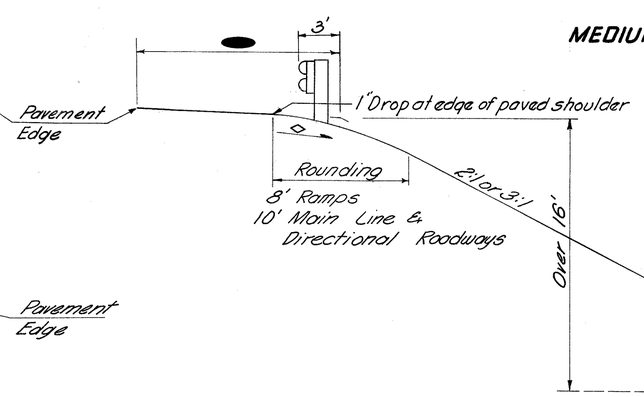


Note: Sections above and below apply only to Sta. 1604+78.90 to 1635+25

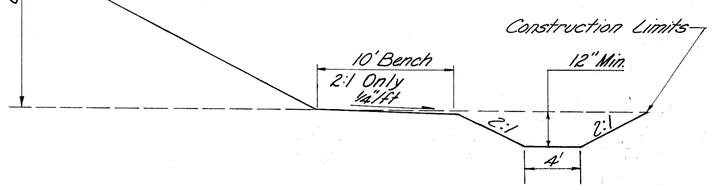
CUT SECTION



FILL SECTION



◇ ½"/ft. or pavement slope, whichever is greater



DEEP FILL SECTION

Mainline — — — — — — — — — — — — — — — 15' Shoulder
Ramp Left Side — — — — — — — — — — — — 7' Shoulder
Ramp Right Side — — — — — — — — — — — 11' Shoulder
Two Lane Directional Roadway Left Side - 9' Shoulder
Two Lane Directional Roadway Right Side - 15' Shoulder

Note: If 3:1, see ditch section above.

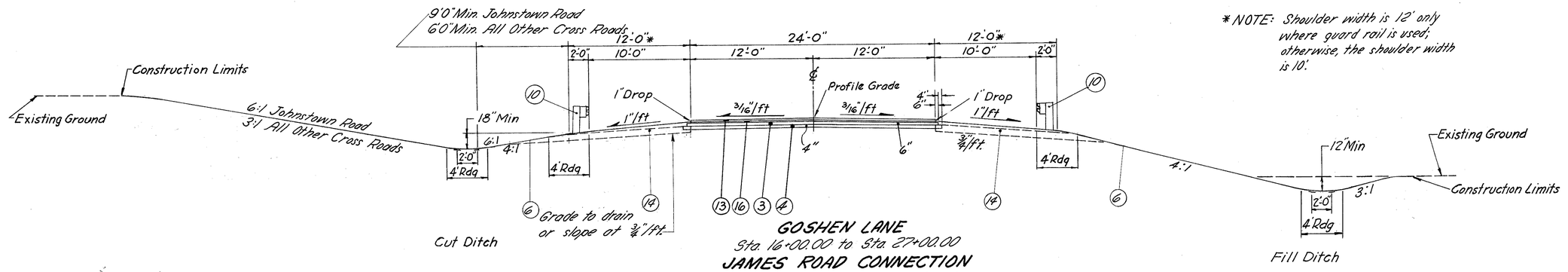
SLOPE DETAILS

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

7
247

FRANKLIN COUNTY
FRA-270-26.76N

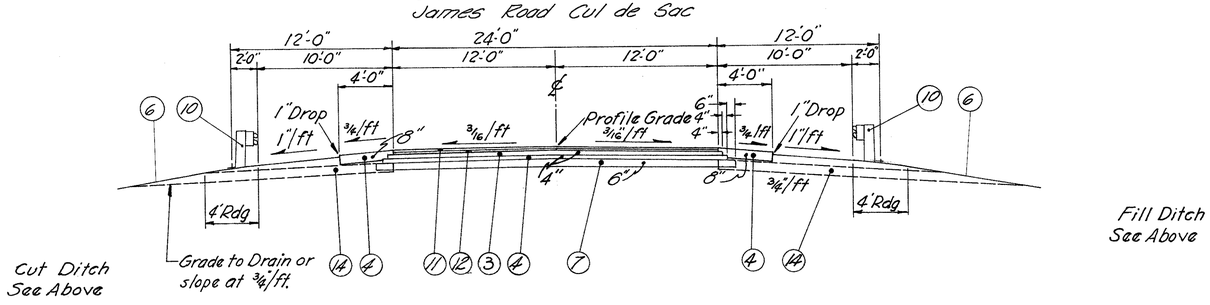
TYPICAL SECTIONS



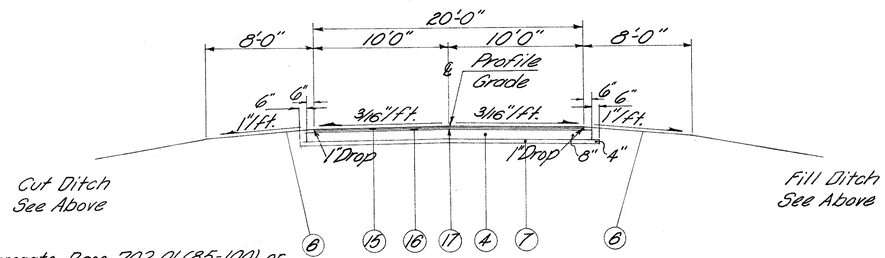
*NOTE: Shoulder width is 12' only where guard rail is used; otherwise, the shoulder width is 10'.

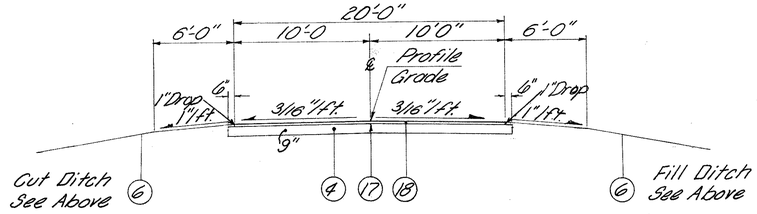
GOSHEN LANE
Sta. 16+00.00 to Sta. 27+00.00

JAMES ROAD CONNECTION
Sta. 0+12.00 to Sta. 51+66.81
James Road Cul de Sac



JOHNSTOWN ROAD
Sta. 9+00 to Sta. 26+92.50





SCHWAB SERVICE ROAD
Sta. 0+12.00 to Sta. 8+03.20

HUBLER SERVICE ROAD
Sta. 3+42.00 to Sta. 12+95.47

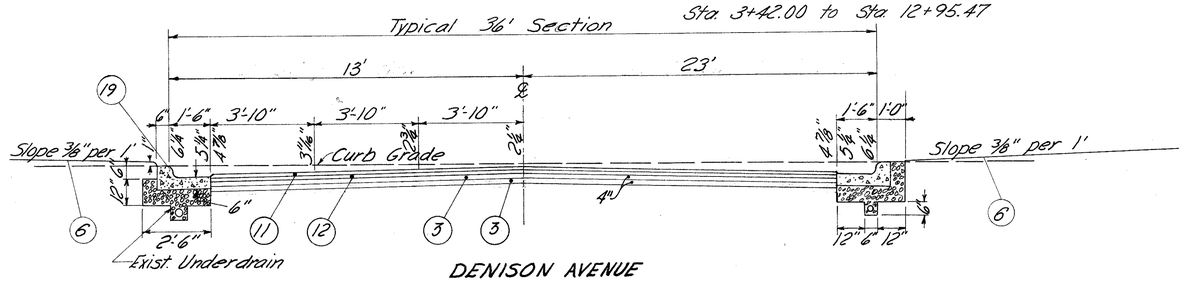
LEGEND

(3) Item 301 Bituminous Aggregate Base 702.01 (85-100) or 702.09 Rt.-11 or 12, (See note in proposal) (Thickness as shown)
(4) Item 304 Aggregate Base (thickness as shown)
(6) Item 659 Seeding and Mulching (as per plan)
(7) Item 310 Subbase (thickness as shown)
(10) Item 606 Guard Rail, Type 5
(11) Item 404 1¼" Asphalt Concrete (70-85)
(12) Item 402 1¾" Asphalt Concrete (70-85)
(13) Item 404 1½" Asphalt Concrete (70-85)
(14) Item 605 Aggregate Drains
(15) Item 404 1" Asphalt Concrete (70-85)
(16) Item 402 1½" Asphalt Concrete (70-85)
(17) Item 408 Bituminous Prime Coat, 702.09 RT-2 or RT-3 applied at a rate of 0.40 gal. per. s.y.
(18) Item 404 2" Asphalt Concrete (70-85)
(19) Item 609 Combination Curb and Gutter Type 2 (as per plan)

HUBLER SERVICE ROAD
Sta. 0+10.00 to Sta. 3+42.00

GAYLE DRIVE
Sta. 0+12.00 to Sta. 1+75.00

ENGLEWOOD DRIVE
Sta. 0+10.00 to Sta. 1+00.00



DENISON AVENUE
Sta. 5+12.00 to Sta. 6+00.00

CROSS ROAD TYPICAL SECTIONS

GENERAL NOTES

QUANTITY CALCULATIONS
BY G.S.W. DATE 11-69
CHKD. DDK DATE 11-21-69
BURGESS & NIPLE, LIMITED

8
247

FRANKLIN COUNTY
FRA-270-26.76 N

FIELD OFFICE

The Field Office will be as discribed on sheet 19 of Part I.

TREATED SANITARY FLOW INTO NON-INTERSTATE DRAINAGE SYSTEMS

Treated sanitary flow may be discharged into the highway drainage system provided the owner has secured the approval of the local health authorities and has acquired from the State Highway Department, or the agency which has jurisdiction over the drainage system, an official permit to have the connection made.

In each case where a permit has been issued for a sanitary connection to be made into a highway drainage conduit, it shall be provided with an inspection well, in accordance with the detail shown on Standard Drawing MC-8, located approximately one foot inside the right-of-way line.

The following estimated quantities have been included in the general summary, for use as directed by the Engineer, in making the above described connections:

Item 603, 6" Conduit, Type C, 706.08 as per 706.12, 100 lin. ft.
*Item 604, Inspection Wells, 2 each
All necessary bends & branches which shall be included for payment in the pertinent conduit item.

*No inspection well is required if effluent is discharged into an open ditch, channel, catch basin or manhole.

SPRING DRAINS

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

Item 605 - 6" Unclassified Pipe Underdrain, 707.01 Type III or 707.12, as per plan 100 L.F.
Item 605 - Aggregate Drains for springs, as per plan 50 L.F.

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

ITEM SPECIAL, CLEANING AND DISPOSING OF SEPTIC TANKS

This item shall include cleaning, backfilling and removal of all or any portion of existing septic tanks.

All septic tanks lying within the proposed right-of-way limits shall be cleaned and emptied. Material removed from these tanks shall be classified as unsuitable and disposed of outside the right-of-way or easement lines.

When the septic tanks are located above the finished pavement or ground lines, they shall be entirely removed and disposed of in accordance with 202.

When the tanks are located below the finished pavement or ground lines, the tops of the tanks shall be removed, and the walls shall be removed to a depth of 1 foot below the finished subgrade or ground lines. The removed material shall be disposed of as explained above. The tanks shall be backfilled with suitable soil or granular material in accordance with 203.02.

This item shall be paid for at the unit price bid per each for "Item Special, Cleaning and Disposing of Septic Tanks", which price and payment shall constitute full compensation for cleaning, removing and disposing of excess materials, backfilling and for all labor, tools, equipment and incidentals necessary to complete this item including incidental excavation.

SPECIFICATIONS FOR WATER LINES

All waterline relocations shall be made in accordance with City of Columbus, Ohio, Construction and Material Specifications.

ITEM 601 ROCK CHANNEL PROTECTION

Maximum size of rock shall not exceed the specified thickness of Channel Protection.

GUARD RAIL ADJUSTMENT

The location of guard rail runs as shown on these plans are subject to adjustment to assure that the planned installations will afford maximum protection of traffic.

ROUNDING OF CORNERS SHOWN ON CROSS SECTIONS

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

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.

UTILITY OWNERSHIP

Ohio Bell Telephone Co.
111 North 4th Street
Columbus, Ohio 43215

Columbus and Southern Ohio Electric Co.
215 North Front Street
Columbus, Ohio 43215

Village of Gahanna, Ohio
130 Mill Street
Gahanna, Ohio 43020

City of Columbus, Ohio
Division of Sewerage & Drainage
90 West Broad Street
Columbus, Ohio 43215

Columbia Gas of Ohio
920 W. Goodale Boulevard
Columbus, Ohio 43212

American Telephone & Telegraph Co.
100 East Broad Street
Columbus, Ohio 43215

CONTRACTION AND EXPANSION JOINTS

Although specific locations of certain expansion and contraction joints have been detailed on this plan, no waiver of the specifications is intended. Provision of expansion joints at all major structures and the maximum spacing between contraction joints shall in all cases be in accordance with Standard Construction Drawings and the Specifications.

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 intervals on the low side only of superelevated sections, except where Item 605 Pipe Underdrains have been provided.

An aggregate drain shall be placed at the low point of each sag vertical curve.

GENERAL NOTES

QUANTITY CALCULATIONS
BY G.S.W. DATE 11-69
CHKD. DJK DATE 11-21-69
BURGESS & NIPLE, LIMITED

FRANKLIN COUNTY
FEA-270-26.76 N

9
247

UNDERGROUND UTILITIES

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

HORIZONTAL CONTROL

All horizontal control points are based on the State Plane Coordinate System.

ELEVATION DATUM

All elevations are based on U.S.G.S. datum.

EROSION CONTROL

Item 601 (Riprap, Crushed Aggregate, and Rock Channel Protection), Item 660 (sodding), Item 667 (Jute Matting), and Item 830 (Excelsior Matting) are provided in the plans for erosion control. Rock of a stable nature will not be removed in order to place any of these items. The Engineer shall check and non-perform quantities or adjust locations and quantities for these items where indicated by field conditions during construction.

ESTIMATED QUANTITIES

Specific locations and usage of estimated quantities set up on this plan to be used "as directed by the Engineer" shall be made a matter of record by incorporation into the final Change Order governing the completion of this project.

CONSTRUCTION LAYOUT STAKES

See note in proposal describing the work included in this lump sum pay item.

MAINTENANCE OF SEWER FLOWS

The Contractor shall conduct his operations so as to maintain at all times sewer flows through existing facilities to remain in place and through existing facilities until new facilities are completed and placed into use.

Payment for any additional costs involved in maintaining these flows by pumping or by any other means approved by the Engineer shall be included in the unit prices bid for the respective items of 603 Conduit.

TRAFFIC NOTES

Before work is started on this project, the Contractor shall submit a written schedule of operations and a traffic maintenance control plan for approval by the Director.

In no case shall the stipulations of this note waive the requirements of either the CONSTRUCTION AND MATERIAL SPECIFICATIONS or the current edition of THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES.

Payment for all materials, labor and necessary operations for maintaining traffic during the life of this contract shall be included in the lump sum price bid for Item 614 Maintaining Traffic and Item 615 Temporary Roads.

Johnstown Road (Ex.USR-62) - Two way traffic shall be maintained at all times by the use of either the existing pavement, temporary road, or the proposed pavement.

ESTIMATED QUANTITIES

615	Temporary Pavement, Class A	3,689	Sq. Yd.
615	Temporary Roads		Lump Sum

Gayle Drive and Englewood Drive - Two way traffic shall be maintained at all times, except that one-way traffic may be permitted consistent with construction procedures, on both Gayle and Englewood Drives. Englewood Drive shall have access to Johnstown Road at all times by the use of the existing pavement or by use of Huber Service Road.

Goshen Lane - This road may be closed for one period not to exceed a total of twelve (12) consecutive calendar months; however, James Road and James Road connection shall be open to traffic during the period that Goshen Lane is closed.

James Road Traffic shall be maintained on existing James Road until the James Road connection and Goshen Lane is complete and open to traffic. James Road may be closed upon completion of Goshen Lane and the James Road connection.

Price Road - This road may be closed to traffic.

Denison Avenue - Traffic is to be maintained at all times on Denison Avenue except during the period that Goshen Lane is closed. The proposed construction on Denison Avenue shall be completed during the period that Goshen Lane is closed to traffic.

FEDERAL AID CONSTRUCTION IDENTIFICATION SIGNS

The Contractor shall furnish, erect, maintain and subsequently remove Federal Aid Construction Identification Signs at each of the following approximate locations:

1. Johnstown Road 9+00 Right
2. Johnstown Road 27+00 Left

Sign details shall be as specified on Standard Drawing FACI-1, CODE N-55(1) - 120(3). The signs shall be erected in accordance with Standard Drawing FACI-2. Additional requirements shall be in accordance with notes in the proposal.

DRIVEWAY COMPOSITION

All driveways shall be paved with two 1" courses of Item 404, Asphalt Concrete, on 5" of Item 304, Aggregate Base.

All drives shall be Type 2, as shown on Standard Construction Drawing BP-6. The width shall be as shown on the plans.

MAILBOX TURNOUTS

Mailbox turnouts shall be paved with two 1" courses of Item 404, Asphalt Concrete, on 5" of Item 304, Aggregate Base.

Location of turnouts will be verified by the Engineer.

The following estimated quantities have been included in the general summary for use as directed by the Engineer.

Federal and State Participation

Item 304, Aggregate Base	15 CY
Item 404, Asphalt Concrete	6 CY

SANITARY FLOW INTO INTERSTATE DRAINAGE SYSTEMS

This plan makes no provision for connecting, nor shall the Engineer or Contractor connect, any existing or new drainage into the highway drainage system when such drains carry flow from any plumbing fixtures including floor drains and sink drains or drains from livestock lots or barns or polluted water of any kind.

Existing pipe carrying flow which comes within the category outlined above shall be plugged with Class C concrete at the right-of-way line. Payment for said plugging shall be included in the unit price bid for Item 203, Excavation.

GENERAL NOTES

QUANTITY CALCULATIONS
BY G.S.W. DATE 11-69
CHKD. DDK DATE 11-21-69
BURGESS & NIPLE, LIMITED

10
247

FRANKLIN COUNTY
FER-270-26.76 N

ITEM 659 LIMING

The areas to be limed shall be determined by laboratory test prior to fertilizing, seeding and sodding, and after the finished grade has been established. The lime shall be applied at the standard rate to the areas as directed by the Engineer.

ITEM 659 FERTILIZER

Fertilizer with the analysis of 18-46-0 shall be uniformally applied at the rate of fifteen (15) pounds per 1000 sq. ft. over the entire area to be seeded or sodded and worked into a depth of not less than two (2) inches.

ITEM 659 SEEDING

Seeding mixtures for the entire project is:

55% Creeping Red Fescue (Festuca rubra)
35% Ky Blue grass (Poa pratensis)
5% Red top (Agrostis alba)
5% White D. Clover (Trifolium repens)

The seed bed shall be loosened to a minimum depth of 2" as prescribed in 203.04 (e) and 659 fertilizer. Seeded areas with any loose depth of less than 2" will not be accepted.

When asphalt is used as a tie, it shall be applied at the rate of 100 gal. per ton of straw in lieu of the specified rate.

No asphalt shall be applied when the temperature is below 40°F.

When straw is used as a mulch it shall be applied at such a rate as to insure a minimum two (2) inch depth loose measure, approximately two (2) tons per acre.

SEEDING

Quantities for seeding are calculated for the soil areas between the right-of-way fence lines, between the right-of-way lines in unfenced areas, and within the work limits for areas outside the right-of-way lines covered by work agreement or slope easement.

REMOVAL OF TREES AND STUMPS

All trees and stumps within the construction (work) limits of the project shall be removed under the lump sum price bid for Item 201, cleaning and grubbing with the following exceptions.

Trees to be saved, including sapplings, will be marked by the Engineer in consultation with the Landscape Architect. Trees that fall at or near the work limits may require protection as prescribed by items 657 and 658.

Tree removal will be prohibited at interchanges and beyond shoulders until the actual work limits have been established by satisfactory staking.

The following is an approximate estimate of the number of trees and stumps to be removed.

PARTICIPATION

SIZES	STATE & FEDERAL NO. TREES	STATE & FEDERAL NO. STUMPS	STATE, FEDERAL & COLUMBUS NO. TREES	STATE, FEDERAL & COLUMBUS NO. STUMPS
18"	297	5	31	-
30"	30	-	43	-
48"	12	-	4	-

The above estimate is approximate and the State of Ohio reserves the right to order the removal of additional trees or stumps outside the limits of construction but within the right-of-way and/or easement lines. Payment for the removal of these additional trees or stumps shall be included in the lump sum price bid for Item 201, Clearing and Grubbing.

PLACEMENT OF ASPHALT CONCRETE ON ROADWAYS REQUIRING TWO WAY TRAFFIC MAINTENANCE

Two way traffic shall be maintained at all times except that one way traffic will be permitted for minimum periods of time consistent with the requirements of the specifications for protection of completed asphalt concrete courses.

CATCH BASINS

The top elevation shown on the plans is the flow line of Grate.

ITEM SPECIAL, DRILLED WELL ABANDONED

The existing concrete or stone slab well cover and pumping equipment shall be removed and disposed of. The casing shall be cut off at least two (2) feet below the proposed finished grade outside proposed pavement areas or at least two (2) feet below the proposed subgrade elevation inside proposed pavement areas and capped with Class C concrete or a standard threaded pipe cap.

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

DUST CONTROL

The following quantities of calcium chloride and water are provided for dust control as directed by the Engineer:

Item	Description	Fed. & State Quantity	Fed., State & Cols. Quantity
616	Calcium Chloride	47 Tons	3 Tons
616	Water	500 M. Gal.	100 M. Gal.

MAINTENANCE OF TRAFFIC ITEMS

The following items have been included in the General Summary for use in maintaining private drives, local traffic and intersections as directed by the Engineer:

Item	Description	Quantity
616	Calcium Chloride	6 Tons
410	Traffic Compacted Surface, Type A or B	300 C.Y.

GENERAL NOTES

QUANTITY CALCULATIONS
BY WEBB DATE 11-69
CHKD DDK DATE 11-21-69
BURGESS & NIPLE, LIMITED

11
247

FRANKLIN COUNTY
FRA-270-26.76 N

CHANNEL EMBANKMENTS

Portions of the existing channel shall be filled and sloped to drain as called for on the plans and included for payment in the price bid for Item 203, Embankment.

Areas where channel embankments are to be placed shall be cleared of weeds and brush but need not be scalped.

The requirements for moisture, density control, benching, and suitable materials shall be waived.

The depth of layers in which the embankments are placed and their compaction shall, in lieu of the requirements of Item 203, conform with acceptable construction practices as determined by the Engineer.

No provision of the specifications shall be waived for embankments which support any portion of the new pavement, berms, or structural members.

An estimated quantity of 7063 cubic yards has been provided in the plans for channel embankment outside the normal roadway: 6810 cubic yards for the existing Big Walnut Creek between Stations 11+30 to 15+50 and the remainder shall be placed between Stations 20+10 to 23+00.

DEEP 605 UNDERDRAINS

Deep 605 Underdrains shall be installed as soon as possible after completion of the rough grading and in any event shall be placed prior to placement of the 301 Bituminous Aggregate under the mainline pavement.

STREAM CROSSINGS

Location, type and quantity of fence stream crossings as shown on the plans are subject to change as directed by the Engineer at no additional cost for Item 607, Fence.

The following estimated quantities have been included in the general summary for use as directed by the Engineer.

FEDERAL & STATE PARTICIPATION

Item	657	Rip Rap for Tree Protection	10 S.Y.
Item	658	Tree Root Aeration	10 Cu.Yd.

ITEM 203 PROOF ROLLING

An estimated quantity for this item has been provided in the general summary for use in proof rolling of subgrade for the mainline and ramp pavements, and for paved shoulders, in accordance with Supplemental Specification 801.

Federal and State Participation	38
Federal, State & Columbus Participation	7
Total	45 Hrs.

CATCH BASINS

Item 604, Standard No. 4 Catch Basin shall be modified by deleting the 150 feet of jute matting or sodding from the construction plans.

WATER LINE NOTES

Water lines, where indicated, are to be constructed in accordance with the Construction and Material Specifications of the City of Columbus, Ohio dated January 1, 1967.

Copies of these Specifications are on file at the Office of Contract Sales for the State Highway Department 25 South Front Street, Columbus, Ohio and the Office of the Director of Public Service, 90 West Broad Street, Columbus, Ohio.

The Contractor shall cut and remove a section of existing water main piping in a manner to facilitate the connecting or joining of the new installation to the existing water main, and the cost shall be included in the price bid for Item 801.

CONSTRUCTION OF MAINLINE TRUNK SEWER

In order to provide a drainage outlet for the adjoining project, (FRA-270-22.99 N), the Contractor is required to complete the trunk sewer on this project within one year of the award of this contract. This shall include the installation of the pertinent pipe, the connection to the existing trunk sewer on project FRA-270-22.99 N, the removal of any silt or debris incurred during construction, and the construction of the outlet facility at Big Walnut Creek to provide an operable trunk sewer system.

Should the Contractor fail to complete the trunk sewer as stipulated above, liquidated damages in the amount of 200.00 dollars for each day of overrun in time, shall be deducted from the contract.

WATER LINE NOTES (Continued)

CONCRETE ENCASEMENT OF WATER MAINS

Where called for on the plans, Ductile Iron Water Pipe shall be encased with the specified thickness of Class "E" Concrete.

Payment for furnishing and placing the concrete encasement and for any additional excavation required shall be included in the unit price bid per Cubic Yard for "Item 801-Concrete Encasement Class "E" of Water Mains" of the sizes shown, which price and payment shall constitute full compensation for the furnishing of all labor, materials, small tools and equipment required for this item of work.

(See Sheet No. 43 for Concrete Encasement Details)

WATER LINE NOTES (Continued)

COORDINATION OF WORK

The City of Gahanna will inspect the work. All requests for approvals of Waterwork Items, fabrication details, construction, and materials shall be submitted to the Project Engineer. Fabrication details, construction, and materials shall meet the approval of the designated representative of the state of Ohio and City of Gahanna. The Contractor shall notify the City of Gahanna Forty-Eight (48) hours in advance of the planned time for the taking of existing facilities out of service. The City of Gahanna will operate all valves on existing water lines.

The following addresses of organizations that will be involved in or affected by the work:

City of Columbus, Water Department
90 West Broad Street, Columbus, Ohio 43215

City of Gahanna; Water Department
66 Mill Street, Gahanna, Ohio 43230

REMOVED ITEMS

All materials consisting of pipe and fittings, valves, fire hydrants, valve boxes, water meters and water meter boxes which are indicated for removal by the contractor shall become the contractor and shall be removed and disposed of by him.

"TEMPORARY WATER POLLUTION, SOIL EROSION AND SILTATION CONTROL"

The following estimated quantities are to be used as directed by the Engineer for temporary control measures. For details see note in the proposal.

Special, Temporary Seeding & Mulching	140,000	Sq. Yd.
Special, Commercial Fertilizer (12-12-12)	6	Ton
Special, Water	60	M-Gal.
Special, Temporary Slope Drains	5,100	Lin. Ft.
Special, Temporary Benches, Dikes, Dams and Sediment Basins.	350	Cu. Yd.

SEEDING AND PLACING (ONLY) JUTE MATTING, AS PER PLAN

The jute matting for this item will be furnished by the State. The Contractor shall pick up the required amount of jute matting from the State Highway Garage at 3500 E. 5th Ave in Columbus, Ohio.

GENERAL SUMMARY

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

12/247

QUANTITY CALCULATIONS BY JSW DATE 10-69
CHKD DDK DATE 11-11-69
BURGESS & NIPLE, LIMITED

FRANKLIN COUNTY
FRA-270-26.76 N

ITEM	100% State	FEDERAL STATE & COLS.		FED & STATE		FEDERAL STATE & COLS.	FEDERAL & STATE		FEDERAL STATE & COLS.	SHEET NUMBER FEDERAL & STATE																				ITEM	PARTICIPATION 100% State	PARTICIPATION FED. STATE & COLS.	PARTICIPATION FED & STATE	PARTICIPATION TOTAL	UNIT	DESCRIPTION
	448	140	9	10	10	11	15	15	17	19	22	23	24	25	26	27	28	29	30	31	33	34	36	37	38	39	44A	140	231	241						
																																			ROADWAY (Type Code 7223)
201				Lump	Lump																									201		Lump	Lump	Lump	Lump	Clearing And Grubbing
202																			268	25										202			293	293	L.F.	Pipe Removed 24" and Under
202															573															202			573	573	S.Y.	Existing Pavement Removed and Disposed of
202											Lump										Lump									Special		(113,491	Lump	Lump	Lump	Removal and Disposing of Underground Storage Tank
203	4,413								69824	113401	157564	123056	77854	5055	13041	16381	76260	13222		1954		2737	1863	3604	1679	537				203	4,413	~~11,304~~	564631	682535	C.Y.	Excavation Not Including Embankment Construction, as per plan
203									74581	55894			2549	13479	8405	6919	83122	71675		30304		4840	170	86	770	328				203		55894	297237	353131	C.Y.	Embankment
203							19807	133877																						203		19807	133877	133684	S.Y.	Subgrade Compaction
203							7	38																						203		7	38	45	Hours	Proof Rolling
410					300																									410			300	300	C.Y.	Traffic Compacted Surface, Type A or B
604																													41	604			41	41	Ea.	Center Line Reference Monument
607								40																						607			40	40	L.F.	Fence, Type CL, Modified as per plan
606															50	25														606			75	75	L.F.	Guard Rail, Type 4
606		300							2146.5	442	1165.5						275		250		21	101						750		606		742	4709	5451	L.F.	Guard Rail, Type 5
606									50		75						75													606			200	200	L.F.	Guard Rail, Type 5 Barrier Design
606		2							3	3	1						1		2		1	2						5		606		5	15	20	Ea.	Approach End Assembly, Single Rail
606									2		3						1													606			6	6	Ea.	Approach End Assembly, Barrier Rail
606		2							2		2				4	2												5		606		2	15	17	Ea.	Anchor Assembly
606									5	1	4						2		2											606		1	13	14	Ea.	Bridge Terminal Assembly
607							1687	14508																						607		1687	14508	16195	L.F.	Fence, Type CL
607								2																						607			2	2	Ea.	8' Gate, Type CL
615			3689																											615		3689		3689	S.Y.	Temporary Pavement, Class A
615			Lump																											615			Lump	Lump	Lump	Temporary Roads
616				3	53																									616		3	53	56	Tons	Calcium Chloride
616				100	800																									616		100	800	900	M.Gal.	Water
Spec.									10		1				4				4											Spec.			19	19	Ea.	Cleaning and Disposing of Existing Septic Tank
202																	1													202			1	1	Ea.	Manhole Removed or Abandoned
Spec.									10	1					1				4											Spec.		1	15	16	Ea.	Drilled Well Abandoned
																																			EROSION CONTROL (TYPE CODE Y005)
																														Spec.		30,000	110,000	140,000	S.Y.	Temporary Seeding & Mulching
																														Spec.		1	5	6	Ton	Commercial Fertilizer (12-12-12)
																														Spec.		10	50	60	M.Gal.	Water
																														Spec.		40	5060	5100	L.F.	Temporary Slope Drains
601										3	66		29	46			41												17	601		3	199	202	C.Y.	Rock Channel Protection, Type B
601																	1075													601			1075	1075	C.Y.	Rock Channel Protection, Type A
657						10																								657			10	10	S.Y.	Rip Rap for Tree Protection
658						10																								658		52,153	10	10	C.Y.	Tree Root Aeration
659	13,561						52153	239087																						659	13,561	~~65714~~	239087	304,801	S.Y.	Seeding and Mulching, as per plan
659	1.22						4.72	22.32																						659	1.22	~~5.94~~	22.32	28.26	Tons	Commercial Fertilizer (18-46-0)
660									451	53																				660	(4.72)	53	451	504	S.Y.	Sodding for Special Berm And Slope Protection, as per plan
667									137	169	1074	104	252	272	347	347	100							42	1235					667		169	3910	4079	S.Y.	Seeding and Placing (Only) Jute Matting, as per plan
830									4278	109	326																			830		109	4604	4713	S.Y.	Seeding and Excelsior Matting, as per plan
659							24	112																						659		24	112	136	Tons	Agricultural Liming
																														Spec.		50	300	350	C.Y.	Temporary Benches, Dikes, Dams and Sediment Basins
																																			DRAINAGE (TYPE CODE 7223)
503																											372			503			372	372	C.Y.	Unclassified Excavation
509																											58995			509			58995	58995	LBS.	Reinforcing Steel
511																											391			511			391	391	C.Y.	Class C Concrete

GENERAL SUMMARY

QUANTITY CALCULATIONS
DSW DATE 10-69
HKD MMC DATE 11-11-69
URS & NIPLE, LIMITED

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

13/247

FRANKLIN COUNTY
FRA-270-26.76 N

ITEM	FEDERAL & STATE	FEDERAL STATE & COLUMBUS	FEDERAL & STATE	SHEET NUMBER	FEDERAL & STATE	PARTICIPATION: FED. STATE & COLS.	PARTICIPATION: FED. & STATE	PARTICIPATION: TOTAL	UNIT	DESCRIPTION
	8 / 17	19	22 / 23 / 24 / 25	26 / 27 / 28 / 29	30 / 31 / 33 / 34 / 36 / 37 / 38 / 39					
										DRAINAGE (CONT'D)
602		0.3		5.2	0.2	0.3	5.4	5.7	C.Y.	Concrete Masonry
603		68	93 / 89 / 89	89 / 89		68	449	517	L.F.	6" Conduit, Type B
603					44		44	44	L.F.	12" Conduit, Type D
603	150	81	81 / 101 / 93 / 93	93	68 / 66	81	745	826	L.F.	15" Conduit, Type B
603	192	68				68	192	260	L.F.	18" Conduit, Type B
603				93	78		171	171	L.F.	21" Conduit, Type B
603			90				90	90	L.F.	27" Conduit, Type B
603	324						324	324	L.F.	27" Conduit, Type B, 706.02, Class V
603			128 / 125				253	253	L.F.	84" Conduit, Type B
603					77		77	77	L.F.	24" Conduit Type C 706.02, 706.08ES or 707.13
603	8				30		38	38	L.F.	15" Conduit, Type C
603				46	140		186	186	L.F.	18" Conduit, Type C
603				100			100	100	L.F.	21" Conduit, Type C
603			35				35	35	L.F.	24" Conduit, Type C
603			40				40	40	L.F.	27" Conduit, Type C
603			16 / 6				22	22	L.F.	30" Conduit, Type C
603			77		159		236	236	L.F.	30" Conduit, Type C, 706.02 or 706.08ES
603			83				83	83	L.F.	36" Conduit, Type C 706.02, 706.08ES or 707.13
603	657	884	505			884	1162	2046	L.F.	72" Conduit, Type C
603			265 / 876 / 1000 / 800	700			3641	3641	L.F.	84" Conduit, Type C
603				300 / 1028 / 499			1827	1827	L.F.	96" Conduit, Type C
603	70	18	36 / 17 / 8	16		18	147	165	L.F.	6" Conduit, Type F
603	46						46	46	L.F.	27" Conduit, Type F
603					225		225	225	L.F.	27" Conduit Type C, 706.02, 706.08ES, 707.13
604			1				1	1	Ea.	Standard No. 1 Manhole
604	2'	1'	1' / 2' / 1'	1' / 1'		1	9	10	Ea.	Standard No. 1-A Manhole
604					1'		1	1	Ea.	Standard No. 2-2-B Catch Basin
604	1'	1'	1' / 1' / 1' / 1'	1' / 2'		1	8	9	Ea.	Standard No. 4 Catch Basin Modified as per plan
604	4'	1'	2'	1'	4' / 1' / 1'	1	13	14	Ea.	Standard No. 5 Catch Basin
604			1' / 1'				2	2	Ea.	Standard No. 5-A Catch Basin
605	583	252				252	583	835	L.F.	6" Shallow Pipe Underdrain
605	1690	2889 / 2481 / 1650	1596 / 200	1546 / 629		2889	9732	12621	L.F.	6" Deep Pipe Underdrain
605	249	253 / 232 / 275		246 / 320		253	1322	1575	L.F.	6" Unclassified Pipe Underdrain as per plan
605	100						100	100	L.F.	6" Unclassified Pipe Underdrain, 707.01 Type 3, or 707.12 as per plan
605	217	92 / 120			341 / 115 / 69 / 459 / 646 / 680 / 612	92	3259	3351	L.F.	Aggregate Drains
605	50						50	50	L.F.	Aggregate Drains for Sprinings, as per plan
										SANITARY SEWERS (Type Code Y060)
603					38		38	38	L.F.	4" Conduit Type C 706.08, with joints as per 706.12
603	100				13		113	113	L.F.	6" Conduit Type C 706.08 with joints as per 706.12
603				551 / 211			762	762	L.F.	8" Conduit Type C 706.08 E.S. with joints as per 706.12
604				1			1	1	Ea.	Standard No. 1-A Manhole, with joints as per 706.12
604	2'				1		3	3	Ea.	Standard Inspection Well
										WATER LINE (TYPE CODE Y060) (Cement Lined) — City of Columbus Specs No.
Spec.				302			302	302	L.F.	8" Ductile Iron Water Pipe A.S.A. Class 4, Mech. Jt. — 801
Spec.				2			2	2	Ea.	8" Gate Valve — 802
Spec.				3.5			3.5	3.5	C.Y.	Concrete Blocking Class E — 801
Spec.					1		1	1	Ea.	Cutting and Plugging of 12" Water Main — 808
Spec.				212			212	212	Lbs	Iron Castings — 804
Spec.				1.0			1.0	1.0	C.Y.	Concrete Encasement Class "E" of 8" Water Main — 801

GENERAL SUMMARY

QUANTITY CALCULATIONS
BY D.S.W. DATE 10-69
CHKD. D.D.K. DATE 11-11-69
BURGESS & NIPLE, LIMITED

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

FRANKLIN COUNTY
FRA-270-26.76N

ITEM	Federal & State 8	Federal & State 9	Federal & State 15	Federal State & Cols. 15	Federal & State Sheet Number 50	53	55	56	57	58	59	60	61	63	64	Federal State & Columbus 53	54	55	56	ITEM	Participation: Fed. State & Cols.	Participation: Fed. & State	Total	Unit	Description
																									PAVEMENT (Type Code 7223)
301			13947	1788	467	377	428	284	374	331	148	57		512	1514	68	375	334	467	301	3032	18439	21471	C.Y.	Bituminous Aggregate Base, 702.01(85-100) or 702.09 Rt-11 or 12
304		15			146	101	865	72	121	30				1153	1511	20	120	60	105	304	305	4014	4319	C.Y.	Aggregate Base
310					293	257	787	174	246	61		54	56	161		58	243	192	284	310	777	2089	2866	C.Y.	Subbase
402					78	68	209	51	65	16				168	364	12	66	62	87	402	227	1019	1246	C.Y.	Asphalt Concrete (70-85)
404		6			56	47	165	37	46	12				279	467	8	46	44	62	404	160	1115	1275	C.Y.	Asphalt Concrete (70-85)
408							261							1302	713					408		2276	2276	Gal.	Bituminous Prime Coat 702.09 Rt-2 or Rt-3
409					7	5		4	6	2						1	6	3	6	409	16	24	40	C.Y.	Seal Coat Cover Aggregate No. 8
409					280	197		138	234	59						39	231	126	203	409	599	908	1507	Gal.	Seal Coat Bituminous Material, as per plan
451			69761	9794						2138	1150									451	9794	73049	82843	S.Y.	8" Continuously Reinforced Portland Cement Concrete Pavement,
																									as per plan
451												516								451		516	516	S.Y.	9" Reinforced Portland Cement Concrete Pavement
609														210						609		210	210	L.F.	Combination Curb and Gutter, Standard Type 2, as per plan
609					112															609		112	112	L.F.	Concrete Curb, Standard Type 7
609					156															609		156	156	L.F.	Concrete Curb Standard Type 8
611						120	134					324	335	160		88				611	88	1073	1161	S.Y.	Reinforced Concrete, Approach Slab (T=13")
																									TRAFFIC CONTROL QUANTITIES See Sheet 140
																									LIGHTING QUANTITIES See Sheet 165
																									STRUCTURE OVER 20' SPAN
																									FRA-270-2719N For Quantities see sheet 195
																									FRA-270-2824N Lt & Rt For Quantities see sheet 206
																									FRA-270-2680N For Quantities See Sheet 179
																									FRA-270-2685N For Quantities See Sheet 187
																									BUILDING REMOVAL
																				202		Lump	Lump	Lump	Parcel Nº 737-WD, Removal of 1-story concrete block store.
																				202		Lump	Lump	Lump	Parcel Nº 738-WD, Removal of 1 story frame shed, 1-story
																									concrete block store.
																				202		Lump	Lump	Lump	Parcel Nº 739-WL, Removal of frame residence and frame garage.
																				202		Lump	Lump	Lump	Parcel Nº 740-WL, Removal of frame residence.
202																				202		Lump	Lump	Lump	Parcel No. 745-WL, Removal of metal storage and office building.
202																				202		Lump	Lump	Lump	Parcel No. 756-WL, Removal of frame residence, frame garage.
202																									
																				202		Lump	Lump	Lump	Parcel No. 759-WL, Removal of stucco and stone residence.
202																				202		Lump	Lump	Lump	Parcel No. 760-WL, Removal of stone and stucco residence, stucco garage, shed.
202																				202		Lump	Lump	Lump	Parcel No. 764-WL, Removal of barn.
202																									
202																									
202																									
202																									
202																									
202																									
202																									
619	Lump																			619	Lump	Lump	Lump	Lump	Field Office
		Lump																			Lump	Lump	Lump	Lump	Construction Layout Stakes
614		Lump																		614	Lump	Lump	Lump	Lump	Maintaining Traffic

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

15
247

FRANKLIN COUNTY
FRA-270-26.76N

PAVEMENT QUANTITIES TABLE 1

LOCATION FROM	LOCATION TO	MEDIAN SHOULDERS	MAIN LINE PAVEMENT	OUTSIDE SHOULDER	203 SUBGRADE COMPACTION S.Y.	301 BITUMINOUS AGGREGATE C.Y.	451 REINFORCED CONCRETE S.Y.	REMARKS (W = WIDTH)
SOUTHEAST BOUND								
1524+00.00	1529+98.56			✓	682	144		Adjacent to Main Line W=10'
1529+98.56	1532+12.00			✓	246	52		Adjacent to Taper W=10'
1532+12.00	1540+36.00			✓				See Table 2
1540+36.00	1546+78.56			✓	736	155		Adjacent to Taper W=10'
1546+78.56	1600+90.00			✓	6,013	1,269		Adjacent to Main Line W=10'
1600+90.00	1602+19.00			✓	115	25		W=8'
1524+00.00	1529+98.56		✓		2,434	270	2,434	W=36'
1529+98.56	1531+82.00		✓		1,549	172	1,549	Taper Section W=36'
1531+82.00	1540+25.00		✓					See Table 2
1540+25.00	1546+78.56		✓		3,962	440	3,962	Tapered Section
1546+78.56	1601+49.50		✓		29,178	3,242	29,178	W=48'
1524+00.00	1528+98.56	✓			224	53		W=4'
1528+98.56	1529+98.56	✓			78	17		Taper W=4'-10'
1529+98.56	1531+54.00	✓			174	37		W=10'
1531+54.00	1540+14.00	✓						See Table 2
1540+14.00	1549+30.00	✓			1,027	217		W=10'
1549+30.00	1601+95.00	✓			5,850	1,235		W=10'
NORTHWEST BOUND								
1524+00.00	1531+15.50	✓			315	74		W=4'
1531+15.50	1539+96.00	✓						See Table 2
1539+96.00	1548+30.00	✓			367	87		W=4'
1548+30.00	1549+30.00	✓			78	17		Taper W=4'-10'
1549+30.00	1601+76.50	✓			5,829	1,231		W=10'
1524+00.00	1531+00.00			✓	2,753	306	2,753	W=36'
1531+00.00	1539+90.00			✓				See Table 2
1539+90.00	1549+30.00			✓	3,697	411	3,697	W=36'
1549+30.00	1560+08.85			✓	4,315	479	4,315	W=36'
1560+08.85	1601+10.00			✓	21,873	2,430	21,873	W=48'
1524+00.00	1530+83.00			✓	740	156		W=10'
1530+83.00	1539+81.50			✓				See Table 2
1539+81.50	1549+30.00			✓	1,028	217		W=10'
1549+30.00	1560+08.85			✓	1,199	253		Adjacent to Taper W=10'
1560+08.85	1598+38.79			✓	4,255	898		W=10'
1598+38.79	1601+52.50			✓	279	60		W=8'
FEDERAL & STATE TOTAL					98,996	13,947 ✓	69,761 ✓	

PAVEMENT QUANTITIES TABLE 2

SOUTHEAST BOUND								
1532+12.00	1540+36.00			✓	948	200		Adjacent to Taper
1531+82.00	1540+25.00		✓		6,294	699	6,294	Tapered Section
1531+54.00	1540+14.00	✓			964	203		W=10'
NORTHWEST BOUND								
1531+15.50	1539+96.00	✓			388	91		W=4'
1531+00.00	1539+90.00		✓		3,500	389	3,500	W=36'
1530+83.00	1539+81.50			✓	974	206		W=10'
FEDERAL, STATE & COLUMBUS TOTAL					13,068	1,788 ✓	9,794 ✓	

ITEM 659
COMMERCIAL FERTILIZER ~ Federal & State
Seeding & Mulching 248,052 S.Y. x 0.00009 = 22.32 Tons

ITEM 659
COMMERCIAL FERTILIZER ~ Federal, State & Columbus
Seeding & Mulching 52,484 S.Y. x 0.00009 = 4.72 Tons

ITEM 203
PROOF ROLLING ~ Federal & State
Subgrade Compaction from sheets 15, 50, 53, 56, 57, 58, 59, 60 & 61 = 112,548 S.Y.
Item 203 = $\frac{112{,}548 \text{ S.Y.}}{3{,}000 \text{ S.Y./Hour}}$ = 38 Hours

ITEM 203
PROOF ROLLING ~ Federal, State & Columbus
Subgrade Compaction from sheets 15, 53, 54, 55 & 56 = 19,807 S.Y.
ITEM 203 = $\frac{19{,}807 \text{ S.Y.}}{3{,}000 \text{ S.Y./HOUR}}$ = 7 Hours

ITEM 659
LIMING ~ Federal & State
ITEM 659 = $\frac{100 \text{ lb. Lime}}{1000 \text{ S.F. Seeding \& Mulching}}$ x 247900 S.Y. x 9 S.F./S.Y. ÷ 2000 lbs./Ton = 112 Tons

ITEM 659
LIMING ~ Federal, State & Columbus
ITEM 659 = $\frac{100 \text{ lb. Lime}}{1000 \text{ S.F. Seeding \& Mulching}}$ x 52484 S.Y. x 9 S.F./S.Y. ÷ 2000 lbs./Ton = 24 Tons

ITEM	DESCRIPTION	UNIT	SHEET NUMBER 17 FED. & STATE	19 FED., STATE & COLS.	22	23	24	25	26	27	28	31	34	36	37	38	39	PARTICIPATION FED. STATE & COLS.	FED. & STATE	TOTAL
					FED. & STATE															
659	Seeding & Mulching	S.Y.	36033	52484	27324	21639	22955	18128	19554	20533	23016	26520	10787	5790	6440	6620	2707	52484	248052	300536
	Deduct The Following																			
667	Seeding & Jute Matting		137	169	1074	104	252	272	347	347	100				42	1235		169	3910	4079
830	Seeding & Excelsior Matting		4278	109	326													109	4604	4713
660	Spec. Berm & Slope Prot.		451	53														53	451	504
659	Total Seeding & Mulching		31167	52153	25924	21535	22703	17856	19207	20186	22916	26368	10787	5796	6398	5385	2707	52153	239087	291240

ITEM	DESCRIPTION	UNIT	PARTICIPATION	TOTAL	SHEET NUMBER 15	50	53	54	55	56	57	58	59	60	61	63	64
203	Subgrade Compaction	S.Y.	Federal & State	133877	98996	2,627	2,174		4,534	1,523	2,118	2,666	1,269	840	335	6,303	10,492
			Federal, State & Cols.	19,807	13,068		464	2,113	1,692	2,470							

ITEM	DESCRIPTION	UNIT	PARTICIPATION	TOTAL	SHEET NUMBER 236	237	238	239	240	241	242	243	165
607	Fence, Type CL	L.F.	Federal & State	14,508	518	672	622	2883	3000	3046	3017	750	
			Federal, State & Cols.	1,687			1517	170					
	8' Gate, Type CL Mod.	Ea.	Federal & State	2									2
	Fence, Type CL, Mod.	L.F.	Federal & State	40									40

QUANTITY CALCULATIONS
BY C.S.M. DATE 12-69
CHKD T.D.C. DATE 12-69
BURGESS & NIPLE, LIMITED

SUB SUMMARY

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

16/247

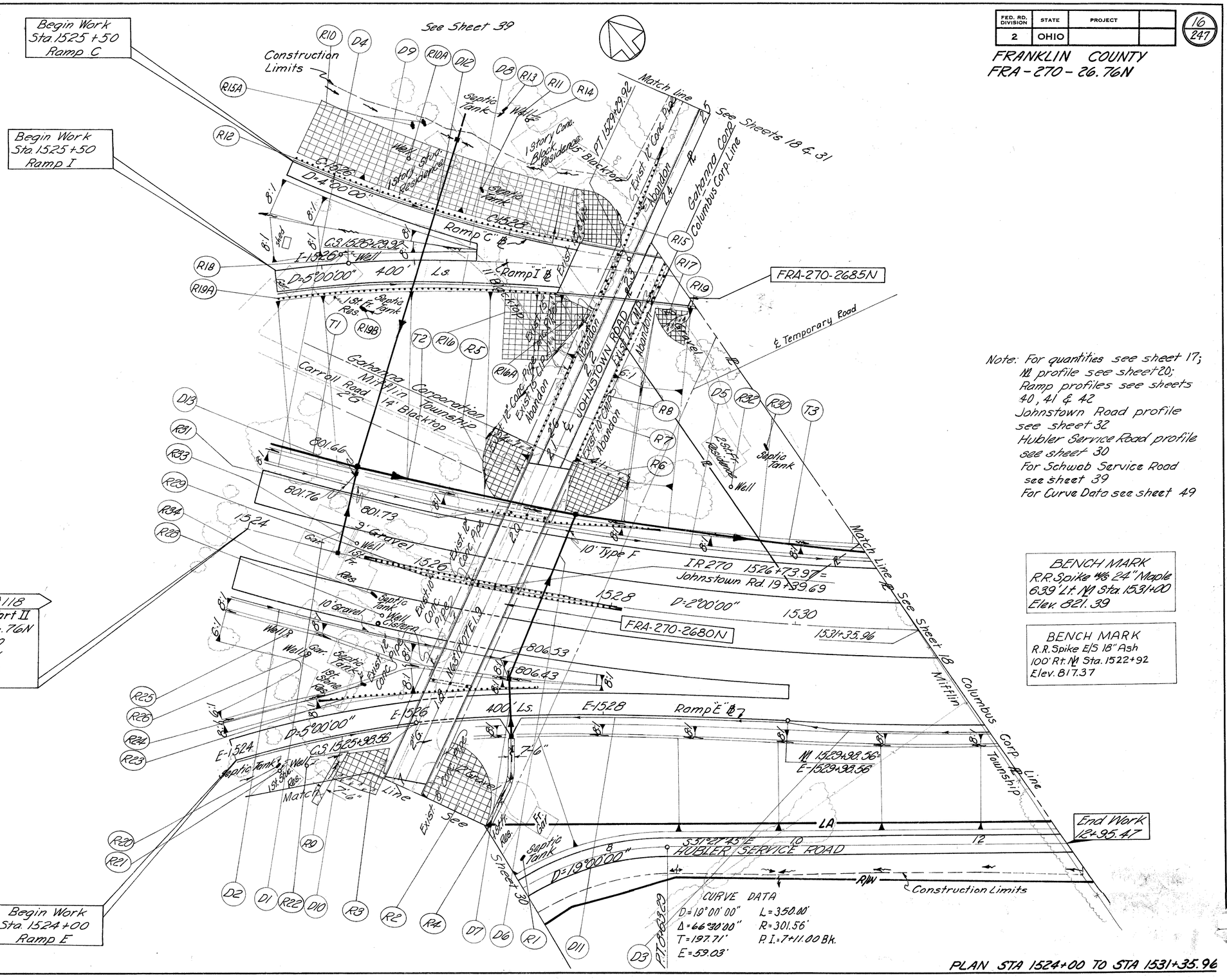
FRANKLIN COUNTY
FRA-270-26.76N

PROPOSED STRUCTURE FRA-270-2685N

TYPE: 3 span continuous reinforced concrete slab with reinforced concrete substructure.
SPANS: 43.0'; 53.75'; 43.0'
LOADING: HS20-44
SKEW: 18°13'37" L.F.
WEARING SURFACE: 1" Monolithic
APPROACH SLAB: AS-1-67 (25' long)
ALIGNMENT: Left spiral
SUPERELEVATION: Varies

PROPOSED STRUCTURE FRA-270-2680N

TYPE: 4 Span continuous steel girder with reinforced concrete deck and substructure
SPANS: 115.00'; 115.00'; 84.25'; 54.75'
LOADING: HS 20-44
ROADWAY: 44'-0" ℄ parapets
SKEW: 13°57'46" R.F.
WEARING SURFACE: 1" Monolithic
APPROACH SLABS: AS-1-67 (25' Long)
ALIGNMENT: Tangent
SUPERELEVATION: None



Note: For quantities see sheet 17;
NB profile see sheet 20;
Ramp profiles see sheets 40, 41 & 42
Johnstown Road profile see sheet 32
Hubler Service Road profile see sheet 30
For Schwab Service Road see sheet 39
For Curve Data see sheet 49

BENCH MARK
R.R. Spike W/6 24" Maple
6.39 Lt. NB Sta. 1531+00
Elev. 821.39

BENCH MARK
R.R. Spike E/5 18" Ash
100' Rt. NB Sta. 1522+92
Elev. 817.37

PLAN STA 1524+00 TO STA 1531+35.96

FED. RD. DIVISION	STATE	PROJECT		
2	OHIO			

17
247

FRANKLIN COUNTY
FRA-270-26.76N

DRAINAGE

REF.	LOCATION	See Sheet No.	603 27" Conduit, Type B, 72° C.L.	603 18" Conduit, Type B	603 15" Conduit, Type B	604 6" Conduit, Type F	604 Std. No. 4 Catch Basin	604 Std. No. 1A Manhole	605 6" Pipe Under-drain (deep)	605 6" Pipe Under-drain (shallow)	605 6" Pipe Under-drain (unclassified)	605 Aggregate Drain	603 6" Bend	603 72" Conduit Type C	603 27" Bend	603 27" Conduit Type F	603 15" Conduit Type C	604 Std. No. 5 Catch Basin
			L.F.	L.F.	L.F.	L.F.	Ea.	Ea.	L.F.	L.F.	L.F.	L.F.		L.F.		L.F.	L.F.	Ea.
D1	1525+00 to 96' Lt.	45,70			88		1											
D2	1524+00 to 1527+05 Rt.	20				10			300		14		1					
D3	1530+00 to 1532+15 Rt.	20							170		50							
D4	1524+00 to 1525+00 Lt.	20				10			93		6		1					
D5	1525+05 to 1530+80 Lt.	20				10			551									
D6	E1527+00 Lt 40' to 1527+50 Lt 93'	45		192														1
D7	E1527+00 Rt 22 to E1527+00 Lt 140'	45,99			62													1
D8	I1525+50 to I1528+35 Rt.	42				10				285	93		1					
D9	C1525+50 to C1528+48 Lt.	40				10				298	58		1					
D10	E1524+00 to E1527+00 Rt.	41				10			288		14		1					
D11	E1527+00 to E1530+00 Rt.	41				10			288		14		1					
D12	1525+00 Lt. 96' to C1527+16 Lt. 86'	45	324												1	46		1
T1	1524+00 Lt. 96' to 1525+00 Lt. 96'	45						1						98				
T2	1525+00 to 1527+50 Lt. 96'	45						1						244				
T3	1527+50 to 1530+73 Lt. 82'	45,46												315				
D13	1525+00 Lt. 88' to 1525+00 Lt. 96'	45,70															8	1
	Johnstown Road 21+00 to 24+75											217						
	TOTALS		324	192	150	70	1	2	1690	583	249	217	—	657	—	46	8	4

ROADWAY

REF.	LOCATION	606 Guard Rail, Type 5 Barrier Design	606 Guard Rail Type 5	606 Anchor Assembly	606 Bridge Terminal Assembly	830 Seeding & Excelsior Matting	667 Seeding & Jute Matting	Special Clean & Dispose of Exist. Septic Tank	660 Drilled Well Abandoned	660 Special Berm & Slope Protection	606 Approach End Assembly, Barrier Rail	606 Approach End Assembly, Single Rail
		L.F.	L.F.	Ea.	Ea.	S.Y.	S.Y.	Ea	Ea.	S.Y.	Ea.	Ea.
	HUBLER SERVICE ROAD											
R1	7+13 @ 28' Lt.							1				
	JOHNSTOWN ROAD											
R2	16+97.50 to 17+67 Rt.					439				83		
R3	17+83 to 18+32 Lt.					168				53		
R4	17+00 to 17+94 Rt.						84					
R5	20+28 to 20+90 Lt.					269				52		
R6	20+42 to 21+00 Rt.					267				65		
R7	20+89 to 24+45 Lt.		3625		1							1
R8	20+98 to 23+33 Rt.		237.5		1							
R9	16+44 to 17+08 Lt.						53					
	RAMP C											
R10	1525+50 to 1528+75 Lt.					2190						
R10A	1526+68 @ 49' Lt.								1			
R11	1527+58 40' Lt.							1				
R12	1525+50 to 1528+75 Lt.		325		1							
R13	1527+58 @ 130' Lt.							1				
R14	1527+85 @ 130' Lt.								1			
R15	1528+74 to 1529+20 Lt.					225				67		
R15A	1526+75 @ 100' Lt.							2				
	RAMP I											
R16	1528+00 to 1528+50 Rt.					432						
R16A	1528+50 to 1528+99 Rt.					160				75		
R17	1529+65 to 1530+04 Rt.					128				56		
R18	1526+21 @ 11' Lt.								1			
R19	1529+97 to 1530+05 Rt.		8		1							
R19A	1525+50 to 1528+58 Rt.		301		1							
R19B	1526+42 @ 53' Rt.							1				
	RAMP E											
R20	1524+42 @ 19' Rt.							1				
R21	1524+44 @ 25' Rt.								1			
R22	1524+75 @ 26' Rt.								1			
R23	1524+94 to 1527+31 Lt.		237.5	1								1
R24	1525+50 @ 47' Lt.							1				
	MAINLINE											
R25	1524+71 @ 35' Rt.								1			
R26	1525+00 @ 116' Rt.								1			
R28	1525+63 @ 55' Rt.								1			
R29	1525+30 to 1528+15.5 &	50	475								2	
R30	1529+52 @ 186' Lt.							1				
R31	1526+41 to 1528+42 Lt.		200	1								1
R32	1529+17 @ 142' Lt.								1			
R33	1525+17 @ 15' Lt.								1			
R34	1525+50 @ 37' Rt.							1				
	TOTALS	50	21466	2	5	4278	137	10	10	451	2	3

EARTHWORK & SEEDING

LOCATION	203 Excavation C.Y.	203 Embankment C.Y.	659 Seeding and Mulching S.Y.
1524+00 to 1531+00 ℄ Left	36666	889	10700
1524+00 to 1532+00 ℄ Right	26282	1901	11561
1525+50 to 1527+00 Ramp C	76	14207	2484
1524+00 to 1527+00 Ramp E	6715	148	3600
1525+50 to 1529+09 Ramp I	855	1436	7682
TOTALS	69824	7458	36033

QUANTITY CALCULATIONS
G.S.W. 7/4/69
D.W.K. 7/4/69
JRGESE & NIPLE, LIMITED

Quantities For Sheet No. 16

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

18
247

FRANKLIN COUNTY
FRA-270-26.76N

BENCH MARK
R.R. Spike W/S 24" Maple
639' Lt. Nl Sta. 1531+00
Elev. 821.39

Note: For quantites see sheet 19
Nl profile see sheet 20
Ramp profiles see sheets 40 & 42
Johnstown Road profile see sheet 32
For Curve Data see sheet 49

PK N/S 20" Apple Tree, 110.35-10A.73
Barn
Hub 1'
℄ 1534+00.00
P.O.C. Sta. 1534+00.00

End Work 28+10
P.T. 27+00 ℄
Match Line See Sheet 31
Johnstown Rd 26+00.00
B-1529 29+00.88
Δ = 30°41'26" Rt.
25+95.18, ℄
ROAD
Galhanna Corporation Line
Match Line See Sheet 16 & 31
24 JOHNSTOWN 25 N63°17'07"E 26
D=15°
Columbus Corporation Line
RAMP B ℄
B-1532
P.R.C.
S26°41'39"E
B-1534
℄ Temporary Road
D=15°
Δ = 30°41'26" Lt.
24+14.90, 107 Rt.
S17530+29.92
FRA-270-26.85 N
I-1532
I-1534
S44°56'30"E
RAMP I ℄
TS I-1534+48.43
I-1536
Ls = 350'
D=7°00'00"
B-1536
B-1538
D=3°00'00"
SC I-1537+98.43
P.C. 23+10.08
107 Rt.
Martin Line Twp.
Columbus Corporation Line
Match Line
See Sheet 10
1531+35.96
Well
Pk. Sh. Fr.
Res. Abandoned
Cistern
Shed
Corn Crib
Shed
Barn
799.25
799.35
1532
1534
1536
1538
1540
D=2°00'00"
1540+05.08
Galhanna Corporation Line
Columbus Corporation Line
See Sheet 21
R.C.P. 12'x3'x1.5'
PC B-1536+10.39
Construction Limits
LA
HW-E Endwall
10' Type F
7'-6"
7'-6"
D1
D2
D3
D4
D5
D6
D7
D9
D10
D11
R1
R2
R3
R4
R5
R6
R7
R8
R9
T3
T4

PLAN STA 1531+35.96 TO STA 1540+05.08

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

19
247

FRANKLIN COUNTY
FRA-270-26.76N

DRAINAGE

REF.	LOCATION	See Sheet No.	603 18" Conduit, Type B	603 6" Conduit, Type B	603 22" Conduit, Type C	603 6" Conduit, Type F	604 Std. No. 4 Catch Basin	604 Std. No. 1A Manhole	605 6" Pipe-Deep Underdrain	605 6" Pipe-Shallow Underdrain	605 6" Pipe-Unc. Underdrain	605 Aggregate Drains	6" Bend	6" Branch	603 15" Conduit, Type B	602 Concrete Masonry	601 Rock Chan. Prot. Type B as per plan	604 Std. No. 5 Catch Basin
			L.F.	L.F.	L.F.	L.F.	Ea.	Ea.	L.F.	L.F.	L.F.	L.F.			L.F.	C.Y.	C.Y.	Ea.
D1	B1530+48 to B1539+70 Lt.	40				10			570	252	100			1				
D2	I1530+03 to I1532+50 Rt.	42							222				1					
D3	I1532+50 Rt 26 to I1532+50 Lt 2'	42		28									1					
D4	I1532+50 to I1537+77 Lt.	42							518				1					
D5	I1537+77 Lt 2' to B1538+04 Lt 2'	42		40														
D6	1535+00 to 81' Lt.	72					1								81			
D7	1532+75 to 1540+35 Rt.	20							707		153							
D9	1530+80 to 1535+00 Lt.	20				8			404				1					
D10	1535+05 to 1539+83 Lt.	20							468									
D11	B1535+00 Rt. 32' to B1535+00 Lt. 36'	97	68													.30	3	1
T3	1530+73 to 1535+00 Lt. 81'	46			415			1										
T4	1535+00 to 1539+81 Lt. 81'	46			469													
	Johnstown Road 23+50 to 25+00											92						
	TOTALS		68	68	884	18	1	1	2889	252	253	92	—	—	81	.30	3	1

ROADWAY

REF.	LOCATION	606 Guard Rail, Type 5 L.F.	606 Bridge Terminal Assembly Ea.	606 Approach End Assembly, Single Rail Ea.	660 Special Berm Slope Protection S.Y.	667 Seeding + Jute Matting S.Y.	830 Seeding & Excelsior Matting S.Y.	Spec. Drilled Well, Abandon Ea.
	RAMP I							
R2	1530+12 to 1531+70 Lt.	150	1	1				
R3	1530+05 to 1531+45 Rt.	142		1				
R4	1535+19 @ 171' Rt.							1
R6	1529+82 to 1530+14 Lt.				53		109	
	RAMP B							
R7	1538+75 to 1539+50					66		
R8	1534+00 to 1535+25					103		
	Johnstown Road							
R9	23+33 to 24+83 Rt.	150		1				
	TOTALS	442	1	3	53	169	109	1

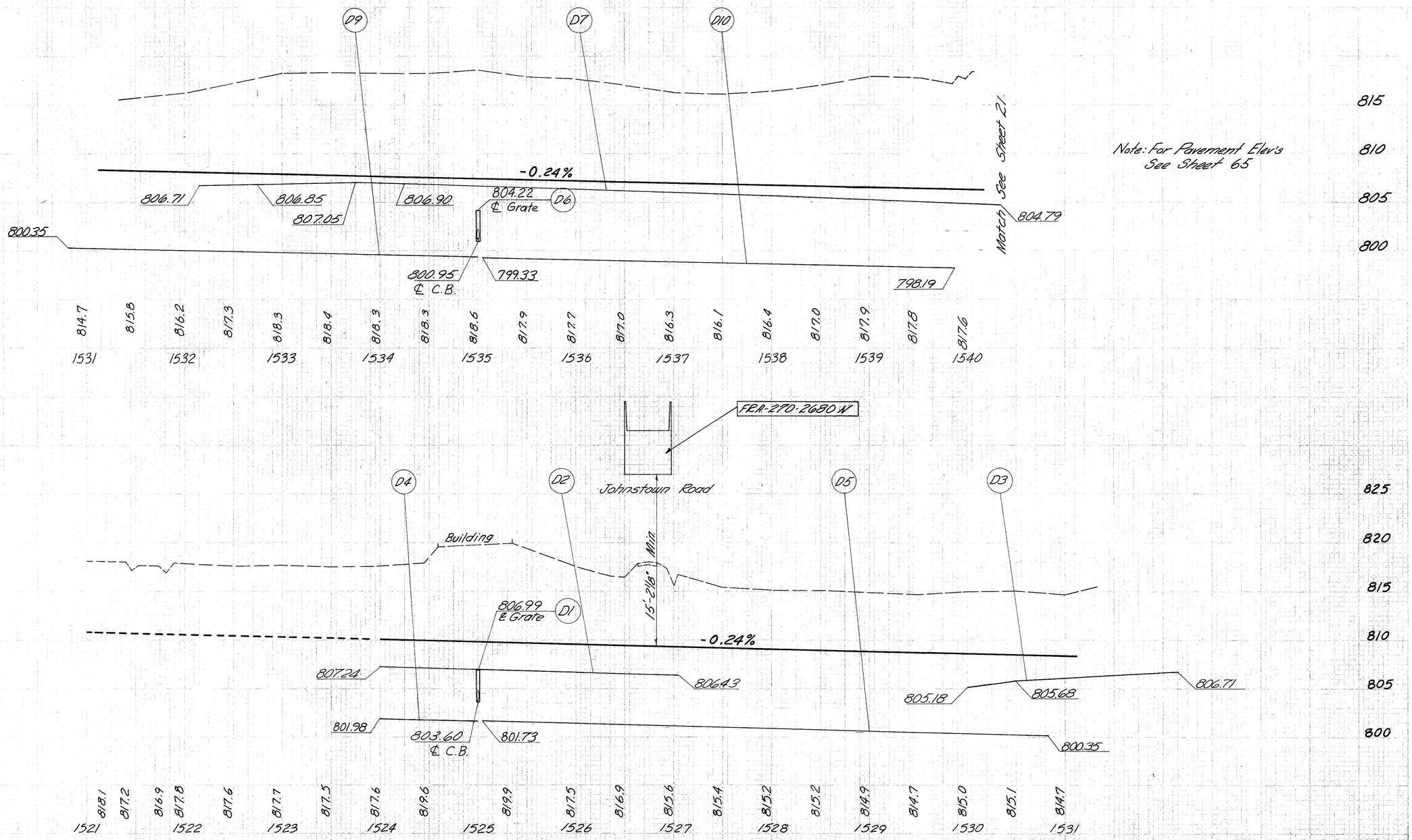
EARTHWORK & SEEDING

LOCATION	203 Excavation C.Y.	203 Embankment C.Y.	659 Seeding and Mulching S.Y.
1531+00 to 1540+00 Mt. Left	69782	74	15616
1532+00 to 1540+00 Mt. Right	35276	115	9522
1531+00 to 1537+00 Ramp B	3252	339	6816
1529+09 to 1540+00 Ramp I	5181	5536	32530
Cistern @ 1536+40, 67' Rt. Romp I		3	
TOTALS	113491	5589	45248

G.S.W. 6/69
D.D.K. 7/4/69

Quantities For Sheet No. 18

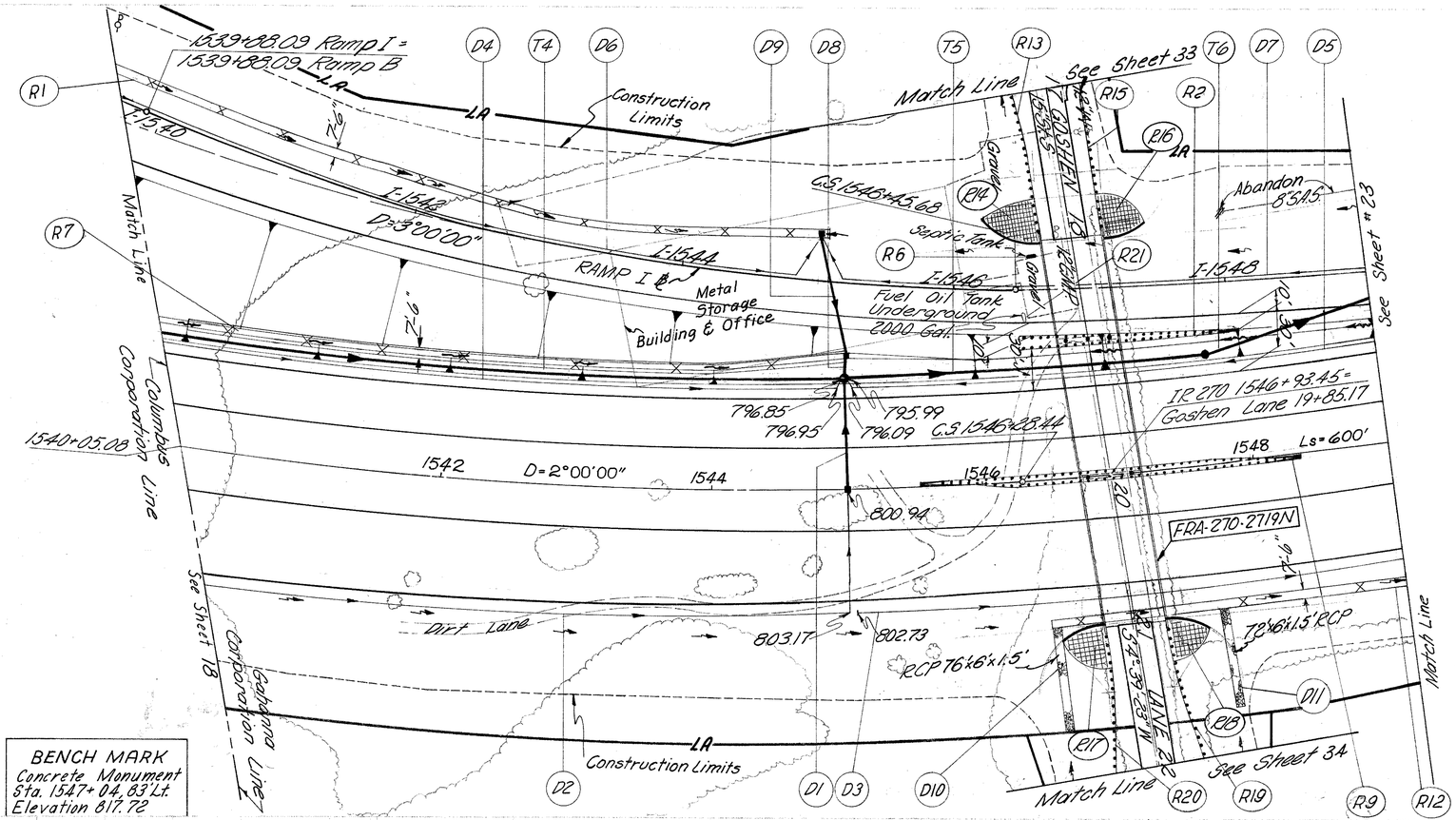
FRANKLIN COUNTY
FRA-270-26.76N

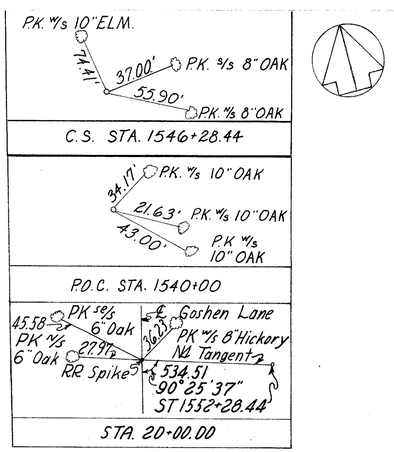


Note: For Pavement Elev's
See Sheet 65

For Plan See Sheets 16 & 18

MAIN LINE PROFILE 1521+00 TO 1540+05.08





Note: For Curve Data see sheet 49
For quantities see sheet 22
Ramp Profile see sheet 42

PROPOSED STRUCTURE
FRA-270-2719N

TYPE: 3 span continuous steel girder with reinforced concrete deck and substructure.
SPANS: 75.00', 97.00', 109.00'
LOADING: HS 20-44
ROADWAY: 44'-0" b/b Parapets
SKEW: 4°20'35" L.F.
WEARING SURFACE: 1" Monolithic
APPROACH SLABS: AS-1-67 (30' long)
ALIGNMENT: Tangent
SUPERELEVATION: None

21
247

FRANKLIN COUNTY
FRA-270-26.76 N

PLAN & PROFILE STA. 1540+05.08 TO STA. 1549+00

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

22
247

FRANKLIN COUNTY
FRA-270-26.76N

DRAINAGE

CODE	LOCATION	See Sheet No.	603 84" Conduit, Type B	603 27" Conduit, Type B	603 15" Conduit, Type B	603 12" Conduit, Type C	603 30" Conduit, Type C	603 6" Conduit, Type F	604 Std. No. 4 Catch Basin	604 Std. No. 1A Manhole	605 6" Pipe-Deep Underdrain	605 6" Pipe-Unclassified Underdrain	603 6" Conduit, Type B	6" Bend	601 Rock Chan. Prot. Type B as per Plan	604 Std. No. 5 Catch Basin	603 84" Conduit, Type C	605 Aggregate Drains
			LF	LF	LF	LF	LF	LF	Ea.	Ea.	LF	LF	L.F.		C.Y.	Ea.	LF	LF
D1	1545+00 to 81' Lt.	74			81				1									
D2	1540+35 to 1545+00 Rt.	21									475		93	1				
D3	1545+05 to 1549+00 Rt.	21									403							
D4	1539+83 to 1545+00 Lt.	21						8			497			1				
D5	1545+00 to 1549+00 Lt.	21						8			387			1				
D6	B1539+70 to I1545+00 Lt.	40,42						10			515	25		1				
D7	I1545+00 to I1549+05 Lt.	42						10			204	207		1				
D8	1545+00 Lt. 81' to 1545+00 Lt. 97	74					16									1		
D9	1544+85 Lt. 186 to 1545+00 Lt. 97	74		90												1		
T4	1539+81 to 1545+00 Lt. 81'	46,47				505				1								
T5	1545+00 to 1547+75 Lt. 81'	47															265	
T6	1547+75 to 1549+00 Lt. 108'	47	128															
	Goshen Lane																	
	17+25 to 22+00																	120
D10	20+77 to 21+64 Rt.														34			
D11	20+83 to 21+67 Lt.														32			
	TOTALS		128	90	81	505	16	36	1	1	2481	232	93	—	66	2	265	120

ROADWAY

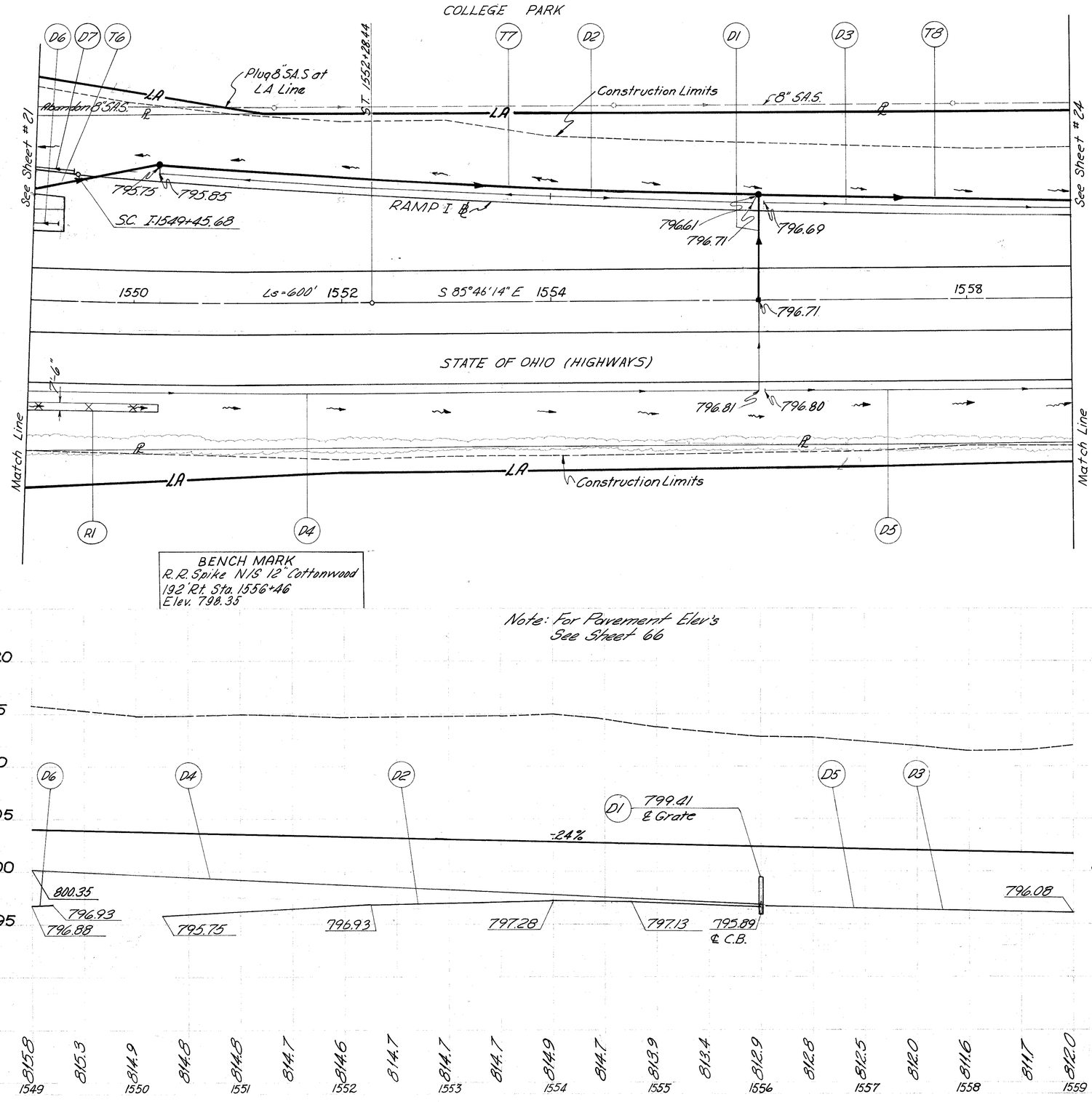
REF.	LOCATION	606 Guard Rail, Type S	606 Guard Rail Types Barrier Design	606 Bridge Terminal Assembly	606 Anchor Assembly	606 Approach End Assembly, Single Rail	606 Approach End Assembly, Barrier Rail	830 Seeding & Excelsior Matting	667 Seeding + Jute Matting	Spec. Removal of 2000 Gal. Oil Tank	Spec. Clean + Dispose Of Existing Septic Tank
		LF	LF	Ea	Ea	Ea	Ea	S.Y.	S.Y.	Lump	Ea
	RAMP I										
R1	1539+59 to 1545+05 Lt.								452		
R2	1546+50 to 1548+05	275	25		2		1				
R6	1546+56 @ 24' Lt.										1
	MAIN LINE										
R7	1540+00 to 1545+00 Lt.								404		
R9	1545+55 to 1548+35 ℄	475	50				2				
R21	1546+40 Lt. 120'									Lump	
R12	1546+52 to 1549+00 Rt.								218		
	GOSHEN LANE										
R13	17+00 to 18+04 Rt.	104		1							
R14	17+87.50 to 18+09.00							96			
R15	17+00 to 18+07 Lt.	112.5		1		1					
R16	18+00.00 to 18+13.50							83			
R17	20+92.50 to 21+05.50							75			
R18	20+85.50 to 21+04.00							72			
R19	21+02 to 22+00 Lt.	98		1							
R20	20+99 to 22+00 Rt.	101		1							
	TOTALS	1165	75	4	2	1	3	326	1074	Lump	1

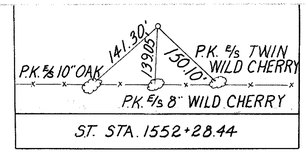
EARTHWORK & SEEDING

LOCATION	203 Excavation C.Y.	203 Embankment C.Y.	659 Seeding and Mulching S.Y.
1540+00 to 1549+00 ℳ Left	101338	0	15850
1540+00 to 1549+00 ℳ Right	52801	0	10427
1540+00 to 1541+36 Ramp I	3425	0	1047
TOTALS	157564	0	27324

PROCESS GRAPHICS LIMITED

Quantities For Sheet No. 21





23
247

FRANKLIN COUNTY
FRA-270-26.76 N

ROADWAY		Seeding & Mulching
		667
CODE	LOCATION	S.Y.
R1	1549+00 to 1550+25 @ 100' Rt.	104
	TOTALS	104

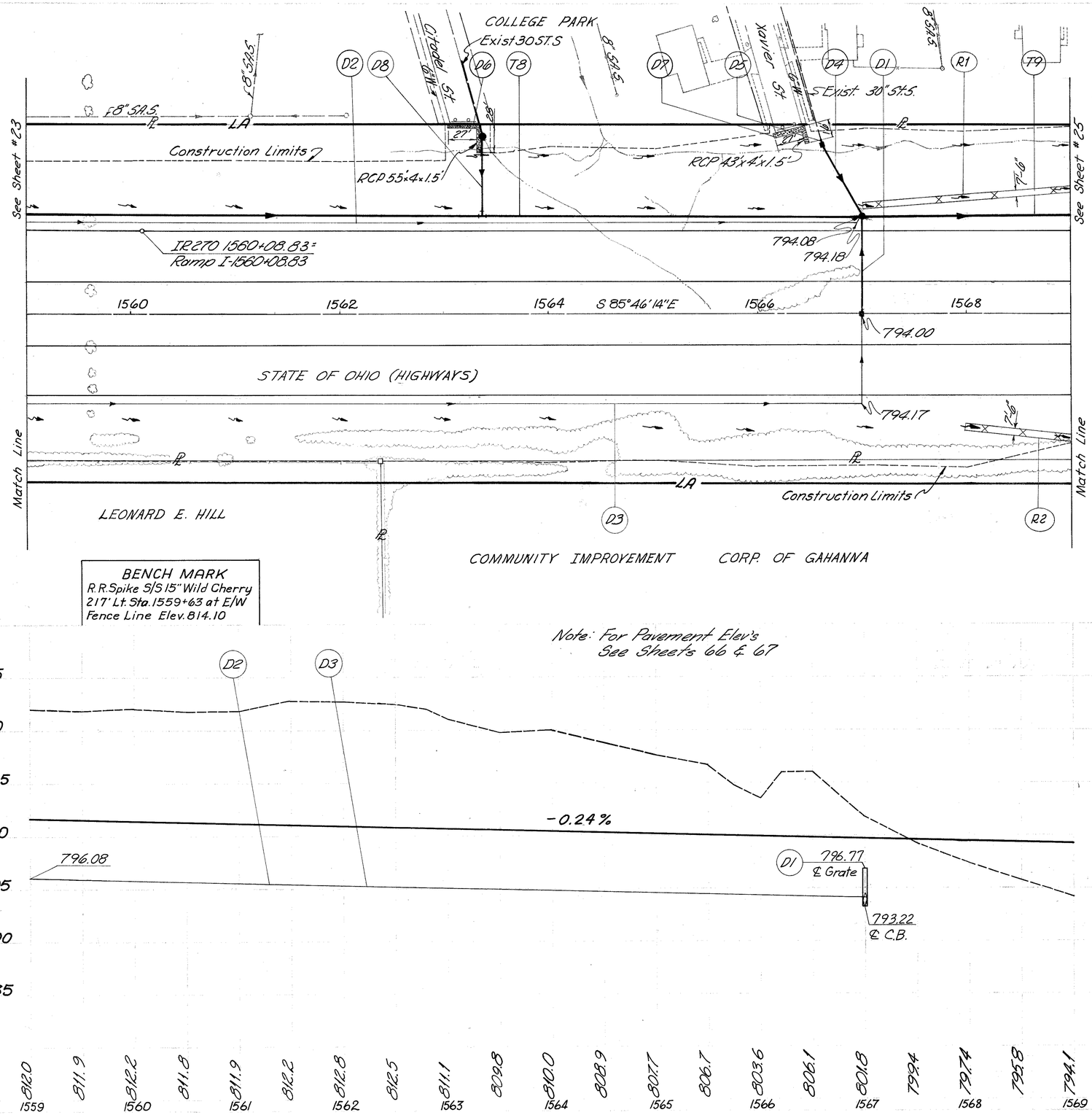
DRAINAGE	See Sheet No.	24" Conduit, Type B	5" Conduit, Type B	24" Conduit, Type C	15" Conduit, Type B	6" Conduit, Type F	Std. No. 1A Manhole	Std. No. 4, Catch Basin	6" Pipe-Deep Underdrain	6" Pipe-Underdrain	6" Bend
		603					604		605		
CODE LOCATION		L.F.	L.F.	L.F.	L.F.	L.F.	Ea.	Ea.	L.F.	L.F.	
D1 1556-00 to 101' Lt.	82				101			1			
D2 I-1550+25 to I-1556+00 Lt.	23					17			320	250	2
D3 I-1556+05 to I-1559+00 Lt.	23								295		
D4 1549+00 to 1556+00 Rt.	23,82		89						703		1
D5 1556+05 to 1559+00 Rt.	23								295		
D6 1549+00 to 1549+25 Lt.	23									25	
D7 I-1549+05 to I-1549+42 Lt.	42								37		
T6 1549+00 to 1550+25 Lt+133	47	125					1				
T7 1550+25 to 1556+00 Lt. 101'	47			576			1				
T8 1556+00 to 1559+00 Lt. 93'	47			300							
TOTALS		125	89	876	101	17	2	1	1650	275	—

EARTHWORK & SEEDING		203	659
		Excavation	Embankment	Seeding and Mulching
LOCATION		C.Y.	C.Y.	S.Y.
1549+00 to 1552+00 ℄ Left		25077	0	3128
1549+00 to 1552+00 ℄ Right		17000	0	3239
1552+00 to 1559+00		80979	0	15272
TOTALS		123056	0	21639

[redacted] 169
[redacted] 12/69

PLAN & PROFILE STA. 1549 to 1559

FRANKLIN COUNTY
FRA-270-26.76 N



P.K. ⁴⁄₅ 8" WILD CHERRY — 141.40' — 128.80' — 156.60' — P.K. ⁵⁄₈ 14" OAK
P.K. ⁵⁄₈ TWIN 6" WILD CHERRY
P.O.T. STA. 1562+80.23

BENCH MARK
R.R. Spike S/S 15" Wild Cherry
217' Lt. Sta. 1559+63 at E/W
Fence Line Elev. 814.10

Note: For Pavement Elev's
See Sheets 66 & 67

ROADWAY

CODE	LOCATION	Seeding & Mulching S.Y.
R1	1567+00 to 1569+00 Lt.	167
R2	1568+00 to 1569+00 Rt.	85
	TOTALS	252

667

DRAINAGE

		CODE	D1	D2	D3	D4	D5	D6	D7	D8	T8	T9	TOTALS
		LOCATION	1567+00 to 93' Lt	1559+00 to 1567+00 Lt	1559+00 to 1567+00 Rt	1566+60 Lt to 1563+00 Lt 93'	1566+60 Lt 160' to Lt 166'	1563+20 Lt 175'	1560+30 Lt 170'	1563+38 Lt 93' to 1563+38 Lt 168.5'	1559+00 Lt to 1567+00 Lt 93'	1567+00 to 1569+00 Lt 93'	
611	Rock Chan Prot Type B as per plan	C.Y.								16			29
	84"x30" Tee									13			
	6" Bend		1	1									
605	6" Pipe-Deep Underdrain	L.F.						796		800			1596
604	Std No 1 Manhole	Ea.								1			1
	Std No 5A Catch Basin	Ea.					1						1
	Std. No. 1A Manhole	Ea.									1		1
	Std. No. 4 Catch Basin	Ea.	1										1
603	30" Conduit, Type C 706.02 or 706.08 E5	L.F.								77			77
	6" Conduit, Type F	L.F.		8									8
	30" Conduit, Type C	L.F.					6						6
	36" Conduit, Type C	L.F.				83							83
	84" Conduit, Type C	L.F.									800		1000
	6" Conduit, Type B	L.F.			89						200		89
	15" Conduit, Type B	L.F.	93									93	93
	See Sheet No.		85	24	2485	85	85			45	47	47	

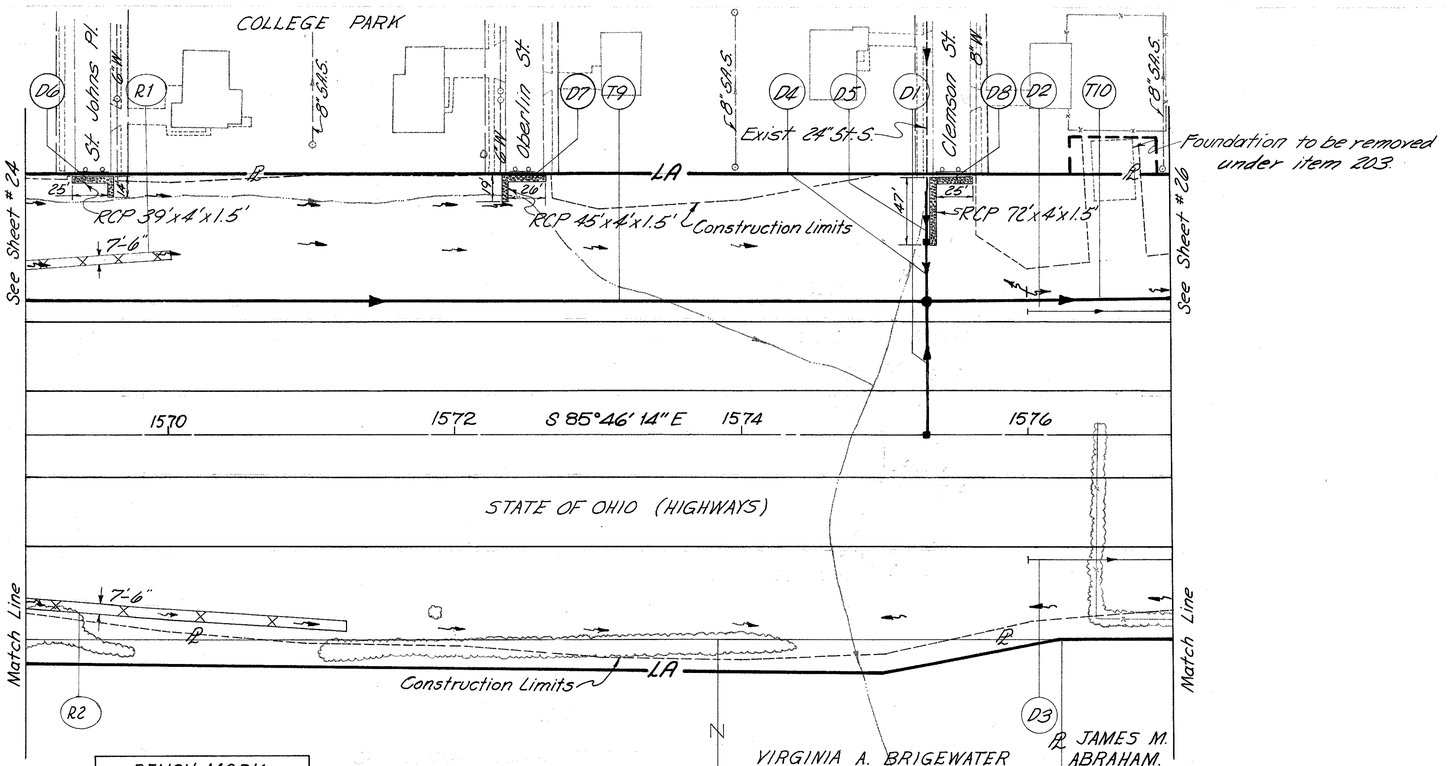
659	Seeding and Mulching	S.Y.	27692955
203	Embankment	C.Y.	27692955
	Excavation	C.Y.	27854

EARTHWORK & SEEDING

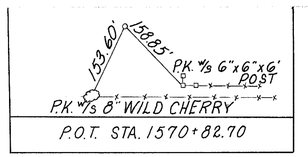
LOCATION	
1559+00 to 1569+00	
TOTALS	

QUANTITY CALCULATIONS
BY L.E.S.W. DATE 6/69
CHECKED DATE 7/69
BURGESS & NIPLE, LIMITED

PLAN & PROFILE STA. 1559 to 1569



BENCH MARK
Top Side Fire Hydrant
Front Residence, 432 St.
Johns Place, 242' Lt. ℄ Sta.
1569+65 Elev. 799.20



FRANKLIN COUNTY
FRA-270-26.76N

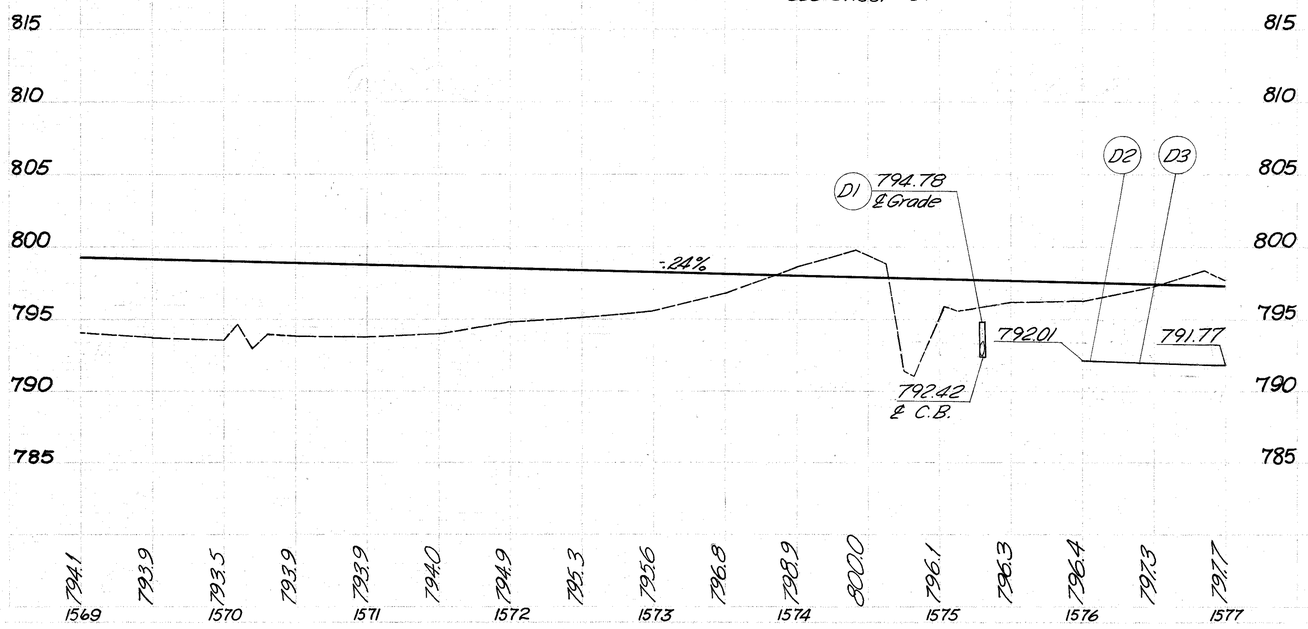
ROADWAY

CODE	LOCATION	Seeding + Jute Matting 667 SY.
R1	1569+00 to 1570+00 Lt.	84
R2	1569+00 to 1571+25 Rt.	188
	TOTALS	272

DRAINAGE

CODE	LOCATION	See Sheet No.	603 15" Conduit Type B L.F.	603 24" Conduit Type C L.F.	603 27" Conduit Type C L.F.	603 24" Conduit Type C L.F.	604 Std. No. 5A Catch Basin Ea.	604 Std. No. 4 Catch Basin Ea.	604 Std. No. 1A Manhole Ea.	605 6" Pipe-Deep Underdrain L.F.		601 Rock Chan. Prot. Type B on per plan CY.
D1	1575+30 to 93' Lt.	86	93					1				
D2	1576+00 to 1577+00 Lt.	25								100		
D3	1576+00 to 1577+00 Rt.	25								100		
D4	1575+30 Lt 93' to 1575+30 Lt 133'	86		40			1					
D5	1575+30 Lt 168' to 1575+30 Lt 133'	86				35						
D6	1569+50, Lt. 175'											12
D7	1572+50, Lt. 175'											13
D8	1575+50, Lt. 175'											21
T9	1569+00 to 1575+30 Lt. 93'	47,48		630					1			
T10	1575+30 to 1577+00 Lt. 93'	48		170								
	TOTALS		93	800	40	35	1	1	1	200		46

Note: For Pavement Elev's See Sheet 67

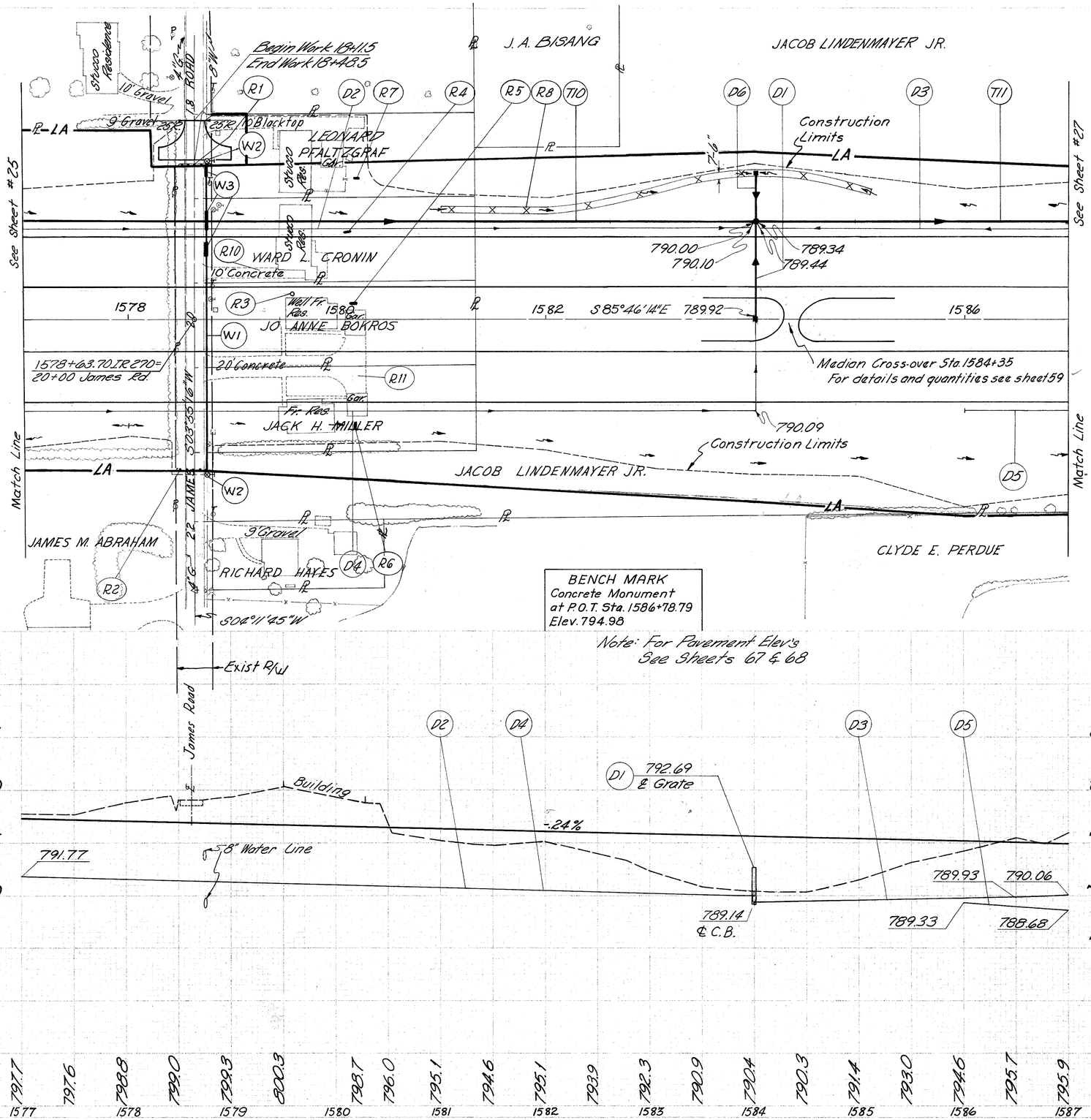


EARTHWORK & SEEDING

LOCATION	203 Excavation C.Y.	203 Embankment C.Y.	659 Seeding and Mulching S.Y.
1569+00 to 1577+00	5055	13479	18128
TOTALS	5055	13479	18128

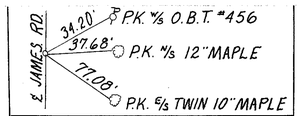
CHARLES CROSS PLOTTER
BY G.S.W. DATE 7-11-69
CHKD DWK DATE 7-11-69
BURGESS & NIEDEL LIMITED

PLAN & PROFILE STA. 1569 to 1577

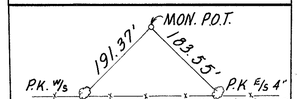


BENCH MARK
Concrete Monument
at P.O.T. Sta. 1586+78.79
Elev. 794.98

Note: For Pavement Elev's
See Sheets 67 & 68



P.O.T. STA. 1578+63.70



MON. P.O.T. STA. 1586+78.79

FRANKLIN COUNTY
FRA-270-26.76N

EARTHWORK & SEEDING	203 Excavation	203 Embankment	659 Seeding & Mulching
LOCATION	C.Y.	C.Y.	S.Y.
1577+00 to 1587+00	1304	8405	9554
TOTALS	1304	8405	9554

ROADWAY

CODE	LOCATION	606 Guard Rail, Type A L.F.	606 Anchor Assembly Ea.	667 Special Seeding & Jute Matting S.Y.	Special Clean & Dispose of Existing Septic Tank Ea.	Special Drilled Well, Abandoned Ea.	202 Existing Pavement Removed & Disposed S.Y.
R1	1578+50 to 1578+75 @ 147' Lt.	25	2				
R2	1578+50 to 1578+75 @ 143 Rt.	25	2				
R3	1579+57 @ 24 Lt.					1	
R4	1580+10 @ 83 Lt.				1		
R5	1580+16 @ 151 Lt.				1		
R6	1580+17 @ 102 Rt.				1		
R7	1580+19 @ 134 Lt.				1		
R8	1581+00 to 1585+00 Lt			347			
R10	1579±, 45' Lt.						107
R11	1579±, 45' Rt.						466
TOTALS		50	4	347	4	1	573

DRAINAGE

CODE	LOCATION	Sheet No.	603 15" Conduit Type B L.F.	603 18" Conduit Type C L.F.	603 24" Conduit Type C L.F.	603 6" Conduit Type F L.F.	604 Std. No. 4 C.B. Ea.	604 Std. No. 5 C.B. Ea.	604 Std. No. 1A Manhole Ea.	605 6" Pipe-Deep Underdrain L.F.	605 6" Pipe-Uncles. Underdrain L.F.	603 36" Conduit Type C L.F.	603 6" Bend
D1	1584+00 to 93' Lt.	88	93				1						
D2	1577+00 to 1584+00 Lt	26				8				696			1
D3	1584+00 to 1587+00 Lt	26				8				50	246		1
D4	1577+00 to 1584+00 Rt	26,88		89						700			1
D5	1586+00 to 1587+00 Rt	26								100			
D6	1584+00 Lt 93' to 1584+00 Lt 139'	88			46			1					
T10	1577+00 to 1584+00 Lt 93'	48		700					1				
T11	1584+00 to 1587+00 Lt. 93'	48										300	
TOTALS			93	700	89	46	16	1	1	1546	246	300	—

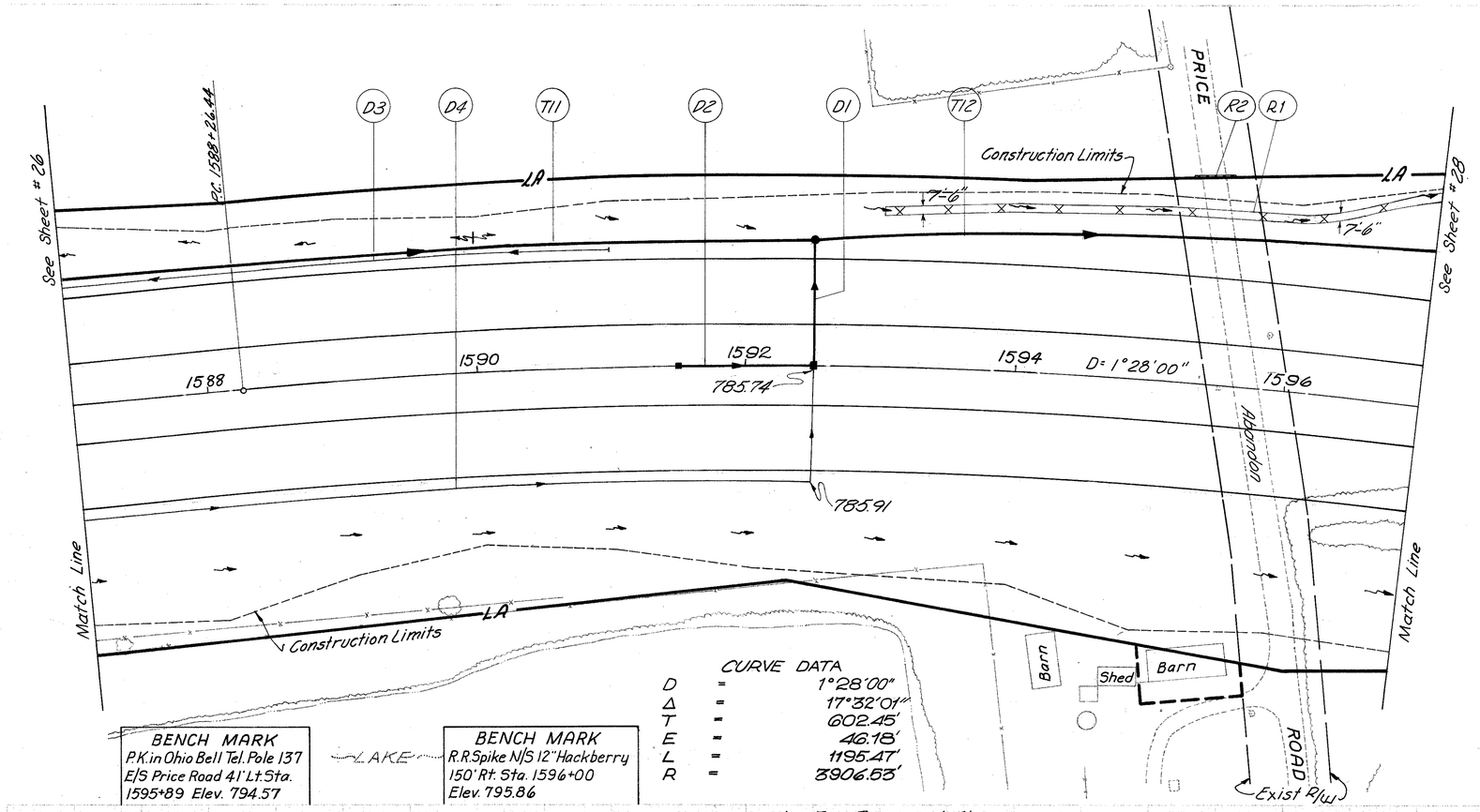
WATERLINE

* Estimating Information Only

CODE	LOCATION	Sheet No.	801 8" Ductile Iron Water Pipe L.F.	802 8" Gate Valves Ea.	801 8" 22½° Bend* Ea.	801 Concrete Blocking Class 'E' C.Y.	804 Iron Casting Lbs.	801 Conc. Encasement Class 'E' & Water Main C.Y.
W1	1578+75 150' Lt to 147' Rt	87	302			3.5	212	1.0
W2	1578+75 150' Lt and 147' Rt	87		2				
W3	1578+75 62, 84, 106' and 140' Lt	87			4			
TOTALS			302	2	X	3.5	212	1.0

Columbus Spec. No.

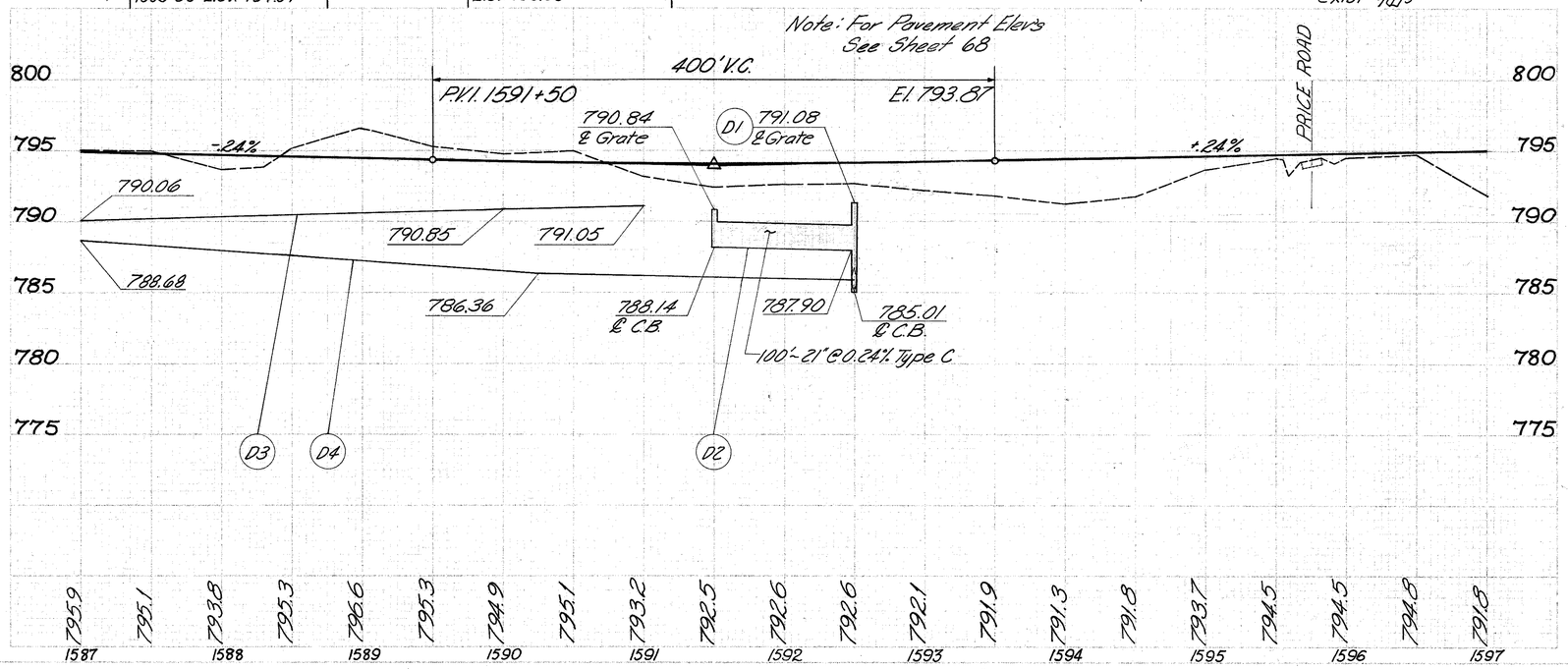
PLAN & PROFILE STA. 1577 to 1587

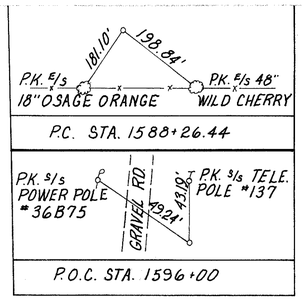


BENCH MARK	BENCH MARK
P.K. in Ohio Bell Tel. Pole 137 E/S Price Road 41' Lt. Sta. 1595+89 Elev. 794.57	R.R. Spike N/S 12" Hackberry 150' Rt. Sta. 1596+00 Elev. 795.86

CURVE DATA

D	=	1°28'00"
Δ	=	17°32'01"
T	=	602.45'
E	=	46.18'
L	=	1195.47'
R	=	3906.53'





27
247

FRANKLIN COUNTY
FRA-270-26.76N

EARTHWORK & SEEDING	203 Excavation	203 Embankment	659 Seeding & Mulching
LOCATION	C.Y.	C.Y.	S.Y.
1587+00 to 1597+00	16381	6919	20533
TOTALS	16381	6919	20533

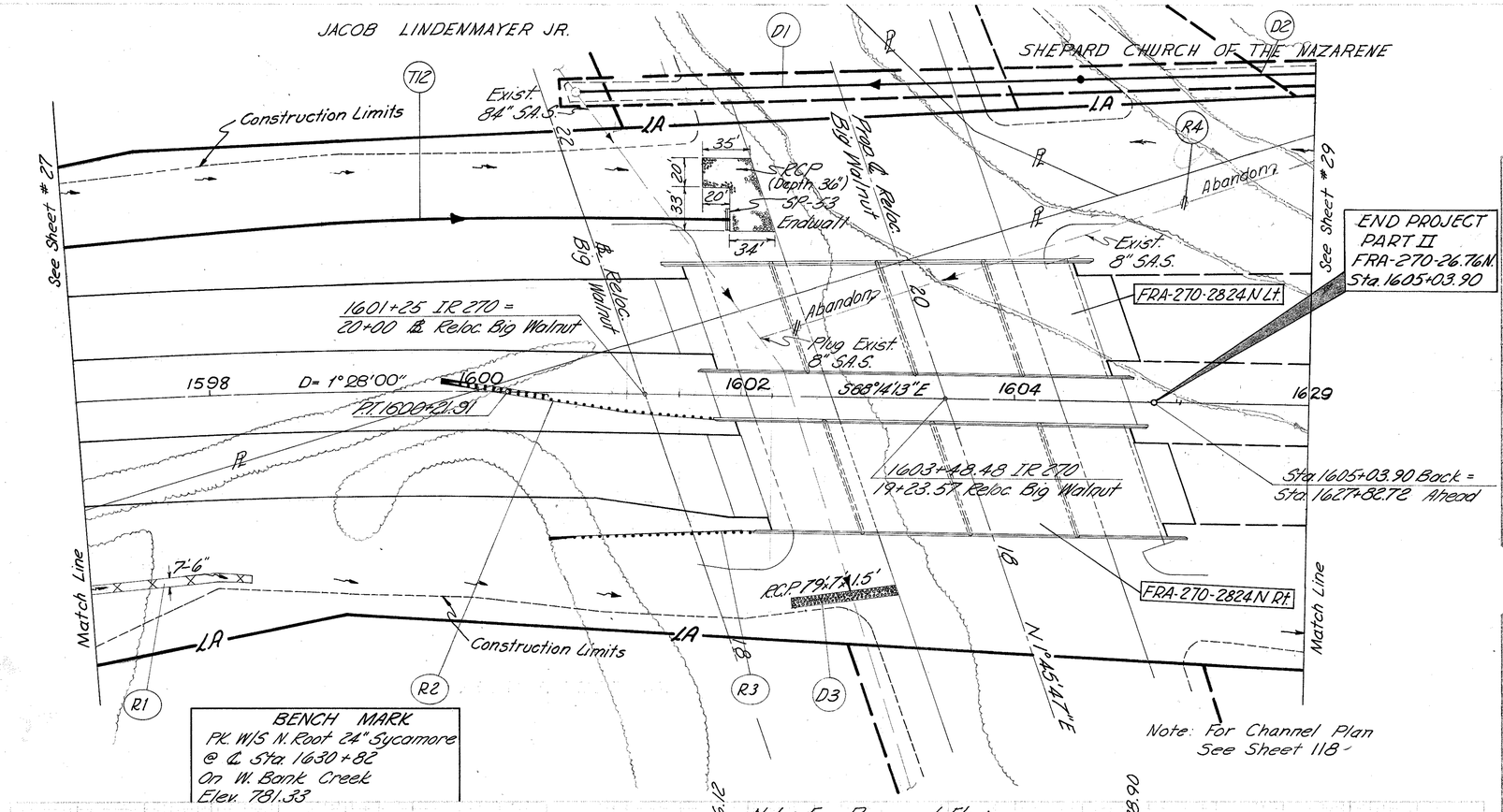
ROADWAY		667 Seeding & Jute Matting	606 Guard Rail Type 4 Anchor Assembly
CODE	LOCATION	S.Y.	L.F. Ea
R1	1593+00 to 1597+00	347	
R2	1595+37 @ 154' Lt.		25 2
TOTALS		347	25 2

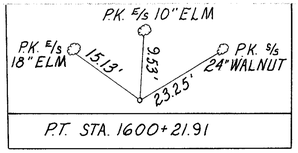
DRAINAGE		See Sheet No.	603 21" Conduit Type B	603 24" Conduit Type C	603 6" Conduit Type B	603 21" Conduit Type C	604 Std. No. 1A Manhole	604 Std. No. 4 Catch Basin	605 6" Pipe-Deep Underdrain	605 6" Pipe-Unclas Underdrain		6" Bend
CODE	LOCATION		L.F.	L.F.	L.F.	L.F.	Ea.	Ea.	L.F.	L.F.		
D1	1592+50 to 93' Lt.	89	93					1				
D2	1591+50 to 1592+50	27				100		1				
D3	1587+00 to 1591+00 Lt.	27							307	100		
D4	1587+00 to 1592+50 Rt.	2789			89				322	220		1
T11	1587+00 to 1592+50 Lt. 93'	48		564			1					
T12	1592+50 to 1597+00 Lt. 115'	48		464								
TOTALS			93	1028	89	100	1	2	629	320		—

N/I Trunk Sewer T12 Station	Table of Offsets Distance Left of ℄
1592+50	93
1593+00	97
1594+00	105
1595+00	105
1596+00	110
1597+00	115

[redacted]
G.S.V. Date 6/69
D.W.K. Date 7/14/69
ROBBINS & MYERS, LIMITED

PLAN & PROFILE STA. 1587 to 1597





REVISIONS	DATE	PROJECT		28
	OHIO			247

FRANKLIN COUNTY
FRA-270-26.76N

ROADWAY

CODE	LOCATION	607 Seeding & Mulching S.Y.	606 Guard Rail, Type 5 L.F.	606 Guard Rail, Type 5, Barrier Design L.F.	606 Bridge Terminal Assembly Ea.	606 Approach End Assembly, Single Rail Ea.	606 Approach End Assembly, Barrier Rail Ea.	202 MAP Pole Abandoned Ea.
R1	1597+00 to 1598+25 Rt.	100						
R2	1599+72 to 1601+74		125	75	1		1	
R3	1601+57 to 1602+07 Rt.		150		1	1		
R4	1628+03 ℄ 148'							1
	TOTALS	100	275	75	2	1	1	1

DRAINAGE

CODE	LOCATION	See Sheet No.	603 6"Conduit, Type C 706.02 or 707.12 L.F.	603 96"Conduit, Steel L.F.	601 Rock Chan. Prot. Type A as per detail C.Y.	601 Rock Chan. Prot. Type B as per detail C.Y.	604 Std. No. 1 A Manhole as per 704.12 Ea.	602 Concrete Masonry C.Y.
D1	1600+70.223 Lt. to 1604+45.237 Lt.	46	350				1	
D2	1604+45.237 Lt. to 1629+00.246 Lt.	46	211					
T12	1597+00, Lt. 115' to 1601+85, Lt. 130	48		499	237			5.17
D3	1602+35 to 1603+45 Lt.					41		
D4	Big Walnut Creek Chan. Relocation 22+07 to 23+30 R. 80'	118			838			
	TOTALS		561	499	1075	41	1	5.17

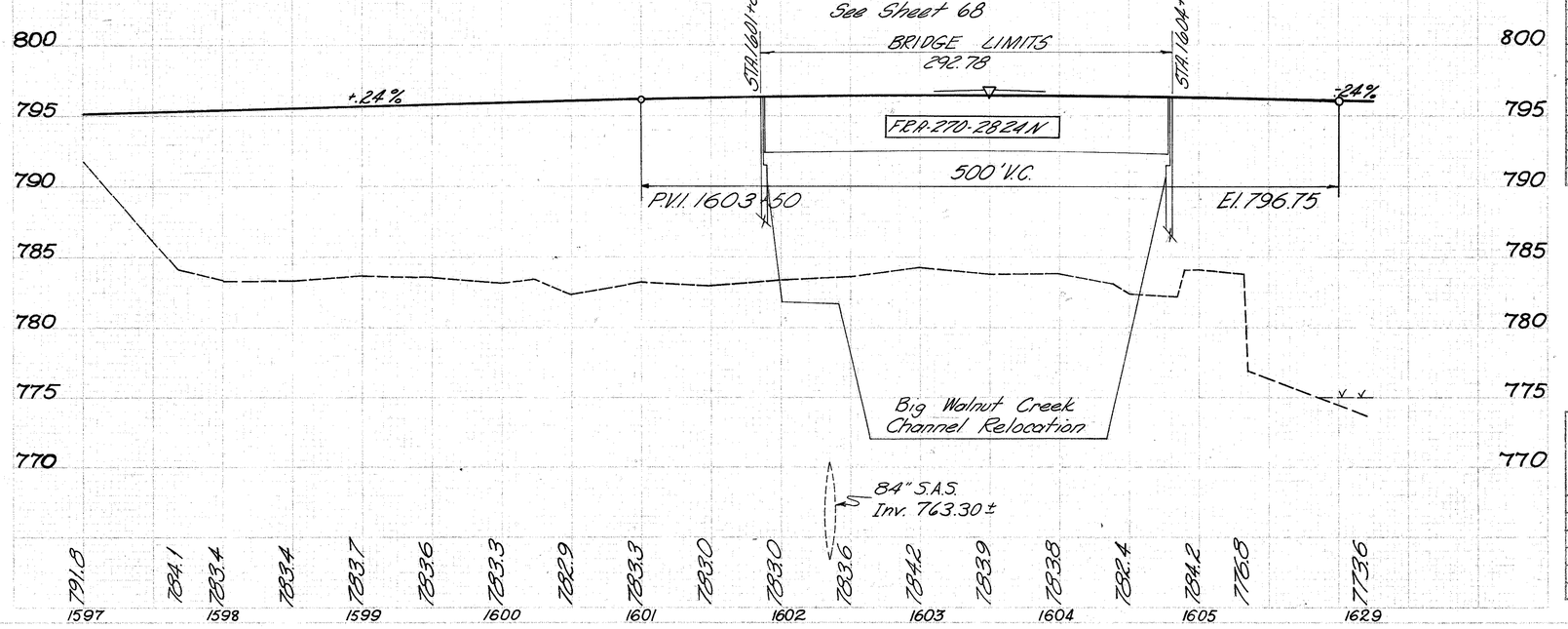
N/L Trunk Sewer T12 Station	Table of Offsets Distance Left of ℄
1597+00	115
1598+00	120
1599+00	125
1600+00	130
1601+00	130
1601+85	130

EARTHWORK & SEEDING

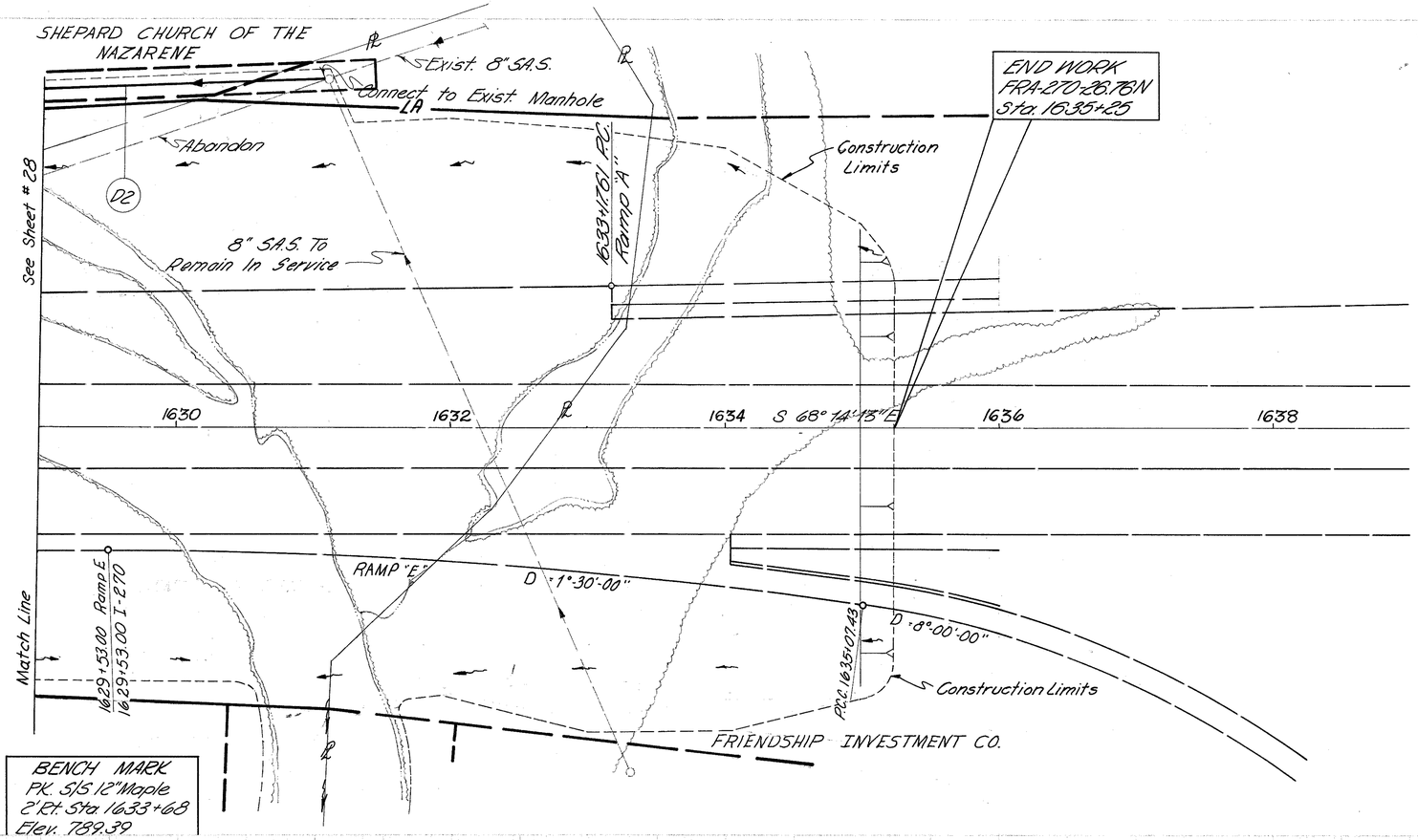
LOCATION	203 Excavation C.Y.	203 Embankment C.Y.	659 Seeding & Mulching S.Y.
1597+00 to 1605+03.90	20245	11724	12137
1627+82.72 to 1629+00 N/L Left	599	1307	0
1627+82.72 to 1629+00 N/L Right	83	7028	0
10+00 to 26+25 Big Walnut Reloc.	73554	70631	10879
TOTALS	76260	83122	23016

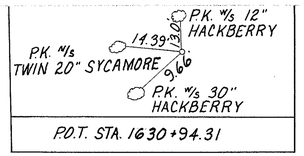
PROPOSED STRUCTURE FRA-270-2824N L&R

TYPE: A span concrete slab deck on prestressed concrete I-beam girders; and concrete substructure
SPAN: 70.88'-70.88'-70.88'-70.88' ℄ brgs.
LOADING: HS-20-44
ROADWAY: Left bridge varies 75'-1" to 81'-2"
Right bridge 80'-0" ℄ Parapets
SKEW: 20°00'00" R.F.
WEARING SURFACE: 1" Monolithic
APPROACH SLABS: AS-1-67 (25' Long)
ALIGNMENT: Tangent
SUPERELEVATION: None



PLAN & PROFILE STA. 1597 to 1629





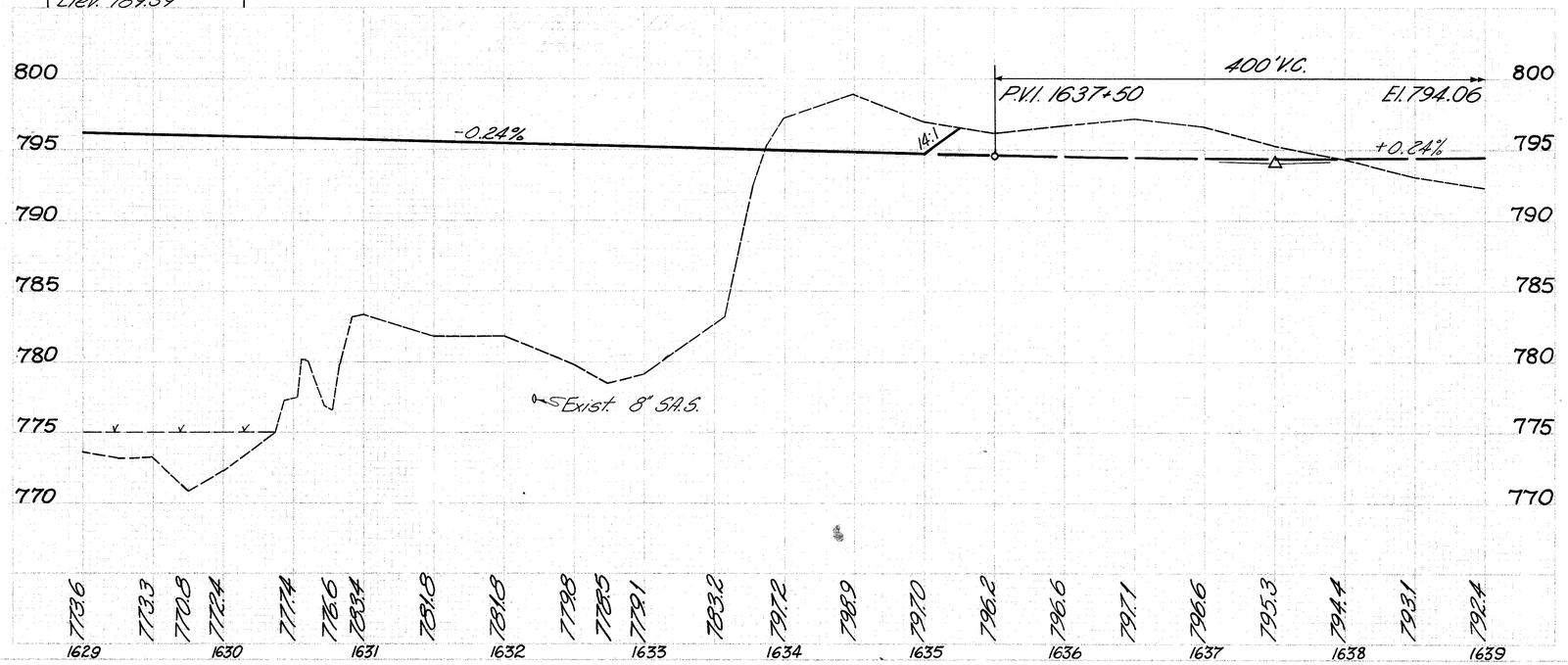
SHEET NO.	STATE	PROJECT		
2	OHIO			

29
247

FRANKLIN COUNTY
FRA-270-26.76N

DRAINAGE	See Sheet No.	603 8" Conduit, Type C 706.03 as per 706.12
REF.	LOCATION	L.F.
D2	1629+00, 246 Lt. to 1631+11, 253 Lt.	211
	TOTALS	211

EARTHWORK & SEEDING	203 Excavation	203 Embankment	659 Seeding and Mulching
LOCATION	C.Y.	C.Y.	S.Y.
1629+00 to 1635+25 Mn Left	4425	36522	0
1629+00 to 1635+25 Mn Right	8797	35153	0
TOTALS	13222	71675	0



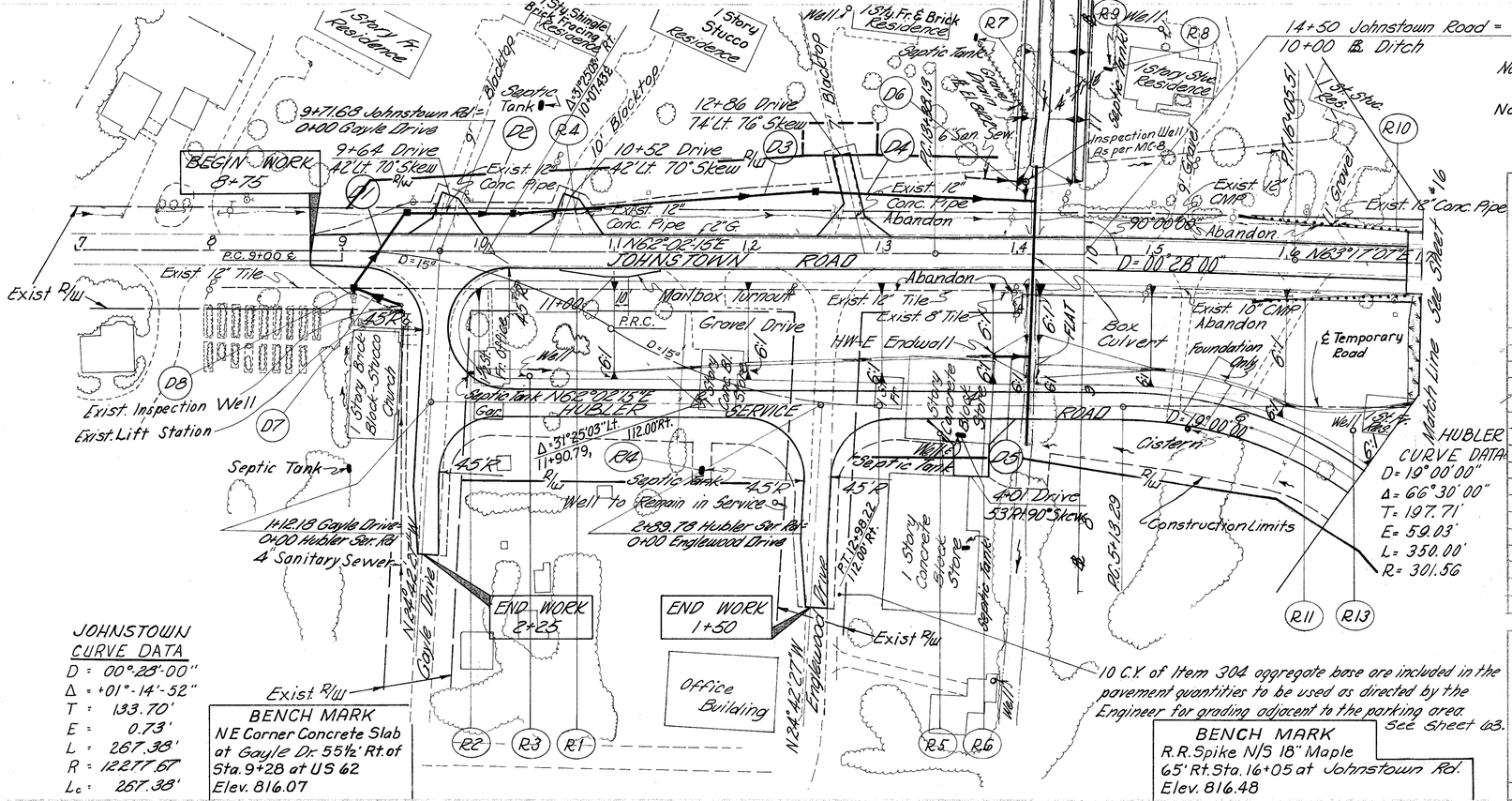
CITY OF OKLAHOMA
C.S.W. DATE 6-69
CHKD. W.B.K. DATE 7-14-69
BURGESS & NIPEL, LIMITED

PLAN & PROFILE STA. 1629 to 1639

FRANKLIN COUNTY
FRA-270-26.76 N

Note: For Ditch Cross Section See Sheet 108

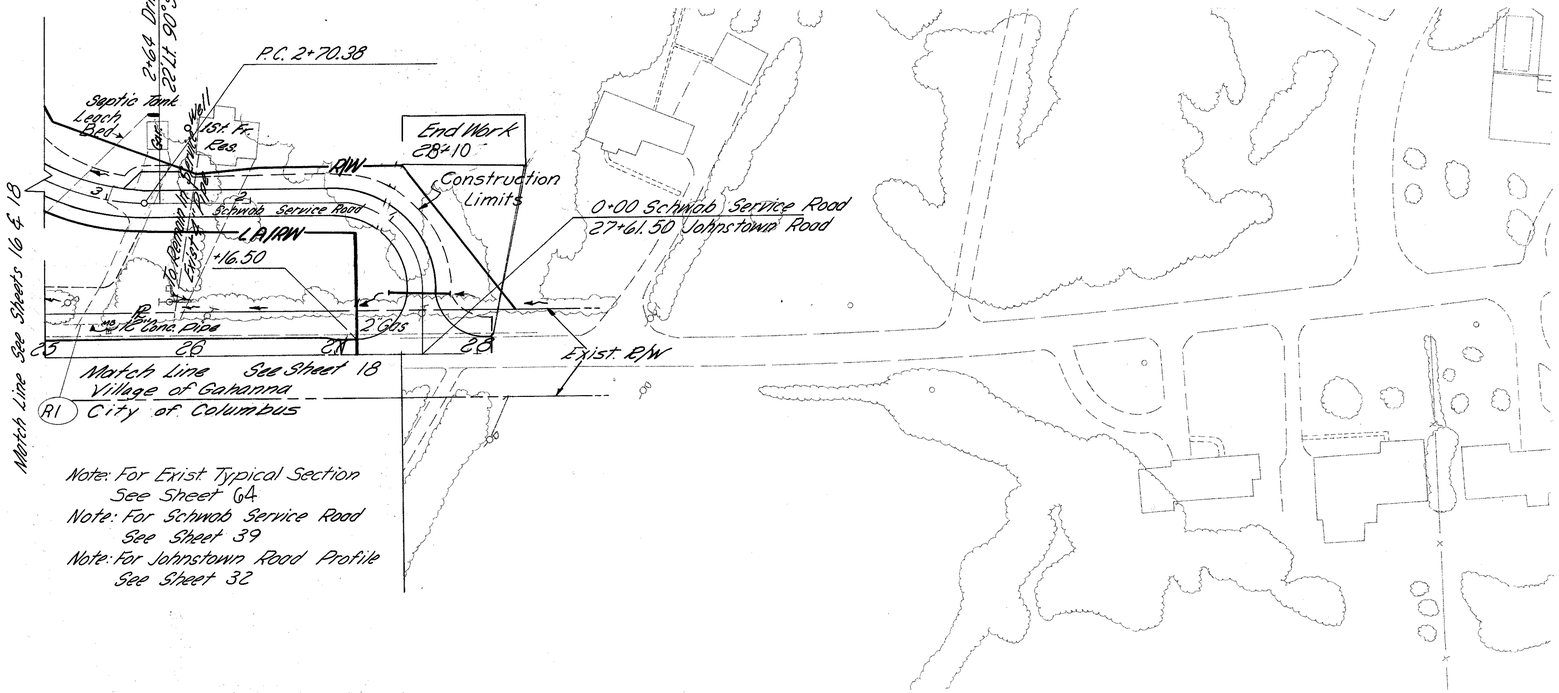
Note: For Excavation, Embankment, and Seeding Quantities See Sheet 31



ROADWAY		202	606			Special		
		Pipe Removed Under 24"	Guard Rail, Type 5	Approach End Assemblies, Steel	Bridge Terminal Assembly	Clean & Dispose of Exist. Septic Tank	Drilled Well, Abandoned	
CODE	LOCATION	LF	LF	Ea	Ea.	Ea.	Ea.	
R1	9+11 to 11+00, Rt. 28'	189						
R2	9+05, Rt. 90'					1		
R3	10+39, Rt. 91'						1	
R4	10+55 to 10+83, Lt. 28'	28						
R5	13+47, Rt. 135'						1	
R6	13+53, Rt. 135'					1		
R7	14+21, Lt. 109' to 14+62, Lt. 143'	51						
R8	14+62, Lt. 143'					1		
R9	15+04, Lt. 166'						1	
R10	15+64 to 16+89 Lt.		125	1	1			
R11	15+76 to 17+01 Rt.		125	1	1			
R13	16+52 @ 125' Rt.						1	
R14	11+68 @ 162' Rt.					1		
	TOTALS	268	250	2	2	4	4	

DRAINAGE		See Sheet No.	603					604	605	603		602	604	
			15" Conduit, Type C	15" Conduit, Type B	24" Conduit, Type C 270.02, 706.02	27" Conduit, Type C 270.02, 706.02	30" Conduit, Type C 270.02, 706.02	Sta. No. 5 Catch Basin, with Type B Grate	Aggregate Drains	4" Conduit, Type C 706.08 as per 706.12	6" Conduit, Type C 706.08 as per 706.12	Concrete Masonry	Inspection Well	6"x30" Tee
CODE	LOCATION		L.F.	L.F.	L.F.	L.F.	L.F.	Ea.	L.F.	L.F.	L.F.	C.Y.	Ea.	
D1	9+08, 28' Rt. to 9+48, 28' Lt.	30,104		68				1						
D2	9+48, 28' Lt. to 10+25, 28' Lt.	32			77			1						
D3	10+25, 28' Lt. to 12+50, 45' Lt.	32				225		1						
D4	12+50, 45' Lt. to 14+09, 39' Lt.	32					159	1						
D5	13+81, 75' Rt. to 14+08, 75' Rt.	30	26									.23		
D6	14+05 Lt. 40' to Lt. 53'	105									13		1	1
D7	9+08, 28' Rt. to 9+43, 40' Rt.	32								38			6.69	7/14/67
D8	9+08, 28' Rt. to 32' Rt.	104	4											
	JOHNSTOWN ROAD 12+25 to 16+75								341					
	TOTALS		30	68	77	225	159	4	341	38	13	.23		

JOHNSTOWN ROAD PLAN
HUBLER SERVICE ROAD
PLAN AND PROFILE



T PK E/S Pole
67.96
Drive
58.08'
PK N/S 18" Maple
137.3'
P PK W/S Pole

P.O.T. STA. 27+00.00

FED. ROAD DIV. NO.	STATE	PROJECT		31
5	OHIO			247

FRANKLIN COUNTY
FRA-270-26.76 N

ROADWAY

CODE	LOCATION	202 Pipe Removed Under Cat. LF
R-1	25+11 to 25+37	25
	TOTALS	25

DRAINAGE

CODE	LOCATION	See Sheet No.	605 Aggregate Drains LF
	25+25 to 27+25		115
	TOTALS		115

EARTHWORK & SEEDING

LOCATION	203 Excavation C.Y.	203 Embankment C.Y.	659 Seeding and Mulching S.Y.
Fill Cistern @ 15+26, 128' Rt.		3	
8+75 to 28+27 Johnstown Road	1347	29559	23975
8+25 to 12+00 Johnstown Ditch	607	147	2545
0+24 to 1+50 Gayle Drive		103	
0+18 to 1+00 Englewood Drive		134	
0+10 to 0+53 Drive on Hubler @ 4+01		68	
0+12 to 0+42 Drive on Johnstown @ 9+64		43	
0+12 to 0+42 Drive on Johnstown @ 10+52		43	
0+12 to 0+74 Drive on Johnstown @ 12+86		204	
TOTALS	1954	30401	26520

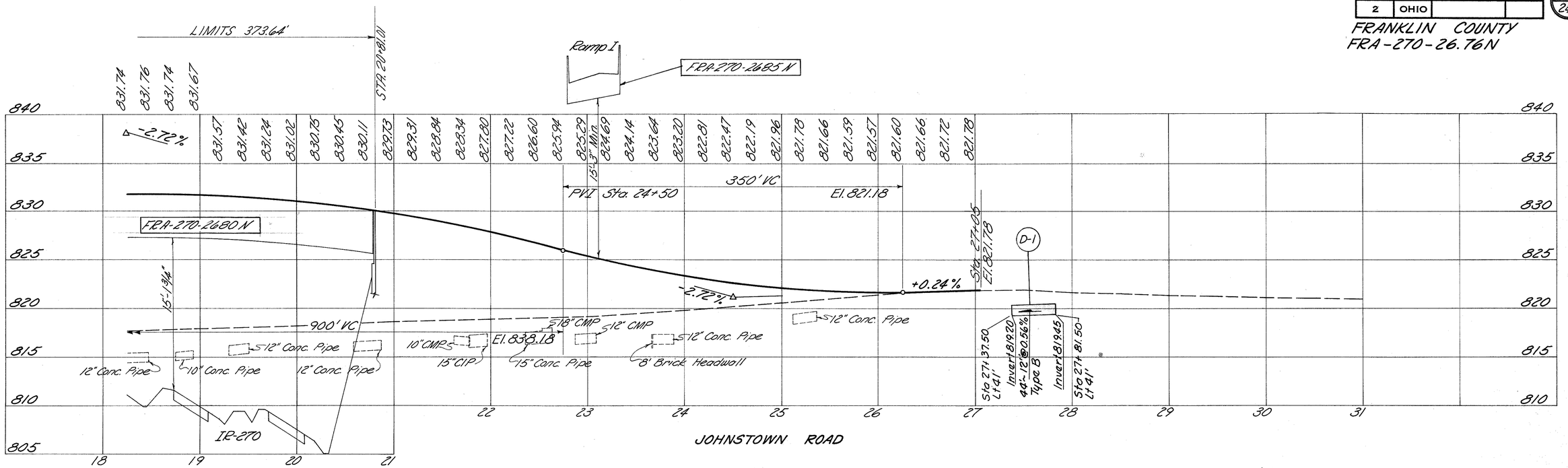
QUANTITY CERTIFICATE
BY [illegible] 69
CHK [illegible] 69
BURGESS & NIPLE LIMITED

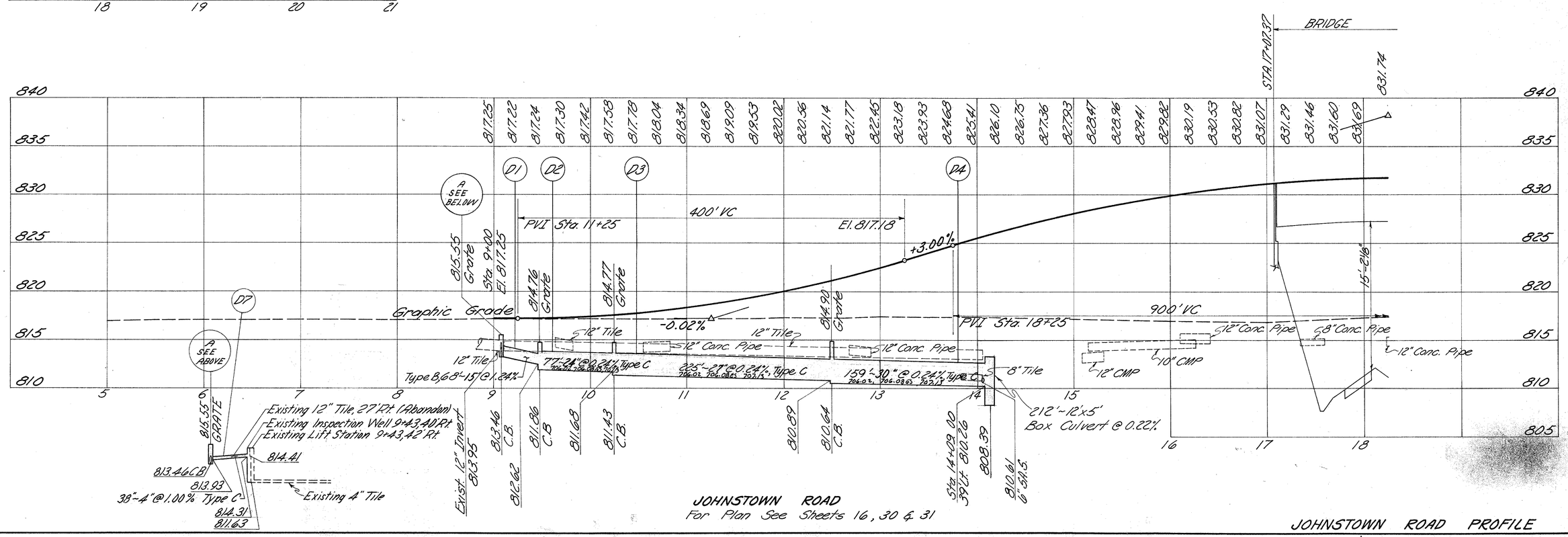
PLAN JOHNSTOWN Rd. 25+00 TO 28+00

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

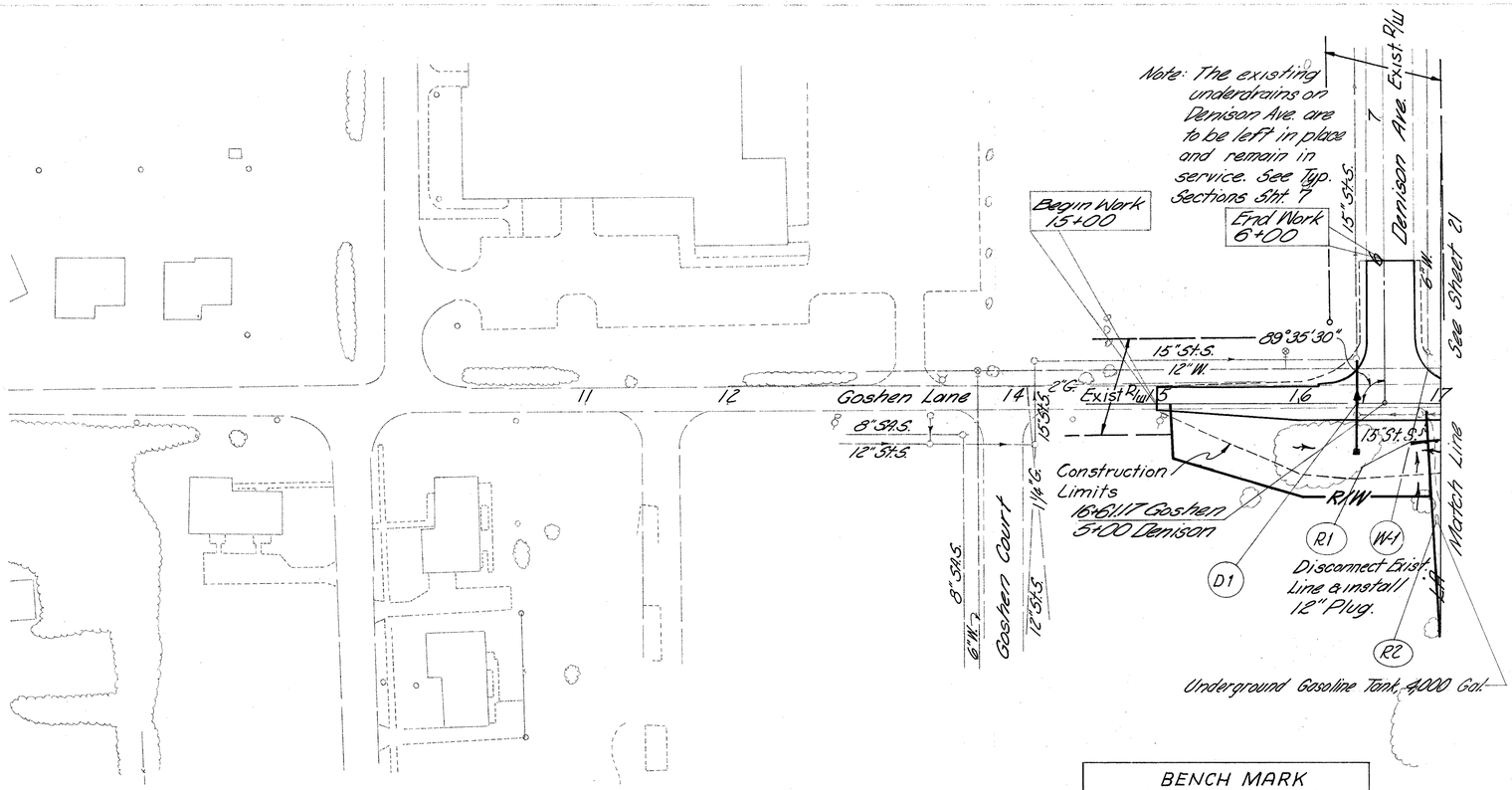
32
247

FRANKLIN COUNTY
FRA-270-26.76N





JOHNSTOWN ROAD PROFILE



PK N/S 12" Oak — 15' — 97° — PK NE/S 18" Catalpa

PK

POT Sta. 14+00.00

FED. ROAD DIV. REGION	STATE	PROJECT	
2	OHIO		

33
247

FRANKLIN COUNTY
FRA-270-26.76 N

ROADWAY	606 Guard Rail, Type 5	Approach End Assembly, Single Rail	Spec. Removal of 4,000 Gal. Underground Gasoline Tank
CODE LOCATION	L.F.	Ea.	Lump
R1 16+79 to 17+00 Rt.	21	1	
R2 16+92, Rt. 80'			Lump
TOTALS	21	1	Lump

CITY OF COLUMBUS SPECIFICATION

DRAINAGE	See Sheet No.	603 15" Conduit, Type B	604 Std. No. 5 Cath B., with Type B Grate	605 Aggregate Drains	808 Cutting and Plugging of 12" Water Mains
CODE LOCATION		L.F.	Ea.	L.F.	Ea.
D1 16+41 Rt. 34' to 16+41 Lt. 32'	109	66	1		
16+00 to 17+00				69	
W-1 16+90 Lt. 25'					1
TOTALS		66	1	69	1

BENCH MARK
Concrete Monument 15' Lt. of Sta. 19+02 Goshen Lane, 83' Lt. of Sta. 1547+04 N Elev. 817.72

Notes:

For Goshen Lane Profile
See Sheet 35

Denison Ave. Pavement Elev.
See Sheet 63

For Exist. Typical Section
See Sheet 64

WATERLINE	808 Cutting and Plugging of 12" Water Mains
CODE LOCATION	Ea.
W-1 16+90, 29' Lt.	1

Date Issued 6-3-69
Date Effective 7-1-69
BURGESS & NIPLE, LIMITED

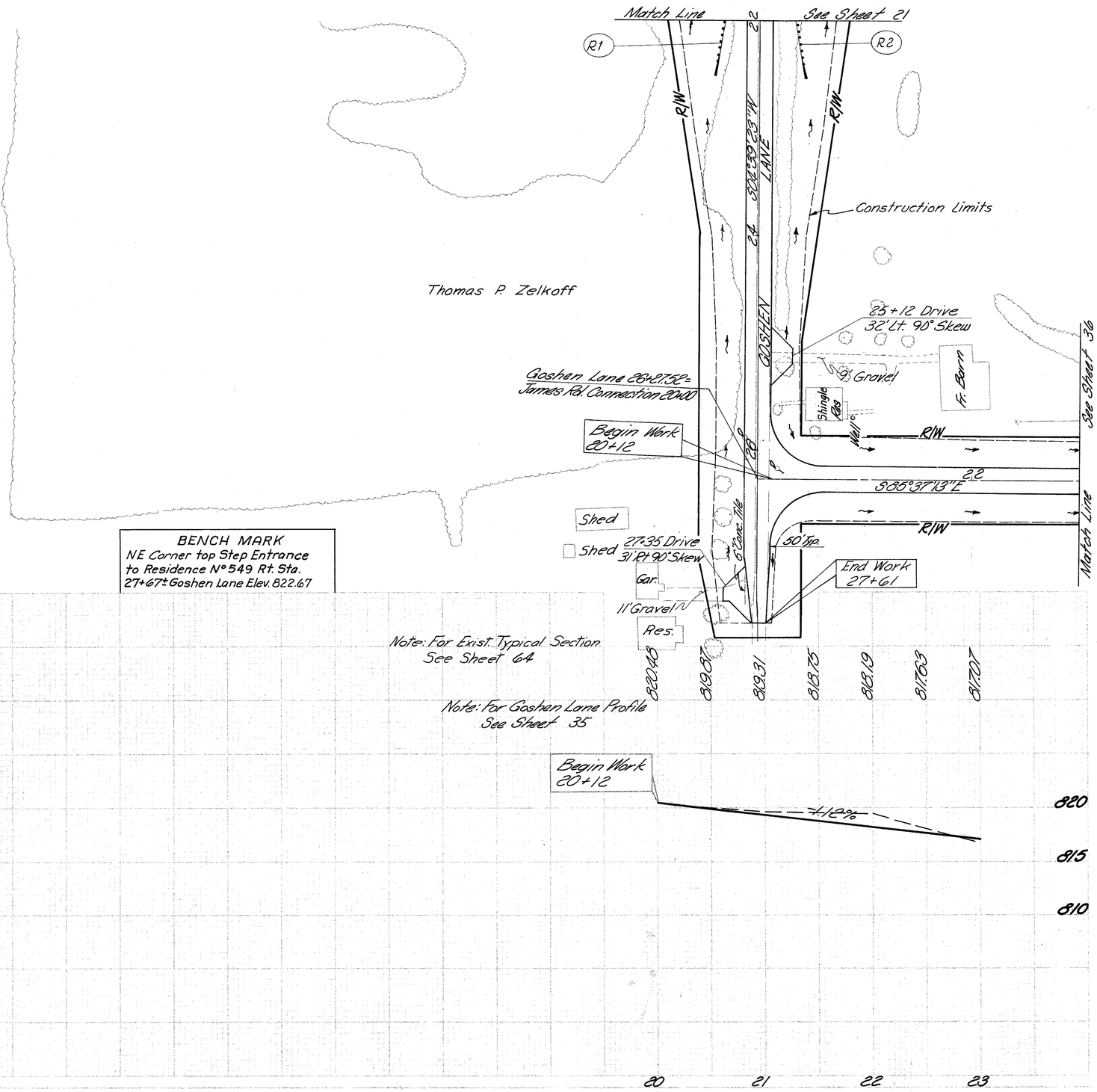
GOSHEN LANE PLAN 15 TO 17

FED. ROAD DIVISION	STATE	PROJECT	
2	OHIO		

34
247

FRANKLIN COUNTY
FRA-270-26.76N

59°36' PK NW/S 22" Maple
62.85' PK NW/S 10" 14" Maple
℄ James Rd. Conn.
P.O.T. Sta. 26+17.52



ROADWAY		606	
		Guard Rail, Type 5	Approach End Assembly, Single Rail
CODE	LOCATION	L.F.	Ea.
R1	22+00 to 22+49 Rt	49	1
R2	22+00 to 22+52 Lt	52	1
	TOTALS	101	2

DRAINAGE		605
		Aggregate Drains
CODE	LOCATION	L.F.
	James Road Connection	
	20+50 to 23+00	187
	Goshen Lane	
	22+25 to 26+75	272
	TOTALS	459

EARTHWORK & SEEDING	203		659
	Excavation	Embankment	Seeding and Mulching
LOCATION	C.Y.	C.Y.	S.Y.
15+00 to 27+61 Goshen Lane	16304	8409	8609
20+12 to 23+00 James Rd. Con.	1107	0	2178
TOTALS	27374	8409	10787

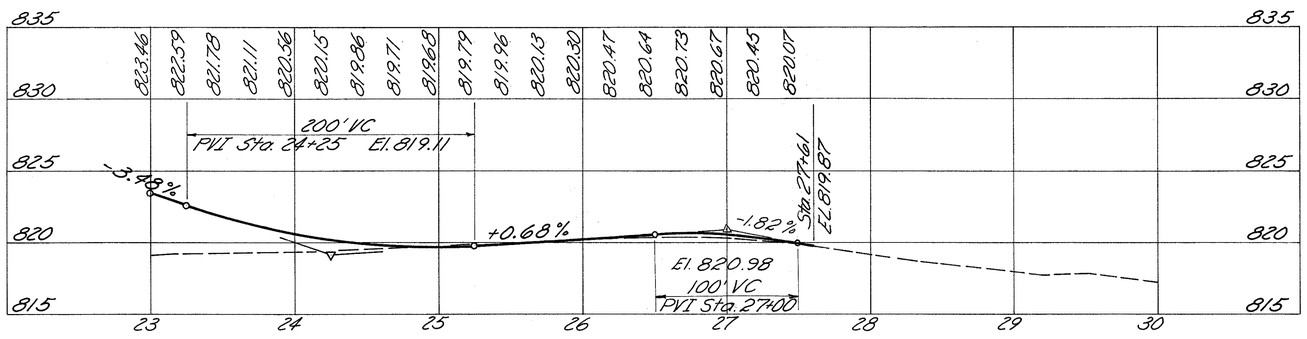
QUANTITY CALCULATIONS
[illegible]

GOSHEN LANE PLAN 22 to 27+50
JAMES ROAD CONNECTION
PLAN & PROFILE 20 to 23

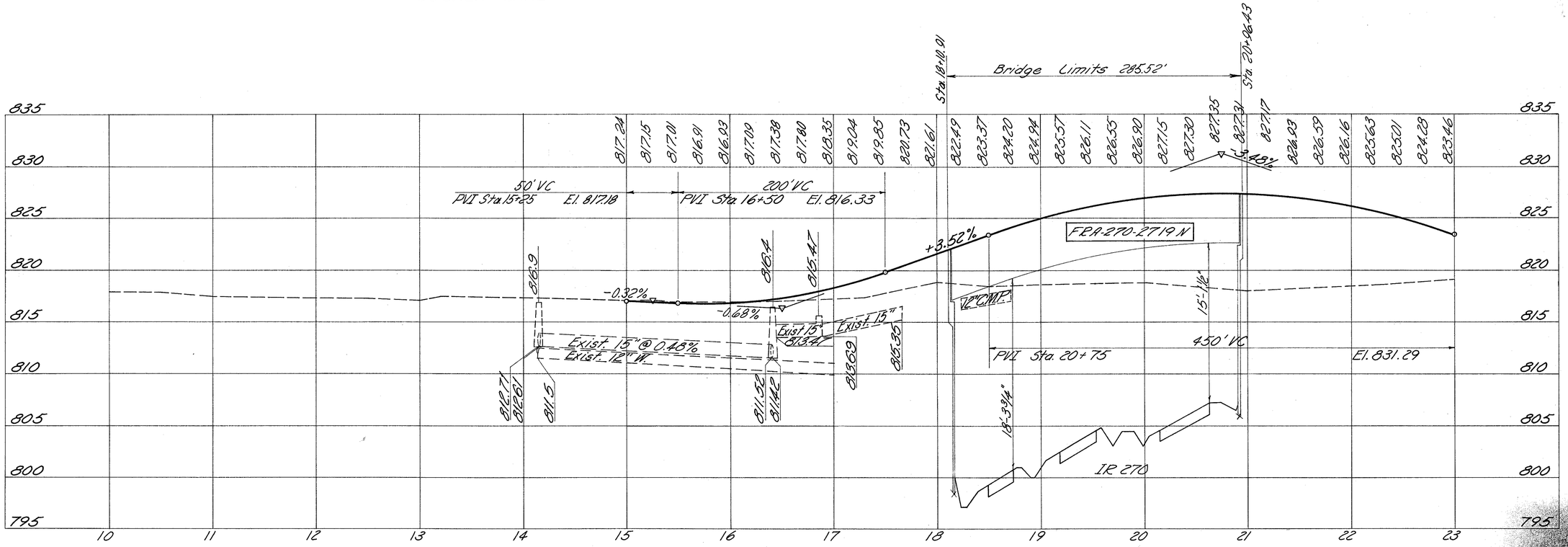
FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

35
247

FRANKLIN COUNTY
FRA-270-26.76N



GOSHEN LANE



GOSHEN LANE

For Plan See Sheets 21, 33 & 34

GOSHEN LANE PROFILE

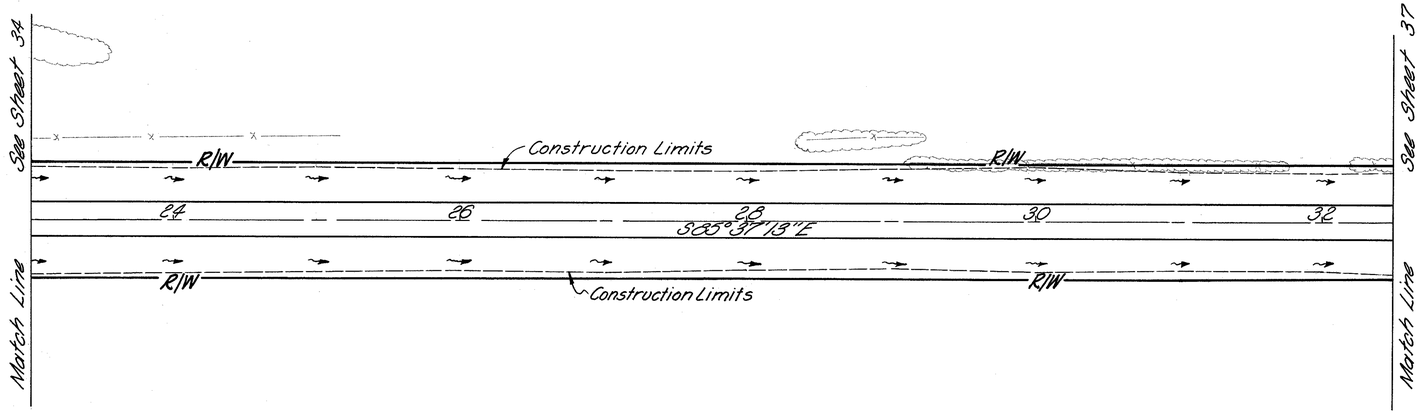
PK W/S 4"Wildcherry	47.5+	&
PK E/S 4"Wildcherry	47.5+	Hub
	53.5+	10+

P.O.T Sta. 28+45.39

SEA. RE. DIVISION	STATE	PROJECT	-
2	OHIO		

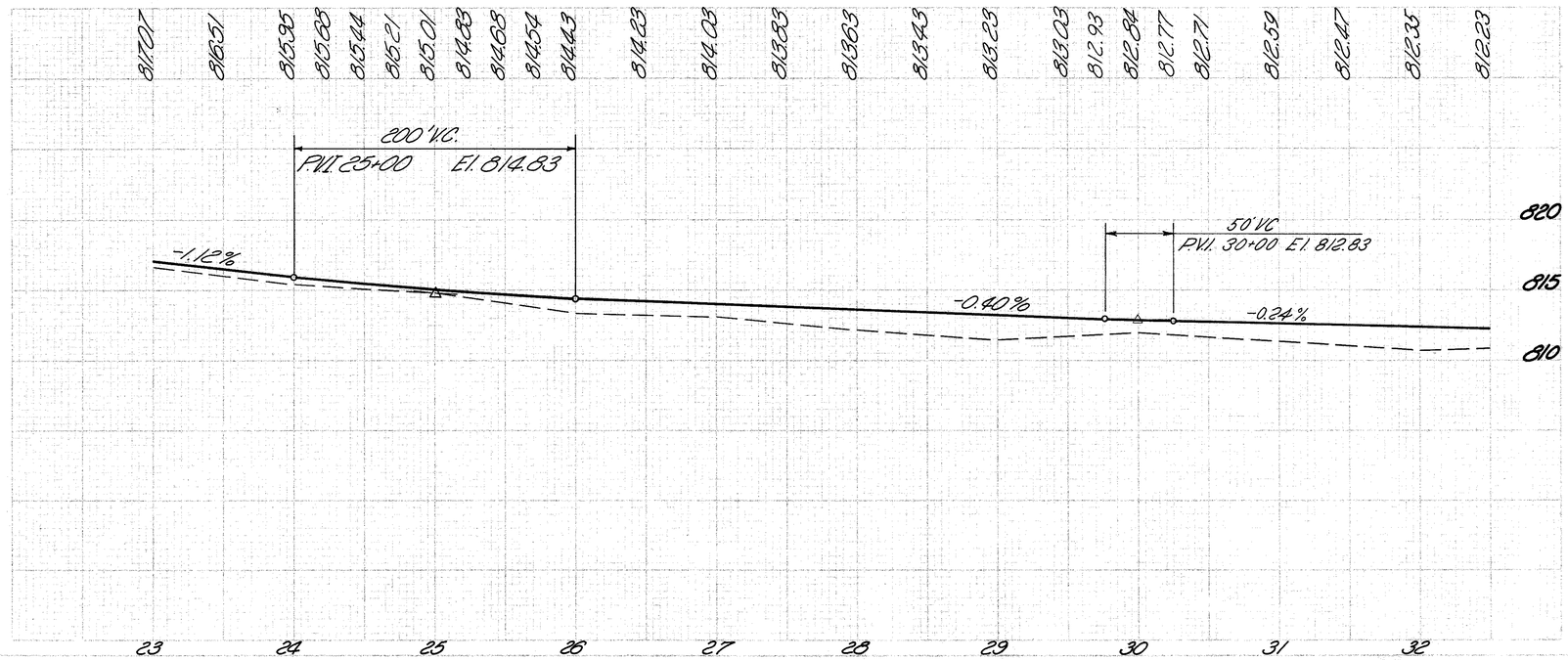
36
247

FRANKLIN COUNTY
FRA-270-26.76N

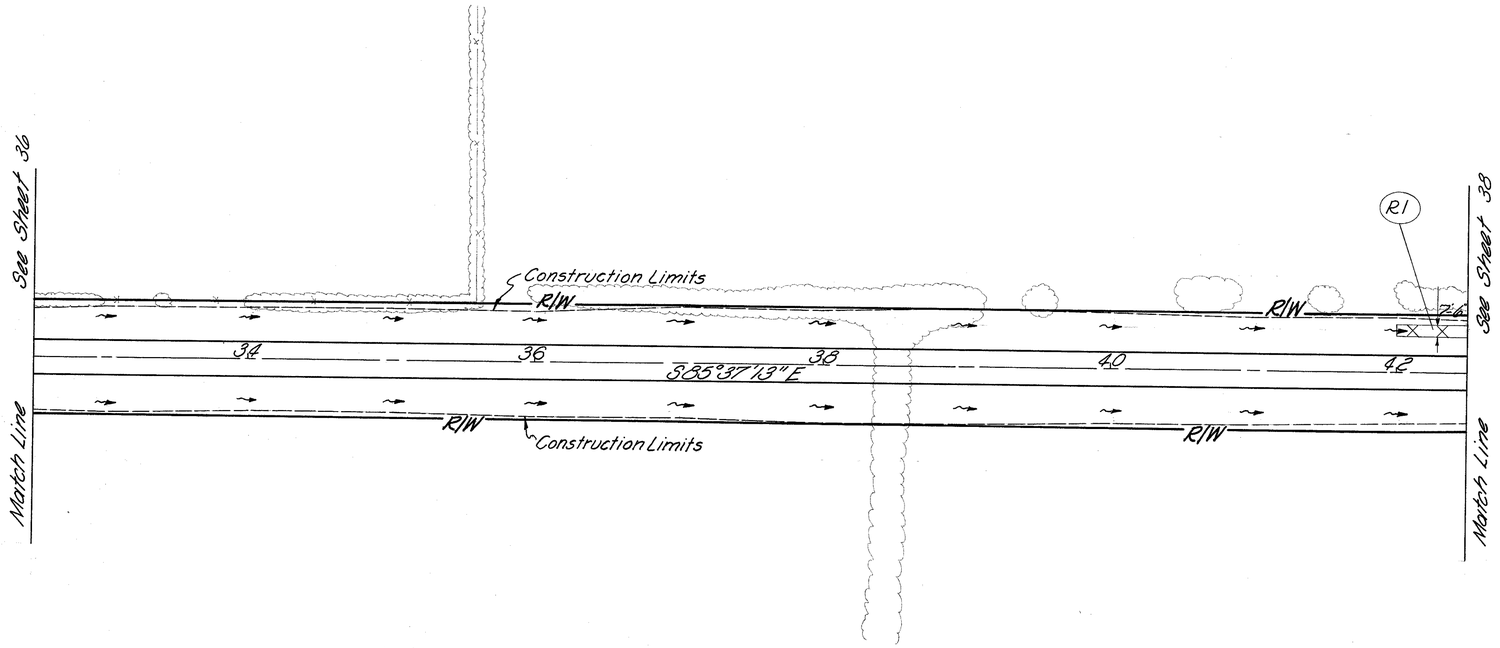


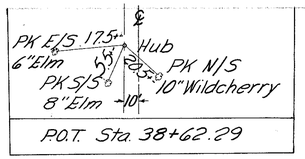
DRAINAGE		605 Aggregate Drains	
CODE	LOCATION	L.F.	
	23+25 to 32+50	646	
	TOTALS	646	

EARTHWORK & SEEDING		203 Excavation	Embankment	659 Seeding and Mulching
	LOCATION	C.Y.	C.Y.	S.Y.
	23+00 to 32+00	1863	179	5796
	TOTALS	1863	179	5796



JAMES ROAD CONNECTION
PLAN & PROFILE 23 to 32+50



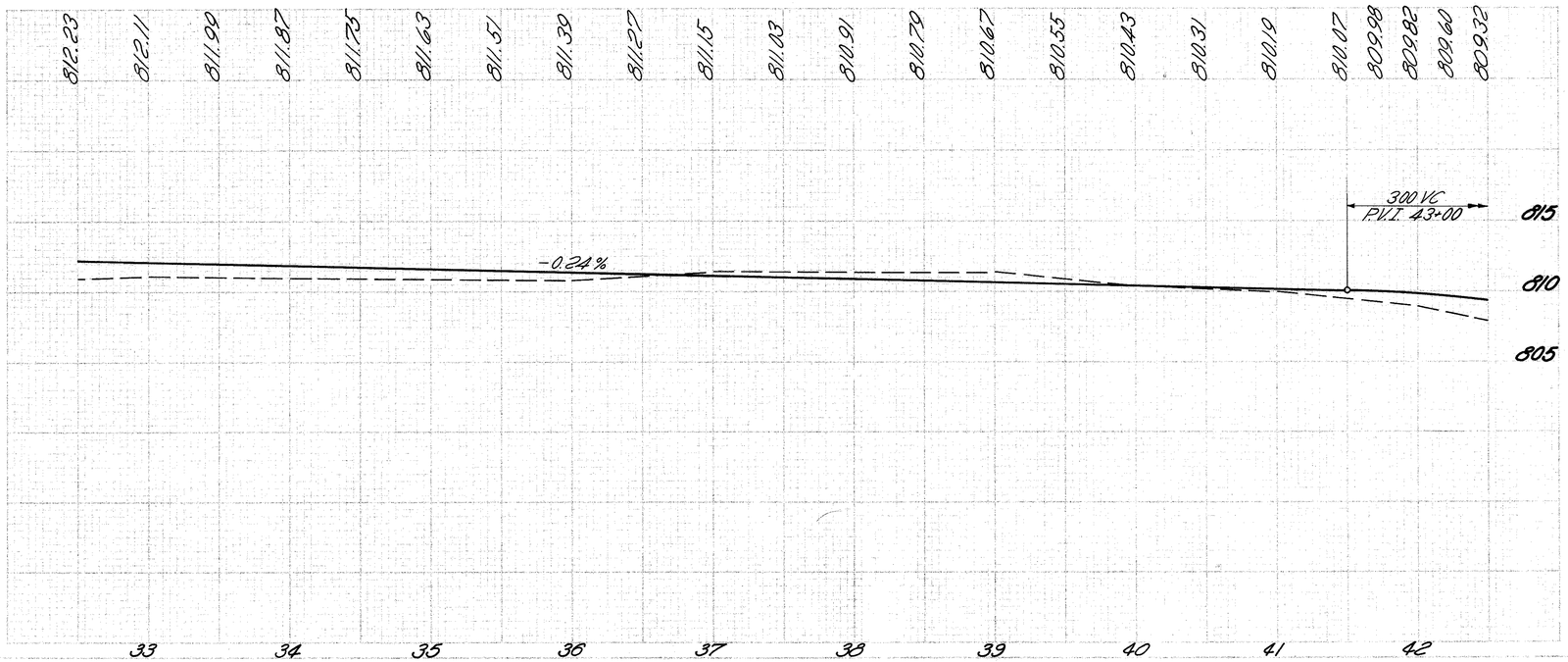


RES. 20 REVISION	STATE	PROJECT		37 247
2	OHIO			

FRANKLIN COUNTY
FRA-270-26.76N

DRAINAGE		605 Aggregate Drains
CODE	LOCATION	L.F.
	32+75 to 42+50	680
	TOTALS	680

ROADWAY		667 Seeding & Mulching
CODE	LOCATION	SY
R1	42+00 to 42+50	42
	TOTALS	42



EARTHWORK & SEEDING	203 Excavation	Embankment	659 Seeding and Mulching
LOCATION	C.Y.	C.Y.	S.Y.
32+00 to 42+00	3604	86	6440
TOTALS	3604	86	6440

QUANTITY CALCULATIONS
BY [illegible]
CHKD. [illegible]
BURGESS & NIPLE, LIMITED

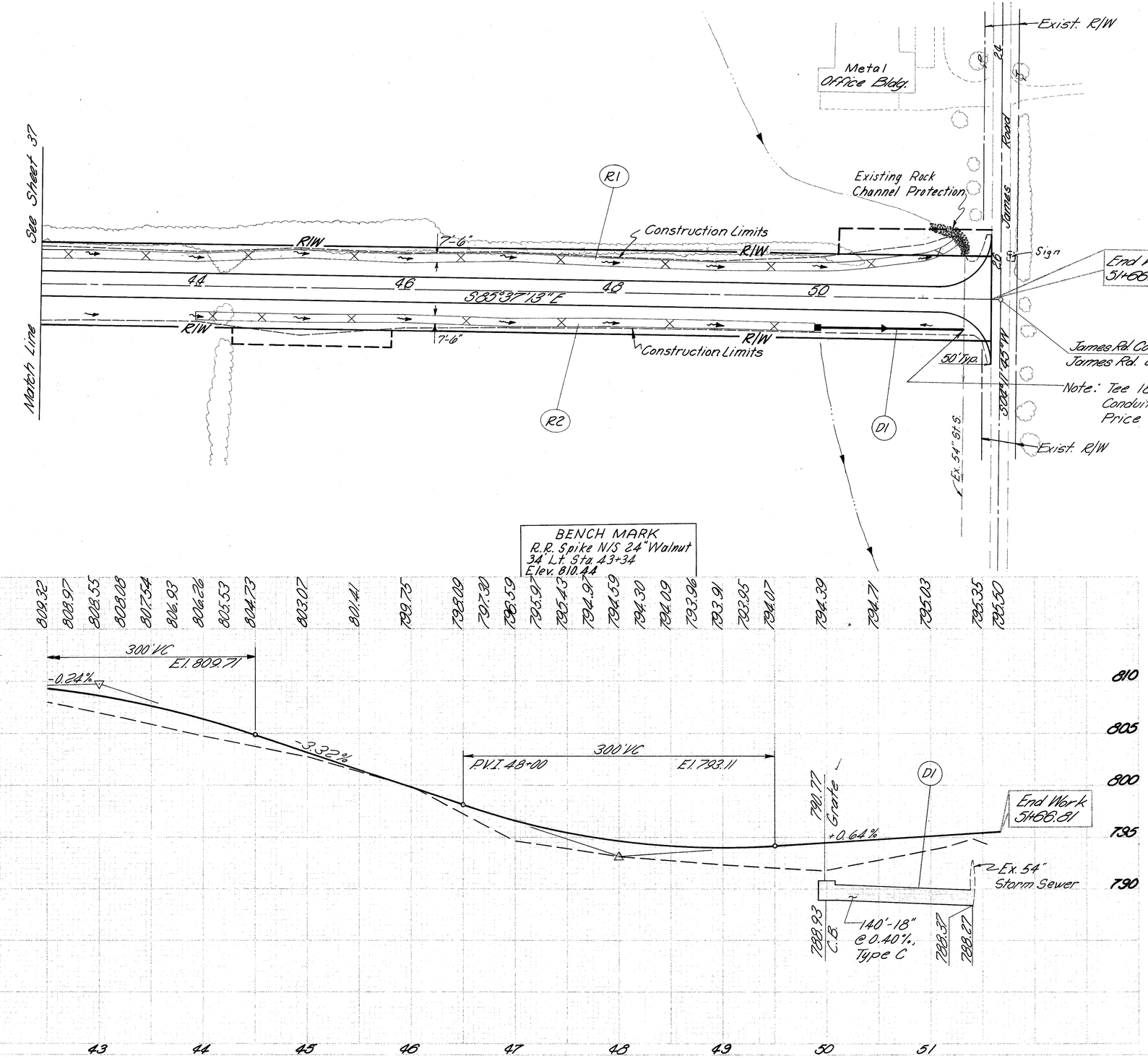
JAMES ROAD CONNECTION
PLAN & PROFILE 32+50 to 42+50

PROJECT	STATE	PROJECT	
2	OHIO		

38
247

FRANKLIN COUNTY
FRA-270-26.76N

PK E/S 8"Wildcherry 23.5+- 135° Hub	PK N/S 6"Elm
PK SW/S 12"Wildcherry 10'-	
P.O.T. Sta. 44+32.59	
PK NW/S 4"Elm 33.5+-	
PK W/S 4"Elm 43.5+-	Hub
PK E/S 18"Ash 72.5+- 10'-	
P.O.T. Sta. 51+7.81	



DRAINAGE		605 Aggregate Drains L.F.	603 18" Conduit, Type C L.F.	604 Std. No. 2-2.8. Catch Basin Ea.
CODE	LOCATION			
D1	50+00 Rt. 32' to 51+40 Rt. 32'		140	1
	42+75 to 51+25	612		
	TOTALS	612	140	1

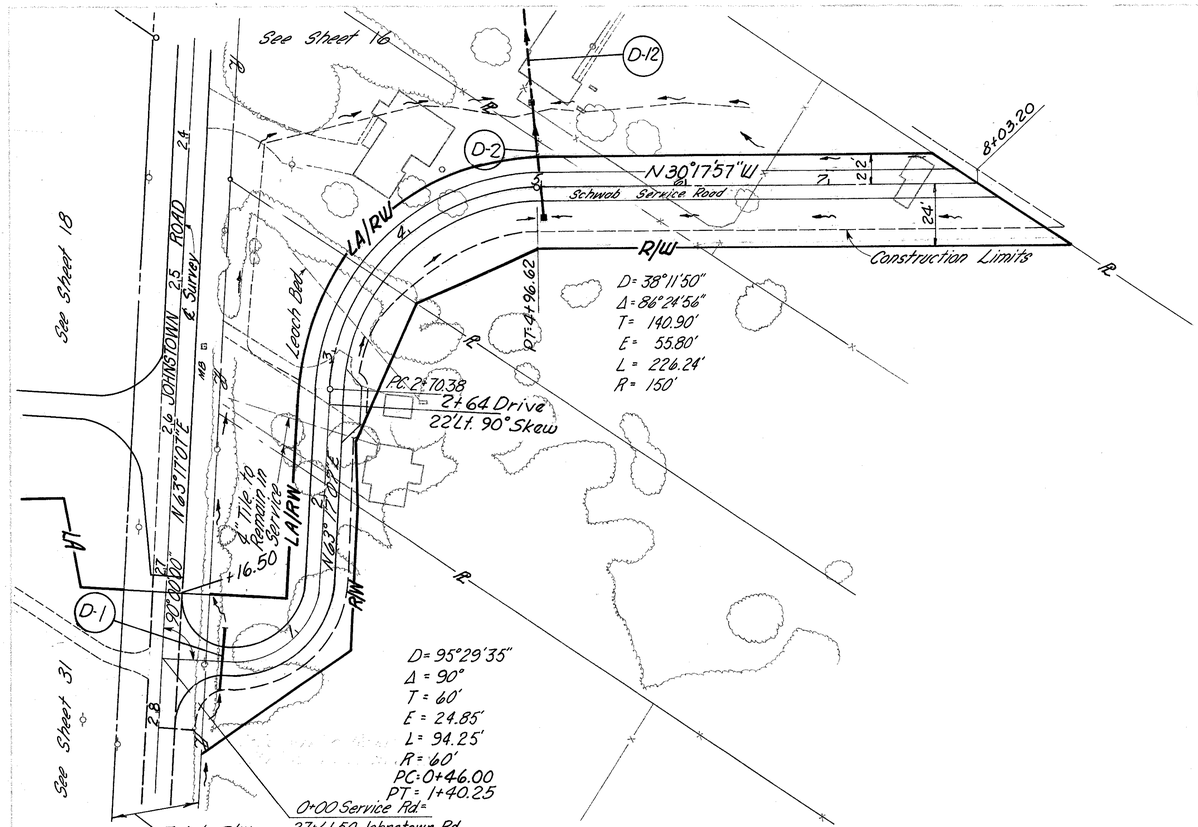
ROADWAY		667 Seeding & Mulching S.Y.
CODE	LOCATION	
R1	42+50 to 51+27 Lt.	737
R2	44+00 to 49+97 Rt.	498
	TOTALS	1235

EARTHWORK & SEEDING		203 Excavation C.Y.	203 Embankment C.Y.	659 Seeding and Mulching S.Y.
LOCATION				
42+00 to 51+66.81		1679	7706	620
TOTALS		1679	7706	620

QUANTITY CALCULATIONS
BY G.S.W. DATE 7/2/69
CHD DJC DATE 7/2/69
BURGESS & NIPLE, LIMITED

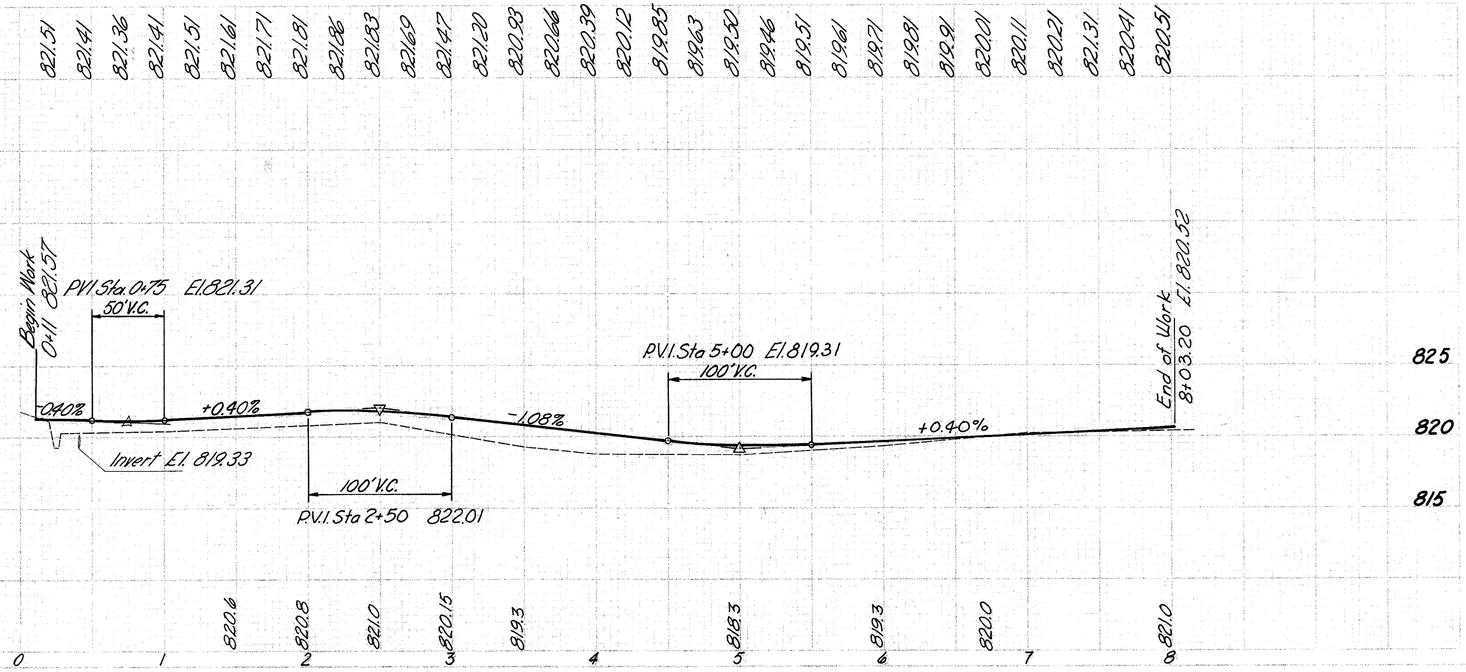
JAMES ROAD CONNECTION
PLAN & PROFILE 42+50 to 51+66.81

FRANKLIN COUNTY
FRA 270-26.76N



DRAINAGE			603	603	604		
		See Sheet No	21" Conduit Type B	12" Conduit Type D	Std. No. 5 CB with Type B Grate		
Ref.	Location		L.F.	L.F.	Ea		
	Johnstown Rd						
D-1	27+37.50 Lt 41 to 27+81.50 Lt 41'	32		44			
	Schwab Service Road						
D-2	5+00 Lt 21' to 5+00 Rt 37'	45	78		1		
D-12		45					
	TOTALS		78	44	1		

EARTHWORK & SEEDING	203	203	659		
	Excavation	Embankment	Seeding & Mulching		
LOCATION	C.Y.	C.Y.	S.Y.		
2+44 to 8+03.20	537	328	2707		
TOTALS	537	328	2707		



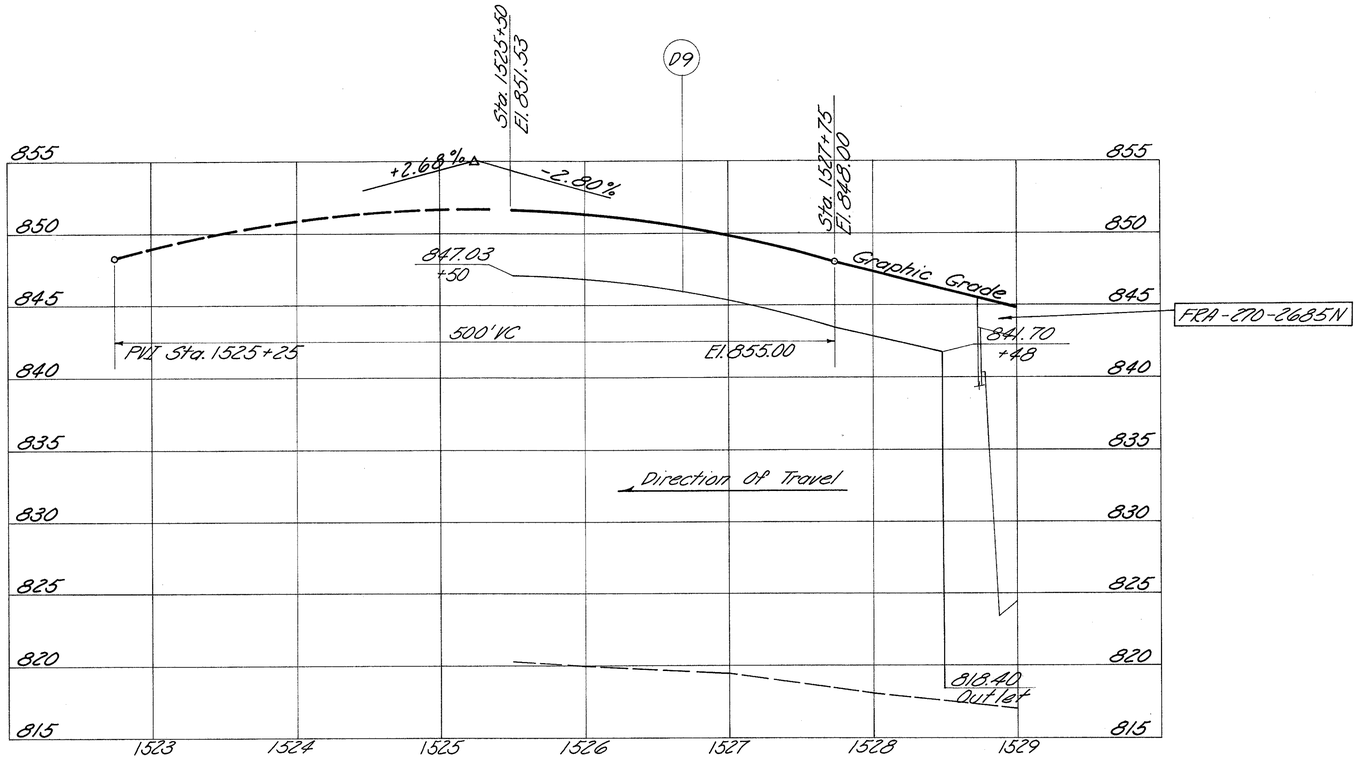
QUANTITY CALCULATIONS
BY GSW DATE 10-69
CHKD DOK DATE 11-11-69
BURGESS & NIPLE, LIMITED

SCHWAB SERVICE ROAD 0+11 TO 8

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

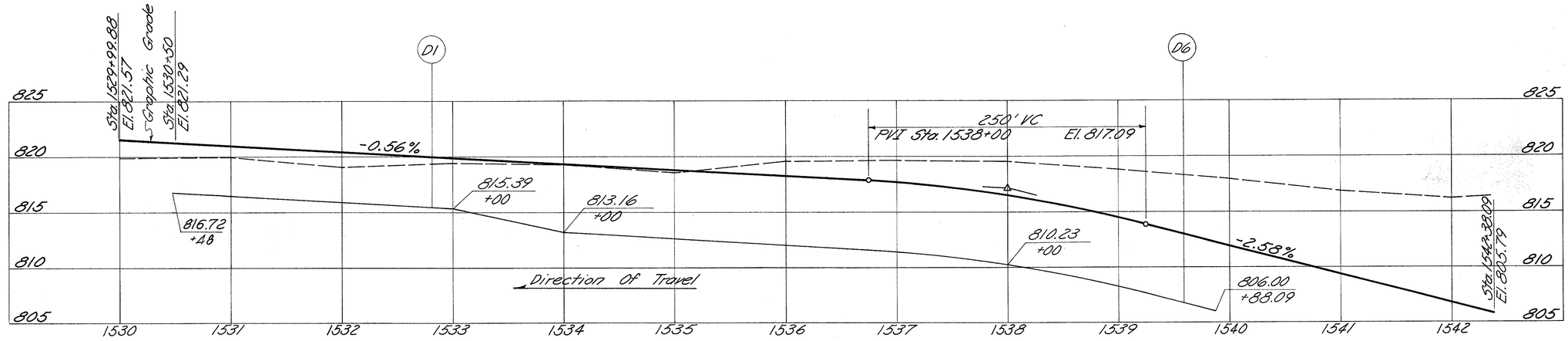
40
247

FRANKLIN COUNTY
FRA-270-26.76N



RAMP "C"

For Pavement Elevations See Sheet 53
For Plan See Sheet 16



RAMP "B"

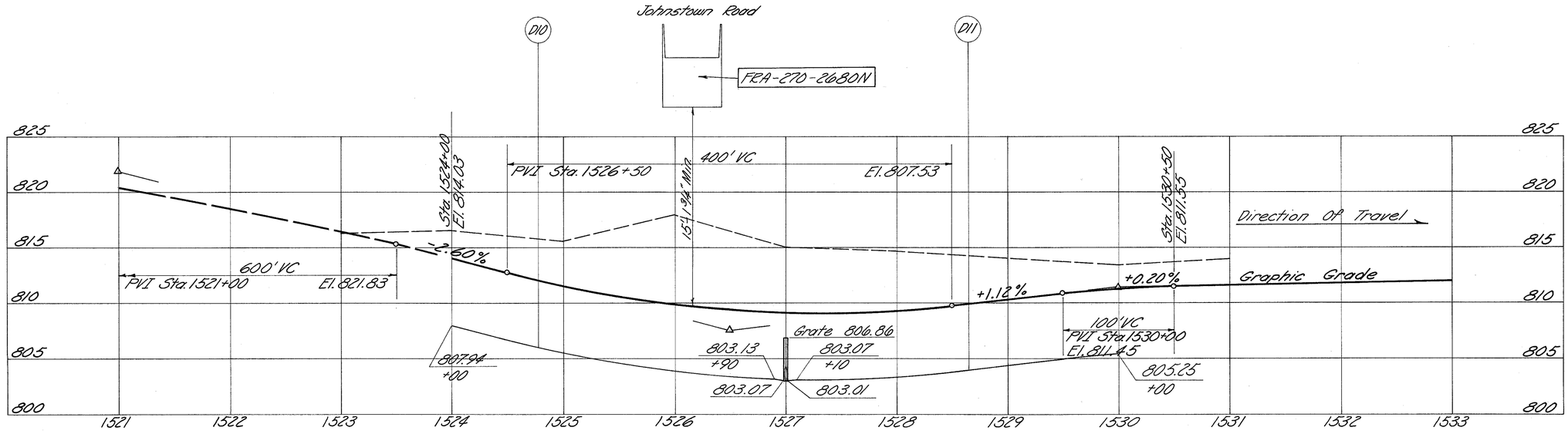
For Pavement Elevations See Sheets 55 & 56
For Plan See Sheet 18 & 21

RAMP PROFILES

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

A-1
247

FRANKLIN COUNTY
FRA-270-26.76N



RAMP "E"

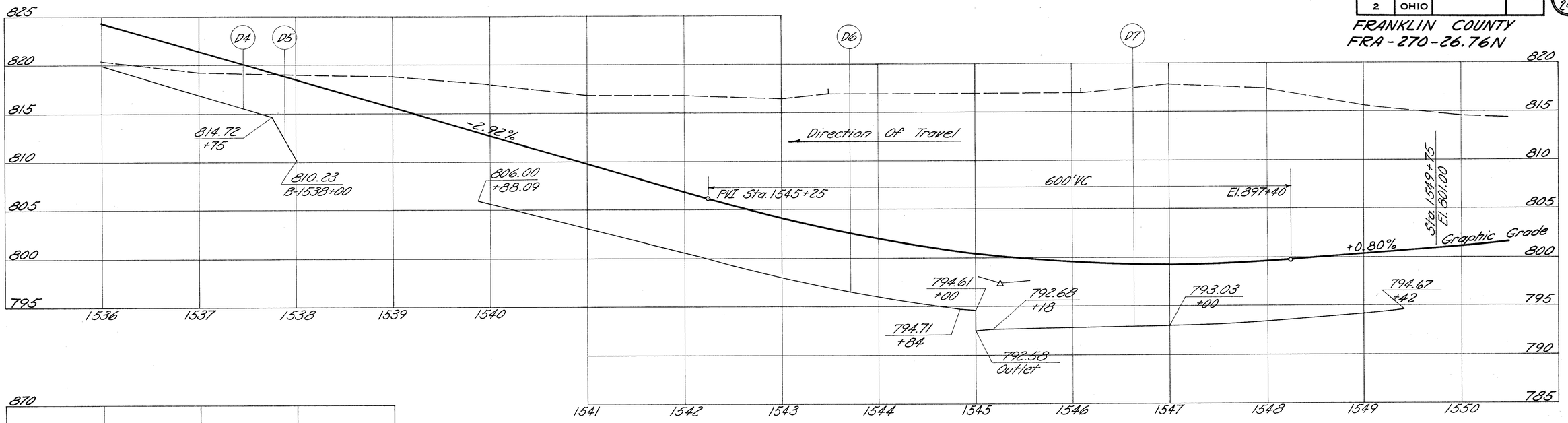
For Pavement Elevations See Sheet 50
For Plan See Sheet 16

RAMP PROFILES

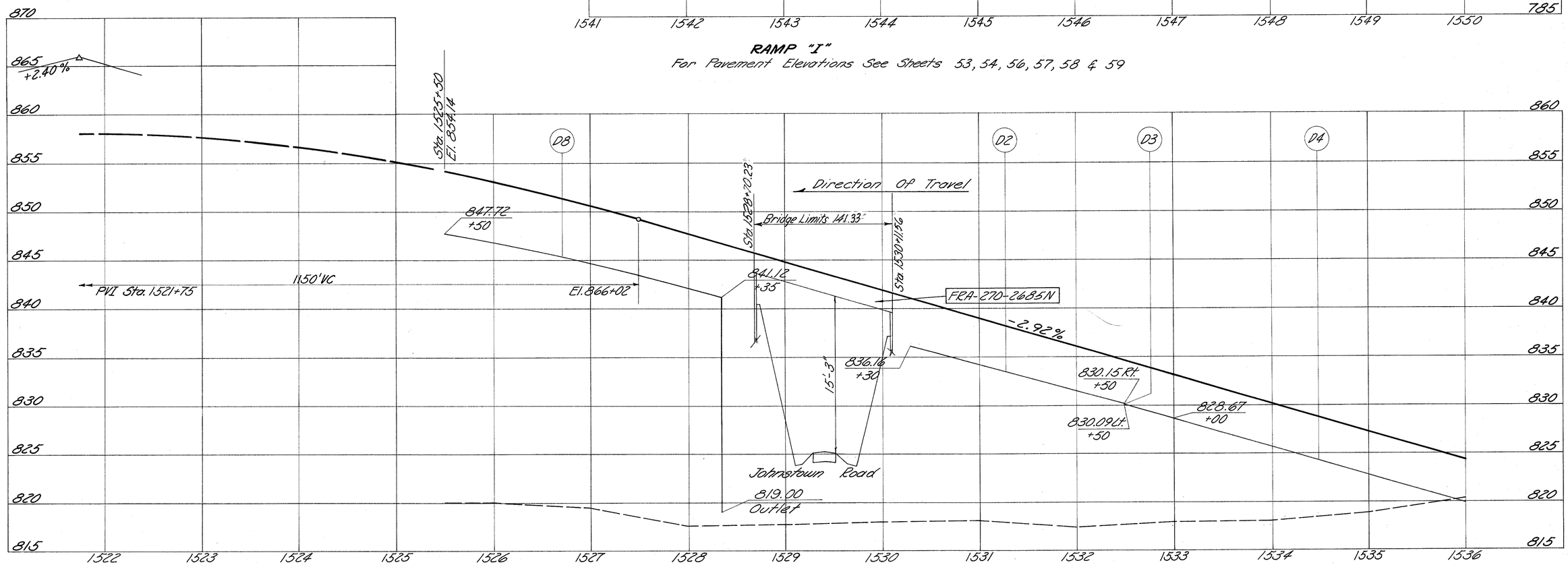
FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

42
247

FRANKLIN COUNTY
FRA-270-26.76N



RAMP "I"
For Pavement Elevations See Sheets 53, 54, 56, 57, 58 & 59



RAMP "I"
For Plan See Sheets 16, 18, 21, 23 & 24

RAMP PROFILES

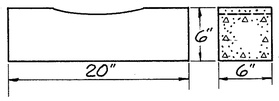
DRAINAGE DETAILS

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

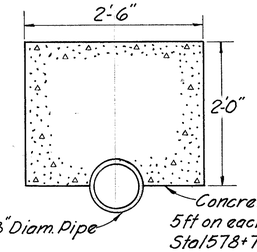
43
247

FRANKLIN COUNTY
FRA 270-26.76 N

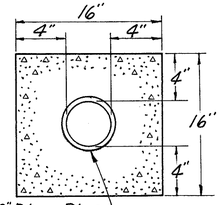
CONCRETE PIERS FOR GATE VALVES



VERTICAL BLOCKING

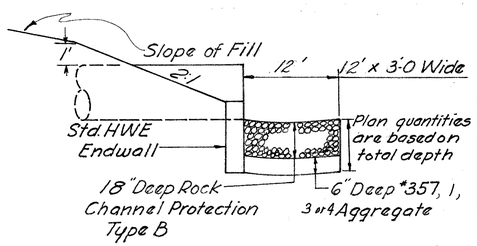


PIPE ENCASEMENT

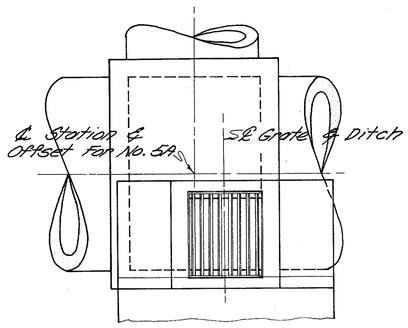


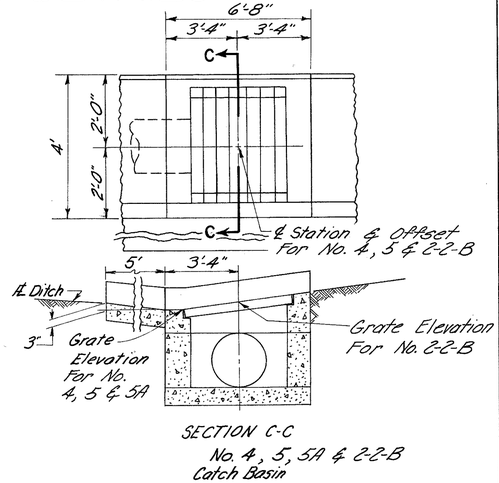
Payment included in Item Special Concrete Blocking Class E, as per plan.

DETAIL OF PROTECTION AT PIPE OUTLETS



Maximum size of rock shall not exceed the specified thickness of Channel Protection.

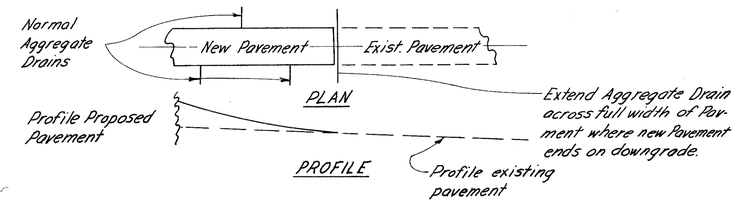




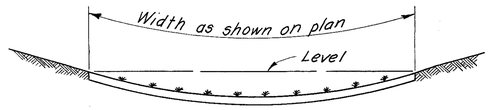
SECTION C-C
No. 4, 5, 5A & 2-2-B Catch Basin

CATCH BASIN STATIONS AND ELEVATIONS

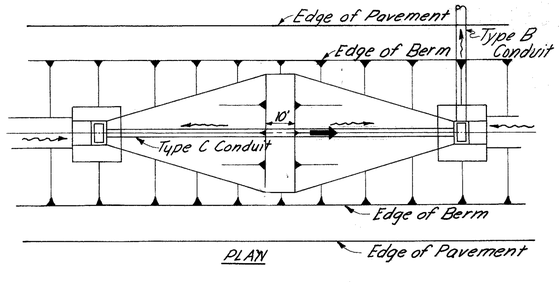
AGGREGATE DRAINS

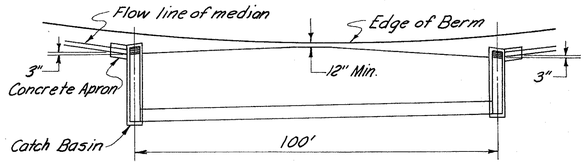


SOD DETAIL

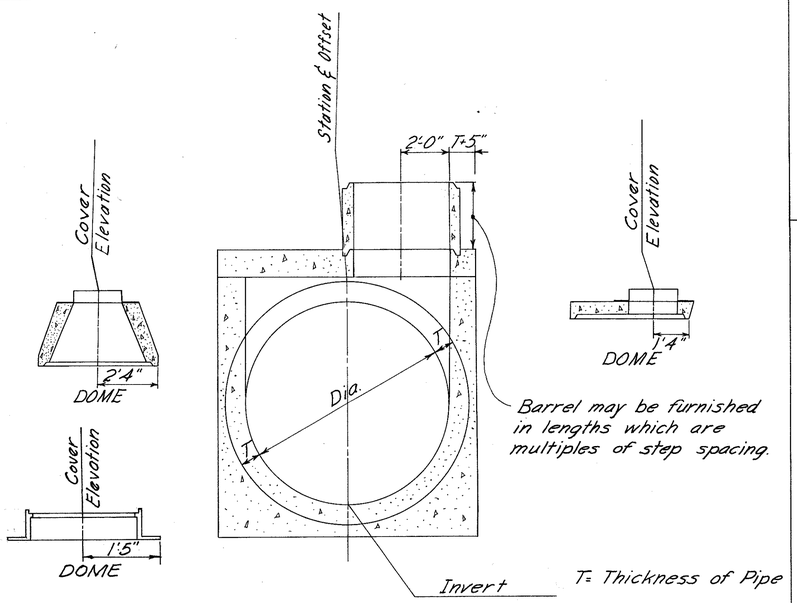


MEDIAN DETAIL IN SAG

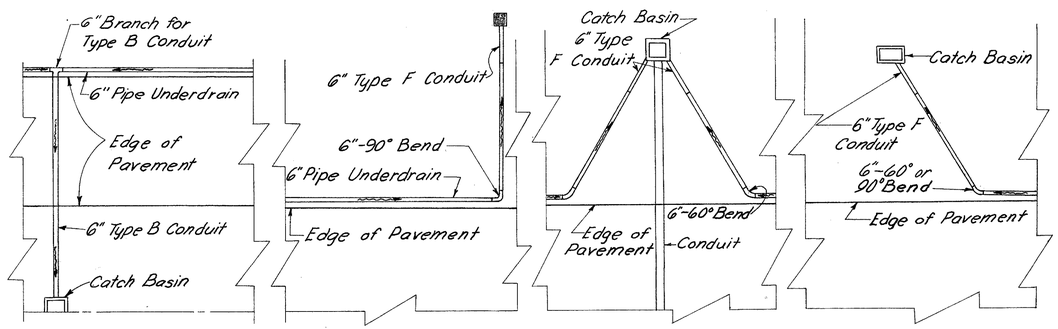




PROFILE



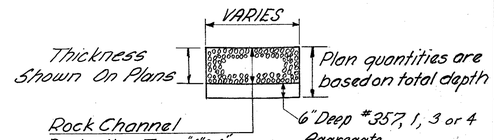
Manhole Station & Elevation



UNDERDRAIN OUTLET DETAILS

NOTE: When the pipe underdrain crosses over another conduit, within 2' of the area of granular back fill, a 10' length of Type F conduit shall be used.

DETAIL OF ROCK CHANNEL PROTECTION



Maximum size of rock shall not exceed the specified thickness of Channel Protection.

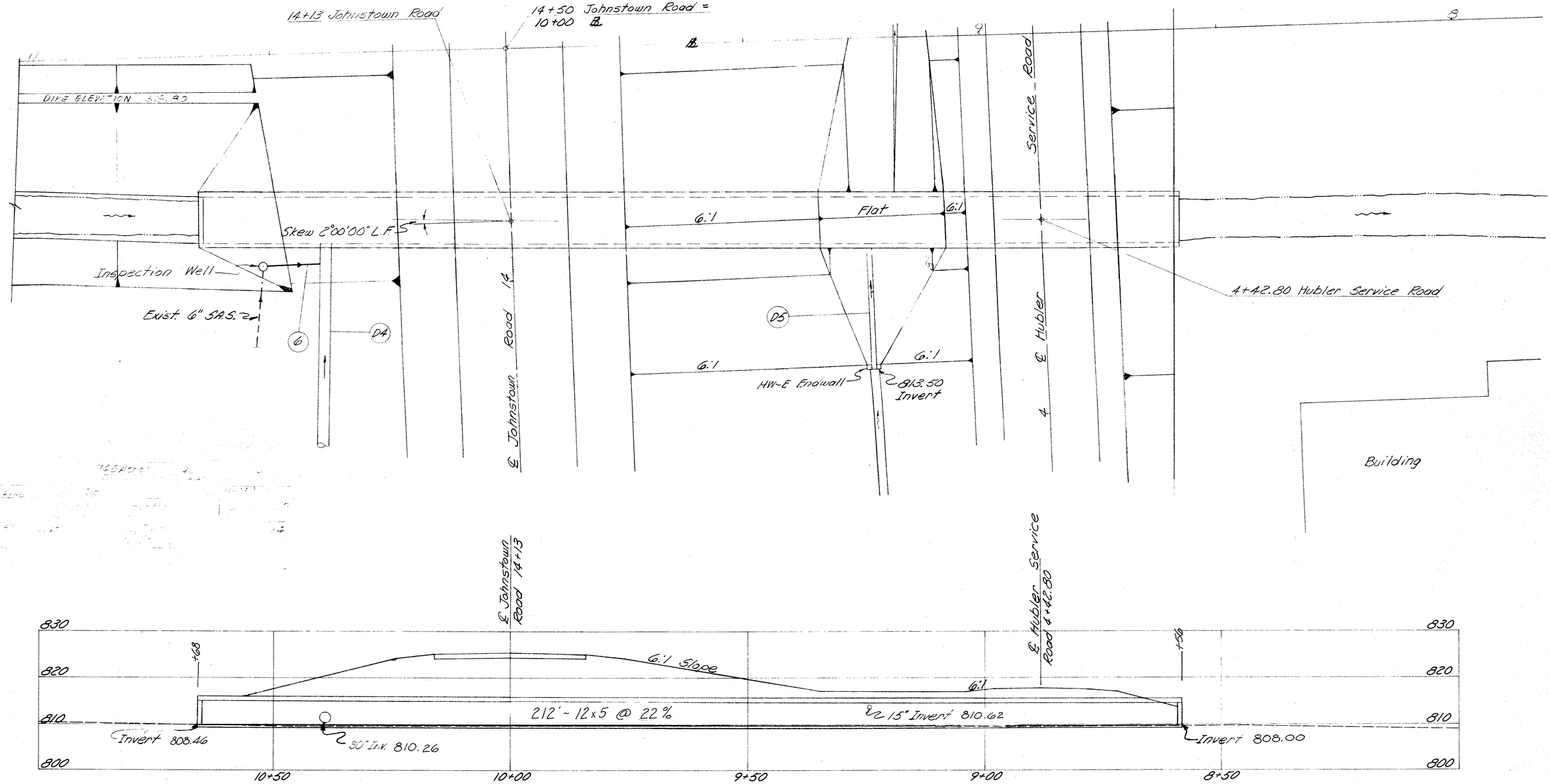
DRAINAGE DETAILS

FED. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.	
2	OHIO		

44

FRANKLIN COUNTY
FRA-270-26.76N

0 5' 10' 20'
SCALE 1"=10'

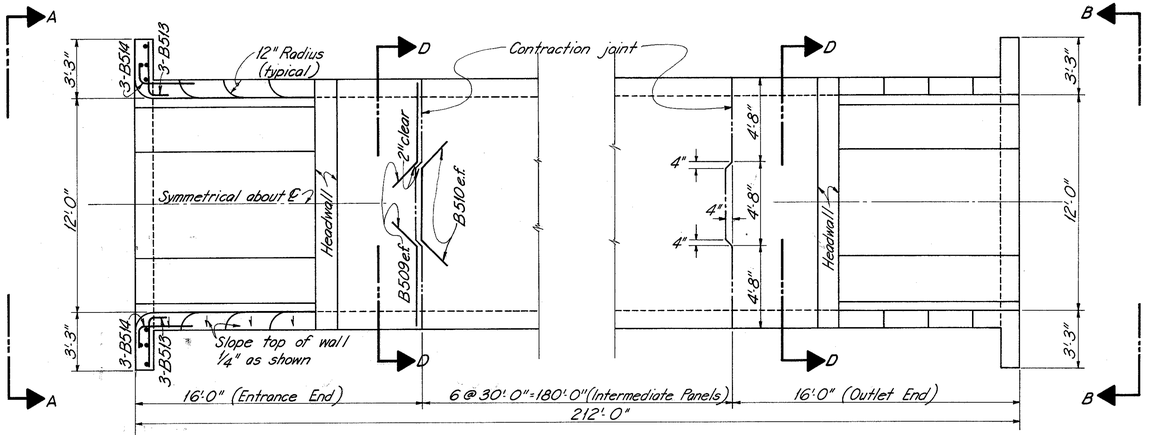


CULVERT DETAIL

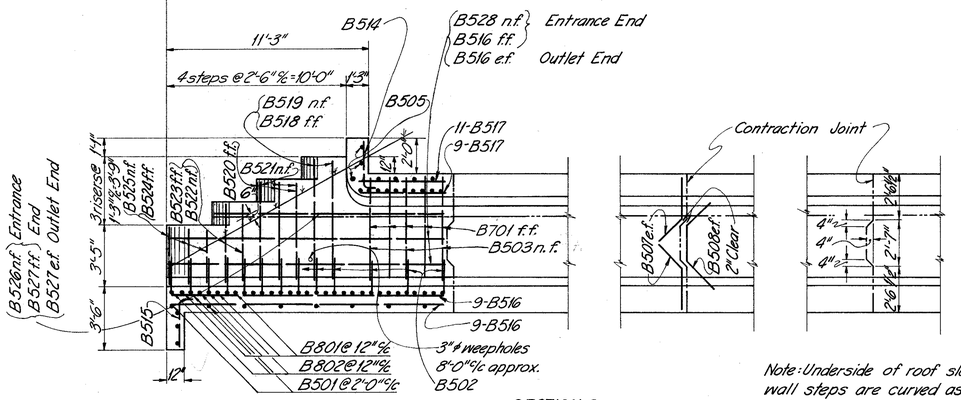
FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

44A
247

FRA-270-26.76

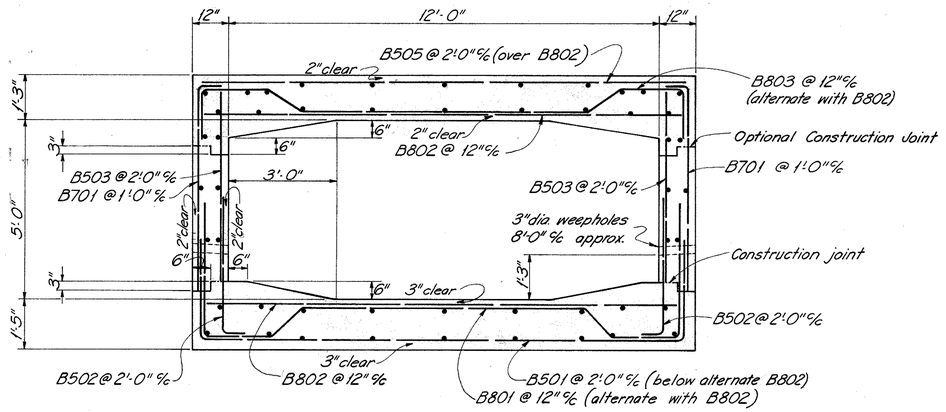


PART PLAN



SECTION-C

Note: Underside of roof slab and side wall steps are curved as shown at the entrance end only.

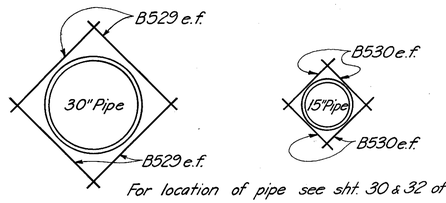


SECTION-D

Note: All longitudinal bars B506 in intermediate panels. For end panels see Section C.

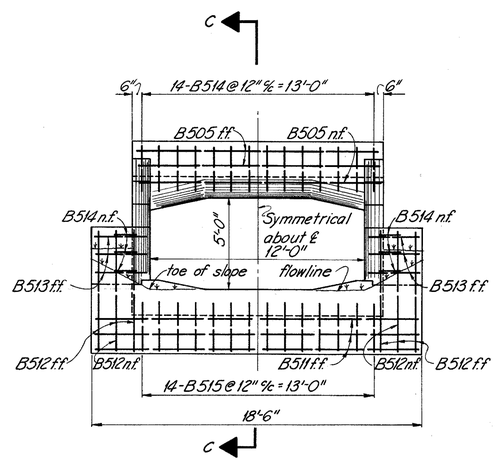
ESTIMATED QUANTITIES			
ITEM	TOTAL	UNIT	DESCRIPTION
503	372	Cu.yd.	Unclassified excavation
509	58,935	Lb.	Reinforcing steel
511	391	Cu.yd.	Class C concrete

QUANTITIES CARRIED TO SHEET N°12



For location of pipe see sht. 30 & 32 of 247

DETAIL OF PIPE REINFORCEMENT



END VIEW-A

(View-B similar except underside of roof slab and side wall steps not curved)

EMBANKMENT shall be placed symmetrically on both sides of the culvert after the top slab is in place. Embankment over the barrel shall be placed in horizontal layers simultaneously with that on each side of the culvert.

CONCRETE shall be Class "C".

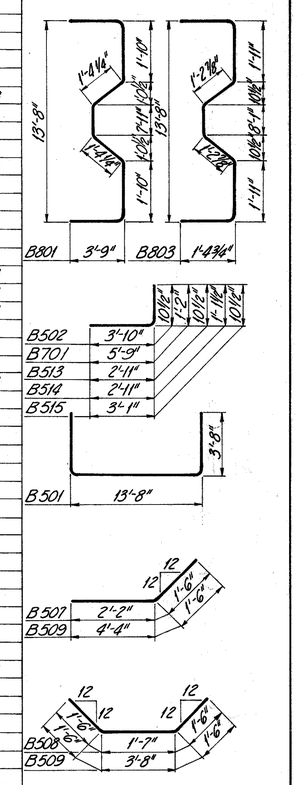
BAR SIZE is indicated in the bar mark. The first digit where three digits are used indicate the bar size number. For example B501 is a No. 5 size bar.

DESIGN DATA:
Concrete Class "C" - unit stress 1333 p.s.i.
Reinforcing Steel - ASTM, A615, A616 or A617 - unit stress 20,000 p.s.i.

FOUNDATION MATERIAL of approximately uniform bearing capacity is contemplated. Spots of soft earth shall be removed and replaced with thoroughly compacted granular material.

FOUNDATION BEARING PRESSURE: Footings are designed for a maximum bearing pressure of 0.8 tons per sq. ft.

REINFORCING STEEL LIST					
MARK	NO.	LENGTH	WEIGHT	SHAPE	BEND DIAGRAMS
B801	210	21'-6"	12,055	B	
B802	390	13'-6"	14,058	S	
B803	190	16'-6"	8,370	B	
B701	368	6'-9"	5,077	B	
B501	106	20'-9"	2,294	B	
B502	232	4'-7"	1,109	B	
B503	192	5'-6"	1,101	S	
B504	NOT	USED			
B505	188	13'-6"	2,647	S	
B506	300	29'-8"	9,282	S	
B507	56	3'-8"	214	B	
B508	28	4'-6"	131	B	
B509	56	5'-10"	341	B	
B510	28	6'-7"	192	B	
B511	6	18'-2"	114	S	
B512	16	6'-7"	110	S	
B513	12	3'-8"	46	B	
B514	40	3'-11"	163	B	
B515	28	3'-10"	112	B	
B516	48	15'-4"	768	S	
B517	40	5'-0"	209	S	
B518	8	6'-9"	56	S	
B519	8	6'-6"	54	S	
B520	12	5'-6"	69	S	
B521	12	5'-3"	66	S	
B522	8	4'-0"	33	S	
B523	8	4'-3"	35	S	
B524	12	3'-0"	38	S	
B525	12	2'-9"	34	S	
B526	2	12'-4"	26	S	
B527	6	13'-2"	82	S	
B528	4	15'-0"	63	S	
B529	8	3'-6"	29	S	
B530	8	2'-0"	17	S	
REPLACEMENT BARS					
RE801	2	7'-6"		S	
RE701	1	7'-2"		S	
RE501	1	6'-7"		S	



LEGEND:
n.f. ..... near face
f.f. ..... far face
e.f. ..... each face

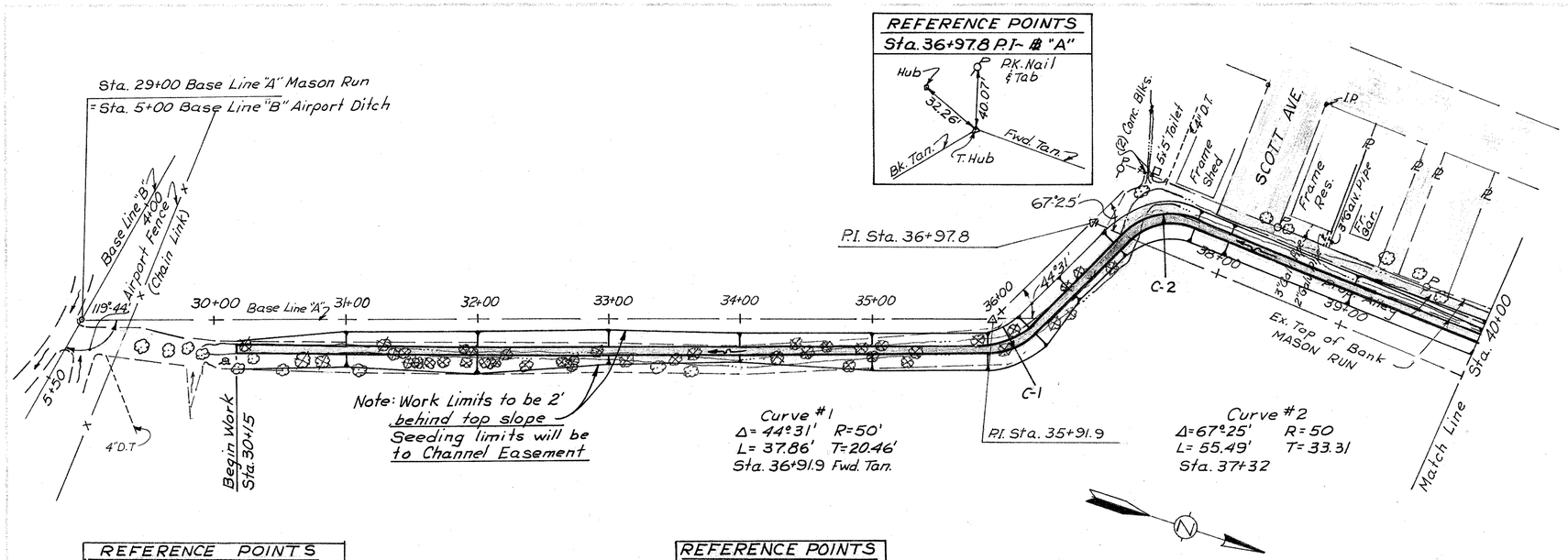
BURGESS & NIPLE LIMITED — CONSULTING ENGINEERS
COLUMBUS, OHIO

1 / 1

BOX CULVERT DETAILS
DRAINAGE STRUCTURE
MASON RUN
UNDER
JOHNSTOWN ROAD
FRANKLIN COUNTY STA. 14+13.00

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
WCR 6/8/10	J.S.J. 6/15/10		DW 6/16/10	WCR 6/16/10	

FRA-I-270-26.76N

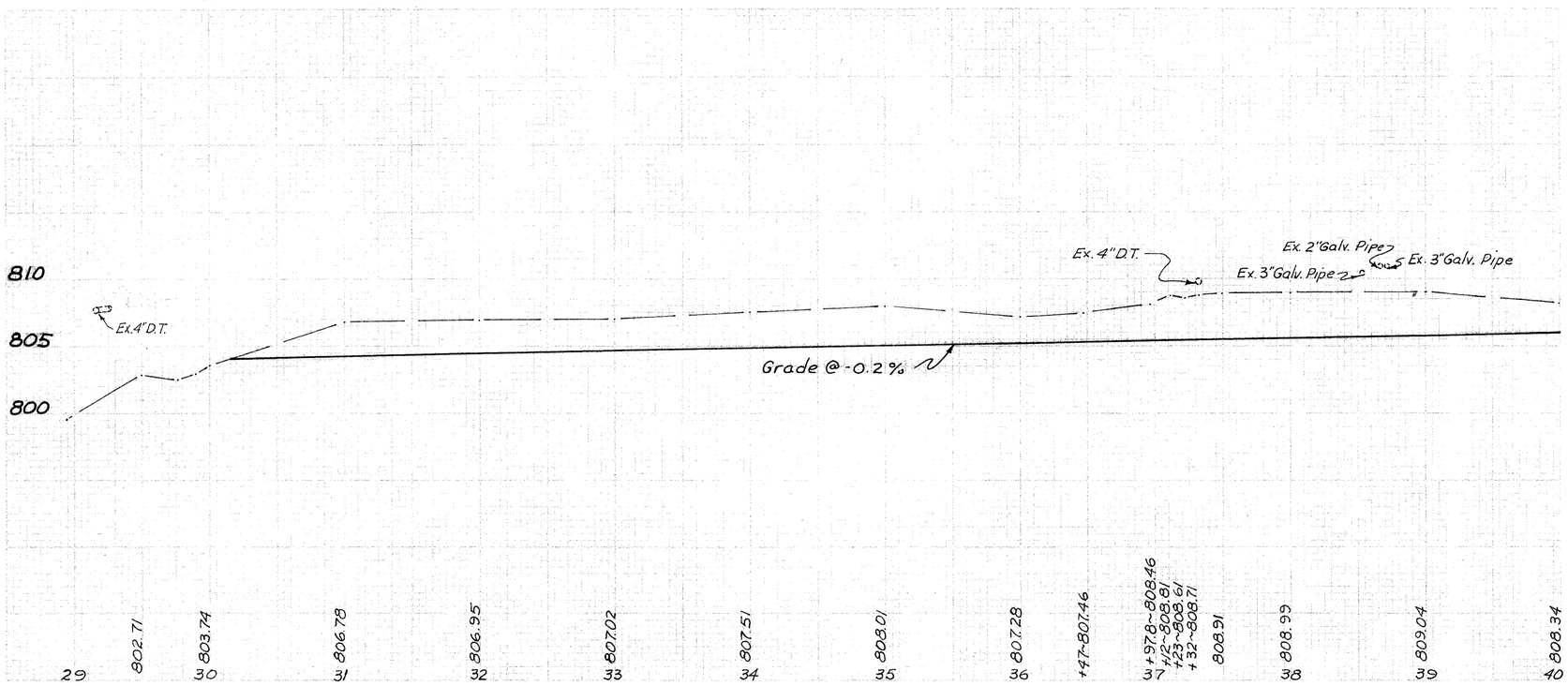


Total Quantities 100% State

Item 203 Excavation not including Embankment	4,413	Cu. Yd.
Item 659 Seeding and mulching, as per plan	13,561	Sq. Yd.
Item 659 Commercial Fertilizer (18-46-0)	1.22	Tons

Quantities carried to Summary Sheet

CALC: B.D. 7-8-70
CHK: J.W.R. 7-9-70



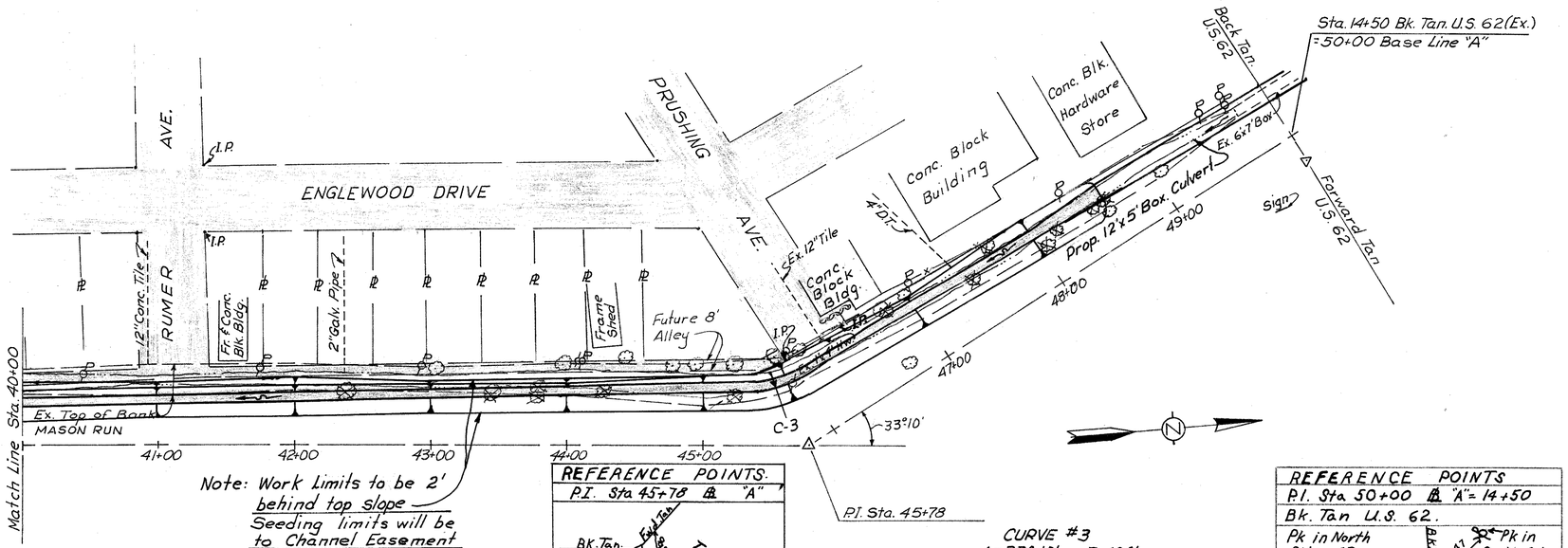
Rev. 11-12-70 AWG

Mason Run — Channel Alignment ℄ "A" Sta. 29+00 to Sta. 40+00

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

44C 247

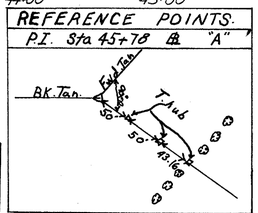
FRA-I-270-26.76N



Note: Work Limits to be 2' behind top slope
Seeding limits will be to Channel Easement

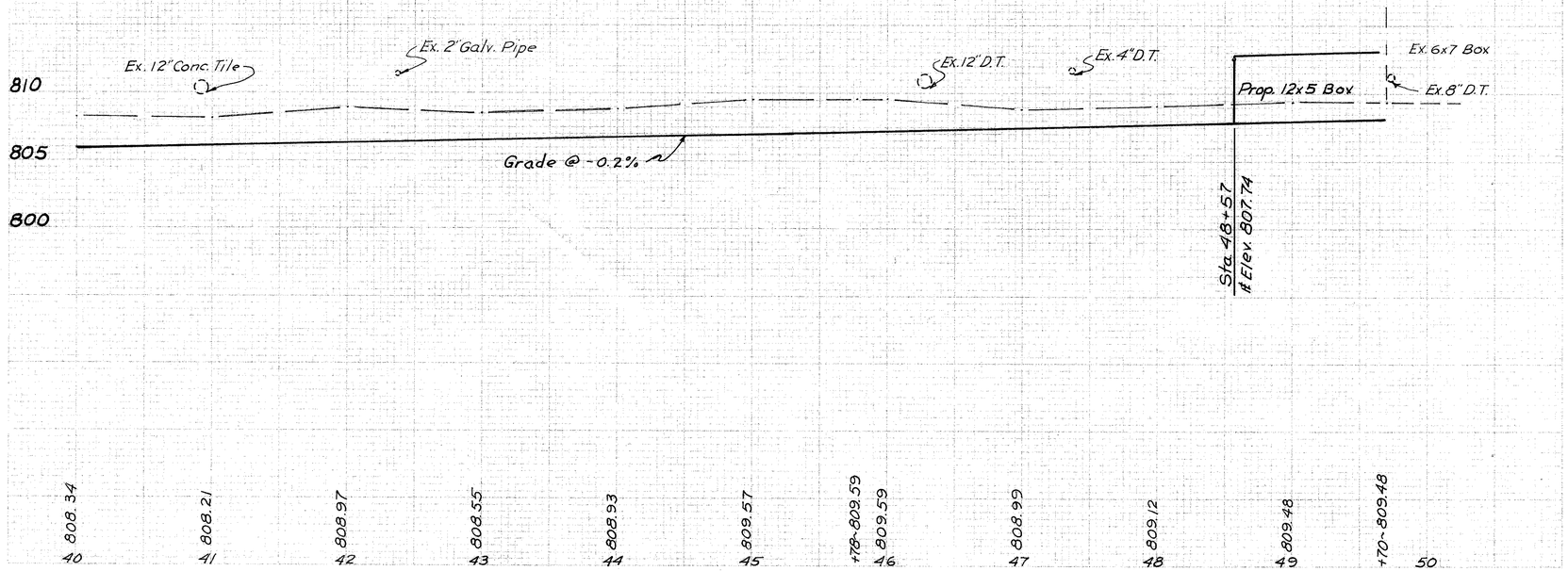
BM3# Sta 42+80 ℄ "A"
130±'Rt R.R.S. In 6" Elm
Elev. 813.37

REFERENCE POINTS.
P.I. Sta 45+78 ℄ "A"



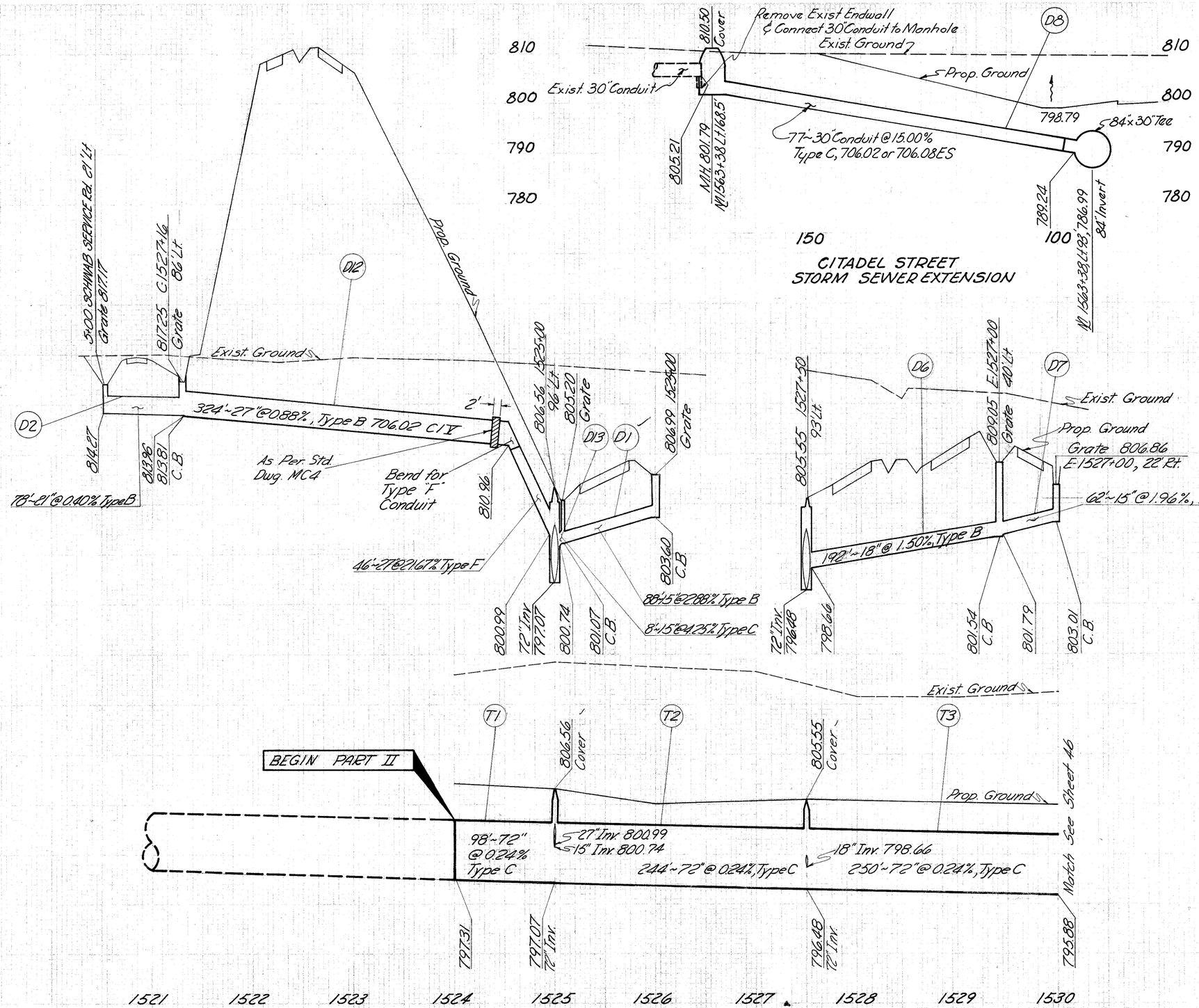
CURVE #3
Δ=33°10' R=100'
L=57.08 T=29.78'
P.I.=45+55

REFERENCE POINTS
P.I. Sta 50+00 ℄ "A" = 14+50
Bk. Tan U.S. 62.
Pk in North Side of Power Pole No 36A107
Bk. Tan. 59.47'
60.30
Pk in South Side of Power Pole No. 2946
℄ "A"
Pk Nail



Mason Run – Channel Alignment ℄ "A" Sta. 40+00 to Sta. 50+00

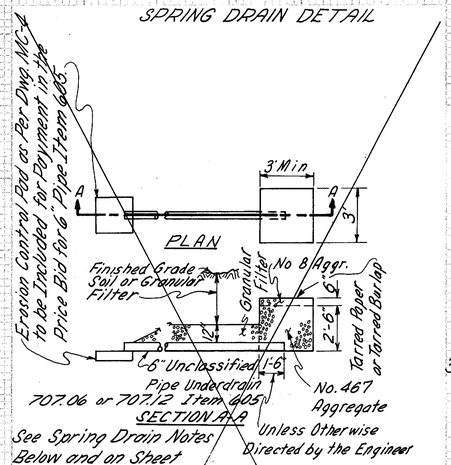
FRANKLIN COUNTY
FRA-270-26.76N



STORM SEWER PROFILES

FRANKLIN COUNTY
FRA-270-26.76N

SPRING DRAIN DETAIL

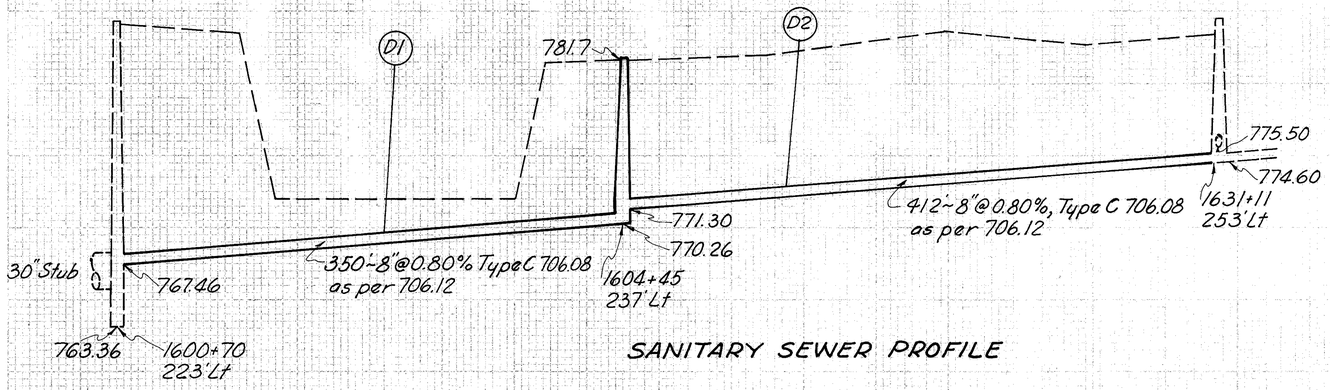


SPRING DRAIN NOTES

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

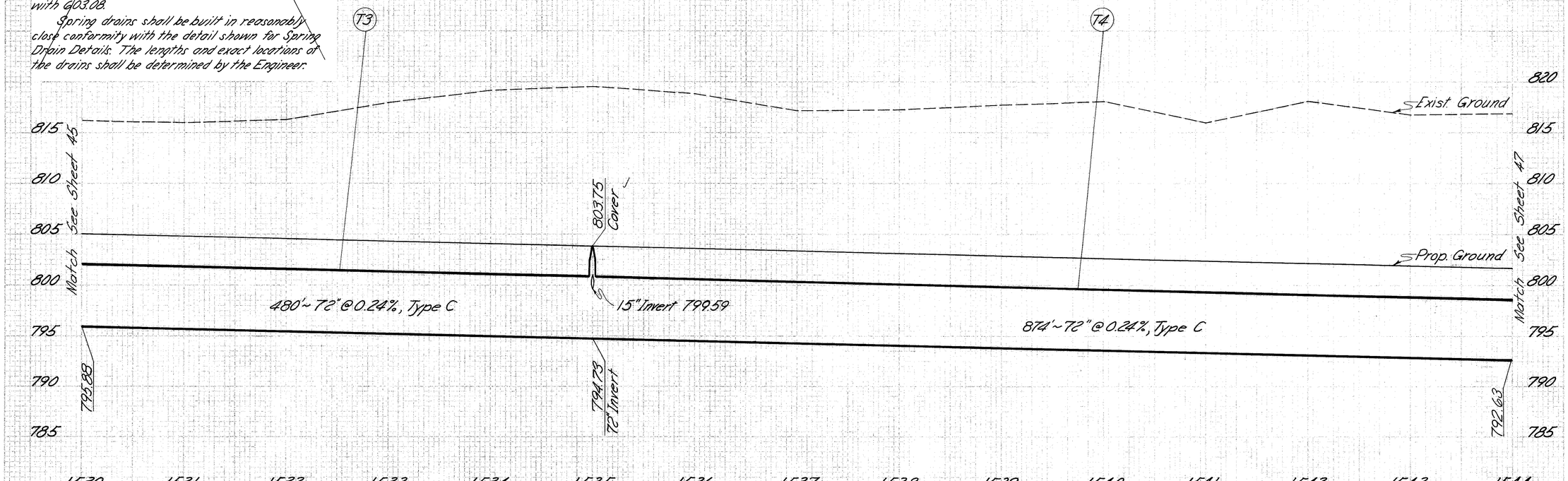
The 6" Pipe 707.06 or 707.12 shall be covered with granular filter material (605.03(e)) to a height of one (1) foot above the top of the pipe. The remainder of the backfill for this item shall be soil or granular filter backfill placed in accordance with 603.08.

Spring drains shall be built in reasonably close conformity with the detail shown for Spring Drain Details. The lengths and exact locations of the drains shall be determined by the Engineer.



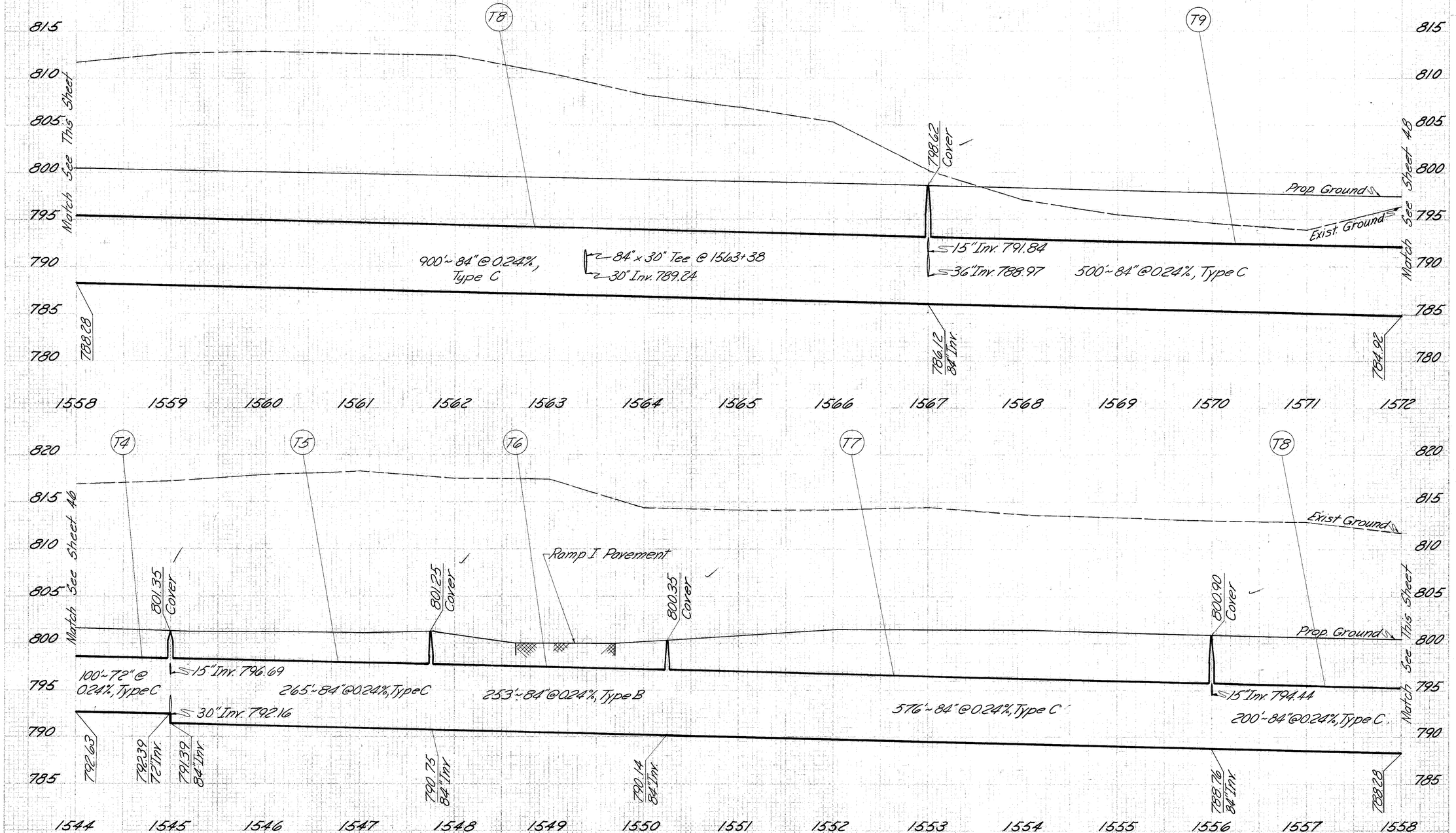
SANITARY SEWER PROFILE

STRUCTURE	CUT AREA	FILL AREA	CUT VOLUME	FILL VOLUME



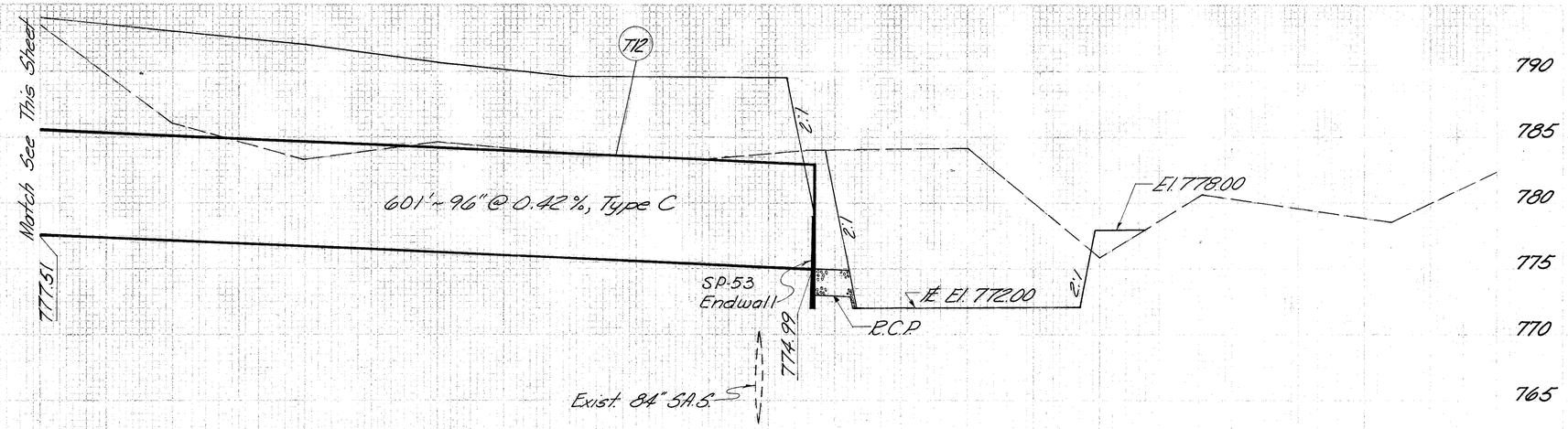
STORM SEWER PROFILES

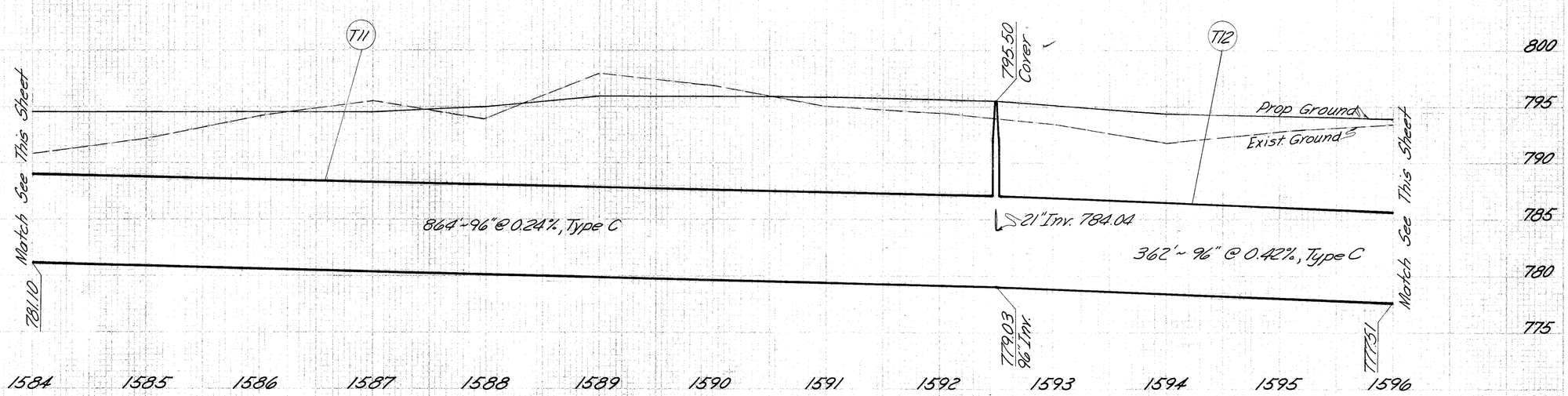
FRANKLIN COUNTY
FRA-270-26 76N

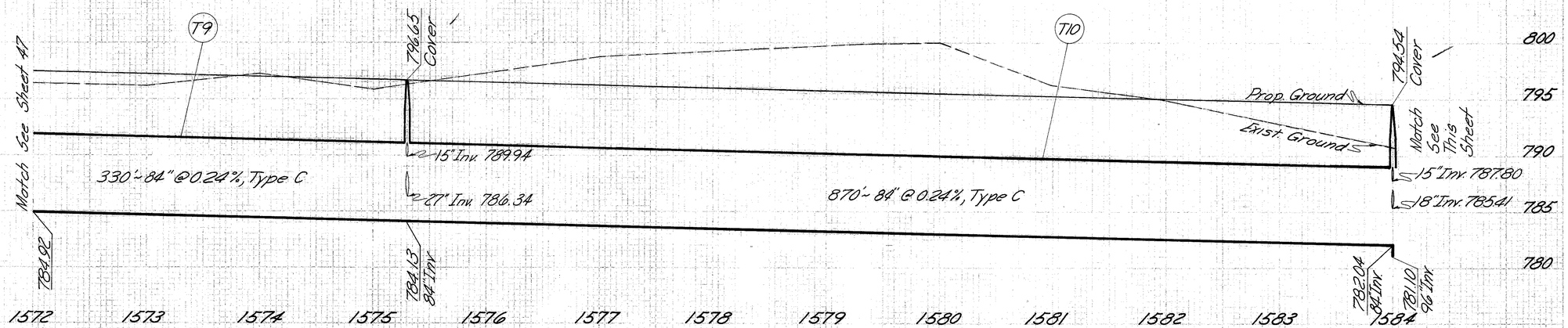


STORM SEWER PROFILES

FRANKLIN COUNTY
FRA-270-26.76N







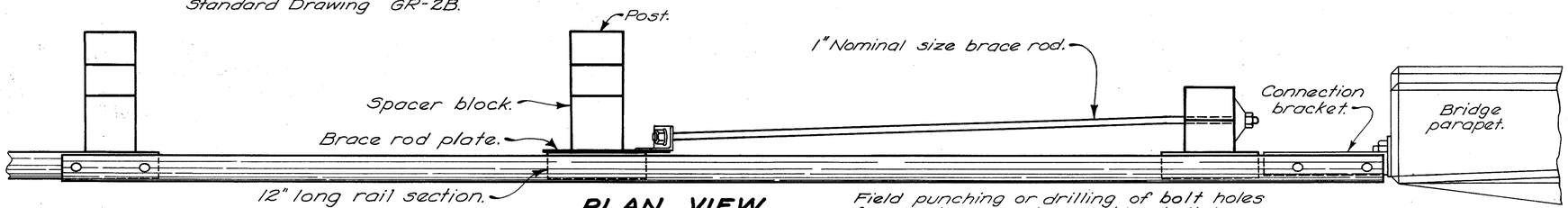
STORM SEWER PROFILES

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

48A 247

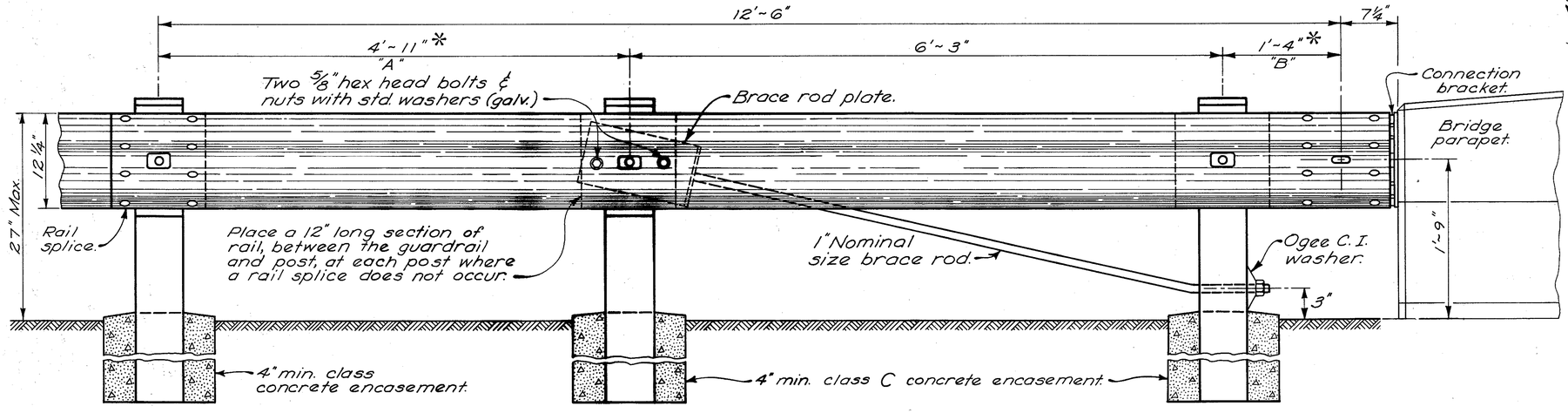
FRA-270-26.76N

Posts may be round or square-sawed wood, or 6B8.5 steel. See Standard Drawing GR-2B.



PLAN VIEW

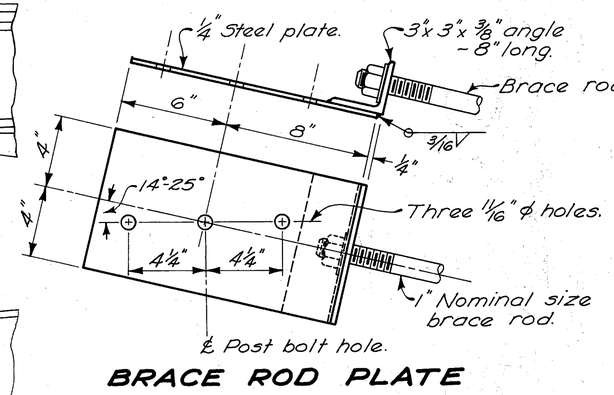
Field punching or drilling of bolt holes for the brace rod assembly shall be accomplished as provided for in 606.04.



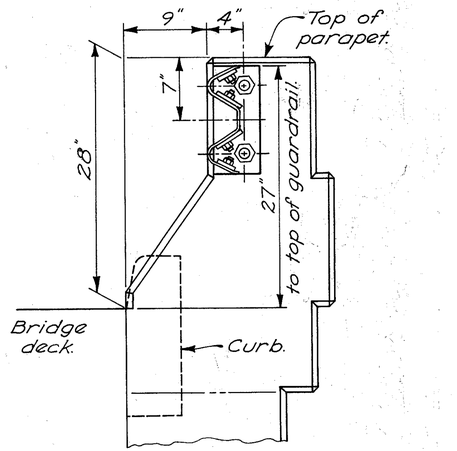
ELEVATION

GUARDRAIL TERMINAL AT BRIDGE

* Dimension "A" shall decrease as dimension "B" increases to accommodate interference by the bridge substructure.

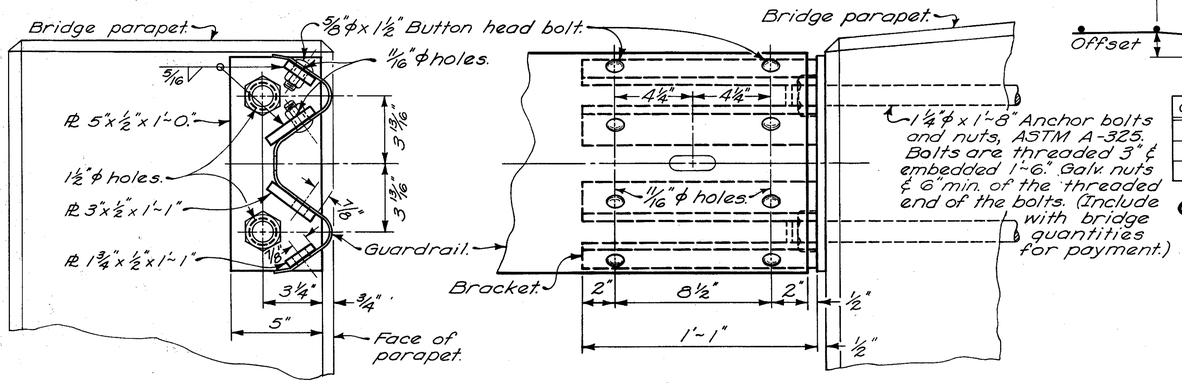


BRACE ROD PLATE



PARAPET APPROACH

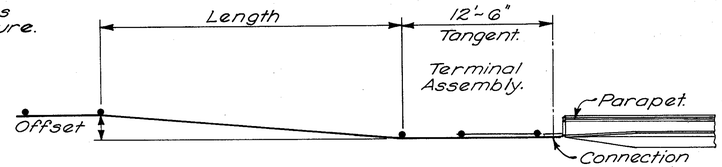
For uncurbed approaches, guardrail shall be set 27" above ground line at face of rail. For curbed approaches guardrail shall be located 27" above gutter line and 9" behind the face of curb.



CONNECTION BRACKET DETAIL

GUARDRAIL ~ BRIDGE CONNECTION

The connection bracket shall be galvanized after welding and shall be included with guardrail for payment.



Offset	Length	Offset	Length
1'-0"	25.00'	5'-0"	100.00'
2'-0"	50.00'	6'-0"	100.00'
4'-0"	100.00'	7'-0"	100.00'

GUARDRAIL OFFSET DETAIL

Rev. 7-10-68

FED RD DIVISION	STATE	PROJECT	
2	OHIO		

FRA-270-26.76 N

48B 247

Type 5 Guardrail - Post spacing 6'-3" center to center.

Round or Square-sawed Wood, or 6 B 8.5 Steel (without concrete encasement).

For Type 4 guardrail omit offset blocks and space posts at 12'-6" centers.

APPROACH END ASSEMBLY
6 B 8.5 Steel posts only.

Post A · Post B · Post C · Post D

Normal face of rail.

1'-9"

SINGLE RAIL - PLAN VIEW

APPROACH END ASSEMBLY
6 B 8.5 Steel posts only.

℄ Bolt hole. · 6'-3" · ℄ Bolt hole. · 6'-3" · ℄ Bolt hole. · 6'-3" · ℄ Bolt hole. · 12'-3 7/8" · ℄ Post.

℄ Post 1 1/8" (×3)

See Terminal Anchor Detail.

A single 25'-0" long rail element shall be twisted 90° in 25'. Care shall be exercised to provide a smooth curve with no kinks.

27" Max.

Post A · Post B · Post C · Post D

3'-6" min. (×3)

See plan views for post type ℄ placement.

All concrete shall be Class C 4" minimum encasement.

SINGLE ℄ BARRIER RAIL - ELEVATION

APPROACH END ASSEMBLY
6 B 8.5 Steel posts only.

Post spacing throughout barrier rail shall be 6'-3" center to center.

℄

Post A · Post B · Post C · Post D

6 1/2" · 6 1/2"

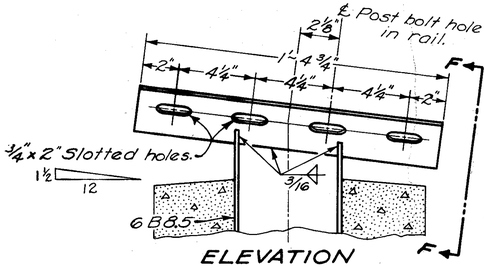
BARRIER RAIL - PLAN VIEW

NOTES

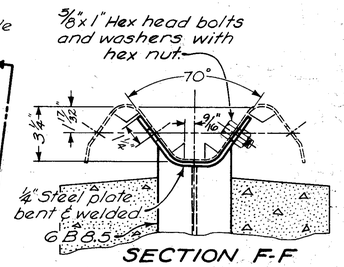
For details not shown, see Standard Drawings GR-2A and GR-2B.

All steel parts shall be galvanized in accordance with ASTM A123, A153 or A525, whichever may apply.

This drawing shall govern where a conflict arises.

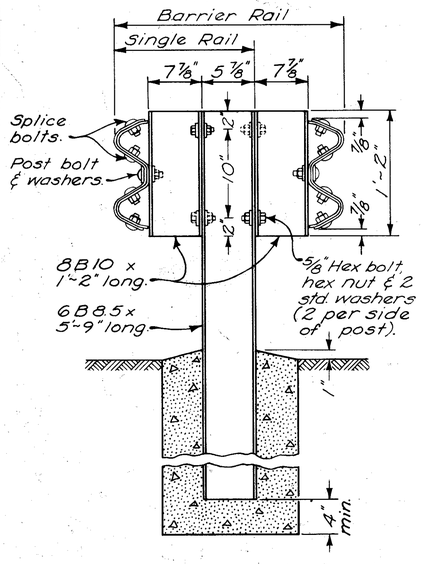


ELEVATION

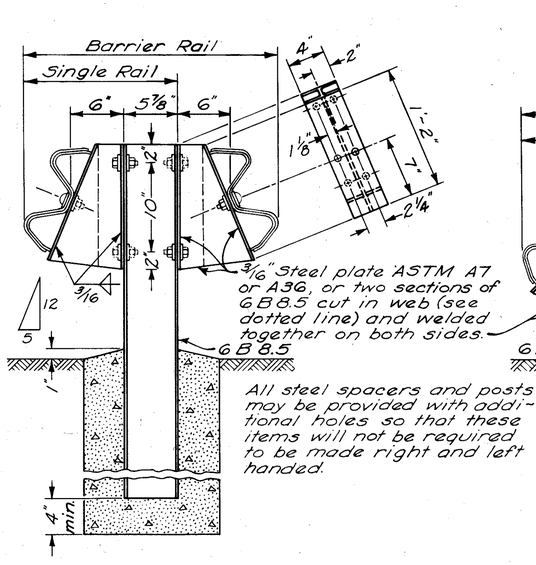


SECTION F-F

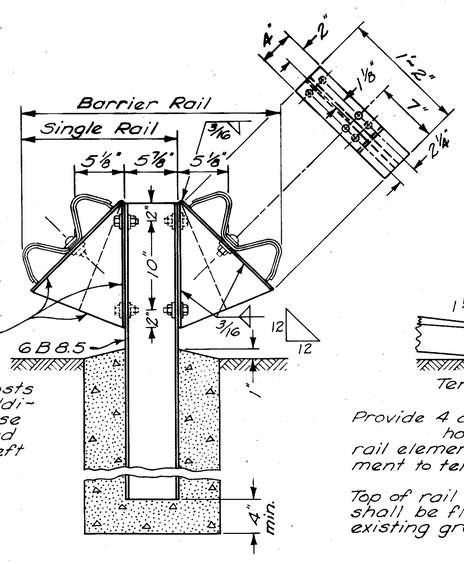
TERMINAL ANCHOR DETAIL



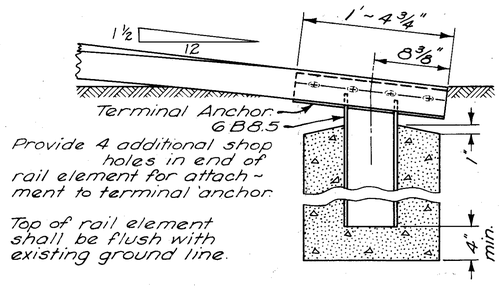
POST A



POST B



POST C

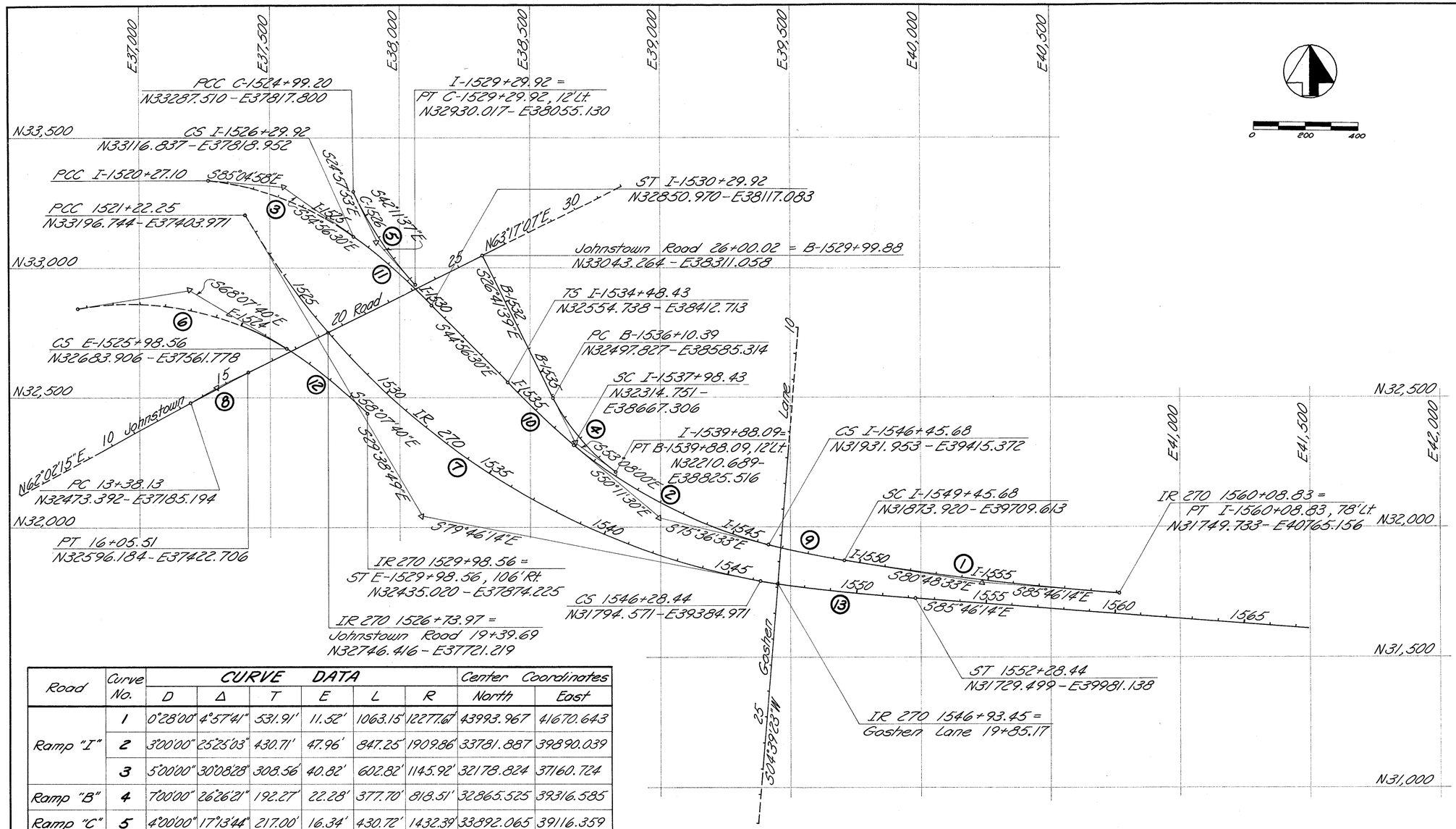


POST D

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

49/247

FRANKLIN COUNTY
FRA-270-26.76N



Road	Curve No.	CURVE DATA						Center Coordinates	
		D	Δ	T	E	L	R	North	East
Ramp "I"	1	0°28'00"	4°57'41"	531.91'	11.52'	1063.15'	12277.67'	43993.967	41670.643
	2	3°00'00"	25°25'03"	430.71'	47.96'	847.25'	1909.86'	33781.887	39890.039
	3	5°00'00"	30°08'28"	308.56'	40.82'	602.82'	1145.92'	32178.824	37160.724
Ramp "B"	4	7°00'00"	26°26'21"	192.27'	22.28'	377.70'	818.51'	32865.525	39316.585
Ramp "C"	5	4°00'00"	17°13'44"	217.00'	16.34'	430.72'	1432.39'	33892.065	39116.359
Ramp "E"	6	5°00'00"					1145.92'	31710.759	36956.702
IR 270	7	2°00'00"	50°07'25"			2506.19'	2864.79'	34613.824	39893.731
Johnstown Rd.	8	0°28'00"	1°14'52"	133.70	0.73	267.38	12277.67'	21629.083	42942.114

Road	Spiral No.	SPIRAL DATA						
		Ls	θs or θa	LT or Ti	ST or Te	P	Δ1	Δ2
Ramp "I"	9	300.00'	3°48'00"	186.65'	113.55'	1.66'	0°42'00"	4°30'00"
	10	350.00'	5°15'00"	233.44'	116.76'	2.67'		
	11	400.00'	10°00'00"	267.09'	133.72'	5.81'		
Ramp "E"	12	400.00'	10°00'00"	267.09'	133.72'	5.81'		
IR 270	13	600.00'	6°00'00"	400.23'	200.21'	5.23'		

Note: To obtain State Plane Coordinates add 700,000.000 to North coordinates given and 1,850,000.000 to East coordinates given.

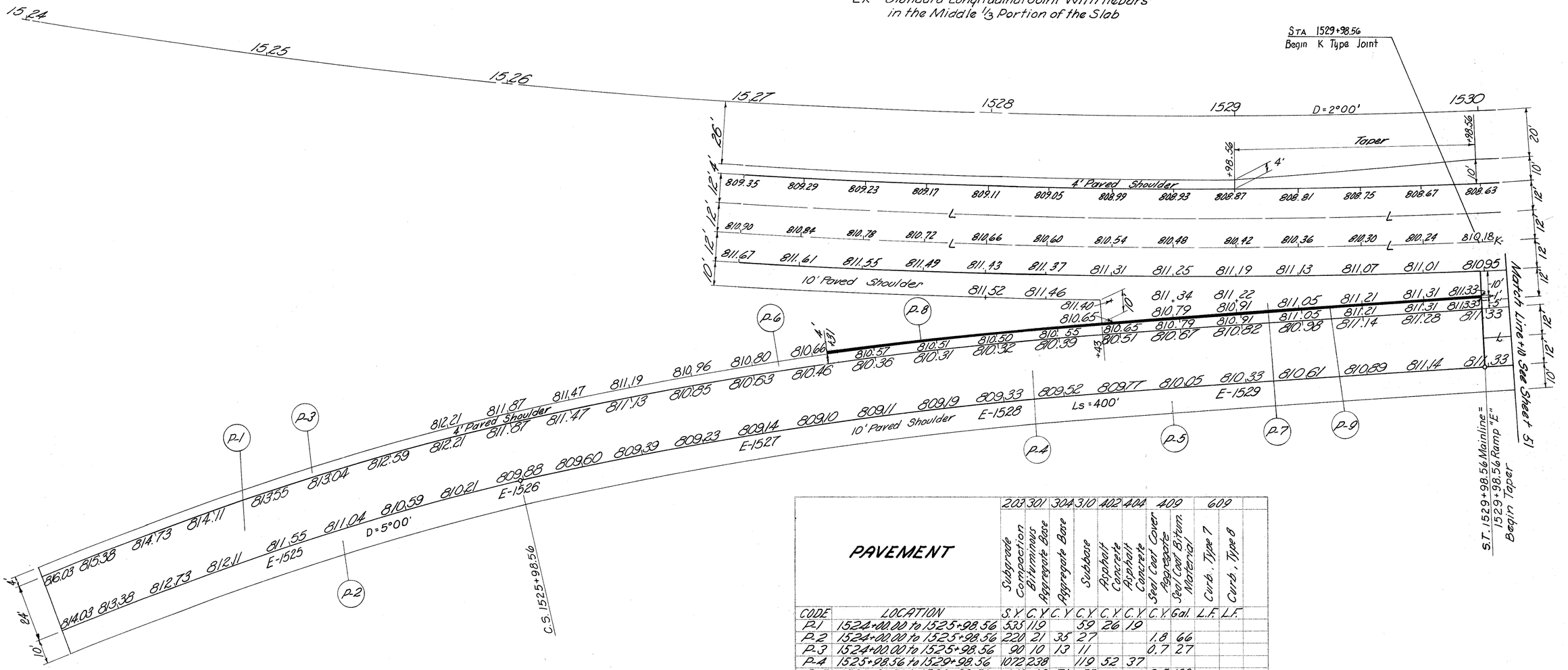
INTERCHANGE GEOMETRICS

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

50
247

FRANKLIN COUNTY
FRA-270-26.76N

PAVEMENT JOINT LEGEND
L = Standard Longitudinal Joint
E = Standard Expansion Joint
C = Standard Contraction Joint
K = Key Joint Without Tiebars
FB = Standard Flange Beam Joint
LX = Standard Longitudinal Joint With Tiebars in the Middle 1/3 Portion of the Slab



PAVEMENT		203 Subgrade Compaction S.Y.	301 Bituminous Aggregate Base C.Y.	304 Aggregate Base C.Y.	310 Subbase C.Y.	402 Asphalt Concrete C.Y.	404 Asphalt Concrete C.Y.	409 Seal Coat Cover Aggregate C.Y.	409 Seal Coat Bitum Material Gal.	609 Curb, Type 7 L.F.	609 Curb, Type 8 L.F.
CODE	LOCATION										
P-1	1524+00.00 to 1525+98.56	535	119		59	26	19				
P-2	1524+00.00 to 1525+98.56	220	21	35	27			1.8	66		
P-3	1524+00.00 to 1525+98.56	90	10	13	11			0.7	27		
P-4	1525+98.56 to 1529+98.56	1072	238		119	52	37				
P-5	1525+98.56 to 1529+98.56	443	42	71	55			3.5	133		
P-6	1525+98.56 to 1529+98.56	180	20	27	22			1.4	54		
P-7	1528+43.00 to 1529+98.56	87	17								
P-8	1527+31.00 to 1528+43.00									112	
P-9	1528+43.00 to 1529+98.56										156
	TOTAL	2627	467	146	293	78	56	7	280	112	156

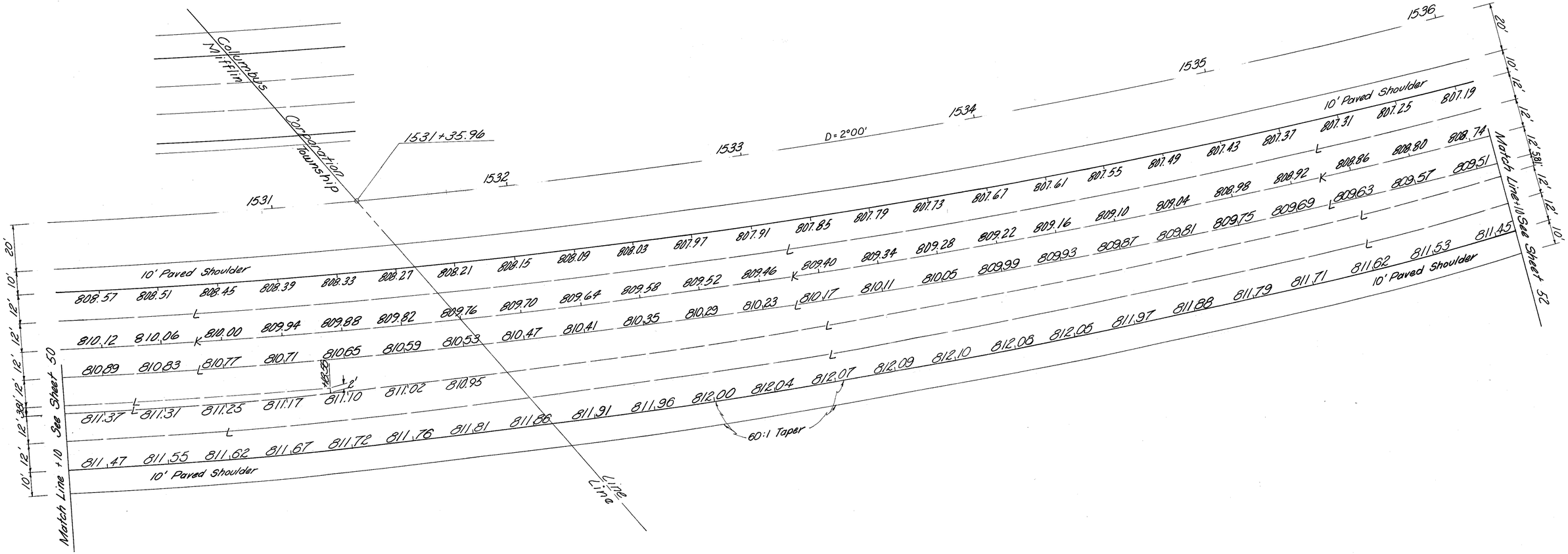
QUANTITY CALCULATIONS
C. Basich 6-29-69
R.MINDIGO 6-29-69

RAMP "E" DETAILS 1524+00 TO 1530+10

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

51
247

FRANKLIN COUNTY
FRA-270-26.76N

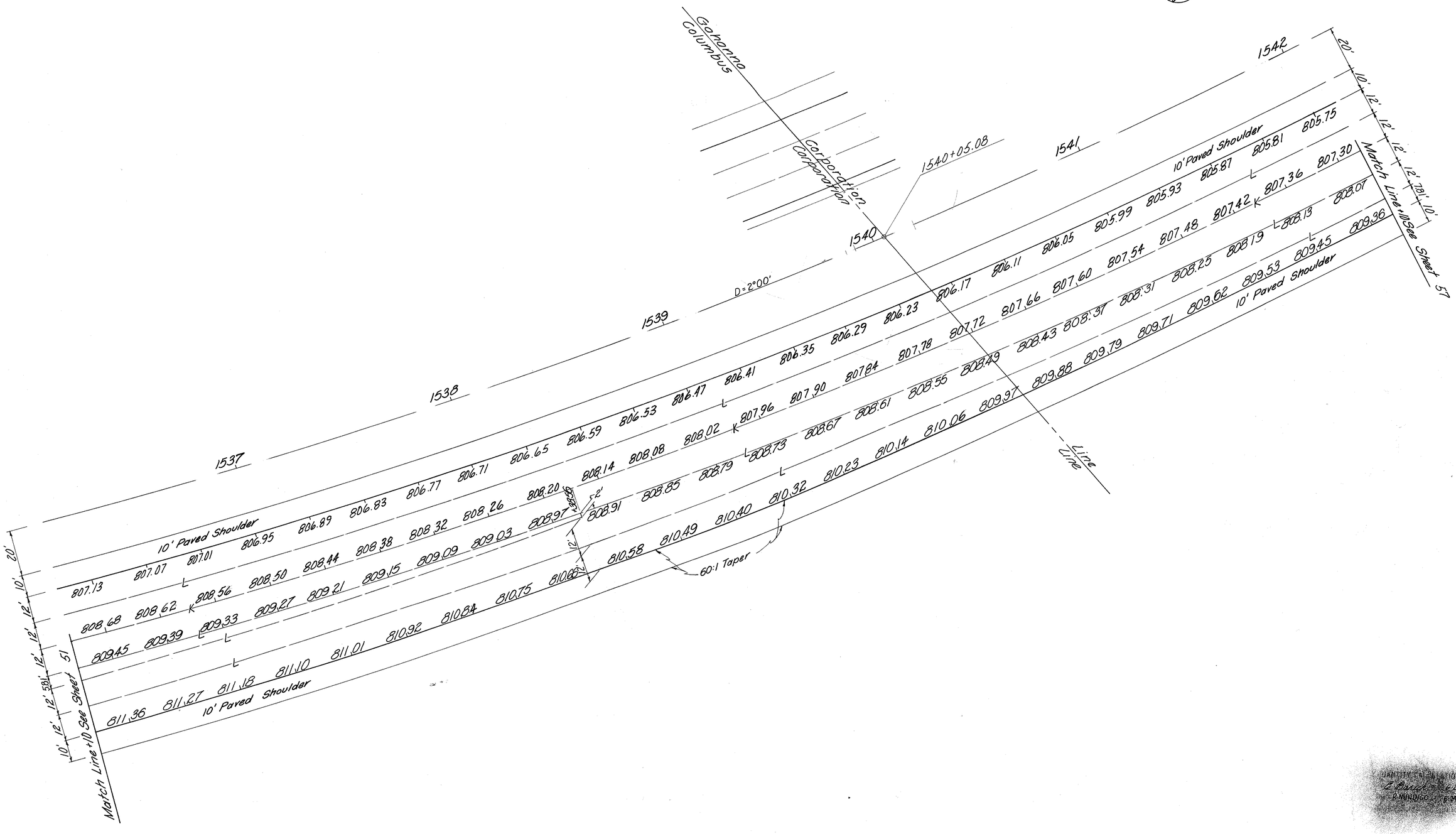


№ DETAILS 1530+10 TO 1536+10

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

52
247

FRANKLIN COUNTY
FRA-270-26.76N



QUANTITY CALCULATIONS
C. Daugherty 5-24-69
R. MINDIGO 5-24-69

NN DETAILS 1536+10 TO 1542+10

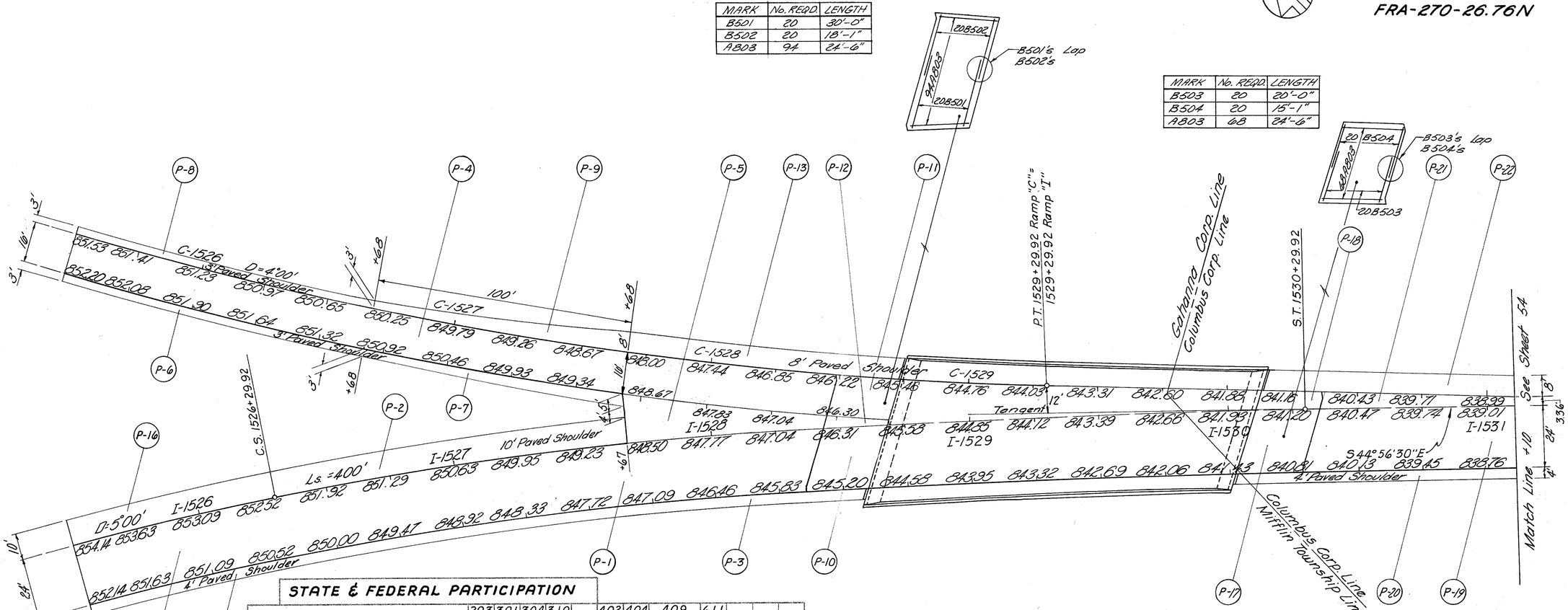
FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

53
247

FRANKLIN COUNTY
FRA-270-26.76N

MARK	No. REQD.	LENGTH
B501	20	30'-0"
B502	20	18'-1"
A803	94	24'-6"

MARK	No. REQD.	LENGTH
B503	20	20'-0"
B504	20	15'-1"
A803	68	24'-6"



STATE & FEDERAL PARTICIPATION

		203	301	304	310		402	404	409		611			
PAVEMENT		Subgrade Compaction	Bituminous Aggregate Base	Aggregate Base	Subbase		Asphalt Concrete	Asphalt Concrete	Seal Coat Cover Aggregate	Seal Coat Bitum. Material	Approach Slabs			
CODE	LOCATION	S.Y.	C.Y.	C.Y.	C.Y.		C.Y.	C.Y.	C.Y.	Gal.	S.Y.			
P-1	1526+29.92 to 1528+39	554	123		62		27	19						
P-2	1526+29.92 to 1527+67	153	14	24	19				1.2	46				
P-3	1526+29.92 to 1528+58	100	11	15	12				0.8	30				
P-4	1525+50 to 1528+48	533	118		59		26	18						
P-5	1527+67 to 1528+43	100	22		11		5	3						
P-6	1525+50 to 1526+68	40	5	6	5				0.3	12				
P-7	1526+68 to 1527+68	45	5	7	6				0.4	14				
P-8	1525+50 to 1526+68	39	5	6	5				0.3	12				
P-9	1526+68 to 1527+68	61	6	9	8				0.5	18				
P-10	1528+39 to 1528+64	66			11						66			
P-11	1528+48 to 1528+72	43			7						43			
P-12	1528+43 to 1528+68	11			2						11			
P-13	1527+68 to 1528+74	94	9	15	12				0.8	28				
P-14	1525+50 to 1526+29.92	211	47		23		10	7						
P-15	1525+50 to 1526+29.92	35	4	5	4				0.3	10				
P-16	1525+50 to 1526+29.92	89	8	14	11				0.7	27				
TOTALS		2174	377	101	257		68	47	5	197	120			

STATE, FEDERAL, & COLUMBUS PARTICIPATION

		203	301	304	310	402	404	409		611			
PAVEMENT		Subgrade Compaction	Bituminous Aggregate Base	Aggregate Base	Subbase	Asphalt Concrete	Asphalt Concrete	Seal Coat Cover Aggregate	Seal Coat Bitum. Material	Approach Slabs			
CODE	LOCATION	S.Y.	C.Y.	C.Y.	C.Y.	C.Y.	C.Y.	C.Y.	Gal.	S.Y.			
P-17	1530+06 to 1530+32	69			12					69			
P-18	1530+12 to 1530+36	19			3					19			
P-19	1530+32 to 1531+10	208	46		23	10	7						
P-20	1530+06 to 1531+10	46	5	7	6			0.4	14				
P-21	1530+36 to 1531+10	38	9		4	2	1						
P-22	1530+15 to 1531+10	84	8	13	10			0.7	25				
TOTALS		464	68	20	58	12	8	1	39	88			

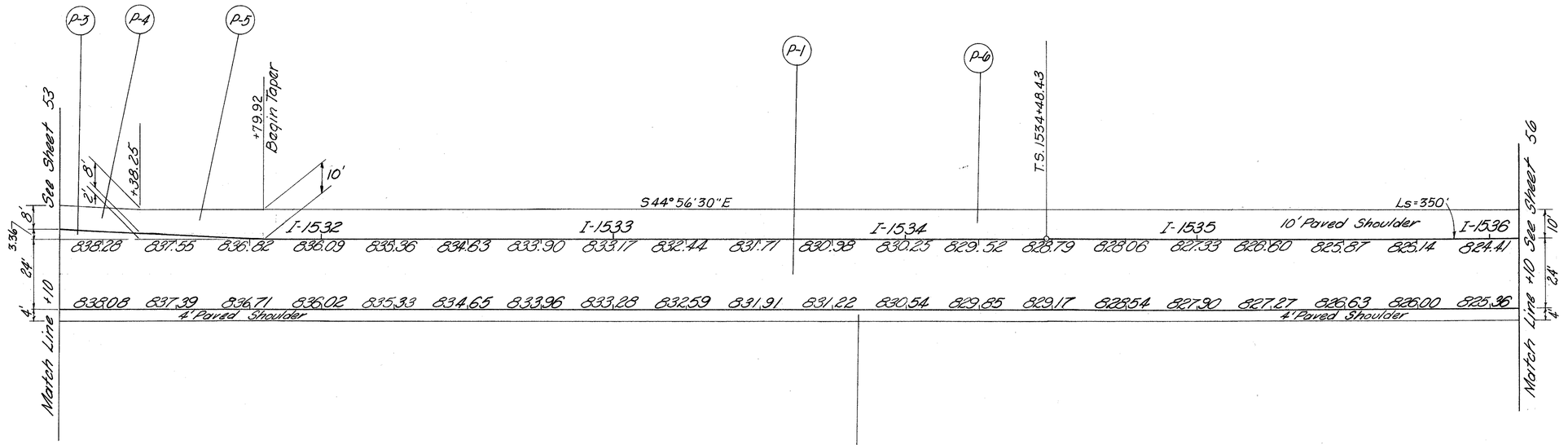
QUANTITIES CALCULATED BY [illegible]
CHECKED BY [illegible]

RAMP "I" DETAILS 1525+50 TO 1531+10

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

54
247

FRANKLIN COUNTY
FRA-270-26.76 N



PAVEMENT		203	301	304	310	402	404	409	
		Subgrade Compaction	Bituminous Aggregate Base	Aggregate Base	Subbase	Asphalt Concrete	Asphalt Concrete	Seal Coat Cover Aggregate	Seal Coat Bitum. Material
CODE	LOCATION	S.Y.	C.Y.	C.Y.	C.Y.	C.Y.	C.Y.	C.Y.	Gal.
P-1	1531+10 to 1530+10	1333	290		148	65	40		
P-2	1531+10 to 1530+10	222	25	33	27			1.8	67
P-3	1531+10 to 1531+79.92	13	3		1	1			
P-4	1531+10 to 1531+38.25	25	2	4	3			02	8
P-5	1531+38.25 to 1531+79.92	42	4	7	5			03	13
P-6	1531+79.92 to 1530+10	478	45	76	59			3.8	143
TOTALS		2113	375	120	243	66	40	6	231

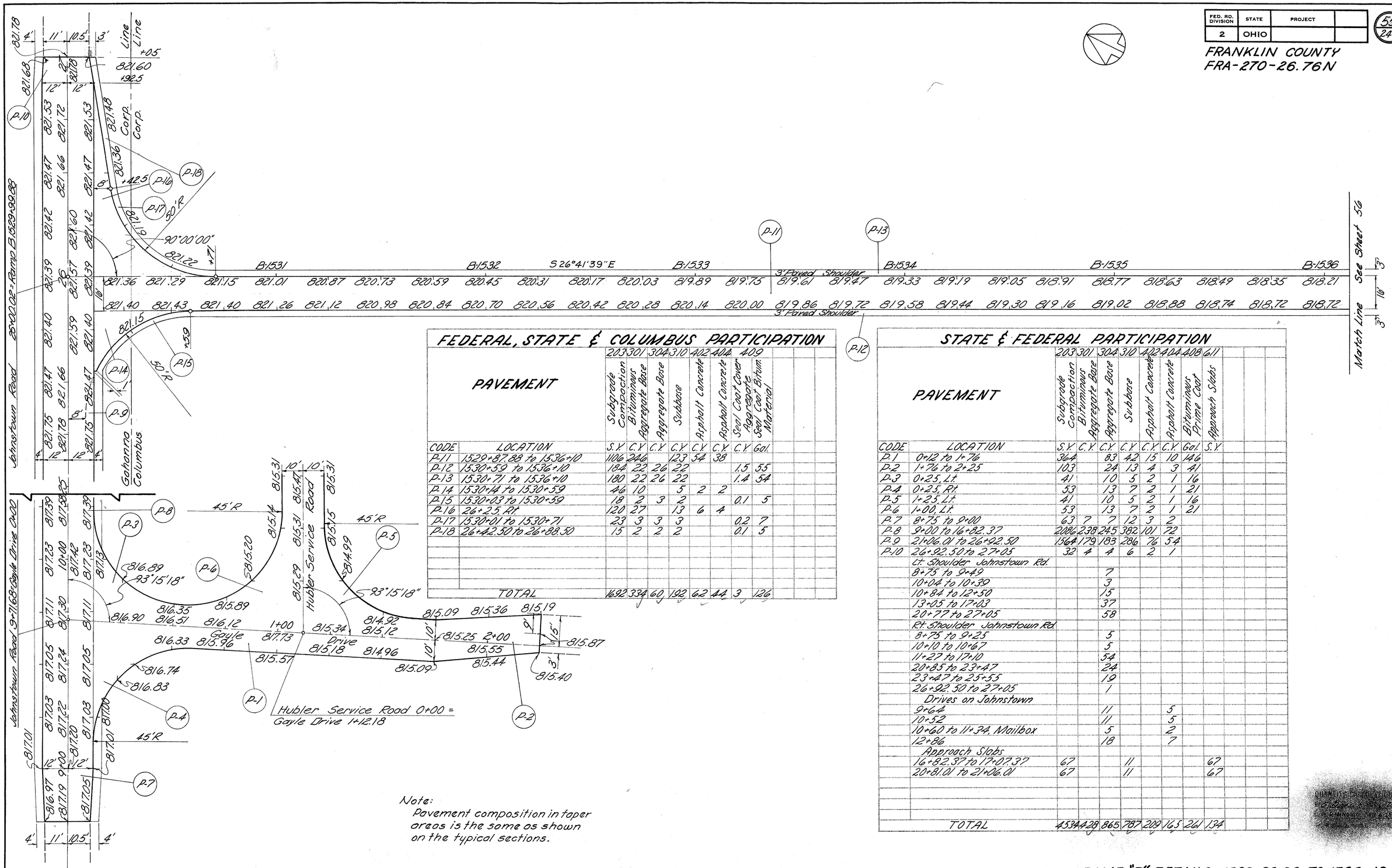
QUANTITY CALCULATIONS
BY C. Cook DATE 7-62
CHECKED BY [illegible] DATE [illegible]

RAMP "I" DETAILS 1531+10 TO 1536+10

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

55
247

FRANKLIN COUNTY
FRA-270-26.76N



FEDERAL, STATE & COLUMBUS PARTICIPATION

PAVEMENT	203 Subgrade Compaction	301 Bituminous Aggregate Base	304 Aggregate Base	310 Subbase	402 Asphalt Concrete	404 Asphalt Concrete	409 Seal Coat Cover Aggregate	Seal Coat Bitum Material				
CODE LOCATION	S.Y.	C.Y.	C.Y.	C.Y.	C.Y.	C.Y.	C.Y.	Gal.				
P-11 1529+87.88 to 1536+10	1106	246		123	54	38						
P-12 1530+59 to 1536+10	184	22	26	22			1.5	55				
P-13 1530+71 to 1536+10	180	22	26	22			1.4	54				
P-14 1530+14 to 1530+59	46	10		5	2	2						
P-15 1530+03 to 1530+59	18	2	3	2			0.1	5				
P-16 26+25 Rt.	120	27		13	6	4						
P-17 1530+01 to 1530+71	23	3	3	3			0.2	7				
P-18 26+42.50 to 26+88.50	15	2	2	2			0.1	5				
TOTAL	1692	334	60	192	62	44	3	126				

STATE & FEDERAL PARTICIPATION

PAVEMENT	203 Subgrade Compaction	301 Bituminous Aggregate Base	304 Aggregate Base	310 Subbase	402 Asphalt Concrete	404 Asphalt Concrete	408 Bituminous Prime Coat	611 Approach Slabs				
CODE LOCATION	S.Y.	C.Y.	C.Y.	C.Y.	C.Y.	C.Y.	Gal.	S.Y.				
P-1 0+12 to 1+76	364		83	42	15	10	146					
P-2 1+76 to 2+25	103		24	13	4	3	41					
P-3 0+25 Lt.	41		10	5	2	1	16					
P-4 0+25 Rt.	53		13	7	2	1	21					
P-5 1+25 Lt.	41		10	5	2	1	16					
P-6 1+00 Lt.	53		13	7	2	1	21					
P-7 8+75 to 9+00	63	7	7	12	3	2						
P-8 9+00 to 16+82.37	2086	238	245	382	101	72						
P-9 21+06.01 to 26+92.50	564	179	183	286	76	54						
P-10 26+92.50 to 27+05	32	4	4	6	2	1						
Lt. Shoulder Johnstown Rd.												
8+75 to 9+49			7									
10+04 to 10+39			3									
10+84 to 12+50			15									
13+05 to 17+03			37									
20+77 to 27+05			58									
Rt. Shoulder Johnstown Rd.												
8+75 to 9+25			5									
10+10 to 10+67			5									
11+27 to 17+10			54									
20+85 to 23+47			24									
23+47 to 23+55			19									
26+92.50 to 27+05			1									
Drives on Johnstown												
9+64			11			5						
10+52			11			5						
10+60 to 11+34, Mailbox			5			2						
12+86			18			7						
Approach Slabs												
16+82.37 to 17+07.37	67			11				67				
20+81.01 to 21+06.01	67			11				67				
TOTAL	4534	428	865	787	209	165	261	134				

Note:
Pavement composition in taper areas is the same as shown on the typical sections.

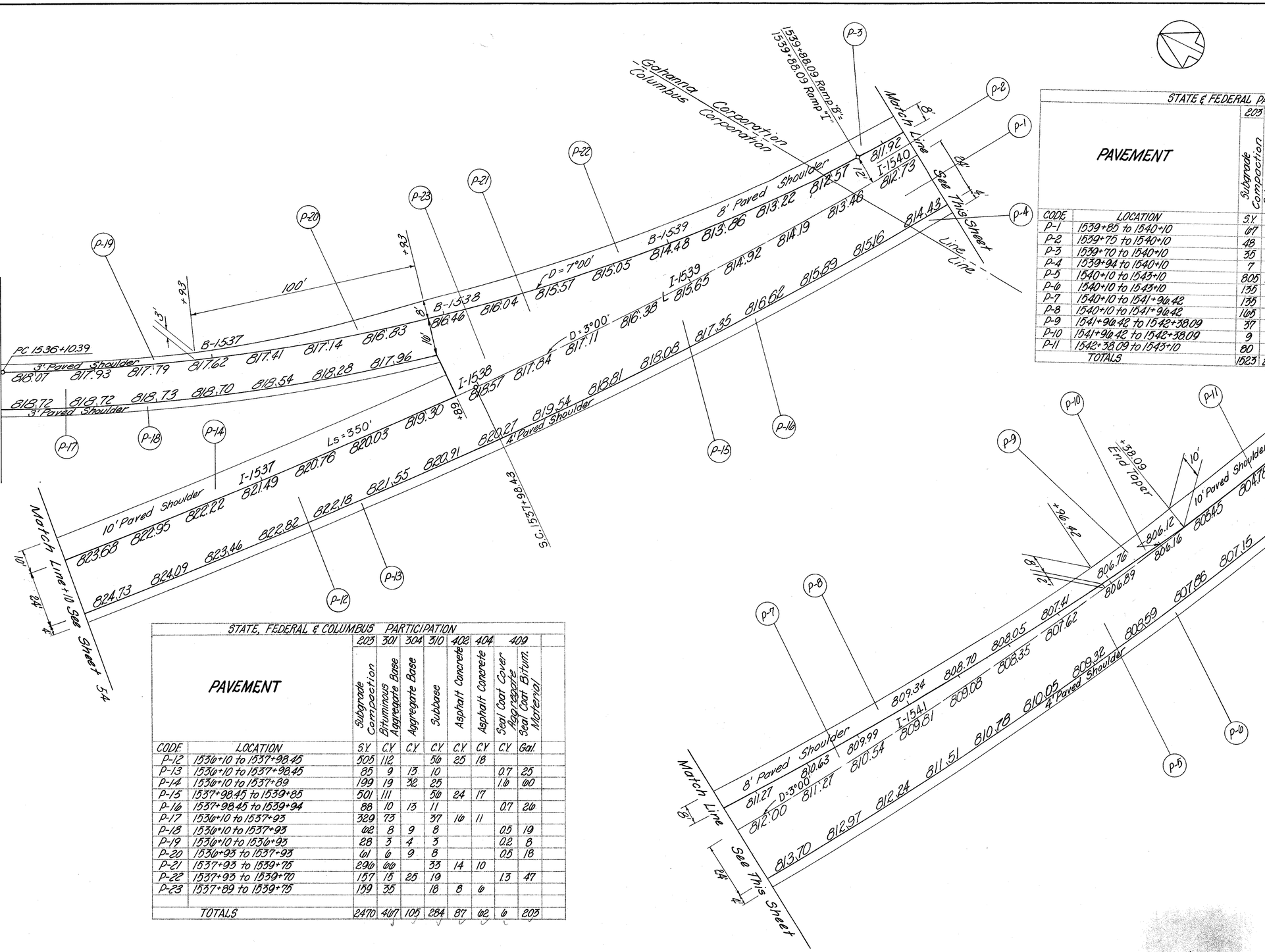
QUANTITIES APPROVED
BY Edward J. Mc Cabe 12-17-69
FOR R/W PURPOSES ONLY
BY [illegible] 12-18-69

RAMP "B" DETAILS 1529+99.88 TO 1536+10

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

56
247

FRANKLIN COUNTY
FRA-270-26.76N



STATE & FEDERAL PARTICIPATION									
		203	301	304	310	402	404	409	
PAVEMENT		Subgrade Compaction	Bituminous Aggregate Base	Aggregate Base	Subbase	Asphalt Concrete	Asphalt Concrete	Seal Coat Cover Aggregate	Seal Coat Bitum. Material
CODE	LOCATION	S.Y.	C.Y.	C.Y.	C.Y.	C.Y.	C.Y.	C.Y.	Gal.
P-1	1539+85 to 1540+10	107	15		7	3	2		
P-2	1539+75 to 1540+10	48	11		5	2	2		
P-3	1539+70 to 1540+10	35	3	0	4			0.3	11
P-4	1539+94 to 1540+10	7	1	1	1			0.1	2
P-5	1540+10 to 1543+10	805	179		89	39	28		
P-6	1540+10 to 1543+10	135	15	20	17			1.1	41
P-7	1540+10 to 1541+96.42	135	30		15	7	5		
P-8	1540+10 to 1541+96.42	105	10	20	20			1.3	49
P-9	1541+96.42 to 1542+38.09	37	4	0	5			0.3	11
P-10	1541+96.42 to 1542+38.09	9	2		1				
P-11	1542+38.09 to 1543+10	80	8	13	10			0.6	24
	TOTALS	1523	284	72	174	51	37	4	138

STATE, FEDERAL & COLUMBUS PARTICIPATION									
		203	301	304	310	402	404	409	
PAVEMENT		Subgrade Compaction	Bituminous Aggregate Base	Aggregate Base	Subbase	Asphalt Concrete	Asphalt Concrete	Seal Coat Cover Aggregate	Seal Coat Bitum. Material
CODE	LOCATION	S.Y.	C.Y.	C.Y.	C.Y.	C.Y.	C.Y.	C.Y.	Gal.
P-12	1536+10 to 1537+98.45	505	112		56	25	18		
P-13	1536+10 to 1537+98.45	85	9	13	10			0.7	25
P-14	1536+10 to 1537+89	199	19	32	25			1.6	60
P-15	1537+98.45 to 1539+85	501	111		50	24	17		
P-16	1537+98.45 to 1539+94	88	10	13	11			0.7	26
P-17	1536+10 to 1537+93	329	73		37	16	11		
P-18	1536+10 to 1537+93	62	8	9	8			0.5	19
P-19	1536+10 to 1536+93	28	3	4	3			0.2	8
P-20	1536+93 to 1537+93	61	6	9	8			0.5	18
P-21	1537+93 to 1539+75	290	60		33	14	10		
P-22	1537+93 to 1539+70	157	15	25	19			1.3	47
P-23	1537+89 to 1539+75	159	35		18	8	6		
	TOTALS	2470	407	105	284	87	62	6	203

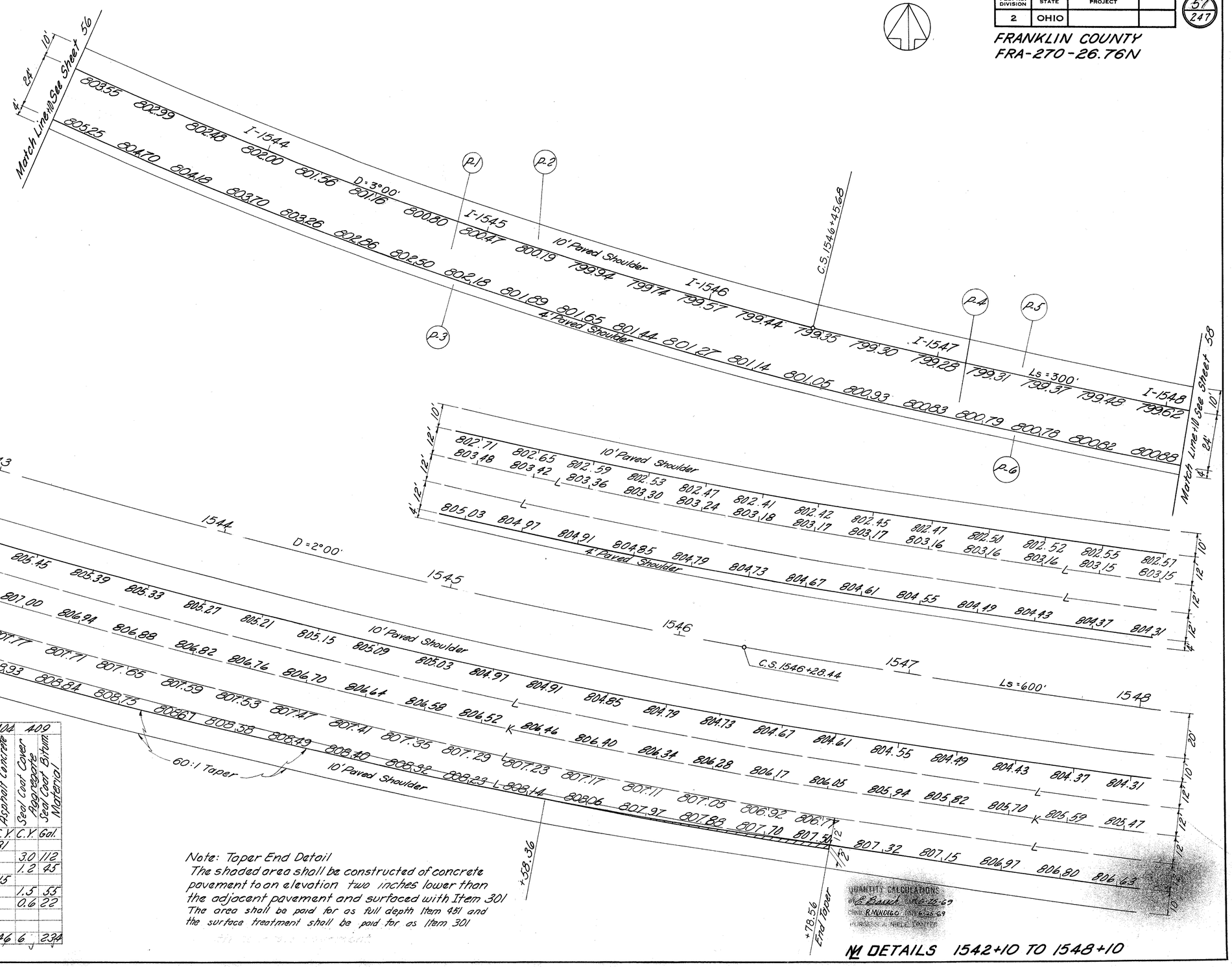
NOT TO SCALE
E. Brault 4-03
RMN/DGD 4-03-01

RAMP "I" DETAILS 1536+10 TO 1543+10

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

57/247

FRANKLIN COUNTY
FRA-270-26.76N



PAVEMENT

CODE	LOCATION	203 Subgrade Compaction S.Y.	301 Bituminous Aggregate Base C.Y.	304 Aggregate Base C.Y.	310 Subbase C.Y.	402 Asphalt Concrete C.Y.	404 Asphalt Concrete C.Y.	409 Seal Coat Cover Aggregate C.Y.	409 Seal Coat Bitum. Material Gal.
P-1	1543+10.00 to 1546+45.70	901	200		100	44	31		
P-2	1543+10.00 to 1546+45.70	372	35	59	46			3.0	112
P-3	1543+10.00 to 1546+45.70	151	17	22	19			1.2	45
P-4	1546+45.70 to 1548+10.00	438	97		49	21	15		
P-5	1546+45.70 to 1548+10.00	183	17	29	23			1.5	55
P-6	1546+45.70 to 1548+10.00	73	8	11	9			0.6	22
	TOTAL	2118	374	121	246	65	46	6	234

Note: Taper End Detail
The shaded area shall be constructed of concrete pavement to an elevation two inches lower than the adjacent pavement and surfaced with Item 301 The area shall be paid for as full depth Item 451 and the surface treatment shall be paid for as Item 301

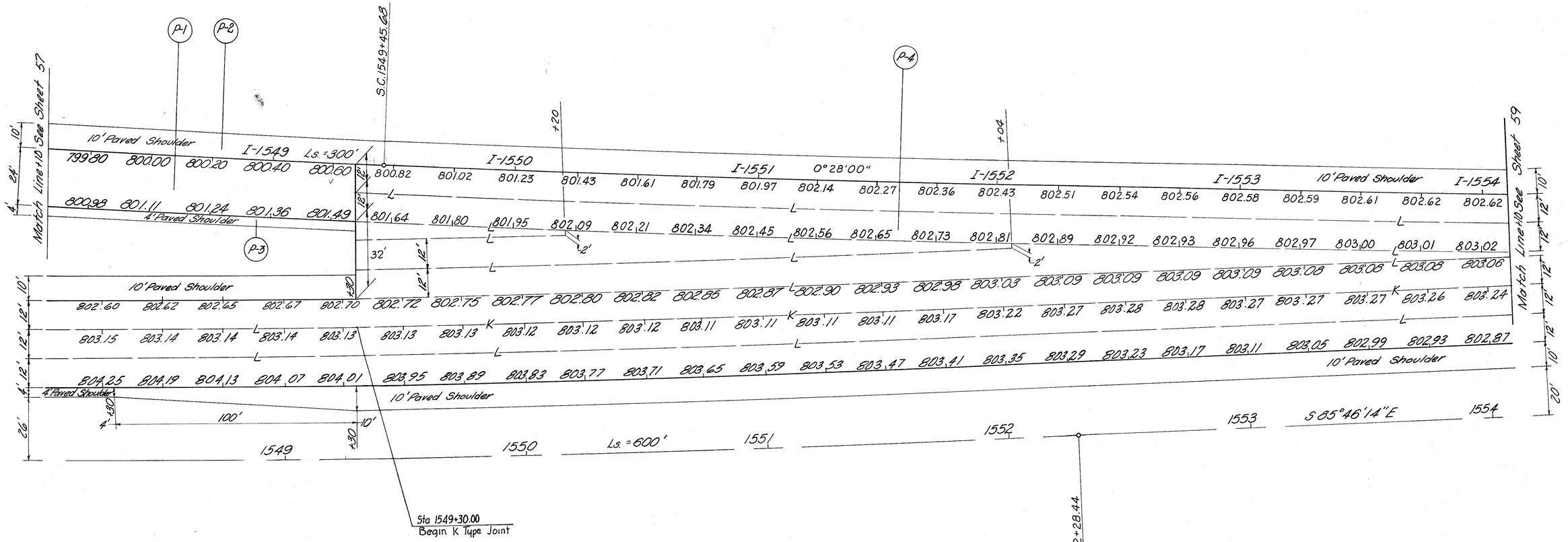
QUANTITY CALCULATIONS
BY C. Bauch DATE 6-25-69
CHKD. R. MUNDEO DATE 6-25-69
PURSUANT TO NIELE MEMO

DETAILS 1542+10 TO 1548+10

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

58
247

FRANKLIN COUNTY
FRA-270-26.76N



PAVEMENT		203 Subgrade Compaction	301 Bituminous Aggregate	304 Aggregate Base	310 Subbase	402 Asphalt Concrete	404 Asphalt Concrete	409 Seal Coat Cover Aggregate	409 Seal Coat Bitum. Material	451 8" Continuous Concrete
CODE	LOCATION	S.Y.	C.Y.	C.Y.	C.Y.	C.Y.	C.Y.	C.Y.	Gal.	S.Y.
P-1	1548+10 to 1549+35	333	74		57	10	12			
P-2	1548+10 to 1549+35	139	13	22	17			1.1	42	
P-3	1548+10 to 1549+35	56	6	8	7			0.4	17	
P-4	1549+35 to 1554+10	2138	238							2138
	TOTAL	2666	331	30	61	16	12	2	59	2138

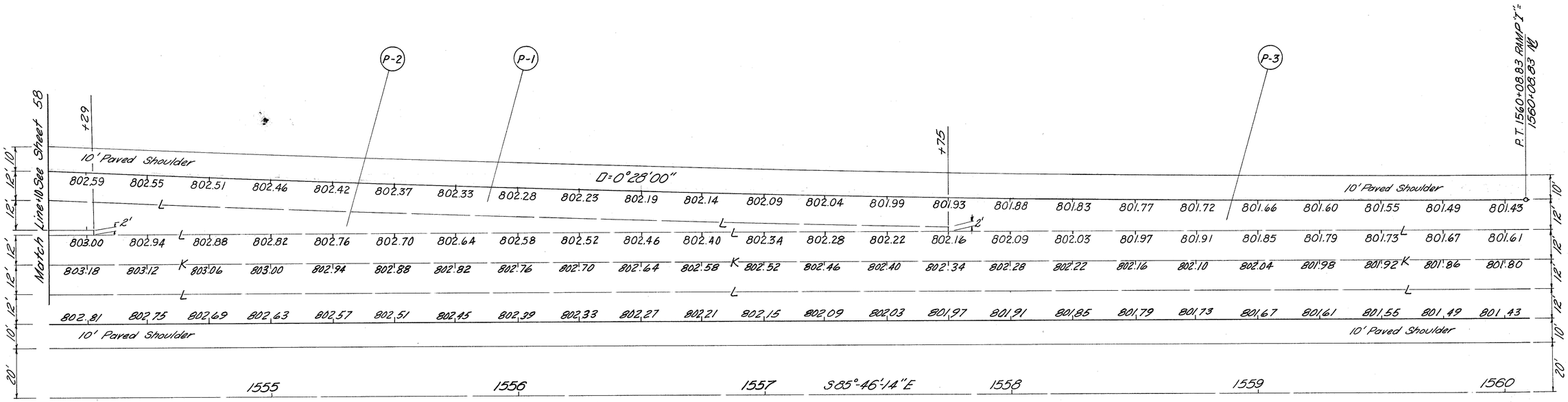
E. Rieder 6-26-69
R.M. Miller 6-26-69

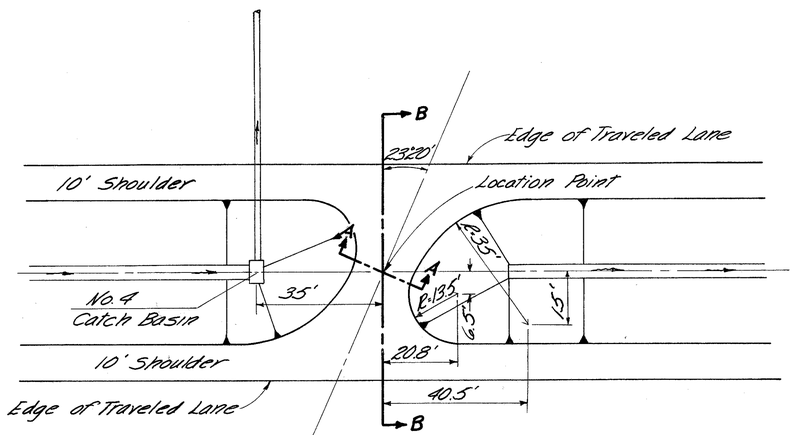
RAMP "I" DETAILS 1548+10 TO 1554+10

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

59
247

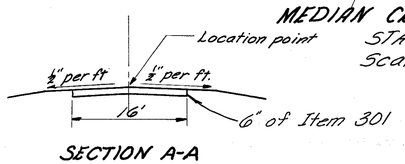
FRANKLIN COUNTY
FRA-270-26.76N



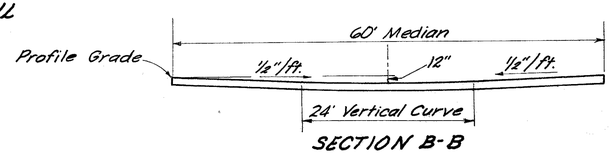


MEDIAN CROSS OVER DETAIL
STA 1584+35
Scale 1" = 20'

PAVEMENT		203 Subgrade Compaction	301 Bituminous Aggregate Base	451 8" Continuous Concrete			
CODE	LOCATION	S.Y.	C.Y.	S.Y.			
P-1	1554+10 to 1557+75	487	54	487			
P-2	1554+10 to 1557+75	324	36	324			
P-3	1557+75 to 1560+10	339	38	339			
	Median Cross Over @ 1584+35	119	20				
	TOTALS	1269	149	1150			



SECTION A-A



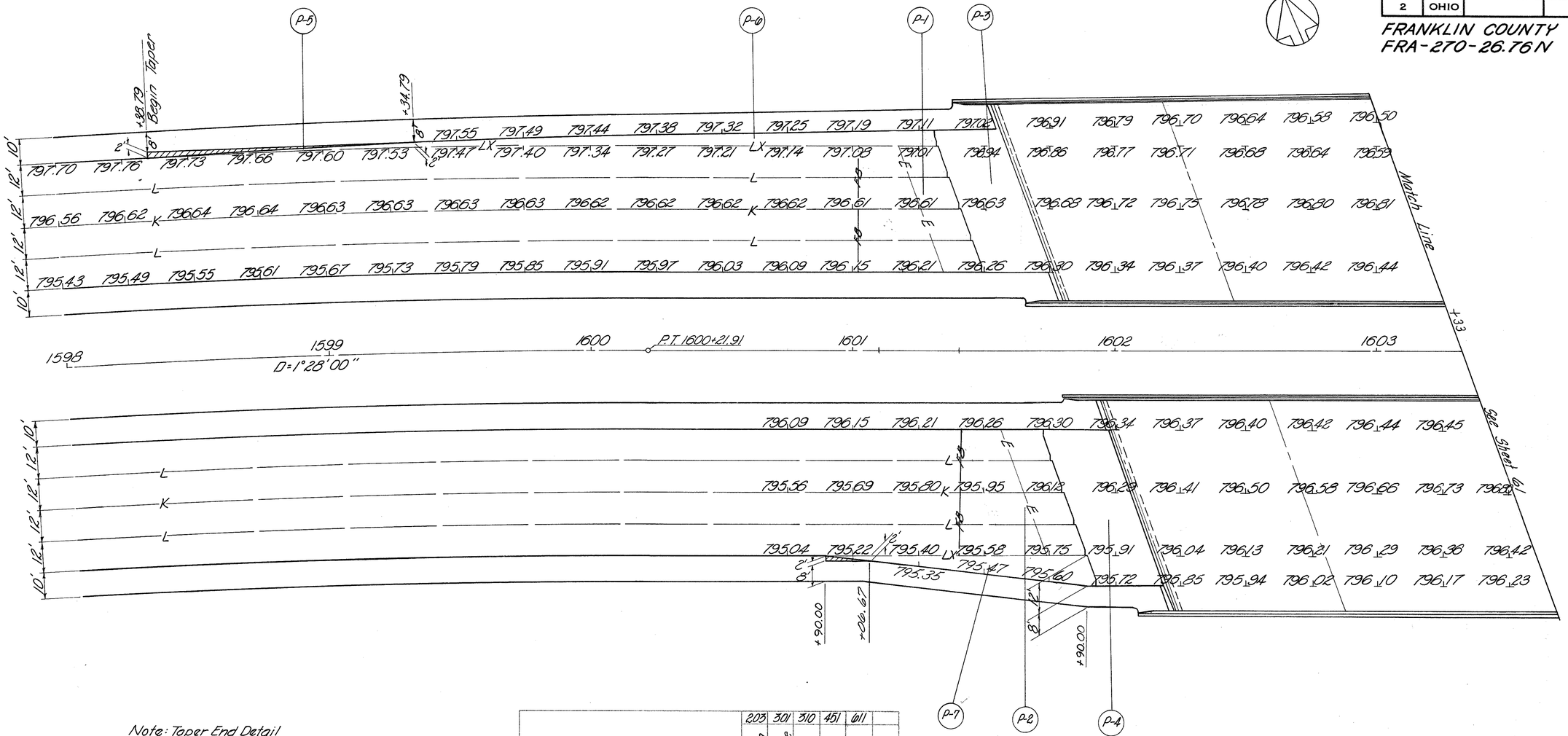
SECTION B-B

RAMP "I" DETAILS 1554+10 TO 1560+10

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

60
247

FRANKLIN COUNTY
FRA-270-26.76N



Note: Taper End Detail
The shaded area shall be constructed of concrete pavement to an elevation two inches lower than the adjacent pavement and surfaced with Item 301. The area shall be paid for as full depth 451 and the surface treatment shall be paid for as 301

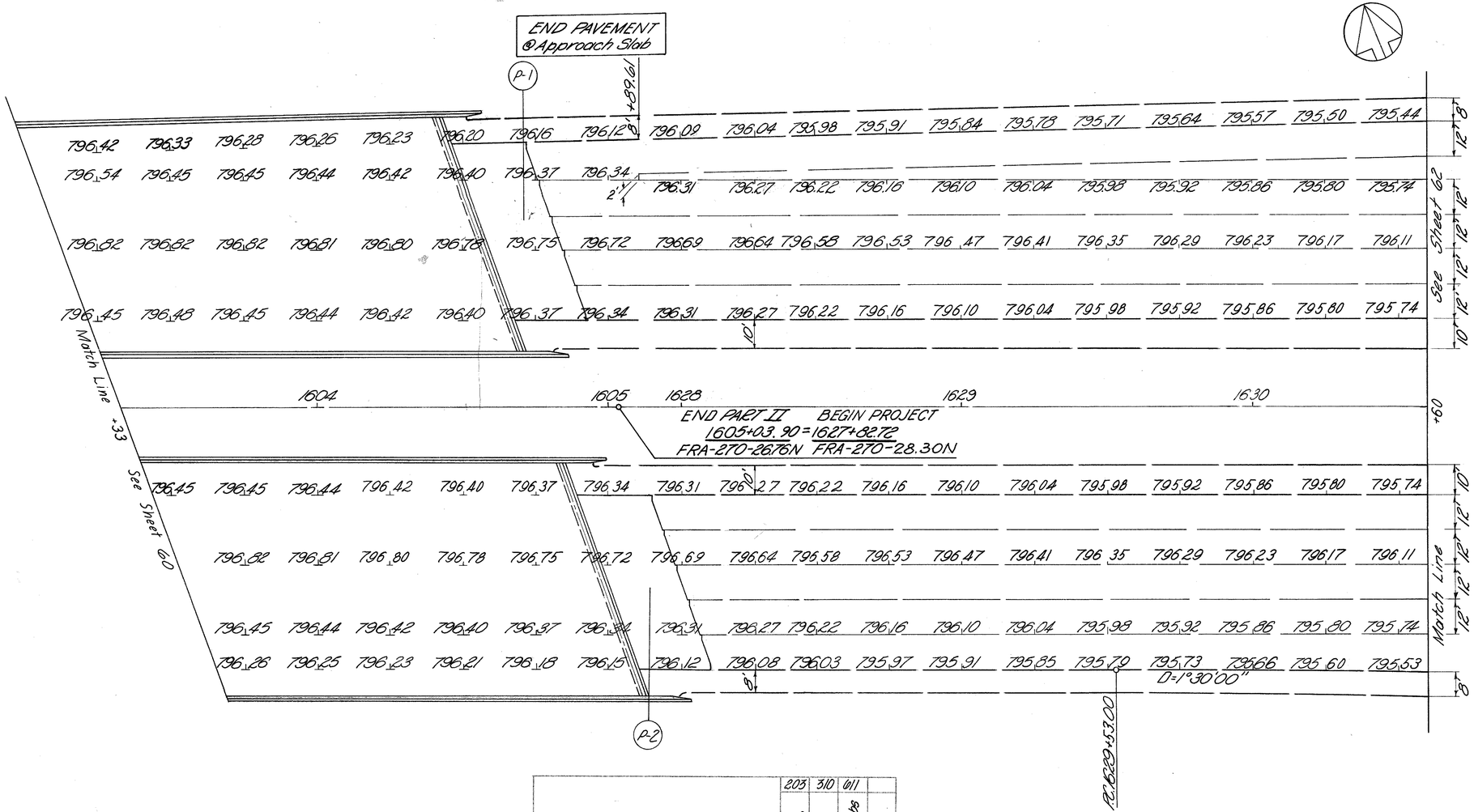
PAVEMENT		203 Subgrade Compaction	301 Bituminous Aggregate Base	310 Subbase	451 9" Reinforced Concrete	611 Approach Slabs	
CODE	LOCATION	S.Y.	C.Y.	C.Y.	S.Y.	S.Y.	
P-1	1601+10 to 1601+41	105	18		105		
P-2	1601+49.50 to 1601+81	108	19		108		
P-3	1601+40 to 1601+66	157		26		157	
P-4	1601+84 to 1602+09	107		28		107	
P-5	1598+38.79 to 1599+34.79	21	2		21		
P-6	1599+34.79 to 1601+31	87	10		87		
P-7	1600+90 to 1601+94	75	8		75		
TOTALS		840	57	54	510	324	

NL DETAILS 1598 to 1603+33

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

61
247

FRANKLIN COUNTY
FRA-270-26.76N



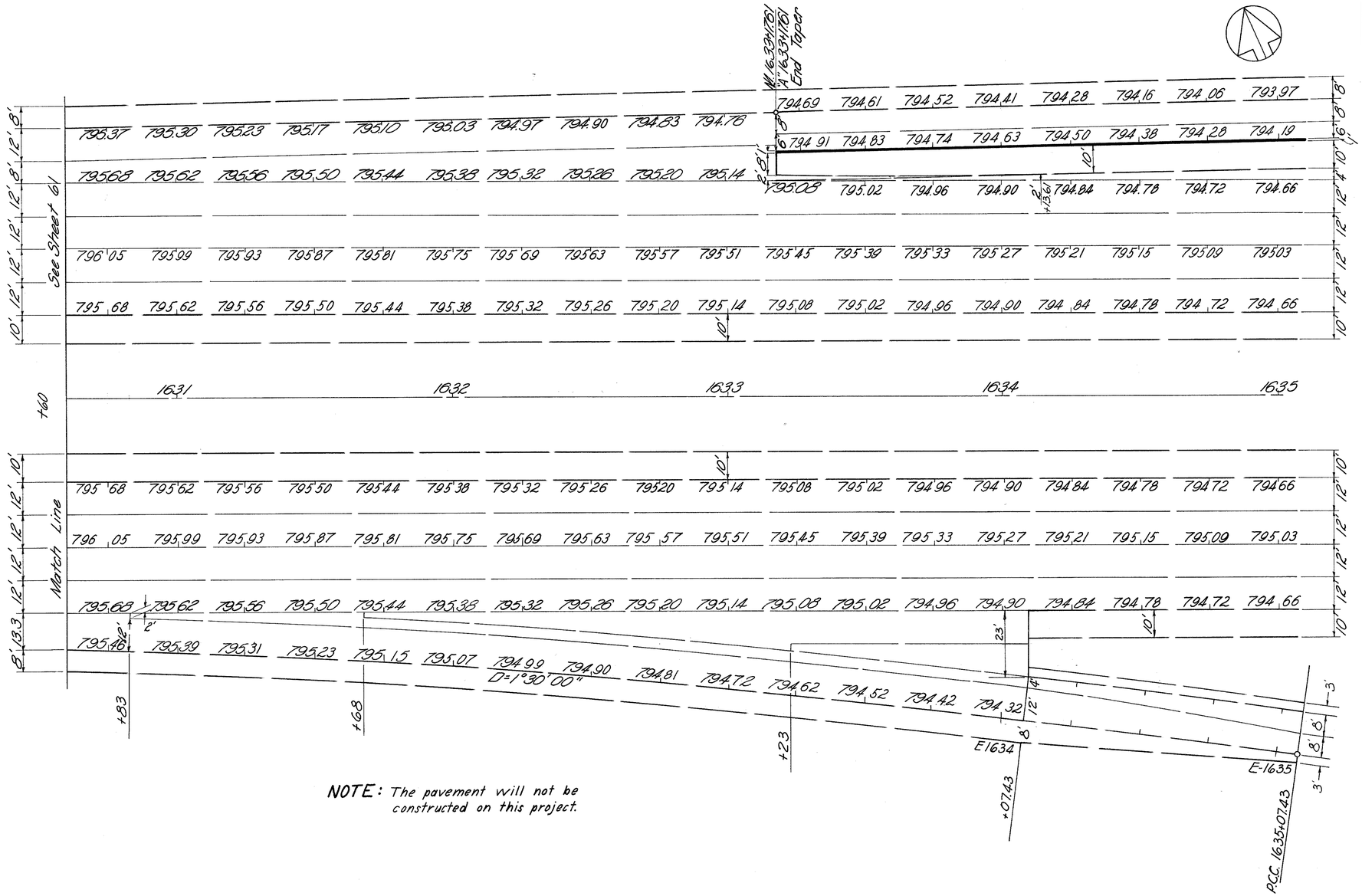
PAVEMENT		203 Subgrade Compaction	310 Subbase	611 Approach Slabs	
CODE	LOCATION	S.Y.	C.Y.	S.Y.	
P-1	1604+58 to 1604+83	108	28	108	
P-2	1605+00 to 1605+25	107	28	107	
	TOTALS	335	56	335	

NL DETAILS 1603+33 to 1630+60

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

62
247

FRANKLIN COUNTY
FRA-270-26.76N



NOTE: The pavement will not be constructed on this project.

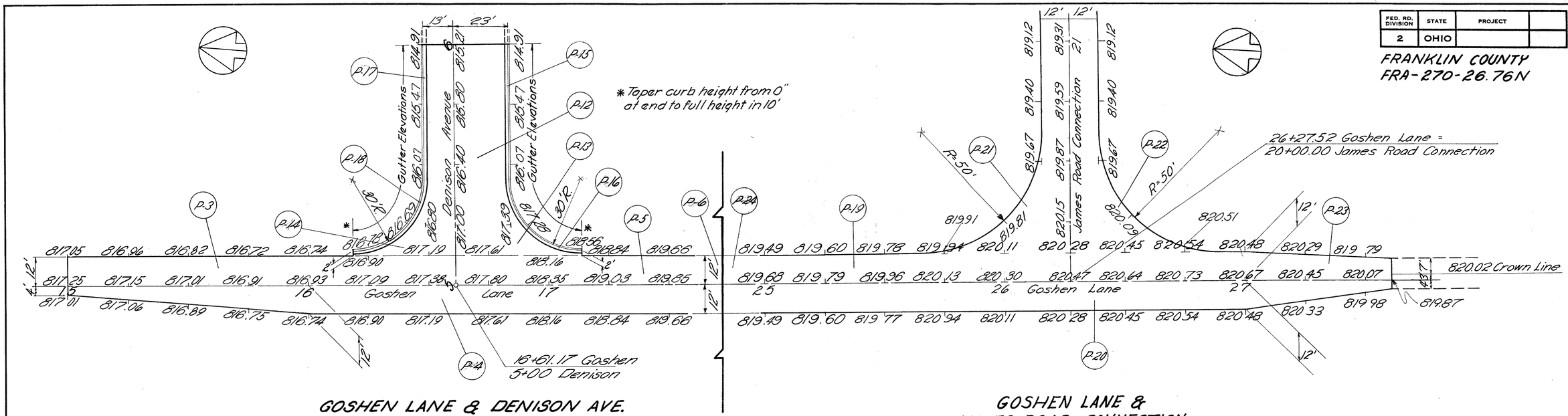
QUANTITY SURVEY
E.R.
CHKD. R.M.H.
BURGESS & NIPLE, LIMITED

№ DETAILS 1630+60 TO 1635+00

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

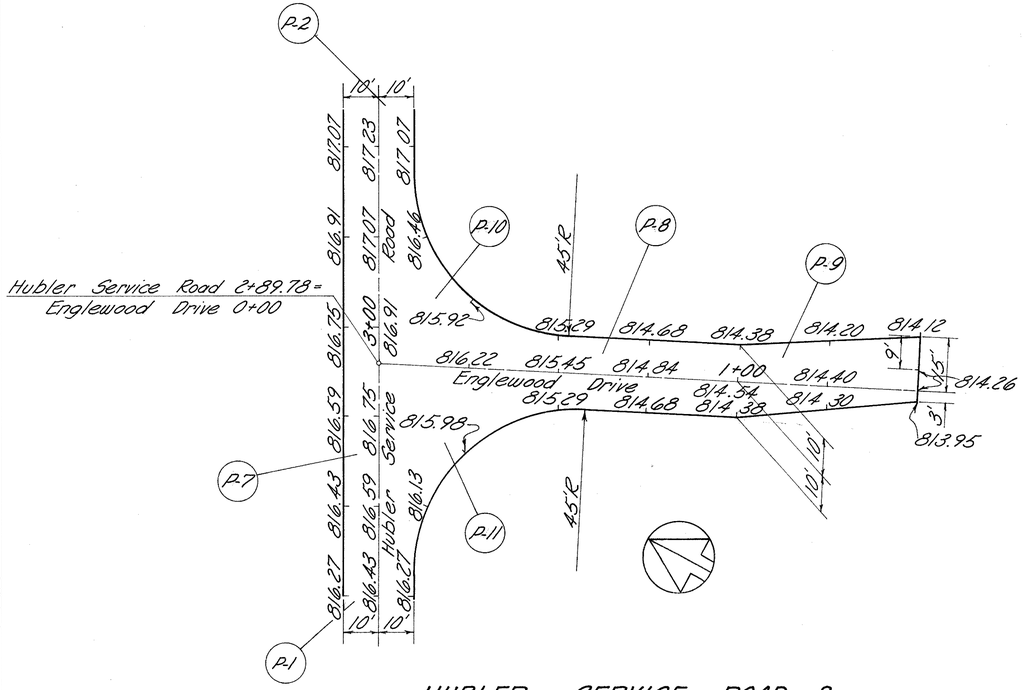
63
247

FRANKLIN COUNTY
FRA-270-26.76N



GOSHEN LANE & DENISON AVE.

GOSHEN LANE & JAMES ROAD CONNECTION



HUBLER SERVICE ROAD & ENGLEWOOD DRIVE

PAVEMENT

CODE	LOCATION	203 Subgrade Compaction S.Y.	301 Bituminous Aggregate Base C.Y.	304 Aggregate Base C.Y.	310 Subbase C.Y.	402 Asphalt Concrete C.Y.	404 Asphalt Concrete C.Y.	408 Bituminous Prime Coat Gal.	609 Curbs, Type 2 L.F.	611 Approach Slabs S.Y.
P-1	0+10 to 2+33	496		115	59	21	14	198		
P-2	3+42 to 12+95.47	2119		556			118	848		
P-3	15+00 to 16+00	222	39	27		9	9			
P-4	16+00 to 17+14	304	52	35		13	13			
P-5	17+14 to 17+80.91	178	31	21		7	7			
P-6	17+80.91 to 18+10.91	80			13					80
P-7	2+33 to 3+42	242		55	28	10	7	97		
P-8	0+10 to 1+00	200		46	23	8	6	80		
P-9	1+00 to 1+50	106		25	13	4	3	42		
P-10	0+25 Lt.	39		10	5	2	1	16		
P-11	0+25 Rt.	52		12	7	2	1	21		
P-12	5+12 to 6+00	313	70			15	11			
P-13	5+25 Rt.	24	5			1	1			
P-14	5+25 Lt.	24	5			1	1			
P-15	5+42 to 6+00 Rt.	13							58	
P-16	5+25 Rt.	10							47	
P-17	5+42 to 6+00 Lt.	13							58	
P-18	5+25 Lt.	10							47	
P-19	21+26.43 to 25+66	1172	204	139		49	49			
P-20	25+66 to 27+00	357	61	41		15	15			
P-21	0+25 Lt.	60	11	7		3	3			
P-22	0+25 Rt.	60	11	7		3	3			
P-23	27+00 to 27+61	129	23	16		5	5			
P-24	20+96.43 to 21+26.43	80			13					80
	From Sheet 30			10						
	4+01 Hubler Service Road			23			9			
	27+35 Goshen Lane			8			3			
	TOTAL	6303	512	1153	161	168	279	1302	210	160

Note:
Pavement Composition in taper areas is the same as shown on the typical sections.

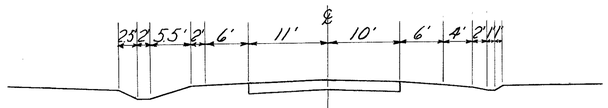
OHIO DEPARTMENT OF HIGHWAYS
Engineer of Design 10-69
Chief, Office of Design 10-69

PAVEMENT DETAILS

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

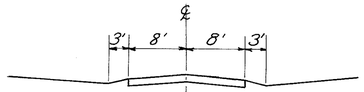
64
247

FRANKLIN COUNTY
FRA-270-26.76N



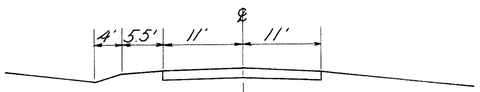
Existing Typical Section
Johnstown Road
27+00

3" Blacktop on
4" Stone



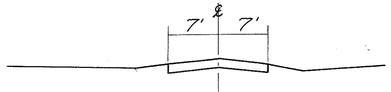
Existing Typical Section
Goshen Lane
15+00

3" Blacktop on
3" Gravel



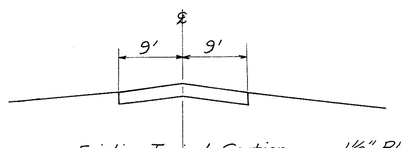
Existing Typical Section
Johnstown Road
9+00

3" Blacktop on
4" Stone



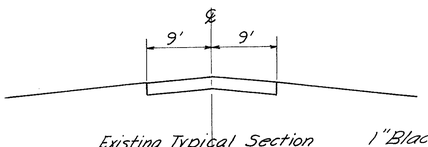
Existing Typical Section
Goshen Lane
26+00

2" Blacktop on
3" Gravel



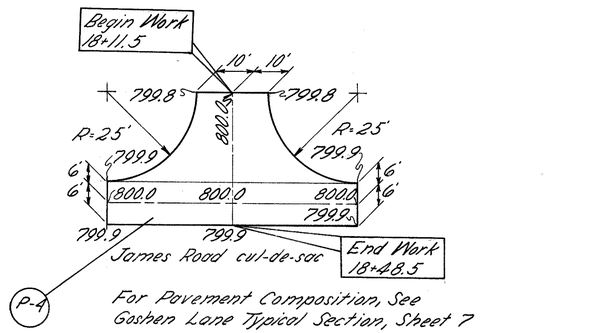
Existing Typical Section
Gayle Drive

1½" Blacktop on
3" Gravel

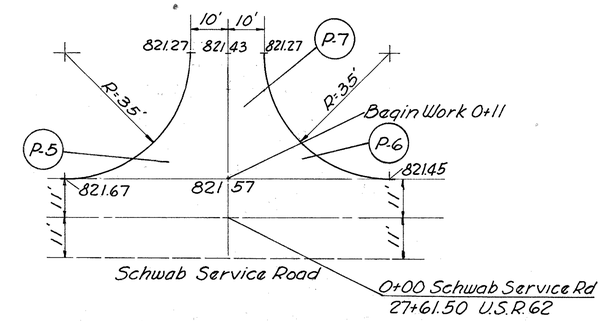


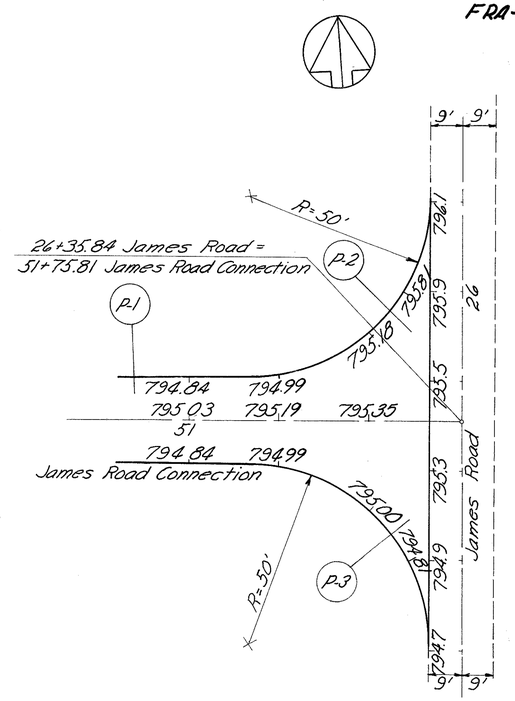
Existing Typical Section
Englewood Drive

1" Blacktop on
3" Gravel



For Pavement Composition, See
Goshen Lane Typical Section, Sheet 7





Note:
Pavement composition in taper areas is the same as shown on typical sections

PAVEMENT		203 Subgrade Compaction	301 Bituminous Aggregate Base	304 Aggregate Base		402 Asphalt Concrete	404 Asphalt Concrete	408 Bituminous Prime Coat
CODE	LOCATION	S.Y.	C.Y.	C.Y.		C.Y.	C.Y.	Gals.
P-1	20+12.00 to 51+66.81	843	146	1000		351	351	
P-2	51+50.00, Lt.	60	11	7		3	3	
P-3	51+50.00, Rt.	60	11	7		3	3	
P-4	James Road cul-de-sac	179	31	22		7	7	
	Schwab Service Road							
P-5	0+25.00, Lt.	29		8			2	12
P-6	0+25.00, Rt.	29		8			2	12
P-7	0+11.00 to 8+03.20	1722		452			96	689
	Drive @ 2+64			7			3	
	TOTAL	1042	1514	1511		364	467	713

E-30-69
E-30-69

PAVEMENT DETAILS

PAVEMENT ELEVATION TABLES IR 270

FRANKLIN COUNTY
FRA 270-26.76 N

STATION	LEFT EDGE	24 FT. LEFT	PROFILE	24 FT. RIGHT	RIGHT EDGE
1524+00.00	807.75	808.52	810.07	811.62	812.39
1524+25.00	807.69	808.46	810.01	811.56	812.33
1524+50.00	807.63	808.40	809.95	811.50	812.27
1524+75.00	807.57	808.34	809.89	811.44	812.21
1525+00.00	807.51	808.28	809.83	811.38	812.15
1525+25.00	807.45	808.22	809.77	811.32	812.09
1525+50.00	807.39	808.16	809.71	811.26	812.03
1525+75.00	807.33	808.10	809.65	811.20	811.97
1526+00.00	807.27	808.04	809.59	811.14	811.91
1526+25.00	807.21	807.98	809.53	811.08	811.85
1526+50.00	807.15	807.92	809.47	811.02	811.79
1526+75.00	807.09	807.86	809.41	810.96	811.73
1527+00.00	807.03	807.80	809.35	810.90	811.67
1527+25.00	806.97	807.74	809.29	810.84	811.61
1527+50.00	806.91	807.68	809.23	810.78	811.55
1527+75.00	806.85	807.62	809.17	810.72	811.49
1528+00.00	806.79	807.56	809.11	810.66	811.43
1528+25.00	806.73	807.50	809.05	810.60	811.37
1528+50.00	806.67	807.44	808.99	810.54	811.31
1528+75.00	806.61	807.38	808.93	810.48	811.25
1529+00.00	806.55	807.32	808.87	810.42	811.19
1529+25.00	806.49	807.26	808.81	810.36	811.13
1529+50.00	806.43	807.20	808.75	810.30	811.07
1529+75.00	806.37	807.14	808.69	810.24	811.01
1530+00.00	806.31	807.08	808.63	810.18	811.33
1530+25.00	806.25	807.02	808.57	810.12	811.47
1530+50.00	806.19	806.96	808.51	810.06	811.55
1530+75.00	806.13	806.90	808.45	810.00	811.62
1531+00.00	806.07	806.84	808.39	809.94	811.67
1531+25.00	806.01	806.78	808.33	809.88	811.72
1531+50.00	805.95	806.72	808.27	809.82	811.76
1531+75.00	805.89	806.66	808.21	809.76	811.81
1532+00.00	805.83	806.60	808.15	809.70	811.86
1532+25.00	805.77	806.54	808.09	809.64	811.91
1532+50.00	805.71	806.48	808.03	809.58	811.96
1532+75.00	805.65	806.42	807.97	809.52	812.00
1533+00.00	805.59	806.36	807.91	809.46	812.04
1533+25.00	805.53	806.30	807.85	809.40	812.07
1533+50.00	805.47	806.24	807.79	809.34	812.09
1533+75.00	805.41	806.18	807.73	809.28	812.10
1534+00.00	805.35	806.12	807.67	809.22	812.08
1534+25.00	805.29	806.06	807.61	809.16	812.05
1534+50.00	805.23	806.00	807.55	809.10	811.97
1534+75.00	805.17	805.94	807.49	809.04	811.88
1535+00.00	805.11	805.88	807.43	808.98	811.79
1535+25.00	805.05	805.82	807.37	808.92	811.71
1535+50.00	804.99	805.76	807.31	808.86	811.62
1535+75.00	804.93	805.70	807.25	808.80	811.53
1536+00.00	804.87	805.64	807.19	808.74	811.45
1536+25.00	804.81	805.58	807.13	808.68	811.36
1536+50.00	804.75	805.52	807.07	808.62	811.27
1536+75.00	804.69	805.46	807.01	808.56	811.18
1537+00.00	804.63	805.40	806.95	808.50	811.10
1537+25.00	804.57	805.34	806.89	808.44	811.01
1537+50.00	804.51	805.28	806.83	808.38	810.92
1537+75.00	804.45	805.22	806.77	808.32	810.84
1538+00.00	804.39	805.16	806.71	808.26	810.75
1538+25.00	804.33	805.10	806.65	808.20	810.66
1538+50.00	804.27	805.04	806.59	808.14	810.58
1538+75.00	804.21	804.98	806.53	808.08	810.49
1539+00.00	804.15	804.92	806.47	808.02	810.40
1539+25.00	804.09	804.86	806.41	807.96	810.32
1539+50.00	804.03	804.80	806.35	807.90	810.23
1539+75.00	803.97	804.74	806.29	807.84	810.14
1540+00.00	803.91	804.68	806.23	807.78	810.06
1540+25.00	803.85	804.62	806.17	807.72	809.97
1540+50.00	803.79	804.56	806.11	807.66	809.88
1540+75.00	803.73	804.50	806.05	807.60	809.79
1541+00.00	803.67	804.44	805.99	807.54	809.71
1541+25.00	803.61	804.38	805.93	807.48	809.62
1541+50.00	803.55	804.32	805.87	807.42	809.53
1541+75.00	803.49	804.26	805.81	807.36	809.45
1542+00.00	803.43	804.20	805.75	807.30	809.36
1542+25.00	803.37	804.14	805.69	807.24	809.27
1542+50.00	803.31	804.08	805.63	807.18	809.19
1542+75.00	803.25	804.02	805.57	807.12	809.10
1543+00.00	803.19	803.96	805.51	807.06	809.01
1543+25.00	803.13	803.90	805.45	807.00	808.93

MAINLINE PAVEMENT ELEVATION

PAVEMENT ELEVATION TABLES IR 270

FRANKLIN COUNTY
FRA 270-26.76N

66
247

STATION	LEFT EDGE	24 FT. LEFT	PROFILE	24 FT. RIGHT	RIGHT EDGE
1543+50.00	803.07	803.84	805.39	806.94	808.84
1543+75.00	803.01	803.78	805.33	806.88	808.75
1544+00.00	802.95	803.72	805.27	806.82	808.67
1544+25.00	802.89	803.66	805.21	806.76	808.58
1544+50.00	802.83	803.60	805.15	806.70	808.49
1544+75.00	802.77	803.54	805.09	806.64	808.40
1545+00.00	802.71	803.48	805.03	806.58	808.32
1545+25.00	802.65	803.42	804.97	806.52	808.23
1545+50.00	802.59	803.36	804.91	806.46	808.14
1545+75.00	802.53	803.30	804.85	806.40	808.06
1546+00.00	802.47	803.24	804.79	806.34	807.97
1546+25.00	802.41	803.18	804.73	806.28	807.88
1546+50.00	802.42	803.17	804.67	806.17	807.70
1546+75.00	802.45	803.17	804.61	806.05	807.50
1547+00.00	802.47	803.16	804.55	805.94	807.32
1547+25.00	802.50	803.16	804.49	805.82	807.15
1547+50.00	802.52	803.16	804.43	805.70	806.97
1547+75.00	802.55	803.15	804.37	805.59	806.80
1548+00.00	802.57	803.15	804.31	805.47	806.63
1548+25.00	802.60	803.15	804.25	805.35	806.45
1548+50.00	802.62	803.14	804.19	805.24	806.28
1548+75.00	802.65	803.14	804.13	805.12	806.11
1549+00.00	802.67	803.14	804.07	805.00	805.93
1549+25.00	802.70	803.13	804.01	804.89	805.76
1549+50.00	802.72	803.13	803.95	804.77	805.59
1549+75.00	802.75	803.13	803.89	804.65	805.41
1550+00.00	802.77	803.12	803.83	804.54	805.24
1550+25.00	802.80	803.12	803.77	804.42	805.07
1550+50.00	802.82	803.12	803.71	804.30	804.89
1550+75.00	802.85	803.11	803.65	804.19	804.72
1551+00.00	802.87	803.11	803.59	804.07	804.55
1551+25.00	802.90	803.11	803.53	803.95	804.37
1551+50.00	802.93	803.11	803.47	803.84	804.20
1551+75.00	802.98	803.17	803.41	803.78	804.03
1552+00.00	803.03	803.22	803.35	803.72	803.85
1552+25.00	803.09	803.27	803.29	803.66	803.68
1552+50.00	803.09	803.28	803.23	803.60	803.56
1552+75.00	803.09	803.28	803.17	803.54	803.44
1553+00.00	803.09	803.27	803.11	803.48	803.32

STATION	LEFT EDGE	24 FT. LEFT	PROFILE	24 FT. RIGHT	RIGHT EDGE
1553+25.00	803.08	803.27	803.05	803.42	803.21
1553+50.00	803.08	803.27	802.99	803.36	803.09
1553+75.00	803.08	803.26	802.93	803.30	802.97
1554+00.00	803.06	803.24	802.87	803.24	802.87
1554+25.00	803.00	803.18	802.81	803.18	802.81
1554+50.00	802.94	803.12	802.75	803.12	802.75
1554+75.00	802.88	803.06	802.69	803.06	802.69
1555+00.00	802.82	803.00	802.63	803.00	802.63
1555+25.00	802.76	802.94	802.57	802.94	802.57
1555+50.00	802.70	802.88	802.51	802.88	802.51
1555+75.00	802.64	802.82	802.45	802.82	802.45
1556+00.00	802.58	802.76	802.39	802.76	802.39
1556+25.00	802.52	802.70	802.33	802.70	802.33
1556+50.00	802.46	802.64	802.27	802.64	802.27
1556+75.00	802.40	802.58	802.21	802.58	802.21
1557+00.00	802.34	802.52	802.15	802.52	802.15
1557+25.00	802.28	802.46	802.09	802.46	802.09
1557+50.00	802.22	802.40	802.03	802.40	802.03
1557+75.00	802.16	802.34	801.97	802.34	801.97
1558+00.00	802.09	802.28	801.91	802.28	801.91
1558+25.00	802.03	802.22	801.85	802.22	801.85
1558+50.00	801.97	802.16	801.79	802.16	801.79
1558+75.00	801.91	802.10	801.73	802.10	801.73
1559+00.00	801.85	802.04	801.67	802.04	801.67
1559+25.00	801.79	801.98	801.61	801.98	801.61
1559+50.00	801.73	801.92	801.55	801.92	801.55
1559+75.00	801.67	801.86	801.49	801.86	801.49
1560+00.00	801.61	801.80	801.43	801.80	801.43
1560+25.00	801.37	801.74	801.37	801.74	801.37
1560+50.00	801.31	801.68	801.31	801.68	801.31
1560+75.00	801.25	801.62	801.25	801.62	801.25
1561+00.00	801.19	801.56	801.19	801.56	801.19
1561+25.00	801.13	801.50	801.13	801.50	801.13
1561+50.00	801.07	801.44	801.07	801.44	801.07
1561+75.00	801.01	801.38	801.01	801.38	801.01
1562+00.00	800.95	801.32	800.95	801.32	800.95
1562+25.00	800.89	801.26	800.89	801.26	800.89
1562+50.00	800.83	801.20	800.83	801.20	800.83
1562+75.00	800.77	801.14	800.77	801.14	800.77
1563+00.00	800.71	801.08	800.71	801.08	800.71

MAINLINE PAVEMENT ELEVATION

PAVEMENT ELEVATION TABLES IR 270

FRANKLIN COUNTY
FRA 270-26.76N

STATION	LEFT EDGE	24 FT. LEFT	PROFILE	24 FT. RIGHT	RIGHT EDGE
1563+25.00	800.65	801.02	800.65	801.02	800.65
1563+50.00	800.59	800.96	800.59	800.96	800.59
1563+75.00	800.53	800.90	800.53	800.90	800.53
1564+00.00	800.47	800.84	800.47	800.84	800.47
1564+25.00	800.41	800.78	800.41	800.78	800.41
1564+50.00	800.35	800.72	800.35	800.72	800.35
1564+75.00	800.29	800.66	800.29	800.66	800.29
1565+00.00	800.23	800.60	800.23	800.60	800.23
1565+25.00	800.17	800.54	800.17	800.54	800.17
1565+50.00	800.11	800.48	800.11	800.48	800.11
1565+75.00	800.05	800.42	800.05	800.42	800.05
1566+00.00	799.99	800.36	799.99	800.36	799.99
1566+25.00	799.93	800.30	799.93	800.30	799.93
1566+50.00	799.87	800.24	799.87	800.24	799.87
1566+75.00	799.81	800.18	799.81	800.18	799.81
1567+00.00	799.75	800.12	799.75	800.12	799.75
1567+25.00	799.69	800.06	799.69	800.06	799.69
1567+50.00	799.63	800.00	799.63	800.00	799.63
1567+75.00	799.57	799.94	799.57	799.94	799.57
1568+00.00	799.51	799.88	799.51	799.88	799.51
1568+25.00	799.45	799.82	799.45	799.82	799.45
1568+50.00	799.39	799.76	799.39	799.76	799.39
1568+75.00	799.33	799.70	799.33	799.70	799.33
1569+00.00	799.27	799.64	799.27	799.64	799.27
1569+25.00	799.21	799.58	799.21	799.58	799.21
1569+50.00	799.15	799.52	799.15	799.52	799.15
1569+75.00	799.09	799.46	799.09	799.46	799.09
1570+00.00	799.03	799.40	799.03	799.40	799.03
1570+25.00	798.97	799.34	798.97	799.34	798.97
1570+50.00	798.91	799.28	798.91	799.28	798.91
1570+75.00	798.85	799.22	798.85	799.22	798.85
1571+00.00	798.79	799.16	798.79	799.16	798.79
1571+25.00	798.73	799.10	798.73	799.10	798.73
1571+50.00	798.67	799.04	798.67	799.04	798.67
1571+75.00	798.61	798.98	798.61	798.98	798.61
1572+00.00	798.55	798.92	798.55	798.92	798.55
1572+25.00	798.49	798.86	798.49	798.86	798.49
1572+50.00	798.43	798.80	798.43	798.80	798.43
1572+75.00	798.37	798.74	798.37	798.74	798.37
1573+00.00	798.31	798.68	798.31	798.68	798.31

STATION	LEFT EDGE	24 FT. LEFT	PROFILE	24 FT. RIGHT	RIGHT EDGE
1573+25.00	798.25	798.62	798.25	798.62	798.25
1573+50.00	798.19	798.56	798.19	798.56	798.19
1573+75.00	798.13	798.50	798.13	798.50	798.13
1574+00.00	798.07	798.44	798.07	798.44	798.07
1574+25.00	798.01	798.38	798.01	798.38	798.01
1574+50.00	797.95	798.32	797.95	798.32	797.95
1574+75.00	797.89	798.26	797.89	798.26	797.89
1575+00.00	797.83	798.20	797.83	798.20	797.83
1575+25.00	797.77	798.14	797.77	798.14	797.77
1575+50.00	797.71	798.08	797.71	798.08	797.71
1575+75.00	797.65	798.02	797.65	798.02	797.65
1576+00.00	797.59	797.96	797.59	797.96	797.59
1576+25.00	797.53	797.90	797.53	797.90	797.53
1576+50.00	797.47	797.84	797.47	797.84	797.47
1576+75.00	797.41	797.78	797.41	797.78	797.41
1577+00.00	797.35	797.72	797.35	797.72	797.35
1577+25.00	797.29	797.66	797.29	797.66	797.29
1577+50.00	797.23	797.60	797.23	797.60	797.23
1577+75.00	797.17	797.54	797.17	797.54	797.17
1578+00.00	797.11	797.48	797.11	797.48	797.11
1578+25.00	797.05	797.42	797.05	797.42	797.05
1578+50.00	796.99	797.36	796.99	797.36	796.99
1578+75.00	796.93	797.30	796.93	797.30	796.93
1579+00.00	796.87	797.24	796.87	797.24	796.87
1579+25.00	796.81	797.18	796.81	797.18	796.81
1579+50.00	796.75	797.12	796.75	797.12	796.75
1579+75.00	796.69	797.06	796.69	797.06	796.69
1580+00.00	796.63	797.00	796.63	797.00	796.63
1580+25.00	796.57	796.94	796.57	796.94	796.57
1580+50.00	796.51	796.88	796.51	796.88	796.51
1580+75.00	796.45	796.82	796.45	796.82	796.45
1581+00.00	796.39	796.76	796.39	796.76	796.39
1581+25.00	796.33	796.70	796.33	796.70	796.33
1581+50.00	796.27	796.64	796.27	796.64	796.27
1581+75.00	796.21	796.58	796.21	796.58	796.21
1582+00.00	796.15	796.52	796.15	796.52	796.15
1582+25.00	796.09	796.46	796.09	796.46	796.09
1582+50.00	796.03	796.40	796.03	796.40	796.03
1582+75.00	795.97	796.34	795.97	796.34	795.97
1583+00.00	795.91	796.28	795.91	796.28	795.91

MAINLINE PAVEMENT ELEVATION

PAVEMENT ELEVATION TABLES IR 270

FRANKLIN COUNTY
FRA 270-26.76N

STATION	LEFT EDGE	24 FT. LEFT	PROFILE	24 FT. RIGHT	RIGHT EDGE
1583+25.00	795.85	796.22	795.85	796.22	795.85
1583+50.00	795.79	796.16	795.79	796.16	795.79
1583+75.00	795.73	796.10	795.73	796.10	795.73
1584+00.00	795.67	796.04	795.67	796.04	795.67
1584+25.00	795.61	795.98	795.61	795.98	795.61
1584+50.00	795.55	795.92	795.55	795.92	795.55
1584+75.00	795.49	795.86	795.49	795.86	795.49
1585+00.00	795.46	795.80	795.43	795.77	795.40
1585+25.00	795.46	795.74	795.37	795.65	795.28
1585+50.00	795.47	795.68	795.31	795.53	795.15
1585+75.00	795.47	795.62	795.25	795.41	795.03
1586+00.00	795.47	795.56	795.19	795.28	794.91
1586+25.00	795.47	795.50	795.13	795.16	794.79
1586+50.00	795.51	795.44	795.07	795.01	794.63
1586+75.00	795.57	795.38	795.01	794.82	794.45
1587+00.00	795.64	795.32	794.95	794.64	794.26
1587+25.00	795.70	795.30	794.89	794.48	794.08
1587+50.00	795.77	795.30	794.83	794.36	793.89
1587+75.00	795.83	795.30	794.77	794.24	793.71
1588+00.00	795.90	795.30	794.71	794.12	793.52
1588+25.00	795.96	795.31	794.65	793.99	793.34
1588+50.00	796.03	795.31	794.59	793.87	793.15
1588+75.00	796.09	795.31	794.53	793.75	792.97
1589+00.00	796.16	795.31	794.47	793.63	792.78
1589+25.00	796.22	795.32	794.41	793.50	792.60
1589+50.00	796.29	795.32	794.35	793.38	792.41
1589+75.00	796.36	795.33	794.29	793.26	792.23
1590+00.00	796.43	795.34	794.24	793.15	792.06
1590+25.00	796.47	795.34	794.20	793.07	791.94
1590+50.00	796.44	795.30	794.17	793.04	791.90
1590+75.00	796.41	795.28	794.14	793.01	791.88
1591+00.00	796.39	795.26	794.12	792.99	791.86
1591+25.00	796.38	795.25	794.11	792.98	791.85
1591+50.00	796.38	795.24	794.11	792.98	791.84
1591+75.00	796.38	795.25	794.11	792.98	791.85
1592+00.00	796.39	795.26	794.12	792.99	791.86
1592+25.00	796.41	795.28	794.14	793.01	791.88
1592+50.00	796.44	795.30	794.17	793.04	791.90
1592+75.00	796.47	795.34	794.20	793.07	791.94
1593+00.00	796.51	795.38	794.24	793.11	791.98

STATION	LEFT EDGE	24 FT. LEFT	PROFILE	24 FT. RIGHT	RIGHT EDGE
1593+25.00	796.56	795.43	794.29	793.16	792.03
1593+50.00	796.62	795.48	794.35	793.22	792.08
1593+75.00	796.68	795.54	794.41	793.28	792.14
1594+00.00	796.74	795.60	794.47	793.34	792.20
1594+25.00	796.80	795.66	794.53	793.40	792.26
1594+50.00	796.86	795.72	794.59	793.46	792.32
1594+75.00	796.92	795.78	794.65	793.52	792.38
1595+00.00	796.98	795.84	794.71	793.58	792.44
1595+25.00	797.04	795.90	794.77	793.64	792.50
1595+50.00	797.10	795.96	794.83	793.70	792.56
1595+75.00	797.16	796.02	794.89	793.76	792.62
1596+00.00	797.22	796.08	794.95	793.82	792.68
1596+25.00	797.28	796.14	795.01	793.88	792.74
1596+50.00	797.34	796.20	795.07	793.94	792.80
1596+75.00	797.40	796.26	795.13	794.00	792.86
1597+00.00	797.46	796.32	795.19	794.06	792.92
1597+25.00	797.52	796.38	795.25	794.12	792.98
1597+50.00	797.58	796.44	795.31	794.18	793.04
1597+75.00	797.64	796.50	795.37	794.24	793.10
1598+00.00	797.70	796.56	795.43	794.30	793.16
1598+25.00	797.76	796.62	795.49	794.36	793.22
1598+50.00	797.73	796.64	795.55	794.46	793.37
1598+75.00	797.66	796.64	795.61	794.58	793.56
1599+00.00	797.60	796.63	795.67	794.71	793.74
1599+25.00	797.53	796.63	795.73	794.83	793.93
1599+50.00	797.47	796.63	795.79	794.95	794.11
1599+75.00	797.40	796.63	795.85	795.07	794.30
1600+00.00	797.34	796.62	795.91	795.20	794.48
1600+25.00	797.27	796.62	795.97	795.32	794.67
1600+50.00	797.21	796.62	796.03	795.44	794.85
1600+75.00	797.14	796.62	796.09	795.56	795.04
1601+00.00	797.08	796.61	796.15	795.69	795.22
1601+25.00	797.01	796.61	796.21	795.80	795.40
1601+50.00	796.94	796.63	796.26	795.95	795.58
1601+75.00	796.86	796.68	796.30	796.12	795.75
1602+00.00	796.77	796.72	796.34	796.29	795.91
1602+25.00	796.71	796.75	796.37	796.41	796.04
1602+50.00	796.68	796.78	796.40	796.50	796.13
1602+75.00	796.64	796.80	796.42	796.58	796.21

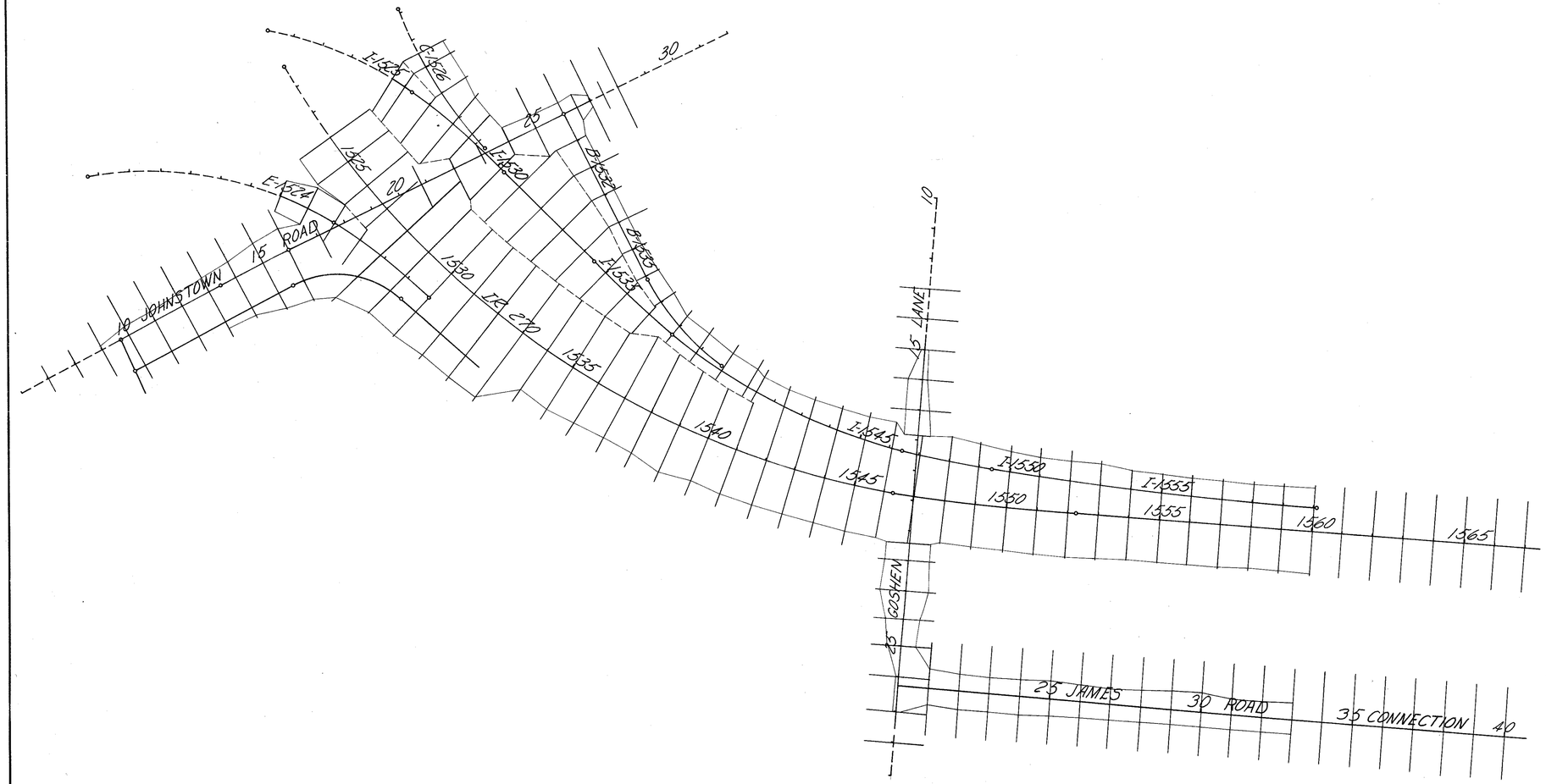
FOR ADDITIONAL PAVEMENT ELEVATIONS SEE SHEETS 02, 03 & 04

MAINLINE PAVEMENT ELEVATION

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

69
247

FRANKLIN COUNTY
FRA-270-26.76N



SCHEMATIC CROSS SECTION LAYOUT

SECTIONS

END AREA	SQ YDS

SECTION	STATE		
2	OHIO		

70
247

FRANKLIN COUNTY
FRA-270-26.76 N

	END AREA		VOLUME	
	CUT	FILL	CUT	FILL
86				
1178				
126				
1378				
122				
1311				
114				

820
804.97
1
72" Inv.
809.35
1527+00
815.6
1196 0
810
800
820
5130 0
5:25:1
805.21
1
809.59
1526+00
817.4
1574 0
810
800
D13
D1
820
8"-15" @ 4.25%, Type C
806.36 MH
805.20 Grade
4.6:1
Ditch
805.45
826.39 Grade
5644.67
810
Type "F" 46'-27" @ 21.67%
88"-15" @ 2.88%, Type B
6" Pipe Underdrain
800.99
72" Invert
797.07
800.74
801.07 C.B.
801.66
803.60 C.B.
809.83
1525+00
819.0
800
1474.36
820
3.6:1
805.69
4996.200
810
800
810.07
1524+00
817.6
1224.72
72" Inv.
BEGIN PART II
820
810
805.92
800
CROSS SECTIONS LEFT
1523+00 TO 1527+00
810.31
1523+00
817.7
250 200 150 100 50 0

QUANTITY CALCULATIONS
BY W.F.I. DATE 7/69
CHKD. G.S.W. DATE 7/14
BURGESS & NIPLE, LIMITED

SEEDING

SPD UNDIV	SQ. YDS.

PROJECT NO. OR ORIGINAL	STATE	PROJECT		SHEET NO.	TOTAL SHEETS
2	OHIO			71	247

FRANKLIN COUNTY
FRA-270-26.76 N

	EXC. AREA		VOLUME	
	CUT	FILL	CUT	FILL
153 1700				
153				
153 1700				
153 1700				
153				
190 1906				
1533				

Match Line

820
803.77
72" Inv.
808.15
1532+00
816.2
810
800
1538 7
820
804.01
808.39
1531+00
814.7
5443 43
810
800
1412 16
820
804.25
808.63
1530+00
815.1
5267 100
810
800
1432 38
820
804.49
808.87
1529+00
814.9
5181 100
810
800
1366 16
820
804.73
72" Inv.
809.11
1528+00
815.2
5381 226
810
800
1540 106
5067 196

CROSS SECTION LEFT
1528+00 TO 1532+00

250 200 150 100 50 ℄

QUANTITY CALCULATION
BY W.F.I. DATE 7/6
CHKD. G.S.W. DATE 7/11
BURGESS & NIPLE, LIMITED

	STATE	PROJECT	
2	OHIO		

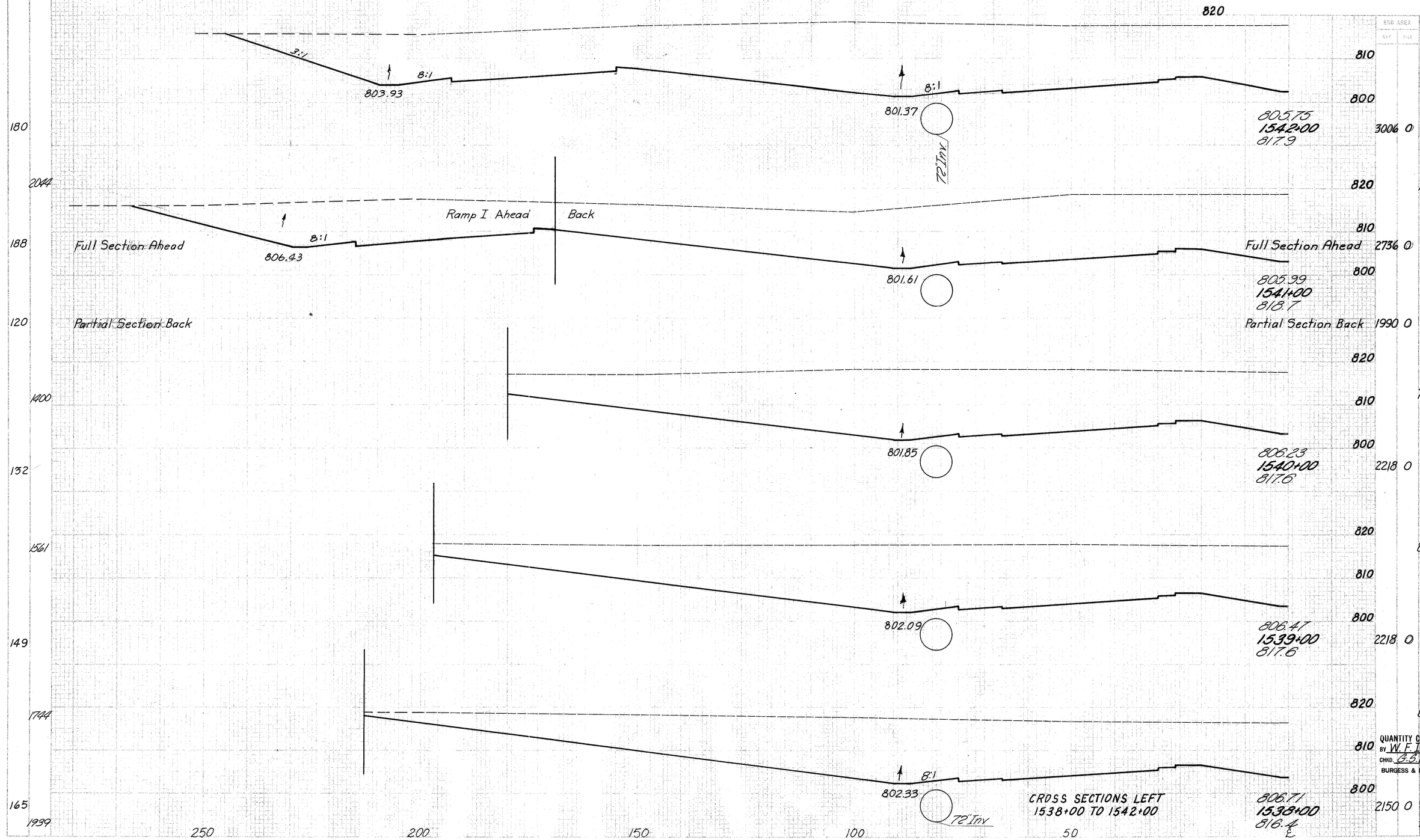
FRANKLIN COUNTY
FRA-270-26.76 N

CROSS SECTIONS LEFT
1533+00 TO 1537+00

QUANTITY CALCULATIONS
BY W.F.I. DATE 7/69
CHKD. G.S.W. DATE 7/11/6?
BURGESS & NIPLE, LIMITED

STATE OHIO | PROJECT
73
247

FRANKLIN COUNTY
FRA-270-26.76 N



QUANTITY CALCULATIONS
BY W.F.I. DATE 7/69
CHKD. G.S.W. DATE 7/11/69
BURGESS & NIPLE, LIMITED

OHIO

FRANKLIN COUNTY
FRA-270- 26.76 N

CROSS SECTIONS LEFT
1543+00 TO 1547+00

QUANTITY CALCULATIONS
BY W. F. I. DATE 7/69
CHKD. G. S. W. DATE 7/11/6[illegible]
BURGESS & NIPLE, LIMITED

SHEET NO.	STATE	PROJECT	
2	OHIO		

75
247

FRANKLIN COUNTY
FRA-270-26.76 N

SHEET				END AREA		VOLUME	
ENG STATION	SO. DIS.			CUT	FILL	CUT	FILL
86		3:1	8:1	810			
		814.22 Exist. MH. Sta 1551+33 Lt.	800.35	800			
			84" Inv.	803.35 1552+00 814.7		1991	0
	939	Plug @ LA Line		810		7574	0
	15'	8" Invert 806.37	800.14	800			
83				803.59 1551+00 814.8		2099	0
989		8" SA.S.		810		8122	0
			799.40	800			
95				803.83 1550+00 815.0		2287	0
1200		8" SA.S.		810		9881	0
			798.56	24:1 8:1 800.75	800		
121		817.04 Exist MH.		804.07 1549+00 815.9		2779	0
1489						10820	0
		8" Invert 808.33	3:1	810			
147			8:1 797.68	24:1 8:1 800.37	800		
1272				84" Inv.	804.31 1548+00 816.8	3118	0
						11100	0
	250	200	150	100	50		

CROSS SECTIONS
1548+00 TO 1552+00 LEFT

QUANTITY CALCULATIONS
BY W.F.T. DATE 7/69
CHKD. G.S.W. DATE 7/11/69
BURGESS & NIPLE, LIMITED

SEEDING	
END STATION	SQ. YDS.
170	
143	
1028	
42	
674	
74	
800	
70	

Back Ahead Ramp E

Full Section Ahead

820

810

800

809.35
1527+00
815.6

Partial Section Back

820

810

800

809.59
1526+00
817.4

820

810

800

806.22
Grate

809.83
1525+00
819.0

803.60
C.B.

820

810

800

810.07
1524+00
817.6

BEGIN PART II

820

810

800

810.31
1523+00
817.7

8:1 8:1 8:1

809.3 807.11

For Storm Sewer Profile
See Sheet 45 & 99

810.83

8:1 6:1

811.07

8:1 6:1

811.31

0 50 100 150 200 250

CROSS SECTIONS RIGHT
1523+00 TO 1527+00

	END AREA		VOLUME	
	CUT	FILL	CUT	FILL
Full Section Ahead	1356	0		
Partial Section Back	664	0		
			2633	0
	758	0		
			3022	0
	874	0		
			3111	0
	806	0		

STATE	PROJECT	
OHIO		

76
247

FRANKLIN COUNTY
FRA-270-26.76 N

QUANTITY CALCULATIONS
BY W.F.I. DATE 7/69
CHKD. G.S.W. DATE 7/11/69
BURGESS & NIPLE, LIMITED

SEEDING

SEED WIDTH	SQ. YDS.

RES. DIST.	REGION	STATE	PROJECT	
7		OHIO		

77
247

FRANKLIN COUNTY
FRA-270-26.76 N

END AREA		VOLUME	
CUT	FILL	CUT	FILL

820
810
800

157 — 808.15 — 1532+00 — 816.2
8:1 — 810.13
4:1 — 3:1 — 814.0
816.23 — 12+01 — 814.2
1023 62

1711
820
810
800

151 — 808.39 — 1531+00 — 814.7
809.55
816.53 — 10+94 — 813.3
813.8
3394 367

1706
820
810
800

156 — 808.63 — 1530+00 — 815.1
809.51
816.81 — 9+93 — 813.2
813.6
670 170
2741 567

1794
820
810
800

167 — 808.87 — 1529+00 — 814.9
808.51
817.14 — 8+85 — 814.8
814.6
3033 579

2139
218 — Full Section Ahead

820
810
800

143 — Partial Section Back
1739 — 809.11 — 1528+00 — 815.2
8:1 — 8:1 — 810.33
8:1 — 807.51
817.46 — 7+62 — 814.4
1088 0
4526 0

QUANTITY CALCULATIONS
BY W.F.I. DATE 7/69
CHKD. G.S.W. DATE 7/11/69
BURGESS & NIPLE, LIMITED

968 110
3822 448
1096 132

15.25.00
280
4:1
3:1
813.6

BACK | AHEAD

Full Section Ahead
Partial Section Back

CROSS SECTIONS RIGHT
1528+00 TO 1532+00

See Sheet 105 for Hubler Service Rd. Bk.

℄ 50 100 150 200 250

SHEET NO.	STATE	PROJECT	
2	OHIO		

78
247

FRANKLIN COUNTY
FRA-270-26.76 N

SECTIONS						AREA		VOLUME	
END WIDTH	50 FEET					CUT	FILL	CUT	FILL
		820							
		810		8:1 6:1					
				809.77					
		800							
102		806.95 1537+00 816.4				948	0		
	1111	820							
		810						3878	0
				810.12					
		800							
98		807.19 1536+00 817.7				1146	0		
		820							
	1083	810						4589	0
				810.46					
		800	804.22 Grate						
97		807.43 1535+00 818.7	800.95 C.B.			1332	0		
		820							
	1106	810						4819	0
				810.75					
		800							
102		807.67 1534+00 818.3				1270	0		
	1189							4326	0
112		Partial Section Ahead				1104	0		
		820							
		810		8:1 6:1					
157		Full Section Back		810.45					
		800							
	1744	807.91 1533+00 818.2				1110	0		
								3250	115

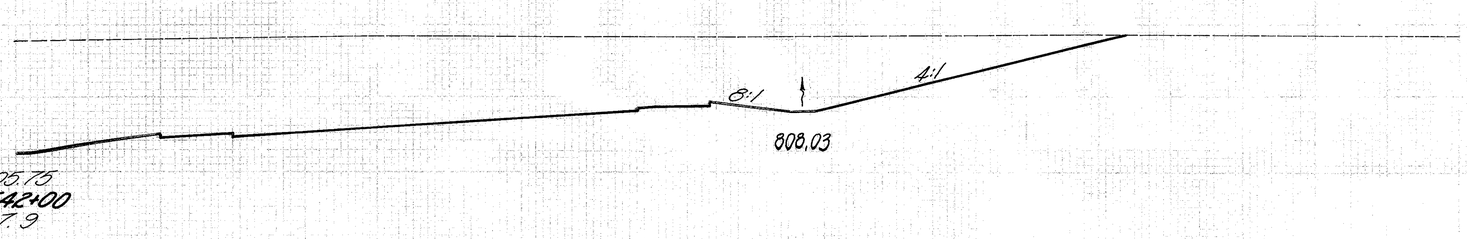
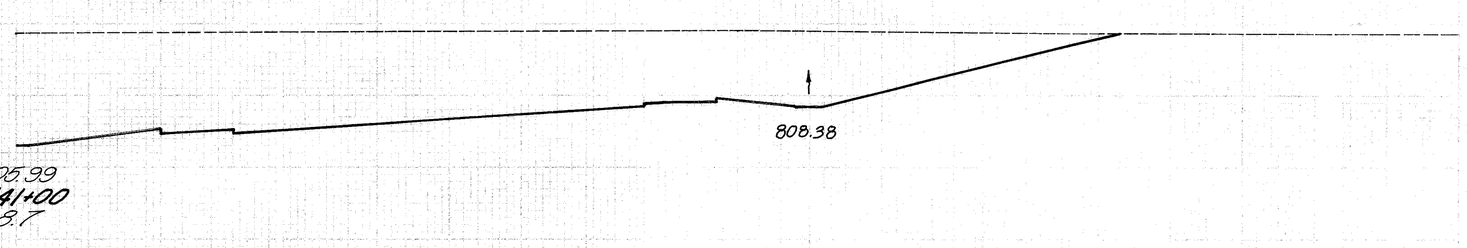
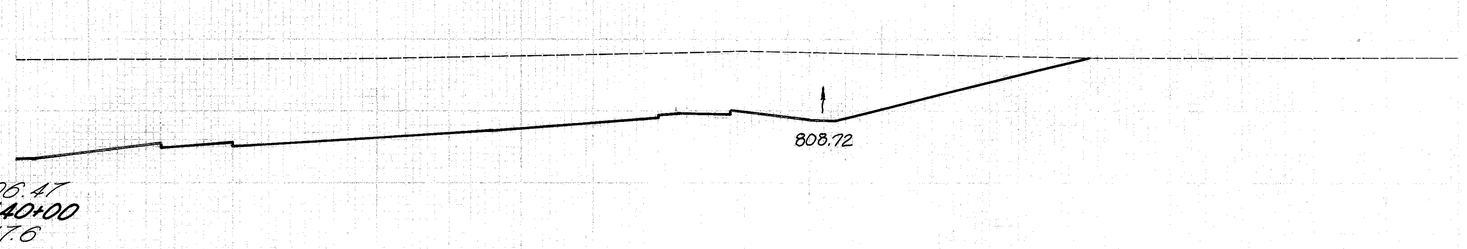
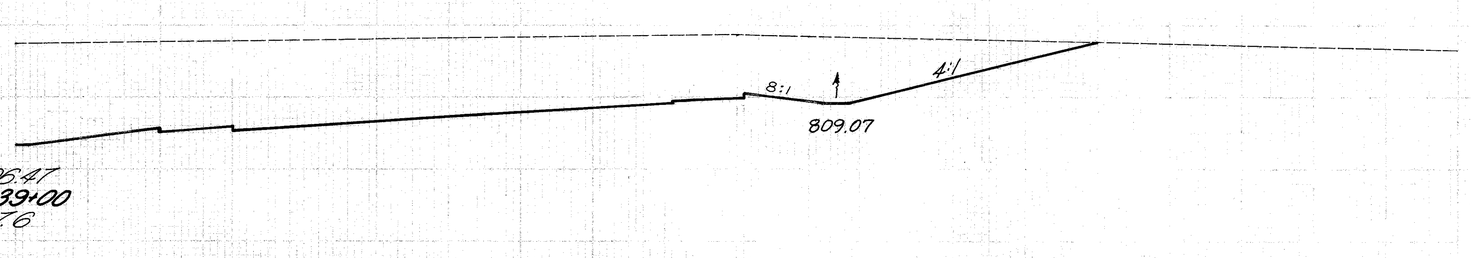
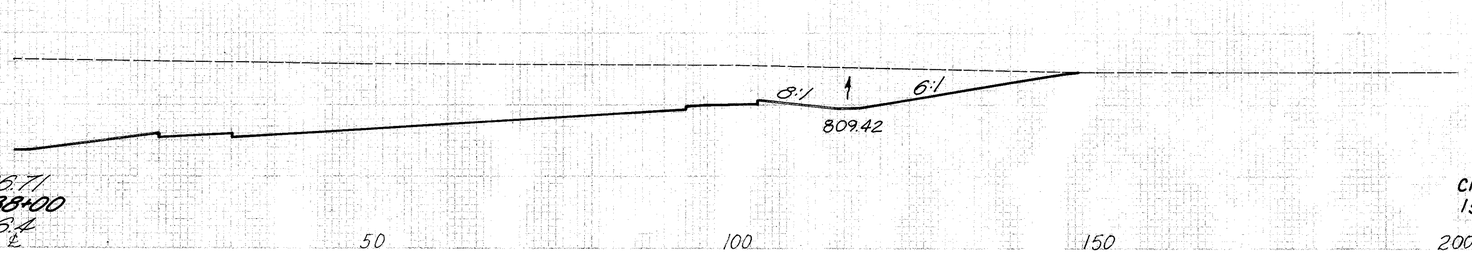
Ahead
Back
Partial Section Ahead
814.2
Full Section Back

CROSS SECTIONS RIGHT
1533+00 TO 1537+00

QUANTITY CALCULATIONS
BY W.F.I. DATE 7/69
CHKD. G.S.W. DATE 7/16/69
BURGESS & NIPLE, LIMITED

ℓ 50 100 150 200 250

FRANKLIN COUNTY
FRA-270-26.76 N

SECTIONS			END AREA		VOLUME	
ESD WIDTH	SQ YDS		CUT	FILL	CUT	FILL
110			1570	0		
1217					5889	0
109			1610	0		
1172					5663	0
102			1448	0		
1117					5381	0
99			1458	0		
1078					4604	0
95			1028	0		
1094					3659	0

CROSS SECTIONS RIGHT
1538+00 TO 1542+00

QUANTITY CALCULATIONS
BY W.F.I. DATE 7/69
CHKD. G.S.W. DATE 7/11/69
BURGESS & NIPLE, LIMITED

SEEDING

EQU. WIDTH	SQ. YDS.
45	883
114	
127.2	
115	
127.2	
114	
126.1	
113	
123.9	

ROAD CLASS. DIVISION	STATE	PROJECT	
2	OHIO		

80
247

FRANKLIN COUNTY
FRA-270-26.76 N

820
810
800

804.55
1547+00
818.72

8:1
3.5:1
805.80

820
810
800

804.79
1546+00
818.9

8:1
4:1
806.64

820
810
800

801.80
Grate

93'-6" @ 2.50%, Type B

D2

806.99

805.03
1545+00
817.5

799.80
C.B.

800.94

820
810
800

807.33

805.27
1544+00
817.0

820
810
800

4:1
807.68

805.51
1543+00
817.3

0 50 100 150 200 250

CROSS SECTIONS RIGHT
1543+00 TO 1547+00

ROAD AREA		VOLUME	
CUT	FILL	CUT	FILL
1528	0		
		6141	0
1788	0		
		6330	0
1630	0		
		5885	0
1548	0		
		5674	0
1516	0	5715	0

QUANTITY CALCULATIONS
BY W.F.I. DATE 7/69
CHKD. G.S.W. DATE 7/11/69
BURGESS & NIPLE, LIMITED

FRANKLIN COUNTY
FRA-270-26.76 N

SEEDING				END AREA		VOLUME	
END DITCH	TO			CUT	FILL	CUT	FILL
		820					
		810					
		800	8:1 3:1 802.03				
92			803.35 1552+00 814.7			1576	0
	1028	820					
		810					
		800	802.72			5778	0
93			803.59 1551+00 814.8			1544	0
	1072	820					
		810				5622	0
		800	803.44				
100			803.83 1550+00 815.0			1492	0
	1139	820					
		810				5600	0
		800	804.21				
105			804.07 1549+00 815.9			1532	0
	1222	820					
		810				5736	0
		800	8:1 3:1 805.00				
115			804.31 1548+00 816.8			1576	0
	889		℄			5748	0

50 100 150 200 250

CROSS SECTIONS RIGHT
1548+00 TO 1552+00

QUANTITY CALCULATIONS
BY W. F. I. DATE 7/69
CHKD. E. S. W. DATE 7/11/69
BURGESS & NIPLE, LIMITED

	2	OHIO	

FRANKLIN COUNTY
FRA-270-26.76 N

End Area Cut	End Area Fill	Volume Cut	Volume Fill
3014	0		
		11459	0
3174	0		
		12056	0
3336	0		
		12659	0
3500	0		
		13087	0
3567	0		

QUANTITY CALCULATIONS
BY W.F.I. DATE 7/69
CHKD. G.S.W. DATE 7/11/69
BURGESS & NIPLE, LIMITED

CROSS SECTIONS
1553+00 TO 1556+00

SHEETING
RMS | SQ
YARDS | YDS.

SHEET NO.	STATE	PROJECT	
2	OHIO		

83
247

FRANKLIN COUNTY
FRA-270-26.76 N

		END AREA		VOLUME	
		CUT	FILL	CUT	FILL
207	820 810 800 790			2956	0
200	820 810 800 790			10715	0
207	820 810 800 790			2830	0
208	820 810 800 790			10181	0
205	820 810 800 790			2668	0
204	820 810 800 790			10448	0
204	820 810 800 790			2974	0
				11089	0

3:1 8:1 799.60 84" Inv. 801.43 1560+00 812.2 8:1 3:1 799.60

799.83 801.67 1559+00 811.9 799.84

800.05 801.91 1558+00 811.6 800.08

3:1 8:1 800.26 802.15 1557+00 812.4 8:1 3:1 800.32

150 100 50 ℄ 50 100 150

CROSS SECTIONS
1557+00 TO 1560+00

QUANTITY CALCULATIONS
BY W.F.I. DATE 7/69
CHKD. G.S.W. DATE 7/11/69
BURGESS & NIPLE, LIMITED

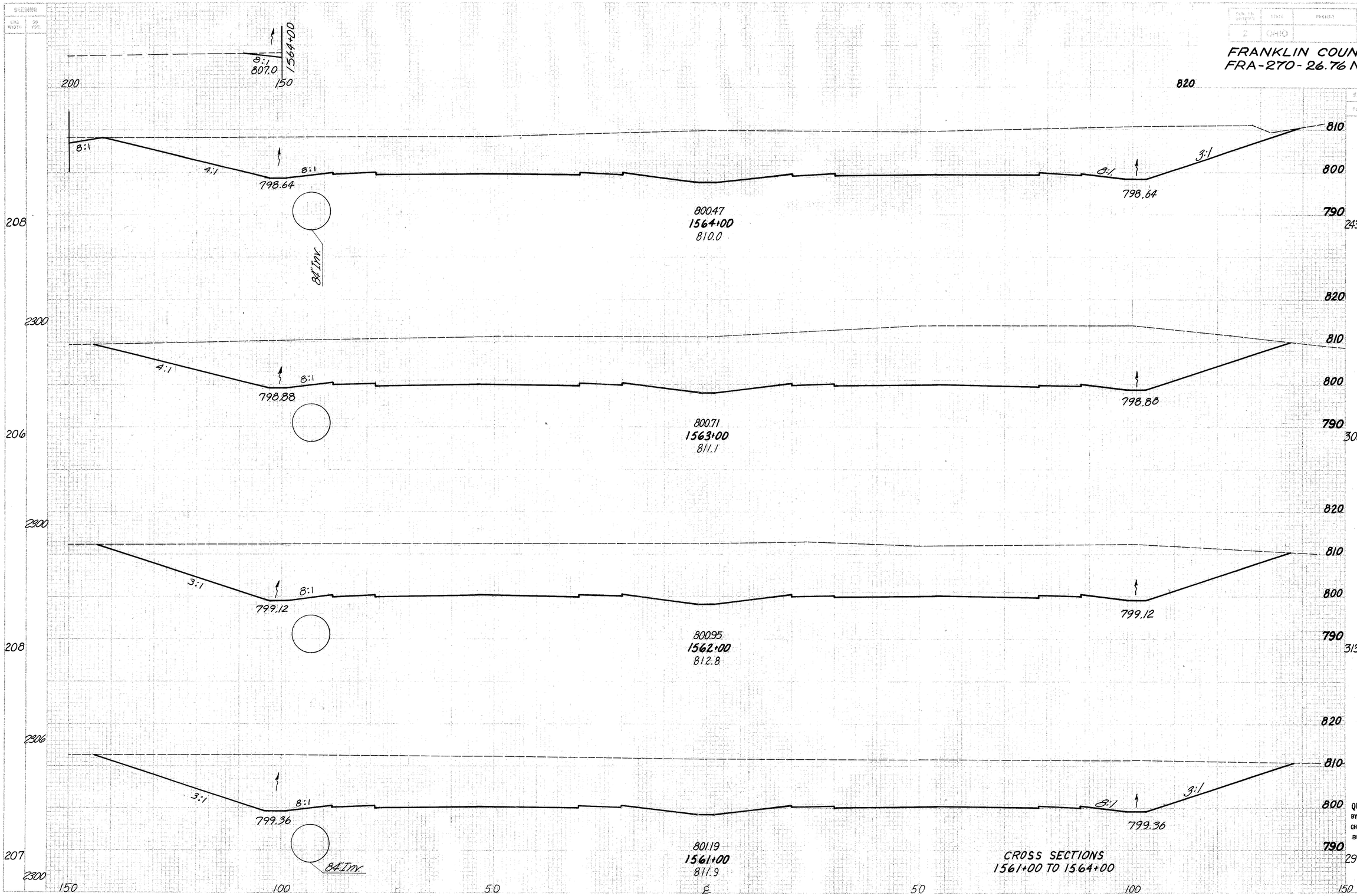
SHEDDING

END AREA		VOLUME	
CUT	FILL	CUT	FILL

CLASS OF WORK	STATE	PROJECT	
2	OHIO		

84
247

FRANKLIN COUNTY
FRA-270-26.76 N



CROSS SECTIONS
1561+00 TO 1564+00

QUANTITY CALCULATIONS
BY W.F.I. DATE 7/69
CHKD. G.S.W. DATE 7/11/69
BURGESS & NIPLE, LIMITED

FRANKLIN COUNTY
FRA-270-26.76 N

	END AREA		VOLUME	
	CUT	FILL	CUT	FILL
203	14	782		
2267	54	2563		
205	15	602		
2278	261	1569		
205	126	245		
2283	2130	639		
206	1024	100		
2294	5248	244		
207	1810	32		
2294	7200	78		
206	2078	110		
2300	8332	19		

800
790
200
150
24:1 24:1
793.6
1570+00

6:1 8:1
794.0
799.03
1570+00
793.7
8:1 6:1
794.0

794.0
1569+00

24:1 24:1
795.3
799.27
1569+00
794.2
795.0
1568+00

Ditch
796.6
Type C, 6'-30" @ 0.30%
D5
797.07
Grate
24:1 24:1
Sta 1566+60 166' Lt.
Exist. 30" Pipe
793.66
791.12
791.10
790.81
C.B.
1567+00

799.51
1568+00
797.5
D4
D1
D3
Ditch
797.92
796.77
Grate
48:1
8:1
3:1
797.92
83'-36" @ 2.22%, Type C
794.08
93'-15" @ 1.48%, Type B
89'-6" @ 0.20%, Type B
788.97
791.84
6" Pipe Underdrain
84" Invert
786.12
799.75
1567+00
801.9
793.22
C.B.
794.00

798.16
798.16
799.99
1566+00
803.6
24:1 24:1
797.7
1566+00

810
820
800
8:1
803.0
1565+00
8:1 6:1 8:1
798.40
798.40
8:1 3:1
84" Inv.
800.23
1565+00
807.8

CROSS SECTIONS
1565+00 TO 1570+00

150 100 50 ℄ 50 100 150

QUANTITY CALCULATIONS
BY W.F.I. DATE 7/69
CHKD. G.S.W. DATE 7/16
BURGESS & NIPLE, LIMITED

FRANKLIN COUNTY
FRA-270-26.76 N

SEEDING SIDE	SEEDING SQ. YDS.	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
190	2022			104	142
210	2333			404	332
210	2322			484	160
208	2317			110	376
209	2317			54	620
208	2283			42	888
				941	878
				1649	911
				1100	993
				304	1844
				178	2793
				104	3093

Exist. 24" Clemson Street Outfall
35'-24" @ 6.40%, Type C
6:1
8:1
795.76
800
790
1575+00
150
796.65 Mh.
790.51
1575+30, 168Lt.
D5
D4
D1
794.70 ~ Grove
794.78 Grove
Catch Basin @ Sta. 1575+30
93'-15" @ 2.74%, Type B
797.59
1576+00
796.5
793.3
792.9
797.83
1575+00
796.1
792.42 C.B.
788.27
788.02
C.B. 1575+29
133' Lt
40'-27" @ 4.20%
Type C
788.34
84" Invert
784.13
789.94
1574+82
Exist. Ditch
790.7
792.4
1574+00
180
150
798.07
1574+00
798.9
791.8
1573+00
160
150
792.8
793.0
1572+00
200
150
798.31
1573+00
795.6
792.2
793.2
24:1
24:1
793.2
1571+00
200
150
798.55
1572+00
794.9
792.6
793.6
84" Inv.
100
50
798.79
1571+00
793.9
50
100
793.0

CROSS SECTIONS
1571+00 TO 1576+00

QUANTITY CALCULATIONS
BY W.F.I. DATE 7/69
CHKD. G.S.W. DATE 7/69
BURGESS & NIPLE, LIMITED

BEGIN	
STATION	CO. RTE.

FED. AID DIVISION	STATE	PROJECT	
5	OHIO		

87
247

FRANKLIN COUNTY
FRA-270-26.76 N

END AREA		VOLUME	
CUT	FILL	CUT	FILL

175 1839 156 1739 157 1744 157 1883 182 2022 182 2067

800 790 800 790 800 790 800 790 800 790 800 790

59 95 287 313 96 74 1707 1371 826 0 2926 0 754 0 2426 0 556 0 1567 141 290 76 730 904

6:1 8:1 793.50 84"Inv. 782.38 796.15 1582+00 795.2 8:1 6:1 792.2

794.40 79639 1581+00 795.2 793.5

794.80 796.63 1580+00 799.4 794.8

LA W2 8" Gate Valve & Box

Concrete Blocking See Detail Sheet N°43

795.04 8"-22½° Bend W3 Proposed 84" Storm Sewer @1578+75

Concrete Blocking See Detail Sheet N°43

Existing 8" Water Pipe 796.87 1579+00 799.37 795.04

W3 8"-22½° Bend

18' Long Pipe Encasement See Detail Sheet N°43

W3 8"-22½° Bend W3 8"-22½° Bend

W1 8" Ductile Iron Water Pipe @1578+75

LA W2 8" Gate Valve & Box

795.28 797.11 1578+00 798.9 795.28

6:1 8:1 795.52 84"Inv. 784.02 797.35 1577+00 797.6 8:1 794.0 6:1

CROSS SECTIONS
1577+00 TO 1582+00

150 100 50 ℄ 50 100 150

QUANTITY CALCULATIONS
BY W.F.I. DATE 7/69
CHKD. G.S.W. DATE 7/69
BURGESS & NIPLE, LIMITED

FRANKLIN COUNTY
FRA-270-26.76 N

SHEETING
SHD UNDER | CL

END AREA | VOLUME
CUT | FILL | CUT | FILL

800
790
1587+00
4:1
150

190 800
6:1 792.6 8:1 4:1 790
788.98
8:1

79495
1587+00
796.0

800
790
1586+00
6:1
150

200 800
792.2 8:1 6:1 790
789.22

79519
1586+00
794.7

96" Inv

184 2072 930 0 2856 2

189 526 1

2094 800 1067 1106
791.3 790 789.46

79543
1585+00
791.5

188 50 596

D6 D1 D4

MEDIAN CROSS-OVER @ 1584+35

96" Inv.
794.54 MH
790.00
789.34
6" Pipe Underdrains
788.87 Grate
792.99 Grate

2100 800 130 2807
790 789.7

93'-15" @ 1.44%, Type B
89'-6" @ 0.20%, Type B

786.24 C.B.
Type C, 46'-18" @ 1.80%
785.41
787.80
789.14 C.B.
78992

96" Invert 781.10

79567
1584+00
790.4

190 20 920

2072 800 81 2700
6:1 8:1 6:1 790
791.6 790.5

84" Inv.

79591
1583+00
792.4
℄

CROSS SECTIONS
1583+00 TO 1587+00

183 24 538

1989 150 100 50 50 100 150 154 1172

QUANTITY CALCULATIONS
BY W.F.I. DATE 7/65
CHKD. C.S.W. DATE 7/66
BURGESS & NIPLE, LIMITED

FRANKLIN COUNTY
FRA-270-26.76

END AREA		MIDSIDE	
CUT	FILL	CUT	FILL
158		117	132
1833		506	309
172		156	35
1917		770	354
173		260	156
1950		2122	289
178		886	0
1989		2041	57
180		648	31
2022		2922	57

D1

Ditch
793.5

6:1

8:1

793.50
MH.

96" Invert
779.03

784.04

93'~21" @1.04% Type B

785.01
C.B.

D4

791.08
Grate

785.74

794.12
1592+00
792.8

21" Invert
787.90

89'~6" @0.20%, Type B

800

8:1

787.42

6:1

790

Catch Basin @ 1592+50

Median Ditch Elev. @ 1592+00 = 793.07

794.0

Grate
790.84

21" Invert
788.14

Median Ditch Elev. @ 1591+00 = 791.19

794.12
1591+00
793.2

Catch Basin @ 1591+50

787.66

96" Inv.

794.98

Median Ditch Elev. @ 1590+00 = 791.43

794.24
1590+00
795.0

787.9

795.22

794.47
1589+00
796.7

8:1

6:1

788.50

1588+00

4:1

150

200

793.0

794.71
1588+00
793.9

788.74

CROSS SECTIONS
1588+00 TO 1592+00

150 100 50 ℄ 50 100 150

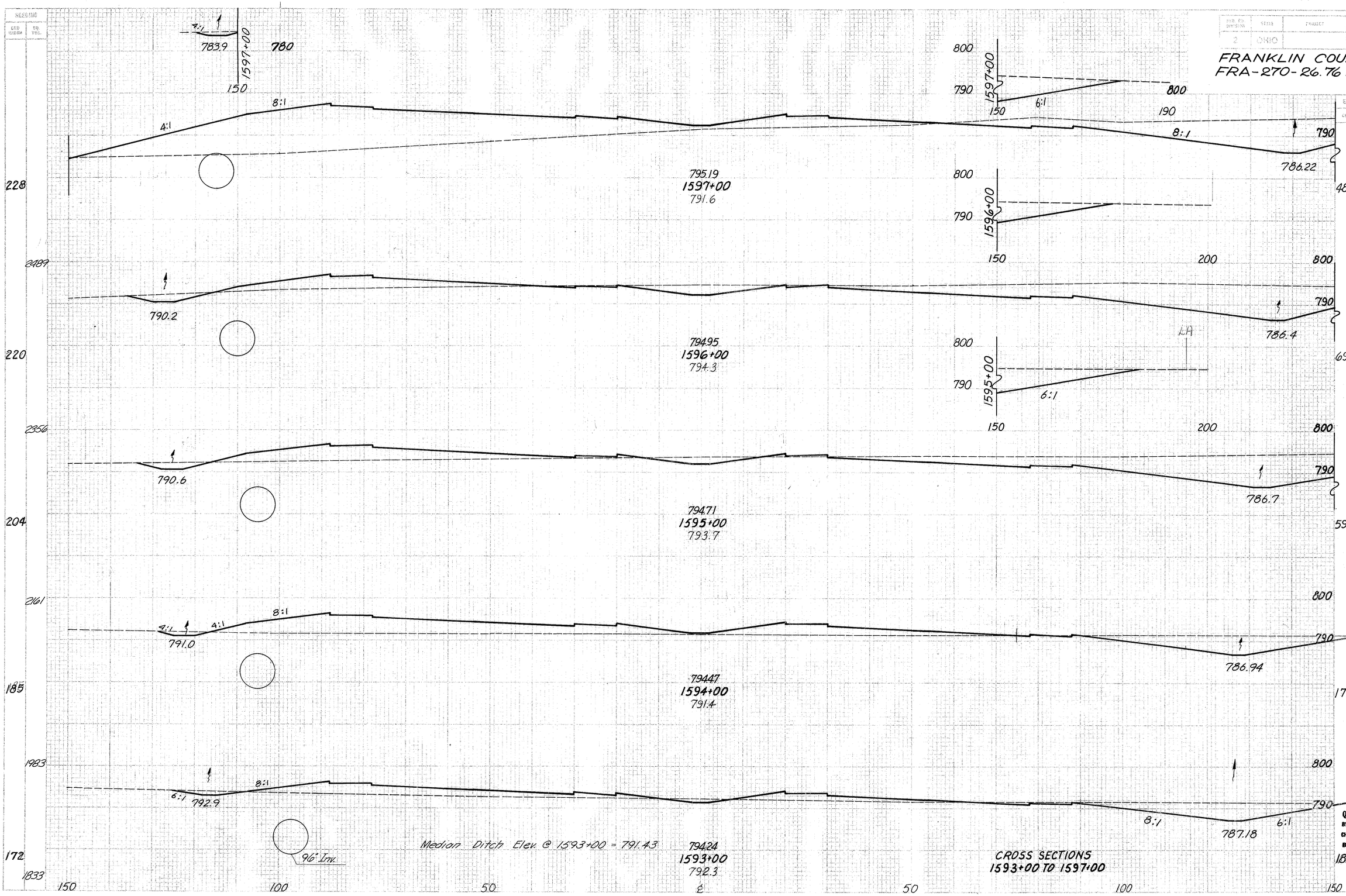
QUANTITY CALCULATIONS
BY W.F.I. DATE 7/69
CHKD. G.S.W. DATE 7/69
BURGESS & NIPLE, LIMITED

END AREA		VOLUME	
CUT	FILL	CUT	FILL

FED. RD. DIVISION	STATE	PROJECT
2	OHIO	

90
247

FRANKLIN COUNTY
FRA-270-26.76 N



FRANKLIN COUNTY
FRA-270-26.76 N

SEEDING

	SEED SOUTH	SOD YDS.
0		
246		
223		
2158		
228		
2483		
219		
2367		
207		
2383		
222		
2500		

	CUT AREA	FILL AREA	CUT VOLUME	FILL VOLUME
1602+06	0	0		
	28	1118		
	76	3037		
	226	9763		
	66	3085		
	159	10833		
	20	2765		
	144	9687		
	58	2466		
	148	9404		
	22	2612		
	141	6781		

TOE OF SLOPE 1602+06
Flat

BRIDGE LIMIT
79637 1601+86.12 783.3
79615 1601+00 783.2
79591 1600+00 783.2
79567 1599+00 783.5
79543 1598+00 783.3

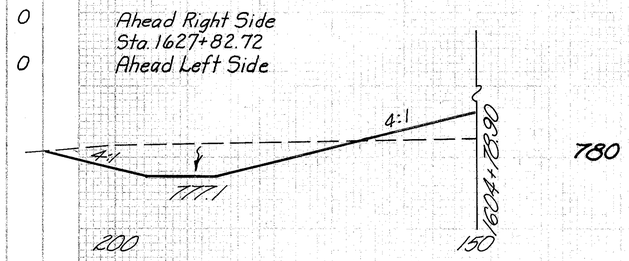
1601+86.12 780 — 4:1 / 780.8 / 4:1 — 150 — 8:1 — 4:1 — 790 — 4:1 — 780 — 781.8 — 4:1
1601+00 780 — 781.2 — 150
1600+00 780 — 781.6 — 150 — 8:1 / 6:1 / 6:1 / 8:1 — 8:1 — 4:1 — 790 — 780 — 782.6 — 4:1
1599+00 780 — 782.4 — 150 — 8:1 / 6:1 / 6:1 / 8:1 — 790 — 783.3 — 780
1598+00 780 — 4:1 / 782.8 / 4:1 — 150 — 790 — 783.5 — 780
1598+00 780 — 96" Inv. — 4:1 — 8:1 — 8:1 — 4:1 — 790 — 783.7 — 4:1 — 780

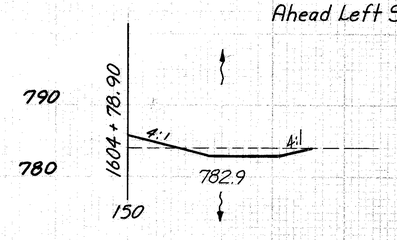
150 100 50 ℄ 50 100 150

CROSS SECTIONS
1598+00 TO 1602+00

QUANTITY CALCULATIONS
BY W.F.L. DATE 7/69
CHKD. G.S.W. DATE 7/11/69
BURGESS & NIPLE, LIMITED

FRANKLIN COUNTY
FRA-270-26.76 N

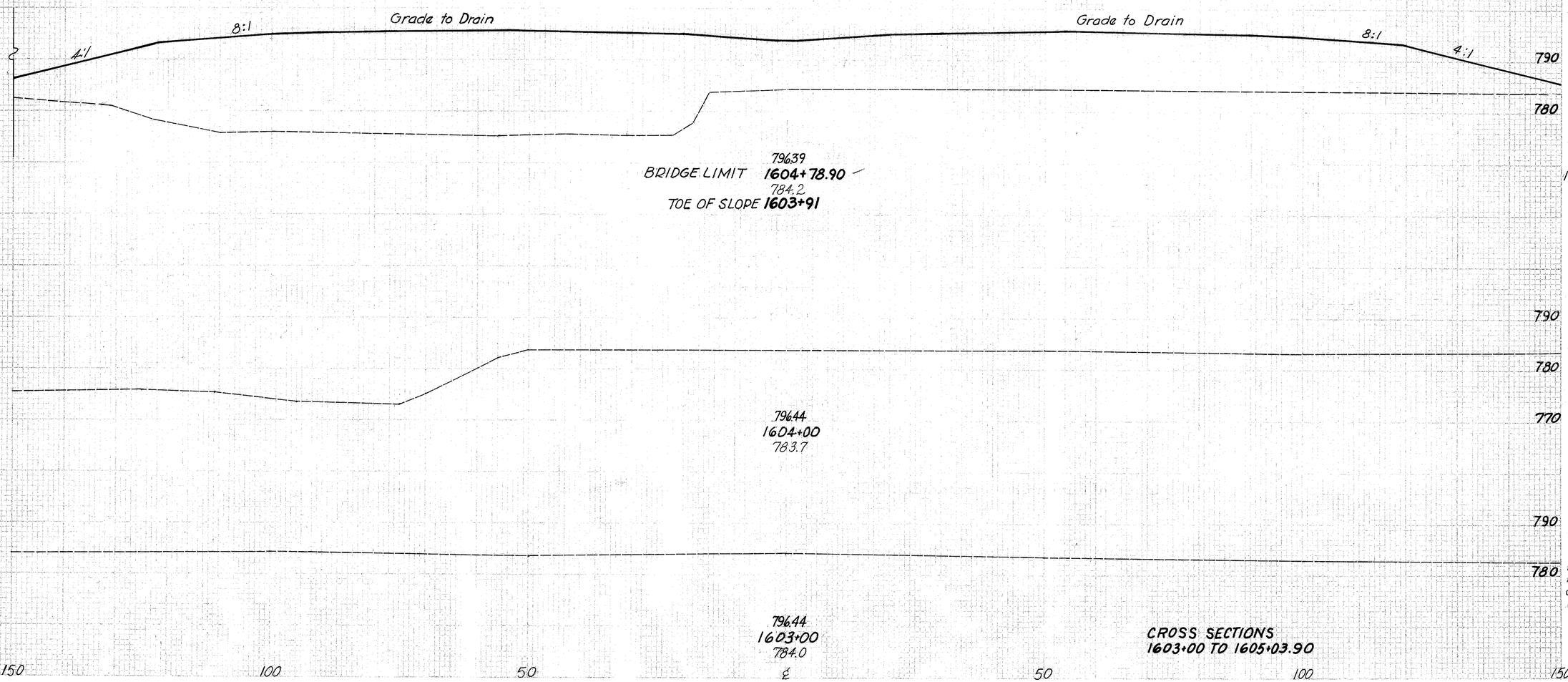




END PART II
STATION EQUATION

1605+03.90 Back
1627+82.72 Ahead

Back 1605+03.90



CROSS SECTIONS
1603+00 TO 1605+03.90

	END AREA		VOLUME	
	CUT	FILL	CUT	FILL
Ahead Right Side Sta. 1627+82.72	20	1470		
Ahead Left Side	1282	500		
Back 1605+03.90	1483	970		
	1483	970	137	3676
	0	0	22116	462

QUANTITY CALCULATIONS
BY W.F.I. DATE 7/69
CHKD. G.S.W. DATE 7/11/69
BURGESS & NIPLE, LIMITED

SECTION

FILL (RIGHT)	CUT (LEFT)
0	0
0	0
0	0
0	0

END OF SHEET	STATE	PROJECT
2	OHIO	

93
247

FRANKLIN COUNTY
FRA 270-26.76N

END AREA		VOLUME	
CUT	FILL	CUT	FILL

Grade to Drain
8:1
4:1
4:1
790
780
777.8
795.62
1631
783.3
184 1556

744 6881

790
780
777.6
795.86
1630
773.0
218 2160

678 9011

Grade to Drain
8:1
4:1
4:1
790
780
777.4
796.10
1629
774.8
148 2706

599 1307

CROSS SECTIONS LEFT
1629+00 TO 1631+00

1627+82.72 128 2500

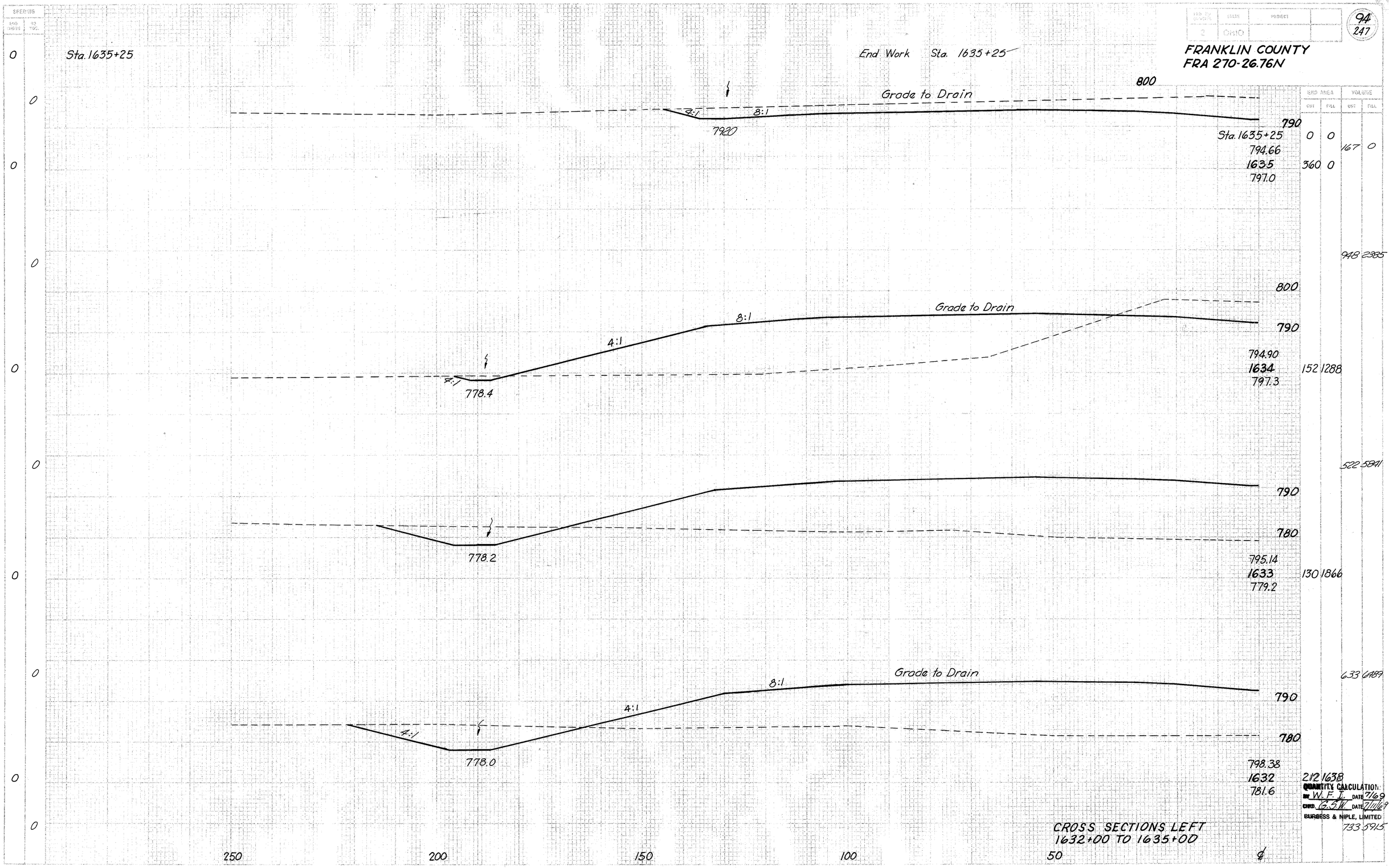
250 200 150 100 50 ℄

QUANTITY CALCULATIONS
BY W.F.I. DATE 7/69
CHKD. G.S.W. DATE 7/11/69
BURGESS & NIPLE, LIMITED

FED. ROAD DIST.	STATE	PROJECT	
2	OHIO		

94
247

FRANKLIN COUNTY
FRA 270-26.76N



END AREA		VOLUME	
CUT	FILL	CUT	FILL
0	0		
		167	0
360	0		
		948	2385
152	1288		
		522	5891
130	1866		
		633	6489
212	1638		
		733	5915

QUANTITY CALCULATION:
BY W.F.L. DATE 7/69
CHKD. G.S.W. DATE 7/11/69
BURGESS & NIPLE, LIMITED

CROSS SECTIONS LEFT
1632+00 TO 1635+00

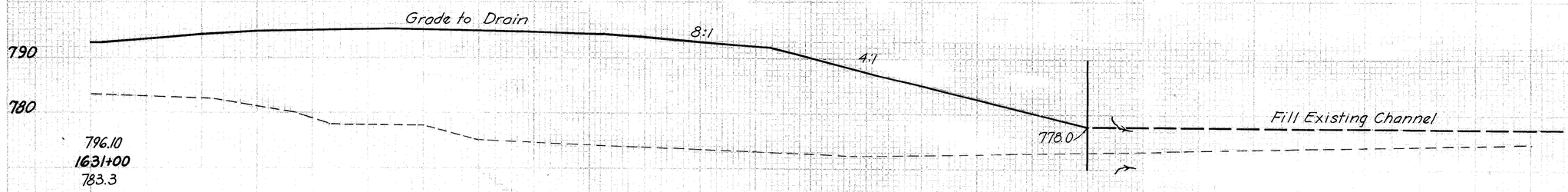
SEEMING

END AREA		VOLUME	
CUT	FILL	CUT	FILL

FED. AID PROJECT NO.	STATE	PROJECT	
	OHIO		

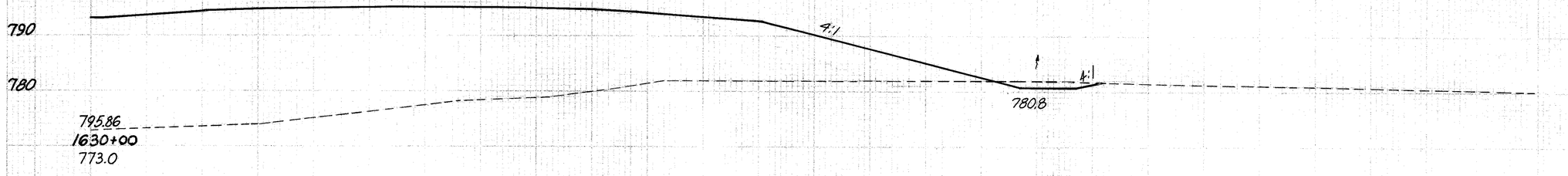
95
247

FRANKLIN COUNTY
FRA 270-26.76N



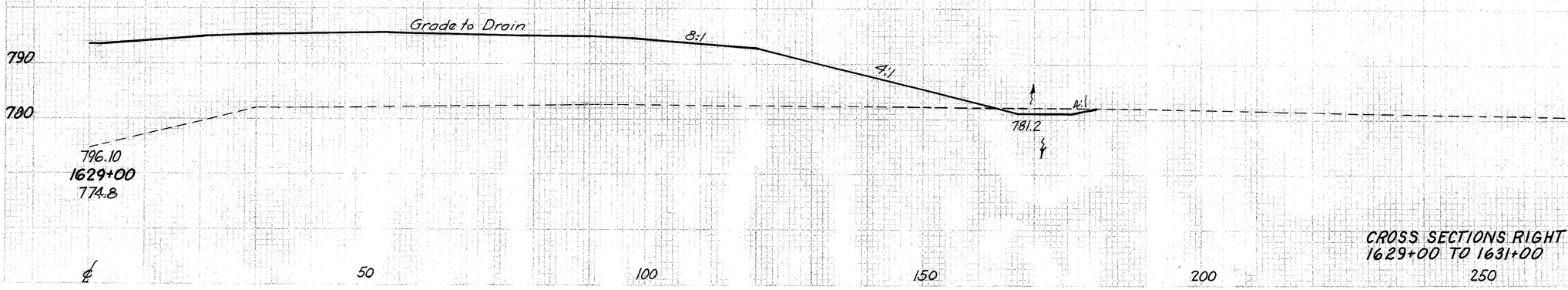
0 2768

33 9422



18 2320

67 7867



QUANTITY CALCULATIONS
BY W.F.I. DATE 7/69
CHKD. C.S.W. DATE 7/1969
BURGESS & NIPLE, LIMITED

18 1766

83 7028

20 1470

CROSS SECTIONS RIGHT
1629+00 TO 1631+00

1627+82.72

0 0 0 0 0

℄ 50 100 150 200 250

FRANKLIN COUNTY
FRA 270-26.76N

SCALING
END DISTN | CO ORD.

Sta. 1635+25 — End Work Sta. 1635+25

800
790
780

8:1 8:1 8:1 6:1
Grade to Drain
791.5

794.66
1635+00
797.0

Grade to Drain 8:1 4:1 4:1
784.9

794.90
1634+00
797.3

4:1
784.7

795.14
1633+00
779.2

Grade to Drain 8:1 4:1 4:1
780.0

795.38
1632+00
781.6

CROSS SECTIONS RIGHT
1632+00 TO 1635+00

	END AREA		VOLUMES	
	CUT	FILL	CUT	FILL
Sta. 1635+25	0	0		
			419	0
	906	0		
			4352	0
	1444	0		
			32393056	
	3161650			
			6266519	
	22 1870			

QUANTITY CALCULATIONS
BY W.F.I. DATE 7/69
CHKD G.S.W. DATE 7/11/69
BURGESS & NIPLE, LIMITED

41 8589

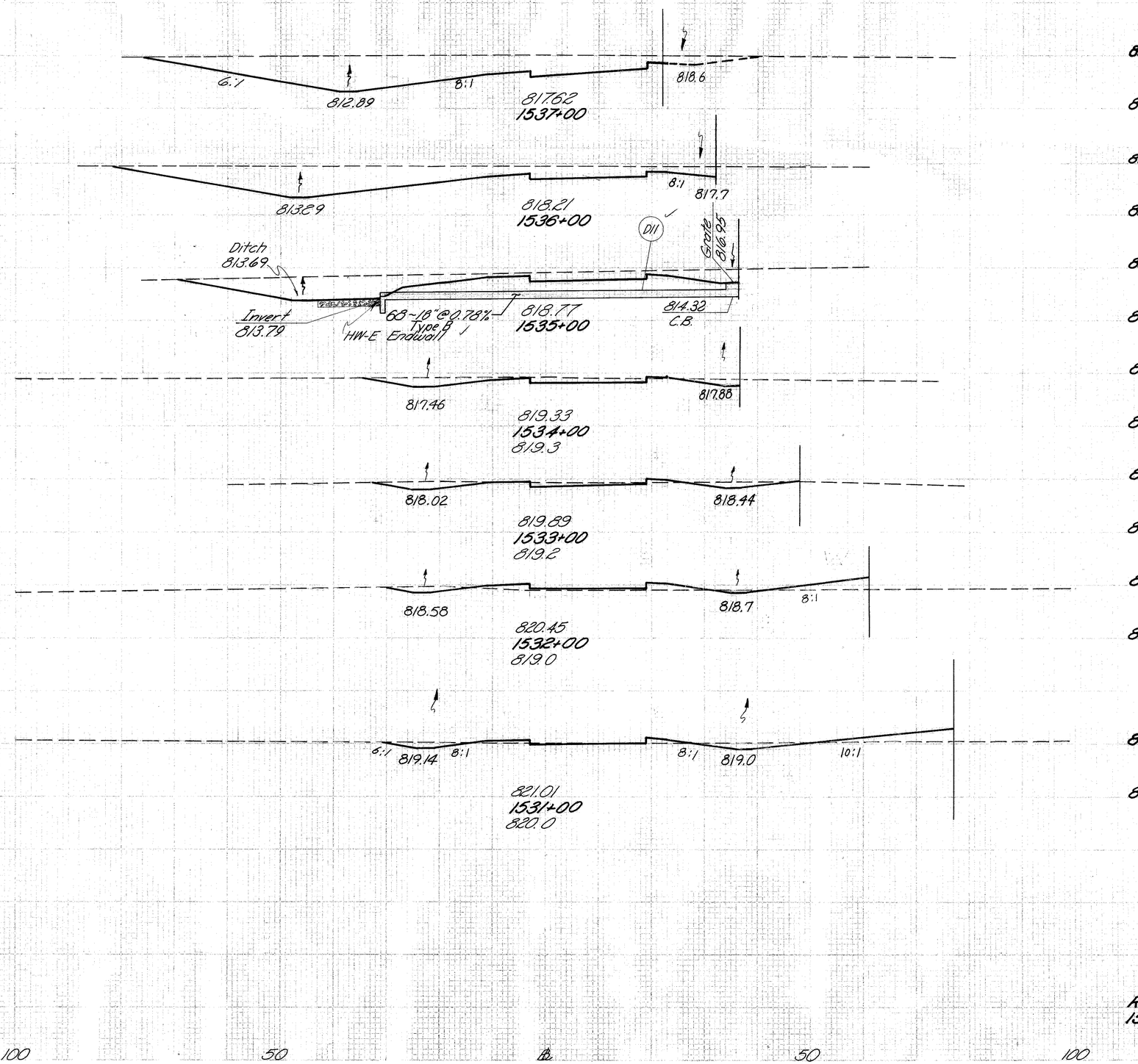
REVISION NUMBER	DATE	PROJECT	
2	1969		

97
247

FRANKLIN COUNTY
FRA-270-26.76N

SEEDING

END AREA		VOLUME	
CUT	FILL	CUT	FILL
360	0		
		1263	0
322	0		
		1030	0
234	0		
		563	4
70	2		
		211	9
44	3		
		104	124
12	64		
		81	202
32	45		



QUANTITY CALCULATION
W.F.I. DATE 2/69
CHKD. G.S.W. DATE 7/16/69
BURGESS & NIPLE, LIMITED

RAMP "B"
1531 To 1537

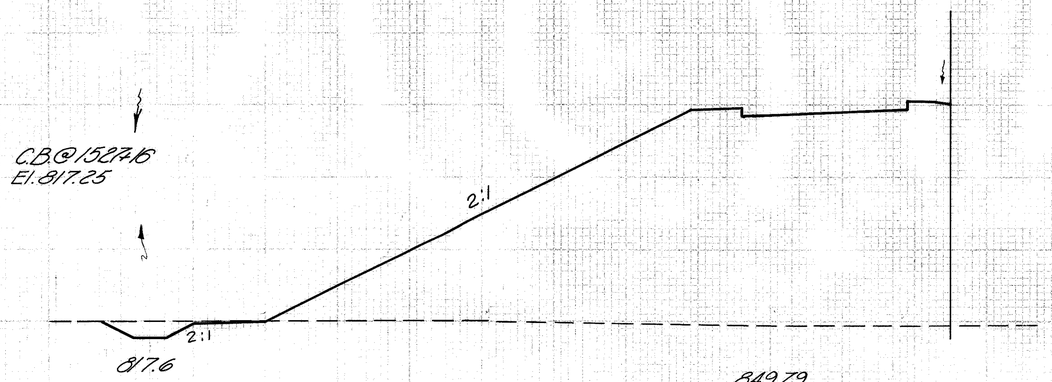
SECTION

END AREA CUT | END AREA FILL | VOLUME CUT | VOLUME FILL

FED. ROAD DIVISION	STATE	PROJECT	
2	OHIO		

98
247

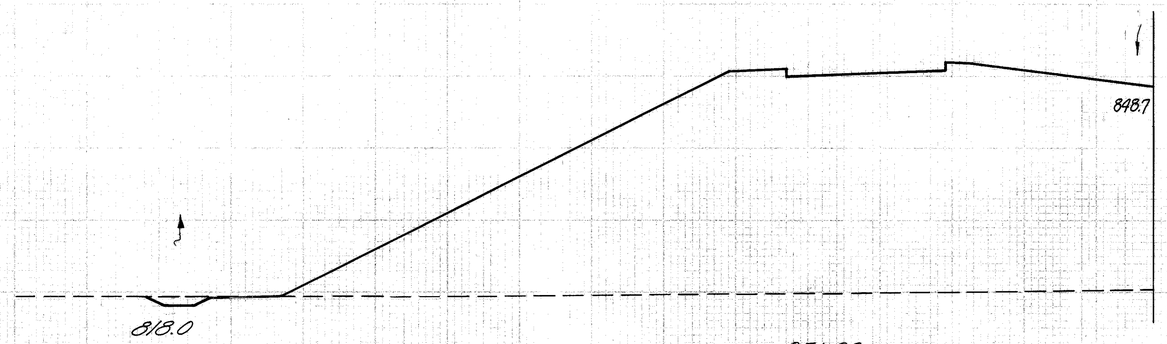
FRANKLIN COUNTY
FRA-270-26.76N



127

850
840
830
820

20 1948



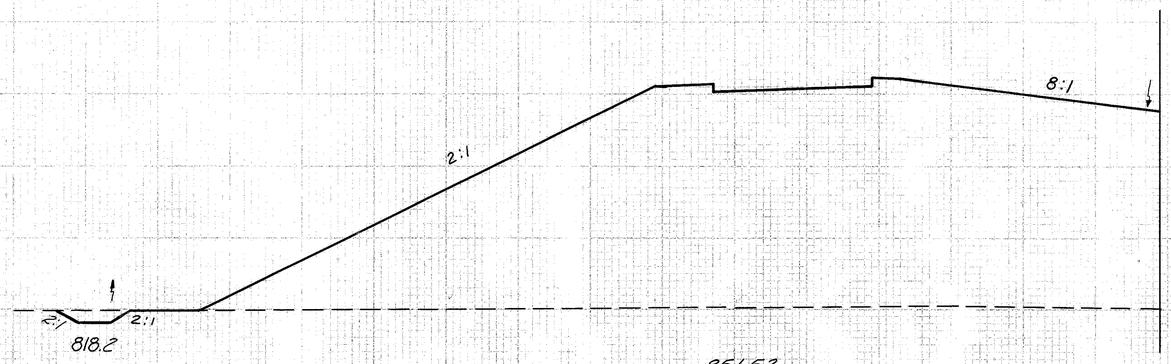
1556

153

850
840
830
820

52 8770

8 2788



928

181

850
840
830
820

24 5437

18 3084

QUANTITY CALCULATIONS
BY W.F.T. DATE 7/67
CHKD. G.S.W. DATE 7/1967
BURGESS & NIPLE, LIMITED

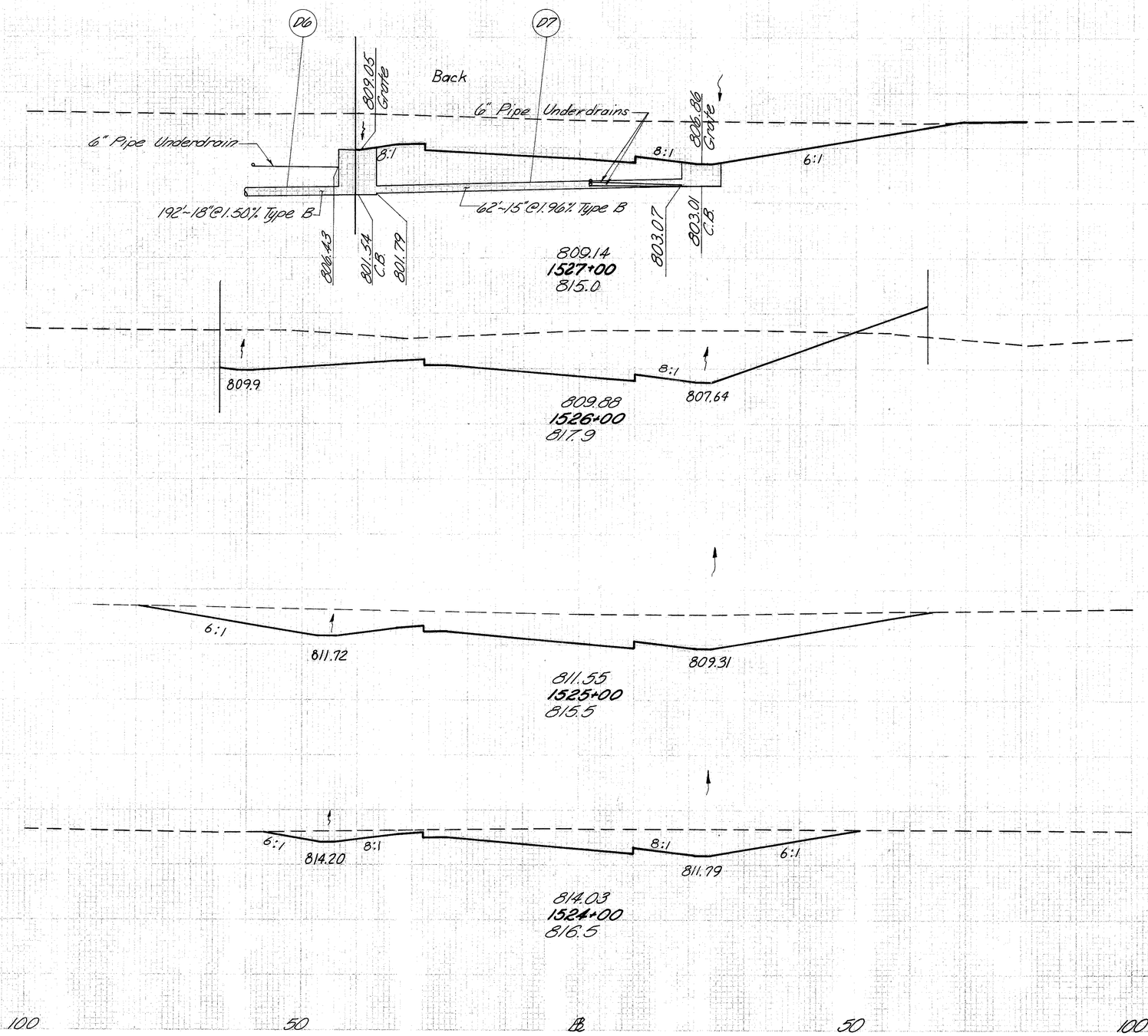
RAMP "C"
1525+50 To 1527

100 50 ℄ 50 100

FRANKLIN COUNTY
FRA-270-26.76 N

SECTIONS

END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
85		774	0
989			2804
93		740	40
1300			2385
141		548	0
1311			1526
95		276	0



QUANTITY CALCULATIONS
BY W.F.I. DATE 7/69
CHKD. G.S.W. DATE 7/16/69
BURGESS & NIPLE, LIMITED

RAMP "E"
1524 To 1527

FRANKLIN COUNTY
FRA-270-26.76N

Ahead

Ramp C Back | Back Ramp I

282 Full Section Ahead

C.B.@C.1527+16
El. 817.25

2:1

849.1

4:1

817.6

850.63
1527+00
819.4

155 Partial Section Back

END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
850			
Full Section Ahead		20	5856
840			
830			
820			
Partial Section Back		0	3908

1711

8:1

848.7

853.09
1526+00
820.0

153

850			
840		0	15348
830			
820			
		0	4380

861

8:1

847.7

4:1

854.14
1525+50
820.0

157

850			
840		0	8537
830			
820			
		0	4840

QUANTITY CALCULATIONS
BY W.F.I. DATE 7/69
CHKD. C.S.W. DATE 7/69
BURGESS & NIPLE, LIMITED

RAMP "I"
1525+50 To 1527

100 50 0 50 100

STATE	PROJECT
OHIO	

101
247

FRANKLIN COUNTY
FRA-270-26.76N

						AREA		VOLUME	
						CUT	FILL	CUT	FILL
			820						
					830				
302			839.01		820	0	4004		
			1531+00						
			818.0						
2373								0	12470
					840				
					830				
178			841.93					0	3562
346			Bridge Limit 1530+11						
			817.9					0	2309
0	1529+76		Toe of slope 1529+76		1529+76	0	0		
0	1529+09		Toe of slope 1529+09		1529+09	0	0		
					830				
373		2:1						6	2421
					820				
			817.0						
167			845.77					8	3252
			Bridge Limit 1528+68.8						
			817.6						
					840				
1670		2:1						23	10723
					830				
					820				
			816.8						
270			847.77					10	5164
			1528+00						
3067			817.5					56	20407

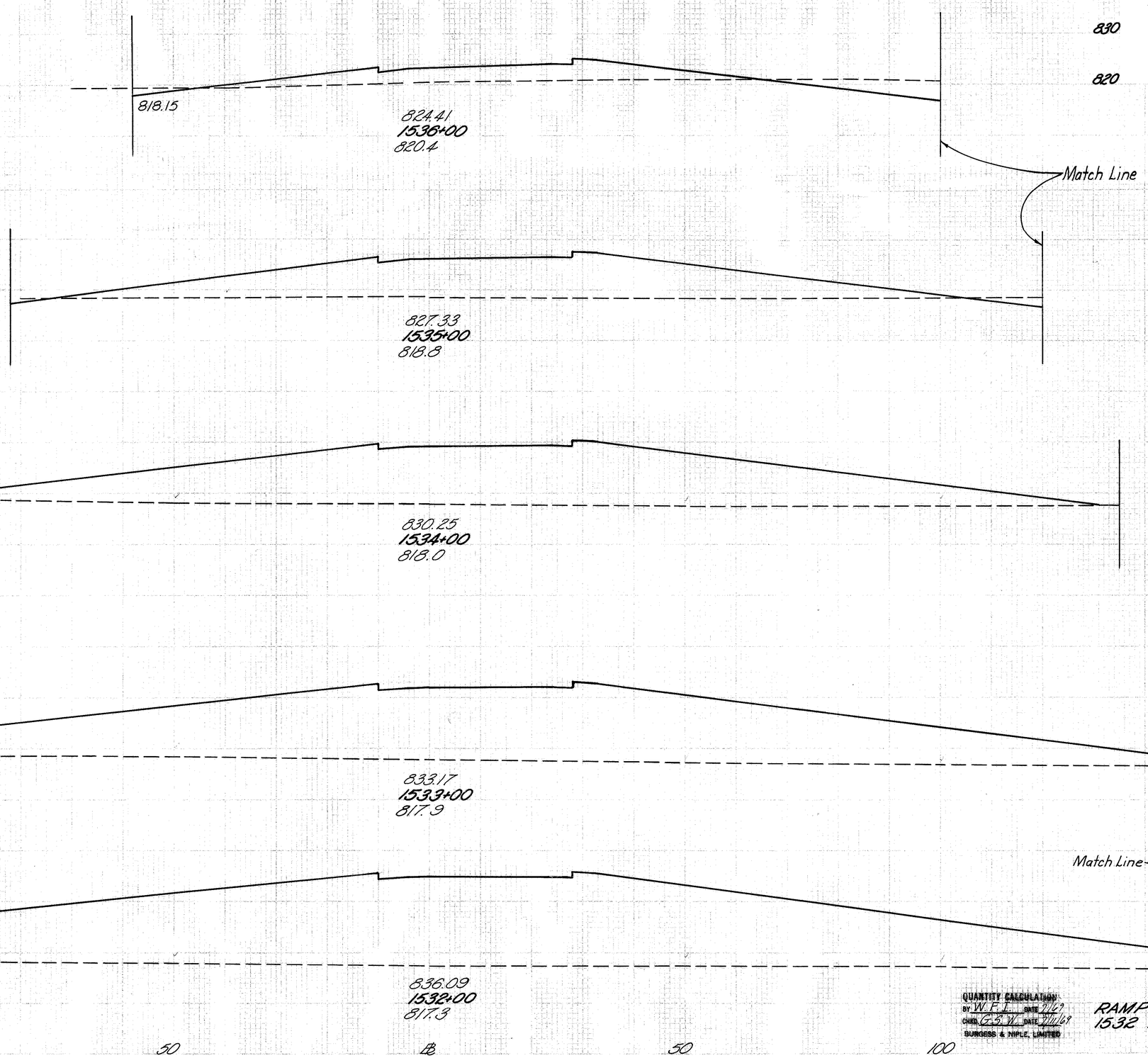
100 50 50 100 150

QUANTITY CALCULATIONS
BY W.F.I. DATE 7/69
CHKD. G.S.W. DATE 7/16/69
BURGESS & NIPLE, LIMITED

RAMP "I"
1528 To 1531

SEEDING

END CHSTR	SQ. YDS.
122	
1606	
167	
2100	
211	
2533	
245	
2867	
271	
3183	



SHEET	TOTAL	PROJECT	
2	2	FRA-270-26.76N	

102
247

FRANKLIN COUNTY
FRA-270-26.76N

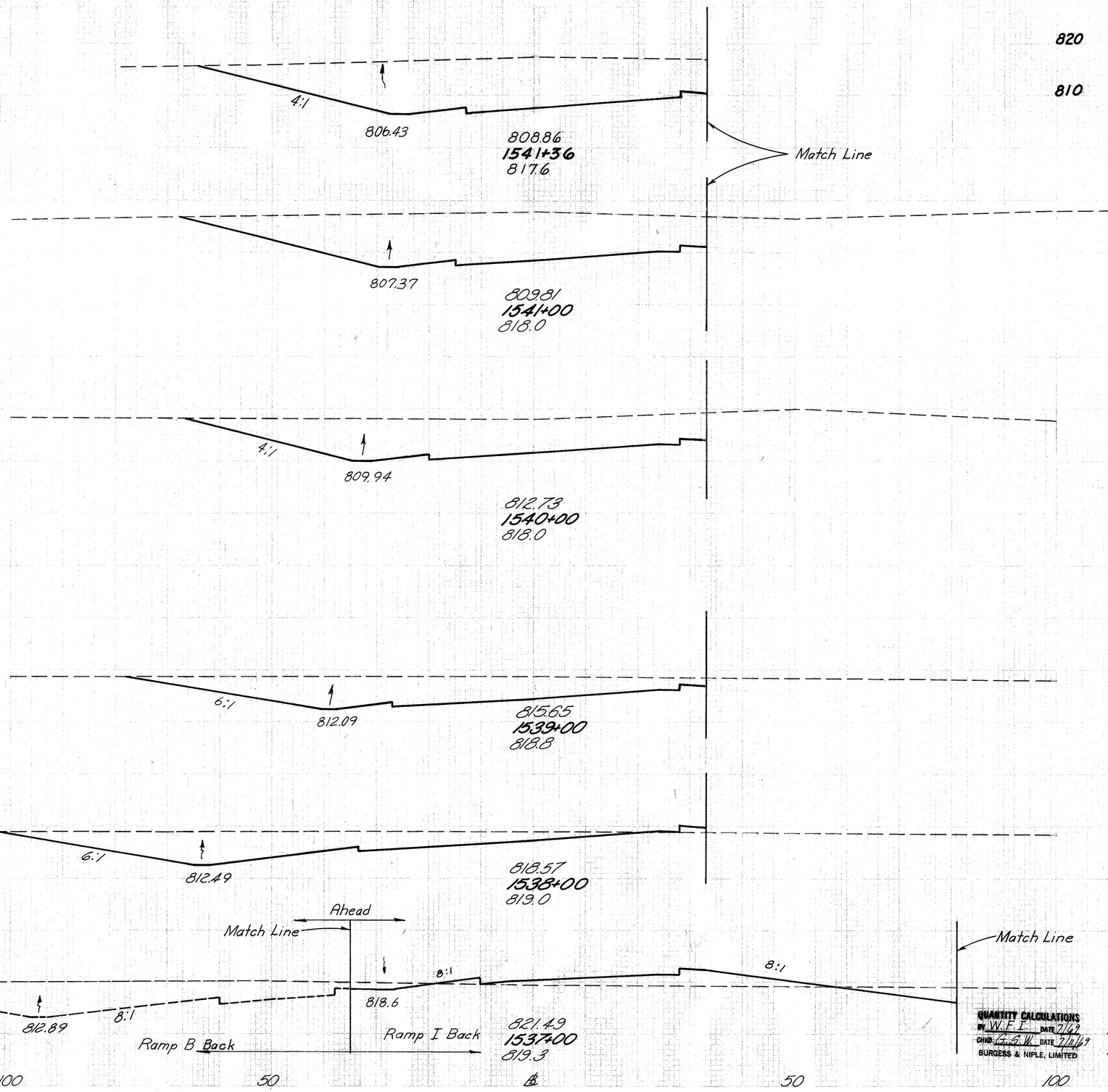
Fill Cistern @ 1536+40, 67' Rt.

END AREA		VOLUME	
CUT	FILL	CUT	FILL
82	252		3
		191	2181
211	926		
		46	4859
4	1698		
		7	7844
0	2538		
		0	11026
0	3416		
		0	13741

QUANTITY CALCULATION
BY W.F.I. DATE 7/67
CHKD. G.S.W. DATE 7/1/67
BURGESS & NIPLE, LIMITED

RAMP "I"
1532 To 1536

FRANKLIN COUNTY
FRA-270-26.76N



68	280	72	708 0	969 0
767		66	2456 0	580 0
911	98	1472	1870 0	430 0
167	2022	197	1422 11	338 6
1393 233				
79	1117		Full Section Ahead 414 120	Partial Section Back 54 120
			252 689	

QUANTITY CALCULATIONS
BY W.F.I. DATE 7/69
CHKD G.G.W. DATE 7/11/69
BURGESS & NIPLE, LIMITED

RAMP "I"
1537 To 1541+36

FED. ROD. DIVISION	STATE	PROJECT	
2	OHIO		

10.4
247

FRANKLIN COUNTY
FRA-270-26.76 N

DRIVE @ 4+01 Hubler Service Road

Hubler 817.56 | 0+10 817.40 | 0+45 815.30 | 0+53 815.55 | -6.00% | +2.88%

SEEDING

END WIDTH	SQ. YDS
161	1867
175	1939
174	1917
171	1189
43	104
32	

Drive @ 12+86 Lt.: 0+74 815.80 | 10.00% | 0+12 821.99

Drive @ 10+52 Lt.: 0+42 815.46 | 8.30% | 0+12 817.95

Drive @ 9+64 Lt.: 0+42 815.37 | 5.07% | 0+12 817.09

Catch Basin @ Sta. 9+48 — 814.76 Grate — 24" Invert 811.86, 812.62

Catch Basin @ Sta. 9+08 — 815.55 Grate — Type C, 4'-15"@2.50% — Exist Ditch ℄ 813.95 — 813.46 C.B. — Exist. 12" Invert 813.95, 813.75, 813.85

68'-15"@1.24%, Type B

BEGIN WORK 8+75

822.45	13+00	817.5									
820.02	12+00	817.4									
818.34	11+00	817.2									
817.42	10+00	817.3									
817.20	9+00	817.3									
	8+00	817.2									
	7+00	817.2									

℄ Temporary Road 817.12 — 813.7 — 817.12 3+35 815.0

Temporary ℄ Road 817.1 Fill = 405 S.F.

℄ Temporary Road 817.2 Fill = 685 S.F. — 813.9 — 816.48 2+35 815.0

℄ Temporary Road 817.2 Cut = 145 S.F., Fill = 55 S.F. — 814.1 — 815.84 1+35 814.2

814.3 — 815.21 0+35 814.7

℄ Temporary Road 817.2 Cut = 225 S.F. — D1 — D8

END AREA		VOLUME	
CUT	FILL	CUT	FILL
	24		436
	78		1270
	18		250
	35		759
	1		160
	102		394
	54		53
	141		98
	22		0
	0		0
			10
			0

150 100 50 ℄ 50 100 150

CROSS SECTIONS JOHNSTOWN Rd.
7+00 TO 13+00

COUNTY CALCULATION
BURGESS & NIPLE, LIMITED

FED. RD. DIVISION	STATE	PROJECT		105 / 247
2	OHIO			

FRANKLIN COUNTY
FRA-270-26.76 N

SEEDING

END WIDTH	SQ. YDS.
0	
179	
156	
1903	
163	
213	
2233	
189	
1911	
155	
1756	

END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
0	0		
		1	611
		3	1600
		14	6096
		4	1466
		10	1576
		56	4852
		20	1044
		37	3470
		44	2344

19+00
817.82
℄ Temporary Road
815.8
Cut = 105 S.F. Fill = 65 S.F.
820
810

18+00
817.4
℄ Temporary Road
816.0
Fill = 105 S.F.
4:1
4:1
820
810

17+28
Toe of Slope 17+28
4:1
831.13
Bridge Limit 17+07.37
817.0
℄ Temporary Road
816.6
Cut = 105 S.F. Fill = 35 S.F.
815.0
820
810
4:1
3:1
6.37
813.2
℄ Temporary Road
817.3 Fill = 705 S.F.
See Sheet 77 for Hubler Service Rd.
Ahead 150
Ahead
820
6:1
4:1
4:1
815.6
817.82
6+37
814.5
810

Partial Section Ahead
4:1
815.0
829.82
16+00
817.1
Full Section Back
Back
Back
℄ Temporary Road
818.07
820
4:1
3:1
816.4
815.8
818.07
5+35
815.2
810
812.8

D6
817.00 Cover
13'-6" Conduit @ 2.40%, Type C 706.08 as per 706.12
4:1
6:1
℄ Temporary Road
817.76
Fill Cistern @ 15+26, 128' Rt.
820
6:1
4:1
Inspection Well as per MC-82.1
811.30 Exist. 6" SA.S.
810.97
14+05 Lt. 53'
810.28 - 30" Invert
14+05 Lt. 40'
810.61
825.41
14+00
817.4
816.08
817.76
4+35
810
815.1

CROSS SECTIONS JOHNSTOWN Rd.
14+00 TO 19+00

150 100 5.0 ℄ 5.0 100 150

SEEDING	
SQ. YDS.	
109	
84	
1500	
186	
1500	
84	
644	
32	
817	
115	
1613	
129	
100	
0	

FED. ROAD DIV. NO.	STATE	PROJECT
2	OHIO	

106
247

FRANKLIN COUNTY
FRA-270-26.76 N

Ahead
Sta. 26+00
Back

821.84
2+44

Ahead
Back

818.6

821.57
26+00
821.5

℄ Temporary Road
821.6 Cut = 10 S.F.
Fill = 85 S.F.

℄ Temporary Road
820.7
Cut = 20 S.F.

818.3

819.27

821.96
25+00
820.6

℄ Temporary Road
819.8
Cut = 20 S.F.
Fill = 35 S.F.

817.9

820.51

823.20
24+00
819.9

2:1
8:1
8:1
2:1

℄ Temporary Road
818.8
Fill = 26 S.F.

4:1
4:1

825.29
23+00
819.2

A:1
6:1

℄ Temporary Road
818.0
Cut = 38 S.F.

822.0

4:1
3:1
816.6

827.80
22+00
818.9

A:1

℄ Temporary Road
817.2
Cut = 68 S.F.

816.2

830.02
Bridge Limit 20+81.01
818.9

Toe of Slope 20+67

℄ Temporary Road
816.3
Cut = 10 S.F.
Fill = 35 S.F.

20+67

20+00

	END AREA		VOLUME	
	CUT	FILL	CUT	FILL
26+00 Ahead	86	7		
26+00 Back	80	3		
			189	343
	22	182		
			41	874
			0	290
			0	1204
			0	360
			0	2537
			0	1010
			2254	420
			102	996
			26	258
20+67	0	0		

150 100 50 ℄ 50 100 150

CROSS SECTIONS JOHNSTOWN Rd.
20+00 TO 26+00

BURGESS & NIPLE, LIMITED

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

107
247

FRANKLIN COUNTY
FRA-270-26.76 N

SEEDING

END WIDTH	SQ. YDS.
0	
84	
56	
486	
119	
650	
141	
78	
144	
797	
146	
708	

END AREA		VOLUME	
CUT	FILL	CUT	FILL
		0	0
		4	1
		38	7
		150	14
		124	8
		194	14

Ditch Break 29+00 819.8

Sta. 28+27

28+27

820

END WORK 28+10

810

28+00
821.7

820

819.6

810

27+50
821.9

℄ Schwab Service Road

See Sheet 117 For Schwab Service Road

℄ Temporary Road 821.78
Cut = 205 S.F.

27+05

27+05

820

819.3

821.59
1+44

821.78
27+00
821.8

810

℄ Temporary Road 821.7
Cut = 205 S.F.

820

819.8

819.38

821.79
1+94

821.66
26+50
821.8

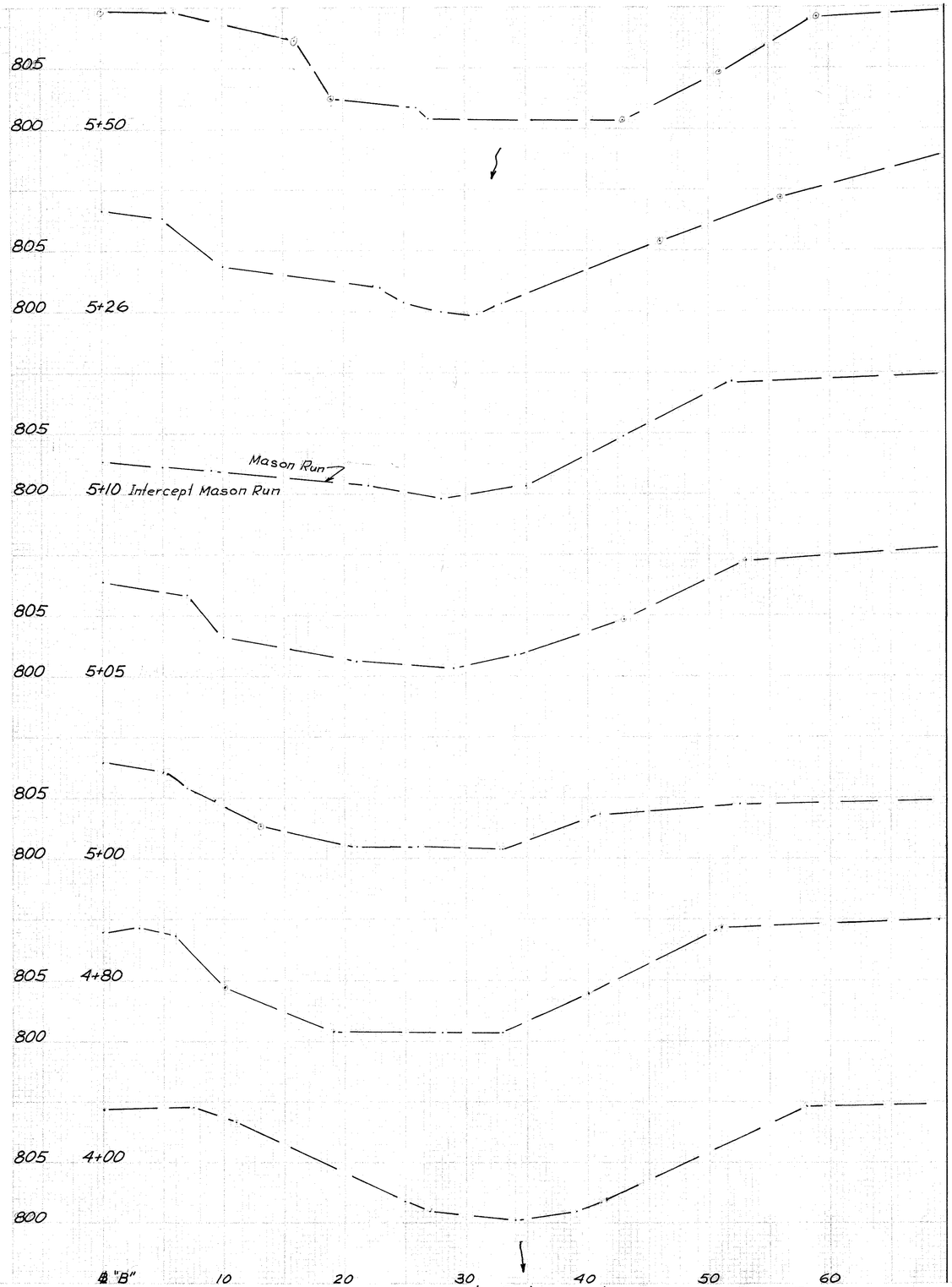
810

150 100 50 ℄ 50 100 150

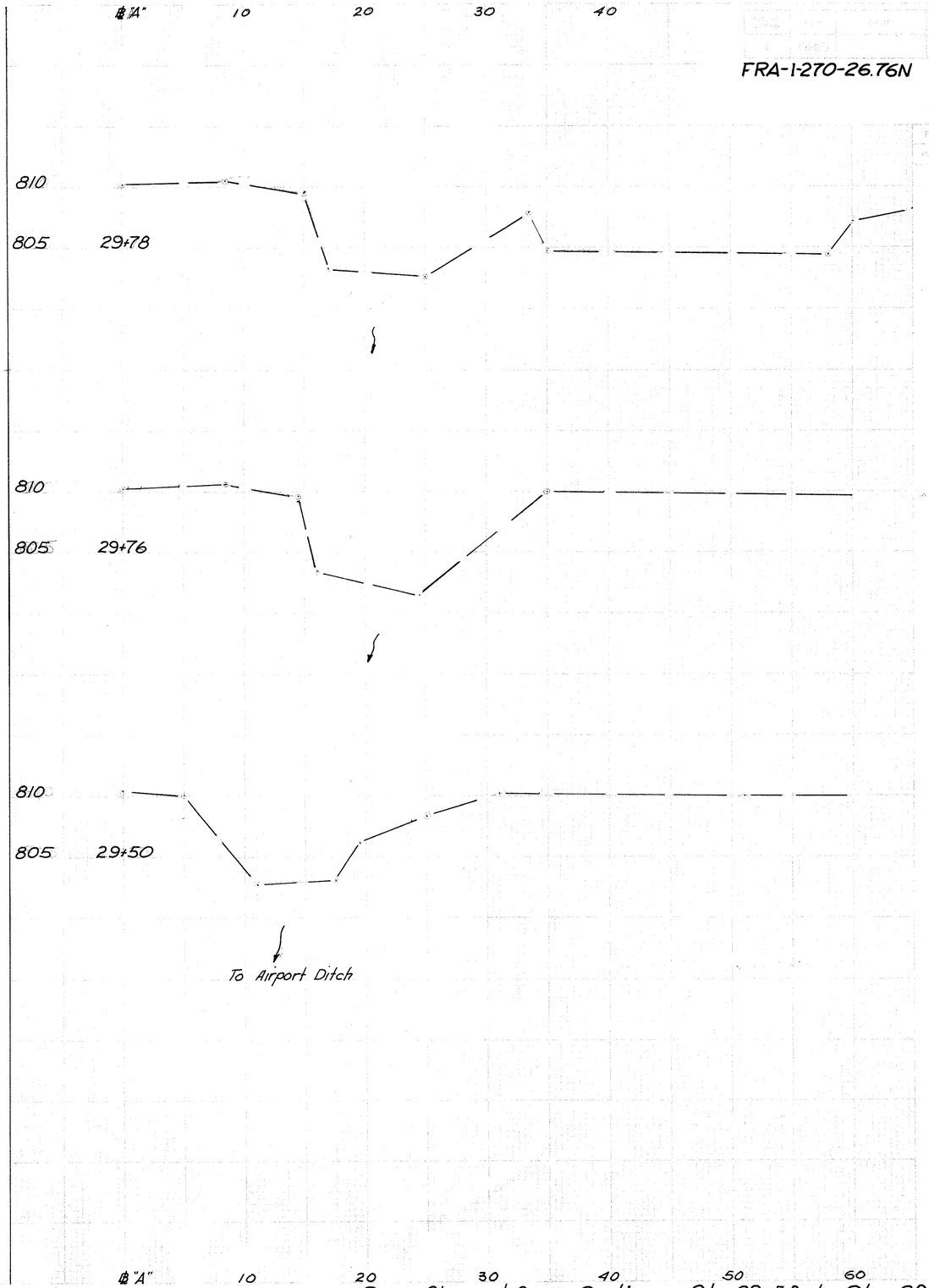
CROSS SECTIONS JOHNSTOWN RD.
26+50 TO 28+00

QUANTITY CALCULATIONS BY W.F.T. 2-69
PROJECT ENGINEER
JURGENSEN & WILDS LIMITED

FRA-1-270-26.76N



Airport Ditch Sta. 4+00 to Sta. 5+50



Mason Run ~ Channel Cross Sections Sta. 29+50 to Sta. 29+78

FRA-1-270-26.76N

END AREA	VOL	SEEDING	
CUT	CUT	END WIDTH	SQ. YDS.
65		73.0	
	254		343
72		77.5	
	252		328
64		78.5	
	101		
0		81.5	
	889		
		87.0	
	936		

Begin Channel Sta. 30+15 Elev. 804.10

+15 0

Length between Sta. = 37.86'

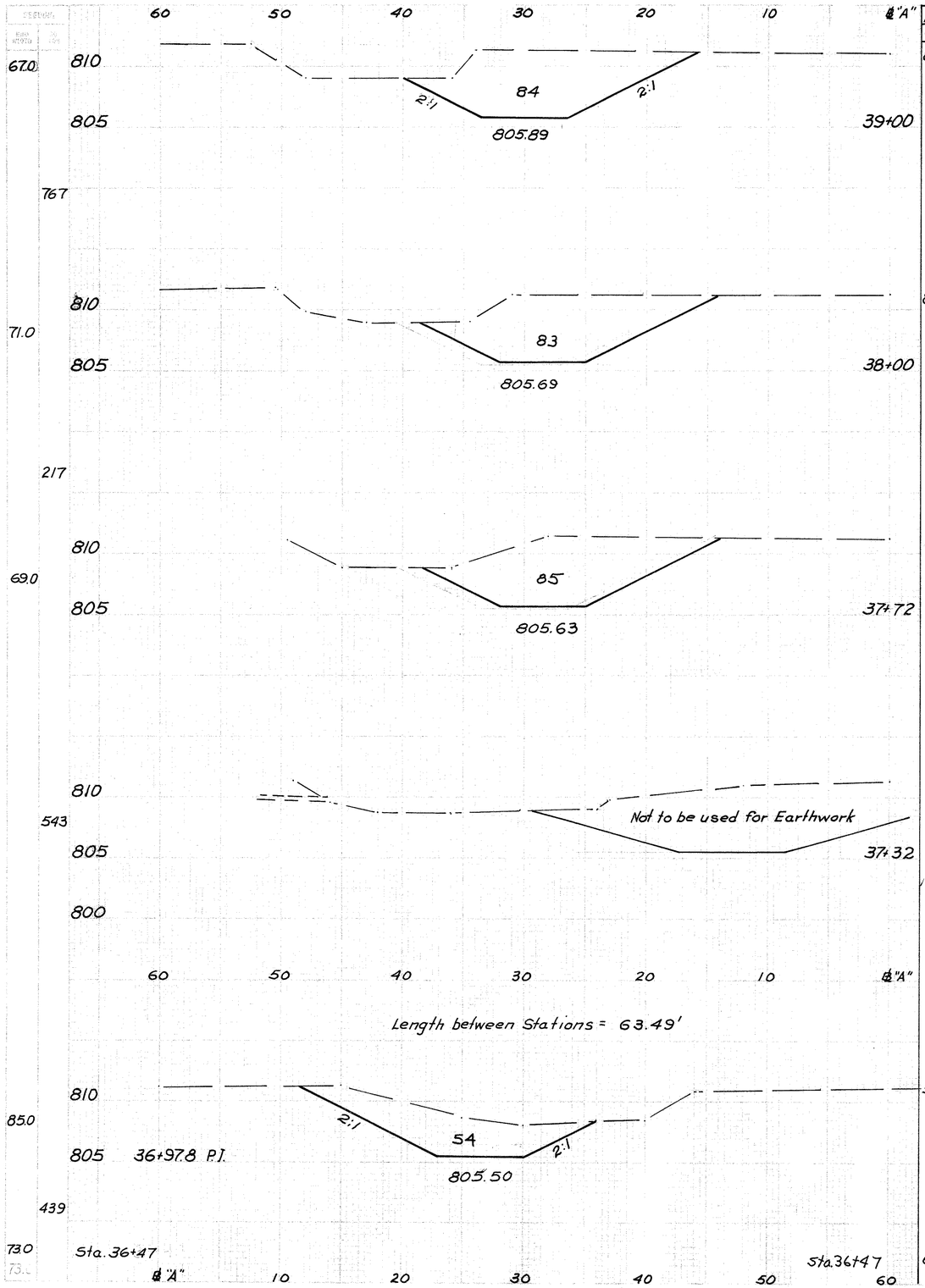
Sta. 33+00 65

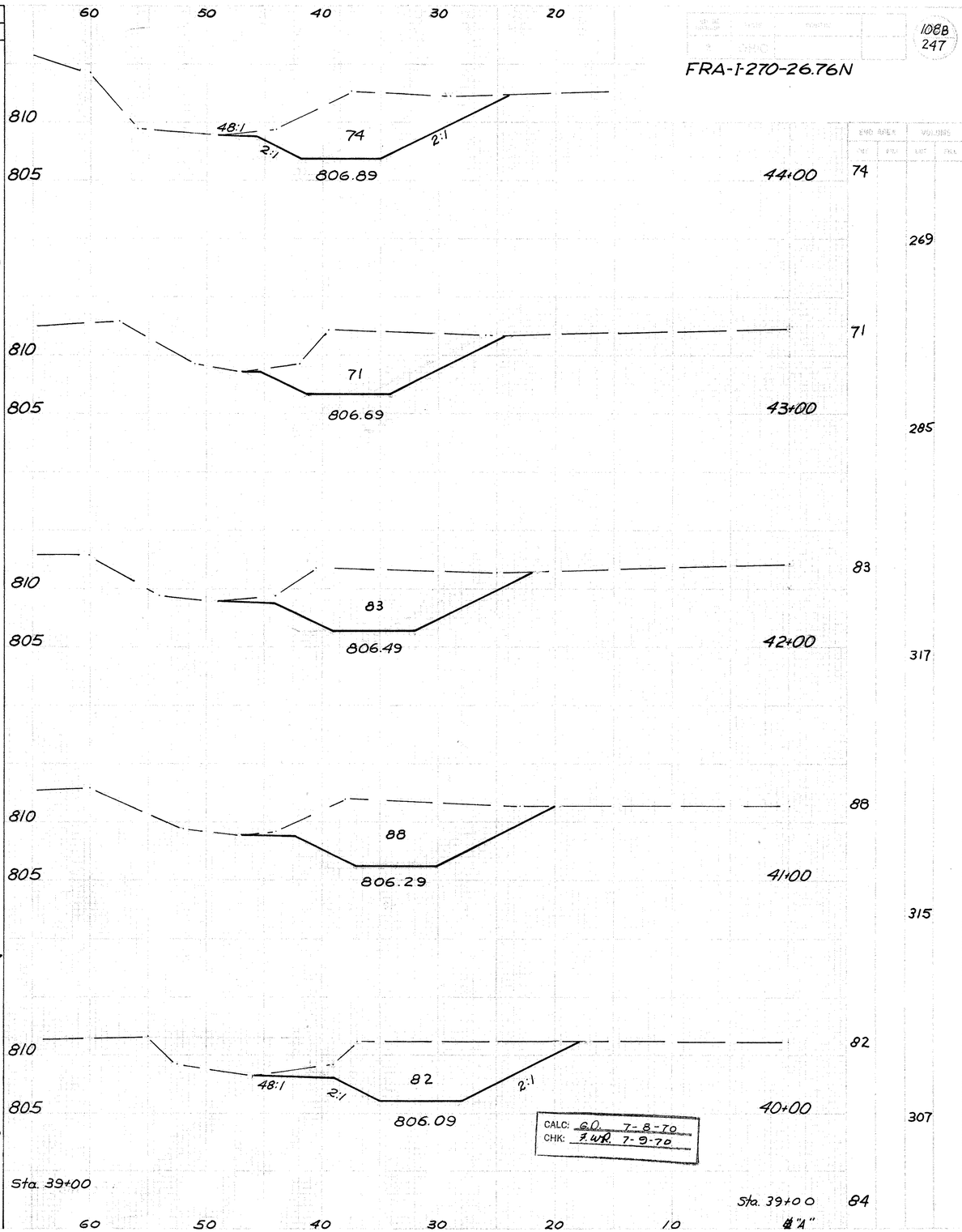
CALC: G.D. 7-8-70
CHK: J.W.R. 7-9-70

Mason Run ~ Channel Cross Sections Sta. 29+90 to Sta. 36+47

FRA-I-270-26.76N

SECTIONS END WIDTH	SECTIONS CUT	END AREA CUT	VOL CUT	SEEDING END WIDTH	SEEDING SQ YDS
67.0	767	84.0	309	67.5	839
71.0	217	83.0	68	83.5	811
69.0	439	85	163	62.5	719
73.0	543	85.0	107	57.0	667
73.0	439	60	60	67.0	722



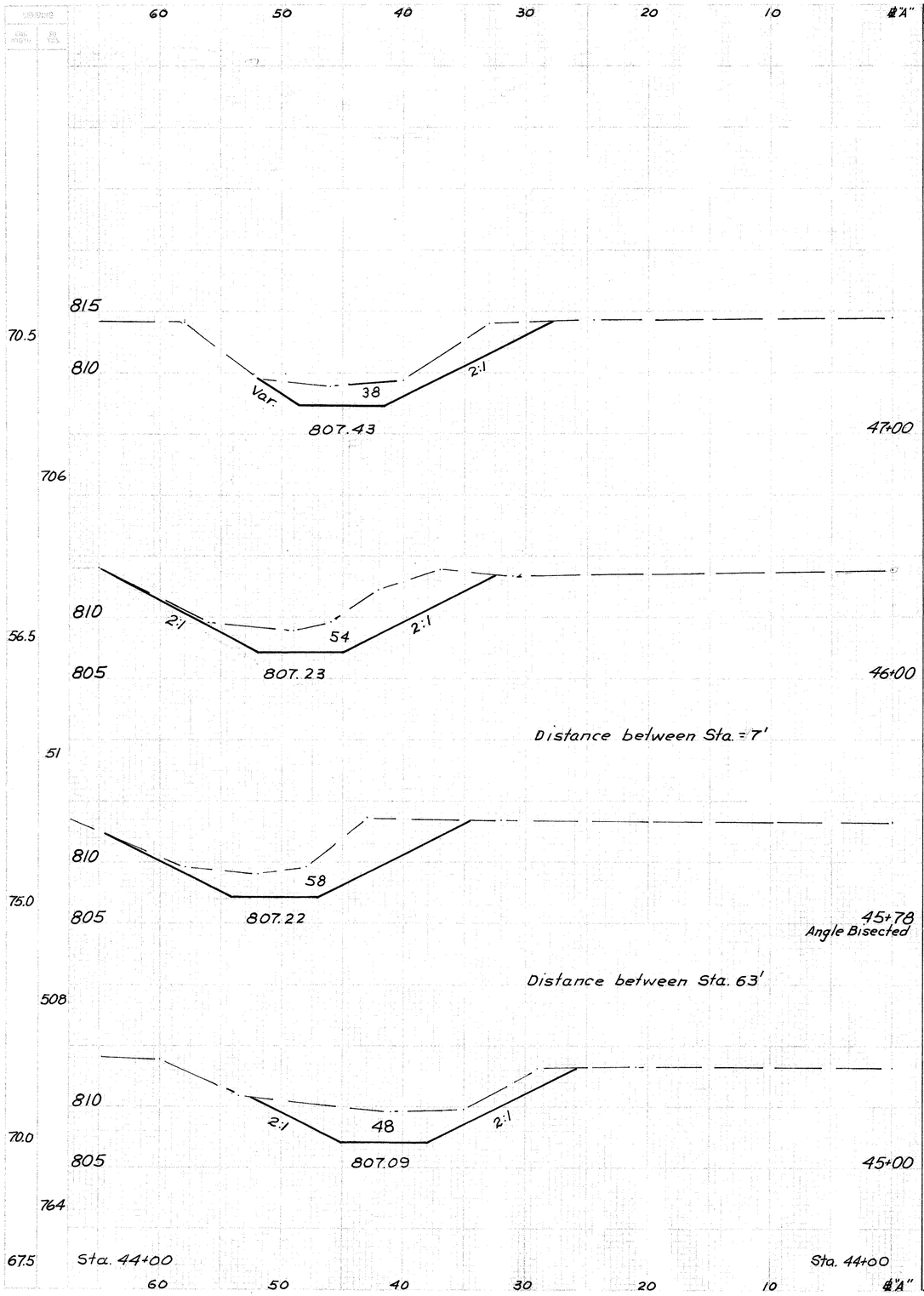


END AREA CUT	VOLUMES CUT	FILL
74		269
71		285
83		317
88		315
82		307
84		

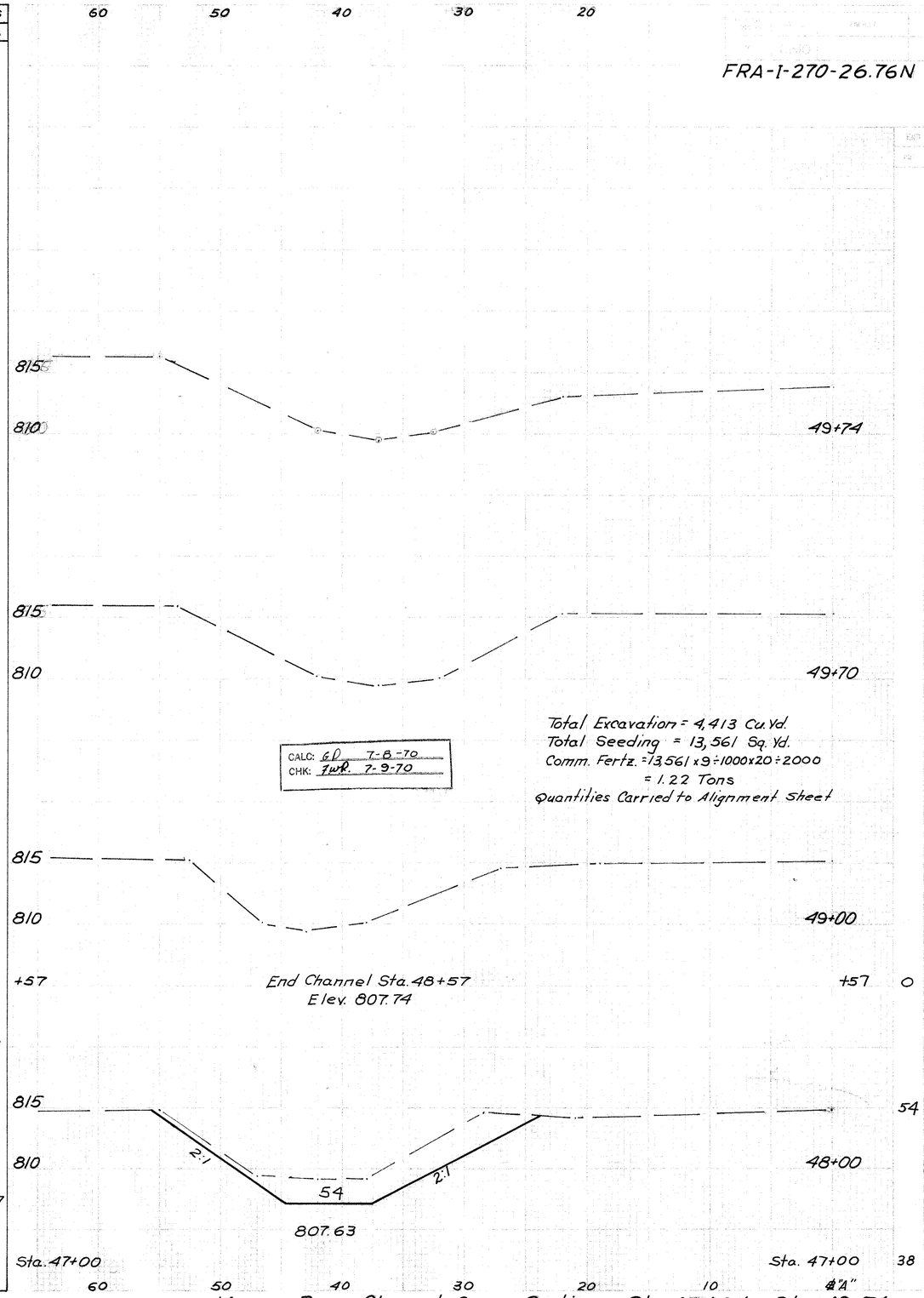
CALC: G.O. 7-8-70
CHK: J.W.R. 7-9-70

Mason Run ~ Channel Cross Sections Sta. 36+97.8 to Sta. 44+00

FRA-I-270-26.76N



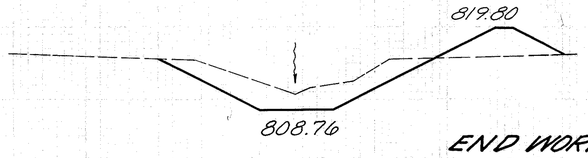
END AREA CUT	VOL CUT	SEEDING END WIDTH	SEEDING SQ YDS
38			
	170		
54			
	15		
58			
	123		
48			
	226		
74			
	0		
	231		
	73.0		
	797		
70.5			



Mason Run ~ Channel Cross Sections Sta. 45+00 to Sta. 49+74

FRANKLIN COUNTY
FRA-270-26.76N

NOTE: Seed to Fence

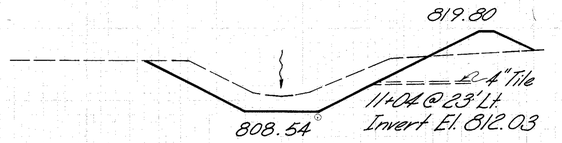


END WORK
12+00
PART II

138

11+50

184



11+00

223
384
0
0
0

End Culvert @ Sta. 10+69

Begin Culvert @ Sta. 8+57

8+50

43
119
43

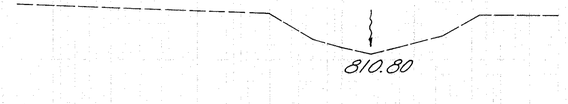
Begin Work 8+25

8+00

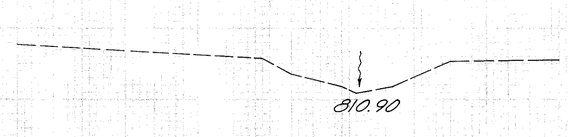
60 40 20 ℄

	End Area		Volume		Seeding	
	Cut	Fill	Cut	Fill	End Width	Sq. Yds.
820						
810						
800	108	38				
820			199	65		
810						
800	107	32				
820			205	53		
810						
800	114	25	131	29		
	114	25				
	100	0				
820			26	0		
810						
800						
820						
810						
800						

$\frac{21\frac{2}{2}}{\sqrt{429}}$



14+00



For Channel Work
See PART I.

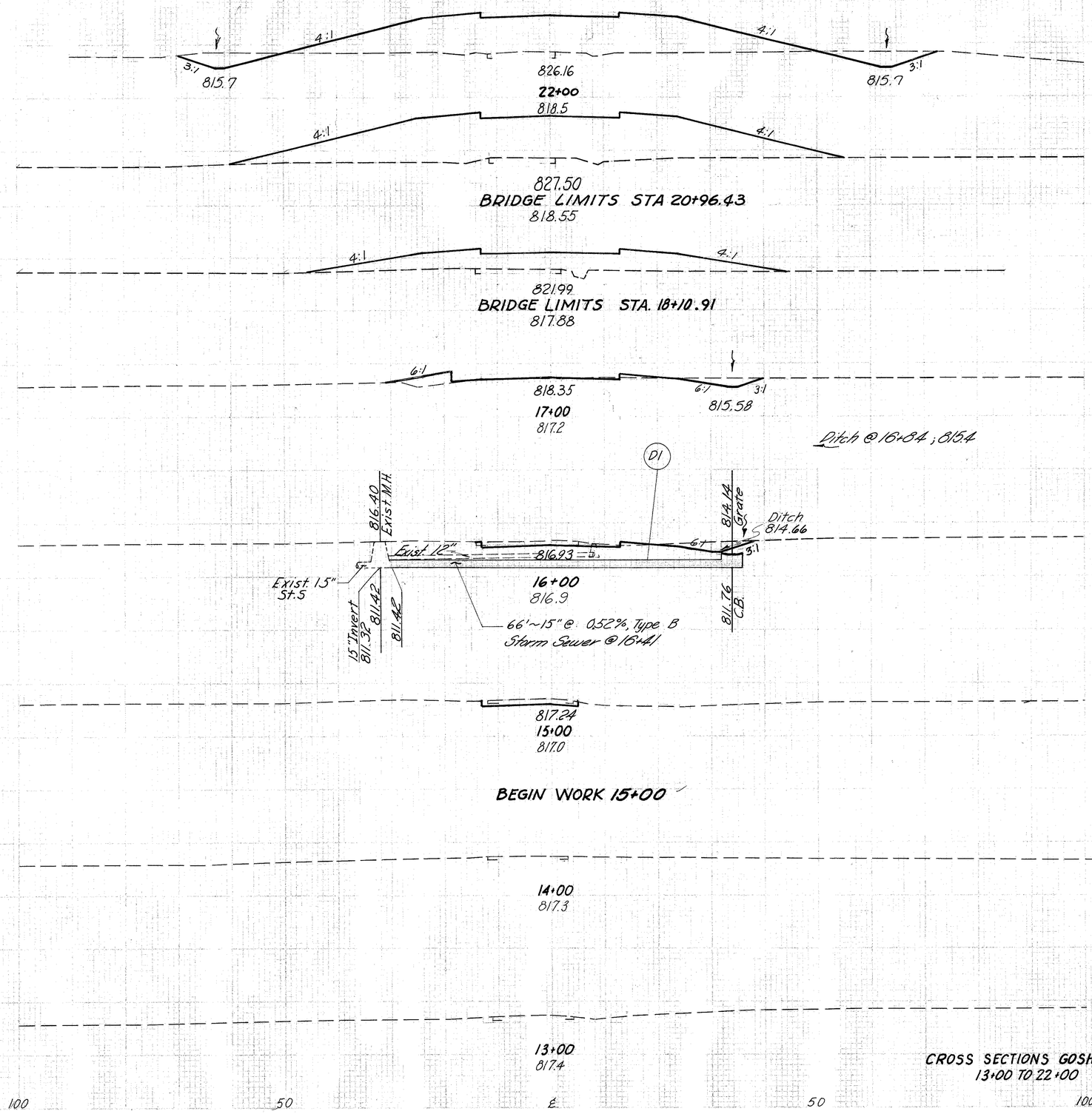
13+00

60 40 20 ℄

STA. 14+50 JOHNSTOWN ROAD
℄ DITCH CROSS SECTIONS

QUANTITY CALCULATIONS
BY W.F.I. DATE 7/69
CHKD. G.S.W. DATE 7/96
BURGESS & NIPLE, LIMITED

FRANKLIN COUNTY
FRA-270-26.76N



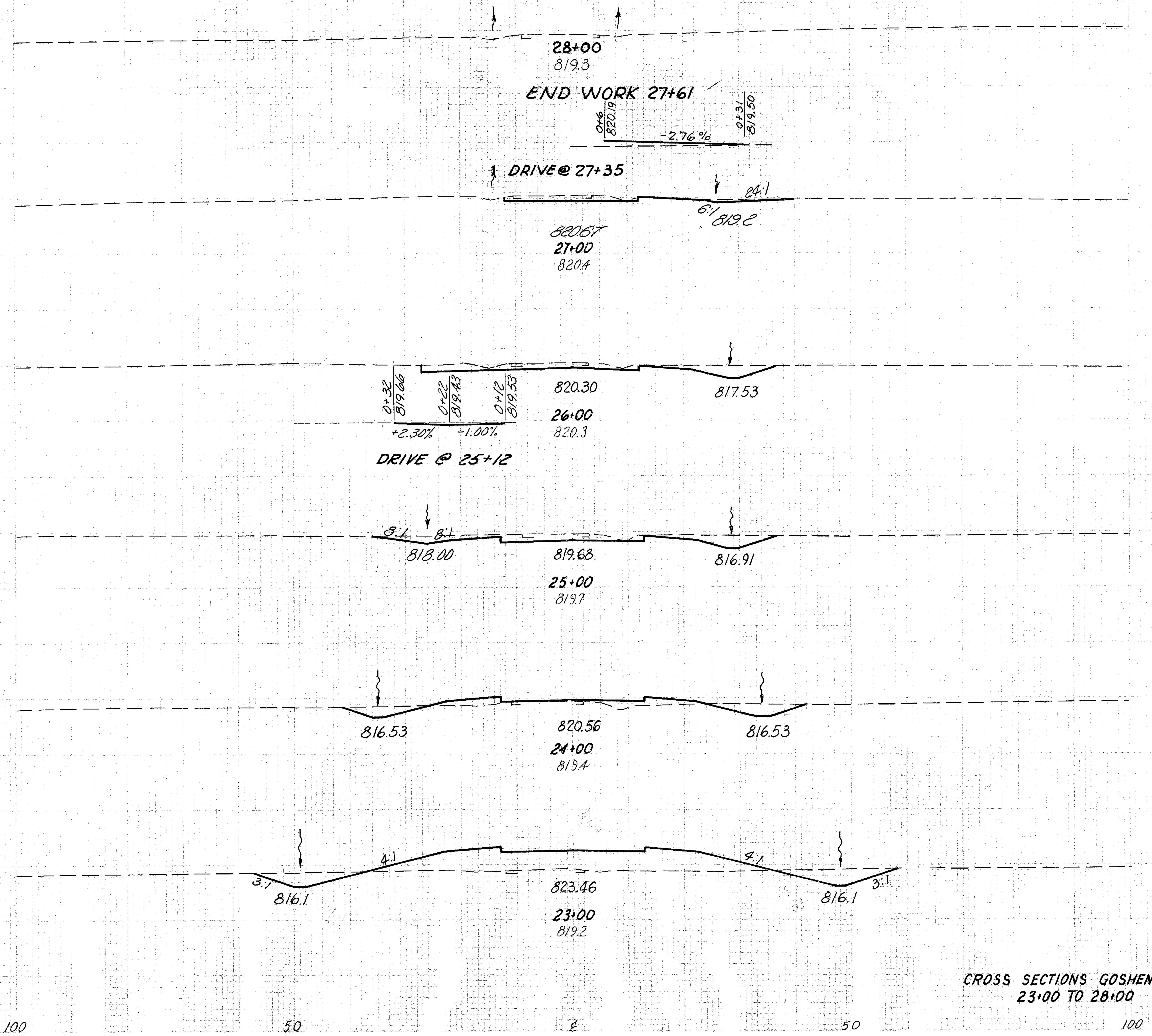
CROSS SECTIONS GOSHEN LANE
13+00 TO 22+00

143		Sta. 22+00						
	1417							
92		Sta. 20+96.43						
	1365							
66		Sta. 18+10.91						
	850							
72								
	761							
65								
	556							
35								

820								
810								
820								
		Sta. 22+00		74	520			
						143	2347	
		20+96.43	810	0	692			
820								
		18+10.91	810	0	238			
820							35	532
810	17	21						
							102	44
820								
810				38	3			
							107	6
820								
810			20	0				
820								
810								
820								
810								

QUANTITY CALCULATIONS
BY W.E.T. DATE 7/69
CHKD. G.S.W. DATE 7/16/69
BURGESS & NIPLE, LIMITED

FRANKLIN COUNTY
FRA-270-26.76N



55	
	437
74	
	639
41	
	650
76	
	867
80	
	1067
112	
	1417

0	0		
		32	0
28	0		
		185	0
72	0		
		300	0
90	0		
		252	74
46	40		
		211	474
68	216		
		263	1363

CROSS SECTIONS GOSHEN LANE
23+00 TO 28+00

QUANTITY CALCULATIONS
BY W. F. I. DATE 7/69
CHKD. G.S.W. DATE 7/11/69
BURGESS & NIPLE, LIMITED

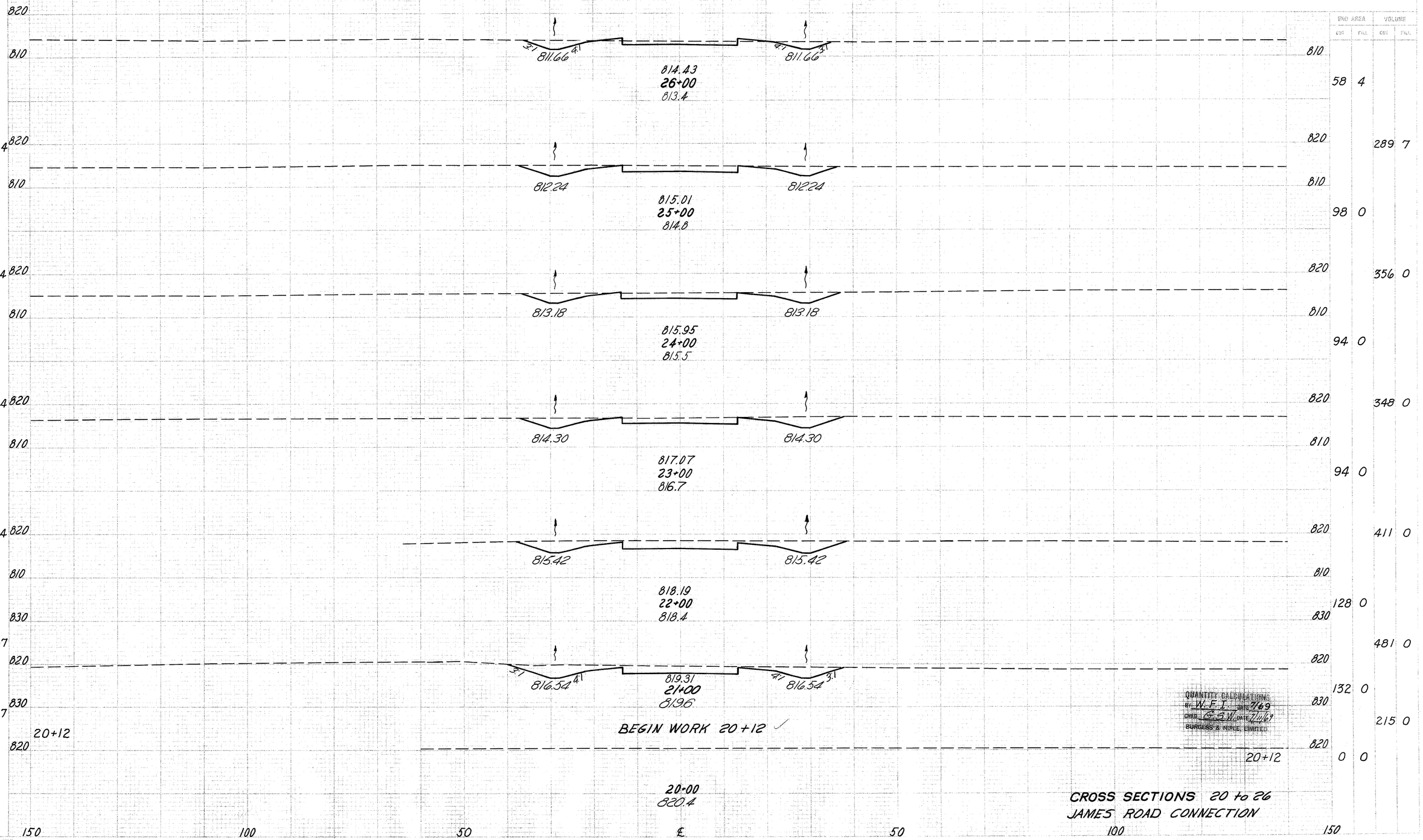
FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

111
247

FRANKLIN COUNTY
FRA-270- 26.76N

SEEDING

SEED WIDTH	SQ YDS
58	644
58	644
58	644
58	967
116	567
0	



END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
58	4		
		289	7
98	0		
		356	0
94	0		
		348	0
94	0		
		411	0
128	0		
		481	0
132	0		
		215	0
0	0		

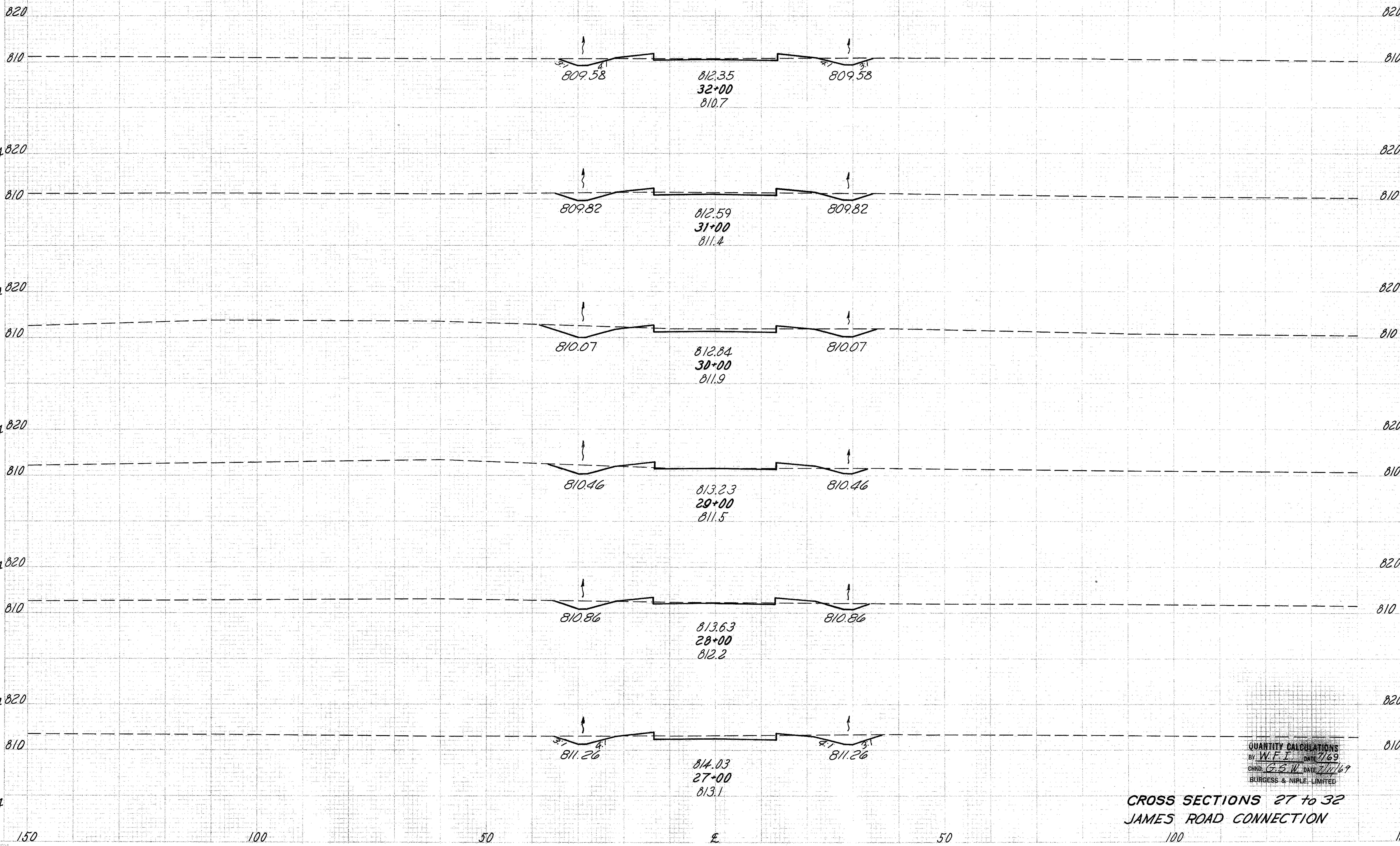
QUANTITY CALCULATIONS
BY W.F.I. DATE 7/69
CHKD. E.S.W. DATE 7/69
BURGESS & NIPPLE, LIMITED

CROSS SECTIONS 20 to 26
JAMES ROAD CONNECTION

ALLSTATE PLAN POINT FORMS

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

FRANKLIN COUNTY
FRA-270- 26.76 N



SEEDING	
END WIDTH	SQ. YDS.
58	
	644
58	
	644
58	
	644
58	
	644
58	
	644
58	
	644

END AREA		VOLUME	
CUT	FILL	CUT	FILL
30	9		
		122	33
36	9		
		167	26
54	5		
		141	31
22	12		
		94	43
29	11		
		146	26
50	3		
		200	13

QUANTITY CALCULATIONS
BY W.F.I. DATE 7/69
CHKD. G.S.W. DATE 7/11/69
BURGESS & NIPLE, LIMITED

CROSS SECTIONS 27 to 32
JAMES ROAD CONNECTION

FED. AID PROJECT NO.	STATE	PROJECT	
—	OHIO		

113
247

FRANKLIN COUNTY
FRA-270-26.76 N

SEEDING				END AREA		VOLUME	
END WIDTH	SQ. YDS.			CUT	FILL	CUT	FILL
58		820					
		810	3:1 4:1 807.90 810.67 **3.9+00** 811.3 4:1 3:1 807.90				
				160	0		
58	644	820					
		810	808.14 810.91 **38+00** 811.3 808.14				
				152	0		
58	644	820					
		810	808.38 811.15 **37+00** 811.4 808.38				
				142	0		
58	644	820					
		810	808.62 811.39 **36+00** 810.8 808.62				
				80	2		
58	644	820					
		810	808.86 811.63 **35+00** 810.8 808.86				
				63	2		
58	644	820					
		810	809.10 811.87 **34+00** 811.0 809.10				
				57	4		
58	644	820					
		810	3:1 4:1 809.34 812.11 **33+00** 811.0 4:1 3:1 809.34				
				32	9		
		820					
		810					
150		100	50	℄	50	100	150

						578	0
						544	0
						411	4
						265	7
						222	11
						165	24
						115	33

QUANTITY CALCULATIONS
BY W.F.I. DATE 7/69
CHKD. G.S.W. DATE 7/11/69
BURGESS & NIPLE, LIMITED

CROSS SECTIONS 33 to 39
JAMES ROAD CONNECTION

FED. ROAD DIVISION	STATE	PROJECT	
2	OHIO		

114
247

FRANKLIN COUNTY
FRA-270-26.76 N

SEEDING			END AREA		VOLUME	
SEED WIDTH	SQ. YDS.		CUT	FILL	CUT	FILL
		810 / 800 / 790				
73		799.42 (3:1, 4:1) — 800.30 (4:1, 3:1)				
		803.07 **45+00** 802.7				
	728	803.49 — 803.49	148	2		
		806.26 804.91 **44+00** 804.7				
58		805.78 — 805.78	315	22		
	644	808.55 **43+00** 806.9	22	10		
58		807.05 — 807.05	89	37		
		809.82 **42+00** 809.0				
58	644	807.42 — 807.42	26	10		
		810.19 **41+00** 810.0				
58		807.66 — 807.66	174	26		
	644	810.43 **40+00** 810.5	68	4		
			326	7		
			108	0		
			441	0		
			130	0		
			537	0		

150 100 50 ℄ 50 100 150

QUANTITY CALCULATIONS
BY W.F.I. DATE 7/69
CHKD. C.S.W. DATE 7/11/69
BURGESS & NIPLE, LIMITED

CROSS SECTIONS 40 to 45
JAMES ROAD CONNECTION

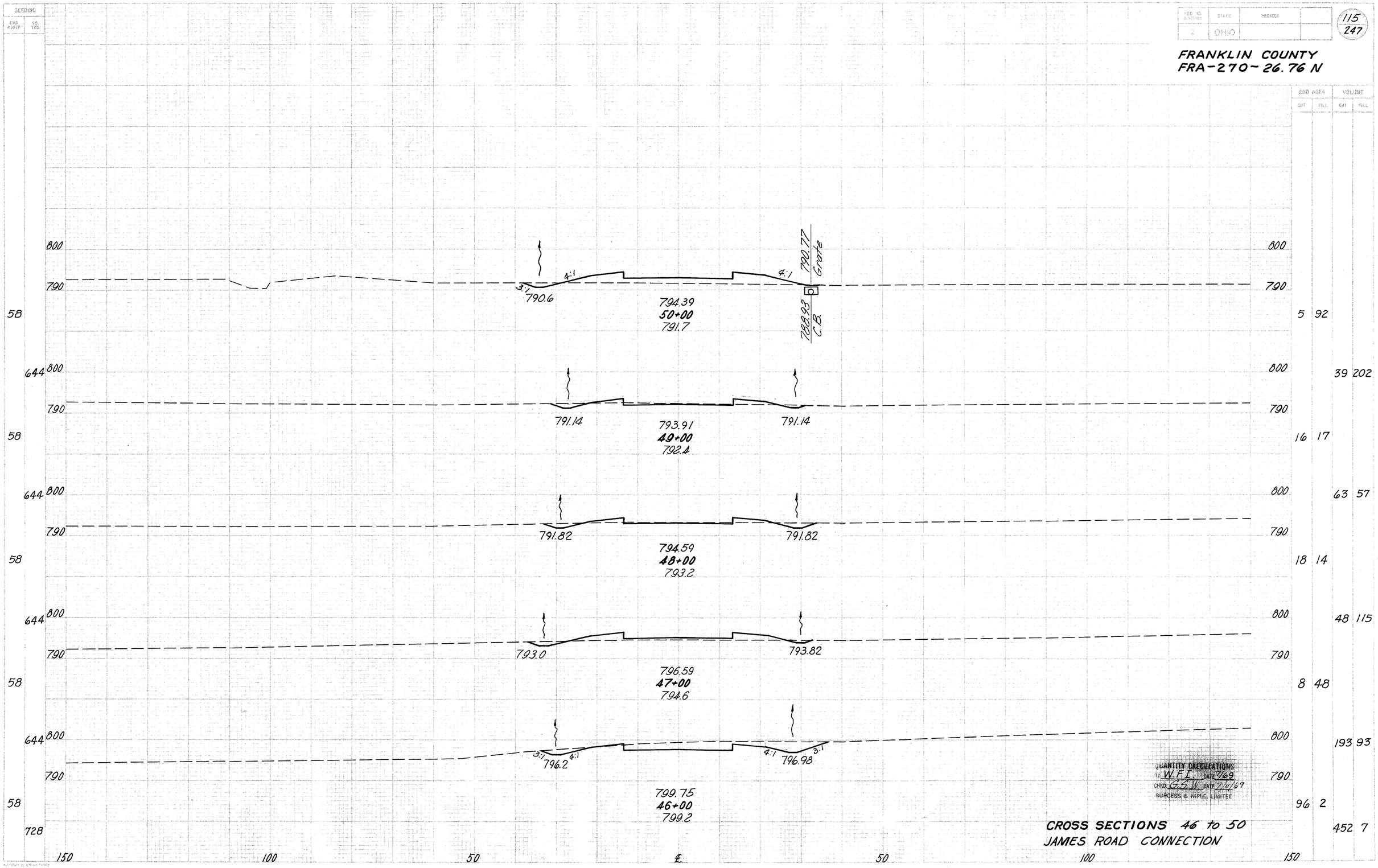
SEED NO. DIVISION	STATE	PROJECT	
2	OHIO		

115
247

FRANKLIN COUNTY
FRA-270-26.76 N

SEEDING

END AREA		VOLUME	
CUT	FILL	CUT	FILL
		5	92
		39	202
		16	17
		63	57
		18	14
		48	115
		8	48
		193	93
		96	2
		452	7



QUANTITY CALCULATIONS
BY W.F.I. DATE 7/69
CHKD. G.S.N. DATE 7/16/69
BURGESS & NIPLE, LIMITED

CROSS SECTIONS 46 to 50
JAMES ROAD CONNECTION

FED. AID DIVISION	STATE	PROJECT	
5	OHIO		

116
247

FRANKLIN COUNTY
FRA-270-26.76 N

SEEDING		END AREA		VOLUME	
END WIDTH	SQ. YDS.	CUT	FILL	CUT	FILL
48	63	20	6	9	3
48		20	6		
86	71			69	3
362	84			81	13
				117	12
				21	2
				159	194

800
790
789

51+66.81

795.50
51+67
795.5

END WORK 51+66.81

795.45
51+55
794.4

795.40
51+42
794.8

795.03
51+00
793.6

4.5:1
HWE Endwall
Invert= 788.34
Existing 54"–54.4' @ 0.10%
788.37
Connect 18" Conduit, Type C
To Existing 54" Conduit
3:1
4:1
790.2
792.0

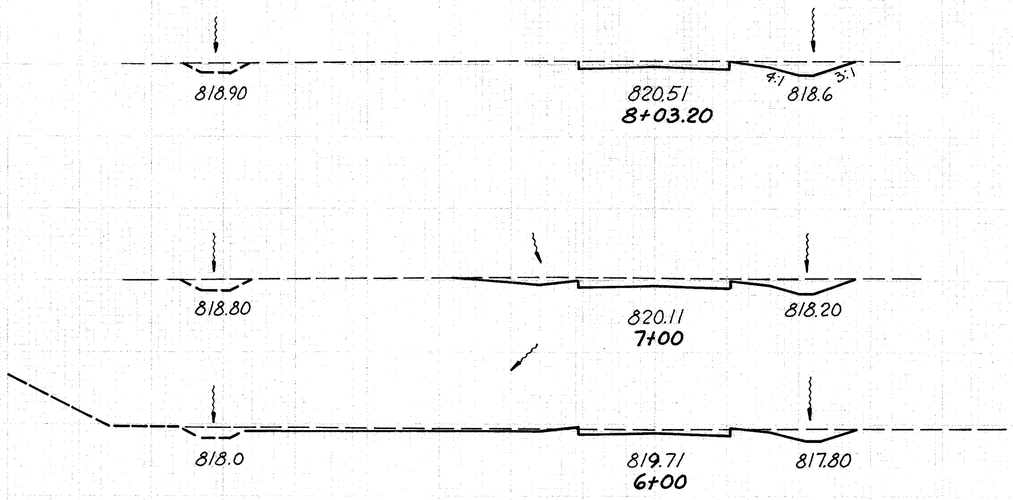
150 100 50 ℄ 50 100 150

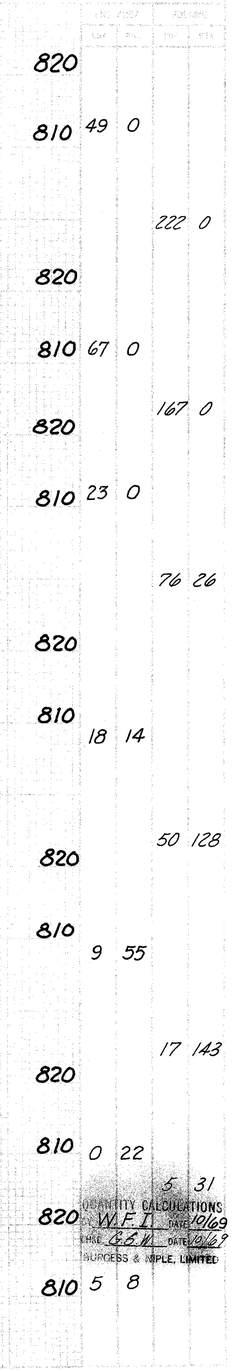
QUANTITY CALCULATIONS
W.F.L. DATE 7/69
CHKD. G.S.W. DATE 7/16/69
BURGESS & NIPLE, LIMITED

CROSS SECTIONS 51 to 51+66.81
JAMES ROAD CONNECTION

FRANKLIN COUNTY
FRA-270-26.76N

END WORK





QUANTITY CALCULATIONS
CHK'D WFT DATE 10/69
CHK'D CEM DATE 10/69
SUCCESS & APPLE, LIMITED

SCHWAB SERVICE ROAD

FED. RD DIVISION	STATE	PROJECT	
2	OHIO		

118/247

FRA-270-26.76 N.

baseline for cross-sections

N 1°45'47" E

Big Walnut Sanitary Trunk Sewer (84")

(M.H. 20)

(M.H. 21)

Sta. 1601+25 ℄ FRA-270

Sta. 19+23.57 Reloc. Big Walnut = Sta. 1603+48.48 M

℄ CHANNEL RELOCATION

FLOW

BEGIN WORK STA. 10+00

END WORK STA. 26+25

Proposed 8" S.A.S.

℄ FRA-270-28.24 N. Lt.

℄ FRA-270-28.24 N. Rt.

℄ FRA-270

℄ C.R.E.E.

RCP (Depth 36")

Sta. 1605+03.90 Back = Sta. 1627+82.72 Ahead

END PART II
FRA-270-26.76N
STA 1605+03.90

BIG WALNUT

FILL TO DRAIN

S 65°14'13" E.

Exist. 8" S.A.S.

Exist. 8" S.A.S.

For Quantities See Sheet 28

PLAN

Existing Ground | 2:1 Normal | 160' | APPROX F.L. ELEV. 772.0 | 2:1 Normal | Existing Ground

TYPICAL CHANNEL SECTION

EXISTING FLOW LINE

TOP OF EXISTING GROUND AT BASELINE

PROPOSED FLOW LINE

84" BIG WALNUT SANITARY TRUNK SEWER

F.L. 782.88

F.L. 788.36

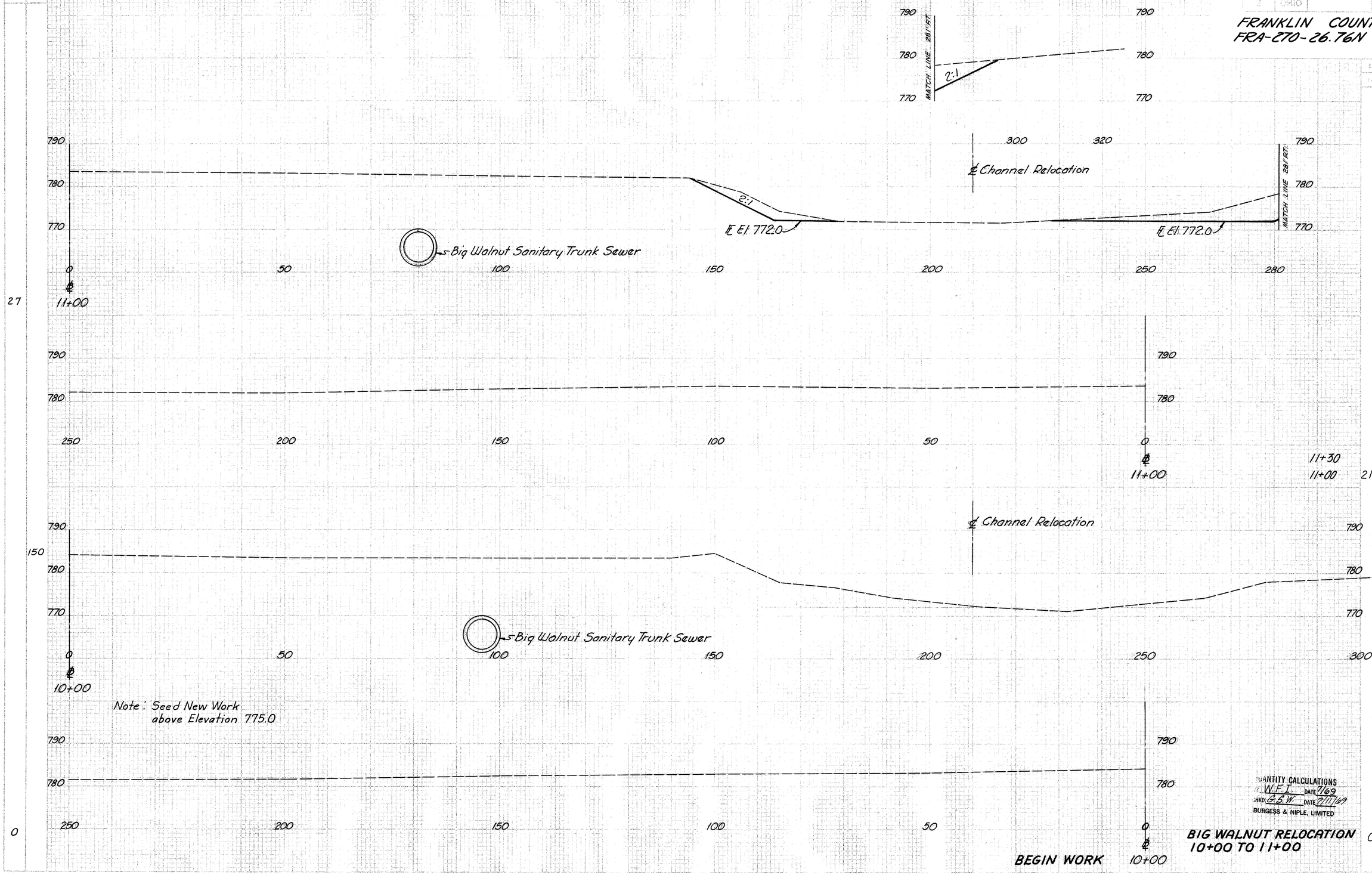
PROFILE

BURGESS & NIPLE LIMITED — CONSULTING ENGINEERS
COLUMBUS, OHIO

PROPOSED BIG WALNUT CREEK CHANNEL RELOCATION

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED

FRANKLIN COUNTY
FRA-270-26.76N



QUANTITY CALCULATIONS
W.F.I. DATE 7/69
CHKD: G.S.W. DATE 7/11/69
BURGESS & NIPLE, LIMITED

BIG WALNUT RELOCATION
10+00 TO 11+00

SECTIONS

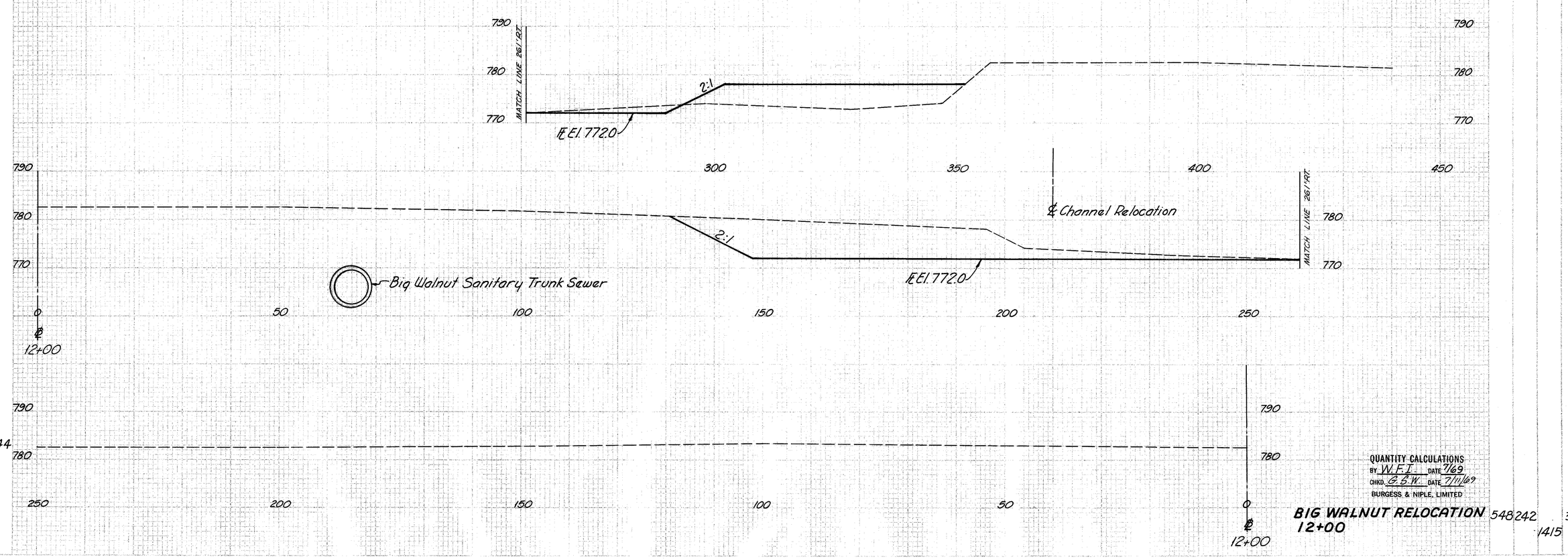
SEC. NO.	SCALE

STATE	PROJECT
OHIO	

120
247

FRANKLIN COUNTY
FRA-270-26.76N

END AREA		VOLUME	
CUT	FILL	CUT	FILL



QUANTITY CALCULATIONS
BY W.F.I. DATE 7/69
CHKD. G.B.W. DATE 7/11/69
BURGESS & NIPLE, LIMITED

BIG WALNUT RELOCATION 548242 314
12+00 1415

SEEDING

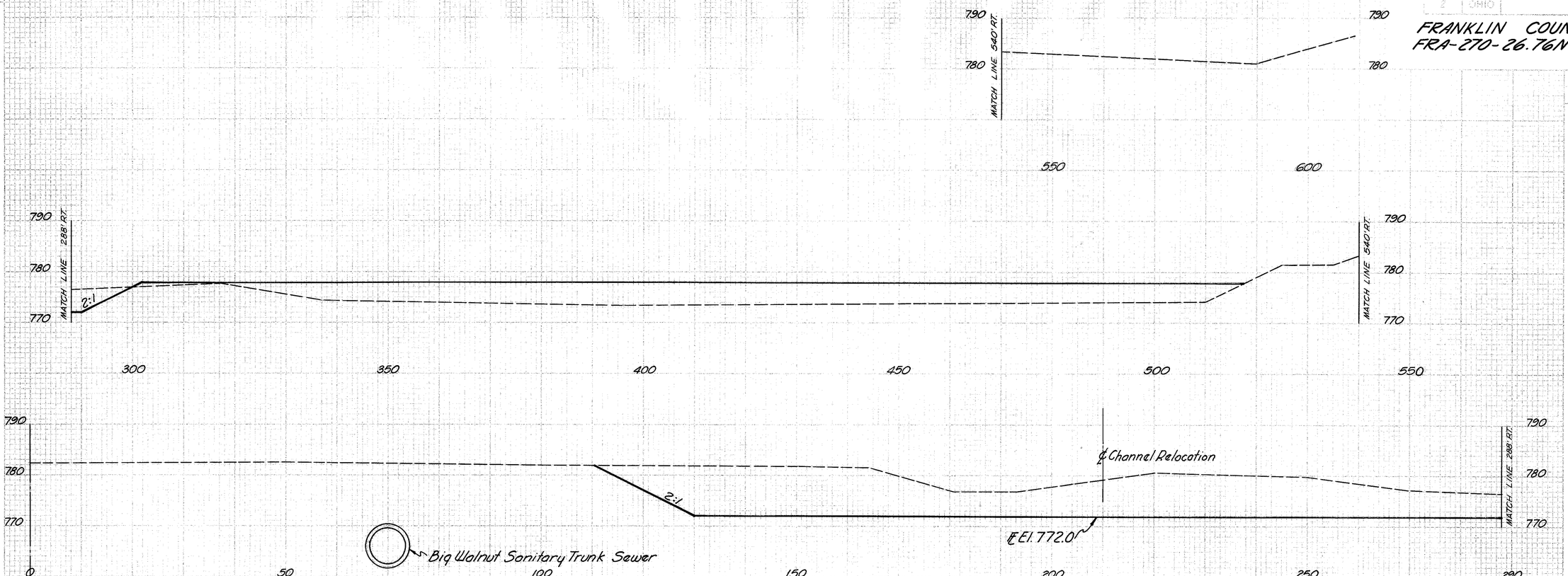
KND SHDTH	NO. LNS

STATE	PROJECT
OHIO	

121
247

FRANKLIN COUNTY
FRA-270-26.76N

END STEP		VOLUME	
CUT	FILL	CUT	FILL



QUANTITY CALCULATIONS
BY W.F.I. DATE 7/69
CHKD. G.S.W. DATE 7/11/69
BURGESS & NIPLE, LIMITED

BIG WALNUT RELOCATION
13+00

SEEDING

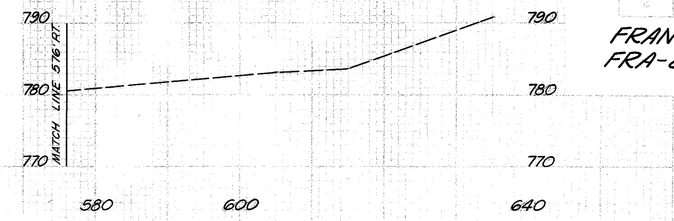
END SHAPE	CU. YDS.

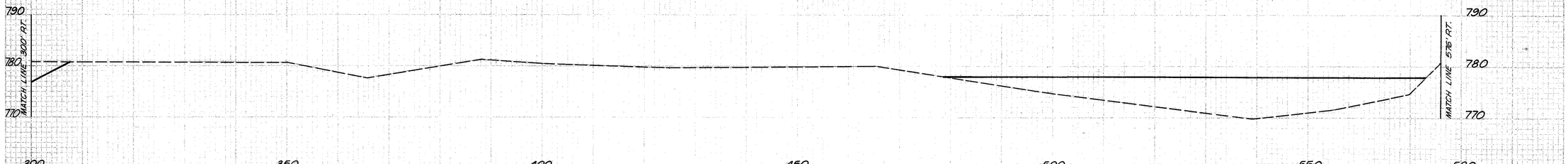
STATE	PROJECT
OHIO	

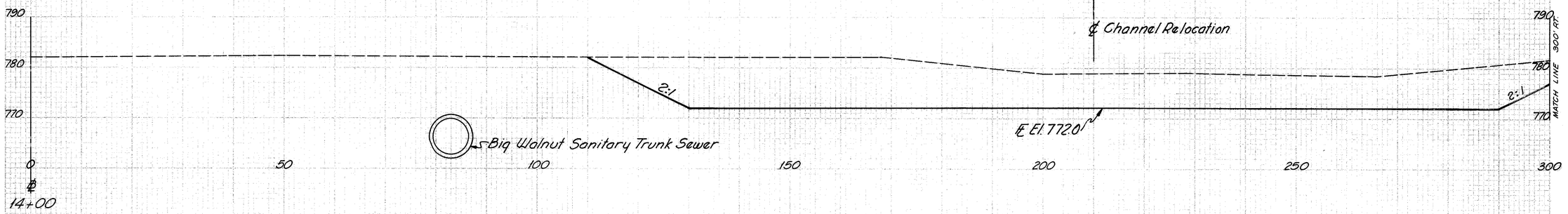
122
247

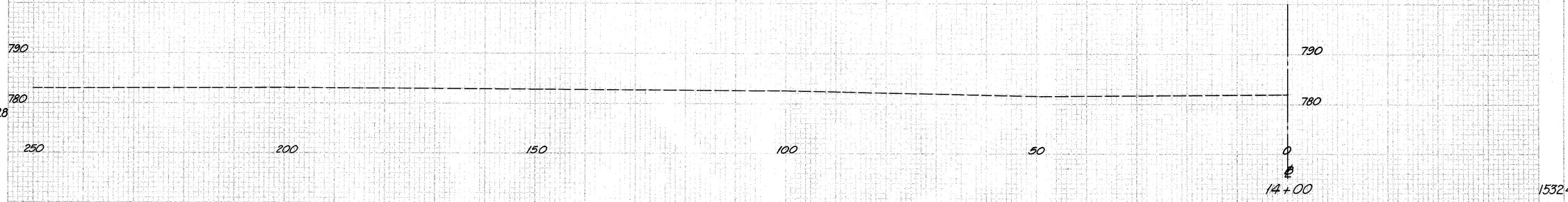
FRANKLIN COUNTY
FRA-270-26.76N

END AREA		VOLUME	
CUT	FILL	CUT	FILL









1532460

QUANTITY CALCULATIONS
BY W.F.I. DATE 7/69
CHKD. G.S.W. DATE 7/11/69
BURGESS & NIPLE, LIMITED

5207234

BIG WALNUT RELOCATION
14+00

SEEDING

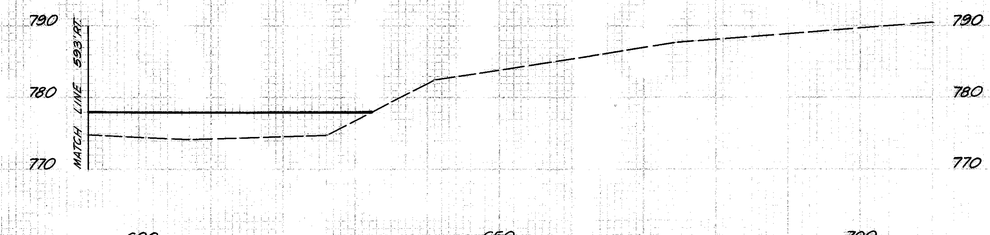
END WIDTH	50 FWD.

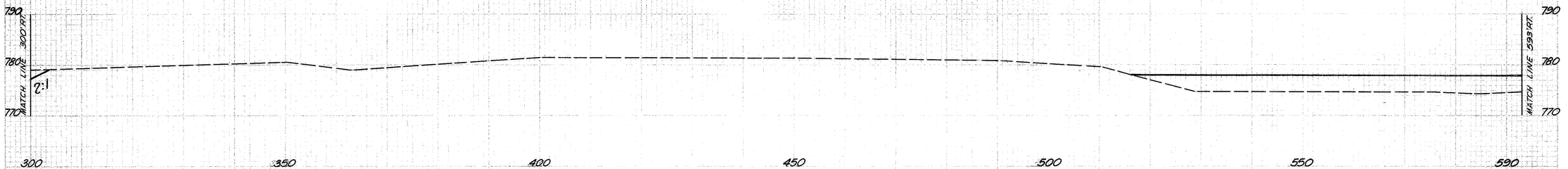
FED. PROJ.	STATE	PROJECT
	OHIO	

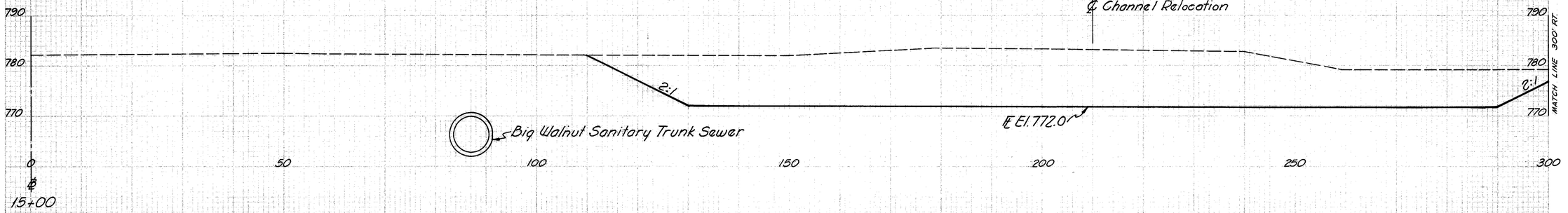
123
247

FRANKLIN COUNTY
FRA-270-26.76N

END AREA		MID AREA	
CUT	FILL	CUT	FILL

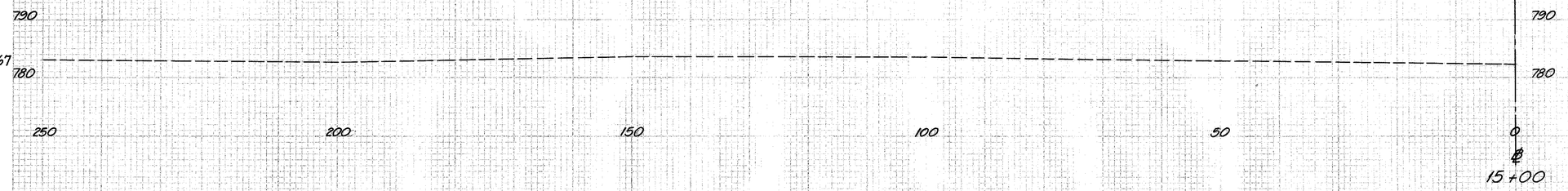






139

℄
15+00



693

QUANTITY CALCULATIONS
BY W.F.I. DATE 7/69
CHKD. G.S.W. DATE 7/11/69
BURGESS & NIPLE, LIMITED

1772364

BIG WALNUT RELOCATION
15+00

6119 1526

SEEDING

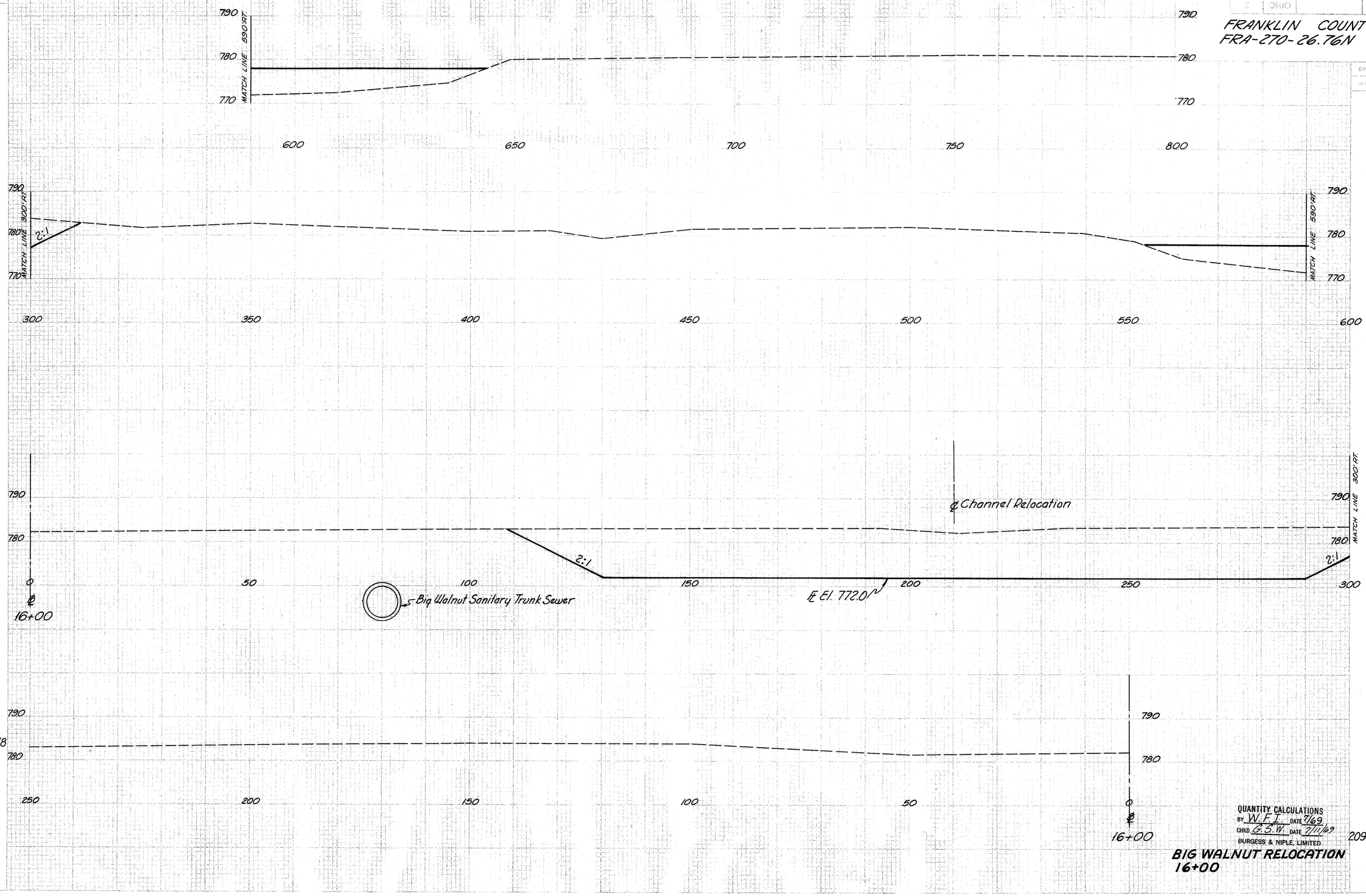
ENG DISTR	SQ YDS

FED DISTR	STATE	PROJECT	
5	OHIO		

124
247

FRANKLIN COUNTY
FRA-270-26.76N

EMB AREA		VOLUME	
CUT	FILL	CUT	FILL



127

1478

QUANTITY CALCULATIONS
BY W.F.I. DATE 7/69
CHKD. G.S.W. DATE 7/11/69
BURGESS & NIPLE, LIMITED

BIG WALNUT RELOCATION
16+00

2098 0

7167 0

SEEDING

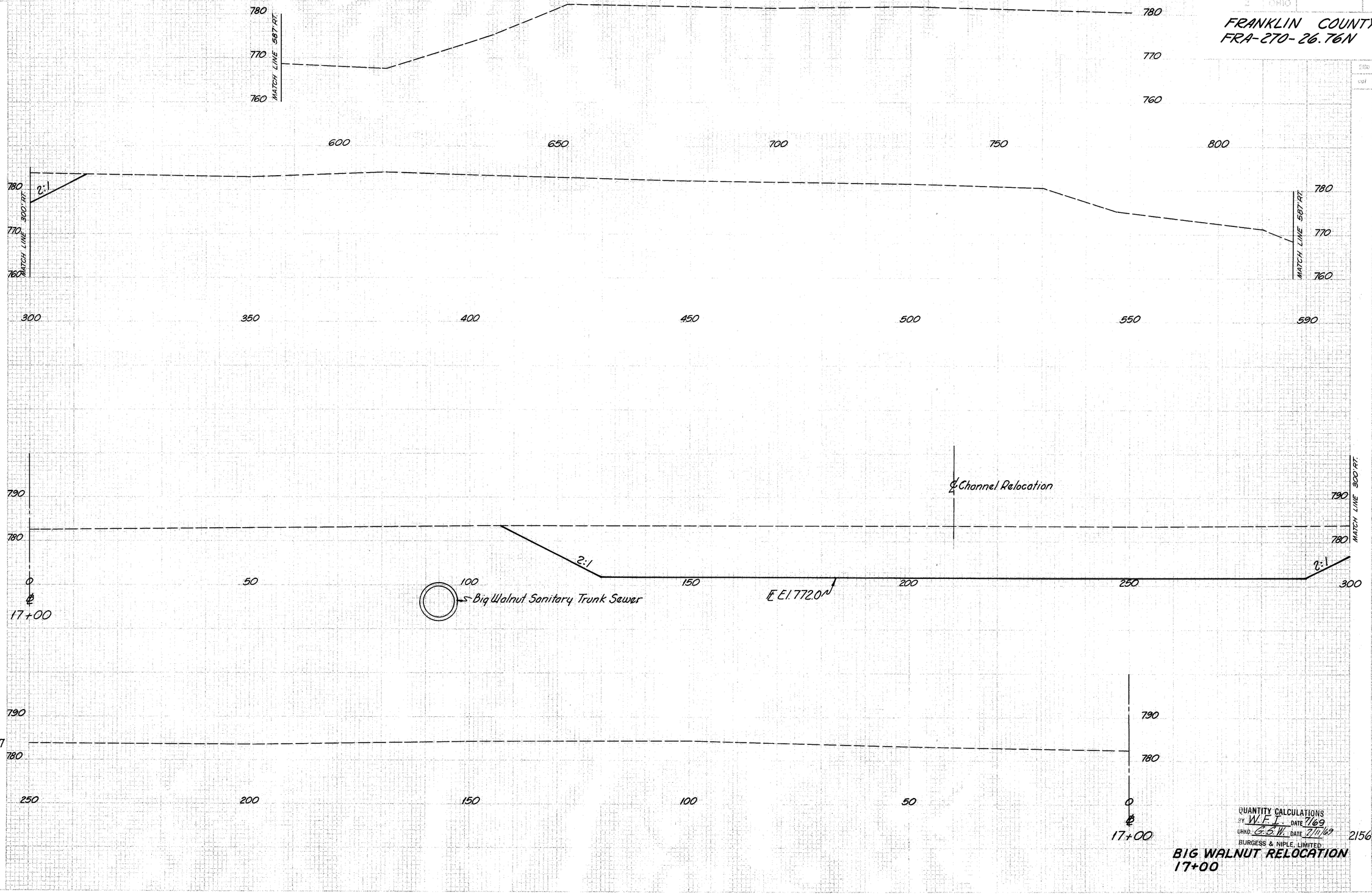
ENG. STATION	SQ. YDS.

STATE	PROJECT
OHIO	

125
247

FRANKLIN COUNTY
FRA-270-26.76N

END AREA		VOLUME	
CUT	FILL	CUT	FILL



38

QUANTITY CALCULATIONS
BY W.F.I. DATE 7/69
CHKD G.S.W. DATE 7/11/69

BURGESS & NIPLE, LIMITED

BIG WALNUT RELOCATION
17+00

2156 0

7878 0

SEEDING

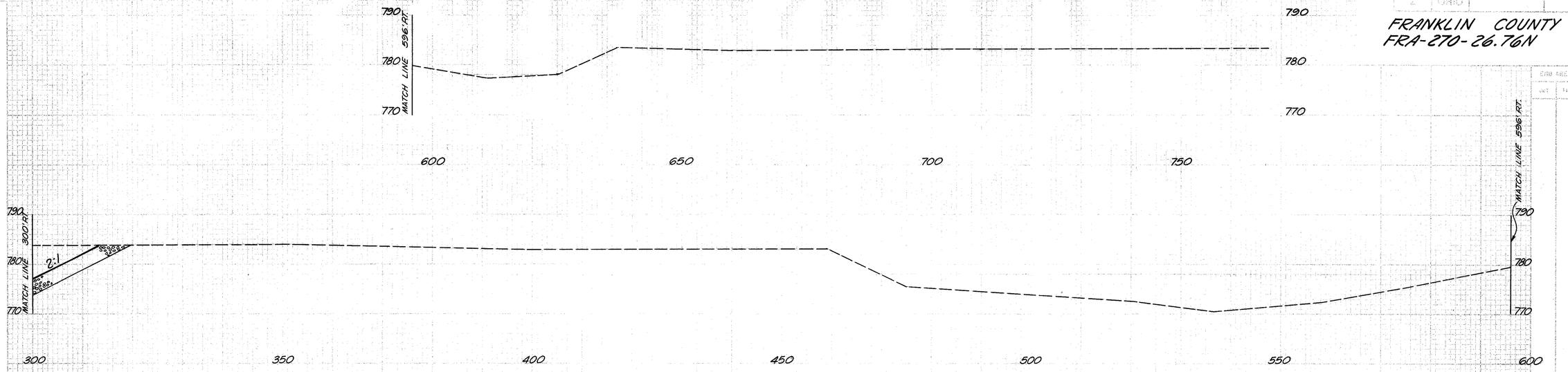
ENG. UNITS	SQ. YDS.

SHEET NUMBER	STATE	PROJECT	
2	OHIO		

126
247

FRANKLIN COUNTY
FRA-270-26.76N

ENG. UNITS	AREA	VOLUME	
CUT	FILL	CUT	FILL



QUANTITY CALCULATIONS
W.F.I. DATE 7/69
CHKD. G.S.W. DATE 7/11/69
BURGESS & NIPLE, LIMITED

BIG WALNUT RELOCATION
18+00

2074 0

7833 0

BEGINS

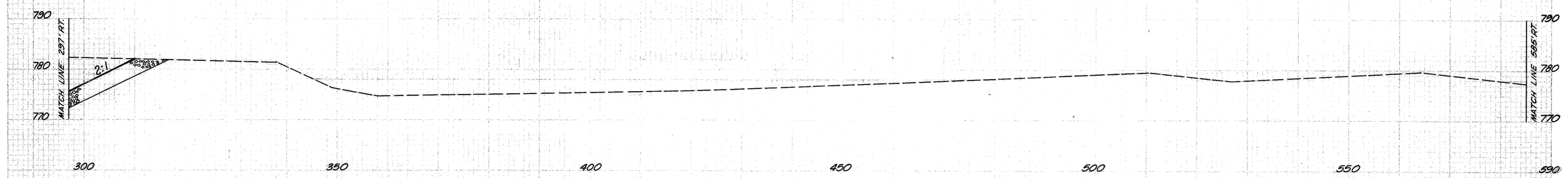
CRS WIDTH	SQ. YDS.

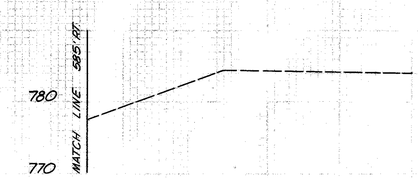
DIVISION	STATE	PROJECT	
2	OHIO		

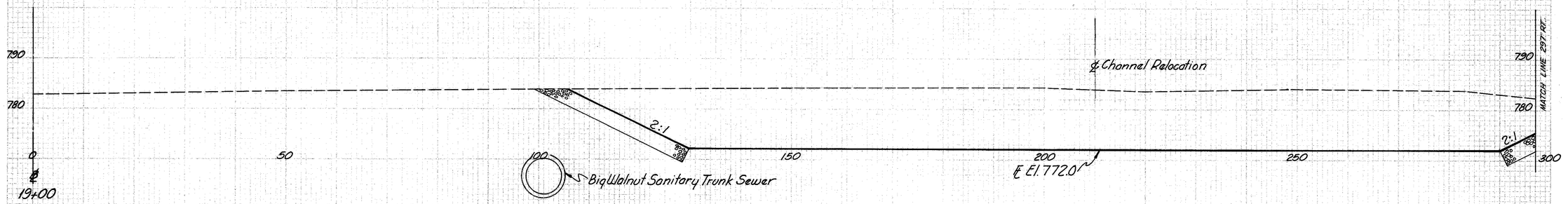
127
247

FRANKLIN COUNTY
FRA-270-26.76N

GRID AREA		VOLUME	
CUT	FILL	CUT	FILL







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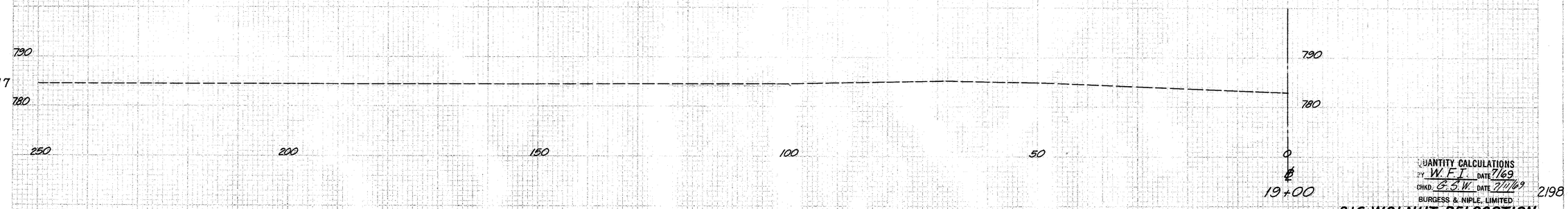


QUANTITY CALCULATIONS
BY W.F.I. DATE 7/69
CHKD. G.S.W. DATE 7/11/69
BURGESS & NIPLE, LIMITED

BIG WALNUT RELOCATION
19+00

2198.0

7911.0

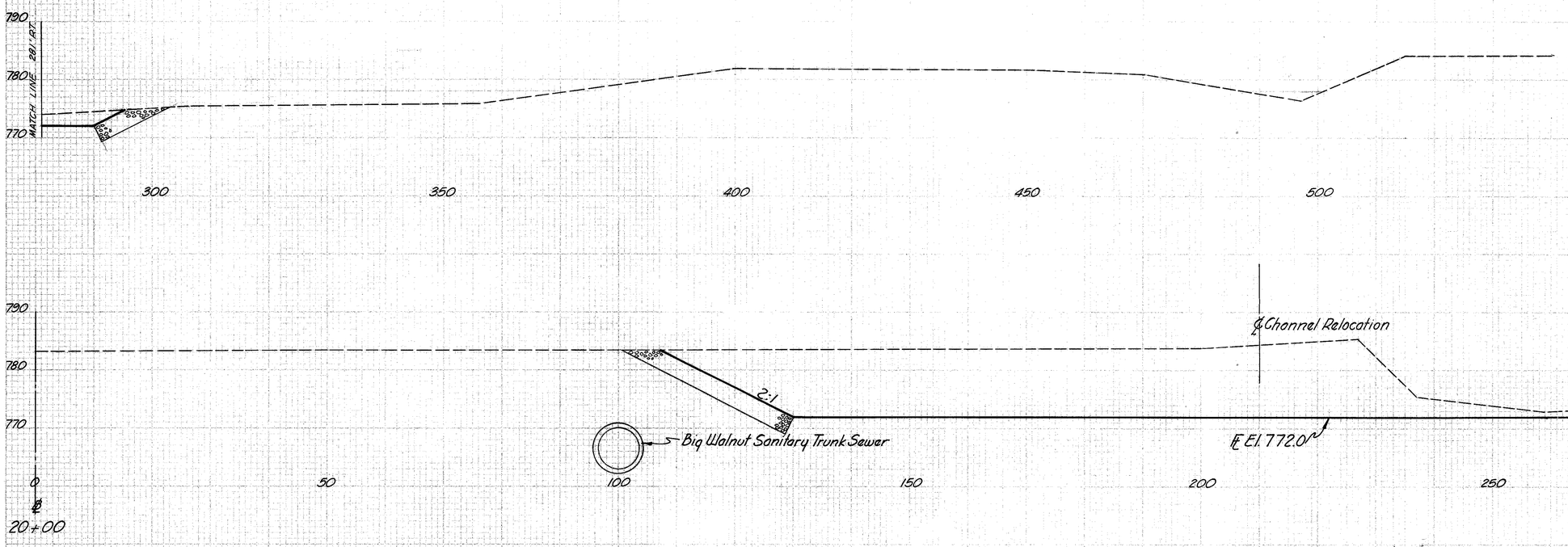
SEEDING	
SQ. YDS.	

STATE	PROJECT
OHIO	

128
247

FRANKLIN COUNTY
FRA-270-26.76N

END AREA		VOLUME	
CUT	FILL	CUT	FILL



QUANTITY CALCULATIONS
BY W.F.I. DATE 7/69
CHKD. G.S.W. DATE 7/11/69
BURGESS & NIPLE, LIMITED

1480 0

6811 0

BIG WALNUT RELOCATION
20+00

SEEDING

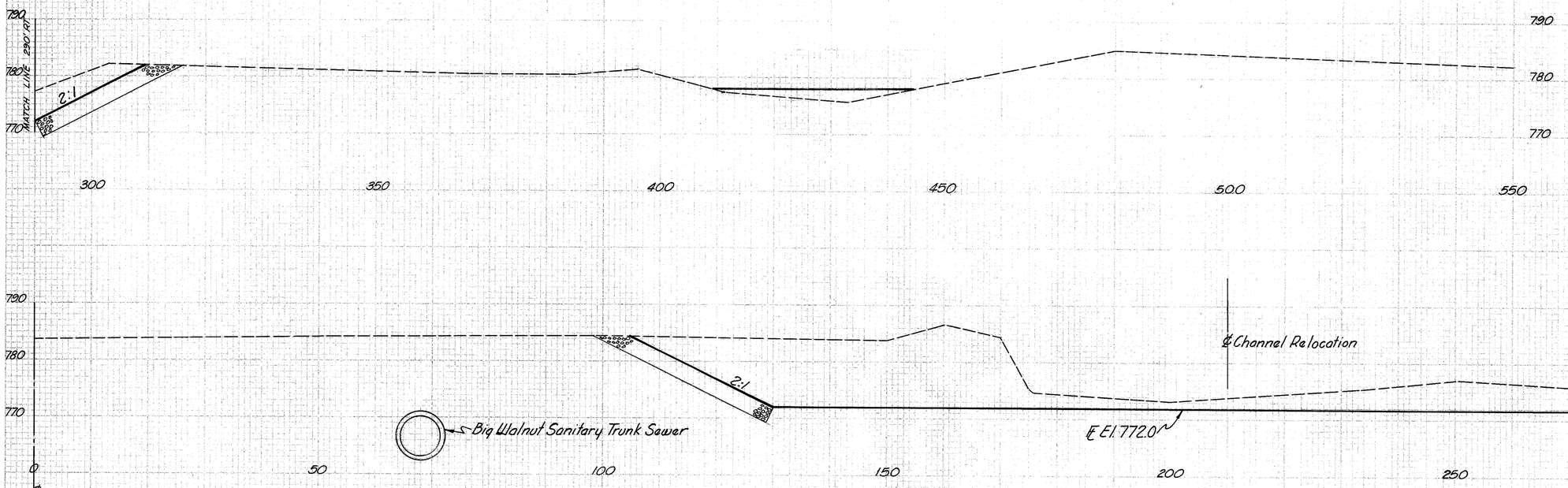
SEED (LB/1000 SY)	LIME (TON)

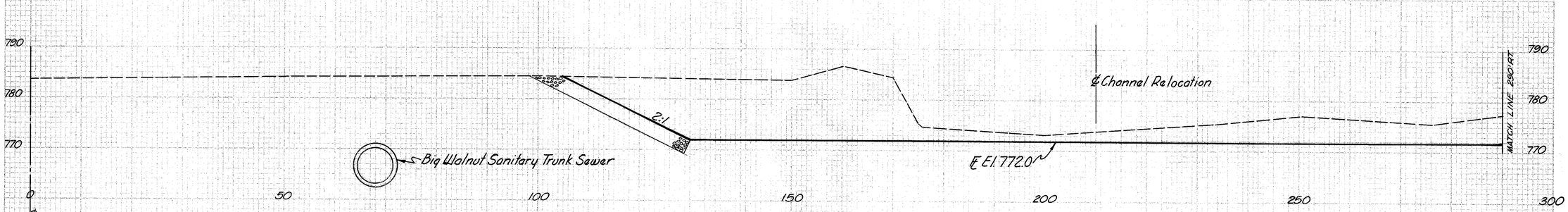
CONTRACT NO.	STATE	PROJECT	
13	OHIO		

129
247

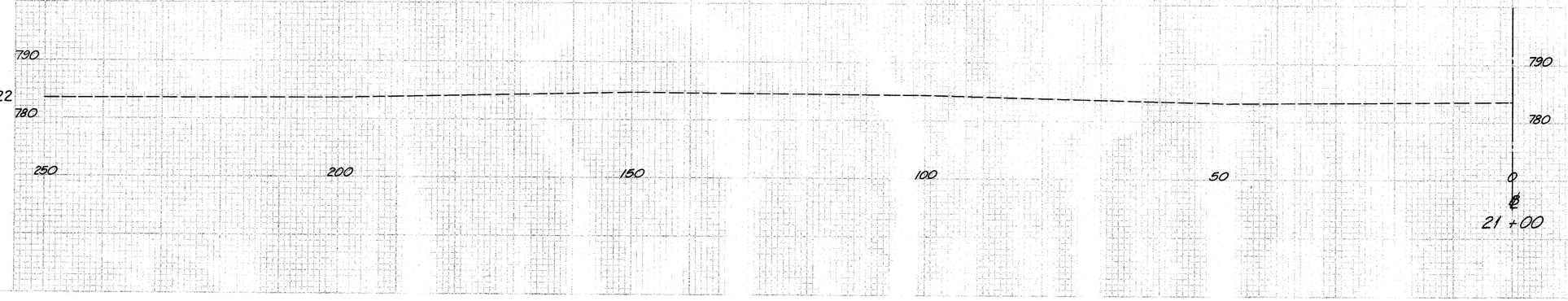
FRANKLIN COUNTY
FRA-270-26.76N

END AREA		VOLUME	
CUT	FILL	CUT	FILL





74 ℄ 21+00



℄ 21+00

QUANTITY CALCULATIONS
BY W.F.I. DATE 7/69
CHKD. G.S.W. DATE 7/11/69
BURGESS & NIPLE, LIMITED

1176 48

BIG WALNUT RELOCATION
21+00

4919 97

SEEDING

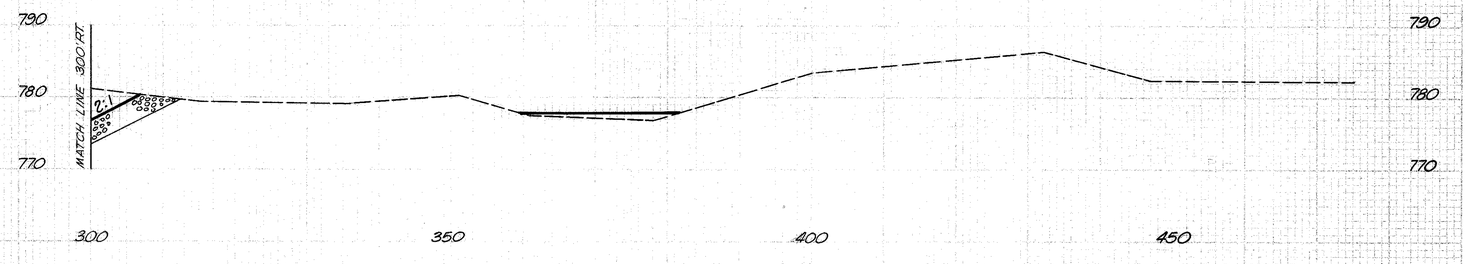
SEED WIDTH	SEED YDS.

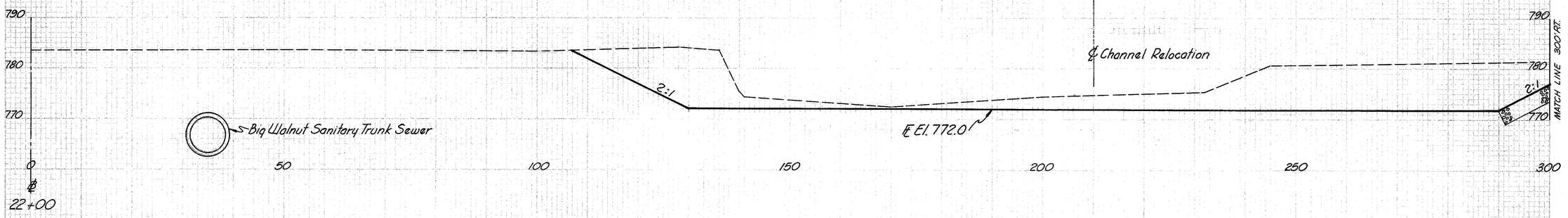
STATE	PROJECT
OHIO	

130
247

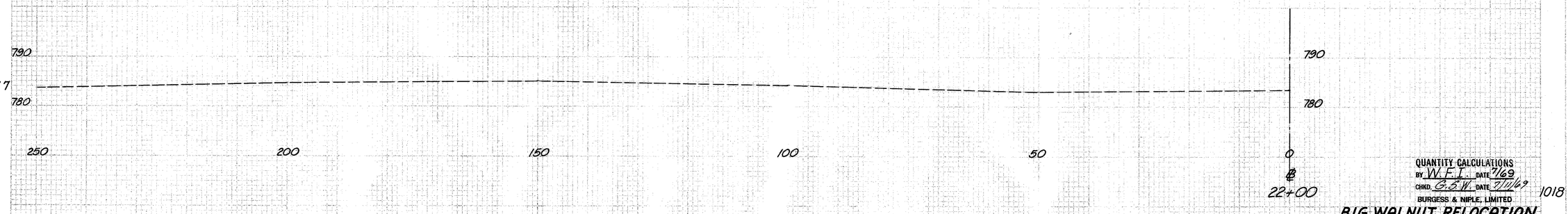
FRANKLIN COUNTY
FRA-270-26.76N

END AREA		VOLUME	
CUT	FILL	CUT	FILL





55



QUANTITY CALCULATIONS
BY W.F.I. DATE 7/69
CHKD. G.S.W. DATE 7/11/69
BURGESS & NIPLE, LIMITED

BIG WALNUT RELOCATION
22+00

1018 0

4063 0

SEAMS

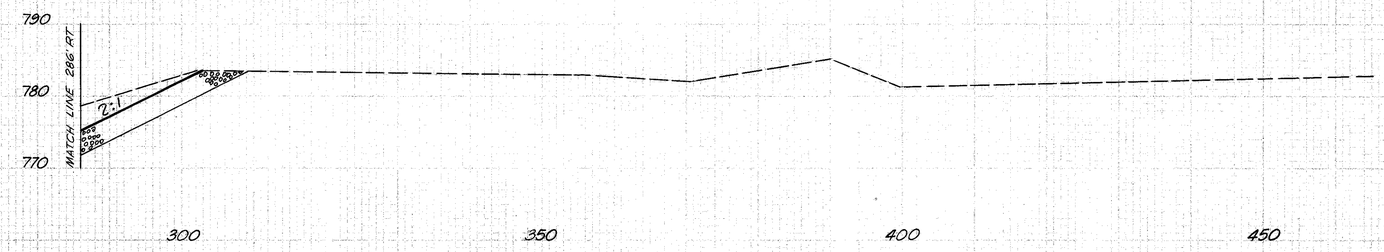
END WIDTH	NO. YDS.

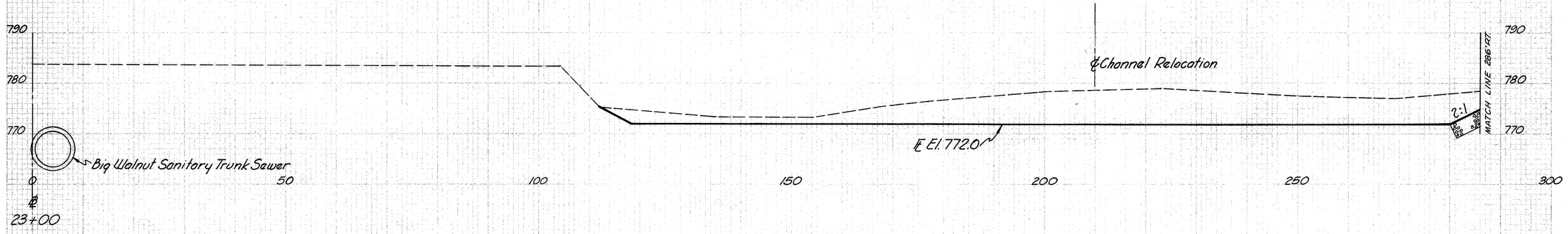
DIVISION	STATE	PROJECT	
6	OHIO		

131
247

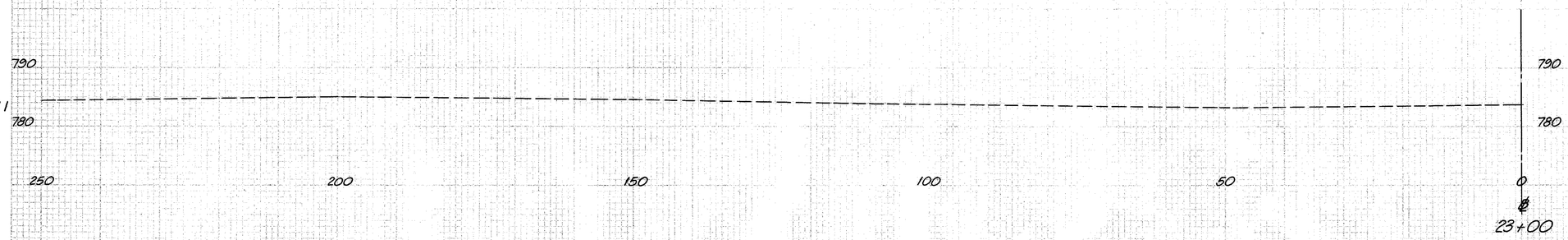
FRANKLIN COUNTY
FRA-270-26.76N

END AREA		VOLUME	
CUT	FILL	CUT	FILL





19



QUANTITY CALCULATIONS
BY W.F.I. DATE 7/69
CHKD. G.S.W. DATE 7/14/69
BURGESS & NIPLE, LIMITED

BIG WALNUT RELOCATION
23+00

834 0

3430 0

132
247

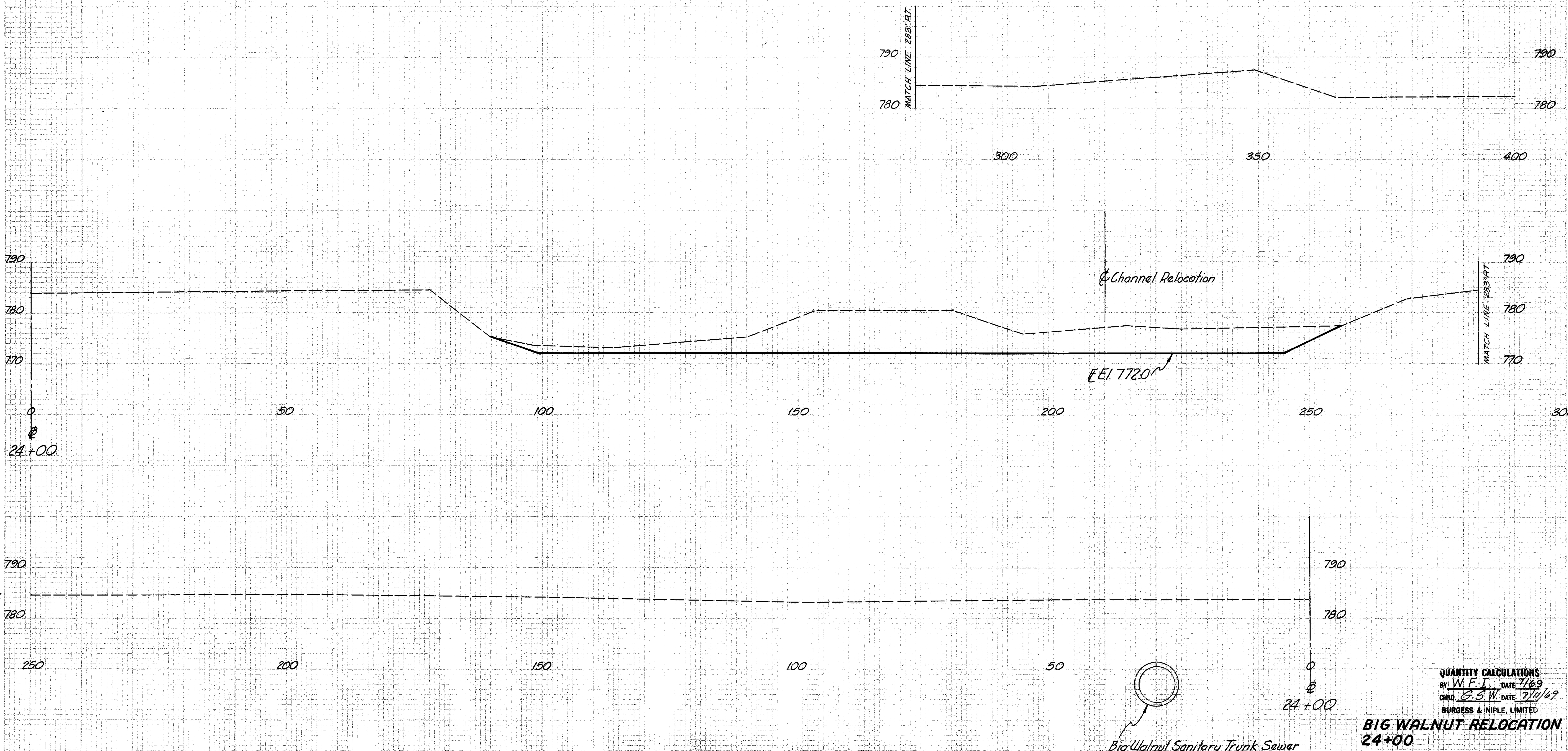
SEEDING

END WIDTH	SQ. YDS.

FRANKLIN COUNTY
FRA-270-26.76N

STATE	OHIO

END AREA		VOLUME	
CUT	FILL	CUT	FILL



5

133

QUANTITY CALCULATIONS
BY W. F. I. DATE 7/69
CHKD. G. S. W. DATE 7/11/69
BURGESS & NIPLE, LIMITED

838 0

BIG WALNUT RELOCATION
24+00

3096 0

END WORK 26+25

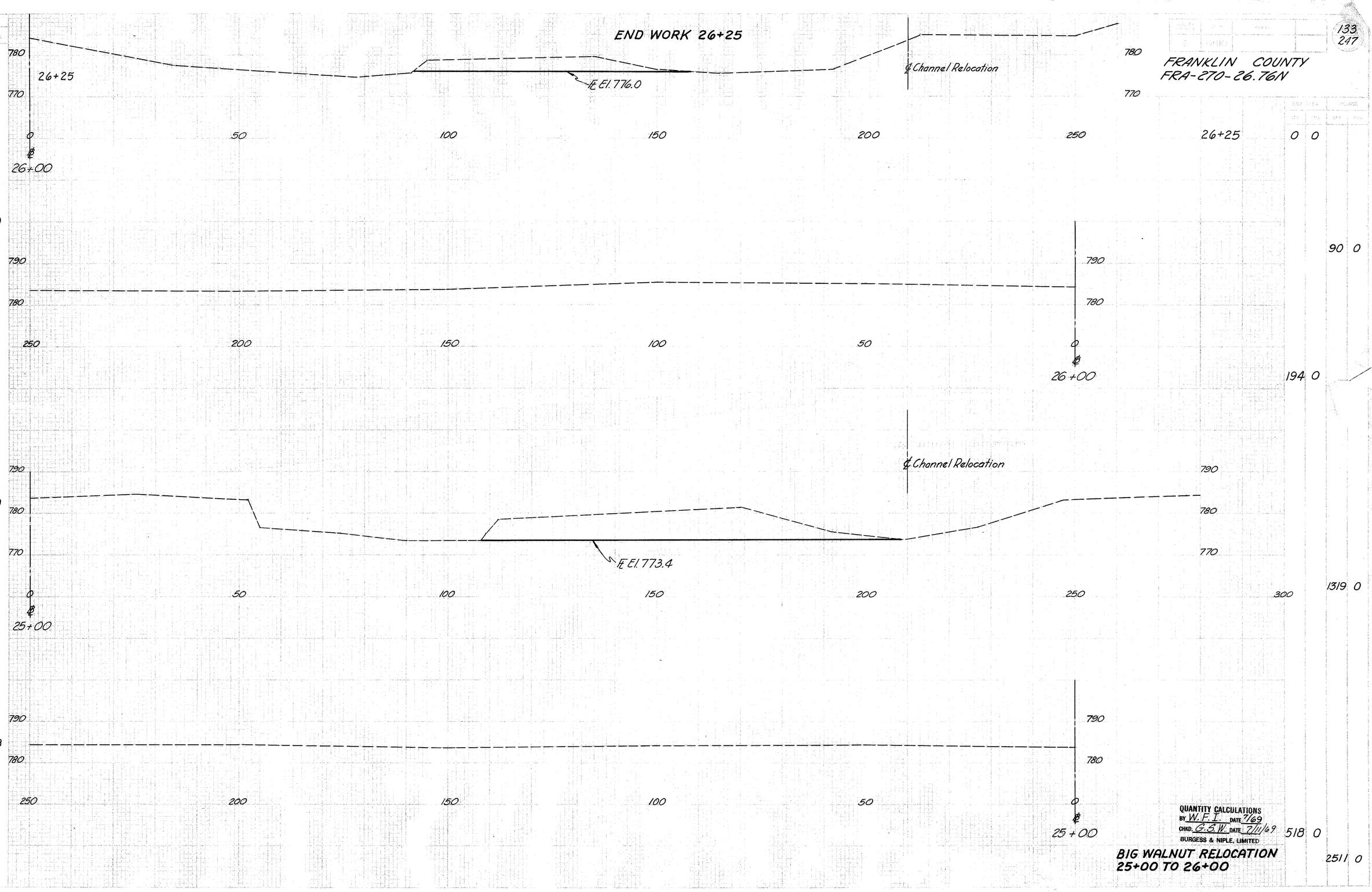
℄ Channel Relocation

℄ El. 776.0

26+25

26+00

FRANKLIN COUNTY
FRA-270-26.76N



QUANTITY CALCULATIONS
BY W.F.I. DATE 7/69
CHKD. G.S.W. DATE 7/11/69
BURGESS & NIPLE, LIMITED

BIG WALNUT RELOCATION
25+00 TO 26+00

GENERAL NOTES

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

134
247

FRANKLIN COUNTY
FRA-270-26.76N

625 WIRE AND CABLE

Wire and cable installation shall conform to Section 625.14 of the Construction and Materials Specifications and shall be of the sizes and types shown on the plans.

Wire or cable installed in conduit on or with sign structures shall be #10 RHH, 600 volt standard copper wire (pole and bracket cable).

Cable installed undergound leading from the pullbox to the disconnect switch shall be #4 or 6 single conductor circuit cable.

816 OVERHEAD SIGN SUPPORT FABRICATION

In lieu of plan details the following are fabrication requirements for supports in this project:

All handholes fabricated for supports shall be 4" x 8" in size with face flush with pole exterior at the required locations described in plans.

The electrical service entry through each vertical sign support pole shall be provided by means of a two inch (2") half-coupling centered at a height of 5'-0" above the bottom of the base plate.

The type "Y" or "Z" disconnect switch enclosure shall be mounted in such a manner that the bottom of the enclosure will be 4'-9-1/2" (± 1/4") above bottom of base plate.

Payment for the fabrication requirement specified above shall be incidental to the cost of each support structure.

MARKING OF CABLE

All cables shall be marked or tagged at all pull boxes, handholes, light poles, sign supports, signal supports, switches, and controllers with an approved tag, so as to be individually identified.

816 CONSTRUCTION LAYOUT STAKES FOR SIGNS

The Contractor shall stake out all sign supports in accordance with Supplemental Specification 816 prior to installation of any foundations or supports.

After stakeout the Contractor shall notify the Engineer a minimum of seven (7) days in advance of scheduled work. Support locations for each support will be field checked and approved by the Engineer who shall coordinate with The Division and/or City Traffic Engineer prior to proceeding with construction work required.

If both major and minor type supports are included within the project it will be permissible to perform the construction stake-out and field inspection in two (2) stages, one for major supports and one for minor supports.

Cost for this item of work will be incidental to the various 816 items of work contained in the project.

816 STRUCTURAL SUPPORTS, 6 LB. BEAM, AS PER PLAN

This item shall consist of the furnishing, assembly, and installation of two (2) 3 lb. per foot drive posts (6 lb. beam) in combination with a square seamless tubular post extension spliced to the top of the 6 lb. beam. Details are shown on Sheet No. 161.

Square seamless tubular post material shall be mild steel conforming to ASA 1020 steel, minimum yield strength 35,000 PSI, ultimate yield 55,000 PSI.

Work shall include all labor, materials, equipment, tools, and hardware necessary to perform the required item of work.

Basis of payment shall be for Structural Supports, 6 lb. Beam, as per plan per linear foot measured by total length of combination beam from end to end.

SIGN LOCATIONS

All signs shall be placed normal to the roadway on which they are stationed unless otherwise noted on the plans.

ERECTION OF OVERHEAD SPAN TYPE SIGN SUPPORTS (7 SERIES)

In all cases, span type overhead sign supports and signs shall be erected concurrently. At no time shall the box trusses be erected without the signs being in place within eight (8) hours.

FED. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.	
2	OHIO		

135
247

FRA-270-26.76N

GENERAL NOTES

620 DELINEATORS, AS PER PLAN

The Contractor shall have the option of driving or concrete embedding the delineator post in accordance with details Sheet Nos. 147.

Posts may be trimmed on the embedded ends to adjust for grade and required delineator mounting height. Concrete shall be Class "C".

In either case, the Contractor shall be responsible for damage to underground utilities or cable during performance of this item of work.

The quantity furnished and installed shall be paid for at the price bid per each which price shall be full compensation for either type of installation.

816 OVERPASS STRUCTURE MOUNTED SIGN SUPPORT BY TYPE

This item of work shall consist of the furnishing, fabrication, and erection of the materials for the overpass structure mounted sign supports in accordance with materials and requirements specified in these plans and detailed on sheets 140, 145+153

Work shall include all necessary framing, sign brackets, light fixture support arms, welding, bolts, complete and ready for installation of electrical sign lighting components.

Basis of payment shall be at the bid price per each Overpass Structure Mounted Sign Support, by Type including all materials, equipment, labor and incidentals required to perform the item of work.

STRUCTURE MOUNTED SIGNS WIRED, COMPLETE

This item shall consist of the furnishing and/or installing the electrical sign lighting system components from the connectors in the pull box (included in the Lighting Quantities) to the light fixtures.

Work shall include installing of light fixtures and ballast, and the furnishing and installation (including trenching and backfilling) of the 1 1/4" Type II or III metal conduit and fittings from the pull box to the structure foundation, the 1 1/4" Type I metal conduit and fittings leading from the structure foundation to the disconnect switch, the #12, 600-volt, direct burial cable from the connectors to the disconnect switch, the 1/2" EMT conduit and #4 ground wire leading from the disconnect switch to the structure beam (the balance of structure grounding system included with lighting quantities), the furnishing and installing of all other items beyond the switch enclosure including rigid and flexible conduit, condulets, junction boxes, pull boxes, wire, fasteners, hardware and all other items required to energize the sign lighting system.

Basis of payment shall be at the contract unit price per each, which price shall include all labor, materials, tools, equipment and other incidentals to provide a complete and accepted item of work.

DISCONNECT SWITCH ENCLOSURE MOUNTING BRACKETS

This item shall include the fabricating, furnishing and installation of disconnect switch enclosure mounting brackets when enclosures are attached to abutments.

Work shall consist of field drilling, attachment and hardware as detailed on Sheet 156.

Basis of payment shall be at the bid price per each mounting bracket which price shall be full compensation for furnishing, fabrication, and installation including all labor, material, and incidentals necessary to complete this item of work.

FED. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.	
2	OHIO		

136
247

FRA-270-26.76N

GENERAL NOTES

816 STRUCTURAL SUPPORTS, STEEL BEAM (TYPE)

The structural steel beam supports including 8 and 6 pound beams, 4 pound drive post and hardware shall be galvanized in accordance with ASTM A-123 and A-153 respectively.

Quantities for Item 816 "Structural Supports, Steel Beam (Type)", appearing in the quantity tables are approximate. The Contractor shall be responsible for determining exact support lengths prior to fabrication and galvanizing of supports. Payment shall be at the contract unit price bid per lin. ft. which price and payment shall include all costs in connection with the embedment of the supports.

The cost of the concrete used for embedment will be a separate pay item.

816 OVERHEAD SIGN SUPPORT, BY TYPE

All component parts of the overhead sign supports shall be steel, except for the truss and components for the number 7 series which shall be aluminum. For specific details and materials, see Sheet Nos. 149-154.

Cost of furnishing and installing the sign brackets and the fixture support arm, length "G", with mounting holes and hardware shall be included in the contract unit price bid for overhead sign supports.

Modifying supplemental specification 816 switch enclosure mounting brackets including mounting bolts and drilled holes shall be furnished and installed under payment for 816 overhead sign support structures at the contract price per overhead sign support, by type.

Payment for this item shall be made at the contract unit price bid for each overhead sign support, by type, installed in place and accepted, which price shall be full compensation for furnishing all anchor bolts, 2" and 3/4" EMT conduit ells (for installation under 816 concrete for overhead sign support foundations), and for furnishing and installing each overhead sign support structure shown on the plans including fixture support arms, switch enclosure mounting bracket, sign brackets and all component parts necessary to make a complete workable installation ready for sign erection, installation of disconnect switch and enclosure, ground rod and wire connections and sign wiring.

Erection of these supports shall be accomplished in a manner meeting the requirements of supplemental specification 816.

816 CONCRETE FOUNDATIONS, FOR SIGN SUPPORTS

Payment for this item shall be based on plan dimensions (or dimensions as modified by the Engineer in lieu of plan quantities) as required in supplemental specification 816.

Payment for reinforcing steel and installation only of conduit ells shall be included in the cost of concrete foundations for overhead sign supports. Concrete shall be class "C".

Basis of payment shall be as follows:

1. Concrete for overhead sign support foundations, per cubic yard.

2. Concrete for ground mounted sign support foundations, per cubic yard.

815 SIGN ERECTION, BY TYPE

The Contractor shall erect sign panels as indicated on the schematic signing layout Sheet Nos. 141-144. The panels will be furnished by others and shall be mounted on the brackets or beam supports provided in the plans.

All sign material and accessories will be furnished and transported by others to a designated delivery point, on or near the subject project. The Contractor shall be responsible for the handling and storage of the sign panels and accessories from the time of arrival at the delivery point.

Work shall include assembly of sign panels and attachment of overlays in conformance with the schematic signing layouts.

The Contractor shall submit, in at least three copies, a schedule for sign erection to the Engineer at least 120 calendar days prior to the start of any scheduled erection work. The schedule shall include proposed dates, time, sign numbers and delivery point. The Engineer will furnish copies of the schedule to the Division Traffic Engineer and to the Engineer of *Design Services, 25 S. Front St., Columbus, Ohio 43215*

The price bid per square foot for "Item 815, Sign Erection, By Type", shall include payment for all necessary equipment, labor, and tools to store, assemble, and erect the signs as specified.

ELECTRICAL - GENERAL

This item shall consist of furnishing all necessary material, labor and facilities required to complete the electrical installation in accordance with the designs, dimensions and details shown in the plans and described in the specifications.

All material, workmanship and construction methods, except as modified herein, shall conform to the General Requirements of the State of Ohio, Department of Highways, Construction and Materials Specifications, January 1, 1969.

FED. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.	
2	OHIO		

137
247

FRA-270-26.76N

GENERAL NOTES

625 SIGN SERVICE

This item shall consist of the completion of the electrical system and components connecting the connectors in the pull box (included within the roadway lighting quantities) with the primary side of the disconnecting switch.

Work will include the furnishing and installing (including trenching and backfilling) of the 2 inch galvanized steel conduit and couplings from the pull box to the conduit ell in the sign support foundation.

This item will also include the furnishing and installing of the 1/C 600 volt service wire from the connectors to the disconnect switch.

Basis of payment for this item shall be at contract unit price per each, which shall include all labor, material, and equipment required to complete this item of work.

625 DISCONNECT SWITCH WITH TYPE "Y" OR "Z" ENCLOSURE

This item shall include furnishing of a 30 amp. 600 volt fused disconnect switch of type and make as indicated on Sheet No. 156 and shall be mounted in a NEMA 4 stainless steel enclosure type "Y" or "Z" and attached to each sign support by means of a mounting bracket as described in detail on the above sheet.

Each switch enclosure shall be furnished with one padlock. Padlocks shall have a brass body and wrought iron shackle equal to Russwin No. 2882 KA or Master No. 4 KA or approved equal.

Basis of payment for this item shall be per each at contract unit price, which shall include all labor, material, and equipment to complete this item at work.

625 TRANSFORMER, BY TYPE

This item of work shall consist of furnishing and installing transformers as detailed and specified on Sheet No. 156.

Basis of payment for this item shall be at contract unit price per each, which shall include all labor, material and equipment required for this complete item of work.

625 BALLAST, BY TYPE

Ballast for fixtures shall be weather-proof outdoor type for a 120 volt 60 cycle system and shall provide lamp starting at an ambient temperature of -20 degrees F.

This item of work shall consist of furnishing all ballast types A through D as detailed and specified on Sheet No. 155.

Basis of payment for this item shall be at contract unit price per each, furnished to the job for installation under Item 625 "Signs Wired, Complete".

625 LIGHT FIXTURE WITH LAMP, BY TYPE AND SIZE

This item of work shall consist of furnishing all light fixtures and lamps, types and sizes as specified on Sheet No. 155.

Basis of payment for this item shall be at contract unit price per each, furnished to the job for installation under Item 625 Signs Wired, Complete.

625 GROUND ROD

This item of work shall consist of furnishing and installing ground rod and cable as detailed and specified on Sheet No. 156.

Basis of payment for this item shall be contract unit price per each, which shall include all labor, materials and equipment required to complete this item of work.

625 SIGNS WIRED, COMPLETE

This item shall consist of the completion of the electrical sign lighting system for each illuminated sign.

Work shall include installation of light fixtures and ballasts, and furnishing and installation of all rigid and flexible conduit, condulets, junction boxes, cable, fasteners, hardware, and all other items required to energize the sign lighting system. See details on Sheet Nos. 154 - 156.

The cost of furnishing and installing cable, cable grips, cable splice units, and necessary fasteners from the disconnect switch to the signs (or between signs) within sign support members shall be included in this item of work.

Basis of payment shall be at the contract unit price per each sign wired which price shall include all labor, materials, tools, equipment, and other incidentals to provide a complete and accepted item of work.

Illuminated signs requiring two (2) ballasts shall be considered as an equivalent of two (2) separate signs for determination of payment quantities.

CAPPING OF CONDUIT

All conduit in foundations which will not have wire or cable pulled into it during construction shall have the ends closed with capped bushings or otherwise sealed in an approved manner to completely keep all moisture and foreign matter out of the conduit.

FED. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.	
2	OHIO		

138
247

FRA-270-26.76N

GENERAL NOTES

625 INSPECTION AND TESTING OF SIGN LIGHTING

The Contractor shall furnish all labor, electrical power, and equipment necessary to demonstrate to the Engineer that no short circuits and unspecified grounds exist and that the sign circuits are properly connected and operable prior to acceptance.

This demonstration shall include a meggaring test to show that the power conductors are not grounded and that the resistance to ground for the ground conductor is not more than 25 ohms. Where resistance exceeds 25 ohms, additional length and/or numbers of rods shall be installed per requirements of 625.10.

A voltage and amperage measurement shall be made at the sign support switch.

Where a low voltage tap transformer is used the voltage measurement shall be used to determine the applicable tap.

After the sign lighting system is completed, the entire system shall be operated continuously each night until seven (7) consecutive days elapse without failure or defect. The Contractor shall record and subsequently correct any defects which may develop at no extra cost to the State.

During the test period, adjustments to fixture arming angles shall be made to obtain maximum uniformity as directed by the Engineer.

The above measurements, voltage tap selection notations, and methods of defect correction shall be recorded and delivered to the Engineer for inclusion in the project records.

Inspection and testing of the sign lighting system shall be considered a subsidary work item and payment therefor shall be included in the unit prices bid for the respective item tested.

UNDERGROUND UTILITIES

Extreme caution should be exercised in areas with underground electrical conduit or cable, sewers, drains, water lines, or other underground utilities.

The Contractor is fully responsible for all damage inflicted on (Underground) utilities in the excavation and placement of sign support foundations, protective guardrail, delineators and the like.

CERTIFICATION AND APPROVAL OF SIGN SUPPORT & SIGN LIGHTING SYSTEM

The Contractor shall submit through proper channels the drawings, information, & samples as required below.

A. 8 copies of shop drawings & material lists for approval:
   1. Overhead sign supports
   2. Sign lighting layout plan & details for wiring, conduit size and placement from sign disconnect switch to fixture.

B. 8 copies of catalog cuts descriptions of samples of fabricators standard items as shown in the plans or their equals for approval of their use.

C. Certifications and/or samples for all material which have been approved under "A" and "B".

D. Approval of items under "A" and "B" shall be in the hand of the Contractor prior to any purchase or installation.

E. Certifications of samples under "C" must be in hand and approved prior to contract completion.

816 ALTERNATE DESIGNS FOR OVERHEAD SIGN SUPPORTS

If the Contractor desires to furnish an alternate design for overhead sign supports, the alternate designs must be submitted to the State at least 21 days prior to opening of bids. The Bidder will be notified as to acceptance or rejection of alternate design at least 7 days before bids are to be opened. Alternate designs must utilize tubular structural members. Submissions shall be made to Ohio Department of Highways, Engineer of Design Services, 25 So. Front St. Columbus, Ohio 43215

625 SIGN SERVICE FOR STRUCTURE MOUNTED SIGNS

This item of work shall consist of the completion of the electrical system and components correcting the connectors in the pull box (included within the roadway lighting quantities) with the primary side of the disconnect switch.

Work will include the furnishing and installing (including trenching and backfilling) of the 1-1/4" type II or III metal conduit and #12AWG, 600v. direct burial cable from the pull box to the switch enclosure and shall also include all fitting and fasteners needed to complete this item of work.

Basis of payment for this item shall be at the contract unit price per each, which shall include all labor, material, and equipment required to complete this item of work.

816 ROCK EXCAVATION

Where solid rock is encountered in excavation for sign support foundations, the depth to be excavated below rock surface may be decreased as directed by the Engineer to a maximum of thirty-five (35) percent of depth specified in the plans.

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

139
24T

FRA-270-26.76N

PLAN SHEET No.	SIGN No.	SIGN LOCATION	CODE No.	ITEM 815 EXTRUSHEET S.F.	ITEM 815 FLAT SHEET S.F.	ITEM 816 Conc. Found. for Ground Mounted Supports C.Y.	ITEM 816 4 lb. Steel Pile Post L.F.	ITEM 816 6 lb. Steel Beam L.F.	ITEM 816 8 lb. Steel Beam L.F.	ITEM 816 6 lb Steel Beam as per plan L.F.	ITEM 816 No. 7A Design No. 1 Modified, Sign 80' Ea.	ITEM 816 No. 7A Design No. 1 Modified, Sign 56' Ea.	ITEM 816 No. 7B Design No. 4 Modified, Sign 88' Ea.	ITEM 816 No. 12.24 Design 8 Modified, Arm 24', Pole 23'-6" Ea.	ITEM 816 No. 12.24 Design 6 Modified, Arm 28', Pole 23'-0" Ea.	ITEM 816 No. 13B Design No. 4 Modified, Sign 109' Ea.	ITEM 816 Conc. Found. for Overhead Supports C.Y.	ITEM 816 Structure mounted sign support, Type I Design No. 2 Ea.	ITEM 625 ELECTRICAL QUANTITIES Sign Wired Complete Ea.	Sign Service Ea.	Ground Rod Ea.	Structure Mounted Signs Wired Complete Ea.	Luminaires sho LENGTH 72" Ea.	Luminaires sho LENGTH 96" Ea.	Luminaires sho LENGTH 128" Ea.	Luminaires hp LENGTH 96" Ea.	Disconnect Switch TYPE Y Ea.	Ballast TYPE Z Ea.	Ballast TYPE A Ea.	Ballast TYPE B Ea.	Ballast TYPE C Ea.	Ballast TYPE D Ea.	Ballast TYPE I Ea.	Ballast TYPE II Ea.	Ballast TYPE III Ea.	480/120 Volt Transformer TYPE IV Ea.	480/120 Volt Transformer TYPE V Ea.	Sign Service for Structure mounted Signs Ea.
		I-270																																				
143		Rt. 1526+95	W-49-48		16	0.1		17																														
144		Lt. 1549+20	N-12A-7B	30		0.2		34										1	12.0		1	1	1		2			1			1					1		
	577	Lt. 1554+00 (A)	GE	262.5																																
	577	(B)	N-12B-108	18																1				2						1							
	577		GF	225																																
	578	Lt. 1558+00	N-12B-108	18																																
	578		GE	212.5										1			4.3			1	1	1		1		1				1						
142	579	Lt. 1576+00 (A)	GE	262.5							1						11.8			2	1	1		1 2		1		1	1			1				1	
	579	(B)	N-12B-108	18																																
	579		GE	225																1				2						1							
		Lt. 1583+70	R-23-36		12	0.1		15																												
		℄ 1584+24	R-19-18		1.5	0.1	14																													
		℄ 1584+46	R-19-18		1.5	0.1	14																													
		Rt. 1585+03	R-23-36		12	0.1		15																												
		Lt. 1586+00	R-10-48		20	0.2		40																												
			R-16-48		16																																
	580	Rt. 1586+00	N-12B-108	18																																
	580		GE	212.5										1			4.3			1	1	1		1 1		1				1						
	581	Lt. 1589+00	GE	98											1		3.7			1	1	1		2	1		1				1					
		Lt. 1596+00	IM-37-36		5	0.1		15																												
			M-5-36-3		9																																
		James Rd. 25+75	W-47-30		6	0.1	14																													
143	575	Ramp C 1528+50 (A)	GE5	112							1						10.4			1	1	1		1	1	1		1							1		
	575	(B)	GE5	91																1				2				1									
141		Schwab Ser. Rd. 0+28	R-1-30		6	0.1	14																													
144		Venison Ave 5+27	R-1-30		6	0.1	14																													
141		Englewood Drive 0+30	R-1-30		6	0.1	14																													
		Gayle Drive 0+55	R-1-30		6	0.1	14																													
144	574	Ramp I 1547+20	GE5	66														1					1			1	1	1		1					1	
141		Hubler Ser. Rd. 0+30	R-1-30		6	0.1	14																													
		3+90	W-47-30		6	0.1	14																													
142		James Rd. 14+42	W-47-30		6	0.1	14																													
141		James Rd. Conn. 00+32	R-1-30		6	0.1	14																													
142		5+04	R-1-30		6	0.1	14																													
141		Schwab Ser. Rd. 0+68	W-47-30		6	0.1	14																													
	FED. & STATE TOTAL			1869.0	159	2.1	182	121	15	0	0	1	1	2	1	1	46.5	1	10	6	6	1	3	10	5	2	5	2	1	3	1	6	1	1	3	2	1
143		Ramp B Lt. 1530+37	R-1-36		9	0.1			18																												
			R-4A-24		4																																
			R-43L-36		3																																
			R-43R-36		3																																
		Rt. 1530+37	R-1-36		9	0.1			18																												
			R-4A-24		4																																
			R-43L-36		3																																
			R-43R-36		3																																
		Ramp I 1535+00 Lt.	P-4-3	60		0.3		54																												
576		1539+25 (A)	GE5	99						1							10.1			1	1	1		1		1				1					1		
576		(B)	GE5	102																1					1	1		1									
	FED. STATE & COL. TOTAL			261	38	0.5	0	0	54	36	1	0	0	0	0	0	10.1	0	2	1	1	0	0	1	1	1	1	0	0	1	1	0	0	0	1	0	0
	GRAND TOTAL			2130.0	197	2.6	182	121	69	36	1	1	1	2	1	1	56.6	1	12	7	7	1	3	11	6	3	6	2	1	4	2	6	1	1	4	2	1

ITEM 620 DELINEATORS

LOCATION	STATION FROM	STATION TO	No.	SIDE	FED. STATE & COLS. A1	FED. STATE & COLS. C2	FED. & STATE A1	FED. & STATE C2	SPACING
I-270	Lt. 1525+29	1549+29	13	L	4		9		200
	Lt. 1560+09	1601+29	22	L			22		200
	Rt. 1524+42	1528+42	3	R			3		200
	Rt. 1529+99	1544+99	16	R		9		7	100
	Rt. 1546+79	1600+79	28	R			28		200
	Rt. 1601+90	———	1	R			1		———
	1584+24	Back to Back	2					2	———
	1584+46	Back to Back	2					2	———
Ramp B	Lt. 1531+09	1536+09	6	L		5		1	100
	Rt. 1536+09	1537+89	4	R		4			60
Ramp C	Rt. 1526+28	1527+88	3	R				3	80
Ramp E	Lt. 1524+20	1527+00	5	L				5	70
	Lt. 1528+00	———	1	L				1	———
Ramp I	Lt. 1525+78	1527+88	4	L			4		70
	Lt. 1530+09	1537+09	8	L		8			100
	Rt. 1537+09	1549+09	13	R	1		12		100
	Lt. 1549+09	1559+09	11	L			11		100
TOTAL			142		13	18	90	21	

QUANTITY CALCULATIONS
BY LLR DATE 11-18-61
CHKD. DOK DATE 11/21/61
BURGESS & NIPLE, LIMITED

TRAFFIC CONTROL SUMMARY

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

140
24.7

FRA-270-26.76N

ITEM 621 TRAFFIC ZONE PAINT MARKING

LOCATION	STATION FROM	STATION TO	SIDE	FED. STATE & COLS. L.F.	FED. & STATE L.F.
	4" Edge Lines				
I-270	1524+00	1531+18	L		716
	1531+16	1539+98	L	882	
	1539+98	1604+93	L		6495
	1524+00	1530+90	L		690
	1530+90	1539+85	L	895	
	1539+85	1549+30	L		945
	1560+09	1604+71	L		4462
	1524+00	1531+58	R		758
	1531+58	1540+16	R	858	
	1540+16	1627+94	R		6499
	1524+00	1531+83	R		783
	1531+83	1539+59	R	776	
	1529+99	1532+05	R		206
	1532+05	1540+20	R	815	
	1540+20	1628+16	R		6517
Ramp B	1530+31	1539+72	RB	946	
	1539+72	1539+88	RB		16
	1530+31	1537+93	R	763	
Ramp C	1525+50	1529+30	RB		380
	1525+50	1527+68	R		218
Ramp I	1525+50	1527+67	RB		217
	1529+30	1537+93	RB	863	
	1539+88	1560+09	L+RB		2021
	1525+50	1530+04	R		454
	1530+04	1539+93	R	989	
	1539+93	1549+35	R		942
James Rd. Conn.	20+12	51+65	L		3198
	20+12	51+65	R		3198
Johnstown Rd.	8+75	27+05	L		1830
	8+75	9+13	R		38
	10+25	25+74	R		1555
	26+20	27+05	R		85
TOTAL	1.47+6.62=8.09 Mi			L.F.÷5280=Mi	7787 L.F. / 1.47 Mi / 34941 L.F. / 6.62 Mi
	4" Lane Lines & Center Lines				
Ramp I	1525+50	1529+94	R		444
	1529+94	1539+85	R	991	
	1539+85	1560+09	R		2024
Goshen Lane	15+00	27+50	℄		1250
James Rd Conn.	23+33	49+03	℄		2570
Johnstown Rd.	8+75	27+05	℄		1830
TOTAL	0.07+0.57=.64 Mi	(L.F.×15)÷40=Mi / 5280			991 L.F. / 0.07 Mi / 8118 L.F. / 0.57 Mi
	4" Solid White Center Line				
James Rd. Conn.	20+27	23+27	℄	+300 yellow	300
	48+09	51+09	℄	+300 yellow	300
Denison Ave	5+27	5+37	℄		10
Englewood Drive	0+25	0+35	℄		10
Gayle Drive	0+27	0+37	℄		10
Hubler Ser. Rd.	0+25	2+30	℄		205
TOTAL	0.07 Mi	=L.F.÷5280			1435 L.F.
	Curb Marking				
Ramp E	1527+31	1529+99	L		268
TOTAL					268 L.F.

ITEM 621 TRAFFIC ZONE PAINT MARKING

LOCATION	STATION FROM	STATION TO	SIDE	FED. STATE & COLS. L.F.	FED. & STATE L.F.
	6" Lane Lines				
I-270	1524+00	1531+04	L		704
	1531+04	1539+91	L	887	
	1539+91	1604+89	L		6498
	1524+00	1530+96	L		696
	1530+96	1539+87	L	891	
	1539+87	1604+84	L		6497
	1560+09	1604+80	L		4471
	1604+43	1604+75	L		32
	1524+00	1531+66	R		766
	1531+66	1540+19	R	853	
	1540+19	1627+98	R		6500
	1524+00	1531+74	R		774
	1531+74	1540+24	R	850	
	1540+24	1628+02	R		6499
	1536+06	1540+27	R	421	
	1540+27	1628+07	R		6501
	1536+15	1539+59	R	344	
	1628+00	1628+11	R		11
TOTAL	0.3+2.84=3.14 Mi	(L.F.×15)÷40=Mi / 5280		4246 L.F. / 0.30 Mi	39949 L.F. / 2.84 Mi
	8" Channelizing Lines				
I-270	1549+30	1554+59	L		529
	1529+99	1531+92	R		193
	1531+92	1536+00	R	408	
Ramp B	1537+93	1539+28	R	135	
Ramp C	1527+68	1528+81	R		113
Ramp I	1527+67	1528+81	RB		114
	1537+89	1539+28	RB	139	
	1549+35	1554+59	R		524
TOTAL	628+1473=2101 L.F.			628 L.F.	1473 L.F.
	12" Stop Lines				
Denison Ave.	5+27	——			27
Englewood Drive	0+25	——			19
Gayle Drive	0+27	——			19
Hubler Ser. Rd.	0+25	——			25
James Rd. Conn.	20+27	——			27
	51+09	——			27
Schwab Ser. Rd	0+26	——			17
TOTAL					156 L.F.
	24" Stop Lines				
Ramp B	1530+27	——			52
TOTAL					52 L.F.
	24" Broad Transverse Stripes				
I-270	1549+30	1554+59	L		1300
Ramp I	1527+67	1528+81	L		150
	1537+89	1539+28	L	180	
TOTAL	180+1450=1630 L.F.			180 L.F.	1450 L.F.

QUANTITY CALCULATIONS
BY ALRE DATE 11-14-69
CHKD. DDC DATE 11/17/69
BURGESS & NIPLE, LIMITED

Code 7223

TRAFFIC CONTROL GENERAL SUMMARY

ITEM	FED. STATE & COLS.	FED. & STATE	TOTAL	UNIT	DESCRIPTION
606	300	750	1050	L.F.	Guard Rail, Type 6 * Totals to
606	2	5	7	Ea.	Approach End Assembly, Single Rail * Sheet No.
606	2	5	7	Ea.	Anchor Assembly * 12
620	13	90	103	Ea.	Delineators, Type A1, post mounted
620	18	21	39	Ea.	Delineators, Type C2, post mounted
621	1.47	6.62	8.09	Mi.	4" Edge lines
621	0.07	0.57	0.64	Mi.	4" Lane lines
621		0.27	0.27	Mi.	4" Solid center lines
621	0.30	2.84	3.14	Mi.	6" Lane lines
621		156	156	L.F.	12" Stop lines
621		52	52	L.F.	24" Stop lines
621	628	1473	2101	L.F.	Channelizing lines
621	180	1450	1630	L.F.	Broad transverse stripes
621		268	268	L.F.	Curb marking
625		1	1	Ea.	Ballast, Type A
625	1	3	4	Ea.	Ballast, Type B
625	1	1	2	Ea.	Ballast, Type C
625		6	6	Ea.	Ballast, Type D
625	1	5	6	Ea.	72" Fixture with HO lamp
625		3	3	Ea.	72" Fixture with SHO lamp
625	1	2	3	Ea.	96" Fixture with HO lamp
625	1	10	11	Ea.	96" Fixture with SHO lamp
625		1	1	Ea.	Transformer, Type I
625		1	1	Ea.	Transformer, Type II
625	1	3	4	Ea.	Transformer, Type III
625		2	2	Ea.	Transformer, Type IV
625	1	5	6	Ea.	Disconnect switch with Type V enclosure
625		4	4	Ea.	Disconnect switch with Type Z enclosure
625	1	6	7	Ea.	Ground rod
625	1	6	7	Ea.	Sign service
625	2	10	12	Ea.	Sign wired complete
625		1	1	Ea.	Structure mounted sign wired, complete
625		1	1	Ea.	Sign Service for Structure Mounted Signs
815	261	1869	2130	S.F.	Sign erection extru sheet type
815	38	159	197	S.F.	Sign erection flat sheet type
816	10.1	46.5	56.6	C.Y.	Concrete for overhead sign support foundations
816	0.5	2.1	2.6	C.Y.	Concrete for ground mounted sign support foundations
816		182	182	L.F.	Structural support, 61b. drive post
816		121	121	L.F.	Structural support, 61b. beam
816	54	15	69	L.F.	Structural support, 81b. beam
816	36		36	L.F.	Structural support, 61b. beam, as per plan
816	1		1	Ea.	Overhead sign support, No. 7.4 Design A-1 (Modified) Span 60'
816		1	1	Ea.	Overhead sign support, No. 7.4 Design A-1 (Modified) Span 64'
816		1	1	Ea.	Over head sign support, No. 7.6 Design 4 (Modified) Span 86'
816		2	2	Ea.	Overhead sign support, No. 12.24 Design 8 (Modified) Arm 24'
816		1	1	Ea.	Overhead sign support, No. 12.24 Design A-6 (Modified) Arm 28'
816		1	1	Ea.	Overhead sign support, No. 15.8 Design 4 (Modified) Span 109'
816		1	1	Ea.	Overpass structure mounted sign support,

TRAFFIC CONTROL SUMMARY

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

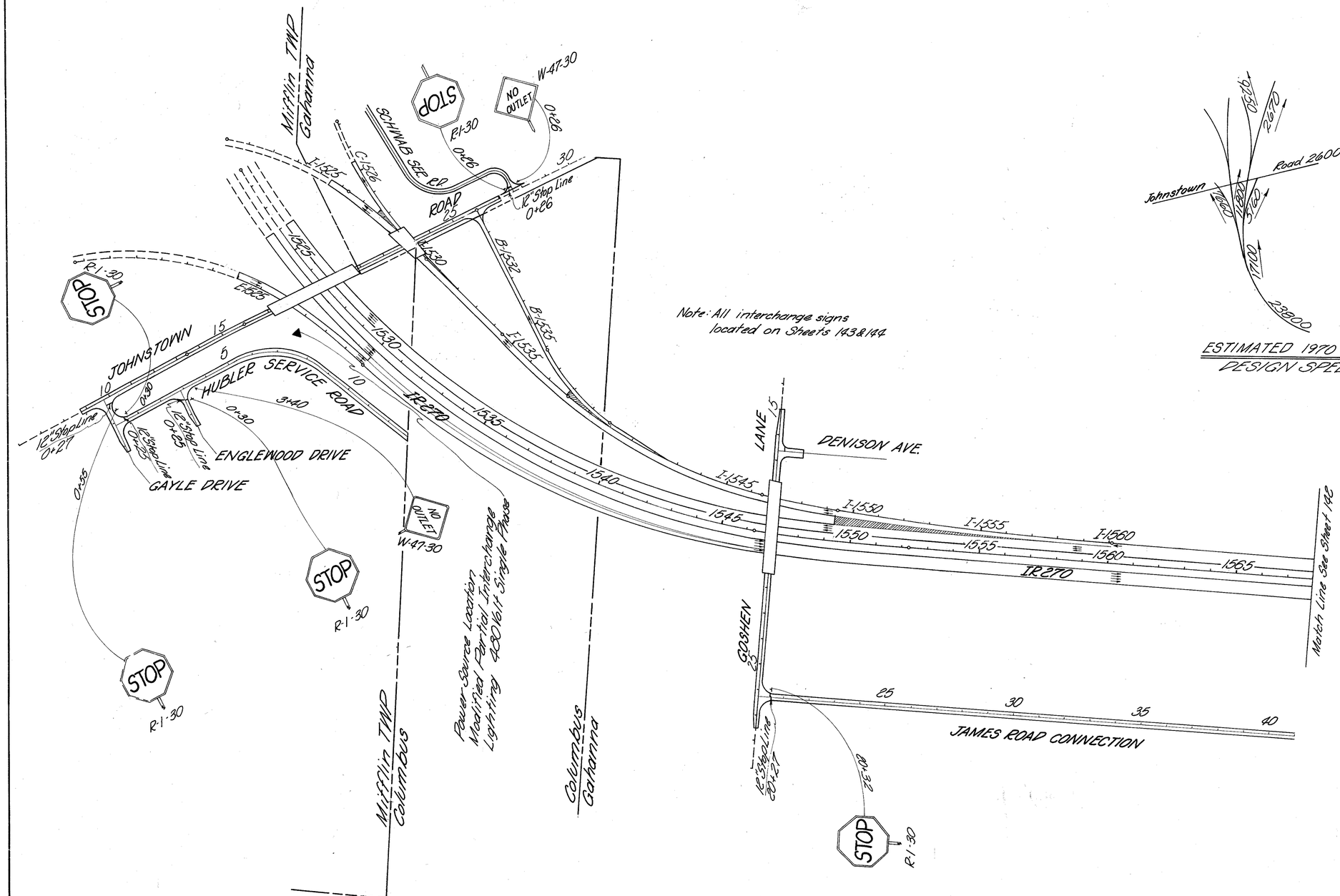
141
247

FRA-270-26.76N

0 200 400

ESTIMATED 1970 ADT
DESIGN SPEED 70 MPH

Note: All interchange signs located on Sheets 143&144



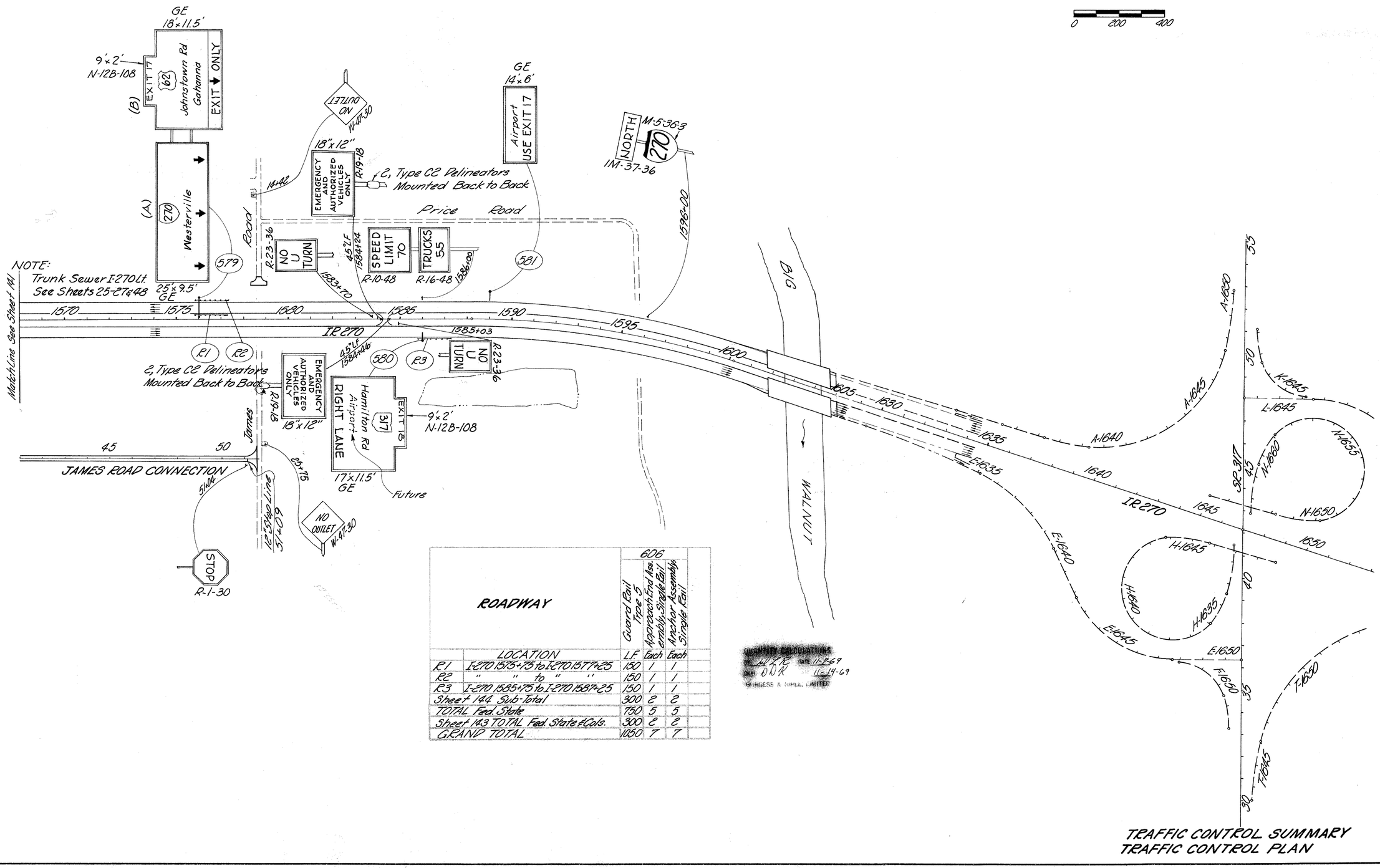
TRAFFIC CONTROL PLAN

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

142
247

FRA-270-28.76N

0 200 400



ROADWAY		606			
		Guard Rail Type 5	Approach End Ass. entabl. Single Rail	Anchor Assembly, Single Rail	
	LOCATION	L.F.	Each	Each	
R1	I-270 1575+75 to I-270 1577+25	150	1	1	
R2	" " to " "	150	1	1	
R3	I-270 1585+75 to I-270 1587+25	150	1	1	
Sheet 144 Sub-Total		300	2	2	
TOTAL Fed. State		750	5	5	
Sheet 143 TOTAL Fed. State & Cols.		300	2	2	
GRAND TOTAL		1050	7	7	

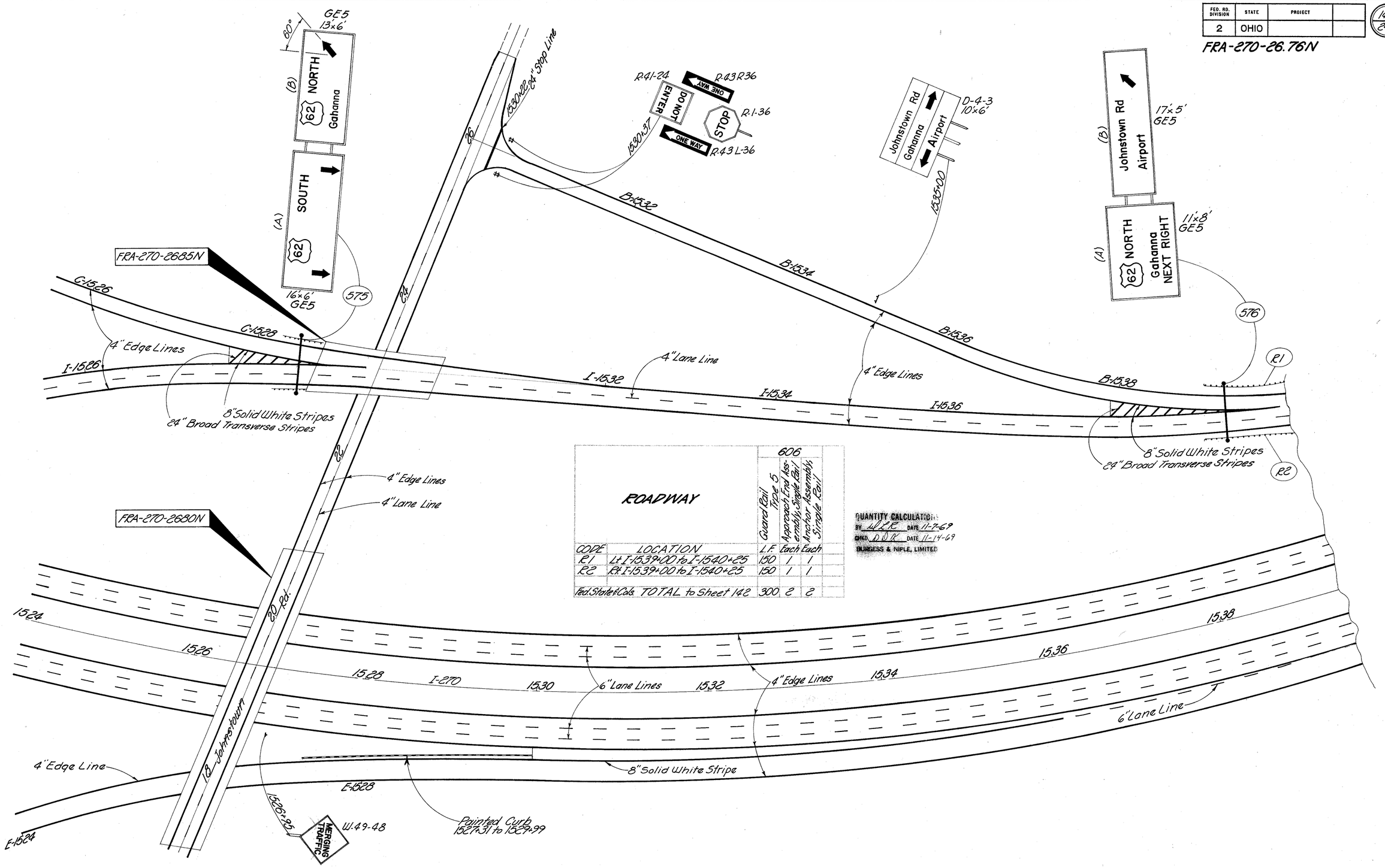
QUANTITY CALCULATIONS
BY JJE DATE 11-7-69
CHK DWK 11-14-69
BURGESS & NIPPLE, LIMITED

TRAFFIC CONTROL SUMMARY
TRAFFIC CONTROL PLAN

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

143
24.7

FRA-270-26.76N



ROADWAY

606

CODE	LOCATION	Guard Rail Type 5 L.F.	Approach End Assembly, Single Rail Each	Anchor Assembly, Single Rail Each
R1	Lt. I-1539+00 to I-1540+25	150	1	1
R2	Rt. I-1539+00 to I-1540+25	150	1	1
Fed. State & Cds.	TOTAL to Sheet 142	300	2	2

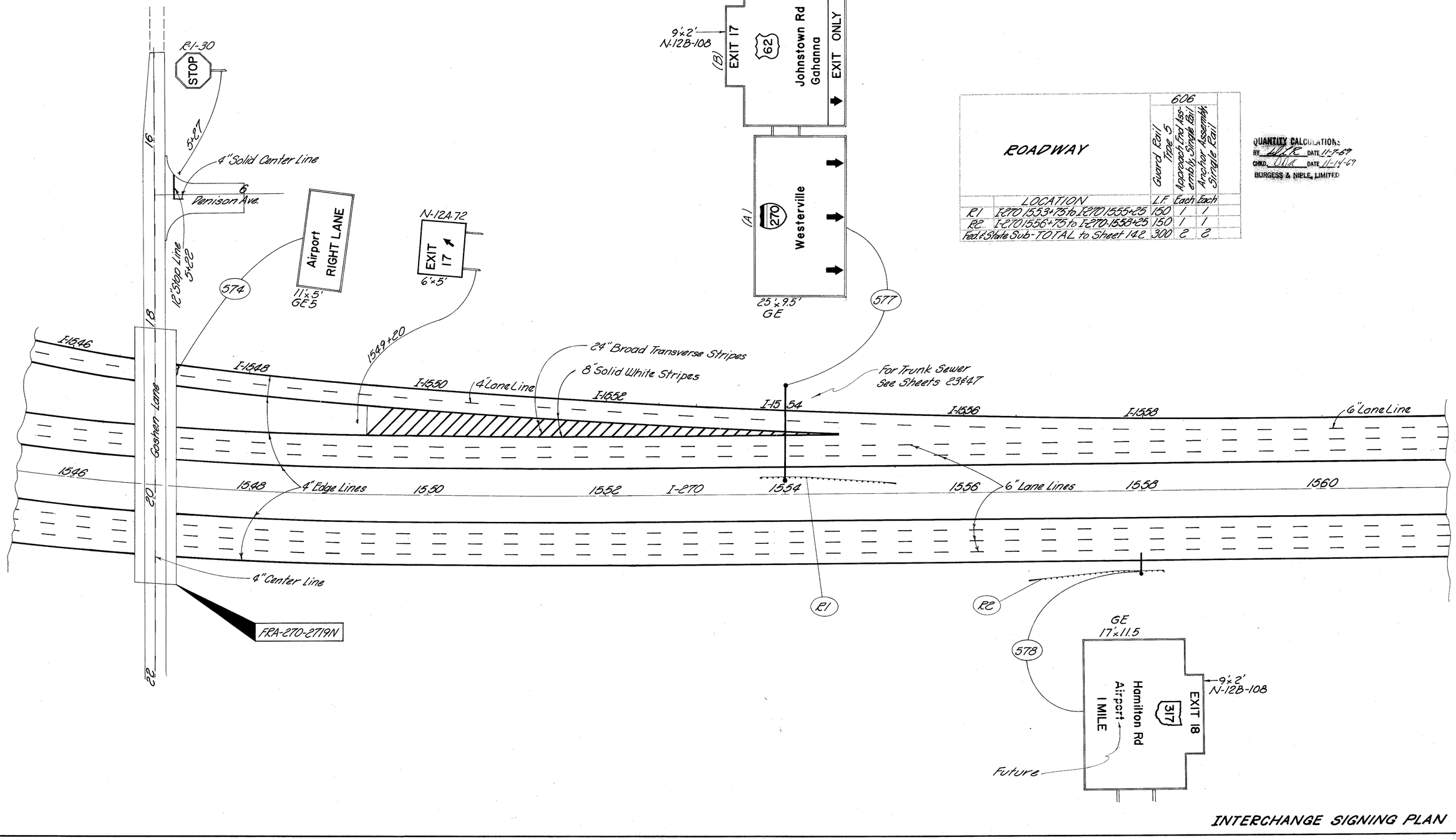
QUANTITY CALCULATION
BY WJR DATE 11-7-69
CHKD. DOR DATE 11-14-69
BURGESS & NIPLE, LIMITED

INTERCHANGE SIGNING PLAN

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

FRA-270-26.76N

144
247



ROADWAY		606		
		Guard Rail Type 5	Approach End Assembly, Single Rail	Anchor Assembly, Single Rail
	LOCATION	L.F.	Each	Each
R1	I-270 1553+75 to I-270 1555+25	150	1	1
R2	I-270 1556+75 to I-270 1558+25	150	1	1
Fed.+State Sub-TOTAL to Sheet 142		300	2	2

QUANTITY CALCULATIONS
BY DLR DATE 11-7-69
CHKD. DLA DATE 11-14-69
BURGESS & NIPLE, LIMITED

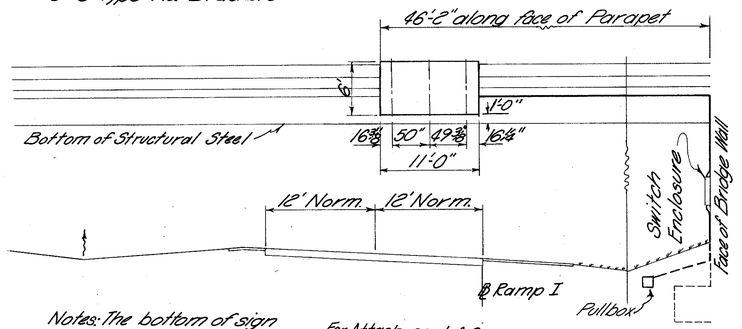
INTERCHANGE SIGNING PLAN

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

145
247

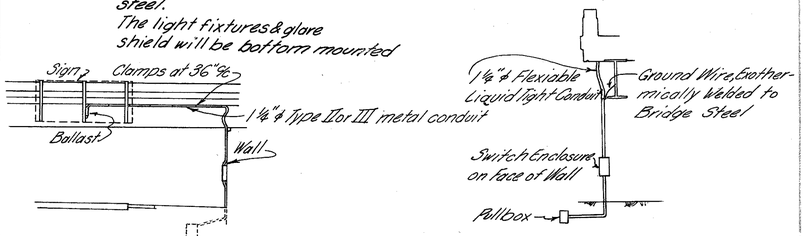
F.R.A-270-26.76N

3-6' Type Xa Brackets



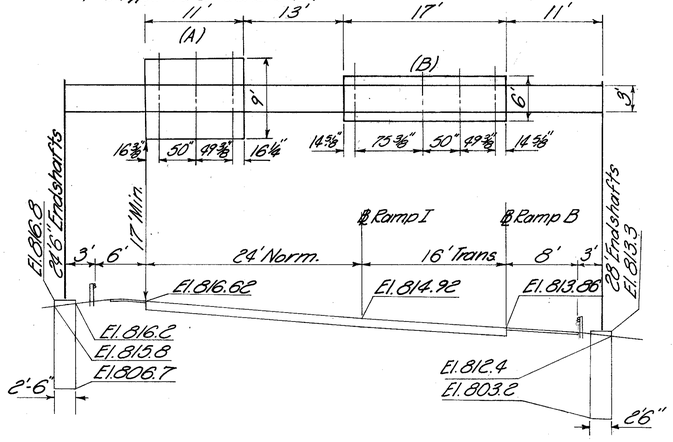
Notes: The bottom of sign shall not be lower than structural steel.
The light fixtures & glare shield will be bottom mounted

For Attachment & Support Details See Sheet 153



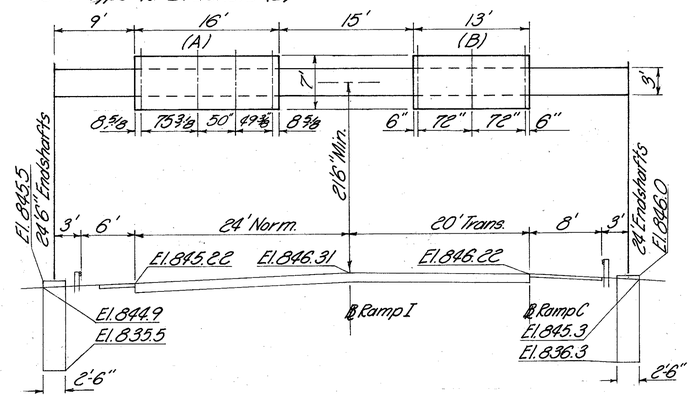
Sign No. 574 Bridge No. F.R.A-270-2719N Sta. 1547+20 Ramp I
Overhead Sign Support - Structure Mounted
Special Sign Support 816 SFL-Type I Design No. 2
Total Sign Area 66 S.F.

3-9' Type Ya Brackets (A)
4-6 Type Ya Brackets (B)



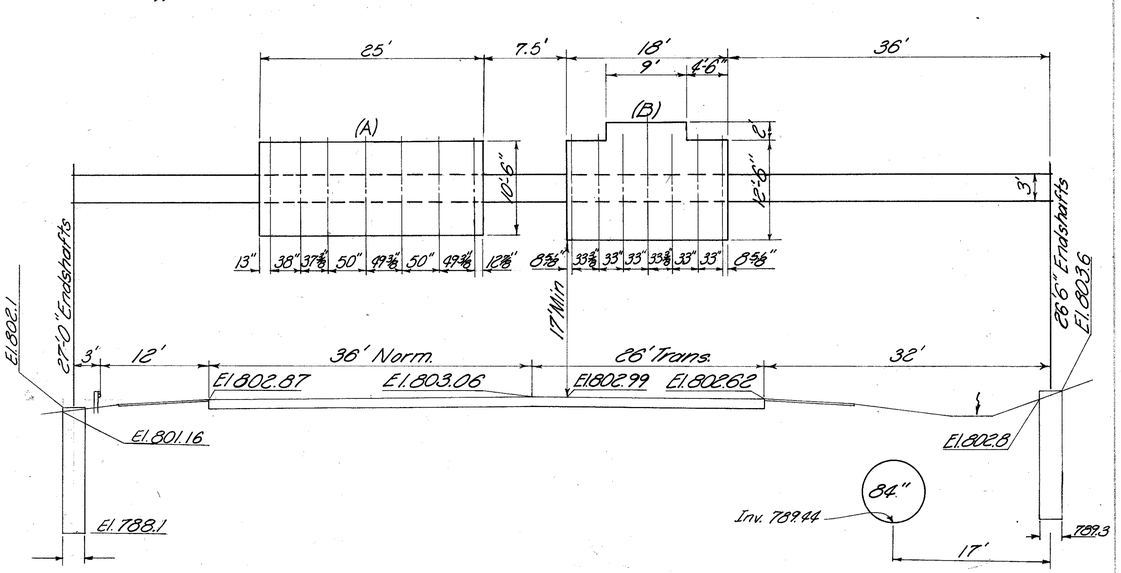
Sign No. 576 Sta. 1539+25 Ramp I
Overhead Sign Support - Span Type
No. 7.4 Design No. 1 - Modified
Total Sign Area = 201 S.F. Span = 60'

4-7' Type Ya Brackets (A)
3-7' Type Ya Brackets (B)



Sign No. 575 Sta. 1528+50 Ramp C 5°00'00" R.F.
Overhead Sign Support - Span Type
No. 7.4 Design No. 1-Modified
Total Sign Area = 203 S.F. Span = 64'

7-10-6" Type Ys Brackets (A)
7-12'-6" Type Ys Brackets (B)



Sign No. 577 Sta. 1554+00 I-270 Lt.
Overhead Sign Support - Span Type
No. 15.8 Design No. 4 Modified
Total Sign Area. = 505.5 S.F. Span = 109'

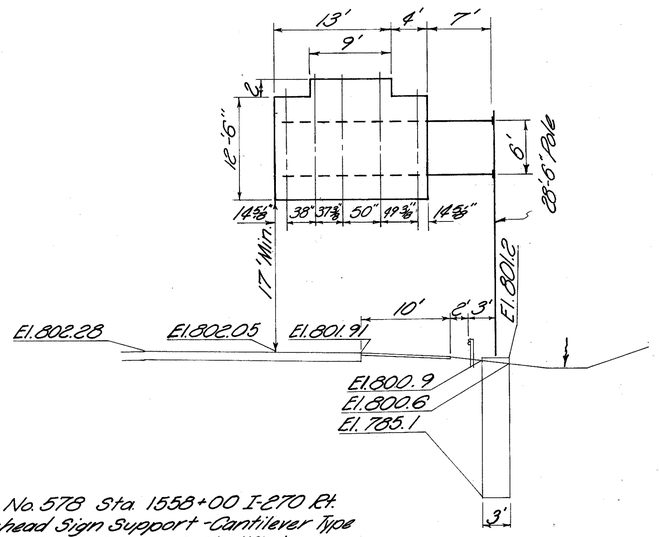
SIGNING DETAILS

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

146
24.7

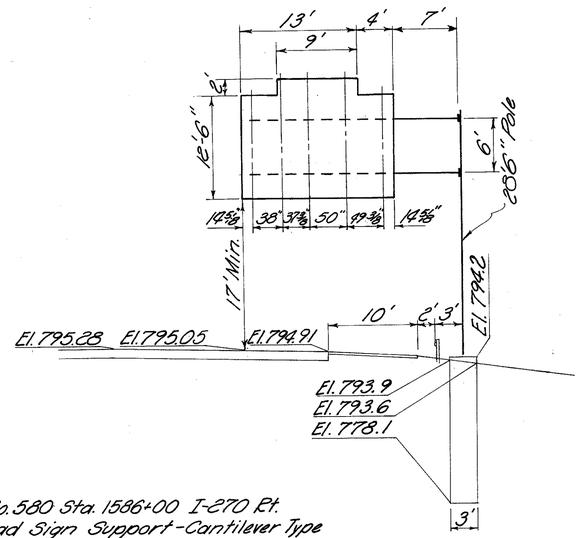
FRA-270-28.76N

5~12'-6" Type Ys Brackets



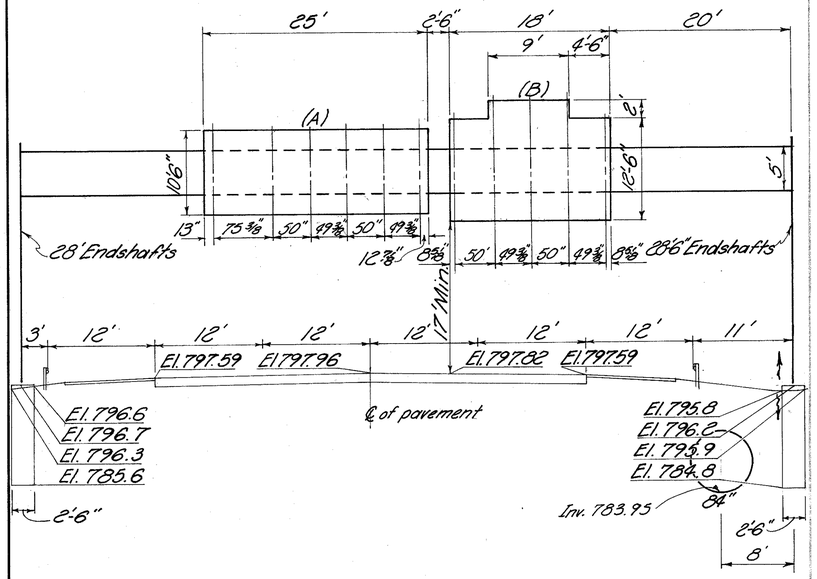
Sign No. 578 Sta. 1558+00 I-270 Rt.
Overhead Sign Support - Cantilever Type
No. 12.24 Design No. 8 Modified
Total Sign Area = 230.5 S.F. Arm = 24'

5~12'-6" Type Ys Brackets



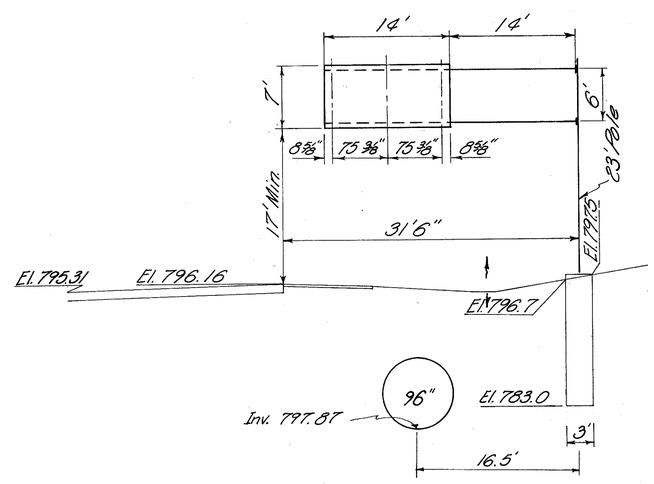
Sign No. 580 Sta. 1586+00 I-270 Rt.
Overhead Sign Support - Cantilever Type
No. 12.24 Design No. 8 Modified
Total Sign Area = 230.5 S.F. Arm = 24'

6~10'-6" Type Ya Brackets (A)
5~12'-6" Type Ya Brackets (B)



Sign No. 579 Sta. 1576+00 I-270 Lt.
Overhead Sign Support - Span Type
No. 7.6 Design No. 4 Modified
Total Sign Area = 505.5 S.F. Span = 86'

3~7' Type Ys Brackets



Sign No. 581 Sta. 1589+00 I-270 Lt.
Overhead Sign Support - Cantilever Type
No. 12.24 Design No. 6 Modified
Total Sign Area = 98 S.F. Arm = 28'

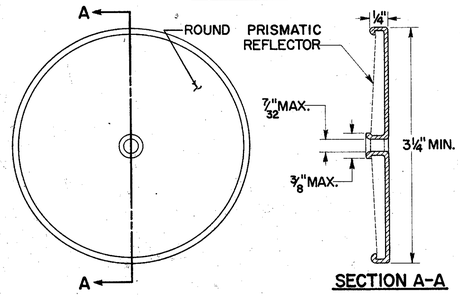
SIGNING DETAILS

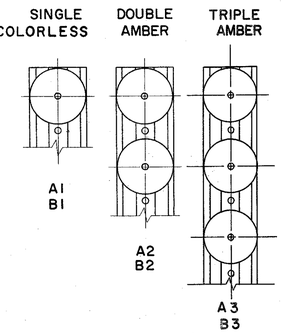
FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

147
247

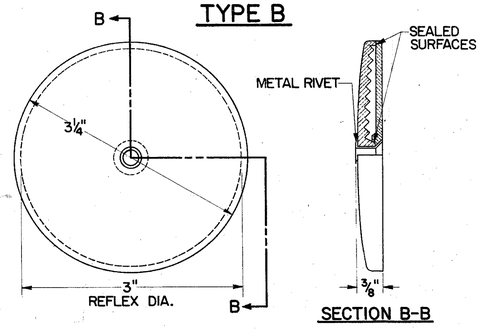
FRA-270-26.76N

TYPE A





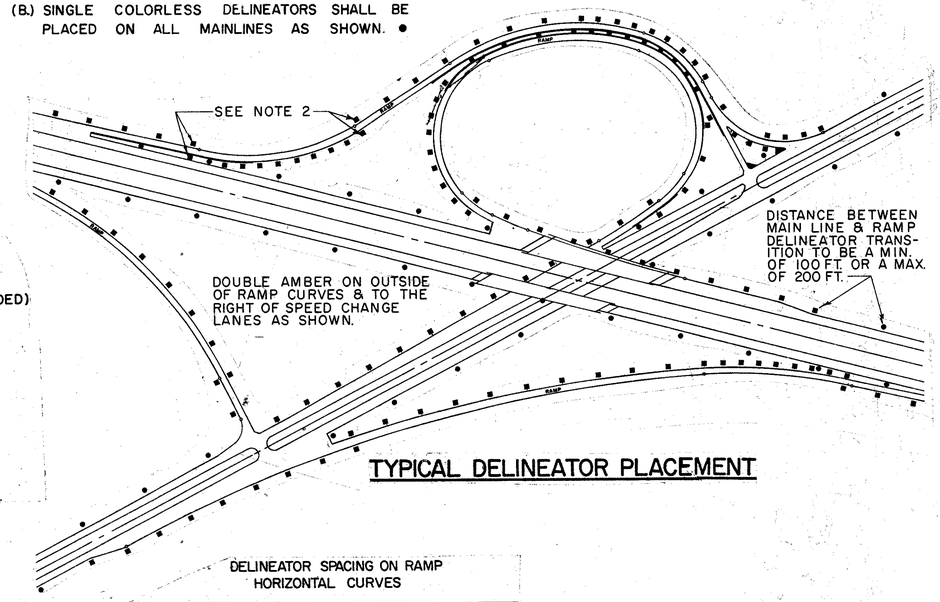
TYPE B



NOTE:

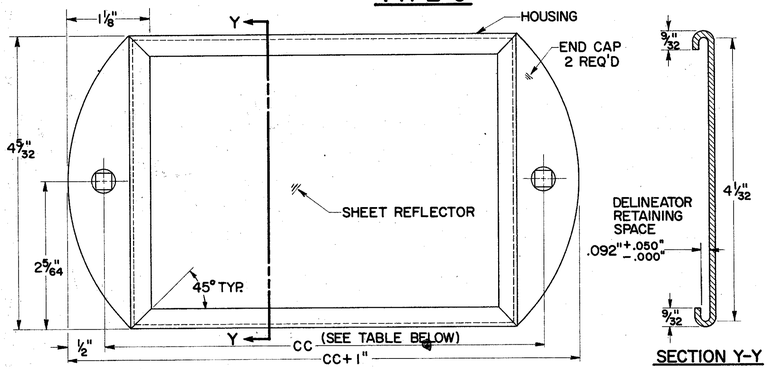
(A.) DOUBLE AMBER DELINEATORS SHALL BE PLACED ON ALL RAMPS AS SHOWN. ■

(B.) SINGLE COLORLESS DELINEATORS SHALL BE PLACED ON ALL MAINLINES AS SHOWN. ●

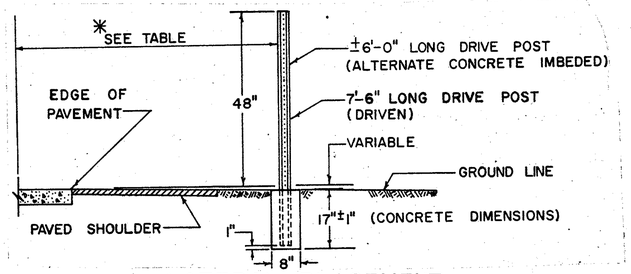


TYPICAL DELINEATOR PLACEMENT

TYPE C



TYPE	DIM. CC
C1 – SINGLE COLORLESS	6"
C2 – DOUBLE AMBER	11"



LATERAL PLACEMENT OF DELINEATORS

* TABLE

TYPE DELINEATOR	NO GUARDRAIL	GUARDRAIL
SINGLE COLORLESS	12'-6"	6" OUTSIDE
DOUBLE AMBER RIGHT SIDE	** 8'-6"	6" OUTSIDE
DOUBLE AMBER LEFT SIDE	4'-6"	6" OUTSIDE

** THIS DIMENSION SHALL VARY ON SPEED CHANGE LANES TO MAINTAIN MINIMUM DISTANCE OF 2'-6" FROM EDGE OF PAVED SHOULDER.

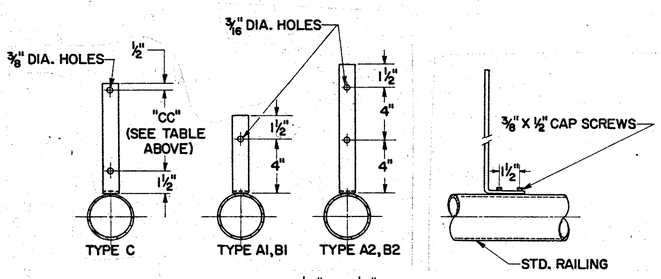
DELINEATOR SPACING ON RAMP HORIZONTAL CURVES

RADII, FT. FROM	RADII, FT. TO	SPACING ON CURVE	* TRANSITION SPACING	
TANGENT	1,801	100'	100'	100'
1,800	1,401	80'	100'	100'
1,400	1,001	70'	100'	100'
1,000	751	60'	100'	100'
750	551	50'	80'	100'
550	326	40'	70'	100'
325	———	30'	60'	100'

* SUCH AS 40' TO 70' TO 100' OR 100' TO 80' TO 50' OR ANY OTHER COMBINATION SHOWN ABOVE.

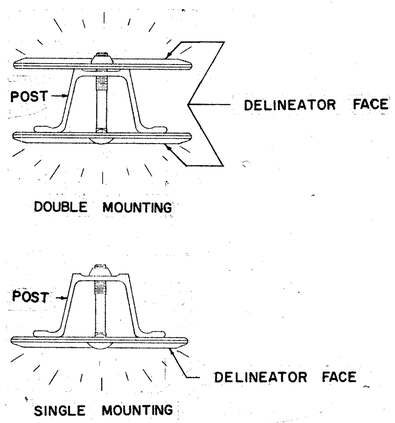
NOTES

1. TYPE A1 OR B1 DELINEATORS ON THE RIGHT OF THE THROUGH ROADWAY ARE TO BE SPACED AT 200 FT. INTERVALS THROUGHOUT, REGARDLESS OF CURVES.
2. WHEN CROSSING FROM LEFT TO RIGHT OR FROM RIGHT TO LEFT ON THE RAMPS, THE DELINEATORS AT THE POINT OF CROSSOVER ARE TO BE AT THE SAME STATION ON EACH SIDE.
3. NO DELINEATORS ARE TO BE PLACED IN PAVED BERM
4. WHEN RADII OF CURVE ON RAMPS REQUIRE 100' SPACING THE DELINEATORS SHALL BE PLACED ON THE RIGHT IN RELATION TO THE FLOW OF TRAFFIC.

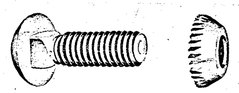


ALL BRACKETS 1/4" x 1 1/4" STAINLESS STEEL

BRIDGE RAIL BRACKET

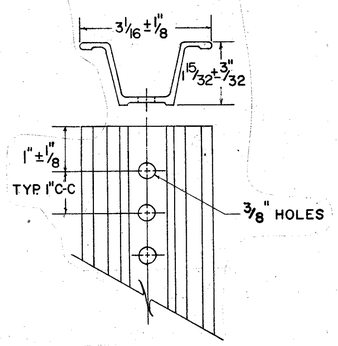


DELINEATOR MOUNTING



TAMPER RESISTANT FASTENERS SHALL BE USED TO FASTEN DELINEATORS TO POST AS/OR SIMILAR TO ONE SHOWN ABOVE.

TAMPER RESISTANT FASTENERS



2 LB./FT.

DELINEATOR DRIVE POST

BUREAU OF TRAFFIC
OHIO DEPARTMENT OF HIGHWAYS

DELINEATOR DETAILS

620

DATE
9-25-62
5-24-65
9-12-67

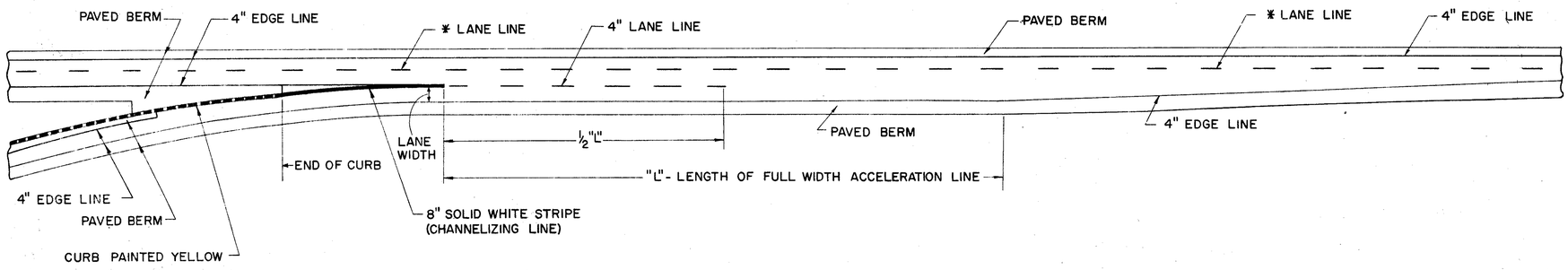
APPROVED Robert A. Lamer
ENGINEER OF TRAFFIC

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

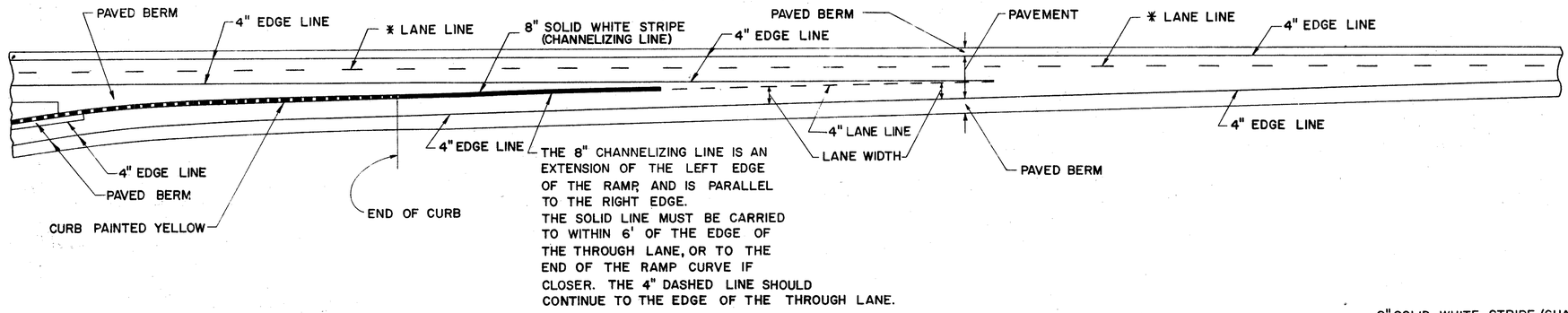
FRA-270-26.76N

(149 247)

ENTRANCE TERMINAL - PARALLEL ACCELERATION LANE

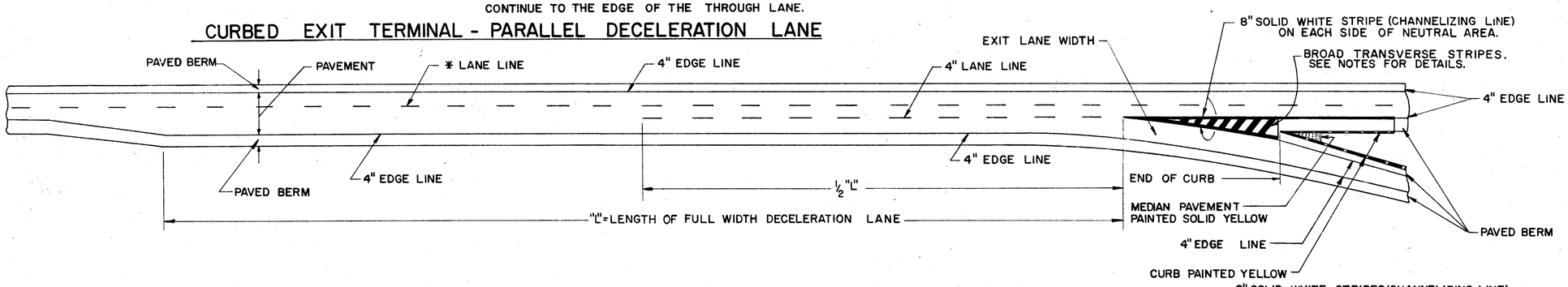


ENTRANCE TERMINAL - TAPERED ACCELERATION LANE

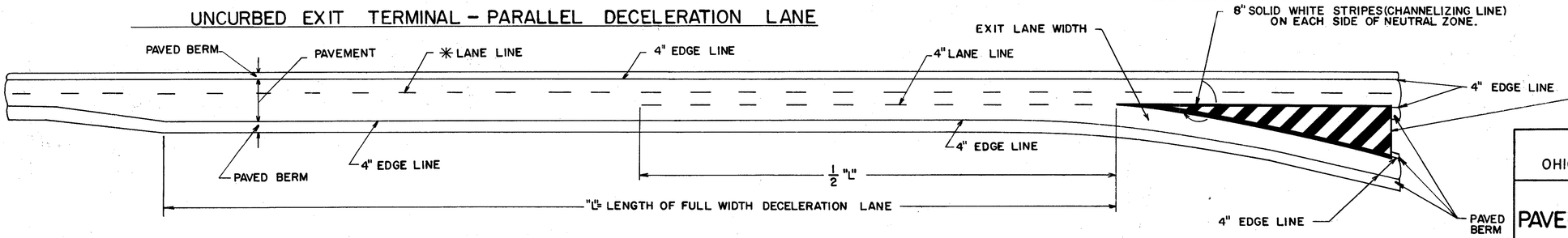


THE 8" CHANNELIZING LINE IS AN EXTENSION OF THE LEFT EDGE OF THE RAMP AND IS PARALLEL TO THE RIGHT EDGE. THE SOLID LINE MUST BE CARRIED TO WITHIN 6' OF THE EDGE OF THE THROUGH LANE, OR TO THE END OF THE RAMP CURVE IF CLOSER. THE 4" DASHED LINE SHOULD CONTINUE TO THE EDGE OF THE THROUGH LANE.

CURBED EXIT TERMINAL - PARALLEL DECELERATION LANE



UNCURBED EXIT TERMINAL - PARALLEL DECELERATION LANE



NOTES

DIAGONAL STRIPES AT EXIT RAMPS SHALL BE 24" BROAD TRANSVERSE STRIPES, 62'-11", WITH A 6' SPACE BETWEEN STRIPES.

* 6" LANE LINE ON INTERSTATE HIGHWAYS ONLY.
4" LANE LINE ON ALL OTHER HIGHWAYS.

BUREAU OF TRAFFIC
OHIO DEPARTMENT OF HIGHWAYS

PAVEMENT MARKING | 621

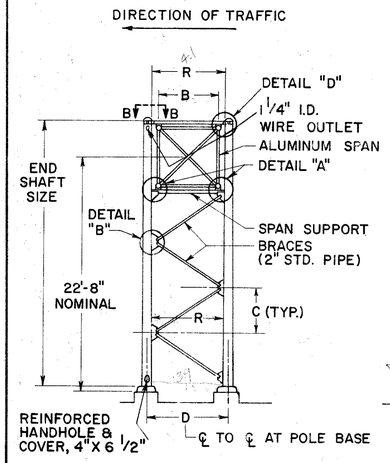
DATE
7-17-61
4-6-62
5-24-65
9-[illegible]-67
4-17-68

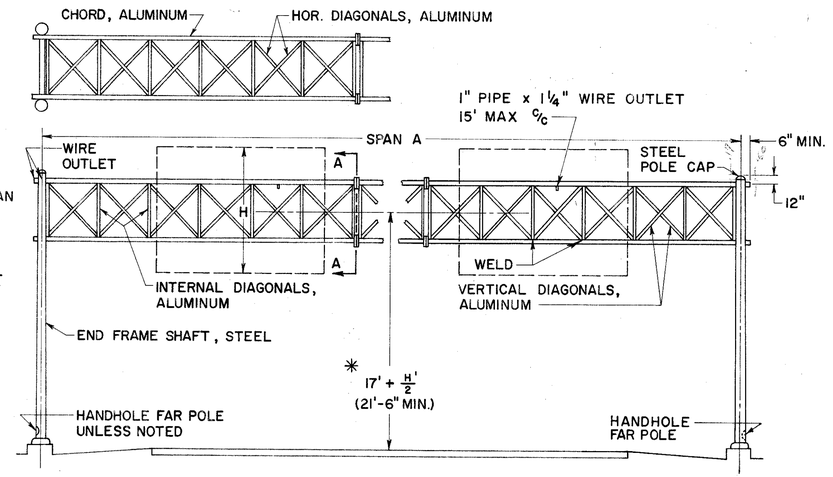
APPROVED Robert E. Lower
ENGINEER OF TRAFFIC

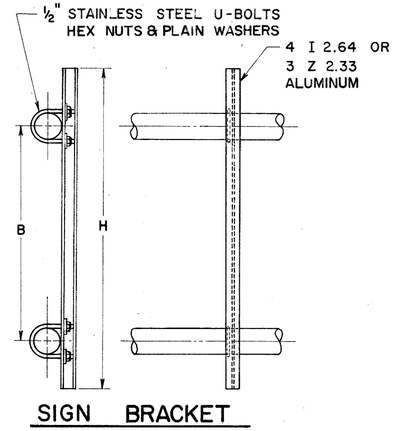
FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

149
247

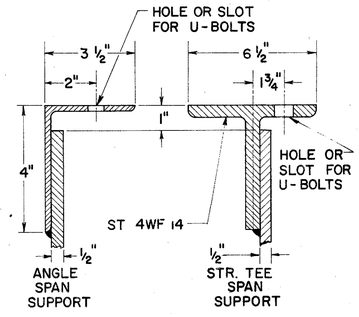
FRA-270-26.76N







SIGN BRACKET



SECTION D-D

NOTES

MATERIALS

THE OVERHEAD SPAN TRUSS SHALL BE ALUMINUM AND THE END FRAMES SHALL BE STEEL.

SPAN TRUSS AND END FRAMES, INCLUDING HARDWARE, SHALL BE IN ACCORDANCE WITH SUPPLEMENTAL SPECIFICATION 816 UNLESS OTHERWISE NOTED.

STEEL POLE BASES AND GUSSETS SHALL CONFORM TO THE REQUIREMENTS OF ASTM SPECIFICATION A-373.

AFTER FABRICATION THE TAPERED POLES SHALL HAVE A MINIMUM YIELD STRENGTH OF 48,000 PSI.

FABRICATION

THE ENTIRE STEEL END FRAME SHALL BE HOT DIP GALVANIZED IN ACCORDANCE WITH SEC. 711.02.

MAXIMUM LENGTH OF SPAN SECTIONS IS 30 FT.

ERECTION

USE A MINIMUM OF 1" CAMBER IN SPAN TRUSS MEMBER FOR A 50' SPAN; ADD 1/4" OF CAMBER FOR EACH 5' OF INCREASE IN SPAN OVER 50'.

PAYMENT

PAYMENT FOR THE GALVANIZED CONDUIT SHALL BE INCLUDED IN THE UNIT PRICE BID FOR OVERHEAD SIGN SUPPORTS.

SOILS

THE FOUNDATION DETAILS SHOWN ARE FOR AVERAGE SOIL CONDITIONS (MEDIUM CLAY, CEMENTED SAND AND GRAVEL, SANDY CLAY, OR STIFF CLAY).

FOR POOR SOIL CONDITIONS, INCREASE "D" MIN. BY: 50% IN DRY OR WET SAND, 60% IN SILTY CLAY, 100% IN SOFT CLAY, AND FROM 75% TO 150% IN WET SILT, DEPENDING ON QUICKSAND ACTION.

REINFORCING STEEL

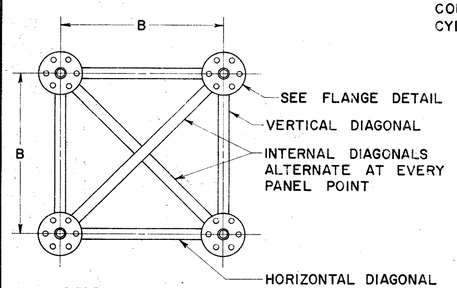
COST OF REINFORCING STEEL SHALL BE INCLUDED IN THE UNIT PRICE FOR ITEM 816 CONCRETE FOR SIGN SUPPORT FOUNDATIONS. BAR SIZE IS INDICATED IN THE BAR MARK. THE FIRST DIGIT WHERE THREE DIGITS ARE USED AND THE FIRST TWO DIGITS WHERE FOUR ARE USED, INDICATE THE BAR SIZE NUMBER.

*FOUNDATION ELEVATION

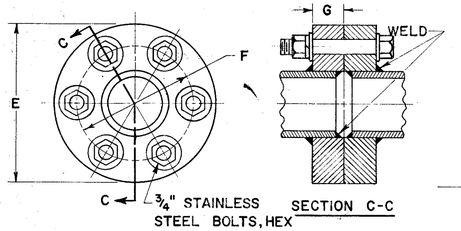
ELEVATION OF TOPS OF FOUNDATIONS SHALL BE BUILT UP SO THAT 17' CLEARANCE IS MAINTAINED OVER THE ENTIRE WIDTH OF THE PAVEMENT AND SHOULDERS.

DESIGN

THE DESIGN OF OVERHEAD SUPPORTS IS IN ACCORDANCE WITH A.A.S.H.O. SPECIFICATION FOR THE DESIGN AND CONSTRUCTION OF STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, ADOPTED JUNE 12, 1961.

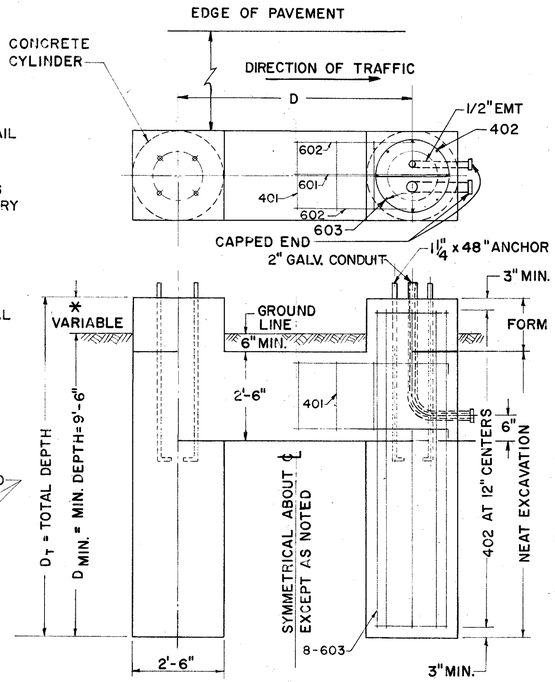


SECTION A-A



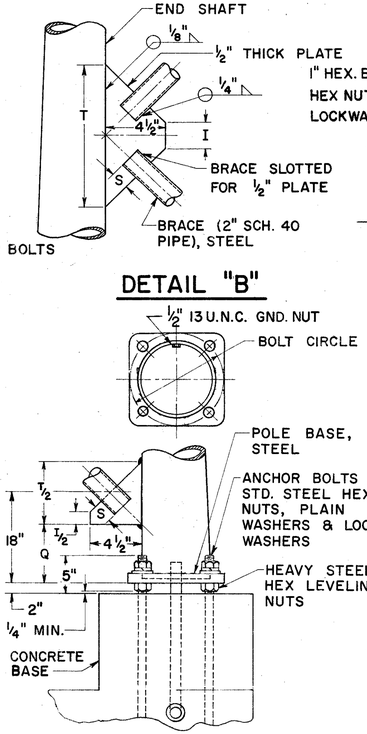
CAST FLANGE, B-26 ALLOY SG 70A-T7 (356-T7)

FLANGE DETAIL



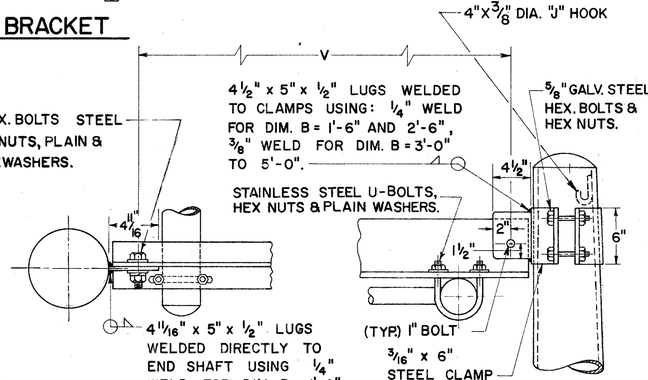
FOUNDATION DETAIL

(RIGHT HAND SHOWN — LEFT HAND OPPOSITE)



DETAIL "B"

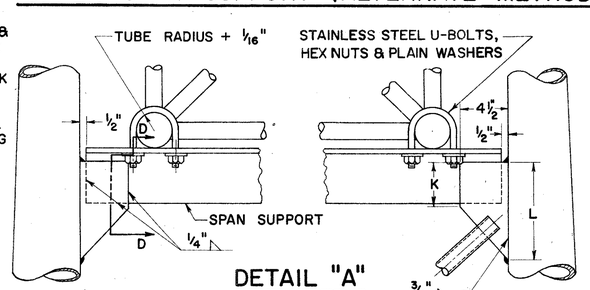
POLE BASE DETAIL



VIEW B-B

DETAIL "D"

UPPER SPAN SUPPORT (ALTERNATE METHODS)

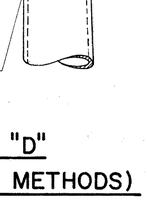


DETAIL "A"

LOWER SPAN SUPPORT

DESIGN NO.	SPAN A	B	C	D	E	END SHAFT	BRACE LENGTH	F	G	I	K	L	P	Q	R	S	T	U BOLTS	V	BOLT CIRCLE	SPAN SUPPORT SECTION D-D	CHORDS	HORIZONTAL AND INTERNAL DIAGONAL	VERTICAL DIAGONAL
1	50' thru 75'	3'-0"	4'-11 3/4"	4'-5"	9 1/4"	8"x4.5"x25'-0", 3 GA.	5'-10 13/16"	7 7/16"	1 3/8"	3 1/2"	4 3/4"	8"	12"	6 5/8"	3'-9"	1 1/2"	10"	5/8"	3'-3 5/8"	11"	SPLIT TEE 3'-8"	4 3/4" x .188"	1.900" x .145"	1.660" x .140"
2	76' thru 85'	4'-0"	4'-10 1/4"	5'-7"	9 1/4"	8"X6.22"x25'-6" 3 GA.	6'-7 1/8"	7 7/16"	1 3/8"	5/8"	4 3/8"	7 3/4"	12'	6 1/4"	4'-10"	1 1/2"	9 1/2"	5/8"	4'-4 5/8"	11"	SPLIT TEE 4'-10"	4 3/4" x .188"	2" x .188"	1.900" x .145"
3	86' thru 90'	4'-0"	4'-10 1/4"	5'-7"	11"	8"X6.22"x25'-6" 3 GA.	6'-7 1/8"	8 1/2"	1 1/2"	5/8"	4 3/8"	7 3/4"	42"	6 1/4"	4'-10"	1 1/2"	9 1/2"	5/8"	4'-4 5/8"	11"	SPLIT TEE 4'-10"	5 1/2" x .250"	2" x .188"	1.900" x .145"
4	91' thru 110'	5'-0"	4'-8 1/2"	6'-7"	11"	8"X6.18"x26'-0", 3 GA.	7'-3 1/4"	8 1/2"	1 1/2"	—	3 1/2"	7 3/4"	12"	7 1/4"	5'-10"	1 3/4"	11 1/4"	3/4"	5'-4 5/8"	11"	SPLIT TEE 5'-10"	5 1/2" x .250"	2 1/2" x .188"	2 1/2" x .188"

REINFORCEMENT SCHEDULE			
MARK	NO.	LENGTH	TYPE
401	12"C/C	8'-6"	102
402	12"C/C	7'-6"	103
601	4	D+ 4'-0"	101
602	8	D+ 2'-0"	101
603	32	D_T - 6"	STR.



BUREAU OF TRAFFIC
OHIO DEPARTMENT OF HIGHWAYS

OVERHEAD SIGN SUPPORTS

816 No.7.4

DATE 5-2-62, 7-25-62, 5-6-64, 6-20-66

APPROVED Robert E. Comer
ENGINEER OF TRAFFIC

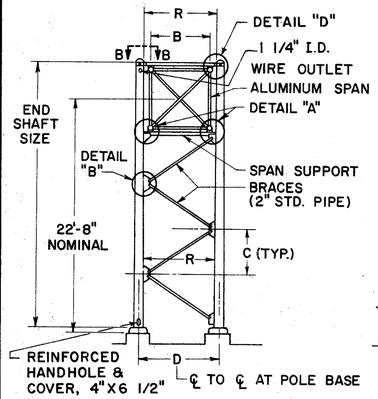
400 SQ. FT. SIGN AREA

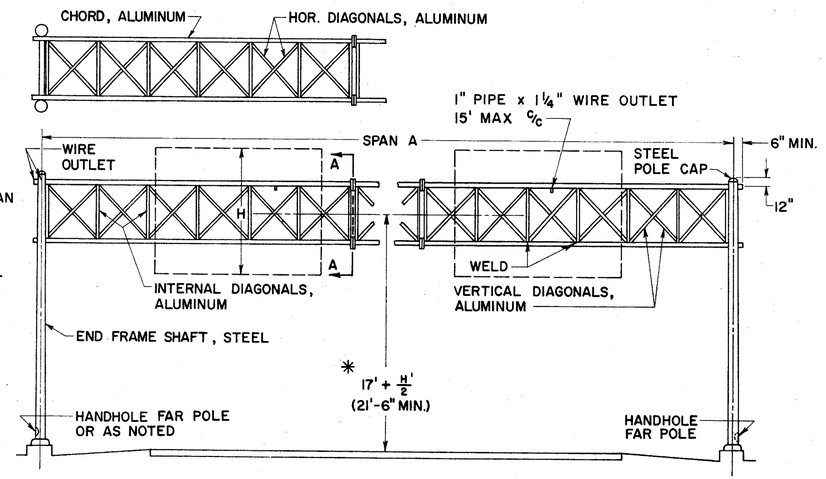
OVERHEAD SIGN SUPPORT, 816 NO.7.4

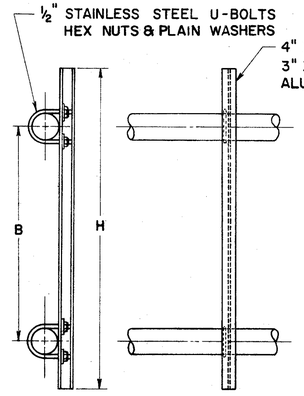
FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

150
247

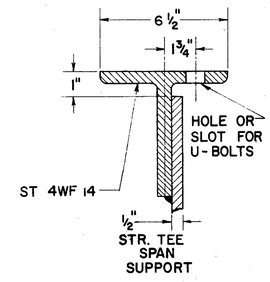
FRA-270-26.76N







SIGN BRACKET



SECTION D-D

NOTES

MATERIALS

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STEEL POLE BASES AND GUSSETS SHALL CONFORM TO THE REQUIREMENTS OF ASTM SPECIFICATION A-373.

AFTER FABRICATION THE TAPERED POLES SHALL HAVE A MINIMUM YIELD STRENGTH OF 48,000 PSI.

FABRICATION

THE ENTIRE STEEL END FRAME SHALL BE HOT DIP GALVANIZED IN ACCORDANCE WITH SEC. 711.02.

MAXIMUM LENGTH OF SPAN SECTIONS IS 30 FT.

ERECTION

USE A MINIMUM OF 1" CAMBER IN SPAN TRUSS MEMBER FOR A 50' SPAN; ADD 1/4" OF CAMBER FOR EACH 5' OF INCREASE IN SPAN OVER 50'.

PAYMENT

PAYMENT FOR THE GALVANIZED CONDUIT SHALL BE INCLUDED IN THE UNIT PRICE BID FOR OVERHEAD SIGN SUPPORTS.

SOILS

THE FOUNDATION DETAILS SHOWN ARE FOR AVERAGE SOIL CONDITIONS (MEDIUM CLAY, CEMENTED SAND AND GRAVEL, SANDY CLAY, OR STIFF CLAY).

FOR POOR SOIL CONDITIONS, INCREASE "D" MIN. BY: 50% IN DRY OR WET SAND, 60% IN SILTY CLAY, 100% IN SOFT CLAY, AND FROM 75% TO 150% IN WET SILT, DEPENDING ON QUICKSAND ACTION.

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COST OF REINFORCING STEEL SHALL BE INCLUDED IN THE UNIT PRICE FOR ITEM 816 CONCRETE FOR SIGN SUPPORT FOUNDATIONS.

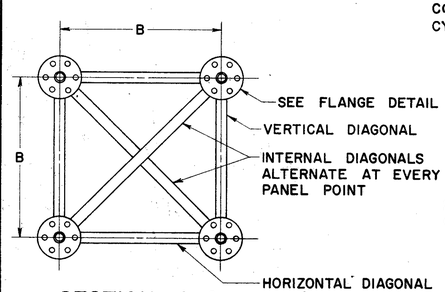
BAR SIZE IS INDICATED IN THE BAR MARK. THE FIRST DIGIT WHERE THREE DIGITS ARE USED AND THE FIRST TWO DIGITS WHERE FOUR DIGITS ARE USED, INDICATE THE BAR SIZE NUMBER.

*FOUNDATION ELEVATION

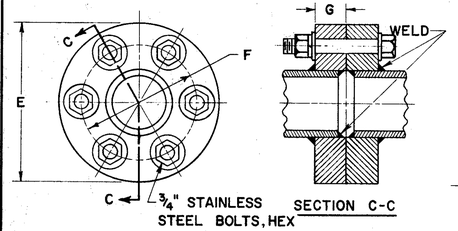
ELEVATION OF TOPS OF FOUNDATIONS SHALL BE BUILT UP SO THAT 17' CLEARANCE IS MAINTAINED OVER THE ENTIRE WIDTH OF THE PAVEMENT AND SHOULDERS.

DESIGN

THE DESIGN OF OVERHEAD SUPPORTS IS IN ACCORDANCE WITH A.A.S.H.O. SPECIFICATION FOR THE DESIGN AND CONSTRUCTION OF STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, ADOPTED JUNE 12, 1961.

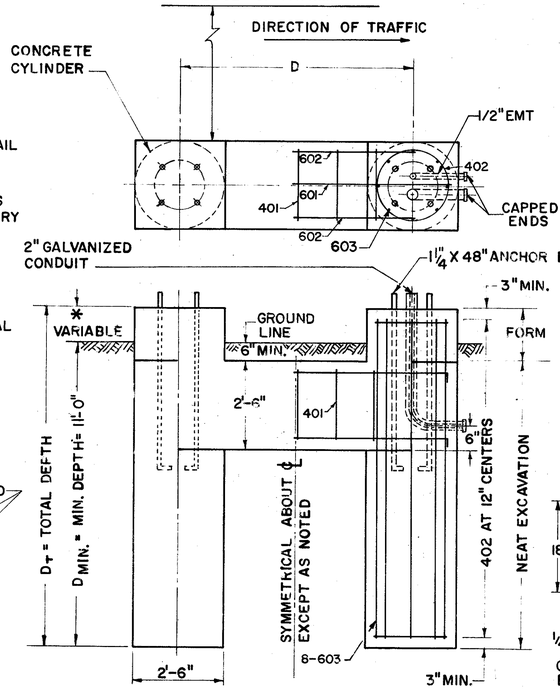


SECTION A-A



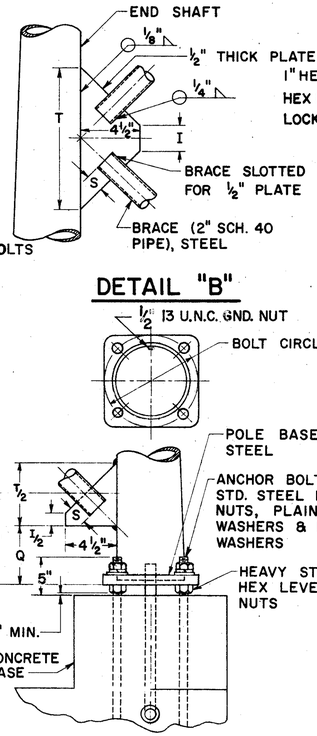
CAST FLANGE, B-26 ALLOY SG 70A-T7 (356-T7)

FLANGE DETAIL



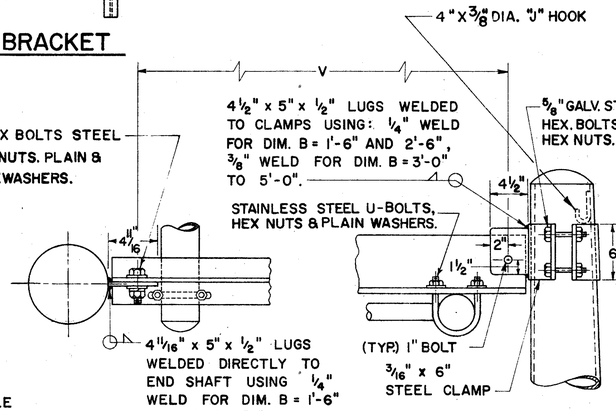
FOUNDATION DETAIL

(RIGHT HAND SHOWN — LEFT HAND OPPOSITE)



DETAIL "B"

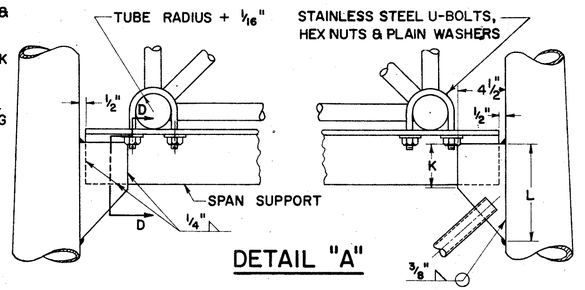
POLE BASE DETAIL



VIEW B-B

DETAIL "D"

UPPER SPAN SUPPORT (ALTERNATE METHODS)

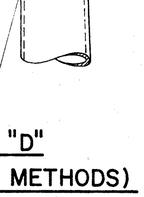


DETAIL "A"

LOWER SPAN SUPPORT

DESIGN NO.	SPAN A	B	C	D	E	END SHAFT	BRACE LENGTH	F	G	I	K	L	P	Q	R	S	T	U BOLTS	V	BOLT CIRCLE	SPAN SUPPORT SECTION D-D	CHORDS	HORIZONTAL AND INTERNAL DIAGONAL	VERTICAL DIAGONAL
1.	50' thru 65'	3'-0"	4'-11 3/4"	4'-5"	9 1/4"	8"X4.5 X25'-0",3GA	5'-10 13/16"	7 7/16"	1 3/8"	3 1/2"	4 3/4"	8"	12"	6 5/8"	3'-9"	1 1/2"	10"	5/8"	3'-3 5/8"	11"	Split Tee 3'-8"	4 3/4" X .188"	2" X .188"	1.660"X .140"
2.	70' thru 75'	4'-0"	4'-10 1/4"	5'-7"	9 1/4"	8"X6.22X25'-6",3GA	6'-7 1/8"	7 7/16"	1 3/8"	5/8"	4 3/4"	7 3/4"	12"	6 1/4"	4'-11"	1 1/2"	9 1/2"	5/8"	4'-5 5/8"	11"	Split Tee 4'-10"	4 3/4"X .188"	2' X .188"	1.900"X .145"
3.	76' thru 80'	4'-0"	4'-10 1/4"	5'-7"	11"	8"X6.22X25'-6",3GA	6'-7 1/8"	8 1/2"	1 1/2"	5/8"	4 3/4"	7 3/4"	12"	6 1/4"	4'-11"	1 1/2"	9 1/2"	5/8"	4'-5 5/8"	11"	Split Tee 4'-10"	5 1/2"X .250	2 1/2"X .188"	1.900"X .145"
4.	81' thru 110'	5'-0"	4'-8 1/2"	6'-7"	11"	8"X6.18 X26'-0",3GA	7'-3 1/4"	8 1/2"	1 1/2"	—	3 1/2"	7 3/4"	12"	7 1/4"	5'-11"	1 3/4"	11 1/4"	3/4"	5'-5 5/8"	11"	Split Tee 5'-10"	5 1/2"X .250	2 1/2"X .188	2 1/2" X .188

REINFORCEMENT SCHEDULE			
MARK	NO.	LENGTH	TYPE
401	12" C/C	8'-6"	102
402	12" C/C	7'-6"	103
601	4	D+4'-0"	101
602	8	D+2'-0"	101
603	32	D_T - 6"	STR.



600 SQ. FT. SIGN AREA

OVERHEAD SIGN SUPPORT, 816 NO.7.6

BUREAU OF TRAFFIC
OHIO DEPARTMENT OF HIGHWAYS

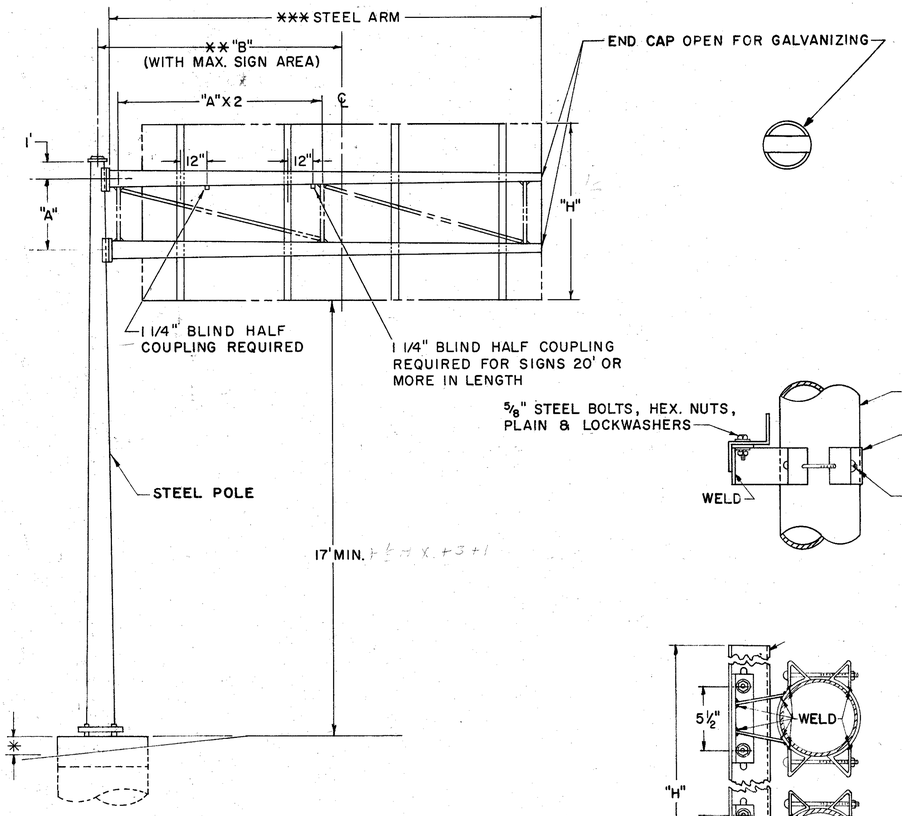
OVERHEAD SIGN SUPPORTS | 816 No.7.6 | DATE 5-6-64, 5-5-64, 6-20-60

APPROVED _____ ENGINEER OF TRAFFIC

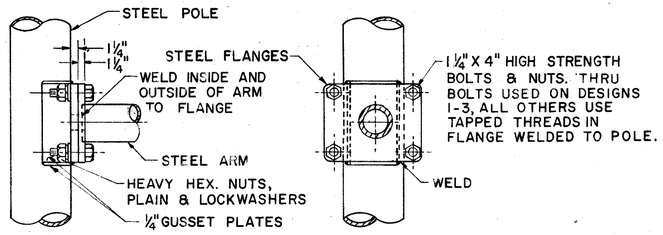
FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

151/247

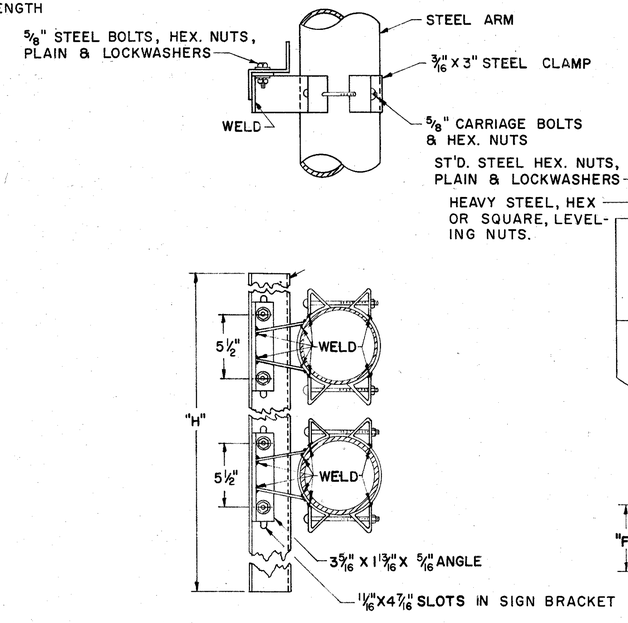
FRA-270-26.76N



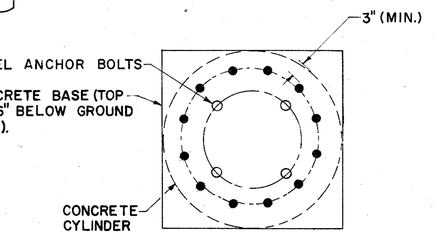
NOTE:
THE 12" DIMENSION SHOWN FOR BLIND HALF COUPLINGS MAY BE INCREASED OR DECREASED WHEN NECESSARY TO TO PREVENT INTERFERENCE WITH OTHER MEMBERS.

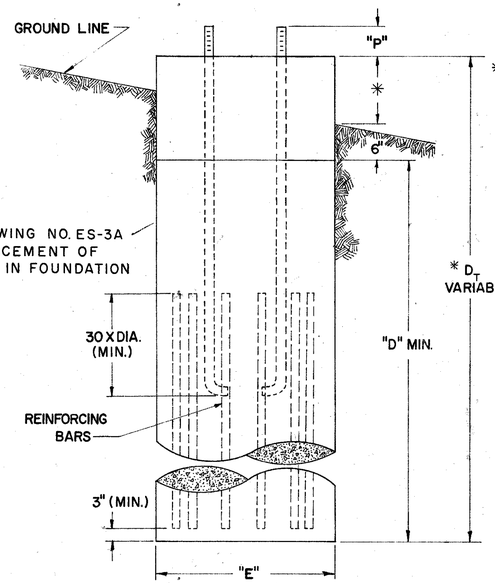


ARM ATTACHMENT



POLE BASE DETAIL





FOUNDATION DETAIL

SIGN ATTACHMENT DETAIL

DESIGN NO.	POLE SIZE	*** ARM SIZE	DIM A	DIM ** B	DIM "D" MIN.	DIM F	DIM F	DIM P	DIM * S	DIM T	BOLT CIRCLE	ANCHOR BOLT SIZE	MAX SIGN AREA	REINF. BARS SIZE	REINF. BARS # REQ'D
1	3 Ga, 12" X 8.78" X 23'-0"	7Ga, 6.9" X 4.66" X16'-0"	4'	12'	9'	3'-0"	11 5/16"	7¾"	17"	2"	16"	1¾" X 90"	80	¾"	12
2	3 Ga, 12" X 8.78" X 23'-0"	7 Ga, 8" X 5.2" X 20'-0"	4'	16'	9'	3'-0"	11 5/16"	7¾"	17"	2"	16"	1¾" X 90"	80	¾"	12
3	3 Ga, 15" X 11.5" X 25'-0"	7 Ga, 8.3" X 6.06" X 16'-0"	4'	12'	11'	3'-0"	15½"	8⅜"	23"	2"	22"	2" X 96"	120	1"	12
4	3 Ga, 16" X 12.5" X 25'-0"	3 Ga, 9.2" X 6.40" X 20'-0"	4'	16'	11'	3'-0"	16 5/16"	8⅜"	24½"	2"	23½"	2" X 96"	120	1"	12
5	0 Ga, 18" X 14.36" X 26'-0"	7 Ga, 11" X 7.92" X 22'-0"	6'	14'	13'	3'-0"	18"	9⅜"	26½"	2½"	25½"	2¼" X 120"	180	1⅛"	12
6	0 Ga, 18" X 14.36" X 26'-0"	7 Ga, 12.5" X 8.86" X 26'-0"	6'	18'	13'	3'-0"	18"	9⅜"	26½"	2½"	25½"	2¼" X 120"	180	1⅛"	12
7	2 PLY 7 Ga, 18" X 14.36" X 26'-0"	7 Ga, 12.5" X 9.14" X 24'-0"	6'	14'	15'	3'-0"	18"	9¾"	26½"	2½"	25½"	2½" X 144"	240	1¼"	12
8	2 PLY ¼", 18" X 14.36" X 26'-0"	3 Ga, 12.5" X 8.58" X 28'-0"	6'	18'	15'	3'-0"	18"	11¼"	26½"	3"	25½"	3" X 144"	240	1¼"	12

NOTES

FABRICATION - ALL PORTIONS OF THE SIGN SUPPORT, INCLUDING SIGN ATTACHMENTS, SHALL BE HOT DIP GALVANIZED IN ACCORDANCE WITH THE REQUIREMENTS OF A.S.T.M. DESIGNATIONS A-123 AND A-153. THE CONDUIT SHALL BE GALVANIZED IN ACCORDANCE WITH SEC. 625.13 AND SHALL BE INCLUDED IN THE UNIT PRICE BID FOR OVERHEAD SIGN SUPPORTS FOR PAYMENT.

* FOUNDATION- THE TOP ELEVATION OF FOUNDATIONS SHALL BE VARIED SO AS TO MAINTAIN A MINIMUM CLEARANCE OF 17' BETWEEN THE BOTTOM OF THE SIGN AND THE HIGHWAY CROWN.

** ERECTION- VALUES OF "B" MAY BE EXCEEDED PROVIDED THE PRODUCT OF ACTUAL SIGN AREA TIMES THE DISTANCE FROM ℄ OF POLE TO ℄ OF SIGN DOES NOT EXCEED THE MAX. SIGN AREA TIMES "B".

*** ARMS 20' LONG OR LONGER ARE TO BE TRUSS TYPE WITH 3" X 3" X ⅜" ANGLES WELDED TO GUSSET PLATES.

MATERIAL- STEEL POLE BASES, FLANGES, AND END CAPS SHALL CONFORM TO THE REQUIREMENTS OF ASTM SPECIFICATION A 30 GRADE B. HIGH STRENGTH STEEL BOLTS SHALL CONFORM TO ASTM SPECIFICATION A 193 GRADE B7 AFTER FABRICATION TAPERED POLES AND ARMS SHALL HAVE A MINIMUM YIELD STRENGTH OF 48,000 PSI.

SOILS- THE FOUNDATION DETAILS SHOWN ARE FOR AVERAGE SOIL CONDITIONS (MEDIUM CLAY, CEMENTED SAND AND GRAVEL, SANDY CLAY, OR STIFF CLAY). FOR POOR SOIL CONDITIONS, INCREASE "D" MIN. BY 50% IN DRY OR WET SAND, 60% IN SILTY CLAY, 100% IN SOFT CLAY, AND FROM 75% TO 150% IN WET SILT, DEPENDING ON QUICKSAND ACTION.

REINFORCING STEEL- REINFORCING STEEL AS SHOWN IN TABLE SHALL BE INSTALLED WHEN "D" EXCEEDS THE ANCHOR BOLT LENGTH BY MORE THAN 3 FT. THE COST AND PLACEMENT OF REINFORCING STEEL SHALL BE INCLUDED IN THE UNIT PRICE FOR ITEM 816 CONCRETE FOR SIGN SUPPORT FOUNDATIONS.

DESIGN

THE DESIGN OF OVERHEAD SUPPORTS IS IN ACCORDANCE WITH A.A.S.H.O. SPECIFICATIONS FOR THE DESIGN AND CONSTRUCTION OF STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, ADOPTED JUNE 12, 1961.

BUREAU OF TRAFFIC
OHIO DEPARTMENT OF HIGHWAYS

OVERHEAD SIGN SUPPORT

816 No. 12.24

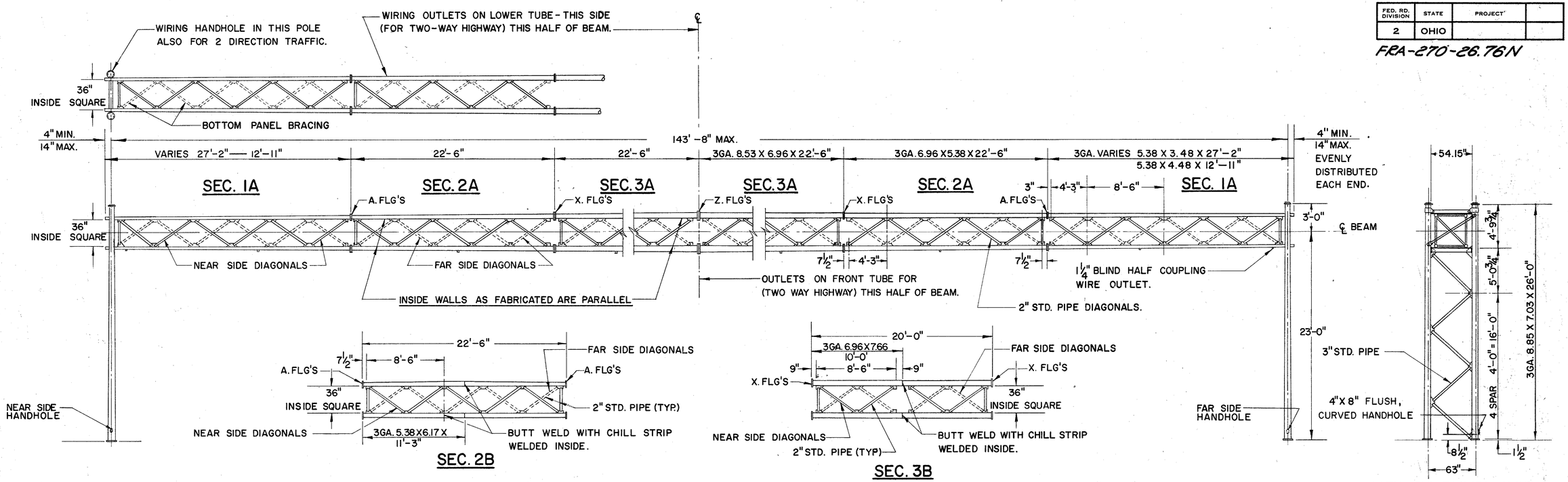
DATE 8-18-61, 4-11-62, 4-18-67

APPROVED Robert E. Conner
ENGINEER OF TRAFFIC

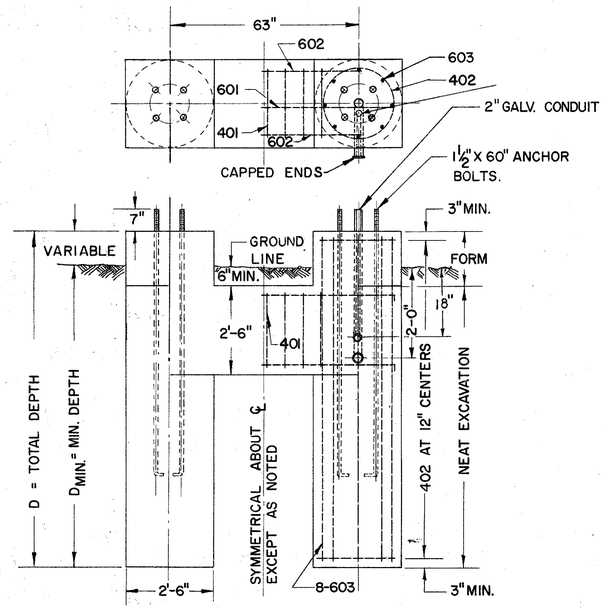
FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

158.247

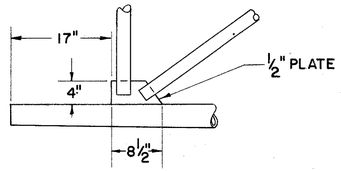
FRA-270-26.76N



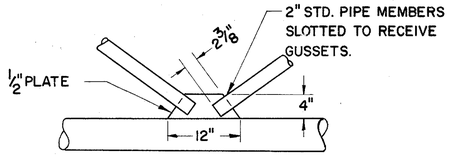
BOTH END FRAMES ALIKE
UNLESS OTHERWISE NOTED



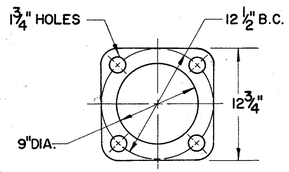
FOUNDATION DETAIL



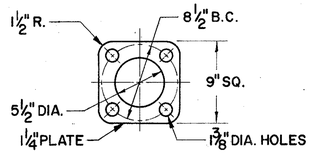
END JOINT DETAIL



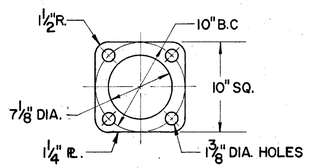
TYPICAL JOINT
DIAGONAL TRUSS MEMBER



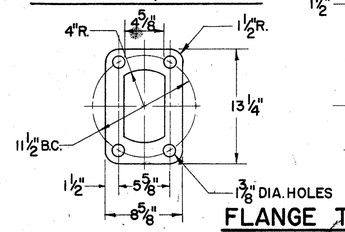
POLE BASE DETAIL



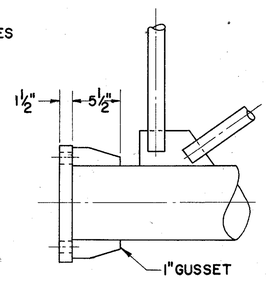
FLANGE TYPE A.
FOR SEC. 1-A, 2-A, & 2-B

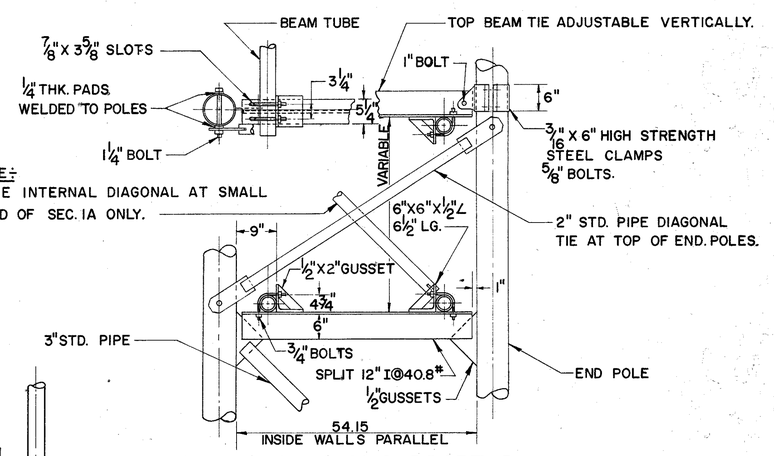


FLANGE TYPE X.
FOR SEC. 2-A, 3-A & 3-B



FLANGE TYPE Z.
FOR SEC. 3-A





BOTTOM BEAM SUPPORT & END POLE FRAME TIE.

BUREAU OF TRAFFIC
OHIO DEPARTMENT OF HIGHWAYS

OVERHEAD SIGN SUPPORT	816 15.8	DATE 6-24-64 7-1-66

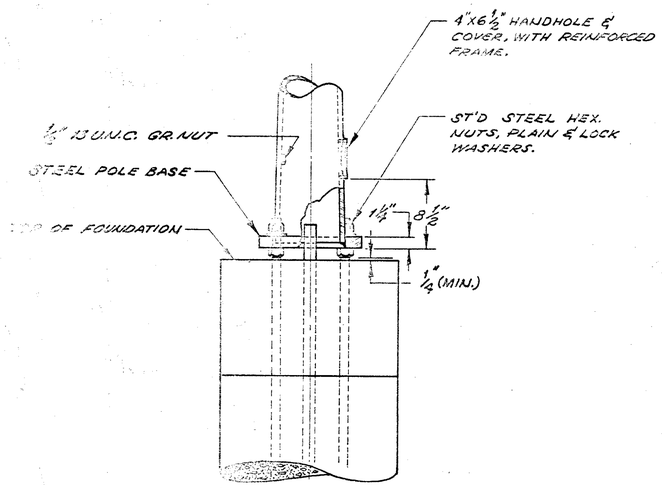
APPROVED _____
ENGINEER OF TRAFFIC

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

152A
247

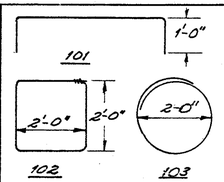
FRA-270-26.76 N

SUPPORT						ACTUAL SIGN AREA	SIGN AREA SPREAD	ALLOWABLE DESIGN SIGN AREA	ACTUAL MAX. SIGN HEIGHT	END SECTION				INTERNAL SECTION				CENTER SECTION				END OVER-HANG	LEFT END FRAME				RIGHT END FRAME			
NO.	STATION	LOCATION	TYPE	DESIGN	SPAN					NO.	GA.	SIZE	LENGTH	NO.	GA.	SIZE	LENGTH	NO.	GA.	SIZE	LENGTH		NO.	GA.	SIZE	LENGTH	NO.	GA.	SIZE	LENGTH
577	1559+00	I-270	15.8	4	109'	505.5	50.5'	635	31.53	2	3	5.38x5.08	23'	2	3	6.96x5.38	22.5	2	3	6.96x7.76	10'	12"	2	3	8.85x7.07	27'	2	3	8.85x7.00	26'6"



REINFORCEMENT SCHEDULE

MARK	NO.	LENGTH	TYPE
401	12"Ø	8'-6"	102
402	12"Ø	7'-6"	103
601	4	D+4'-0"	101
602	8	D+2'-0"	101
603	32	D+-6"	STR.



NOTES

DESIGN

THE DESIGN OF OVERHEAD SUPPORTS SHALL BE IN ACCORDANCE WITH A.A.S.H.O. SPECIFICATION FOR THE DESIGN AND CONSTRUCTION OF STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, ADOPTED JUNE 13, 1961.

FOUNDATION

THE TOP ELEVATION OF FOUNDATIONS SHALL BE VARIED SO AS TO MAINTAIN A MINIMUM CLEARANCE OF 17' BETWEEN THE BOTTOM OF THE SIGN AND THE HIGHWAY CROWN.

SOILS

THE FOUNDATION DETAILS SHOWN ARE FOR AVERAGE SOIL CONDITIONS (MEDIUM CLAY, CEMENTED SAND AND GRAVEL, SANDY CLAY OR STIFF CLAY). FOR POOR SOIL CONDITIONS, INCREASE "D" MIN. BY: 50% IN DRY OR WET SAND, 60% IN SILTY CLAY, 100% IN SOFT CLAY, AND FROM 75% TO 150% IN WET SILT, DEPENDING ON QUICKSAND ACTION.

FINISH

ALL STRUCTURAL PORTIONS OF THE SIGN SUPPORTS, SIGN BRACKETS, HARDWARE AND CONDUIT SHALL BE HOT DIPPED GALVANIZED IN ACCORDANCE WITH S.S. 816.02 (EXCEPT AS OTHERWISE SHOWN).

MATERIALS

ALL MATERIALS TO BE FURNISHED SHALL BE IN ACCORDANCE WITH S.S. 816.02 WITH THE FOLLOWING ADDITIONS:
TAPERED TUBES SHALL BE STEEL, SAE 1015 AND COLD ROLLED TO OBTAIN A MINIMUM YIELD STRENGTH OF 48,000 PSI.
STEEL PIPE: 4" DIAMETER AND UNDER SHALL BE STEEL-ASTM-A120. OVER 4" DIAMETER SHALL BE ASTM-A53, GRADE B.
ANCHOR BOLTS SHALL BE HIGH STRENGTH STEEL-ASTM-A107, GRADE C-1035.
HIGH STRENGTH CLAMPS SHALL BE STEEL ASTM-A242.

REINFORCING STEEL

COST OF REINFORCING STEEL SHALL BE INCLUDED IN THE UNIT PRICE FOR ITEM 816 CONCRETE FOR SIGN SUPPORT FOUNDATIONS.
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.

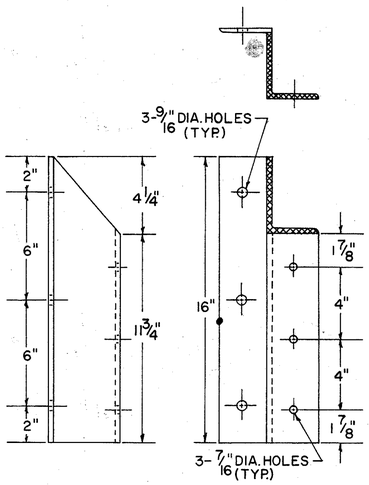
PAYMENT FOR CONDUIT

PAYMENT FOR THE GALVANIZED CONDUIT SHALL BE INCLUDED IN THE UNIT PRICE BID FOR OVERHEAD SIGN SUPPORTS.

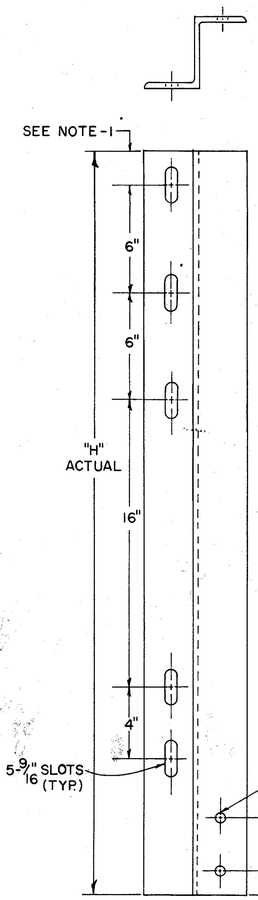
FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

153
247

FRA-270-28.76N



"Z" BAR-A
(4"x3 1/16"x 1/4" @ 2.85 LB.)



"Z" BAR-C
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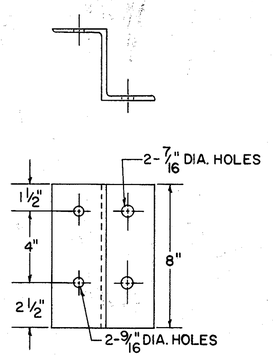
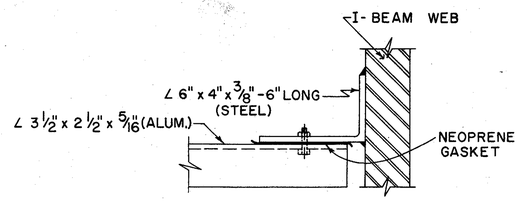
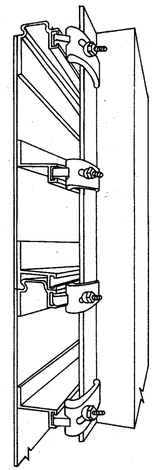


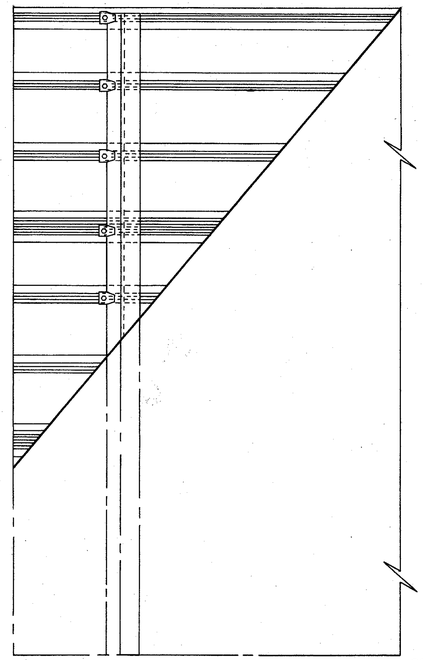
"Z" BAR-B
(4"x3 1/16"x 1/4" @ 2.85 LB.)



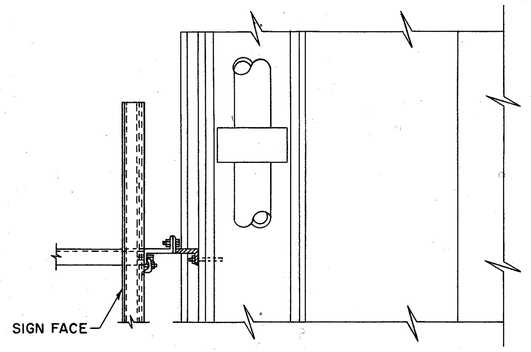
SECTION A-A



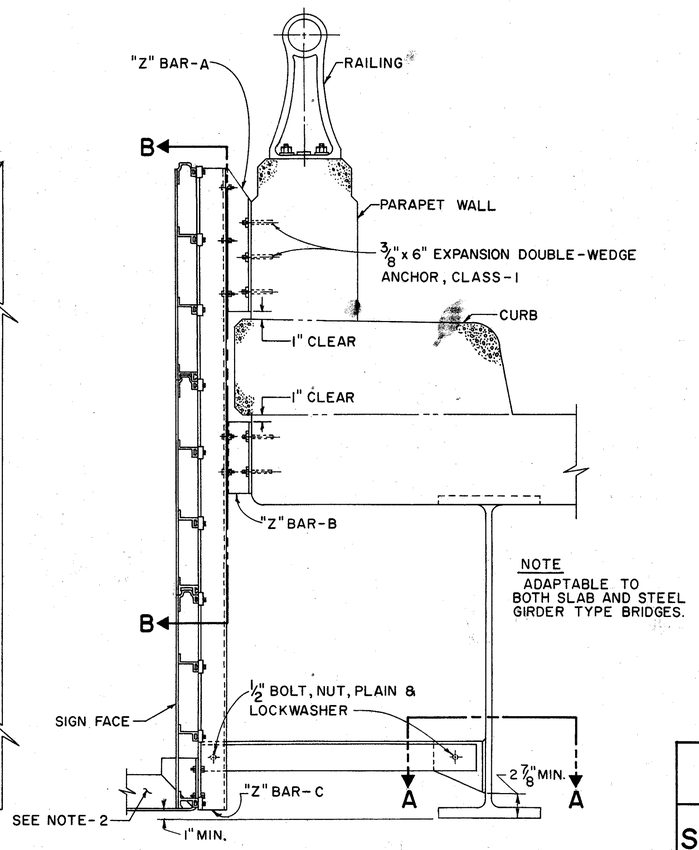
CLAMP ASSEMBLY



SECTION B-B



TOP VIEW



SIDE VIEW BRIDGE MOUNT

NOTES

ALL STRUCTURAL SHAPES TO BE ALUMINUM, EXCEPT AS NOTED.

EXPANSION BOLTS TO BE GALVANIZED STEEL.

(1.) THIS DIMENSION VARIES FOR SIGNS OVER 4'-6" ON SLAB TYPE BRIDGES AND SIGNS OVER 5'-6" ON STEEL GIRDER TYPE BRIDGES.

(2.) FOR ELECTRICAL DETAIL SEE DRAWINGS,
EI-1 PAGE 154.
EI-2 PAGE 155.

(3.) ALL MATERIALS SHALL CONFORM TO THE STATE OF OHIO, CONSTRUCTION & MATERIALS SPECIFICATIONS, AND THE SUPPLEMENTAL SPECIFICATIONS 816, OR AS OTHER-WISE SPECIFIED.

BUREAU OF TRAFFIC
OHIO DEPARTMENT OF HIGHWAYS

SPECIAL SIGN SUPPORT

SPL-816

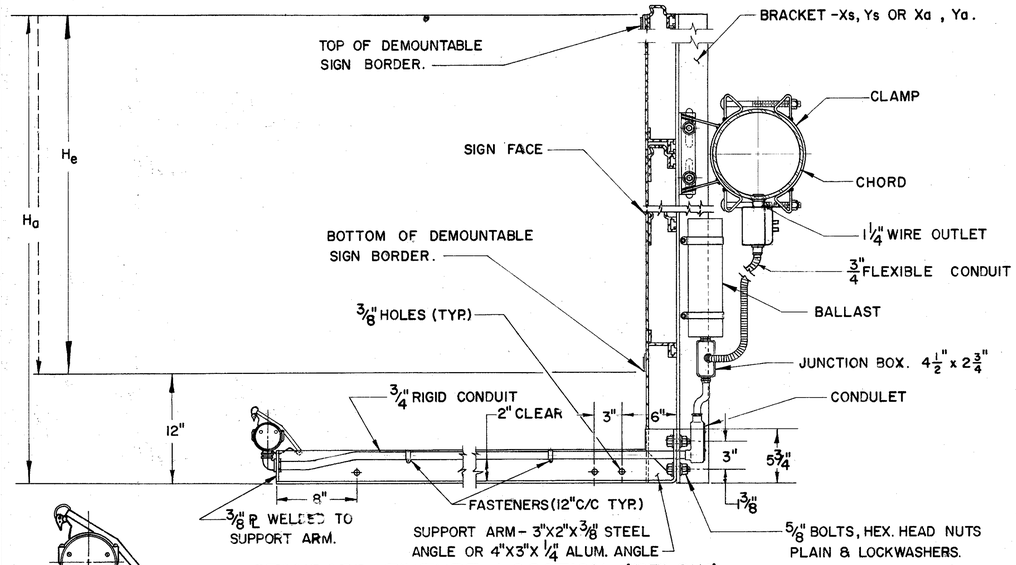
DATE
1-24-68
4-24-69

APPROVED _____
ENGINEER OF TRAFFIC

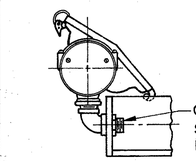
FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

154
247

FRA-270-26.76N



STANDARD FIXTURE LOCATION (BELOW)



FIXTURE CONNECTION WHERE WIRING CONDUIT IS NOT NEEDED.

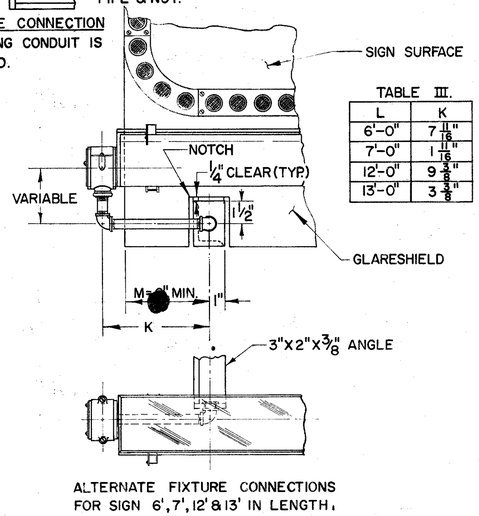
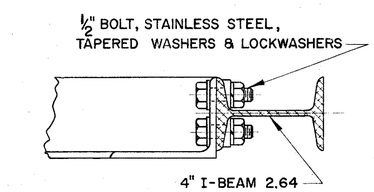
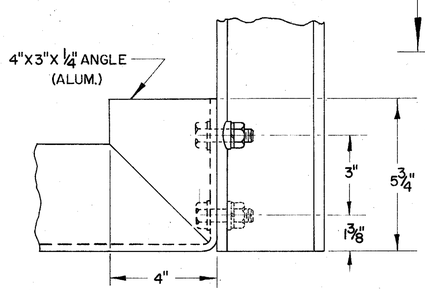


TABLE III.	
L	K
6'-0"	7 11/16"
7'-0"	1 11/16"
12'-0"	9 3/8"
13'-0"	3 3/8"

ALTERNATE FIXTURE CONNECTIONS FOR SIGN 6', 7', 12' & 13' IN LENGTH.

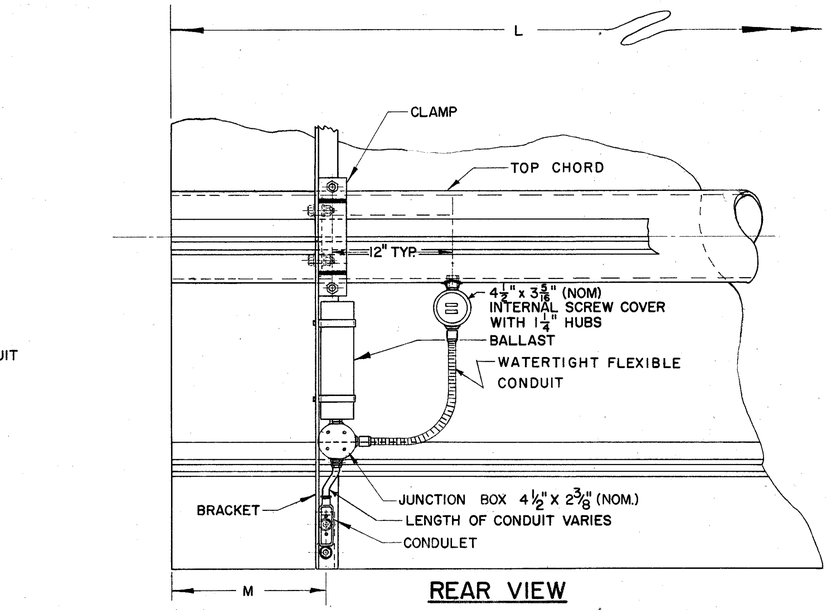
DETAIL A.



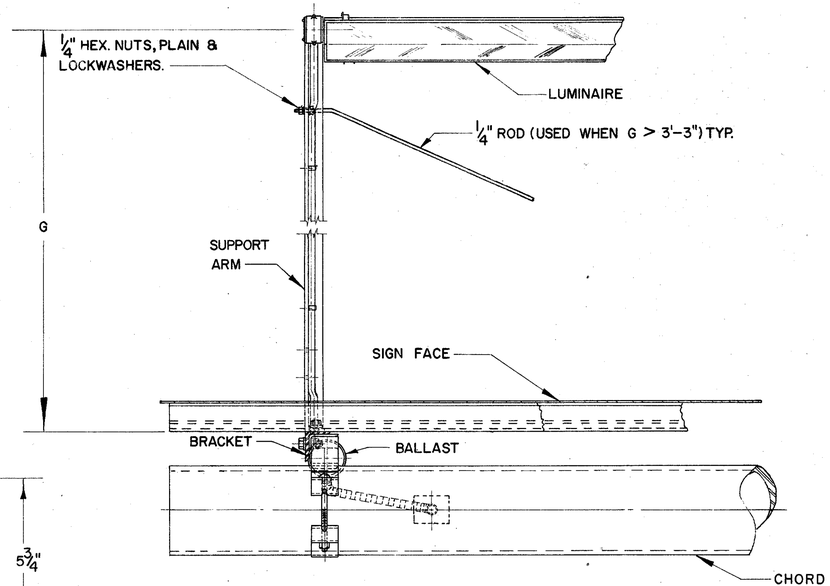


FOR SUPPORTS 7.2-7.6

DETAIL B.



REAR VIEW



TOP VIEW

FABRICATION — ALL STRUCTURAL COMPONENTS SHOWN ON THIS SHEET SHALL CONFORM TO SUPPLEMENT SPECIFICATIONS 816.

MATERIALS — THE MATERIALS USED IN THE COMPONENTS SHOWN ON THIS SHEET SHALL BE IN CONFORMANCE WITH THE MATERIALS USED IN THE SIGN SUPPORT

TABLE I.

"L" SIGN LENGTH		NUMBER OF FIXTURES		"M" EDGE DISTANCE				NO. BALLAST
				A		B		
A	B	75 2000	99 2500	LT.	RT.	LT.	RT.	
6'-0"	7'-0"	1		6"	6"	6"	6"	1
8'-0"	9'-0"	1		10 3/16"	10 1/4"	16 3/16"	16 1/4"	1
10'-0"	11'-0"		1	10 3/16"	10 1/4"	16 3/16"	16 1/4"	1
12'-0"	13'-0"	2		6"	6	6	6	1
14'-0"	15'-0"	2		8 5/16"	8 5/16"	14 5/16"	14 5/16"	1
16'-0"	17'-0"	1	1	8 5/16"	8 5/16"	14 5/16"	14 5/16"	1
18'-0"	19'-0"		2	8 5/16"	8 5/16"	14 5/16"	14 5/16"	1
20'-0"	21'-0"	3		7"	6 7/8"	13	12 7/8"	2
22'-0"	23'-0"	2	1	7"	6 7/8"	13	12 7/8"	2
24'-0"	25'-0"	1	2	7"	6 7/8"	13	12 7/8"	2
26'-0"	27'-0"		3	7"	6 7/8"	13	12 7/8"	2

Sn= Nominal Fixture Length, 72" & 96" respectively.
Sa= Actual Fixture Length, for mounting purposes, 75 5/8" and 99 5/8" respectively. (Slight variation for different manufacturers.)
M= Distance from edge of sign to ℄ of notch, min. 6". When the length of the sign minus 1'-0" is less than the sum of the actual fixture lengths, an offset "K" is used. For additional details see detail A and table III.

TABLE II

MAX. BRACKET SPACING FOR EXTERNALLY ILLUMINATED SIGNS

ACTUAL SIGN HEIGHT "Ha"	SUPPORT TYPES			
	9.12, 11.08, 13.2, 7.2	9.24, 10.48, 12.24, 14.5, 15.8, 7.2 to 7.6		
	SINGLE TUBE DOUBLE TUBE LESS 36" C/C	DOUBLE TUBE		
		C/C 36"-42"	C/C 48"-54"	C/C 60"-72"
	MAXIMUM BRACKET SPACING			
to 5'-0"	6'-4" with X 8'-4" with Y	8'-4" with X	8'-4" with X	8'-4" with X
5'-6" to 8'-0"	6'-4" with Y	4'-2" with X 6'-4" with Y	6'-4" with X 8'-4" with Y	8'-4" with X
8'-6" to 10'-0"	3'-2" with X 4'-2" with Y	6'-4" with Y	6'-4" with Y	8'-4" with Y
10'-6" to 12'-0"	———	4'-2" with Y	6'-4" with Y	6'-4" with Y
12'-6" to 14'-0"	———	3'-2" with Y	3'-2" with Y	4'-2" with Y

Ha= ACTUAL SIGN HEIGHT
He= EFFECTIVE SIGN HEIGHT
BRACKET SIZE: Xs = 3½" X 2½" X 5/16" — L @ 6.1 LB. STEEL; Ys = 4" X 3 1/16" X ¼" — Z @ 8.2 LB. STEEL } 9.12, 10.48, 11.08, 12.24, 14.5 & 15.8
Xa = 3" X 2 1/16" X ¼" — Z @ 2.33 LB. ALUM.; Ya = 4" X 2 3/32" X 3/16" — I @ 2.64 LB. ALUM. } 7.2 Thru 7.6

WHEN MAX. ALLOWABLE SPACING IS LESS THAN ACTUAL FIXTURE LENGTHS, Sa, ADDITIONAL STANDARD BRACKETS MUST BE FURNISHED, EQUAL IN HEIGHT TO "Ha".

SUPPORTS 7.2 THROUGH 7.6 SHALL HAVE AN ALUMINUM FIXTURE ARM, 4"X3"X¼" ANGLE. SEE DETAIL B. BOLTS AND ACCESSORIES SHALL BE STAINLESS STEEL.

BUREAU OF TRAFFIC
OHIO DEPARTMENT OF HIGHWAYS

STRUCTURAL DETAILS FOR EXTERNALLY ILLUMINATED SIGNS

EI-1

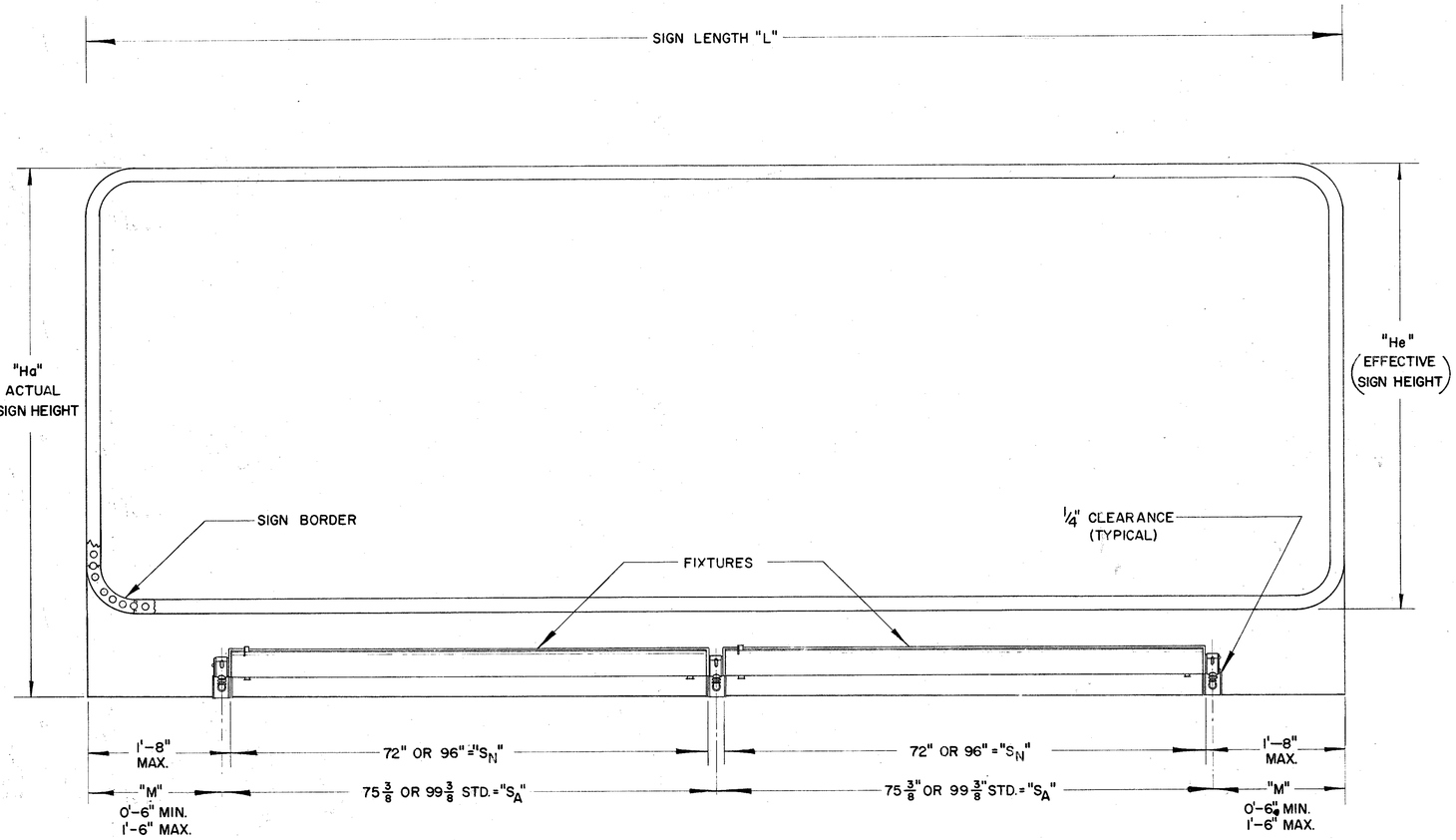
APPROVED Fred C. Talbot
ENGINEER OF TRAFFIC

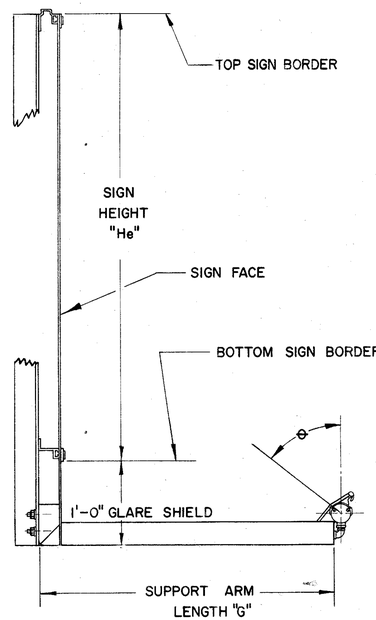
STRUCTURAL DETAILS FOR EXTERNALLY ILLUMINATED SIGNS

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

155
247

FRA-270-26.76N





SIGN LIGHTING NOTES

SIGN ILLUMINATION

SIGN ILLUMINATION SHALL BE BY ATTACHED FLUORESCENT FIXTURES AS SHOWN ON ILLUMINATED SIGN DETAIL SHEETS.

LAMPS

LAMPS SHALL BE TYPE F72 OR F96-T12/CW/HO AS MANUFACTURED BY WESTINGHOUSE, GENERAL ELECTRIC OR APPROVED EQUAL FOR SIGNS TO A MAXIMUM HEIGHT OF 6'-6". LAMP TYPE SHALL BE F72 OR F96-T12/CW/SHO AS MANUFACTURED BY WESTINGHOUSE, F72 OR F96-PG17/CW AS MANUFACTURED BY GENERAL ELECTRIC OR APPROVED EQUAL FOR SIGNS THAT ARE 7'-0" OR GREATER IN HEIGHT.

LAMP FIXTURES

LIGHTING FIXTURES SHALL BE CONSTRUCTED OF CORROSION RESISTANT MATERIALS OR WITH HIGH QUALITY CORROSION RESISTANT FINISH. ALL FIXTURES SHALL BE SPECIFICALLY DESIGNED FOR OUTDOOR SIGN LIGHTING SERVICE. MAJOR COMPONENTS SHALL INCLUDE WEATHERPROOF CAST ALUMINUM MOUNTING HUBS DESIGNED TO SECURELY LOCK THE FIXTURES AT ANY ANGLE THROUGH 360 DEGREES. INDICATORS IN 10 DEGREE INCREMENTS SHALL BE STAMPED OR CAST INTO THE HUB TO FACILITATE PROPER AIMING OF THE FIXTURE. FINAL ADJUSTMENT OF FIXTURE SHALL BE DONE AT NIGHT UNDER THE PROJECT ENGINEER'S DIRECTION.

THE BODY DESIGN OF THE FIXTURE SHALL PROVIDE AN ASYMMETRIC SPECULAR ALZAK REFLECTOR TO GIVE A HIGH LEVEL OF UNIFORM ILLUMINATION AND SHALL PROVIDE A WIREWAY FROM END TO END. WHEN ADJACENT FIXTURES ARE WIRED TOGETHER THROUGH THE WIREWAY, WIRE BETWEEN FIXTURES SHALL BE ENTIRELY ENCLOSED.

EXTERIOR FINISH OF THE FIXTURE BODY SHALL BE INTERSTATE GREEN COLOR, HEAT RESISTANT BAKED ENAMEL AS # 8950 UNIVERSAL PAINT AND VARNISH INC., OR MIDWESTERN COLOR WORKS, OR APPROVED EQUAL. REFLECTOR, LAMP AND SOCKETS SHALL BE PROTECTED BY A HINGED DOOR OF CLEAR ACRYLIC PLASTIC WITH ALUMINUM OR STAINLESS STEEL FRAME AND NEOPRENE GASKETING.

BALLASTS

BALLASTS FOR FIXTURES SHALL BE WEATHER-PROOF OUTDOOR TYPE FOR A 120 VOLT 60 CYCLE SYSTEM AND SHALL PROVIDE LAMP STARTING AT AN AMBIENT TEMPERATURE OF -20°F. BALLASTS SHALL BE MOUNTED ON SIGN BRACKET ONLY. WIRING SHALL BE ACCOMPLISHED IN SUCH A MANNER THAT THE SIGN MAY BE REMOVED WITHOUT DISTURBING THE ELECTRICAL WIRING.

EFFECTIVE SIGN HEIGHT "H"	SUPPORT ARM LENGTH "G"	APPROX. AIMING ANGLE ⊖
3'-0" to 5'-0"	2'-9"	25°
5'-0" to 6'-6"	3'-3"	25°
7'-0" to 10'-0"	4'-3"	17°
10'-6" to 13'-0"	5'-9"	23°

"L" SIGN LENGTH	NO. OF FIXTURES			He=3'-0" to 6'-6" LAMP=T12/cw/ho			He=7'-0" to 13'-0" LAMP=T12/cw/sho		
	72	96		BALLAST NO.	BALLAST TYPE	WATTAGE PER SIGN	BALLAST NO.	BALLAST TYPE	WATTAGE PER SIGN
6'-0" to 7'-0"	1			1	A	190	1	C	250
8'-0" to 9'-0"	1			1	A	190	1	C	250
10'-0" to 11'-0"		1		1	A	190	1	C	250
12'-0" to 13'-0"	2			1	B	250	1	D	425
14'-0" to 15'-0"	2			1	B	250	1	D	425
16'-0" to 17'-0"	1	1		1	B	250	1	D	425
18'-0" to 19'-0"			2	1	B	250	1	D	425
20'-0" to 21'-0"	3			2	A&B	440	2	C&D	675
22'-0" to 23'-0"	2	1		2	A&B	440	2	C&D	675
24'-0" to 25'-0"	1		2	2	A&B	440	2	C&D	675
26'-0" to 27'-0"			3	2	A&B	440	2	C&D	675

BALLASTS

TYPE	MANUFACTURERS		WATTAGE
	G.E.	JEFFERSON	
A	GG 3583	257-321	190
B	GG 3535	257-331	250
C	GG 3585	257-361	250
D	GG 3588	257-371	425

BALLASTS SHALL BE GENERAL ELECTRIC, JEFFERSON AS SPECIFIED ABOVE OR EQUAL.

TRANSFORMERS

TYPE	MANUFACTURERS G.E.	MANUFACTURERS JEFFERSON	OUTPUT K.V.A.	SWITCH TRANSFORMER ENCLOSURE
I	9T51Y7	220-241	.25	Y
II	9T51Y8	220-251	.50	Y
III	9T51Y9	220-261	.75	Y
IV	9T51Y10	220-071-100	1.00	Z
V	9T51Y11	220-081-100	1.50	Z
VI	9T51Y12	220-091-100	2.00	Z
VII	9T51Y13	221-102	3.00	Z

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OHIO DEPARTMENT OF HIGHWAYS

ELECTRICAL DETAILS FOR EXTERNALLY ILLUMINATED SIGNS

EI-2

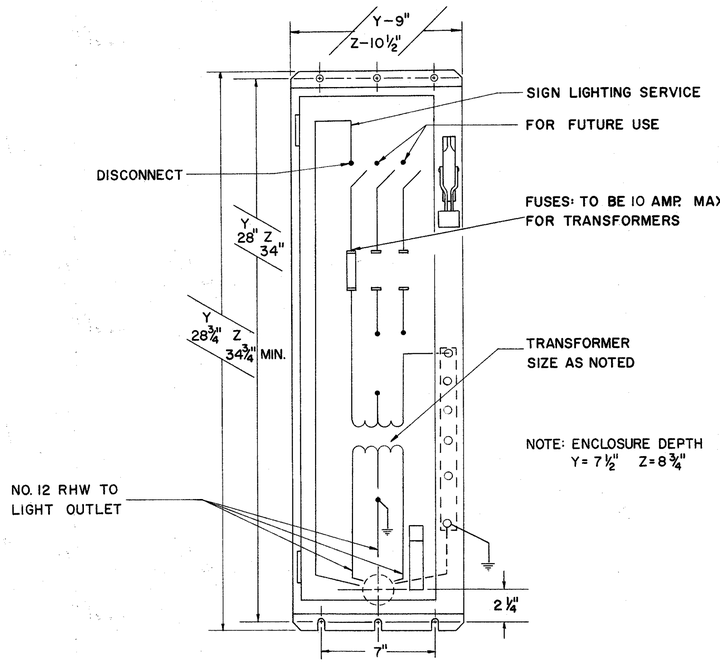
DATE
10-31-63
5-6-64
10-29-64
03-29-67

APPROVED Fred C Talbot
ENGINEER OF TRAFFIC

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

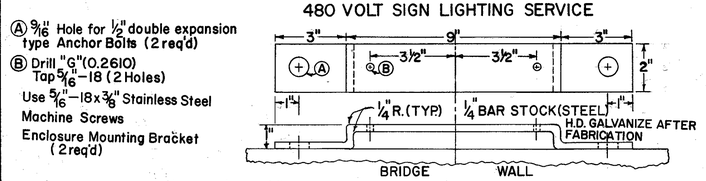
FRA-270-26.76N

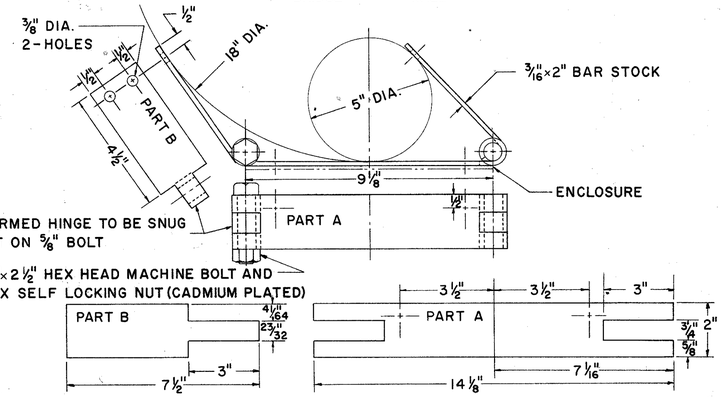
156
247



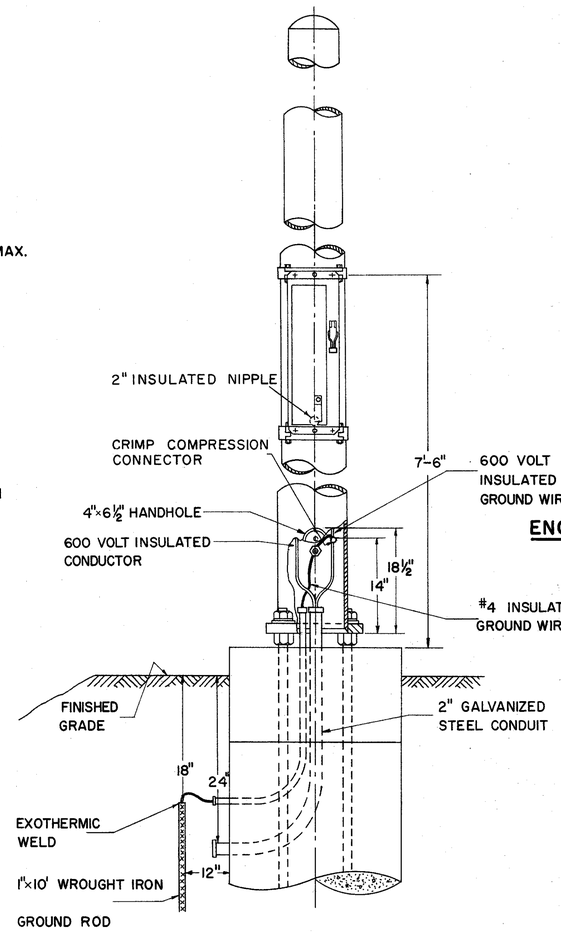
TYPICAL ENCLOSURE DETAIL

480 VOLT SIGN LIGHTING SERVICE

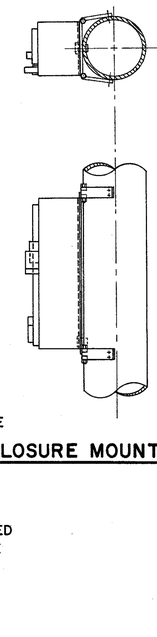




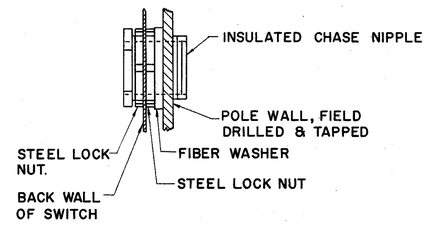
ENCLOSURE MOUNTING BRACKET



SIGN SUPPORT DETAIL FOR ILLUMINATED SIGNS



ENCLOSURE MOUNTING DETAIL



INSULATED CHASE NIPPLE ASSEMBLY

AS MANUFACTURED BY THOMAS BETTS, APPELTON, STEEL CITY OR EQUAL

NOTES

GENERAL

DETAILS OF THIS SHEET SHALL APPLY TO EACH OVERHEAD SIGN STRUCTURE TO SUPPORT EXTERNALLY ILLUMINATED SIGNS.

SERVICE

ELECTRIC SERVICE SHALL ENTER THROUGH A 2" GALVANIZED RIGID STEEL CONDUIT INSTALLED IN STRUCTURE FOUNDATION AS PER DETAIL. SIGN SERVICE OR CIRCUITRY SHALL BE CONTROLLED AS REQUIRED BY THE SYSTEM DESIGN AT THE PRIMARY SOURCE.

SERVICE CONDUCTORS SHALL BE THE SIZE AND TYPE AS SPECIFIED.

COMBINATION SWITCH AND TRANSFORMER

(TYPE Y OR Z ENCLOSURE REQUIRED AS PER SCHEDULE ON THIS SHEET)

THIS COMBINATION SHALL BE A 30 OR 60 AMPERE 600 VOLT SWITCH WITH A .25 TO 3.0 KVA TRANSFORMER. THE COMBINATION AND ENCLOSURE SHALL BE AS SQUARE D CLASS 9421, COLUMBUS ELECTRIC WORKS CLASS 101, PANALS INCORPORATED-CLASS 9400, OR APPROVED EQUAL.

TRANSFORMER

THE TRANSFORMER SHALL BE DRY TYPE SINGLE PHASE 240/480 VOLT PRIMARY 120/240 VOLT SECONDARY, THE TYPE AND CAPACITY AS SPECIFIED IN DETAILED SCHEDULE ON THIS SHEET.

ENCLOSURE

THE ENCLOSURE SHALL BE NEMA #4 WATER TIGHT .063 GAGE STAINLESS STEEL ASTA 302-303. A DISCONNECT HANDLE SHALL BE FLANGE MOUNTED AND CAPABLE OF BEING LOCKED IN EITHER POSITION. THE ENCLOSURE SHALL BE EQUIPPED WITH A DOOR LOCKING MECHANISM WITH A DEFEATER THAT NECESSITATES TWO HANDS TO OPERATE MECHANISM WITH THE SWITCH IN OFF POSITION. SPACE FOR A 2" INSULATED CHASE NIPPLE SHALL BE PROVIDED APPROXIMATELY 2 ¼" ABOVE THE CENTER LINE OF THE LOWER MOUNTING SLOT. THIS ENCLOSURE AND STRUCTURE SHALL BE FIELD DRILLED AND TAPPED FOR THE REQUIRED NIPPLE AS SHOWN ON THE DETAIL ON THIS SHEET.

THIS ENCLOSURE SHALL BE FLANGE MOUNTED ON BRACKETS WITH 5/16"-18x¾" HEX HEAD CADMIUM PLATED MACHINE BOLTS. ENCLOSURES SHALL BE TYPE Y OR Z AS SPECIFIED AND DIMENSIONED ON THIS SHEET.

ENCLOSURE MOUNTING BRACKET

THE ENCLOSURE MOUNTING BRACKET SHALL BE FABRICATED THEN GALVANIZED BEFORE ASSEMBLY. THE BRACKET SHALL BE FIELD MOUNTED WITH 5/16 HEX HEAD SELF TAPPING CADMIUM PLATED SCREWS. THE SIGN SUPPORT SHALL BE FIELD DRILLED, AS PER DETAIL.

WIRE AND CABLE

ALL WIRE AND CABLE UP TO AND INCLUDING #4 SHALL COMPLY WITH FAA TYPE A SPECIFICATIONS. #2 OR LARGER WIRE OR CABLE SHALL BE G.E. 58006 OR ANACONDA AP-10711, OR EQUAL. ALL WIRE AND CABLE SHALL BE 600 VOLT.

GROUNDING

EACH SIGN SUPPORT OR STRUCTURE SHALL BE GROUNDED WITH A #4 RUBBER INSULATION AND NEOPRENE JACKETED CONDUCTOR. THE GROUNDING CONDUCTOR SHALL BE CONNECTED TO THE SWITCH THEN TO THE COMPRESSION CONNECTOR IN THE SIGN SUPPORT THEN TO A 1"x10' SOLID WROUGHT IRON GROUND ROD. GROUND CONDUCTOR SHALL BE EXOTHERMICALLY WELDED TO GROUND ROD AND THEN TAPED WITH PLASTIC ELECTRICAL TAPE AT EACH EXPOSED PORTION OF CONDUCTOR. THE WELDED CONNECTION AND TAPED PORTION SHALL BE PAINTED 2 COATS OF INSULATING ENAMEL.

TRANSFORMERS

TYPE	MANUFACTURERS G.E.	MANUFACTURERS JEFFERSON	OUTPUT K.V.A.	SWITCH TRANSFORMER ENCLOSURE
I	9T51Y7	220-241	.25	Y
II	9T51Y8	220-251	.50	Y
III	9T51Y9	220-261	.75	Y
IV	9T51Y10	220-071-100	1.00	Z
V	9T51Y11	220-081-100	1.50	Z
VI	9T51Y12	220-091-100	2.00	Z
VII	9T51Y13	221-102	3.00	Z

BUREAU OF TRAFFIC
OHIO DEPARTMENT OF HIGHWAYS

ELECTRICAL SIGN SERVICE DETAILS 480 VOLT SYSTEM

ES-3A

DATE 6-18-64 9-15

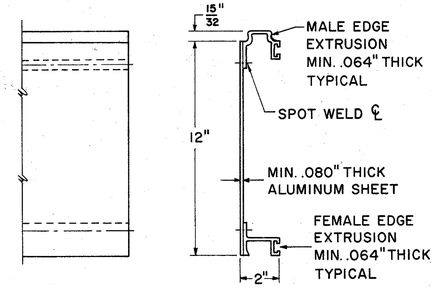
APPROVED _____
ENGINEER OF TRAFFIC

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

FRA-270-26.76N

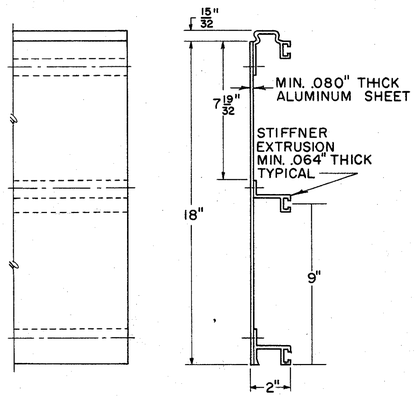
157
24.7

12" EXTRUSHEET PANEL



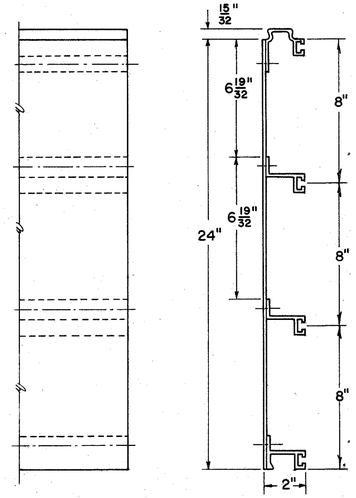
FRONT VIEW SIDE VIEW

18" EXTRUSHEET PANEL



FRONT VIEW SIDE VIEW

24" EXTRUSHEET PANEL



FRONT VIEW SIDE VIEW

NOTES:

EXTRUSHEET PANELS SHALL BE ALUMINUM; SPOT WELDING AND ALL MATERIALS SHALL CONFORM WITH SUPPLEMENTAL SPECIFICATION

COMBINATIONS OF 12", 18", AND 24" PANELS ARE USED TO ATTAIN REQUIRED SIGN HEIGHT.

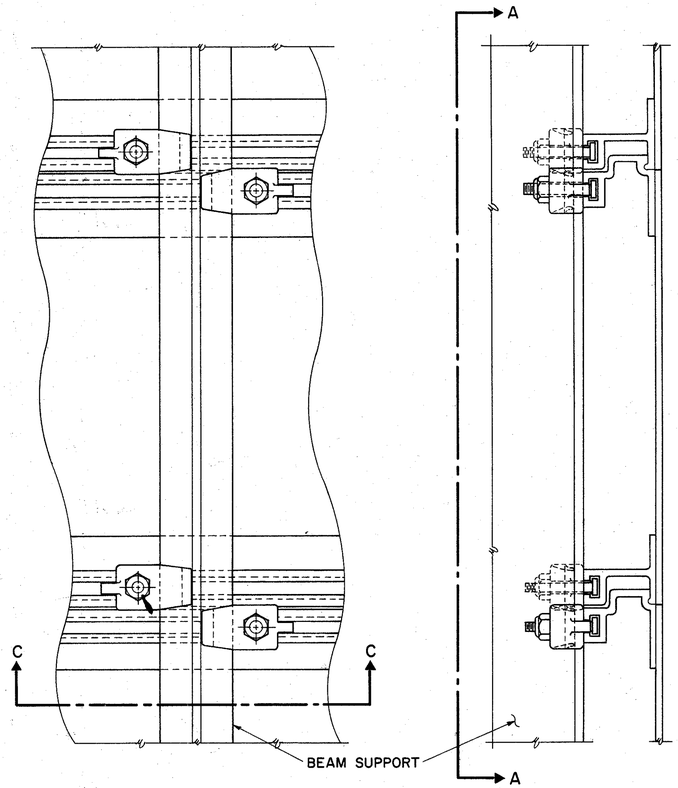
INDIVIDUAL PANELS SHALL BE THE SAME LENGTH AS THE HORIZONTAL LENGTH OF SIGN WITH NO SPLICES.

PANELS SHALL BE INTERLOCKED AND ERECTED WITH THE MALE EXTRUSION LOCATED AT THE TOP EDGE OF THE SIGN.

EXTRUSHEET PANELS SHALL BE FASTENED TO EACH VERTICAL SUPPORT MEMBER WITH MOUNTING CLIPS; ALTERNATELY AT EACH HORIZONTAL EXTRUSION; BOTH SIDES AT EACH JOINT, AND ON BOTH SIDES AT TOP AND BOTTOM EDGE OF SIGN.

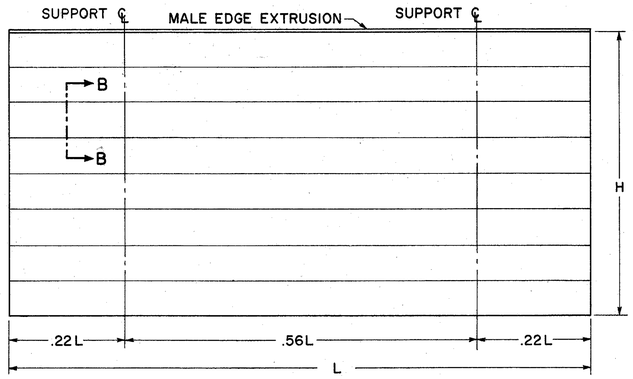
THE PANELS SHALL BE DESIGNED TO WITHSTAND A WIND LOAD OF 35 POUNDS PER SQUARE FOOT, IN ACCORDANCE WITH THE A.A.S.H.O. SPECIFICATION FOR DESIGN AND CONSTRUCTION OF STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS.

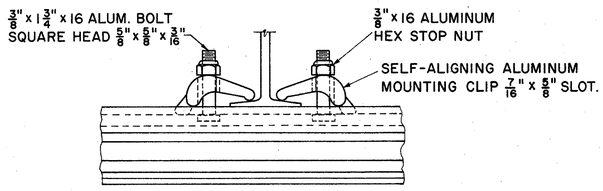
THE MAXIMUM SIGN LENGTH FOR TWO SUPPORTS IS 19'-0".
THE MAXIMUM SIGN LENGTH FOR THREE SUPPORTS IS 29'-0".



SECTION A-A SECTION B-B

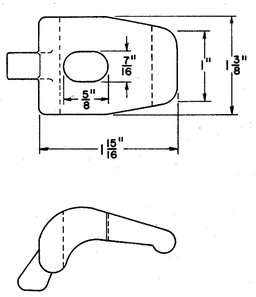
GENERAL ARRANGEMENT





SECTION C-C

CLIP DETAIL



SPOT WELDS

PANEL SIZE	MAXIMUM SPOT WELD SPACING	
	CENTER TO CENTER	BETWN ROWS
12 INCH	4 INCH	10 INCH
18 & 24 INCH	4 INCH	8 INCH

BUREAU OF TRAFFIC
OHIO DEPAPTMENT OF HIGHWAYS

ALUMINUM EXTRUSHEET PANEL SIGN

ECD 1

DATE 9-25-63 5-19-64 10-21-65

APPROVED Fred C Teuber
ENGINEER OF TRAFFIC

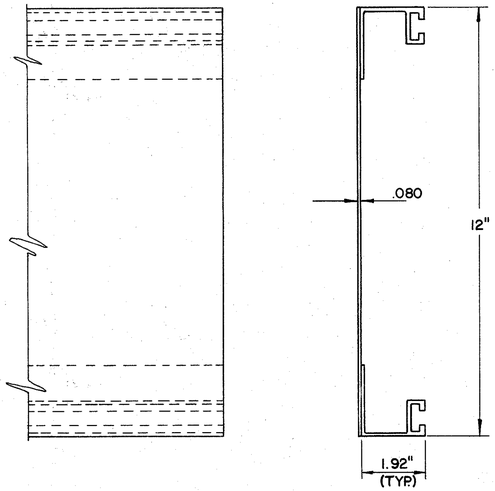
ALUMINUM EXTRUSHEET PANEL SIGN

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

158
247

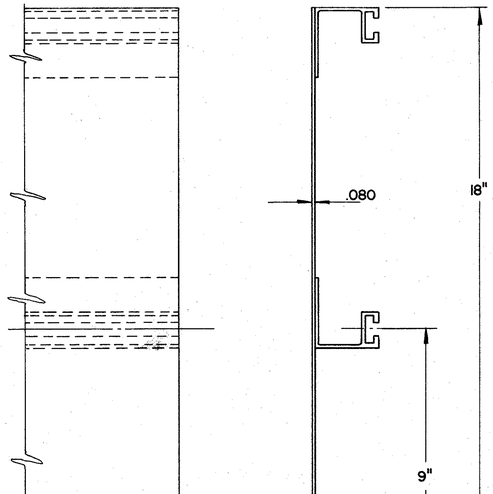
FRA-270-26.76N

12" BOLTED-EXTRUSHEET PANEL



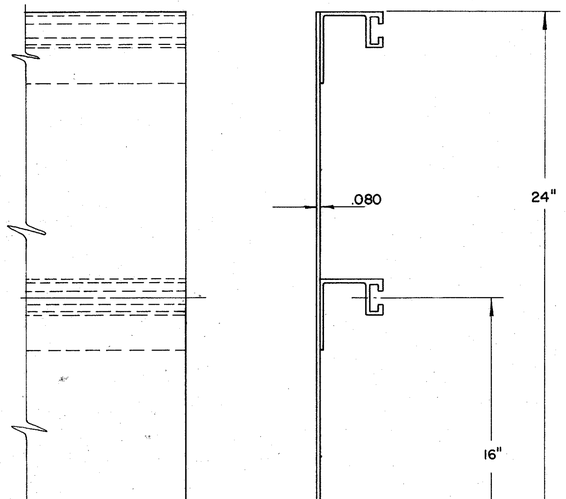
FRONT VIEW SIDE VIEW

18" BOLTED-EXTRUSHEET PANEL

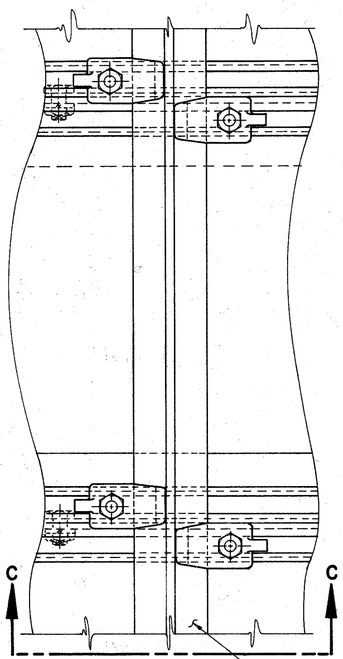


FRONT VIEW SIDE VIEW

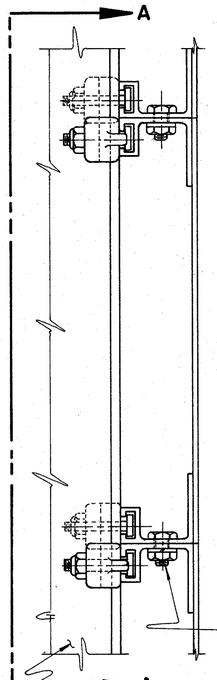
24" BOLTED-EXTRUSHEET PANEL



FRONT VIEW SIDE VIEW



SECTION A-A



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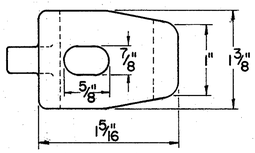
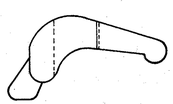
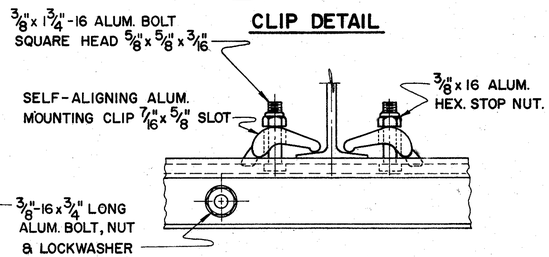
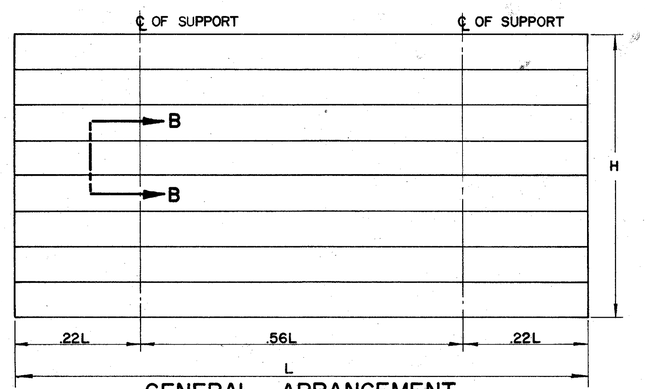




CLIP DETAIL



SECTION C-C



GENERAL ARRANGEMENT

NOTES

EXTRU-SHEET PANELS SHALL BE ALUMINUM; SPOT WELDING, MATERIALS AND HARDWARE SHALL CONFORM WITH SPECIFICATION NO. 815

COMBINATIONS OF 12", 18" AND 24" PANELS ARE TO BE USED TO ATTAIN REQUIRED SIGN HEIGHT.

INDIVIDUAL PANELS SHALL BE THE SAME LENGTH AS THE HORIZONTAL LENGTH OF SIGN, WITH NO SPLICES.

THE PANELS SHALL BE ERECTED HORIZONTALLY AND BOLTED ON 24" CENTERS.

THE PANELS SHALL BE FASTENED TO EACH VERTICAL SUPPORT MEMBER WITH MOUNTING CLIPS; ALTERNATELY AT EACH HORIZONTAL EXTRUSION; BOTH SIDES AT EACH JOINT, AND BOTH SIDES AT TOP AND BOTTOM EDGES OF SIGN.

THE PANELS SHALL BE DESIGNED IN ACCORDANCE WITH THE A.A.S.H.O SPECIFICATION FOR THE DESIGN AND CONSTRUCTION OF STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, BASE ON A WIND LOAD OF 35#/SQ.FT.

THE MAXIMUM SIGN LENGTH FOR TWO SUPPORTS IS 19'-0". THE MAXIMUM SIGN LENGTH FOR THREE SUPPORTS IS 29'-0".

SPOT WELDS

PANEL SIZE	MAXIMUM SPOT WELD SPACING	
	CENTER TO CENTER	BETWN ROWS
12 INCH	4 INCH	10 INCH
18 & 24 INCH	4 INCH	8 INCH

BUREAU OF TRAFFIC
OHIO DEPARTMENT OF HIGHWAYS

ALUMINUM BOLTED EXTRUSHEET PANEL SIGN

ECD 2

DATE 10-14-65

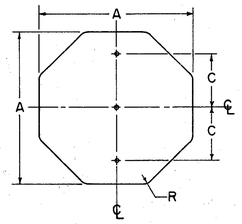
APPROVED Fred C. Tarbet
ENGINEER OF TRAFFIC

ALUMINUM BOLTED-EXTRUSHEET PANEL SIGN

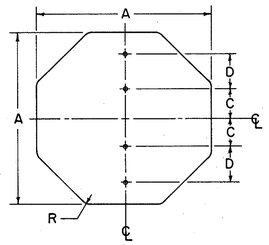
FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

159
247

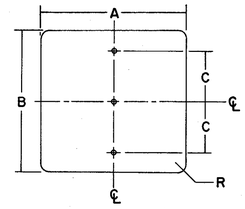
FRA-270-26.76N



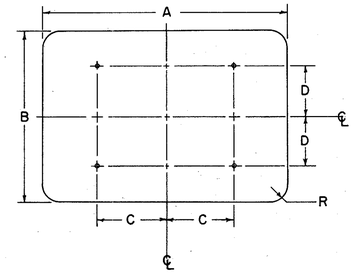
A	C	R	GAUGE
30	8	1 1/2	.080
36	8	1 1/2	.080



A	C	D	R	GAUGE
48	8	10	1 1/2	.100

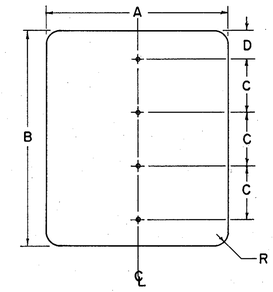


A	B	C	R	GAUGE
24	30	8	1 1/2	.063
24	48	15	1 1/2	.100
30	36	11	1 1/2	.080
30	42	12	1 1/2	.080
36	36	11	1 1/2	.080
36	42	15	1 1/2	.080
36	48	15	1 1/2	.080
48	24	10	3	.100
48	36	13	3	.100

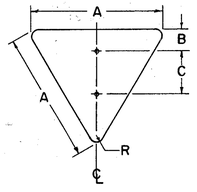


A	B	C	D	R	GAUGE
48	48	22	16	3	.100
48	60	22	22	3	.100

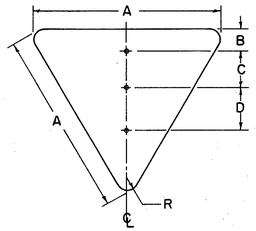
SPEED LIMIT SIGNS ON TWO SUPPORTS



A	B	C	D	R	GAUGE
48	48	12	6	3	.100
48	60	15	7 1/2	3	.100



A	B	C	R	GAUGE
36	3	16	2 1/2	.080



A	B	C	D	R	GAUGE
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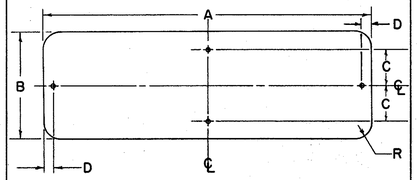
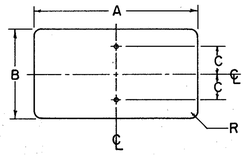
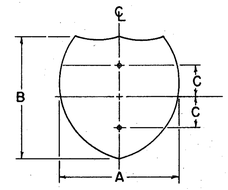
60	5	10	15	4	.100



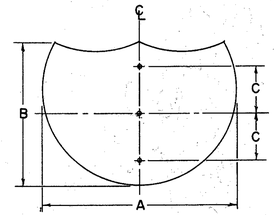
A	B	C	D	R	GAUGE
36	12	4	1	1 1/2	.080
72	12	—	16	1 1/2	.100
60	12	—	13	1 1/2	.100



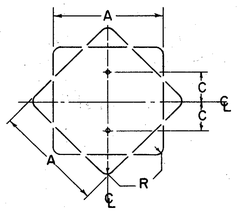
A	B	C	R	GAUGE
12	6	1 1/2	1 1/2	.063
20	15	6	1 1/2	.063
24	12	4 1/2	1 1/2	.063
24	18	7 1/2	1 1/2	.063
8	26	8	1	.063
36	18	7 1/2	1 1/2	.080



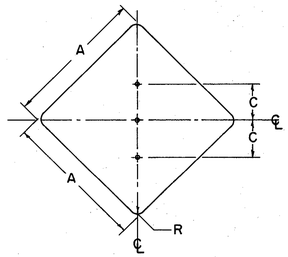
A	B	C	GAUGE
24	24	8	.063
30	24	8	.080



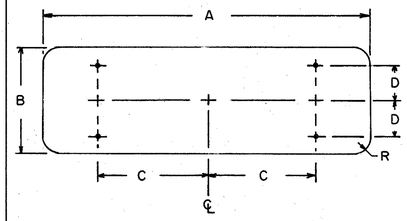
A	B	C	GAUGE
36	36	11	.080
48	36	11	.100



A	C	R	GAUGE
18	7 1/2	1 1/2	.063
24	8	1 1/2	.063
30	8	1 1/2	.080

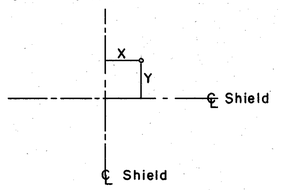


A	C	R	GAUGE
36	12	1 1/2	.080
48	14	3	.100



A	B	C	D	R	GAUGE
72	18	20	6	1 1/2	.100
72	24	20	8	1 1/2	.100
60	30	17	10	1 1/2	.100
96	18	27	6	1 1/2	.100

Location of holes on "Demountable Shields" (attached to guide signs)



SIZE	NO. HOLES	X	Y
(26) 24X24	4	7	7
30X24	4	8	8
(39) 36X36	4	10	10
		0	10
48X36	6	15	10

For notes on fastening see drawing for miscellaneous "Signing Items" sheet.

NOTES:

ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE SHOWN.

MATERIAL

FLAT SIGN BLANKS SHALL BE FURNISHED IN ALUMINUM ALLOY 6061-T6, (ASTM-B209, GSIIA-T6) WITH MILL FINISH.

BOLT HOLES

THE BOLT HOLES SHALL BE 3/8" IN DIAMETER, AND MAY BE DRILLED, BLANKED OR PUNCHED TO FINISHED SIZE.

BUREAU OF TRAFFIC
OHIO DEPARTMENT OF HIGHWAYS

SIGN BLANK DETAILS

SBD

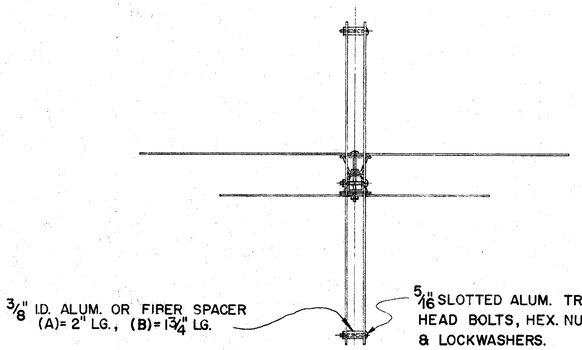
DATE
4-14-67
5-10-68
10-1-68
5-27-69
6-18-69

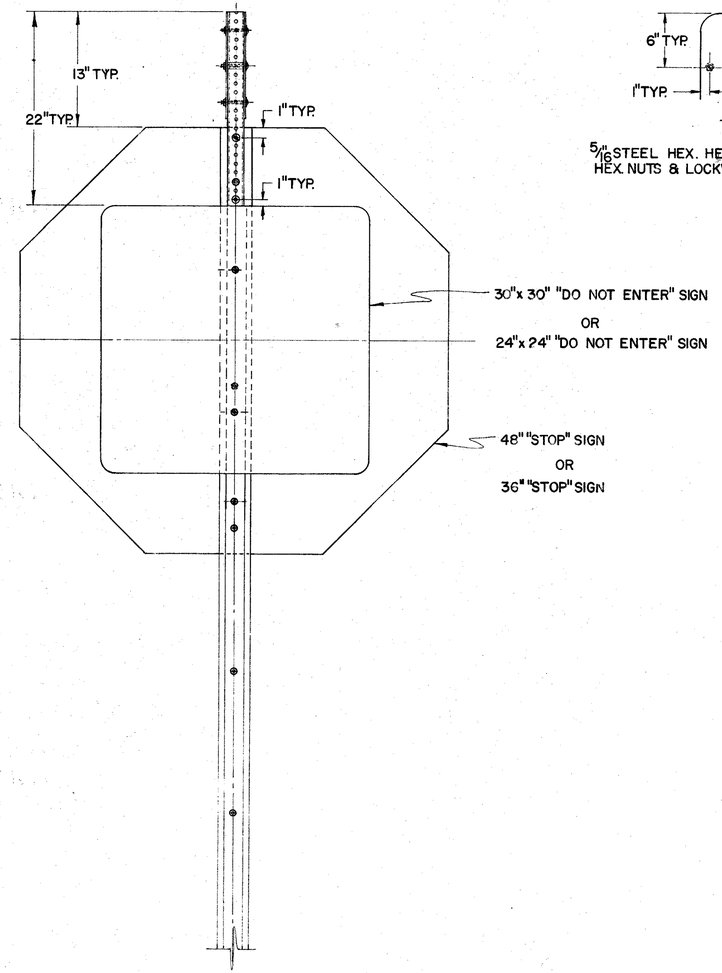
APPROVED_____
ENGINEER OF TRAFFIC

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

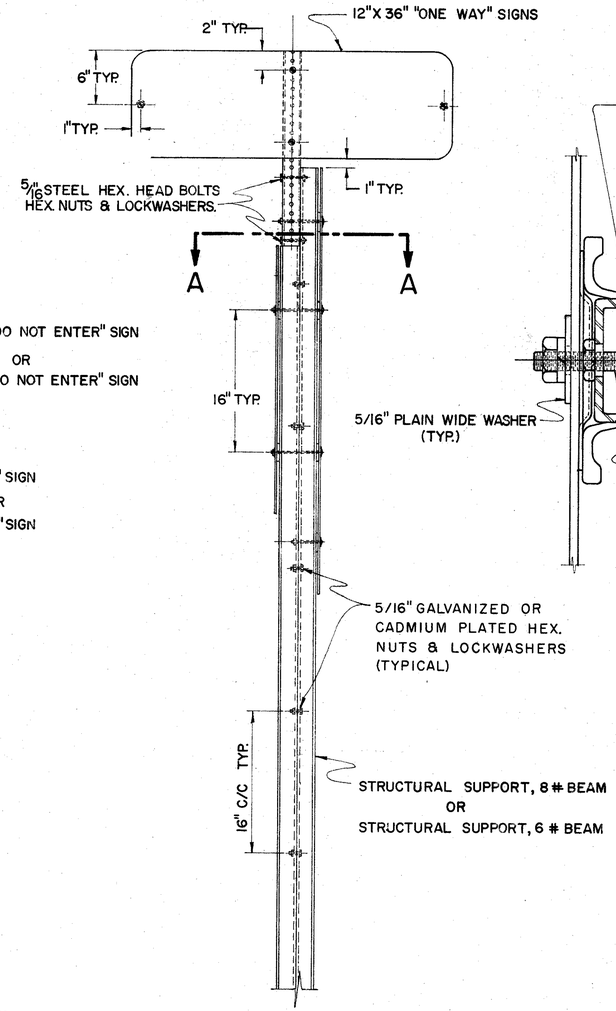
160 247

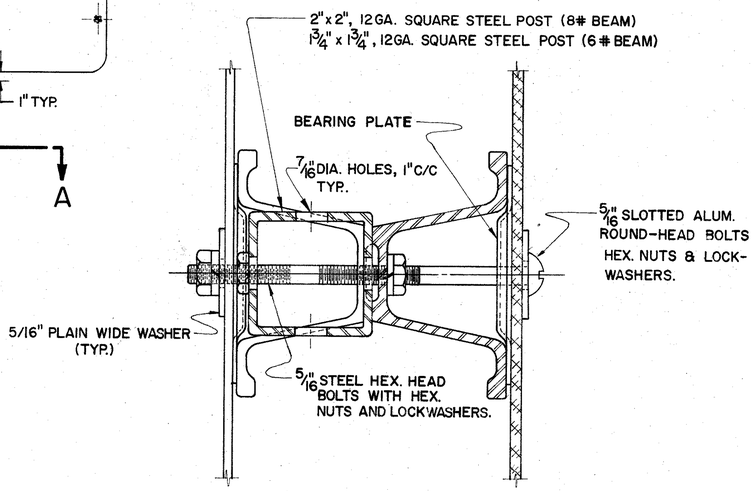
FRA-270-26.76 N





"ONE WAY", "STOP", "DO NOT ENTER",
SIGN INSTALLATION.





SECTION A-A

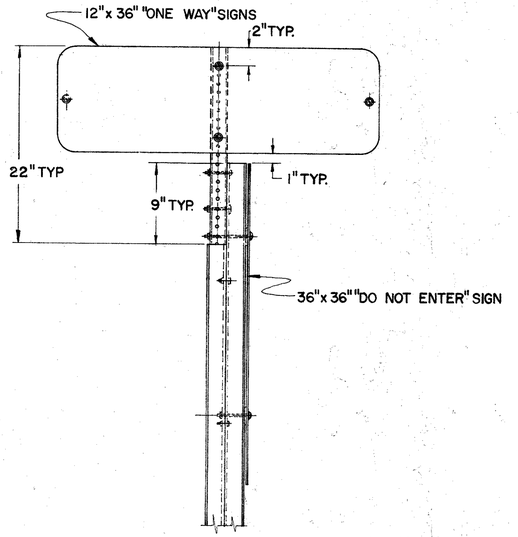
NOTES

MATERIALS

ALL SIGN MATERIALS SHALL BE IN ACCORDANCE WITH SUPPLEMENT SPECIFICATION 815.

ALL STRUCTURAL MATERIALS SHALL BE IN ACCORDANCE WITH SUPPLEMENT SPECIFICATION 816.

FOR SPECIFICATIONS FOR THE 2" & 1 3/4" SQUARE STEEL POST SEE GENERAL NOTES, SHEET NO. 134 .



"ONE WAY", "DO NOT ENTER"
SIGN INSTALLATION

BUREAU OF TRAFFIC
OHIO DEPARTMENT OF HIGHWAYS

SPECIAL "ONE WAY" SIGN SUPPORT DETAILS	SOW	DATE 2-7-66 4-18-67

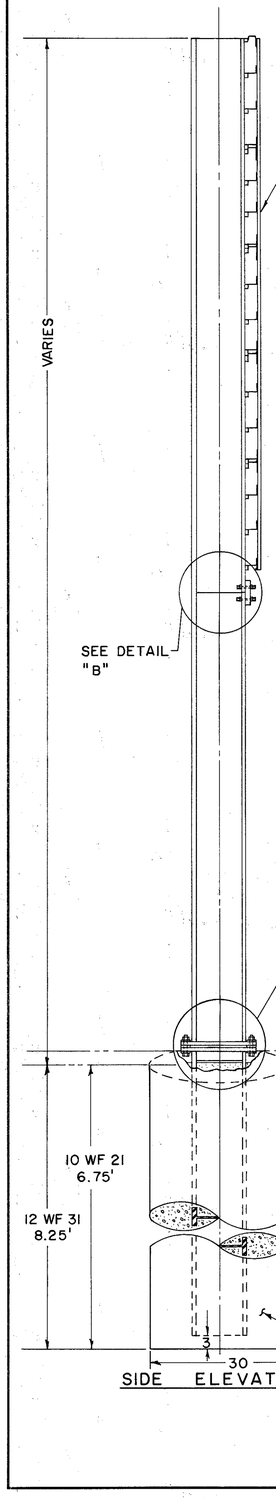
APPROVED _____
ENGINEER OF TRAFFIC

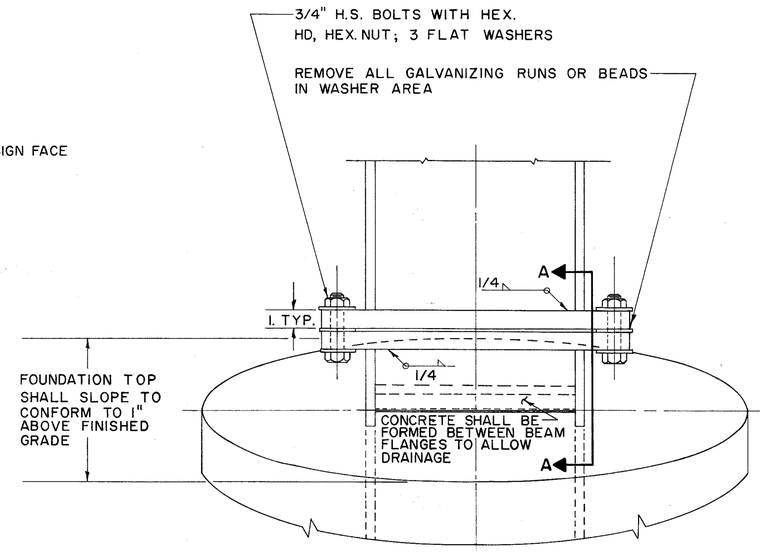
SPECIAL "ONE WAY" SIGN SUPPORT DETAILS

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

161/247

FRA-270-26.76N



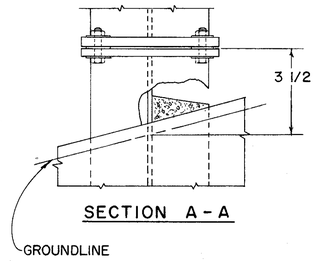


BOLTING PROCEDURE

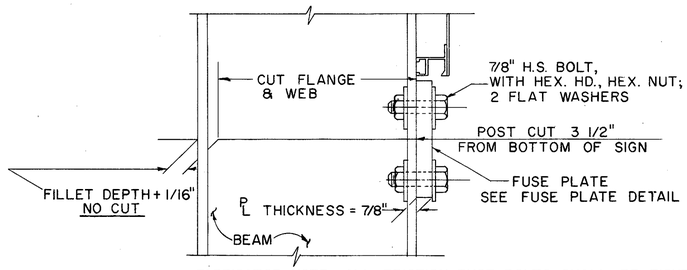
1. ASSEMBLE POST TO STUB W/BOLTS & ONE FLAT WASHER ON EACH BOLT BETWEEN PLATES.
2. TIGHTEN ALL BOLTS THE MAXIMUM POSSIBLE W/12" TO 15" WRENCH TO BED & TO CLEAN BOLT THREADS. LOOSEN EACH BOLT IN TURN & RETIGHTEN BOLTS IN A SYSTEMATIC ORDER TO THE PRESCRIBED TORQUE OF 750 IN. LBS.
3. BURR THREADS AT JUNCTION W/NUT USING A CENTER PUNCH TO PREVENT NUT LOOSENING.

NOTE: TIGHTEN THE H.S. BOLTS IN THE BASE CONNECTION ONLY TO GIVEN TORQUE DO NOT OVER TIGHTEN

VIEW "A" ROTATED 180°



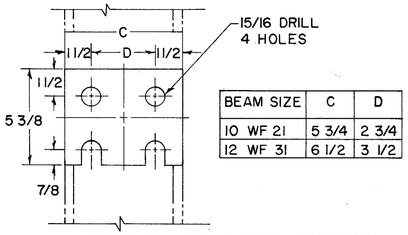
SECTION A - A



FABRICATOR NOTE: ALL FRICTION FUSE BOLTS SHALL BE TIGHTENED IN THE SHOP FOLLOWING A METHOD APPROVED BY THE ENGINEER. TIGHTENING SHALL BE TO SUCH A DEGREE AS TO OBTAIN MINIMUM RESIDUAL TENSION IN EACH BOLT OF 36,050 LBS.

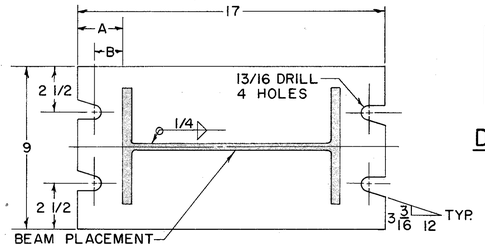
NOTE: INSTALL FUSE PLATE WITH NOTCHES TOWARD BASE

DETAIL "B"



BEAM SIZE	C	D
10 WF 21	5 3/4	2 3/4
12 WF 31	6 1/2	3 1/2

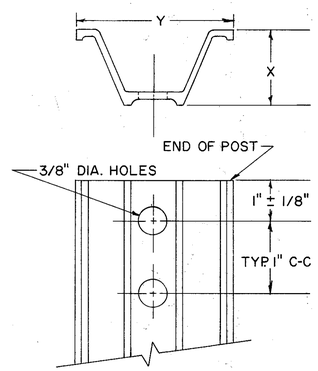
FUSE PLATE DETAIL



BEAM SIZE	A	B
10 WF 21	3 1/2	2 5/8
12 WF 31	2 1/2	1 5/8

BASE PLATE DETAIL

(TOP VIEW)

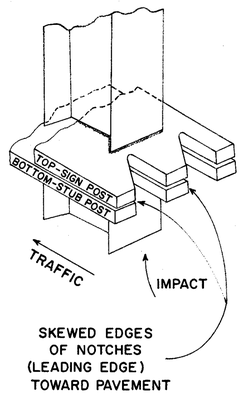


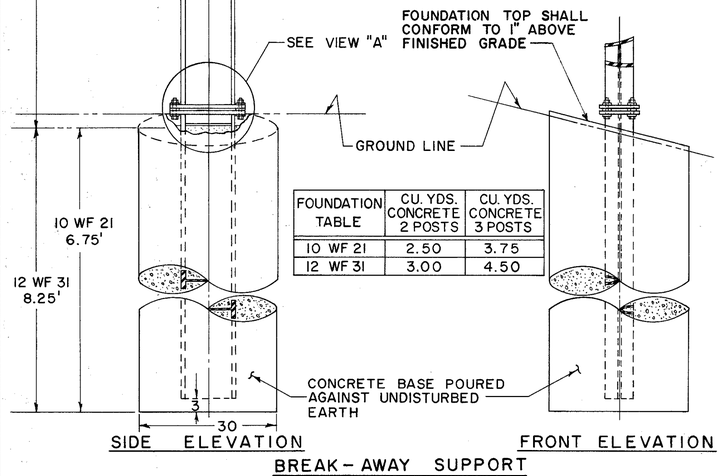
WEIGHT PER FOOT	X ± 3/32"	Y ± 1/8"
2.00 #	1 15/32"	3 1/16"
3.00 #	1 7/8"	3 1/2"
4.00 #	2"	3 5/8"

DRIVE POST DETAIL

NOTE: THE FOUNDATION FOR 4# DRIVE POST IS SIMILAR TO THE FOUNDATION SHOWN FOR 6# & 8# BEAM

BREAKAWAY SIGN SUPPORT BASE PLATE ORIENTATION



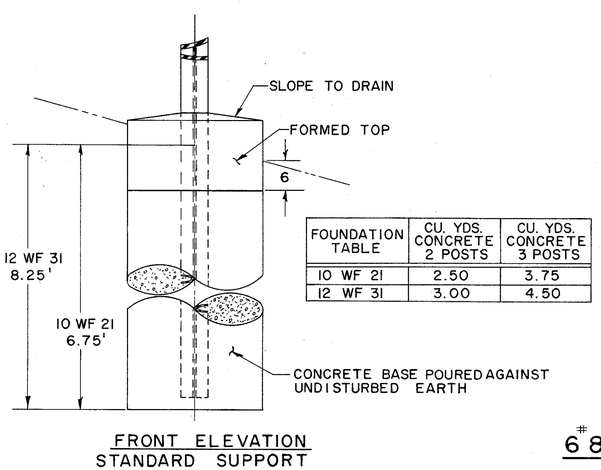


FOUNDATION TABLE	CU. YDS. CONCRETE 2 POSTS	CU. YDS. CONCRETE 3 POSTS
10 WF 21	2.50	3.75
12 WF 31	3.00	4.50

SIDE ELEVATION

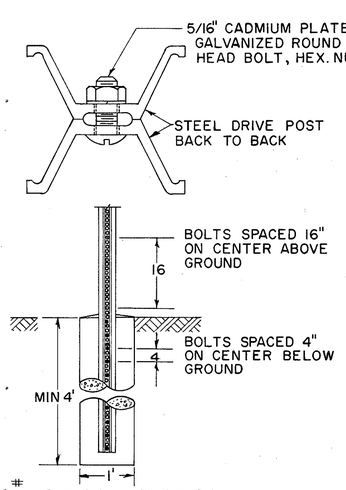
FRONT ELEVATION

BREAK - AWAY SUPPORT



FOUNDATION TABLE	CU. YDS. CONCRETE 2 POSTS	CU. YDS. CONCRETE 3 POSTS
10 WF 21	2.50	3.75
12 WF 31	3.00	4.50

FRONT ELEVATION STANDARD SUPPORT



6# & 8# BEAM DETAIL

NOTES: ALL MATERIALS SHALL CONFORM TO THE STATE OF OHIO, CONSTRUCTION & MATERIALS SPECIFICATIONS OR AS OTHERWISE SPECIFIED

1) 511 FOUNDATIONS
2) 711.01 STRUCTURAL STEEL SHAPES & PLATES
3) 711.09 H.S. STEEL BOLTS, NUTS & WASHERS

ALL DIMENSIONS IN INCHES UNLESS OTERWISE SHOWN

STRUCTURAL SUPPORTS

BUREAU OF TRAFFIC
OHIO DEPARTMENT OF HIGHWAYS

GROUND MOUNTED SIGN SUPPORTS

GMSS

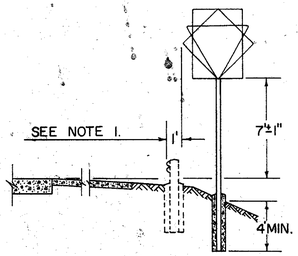
DATE
5-10-68
7-12-68
5-23-69

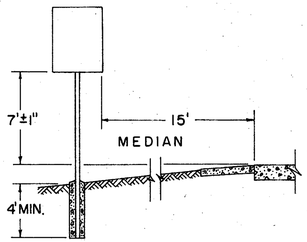
APPROVED _____
ENGINEER OF TRAFFIC

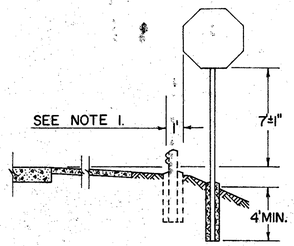
FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

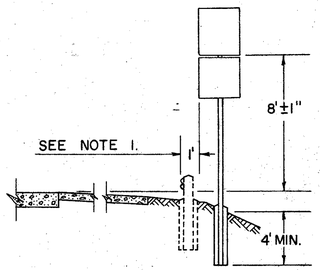
162 247

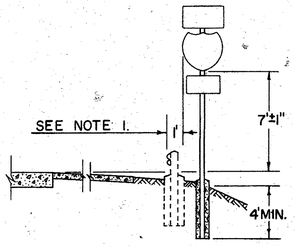
FRA-270-26.76N

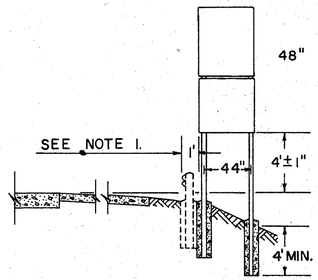


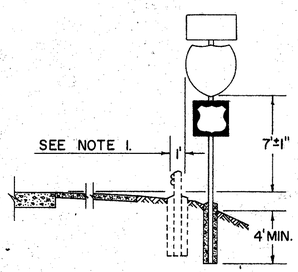


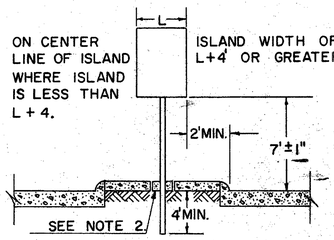


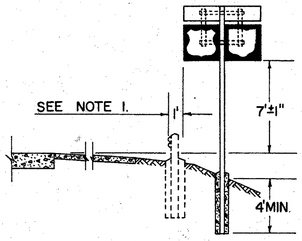


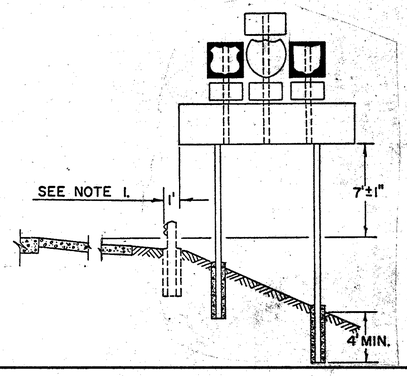


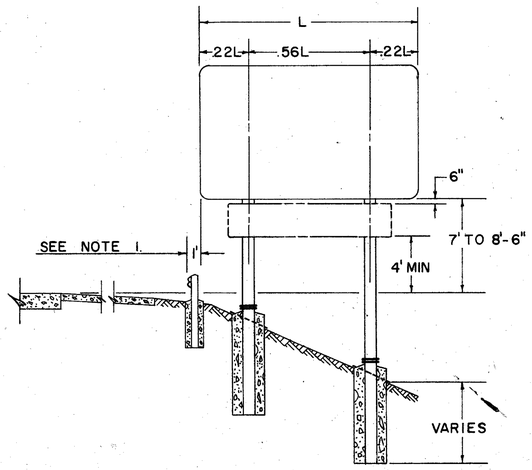


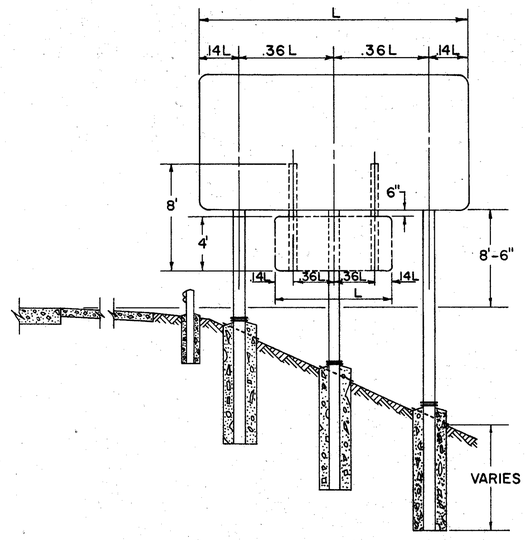


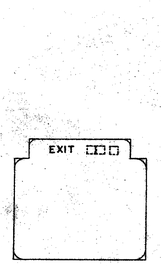


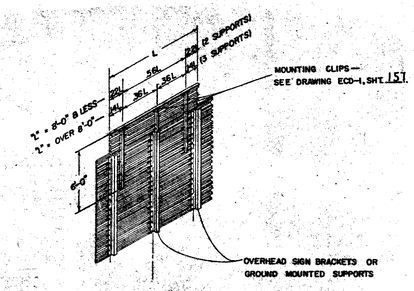




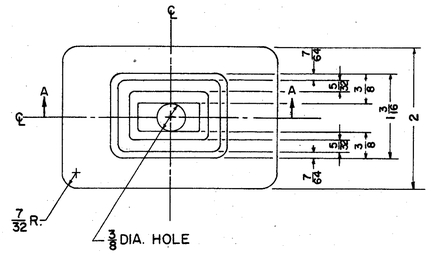








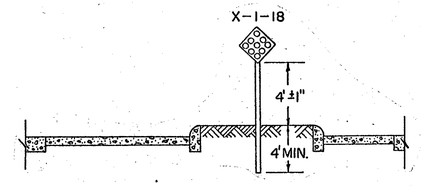
"EXIT" SIGN ATTACHMENT DETAIL



SECTION AA

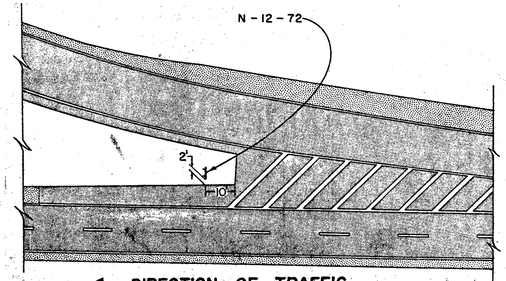
NOTE:
THE PLATE IS SYMMETRICAL ABOUT EITHER CENTERLINE.
METAL SHALL BE 16 GAUGE STEEL.
ALL DIMENSIONS ARE IN INCHES.

BEARING PLATE DETAIL



SIGN SUPPORT SPACING

L=FT	2 SUPPORTS .22	2 SUPPORTS .56	3 SUPPORTS .14	3 SUPPORTS .36	L=FT	2 SUPPORTS .22	2 SUPPORTS .56	3 SUPPORTS .14	3 SUPPORTS .36
5.0	1.10	2.80	0.70	1.80	17.0	3.74	9.52	2.38	6.12
6.0	1.32	3.36	0.84	2.16	18.0	3.96	10.08	2.52	6.48
7.0	1.54	3.92	0.98	2.52	19.0	4.18	10.64	2.66	6.84
8.0	1.76	4.48	1.12	2.88	20.0			2.80	7.20
9.0	1.98	5.04	1.26	3.24	21.0			2.94	7.56
10.0	2.20	5.60	1.40	3.60	22.0			3.08	7.92
11.0	2.42	6.16	1.54	3.96	23.0			3.22	8.28
12.0	2.64	6.72	1.68	4.32	24.0			3.36	8.64
13.0	2.86	7.28	1.82	4.68	25.0			3.50	9.00
14.0	3.08	7.84	1.96	5.04	26.0			3.64	9.36
15.0	3.30	8.40	2.10	5.40	27.0			3.78	9.72
16.0	3.52	8.96	2.24	5.76	28.0			3.92	10.08



NOTES

1. THE NEAR EDGE OF ALL MAIN LINE SIGNS, EXCEPT GORE INSTALLATIONS, SHALL BE LOCATED ONE FOOT (1') BACK OF GUARD RAIL FACE. THIS DIMENSION SHALL BE DETERMINED BY ROADWAY TYPICAL SECTION & USED WHETHER OR NOT GUARD RAIL IS PRESENT.

ON RAMPS THE NEAR EDGE OF SIGNS SHALL BE LOCATED ONE FOOT (1') BACK OF GUARD RAIL FACE. THIS DIMENSION WILL BE DETERMINED AND USED AS FOR MAIN LINE ABOVE.

ON APPROACHES THE NEAR EDGE OF SIGNS SHALL BE

(A) ONE FOOT (1') BEHIND EXISTING GUARD RAIL

(B) TWO FEET (2') FROM THE EDGE OF PAVED OR TRAVELED SHOULDER WITH A MINIMUM OF 6' FROM EDGE OF ROADWAY PAVEMENT.

2. POSTS PLACED IN CONCRETE MEDIANS SHALL BE INSTALLED BY DRIVING THROUGH A 6" SLEEVE OR CORE DRILLED HOLE. THE HOLE SHALL BE FILLED WITH ASPHALT OR PORTLAND CONCRETE AFTER THE POST IS IN THE PROPER POSITION.

3. HORIZONTAL BACK BRACING SHALL ALWAYS BE MOUNTED ON THE FRONT FLANGE OF THE SUPPORT EXCEPT WHERE SIGNS ARE MOUNTED BACK TO BACK. BACK BRACING SHALL NEVER EXTEND ABOVE TOP EDGE OF UPPERMOST SIGN PLATE AND SHALL BE ATTACHED TO SUPPORTS USING 5/16" GALVANIZED STEEL BOLTS.

4. SCREWS, NUTS, AND WASHERS FOR SIGN ERECTION SHALL BE ALUMINUM EXCEPT AS NOTED ABOVE. 5/16" TRUSS HEAD SLOTTED MACHINE SCREWS WITH HEX. NUTS PLAIN AND LOCKWASHERS SHALL BE USED. PLAIN WASHERS SHALL BE 5/16" "WIDE", USED ON SIGN FACE ONLY.

5. SIGN INSTALLATIONS SHALL BE PLACED SO THAT SUPPORTS ARE NOT PLACED IN DRAINAGE DITCHES.

6. HORIZONTAL CLEARANCES SHOWN PERTAIN TO NON-CURBED SECTIONS. SECTIONS WITH UNMOUNTABLE CURB SHALL HAVE A HORIZONTAL CLEARANCE OF 2'-0" MINIMUM FROM THE CURB FACE TO THE SIGN EDGE.

7. VERTICAL AND HORIZONTAL CLEARANCE BETWEEN SIGNS ON ONE ASSEMBLY SHALL BE A MAXIMUM OF 2" AND A MINIMUM OF 1".

8. GALVANIZED STEEL BEARING PLATES SHALL BE INCLUDED BETWEEN ALL SHEET ALUMINUM SIGNS ATTACHED TO VERTICAL SUPPORTS AT EACH SIGN BOLT LOCATION.

BUREAU OF TRAFFIC
OHIO DEPARTMENT OF HIGHWAYS

TYPICAL PLACEMENT OF SIGNS

TPS-1

DATE
9-27-67
7-12-68
5-13-69

APPROVED _____
ENGINEER OF TRAFFIC

LIGHTING GENERAL NOTES

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

163
247

FRANKLIN COUNTY
FRA.-270-26.76N

SPECIFICATIONS

These notes are supplemental to Items 625 and 713 of State of Ohio Department of Highways Construction and Material Specifications dated January 1, 1969.

Reference shall be made to Standard Construction Drawings HL-1, HL-2, HL-3 and HL-4.

625.06 - LIGHT POLE FOUNDATION

In lieu of pertinent details shown on the standard construction drawings, the tops of light pole foundations and of pull boxes shall not exceed 1 inch above the surrounding ground elevation at the high point of the surrounding ground.

625.03 - GENERAL

The power supplying agency for this project is:

Columbus and Southern Ohio Electric Company
215 North Front Street
Columbus, Ohio 43215

625.07 - 713.11 - LUMINAIRES

400-watt luminaires shall have dual rated 240/480 volt integral regulator ballasts and shall be General Electric M400, Westinghouse OV-25, McGraw-Edison "Unistyle", or equal approved by the Engineer. 1000-watt luminaires shall have single rated 480-volt 700-watt integral regulator ballasts and shall be General Electric M-1000, Westinghouse OV-50, McGraw-Edison "Unistyle", or equal approved by the Engineer. (I.E.S. Type II or III, Mediam Cutoff)

625.08 - 713.14 - LAMPS

Mercury lamps shall be General Electric "Bonus Line", Westinghouse "Lifeguard", Sylvania "Rough Service", or equal approved by the Engineer.

625.11 - PULL BOXES

Pull boxes shall be 18" diameter, circular metal, corrugated. See 713.09.
Anchoring of air bells specified for this item may be accomplished by the use of 4 polypropylene ropes. The ropes, if used, shall be knotted at one end. The other ends shall enter the box through each of 4 equally-spaced holes around the upper circumference of the box. The entering ends of each two opposing ropes shall be pulled tight and tied together over the air bell to hold it securely in place.

In addition to the requirements of this item, a treated 1" x 2" wood stake or 3/8" diameter aluminum or steel pin at least 30 inches long shall be driven into the center of the pull box. The connector kits in the box shall be securely taped to the top of the stake or pin in such a manner that all parts of the kits are suspended within the air bell above the elevation of the uppermost opening or notch cut into the lower circumference of the air bell. Preservation of wood shall be in accordance with 712.06.
Openings or notches may be field cut in the bell to match the lower openings in the pull box if necessary to secure a firm seating for the bell. This operation, however, must not reduce the size of the air chamber below that required for suspension of the connector kits above the upper elevation of the lower edge of the bell in place.

Payment for the above work shall be included in the unit price bid for each pull box.

625.12 - TRENCH

Excavation for trenches shall not exceed twelve (12) inches in width without prior approval of the Engineer.

625.13, 713.04, 713.05, and 713.06 - CONDUIT

All conduit other than foundation conduit shall be 713.04 Type II or III, rigid ferrous metal.

625.14 - 625.15 - CABLE AND DUCT-CABLE IDENTIFICATION

All cables, except structure grounding system cable, entering an accessible enclosure such as a pull box, junction box, handhole, transformer base, or device housing, etc., for the purpose of being terminated or connected to another cable shall be identified in such enclosure with tags or bands as described in 713.18

No cable splices will be permitted between terminations. Exothermically welded joints in structure grounding systems are not considered as splices.

Payment for the above shall be included in the unit prices bid for the respective cable items.

625.17 and 713.15 - CONNECTIONS

One Type II fused "Y" connector kit with 600 volt, 6 or 10 amp current limiting fuse (for 400 watt or 700 watt luminaires respectively) and one Type III unfused "Y" connector kit, shall be used in the handhole or transformer base of each pole. Type I inline or Type VII B or C unfused "Y" connector kits shall be used in pull boxes as required.

PROTECTION OF COMPLETED WORK

Conduit and/or duct cable terminals shall be sealed, as required by 625.13, immediately upon completion of installation.

Empty conduits shall be capped or otherwise closed immediately upon installation until pull wire or cable is installed and final sealing completed.

Payment for this work shall be included in the unit prices bid for each of the respective items.

LIGHT POLE ANCHOR BOLTS FOR BRIDGES AND RETAINING WALLS

Anchor bolts for mounting light poles on bridges and retaining walls shall conform to the requirements of 713.01 and details shown on the plans and standard drawings for the respective poles to be placed thereon. Payment shall be made at the unit price bid for each U or L bolt of the size specified and this payment shall constitute full compensation for furnishing and placing the bolts.

CONDUIT ON STRUCTURES

Expansion fittings for conduit on structures shall be OZ Type AX 200, Appleton Type XJ-200-4 with bonding jumper XJB-4-125-20; Crouse Hinds type XJ-64, or equal approved by the Engineer.

LIGHTING GENERAL NOTES

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

164
247

FRANKLIN COUNTY
FRA.-270-26.76N

ELECTRICAL SERVICE FOR ILLUMINATED SIGNS

The pay items in the Lighting General Summary include the pull box or junction box adjacent to each lighted sign and the electrical service connections leading into the box, including connector kits in the pull box or junction box. Quantities for electrical service from the connector kits in the pull box or junction box to the sign are included in the Traffic Control General Summary.

625.18 and 625.19 - SERVICE POLE AND CONTROL CENTER

Control *Panel* shall be as manufactured by Columbus Electric Works #CEW 17SS4630, TWYCO Engineering Co. #T33030SS, Control Systems and Equipment Co. #Z3030, Square D Co. # W939F609A or approved equal.
Waterproof hubs as required shall be factory installed.

713.17 - STRUCTURE GROUND CABLE

In lieu of the provisions of Paragraph 2 of this section, structure ground cable shall be size 1/0 AWG, 7-strand, soft or annealed bare copper cable conforming to ASTM B8, Class A.

TRANSFORMER BASE POLES

For pole designs with a base type letter designation of AT, the transformer base shall be cast aluminum as detailed on this plan. For pole designs with a base type letter designation of ST, the transformer base shall be steel materials meeting the requirements of this plan and the general specifictions. Where the base type letter designation is T, the transformer bases furnished may, at the option of the contractor, be either of cast aluminum or of steel materials meeting the requirements of this plan and the general specifications.

REVISION OF LIGHT POLE OFFSETS

See Sheet 175.

QUANTITY CALCULATIONS
BY F.C.S. DATE 5-70
CHK'D W.C.M. DATE 5-70
BURGESS & NIPLE, LIMITED

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

FRANKLIN COUNTY
FRA-270-26.76N

GENERAL SUMMARY LIGHTING QUANTITIES

FEDERAL, STATE, & COLUMBUS PARTICIPATION												FEDERAL & STATE PARTICIPATION												GRAND TOTAL	ITEM	UNIT	DESCRIPTION
STRUCTURES				ROADWAY						TOTAL		STRUCTURES				ROADWAY						TOTAL					
2685N												2685N	2824N-Rt. 2824N-Lt.	2719N													
Sheet. No. 171				171								171	174	172		171	172	173	174								
				1						1						1						1	1	625	Each	Light Pole Design 11T12B34.2
																			1			1	1	625	Each	Light Pole Design 11AT12B34.2
				4						4						1						1	1	625	Each	Light Pole Design 11T12B40
				2						2						2	2					4	8	625	Each	Light Pole Design 11T15B34.2
																1	1					2	4	625	Each	Light Pole Design 11AT15B34.2
																	1	1				2	2	625	Each	Light Pole Design 11AT15B40
													1									1	1	625	Each	Light Pole Design 7AT25B40
																	1	1				2	2	625	Each	Light Pole Design 7A10B40
				7						7						5	3		1			9	16	625	Each	Light Pole Foundation, 24"x8' deep
				2						2			1			1	2	1	1			6	8	625	Each	Light Pole Foundation, 24"x6' Deep
				4						4						3	2					5	9	625	Each	Luminaire, Type III, 1000 Watt, 713.11, (Medium Cutoff).
				1						1						1						1	2	625	Each	Luminaire, Type III, 400 Watt, 713.11, (Medium Cutoff).
																										Luminaire, Type II, 400 Watt, 713.11, (Medium Cutoff).
				2						2			1			1	2	1	1			6	8	625	Each	Lamp, 700 Watt, 713.14. Mercury
				5						5						4	2					6	11	625	Each	Lamp, 400 Watt, 713.14. Mercury
				6						6						11	3	4	5			23	29	625	Each	Pullbox, 18" Circular 713.09
				7						7						5	4	1	1			11	18	625	Each	Ground Rod.
				2361						2361						1907	1553	1470	2167			7097	9458	625	Lin.Ft.	Trench, 24" deep.
35				20						55	95	640				10			68			813	868	625	Lin.Ft.	Conduit, 2", 713.04, Type II or III.
				187						187						761	65	400	215			1441	1628	625	Lin.Ft.	Conduit, 3", 713.04, Type II or III.
70				674						744	210	1206				2992	150	840	586			5984	6728	625	Lin.Ft.	No.4 AWG, 600 Volt, Distribution Circuit Cable.
				704						704		100				496	436	130	104			1266	1970	625	Lin.Ft.	No.10 AWG, Pole and Bracket Cable. 19 Strand
				2244						2244						1668	1548	1090	1909			6215	8459	625	Lin.Ft.	1½" Duct-Cable with Two No.4 AWG 600 Volt Cables.
				10						10						28		6	6			40	50	625	Each	Connector Kit, Type I.
				7						7			1			5	4	1	1			12	19	625	Each	Connector Kit, Type II.
				7						7			1			5	4	1	1			12	19	625	Each	Connector Kit, Type III.
				6						6	2	4				8	6	2	4			26	32	625	Each	Connector Kit, Type VII B or C.
																			1			1	1	625	Each	Marker.
											1	3										4	4	625	Each	Structure Junction Box, 16"x12"x6"
											2	6										8	8	625	Each	Light Pole Anchor "U" Bolt for Structure, 713.01. (1⅛"x85")
											1											1	1	625	Each	Structure Grounding System. FRA-270-2685N
												1										1	1	625	Each	Structure Grounding System. FRA-270-2824N (Rt)
												1										1	1	625	Each	Structure Grounding System. FRA-270-2824N (Lt)
														1								1	1	625	Each	Structure Grounding System. FRA-270-2719N
																Lump						Lump.	Lump	625	Lump	Service Pole
																Lump						Lump	Lump	625	Lump	Control Center
																							‡ 40	607	Lin.Ft.	Fence Type CL, Modified as per plan
																							‡ 2	607	Each	8' Gate Type CL, Modified as per plan

‡ Carried to General Summary Sheet No. 15

* FEDERAL - STATE - COLUMBUS PARTICIPATION (F-S-C)

** FEDERAL - STATE - COLUMBUS PARTICIPATION (F-S-C) AND FEDERAL - STATE PARTICIPATION (F-S)

LIGHTING QUANTITIES SUB-SUMMARY

QUANTITY CALCULATIONS BY Y.C.S. DATE 5-70
CHKD W.C.M. DATE 5-70
BURGESS & NIPLE, LIMITED

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

166
247

FRA-270-26.76N

Reference No.	Side	Station	Station	Light Pole Design 11T12B342 Ea.	Light Pole Design 11AT12B342 Ea.	Light Pole Design 11T12B40 Ea.	Light Pole Design 11T15B342 Ea.	Light Pole Design 11AT15B342 Ea.	Light Pole Design 11AT15B40 Ea.	Light Pole Design 7AT25B40 Ea.	Light Pole Design 7A10B40 Ea.	Light Pole Foundation 24"x6" Ea.	Luminaire, Type III MC 1000 Watt Luminaire, Type III MC 400 Watt Ea.	Luminaire, Type III 400 W. Ea.	Lamp 700 W. Lamp 400 W. Ea.	Pullbox 18" Circular Corrugated Metal Ea.	Ground Rod Ea.	Trench 24" Deep L.F.	Conduit, 2" Type II or III Conduit, 3" Type II or III L.F. L.F.	Distr. Circuit Cable No. 4 L.F.	Pole 4 Bracket Cable No. 10 L.F.	Duct Cable, 600 V. Two No. 4 1/2 L.F.	Connector Kit Type I Ea.	Connector Kit Type II Ea.	Connector Kit Type III Ea.	Connector Kit Type VII B or C Ea.	Marker Ea.	Structure Junction Box (In Safety Curb) Light Pole Structure U Bolt For Structure Ea.	Structure Ground System Ea.	Service Pole Lump	Control Center Lump
STATIONING REFERENCE TO ℄ EASTBOUND LANES MAINLINE & SOUTHBOUND LANES CROSSROADS UNLESS SHOWN THUS: "B", "C", ETC. (FOR RAMP ℄ REFERENCE)																														
Sheet No. 171 Quantity Items																														
1	Rt.	1524+02"E"														1		447				9.14	4							
2	Rt.	1524+02"E"	1528+49																												
3	Rt.	1528+49														1							4							
4	Rt.	1528+49	1528+51															90		90	400									
6	Rt.	1528+40																											1	
7	Rt.	1528+50																												1
8	Rt.	1528+51														2							8							
9	Rt.	1528+51	1528+49															90		90	400									
13	Rt.	1528+49														1							2		2					
14	Rt.	1528+49	1531+33															284				294								
15	Rt.	1531+33						1				1	1		1		1				110		1	1						
16	Rt.	1531+33	1534+23	**														(205 F-S-C, 85 F-S) 290				300	(210 F-S-C, 90 F-S)	1	1					
17	Rt.	1534+23		*				1				1	1		1		1				110		1	1						
18	Rt.	1534+23	1537+48	*														325				335								
19	Rt.	1537+48		*				1				1	1		1		1				110		1	1						
24	Rt.	1528+49	1528+50															49		49	236									
25	Rt.	1528+50														1							2		2					
26	Rt.	1528+35	1528+50															15		15										
27	Rt/Lt.	1528+50	1528+50															161		161	684									
31	Lt.	1528+50														1														
32	Lt.	1528+50	1530+30"T"	**														(20 F-S-C, 235 F-S) 255		(20 F-S-C, 235 F-S) 255	1060	(100 F-S-C, 960 F-S)	4							
33	Rt.	1530+30"T"		*												1							4							
37	Lt.	1525+90"C"		/						1		1		1	1															
38	Lt.	1525+90"C"	1526+55"C"															65				75								
39	Lt.	1526+55"C"														1									2					
40	Lt/Rt.	1526+55"C"	1526+66"T"															65		65	150									
41	Lt.	1526+66"T"					1			1		1	1		1		1				98		1	1						
42	Lt.	1526+55"C"	1528+08"C"															153				163								
43	Lt.	1528+08"C"			1					1		/		/	1						98		1	1						
44	Lt.	1528+08"C"	1528+40"C"															32				42								
45	Lt.	1528+40"C"														1									2					
46	Lt.	1528+40"C"	1528+70"C"															30				40								
47	Lt.	1528+70"C"														1							2							
48	Lt.	1528+70"C"	1529+37"T"															10		67	154									
49	Lt.	1529+14"T"																											1	
50	Lt.	1529+37"T"																							2			1	2	
51	Lt.	1529+37"T"	1530+30"T"	**														20	(55 F-S-C, 38 F-S) 93	(120 F-S-C, 86 F-S)	206										
52	Lt.	1530+30"T"		*												1							4							
53	Lt/Rt.	1530+30"T"	1530+30"T"	*														55		55	260									
54	Lt.	1530+30"T"	1531+87"T"	*														157				167								
55	Lt.	1531+87"T"		*			1			1		1	1		1		1				98		1	1						
56	Lt.	1531+87"T"	1536+87"T"	*														500				510								
57	Lt.	1536+87"T"		*			1			1		1	1		1		1				98		1	1						

Quantity Items Continued On Next Sheet

LIGHTING QUANTITIES SUB-SUMMARY

QUANTITY CALCULATIONS BY G.E.S. DATE 5-70
CHKD. V.C.M. DATE 5-70
BURGESS & NIPLE, LIMITED

FED. RD. DIVISION	STATE	PROJECT		
2	OHIO			

FRA-270-26.76N

167
247

Reference No.	Side	Station	Station		Light Pole Design 11T12B34.2 Ea.	Light Pole Design 11AT12B34.2 Ea.	Light Pole Design 11T12B40 Ea.	Light Pole Design 11T15B34.2 Ea.	Light Pole Design 11AT15B34.2 Ea.	Light Pole Design 11AT15B40 Ea.	Light Pole Design 11AT25B40 Ea.	Light Pole Design 7A10B40 Light Pole Foundation 24"x8' Ea.	Light Pole Foundation 24"x8' Ea.	Luminaire, Type III MC 1000 Watt Ea.	Luminaire, Type III MC 400 Watt Ea.	Luminaire, Type III 400 W. Ea.	1000 W. Ea.	700 W. Ea.	Lamp, 400 W. Ea.	Pull Box, 18" Circular Corrugated Metal Ea.	Ground Rod Ea.	Trench 24" Deep L.F.	Conduit, 2" Type II or III L.F.	Conduit, 3" Type II or III L.F.	Distr. Circuit Cable No. 4 L.F.	Distr. Circuit Cable No. 6 L.F.	Pole & Bracket Cable No. 10 L.F.	Duct-Cable, 600 V. #2 Type No. 2 L.F.	Connector Kit Type I Ea.	Connector Kit Type II Ea.	Connector Kit Type III Ea.	Connector Kit Type III B or C Ea.	Manhole Ea.	Structure (Junction Box & 4-Slot Cond.) Ea.	Light Pole Transform. U Ea.	Structure Grounding Ea.	Service Pole Lump	Service Cabinet Lump
Sheet No. 171 Quantities Cont'd.																																				
63	Lt.	25+20	(Johnstown Rd.)					1					1	1			1					1	40					98			1	1					
64	Lt.	25+20	25+60																									50								
65	Lt.	25+60																			1								2							
66	Lt/Rt.	25+60	25+65																				56		56	132										
68	Rt.	25+65		*																	1								2							
69	Rt.	25+65	26+25	*																			60		60	140										
70	Rt.	26+25		*																	1												2			
71	Rt.	26+25	26+60	*																			35						45							
72	Rt.	26+60		*				1					1	1			1					1						98			1	1				
76	Lt.	26+25	1536+15 "B"	*																			585						595							
77	Lt.	1536+15 "B"		*	1								1		1		1					1						92			1	1				
78	Lt.	1536+15 "B"	1536+90 "B"	*																			75						85							
79	Lt.	1536+90 "B"		*																	1												2			
80	Lt/Rt.	1536+90 "B"	1536+87 "I"	*																			52		52	124										
81	Lt.	1536+90 "B"	1538+33 "I"	*																			143						153							
82	Lt.	1538+33 "I"		*				1					1	1			1					1						98			1	1				
83	Lt.	1538+33 "I"	1539+15 "I"	*																			82						92							
84	Lt.	1539+15 "I"		*																	1												2			
85	Lt.	1539+15 "I"	1539+62 "I"	*																			47						52							
Total Structure Items																								130		280					2		1	2		1	
Total Roadway Items					1	1		1	6	3			12	3	7	2		3	9		17	12	4268	30	948	3666	1200	3912	38	12	12	14					1	1
Totals Sheet No. 171					1	1		1	6	3			12	3	7	2		3	9		17	12	4268	160	948	3946	1200	3912	38	12	12	16		1	2	1	1	1
Sheet No. 172 Quantity Items																																				
99	Lt.	1539+62 "I"	1541+96 "I"																				234						239							
100	Lt.	1541+96 "I"						1					1	1			1					1						98			1	1				
101	Lt.	1541+96 "I"	1547+10 "I"																				514						524							
102	Lt.	1547+10 "I"																			1												2			
103	Lt.	1547+10 "I"	1547+56 "I"																				46						56							
104	Lt.	1547+56 "I"						1					1	1			1					1						98			1	1				
105	Lt.	1547+56 "I"	1548+28 "I"																				72						82							
106	Lt.	1548+28 "I"																			1												2			
107	Lt/Rt.	1548+28 "I"	1548+28																				65		65	150										
108	Lt.	1548+28							1				1	1			1					1						110			1	1				
109	Lt.	1548+28 "I"	1549+74																				146						156							
110	Lt.	1549+74								1		1		1			1					1						130			1	1				
114	Lt.	1549+74	1553+90																				416						426							
115	Lt.	1553+90																			1												2			
116	Lt.	1553+90	1554+50																				60						65							
Totals Sheet No. 172								2	1	1		1	3	2	2			2	2		3	4	1553		65	150	436	1545		4	4	6					

LIGHTING QUANTITIES SUB-SUMMARY

QUANTITY CALCULATED BY H.C.S. DATE 5-70
CHKD W.C.M. DATE 5-70
BURGESS & NIPLE, LIMITED

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

168
247

FRA - 270 - 26.76N

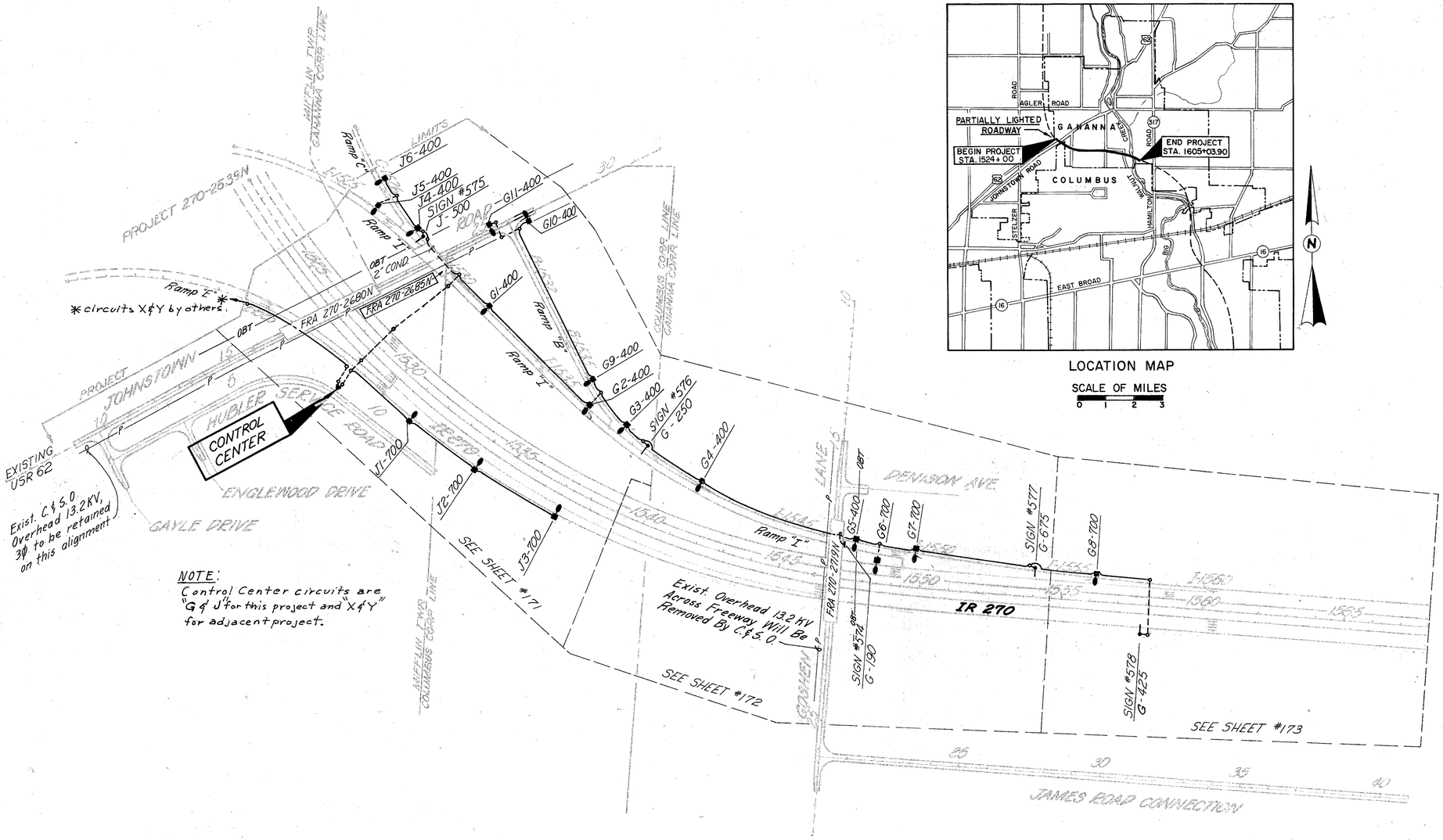
Reference No.	Side	Station	Station	Light Pole Design 11T12B34.2 Ea.	Light Pole Design 11AT12B34.2 Ea.	Light Pole Design 11T12B40 Ea.	Light Pole Design 11T15B34.2 Ea.	Light Pole Design 11AT15B34.2 Ea.	Light Pole Design 11AT15B40 Ea.	Light Pole Design 7AT25B40 Ea.	Light Pole Design 7A10B40 Ea.	Light Pole Foundation 24"x6' Ea.	Luminaire, Type III MC 1000 Watt Luminaire, Type III MC 400 W. Ea.	Luminaire Type II 400 W. Ea.	Lamp 700 W. Lamp 400 W. Ea.	Pullbox 18" Circular Corrugated Metal Ea.	Ground Rod Ea.	Trench 24" Deep L.F.	Conduit 2" Type II or III L.F.	Conduit 3" Type II or III L.F.	Elect. Circuit Cable No. 4 Pole & Bracket Cable No. 10 L.F.	Duct Cable, 600 V. No. 8 Tw O No. 4 L.F.	Connector Kit Type I Ea.	Connector Kit Type II Ea.	Connector Kit Type III Ea.	Connector Kit Type II B or C Ea.	Marker Ea.	Structure Junction Box, In Safety Curb, Light Pole Anchor U Bolt, For Structure Ea.	Structure Ground Assy. Ea.	Service Pole Lump	Control Center Lump
Sheet No. 173 Quantity Items																														
125	Lt.	1554+50	1556+10															160				165								
126	Lt.	1556+10							1			1	1		1		1				130			1	1					
127	Lt.	1556+10	1558+10															200				210								
128	Lt.	1558+10														1							2							
129	Lt./Rt.	1558+10	1558+10															205		205	430									
130	Rt.	1558+10														1									2					
133	Lt.	1575+90														1							2							
134	Lt./Rt.	1575+90	1575+90															195		195	410									
135	Rt.	1575+90														1							2							
136	Rt.	1575+90	1583+00															710				715								
Totals Sheet No. 173									1			1	1		1	4	1	1470		400	840	130	1090	6	1	1	2			
Sheet No. 174 Quantity Items																														
148	Rt.	1583+00	1586+10															310				315								
149	Rt.	1586+10														1							2							
150	Rt.	1586+10	1588+90															280				290								
151	Rt.	1588+90														1							2							
152	Rt./Lt.	1588+90	1588+90															215		215	450									
153	Lt.	1588+90														1								2						
156	Rt.	1588+90	1601+84															1294				1304								
157	Rt.	1601+84		1								1	1		1		1				104			1	1					
158	Rt.	1601+84	1603+84															23		200	420									
159	Rt.	1603+84																							2			1	2	
160	Rt.	1603+84	1605+43															15		159	338									
161	Rt.	1604+14																												1
162	Rt.	1605+43														1								2						
166	Lt.	1601+23																								1				
167	Lt.	1601+23	1602+00															15		77										
168	Lt.	1602+00							1			1			1						100			1	1			1	2	
169	Lt.	1602+19																												1
170	Lt.	1602+00	1604+00																	200	420									
171	Lt.	1604+00																							2			1	2	
172	Lt.	1604+00	1604+72															15		72	164									
173	Lt.	1604+72														1								2						
Total Structure Items										1			1		1					640		1206	100		1	1	4		3	6	2
Total Roadway Items				1					1			1	1		1	5	1	2167		68		586	104	1909	6	1	1	4	1			
Totals Sheet No. 174				1					2	1		2	2		2	5	1	2167		708	215	1792	204	1909	6	2	2	8	1	3	6	2

F.H.D. REGION DIVISION	STATE	PROJECT		169
2	OHIO			247

FRANKLIN COUNTY
FRA-270-26.76N

LOCATION MAP

SCALE OF MILES
0 1 2 3



LIGHTING DESIGN DATA

ROADWAY WIDTH	36' & 48' MAINLINE	24' DIRECTIONAL ROADS	16' RAMPS "B" & "C"
Roadway Class & Type	Interchange - Partially Lighted		
Intensity (Average)	1.2 Footcandles (Initial for full lighting.)		
Lamp Designation	H35-18NA	H-33-1CD/E	
Lamp Design Output	34600 Lumens	19200 Lumens	
Mounting Height	Transformer Base - 40'	Anchor Base - 32.5' & Transformer Base - 34.2'	
Luminaire Overhang	1.5 Normal		
Design Spacing			
Luminaire Distribution	III Med. Cutoff	III Med. Cutoff	II Med. Cutoff
Luminaire Ballast	700 W. Regulated Output	400 W. Regulated Output	
Maximum Voltage Drop	5 %		
Circuit Loading	30 Amps Maximum		
System Type & Power	Multiple Type For 480 Volt, 1 ϕ Grounded System		

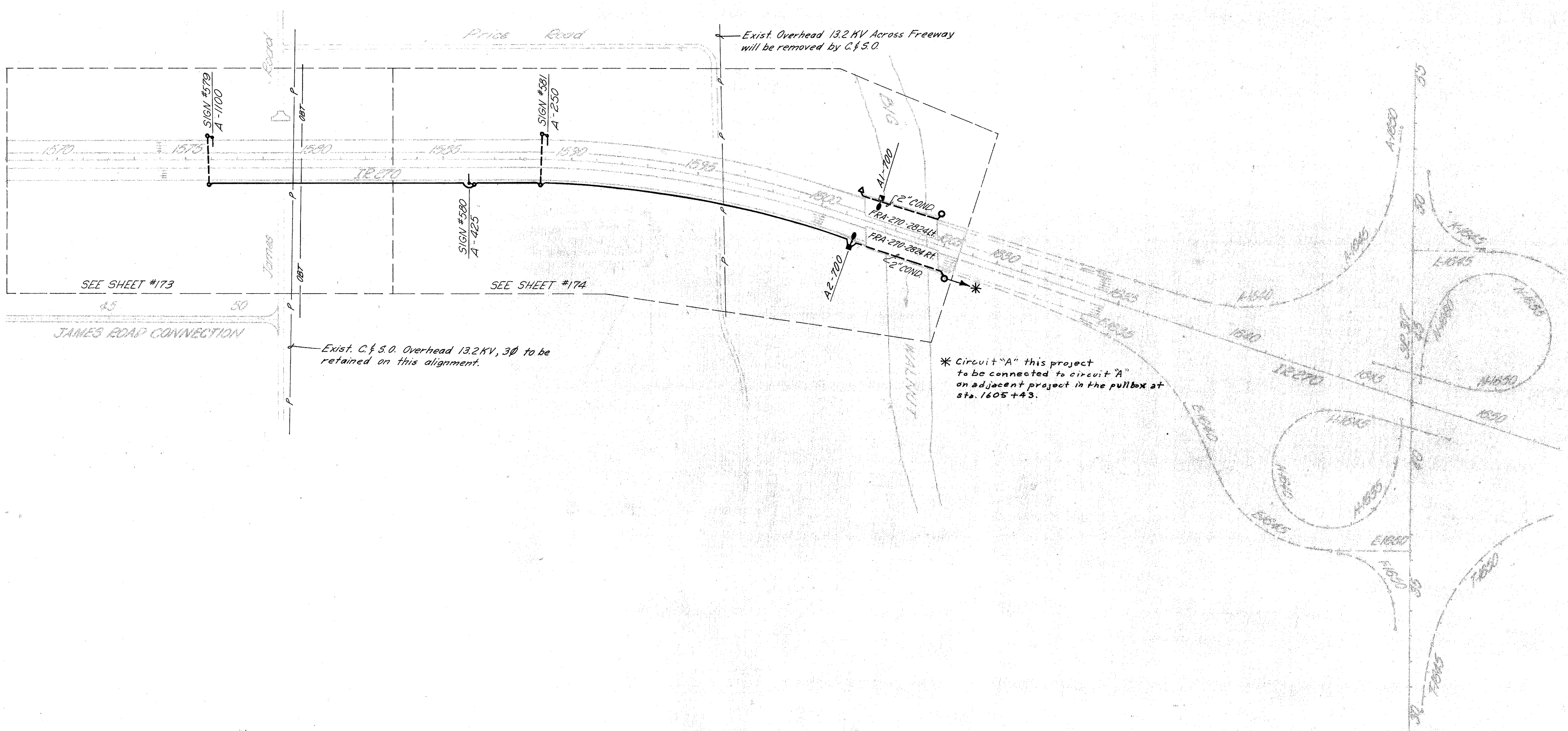
CKT. No.
Pole No. In CKT.
Wattage
G1-400

LEGEND - LOCATION PLANS

- LIGHTING UNIT-POLE MOUNTED (CKT. NO., POLE NO. & WATTAGE)
- ILLUMINATED SIGNS (SIGN NO., CKT. NO. & WATTAGE)
- CONTROL CENTER
- —P— COLUMBUS & SOUTHERN OHIO 13.2 KV, OVERHEAD CIRCUIT
- —OBT— OHIO BELL TELEPONE UNDERGROUND CONDUIT
- O PULL BOX
- ----- 3" RIGID METAL CONDUIT TYPE II OR III, UNLESS NOTED
- △ CONDUIT MARKER

STA. 1524+00 TO 1568+00
LOCATION PLAN

FRANKLIN COUNTY
FRA-270-28.76N



STA. 1568+00 TO 1605+00
LOCATION PLAN

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

171
247

FRANKLIN COUNTY
FRA-270-26.76N

LEGEND - LIGHTING PLANS

- LIGHTING UNIT - POLE MOUNTED.
- LIGHTING UNIT - ON STRUCTURE
- FUTURE LIGHT POLE ON STRUCTURE.
- FUTURE LIGHT LOCATION.
- PULL BOX.
- CONTROL CENTER.
- DENOTES 12' LANE ON I.R. 270 AND DIRECTIONAL ROADS. DENOTES 16' LANE ON RAMP "B".
- TRENCH - NORMAL ALIGNMENT 24" DEEP
- 3" RIGID METAL CONDUIT TYPE II OR III, UNLESS NOTED.
- CKT. G, 2-#4 — PREASSEMBLED DIRECT BURIAL DUCT-CABLE NO. CONDUCTORS AND SIZE SHOWN.
- ILLUMINATED SIGNS, STATION, SIGN NO., WATTAGE.
- EDGE OF PAVED BERM.
- SERVICE POLE
- CONDUIT MARKER
- GUARD RAIL
- P — COLUMBUS & SOUTHERN OHIO 13.2 KV, OVERHEAD CIRCUIT
- OBT — OHIO BELL TELEPHONE UNDERGROUND CONDUIT

POLE NO.
CKT. NO.
*POLE DESIGN NO.
STATION
1531+87 - 11AT15B34.2 - G1
400W - III MC - D
LAMP WATTAGE
IES DIST., MEDIUM CUTOFF
REFERENCE LETTER FOR MECHANICAL PROPERTIES TABLE

13.2KV POWER LINE CLEARS LIGHTING UNIT BY 8' PLUS, VERTICALLY.

NOTE
1. For Offset See Sheet No. 175 for Light Pole Location Detail.
2. ● Denotes Lighting Unit with 8' Minimum Foundation.
3. In Pole Design No. AT denotes Aluminum Transformer Base, T denotes optional, Aluminum or Steel Transformer Base.

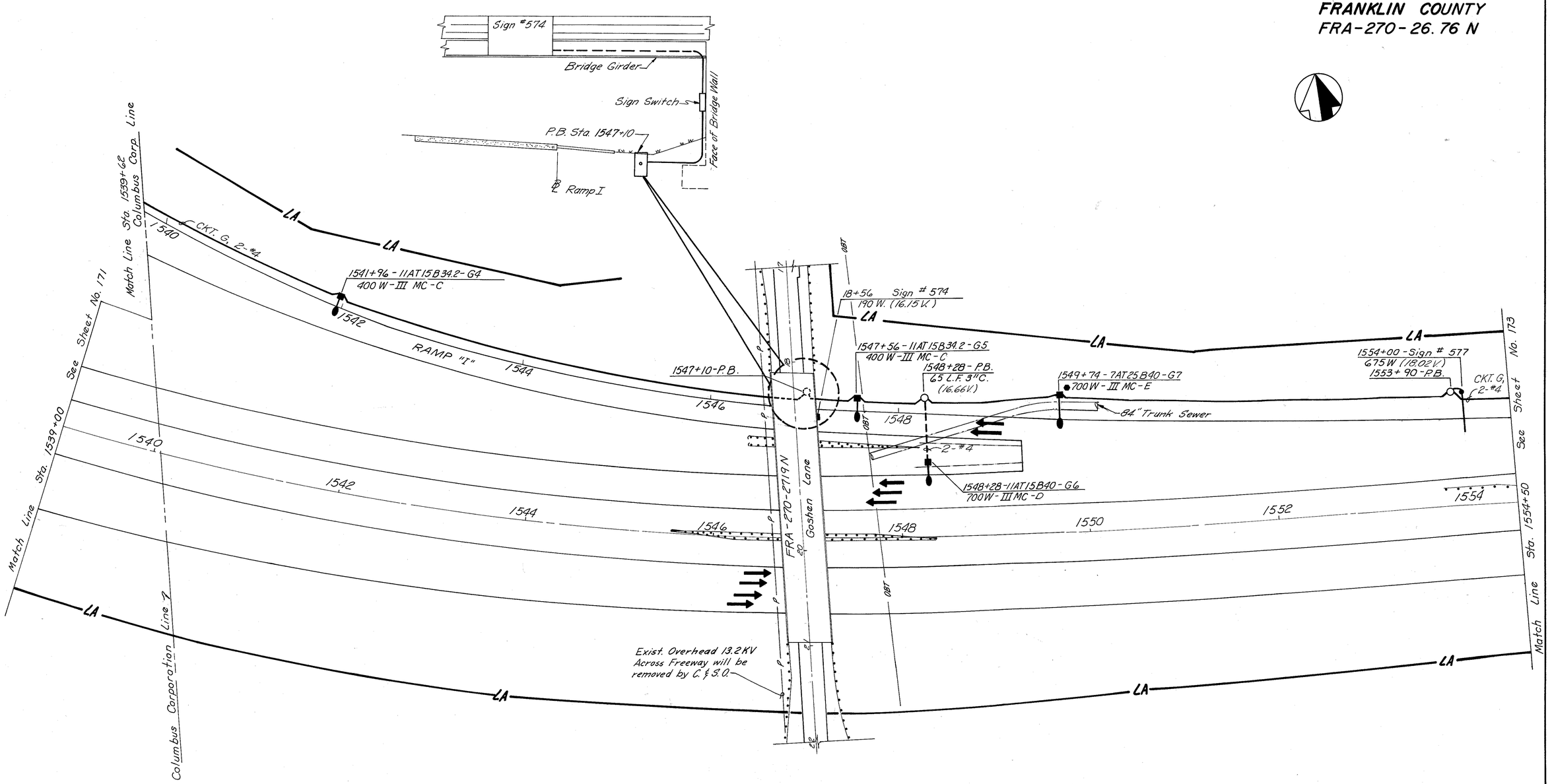
LA
GAHANNA CORP. COL. & CORP. LINE
End CKT. J (1.86V.)
1525+90 - 11T12B34.2 - J6
400W - II MC - A
1526+55 - P.B. 65 L.F. 3"C. (1.83V.)
1526+66 - 11AT15B34.2 - J5
400W - III MC - C
1528+08 - 11T15B34.2 - J4
400W - III MC - C
1528+40 P.B.
1528+70 P.B. 10 L.F. 2"C.
1529+37 Future
25+20 - 11AT15B34.2-G11
400W - III MC - C (11.07V.)
25+60 P.B. 56 L.F. 3"C.
CKT. G, 2-#4
26+60 - 11AT15B34.2-G10
400W - III MC - C (11.0V.)
26+25 P.B. (10.99V.)
25+65 P.B. 60 L.F. 3"C.
2" COND. IN BRIDGE TYPE B RACEWAY CKT. J, 2-#4
1530+30 - P.B. 20 L.F. 2"C.
1531+87 - 11AT15B34.2-G1
400W - III MC - C
CKT. G, 2-#4
CKTS. G & J, 4-#4
1530+30 - P.B. 55 L.F. 3"C.
1532
1534
1536+15 - 11AT12B34.2 - G9
400W - II MC - A
1536+87 - 11AT15B34.2 - G2
400W - III MC - C
1536+90 - P.B. 52 L.F. 3" C. (10.95V.)
1538+33 - 11AT15B34.2-G3
400 W - III MC - C
CKT. G, 2-#4
1539+25 - Sign #576 250W. (12.35V.)
1539+15 - P.B.
1538
1536
Ramp "I"
Ramp "B"
Ramp "C"
Ramp "I"
1526+66 - 11AT15B34.2 - J5
400W - III MC - C
2-#4
1526
1528
1528+50 - Sign #575 500 W (16.3V.)
FRA-270-26.85N
GAHANNA CORPORATION LINE Z
℄ Johnstown Road
CKTS. G & J, 4-#4 255 L.F. 3"C.
1528+50, 80' Lt. P.B. 161 L.F. 3"C.
1528+50, 81' Rt. P.B. 49 L.F. 3"C.
1528+35 81' Rt. 15 L.F. 3"C. Stub Out
CKT. Y, 2-#4
CKT. X, 2-#4
CKTS. X & Y, 4-#4 90 L.F. 3"C.
CKTS. G & J, 4-#4 90 L.F., 3"C.
1528+49, 130' Rt. P.B. Mainline (4.3V.)
CKT. J, 2-#4
1528+51, 220' Rt. P.B. Mainline
Control Center 1528+50, 230' Rt. Mainline
Service Pole 1528+40, 230' Rt. Mainline
Control Center Enclosure
1524
1524+02 P.B.
BEGIN PROJECT STA. 1524+00
Exist. C. & S.O. Overhead 13.2 KV, 3Ø to be retained on this alignment.
1531+33 - 11AT15B40 - J1
700W - III MC - D
1534+23 - 11AT15B40 - J2
700W - III MC - D
1537+48 - 11AT15B40 - J3
700W - III MC - D
End Ckt. J (1.99V.)
Match Line Sta. 1539+00
See Sta. 1539+22
Columbus Corp. Line No. 172
Match Line
I-270
HUBLER SERVICE ROAD
8
10
12

LIGHTING PLAN

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

172
247

FRANKLIN COUNTY
FRA-270-26.76 N

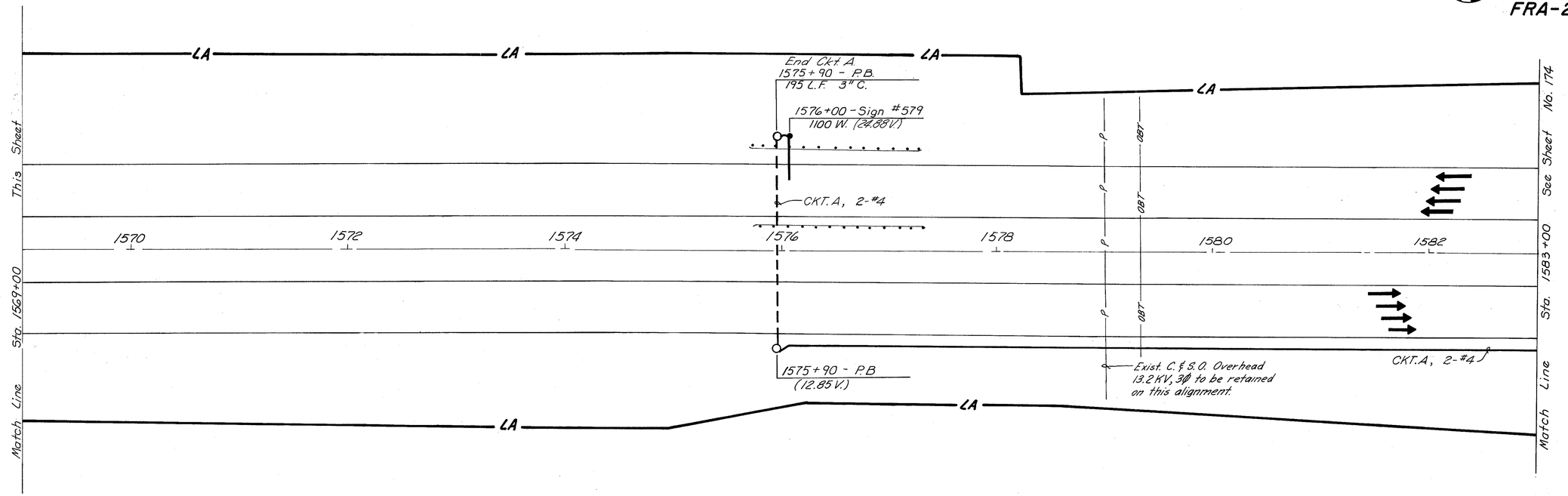


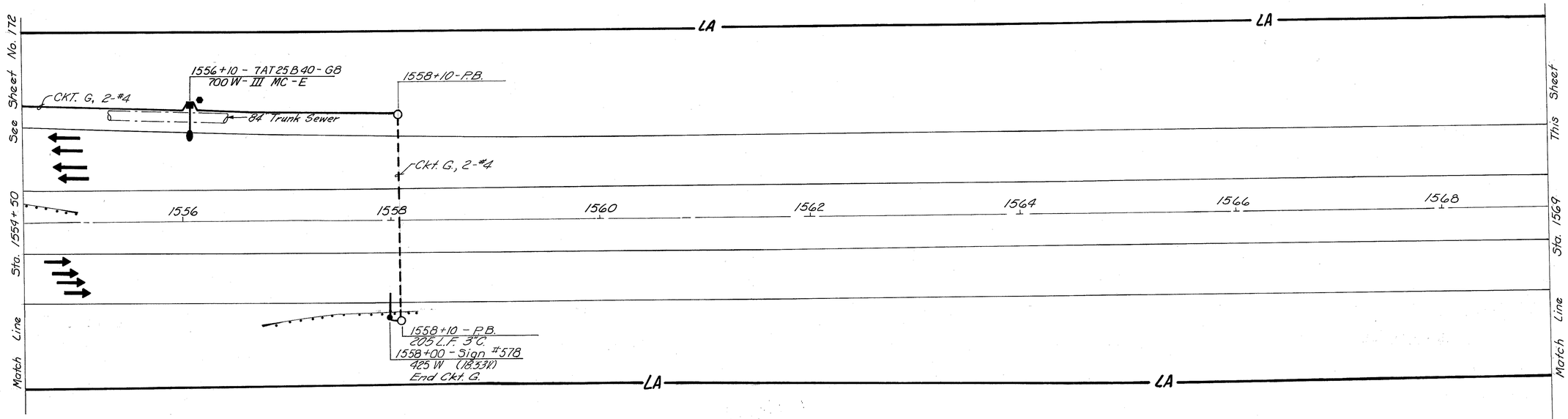
LIGHTING PLAN

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

173
247

FRANKLIN COUNTY
FRA-270-26.76 N



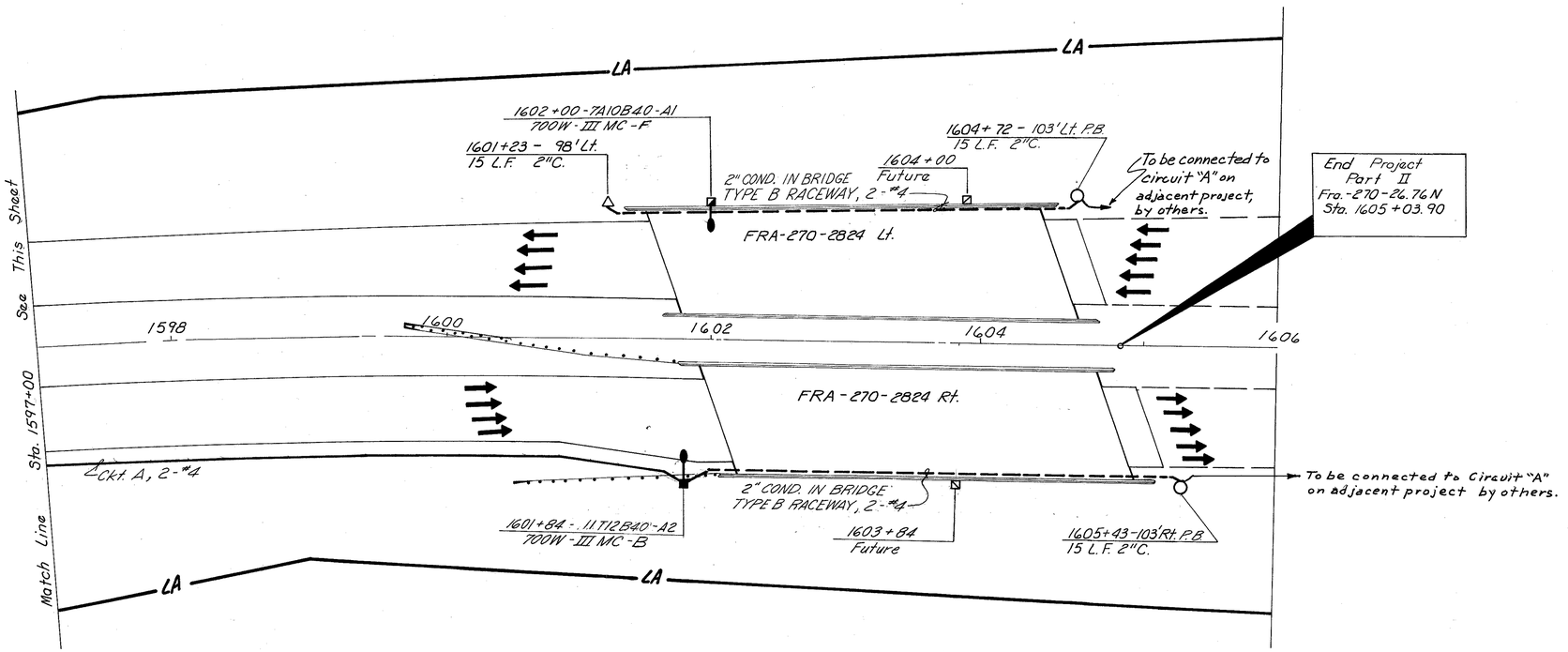


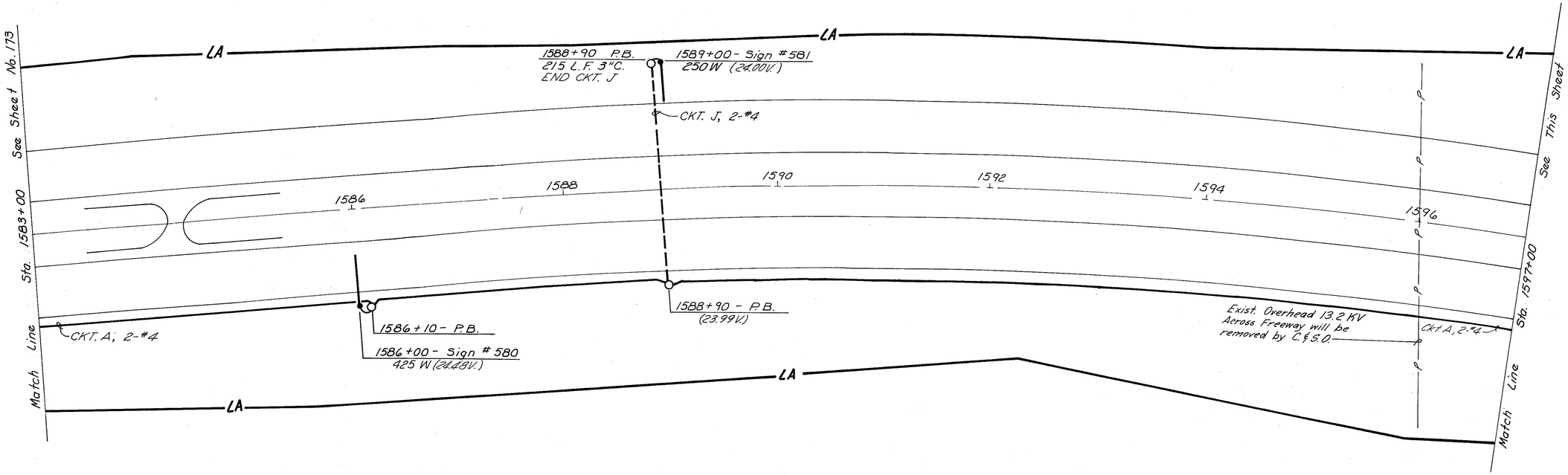
LIGHTING PLAN

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

174
247

FRANKLIN COUNTY
FRA-270-26.76N





LIGHTING PLAN

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

175
247

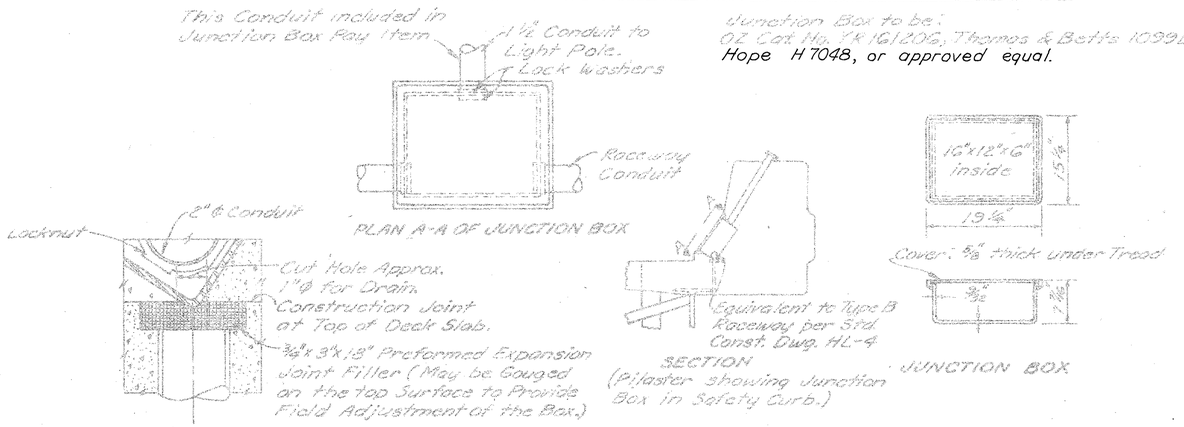
FRANKLIN COUNTY
FRA-270-26.76 N

MECHANICAL PROPERTIES FOR LIGHT POLES

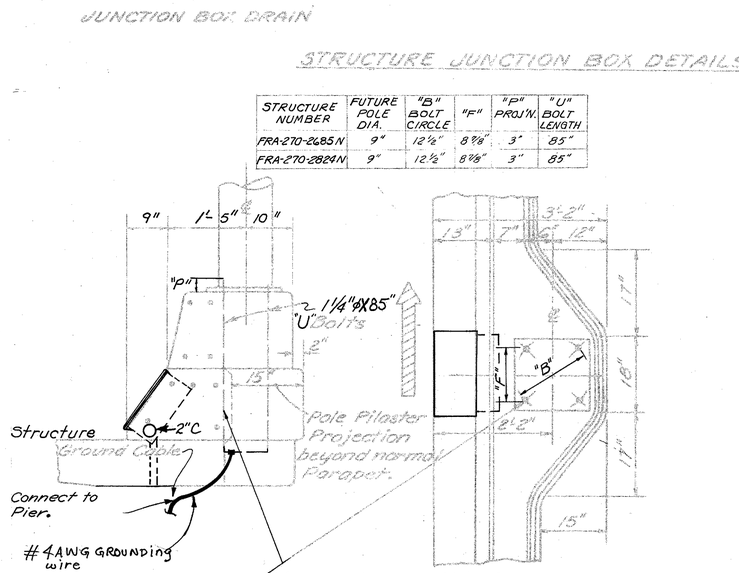
Refer Letter	Pole Design No. *	Shaft Size	Taper Inches	Gauge	Foundation Anchor Bolts: Size	Dia. Bolt Circle	Proj'n. Above Found'n	Arm Length	Mount Height	Elastic Def'l. Rate in Per 100 lb.	At 4/5 of Yield Stress: Load 18"Dn. from Top lb.	Total Def'l. Inches	Perm. Set Inches	At Yield Stress: Load 18"Dn. from Top lb.	Total Def'l. Inches	Perm. Set Inches	Transformer Base Type
A	11AT12B34.2	9.0"x4.87"x29'-6"	.14	11	1"x40"	17.25"	3½"	12'	34.2'	2.16	659	14.73	.50	989	24.00	2.64	AT-C
◐ B	11T12B40	9.0"x5.82"x31'-9"	.10	11	1"x40"	17.25"	3½"	12'	40'	2.92	600	18.00	.50	900	29.40	3.10	AT-C
C	11AT15B34.2	9.0"x4.87"x29'-6"	.14	11	1"x40"	17.25"	3½"	15'	34.2'	2.16	659	14.73	.50	989	24.00	2.64	AT-C
◐ D	11AT15B40	9.0"x5.82"x31'-9"	.10	11	1"x40"	17.25"	3½"	15'	40'	2.92	600	18.00	.50	900	29.40	3.10	AT-C
● E	7AT25B40	9.5"x6.32"x31'-9"	.10	7	1"x40"	17.25"	3½"	25'	40'	1.63	1000	16.80	.50	1500	27.40	2.90	AT-C
F	7A10B40	9.0"x5.65"x33'-6"	.10	7	1⅛"x85"	12.5"	3"	10'	40'	1.96	895	18.10	.50	1340	29.50	3.10	BRIDGE

◐ Make from Standard Shaft Size 9.0"x5.65"x33'-6" ● Make from Standard Shaft Size 9.5"x6.15"x33'-6"

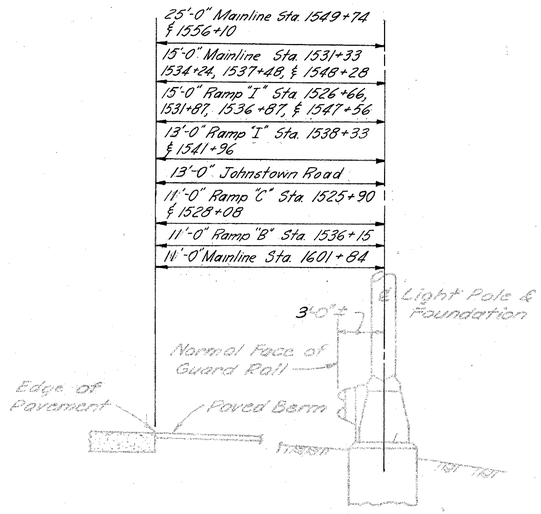
* IN THE POLE DESIGN NO. AT, DENOTES ALUMINUM TRANSFORMER BASE, T DENOTES OPTIONAL, ALUMINUM OR STEEL TRANSFORMER BASE.



STRUCTURE JUNCTION BOX DETAILS

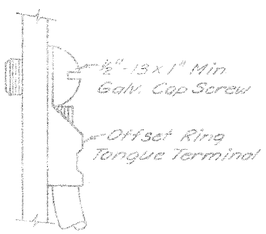


DETAIL OF FOUNDATION FOR LIGHT POLES MOUNTED ON BRIDGES WITH SAFETY CURB

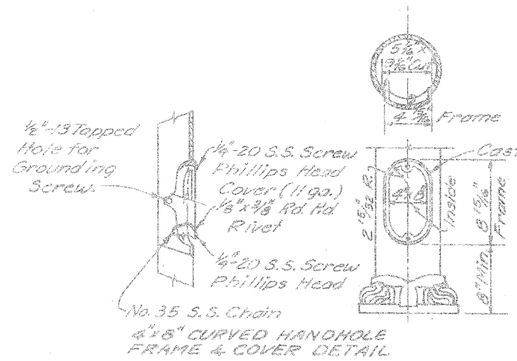


LIGHT POLE OFFSET LOCATION DETAIL

Note: Light poles predominatly illuminating a mainline roadway shall be positioned with the arm of the pole perpendicular to the roadway.



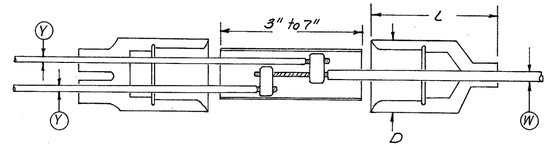
GROUND WIRE TERMINAL



4"x6" CURVED HANDHOLE FRAME & COVER DETAIL

DETAIL OF ALTERNATE HANDHOLE ARRANGEMENT

VIIC Connector Kit = 4-Way Cable Connection with both end housings same as shown on left side below.



D	L	CABLE DIAMETER MIN.	CABLE DIAMETER MAX.	SYMBOL FOR (Y)	SYMBOL FOR (W)	AWG 600V CABLE PER 713.02
1st/32	4 1/16"	.320"	.430"	D	D	NO.6 & NO.4
"	"	.420"	.565"	E	E	NO.2 & NO.4/0

Ⓨ Note: Both Wires With Symbol Ⓨ Must Be of Equal Size for a Given Connection.

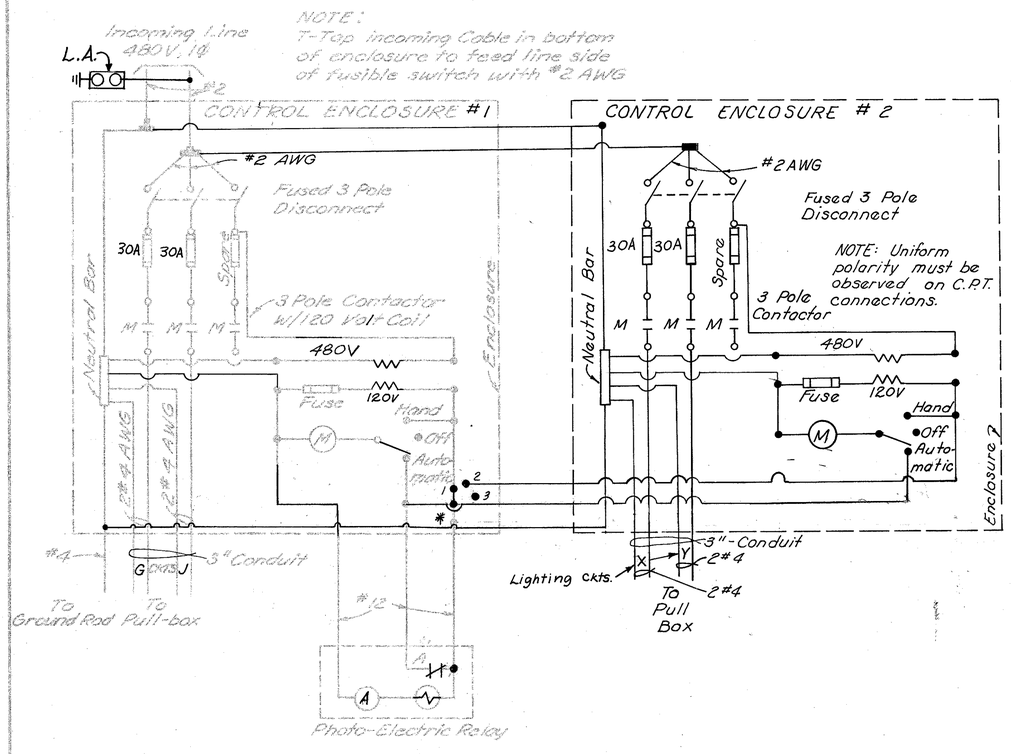
CABLE CONNECTOR KIT TYPE VII B
713.15 Pullbox Y Connection

REVISION OF LIGHT POLE OFFSETS. In lieu of the respective details shown on Standard Construction Drawings HL-1 and HL-3 and elsewhere on this plan, the normal trench alignment on this project shall be parallel to the controlling pavement edge or baseline and direct from pole to pole, the special conduit elbows in the pole foundations shall be in a vertical plane along the pole alignment, and the normal offset distance of the poles from face of guard rail shall be 36 inches.

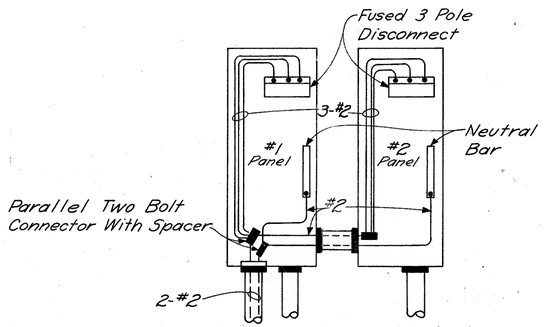
FED. RD. DIVISION	STATE	PROJECT		
2	OHIO			

176
247

FRANKLIN COUNTY
FRA-270-26.76 N

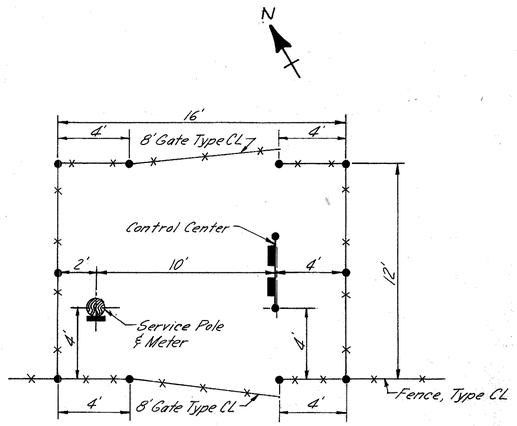


SCHEMATIC WIRING DIAGRAM

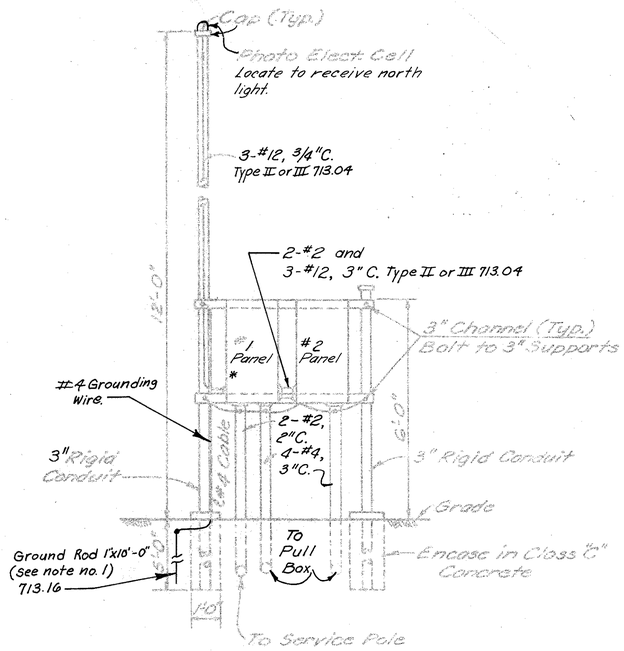


NOTE: Cable lugs shall be of adequate size to accommodate #2 AWG.

FEED LINE CONNECTION DETAIL



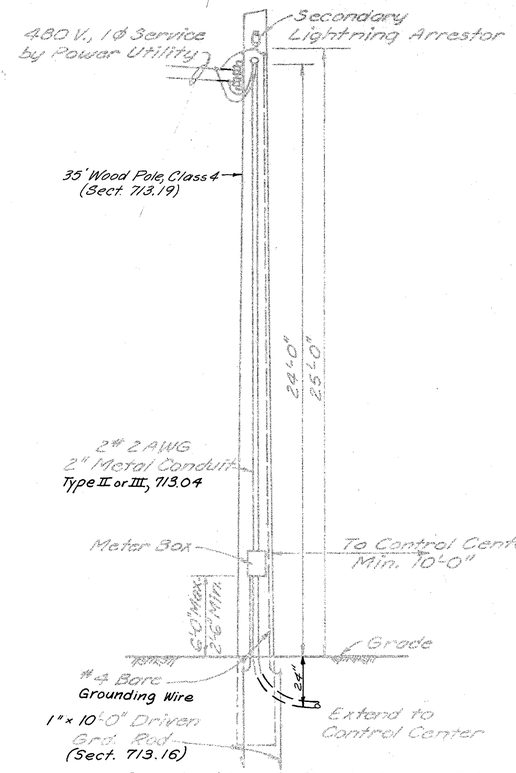
PLAN OF CONTROL CENTER ENCLOSURE



CONTROL CENTER

Notes:

1. Grounding shall be accomplished in accordance with details called for on HL-1.
2. All fuses shall be delayed action.
3. All structural members shall be hot dipped galvanized.
* 1-Two position Selector Switch Enclosure (One Unit Only).
4. All Conduit entrances into Panels shall contain Factory installed Hubs.
5. The chain link fence and gate shall be 8' high plus a 1' arm, mounted 45° at the top with 3 strand barbed wire as per 710.01. Material and installation shall conform to item 607. Locks shall be provided by the Contractor. Cost of the above shall be included in the unit price for item 607 Fence, Type CL Modified as per plan or item 607 8' Gate, type CL, Modified as per plan.

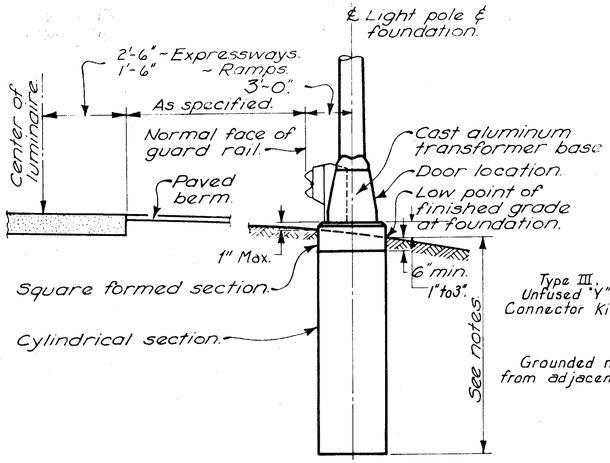


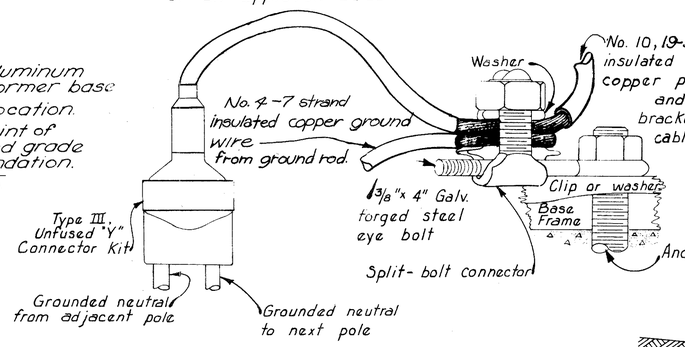
Ground rod installation test per 625.10

SERVICE POLE
(Per Sect. 625.18 & 713.19)

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

177

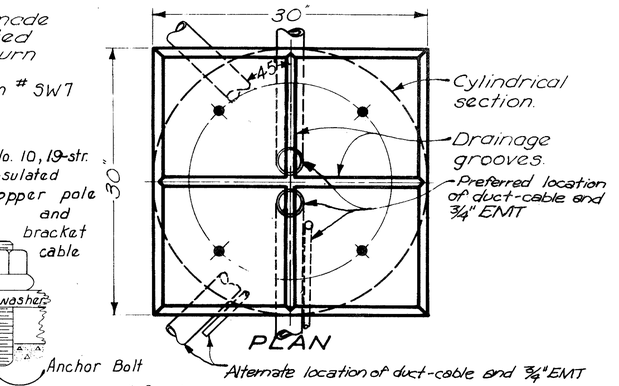


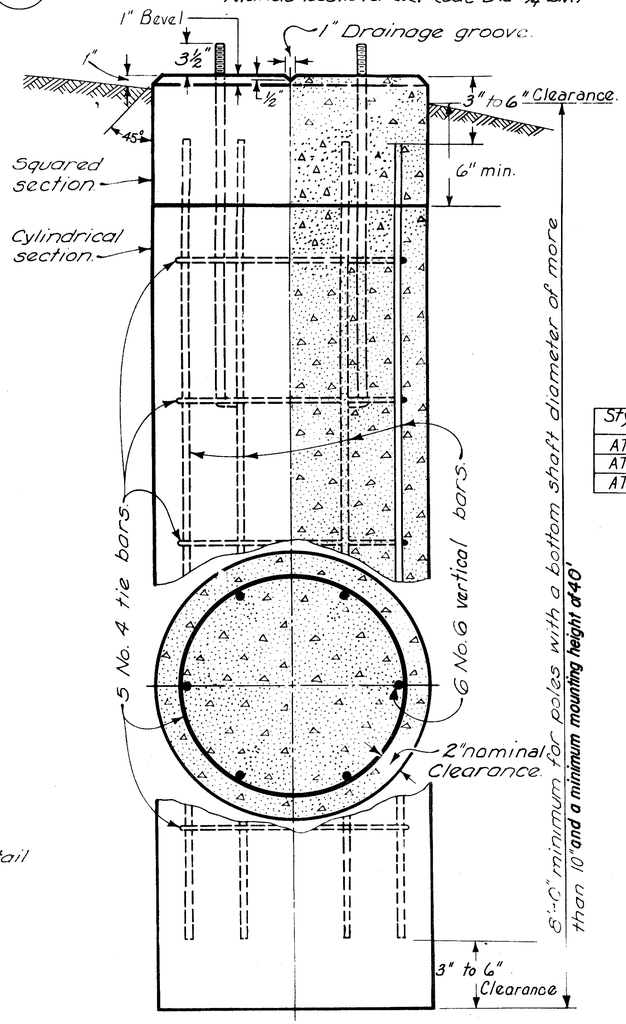


NOTE: Split-bolt Connector shall be made of tin plated copper alloy with tin plated spacer. Acceptable models are: Blackburn #10HPS, Burndy #KSU-25, Line Material #DK-5B-10, Kearney #118109-02, Penn Union # SW7 or an approved equal.

POLE GROUNDING DETAIL

(2- Wire Grounded Neutral System Only)





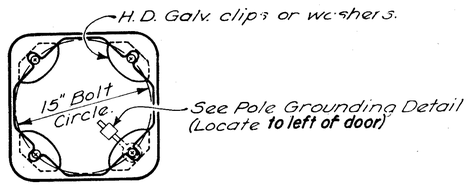
ELEVATION

30" FOUNDATION

LOCATION OF POLE WITH OR WITHOUT ALUMINUM TRANSFORMER BASES

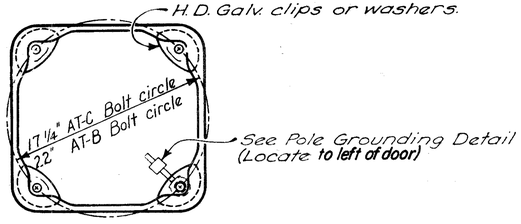
(Supersedes "Location of Light Pole Foundation" shown on Standard Drawing HL-1).

ELEVATION



BASE FRAME

BASE AT-A



BASE FRAME

BASES AT-B AND AT-C

CAST ALUMINUM TRANSFORMER BASES

NOTES

ANCHOR BOLTS: For anchor bolt sizes see drawing HL-3.

FOUNDATION: Foundations for light poles shall be poured-in-place concrete (vibrated and spaded 511.09). Each foundation must meet minimum depths as specified, but additional depth may be required by the Engineer because of existing soil conditions. The 30" foundation (detailed hereon) shall be used for light poles having a bottom shaft diameter of more than 10" through 12". The 24" foundation (detailed on Standard Drawing HL-1) shall be used for all light poles having a bottom shaft diameter of 6.0" through 10". See HL-1 for foundation depth. Rotate reinforcing bars to clear conduit.

Drainage grooves on foundation top, as detailed hereon, shall be required on all foundations even though they do not appear on Standard Drawing HL-1.

ALUMINUM TRANSFORMER BASES: All bases shall be cast from ASTM B-26 or B-108 Alloy SG 70A-T6.

Base AT-A shall be used with anchor base poles of 6" through 9.2" dia. inclusive, thru 34'-6" Mtg. Hgt. Base AT-B shall be used for anchor base poles above 10" through 12" diameter. Base AT-C shall be used for anchor base poles with bottom diameter 9" through 10."*

The transformer bases shall be capable of resisting the following moments in foot pounds with load applied at a distance of 20' feet above the top of the base without collasping or rupturing.

Style	Bolt Circle	Base Height	Moment-Foot Pounds	Arm Length
AT-A	15"	20"	37,000	15' Max.
AT-C	17 1/4"	20"	56,000	10' to 25'
AT-B	22"	24"	52,000	10' to 25'

Both the bottom of the cast steel pole base and the top of the aluminum transformer base shall be coated or painted with a heavy film of zinc rich paint (Federal Specification TT-P-641-Type II) to reduce galvanic action between the two dissimilar metals.

PAYMENT: 30" Light Pole Foundations shall be paid for at the unit price bid per each foundation.

Aluminum base complete with hardware, bolts, lugs, washers, etc, zinc rich paint, and installation shall be included with ground-mounted poles for payment.

* AT-C Base can be used with 8" or 8 1/2" dia. base poles, if desired, in order to reduce maintenance items.

Revised: 7-1-69 Revised: 1-24-69 Revised: 5-14-68 Issued: 11-6-67
Revised: 11-10-69 Revised: 2-10-70 Revised: 5-19-70 Revised: 6-1-70

Design Services Sketch No. RL-SK-186

ALUMINUM TRANSFORMER BASE DETAILS

MICROFILMED
AUG 14 1979
REPRODUCTION

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

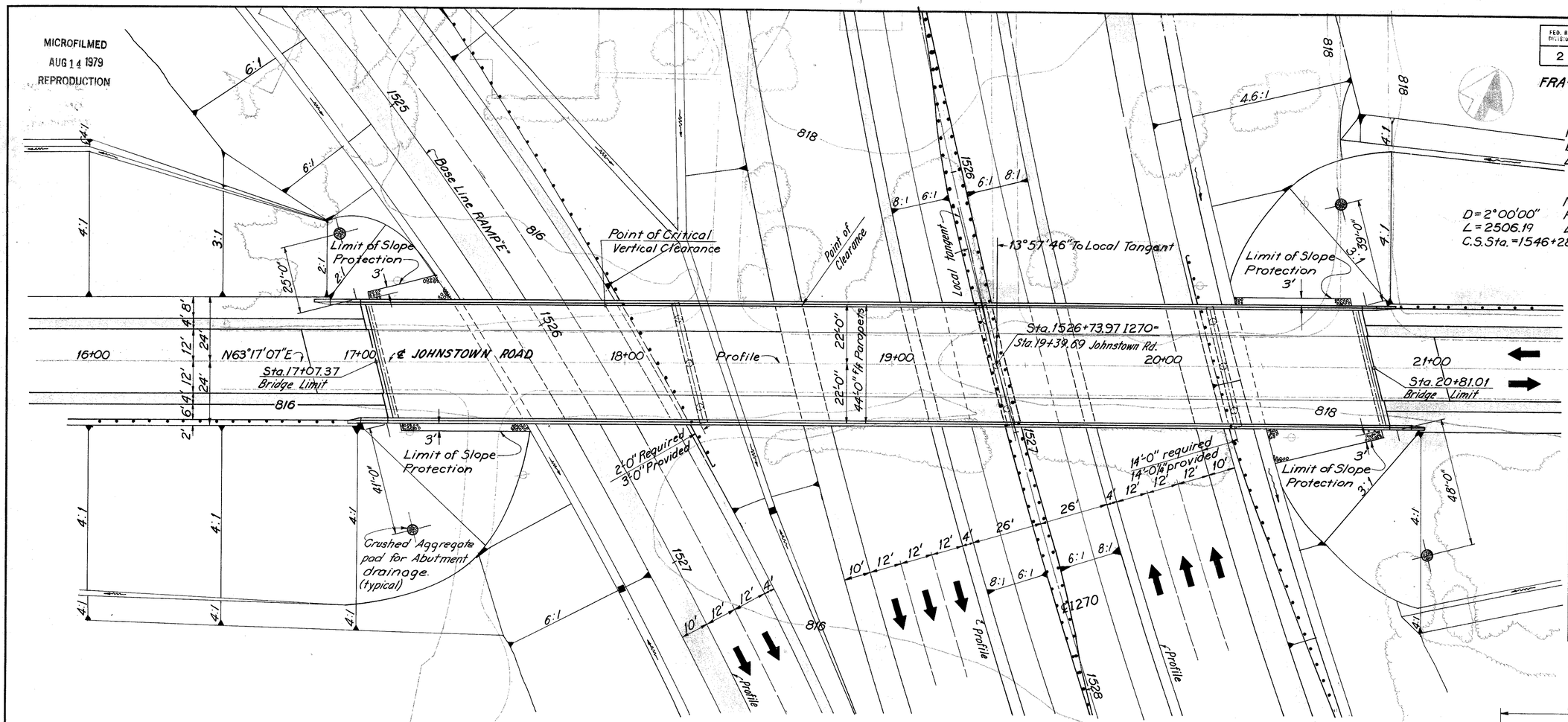
178/247

FRA-270-26.76N.

CURVE DATA:

RAMP "E"
D = +5°00'00" R = 1145.92'
L_s = 400.00' C.S. Sta. = 1525+98.56
S.T. Sta. = 1529+98.56

MAINLINE
D = 2°00'00" R = 2864.79 Δ_c = 50°07'25"
L = 2506.19 L_s = 600.00' θ_s = 6°00'00"
C.S. Sta. = 1546+28.44 S.T. Sta. = 1552+28.44



PROPOSED STRUCTURE

TYPE: 4 Span continuous steel girder with reinforced concrete deck and substructure
SPANS: 115.00'; 115.00'; 84.25'; 54.75'
LOADING: HS 20-44
ROADWAY: 44'-0" f/f parapets
SKEW: 13°57'46" R. F.
WEARING SURFACE: 1" Monolithic
APPROACH SLABS: AS-1-67 (25' long)
ALIGNMENT: Tangent
SUPERELEVATION: None

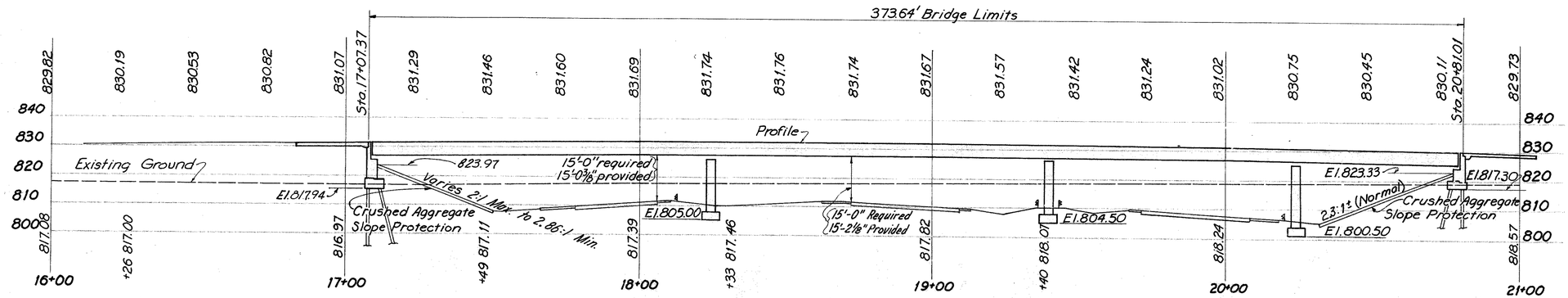
1986 ADT = 10,210

PLAN

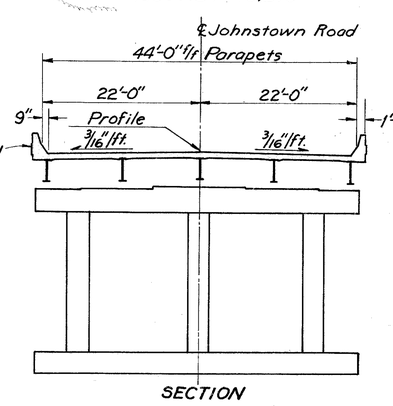
BENCH MARK *.66-4 El. 821.39
R.R. spike west side 24" maple 170' right of Sta. 16+77 Johnstown Rd. on west side driveway to residence *2997 Johnstown Rd.

EARTHWORK limits shown are schematic. Actual slopes shall conform to plan cross-sections.
ESTIMATED average pay length of 12" Cast-in-place reinforced piles at abutments is 25 feet.

P.V.I Sta. 18+25 El. 838.18
g_1 = +3.00% L = 900.00' g_2 = -2.72%



PROFILE



SECTION

BURGESS & NIPLE LIMITED — CONSULTING ENGINEERS
COLUMBUS, OHIO 11/8

SITE PLAN
BR. NO. FRA-270-26.80N
UNDER
JOHNSTOWN ROAD

SCALE 1"=20'
FRANKLIN COUNTY STA. 1526+73.97

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
WBC	WBC	C.W.B.	DW	7/8/70 WCR 6/5/69	

ALL-STATE BLUEPRINT CO.'S., O. 41028

MICROFILMED
AUG 14 1979
REPRODUCTION

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

179
247

FRA-270-26.76 N

REFERENCE shall be made to Standard Drawings SD-1-69, sh. 1, 2 & 3 dated 6-12-69, RB-1-55 revised 2-2-59, BR-1-67 sh. 1 dated 2-1-68, AS-1-67 revised 6-12-69 and to Supplemental Specifications 808 dated 11-14-69, 811 dated 1-1-69, 836 dated 6-17-69

DESIGN SPECIFICATIONS: This structure conforms to "Standard Specifications for Highway Bridges" adopted by the American Association of State Highway Officials, 1965, including the Ohio "Supplement" to these specifications.

DESIGN DATA:

Design Loading -- HS 20-44
Concrete Class C -- unit stress 1200 p.s.i. for superstructure
unit stress 1333 p.s.i for substructure
Structural Steel -- ASTM A36 - unit stress 20,000 p.s.i.
Reinforcing Steel -- ASTM A615, A616, A617 unit stress 20,000 p.s.i.
Spiral reinforcement shall be plain bars ASTM A306 or A499.

EMBANKMENT CONSTRUCTION: The embankments shall be constructed to the level of the subgrade for a minimum distance of 200 feet back of the abutments. Excavation shall then be made for the abutments.

PILES shall be driven to a minimum bearing capacity of 50 tons per pile for the abutment piles.

FOUNDATION BEARING PRESSURE: Pier footings are designed for a maximum bearing pressure of 2.5 tons per Sq. Ft.

UTILITY LINES: All expense involved in relocating (installing) the affected lines shall be borne by the Owner(s). The Contractor and Owner(s) are requested to cooperate by arranging their work in such a manner that inconvenience to either would be held to a minimum.

BR. NO FRA-270-2680 N ESTIMATED QUANTITIES

ITEM	TOTAL	UNIT	DESCRIPTION	SUPER	ABUT.	PIERS	GEN.		
503	631	Cu. yd.	Unclassified excavation		235	396			
505	Lump	sum	First test pile		Lump				
507	800	Lin. ft.	12" Cast-in-place reinforced concrete piles		800				
	293,285				13,785				
509	243,687	Lbs.	Reinforcing steel	170,004	13,767	59,916			
511	605	Cu. yd.	Class C concrete, superstructure	605					
511	112	Cu. yd.	Class C concrete, pier caps and columns			112			
511	117	Cu. yd.	Class C concrete, abutments above footings		117				
511	255	Cu. yd.	Class C concrete, footings		82	173			
513	655,500	Lbs.	Structural steel	655,500					
	696,055			696,055					
514	655,500	Lbs.	Field painting of structural steel	655,500					
	696,055			696,055					
518	65	Cu. yd.	Porous backfill		65				
518	82	Lin. ft.	6" perforated, helical corrugated metal pipe, including specials, 707.01		82				
518	178	Lin. ft.	6" non-perforated, helical corrugated metal pipe, 707.01		178				
518	12	Each	Scuppers including supports	12					
601	556	Sq. yd.	Crushed aggregate slope protection				556		
808	605	Units	Chemical Admixture for Concrete, Type A, B, or D	605					

BURGESS & NIPLE LIMITED — CONSULTING ENGINEERS
COLUMBUS, OHIO

2 / 8

ESTIMATED QUANTITIES & GENERAL NOTES
BR. NO. FRA-270-2680 N
UNDER
JOHNSTOWN ROAD

FRANKLIN COUNTY Sta. 1526+73.97

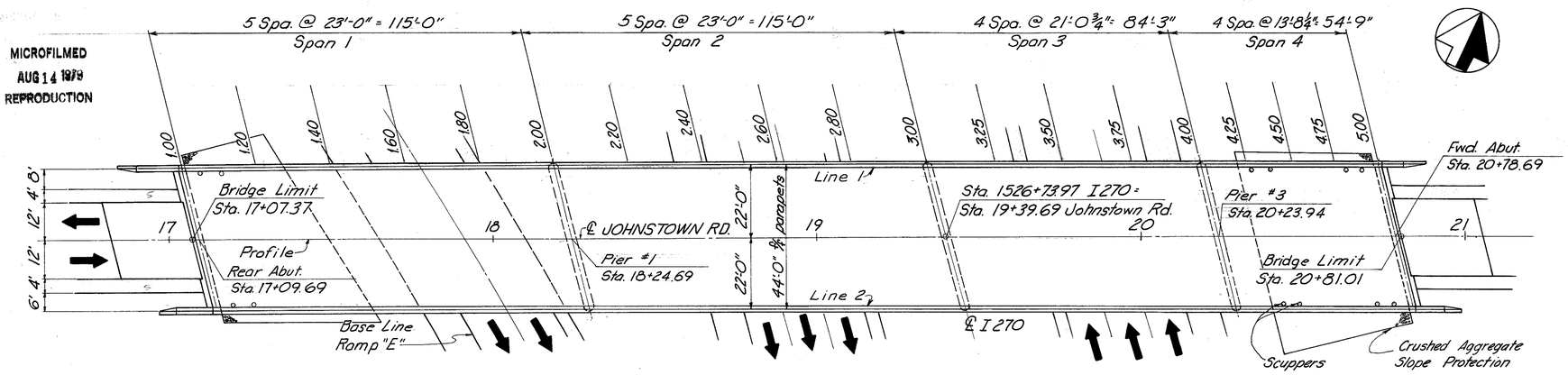
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
SBK 4/8/70	LEH 4/8/70		M.I.G. 6/25/70	W.C.R. 7/8/70	11-3-70 12-29-70

MICROFILMED
AUG 14 1978
REPRODUCTION

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

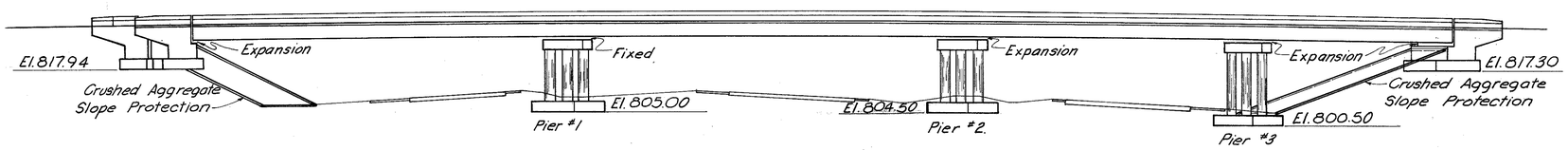
130
247

FRA-270-26.76 N

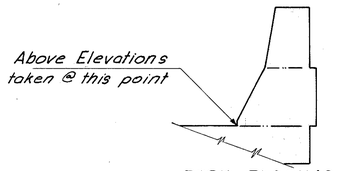


GENERAL PLAN

TABLE OF DECK ELEVATION PRIOR TO PLACEMENT OF SUPERSTRUCTURE CONC.		
POINT	LINE 1	LINE 2
1.00	830.78	830.88
1.20	831.07	831.14
1.40	831.27	831.33
1.60	831.37	831.41
1.80	831.40	831.41
2.00	831.41	831.42
2.20	831.45	831.45
2.40	831.49	831.47
2.60	831.46	831.42
2.80	831.34	831.29
3.00	831.19	831.13
3.25	831.07	830.99
3.50	830.94	830.85
3.75	830.73	830.63
4.00	830.49	830.38
4.25	830.35	830.22
4.50	830.19	830.05
4.75	830.01	829.87
5.00	829.80	829.65



GENERAL ELEVATION
(Abutment piling not shown)



DECK PLACING ELEVATION DETAIL

BURGESS & NIPLE LIMITED — CONSULTING ENGINEERS
COLUMBUS, OHIO

3 / 8

GENERAL PLAN & ELEVATION
BR. NO. FRA-270-2680 N
UNDER
JOHNSTOWN RD.

FRANKLIN COUNTY Sta. 1526+73.97

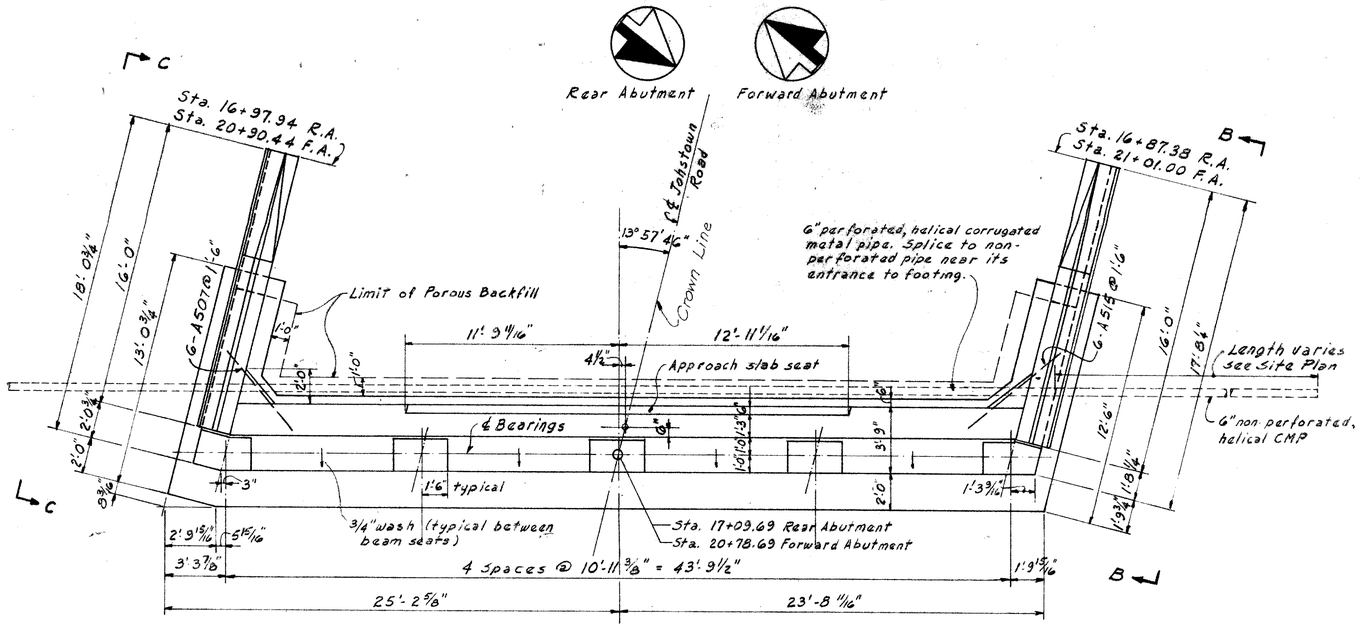
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
SBK 3/4/70	L.E.H. 3/5/70		M.I.G. 6/2/70	WCR 7/8/70	

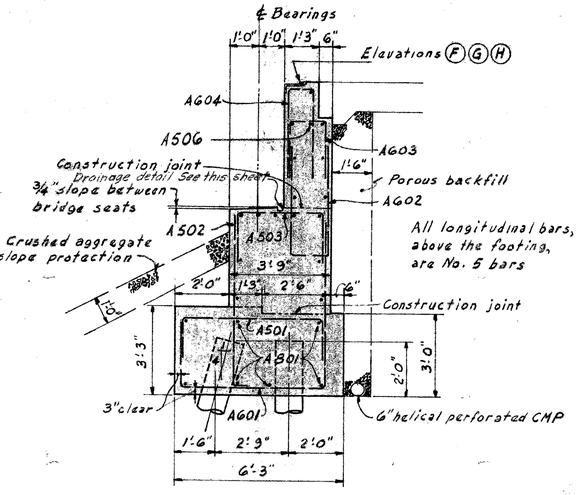
MICROFILMED
AUG 14 1979
REPRODUCTION

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

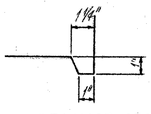
181/247

FRA-270-26.76 N

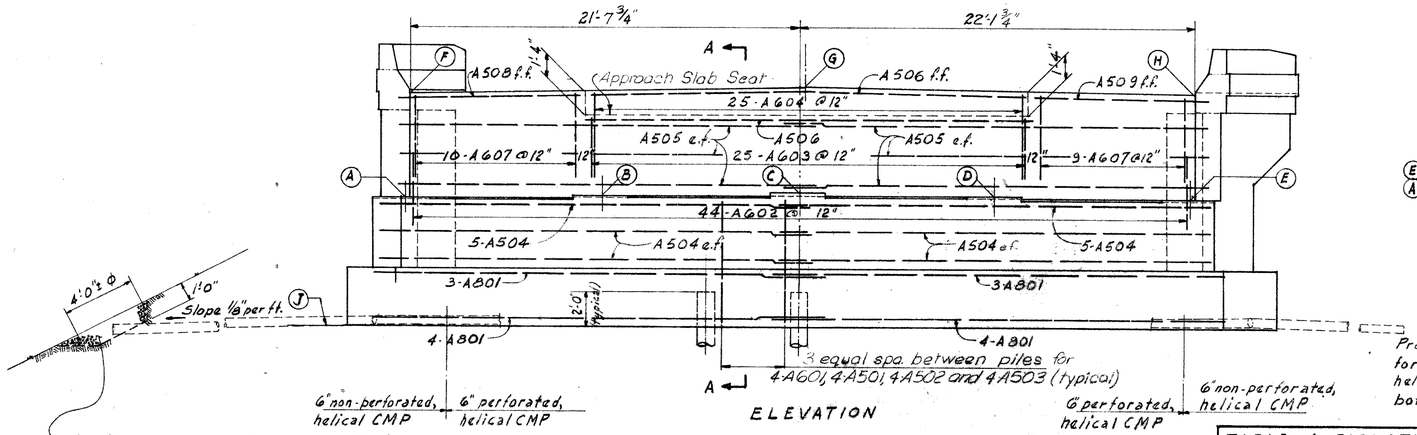




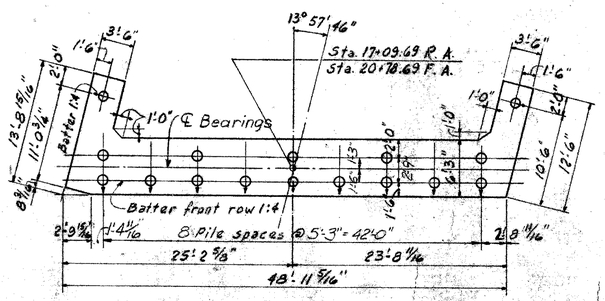
SECTION-A



DRAINAGE GROOVE DETAIL

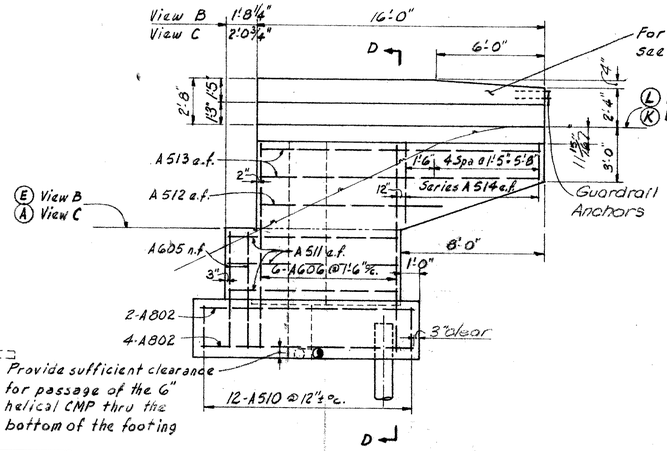


ELEVATION

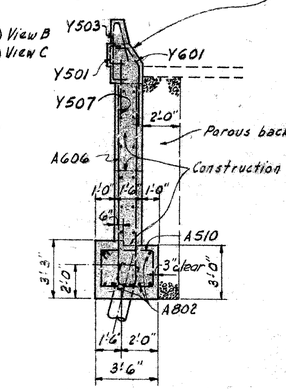


PILING LAYOUT

TABLE of ELEVATIONS		
POINT	REAR ABUTMENT	FORWARD ABUTMENT
A	825.09	824.51
B	825.23	824.64
C	825.37	824.76
D	825.18	824.56
E	824.99	824.35
F	830.86	829.78
G	831.16	830.03
H	830.77	829.62
J	817.96	817.32
K	830.72	829.55
L	830.62	829.38



VIEW B Shown, as noted
VIEW C Opposite Hand



SECTION D

LEGEND;
n.f. ____ near face
f.f. ____ far face
e.f. ____ each face

R.A. ____ Rear Abutment
F.A. ____ Forward Abutment

BURGESS & NIPLE LIMITED — CONSULTING ENGINEERS
COLUMBUS, OHIO

4/8

ABUTMENT DETAILS
BRIDGE NO. FRA-26.76-2680N
UNDER
JOHNSTOWN ROAD

FRANKLIN COUNTY STA. 1526+73.97

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
SBK. 2/19/70	SBK. 2/20/70	Y	M.I.G. 6/13/70	WCR 7/8/70	

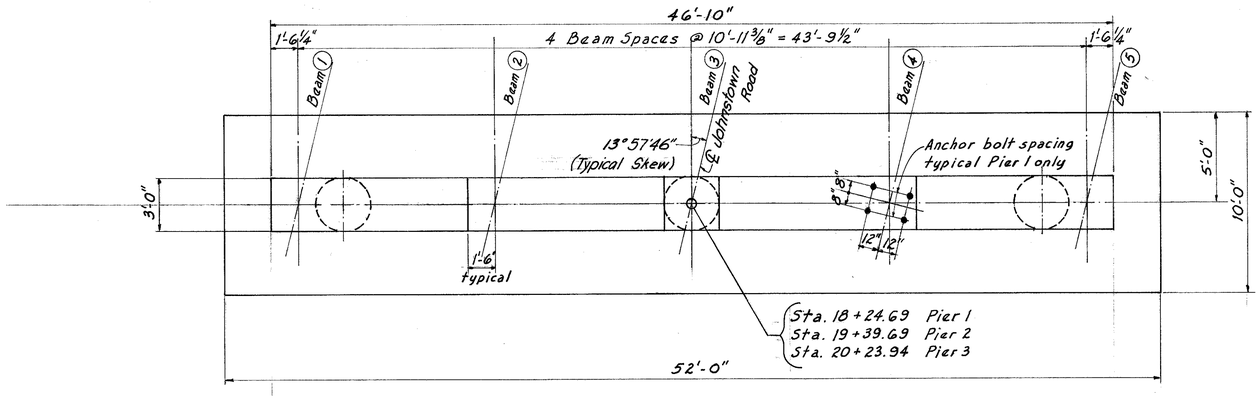
ALL-STATE BLUEPRINT CO.,INC., O. BLU-VEL 53000

MICROFILMED
AUG 14 1979
REPRODUCTION

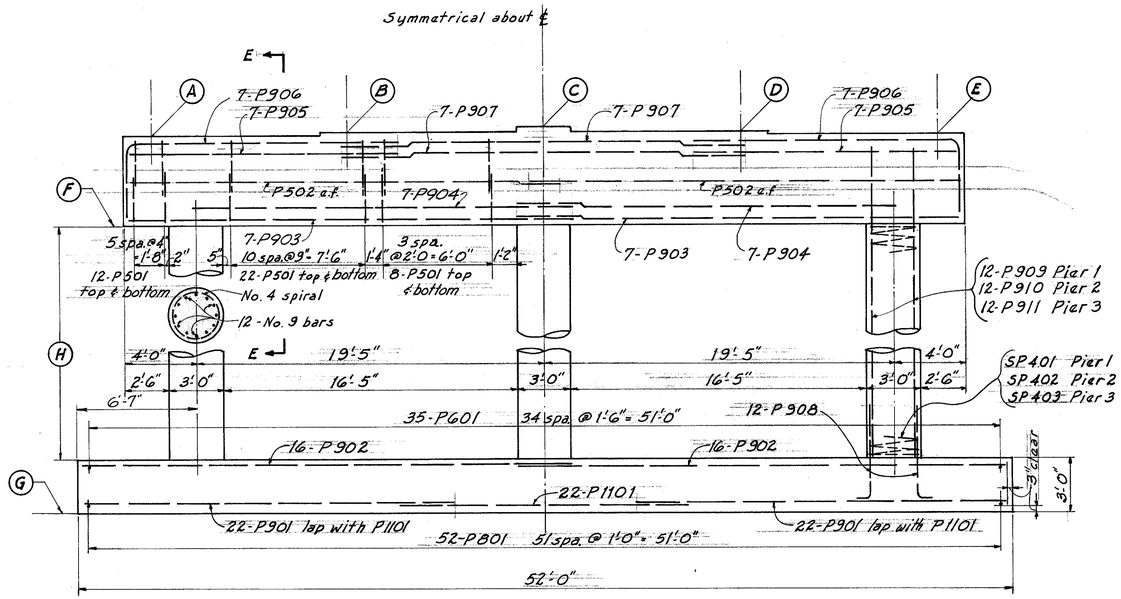
FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

182/247

FRA-270-26.76N

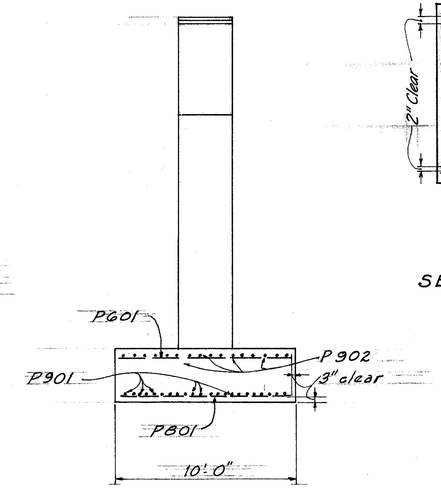


PLAN

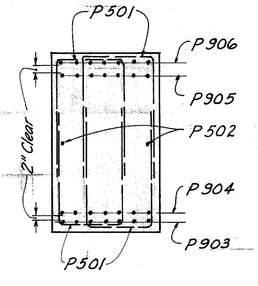


ELEVATION

TABLE of ELEVATIONS			
POINT	PIER 1	PIER 2	PIER 3
A	824.97	825.09	824.56
B	825.14	825.24	824.70
C	825.31	825.39	824.83
D	825.15	825.21	824.64
E	824.99	825.02	824.44
F	819.97	820.02	819.44
G	805.00	804.50	800.50
Dim. H	11.97'	12.52'	15.94'



END VIEW



SECTION-E

LEGEND:
e.f. ..... each face

BRIDGE SEAT REINFORCING: Special care shall be taken in placing reinforcing steel in the vicinity of the bridge seat of Pier 1 so as to avoid interference with drilling of anchor bolt holes.

BURGESS & NIPLE LIMITED — CONSULTING ENGINEERS
COLUMBUS, OHIO

5/8

PIER DETAILS
BR. NO. FRA-270-26BON
UNDER
JOHNSTOWN ROAD

FRANKLIN COUNTY STA. 1526+73.97

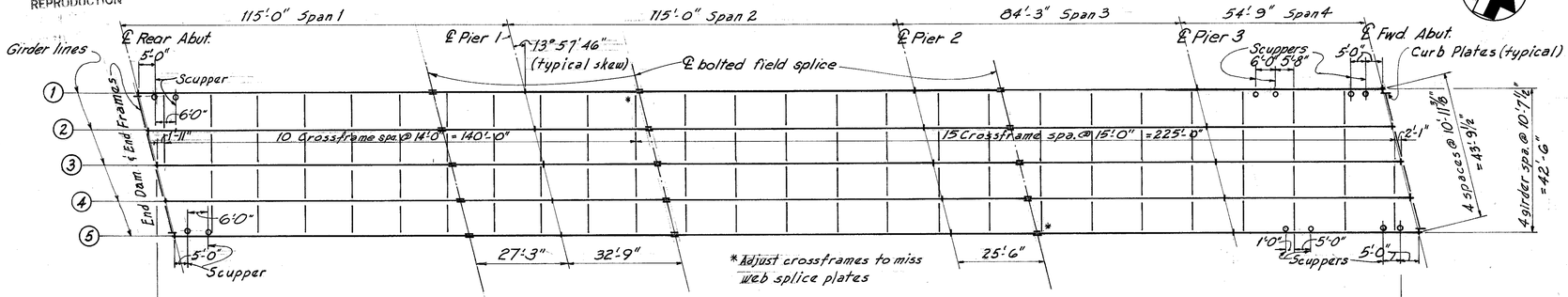
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
SBK.	SBK. 2-28-70		M.I.G. 4/25/70	WCR 7/8/70	

MICROFILMED
AUG 14 1979
REPRODUCTION

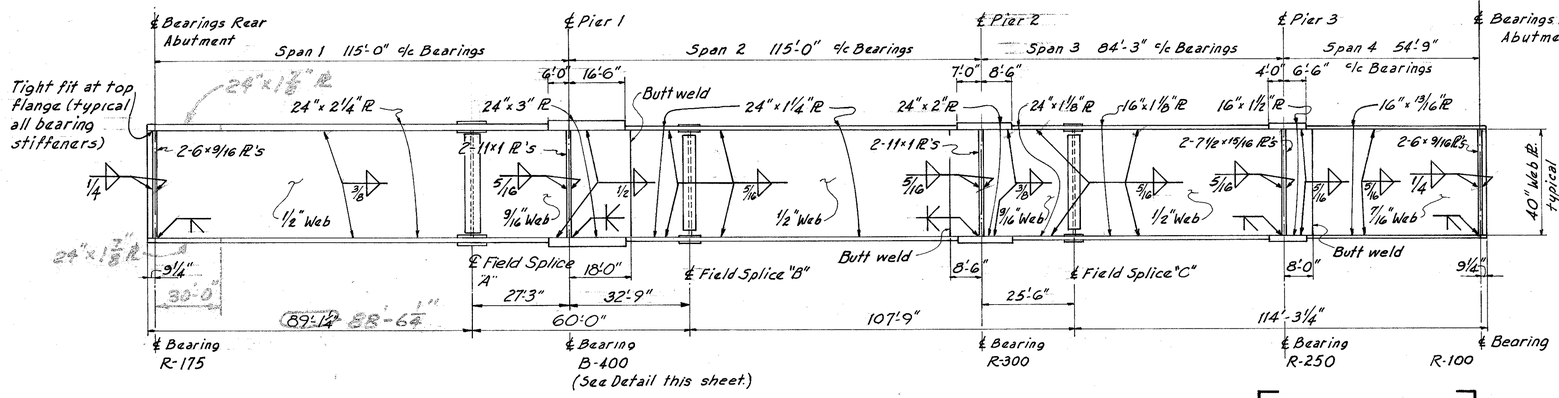
FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

183 / 247

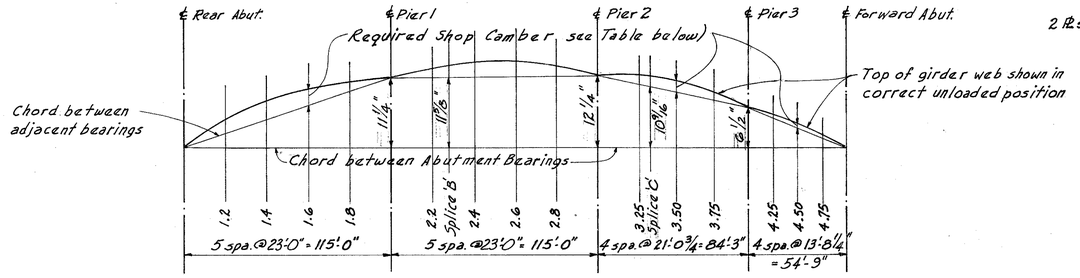
FRA-270-26.76N



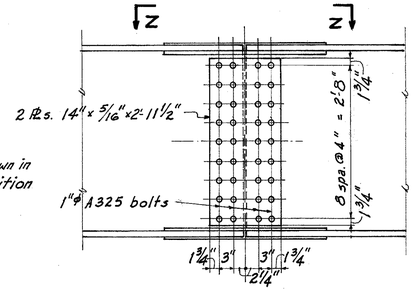
STRUCTURAL STEEL FRAMING PLAN



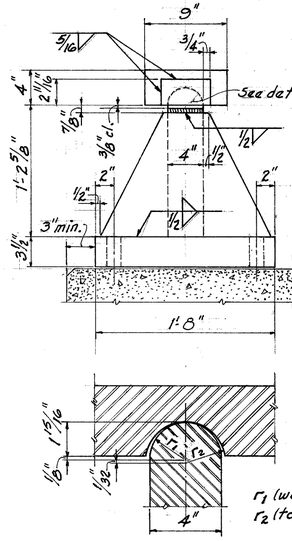
GIRDER ELEVATION
(This girder requires no intermediate stiffeners)



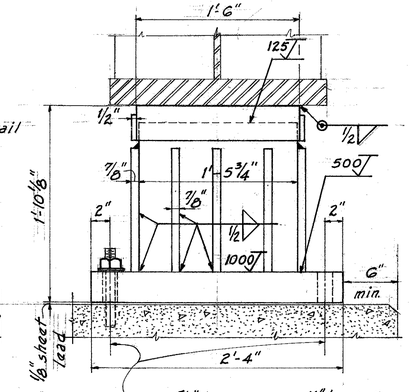
GIRDER CAMBER & LAYOUT DIAGRAM



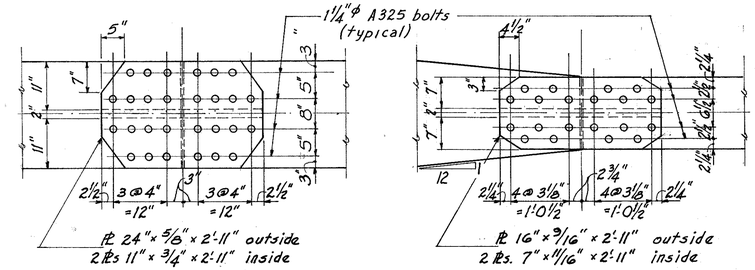
ELEVATION
TYPE "A", "B" & "C" WEB SPLICE



TOP BEARING DETAIL

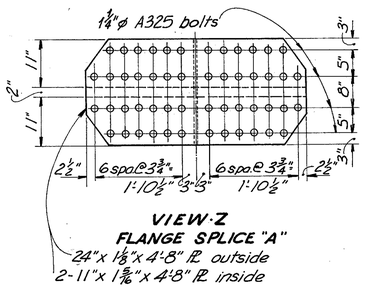


STRUCTURAL STEEL BOLSTER
(B-400)



VIEW-Z
FLANGE SPLICE "B"

VIEW-Z
FLANGE SPLICE "C"



VIEW-Z
FLANGE SPLICE "A"

NOTE:
For details of full penetration welds and butt welds see dwg. 8/10 Br. No. FRA-270-2719N I-270 UNDER GOSHEN LANE.

DEFLECTION & CAMBER TABLE (All dimensions in inches)

Span	Span-1					Span-2					Span-3				Span-4		
Point	1.20	1.40	1.60	Splice	1.80	2.20	Splice	2.40	2.60	2.80	3.25	Splice	3.50	3.75	4.25	4.50	4.75
Deflection due to weight of steel	0.36	0.53	0.44	0.24	0.19	0.03	0.10	0.16	0.19	0.09	0.03	0.04	0.07	0.05	0.01	0.02	0.02
Deflection due to remaining D.L.	1.11	1.62	1.34	0.72	0.57	0.19	0.47	0.80	0.94	0.47	0.18	0.24	0.41	0.30	0.07	0.18	0.16
Adjustment for Vertical Curve	0.81	1.21	1.21	0.91	0.81	0.81	1.03	1.20	1.20	0.81	0.51	0.60	0.68	0.51	0.21	0.29	0.21
Total	2.28	3.36	2.99	1.87	1.57	1.03	1.60	2.16	2.33	1.37	0.72	0.88	1.16	0.86	0.29	0.49	0.39
Required Shop Camber	2 5/16"	3 3/8"	3"	1 7/8"	1 3/16"	1"	1 5/8"	2 3/16"	3 3/8"	1 3/8"	¾"	⅞"	1 9/16"	⅞"	5/16"	½"	3/8"

BURGESS & NIPLE LIMITED — CONSULTING ENGINEERS
COLUMBUS, OHIO

6 / 8

STRUCTURAL STEEL DETAILS
BR. NO. FRA-270-2680N
UNDER
JOHNSTOWN ROAD

FRANKLIN COUNTY STA. 1526+73.97

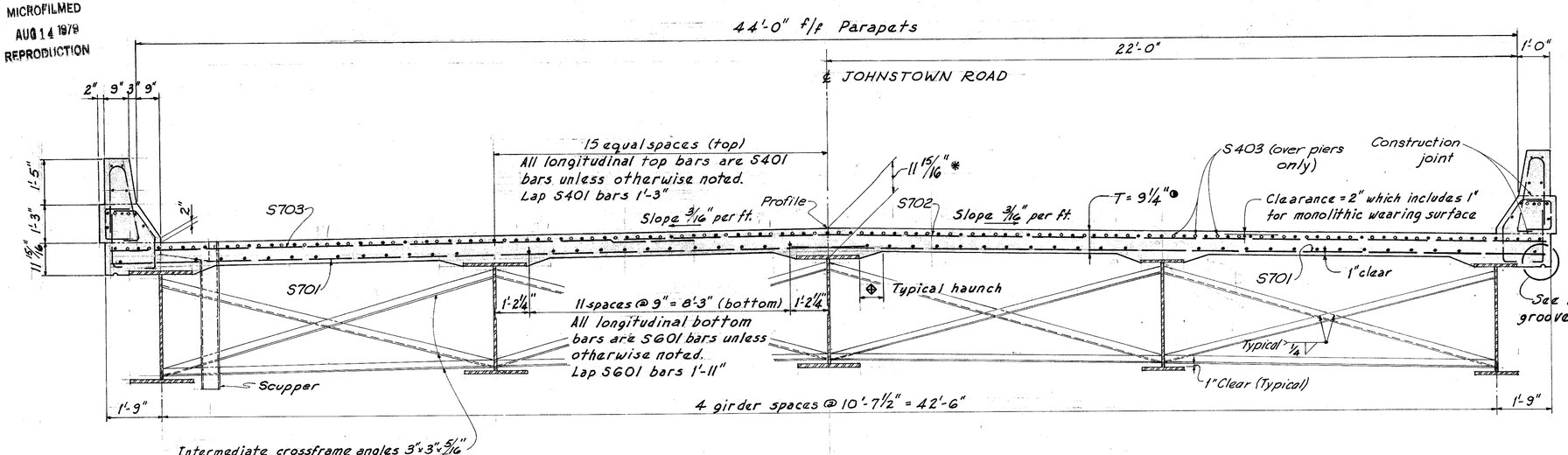
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
SBK. 2/17/70	SBK. 3/4/70		M.I.G. 6/10/70	WCR 7/8/70	

MICROFILMED
AUG 14 1979
REPRODUCTION

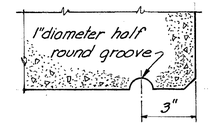
FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

184
247

FRA-270-26.76 N



TRANSVERSE DECK SECTION



DRIP GROOVE DETAIL

END DAMS, END CROSSFRAMES, CURB PLATES, & SCUPPERS: See Standard Drawing SD-1-69, Sheets 1, 2 & 3 of 4.

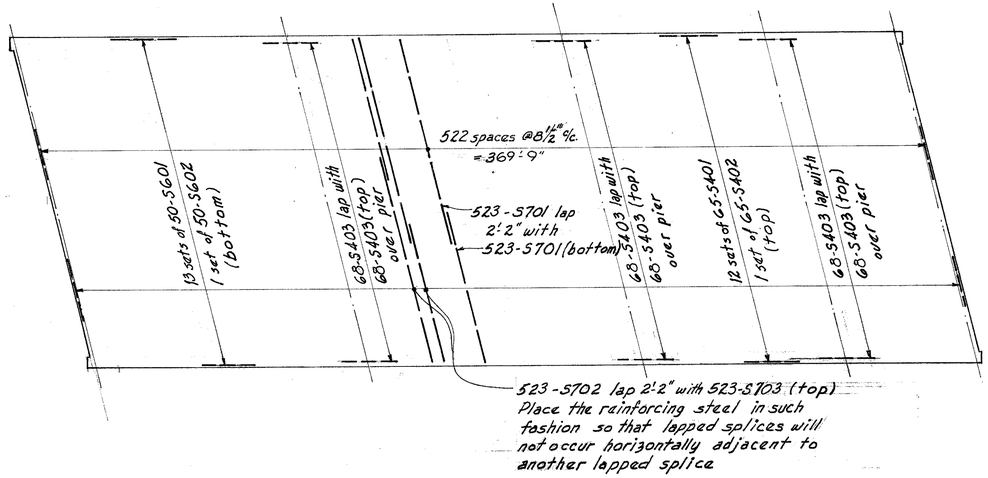
BEARINGS: See Standard Drawing RB-1-55.

BRIDGE ROADWAY RAILING: See Standard Drawing BR-1-67, Sheet 1 of 3.

❋ This is the design dimension. The quantity of deck concrete to be paid for shall be based upon this dimension, even though deviation from it may be necessary because the top flange of the girder may not have the exact camber or conformation required to place it parallel to the finished grade. Deduction shall be made for volume of encased steel plates as per 511.19.

◈ A haunch width of 9" shall be used for computing quantity of concrete. However the width may vary between 6" and 12" provided that the slope shall be not more than 1:4 for a haunch less than 9" in width.

◑ Slab thickness shown includes 1" for monolithic wearing surface.



DECK REINFORCEMENT PLAN

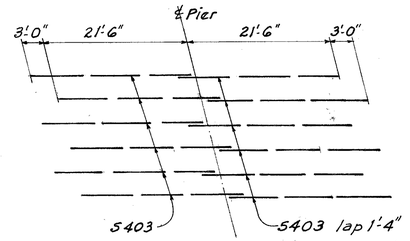
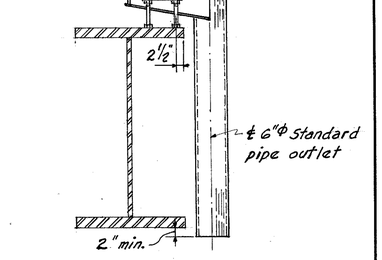
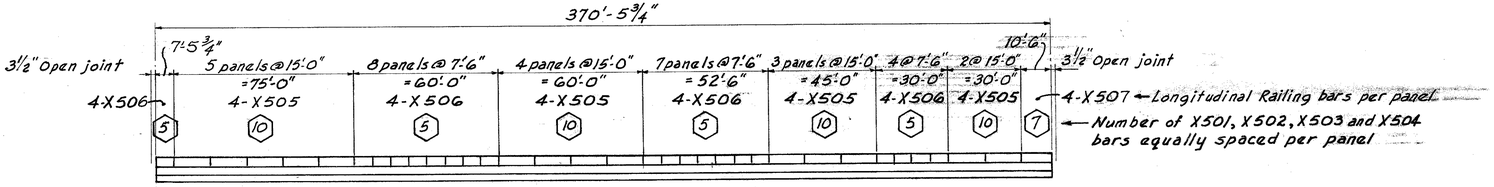


DIAGRAM SHOWING STAGGER OF S403 BARS OVER PIERS



SCUPPER DETAIL
(12 Required)
For additional scupper details see Standard Drawing SD-1-69 sheet 3.



ROADWAY RAILING ELEVATION

BURGESS & NIPLE LIMITED — CONSULTING ENGINEERS
COLUMBUS, OHIO

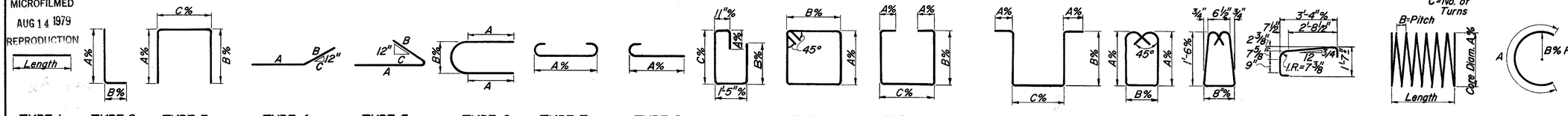
7 / 8

SUPERSTRUCTURE DETAILS
BR. NO. FRA-270-2680N
UNDER
JOHNSTOWN ROAD

FRANKLIN COUNTY STA. 1526+73.97

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
SBK. 3/12/70	S.B.K. 3-13-70		M.I.G. 6/10/70	WCR 7/8/70	

MICROFILMED
AUG 14 1979
REPRODUCTION



TYPE 1 TYPE 2 TYPE 3 TYPE 4 TYPE 5 TYPE 6 TYPE 7 TYPE 8 TYPE 9 TYPE 10 TYPE 11 TYPE 12 TYPE 13 TYPE 14 TYPE 15 TYPE 16 TYPE 17

FED. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.	TYPE FUNDS
2	OHIO		

185/247

FRA-270-26.76 N

ABUTMENT

MARK	NUMBER	LENGTH	TYPE	A	B	C	WEIGHT
A801	28	25'-3"	1				1888
A802	24	12'-0"	1				769
A601	64	14'-3"	3	2'-6"	6'-9"	5'-4"	1370
A602	88	9'-1"	3	4'-0"	4'-0"	1'-5"	1200
A603	50	5'-1"	3	2'-0"	2'-0"	1'-5"	382
A604	50	7'-2"	3	3'-3"	3'-3"	0'-11"	538
A605	8	6'-6"	1				78
A606	24	21'-10"	3	10'-6"	10'-6"	1'-2"	787
A607	38	11'-1"	3	5'-0"	5'-0"	1'-5"	632
A501	64	8'-7"	3	1'-9"	1'-9"	5'-4"	573
A502	64	7'-0"	2	6'-6"	7½"		467
A503	64	6'-8"	3	1'-9"	1'-9"	3'-5"	445
A504	36	24'-0"	1				901
A505	24	23'-6"	1				588
A506	4	27'-0"	1				113
A507	12	5'-9"	1				72
A508	4 2	10'-6"	1				44 22
A509	4 2	9'-6"	1				40 20
A510	48	11'-1½"	10	2'-4"	3'-0"		557
A511	24	9'-2"	1				229
A512	8	11'-0"	1				92
A513	16	15'-6"	1				259
A514"S"	8 sets/6 bars	3'-5"/1'-9" 5" Incr.	1				129
A515	12	6'-6"	1				81

ABUTMENT RAILING (See Std. Dwg. BR-1-67 sh. 1) *

Y701	4	4'-4"	1				35
Y702	4	4'-9"	*				39
Y703	4	4'-10"	*				40
Y704	4	4'-11"	*				40
Y705	4	5'-0"	*				41
Y601	28	5'-0"	*				210
Y501	48	2'-0"	3	7½"	7½"	1'-0"	100
Y502	40	3'-0"	1				125
Y503	28	6'-4"	*	3'-4"			185
Y504	32	15'-6"	1				317
Y505	8	7'-3"	1				61
Y506	8	9'-6"	1				79
Y507	48	2'-10"	1				142

PIER

MARK	NUMBER	LENGTH	TYPE	A	B	C	WEIGHT
P1101	66	16'-0"	1				5611
P901	132	21'-2"	1				9500
P902	96	27'-2"	1				8867
P903	42	24'-8"	1				3522
P904	42	21'-8	1				2999
P905	42	14'-10"	1				2118
P906	42	19'-0"	2	14'-10"	4'-5"		2713
P907	42	22'-6"	1				3213
P908	108	6'-6"	2	5'-6"	1'-3"		2387
P909	36	16'-6"	1				2020
P910	36	17'-0"	1				2081
P911	36	20'-6"	1				2509
P801	156	9'-6"	1				3957
P601	105	9'-6"	1				1498
P501	504	8'-3"	3	3'-3"	3'-3"	2'-0"	4337
P502	12	24'-0"	1				300
SP401	3	11'-7½"	16	32"	4½"	34	674
SP402	3	12'-4½"	16	32"	4½"	36	714
SP403	3	15'-9"	16	32"	4½"	45	896

SUPERSTRUCTURE

MARK	NUMBER	LENGTH	TYPE	A	B	C	WEIGHT
S701	1046	24'-7"	1				52,559
S702	523	30'-0"	1				32,070
S703	523	19'-0"	1				20,311
S601	650	30'-0"	1				29,289
S602	50	5'-6"	1				413
S401	900	30'-0"	1				18,036
S402	75	25'-6"	1				1,277
S403	408	23'-8"	1				6,450

SUPERSTRUCTURE RAILING *(See BR-1-67 sh 1)

X501	494	2'-0"	*				1030
X502	494	5'-4	*				2748
X503	494	2'-3	*	1'-9"			1159
X504	494	3'-4"	*	10"			1717
X505	112	14'-6"	1				1,694
X506	160	7'-0"	1				1,168
X507	8	10'-0"	1				83

REPLACEMENT BARS

MARK	NUMBER	LENGTH	TYPE	A	B	C	WEIGHT
RE1101	1	8'-6"	1				
RE901	3	7'-10"	1				
RE801	1	7'-6"	1				
RE701	6	7'-2"	1				
RE601	2	6'-11"	1				
RE501	1	6'-7"	1				
RE401	2	6'-3"	1				
RESP401	1	6'-3"	17				

"S" Series

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, indicates the bar size number. For example, A601 is a No.6 size bar and P1101 is a No.11 size bar.

SPIRAL REINFORCING BARS: The "Length" shown in the steel list for the spiral bars is the length of the spiral along the axis of the spiral. The "No. of Turns" shown is the length divided by the pitch plus 3 turns (total number of closed coils). Spiral reinforcing bars shall not have deformations but shall in other respects conform to Item 509. 1½ Closed coils shall be provided at the ends of each spiral unit. Four steel channel, tee or angle spacers, weighing approximately 0.80 lb. per lin. ft. of spacer, shall be provided for each spiral unit. They shall be equally spaced along the periphery of the coil. The number of pounds of these spacers, based on 0.80 lbs. per lin. ft. will be paid for as reinforcing steel and is included in the tabulated quantities of spiral bars.

BURGESS & NIPLE LIMITED — CONSULTING ENGINEERS
COLUMBUS, OHIO 8/8

REINFORCING STEEL LIST
BR. NO. FRA-270-2680 N
UNDER JOHNSTOWN RD.

FRANKLIN COUNTY Sta. 1526+73.97

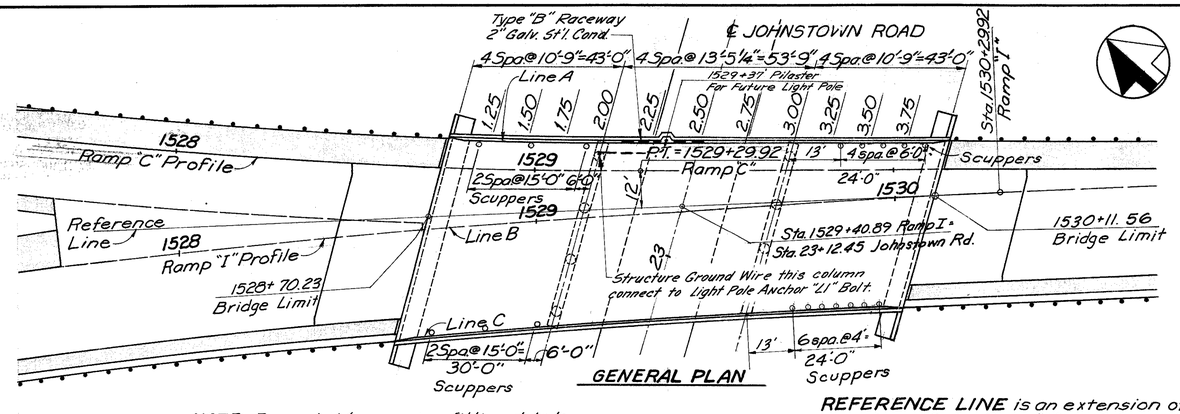
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
S.B.K. 4/20/70	L.E.H. 4/21/70		M.I.G. 6/25/70	W.C.R. 7/8/70		

ALL-STATE BLUEPRINT CO.'S., O. 41018

FED. RD. DIVISION	STATE	PROJECT		
2	OHIO			

187/247

FRA-270-26.76N



GENERAL PLAN

NOTE: For conduit & expansion fitting details and grounding, see Sheet HL-4.
Expansion fittings shall be OZ Type AX or Spring City Type AF.
For light pole & conduit quantities see Lighting Summary Sheet. 165 of 247

REFERENCE LINE is an extension of the tangent line of the Ramp "I" profile at the S.T. = 1530+29.92 with a bearing of S 44°56'30" E. All stationing and offsets are referenced to this line.

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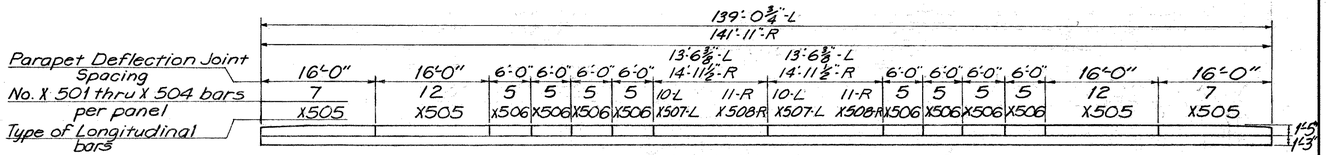
ESTIMATED QUANTITIES BR. NO. FRA-270-2685N

ITEM	TOTAL	UNIT	DESCRIPTION	SUPER STRUCT.	ABUT.	PIERS	GENERAL
503	337	Cu.yd.	Unclassified excavation		165	172	
505	Lump	Sum	First test pile				Lump
507	2580	Lin. ft.	12" Cast-in-place reinf. conc. piles		900	1680	
509	160,720	Lbs.	Reinforcing steel	129,838	7,362	23,520	
511	670	Cu.yd.	Class C concrete, superstructure	670			
511	60	Cu.yd.	Class C concrete, piers above footings			60	
511	21	Cu.yd.	Class C concrete, abuts. above footings		21		
511	105	Cu.yd.	Class C concrete, footings		42	63	
516	8	Sq.ft.	½" Preformed expansion joint filler	8			
518	33	Cu.yd.	Porous backfill		33		
518	18	Each	6" Dia. scuppers, galvanized steel pipe, wrought iron pipe, or alloy steel pipe.	18			
601	516	Sq.yd.	Concrete slope protection				516
808	670	Units	Chemical admixture for Concrete Type A, B or D	670			
625			See sheet 165 for Lighting Summary				

GENERAL ELEVATION
(piles not shown)



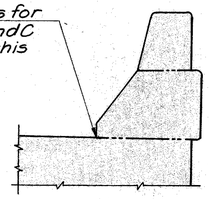
BRIDGE ROADWAY RAILING

FINISHED DECK ELEVATIONS (See Detail A)

	LINE-A Station	LINE-A Offset	LINE-A Elevation	LINE-B Station	LINE-B Offset	LINE-B Elevation	LINE-C Station	LINE-C Offset	LINE-C Elevation
1.00	1528+78.48	22'-8⅛"	845.09	1528+70.53	1'-5 7/16"	845.71	1528+60.82	31'-0¼"	844.72
1.25	1528+88.95	21'-9⅜"	844.80	1528+81.37	1'-2⅝"	845.39	1528+71.67	30'-8⅛"	844.46
1.50	1528+99.45	21'-0⅛"	844.50	1528+92.20	0'-11⅞"	845.08	1528+82.51	30'-5⅛"	844.19
1.75	1529+09.97	20'-4⅞"	844.21	1529+03.02	0'-8⅝"	844.76	1528+93.33	30'-2⅜"	843.92
2.00	1529+20.51	19'-8⅝"	843.91	1529+13.83	0'-6⅞"	844.45	1529+04.15	29'-11⅞"	843.66
2.25	1529+33.73	19'-0⅜"	843.54	1529+27.32	0'-4 1/16"	844.08	1529+17.65	29'-9⅜"	843.33
2.50	1529+46.96	18'-5⅞"	843.30	1529+40.80	0'-3 1/16"	843.66	1529+31.14	29'-7¼"	843.00
2.75	1529+60.19	17'-9⅝"	842.94	1529+54.27	0'-1⅞"	843.27	1529+44.62	29'-5¾"	842.67
3.00	1529+73.42	17'-2⅛"	842.57	1529+67.73	0'-1 1/16"	842.87	1529+58.09	29'-4⅞"	842.35
3.25	1529+84.00	16'-7⅞"	842.27	1529+78.50	0'-0⅜"	842.56	1529+68.85	29'-4"	842.08
3.50	1529+94.58	16'-1⅞"	841.97	1529+89.25	0'-0⅝"	842.24	1529+79.61	29'-3⅝"	841.82
3.75	1530+05.16	15'-7⅜"	841.67	1530+00.01	0'-0⅛"	841.93	1529+90.46	29'-3¼"	841.56
4.00	1530+15.75	15'-1⅞"	841.37	1530+10.76	0'-0"	841.62	1530+01.17	29'-3⅛"	841.30

NOTE: All stations in above table are on the reference line with the offsets being perpendicular to the reference line.

Elevations for Lines A and C taken at this point.



DETAIL-A

REFERENCE - shall be made to:

STANDARD DRAWINGS		SUPPLEMENTAL SPECIFICATIONS	
No.	Dated	No.	Dated
AS-1-67	revised 6-12-69	808	11-14-69
BR-1-67	sheets 2 & 3. 2-1-68	836	6-17-69

DESIGN SPECIFICATIONS: This structure conforms to "Standard Specifications for Highway Bridges" adopted by the American Association of State Highway Officials, 1965, including the Ohio "Supplement" to these specifications.

DESIGN DATA:
Design Loading - HS 20-44
Concrete Class C - unit stress 1200 p.s.i. for superstructure
unit stress 1333 p.s.i. for substructure
Reinforcing Steel - ASTM A615, A616 or A617 - unit stress 20,000 p.s.i. Spiral reinforcement shall be plain bars ASTM A306 or A499.

EMBANKMENT CONSTRUCTION: The embankments shall be constructed to the level of the subgrade for a minimum distance of 200 feet back of the abutments. Excavation shall then be made for the abutments and benches and the piling driven.

ABUTMENT EXCAVATION QUANTITY, in addition to 503.10, includes the removal of embankment above the bench.

PILES shall be driven to a minimum bearing capacity of 40 tons per pile for the abutments and 40 tons per pile for the piers.

UTILITY LINES: All expense involved in relocating the affected utility lines shall be borne by the Owner(s). The Contractor and Owner(s) are requested to cooperate by arranging their work in such a manner that inconvenience to either would be held to a minimum.

BURGESS & NIPLE LIMITED — CONSULTING ENGINEERS
COLUMBUS, OHIO 2/8

GENERAL PLAN AND ELEVATION
NOTES AND ESTIMATED QUANTITIES
BR. NO. FRA-270-2685N
RAMP "I" OVER
JOHNSTOWN ROAD
STA. 1528+70.23
FRANKLIN COUNTY STA. 1530+11.56

DESIGNED	DRAWN	TRACED	CHECKED	REVIEW. O	DATE	REVISED
T.E.U. 9-3-69	C.W.B.	C.W.B.	12/15/69 Y.R.C.		7-8-70 WER 2-20-70	

ALL-STATE BLUEPRINT CO.'S., O. 41028

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

186
247

FRA-270-26.76N

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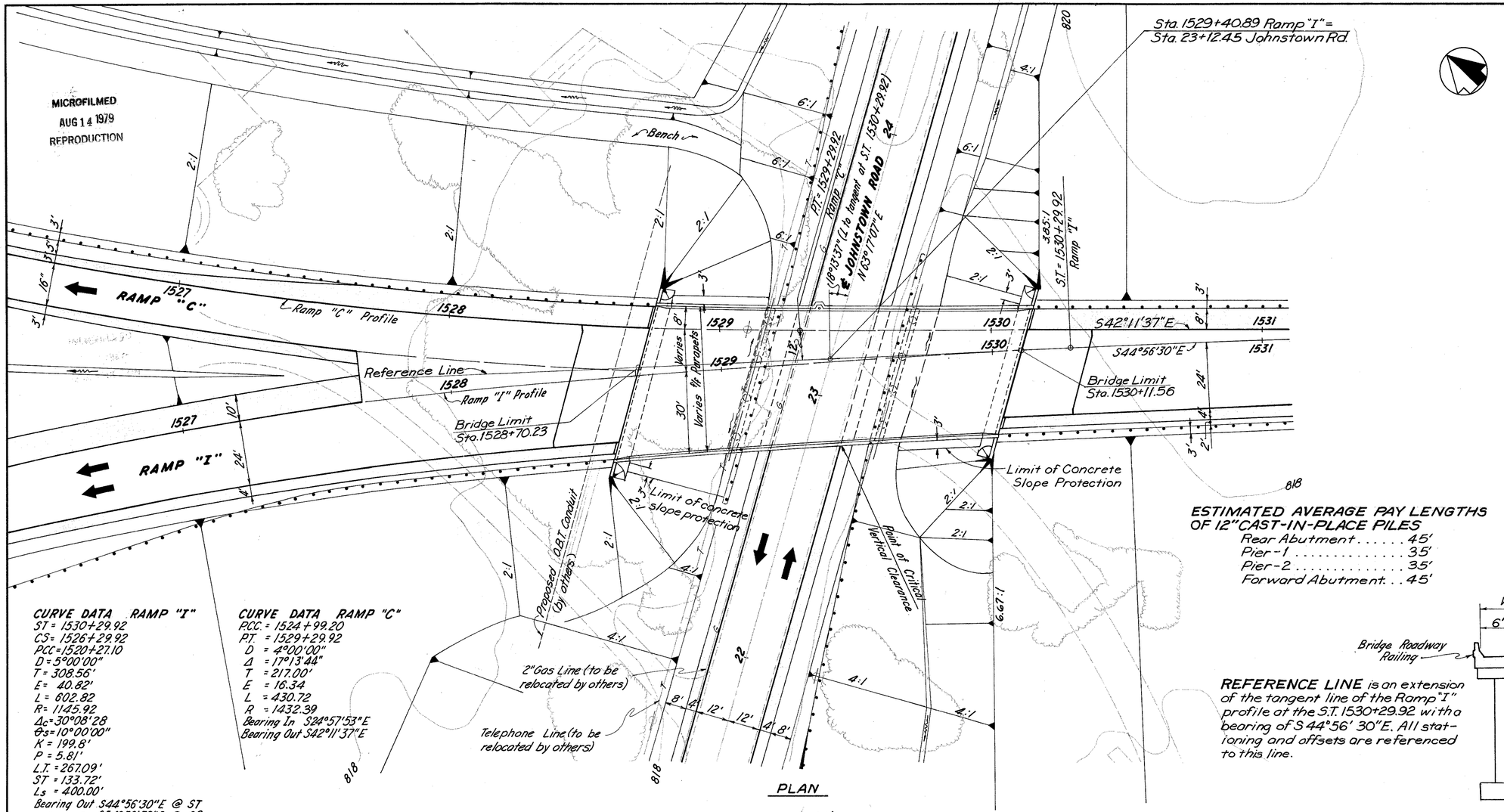
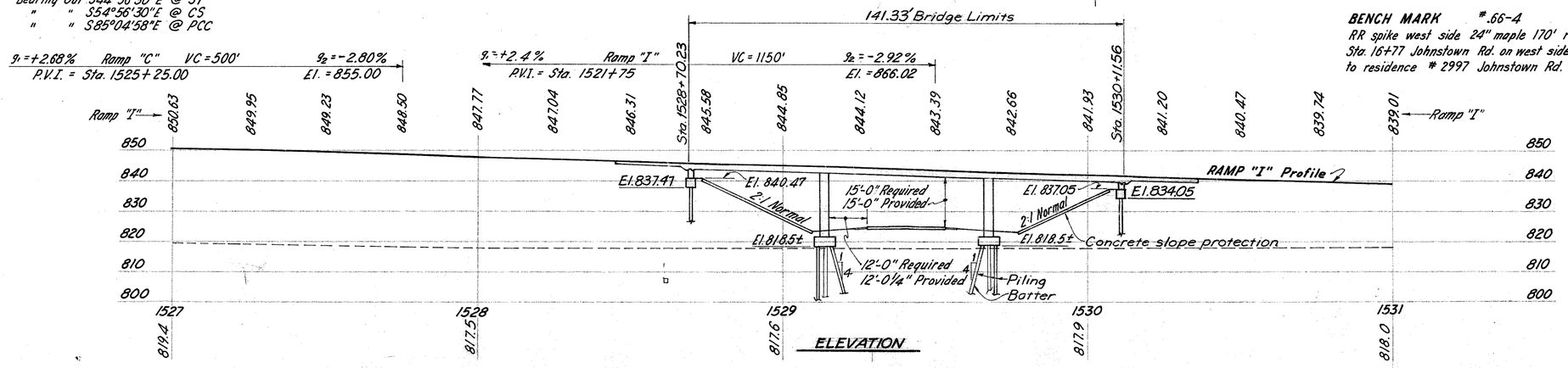


PLAN

CURVE DATA RAMP "I"
ST = 1530+29.92
CS = 1526+29.92
PCC = 1520+27.10
D = 5°00'00"
T = 308.56'
E = 40.82'
L = 602.82
R = 1145.92
Δc = 30°08'28"
Θs = 10°00'00"
K = 199.8'
P = 5.81'
L.T. = 267.09'
ST = 133.72'
Ls = 400.00'
Bearing Out S44°56'30"E @ ST
" " S54°56'30"E @ CS
" " S85°04'58"E @ PCC

CURVE DATA RAMP "C"
PCC = 1524+99.20
P.T. = 1529+29.92
D = 4°00'00"
Δ = 17°13'44"
T = 217.00'
E = 16.34
L = 430.72
R = 1432.39
Bearing In S24°57'53"E
Bearing Out S42°11'37"E

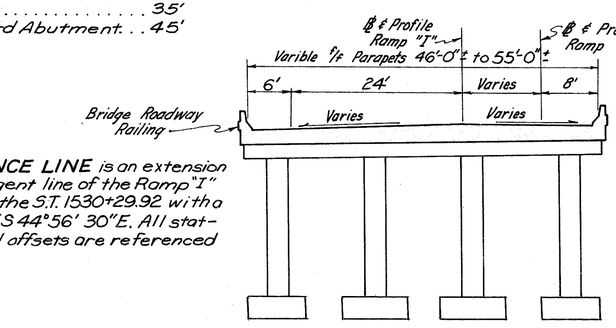


ELEVATION

ESTIMATED AVERAGE PAY LENGTHS OF 12" CAST-IN-PLACE PILES
Rear Abutment . . . . . 45'
Pier-1 . . . . . 35'
Pier-2 . . . . . 35'
Forward Abutment . . 45'

PROPOSED STRUCTURE

TYPE: 3 span continuous reinforced concrete slab with reinforced concrete substructure.
SPANS: 43.0', 53.75', 43.0" along reference line
LOADING: HS20-44
SKEW: 18°13'37" L.F.
WEARING SURFACE: 1" Monolithic
APPROACH SLAB: AS-1-67 (25' long)
ALIGNMENT: Left spiral
SUPERELVATION: Varies
ROADWAY: Average deck width 50'-6"± f/f Parapets



SECTION
(Looking back - station)

REFERENCE LINE is an extension of the tangent line of the Ramp "I" profile at the S.T. 1530+29.92 with a bearing of S 44°56' 30"E. All stationing and offsets are referenced to this line.

BENCH MARK #.66-4 El. 821.39
RR spike west side 24" maple 170' right of Sta. 16+77 Johnstown Rd. on west side driveway to residence # 2997 Johnstown Rd.

1986 ADT = 16,950

EARTHWORK limits are schematic. Actual slopes shall conform to plan cross sections.

BURGESS & NIPLE LIMITED — CONSULTING ENGINEERS
COLUMBUS, OHIO

1/8

SITE PLAN
BR. NO. FRA-270-2685N
RAMP "I" OVER JOHNSTOWN ROAD

SCALE 1" = 20'
FRANKLIN COUNTY

STA. 1528+70.23
STA. 1530+11.56

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
REC	REC	HH	DW	7/8/70 2-20-70 W&R 6-5-07	

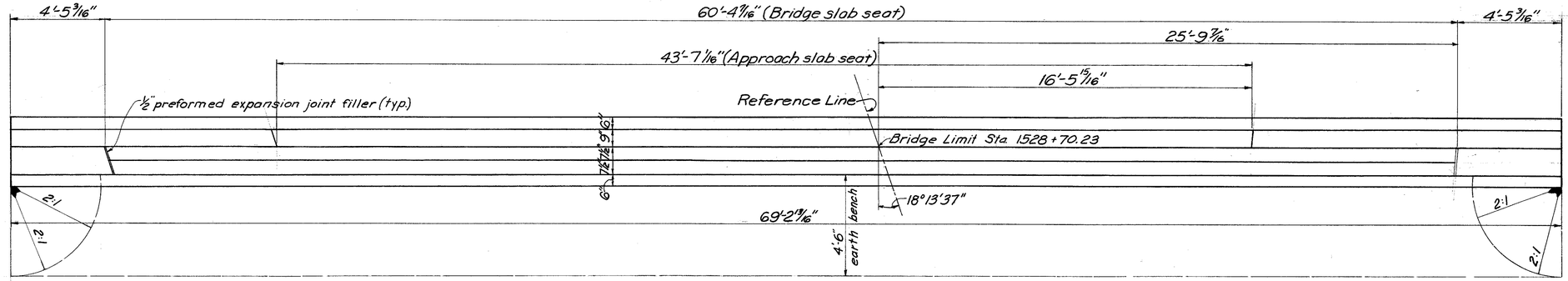
ALL-STATE BLUEPRINT CO.'S., O. 41028

MICROFILMED
AUG 14 1979
REPRODUCTION

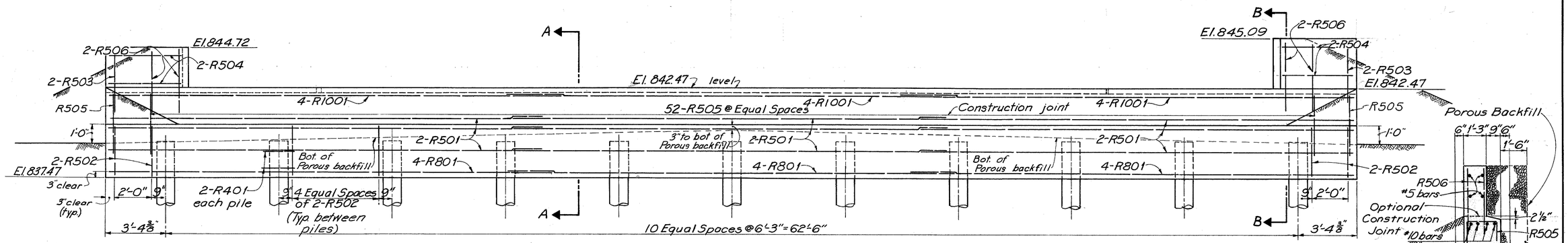
FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

188
247

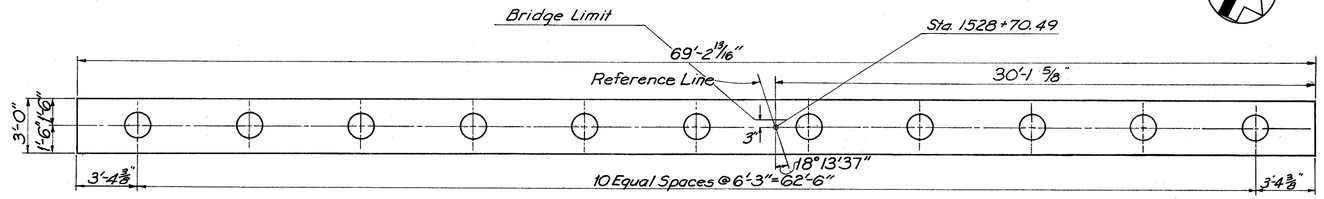
FRA-270-26.76N



PLAN



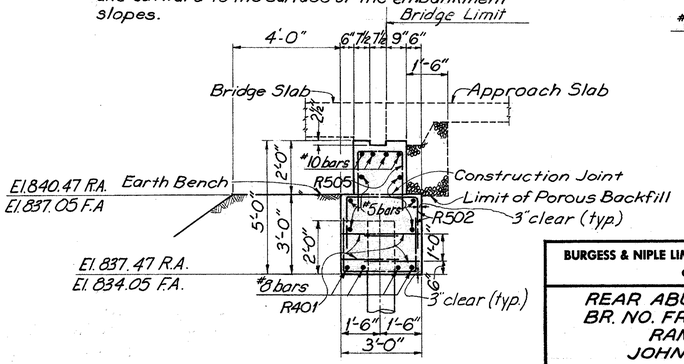
ELEVATION
(Looking Backstation)



PILING LAYOUT

LEGEND
R.A. ..... Rear Abutment
F.A. ..... Forward Abutment

POROUS BACKFILL shall extend upward to the approach slab and to the surface of the earth shoulders, and outward to the surface of the embankment slopes.



SECTION-A

SECTION-B

BURGESS & NIPLE LIMITED — CONSULTING ENGINEERS
COLUMBUS, OHIO 3 8

REAR ABUTMENT DETAILS
BR. NO. FRA-270-2685 N
RAMP "I" OVER
JOHNSTOWN ROAD

STA. 1528+70.23
FRANKLIN COUNTY STA. 1530+11.56

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
T.E.W. 7-27-69	C.W.B.	C.W.B.	12/19/69 SBC	7-8-70 WRR 2-20-70	

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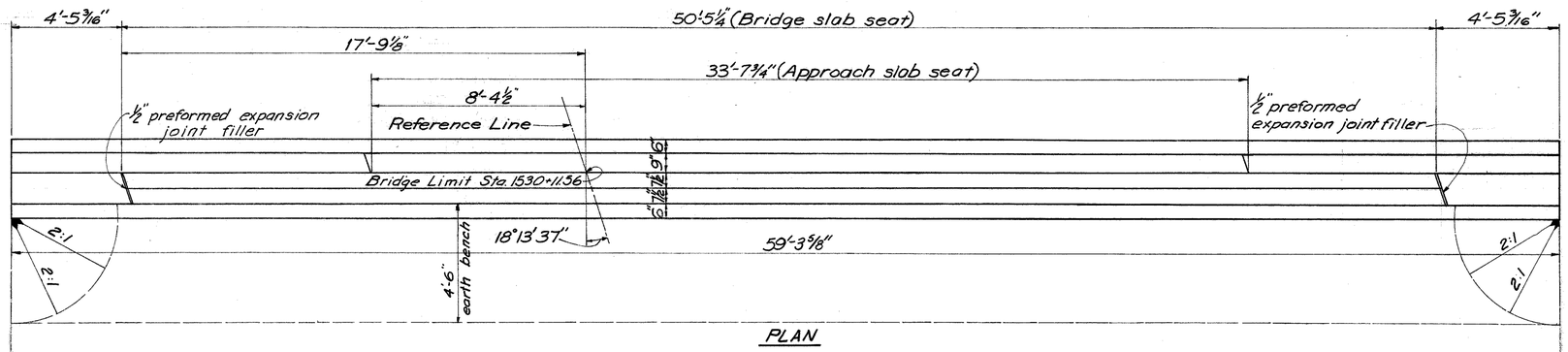
REPRODUCTION

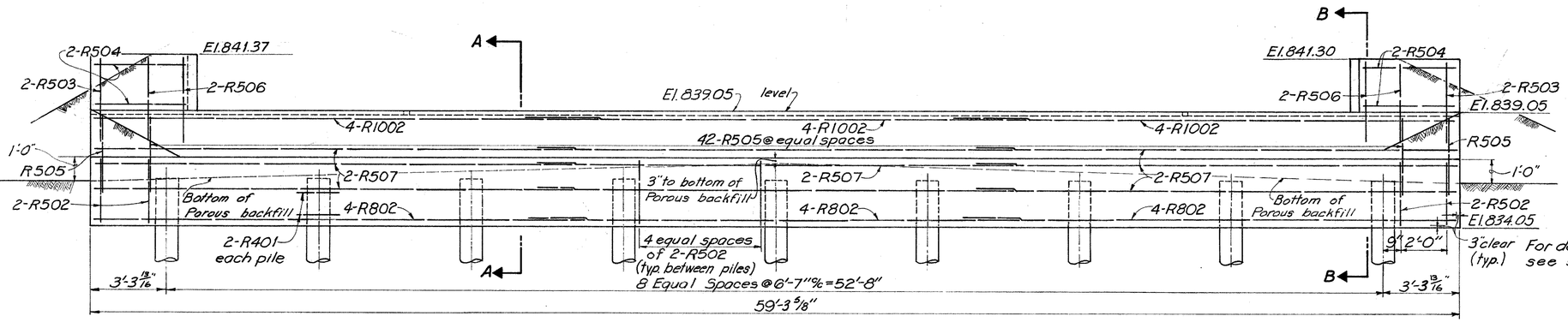
FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

189 / 247

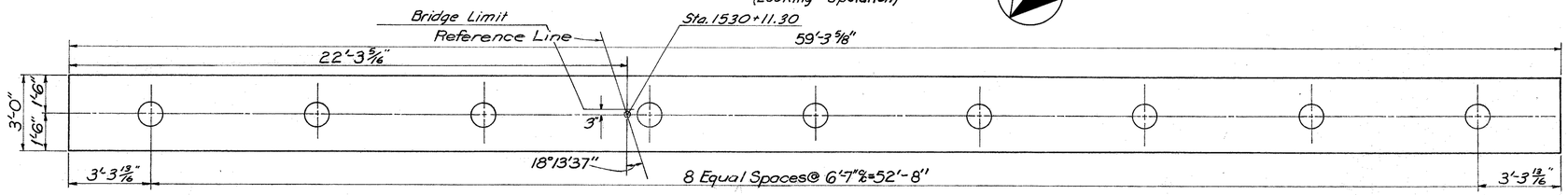
FRA-270-26.76N



PLAN



ELEVATION
(Looking Upstation)



PILING LAYOUT

BURGESS & NIPLE LIMITED — CONSULTING ENGINEERS
COLUMBUS, OHIO

4 / 8

FORWARD ABUTMENT DETAILS
BR. NO. FRA-270-26.85N
RAMP "I" OVER JOHNSTOWN ROAD

FRANKLIN COUNTY

STA. 1529+70.23
STA. 1532+11.56

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
TEU 7-30-69	C.W.B.	C.W.B.	12/9/69 REC	WeR	7-8-70 2-20-70	

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AUG 14 1979
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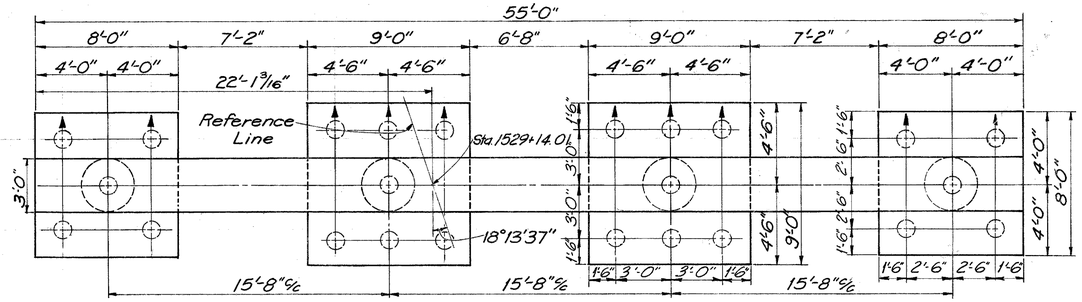
FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

190
247

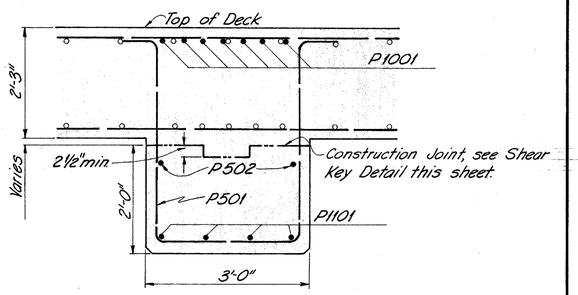
FRA-270-26.76N



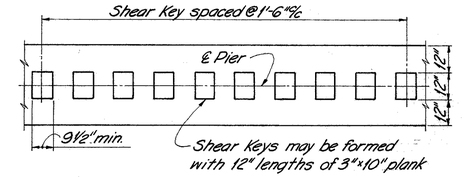
PLAN PIER NO. 1

Piles shown thus: ⊖ batter 1:4 in direction of arrow

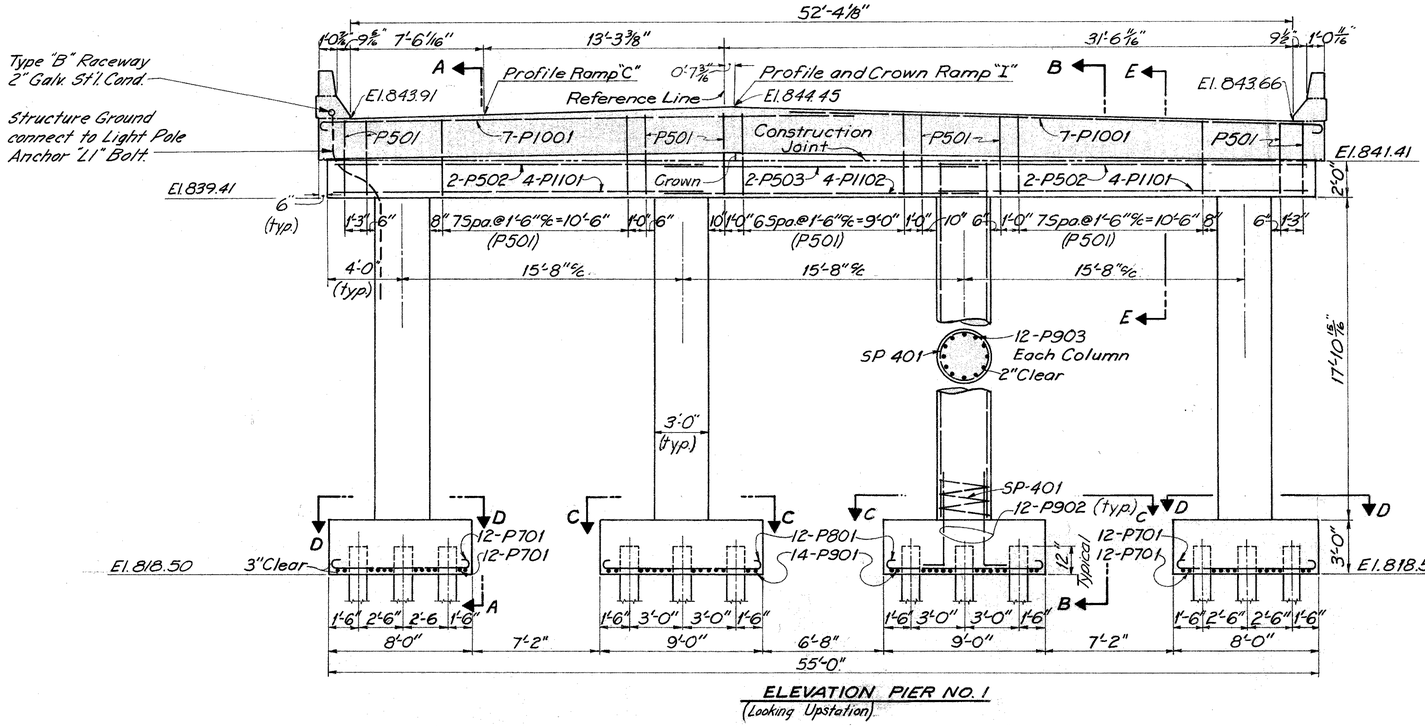
For Sections C and D details, see sheet 6 8



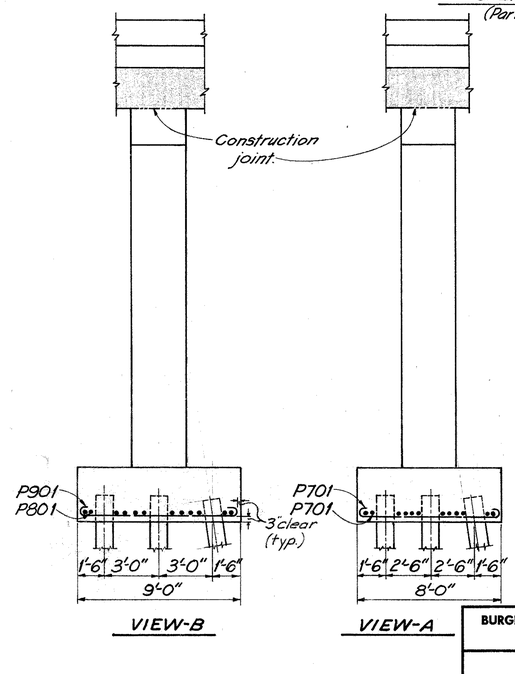
SECTION-E



SHEAR KEY DETAILS
(Part Pier Plan)



ELEVATION PIER NO. 1
(Looking Upstation)



VIEW-B

VIEW-A

BURGESS & NIPLE LIMITED — CONSULTING ENGINEERS
COLUMBUS, OHIO

5 8

PIER NO. 1 DETAILS
BR. NO. FRA-270-2685 N
RAMP "I" OVER
JOHNSTOWN ROAD

STA. 1528+70.23
STA. 1530+11.56
FRANKLIN COUNTY

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
T.E.U. 7-24-69	C.W.B.	C.W.B.	12/5/69 J.E.C.	7-8-70 W.C.R. 2-20-70	

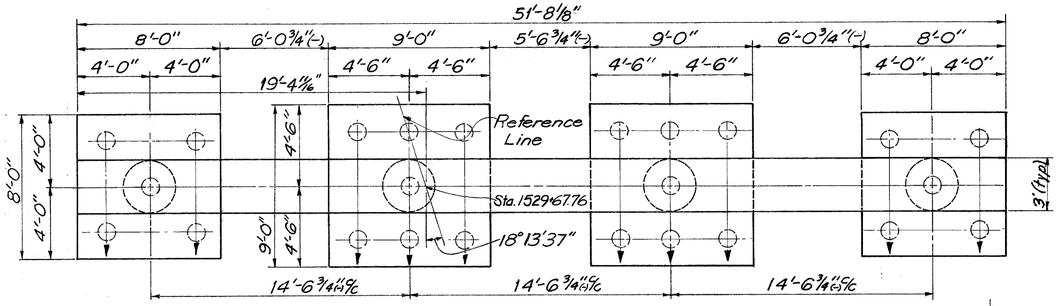
ALL-STATE BLUEPRINT CO.'S., O. 41028

MICROFILMED
AUG 14 1979
REPRODUCTION

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

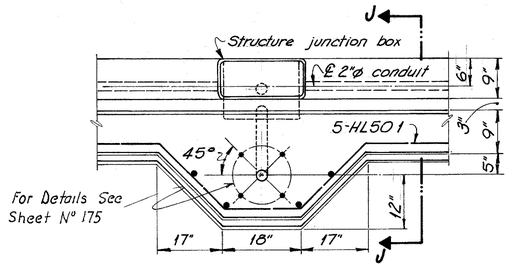
191/247

FRA-270-26.76N

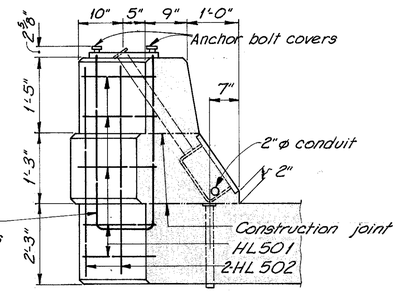


PLAN PIER NO. 2

Piling shown thus: ⊕ indicates pile battered 1:4 in direction of arrow.

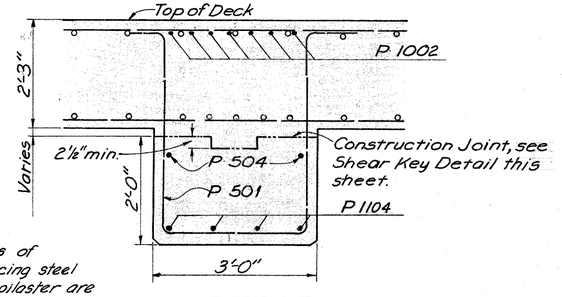


LIGHT POLE FOUNDATION PILASTER

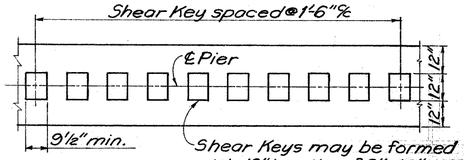


SECTION-J

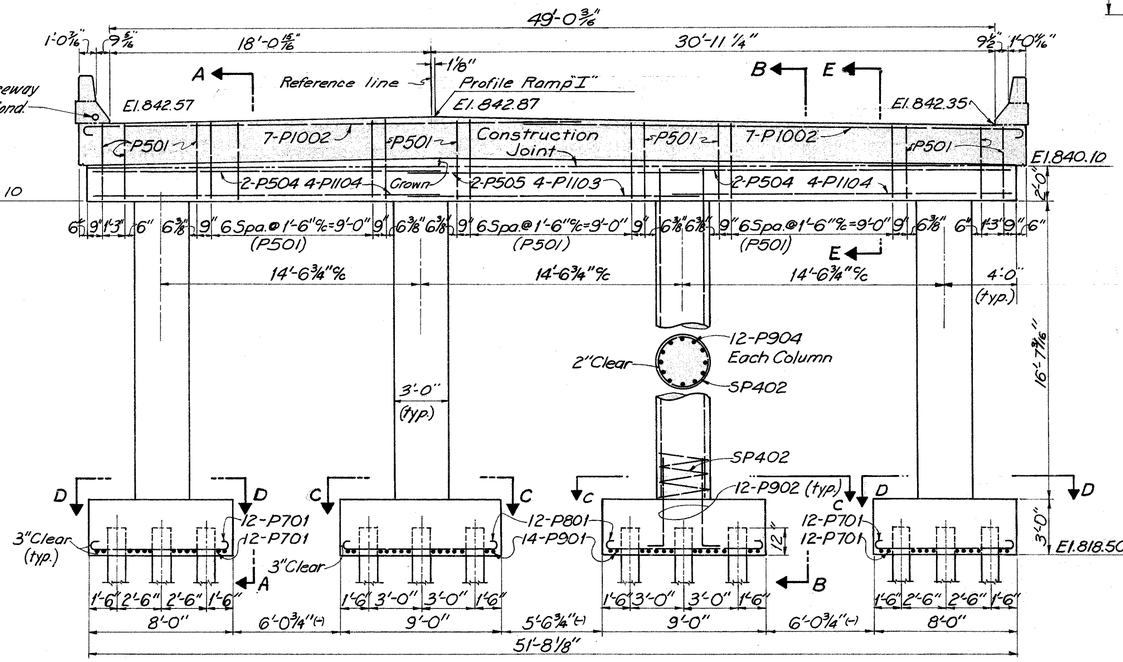
NOTE: The estimated quantities of Class C concrete and reinforcing steel in the light pole foundation pilaster are included in the estimated quantities of the bridge superstructure for payment.



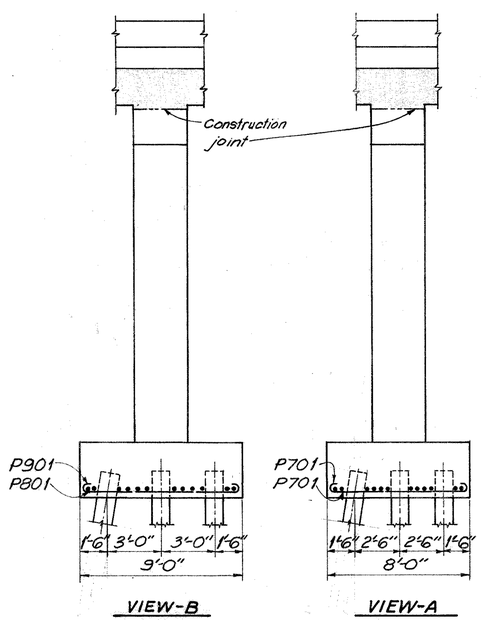
SECTION-E



SHEAR KEY DETAILS
(Port Pier Plan)

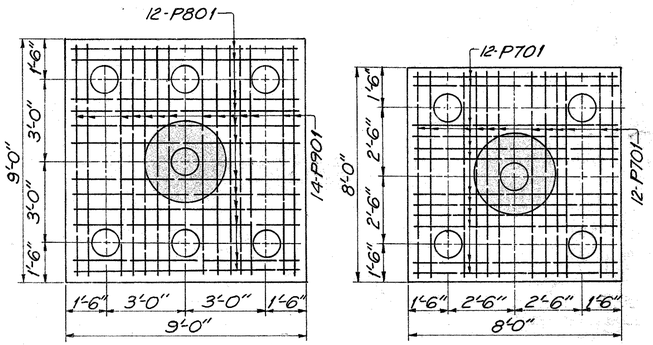


ELEVATION PIER NO. 2
(Looking Upstation)



VIEW-B

VIEW-A



SECTION-C
(Showing Footing Reinforcement)

SECTION-D
(Showing Footing Reinforcement)

BURGESS & NIPLE LIMITED — CONSULTING ENGINEERS
COLUMBUS, OHIO

6 | 8

PIER NO. 2 DETAILS
BR. NO. FRA-270-2685N
RAMP "I" OVER
JOHNSTOWN ROAD

FRANKLIN COUNTY

STA. 1528+70.23
STA. 1530+11.56

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
T.E.U. 7-25-69	C.W.B.	C.W.B.	12/5/69 XEC	7-8-70 WCR 2-20-70	

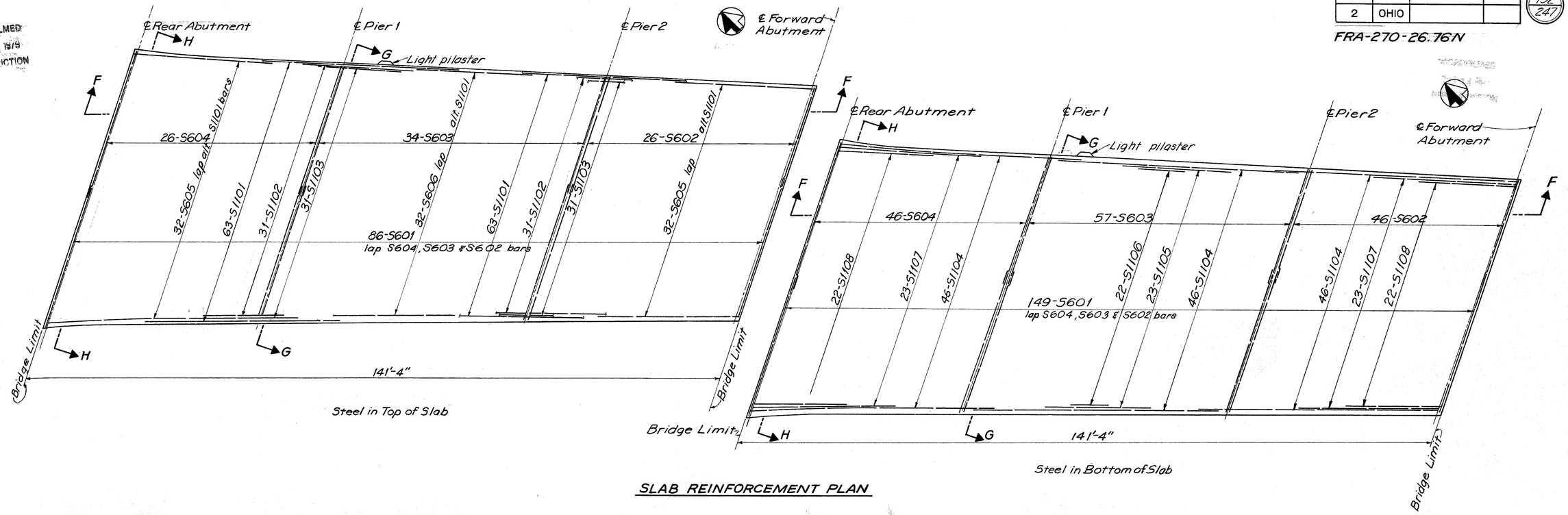
ALL-STATE BLUEPRINT CO.'S., O. 41028

MICROFILMED
AUG 14 1979
REPRODUCTION

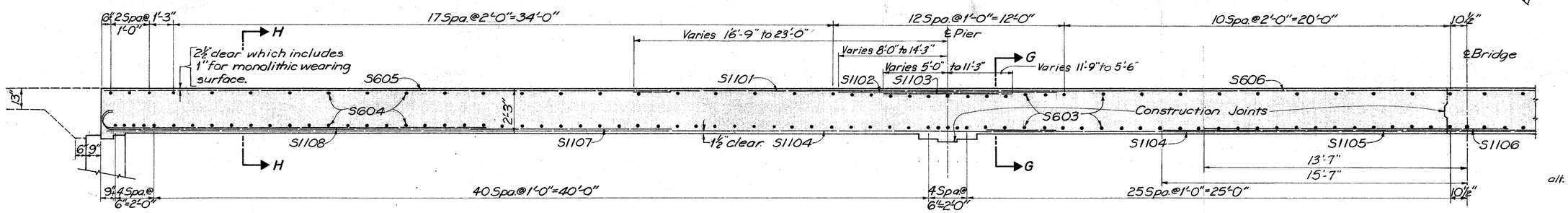
FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

192
247

FRA-270-26.76N

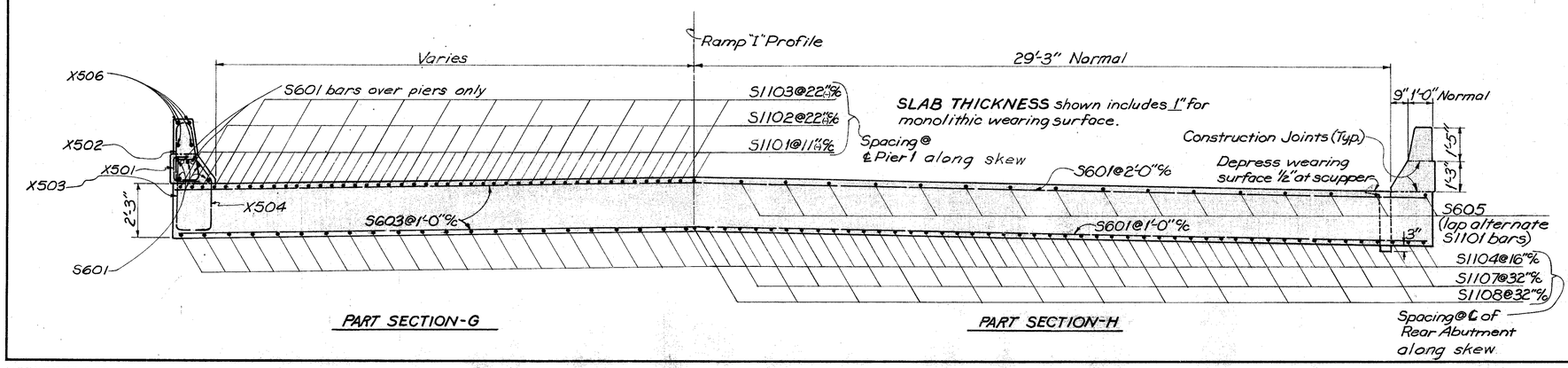


SLAB REINFORCEMENT PLAN



LEGEND
alt. . . . . alternate

HALF SECTION-F



CURBS shall be placed after the shoring under under the slab has been released sufficiently to permit the slab spans to attain full dead load deflection.

CONSTRUCTION JOINTS: One construction joint in the bridge slab may be placed on the transverse centerline of the middle span or 1'-0"± off the transverse centerline if necessary to miss railing posts and transverse reinforcing reinforcing bars. One longitudinal joint, along the Ramp "I" profile, will be permitted. A horizontal construction joint shall be placed between each curb and the top of the slab.

CONCRETE shall be Class "C".

CAMBER of 5/8" in end spans and 13/16" in middle span shall be provided (in addition to any required for conformance with the profile of the highway) to allow for the dead load deflection. This is the amount of camber required before falsework is released. To obtain this, proper allowance shall be made for the deflection of falsework members.

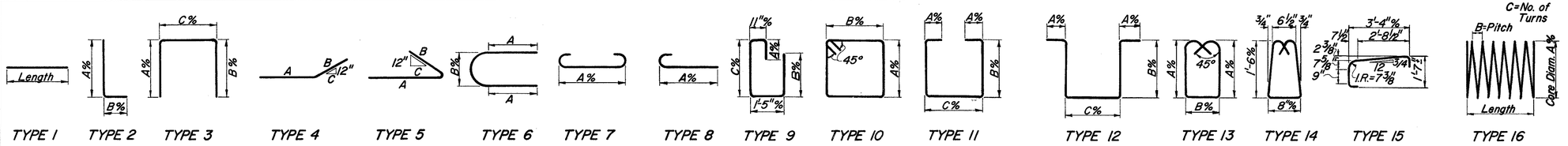
BURGESS & NIPLE LIMITED — CONSULTING ENGINEERS
COLUMBUS, OHIO 7/8

SUPERSTRUCTURE DETAILS
BR. NO. FRA-270-2685 N
RAMP "I" OVER
JOHNSTOWN ROAD

STA. 1528+70.23
FRANKLIN COUNTY STA. 1530+11.56

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
T.E.U. 8-18-69	C.W.B.	C.W.B.	11/25/69 JRC	WBR 7-8-70 2-20-70	

ALL-STATE BLUEPRINT COL'S., O. 41028



TYPE 1 TYPE 2 TYPE 3 TYPE 4 TYPE 5 TYPE 6 TYPE 7 TYPE 8 TYPE 9 TYPE 10 TYPE 11 TYPE 12 TYPE 13 TYPE 14 TYPE 15 TYPE 16 TYPE 17

FED. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.	TYPE FUNDS
2	OHIO		

193
247

FRA-270-26.76N

MICROFILMED
AUG 14 1979
REPRODUCTION

ABUTMENTS

MARK	NUMBER	LENGTH	TYPE	A	B	C	WEIGHT
R1001	12	25'-6"	1				1,317
R1002	12	22'-2"	1				1,145
R801	12	24'-8"	1				790
R802	12	21'-4"	1				684
R501	18	24'-0"	1				451
R502	196	6'-7"	3	2'-1"	2'-1"	2'-8"	1,346
R503	8	2'-3"	1				19
R504	16	4'-1"	1				68
R505	98	7'-11"	3	3'-3"	3'-3"	1'-8"	809
R506	16	3'-6"	1				58
R507	18	20'-9"	1				390
R401	80	5'-4"	3	1'-11"	1'-11"	1'-9"	285

PIERS

MARK	NUMBER	LENGTH	TYPE	A	B	C	WEIGHT
P1101	8	21'-3"	1				903
P1102	4	19'-2"	1				407
P1103	4	18'-1"	1				384
P1104	8	20'-2"	1				857
P1001	14	31'-2"	8	29'-9"			1,878
P1002	14	29'-6"	8	28'-1"			1,777
P901	56	11'-0"	7	8'-6"			2,094
P902	96	7'-0"	2	6'-0"	1'-3"		2,285
P903	48	19'-9"	1				3,223
P904	48	18'-5"	1				3,006
P801	48	10'-8"	7	8'-6"			1,367
P701	96	9'-2"	7	7'-6"			1,799
P501	62	11'-3"	12	7½"	3'-11"	2'-8"	727
P502	4	20'-5"	1				85
P503	2	17'-6"	1				37
P504	4	19'-4"	1				81
P505	2	16'-5"	1				34
SP401	4	17'-7½"	16	32"	4½"	50	1,328
SP402	4	16'-6"	16	32"	4½"	47	1,248

SUPERSTRUCTURE

MARK	NUMBER	LENGTH	TYPE	A	B	C	WEIGHT
S1101	126	39'-10"	1				26,666
S1102	62	22'-3"	1				7329
S1103	62	16'-9"	1				5,518
S1104	138	49'-7"	1				36,354
S1105	23	31'-2"	1				3,809
S1106	22	27'-2"	1				3175
S1107	46	33'-2"	8	31'-7"			8,106
S1108	44	31'-0"	8	29'-5"			7247
S601	293	30'-0"	1				13,203
S602	72	24'-9"	1				2,677
S603	91	27'-10"	1				3804
S604	72	32'-2"	1				3,479
S605	64	29'-0"	1				2,788
S606	32	18'-6"	1				889

SUPERSTRUCTURE RAILING

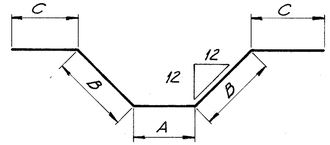
MARK	NUMBER	LENGTH	TYPE	A	B	C	WEIGHT
X501	198	2'-0"	3	7½"	7½"	1'-0"	413
X502	198	5'-4"	Sp.*				1101
X503	198	3'-8"	2	3'-2"	7½"		757
X504	198	4'-8"	Sp.*	2'-2"			964
X505	32	15'-8"	1				523
X506	64	5'-8"	1				378
X507	8	13'-2"	1				110
X508	8	14'-7"	1				122
Y501	20	2'-0"	3	7½"	7½"	1'-0"	42
Y502	40	4'-6"	1				188
Y503	NOT USED						
Y504	NOT USED						
Y505	8	4'-2"	Sp.*	2'-2"			35
Y506	4	4'-0"	Sp.*	2'-2"			17
Y507	4	3'-11"	Sp.*	2'-2"			16
Y508	4	3'-10"	Sp.*	2'-2"			16
Y509	8	5'-10"	1				49

*See Std. Dwg. BR-1-67 sheet #2

MARK	NUMBER	LENGTH	TYPE	A	B	C	WEIGHT
HL501	5	8'-6"	18	1'-6"	2'-0"	1'-6"	44
HL502	4	4'-7"	1				19

REPLACEMENT BARS

MARK	NUMBER	LENGTH	TYPE	A	B	C	WEIGHT
RE1101	6	8'-6"	1				
RE1001	1	8'-2"	1				
RE901	1	7'-10"	1				
RE801	1	7'-6"	1				
RE701	1	7'-2"	1				
RE601	2	6'-11"	1				
RE501	1	6'-7"	1				
RE401	1	6'-3"	1				
RESP401	1	6'-3"	17	6'-3"	1'-4"		



TYPE 18

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, indicates the bar size number. For example, A601 is a No.6 size bar and P1101 is a No.11 size bar.

SPIRAL REINFORCING BARS: The "Length" shown in the steel list for the spiral bars is the length of the spiral along the axis of the spiral. The "No. of Turns" shown is the length divided by the pitch plus 3 turns (total number of closed coils). Spiral reinforcing bars shall not have deformations but shall in other respects conform to Item 509. 1½ Closed coils shall be provided at the ends of each spiral unit. Four steel channel, tee or angle spacers, weighing approximately 0.80 lb. per lin. ft. of spacer, shall be provided for each spiral unit. They shall be equally spaced along the periphery of the coil. The number of pounds of these spacers, based on 0.80 lbs. per lin. ft. will be paid for as reinforcing steel and is included in the tabulated quantities of spiral bars.

BURGESS & NIPLE LIMITED — CONSULTING ENGINEERS
COLUMBUS, OHIO

8 | 8

REINFORCING STEEL LIST
BR. NO. FRA-270-2685N
RAMP "I" OVER JOHNSTOWN ROAD

STA. 1528+70.23
FRANKLIN COUNTY STA. 1530+11.56

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
T.E.U. 8-13-69	C.W.B.	C.W.B.	12/10/69 RBC	WBR	2-8-70 2-20-70	

ALL-STATE BLUEPRINT CO.'S., O. 41018

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

194
247

FRA-270-26.76N

RAMP "I" CURVE DATA

D=0°28'0" Δ=4°57'41" T=531.91
E=11.52 L=1063.15 R=12277.67
P.I. Sta. =1554+76.92 (Ahead)
P.I. Sta. =1554+77.59 (Back)
Compound Spiral Curve Data
D(1)=0°28'00" Δ(1)=0°42'00" T(1)=186.65
R(1)=12277.67
D(2)=3°00'00" Δ(2)=4°30'00" T(2)=113.55
R(2)=1909.86
Θ(A)=3°48'00" P(A)=1.66 L(A)=300.00'

D=3°00'00" Δ=25°25'03" T=430.71
E=47.96 L=847.25 R=1909.86
P.I. Station=1542+14.97 (Ahead)
P.I. Station=1542+29.14 (Back)

*Crushed aggregate pads are to be centered under scuppers. See framing plan for scupper locations.

NJ CURVE DATA

D=2°00'00" Δ=62°07'25"
T=2028.59' E=485.65
L=2506.18 R=2864.79
Δ(C)=50°07'25"
Θ(S)=6°00'00"
K=299.89
P=5.23
LT=400.23
ST=200.21
L(S)=600.00
ST Sta.=1552+28.44
CS Sta.=1546+28.44
SC Sta.=1521+22.26

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AUG 14 1979
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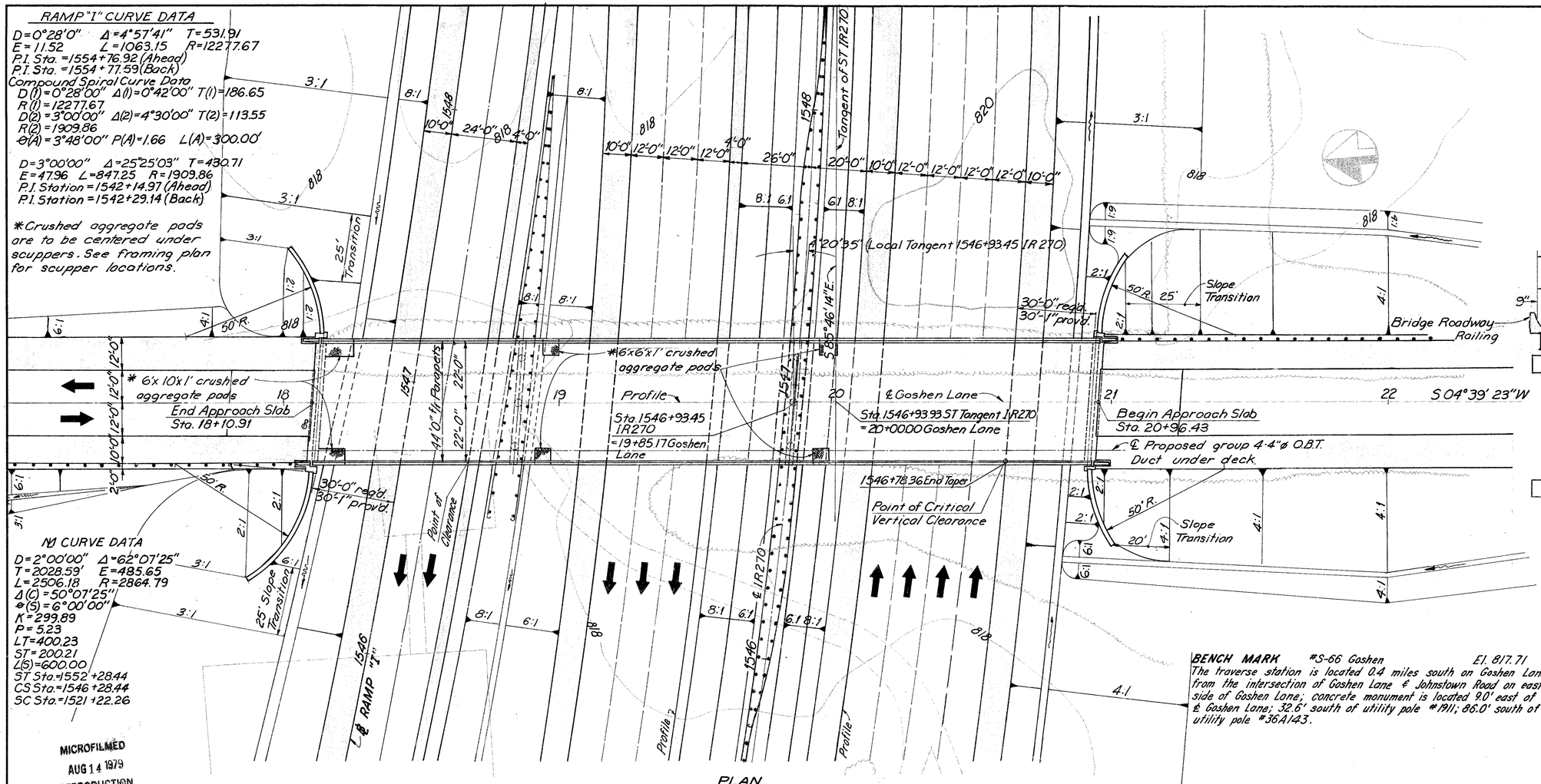
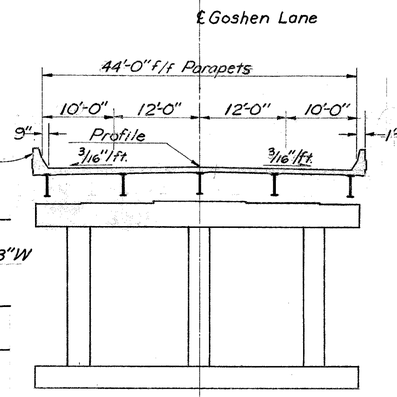
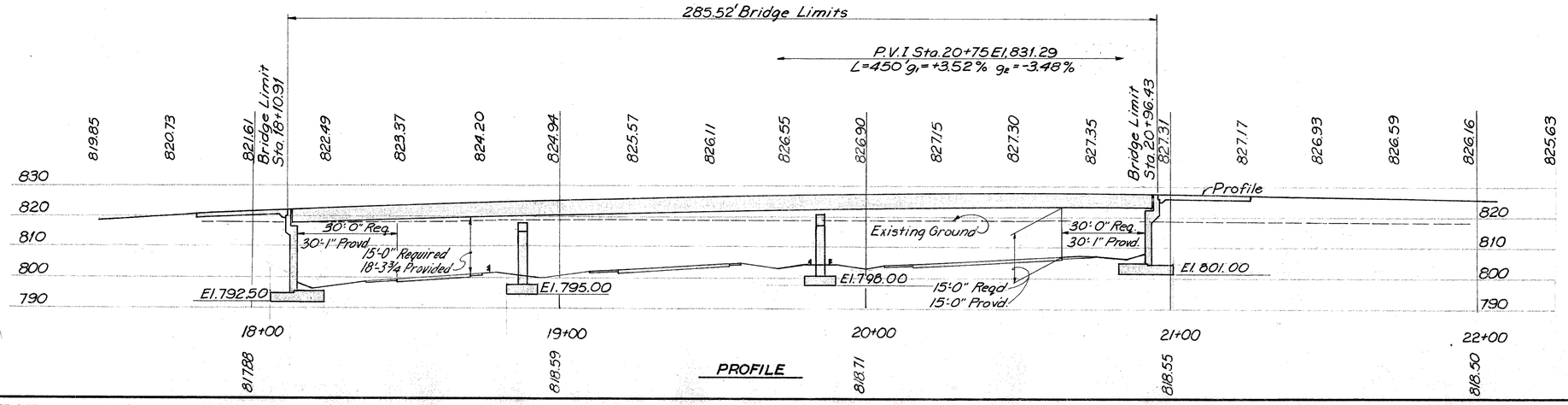


PLAN



SECTION

BENCH MARK #S-66 Goshen El. 817.71
The traverse station is located 0.4 miles south on Goshen Lane from the intersection of Goshen Lane & Johnstown Road on east side of Goshen Lane; concrete monument is located 90' east of ℄ Goshen Lane; 32.6' south of utility pole #1911; 86.0' south of utility pole #36A143.



PROFILE

PROPOSED STRUCTURE

TYPE: 3 span continuous built-up girder with reinforced concrete deck and substructure.
SPANS: 75.00', 97.00', 109.00'
LOADING: HS 20-44
ROADWAY: 44'0" f/f Parapets
SKEW: 4° 20'35" L. F.
WEARING SURFACE: 1" Monolithic.
APPROACH SLABS: AS-1-67 (30' long)
ALIGNMENT: Tangent
SUPERELEVATION: None

AVERAGE DAILY TRAFFIC: 1120 (1985)

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

BURGESS & NIPLE LIMITED — CONSULTING ENGINEERS
COLUMBUS, OHIO 1 / 11

SITE PLAN
BRIDGE NO. FRA-270-27.19N
UNDER
GOSHEN LANE

SCALE 1"=20'
FRANKLIN COUNTY Sta. 1546+93.45

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
RBC	C.W.B.		KED	7/8/70 WBR 8/31/70	

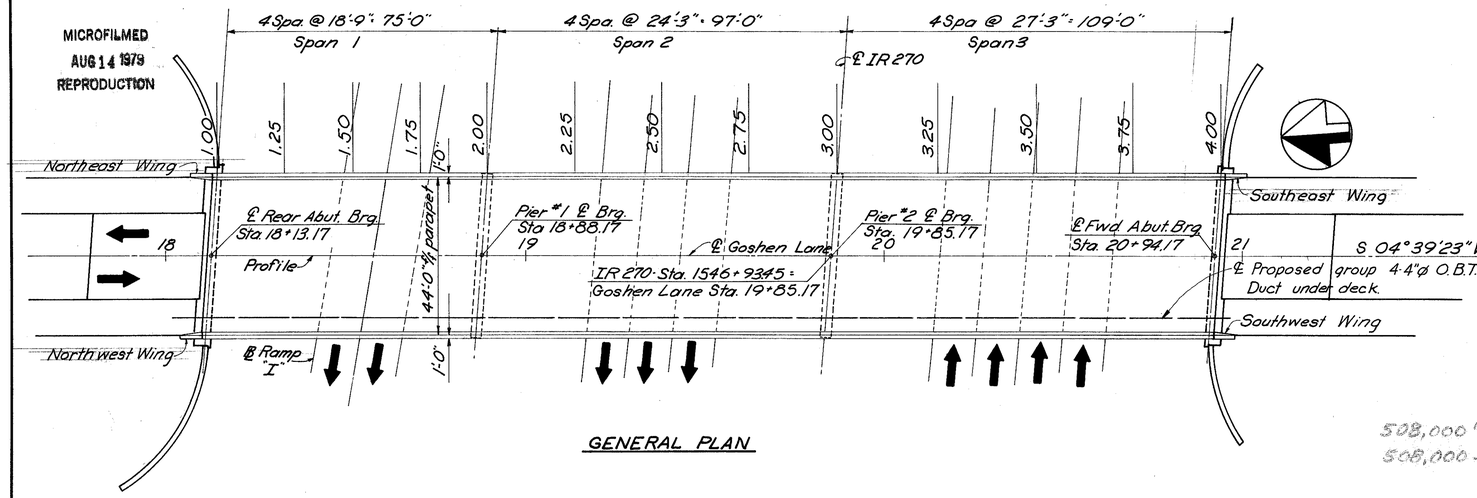
ALL-STATE BLUEPRINT CO.'S., O. 43028

MICROFILMED
AUG 14 1979
REPRODUCTION

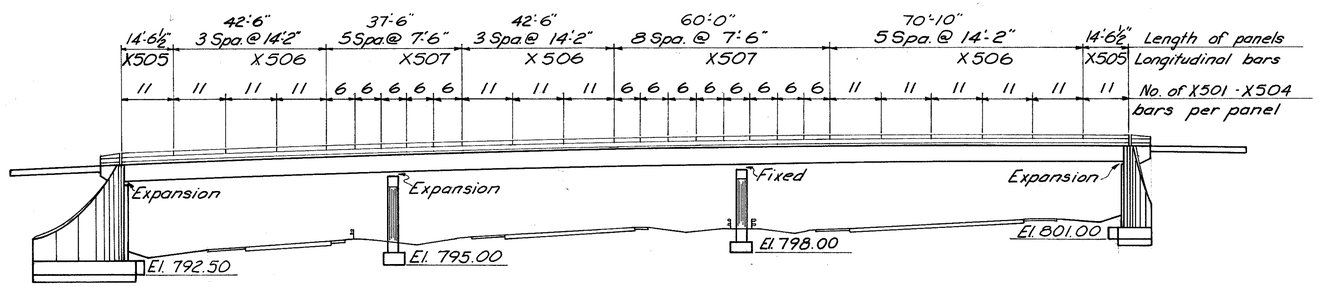
FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

195
247

FRA-270-26.76N

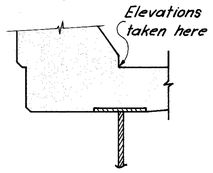


GENERAL PLAN



ELEVATION

BR. NO. FRA-270-2719 N ESTIMATED QUANTITIES									
ITEM	TOTAL	UNIT	DESCRIPTION	SUPER.	ABUT.	PIER	WING WALL	GEN.	
503	Lump	Sum	Cofferdams, cribs and sheeting					Lump	
503	2435	Cu. yd.	Unclassified excavation		936	266	1233		
509	247,723	Lbs.	Reinforcing steel	134,038	42,352	42,505	28,828		
511	439	Cu. yd.	Class C concrete, superstructure	439					
511	67	Cu. yd.	Class C concrete, pier caps & columns			67			
511	221	Cu. yd.	Class C concrete, abutment walls		221				
511	178	Cu. yd.	Class C concrete, wingwalls				178		
511	501	Cu. yd.	Class C concrete, footings		218	100	243		
512	25	Sq. yd.	Type B waterproofing		25				
513	519,650	Lbs.	Structrual steel	519,650	508,000				*
514	519,650	Lbs.	Field painting of structural steel	519,650	508,000				*
516	220	Sq. ft.	1" preformed expansion joint filler		220				
518	340	Cu. yd.	Porous backfill		190		150		
518	225	Lin. ft.	12" perforated, helical corrugated metal pipe, including specials, 707.01		96		129		
518	8	Lin. ft.	12" non-perforated, helical corrugated metal pipe 707.01.				8		
518	8	Each	Scuppers, special as per plan, including supports.	8					
518	48	Lin ft.	8" perforated; corrugated metal pipe 707.01 including specials.		48				
518	48	Lin. ft.	4" ø alloy steel pipe or galvinized pipe 707.11 including specials.		48				
601	30	Sq. yd.	Crushed aggregate slope protection					30	
808	439	Units	Chemical admixture for concrete Type A, B or D	439					



DETAIL - A

TABLE OF CURB ELEVATIONS BEFORE PLACEMENT OF SUPERSTRUCTURE CONCRETE (Detail A)													
Point	1.00	1.25	1.50	1.75	2.00	2.25	2.50	2.75	3.00	3.25	3.50	3.75	4.00
Right Curb	821.68	822.38	823.05	823.66	824.22	824.91	825.49	825.96	826.35	826.75	827.02	827.11	827.00
Left Curb	821.80	822.49	823.16	823.77	824.32	824.99	825.56	826.02	826.40	826.78	827.04	827.11	826.99

REFERENCE shall be made to Standard Drawings BR-1-67 dated 2-1-68, RB-1-55 revised 2-2-59, SD-1-69 dated 6-12-69, AS-1-67 revised 6-12-69, and to Supplemental Specifications: 808 revised 11-14-69, 811 dated 1-1-69, and 836 dated 6-17-69.

DESIGN SPECIFICATIONS: This structure conforms to "Standard Specifications for Highway Bridges" adopted by the American Association of State Highway Officials, 1965, including the Ohio "Supplement" to these specifications.

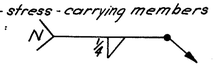
DESIGN DATA: Design loading - HS 20-44 Concrete Class "C" - unit stress 1200 p.s.i. for superstructure, unit stress 1333 p.s.i. for substructure. Structural Steel - ASTM A36 - unit stress 20,000 p.s.i. Reinforcing Steel - ASTM A615, A616, or A617 - unit stress 20,000 p.s.i. Spiral reinforcement shall be plain bars ASTM A306 or A499.

EMBANKMENT CONSTRUCTION: Before the backwall is constructed the embankment shall be constructed up to the level of the subgrade with a 1:1 slope from the bridge seat to the subgrade, for a minimum distance of 200 feet back of the abutment.

FOUNDATION BEARING PRESSURE: Abutment footings are designed for a maximum bearing pressure of 2.5 tons per sq. ft., and the Pier footings are designed for a maximum bearing pressure of 2.5 tons per sq. ft.

UTILITY LINES: All expense involved in relocating (installing) the affected utility lines shall be borne by the Owner(s). The Contractor and Owner(s) are requested to cooperate by arranging their work in such a manner that inconvenience to either would be held to a minimum.

WELDS on non-stress-carrying members are shown thus:



* Included with pertinent structure items tabulated above. To be paid for by Ohio Bell Telephone Co.

ESTIMATED QUANTITIES - NON-PARTICIPATING (No Federal or State Participation)						
ITEM	TOTAL	UNIT	DESCRIPTION	SUPER		
* 513	3650	Lbs.	Structural steel	3650		
* 514	3650	Lbs.	Field painting of structural steel	3650		

BURGESS & NIPLE LIMITED — CONSULTING ENGINEERS
COLUMBUS, OHIO

2/11

GENERAL PLAN & ELEVATION & ESTIMATED QUANTITIES
BR. NO. FRA-270-2719 N
UNDER
GOSHEN LANE
FRANKLIN COUNTY Sta. 1546+93.45

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
SBK. 12/29/69		LEH.	TEH 3/12/70	7/8/70 WKR 3/31/70	

MICROFILMED
AUG 14 1979
REPRODUCTION

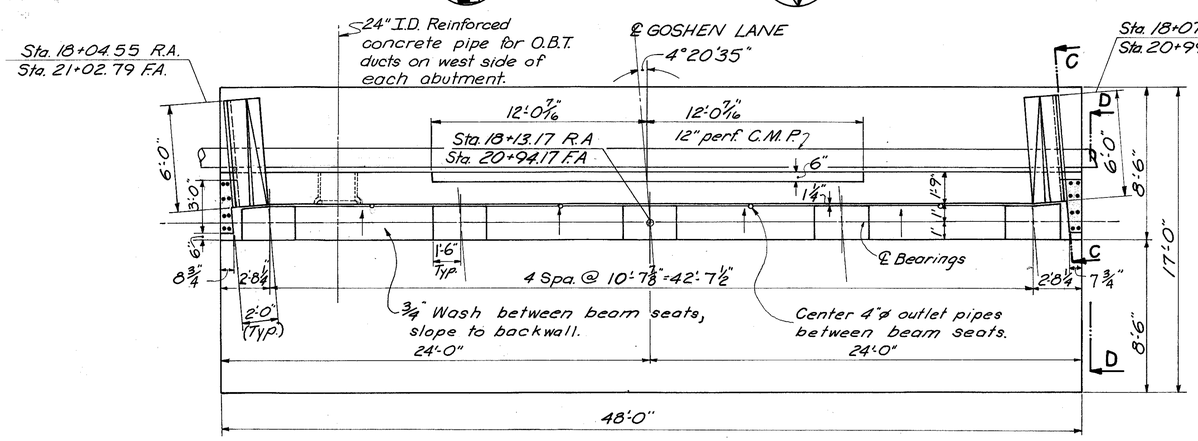
FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

196/247

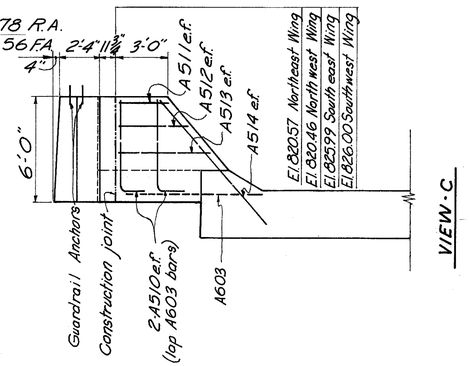
FRA-27-26.76 N

REAR ABUTMENT

FORWARD ABUTMENT

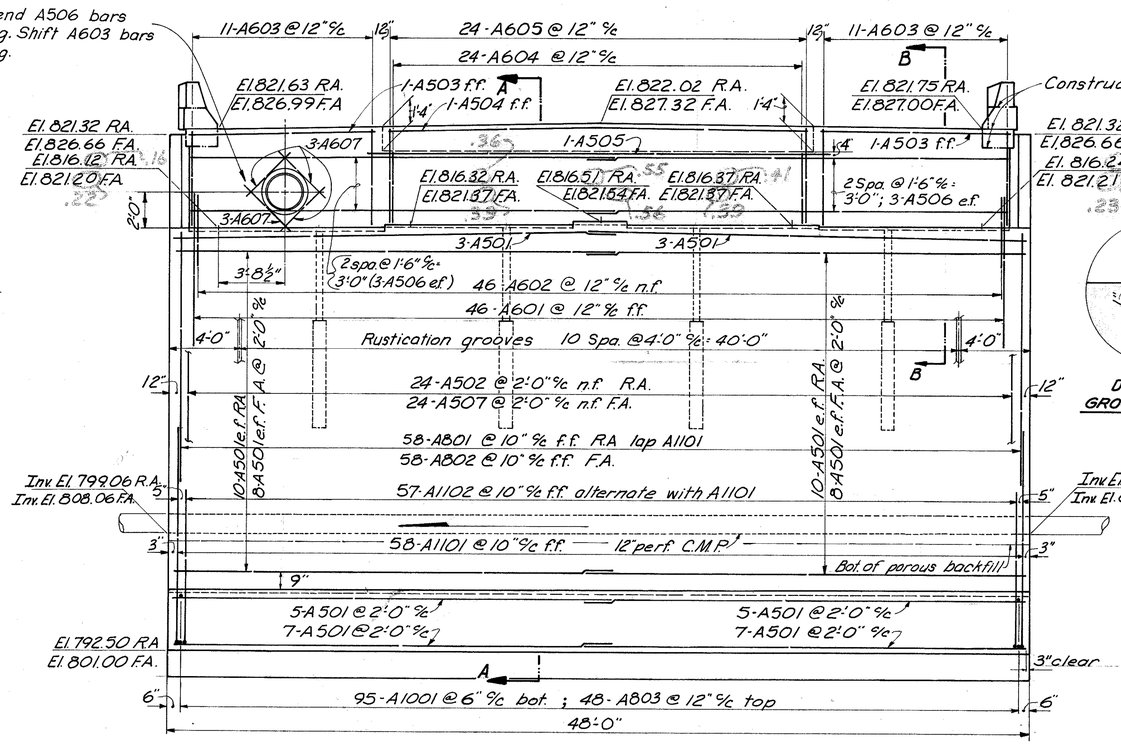


PLAN

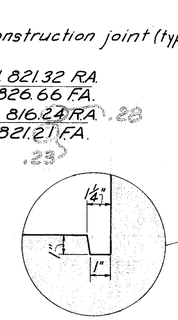


VIEW - C

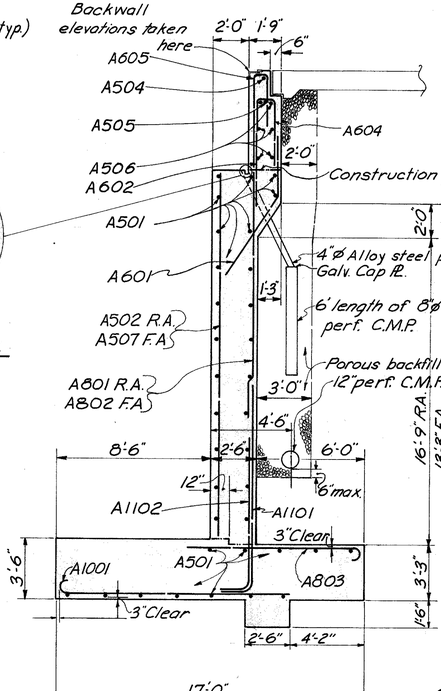
Cut or bend A506 bars at opening. Shift A603 bars at opening.



ELEVATION

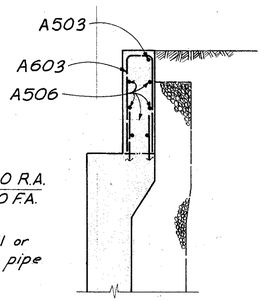


DRAINAGE GROOVE DETAIL

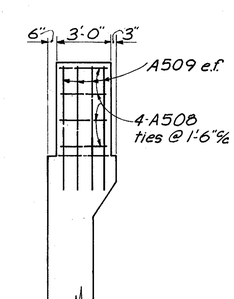


SECTION - A

NOTE: The footing keys shall be placed in a carefully made trench against undisturbed earth.



SECTION - B



VIEW - D

LEGEND

e.f. ..... each face
n.f. ..... near face
f.f. ..... far face
R.A. ..... rear abut.
F.A. ..... forward abut.

BURGESS & NIPLE LIMITED — CONSULTING ENGINEERS
COLUMBUS, OHIO

3/11

ABUTMENT DETAILS
BR. NO. FRA-270-2719 N
UNDER
GOSHEN LANE

FRANKLIN COUNTY Sta. 1546+93.45

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED, DATE	REVISED
S.B.K. 11/25/69	S.A.K.	LEH	TEH 3/2/70	7/8/70 WER 8/31/70	11-23-70

MICROFILMED
AUG 14 1979
REPRODUCTION

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

197/247

FRA-270-26.76N 2

Radius = 50'-0"
Δ = 30°25'13"
Measured to front face of wall

Radius = 50'-0"
Δ = 36°40'09"
Measured to front face of wall

For Abutment details see 3/11

rustication grooves @ 4'-0" c/c

9'-1¼"

6'-1¼"

15'-3"

9'-0"

44'-0" along front face of wall

rustication grooves @ 4'-0" c/c

9'-1¾"

6'-1¼"

15'-3"

32'-0" along front face of wall

PLAN

W 519 Series
W 537 Series

For details not shown see Section-E.

W601 W602

SECTION-F

RIGHT WINGWALL

10 Spa. @ 3'-0"% = 30'-0"
Series W536 n.f.
11 Spa. @ 2'-8"% = 29'-4"
Series W521 f.f.
10 Spa. @ 2'-8" % = 26'-8"
Series W1105 f.f. alt. Series W521 f.f.
El. 821.32
El. 819.35
El. 817.37
El. 815.48
El. 813.59
El. 811.78
El. 809.96
El. 808.38
El. 806.80
El. 805.21
El. 803.85
El. 802.50
K
K 5/11
H
H 5/11
F
W532 e.f.
W528 e.f.
W531 e.f.
W504 e.f.
W526 e.f.
W525 e.f.
W530 e.f.
W534 f.f. ; W503 n.f.
W533 f.f. ; W516 n.f.
Inv. El. 799.00 face of wall
4 Spa. @ 2'-8"% = 10'-8"
Series W519 f.f.
3'-0"
3 Spa. @ 3'-0"% = 9'-0"
Series W537 n.f.
W526 e.f.
9"
5"
8"
Cap I.P.
Inv. El. 799.16
9 Spa. @ 1'-4"% = 12'-0"
10-W602 f.f.
8 Spa. @ 1'-4"% = 10'-8"
9-W601 f.f.
alt. W602
1'-4"
1'-8"
22 Spa. @ 1'-4" % = 29'-4"
23-W1102 f.f.
23 Spa. @ 1'-4" % = 30'-8"
24-W1101 alt. W1102 f.f.
1'-0"
2'-0"
Inv. El. 799.23
Inv. El. 799.06
W514 f.f. ; W513 n.f.
W510 thru W515
Bottom of porous backfill
W514 thru W518
El. 792.50
3" Clear (typ)
58 Spa. @ 9"% = 43'-6"
59-W901 bot.
59-W801 top

RIGHT WINGWALL

ELEVATION

Dimensions and spacing shown are measured along front face of wall.

LEFT WINGWALL

10 Spa. @ 3'-0"% = 30'-0"
Series W522 n.f.
11 Spa. @ 2'-8"% = 29'-4"
Series W520 f.f.
10 Spa. @ 2'-8" % = 26'-8"
Series W1104 f.f. alt. Series W520 f.f.
El. 821.32
El. 819.44
El. 817.48
El. 815.51
El. 813.59
El. 811.65
El. 809.85
El. 808.04
El. 806.27
E
W529 e.f.
W528 e.f.
W535 f.f.
W502 n.f.
W527 e.f.
W526 e.f.
W525 e.f.
W524 e.f.
4"
1'-4"
21 Spa. @ 1'-4"% = 28'-0"
22-W1102 f.f.
W523 f.f.
W504 n.f.
1-W1103 f.f.
1'-0"
8"
Cap I.P.
Inv. El. 799.36
23 Spa. @ 1'-4"% = 30'-8"
24-W1101; alt. W1102 f.f.
Bottom of porous backfill
W505 thru W509
W501 thru W506
El. 792.50
42 Spa. @ 9"% = 31'-6"
43-W901 bot.
43-W801 top

LEFT WINGWALL

Note: Elevations shown along top of wall are on 4'-0" centers.

1'-6"
6" min.
2'-0"
3'-0"
No. 5's @ 3'-0"%
No. 11's @ 2'-8"%
Porous backfill
No. 5's @ 2'-0"%
No. 5's @ 2'-8"%
¾"
12"
2" Clear
2" Clear
12" CMP
6" max.
4'-0"
6'-1¼"
9"
Construction joint
W801 @ 9"%
3" Clear
3'-4"
W1101 @ 1'-4"%
W901 @ 9"%
No. 5's @ 2'-0"%
W1102 @ 1'-4"%
3'-1"
1'-6"
3" Clear
No. 5's @ 1'-9"%
9'-2"
2'-6"
3'-7"
15'-3"

SECTION-E

¼" 1" ¼" ¾" 1½"

RUSTICATION GROOVE DETAIL

LEGEND
n.f. ..... near face
f.f. ..... far face
e.f. ..... each face
alt. ..... alternate

BURGESS & NIPLE LIMITED — CONSULTING ENGINEERS
COLUMBUS, OHIO

4/11

REAR ABUTMENT WINGWALL DETAILS
BR. NO. FRA-270-2719N
UNDER
GOSHEN LANE

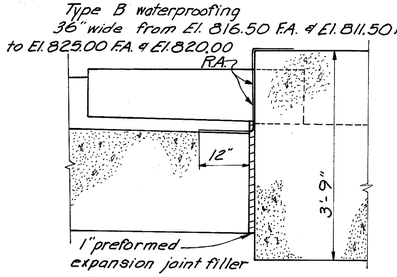
FRANKLIN COUNTY Sta. 1546+93.45

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
DW 12/15/69	DW 12/16/69	LEH	TEH 3/5/70	7/8/70 WCR 3/31/70	

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

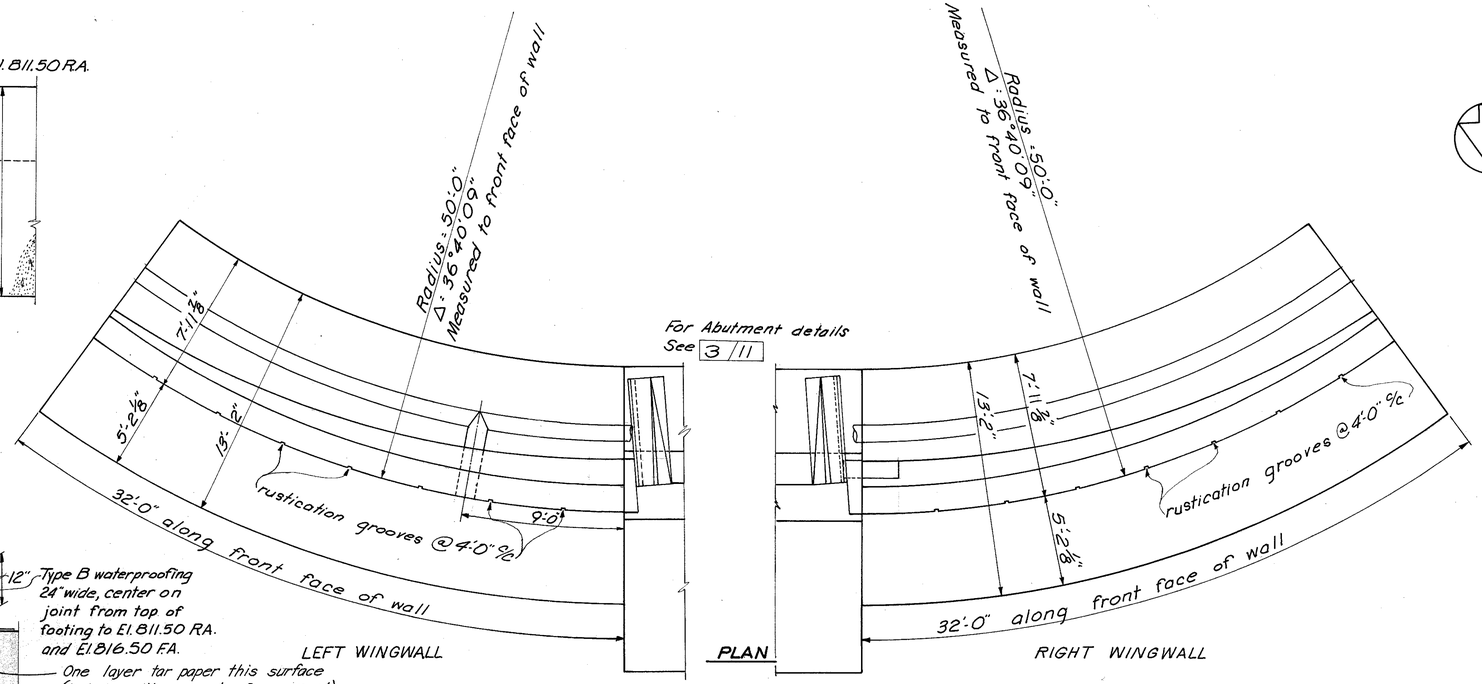
198/247

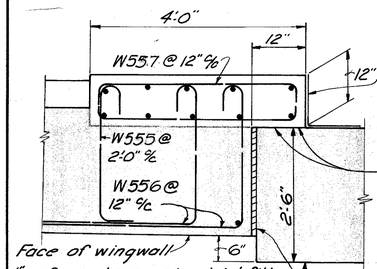
FRA-270-26.76 N



SECTION-K

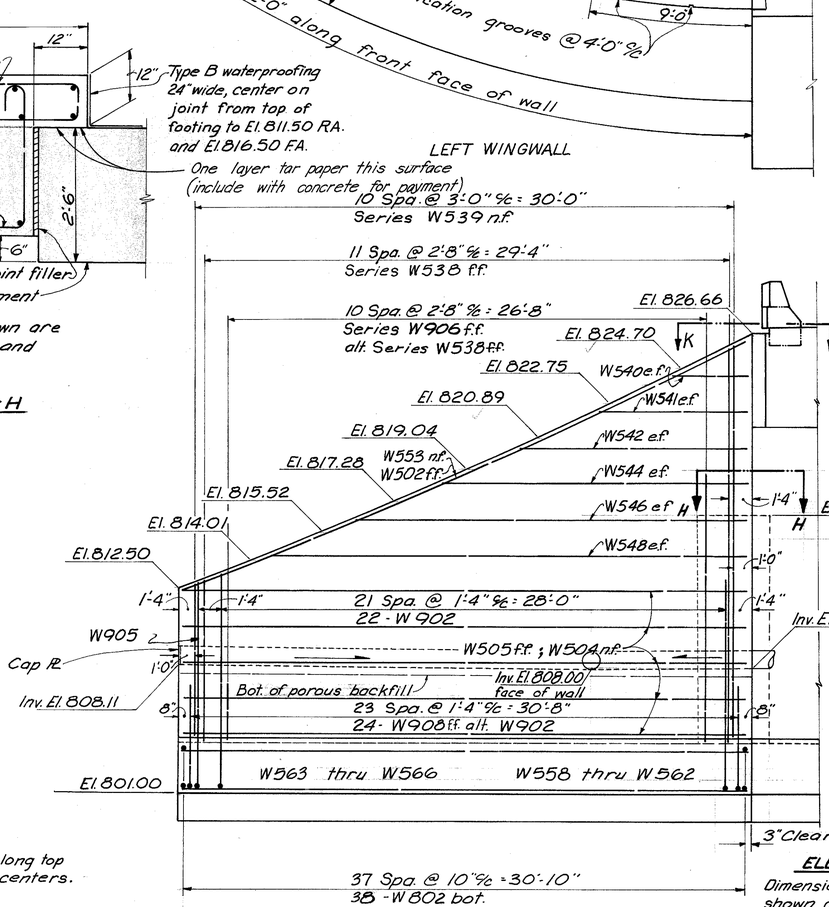
MICROFILMED
AUG 14 1979
REPRODUCTION





Note: Vertical bars shown are W554 for Rear Abut. and W543 for Fwd. Abut.

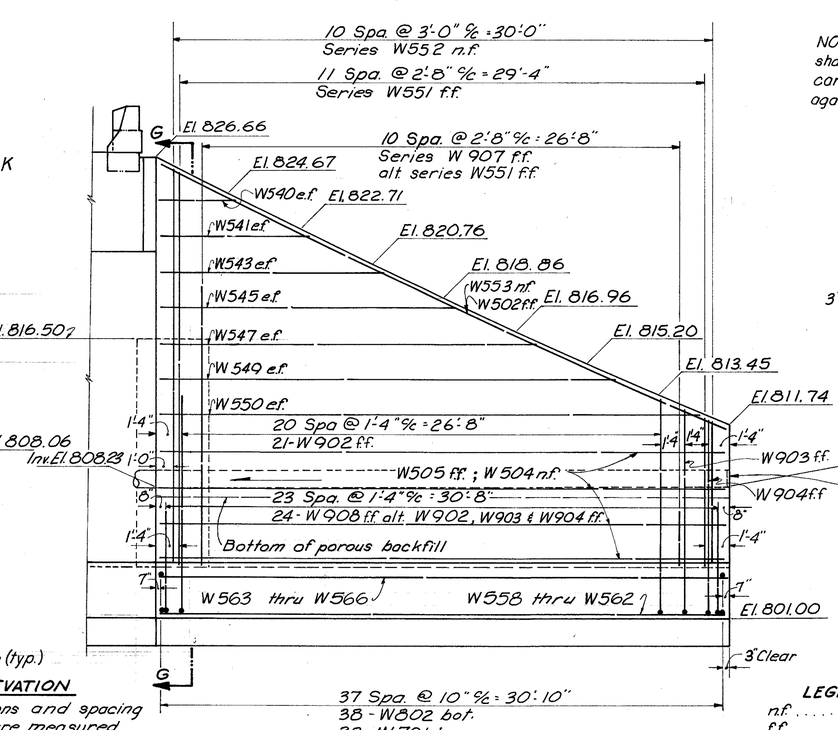
SECTION-H



Note: Elevations shown along top of wall are on 4'-0" centers.

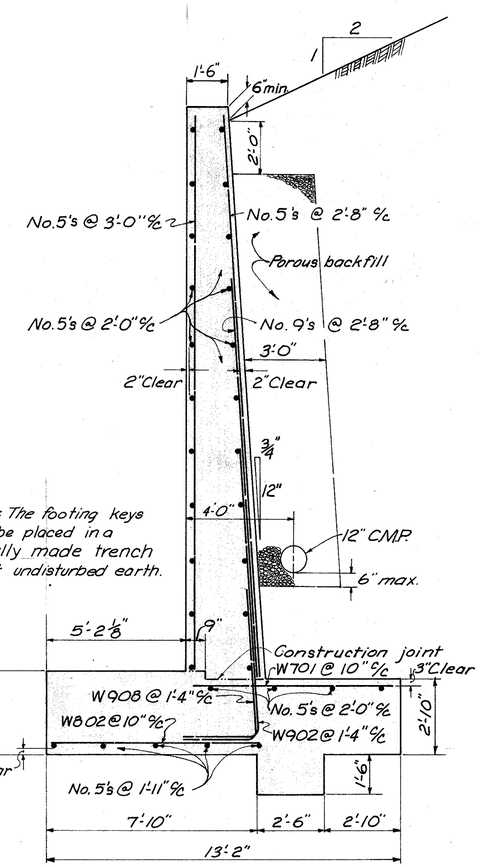
ELEVATION

Dimensions and spacing shown are measured along front face of wall.



LEGEND

n.f. ..... near face
f.f. ..... far face
e.f. ..... each face
alt. ..... alternate



NOTE: The footing keys shall be placed in a carefully made trench against undisturbed earth.

SECTION-G

For rustication groove detail see sheet 4/11

BURGESS & NIPLE LIMITED — CONSULTING ENGINEERS
COLUMBUS, OHIO

5/11

FORWARD ABUTMENT WINGWALL DETAILS
BR. NO. FRA-270-2719 N
UNDER
GOSHEN LANE

FRANKLIN COUNTY Sta. 1546+93.45

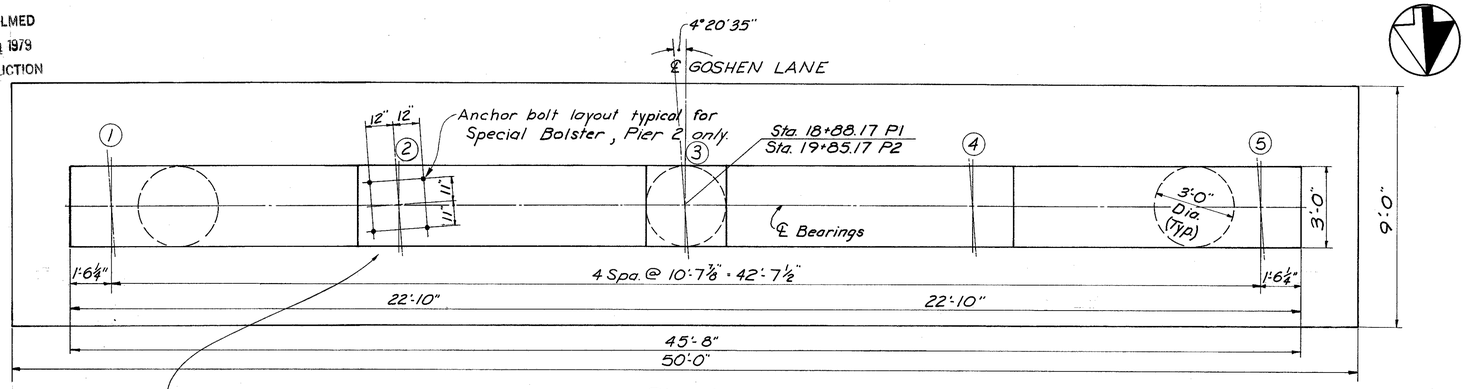
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
DW 12/18/69	LEH		TEW 3/5/70	7/8/70 WER 3/31/70	

MICROFILMED
AUG 14 1979
REPRODUCTION

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

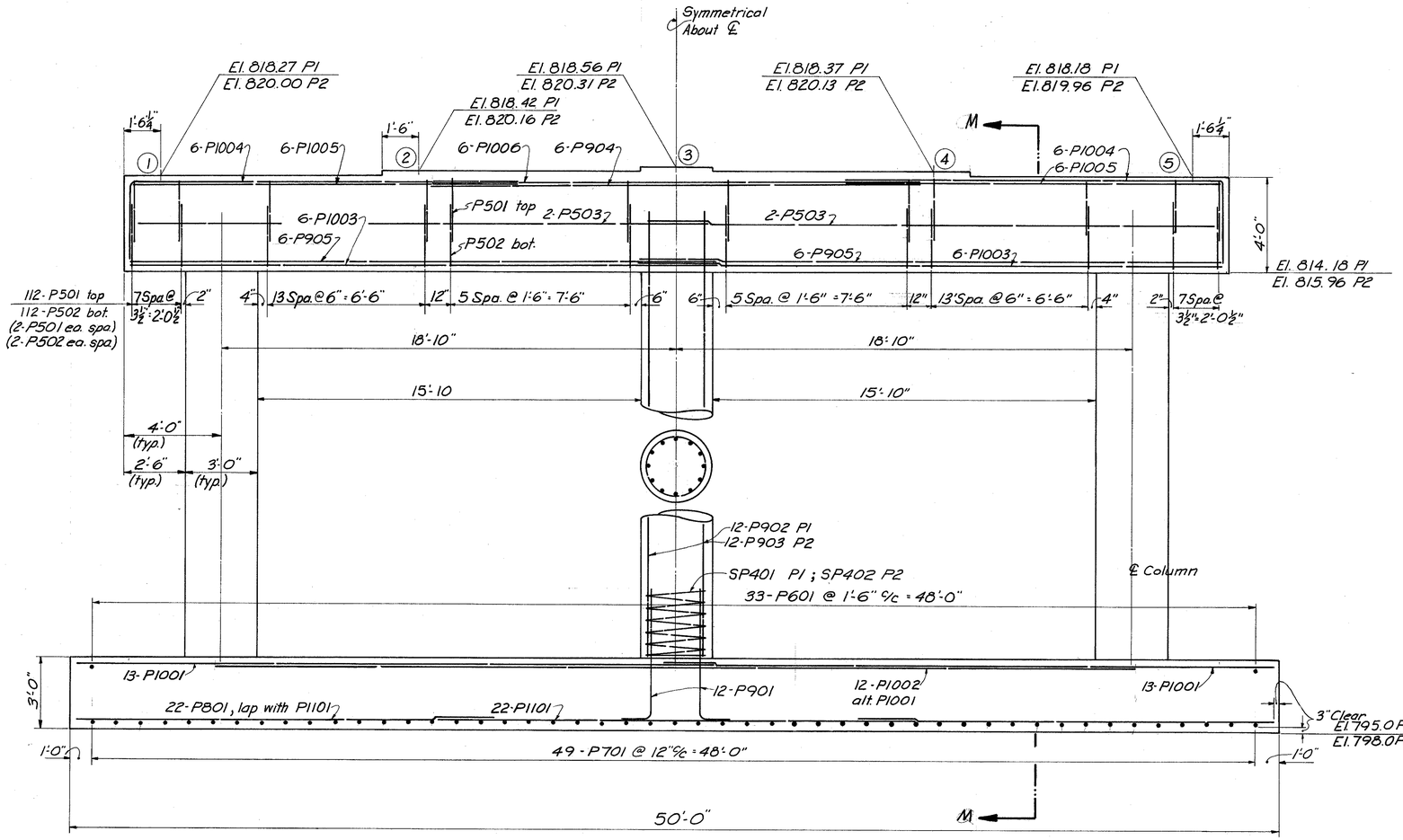
199/247

FRA-270-26.76 N

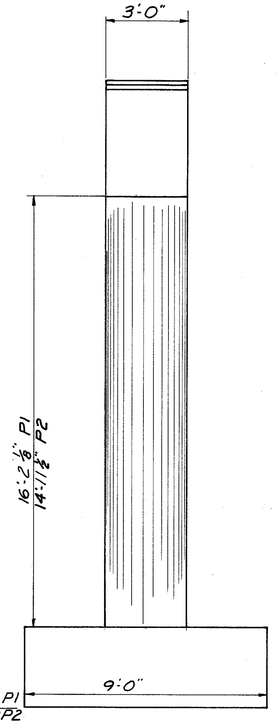


PLAN

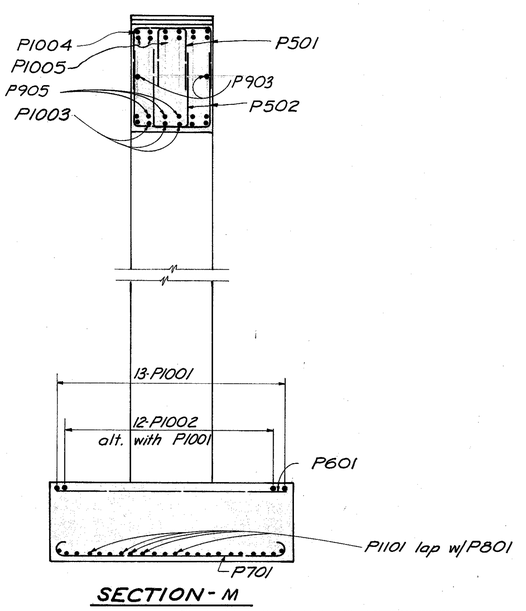
BRIDGE SEAT REINFORCING: Special care shall be taken in placing reinforcing steel in the vicinity of the bridge seat so as to avoid interference with the placing of anchor bolts as shown.



ELEVATION



END VIEW



SECTION - M

LEGEND

P1 ..... Pier #1
P2 ..... Pier #2
alt. ..... alternate
ea. ..... each
bot. ..... bottom

BURGESS & NIPLE LIMITED — CONSULTING ENGINEERS
COLUMBUS, OHIO 6/11

PIER DETAILS
BR. NO. FRA-270-2719 N
UNDER
GOSHEN LANE

FRANKLIN COUNTY Sta. 1546+93.45

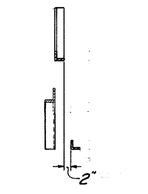
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
S.B.K. 12/16/69	L.E.H.		T.E.W. 3/9/70	7/8/70 WDR 8/31/70	

MICROFILMED
AUG 14 1979
REPRODUCTION

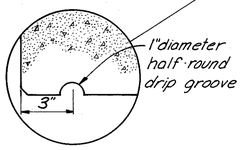
FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

200/247

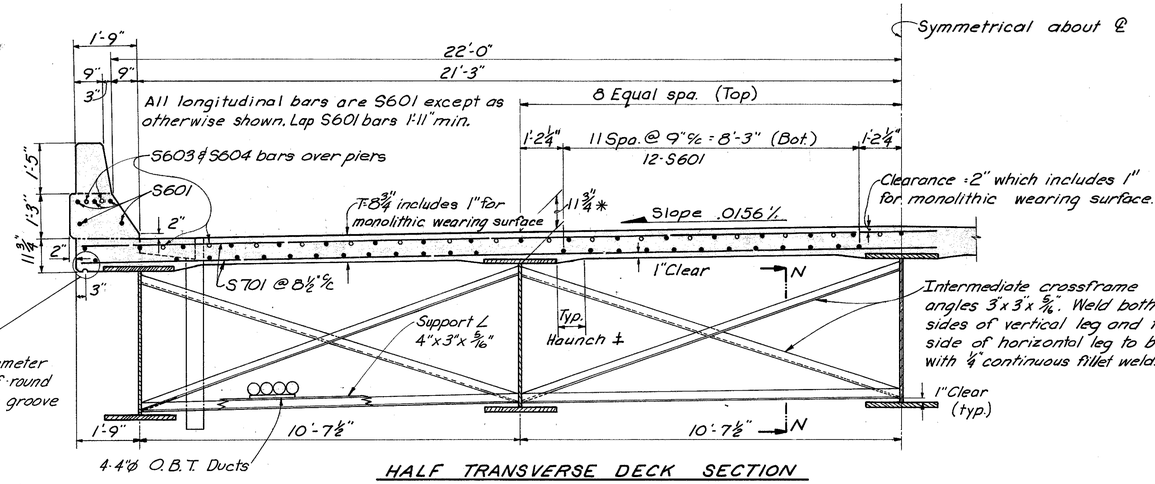
FRA-270-26.76 N



SECTION - N



DRIP GROOVE DETAIL



HALF TRANSVERSE DECK SECTION

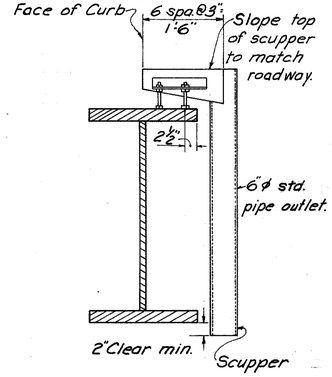
END DAMS, END CROSSFRAMES, CURB PLATES, & SCUPPERS: See Standard Drawing SD-1-69 Sh. 1, 2 & 3 of 4.

BEARINGS: See Standard Drawing RB-1-55.

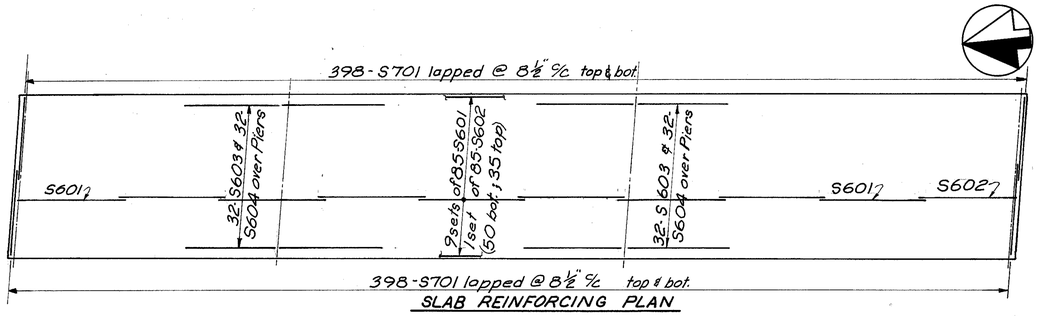
BRIDGE ROADWAY RAILING: See Standard Drawing BR-1-67 Sh. 1 of 3.

* THIS is the design dimension. The quantity of deck concrete to be paid for shall be based upon this dimension, even though deviation from it may be necessary because the top flange of the girder may not have the exact camber or conformation required to place it parallel to the finished grade. Deduction shall be made for volume of encased steel plates as per 511.19.

‡ A HAUNCH WIDTH of 9" shall be used for computing quantity of concrete. However, the haunch width may vary between 6" & 12" provided that the slope shall be not more than 1:4 for a haunch less than 9" in width.



SCUPPER DETAIL
8 Required thus.
For additional notes and details see Std. Dwg. SD-1-69 Sh. 3 of 4



SLAB REINFORCING PLAN

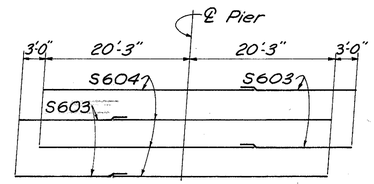
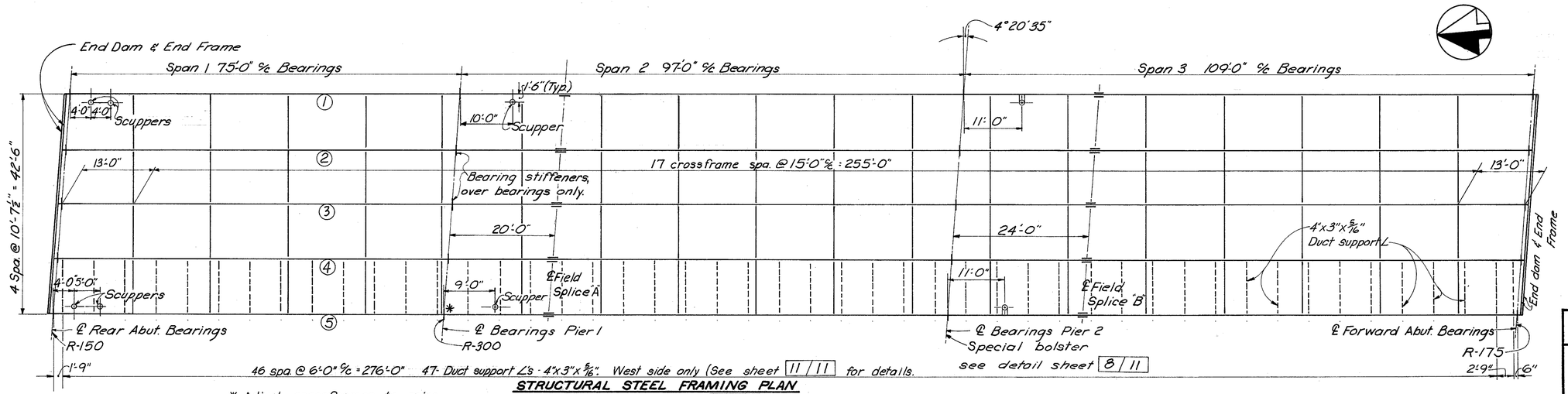


DIAGRAM SHOWING STAGGER OF S603 & S604 BARS OVER PIERS



STRUCTURAL STEEL FRAMING PLAN

* Adjust crossframes to miss bearing stiffeners.

For Girder elevation see 8/11
For details of Splices "A" & "B" see 8/11

BURGESS & NIPLE LIMITED — CONSULTING ENGINEERS
COLUMBUS, OHIO 7/11

SUPERSTRUCTURE DETAILS
BR. NO. FRA-270-27.19 N
UNDER
GOSHEN LANE

FRANKLIN COUNTY Sta. 1546+93.45

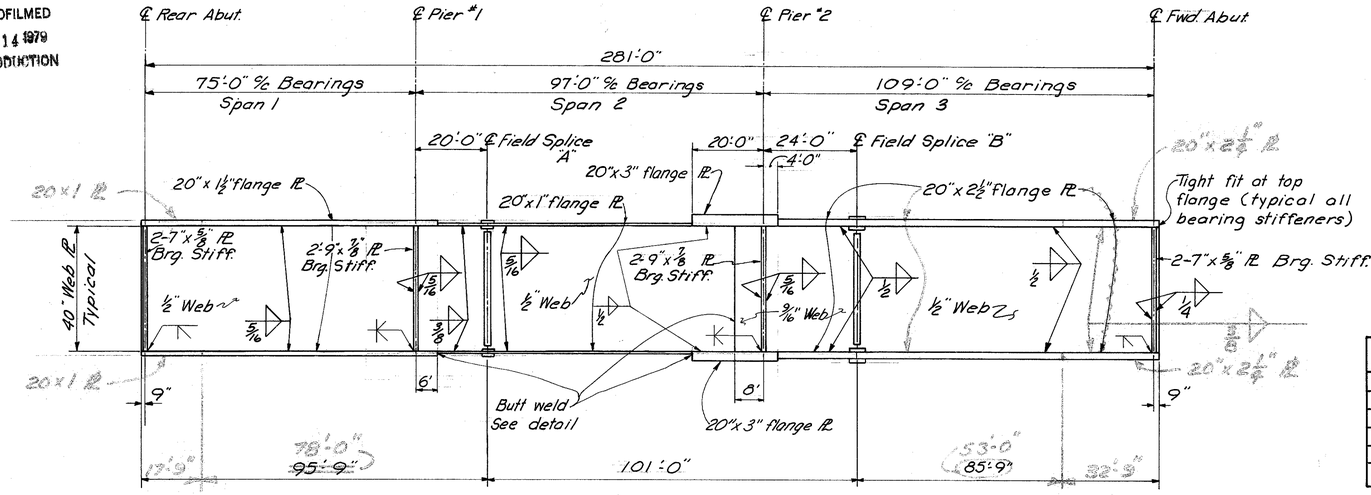
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
SBK. 12/4/69	LEH		TEH 2/25/70	WCR 3/31/70	

MICROFILMED
AUG 14 1979
REPRODUCTION

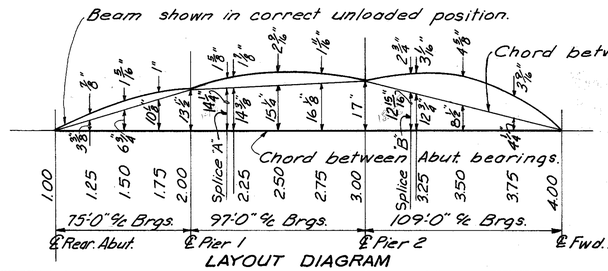
FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

201/247

FRA-270-26.76 N



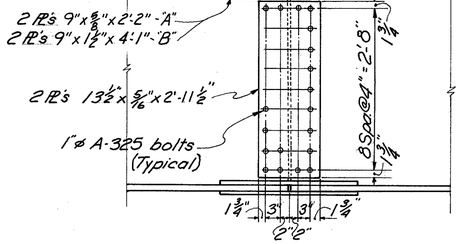
GIRDER ELEVATION



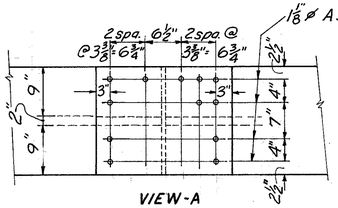
LAYOUT DIAGRAM

DEFLECTION & CAMBER (in inches)

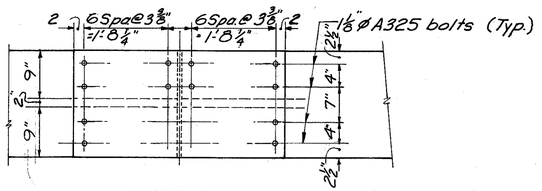
Point	1.25	1.50	1.75	Splice	2.25	2.50	2.75	Splice	3.25	3.50	3.75
Deflection due to weight of steel	0.081	0.107	0.057	0.028	0.037	0.053	0.009	0.197	0.235	0.443	0.363
Deflection due to remaining dead load	0.440	0.540	0.284	0.160	0.212	0.307	0.051	0.616	0.735	1.386	1.138
Adjustment for vertical curve	0.340	0.679	0.668	1.440	1.647	2.195	1.647	1.906	2.079	2.772	2.079
Total	0.867	1.327	1.009	1.628	1.896	2.555	1.707	2.719	3.049	4.601	3.580
Required Shop Camber	7/8"	1 3/16"	1"	1 5/8"	1 7/8"	2 9/16"	1 11/16"	2 3/4"	3 1/16"	4 9/16"	3 9/16"



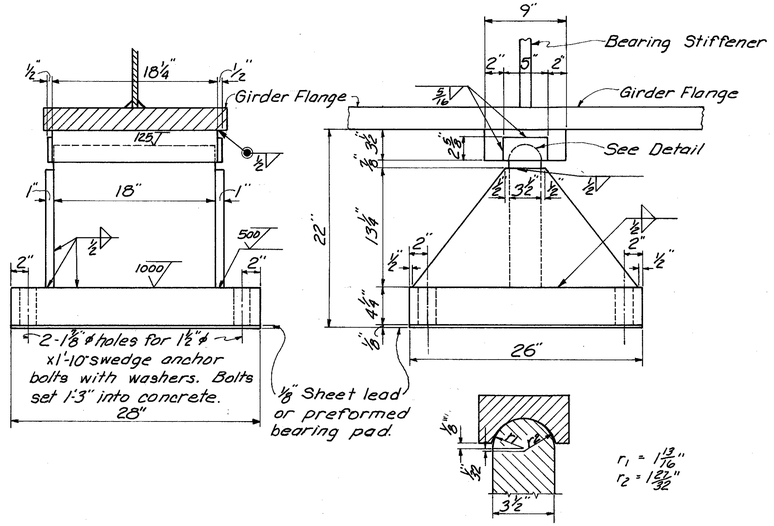
SPLICE-"A" - as noted.
SPLICE-"B" - as noted.



VIEW-A
FLANGE SPLICE-"A"



VIEW-A
FLANGE SPLICE-"B"

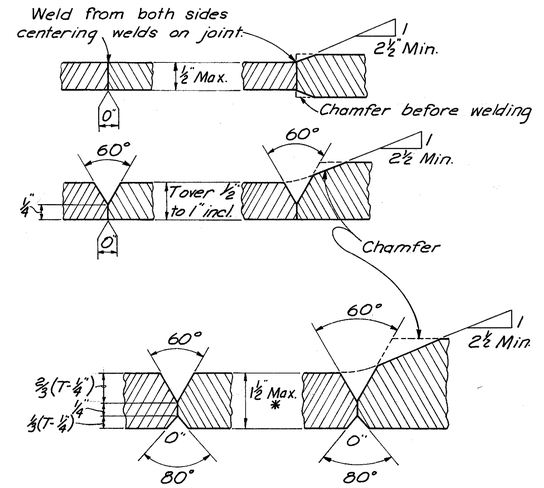


TOP BEARING DETAIL

STRUCTURAL STEEL BOLSTER

All of the full penetration welds below shall be back-gouged and welded after welding far side.

Butt welds on beam and girder flange plates shall be ground flush, the finish grinding being parallel to the direction of stress.



* For plate thickness over 1½", use joint preparation conforming to B-U3a-S or B-U7-S, figure 216 A.W.S. Specifications.

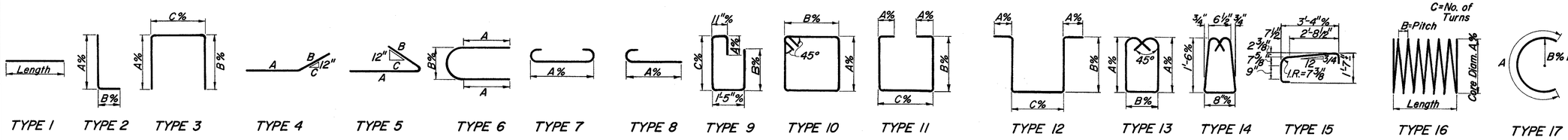
BURGESS & NIPLE LIMITED — CONSULTING ENGINEERS
COLUMBUS, OHIO

8/11

SUPERSTRUCTURE DETAILS
BR. NO. FRA-270-2719 N
UNDER
GOSHEN LANE

FRANKLIN COUNTY Sta. 1546+93.45

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
SBK. 12/4/69	S.B.K.	LEH	TEQ 2/25/70	7/9/70 WCR 8/31/70	



TYPE 1 TYPE 2 TYPE 3 TYPE 4 TYPE 5 TYPE 6 TYPE 7 TYPE 8 TYPE 9 TYPE 10 TYPE 11 TYPE 12 TYPE 13 TYPE 14 TYPE 15 TYPE 16 TYPE 17

FED. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.	TYPE FUNDS
2	OHIO		

202
247

FRA-270-26.76 N

MICROFILMED
AUG 14 19/9
REPRODUCTION

ABUTMENT

MARK	NUMBER	LENGTH	TYPE	A	B	C	WEIGHT
A1101	116	13'-2"	2	12'-0"	1'-5½"		8114
A1102	114	10'-2"	2	9'-0"	1'-5½"		6157
A1001	190	14'-0"	8	12'-6"			11446
A801	58	14'-0"	1				2168
A802	58	10'-9"	1				1665
A803	96	10'-7"	8	9'-6"			2713
A601	92	8'-9"	4	5'-0"	3'-9"	1'-7"	1209
A602	92	4'-0"	1				553
A603	44	12'-1"	3	5'-6"	5'-6"	1'-5"	799
A604	48	6'-4"	3	4'-2"	1'-1"	1'-5"	457
A605	48	9'-1"	3	5'-6"	3'-0"	11"	655
A606	4	11'-9"	3	5'-6"	5'-6"	1'-2"	71
A607	24	3'-6"	1				126
A501	132	24'-6"	1				3373
A502	24	19'-10"	1				496
A503	4	10'-6"	1				44
A504	2	26'-0"	1				54
A505	2	27'-0"	1				56
A506	24	23'-6"	1				588
A507	24	16'-4"	1				409
A508	16	6'-6"	10	2'-8"	4"		108
A509	32	6'-6"	1				217
A510	16	6'-2"	2	5'-8"	7½"		103
A511	8	2'-10"	1				24
A512	8	3'-10"	1				32
A513	8	4'-10"	1				40
A514	8	9'-0"	1				75

ABUTMENT RAILING (*See Std. Dwg. BR-1-67)

Y701	4	4'-4"	1				35
Y702	4	4'-9"	*				39
Y703	4	4'-10"	*				40
Y704	4	4'-11"	*				40
Y705	4	5'-0"	*				41
Y501	20	2'-0"	*				42
Y502	40	2'-9"	1				115
Y503				(not used)			
Y504	32	5'-8"	1				189
Y505				(not used)			
Y506				(not used)			
Y507	20	2'-10"	1				59

PIER

MARK	NUMBER	LENGTH	TYPE	A	B	C	WEIGHT
P1101	44	20'-0"	1				4675
P1001	52	26'-4"	1				5892
P1002	24	38'-0"	1				3924
P1003	24	24'-3"	1				2504
P1004	24	19'-2"	2	15'-10"	3'-7½"		1979
P1005	24	15'-10"	1				1635
P1006	12	20'-0"	1				1033
P901	72	6'-6"	2	5'-6"	1'-3"		1591
P902	36	18'-8"	1				2285
P903	36	17'-6"	1				2142
P904	12	20'-0"	1				816
P905	24	24'-0"	1				1958
P801	88	17'-3"	1				4053
P701	98	10'-4"	7	8'-6"			2036
P601	66	8'-8"	1				843
P501	224	8'-3"	3	3'-4"	3'-4"	1'-10"	1927
P502	224	5'-5"	3	1'-11"	1'-11"	1'-10"	1265
P503	8	23'-6"	1				196
SP401	3	16'-1½"	16	2'-8"	4½"	46	916
SP402	3	14'-7½"	16	2'-8"	4½"	42	835

SUPERSTRUCTURE

MARK	NUMBER	LENGTH	TYPE	A	B	C	WEIGHT
S701	1592	24'-0"	1				78097
S601	855	30'-0"	1				38526
S602	95	29'-1"	1				4150
S603	72	15'-5"	1				1667
S604	72	30'-0"	1				3244

SUPERSTRUCTURE RAILING (*See Std. Dwg. BR-1-67)

X501	442	2'-0"	*				922
X502	442	5'-4"	*				2459
X503	442	2'-6"	*	2'-0"			1153
X504	442	3'-4"	*	10"			1537
X505	16	14'-2"	1				236
X506	88	13'-10"	1				1270
X507	104	7'-2"	1				777

REPLACEMENT BARS

MARK	NUMBER	LENGTH	TYPE	A	B	C	WEIGHT
RE 1101	2	8'-6"	1				
RE 1001	2	8'-2"	1				
RE 901	1	7'-10"	1				
RE 801	1	7'-6"	1				
RE 701	4	7'-2"	1				
RE 601	3	6'-11"	1				
RE 501	2	6'-7"	1				
RE 401	1	6'-3"	17	6'-3"	16"		

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, indicates the bar size number. For example, A601 is a No.6 size bar and P1101 is a No.11 size bar.*

SPIRAL REINFORCING BARS: The "Length" shown in the steel list for the spiral bars is the length of the spiral along the axis of the spiral. The "No. of Turns" shown is the length divided by the pitch plus 3 turns (total number of closed coils). Spiral reinforcing bars shall not have deformations but shall in other respects conform to Item 509. 1½ Closed coils shall be provided at the ends of each spiral unit. Four steel channel, tee or angle spacers, weighing approximately 0.80 lb. per lin. ft. of spacer, shall be provided for each spiral unit. They shall be equally spaced along the periphery of the coil. The number of pounds of these spacers, based on 0.80 lbs. per lin. ft. will be paid for as reinforcing steel and is included in the tabulated quantities of spiral bars.

BURGESS & NIPLE LIMITED — CONSULTING ENGINEERS
COLUMBUS, OHIO

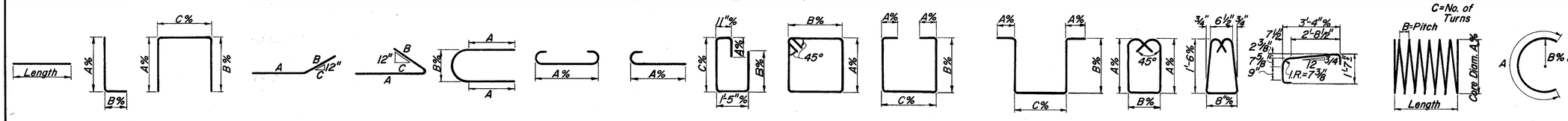
9/11

REINFORCING STEEL LIST
BR. NO. FRA-270-2719 N
UNDER
GOSHEN LANE

FRANKLIN COUNTY Sta. 1546+93.45

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
S.B.K. 12/16/69	S.B.K.	LEH	TEH 2/10/70	7/8/70 WCR 3/31/70	

ALL-STATE BLUEPRINT CO'S., O. 41018



TYPE 1 TYPE 2 TYPE 3 TYPE 4 TYPE 5 TYPE 6 TYPE 7 TYPE 8 TYPE 9 TYPE 10 TYPE 11 TYPE 12 TYPE 13 TYPE 14 TYPE 15 TYPE 16 TYPE 17

FED. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.	TYPE FUNDS
2	OHIO		

203
247

FRA-270-26.76 N

MICROFILMED
AUG 14 1979
REPRODUCTION

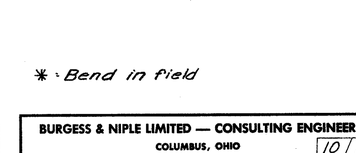
WINGWALL

MARK	NUMBER	LENGTH	TYPE	A	B	C	WEIGHT
W1101	48	9'-11"	5	3'-6"	6'-5"	¾"	2529
W1102	45	17'-9"	5	3'-6"	14'-3"	¾"	4244
W1103	1	17'-2"	5	3'-6"	13'-8"	¾"	91
W1104-S	1set of 11	18'-10" / 6'-4"	1				735
		1'-3" incr.					
W1105-S	1set of 11	18'-1" / 6'-0"	1				704
		1'-2½" incr.					
W901	102	8'-10"	1				3063
W902	43	14'-6"	5	2'-10"	11'-8"	¾"	2120
W903	1	14'-2"	5	2'-10"	11'-4"	¾"	48
W904	1	13'-7"	5	2'-10"	10'-9"	¾"	46
W905	1	14'-4"	5	2'-10"	11'-6"	¾"	49
W906-S	1set of 11	15'-0" / 3'-4"	1				343
		1'-2" incr.					
W907-S	1set of 11	15'-6" / 3'-0"	1				346
		1'-3" incr.					
W908	48	8'-5"	5	2'-10"	5'-7"	¾"	1373
W801	102	8'-7"	1				2337
W802	76	7'-8"	1				1556
W701	76	7'-5"	1				1152
W601	9	8'-4"	5	1'-11	6'-5"	¾"	113
W602	10	11'-5"	5	1'-11	9'-6"	¾"	171
W501	1	35'-4"	1*				37
W502	4	34'-1"	1*				142
W503	2	33'-0"	1*				69
W504	18	31'-6"	1*				591
W505	11	30'-11"	1*				355
W506	2	29'-8"	1*				62
W507	1	28'-4"	1*				30
W508	1	27'-0"	1*				28
W509	1	25'-9"	1*				27
W510	1	48'-9"	1*				51
W511	1	47'-0"	1*				49
W512	1	45'-6"	1*				47
W513	5	43'-6"	1*				227
W514	6	42'-8"	1*				267
W515	2	40'-10"	1*				85
W516	2	39'-0"	1*				81
W517	1	37'-4"	1*				39
W518	1	35'-6"	1*				37
W519-S	1set of 5	10'-7" / 6'-7"	1				45
		1'-0" incr.					
W520-S	1set of 12	24'-6" / 10'-9"	1				221
		1'-3" incr.					
W521-S	1set of 12	24'-6" / 11'-8"	1				226
		1'-2" incr.					
W522-S	1set of 11	24'-8" / 10'-6"	1				202
		1'-5" incr.					
W523	6	30'-10"	1*				193
W524	2	26'-9"	1*				56
W525	4	22'-6"	1*				94
W526	6	18'-5	1*				115
W527	2	14'-3"	1*				30
W528	4	10'-0"	1*				42
W529	2	6'-0"	1*				13
W530	2	27'-3"	1*				57
W531	2	14'-0"	1*				29
W532	2	5'-4"	1*				11

WINGWALL

MARK	NUMBER	LENGTH	TYPE	A	B	C	WEIGHT
W533	1	37'-3"	1*				39
W534	1	32'-0"	1*				33
W535	1	33'-4"	1*				35
W536-S	1set of 11	24'-9" / 11'-0"	1				205
		1'-4½" incr.					
W537-S	1set of 4	10'-0" / 7'-0"	1				35
		1'-0" incr.					
W538-S	1set of 12	21'-10" / 9'-0"	1				193
		1'-2" incr.					
W539-S	1set of 11	21'-9" / 8'-4"	1				172
		1'-4" incr.					
W540	4	4'-3"	1*				18
W541	4	8'-3"	1*				34
W542	2	12'-9"	1*				27
W543	22	12'-6"	1*				287
W544	2	17'-1"	1*				36
W545	2	16'-8"	1*				35
W546	2	21'-10"	1*				46
W547	2	21'-1"	1*				44
W548	2	26'-7"	1*				55
W549	2	25'-4"	1*				53
W550	2	29'-9"	1*				62
W551-S	1set of 12	21'-9" / 8'-0"	1				186
		1'-3" incr.					
W552-S	1set of 11	21'-8" / 7'-6"	1				167
		1'-5" incr.					
W553	2	34'-6"	1*				72
W554	22	15'-9"	1				361
W555	32	3'-9"	18	2'-8"	7½"	5"	125
W556	112	7'-2"	18	2'-8"	4'-0½"	5"	837
W557	56	8'-10"	10	8"	3'-8"		516
W558	2	34'-8"	1*				72
W559	2	33'-5"	1*				70
W560	2	32'-2"	1*				67
W561	2	31'-0"	1*				65
W562	2	29'-9"	1*				62
W563	2	30'-9"	1*				64
W564	2	29'-6"	1*				62
W565	2	28'-3"	1*				59
W566	2	26'-11"	1*				56

MARK	NUMBER	LENGTH	TYPE	A	B	C	WEIGHT



TYPE 18

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, indicates the bar size number. For example, A601 is a No.6 size bar and P1101 is a No.11 size bar. Bar marks followed by an S, ie; W906-S, indicates a series.*

SPIRAL REINFORCING BARS: The "Length" shown in the steel list for the spiral bars is the length of the spiral along the axis of the spiral. The "No. of Turns" shown is the length divided by the pitch plus 3 turns (total number of closed coils). Spiral reinforcing bars shall not have deformations but shall in other respects conform to Item 509. 1½ Closed coils shall be provided at the ends of each spiral unit. Four steel channel, tee or angle spacers, weighing approximately 0.80 lb. per lin. ft. of spacer, shall be provided for each spiral unit. They shall be equally spaced along the periphery of the coil. The number of pounds of these spacers, based on 0.80 lbs. per lin. ft. will be paid for as reinforcing steel and is included in the tabulated quantities of spiral bars.

* - Bend in field

REPLACEMENT BARS

MARK	NUMBER	LENGTH	TYPE	A	B	C	WEIGHT

BURGESS & NIPLE LIMITED — CONSULTING ENGINEERS
COLUMBUS, OHIO 10/11

REINFORCING STEEL LIST
BR. NO. FRA-270-2719 N
UNDER
GOSHEN LANE

FRANKLIN COUNTY Sta. 1546+93.45

DESIGNED	DRAWN	TRACKED	CHECKED	REVIEWED DATE	REVISED
SBK. 12/16/69	SBK.	LEH.	TEH 3/5/70	WRR 3/31/70	

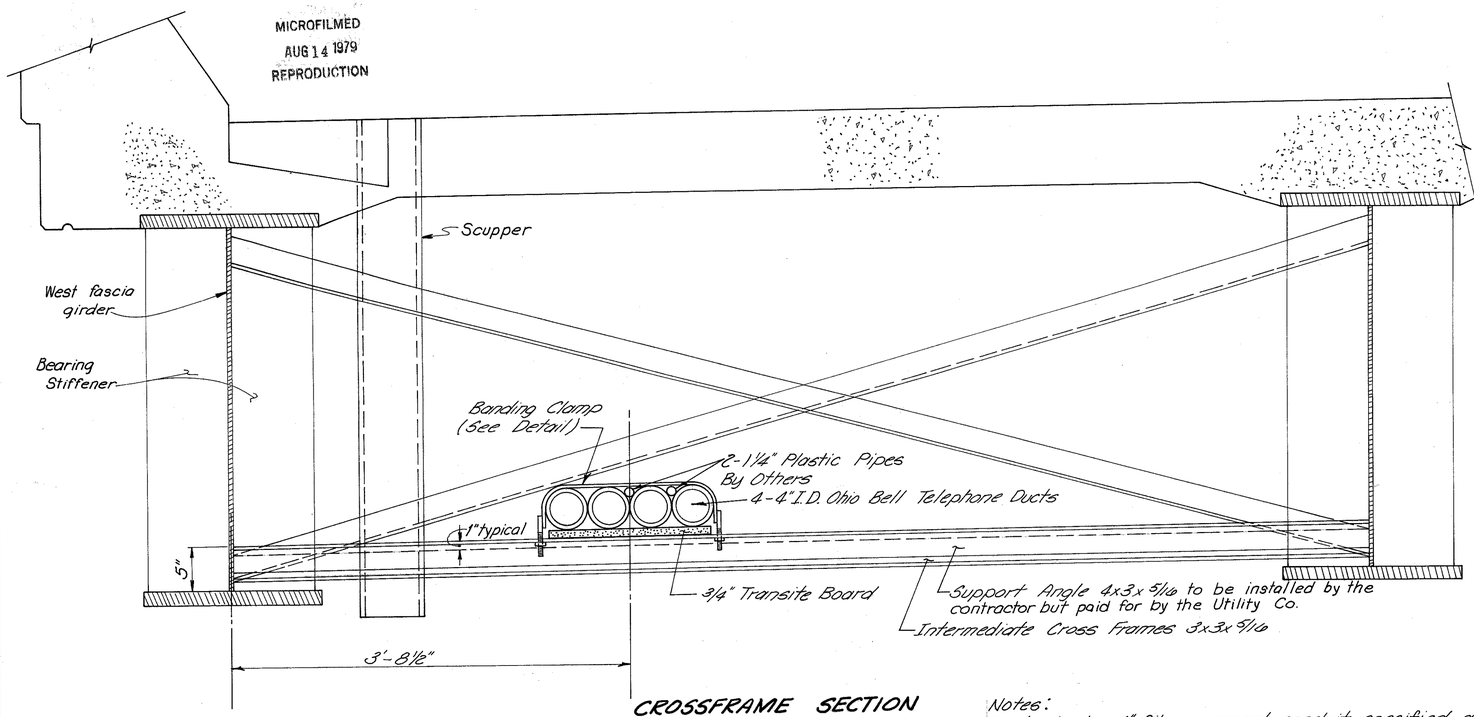
ALL-STATE BLUEPRINT CO.'S., O. 41018

MICROFILMED
AUG 14 1979
REPRODUCTION

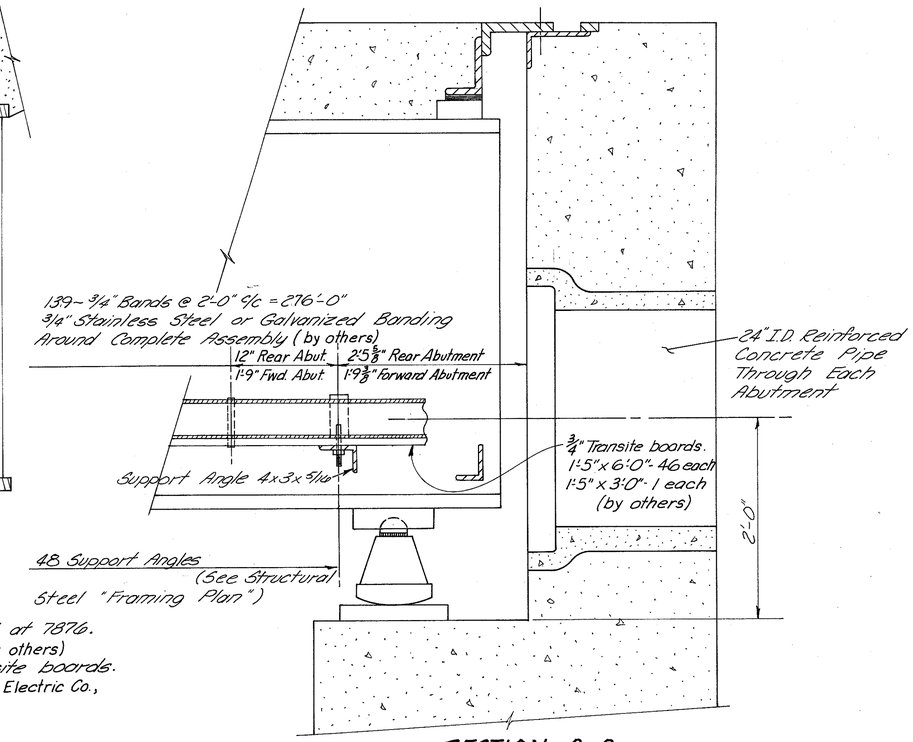
FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

2034
247

FRA-270-26.76 N

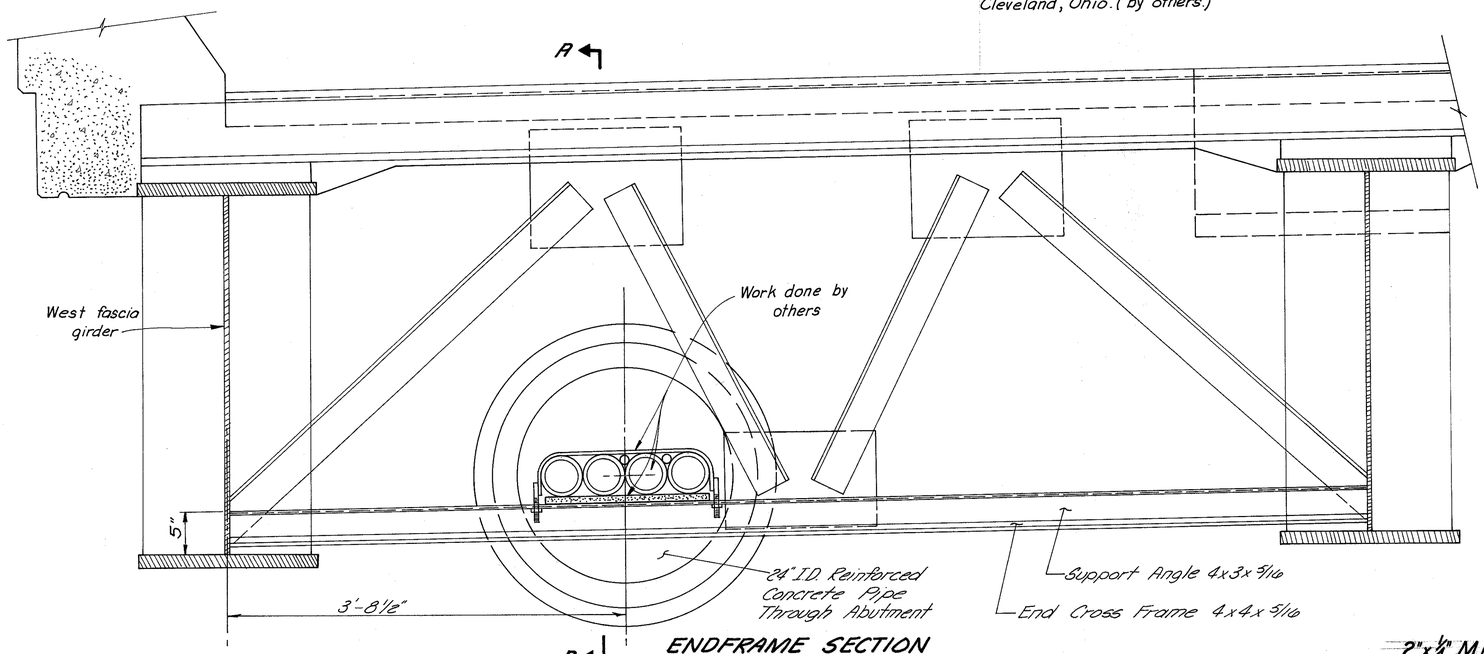


CROSSFRAME SECTION

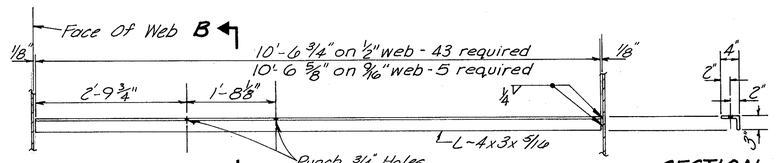


SECTION A-A

Notes:
Ducts to be 4" fiber-cement conduit specified at 7876.
Join sections with black plastic couplings. (by others)
Allow ⅛" open joints between ends of transite boards.
Transite boards may be purchased from the Red Seal Electric Co., Cleveland, Ohio. (by others)

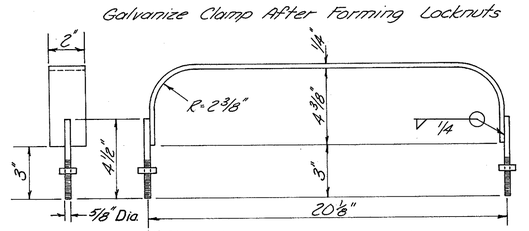


ENDFRAME SECTION



SECTION B-B

SUPPORT ANGLE FOR DUCTS



2"x¼" MILD STEEL BANDING CLAMP DETAIL (by others)

BURGESS & NIPLE LIMITED — CONSULTING ENGINEERS
COLUMBUS, OHIO 11 / 11

TELEPHONE DUCT INSTALLATION
BR. NO. FRA-270-2719 N
UNDER
GOSHEN LANE

FRANKLIN COUNTY Sta. 1546+93.45

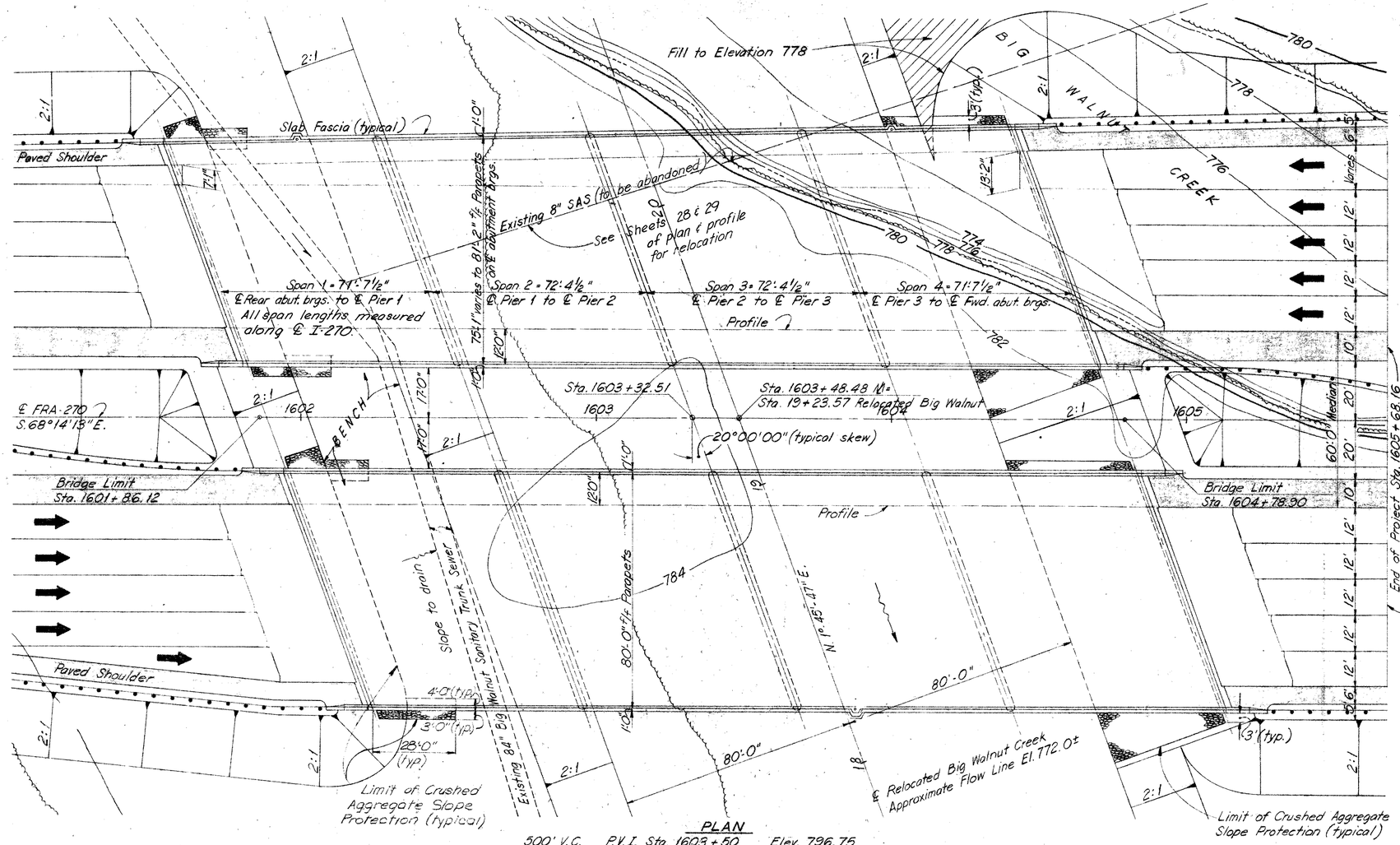
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
HSW 4-17-70	HSW 6-19-70		DW 6/23/70	WLR 7/8/70	

MICROFILMED
AUG 14 1979
REPRODUCTION

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

204
247

FRA-270-26.76N

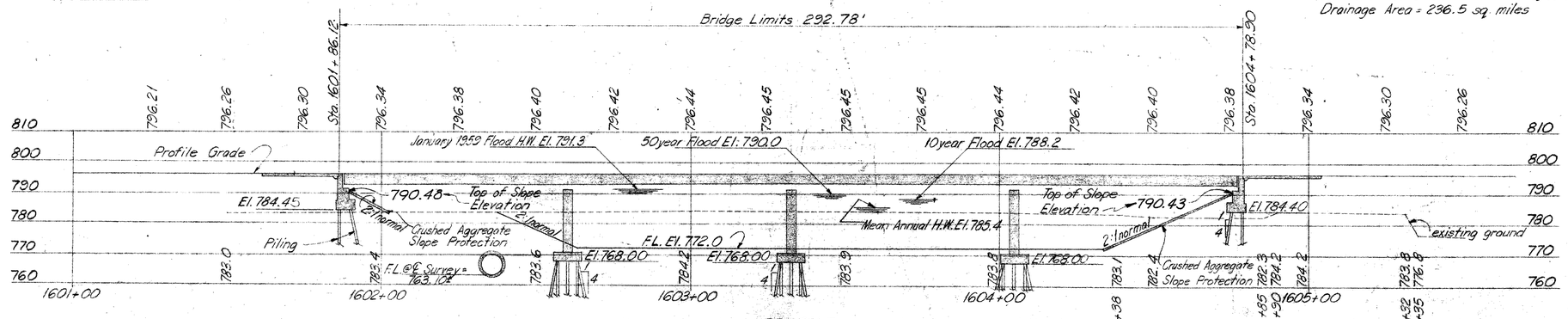


PLAN

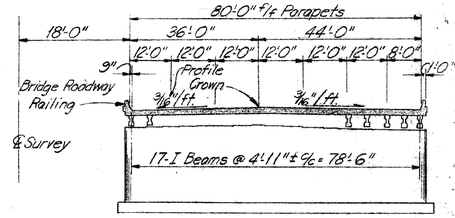
BENCH MARK: P.K. S/s Tel. Pole #137 E/s Price Road.
Elev. 794.55

500' V.C. P.V.I. Sta. 1603+50 Elev. 796.75
In-grade +0.24%; Out-grade -0.24%

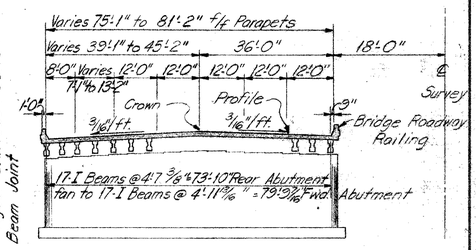
Low conc. clears 50yr. H.W. by 1.77'
Low conc. clears 1959 flood H.W. by .37'
Drainage Area = 236.5 sq. miles



PROFILE



RIGHT SECTION



LEFT SECTION

Estimated average pay length for
12 BP53 steel piles
Abutments - 30 feet
Piers - 20 feet

PROPOSED STRUCTURE

TYPE: 4 span concrete slab deck on prestressed concrete I-beam girders; and concrete substructure
SPAN: 70.88'-70.88'-70.88'-70.88' c/c brgs.
LOADING: HS 20-44
ROADWAY: Left Bridge varies 75'-1" to 81'-2" f/f Parapets
Right Bridge 80'-0" f/f Parapets
SKEW: 20°00'00" R.F.
WEARING SURFACE: 1" Monolithic
APPROACH SLABS: AS-1-67 (25' long)
ALIGNMENT: Tangent
SUPERELEVATION: None
1988 ADT: 86,600

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

Q50 = 20,800 cfs V50 = 6.2 fps

BURGESS & NIPLE LIMITED — CONSULTING ENGINEERS
COLUMBUS, OHIO
1/15

SITE PLAN
BRIDGE NO. FRA-270-2824 N. L & R
OVER
BIG WALNUT CREEK

Scale: 1" = 20'
FRANKLIN COUNTY
Sta. 1601+86.12
Sta. 1604+78.90

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
DW	DW		S&K 6/16/70	7/9/70 2-16-70 WBR 7-3-69	

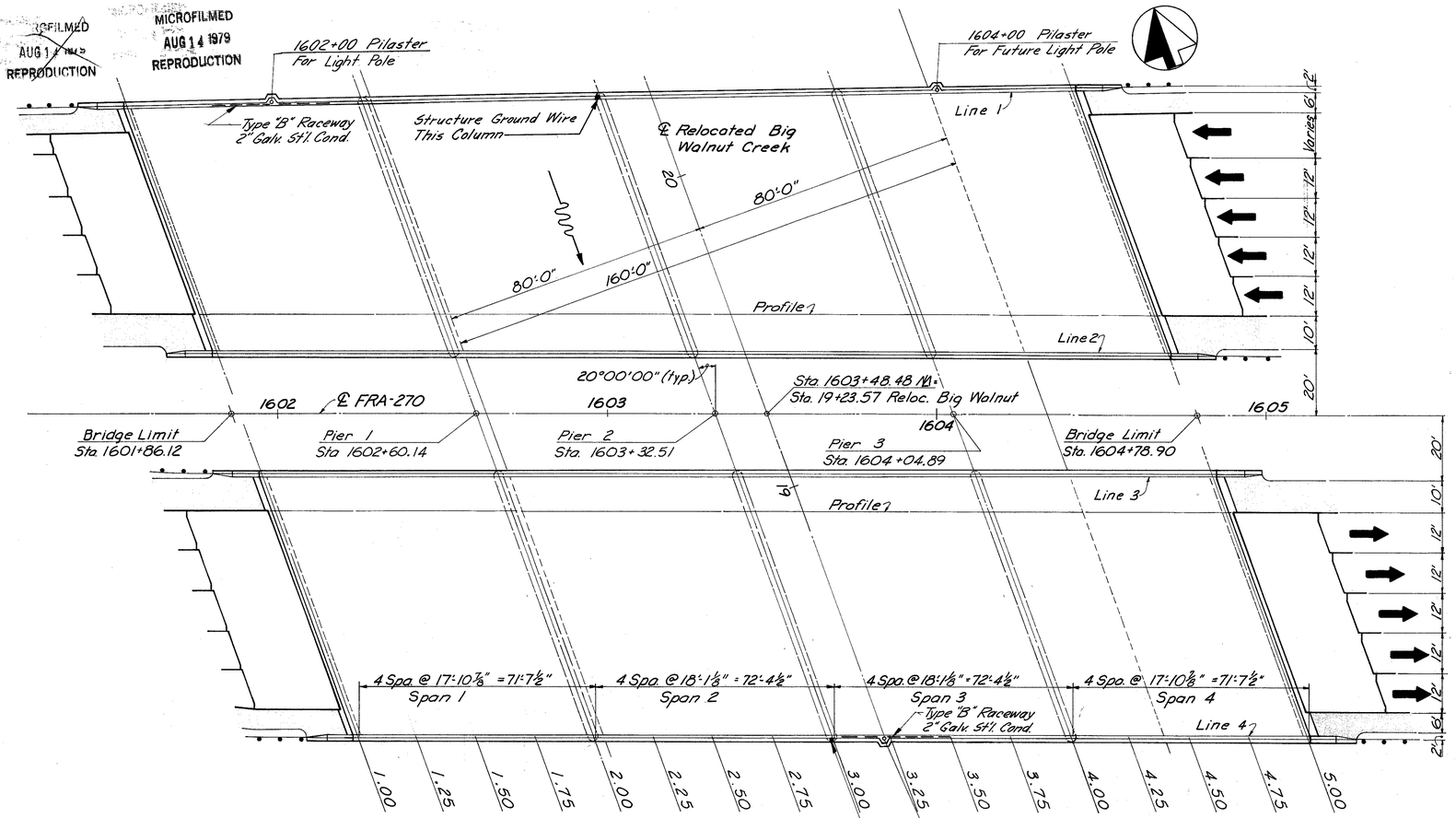
ALL-STATE BLUEPRINT COLS., O. 864-9611 43000

MICROFILMED
AUG 14 1979
REPRODUCTION

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

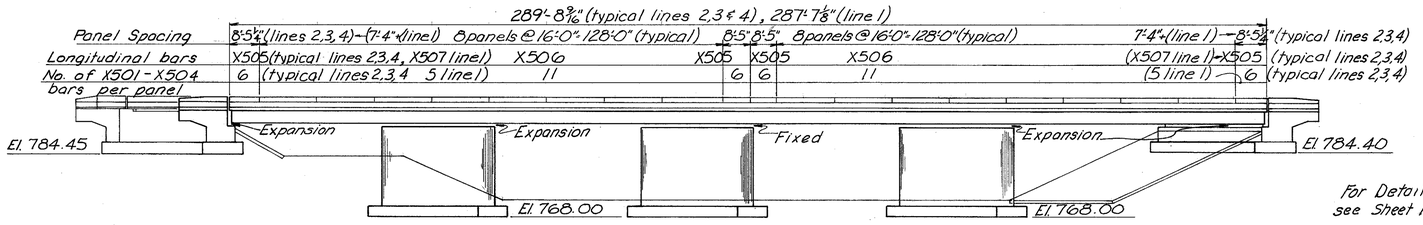
205/247

FRA-270-26.76 N



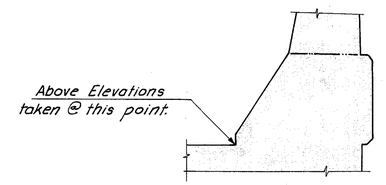
GENERAL PLAN

NOTE: For conduit & expansion fitting details and grounding, see Sheet HL-4.
Expansion fittings shall be OZ Type AX or Spring City Type AF.
For light pole & conduit quantities see Lighting Summary Sheet.

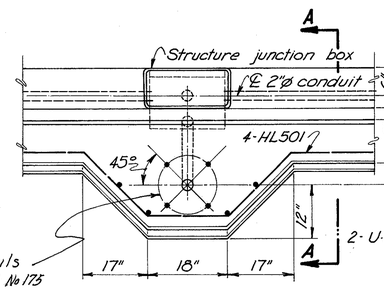


GENERAL ELEVATION
(Piling not shown)

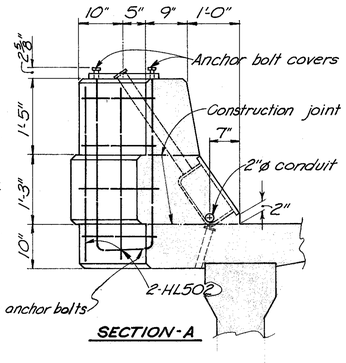
TABLE OF CURB ELEVATIONS PRIOR TO PLACEMENT OF DECK CONCRETE				
POINT	LINE 1	LINE 2	LINE 3	LINE 4
1.00	796.03	796.14	796.16	796.07
1.25	796.06	796.17	796.23	796.13
1.50	796.08	796.19	796.26	796.16
1.75	796.10	796.21	796.27	796.16
2.00	796.12	796.23	796.24	796.13
2.25	796.13	796.24	796.29	796.18
2.50	796.14	796.26	796.32	796.20
2.75	796.15	796.27	796.31	796.19
3.00	796.15	796.27	796.27	796.15
3.25	796.15	796.27	796.31	796.18
3.50	796.15	796.27	796.33	796.19
3.75	796.15	796.27	796.31	796.17
4.00	796.14	796.26	796.26	796.11
4.25	796.13	796.25	796.28	796.13
4.50	796.12	796.24	796.28	796.13
4.75	796.10	796.22	796.25	796.09
5.00	796.08	796.21	796.19	796.02



ELEVATION POINT DETAIL



LIGHT POLE FOUNDATION PILASTER



SECTION-A

NOTE: The estimated quantities of Class C concrete and reinforcing steel in the light pole foundation pilasters are included in the estimated quantities of the bridge superstructure for payment.

BURGESS & NIPLE LIMITED — CONSULTING ENGINEERS
COLUMBUS, OHIO 2/15

GENERAL PLAN & ELEVATION
BR. NO. FRA-270-2824N L & R
OVER
BIG WALNUT CREEK
Sta. 1601+86.12
Sta. 1604+78.90
FRANKLIN COUNTY

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
M.I.G. 2-28-70	I.E.H.		SBK 6/16/70	7-13-70 WCR 6/16/70	

MICROFILMED
AUG 14 1979
REPRODUCTION

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

206
247

FRA-270-26.76 N

REFERENCE shall be made to Standard Drawings AS-1-67 revised 6-12-69, BR-1-67 dated 2-1-68 and to Supplemental Specifications 808 dated 11-14-69 and 836 dated 6-17-69.

DESIGN SPECIFICATIONS: This structure conforms to "Standard Specifications for Highway Bridges" adopted by the American Association of State Highway Officials, 1969, including the Ohio "Supplement" to these Specifications.

DESIGN DATA:
Design Loading - HS 20-44

Concrete Class C - unit stress 1200 psi for superstructure
- unit stress 1333 psi for substructure

Reinforcing Steel - ASTM A615, A616 or A617 - unit stress 20,000 psi.

EMBANKMENT CONSTRUCTION: The embankments shall be constructed to the level of the subgrade for a minimum distance of 200 feet back of the abutments. Excavation shall then be made for the abutments.

ABUTMENT EXCAVTION QUANTITY, includes the removal of embankment for the construction of the abutments.

PILES shall be driven to a minimum bearing capacity of 50 tons per pile for the abutments and 45 tons per pile for the piers

ESTIMATED QUANTITIES BR. NO. FRA-270-2824 N L & R (BOTH BRIDGES)

ITEM	TOTAL	UNIT	DESCRIPTION	SUPER	ABUT.	PIER	GEN.	
503	Lump	Sum	Cofferdams, cribs and sheeting				Lump	
503	1720	Cu. yd.	Unclassified excavation		804	916		
505	Lump	Sum.	First test pile				Lump	
506	Lump	Sum	First pile test load				Lump	
506	1	Each	Subsequent pile test load				1	
507	7200	Lin. ft.	Steel piles 12 BP 53		3120	4080		
	326,573				41,883			
509	325,767	Lb.	Reinforcing steel	241,079	41,083	43,605		
511	1284	Cu. yd.	Class C concrete, superstructure	1284				
511	1191	Cu. yd.	Class C concrete, piers above footings			1191		
511	343	Cu. yd.	Class C concrete, abutment above footings		343			
511	744	Cu. yd.	Class C concrete, footings.		276	468		
511	159	Cu. yd.	Diaphragms for prestressed bridge	159				
512	43	Lin. ft.	Premolded sealing strip		43			
515	136	Each	Prestressed concrete bridge members	136				
516	128	Sq. ft.	½" preformed expansion joint filler.	128				
516	57	Sq. ft.	1¼" preformed expansion joint filler.	57				
516	55	Sq. ft.	½" thick elastomeric bearing pad			55		
516	109	Sq. ft.	1¼" thick elastomeric bearing pad			109		
516	30,550	Lb.	Structural expansion & contraction joints	30,550				
516	68	Each	Bearing devices (abutment bearings)		68			
518	205	Cu. yd	Porous backfill		205			
518	320	Lin. ft.	6"ø helical, perforated corrugated metal pipe including specials 707.01		320			
518	180	Lin. ft.	6"ø helical, non-perforated corrugated metal pipe, 707.01		180			
518	36	Each	Scuppers including supports	36				
808	1284	Units	Chemical admixture for concrete, Type A, B or D	1284				
601	1337	Sq. yd.	Crushed aggregate slope protection				1337	
625			See sheet 165 for Lighting Summary					

BURGESS & NIPLE LIMITED — CONSULTING ENGINEERS
COLUMBUS, OHIO

3 / 15

ESTIMATED QUANTITIES & GENERAL NOTES
BR. NO. FRA-270-2824 N L & R
OVER
BIG WALNUT CREEK
FRANKLIN COUNTY Sta. 1601+86.12, Sta. 1604+78.90

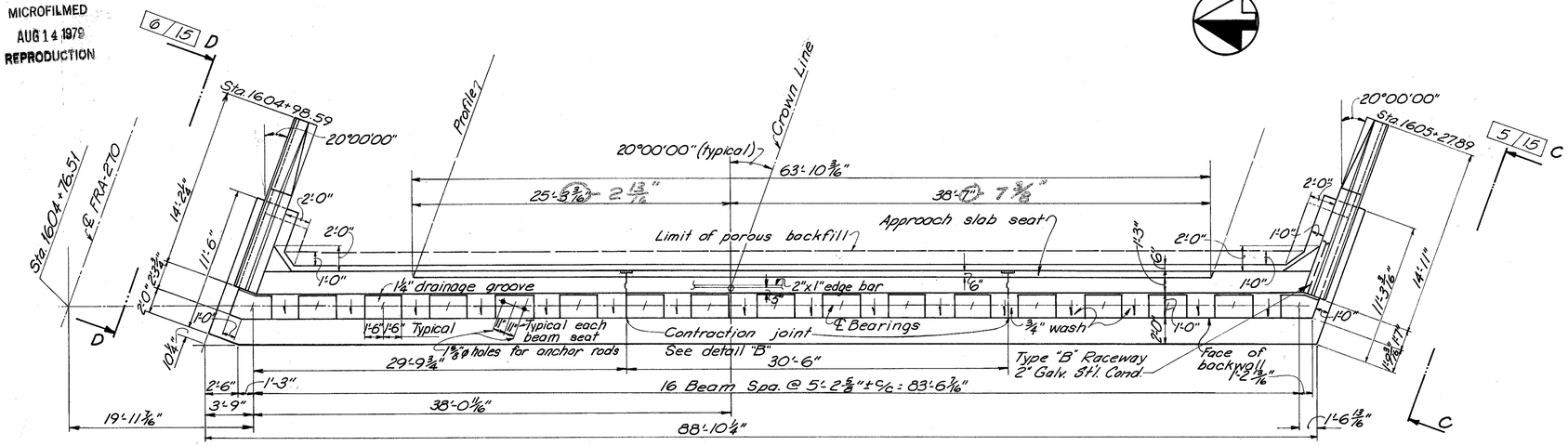
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
M.I.G. 3-17-70	WEP 3-20-70		DW 6/15/70	7-13-70 WER 6/16/70	12-23-70

MICROFILMED
AUG 14 1979
REPRODUCTION

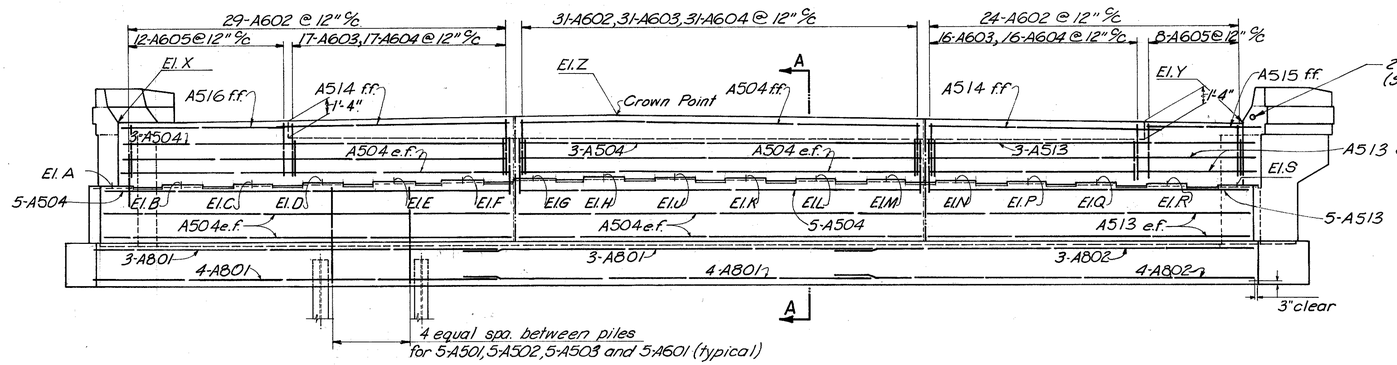
FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

207
247

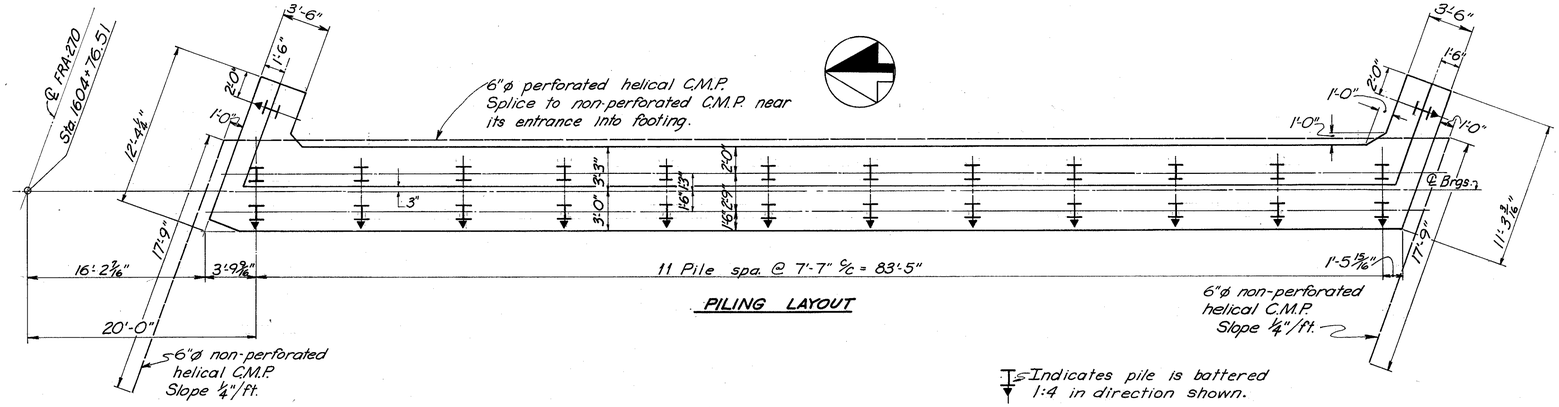
FRA-270-26.76 N



PLAN
(Right forward abutment shown)

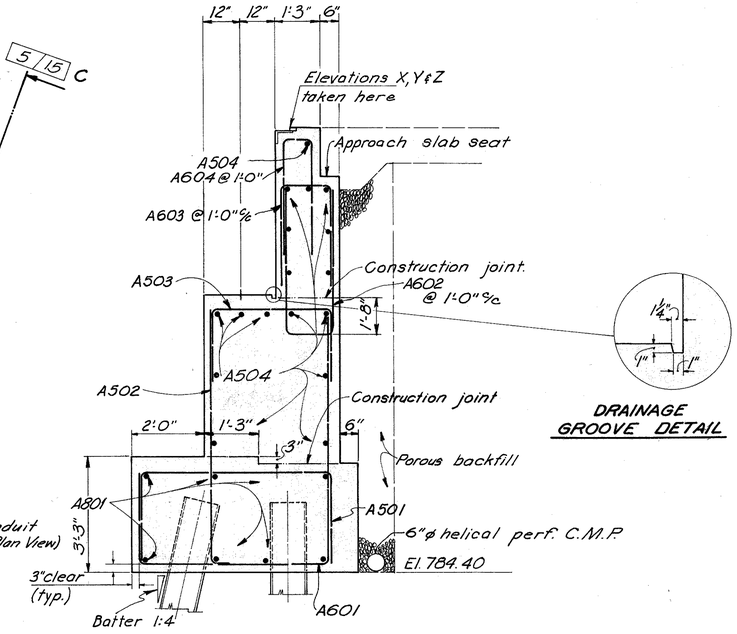


ELEVATION
(Forward abutment looking upstation)



PILING LAYOUT

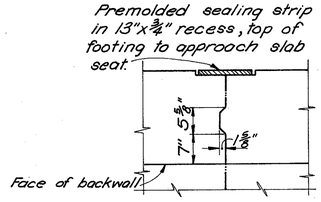
Indicates pile is battered 1:4 in direction shown.



SECTION - A

DRAINAGE GROOVE DETAIL

ELEVATION TABLE	
POINT	ELEV.
El. A	791.60
El. B	791.67
El. C	791.74
El. D	791.82
El. E	791.89
El. F	791.97
El. G	792.04
El. H	792.12
El. J	792.06
El. K	791.99
El. L	791.91
El. M	791.83
El. N	791.75
El. P	791.67
El. Q	791.59
El. R	791.51
El. S	791.43
El. X	796.19
El. Y	796.02
El. Z	796.72



DETAIL - B

LEGEND

e.f. ——— each face
f.f. ——— for face

BURGESS & NIPLE LIMITED — CONSULTING ENGINEERS
COLUMBUS, OHIO

4 / 15

RIGHT FORWARD ABUTMENT DETAILS
BR. NO. FRA-270-2824 ℄ L & R
OVER
BIG WALNUT CREEK

FRANKLIN COUNTY

Sta. 1601+86.12
Sta. 1604+78.90

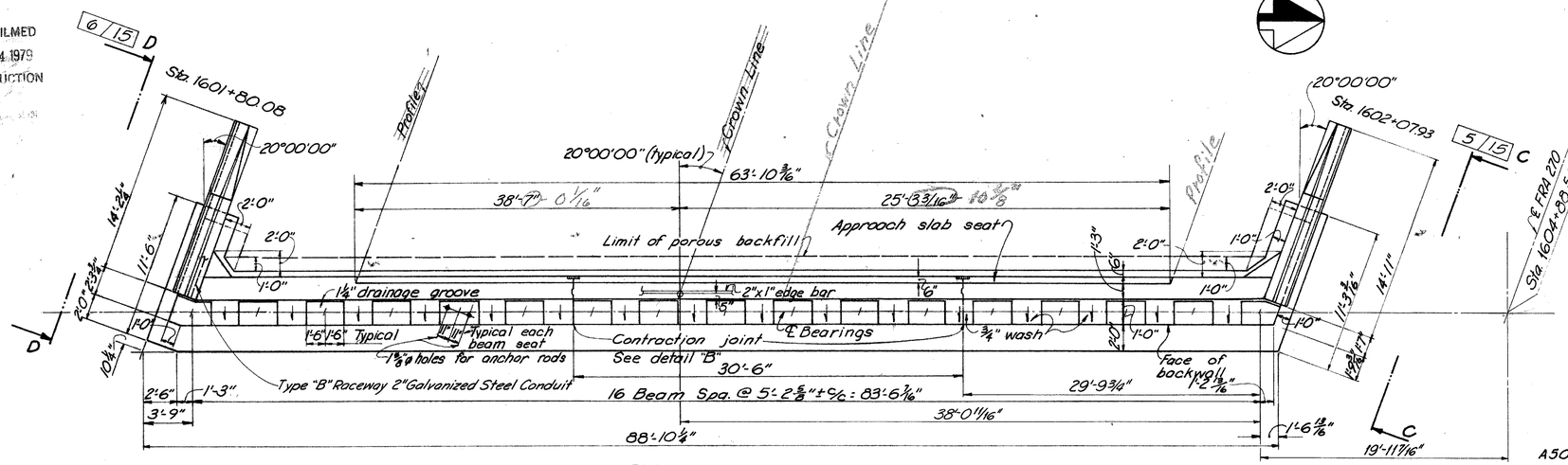
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
M.I.G. 3-16-70	LEH		SBK 6/16/70	7-15-70 WCR 6/16/70	3-26-71

MICROFILMED
AUG 14 1979
REPRODUCTION

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

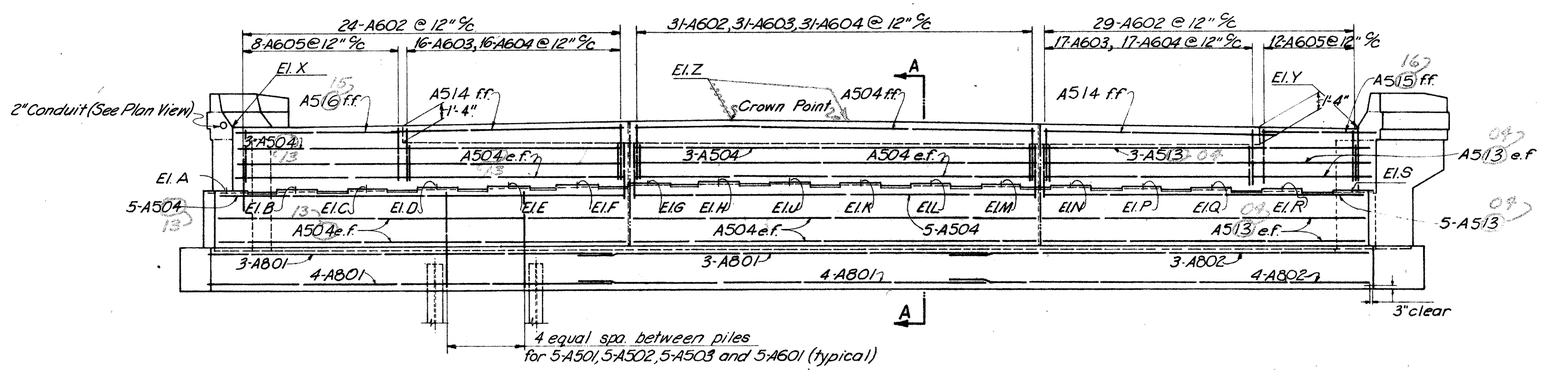
207-A / 247

FRA-270-26.76 N



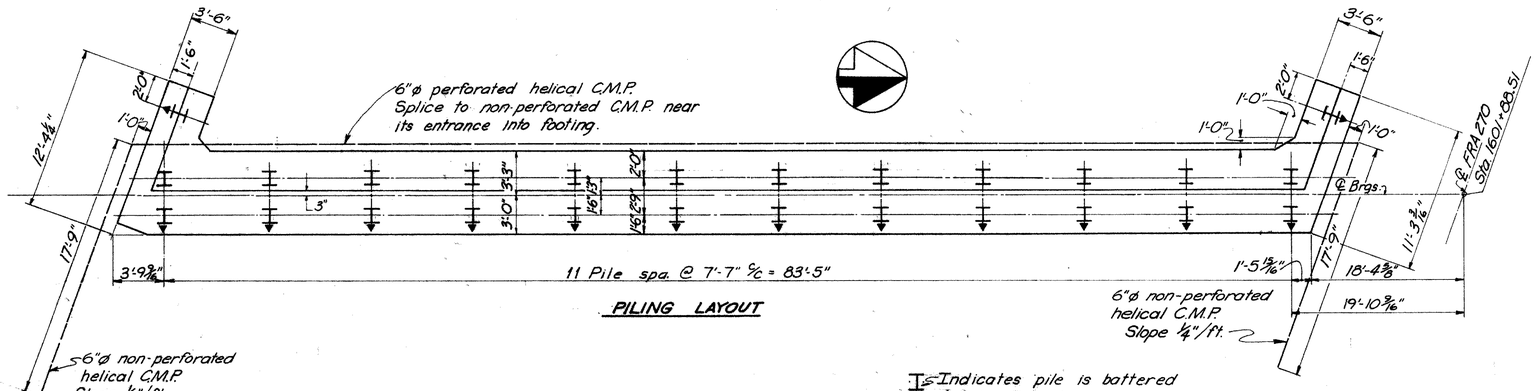
PLAN

(Right rear abutment shown)



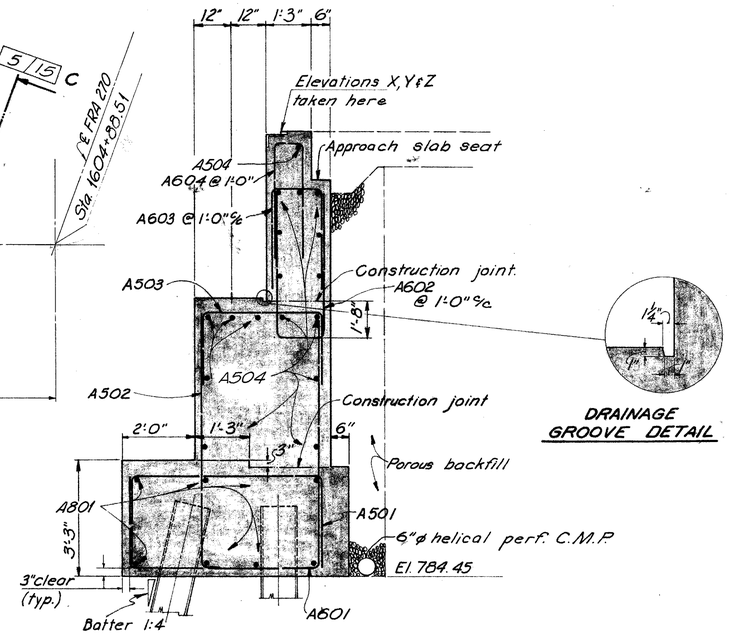
ELEVATION

(Rear abutment looking backstation)



PILING LAYOUT

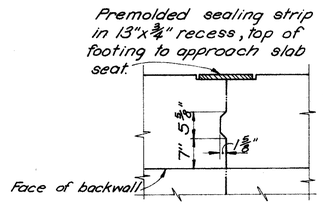
Indicates pile is battered 1:4 in direction shown.



SECTION - A

DRAINAGE GROOVE DETAIL

ELEVATION TABLE	
POINT	ELEV.
El. A	791.48
El. B	791.55
El. C	791.63
El. D	791.70
El. E	791.78
El. F	791.85
El. G	791.93
El. H	792.00
El. J	792.07
El. K	792.12
El. L	792.04
El. M	791.96
El. N	791.88
El. P	791.80
El. Q	791.72
El. R	791.65
El. S	791.51
El. X	796.07
El. Y	796.16
El. Z	796.72



DETAIL - B

LEGEND

e.f. ——— each face
f.f. ——— far face

BURGESS & NIPLE LIMITED — CONSULTING ENGINEERS
COLUMBUS, OHIO

5/15

RIGHT REAR ABUTMENT DETAILS
BR. NO. FRA-270-2824 ℄ L & R
OVER
BIG WALNUT CREEK
Sta. 1601+86.12
FRANKLIN COUNTY Sta. 1604+70.90

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
M.I.G. 3-16-70	LEH		SBK 6/16/70	7-13-70 WER 6/16/70	9-26-71

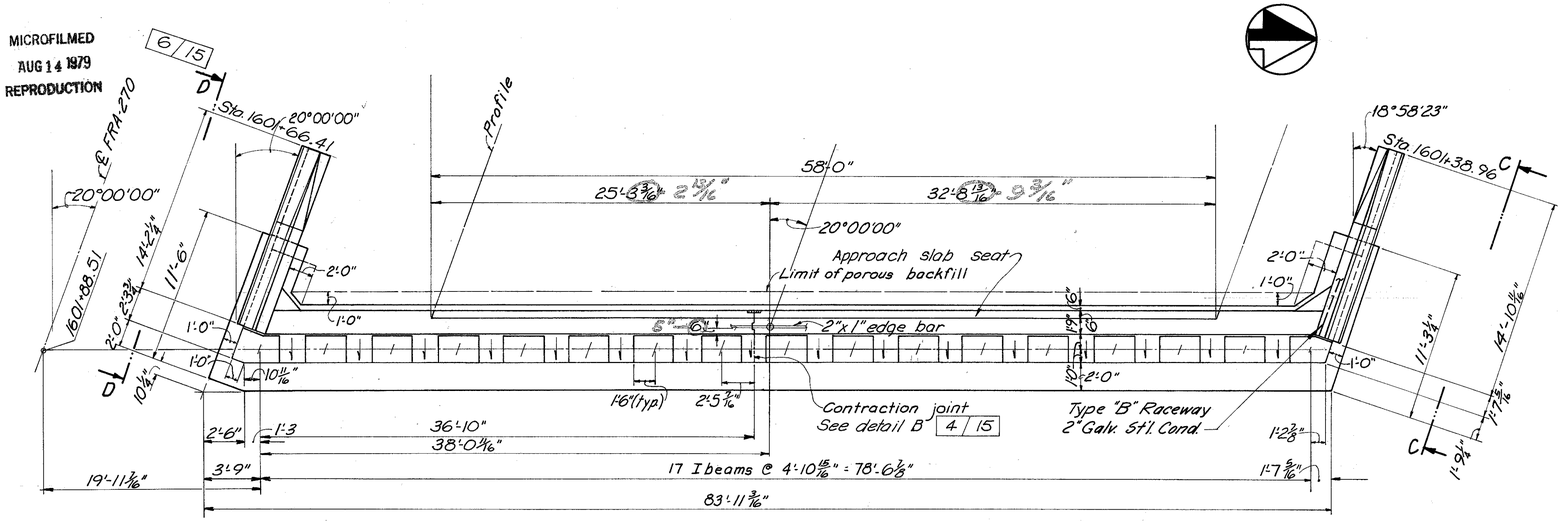
Show Skew

MICROFILMED
AUG 14 1979
REPRODUCTION

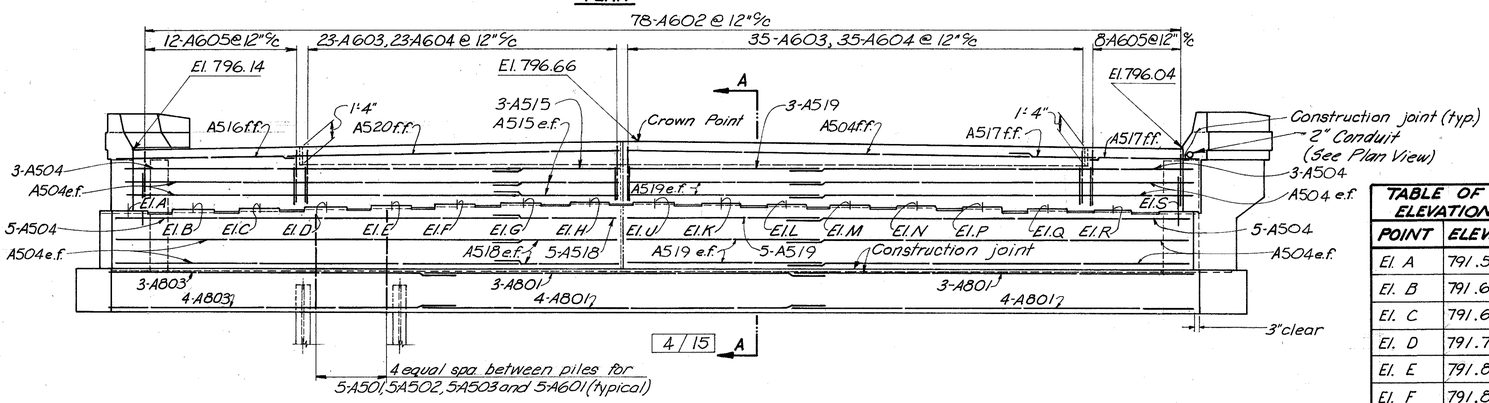
FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

208
247

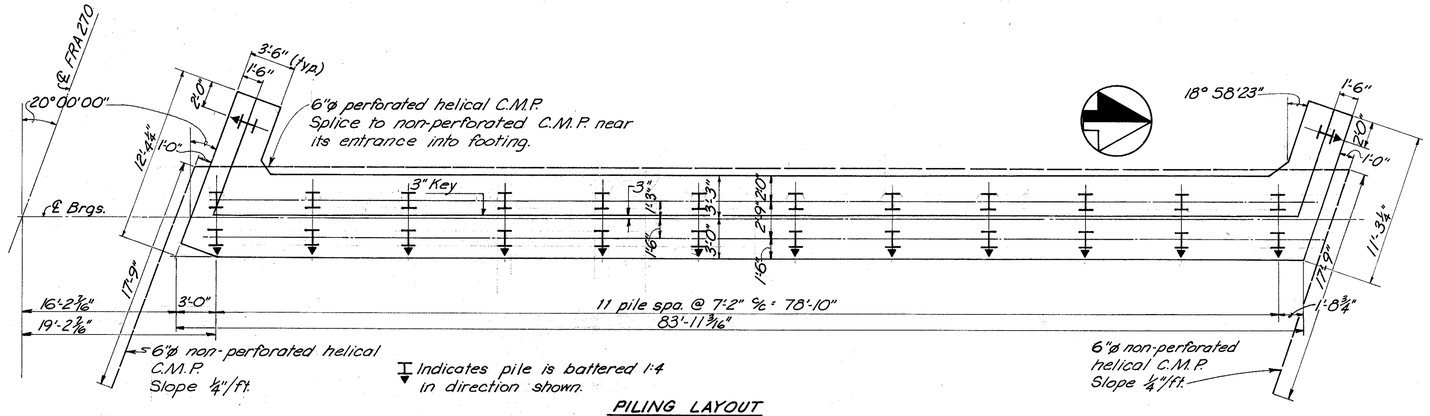
FRA-270-26.76 N



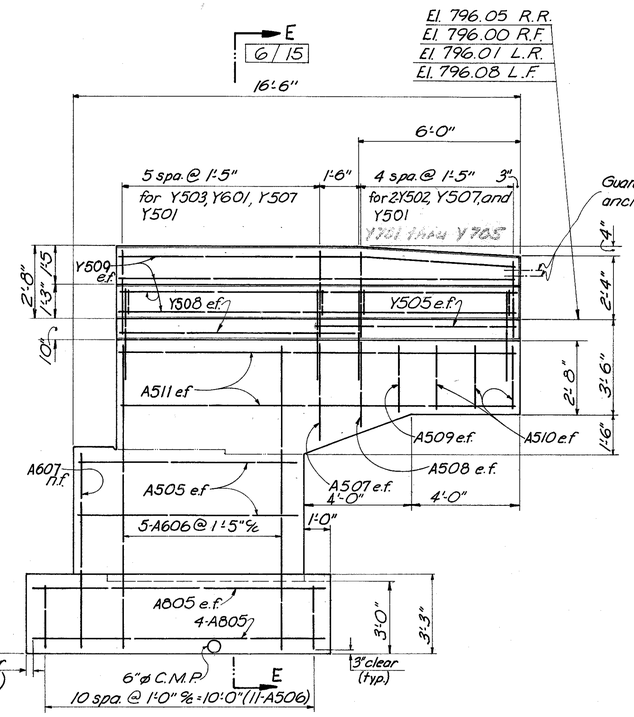
PLAN



ELEVATION
(Left Rear Abut. looking backstation)



PILING LAYOUT



VIEW-C
(Typical)

Adjust reinforcing steel
to clear 6"ø C.M.P. in footing

TABLE OF ELEVATIONS	
POINT	ELEV.
El. A	791.54
El. B	791.61
El. C	791.68
El. D	791.75
El. E	791.82
El. F	791.89
El. G	791.96
El. H	792.03
El. J	792.04
El. K	791.97
El. L	791.89
El. M	791.82
El. N	791.74
El. P	791.66
El. Q	791.59
El. R	791.51
El. S	791.44

LEGEND
e.f. ____ each face
f.f. ____ for face

NOTE: Extreme care shall be taken in driving piles in the area of the 84" sanitary sewer. At the option and expense of the contractor, these piles may be prebored to a depth below the 84" sewer, El. 763.10±. The cost of this optional preboring for piles, if used, shall be included with the cost of the piling for payment.

BURGESS & NIPLE LIMITED — CONSULTING ENGINEERS
COLUMBUS, OHIO
6 / 15

LEFT REAR ABUTMENT DETAILS
BR. NO. FRA-270-2824NL & R
OVER
BIG WALNUT CREEK

FRANKLIN COUNTY
Sta. 1601+86.12
Sta. 1604+78.90

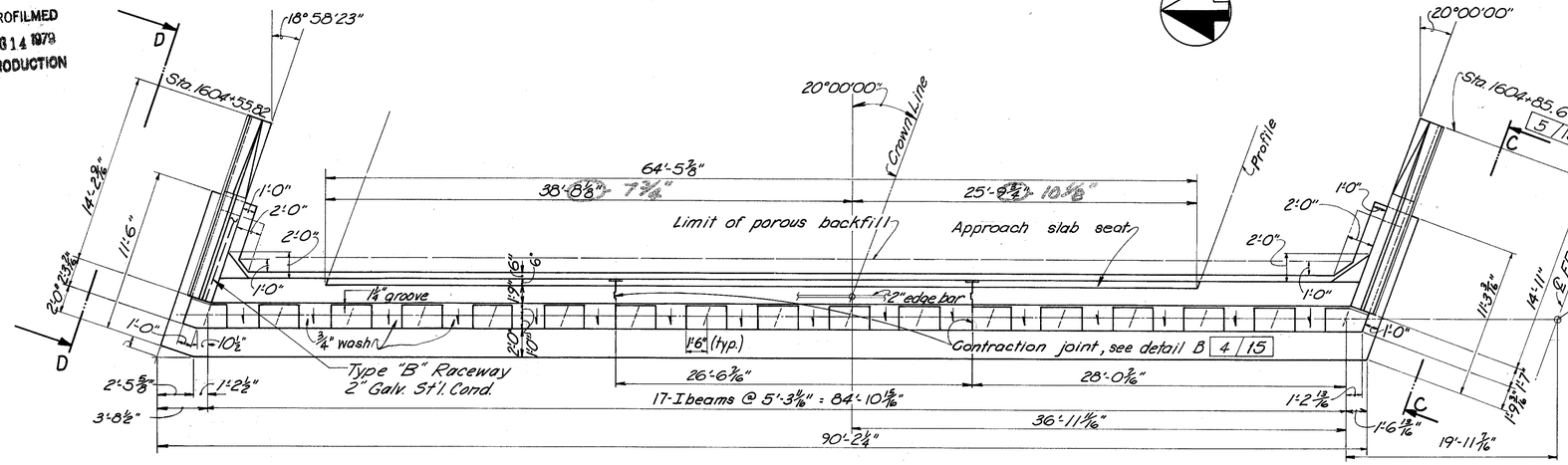
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
M.I.G. 3-16-70	L.E.H.		S.B.K. 6/16/70	WER 6/16/70	7-13-70	12-5-71 3-22-71

MICROFILMED
AUG 14 1979
REPRODUCTION

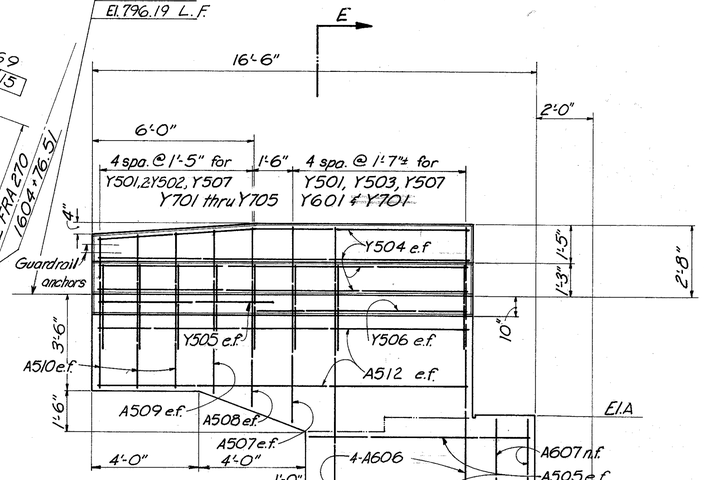
FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

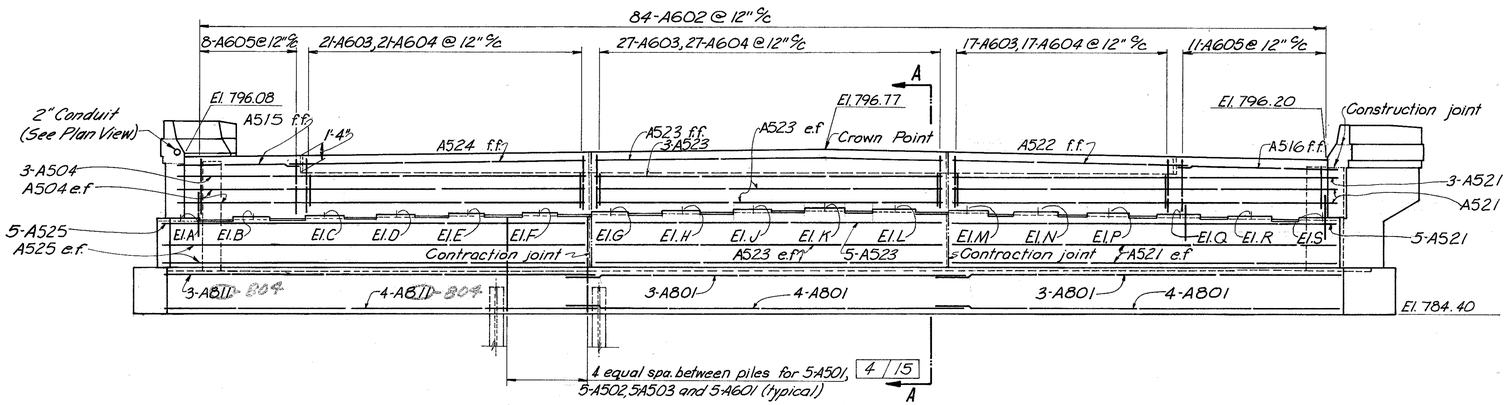
209/247

FRA-270-26.76 N



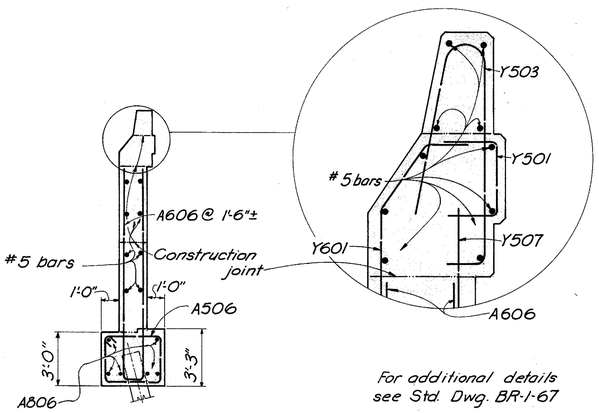
PLAN
(Left forward abutment)





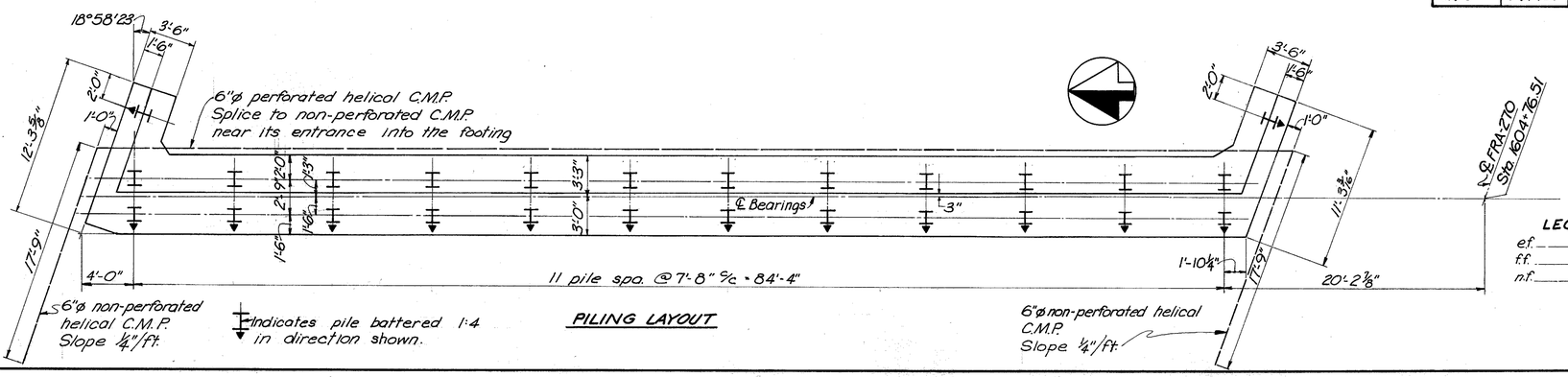
ELEVATION
(Left forward abutment looking upstation)

TABLE OF ELEVATIONS	
POINT	ELEV.
El. A	791.49
El. B	791.56
El. C	791.64
El. D	791.72
El. E	791.79
El. F	791.87
El. G	791.95
El. H	792.02
El. J	792.10
El. K	792.18
El. L	792.09
El. M	792.01
El. N	791.93
El. P	791.85
El. Q	791.77
El. R	791.69
El. S	791.61



SECTION-E

For additional details see Std. Dwg. BR-1-67



LEGEND
e.f. ____ each face
f.f. ____ far face
n.f. ____ near face

BURGESS & NIPLE LIMITED — CONSULTING ENGINEERS
COLUMBUS, OHIO
7/15

LEFT FORWARD ABUTMENT DETAILS
BR. NO. FRA-270-2824 N L.F.R
OVER
BIG WALNUT CREEK
Sta. 1601+86.12
Sta. 1604+78.90
FRANKLIN COUNTY

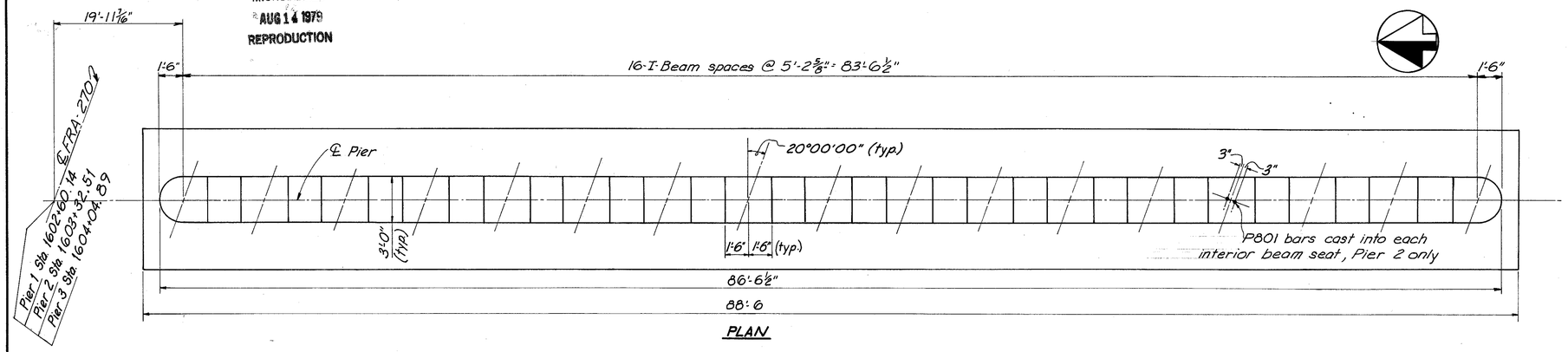
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
M.I.G. 3-16-70	L.E.H.		SBL 6/16/70	7-13-70 WER 6/16/70	8-25-70 3-12-71 3-26-71

MICROFILMED
AUG 14 1979
REPRODUCTION

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

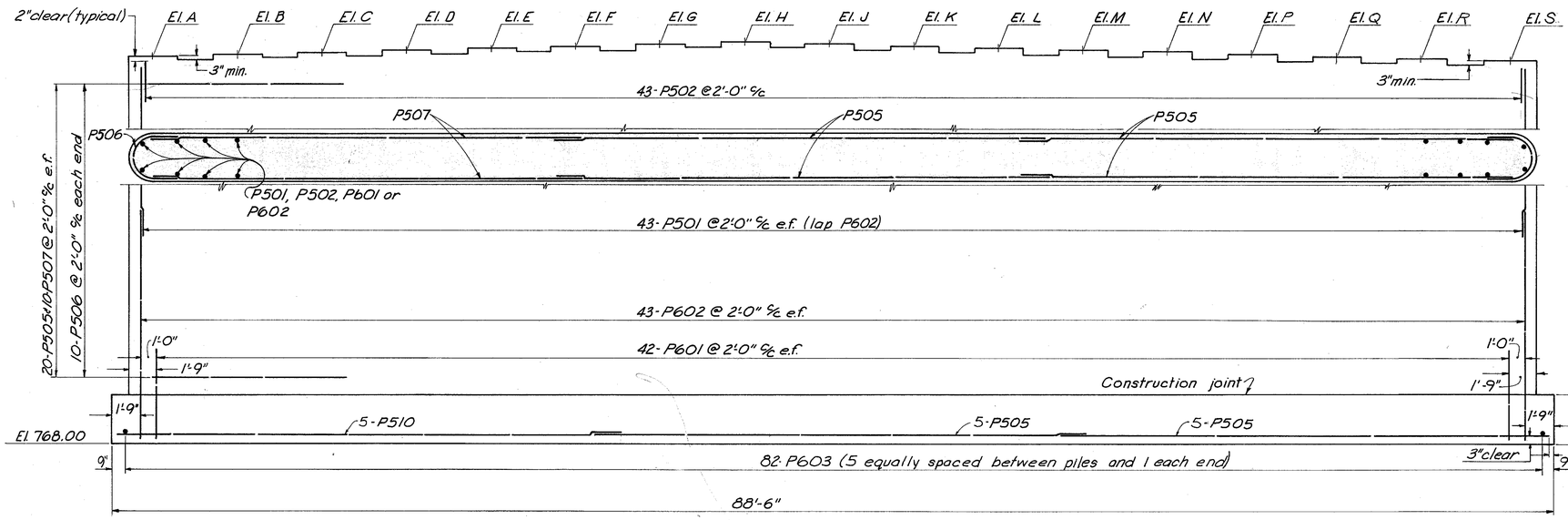
210/247

FRA-270-26.76 N

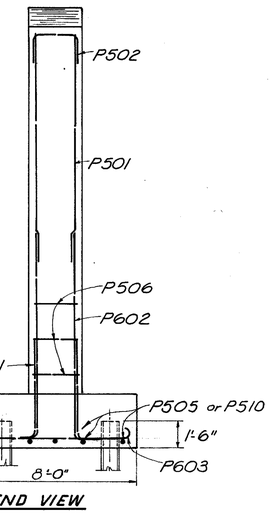


PLAN

POINT	PIER 1	PIER 2	PIER 3
El. A	791.88	791.98	791.90
El. B	791.96	792.05	791.97
El. C	792.04	792.13	792.05
El. D	792.12	792.21	792.13
El. E	792.19	792.28	792.20
El. F	792.27	792.36	792.28
El. G	792.35	792.44	792.36
El. H	792.43	792.51	792.43
El. J	792.38	792.47	792.38
El. K	792.31	792.38	792.30
El. L	792.23	792.31	792.22
El. M	792.15	792.24	792.14
El. N	792.08	792.16	792.06
El. P	792.00	792.08	791.99
El. Q	791.93	792.01	791.91
El. R	791.85	791.93	791.83
El. S	791.78	791.85	791.75



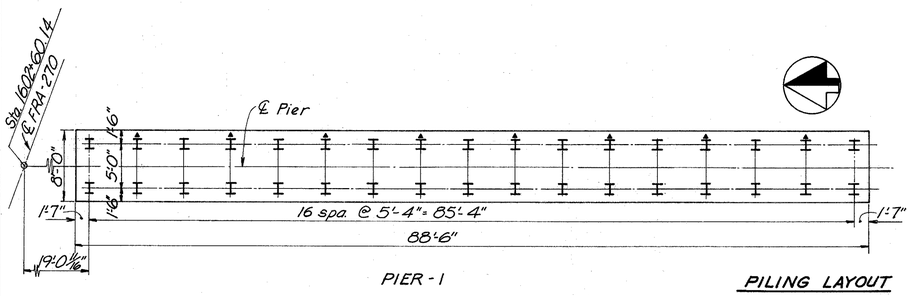
ELEVATION



END VIEW

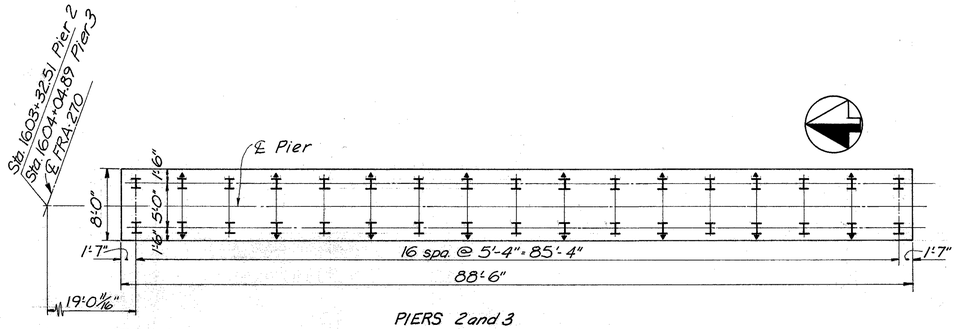
LEGEND

e.f. _____ each face



PIER - 1

PILING LAYOUT



PIERS 2 and 3

▼ = Indicates pile battered 1:4 in direction shown.

BURGESS & NIPLE LIMITED — CONSULTING ENGINEERS
COLUMBUS, OHIO

8/15

PIER DETAILS (R)
BR. NO. FRA-270-2824NL & R
OVER
BIG WALNUT CREEK

Sta. 1601+86.12
Sta. 1604+78.90

FRANKLIN COUNTY

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
M.I.G. 3-5-70	LEH.		SBK 6/16/70	7-13-70 WER 6/16/70	

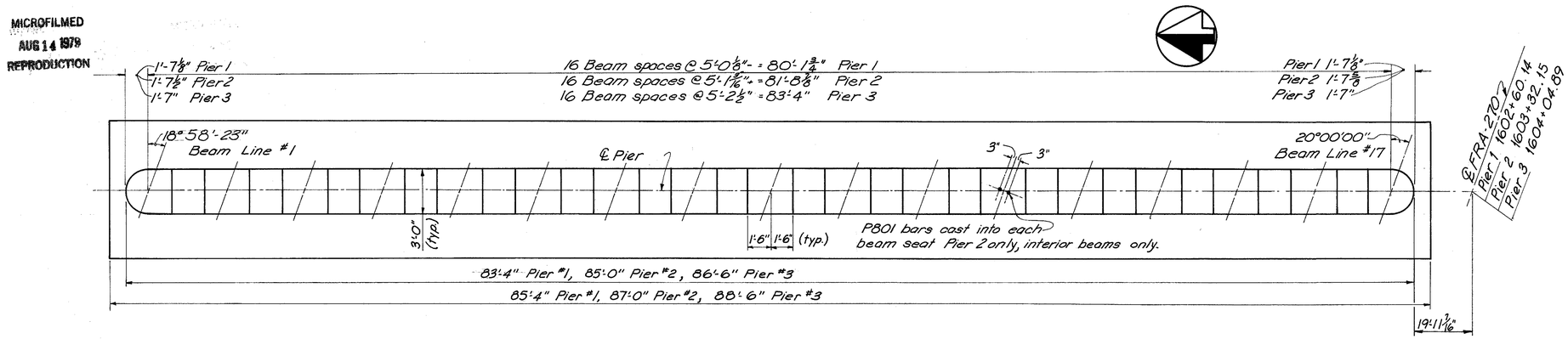
MICROFILMED
AUG 14 1979
REPRODUCTION

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

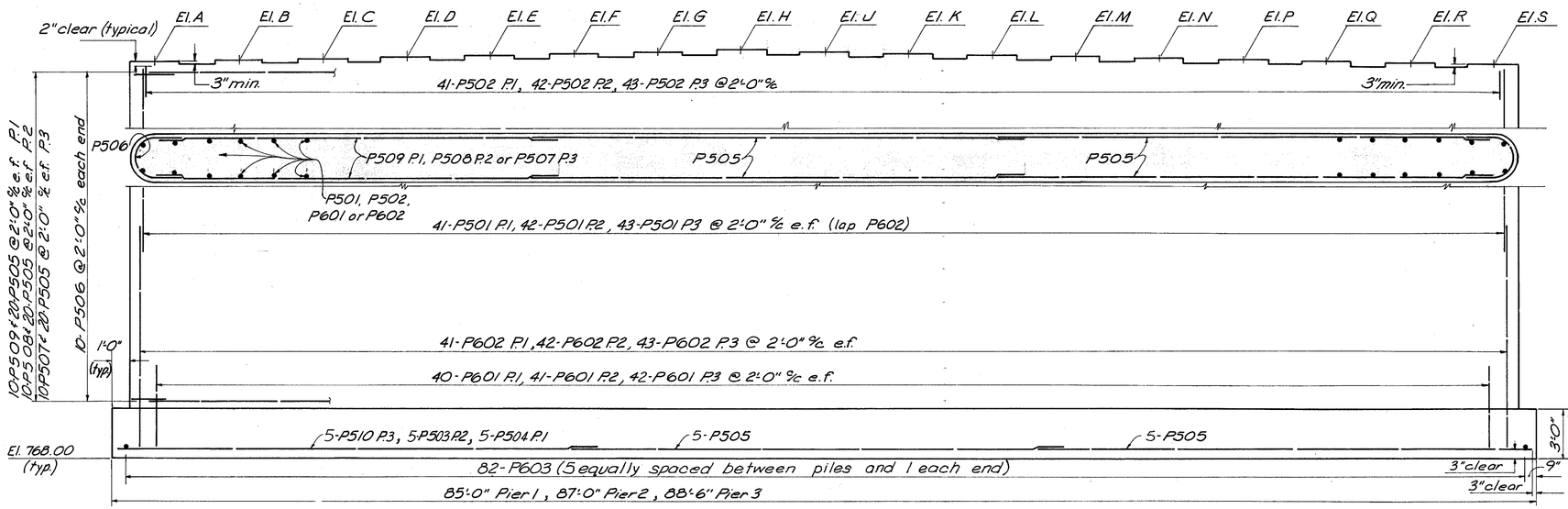
211
247

FRA-270-26.76 N

POINT	PIER 1	PIER 2	PIER 3
El. A	791.76	791.86	791.79
El. B	791.84	791.94	791.86
El. C	791.91	792.01	791.94
El. D	791.99	792.09	792.02
El. E	792.07	792.17	792.09
El. F	792.14	792.24	792.17
El. G	792.22	792.32	792.25
El. H	792.29	792.40	792.32
El. J	792.37	792.47	792.40
El. K	792.38	792.51	792.45
El. L	792.31	792.43	792.38
El. M	792.24	792.36	792.30
El. N	792.16	792.28	792.22
El. P	792.09	792.21	792.14
El. Q	792.02	792.13	792.06
El. R	791.95	792.05	791.99
El. S	791.88	791.98	791.91

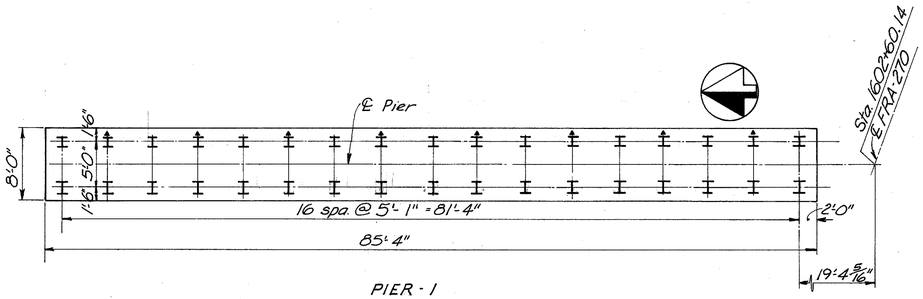


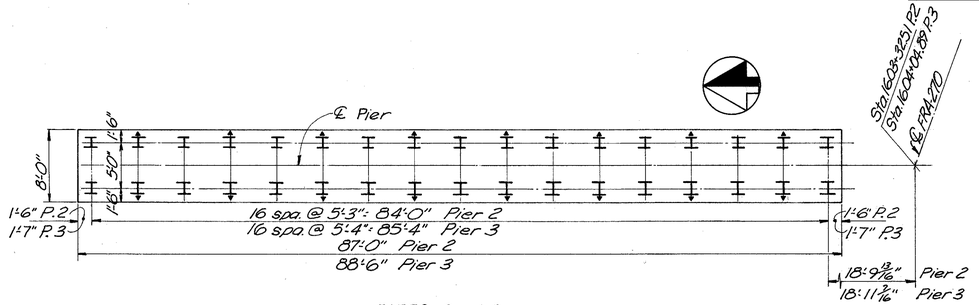
PLAN



ELEVATION

END VIEW





PILING LAYOUT

Indicates pile battered 1:4 in direction shown.

LEGEND
e.f. ——— each face
P. ——— Pier

BURGESS & NIPLE LIMITED — CONSULTING ENGINEERS
COLUMBUS, OHIO

9/15

PIER DETAILS (L)
BR. NO. FRA-270-2824N L & R
OVER
BIG WALNUT CREEK

Sta. 1601+86.12
Sta. 1604+78.90

FRANKLIN COUNTY

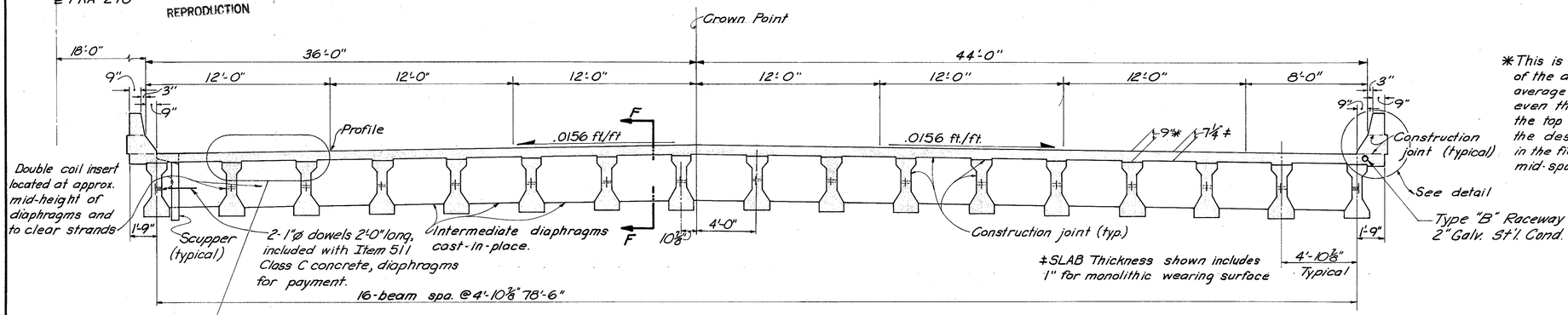
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
M.J.G. 3-5-70	LEB.		SBK 6/16/70	7-13-70 WEP 6/16/70	

MICROFILMED
AUG 14 1979
REPRODUCTION

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

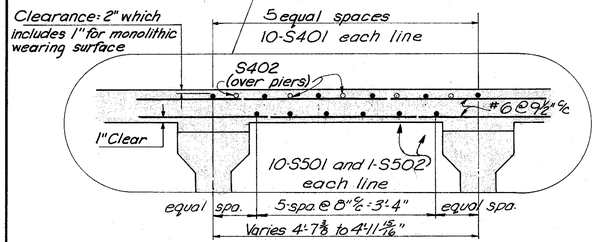
212 / 247

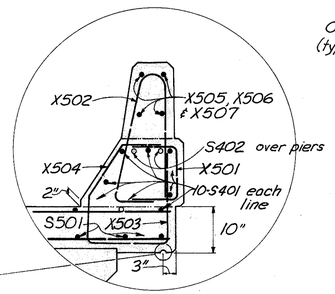
FRA-270-26.76 N



*This is the nominal dimension. The pay quantity of that portion of the deck concrete over the beams shall be based on the average of this dimension and the depth at beam bearings even though deviation from this average may occur because the top of the beam may not have the camber anticipated in the design; i.e. ,1¾". The camber of beams shall be measured in the field before the deck is placed. The actual depth at mid-span shall be 9" minus the measured camber.

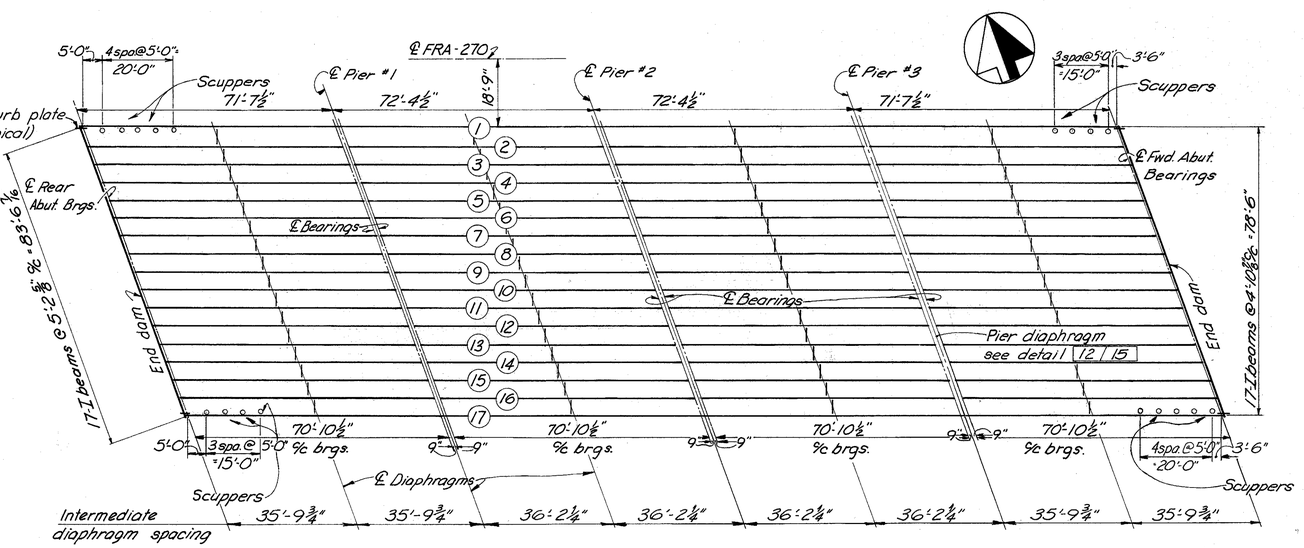
TRANSVERSE SECTION
(Right Bridge)





BRIDGE ROADWAY RAILING DETAIL
(For addition notes and details see BR-1-67)

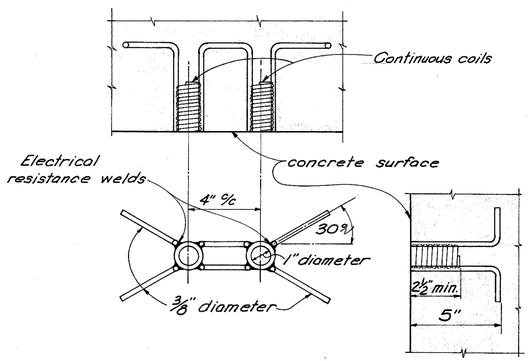
DRIP GROOVE DETAIL



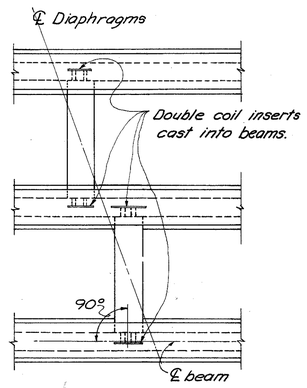
FRAMING PLAN
(Right Bridge)

DECK PLACING PROCEDURE: In placing the deck concrete, construction joints will be permitted, parallel to the transverse reinforcing steel and near the middle of any span. Because of the flow of curing water from the surface of previously-placed deck concrete, the sequence of pours shall be upgrade, starting at the lowest end.

SLAB concrete shall not be placed untill at least 48 hours after placement of diaphragm concrete.

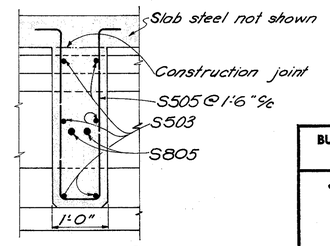


DOUBLE COIL INSERT



INTERMEDIATE DIAPHRAGM DETAILS

Location of inserts shall be adjusted as necessary to avoid interference with reinforcement. Special caution should be used when prestressing strands are draped. Vertical location of inserts in adjacent beams shall be approximately the same to facilitate lapping of No. 8 bars and 1"ø dowels.



SECTION-F

BURGESS & NIPLE LIMITED — CONSULTING ENGINEERS
COLUMBUS, OHIO 10/15

SUPERSTRUCTURE DETAILS (R)
BR. NO. FRA-270-2824 R L & R
OVER
BIG WALNUT CREEK

Sta. 1601+86.12
Sta. 1604+78.90
FRANKLIN COUNTY

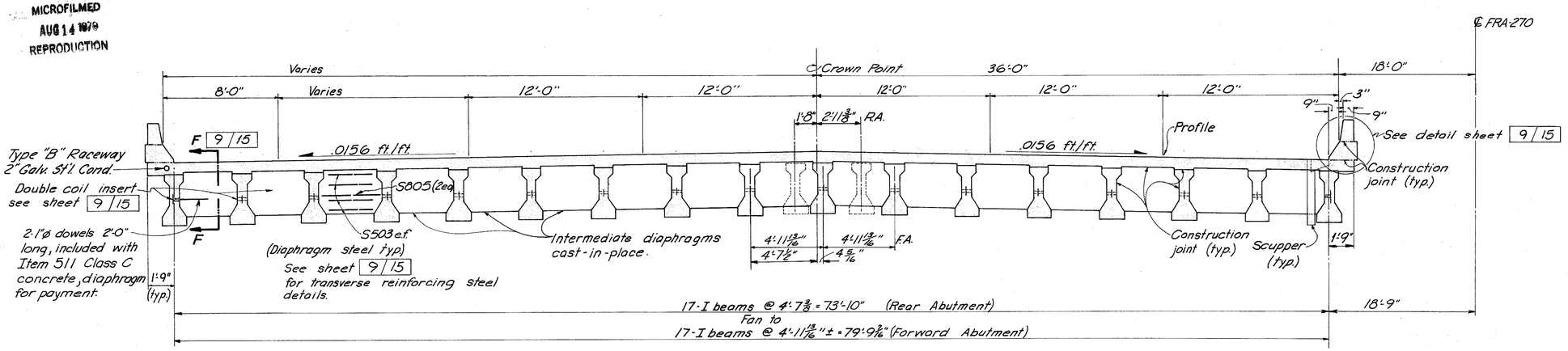
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
M.I.G. 2-28-70	LEH.		SBK 6/16/70	7-13-70 WER 6/16/70	8-12-70

MICROFILMED
AUG 14 1979
REPRODUCTION

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

213/247

FRA-270-26.76 N



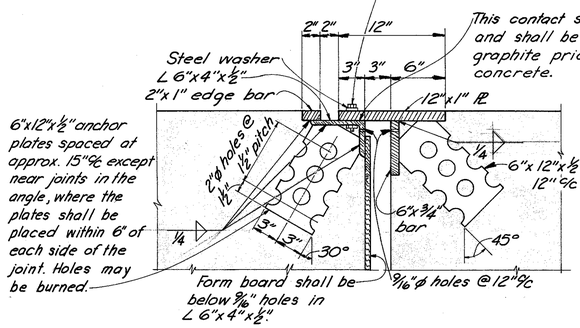
TRANSVERSE SECTION
(Left Bridge)

TABLE OF BEAM LENGTHS		
BEAM LINE	SPANS 1 & 4	SPANS 2 & 3
1	71'-6¼"	71'-6⅛"
2	71'-6⅜"	71'-6½"
3	71'-7"	71'-7"
4	71'-7⅜"	71'-7⅜"
5	71'-7¾"	71'-7¾"
6	71'-8⅛"	71'-8⅛"
7	71'-8⅜"	71'-8½"
8	71'-9"	71'-8⅜"
9	71'-9⅜"	71'-9⅜"
10	71'-9¾"	71'-9¾"
11	71'-10⅛"	71'-10⅛"
12	71'-10½"	71'-10½"
13	71'-10⅜"	71'-11"
14	71'-11⅜"	71'-11⅜"
15	71'-11¾"	71'-11¾"
16	72'-0⅛"	72'-0⅛"
17	72'-0½"	72'-0½"

A welded butt joint in the end dam, along the crown line of roadway, will be required for that portion of the end dam attached to the superstructure. That portion attached to the backwall shall be placed in segments not less than 6'-0" in length, with one of the joints at the apex of the crown. These shall be closely butted but shall not be welded.

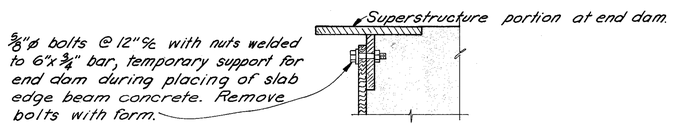
⅝"x2" bolts at not more than 2'-0" c/c with nuts tack welded to underside of angle. 1 1/16" holes in plate. Center ⅝" bolts in 1 1/16" holes. Apply flake graphite between washers and plate. Turn bolt tight and release one-half turn. Remove bolts as soon as concrete has set, preferably within two hours after placing, to avoid damage due to temperature expansion or contraction of superstructure. Fill holes with bituminous material.

This contact surface shall not be painted and shall be lubricated with flake graphite prior to placing of backwall concrete.



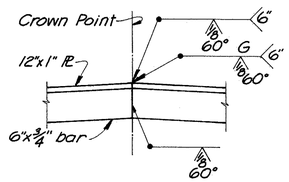
SECTION THRU END DAM

Portions of end dams in contact with steel or concrete shall not be painted. All other portions shall be cleaned and painted in accordance with 514.

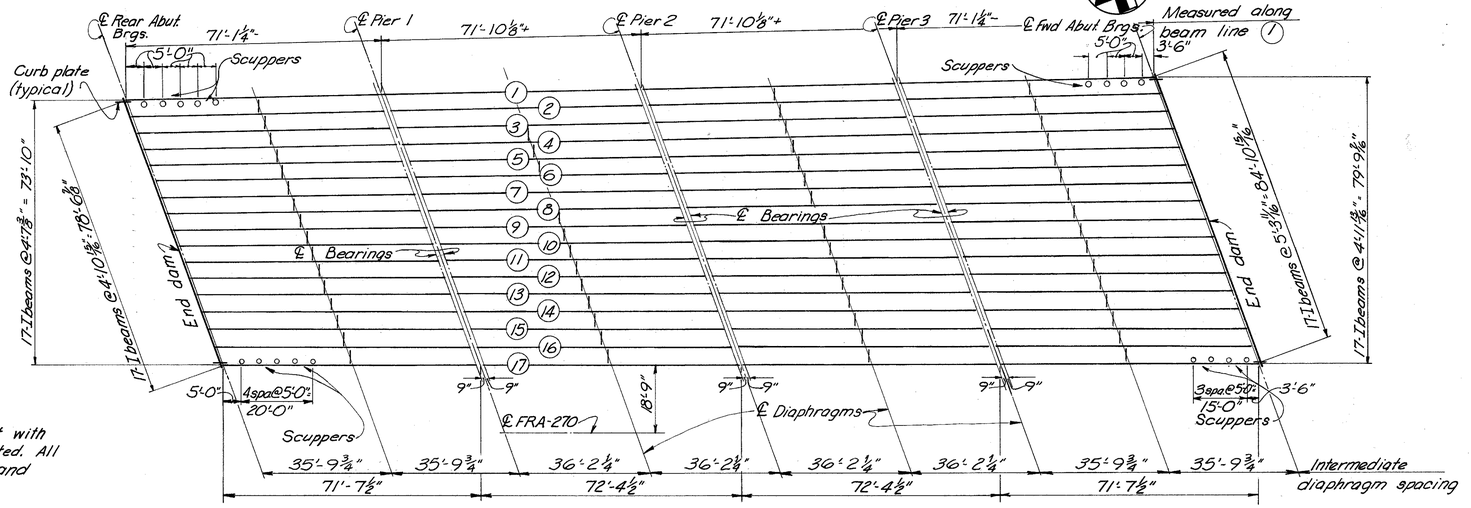


TEMPORARY SUPPORT FOR END DAM

END DAM DETAILS



BUTT JOINT IN SUPERSTRUCTURE END DAM AT CROWN POINT



FRAMING PLAN
(Left Bridge)

LEGEND

R.A.	Rear Abutment
F.A.	Forward Abutment
e.f.	each face
approx.	approximately
ea.	each

BURGESS & NIPLE LIMITED — CONSULTING ENGINEERS
COLUMBUS, OHIO

11/15

SUPERSTRUCTURE DETAILS (L)
BR. NO. FRA-270-2824 L & R
OVER
BIG WALNUT CREEK

FRANKLIN COUNTY — Sta. 1601+86.12 — Sta. 1604+78.90

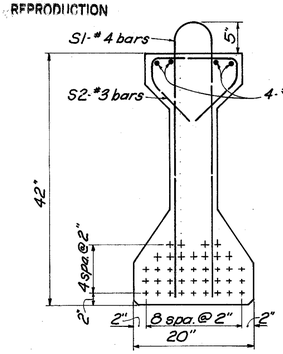
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
M.I.G. 2-28-70	LEH		S.B.L. 6/16/70	7-13-70 WJR 8/14/70	3-12-71

MICROFILMED
AUG 14 1979
REPRODUCTION

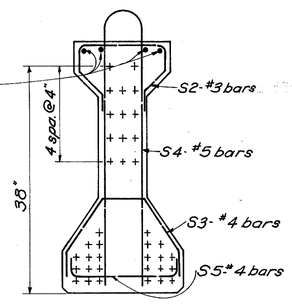
FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

214
247

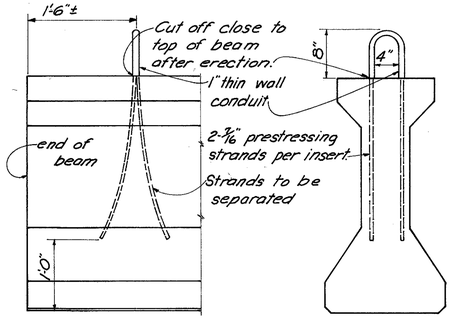
FRA-270-26.76N



Typical Strand Pattern & Reinforcing Steel at Midpoint of Beam (I-42)

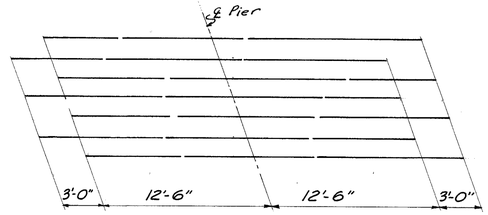


Typical Strand Pattern & Reinforcing Steel at End of Beam (I-42)

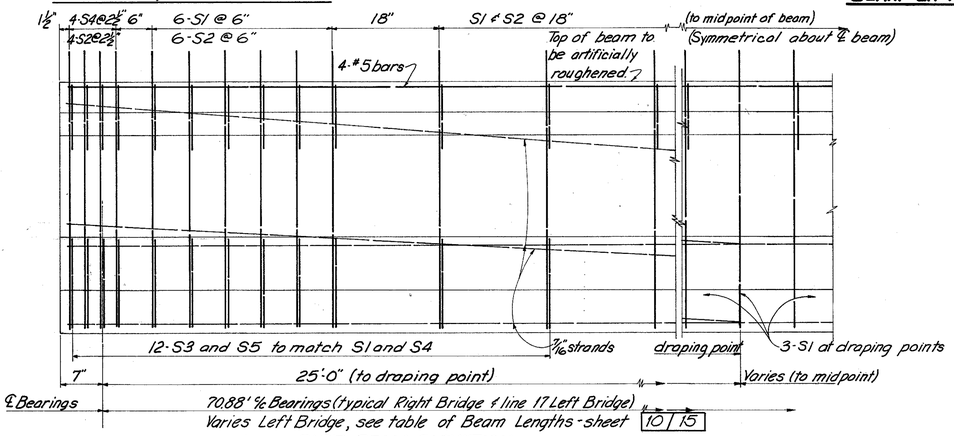


Position of lifting insert may be shifted slightly where necessary to clear reinforcing steel.
Lifting inserts of the Contractors design may be used if approved by the Director.

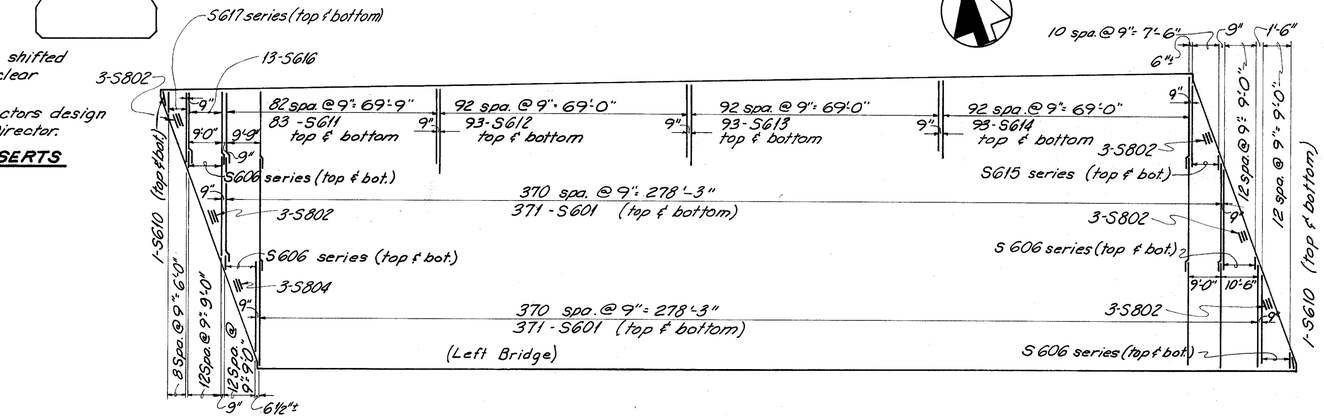
BEAM LIFTING INSERTS

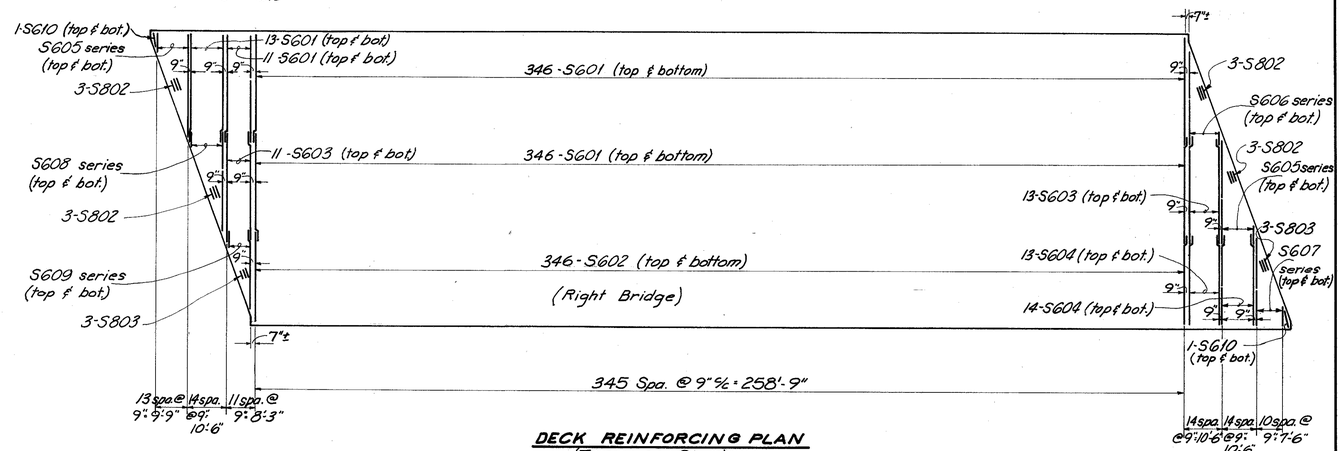


STAGGER OF S 402 BARS OVER PIERS

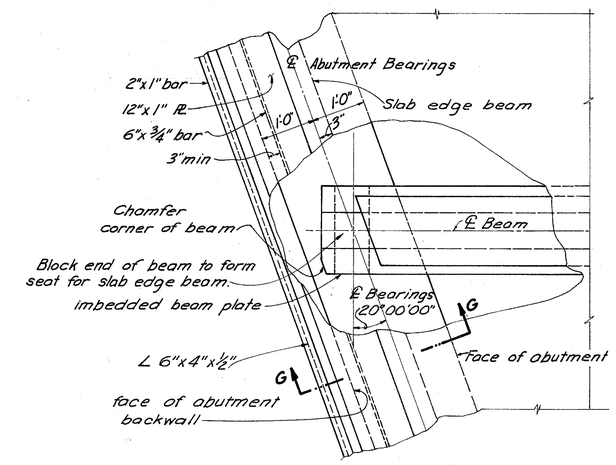


PART BEAM ELEVATION
(Typical)

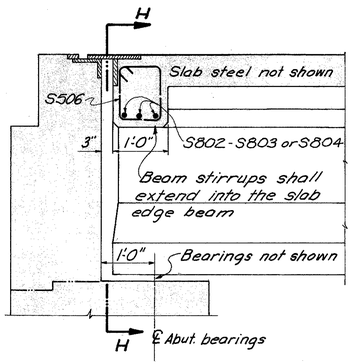




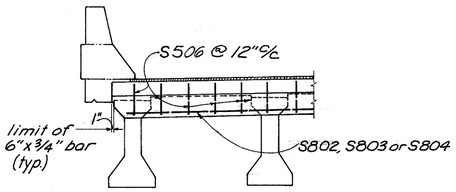
DECK REINFORCING PLAN
(Transverse Steel)



PLAN



SECTION-G



SECTION-H

SLAB & BEAM DETAILS AT ABUTMENTS

LEGEND
b. or bot. ..... bottom

BURGESS & NIPLE LIMITED — CONSULTING ENGINEERS
COLUMBUS, OHIO 12 | 15

SUPERSTRUCTURE DETAILS
BR. NO. FRA-270-2824 L/R
OVER
BIG WALNUT CREEK

FRANKLIN COUNTY
Sta 1601+86.12
Sta 1604+78.90

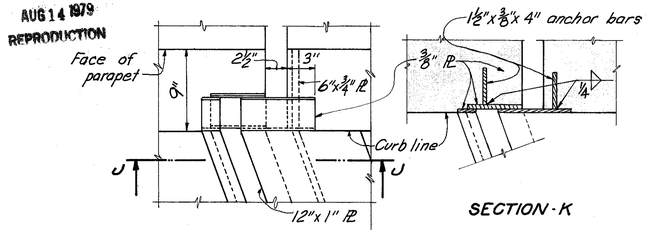
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
M.I.G. 2-28-70	L.E.H.		S.B.K. 6/16/70	7-13-70 WLR 6/16/70	3-16-71

MICROFILMED
AUG 14 1979
REPRODUCTION

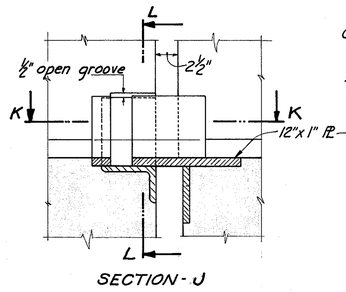
FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

215/247

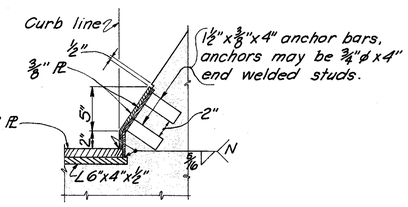
FRA-270-26.76 N



PART PLAN

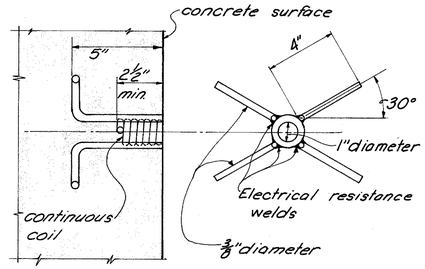


SECTION-J

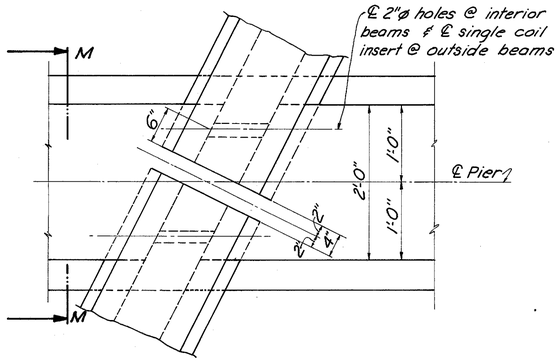


SECTION-L

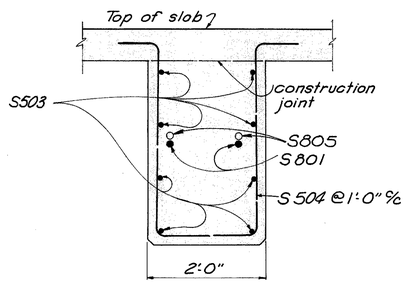
CURB PLATE DETAILS



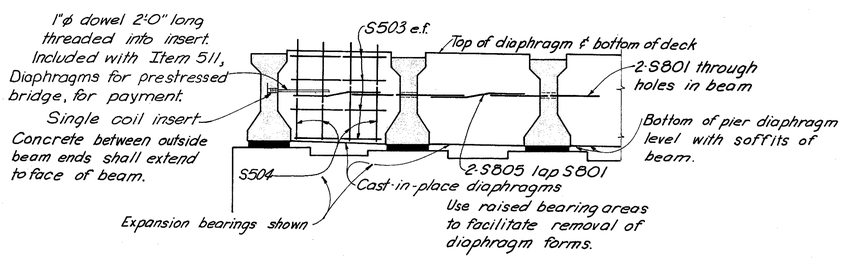
SINGLE COIL INSERT



PLAN OF DIAPHRAGM AT PIERS

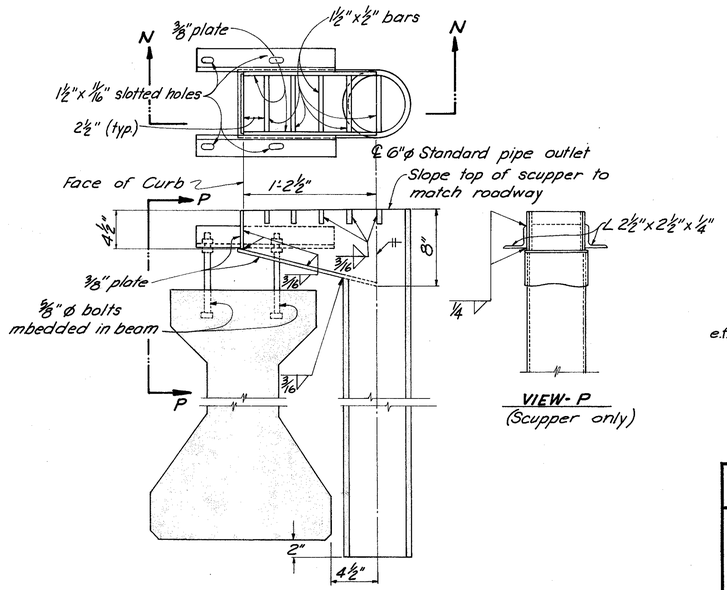


SECTION-M



ELEVATION OF DIAPHRAGMS AT PIERS

PIER DIAPHRAGM DETAILS



SECTION-N
SCUPPER DETAILS

VIEW-P
(Scupper only)

LEGEND
e.f. _____ each face

BURGESS & NIPLE LIMITED — CONSULTING ENGINEERS
COLUMBUS, OHIO

13/15

SUPERSTRUCTURE DETAILS
BR. NO. FRA-270-2824-L & R
OVER
BIG WALNUT CREEK

Sta. 1601+86.12
Sta. 1604+78.90

FRANKLIN COUNTY

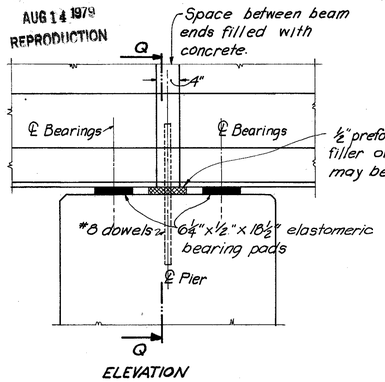
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
M.I.G. 2-28-70	LEH.		SBK 6/16/70	7-13-70 WCR 6/16/70	3-26-71

MICROFILMED
AUG 14 1979
REPRODUCTION

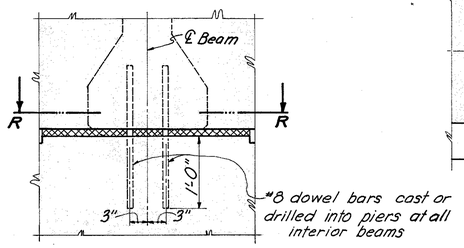
FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

216
247

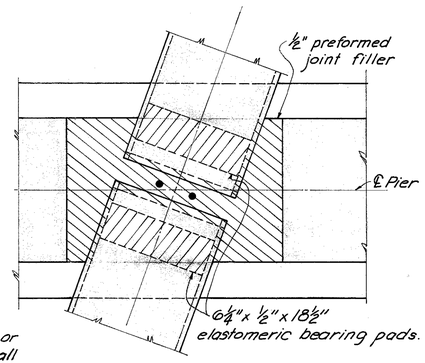
FRA-270-26.76 N



ELEVATION

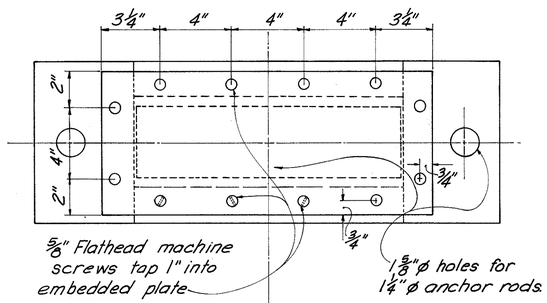


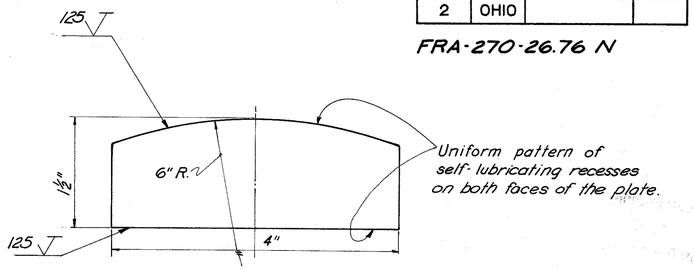
SECTION-Q



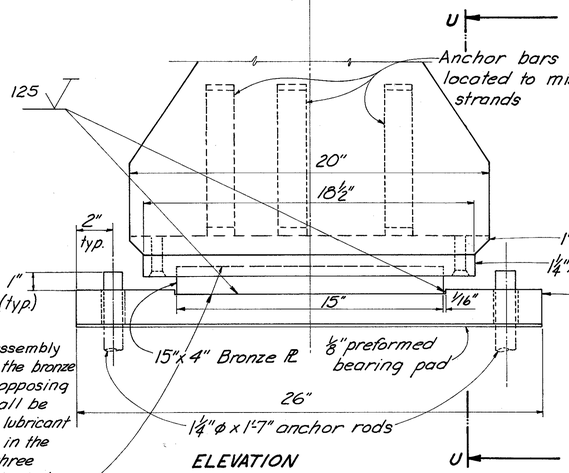
SECTION-R

FIXED BEARING DETAILS



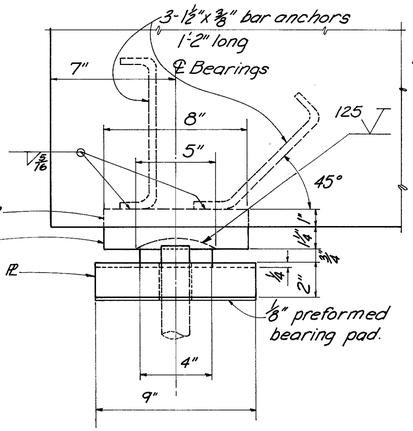


SELF-LUBRICATING RADIAL BRONZE PLATE



ELEVATION

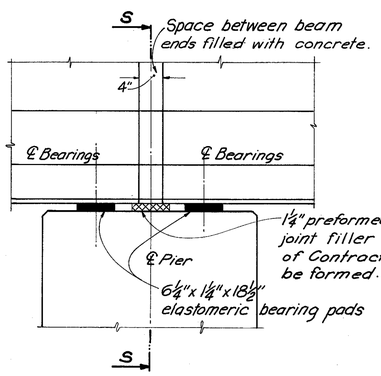
Before final assembly the surface of the bronze plate and the opposing steel plates shall be coated with a lubricant similar to that in the recesses. The three parts shall be banded together for shipment.



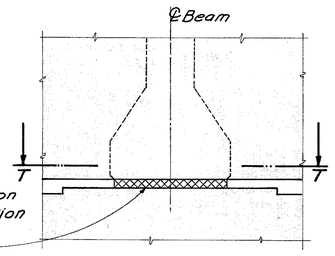
VIEW-U

Welded stud shear connectors of ¾" diameter and equivalent length may be substituted for the 1½" x ⅜" anchor bars.

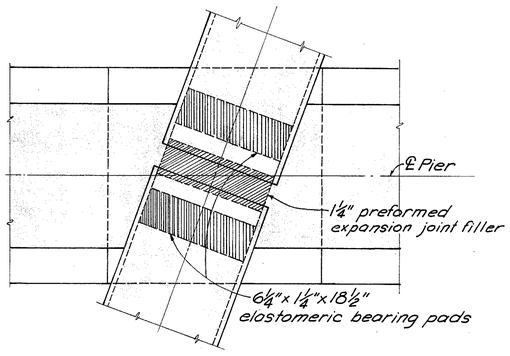
ABUTMENT BEARING DETAILS



ELEVATION



SECTION-S



SECTION-T

EXPANSION BEARING DETAILS

BURGESS & NIPLE LIMITED — CONSULTING ENGINEERS
COLUMBUS, OHIO

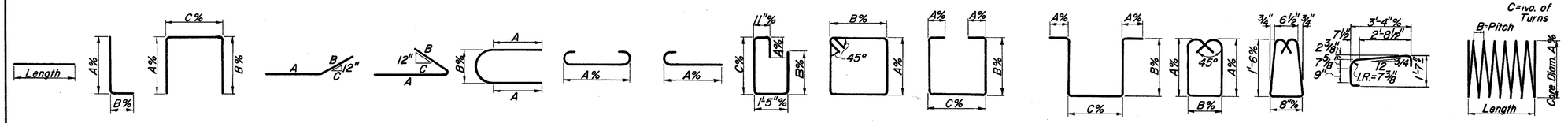
14 / 15

SUPERSTRUCTURE DETAILS
BR. NO. FRA-270-2824 L & R
OVER
BIG WALNUT CREEK

Sta. 1601+86.12
Sta. 1604+78.90

FRANKLIN COUNTY

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
M.I.G. 2-28-70	LEH.		SBK 6/16/70	7-13-70 WER 6/16/70	SHEET



TYPE 1 TYPE 2 TYPE 3 TYPE 4 TYPE 5 TYPE 6 TYPE 7 TYPE 8 TYPE 9 TYPE 10 TYPE 11 TYPE 12 TYPE 13 TYPE 14 TYPE 15 TYPE 16 TYPE 17

FED. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.	TYPE FUNDS
2	OHIO		

217
247

FRA-270-26.76 N.

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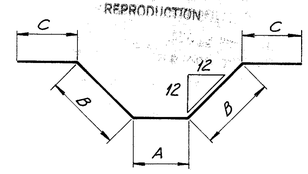
AUG 14 1979
REPRODUCTION



TYPE 18

ABUTMENT

MARK	NUMBER	LENGTH	TYPE	A	B	C	WEIGHT
A801	56	30'-0"	1				4,486
A802	14	31'-0"	1				1,159
A803	7	26'-0"	1				486
A804	7	32'-6"	1				607
A805	24	10'-9"	1				689
A806	24	11'-0"	1				705
A601	220	14'-5"	3	7'-0"	2'-6"	5'-3"	4,764
A602	330	10'-7"	3	4'-9"	4'-9"	1'-5"	5,246
A603	251	6'-7"	3	2'-9"	2'-9"	1'-5"	2,482
A604	251	6'-7"	3	3'-0"	3'-0"	11"	2,482
A605	79	9'-9"	3	4'-4"	4'-4"	1'-5"	1,157
A606	36	22'-4"	3	10'-9"	10'-9"	1'-2"	1,208
A607	12	14'-4"	3	6'-9"	6'-9"	1'-2"	258
A501	220	8'-3"	3	1'-7"	1'-7"	5'-4"	1,893
A502	220	7'-3"	2	6'-9"	7½"		1,664
A503	220	7'-0"	3	2'-0"	2'-0"	3'-3"	1,606
A504	106	30'-0"	1				3,317
A505	32	8'-0"	1				267
A506	36	11'-10"	10	2'-6"	3'-0"		444
A507	16	3'-9"	1				63
A508	16	3'-3"	1				54
A509	16	2'-9"	1				46
A510	48	2'-6"	1				125
A511	16	14'-6"	1				242
A512	16	13'-9"	1				229
A513	32	24'-0"	1				801
A514	4	17'-6"	1				73
A515	10	8'-6"	1				89
A516	4	12'-0"	1				50
A517	2	7'-6"	1				16
A518	9	9'-3"	1				87
A519	16	14'-0"	1				234
A520	1	25'-0"	1				26
A521	16	29'-0"	1				484
A522	1	18'-0"	1				19
A523	17	26'-0"	1				461
A524	1	22'-6"	1				23
A525	9	32'-0"	1				300

ABUTMENT RAILING (*See Standard Drawing BR-1-67)

MARK	NUMBER	LENGTH	TYPE	A	B	C	WEIGHT
Y701	8	4'-4"	1*				71
Y702	8	4'-9"	*				78
Y703	8	4'-10"	*				79
Y704	8	4'-11"	*				80
Y705	8	5'-0"	*				82
Y601	44	5'-0"	*				330
Y501	84	2'-0"	*				175
Y502	40 80	2'-9"	1			230	115
Y503	44	6'-1"	*				279
Y504	32	13'-9"	1*				459
Y505	16	7'-3"	1*				121
Y506	8	8'-0"	1*				67
Y507	84	2'-10"	1*				248
Y508	8	8'-9"	1*				73
Y509	32	14'-6"	1*				484

PIER

MARK	NUMBER	LENGTH	TYPE	A	B	C	WEIGHT
P801	60	2'-0"	1				320
P601	498	5'-6"	2	5'-0"	7½"		4,114
P602	510	14'-0"	2	13'-6"	7½"		10,724
P603	492	8'-10"	7	7'-6"			6,527
P501	510	11'-6"	1				6,117
P502	255	5'-5"	3	1'-7"	1'-7"	2'-6"	1,440
P503	5	29'-8"	1				156
P504	5	27'-8"	1				144
P505	300	30'-0"	1				9,387
P506	120	7'-2"	6	1'-7"	2'-6"		897
P507	80	26'-0"	1				2,169
P508	20	24'-0"	1				501
P509	20	22'-0"	1				459
P510	20	31'-2"	1				650

SUPERSTRUCTURE

MARK	NUMBER	LENGTH	TYPE	A	B	C	WEIGHT
HL501	12	8'-6"	18	1'-6"	2'-0"	1'-6"	106
HL502	12	3'-2"	1				40
S801	192	4'-4"	1				2,221
S802	27	30'-0"	1				2,163
S803	6	29'-0"	1				465
S804	3	24'-0"	1				192
S805	448	3'-10"	1				4,585
S806	152	2'-0"	1				812
S601	1459	30'-0"	1				65,742
S602	346	25'-8"	1				13,338
S603	24	30'-4"	1				1,093
S604	27	25'-4"	1				1,027
S605-S	2 sets @ 14 bars @ 2'-0½" Incr.	30'-0"	3'-6"	1			704
S606-S	4 sets @ 13 bars @ 2'-0½" Incr.	28'-0"	3'-6"	1			1,230
S607-S	1 set @ 11 bars @ 2'-0½" Incr.	25'-0"	4'-7"	1			244
S608-S	1 set @ 13 bars @ 2'-0½" Incr.	28'-4"	3'-10"	1			314
S609-S	1 set @ 11 bars @ 2'-0½" Incr.	23'-4"	2'-11"	1			217
S610	4	3'-6"	1				21
S611	83	22'-6"	1				2,805
S612	93	24'-0"	1				3,352
S613	93	25'-6"	1				3,562
S614	93	27'-0"	1				3,772
S615-S	1 set @ 11 bars @ 2'-0½" Incr.	23'-11"	3'-6"	1			226
S616	13	21'-4"	1				417
S617-S	1 set @ 9 bars @ 2'-0½" Incr.	20'-6"	4'-2"	1			167
S501	1680	30'-0"	1				52,567
S502	168	5'-0"	1				876
S503	1,792	3'-0"	1				5,607
S504	384	9'-10"	12	6"	3'-10"	1'-8"	3,938
S505	384	8'-8"	12	6"	3'-3"	8"	3,471
S506	332	4'-0"	10	1'-2"	8"		1,385
S401	1980	30'-0"	1				39,679
S402	516	28'-0"	1				9,651

SUPERSTRUCTURE RAILING (*See Standard Drawing BR-1-67)

MARK	NUMBER	LENGTH	TYPE	A	B	C	WEIGHT
X501	800	2'-0"	3	7½"	7½"	12"	1,669
X502	800	5'-4"	*				4,447
X503	800	2'-0"	2	1'-6"	7½"		1,669
X504	800	3'-2"	*				2,642
X505	56	8'-0"	1				467
X506	256	15'-6"	1				4,139
X507	8	6'-10"	1				57

REPLACEMENT BARS

MARK	NUMBER	LENGTH	TYPE	A	B	C	WEIGHT
RE801	2	7'-6"	1				
RE701	1	7'-2"	1				
RE601	7	6'-11"	1				
RE501	1	6'-7"	1				
RE401	1	6'-3"	1				

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, indicates the bar size number. For example, A601 is a No.6 size bar and P1101 is a No.11 size bar.*

SPIRAL REINFORCING BARS: *The "Length" shown in the steel list for the spiral bars is the length of the spiral along the axis of the spiral. The "No. of Turns" shown is the length divided by the pitch plus 3 turns (total number of closed coils). Spiral reinforcing bars shall not have deformations but shall in other respects conform to Item 509. 1½ Closed coils shall be provided at the ends of each spiral unit. Four steel channel, tee or angle spacers, weighing approximately 0.68 lb. per lin. ft. of spacer, shall be provided for each spiral unit. They shall be equally spaced along the periphery of the coil. The number of pounds of these spacers, based on 0.68 lbs. per lin. ft. will be paid for as reinforcing steel and is included in the tabulated quantities of spiral bars.*

Bar marks followed by an "S" indicates a series.

BURGESS & NIPLE LIMITED — CONSULTING ENGINEERS
COLUMBUS, OHIO

15/15

REINFORCING STEEL LIST
BR. NO. FRA-270-2824 L&R
OVER
BIG WALNUT CREEK
Sta. 1601+86.12
FRANKLIN COUNTY
Sta. 1604+78.90

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
M.I.G. 3-16-70	J.S.J. 6/15/70		S.B.K. 6/16/70	7-13-70 WER 6/16/70	

ALL-STATE BLUEPRINT CO.'S., O. 41018

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO	I-270-5(8)118	

231
247

Federal No. I-270-5(8)118 appearing throughout this R/W Plan shall be considered to read I-IG-270-5(8)118.

FRANKLIN COUNTY
FRA 270 – 26.76 N

1
17

R/W PLANS

CENTERLINE SURVEY PLAT

I.R. 270 – 26.76 N

FRANKLIN COUNTY

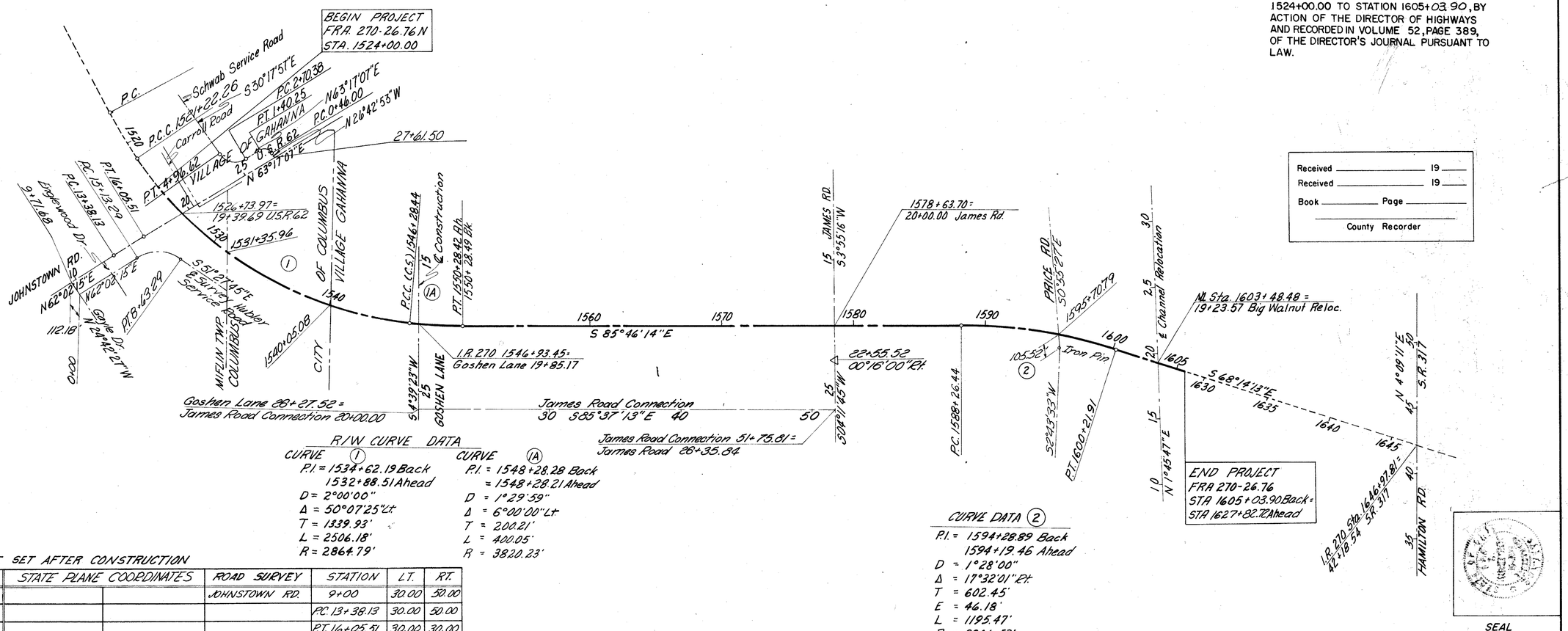
4TH QR. T.1, R.17 U.S. MILITARY LANDS

PART IN CITY OF COLUMBUS, VILLAGE OF GAHANNA & MIFFLIN TWP.

Signed _____
Date _____ Division Deputy Director

THIS IMPROVEMENT HAS BEEN DECLARED A LIMITED ACCESS HIGHWAY FROM STATION 1524+00.00 TO STATION 1605+03.90, BY ACTION OF THE DIRECTOR OF HIGHWAYS AND RECORDED IN VOLUME 52, PAGE 389, OF THE DIRECTOR'S JOURNAL PURSUANT TO LAW.

Received _____ 19__
Received _____ 19__
Book _____ Page _____
County Recorder



CURVE DATA
HUBLER SERVICE ROAD

P.T. = 7+11.00 Back
D. = 19°00'00"
Δ = 66°30' Rt.
T = 197.71'
E = 39.03'
L = 350.00'
R = 301.56'

CURVE DATA
JOHNSTOWN ROAD

P.I. = 14+71.83 Back
14+71.81 Ahead
D = 00°28'00"
Δ = 1°14'52" Rt.
T = 133.70'
E = 0.73'
L = 267.38'
R = 12,277.67'

R/W CURVE DATA

CURVE (1)
P.I. = 1534+62.19 Back
1532+88.51 Ahead
D = 2°00'00"
Δ = 50°07'25" Lt.
T = 1339.93'
L = 2506.18'
R = 2864.79'

CURVE (1A)
P.I. = 1548+28.28 Back
= 1548+28.21 Ahead
D = 1°29'59"
Δ = 6°00'00" Lt.
T = 200.21'
L = 400.05'
R = 3820.23'

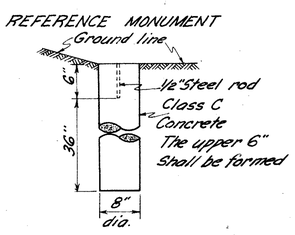
CURVE DATA (2)

P.I. = 1594+28.89 Back
1594+19.46 Ahead
D = 1°28'00"
Δ = 17°32'01" Rt.
T = 602.45'
E = 46.18'
L = 1195.47'
R = 3906.53'

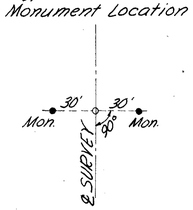
MONUMENTS TO BE SET AFTER CONSTRUCTION

LOCATIONS ON ℄ I.R. 270	STATE PLANE COORDINATES		ROAD SURVEY	STATION	LT.	RT.
P.O.C. 1524+00.00			JOHNSTOWN RD.	9+00	30.00	50.00
P.O.C. 1530+00.00				P.C. 13+38.13	30.00	50.00
P.O.C. 1538+00.00				P.T. 16+05.51	30.00	30.00
P.C.C. (C.S.) 1546+28.44	731,794.571	1,889,384.971		22+00.00	30.00	30.00
P.T. 1550+28.42 Ah. = 1550+28.49 Bk.	731,744.251	1,889,781.663		28+00.00	30.00	30.00
1558+00.00			GOSHEN LANE	15+00.00	30.00	30.00
1566+00.00				24+00.00	30.00	30.00
1574+00.00				29+10.85	30.00	30.00
1582+00.00			JAMES ROAD	20+00.00	30.00	30.00
P.C. 1588+26.44	731,464.144	1,893,569.344		25+00.00	16.50	16.50
P.O.C. 1594+00.00			JAMES ROAD CONN.	24+00.00	40.00	40.00
P.T. 1600+21.91	731,196.345	1,894,729.655		32+00.00	40.00	40.00
1605+68.16				40+00.00	40.00	40.00
				48+00.00	40.00	40.00

REFERENCE MONUMENT



Typical Reference Monument Location



SEAL

I HEREBY CERTIFY THAT THIS PLAT IS A TRUE DELINEATION OF A SURVEY MADE FOR THE OHIO DEPARTMENT OF HIGHWAYS IN 1967 BY BURGESS & NIPLE, LIMITED

Don D. Kreider DATE April 17, 1969
DON D. KREIDER NO. 5466

COMPLETION DATE August 28, 1969

REV.	DATE	DESCRIPTION

CENTERLINE SURVEY PLAT

			FED. RD. DIVISION	STATE	PROJECT	
FRA-270-26.20 N	I-270-5(8)	R/W ONLY	2	OHIO	I-270-5(8)118	

232/247

FRANKLIN COUNTY
FRA 270-26.76N

R/W PLANS 2/17

PROPERTY MAP

0 400 800
SCALE: 1"= 400'

MIFFLIN TWP.
GAHANNA

State of Ohio (Dawson) (665)
John F. Wynn (659)
Leo F. Payne (658)
Forest L. Dunlap (657)
Duane G. Stevens (656)
Bruce W. Roe (655)
Crayton & Alberta Hampp (737)
Henry L. Krasinski (736)
Dennis Roe (54)
Crayton Hampp (738)

Landlocked Residue (711)
(712) (713) (714)
Esther M. Schwab
Willard M. & Gundelfinger
Shirley & Katherine Fox
Wm. E. & Mary N. Davis
Charlette K. Main
P.C.C.
1521+22.26
BEGIN PROJECT FRA-270-26.76N STA. 1524+00.00
Schwab Service Road
62'
COLUMBUS
LA
(740)
(746A)
COLUMBUS GAHANNA
GOSHEN PARK
Goshen Lane
Board of Education
COLLEGE
Citadel Street
Xavier Street
PARK
Antioch Place
Oberlin Street
Clemson Street
(746A) Anthony F. Molica etal
(746B) C.V. Land, Inc.
C.V. Land Inc.
Earnest L. Kerr
(745) E.J. Stark etal (3)
Denson Avenue
(746) C. André
R/W
Mattox Realty Co.
Hubler Service Rd.
Alfred R. Brenholts (739)
Malberta Hubler (741)
Starck Van Lines of Columbus, Inc. (742)
Thomas P. Zelkoff (744)
Community Improvement Corp of Gahanna (750)
Virginia Bridgewater & Meryl Abraham (752)
(753) James M. Abraham
(749)
JAMES ROAD CONNECTION
R/W
P.I.=1550+28.49 BK
=1550+28.42 AH
P.C.=LCS 1546+28.44
P.T.=1550+29.59
City of Columbus (743)
The Zenith Holding and Trading Corp.
MIFFLIN TWP.
COLUMBUS
VILLAGE OF GAHANNA
CITY OF COLUMBUS
James Rd. Vacated to the South Ord No. 1149-57
(748A) Central States Development Corp.
James W. Steiner
Eda K. Steiner
Leonard & Jeanne B. Pfaltzgraf (760)
Ward L. Cronin (759)
Price Rd.
Jacob Lindenmayer Jr. (757)
Jo Anne Bokros (758)
Clyde E. Perdue (754)
Helen K. Ingram (751)
Landlocked Residue
Jack H. Miller (756)
Richard Hayes (755)
P.C.1588+26.44
The Zenith Holding and Trading Corp.
GAHANNA COLUMBUS
P.T.1600+21.91
James Rd.
City of Columbus
END PROJECT FRA-270-26.76N STA. 1605+03.90 BK
FRA-270-28.30N STA. 1627+82.72 Ahd.
BIG WALNUT
Shepard Church of The Nazarene (1184)
Landlocked Residue
Friendship Investment Co. (1187)
(761) WONDERLAND ADD'N.
END R/W ACQUISITION STA. 1632+15.65

END R/W ACQUISITION	BEGIN R/W ACQUISITION
FRA-270-20.40N	FRA-270-26.20 N
I-270-5(7) R/W ONLY	I-270-5(8) R/W ONLY
STA. 1526+73.97	STA. 1526+73.97

R/W CURVE DATA

P.I. = 1534+62.19 Bk.	P.I. = 1548+28.21 Ahead
1532+88.51 Ah.	= 1548+28.28 Back
D = 2°00'00"	D = 1°29'59"
Δ = 50°07'25"	Δ = 6°00'00"
T = 1339.93'	T = 200.21'
L = 2506.18'	L = 400.05'
R = 2864.79'	R = 3820.23'

CURVE DATA ℄ I.R. 270
PI₂ = 1594+28.89 BACK
= 1594+19.46 AHEAD
D = 1°28'00"
Δ = 17°32'01"
T = 602.45'
E = 46.18'
L = 1195.47'
R = 3906.53'

Price Rd. Vacated to the South By Road Record 18, Pg. 135

4TH QR. T.1, R.17
U.S. MILITARY LANDS

COMPLETION DATE August 28, 1969		
REV.	DATE	DESCRIPTION

PROPERTY MAP

ALL-STATE BLUEPRINT F-60008

FED. RD. DIVISION	STATE	PROJECT	JOB
2	OHIO	I-270-5(8)118	06465(0)

239
247

FRANKLIN COUNTY
FRA.-270-26.76 N
R/W PLANS
LIMITED ACCESS

3
17

SUMMARY OF ADDITIONAL RIGHT OF WAY REQUIRED

HIGHWAY PARCEL NO.	OWNER	AUDITOR PARCEL NO.	DEED RECORD BOOK	DEED RECORD PAGE	DEED AREA ACRES	TOTAL P.R.O. ACRES	TO BE ACQUIRED (ACRES) GROSS TAKE	P.R.O. IN TAKE	NET TAKE	BLDGS.	NET RESIDUE ACRES LEFT	NET RESIDUE ACRES RIGHT	TYPE FUNDS	SHEET NO.	REMARKS
654															Not Required
654A-WD	Dennis & Sally Roe	3108	1924	16	0.870	0.093	0.168	0.093	0.075	No	0.702	—	I	6	Acquired on FRA-270-20.40N R/W Only
655-WD	Bruce W & Donna J. Roe	77	2466	247	1.645	0.078	0.160	0.078	0.082	No	1.485	—	I	6	Acquired on FRA-270-20.40N R/W Only
656-WD 656T	Duane G. & Dorothy Stevens	2639	2358	572	1.695					No			I	6	Acquired on FRA-270-20.40N R/W Only Build driveway
657-WL	Forrest L & Dora Dunlap	70	1880	209	2.334	0.090	2.334	0.090	2.244	Yes	—	—	I	6,7	Acquired on FRA-270-20.40 N Total Take
658-WL	Leo Payne	866	2685	100	0.853	0.080	0.853	0.080	0.773	Yes	—	—	I	6,7	Acquired on FRA-270-20.40N R/W Only Total Take
659-WL	John F & Faye Wynn	2608	1792	426	0.682		0.682		0.682		—	—	I	6,7	Acquired on FRA-270-20.40 N Total Take
660-WL	Fred E. & Hazel M. Dowson	2347 2645	2263 2041	541 114	1.238		1.238		0.682		—	—	I	7	Acquired on FRA-270-20.40 N Total Take
661 —	700 Incl.														Acquired on FRA-270-20.40 N Total Take
701-WL 701-WD	Juanita M. Gundelfinger	873	2370	587	3.649		1.382 0.379		1.382 0.379	Yes	1.888	—	I	7	Acquired on FRA-270-20.40N R/W Only
702-WL 702-WD	Ray & Katherine Fox	2348	1697	635	3.324		0.535 0.289		0.535 0.289	Yes	2.500	—	I	7	Acquired on FRA-270-20.40N R/W Only
703-WL 703-WD	William E. & Mary Davis	2584	2064 1575	137 620	3.055		0.229 0.187		0.229 0.187	No	2.639	—	I	7	Acquired on FRA-270-20.40N R/W Only
704-WL 704-WD	Merton P. & Charlotte Main	894 961	1493 1655	206 262	5.306		0.138 0.247		0.138 0.247	No	4.921	—	I	7	Acquired on FRA-270-20.40N R/W Only 704-WL (0.138 Acres out of 894) 704-WD (0.043 Acres out of 894, 0.204 Acres out of 961)
705 —	735 Incl.														Not Used
736-WD 736-EL	Henry L. & Juanita Krasinski	2407- 2410 Incl.	2805	693	24,600S.F.		20,000S.F. 4,600S.F.		20,000S.F. 4,600S.F.	Yes	—	—	I ST	6	Englewood Heights L 7-10 Total Take
737-WD	Crayton T. & Alberta Hampp	2411, 2412	2462	560	12,300S.F.		10,000S.F.		10,000S.F.	Yes	—	2,300S.F.	I	6	Englewood Heights L 11,12 737-WD (5,000 S.F. out of 2411, 5,000 S.F. out of 2412)
738-WD 738-X 738-T	Crayton T. Hampp	2414	1078	298	36,900S.F.		12,628S.F. 481S.F. 780S.F.		12,628S.F. 481S.F. 780S.F.	Yes	—	24,272S.F.	I	6	Englewood Heights L 13,15 Build Driveway
739-WL 739-WD 739-X	Alfred R. Brenholts	3071 23 709 2565 1169 3074 91 324	2704 2704 2704 2704 2704	162 166 164 168 171 174 177 180 183 186	30.180	0.584	4.407 2.037 0.023	0.405 0.179	4.002 1.858 0.023	Yes	—	23.736	I	6,7,8	739-WL (0.374 Acres out of 3071, 0.959 Acres out of 709, 0.662 Acres out of 91, 1.182 Acres out of 324, 1.217 Acres out of 23, 0.013 Acres out of 3074) 739-WD (0.370 Acres out of 3071, 0.153 Acres out of 709, 0.164 Acres out of 91, 0.158 Acres out of 324, 0.294 out of 23, 0.713 Acres out of 1169, 0.073 Acres out of 2565, 0.112 out of 3074)

Total Number of Owners 26
Total Number of Owners with Structures 13
Number of Total Takes 8

UTILITIES
Ohio Bell Telephone Co. 111 North Fourth St. Columbus, Ohio 43215
American Telephone & Telegraph Co. 100 E. Broad St. Columbus, Ohio 43215
Columbus & Southern Ohio Electric Co. 215 N. Front St. Columbus, Ohio 43215
Columbia Gas of Ohio Inc. 920 W. Goodale Blvd. Columbus, Ohio 43212
Village of Gahanna 130 Mill St. Gahanna, Ohio 43020
City of Columbus, Ohio Sewerage & Drainage Division 90 W. Broad St. Columbus, Ohio 43215
City of Columbus, Ohio Division of Water 90 W. Broad St. Columbus, Ohio 43215

COMPLETION DATE August 28, 1969

REV.	DATE	DESCRIPTION

L.L. indicates Lands Which are Landlocked

P.R.O. indicates Present Road Occupied

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

234
247

FRANKLIN COUNTY
FRA.-270-26.76 N
R/W PLANS
LIMITED ACCESS

4
17

SUMMARY OF ADDITIONAL RIGHT OF WAY REQUIRED

HIGHWAY PARCEL NO.	OWNER	AUDITOR PARCEL NO.	DEED RECORD BOOK	DEED RECORD PAGE	DEED AREA ACRES	TOTAL P.R.O. ACRES	TO BE ACQUIRED (ACRES) GROSS TAKE	P.R.O. IN TAKE	NET TAKE	BLDGS.	NET RESIDUE ACRES LEFT	NET RESIDUE ACRES RIGHT	TYPE FUNDS	SHEET NO.	REMARKS
740-WL	Mattox Realty Co	24	2788	148	0.750	0.070	0.750	0.070	0.680	Yes	---	---	I	7,8	Total Take
741-WL 741-T	M. Alberta Hubler	109330	2451	221	43.647	0.490	14.874 0.039	0.260	14.614 0.039	Yes	5.440	23.103	I	7,8,9	Build Service Road
742-WL	Storck Van Lines of Columbus Inc.	1067	2438	283	1.371		1.371		1.371	No	---	---	I	9	Total Take, Commercial
743-WD	City of Columbus	893,895	2954 2996 1308	603 558 500	9.187		0.223		0.223	No	---	8.964	I	15	743-WD (0.223 Acres out of 893)
744-WL 744-WD	Thomas P. Zelkoff	828	1660	164	11.35		3.600 0.629		3.600 0.629	No	---	7.121	I	9,15	
745-WL	E.J. Storck et al (3)	2995	2534	280	1.363		1.363		1.363	Yes	---	---	I	9	Total Take, Commercial
746-WL 746-WD	Carl C. & Anne Andre	1041	2537	461	2.736		0.892 0.204		0.892 0.204	No	1.640	---	I	9	
746-A-WL	Anthony F. Mollica et al	3758	2852	571	9,976 S.F±		11105 S.F		11105 S.F	No	8,866 S.F±	---	I	9	Goshen Park Subdn L 22
748-WL	C.V. Land, Inc.	3843- 3847 Incl.	2993	400	49,305 S.F.		12,578 S.F.		12,578 S.F.	No	36,730 S.F.	---	I	9	College Park Resubdn PHL 205-209 Incl
748-T L 748A-T	Central States Development Corp.	3843- 3847 Incl.	2572	567			1,500 S.F		1,500 S.F	No		---	I	11	Reserve "N" Remove Old Foundation
749-WL 749-WL1 749-WD 749-T 749-T1 749-X 749-S	The Zenith Holding & Trading Corp.	838 861 837 831	2954 2954 2954 2962	122 564 119 554	120.503	2.441	0.860 8.727 6.496 0.503 0.053 3.339 0.039	 0.073 0.030	0.860 8.654 6.466 0.533 0.053 3.339 0.039	No	110.380	101.702	I	9,10,12,13, 14,15,16, 17	749-WL (0.860 Acres out of 838) 749-WL1 (8.727 Acres out of 831) 749-WD (4.040 Acres out of 837, 2.456 Acres out of 861) Fill Old Channel Slope & Grading
750-WL 750-WL1	Community Improvement Corp of Gahanna	806 839	2763	5	37.600	0.368	23.297 0.448	0.368	22.929 0.448	No	---	13.855	I	9,10,11	Advance Purchase, Vol. 2928-416 Add'l R/W Required Corp. of Gahanna
751															Not Required
752-WL	Meryl R. Abraham & Virginia Bridgewater	1807 1806	2827	298	5.500		0.262		0.262	No	---	5.238	I	11	752-WL (0.162 Acres out of 1807, 0.100 Acres out of 1806)
753-T	James M. Abraham	1012	2869	416	2.500	0.042	0.084		0.084	No	---	2.500	I	17	
754-WL	Clyde E. Perdue	1081	2689	583	8.934	0.092	0.196	0.017	0.179	No	---	8.663	I	12	
755															Not Required
756-WL	Jack H. & Mona Miller	840	2403	168	0.496	0.030	0.496	0.030	0.466	Yes	---	---	I	11	Total Take

L.L. indicates Lands Which are Landlocked

P.R.O. indicates Present Road Occupied

COMPLETION DATE August 28, 1969		
REV.	DATE	DESCRIPTION

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

235
247

FRANKLIN COUNTY
FRA.-270-26.76 N
R/W PLANS
LIMITED ACCESS

5
17

SUMMARY OF ADDITIONAL RIGHT OF WAY REQUIRED

HIGHWAY PARCEL NO.	OWNER	AUDITOR PARCEL NO.	DEED RECORD BOOK	DEED RECORD PAGE	DEED AREA ACRES	TOTAL P.R.O. ACRES	TO BE ACQUIRED (ACRES) GROSS TAKE	P.R.O. IN TAKE	NET TAKE	BLDGS.	NET RESIDUE ACRES LEFT	NET RESIDUE ACRES RIGHT	TYPE FUNDS	SHEET NO.	REMARKS
757-WL 757-X 757-S	Jacob Lindenmayer Jr.	814	1547	316	27.850	1.821	14.091 1.144 0.126	0.369	13.722 1.144 0.126	No	11.916	0.391	I	11,12 13,14	
758-WL	Jo Anne Bokros	800	2169	236	0.496	0.030	0.496	0.030	0.466	Yes	—	—	I	11	Total Take
759-WL	Ward L. & Claudia M. Cronin	1089	2263	314	0.496	0.030	0.496	0.030	0.466	Yes	—	—	I	11	Total Take
760-WL 760-WD 760-EL	Leonard & Jeanne B. Pfaltzgraf	825	2309	68	0.496	0.030	0.496	0.030	0.466	Yes	—	—	I ST	11	Total Take (0.230 Acres within LA) 760-WD Contains 0.053 Acres 760-EL Contains 0.213 Acres
761-X	City of Columbus	104429	ANNEX ORD. No.	577-57	2.880		0.258		0.258	No	—	2.622	I	14	See Wonderland Annexation
762															Not Required
763															Not Required
764-WL 764-T	Helen R. Ingram	968	2618	126	1.137	0.166	0.247 0.059	0.057	0.190 0.059	Yes	—	LL 0.761	I	12	 Remove Barn
765— 981—	980 Incl 1186 Incl														Not Used Used in Project FRA-270-28.30N
1184-WL 1184-X 1184-T 1184-S	Shepord Church of the Nazarene	406	2381 2381	554 556	38.363	0.550	0.311 1.389 0.496 0.211		0.311 1.389 0.496 0.211	No	37.502	—	I	13,14	To be purchased with FRA-270-28.30N See 1184-WL Fill Old Channel
1187-X 1187-T	Friendship Investment Co.	685	2959	110	39.304		0.164 1.311		0.164 1.311		12.524	5.935	I	13,14	See 1187-WL on FRA-270-28.30N Fill Old Channel

L.L. indicates Lands Which are Landlocked

P.R.O. indicates Present Road Occupied

COMPLETION DATE August 28, 1969		
REV.	DATE	DESCRIPTION

SUMMARY OF ADDITIONAL RIGHT OF WAY REQUIRED

MIFFLIN TWP., 4TH. QR.
T.1N., R.17W., U.S. MILITARY LANDS

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO	I-270-5(8)118	

236
247

FRANKLIN COUNTY
FRA. 270 - 26.76 N

6
17

R/W PLANS

0 50

15-21

15-22 Ramp E 15-23

15-22

See Sheet 7

Residue 0.702 Acres

Residue 1.485 Acres

BRUCE W. ROE

Block Gar.

Frame Residence

1 Sty. Shingle Bridge Facing Res.

1 Sty. Stucco Stone Facing Res.

Frame + Brick Residence

Septic Tank

Well

DUANE G. STEVENS

FORREST L. DUNLAP

Stucco Residence

Total Take 2.334 Acres

Total Takes 0.853 Acres

Stucco Res.

LEO F. PAYNE

JOHN F. WEEKLEY

DENNIS ROE

0.168 Acres

0.160 Acres

S 00°05'43"E

N 00°05'43"W

Blacktop

Septic Tank

Gas Meter

Pear

Pin Oak

Spruce

Maple

Ash

Silver Maple

Crab

Locust

Grave

Bass Wood

JOHNSTOWN RD. U.S. ROUTE 62

N 62° 02' 15" E

Construction

N 63° 11' 07" E

280.69'

Chord = 274.74'

Radius = 12,277.67'

14+Dd. 48

44.59'

14+00.99

111.84'

2.037 Acres

Foundation

4.407 Acres

739-WL

739-WD

738-WD

737-WD

736-WD

736-EL

738-T

738-X

739-X

(6.55 WD)

(6.56 T)

(6.54 WD)

(6.57 WL)

(6.58 WL)

(6.59 WL)

Total Take 24,600 S.F.

10,000 S.F.

12,628 S.F.

Henry L. & Juanita Krasinski N62°02'15"E

Crayton T. & Alberta G. Hampp

Crayton T. Hampp, 4 Sty. Conc. Store

HUBLER SERVICE ROAD

Cistern

P.C. 5+13.29

0.023 Acres

196.89'

N 78°13'32" W

R/W

Frame Res.

Bertha P. Warwick

1 2 3 4 5 6

Brick Church

1+12.18 Gayle Drive = 0+00 Hubler Service Road

GAYLE DR.

ENGLEWOOD DR.

Vacated Alley

ENGLEWOOD ADD N.

2+89.78 Hubler Service Rd. = 0+00 Englewood Dr.

7 8 9 10 11 12 13 14 15

16 17 18 19 20 21 22 23 24 25 26 27 28 29 30

Bertha P. Warwick

Alfred & Tressie Karcher

John McKnight

Roy W. Prather

P.B. 118 P. 160

Blacklick Investment, Inc.

Residue 2,300 S.F.

Residue 2,278 S.F.

780 S.F.

481 S.F.

PRUSHING AVE.

Residue 23.736 Acres

ALFRED R. BRENHOLTS

Match Line

See Sheet 8

CURVE DATA U.S.R. 62
D = 00°-28'-00"
Δ = 01°-14'-52" Rt.
T = 133.70'
E = 0.73'
L = 267.38'
R = 12,277.67'
P.I. = 14+71.83 Back = 14+71.81 Ahead

CURVE DATA HUBLER SERVICE ROAD.
D = 19°00'00"
Δ = 66°30'00" Rt.
T = 197.71'
E = 59.03'
L = 350.00'
R = 301.56'
P.I. = 7+11.00 Back = 6+65.58 Ahead

QUANTITY CALCULATION
BY RWH DATE 7-69
CHKD GMM DATE 8-69
BURGESS & NIPLE, LIMITED

ITEM	DESCRIPTION	UNIT	QUANTITY
607	Fence, Type C.L.	L.F.	518'

I.C. STATE FUNDS

COMPLETION DATE August 28, 1969

REV.	DATE	DESCRIPTION

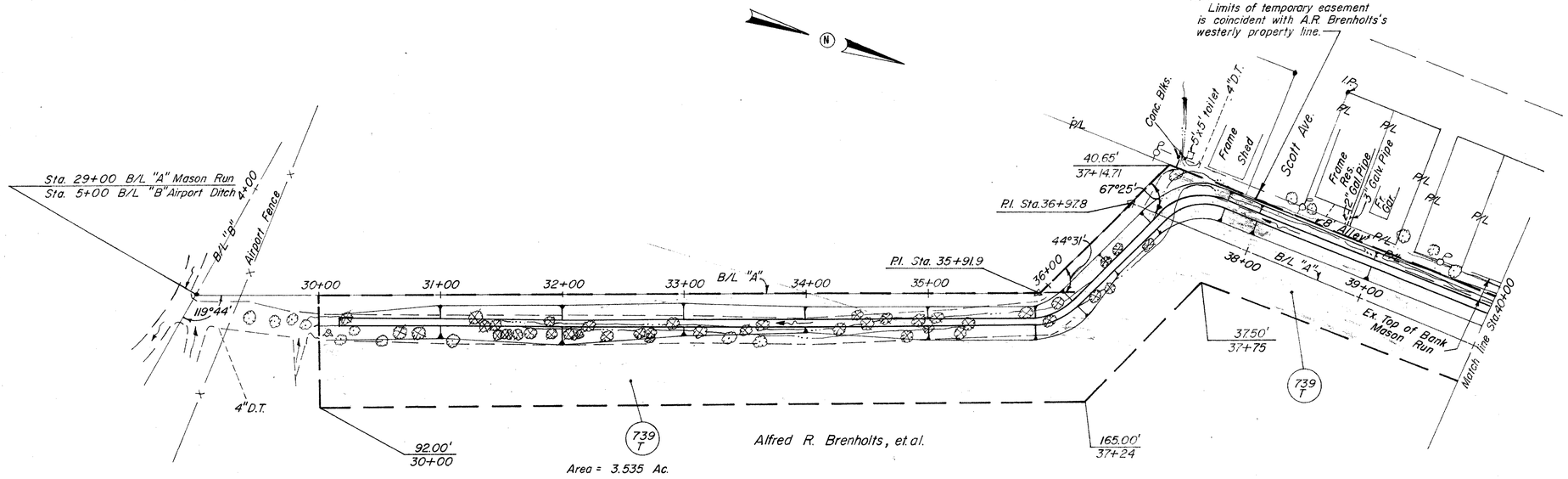
RIGHT OF WAY USR 62 7+00 TO 17+00

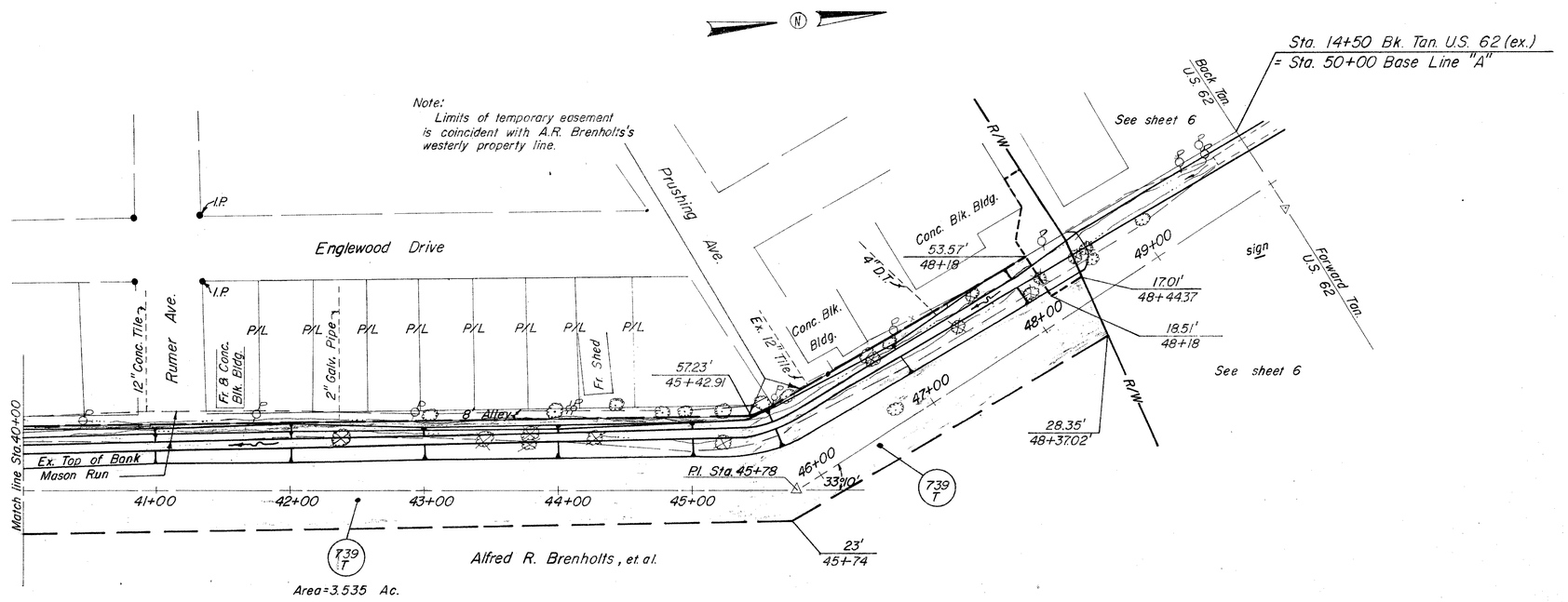
FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

FRA I-270-26.76N

236A / 247

6A / 17





BRUNING 44-560 10943

MASON RUN R/W STA. 40 to 50 B "A"

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO	I-270-5(8)118	

237
247

FRANKLIN COUNTY
FRA 270-26.76 N

R/W PLANS 7/17

VILLAGE OF GAHANNA
4TH. QR. MIFFLIN TWP.
T.1N., R.17W., U.S. MILITARY LANDS

0.379 Acres (701 WL)
Residue 1.888 Acres

Curve Data
D = 38°11'50"
Δ = 86°24'56"
T = 140.90'
E = 55.80'
L = 226.24'
R = 150'

0 50

ESTHER M. SCHWAB

JUANITA M. GUNDELFINGER

RAY & KATHERN FOX
0.289 Acres (702 WD)

Residue 2.639 Acres

Residue 2.500 Acres

Residue 4.921 Acres

WILLIAM E. & MARY M. DAVIS
0.187 Acres (704 WL)

MERTON P. & CHARLOTTE MAIN

Curve Data
D = 95°29'35"
Δ = 90°00'00"
T = 60'
E = 24.85
L = 94.25
R = 60'

0.247 Acres (705 WD)

FORREST DUNLAP
Total Take 2.334 Acres (697 WL)

0.853 Acres Total Take (698 WL)

LEO F. PAYNE

JOHN F. WYNN
Stone Res.
Total Take 0.682 Acres (699 WL)
Others

FRED E. DAWSON
Frame Res.
Total Take By Others 1.238 Acres (700 WL)

(680 WL By Others)

1.382 Acres (703 WL)

0.535 Acres (703 WL)

Res. 1.429 Acres (703 WL)

0.138 Acres (703 WL)

ALFRED R. BRENHOLTS
4.407 Acres (739 WL)

2.037 Acres (739 WD)

MATTOX REALTY, LTD.
0.750 Acres (740 WL)

M. ALBERTA HUBLER
14.874 Acres (741 WL)

Residue 5.440 Acres

CARROLL ROAD
14' Blacktop
MIFFLIN TWP
VILLAGE OF GAHANNA

JOHNSTOWN ROAD
CITY OF COLUMBUS
VILLAGE OF GAHANNA
MIFFLIN TWP
CITY OF COLUMBUS

Ramp A
Ramp B
Ramp C
Ramp D
Ramp E
Ramp I

Sta. 1526+7397 = Sta. 19+39.69 Johnstown Rd

See Sheet 6
See Sheet 8
Match Line

End R/W Acquisition FRA-270-20.40 N I-270-5(7) R/W Only

Begin R/W Acquisition FRA 270-26.20 N I-270-5(8) R/W Only

24+40.52 617.41'
23+90.58 516.06
24+56.66 359.76'
24+63.58 349.25'
23+99.72 264.41'
23+99.70 245.25'
22+63.44 P.I. 30.43'
24+26.23 30.00'
22+63.19 30.00'
23+31.78 I.P. 26.66'
I.P. +28.04 30.74'
27+50.00 130.00'
27+16.50 84.00'
28+23.00 30.00'
25+89.59 30.00'
0+00 Schwab Service Rd = 27+61.50 Johnstown Rd.

QUANTITY CALCULATION
BY SHM DATE 7/69
CHKD. GAM DATE 8/69
BURGESS & NIPLE, LIMITED

ITEM	DESCRIPTION	UNIT	QUANTITY
607	Fence, Type C.L.	L.F.	672'

I FUNDS
COMPLETION DATE August 28, 1969

REV.	DATE	DESCRIPTION

RIGHT OF WAY 1524+00 TO 1526+74

MIFFLIN TWP.
CITY OF COLUMBUS
VILLAGE OF GAHANNA
4TH QR. T.1, R.17, U.S. MILITARY LANDS

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO	I-270-5(8)118	

238 / 247

8 / 17

0 50

FRANKLIN COUNTY
FRA-270-26.76 N
R/W PLANS

Match Line Sta 26+60 See Sheet #7

Residue 5.440 Acres

75.00' 26+85

S 30°16'23" E 434.17'

500.00' 1535+60

S 39°23'52" E 328.02'

LA

VILLAGE OF GAHANNA
CITY OF COLUMBUS

380.00' 1538+61.02

S 42°38'39" W 396.91'

402.98' to E. Int. of Lot 22

66.29' S 51°55'27" E

1538+85.20
325.00'
1110 S.F.

1538+99.96
287.53' I.P.

Match Line

Existing Pipes

Septic Tank

10' Blacktop

Leach Bed

SR. JOHNSTOWN-ROAD 35 ROAD 368.62' 1483+10.72

VILLAGE OF GAHANNA
CITY OF COLUMBUS

Ramp B

10' Gravel

Septic Tanks

Well

Conc. Block Residence

15' Blacktop

Well

Stucco Residence

Septic Tank

23+31.78
26.66'

0.00
23+47.68
I.P.

Ramp I

Frame Shed

Abandoned Frame Residence

Cistern

Ramp C

741-WL 14.874 Acres

Metal Corn Crib

Frame Shed

Well

Res.

Ramp I

11' Blacktop

+44.38 ℄

+28.04
30.14

12' Gravel

Frame Barn

Well

1538

End R/W Acquisition
Fra. 270-20.40N
I-270-5(7) R/W Only

MATTOX REALTY CO.

Septic Tank

Frame Res.

740 WL

Total Take 0.750 Acres

Well

S 02°05'54" W

R 7538.34

N 04°05'54" E

+67.92
89.99

VILLAGE OF GAHANNA

CARROLL ROAD 14' Blacktop

MIFFLIN TOWNSHIP

See Sheet #7

℄ Match Line ℄ Survey

N 03°54'06" W 287.17'

8701'
S 85°59'41" E

1112.17

+97.94
36.26'

0.00
1531+36.90

1536

1534

1532

1530

1528

1524

D=2°00'00"

℄ Survey I.R. 270

FRA-270 1526+73.97
=U.S.R. 62 19+39.69

9' Gravel

1526

Block Gar.

Frame Res.

Well

10' Gravel

Cistern

Stone Res.

Barn

Frame Barn

Frame Res.

12' Gravel

Begin R/W Acquisition
Fra. 270-26.20N
I-270-5(8) R/W Only

Match Line

See Sheet #6

Ramp E

739-WL 4.407 Acres

12+95.47 ℄

R 249.02

N59°25'52"W 456.56'

LA

+93.27
202.44

205.00
1532+72.55

M. ALBERTA HUBLER

741-T 0.039 Acres

1533+36.64
276.50'

CITY OF COLUMBUS

MIFFLIN TWP.

ALFRED R. BRENHOLTS

For Detail See Sheet 176
Quantities Carried on Sh. 165

717.16'
S 51°27'45" E

1.0

LA

S 51°27'45" E

ROAD

SERVICE

2.037 Acres

R/W

N 50°13'29" W

454.15'

739-WD

1532+89.24
232.50'

1533+14.26
275.00'

CURVE DATA
HUBLER SERVICE ROAD
P.I. = 7+11.00 Back =
6+65.58 Ahead
D = 19°00'00"
Δ = 66°30'00" Rt.
T = 197.71'
E = 59.03'
L = 350.00'
R = 301.56'

HUBLER

529.00
282.00'
P.T. 8+63.29

116.28'
N 66°40'13" W

Residue 23.736 Acres

1.2

1.2

36"

48"

CURVE DATA
P.I. = 1534+62.19 Back
1532+88.51 Ahead
D = 2°00'00"
Δ = 50°07'25" Lt.
T = 1339.93'
L = 2506.18'
R = 2864.79'

N64°49'02"W LA 384.65'

185.00'
1537+00

QUANTITY CALCULATION
BY [illegible] DATE 7/6/71
CHKD [illegible] DATE 8/16/71
BURGESS & NIPLE, LIMITED

PARTICIPATION	ITEM	DESCRIPTION	UNIT	QUANTITY
Fed., State & Columbus	607	Fence, Type C.L.	L.F.	1517
Federal & State	607	Fence, Type C.L.	L.F.	622

Residue 23.103 Acres

I FUNDS

COMPLETION DATE August 28, 1969

REV.	DATE	DESCRIPTION

RIGHT OF WAY 1526+74 TO 1539+00

ALL-STATE BLUEPRINT FA0008

FED. RD. DIVISION	STATE	PROJECT		
2	OHIO	I-270-5(8) 118		

239/247

0 50

FRANKLIN COUNTY
FRA-270-26.76 N

R/W PLANS 9/17

CITY OF COLUMBUS
AND
VILLAGE OF GAHANNA
4TH QR. T.1, R.17, U.S. MILITARY LANDS

GOSHEN COURT

GOSHEN PARK
PB. 40 PG. 26
ANTHONY F. MOLLICA ET AL

Residue 5865 S.F.
746A WL
Residue 1.640 Acres
CARL C. & ANNE ANDRE
Gasoline Tank Underground 4,000 Gal.
746 WD
0.204 Acres
Residue 4,547 S.F.
748 WL
Residue 9,321 S.F.
30' Bldg. Line
Residue 15,085 S.F.
207
Residue 8,555 S.F.
208
Residue 9,196 S.F.
209
RESUBDIVISION
COLLEGE PARK
P.B. 42 PG. 17
C.V. LAND, Inc.
Residue 1,110 S.F.
746 WL
0.892 Acres
E.J. STARCK, ET AL
Total Take 1.363 Acres
Fuel Oil Tank Underground 2000 Gallons
Metal Storage Bldg. & Office
STARCK VAN LINES OF COLUMBUS INC.
742 WL
Total Take 1.371 Acres
745 WL
744 WL
3.600 Acres
744.1 WL
14.874 Acres
744 WD
0.669 Acres
749 WD
Catalpa Trees
749 WL
0.860 Acres
THE ZENITH HOLDING & TRADING CORP.
Residue 101.702 Acres
750 WL
23.297 Acres
COMMUNITY IMPROVEMENT CORP. OF GAHANNA
Residue 8.491 Acres
THOMAS P. ZELKOFF
Residue 23.103 Acres
M. ALBERTA HUBLER
CITY OF COLUMBUS
VILLAGE OF GAHANNA

DENISON AVE.
Exist. R/W
10' Easement
10" Pin Oak
10" Utility Easement
30' Easement
Gasoline Tank Underground 4,000 Gal.
Fuel Oil Tank Underground 2000 Gallons
Metal Storage Bldg. & Office
Catalpa Trees
Sta. 1546+93.68 = Sta. 19+85.33 Goshen Lane
ABENDOAN
Chord 602.51'
Radius = 3049.79'
Chord 8.99'
S79°41'04"E
Radius 3049.79'
Chord 83.27'
S80°22'08"E
RADIUS
Chord 86.11'
N81°34'39"W
PCC (LCS) 1546+28.44
Match Line
See Sheet 8
See Sheet #10
See Sheet #5

R/W CURVE DATA

P.I. = 1534+62.19 Back
= 1532+88.51 Ahead
D = 2°00'00"
Δ = 50°07'25"
T = 1339.93'
L = 2506.18'
R = 2864.79'

P.I. = 1548+28.65 Ahead
= 1548+28.28 Back
D = 1°29'59"
Δ = 6°00'00"
T = 200.21'
L = 400.05'
R = 3820.23'

QUANTITY CALCULATION
BY [illegible] DATE 7/69
CHKD [illegible] DATE 8/69
BURGESS & NIPLE, LIMITED

PARTICIPATION	ITEM	DESCRIPTION	UNIT	QUANTITY
Fed, State, & Columbus	607	Fence, Type C.L.	L.F.	170'
Federal & State	607	Fence, Type C.L.	L.F.	2883'

I FUNDS

COMPLETION DATE August 28, 1969

REV.	DATE	DESCRIPTION

RIGHT OF WAY 1539+00 TO 1554+00

ALL-STATE BLUEPRINT #42008

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO	I-270-5(8)118	

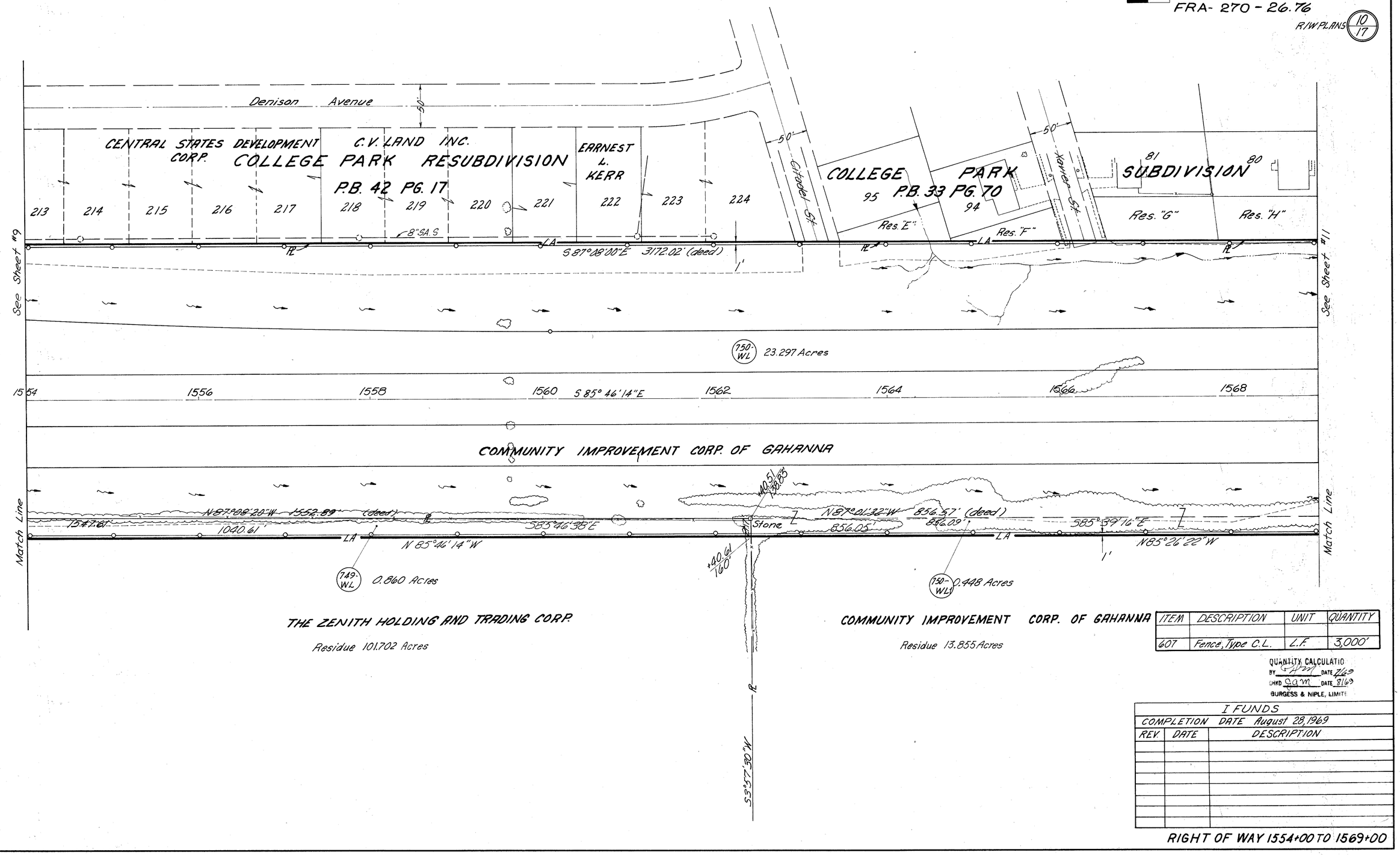
240
247

0 50

FRANKLIN COUNTY
FRA- 270 - 26.76

R/W PLANS 10/17

VILLAGE OF GAHANNA
4TH QR. T.1, R.17, U.S. MILITARY LANDS



THE ZENITH HOLDING AND TRADING CORP.

Residue 101.702 Acres

COMMUNITY IMPROVEMENT CORP. OF GAHANNA

Residue 13.855 Acres

ITEM	DESCRIPTION	UNIT	QUANTITY
607	Fence, Type C.L.	L.F.	3,000'

QUANTITY CALCULATIO
BY [illegible] DATE 7/69
CHKD [illegible] DATE 8/69
BURGESS & NIPLE, LIMITE

I FUNDS

COMPLETION DATE August 28, 1969

REV.	DATE	DESCRIPTION

RIGHT OF WAY 1554+00 TO 1569+00

ALL-STATE BLUEPRINT 740008

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO	I-270-5(8)118	

241
247

0 50

FRANKLIN COUNTY
FRA-270-26.76 N

R/W PLANS 11/17

VILLAGE OF GAHANNA
4TH QR. T.1, R.17, U.S. MILITARY LANDS

15+58.55 ℄ Price Road

COLLEGE PARK SUBDIVISION
P.B. 33 PG. 70

RES. 'N' - CENTRAL STATES DEVELOPMENT CORP.

St. Johns Pl. · Oberlin St. · Clemson St.

Res. 54 · Res. 53 · Res. 40 · Res. 39 · Res. "J" · Res. "K" · Res. "L" · Res. "M" · Res. "N" 1500 S.F. · Res. "P"

S85°46'14"E 3167.22' · S87°08'00"E 3172.02' (deed)

18+50.00 ℄ Foundation

+85.76 ℄

See Sheet #10

0.053 Acres · 0.213 Acres

760 WD · 760 EL

J.A. BISANG

Residue 11.916 Acres

S86°16'14"E 270.00' east (deed)

LEONARD & RALTZ GRAF

S86°50'12"E 267.42'

+32.83 116.60'

760 WL — Total Take 0.230 Acres

S86°16'14"E 270.00' (deed)

WARD L. CRONIN

759 WL — Total Take 0.496 Acres

270.00' (deed)

1578+63.70 IR270 = 20+00.00 JAMES

1570 · 1572 · 1574 · 1576 · S85°46'14"E · 1578 · 1580 · 1582 · 1584

758 WL — Total Take 0.496 Acres

JO ANNE BOKROS

270.00' (deed)

COMMUNITY IMPROVEMENT CORP. OF GAHANNA

Total Take 0.496 Acres

750 WL — 23.297 Acres

JACK H. MILLER

756 WL · 757 WL

14.091 Acres

N87°01'32"W 856.57' (deed) · S85°39'17"E 856.05'

N87°00'00"W 767.62' (deed) · S85°39'17"E 528.51'

856.05' · N85°26'22"W 403.46' · N85°37'15"W · LA

750 WL1 — 0.448 Acres

COMMUNITY IMPROVEMENT CORP. OF GAHANNA
Residue 13.855 Acres

752 WL — 0.262 Acres

Type 1, Crossing

VIRGINIA A. BRIDGEWATER & MERYL R. ABRAHAM
Residue 5.238 Acres

S4°20'21"W 1212.23'

S85°39'17"E 239.12' · S83°12'24"W 197.45'

JAMES M. ABRAHAM
Residue 2.500 Acres

S4°20'21"W

Residue 0.391 Acres

JACOB LINDENMAYER JR.

N82°29'40"W · S86°15'58"E

RICHARD HAYES

Δ = 0°16'29" Rt.

S4°11'45"W

Residue 8.663 Acres

CLYDE E. PERDUE

33'

Match Line · Match Line

See Sheet #12

QUANTITY CALCULATION
BY DATE 7/69
CHKD DATE 8/69
BURGESS & NIPLE, LIMITED

ITEM	DESCRIPTION	UNIT	QUANTITY
607	Fence, Type CL.	L.F.	3046
601	Rock Channel Protection, Type B	C.Y.	17

I & STATE FUNDS

COMPLETION DATE August 28, 1969

REV.	DATE	DESCRIPTION

RIGHT OF WAY 1569+00 TO 1584+00

ALL-STATE BLUEPRINT FA0008

11

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO	I-270-5(8)118	

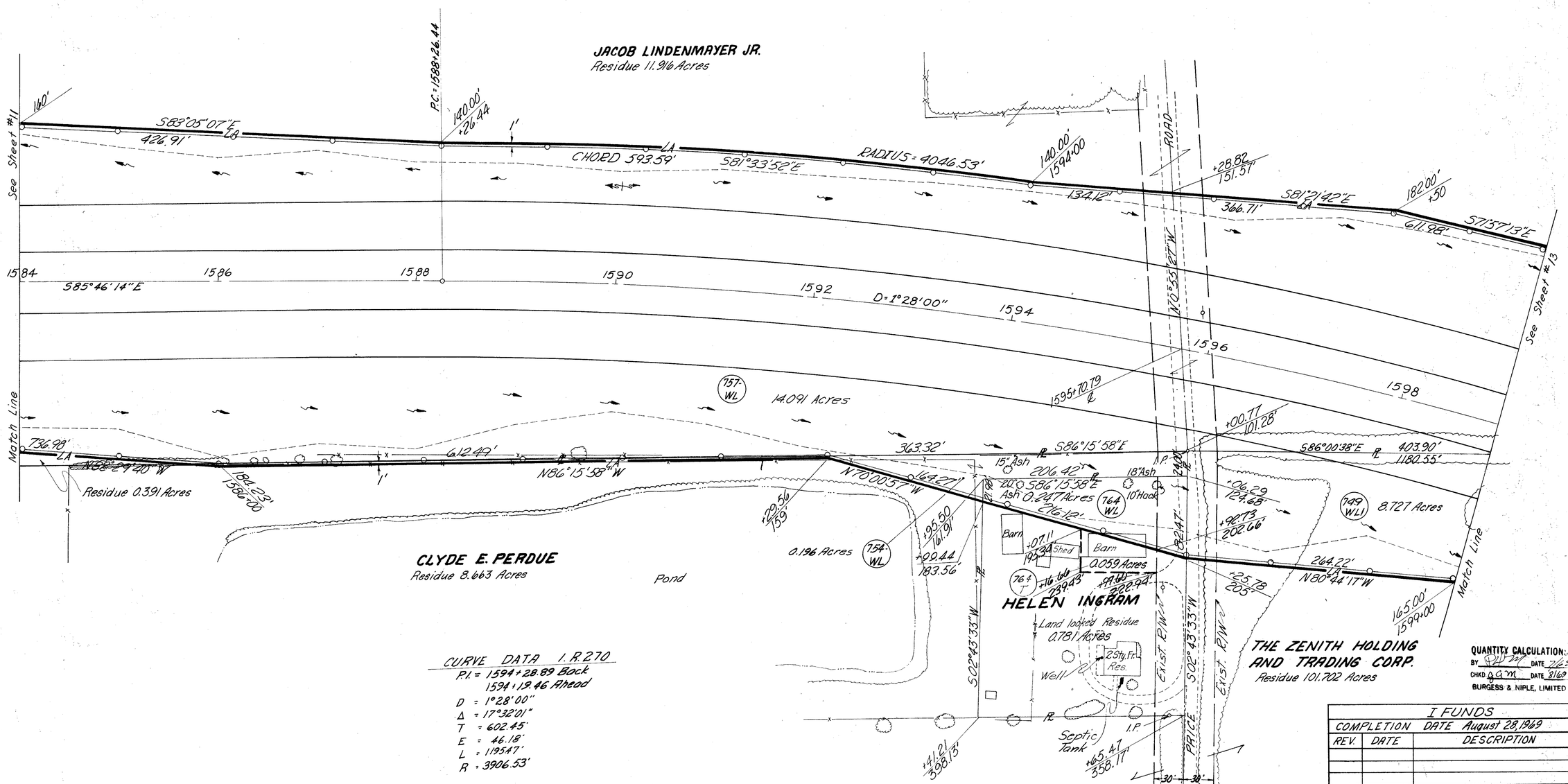
242 / 247

0 50

FRANKLIN COUNTY
FRA-270-26.76 N

R/W PLANS 12 / 17

VILLAGE OF GAHANNA
4TH QR. T.1, R.17, U.S. MILITARY LANDS



CURVE DATA I.R.270
P.I. = 1594+28.89 Back
1594+19.46 Ahead
D = 1°28'00"
Δ = 17°32'01"
T = 602.45'
E = 46.18'
L = 1195.47'
R = 3906.53'

THE ZENITH HOLDING AND TRADING CORP

ITEM	DESCRIPTION	UNIT	QUANTITY
607	Fence Type, CL.	L.F.	3,017

QUANTITY CALCULATION:
BY [illegible] DATE 7/69
CHKD [illegible] DATE 8/69
BURGESS & NIPLE, LIMITED

I FUNDS

COMPLETION DATE August 28, 1969

REV.	DATE	DESCRIPTION

RIGHT OF WAY 1584+00 TO 1599+00

ALL-STATE BLUEPRINT #40009

VILLAGE OF GAHANNA
4TH QR. T.1, R.17, U.S. MILITARY LANDS

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO	I-270-5(8)118	

243 / 247

0 50

FRANKLIN COUNTY
FRA-270-26.76 N
R/W PLANS

13 / 17

JACOB LINDENMAYER JR.
Residue 11.916 Acres

Residue 37.502 Acres
SHEPARD CHURCH OF THE NAZARENE

THE ZENITH HOLDING AND TRADING CORP.
Residue 101.702 Acres

FRIENDSHIP INVESTMENT CO.
Residue 5.935 Acres

END PROJECT FRA 270-26.76

END R/W ACQUISITION FRA. 270-26.76 N STA. 1632+75.65

Match Line

See Sheet #12

See Sheet #14

Sheet #14

Match Line

L.A. Residue 0.380 Acres

RAMP "E"

20' Sewer Easement D.B. 2934 Pg. 609

10' Easement

8" S.A.S.

Relocated Big Walnut Sta. 19+23.57 Ahead = Sta. 1603+48.18 Back

0.126 Acres (757-S)
1.144 Acres (757-X)
14.091 Acres (757-WL)
1.389 Acres (1184-X)
0.496 Acres (1184-T)
0.211 Acres (1184-S)
0.311 Acres (1184-WL1)
0.039 Acres (749-S)
8.727 Acres (749-WL1)
0.533 Acres (749-T)
1.3 M Acres (1187-I)
3.339 Acres (749-X)
(1187-WL)

QUANTITY CALCULATION
BY RCH DATE 7/67
CHKD GWM DATE 8/69
JURGESS & NIPLE, LIMITED

ITEM	DESCRIPTION	UNIT	QUANTITY
607	Fence Type CL	L.F.	750

I FUNDS

COMPLETION DATE August 28, 1969

REV.	DATE	DESCRIPTION

RIGHT OF WAY 1599+00 TO 1637+00

ALL-STATE BLUEPRINT 40008

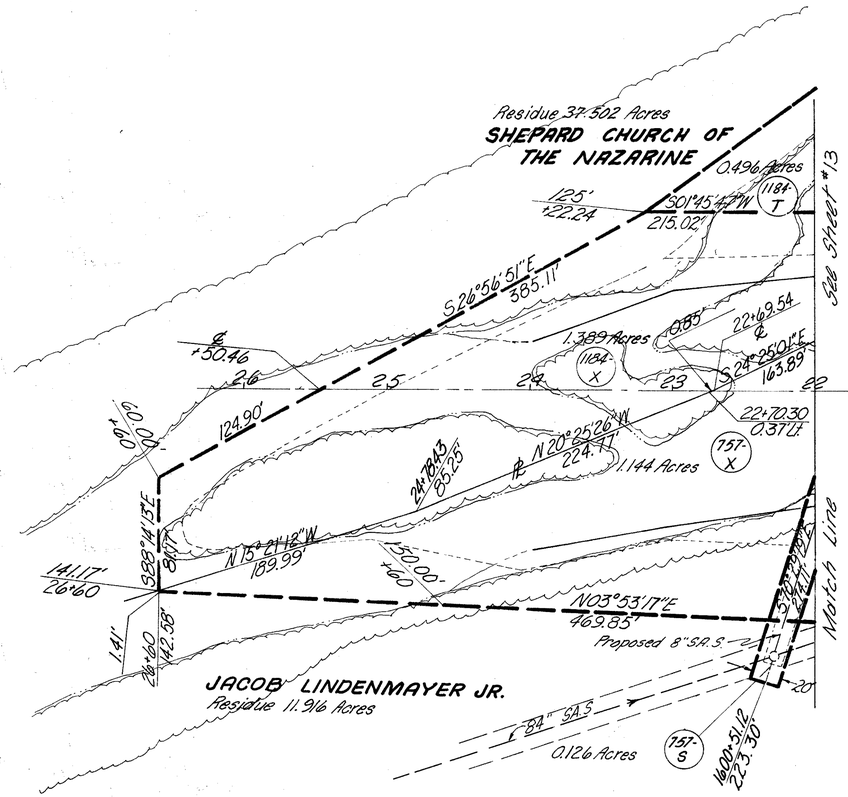
FED. RD. DIVISION	STATE	PROJECT	
2	OHIO	I-270-5(8)118	

244
247

FRANKLIN COUNTY
FRA-270-26.76N
R/W PLANS

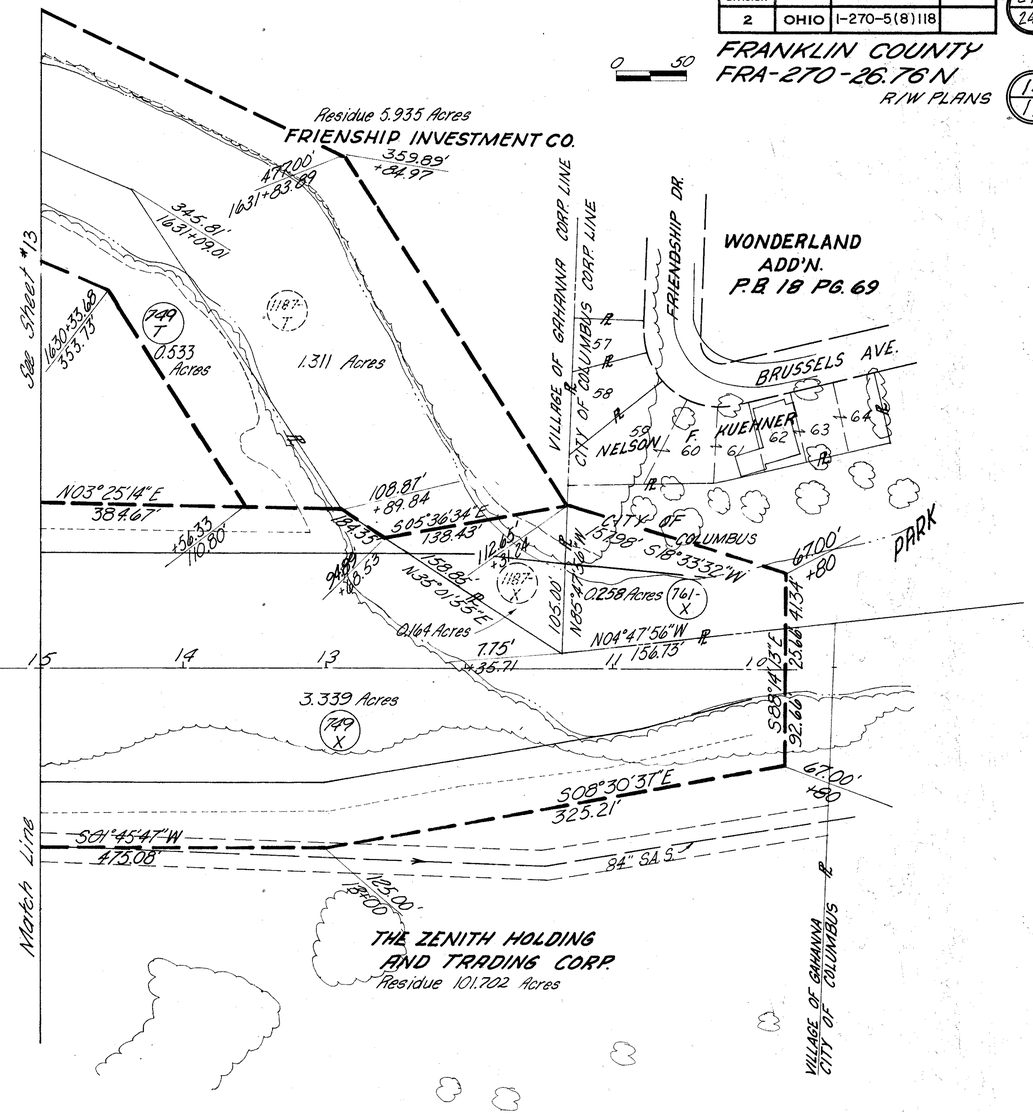
14
17

0 50



FLOW

N 01° 45' 47" E
BIG WALNUT CHANNEL
RELOC.



QUANTITY CALCULATION
[illegible] DATE 7/69
CHK'D DATE 8/69
JURGESS & NIPLE, LIMITED

I FUNDS
COMPLETION DATE August 28, 1969

REV.	DATE	DESCRIPTION

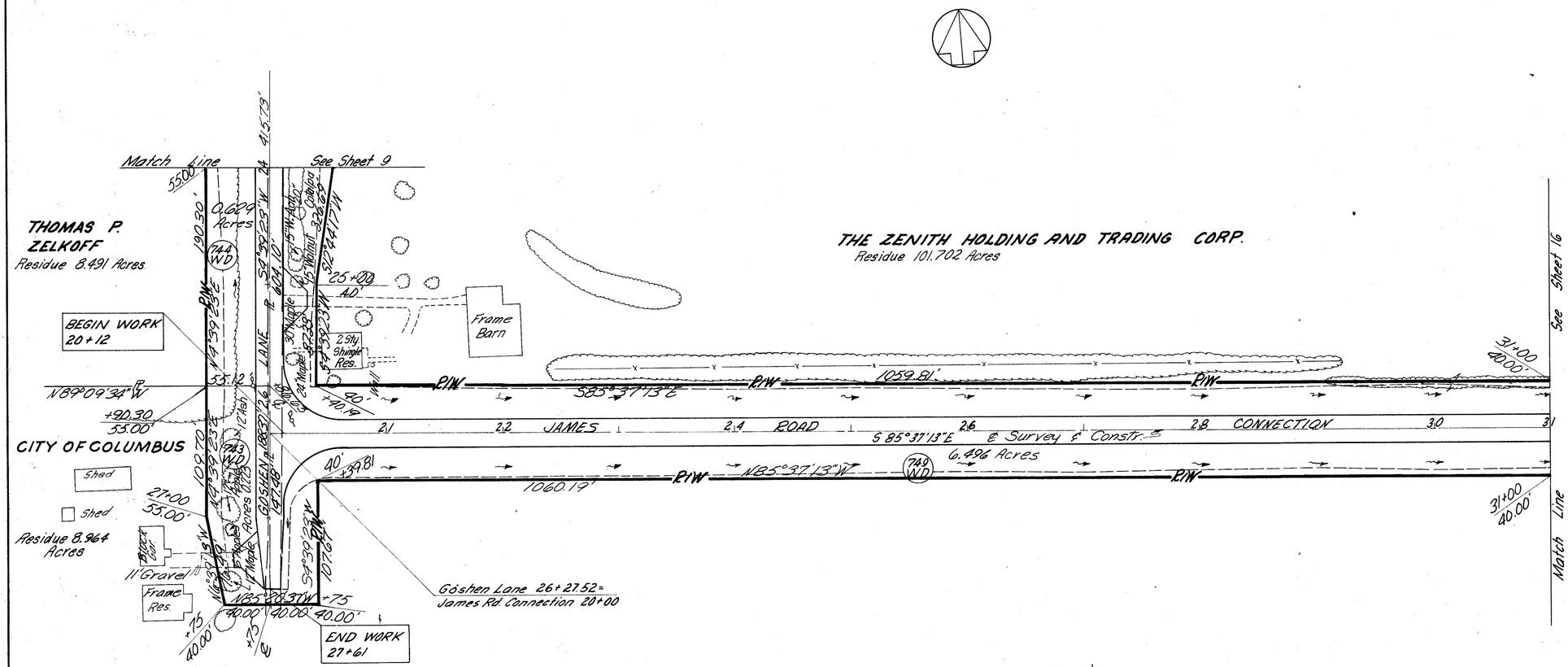
RIGHT OF WAY BIG WALNUT RELOCATION

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO	I-270-5(8)118	

245
247

FRANKLIN COUNTY
FRA 270 - 26.76 N

R/W PLAN 15/17



THE ZENITH HOLDING AND TRADING CORP.

QUANTITY CALCULATION
BY RDM DATE 7/69
CHKD JAM DATE 8/69
BURGESS & NIPLE, LIMITED

0 50

I FUNDS
COMPLETION DATE August 28, 1969

REV.	DATE	DESCRIPTION

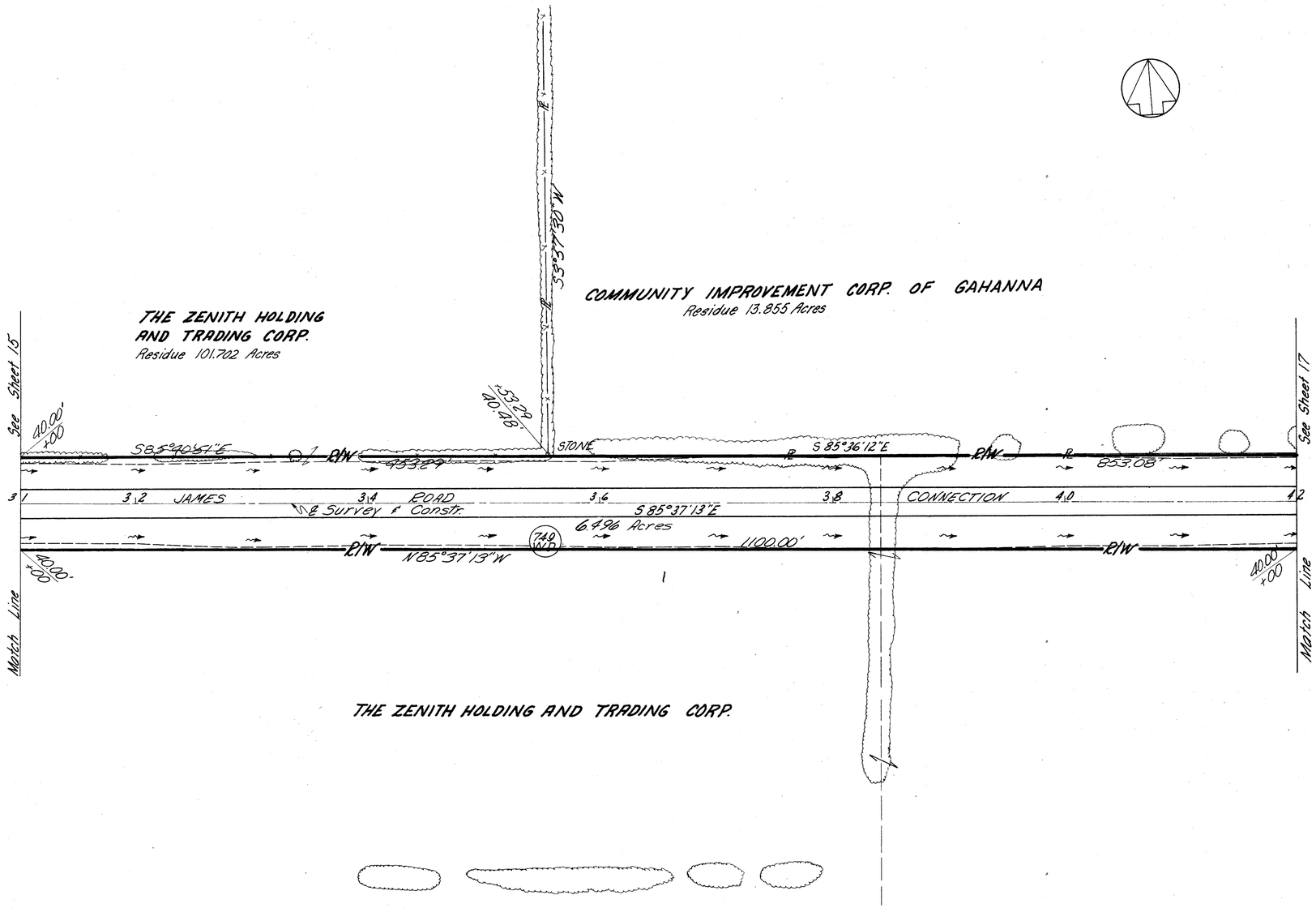
RIGHT OF WAY JAMES ROAD CONNECTION

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO	I-270-5(8)118	

246
247

FRANKLIN COUNTY
FRA 270-26.76N

R/W PLAN 16/17



QUANTITY CALCULATION
BY RJM DATE 7/69
CHKD JAM DATE 8/69
BURGESS & NIPLE, LIMITED

0 50

I FUNDS

COMPLETION DATE August 28, 1969

REV.	DATE	DESCRIPTION

RIGHT OF WAY JAMES ROAD CONNECTION

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO	I-270-5(8)118	

247
247

FRANKLIN COUNTY
FRA 270-26.76 N

R/W PLAN 17/17

VIRGINIA A. BRIDGEWATER
&
MERYL R. ABRAHAM
Residue 5.238 Acres

JAMES M. ABRAHAM
Residue 2.500 Acres

Metal Office Building

RICHARD HAYES

Res.

Gar

CLYDE E. PERDUE
Residue 8.663 Acres

22+55.52
Δ=0° 16' 29" Rt.

COMMUNITY IMPROVEMENT CORP. OF GAHANNA
Residue 13.855 Acres

See Sheet 16

N. 12° 22' 45" E.

N. 20° 12' 15" W.

N. 3° 35' 16" W.

8" Water Line

4 Cons

16.5'

16.5'

Exist 60' Roadway Easement

Exist 30' Drainage Easement
Vol. 2233-518

0.084 Acres (753/7)

40.00'
+18

40.05'
+17.09

40.00'
+39.18

40.00'
+75.68

JAMES ROAD

THE ZENITH HOLDING AND TRADING CORP.

END WORK
51+66.81

06.37
20.23

853.08'

R/W

S 85° 36' 12" E

528.51'

+34.88
40.07

240.80'

4.2 4.3 JAMES 4.5 ROAD 4.7 CONNECTION 4.9 5.1

S 85° 37' 13" E

℄ Survey ℄ Constr.

N 85° 37' 13" W

40.00'
+00

40.00'
+35.00
35.00'
+35

6.496 Acres

749 WD

40.00'
+90
3500'
+90

975.94'

R/W

0.053 Acres (749/11)

Match Line

THE ZENITH HOLDING AND TRADING CORP.
Residue 101.702 Acres

40.00'
+75.94

30'

Exist. 30' Drainage Easement
Vol 2233-518

Ex. 54" STS

S 0° 11' 45" W

James Rd. Connection 51+75.81 =
James Rd. 26+35.84

QUANTITY CALCULATION
BY [illegible] DATE 7/69
CHKD [illegible] DATE 8/69
BURGESS & NIPLE, LIMITED

0 50

I FUNDS

COMPLETION DATE August 28, 1969

REV.	DATE	DESCRIPTION

RIGHT OF WAY JAMES ROAD CONNECTION

TE 95
400-8-64

GENERAL INFORMATION

INTRODUCTION

THE PROJECT INVOLVES THE CONSTRUCTION OF 1.54 MILES OF IR 270, BEGINNING IMMEDIATELY NORTH OF JOHNSTOWN ROAD (USR 62), APPROXIMATELY 0.7 MILE NORTHEAST OF THE JOHNSTOWN ROAD-STELZER ROAD INTERSECTION, EXTENDING SOUTHEASTWARD TO EASTWARD AND TERMINATING AT BIG WALNUT CREEK, APPROXIMATELY 1000 FEET NORTH OF THE PORT COLUMBUS INTERNATIONAL AIRPORT. INCLUDED IN THIS REPORT IS A SOIL PROFILE OF PROPOSED GOSHEN LANE.

PROPOSED GRADES INDICATE THE FOLLOWING MAXIMUM PROPOSED CUTS AND FILL EMBANKMENTS:

	CUTS (MAX.)	FILL EMBANKMENTS (MAX.)
IR 270	14'	15'
GOSHEN LANE	-	8'

GEOLOGY OF THE PROJECT

THE ALIGNMENT TRAVERSES A RELATIVELY FLAT PORTION OF THE GLACIATED MISSISSIPPI VALLEY PLAIN, IN AN AREA WHERE MODERATELY DEEP TO DEEP GLACIAL DRIFT AND ALLUVIUM OVERLIES SHALE BEDROCK, OF DEVONIAN AGE.

EXPLORATION

EXPLORATORY BORINGS WERE MADE BY MEANS OF TRUCK-MOUNTED MECHANICAL SOIL AUGER BETWEEN AUGUST 28 AND 30, 1968.

INVESTIGATIONAL FINDINGS

MATERIALS ENCOUNTERED ON THE PROJECT WERE PREDOMINANTLY COMPRISED OF SANDY SILT (A-4a) AND SILT CLAYS (A-6a AND A-6b), WITH SOME SANDY GRAVELS (A-1-b AND A-2-4) AND CLAY (A-7-6), GENERALLY HAVING LOW MOISTURE CONTENTS AND MOISTURE CONTENTS BELOW THE PLASTIC RANGE.

WET MATERIALS WERE ENCOUNTERED AT STATIONS 1550+00, 1572+00, 1594+00 AND 1604+50.

ELASTIC CLAY CONTAINING ORGANIC MATTER WAS ENCOUNTERED AT STATION 1570+00.

LEGEND FOR PROJECT AVERAGE RESULTS OF TESTS — 106 SAMPLES TESTED

DESCRIPTION	H.R.B. CLASS	OHIO CLASS	% AGG.	% C. SAND	% F. SAND	% SILT	% CLAY	LIQUID LIMIT	PLASTICITY INDEX	WATER CONTENT	SAMPLES TESTED
GRAVEL	A-1-a(0)	A-1-a	58	21	9	6	6	NP	NP	9	2
SAND WITH GRAVEL	A-1-b(0)	A-1-b	41	30	10	10	9	23	2	14	7
FINE SAND	-----	A-3a	1	49	25	13	12	NP	NP	23	2
GRAVEL OR STONE FRAGMENTS WITH SAND AND SILT	A-2-4(0)	A-2-4	44	19	9	15	13	26	7	13	11
GRAVEL OR STONE FRAGMENTS WITH SAND, SILT, AND CLAY	A-2-6(0)	A-2-6	52	15	7	13	13	33	12	18	2
SANDY SILT	A-4(5)	A-4a	16	10	16	29	29	24	7	15	43
SILT	A-4(7)	A-4b	10	6	12	50	22	NP	NP	17	1
SILT AND CLAY	A-6(7)	A-6a	12	9	15	28	36	33	13	19	23
SILTY CLAY	A-6(11)	A-6b	3	4	12	34	47	38	17	20	5
ELASTIC CLAY	A-7-5(20)	A-7-5	18	2	4	25	51	68	31	35	2
CLAY	A-7-6(12)	A-7-6	11	9	10	26	44	43	20	22	8

AUGER BORING-PLAN VIEW.

AUGER BORING PLOTTED TO VERTICAL SCALE ONLY.

WATER CONTENT NEARLY EQUAL TO OR GREATER THAN LIQUID LIMIT.

INDICATES A NON-PLASTIC MATERIAL WITH A HIGH WATER CONTENT.

FREE WATER.

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

SOIL PROFILE

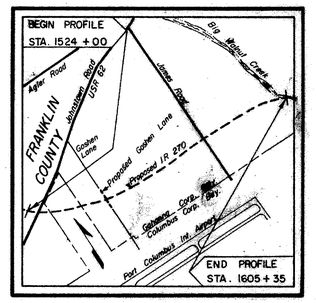
FRANKLIN COUNTY

FRA - 270 - 26.76 N

OHIO STATE HIGHWAY TESTING LABORATORY
1620 W. BROAD ST. COLUMBUS 23, OHIO

1/19

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



LOCATION MAP

Recon - J.S.M. - 8/20/68
Drilling - W.S.B - 8/26/68 to 8/30/68
Drafting - R.L.W. - 10/3/68

SUMMARY OF SOIL TEST DATA

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

STATION & OFFSET	DEPTH FROM	DEPTH TO	% AGG.	% C.S.	% F.S.	% SILT	% CLAY	L.L.	P.I.	% W.C.	SHTL CLASS.
1527+50 CL	0.0	3.0	0	2	11	30	57	41	19	19	A-7-6
	3.0	5.0	0	4	13	26	57	38	18	20	A-6b*
	5.0	9.0	7	9	19	27	38	27	9	20	A-4a*
	9.0	10.0	22	8	16	17	37	25	8	17	A-4a
1531+00 CL	0.0	3.0	0	4	9	28	58	42	21	22	A-7-6
	3.0	8.0	5	11	16	34	34	27	9	18	A-4a*
	8.0	13.0	14	10	17	32	27	20	6	9	A-4a*
	13.0	18.0	10	9	19	30	32	21	7	11	A-4a
1535+00 CL	0.0	5.0	0	8	14	30	48	33	13	17	A-6a
	5.0	8.0	7	6	16	32	39	36	17	19	A-6b
	8.0	10.0	7	21	16	22	34	41	19	21	A-7-6*
	10.0	11.5	8	13	22	29	28	20	7	8	A-4a*
1540+00 CL	0.0	5.0	0	3	13	35	49	33	11	18	A-6a
	5.0	9.0	9	9	17	34	31	25	6	15	A-4a
	9.0	14.0	11	8	15	32	34	22	5	15	A-4a*
	14.0	20.0	6	8	12	37	37	22	6	11	A-4a
1545+00 CL	0.0	4.0	10	10	4	27	49	51	27	33	A-7-6
	4.0	7.0	14	12	16	25	33	27	9	22	A-4a
	7.0	10.0	10	7	13	30	40	34	15	26	A-6a
	10.0	15.0	14	12	14	29	31	21	6	7	A-4a*
	15.0	19.0	16	11	19	29	25	19	5	11	A-4a
	19.0	21.5	14	11	18	30	27	19	5	11	A-4a
1550+00 CL	0.0	5.0	3	5	20	28	44	28	11	20	A-6a
	5.0	7.0	4	7	17	25	47	34	15	19	A-6a
	7.0	10.0	14	9	17	29	31	24	6	14	A-4a
	10.0	15.0	8	10	14	31	37	23	8	9	A-4a*
	15.0	19.0	9	9	12	36	34	23	7	13	A-4a
	19.0	22.0	0	44	22	17	17	NP	NP	21	A-3a

STATION & OFFSET	DEPTH FROM	DEPTH TO	% AGG.	% C.S.	% F.S.	% SILT	% CLAY	L.L.	P.I.	% W.C.	SHTL CLASS.
1554+00 CL	0.0	5.0	7	8	18	27	40	29	12	17	A-6a
	5.0	10.0	24	11	17	25	23	23	8	11	A-4a
	10.0	11.0	35	24	11	14	16	25	7	14	A-2-4
	11.0	17.0	17	9	13	31	30	21	5	13	A-4a*
	17.0	21.0	52	26	8	7	7	NP	NP	8	A-1-a
	21.0	22.0	29	42	8	14	7	NP	NP	11	A-1-b
1558+50 CL	0.0	5.0	7	4	9	25	55	40	17	20	A-6b
	5.0	9.0	17	11	17	22	33	29	11	25	A-6a
	9.0	11.0	12	11	15	34	28	22	7	10	A-4a*
	11.0	12.0	0	10	16	41	33	20	5	12	A-4a*
	12.0	16.0	33	6	11	30	20	25	8	10	A-4a*
	16.0	18.0	18	34	17	12	19	22	7	9	A-2-4
1563+50 CL	0.0	4.0	11	8	12	41	28	31	11	14	A-6a
	4.0	9.0	23	6	11	22	38	25	7	14	A-4a
	9.0	12.0	24	14	17	20	25	22	7	11	A-4a*
	12.0	16.0	35	16	12	17	20	25	7	14	A-4a
	16.0	19.0	48	25	7	9	11	23	6	9	A-1-b
	19.0	20.0	64	16	9	6	5	NP	NP	10	A-1-a
1567+50 CL	0.0	4.0	16	8	13	23	40	38	13	16	A-6a*
	4.0	6.0	10	4	10	45	31	27	3	21	A-4a
	6.0	7.0	10	6	12	50	22	NP	NP	17	A-4b
	7.0	10.0	22	9	18	32	19	21	4	12	A-4a
1570+00 CL	0.0	3.0	36	1	3	19	41	69	31	33	A-7-5
	3.0	4.0	0	2	5	32	61	67	31	37	A-7-5
	4.0	9.0	41	29	10	13	7	NP	NP	16	A-1-b
	9.0	13.0	37	23	11	17	12	26	6	17	A-2-4
	13.0	17.0	34	12	10	27	17	25	9	14	A-4a
	17.0	18.0	38	36	8	8	10	21	6	12	A-1-b

STATION & OFFSET	DEPTH FROM	DEPTH TO	% AGG.	% C.S.	% F.S.	% SILT	% CLAY	L.L.	P.I.	% W.C.	SHTL CLASS.
1572+00 CL	0.0	4.0	16	16	14	20	34	36	15	22	A-6a
	4.0	7.0	13	28	16	19	24	31	7	24	A-4a
	7.0	13.0	2	54	28	8	8	NP	NP	24	A-3a
	13.0	19.0	12	15	16	27	30	23	7	15	A-4a
	19.0	24.0	32	35	17	8	8	NP	NP	11	A-1-b
1574+50 CL	0.0	5.0	19	13	12	25	31	33	11	14	A-6a*
	5.0	8.0	31	37	11	13	8	29	8	18	A-2-4
	8.0	10.0	22	22	10	15	31	46	21	19	A-7-6
	10.0	12.0	41	10	12	19	18	33	13	20	A-6a
1577+50 CL	0.0	5.0	6	32	16	24	22	30	9	13	A-4a*
	5.0	8.0	38	9	19	19	25	41	17	21	A-7-6
	8.0	11.0	63	9	9	11	9	26	7	11	A-2-4
1582+30 CL	0.0	3.0	22	6	12	30	30	30	8	15	A-4a*
1584+00 CL	0.0	4.0	0	3	10	36	51	39	17	22	A-6b
	4.0	4.5	14	7	14	34	31	33	14	32	A-6a
1586+00 CL	0.0	4.0	16	14	12	26	32	34	11	15	A-6a*
	4.0	8.0	42	16	9	20	13	24	7	10	A-2-4
1587+00 75'Rt	0.0	4.0	24	12	10	25	29	38	14	13	A-6a*
1588+00 80'Lt	0.0	5.0	14	13	10	31	32	38	13	20	A-6a*
	5.0	10.0	30	17	11	22	20	33	8	27	A-4a
	10.0	12.0	41	14	9	17	19	33	11	19	A-6a
	12.0	15.0	59	12	6	14	9	24	7	16	A-2-4
1590+75 CL	0.0	5.0	47	15	7	17	14	26	6	10	A-2-4*
1593+50 CL	0.0	4.0	0	4	31	37	28	26	9	16	A-4a*
	4.0	6.0	35	21	9	16	19	33	11	19	A-2-6
	6.0	12.0	41	29	10	10	10	NP	NP	16	A-1-b

STATION & OFFSET	DEPTH FROM	DEPTH TO	% AGG.	% C.S.	% F.S.	% SILT	% CLAY	L.L.	P.I.	% W.C.	SHTL CLASS.
1596+50 CL	0.0	3.0	53	10	7	18	12	29	10	14	A-2-4*
	3.0	8.0	41	16	9	17	17	27	9	11	A-2-4
1600+00 CL	0.0	4.0	0	3	14	37	46	36	15	29	A-6a
	4.0	7.0	0	4	15	38	43	34	13	24	A-6a
	7.0	12.0	69	9	5	9	8	33	13	17	A-2-6
	12.0	13.0	53	14	10	13	10	28	7	18	A-2-4
	13.0	16.0	26	9	16	25	24	21	3	13	A-4a
1604+50 CL	0.0	3.0	5	10	26	32	27	32	13	17	A-4a
	3.0	5.0	15	5	28	28	24	25	6	18	A-4a
	5.0	7.0	0	5	43	18	34	28	12	21	A-6a
	7.0	8.0	0	4	41	31	24	27	9	33	A-4a
	8.0	13.0	61	9	11	11	8	26	5	21	A-4b
	13.0	15.0	40	10	13	19	18	31	9	28	A-4a
	15.0	18.5	21	11	14	29	25	22	5	14	A-4a
GOSHEN LANE											
14+50 25'Rt	0.0	5.0	0	4	12	52	32	38	18	20	A-6b*
	5.0	9.0	10	2	16	37	35	24	5	17	A-4a
	9.0	10.0	15	10	13	31	31	22	8	11	A-4a
18+00 75'Lt	0.0	5.0	0	3	11	33	53	41	19	22	A-7-6
	5.0	8.0	9	9	18	31	33	29	13	15	A-6a
	8.0	10.0	28	8	13	26	25	21	6	12	A-4a
22+00 25'Rt	0.0	5.0	6	7	15	32	40	29	11	19	A-6a
	5.0	10.0	12	10	14	34	30	24	6	13	A-4a
25+00 10'Lt	0.0	5.0	9	5	9	31	46	42	20	20	A-7-6*
	5.0	10.0	9	10	17	32	32	27	10	14	A-4a

TE - 127
1800-12-66

SOIL PROFILE

FRANKLIN COUNTY

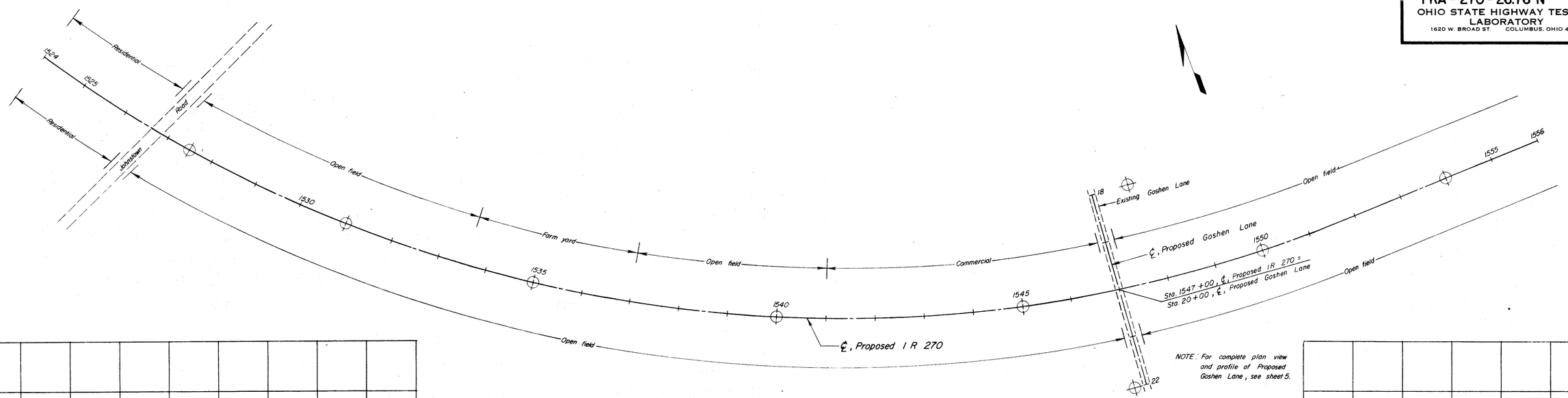
FRA - 270 - 26.76 N

OHIO STATE HIGHWAY TESTING LABORATORY

1620 W. BROAD ST. COLUMBUS, OHIO 43223

2/19

2/5



NOTE: For complete plan view and profile of Proposed Goshen Lane, see sheet 5.

TE - 127
1600-12-66

SOIL PROFILE

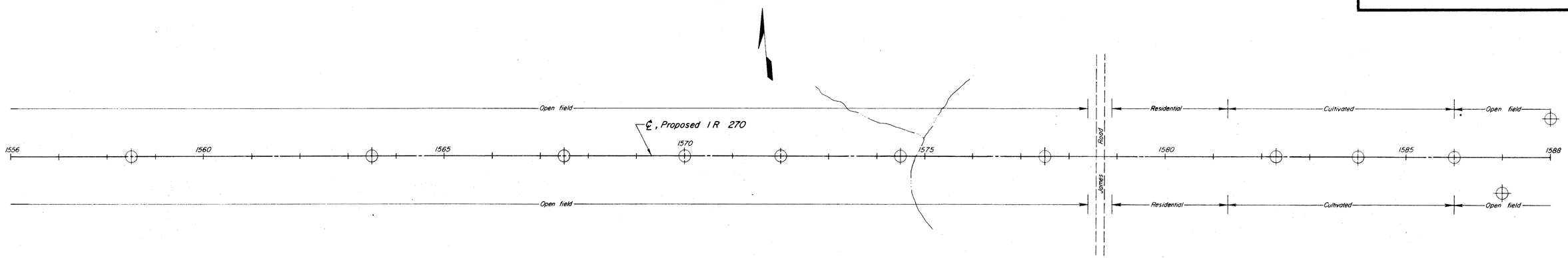
3/19

FRANKLIN COUNTY

FRA-270-26.76 N

OHIO STATE HIGHWAY TESTING LABORATORY
1620 W. BROAD ST. COLUMBUS, OHIO 43223

3/5



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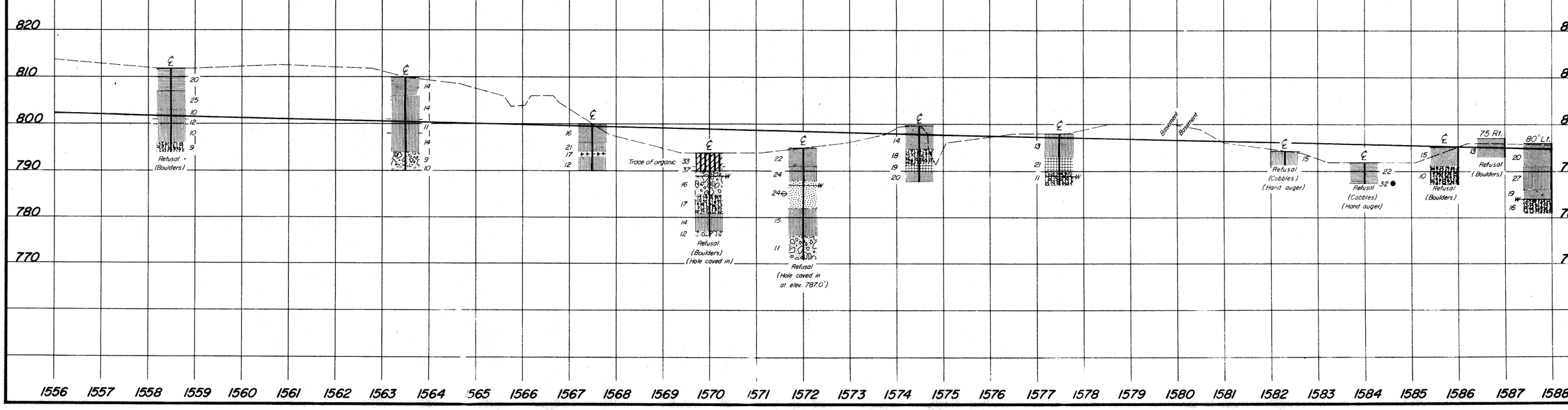


TE - 127
1600-12-68

SOIL PROFILE

FRANKLIN COUNTY

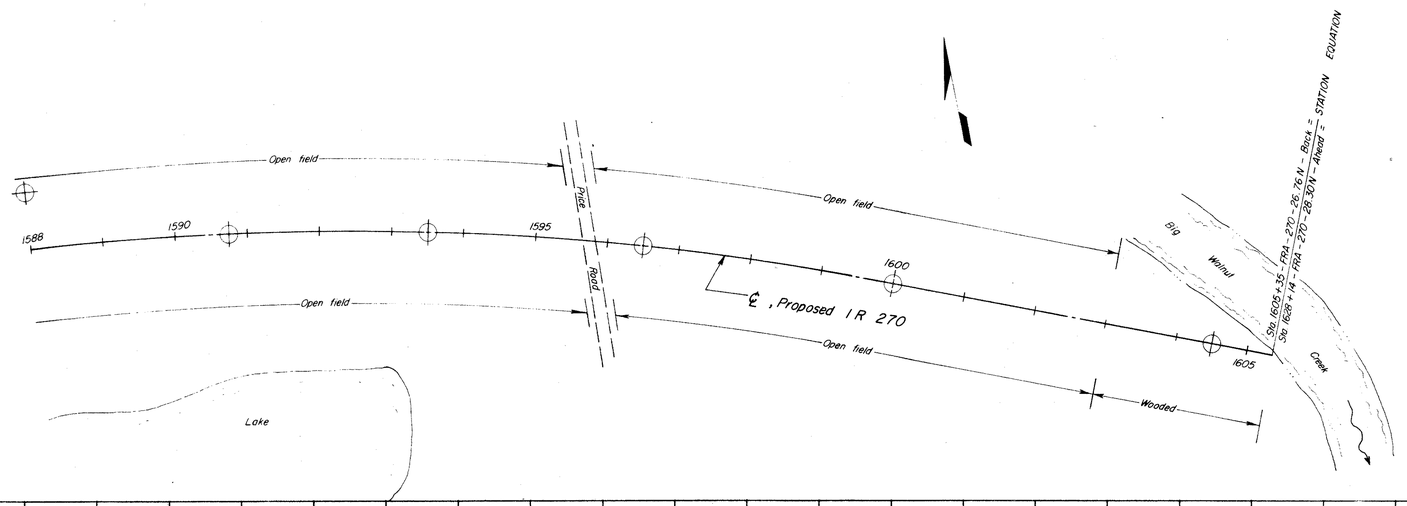
FRA-270-26.76.N

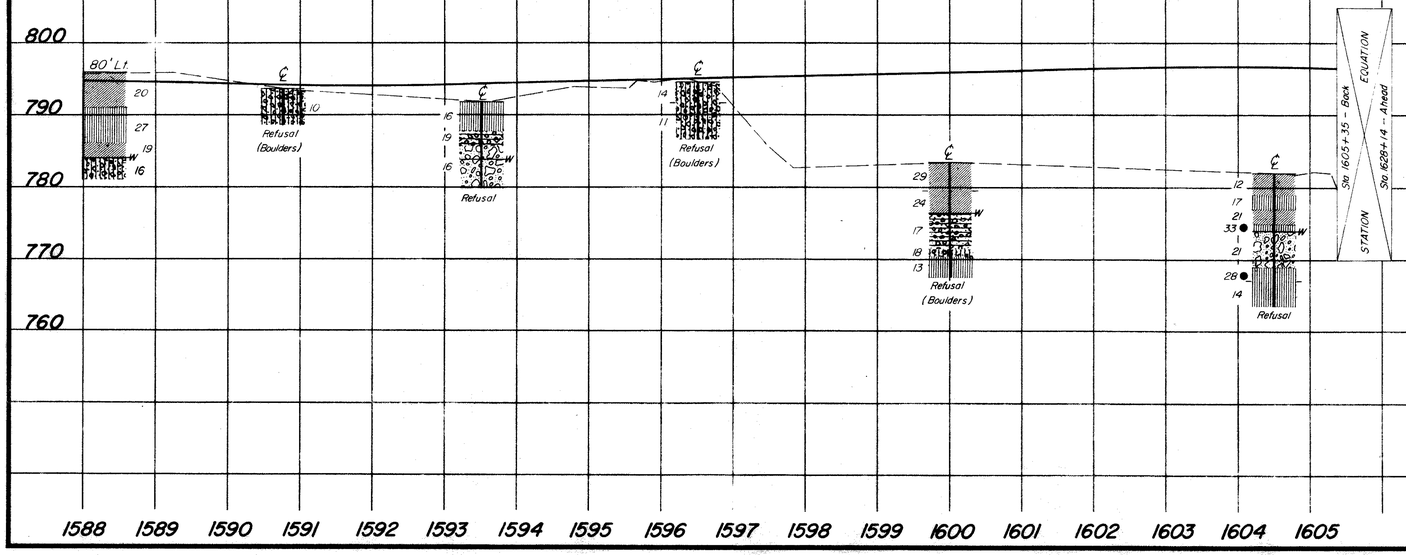
OHIO STATE HIGHWAY TESTING LABORATORY

1620 W. BROAD ST. COLUMBUS, OHIO 43223

4/19

4/5





TE - 127
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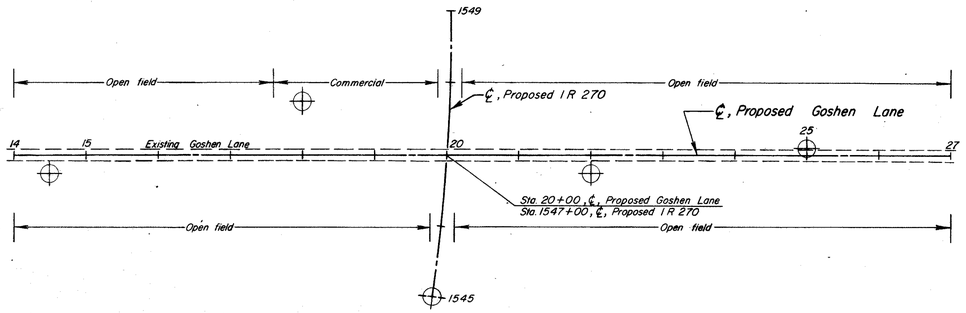


SOIL PROFILE

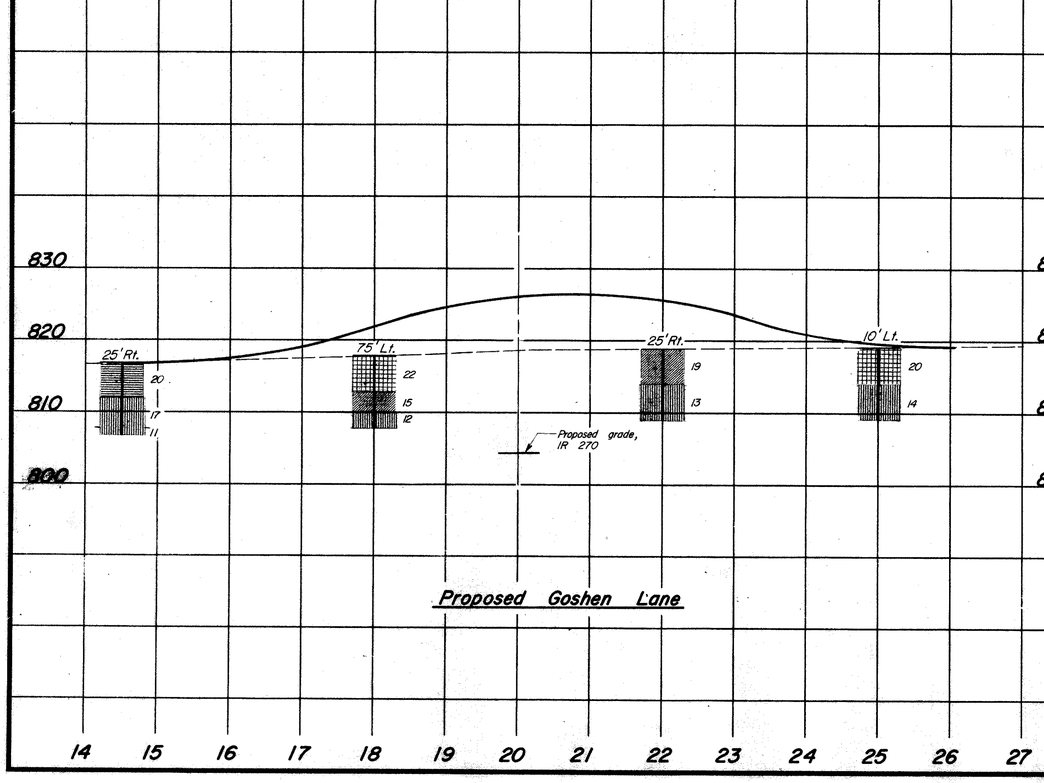
FRANKLIN COUNTY

FRA-270-26.76 N

OHIO STATE HIGHWAY TESTING LABORATORY
1620 W. BROAD ST. COLUMBUS, OHIO 43223

5/19

5/5



TE · 1 1 8
600 · 12 · 68

MICROFILMED
AUG 12 1970
REPRODUCTION

FRANKLIN COUNTY
FRA-270-26.76N

GEOLOGY OF THE SITE

THE STRUCTURE SITE IS LOCATED ON THE RELATIVELY FLAT PORTION OF THE GLACIATED MISSISSIPPI VALLEY PLAIN, IN AN AREA WHERE MODERATELY DEEP TO DEEP GLACIAL DRIFT AND ALLUVIUM OVERLIES SHALE BEDROCK, OF DEVONIAN AGE.

EXPLORATION

THE EXPLORATION CONSISTED OF ONE DRIVE SAMPLE BORING, ONE DRIVE SAMPLE-CORE BORING, AND FIVE DRIVE ROD PENETRATION TESTS, MADE BETWEEN MARCH 18 AND APRIL 10, 1969.

INVESTIGATIONAL FINDINGS

THE BORINGS ENCOUNTERED UNSTRATIFIED INTERVALS OF STIFF CLAYS AND DENSE TO VERY DENSE SANDY GRAVELLY SILTS WITH SOME INTERVALS OF GRAVELS TO BEDROCK SURFACE, ENCOUNTERED IN BORING B-8, AT 50-FOOT DEPTH, ELEVATION 767 FEET. BORING B-1 WAS TERMINATED AT 71-FOOT DEPTH, ELEVATION 746 FEET, AFTER PENETRATING IN EXCESS OF 30 FEET OF MATERIAL REQUIRING IN EXCESS OF 30 BLOWS PER FOOT IN THE STANDARD PENETRATION TEST. BORING B-8 WAS TERMINATED AT 60-FOOT DEPTH, ELEVATION 757 FEET, AFTER PENETRATING 10 FEET BELOW BEDROCK SURFACE.

ROD SOUNDINGS ENCOUNTERED GRADUAL INCREASE IN PENETRATION RESISTANCE WITH INCREASE IN DEPTH, AND WERE TERMINATED UPON ENCOUNTER WITH NEAR-REFUSAL AND REFUSAL TO PENETRATION AT 21 TO 27-FOOT DEPTHS, ELEVATIONS 796 TO 789 FEET, CONSIDERED TO BE IN DENSE MATERIALS, AS REVEALED BY THE BORINGS.

NO FREE WATER WAS ENCOUNTERED IN ANY OF THE ROD SOUNDING HOLES.

LEGEND

- Auger Boring Location - Plan View.
- Press and / or Drive Sample and / or Core Boring Location - Plan View.
- Drive Rod Penetration Resistance Sounding Location - Plan View.
- Capped Pile
- Footing
- Footing on Pile
- TR — Top of Rock
- Horizontal Bar on Boring Log Indicates the Depth the Sample Was Taken.
- X/Y — Figures Beside the Boring Log in Profile Indicate the Number of Blows for Standard Penetration Test.
  X = Number of Blows for First 6 inches.
  Y = Number of Blows for Second 6 inches.
- Drive Rod Penetration Resistance Sounding Log - Profile
- Casing
- Resistance "R" < 10,000 lbs.
- Resistance "R" > 10,000 lbs.
- Z — Indicates Final Measurement of Penetration, in Inches.
- W — Indicates Free Water Elevation.
- Indicates Static Water Elevation.

SYMBOLS OF ROCK TYPES

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

GENERAL INFORMATION

Drive Rod Penetration Sounding Tests

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

Drive Sample Borings - Drive-Press Sample Borings

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

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

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

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

Particle Size Definitions

Boulders	Cobbles	Gravel	Coarse Sand	Fine Sand	Silt	Clay
12"	3"	2.0mm (No. 10 sieve)	0.42mm (No. 40 sieve)	0.074mm (No. 200 sieve)	0.005mm	

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

OHIO DEPARTMENT OF HIGHWAYS
TESTING LABORATORY
1620 WEST BROAD STREET, COLUMBUS, OHIO 43223

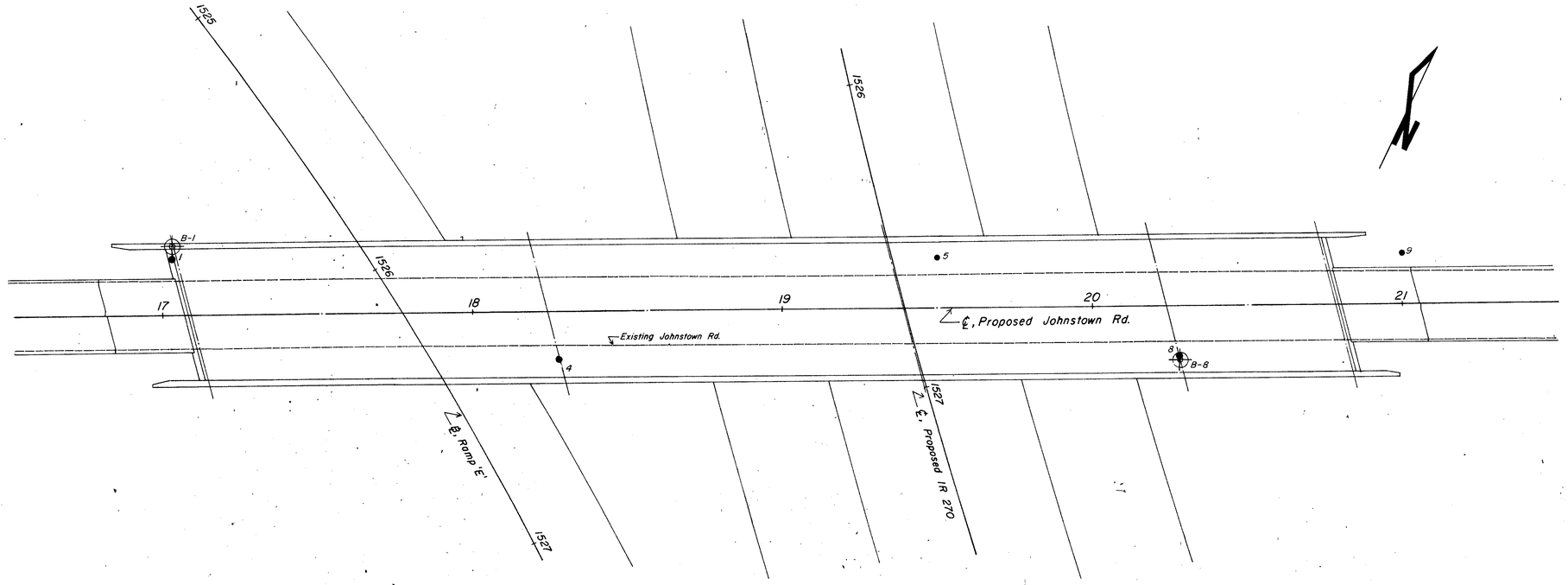
STRUCTURE FOUNDATION INVESTIGATION
BRIDGE NO. FRA-270-2680N
" UNDER JOHNSTOWN RD.
SEC. FRA-270-26.76 N

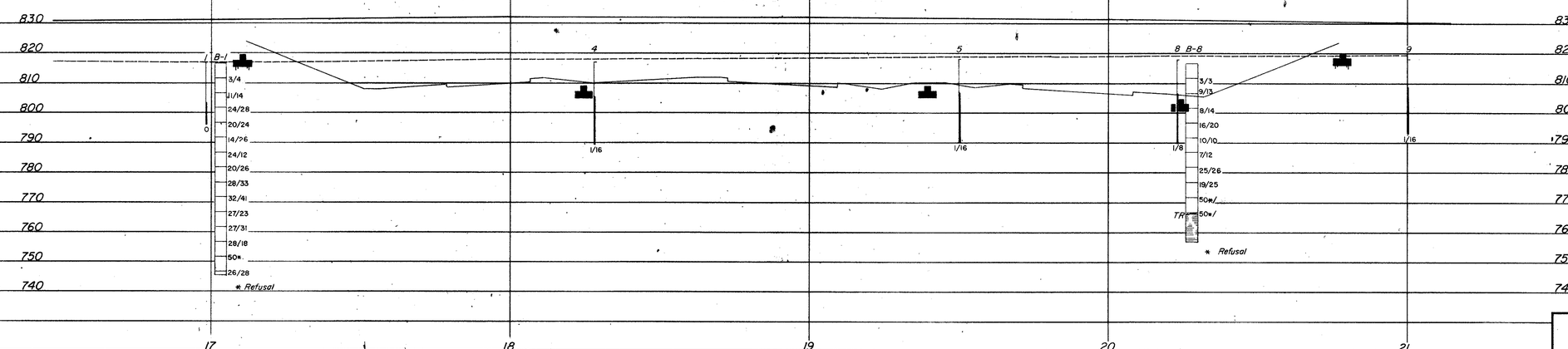
CHECKED BY	REVIEWED BY	DATE
L.N.L.	R.D.R.	4/23/69

TE - 119
1000 - 4 - 66

MICROFILMED
AUG 14 1969
MAINTENANCE

FRA-270-26.76N





SCALE: 1" = 20'

OHIO DEPARTMENT OF HIGHWAYS TESTING LABORATORY 1620 WEST BROAD STREET, COLUMBUS 23, OHIO			
STRUCTURE FOUNDATION INVESTIGATION BRIDGE NO. FRA-270-2680N UNDER JOHNSTOWN RD. SEC. FRA-270-26.76N			
PLAN AND PROFILE			
DRAWN BY L.L.L.	CHECKED BY L.N.L.	REVIEWED BY R.D.R.	DATE 4/23/69

TE - 122
600 - 4 - 66

MICROFILMED
FEB 14 1970
REPRODUCTION

8
19

FRA-270-26.76 N 3/4

LOG OF BORING

Date Started 4-8-69 | Sampler Type SS | Dia 1 3/8" | Water Elev ———
Date Completed 4-10-69 | Casing: Length ——— | Dia ———
Boring No. B-1 | Station & Offset 17+03, 22' Lt. (Rear Abutment) | Surface Elev 816.7'

Elev	Depth	Std. Pen. (N)	Rec. ft.	Loss ft.	Description	Sample No.	% Agg.	% C.S.	% F.S.	% Silt	% Clay	L.L.	P.I.	W.C.	SHTL Class.
816.7	0														
	2														
	4														
811.7	6	3/4			Brownish-Gray Gravelly Sandy Clay	1	19	8	18	19	36	31	11	20	A-6a
	8														
806.7	10	11/14			Gray Gravelly Sandy Silt	2	15	9	15	27	34	23	7	12	A-4a
	12														
801.7	14	24/28			Gray Sandy Gravelly Silt	3	26	8	11	25	30	24	8	13	A-4a
	16														
796.7	18	20/24			Gray Sandy Gravelly Silt	4	25	10	14	23	28	23	6	12	A-4a
	20														
791.7	22	14/26			Gray Gravelly Sandy Silt	5	18	9	15	27	31	23	7	12	A-4a
	24														
786.7	26	24/12			Gray Silty Sand	6	9	42	35	-14	-	NP	NP	20	A-1-b
	28														
781.7	30	20/26			Gray Gravelly Sandy Silt	7	22	6	17	31	24	20	5	12	A-4a
	32														
776.7	34	28/33			Brown Sandy Silt	8	11	8	21	28	32	22	7	11	A-4a
	36														
771.7	38	32/41			Gray Sandy Clay	9	5	5	14	32	44	31	11	15	A-6a
	40														
766.7	42	27/23			Gray Sandy Clay	10	7	3	11	33	46	29	11	14	A-6a
	44														
761.7	46	27/31			Gray Sandy Silt	11	8	6	20	34	32	22	7	12	A-4a
	48														
756.7	50	28/18			Gray Clay	12	0	0	1	15	84	49	21	25	A-7-6
	52														
751.7	54	50* (0.7')			Gray Sandy Silt	13	0	1	45	27	27	NP	NP	20	A-4a
	56														
746.7	58	26/28			Gray Sandy Silt	14	7	8	24	26	35	23	10	17	A-4a
745.7	60														

*Refusal

BOTTOM OF BORING

LOG OF BORING

Date Started 4-4-69 | Sampler Type SS | Dia 1 3/8" | Water Elev ———
Date Completed 4-8-69 | Casing: Length 35' | Dia 3 1/2"
Boring No. B-8 | Station & Offset 20+28, 17' Rt. (Forward Pier) | Surface Elev 816.9'

Elev.	Depth	Std. Pen. (N)	Rec. ft.	Loss ft.	Description	Sample No.	% Agg.	% C.S.	% F.S.	% Silt	% Clay	L.L.	P.I.	W.C.	SHTL Class.
816.9	0														
	2														
	4														
811.9	6	3/3			Brownish-Gray Sandy Silt	1	9	9	16	29	39	27	10	19	A-4a
	8														
806.9	10	9/13			Brownish-Gray Sandy Silt	2	11	11	14	31	33	23	10	14	A-4a
	12														
801.9	14	8/14			Gray Sandy Silt	3	9	10	16	33	32	20	6	13	A-4a
	16														
796.9	18	16/20			Gray Gravelly Sandy Silt	4	18	9	13	30	30	20	7	12	A-4a
	20														
791.9	22	10/10			Gray Sandy Gravelly Silt	5	30	8	12	23	27	22	8	11	A-4a
	24														
786.9	26	7/12			Gray Gravelly Sandy Silt	6	17	9	16	27	31	22	9	12	A-4a
	28														
781.9	30	25/26			Gray Silty Sandy Gravel	7	52	16	17	8	7	NP	NP	12	A-1-b
	32														
776.9	34	19/25			Gray Silty Sandy Gravel	8	55	18	9	11	7	NP	NP	7	A-1-b
	36														
771.9	38	50/*			Gray Silty Sandy Gravel	9	50	21	9	12	8	NP	NP	9	A-1-b
	40														
766.9	42				TOP OF ROCK										
766.4	44	50/5"			Gray Weathered Shale	10	17	12	13	25	33	-	-	13	Visual
	46														
	48		4.4	0.6	Shale, black, medium-firm to firm, argillaceous, carbonaceous, poorly fissile in part, jointed and broken. Core Loss 7%.										
	50														
	52		4.9	0.1											
	54														
756.9	56														
	58														
	60														

BOTTOM OF BORING

*Refusal

OHIO DEPARTMENT OF HIGHWAYS
TESTING LABORATORY
1620 WEST BROAD STREET, COLUMBUS 23, OHIO

STRUCTURE FOUNDATION INVESTIGATION
BRIDGE NO. FRA-270-2680 N
UNDER JOHNSTOWN RD.
SEC. FRA-270-26.76 N

BORING DATA

TYPED BY	CHECKED BY	REVIEWED BY	DATE
S.A.J.	L.N.L.	R.D.R.	4/23/69

MICROFILMED
AUG 14 1970
REPRODUCTION

FRA-270-26.76N

4
4

Test Location No. ____
Station & Offset ____
Surface Elev. ____ Water Elev. ____
Piling ____
Hammer ____
Formula ____
Reference ____
Rod Condition ____

822 818 814 810 806 802 798 794 790 786

10 20 30 40 50 60 70 80 90 100
Capacity "R" in Thousands of Pounds

Test Location No. ____
Station & Offset ____
Surface Elev. ____ Water Elev. ____
Piling ____
Hammer ____
Formula ____
Reference ____
Rod Condition ____

10 20 30 40 50 60 70 80 90 100
Capacity "R" in Thousands of Pounds

Test Location No. ____
Station & Offset ____
Surface Elev. ____ Water Elev. ____
Piling ____
Hammer ____
Formula ____
Reference ____
Rod Condition ____

10 20 30 40 50 60 70 80 90 100
Capacity "R" in Thousands of Pounds

Test Location No. 1
Station & Offset 17+03.18'LT
REAR ABUTMENT
Surface Elev. 817.0 Water Elev. ____
Piling ____
Hammer ____
Formula ____
Reference ____
Rod Condition ____

TEST ROD

10 20 30 40 50 60 70 80 90 100
Capacity "R" in Thousands of Pounds

Test Location No. 4
Station & Offset 18+28.16'RT
REAR PIER
Surface Elev. 817.2 Water Elev. ____
Piling ____
Hammer ____
Formula ____
Reference ____
Rod Condition GOOD

814 810 806 802 798 794 790 786

TEST ROD

10 20 30 40 50 60 70 80 90 100
Capacity "R" in Thousands of Pounds

Test Location No. 5
Station & Offset 19+50.16'LT
CENTER PIER
Surface Elev. 818.0 Water Elev. ____
Piling ____
Hammer ____
Formula ____
Reference ____
Rod Condition ____

TEST ROD

10 20 30 40 50 60 70 80 90 100
Capacity "R" in Thousands of Pounds

Test Location No. 8
Station & Offset 20+28.16'RT
FORWARD PIER
Surface Elev. 818.0 Water Elev. ____
Piling ____
Hammer ____
Formula ____
Reference ____
Rod Condition POINT BENT

TEST ROD

10 20 30 40 50 60 70 80 90 100
Capacity "R" in Thousands of Pounds

Test Location No. 9
Station & Offset 21+00.16'LT
FORWARD ABUTMENT
Surface Elev. 818.0 Water Elev. ____
Piling ____
Hammer ____
Formula ____
Reference ____
Rod Condition ____

814 810 806 802 798 794 790 786

TEST ROD

10 20 30 40 50 60 70 80 90 100
Capacity "R" in Thousands of Pounds

OHIO STATE HIGHWAY
TESTING LABORATORY
1620 WEST BROAD ST. COLUMBUS 23, OHIO

STRUCTURE FOUNDATION INVESTIGATION
BRIDGE NO. FRA-270-2680N
UNDER JOHNSTOWN RD.
SEC. FRA-270-26.76N

DRIVE ROD PENETRATION RESISTANCE DATA

PLOTTED BY	CHECKED BY	REVIEWED BY	DATE
R.C.	L.N.L.	R.D.R.	4/23/69

TE - 1 1 8
600 - 12 - 68

MICROFILMED
AUG 14 1970
REPRODUCTION

GEOLOGY OF THE SITE

THE STRUCTURE SITE IS LOCATED ON THE RELATIVELY FLAT PORTION OF THE GLACIATED MISSISSIPPI VALLEY PLAIN, IN AN AREA WHERE MODERATELY DEEP TO DEEP GLACIAL DRIFT AND ALLUVIUM OVERLIE SHALE BEDROCK, OF DEVONIAN AGE.

EXPLORATION

THE EXPLORATION CONSISTED OF TWO DRIVE SAMPLE-CORE BORINGS, MADE BETWEEN APRIL 11 AND 17, 1969, AND FOUR DRIVE ROD PENETRATION TESTS, MADE ON MARCH 18 AND 19, 1969.

INVESTIGATIONAL FINDINGS

THE BORINGS ENCOUNTERED UNSTRATIFIED INTERVALS OF STIFF CLAYS AND DENSE TO VERY DENSE SANDY GRAVELLY SILTS WITH SOME INTERVALS OF GRAVELS TO BEDROCK SURFACE, ENCOUNTERED AT 50 AND 55-FOOT DEPTHS, ELEVATIONS 768 AND 763 FEET. THE BORINGS WERE TERMINATED AT 56 AND 60-FOOT DEPTHS, ELEVATIONS 763 AND 758 FEET, AFTER PENETRATING 5 FEET BELOW BEDROCK SURFACE.

ROD SOUNDINGS ENCOUNTERED GRADUAL INCREASE IN PENETRATION RESISTANCE WITH INCREASE IN DEPTH, AND WERE TERMINATED UPON ENCOUNTER WITH HIGH RESISTANCE TO PENETRATION AT 28 TO 37-FOOT DEPTHS, ELEVATIONS 790 TO 779 FEET, CONSIDERED TO BE IN DENSE MATERIALS, AS REVEALED BY THE BORINGS.

NO FREE WATER WAS ENCOUNTERED IN ANY OF THE ROD SOUNDING HOLES.

LEGEND

- Auger Boring Location - Plan View.
- Press and / or Drive Sample and / or Core Boring Location - Plan View.
- Drive Rod Penetration Resistance Sounding Location - Plan View.
- Capped Pile
- Footing
- Footing on Pile
- TR — Top of Rock
- Horizontal Bar on Boring Log Indicates the Depth the Sample Was Taken.
- X/Y — Figures Beside the Boring Log in Profile Indicate the Number of Blows for Standard Penetration Test.
  X = Number of Blows for First 6 inches.
  Y = Number of Blows for Second 6 inches.
- Drive Rod Penetration Resistance Sounding Log → Profile
- Casing
- Resistance "R" < 10,000 lbs.
- Resistance "R" > 10,000 lbs.
- Z — Indicates Final Measurement of Penetration, in Inches.
- W — Indicates Free Water Elevation.
- Indicates Static Water Elevation.

SYMBOLS OF ROCK TYPES

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

GENERAL INFORMATION

Drive Rod Penetration Sounding Tests

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

Drive Sample Borings - Drive-Press Sample Borings

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

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

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

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

Particle Size Definitions

Boulders	Cobbles	Gravel	Coarse Sand	Fine Sand	Silt	Clay
12"	3"	2.0mm (No. 10 sieve)	0.42mm (No. 40 sieve)	0.074mm (No. 200 sieve)		0.005mm

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

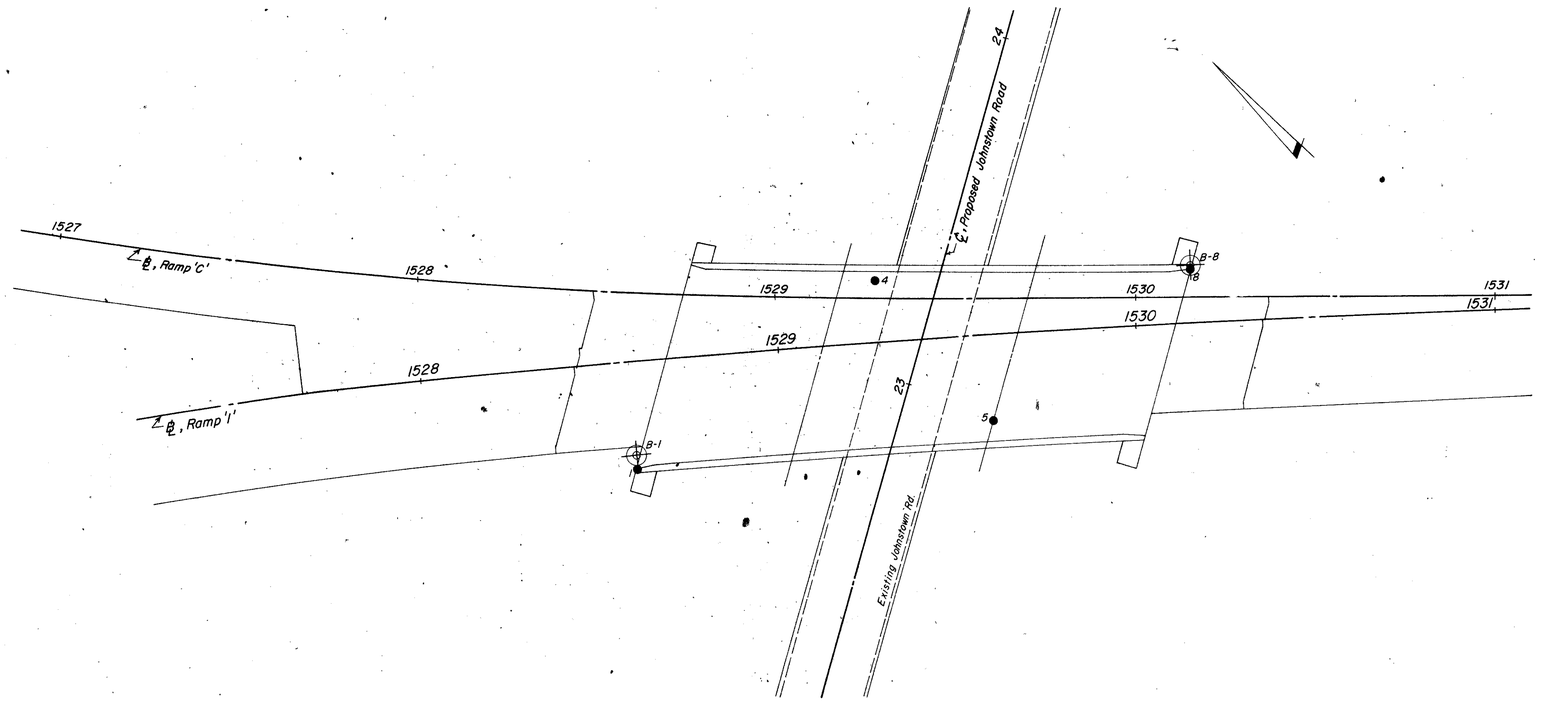
OHIO DEPARTMENT OF HIGHWAYS
TESTING LABORATORY
1620 WEST BROAD STREET, COLUMBUS, OHIO 43223

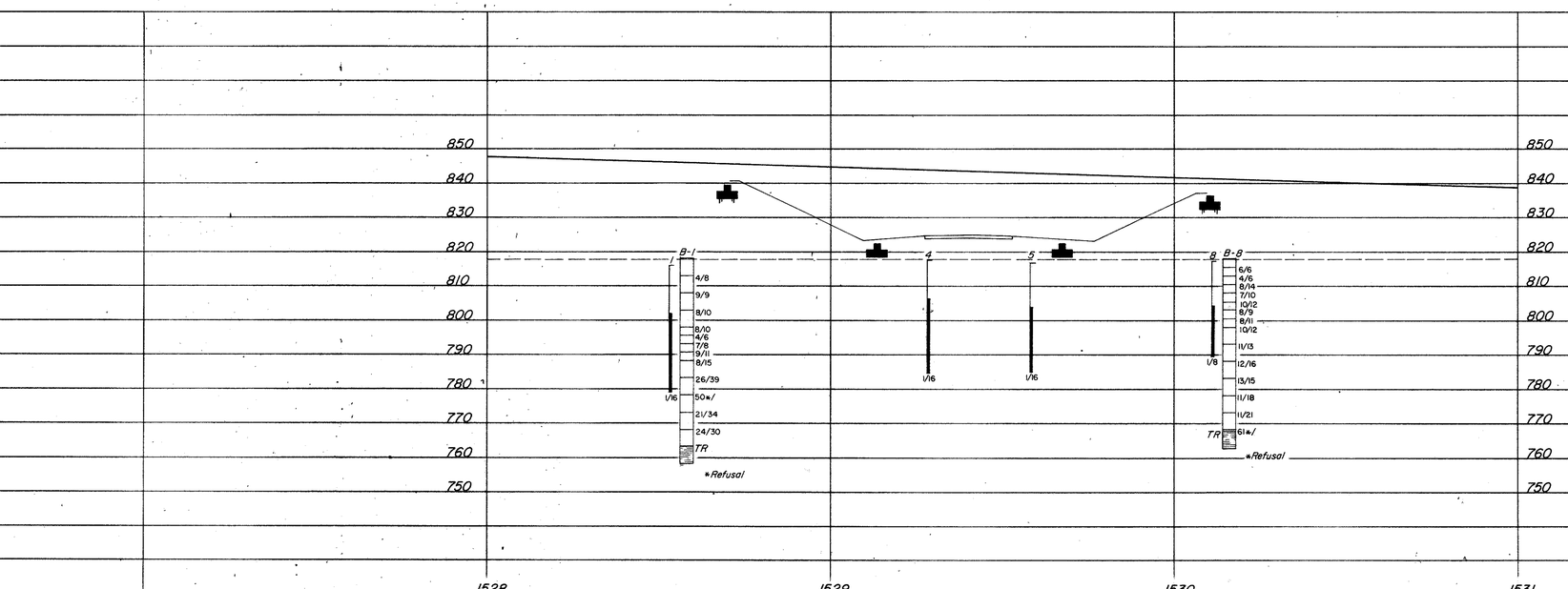
STRUCTURE FOUNDATION INVESTIGATION
BRIDGE NO. FRA-270-2685 N
RAMP 'I' OVER JOHNSTOWN ROAD
SEC. FRA-270-26.76 N

CHECKED BY	REVIEWED BY	DATE
L.N.L.	R.D.R.	5/6/69

TE - 119
1000 - 4 - 66

MICROFILMED
AUG 14 1979
REPRODUCTION





SCALE: 1" = 20'

OHIO DEPARTMENT OF HIGHWAYS
TESTING LABORATORY
1620 WEST BROAD STREET, COLUMBUS 23, OHIO

STRUCTURE FOUNDATION INVESTIGATION
BRIDGE NO. FRA-270-2685 N
RAMP 'I' OVER JOHNSTOWN ROAD
SEC. FRA-270-26.76 N

PLAN AND PROFILE

DRAWN BY	CHECKED BY	REVIEWED BY	DATE
J.E.C.	L.N.L.	R.D.R.	5/6/69

TE - 122
600 - 4 - 66

MICROFILMED
AUG 14 1979
REPRODUCTION

12/19

FRA-270-26.76 N 3/4

LOG OF BORING

Date Started 4-15-69 | Sampler Type SS | Dia 1 3/8"
Date Completed 4-17-69 | Casing: Length 55' | Dia 3 1/2"
Boring No. B-2 | Station & Offset 1528+58, 26' Rt. (Rear Abutment)
Water Elev. ———— | Surface Elev. 818.0'

Elev.	Depth	Std. Pen. (N)	Rec. ft.	Loss ft.	Description	Sample No.	% Agg.	% C.S.	% F.S.	% Silt	% Clay	L.L.	P.I.	W.C.	SHTL Class.
818.0	0														
	2														
	4														
813.0	6	4/8			Brown Sandy Clay	1	10	10	14	25	41	31	12	20	A-6a
	8														
808.0	10	9/9			Gray Gravelly Sandy Clay	2	22	9	13	25	31	25	11	12	A-6a
	12														
	14														
803.0	16	8/10			Gray Sandy Silt	3	12	10	15	29	34	23	7	13	A-4a
	18														
798.0	20	8/10			Gray Sandy Gravelly Silt	4	24	9	12	23	32	23	8	13	A-4a
795.5	22	4/6			Gray Sandy Silt	5	12	8	17	28	35	23	9	14	A-4a
793.0	24	7/8			Gray Sandy Silt	6	14	11	16	26	33	23	10	13	A-4a
790.5	26	9/11			Gray Sandy Silt	7	14	11	15	35	25	23	10	12	A-4a
788.0	28	8/15			Gray Sandy Silt	8	11	13	16	27	33	23	6	12	A-4a
	30														
783.0	32	26/39			Gray Silt	9	6	3	10	66	15	NP	NP	19	A-4b
	34														
778.0	36														
	38														
	40	50*/ (0.3')			Gray Silty Sandy Gravel	10	45	22	11	11	11	NP	NP	7	A-1-b
773.0	42														
	44	21/34			Gray Silty Sandy Gravel	11	54	20	10	7	9	NP	NP	7	A-1-b
768.0	46														
	48	24/30			Gray Silty Sandy Gravel	12	48	22	11	9	10	NP	NP	8	A-1-b
763.0	50				TOP OF ROCK										
	52														
	54														
	56		5.0	0.0	Shale, black, medium-firm to firm, argillaceous, slightly arenaceous, carbonaceous, jointed, broken, thin-bedded. No Core Loss.										
758.0	58														
	60														

*Refusal

BOTTOM OF BORING

LOG OF BORING

Date Started 4-11-69 | Sampler Type SS | Dia 1 3/8"
Date Completed 4-14-69 | Casing: Length 30' | Dia 3 1/2"
Boring No. B-8 | Station & Offset 1530+16, 16' Lt. (Forward Abutment)
Water Elev. ———— | Surface Elev. 818.0'

Elev.	Depth	Std. Pen. (N)	Rec. ft.	Loss ft.	Description	Sample No.	% Agg.	% C.S.	% F.S.	% Silt	% Clay	L.L.	P.I.	W.C.	SHTL Class.
818.0	0														
815.5	2														
	4	6/6			Brown Sandy Silt	1	9	10	17	29	35	25	7	10	A-4a
813.0	6	4/6			Brown Gravelly Sandy Silt	2	16	7	13	28	36	26	8	16	A-4a
810.5	8	8/14			Brown Gravelly Sandy Silt	3	17	10	16	24	33	23	8	14	A-4a
808.0	10	7/10			Gray Gravelly Sandy Silt	4	-	-	-	-	-	-	-	14	Visual
805.5	12	10/12			Gray Gravelly Sandy Silt	5	15	16	14	25	30	22	8	14	A-4a
803.0	14	8/9			Gray Sandy Silt	6	5	6	19	38	32	NP	NP	16	A-4a
800.5	16	8/11			Gray Sandy Silt	7	0	5	21	37	37	NP	NP	18	A-4a
798.0	18	10/12			Gray Gravelly Sandy Silt	8	19	5	31	21	24	NP	NP	14	A-4a
	20														
793.0	22	11/13			Gray Silty Clay	9	0	0	2	10	88	42	18	26	A-7-6
	24														
788.0	26	12/16			Gray Silt and Clay	10	0	2	3	33	62	32	12	20	A-6a
	28														
783.0	30	13/15			Brownish-Gray Silt and Clay	11	0	4	5	26	65	35	11	21	A-6a
	32														
778.0	34	11/18			Brownish-Gray Silt and Clay	12	0	7	4	28	61	34	13	20	A-6a
	36														
773.0	38	11/21			Gray Silt and Clay	13	0	13	5	30	52	34	11	22	A-6a
	40				TOP OF ROCK										
768.0	42	61*/ (0.3')			Gray Broken Shale	14	-	-	-	-	-	31	9	10	Visual
767.7	44		4.1	0.6	Shale, black, medium-firm, argillaceous, slightly arenaceous, carbonaceous, thin-bedded, jointed, badly broken. Core Loss 12%.										
762.7	46														
	48														
	50														
	52														
	54														

*Refusal

BOTTOM OF BORING

OHIO DEPARTMENT OF HIGHWAYS
TESTING LABORATORY
1620 WEST BROAD STREET, COLUMBUS 23, OHIO

STRUCTURE FOUNDATION INVESTIGATION
BRIDGE NO. FRA-270-2685 N
RAMP 'I' OVER JOHNSTOWN ROAD
SEC. FRA-270-26.76 N

BORING DATA

TYPED BY	CHECKED BY	REVIEWED BY	DATE
S.A.J.	L.N.L.	R.D.R.	5/6/69

MICROFILMED
AUG 14 1975
REPRODUCTION

13
19
4/4

FRA-270-26.76 N

Test Location No. —
Station & Offset —
Surface Elev. — Water Elev. —
Piling —
Hammer —
Formula —
Reference —
Rod Condition —

Capacity "R" in Thousands of Pounds

Test Location No. —
Station & Offset —
Surface Elev. — Water Elev. —
Piling —
Hammer —
Formula —
Reference —
Rod Condition —

Capacity "R" in Thousands of Pounds

Test Location No. —
Station & Offset —
Surface Elev. — Water Elev. —
Piling —
Hammer —
Formula —
Reference —
Rod Condition —

Capacity "R" in Thousands of Pounds

Test Location No. —
Station & Offset —
Surface Elev. — Water Elev. —
Piling —
Hammer —
Formula —
Reference —
Rod Condition —

Capacity "R" in Thousands of Pounds

Test Location No. 1
Station & Offset 1528+58.30' RT
REAR ABUTMENT
Surface Elev. 816.0' Water Elev. —
Piling —
Hammer —
Formula —
Reference —
Rod Condition —

TEST ROD

Capacity "R" in Thousands of Pounds

Test Location No. 4
Station & Offset 1529+28.17' LT
REAR PIER
Surface Elev. 817.8 Water Elev. —
Piling —
Hammer —
Formula —
Reference —
Rod Condition —

TEST ROD

Capacity "R" in Thousands of Pounds

Test Location No. 5
Station & Offset 1529+58.24' RT
FORWARD PIER
Surface Elev. 817.0' Water Elev. —
Piling —
Hammer —
Formula —
Reference —
Rod Condition —

TEST ROD

Capacity "R" in Thousands of Pounds

Test Location No. 8
Station & Offset 1530+16.15' LT
FORWARD ABUTMENT
Surface Elev. 817.5' Water Elev. —
Piling —
Hammer —
Formula —
Reference —
Rod Condition —

TEST ROD

Capacity "R" in Thousands of Pounds

OHIO STATE HIGHWAY
TESTING LABORATORY
1620 WEST BROAD ST. COLUMBUS 23, OHIO

STRUCTURE FOUNDATION INVESTIGATION
BRIDGE NO. FRA-270-2685 N
RAMP 'I' OVER JOHNSTOWN ROAD
SEC. FRA-270-26.76 N

DRIVE ROD PENETRATION RESISTANCE DATA

PLOTTED BY	CHECKED BY	REVIEWED BY	DATE
R.C.	L.N.L.	R.D.R.	5/6/69

H. COLE CO. -80M-10-67-1000

TE - 1 1 8
600 - 12 - 68

MICROFILMED
AUG 14 1979
REPRODUCTION

FRANKLIN COUNTY
FRA-270-26.76 N

GEOLOGY OF THE SITE

THE STRUCTURE SITE IS LOCATED ON THE RELATIVELY FLAT PORTION OF THE GLACIATED MISSISSIPPI VALLEY PLAIN, IN AN AREA WHERE MODERATELY DEEP TO DEEP GLACIAL DRIFT AND ALLUVIUM OVERLIES SHALE BEDROCK, OF DEVONIAN AGE.

EXPLORATION

THE EXPLORATION CONSISTED OF TWO DRIVE SAMPLE BORINGS AND FIVE DRIVE ROD PENETRATION TESTS, MADE BETWEEN MARCH 13 AND APRIL 3, 1969.

INVESTIGATIONAL FINDINGS

THE BORINGS ENCOUNTERED UNSTRATIFIED INTERVALS OF STIFF CLAYS AND DENSE TO VERY DENSE SANDY GRAVELLY SILTS WITH SOME INTERVALS OF GRAVELS AND COBBLES. THE BORINGS WERE TERMINATED AT 51 AND 56-FOOT DEPTHS, ELEVATIONS 767 AND 763 FEET, AFTER PENETRATING IN EXCESS OF 25 FEET OF MATERIAL REQUIRING IN EXCESS OF 30 BLOWS PER FOOT IN THE STANDARD PENETRATION TEST.

ROD SOUNDINGS ENCOUNTERED GRADUAL INCREASE IN PENETRATION RESISTANCE WITH INCREASE IN DEPTH, AND WERE TERMINATED UPON ENCOUNTER WITH NEAR-REFUSAL AND REFUSAL TO PENETRATION AT 21 TO 34-FOOT DEPTHS, ELEVATIONS 797 TO 784 FEET, CONSIDERED TO BE IN DENSE MATERIALS, AS REVEALED BY THE BORINGS.

NO FREE WATER WAS ENCOUNTERED IN ANY OF THE ROD SOUNDING HOLES.

NO TEST PENETRATED TO BEDROCK SURFACE.

LEGEND

- Auger Boring Location - Plan View.
- Press and / or Drive Sample and / or Core Boring Location - Plan View.
- Drive Rod Penetration Resistance Sounding Location - Plan View.
- Capped Pile
- Footing
- Footing on Pile
- TR — Top of Rock
- Horizontal Bar on Boring Log Indicates the Depth the Sample Was Taken.
- X/Y — Figures Beside the Boring Log in Profile Indicate the Number of Blows for Standard Penetration Test. X = Number of Blows for First 6 inches. Y = Number of Blows for Second 6 inches.
- Drive Rod Penetration Resistance Sounding Log - Profile
- Casing
- Resistance "R" < 10,000 lbs.
- Resistance "R" > 10,000 lbs.
- Z — Indicates Final Measurement of Penetration, in Inches.
- W — Indicates Free Water Elevation.
- Indicates Static Water Elevation.

SYMBOLS OF ROCK TYPES

- Coal
- Weathered Siltstone, Mudstone, or Claystone
- Siltstone, Mudstone, or Claystone
- Weathered Shale
- Shale
- Boulders or Cobbles
- Weathered Sandstone
- Sandstone

LOG OF BORING

Date Started 3-27-69 — Sampler Type SS — Dia 1 3/8" — Water Elev —
Date Completed 4-1-69 — Casing Length 40' — Dia 3 1/2"
Boring No. B-2 — Station & Offset 17+87, 19' Lt. (Rear Abutment) — Surface Elev 817.8'

Elev.	Depth	Std. Pen. (N)	Rec. ft.	Loss ft.	Description	Sample No.	Physical Characteristics: % Agg.	% C.S.	% F.S.	% Silt	% Clay	L.L.	P.I.	W.C.	SHTL Class.
817.8	0														
	2														
	4														
812.8	6	9/8			Brown Gravelly Sandy Silt	1	18	9	18	22	33	22	8	10	A-4a
	8														
807.8	10	24/26			Gray Gravelly Sandy Silt	2	19	11	15	24	31	21	7	10	A-4a
	12														
	14														
802.8	16	16/19			Gray Sandy Gravelly Silt	3	23	8	12	21	36	20	5	12	A-4a
	18														
797.8	20	19/29			Gray Sandy Gravelly Silt	4	26	10	11	21	32	25	7	12	A-4a
	22														
	24														
792.8	26	30/38			Gray Gravelly Sandy Clay	5	15	9	14	24	38	27	11	10	A-6a
	28														
787.8	30	19/16			Gray Gravelly Sandy Clay	6	17	9	13	21	40	28	11	12	A-6a
	32														
	34														
782.8	36	34/31			Gray Gravelly Sandy Clay	7	-	-	-	-	-	-	-	10	Visual
	38														
777.8	40														
		36/43			Gray Sandy Gravelly Silt	8	28	2	25	20	25	NP	NP	16	A-4a
	42														
	44														
772.8	46	24/29			Gray Silty Gravelly Sand	9	25	14	28	33	-	NP	NP	13	A-2-4a
	48														
767.8	50														
766.8		38/44			Gray Sandy Silt	10	0	3	31	66	-	NP	NP	19	A-4a

BOTTOM OF BORING

LOG OF BORING

Date Started 4-2-69 — Sampler Type SS — Dia 1 3/8" — Water Elev —
Date Completed 4-3-69 — Casing Length 55' — Dia 3 1/2"
Boring No. B-7 — Station & Offset 20+77, 11' Rt. (Forward Pier) — Surface Elev 818.6'

Elev.	Depth	Std. Pen. (N)	Rec. ft.	Loss ft.	Description	Sample No.	Physical Characteristics: % Agg.	% C.S.	% F.S.	% Silt	% Clay	L.L.	P.I.	W.C.	SHTL Class.
818.6	0														
	2														
	4														
813.6	6	5/7			Brown Sandy Clay	1	12	14	20	19	35	33	15	12	A-6a
	8														
808.6	10	9/7			Gray Sandy Silt	2	12	9	16	24	39	24	8	13	A-4a
	12														
	14														
803.6	16	9/8			Gray Gravelly Sandy Silt	3	20	8	13	25	34	25	9	13	A-4a
	18														
798.6	20	13/16			Gray Sandy Silt	4	13	9	19	25	34	20	5	10	A-4a
	22														
	24														
793.6	26	8/9			Gray Gravelly Sandy Clay	5	15	9	15	23	38	27	11	12	A-6a
	28														
788.6	30	50/*			Gray Sandy Gravelly Clay with Cobbles	6	38	7	11	14	30	-	-	11	-
	32														
	34														
783.6	36	28/39			Gray Sandy Gravel with Cobbles	7	37	8	10	16	29	25	9	12	A-4a
	38														
778.6	40														
		33/46			Gray Silty Sandy Gravel	8	43	21	12	8	16	NP	NP	10	A-1-b
	42														
	44														
773.6	46	36/42			Gray Silty Gravelly Sand	9	37	21	23	19	-	NP	NP	12	A-1-b
	48														
768.6	50														
	52	28/41			Gray Silty Sandy Gravel	10	39	12	18	13	18	-	-	16	-
	54														
763.6	56														
762.6		38/47			Gray Sandy Gravelly Silt	11	26	9	12	17	36	23	7	13	A-4a

*Refusal

BOTTOM OF BORING

GENERAL INFORMATION

Drive Rod Penetration Sounding Tests

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

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

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Particle Size Definitions

Boulders	Cobbles	Gravel	Coarse Sand	Fine Sand	Silt	Clay
12"	3"	2.0mm (No. 10 sieve)	0.42mm (No. 40 sieve)	0.074mm (No. 200 sieve)		0.005mm

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

OHIO DEPARTMENT OF HIGHWAYS
TESTING LABORATORY
1620 WEST BROAD STREET, COLUMBUS, OHIO 43223

STRUCTURE FOUNDATION INVESTIGATION
BRIDGE NO. FRA-270-2719 N
UNDER GOSHEN LANE
SEC. FRA-270-26.76 N

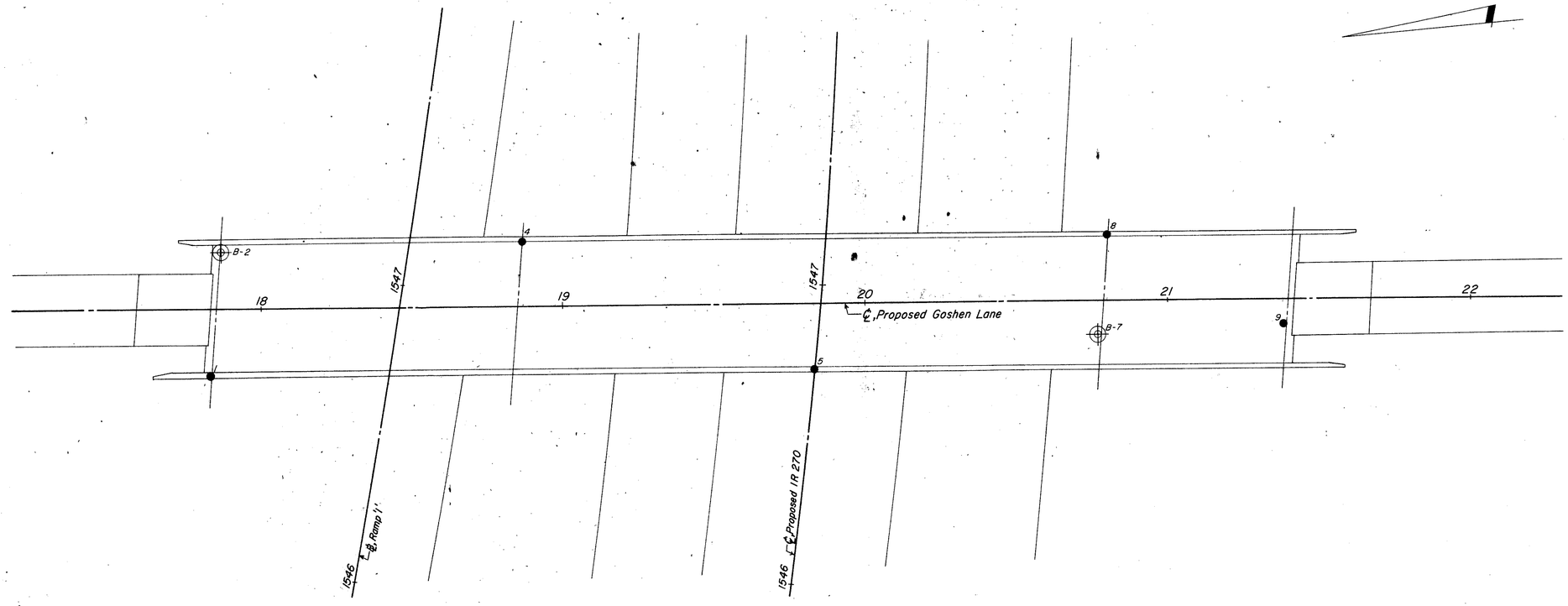
CHECKED BY	REVIEWED BY	DATE
L.N.L.	R.D.R.	4/17/69

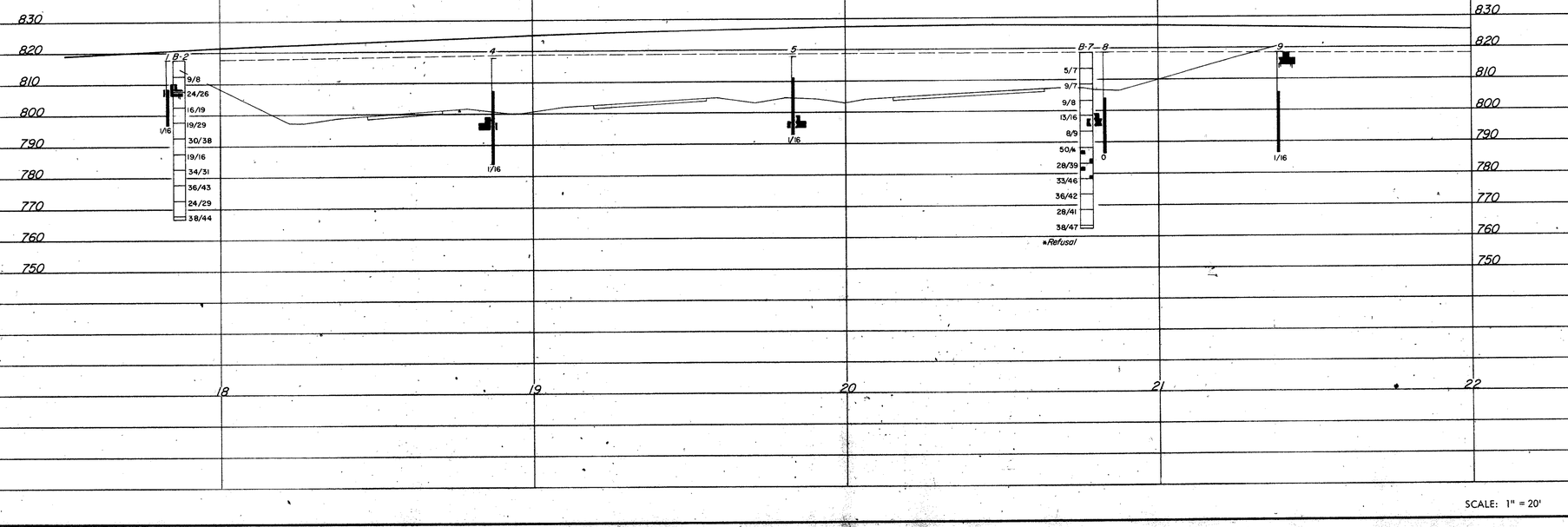
TE - 119
1000 - 4 - 66

MICROFILMED
AUG 1 & 1969
REPRODUCTION

15/19

FRA-270-26.76 N (2/3)





SCALE: 1" = 20'

OHIO DEPARTMENT OF HIGHWAYS
TESTING LABORATORY
1620 WEST BROAD STREET, COLUMBUS 23, OHIO

STRUCTURE FOUNDATION INVESTIGATION
BRIDGE NO. FRA-270-2719 N
UNDER GOSHEN LANE
SEC. FRA-270-26.76 N

PLAN AND PROFILE

DRAWN BY	CHECKED BY	REVIEWED BY	DATE
J.E.C.	L.N.L.	R.D.R.	4/17/69

MICROFILMED
AUG 14 1969
REPRODUCTION

Test Location No. ____
Station & Offset ____
Surface Elev. ____ Water Elev. ____
Piling ____
Hammer ____
Formula ____
Reference ____
Rod Condition ____

823 819 815 811 807 803 799 795 791 787 783

10 20 30 40 50 60 70 80 90 100
Capacity "R" in Thousands of Pounds

Test Location No. ____
Station & Offset ____
Surface Elev. ____ Water Elev. ____
Piling ____
Hammer ____
Formula ____
Reference ____
Rod Condition ____

10 20 30 40 50 60 70 80 90 100
Capacity "R" in Thousands of Pounds

Test Location No. ____
Station & Offset ____
Surface Elev. ____ Water Elev. ____
Piling ____
Hammer ____
Formula ____
Reference ____
Rod Condition ____

10 20 30 40 50 60 70 80 90 100
Capacity "R" in Thousands of Pounds

Test Location No. 1
Station & Offset 17+83 22'RT
REAR ABUTMENT
Surface Elev. 817.6 Water Elev. ____
Piling ____
Hammer ____
Formula ____
Reference ____
Rod Condition ____

TEST ROD

10 20 30 40 50 60 70 80 90 100
Capacity "R" in Thousands of Pounds

Test Location No. 4
Station & Offset 18+87 22'LT
REAR PIER
Surface Elev. 818.0' Water Elev. ____
Piling ____
Hammer ____
Formula ____
Reference ____
Rod Condition ____

815 811 807 803 799 795 791 787 783

TEST ROD

10 20 30 40 50 60 70 80 90 100
Capacity "R" in Thousands of Pounds

Test Location No. 5
Station & Offset 19+83 22'RT
CENTER PIER
Surface Elev. 818.0' Water Elev. ____
Piling ____
Hammer ____
Formula ____
Reference ____
Rod Condition ____

TEST ROD

10 20 30 40 50 60 70 80 90 100
Capacity "R" in Thousands of Pounds

Test Location No. 8
Station & Offset 20+80 22'LT
FORWARD PIER
Surface Elev. 818.8' Water Elev. ____
Piling ____
Hammer ____
Formula ____
Reference ____
Rod Condition ____

TEST ROD

10 20 30 40 50 60 70 80 90 100
Capacity "R" in Thousands of Pounds

Test Location No. 9
Station & Offset 21+38 8'RT
FORWARD ABUTMENT
Surface Elev. 818.9 Water Elev. ____
Piling ____
Hammer ____
Formula ____
Reference ____
Rod Condition ____

FRA-270-26.76N

815 811 807 803 799 795 791 787 783

TEST ROD

10 20 30 40 50 60 70 80 90 100
Capacity "R" in Thousands of Pounds

16
19
3
3

OHIO STATE HIGHWAY TESTING LABORATORY
1620 WEST BROAD ST. COLUMBUS 23, OHIO

STRUCTURE FOUNDATION INVESTIGATION
BRIDGE NO. FRA-270-2719 N
UNDER GOSHEN LANE
SEC. FRA-270-26.76 N

DRIVE ROD PENETRATION RESISTANCE DATA

PLOTTED BY	CHECKED BY	REVIEWED BY	DATE
R.C.	L.N.L.	R.D.R.	4/17/69

H.- COLE CO.-80M-10-67-1000

TE - 1 1 8
600 - 12 - 68

MICROFILMED
AUG 14 1979
REPRODUCTION

FRANKLIN COUNTY
FRA-270-26.76N

GEOLOGY OF THE SITE

THE STRUCTURE SITE IS LOCATED ON THE RELATIVELY FLAT PORTION OF THE GLACIATED MISSISSIPPI VALLEY PLAIN, ON THE FLOODPLAIN OF BIG WALNUT CREEK, IN AN AREA WHERE MODERATELY DEEP TO DEEP GLACIAL DRIFT AND ALLUVIUM OVERLIE SHALE BEDROCK, OF DEVONIAN AGE.

EXPLORATION

THE EXPLORATION CONSISTED OF ONE DRIVE SAMPLE-CORE BORING AND ONE DRIVE SAMPLE BORING, MADE BETWEEN APRIL 18 AND 24, 1969, AND TEN DRIVE ROD PENETRATION TESTS, MADE BETWEEN MARCH 19 AND 21, 1969.

INVESTIGATIONAL FINDINGS

THE BORINGS ENCOUNTERED UNSTRATIFIED INTERVALS OF STIFF CLAYS AND DENSE TO VERY DENSE SANDY GRAVELLY SILTS WITH SOME INTERVALS OF GRAVELS AND COBBLES, TO BEDROCK SURFACE, ENCOUNTERED IN BORING B-5, AT 44-FOOT DEPTH, ELEVATION 741 FEET. BORING B-5 WAS TERMINATED AT 50-FOOT DEPTH, ELEVATION 734 FEET, AFTER PENETRATING 6 FEET BELOW BEDROCK SURFACE. BORING B-16 WAS TERMINATED AT 51-FOOT DEPTH, ELEVATION 732 FEET, AFTER PENETRATING 10 FEET OF MATERIAL REQUIRING IN EXCESS OF 30 BLOWS PER FOOT IN THE STANDARD PENETRATION TEST.

ROD SOUNDINGS ENCOUNTERED GRADUAL INCREASE IN PENETRATION RESISTANCE WITH INCREASE IN DEPTH, AND WERE TERMINATED UPON ENCOUNTER WITH HIGH RESISTANCE TO PENETRATION AT 19 TO 24-FOOT DEPTHS, ELEVATIONS 765 TO 755 FEET, CONSIDERED TO BE IN DENSE MATERIALS, AS REVEALED BY THE BORINGS.

NO FREE WATER WAS OBSERVED IN ANY OF THE ROD SOUNDING HOLES.

LEGEND

- Auger Boring Location - Plan View.
- Press and / or Drive Sample and / or Core Boring Location - Plan View.
- Drive Rod Penetration Resistance Sounding Location - Plan View.
- Capped Pile
- Footing
- Footing on Pile
- TR — Top of Rock
- Horizontal Bar on Boring Log Indicates the Depth the Sample Was Taken.
- X/Y — Figures Beside the Boring Log in Profile Indicate the Number of Blows for Standard Penetration Test.
  X = Number of Blows for First 6 inches.
  Y = Number of Blows for Second 6 inches.
- Drive Rod Penetration Resistance Sounding Log - Profile
- Casing
- Resistance "R" < 10,000 lbs.
- Resistance "R" > 10,000 lbs.
- Z — Indicates Final Measurement of Penetration, in Inches.
- W — Indicates Free Water Elevation.
- Indicates Static Water Elevation.

SYMBOLS OF ROCK TYPES

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

GENERAL INFORMATION

Drive Rod Penetration Sounding Tests

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

Drive Sample Borings - Drive-Press Sample Borings

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

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

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

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

LOG OF BORING

Date Started 4-18-69 — Sampler Type SS — Dia 1 3/8" — Water Elev
Date Completed 4-18-69 — Casing Length 43' — Dia 3 1/2"
Boring No. B-5 — Station & Offset 1602+18, 97' Lt. (Rear Pier) — Surface Elev 784.5'

Elev.	Depth	Std. Pen. (N)	Rec. ft.	Loss ft.	Description	Sample No	Physical Characteristics: % Agg.	% C.S.	% F.S.	% Silt	% Clay	L.L.	P.I.	W.C.	SHTL Class.
784.5	0														
	2														
779.5	4														
	6	3/4			Brown Sandy Silt	1	0	3	22	32	43	31	10	25	A-4a
777.0	8	2/6			Brown Sandy Silt	2	0	7	24	32	37	31	9	26	A-4a
774.5	10	3/4			Brown Silty Sandy Gravel	3	45	11	11	22	11	NP	NP	17	A-2-4
	12														
	14														
769.5	16	7/11			Brown Silty Gravel	4	68	9	5	11	7	NP	NP	11	A-1-b
	18														
764.5	20	20/28			Gray Gravelly Sandy Silt	5	25	9	16	33	17	NP	NP	9	A-4a
	22														
	24														
759.5	26	50/*			Gray Silty Sandy Gravel	6	36	6	21	24	13	NP	NP	15	A-4a
	28														
754.5	30	50* (0.7')			Gray Silty Gravelly Sand	7	33	17	16	19	15	NP	NP	9	A-2-4
	32														
749.5	34	29/39			Gray Gravelly Sandy Silt	8	15	9	19	31	26	NP	NP	10	A-4a
	36														
744.5	38														
	40	50* (0.6')			Gray Sandy Gravelly Silt	9	28	5	11	31	25	NP	NP	12	A-4a
740.5	42				TOP OF ROCK										
739.5	44				Gray Weathered Shale (Driller's Description)		V	I	S	U	A	L			
	46														
	48		5.0	0.0	Shale, black, medium-firm to firm, argillaceous, carbonaceous, thin-bedded, interbedded with small clay seam. No Core Loss.										
734.5	50														

*Refusal — BOTTOM OF BORING

LOG OF BORING

Date Started 4-23-69 — Sampler Type SS — Dia 1 3/8" — Water Elev
Date Completed 4-24-69 — Casing Length 45' — Dia 3 1/2"
Boring No. B-16 — Station & Offset 1604+48, 100' Rt. (Forward Pier) — Surface Elev 783.5'

Elev.	Depth	Std. Pen. (N)	Rec. ft.	Loss ft.	Description	Sample No	Physical Characteristics: % Agg.	% C.S.	% F.S.	% Silt	% Clay	L.L.	P.I.	W.C.	SHTL Class.
783.5	0														
	2														
778.5	4														
	6	1/2			Brown Sandy Silt	1	3	7	34	23	33	NP	NP	24	A-4a
776.0	8	2/4			Brown Sandy Clay	2	0	3	31	23	43	33	12	24	A-6a
773.5	10	4/6			Gray Silty Gravelly Sand	3	37	26	13	10	14	NP	NP	21	A-1-b
	12														
	14														
768.5	16	25/16			Gray Silty Sandy Gravel	4	59	14	13	5	9	-	-	14	-
	18														
763.5	20	20/25			Gray Silty Sandy Gravel	5	49	19	12	7	13	-	-	11	-
	22														
	24														
758.5	26	24/31			Gray Silty Sandy Gravel	6	46	19	13	6	16	-	-	10	-
	28														
753.5	30	50* (0.6')			Gray Silty Sandy Gravel	7	51	21	10	5	13	-	-	9	-
	32														
748.5	34														
	36				Gray Silty Gravelly Sand with Cobbles (Wash Sample)	8	27	45	16	-12	-	NP	NP	27	A-1-b
743.5	38														
	40	20/28			Brown Sandy Gravelly Clay	9	33	10	13	20	24	26	11	10	A-6a
	42														
738.5	44														
	46	25/27			Gray Sandy Silt	10	8	10	15	43	24	-	-	12	-
	48														
732.5	50														
732.5		23/30			Gray Gravelly Sandy Silt	11	24	12	14	23	27	20	7	7	A-4a

*Refusal — BOTTOM OF BORING

Particle Size Definitions

Boulders	Cobbles	Gravel	Coarse Sand	Fine Sand	Silt	Clay
12"	3"	2.0mm (No. 10 sieve)	0.42mm (No. 40 sieve)	0.074mm (No. 200 sieve)	0.005mm	

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

OHIO DEPARTMENT OF HIGHWAYS
TESTING LABORATORY
1620 WEST BROAD STREET, COLUMBUS, OHIO 43223

STRUCTURE FOUNDATION INVESTIGATION
BRIDGE NO. FRA-270-2824N L&R
OVER BIG WALNUT CREEK
SEC. FRA-270-26.76N

CHECKED BY	REVIEWED BY	DATE
L.N.L.	R.D.R.	5/13/69

TE - 119
1000 - 4 - 66

MICROFILMED
AUG 16 1979
REPRODUCTION

18
19
2
3

FRA-270-26.76 N

N

B-5 1 9 6 14 18

1601 1602 1603 1604 1605

℄, Proposed IR 270

3 11

84" Big Walnut Sanitary Trunk Sewer

Existing 84" Big Walnut Sanitary Trunk Sewer

℄, Relocated
Big Walnut Creek

8 B-16 16 20

BIG WALNUT CREEK

High Water
Elev. 791.3'

Flow Line
Elev. 772.0'

Existing 84" Sanitary Sewer

B-5		B-16	
3/4		1/2	
2/6		2/4	
3/4		4/6	
7/11		25/16	
20/28		20/25	
50/*		24/31	
50*		50*	
25/39		Wash Sample	
50*		20/28	
77R		25/27	
		23/30	

*Refusal

810 800 790 780 770 760 750 740 730 720 710

1601 1602 1603 1604 1605

SCALE: 1" = 20'

OHIO DEPARTMENT OF HIGHWAYS
TESTING LABORATORY
1620 WEST BROAD STREET, COLUMBUS 23, OHIO

STRUCTURE FOUNDATION INVESTIGATION
BRIDGE NO. FRA-270-2824N L&R
OVER BIG WALNUT CREEK
SEC. FRA-270-26.76N

PLAN AND PROFILE

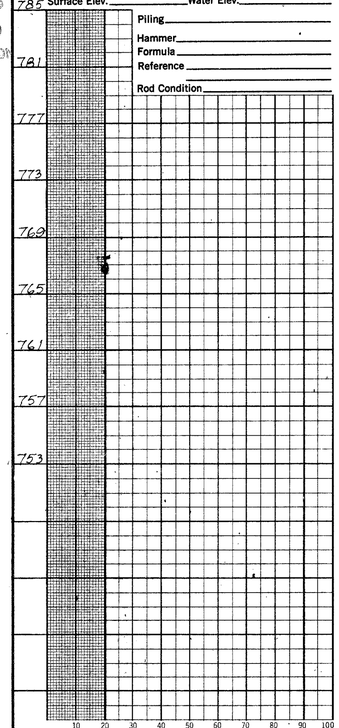
DRAWN BY	CHECKED BY	REVIEWED BY	DATE
S.G.B.	L.N.L.	R.D.R.	5/13/69

TE-115
500m-1-64

MICROFILMED
AUG 14 1979
REPRODUCTION

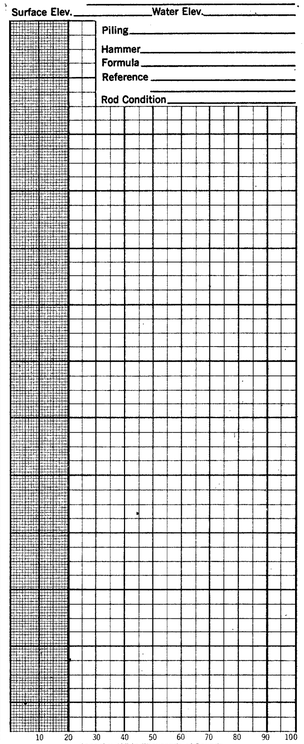
FRA-270-26.76N

Test Location No. ____
Station & Offset ____
Surface Elev. ____ Water Elev. ____
Piling ____
Hammer ____
Formula ____
Reference ____
Rod Condition ____



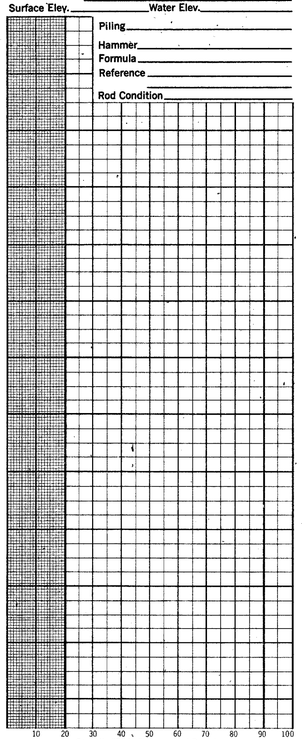
10 20 30 40 50 60 70 80 90 100
Capacity "R" in Thousands of Pounds

Test Location No. ____
Station & Offset ____
Surface Elev. ____ Water Elev. ____
Piling ____
Hammer ____
Formula ____
Reference ____
Rod Condition ____



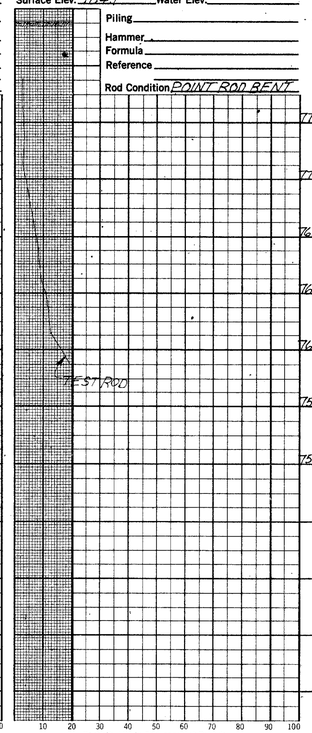
10 20 30 40 50 60 70 80 90 100
Capacity "R" in Thousands of Pounds

Test Location No. ____
Station & Offset ____
Surface Elev. ____ Water Elev. ____
Piling ____
Hammer ____
Formula ____
Reference ____
Rod Condition ____



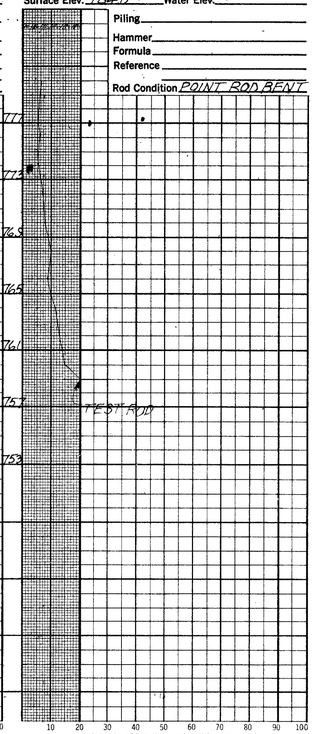
10 20 30 40 50 60 70 80 90 100
Capacity "R" in Thousands of Pounds

Test Location No. 1
Station & Offset 1601+54.96'LT
REAR ABUTMENT
Surface Elev. 784.1 Water Elev. ____
Piling ____
Hammer ____
Formula ____
Reference ____
Rod Condition POINT ROD BENT



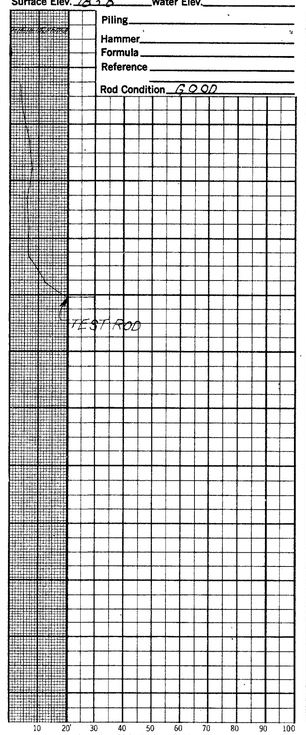
10 20 30 40 50 60 70 80 90 100
Capacity "R" in Thousands of Pounds

Test Location No. 3
Station & Offset 1601+95.18'RT
REAR ABUTMENT
Surface Elev. 784.0 Water Elev. ____
Piling ____
Hammer ____
Formula ____
Reference ____
Rod Condition POINT ROD BENT



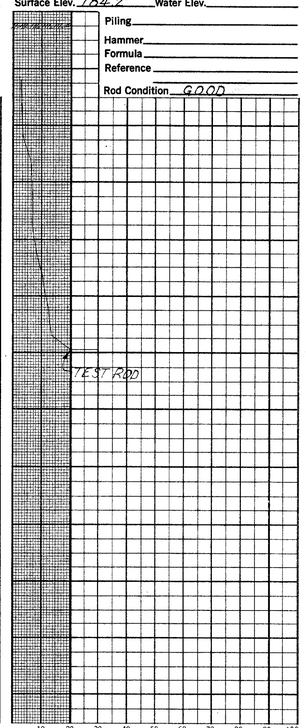
10 20 30 40 50 60 70 80 90 100
Capacity "R" in Thousands of Pounds

Test Location No. 6
Station & Offset 1602+46.19'LT
REAR PIER
Surface Elev. 783.8 Water Elev. ____
Piling ____
Hammer ____
Formula ____
Reference ____
Rod Condition GOOD



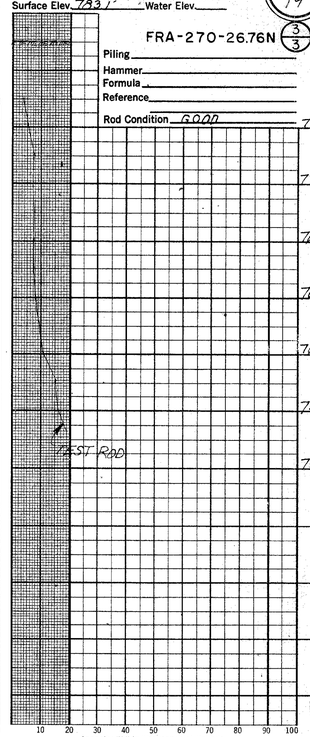
10 20 30 40 50 60 70 80 90 100
Capacity "R" in Thousands of Pounds

Test Location No. 8
Station & Offset 1602+88.99'RT
REAR PIER
Surface Elev. 784.2 Water Elev. ____
Piling ____
Hammer ____
Formula ____
Reference ____
Rod Condition GOOD



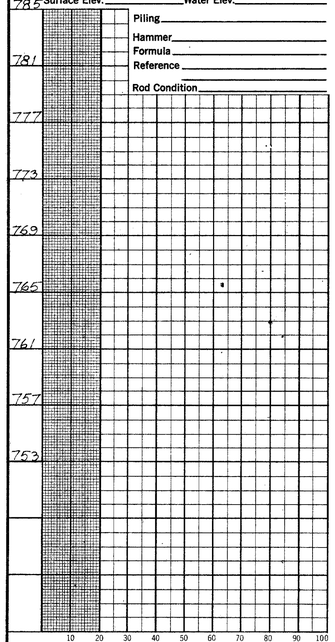
10 20 30 40 50 60 70 80 90 100
Capacity "R" in Thousands of Pounds

Test Location No. 9
Station & Offset 1602+97.94'LT
CENTER PIER
Surface Elev. 783.1' Water Elev. ____
Piling ____
Hammer ____
Formula ____
Reference ____
Rod Condition GOOD



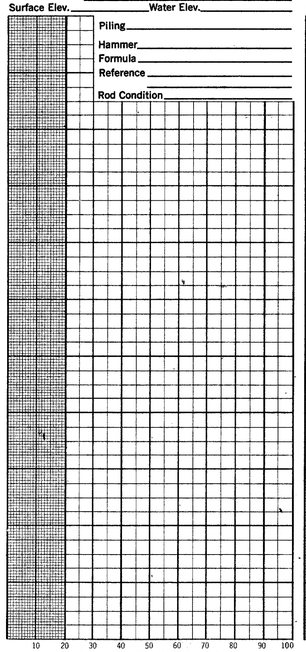
10 20 30 40 50 60 70 80 90 100
Capacity "R" in Thousands of Pounds

Test Location No. ____
Station & Offset ____
Surface Elev. ____ Water Elev. ____
Piling ____
Hammer ____
Formula ____
Reference ____
Rod Condition ____



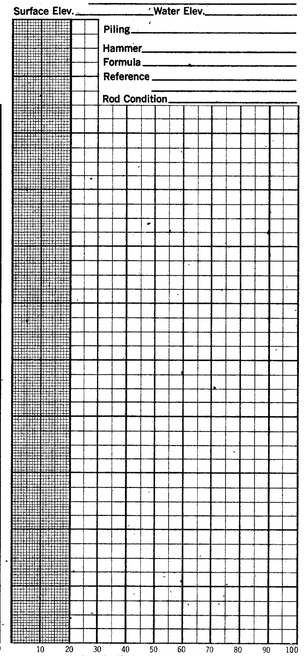
10 20 30 40 50 60 70 80 90 100
Capacity "R" in Thousands of Pounds

Test Location No. ____
Station & Offset ____
Surface Elev. ____ Water Elev. ____
Piling ____
Hammer ____
Formula ____
Reference ____
Rod Condition ____



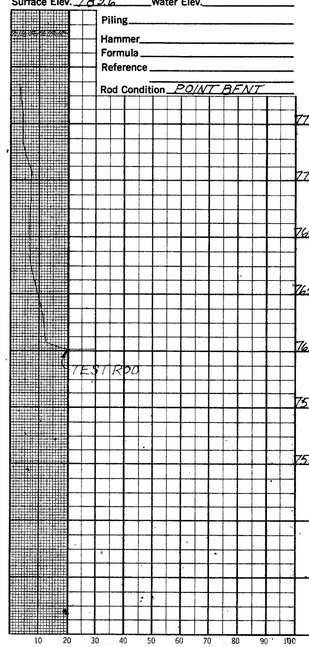
10 20 30 40 50 60 70 80 90 100
Capacity "R" in Thousands of Pounds

Test Location No. ____
Station & Offset ____
Surface Elev. ____ Water Elev. ____
Piling ____
Hammer ____
Formula ____
Reference ____
Rod Condition ____



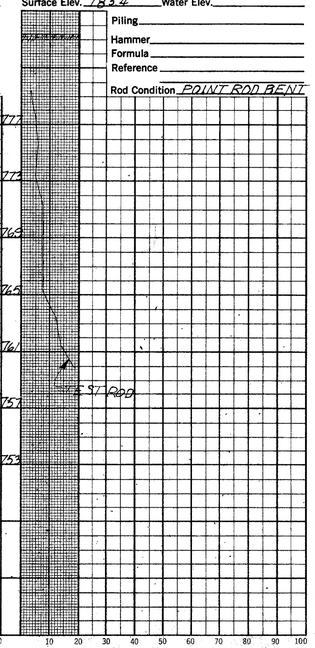
10 20 30 40 50 60 70 80 90 100
Capacity "R" in Thousands of Pounds

Test Location No. 11
Station & Offset 1603+39.10'RT
CENTER PIER
Surface Elev. 783.6 Water Elev. ____
Piling ____
Hammer ____
Formula ____
Reference ____
Rod Condition POINT BENT



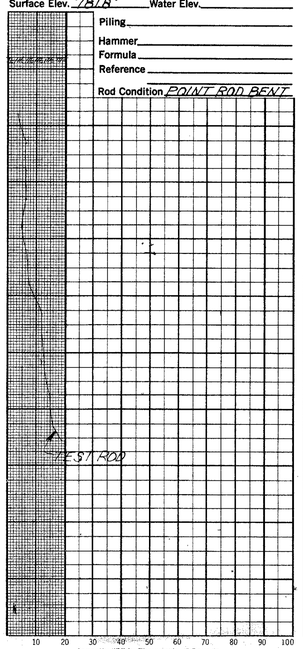
10 20 30 40 50 60 70 80 90 100
Capacity "R" in Thousands of Pounds

Test Location No. 14
Station & Offset 1604+06.19'LT
FORWARD PIER
Surface Elev. 783.4 Water Elev. ____
Piling ____
Hammer ____
Formula ____
Reference ____
Rod Condition POINT ROD BENT



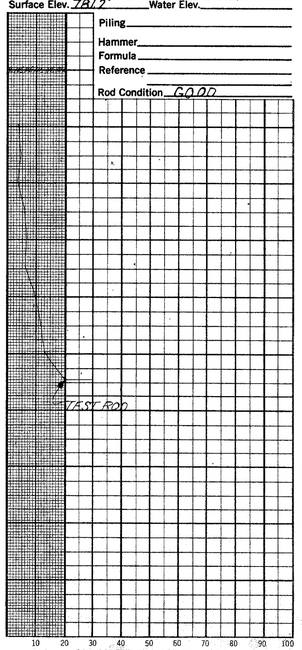
10 20 30 40 50 60 70 80 90 100
Capacity "R" in Thousands of Pounds

Test Location No. 16
Station & Offset 1604+48.90'RT
FORWARD PIER
Surface Elev. 781.8 Water Elev. ____
Piling ____
Hammer ____
Formula ____
Reference ____
Rod Condition POINT ROD BENT



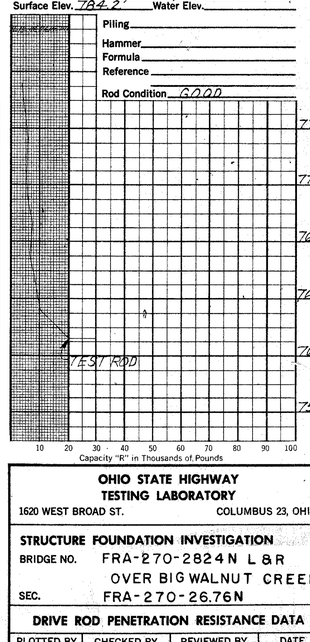
10 20 30 40 50 60 70 80 90 100
Capacity "R" in Thousands of Pounds

Test Location No. 18
Station & Offset 1604+70.15'LT
FORWARD ABUTMENT
Surface Elev. 781.7 Water Elev. ____
Piling ____
Hammer ____
Formula ____
Reference ____
Rod Condition GOOD



10 20 30 40 50 60 70 80 90 100
Capacity "R" in Thousands of Pounds

Test Location No. 20
Station & Offset 1605+13.100'RT
FORWARD ABUTMENT
Surface Elev. 784.2 Water Elev. ____
Piling ____
Hammer ____
Formula ____
Reference ____
Rod Condition GOOD



10 20 30 40 50 60 70 80 90 100
Capacity "R" in Thousands of Pounds

OHIO STATE HIGHWAY TESTING LABORATORY
1620 WEST BROAD ST. COLUMBUS 23, OHIO

STRUCTURE FOUNDATION INVESTIGATION
BRIDGE NO. FRA-270-2824N L&R
OVER BIG WALNUT CREEK
SEC. FRA-270-26.76N

DRIVE ROD PENETRATION RESISTANCE DATA

PLOTTED BY	CHECKED BY	REVIEWED BY	DATE
R.C.	L.N.L.	R.D.R.	5/13/69