

**CONVENTIONAL SIGNS**

Center Line	—+—+—+—	Existing Sewer	— — — — —
Existing R/W	— — — — —	Proposed Sewer	— — — — —
Proposed R/W	— — — — —	Existing Manhole	○
Limited Access Line	—LA—	Proposed Manhole	●
Temporary R/W	—T—	Existing Catch Basin	⊕
Work Agreement Line	— — — — —	Proposed Catch Basin	■
Property Line	—PL—	Manhole Abandoned	⊗
Original Lot Line	—O.L. 78— —O.L. 79—	Catch Basin Abandoned	⊗
Water Line	—W—	Existing Guard Rail	— — — — —
Water Valve	— — — — —	Proposed Guard Rail	— — — — —
Water Hydrant	— — — — —	Fence	—x—x—x—
Gas Line	—G—	Existing Retaining Wall	— — — — —
Gas Valve	— — — — —	Railroad	— — — — —
Telephone Underground	—T—	Existing Trees Removed	⊗
Electric Underground	—E—	County Line	— — — — —
Power Pole	⊕		
Light Pole	⊕		
Telephone Pole	⊕		

SHEETS DELETED FROM THIS PLAN  
Sht. Nos. 22, 210-217, 243, 266 & 355

SHEETS ADDED TO THIS PLAN  
Sht. Nos. 20A, 24A, 24B, 241A, 241B, 241C  
366A, 367A, 240A

**INDEX OF SHEETS**

Title Sheet	1	Pavement Details	64-76
Schematic Plan	2-3	Storm Sewer Profiles	77-79
Typical Sections	4-8	Culvert & Ditch Details	80-91
General Notes	9-13	EB I-480 & EB U.S. 20 Cross Sections	92-120
General Summary	14-17	WB I-480 & WB U.S. 20 Cross Sections	121-145
Pavement Calculations	18-20A	EB & WB I-480 Cross Sections	146-154
Special Details	21-24B	SR 10 Interchange, Ramps Cross Sections	155-179
Horizontal Control Data	25-26	SR 10 (Lorain Road) Cross Sections	180-189
Superelevation Tables	27-28	Water Work Plans	190-192
EB I-480 & EB U.S. 20 Plan & Profile	29-39	Traffic Control Plans	193-209
WB I-480 & WB U.S. 20 Plan & Profile	40-49	Lighting Plan	210-241C
EB & WB I-480 Plan & Profile	50-53	Structures Over 20' Length	242-355
SR-10 Interchange, Ramps Plan & Profile	54-58	Right-of-Way Plans	356-375
SR-10 (Lorain Rd.) Plan & Profile	59-63		

Sheets 274 & 275 revised 5-11-78 EBL

**LINE DATA**

Begin Project - Sta. 975+50.00 to Sta. 998+03.01 (Bk) @ I-480 E.B. = 2,253.01 L.F.  
Sta. 0+30.17 (Aft) to Sta. 32+31.00 (Toll Plaza) @ I-480 E.B. = 3,200.83 L.F.  
Sta. 37+31.00 (Toll Plaza) to Sta. 74+11.39 @ I-480 E.B. = 3,680.39 L.F.  
Sta. 74+11.39 to Sta. 100+00.00 @ I-480 End Project = 2,588.61 L.F.  
LENGTH OF PROJECT = 11,722.84 L.F. or 2.220 MILES

ADD FOR WORK  
Lorain Rd. (S.R.10)  
Sta. 1137+30.00 to Sta. 1153+80.00 = 1,650.00 L.F.

I-480  
Sta. 973+35.00 to Sta. 975+50.00 = 215.00 L.F.  
Sta. 100+25.34 to Sta. 105+37.00 = 511.66 L.F.  
LENGTH OF ADDITIONAL WORK = 2,376.66 L.F.  
ADD PROJECT LENGTH = 11,722.84 L.F.  
LENGTH OF WORK = 14,099.50 L.F. or 2.670 MILES

NUMBER	DATE
801	4-25-77
808	1-1-77
814	1-1-69
836	3-12-75
838	1-13-77
839	11-25-70
844	11-8-74
846	4-25-77
948	2-19-74
950	4-25-77
951	4-25-77
5625	1-11-74
5713	1-11-74
1001	1-3-77

STATE OF OHIO  
DEPARTMENT OF TRANSPORTATION

**LOR-480-0.00**  
**LORAIN COUNTY**  
**CUYAHOGA COUNTY**  
**CITY OF NORTH OLMSTED**  
**CITY OF NORTH RIDGEVILLE**

I-480-3(4)153

FED. RD. DIVISION	STATE	PROJECT
5	OHIO	I-480-3(4)153

375

NOTE: Project Designation LOR-80-18.62 appearing thru-out this plan shall be understood to read LOR-480-0.00

LORAIN COUNTY  
LOR-480-0.00

**"LIMITED ACCESS"**

This improvement is especially designed for thru traffic and has been declared a Limited Access Highway or Freeway by action of the Director of Transportation, in accordance with the provisions of Sec. 5511.02 of The Revised Code of Ohio.

**1977 SPECIFICATIONS**

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

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

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

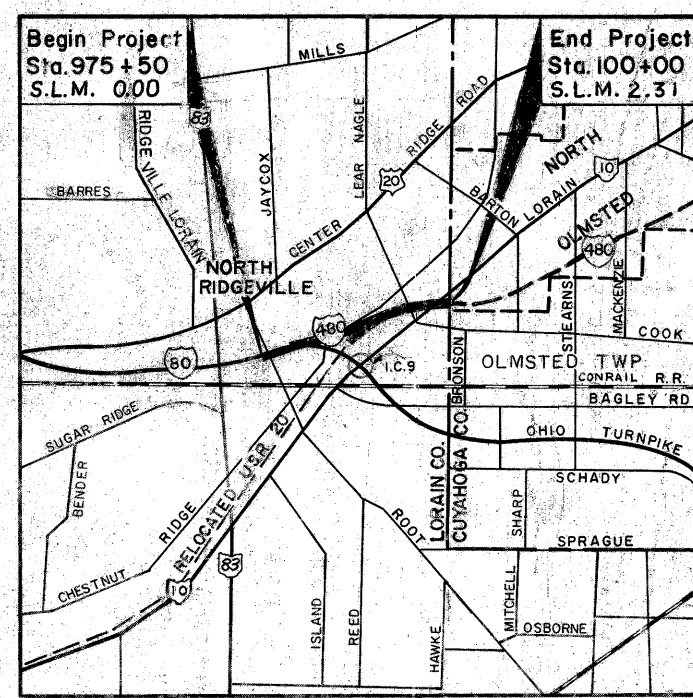
Approved H. H. Reader  
Date 1-30-76 District Deputy Director of Transportation  
Approved Robert B. Pfeiffer  
Date 12-21-77 Engineer, Bureau of Bridges and Structural Design  
Approved R. E. Guthrie  
Date 12-22-77 Chief Engineer, Planning and Design  
Approved David Z. Wain  
Date 12-22-77 Director, Department of Transportation

**STANDARD DRAWINGS**

Number	Date
BP-1	6-1-65
BP-2	12-6-76
BP-3	12-6-76
BP-4	12-6-76
BP-5	8-11-75
BP-7	12-6-76
BP-9	12-6-76
BP-10	1-3-75
CB-3	1-1-76
CB-3A	1-1-76
CB-5	9-1-69
CB-6	6-1-65
F-1	5-1-76
BP-6	6-1-65
F-3	5-1-76
F-5	5-1-76
F-6	5-1-76
GR-1	12-6-75
GR-2B	12-6-76
GR-3	12-6-76
GR-4	12-6-76
GR-4A	7-26-76
GR-5	1-1-71
GR-6	1-1-71
HW-4	1-1-70
MC-1	6-13-69
MC-3	6-1-73
MC-4	7-26-76
MC-6	6-1-65
MC-7	10-15-76
MC-8	6-12-75
MC-10	5-1-76
MH-1	6-12-75
MH-3	6-12-75
MH-5	6-12-75
L-1	6-1-73

**STANDARD DRAWINGS**

Number	Date	Number	Date	Number	Date
TC-32.11	8-27-76	TC-61.10	8-19-77		
TC-41.10	8-19-77				
TC-41.20	4-7-77	TC-71.10	12-1-75		
TC-41.50	4-1-77	TC-72.20	8-29-77		
TC-76.5	10-1-74				
TC-12.30	10-1-74				
TC-21.10	10-1-74				
TC-21.40	8-19-77				
TC-22.10	10-1-74				
TC-31.21	8-27-76				
TC-32.10	8-27-76				



**LOCATION MAP**

SCALE OF MILES

Portion To Be Improved  
State Routes  
U.S. Routes  
Interstate Routes  
City Streets  
To be Improved Under Separate Contract

**SCALES**

PLAN  
PROFILE: HORIZ.  
VERT.  
CROSS SECTIONS  
PAVEMENT DETAILS

PLANS PREPARED BY  
**ALDEN E. STILSON & ASSOCIATES**  
CONSULTING ENGINEERS  
75 PUBLIC SQUARE  
CLEVELAND OHIO

DESIGN DESIGNATION  
1970 A.D.T. = 18,000  
1987 A.D.T. = 40,000  
D.H.V. = 2,000  
D. (directional distribution) = 67%  
T. (percent BBC trucks) = 5%  
V. (design speed) = 60 M.P.H.

DEPARTMENT OF TRANSPORTATION  
FEDERAL HIGHWAY ADMINISTRATION  
APPROVED: \_\_\_\_\_  
DIVISION ADMINISTRATOR DATE: \_\_\_\_\_

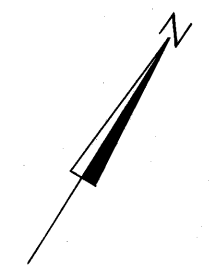
FILE NUMBER	LORAIN COUNTY	LOR-480-0.00
	DATE OF LETTING	
	CONTRACT NUMBER	

# SCHEMATIC PLAN

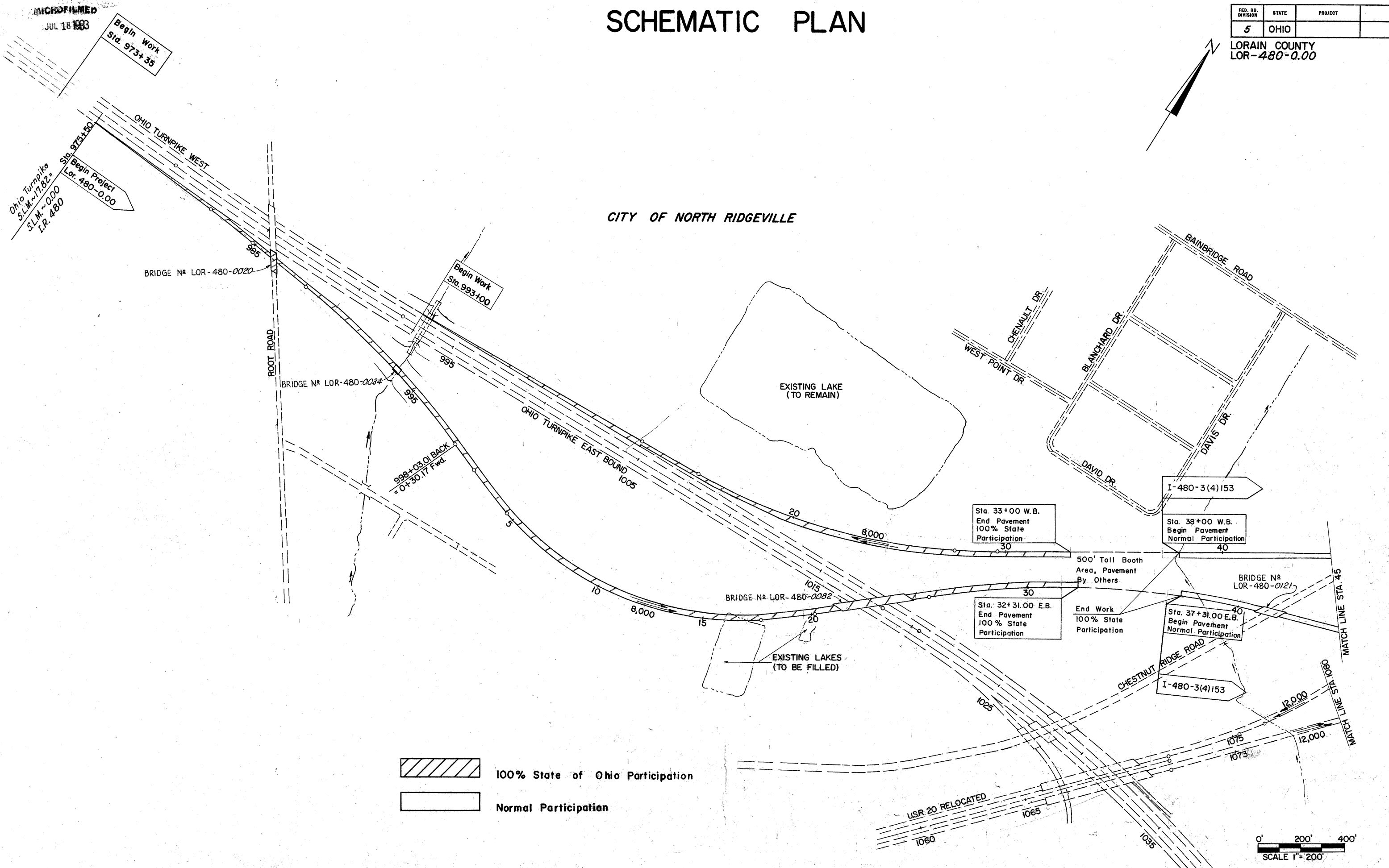
FED. RD. DIVISION	STATE	PROJECT
5	OHIO	

2  
375

LORAIN COUNTY  
LOR-480-0.00



CITY OF NORTH RIDGEVILLE



MICROFILMED  
JUL 18 1983

Begin Work  
Sta. 973+35

Ohio Turnpike  
S.L.M. ~ 17.82+  
S.L.M. ~ 0.00  
I.R. 480

OHIO TURNPIKE WEST

BRIDGE N° LOR-480-0020

ROOT ROAD

BRIDGE N° LOR-480-0034

Begin Work  
Sta. 993+00

998+03.01 BACK  
= 0+30.17 Fwd.

OHIO TURNPIKE EAST BOUND

EXISTING LAKE  
(TO REMAIN)

CHENAULT DR.  
WEST POINT DR.

BLANCHARD DR.

DAVID DR.

BAINBRIDGE ROAD

Sta. 33+00 W.B.  
End Pavement  
100% State  
Participation

500' Toll Booth  
Area, Pavement  
By Others

I-480-3(4)153

Sta. 38+00 W.B.  
Begin Pavement  
Normal Participation

BRIDGE N°  
LOR-480-0121

Sta. 32+31.00 E.B.  
End Pavement  
100% State  
Participation

End Work  
100% State  
Participation

Sta. 37+31.00 E.B.  
Begin Pavement  
Normal Participation

I-480-3(4)153

EXISTING LAKES  
(TO BE FILLED)

BRIDGE N° LOR-480-0082

CHESTNUT RIDGE ROAD

MATCH LINE STA. 45

MATCH LINE STA. 1090

- 100% State of Ohio Participation
- Normal Participation

USR 20 RELOCATED

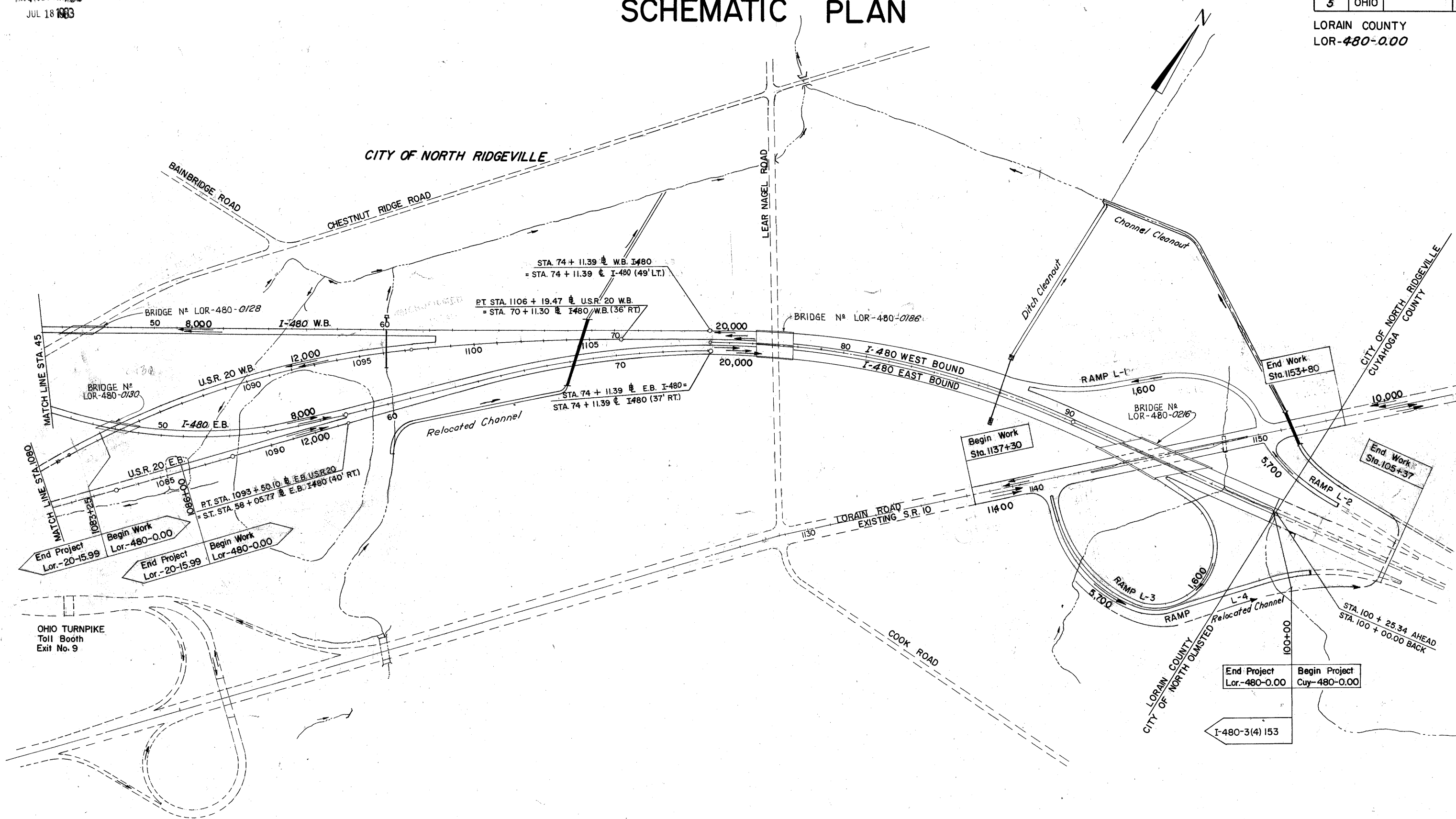
0' 200' 400'  
SCALE 1" = 200'

# SCHEMATIC PLAN

FED. RD. DIVISION	STATE	PROJECT
5	OHIO	

3  
375

LORAIN COUNTY  
LOR-480-0.00

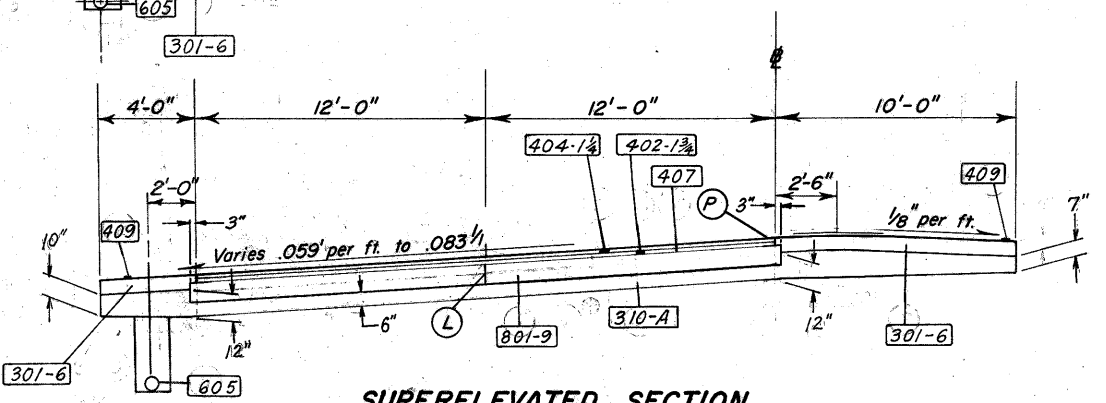
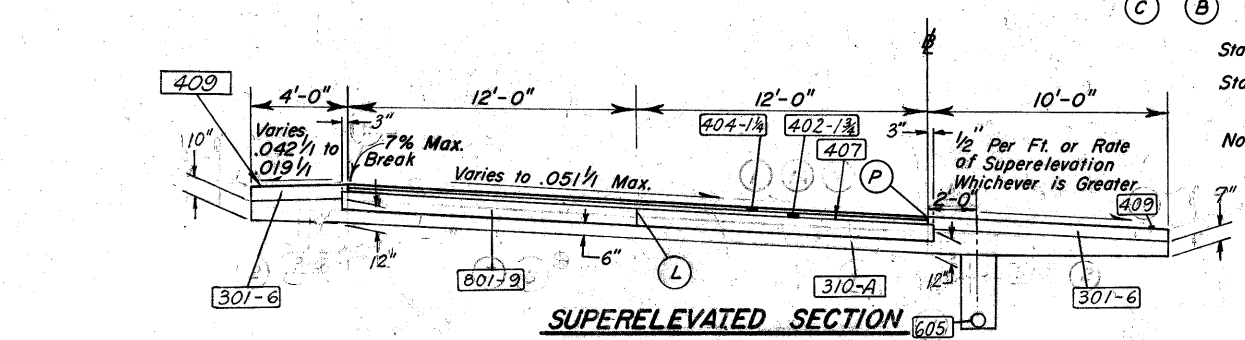
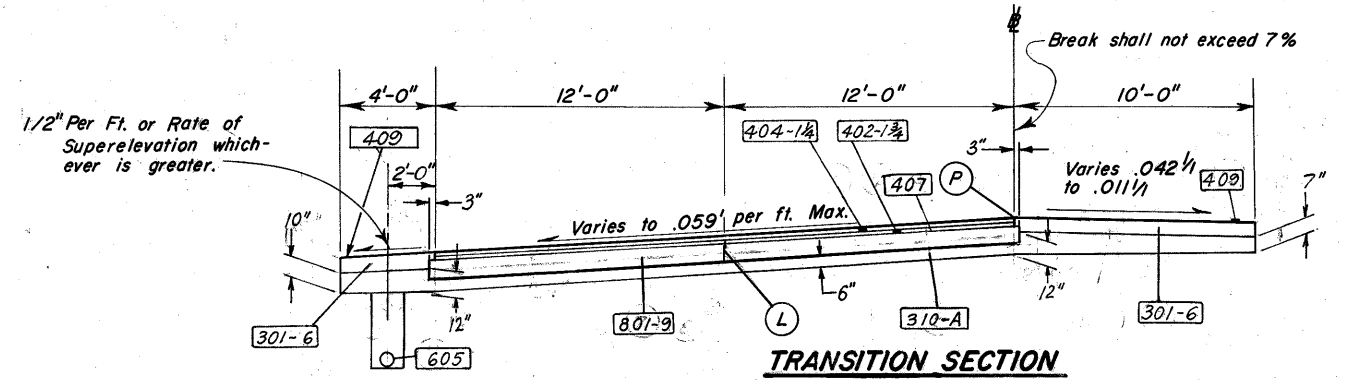
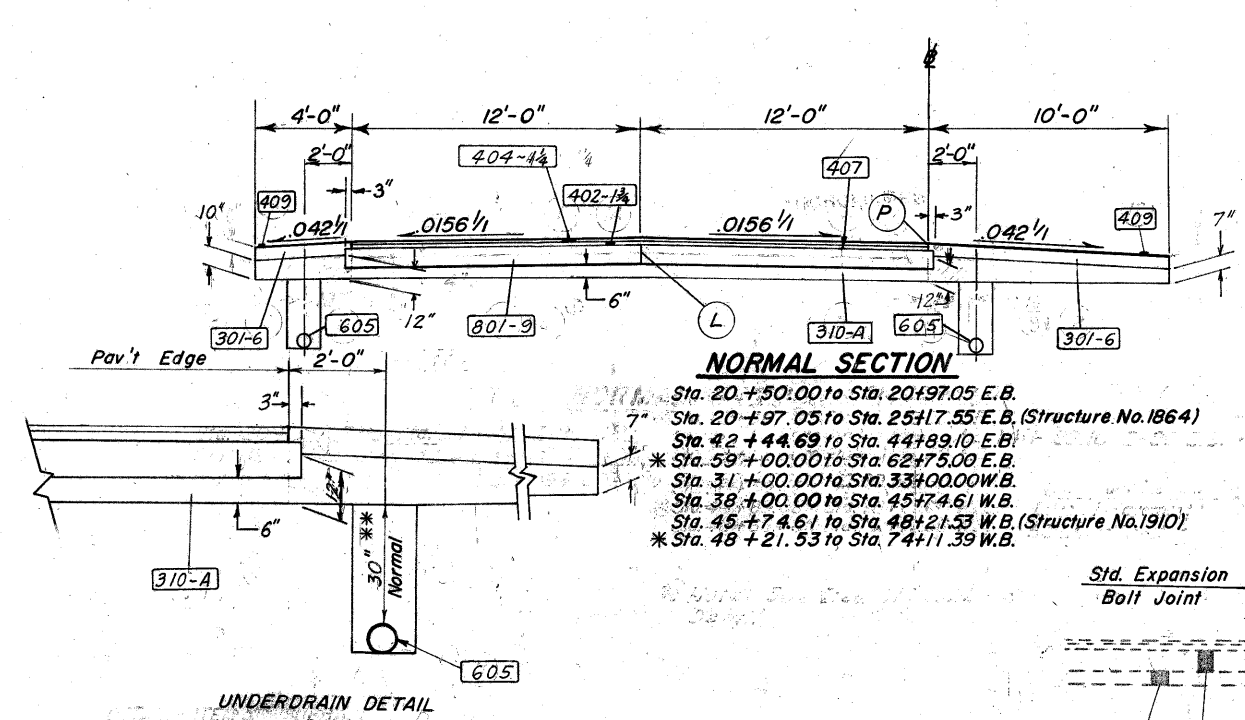


OHIO TURNPIKE  
Toll Booth  
Exit No. 9

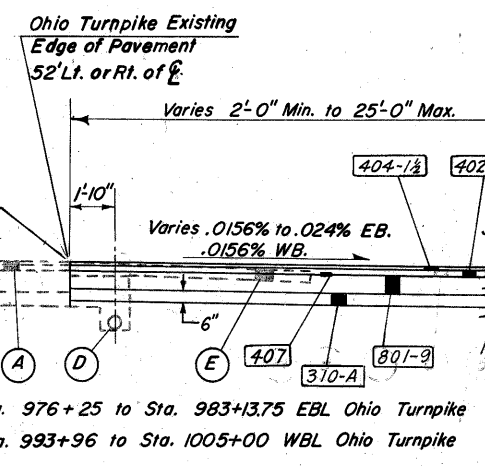
Normal Participation

0' 200' 400  
Scale 1" = 200'

**TYPICAL SECTIONS**  
TYPE 404 on 801



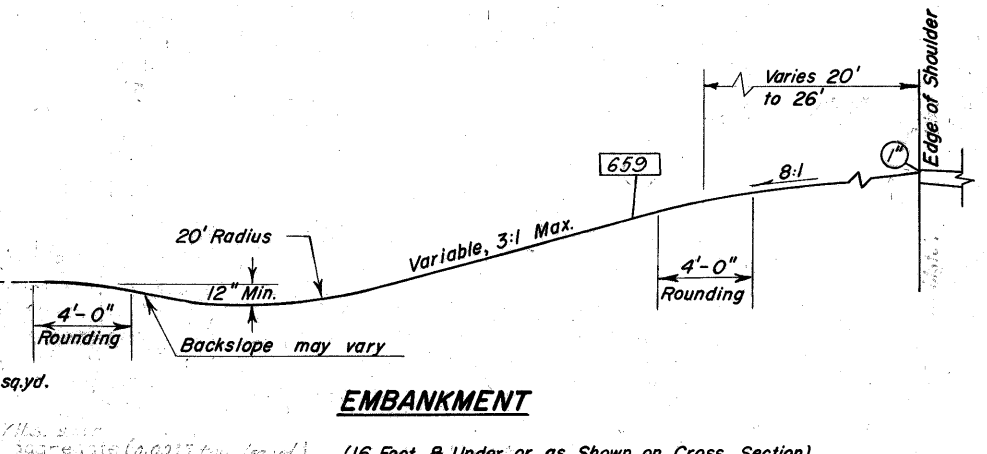
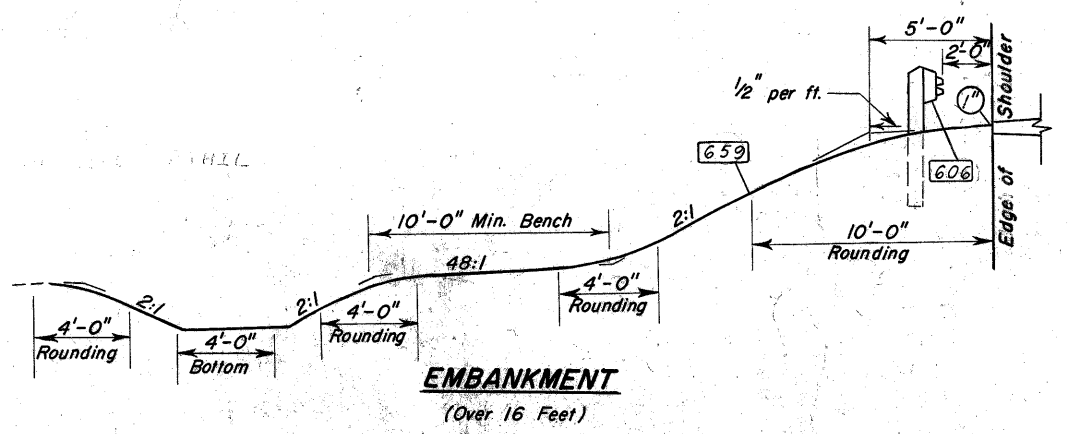
- EXISTING PAVEMENT LEGEND**
- (A) 4" Asphalt Concrete
  - (B) 10" Reinforced Portland Cement Concrete
  - (C) Subbase
  - (D) 6" Underdrain to Remain in Use
  - (E) Paved Shoulder



Note: For 0'-0" to 2'-0" Special Details See Sheet No. 21  
\*Note: Pavement and Shoulder Widths Vary, See Pavement Details.  
\*\* Note: Underdrain Depth Varies See Plan & Profile Sheets

**LEGEND**

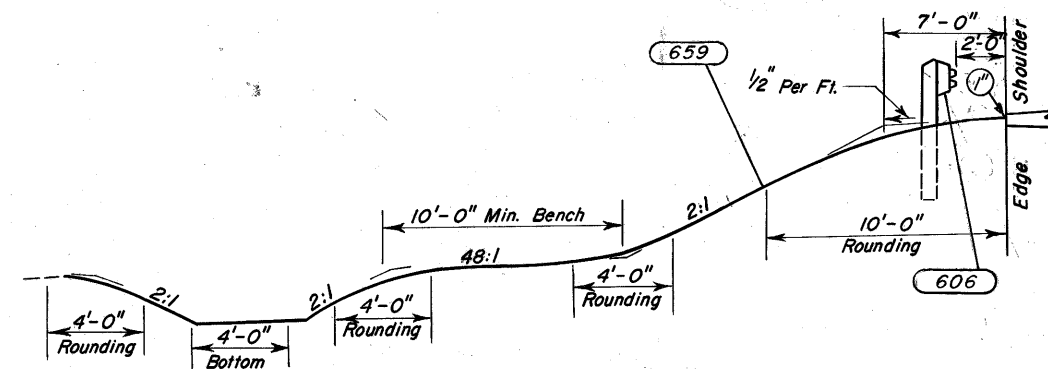
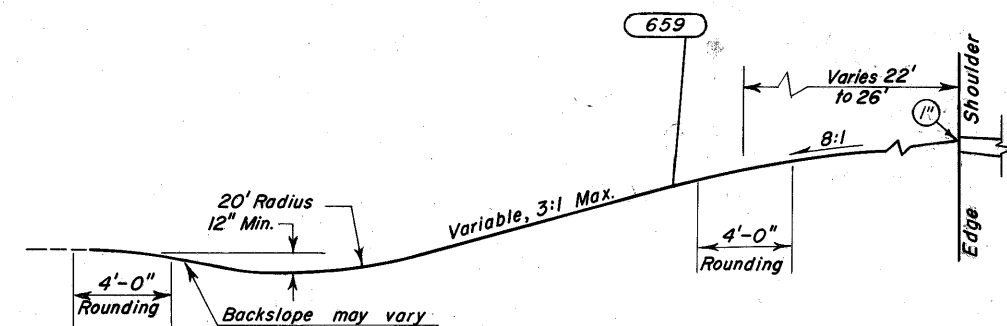
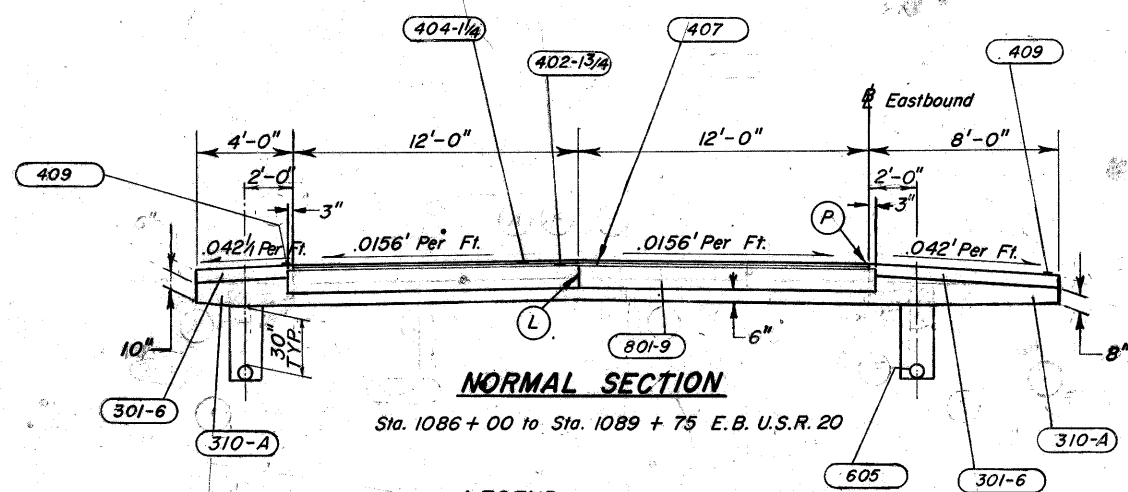
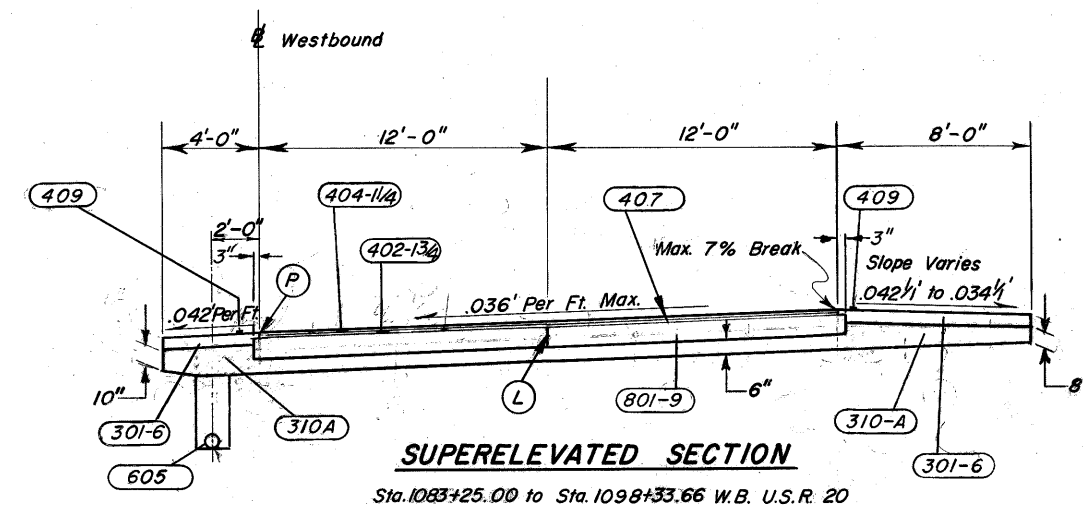
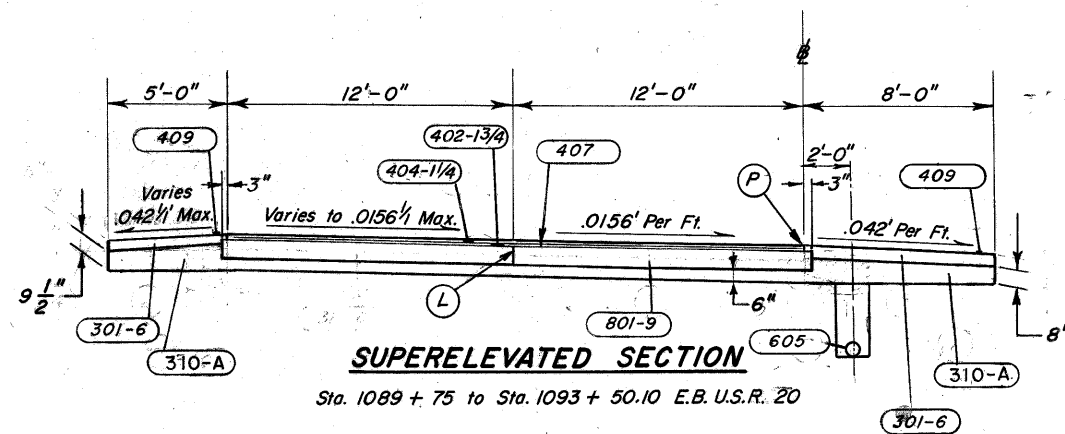
- 404-1 1/4 1 1/4" Asphalt Concrete
- 402-1 3/4 1 3/4" Asphalt Concrete
- 301-6 Bituminous Aggregate Base, 6" Thickness
- 606 Guard Rail Type 5 or Type 5 Mod. as per plan
- 659 Seeding & Mulching
- 404-1 1/2 1 1/2" Asphalt Concrete
- 402-2 1/2 2 1/2" Asphalt Concrete
- 801-9 9" Portland Cement Concrete Base
- 310-A Subbase, Grading A, as per plan (Thickness as shown)
- 605 6" Underdrain
- 409 Seal Coat Bituminous Material (0.20 Gal./sq.yd. and Seal Coat Cover Aggregate No. 9 (0.005 cu.yd./sq.yd.
- 407 Tack Coat, (0.10 Gal./sq.yd.) and Cover Aggregate



(L) Standard Longitudinal Joint  
(P) Profile grade  
(M) Drop Shoulder 1"

# TYPICAL SECTIONS

TYPE 404 on 801



**LEGEND**

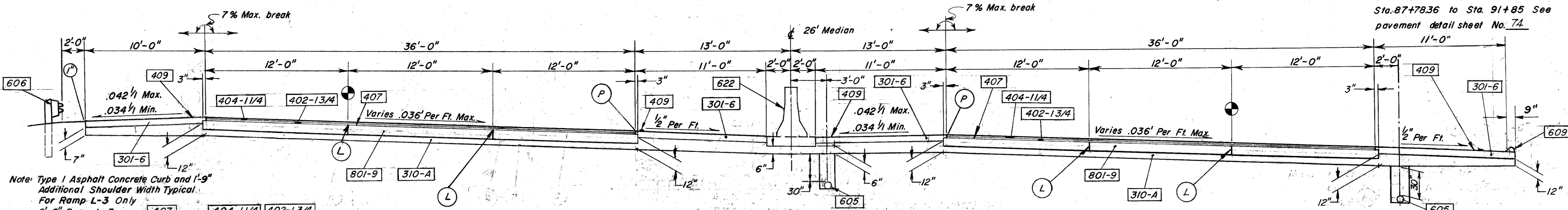
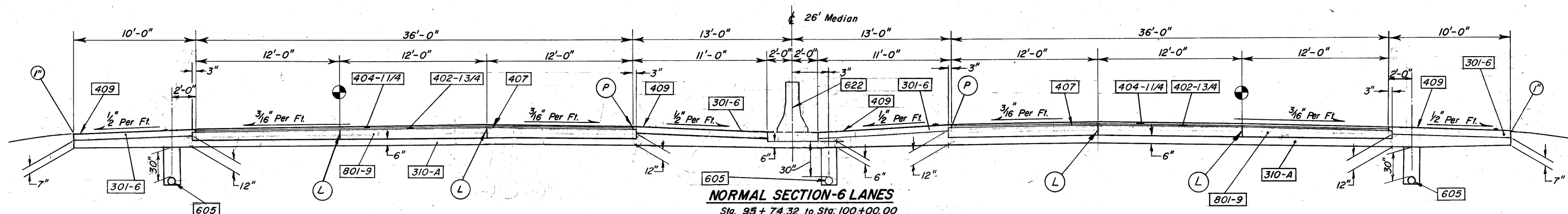
- 404-1/4 1 1/4" Asphalt Concrete
- 402-3/4 1 3/4" Asphalt Concrete
- 407 Tack Coat, (0.10 Gal./Sq.Yd.) and cover Aggregate
- 801-9 9" Portland Cement Concrete Base
- 605 6" Underdrain, 30" Shallow
- 310-A Subbase Grading "A" as per plan (thickness as shown)
- 301-6 Bituminous Aggregate Base, 6" Thick
- 606 Guard Rail, Type 5
- 659 Seeding & Mulching
- 409 Seal Coat Bituminous Material (0.20 gal./Sq.Yd.) and Seal Coat Cover Agg. No.9 (0.005 Cu.Yd./Sq.Yd.)
- L Standard Longitudinal Joint
- P Profile Grade
- M Drop Shoulder 1 inch

### TYPICAL SECTIONS

TYPE 404 on 801

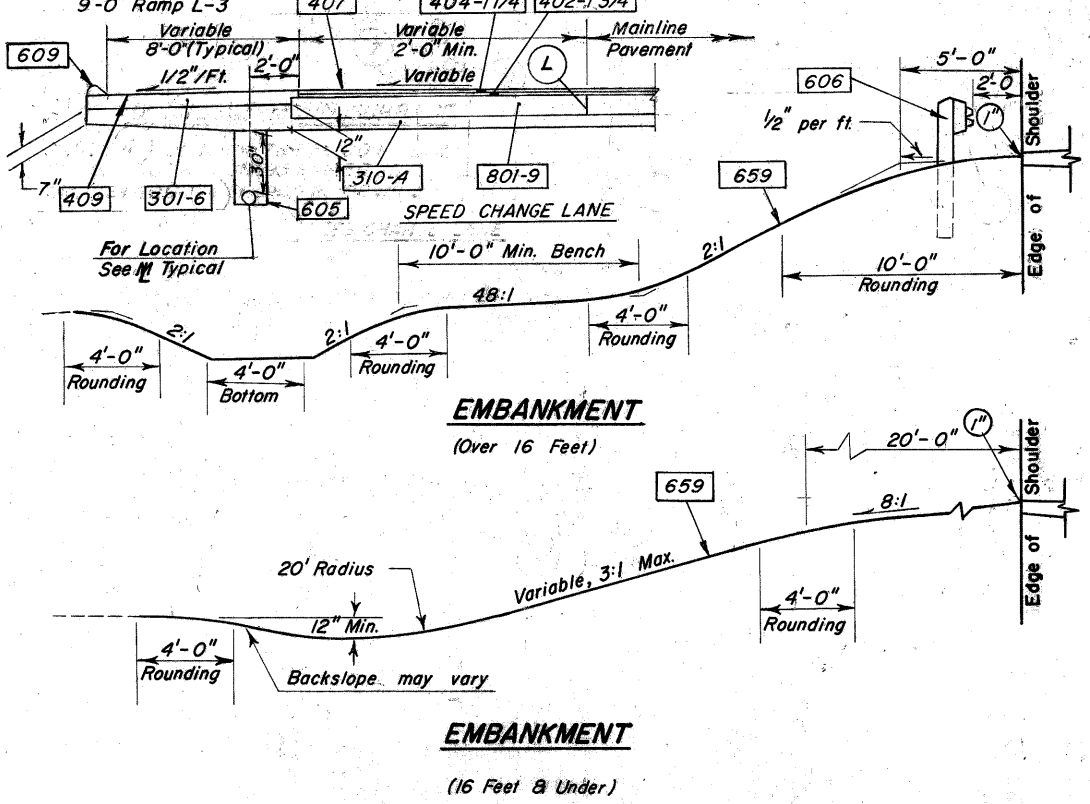
**UNDERDRAIN NOTES**  
 Median underdrain location valves 3'-0" Lt. or Rt. of  $\bar{C}$ . See Plan and Profile sheets for location.  
 Omit underdrain on high side of superelevation when in fill.

LORAIN COUNTY  
 LOR-480-0.00



Note: Type I Asphalt Concrete Curb and 1'-9" Additional Shoulder Width Typical. For Ramp L-3 Only 9'-0" Ramp L-3

Note: 11' Shoulder with type I Asphalt Curb Sta. 77+70 to Sta. 87+78.36 Sta. 87+78.36 to Sta. 91+85 See pavement detail sheet No. 74

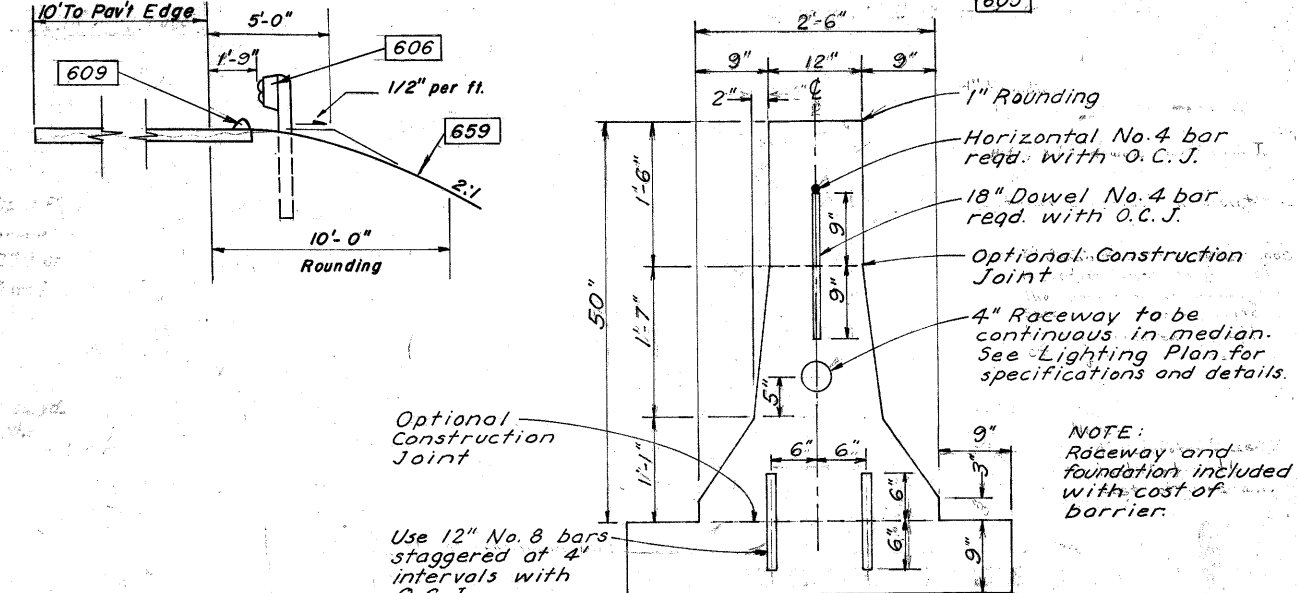


### SUPERELEVATED SECTION 6 LANES

- \* Sta. 74+11.39 to Sta. 75+97.85
- Sta. 75+97.85 to Sta. 77+89.37 (Structure No. 1968)
- \* Sta. 77+89.37 to Sta. 92+59.14
- Sta. 92+59.14 to Sta. 96+74.32 (Structure No. 1998)
- 1 1/4" Asphalt Concrete
- 1 3/4" Asphalt Concrete
- Tack Coat (0.10 Gal./Sq.Yd.) and Cover Aggregate
- 9" Portland Cement Concrete Base
- Subbase Grading A, as per plan; Thickness as shown
- 6" Underdrain 30" Shallow
- Seal Coat Bit. Mat. (0.20 Gal./Sq.Yd.) and Seal Coat
- Cover Agg. No. 9 (0.005 Cu.Yd./Sq.Yd.)
- 6" Bituminous Aggregate Base
- Concrete Barrier Type H
- Guard Rail Type 5
- Seeding & Mulch
- Asphalt Concrete Curb, Std. Type I

- 404-11/4
- 402-13/4
- 407
- 801-9
- 310-A
- 605
- 409
- 301
- 622
- 606
- 659
- 609

- (L) Standard Longitudinal Joint
- (P) Profile Grade
- (H) Hot Longitudinal Joint, See Proposal Note
- (D) Drop Shoulder 1"



Optional Construction Joint

Use 12" No. 8 bars staggered at 4" intervals with O.C.J.

NOTE: Raceway and foundation included with cost of barrier.

1" Rounding

Horizontal No. 4 bar reqd. with O.C.J.

18" Dowel No. 4 bar reqd. with O.C.J.

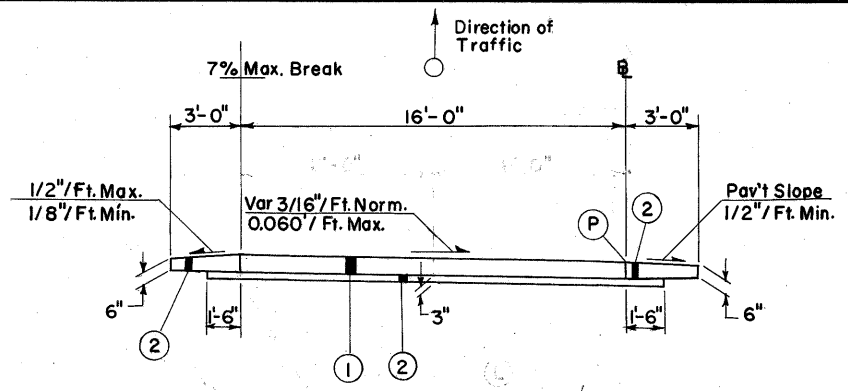
Optional Construction Joint

4" Raceway to be continuous in median. See Lighting Plan for specifications and details.

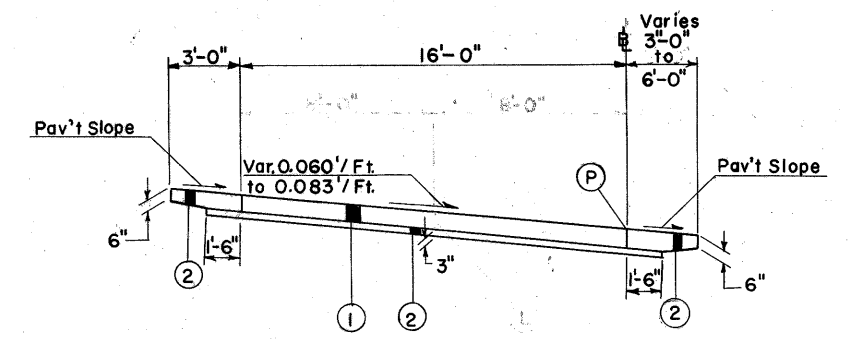
CONCRETE BARRIER  
 50" HIGH, TYPE III HAS PER PLAN

# TYPICAL SECTION TYPE 451

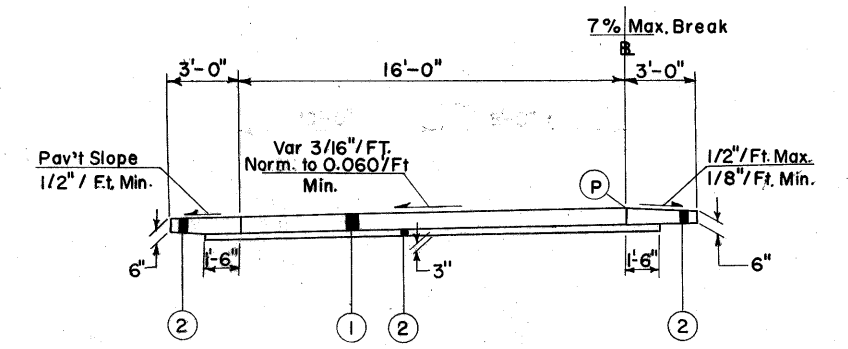
LORAIN COUNTY  
LOR-480-0.00



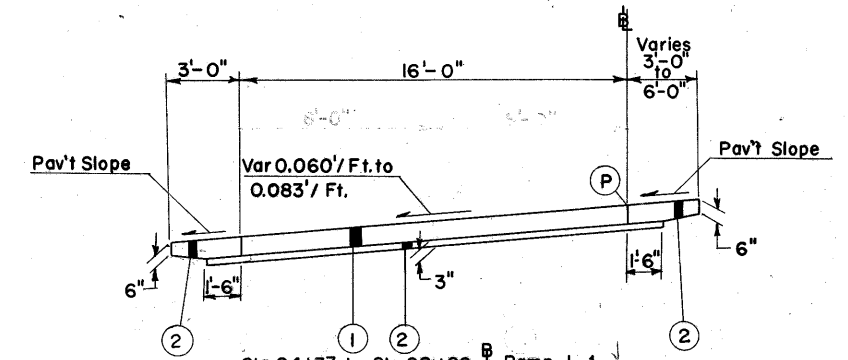
Sta. 86+75 to Sta. 88+42 Ramp L-1  
Sta. 95+77 to Sta. 96+88 Ramp L-3  
Sta. 99+61 to Sta. 100+50 Ramp L-4



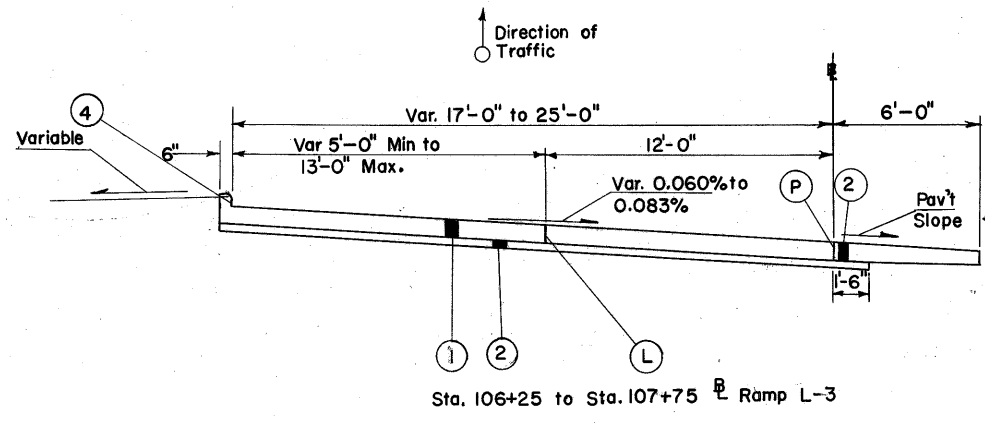
Sta. 88+42 to Sta. 91+16 Ramp L-1  
Sta. 96+88 to Sta. 106+25 Ramp L-3  
Sta. 90+50 to Sta. 102+00 Ramp L-4



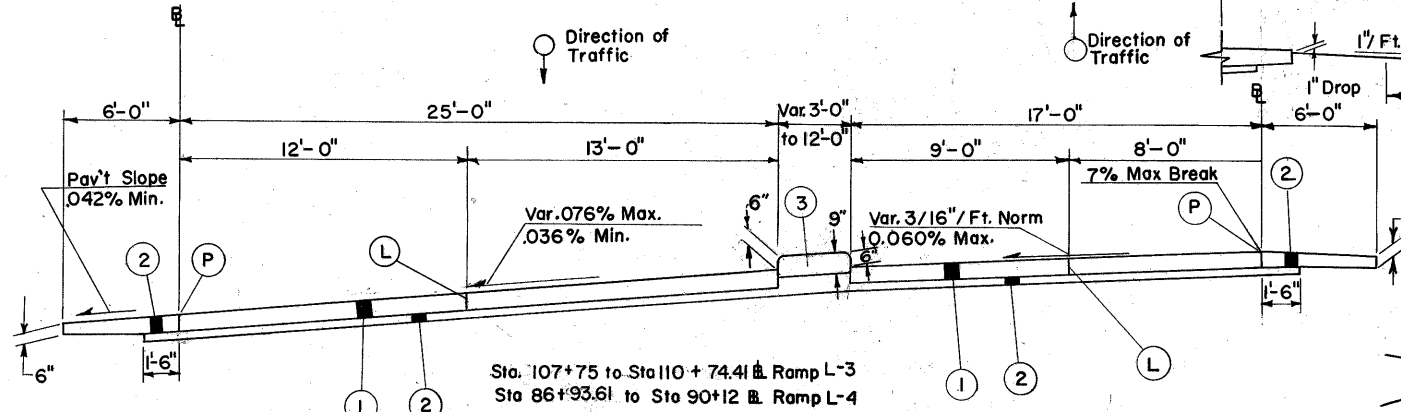
Sta. 85+50 to Sta. 86+75 Ramp L-1  
Sta. 98+09 to Sta. 98+56 Ramp L-1  
Sta. 98+45 to Sta. 98+61 Ramp L-4



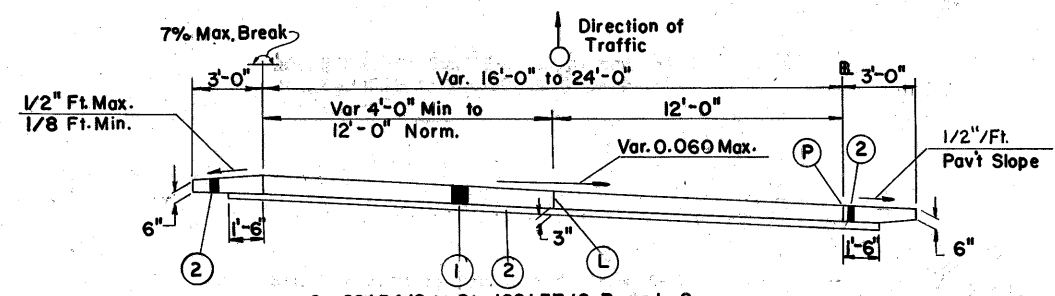
Sta. 94+33 to Sta. 98+09 Ramp L-1  
Sta. 90+12 to Sta. 98+45 Ramp L-4



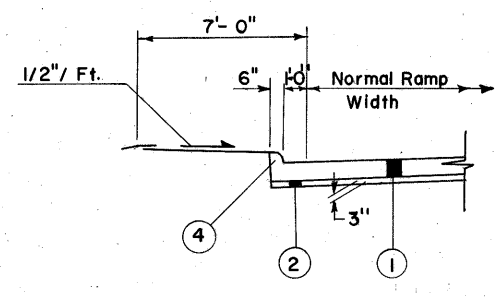
Sta. 106+25 to Sta. 107+75 Ramp L-3



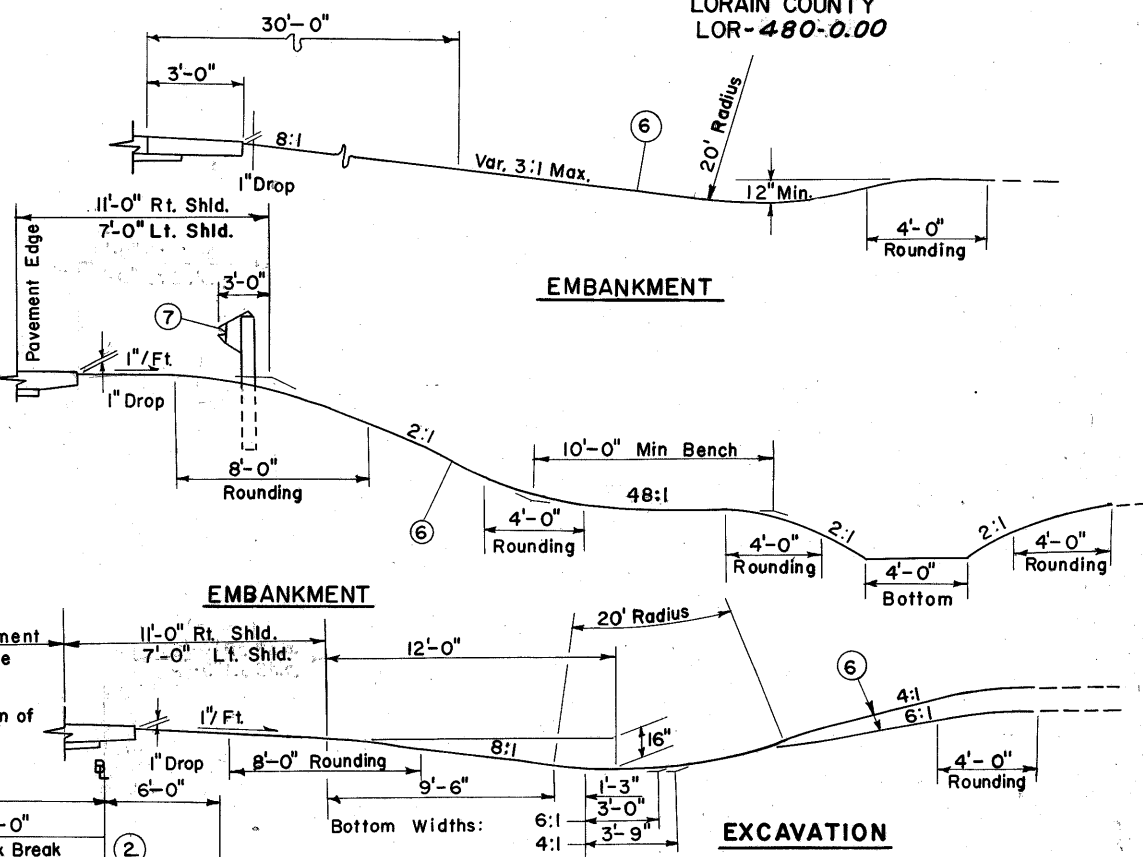
Sta. 107+75 to Sta. 110+74.4 Ramp L-3  
Sta. 86+93.61 to Sta. 90+12 Ramp L-4



Sta. 99+54.12 to Sta. 102+37.16 Ramp L-2



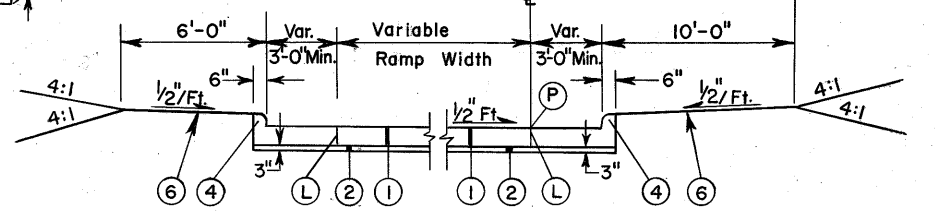
Sta. 102+25 to Sta. 106+75 Ramp L-3  
Sta. 90+12 to Sta. 96+25 Ramp L-4



EM BANKMENT

EM BANKMENT

EXCAVATION

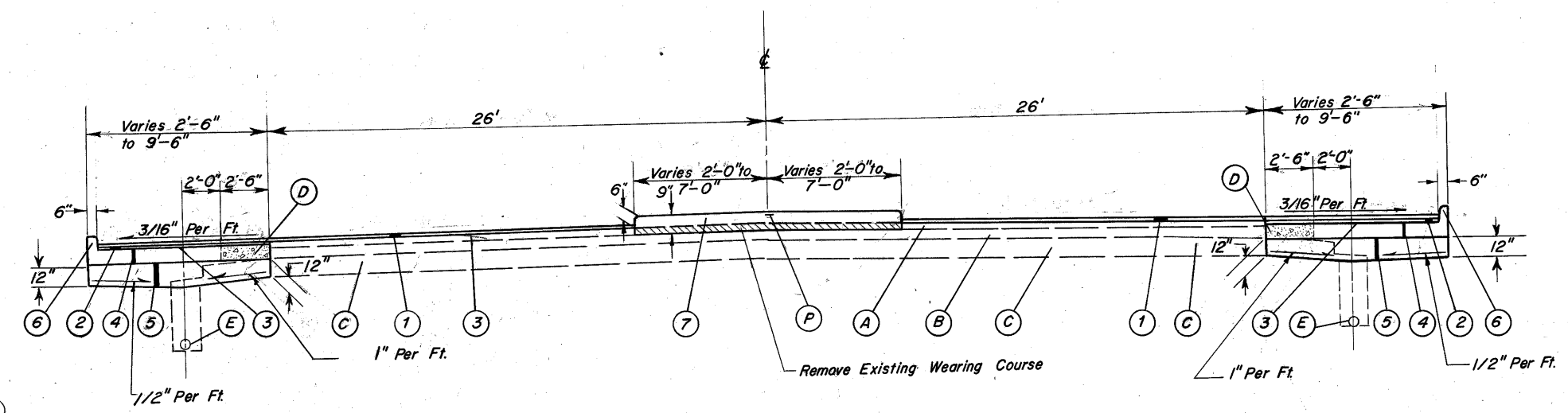


RAMP INTERSECTION DETAIL

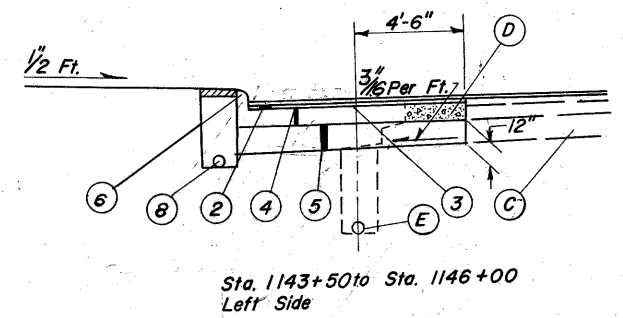
- LEGEND**
- ① Item 451 9" Reinforced Portland Cement Concrete Pavement
  - ② Item 301 Bituminous Aggregate Base (Thickness as shown)
  - ③ Item 612 Standard Concrete Median
  - ④ Item 609 Concrete Curb Standard Type 2-A
  - ⑥ Item 659 Concrete Pavement
  - ⑦ Item 606 Seeding & Mulching
  - ⑦ Item 606 Guard Rail Type 5,
  - L Standard Longitudinal Joint.
  - P Profile Grade.

TYPICAL SECTIONS

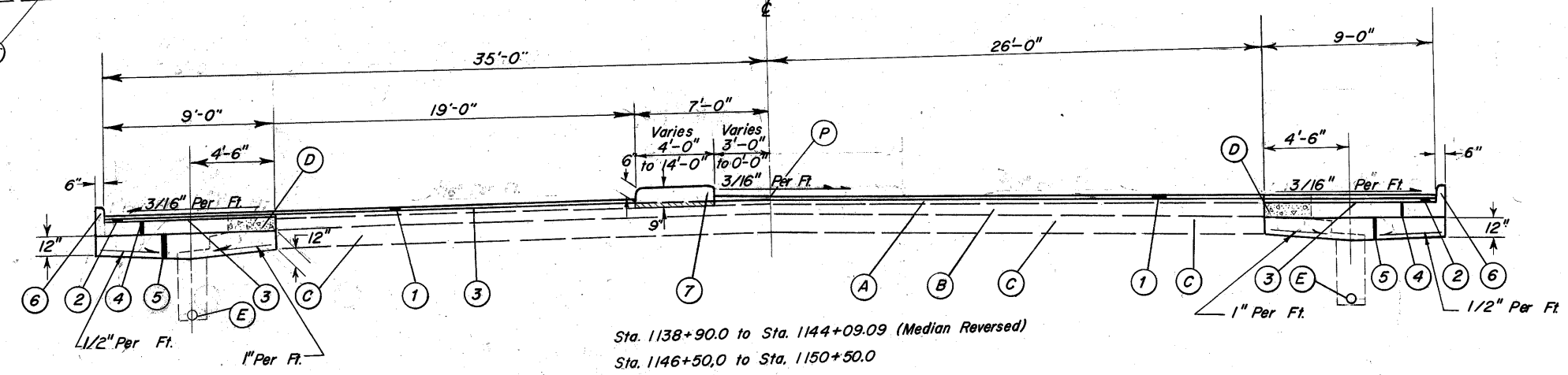
TYPE 404



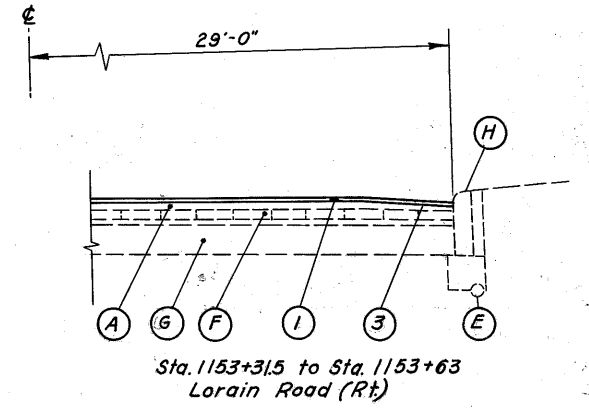
Sta. 1137+45.68 to Sta. 1138+90.0  
Sta. 1144+09.09 to Sta. 1146+50.00  
Sta. 1150+50.00 to Sta. 1152+99.12



Sta. 1143+50 to Sta. 1146+00  
Left Side



Sta. 1138+90.0 to Sta. 1144+09.09 (Median Reversed)  
Sta. 1146+50.0 to Sta. 1150+50.0



Sta. 1153+31.5 to Sta. 1153+63  
Lorain Road (Rt.)

LEGENDS

NEW PAVEMENT LEGEND

- ① Item 404 - 1/4" Asphalt Concrete
- ② Item 402 - 1/4" Asphalt Concrete
- ③ Item 407 Tack Coat, (0.10 Gal./Sq.Yd.) and Cover Aggregate, 702.02; RC-250 Applied at 0.10 gal per sq. yd.
- ④ Item 305 9" Portland Cement Concrete Base
- ⑤ Item 310 Variable Depth Subbase
- ⑥ Item 609 Concrete Curb Standard Type 2-B
- ⑦ Item 612 Standard Concrete Median Constructed on Existing Pavement.
- ⑧ Item 605 Shallow Underdrain
- Ⓟ Profile Grade

EXISTING PAVEMENT LEGEND

- A 2-1/2" Asphalt Concrete Surface Course
- B 6" Asphalt Concrete Base
- C 12"-Classified Embankment Material
- D Combination Curb and Gutter to be Removed Under Item 202
- E 6" Underdrains
- F 3" Brick Course with Slag Cushion
- G 9" Concrete Base
- H Stone Curb



# GENERAL NOTES

CALC. BY DRH	DATE 3/9/71	FED. RD. DIVISION	STATE	PROJECT	9 375
CHKD. BY TRB	DATE 3/15/71	5	OHIO		
Rev. By DR5	12-5-77	LORAIN COUNTY LOR-480-0.00			

## ITEM 619, FIELD OFFICE

The Contractor shall provide a minimum of 800 sq. ft. of floor space for the field office and in addition the requirements of Item 619, shall provide and maintain sanitary provisions as per 107.06. All the above is included in the lump sum price bid for Item 619, Field Office.

## 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.

## 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.

## ESTIMATED QUANTITIES

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

## 622 CONCRETE BARRIER, TYPE H

The 50" high concrete barrier shall be built to the dimensions shown in the plan details. The upper 18" may be constructed integrally with the bottom, or separately with #4 rebar dowels at 4' max. spacing. Start and end dowels 6" from barrier vertical joints.

Barrier foundation shall be 9" deep and 18" wider than the base of the barrier. The top width shown on the details is minimum and shall vary with transitions around sign support foundations and bridge piers. At end terminals, taper the upper 18" to 0" in 6'.

Concrete barrier, if constructed on top of an approach slab shall omit the 9" foundation. Dowels shall be retained to tie barrier to approach slab.

## ELEVATION DATUM

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

## 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.

## MONUMENTS

Monuments shall be constructed in accordance with details shown on Standard Drawing MC-1. For locations, see Sht. No. 356.

## REMOVAL OF TREES AND STUMPS

All trees and stumps specifically marked for removal within the construction limits of this project shall be removed under the lump sum price bid for Item 201 Clearing and Grubbing, except that those trees for which protection and preservation work is indicated elsewhere in these plans shall not be removed.

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

SIZES	* 100% State of Ohio		No. STUMPS
	No. TREES	** Interstate	
18"	88	216	
30"	9	20	
48"			
60"			

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

## UTILITIES

The Contractor shall notify, at least two working days before breaking ground, all public service corporations having wire, poles pipe, conduits, manholes or other structures which may be affected by this operation, including all structures which are affected and not shown on these plans. He shall conduct his operations in such a manner as to avoid damages to any and all utilities, and all work required for public or private utilities will be done by and at the expense of their respective owners, unless otherwise noted on these plans.

## UTILITY OWNERSHIP

Cleveland Electric Illuminating Co.  
Illuminating Building, Public Square  
Cleveland, Ohio 44113

American Telephone & Telegraph  
One North Wacker Drive  
Chicago, Illinois 60606

Columbia Gas of Ohio  
99 North Front St.  
Columbus, Ohio 43215

The Ohio Fuel Gas Co.  
99 North Front St.  
Columbus, Ohio 43215

Elyria Telephone Co.  
363 Third St.  
Elyria, Ohio

City of North Ridgeville, City Hall  
Center Ridge Road  
North Ridgeville, Ohio

Ohio Edison Company  
47 North Main Street  
Akron, Ohio

## DUST CONTROL

20 Tons of 616 Calcium Chloride for dust control & 800 M gallons of water, 616 for dust control are to be used at the direction of and in amounts requested by the Engineer for dust control within the limits of the project.

## 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.

## PAVEMENT ELEVATIONS

Pavement edge elevations where curb is used are at the face of the curb unless otherwise indicated.

## COATED DOWEL BARS

Dowel bars required on Standard Drawing BP-4 shall be coated in accordance with Supplemental Specification 94B.

## 604-STANDARD NO.6 CATCH BASIN MODIFIED AS PER PLAN

Modification of catch basin shall consist of lowering the grate an additional 2" and warp the shoulder pavement for 5'-0" around the basin.

## CONTRACTION JOINTS IN BASE WIDENING ADJACENT TO THE OHIO TURNPIKE

Where new conc. base is placed adjacent to existing concrete base, contraction joints shall be provided in the new base so as to form a continuous joint with that in the existing base.

Additional contraction joints will be required in the new concrete base at midpoints between existing joints to provide contraction joints at intervals of approximately 17 feet.

## CONTRACTION JOINTS IN 451 CONCRETE PAVEMENT

Although specific locations of certain contraction joints have been detailed on this plan, no waiver of specifications is intended and the maximum distance between contraction joints shall be in all cases in accordance with Standard Drawing BP-4.

## EXPANSION JOINTS IN 451 CONCRETE PAVEMENT

Although specific locations of certain expansion joints have been detailed on this plan, no waiver of the specifications is intended.

## CONTRACTION JOINTS IN 801 CONCRETE BASE

In lieu of spacing requirements of Standard Construction Drawing BP-4, contraction joints without dowels shall be spaced at 20' intervals and will be skewed right edge forward at a rate of 1' in 6' of width except for the first 25 joints away from the pressure relief joints. These joints shall not be skewed and shall be dowelled. Dowels shall meet the requirements of BP-4.

## WEED CONTROL BENEATH GUARDRAIL

Guardrail located east of the Turnpike tollbooth on I-480, USR-20, SR-10 and Ramp L-1 shall not be erected until the Contractor has prepared the subgrade and paved the area beneath the guardrail run as shown in the special details on Sheet No. 23.

Special care shall be exercised, by coordination between the Contractors, to insure the 301 Bituminous Aggregate Base is installed in the proper locations prior to erecting the guardrail runs.

Preparation of the subgrade shall include an application of SIMAZINE pre-emergence herbicide. The rate and method of application shall be in strict conformance with the manufacturer's instructions. The Contractor shall have the necessary permit from the Ohio Department of Agriculture before applying herbicide.

After setting the guardrail posts but before attaching the rail elements, any damage to the pavement resulting from the post-setting operations shall be repaired and additional paving material shall be compacted around the posts sufficient to prevent water from collecting.

Cost of all materials, equipment, and labor necessary to accomplish the above shall be included in the unit prices bid for Item 301-Bituminous Aggregate Base (Weed Control) and Item Special-Herbicides for Weed Control. Estimated quantities for these items are calculated on Sheet No. 20.

## LOCATIONS OF GUARDRAIL

The locations of guardrail runs shown in these plans are subject to adjustment to assure that the planned installations will afford maximum protection for traffic.

# GENERAL NOTES

FED. RD. DIVISION	STATE	PROJECT	
5	OHIO		

10  
375

CALC. BY DRH DATE 3/8/71  
CHKD. BY TRB DATE 3/12/71

LORAIN COUNTY  
LOR-480-0.00

## REVIEW OF DRAINAGE FACILITIES

Before any work is started on the project, and again before final acceptance by the State, representatives of the State, the City and the Contractor shall make a visual inspection of the existing storm sewers within the work limits which are to remain in service and which may be affected by the work. Records of the inspections shall be kept in writing by the State.

All new conduits, inlets, catch basins and manholes constructed as a part of the project shall be free of all foreign matter and in a clean condition before the project will be accepted by the State.

All existing sewers inspected initially by the above mentioned parties shall be maintained and left in a condition reasonably comparable to that determined by the original inspection. Any change in the condition resulting from the Contractor's operations shall be corrected by the Contractor to the satisfaction of the Engineer.

Payment for all operations described above shall be included in the unit prices bid for the pertinent 603 conduit items of the contract.

## EXISTING UNDERDRAINS

Where existing underdrains are encountered and no provision has been made for new underdrains, they shall be connected to new inlet with 6 inch Type "F" pipe. A quantity of 100 feet has been provided in the general summary to be used as directed by the engineer for that purpose. The materials shall not be order by the contractor unless prior approval is received from the project engineer.

## WATER POLLUTION, SOIL EROSION AND SILTATION CONTROL

The following estimated quantities are to be used as directed by the Engineer for erosion and siltation control measures:

	100% State	Interstate
207 Temporary Seeding and Mulching	27,000 Sq. Yd.	62,000 Sq. Yd.
207 Straw or Hay Bales	130 Each	200 Each
207 Temporary Slope Drains	700 Lin. Ft.	700 Lin. Ft.
207 Temporary Benchs, Dikes, Dams and Sediment Basins	500 Cu. Yd.	1300 Cu. Yd.
659 Commercial Fertilizer (12-12-12)	6 Ton	13 Ton
659 Repair Seeding and Mulching	7000 Sq. Yd.	15,500 Sq. Yd.
659 Mowing	350 M Sq. Ft.	750 M Sq. Ft.
659 Water	65 M Gal.	145 M Gal.

## EMBANKMENT CONSTRUCTION IN EXISTING LAKE STA. 53+00-60+00 E.B. 480 MAINLINE

Embankment Construction within the above limits shall be accomplished by one of the following alternate methods.

- 1) Dewater and construct embankment using normal dry land construction procedures.
- 2) Place granular material or rock by the method of end dumping up to the normal water level.
- 3) Combination of Methods 1 and 2.

All provisions of 203 relating to embankment construction shall remain in effect under each of the above alternates.

The cost of all necessary material, labor and equipment to construct the embankment shall be included in the unit price for item 203 embankment regardless of the method used.

## CONNECTIONS TO EXISTING SEWERS

When the plans provide for proposed drainage pipe to be connected to existing pipes, the contractor shall locate the existing pipe both as to line and grade before laying the proposed sewer. The cost of this operation shall be included in the unit price bid for the pertinent pipe item. At places where the plans provide for

- 1) The connection of a new sewer to an existing sewer or appurtenance, or
  - 2) The connection of an existing sewer to a new sewer or appurtenance, or
  - 3) A new sewer to cross over or under an existing sewer or appurtenance,
- It shall be the responsibility of the Contractor to locate the existing sewer or appurtenance both as to line and grade before commencing construction of the proposed sewer. Payment for this operation shall be included in the unit price bid for the applicable 603 conduit.

## MANHOLE COVERS

The contractor shall set the frames for manhole covers at such an elevation and inclination as to place the surface of the cover in the plane of the finished surface except on slopes steeper than 1 on 4.

## 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.

## SANITARY FLOW INTO HIGHWAY 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.

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.

## LOCATION AND SIZE OF EXISTING PIPES

The location, type, depth, and size of all existing pipes are shown as near exact as the available information will permit. The state will not be responsible for any variations found during construction.

## SPECIAL DITCHES

For special ditch grades, see cross sections and ditch detail sheets.

## CATCH BASIN LOCATION

The location of a C.B. as shown on the plans is the center of grate.

## SPRING DRAINS

Reference is made to the Standard Drawing No. 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: The length or exact location shall be determined by the engineer.

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 100 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 nonperformed.

## EROSION CONTROL

Items 601, 660 and 667 are provided in the plans for erosion control. Rock or turf 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.

## PLUGGING OIL AND GAS WELLS

All oil and gas wells located within the limits of the right-of-way, except those which have been plugged to the satisfaction of the Department of Natural Resources, shall be plugged by the Contractor before any other construction is started in the vicinity of the wells. All work shall be done in accordance with the requirements of the State of Ohio, Department of Natural Resources, Division of Oil and Gas, Fountain Square, Columbus Ohio 43224. All work connected with plugging of the wells must be performed under the supervision of a representative of the Division of Oil and Gas. The Contractor shall notify the project engineer and the Division of Oil and Gas at least 14 days in advance of the date on which he intends to begin work.

Recorded information regarding these wells and permits to plug the wells shall be obtained by the Contractor at the Division of Oil and Gas.

Payment for the work shall be made per each under "Item Special, Plugging Oil and Gas Wells", which price and payment shall constitute full compensation for furnishing all material, labor, tools and equipment, and all incidentals necessary to complete this item.

The following estimated quantity of "Plugging Oil and Gas Wells" was carried to General Summary in the event the Contractor encounters additional wells requiring plugging or the Engineer requires wells that were plugged prior to this project to be replugged. All or part of this quantity may be nonperformed.

Item Special 1 Each Plugging Oil or Gas Wells

## VENTING OIL AND GAS WELLS

All oil and gas wells located within the limits of this project, whether plugged as part of this project or plugged by others, shall be vented as detailed on sheet no. 23.

The following estimated quantities have been included in the General Summary for venting these wells.

Item 602 Concrete Masonry, as per plan 4.0 Cu. Yd.

Item 603 3" Conduit, Type F, 707.08

Standard Weight Bituminous Coated 300 Lin. Ft.

## WATERING AND MOWING PERMANENT SEEDER AREAS

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

100% State ~ 659 Water 150 M Gal.

Interstate ~ 659 Water 400 M Gal.

100% State ~ 659 Mowing 330 M Sq. Ft.

Interstate ~ 659 Mowing 620 M Sq. Ft.

# GENERAL NOTES

CALC BY DRH DATE 3/8/71  
WAM DATE 3/9/71

FED. NO. DIVISION	STATE	PROJECT
5	OHIO	



LORAIN COUNTY  
LOR.-480-0.00

## FARM DRAINS

All farm drains which are encountered during construction shall be provided with unobstructed outlets under the direction of the Engineer. Existing collectors which are located below the roadway ditch elevations and which cross the roadway shall be replaced within the (right-of-way) (construction) limits by Item 603 Conduit, Type B, one commercial size larger than the existing conduit.

Existing collectors and isolated farm drains which are encountered above the elevation of the roadway ditches shall be outletted into the roadway ditch by 603 Type F Conduit. The optimum outlet elevation shall be, if possible, one foot above the flowline elevation of the ditch. Lateral field tiles which cross the roadway shall be intercepted by 603 Type E Conduit and carried in a longitudinal direction to adequate outlet or roadway crossing.

The location, type, size and grade of required replacements shall be determined by the Engineer during construction and payment shall be made on final measurements.

The following estimated quantities have been included in the General Summary for the work noted above:

Item 603 6" Conduit, Type B 300 Lin.Ft., Item 603 8" Conduit, Type B 300 Lin.Ft.  
Item 603 6" Conduit, Type E 150 Lin.Ft., Item 603 8" Conduit, Type E 150 Lin.Ft.  
Item 603 6" Conduit, Type F 50 Lin.Ft., Item 603 8" Conduit, Type F 50 Lin.Ft.  
Item 601, Rock Channel Protection Type B, With Bedding (18" Thick) 6 Cu. Yds.

Necessary bends or branches shall be included for payment in the pertinent conduit item.

None of the above materials shall be ordered by the Contractor until requested by the Engineer and if not needed the item shall be nonperformed.

## PIPE CONNECTIONS TO CORRUGATED STEEL STRUCTURES

Connections of proposed longitudinal drainage to corrugated steel structures shall be by means of a shop fabricated or field welded stub on the structure. The stub shall meet the requirements of 707 and have a minimum length of two feet and a minimum thickness of 0.064 inches.

Location and elevation of the stub are to be considered approximate and may be adjusted by the Engineer to avoid cutting through joints in the structure.

The field welded joint, if used, shall be painted on the inside and outside with two coats of red lead paint, 708.06 and two coats of graphite paint, 708.13. Welding shall meet the requirements of 513.17.

A concrete collar as per Standard Drawing MC-4, will be required to connect the longitudinal drainage to the stub when pipe other than corrugated steel is provided for the longitudinal drainage.

Payment for cutting into the structure and providing the connection described shall be included in the unit price bid for Item 603 or 522.

## PAVEMENT MARKINGS TEMPORARY PAVEMENT

At locations where 404 Asphalt Concrete is used for temporary pavement, the Contractor shall be required to provide pavement markings to delineate traffic lanes through the construction area, which is to include, center line, lane lines, and edge lines. Existing lane markings will be obliterated and restored immediately following the completion of the permanent construction and resurfacing.

Temporary pavement markings shall consist of reflective white or yellow paint spots, or reflective pressure sensitive pavement marking tape (white or yellow 6" wide by 24" long at maximum 40 foot intervals. Marking tape shall be as manufactured by 3-M company or approved equal and shall not be less than 9 mils nor more 16 mils, and be readily visible when viewed with automobile headlights.

The cost of all labor, equipment and material will be included in the lump sum bid for Item 614 Maintaining Traffic.

## ITEM 603-15" CONDUIT TYPE "B" JACKED UNDER PAVEMENT, AS PER PLAN

This item shall consist of furnishing and installing Type "B" conduit of the size indicated under existing pavement and contiguous shoulders by "drilling" or "jacking". The requirements for 603.04 Class "B" bedding shall be disregarded.

The contractor shall place the conduit with the least amount of disturbance to the existing pavement, subbase, berm pavement, or shoulders of the roadway. Auguring ahead of the conduit will be allowed but water jetting will not be permitted. All push pits or any necessary excavations shall be backfilled and restored in accordance with 603.08 and 603.09.

Measurement of the conduit shall be the actual amount of lineal feet installed under pavement and shoulders, measured in place, as accepted by the engineer. The unit price bid for Item 603 "15" Conduit Type B, Jacked Under Pavement, As Per Plan" shall be full compensation for excavation, drilling or jacking, backfilling, compaction, restoration, and all labor, material, equipment, and incidentals necessary to complete the work as specified.

The contractor shall submit the proposed method of placement and construction details to the Chief Engineer of the Ohio Turnpike Commission and the Ohio Department of Transportation for approval 30 days prior to commencing work at this location.

## COOPERATION

The contractor is hereby advised that the following utilities may be relocated during the life of this project:

1. An existing 20" gas line by Columbia Gas Transmission Corporation shown on sheets 52 and 62.
2. An existing underground cable by the Ohio Bell Telephone Company shown on sheets 38 and 46.

Cooperation with the utility companies involved and responsibility for protection of existing facilities shall be in accordance with Sections 105.06 and 107.17 of the Specifications.

## TREATED SANITARY FLOW INTO HIGHWAY DRAINAGE SYSTEM OTHER THAN INTERSTATE

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 Department of Transportation, the 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.

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 100 Lin. Ft.  
Item 604, Inspection Wells 2 Each

Necessary bends or branches shall be included for payment in the pertinent conduit item.

None of the above materials shall be ordered by the Contractor until authorized by the Engineer.

## MAINTENANCE OF TRAFFIC

Where the work called for under this contract involves the closing of streets or the re-routing of traffic the Contractor shall prosecute to the fullest extent the work involved so as to reduce to a minimum the length of time the roadway will be closed to traffic. No street will be closed until necessary for construction as determined by the Engineer. The Contractor is required to notify the City of North Ridgeville in writing (14) days in advance of closing an existing street.

## ROOT ROAD

The Contractor is not required to maintain traffic on Root Road and may close the facility for 120 consecutive calendar days as directed by the Engineer. See Ohio Turnpike Maintenance of Traffic Note.

## DRAINING OF EXISTING LAKES TO BE FILLED

Existing lakes located South of Eastbound I-80 between sta. 14+00 and 20+00 are to be drained by constructing the southerly ditch prior to placing the highway embankment.

## R.O.W. FENCE ERECTION ~ SCHEDULE OF OPERATIONS

For the protection of pedestrians, children, and animals, the Contractor shall, in-so-far as practical, so schedule and prosecute the work that the erection of the right of way fence shall be performed prior to any other operation in the area.

In his Progress Schedule, the Contractor shall include a complete schedule of how he proposes to erect the right of way fence.

## ITEM SPECIAL~ REINFORCED CONCRETE PROTECTIVE PAD

To protect underground utilities from crossings by heavy construction equipment, an estimated quantity of 4 each, Item Special~ Reinforced Concrete Protective Pad, as shown on Sheet No. 23, have been included in the General Summary to be used as directed by the Engineer. The locations of the pads will be at the option of the Contractor.

Material for the protective pad shall meet the requirements of Item 499 and Item 509. Payment for all the materials, labor, equipment etc. necessary to construct the pad and payment for all coordination necessary with the utility company or their contractor shall be included in the each price bid for: Item Special~ Reinforced Concrete Protective Pad.

## ITEM SPECIAL-FILL AND PLUG EXISTING BOX CULVERT

This item shall consist of the construction of bulkheads with manhole chambers, as detailed on sheet 24, in the existing box culvert and filling the area thus sealed off with sand or other granular material approved by the Engineer.

Bulkheads shall be located at the limits of the area to be filled as indicated on the plans. The bulkheads shall consist of brick or concrete masonry with a minimum thickness of 12" inches.

The fill material shall be pumped into place or placed by some other means approved by the Engineer, so that after settlement, at least 90 percent of the cross-sectional area of the culvert for its entire length shall be filled. The footage of filled and plugged culvert to be paid for shall be the actual number of linear feet (measured along the centerline of the culvert from outer face to outer face of the bulkheads) filled and plugged as described above.

The footage, measured as provided above, shall be paid for at the contract unit price bid per linear foot for "Item Special, Fill and Plug Existing Box Culvert", which price and payment shall constitute full compensation for furnishing, hauling, and placing all the necessary materials, and for all labor, equipment, tools, and incidentals necessary to complete this item.

## MAINTENANCE OF TRAFFIC (CONTINUED) CHESTNUT RIDGE & LEAR NAGLE RD.

Two way traffic shall be maintained at all times by the use of the existing pavement or temporary roadways as directed by the Project Engineer.

### LORAIN ROAD (S.R. 10)

Two way traffic shall be maintained at all times by the use of the existing pavement during pavement widening and resurfacing operations and by the use of existing pavement and temporary roadways during structure and culvert const..

All of the above are included in the lump sum price bid for Item 614 Maintaining Traffic. Estimated quantities of the following items have been included in the General Summary for use only as directed by the Engineer.

75 C.Y. Item 404 Asphalt Concrete or an Approved Bituminous Premixed Surface Course for Maintaining Traffic.

75 C.Y. Item 410 Traffic Compacted Surface Type A or B Rev 1-25-78

# MAINTENANCE OF TRAFFIC OHIO TURNPIKE

FED. RD. DIVISION	STATE	PROJECT
5	OHIO	

12  
375

LORAIN COUNTY  
LOR - 480-0.00

## OPERATIONS OF TRAFFIC

Safety and continuity of operations of traffic on the Ohio Turnpike shall be of the first importance and shall at all times be protected and safeguarded, protection of this traffic will include positive dust control during construction operations in those areas adjacent to the Ohio Turnpike.

Traffic on the Ohio Turnpike shall be maintained at all times by means of existing Ohio Turnpike roadways and the crossovers with the following restrictions:

### 1. PERIOD MAY 1 THROUGH SEPTEMBER 14

All travel lanes shall remain open at all times during this period. No work may be performed during this period closer than 10 feet from the edge of the Turnpike pavement including work to be performed on structures over the Turnpike.

### 2. PERIOD SEPTEMBER 15 THROUGH APRIL 30

One pair of lanes in one direction or single lanes in each direction may be closed to traffic during daylight hours on Mondays, Tuesdays, Wednesdays and Thursdays and until 2:00 P.M. on Fridays unless the Ohio Turnpike Commission shall designate otherwise because of expected heavy traffic volume periods as a holiday, special event, or an emergency. All travel lanes shall remain open by means of the existing roadways from 2:00 P.M. on Fridays to daylight on Mondays.

The Engineer shall give written notice to the Chief Engineer of the Ohio Turnpike Commission at the Commission's Offices, 682 Prospect Street, Berea Ohio, at least two working days in advance of the time the contractor intends to commence any work upon or over the Ohio Turnpike Right-Of-Way. Whenever such work, in the opinion of the Chief Engineer of the Ohio Turnpike Commission, may affect the safety of traffic on the Ohio Turnpike, the method and schedule for doing such work shall be submitted to the Chief Engineer of the Ohio Turnpike Commission for his approval, without which it shall not be commenced or prosecuted.

Once started, any work which will in any way affect the safety or continuity of traffic on the Ohio Turnpike, shall be expedited until the hazard to or interference with traffic is eliminated. If, in the judgement of the Chief Engineer of the Ohio Turnpike Commission, an undue hazard or unwarranted interference with Turnpike traffic shall exist at any time, the existence of such hazard or interference may be cause for suspending work until such hazard or interference has been removed.

## CROSSOVERS

Before any work shall be done on the crossovers within the right-of-way of the Ohio Turnpike, the contractor shall submit to the Chief Engineer of the Ohio Turnpike Commission for his approval, a sequence and time schedule of proposed operations, including the necessary drainage modifications. No work shall be performed within the Turnpike right-of-way until such sequence and schedule are approved in writing.

The two crossovers will be constructed and utilized during the period of September 15 to April 30.

Traffic shall be restricted to one lane in either or both of the Turnpike roadways at reduced speed when any work is within ten (10) feet of the roadway and the crossovers cannot be utilized to maintain traffic. This work includes construction of exit and entrance lanes, I-480 E.B. bridge construction, modifications to Root Road bridge, and construction and removal of the crossovers. For such work as painting and minor finishing work on the superstructure of bridges, traffic may be restricted to one lane in each of the Turnpike roadways at reduced speed. A fifteen foot vertical clearance over the Ohio Turnpike shall be maintained at all times.

## CROSSOVER (CONT.)

Construction of the piers and abutments for 480 Eastbound and Root Road bridges over the turnpike may be performed without closing the roadways, but shall be protected by guard rail and fence as described under the Ohio Turnpike "Temporary Guard Rail" and "Temporary Fence" notes. No earthwork other than material excavated from or required for median construction shall be hauled along or across the Ohio Turnpike roadways. There shall be no movement at any time of the contractor's workmen, equipment or materials across Turnpike lanes that are open to traffic except for work performed in those areas listed under the "Access To Work" notes.

The Ohio Turnpike Commission reserves the right to limit the size of loads and to require any other means to minimize spillage on the turnpike pavements. Any spillage of soil or materials on the pavements shall be removed immediately by the contractor at his expense.

The Ohio Turnpike roadways shall be thoroughly cleaned before traffic is returned to them following each closure.

The crossovers which were constructed on the Ohio Turnpike to maintain traffic during construction of this project shall be left in place after they are no longer needed and shall become the responsibility of the Ohio Turnpike Commission.

The Chief Engineer of the Ohio Turnpike Commission shall be responsible for the operation and maintenance of the crossovers and shall be responsible for the removal of any materials which may be deposited on the crossovers and shall be responsible for the removal of any materials which may be deposited on the crossovers.

Payment for constructing and maintaining the crossovers shall be included in the lump sum price bid for "Item 615 Temporary Roads, As Per Plan", except the paving of the temporary crossovers and connections will be included in the unit price bid for "Item 615 Temporary Pavement, Class A, As Per Plan". See Turnpike Temporary Pavement Detail sheets 61 and 62 for details, typical section and quantities.

## MAINTENANCE OHIO TURNPIKE (100% STATE)

The Ohio Turnpike Commission will furnish, erect, maintain and remove all barricades, gates, lights, warning and regulatory signs, delineators, edge lines and lane lines as required for maintaining traffic on the Ohio Turnpike except barricades and warning lights and signs required for pier footer construction at the Eastbound I-80 structure which shall be furnished, erected, maintained and removed by the contractor. When, in the opinion of the Chief Engineer of the Ohio Turnpike, the construction work causes a hazard to traffic on the Ohio Turnpike, the commission may place at the site of the work qualified watchmen, flagmen and patrolmen to protect the traveling public on the Ohio Turnpike. The Engineer shall at all times keep the Chief Engineer of the Ohio Turnpike Commission informed of the construction activities within the Ohio Turnpike right-of-way. Payment for all of the above services and material provided by the Ohio Turnpike Commission will be by force account with the state of Ohio. Payment for barricades, warning lights and signs required for pier footer construction at the Eastbound I-80 structure shall be included in the lump sum price bid for Item 614, Maintaining Traffic, Ohio Turnpike.

## ACCESS TO WORK - OHIO TURNPIKE

Except as listed below, the contractor shall be required to obtain access to the work by ways other than the use of the Ohio Turnpike. For work in the following locations, the contractor will be permitted to use the facilities of the Ohio Turnpike.

1. The construction of the crossovers.
2. The median pier construction and steel erection of I-80 Eastbound structure over the Ohio Turnpike including the protection fence and guardrail in the median and the permanent guard rail in the median.
3. Removal of deck forms on I-80 Eastbound structure.

The contractor shall be responsible for transportation of workmen to the work area. Workmen employed on the project will not be permitted to park their vehicles on the Turnpike right-of-way. Neither shall the toll plaza area at interchanges be used for parking of workmen's vehicles.

Special arrangements for access to the work site by use of the turnpike for delivery of concrete and steel for the bridges over the Ohio Turnpike and for paving material for the crossovers and ramp connections, may be made with the Chief Engineer of the Ohio Turnpike Commission. However, such arrangement will not include U-turns except those possible at the toll plazas. Any use of the Ohio Turnpike for this purpose will require the payment of normal tolls and shall be done in accordance with the "Rules And Regulations For The Control And Regulation Of Traffic" adopted by the Ohio Turnpike Commission.

State and federal inspectors and engineers occupying a state or federal vehicle shall be afforded ready access to the work site by means of interchanges 9 and 10 without payment of tolls. All vehicles going to the job site in the median shall enter the coned-off work zone as soon as possible, if a coned area is in place, and remain within the coned-off areas in both roadways. Exiting vehicles from the work areas shall "Yield To" and exercise all necessary care to safeguard existing traffic on the open roadways.

# MAINTENANCE OF TRAFFIC OHIO TURNPIKE

CALC. BY WAM DATE 3/8/71  
 CHKD BY DRH DATE 3/12/71

FED. RD. DIVISION	STATE	PROJECT
5	OHIO	

13  
375

LORAIN COUNTY  
LOR-480-0.00

### TEMPORARY GUARD RAIL—OHIO TURNPIKE

The contractor shall furnish, erect and subsequently remove approximately 650 lineal feet of guard rail, type 4, as a temporary guard rail for protection of his work area for I-80 Eastbound and Root Road bridges adjacent to the turnpike. The guard rail shall be post mounted, erected per standard drawings GR-1, and GR-2A, modified to provide post spacing at 12'-6" throughout except for the three post of the terminal panel, at locations shown on the plans. The ends of each run toward approaching traffic shall be flared so that the terminal post will be located approximately 20 feet from the edge of the pavement. In the median, both ends of a run of temporary guard rail shall be flared with terminal post located approximately 20 feet from the edge of pavement. Construction will be similar to the standard guard rail flare shown on standard drawing GR-5. Good quality used guard rail may be used for this purpose subject to the approval of the Chief Engineer of the Ohio Turnpike Commission.

Payment for furnishing, erecting, maintaining and removing the temporary guard rail shall be included in the lump sum price bid for "Item 614, Maintaining Traffic, *Ohio Turnpike*."

Existing guard rail along the Turnpike at I-80 E.B. shall be removed to install temporary guard rail and replaced after the work is complete, using standard spacer blocks in reconstruction. The cost of this work shall be included in the unit price bid for 202, "Guard Rail Removed", and 606 "Guard Rail Rebuilt".

### TEMPORARY FENCE — OHIO TURNPIKE

Temporary fence shall be installed behind the temporary guard rail at I-80 Eastbound lanes. Chain link fence minimum height 6 feet shall be used behind the guard rail. Type 47 fence may be used beyond the limits of the chain link fence run to connect to Turnpike right-of-way fence as shown on the plans. The fence shall be maintained in good condition until the construction is completed, at which time the fence shall be removed and disposed of. Good quality used materials may be furnished for temporary fencing. Such materials shall be subject to the approval of the Chief Engineer of the Ohio Turnpike Commission. Customary concrete encasement of fence posts will not be required if satisfactory stability can otherwise be obtained.

The fencing shall be of sufficient length to afford protection throughout bridge construction and bridge related earthwork construction operational areas, and prevent people and animals from entering onto the travelled roadway. Total estimated minimum temporary fence lengths are 650 lineal feet of chain link and 3,380 feet of type 47. All materials, type of construction, locations and condition of maintenance shall be subject to approval of the Chief Engineer of the Ohio Turnpike Commission.

Payment for furnishing, erection, maintenance and removal of temporary fence shall be included in the lump sum price bid for "Item 614, Maintaining Traffic, *Ohio Turnpike*."

### EARLY STAGE PERMANENT RIGHT OF WAY FENCE WITH TEMPORARY FENCE CONNECTION

Depicted in this plan on eastbound I-80 R/W Sheets 197 through 200 and on Ohio Turnpike alignment sheet 61 and 62 is permanent type CL fence or temporary type 47 fence connections to existing Turnpike right-of-way fences. The temporary fence across the proposed I-80 right-of-way shall be fitted with a gate of sufficient width to permit passage of equipment and materials.

This arrangement of early stage fencing is intended to afford protection to the patrons of the toll road from the intrusion of unauthorized persons and stray animals and is to be fully operable prior to the removal or breaching of existing turnpike right-of-way fences entailed by construction of I-80 eastbound exit lanes and I-80 westbound entrance lanes. This arrangement of early stage fencing is to continue as an effective barrier until the required protection has been achieved by other means and discontinuance shall be as directed by the Engineer.

Neither the use nor the discontinuance of use of early stage fencing herein described shall in any way relieve the contractor of any of his legal responsibilities or liabilities for the safety of the public. The attention of the contractor is directed to the provisions of 104.04 and 105.14 of the specifications.

Specific construction details of permanent right-of-way fence required herein shall be as shown in the right-of-way plan and no additional quantity of permanent right-of-way fence is herein provided.

Sufficient temporary fence with gate is provided under the section of these notes entitled "Temporary Fence - Ohio Turnpike" to provide for the spans across I-80 eastbound and I-80 westbound rights-of-way. The stipulations of material, construction and maintenance contained in said section apply to these temporary fence connections with gates, except that all materials, type of construction, locations, condition of maintenance and gate operation shall be subject to the approval of the Engineer.

Payment for furnishing, erection, operation, maintenance and removal of temporary fence connection with gate shall be included in the lump sum price bid for Item 614, maintaining traffic, *Ohio Turnpike*.

# GENERAL SUMMARY

CAC. BY WAM DATE 3/8/77  
 CHG. BY DRH DATE 3/12/77  
 Rev. DRS 7-28-77  
 Rev. DRS 12-2-77

FED. RD. DIVISION	STATE	PROJECT
5	OHIO	LORAIN COUNTY LOR-480-0.00

14  
375

ITEM	SHEET NUMBERS																															COST PARTICIPATION		GRAND TOTAL	UNIT	ITEM	DESCRIPTION				
	361	9	10	11	18	19	20	20A	35	36	37	38	39	44	45	46	47	48	50	51	52	54	56	62	63	69	70	71	72	73	74	75	76					356	360	INTERSTATE TOTAL	100% STATE TOTAL
	TOTAL		FROM SHT. 15		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL					TOTAL			
201																																Lump	Lump	201	LUMP	201	CLEARING AND GRUBBING				
202																																Lump	Lump	202	LUMP	202	PARCEL NO. 27-WL, REMOVAL OF ONE FRAME SHED				
202																																Lump	Lump	202	LUMP	202	PARCEL NO. 39-WL, REMOVAL OF ONE FRAME GARAGE, FRAME SHED				
202																																		3,203	L.F.	202	CURB AND GUTTER REMOVED				
202																																		1,360	S.Y.	202	WEARING COURSE REMOVED				
202																																		200	L.F.	202	GUARD RAIL REMOVED				
202																																		18	EA.	202	SEPTIC TANK REMOVED				
202																																		4	EA.	202	PRIVY VAULT REMOVED				
SPEC																																		2	EA.	SPEC	PLUGGING OIL OR GAS WELLS				
203																																		91,058	C.Y.	203	EXCAVATION NOT INCLUDING EMBANKMENT CONSTRUCTION				
203																																		1,163,907	C.Y.	203	EMBANKMENT				
203																																		90,012	S.Y.	203	SUBGRADE COMPACTION				
203																																		30	H.R.	203	PROOF ROLLING				
202																																		275	L.F.	202	GUARD RAIL REMOVED FOR RE-USE				
404																																		75	C.Y.	404	ASPHALT CONCRETE OR AN APPROVED BITUMINOUS PREMIXED SURFACE COURSE FOR MAINTAINING TRAFFIC				
410																																		75	C.Y.	410	TRAFFIC COMPACTED SURFACE, TYPE 'A' OR 'B'				
411																																		292	C.Y.	411	STABILIZED CRUSHED AGGREGATE				
604																																		1	EA.	604	MONUMENT BOX ADJUSTED TO GRADE				
604																																		5	EA.	604	CENTERLINE REFERENCE MONUMENT, STANDARD TYPE				
604																																		6	EA.	604	STANDARD MONUMENT ASSEMBLY				
606																																		12,372.5	L.F.	606	GUARD RAIL, TYPE 5				
606																																		100	L.F.	606	GUARD RAIL, TYPE 5, BARRIER DESIGN, MODIFIED AS PER PLAN				
606																																		20	EA.	606	BRIDGE TERMINAL ASSEMBLY, TYPE 'A'				
606																																		22	EA.	606	ANCHOR ASSEMBLY, TYPE 'A'				
606																																		5,625	L.F.	606	GUARD RAIL, TYPE 5 MODIFIED AS PER PLAN				
606																																		275	L.F.	606	GUARD RAIL, REBUILT, TYPE 5 MODIFIED AS PER PLAN				
607																																		16,391	L.F.	607	FENCE, TYPE CL				
606																																		13	EA.	606	ANCHOR ASSEMBLY, TYPE 'T'				
SPEC																																		4	EA.	SPECIAL	REINFORCED CONCRETE PROTECTIVE PAD				
615																																		2,860	S.Y.	615	TEMPORARY PAVEMENT, CLASS 'A', AS PER PLAN				
615																																		Lump	Lump	L.S.	615	TEMPORARY ROADS, AS PER PLAN			
616																																		800	M GAL.	616	WATER				
616																																		20	TON	616	CALCIUM CHLORIDE				
Spec																																		5,569	S.Y.	Special	HERBICIDES FOR WEED CONTROL				
301																																		465	C.Y.	301	BITUMINOUS AGGREGATE BASE (WEED CONTROL) 702.01 AC-20 or 702.09 RT-11 or RT-12				
										PAVEMENT TYPE CODE 6707																															
408																																		52	GAL.	408	BITUMINOUS PRIME COAT: 702.09 RT-2 or RT-3; 702.02 MC-90 or MC-70; or 702.03 PRIMER 2D				
301																																		5,545	C.Y.	301	BITUMINOUS AGGREGATE BASE: 702.01 AC-20; OR 702.09 RT-11 OR RT-12				
304																																		29	C.Y.	304	AGGREGATE BASE				
801																																		50,238	S.Y.	801	9" PORTLAND CEMENT CONCRETE BASE				
310																																		1,077	C.Y.	310	SUBBASE				
310																																		15,415	C.Y.	310	SUBBASE GRADING A AS PER PLAN				
402																																		2,641	C.Y.	402	ASPHALT CONCRETE, AC-20				
404																																		7	C.Y.	404	ASPHALT CONCRETE, AC-20 (DRIVEWAYS)				
404																																		2,197	C.Y.	404	ASPHALT CONCRETE, AC-20				
407																																		6,362	GAL.	407	TACK COAT: 702.02, RC-250; OR 702.04, SS-1, SS-1H, MS-2, OR RS-1				
409																																		4,757	GAL.	409	SEAL COAT BITUMINOUS MATERIAL: 702.02 MC-800 OR MC-3000; 702.03, CBAE-800; 702.04 RS-1, RS-2, CR-5; OR 702.09, RT-9 OR RT-10.				
409																																		119	C.Y.	409	SEAL COAT COVER AGGREGATE, NO. 9				
407																																		224	TONS	407	COVER AGGREGATE				
451																																		9,949	S.Y.	451	9" REINFORCED PORTLAND CEMENT CONCRETE PAVEMENT				
452																																		33	S.Y.	452	8" PLAIN PORTLAND CEMENT CONCRETE PAVEMENT				
609																																		1,843	L.F.	609	CONCRETE CURB, STANDARD TYPE 2-A				
609																																		2,512	L.F.	609	CONCRETE CURB, STANDARD TYPE 2-B				
611																																		451	L.F.	SPEC.	PRESSURE RELIEF JOINT, TYPE 'A'				
611																																		1,397	S.Y.	611	REINFORCED CONCRETE APPROACH SLAB (T=17")				
609																																		1,419	L.F.	609	ASPHALT CONCRETE CURB, AC-20, STANDARD TYPE 'I'				
609																																		510	L.F.	609	CONCRETE CURB, STANDARD TYPE 'G'				
611																																		36	S.Y.	611	REINFORCED CONCRETE APPROACH SLAB (T=14")				
611																																		877	S.Y.	611	REINFORCED CONCRETE APPROACH SLAB (T=15")				
612																																		1,528	S.Y.	612	CONCRETE MEDIAN, STANDARD TYPE				
622																																		2,657	L.F.	622	CONCRETE BARRIER, TYPE 'H'				
305																																		3,049	S.Y.	305	9" PORTLAND CEMENT CONCRETE BASE				

# GENERAL SUMMARY

CALC BY WAM DATE 3/9/71  
 CHG BY DRH DATE 3/12/71  
 Rev. DRS 7-28-77

FED. RD. DIVISION	STATE	PROJECT
5	OHIO	

LORAIN COUNTY  
 LOR-480-0.00

15  
375

ITEM	SHEET NUMBERS																												100% STATE TOTALS	UNIT	ITEM	DESCRIPTION
	9-12	13	19	20	20A	30	31	32	33	34	59	65	66	67	68	69	356	360														
																													TO SHEET 14			ROADWAY-TYPE CODE 6707
201																													Lump		LUMP 201	CLEARING AND GRUBBING
202																													1		EA. 202	SEPTIC TANK REMOVED
202																													160		LF. 202	GUARD RAIL REMOVED
202																													169 106		LF. 202	GUARD RAIL REMOVED FOR RE-USE
203																													21809		C.Y. 203	EXCAVATION NOT INCLUDING EMBANKMENT CONSTRUCTION
203																													432,432		C.Y. 203	EMBANKMENT
203																													16,436	4622 1937 5270 2288	S.Y. 203	SUBGRADE COMPACTION
203																													11		H.R. 203	PROOF ROLLING
411																													49 19 53 90 81		C.Y. 411	STABILIZED CRUSHED AGGREGATE
604																														2	EA. 604	STANDARD MONUMENT ASSEMBLY
604																														1	EA. 604	CENTERLINE REFERENCE MONUMENT, STANDARD TYPE
606																														50 50	LF. 606	GUARD RAIL, TYPE 5 BARRIER DESIGN, MODIFIED AS PER PLAN
606																													887.5 350 1025 1775 1587.5		LF. 606	GUARD RAIL, TYPE 5 MODIFIED AS PER PLAN
606																														169 106	LF. 606	GUARD RAIL, REBUILT, TYPE 5 MODIFIED AS PER PLAN
606																													2	2 2	EA. 606	ANCHOR ASSEMBLY, TYPE "T"
606																													2	2 2	EA. 606	BRIDGE TERMINAL ASSEMBLY TYPE "A"
606																													2	2 2	EA. 606	ANCHOR ASSEMBLY, TYPE "A"
607																														7697	LF. 607	FENCE TYPE CL
615																													Lump		L.S. 615	TEMPORARY ROADS, AS PER PLAN
615																													2860		S.Y. 615	TEMPORARY PAVEMENT, CLASS "A", AS PER PLAN
PAVEMENT-TYPE CODE 6707																																
301																													1086	366 165 421 70	C.Y. 301	BITUMINOUS AGGREGATE BASE, 702.01 AC 20; OR 702.09, RT-11 OR RT-12
304																														29	C.Y. 304	AGGREGATE BASE
801																													11,704	2486 961 2811 1746	S.Y. 801	9" PORTLAND CEMENT CONCRETE BASE
310																													3703	1023 447 1197 443	C.Y. 310	SUBBASE GRADING A AS PER PLAN
402																													595	138 67 149 84	C.Y. 402	ASPHALT CONCRETE, AC-20
404																														7	C.Y. 404	ASPHALT CONCRETE, AC-20 (DRIVENWAYS)
404																													425	93 40 100 60	C.Y. 404	ASPHALT CONCRETE, AC-20
407																													1224	250 95 281 174	GAL. 407	TACK COAT : 702.02, RC-250, or 702.04, SS-1, SS-1H, MS-2, or RS-1.
408																														52	GAL. 408	BITUMINOUS PRIME COAT: 702.09, RT-2 or RT-3, 702.02, MC-30 or MC-70; or 702.03, PRIMER 20
409																													1303	439 198 503 84	GAL. 409	SEAL COAT BITUMINOUS MATERIAL, 702.02, MC-800, or MC-3000; 702.05, CBAE 800.
409																													33	11 5 13 2	C.Y. 409	SEAL COAT COVER AGGREGATE NO. 9 or 702.09, RT-9 or RT-10
407																													43	9 3 10 6	TONS 407	COVER AGGREGATE
SPEC																													96		L.F. SPEC.	PRESSURE RELIEF JOINT, TYPE A
609																														104 52 56	L.F. 609	CONCRETE CURB, STANDARD TYPE 6
611																													36		S.Y. 611	REINFORCED CONCRETE APPROACH SLAB (T=14')
611																													225		S.Y. 611	REINFORCED CONCRETE APPROACH SLAB (T=15')
611																													270		S.Y. 611	REINFORCED CONCRETE APPROACH SLAB (T=17')







# PAVEMENT CALCULATIONS

DATE 11/30/70  
CHKD BY DRH DATE 4/26/71  
Rev. DR5 7-25-77  
FED. RD. DIVISION 5 OHIO PROJECT LORAIN COUNTY LOR-480-0.00

### 801-9" PORTLAND CEMENT CONC. BASE

#### EASTBOUND I-480

Sta. 990+50.75 to Sta. 993+20.22 = 269.47 L.F.  
Sta. 994+00.78 to Sta. 998+03.01 = 402.23 L.F.  
Sta. 0+30.17 to Sta. 20+97.05 = 170.88 L.F.  
747.17 + (1,420.39 x 1,319.71 ÷ 1,432.39) = 2,055.82 L.F.  
Sta. 25+17.55 to Sta. 28+68 = 350.45 L.F.  
3,077.97 L.F. x 24.5 ÷ 9 = 8,379 S.Y.

#### WESTBOUND I-480

Sta. 21+95.17 to Sta. 33+00 = 1,104.83 L.F. x 24.5 ÷ 9 = 3,008 S.Y.  
From Item Spec. P.R.J. Type 'A' = 96.00 L.F. x 4' ÷ 9 = -43 S.Y.  
Total = 11,704 S.Y.

Total 801-9" P.C.C. Base to General Summary (100% State) 11,704 S.Y.

#### EASTBOUND U.S.R. 20

Sta. 1086+00 to Sta. 1089+00 = 300.00 L.F.

#### WESTBOUND U.S.R. 20

Sta. 1083+25 to Sta. 1096+00 = 1,275.00 L.F.  
1,575.00' x 24.5 ÷ 9 = 4,288 S.Y.

#### EASTBOUND I-480

Sta. 42+44.69 to Sta. 46+51.75 = 407.06 L.F.  
Sta. 49+28.54 to Sta. 58+05.77 = 887.23 L.F.  
1,897.86 x 877.23 ÷ 1,909.86 = 871.72 L.F.  
(407.06 + 871.72) x 24.5 ÷ 9 = 3,481 S.Y.  
Sta. 58+05.77 to Sta. 74+11.39 = 1605.62 L.F.  
1,605.62' x 24.25 ÷ 9 = 4,326 S.Y.

#### WESTBOUND I-480

Sta. 38+00.00 to Sta. 45+74.61 = 774.61 L.F.  
Sta. 48+21.53 to Sta. 62+24.40 = 1,402.87 L.F.  
(774.61 + 1,402.87) x 24.5 ÷ 9 = 5,928 S.Y.  
Sta. 62+24.40 to Sta. 74+11.39 = 1,186.99 L.F.  
1,186.99 x 24.25 ÷ 9 = 3,198 S.Y.

#### EAST & WESTBOUND I-480

Sta. 74+11.39 to Sta. 75+97.85 = 186.46 L.F.  
Sta. 77+89.37 to Sta. 92+59.14 = 1,469.77 L.F.  
Sta. 95+74.32 to Sta. 100+00.00 = 425.68 L.F.  
2,081.91 L.F. x 72' ÷ 9 = 16,887 S.Y.  
From Item Spec. P.R.J. Type 'A' = 451.00 L.F. x 4' ÷ 9 = -200 S.Y.  
(From Shl. Nos. 20A, 73, 74)  
Total = 37,908 S.Y.

Total 801-9" P.C.C. Base to General Summary (Interstate) = 37,908 S.Y.

### 451-9" REINF. PORTLAND CEMENT CONC. PAV'T

#### RAMP L-1

Sta. 89+00 to Sta. 91+86.43 = 286.43' x 962.93 ÷ 954.93 = 288.83 L.F.  
Sta. 91+86.43 to Sta. 93+88.00 = 201.57 L.F.  
Sta. 93+88.00 to Sta. 98+56.57 = 468.57 x 401.26 ÷ 409.26 = 459.41 L.F.  
949.81 L.F.  
949.81 x 16 ÷ 9 = 1,689 S.Y.

#### RAMP L-3

Sta. 98+25 to Sta. 101+25 = 300.00' x 257.11 ÷ 249.11 = 309.63' L.F.  
309.63 x 16 ÷ 9 = 550 S.Y.

#### RAMP L-4

Sta. 98+50 to Sta. 99+53.80 = 103.80' x 564.96 ÷ 572.96 = 102.35 L.F.  
Sta. 99+53.80 to Sta. 100+23.68 = 69.88 L.F.  
Sta. 100+23.68 to Sta. 102+00 = 176.32 x 682.07 ÷ 674.07 = 178.41 L.F.  
350.64' x 16 ÷ 9 = 623 S.Y.

Total - 451-9" Reinforced P.C.C. to General Summary (Interstate) 2,862 S.Y.

### 301 BITUMINOUS AGGREGATE BASE

#### EASTBOUND I-480

Sta. 990+50.75 to Sta. 993+20.22 = 269.47' x 14' ÷ 9 = 419.18 S.Y.  
Sta. 994+00.78 to Sta. 998+03.01 = 402.23' x 14' ÷ 9 = 625.69 S.Y.  
Sta. 0+30.17 to Sta. 20+97.05 = Rt. Shld. 2,066.88' x 10' ÷ 9 = 2,296.53 S.Y.  
Lt. Shld. 747.17 + (319.71 x 1,408.39 ÷ 1,432.39) x 4 ÷ 9 = 908.79 S.Y.  
Sta. 25+17.55 to Sta. 28+68.00 = 350.45' x 14' ÷ 9 = 545.14 S.Y.  
4,795.33 S.Y. x 6" ÷ 36 = 799 C.Y.

#### WESTBOUND I-480

Sta. 21+95.17 to Sta. 33+00.00 = 1,104.83 L.F.  
1,104.83' x 14' x 5 ÷ 27 = 287 C.Y.

Total - 301-Bit. Agg. Base to General Summary (100% State) = 1,086 C.Y.

#### EASTBOUND U.S.R. 20

Sta. 1086+00 to Sta. 1089+00 = 300 L.F.  
300' x 12' x 5 ÷ 27 = 67 C.Y.

#### WESTBOUND U.S.R. 20

Sta. 1083+25 to Sta. 1096+00 = 1,275 L.F.  
1,275 x 12' x 5 ÷ 27 = 283 C.Y.

#### EASTBOUND I-480

Sta. 42+44.69 to Sta. 46+51.75 = 407.06 L.F.  
407.06' x 14' x 5 ÷ 27 = 106 C.Y.  
Sta. 49+28.54 to Sta. 58+05.77 = 887.23 L.F.  
Rt. Shld. 635.96' x 10' x 5 ÷ 27 = 118 C.Y.  
Lt. Shld. (635.96 + 1883.86 ÷ 1,909.86) x 4' x 5 ÷ 27 = 47 C.Y.  
Sta. 58+05.77 to Sta. 74+11.39 = 1,605.62 L.F.  
1,605.62' x 24.25 ÷ 9 = 4,326 S.Y.  
Lt. Shld. 1,605.62' x 4' ÷ 9 = 719 S.Y.  
1,465.50' x 4' x 5 ÷ 27 = 109 C.Y.

#### WESTBOUND I-480

Sta. 38+00.00 to Sta. 45+74.61 = 774.61 L.F.  
774.61 x 14 x 5 ÷ 27 = 201 C.Y.  
Sta. 48+21.53 to Sta. 62+24.40 = 1,402.87 L.F.  
1,402.87' x 14' x 5 ÷ 27 = 364 C.Y.  
Sta. 62+24.40 to Sta. 74+11.39 = 1,186.99 L.F.  
1,186.99 x 10' x 5 ÷ 27 = 220 C.Y.

#### EAST & WESTBOUND I-480

Sta. 74+11.39 to Sta. 75+97.85 = 186.46 L.F.  
186.46 x 42' x 5 ÷ 27 = 145 C.Y.  
Sta. 77+89.37 to Sta. 85+50 = 760.63 L.F.  
760.63' x 33.75 x 5 ÷ 27 = 476 C.Y.  
Sta. 85+50 to Sta. 87+78.36 = 228.36 L.F.  
228.36 x 33.75 x 5 ÷ 27 = 143 C.Y.  
Sta. 87+78.36 to Sta. 92+59.14 = 480.78 L.F.  
480.78' x 22.0' x 5 ÷ 27 = 196 C.Y.  
Lt. Shld. 537' x 10' x 5 ÷ 27 = 99 C.Y.  
Sta. 95+74.32 to (Sta. 100 Bk. = 100 + 25.34 Fwd.) = 425.68 L.F.  
425.68' x 22' x 5 ÷ 27 = 173 C.Y.  
Lt. Shld. 347' x 10' x 5 ÷ 27 = 64 C.Y.  
Rt. Shld. 419' x 10' x 5 ÷ 27 = 78 C.Y.  
Erosion Control Basins Sta 78+00 #86+00 (2 x 375.5' x 5' ÷ 27) = 1 C.Y.  
Subtotal = 2,890 C.Y.

#### RAMP L-1

Sta. 89+00 to Sta. 98+56.57 = 949.81 L.F.  
949.81' x 19' x .25' ÷ 27 = 167 C.Y.  
949.81' x 6.0 x .625' ÷ 27 = 132 C.Y.

#### RAMP L-3

Sta. 98+25 to Sta. 101+25 = 309.63 L.F.  
309.63' x 1.9' x .25' ÷ 27 = 54 C.Y.  
309.63' x 6.0' x .625' ÷ 27 = 43 C.Y.

#### RAMP L-4

Sta. 98+50 to Sta. 102+00 = 350.64 L.F.  
350.64' x 19' x .25' ÷ 27 = 62 C.Y.  
350.64' x 6.0' x .625' ÷ 27 = 49 C.Y.

Total - 301 to General Summary (Interstate) = 3,397 C.Y.

### 202-EXISTING CURB & GUTTER REMOVED

#### LORAIN ROAD

Sta. 1137+45.68 to Sta. 1153+63.0 (Lt. Side) = 1,617 L.F.  
Sta. 1137+45.68 to Sta. 1153+31.5 (Rt. Side) = 1,586 L.F.

Total - 202-Ex. Curb & Gutter Removed to General Summary (Interstate) = 3,203 L.F.

### 202-EXISTING WEARING COURSE REMOVED

#### LORAIN ROAD

Sta. 1138+03.68 to Sta. 1140+17 5.43" x 20" ÷ 9 = 241 S.Y.  
Sta. 1140+05 to Sta. 1149+67 18.14" x 20" ÷ 9 = 806 S.Y.  
Sta. 1150+35.77 to Sta. 1153+01.12 7.04" x 20" ÷ 9 = 313 S.Y.

Total - 202-Ex. Wearing Course Removed to General Summary (Interstate) = 1,360 S.Y.

# PAVEMENT CALCULATIONS

### 310-SUBBASE

**LORAIN ROAD**

Sta. 1137+45.68 to Sta. 1139+55.68  
 $210' \times \frac{(2.5 + 2.5)}{2} \times 2 \div 9 = 280 \text{ S.Y.}$

Sta. 1139+55.68 to Sta. 1151+49.12  
 $1,193.44' \times 19' \div 9 = 2,519 \text{ S.Y.}$

Sta. 1151+49.12 to Sta. 1153+29.12  
 $180' \times \frac{(2.5 + 2.5)}{2} \times 2 \div 9 = 240 \text{ S.Y.}$

Sta. 1153+29.12 to Sta. 1153+63  
 Lt. Side  $33.88' \times 2.5 \div 9 = 9 \text{ S.Y.}$   
 Rt. Side  $2.38 \times 2.5 \div 9 = 1 \text{ S.Y.}$

$3,049 \text{ S.Y.} \times 1.06 \div 3 = 3,049 \text{ S.Y.}$     1,077 C.Y.

Total-310-Subbase to General Summary (Interstate) 1,077 C.Y.

### 305-9" PORTLAND CEMENT CONCRETE BASE

**LORAIN ROAD** (See Total Area of 310-Subbase)

Total-305-9" P.C.C. Base to General Summary (Interstate) 3,049 S.Y.

### 402-1 1/4" ASPHALT CONCRETE

**LORAIN ROAD**

Sta. 1137+45.68 to Sta. 1139+55.68  
 $210' \times \frac{(2.0 + 2.0)}{2} \times 2 \div 9 = 256.7 \text{ S.Y.}$

Sta. 1139+55.68 to Sta. 1151+49.12  
 $1,193.44' \times 18' \div 9 = 2,386.9 \text{ S.Y.}$

Sta. 1151+49.12 to Sta. 1153+29.12  
 $180' \times \frac{(2.0 + 2.0)}{2} \times 2 \div 9 = 220 \text{ S.Y.}$

Sta. 1153+29.12 to Sta. 1153+63 Lt. Side  
 $31.5' \times 2.0' \div 9 = 7 \text{ S.Y.}$

$2,870.6 \text{ S.Y.} \times 1.04 \div 3 = 2,870.6 \text{ S.Y.}$     100 C.Y.

**RAMPS at LORAIN ROAD**

Sta. 1139+55.68 to Sta. 1141+71.23 (Rt. Side) = 215.55 L.F.  
 Sta. 1149+92 to Sta. 1151+13.69 (Lt. Side) = 121.69 L.F.  
 Sta. 1150+13.50 to Sta. 1151+49.12 (Rt. Side) = 135.62 L.F.

$472.86' \times .5 \div 9 = 26.2 \text{ S.Y.} \times 1.04 \div 3 = 1 \text{ C.Y.}$

Total = 101 C.Y.

Total-402-Asphaltic Conc. to Sheet No. 20 (Interstate) 101 C.Y.

### 404-ASPHALT CONCRETE

**LORAIN ROAD**

Sta. 1137+30 to Sta. 1137+45.68  
 $56' \times 15.68' \times .052 \div 27 = 2 \text{ C.Y.}$

Sta. 1153+63 to Sta. 1153+80  
 $17' \times 58' \times .052 \div 27 = 2 \text{ C.Y.}$

Sta. 1137+45.68 to Sta. 1153+29.12  
 $1,583.44' \times 52' \div 9 = 9,149 \text{ S.Y.}$

Sta. 1153+29.12 to Sta. 1153+63  
 $31.5' \times 55' \div 9 = 193 \text{ S.Y.}$

Area Item 402 Asph. Conc. + 2,897 S.Y.  
 Deduct Area Item 202 Ex. Pavement Removed - 1,360 S.Y.

$10,879 \text{ S.Y.} \times 1.04 \div 3 = 10,879 \text{ S.Y.}$     377 C.Y.

Total = 381 C.Y.

Total-404-Asph. Conc. to Sheet No. 20 (Interstate) = 381 C.Y.

### 407-TACK COAT

**LORAIN ROAD**

From Item 404 for Resurfacing = 8,190 S.Y.  
 From Item 402 for Widening = 2,897 S.Y.

$11,087 \text{ S.Y.} \times .1 \text{ Gal./S.Y.} = 1,109 \text{ Gal.}$

Total-407-Tack Coat to Sheet No. 20 (Interstate) 1,109 Gal.

### 609-CURB TYPE 2-B

**LORAIN ROAD**

Sta. 1137+45.68 to Sta. 1139+55.68 (Rt.) = 210 L.F.  
 Sta. 1137+45.68 to Sta. 1149+92 (Lt.) = 1,246 L.F.  
 Sta. 1141+71.23 to Sta. 1150+13.50 (Rt.) = 842 L.F.  
 Sta. 1151+49.12 to Sta. 1153+31.5 (Rt.) = 182 L.F.  
 Sta. 1153+13.69 to Sta. 1153+63 (Lt.) = 32 L.F.

$2,512 \text{ L.F.}$

Total-609-Curb Type 2-B to General Summary (Interstate) 2,512 L.F.

### 611-14" REINFORCED CONCRETE APPROACH SLABS

**LORAIN ROAD**  
 Structure No. Lor-480-0020

$20' \times 16' \div 9 = 36 \text{ S.Y.}$

Total-611-14" Approach Slab to General Summary (100% State) 36 S.Y.

### 611-15" REINFORCED CONCRETE APPROACH SLABS

T=15" Structure No. Lor-480-0034  
 $2' \times 25' \times 40.5' \div 9 = 225 \text{ S.Y.}$

T=17" Structure No. Lor-480-0082  
 $2' \times 30' \times 40.5' \div 9 = 270 \text{ S.Y.}$

Total-611-15" Approach Slabs to General Summary (100% State) 225 S.Y.

Total-611-17" Approach Slabs to General Summary (100% State) 270 S.Y.

T=15" Structure No. Lor-480-0121  
 $2' \times 25' \times 40.5' \div 9 = 225 \text{ S.Y.}$

T=17" Structure No. Lor-480-0130  
 $2' \times 30' \times 40.5' \div 9 = 270 \text{ S.Y.}$

T=17" Structure No. Lor-480-0128  
 $2' \times 30' \times 40.5' \div 9 = 270 \text{ S.Y.}$

T=15" Structure No. Lor-480-0186  
 $2' \times 25' \times 58.75' \div 9 = 324 \text{ S.Y.}$   
 $58.75' \times 25' \div 9 = 163 \text{ S.Y.}$   
 $59.5' \times 25' \div 9 = 165 \text{ S.Y.}$

T=17" Structure No. Lor-480-0216  
 $2' \times 30' \times 58.25' \div 9 = 388 \text{ S.Y.}$   
 $66.25' \times 30' \div 9 = 224 \text{ S.Y.}$   
 $74.25' \times 30' \div 9 = 248 \text{ S.Y.}$

Total-611-15" Approach Slabs to General Summary (Interstate) 877 S.Y.

Total-611-17" Approach Slabs to General Summary (Interstate) 1397 S.Y.

### 612-9" CONCRETE MEDIAN

**LORAIN ROAD** (See Total Area of Item 202 exist. wearing course removed) = 1,360 S.Y.

Total-612-9" Conc. Median to General Summary (Interstate) 1,360 S.Y.

### 622-CONCRETE BARRIER, TYPE H

**WESTBOUND I-480**  
 Sta. 70+26.40 to Sta. 74+11.39 = 385.0 L.F.

**EAST & WESTBOUND I-480**

Sta. 74+11.39 to Sta. 76+22.85 = 211.5 L.F.  
 Sta. 77+64.37 to Sta. 92+89.14 = 1,524.8 L.F.  
 Sta. 95+44.32 to Sta. 100+00 Bk. = 455.7 L.F.  
 Sta. 100+25.34 Fwd. to Sta. 102+00 = 174.7 L.F.

Deduct for Std. I-3-H Med. Inlets  $20.00 \times 3 = 60.0 \text{ L.F.}$

Deduct for Light Pole Foundations  $2.5 \times 6 = 15.0 \text{ L.F.}$   
 Deduct for Overhead Sign Support Foundation  $10.0 \times 2 = 20.0 \text{ L.F.}$

Total-622 Concrete Barrier to General Summary (Interstate) 2,657 L.F.

\* NOTE: Thickness of Approach Slabs shown with each structure.

### 203-PROOF ROLLING

Sheet No.	100% State Subgrade Comp.	Interstate Subgrade Comp.
20A	18,436 S.Y.	62,337 S.Y.
66	4,621 S.Y.	
67	1,938 S.Y.	
68	5,270 S.Y.	
69	2,288 S.Y.	1,704 S.Y.
70		6,546 S.Y.
71		3,408 S.Y.
72		3,350 S.Y.
73		3,274 S.Y.
74		1,959 S.Y.
75		4,847 S.Y.
76		2,587 S.Y.
<b>Total</b>	<b>32,553 S.Y.</b>	<b>90,012 S.Y.</b>

100% State Participation  
 $32,553 \text{ S.Y.} \div 3,000 \text{ S.Y./Hr.} = 11 \text{ Hr.}$

Total-203 Proof Rolling to Gen. Summary (100% State) 11 Hr.

Interstate Participation  
 $90,012 \text{ S.Y.} \div 3,000 \text{ S.Y./Hr.} = 30 \text{ Hr.}$

Total-203 Proof Rolling to General Summary (Interstate) 30 Hr.

### 609-ASPHALT CONCRETE CURB TYPE I

Sta. 77+70 to Sta. 87+78.36 = 1008.36 L.F.  
 Add for catch basin turnouts 8 L.F. x 2 = 16 L.F.

$1024.36 \text{ L.F.}$

Total 609 Asphalt Concrete Curb to General Summary (Interstate) 1024 L.F.

# PAVEMENT CALCULATIONS

FED. RD. DIVISION	STATE	PROJECT
2	OHIO	

LORAIN COUNTY  
LOR.-480-0.00

CALC BY LVC DATE 11/4/70  
CHKD BY DRH DATE 4/26/71  
Rev. DR5 7-25-77  
Rev. DR5 12-5-77

## 203-EARTHWORK & 659 SEEDING & MULCHING

Sht. No.	Location Sta. to Sta.	203		659
		Excavation Not Including Embankment	Embankment	Seeding & Mulching
		C.Y.	C.Y.	S.Y.
<b>E.B. I-480</b>				
29	970+00 to 980+00	731	1,225	2,881
30	980+00 to 990+00	4,553	2,038	5,519
31	990+00 to 998+03016.25	3,298	19,745	15,170
32	2+25 to 12+25	6,994	51,468	21,604
33	12+25 to 22+25	1,616	92,536	25,235
34	22+25 to 32+25	168	100,684	15,327
35	32+25 to 37+31	257	55,283	5,862
<b>W.B. I-480</b>				
40	990+00 to 1000+00	766	1,319	3,405
41	1000+00 to 17+00	1,558	2,617	5,224
42	17+00 to 27+00	1,030	21,051	12,612
43	27+00 to 37+00	807	75,292	13,375
44	37+00 to 38+00	31	9,179	1,844
<b>To General Summary 100% State of Ohio Participation - Totals</b>				
		21,809	432,432	128,058*
<b>E.B. I-480</b>				
35	37+31 to 42+50	240	25,729	6,412
36	42+50 to 52+50	217	103,280	13,023
37	52+50 to 62+50	281	115,095	18,886
38	62+50 to 74+11.39	869	77,030	18,419
<b>E.B. USR 20</b>				
39	1089+00 to 1093+50	330	35,825	4,149
<b>W.B. I-480</b>				
44	38+00 to 47+00	968	59,622	14,529
45	47+00 to 57+00	520	58,874	16,217
46	57+00 to 67+00	557	64,452	16,440
47	67+00 to 74+11.39	1411	40,241	9,642
<b>W.B. U.S.R. 20</b>				
48	1079+00 to 1089+00	603	13,490	6,793
49	1089+00 to 1098+3366	83	22,423	10,326
<b>E.B. &amp; W.B. I-480</b>				
50	74+11.39 to 84+00	869	134,277	19,302
51	84+00 to 94+00	2,022	148,398	13,177
52	94+00 to 104+50	1,416	107,639	11,501
53	104+50 to 105+37	8889	0	0
<b>Ramps L-1 thru L-4</b>				
54	87+00 to 99+00	10,065	73,150	33,280
55	99+00 to 107+50	25,296	641	9,228
56	93+00 to 107+50	12,849	56,746	36,257
57	88+00 to 98+00	11,391	6,151	14,534
58	98+00 to 108+50	8,205	17,421	12,135
<b>Lorain Road</b>				
59	1135+00 to 1139+00	178	196	858
60	1139+00 to 1143+00	1,041	335	4,681
61	1143+00 to 1147+00	1,580	793	3,127
62	1147+00 to 1151+00	866	2,070	2,824
63	1151+00 to 1151+00	317	29	1,368
20	Deduct for Weed Control Beneath Guardrail			- 5,569
<b>To General Summary Interstate</b>				
		91,058	1,163,907	291,539 *

## 659 - COMMERCIAL FERTILIZER (12-12-12)

Total 659 Seeding and Mulching	= 128,058 S.Y.	100% STATE	INTERSTATE
Deduct for Riprap	= -15 S.Y.		= 291,539 S.Y.
Deduct for R.C.P. C.Y. @ 16%96	= -39 S.Y.		= -445 S.Y.
Sub total for Commercial Fertilizer	= 128,004 S.Y.		= 290,984 S.Y.
Deduct for Seeding & Jute Matting	= -1,896 S.Y.		= -5,466 S.Y.
Deduct for Sodding	= -715 S.Y.		= -2,250 S.Y.
Total 659-Seeding & Mulching to Gen.Summ.	= 125,393 S.Y.		= 283,268 S.Y.

Total 659 Commercial Fertilizer to General Summary  $128,004 \text{ SY} \times 9 \times 20 \text{ lbs.} / 1,000 \text{ S.F.} \div 2,000 \text{ lbs./Ton (100\% State)} = 11.52 \text{ Ton}$   
 $290,984 \text{ SY} \times 9 \times 20 \text{ lbs.} / 1,000 \text{ S.F.} \div 2,000 \text{ lbs./Ton (Interstate)} = 26.19 \text{ Ton}$

## 659-AGRICULTURAL LIMING

Total 659 Agricultural Liming to General Summary  $128,004 \text{ SY} \times 9 \times 100 \text{ lbs.} / 1,000 \text{ S.F.} \div 2,000 \text{ lbs./Ton (100\% State)} = 57.6 \text{ Tons}$   
 $290,984 \text{ SY} \times 9 \times 100 \text{ lbs.} / 1,000 \text{ S.F.} \div 2,000 \text{ lbs./Ton (Interstate)} = 130.9 \text{ Tons}$

\* NOTE: See Commercial Fertilizer for Seeding & Mulching to General Summary

## WEED CONTROL BENEATH GUARDRAIL

E.B. I-480 Sta. 37+00 to Sta. 74+11  $2,932.5 \text{ L.F.} \times 4' \div 9 = 1,303.3 \text{ S.Y.}$   
 W.B. I-480 Sta. 38+00 to Sta. 74+11  $3,701.0 \text{ L.F.} \times 4' \div 9 = 1,644.9 \text{ S.Y.}$   
 E.B. & W.B. I-480 Sta. 74+11 to Sta. 100+75  $1,907.0 \text{ L.F.} \times 4' \div 9 = 847.6 \text{ S.Y.}$   
 $1,407.0 \text{ L.F.} \times 2.25' \div 9 = 351.8 \text{ S.Y.}$   
 E.B. USR-20 Sta. 1086+00 to Sta. 1093+50  $750.0 \text{ L.F.} \times 4' \div 9 = 333.3 \text{ S.Y.}$   
 W.B. USR-20 Sta. 1083+25 to Sta. 1098+34  $512.5 \text{ L.F.} \times 4' \div 9 = 227.8 \text{ S.Y.}$   
 SR-10 Sta. 1137+30 to Sta. 1153+80  $272.5 \text{ L.F.} \times 4' \div 9 = 121.1 \text{ S.Y.}$   
 Ramp L-1 Sta. 85+50 to Sta. 99+59  $950.0 \text{ L.F.} \times 7' \div 9 = 738.9 \text{ S.Y.}$   
**SUB-TOTAL = 5,568.7 S.Y.**

Total Item Special-Herbicides for Weed Control to General Summary = 5,568.7 S.Y.

$5,568.7 \text{ S.Y.} \times 3' \div 36 = 464.1 \text{ C.Y.}$

Total Item 301-Bituminous Aggregate Base (Weed Control) to General Summary = 465 C.Y.

## 402-ASPHALT CONCRETE

From Item 801 = 11,704 S.Y.  
 From Item 611 = 531 S.Y.  
 Total = 12,235 S.Y.  
 $12,235 \text{ S.Y.} \times 1/4" \div 36 = 595 \text{ C.Y.}$   
 Total = 595 C.Y.

Total 402-to General Summary(100% State) = 595 C.Y.

From Item 801 = 37,908 S.Y.  
 From Item 611 = 2,274 S.Y.  
 Total = 40,182 S.Y.  
 $40,182 \text{ S.Y.} \times 1/4" \div 36 = 1,953 \text{ C.Y.}$   
 From Sheet No 19 = 101 C.Y.  
 Total = 2,054 C.Y.

Total 402-to General Summary(Interstate) = 2,054 C.Y.

## 404-ASPHALT CONCRETE

From Item 402 = 12,235 S.Y.  
 $12,235 \text{ S.Y.} \times 1/4" \div 36 = 425 \text{ C.Y.}$

Total 404-to General Summary(100% State) = 425 C.Y.

From Item 402 = 40,182 S.Y.  
 $40,182 \text{ S.Y.} \times 1/4" \div 36 = 1,395 \text{ C.Y.}$   
 From Sheet No 19 = 381 C.Y.  
 Total = 1,776 C.Y.

Total 404-to General Summary(Interstate) = 1,776 C.Y.

## 407-TACK COAT

From Item 402 = 12,235 S.Y.  
 $12,235 \text{ S.Y.} \times 0.10 \text{ Gal./S.Y.} = 1,224 \text{ Gal.}$

Total 407-to General Summary(100% State) = 1,224 Gal.

From Item 402 = 40,182 S.Y.  
 $40,182 \text{ S.Y.} \times 0.10 \text{ Gal./S.Y.} = 4,018 \text{ Gal.}$   
 From Sheet No 19 = 1,109 Gal.  
 Total = 5,127 Gal.

Total 407-to General Summary(Interstate) = 5,127 Gal.

## 407-COVER AGGREGATE (100% State)

From Item 407 Tack Coat = 1,224 Gal.  
 $1,224 \text{ Gal.} \times 10 \times 7 \div 2000 = 42.84 \text{ TONS}$   
 Total 407 - to General Summary (100% State) = 43 TONS

## 407-COVER AGGREGATE (Interstate)

From Item 407 Tack Coat = 5,127 Gal.  
 $5,127 \text{ Gal.} \times 10 \times 7 \div 2000 = 179.45 \text{ TONS}$   
 Total 407 - to General Summary (Interstate) = 180 TONS

## 310-SUBBASE, GRADING "A" AS PER PLAN

100% STATE PARTICIPATION:  
 AREA FROM 801-9" P.C.C. BASE = 11,387 S.Y.

11,387 S.Y. x 6 ÷ 36 = 1898 C.Y.

E.B. I-480 SHOULDER  
 Sta. 990+50.75 to Sta. 993+20.22  
 $269.47 \times \{ (9.75 \times .792) + (3.75 \times .917) \} \div 27 = 111 \text{ C.Y.}$   
 Sta. 994+00.78 to Sta. 998+03.01  
 $402.23 \times \{ (9.75 \times .792) + (3.75 \times .917) \} \div 27 = 166 \text{ C.Y.}$   
 Sta. 0+30.17 to Sta. 20+97.05  
 Rt. Shld.  $2066.88 \times 9.75 \times .792 \div 27 = 591 \text{ C.Y.}$   
 Lt. Shld.  $\{ 747.17 + 1319.71 \times (1408.39 / 1432.39) \} \times 3.75 \times .917 \div 27 = 260 \text{ C.Y.}$   
 Sta. 25+17.55 to Sta. 28+68.00  
 $350.45 \times \{ (9.75 \times .792) + (3.75 \times .917) \} \div 27 = 145 \text{ C.Y.}$

W.B. I-480 SHOULDER  
 Sta. 21+95.17 to Sta. 33+00.00  
 $1104.83 \times \{ (9.75 \times .792) + (3.75 \times .917) \} \div 27 = 457 \text{ C.Y.}$   
 From Item 611:  $531 \text{ S.Y.} \times 6 \div 36$  (Add) = 89 C.Y.  
 From Item SPECIAL P.R.J. Type "A":  $96 \times 8 \times 0.5 \div 27$  (Deduct) = -14 C.Y.

TOTAL = 3703 C.Y.

Total - Item 310 Subbase, Grading "A" As Per Plan to Gen. Sum. (100% State) = 3703 C.Y.

INTERSTATE PARTICIPATION:  
 AREA FROM 801-9" P.C.C. BASE = 38,108 S.Y.

38,108 S.Y. x 6 ÷ 36 = 6351 C.Y.

E.B. USR 20 SHOULDER  
 Sta. 1086+00 to Sta. 1089+00  
 $300 \times \{ (7.75 \times .833) + (3.75 \times .917) \} \div 27 = 110 \text{ C.Y.}$

W.B. USR 20 SHOULDER  
 Sta. 1083+25 to Sta. 1096+00  
 $1275 \times \{ (7.75 \times .833) + (3.75 \times .917) \} \div 27 = 467 \text{ C.Y.}$

E.B. I-480 SHOULDER  
 Sta. 42+44.69 to Sta. 46+51.75  
 $407.06 \times \{ (9.75 \times .792) + (3.75 \times .917) \} \div 27 = 168 \text{ C.Y.}$   
 Sta. 49+28.54 to Sta. 55+64.50  
 Rt. Shld.  $635.96 \times 9.75 \times .792 \div 27 = 182 \text{ C.Y.}$   
 Lt. Shld.  $635.96 \times (1883.86 / 1909.86) \times 3.75 \times .917 \div 27 = 80 \text{ C.Y.}$   
 Sta. 55+64.50 to Sta. 70+30.00  
 Lt. Shld.  $1465.50 \times 3.75 \times .917 \div 27 = 187 \text{ C.Y.}$

W.B. I-480 SHOULDER  
 Sta. 38+00.00 to Sta. 45+74.61  
 $774.61 \times \{ (9.75 \times .792) + (3.75 \times .917) \} \div 27 = 320 \text{ C.Y.}$   
 Sta. 48+21.53 to Sta. 62+24.40  
 $1402.87 \times \{ (9.75 \times .792) + (3.75 \times .917) \} \div 27 = 580 \text{ C.Y.}$   
 Sta. 62+24.40 to Sta. 74+11.39  
 $1186.99 \times 9.75 \times .792 \div 27 = 339 \text{ C.Y.}$

E.B. & W.B. I-480 SHOULDER  
 Sta. 74+11.39 to Sta. 75+97.85  
 $186.46 \times \{ (9.75 \times .792) + (10.75 \times .875) + (10.75 \times .875) + (9.75 \times .792) \} \div 27 = 237 \text{ C.Y.}$   
 Sta. 77+89.37 to Sta. 85+50  
 $760.63 \times \{ (10.75 \times .875) + (10.75 \times .875) + (11.50 \times .750) \} \div 27 = 773 \text{ C.Y.}$   
 Sta. 85+50 to Sta. 87+78.36  
 $228.36 \times \{ (10.75 \times .875) + (10.75 \times .875) + (11.50 \times .750) \} \div 27 = 232 \text{ C.Y.}$   
 Sta. 87+78.36 to Sta. 92+59.14  
 $480.78 \times \{ (10.75 \times .875) + (10.75 \times .875) \} \div 27 = 335 \text{ C.Y.}$   
 Lt. Shld.  $537 \times 9.75 \times .792 \div 27 = 154 \text{ C.Y.}$   
 Sta. 95+74.32 to Sta. 100+00 (Back)  
 $425.68 \times \{ (10.75 \times .875) + (10.75 \times .875) \} \div 27 = 297 \text{ C.Y.}$   
 Lt. Shld.  $347 \times 9.75 \times .792 \div 27 = 99 \text{ C.Y.}$   
 Rt. Shld.  $419 \times 9.75 \times .792 \div 27 = 120 \text{ C.Y.}$

EROSION CONTROL BASINS AT 78+00 & 86+00  
 $2 \times 37.5 \text{ S.F.} \times 0.5 \div 27 = 1 \text{ C.Y.}$   
 From Item 611:  $2274 \text{ S.Y.} \times 6 \div 36$  (Add) = 379 C.Y.  
 From Item 622:  $2752 \text{ L.F.} \times 4 \times 0.5 \div 27$  (Add) = 204 C.Y.  
 From Item SPECIAL P.R.J. Type "A" (Sh. No. 20A, 73, 74)  
 $451 \times 8 \times 0.5 \div 27$  (Deduct) = -67 C.Y.

TOTAL = 11,548 C.Y.

TOTAL - Item 310, Subbase, Grading "A" As Per Plan to General Summary (Interstate) = 11,548 C.Y.

## PAVEMENT CALCULATIONS

### 203 SUBGRADE COMPACTION

100% STATE PARTICIPATION:  
 AREA FROM 801-9" P.C.C. BASE = 11,387 S.Y.

E.B. I-480 SHOULDER  
 Sta. 990+50.75 to 993+20.22  
 $269.47 \times (9.75 + 3.75) \div 9 = 434 \text{ S.Y.}$   
 Sta. 994+00.78 to Sta. 998+03.01  
 $402.23 \times (9.75 + 3.75) \div 9 = 648 \text{ S.Y.}$   
 Sta. 0+30.17 to Sta. 20+97.05  
 Rt. Shld.  $2066.88 \times 9.75 \div 9 = 2239 \text{ S.Y.}$   
 Lt. Shld.  $\{ 747.17 + 1319.71 \times (1408.39 / 1432.39) \} \times 3.75 \div 9 = 852 \text{ S.Y.}$   
 Sta. 25+17.55 to Sta. 28+68.00  
 $350.45 \times (9.75 + 3.75) \div 9 = 565 \text{ S.Y.}$

W.B. I-480 SHOULDER  
 Sta. 21+95.17 to Sta. 33+00.00  
 $1104.83 \times (9.75 + 3.75) \div 9 = 1780 \text{ S.Y.}$   
 From Item 611 - Approach Slabs (Add) = 531 S.Y.

TOTAL = 18,436 S.Y.

TOTAL - Item 203 Subgrade Compaction to General Summary (100% State) = 18,436 S.Y.

INTERSTATE PARTICIPATION:  
 AREA FROM 801-9" P.C.C. BASE = 38,108 S.Y.

AREA FROM 451-9" P.C.C. PAVEMENT = 2862 S.Y.

E.B. USR 20 SHOULDER  
 Sta. 1086+00 to Sta. 1089+00  
 $300 \times (7.75 + 3.75) \div 9 = 383 \text{ S.Y.}$

W.B. USR 20 SHOULDER  
 Sta. 1083+25 to Sta. 1096+00  
 $1275 \times (7.75 + 3.75) \div 9 = 1629 \text{ S.Y.}$

E.B. I-480 SHOULDER  
 Sta. 42+44.69 to Sta. 46+51.75  
 $407.06 \times (9.75 + 3.75) \div 9 = 611 \text{ S.Y.}$   
 Sta. 49+28.54 to Sta. 55+64.50  
 Rt. Shld.  $635.96 \times 9.75 \div 9 = 689 \text{ S.Y.}$   
 Lt. Shld.  $635.96 \times (1883.86 / 1909.86) \times 3.75 \div 9 = 261 \text{ S.Y.}$   
 Sta. 55+64.50 to Sta. 70+30.00  
 Lt. Shld.  $1465.50 \times 3.75 \div 9 = 611 \text{ S.Y.}$

W.B. I-480 SHOULDER  
 Sta. 38+00.00 to Sta. 45+74.61  
 $774.61 \times (9.75 + 3.75) \div 9 = 1162 \text{ S.Y.}$   
 Sta. 48+21.53 to Sta. 62+24.40  
 $1402.87 \times (9.75 + 3.75) \div 9 = 2104 \text{ S.Y.}$   
 Sta. 62+24.40 to Sta. 74+11.39  
 $1186.99 \times 9.75 \div 9 = 1286 \text{ S.Y.}$

E.B. & W.B. I-480 SHOULDER  
 Sta. 74+11.39 to Sta. 75+97.85  
 $186.46 \times (9.75 + 10.75 + 10.75 + 9.75) \div 9 = 849 \text{ S.Y.}$   
 Sta. 77+89.37 to Sta. 85+50  
 $760.63 \times (10.75 + 10.75 + 11.50) \div 9 = 2789 \text{ S.Y.}$   
 Sta. 85+50 to Sta. 87+78.36  
 $228.36 \times (10.75 + 10.75 + 11.50) \div 9 = 837 \text{ S.Y.}$   
 Sta. 87+78.36 to Sta. 92+59.14  
 $480.78 \times (10.75 + 10.75) \div 9 = 1149 \text{ S.Y.}$   
 Lt. Shld.  $537 \times 9.75 \div 9 = 582 \text{ S.Y.}$   
 Sta. 95+74.32 to Sta. 100+00 (Bk.)  
 $425.68 \times (10.75 + 10.75) \div 9 = 1017 \text{ S.Y.}$   
 Lt. Shld.  $347 \times 9.75 \div 9 = 376 \text{ S.Y.}$   
 Rt. Shld.  $419 \times 9.75 \div 9 = 454 \text{ S.Y.}$

EROSION CONTROL BASINS AT 78+00 & 86+00  
 $2 \times 37.5 \text{ S.F.} \div 9 = 8 \text{ S.Y.}$   
 RAMP L-1, L-3, & L-4  $1610.10 \times 6 \div 9 = 1073 \text{ S.Y.}$   
 AREA From Item 611 - Approach Slabs (Add) = 2274 S.Y.

AREA From Item 622 - Concrete Barrier  
 $2752 \text{ L.F.} \times 4 \div 9$  (Add) = 1223 S.Y.

TOTAL = 62,337 S.Y.

TOTAL - Item 203 Subgrade Compaction to General Summary (Interstate) = 62,337 S.Y.

### SPECIAL-PRESSURE RELIEF JOINT, TYPE "A"

Structure No Lor-480-0034  
 $24.00 \times 2 = 48 \text{ L.F.}$

Structure No Lor-480-0082  
 $24.00 \times 2 = 48 \text{ L.F.}$

Total = 96 L.F.

Total Special-P.R.J. Type "A" to General Summary (100% State) = 96 L.F.

Structure No Lor-480-0121  
 $24.00 \times 2 = 48 \text{ L.F.}$

Structure No Lor-480-0130  
 $24.00 \times 2 = 48 \text{ L.F.}$

Structure No Lor-480-0128  
 $24.00 \times 2 = 48 \text{ L.F.}$

Structure No Lor-480-0186  
 $36.00 \times 4 = 144 \text{ L.F.}$

Structure No Lor-480-0216  
 $36.00 \times 4 = 144 \text{ L.F.}$

Total = 432 L.F.

Total Special-P.R.J. Type "A" to General Summary (Interstate) = 432 L.F.

### 409-SEAL COAT

Nº 9 AGGREGATE  
 From Item 301 = 1086 C.Y.  
 $1086 \text{ C.Y.} \times 27 \div 0.5000 \div 9 = 6516 \text{ S.Y.}$   
 $6516 \text{ S.Y.} \times 0.005 \text{ C.Y./S.Y.} = 33 \text{ C.Y.}$

Total = 33 C.Y.

Total 409 - Nº 9 Aggregate to General Summary (100% State) = 33 C.Y.

From Item 301 (Subtotal) = 2890 C.Y.  
 $2890 \text{ C.Y.} \times 27 \div 0.5000 \div 9 = 17,340 \text{ S.Y.}$   
 $17,340 \text{ S.Y.} \times 0.005 \text{ C.Y./S.Y.} = 87 \text{ C.Y.}$

Total = 87 C.Y.

Total 409 - Nº 9 Aggregate to General Summary (Interstate) = 87 C.Y.

### BITUMINOUS MATERIAL

$6516 \text{ S.Y.} \times 0.20 \text{ Gal./S.Y.} = 1303 \text{ Gal.}$

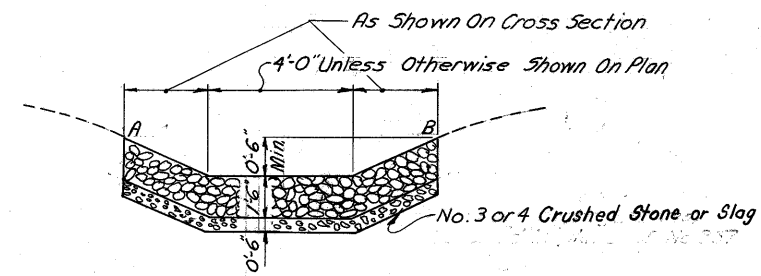
Total = 1303 Gal.

Total 409 - Bituminous Material to General Summary (100% State) = 1303 Gal.

$17,340 \text{ S.Y.} \times 0.20 \text{ Gal./S.Y.} = 3468 \text{ Gal.}$

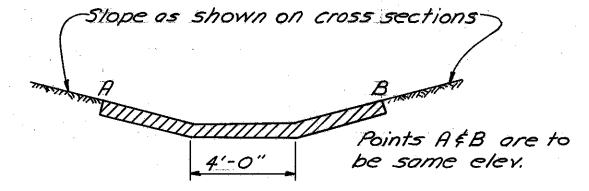
Total = 3468 Gal.

Total 409 - Bituminous Material to General Summary (Interstate) = 3468 Gal.

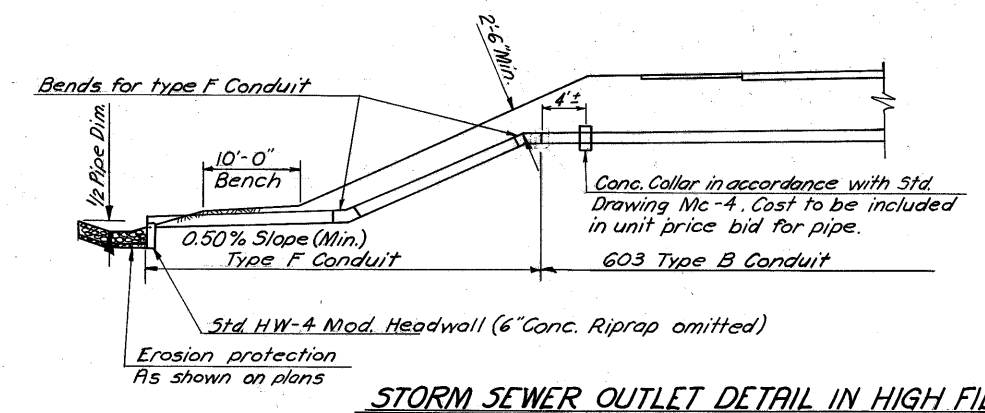


**ROCK CHANNEL PROTECTION**

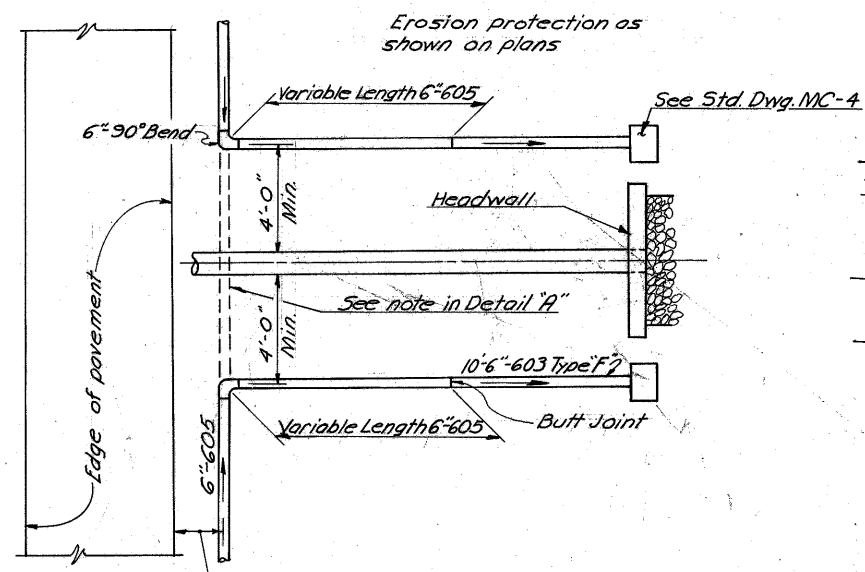
See cross sections for slopes. Use 2:1 slopes unless otherwise noted. Points A & B are to be the same elev.



**ROADWAY DITCH SOD & J.M. DETAIL**

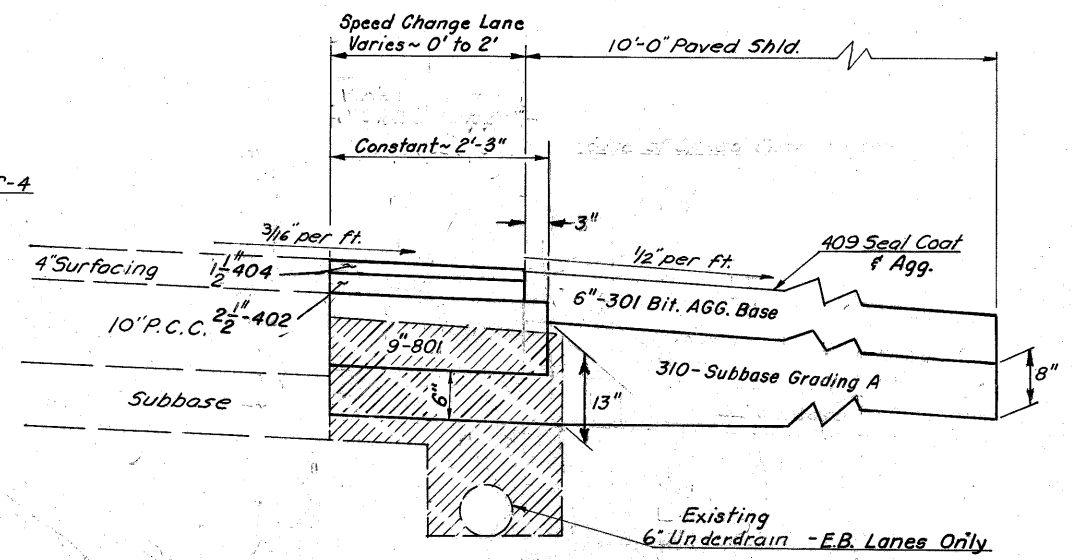


**STORM SEWER OUTLET DETAIL IN HIGH FILL**



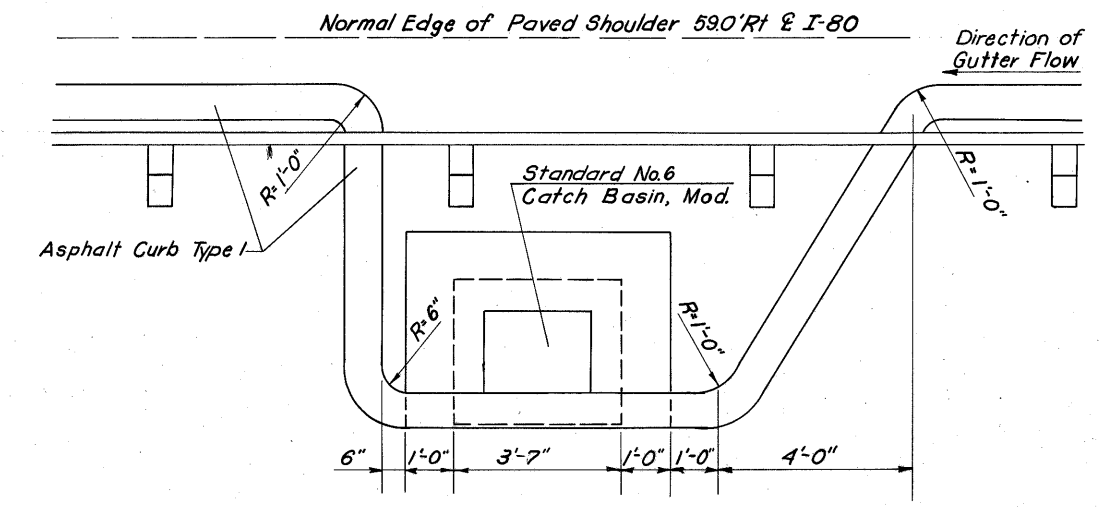
**UNDERDRAIN OUTLET DETAIL**

Distance to be as shown on Typical Section



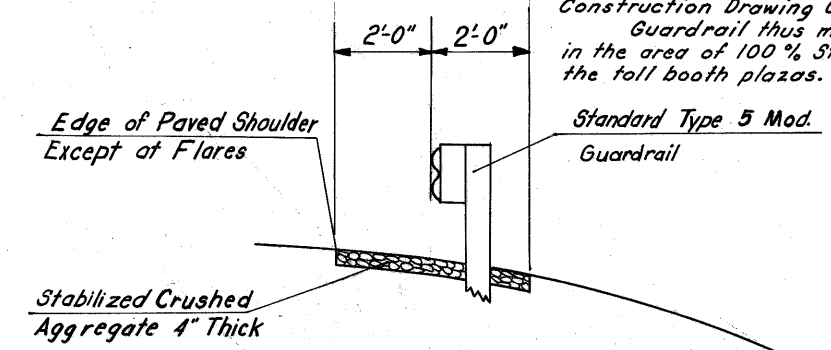
**OHIO TURNPIKE SPEED CHANGE LANE WIDENING 2'0" OR LESS**

STA. 975+50 TO STA. 976+25 E.B. = 75 Lin. Ft.  
STA. 993+00 TO STA. 993+96 W.B. = 96 Lin. Ft.

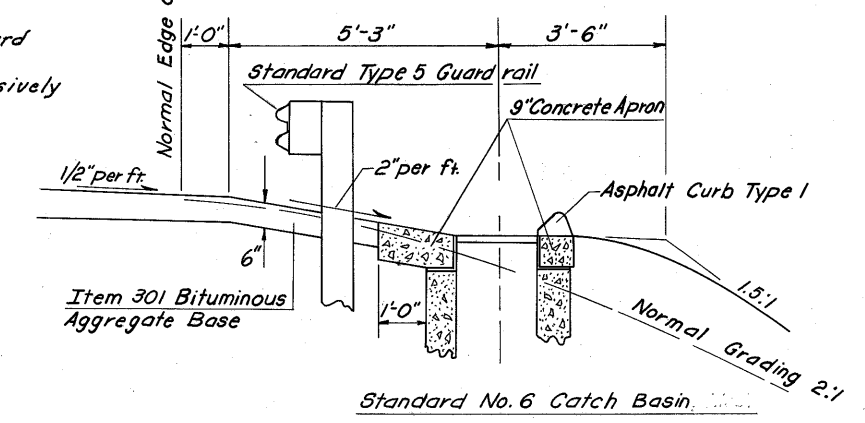


**ITEM 606 - GUARDRAIL TYPE 5 MODIFIED AS PER PLAN**

The guardrail modification shall consist of using steel posts only (W6x8.5) as shown on Standard Construction Drawing GR-2B. Guardrail thus modified will be used exclusively in the area of 100% State participation, west of the toll booth plazas.

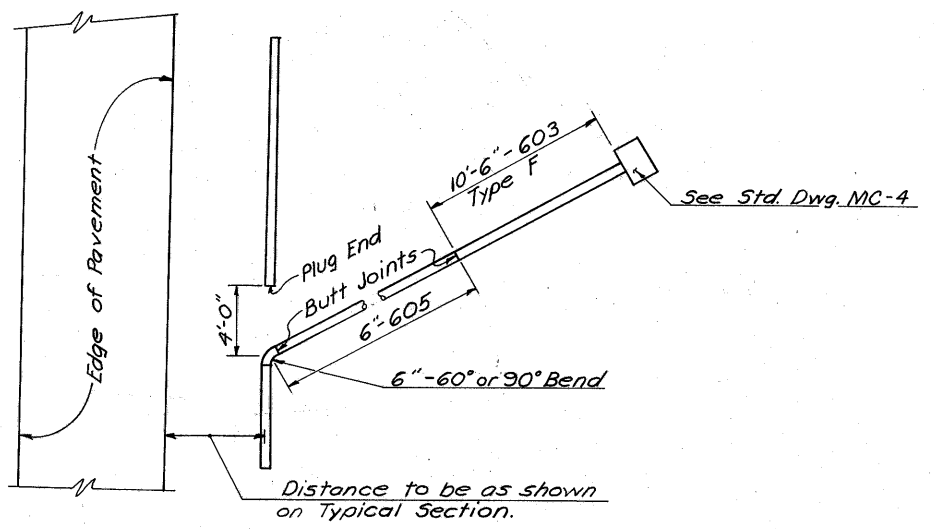


**SPECIAL STONE SHOULDER PROTECTION USING ITEM 411 STABILIZED CRUSHED AGGREGATE**



Scale 1/2" = 1'-0"

**CURB AND CATCH BASIN DETAIL FOR EROSION CONTROL**

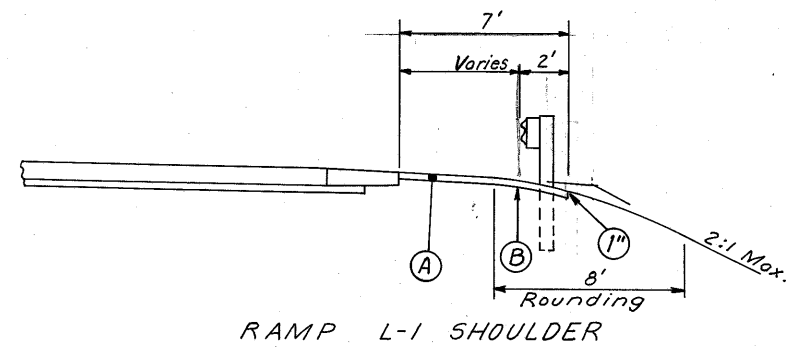
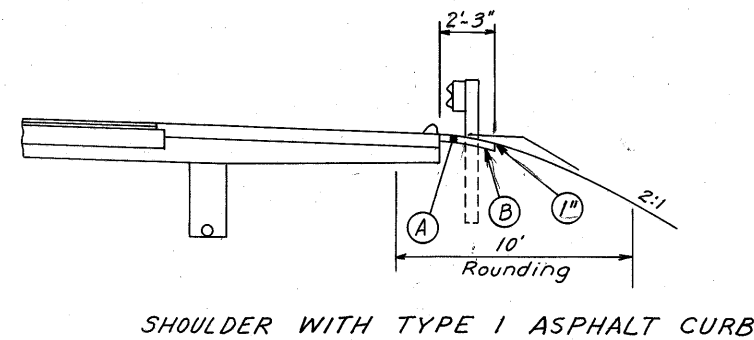
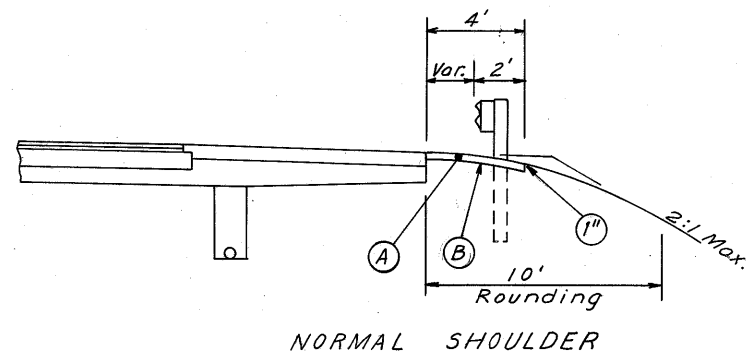


**UNDERDRAIN OUTLET DETAIL**

Distance to be as shown on Typical Section.

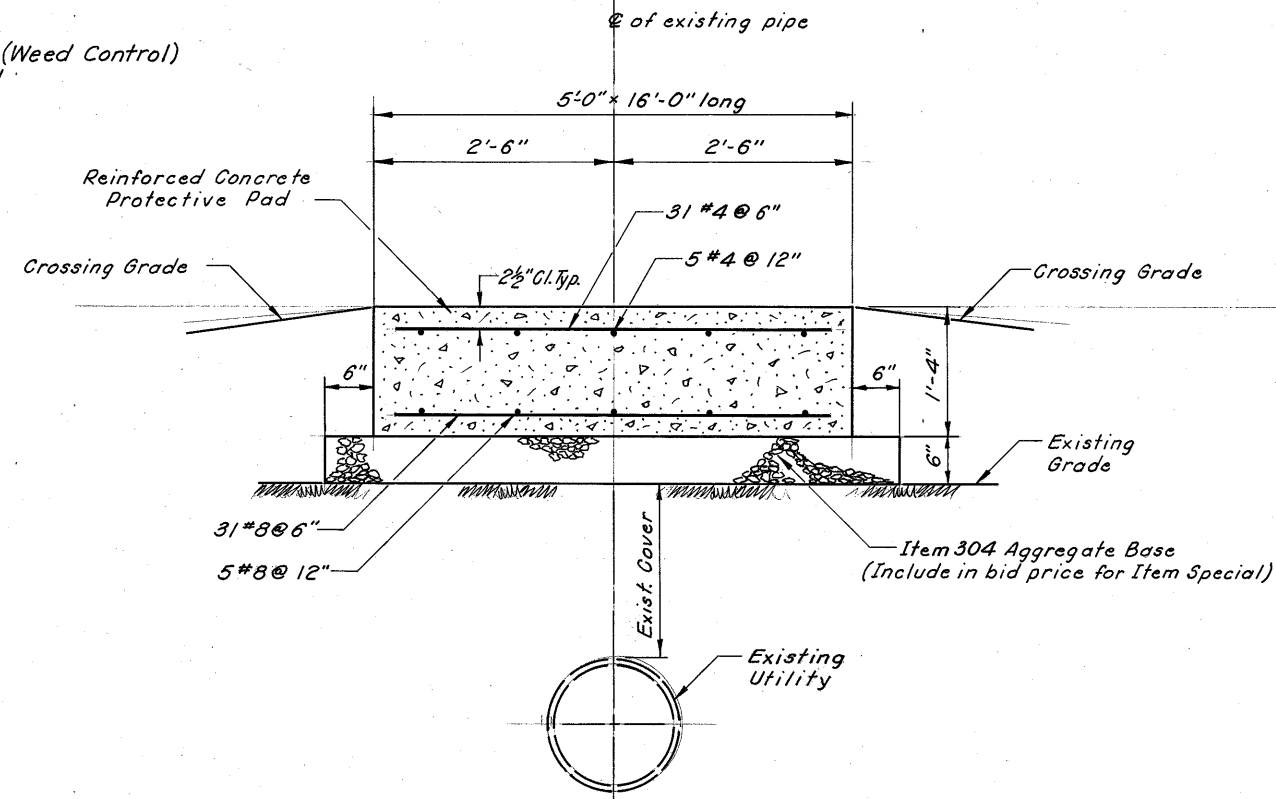
**LEGEND**

- (A) 3" Bituminous Aggregate Base (Weed Control)
- (B) Herbicide for Weed Control
- (M) Drop Shoulder 1"



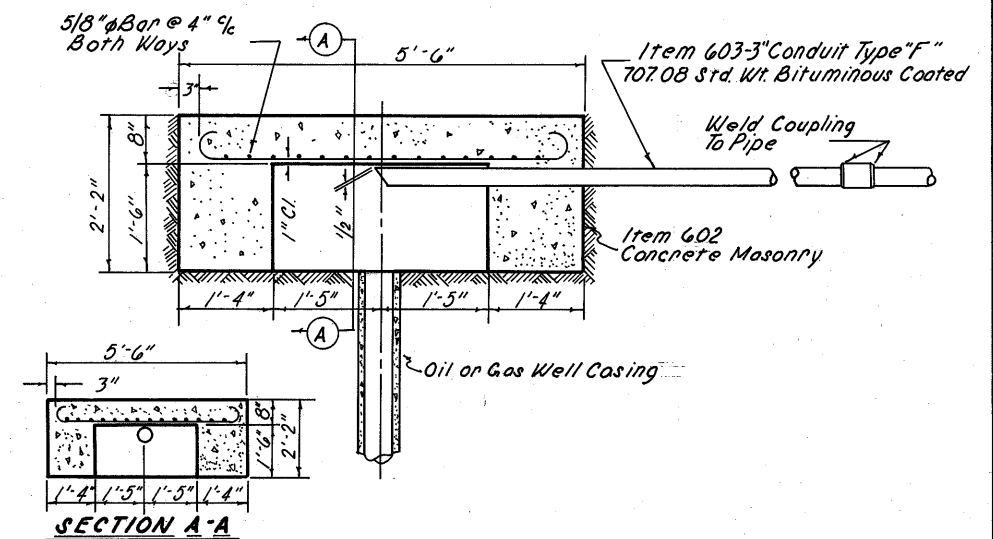
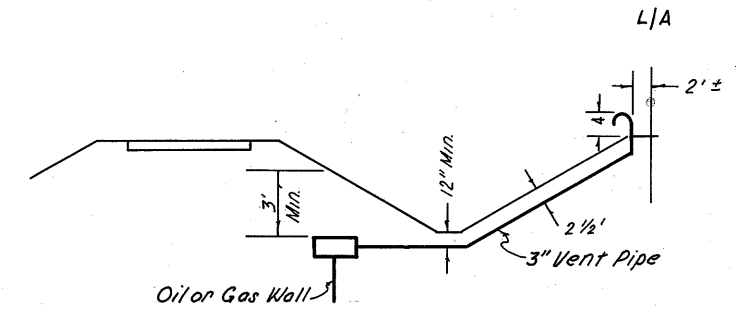
**WEED CONTROL BENEATH GUARD RAIL**

See General Note Sheet No. 9  
For pay quantities see sheet no. 20



**ITEM SPECIAL~ REINFORCED CONCRETE PROTECTIVE PAD**

See General Note Sheet No. 11



**Notes**

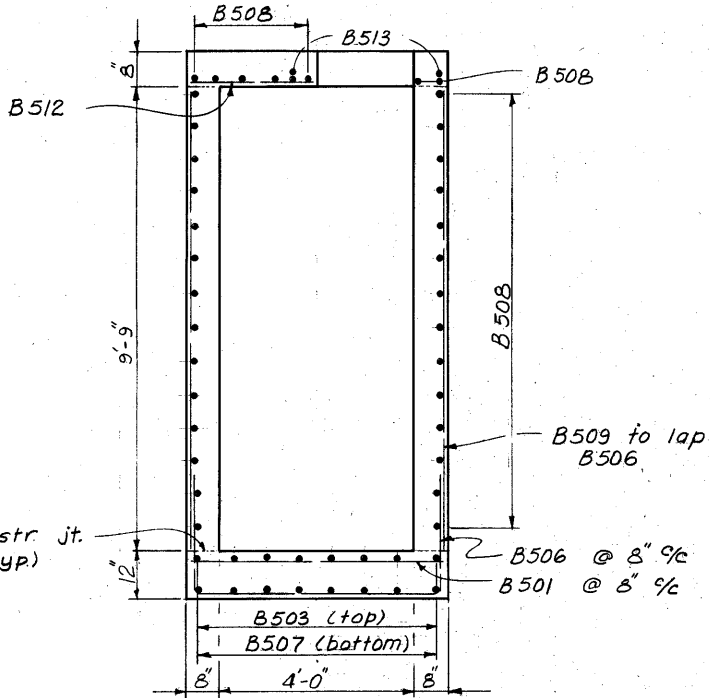
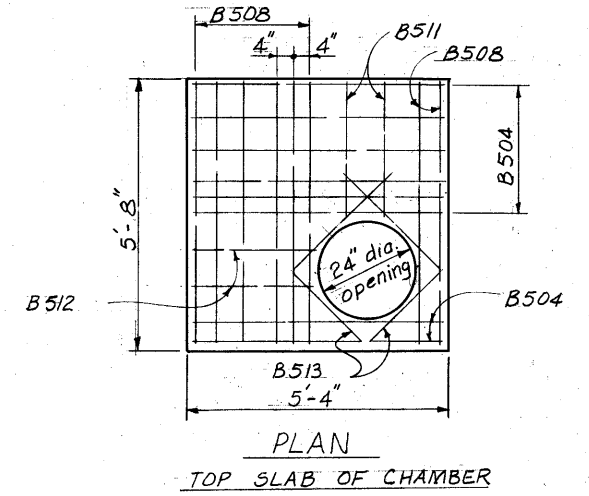
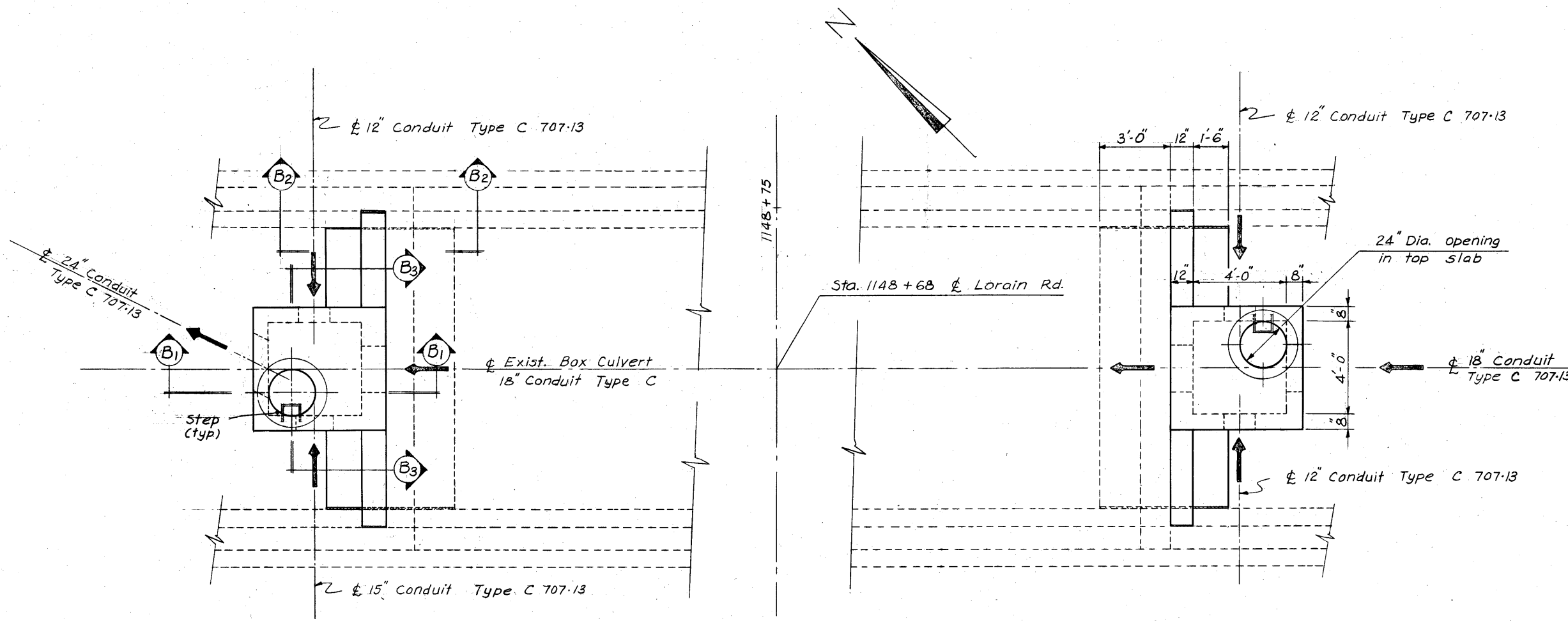
If the vent pipe is adjacent to buildings, the pipe shall extend 14' above the ground line and shall be anchored in a concrete footing 18" in diameter and 36" deep. The pipe shall have a 3/4" hole with a threaded plug 3' above ground line. Concrete shall be paid for as item 602 Concrete Masonry.

That portion of the pipe above ground shall be primed with one coat of 708.06 and painted with two coats of 708.08 in lieu of the cool tar paint. The pipe opening shall be protected with a wire screen.

The oil or gas wall casing shall be cut off a minimum of 5'-2" below finish grade or bottom of subbase. Cost of this operation shall be included in the unit price bid for item 602 Concrete Masonry. The pipe shall be coated with two coats of cool tar pitch paint at 180 sq. ft 1 gal. 1 coat. Cool tar paint shall be Intertal 66, Koppin Bitumastic 50 or equal.

For oil or gas well quantities see sheet No. 10

**OIL OR GAS WELL VENT DETAIL**

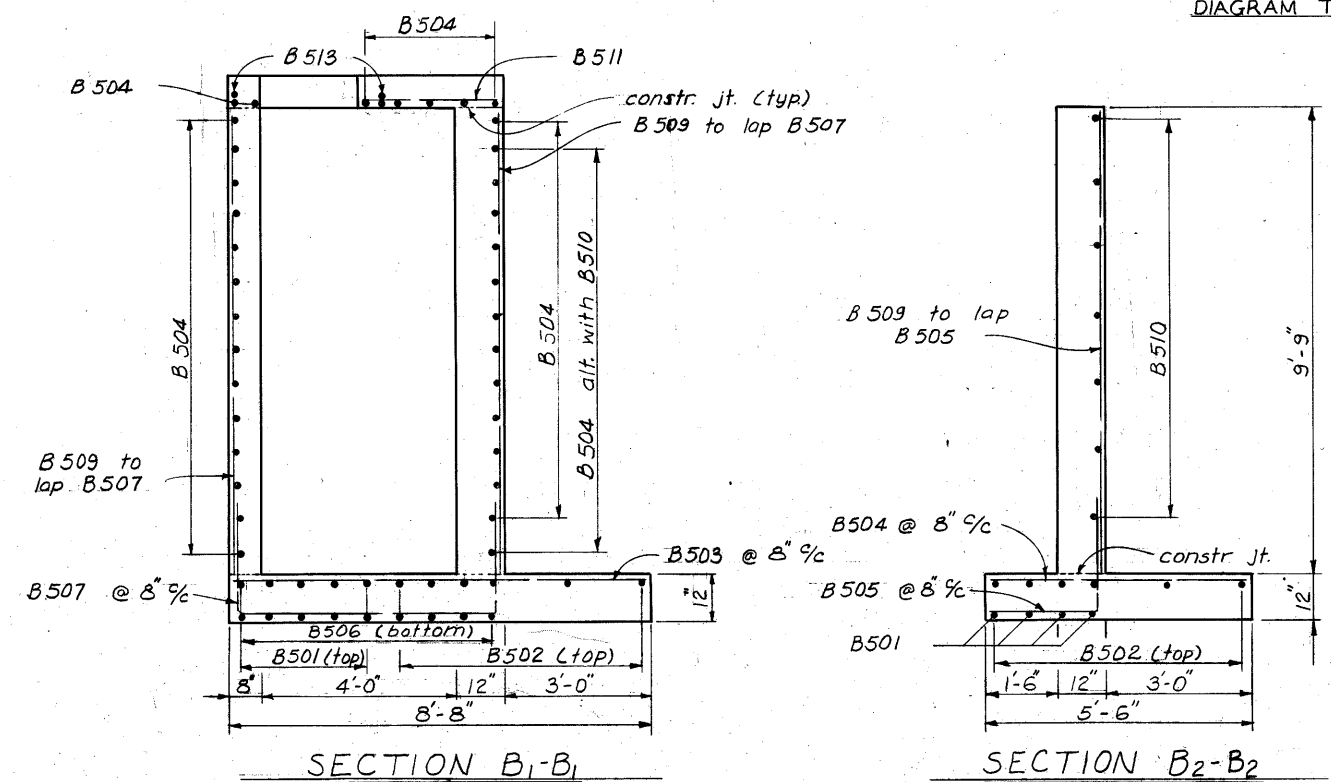
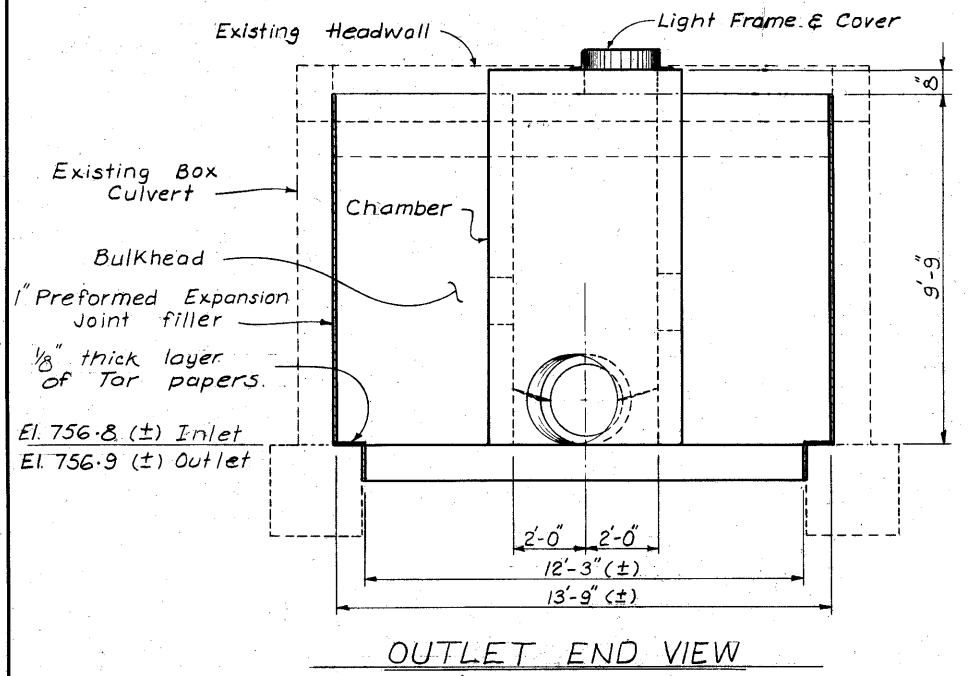
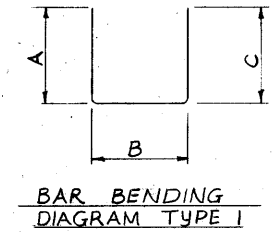


- NOTES:
- Details, dimensions and reinforcing not shown on outlet side are same as inlet side.
  - Embankment around chamber shall be completed after fill up of box culvert.
  - Payment of tar paper shall be included with item 511, class c concrete.
  - For detail of Manhole frame, cover and steps see Std. Construction Drawing MH-1

PLAN

BAR SIZE DESIGNATION

Bar size is included in the bar mark. The first digit indicates the bar size. For example B501 is a No. 5 size bar.



REINFORCING STEEL LIST							
MARK	NUM.	LENGTH	WEIGHT	TYPE	A	B	C
B 501	26	4-10	131	ST			
B 502	12	11-9	147	ST			
B 503	16	8-2	137	ST			
B 504	78	5-0	407	ST			
B 505	20	4-4	90	I	2-1	2-4	
B 506	18	9-3	174	I	2-4	4-10	2-4
B 507	16	9-7	160	I	2-4	5-2	2-4
B 508	72	5-4	400	ST			
B 509	92	9-7	920	ST			
B 510	14	13-5	197	ST			
B 511	4	2-8	11	ST			
B 512	4	2-4	10	ST			
B 513	4	4-11	20	I	2-0	3-0	
REPLACEMENT STEEL							
RE 501	1	6-7		ST			



**NOTES**

**JOINTS:** Unsealed contraction joints spaced at 20' max. shall be constructed throughout the run of Concrete Barrier except that expansion joints shall be used at the center line of and around each bridge pier column and on either side of overhead sign supports. See 625 Light pole foundation drawing for other joint details.

Contraction joints may be constructed with metal inserts inside the forms, preformed full width joint filler, a grooving tool, or by sawing. Inserts or tooled or sawed joints shall have a 1 1/2" min. depth. All joints shall be constructed for the full height of the barrier including the base.

**LIGHTING:** The 4" polyvinyl chloride raceway shall be included in the unit price bid for 622.

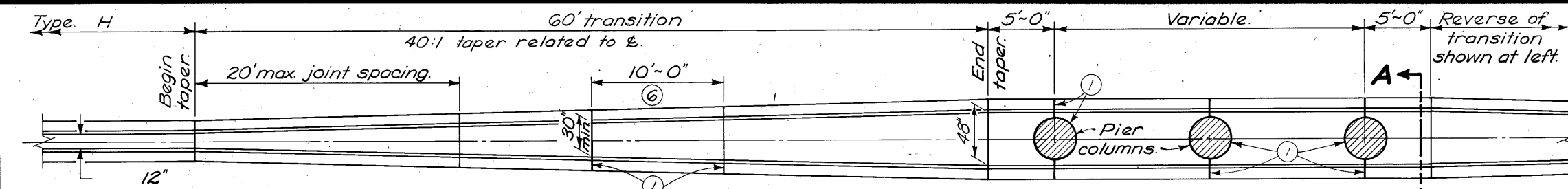
**MEASUREMENT:** 622 Concrete Barrier, including transitions and end terminals and pier sections, is paid for in linear feet with the following deductions for structures covered under other items:

- 604 I-3 Median inlets..... 20 Lin. Ft.
- 625 Light pole foundation ..... 2.5 Lin. Ft.
- 844 Overhead sign support foundation... 10 Lin. Ft.

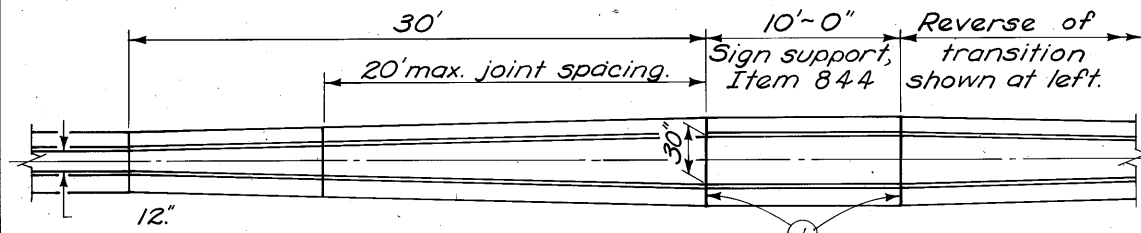
The following table gives information to compute the volume of the various type barriers:

CUBIC YARDS PER LINEAR FOOT		
Barrier	Top	Base
TYPE H	0.206	0.111
SECTION A-A†	0.672	0.194

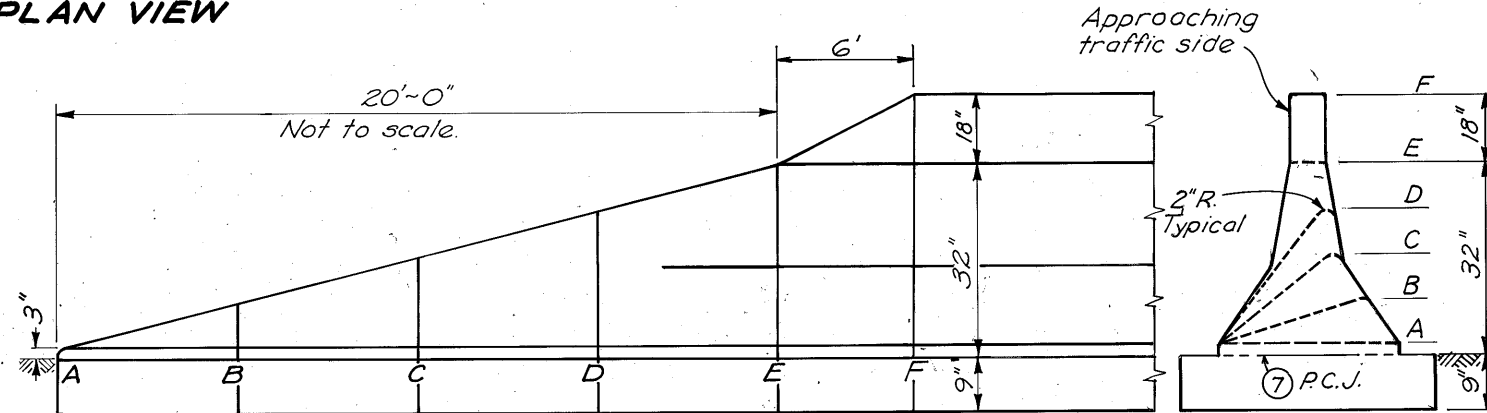
† Deduct 1.3 Cu. Yd. for each 36" dia. pier column.



**BRIDGE PIER TRANSITION - PLAN VIEW**

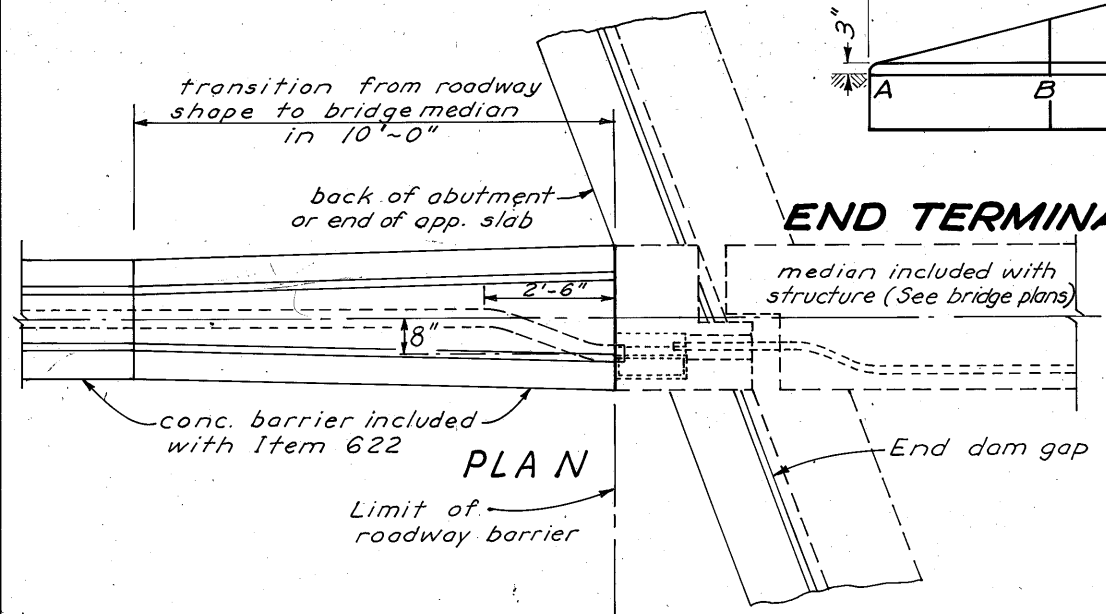


**SIGN SUPPORT TRANSITION - PLAN VIEW**

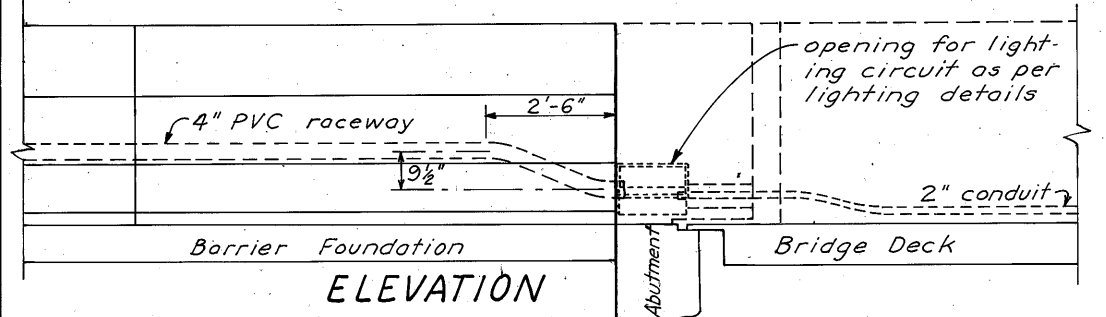


**PROFILE VIEW**

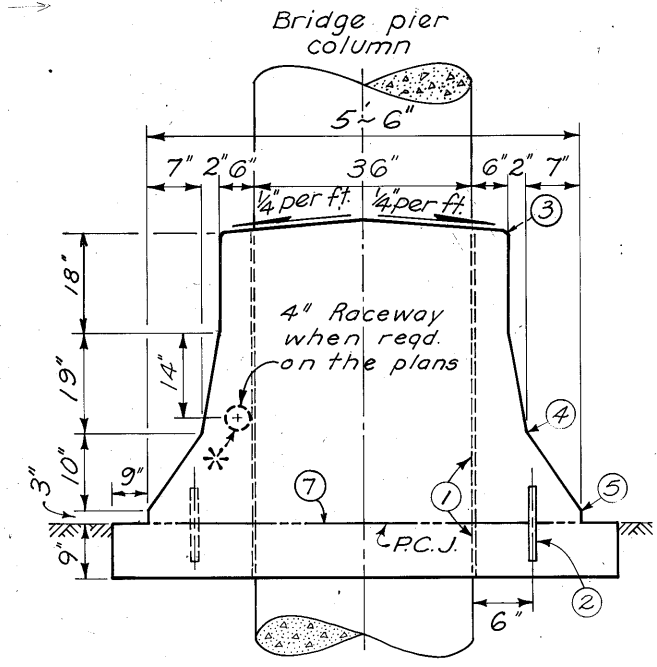
**END VIEW**



**END TERMINAL DETAIL**



**BRIDGE MEDIAN TRANSITION DETAIL**



**SECTION A-A**

- ① Expansion joint, 3/4" min. Preformed Filler 705.03.
- ② No. 8 deformed steel bars, 12" long, spaced on staggered 4' centers. The End Terminal will require shorter dowels between points A & C. Omit dowels when top is constructed integral with the base.
- ③ 1" Radius or 3/4" chamfer.
- ④ Permissible 10" radius.
- ⑤ Permissible 1" radius.
- ⑥ 844 Overhead Sign Support Foundation, if specified in the plan.
- ⑦ Permissible construction joint.

NOTE: Drawing not to scale, dimensions govern. See General Notes for optional top construction.

**CONCRETE BARRIER DETAILS**

Deduct 20 lin. ft. from concrete barrier. All costs for concrete barrier and inlet are included in Item 604.

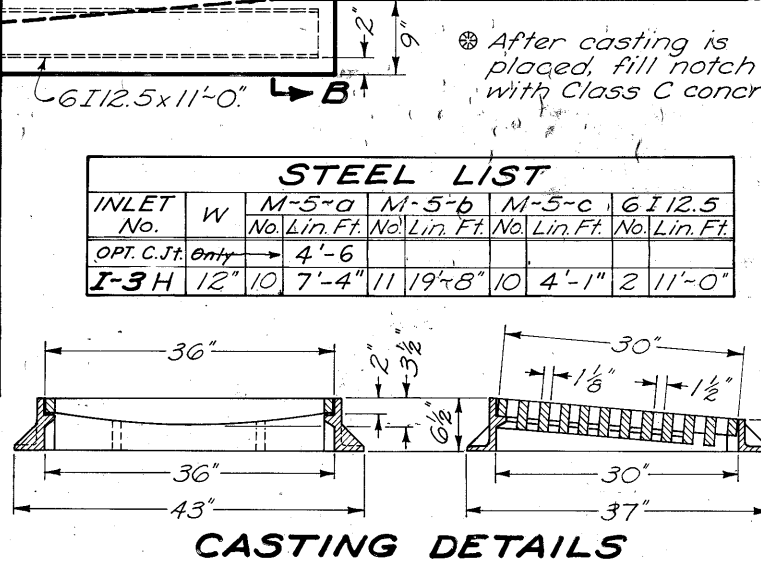
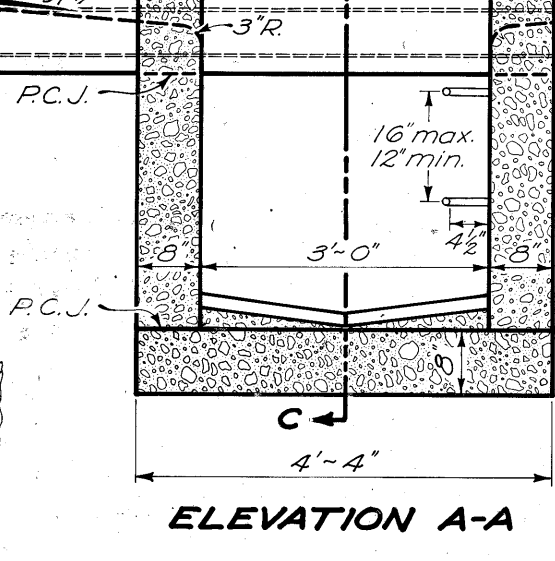
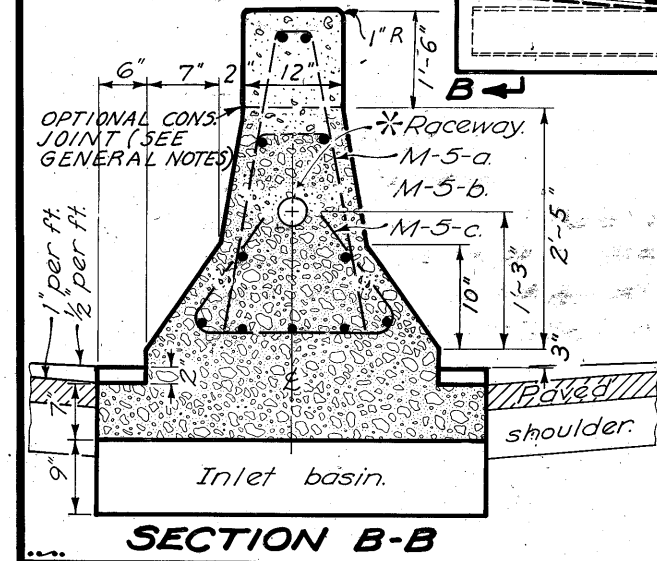
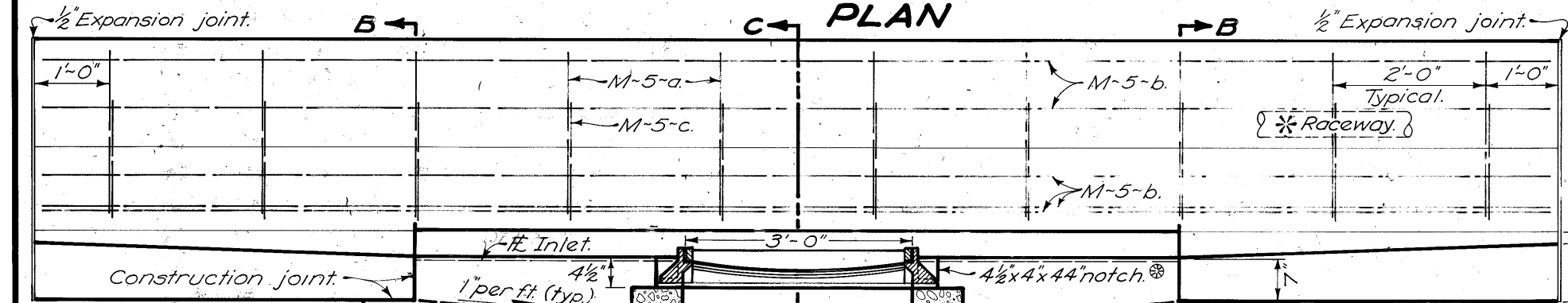
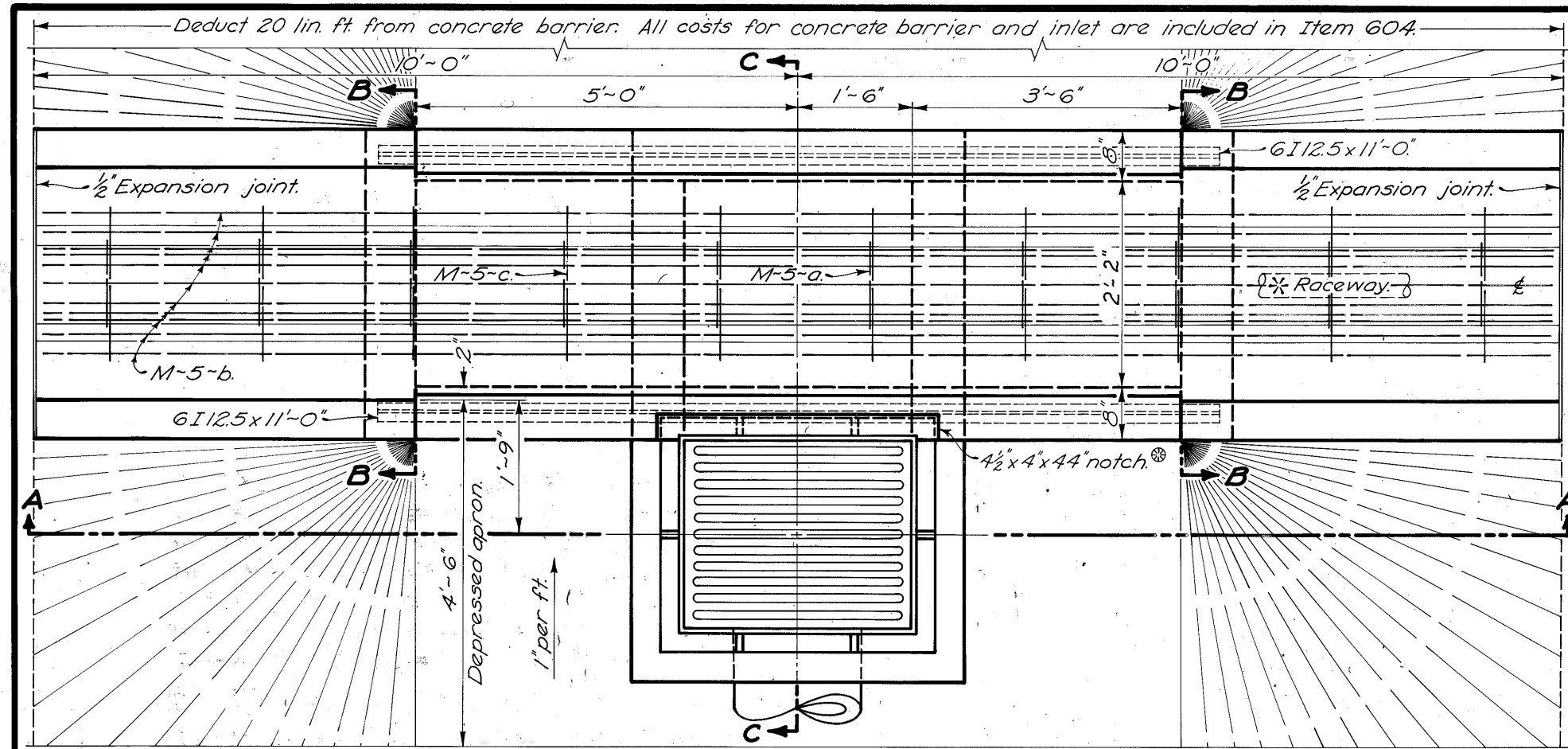
**WALLS:** The sections between the base and the upper permissible construction joint may be built of brick, concrete block, or cast-in-place concrete, 8" nominal thickness, for depths of 12' or less. The unit above the upper permissible construction joint may be precast or cast-in-place. Concrete for precast or cast-in-place construction shall meet the requirements of 511 Class C. If a skewed pipe protrudes more than 2" inside a wall, the pipe shall be trimmed flush and finished to produce a neat appearance.

**STEPS** shall be in accordance with Standard Drawing MH-1. Minimum weight of frame and cover shall be 540 pounds.

**GRATE LOCATION:** In superelevated curves or at other locations where there is unequal discharge from the directional roadways, the inlet grating shall be located in the roadway which discharges the major flow.

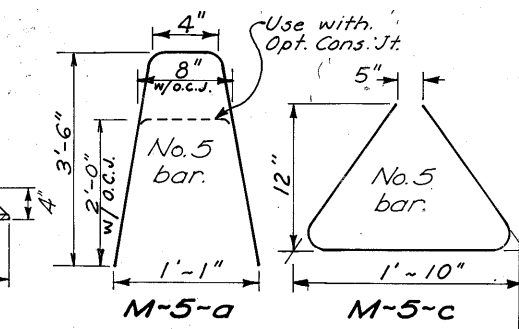
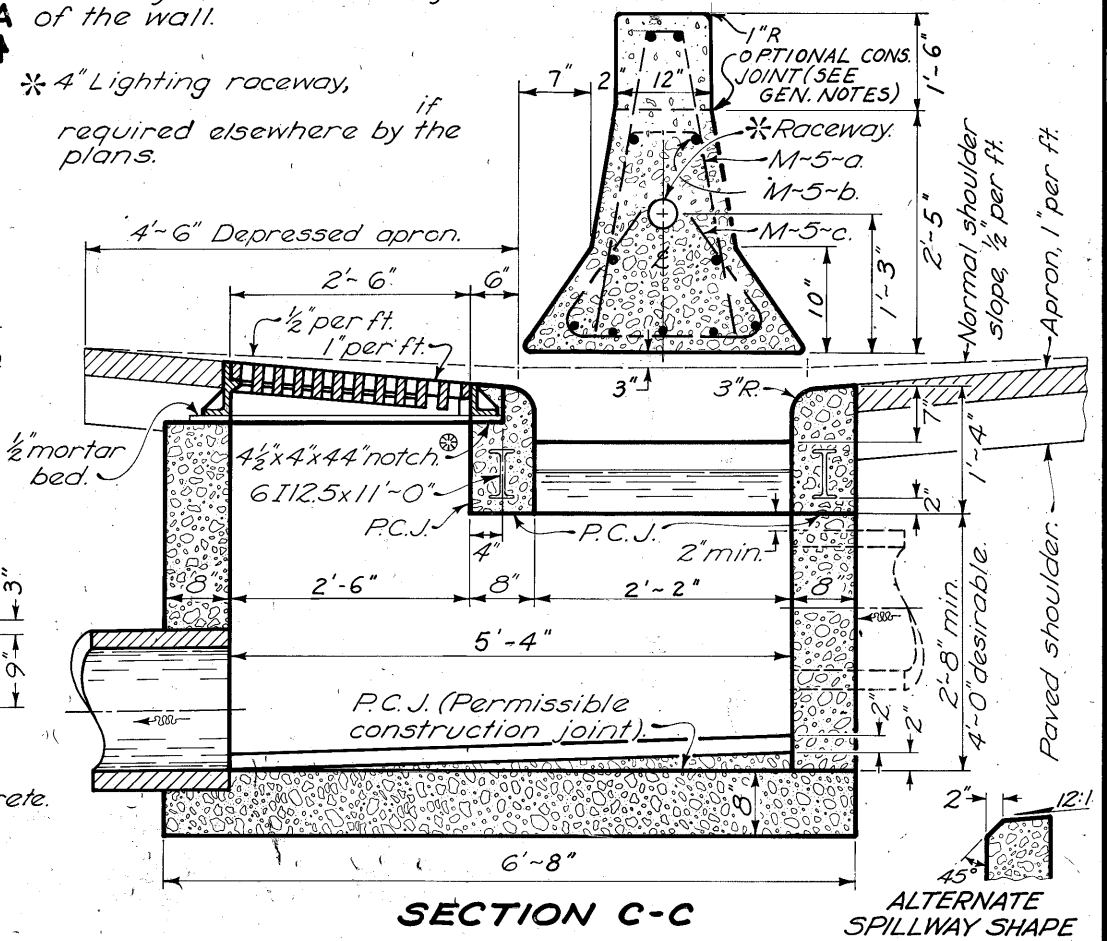
**INLETS OVER 12 FEET IN DEPTH** shall be built of Class C concrete reinforced by placing 1/2" bars 12" center-to-center both vertically and horizontally with a 2" clearance from inside face of the wall.

\* 4" Lighting raceway, if required elsewhere by the plans.



**STEEL LIST**

INLET No.	W	M-5-a No.	M-5-a Lin. Ft.	M-5-b No.	M-5-b Lin. Ft.	M-5-c No.	M-5-c Lin. Ft.	6I12.5 No.	6I12.5 Lin. Ft.
OPT. C.Jt. Entry			4'-6"						
I-3H	12"	10	7'-4"	11	19'-8"	10	4'-1"	2	11'-0"

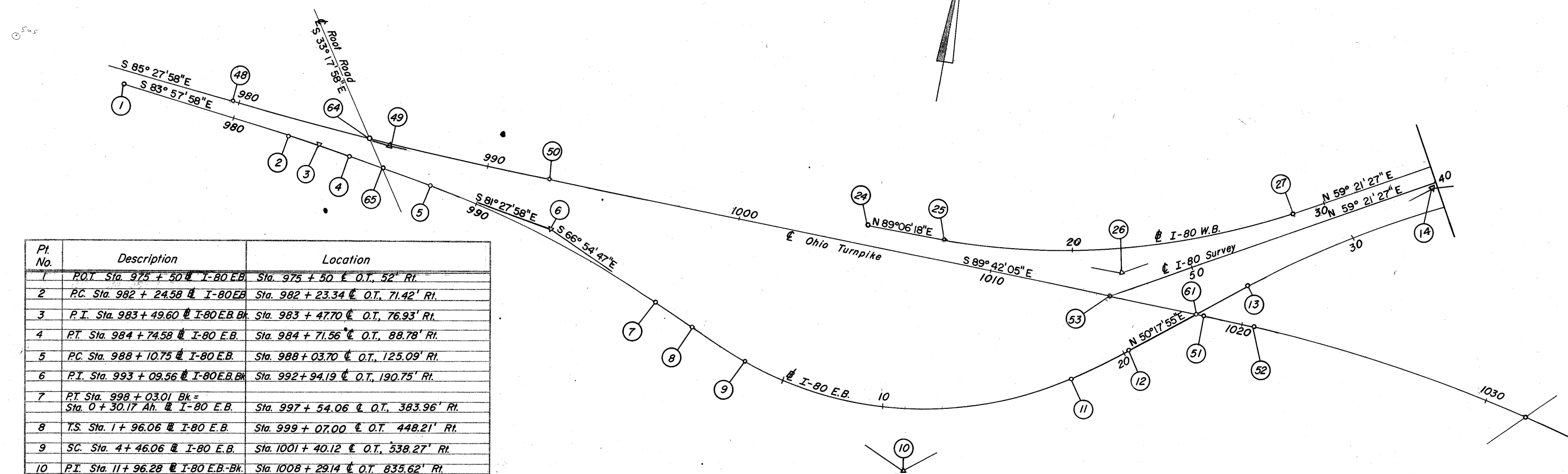


**I-3H**

**MEDIAN INLETS**

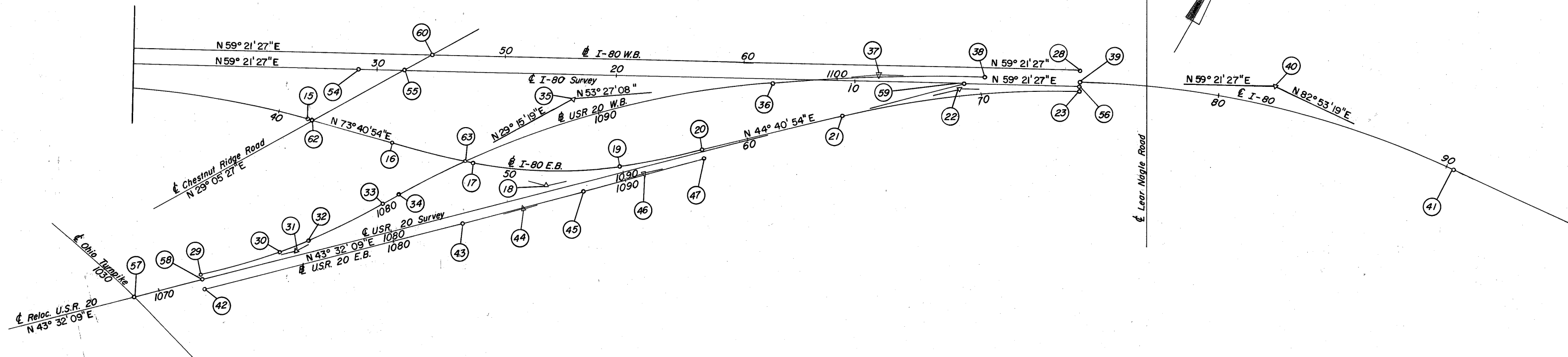
NOTE: Drawing not to scale, dimensions govern. See General Notes for optional top construction.

**MEDIAN INLET DETAILS**



Pt. No.	Description	Location
1	P.O.T. Sta. 975 + 50.00 I-80 E.B.	Sta. 975 + 50.00 O.T., 52' Rt.
2	P.C. Sta. 982 + 24.58 I-80 E.B.	Sta. 982 + 23.34 O.T., 71.42' Rt.
3	P.T. Sta. 983 + 49.60 I-80 E.B. Bk.	Sta. 983 + 47.70 O.T., 76.93' Rt.
4	P.T. Sta. 984 + 74.58 I-80 E.B.	Sta. 984 + 71.56 O.T., 88.78' Rt.
5	P.C. Sta. 988 + 10.75 I-80 E.B.	Sta. 988 + 03.70 O.T., 125.09' Rt.
6	P.T. Sta. 993 + 09.56 I-80 E.B. Bk.	Sta. 992 + 94.19 O.T., 190.75' Rt.
7	P.T. Sta. 998 + 03.01 Bk. = Sta. 0 + 30.17 A.H. I-80 E.B.	Sta. 997 + 54.06 O.T., 383.96' Rt.
8	T.S. Sta. 1 + 96.06 I-80 E.B.	Sta. 999 + 07.00 O.T., 448.21' Rt.
9	SC. Sta. 4 + 46.06 I-80 E.B.	Sta. 1001 + 40.12 O.T., 538.27' Rt.
10	P.T. Sta. 11 + 96.28 I-80 E.B. Bk.	Sta. 1008 + 29.14 O.T., 835.62' Rt.
11	CS. Sta. 17 + 65.77 I-80 E.B.	Sta. 1013 + 99.31 O.T., 347.70' Rt.
12	ST. Sta. 20 + 15.77 I-80 E.B.	Sta. 1015 + 95.35 O.T., 192.70' Rt.
13	P.C. Sta. 25 + 44.84 I-80 E.B.	
14	P.T. Sta. 33 + 53.24 I-80 E.B. Bk.	Sta. 40 + 15.14 I-80 Survey, 16.13' Lt.
24	P.O.T. Sta. 11 + 95.17 I-80 W.B.	Sta. 1005 + 00.00 O.T., 77' Lt.
25	P.C. Sta. 14 + 95.17 I-80 W.B.	Sta. 1007 + 99.93 O.T., 83.25' Lt.
26	P.T. Sta. 22 + 02.45 I-80 W.B. Bk.	Sta. 52 + 62.21, 68' Rt. I-80 Survey
27	P.T. Sta. 28 + 77.81 I-80 W.B.	Sta. 45 + 54.93, 68' Rt. I-80 Survey
48	P.C. Sta. 979 + 77.63 O.T.	
49	P.T. Sta. 986 + 13.21 Bk. O.T.	Sta. 986 + 12.92, 11.75' Rt. O.T.
50	P.T. Sta. 992 + 48.21 O.T.	
51	T.S. Sta. 1018 + 54.20 O.T.	
52	SC. Sta. 1020 + 54.20 O.T.	
53	P.O.T. Sta. 1014 + 75.86 O.T.	Sta. 53 + 39.34 I-80 Survey
61	P.O.T. Sta. 23 + 15.55 I-80 E.B.	Sta. 1018 + 25.00 O.T.
64	P.O.T. Sta. 5 + 11.24 Root Road	Sta. 985 + 30.05 O.T.
65	P.O.T. Sta. 986 + 08.37 I-80 E.B.	Sta. 3 + 84.80 Root Road

Curve	I-80				Ohio Turnpike	
	3	6	10	14	26	49
P.T.	983 + 49.60	993 + 09.56	11 + 96.28	33 + 53.24	22 + 02.45	986 + 13.21
Δ	2° 30' 00"	14° 33' 11"	62° 47' 18"	23° 22' 59"	29° 44' 51"	4° 14' 07"
Dc	1° 00' 00"	1° 28' 00"	4° 00' 00"	1° 28' 00"	2° 09' 05"	0° 20' 00"
R	5729.58'	3906.53'	1432.39'	3906.53'	2663.05'	17188.73'
L	250.00'	992.26'	1319.71'	1594.29'	1382.64'	1270.58'
T	125.02'	498.82'	710.87'	808.40'	707.28'	635.58'
Ts			1000.22'			2345.30'
Ls			250.00'			200.00'
LT			166.73'			
ST			83.39'			
Qs			5° 00' 00"			1° 00' 00"



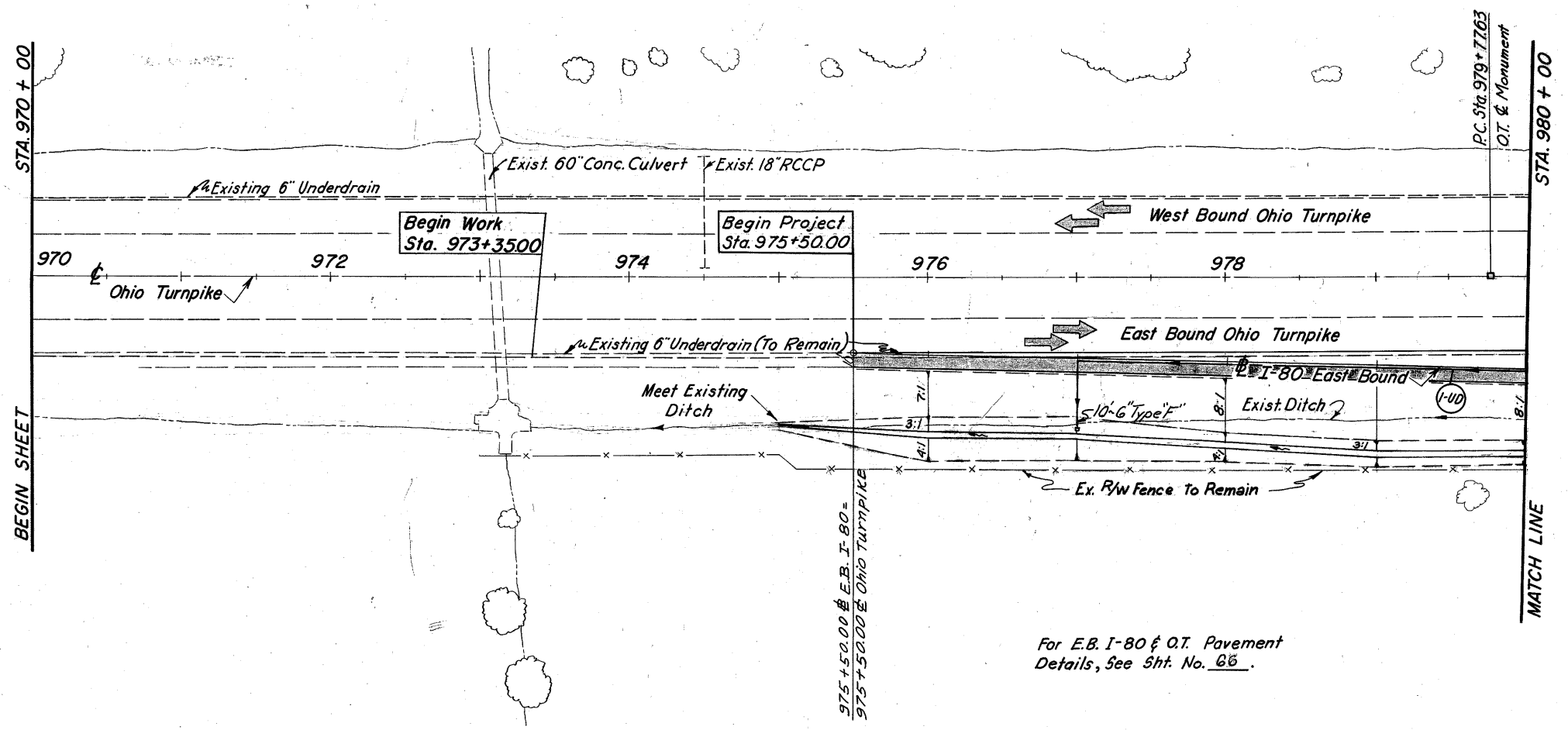
Pt. No.	DESCRIPTION	LOCATION
15	Pt. Sta. 41 + 39.14 @ I-80 E.B.	Sta. 19 + 39.03 5.21 Lt. @ Chestnut Ridge Rd. Survey
16	TS. Sta. 44 + 89.10 @ I-80 E.B.	Sta. 21 + 88.26, 240.48 Rt., @ Chestnut Ridge Rd. Survey
17	SC. Sta. 48 + 39.10 @ I-80 E.B.	Sta. 1084 + 1013.191.25 Lt., @ U.S.R. 20 Survey
18	Pt. Sta. 51 + 58.67 @ I-80 E.B. Bk.	
19	C.S. Sta. 54 + 55.77 @ I-80 E.B.	Sta. 1090 + 01.37 - 25.67 Lt., @ U.S.R. 20 Survey
20	ST. Sta. 58 + 05.77 @ I-80 E.B.	Sta. 1093 + 50.80, -799 Lt., @ U.S.R. 20 Survey
21	P.C. Sta. 64 + 10.76 @ I-80 E.B.	Sta. 1099 + 55.69, 4.03 Rt., @ U.S.R. 20 Survey
22	Pt. Sta. 69 + 13.83 @ I-80 E.B.	Sta. 5 + 54.41, 18.00 Lt., @ I-80 Survey
23	Pt. Sta. 74 + 11.39 @ I-80 E.B.	Sta. 0 + 51.35, -18.00 Rt., @ I-80 Survey
28	P.O.T. Sta. 74 + 11.39 @ I-80 W.B.	Sta. 0 + 51.35, 68 Rt., @ I-80 Survey
29	TS. Sta. 1071 + 83.02 @ U.S.R. 20 W.B.	Sta. 1071 + 83.02 - 20 Lt., @ U.S.R. 20 Survey
30	S.C. Sta. 1075 + 33.02 @ U.S.R. 20 W.B.	Sta. 1075 + 32.73 - 30.68 Lt., @ U.S.R. 20 Survey
31	Pt. Sta. 1075 + 97.55 @ U.S.R. 20 W.B. Bk.	Sta. 1075 + 97.55 - 20 Lt., @ U.S.R. 20 Survey
32	C.S. Sta. 1076 + 59.04 @ U.S.R. 20 W.B.	Sta. 1076 + 57.74 - 46.34 Lt., @ U.S.R. 20 Survey
33	ST. Sta. 1080 + 09.04 @ U.S.R. 20 W.B.	Sta. 1079 + 99.28 - 122.25 Lt., @ U.S.R. 20 Survey
34	P.C. Sta. 1080 + 83.88 @ U.S.R. 20 W.B.	Sta. 1080 + 71.81 - 140.71 Lt., @ U.S.R. 20 Survey
35	Pt. Sta. 1089 + 21.25 @ U.S.R. 20 W.B. Bk.	Sta. 21 + 68.60, -99.77 Lt., @ I-80 Survey
36	P.C.C. Sta. 1097 + 33.66 @ U.S.R. 20 W.B.	Sta. 13 + 35.67, -13.61 Lt., @ I-80 Survey
37	Pt. Sta. 1101 + 76.96 @ U.S.R. 20 W.B. Bk.	Sta. 8 + 94.72, -32.00 Rt., @ I-80 Survey
38	Pt. Sta. 1106 + 19.47 @ U.S.R. 20 W.B.	Sta. 4 + 51.44, -32.00 Rt., @ I-80 Survey
39	P.C. Sta. 74 + 11.39 @ I-80	Sta. 0 + 51.35, 19 Rt., @ I-80 Survey
40	Pt. Sta. 82 + 32.76 @ I-80 Bk.	
41	Pt. Sta. 90 + 30.98 @ I-80	

Pt. No.	DESCRIPTION	LOCATION
42	P.O.T. Sta. 1071 + 83.02 @ U.S.R. 20 E.B.	1071 + 83.02 @ U.S.R. 20 Survey 44.00 Rt
43	P.C. Sta. 1083 + 01.22 @ U.S.R. 20 E.B.	1083 + 01.22 @ U.S.R. 20 Survey 44.00 Rt
44	Pt. Sta. 1085 + 63.45 @ U.S.R. 20 E.B. Bk.	1085 + 63.45 @ U.S.R. 20 Survey 44.00 Rt
45	P.R.C. Sta. 1088 + 25.66 @ U.S.R. 20 E.B.	1088 + 25.61 @ U.S.R. 20 Survey 38.00 Rt
46	Pt. Sta. 1090 + 87.89 @ U.S.R. 20 E.B. Bk.	1090 + 87.77 @ U.S.R. 20 Survey 32.00 Rt
47	Pt. Sta. 1093 + 50.10 @ U.S.R. 20 E.B.	1093 + 50.00 @ U.S.R. 20 Survey 32.00 Rt
54	P.O.T. Sta. 30 + 91.57 @ I-80 Survey Bk.	Sta. 30 + 61.57 @ I-80 Survey Ah.
55	P.O.T. Sta. 28 + 81.18 @ I-80 Survey	Sta. 23 + 76.77 @ Chestnut Ridge Road Survey
56	P.O.T. Sta. 0 + 51.35 @ I-80 Survey	
57	P.O.T. Sta. 1068 + 91.75 @ U.S.R. 20	Sta. 1031 + 70.69 @ O.T.
58	P.O.T. Sta. 1071 + 83.02 @ U.S.R. 20	
59	P.O.T. Sta. 5 + 42.83 @ I-80 Survey	Sta. 11.04 + 74.68 @ U.S.R. 20 Survey
60	P.O.T. Sta. 46 + 98.07 @ I-80 W.B.	Sta. 25 + 11.68 @ Chestnut Ridge Rd. Survey
62	P.O.T. Sta. 41 + 46.56 @ I-80 E.B.	Sta. 19 + 44.32 @ Chestnut Ridge Rd. Survey
63	P.O.S. Sta. 48 + 04.89 @ I-80 E.B.	Sta. 1083 + 98.22 @ U.S.R. 20 W.B.

Curve	I-80		I-80 @	U.S.R. - 20				
	EASTBOUND			EASTBOUND	WESTBOUND			
	18	22	40	44	46	31	35	37
P.I.	51 + 58.67	69 + 13.83	82 + 32.76	1085 + 63.45	1090 + 87.89	1075 + 97.55	1089 + 21.25	1101 + 76.96
Δ	29° 00' 00"	14° 40' 33"	23° 31' 52"	1° 18' 40"	1° 18' 40"	14° 16' 50"	24° 11' 49"	5° 54' 19"
Dc	3° 00' 00"	1° 28' 00"	1° 27' 10"	0° 15' 00"	0° 15' 00"	3° 00' 00"	1° 28' 00"	0° 40' 00"
R	1909.86'	3906.53'	3943.53'	22,918.31'	22,918.31'	1909.86'	3906.53'	8594.37'
L	616.67'	1000.63'	1619.59'	524.44'	524.44'	126.02'	1,649.78'	885.81'
T	311.04'	503.07'	821.37'	262.23'	262.23'	63.03'	837.37'	443.30'
Ts	669.57'					414.53'		
Ls	350.00'					350.00'		
LT	233.44'					233.44'		
ST	116.76'					166.76'		
Qs	5° 15' 00"					5° 15' 00"		

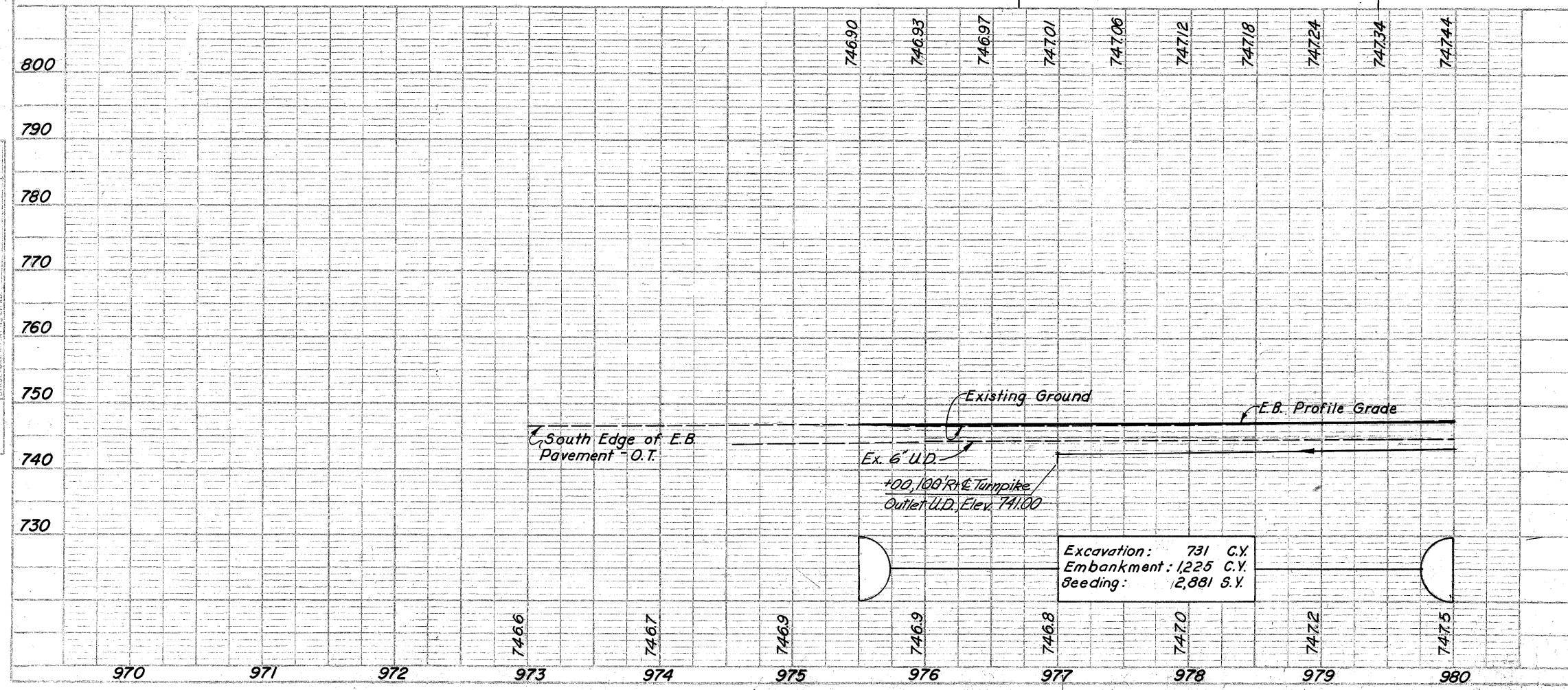






For E.B. I-80 & O.T. Pavement  
Details, See Sht. No. 86.

Reference Pt. & B.M. O.T. & Mon. Sta. 979+77.63  
Elev. 745.45



Excavation: 731 C.Y.  
Embankment: 1,225 C.Y.  
Seeding: 1,281 S.Y.

		DRAINAGE		
		603	605	
		6\"/>		
Ref. No.	Side	Location	L.F.	Each
I-UD	Rt.	Sta. 977+00-980+00	10	1
100% State Total			10	332

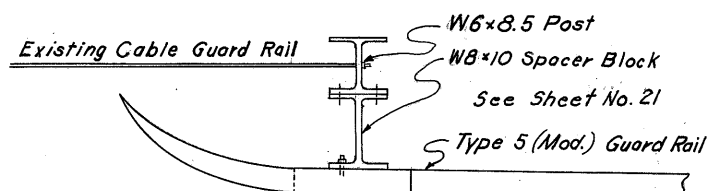
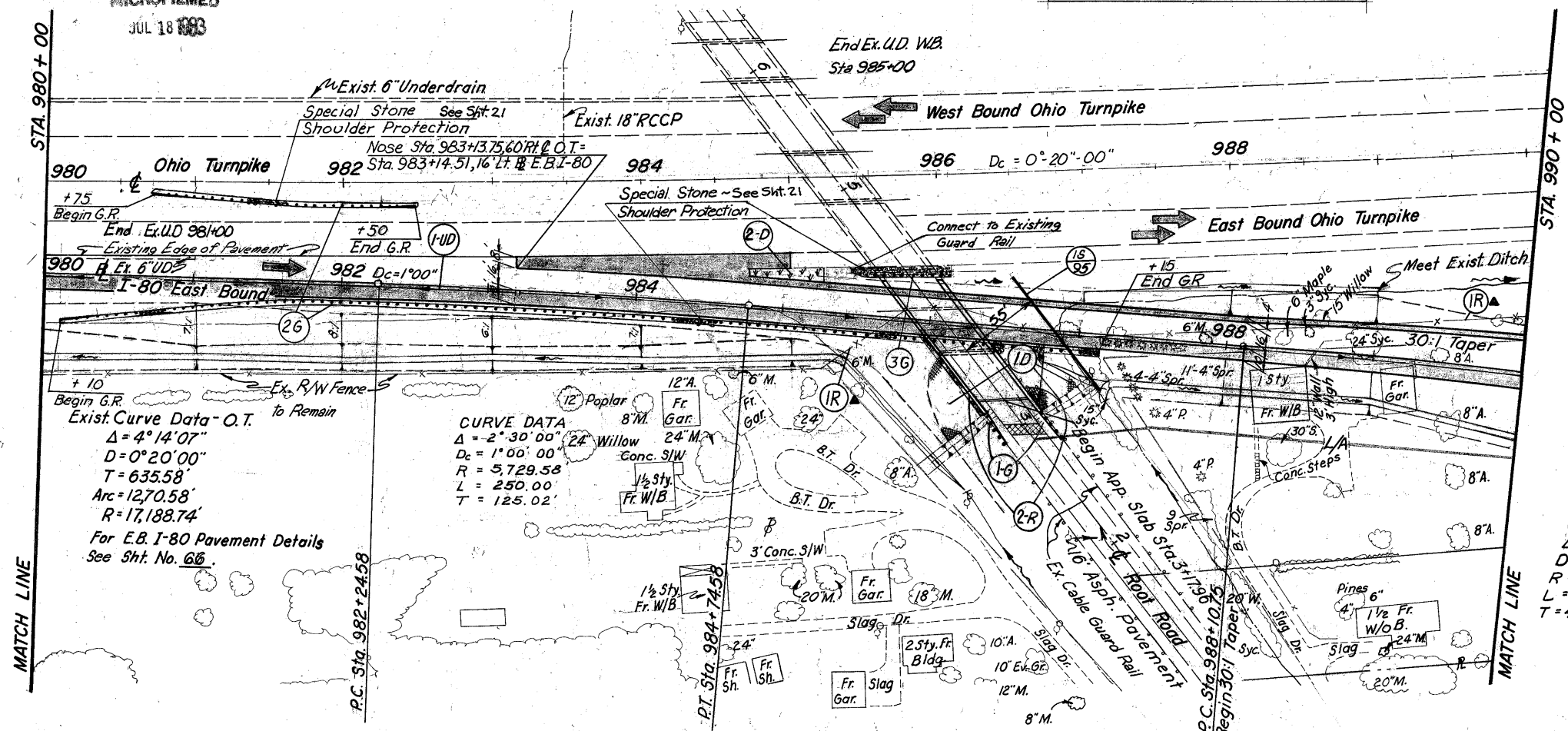
P.C. Sta. 988+10.75 @ WBI-80 =  
Sta. 988+03.70, 125.09' Rt. @ O.T.

FILE NO.	DATE	PROJECT	TYPE
2	OHIO		

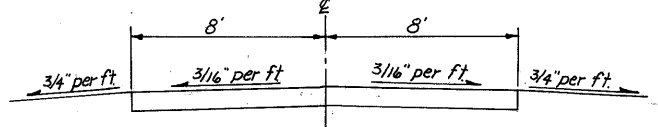
30  
375

LORAIN COUNTY  
LOR-480-0.00

Tree 980+00	Removal 990+00
Size 18"	No. 8



Connection to Existing Root Road Guard Rail Detail  
Cost Included In Lineal Feet Price Bid For Type 5  
Guard Rail Mod.



**TYPICAL SECTION OF EXISTING ROOT ROAD**

2 1/2" Asphalt Concrete With  
8" Waterbound Macadam Base

Curve Data  
Δ = 14° 33' 11"  
D = 1° 28' 00"  
R = 3,906.53'  
L = 992.26'  
T = 498.82'

Exist. Curve Data - O.T.  
Δ = 4° 14' 07"  
D = 0° 20' 00"  
T = 635.58'  
Arc = 1270.58'  
R = 17,188.74'  
For E.B. I-80 Pavement Details  
See Sht. No. 66

CURVE DATA  
Δ = 2° 30' 00"  
D = 1° 00' 00"  
R = 5,729.58'  
L = 250.00'  
T = 125.02'

▲ NOTE: Fence Removal Cost included in 203 Excavation.

(I-P) Replace existing pavement with:

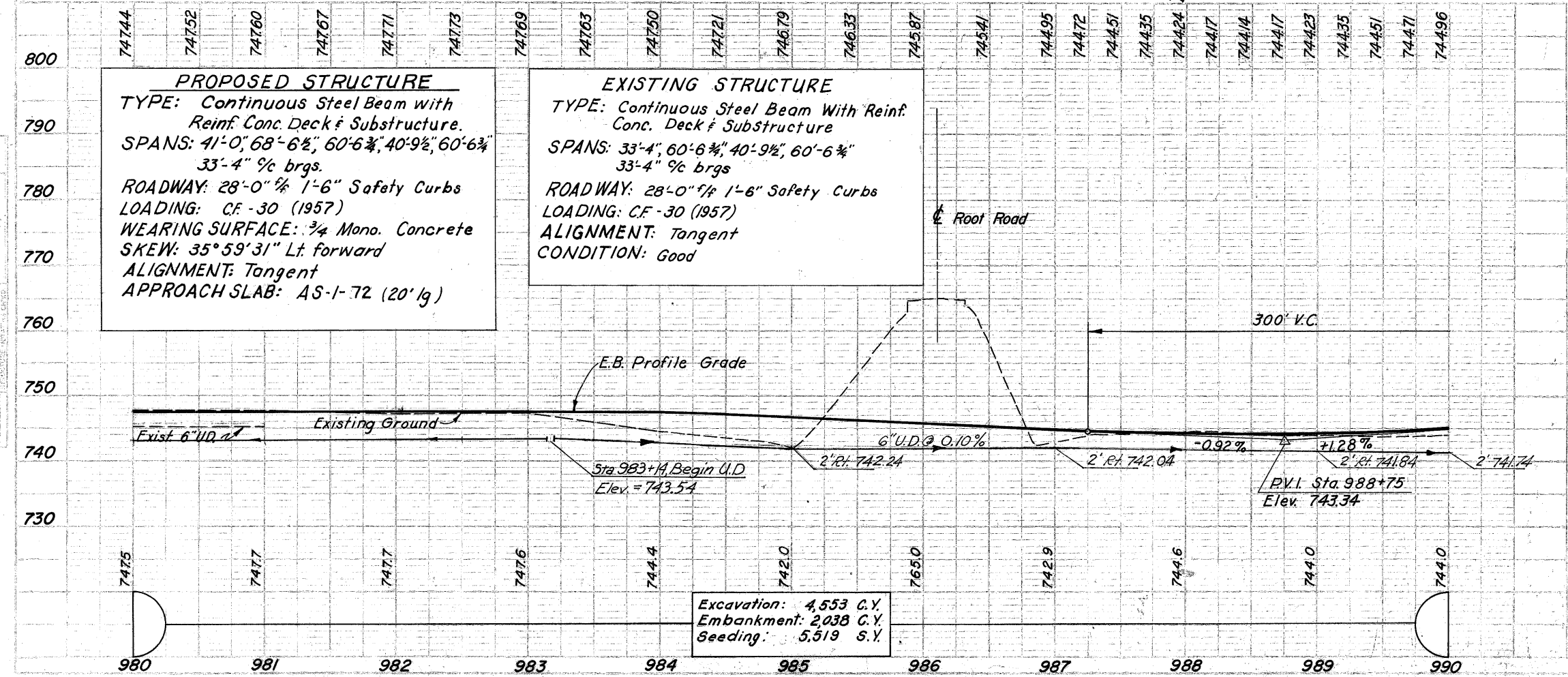
8" 310 Subbase  
1 1/4" 403 Asphalt Concrete Base Course AC-20  
1 1/4" 404 Asphalt Concrete Surface Course AC-20  
Sta. 2+87.96 to Sta. 2+97.96 - E Root Rd.  
Quantities to be paid for under unit price  
bid for 611 Approach Slab. See Sheet No. 19

Estimated Quantities	Sanitary 603 21" Type "B" 706.02 With 706.11 Joints
Ref. Side Location	Lin. Ft.
15 Rt. 2+84 to 3+80	96
100% State Total	96

CHKD BY LVC DATE 2/21/70  
CHKD BY DRH DATE 3/15/70

**PROPOSED STRUCTURE**  
TYPE: Continuous Steel Beam with  
Reinf. Conc. Deck & Substructure.  
SPANS: 41'-0", 68'-6", 60'-6", 40'-9", 60'-6"  
33'-4" % brgs.  
ROADWAY: 28'-0" x 1'-6" Safety Curbs  
LOADING: CF-30 (1957)  
WEARING SURFACE: 3/4 Mono. Concrete  
SKEW: 35° 59' 31" Lt. forward  
ALIGNMENT: Tangent  
APPROACH SLAB: AS-1-72 (20' lg)

**EXISTING STRUCTURE**  
TYPE: Continuous Steel Beam With Reinf.  
Conc. Deck & Substructure  
SPANS: 33'-4", 60'-6", 40'-9", 60'-6"  
33'-4" % brgs  
ROADWAY: 28'-0" x 1'-6" Safety Curbs  
LOADING: CF-30 (1957)  
ALIGNMENT: Tangent  
CONDITION: Good



Excavation: 4,553 C.Y.  
Embankment: 2,038 C.Y.  
Seeding: 5,519 S.Y.

Ref. No.	Side	Location	DRAINAGE				ROADWAY							
			Sq. Yd.	Sq. Yd.	Sq. Yd.	Lin. Ft.	Ea.	Lin. Ft.	Ea.	Lin. Ft.	LF	LF		
1-R	Lt.	Sta. 985+00 to 990+00												
1-D	Lt.	Sta. 2+95 - E Root		99	269									
2-D	Rt.	Sta. 984+70 - 985+20	36											
1-G	Lt.	Sta. 3+30 - E Root							50	2				
2-G	Lt.	Sta. 980+10 - 987+15							775	2	2	43		
3-G	Lt.	Sta. 985+45 - 986+08							62.5			6		
2-R	Lt.	Sta. 3+30 - E Root											160	
1-U	Rt.	Sta. 980+00 - 990+00				996								
1-ST	Rt.	Sta. 989+00 ±							1					
100% State Total			36	99	269	996			887.5	2	2	49	160	



B.M. O.T. & Mon. P.T. Sta. 992+48.21  
Elev. = 745.52

Sta. 0+30.17 A.H. & I-80 W.B.  
= Sta. 997+54.06, 383.96' Lt. & O.T.

FED. RD. DIST. NO.	STATE	PROJECT NO.	TYPE
2	OHIO		BRIDGE

31  
375

LORAIN COUNTY  
LOR-480-0.00

Tree Removal

990+00	2+25
Size	No.
18"	5
30"	1

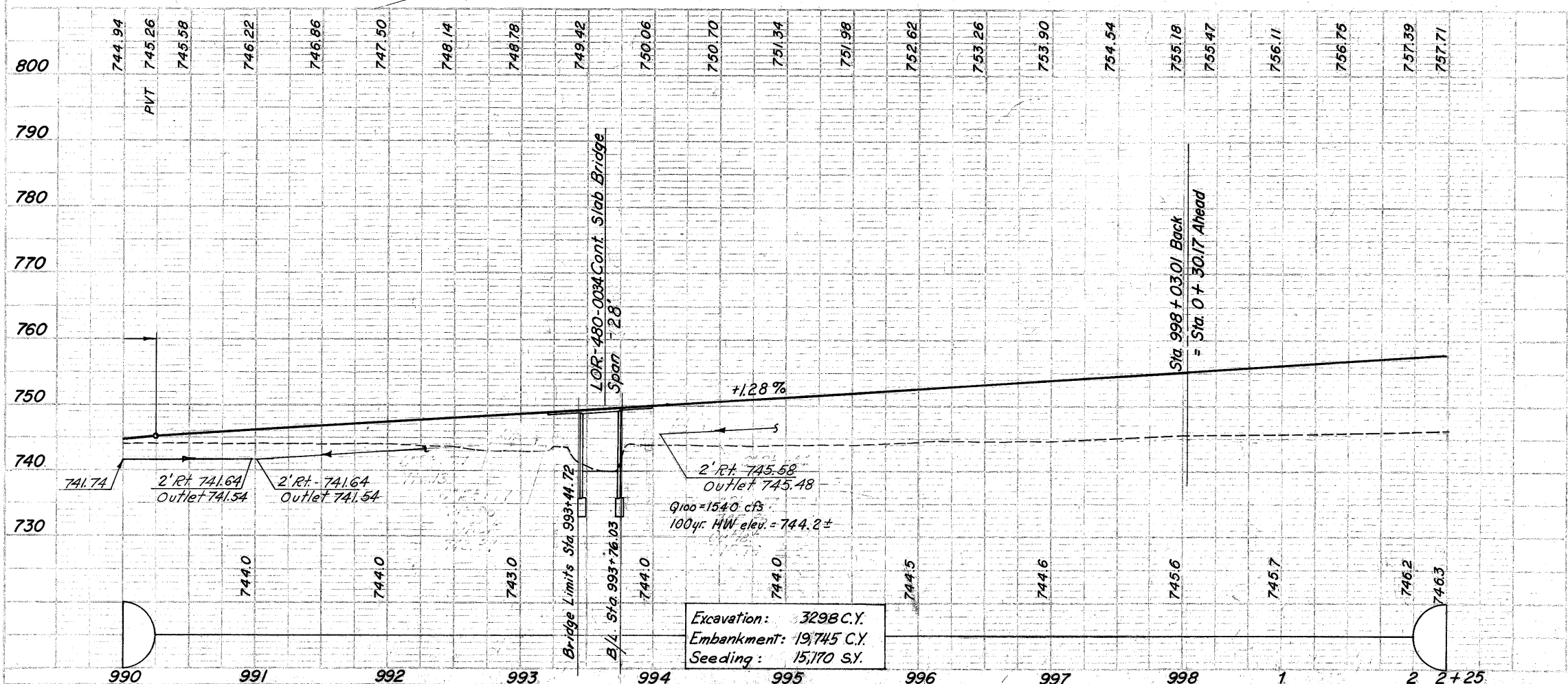
**EXISTING STRUCTURES**

TYPE: Reinforced Concrete double-box Culvert.  
SPANS: 2 of 14'-0"  
CONDITION: Good  
WATERWAY OPENING: 196 Sq. Ft.

Estimated Quantities	609 660 603 605			
	Curb Type 6A	Reinforced Sodding	Type F	Shallow
Ref. No. Side	Location	L.F.	S.Y.	L.F.
2-D Lt.			16	
3-D Lt.			32	
4-D Rt.			23	
5-D Rt.			25	
1-C Lt.		26		
2-C Lt.		26		
3-C Rt.		26		
4-C Rt.		26		
1-U Rt.	Sta. 990+00-993+18		20	386
2-U Rt.	Sta. 994+07-1+00		10	498
3-U Lt.	Sta. 0+50-2+25		10	210
Totals		104	96	1094

**PROPOSED STRUCTURE**

TYPE: Single Span reinforced conc. rete Slab deck, with reinforced concrete Substructure  
SPANS: 28'-0" w/ abutments on E  
ROADWAY: 42'-0" w/ parapets of BR-67 railing  
LOADING: HS 20-44 & Interstate Alternate  
WEARING SURFACE: Monolithic Conc.  
SKEW: 12°00'00" Rt. fwd. With reference chord  
ALIGNMENT: 1°28' Curve rt.  
SUPERELEVATION: 0.036%  
APPROACH SLABS: AS-172 (25')



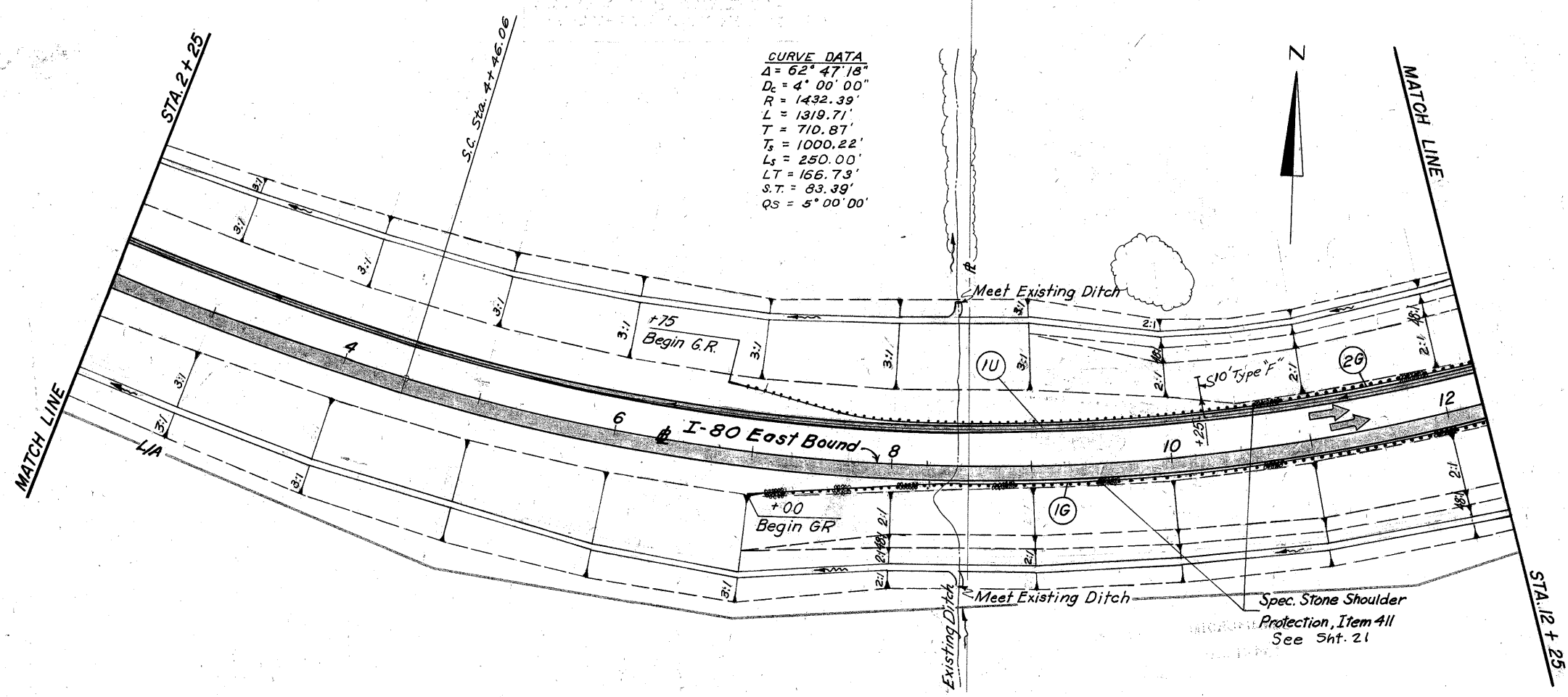
▲ NOTE: Fence Removal Cost Included in 203 Excavation

Estimated Quantities	606 601 411					Fence Removed	
	Guardrail Type 5 Mod.	Anchor Assembly Type A	Bridge Terminal Assembly Type A	Rock Channel Protection Type B W/Bed. 18" Deep	Stabilized Crushed Agg.		
Ref. No. Side	Location	Lin. Ft.	Each	Each	C.Y.	C.Y.	L.F.
1-G Lt.	Sta. 991+70-993+40	150	1	1		8	
2-G Rt.	Sta. 991+25-993+50	200	1	1		11	
1-D Rt.	Sta. 993+60				56		
1-R Lt.	Sta. 990+00-992+00						200 ▲
100% State Total		350	2	2	56	19	

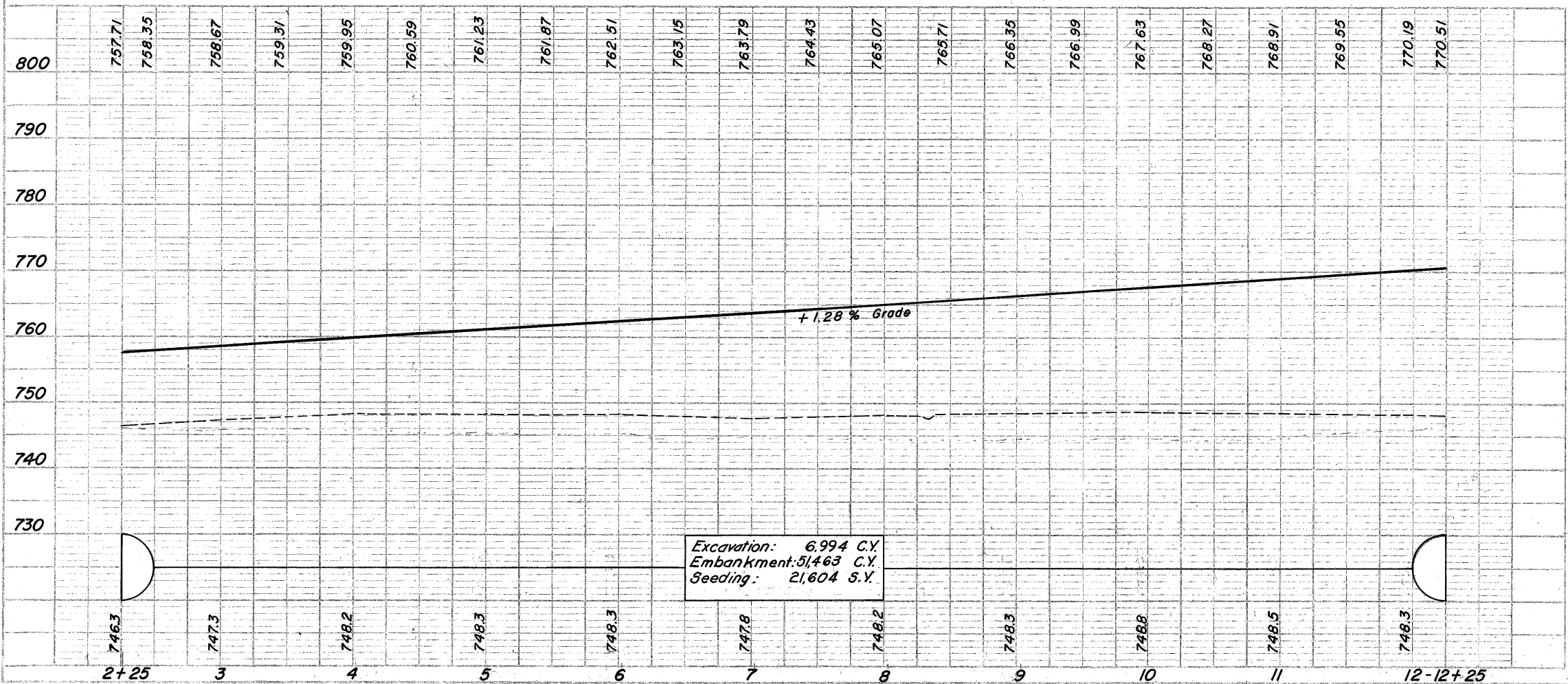
CALC. BY: LVC DATE: 2/19/70  
CHKD. BY: DRH DATE: 3/15/70

LORAIN COUNTY  
LOR-480-0.00

**CURVE DATA**  
 $\Delta = 62^{\circ} 47' 18''$   
 $D_c = 4^{\circ} 00' 00''$   
 $R = 1432.39'$   
 $L = 1319.71'$   
 $T = 710.87'$   
 $T_s = 1000.22'$   
 $L_s = 250.00'$   
 $LT = 156.73'$   
 $S.T. = 83.39'$   
 $QS = 5^{\circ} 00' 00''$



**PLAN**  
 DATE: \_\_\_\_\_ BY: \_\_\_\_\_  
 CHECKED: \_\_\_\_\_  
 NOTE BOOK: \_\_\_\_\_  
 NO. \_\_\_\_\_



**PROFILE**  
 DATE: \_\_\_\_\_ BY: \_\_\_\_\_  
 CHECKED: \_\_\_\_\_  
 NOTE BOOK: \_\_\_\_\_  
 NO. \_\_\_\_\_

Est. Quantities	606		411	603	605	
	Guardrail Type 5 Mod.	Anchor Assembly Type A	Stabilized Crushed Agg.	Type "F" 6"	Shallow Underdrain 6"	
Ref. Side	Location	Lin. Ft.	Each	C.Y.	Lin. Ft.	Lin. Ft.
1-G Rt.	Sta. 7+00 - Sta. 12+25	500'	1	26		
2-G Lt.	Sta. 6+75 - Sta. 12+25	525'	1	27		
1-U Lt.	Sta. 2+25 - 12+25				10	1020
<b>100% State Total</b>		1025	2	53	10	1020

MICROFILMED  
JUL 18 1983

S.T. Sta. 20+15.77 @ W.B. I-80 =  
Sta. 1015+95.35, 192.70' Rt @ O.T.

Curve Data  
Δ = 62°47'18"  
Dc = 4°00'00"  
R = 1432.39'  
L = 1319.71'  
T = 710.87'  
Ts = 1000.22'  
Ls = 250.00'  
LT = 166.73'  
ST = 83.39'  
Qs = 5°00'00"

See Sht. 21  
Spec. Stone Shoulder  
Protection Item 411

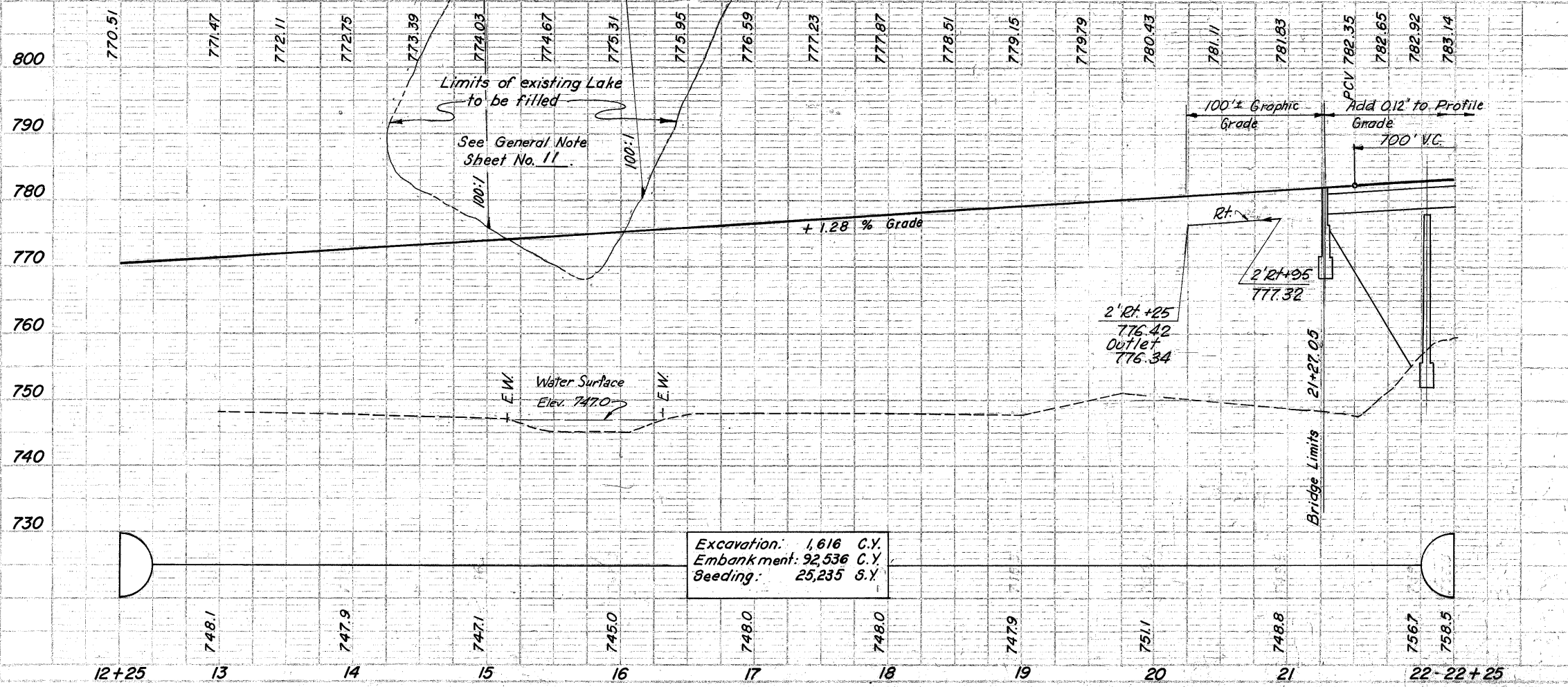
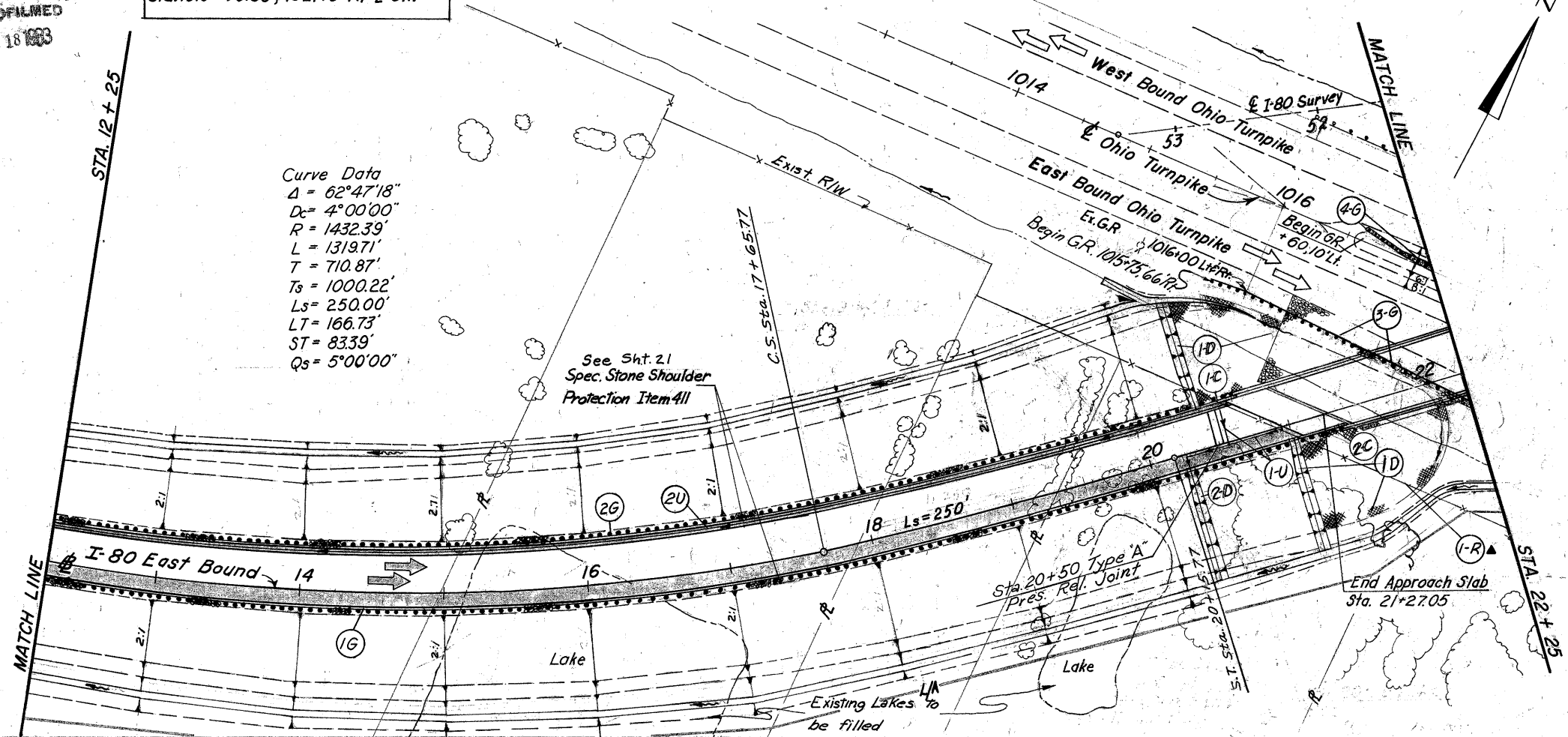
C.S. Sta. 17+65.77

Tree Removal	
12+25	22+25
Size	No.
18"	20
30"	4

FED. DIV.	STATE	PROJECT	FILE NO.
2	OHIO		

LORAIN COUNTY  
LOR-480-0.00

33  
375



Ref. No.	Side	Location	PAVEMENT		DRAINAGE	
			L.F.	6"	L.F.	6"
1-C	Lt.		26			
2-C	Rt.		26			
1-U	Rt.	Sta. 20+25-20+95			107	10
2-U	Lt.	Sta. 12+25-20+85			860	
Totals			52		967	10

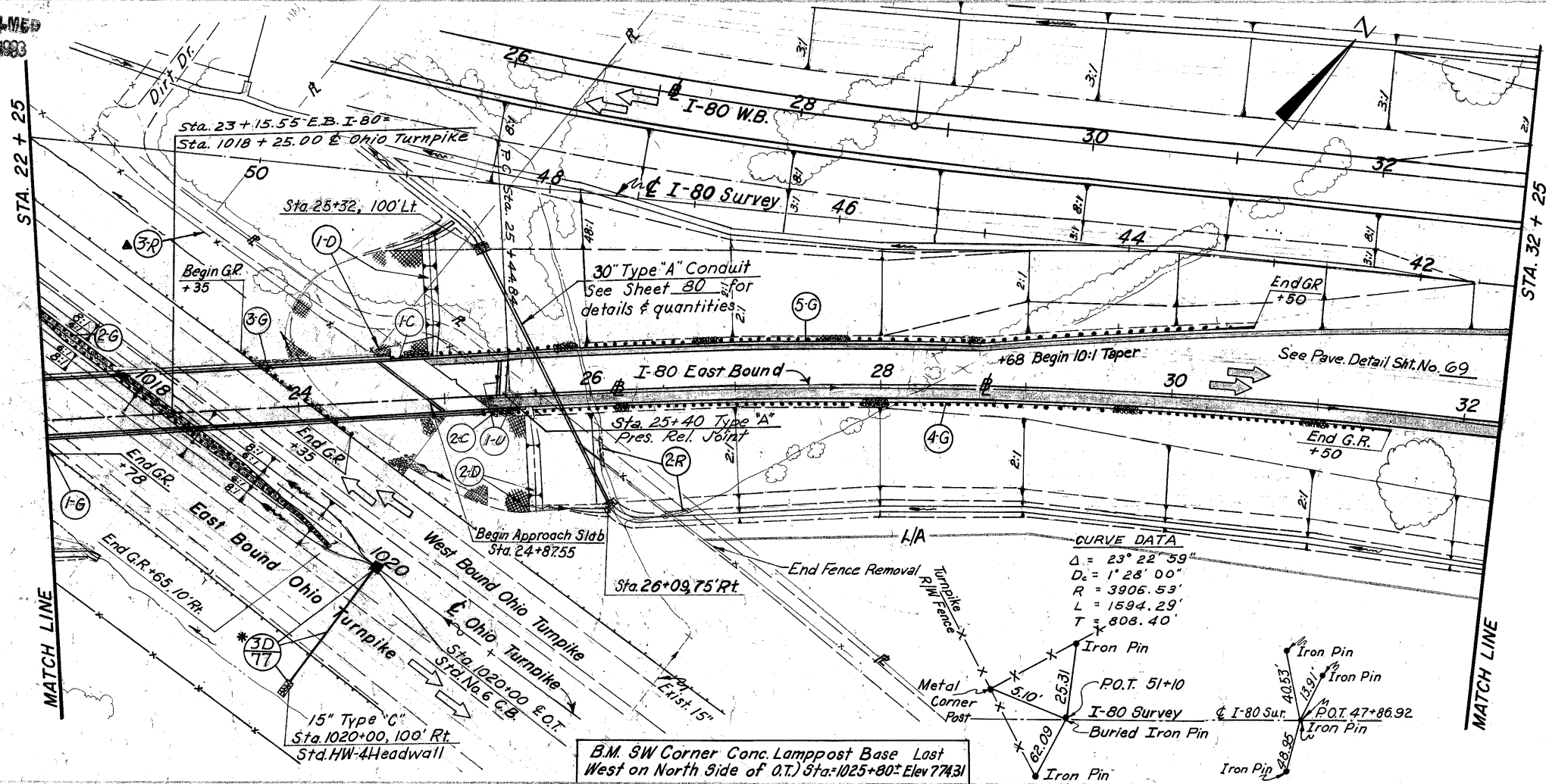
▲ NOTE: Fence Removal Cost Included in 203 Excavation

Ref. No.	Side	Location	EROSION CONTROL	
			Sq. Yd.	Sq. Yd.
1-D	Lt.	20+70	170	630
2-D	Rt.	20+25	85	
Total			255	630

CALC. BY LVC DATE 2/6/70  
CHKD BY DRH DATE 3/4/70

Ref. No.	Side	Location	ROADWAY					Fence Remove	Stabilized Crushed Agg.
			Anchor Assembly Type T	GR Type 5 Mod	Barrier G.F. Type 5 Mod.	Bridge Terminal Assembly Type 1	Guardrail removed for re-use		
1-G	Rt.	Sta. 12+25-21+35		912.5	1			45	
2-G	Lt.	Sta. 12+25-20+69		837.5	1			42	
3-G	Lt.	Sta. 1015+75-1017+72	1	25		169	169	1	
4-G	Lt.	Sta. 1016+61-1017+10	1		50			2	
1-R	Lt.	Sta. 19+52-22+00						313	
100% State Total			2	1775.50	2	169	169	90	

Tree Removal	
Size	No.
22-25	32+25
18"	22
30"	3

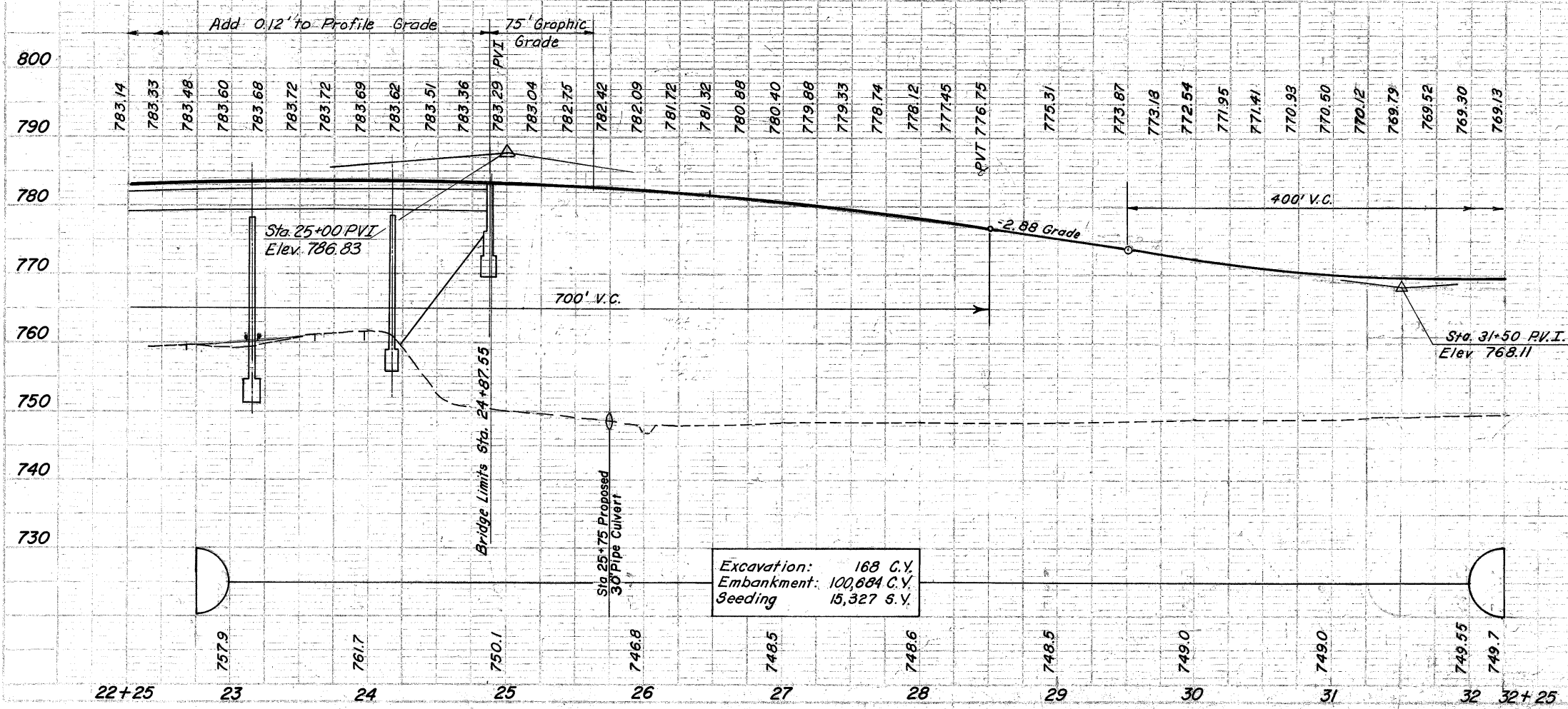


**PROPOSED STRUCTURE**  
 TYPE: Continuous steel girder with reinforced concrete deck and substructure.  
 SPANS: 73'-0", 112'-0", 102'-0", 66'-6" 1/2 Brgs.  
 ROADWAY: 42'-0" 1/2 Parapets, BR-1-67 Railing  
 LOADING: HS 20-44 and Interstate Alternate Loading  
 WEARING SURFACE: Monolithic Concrete  
 SKEW: 50°-00'00" Right Forward  
 ALIGNMENT: Tangent  
 SUPERELEVATION:  
 APPROACH SLABS: AS-1-72 (30' long)

**CURVE DATA**  
 $\Delta = 23^\circ 22' 59"$   
 $D_c = 1^\circ 28' 00"$   
 $R = 3906.53'$   
 $L = 1594.29'$   
 $T = 808.40'$

B.M. SW Corner Conc. Lamppost Base Last West on North Side of O.T. Sta. 1025+80.2 Elev 774.31

▲ NOTE: Fence Removal Cost Included in 203 Excavation  
 \*Note: For Construction of Item 3-D. See Sht. No. 77



Excavation: 168 C.Y.  
 Embankment: 100,684 C.Y.  
 Seeding: 15,327 S.Y.

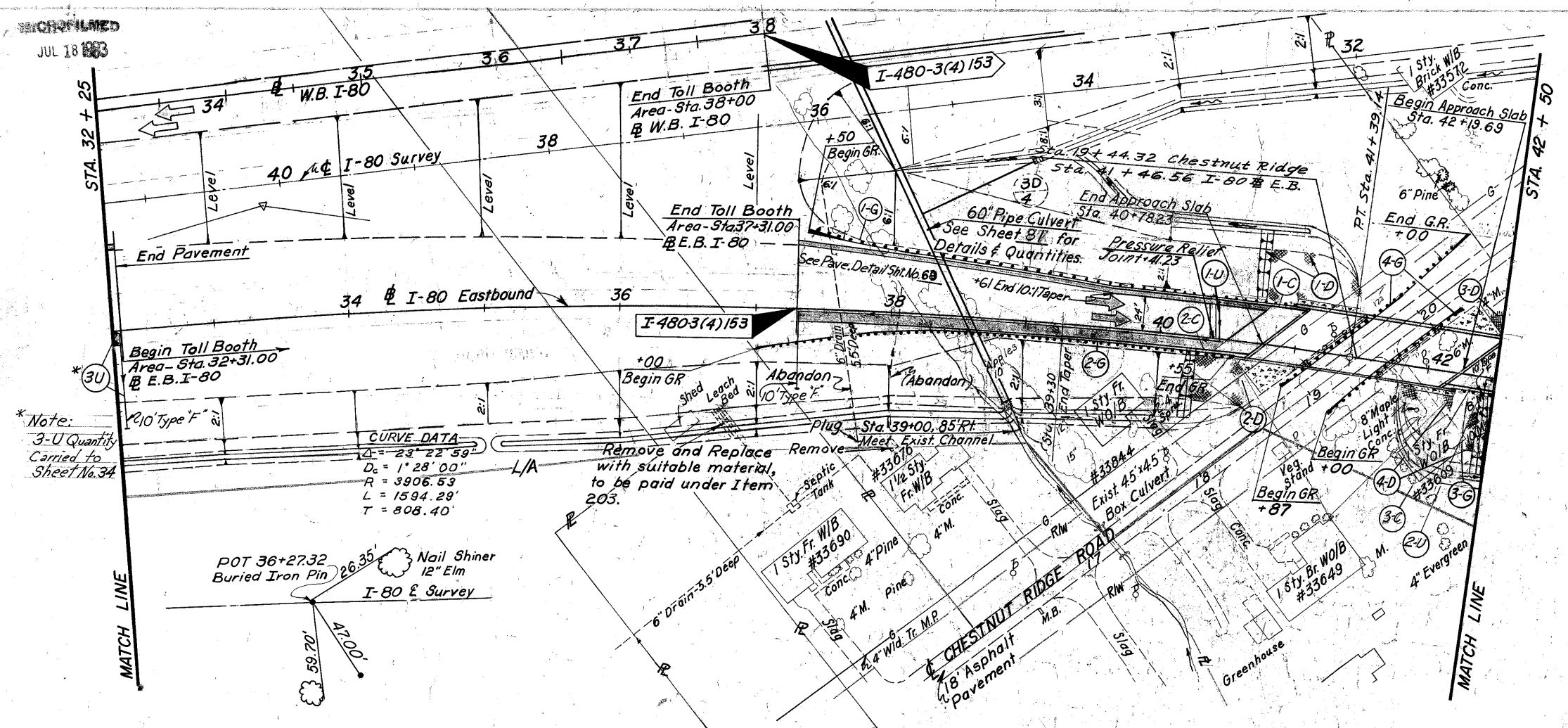
Estimated Quantities	Drainage							202 Removed Exist Pipe 24" Under
	601 Rock Channel Prot. Type 5 W/Rec.	602 Concrete Masonry	603 15" Type 'C' 706.02 Type 'C' 706.02 Type 'C' 706.02	603 Type 'C'	604 Std. No. 6 Catch Basin	660 Reinforced Sodding	667 Seeding & Jute Matting	
Ref. No. Side Location	CY	CY	LF	LF	Ea.	S.Y.	S.Y.	LF
1-D Lt. 24+50						91	429	
2-D Rt. 25+25						69	443	
*3-D Rt. 1020+00.0 T.	2.6	1.7	73	27	1			
2-R Rt. Sta. 26+64								38
<b>Total</b>	<b>2.6</b>	<b>1.7</b>	<b>73</b>	<b>27</b>	<b>1</b>	<b>160</b>	<b>872</b>	<b>38</b>

Estimated Quantities	ROADWAY					DRAINAGE				
	202 Guardrail Remove for re-use	606 Fence Removed	606 Guardrail Type 5 Mod.	411 Barrier G.R. Type 5 Mod.	603 Bridge Terminal Assembly Type 'A'	603 Guardrail Rebuild Type 5 Mod.	605 Anchor Assembly Type 'T'			
Ref. Side Location	LF	LF	LF	LF	Each	LF	Each			
1-G Rt. Sta. 1017+72-78	6				6	1				
2-G Rt. Sta. 1017+10			425	50		20				
3-G Rt. Sta. 1018+35	100				100					
4-G Rt. Sta. 25+25.31+50			600	1	1	31				
5-G Lt. Sta. 24+64			562.5	1	1	29				
1-C Lt.							26			
2-C Rt.							30			
1-U Rt. 25+20 to 32+25							731			
*3-U Rt. 32+25 to 32+31							10			
3-R Rt.	527									
<b>100% State Total</b>	<b>106</b>	<b>1587.5</b>	<b>50</b>	<b>2</b>	<b>106</b>	<b>2</b>	<b>81</b>	<b>56</b>	<b>10</b>	<b>797</b>

\* 3-U - Sheet No. 35  
 Rev. DRS 8-13-77 CALD BY LVC DATE 2/6/70  
 DRH DATE 3/4/70

LORAIN COUNTY  
LOR-480-0.00

Tree Removal	32+25	42+50
Size	18"	5

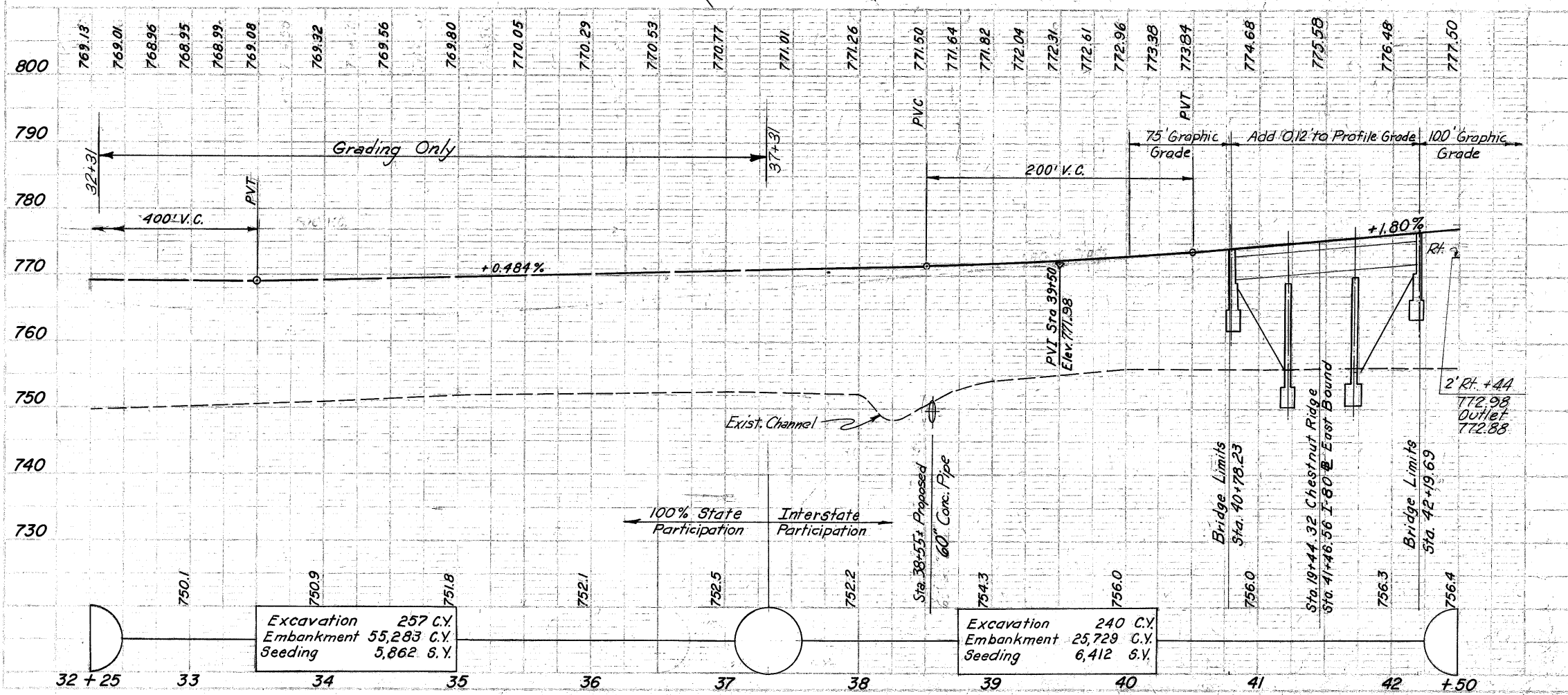


CURVE DATA

$\Delta = 23^\circ 22' 59"$
$D_c = 1^\circ 28' 00"$
$R = 3906.53$
$L = 1594.29'$
$T = 808.40'$

**PROPOSED STRUCTURE**

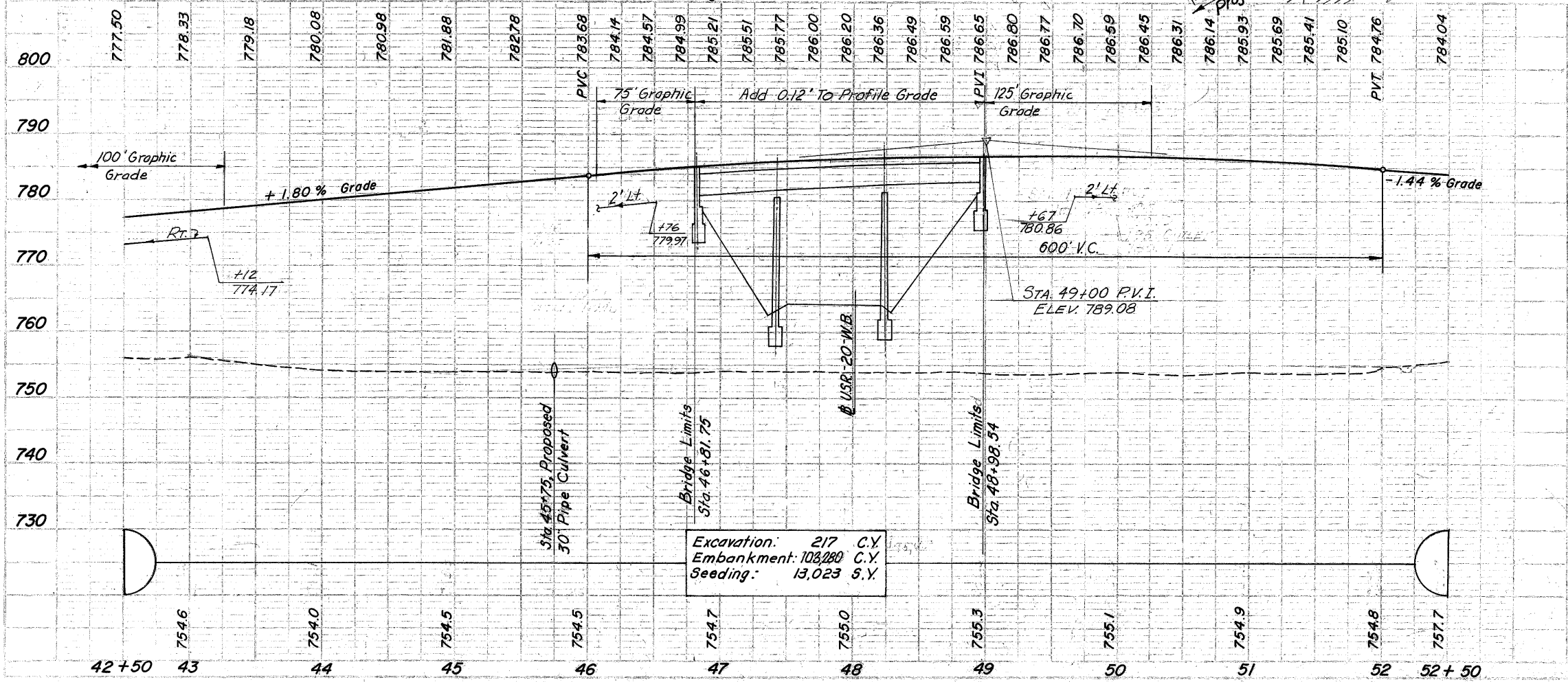
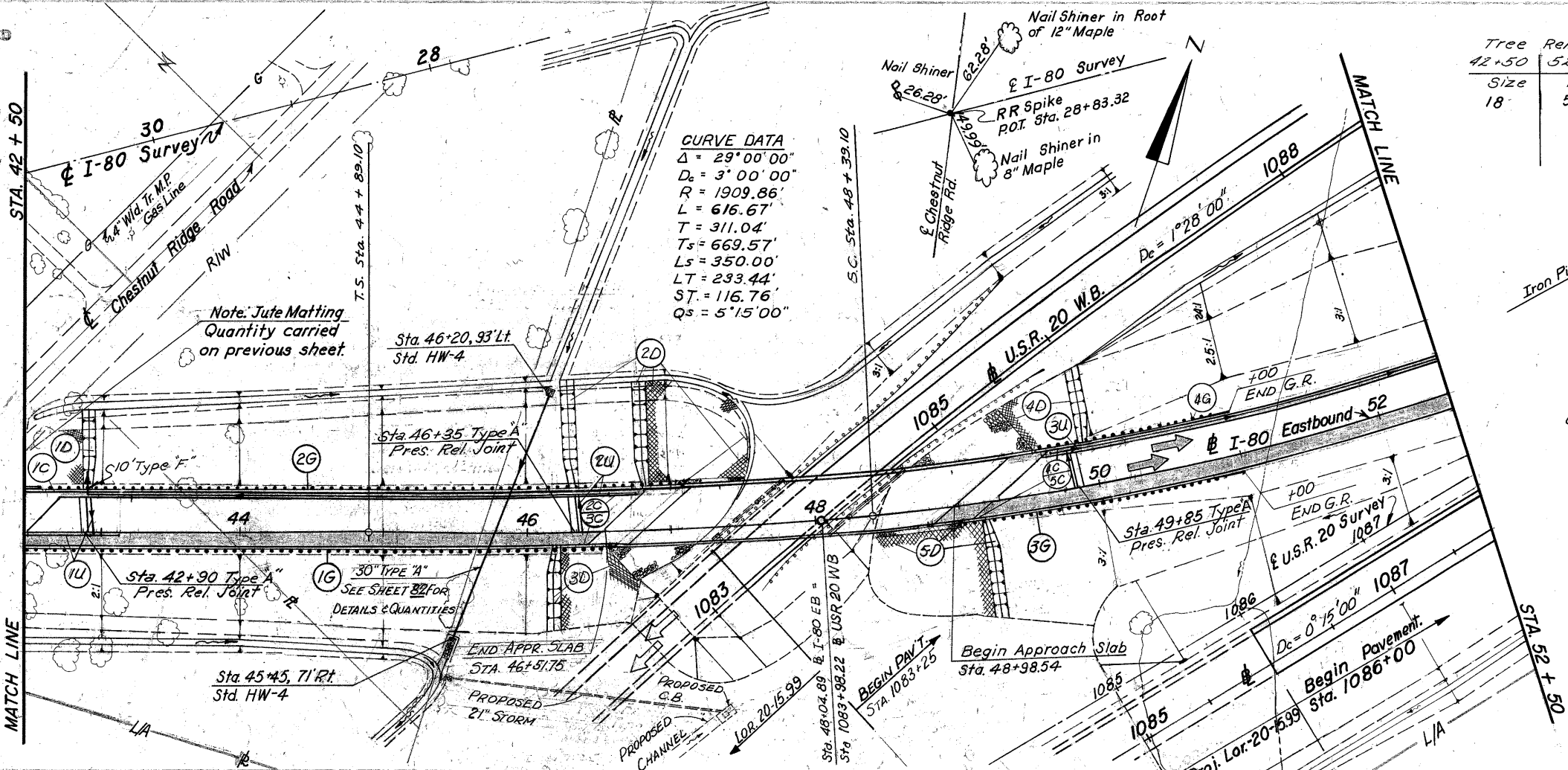
TYPE: Continuous steel beam with reinforced concrete deck & substructure.  
 SPANS: 40'-0", 50'-0", 45'-0" % brgs. on E  
 ROADWAY: 42'-0" % Parapets of BR-1-67 railing.  
 LOADING: HS 20-44 plus Interstate Alternate  
 WEARING SURFACE: Monolithic Conc.  
 SKEW: 45° 35' 23" Lt. for with ref. chord.  
 ALIGNMENT: 1° 28' 00" Curve right & tangent.  
 APPROACH SLABS: AS-1-72 25'-0" long.  
 SUPERELEVATION: Varies



Estimated Quantities		ROADWAY
Ref. No.	Side	Location
1-C	Lt.	26
2-C	Rt.	26
3-C	Rt.	27
Total		79

Estimated Quantities	ROADWAY 606			DRAINAGE					
	Guardrail Type 5	Bridge Terminal Assembly Type "A"	Anchor Assembly Type A	Septic Tank Removed	Type "F"	Shallow	Seeding & Jute Matting	Reinforced Sodding	
Ref. No. Side	Location	Lin. Ft.	Each	Each	Each	L.F.	Sq. Yd.	S.Y.	
1-G	Lt.	Sta. 37+50-40+95	337.5	1	1				
2-G	Rt.	Sta. 37+00-44+55	325	1	1				
3-G	Rt.	Sta. 42+20-42+50	30	1					
4-G	Lt.	Rt.	200		4				
1-D	Lt.	Sta. 41+00					241	52	
2-D	Rt.	Sta. 40+65					154	41	
3-D	Lt.	Sta. 42+25					124		
4-D	Rt.	Sta. 42+00					253	69	
1-ST	Rt.	Sta. 39+50 ±			1				
2-ST	Rt.	Sta. 42+40 ±			1				
1-U	Rt.	Sta. 32+25-40+45				10	385		
2-U	Rt.	Sta. 42+44-42+50				10	19		
INTERSTATE			892.5	3	6	2	20,404	772	162

Tree Removal	Size	No.
42+50	18"	5
52+50		



B.M. 200' Lt. Sta. 1080+50 & USR 20 Survey R.R. Spike W. Root 30" Oak Elev. = 756.26

ESTIMATED QUANTITIES	DRAINAGE				ROADWAY			
	603	605	660	667	606		609	
	6" TYPE 'F'	6" SHALLOW UNDERDRAIN	Reinforced Sodding	SEEDING & LUTE MATTING	GUARDRAIL TYPE 5	BRIDGE TERMINAL ASSEMBLY TYPE A	ANCHOR ASSEMBLY TYPE T	CURB TYPE G
	L.F.	L.F.	S.Y.	S.Y.	L.F.	E.A.	E.A.	E.A.
1G Rt.	42+50 to 46+60				410	1		
2G Lt.	42+50 to 47+05				455	2		
3G Rt.	49+00 to 51+00				175	1		
4G Lt.	49+58 to 51+00				112.5	1		
1C Lt.	42+63 to 42+89							26
2C Lt.	46+82 to 47+08							26
3C Rt.	46+20 to 46+45							26
4C Lt.	49+67 to 49+93							26
5C Rt.	48+93 to 49+19							26
1D Lt.	42+50 to 42+93		62	164				
2D Lt.	46+33 to 47+06		179	557				
3D Rt.	46+43		70	333				
4D Lt.	49+95		54	208				
5D Rt.	49+17		82	569				
1U Rt.	42+50 to 43+12	88	88					
2U Lt.	42+90 to 46+78	10	416					
3U Lt.	49+70 to 52+50	306						
TOTAL		10	810	447	1825	1152.5	5	2

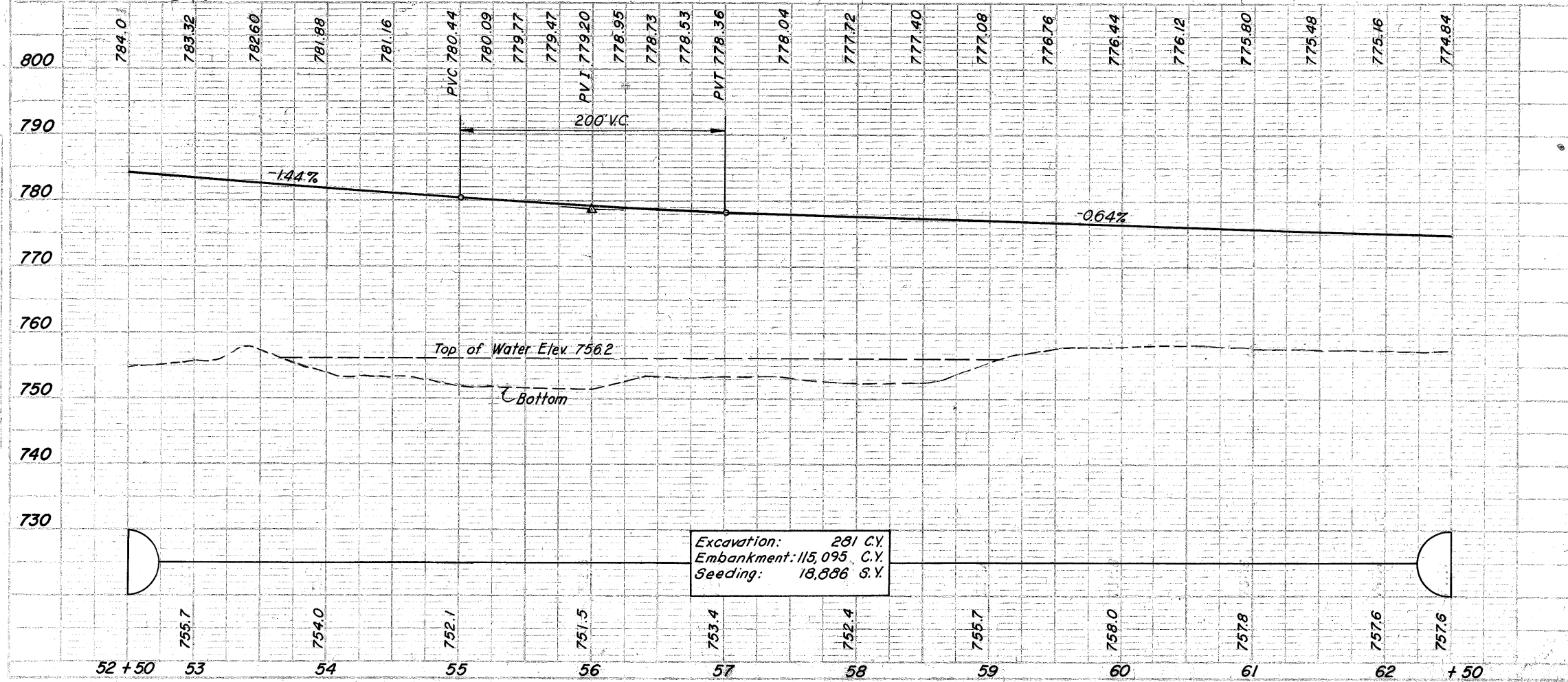
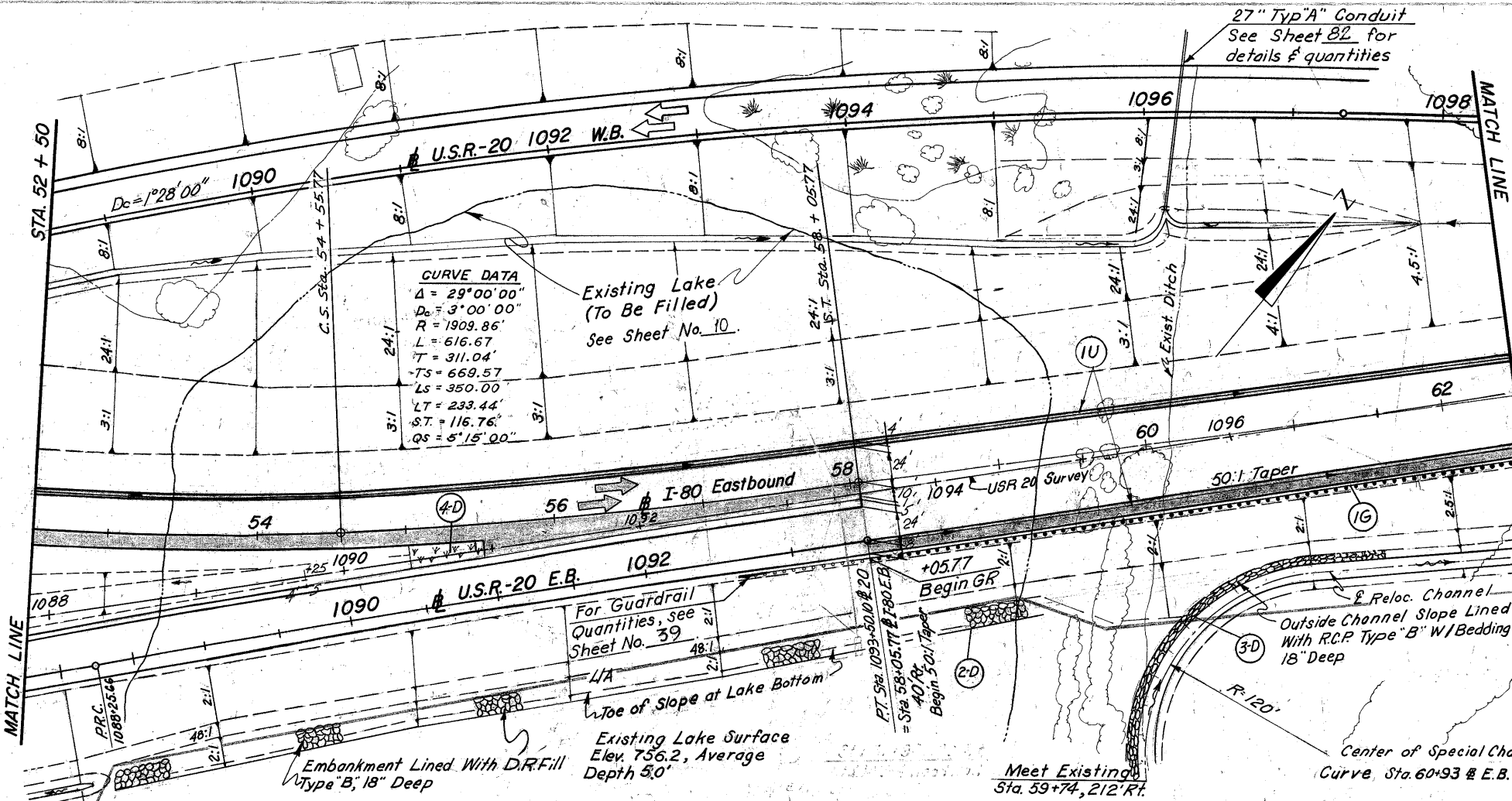
LORAIN COUNTY  
LOR-480-0.00

Tree Removal  
52+50 62+50  
Size 18 No. 6

For E.B. I-80 & U.S.R. 20 Pavement  
Details, See Sht. No. 70

B.M. 200' Rt Sta. 1096+75 & U.S.R. 20 Survey  
R.R. Spike N.W. root 42" Oak  
Elev. 760.40

See Channel Detail Sheet 89  
Cross Section Sheets 116 to 117

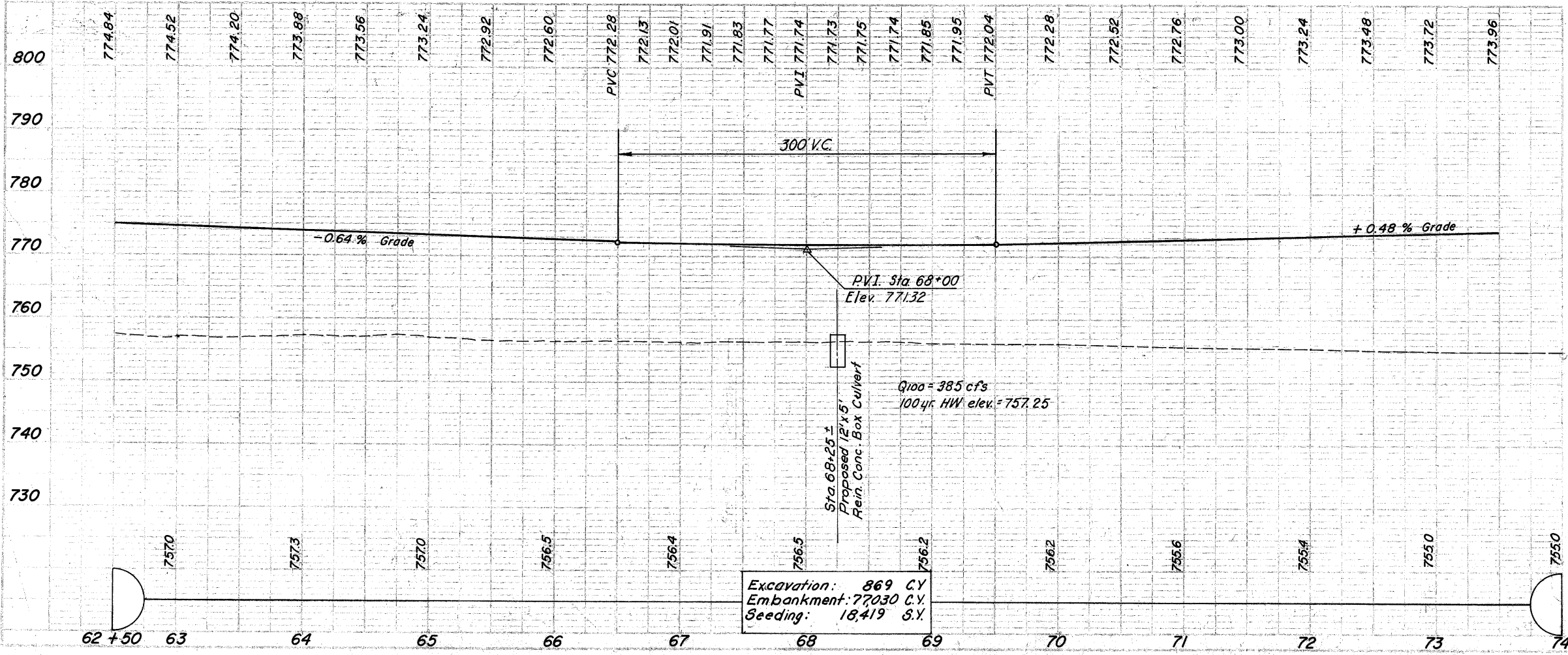
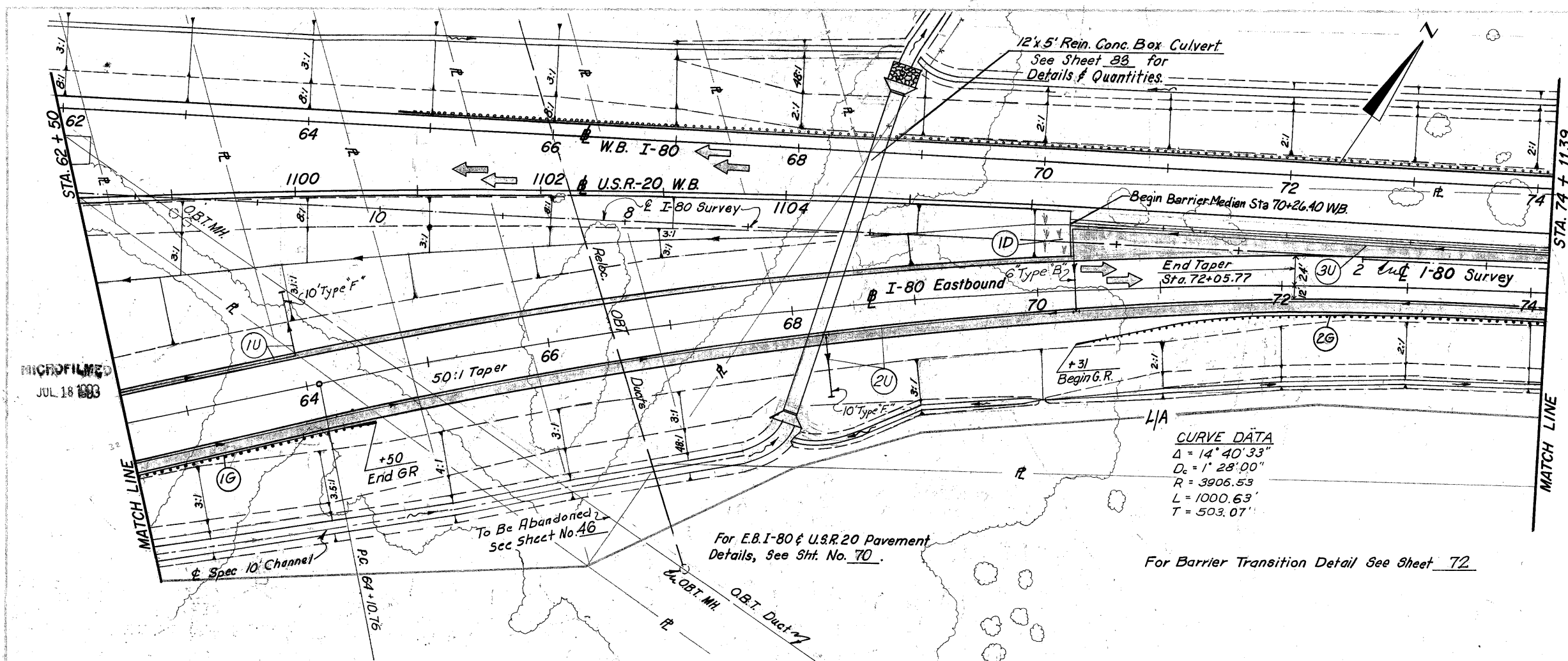


Excavation: 281 C.Y.  
Embarkment: 115,095 C.Y.  
Seeding: 18,886 S.Y.

Ref. No.	Side	Location	DRAINAGE		ROADWAY	
			Cu. Yd.	Cu. Yd.	Underdrain Shallow	Guardrail Type 5
2-D Rt.		Sta. 53+00-59+00	482			
3-D Rt.		Sta. 59+60-61+00	74			
4-D Rt.		Sta. 55+00-55+00			81	
1-G Rt.		Sta. 58+00-62+50				445
1-U Lt.		Sta. 52+50-62+50			1,444	
		Total	482	74	1,444	445

LORAIN COUNTY  
LOR-480-0.00

Tree Removal	
Size	No
18"	38
30"	1



Estimated Quantities	Guardrail Type 5	606		603		605		Sodding	
		Anchor Assembly		Type B		Type F			
		Type A	Type T	Type 6"	Type 6"	Underdrain	Shallow		
Ref. No.	Side	Location	Lin. Ft.	Each	L.F.	L.F.	Lin. Ft.	Sq. Yd.	
1-G	Rt.	Sta. 62+50-64+50	175		1				
2-G	Rt.	Sta. 70+31-74+11	355	1					
1-D	Lt.	Sta. 70+00-70+50						206	
1-U	Lt.	Sta. 62+50-63+95				10	185		
2-U	Rt.	Sta. 62+50-74+11				10	1196		
3-U	Lt.	Sta. 70+30-74+11			66		390		
Total			530	1	1	66	20	1771	206

NOTE: O.B.T. Duct to be relocated by others O.B.T. Project No. 12338

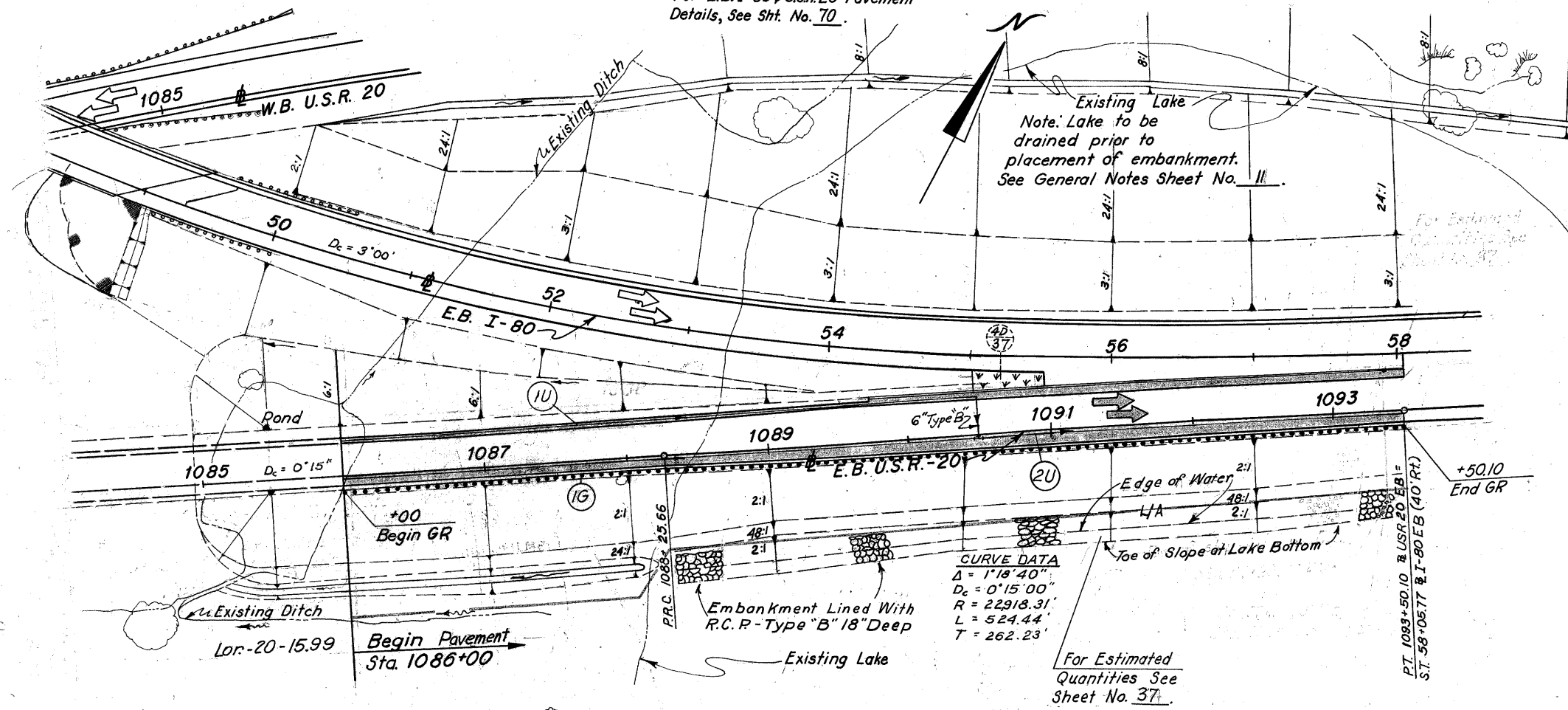
DATE 2/4/76  
DATE 3/4/76



LORAIN COUNTY  
LOR-480-0.00

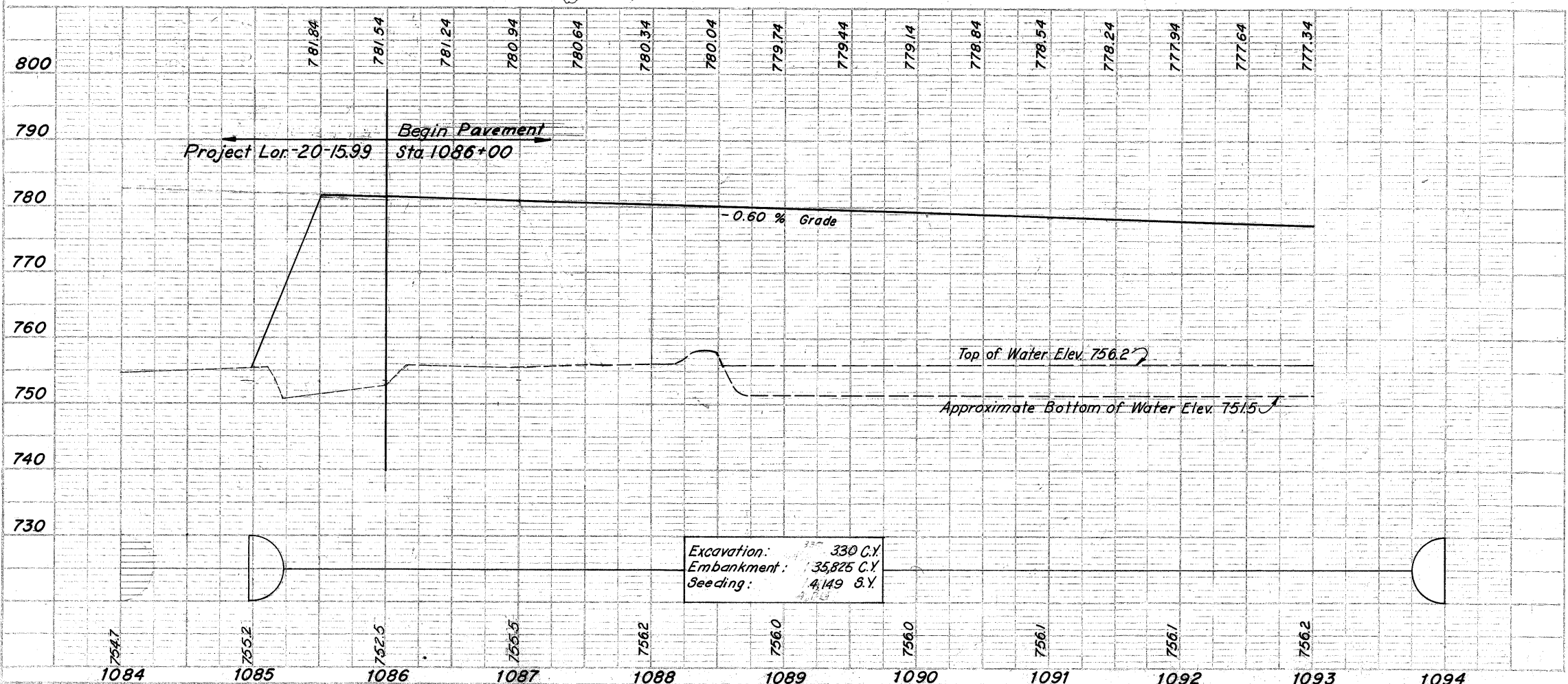
Tree Removal	1084+00	1093+50.10
Size	18"	3

For E.B. I-80 & U.S.R. 20 Pavement  
Details, See Sht. No. 70.



PLAN

DATE	BY
DESIGNED	
PLOTTED	
CHECKED	
APPROVED	
NO. OF REVISIONS	
NO.	

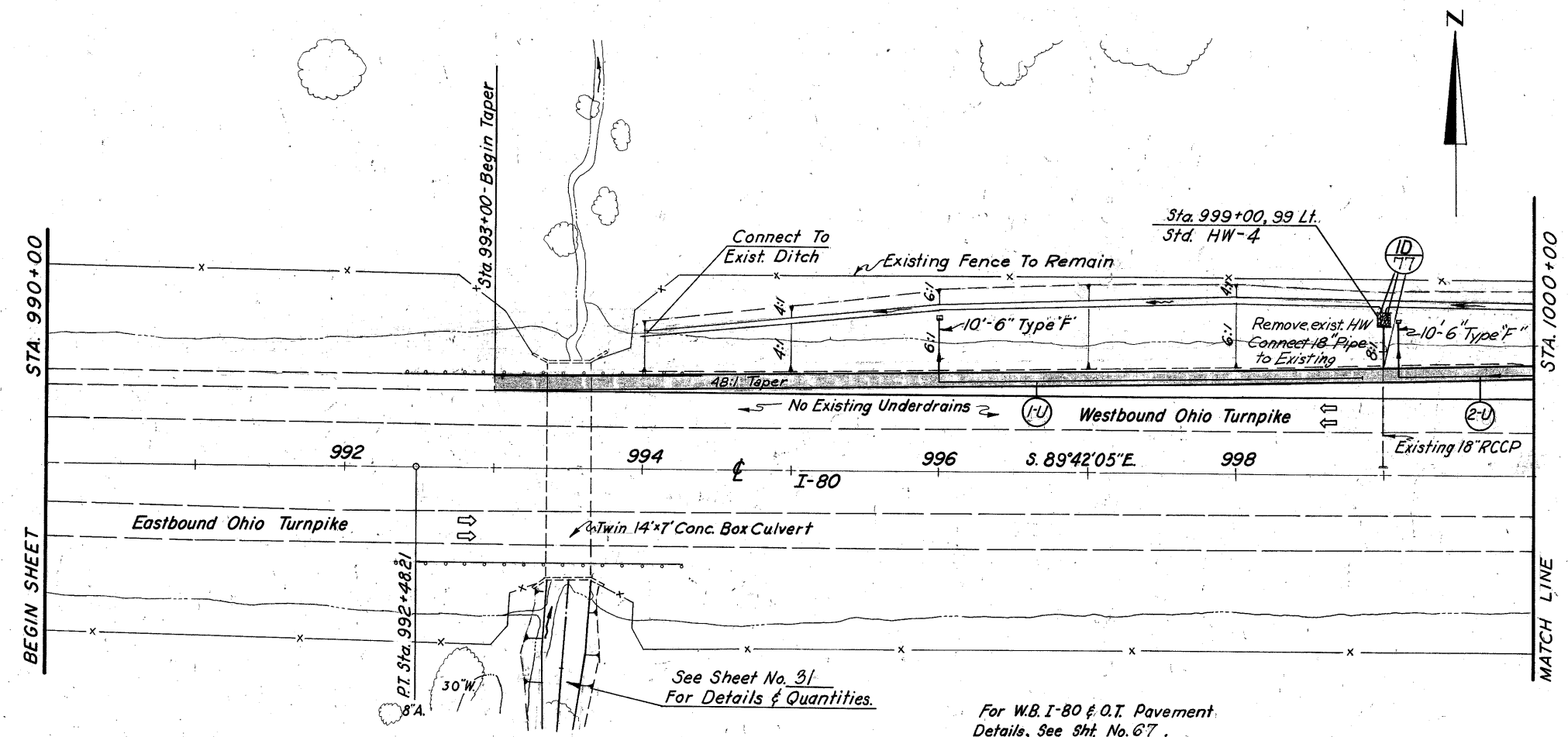


PROFILE

DATE	BY
DESIGNED	
PLOTTED	
CHECKED	
APPROVED	
NO. OF REVISIONS	
NO.	

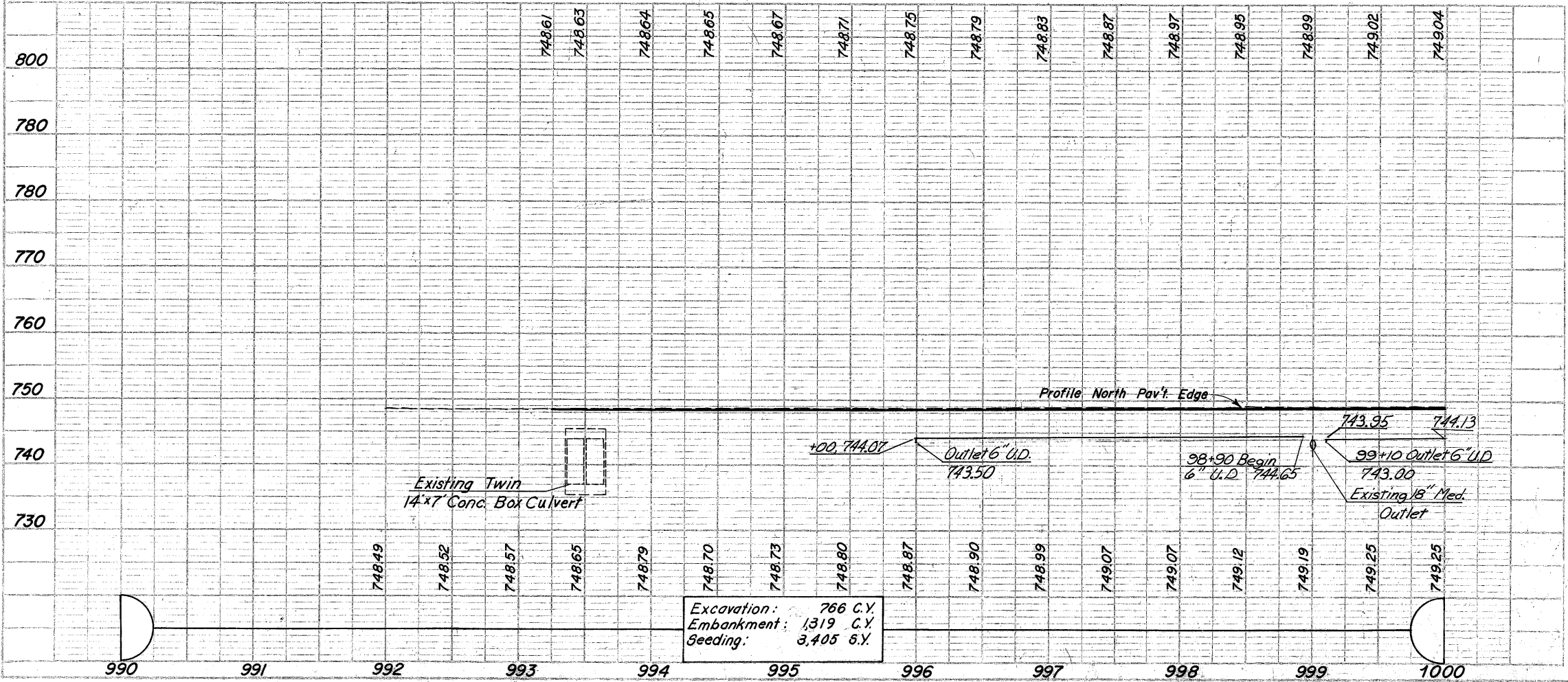
Est. Side	Location	Estimated Quantities		
		Guardrail Type 5	Type "B"	Underdrain Shallow
Lin. Ft.	Lin. Ft.	6"	6"	
1-G.R.T.	1086+00-1093+50	750	28	450
1-U.L.T.	1086+00-1090+50		28	450
2-U.R.T.	1086+00-1093+50	750		
<b>Total</b>		<b>750</b>	<b>28</b>	<b>1200</b>

LORAIN COUNTY  
LOR-480-0.00



DATE	
BY	
APPROVED	
PROJECT NO.	
NOTE BOOK	
ALIGNMENT CHECKED	
DATE	
BY	
NO.	

For W.B. I-80 & O.T. Pavement  
Details, See Sht. No. 67.



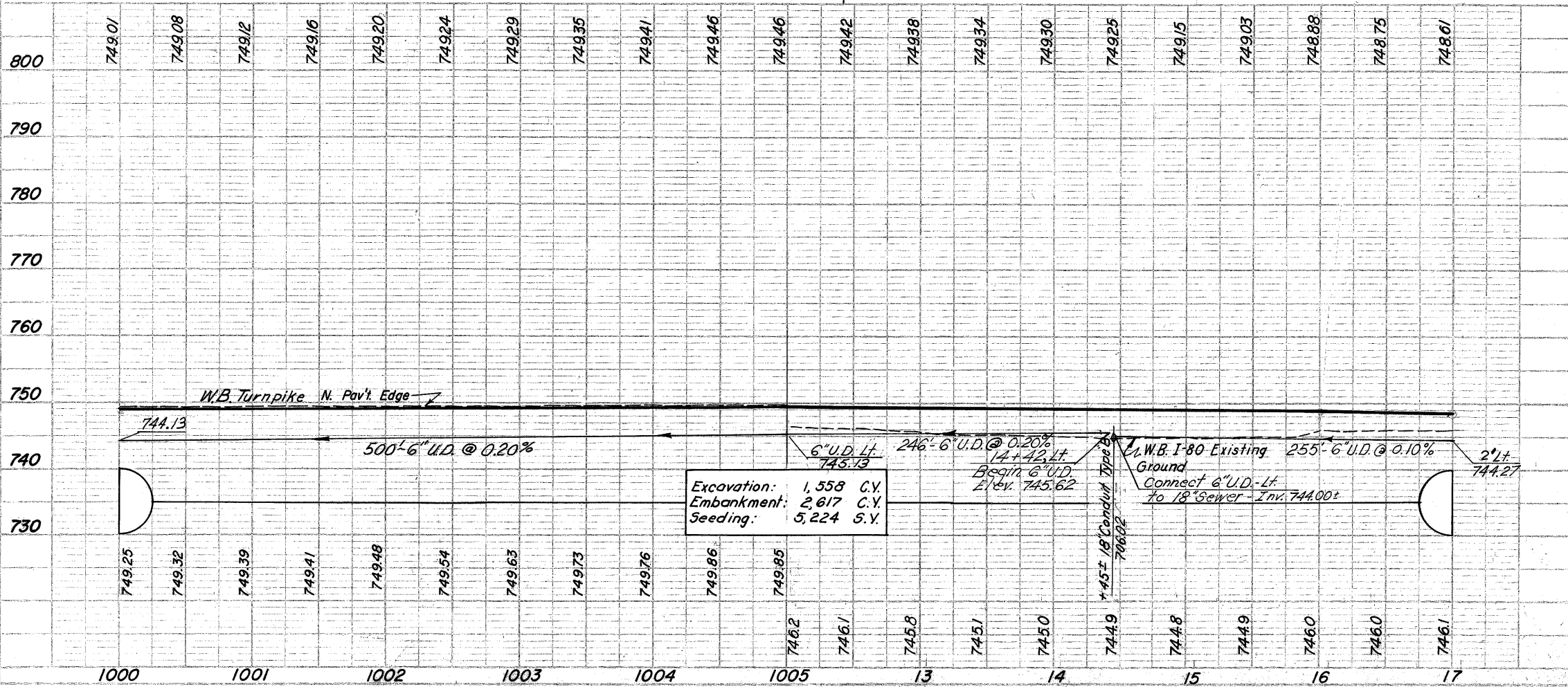
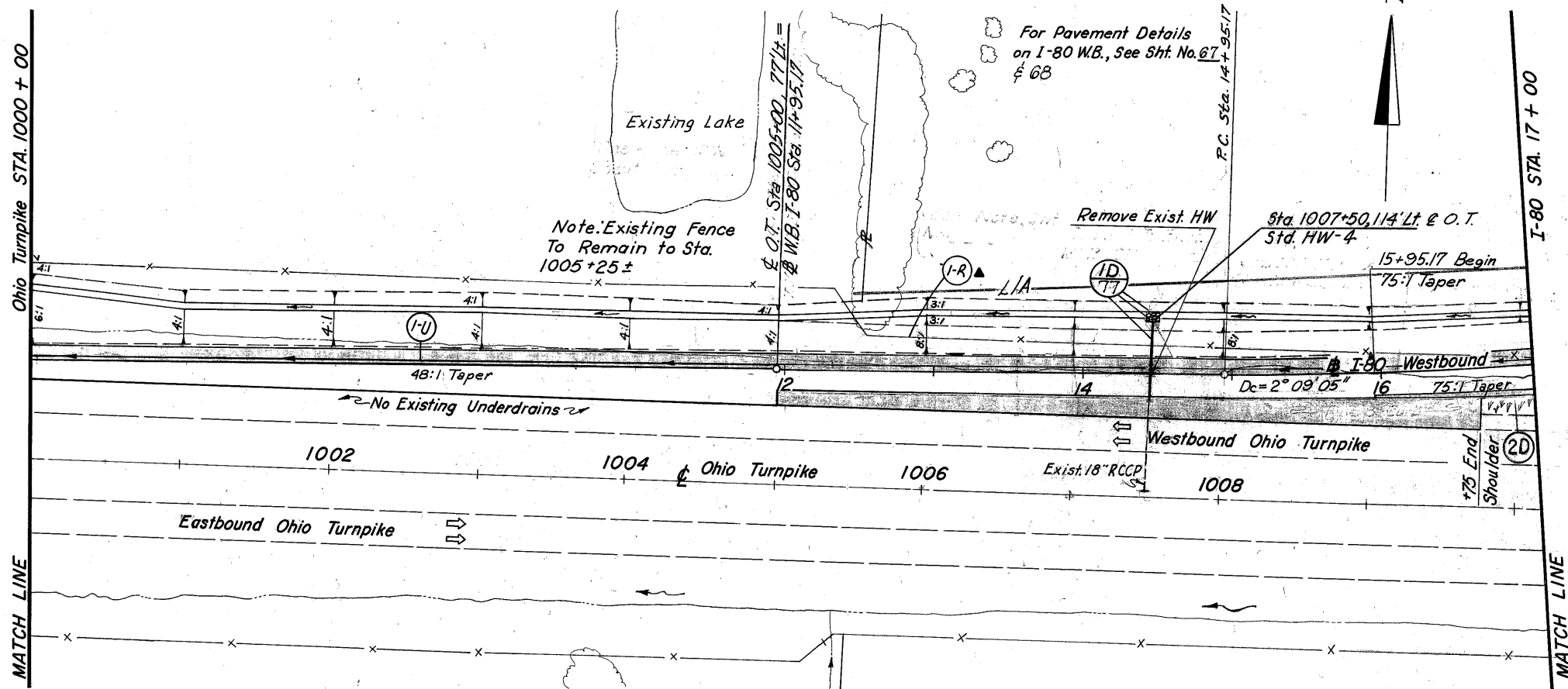
DATE	
BY	
APPROVED	
PROJECT NO.	
NOTE BOOK	
ALIGNMENT CHECKED	
DATE	
BY	
NO.	

Estimated Quantities		202	601	602	603	605	
Ref. No.	Side	Structure Removed	Rock Channel Prot. Type "B" w/ Bedding	Concrete Masonry Type "C" - 706.02	Type "F" 18" 6"	Underdrain Shallow Bends & Branches	Storm Sewer Profile
1-D	Lt.	Location	Lump	Cu. Yd.	Lin. Ft.	Lin. Ft.	Sheet No.
		Sta. 999+00	Lump	4.3	2.2	26	73
1-U	Lt.	Sta. 996+00-998+90			10	315	1
2-U	Lt.	Sta. 999+00-1000+00			10	115	1
100% State Total			Lump	4.3	2.2	26	20 430

CALLS BY LVC DATE 2/4/70  
 DRAWN BY DRH DATE 3/4/70

Tree Removal

1000+00	17+00
Size	No.
18	2



Excavation: 1,558 C.Y.  
Embankment: 2,617 C.Y.  
Seeding: 5,224 S.Y.

▲ NOTE: Fence Removal Cost Included In 203 Excavation

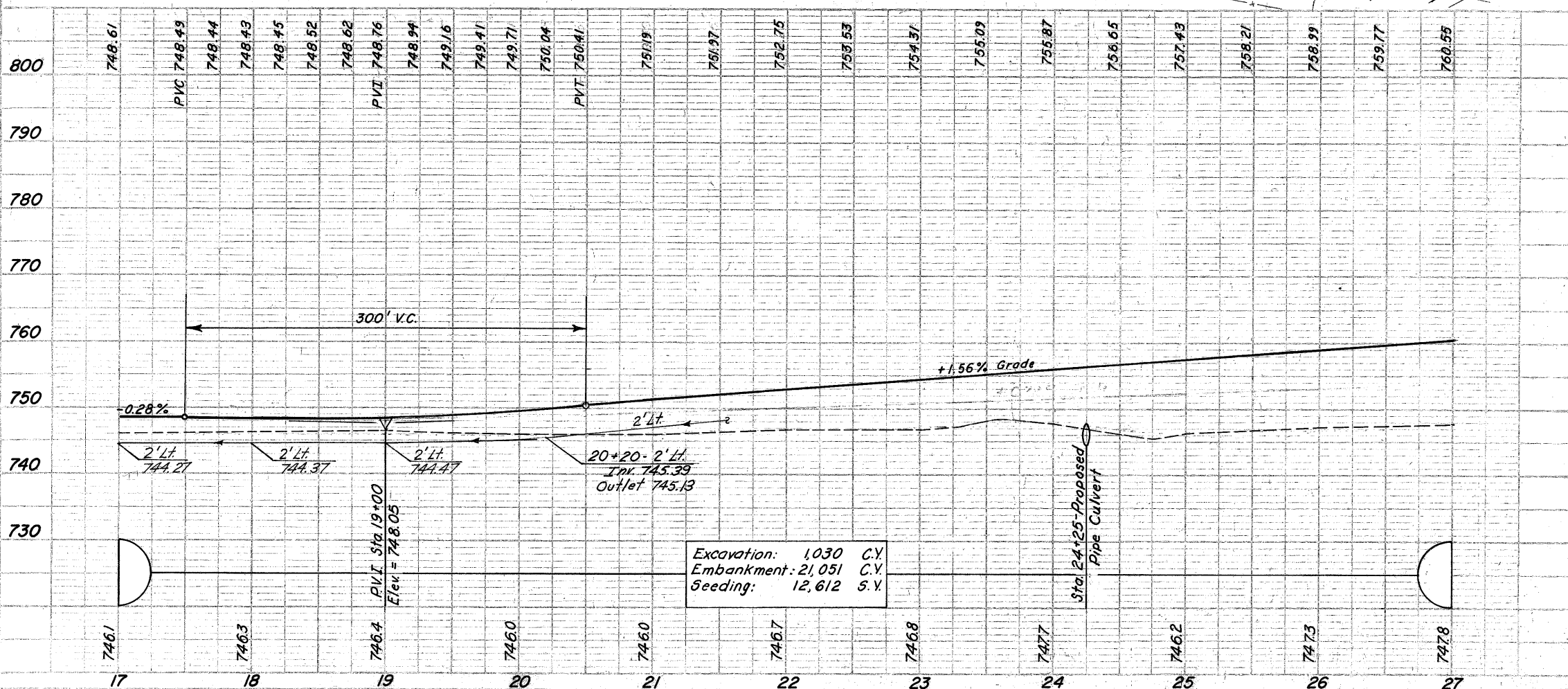
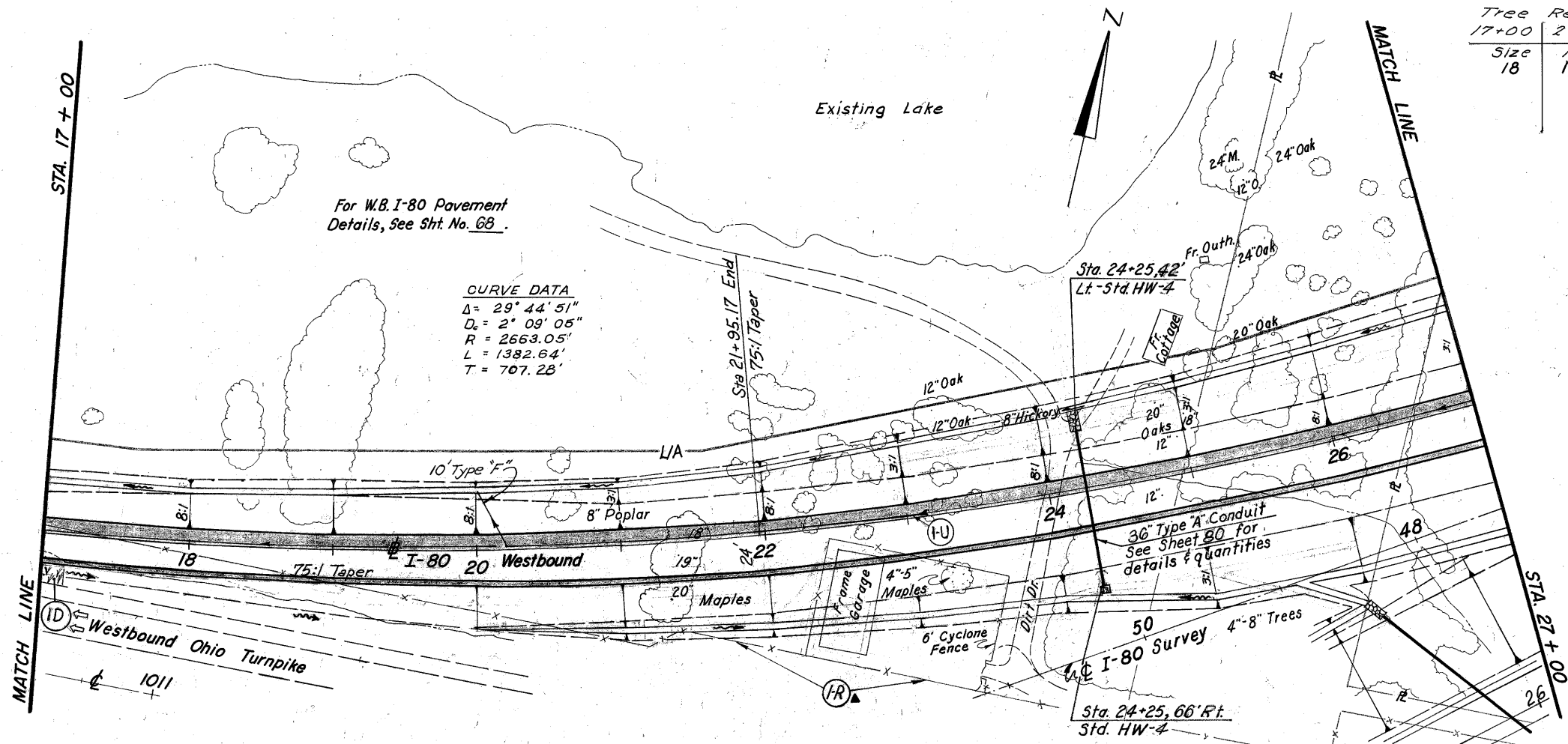
Estimated Quantities		202	601	602	603	605	660	
		Structure Removed	Fence Remove	Rock Channel Prot. Type B W/Bed	Concrete Masonry	Type B Conduit 18\"/>		
R.F. No.	Side	Lump	L.F.	Cu. Yd.	C.Y.	L.F.	L.F.	Sq. Yd.
1-D	Lt. Sta. 1007+50	Lump		3.7	2.2	50		77
2-D	Rt. 11+95.17-12+45.17							47
1-U	Lt. 1000+00 to 17+00						1001	
1-R			485▲					
100% State Total		Lump		3.7	2.2	50	1001	47

LORAIN COUNTY  
LOR-480-0.00

Tree Removal	17+00	27+00
Size	18	No. 18

DATE	
BY	
CHECKED	
APPROVED	

DATE	
BY	
CHECKED	
APPROVED	



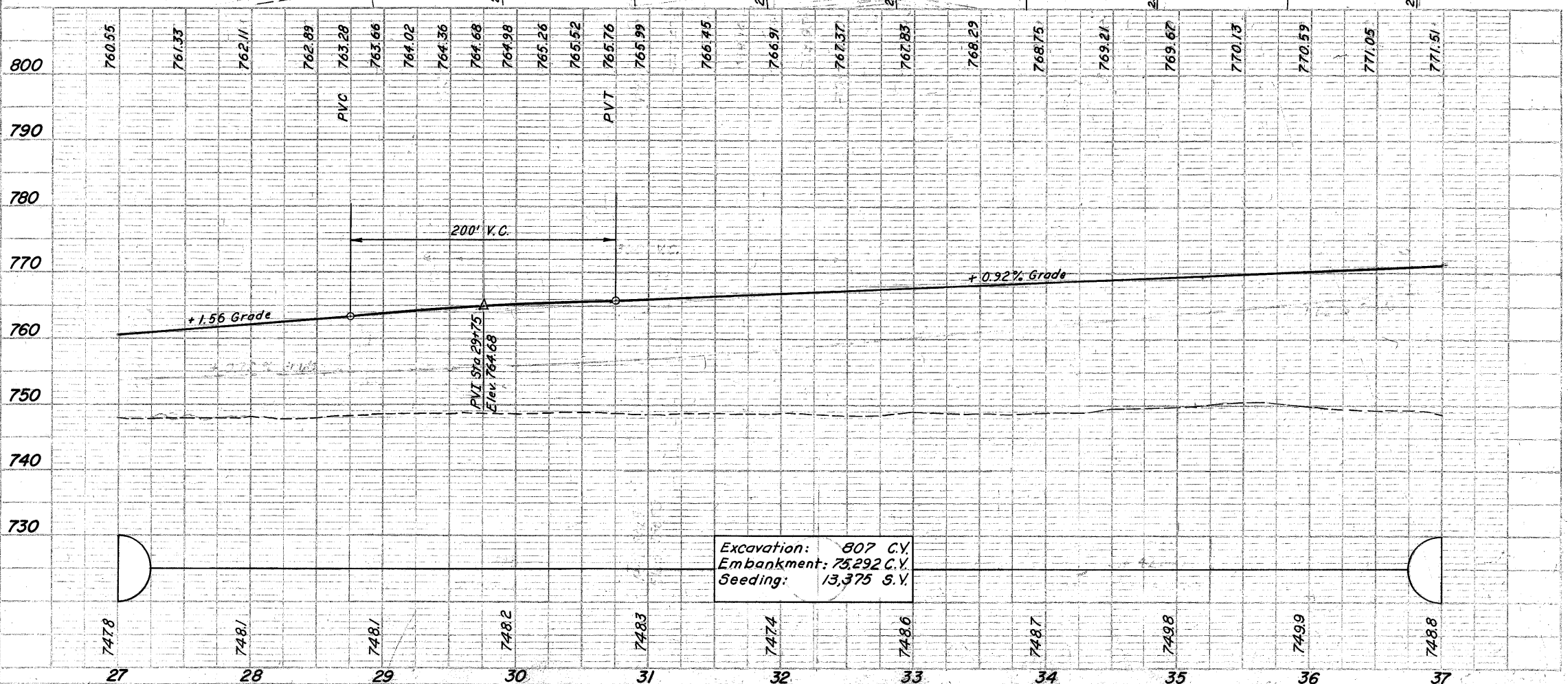
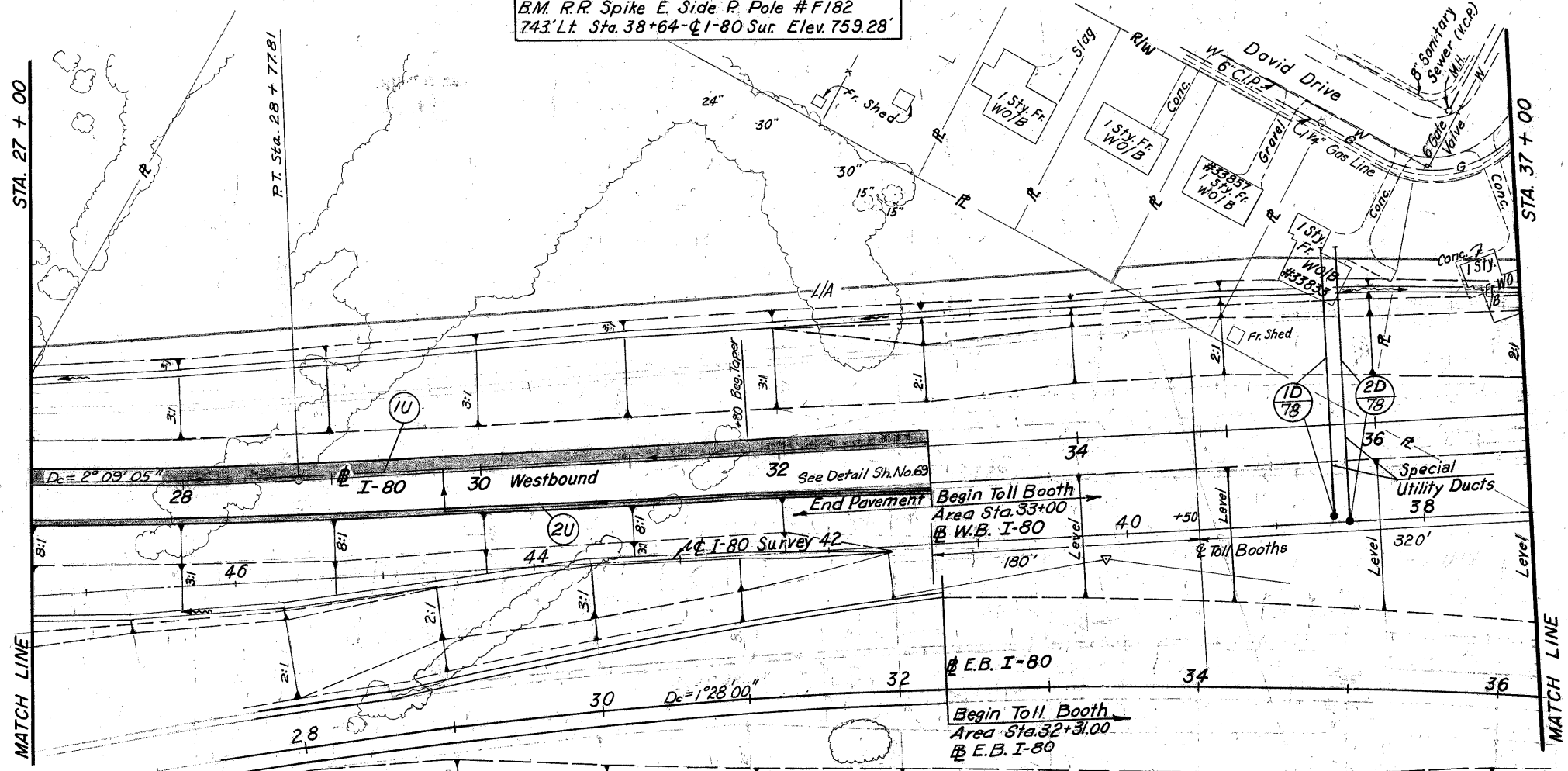
▲ NOTE: Fence Removal Cost Included In 203 Excavation

Estimated Quantities	ROADWAY		DRAINAGE	
	Fence Removed	Sodding	Type 'F'	
			6" Underdrain	6" Shallow
1-R L/A	669▲	S.Y.	6"	6"
I-D R/L	17+00	22	10	1,026
I-U L/L	17+00 to 27+00		10	1,026
100% State Total		22	10	1,026

B.M. R.R Spike E. Side P. Pole #F182  
743' Lt. Sta. 38+64 - C 1-80 Sur. Elev. 759.28'

LORAIN COUNTY  
LOR-480-0.00

Tree Removal	
Size	No.
18"	13
30"	1



Excavation: 807 C.Y.  
Embankment: 75,292 C.Y.  
Seeding: 13,375 S.Y.

\* See Sht. No. 78

Estimated Quantities		604	* 603	* 603	603	605
		Standard No. 1 Manhole	Welded Alloy Steel Pipe 70711	Welded Alloy Steel Pipe 70711	Type "B"	Underdrain Shallow
Ref. Side	Location	Each	Lin. Ft.	Lin. Ft.	6"	6"
1-D	35+72.74	1	183			
2-D	35+82.74	1		188		
1-U Lt	27+00 to 33+00				28	600
2-U Rt	29+75 to 33+00				28	325
100% State Total		2	371		28	925

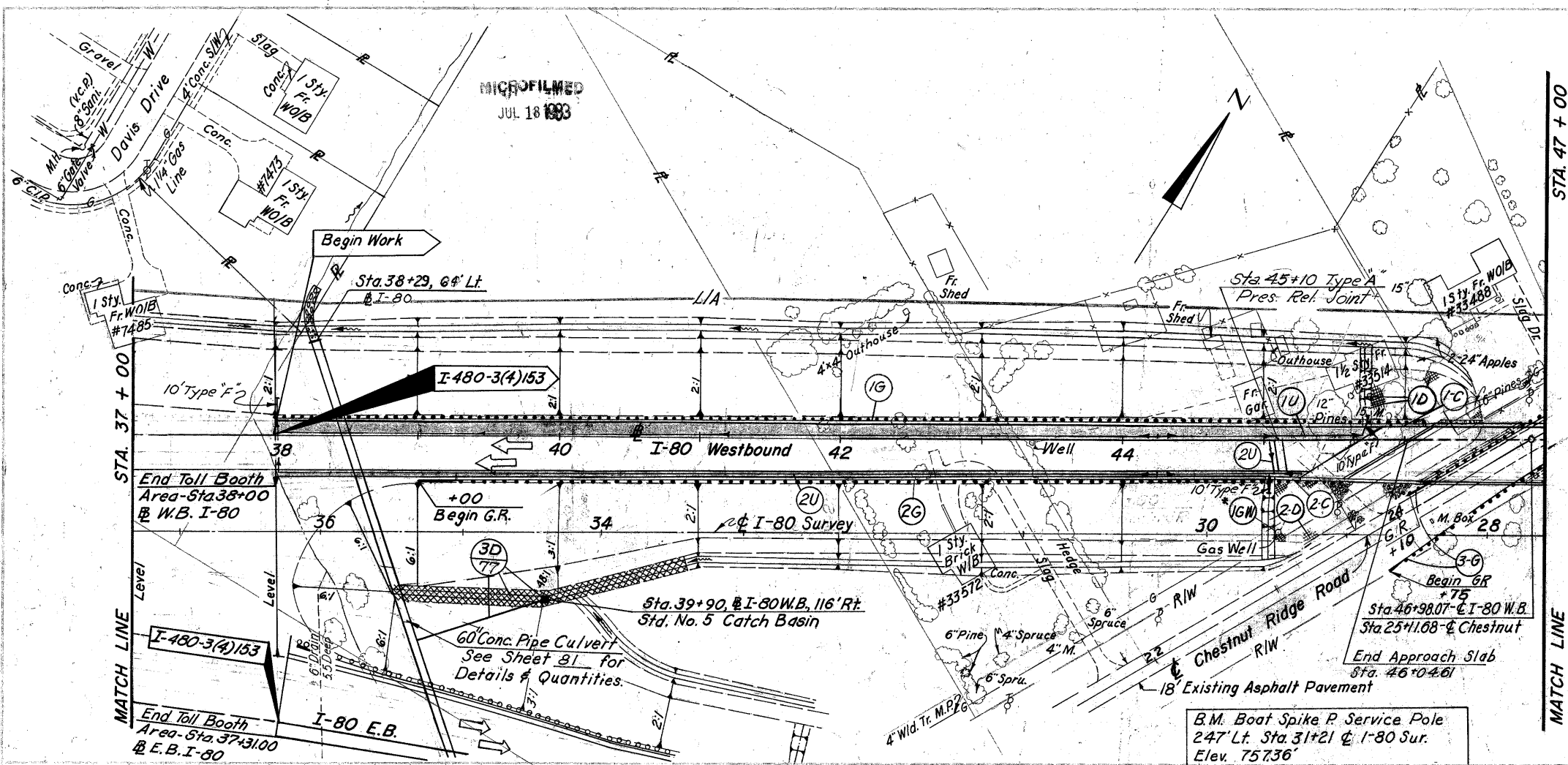
Rev. D.R.S. 11-17-77

DATE 2/3/70  
DATE 3/1/70

LORAIN COUNTY  
LOR-480-0.00

Tree Removal	37+00	47+00
Size	18"	No 9
	30"	1

MICROFILMED  
JUL 18 1983



**PROPOSED STRUCTURE**

TYPE: Continuous Steel beam with reinforced concrete deck and Substructure.

SPANS: 54'-3", 69'-6", 54'-3", 1/2 brgs.

ROADWAY: 42'-0" 1/2 parapets of BR-1-67 railing

LOADING: HS 20-44 1/2 Interstate Alternate.

WEARING SURFACE: Monolithic Conc.

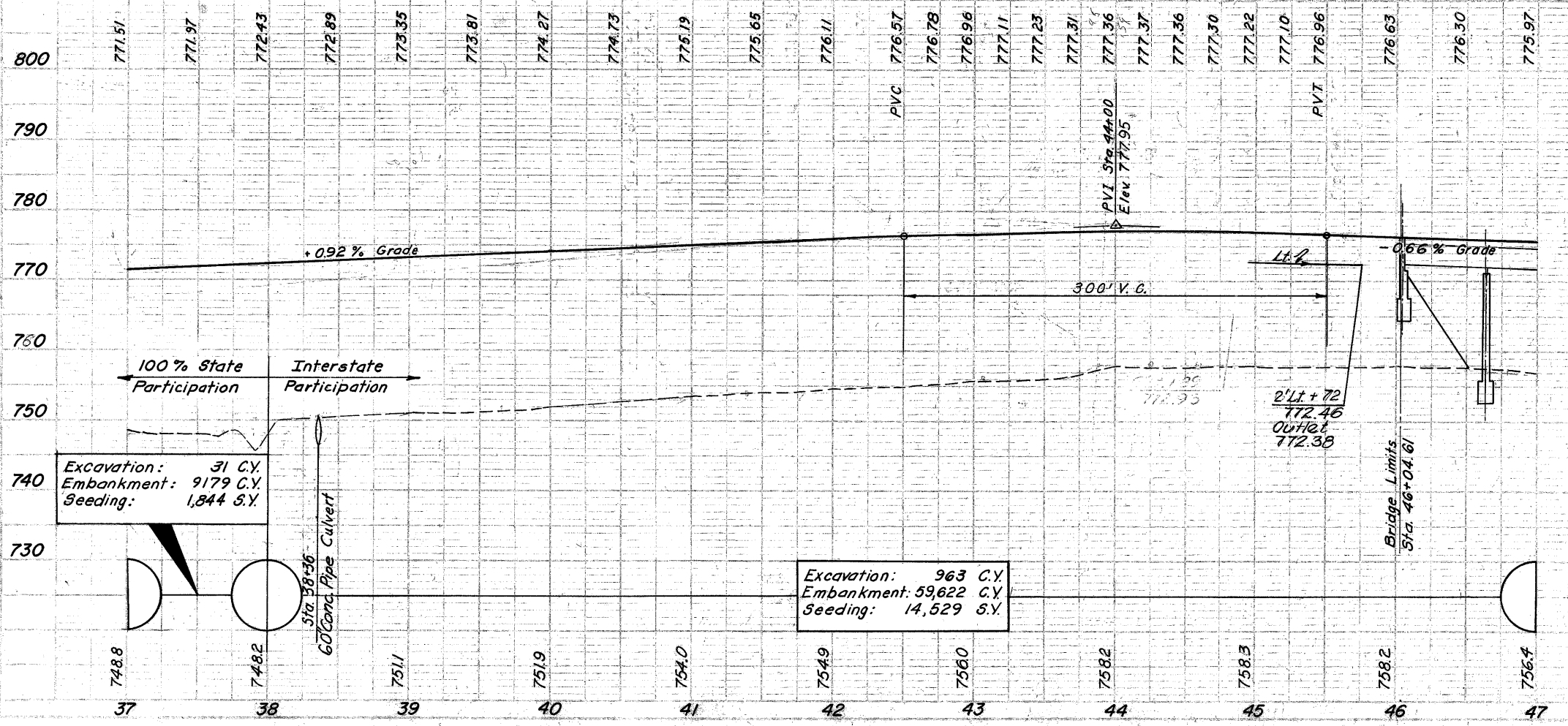
SKEW: 59°44'00" Lt. Forward.

ALIGNMENT: Tangent.

APPROACH SLAB: AS-1-72, 30' long.

\*Note: For Oil and Gas Well Venting  
Details See Sheet No. 23  
For Quantities See Sheet No. 10

CALL BY LVC 2/13/70  
CALL BY DRH 3/11/70



Estimated Quantities	DRAINAGE				ROADWAY		
	Type "C" Conduit	Std. No. 5 Catch Basin	Type "B" 6"	Type "F" 6" Shallow	Reinforced Sodding	Seeding & Jute Matting	Curb Type 6
Ref Side Location	Lin.Ft	Ea.	Lin.Ft	Lin.Ft	S.Y.	S.Y.	Lin.Ft.
1-D Lt. Sta. 46+10					54	326	
2-D Rt. Sta. 45+25					45	259	
3-D Rt. Sta. 38+70-4+00	96	1				220	
1-C Lt.							39
2-C Rt.							26
1-U Lt. Sta. 38+02-45+72			20	790			
2-U Rt. Sta. 38+02-45+25			28	10,757			
<b>Total</b>	<b>96</b>	<b>1</b>	<b>28</b>	<b>30,547</b>	<b>99</b>	<b>805</b>	<b>65</b>

Estimated Quantities	ROADWAY					
	Guardrail Type 5	Bridge Terminal Assembly Type "A"	Anchor Assembly Type	Plugging Oil and Gas Well	Privy Vault Removed	Septic Tank Removed
Ref Side Location	Lin. Ft.	Each	Each	Each	Ea.	Ea.
1ST Rt. Sta. 42+50						1
2ST Lt. Sta. 45+50						1
1-PV Lt. Sta. 45+15					1	
2-PV Lt. Sta. 42+50					1	
1GW Rt. Sta. 44+10				1		
1-G Lt. Sta. 38+00-46+15	815	1				
2-G Rt. Sta. 39+00-45-32	612.5	1	1			
3-G 4 1/2" RI Chestnut Ridge Rd. Interstate Total	196	2	2	1	2	2
<b>Total</b>	<b>1623.5</b>	<b>2</b>	<b>2</b>	<b>1</b>	<b>2</b>	<b>2</b>

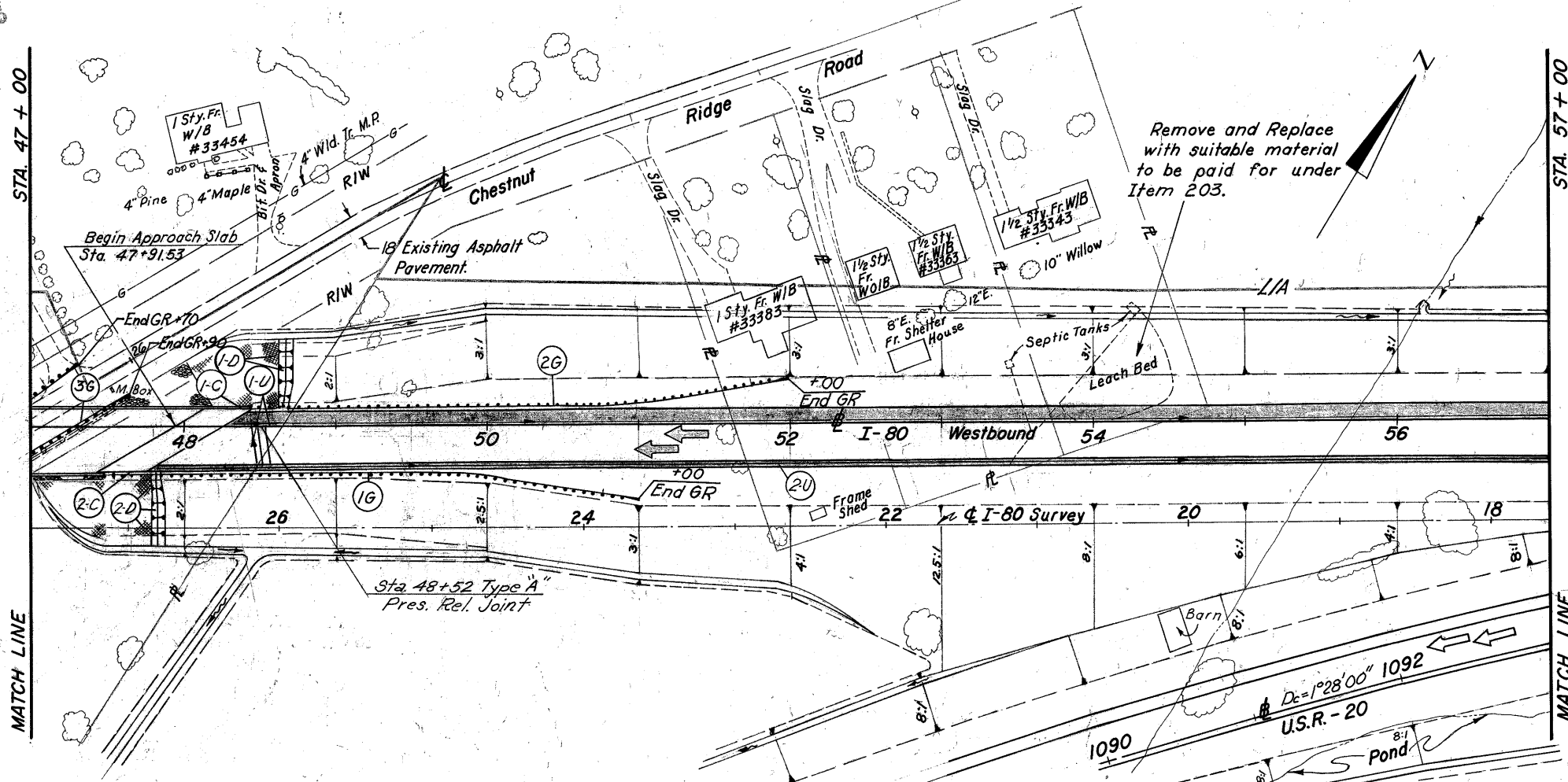
REPROFILMED  
JUL 18 1983

FED. RD. DIVISION	STATE	PROJECT	TYPE
2	OHIO		

45  
375

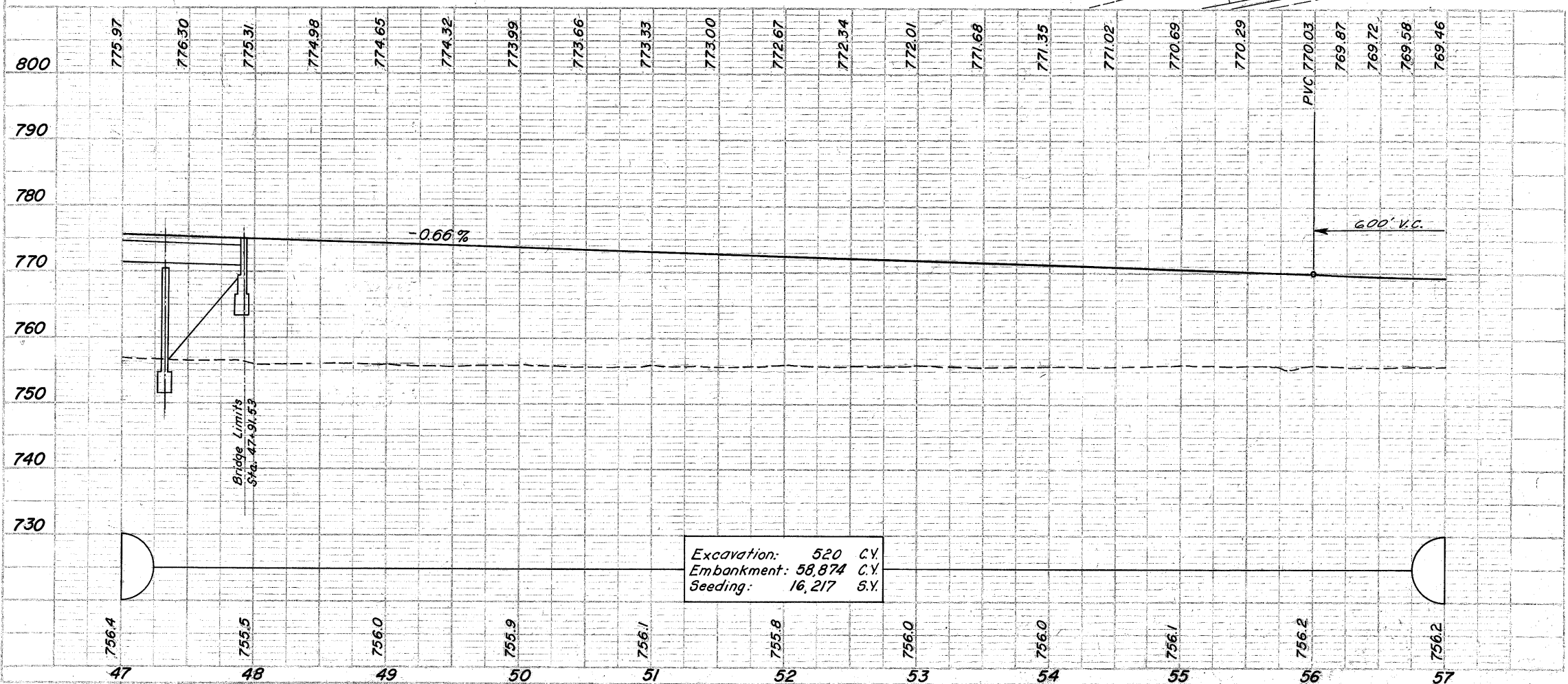
LORAIN COUNTY  
LOR-480-0.00

Tree Removal	
47+00	57+00
Size 18"	No. 7



Remove and Replace with suitable material to be paid for under Item 203.

DATE	
BY	
REVISION	
NO.	
DESCRIPTION	



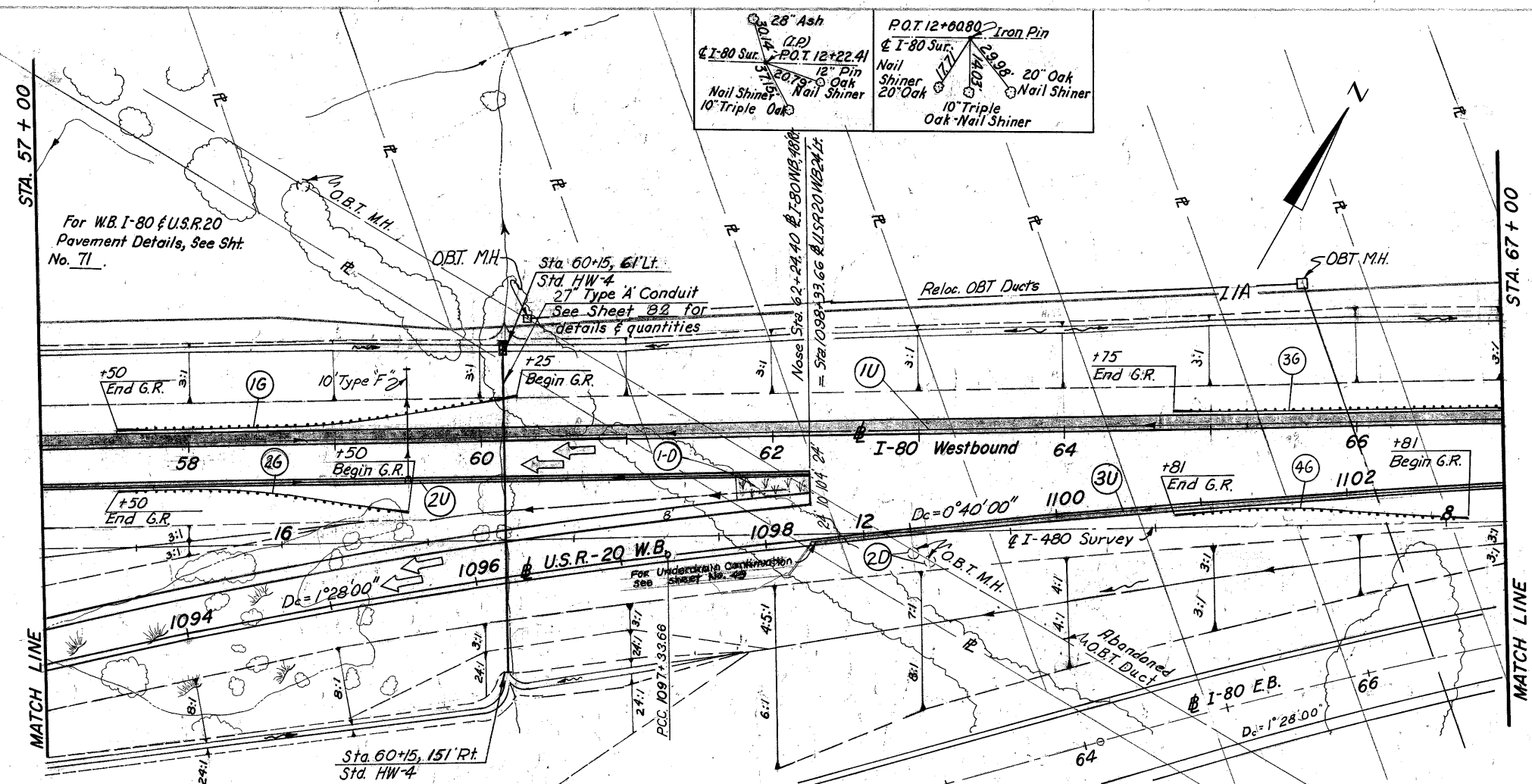
		ROADWAY DRAINAGE	
		609	605
Estimated Quantities		Curb Type 6	Shallow
Ref. No.	Side	Location	L.F.
1-C	Lt.		26
2-C	Rt.		26
1-U	Lt.	Sta. 48+28 to 57+00	898
2-U	Rt.	Sta. 47+85 to 57+00	915
Total			52
			1813

DATE BY LVC DATE 2/12/70  
CHKD BY DRH DATE 3/11/70

		ROADWAY				DRAINAGE	
		606		202		660	667
Estimated Quantities		Guardrail Type 5	Bridge Terminal Assembly Type A	Anchor Assembly	Septic Tank Removed	Reinforced Sodding	Seeding & Jute Matting
Ref. No.	Side	Location	Lin. Ft.	Each	Each	Sq. Yd.	Sq. Yd.
1-D	Lt.	Sta. 48+47	325	1	1	47	237
2-D	Rt.	Sta. 47+50				47	313
1-G	Rt.	Sta. 47+47-51+00	325	1	1		
2-G	Lt.	Sta. 48+44-52+00	325	1	1		
3-G	Rt.	Chestnut Ridge Rd.	66.5		2		
1ST	Rt.	Sta. 52+00					
2ST	Lt.	Sta. 53+45					
3ST	Lt.	Sta. 54+25					
Total			716.5	2	4	3	94
							550

LORAIN COUNTY  
LOR-480-0.00

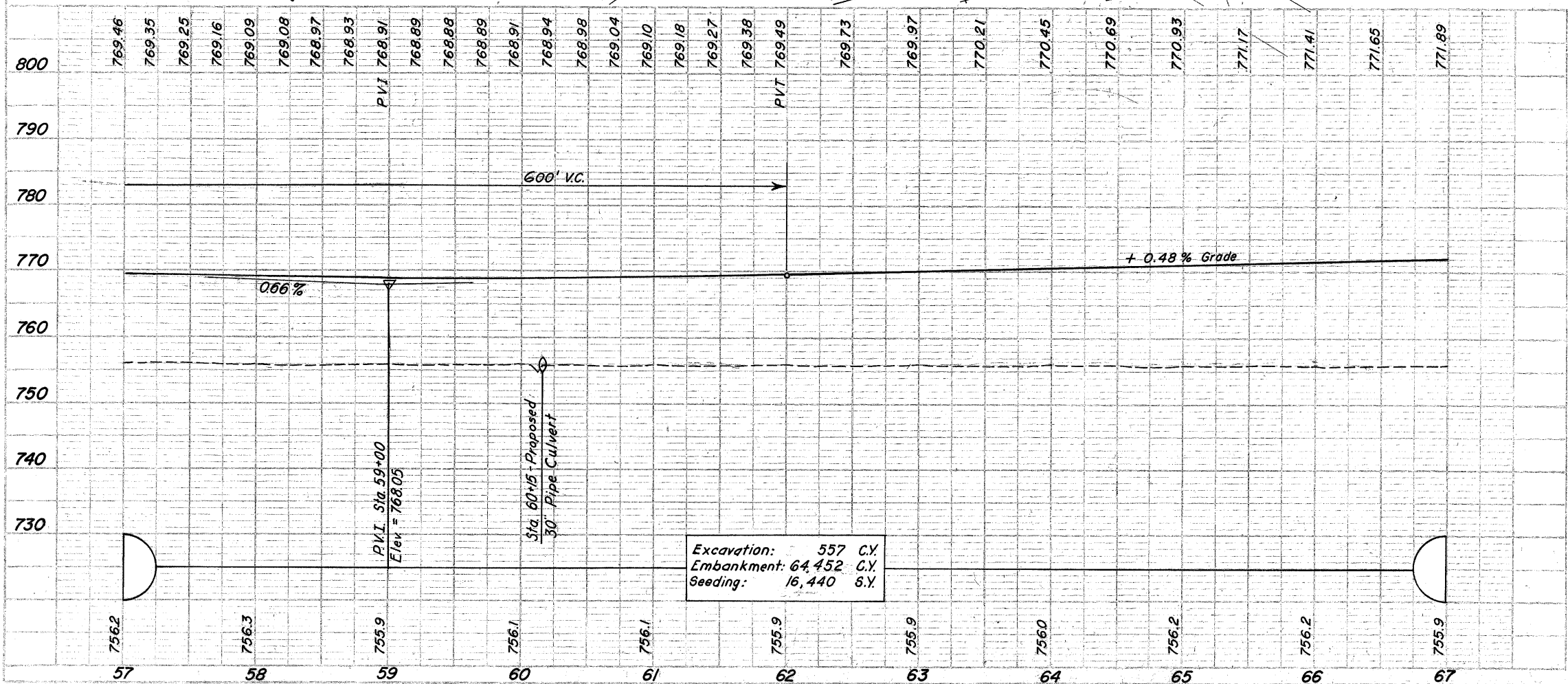
Tree Removal	
Size	No.
18"	9
30"	1



For WB I-80 & U.S.R. 20  
Pavement Details, See Sht.  
No. 71

Sta. 60+15, 61' Lt.  
Std. HW-4  
27" Type A Conduit  
See Sheet 82 for  
details & quantities

Excavation: 557 C.Y.  
Embankment: 64,452 C.Y.  
Seeding: 16,440 S.Y.



Estimated Quantities			603	605
			Type "B"	Type "F"
			6"	6"
Ref. No.	Side	Location	L.F.	Lin. Ft.
1U	Lt.	Sta. 57+00-67+00	10	1035
2U	Rt.	Sta. 57+00-62+24	28	524
3U	Rt.	Sta. 62+24-67+00		476
Total			28	2035

Estimated Quantities		DRAINAGE		ROADWAY	
		660	202	606	606
		Seeding	Manhole Abandoned	Guardrail Type 5	Anchor Assembly
Ref. No.	Side	Location	Sq. Yd.	Eq.	Lin. Ft.
1-D	Rt.	Sta. 61+74-62+24	97		
2-D	Rt.	Sta. 62+95-63+08		2	
1-G	Lt.	Sta. 57+50 to 60+25			225
2-G	Rt.	Sta. 57+50 to 59+50			150
3-G	Lt.	Sta. 64+75 to 67+00			200
4-G	Rt.	1100+81 to 1102+81			150
Total			97	2	725

NOTE: O.B.T. Duct To Be Relocated  
By Others O.B.T. Project No. 12338

CALL BY LVC DATE 2/12/70  
DRAWN BY DRH DATE 3/11/70

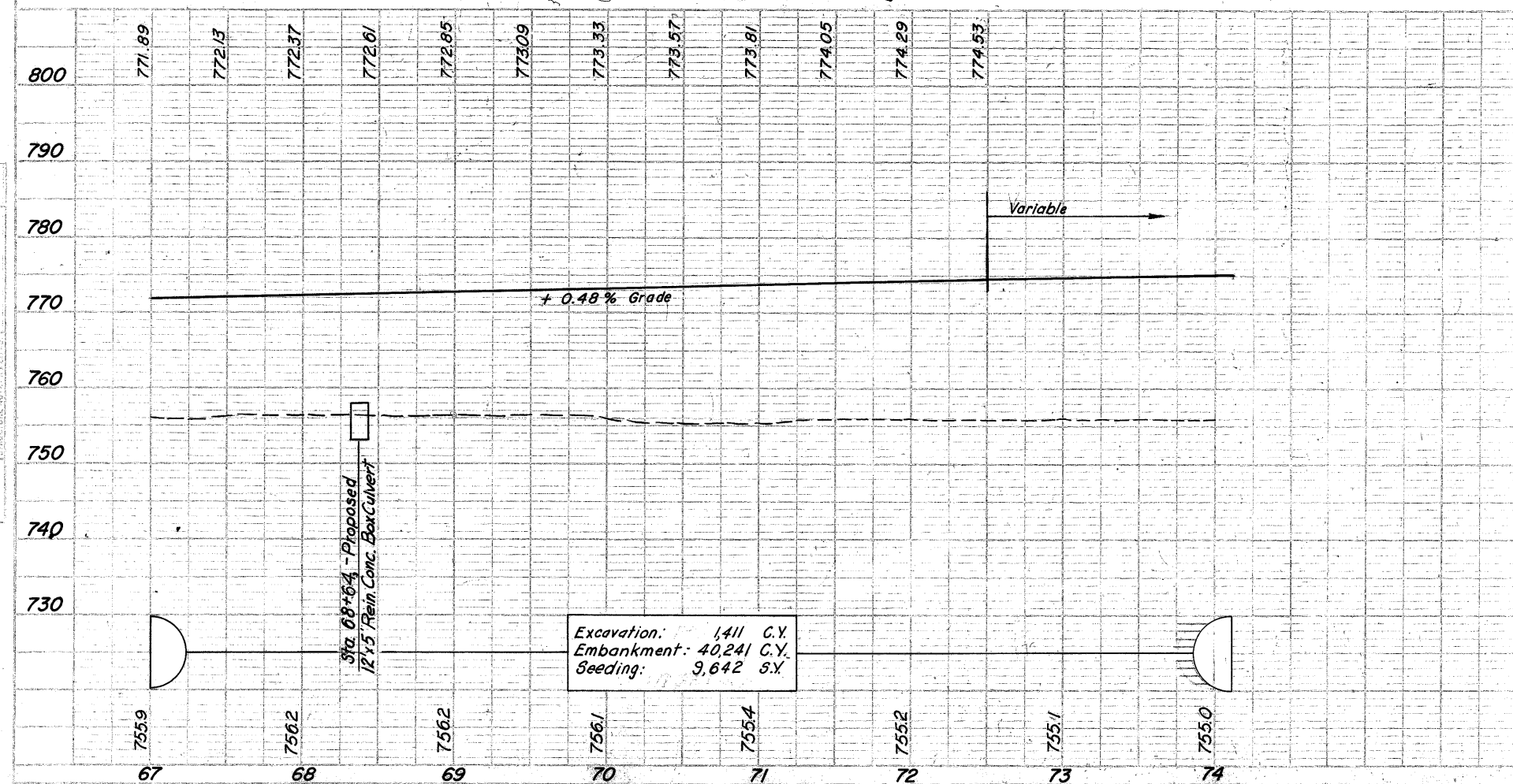
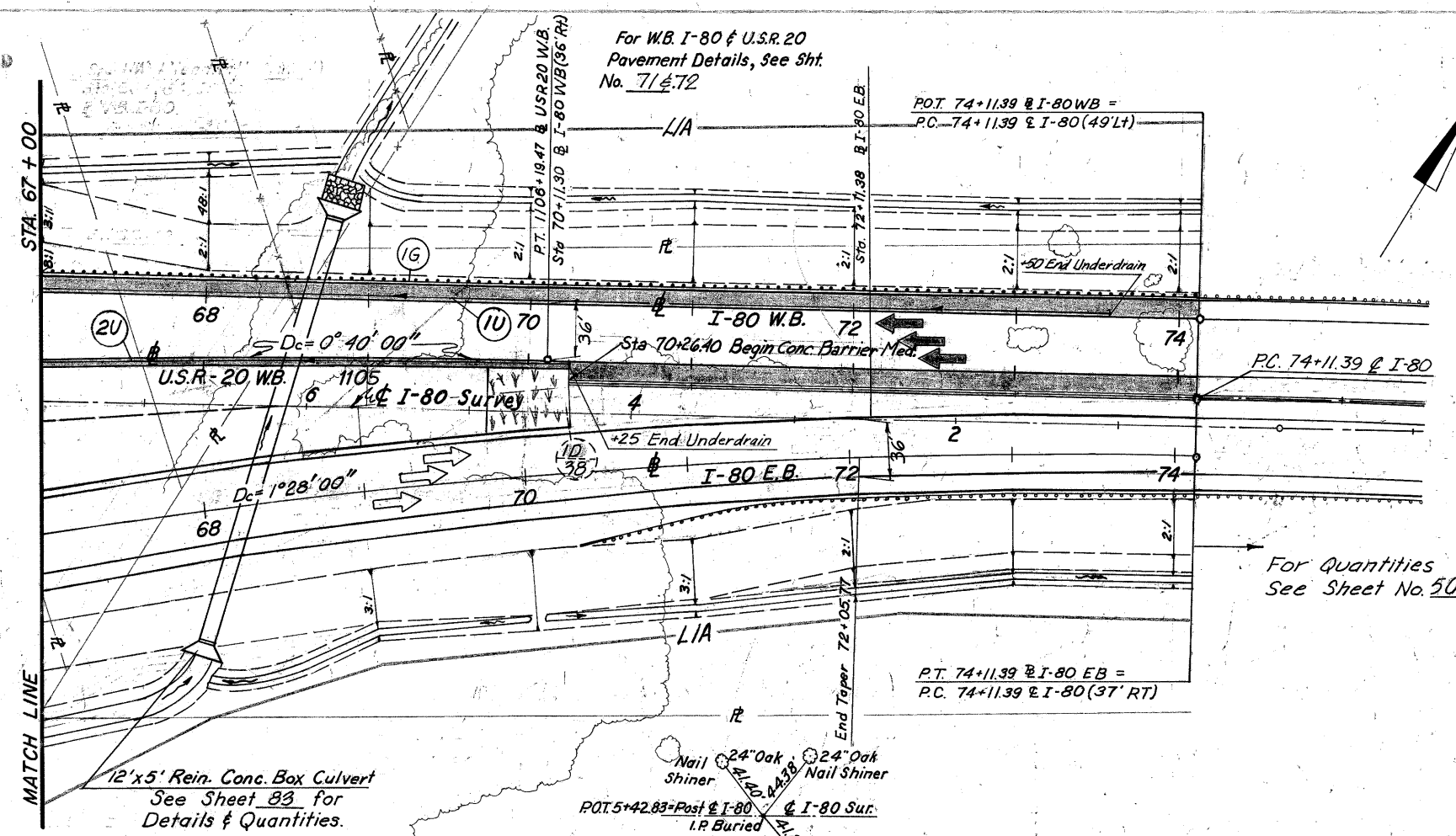


RECORDED  
JUL 18 1983

APPROVED FOR CONSTRUCTION  
DATE: 1/18/83  
BY: [Signature]  
PROJECT: LORAIN COUNTY  
SHEET: 47 OF 47

APPROVED FOR CONSTRUCTION  
DATE: 1/18/83  
BY: [Signature]  
PROJECT: LORAIN COUNTY  
SHEET: 47 OF 47

LORAIN COUNTY  
LOR-480-0.00

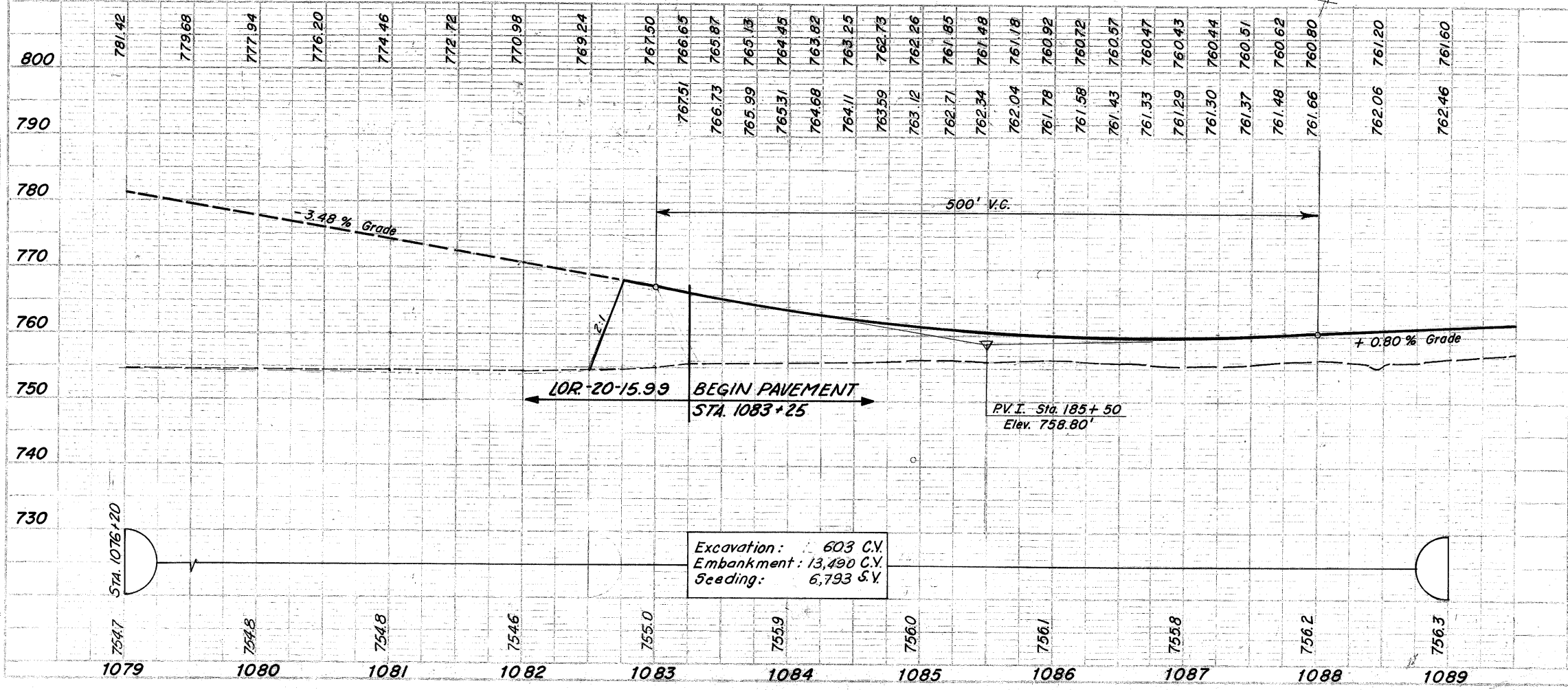
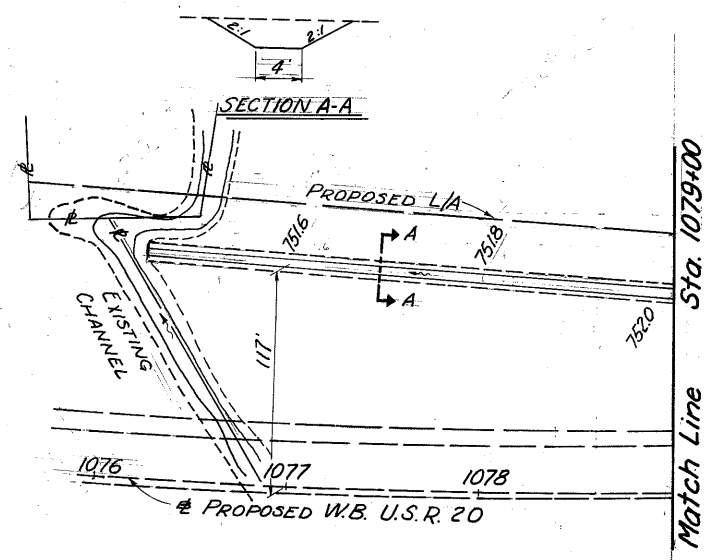
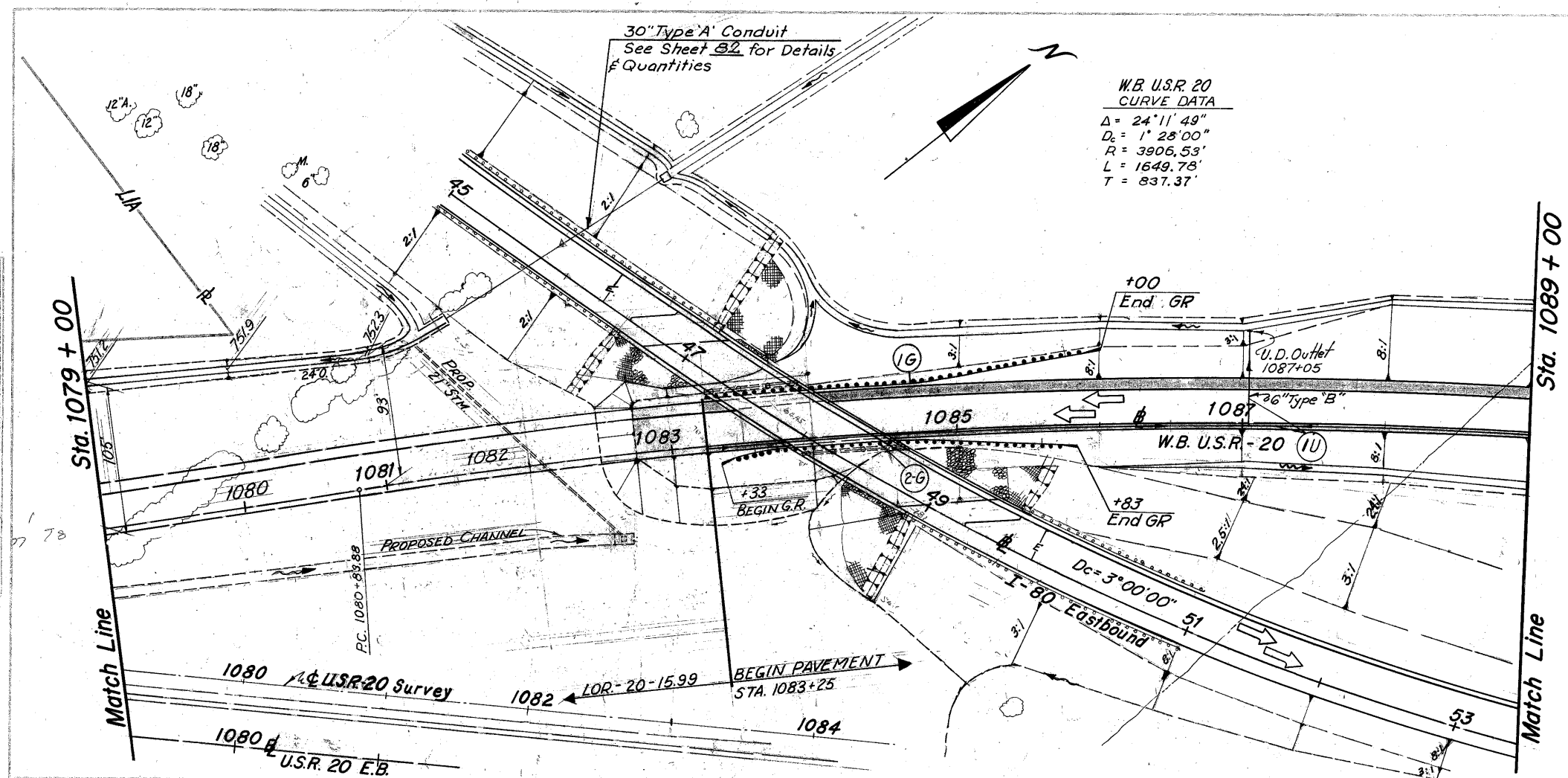


Ref. No.	Side	Location	Estimated Quantities	
			Guardrail Type 5	Underdrain Shallow 6"
I-G	Lt.	Sta. 67+00-74+11	711	606
I-U	Lt.	Sta. 67+00-73+50		605
2-U	Rt.	Sta. 67+00-70+25		325
Total			711	975

Tee Removal	
1079+00	1089+00
Size 18"	N2 11

W.B. U.S.R. 20  
CURVE DATA  
 $\Delta = 24^{\circ}11'49"$   
 $D_c = 1^{\circ}28'00"$   
 $R = 3906.53'$   
 $L = 1649.78'$   
 $T = 837.37'$

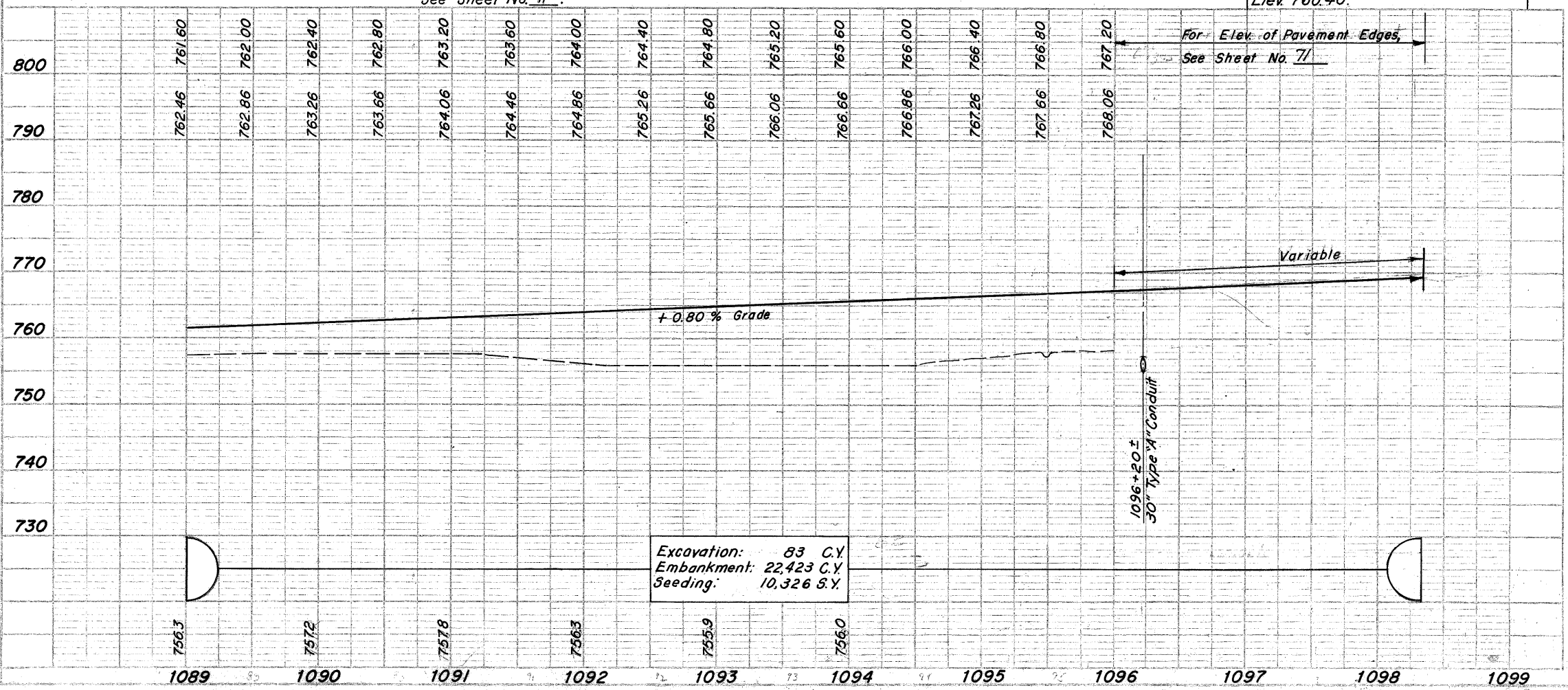
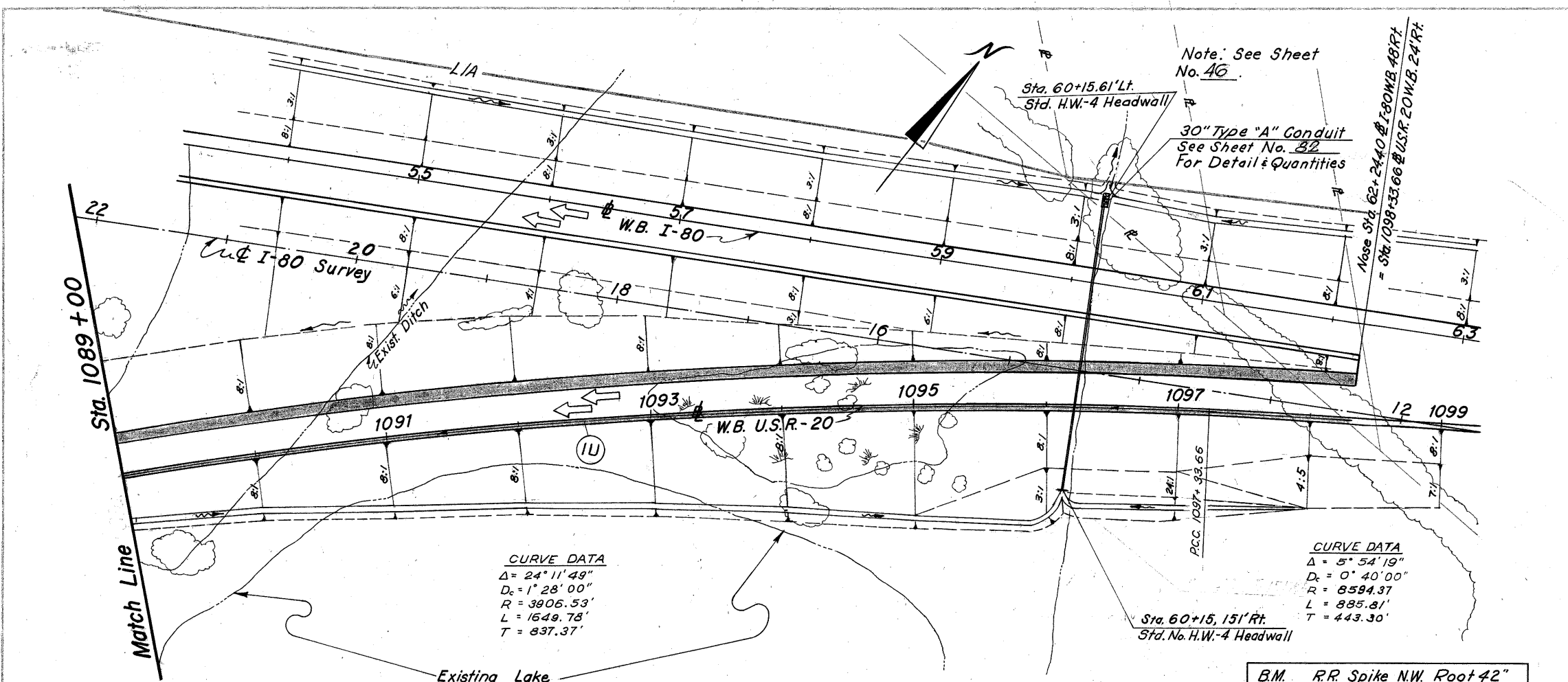
30" Type 'A' Conduit  
See Sheet 32 for Details  
& Quantities



Estimated Quantities	ROADWAY					
	Guardrail Type 5	Anchor Assembly		Underdrain Shaft		
		Type A	Type T			
Ref. No.	Side	Location	Lin. Ft.	Each	6"	6"
1-G	Lt.	Sta. 1083+25-1086+00	250	1		
2-G	Rt.	Sta. 1083+33-1085+83	200	1	1	
1-U	Rt.	Sta. 1083+25-1089+00				66 575
Total			450	2	1	66 575

LORAIN COUNTY  
LOR-480-0.00

Tree Removal	
1089+00	1098+33.66
Size	N2
18"	15
30"	2

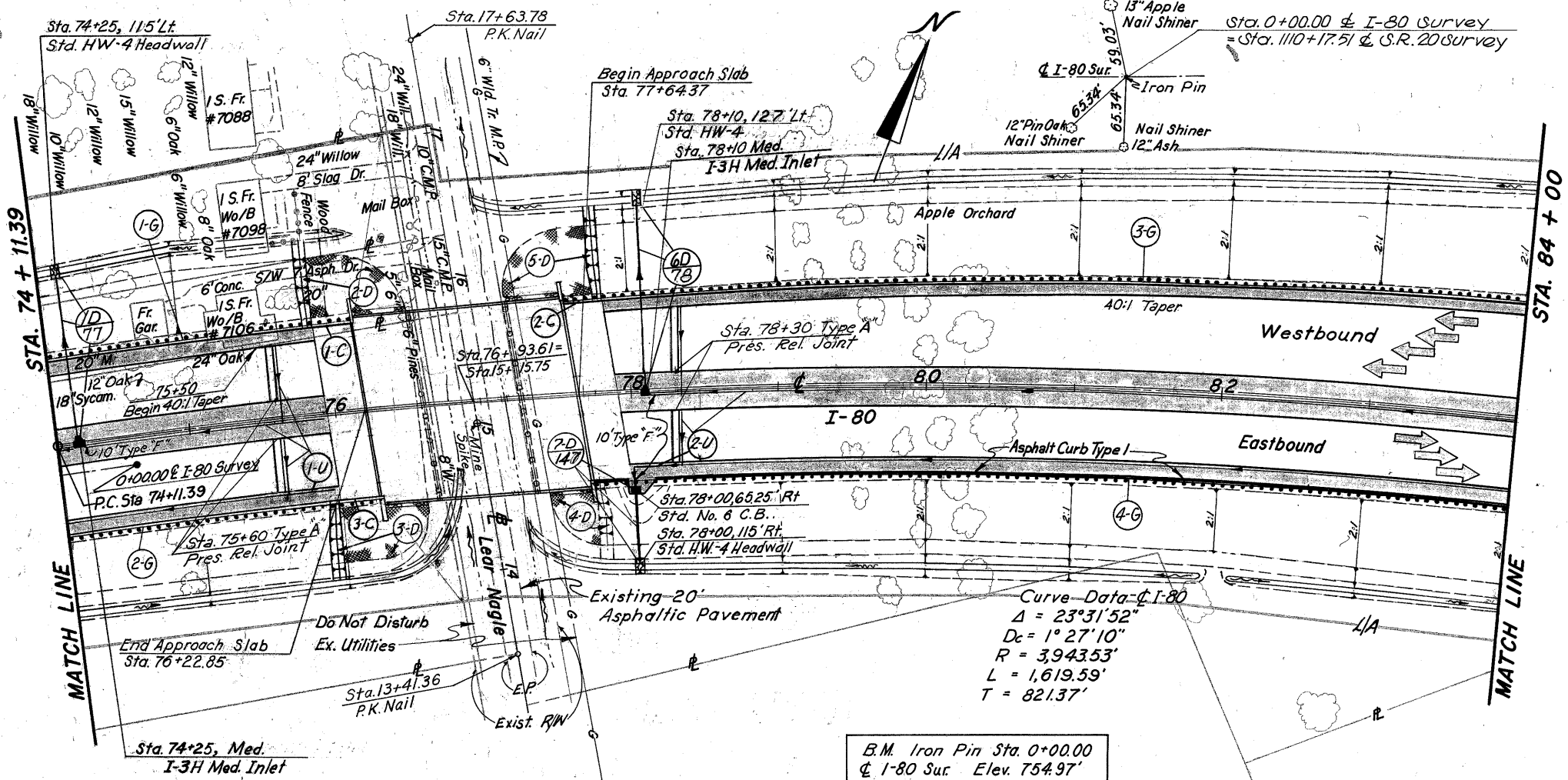


Estimated Quantities			605
			Underlain
			Shallow
			6"
Ref. No.	Side	Location	Lin. Ft.
IU	Rt.	1089+00-1098+34	934
Total			934

JUL 18 1983

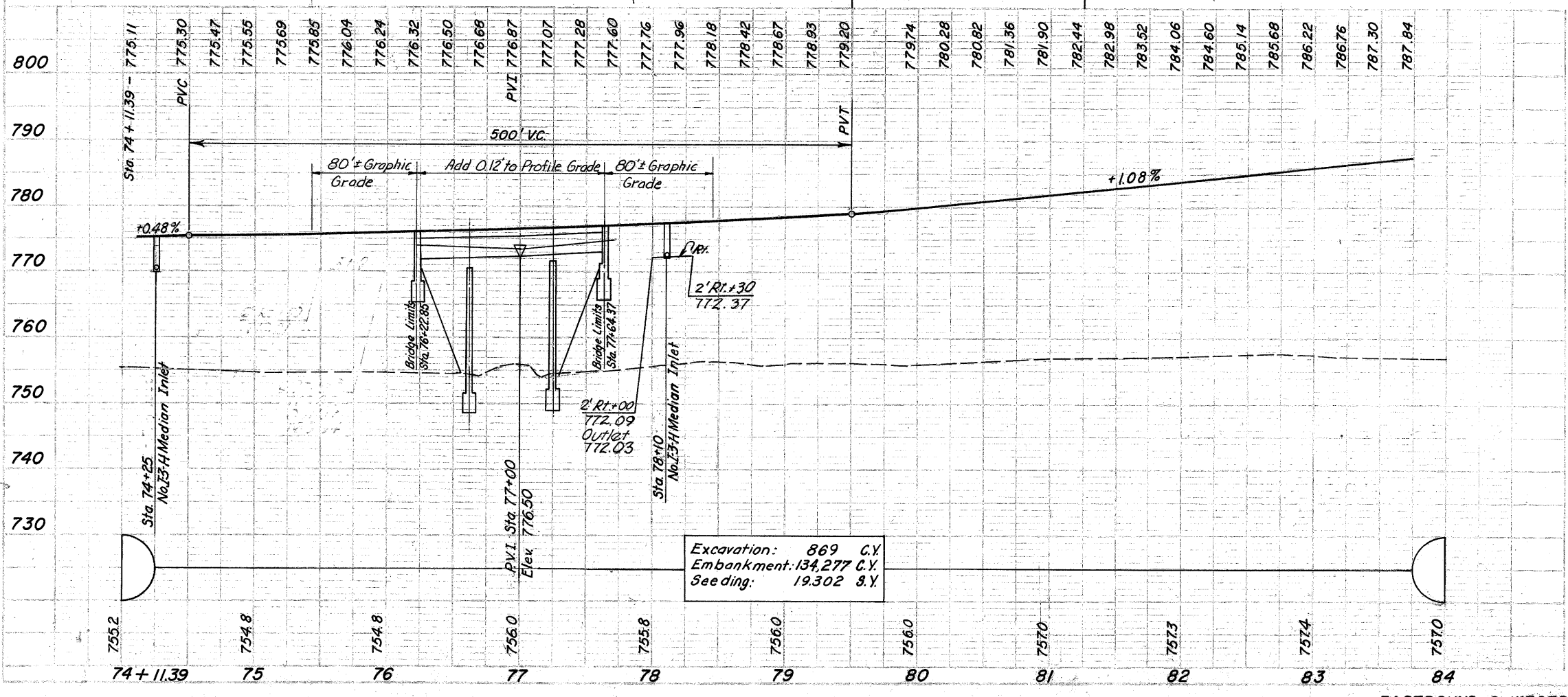
LORAIN COUNTY  
LOR-480-0.00

Tree Removal	74+11.39	84+00
Size	18"	N# 7



Ref. No.	Side	Location	ROADWAY		DRAINAGE	
			Type 6	Type f	Type f	Shallow
1-C	Lt.		26			
2-C	Lt.		26			
3-C	Rt.		26			
1-U	Rt.	74+11.39-75+92		10	440	
2-U	Rt.	78+00-84+00		20	1282	
Total			78	30	1722	

**PROPOSED STRUCTURE**  
 TYPE: Continuous steel beam with reinforced concrete deck and substructure.  
 SPANS: 36'-0", 67'-6", 36'-0" c/c brgs. on  $\bar{c}$ .  
 ROADWAYS: Variable width (See plan) with conc. barrier median & BR-1-67 railing.  
 LOADING: HS-20-44 & Interstate Alternate.  
 WEARING SURFACE: Monolithic Conc.  
 SKEW: 5°41'09" Rt. forward.  
 ALIGNMENT: 1°27'10.5" Curve Rt.  
 APPROACH SLABS: AS-1-72, 25' Long.  
 SUPERELEVATION: 0.036%.



Ref. No.	Side	Location	DRAINAGE							ROADWAY				
			Rock Channel Prot. Type B W/Bed	Concrete Masonry	Type B	Type F	No. I-3H Median Inlet	Reinforced Soding	Seeding f Jute Matting	Carth Basin	Guardrail Type 5	Bridge Terminal Assembly type	Septic Tank Removed	Storm Sewer Profile
					15"	15"	Each	S.Y.	S.Y.	*Sta. No. 6	L.F.	Each	Each	Sheet No.
1-D	Lt.	Sta. 74+25	2.1	0.3	66	50'	1							77
2-D	Lt.	Sta. 76+14					58	169						
3-D	Rt.	Sta. 76+22					51	97						
4-D	Rt.	Sta. 77+77					55	97						
5-D	Lt.	Sta. 77+65					64	177						
6-D	Lt.	Sta. 78+10	2.1	0.3	74	56'	1							78
7-D	Rt.	Sta. 78+00	1.5	0.3	54'				1					147
1-G	Lt.	Sta. 74+50												2
2-G	Rt.									204	1			
3-G	Lt.									214	1			
4-G	Rt.									639	1			
Total			2	5.7	0.9	140	160	2	228	540	1	1,684	4	2

MICROFILMED

JUL 18 1983

Sta 85+63, 162' Lt.  
Std. HW-4  
15" Type B&F  
Conduit

For Channel Details  
See Sheet 90

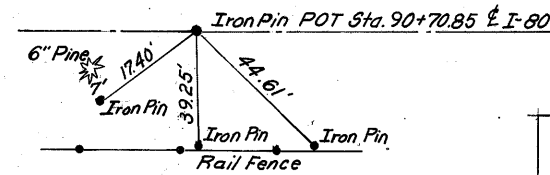
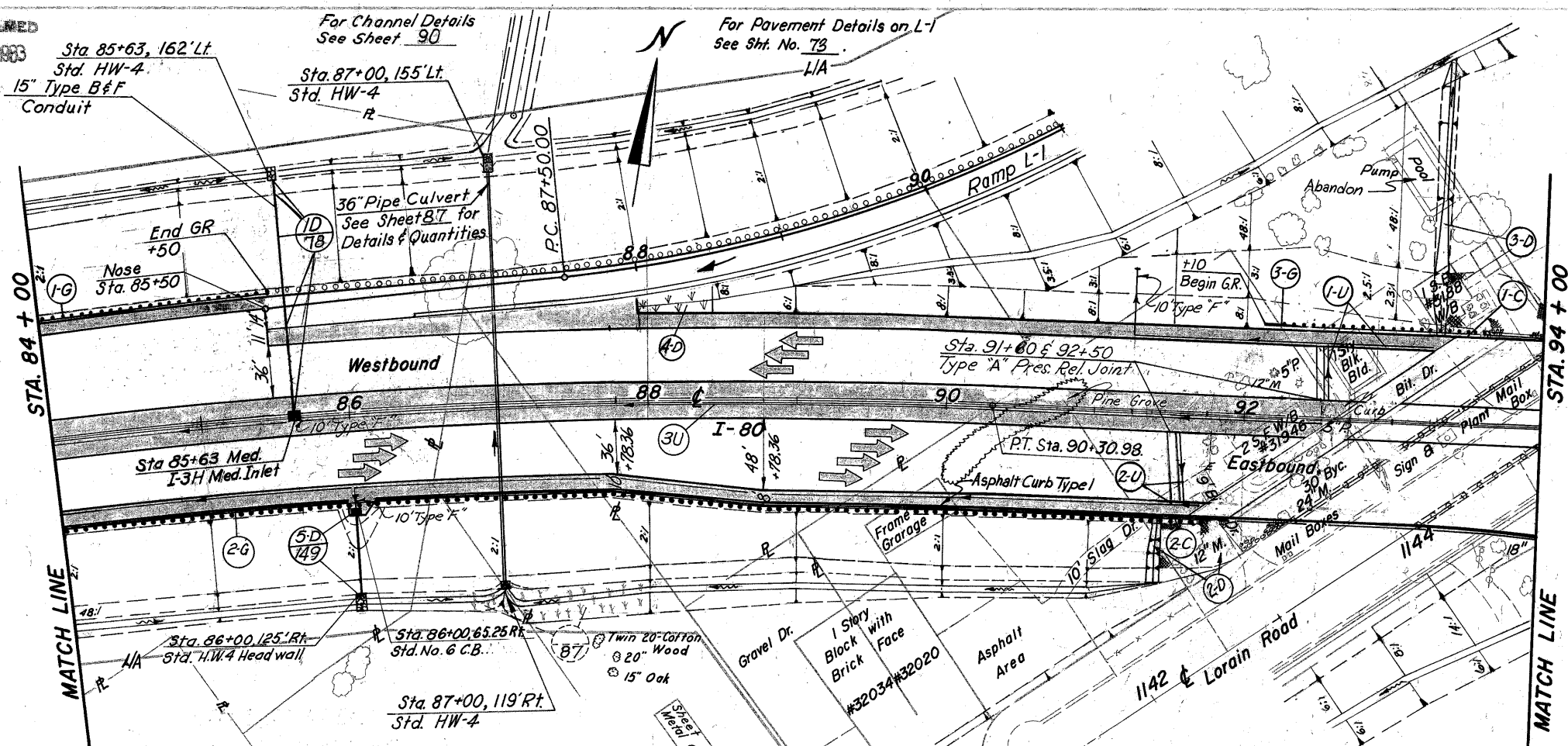
Sta. 87+00, 155' Lt.  
Std. HW-4

For Pavement Details on L-1  
See Sht. No. 78

Tree Removal	84+00	94+00
Size	N.2	
18"	8	
30"	4	

DES. DIVISION	STATE	PROJECT	SHEET NUMBER
2	OHIO		51/375

LORAIN COUNTY  
LOR-480-0.00



**PROPOSED STRUCTURE**

TYPE: Continuous steel beam with reinforced concrete deck and substructure.

SPANS: 51'-0" 72'-9" 72'-9" 51'-0" 1/2 bearings.

ROADWAY: Variable width (see plan), with concrete barrier type median & railing.

LOADING: HS 20-44 plus Interstate Alternate.

WEARING SURFACE: Monolithic Conc.

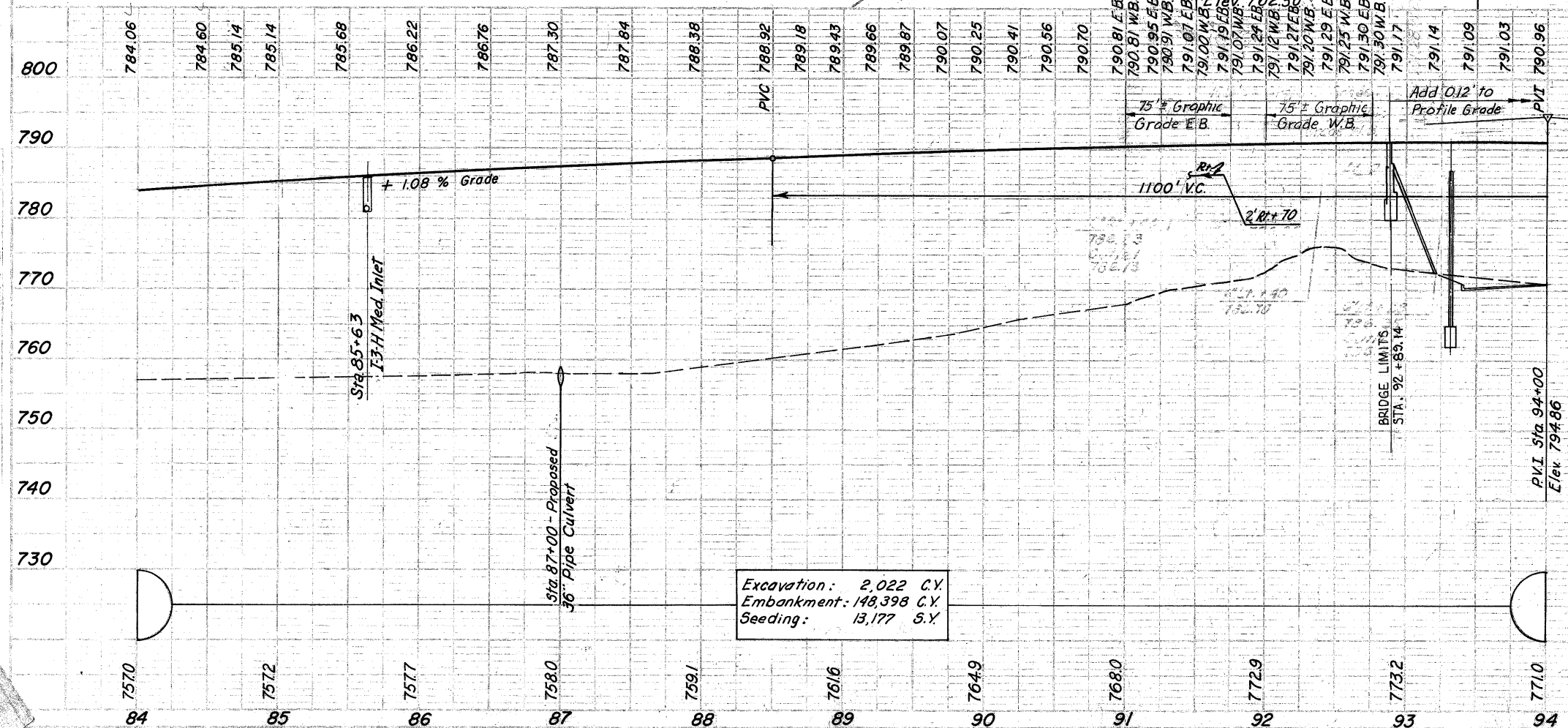
SKREW: 54° 09' 36" Lt. forward.

ALIGNMENT: Tangent.

APPROACH SLABS: AS-1-72 (30'lg).

SUPERELEVATION: None.

Estimated Quantities	ROADWAY		DRAINAGE	
	609	603	605	
Curb Type 6				
Type F				
Shallow				
Ref. No.	Side	Location	L.F.	L.F.
1-C	Lt.		28	
2-C	Rt.		26	
1-U	Lt.	91+25 to 93+28	10	272
2-U	Rt.	84+00 to 91+70	10	828
3-U	Rt.	84+00 to 92+52	10	838
Total			54	1938



Excavation: 2,022 C.Y.  
Embankment: 148,398 C.Y.  
Seeding: 13,177 S.Y.

Estimated Quantities	ROADWAY		
	606		
Guardrail Type 5			
Bridge Terminal Assembly, Type A			
Anchor Assembly, Type T			
Ref. No.	Side	Location	L.F.
1G	Lt.	84+00 to 85+50	150
2G	Rt.	84+00 to 91+80	780
3G	Lt.	92+10 to 93+60	150
Total			1080

Estimated Quantities	DRAINAGE							ROADWAY	Storm Sewer Profile				
	601	602	603	604	667	660	660	202					
Ref. No.	Side	Location	Rock Channel Prof. Type B W/Bed	Concrete Masonry	Type B	Type F	No I-3H Median Inlet	Std. No. 6 Catch Basin	Seeding & Jute Matting	Reinforced Sodding	Sodding	Septic Tank Removed	Sheet No.
1-D	Lt.	Sta. 85+63	Cu. Yd.	Cu. Yd.	L.F.	L.F.	Each	Each	Sq. Yd.	Sq. Yd.	S.Y.	Each	78
2-D	Rt.	Sta. 91+75							171	36			
3-D	Lt.	Sta. 93+60							233	42			
4-D	Lt.	Sta. 87+95									106		149
5-D	Rt.	Sta. 86+00	1.7	0.3	64			1					
1ST	Rt.	Sta. 89+00											
2ST	Lt.	Sta. 91+80											
3ST	Lt.	Sta. 93+50											
4ST	Lt.	Sta. 94+00											
Total			3.8	0.6	92	137	1	1	404	78	106	4	

\* See Sht. No. 21

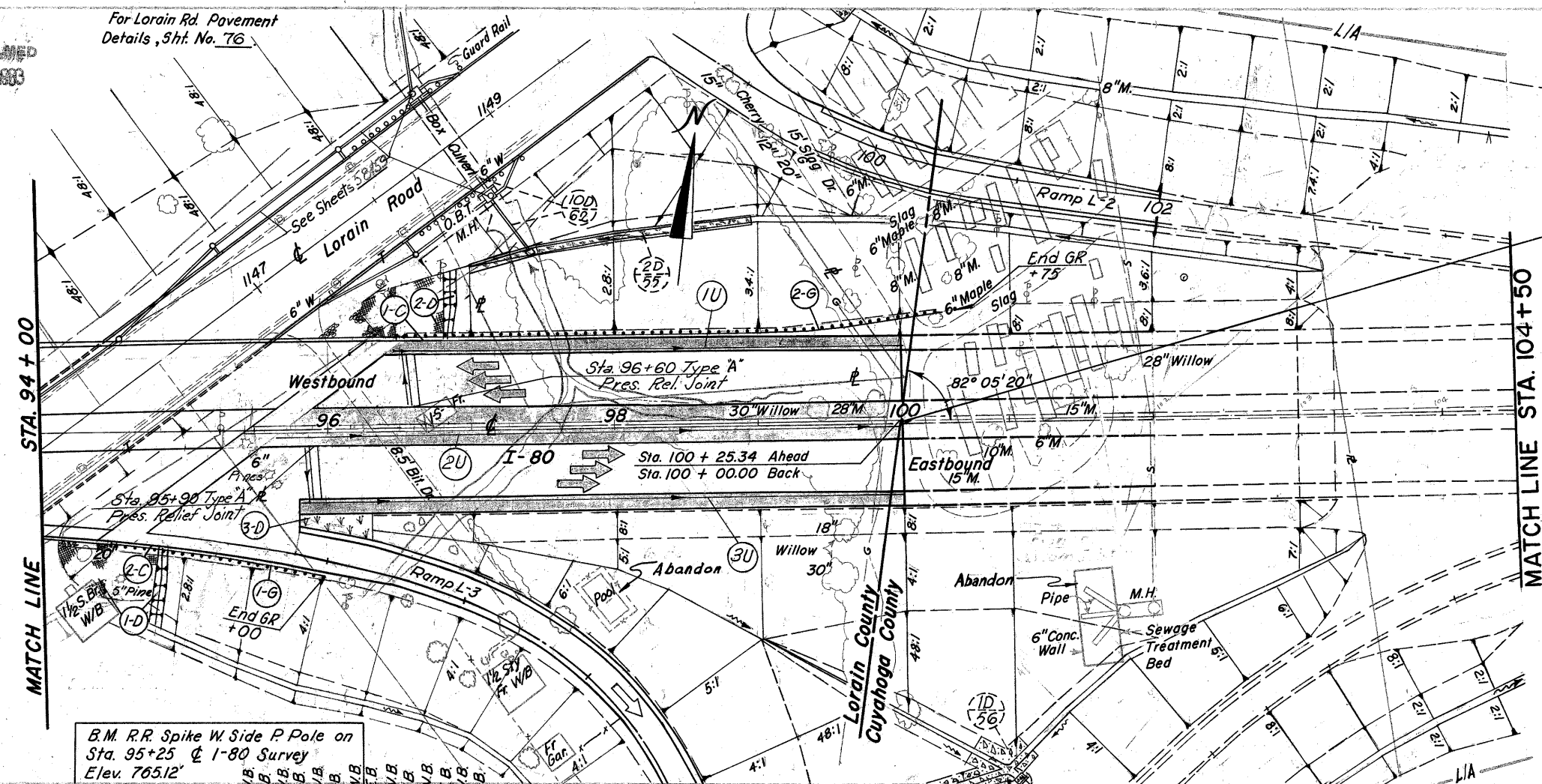
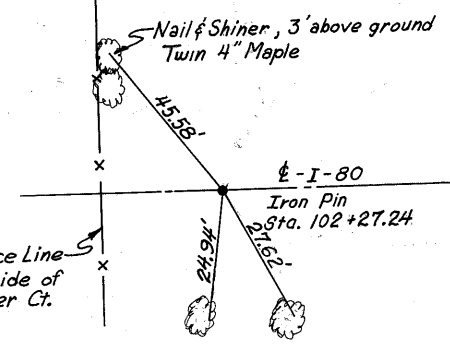
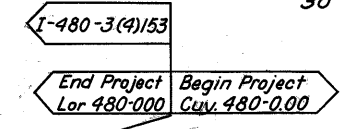
MICROFILMED  
JUL 18 1983

For Lorain Rd. Pavement  
Details, Sht. No. 76

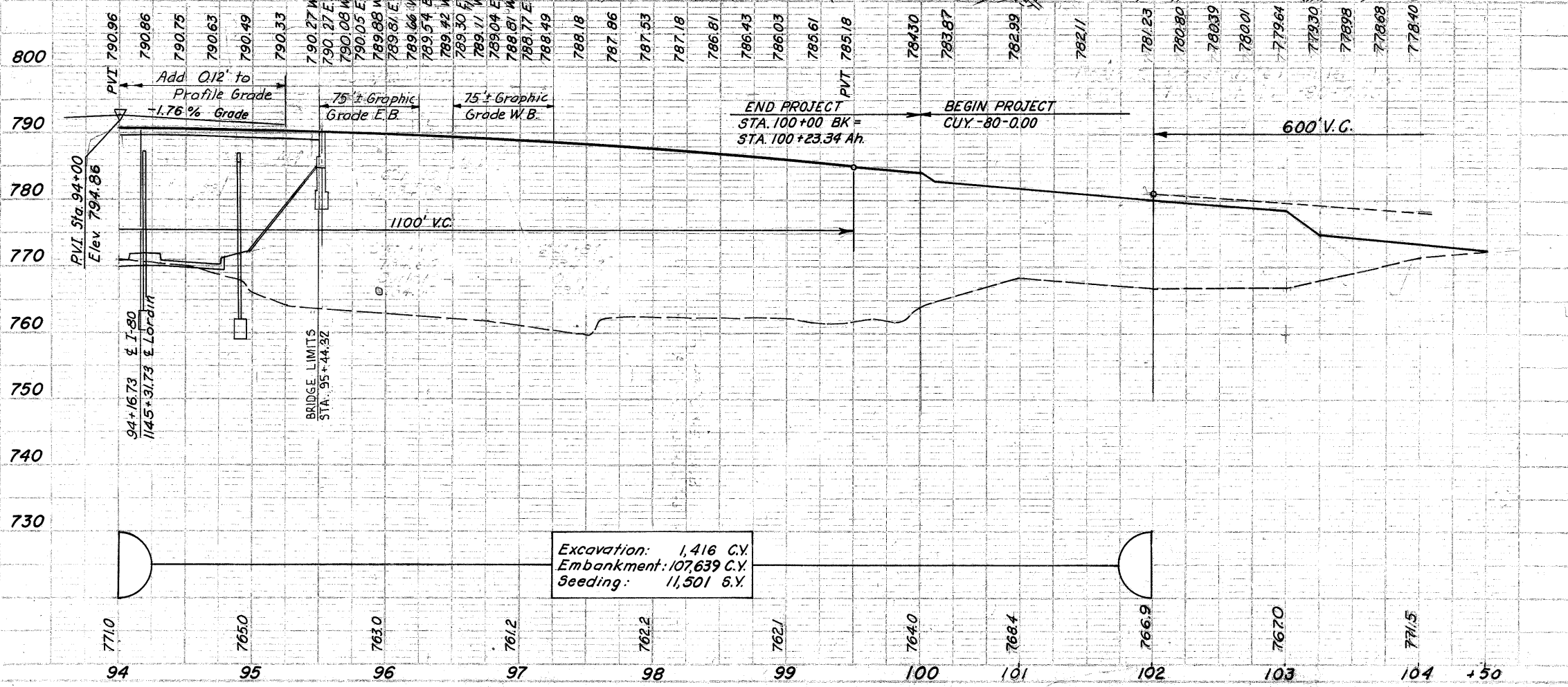
52  
375

LORAIN COUNTY  
LOR-480-0.00

Tree Removal	94+00	104+50
Size	No.	No.
18"	15	
30"	4	



B.M. R.R. Spike W Side P Pole on  
Sta. 95+25 @ I-80 Survey  
Elev. 765.12'



Excavation: 1,416 C.Y.  
Embankment: 107,639 C.Y.  
Seeding: 11,501 S.Y.

Ref. No.	Side	Location	ROADWAY		DRAINAGE	
			LF	Shallow	LF	6"
1-C	Lt.		26			
2-C	Rt.		26			
1-U	Lt.	96+45 to 100+00				393
2-U	Rt.	95+65 to 100+00				435
3-U	Rt.	95+82 to 100+00				456
<b>Total</b>			<b>52</b>			<b>1284</b>

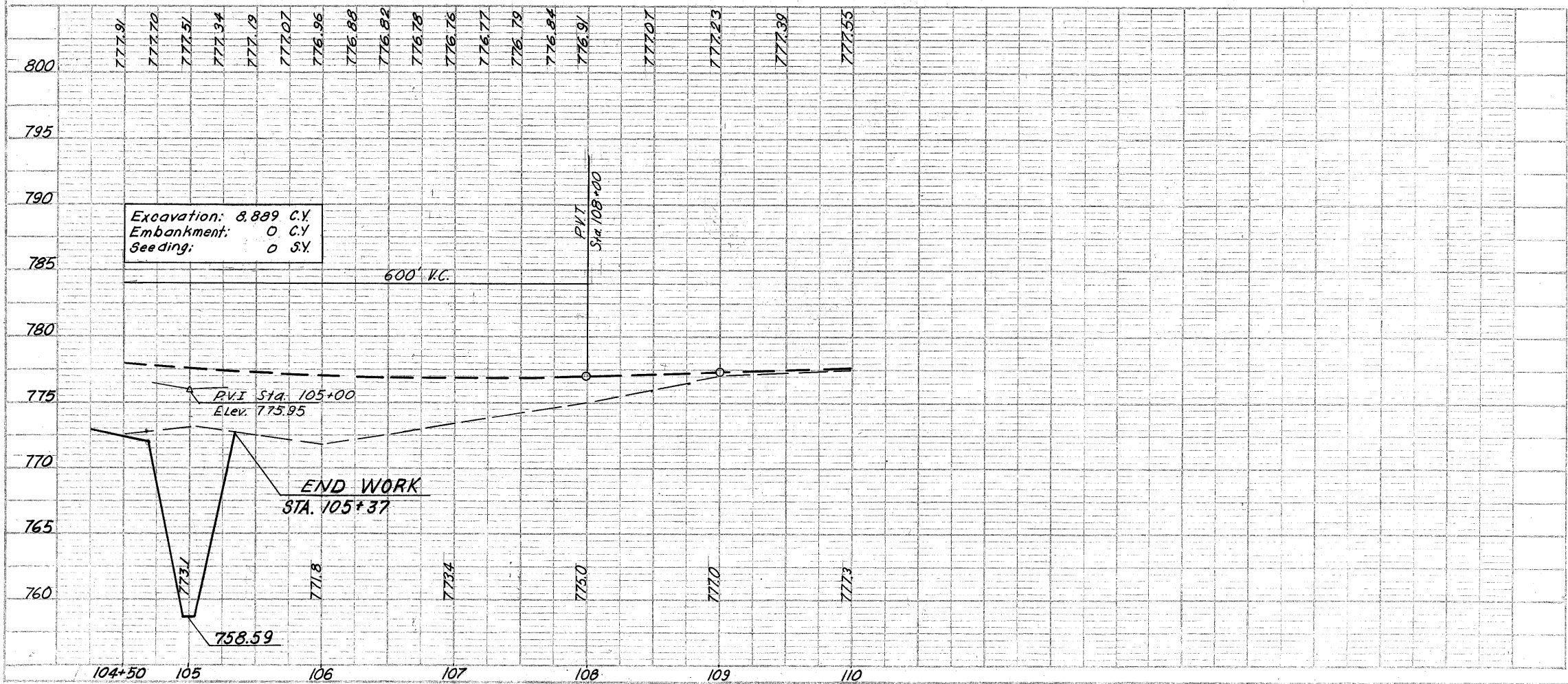
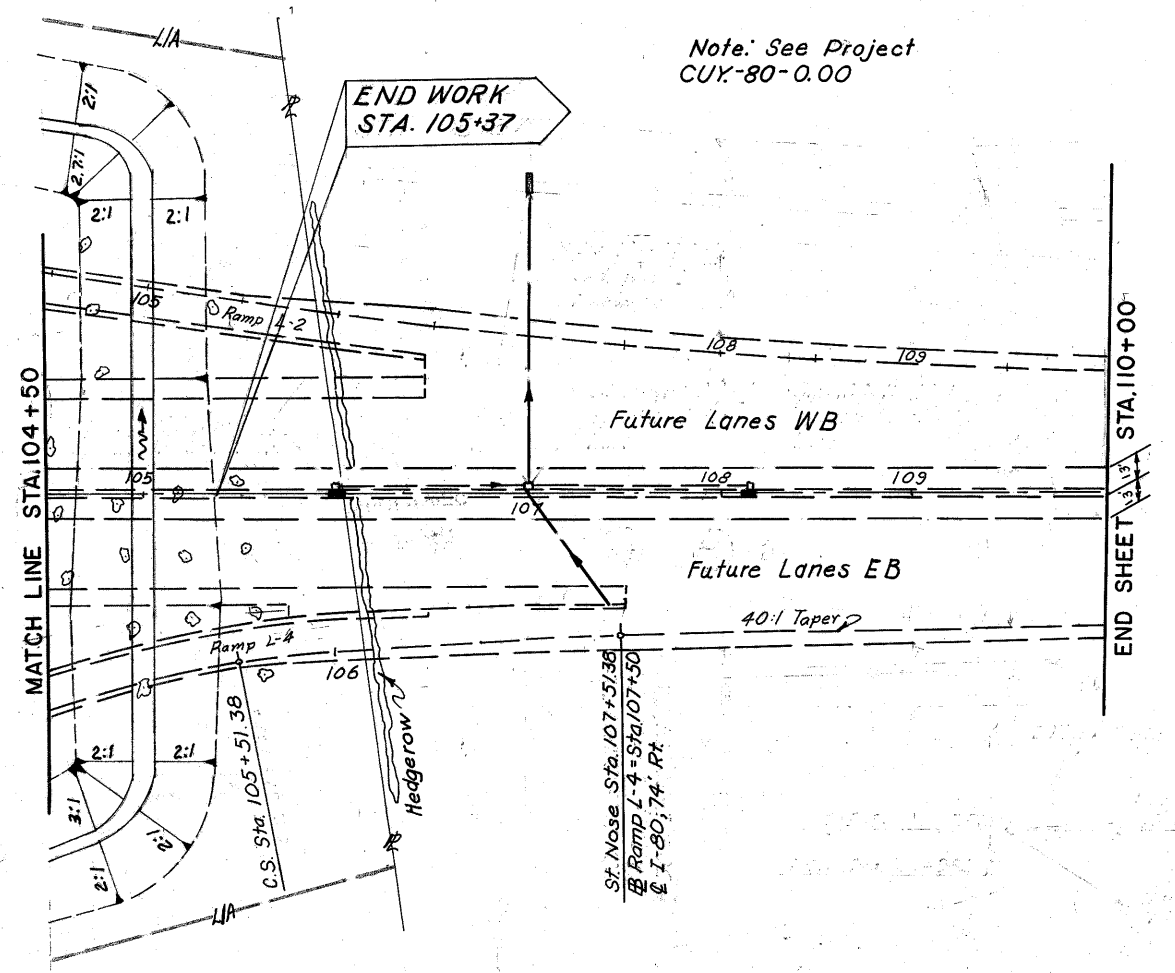
Ref. No.	Side	Location	DRAINAGE			ROADWAY				
			S.Y.	S.Y.	S.Y.	LF	Each	Each	Each	Each
1-D	Rt.	Sta. 94+50	37	310						
2-D	Lt.	Sta. 96+25	41	260						
3-D	Rt.	Sta. 95+80-96+30			106					
1-G	Rt.	Sta.				125				
2-G	Lt.	Sta. 96+48-100+75				375				
1-ST	Rt.	Sta. 94+50								1
2-ST	Rt.	Sta. 96+50								1
3-ST	Lt.	Sta. 97+25								1
<b>Total</b>			<b>78</b>	<b>570</b>	<b>106</b>	<b>500</b>	<b>1</b>	<b>2</b>	<b>1</b>	<b>3</b>

Note: See Project  
CUX-80-0.00



DATE	
BY	
NO.	
PLAN	
NO.	
DATE	
BY	
NO.	
PROFILE	
NO.	
DATE	
BY	
NO.	

DATE	
BY	
NO.	
PROFILE	
NO.	
DATE	
BY	
NO.	



CALC. BY LVC DATE 2/18/70  
CHKD BY DRH DATE 3/16/70

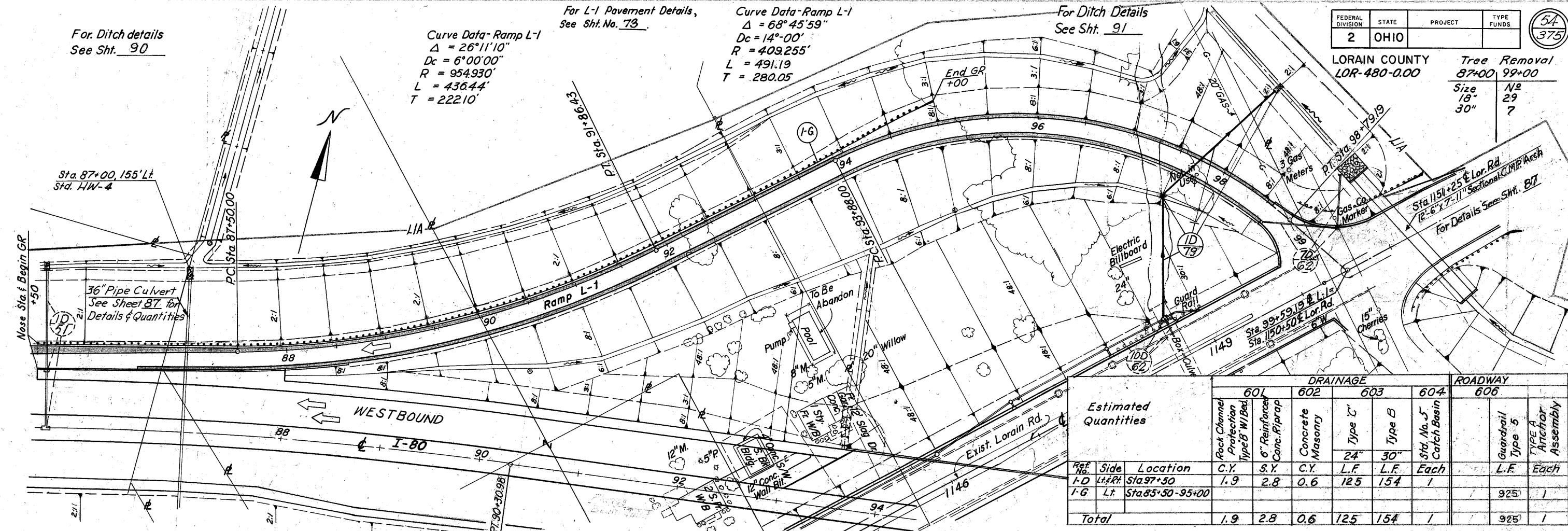
For Ditch details  
See Sht. 90

Curve Data-Ramp L-1  
Δ = 26°11'10"  
Dc = 6°00'00"  
R = 954.930'  
L = 436.44'  
T = 222.10'

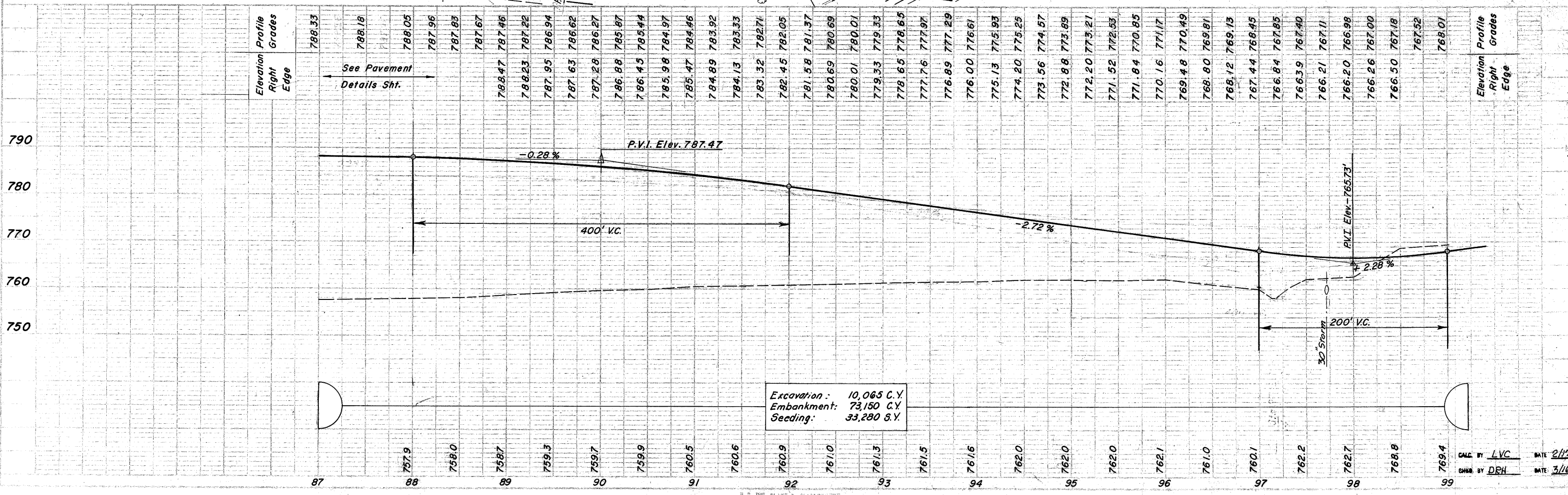
For L-1 Pavement Details,  
See Sht. No. 73

Curve Data-Ramp L-1  
Δ = 68°45'59"  
Dc = 14°00'  
R = 409.255'  
L = 491.19  
T = 280.05

For Ditch Details  
See Sht. 91



Estimated Quantities			DRAINAGE			ROADWAY				
Ref	Side	Location	Rock Channel Protection Type B W/Bed	6" Reinforced Conc. Riprap	Concrete Masonry	Type C 24"	Type B 30"	Std. No. 5 Catch Basin Each	Guardrail Type 5 L.F.	Type A Anchor Assembly Each
I-D	Lt.	Sta. 97+50	1.9	2.8	0.6	125	154	1		
I-G	Lt.	Sta. 85+30-95+00							925	1
Total			1.9	2.8	0.6	125	154	1	925	1



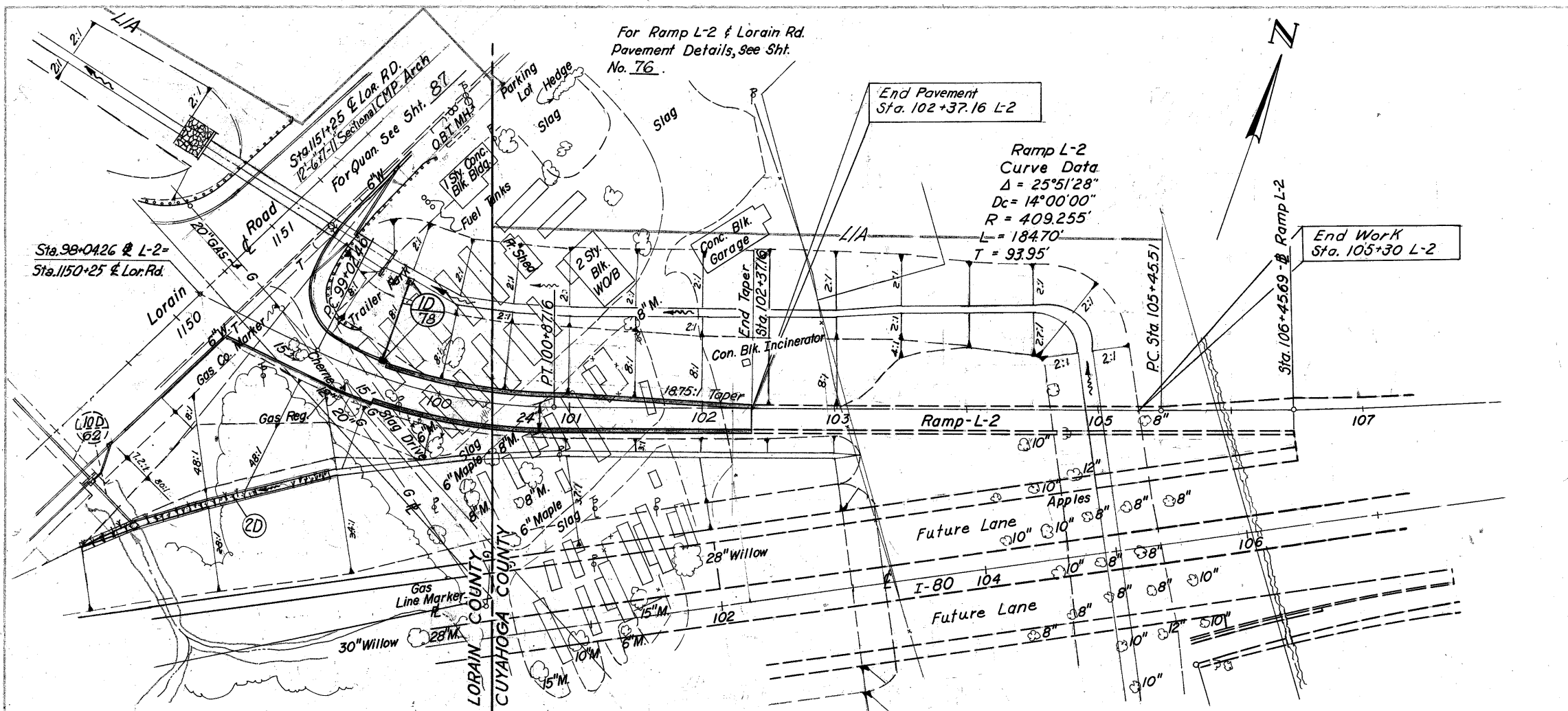
DATE 2/19/70  
DATE 3/16/70



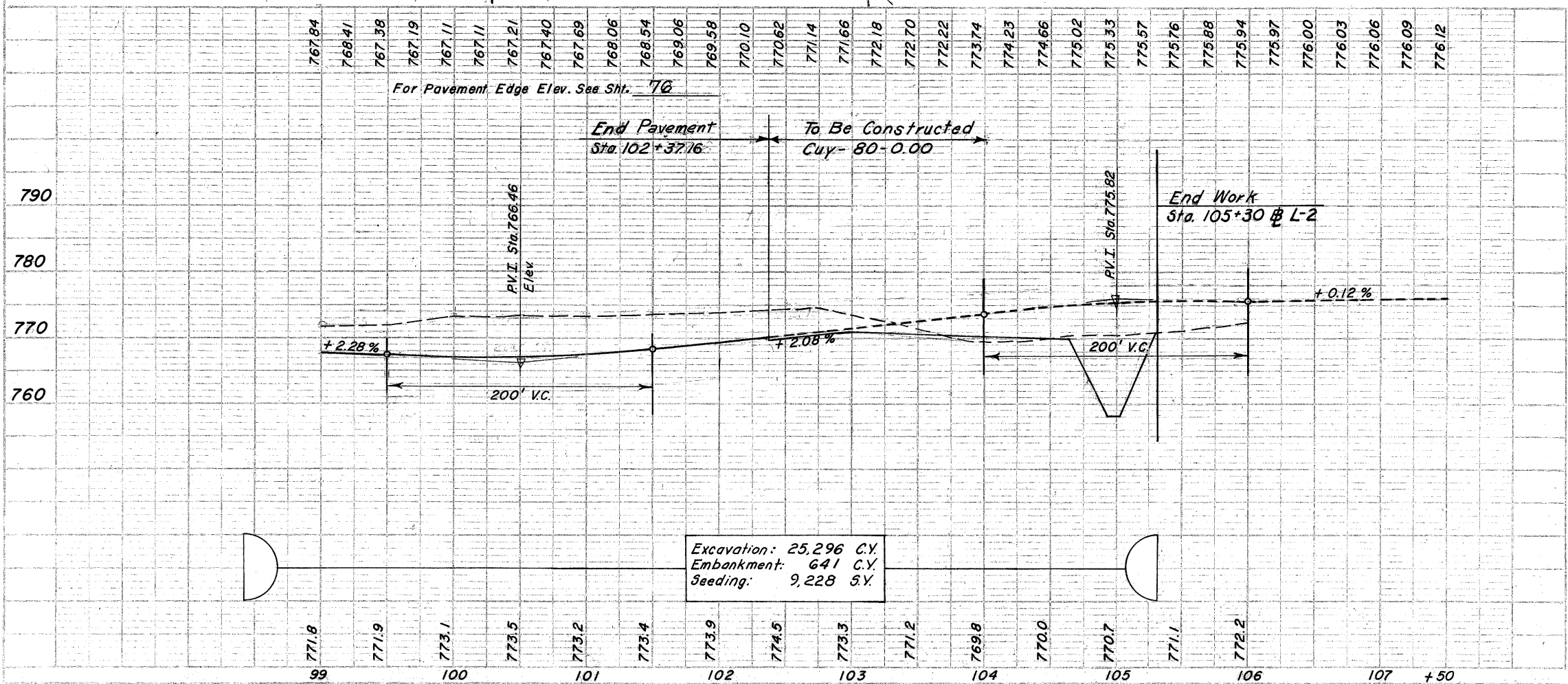
LORAIN COUNTY  
LOR-480-0.00

Tree Removal  
99+00 | 107+50  
Size | No.  
18" | 9

For Ramp L-2 & Lorain Rd.  
Pavement Details, See Sht.  
No. 76.



PLAN  
NO. 76  
DATE 2/17/70  
BY DRH



PROFILE  
NO. 76  
DATE 2/17/70  
BY DRH

Estimated Quantities		DRAINAGE				Soeding	Storm Sewer Profile
Ref No.	Side	Concrete Masonry	Type 'C'	Std. No. 3-A C.B.	Rock Channel Post. Type B w/Bed.		
L-D Lt.	Sta. 99+50	0.2	63	1	2.3		
2-D Rt.	Sta. 99+00					130	
Total		0.2	63	1	2.3		

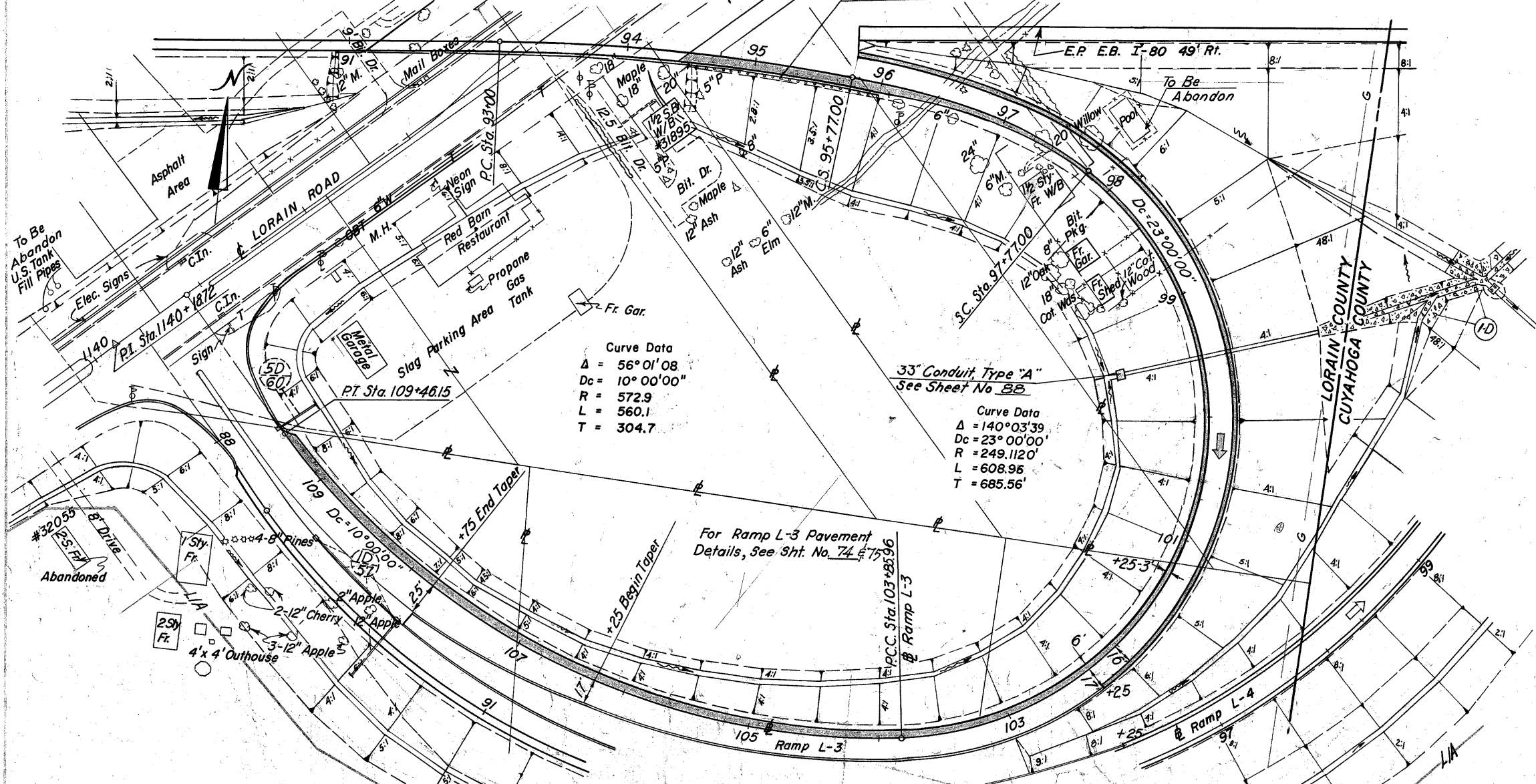
CALC. BY LVC DATE 2/17/70  
 CHNG. BY DRH DATE 3/16/70

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

LORAIN COUNTY  
LOR-480-0.00

Tree Removal  
93+00 107+50  
Size 18" No 7

See Sheet No. 52



Curve Data  
Δ = 56° 01' 08\"  
Dc = 10° 00' 00\"  
R = 572.9  
L = 560.1  
T = 304.7

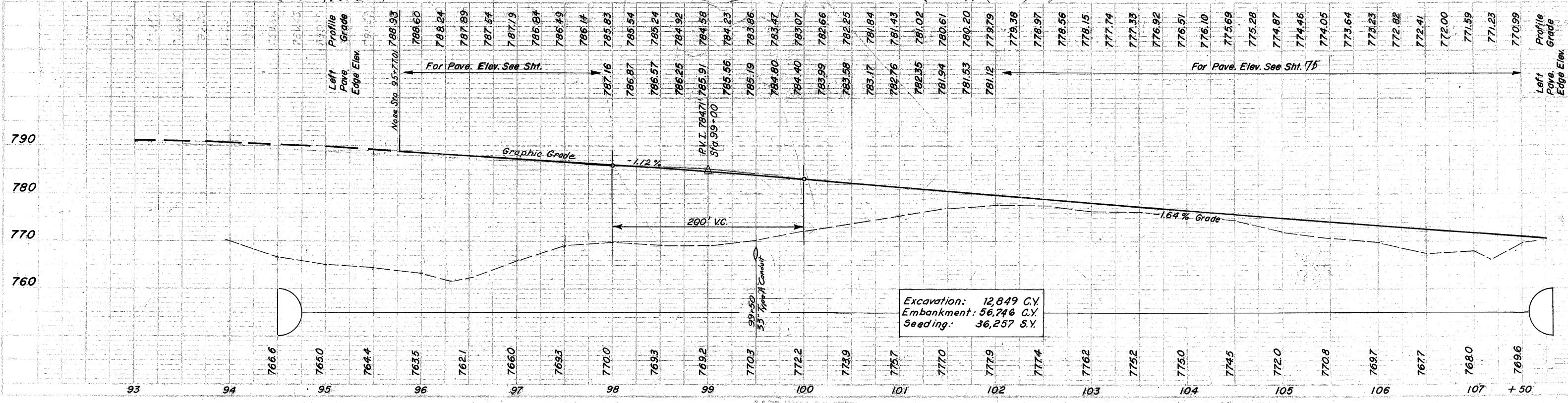
33" Conduit Type "A"  
See Sheet No. 88

Curve Data  
Δ = 140° 03' 39\"  
Dc = 23° 00' 00\"  
R = 249.1120'  
L = 608.96  
T = 685.56'

For Ramp L-3 Pavement  
Details, See Sht. No. 74

Estimated Quantities		Drainage	Roadway
		601	202 202
		6" Rein. Concrete Riprap	Septic Tank Removed Privy Vault Removed
Ref. No.	Side Location	S.Y.	Each/Each
1D	Lt. 99+50	358	
1-PV	Rt. 1139+50 Lor. Rd.		2
1-ST	Rt. 1139+50 Lor. Rd.		1
2ST	Rt. 1143+00 Lor. Rd.		1
Total		358	2 2

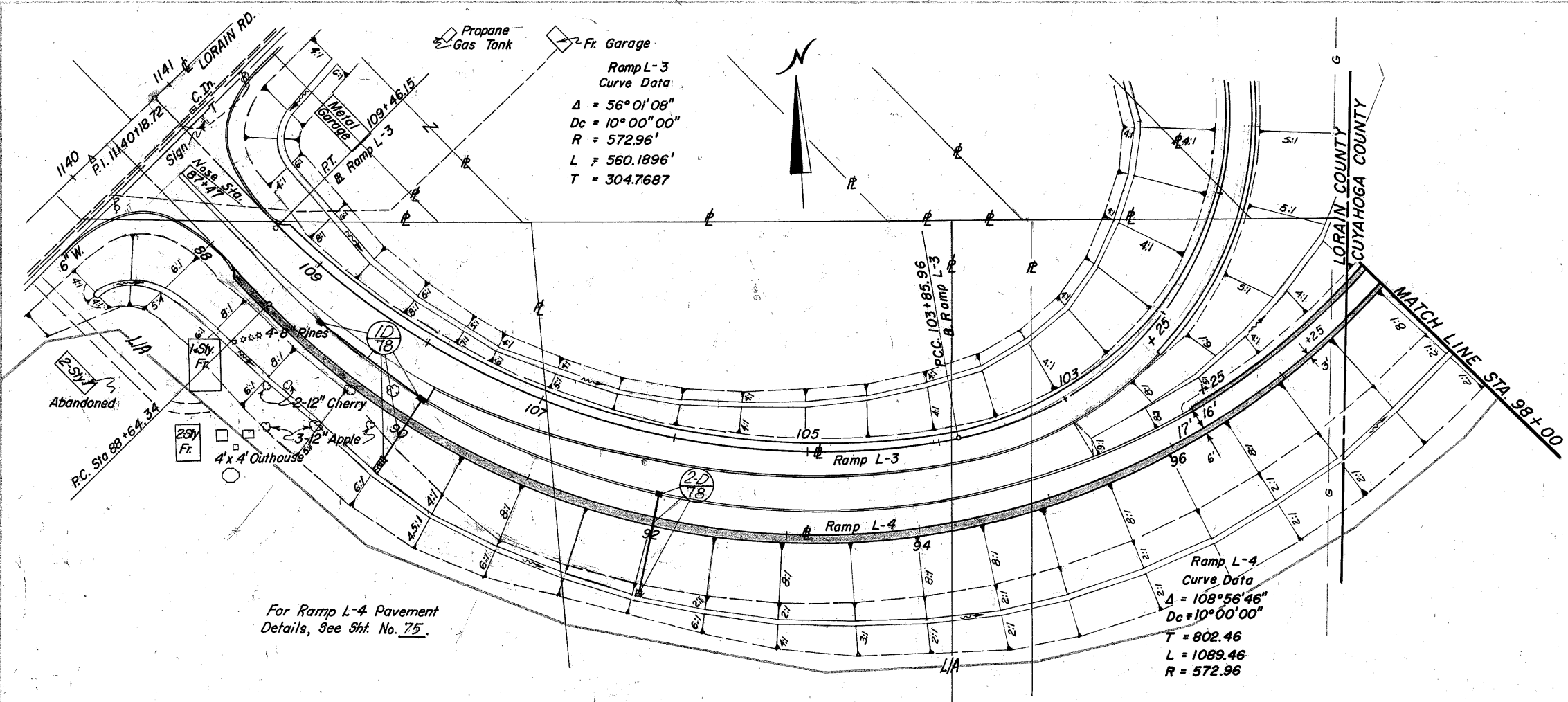
CALC. BY LVC 2/17/70  
CHKD BY DRH DATE 3/16/70



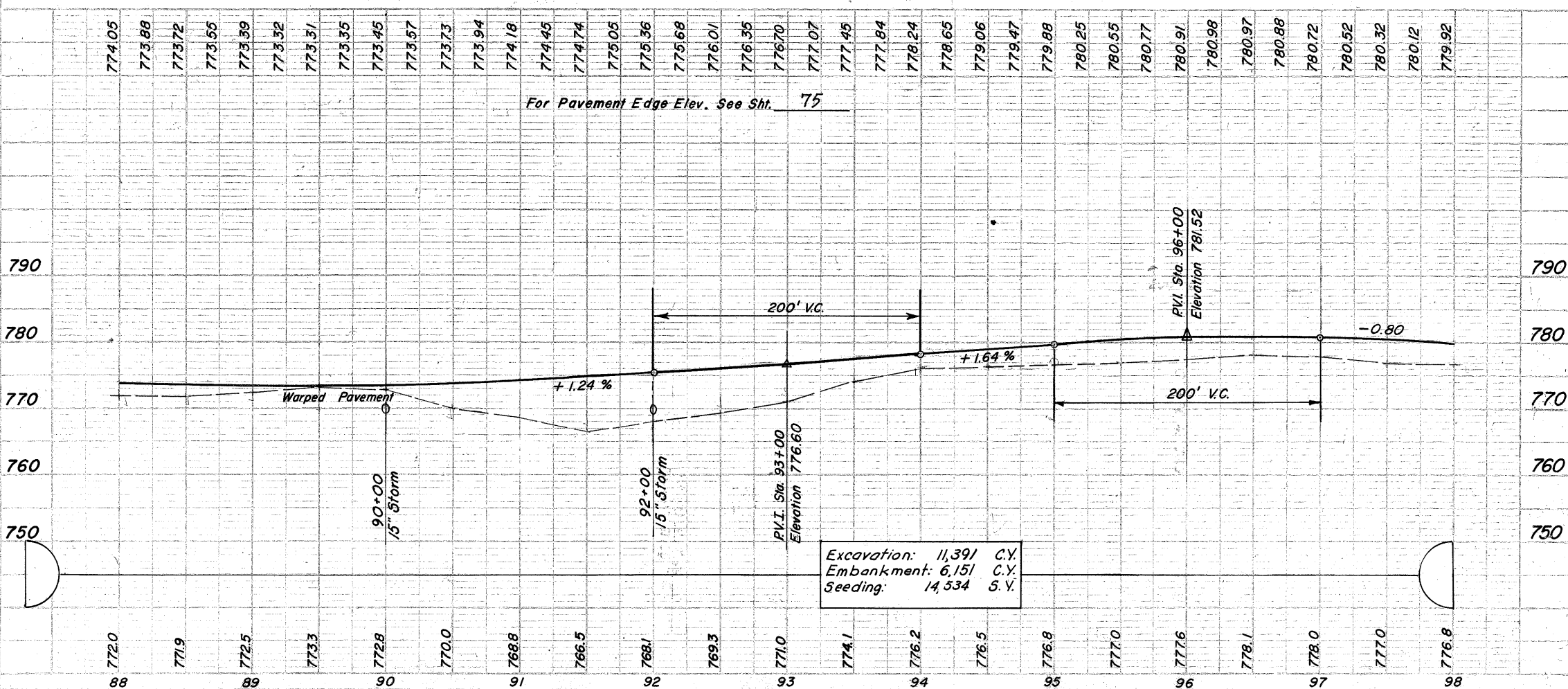
Excavation: 12,849 C.Y.  
Embankment: 56,746 C.Y.  
Seeding: 36,257 S.Y.

RAMP L-3 PLAN & PROFILE STA. 93 + 00 TO STA. 107 + 50

LORAIN COUNTY  
LOR-480-0.00



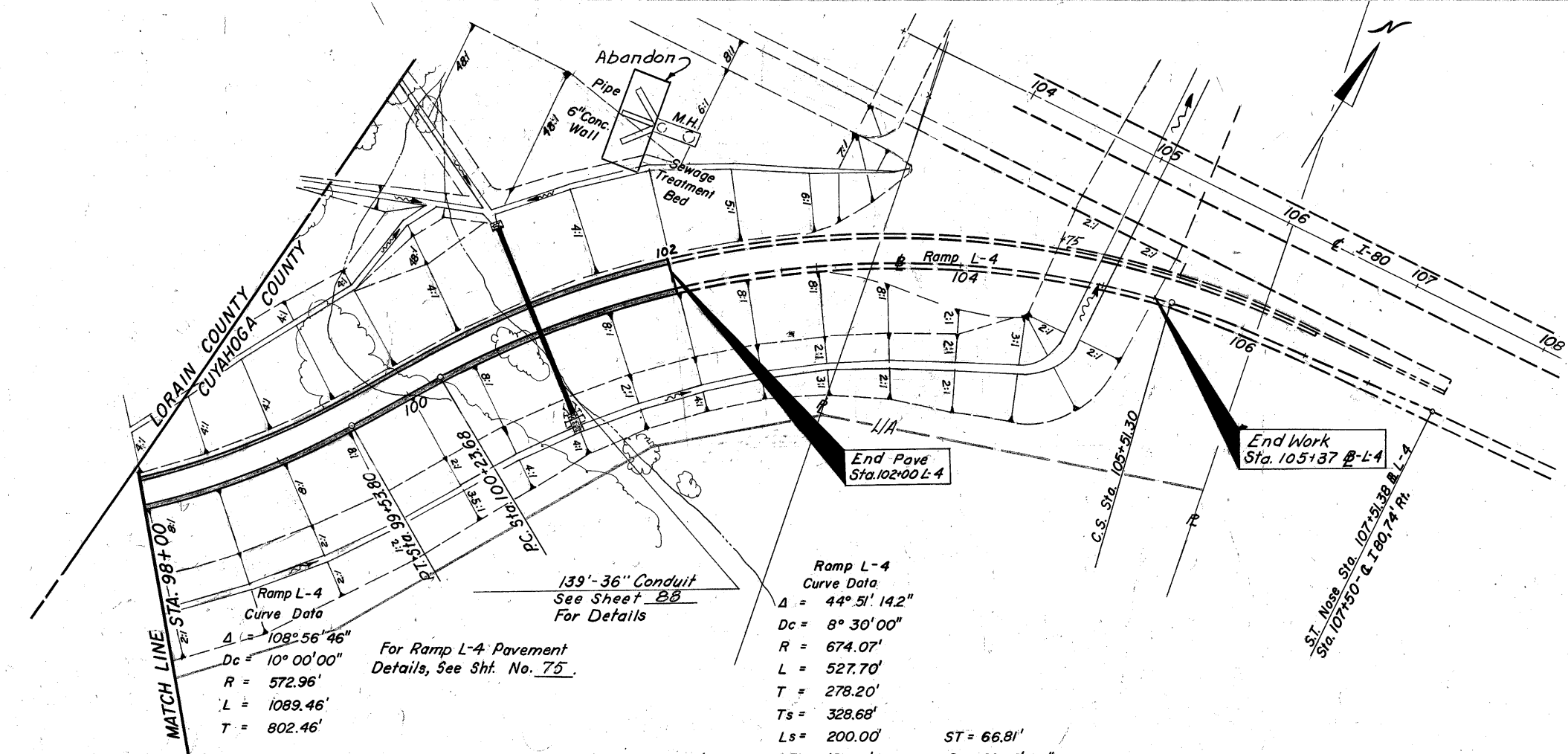
For Ramp L-4 Pavement Details, See Sht. No. 75.



Estimated Quantities		DRAINAGE					Storm Sewer Profile	
		601	602	603	604			
Ref. No.	Side	Location	Rock Channel Protection Type "B" w/Bed. C.Y.	Concrete Masonry C.Y.	Type B 15" L.F.	Std. No. 3-A C.B.	Std. No. 3 C.B.	Sheet No.
1-D	Lt/Rt	Sta. 89+00-90+00	1.1	0.3	154	1	1	78
2-D	Lt/Rt	Sta. 92+00	1.1	0.3	73	1	1	78
Total			2.2	0.6	227	2	1	

CALC BY LVC DATE 2/13/70  
 CHD BY DRH DATE 3/16/70

Tree Removal  
98+00 108+50  
Size 18" No. 8



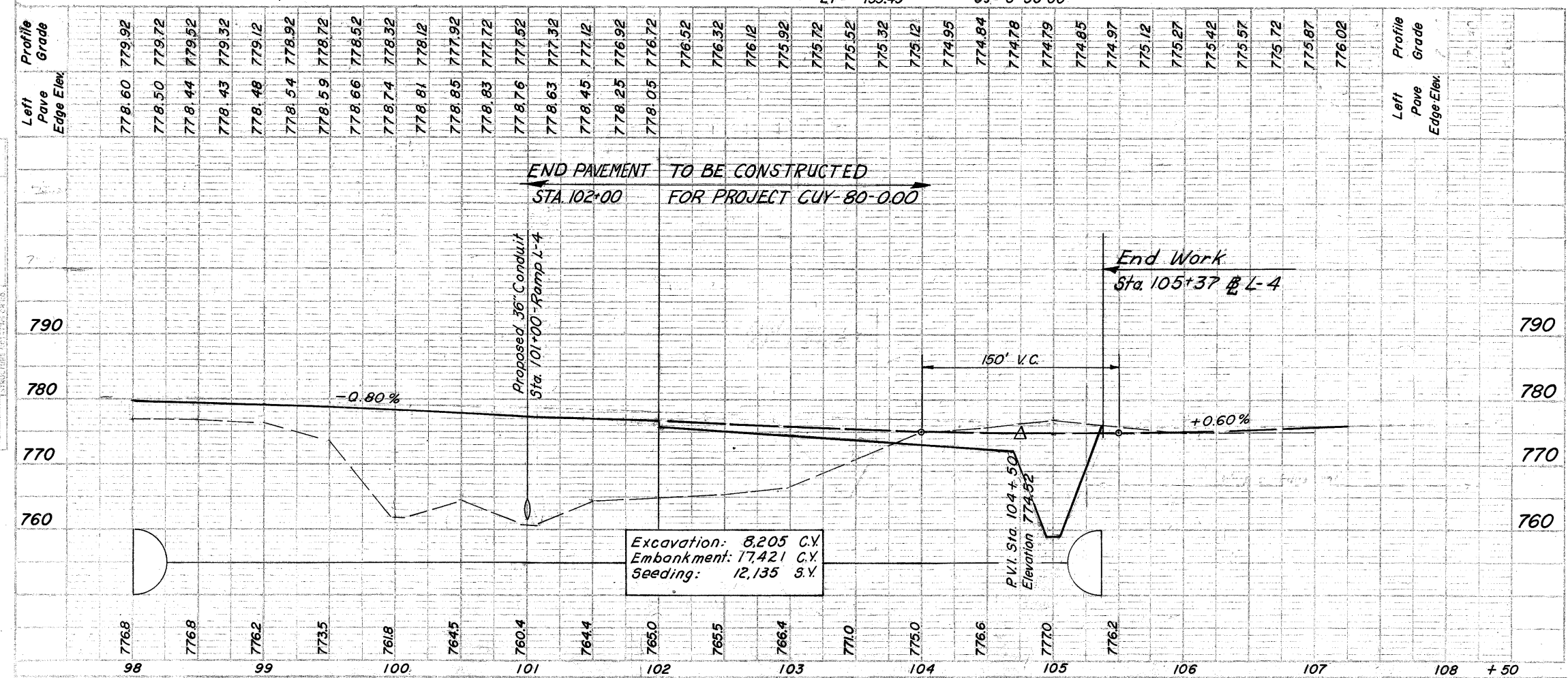
**Ramp L-4 Curve Data**  
 $\Delta = 108^\circ 56' 46''$   
 $Dc = 10^\circ 00' 00''$   
 $R = 572.96'$   
 $L = 1089.46'$   
 $T = 802.46'$

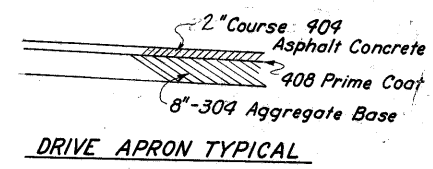
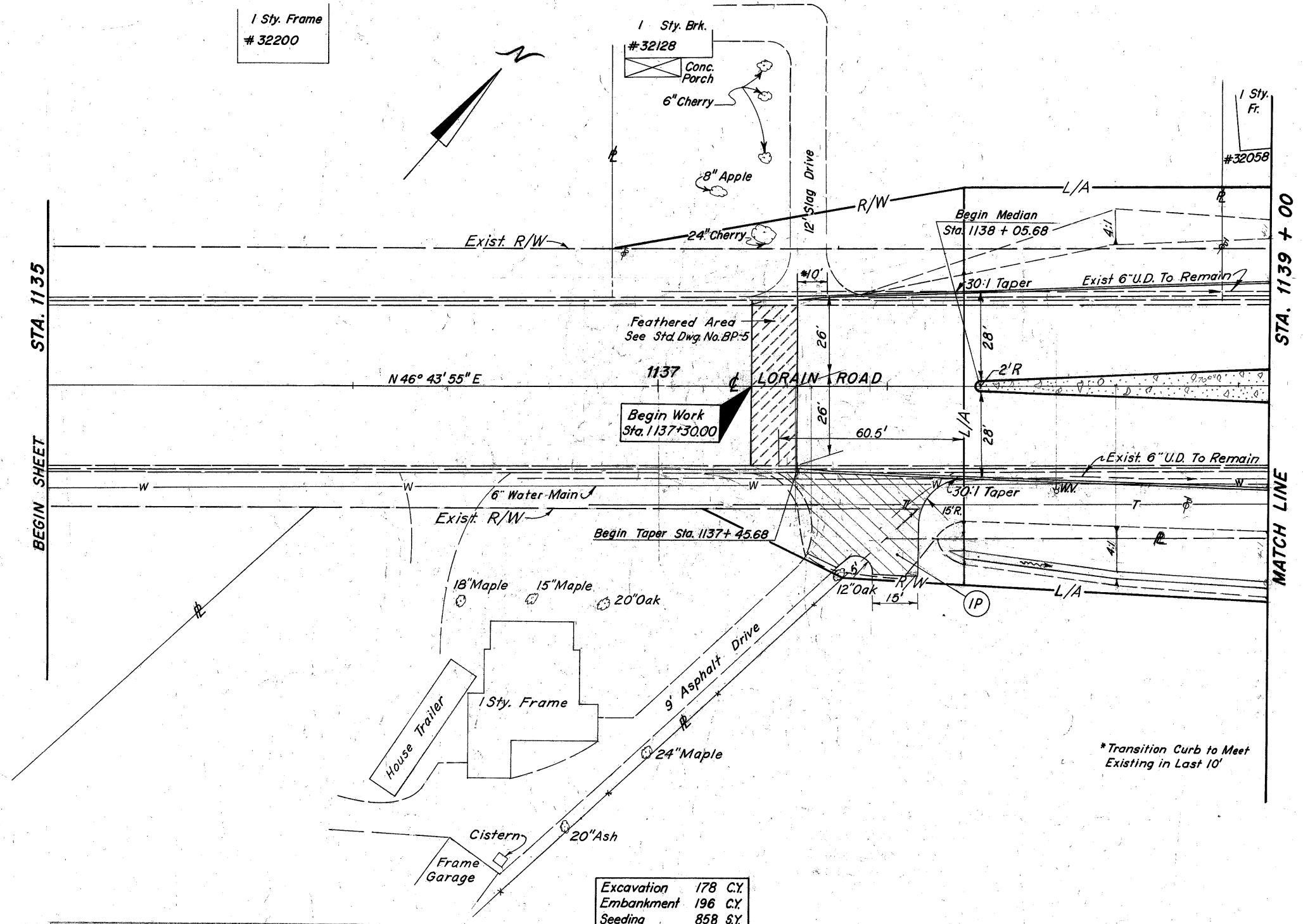
For Ramp L-4 Pavement Details, See Sht. No. 75.

**Ramp L-4 Curve Data**  
 $\Delta = 44^\circ 51' 14.2''$   
 $Dc = 8^\circ 30' 00''$   
 $R = 674.07'$   
 $L = 527.70'$   
 $T = 278.20'$   
 $Ts = 328.68'$   
 $Ls = 200.00'$   
 $LT = 133.49'$   
 $ST = 66.81'$   
 $Os = 8^\circ 30' 00''$

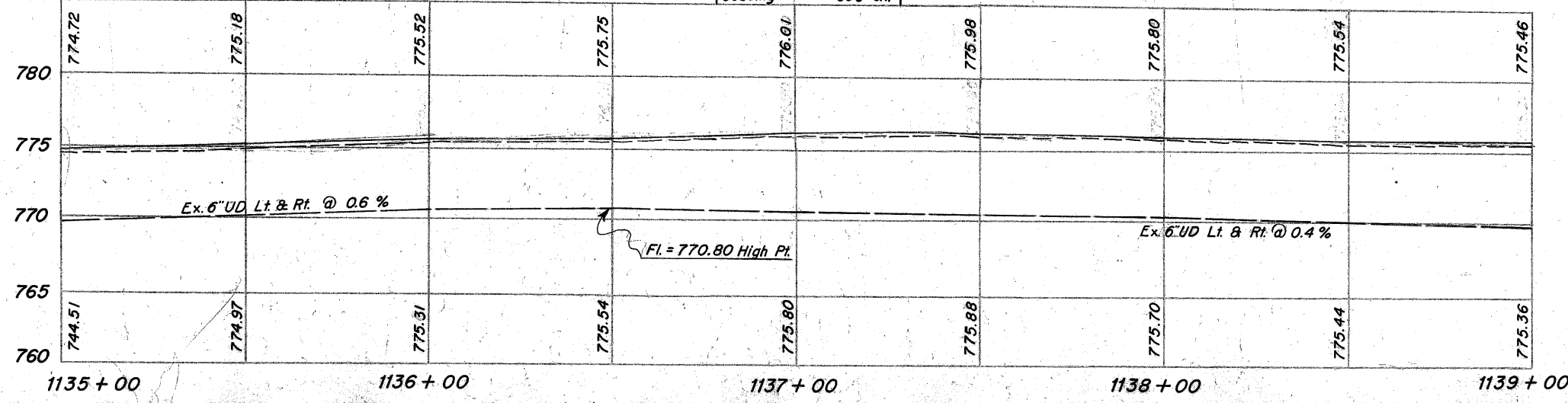
PLAN  
 DATE  
 BY  
 CHECKED  
 APPROVED  
 NOTE BOOK  
 ALTERNATE NUMBER  
 NO. OF SHEETS CHECKED  
 NO.

PROFILE  
 DATE  
 BY  
 CHECKED  
 APPROVED  
 NOTE BOOK  
 CHANGED SHEETS  
 P. M. NUMBER  
 NUMBER OF SHEETS OR L.S.





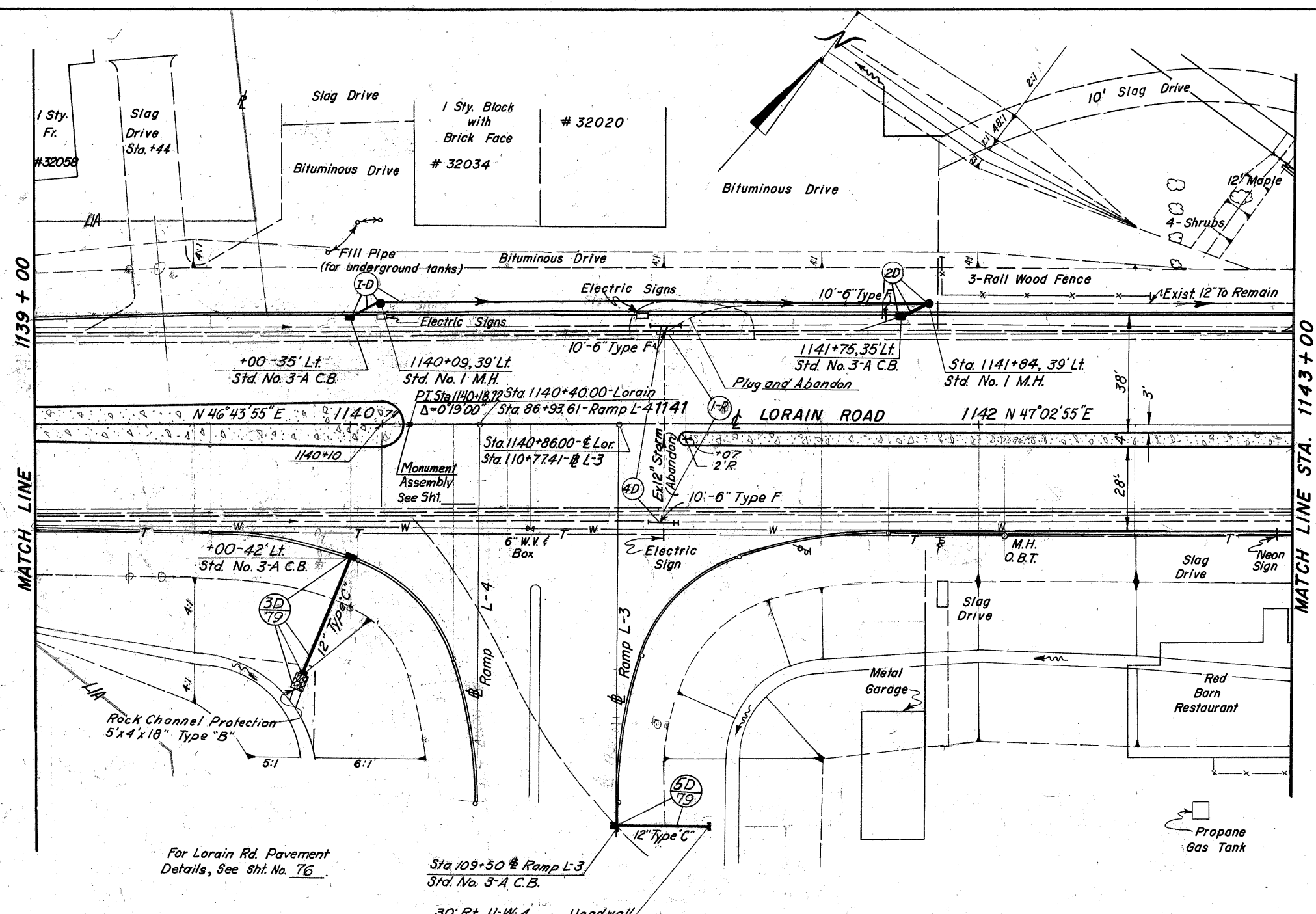
Excavation	178 C.Y.
Embankment	196 C.Y.
Seeding	858 S.Y.



ESTIMATED QUANTITIES		304	404	408	
		Aggregate Base	Asphalt Conc. Driveways or Ac-20	Prime Coat @ 0.4 Gal./Sq. Yd.	
I-P	Rt.	1137+42 to 1137+95	C.Y.	C.Y.	Gal.
		29	7	52	
Total		29	7	52	

BY LVC DATE 2/23/70  
 BY DRH DATE 4/6/70

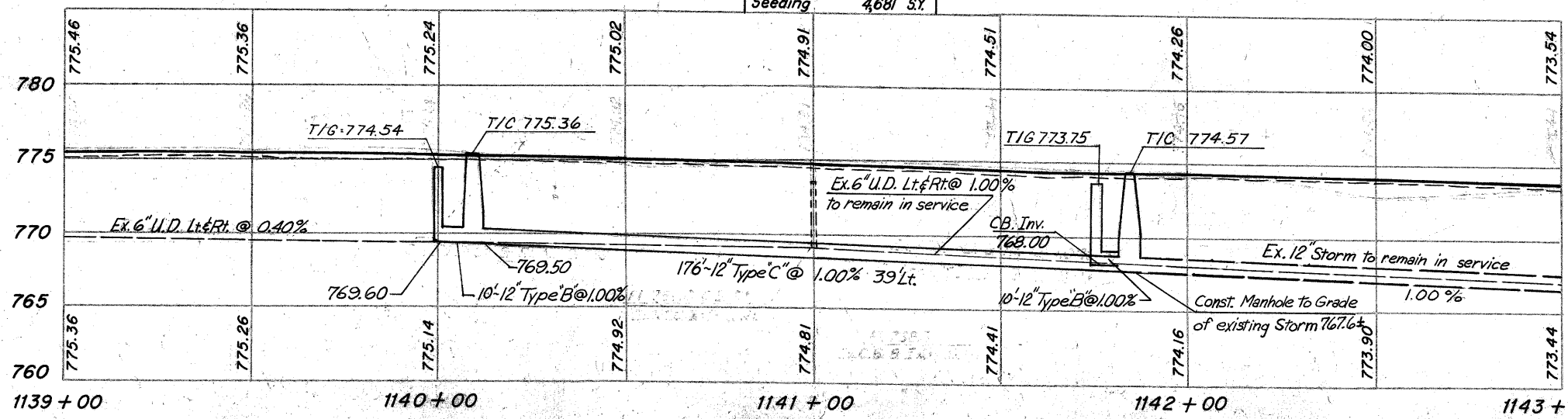
LORAIN COUNTY  
LOR-480-0.00



For Lorain Rd. Pavement  
Details, See Sht. No. 76.

Sta 109+50 Ramp L-3  
Std. No. 3-A C.B.  
30' Rt. H-W-4 Headwall

Excavation 1,041 C.Y.  
Embankment 335 C.Y.  
Seeding 4,681 S.Y.



Estimated Quantities		DRAINAGE							Storm Sewer Profile	
Ref. No.	Side	Location	Rock Channel Prot. Type B W/Bed	Concrete Masonry	Type B	Type F	Std. No. 3-A Catch Basin	Manhole		Type C
1-D	Lt.	Sta. 1140+12-1141+84	10				1	1	176	
2-D	Lt.	Sta. 1141+75-1141+84	10				1	1		
3-D	Rt.	Sta. 1140+00	1.5	0.2			1		41	
4-D	Lt.	Sta. 1141+00				20				
5-D	Rt.	Sta. 109+50 L-3		0.2			1		31	
1-R	Lt.	Sta. 1141+00								2
1-P	Lt.	Sta. 1139+44								
Total			1.5	0.4	20	30	4	2	248	2

CALC. BY LVC DATE 2/23/70  
CHKD. BY DRH DATE 4/16/70

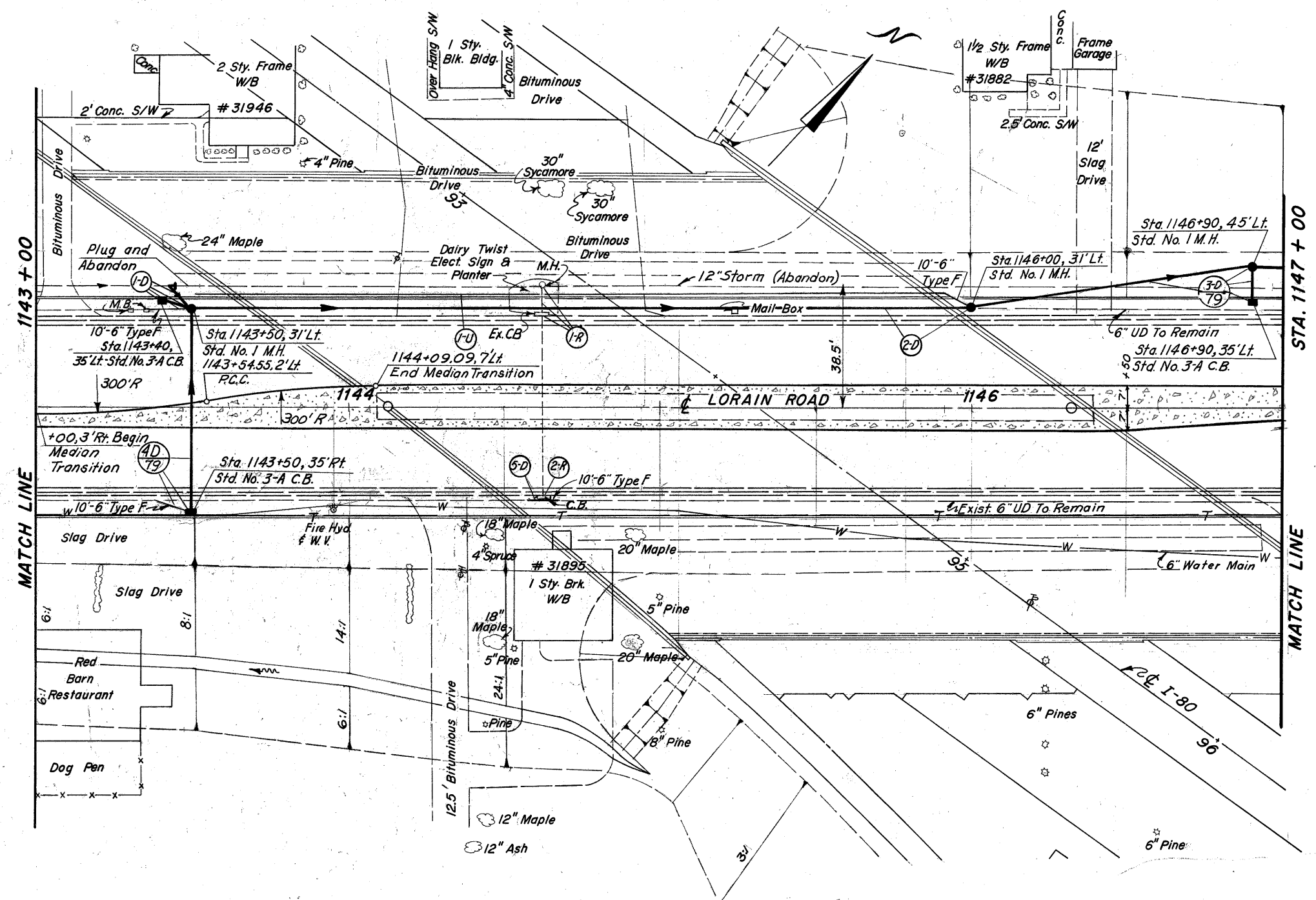
**TREE REMOVAL**

1143+00	1147+00
Size 18"	No. 2

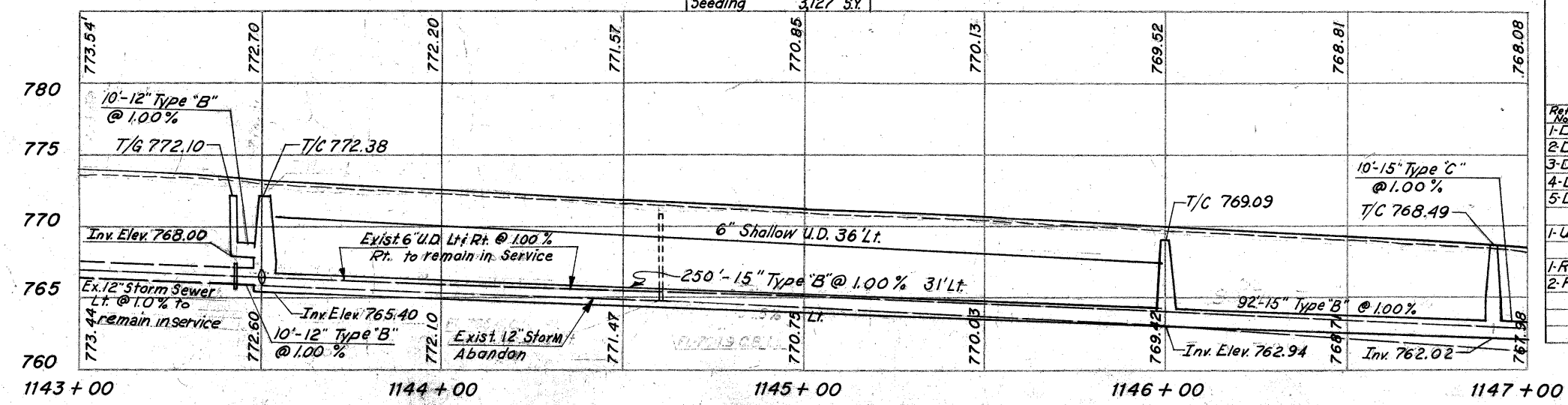
FED. RD. DIVISION	STATE	PROJECT
2	OHIO	

LORAIN COUNTY  
LOR-480-0.00

61  
375



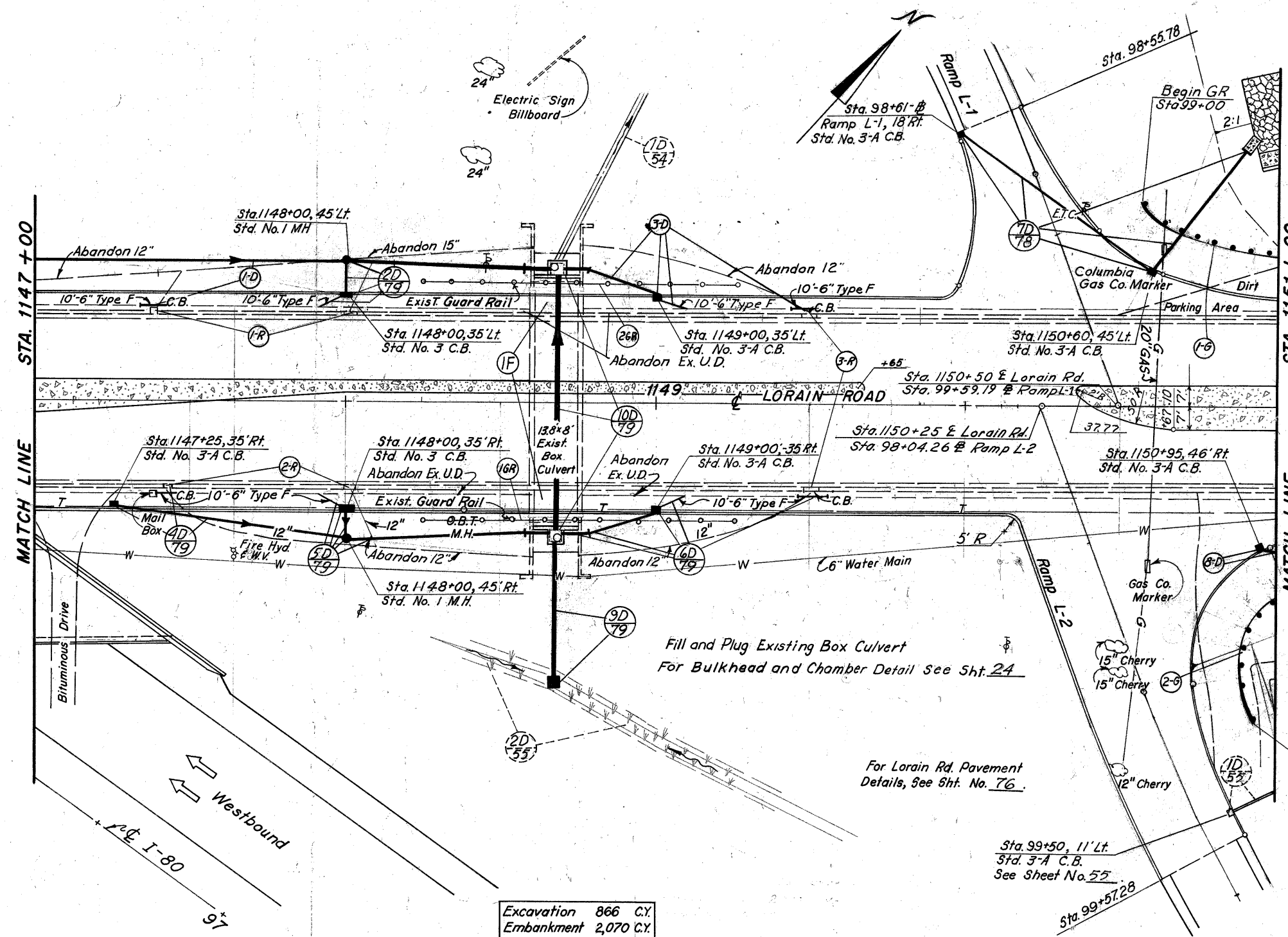
Excavation 1,580 C.Y.  
Embankment 793 C.Y.  
Seeding 3,127 S.Y.



Estimated Quantities		DRAINAGE										
		603		603		605		202		604		
Ref. No.	Side	Type B	Type B	Type F	Type C	Type C	Underdrain Shallow	C.B. Or Inlet Abandoned	Manhole Abandoned	Sta. No. 3-A Catch Basin	Sta. No. 1 Manhole	Storm Sewer Profile
1-D	Lt.	1143+40 to +50	20	10								79
2-D	Lt.	1143+50 to 1146+00	250									79
3-D	Lt.	1146+00 to 90	92	10	10							79
4-D	Lt.	1143+50	66	10								79
5-D	Rt.	1144+57 to 67		10								
1-U	Lt.	1143+50 to 1146+00		10			240					
1-R	Lt.	1144+62							1	1		
2-R	Rt.	1144+62							1			
Total			86	342	40	10	10	240	2	1	3	3

CALC. BY LVC DATE 2/23/70  
CHWD. BY DRH DATE 4/6/70

TREE REMOVAL	
1147+00	1151+00
Size 18"	No. 1



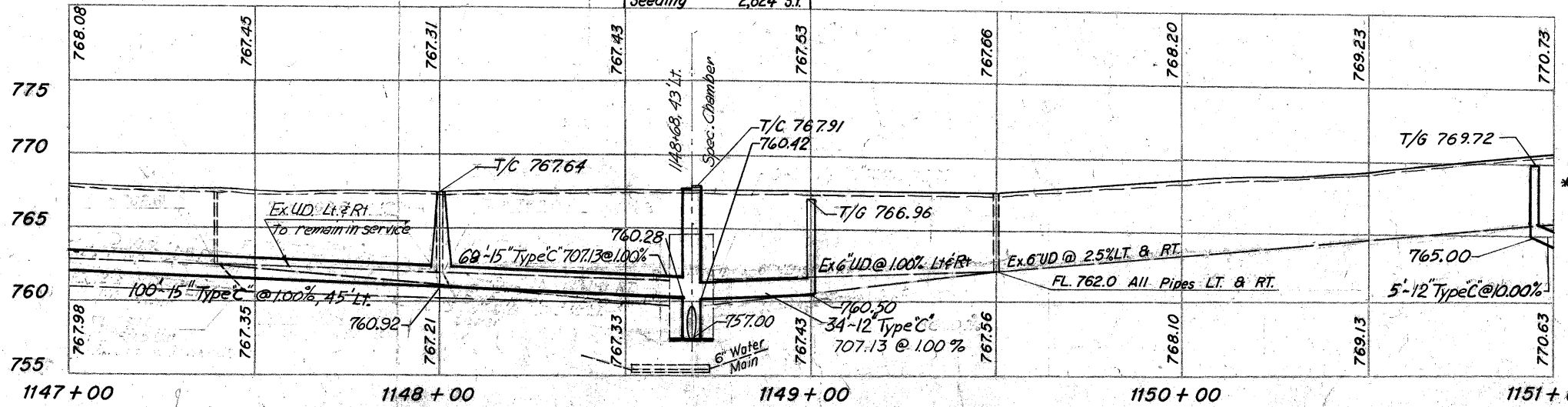
Estimated Quantities	ROADWAY				
	606		202		
	Guardrail Type 5	Anchor Assy.	Guard Rail Removed		
	Type				
	A	T			
Ref. No.	Side	Location	Lin. Ft.	Each	L.F.
1-G	Lt.	99+00, L-1	23	1	
2-G	Rt.	99+25, L-2	20	1	
1-G	Rt.	1148+25 to 1149+28			100
2-G	Lt.	1148+25 to 1149+28			100
<b>Total</b>			<b>43</b>	<b>1 1</b>	<b>200</b>

Begin GR  
Sta. 99+25

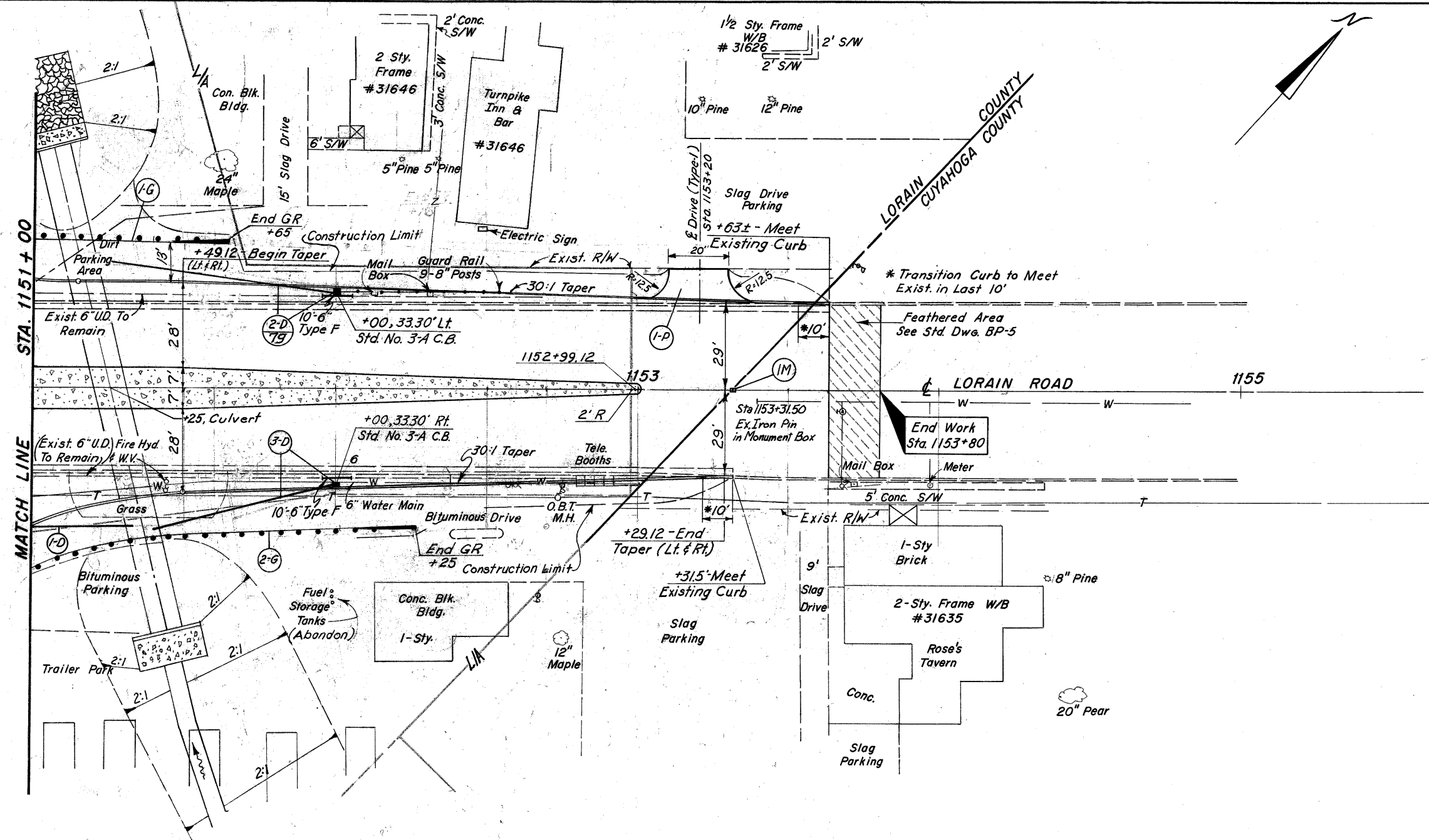
\* 10-D Requirements of 603.08 are waived, See Note Sht. No. 11

Estimated Quantities	DRAINAGE													
	603				604				202	602 Spec.				
	Type F	Type B	Type C	Type C	Type C	Type C	Type C	Type C	Type C	Type C				
	6"	12"	12"	15"	18"	18"	18"	18"	18"	18"				
	LF	LF	LF	LF	LF	Each	Each	Each	Each	Each				
Ref. No.	Side	Location	LF	LF	LF	LF	Each	Each	Each	Each	Each	Each	Each	Each
1-D	Lt.	1147+00-1148+00	10											
2-D	Lt.	1148+00-+78	10	10										
3-D	Lt.	1148+78-1149+00	20		34									
4-D	Rt.	1147+25-1148+00	10		76									
5-D	Rt.	1148+00	10	10	69									
6-D	Rt.	1148+68	20		32									
7-D	Lt.	1150+60		74	50									
8-D	Rt.	1150+95-1150+00			5									
9-D	Rt.	1148+68-1149+00				47								
10-D	Rt.	1148+68				87								
1-R	Lt.	1147+40-1148+00												
2-R	Rt.	1147+40-1148+00												
3-R	Lt.	1149+50												
1-F	Lt.	1148+68												
<b>Total</b>			<b>80</b>	<b>94</b>	<b>268</b>	<b>168</b>	<b>134</b>	<b>6</b>	<b>2</b>	<b>1</b>	<b>2</b>	<b>6</b>	<b>.2</b>	<b>78</b>

Excavation 866 C.Y.  
Embankment 2,070 C.Y.  
Seeding 2,824 S.Y.

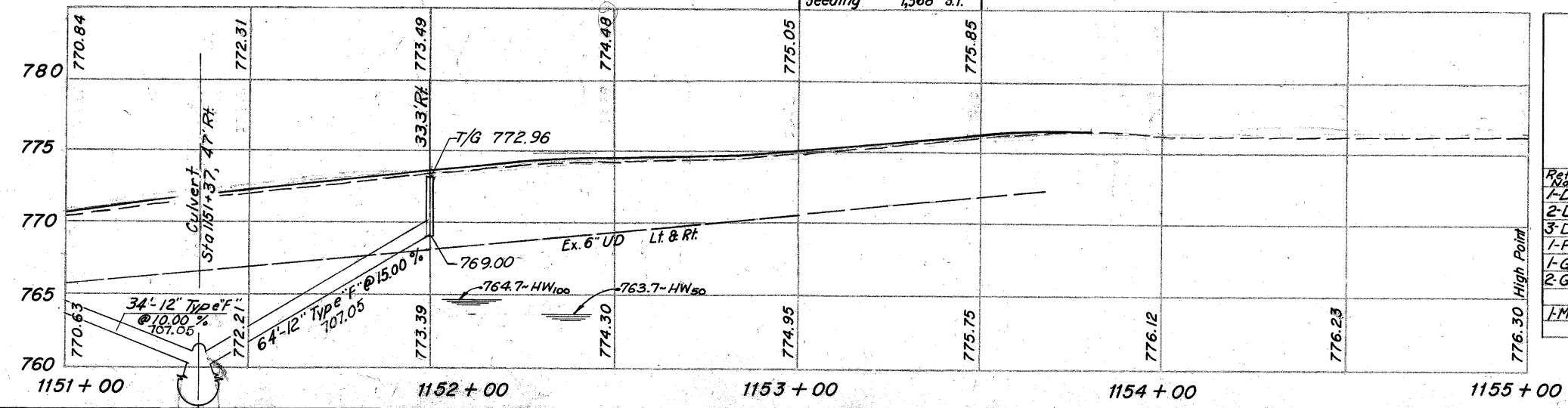






For Culvert Details See Sheet 87

Excavation 317 C.Y.  
Embankment 29 C.Y.  
Seeding 1,368 S.Y.



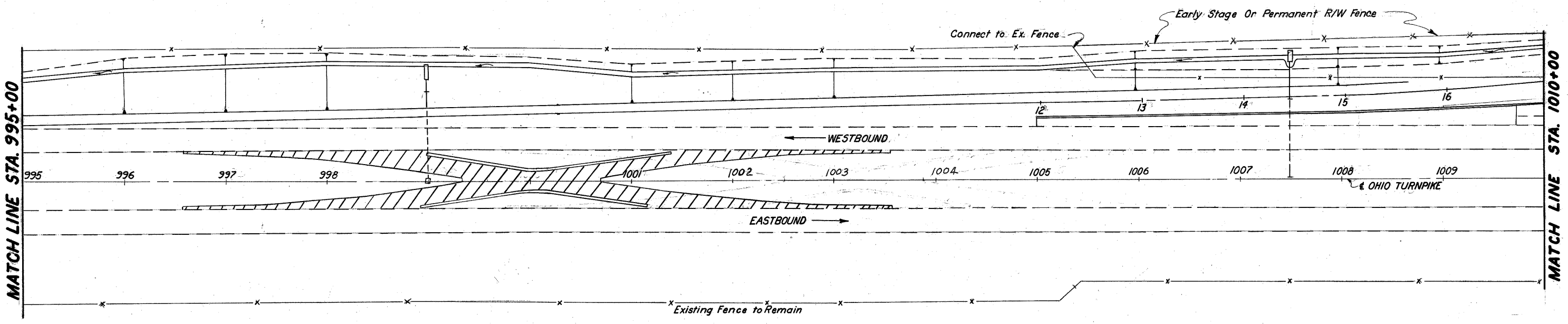
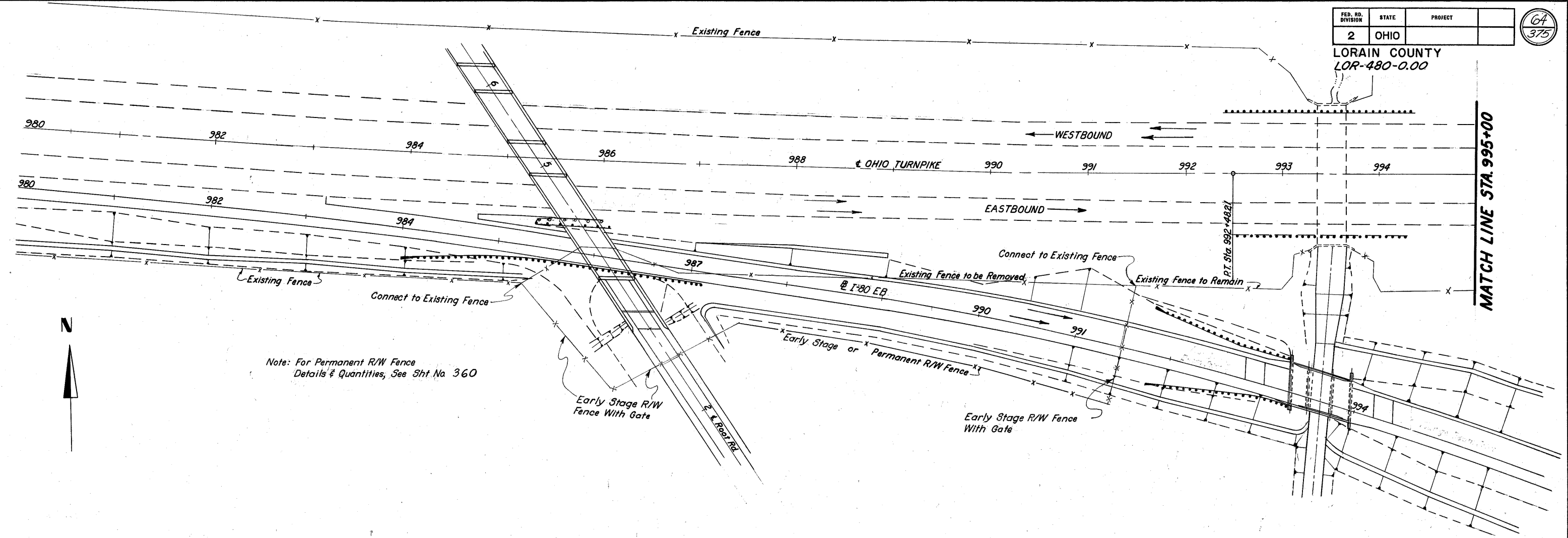
Estimated Quantities		DRAINAGE		ROADWAY				Storm Sewer Profile	
		603	604	604	606		452		
Ref	Side	Type F	Type F	Std. No. 3-A Catch Basin	Monument Box Adjusted to Grade	Guardrail Type 5	Anchor Assembly Type	8' Plain Portland Cement Concrete	Storm Sewer Profile
L.F.	L.F.	L.F.	L.F.	Each	Each	L.F.	Each	S.Y.	Sheet No.
I-D	Lt.	34							79
2-D	Lt.	82	10	1					
3-D	Rt.	64	10	1					
I-P	Lt.								
I-G	Lt.					39.5	1		33
2-G	Rt.					105		1	
IM	C								
Total		180	20	2	1	144.5	1	1	33

CHKD. BY LVC DATE 2/20/70  
CHKD. BY DRH DATE 4/6/70

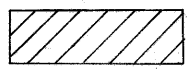
FED. RD. DIVISION	STATE	PROJECT
2	OHIO	

64  
375

LORAIN COUNTY  
LOR-480-0.00



Temporary Pavement  
See Sheet No 65 For Details



MATCH LINE STA. 995+00

MATCH LINE STA. 1010+00

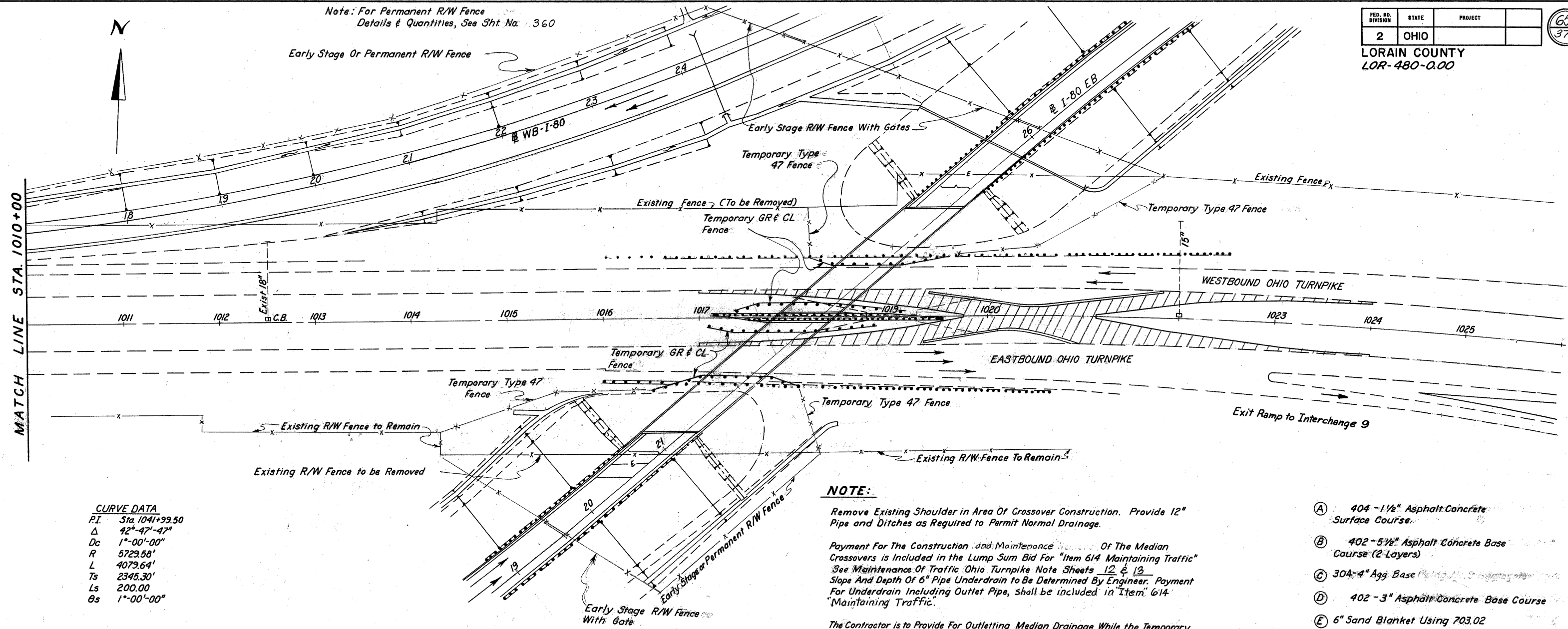
CALC. BY LVC 10/5/70  
CHG. BY DRH DATE 10/16/70

Note: For Permanent R/W Fence  
Details & Quantities, See Sht. No. 360

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

LORAIN COUNTY  
LOR-480-0.00

65  
375



**CURVE DATA**

P.I.	Sta. 1041+99.50
Δ	42°-47'-47"
Dc	1°-00'-00"
R	5729.58'
L	4079.64'
Ts	2345.30'
Ls	200.00'
Gs	1°-00'-00"

**NOTE:**

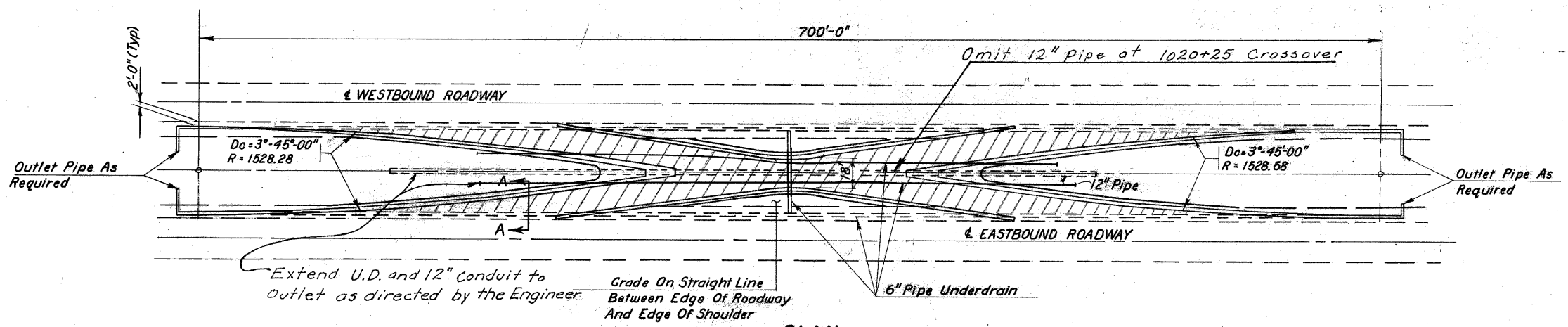
Remove Existing Shoulder in Area Of Crossover Construction. Provide 12" Pipe and Ditches as Required to Permit Normal Drainage.

Payment For The Construction and Maintenance Of The Median Crossovers is Included in the Lump Sum Bid For "Item 614 Maintaining Traffic" See Maintenance Of Traffic Ohio Turnpike Note Sheets 12 & 13. Slope And Depth Of 6" Pipe Underdrain To Be Determined By Engineer. Payment For Underdrain Including Outlet Pipe, shall be included in "Item 614 Maintaining Traffic".

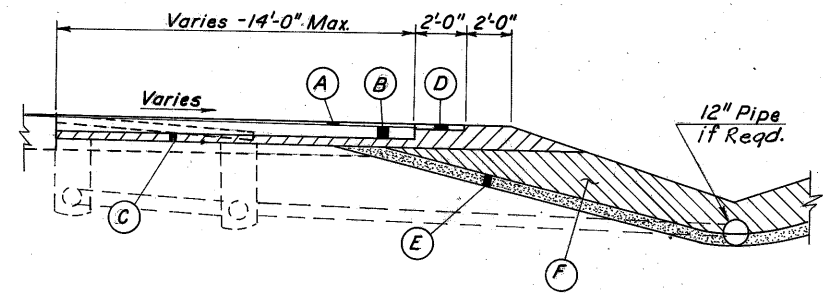
The Contractor is to Provide For Outletting Median Drainage While the Temporary Crossover is in Use. The Existing Catch Basin at Sta. 1022+00 Shall Remain In Service. Payment shall be Included in the Lump Sum Price Bid For "Item 614, Maintaining Traffic, As Per Plan." 2,860 S.Y. Of Item 615 Temporary Pavement, Class "A" has Been Included in the General Summary For Paving Temporary Crossovers.

- (A) 404 - 1 1/2" Asphalt Concrete Surface Course.
- (B) 402 - 5 1/2" Asphalt Concrete Base Course (2 Layers)
- (C) 30A - 4" Agg. Base
- (D) 402 - 3" Asphalt Concrete Base Course
- (E) 6" Sand Blanket Using 703.02
- (F) 310 Subbase Using No. 2 Aggregate

Item 615 Class "A" Temporary Pavement:  
1,430 S.Y. Per Crossover = 2,860 S.Y. To General Summary



**PLAN**  
Scale: 1" = 40'-0"

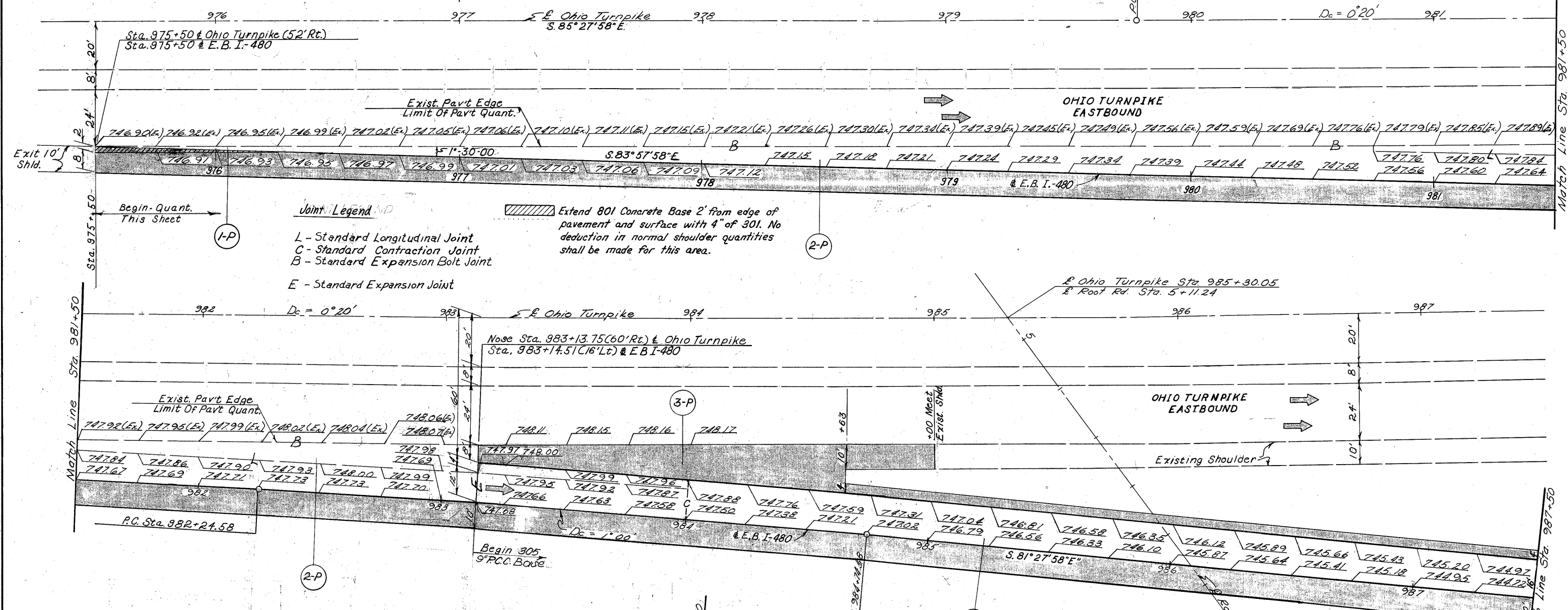


**SECTION A-A**

CALC. BY LVC DATE 10/5/70  
CHD. BY DRH DATE 10/16/70

Curve Data @ I-480EB @ Ohio Turnpike

$\Delta = 2^{\circ}30'00''$	$\Delta = 14^{\circ}33'11''$	$\Delta = 4^{\circ}14'07''$
$D_c = 1^{\circ}00'00''$	$D_c = 1^{\circ}28'00''$	$D_c = 0^{\circ}20'00''$
$R = 5729.58'$	$R = 3906.53'$	$R = 17,188.74'$
$L = 250.00'$	$L = 392.26'$	$L = 1270.58'$
$T = 125.02'$	$T = 498.82'$	$T = 635.58'$



**Joint Legend**

L - Standard Longitudinal Joint  
 C - Standard Contraction Joint  
 B - Standard Expansion Bolt Joint  
 E - Standard Expansion Joint

Extend 801 Concrete Base 2' from edge of pavement and surface with 4" of 301. No deduction in normal shoulder quantities shall be made for this area.

**Estimated Quantities**

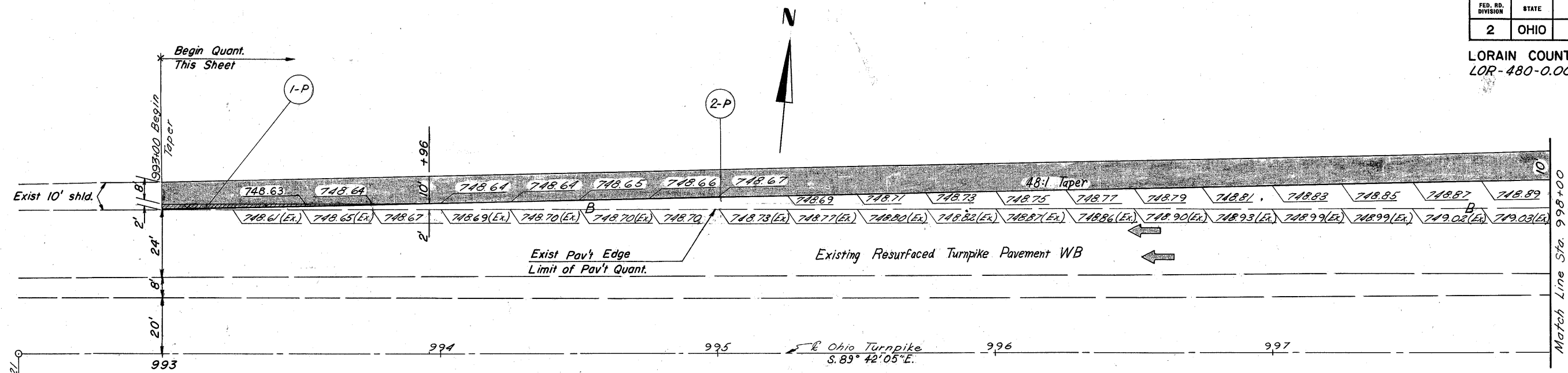
Ref No.	301	801	310	402	404	409	407	203		
	Bituminous Aggregate Base	9" Portland Cement Conc. Base	Subbase Gravel 1/2" to 3/4" per ft	Asphalt Concrete	Asphalt Concrete	No. 9 Aggregate Bituminous Material	Cover Aggregate	Track Coat	Subgrade Compaction	
	C.Y.	S.Y.	C.Y.	C.Y.	C.Y.	C.Y. Gal.	Tons Gal.	S.Y.		
1-P	13	18	25	1	1	0.4	15	2	82	
2-P	128	1015	389	69	42	3.8	159	1762		
3-P	46		78			1.4	55		274	
4-P	117	906	339	42	31	3.5	141		1587	
5-P	62	547	192	26	19	1.9	75		907	
<b>Total</b>	<b>366</b>	<b>2486</b>	<b>1023</b>	<b>138</b>	<b>93</b>	<b>11</b>	<b>439</b>	<b>9</b>	<b>250</b>	<b>4822</b>

**EASTBOUND I-480 PAVEMENT WIDTH**

STATION	WIDTH
988+10.75	16.00
+25	16.48
+50	17.31
+75	18.14
989+00	18.97
+25	19.81
+50	20.64
+75	21.47
990+00	22.31
+25	23.14
+50	23.97
+50.75	24.00

Rev. RJM 7-97  
 CALD BY J.L. DATE 4/13/70  
 CHKD BY B.D. DATE 4/13/70

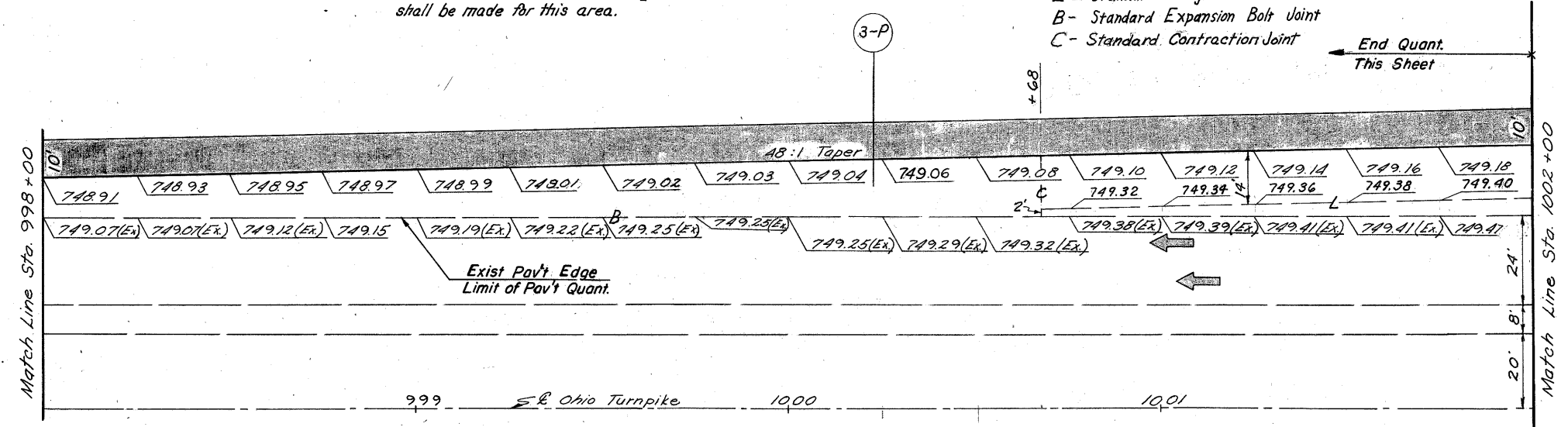
LORAIN COUNTY  
LOR-480-0.00



Extend 801 Concrete Base 2' from edge of pavement and surface with 4" of 301. No deduction in normal shoulder quantities shall be made for this area.

**Joint Legend**

- L - Standard Longitudinal Joint
- B - Standard Expansion Bolt Joint
- C - Standard Contraction Joint



**TABLE OF TAPER WIDTH**

STATION	WIDTH
993 + 00	0.00
+ 25	0.52
+ 50	1.04
+ 75	1.56
994 + 00	2.08
+ 25	2.60
+ 50	3.12
+ 75	3.65
995 + 00	4.17
+ 25	4.69
+ 50	5.21
+ 75	5.73
996 + 00	6.25
+ 25	6.77
+ 50	7.29
+ 75	7.81
997 + 00	8.33
+ 25	8.85
+ 50	9.37
+ 75	9.90

**TABLE OF TAPER WIDTH**

STATION	WIDTH
998 + 00	10.42
+ 25	10.94
+ 50	11.46
+ 75	11.98
999 + 00	12.50
+ 25	13.02
+ 50	13.54
+ 75	14.06
1000 + 00	14.59
+ 25	15.10
+ 50	15.62
+ 75	16.15
1001 + 00	16.67
+ 25	17.19
+ 50	17.71
+ 75	18.23
1002 + 00	18.75

**Estimated Quantities**

Reference Number	301	801	310	402	404	409	407	203	
	Bituminous Aggregate Base	9" Portland Cement Concrete Base	Subbase, Grading (A) as per plan	Asphalt Concrete	Asphalt Concrete	NO. 9 Aggregate Bituminous Material	Cover Aggregate	Tack Coat	Subgrade Compaction
	C.Y.	C.Y.	C.Y.	C.Y.	C.Y.	Gal.	Tons	Gal.	S.Y.
1-P	16	23	32	2	1	0.5	19	0.1	117
2-P	75	284	177	19	12	2.2	90	1.0	728
3-P	74	654	238	46	27	2.2	89	2.2	1092
<b>Total</b>	<b>165</b>	<b>961</b>	<b>447</b>	<b>67</b>	<b>40</b>	<b>5</b>	<b>198</b>	<b>3</b>	<b>95</b>

Rev. RJM  
DATE 4/6/70  
CHKD BY: B.D. DATE 4/15/70

LORAIN COUNTY  
LOR-480-0.00

**JOINT LEGEND**

- L Standard Long Joint
- B Standard Expansion Bolt Joint
- E Standard Expansion Joint

**Curve Data I-480 W.B.**

- Δ 29° 44' 51"
- Dc 2° 09' 05"
- R 2663.05'
- L 1382.64
- T 707.28

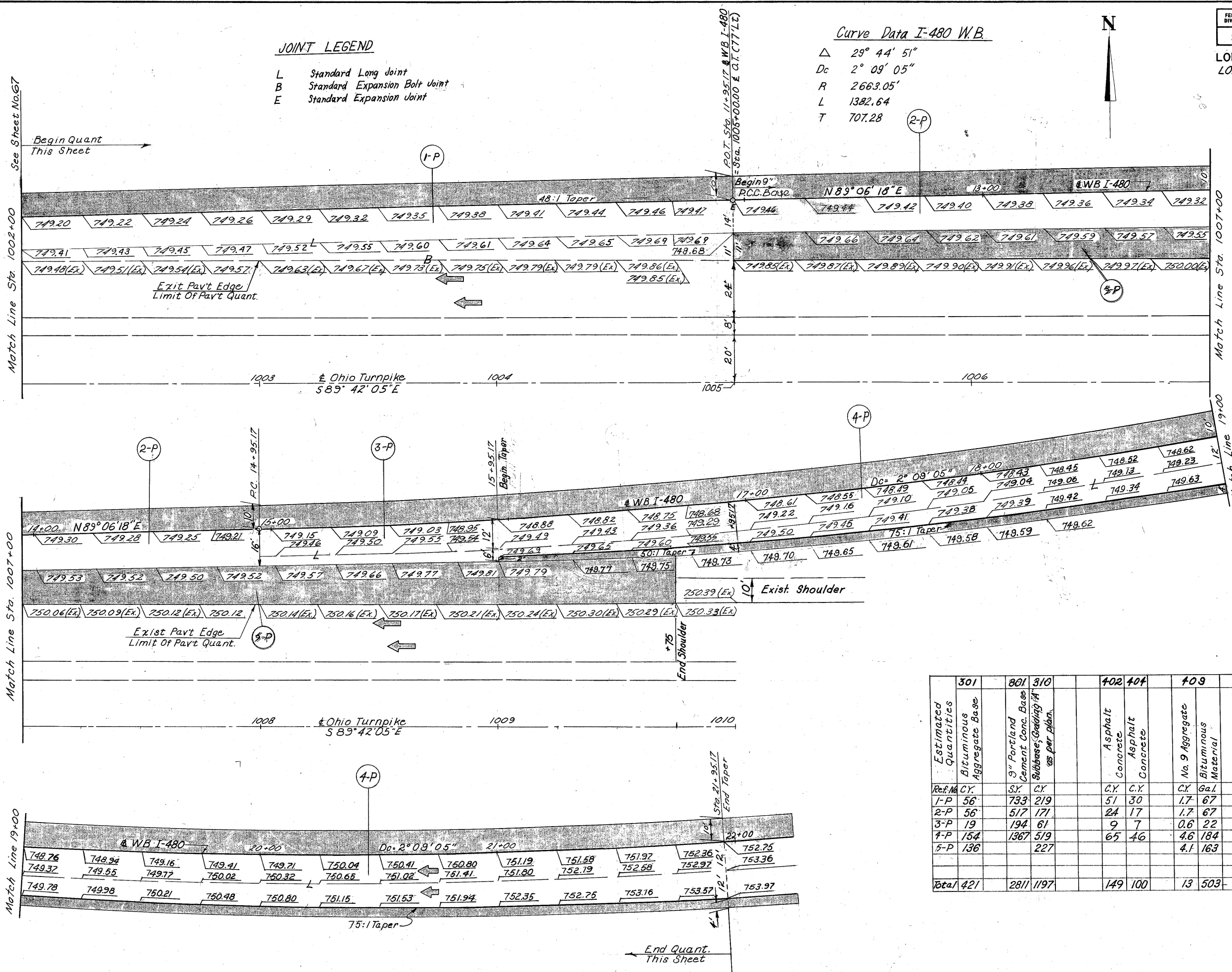


**OHIO TURNPIKE TAPER WIDTHS**

STATION	WIDTH
1002+00	18.75
+25	19.27
+50	19.79
+75	20.31
1003+00	20.83
+25	21.35
+50	21.87
+75	22.40
1004+00	22.92
+25	23.44
+50	23.96
+75	24.49
1005+00	25.00

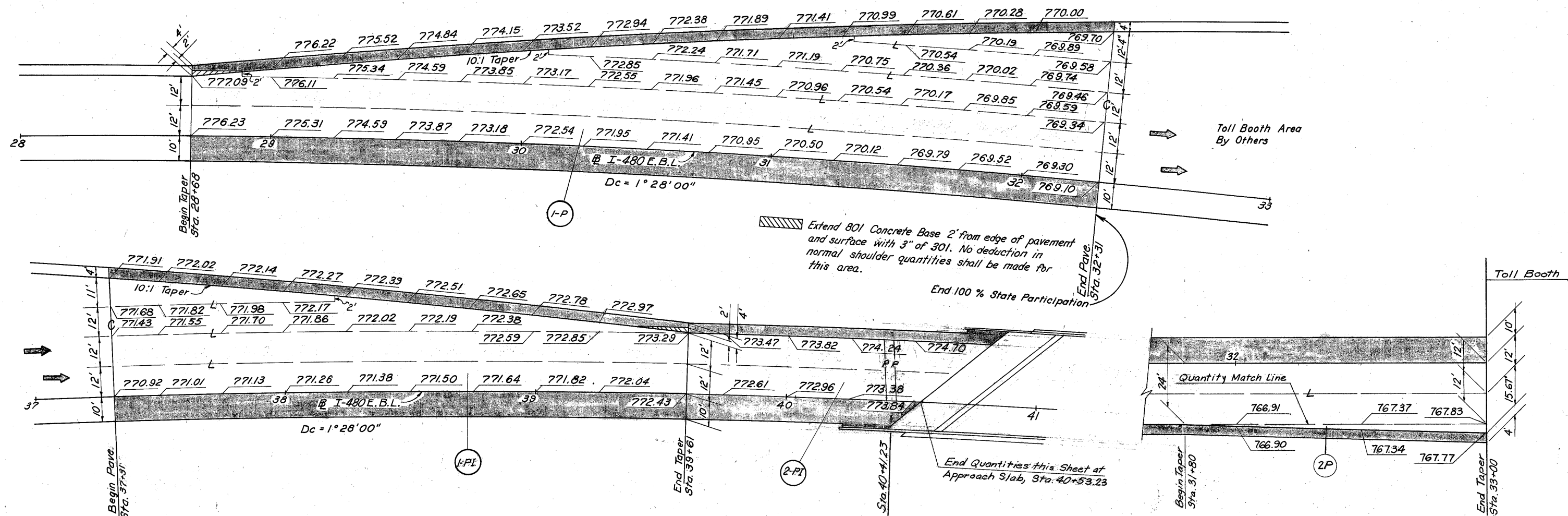
**W.B. I-480 PAVEMENT WIDTHS**

STATION	WIDTH
15+95.17	16.00
16+00	16.06
+25	16.40
+50	16.73
+75	17.06
17+00	17.40
+25	17.73
+50	18.06
+75	18.40
18+00	18.73
+25	19.06
+50	19.40
+75	19.73
19+00	20.06
+25	20.40
+50	20.73
+75	21.06
20+00	21.40
+25	21.73
+50	22.06
+75	22.40
21+00	22.73
+25	23.06
+50	23.39
+75	23.73
+95.17	24.00

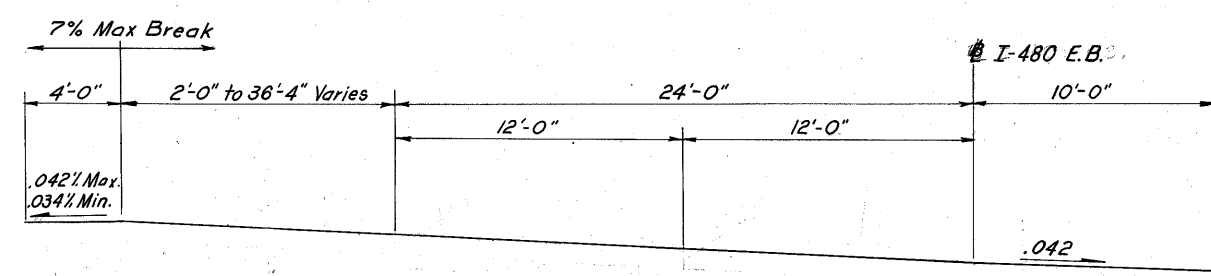


Estimated Quantities	301		801		310		402		404		409		407		203	
	Bituminous Aggregate Base	9" Portland Cement Conc. Base	Subbase, Grading 1/4" as per plan.	Asphalt Concrete	Asphalt Concrete	No. 9 Aggregate	Bituminous Material	Cover Aggregate	Tack Coat	Subgrade	Compaction					
Ref. No.	CY	S.Y.	CY	CY	CY	Gal.		Tons	Gal.	S.Y.						
1-P	56	733	219	51	30	1.7	67	2.6	73	1063						
2-P	56	517	171	24	17	1.7	67	1.8	52	833						
3-P	19	194	61	9	7	0.6	22	0.7	19	300						
4-P	154	1367	519	65	46	4.6	184	4.8	137	2258						
5-P	136		227			4.1	163			818						
<b>Total</b>	<b>421</b>	<b>2811</b>	<b>1197</b>	<b>149</b>	<b>100</b>	<b>13</b>	<b>503</b>	<b>10</b>	<b>281</b>	<b>5270</b>						

Rev. RJM 7-77  
CALC. BY JL DATE 4/6/78  
CHKD BY BD DATE 4/15/78



Begin Normal Interstate Participation Pavement



NOTE: Typical section for dimensions only. For pavement items see typical section on sheet 4.

NOTE: For Approach Slab and Pressure Relief Joint Quantities, See Sheet No. W.B. I-480 W. OF TOLL BOOTH

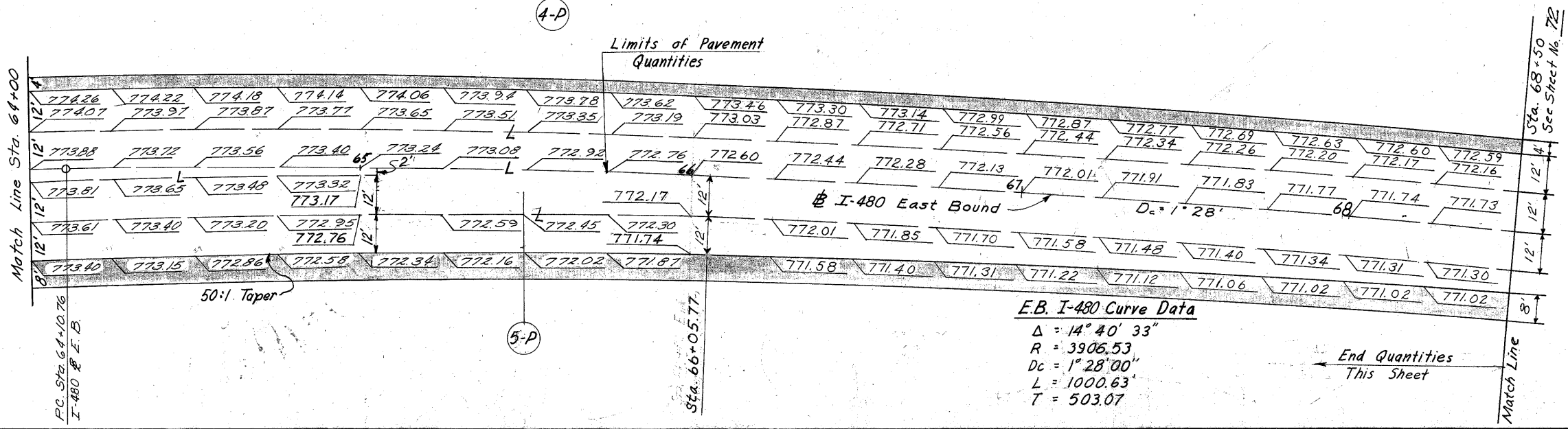
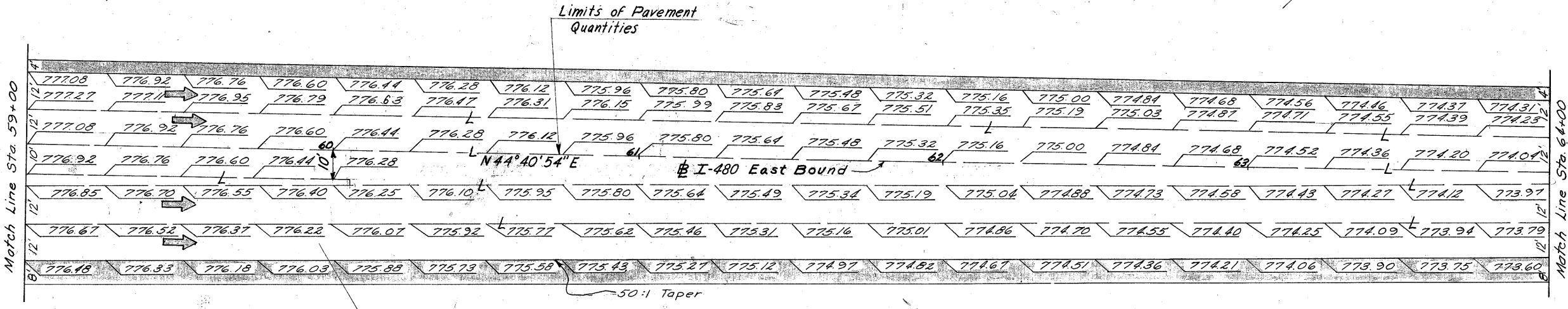
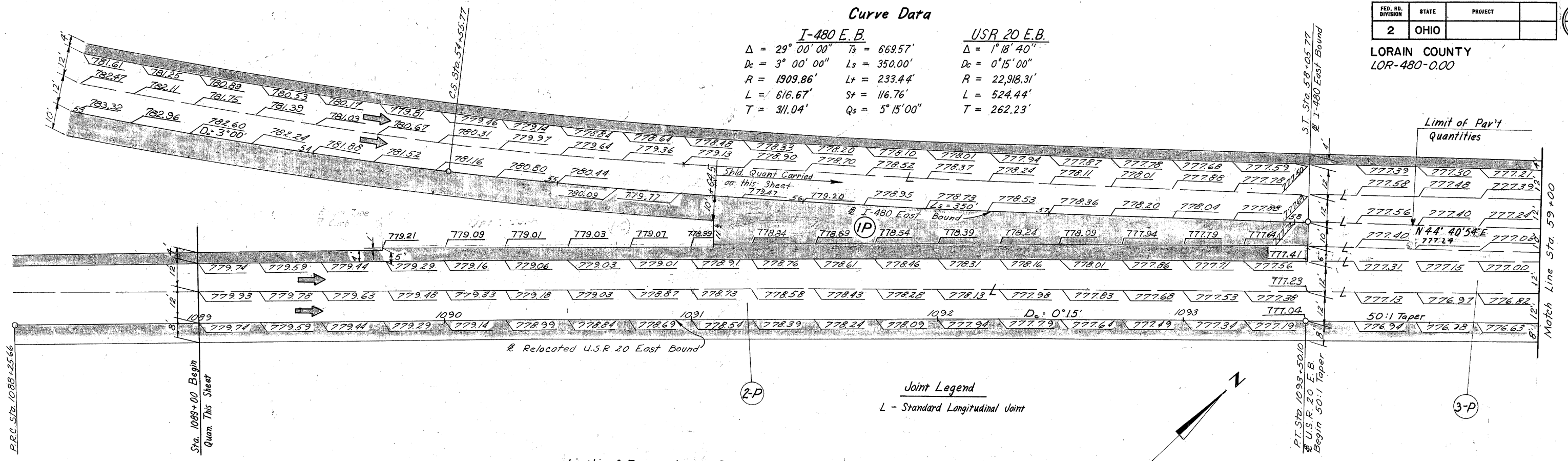
Estimated Quantities		203	301	310	407	801	402	404	409		
Ref. #	Side	Subgrade Compaction	Bituminous Aggregate Base	Subbase, Grading Material, 1/2" max. size	Coarse Aggregate	1/2" Thick Cement Concrete Base	Asphalt Concrete	Asphalt Concrete	Max. 9" Aggregate	Bituminous Material	
Ref. #	Location	S.Y.	C.Y.	C.Y.	Tons	Gal.	C.Y.	C.Y.	C.M.	Gal.	
1-P	Sta. 28+68 to 32+31	2264	70	439	6	172	1722	83	59	2.1	84
2-P	Sta. 31+80 to 33+00	24		4		2	24	1	1		
<b>100% State Total</b>		<b>2288</b>	<b>70</b>	<b>443</b>	<b>6</b>	<b>174</b>	<b>1746</b>	<b>84</b>	<b>60</b>	<b>2.2</b>	<b>84</b>
1-PI	Sta. 37+31 to 39+61	1265	43	250	3.2	92	922	45	32	1.3	52
2-PI	Sta. 39+61 to 40+53.23	439	26	91	1	229	291	14	10	0.8	31
<b>Interstate Total</b>		<b>1704</b>	<b>69</b>	<b>341</b>	<b>4</b>	<b>121</b>	<b>1213</b>	<b>59</b>	<b>42</b>	<b>2</b>	<b>83</b>

JOINT LEGEND  
L - Standard Longitudinal Joints  
P - Pressure Relief Joint  
C - Standard Contraction Joint

LORAIN COUNTY  
LOR-480-0.00

**Curve Data**

<b>I-480 E.B.</b>		<b>USR 20 E.B.</b>	
$\Delta = 29^{\circ} 00' 00''$	$T_s = 669.57'$	$\Delta = 1^{\circ} 18' 40''$	
$D_c = 3^{\circ} 00' 00''$	$L_s = 350.00'$	$D_c = 0^{\circ} 15' 00''$	
$R = 1909.86'$	$L_t = 233.44'$	$R = 22,918.31'$	
$L = 616.67'$	$St = 116.76'$	$L = 524.44'$	
$T = 311.04'$	$Q_s = 5^{\circ} 15' 00''$	$T = 262.23'$	



**E.B. I-480 Curve Data**  
 $\Delta = 14^{\circ} 40' 33''$   
 $R = 3906.53$   
 $D_c = 1^{\circ} 28' 00''$   
 $L = 1000.63'$   
 $T = 503.07'$

Ref. No.	Estimated Quantities							409	
	203	301	310	401	402	404	407		
	Subgrade	Compaction Bituminous Aggregate Base	Subbase, Grading as per plan	9" Portland Conc. Base	Asphalt Concrete	Asphalt Concrete	Cover Aggregate	1/2" Jack Coat	No. 9 Aggregate Bituminous Material
	S.Y.	C.Y.	C.Y.	S.Y.	C.Y.	C.Y.	Tons	Gal.	C.Y. GAL.
1-P	364	61	98						1.8 73
2-P	1842	112	304	1226	78	42	4.3	128	3.4 135
3-P	493	14	92	454	20	14	1.6	45	0.4 17
4-P	2284	74	430	1845	89	64	6.5	185	2.2 89
5-P	1563	66	305	1177	57	41	4.1	118	2 79
<b>Total</b>	<b>6546</b>	<b>327</b>	<b>1304</b>	<b>4701</b>	<b>224</b>	<b>161</b>	<b>17</b>	<b>471</b>	<b>10 393</b>

Rev. DRS CALD R.L.B.D. 5/16/20  
 CHNG BY J.L. DATE 5/20/20



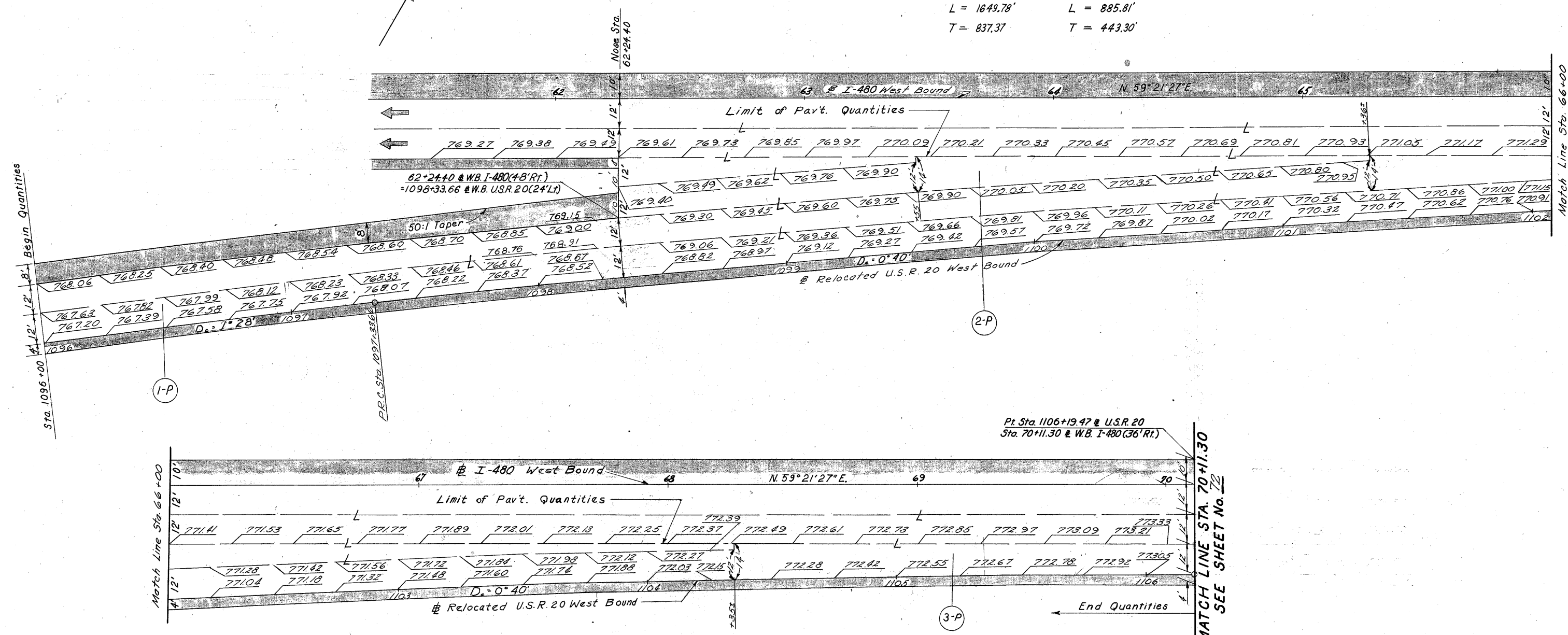
FED. RD. DIVISION	STATE	PROJECT
2	OHIO	

71  
375

LORAIN COUNTY  
LOR-480-0.00

Joint Legend  
L Standard Longitudinal Joint

Curve Data USR 20 W.B.  
 $\Delta = 24^\circ 11' 49''$      $\Delta = 5^\circ 54' 19''$   
 $D_c = 1^\circ 28' 00''$      $D_c = 0^\circ 40' 00''$   
 $R = 3906.53'$          $R = 8594.37'$   
 $L = 1649.78'$          $L = 885.81'$   
 $T = 837.37$              $T = 443.30'$

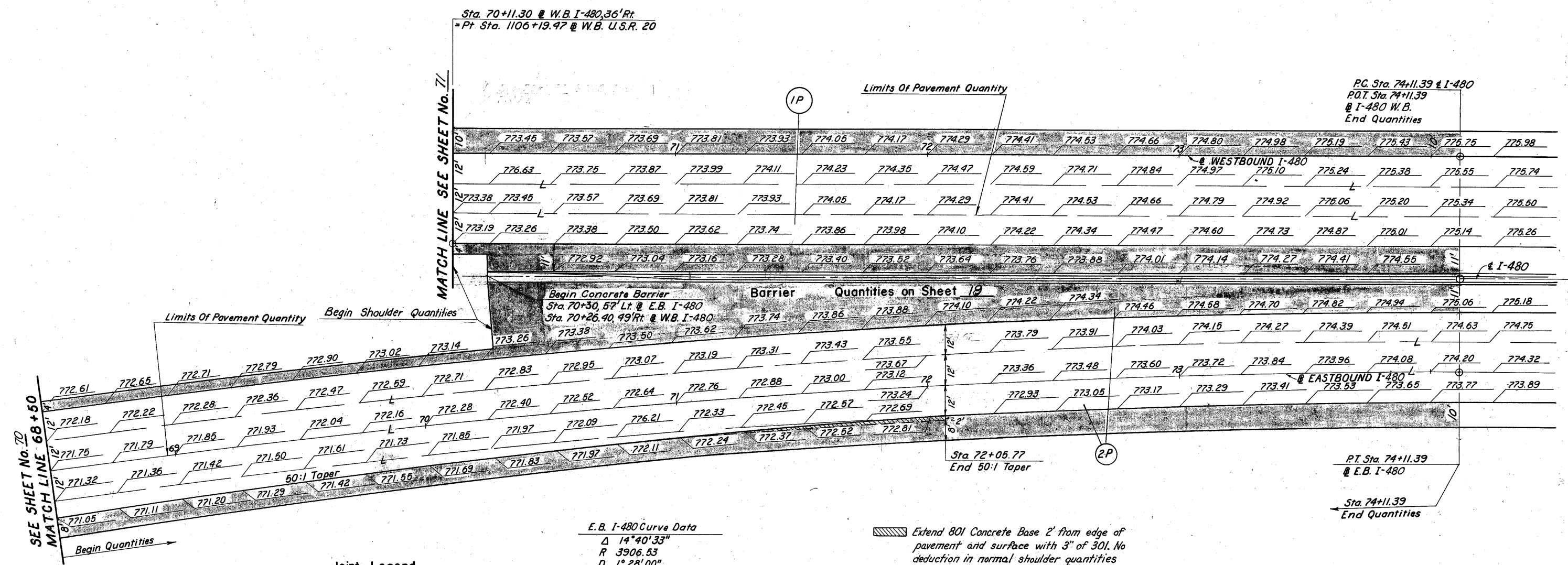
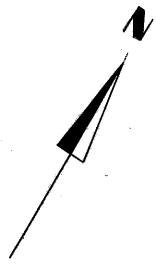


MATCH LINE STA. 70+11.30  
SEE SHEET No. 72

Estimated Quantities

	801	301	310	203	402	404	407	409
Ref. M	S.Y.	C.Y.	C.Y.	S.Y.	C.Y.	C.Y.	Tons	Gal.
1-P	637	54	196	946	30	22	2.2	64
2-P	1428	28	286	1579	69	49	5	143
3-P	744	31	173	883	34	24	2.6	75
<b>Total</b>	<b>2809</b>	<b>113</b>	<b>655</b>	<b>3408</b>	<b>133</b>	<b>95</b>	<b>10</b>	<b>282</b>

Rev. DRS  
 DRAWN BY BD DATE 5/13/70  
 CHECKED BY JL DATE 5/20/70



SEE SHEET No. 70  
MATCH LINE 68+50

MATCH LINE SEE SHEET No. 71

**Joint Legend**  
L - Standard Longitudinal Joint

**E.B. I-480 Curve Data**  
Δ 14°40'33"  
R 3906.53  
D 1°28'00"  
L 1000.63  
T 503.07

Extend 801 Concrete Base 2' from edge of pavement and surface with 3" of 301. No deduction in normal shoulder quantities shall be made for this area.

Estimated Quantities										
	801	301	310	203	402	404	407	409		
	9" Bituminous Conc. Base	Bituminous Aggregate Base	Aggregate Base	Subbase, Grading 3/4" as per plan	Subgrade Compaction	Asphalt Concrete	Asphalt Concrete	Cover Aggregate	Tack Coat	No. 8 Aggregate
Ref. No.	S.Y.	C.Y.	C.Y.	S.Y.	C.Y.	C.Y.	Tons	Gal.	C.Y.	Gal.
IP	544	80	241	1096	26	19	11.9	555	2.4	96
2P	902	222	530	2264	44	31	3.2	90	6.7	266
<b>Total</b>	<b>1446</b>	<b>302</b>	<b>771</b>	<b>3350</b>	<b>70</b>	<b>50</b>	<b>5</b>	<b>145</b>	<b>9</b>	<b>362</b>

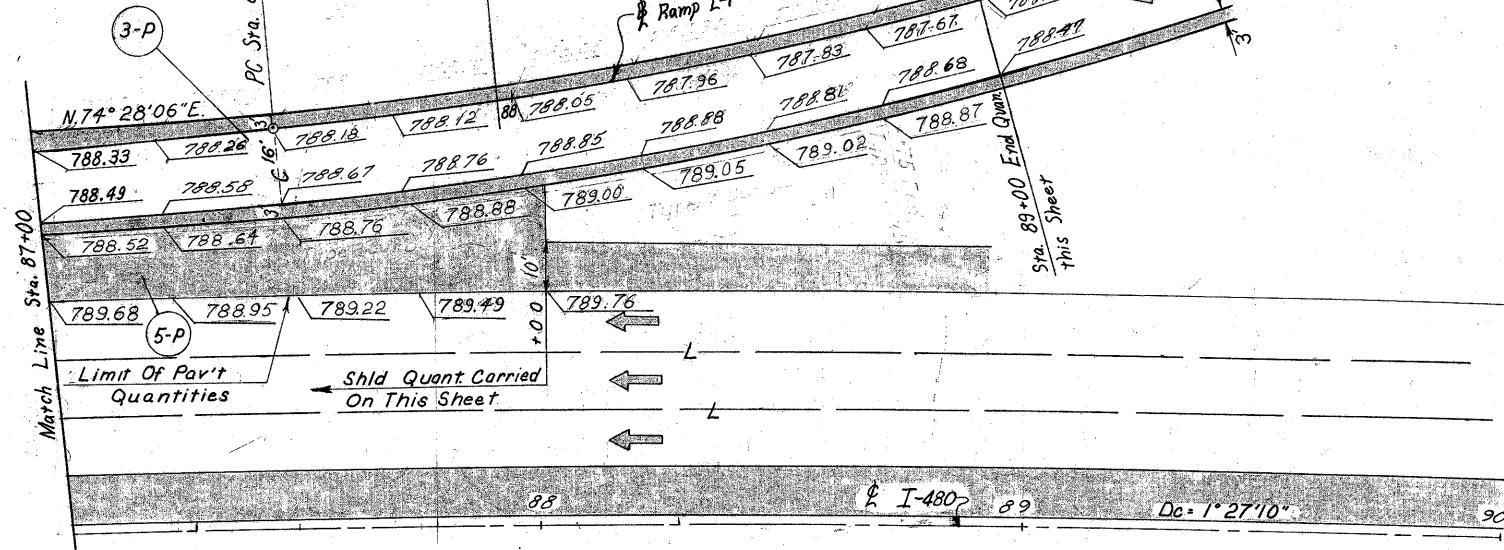
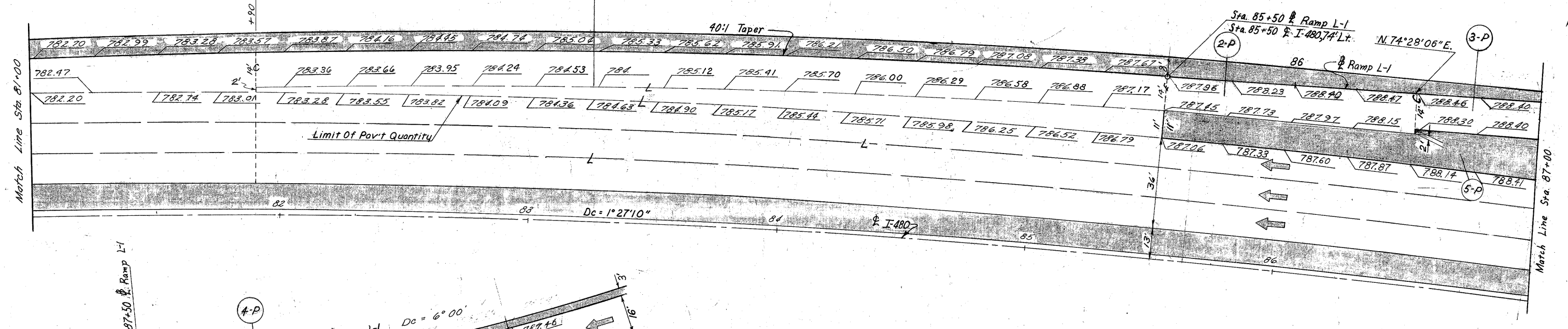
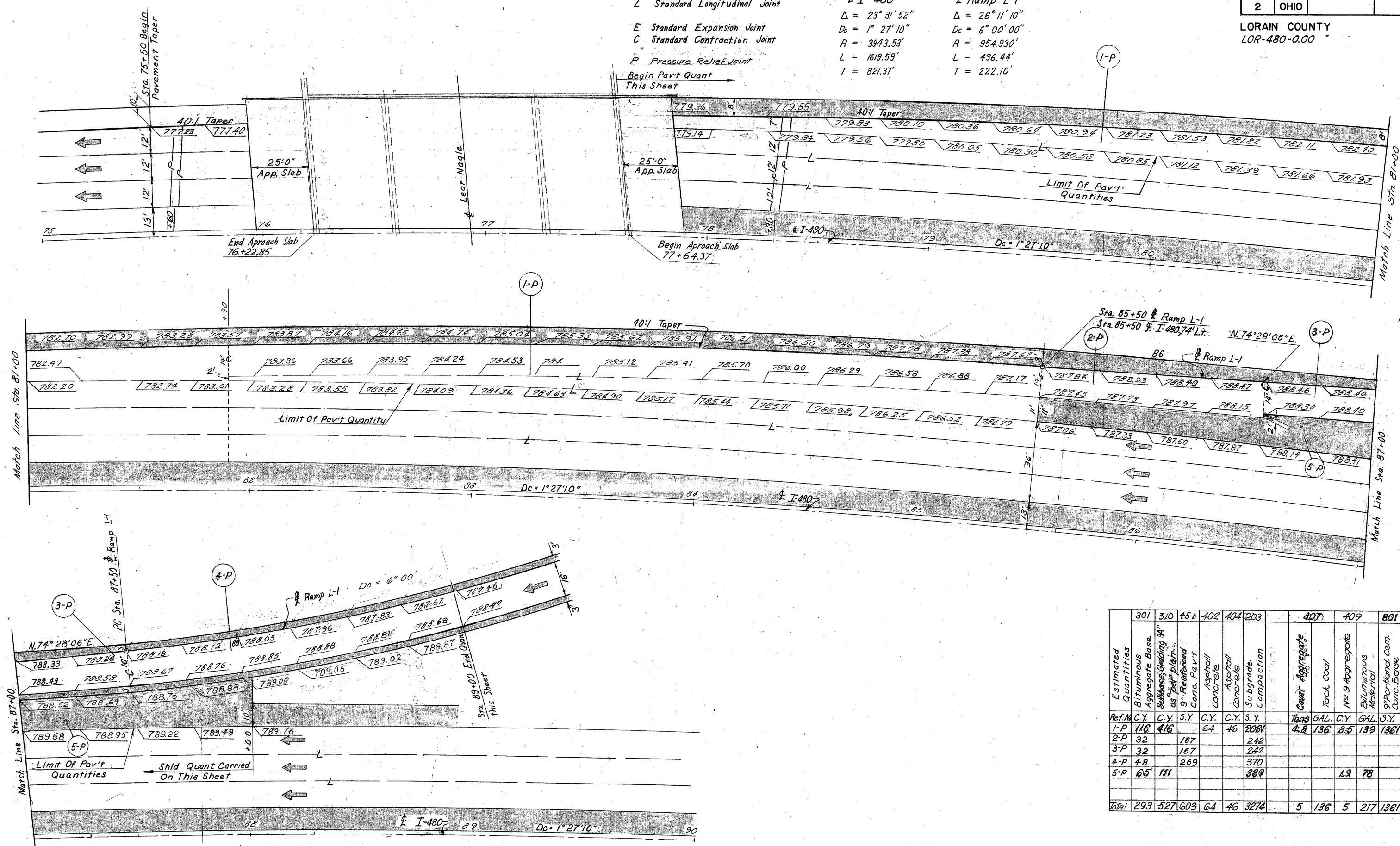
Rev. DR5 7-77  
CALC. BY DRH DATE 11/16/70  
CHKD BY JL DATE 4/16/71

**JOINT LEGEND**

- L Standard Longitudinal Joint
- E Standard Expansion Joint
- C Standard Contraction Joint
- P Pressure Relief Joint

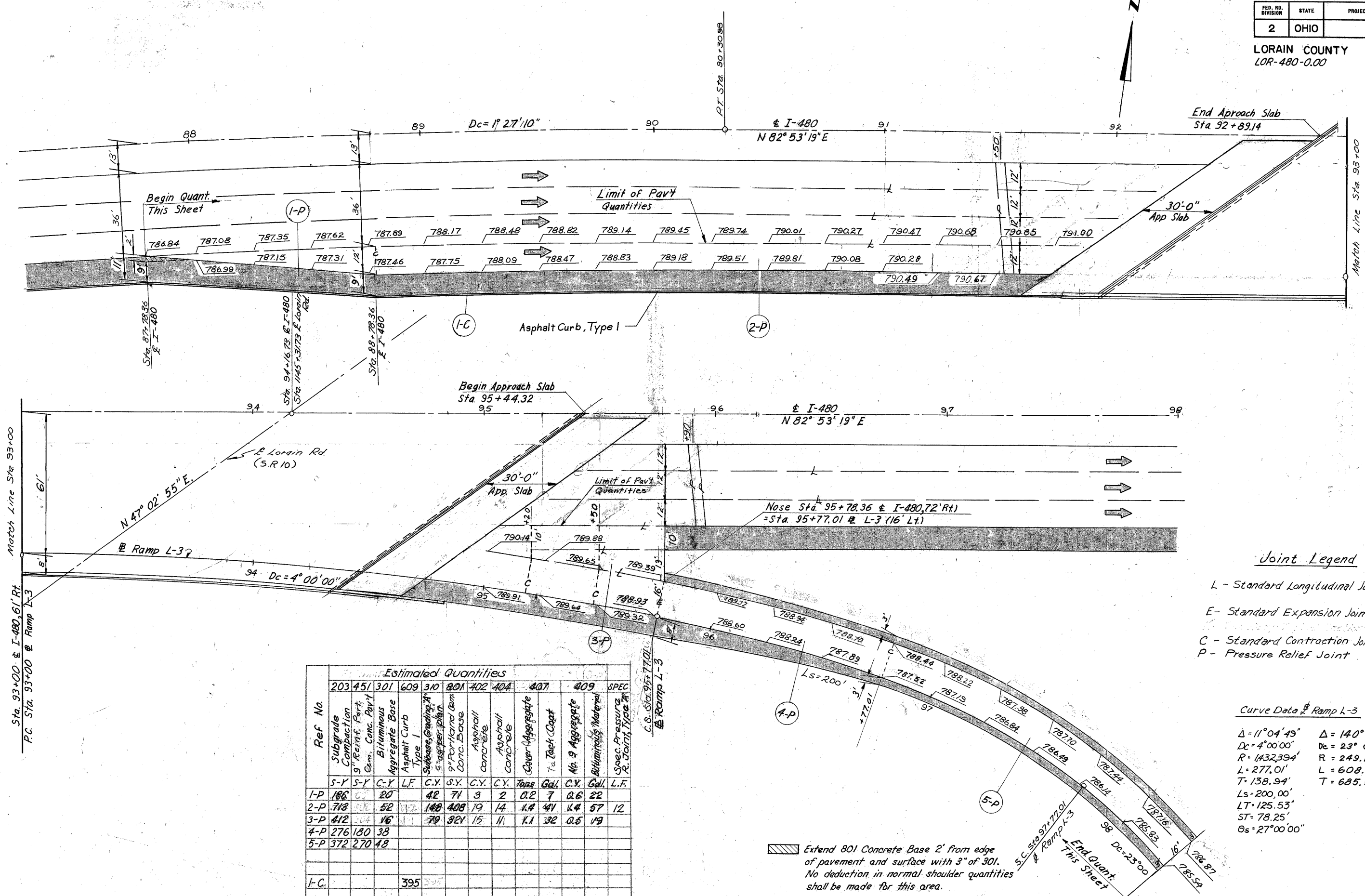
**Curve Data**

- |                 |                 |
|-----------------|-----------------|
| ∅ I-480         | ∅ Ramp L-1      |
| Δ = 23° 31' 52" | Δ = 26° 11' 10" |
| Dc = 1° 27' 10" | Dc = 6° 00' 00" |
| R = 3943.53'    | R = 954.930'    |
| L = 1619.59'    | L = 436.44'     |
| T = 821.37'     | T = 222.10'     |



	301	3/0	454	402	404-203	407	409	801	SPEC			
Estimated Quantities												
Bituminous Aggregate Base												
Subbase, Grading 14" as per plan												
9" Reinforced Conc. Pav't												
Asphalt Concrete												
Asphalt Concrete												
Subgrade Compaction												
Cover Aggregate												
Track Coat												
Ms 9 Aggregate												
Bituminous Material												
9" Hand Cem. Conc. Base												
Spec. Pressure R. Joint, Type A												
Ref. No.	C.Y.	C.Y.	S.Y.	C.Y.	C.Y.	S.Y.	Tons	GAL.	C.Y.	GAL.	S.Y.	L.F.
1-P	116	416		64	46	2081	4.8	136	3.5	139	1361	7
2-P	32		187			242						
3-P	32		167			242						
4-P	48		269			370						
5-P	65	111				389			1.9	78		
Total	293	527	603	64	46	3274	5	136	5	217	1361	7

Rev. DRS 7-77  
CALC. BY JL DATE 4/2/70  
CHKD BY SD DATE 4/16/70



**Joint Legend**

- L - Standard Longitudinal Joint
- E - Standard Expansion Joint
- C - Standard Contraction Joint
- P - Pressure Relief Joint

**Curve Data Ramp L-3**

$\Delta = 11^{\circ} 04' 49''$	$\Delta = 140^{\circ} 03' 39''$
$Dc = 4^{\circ} 00' 00''$	$Dc = 23^{\circ} 00' 00''$
$R = 1432.394'$	$R = 249.11'$
$L = 277.01'$	$L = 608.96'$
$T = 138.94'$	$T = 608.56'$
$Ls = 200.00'$	
$LT = 125.53'$	
$ST = 78.25'$	
$\theta_s = 27^{\circ} 00' 00''$	

**Estimated Quantities**

Ref No.	203	451	301	609	310	801	402	404	407	409	SPEC		
	Subgrade	9" Reinf. Part. Conc. Pavt	Bituminous Aggregate Base	Asphalt Curb Type I	Subbase, Grading & 5" asph. spltn.	9" Portland Cem Conc. Base	Asphalt concrete	Asphalt concrete	Cover Aggregate	7a. Tack Coat	No. 9 Aggregate	Bituminous Material	Spec. Pressure R. Joints, Type A
S-Y	S-Y	C-Y	LF	C.Y.	S.Y.	C.Y.	C.Y.	Tons	Gall.	C.Y.	Gall.	L.F.	L.F.
1-P	186		20	42	71	3	2	0.2	7	0.6	22		
2-P	718		52	148	408	19	14	1.4	41	1.4	57	12	
3-P	412		16	79	321	15	11	1.1	32	0.5	19		
4-P	276	180	38										
5-P	372	270	48										
1-C				395									
<b>Total</b>	<b>1959</b>	<b>450</b>	<b>174</b>	<b>395</b>	<b>269</b>	<b>800</b>	<b>37</b>	<b>27</b>	<b>3</b>	<b>80</b>	<b>3</b>	<b>98</b>	<b>12</b>

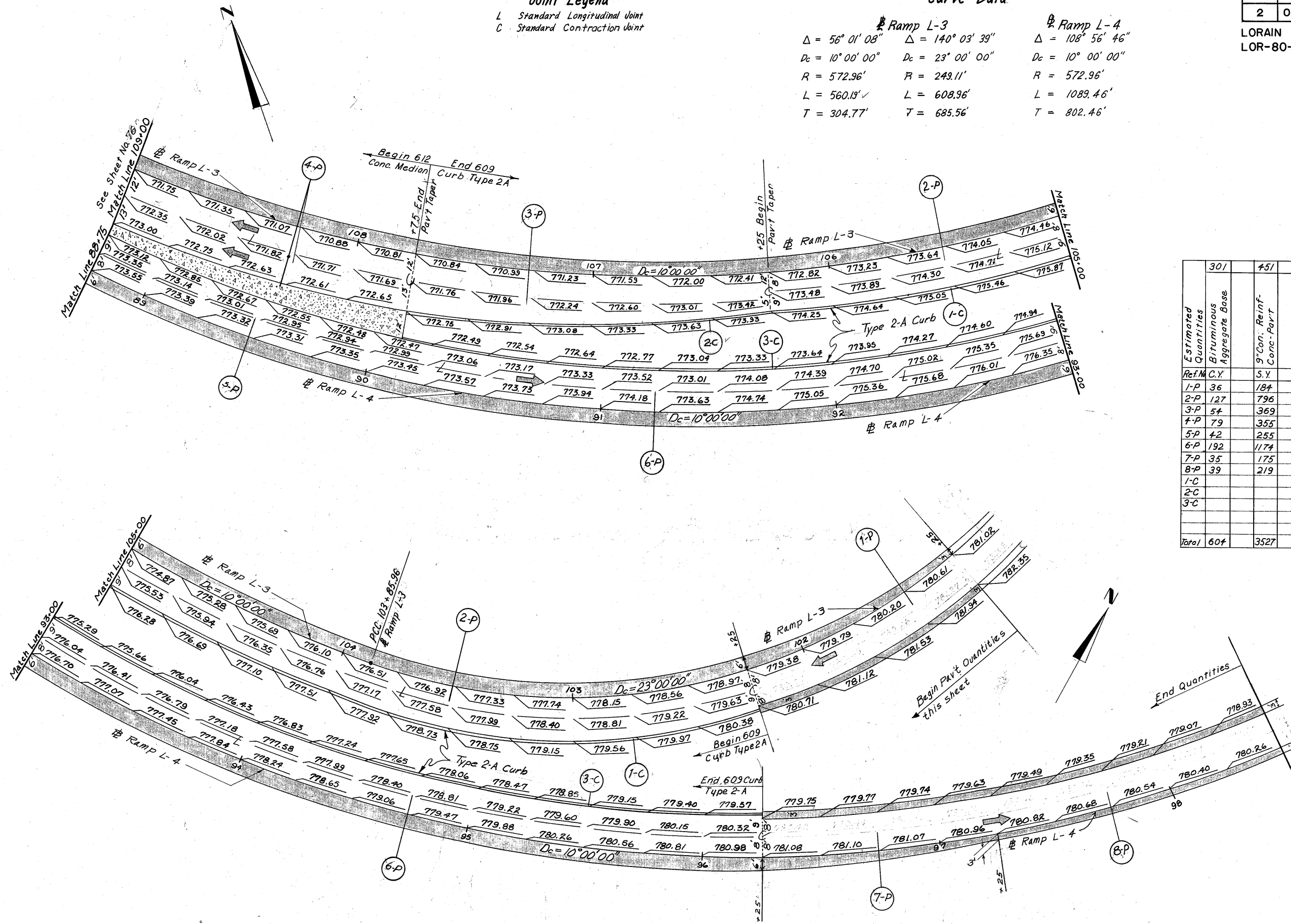
Extend 801 Concrete Base 2' from edge of pavement and surface with 3" of 301. No deduction in normal shoulder quantities shall be made for this area.

**Joint Legend**

- L Standard Longitudinal Joint
- C Standard Contraction Joint

**Curve Data**

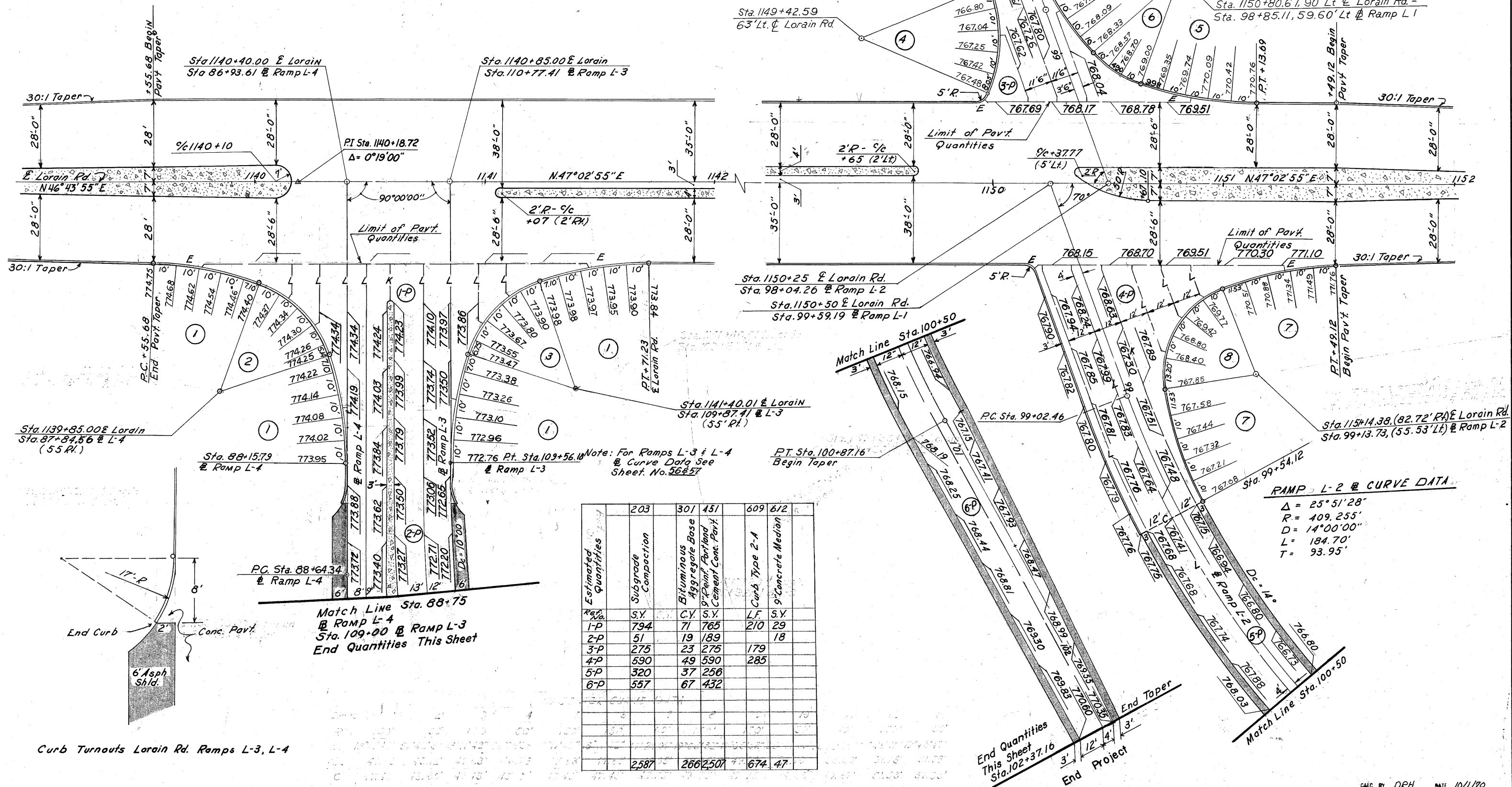
$\Delta = 56^{\circ} 01' 08''$	$\Delta = 140^{\circ} 03' 39''$	$\Delta = 108^{\circ} 56' 46''$
$D_c = 10^{\circ} 00' 00''$	$D_c = 23^{\circ} 00' 00''$	$D_c = 10^{\circ} 00' 00''$
$R = 572.96'$	$R = 249.11'$	$R = 572.96'$
$L = 560.19'$	$L = 608.96'$	$L = 1089.46'$
$T = 304.77'$	$T = 685.56'$	$T = 802.46'$



	301	451	609	612	203
Estimated Quantities					
Bituminous Aggregate Base					
9" Conc. Reinf. Conc. Pav't					
Curb Standard Type 2-A Concrete Median 9"					
Subgrade Compaction					
Ref. M. C.Y.					
1-P	36	184			269
2-P	127	796			1060
3-P	54	369			468
4-P	79	355		121	559
5-P	42	255			347
6-P	192	1174			1585
7-P	35	175			258
8-P	39	219			301
1-C			419		
2-C			155		
3-C			595		
Total	604	3527	1169	121	1847

LORAIN COUNTY  
LOR-80-18.62

3 CENTER CURVE DATA								
Curve No.	1	2	3	4	5	6	7	8
R	150	50	50	60	150	50	150	40
Δ	18°11'42"	51°42'03"	53°36'36"	47°29'09"	19°05'32"	28°32'19"	19°46'47"	76°12'20"
Lc	47.63'	45.12'	46.78'	48.05'	49.98'	24.90'	51.78'	53.20'
C	47.43'	43.60'	45.10'		49.75'	24.65'	51.53'	49.67'



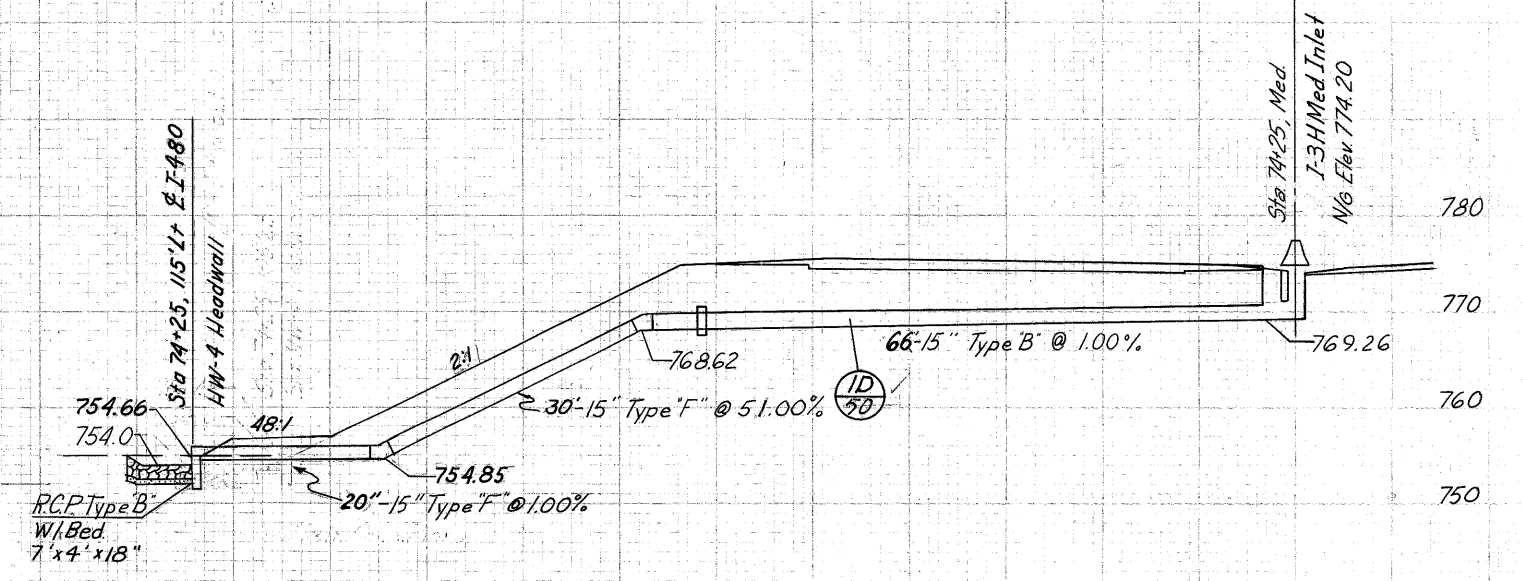
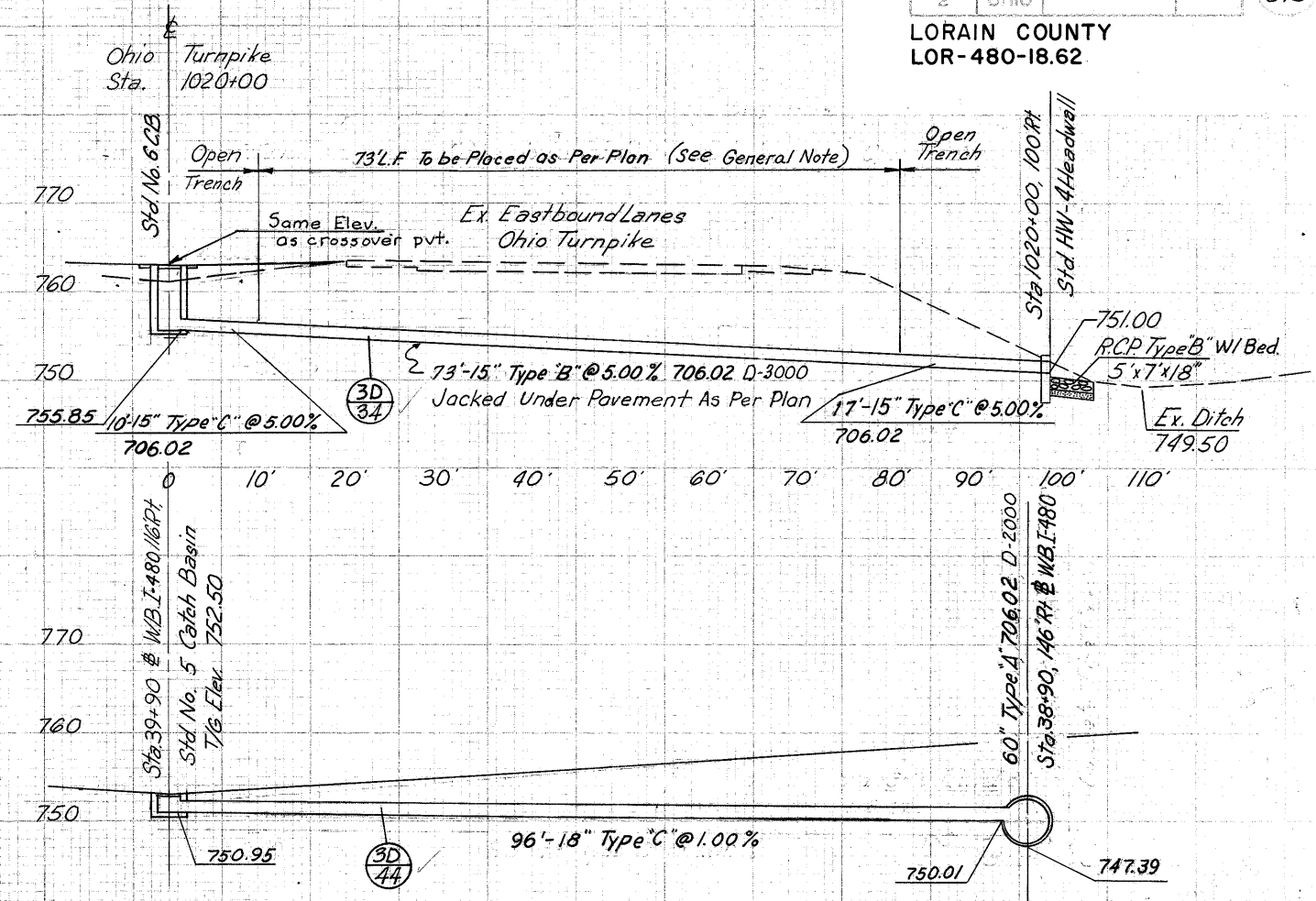
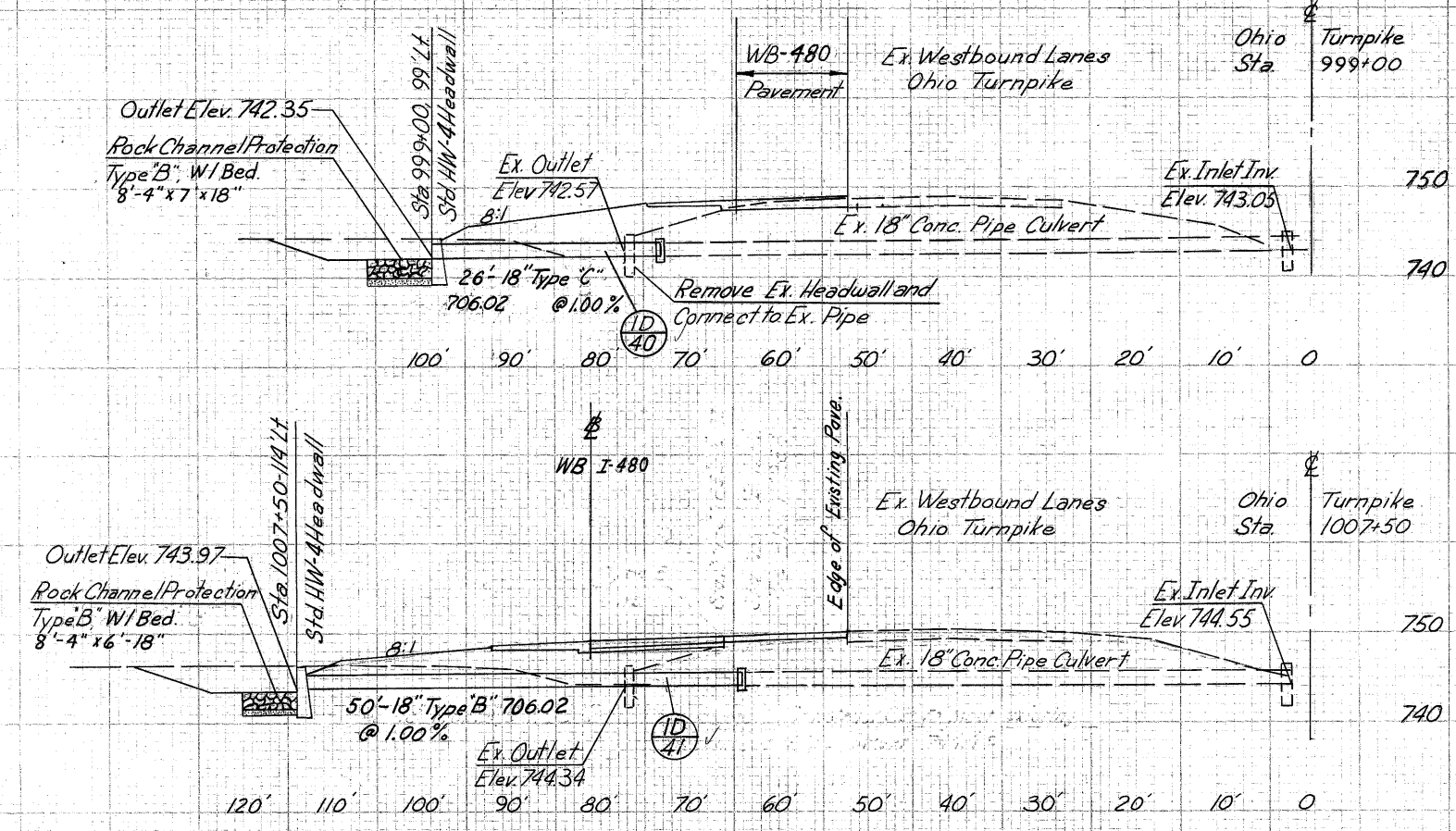
Estimated Quantities	203	301	451	609	612
Subgrade					
Compoction					
Bituminous Aggregate Base					
9" Peim. Portland Cement Conc. Pavt.					
Curb Type 2-A					
9" Concrete Median					
1-P	794	71	765	210	29
2-P	51	19	189		18
3-P	275	23	275	179	
4-P	590	49	590	285	
5-P	320	37	256		
6-P	557	67	432		
	2,587	266	2,501	674	47

**RAMP L-2 @ CURVE DATA**

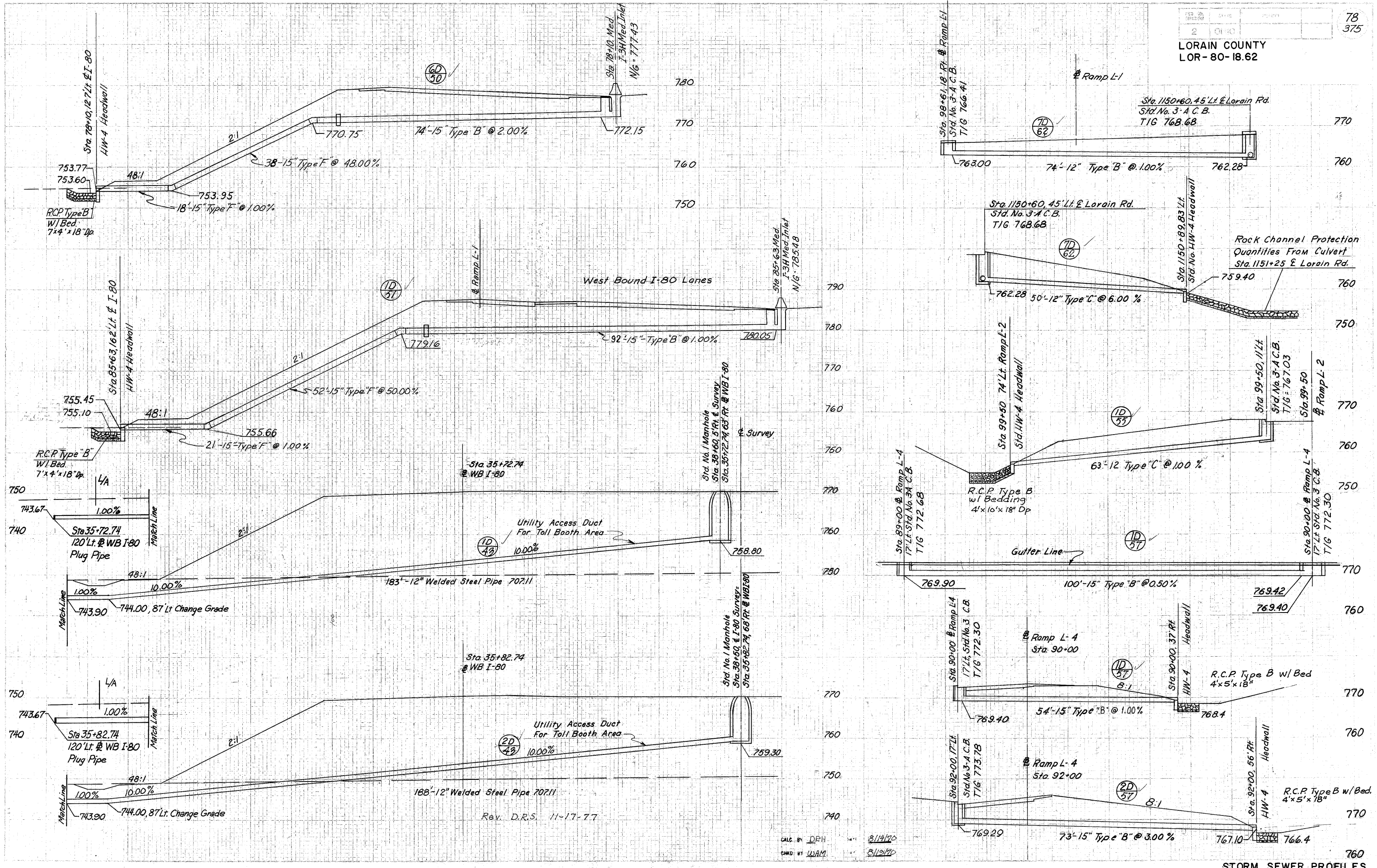
Δ = 25°51'28"
R = 109.255'
D = 14°00'00"
L = 184.70'
T = 93.95'

Curb Turnouts Lorain Rd. Ramps L-3, L-4

LORAIN COUNTY  
LOR-480-18.62



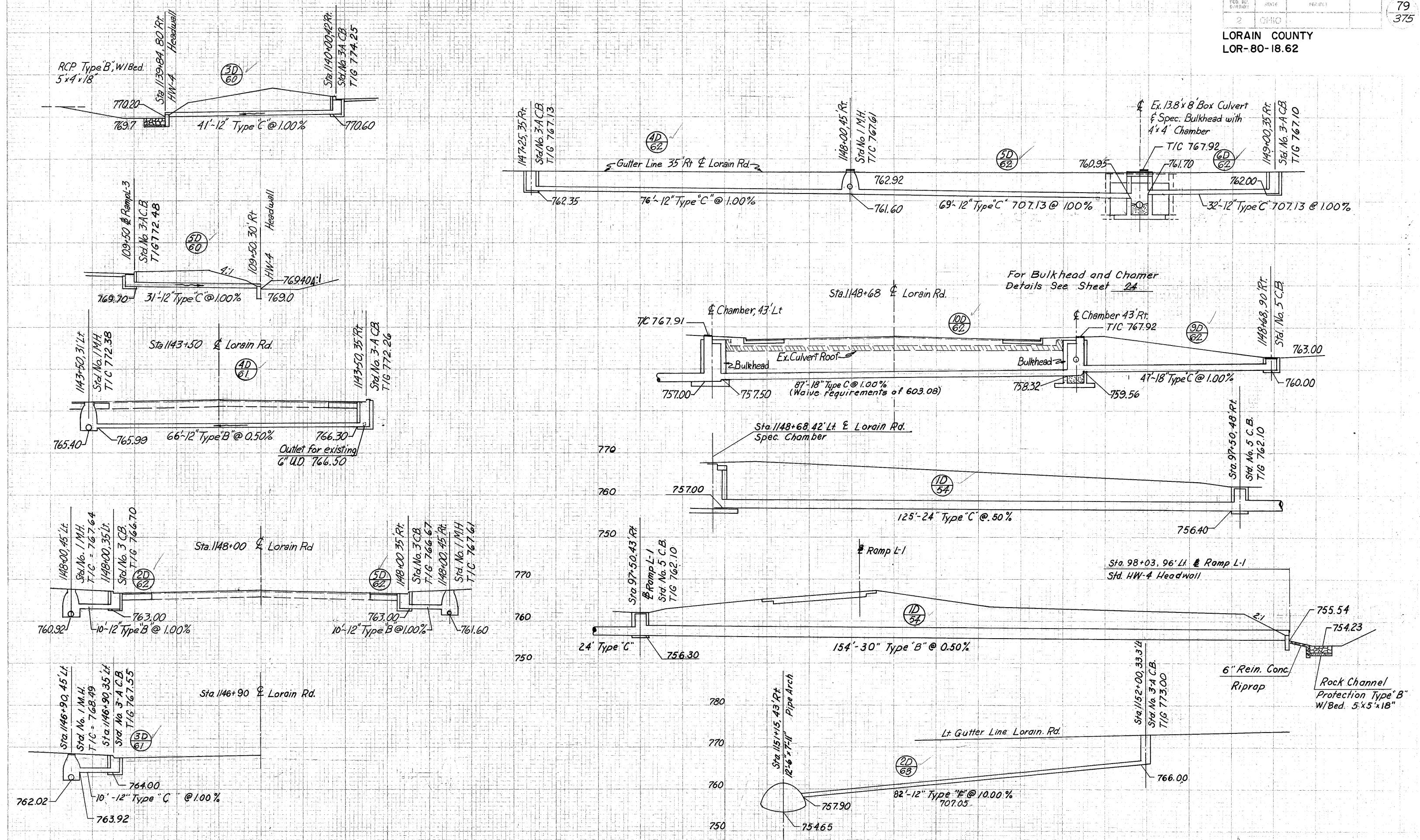
LORAIN COUNTY  
LOR-80-18.62



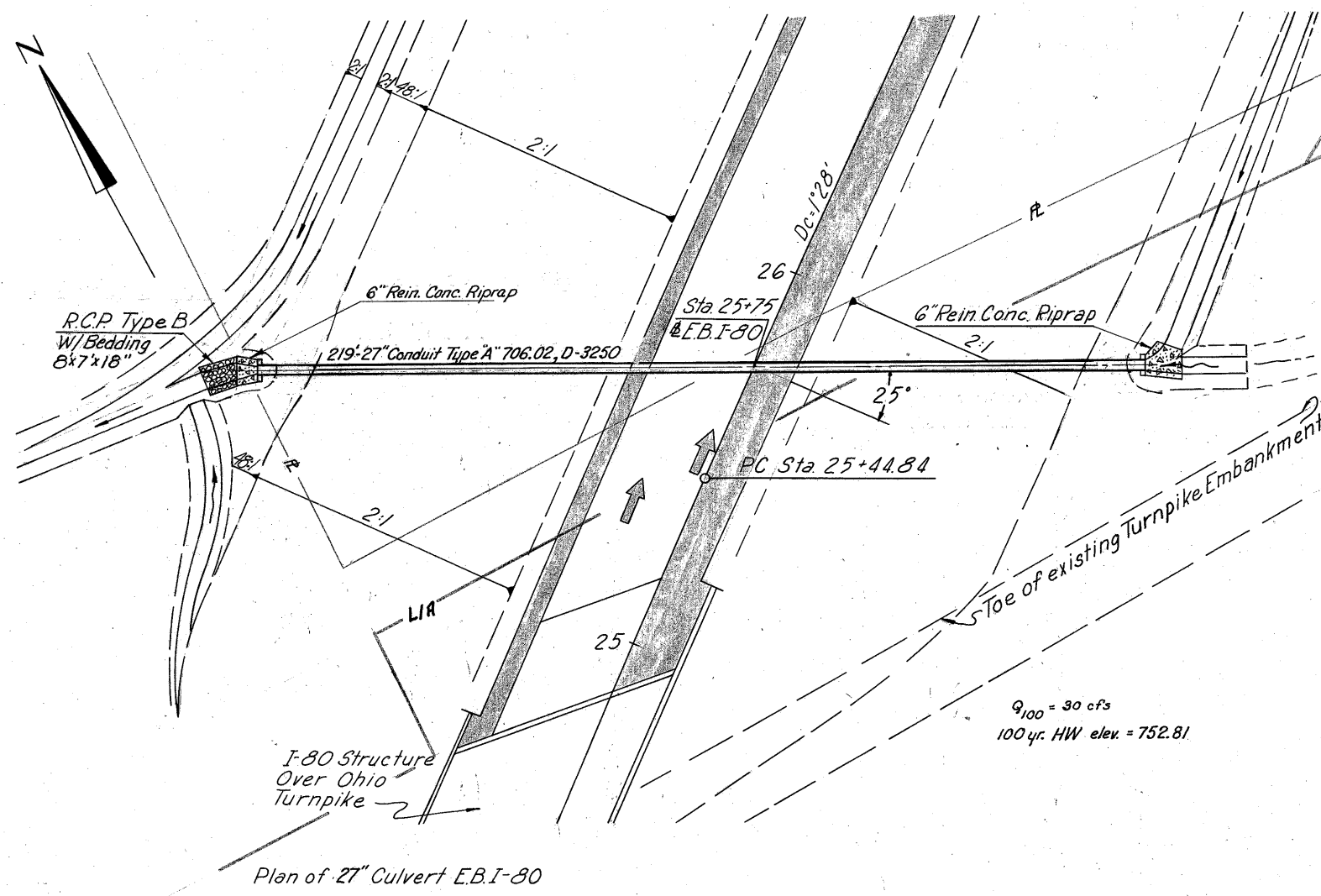
CALL BY: DRH 8/14/70  
CHKD BY: WAM 8/19/70

Rev. D.R.S. 11-17-77





CALC. BY: DRH DATE: 8/19/76  
 CHKD. BY: WAM DATE: 8/19/76

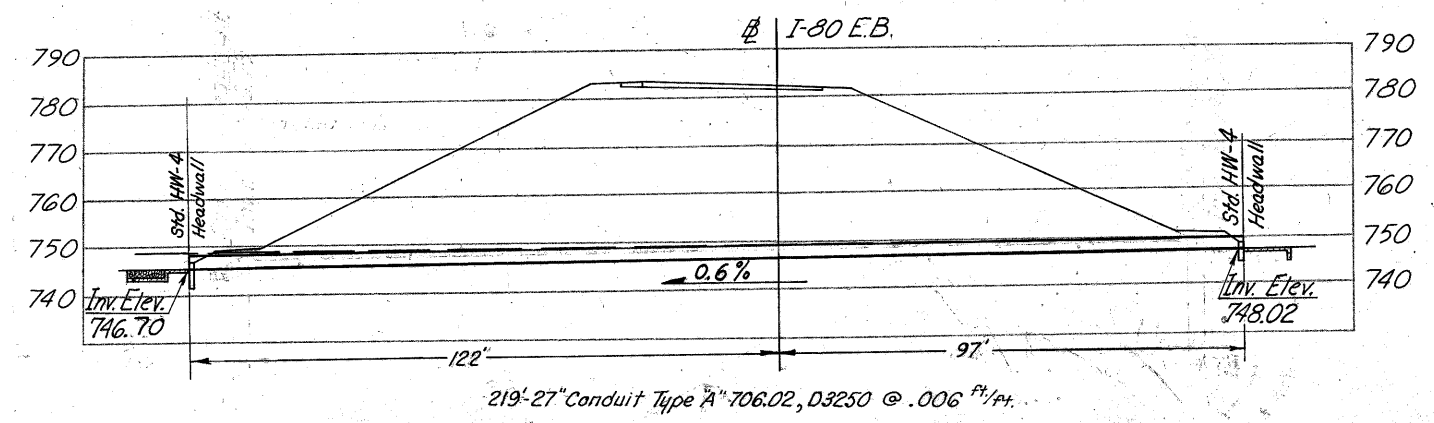


Plan of 27" Culvert E.B.I-80

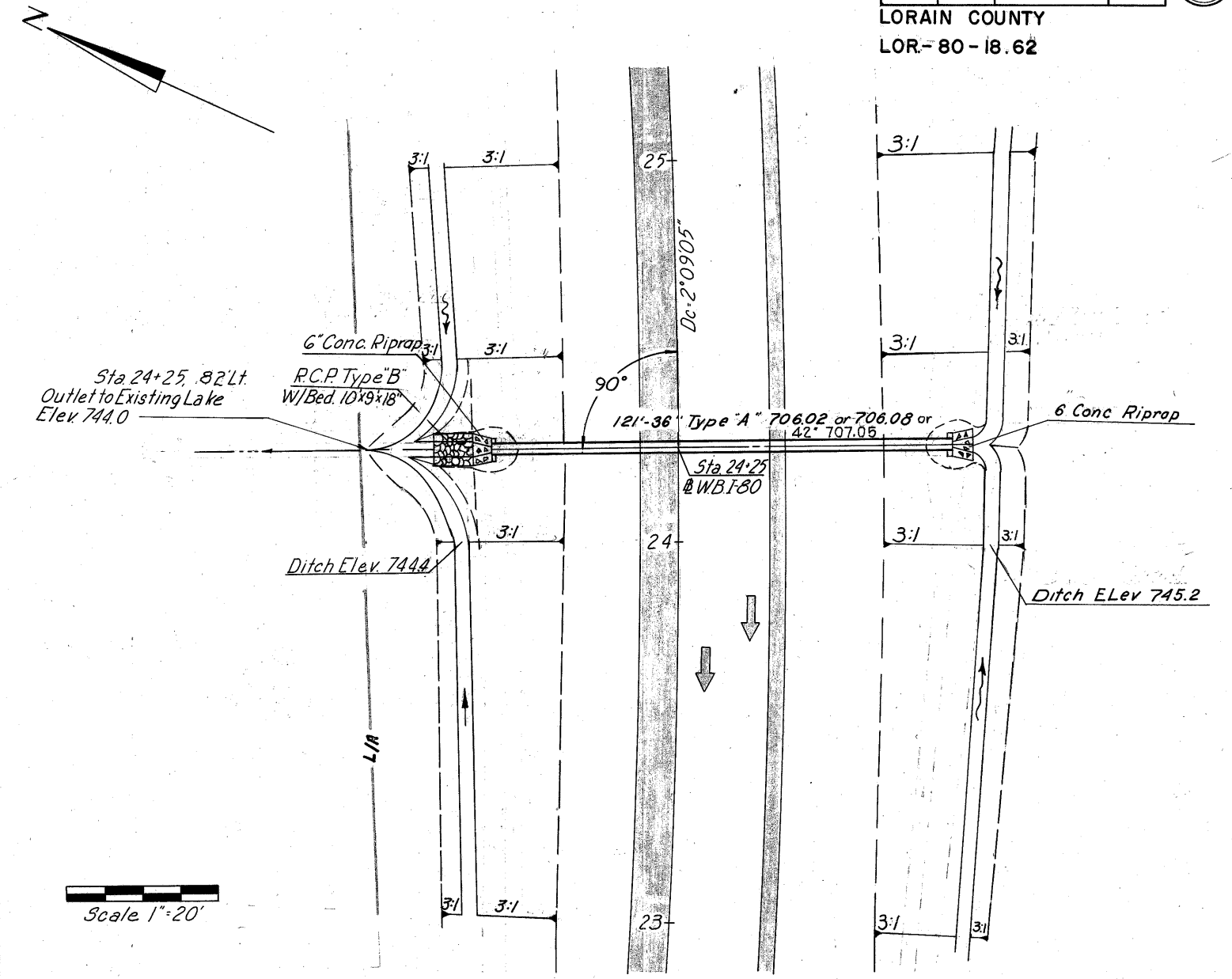
$Q_{100} = 30 \text{ cfs}$   
100 yr. HW elev. = 752.81

Scale 1" = 20'

DRAINAGE STRUCTURE Sta 25+75 @ E.B.I-80	
Design Information	
DA	$Q_{50}$
11 Ac.	25 cfs
Type Headwall - Std. HW-4	
Estimated Quantities	
Item 601 6" Rein. Conc. Riprap	9 SY
Item 601 Rock Channel Prot. Type B W/Bed	6.2 CY
Item 603 27" Conduit Type A 706.02, D-3250 or 30" 707.05	219 L.F.
Item 602 Concrete Masonry	1.2 C.Y.



219'-27" Conduit Type A 706.02, D3250 @ .006 ft/ft.

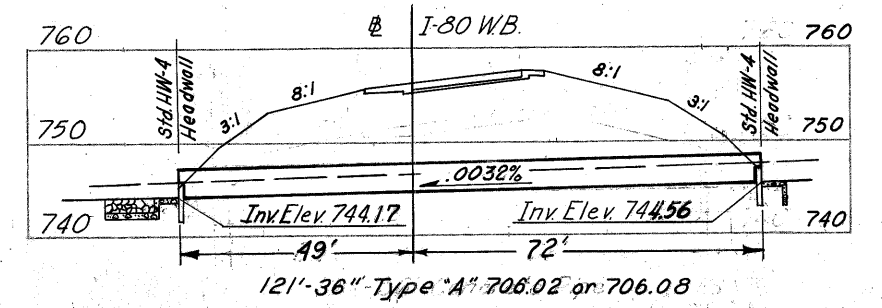


Plan of 36" Culvert W.B.I-80

$Q_{100} = 65 \text{ cfs}$   
100 yr. HW elev. = 748.99

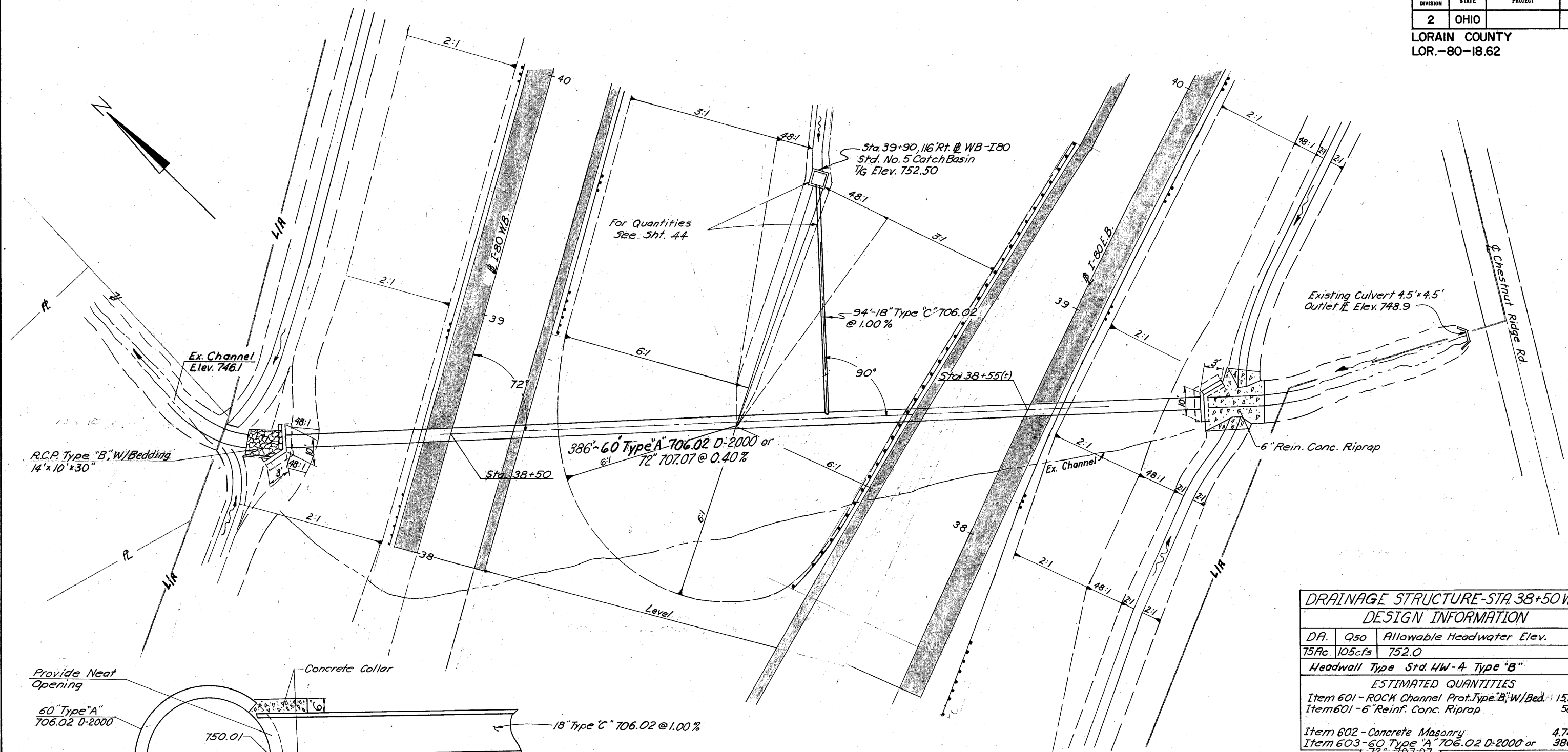
Scale 1" = 20'

DRAINAGE STRUCTURE Sta 24+25 @ W.B.I-80	
Design Information	
DA	$Q_{50}$
25 Ac.	42 c.f.s.
Type Headwall Std. HW-4	
Estimated Quantities	
Item 601 Rock Channel Prot. Type B W/Bed.	6.7 CY
Item 601 6" Rein. Conc. Riprap	7.8 SY
Item 602 Concrete Masonry	1.38 C.Y.
Item 603 36" Conduit Type A 706.02 or 706.08 or 42" 707.05	121 L.F.

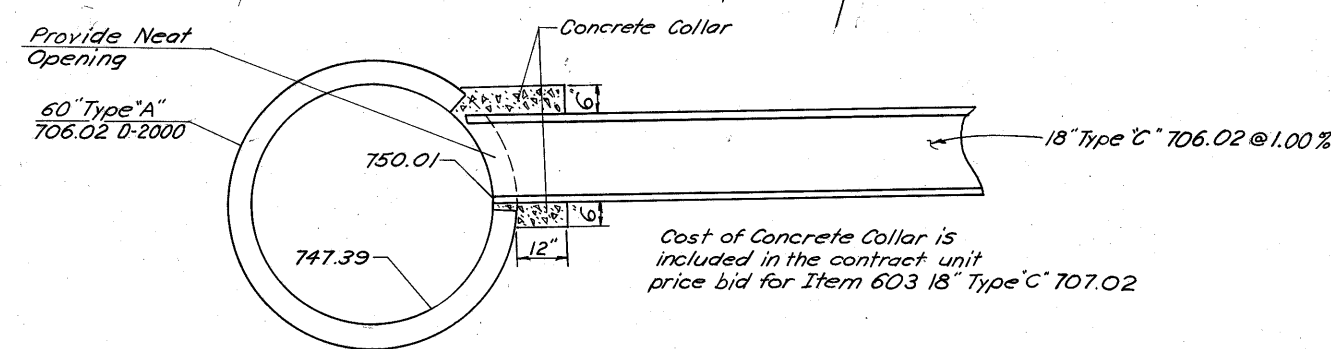


121'-36" Type A 706.02 or 706.08

CALC. BY DRH DATE 7/21/70  
CHKD BY LVC DATE 8/14/70



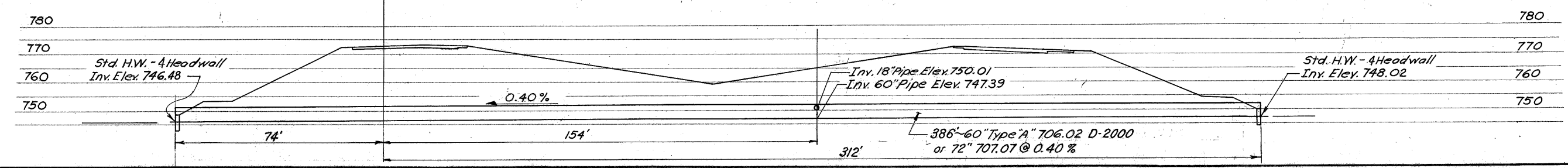
DRAINAGE STRUCTURE-STA. 38+50 W.B. I-80		
DESIGN INFORMATION		
DA	Q50	Allowable Headwater Elev.
15Ac	105cfs	752.0
Headwall Type Std. HW - 4 Type "B"		
ESTIMATED QUANTITIES		
Item 601 - ROCK Channel Prot. Type "B" w/ Bedding	155 C.Y.	
Item 601 - 6" Reinf. Conc. Riprap	565 Y.	
Item 602 - Concrete Masonry	4.74 C.Y.	
Item 603 - 60" Type "A" 706.02 D-2000 or 72" 707.07	386 LF.	



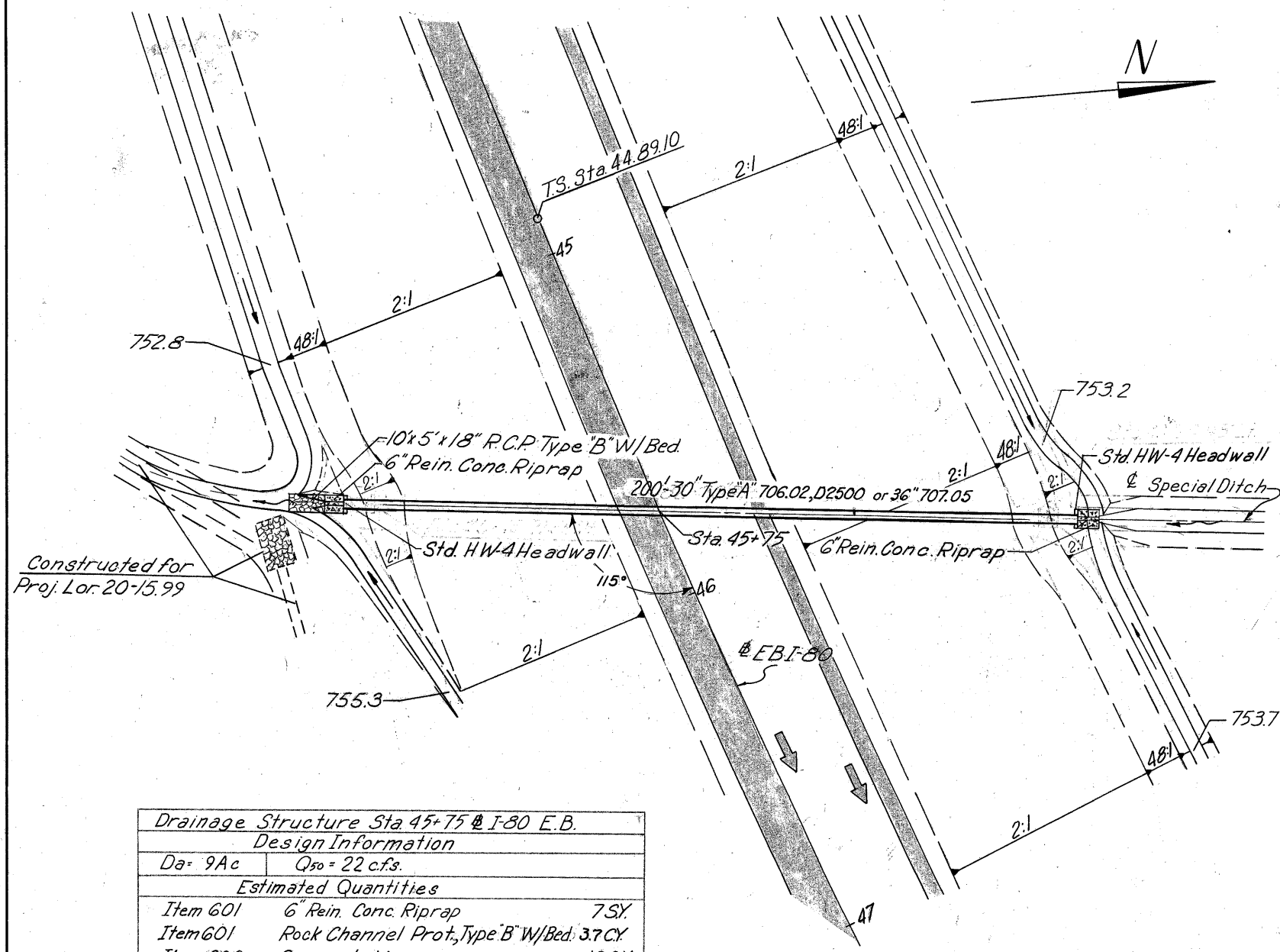
Cost of Concrete Collar is included in the contract unit price bid for Item 603 18" Type 'C' 707.02

Q100 = 124 cfs  
100 yr. HW elev. = 753.10

Detail of 60" Conc. Pipe with 18" Conc. Pipe Connection W.B. I-80

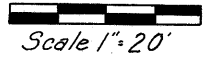


CALC. BY DRH 7/26/76  
CHKD BY LYC 8/4/76

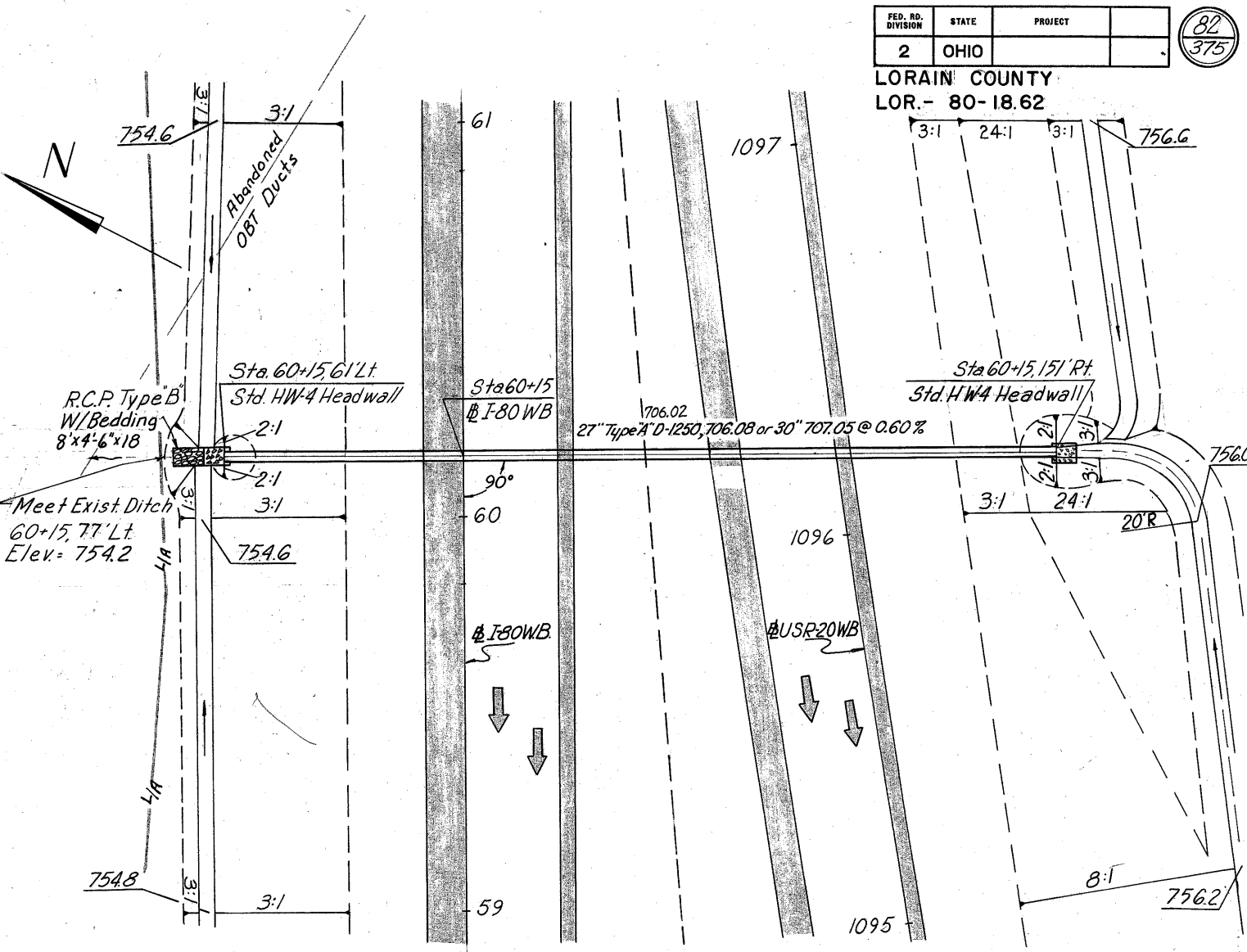


Drainage Structure Sta 45+75 @ I-80 E.B.	
Design Information	
Da = 9Ac	Q <sub>50</sub> = 22 cfs.
Estimated Quantities	
Item 601	6" Rein. Conc. Riprap 75Y.
Item 601	Rock Channel Prot. Type B W/Bed. 37CY
Item 602	Concrete Masonry 12CY
Item 603	30" Type A 706.02, D-2500 or 36" 707.05 200 L.F.

Plan of 30" Pipe Culvert

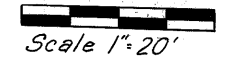


Q<sub>100</sub> = 25.4 cfs  
100 yr. HW elev. = 757.46

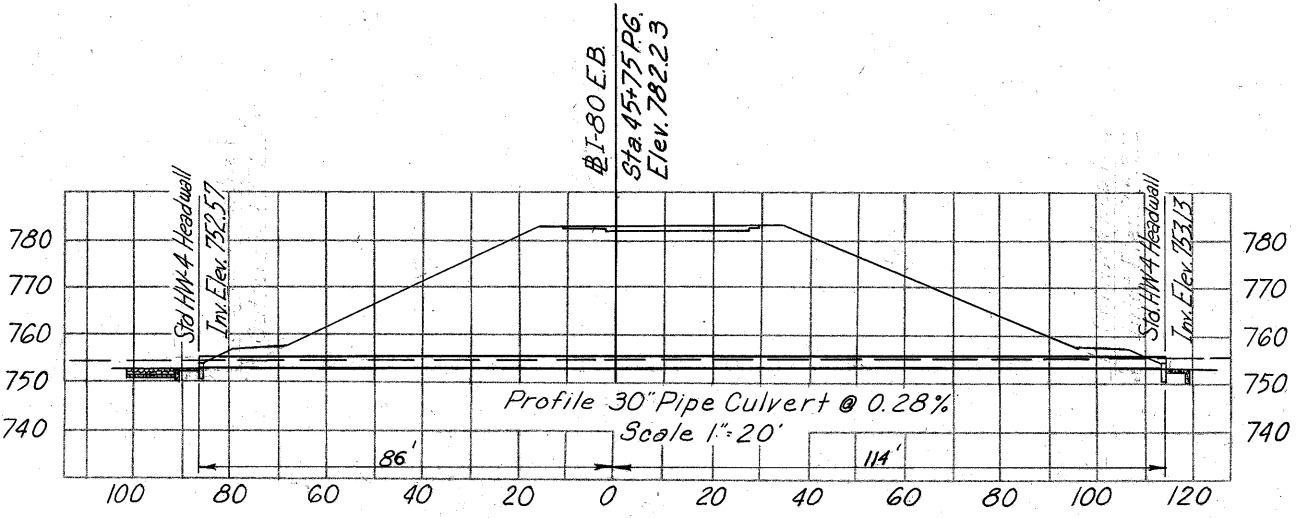


Drainage Structure 60+15 @ I-80 W.B.		
Design Information		
Da	Q <sub>50</sub>	Allowable H.W.
11Ac	24cfs	759.43
Estimated Quantities		
Item 601	Rock Channel Prot. Type B W/Bed.	2.7 CY
Item 601	Rein. Conc. Riprap, 6"	5 SY
Item 602	Concrete Masonry	1.1 CY
Item 603	27" Type A D-1250, 706.08 or 30" 707.05	212 L.F.

Plan of 27" Pipe Culvert

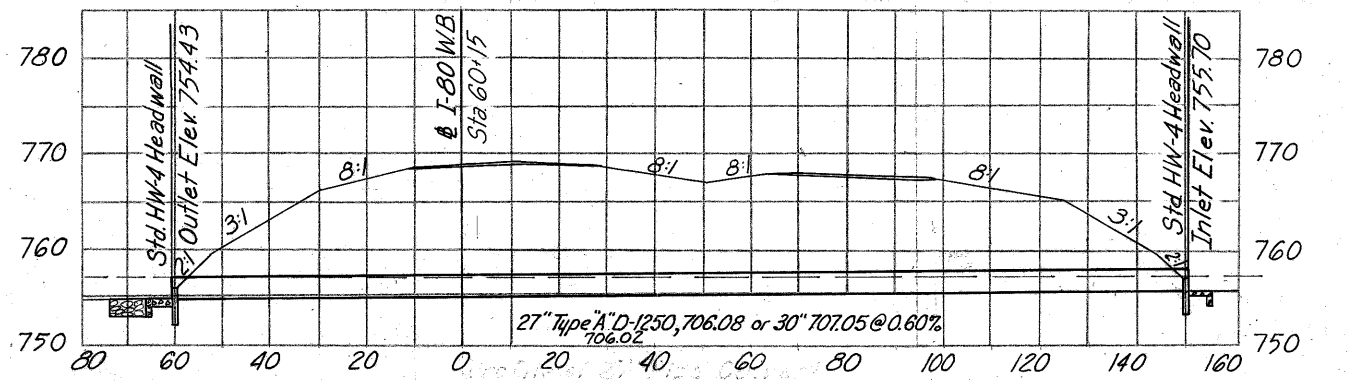


Q<sub>100</sub> = 27.6 cfs  
100 yr. HW elev. = 760.00



Profile 30" Pipe Culvert @ 0.28%

Scale 1" = 20'



1" = 10' Vertical

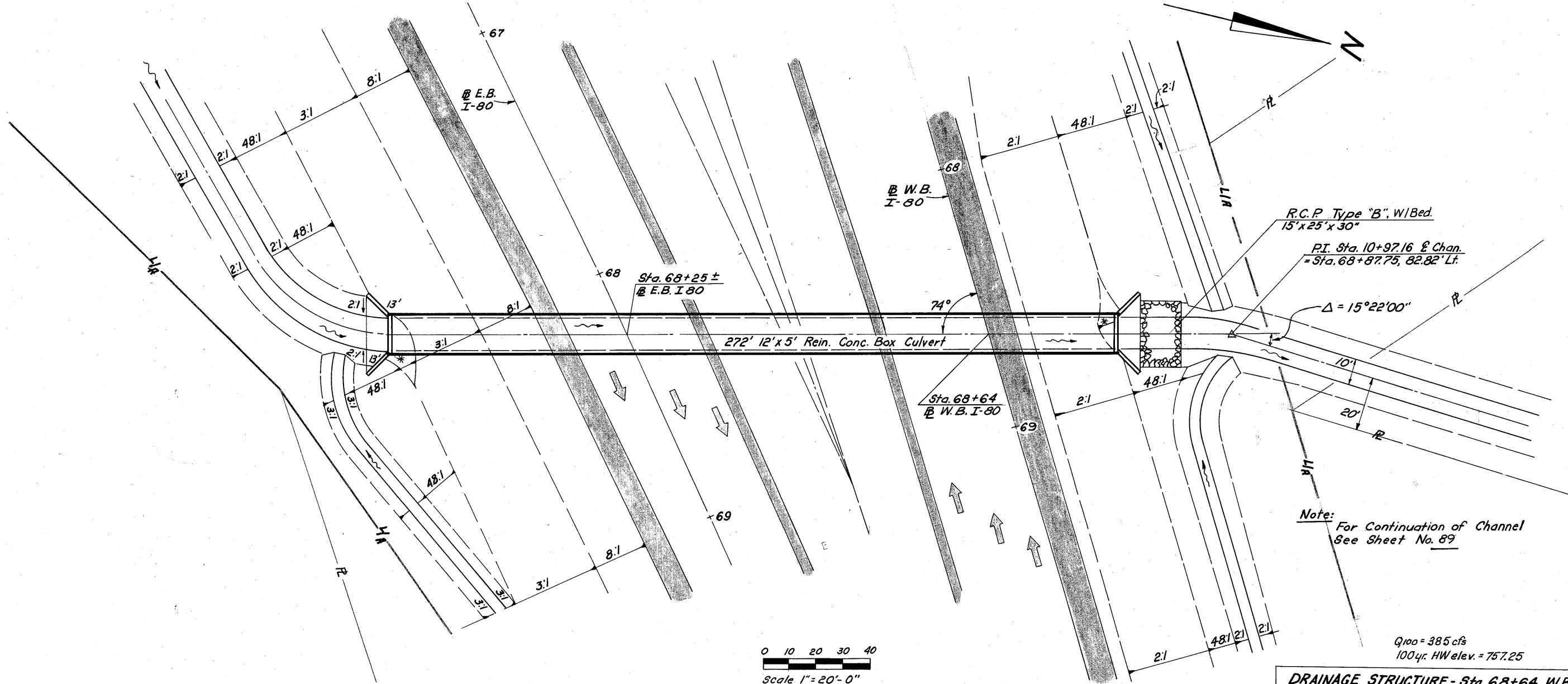
CALC. BY DRH DATE 7/21/70  
CHKD. BY LVC DATE 8/4/70

MICROFILMED  
JUL 18 1983

FED. RD. DIVISION	STATE	PROJECT
2	OHIO	

88  
375

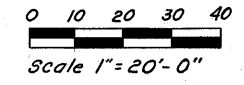
LORAIN COUNTY  
LOR.-80-18.62



R.C.P. Type "B" W/Bed  
15' x 25' x 30'  
P.I. Sta. 10+97.16 & Chan.  
= Sta. 68+87.75, 82.82' Lt.

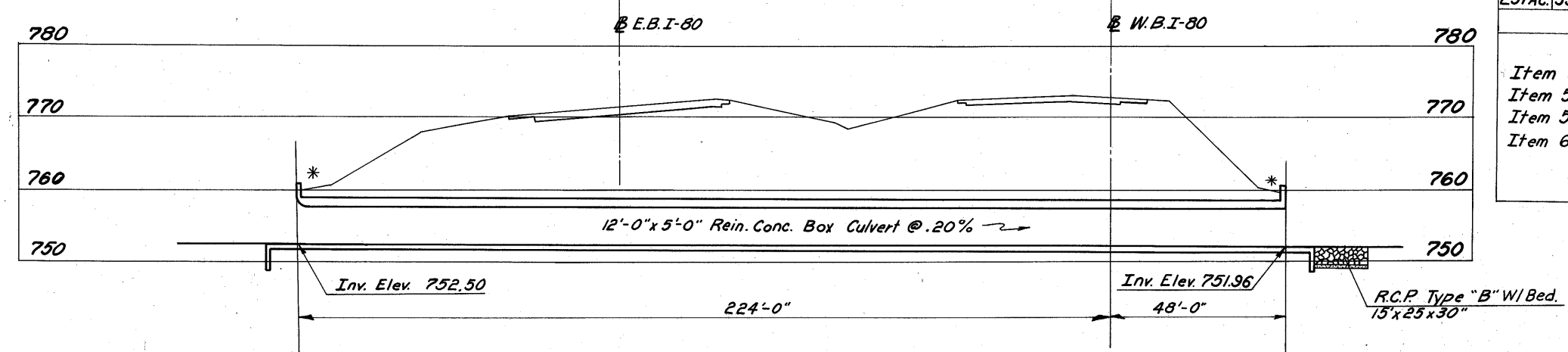
$\Delta = 15^{\circ}22'00''$

Note:  
For Continuation of Channel  
See Sheet No. 89



$Q_{100} = 385 \text{ cfs}$   
100yr. HW elev. = 757.25

\* Variable Slope to Maintain Cover Over Culvert



DRAINAGE STRUCTURE - Sta. 68+64 W.B. I-80		
DESIGN INFORMATION		
DA	Q 50	Allowable Headwater Elev.
231Ac.	338cfs	757.0
ESTIMATED QUANTITIES		
Item 503-	Unclassified Excavation	1018 Cu. Yd.
Item 509-	Reinforcing Steel	83,511 lbs.
Item 511-	Class "C" Concrete	517 Cu. Yd.
Item 601-	Rock Channel Protection Type "B" W/Bedding	42 Cu. Yd.

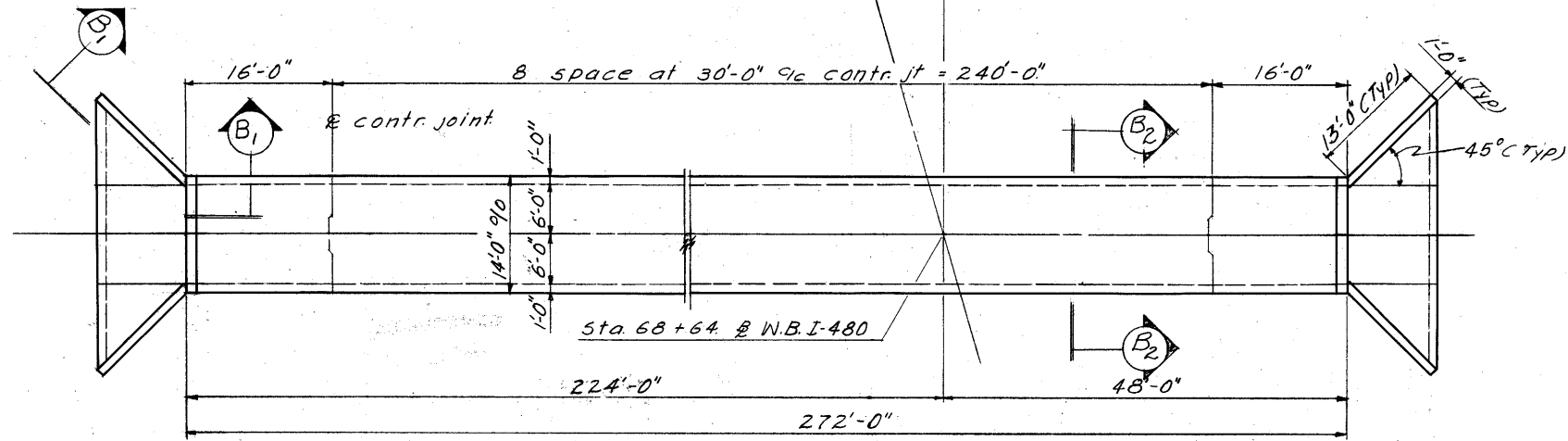
CALC. BY DPH DATE 2/16/71  
CHKD BY LVC DATE 2/17/71

MICROFILMED  
JUL 18 1983

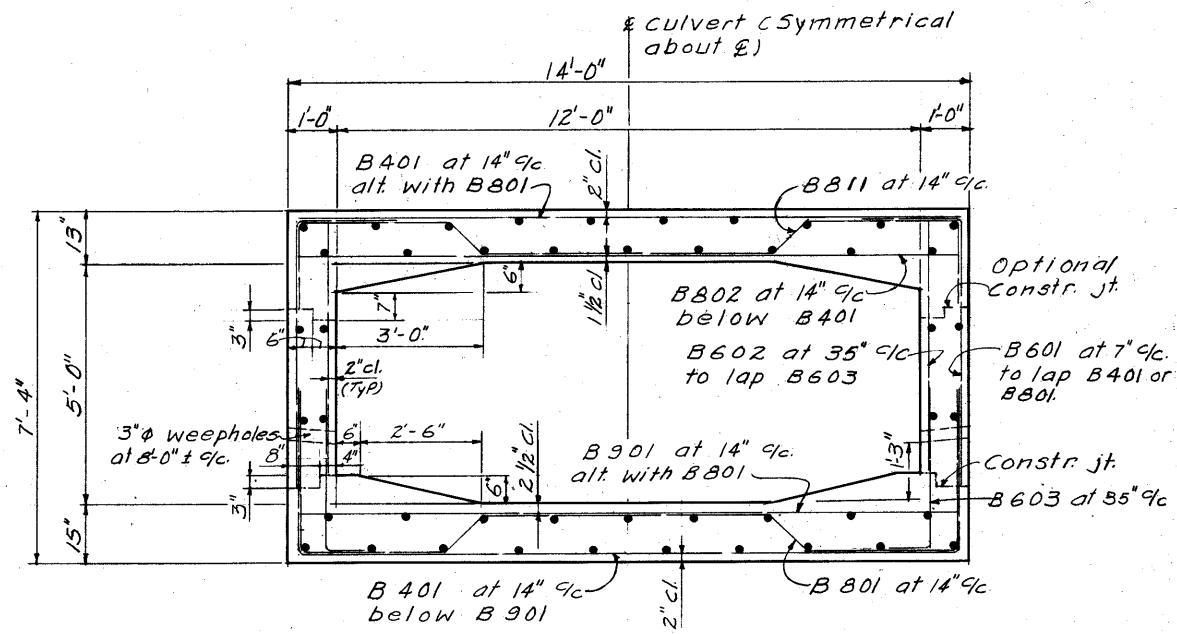
FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

LORAIN COUNTY  
LOR.-80-18.62

84  
375

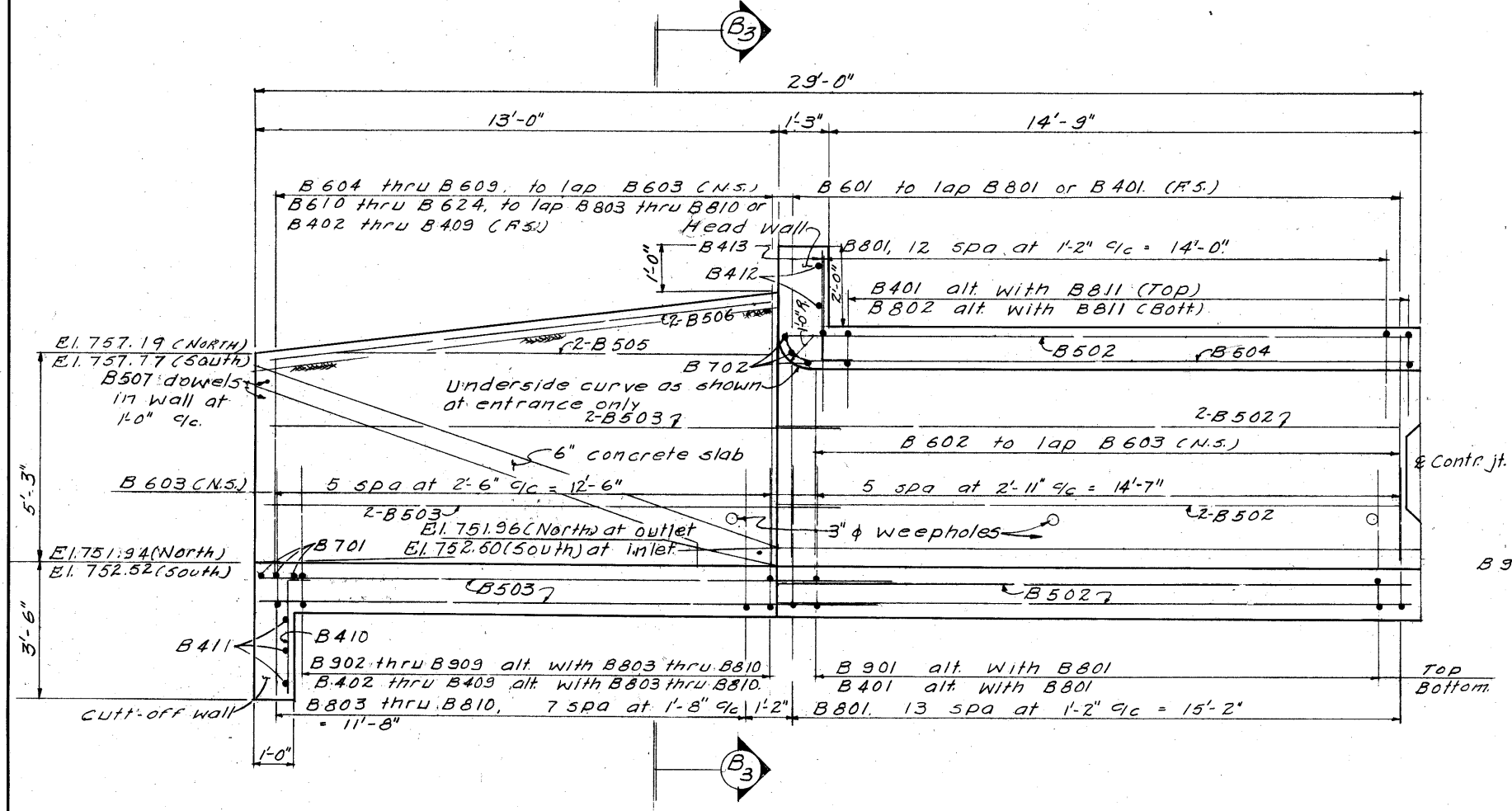


SCHEMATIC PLAN

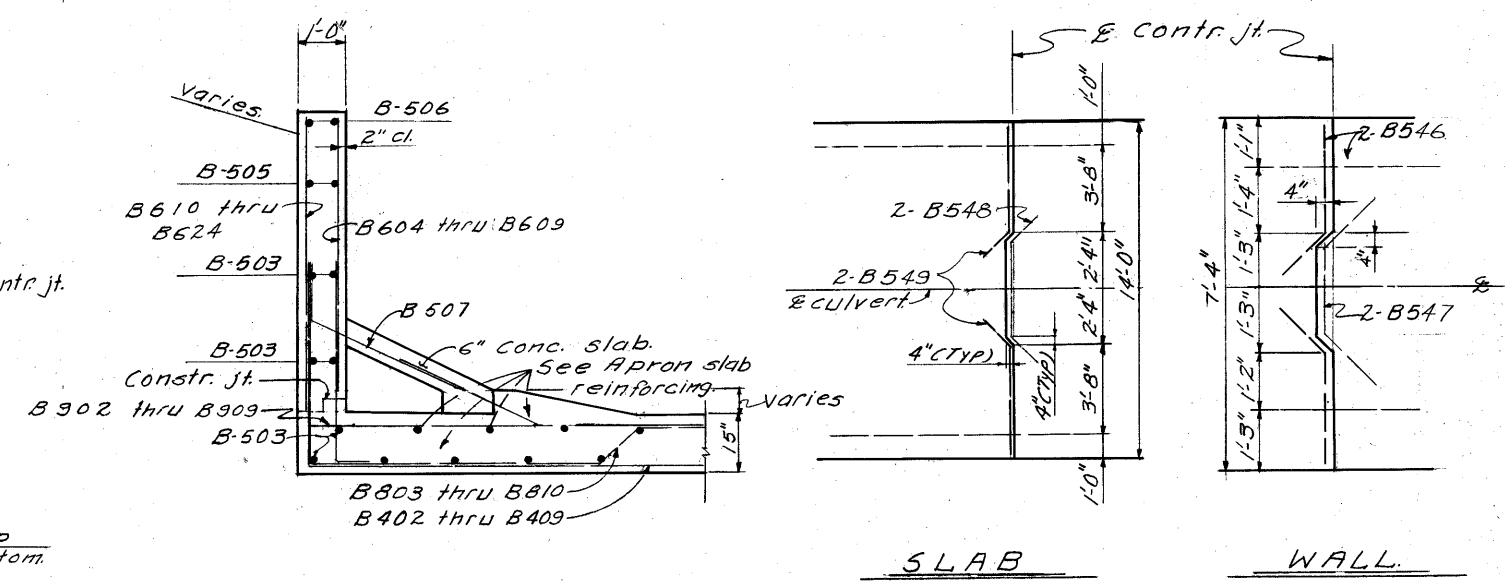


SECTION B<sub>2</sub>-B<sub>2</sub>

Note: All longitudinal bars shall be B501 for interior sections & B502 for exterior sections.



ELEVATION B<sub>1</sub>-B<sub>1</sub>  
(Typical Both ends)

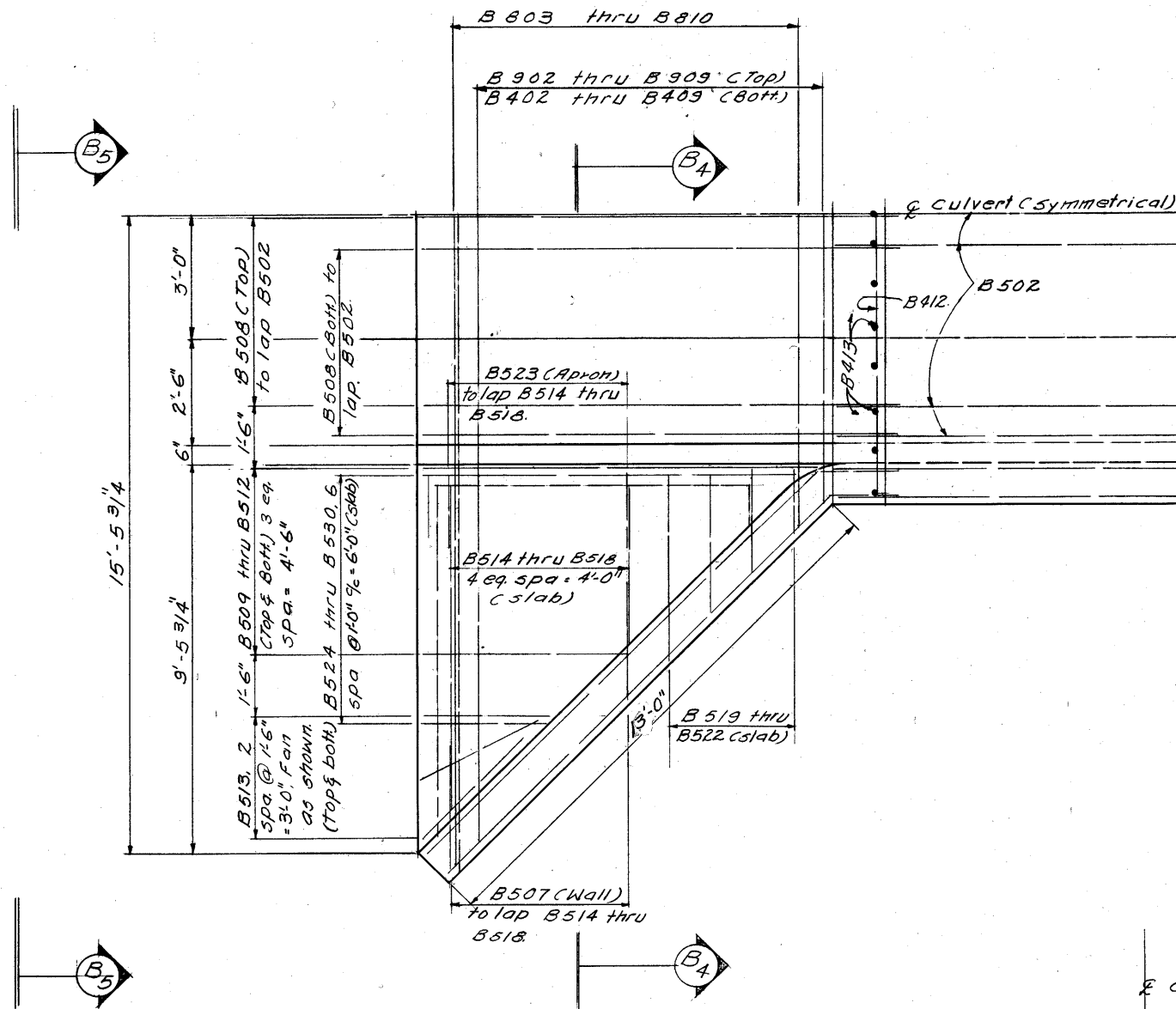


SECTION B<sub>3</sub>-B<sub>3</sub>

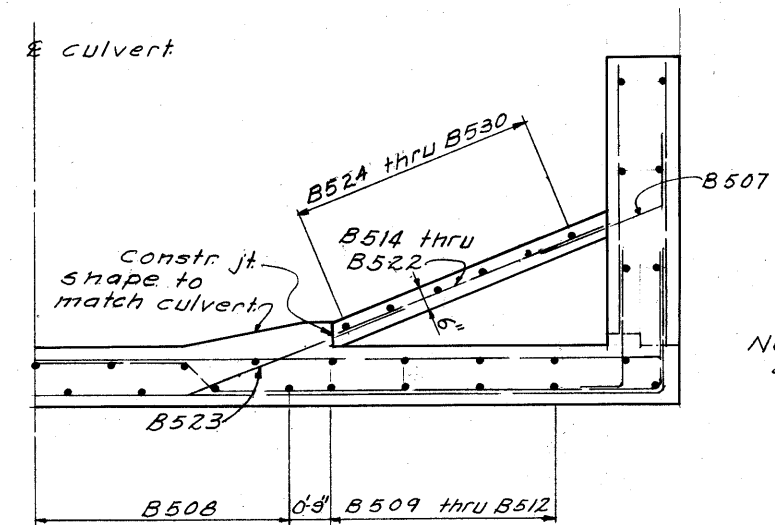
CONTRACTION JOINT DETAILS

Estimated Quantity of 517 Cu. Yds. Item 511 Class "C" Concrete  
Carried to Sheet No. 83.

CHKD. BY RSS DATE 3/8/71  
CHKD. BY GWM DATE 3/10/71

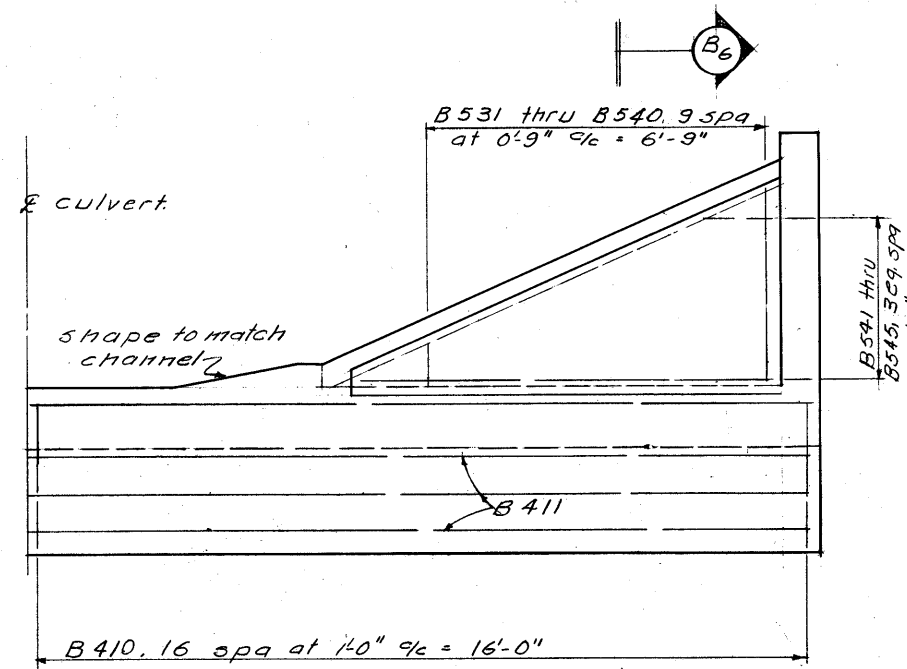


HALF APRON SLAB REINFORCING

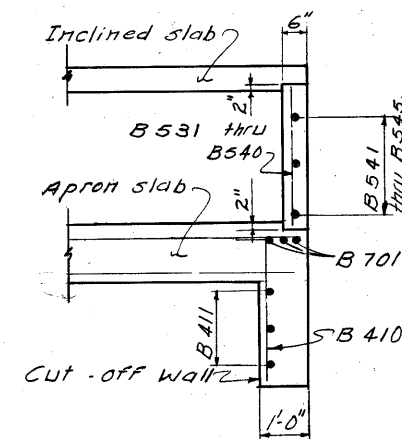


SECTION B4-B4

Note: For reinforcing details & dimensions not shown see Elevation B1-B1.



VIEW B5-B5



SECTION B6-B6

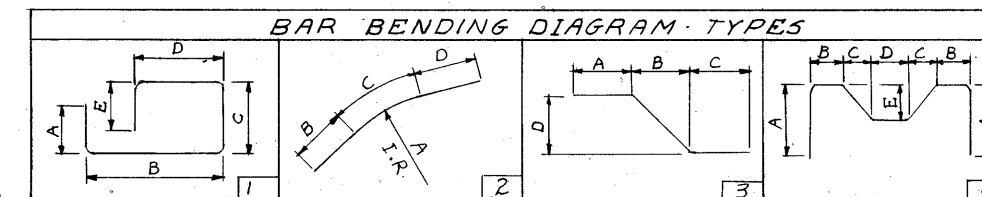
Note: For simplicity only sidewall & cut-off wall reinforcement shown.

CULVERT AT STA 68+64 W.B.I-480

MARK	NUM	LTH	WT	TYPE	A	B	C	D	E	NOTE
B401	458	18'-6"	5784	1	2'-7"	13'-7"	2'-7"			
B402	2			1	2'-3"	14'-0"	2'-3"			1
THRU			285		Vary Length DIM. B by 2'-4"					
B409	2			1	2'-3"	30'-4"	2'-3"			1
B410	68	3'-5"	154	1	3'-0"	0'-6"				
B411	6	3'-6"	126	ST						
B412	4	13'-8"	37	ST						
B413	30	3'-2"	60	1	2'-9"	0'-6"				
B501	368	29'-8"	11388	ST						
B502	74	15'-8"	1209	ST						
B503	24	14'-5"	360	3	12'-10"	1'-2"	0'-0"	1'-2"		
B504	18	15'-6"	290	2	0'-10"	14'-10"	0'-8"			
B505	8	10'-10"	90	ST						
B506	8	12'-9"	106	ST						
B507	20	3'-10"	80	3	2'-5"	0'-7"	0'-0"	1'-4"		
B508	30	11'-5"	357	ST						
B509	8	9'-6"		ST						1
THRU			240		Vary Length BY 1'-2"					
B512	8	4'-10"		ST						1
B513	24	3'-3"	82	ST						
B514	4	4'-2"		ST						1
THRU			132		Vary Length by 1'-1"					
B518	4	8'-6"		ST						1
B519	4	4'-3"		ST						1
THRU			53		Vary Length BY 1'-1"					
B522	4	1'-6"		ST						1
B523	20	3'-2"	66	ST						
B524	4	8'-9"		ST						1
THRU			171		Vary Length BY 0'-11 1/2"					
B530	4	3'-0"		ST						1
B531	4	0'-10"		ST						1
THRU			101		Vary Length BY 0'-4 1/4"					
B540	4	4'-0"		ST						1
B541	4	1'-5"		ST						1
THRU			102		Vary Length BY 1'-9"					
B545	4	8'-5"		ST						1
B546	36	3'-8"	126	3	2'-3"	1'-2"	0'-0"	1'-2"		
B547	18	3'-1"	58	4			1'-2"	1'-8"	1'-2"	
B548	18	5'-5"	102	4			1'-2"	4'-0"	1'-2"	
B549	36	5'-10"	219	3	4'-6"	1'-2"		1'-2"		
B601	940	7'-6"	10590	1	5'-9"	1'-11"				
B602	200	5'-8"	1703	ST						
B603	224	4'-1"	1374	1	3'-6"	0'-9"				
B604	4	6'-4"		ST						1
THRU			204		Vary Length by 0'-3 1/2"					
B609	4	5'-0"		ST						1
B610	4	6'-4"		ST						1
THRU			511		Vary Length by 0'-1"					
B624	4	5'-0"		ST						1
B701	6	3'-6"	386	ST						
B702	6	13'-8"	166	ST						
B801	236	20'-5"	12861	4	3'-6"	3'-0"	0'-10"	6'-0"	0'-10"	
B802	234	13'-8"	8541	ST						
B803	4	38'-5"		4	3'-6"	12'-0"	0'-10"	6'-0"	0'-10"	1
THRU			2641		Vary Dim B BY 1'-1"					
B810	4	23'-5"		4	3'-6"	4'-6"	0'-10"	6'-0"	0'-10"	1
B811	234	17'-1"	10673	4	1'-9"	3'-0"	0'-9"	6'-0"	0'-9"	
B901	234	13'-8"	10876	ST						
B902	2	14'-0"		ST						1
THRU			1206		Vary Length BY 2'-3"					
B909	2	30'-4"		ST						1
REPLACEMENT STEEL										
RE 401	1	6'-3"		ST						
RE 501	1	6'-7"		ST						
RE 601	1	6'-11"		ST						
RE 701	1	7'-3"		ST						
RE 801	1	7'-6"		ST						
RE 901	1	7'-10"		ST						

**NOTES**  
1 indicates series bar. Each bar varies from adjacent bars by tabulated amount(s). Calculated to nearest 1/8 inch. Weight shown is for entire series utilizing average length.

**BAR SIZE DESIGNATION**  
Bar size is indicated in the bar mark. The first digit where three digits are used, and first two digits where four digits are used indicate the bar size number. For example B501 is a No 5 size bar & B1040 is a No 10 size bar.

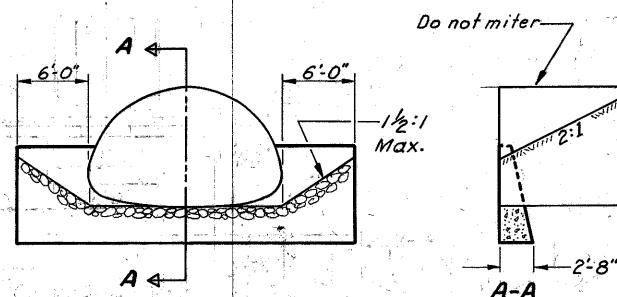
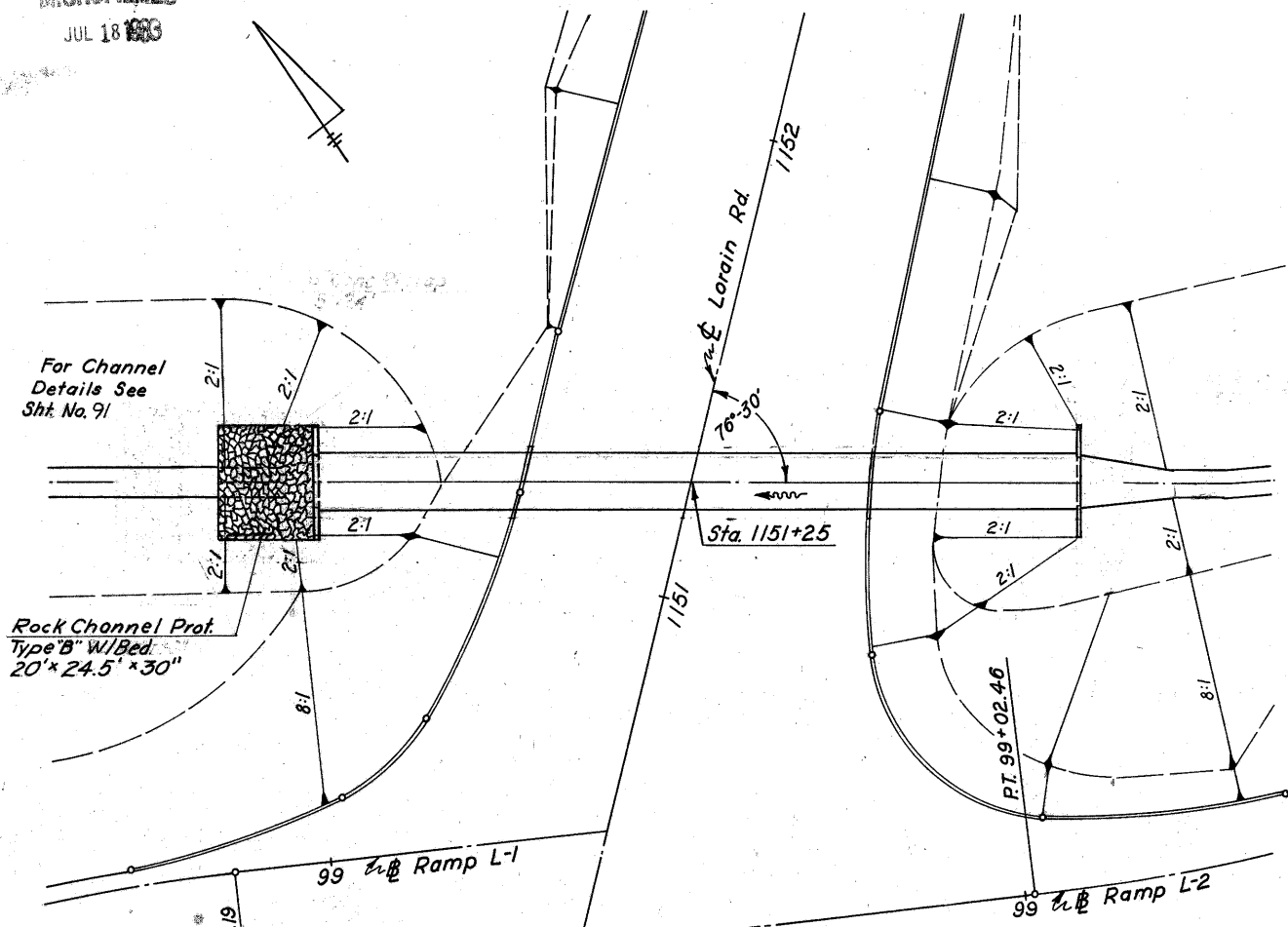


Estimated Quantity of 83,511 lbs. Item 509 Reinforcing Steel Carried To Sheet No. 83



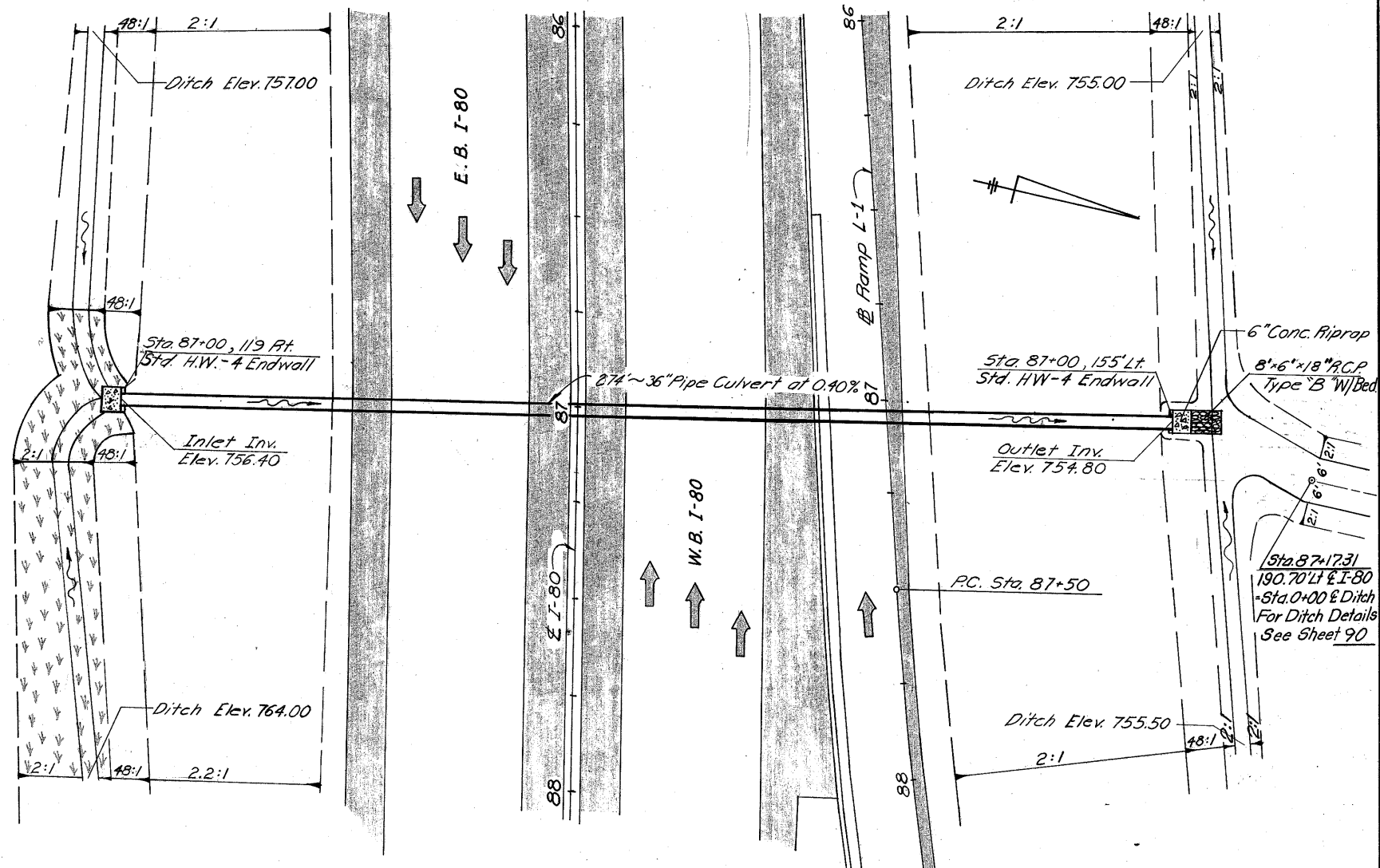
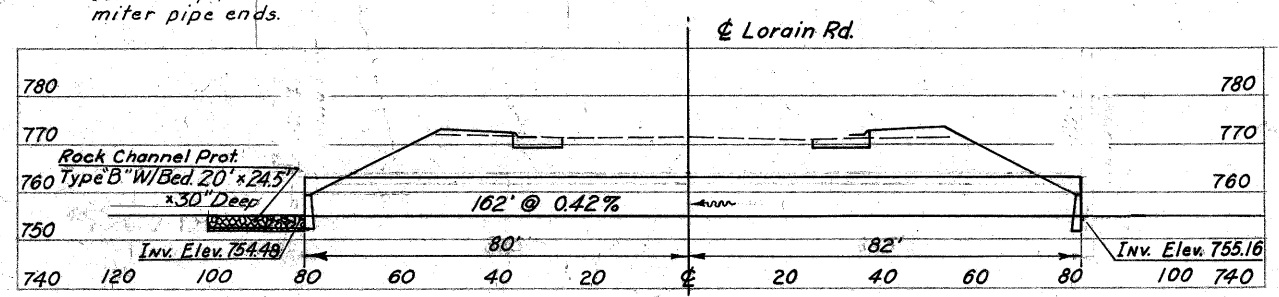
MICROFILMED  
JUL 18 1963

LORAIN COUNTY  
LOR-80-18.62

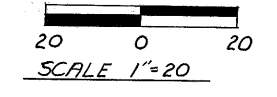


DRAINAGE STRUCTURE - Sta. 1151+25 $\phi$ Lorain Rd.		
DESIGN INFORMATION		
DA	Q50	Allowable Headwater Elev.
756 Ac.	780 cfs	763.7
Type Headwall - Std. SP-53		
ESTIMATED QUANTITIES		
Item 601 - Rock Channel Prot. Type "B" w/Bed.		45 C.Y.
Item 602 - Concrete Masonry		22.3 C.Y.
Item 603 - 97" x 151", 706.04 HE-III or 15'-10" x 9'-10", 707.03 (.138-.168)		162 L.F.

Q100 = 910 cfs  
100 yr. HW elev. = 764.7

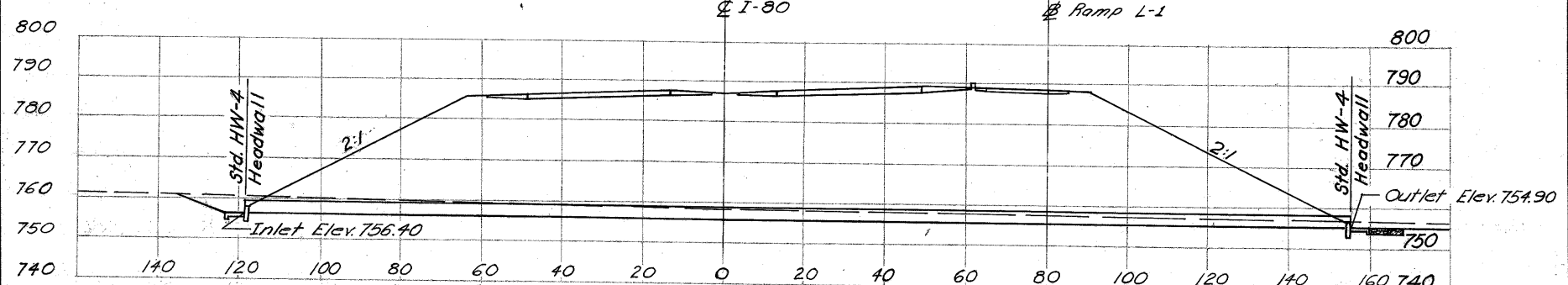


PLAN OF 36" PIPE CULVERT AT STA. 87+00  $\phi$  I-80



DRAINAGE STRUCTURE STA. 87+00 $\phi$ I-80		
Q50	DA	
34 c.f.s.	8 Ac.	
Type HW-4 Endwalls		
Estimated Quantities		
Item 601 - 6" Conc. Riprap		10.5 Y.
Item 601 RCP Type "B" w/Bed.		3 C.Y.
Item 602 Conc. Masonry		1.5 C.Y.
Item 603 - 36" Conduit Type "A"		274 L.F.
	706.02 D-2750 or 48" 707.05 (079)	
Item 660 - Sodding		338.3 S.Y.

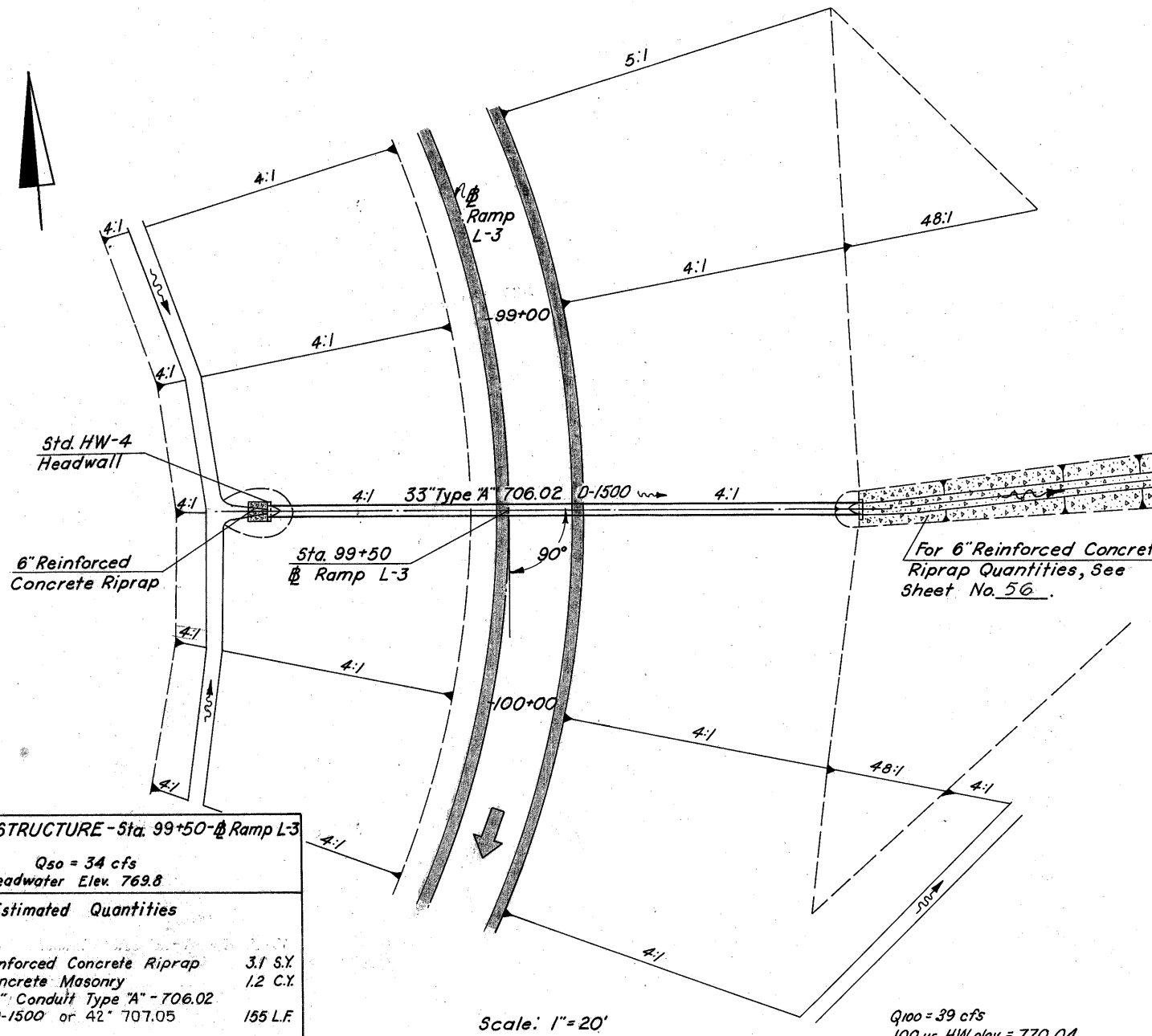
Q100 = 39 cfs  
100 yr. HW elev. = 759.49



PROFILE OF 36" PIPE CULVERT, 274' AT 0.40%

CALC. BY EJK DATE 9/16/70  
CHKD BY DRH DATE 9/18/70

Culvert Detail - Sta. 87+00  $\phi$  I-80



**DRAINAGE STRUCTURE - Sta. 99+50 - Ramp L-3**

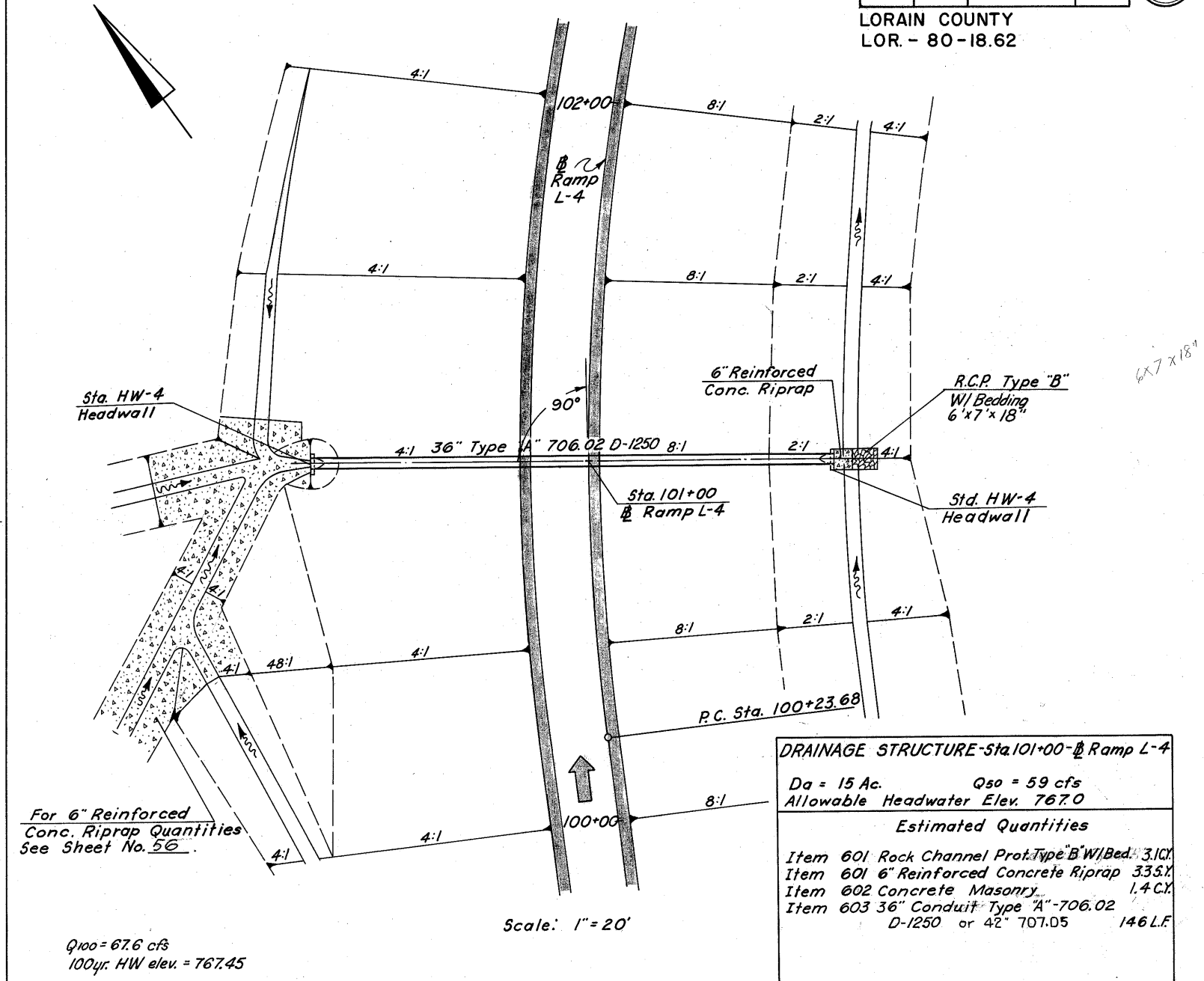
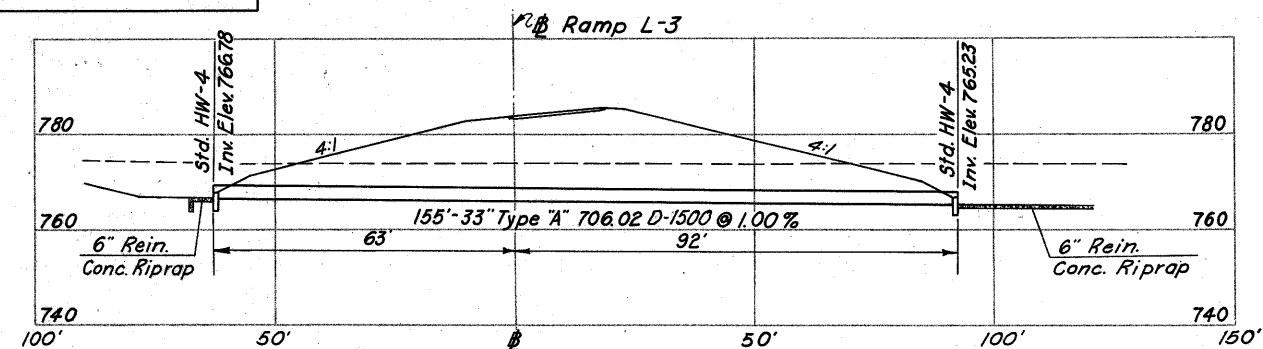
Da = 8 Ac. Q<sub>50</sub> = 34 cfs  
Allowable Headwater Elev. 769.8

**Estimated Quantities**

Item 601 Reinforced Concrete Riprap	3.1 S.Y.
Item 602 Concrete Masonry	1.2 C.Y.
Item 603 33" Conduit Type "A" - 706.02 D-1500 or 42" 707.05	155 L.F.

Scale: 1" = 20'

Q<sub>100</sub> = 39 cfs  
100 yr. HW elev. = 770.04



Scale: 1" = 20'

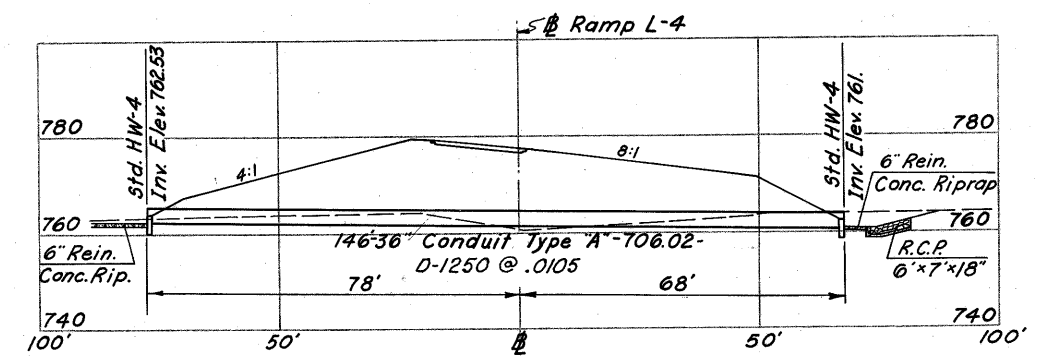
Q<sub>100</sub> = 67.6 cfs  
100 yr. HW elev. = 767.45

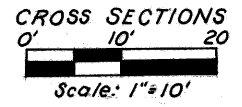
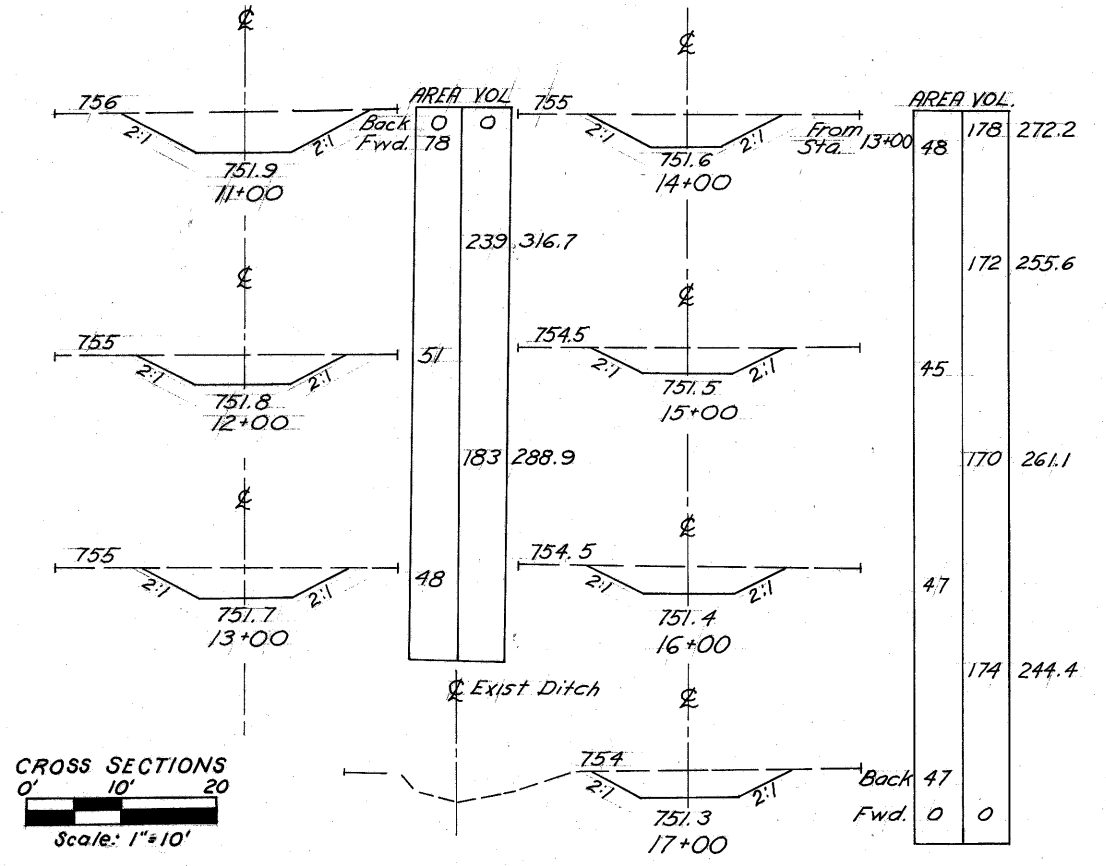
**DRAINAGE STRUCTURE - Sta. 101+00 - Ramp L-4**

Da = 15 Ac. Q<sub>50</sub> = 59 cfs  
Allowable Headwater Elev. 767.0

**Estimated Quantities**

Item 601 Rock Channel Prot. Type "B" W/ Bed. 6'x7'x18"	3.1 C.Y.
Item 601 6" Reinforced Concrete Riprap	33.5 Y.
Item 602 Concrete Masonry	1.4 C.Y.
Item 603 36" Conduit Type "A" - 706.02 D-1250 or 42" 707.05	146 L.F.

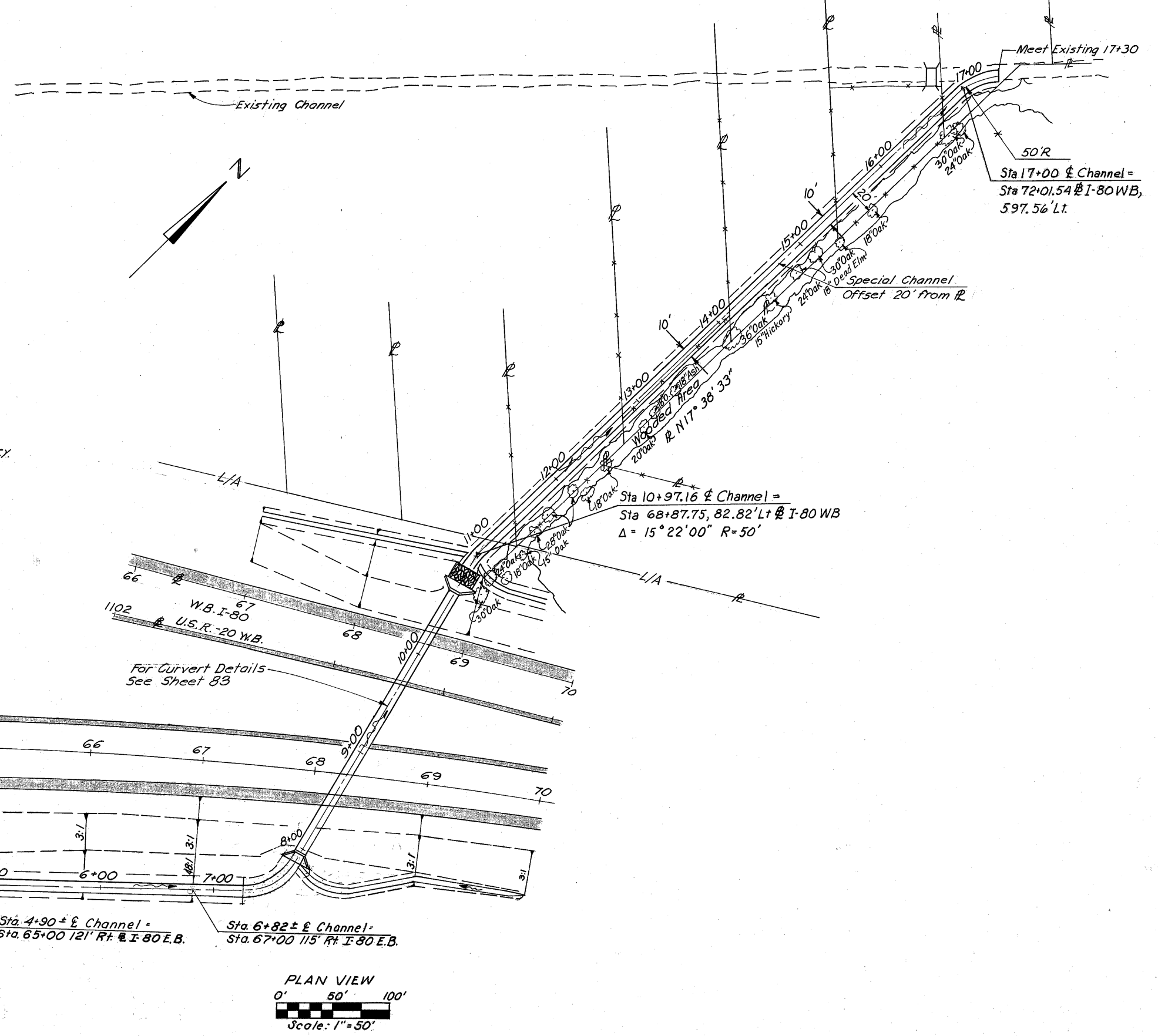




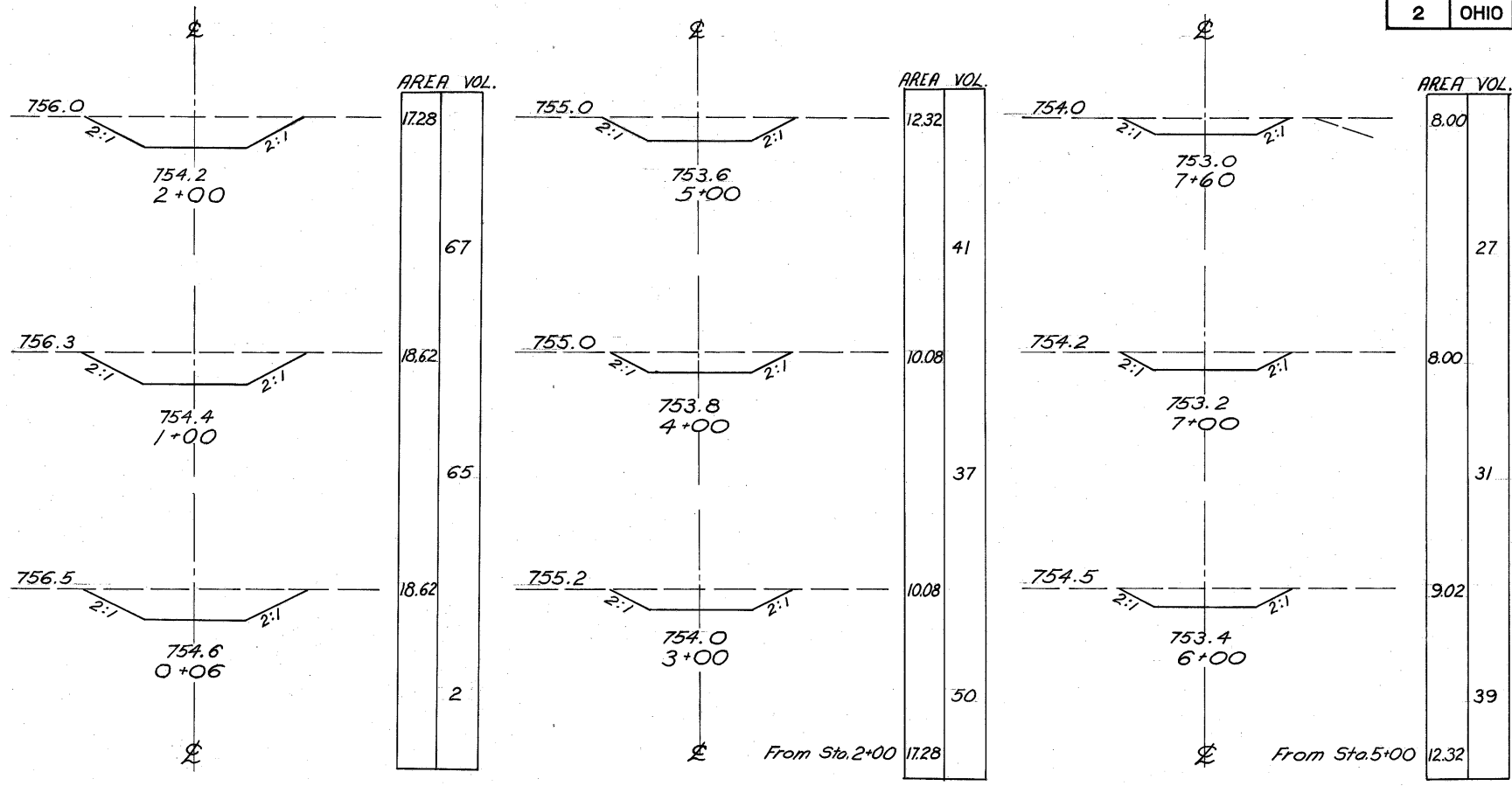
Relocated Channel Cross Sections

Channel Excavation  
Total Quantities 1116.0 CY. Exc.  
Quantities carried to sheet No. 140  
Channel Seeding  
Total Quantities 1638.9 SY. Seeding  
Quantities carried to sheet No. 140

Seed 1638.9 SY.  
Exc. 1116.0 CY.

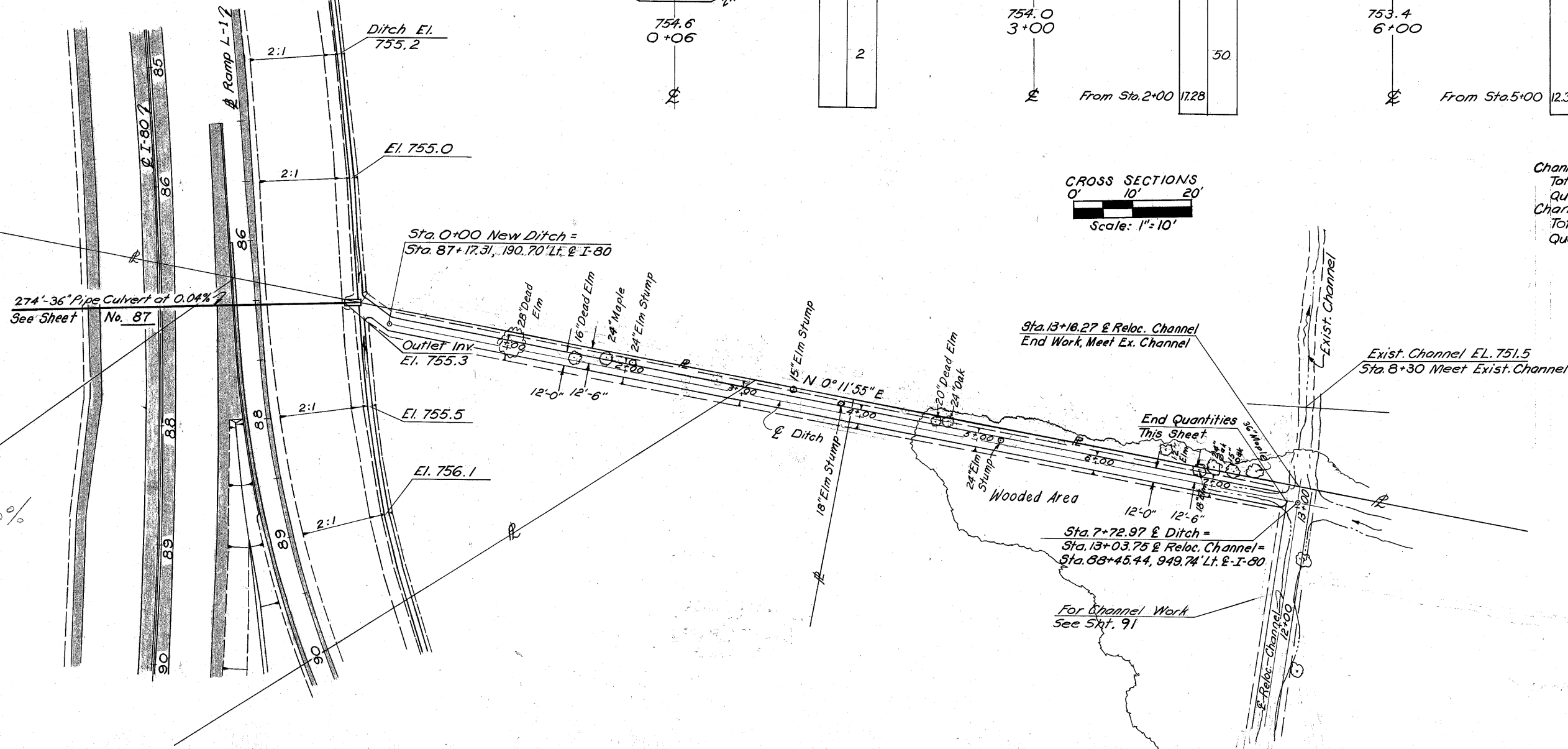


Note: Channel Excavation From Sta. 0+90 to Sta. 7+81 Carried on Main Line Cross Sections. See Sht. No. 116 & 117



CROSS SECTIONS  
0' 10' 20'  
Scale: 1"=10'

Channel Excavation  
Total quantities 359 CY Exc.  
Quantities carried to Sheet No. 150  
Channel Seeding  
Total quantities 235 S.Y. Seed.  
Quantities carried to Sheet No. 150



0' 50' 100'  
Scale: 1"=50'

CALC. BY LVC 7/31/20  
CHKD. BY DRH 8/3/20

MICROFILMED  
JUL 18 1963

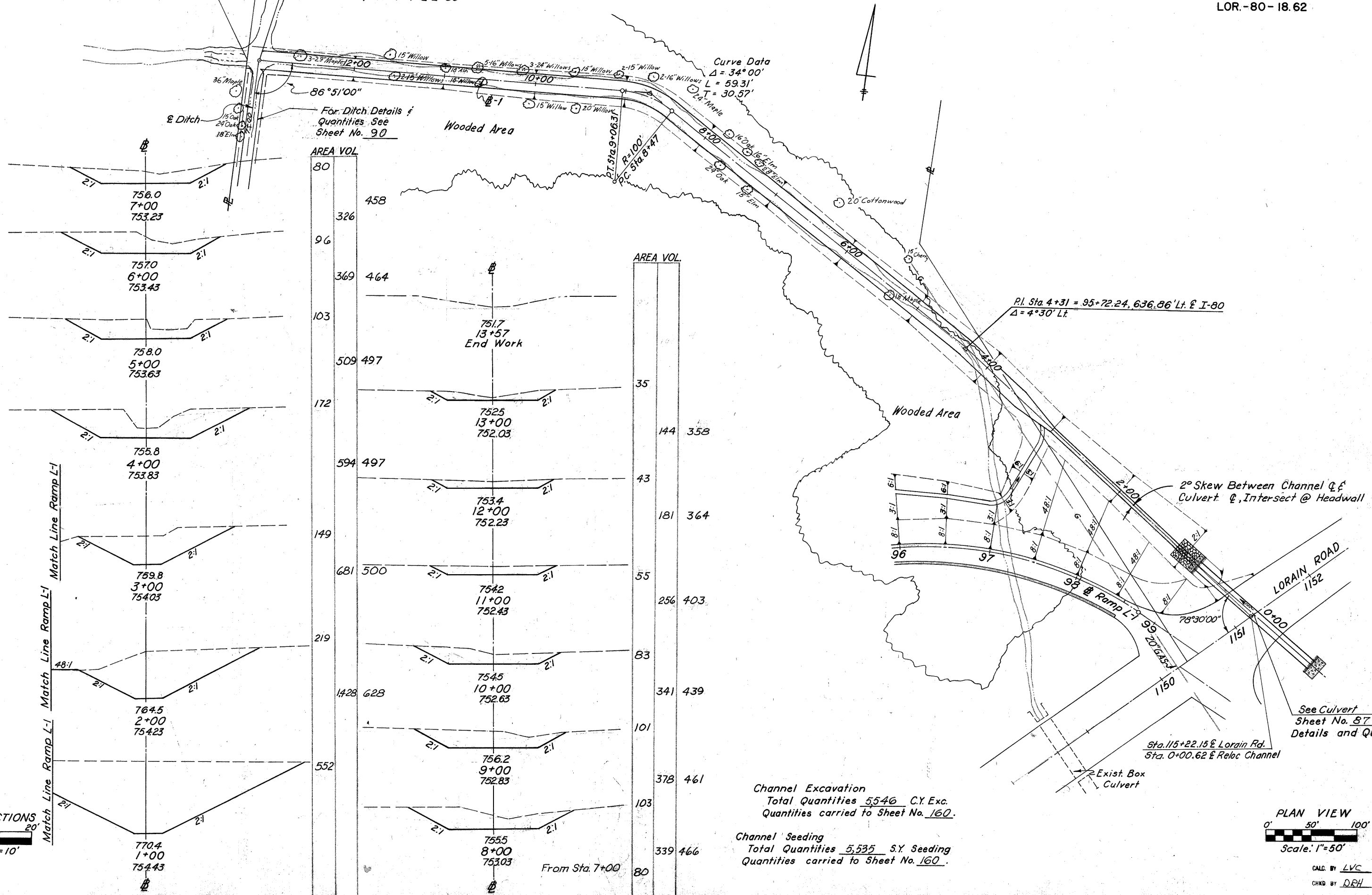
End Work Meet Exist Channel  
Sta. 13+16.27 & Reloc. Channel  
Exist. Elev. 751.5

Sta. 13+03.75 & Reloc. Channel =  
= Sta. 7+72.97 & Ditch  
= Sta. 88+45.44, 949.74' Lt. & I-80

FED. RD. DIVISION	STATE	PROJECT
2	OHIO	

91  
375

LORAIN COUNTY  
LOR.-80-18.62



Curve Data  
 $\Delta = 34^{\circ}00'$   
 $L = 59.31'$   
 $T = 30.57'$

P.I. Sta. 4+31 = 95+72.24, 636.86' Lt. & I-80  
 $\Delta = 4^{\circ}30'$  Lt.

2° Skew Between Channel & Culvert @ Intersect @ Headwall

See Culvert Details  
Sheet No. 87 For  
Details and Quantities.

Sta. 115+22.15 & Lorain Rd.  
Sta. 0+00.62 & Reloc Channel

Channel Excavation  
Total Quantities 5,546 C.Y. Exc.  
Quantities carried to Sheet No. 160.

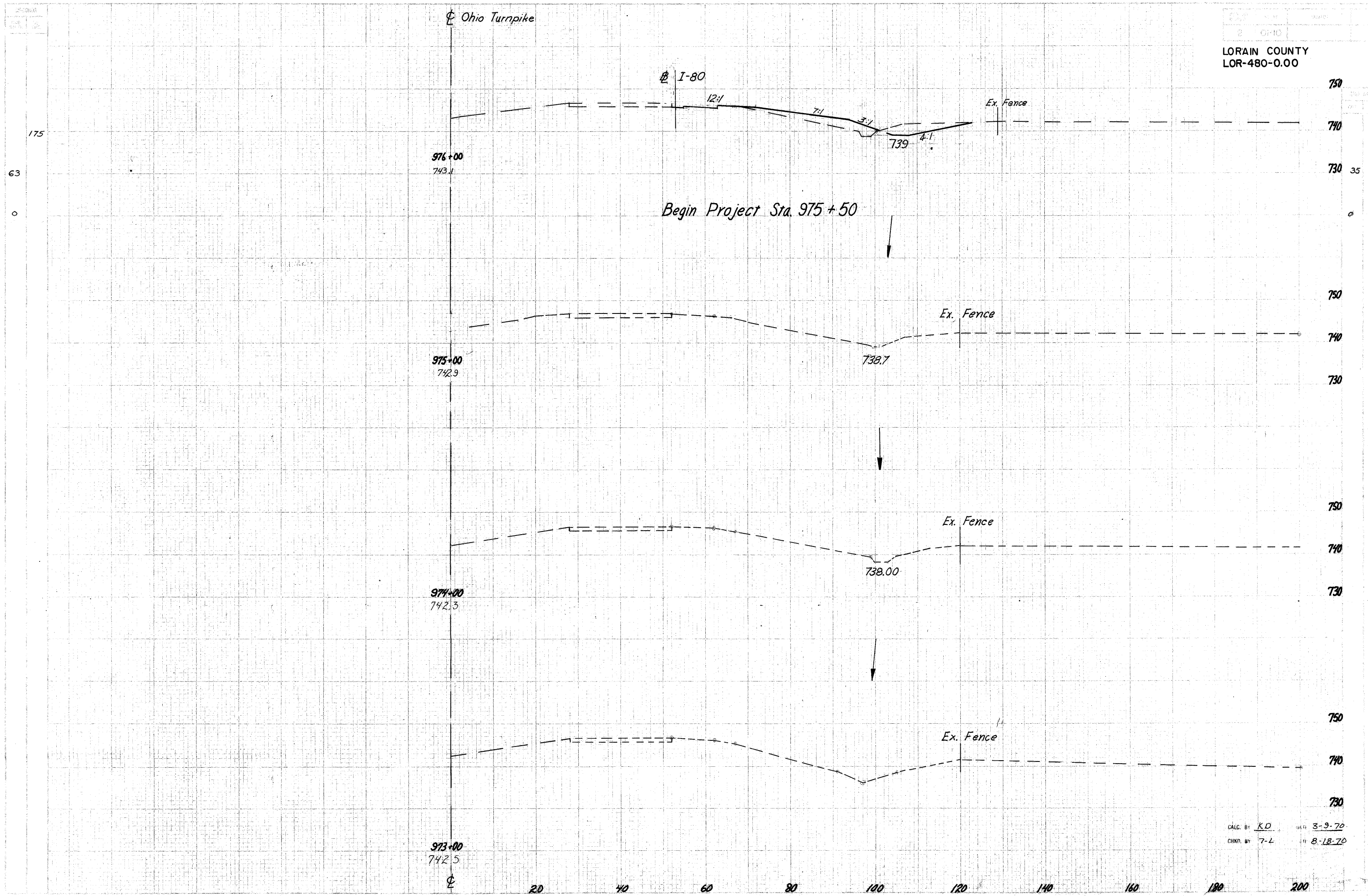
Channel Seeding  
Total Quantities 5,535 S.Y. Seeding  
Quantities carried to Sheet No. 160.

CROSS-SECTIONS  
0' 10' 20'  
Scale: 1"=10'

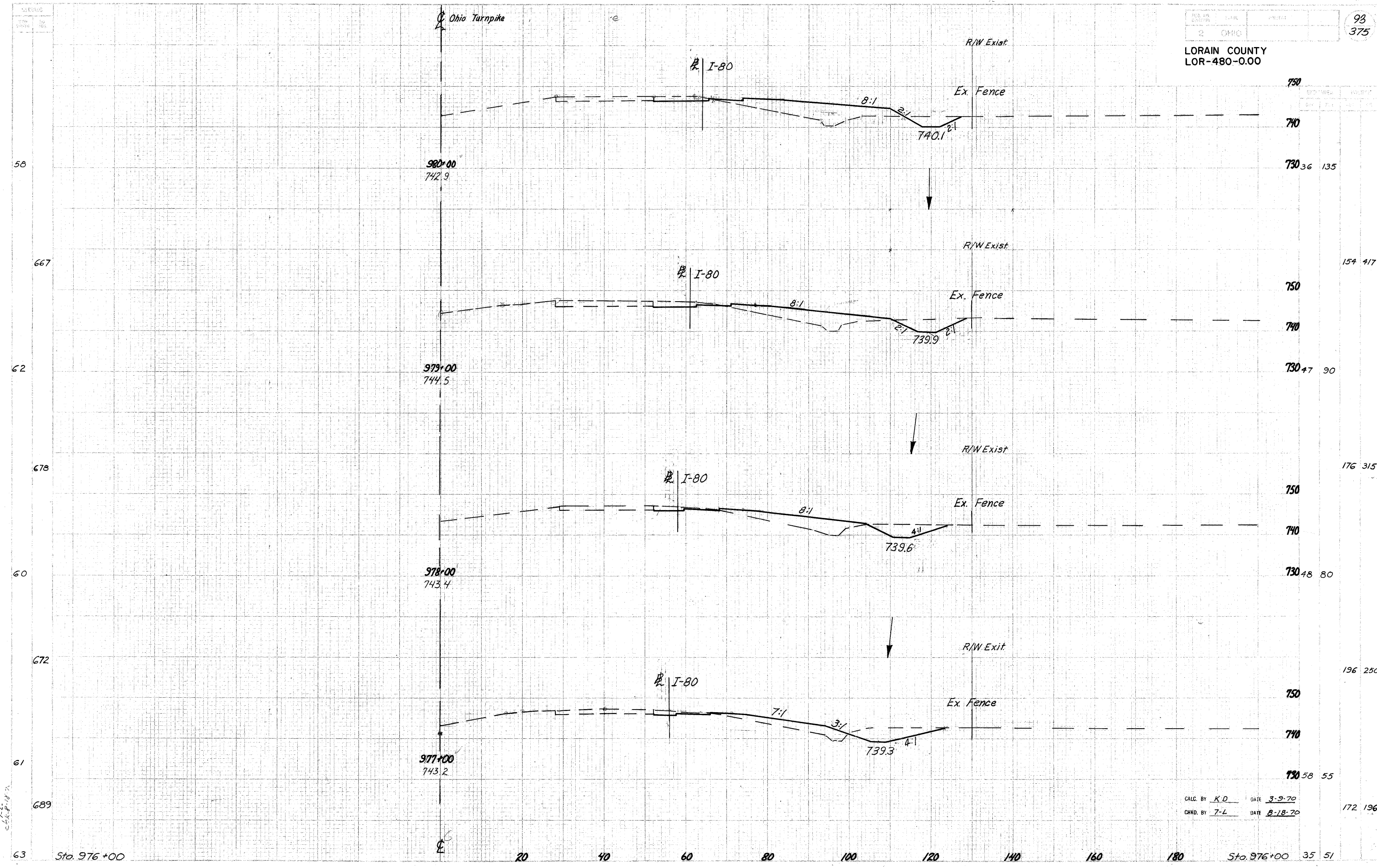
PLAN VIEW  
0' 50' 100'  
Scale: 1"=50'

CALC. BY LVC DATE 7/31/70  
CHKD BY D.E.H. DATE 8/3/70

LORAIN COUNTY  
LOR-480-0.00

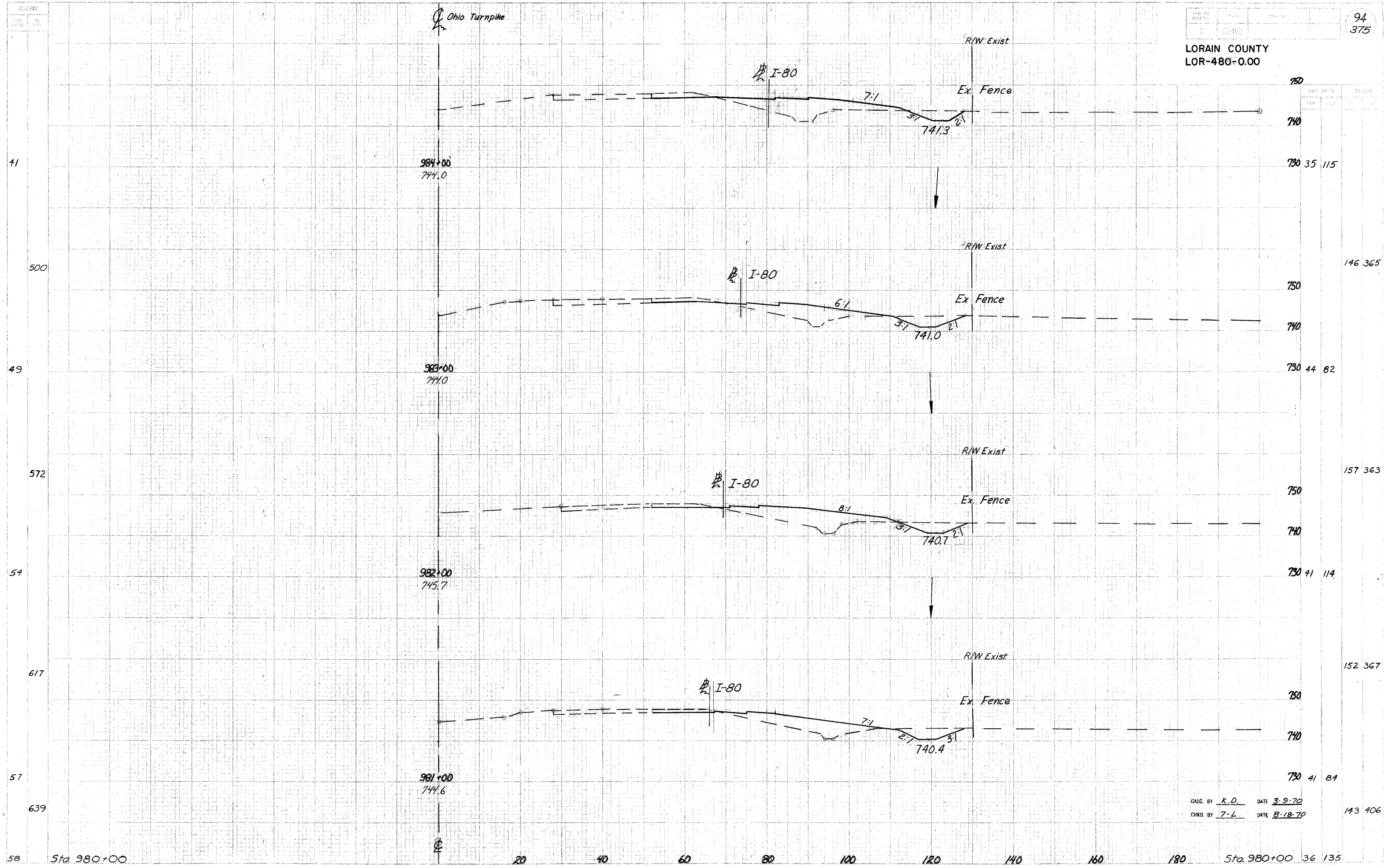


CALC. BY K.D. DATE 3-9-70  
CHKD. BY 7-L DATE 8-18-70



CALC. BY K.D. DATE 3-9-70  
CHKD. BY 7-L DATE 8-18-70

LORAIN COUNTY  
LOR-480-0.00

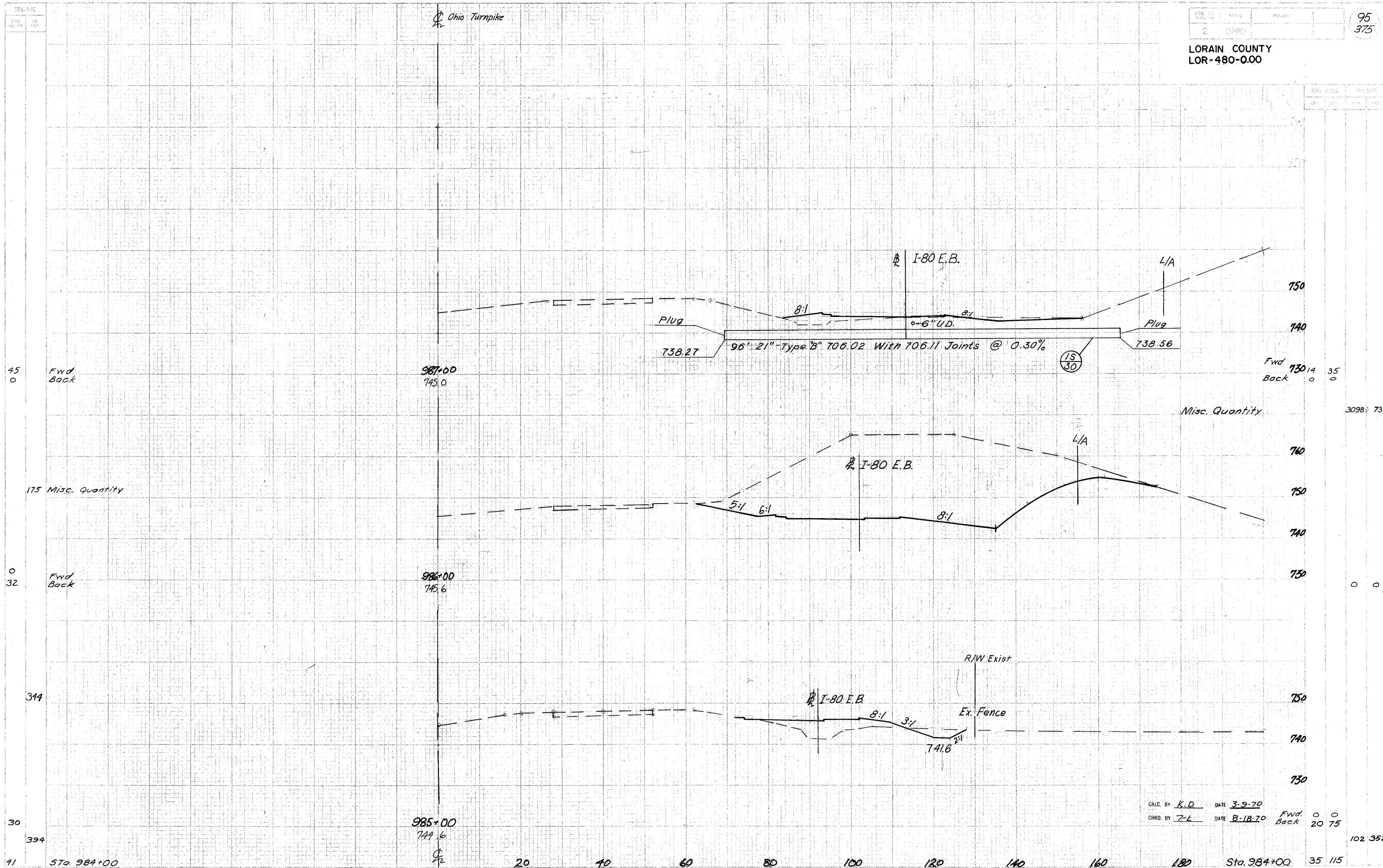


CALC. BY K.O. DATE 3-9-70  
 CHKD. BY 7-L DATE 8-18-70



LORAIN COUNTY  
LOR-480-0.00

Ohio Turnpike



45  
0  
Fwd  
Back

175 Misc. Quantity

0  
32  
Fwd  
Back

344

30

394

11 Sta. 984+00

987+00  
745.0

986+00  
745.6

985+00  
744.6

20 40 60 80 100 120 140 160 180 Sta. 984+00 35 115

Plug

738.27

96'-21" Type B 706.02 With 706.11 Joints @ 0.30%

I-80 E.B.

6" U.D.

15  
30

Plug

738.56

L/A

Fwd 750  
Back 740  
0 35  
0 0

Misc. Quantity

3098 73

I-80 E.B.

L/A

Fwd 760  
Back 750  
0 0

R/W Exist

I-80 E.B.

Ex. Fence

741.6

Fwd 750  
Back 740  
0 0

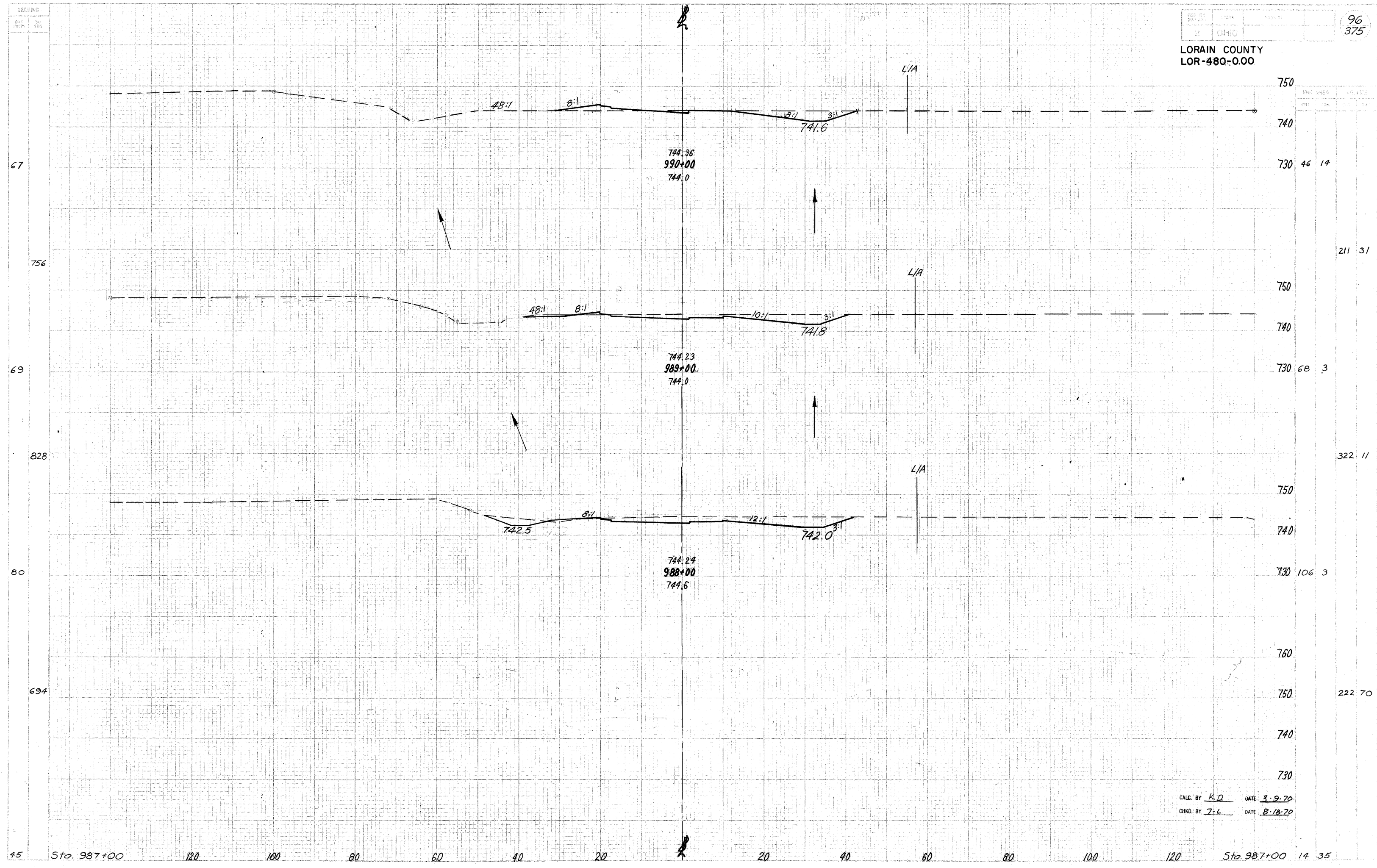
CALC. BY K.D. DATE 3-9-70

CHD. BY T.L. DATE 8-18-70

Fwd 0  
Back 20 75  
0 0

102 352

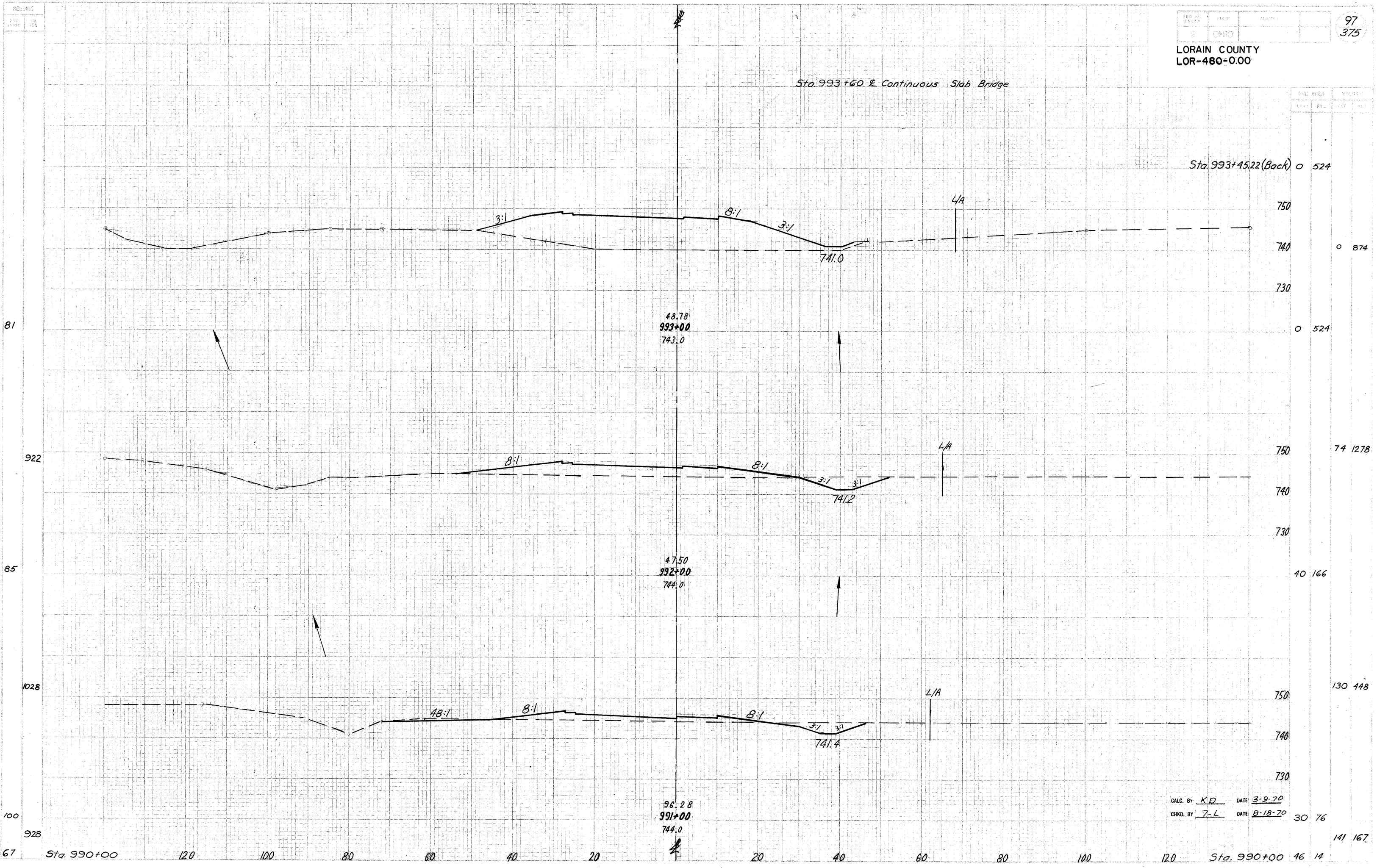
LORAIN COUNTY  
LOR-480-0.00



CALC. BY K.D. DATE 3-9-70  
CHKD. BY T.L. DATE 8-18-70

Sta. 993+60 & Continuous Slab Bridge

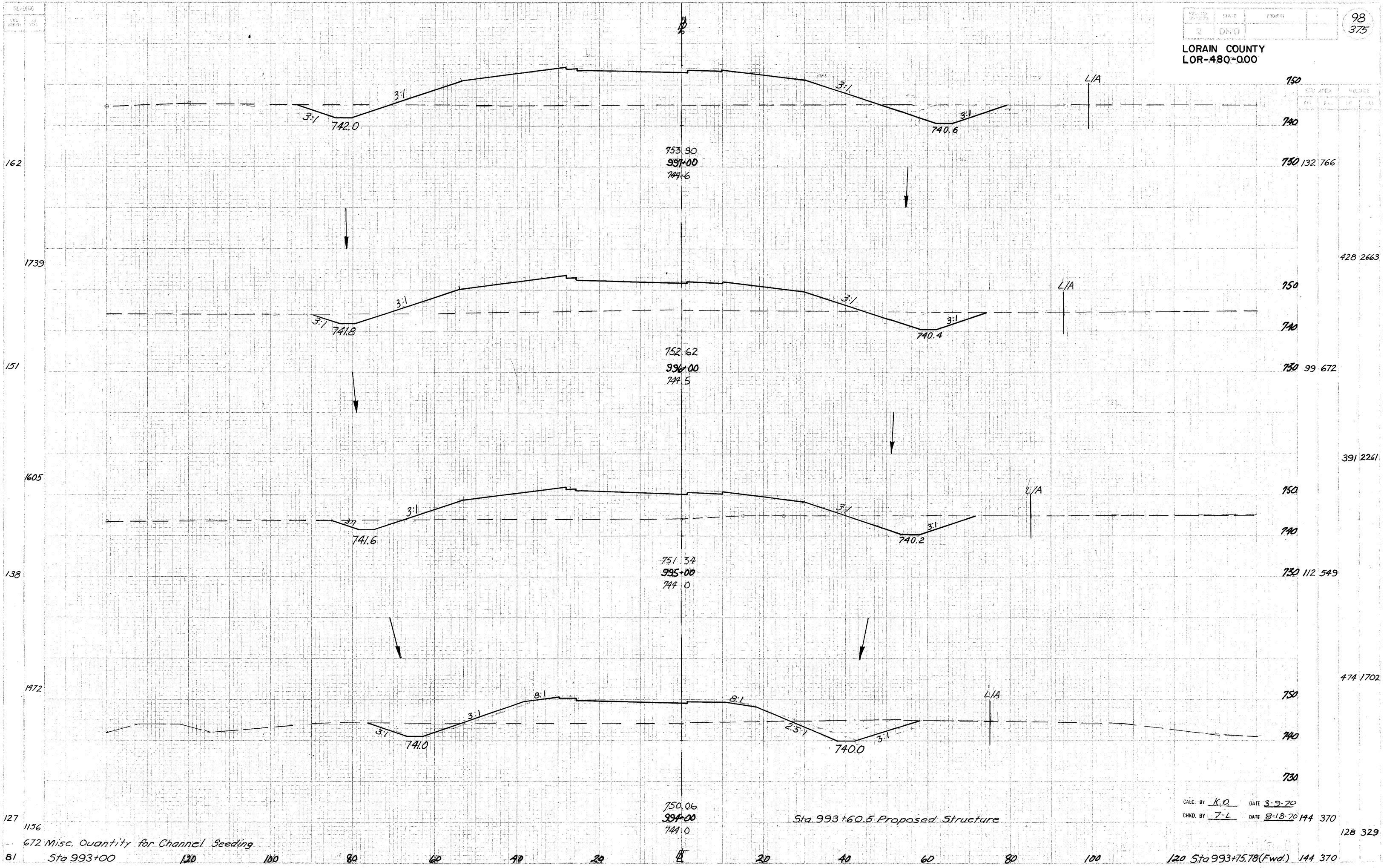
Sta. 993+45.22 (Back) 0 524



CALC. BY K.D. DATE 3-9-70  
CHKD. BY 7-L DATE 8-18-70

30 76  
141 167

LORAIN COUNTY  
LOR-480-0.00



STA.	AREA	VOLUME
150	132	766
151	99	672
138	112	549
127	1156	672
120		
100		
80		
60		
40		
20		
20		
40		
60		
80		
100		
120		

753.90  
997+00  
744.6

752.62  
996+00  
744.5

751.34  
995+00  
744.0

750.06  
994+00  
744.0

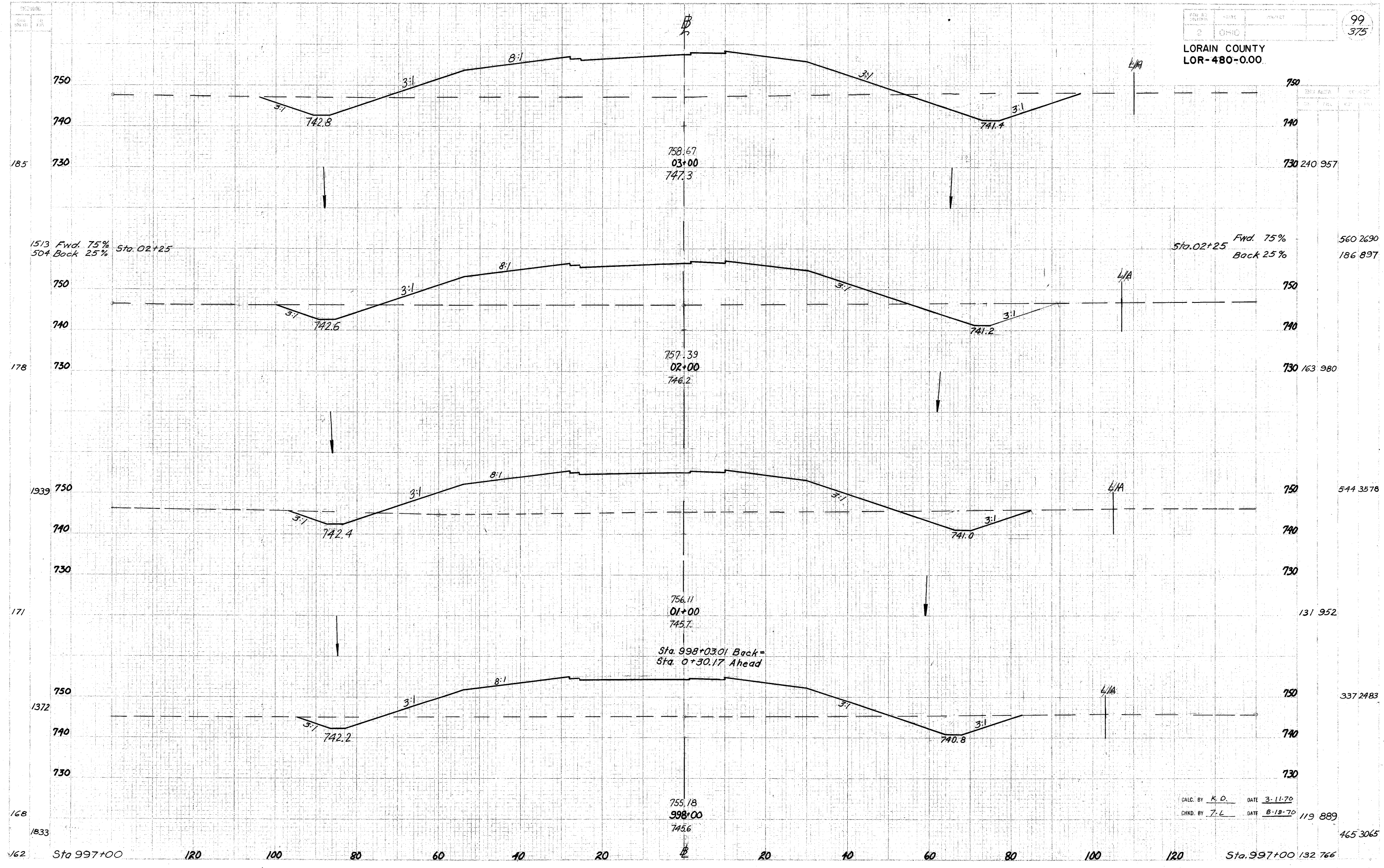
Sta. 993+60.5 Proposed Structure

CALC. BY K.D. DATE 3-9-70  
CHKD. BY J-L DATE 8-18-70 144 370

672 Misc. Quantity for Channel Seeding

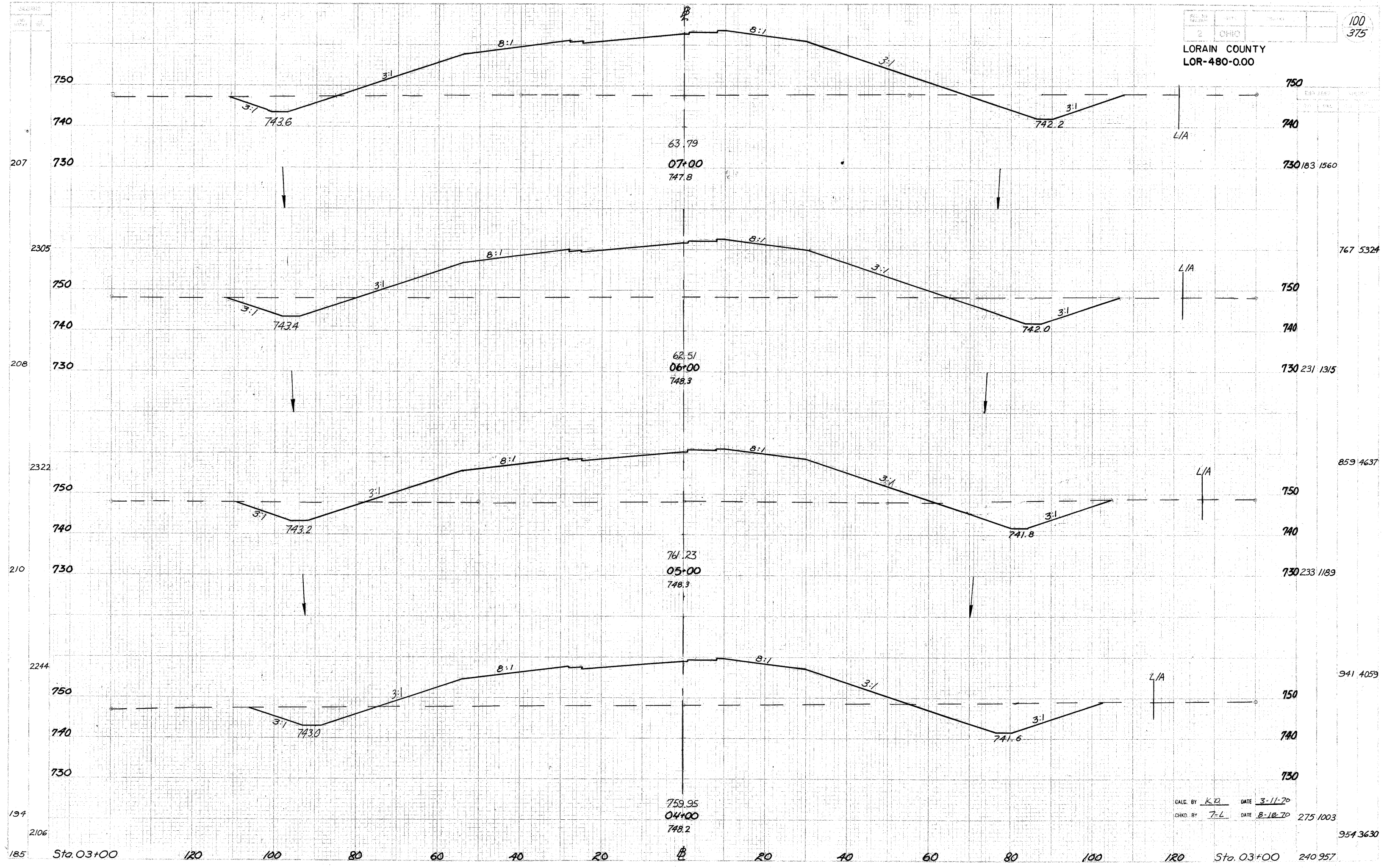
120 Sta 993+75.78(Fwd.) 144 370

E.B. I-80 Sta. 994+00 to Sta. 997+00



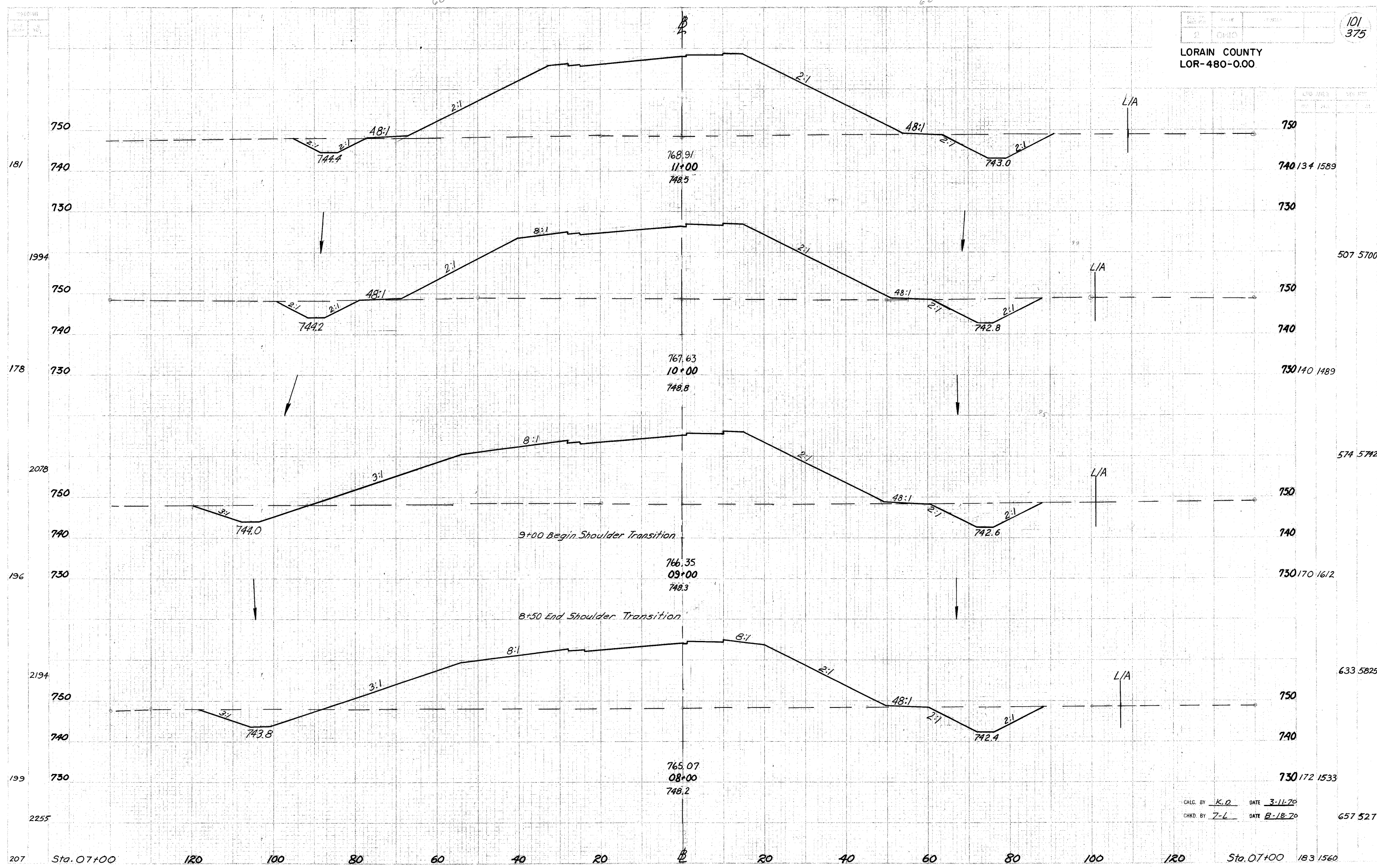
LORAIN COUNTY  
LOR-480-0.00

100  
375



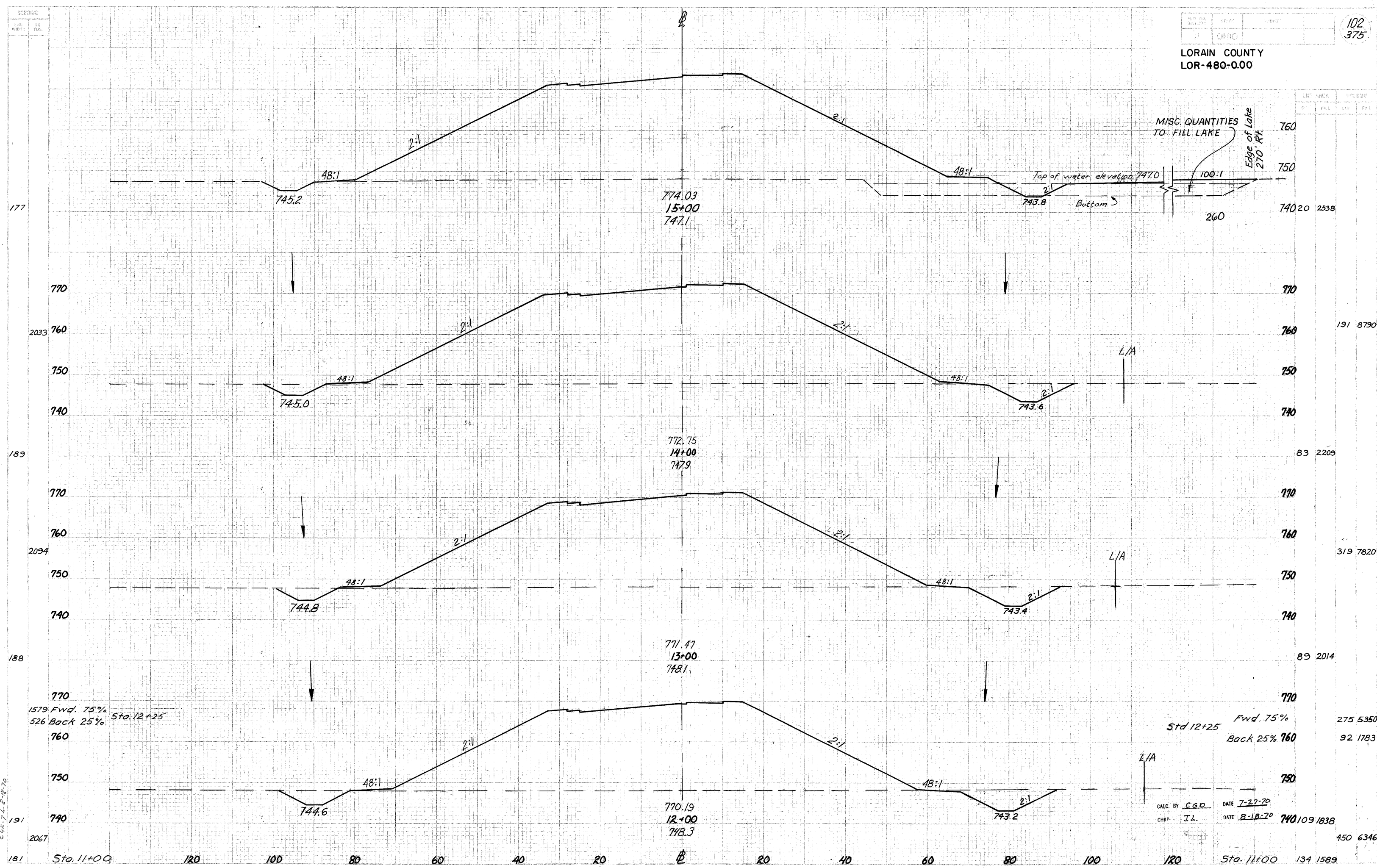
CALC. BY K.D. DATE 3-11-70  
 CHKD. BY T-L DATE 8-18-70

LORAIN COUNTY  
LOR-480-0.00



CALC. BY K.D. DATE 3-11-20  
CHKD. BY 7-L DATE 8-18-20

LORAIN COUNTY  
LOR-480-0.00



MISC. QUANTITIES TO FILL LAKE

Top of water elevation 747.0

Bottom

Edge of Lake 270' RT

L/A

L/A

L/A

1579 Fwd. 75%  
526 Back 25% Sta. 12+25

Std 12+25 Fwd. 75% 275 5350  
Back 25% 760 92 1783

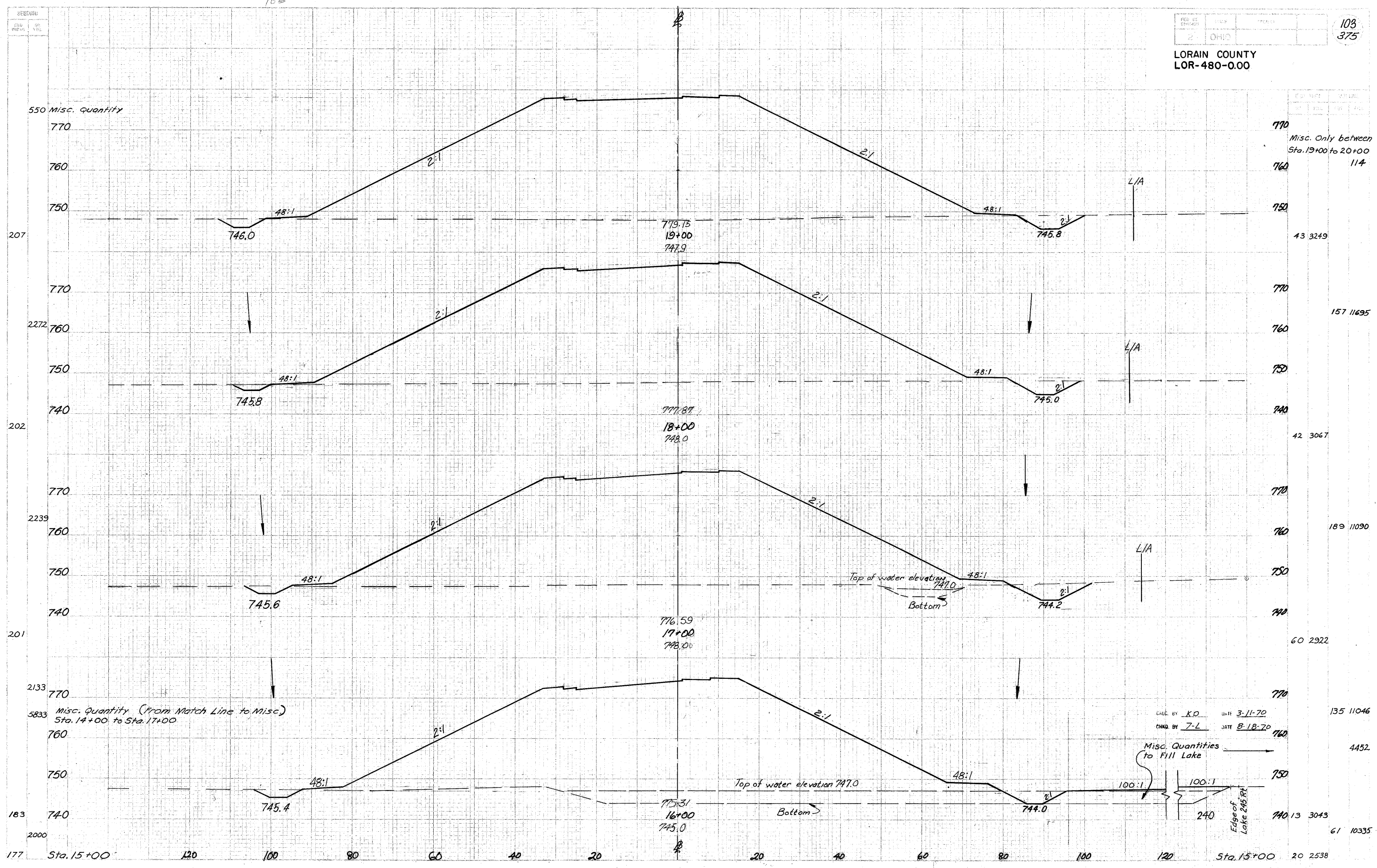
CALC. BY CGO DATE 7-27-70  
CHKD J.L. DATE 8-18-70

740 109 1838

450 6346



LORAIN COUNTY  
LOR-480-0.00

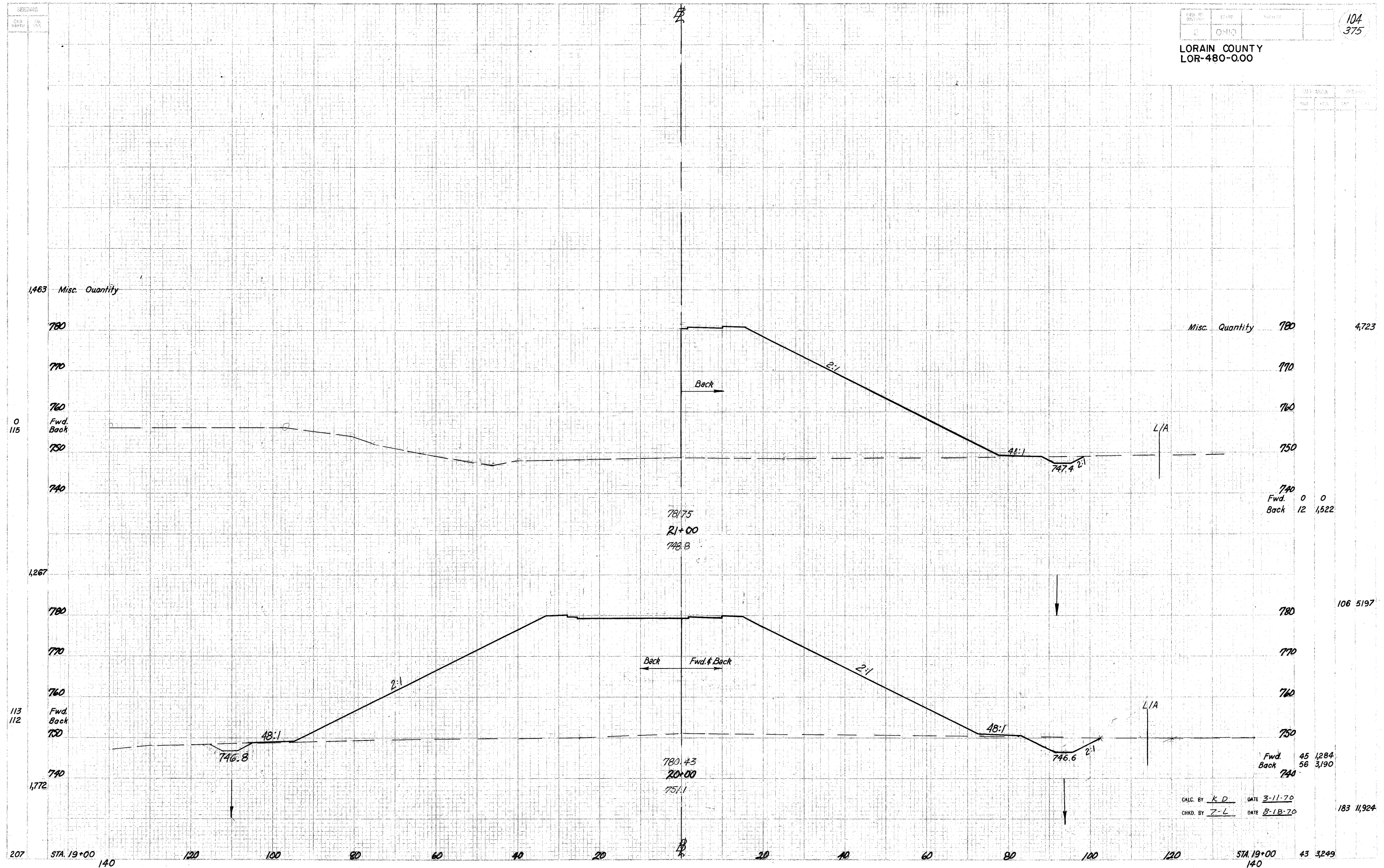


CHKD. BY K.D. DATE 3-11-70  
 CHND. BY 7-L DATE 8-18-70

Misc. Quantities to Fill Lake

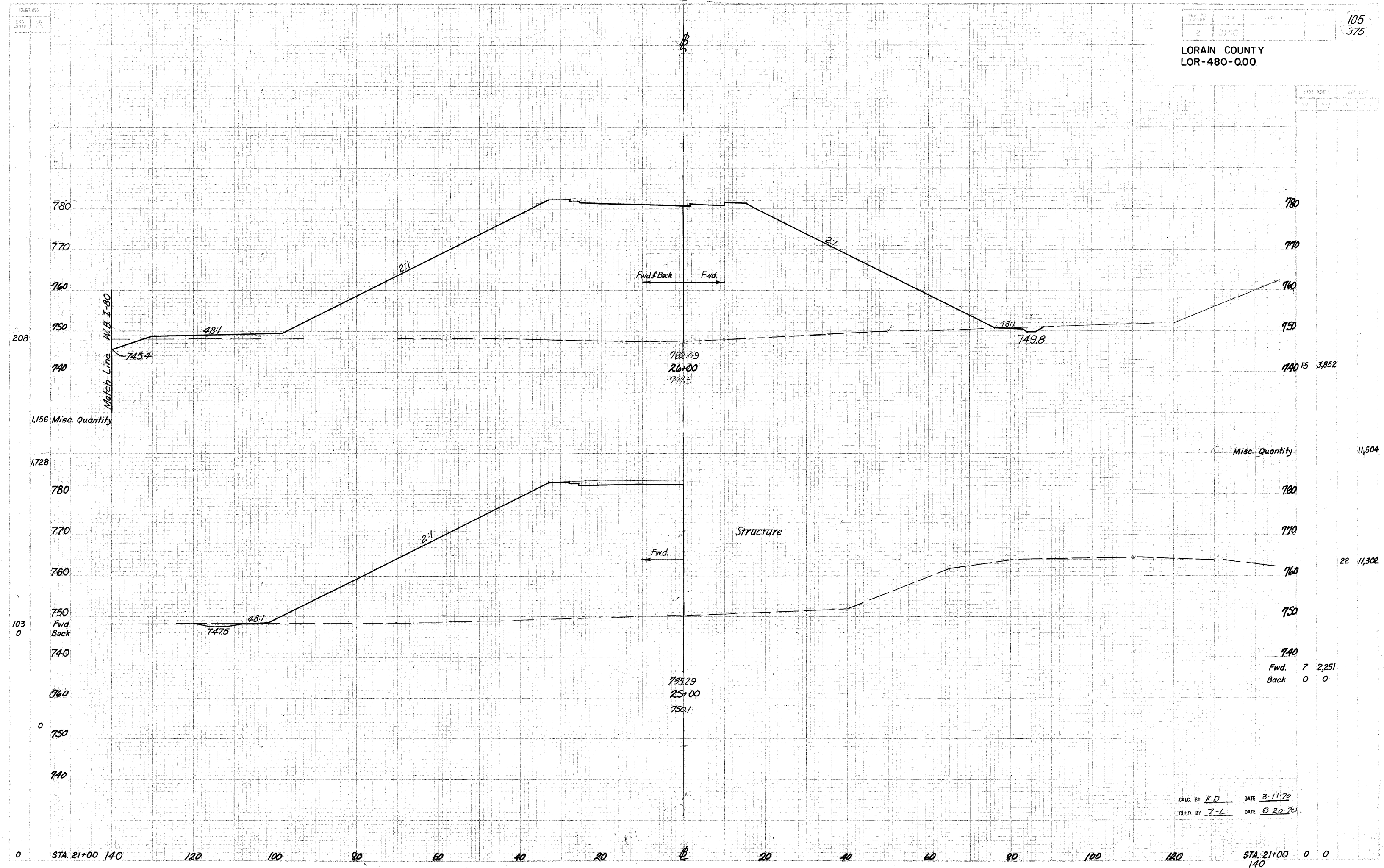
Edge of Lake 245 FT

LORAIN COUNTY  
LOR-480-0.00



CALC. BY K.D. DATE 3-11-70  
CHKD. BY Z-L DATE 8-18-70

LORAIN COUNTY  
LOR-480-0.00



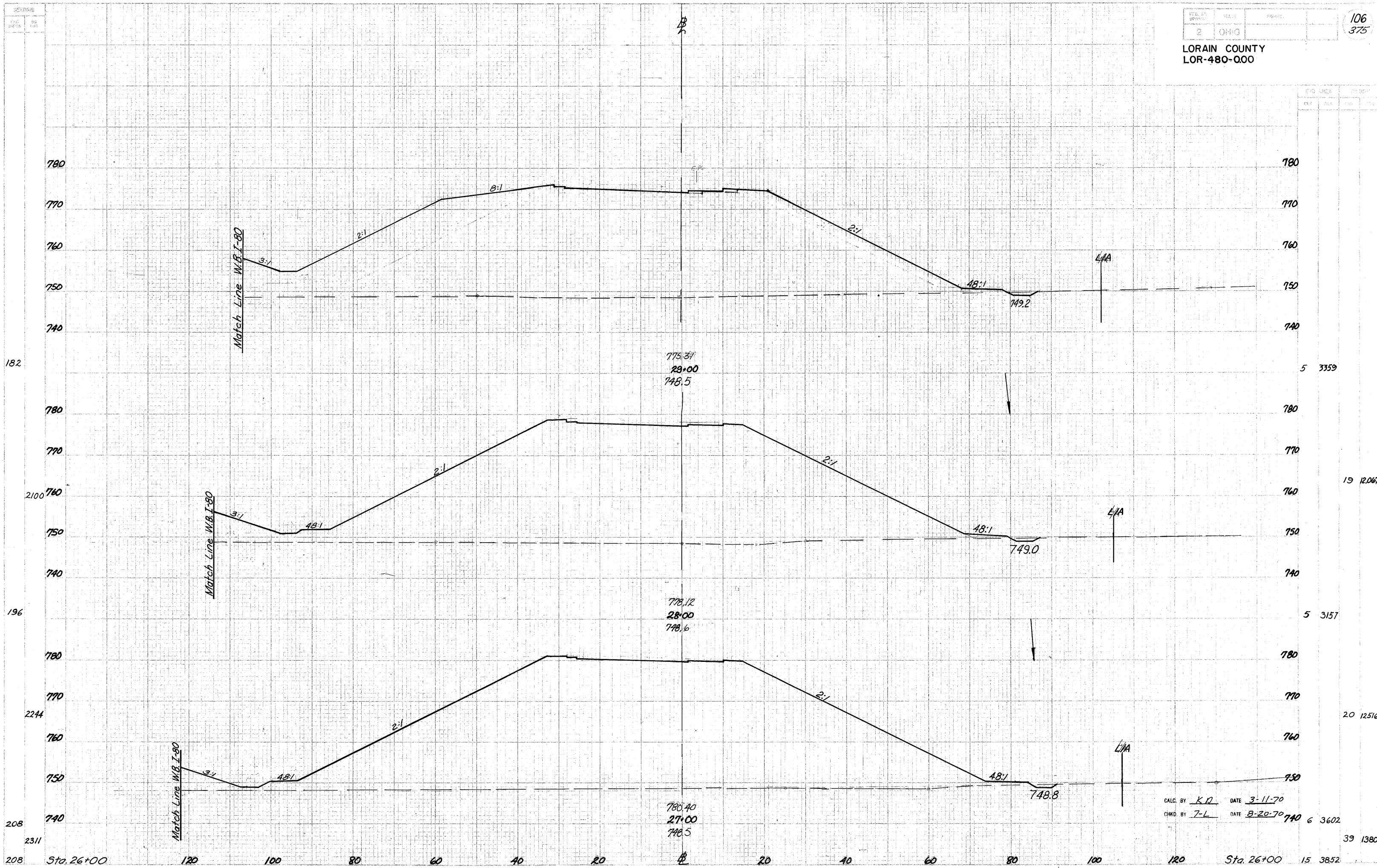
Match Line W.B. I-80  
1,156 Misc. Quantity

1,156 Misc. Quantity

1,728  
780  
770  
760  
750  
740  
103  
0  
Fwd. Back

11,504  
Misc. Quantity  
22 11,302  
780  
770  
760  
750  
740  
Fwd. 7 2,251  
Back 0 0

CALC. BY K.D. DATE 3-11-70  
CHKD. BY T.L. DATE 8-20-70



182

2100

196

2244

208

2311

5 3359

19 12.067

5 3157

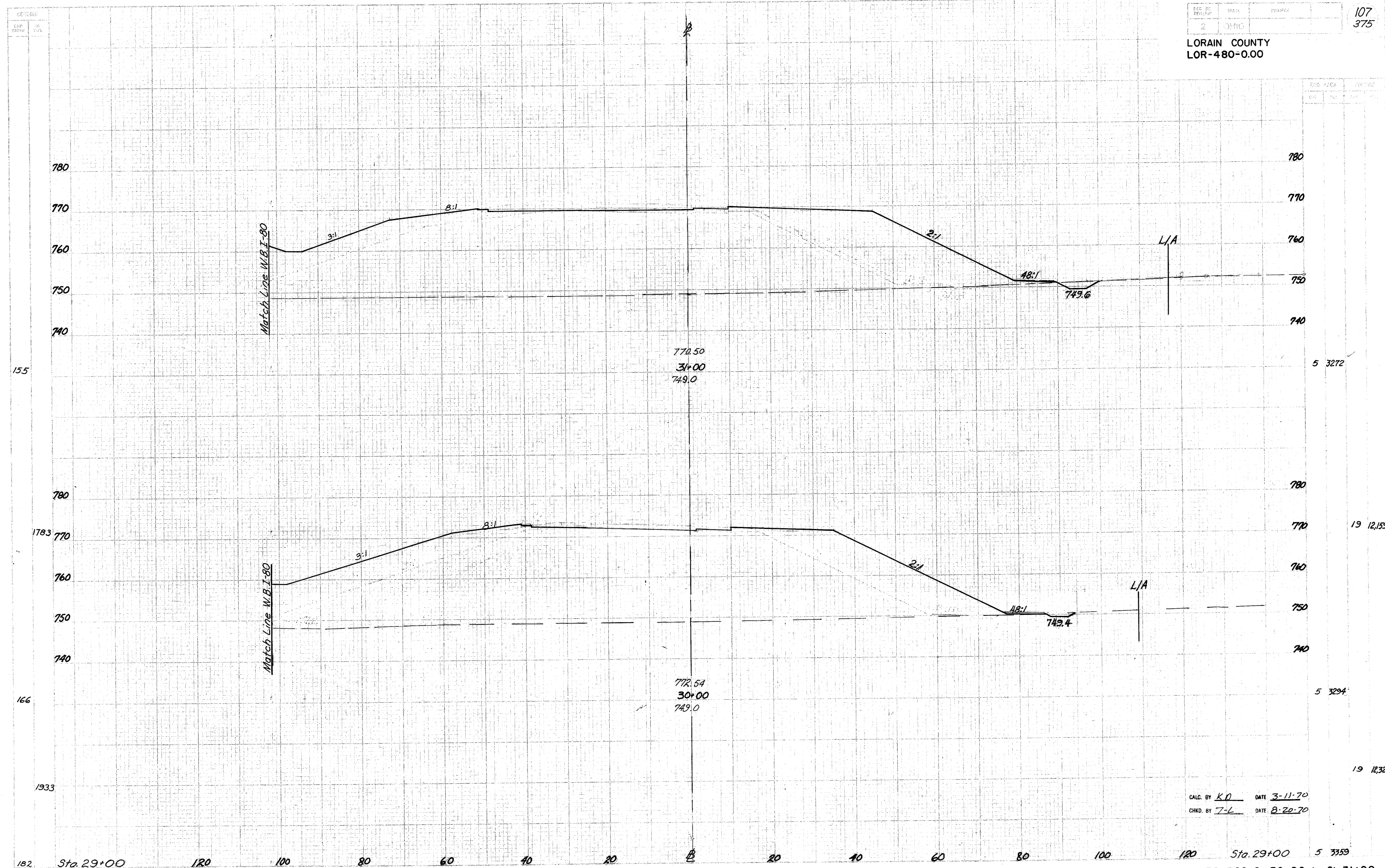
20 12516

740 6 3602

39 13804

CALC. BY K.D. DATE 3-11-70  
CHKD. BY J-L DATE 8-20-70

LORAIN COUNTY  
LOR-480-0.00

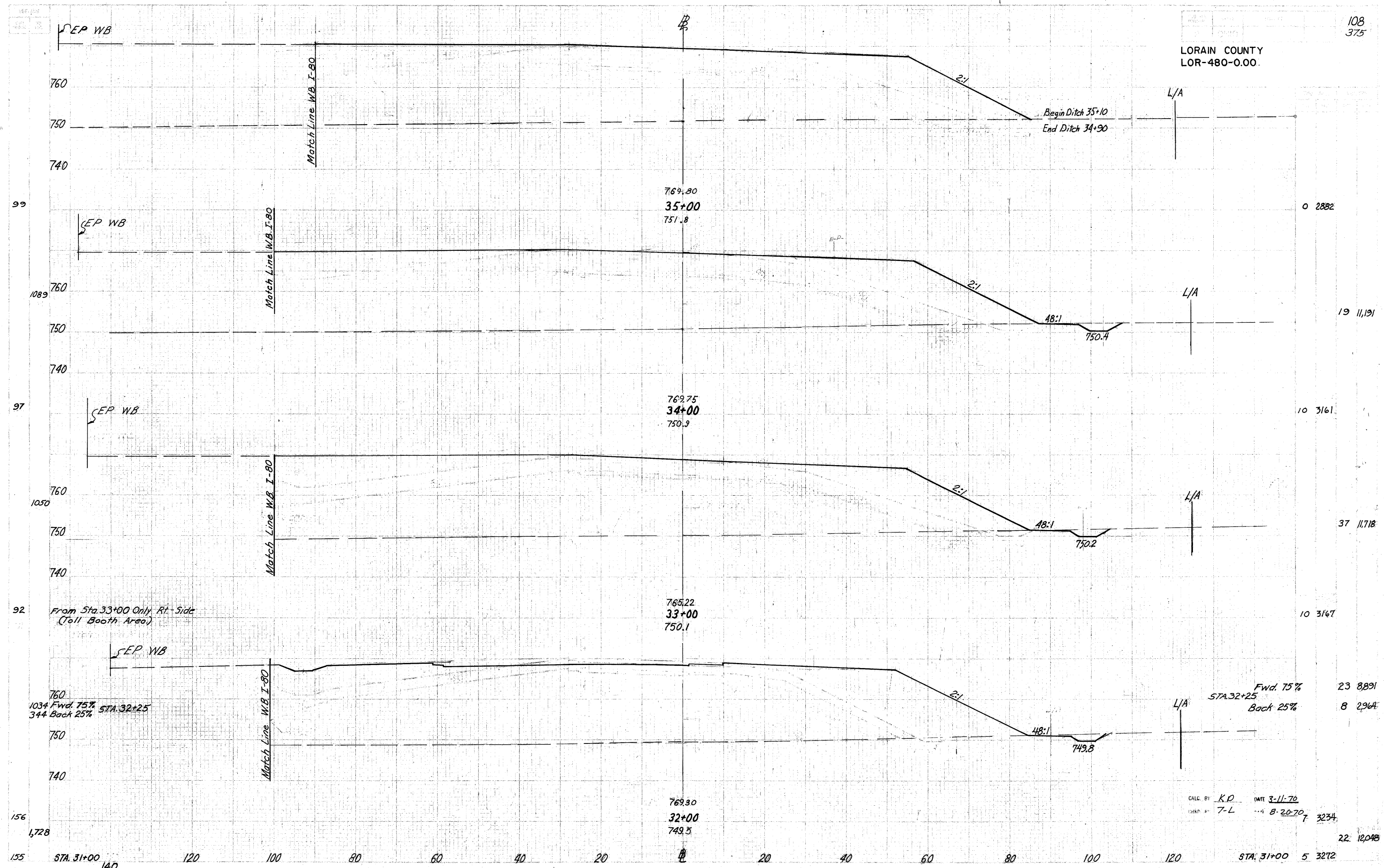


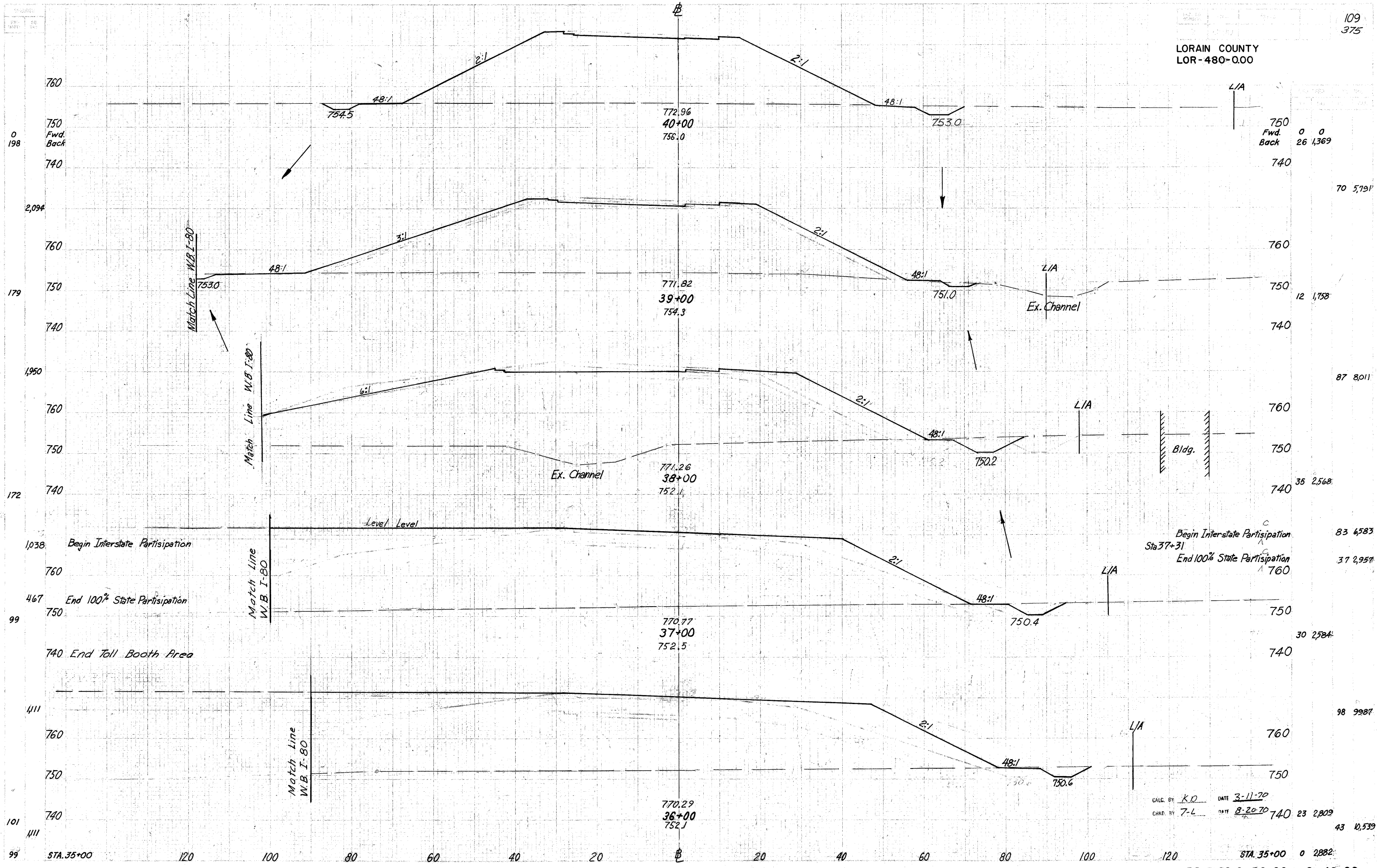
770.50  
31+00  
749.0

772.54  
30+00  
749.0

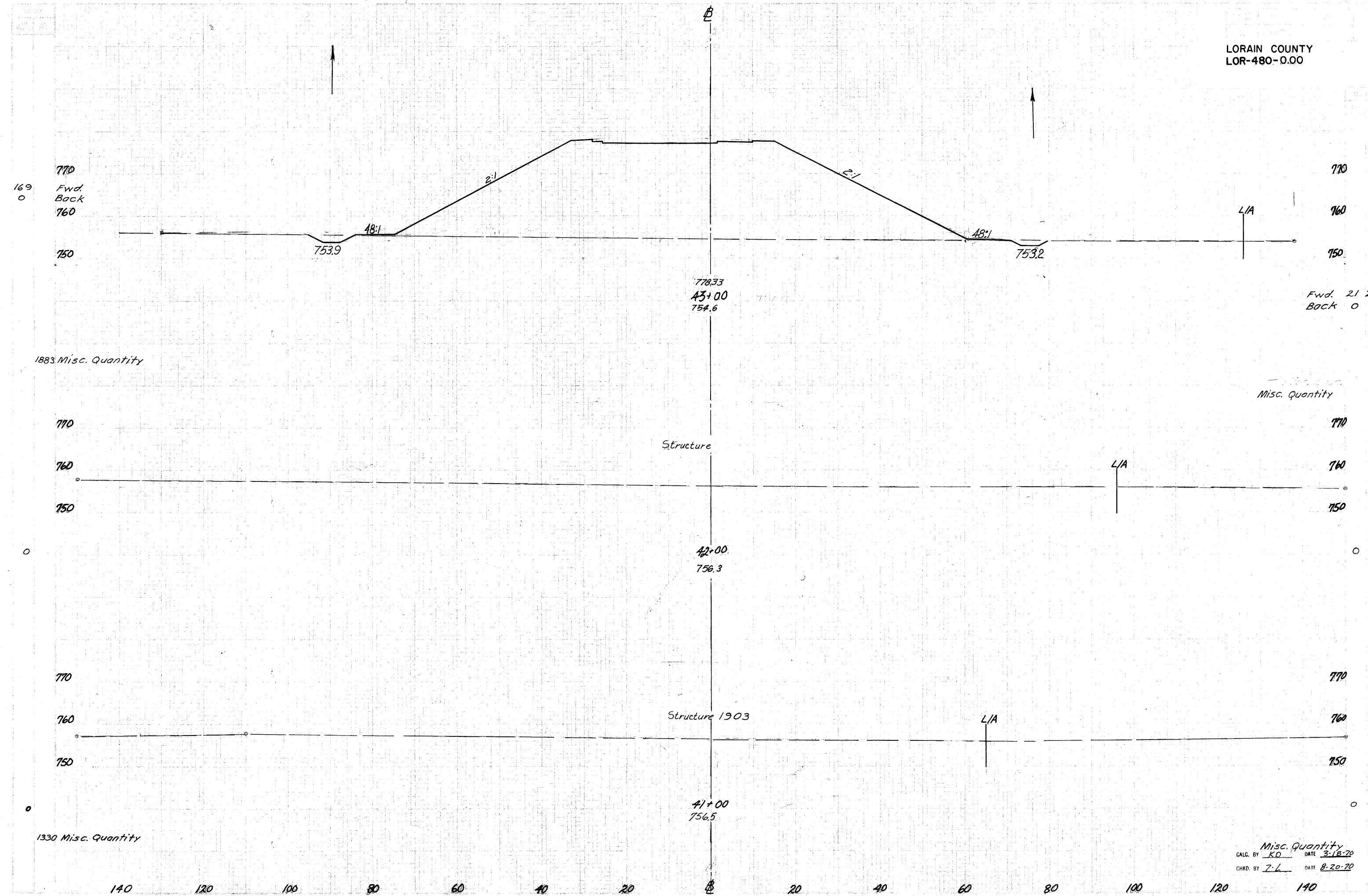
CALC. BY KD DATE 3-11-70  
CHKD. BY 7-L DATE 8-20-70

LORAIN COUNTY  
LOR-480-0.00





LORAIN COUNTY  
LOR-480-0.00



169  
0  
Fwd.  
Back  
760

770  
760  
750

Fwd. 21 2130  
Back 0 0

1883 Misc. Quantity

Misc. Quantity

6141

770  
760  
750

770  
760  
750

0

0 0

770  
760  
750

770  
760  
750

0

0 0

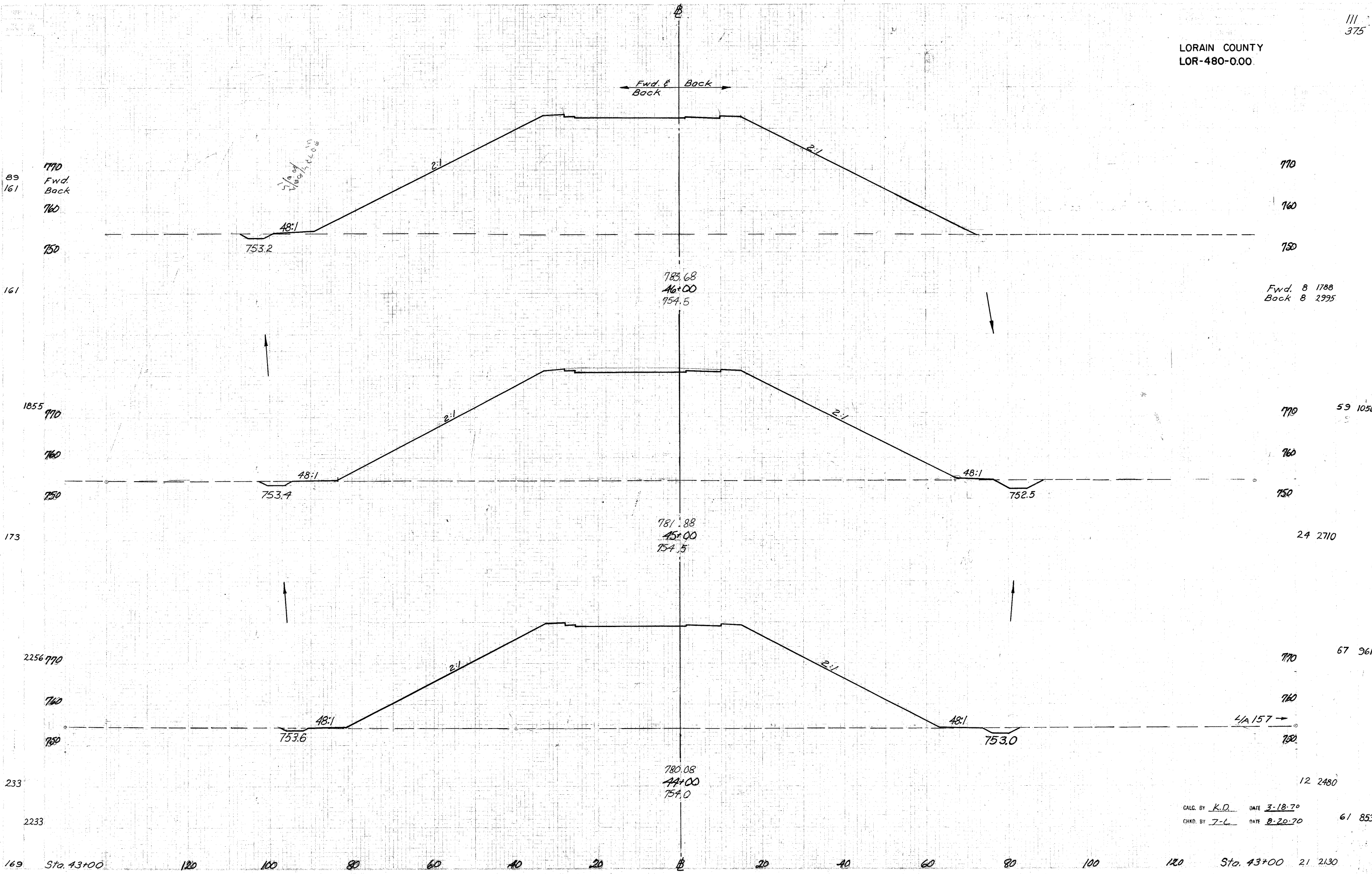
1330 Misc. Quantity

5344.3

Misc. Quantity  
CALC. BY KD DATE 3-18-70  
CHKD. BY Z-L DATE 8-20-70

140 120 100 80 60 40 20 0 20 40 60 80 100 120 140





Fwd. 8 1788  
Back 8 2995

59 10565

24 2710

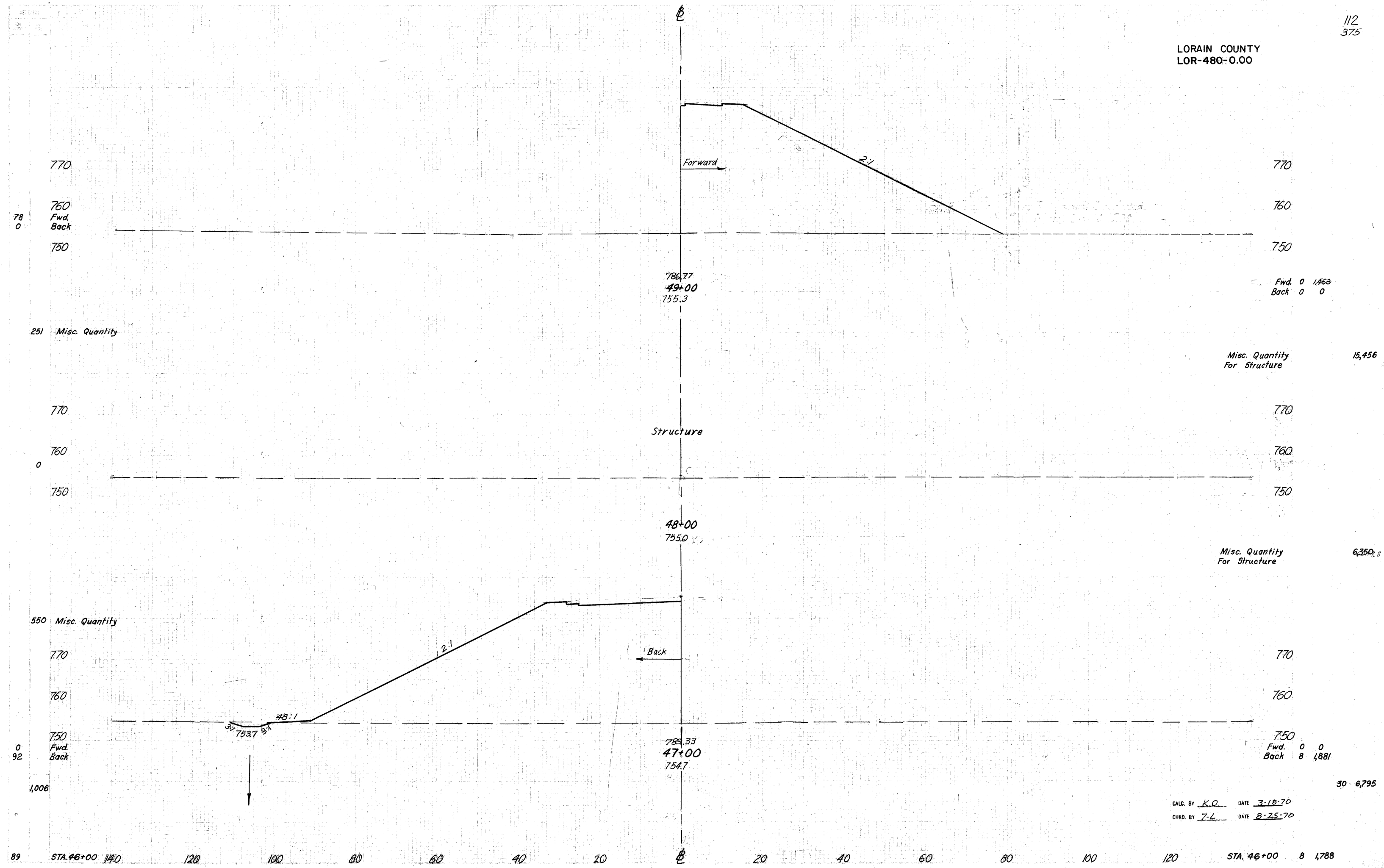
67 9611

12 2480

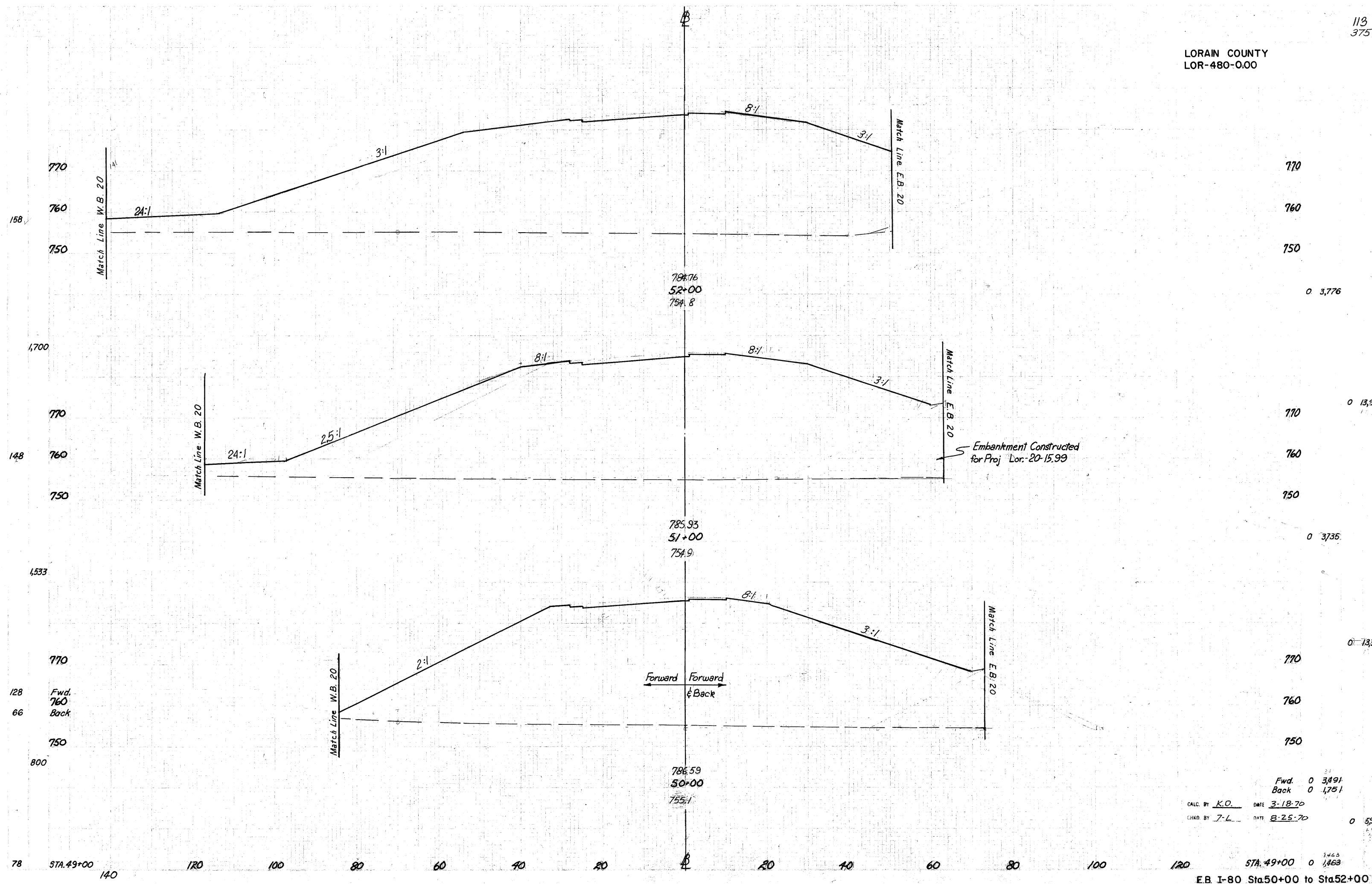
CALC. BY K.D. DATE 3-18-70  
CHKD. BY T-L DATE 8-20-70

61 8537

LORAIN COUNTY  
LOR-480-0.00

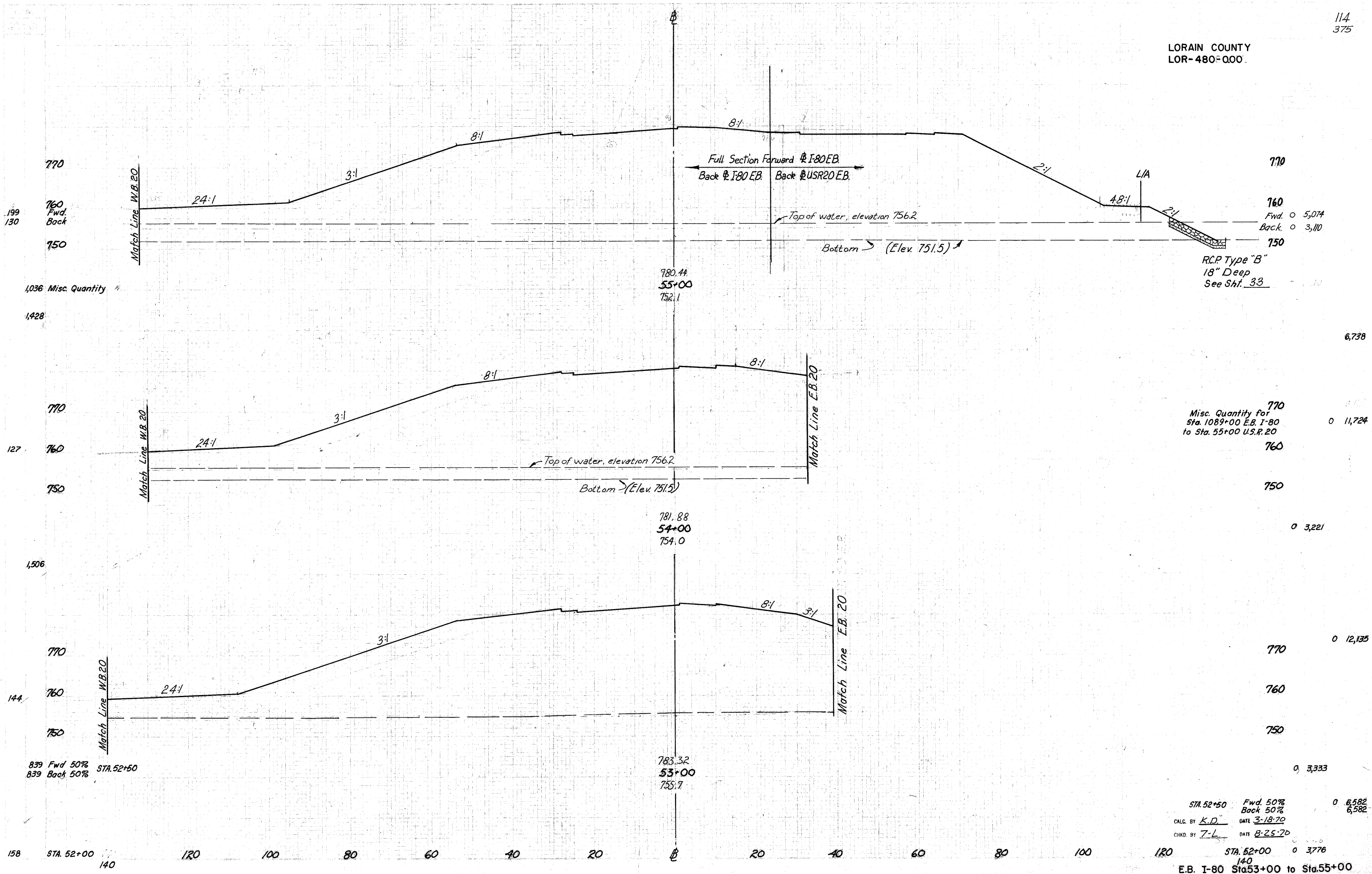


CALC. BY K.O. DATE 3-18-70  
CHRD. BY 7-L DATE 8-25-70

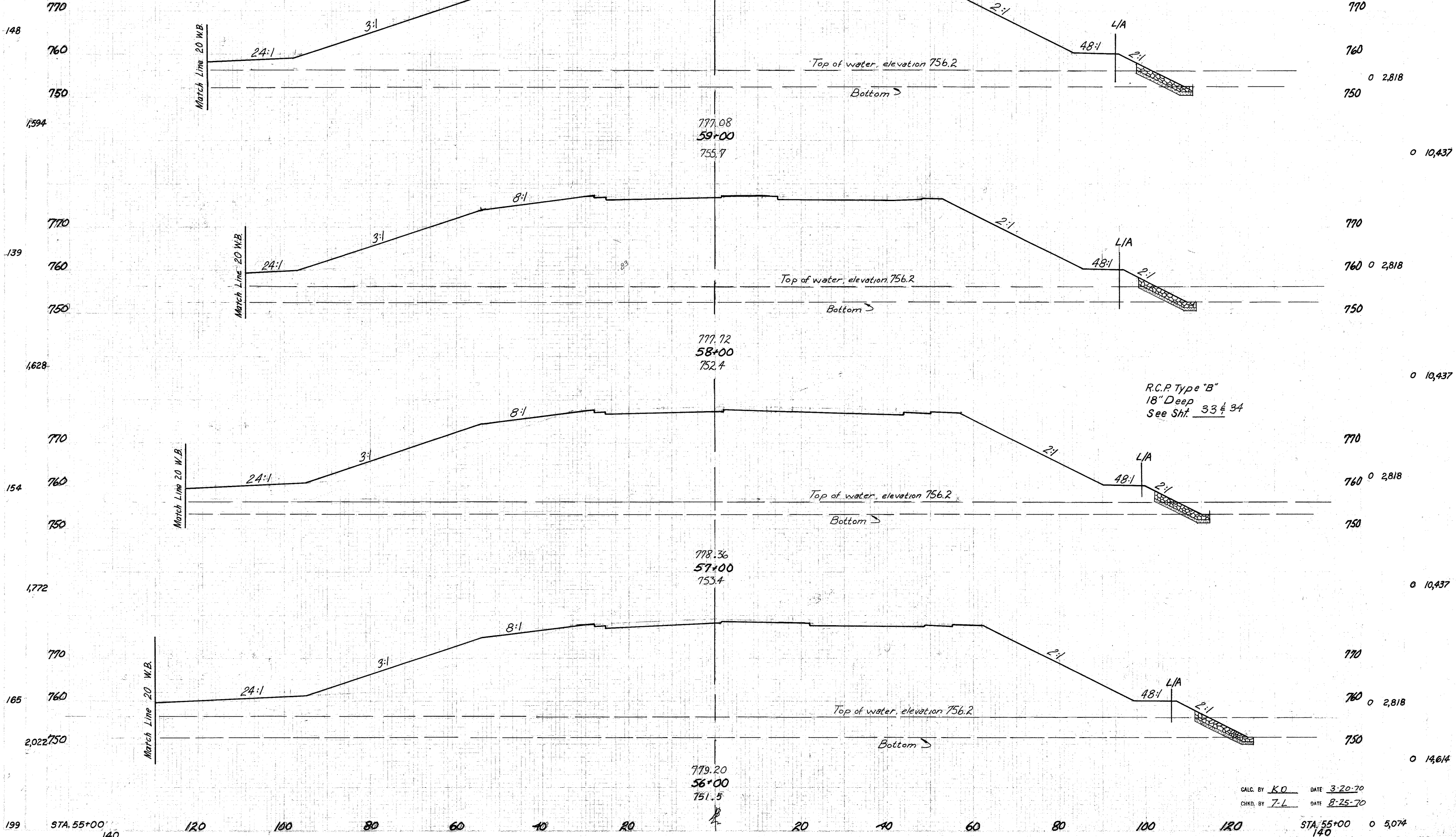


CALC. BY K.O. DATE 3-18-70  
CHKD. BY J.L. DATE 2-25-70

LORAIN COUNTY  
LOR-480-Q00



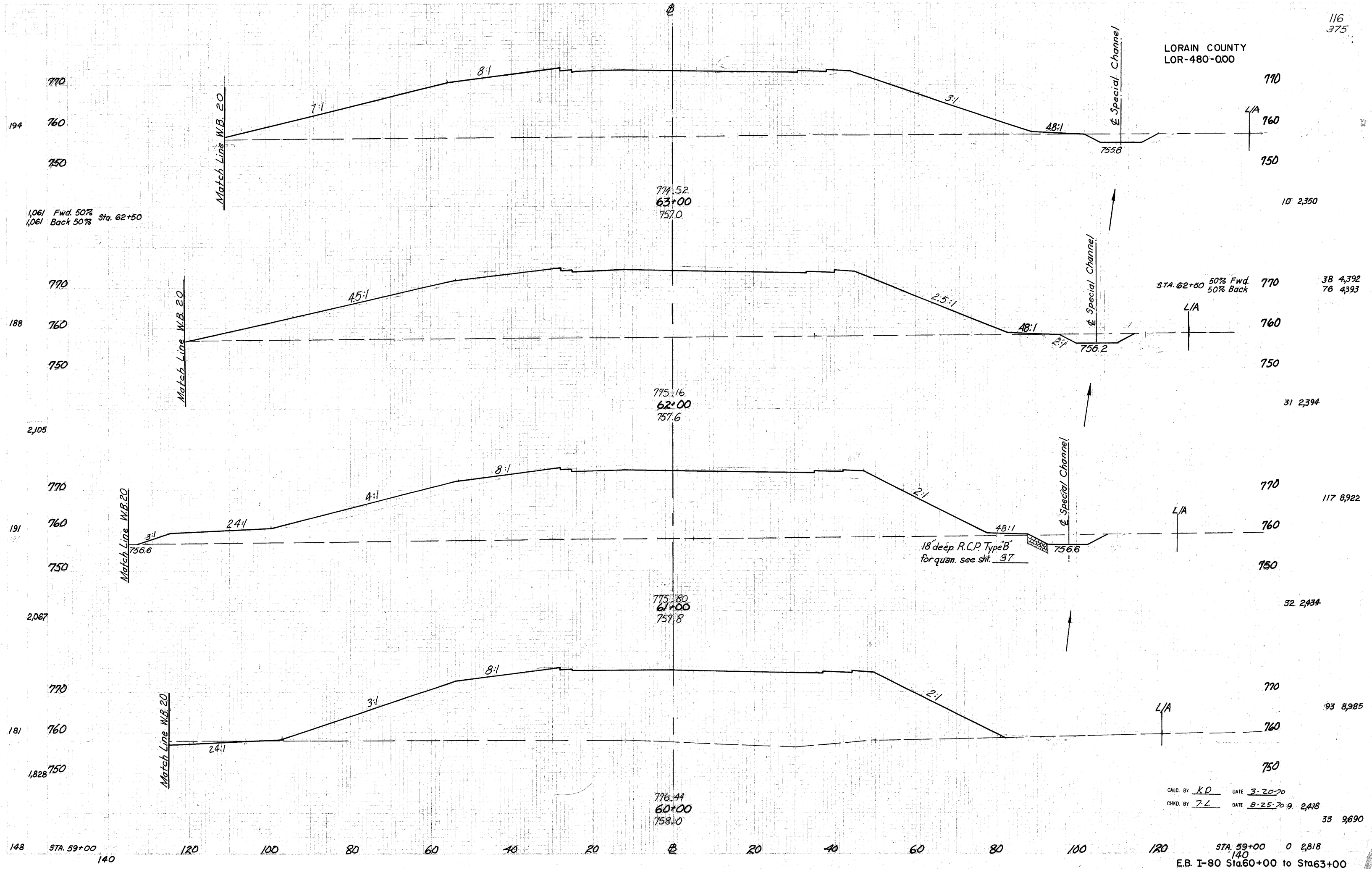
LORAIN COUNTY  
LOR-480-0.00



CALC. BY K.O. DATE 3-20-70  
CHKD. BY 7-L DATE 8-25-70

STA. 55+00 0 5,074  
140  
E.B. I-80 Sta 56+00 to Sta 59+00

LORAIN COUNTY  
LOR-480-000



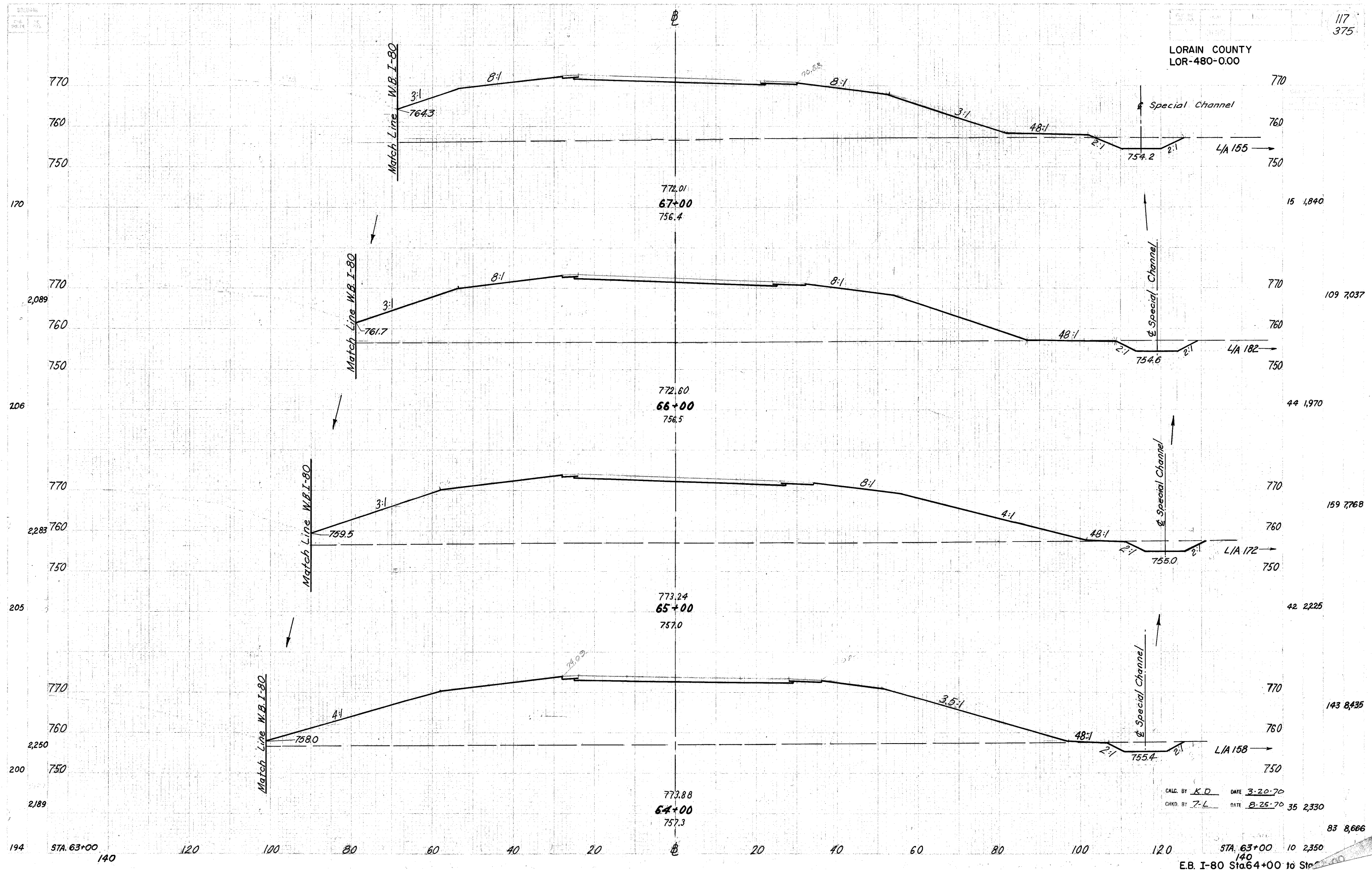
1,061 Fwd. 50% Sta. 62+50  
1,061 Back 50%

STA. 62+50 50% Fwd.  
50% Back

18" deep R.C.P. Type "B"  
for quan. see sht. 37

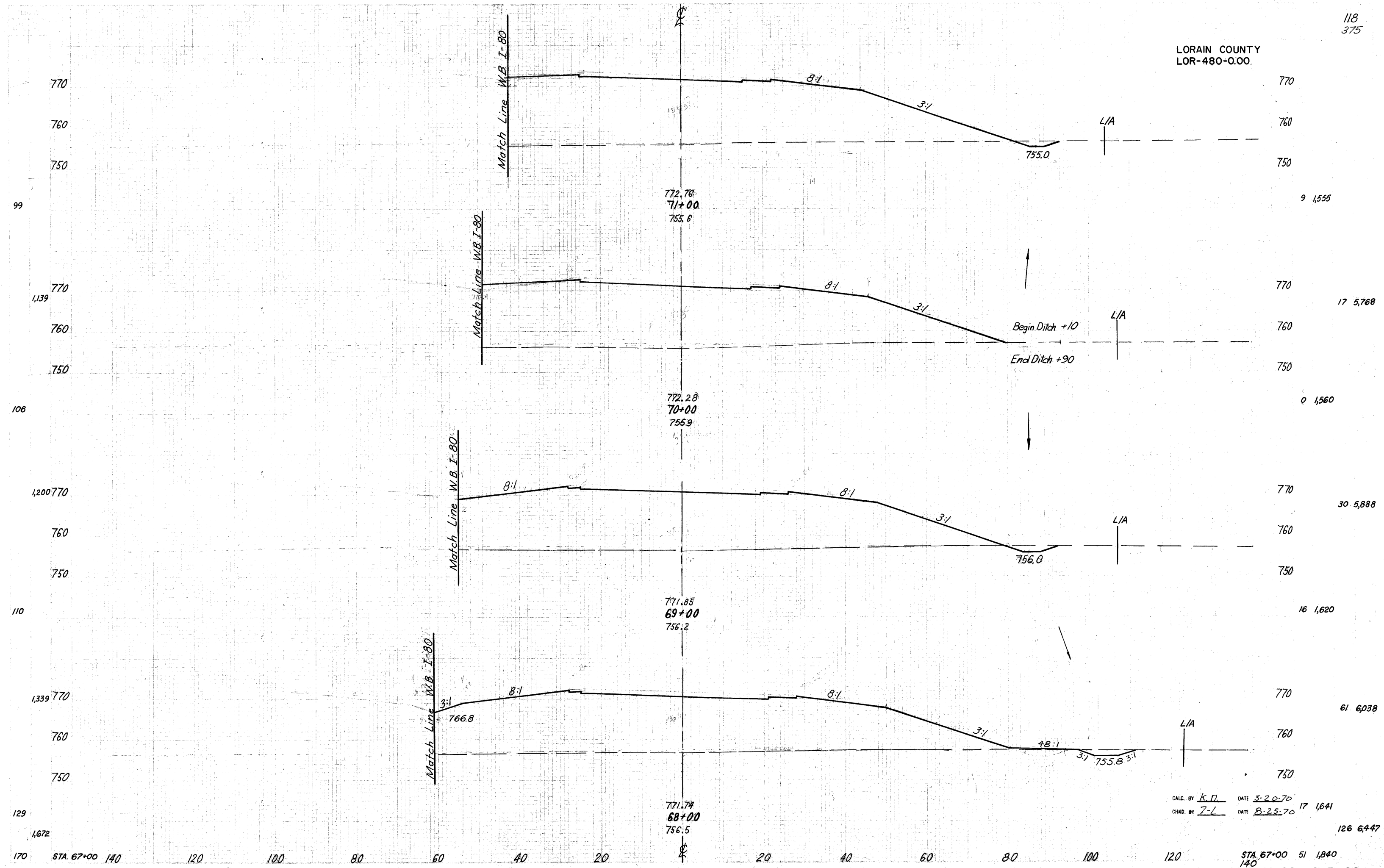
CALC. BY KD DATE 3-20-70  
CHKD. BY J-L DATE 8-25-70 9 2,418

LORAIN COUNTY  
LOR-480-0.00



CALC. BY K.D. DATE 3-20-70  
 CHKD. BY T.L. DATE 8-25-70 35 2,330

LORAIN COUNTY  
LOR-480-0.00



CALC. BY K.D. DATE 3-20-70  
 CHKD. BY Z-L DATE 8-25-70 17 1,641



LORAIN COUNTY  
LOR-480-0.00

Sta. 74+00 to Sta. 74+11.39

2 69

770

770

760

760

130 STA. 74+00 to STA. 74+11.39

750

750

774.20  
74+00  
755.0

8 1,487

ML I-80 W.B.

L/A

2:1

48:1

753.6

91

ML I-80 W.B.

L/A

2:1

48:1

753.8

794 770

770

760

760

750

750

773.72  
73+00  
755.0

35 5,426

88

ML I-80 W.B.

L/A

2:1

48:1

754.0

770

770

760

760

750

750

773.24  
72+00  
755.4

35 5,444

93

CALC. BY KD DATE 3-20-70  
CHKD. BY J-L DATE 3-25-70

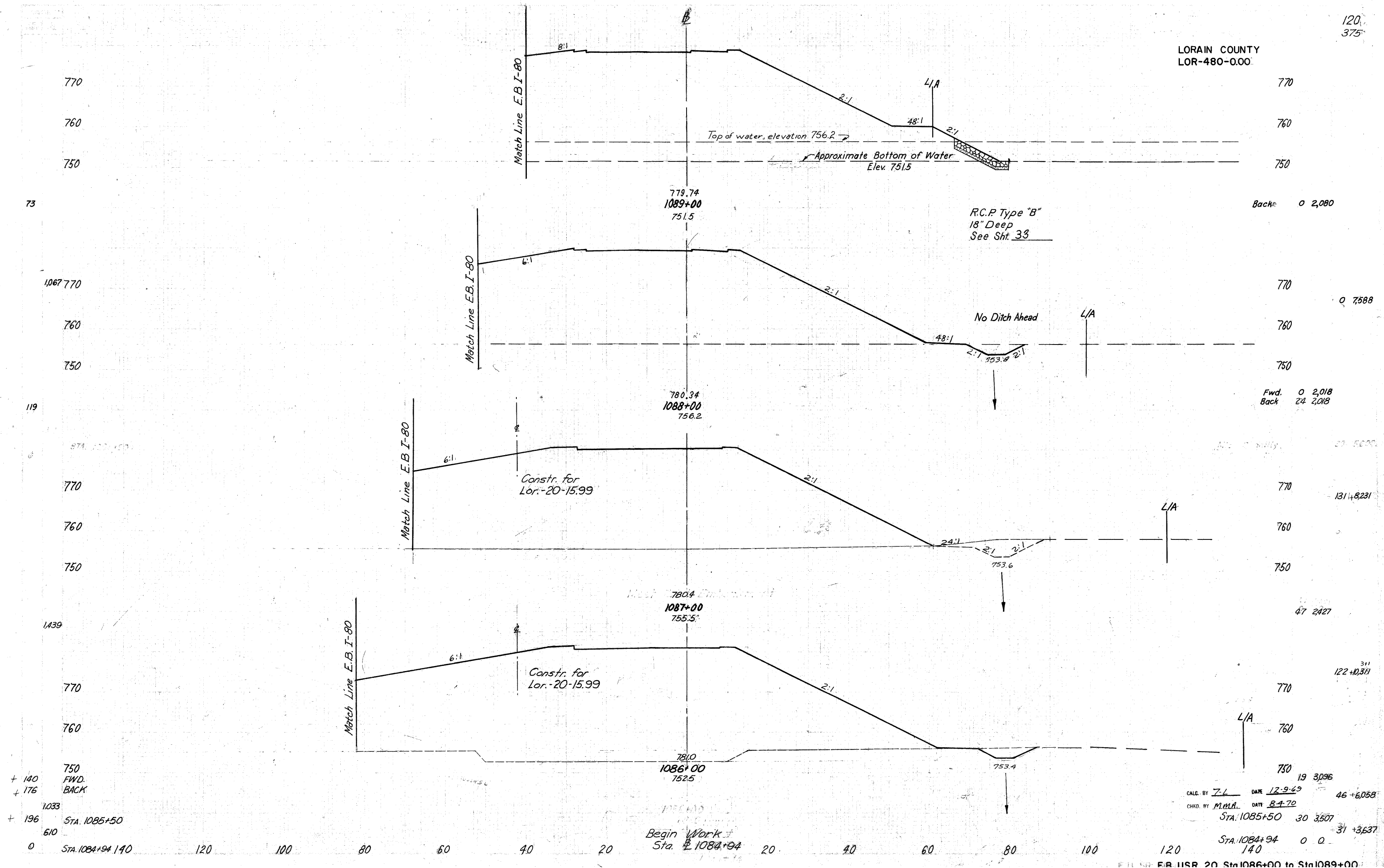
31 5,652

STA. 71+00 9 1,555

EB. I-80 Sta. 72+00 to Sta. 74+00

99 STA. 71+00 140 120 100 80 60 40 20 20 40 60 80 100 120

LORAIN COUNTY  
LOR-480-0.00



Backs 0 2,080

Fwd. 0 2,018  
Back 24 2,018

131+8,231

47 2,427

122+0,371

19 3,096

46 +6,058

31 +3,637

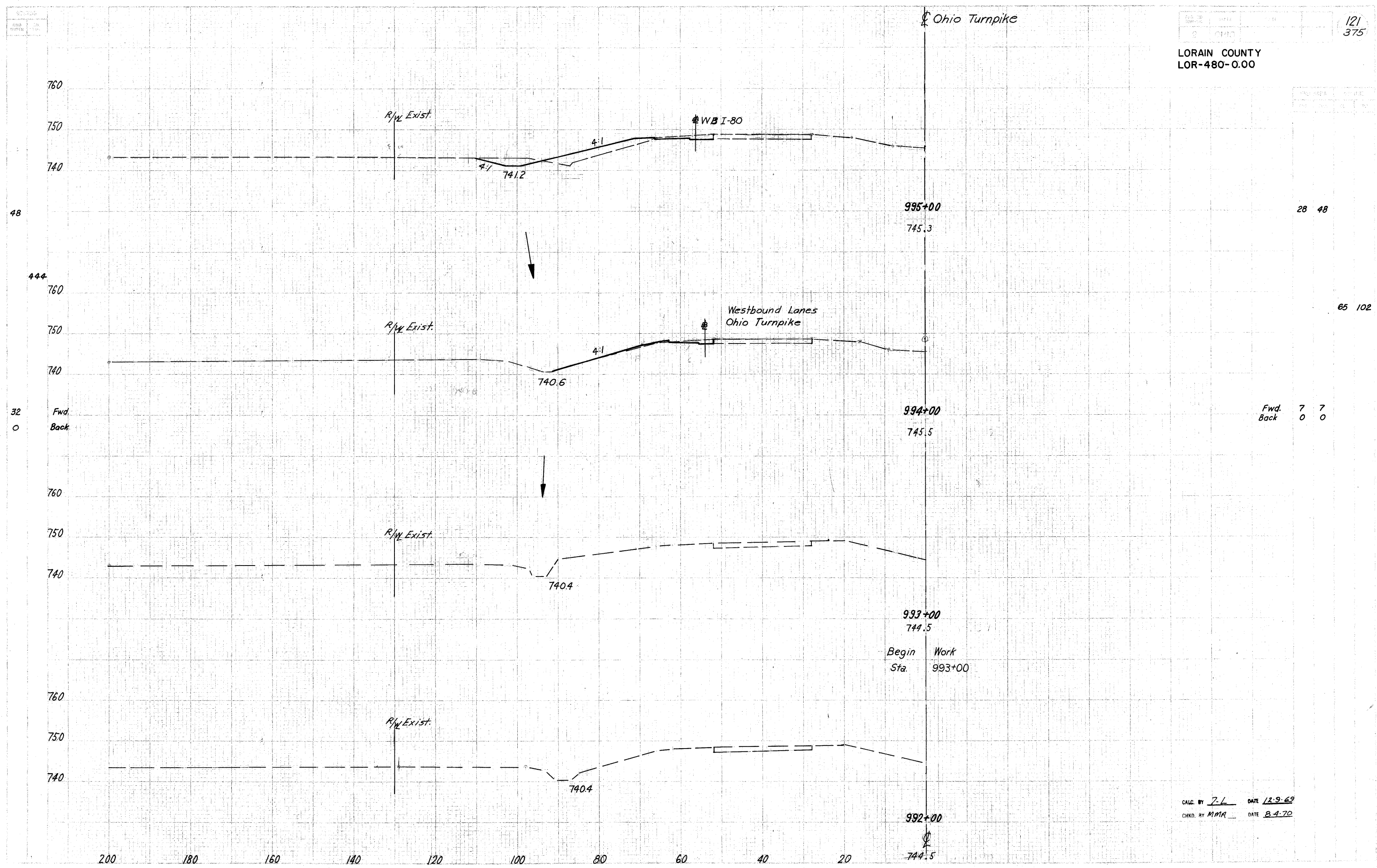
+ 140 FWD.  
+ 176 BACK

1033 STA. 1085+50  
610

0 STA. 1084+94 140

Begin Work at  
Sta. 1084+94

CALC. BY Z.L. DATE 12-9-69  
 CHRD. BY M.M.A. DATE 8-4-70  
 STA. 1085+50 30 3,507  
 STA. 1084+94 0 0

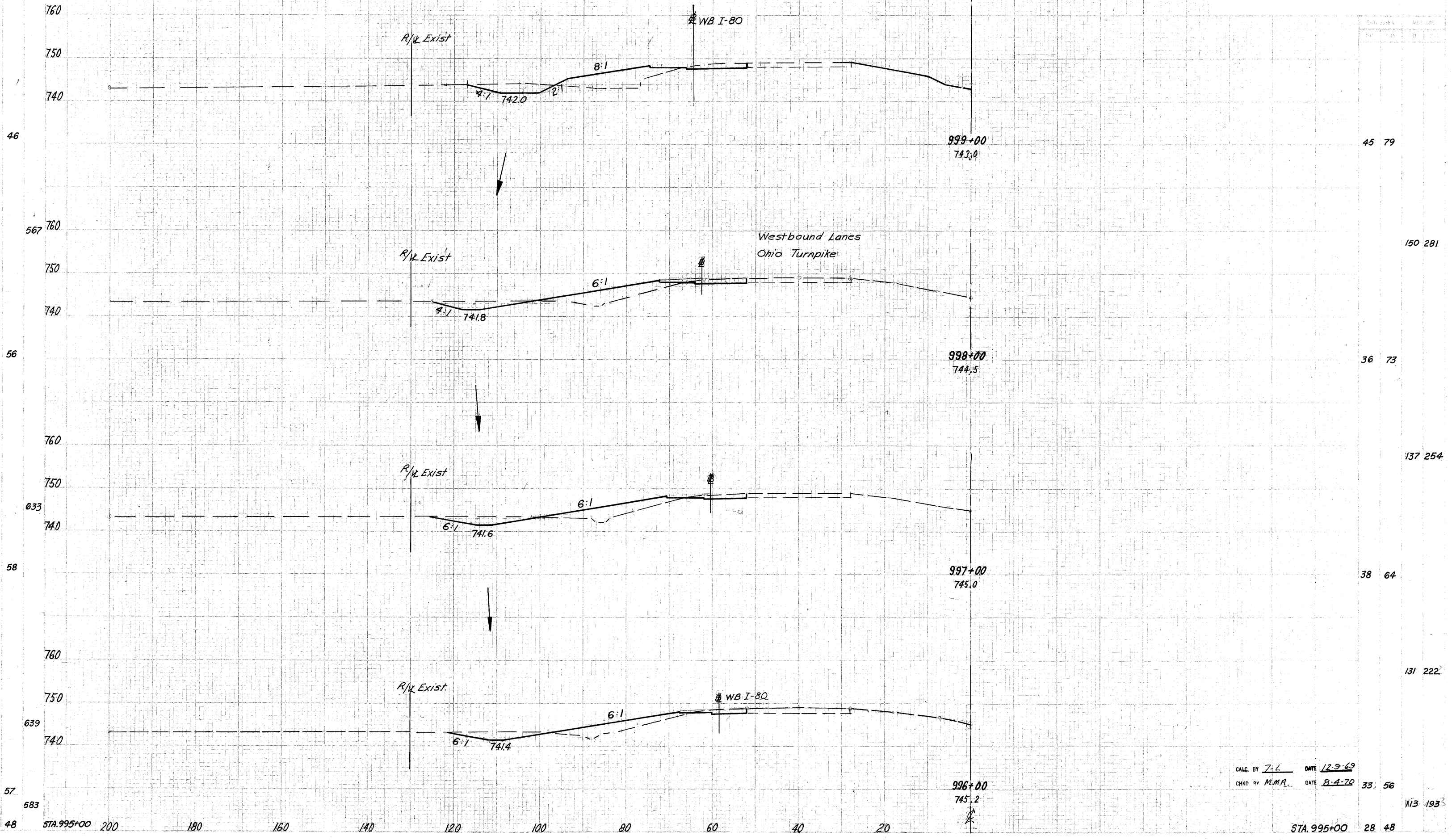


CALC. BY Z-L DATE 12-9-69  
CHKD. BY MMA DATE 8-4-70

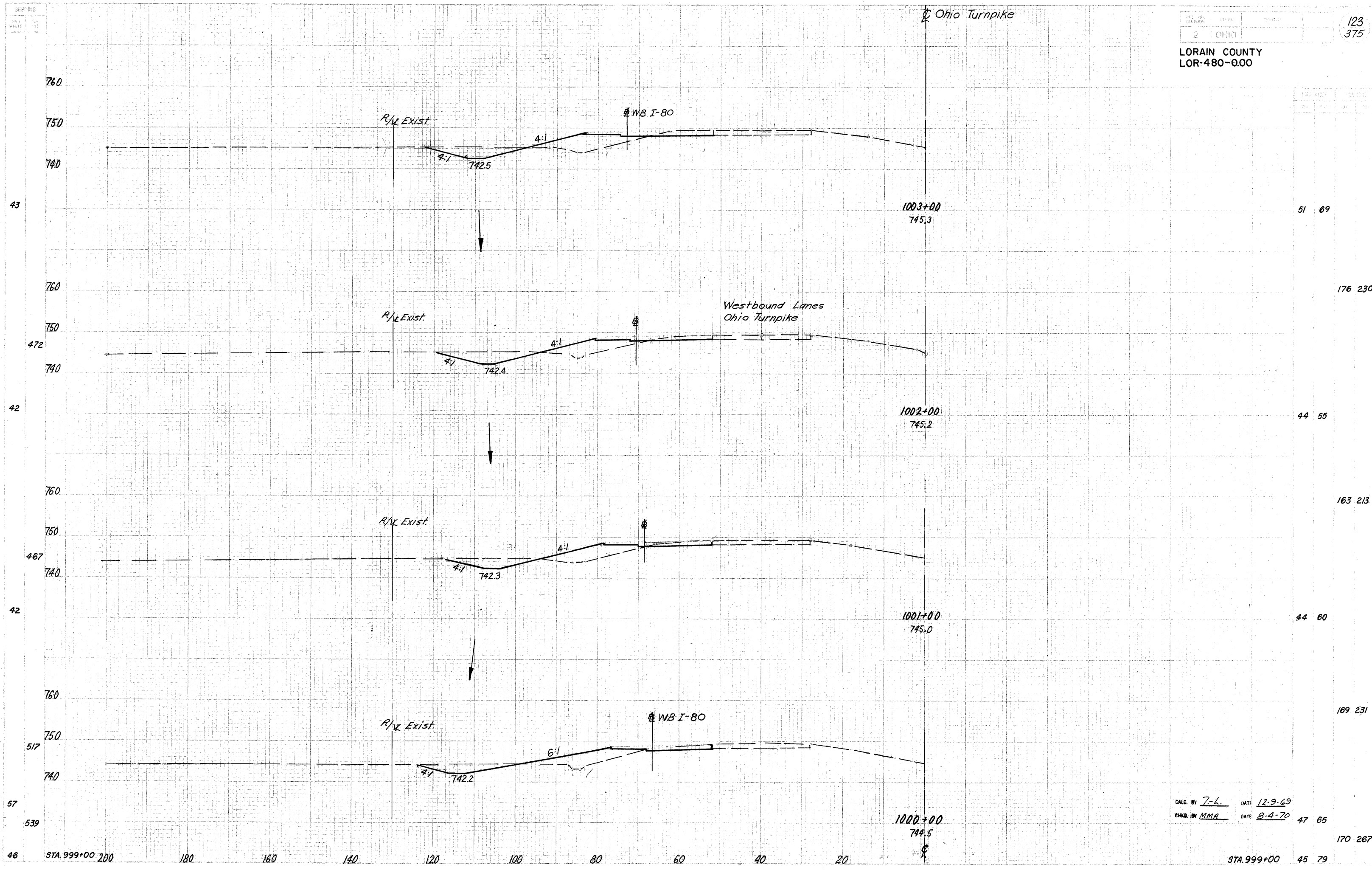
SECTION

122  
375

LORAIN COUNTY  
LOR-480-0.00



CALC. BY Z.L. DATE 12-9-69  
CHKD BY M.M.A. DATE 8-4-70



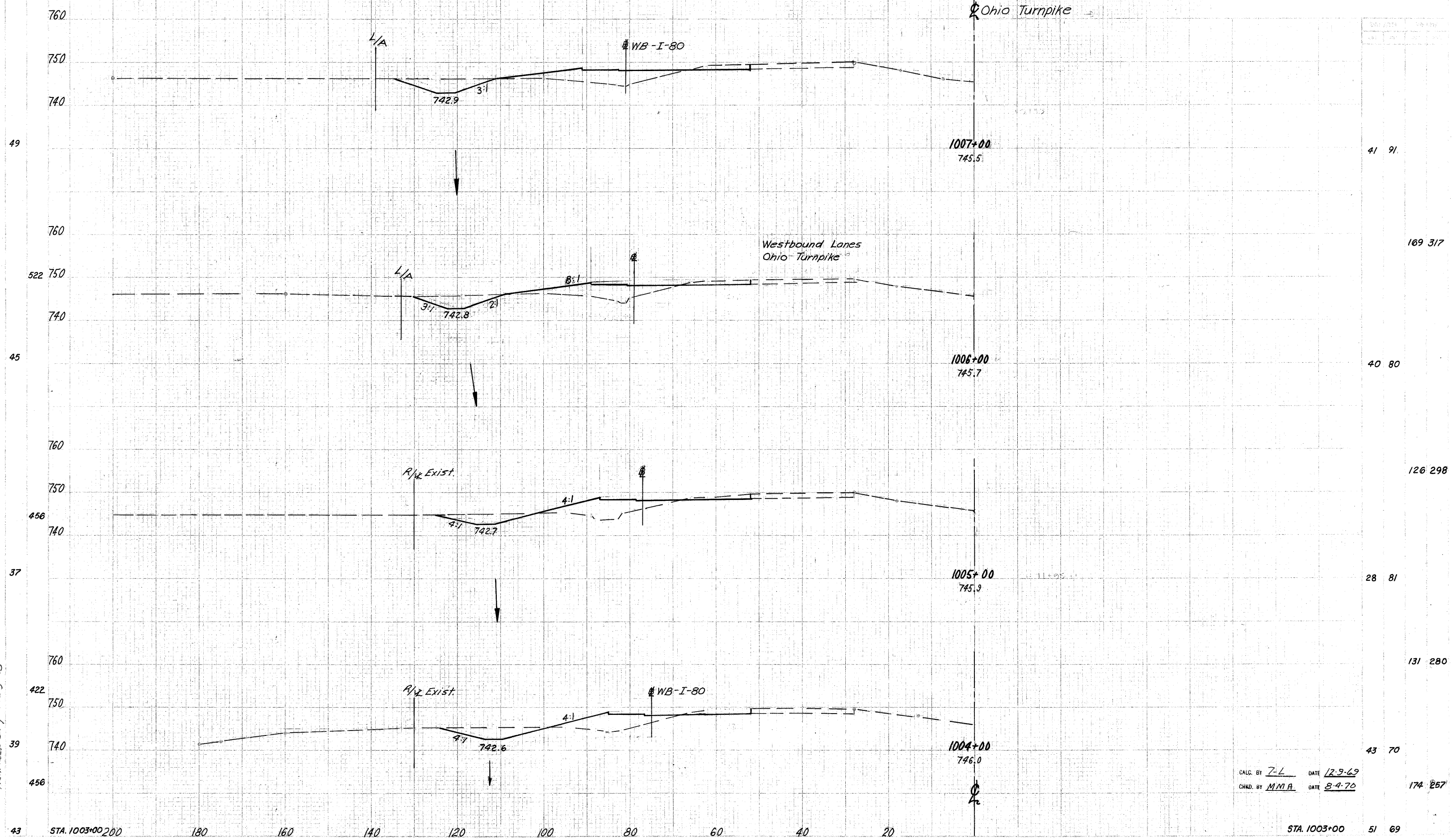
CALC. BY Z-L. DATE 12-9-69  
 CHKB. BY MMB DATE 8-4-70

43  
42  
42  
57  
539  
 STA. 999+00 200  
180  
160  
140  
120  
100  
80  
60  
40  
20  
 STA. 999+00 45 79  
 51 69  
176 230  
163 213  
44 60  
169 231  
47 65  
170 267

SEE: 140  
Elev. 26  
10%

124  
375

LORAIN COUNTY  
LOR-480-0.00



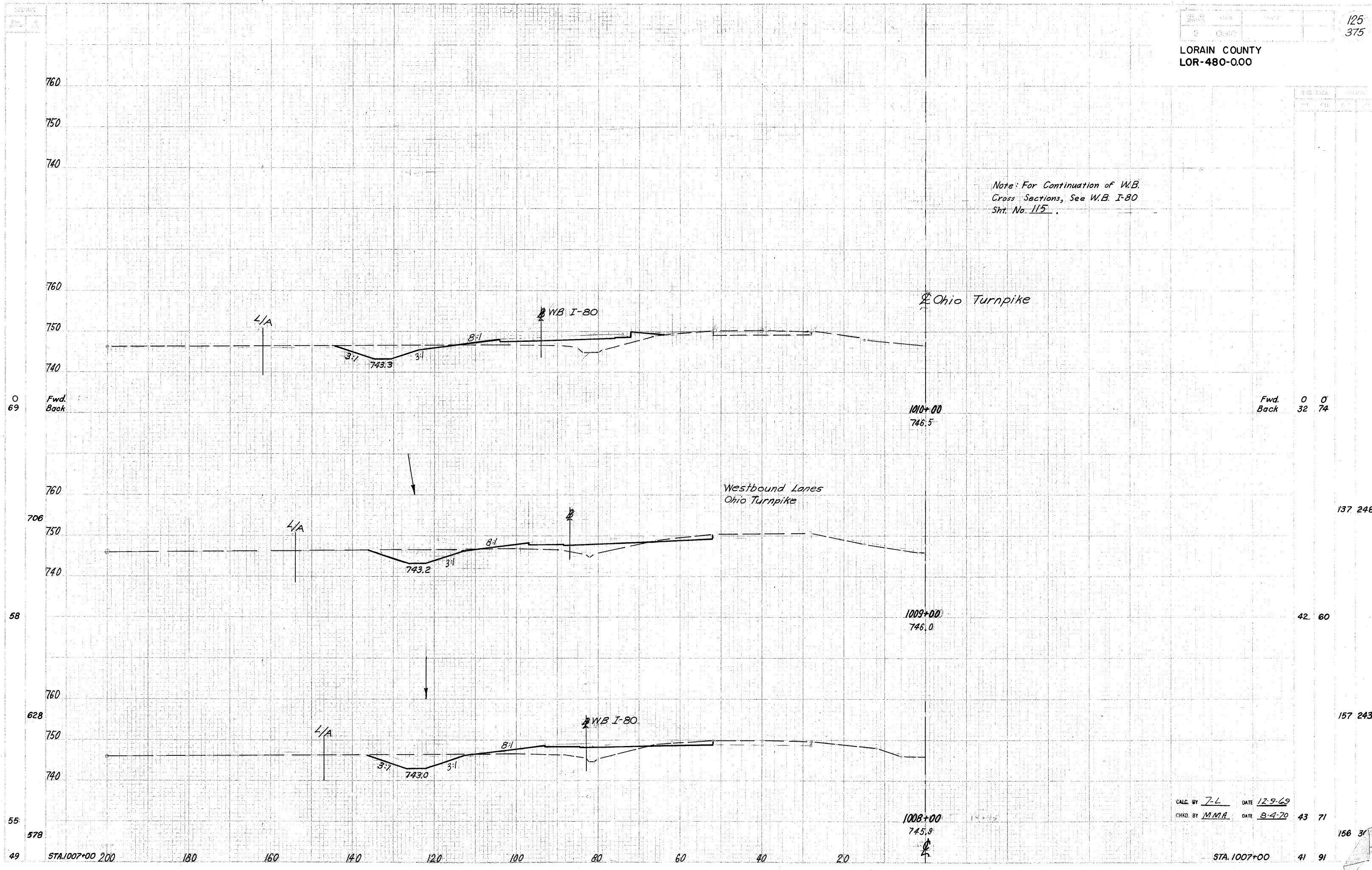
CHK  
1/31/70  
1/31/70  
1/31/70

Plan sheet 7-4-12-9-69

CALC. BY Z-L DATE 12-9-69  
CHKD. BY M.M.A. DATE 8-4-70

LORAIN COUNTY  
LOR-480-0.00

Note: For Continuation of W.B.  
Cross Sections, See W.B. I-80  
Sht. No. 115



0  
69

Fwd. 0  
Back 32 74

1010+00  
746.5

706

137 248

Westbound Lanes  
Ohio Turnpike

1009+00  
746.0

42 60

58

628

157 243

WB I-80

1008+00  
745.9

156 31

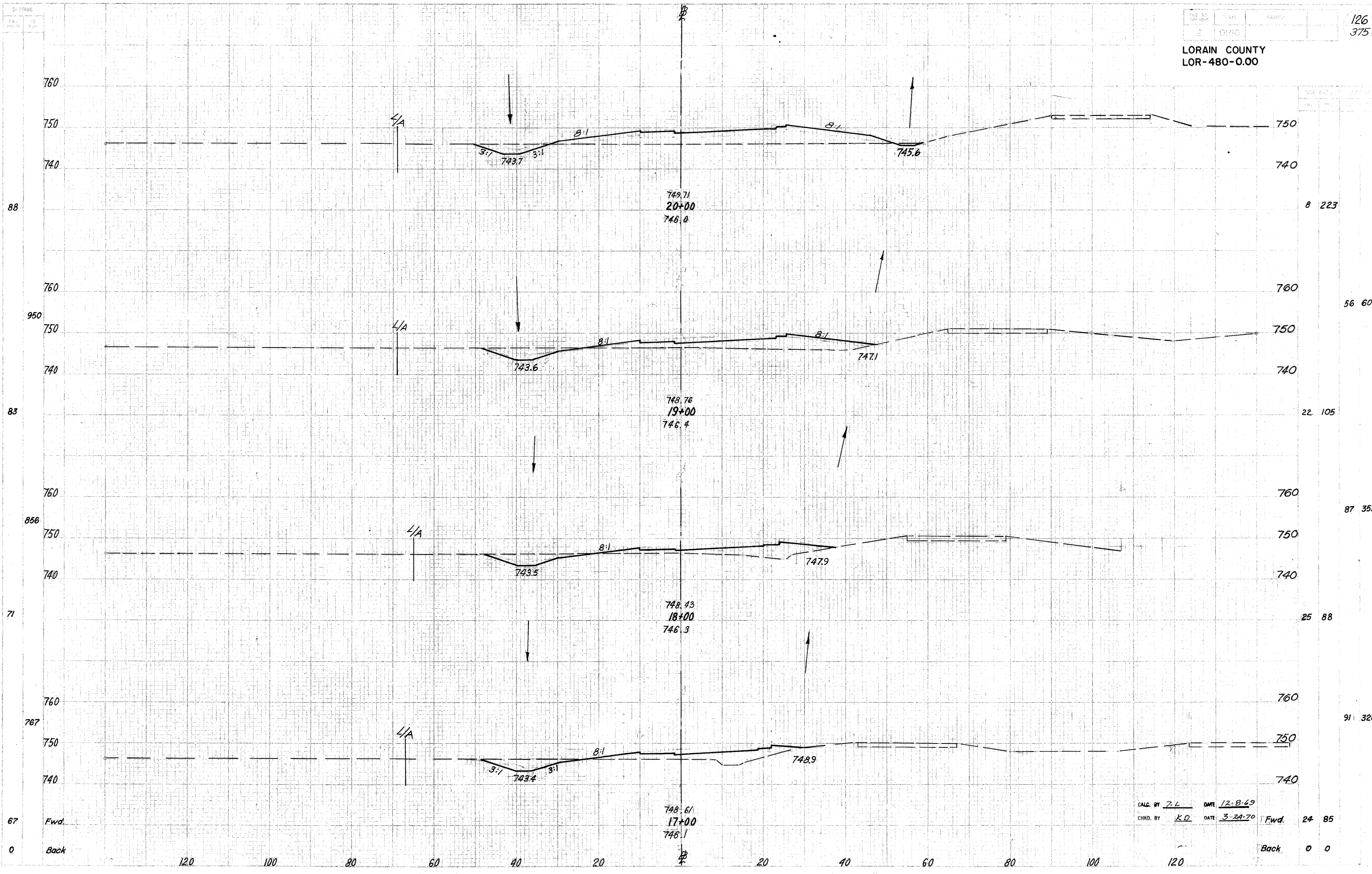
55

CALC. BY J.L. DATE 12-9-69  
CHKD. BY M.M.B. DATE 8-4-70 43 71

49 STA. 1007+00 200 180 160 140 120 100 80 60 40 20 STA. 1007+00 41 91

LORAIN COUNTY  
LOR-480-0.00

126  
375

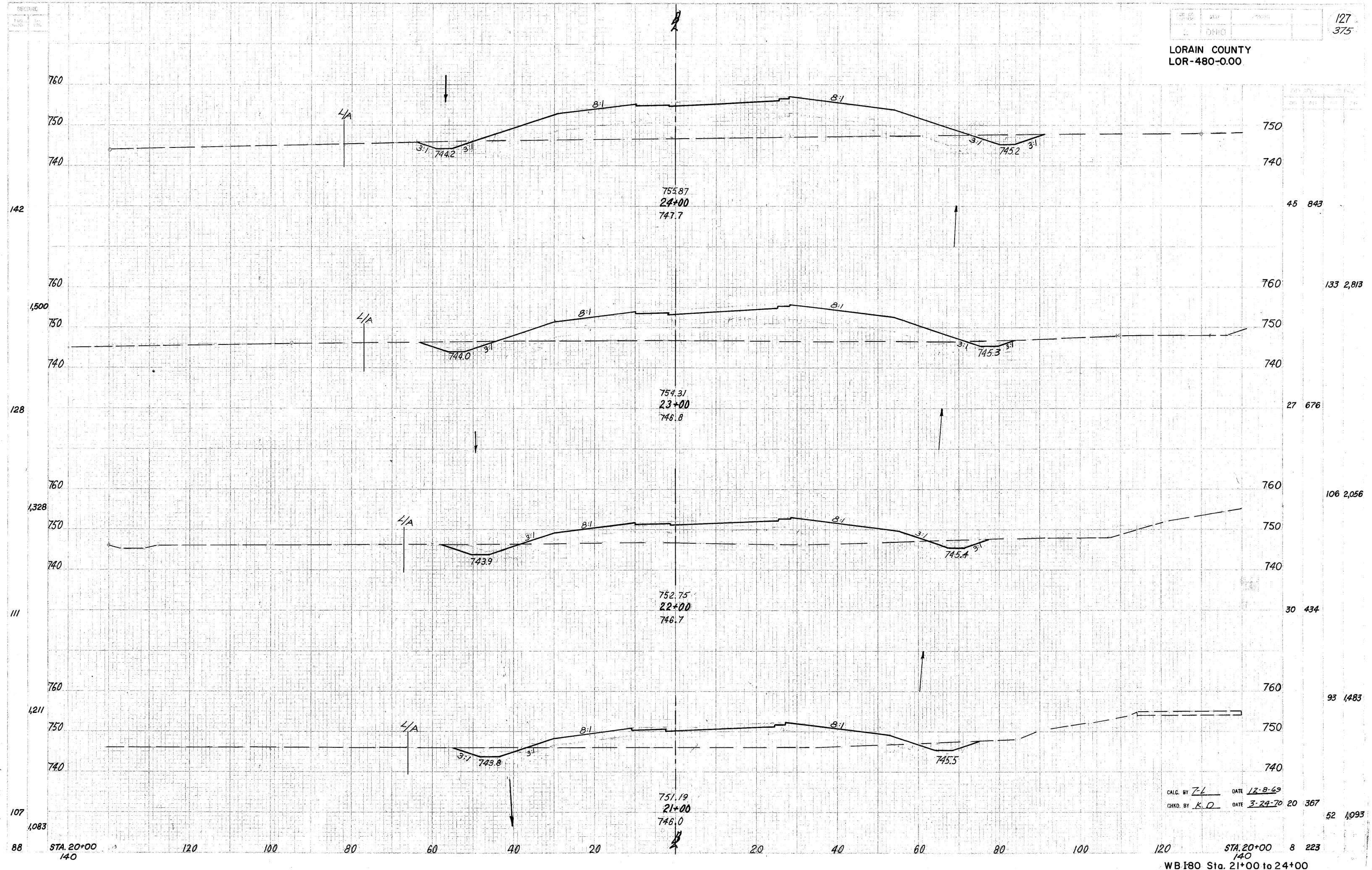


E.M. CGD  
 1/11/69  
 Plan number 7-1-12-9-69

CALC. BY Z.L. DATE 12-8-69  
 CHKD. BY K.D. DATE 3-29-70



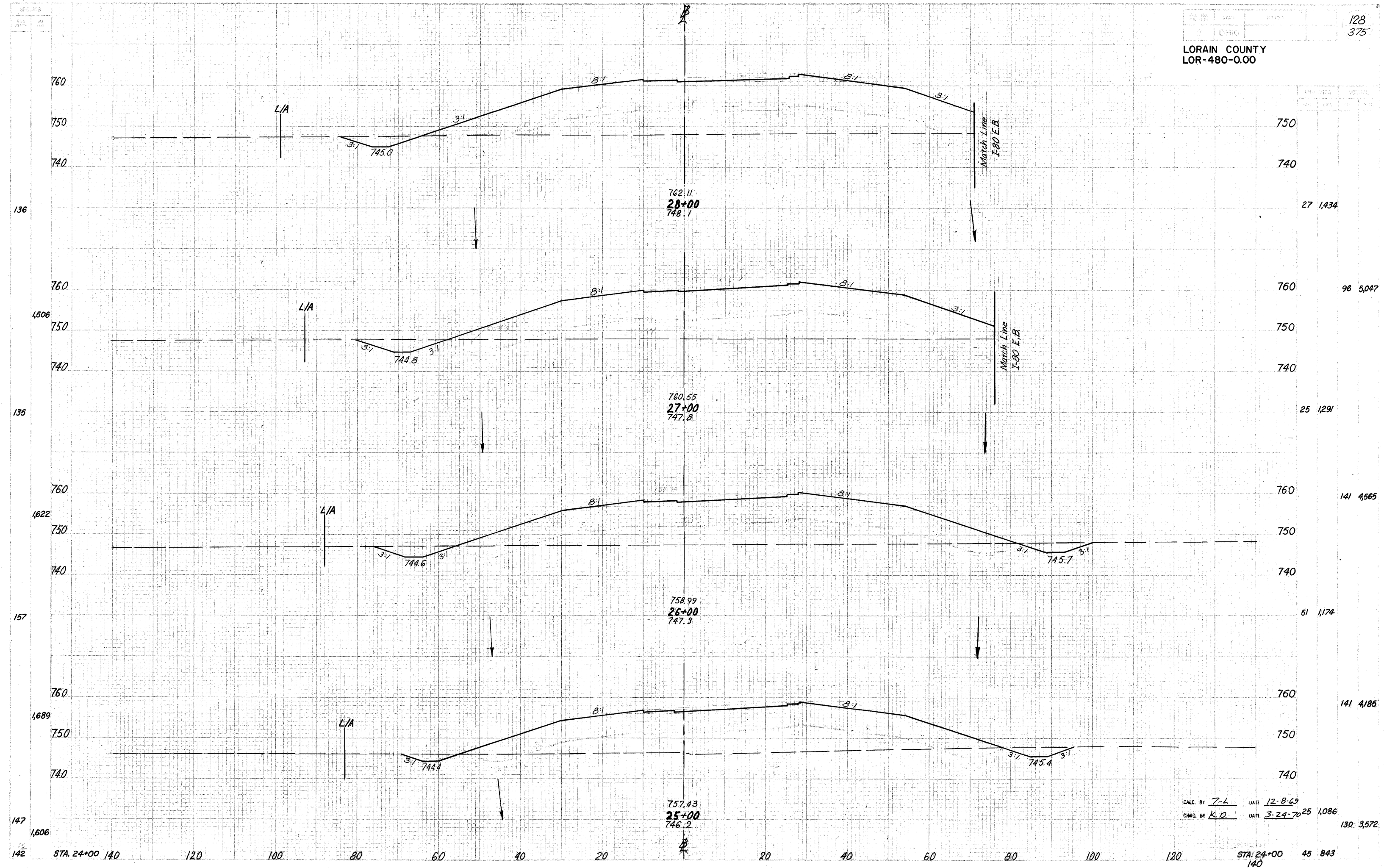
LORAIN COUNTY  
LOR-480-0.00



1/2 sheet 7-6. 12-9-69

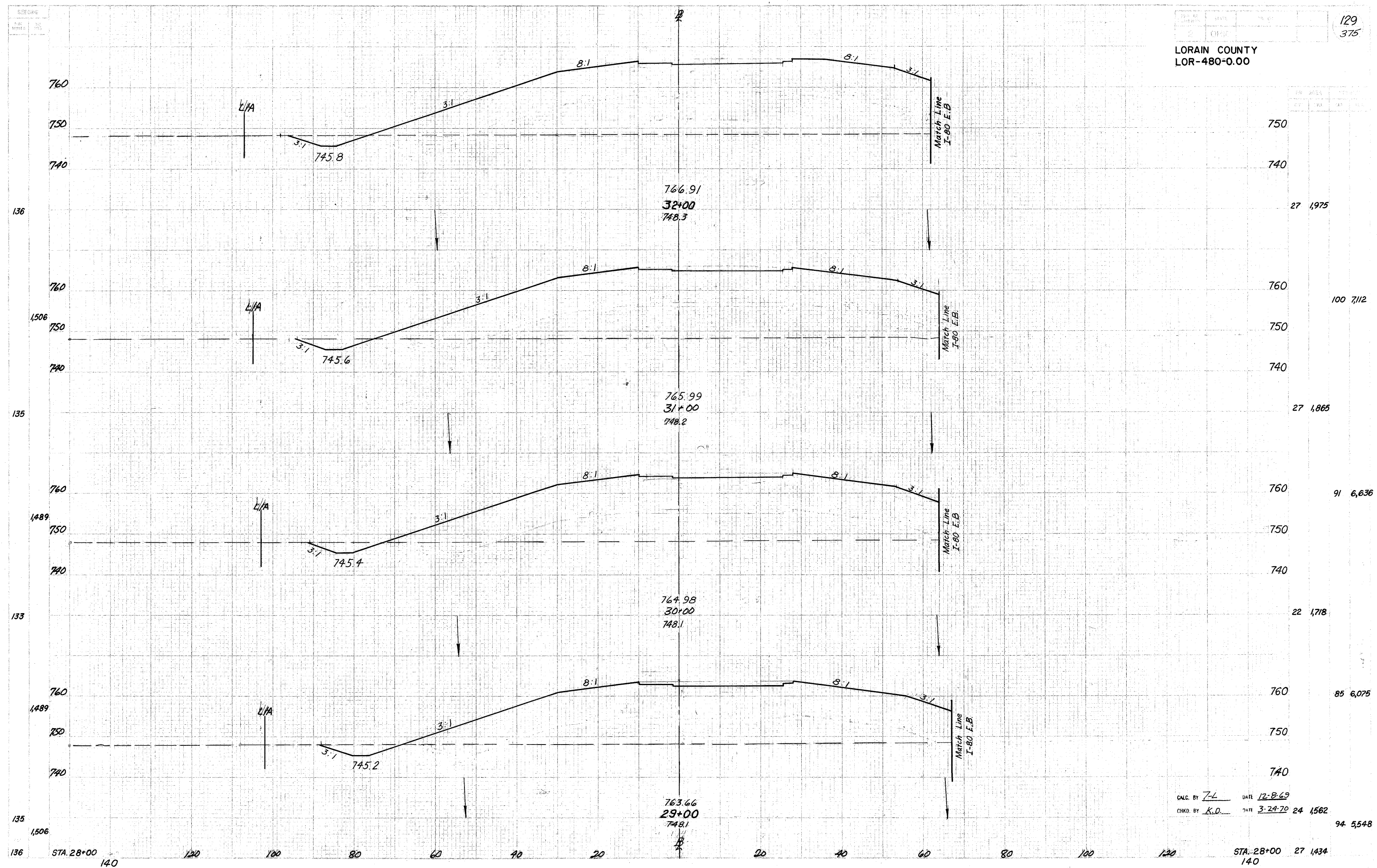
CALC. BY Z.L. DATE 12-8-69  
CHKD. BY K.D. DATE 3-24-70

WB 180 Sta. 21+00 to 24+00

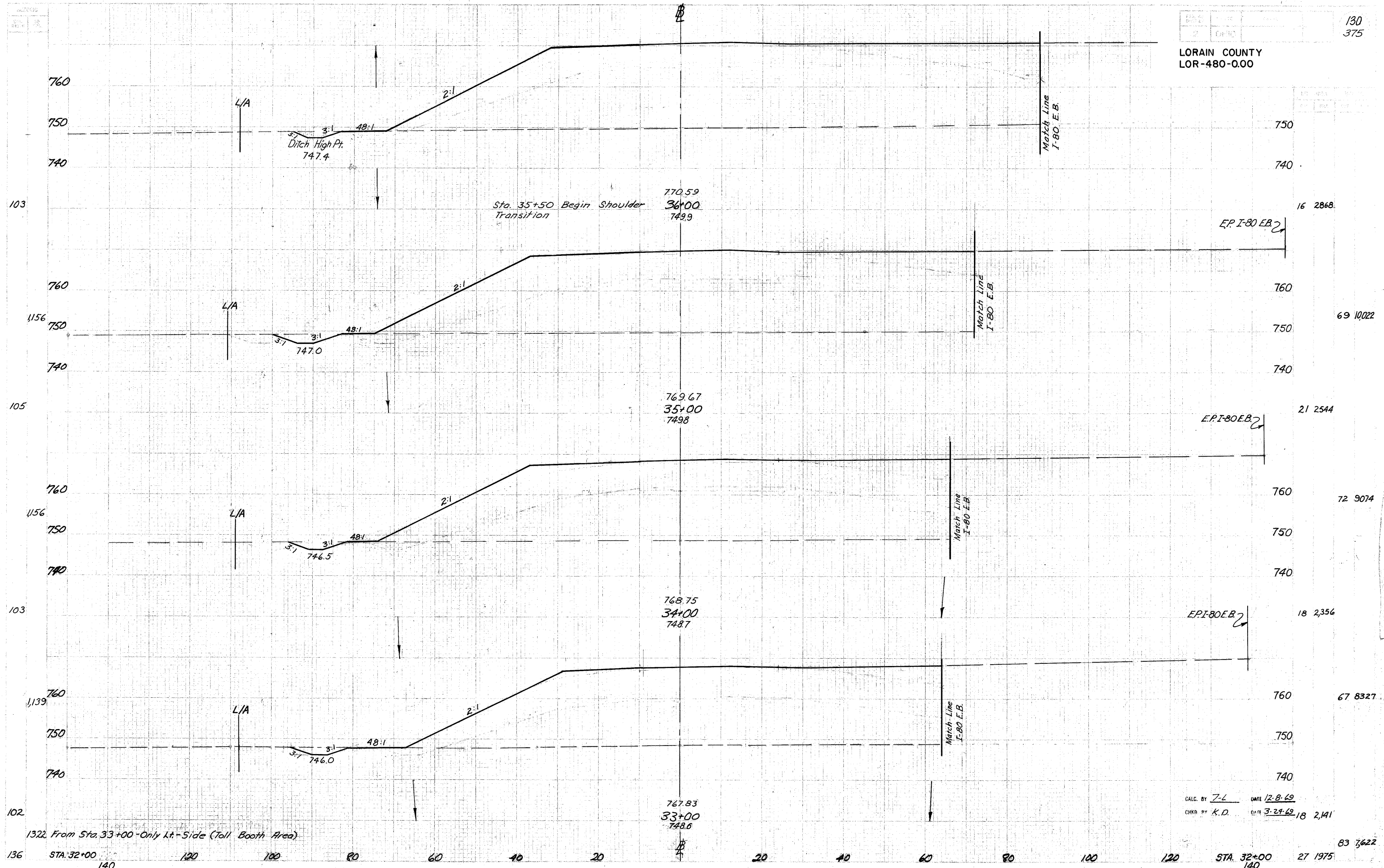


CALC. BY 7-L DATE 12-8-69  
 CHKD. BY K.D. DATE 3-24-70 1,086

LORAIN COUNTY  
LOR-480-0.00



CALC. BY Z.L. DATE 12-8-69  
CHKD. BY K.D. DATE 3-24-70 24 1562



CALC. BY 7-L DATE 12-8-69  
CHKD. BY K.D. DATE 3-21-69

1322 From Sta. 33+00 - Only Lt. Side (Toll Booth Area)

16 2868

69 10022

21 2544

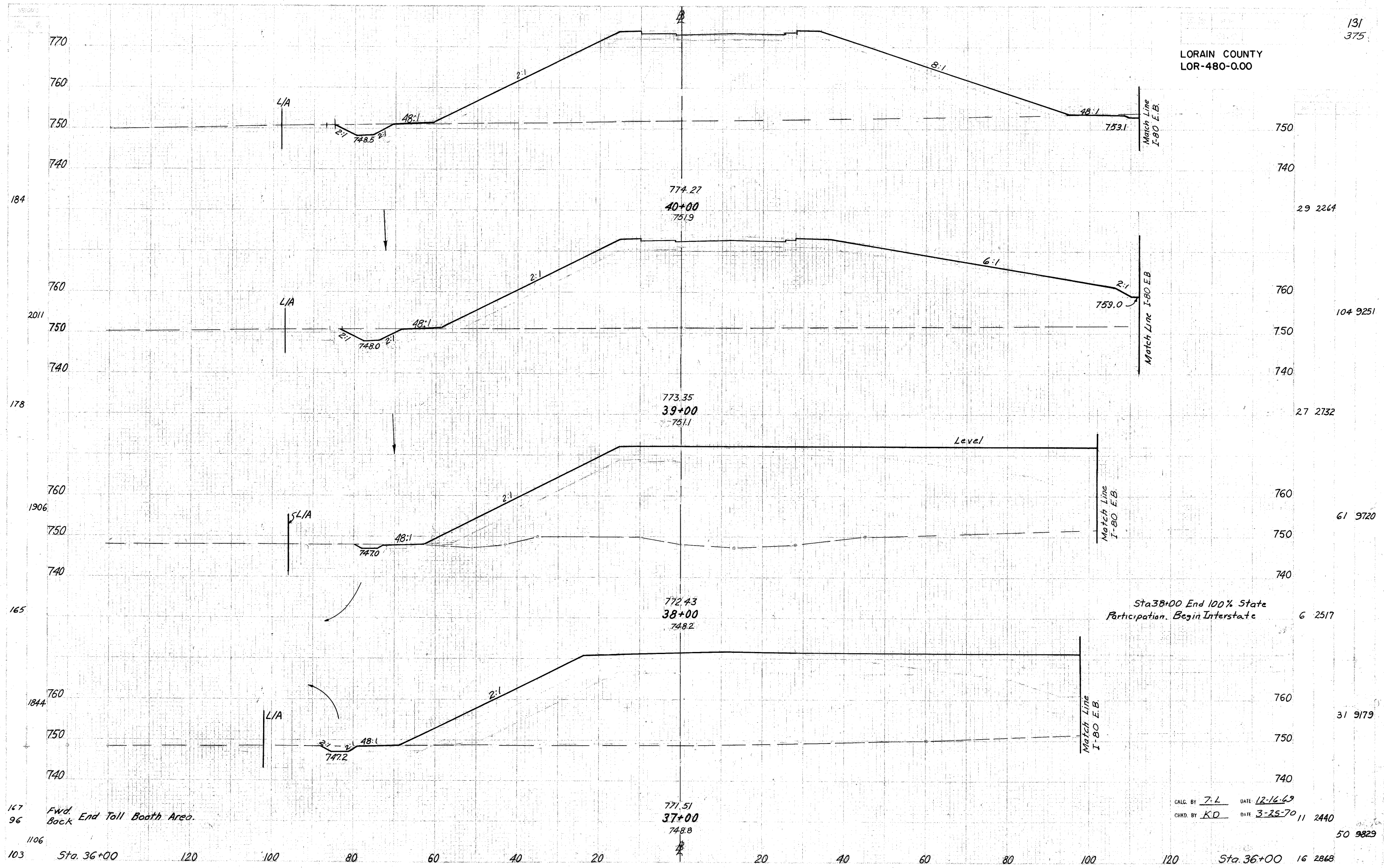
72 9074

18 2356

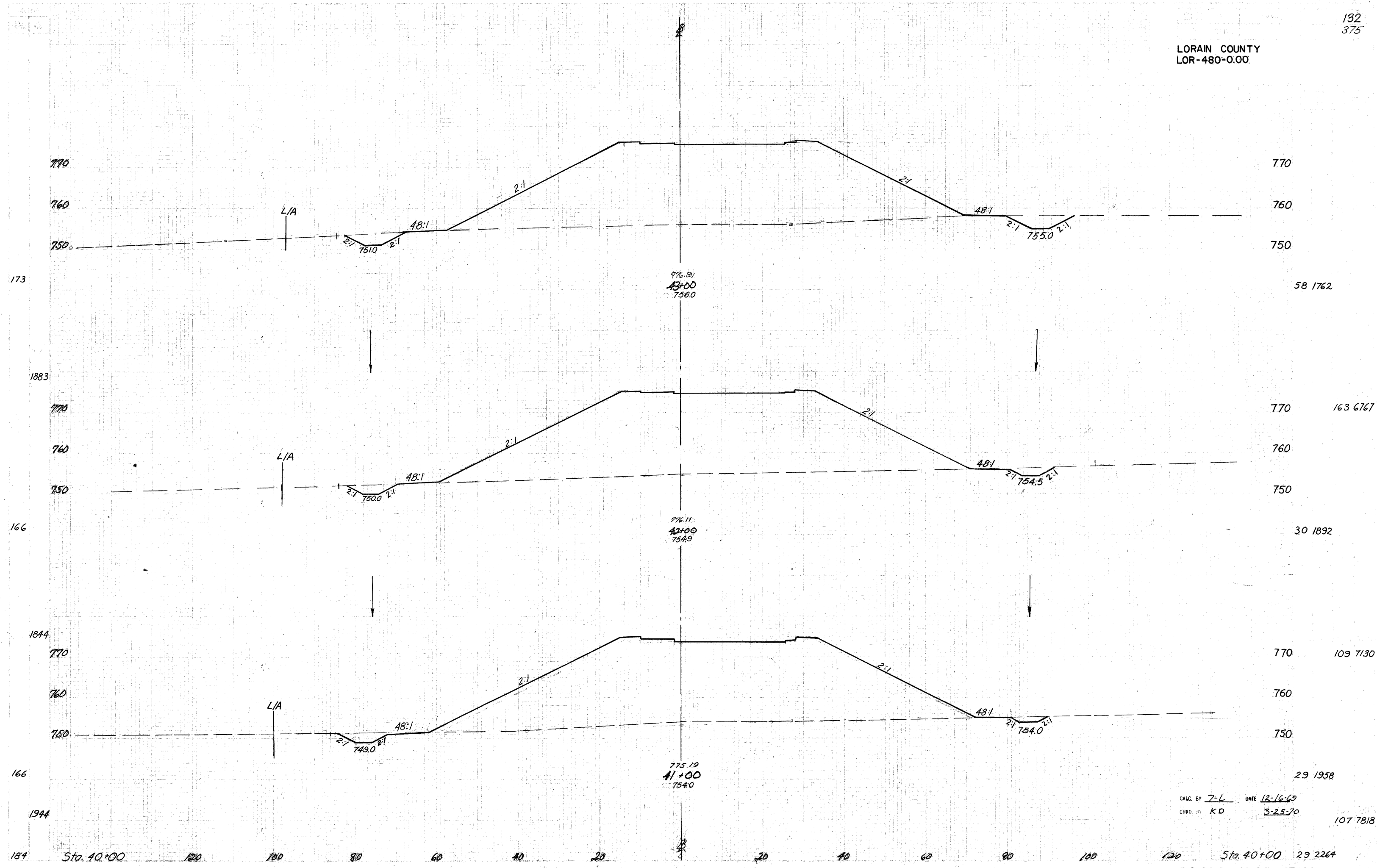
67 8327

83 7622

LORAIN COUNTY  
LOR-480-0.00



CALC. BY J.L. DATE 12-16-69  
 CHKD. BY K.D. DATE 3-25-70



CALC. BY 7-L DATE 12-16-69  
CHKD. BY KD 3-25-70

58 1762

163 6767

30 1892

109 7130

29 1958

107 7818

Sta. 40+00 29 2264

173

1883

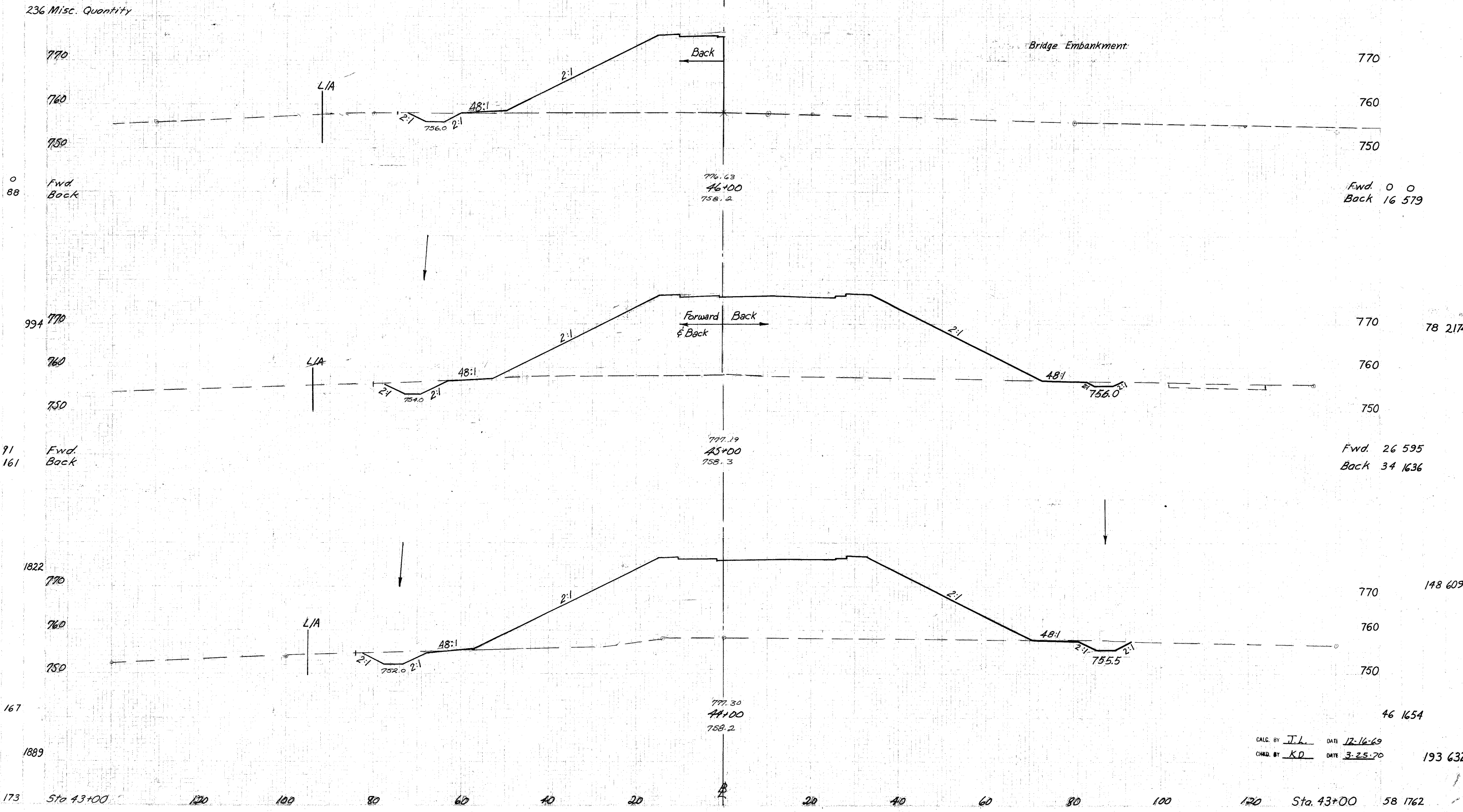
166

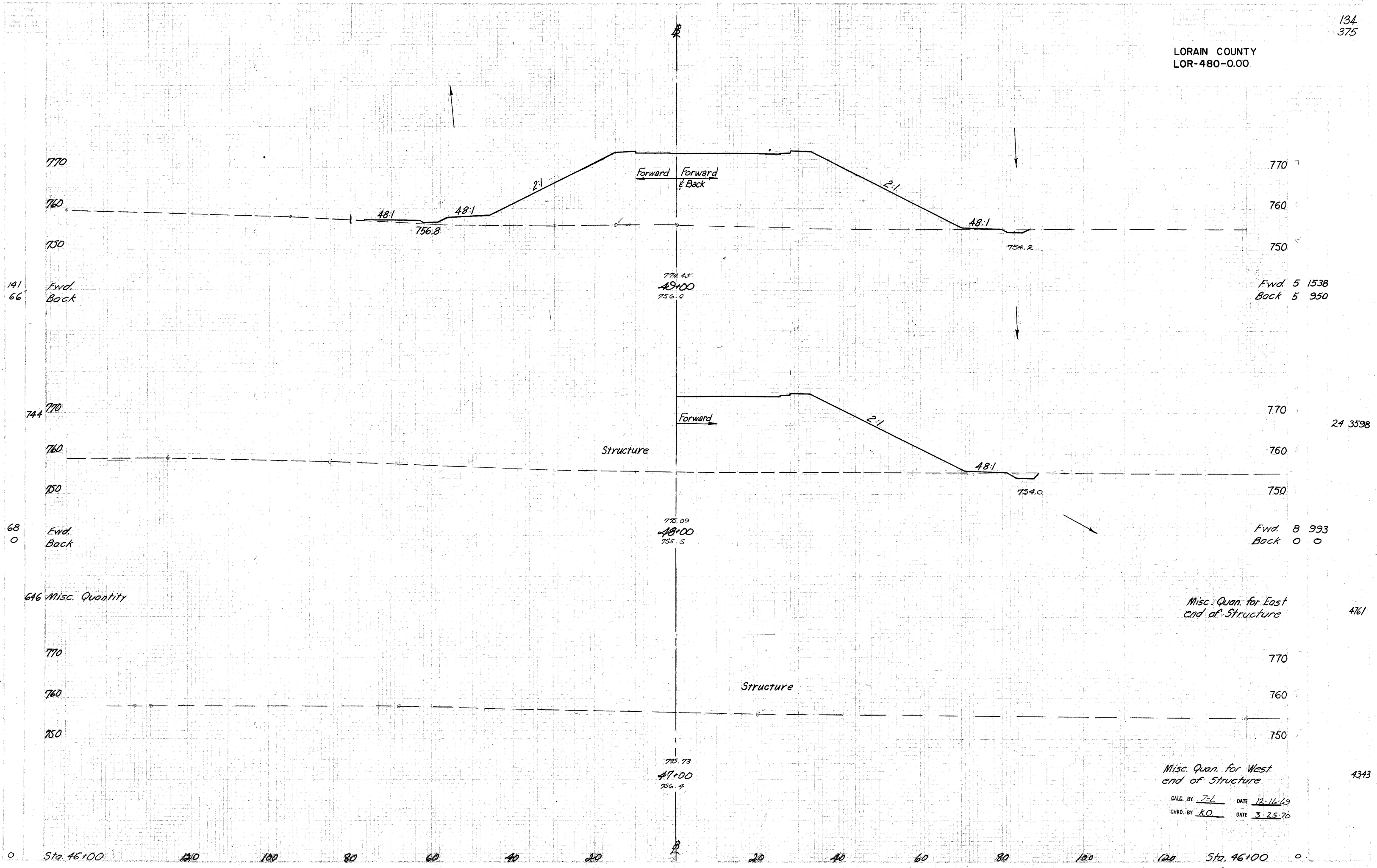
1844

166

1944

184 Sta. 40+00





141  
66  
Fwd.  
Back

Fwd. 5 1538  
Back 5 950

68  
0  
Fwd.  
Back

Fwd. 8 993  
Back 0 0

646 Misc. Quantity

Misc. Quan. for East  
end of Structure

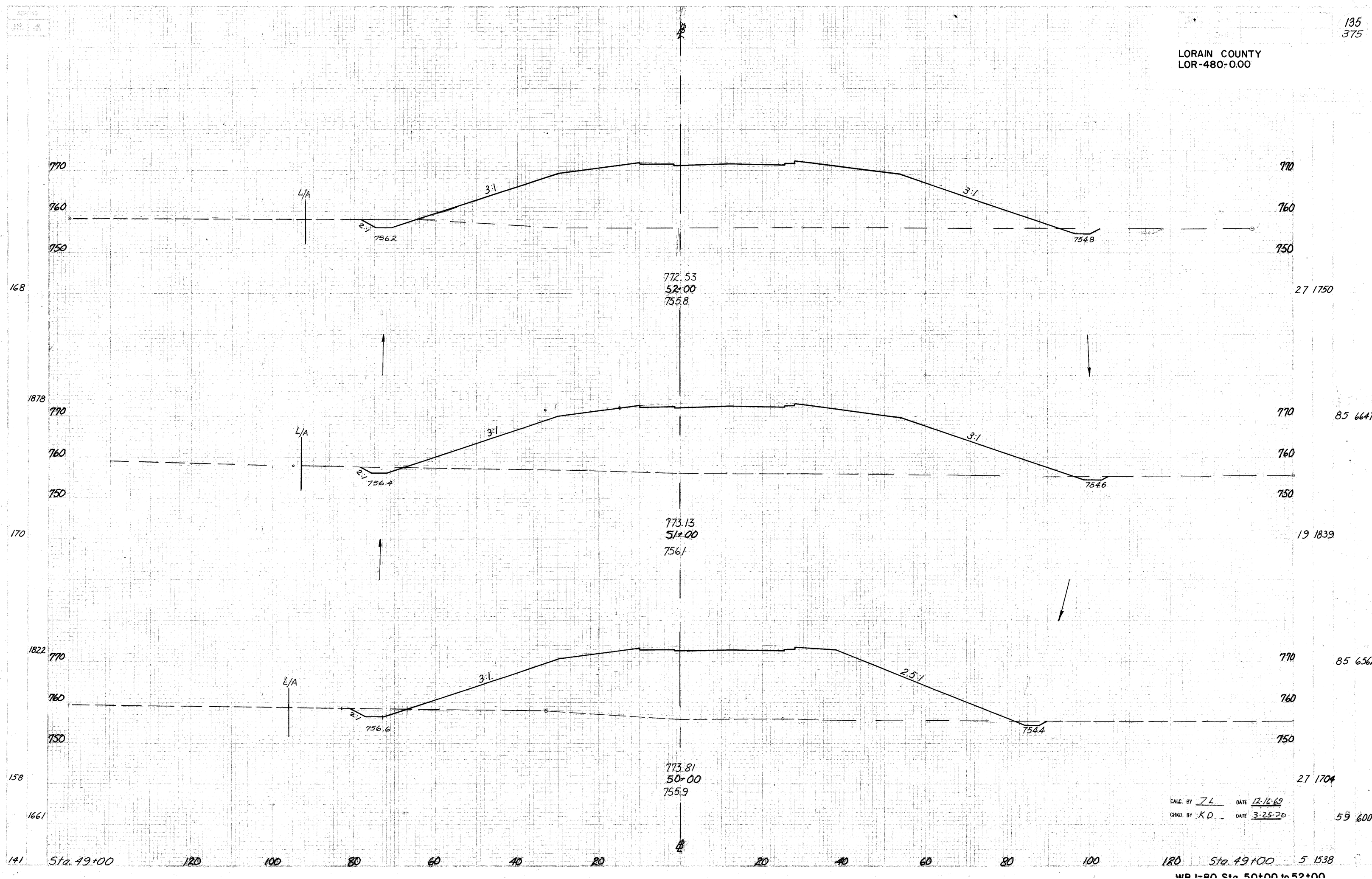
4761

Misc. Quan. for West  
end of Structure

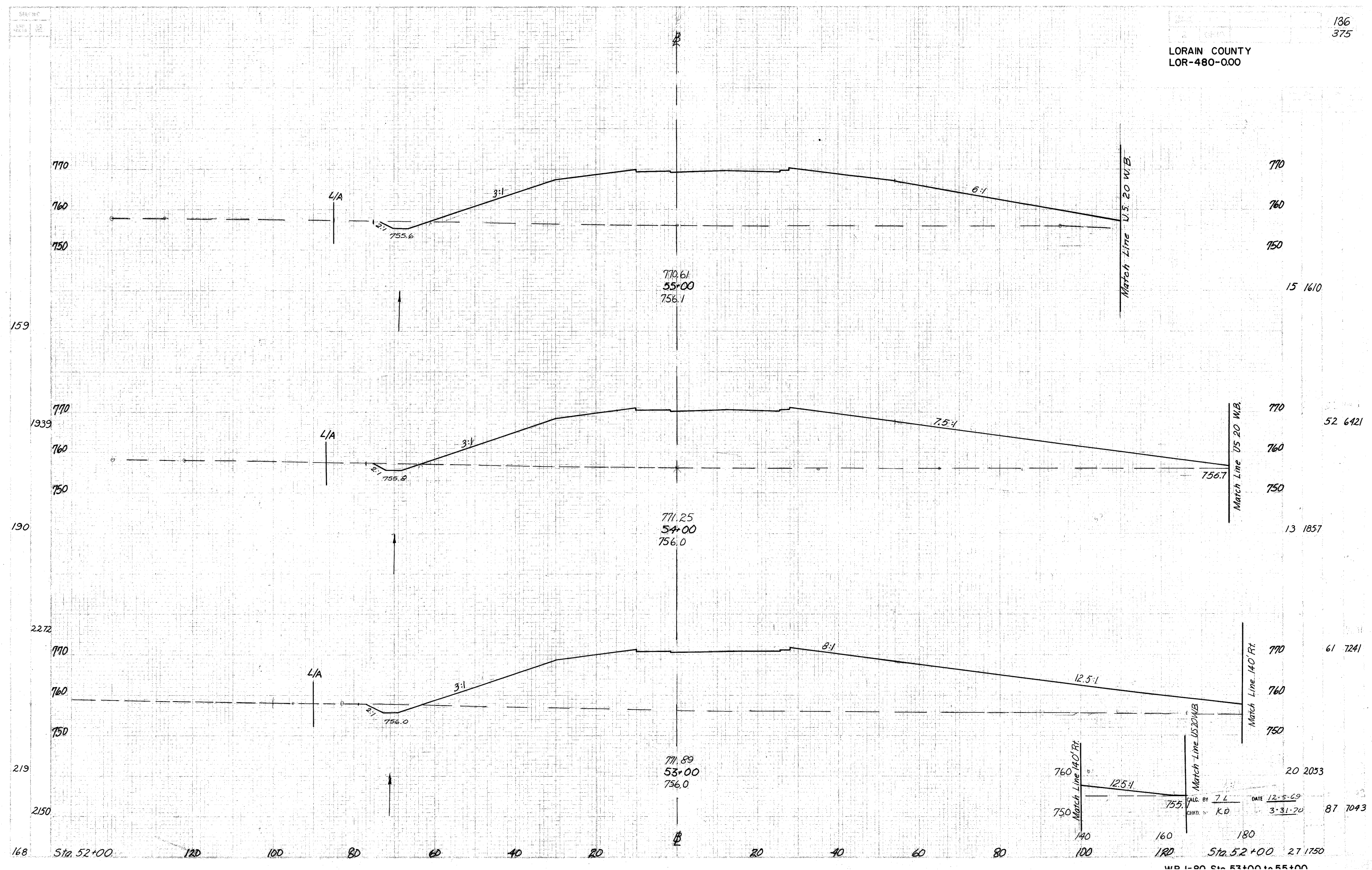
4343

CALC. BY Z-L DATE 12-16-69  
CHKD. BY K.O. DATE 3-25-70





CALC. BY ZL DATE 12-16-69  
 CHKD. BY KD DATE 3-25-70



770.61  
55+00  
756.1

771.25  
54+00  
756.0

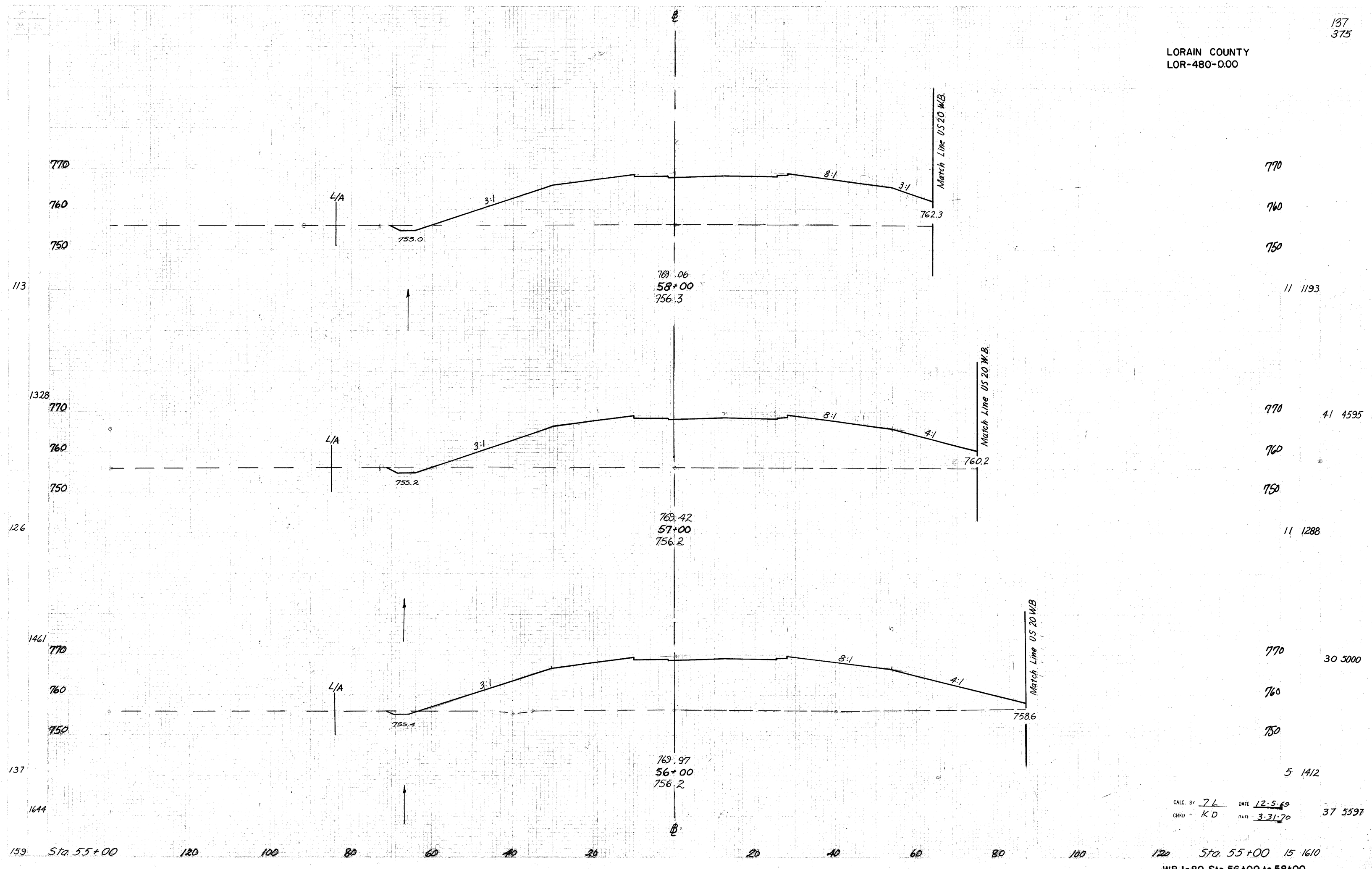
771.89  
53+00  
756.0

CALC. BY J.L. DATE 12-5-69  
CHKD. BY K.O. DATE 3-31-70

770  
760  
750  
15 1610

770  
760  
750  
13 1857

770  
760  
750  
20 2053



113

770  
760  
750

11 1193

1328

770  
760  
750

41 4595

126

770  
760  
750

11 1288

1461

770  
760  
750

30 5000

137

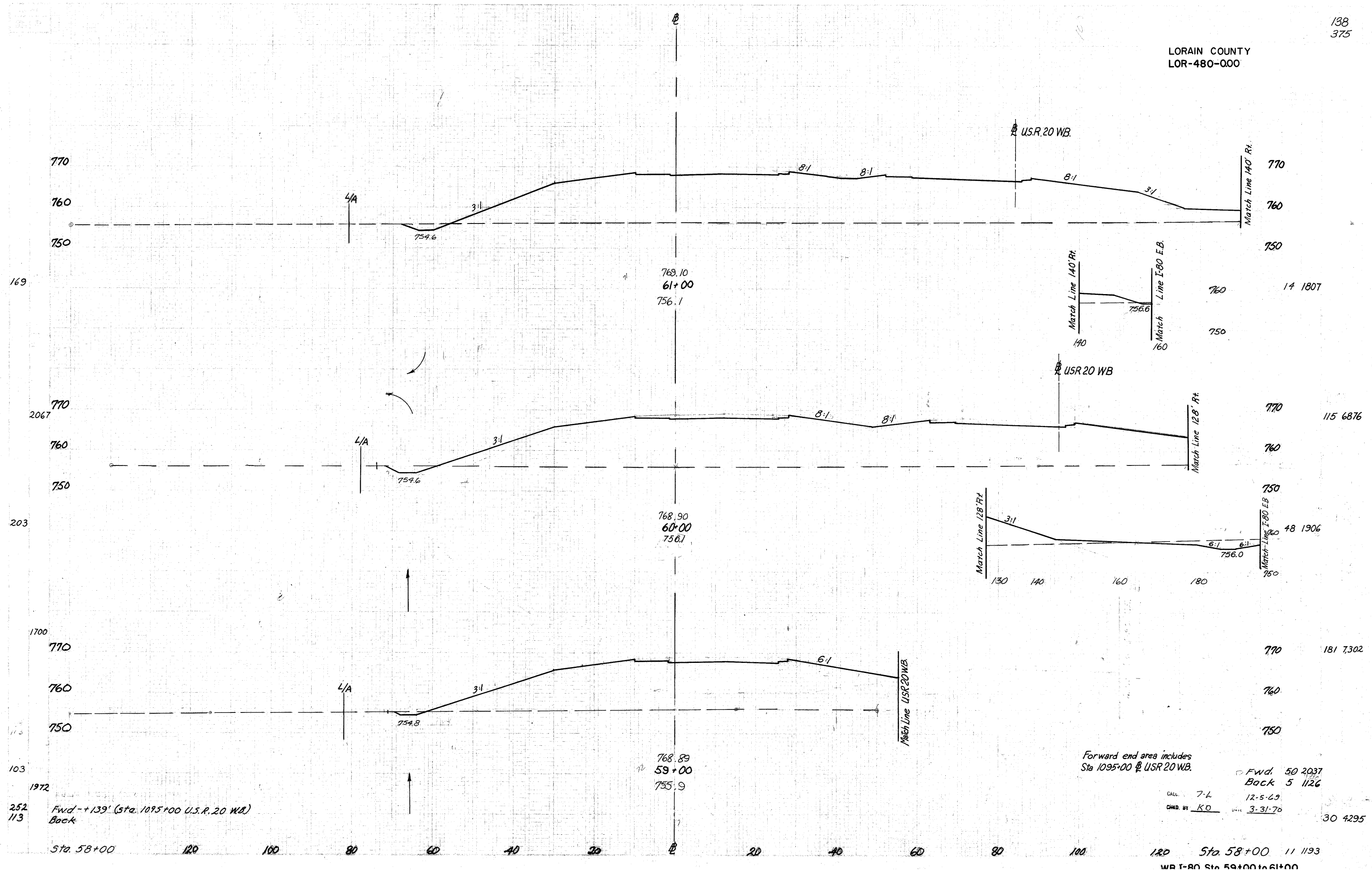
770  
760  
750

5 1412

1644

CALC. BY 7L DATE 12-5-69  
 CHKD. KD DATE 3-31-70 37 5597

LORAIN COUNTY  
LOR-480-000



169

2067

203

1700

103

1972

252  
113

Fwd - +139' (Sta. 1095+00 U.S.R. 20 WB)  
Back

Sta. 58+00      120      100      80      60      40      20      0      20      40      60      80      100      120      Sta. 58+00      11 1193  
WB I-80 Sta. 59+00 to 61+00

Forward end area includes  
Sta 1095+00 @ USR 20 WB.

CALL. 7-L 12-5-69  
CHKD. BY KD 3-31-70

Fwd 50 2037  
Back 5 1126

30 4295

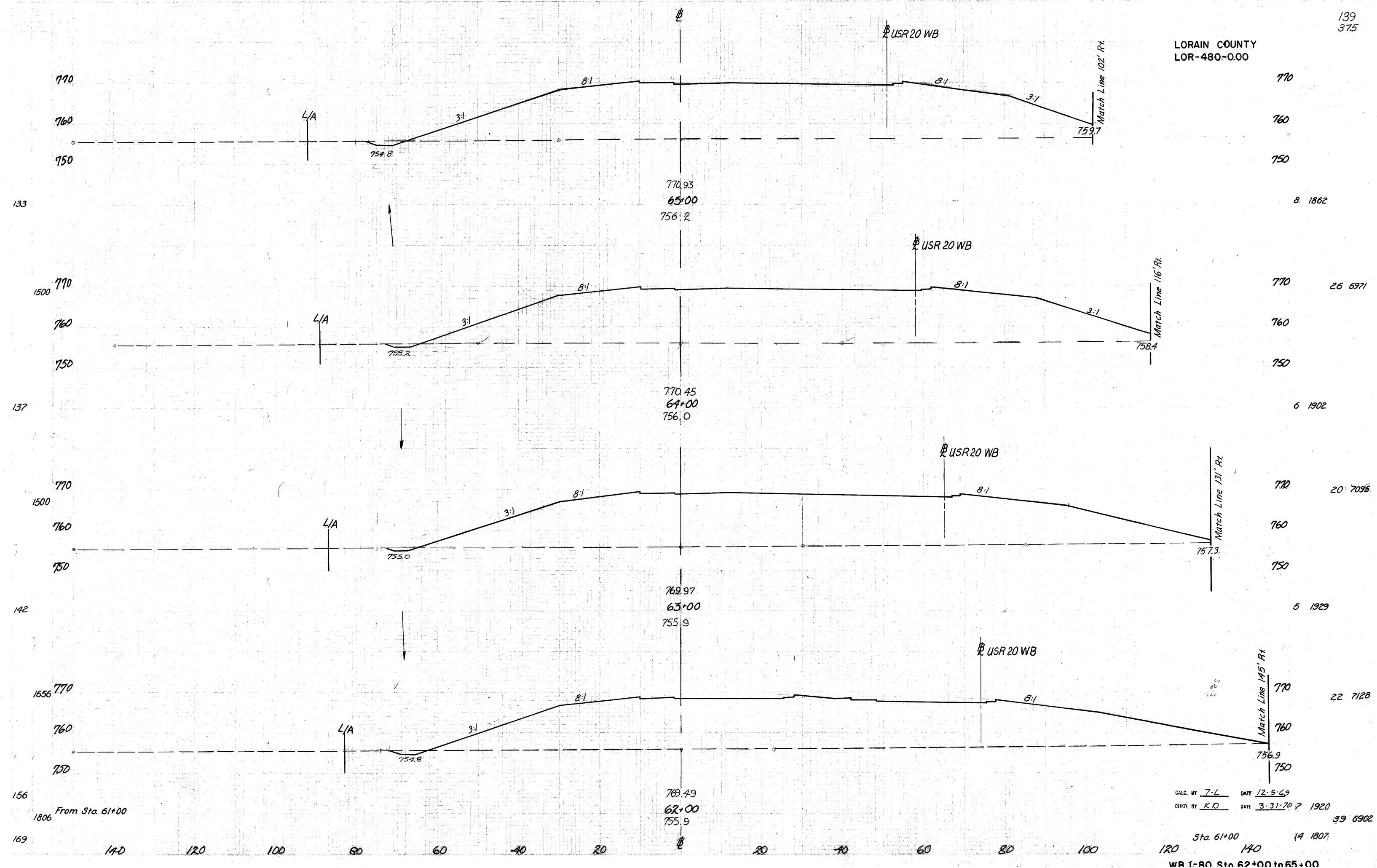
14 1807

115 6876

48 1906

181 7302

LORAIN COUNTY  
LOR-480-0.00



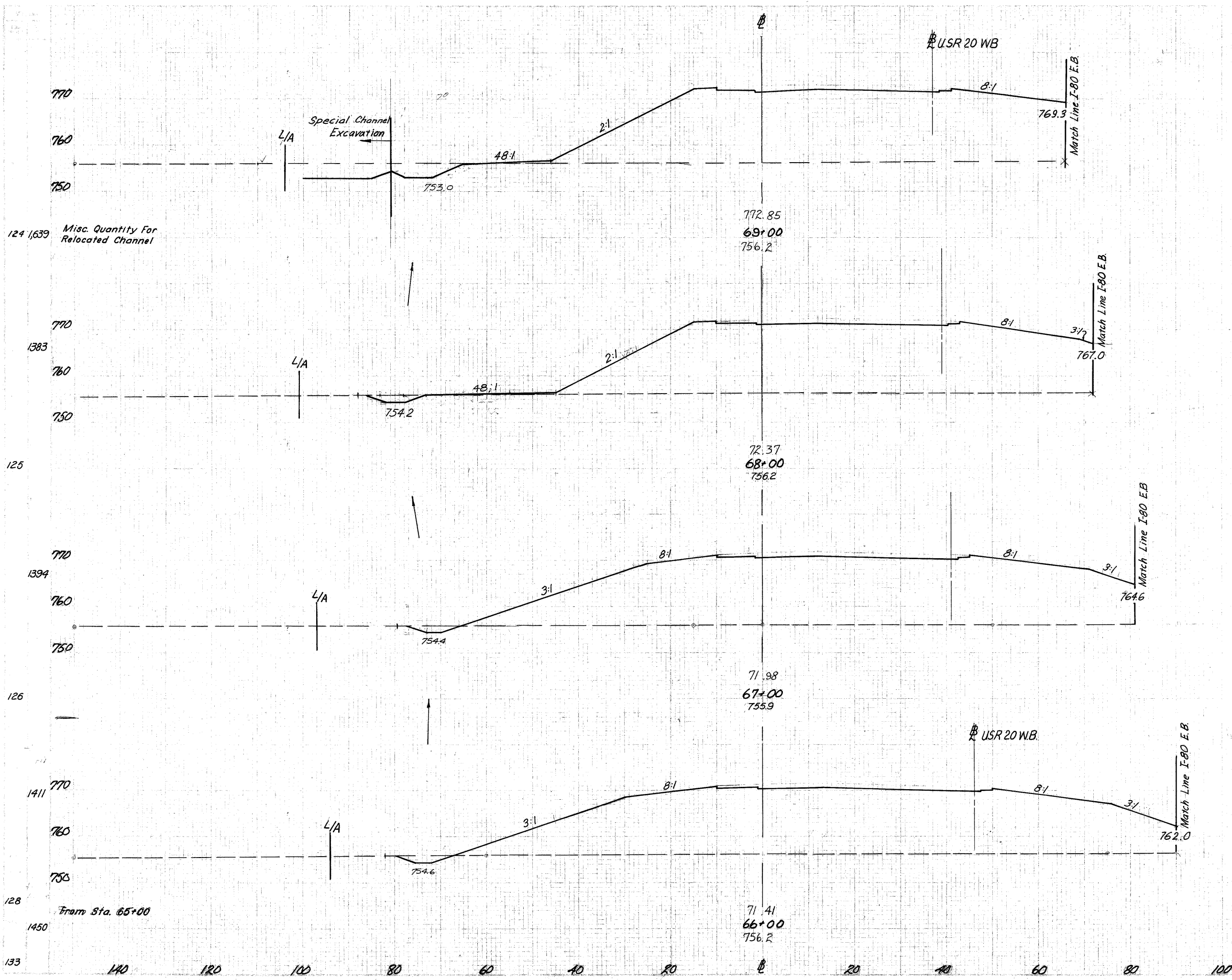
CALC. BY 7-L DATE 12-5-69  
 CHKD. BY K.D DATE 3-31-70 1920

Sta. 61+00 14 1807

WB I-80 Sta 62+00 to 65+00

LORAIN COUNTY  
LOR-480-0.00

Misc. Quantity For  
Relocated Channel  
See Sheet No. 99



124 1,639 Misc. Quantity For Relocated Channel

1383

125

1394

126

1411

128

1450

133

From Sta. 65+00

770

760

750

32 1486

770

760

750

14 1500

770

760

750

11 1745

770

760

750

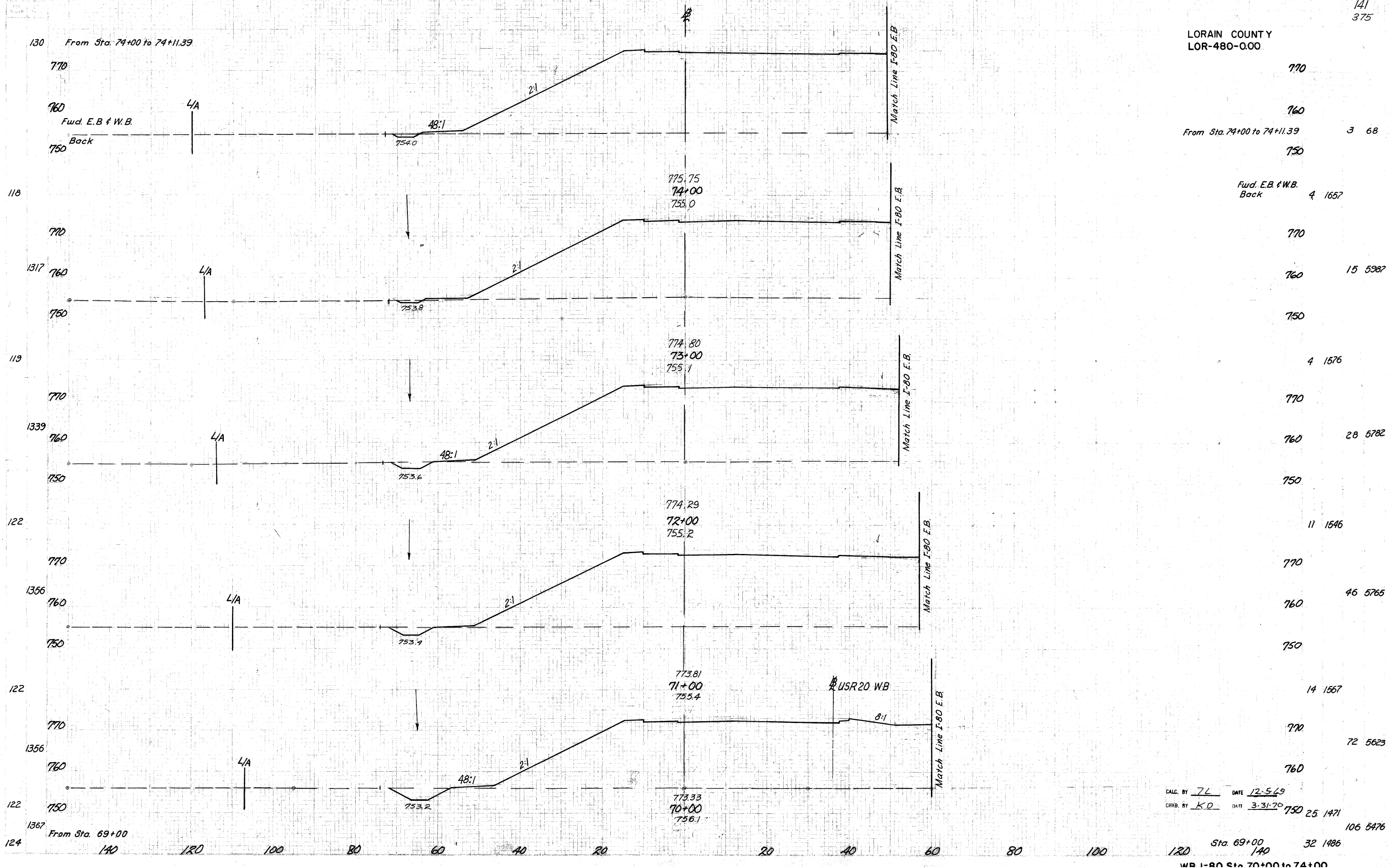
39 6752

CALC. BY 7-L DATE 12-5-69

CHKD. BY K.D. DATE 3-31-70 13 1784

Sta. 65+00 8 1862

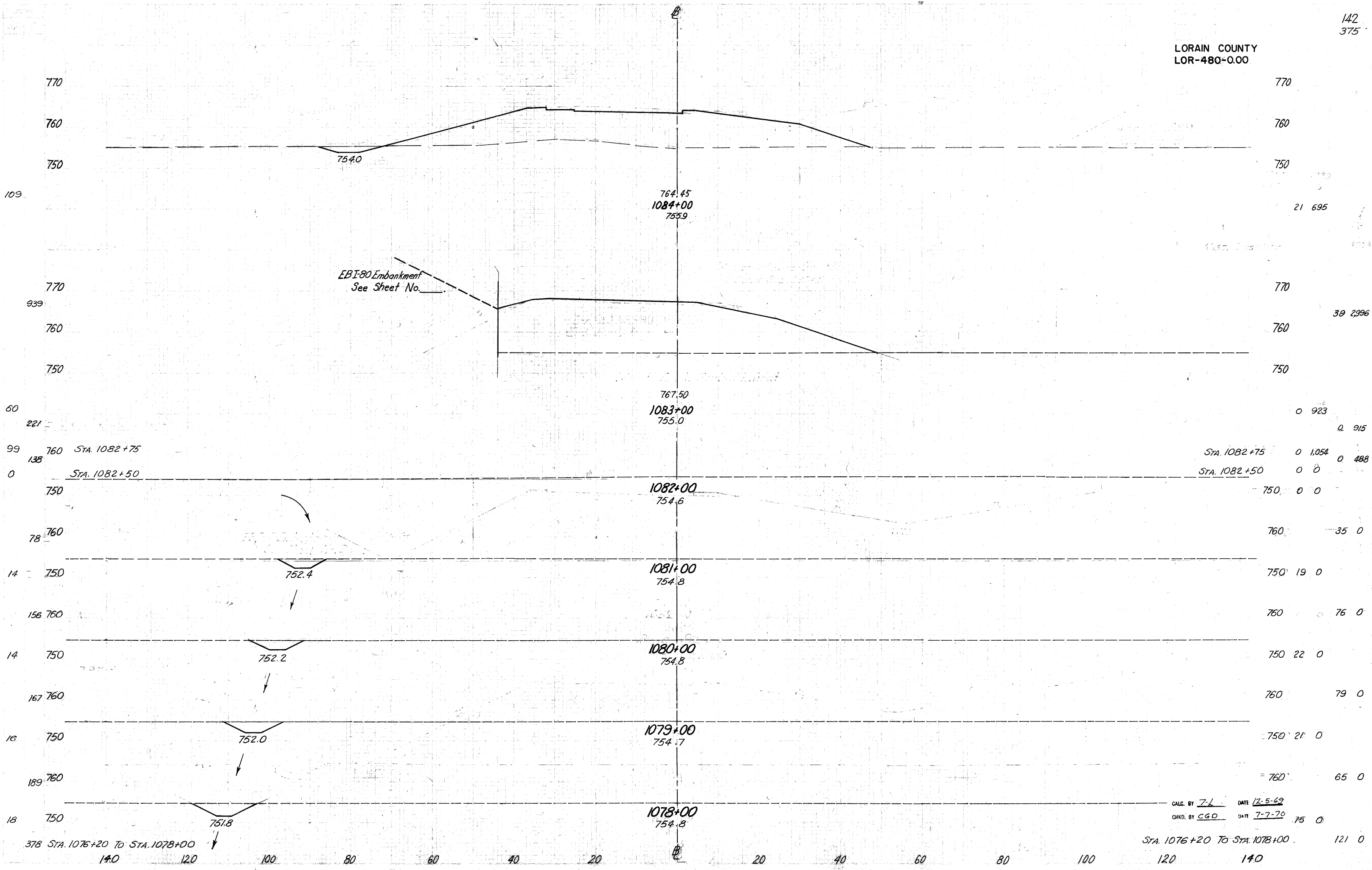
LORAIN COUNTY  
LOR-480-0.00



Sheet No.	From Sta.	To Sta.	Back	Fwd. E.B. & W.B.	Other
130	74+00	74+11.39	750	770	
1317	74+00	74+11.39	750	770	3 68
1339	74+00	74+11.39	750	770	4 1657
1356	74+00	74+11.39	750	770	15 5387
1367	69+00	74+00	750	770	4 1676
					28 5782
					11 1546
					46 5765
					14 1567
					72 5623
					750 25 1471
					106 5476
					32 1486
					WB I-80 Sta 70+00 to 74+00

CALC. BY 7L DATE 12-5-69  
CHKD. BY KD DATE 3-31-70

LORAIN COUNTY  
LOR-480-0.00

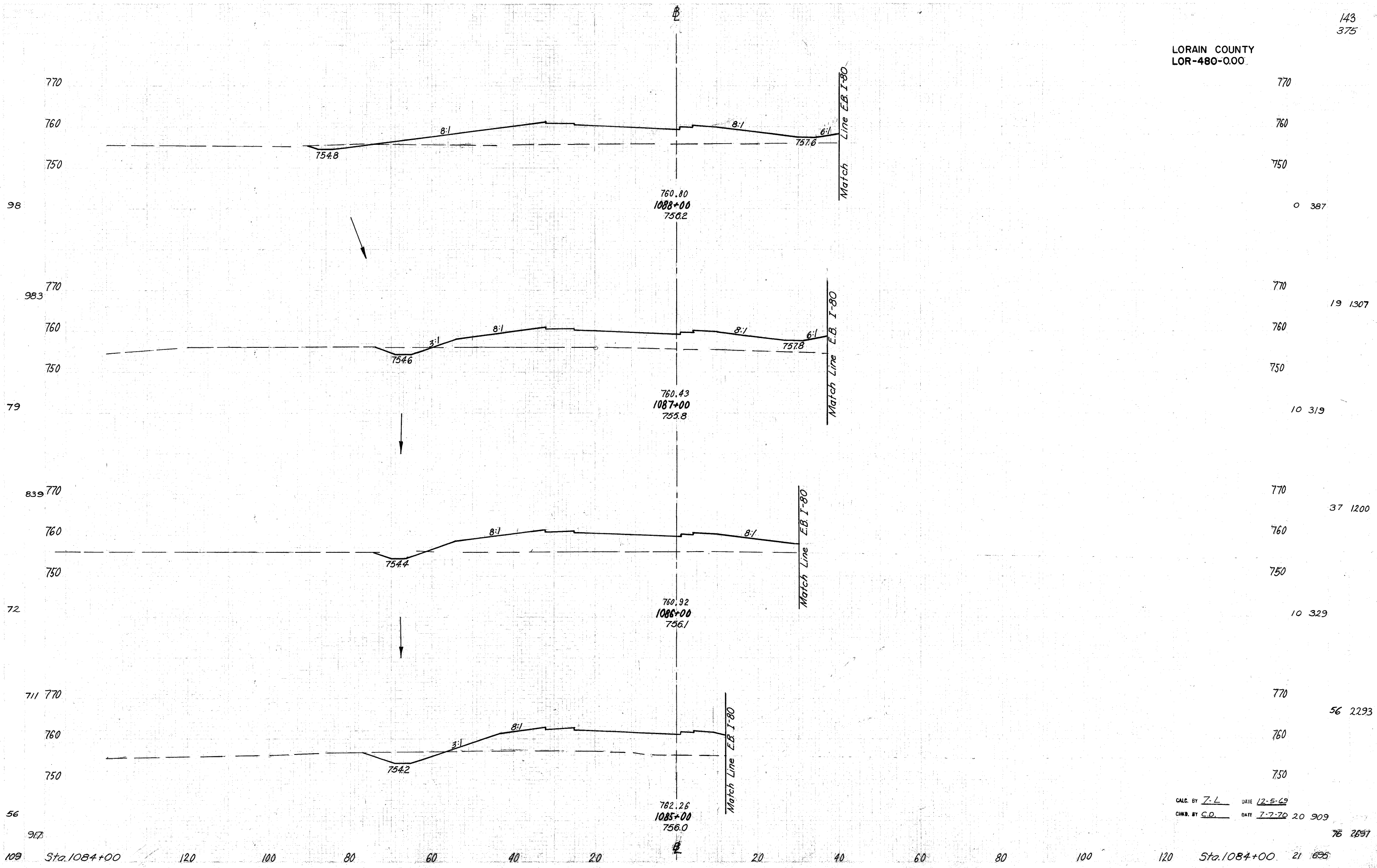


CALC. BY 7-L DATE 12-5-69  
CHKD. BY CGO DATE 7-7-70

STA. 1076+20 TO STA. 1078+00 121 0



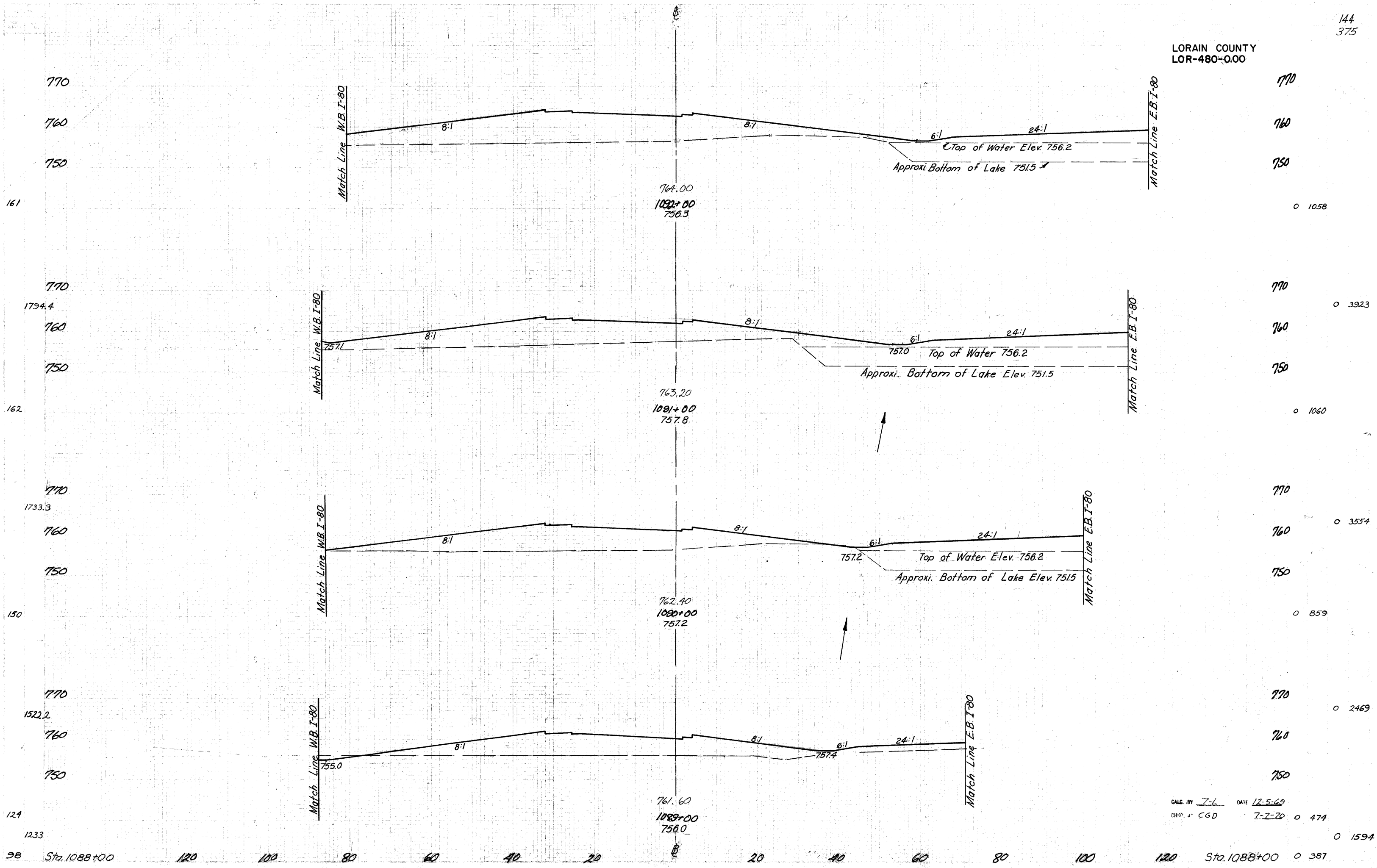
LORAIN COUNTY  
LOR-480-0.00



Calc. by Z.L. DATE 12-5-69  
CHKD. BY C.D. DATE 7-7-70 20 909

770  
760  
750  
98  
770  
760  
750  
79  
770  
760  
750  
839  
770  
760  
750  
72  
770  
760  
750  
56  
917  
109 109 Sta.1084+00 120 100 80 60 40 20 20 40 60 80 100 120 Sta.1084+00 21 695

770  
760  
750  
O 387  
770  
760  
750  
19 1307  
10 319  
770  
760  
750  
37 1200  
10 329  
770  
760  
750  
56 2293  
76 2697



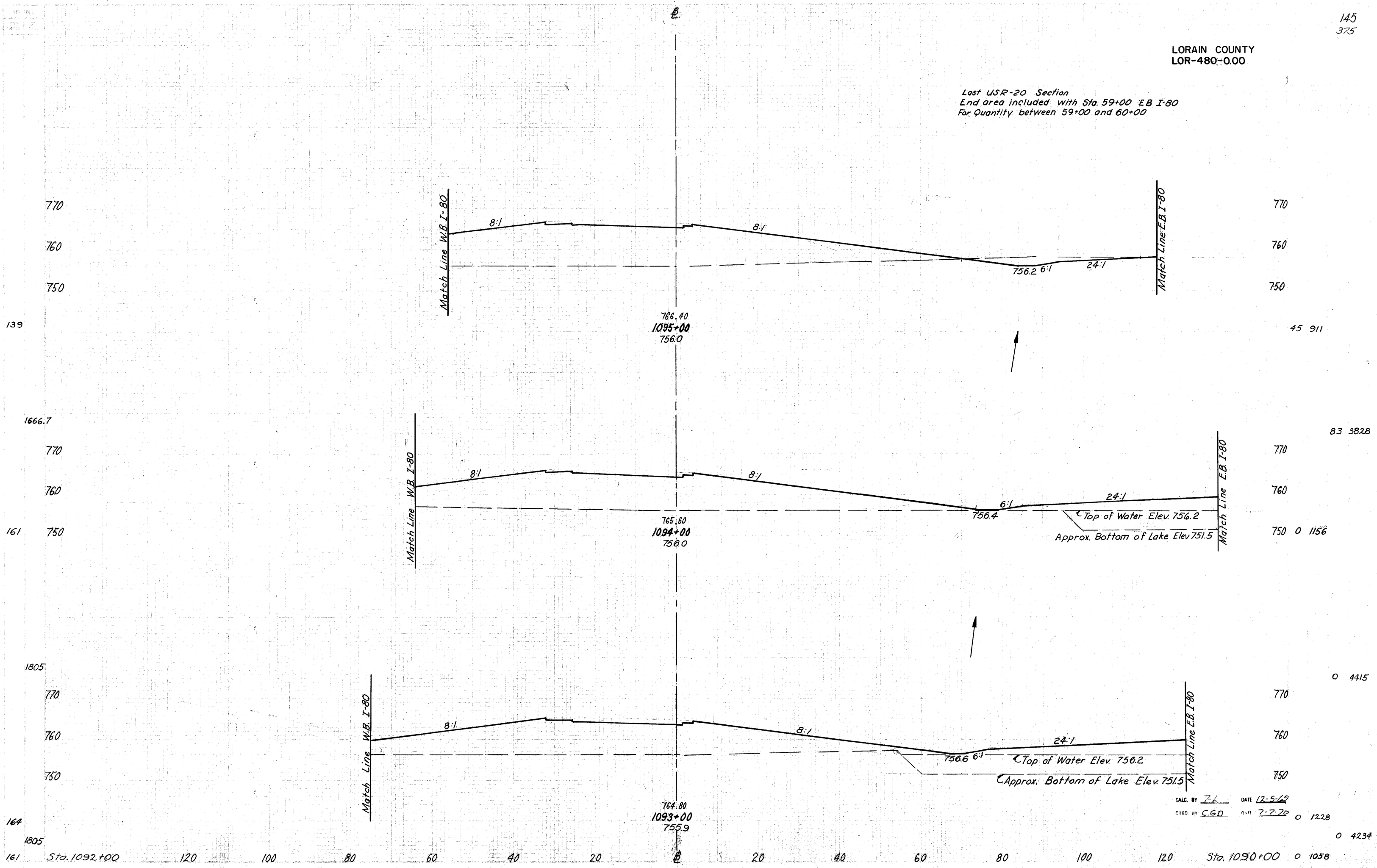
CALC. BY T-L DATE 12-5-69  
 CHKP. BY CGD 7-2-70 O 474

O 1594

120 Sta. 1088+00 O 387  
 WR IISR 20 Sta. 1089+00 to Sta. 1092+00

LORAIN COUNTY  
LOR-480-0.00

Last USR-20 Section  
End area included with Sta. 59+00 EB I-80  
For Quantity between 59+00 and 60+00

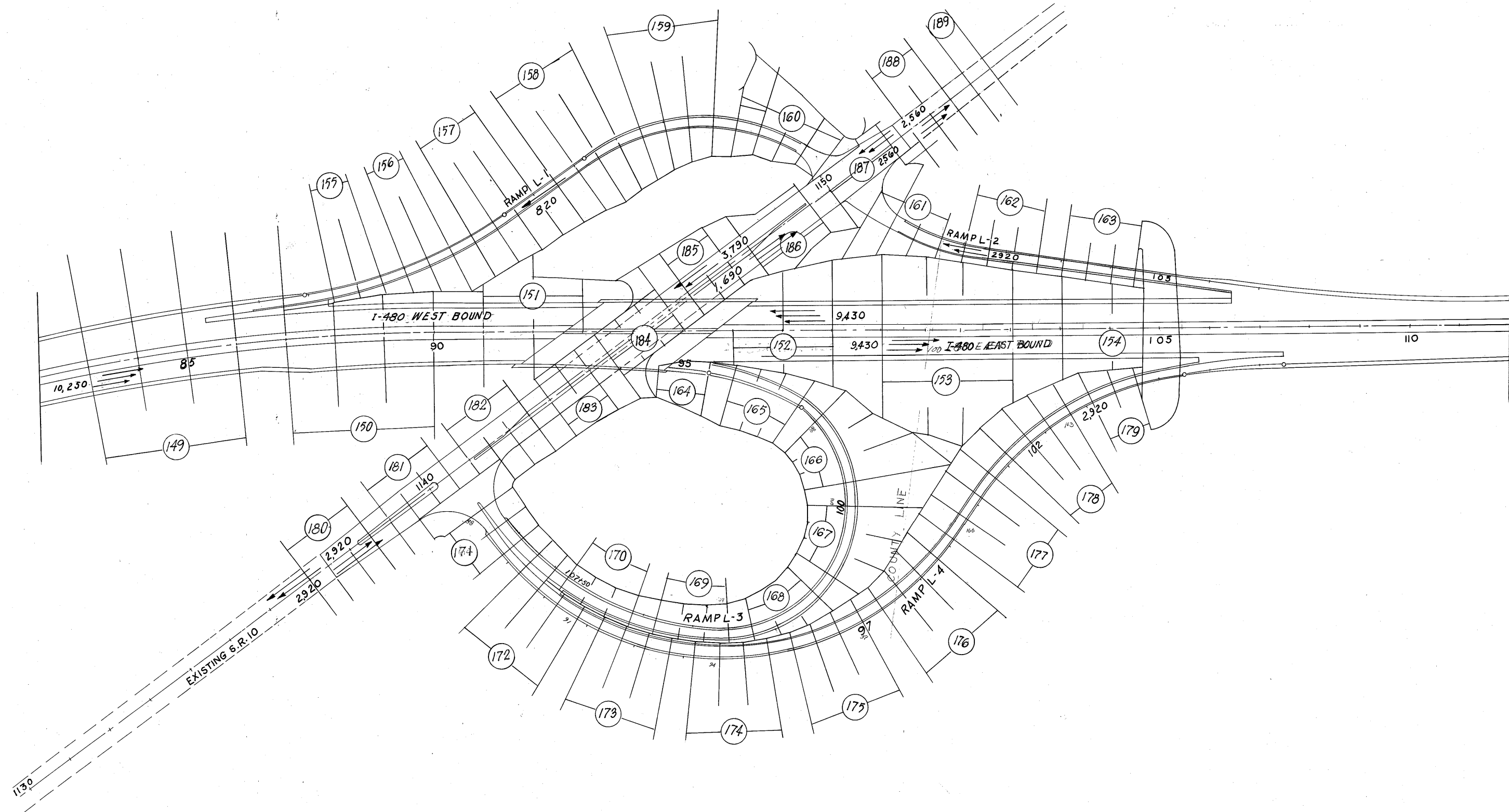


CALC. BY Z.L. DATE 12-5-69  
CHKD. BY C.G.D. DATE 7-7-70

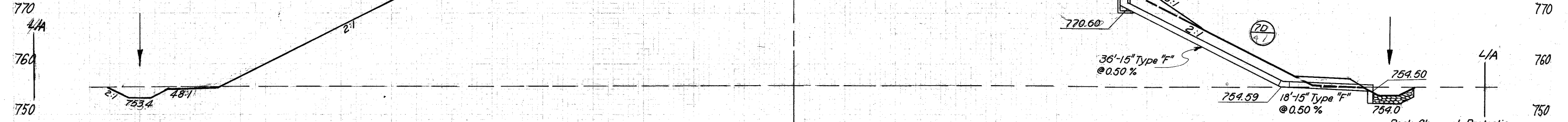
FED. RD. DIVISION	STATE	PROJECT
2	OHIO	

146  
375

LORAIN COUNTY  
LOR-480-0.00



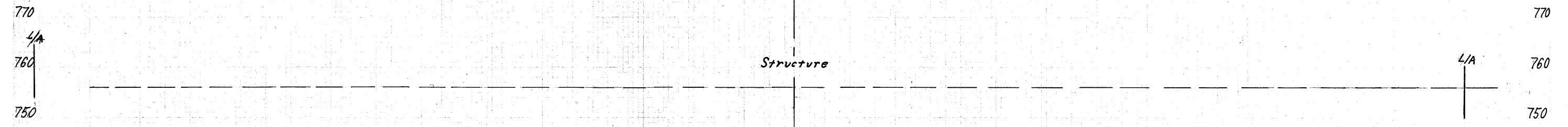
LORAIN COUNTY  
LOR-480-0.00



179 Fwd  
∅ Back  
1306 Misc. Quantity

Fwd. 30 3704  
Back 0 0

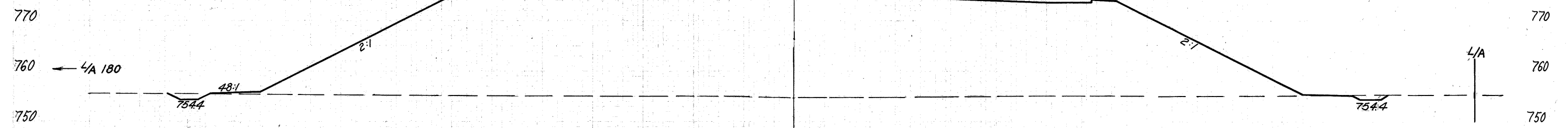
Misc. Quan. for Struct. 7611.0



77+00  
756.0

1050 Misc. Quantity

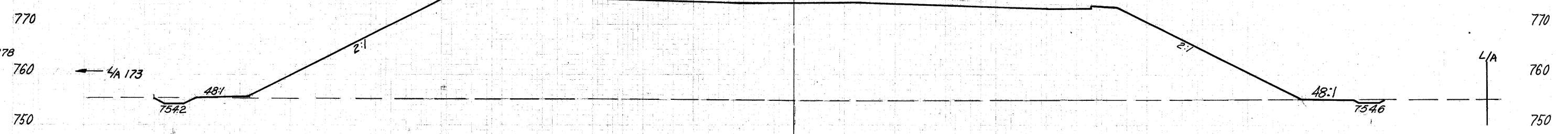
Misc. Quan. for Struct. 48316



∅ 208 Fwd  
Back

Fwd. 0 0  
Back. 16 3402

776.24  
76+00  
754.8



202

775.55  
75+00  
754.8

CALC. BY C&O DATE 7-27-70  
CHKD. BY T-L 8-28-70/4 3337

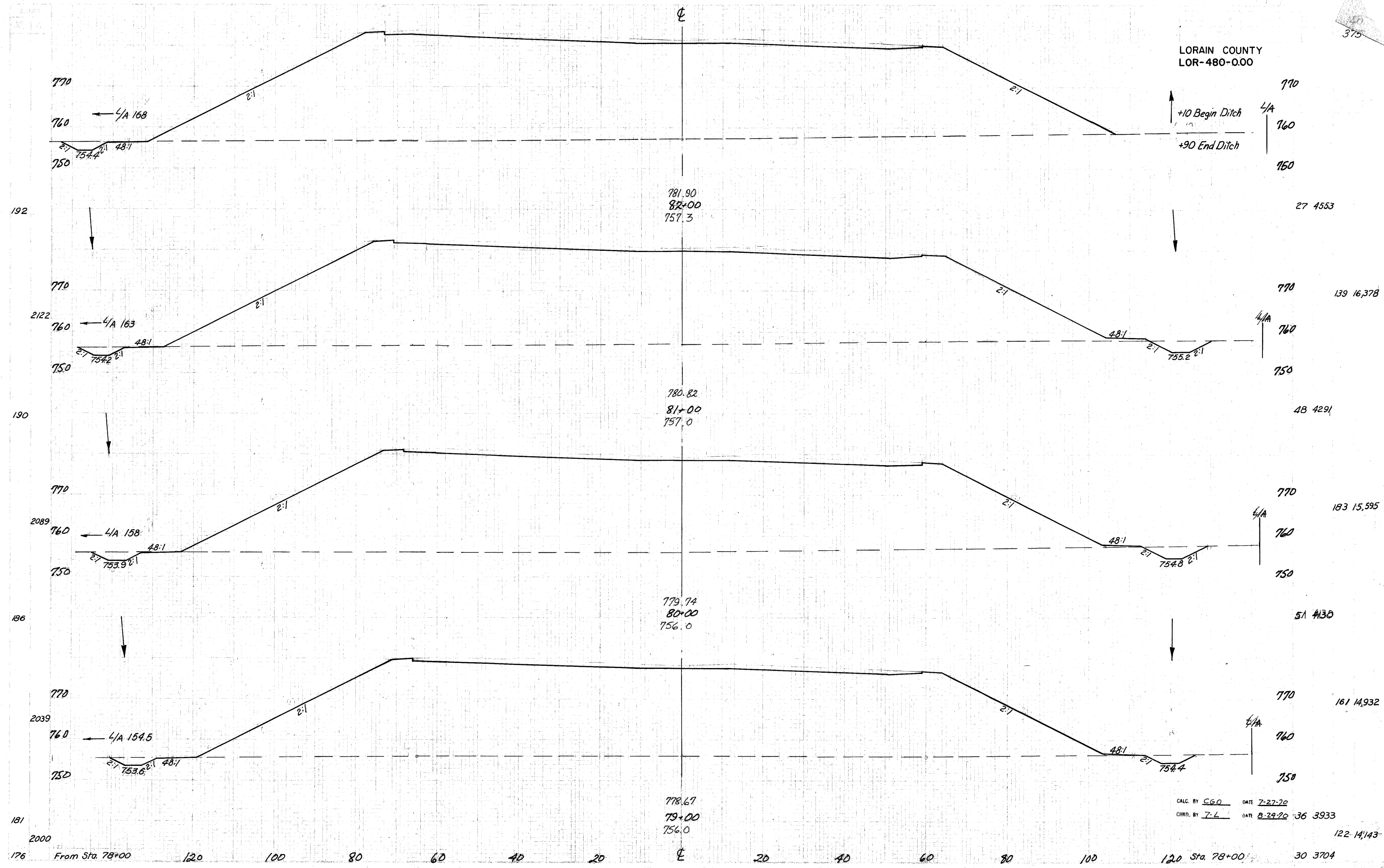
209 2023 From 74+00 EB:WB Cross Section

100 80 60 40 20 20 40 60 80 100

Total From Sta. 74+00 EB:WB Cross Section 12 3144 43 11,865

WB & E.B. I-80 75+00 to Sta.78+00

LORAIN COUNTY  
LOR-480-0.00



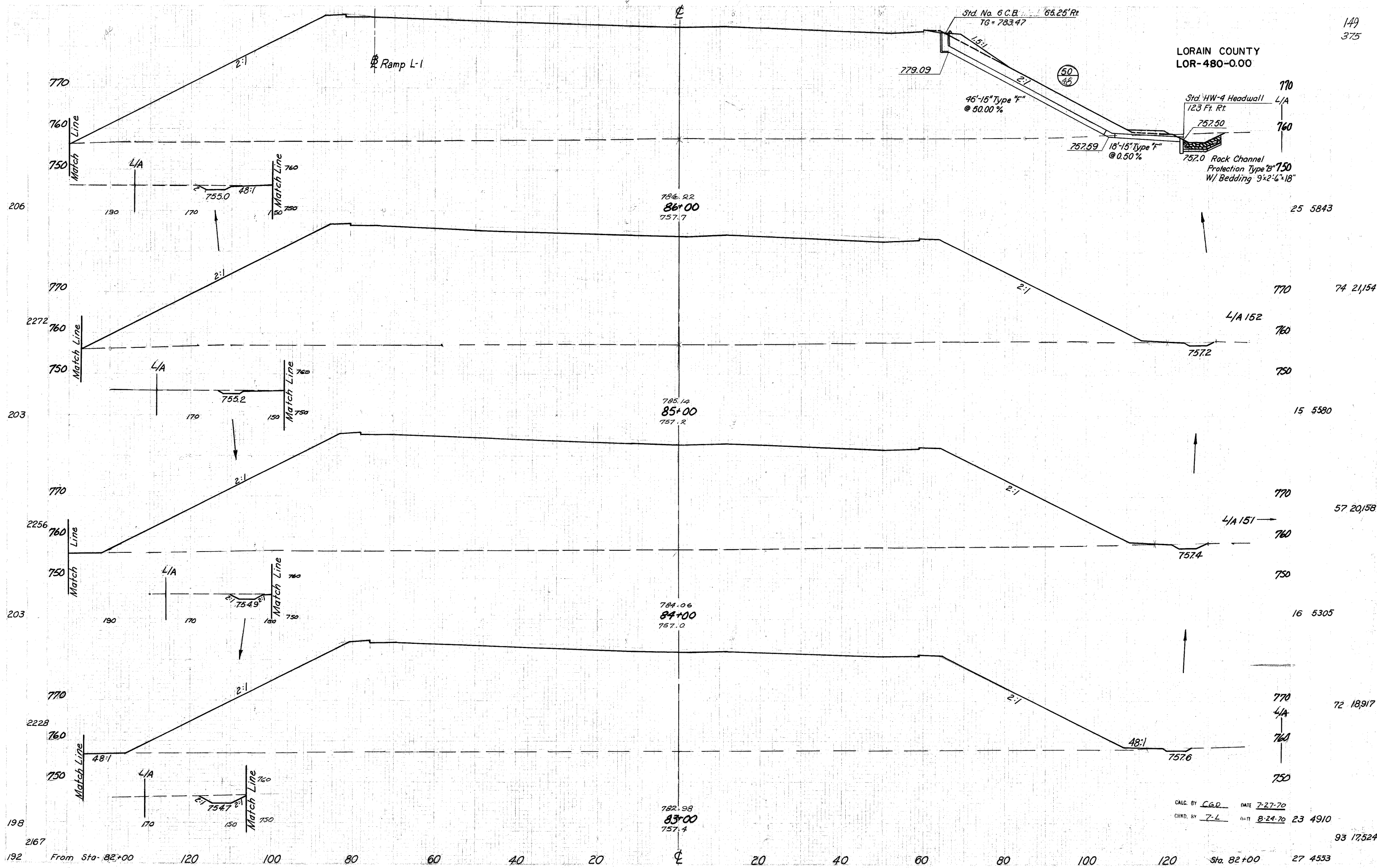
CALC. BY CGO DATE 7-27-70  
 CHKD. BY 7-L DATE 8-24-70 36 3933

122 14,143

120 Sta. 78+00 30 3704

WB 8 E B 1-80 Sta 78+00 to Sta 83+00

LORAIN COUNTY  
LOR-480-0.00

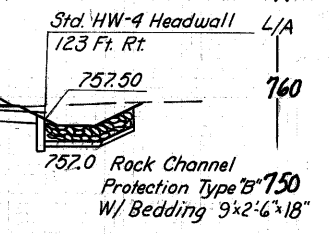


786.22  
86+00  
757.7

785.14  
85+00  
757.2

784.06  
84+00  
757.0

782.98  
83+00  
757.4



CALC. BY C.G.D. DATE 7-27-70  
CHKD. BY T.L. DATE 8-24-70 23 4910

25 5843

74 2,154

15 5580

57 20,158

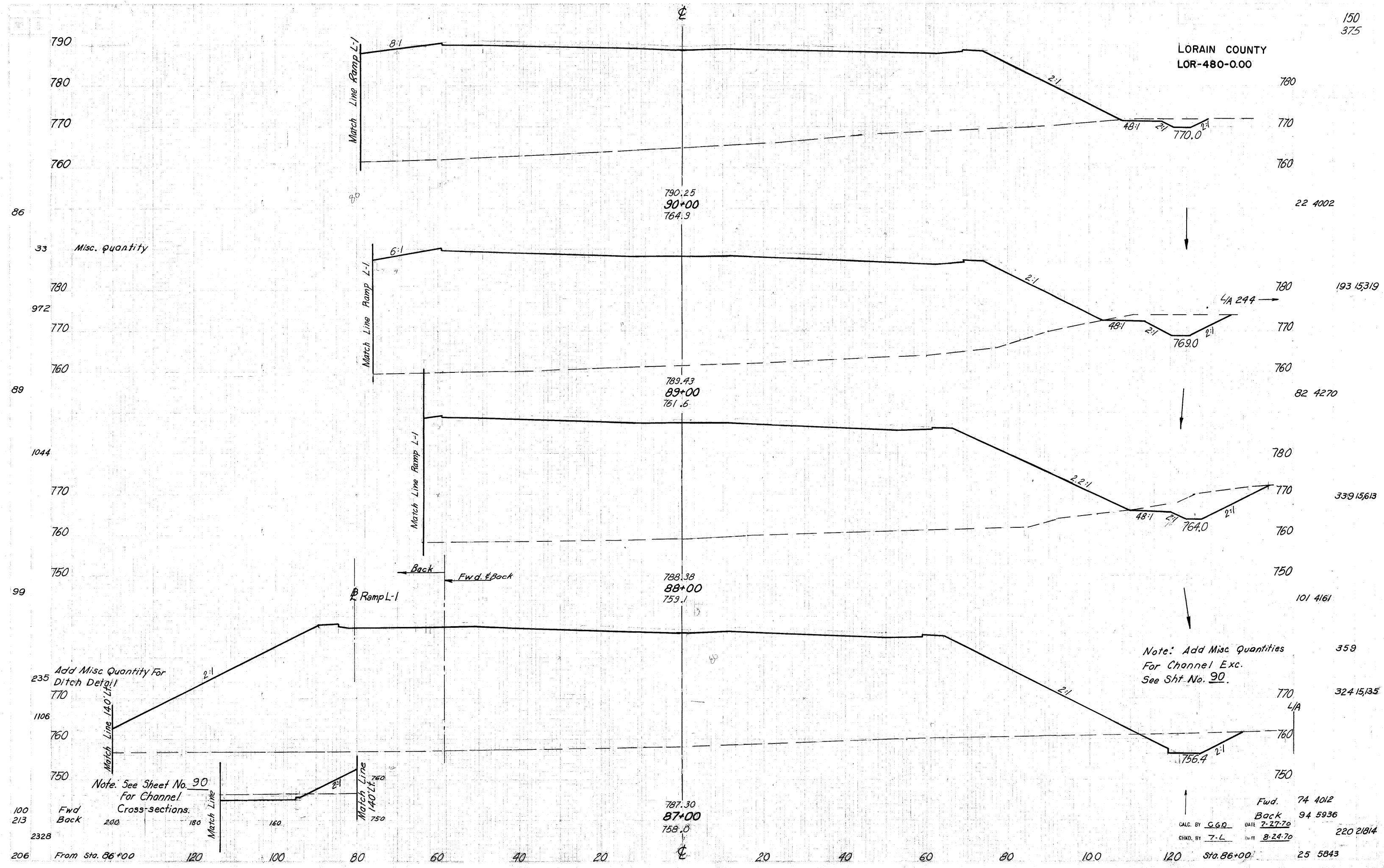
16 5305

72 18,917

93 17,524

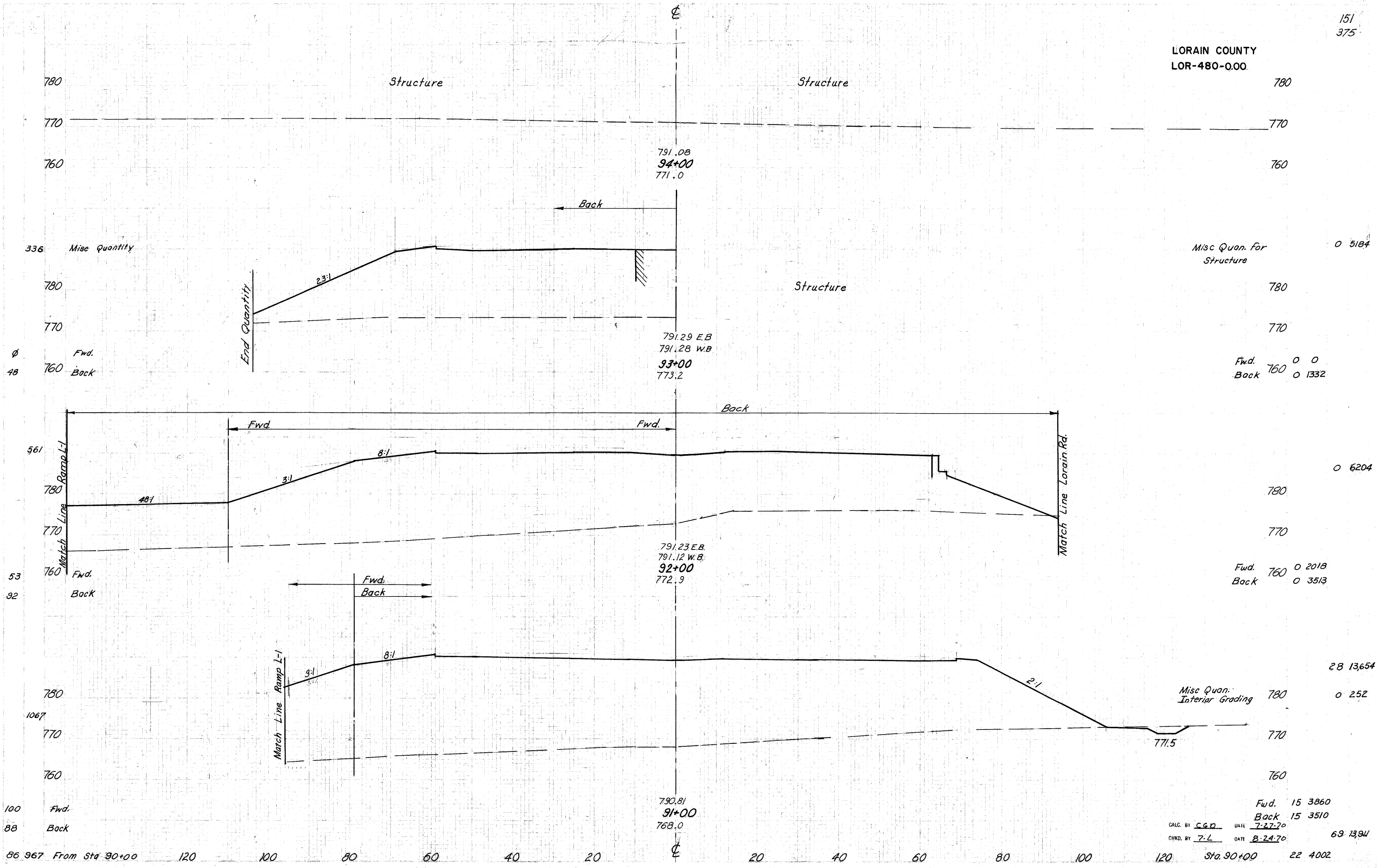
27 4533

LORAIN COUNTY  
LOR-480-0.00





LORAIN COUNTY  
LOR-480-0.00



780

770

760

780

770

760

780

770

760

780

770

760

780

770

760

770

760

780

770

760

Misc Quan. For Structure 0 5184

Fwd. 0 0  
Back 760 0 1332

Fwd. 760 0 2018  
Back 0 3513

Misc Quan. Interior Grading 780 0 252

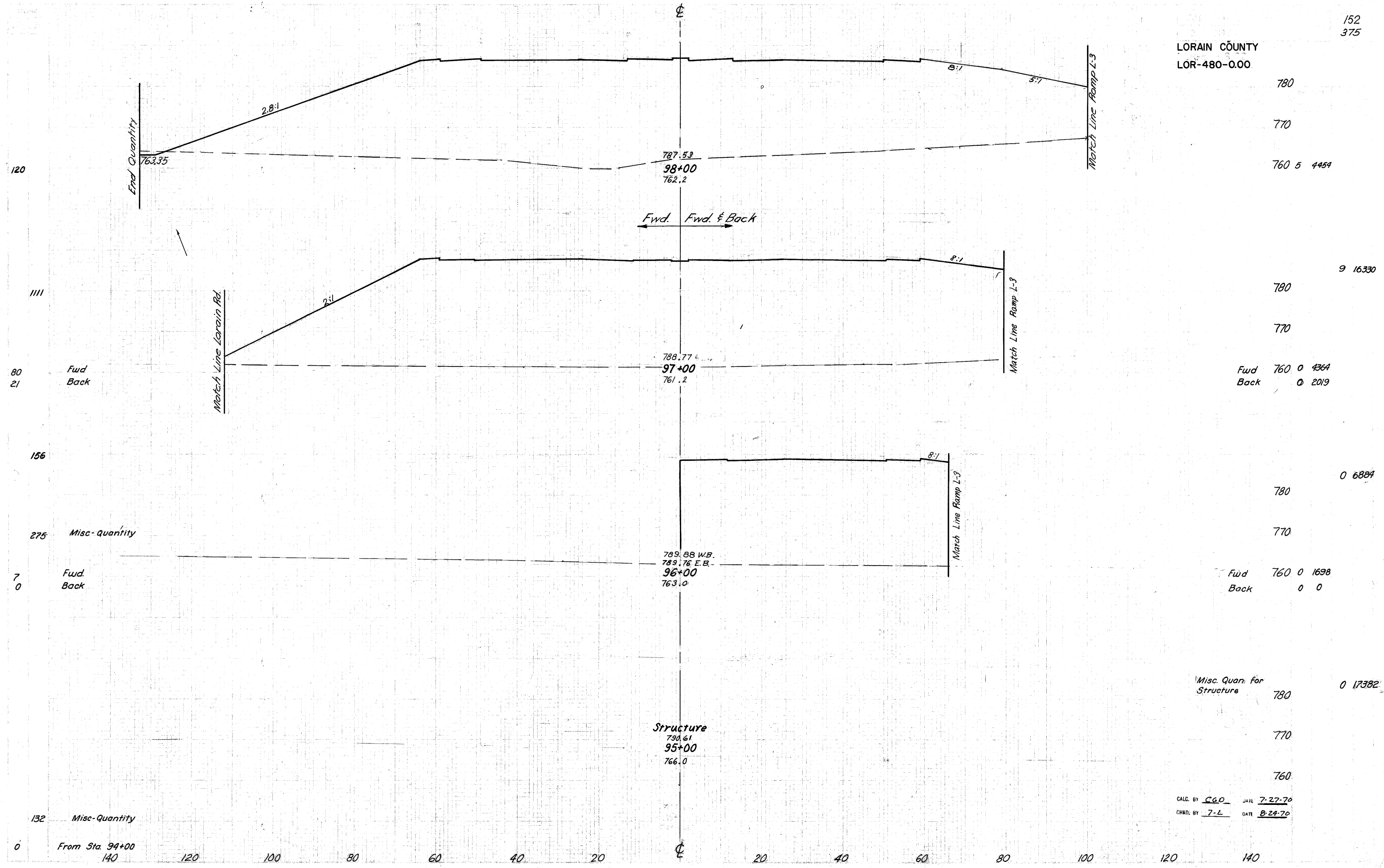
Fwd. 15 3860  
Back 15 3510

CALC. BY CGD DATE 7-27-70  
CHKD. BY 7-L DATE 8-24-70 69 1394

86 967 From Sta 90+00 120 100 80 60 40 20 20 40 60 80 100 120 Sta. 90+00 22 4002

WB. & E.B. I-80 Sta. 91+00 to Sta. 94+00

LORAIN COUNTY  
LOR-480-0.00



780  
770  
760 5 4454

9 16330  
780  
770

Fwd 760 0 4364  
Back 0 2019

0 6884  
780  
770

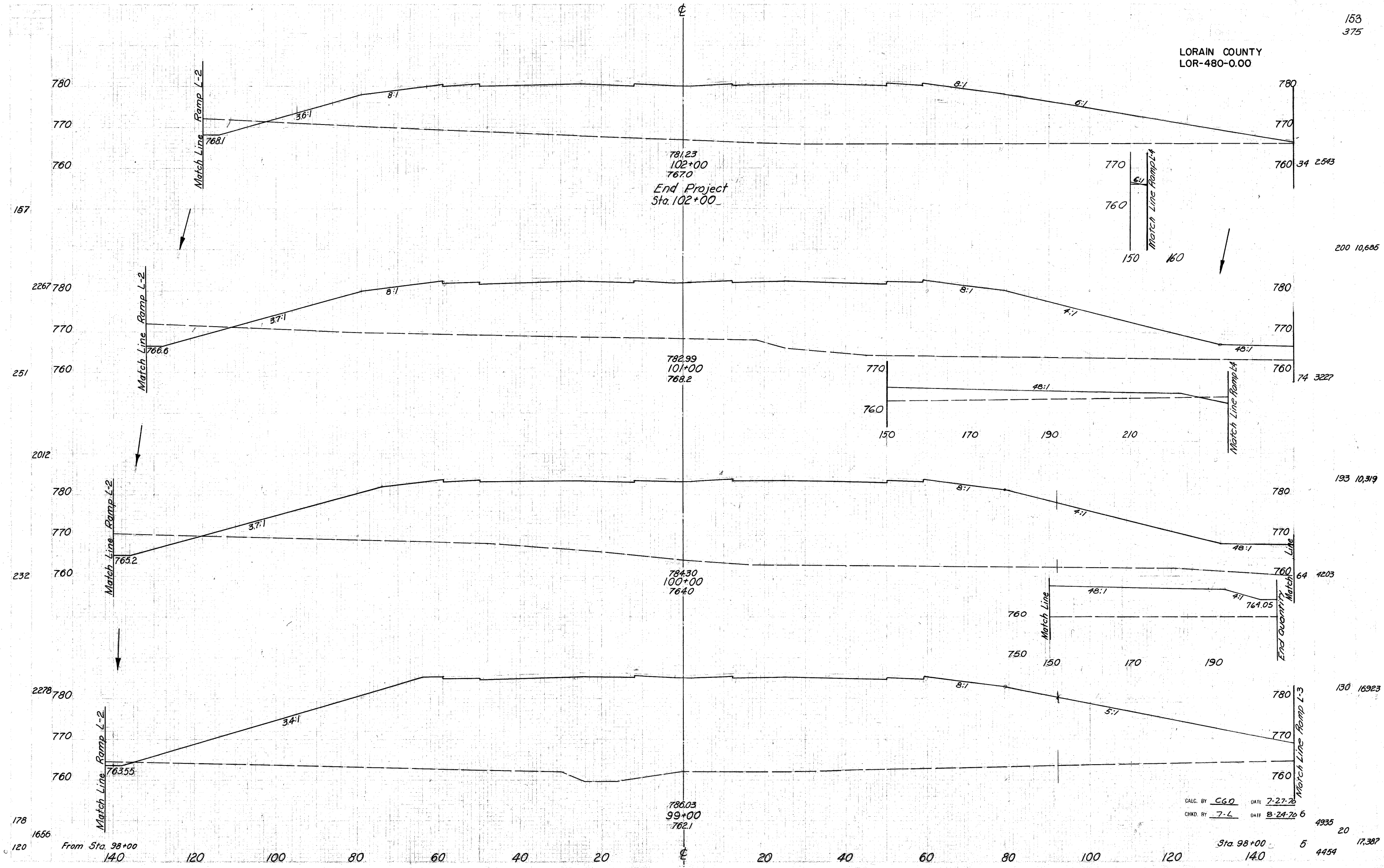
Fwd 760 0 1698  
Back 0 0

Misc. Quan. for Structure 780 0 17382

770  
760

CALC. BY C.G.D. DATE 7-27-70  
CHKD. BY J-L DATE 8-24-70

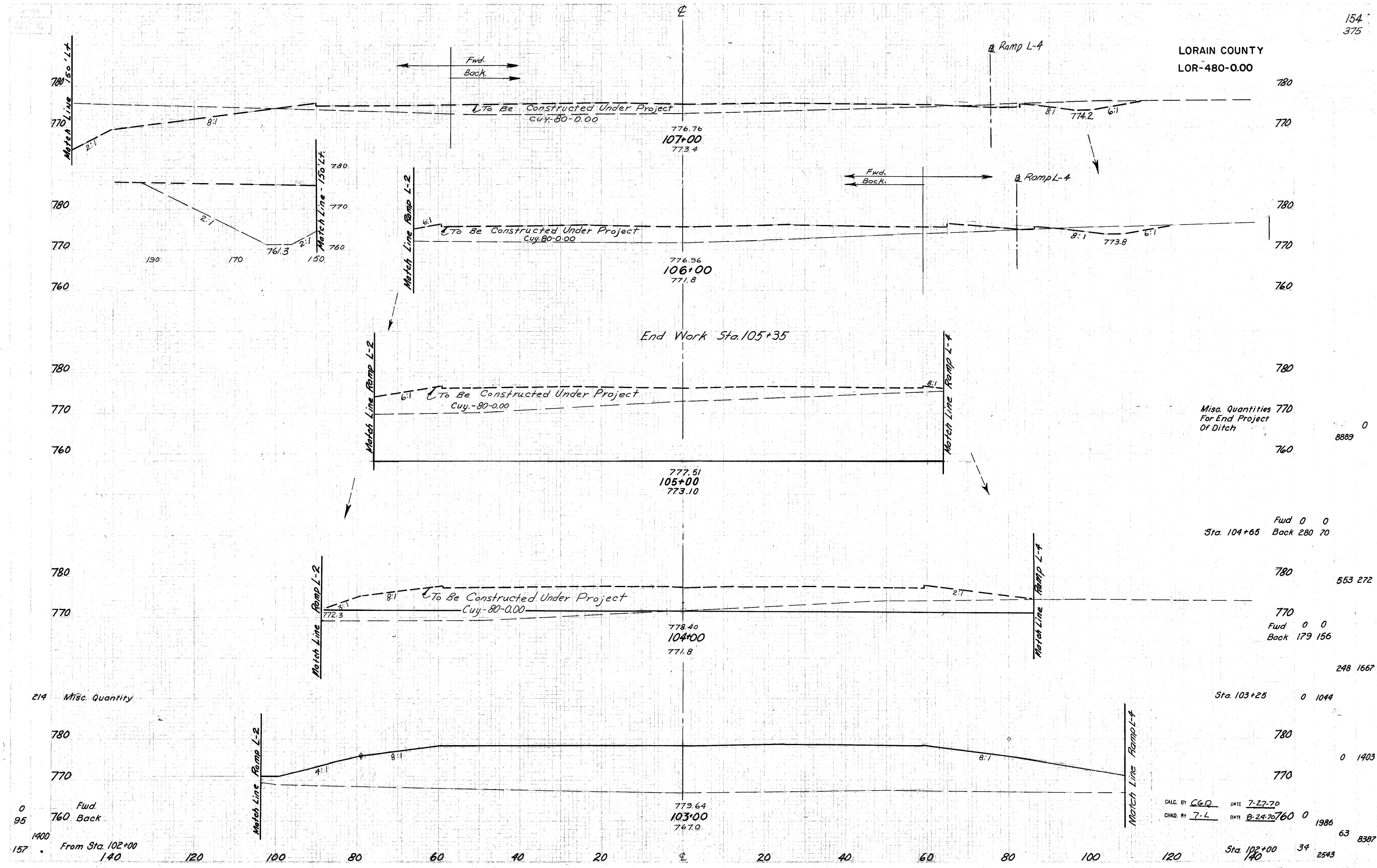
LORAIN COUNTY  
LOR-480-0.00



CALC. BY CGD DATE 7-27-76  
 CHKD. BY 7-L DATE 8-24-76

Sta. 98+00 5 4454 17,387  
 4935 20

LORAIN COUNTY  
LOR-480-0.00



Misc. Quantities For End Project Of Ditch

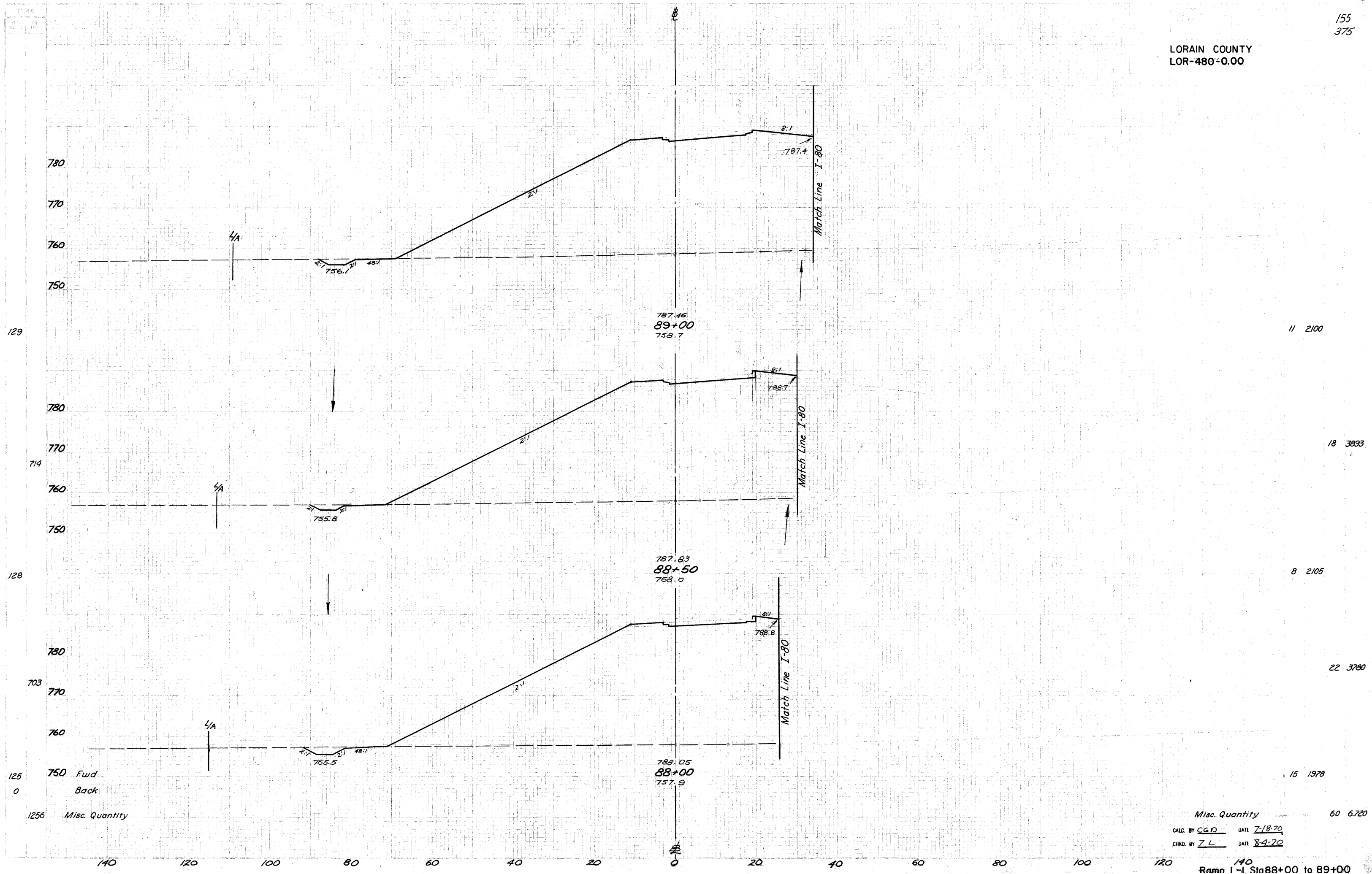
Sta. 104+65 Fwd 0 0 Back 280 70

Sta. 103+25 Fwd 0 0 Back 179 156

Sta. 103+25 0 1044

CALC. BY C&D DATE 7-27-70  
CHKD. BY 7-L DATE 8-24-70

Sta. 102+00 34 2543



129

11 2100

714

18 3893

128

8 2105

703

22 3780

125

15 1978

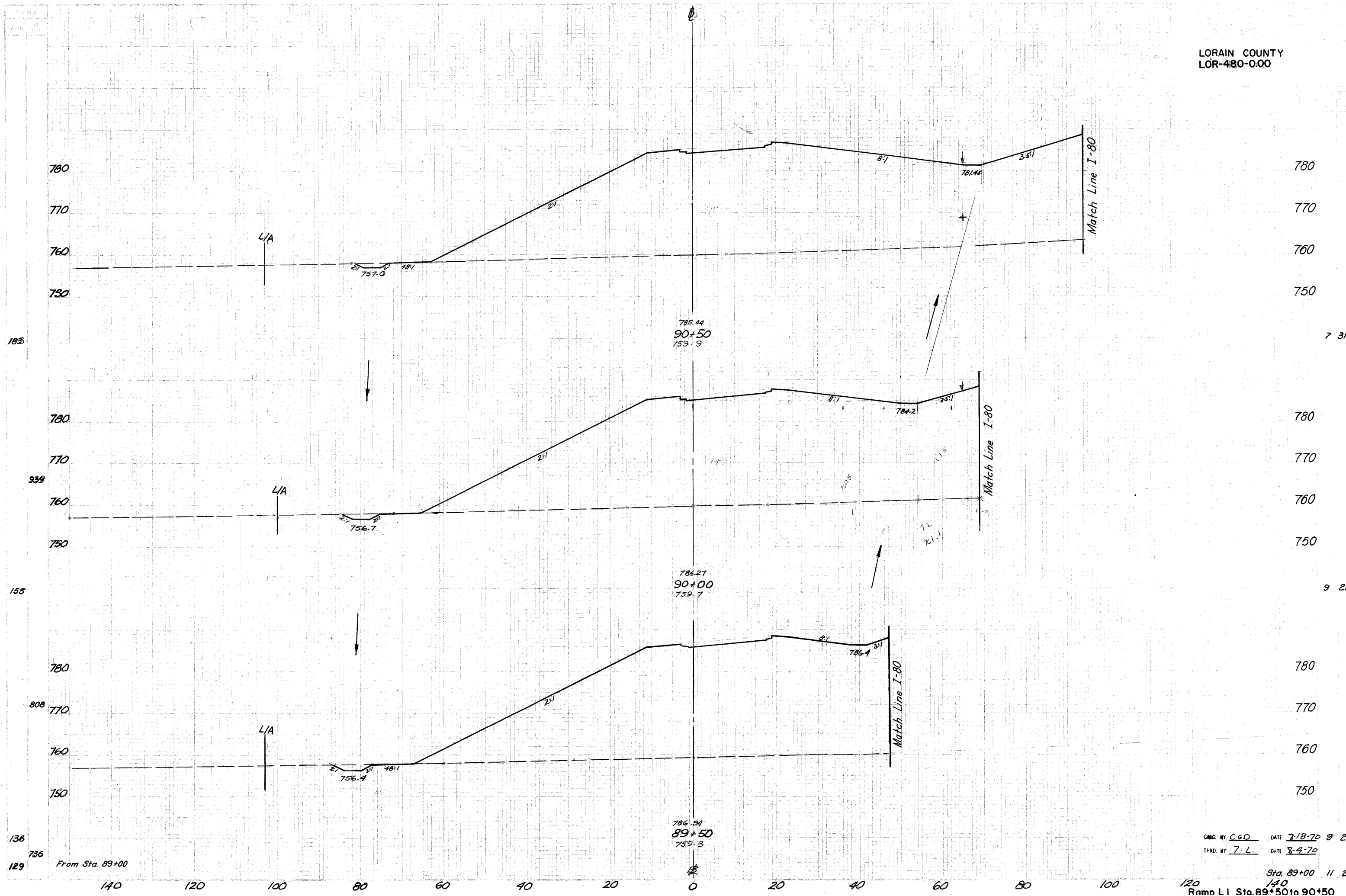
0  
Fwd  
Back

1256 Misc. Quantity

Misc. Quantity 60 6.720

CALC. BY CGD DATE 7-18-70  
CHKD. BY 7L DATE 8-4-70

Ramp L-1 Sta 88+00 to 89+00



7 3119

15 5423

9 2747

17 4705

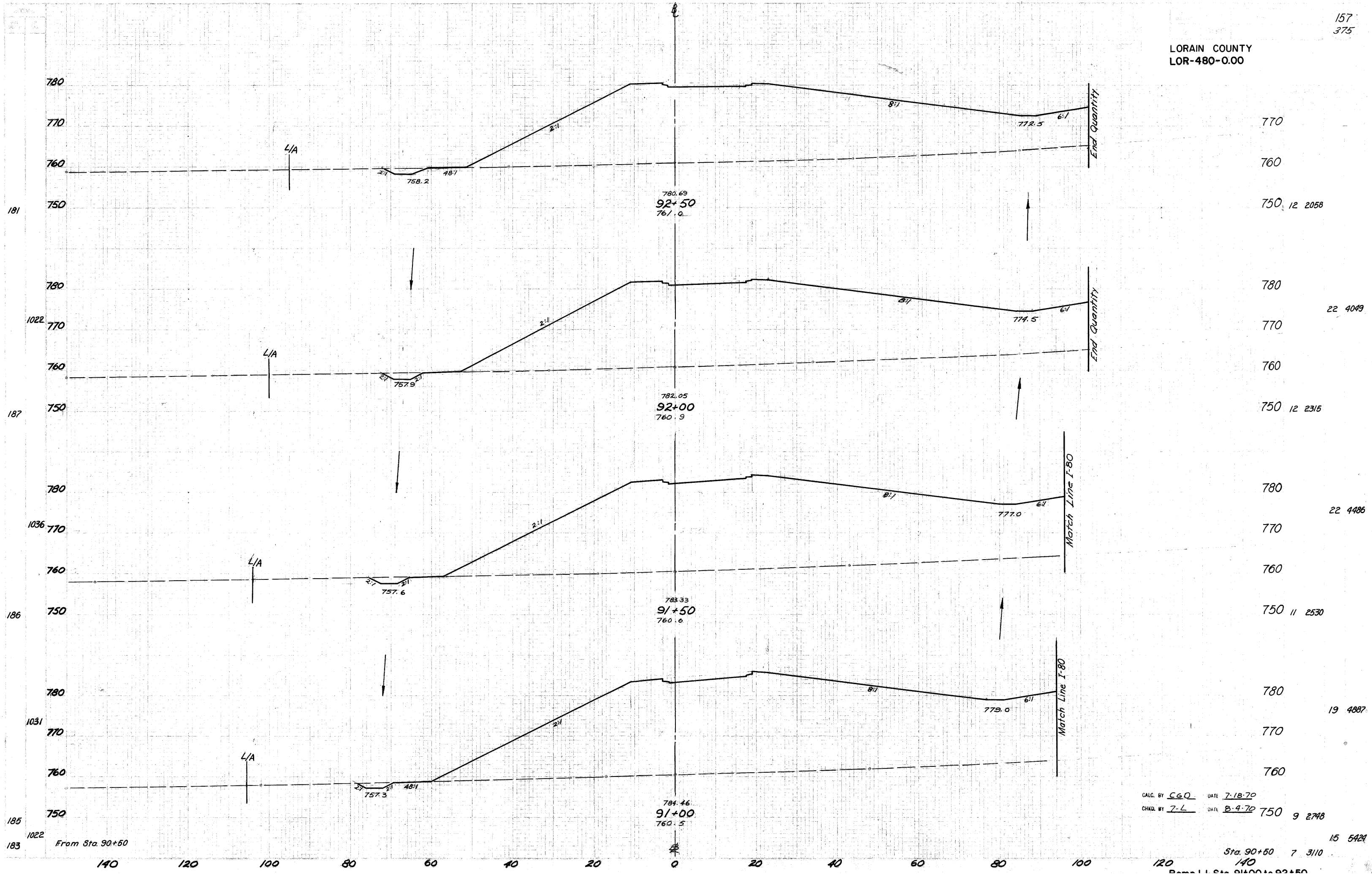
CHKD. BY C.G.D. DATE 7-18-70 9 2334  
CHKD. BY 7-L. DATE 8-4-70

19 4106

Sta. 89+00 11 2100  
140  
Ramp LI Sta. 89+50 to 90+50

736  
129 From Sta. 89+00

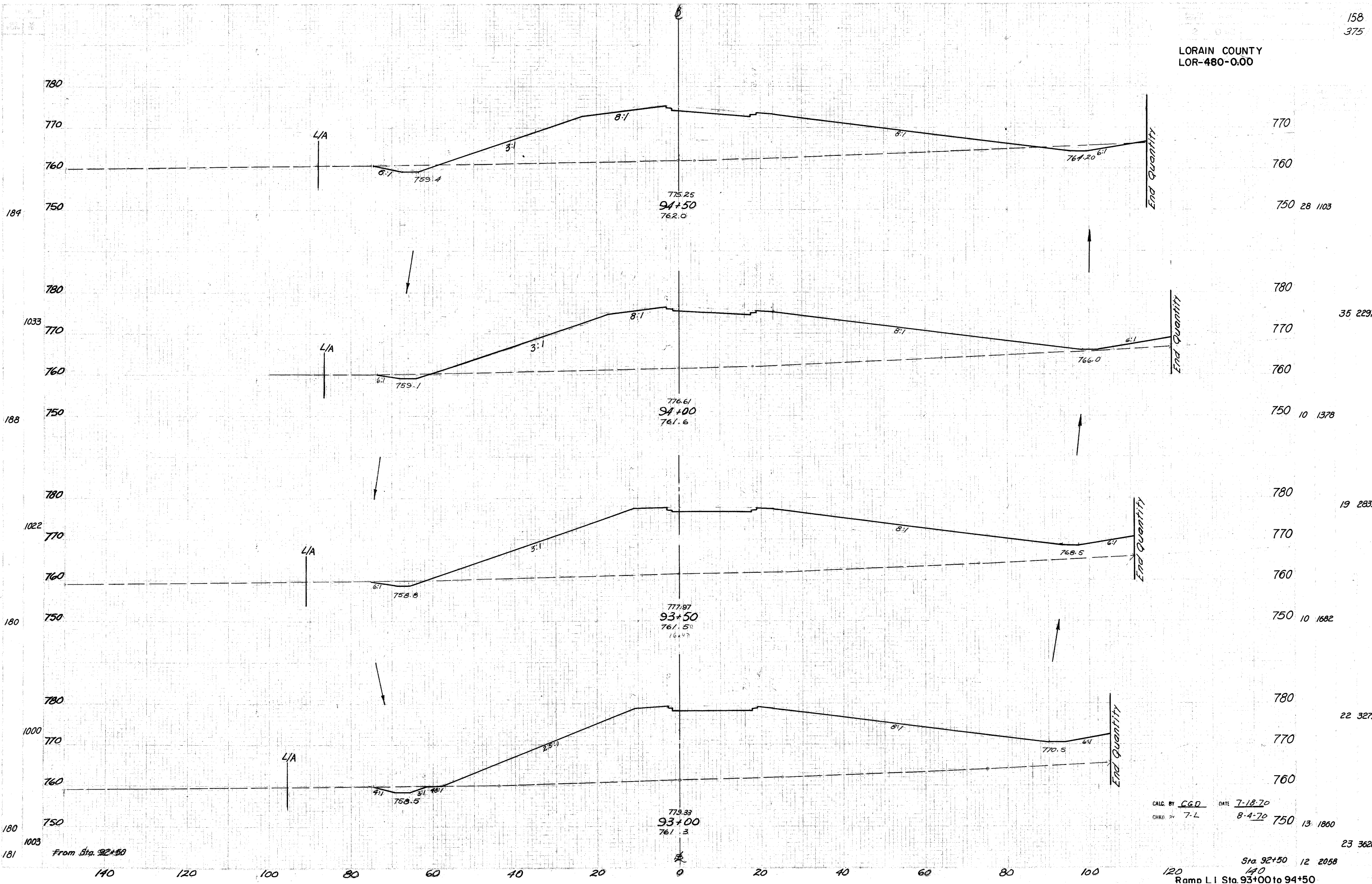
LORAIN COUNTY  
LOR-480-0.00



CALC. BY CGQ DATE 7-18-70  
 CHKD. BY 7-L DATE 8-4-70

Sta. 90+50 7 3/10  
 140  
 750 9 2748

LORAIN COUNTY  
LOR-480-0.00

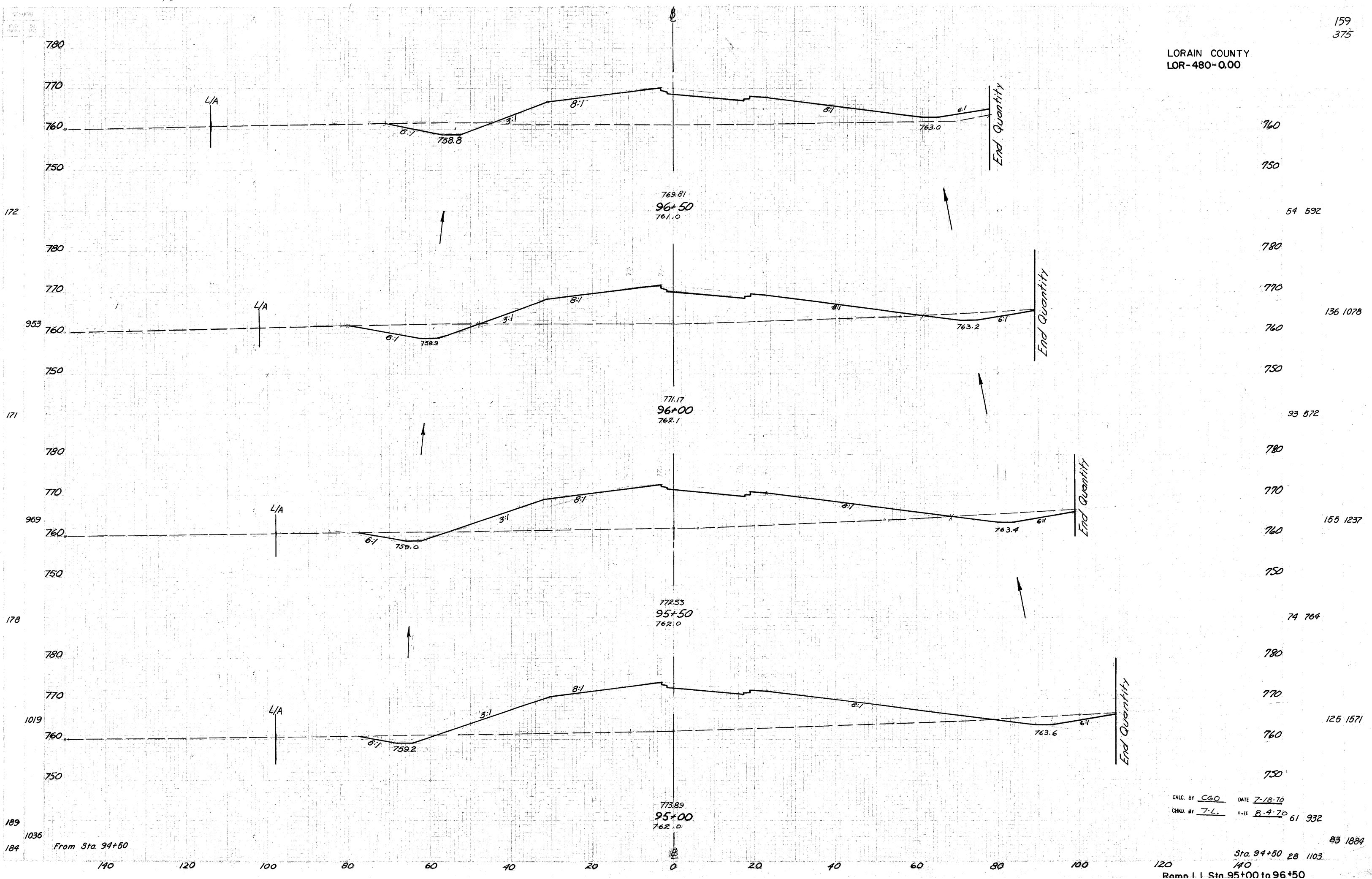


CALC. BY CGD DATE 7-18-70  
 CHKD BY 7-L DATE 8-4-70

120  
 140  
 150  
 160  
 170  
 180  
 190  
 200  
 210  
 220  
 230  
 240  
 250  
 260  
 270  
 280  
 290  
 300  
 310  
 320  
 330  
 340  
 350  
 360  
 370  
 380  
 390  
 400  
 410  
 420  
 430  
 440  
 450  
 460  
 470  
 480  
 490  
 500  
 510  
 520  
 530  
 540  
 550  
 560  
 570  
 580  
 590  
 600  
 610  
 620  
 630  
 640  
 650  
 660  
 670  
 680  
 690  
 700  
 710  
 720  
 730  
 740  
 750  
 760  
 770  
 780  
 790  
 800  
 810  
 820  
 830  
 840  
 850  
 860  
 870  
 880  
 890  
 900  
 910  
 920  
 930  
 940  
 950  
 960  
 970  
 980  
 990  
 1000



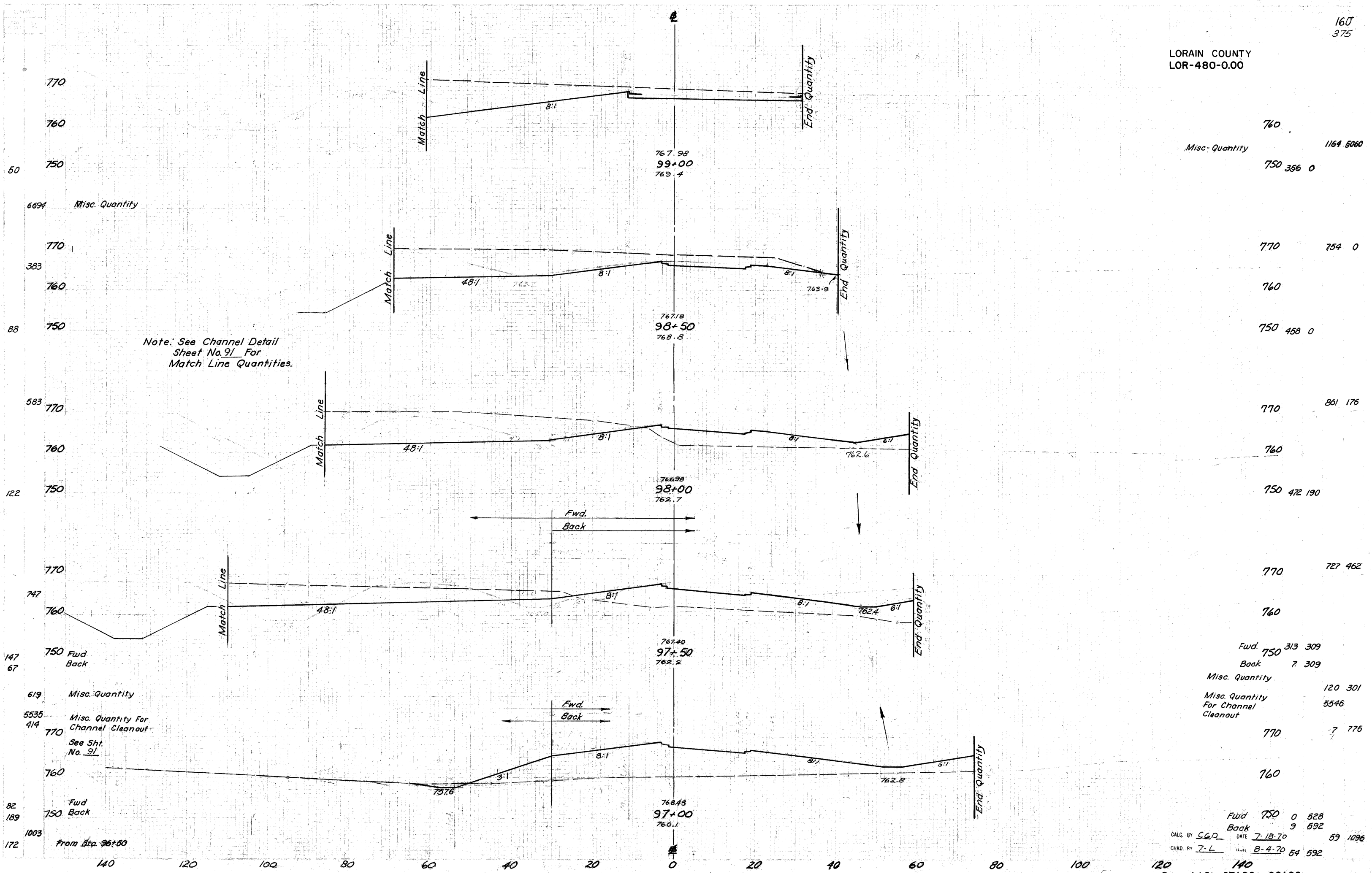
LORAIN COUNTY  
LOR-480-0.00



CALC. BY CGO DATE 7-18-70  
CHKD. BY T.L. DATE 8-4-70

61 932  
83 1884  
Sta. 94+50 28 1103  
Ramp 1.1 Sta. 95+00 to 96+50

LORAIN COUNTY  
LOR-480-0.00



Misc. Quantity 760 1164 5060  
750 356 0

770 754 0  
760  
750 458 0

770 861 176  
760  
750 472 190

770 727 462  
760  
Fwd. 750 313 309  
Back 7 309

Misc. Quantity 120 301  
Misc. Quantity For Channel Cleanout 5546  
770 7 775

Fwd. 750 0 528  
Back 9 592  
CALC. BY CGD DATE 7-18-70 59 1096  
CHKD. BY T-L DATE 8-4-70 54 592

Note: See Channel Detail Sheet No. 91 For Match Line Quantities.

6694 Misc. Quantity

383

88

583

122

747

147  
67

619 Misc. Quantity

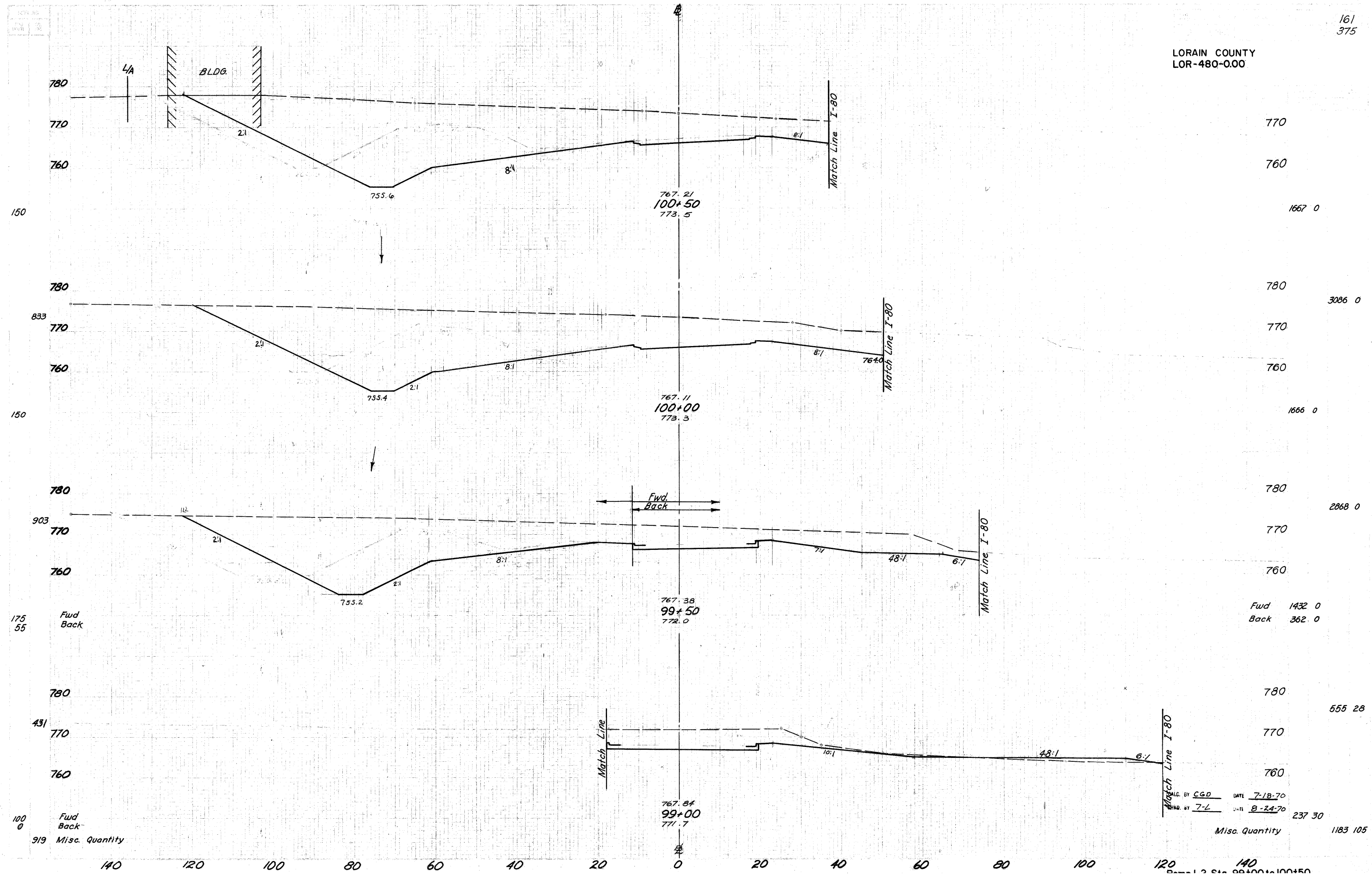
5535 Misc. Quantity For Channel Cleanout  
414 See Sht. No. 91

82 Fwd Back  
189

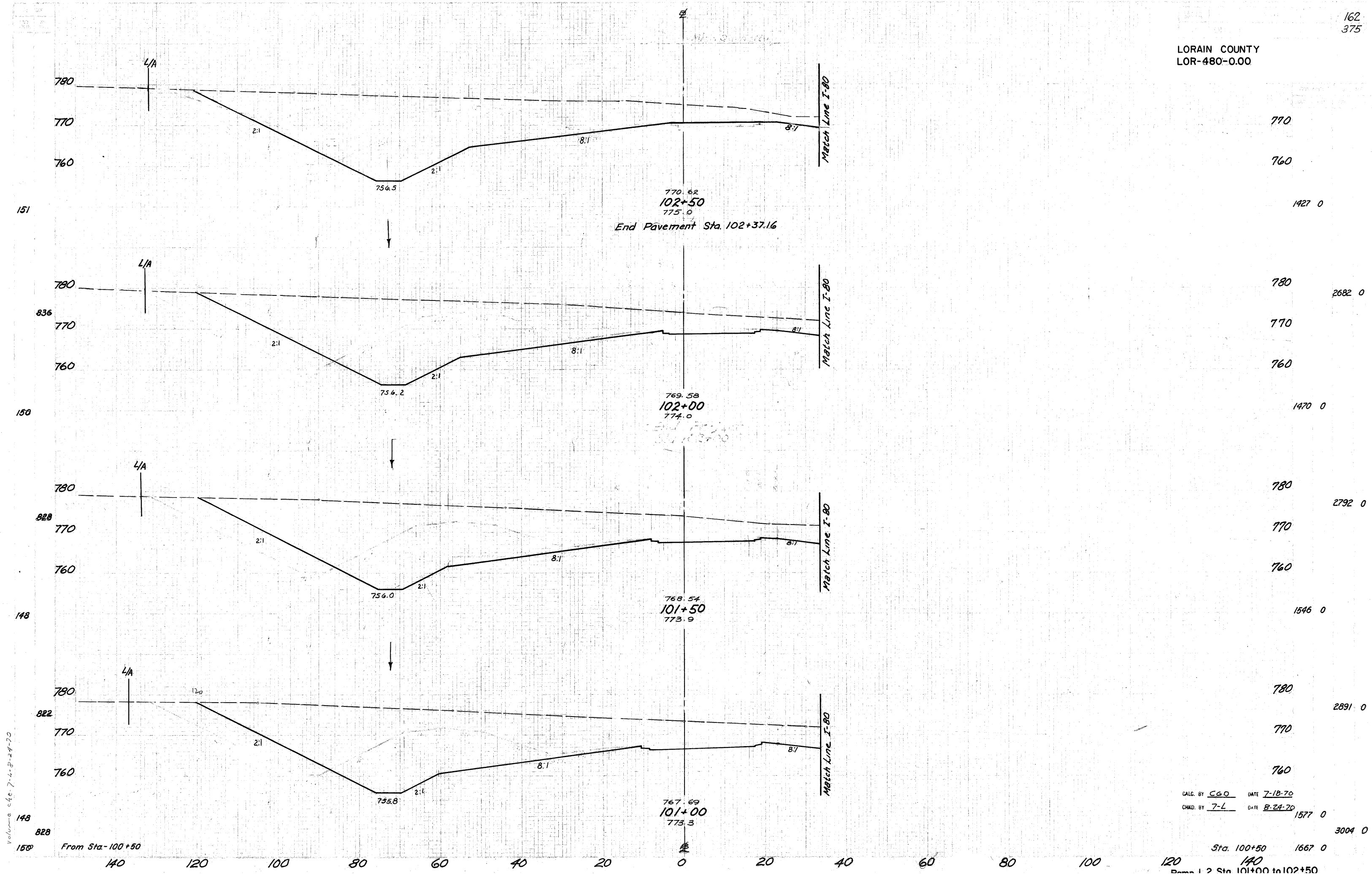
1003 From Sta. 96+80

140 120 100 80 60 40 20 0 20 40 60 80 100 120 140

LORAIN COUNTY  
LOR-480-0.00



LORAIN COUNTY  
LOR-480-0.00



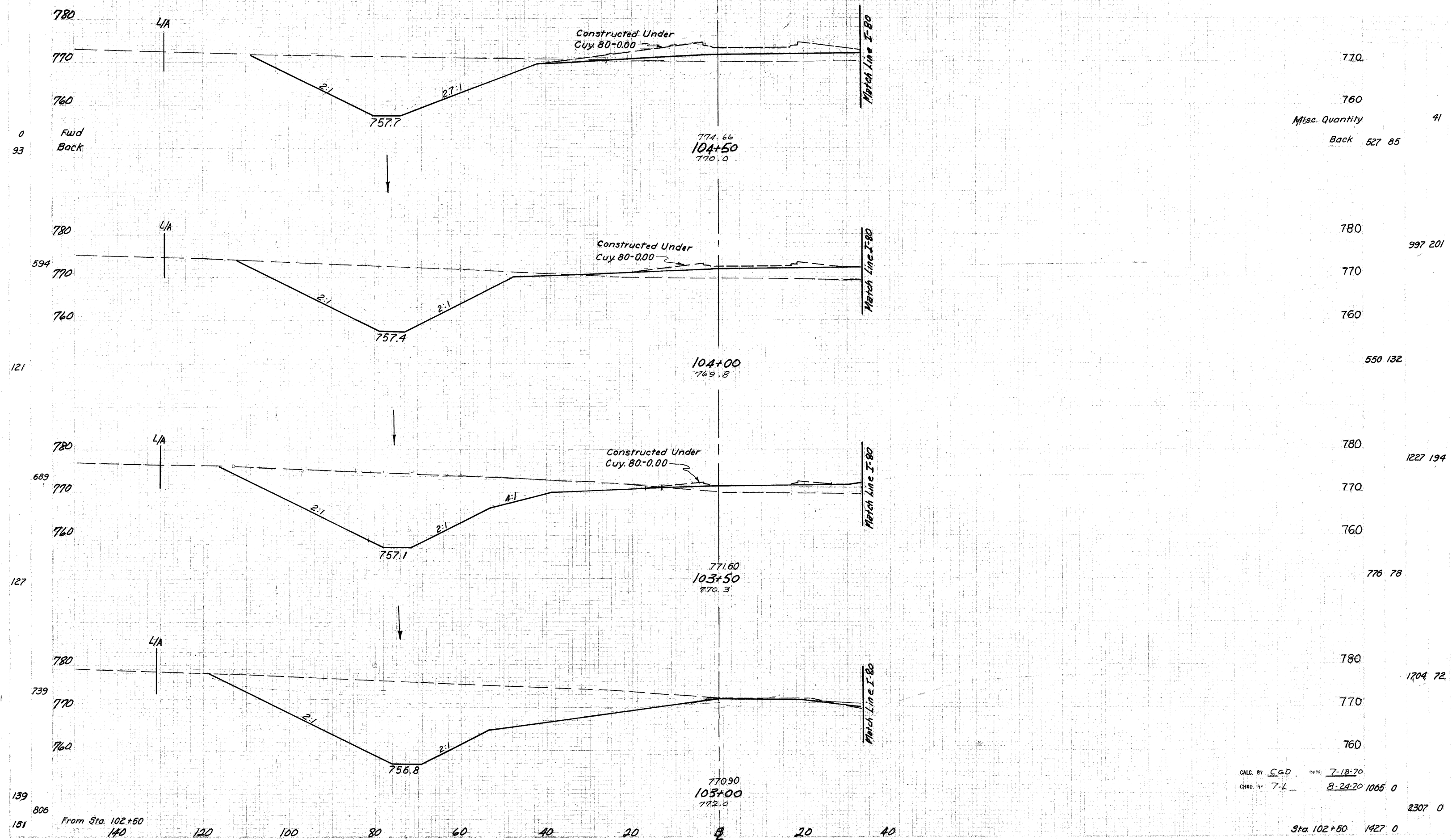
CALC. BY CGD DATE 7-18-70  
CHKD. BY 7-L DATE 8-24-70

1577 0  
3004 0  
Sta. 100+50 1667 0  
140  
From Sta. 101+00 to 102+50

Volume cte 7-4-8-24-20

LORAIN COUNTY  
LOR-480-0.00

END WORK STA. 105+30



Misc. Quantity 41  
Back 527 85

997 201

550 132

1227 194

776 78

1704 72

CALC BY CGD DATE 7-18-70  
CHKD BY T-L 8-24-70 1065 0

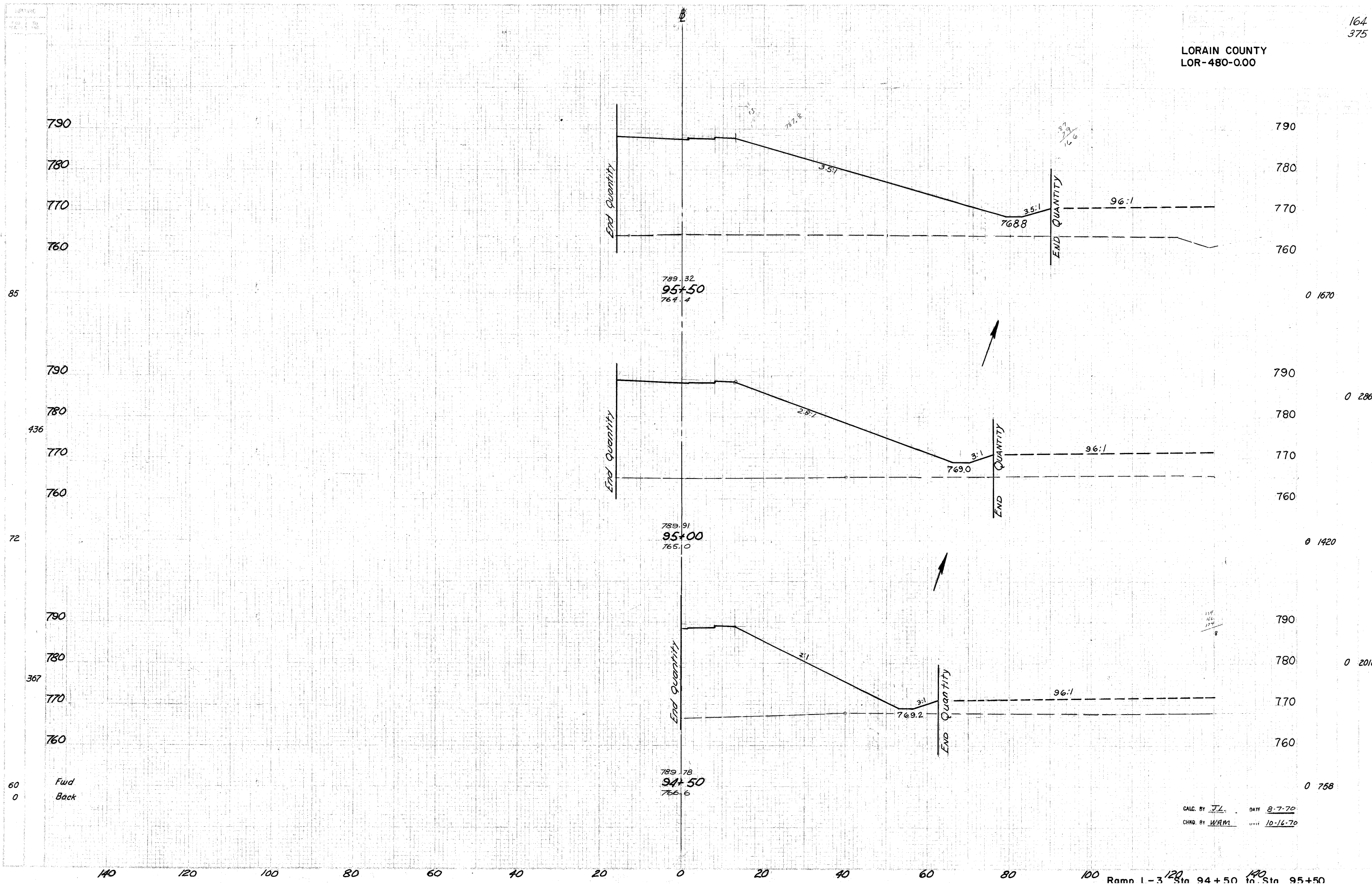
2307 0

Sta 102+50 1427 0

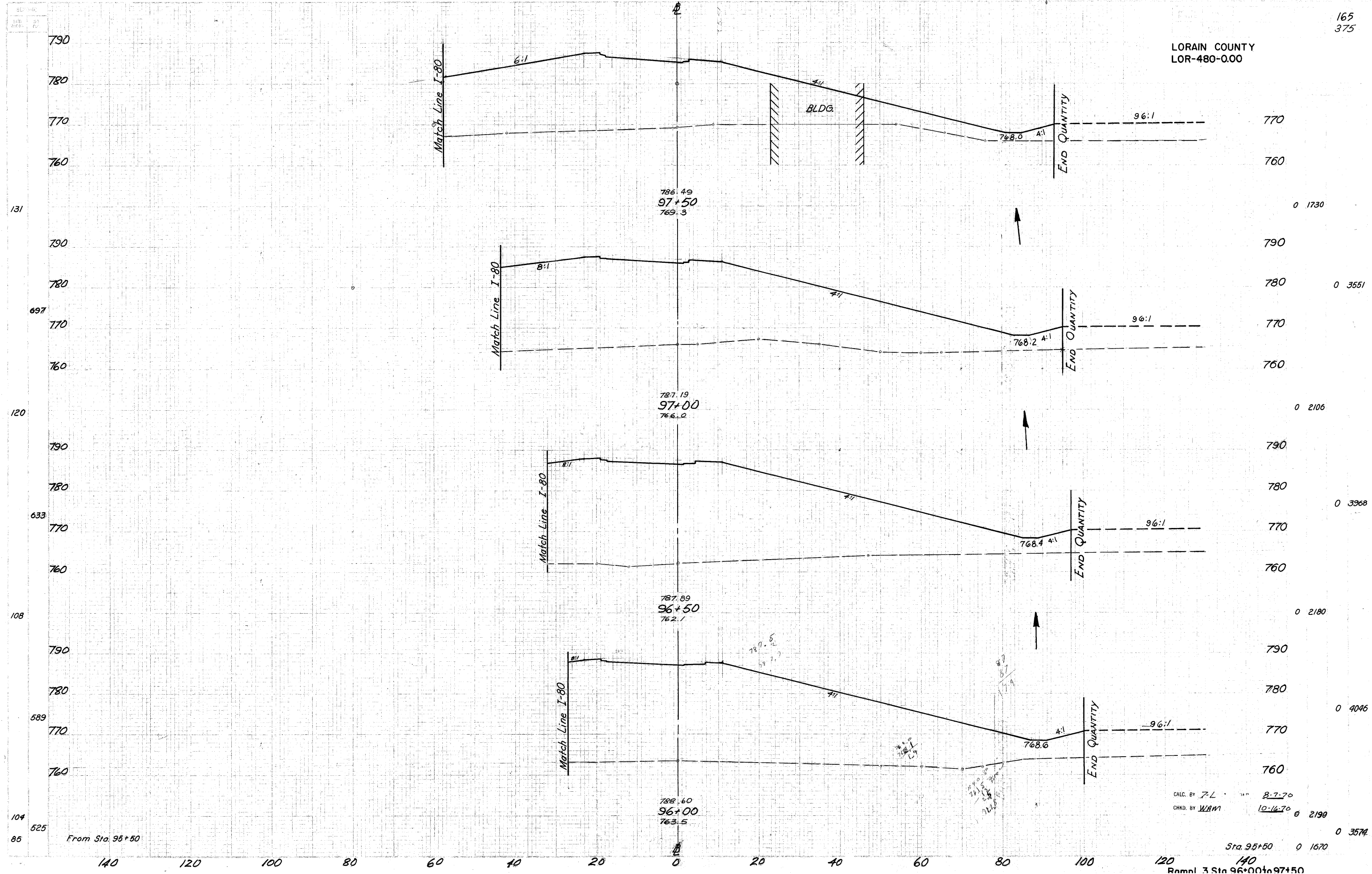
Ramp L-2 Sta. 103+00 to Sta. 104+50

139 806  
151 From Sta. 102+50  
140 120 100 80 60 40 20 20 40

LORAIN COUNTY  
LOR-480-0.00



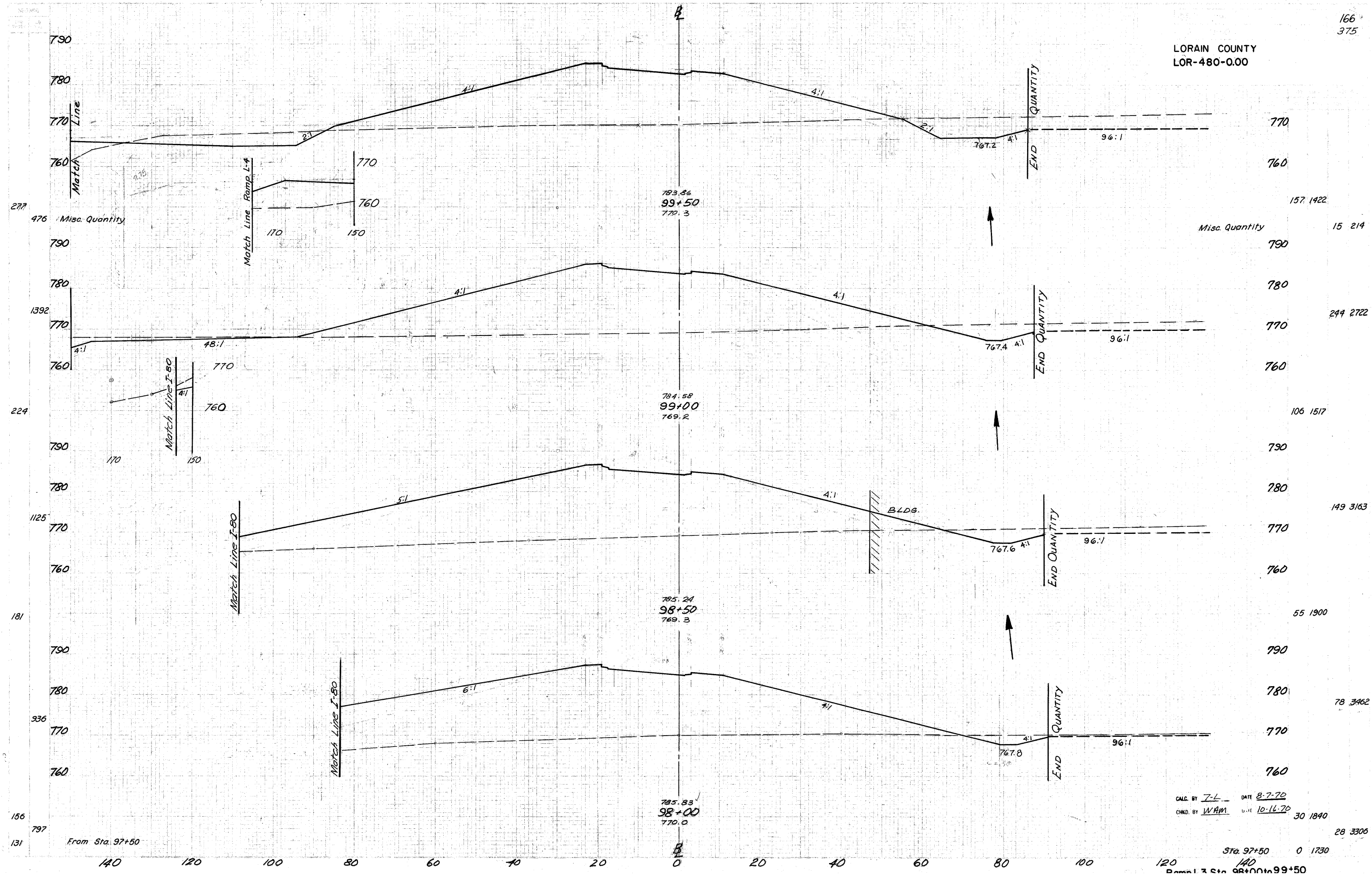
LORAIN COUNTY  
LOR-480-0.00



CALC. BY J.L. 8-7-70  
CHKD. BY WAM 10-16-70

Sta. 95+50  
Ramp 3 Sta. 96+00 to 97+50

LORAIN COUNTY  
LOR-480-0.00

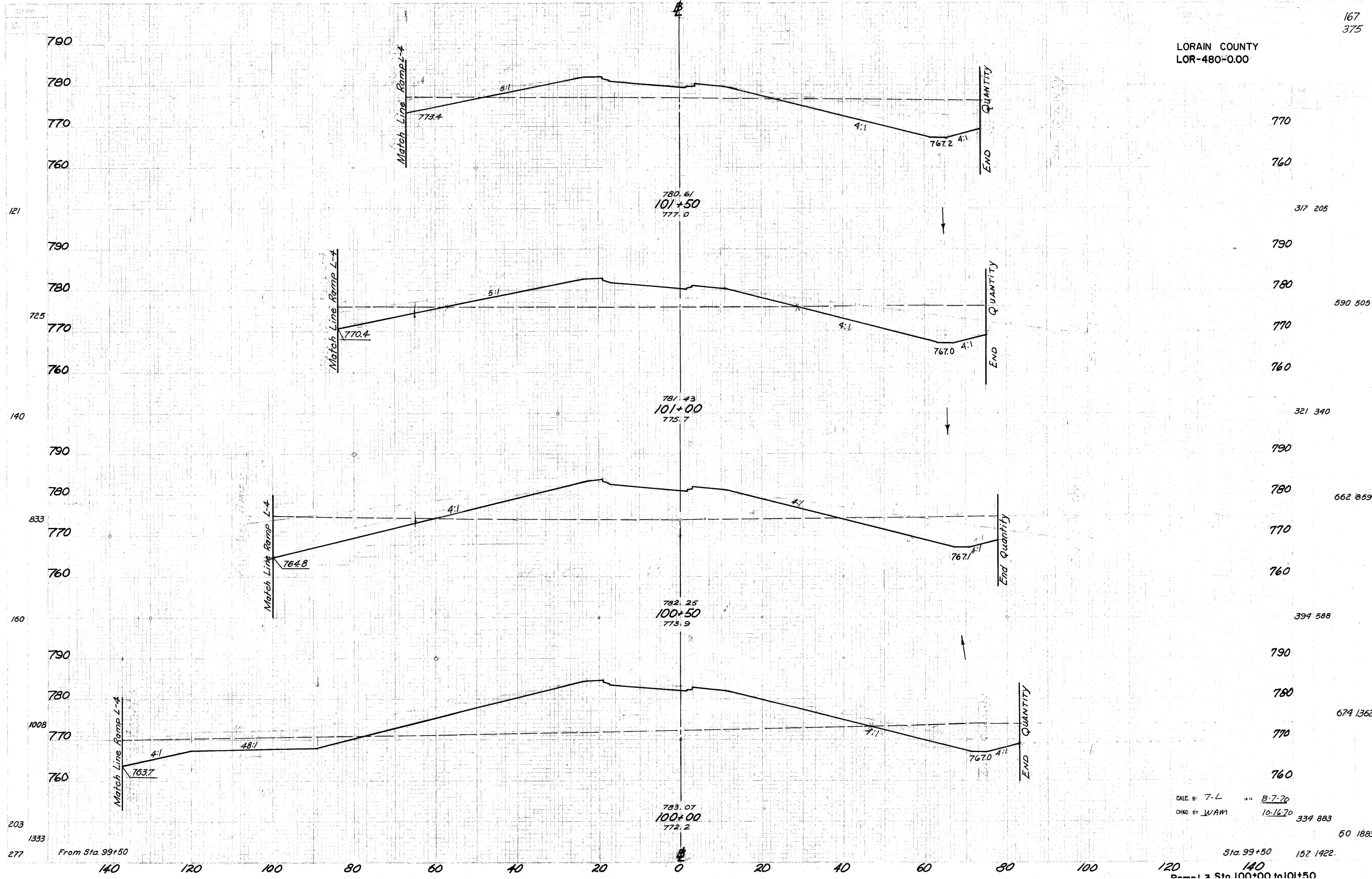


CALC. BY Z-L DATE 8-7-70  
 CHKD. BY W.A.M. DATE 10-16-70

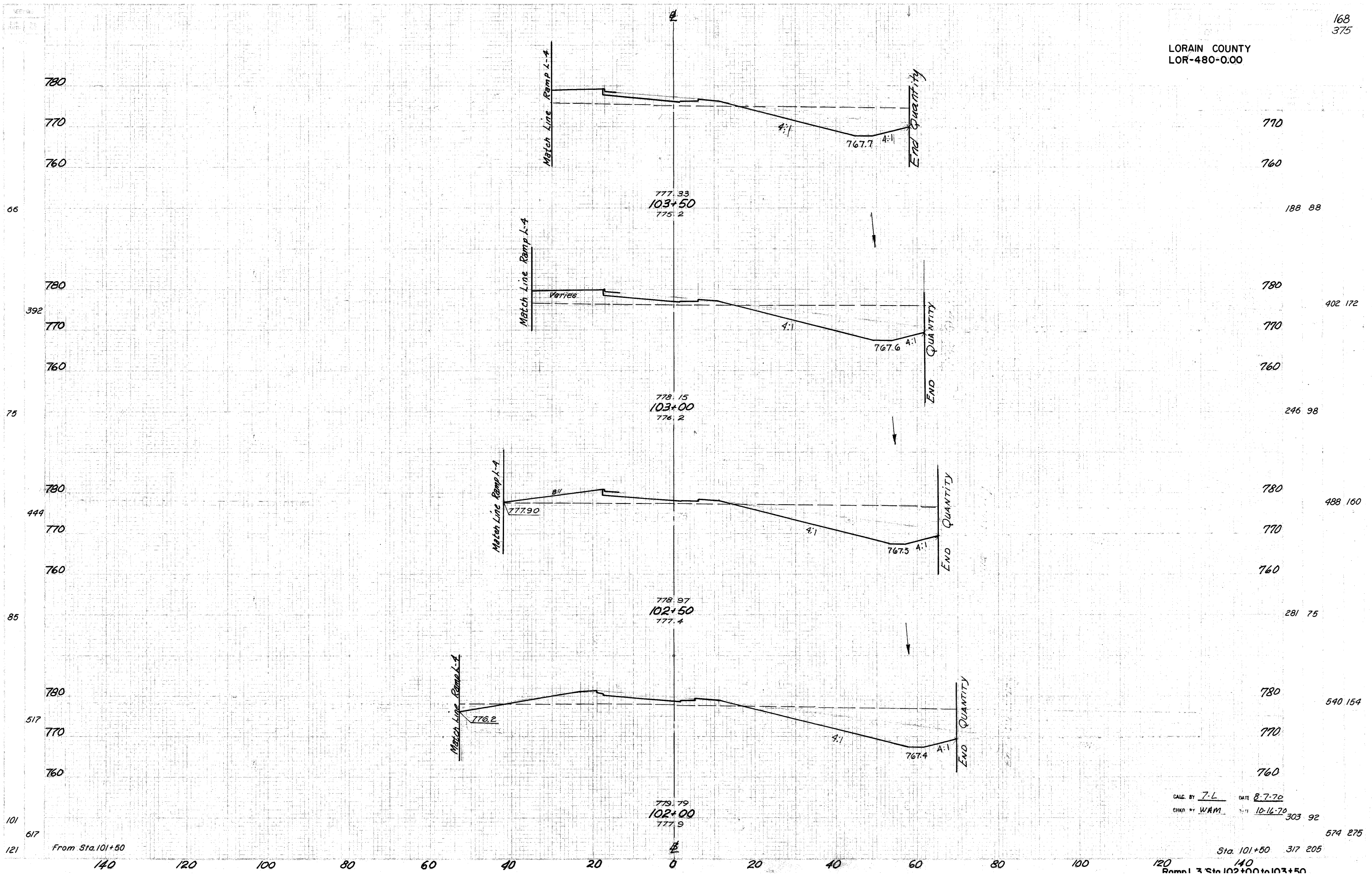
30 1840  
 28 3306  
 Sta. 97+50 0 1730  
 140  
 Panel 3 Sta. 98+00 to 99+50



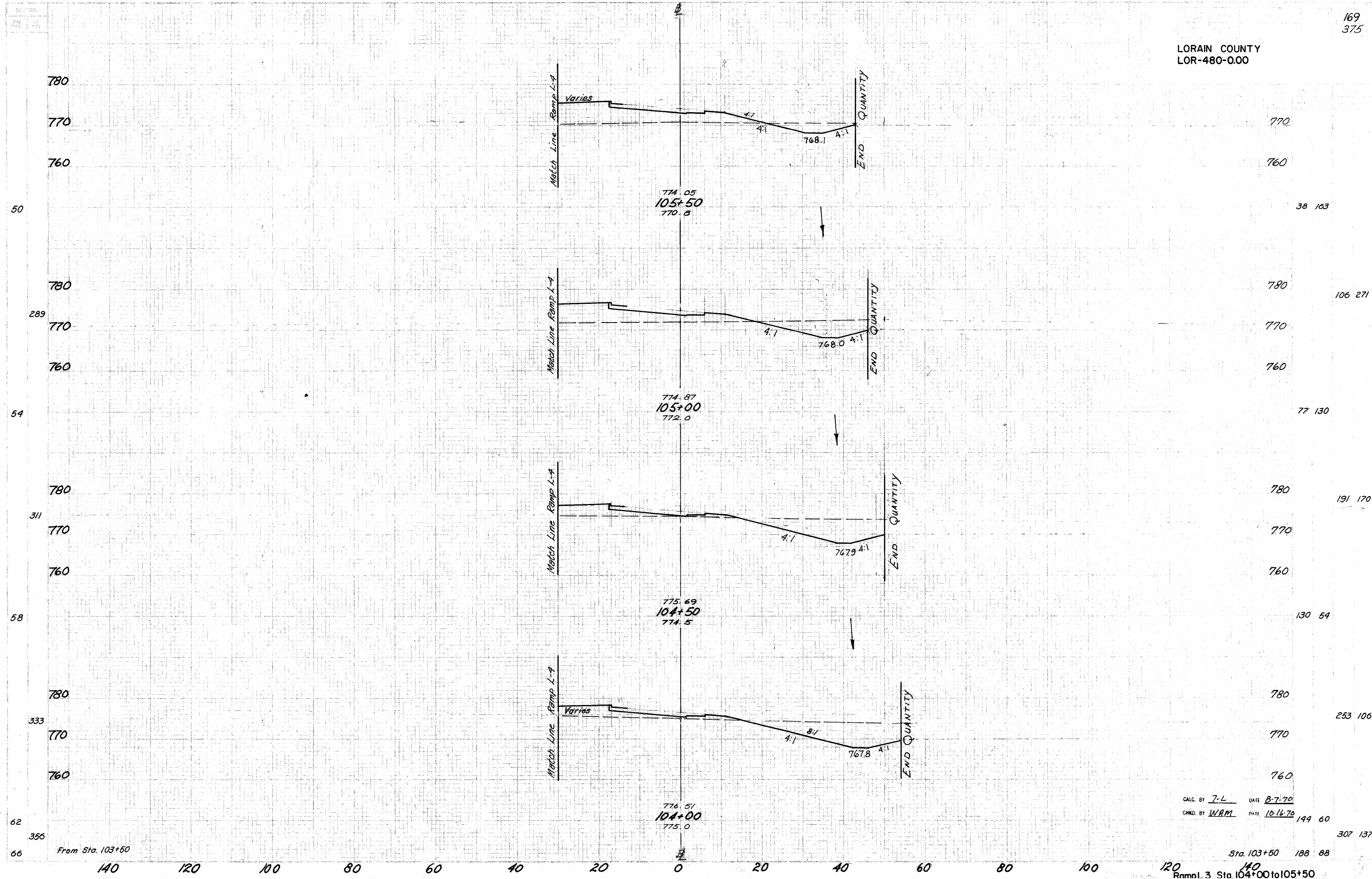
LORAIN COUNTY  
LOR-480=0.00



LORAIN COUNTY  
LOR-480-0.00



LORAIN COUNTY  
LOR-480-0.00



38 163

106 271

77 130

191 170

130 54

253 106

149 60

307 137

CALC. BY J-L DATE 8-7-70

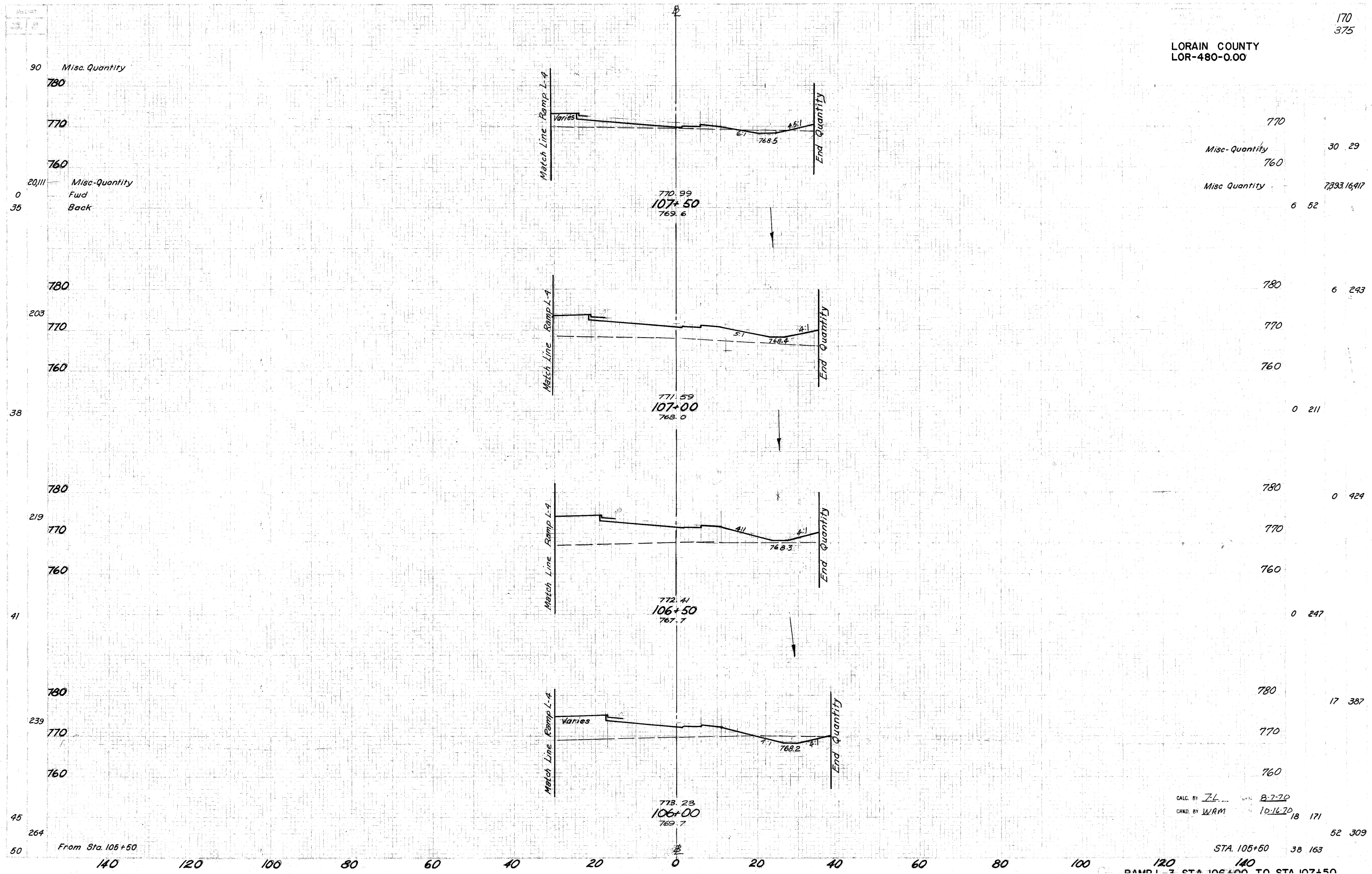
CHKD. BY WPM DATE 10-16-70

Sta. 103+50 188 88

Ramp L 3 Sta. 104+00 to 105+50

LORAIN COUNTY  
LOR-480-0.00

170  
375



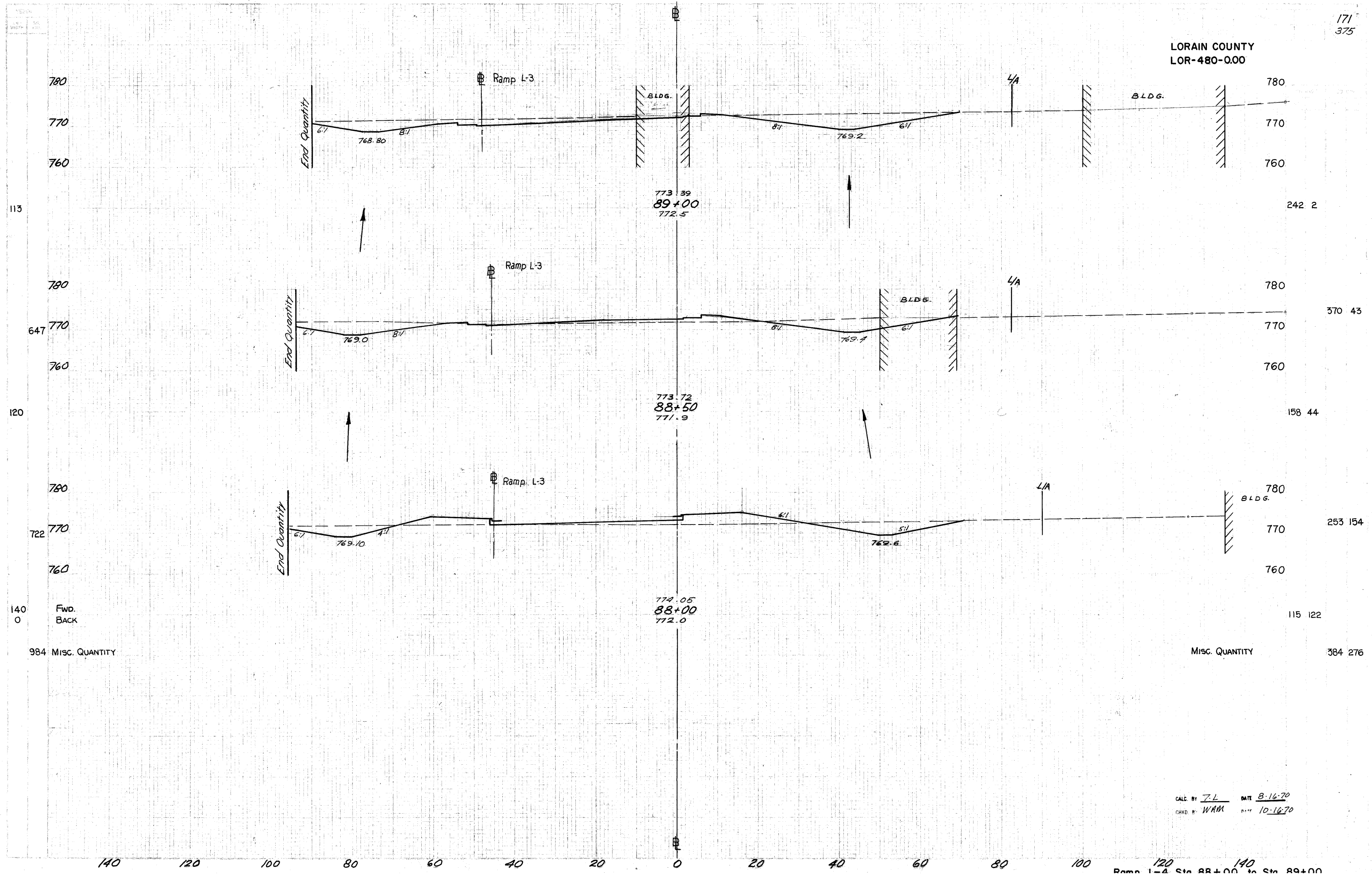
CALC. BY ZL DATE 8-7-70  
CHKD. BY WAM DATE 10-16-70

From Sta. 105+50

STA. 105+50 38 163

RAMP L-4 STA. 106+00 TO STA. 107+50

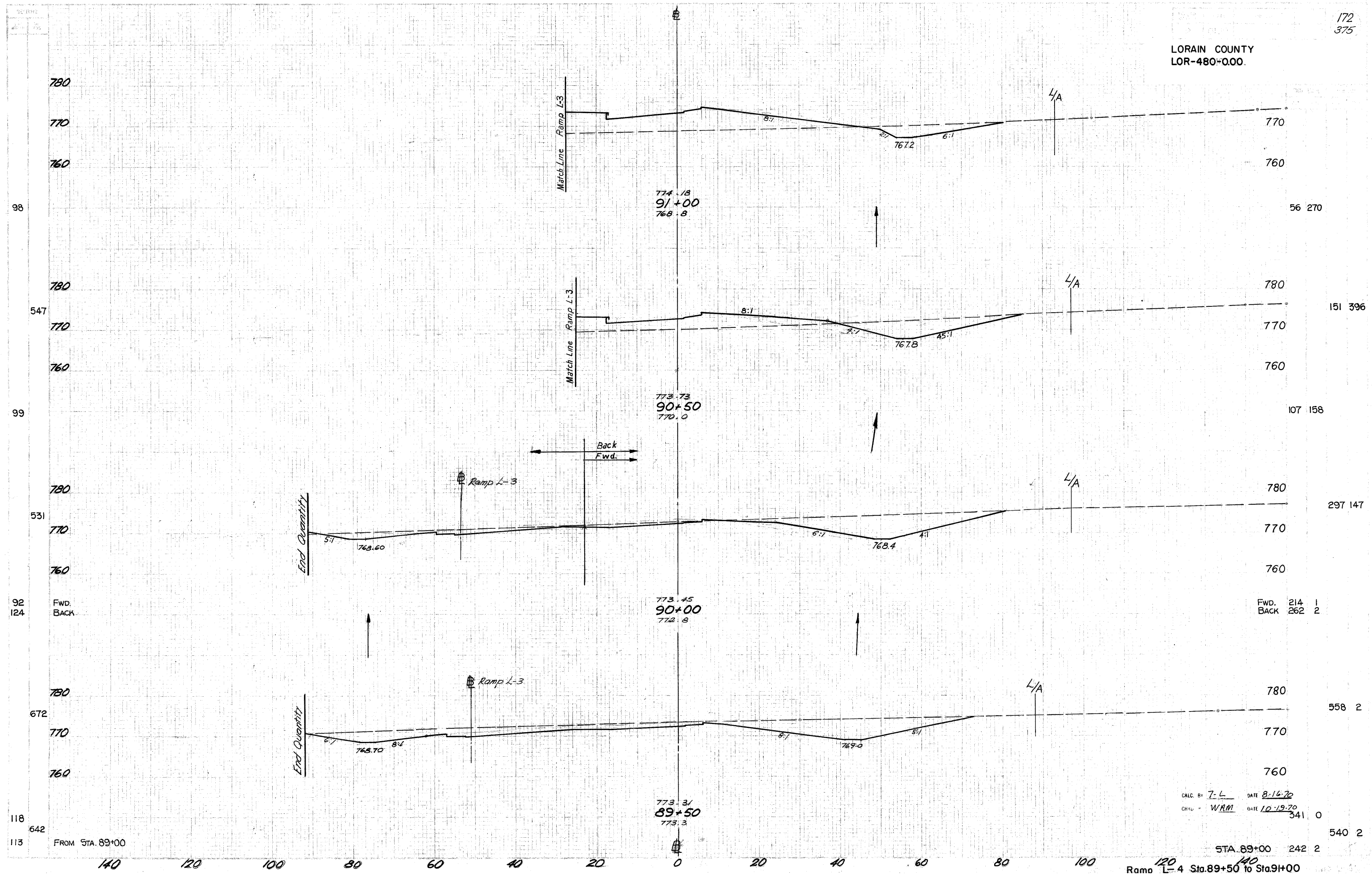
LORAIN COUNTY  
LOR-480-0.00



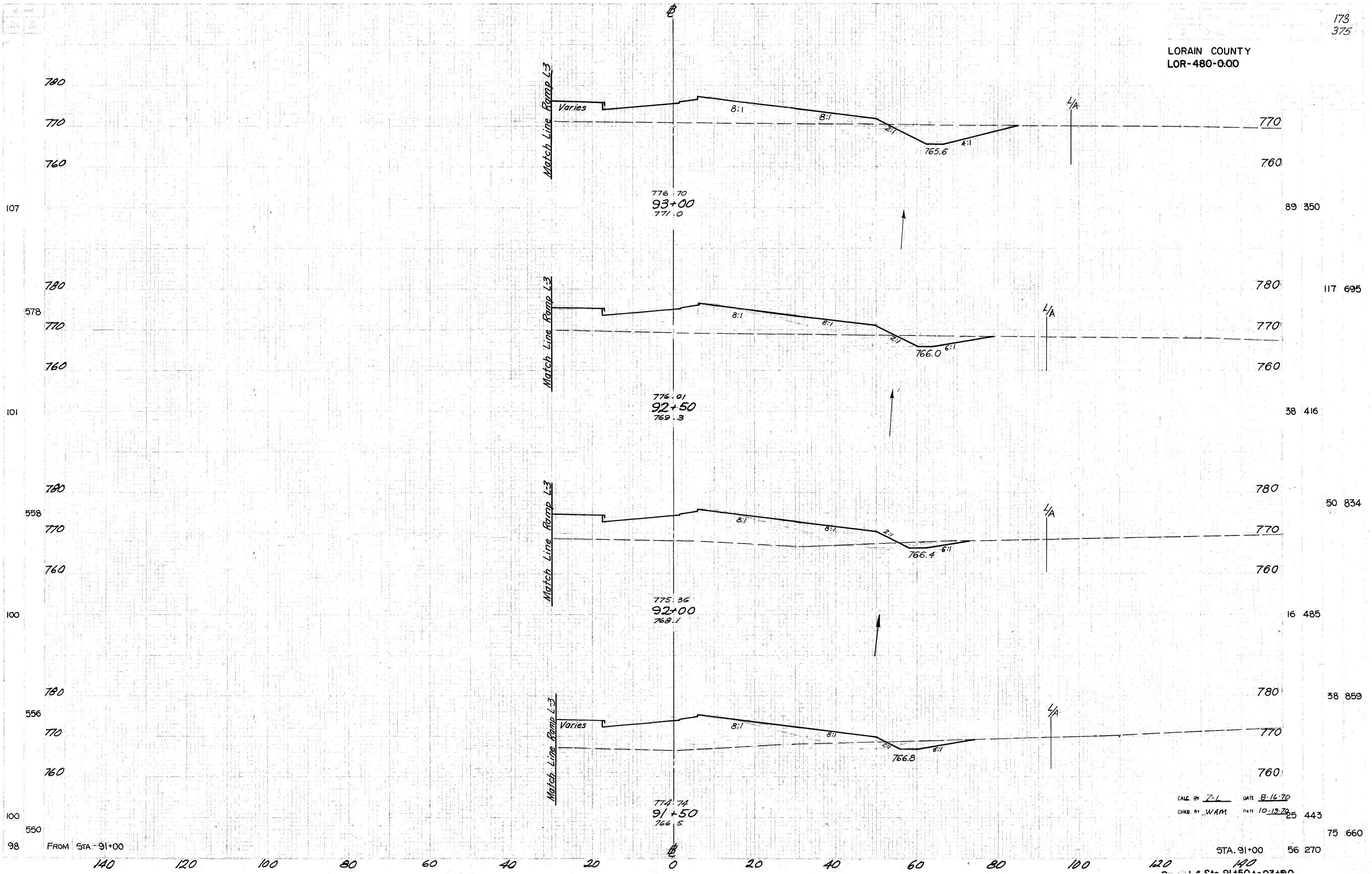
CALC BY: 7.L DATE: 8-16-70  
CHKD BY: WAM DATE: 10-16-70

Ramp L-3 Sta 88+00 to Sta 89+00

LORAIN COUNTY  
LOR-480-0.00.



LORAIN COUNTY  
LOR-480-0.00

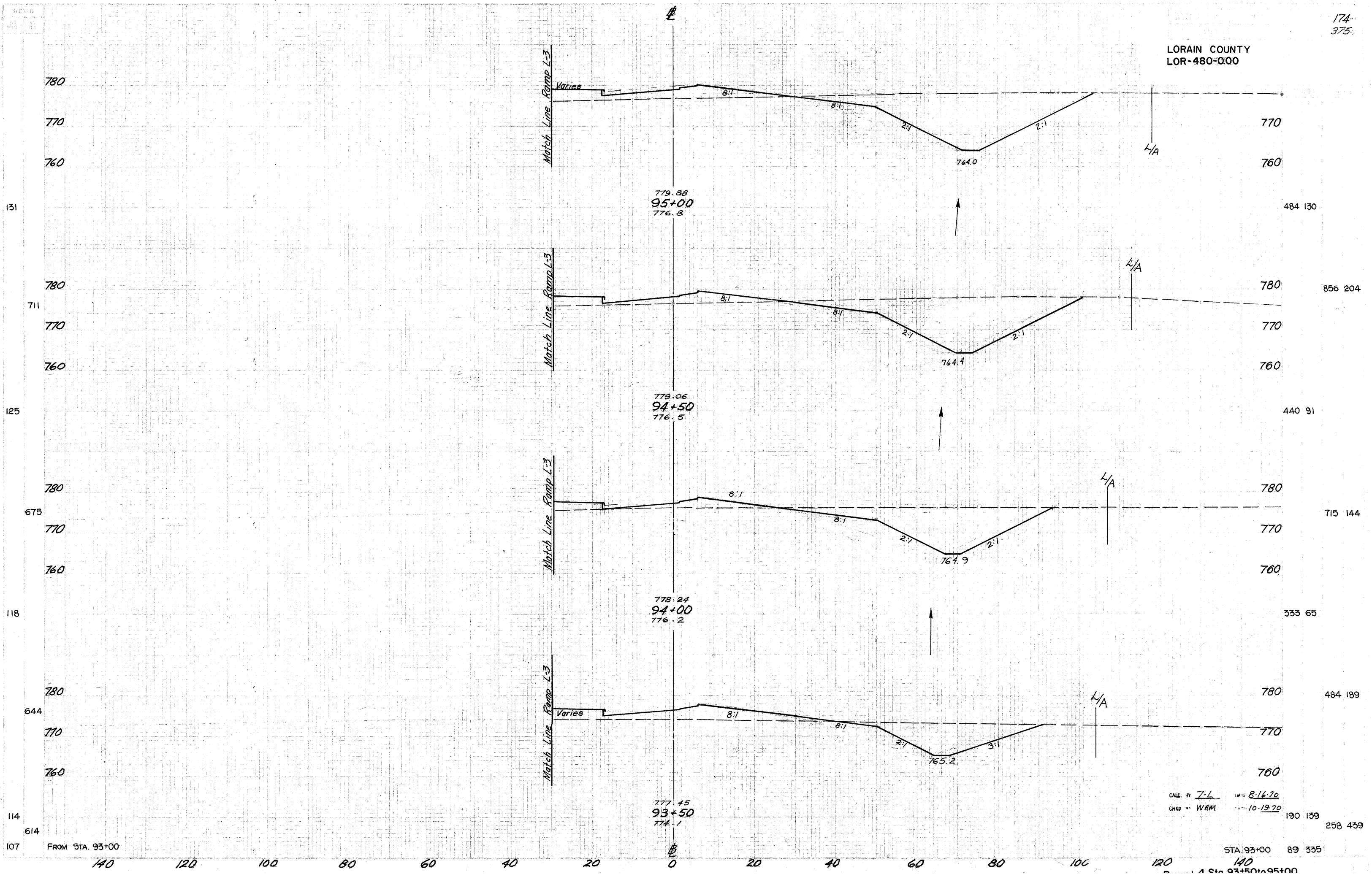


CALC. BY Z-L DATE 8-16-70  
 CHKD. BY WAM DATE 10-13-70

FROM STA. 91+00

STA. 91+00 56 270

LORAIN COUNTY  
LOR-480-000



CALC BY Z-L DATE 8-16-72  
CHKD BY WRM DATE 10-19-72

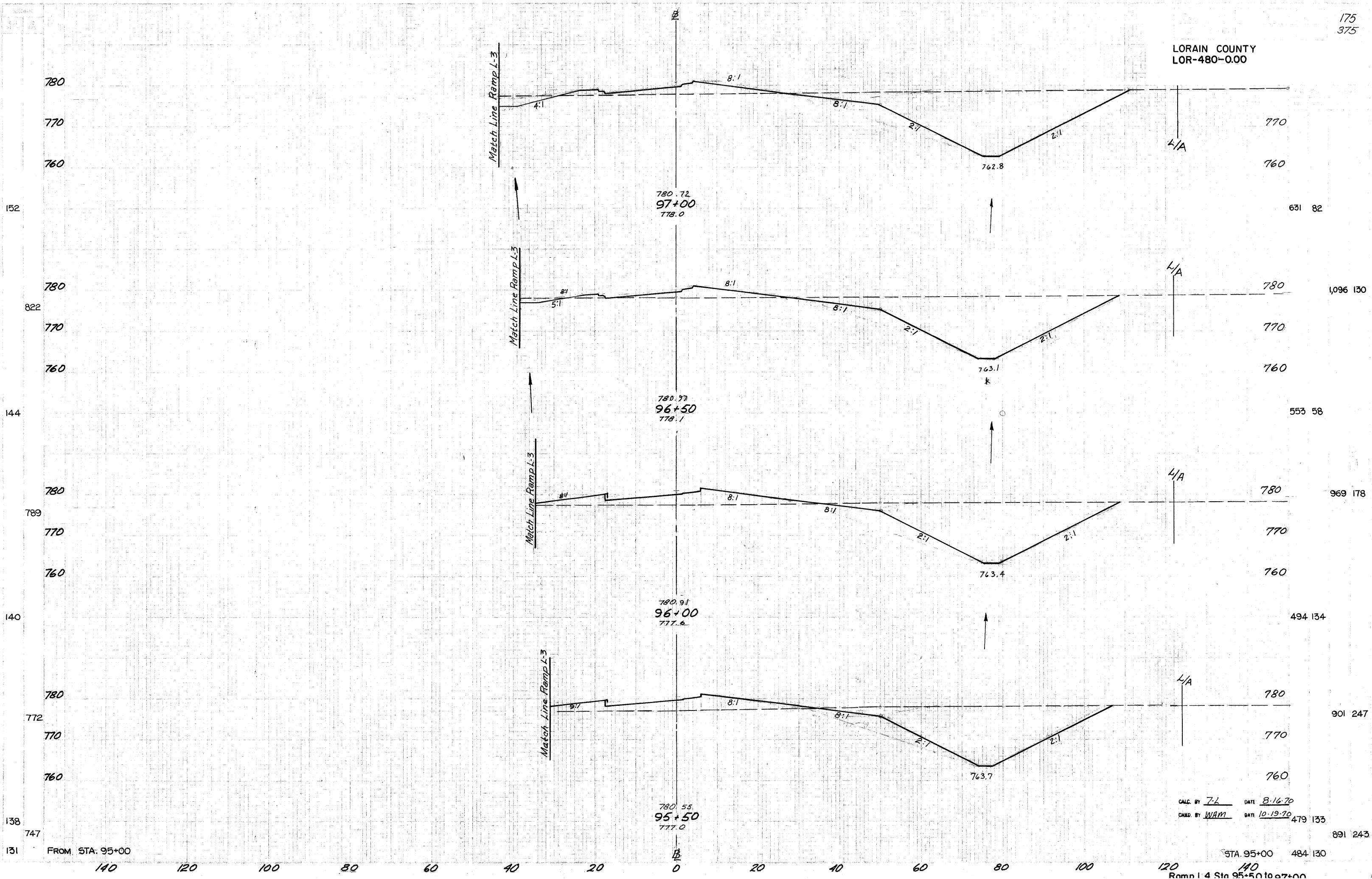
FROM STA. 93+00

STA. 93+00 89 335

140  
120  
100  
80  
60  
40  
20  
0  
20  
40  
60  
80  
100  
120



LORAIN COUNTY  
LOR-480-0.00



CALC. BY 7-L DATE 8-16-70  
CHKD. BY WAM DATE 10-19-70

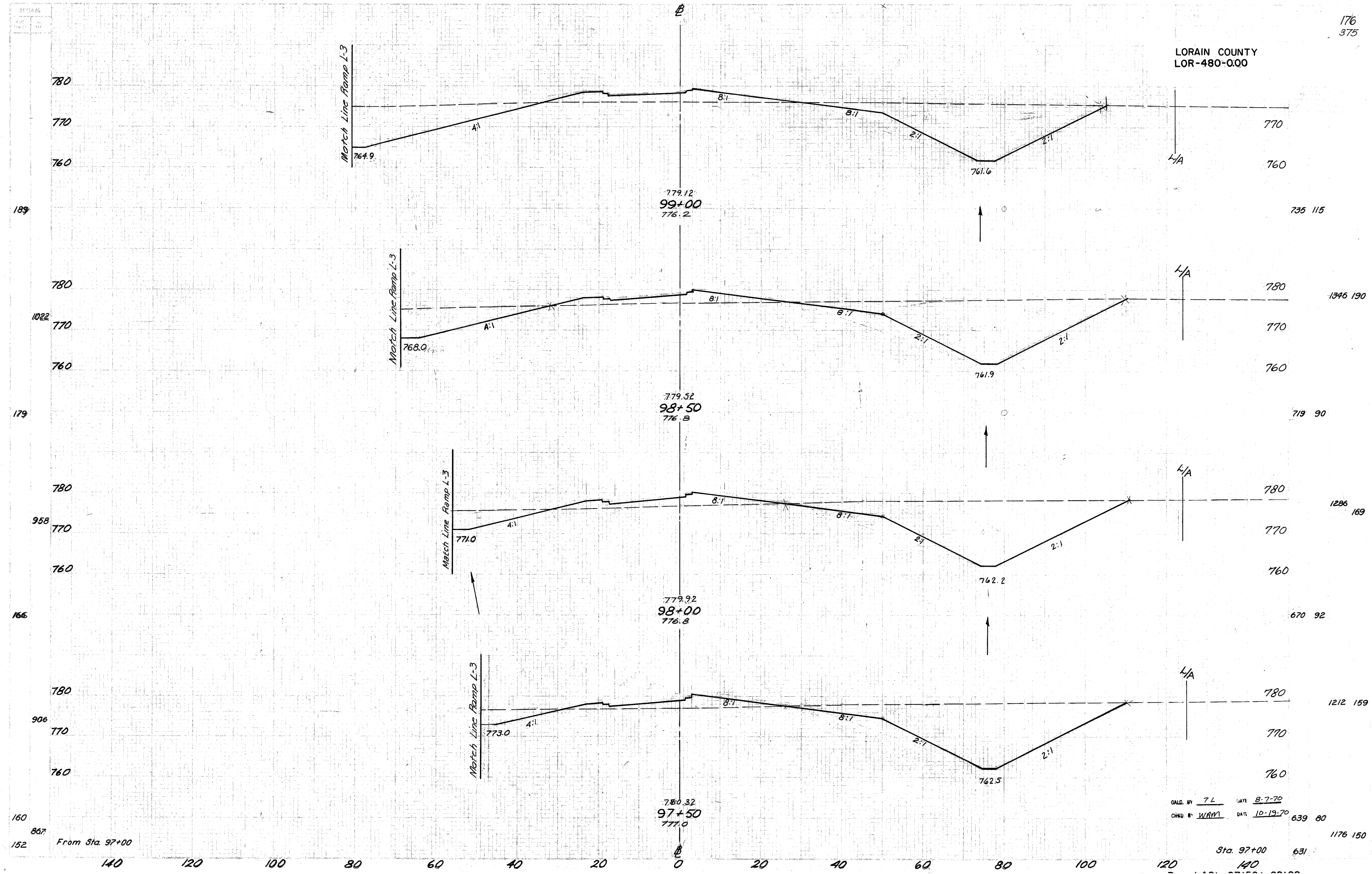
479 133

891 243

484 130

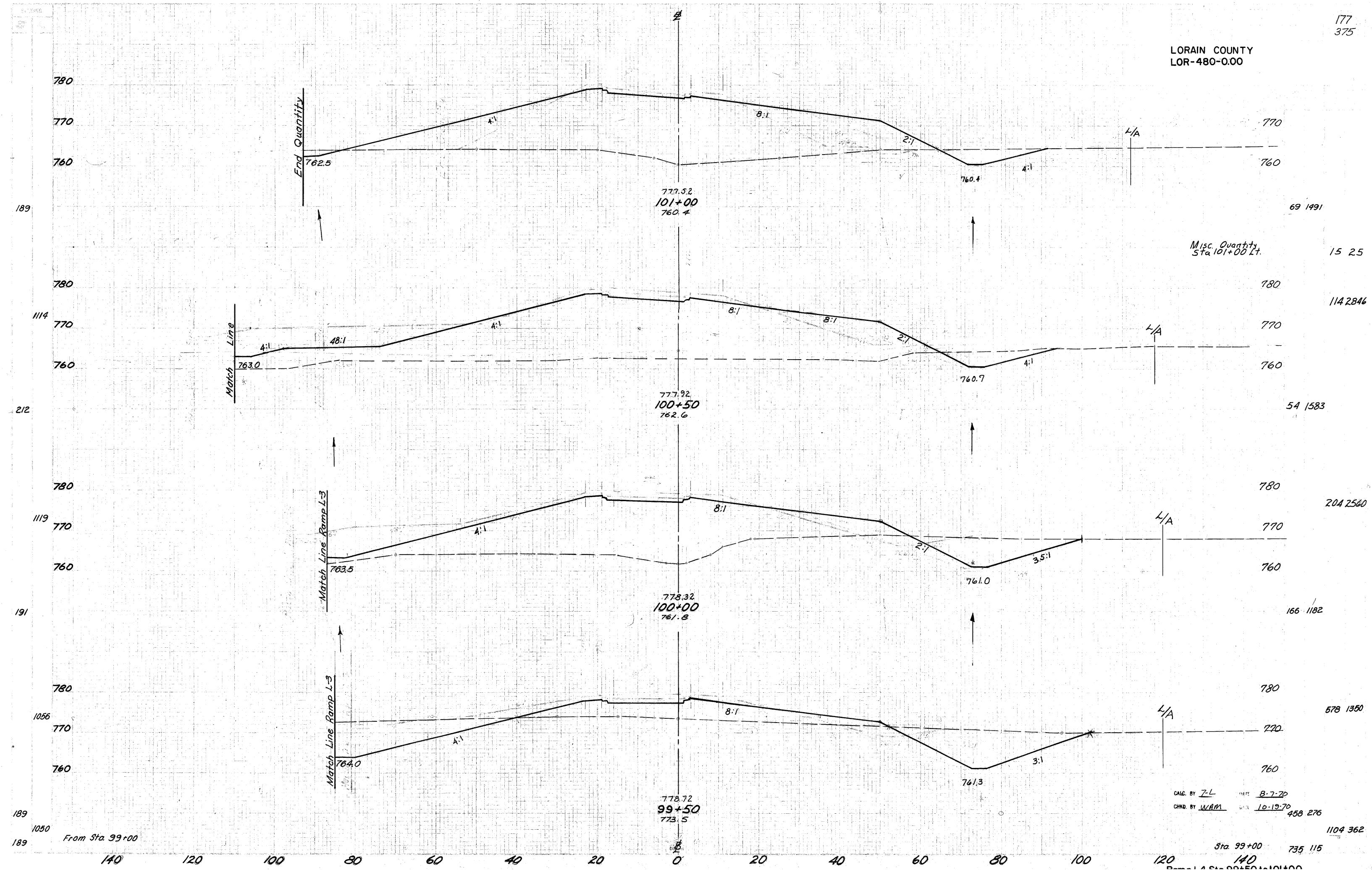
Ramp L-4 Sta 95+50 to 97+00

LORAIN COUNTY  
LOR-480-0.00



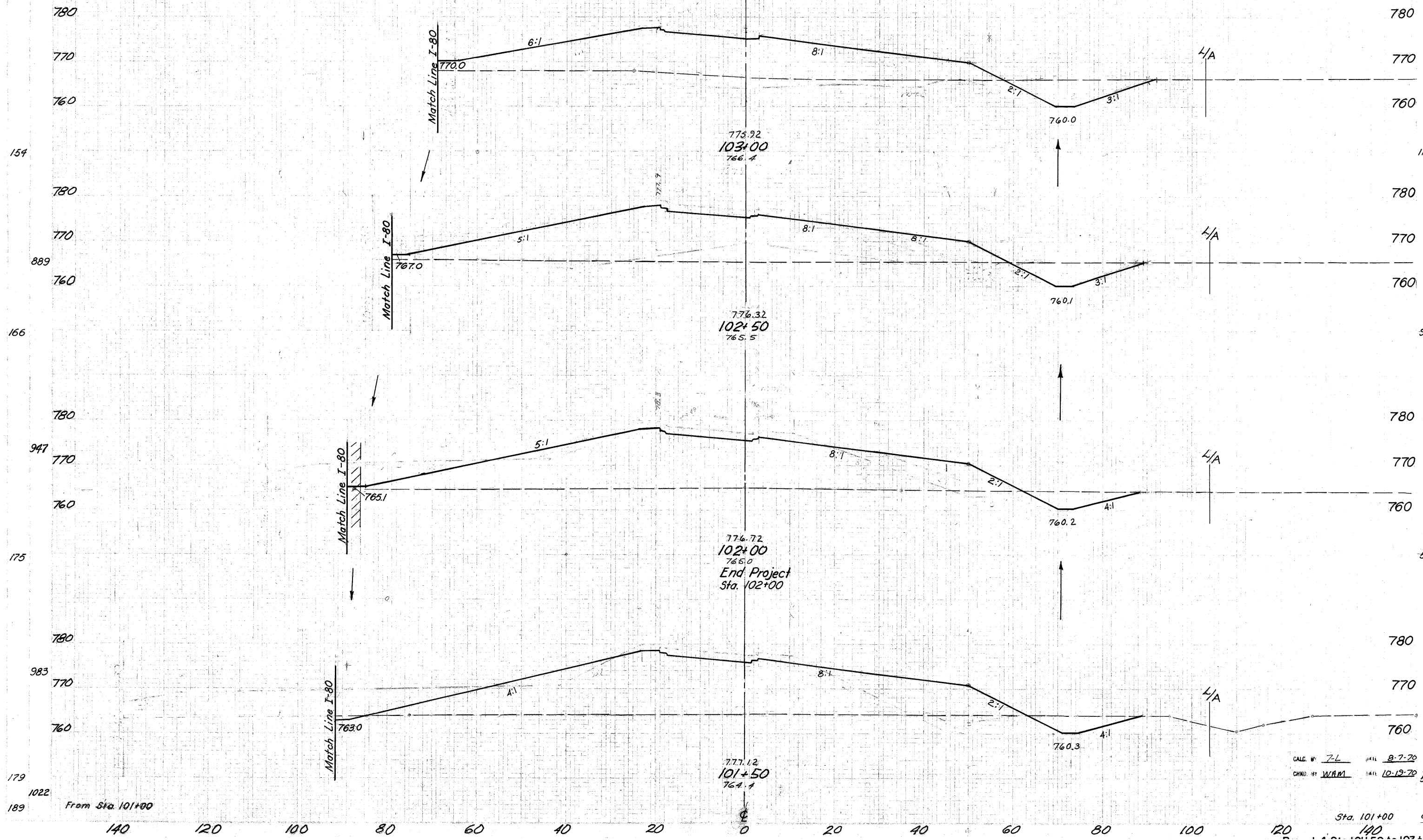
DALL BY 7L DATE 8-7-70  
 CHKD BY WAM DATE 10-19-70 639 80

LORAIN COUNTY  
LOR-480-0.00



CALC. BY ZL DATE 8-7-70  
CHKD. BY WRM DATE 10-13-70 458 276

LORAIN COUNTY  
LOR-480-0.00



154

889

166

947

175

983

179

189

116 832

191 1726

90 1032

137 2073

58 1207

108 2300

119 2563

CALC. BY Z-L DATE 8-7-70  
 CHKD. BY W.R.M. DATE 10-13-70

From Sta. 101+00

Sta. 101+00 69 1491

LORAIN COUNTY  
LOR-480-0.00

To Be Constructed for  
Project Cuy-80-0.00

774.97  
105+50  
776.2

End Work  
Sta. 105+37

774.79  
105+00  
777.0

774.84  
104+50  
776.6

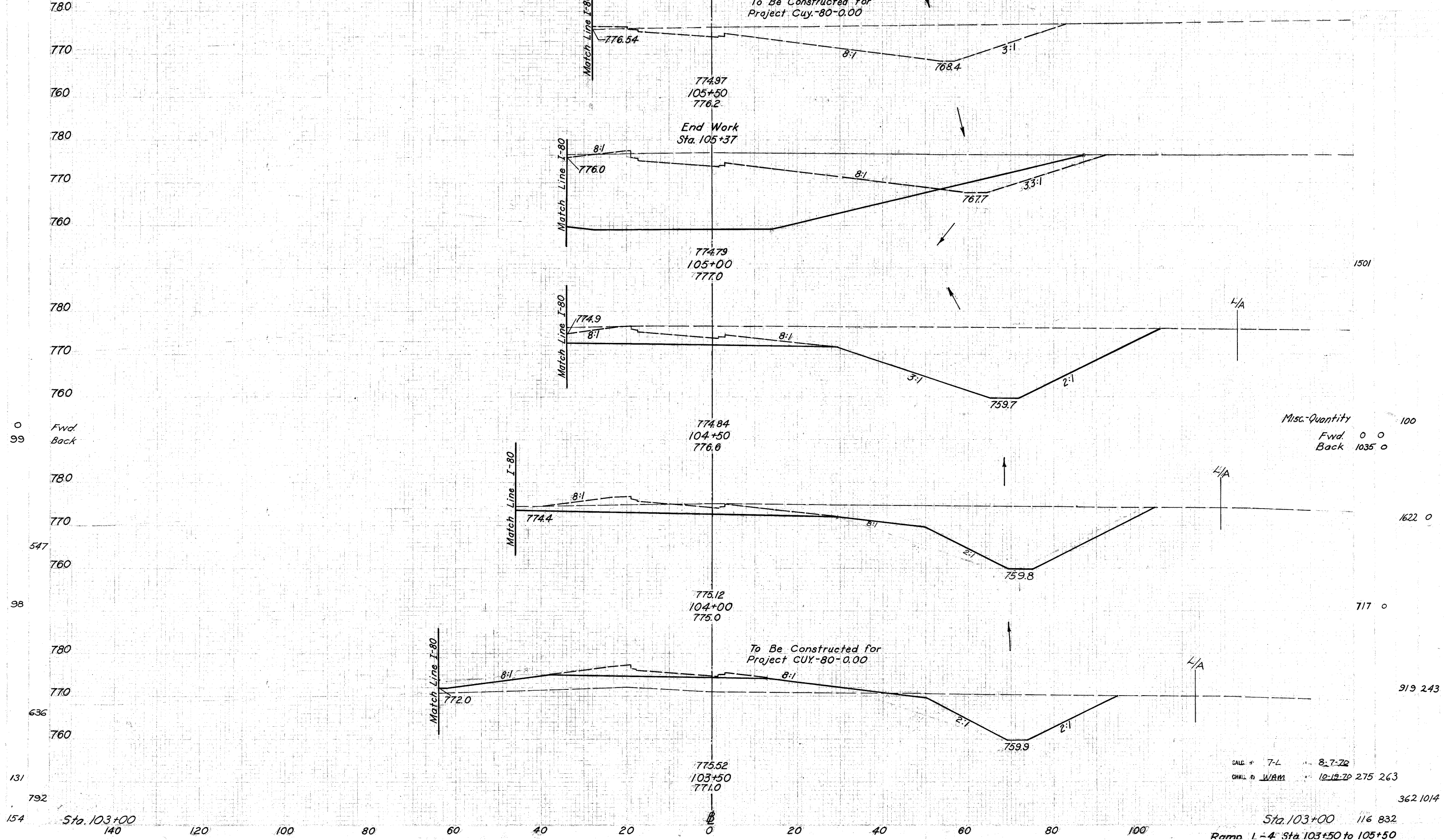
775.12  
104+00  
775.0

775.52  
103+50  
771.0

Misc. Quantity 100  
Fwd. 0 0  
Back 1035 0

CALL: 7-L 8-7-72  
CHKD: WRM 12-12-72 275 263

Sta. 103+00 116 832  
Ramp L-4 Sta. 103+50 to 105+50



0  
99  
547  
98  
636  
131  
792  
154

1501

1622 0

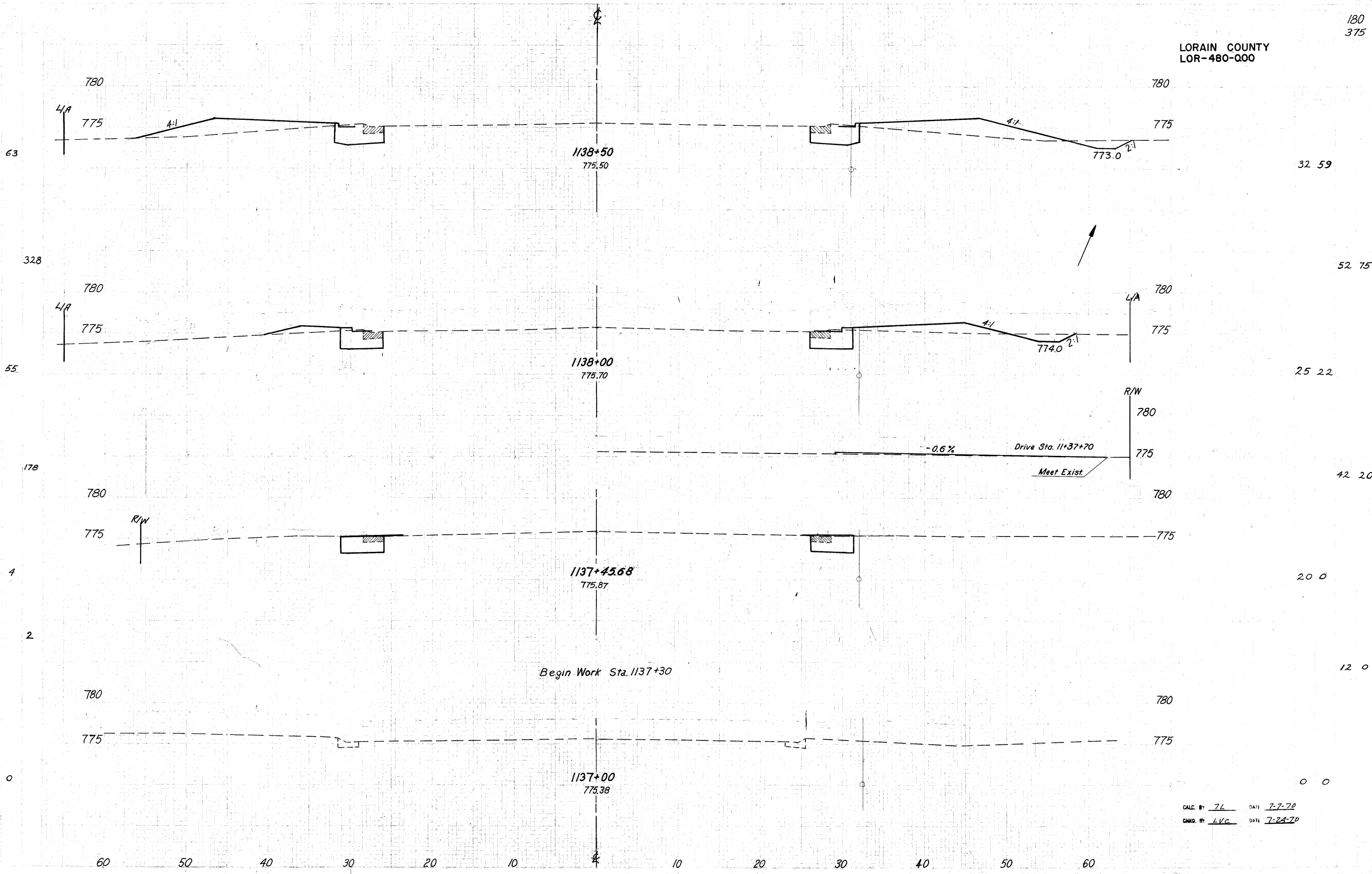
717 0

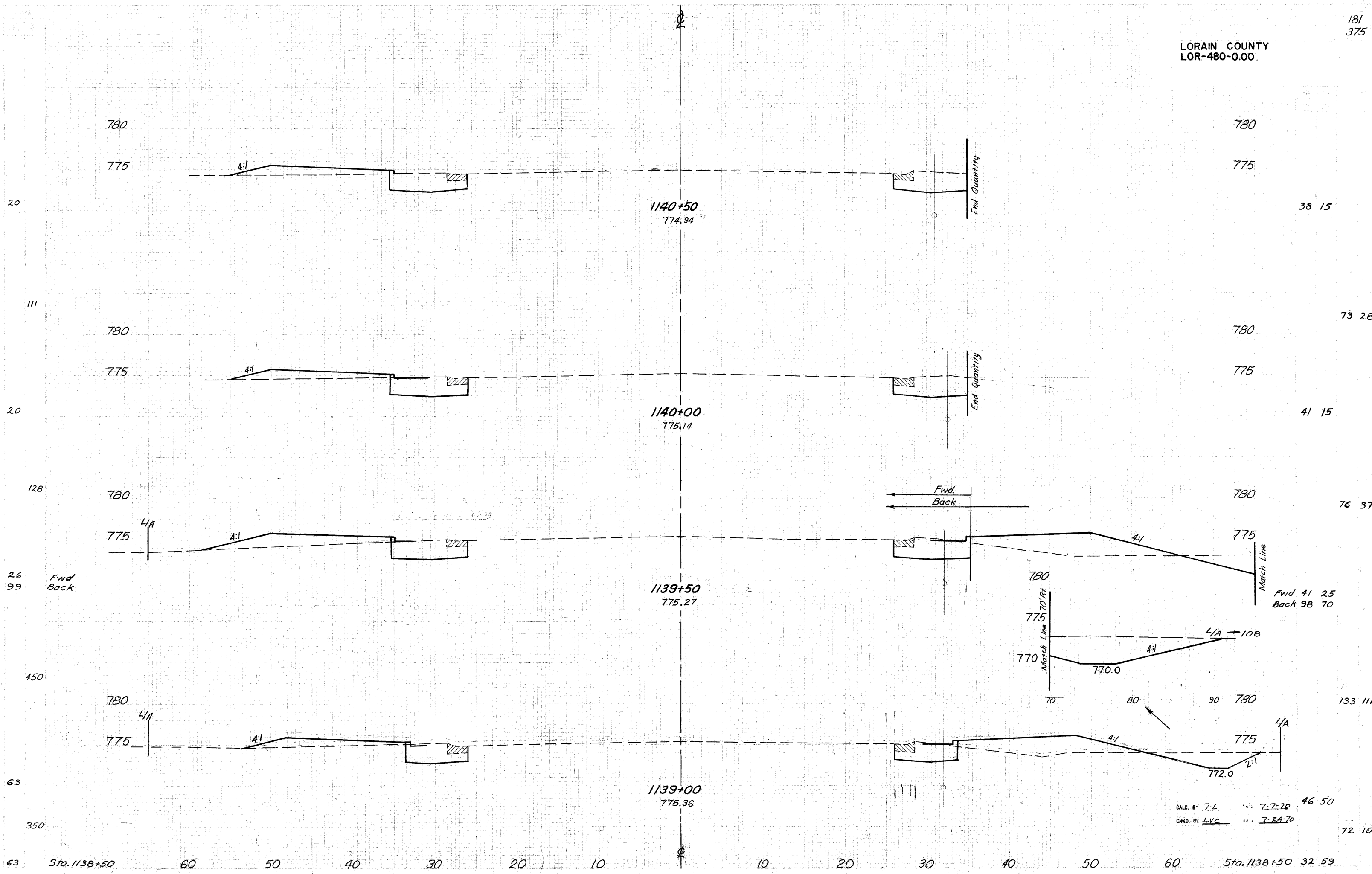
919 243

362 1014

Sta. 103+00 140 120 100 80 60 40 20 0

0 20 40 60 80 100





38 15

73 28

41 15

76 37

Fwd 41 25  
Back 98 70

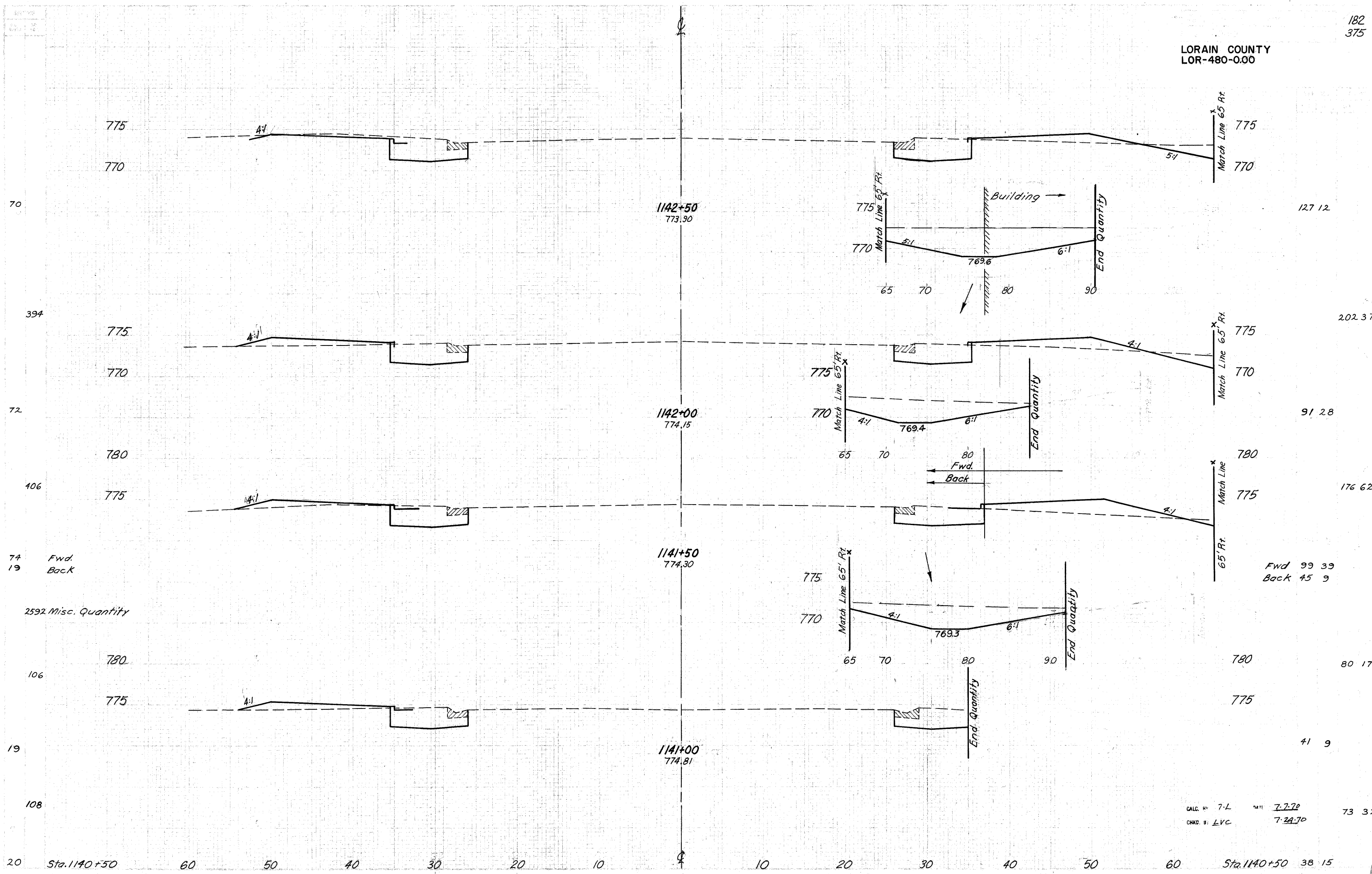
133 111

46 50

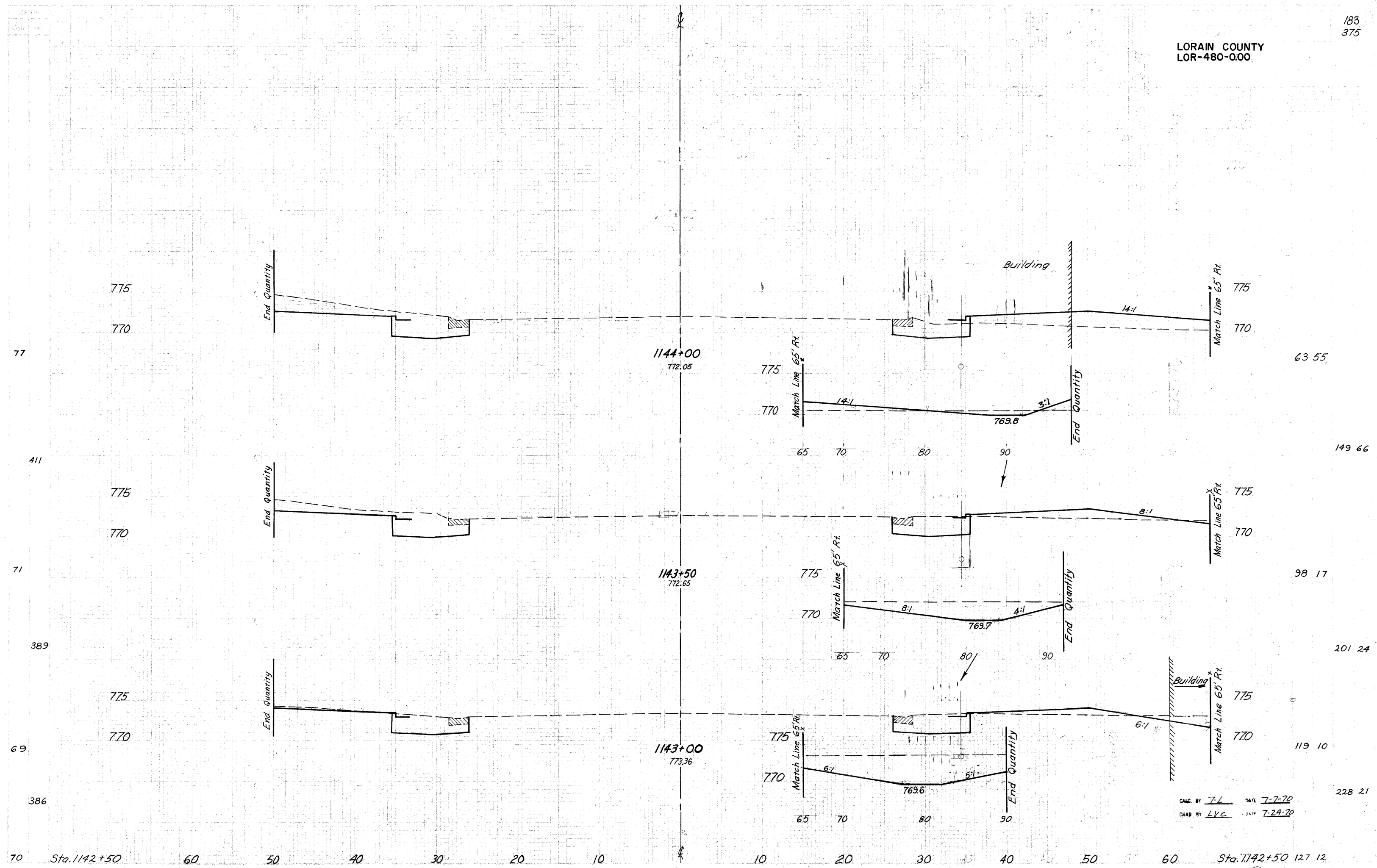
72 101

CALC. BY: Z-L DATE: 7-27-70  
CHKD. BY: LVC DATE: 7-28-70

LORAIN COUNTY  
LOR-480-0.00

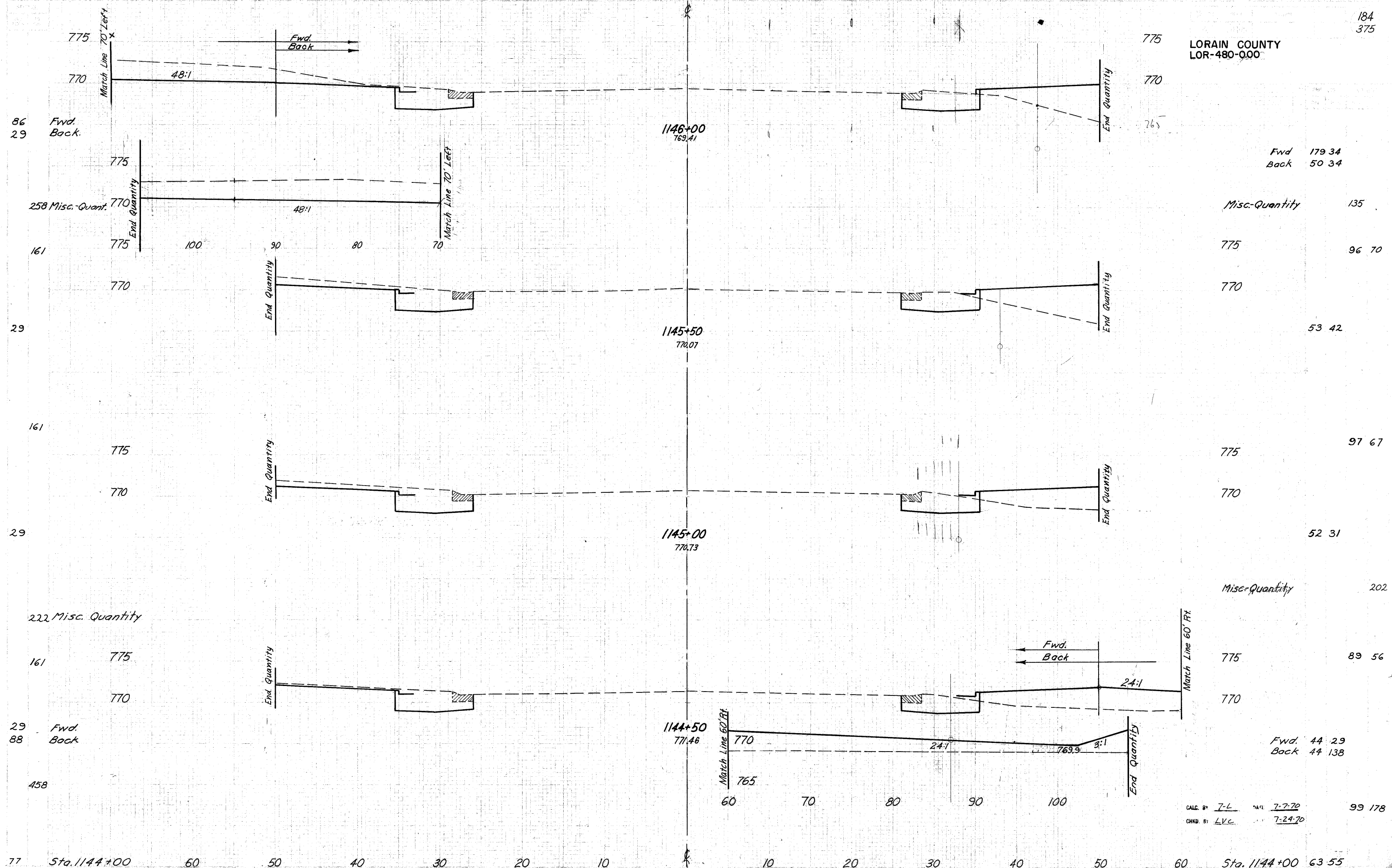






CALC. BY 7-L DATE 7-7-70  
CHKD BY LVC DATE 7-24-70

LORAIN COUNTY  
LOR-480-000



Fwd 179 34  
Back 50 34

Misc-Quantity 135

53 42

97 67

52 31

Misc-Quantity 202

89 56

Fwd 44 29  
Back 44 138

CALC. BY: 7-L DATE: 7-7-70  
CHKD. BY: LVC DATE: 7-24-70

99 178

LORAIN COUNTY  
LOR-480-0.00

770

765

760

38 114

1147+50  
767.35

Match Line 75' Lt

48:1

End Quantity

48:1

Match Line 75' Lt

770

765

90

80

End Quantity

72

417

Match Line 74.5 Lt

770

765

760

159 34

1147+00  
767.92

End Quantity

48:1

Match Line 74.5 Lt

770

765

90

80

End Quantity

78

442

Match Line 75' Lt

770

765

760

217 37

1146+50  
768.72

End Quantity

770

48:1

Match Line 75' Lt

775

770

100

90

80

End Quantity

81

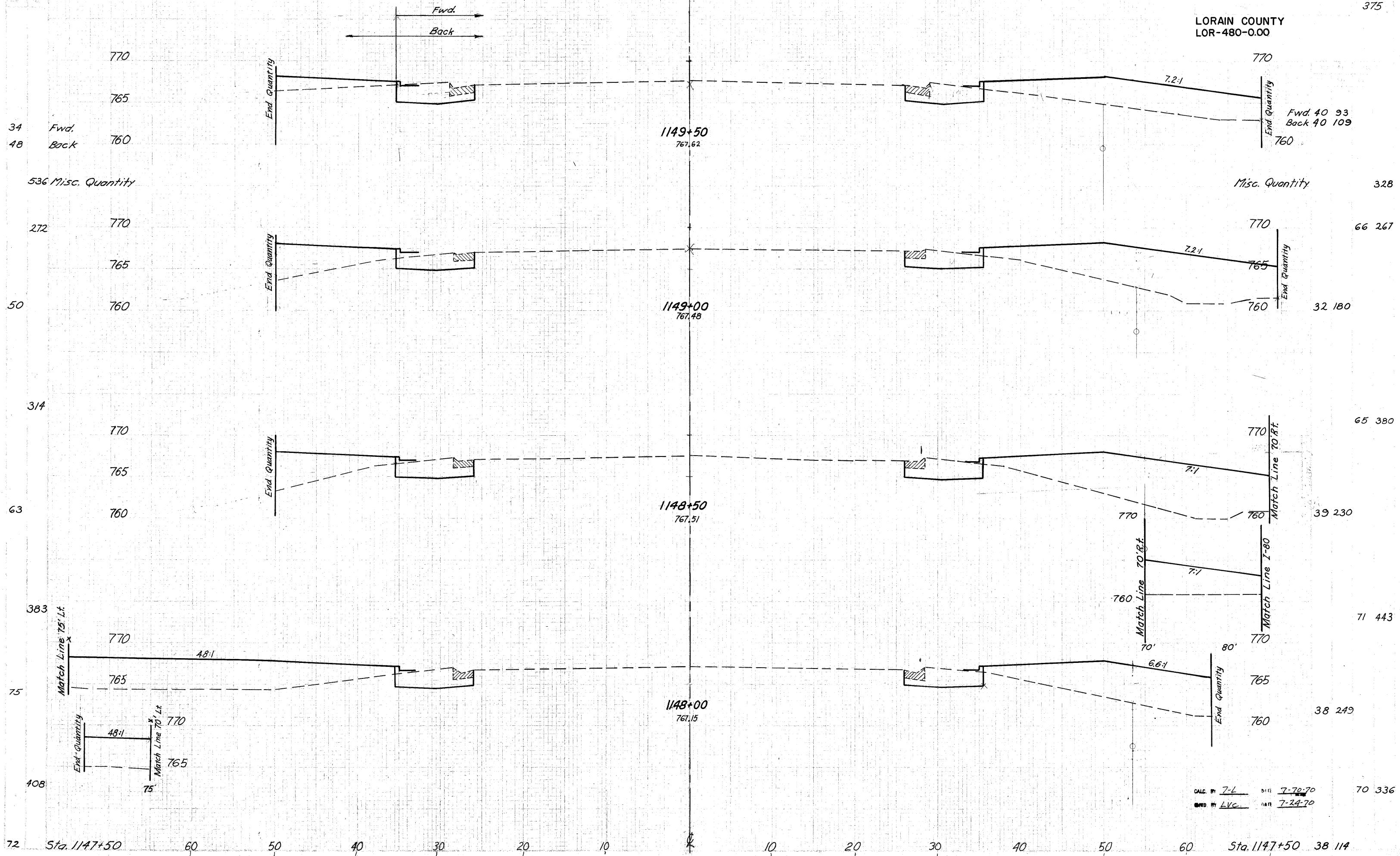
464

CHKD BY Z-L 7-2-70  
7-24-70

366 65

86 Sta. 1146+00 60 50 40 30 20 10 10 20 30 40 50 60 Sta. 1146+00 179 34

LORAIN COUNTY  
LOR-480-0.00



34 Fwd.  
48 Back

Fwd. 40 93  
Back 40 109

536 Misc. Quantity

Misc. Quantity 328

272  
50

66 267  
32 180

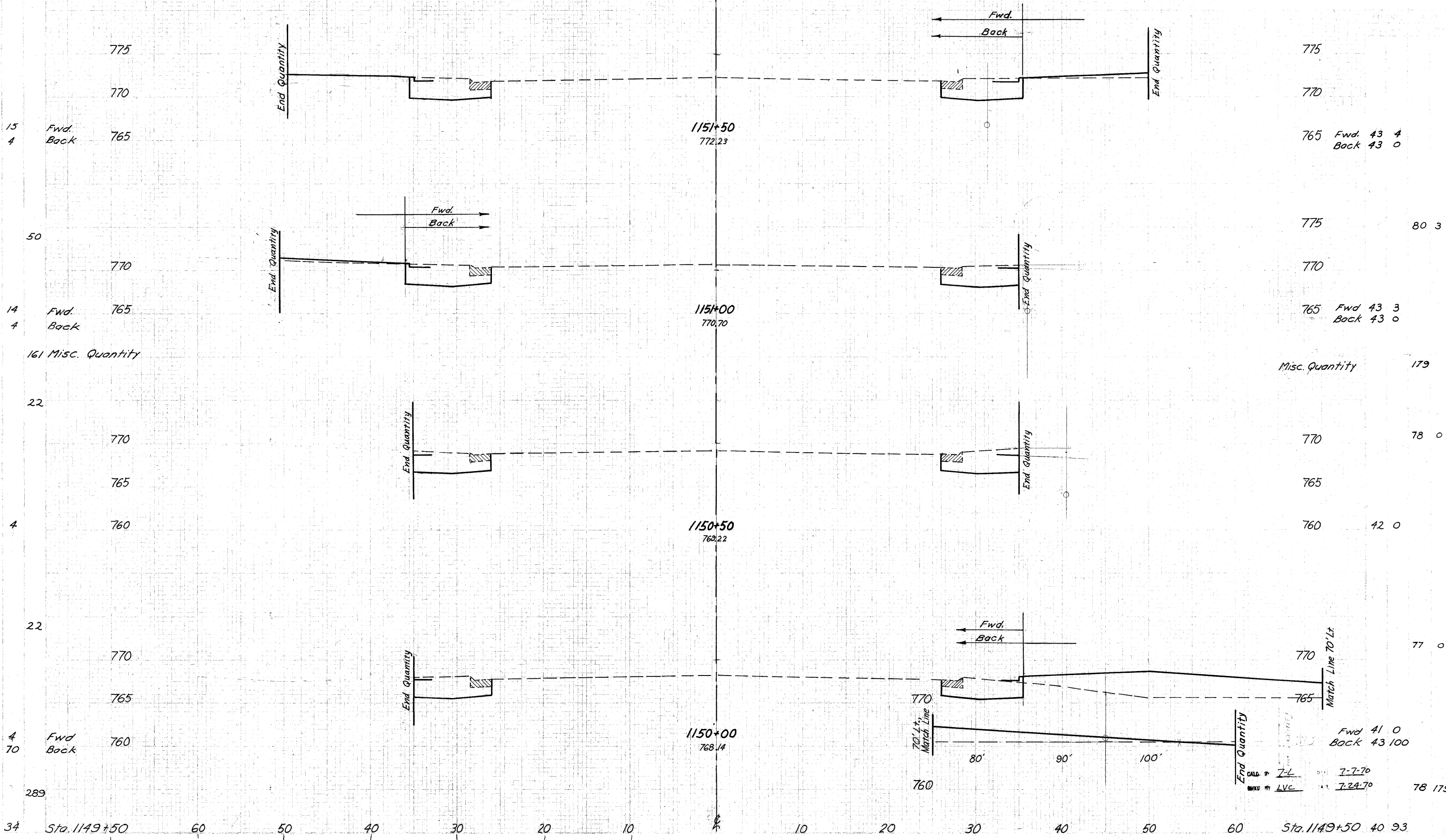
314  
63

65 380  
39 230

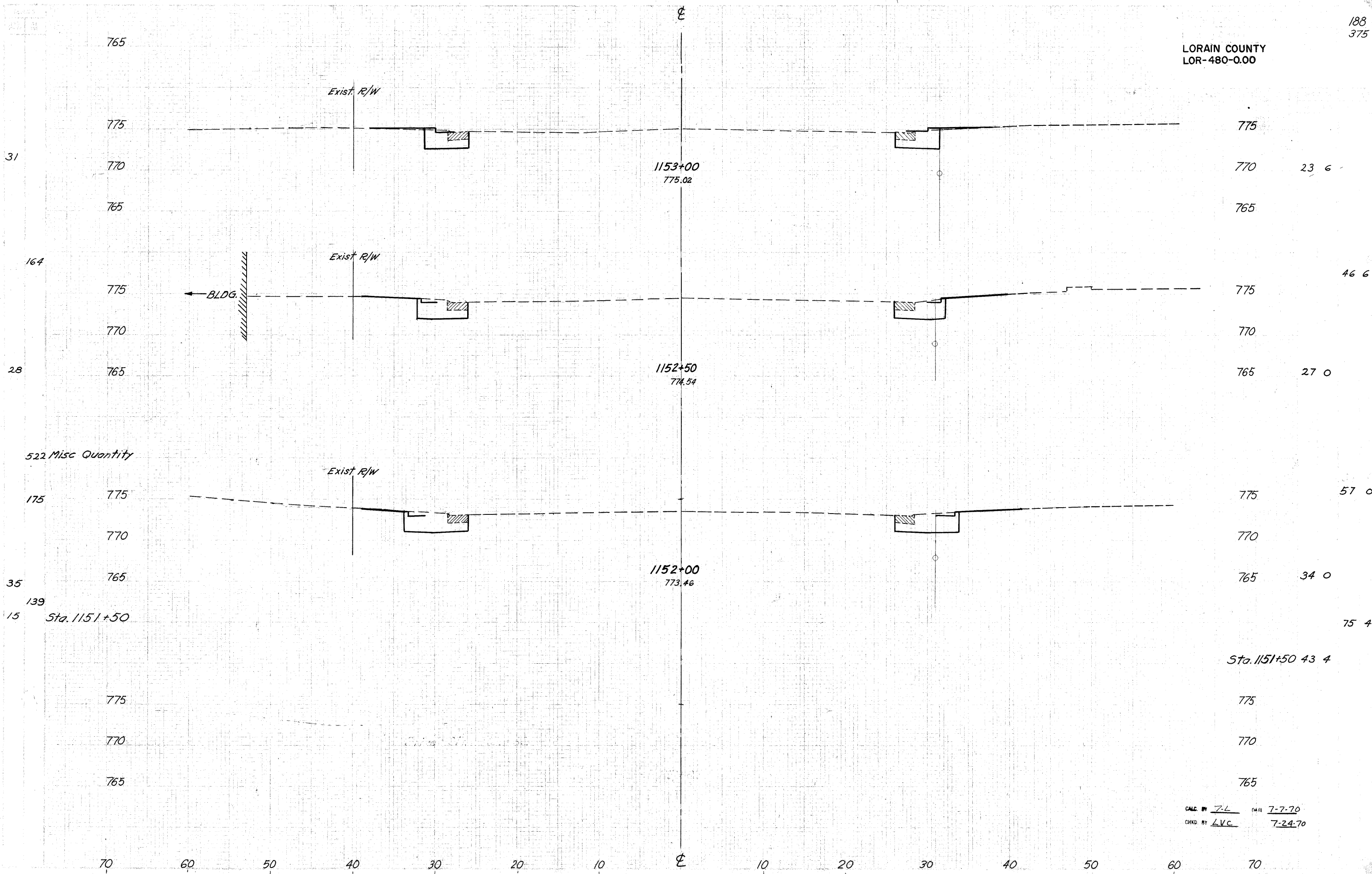
383  
75  
408

71 443  
38 249  
70 336

CALC. BY J-L DATE 7-70-70  
DREW BY LVC DATE 7-24-70

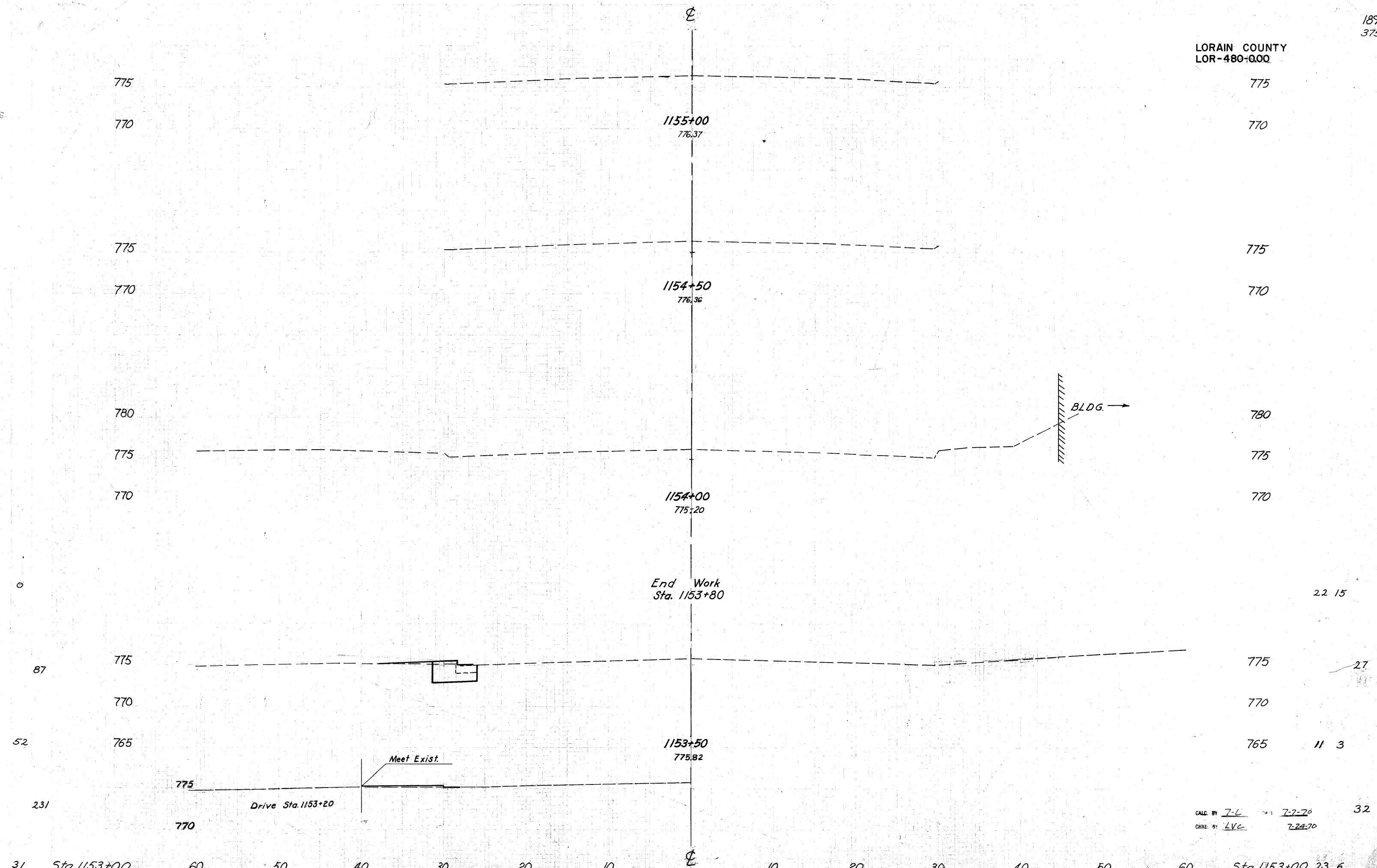


CALC BY Z-L 7-7-70  
CHKD BY LVC 7-24-70



CALC. BY	<u>Z-L</u>	DATE	<u>7-7-70</u>
CHKD. BY	<u>L.V.C.</u>	DATE	<u>7-24-70</u>

LORAIN COUNTY  
LOR-480-000



# WATERWORK NOTES

A. E. STUBBS & SONS  
 QUANTITY CHECKED  
 JL 6-14-75  
 TRB 5-16-75

FED. RD. DIVISION	STATE	PROJECT
2	OHIO	

(190  
375)

LORAIN COUNTY  
LOR-480-0.00

MAINTAINANCE OF SERVICE AND CONNECTING RELOCATED MAINS

When the new mains have been tested and chlorinated and are ready to be connected to the old main, the contractor shall make such connections at a time designated by the North Ridgeville City Engineer. Prior to shutting down the existing mains, the Contractor shall take suitable precautions to assure a minimum interruption to service.

ITEM 814- VALVE AND VALVE BOX REMOVED

Work Included

The Contractor shall either remove or leave in place the abandoned valve. The valve box shall either be removed or broken off at least 1 foot below the ground surface and backfilled. If the valve box is in a paved area, the area shall be restored to match the existing pavement.

Basis of Payment

The work included in this item shall be paid for at the contract unit price bid for Each Item 814 Valve and Valve Box Removed, which price and payment shall constitute full compensation for abandoning the valve and removing the valve box, backfilling, seeding, repaving, and for all labor, equipment, tools and incidentals necessary to complete this item.

ITEM 814- VALVE BOX ADJUSTED TO GRADE

Work Included

The Contractor shall raise or lower the existing valve box to fit the new grade by using appropriate extension sections, if needed, or by excavating under or tamping backfill under the valve box to insure that the box has a firm footing.

Payment

The work included in this item will be paid for at the contract unit price bid for Each Item 814-Valve Box Adjusted to Grade, which price and payment shall constitute full compensation for adjusting the valve box, excavation, tamping, earth under valve box, backfilling, seeding and sodding and repaving and for the furnishing of all labor, materials, small tools, equipment and incidentals necessary to complete this item.

ITEM 814- PLUGGING SERVICE CONNECTIONS

Work Included

The work included under this item shall consist of the plugging of existing service connections at the locations shown on the drawings or as ordered, including cast iron plugs or caps with clamps, all excavation, sheeting and bracing, concrete, sand backfill and temporary repaving, all as required for the proper completion of the work included under this contract.

Measurement

The existing service connections plugged to be paid for, shall be the actual number of each listed and estimated separately, completed and accepted.

Basis of Payment

The work included in this item shall be paid for at the contract unit price bid for Each Item 814- Plugging Service Connections, which price and payment shall constitute full compensation for performing all the requirements of this item including furnishing all necessary materials, labor, tools, equipment and incidentals to make this a complete item of work.

## WATERWORK SUMMARY

				GRAND TOTAL	UNIT	ITEM	DESCRIPTION
				I Funds			
	191	192					
				263	LINE FT.	814	6" NEW WATER MAIN CAST IRON PIPE, ASA CLASS 22, RUBBER GASKET JOINTS INCLUDING FITTINGS, CEMENT LINED.
				1	EACH	814	VALVE AND VALVE BOX REMOVED.
	4	1		5	EACH	814	VALVE BOX ADJUSTED TO GRADE.
				1	EACH	814	FIRE HYDRANT REMOVED AND DISPOSED OF.
	2	1		3	EACH	814	FIRE HYDRANT MOVED AND RESET
				5	EACH	814	PLUGGING SERVICE CONNECTIONS.
				1	EACH	814	SERVICE BOXES ADJUSTED TO GRADE

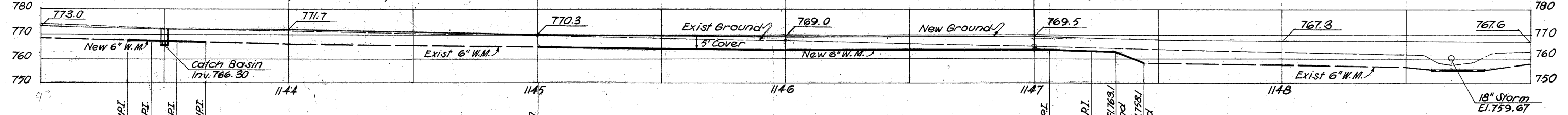
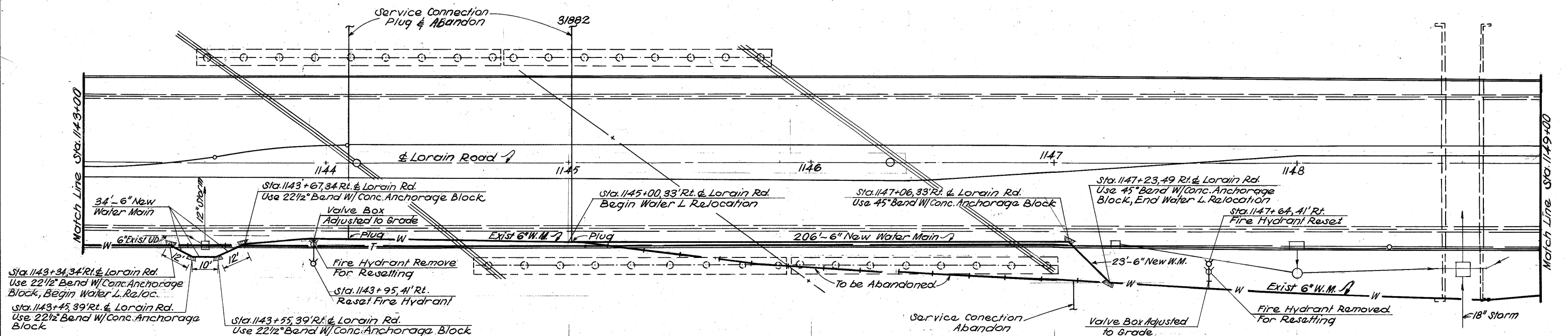
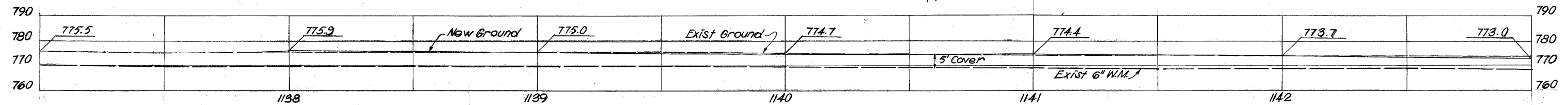
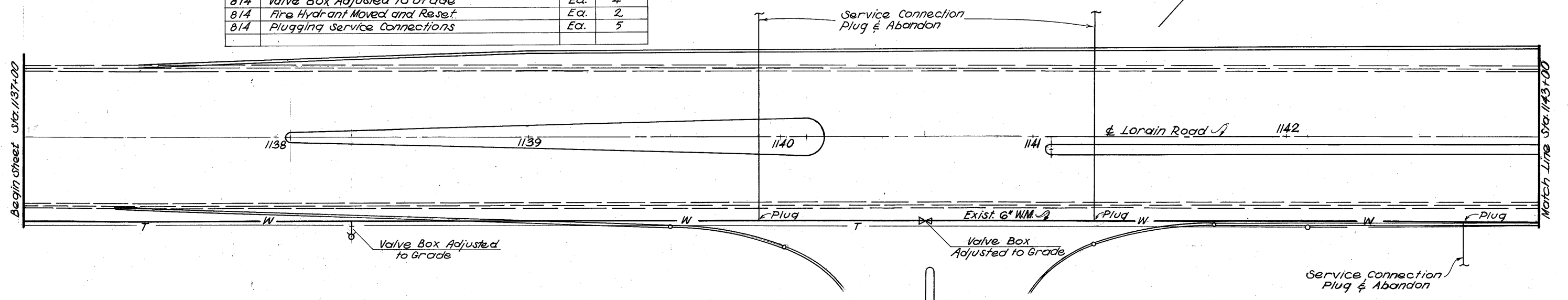
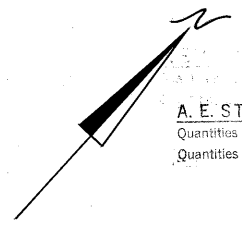


ESTIMATED QUANTITIES			
ITEM	DESCRIPTION	UNIT	QUANTITY
814	6" New Water Main Cast Iron Pipe, ASA Class 22, Rubber Gasket Joints Including Fittings, Cement Lined	L.F.	263
814	Valve Box Adjusted to Grade	Ea.	4
814	Fire Hydrant Moved and Reset	Ea.	2
814	Plugging Service Connections	Ea.	5

FED. RD. DIVISION	STATE	PROJECT
2	OHIO	

191  
375

A. E. STILSON & ASSOC.  
 Quantities Checked JL 5-12-75  
 Quantities Checked TRB 5-16-75  
 LORAIN COUNTY  
 LOR-480-0.00



Sta. 1143+34.34' Rt. & Lorain Rd.  
Use 22 1/2" Bend W/ Conc. Anchorage Block, Begin Water L. Reloc.  
Sta. 1143+45.39' Rt. & Lorain Rd.  
Use 22 1/2" Bend W/ Conc. Anchorage Block  
Sta. 1143+55.39' Rt. & Lorain Rd.  
Use 22 1/2" Bend W/ Conc. Anchorage Block  
Sta. 1143+67.34' Rt. & Lorain Rd.  
Use 22 1/2" Bend W/ Conc. Anchorage Block  
Sta. 1143+95.41' Rt.  
Reset Fire Hydrant  
Sta. 1145+00.33' Rt. & Lorain Rd.  
Begin Water L. Relocation  
Sta. 1147+06.33' Rt. & Lorain Rd.  
Use 45" Bend W/ Conc. Anchorage Block  
Sta. 1147+23.49' Rt. & Lorain Rd.  
Use 45" Bend W/ Conc. Anchorage Block, End Water L. Relocation  
Sta. 1147+64.41' Rt.  
Fire Hydrant Reset  
Sta. 1147+44.41' Rpt. E. 759.1  
Use 22 1/2" Bend

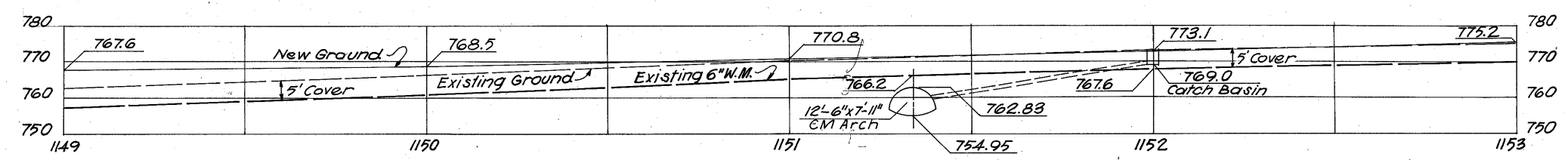
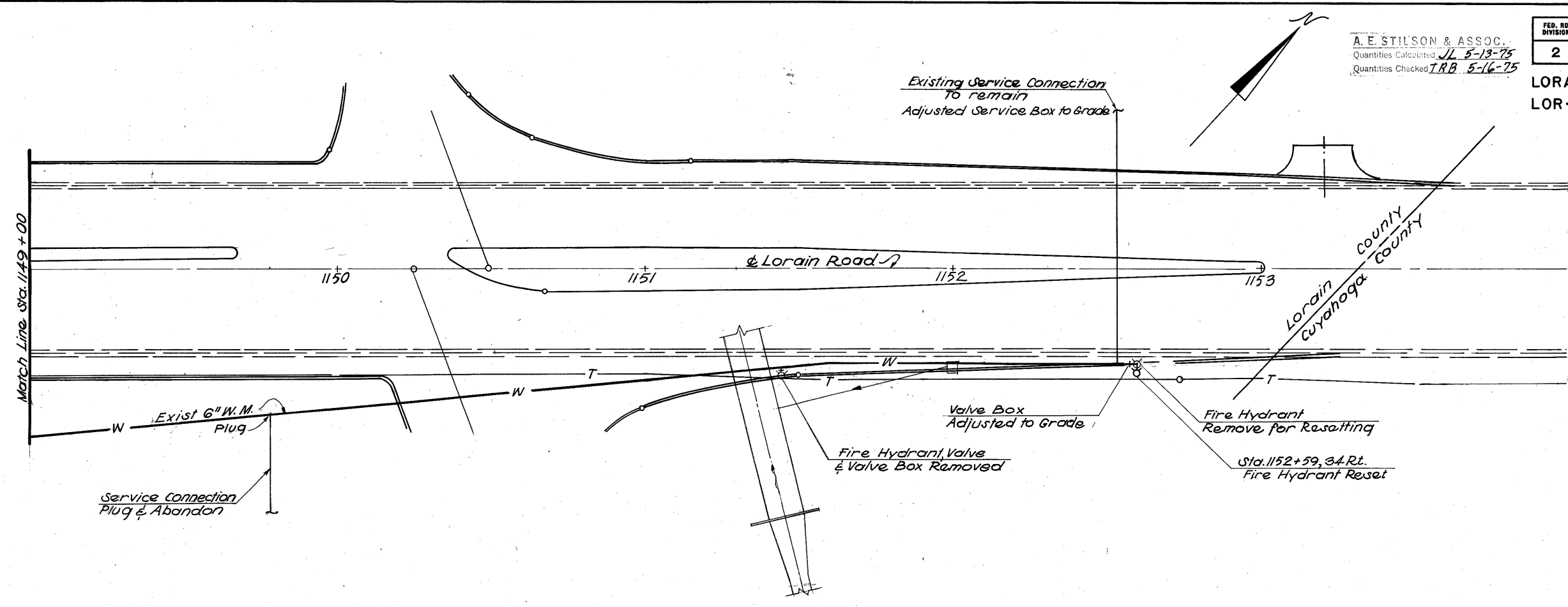
S.R. 10 Plan-Profile, See Sht. No. 60-62

FED. RD. DIVISION	STATE	PROJECT
2	OHIO	

192  
375

A. E. STILSON & ASSOC.  
 Quantities Calculated J.L. 5-13-75  
 Quantities Checked T.R.B. 5-16-75

LORAIN COUNTY  
 LOR-480-0.00



ESTIMATED QUANTITIES			
ITEM	DESCRIPTION	UNIT	QUANTITY
814	Plugging Service Connection	Ea.	1
814	Service Box Adjusted to Grade	Ea.	1
814	Valve Box Adjusted to Grade	Ea.	1
814	Valve & Valve Box Removed	Ea.	1
814	Fire Hydrant Removed and Disposed of	Ea.	1
814	Fire Hydrant Moved and Reset	Ea.	1

S.R.10 Plan - Profile, See Sht. No 63

# GENERAL SUMMARY

## TRAFFIC CONTROL

ITEM	SHEET NUMBERS										COST PARTICIPATION		GRAND TOTAL	UNIT	ITEM	DESCRIPTION		
											100 % STATE	NORMAL PROJECT						
								194	195	196	197	201						
										50			50	50	Each	620	Delineator Type D Post Mounted	
										60			60	60	Each	620	Delineator, Type c Post Mounted	
										4			4	4	Each	620	Delineator, Type c Bracket Mounted	
										10.26			6.95	10.26	Mile	621	4" Edge Lines	
										0.80			0.74	0.80	Mile	621	4" Lane Lines	
										5.17			4.27	5.17	Mile	621	6" Lane Lines	
										0.06			0.06	0.06	Mile	621	4" Center Lines	
										3616			3,616	3,616	L.F.	621	8" Channelizing Lines	
										45			45	45	L.F.	621	24" Stop Lines	
										965			921	965	L.F.	621	24" Broad Transverse Lines	
										719			719	719	S.F.	621	Island Marking	
										2493			1,863	2,493	L.F.	621	Curb Marking	
										18			18	18	Each	621	Lane Arrows	
										6			6	6	Each	621	Word on Pavement	
												1900		1900	1900	L.F.	606	Guardrail Type G, as per plan
										35			7	28	35	Each	844	Ballast, Type CMRI-175-(480v.)
										8			2	6	8	Each	844	Ballast, Type CMRI-250-(480v.)
										14			3	11	14	Each	844	Disconnect Switch With Type "X" Enclosure
										16			5	11	16	Each	8625	Ground Rod
										23			5	18	23	Each	844	Signs Wired
										12			3	9	12	Each	844	Sign Service
										2			2	2	2	Each	844	Sign Service As Per Plan
										35			7	28	35	Each	844	Mercury Vapor Luminaire With 175 Watt Lamp
										8			2	6	8	Each	844	Mercury Vapor Luminaire With 250 Watt Lamp
										2710			80	2790	2790	S.F.	844	Signs Erected, Extrusheet
												400	298	298	S.F.	844	Signs Erected, Flat Sheet	
													400	400	400	S.F.	844	Interim Covering for Signs
													250	250	250	L.F.	844	Ground Mounted Support, N <sup>o</sup> 3 Post
													243	243	243	L.F.	844	Ground Mounted Support, N <sup>o</sup> 4 Post
													45	45	45	L.F.	844	Ground Mounted Support, N <sup>o</sup> 4 Post, As Per Plan
													33	33	33	L.F.	844	Structural Support, 4 X 7.7 Beam
													36	36	36	L.F.	844	Structural Support, 6 X 8.5 Beam
													4	4	4	Each	844	Breakaway Beam Connection
													1.2	1.2	1.2	Cu.Yd.	844	Concrete For Embedded Foundations
										110			67	67	110	Cu.Yd.	844	Concrete For Anchor Base Foundations
													1	1	1	Each	844	Overhead Sign Support N <sup>o</sup> 7.65 Design G, 52'-0" Span
													1	1	1	Each	844	Overhead Sign Support N <sup>o</sup> 7.65 Design G, Modified, 50'-0" Span
													1	1	1	Each	844	Overhead Sign Support N <sup>o</sup> 7.65 Design G, Modified, 52'-0" Span
													1	1	1	Each	844	Overhead Sign Support N <sup>o</sup> 7.65 Design G, Modified, 56'-0" Span
													1	1	1	Each	844	Overhead Sign Support N <sup>o</sup> 7.65 Design G, Modified, 66'-0" Span
													1	1	1	Each	844	Overhead Sign Support N <sup>o</sup> 7.65 Design G, Modified, 74'-0" Span
													1	1	1	Each	844	Overhead Sign Support N <sup>o</sup> 7.65 Design B, 78'-0" Span
													1	1	1	Each	844	Overhead Sign Support N <sup>o</sup> 7.65 Design B, Modified, 76'-0" Span
													1	1	1	Each	844	Overhead Sign Support N <sup>o</sup> 12.30 Design 4, Modified, 23'-0" Pole
													1	1	1	Each	844	Overhead Sign Support N <sup>o</sup> 12.30 Design 5, Modified, 26'-0" Pole, 16'-0" Arm
													2	2	2	Each	844	Overhead Sign Support N <sup>o</sup> 12.30 Design 5, Modified, 26'-0" Pole, 19'-0" Arm
													1	1	1	Each	844	Overhead Sign Support N <sup>o</sup> 12.30 Design 5, Modified, 26'-0" Pole
													1	1	1	Each	844	Overhead Sign Support N <sup>o</sup> 12.30 Design 8, Modified, 24'-0" Arm
													1	1	1	Each	844	Overhead Sign Support N <sup>o</sup> 12.30 Design 8, Modified, 29'-0" Pole, 24'-0" Arm
													1	1	1	Each	844	Overhead Sign Support N <sup>o</sup> 12.30 Design 10, Modified, 30'-0" Pole, 28'-0" Arm

# OVERHEAD SIGNS SUB-SUMMARY

CALC BY JE DATE 1-20-71  
 DRAWN BY AGF DATE 2/3/71  
 REV. AGF 8-26-75

FED. RD. DIVISION	STATE	PROJECT
2	OHIO	

194  
375

LORAIN COUNTY  
LOR-480-0.00

Support No.	Station	Normal Project	844														5625		844				Support No.										
			100% State of Ohio														Ground Rod	Signs Wired	Sign Service	Sign Service As Per Plan													
			No. 7.65 Des. No. 6 52' Span (#)	No. 7.65 Des. No. 6 Mod. 50' Span (31)	52' Span (3)	56' Span (1-A)	66' Span (87)	74' Span (2-A)	No. 7.65 Des. No. 8 78' Span (85)	No. 7.65 Des. No. 8 Mod. 76' Span (88)	No. 12.30 Des. No. 4 Mod. 23' Pole (92)	No. 12.30 Des. No. 5 Mod. 26' Pole, 16' Arms (71)	No. 12.30 Des. No. 5 Mod. 26' Pole, 19' Arms (90) (93)	No. 12.30 Des. No. 5 Mod. 26' Pole (72)	No. 12.30 Des. No. 8 Mod. 24' Arms (83)	No. 12.30 Des. No. 8 Mod. 29' Pole, 24' Arms (1)					No. 12.30 Des. No. 10 Mod. 30' Pole, 28' Arms (70)	Concrete for Anchor Base Foundations		Signs Erected Extrusheet	Overlay #	Mercury Vapor Luminaire with 175 Watt Lamp	Mercury Vapor Luminaire with 250 Watt Lamp	Type CMRI-175-(a)	Type CMRI-250-(a)	Disconnect Switch Type "X" Enclosure	Ground Rod	Signs Wired	Sign Service
Ea.	Ea.	Ea.	Ea.	Ea.	Ea.	Ea.	Ea.	Ea.	Ea.	Ea.	Ea.	Ea.	Ea.	Ea.	Cu. Yd.	Sq. Ft.	S.F.	Ea.	Ea.	Ea.	Ea.	Ea.	Ea.	Ea.	Ea.	Ea.	Ea.	Ea.	Ea.	Ea.			
83	43+00 E I-480 E.B.	X														4.0	180.0	9	2													83	
85	65+25 E I-480 W.B.	X														10.7	426.5	146	2	2												85	
87	74+75 E I-480 W.B.	X														12.0	426.5	146	2	2												87	
70	75+10 E I-480 E.B.	X														4.6	246.0	47		2												70	
88	91+00 E I-480 E.B.	X														12.7	474.5	13	7													88	
90	1139+90 E Lor. Rd. E.B.	X														2.9	209.0		2													90	
91	1143+90 E Lor. Rd. E.B.	X														7.8	210.0	18	4													91	
92	1146+60 E Lor. Rd. W.B.	X														3.0	91.0			2												92	
93	1149+85 E Lor. Rd. W.B.	X														3.1	228.0	18	4													93	
71	1159+10 E Lor. Rd. W.B.	X														3.0	104.5															71	
72	1164+40 E Lor. Rd. W.B.	X														2.9	114.0	9	2													72	
1	874+40 O.T. E.B.	X														4.1	156.0															1	
1-A	927+20 O.T. E.B.	X														9.8	336.0															1-A	
2-A	982+00 O.T. E.B.	X														9.5	358.0		3	2												2-A	
3	8+25 E I-480 E.B.	X														9.5	153.0			2												3	
4	58+00 E I-480 W.B.	X														9.9	198.0			2												4	
Normal Project				2		1	1	1	1	2	1	1				66.7	2710.0	404	28	6													
100% State of Ohio			1	3												42.8	1201.0			7	2												
Project Total			1	5		1	1	1	1	2	1	1	1	1		109.5	3911.0	404	35	8													

Note: (a) = 480 v.

★ = LOCKS TO BE OMITTED ON THESE ENCLOSURES.  
 # Overlay is supplied with signs already mounted. Shown for reference only

Back-to-Back Signs  
 Back-to-Back Signs  
 Note: See Sheet No. 240 For Sign Service Detail  
 Note: No Lighting on these Signs.

# GROUND MOUNTED SIGNS SUB-SUMMARY

CALC. BY DRH DATE 12/17/70  
 DESIGNED BY AGF DATE 8/12/71  
 REV. agf 8-27-75

FED. RD. DIVISION	STATE	PROJECT
2	OHIO	

195  
375

LORAIN COUNTY  
 LOR - 480 - 000

Station	Distance Rt. or Lt. of Survey to Post or Nearest Post of the Sign	Type of Sign	100% State of Ohio	Normal Project	Sign Number	Number of Supports	Signs Erected			Ground Mounted Supports			Structural Support		Breakaway Beam Connection	Concrete For Embanked Foundations	Remarks	
							Sq. Ft. Extrusion	Sq. Ft. Flat Sheet		Ground Mounted Support, #3 Post	Ground Mounted Support, #4 Post	Ground Mounted Support, #4 Post As Per Plan (S.O.W.)	Structural Support 54 x 7.7 Beam	Structural Support 42 x 8.5 Beam				Each
I-480 E.B. 99+75																	By Others	
I-480 E.B. 17+00																	" "	
I-80 W.B. 18+50																	" "	
I-80 W.B. 20+00																	" "	
I-80 W.B. 25+00																	" "	
I-480 E.B. 28+00																	" "	
I-480 W.B. 41+00																	" "	
I-480 W.B. 52+80																	By Others	
I-480 E.B. 52+80																		
U.S.R. 20 W.B. 1086+00	64' Rt.	N-41-12		X		1		2.0		11.0								
U.S.R. 20 E.B. 1089+00	64' Rt.	N-41-12		X		1		2.0		11.0								
I-480 E.B. 95+90	62.32' Rt. *	N-12A-72 (6'x5')		X		2	30.0					33		2	0.5			
I-480 E.B. 97+00	63.75' Rt.	M-5A-36-3		X		1		12.0		15.0								
Ramp L-3 107+00	12.2' Rt. *	M-1-21, M-1-24, M-1-24 (10'x2') (10'x3') D-4-1, D-4B		X		2	50.0						36	2	0.7			
Lorain Rd. 1130+00	32.0' Rt.	IM-17-21, M-5-24-2; IM-17-21, M-5-24-3, M-1-24		X		2		13.4		30								
Lorain Rd. 1151+20	43.0' Rt.			X														
Lorain Rd. 1140+10	¢	IM-39-24, M-5-24-3, IM-24-21		X		1		9.4		15								
Lorain Rd. 1150+60	¢	IM-40-24, M-5-24-2, M-1-24, IM-24-21		X		1		8.2		15								
Lorain Rd. 1168+00±	Lt. <sup>See Remarks</sup>	IM-17-21, M-5-24-2; IM-17-21, M-5-24-3		X		1		13.4		30							Field Locate Offset	
Ramp L-1 98+00	8.5' Lt.	R-15B-30		X		1		6.3		14								
Ramp L-3 95+50	12.0' Rt.	W-97-48		X		2		16.0		35								
Ramp L-3 102+00	11.83' Rt.	W-45-48		X		2		16.0		34								
Ramp L-3 108+10	10.50' Rt.	R-41A-36, R-31-36 (Mod.)		X		2		13.5		30							Signs Back to Back	
Ramp L-4 88+80	10.25' Rt.	R-15B-30		X		1		6.3		14								
Lorain Rd. 1134+00	32.1' Rt.	W-85-36		X		1		9.0		13								
Lorain Rd. 1138+06	¢	R-38R-24, SR-24		X		1		5.0		12								
Ramp L-3 110+17	¢ of Median	R-37R-24, R-1-24		X		2		9.0		26							Signs Back to Back	
Ramp L-3 110+10	19.0' Rt.	R-41B-30, R-1-48, R-43R-36, R-43L-36		X		2		29.8		16	15						SOW	
Lorain Rd. 1141+10	5' Rt.	R-37R-24		X		1		5.0		13								
Lorain Rd. 1149+55	5' Lt.	R-37R-24		X		1		5.0		13								
Ramp L-2 98+48	28.0' Rt.	R-1-48, R-41B-30, R-43R-36, R-43L-36		X		2		29.8		15	15						SOW	
Ramp L-2 98+82	42.0' Lt.	R-1-48, R-41B-30, R-43R-36, R-43L-36		X		2		29.8		15	15						SOW	
Lorain Rd. 1152+80	¢	R-38R-24, R-1-24		X		1		5.0		12								
Lorain Rd. 1160+00	30' Lt.	W-85-36		X		1		9.0		13								
I-480 W.B. 90+00	64.83' Lt.	W-49-48, W-15-24		X		2		16.0		32								
Ramp L-2 101+00	15.5' Lt.	R-41A-36, R-31-36 (Mod.)		X		2		13.5		30							Signs Back to Back	
Ramp L-2 101+00	28.0' Rt.	R-41A-36, R-31-36 (Mod.)		X		2		13.5		30							Signs Back to Back	
100% State of Ohio																		
NORMAL PROJECT																		
PROJECT TOTAL																		
							80.0	227.9		250	242	45	33	36	4	1.2		
							80.0	227.9		250	242	45	36	36	4	1.2		

\* Denotes to Nearest Post

# TRAFFIC CONTROL SUB-SUMMARY

621 Pavement Marking			PARTICIPATION		4" Yellow Edge Line L.F.	4" White Edge Line L.F.	6" Lane Line L.F.	4" Lane Line L.F.	Chann'l Line L.F.	24" Stop Line L.F.	4" Barrier Line L.F.	Curb Marking L.F.	Island Marking Sq. Ft.	24" Broad Transverse Stripes L.F.	Lane Arrow Ea.	Word on Pavemt. Ea.
			100% State of OHIO	Normal Project												
Roadway	Station to Station	Side														
I-480 E.B.	975+50	998+03	Rt.			2253										
" " "	982+28	983+15	Lt.					174						44		
Ohio Tpk.	983+14	985+00	Rt.				186									
I-80 E.B.	983+15	998+03	Rt./Lt.		1488	1488										
" " "	991+51	998+03	Lt.				652									
" " "	0+30	31+50	Rt./Lt.		3120	3120	3120									
I-480 " "	38+00	58+06	Rt./Lt.		2006	2006	2,006							363		
" " "	58+06	65+06	Rt./Lt.		700	700	1,400		1,400							
" " "	65+06	66+06	Rt./Lt.		100	100	100									
" " "	66+06	74+11	Rt./Lt.		805	805	1,610									
I-480 W.B.	993+00	1005+00	Lt.			1200										
Ohio Tpk.	999+70	1009+75	Lt.			1005										
I-480 W.B.	999+70	1002+75	Rt.					305								
" " "	1002+75	1005+00	Rt.						225							
" " "	11+95	32+00	Lt.			2005						630				
" " "	11+95	18+25	Rt.													
" " "	15+95	32+00	Rt.		1,605											
" " "	21+95	32+00	Rt.				1,005									
" " "	39+00	62+24	Rt./Lt.		2324	2,324	2,324									
" " "	62+24	65+36	Rt.					624						246		
" " "	62+24	74+11	Rt./Lt.		1,187	1,187	2,374									
I-480 EB#W.B.	74+11	88+78	Rt.		1,467	1,467	2,934									
" " "	74+11	85+50	Lt.		1,139	1,139	2,278									
" " "	81+00	85+50	Lt.			450										
" " "	81+00	83+50	Lt.					250								
" " "	83+50	85+50	Lt.						200							
" " "	85+50	100+25	Lt.		1,475	1,475	2,950									
" " "	88+78	95+78	Rt.		700	700	1,400									
" " "	91+40	94+00	Rt.					260								
" " "	94+00	95+78	Rt.						356					216		
" " "	95+78	100+25	Rt.		447	447	894									
Ramp L-1	85+50	88+75	Rt.									325				
" " "	85+50	98+57	Lt.										1,307			
" " "	86+50	98+57	Rt.		1,207											
Ramp L-2	98+55	99+25	Rt./Lt.											146		
" " "	98+76	100+35	Rt./Lt.												96	
" " "	99+25	99+54	Rt.						29						6	2
" " "	99+54	100+87	Rt.					133								
" " "	99+54	102+37	Rt./Lt.		283	283										
Ramp L-3	95+77	102+25	Lt.		648											
" " "	95+77	109+38	Rt.			1,361										
" " "	102+25	107+75	Lt.						550							
" " "	107+75	110+25	Lt.							250		35			6	2
" " "	110+25		Rt./Lt.													
Ramp L-4	88+24	102+00	Rt.			1,376										
" " "	90+12	96+25	Lt.									613				
" " "	96+25	102+00	Lt.		575											
Lorain Rd.	1137+30	1138+05	±													
" " "	1137+30	1140+17	Rt./Lt.					574				190				
" " "	1141+05	1149+67	Rt./Lt.					1,724				223				
" " "	1141+05	1143+00	Lt.						295						3	1
" " "	1148+00	1149+67	Rt.						167						3	1
" " "	1150+35	1153+80	Rt./Lt.							690			271			
" " "	1153+00	1153+80	±													
U.S.R.20W.B.	1083+25	1098+34	Rt./Lt.		1,509	1,509	1,509									
U.S.R.20E.B.	1086+00	1093+50	Rt./Lt.		750	750	750									
" " "	1089+75	1093+50	Lt.									375				
100% State of OHIO					6,213	11,257	4,777	305	399			630		44		
NORMAL PROJECT					17,322	19,386	22,529	3,881	3,217	45	310	1,863	719	921	18	6
PROJECT TOTAL					23,535	30,643	27,306	4,186	3,616	45	310	2,493	719	965	18	6

620 DELINEATORS							
LOCATION	Station to Station		Side	INTERVAL	C		D
					Post	Bracket	
I-480, Ramp L-1	78+00	88+00	Lt.	100'±	11		
" " "	88+00	92+20	Rt.	60'±			8
" " "	92+20	93+20	Lt.	100'±	2		
" " "	93+20	93+90	Lt.	70'±	1		
" " "	93+90	98+30	Lt.	40'±	11		
Ramp L-2	99+56	100+76	Rt.	40'±			4
" " "	100+76	101+46	Rt.	70'±			1
I-480, Ramp L-3	87+78	90+78	Rt.	100'±	4		
" " "	91+80	95+20	Rt.	80'±	1	4	
Ramp L-3	95+20	95+80	Rt.	60'±	1		
" " "	95+80	97+60	Lt.	60'±			4
" " "	97+60	103+90	Lt.	30'±			21
" " "	103+90	107+40	Lt.	50'±			8
" " "	107+40	108+90	Rt.	50'±	4		
Ramp L-4	88+50	100+50	Rt.	50'±	25		
" " "	100+50	102+00	Lt.	50'±			4
NORMAL PARTICIPATION TOTAL					60	4	50

x Upstation Regardless of Traffic Flow

Item 621 Pavement Marking

- NORMAL PROJECT
- 4" Edge Lines = 36,708 ÷ 5,280 = 6.95 Miles
  - 4" Lane Lines = 3,881 ÷ 5,280 = 0.74 Miles
  - 6" Lane Lines = 22,529 ÷ 5,280 = 4.27 Miles
  - 4" Center Lines = 310 ÷ 5,280 = 0.06 Miles
- 100% STATE
- 4" Edge Lines = 17,470 ÷ 5,280 = 3.31 Miles
  - 4" Lane Lines = 305 ÷ 5,280 = 0.06 Miles
  - 6" Lane Lines = 4,777 ÷ 5,280 = 0.90 Miles

# TRAFFIC CONTROL NOTES

A. E. STILSON & ASSOC.  
 Quantities Calculated DRH 12-17-70  
 Quantities Checked AJE 2-18-71  
 REV. AJE 9-2-75  
 Rev. JB 8-1-77

FED. RD. DIVISION	STATE	PROJECT
2	OHIO	

197  
375

LORAIN COUNTY  
 LOR-480-0.00

## OVERHEAD SIGNS - OHIO TURNPIKE

THE FOLLOWING OVERHEAD SIGNS WILL BE ERECTED WITHIN THE VICINITY OF THE OHIO TURNPIKE CONNECTION AS PART OF THIS PROJECT:

SIGN NO.	LOCATION
1	STA. 874+00 OHIO TURNPIKE (E.B.)
1-A	STA. 927+20 OHIO TURNPIKE (E.B.)
2-A	STA. 982+00 OHIO TURNPIKE (E.B.)
3	STA. 8+25 I-480 (E.B.)
4	STA. 58+00 I-480 (WB.)

SIGN PANELS WILL BE FURNISHED BY THE OHIO TURNPIKE COMMISSION WITH MESSAGES AS SHOWN IN THE PLAN. THE CONTRACTOR WILL ERECT THESE SIGNS ON SUPPORTS FURNISHED AS PART OF THE PROJECT.

LIGHTING WILL NOT BE INSTALLED ON SIGNS NO. 1 AND 1-A AT THIS TIME, HOWEVER, THE SIGNS SHALL INCLUDE GLARE SHIELDS AND THE SUPPORTS SHALL INCLUDE PROVISIONS FOR FUTURE LIGHTING THRU CONDUITS INSTALLED IN FOUNDATIONS AND WIRING OUTLETS IN SUPPORTS.

## GROUND MOUNTED SIGNS - OHIO TURNPIKE

SIGNS AND SUPPORTS FOR THE OHIO TURNPIKE PORTION OF THIS PROJECT WILL BE FURNISHED BY THE OHIO TURNPIKE COMMISSION WITH MESSAGES AS SHOWN IN THE PLAN.

COST FOR THIS ITEM OF WORK WILL BE INCLUDED IN THE VARIOUS PERTINENT BID ITEMS IN THIS PROJECT.

## 844 SIGNS FURNISHED BY THE STATE

THE CONTRACTOR SHALL SUBMIT, IN TRIPPLICATE, 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, SIGN NUMBERS AND DELIVERY POINT. THE ENGINEER WILL FURNISH COPIES OF THE SCHEDULE TO THE DISTRICT TRAFFIC ENGINEER AND TO THE ENGINEER OF DESIGN SERVICES, 25 SOUTH FRONT STREET, COLUMBUS, OHIO 43215.

## 844 PADLOCKS AND KEYS

PADLOCKS FURNISHED SHALL BE EITHER BRASS OR BRONZE PADLOCKS EQUAL TO MASTER NO. 4 BKA OR WILSON BOHANNAN 660 AND SHALL BE KEYED IN ACCORDANCE WITH 844.10.

PAYMENT WILL BE INCLUDED IN THE BID FOR THE ITEM (S) BEING LOCKED.

## 844 DRIVE POSTS

DRIVE POSTS SHALL BE STEEL AS PER 712.20

## BALLASTS

SIGN LIGHTING LAMP BALLASTS SHALL BE LOCATED IN LUMINAIRE HOUSINGS OR IN WEATHERPROOF HOUSINGS CONTIGUOUS TO THE LUMINAIRES.

## 844 ALTERNATE DESIGNS FOR SIGN SUPPORTS

IF THE CONTRACTOR DESIRES TO FURNISH ALTERNATE DESIGNS OR MATERIALS FOR 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.

SUBMISSIONS SHALL BE MADE TO OHIO DEPARTMENT OF TRANSPORTATION, BUREAU OF DESIGN SERVICES, 25 SOUTH FRONT STREET, COLUMBUS OHIO 43215

## 844 INTERIM COVERING FOR SIGNS

THIS ITEM SHALL CONSIST OF FURNISHING AND INSTALLING AN INTERIM COVER AND ATTACHMENT MATERIALS FOR SIGNS SO INDICATED IN THE PLANS OR AS DIRECTED BY THE ENGINEER. THIS ITEM SHALL ALSO INCLUDE THE SUBSEQUENT REMOVAL OF COVERS WHEN DIRECTED BY THE ENGINEER.

MATERIAL FOR COVERING SHALL BE PLASTIC COATED BURLAP BLANKETS IN CONFORMANCE WITH 705.09.

THE ENGINEER SHALL APPROVE THE METHOD PROPOSED FOR ATTACHING INTERIM COVERS TO SIGNS PRIOR TO INSTALLATION OF COVERS.

WORK SHALL INCLUDE ALL NECESSARY MATERIAL, HARDWARE, LABOR, AND EQUIPMENT REQUIRED TO PERFORM THE REQUIRED ITEM OF WORK.

BASIS OF PAYMENT SHALL BE INTERIM COVERING FOR SIGNS, PER SQUARE FOOT.

IN ADDITION TO THE -0- SQ. FT. REFERRED TO IN THE PLANS, AN ADDITIONAL QUANTITY OF 400 SQ. FT. FOR ITEM 844, INTERIM COVERING FOR SIGNS, HAS BEEN INCLUDED TO COVER SIGNS AS DIRECTED BY THE ENGINEER.

## 844 GROUND MOUNTED SUPPORTS, NO. 4 POST, AS PER PLAN

THIS WORK SHALL CONSIST OF THE FURNISHING, ASSEMBLY, AND INSTALLATION OF TWO (2) NO. 2 DRIVE POSTS (NO. 4 POST) IN COMBINATION WITH A SQUARE WELDED OR SEAMLESS GALVANIZED TUBULAR POST EXTENSION SPLICED TO THE TOP OF THE NO. 4 POST

SQUARE TUBULAR POST MATERIAL SHALL CONFORM TO ASTM A 570 GRADE B.

WORK SHALL INCLUDE ALL LABOR, MATERIALS, EQUIPMENT, TOOLS, AND HARDWARE NECESSARY TO PERFORM THE REQUIRED WORK.

BASIS OF PAYMENT WILL BE FOR 844 GROUND MOUNTED SUPPORTS, NO. 4 POST, AS PER PLAN, PER LINEAR FOOT MEASURED BY THE TOTAL OVERALL LENGTH OF COMBINATION POST.

## 614 TEMPORARY SIGNS AND SUPPORTS FOR MAINTAINING TRAFFIC

THE FOLLOWING REQUIREMENTS SHALL BE ADHERED TO REGARDING MATERIALS AND PLACEMENT OF SIGNS TO BE FURNISHED, INSTALLED MAINTAINED, AND SUBSEQUENTLY REMOVED BY THE CONTRACTOR IN ACCORDANCE WITH THE PLANS.

SIGNS SHALL BE ALUMINUM SHEET OR PLYWOOD TYPE WITH REFLECTIVE SHEETING IN ACCORDANCE WITH SUPPLEMENTAL SPECIFICATION 815. SIGN MATERIAL SHALL CONFORM WITH THE FOLLOWING SCHEDULE:

INDIVIDUAL SIGN AREA	MATERIAL
LESS THAN 10 SQ. FT.	0.060 ALUM. SHEET
10-16 SQ. FT.	0.080 ALUM. SHEET
16-20 SQ. FT.	0.100 ALUM. SHEET

THE CONTRACTOR SHALL HAVE THE OPTION OF FURNISHING EXTRU-SHEET ALUMINUM PANELS AS A SUBSTITUTE FOR PLYWOOD.

ALL SUPPORTS FOR GROUND MOUNTED SIGNS NOT ERECTED ON DRUMS OR OVERPASS MOUNTED SHALL BE STEEL CHANNEL TYPE, DRIVEN TO A MINIMUM DEPTH OF 5 FEET. SIGNS SHALL HAVE 1, 2, OR 3 SEPARATE SUPPORTS IN ACCORDANCE WITH THE FOLLOWING SCHEDULE:

TOTAL SIGN ASSEMBLY AREA (SQ. FT.)	SUPPORT TYPE			
	SIGN LENGTH (HORIZ.)	4 FT. OR LESS	4-10 FT.	11 FT. OR MORE
10 OR LESS	1-3 LB. POST	2-3 LB. POST	-	-
10-20	1-6 LB. BEAM	2-3 LB. POST	-	-

SUPPORTS FOR GROUND MOUNTED SIGNS GREATER THAN 20 SQ. FT. IN AREA SHALL BE AS DIRECTED BY THE ENGINEER.

MOUNTING HEIGHT AND LATERAL PLACEMENT OF TEMPORARY SIGNS SHALL BE IN ACCORDANCE WITH FIGURES S-2 AND S-3 (PAGES 2-9 AND 2-10) OF THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES.

STANDARDS AND SIGN LAYOUTS FOR TEMPORARY SIGNS ARE AVAILABLE FROM THE BUREAU OF DESIGN SERVICES, 25 SOUTH FRONT STREET, COLUMBUS, OHIO 43215.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVAL OF ALL TEMPORARY SIGNS AND SUPPORTS WHEN NO LONGER NEEDED, AND HE SHALL RESTORE EACH SIGN SITE TO ITS ORIGINAL CONDITION.

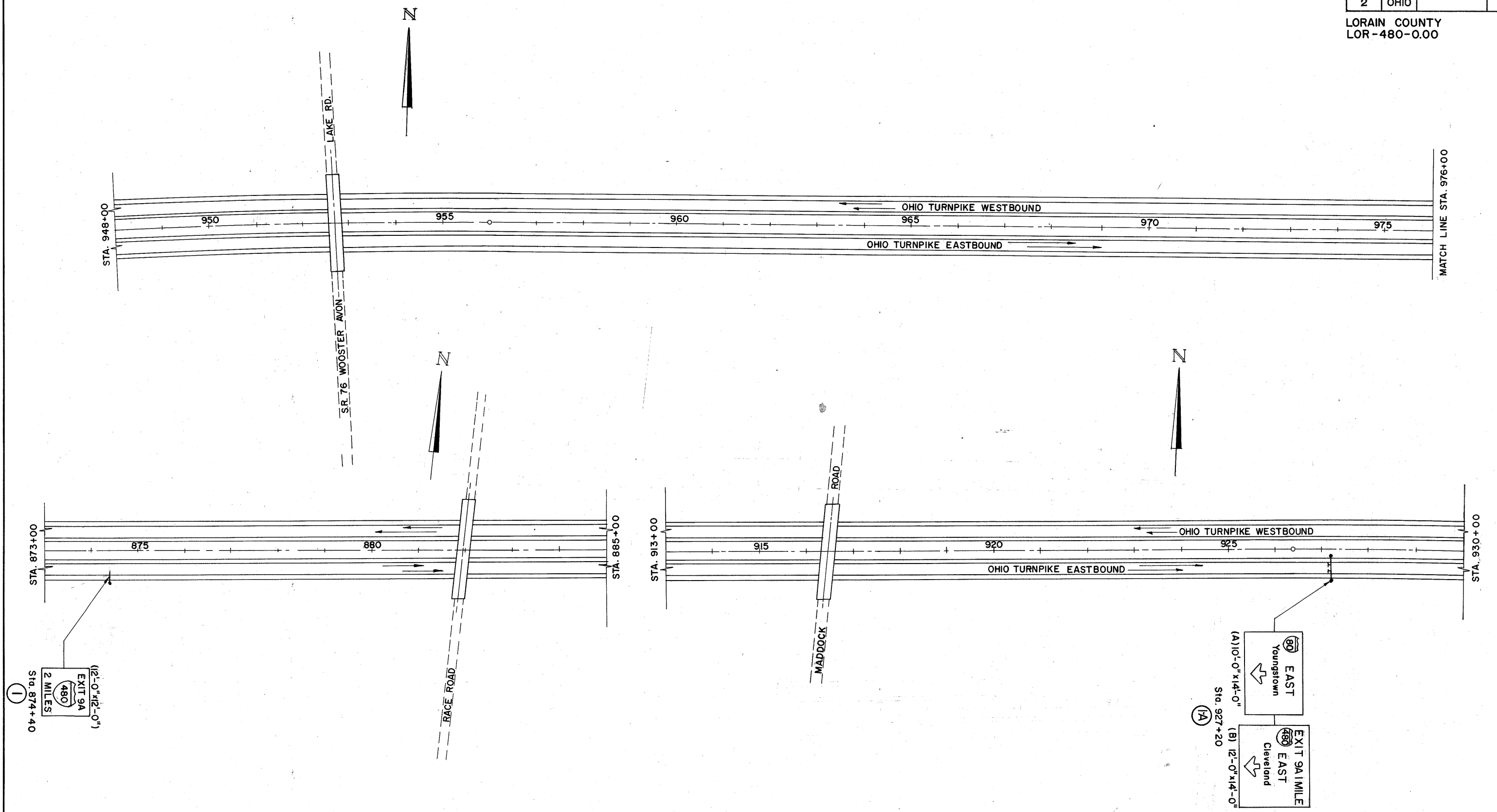
ALL SIGNS AND SUPPORTS FURNISHED, ERECTED, MAINTAINED, AND REMOVED BY THE CONTRACTOR SHALL BECOME THE PROPERTY OF THE CONTRACTOR.

BASIS OF PAYMENT FOR THE ABOVE DESCRIBED WORK SHALL BE INCLUDED IN THE LUMP SUM ITEM OF WORK FOR ITEM 614, MAINTAINING TRAFFIC.

FED. RD. DIVISION	STATE	PROJECT
2	OHIO	

198  
375

LORAIN COUNTY  
LOR-480-0.00

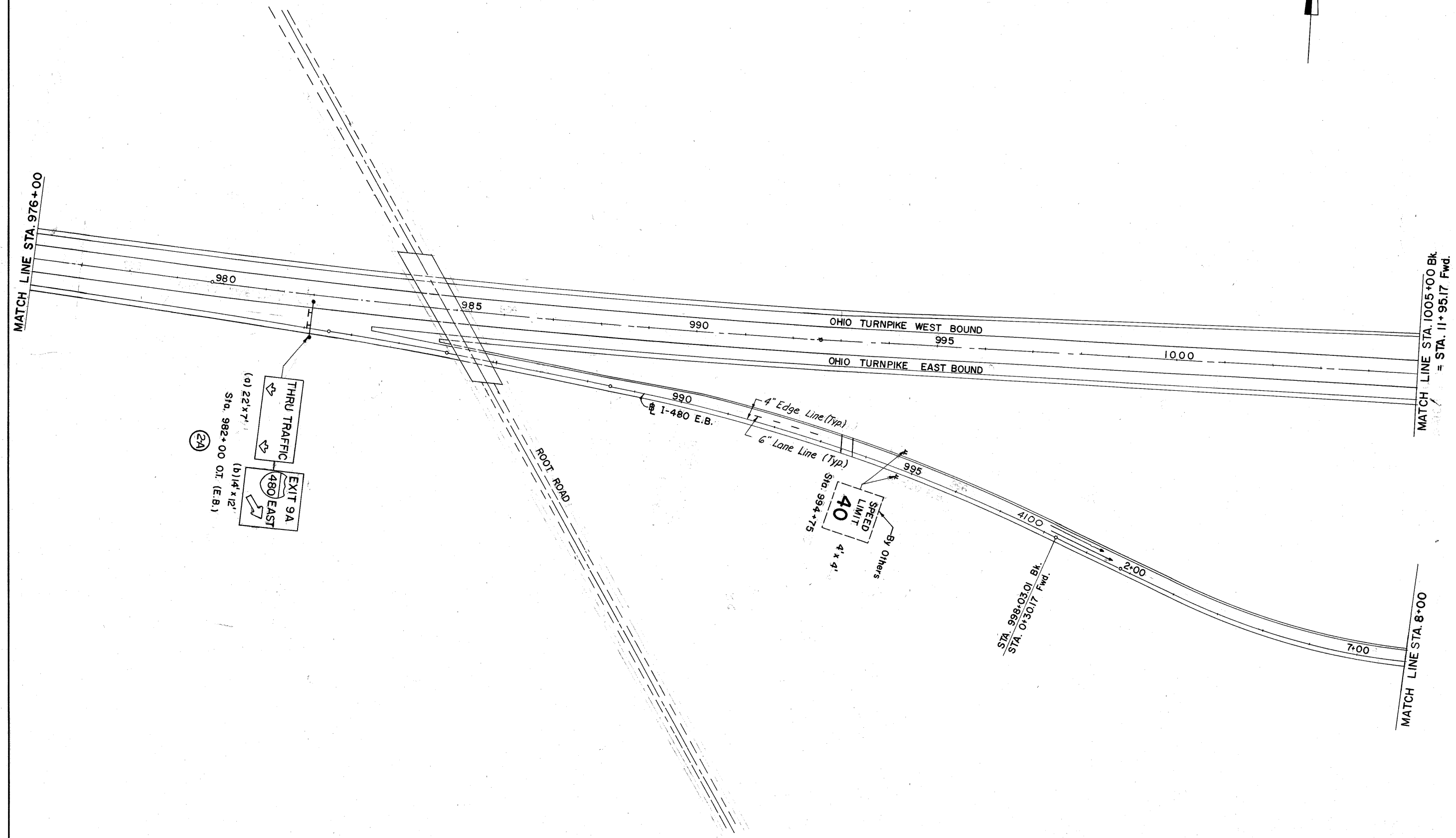




FED. RD. DIVISION	STATE	PROJECT
2	OHIO	

199  
375

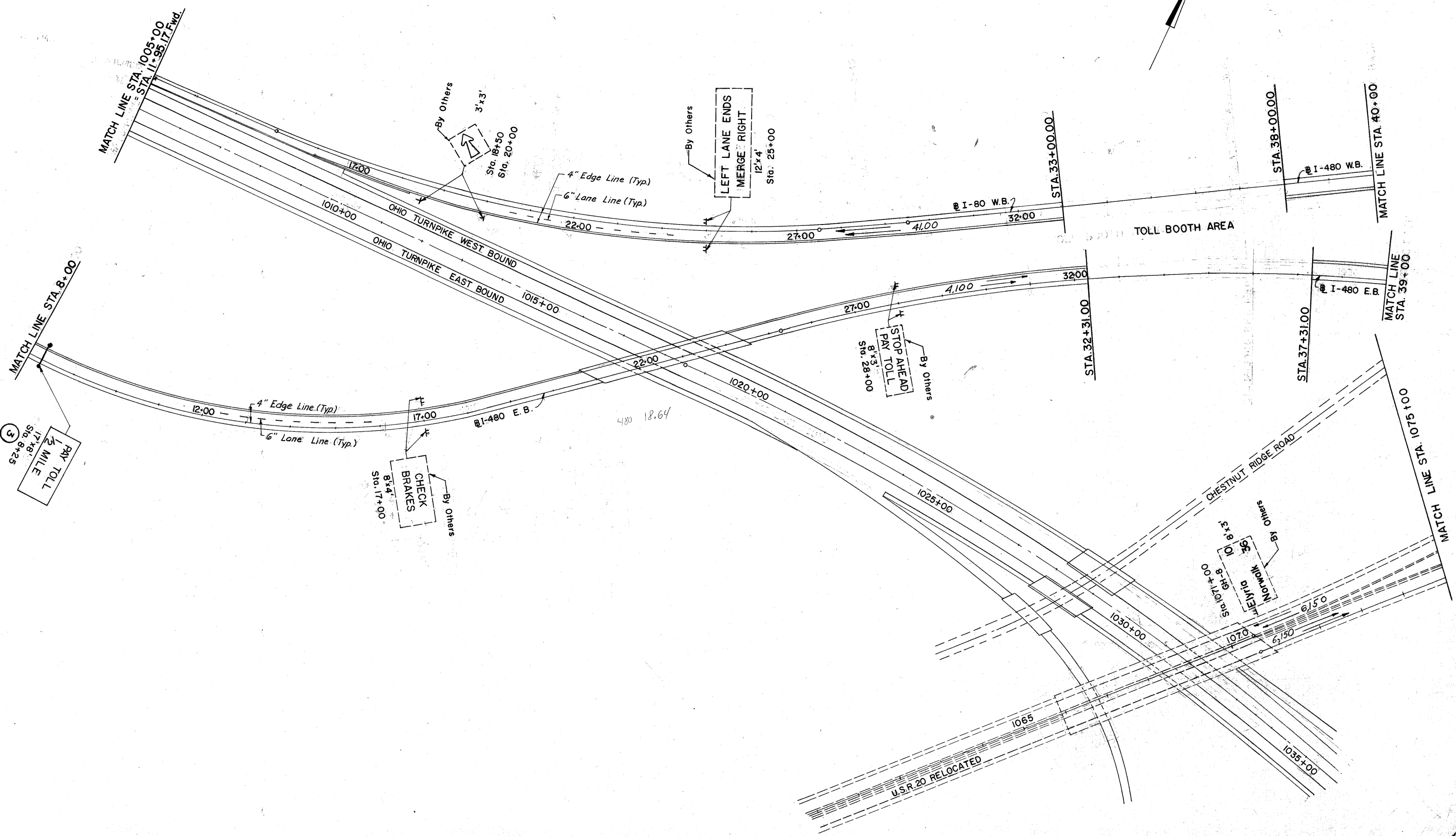
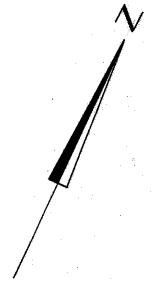
LORAIN COUNTY  
LOR-480-0.00



FED. RD. DIVISION	STATE	PROJECT
2	OHIO	

200  
375

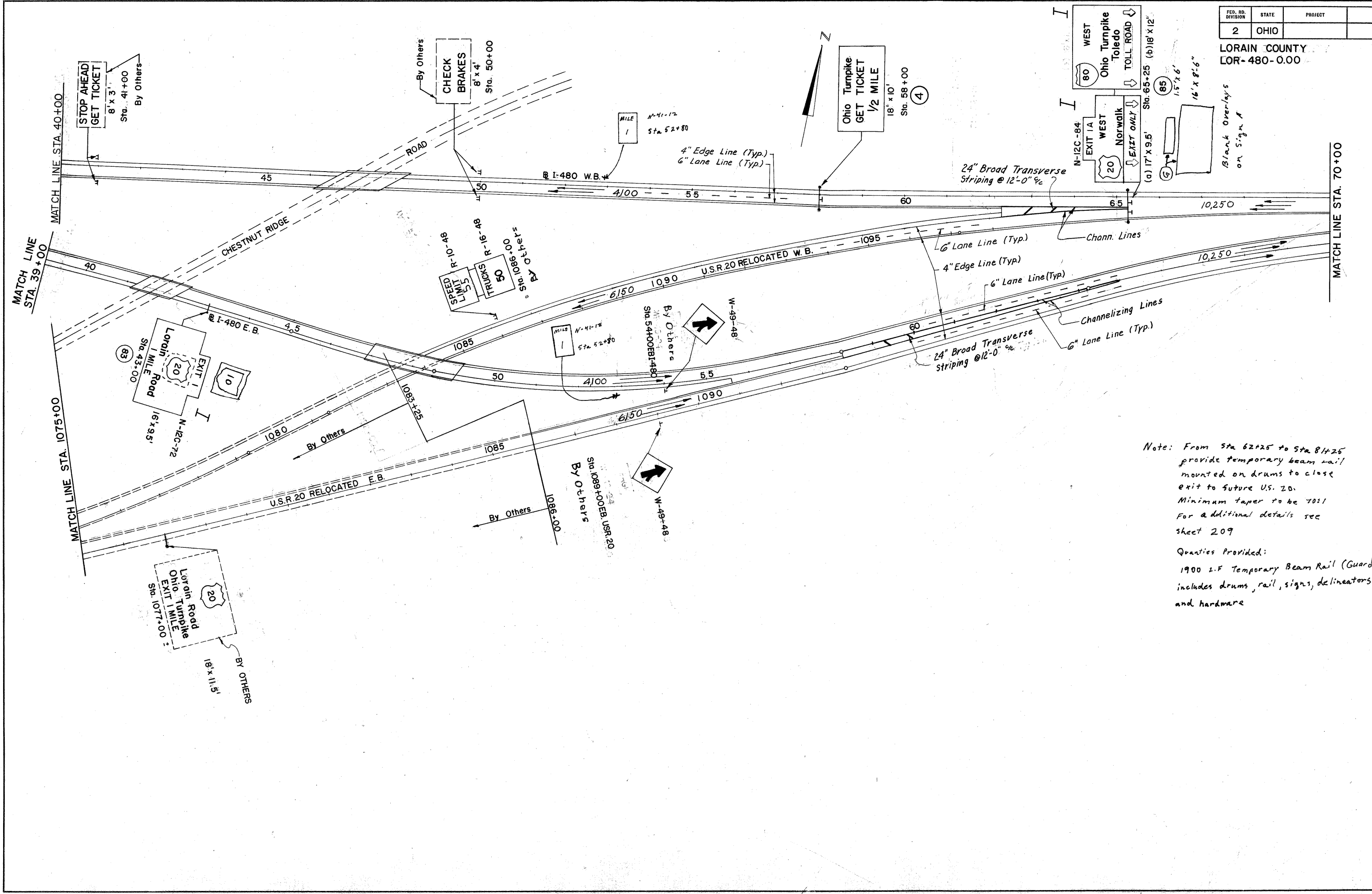
LORAIN COUNTY  
LOR - 480-0.00



FED. RD. DIVISION	STATE	PROJECT
2	OHIO	

201  
375

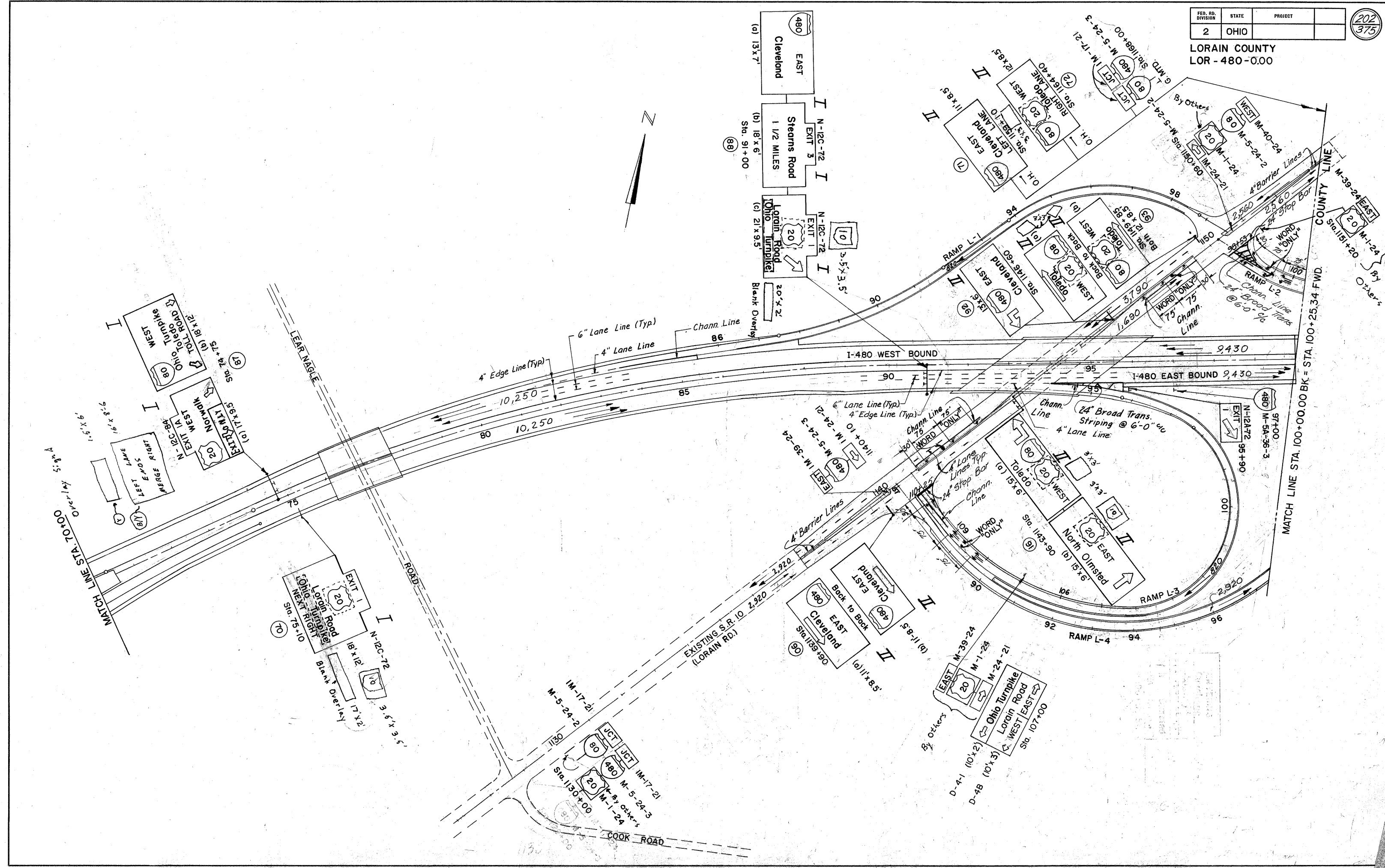
LORAIN COUNTY  
LOR-480-0.00



Note: From Sta 62+25 to Sta 81+25 provide temporary beam rail mounted on drums to close exit to future U.S. 20. Minimum taper to be 70:1 For additional details see sheet 209

Quantities Provided:  
1900 L.F Temporary Beam Rail (Guardrail, Type 6) includes drums, rail, signs, delineators and hardware

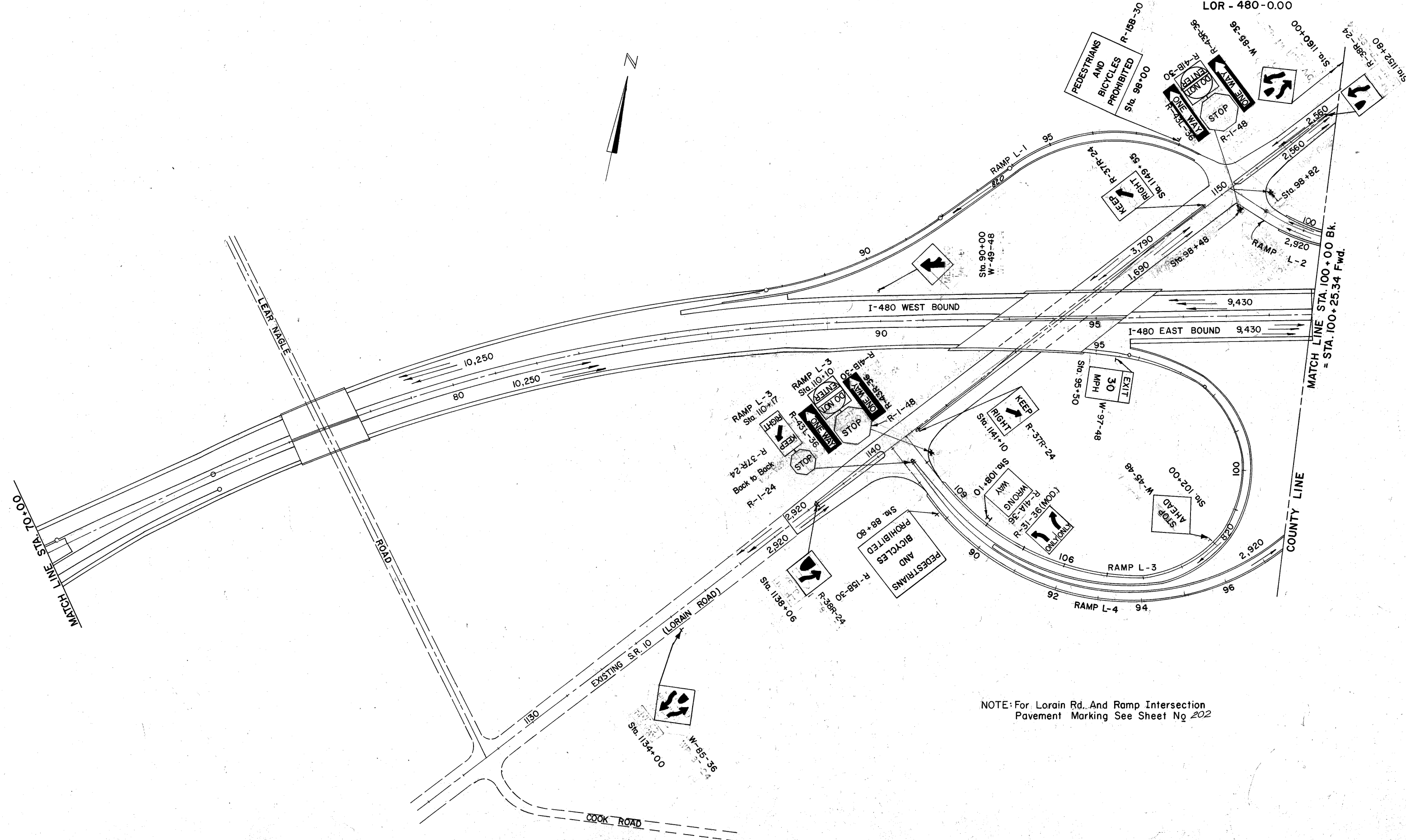
LORAIN COUNTY  
LOR - 480-0.00



FED. RD. DIVISION	STATE	PROJECT
2	OHIO	

203  
375

LORAIN COUNTY  
LOR - 480-0.00

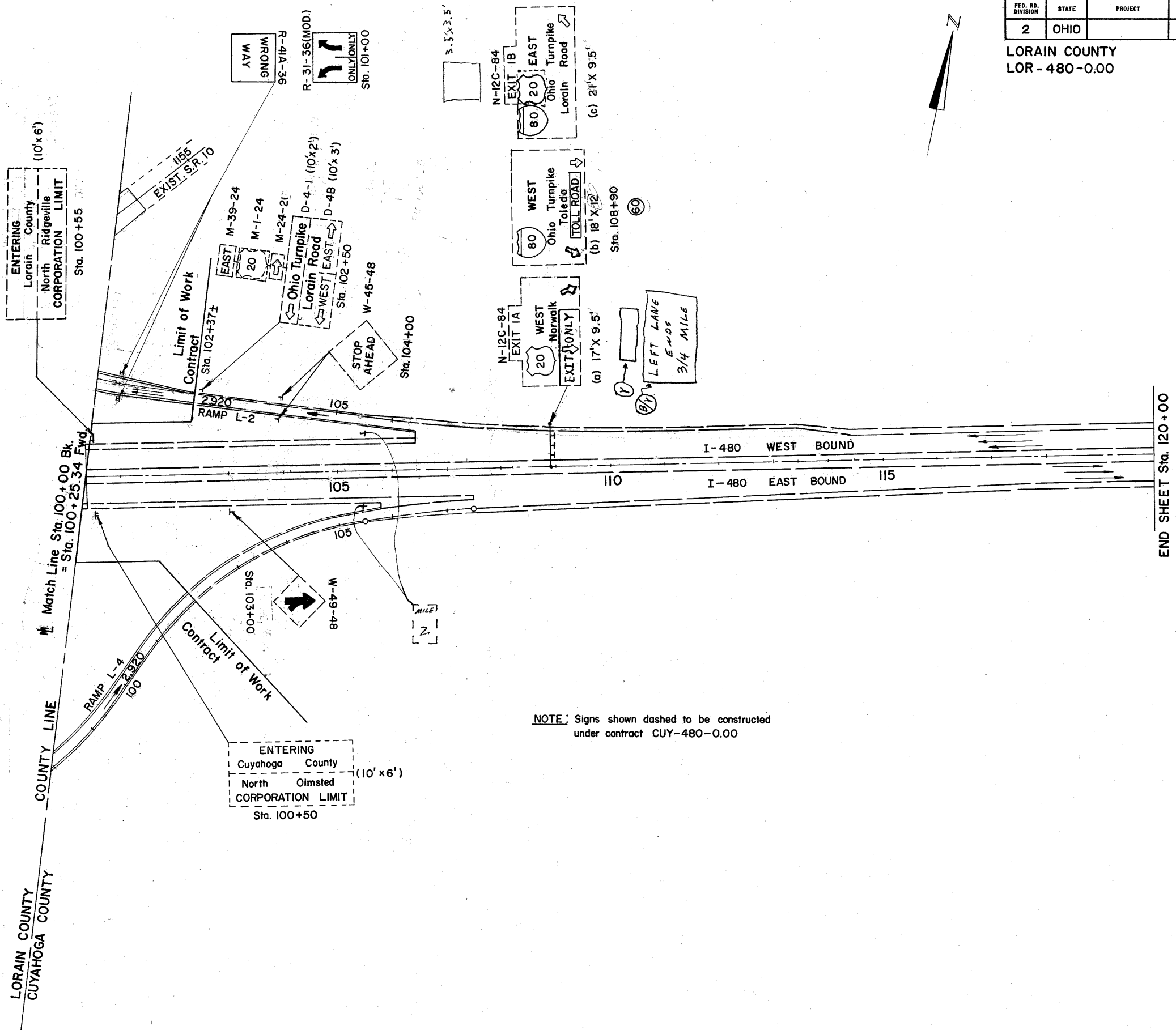
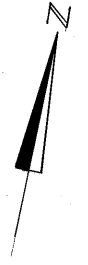


NOTE: For Lorain Rd. And Ramp Intersection  
Pavement Marking See Sheet No 202

FED. RD. DIVISION	STATE	PROJECT
2	OHIO	

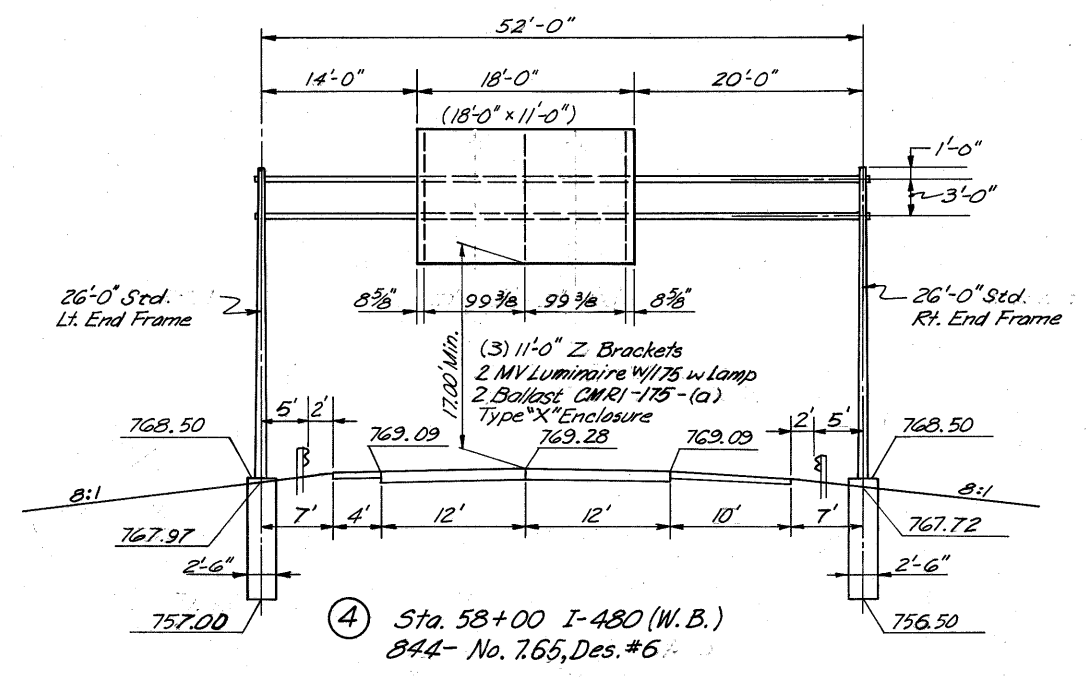
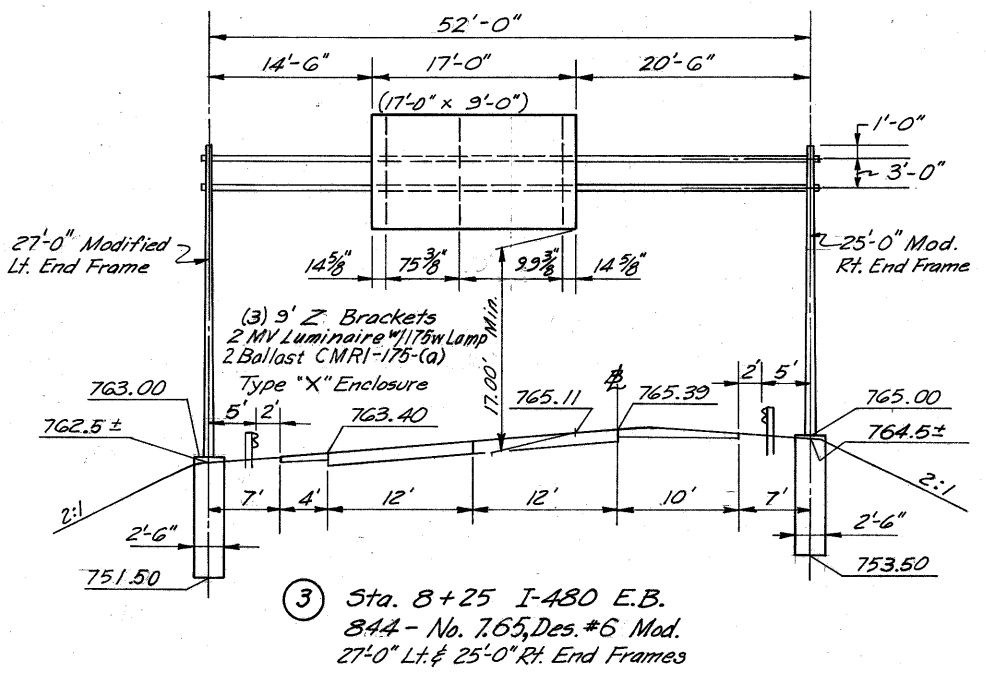
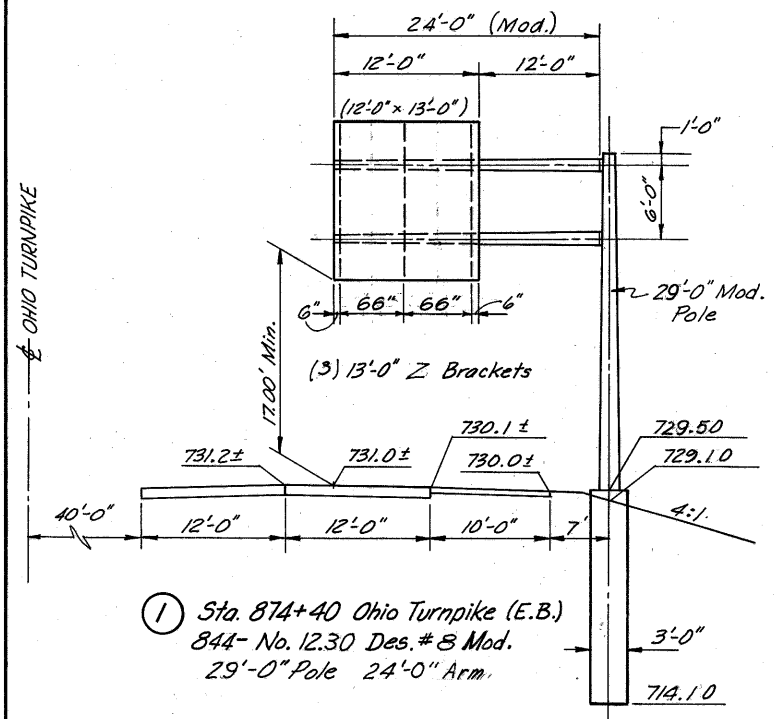
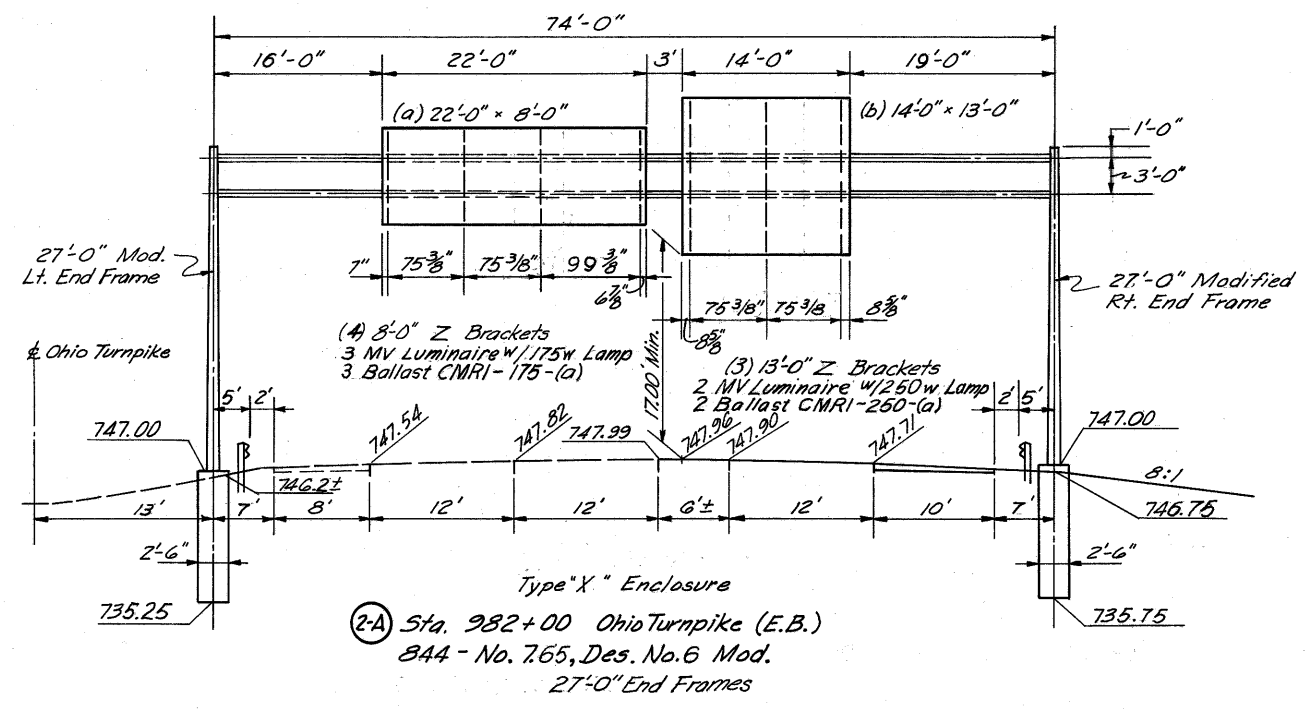
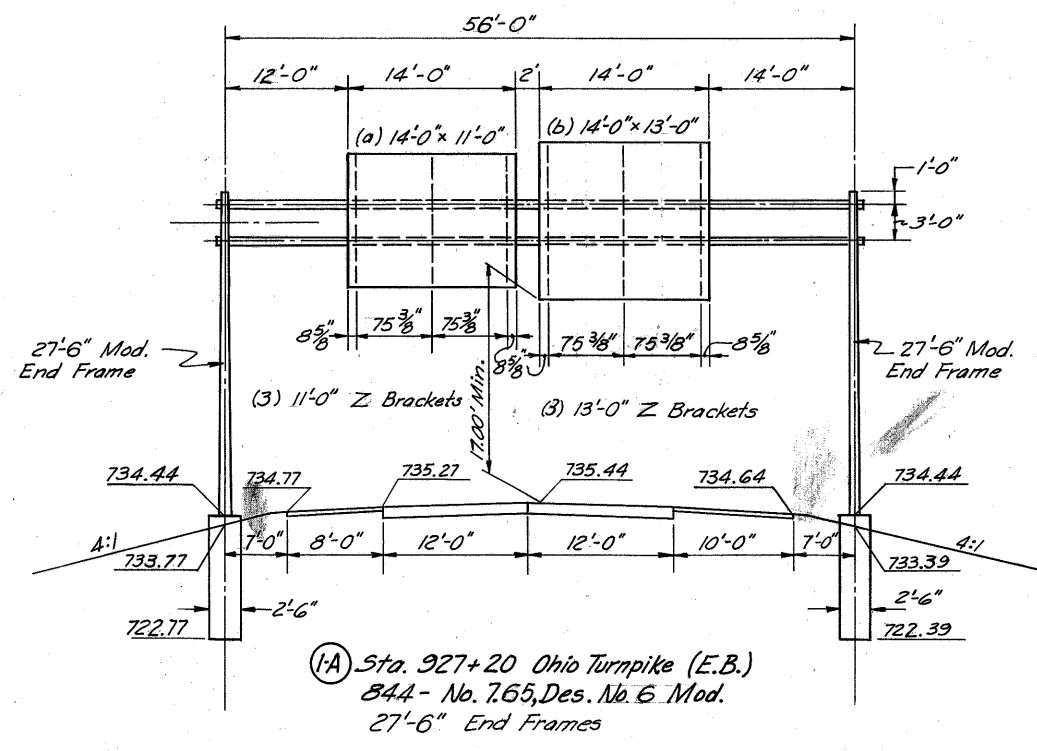
204  
375

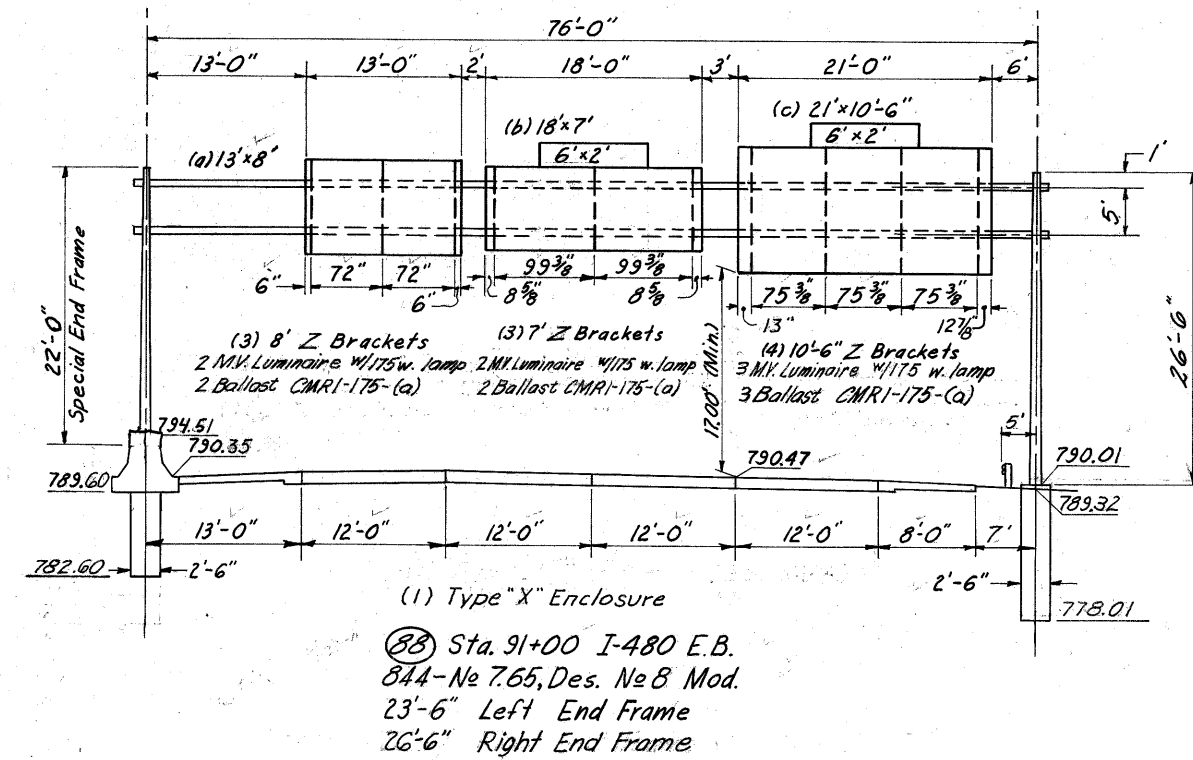
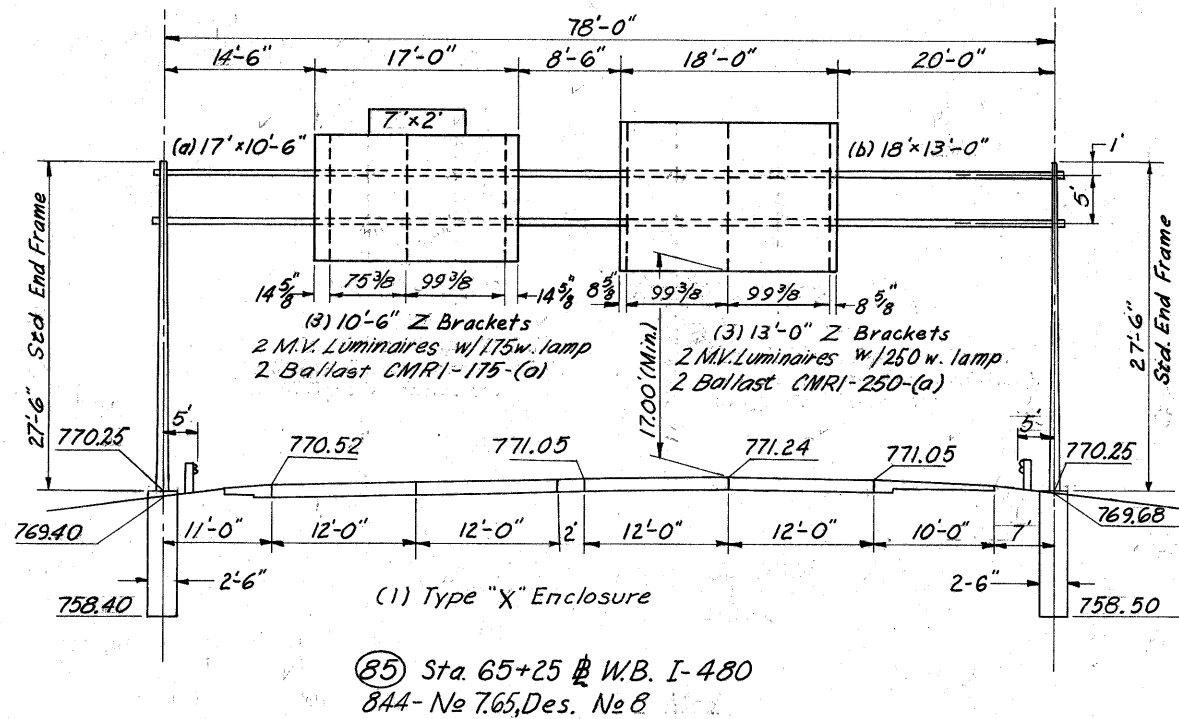
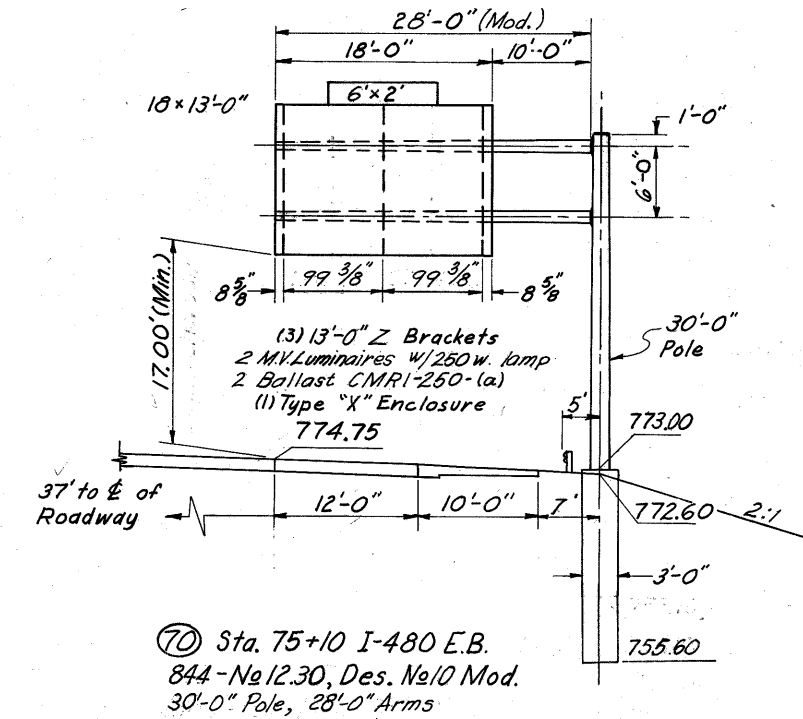
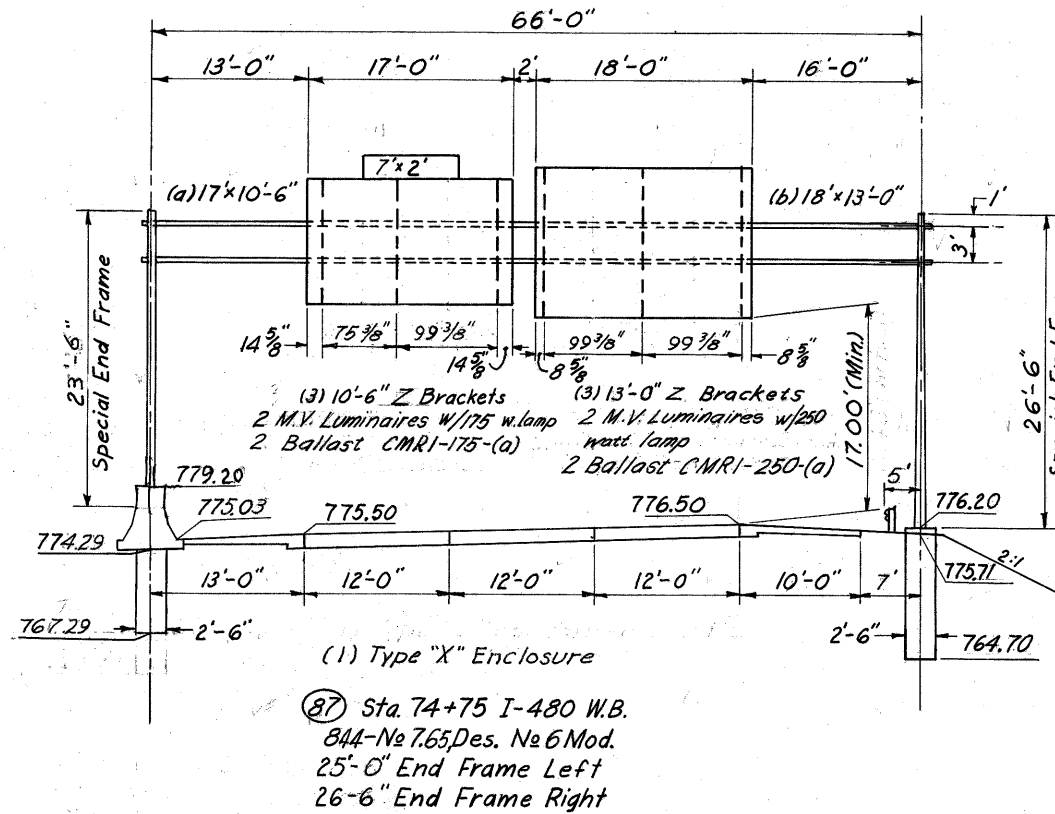
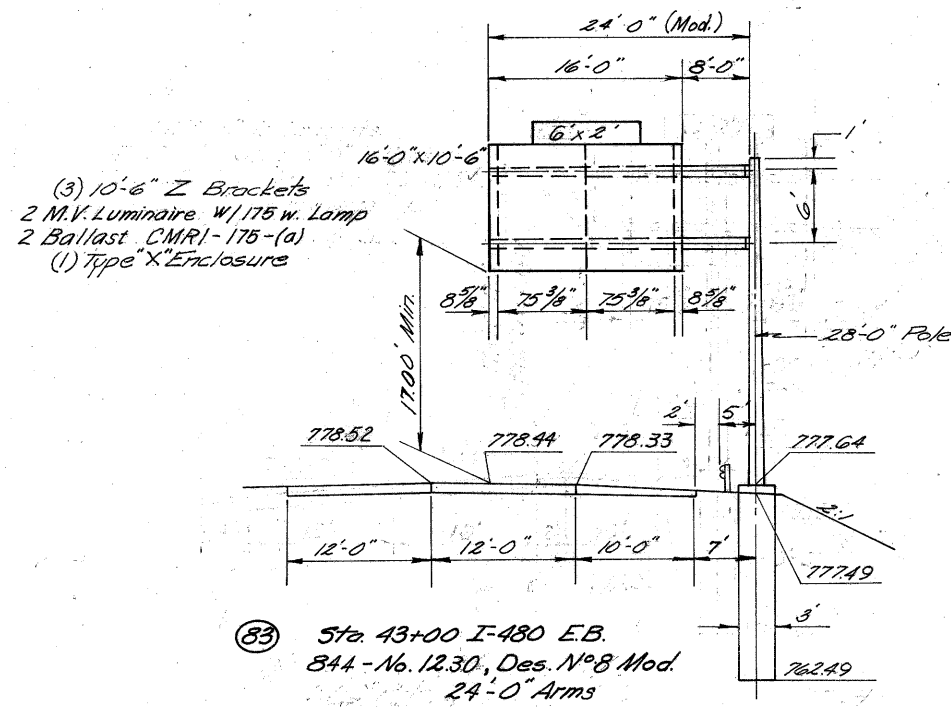
LORAIN COUNTY  
LOR-480-0.00



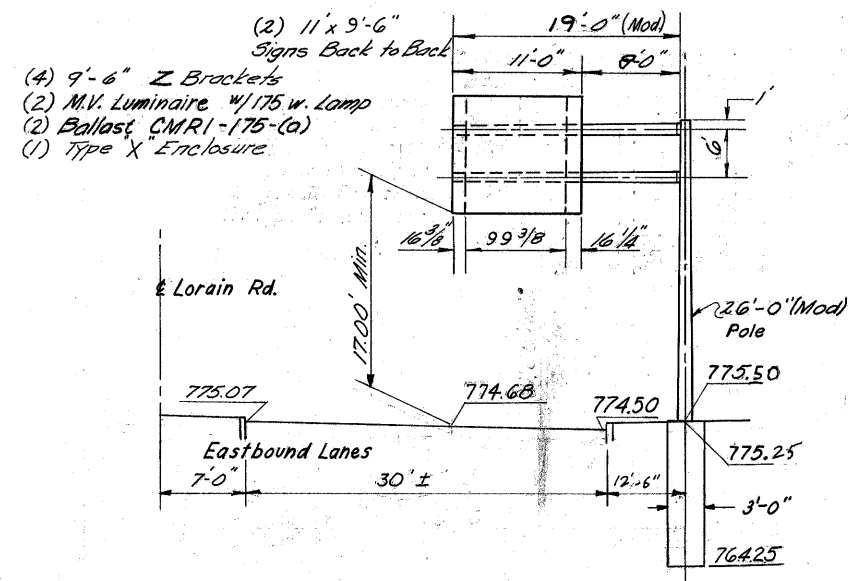
NOTE: Signs shown dashed to be constructed under contract CUY-480-0.00

END SHEET Sta. 120+00

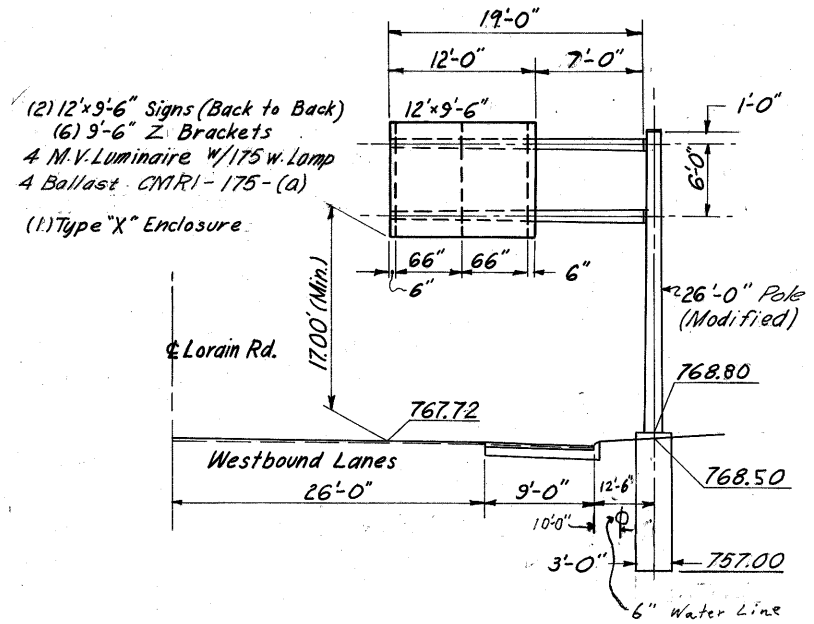




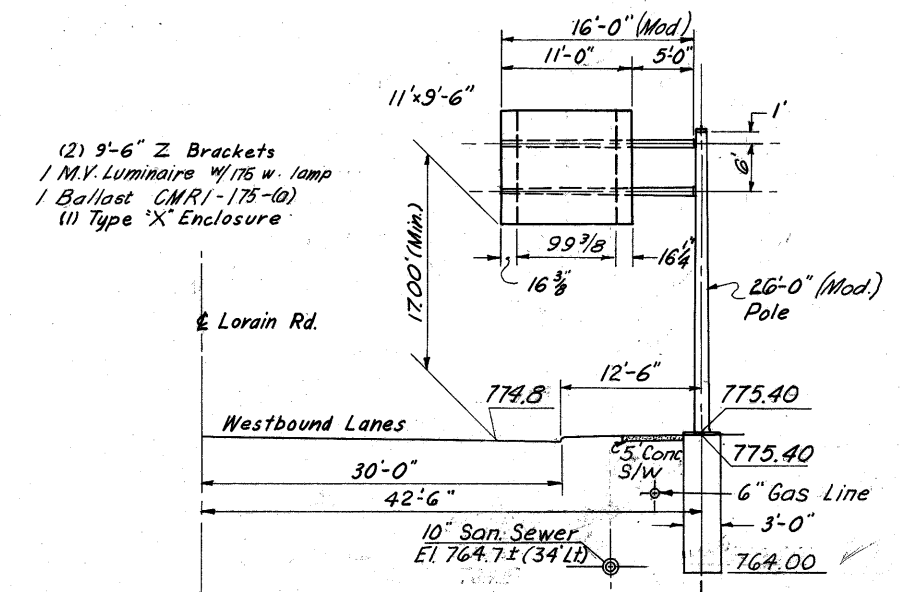




90 Sta. 1139+90 Lorain Rd. E.B.  
844 No. 12.30, Des. No. 5 Mod.  
26'-0" Pole, 20'-0" Arms

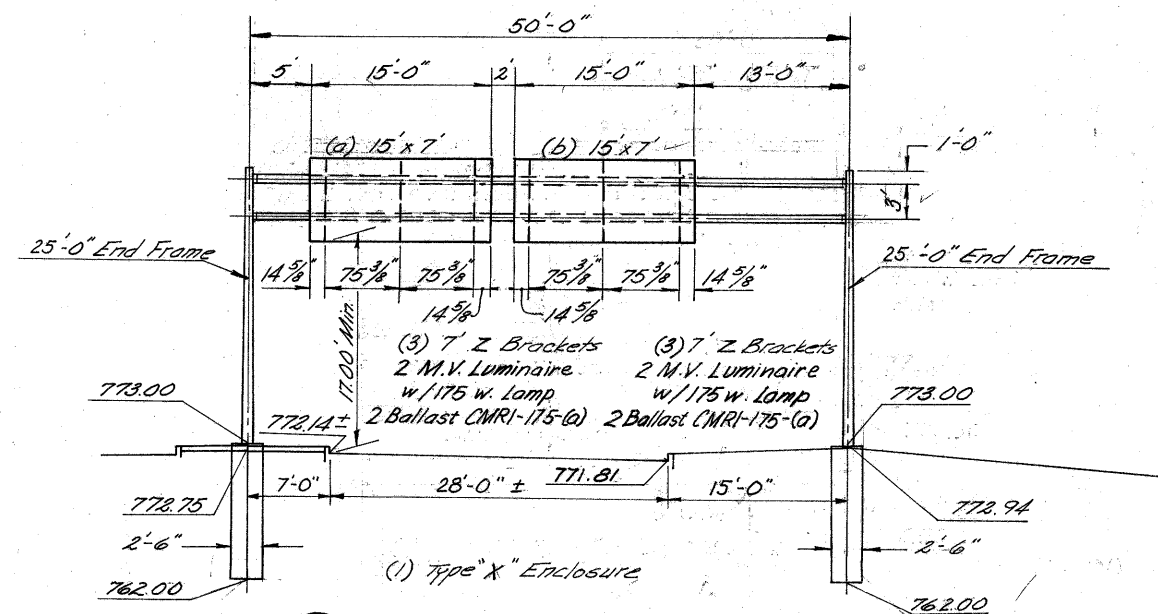


93 Sta. 1149+85 Lorain Rd. W.B.  
844 No. 12.30, Des. No. 5 Mod.  
26'-0" Pole

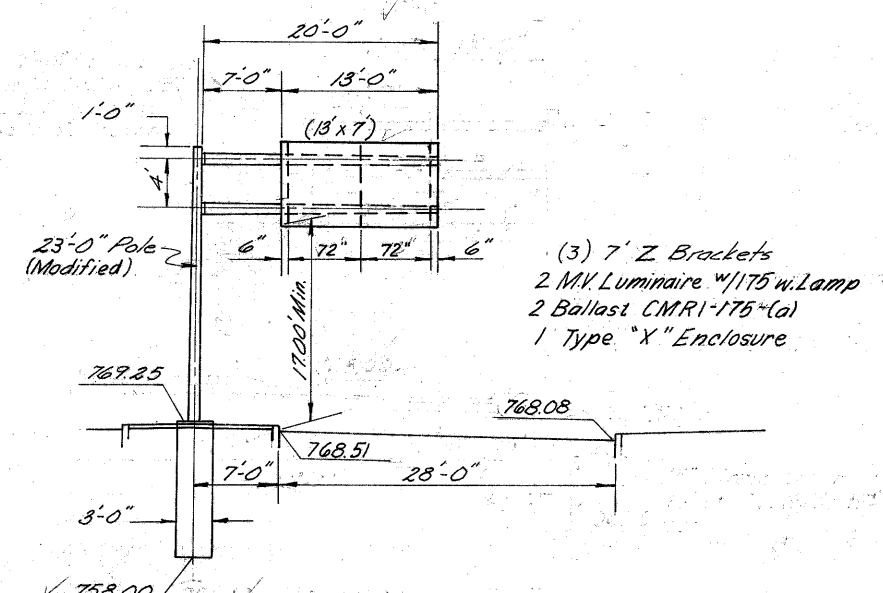


71 Sta. 1159+10 Lorain Rd. W.B.  
844 No. 12.30, Des. No. 5 Mod.  
26'-0" Pole, 16'-0" Arm

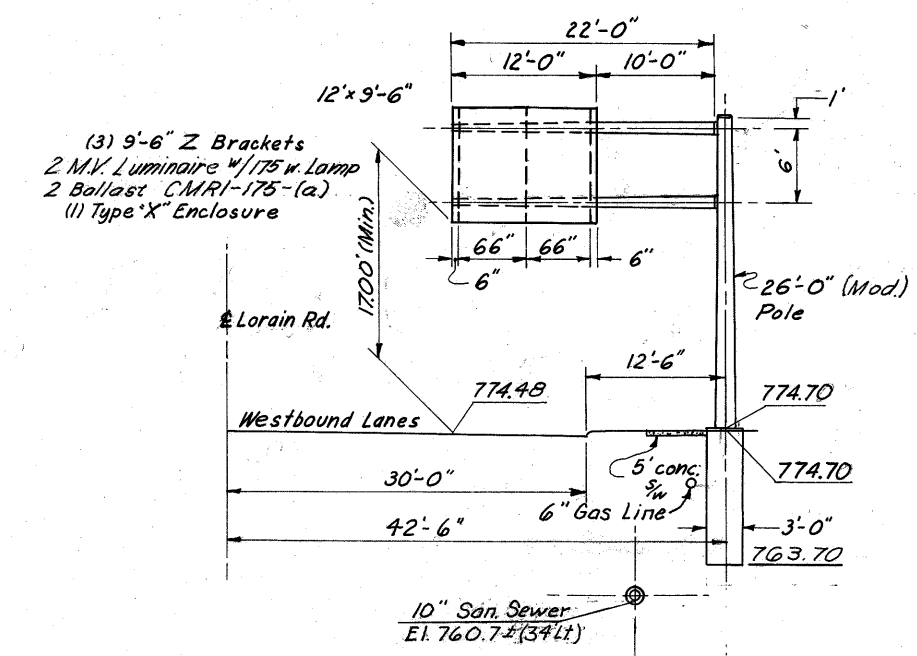
Note: See Sheet No. 240 For Sign Service Detail, Support No. 71572.



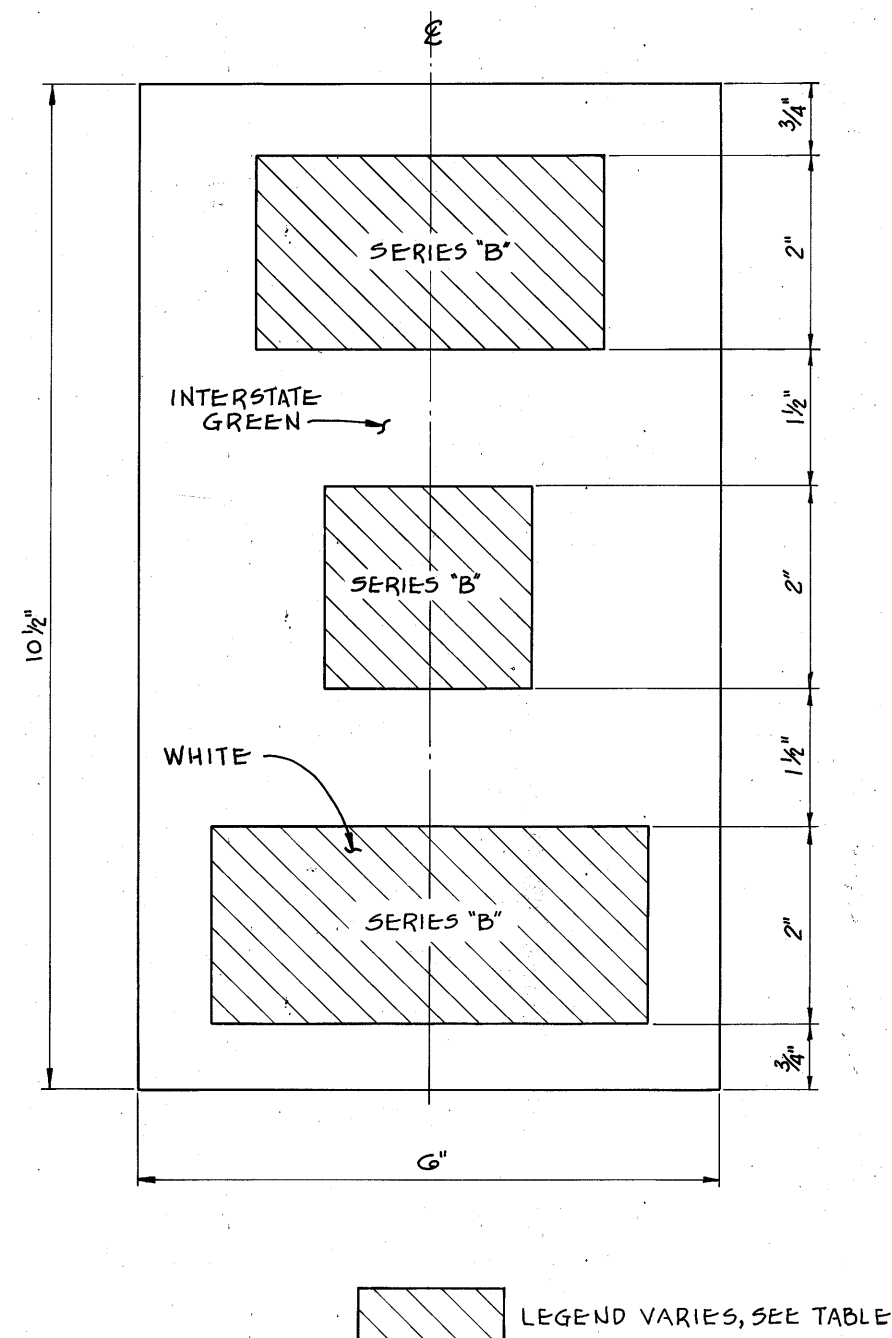
91 Sta. 1143+90 Lorain Rd. E.B.  
844 No. 765, Des. No. 6 Mod.  
Lt. and Rt. End Frames, 25'-0"



92 Sta. 1146+60 Lorain Rd. W.B.  
844 No. 12.30, Des. No. 4 Mod.  
23'-0" Pole



72 Sta. 1164+40 Lorain Rd. W.B.  
844 No. 12.30, Des. No. 5 Mod.  
26'-0" Pole

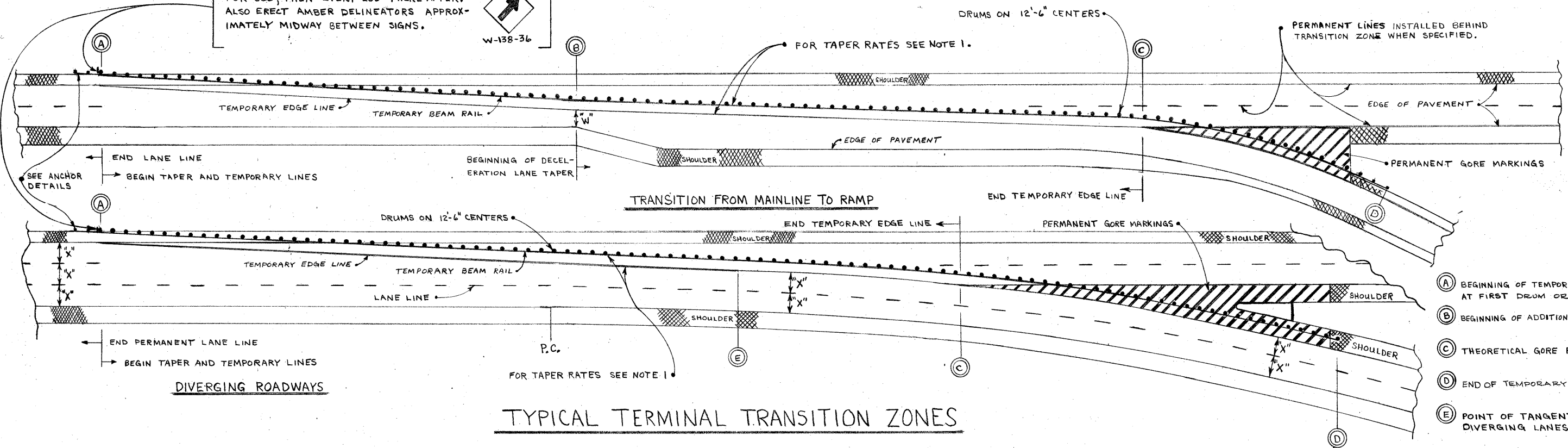


LOR.  
480  
19.94

EXAMPLE

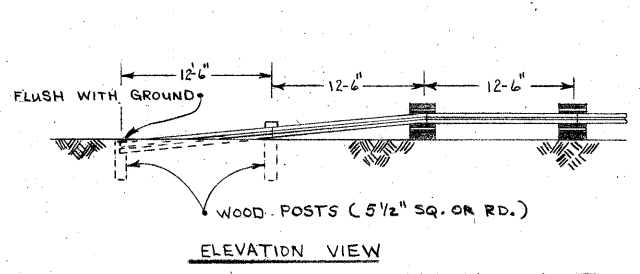
SUPPORT NO.	STATION	LOCATION	DIRECTION	DECAL LEGENDS		
				COUNTY	RT	MILEAGE
3	8+25	I-480	E.B.	LOR	480	18.37
83	43+00	I-480	E.B.	LOR	480	19.03
4	58+00	I-480	W.B.	LOR.	480	19.31
85	65+25	I-480	W.B.	LOR.	480	19.45
87	74+75	I-480	W.B.	LOR.	480	19.63
70	75+10	I-480	E.B.	LOR.	480	19.64
90	90+05 ±	Lorain Rd.	E.B.	LOR.	480	19.92
88	91+00	I-480	E.B.	LOR.	480	19.94
91	93+32 ±	Lorain Rd.	E.B.	LOR.	480	19.98
92	95+55 ±	Lorain Rd.	W.B.	LOR.	480	20.02
93	97+58 ±	Lorain Rd.	W.B.	LOR.	480	20.06
71	103+90 ±	Lorain Rd.	W.B.	LOR.	480	20.18
72	109+10 ±	Lorain Rd.	W.B.	LOR.	480	20.28

ERECT ON FIRST DRUM THEN EVERY 100' FOR 300', THEN EVERY 200' THEREAFTER. ALSO ERECT AMBER DELINEATORS APPROXIMATELY MIDWAY BETWEEN SIGNS.

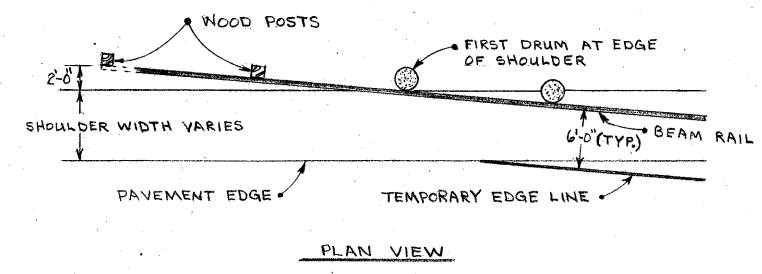


- (A) BEGINNING OF TEMPORARY GUARD RAIL AT FIRST DRUM OR POST.
- (B) BEGINNING OF ADDITIONAL LANE TAPER
- (C) THEORETICAL GORE POINT
- (D) END OF TEMPORARY GUARD RAIL
- (E) POINT OF TANGENT FOR DIVERGING LANES

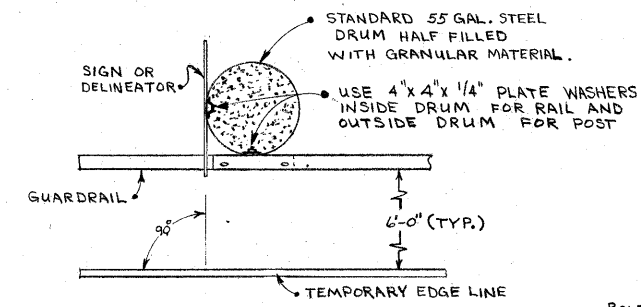
**TYPICAL TERMINAL TRANSITION ZONES**



ELEVATION VIEW

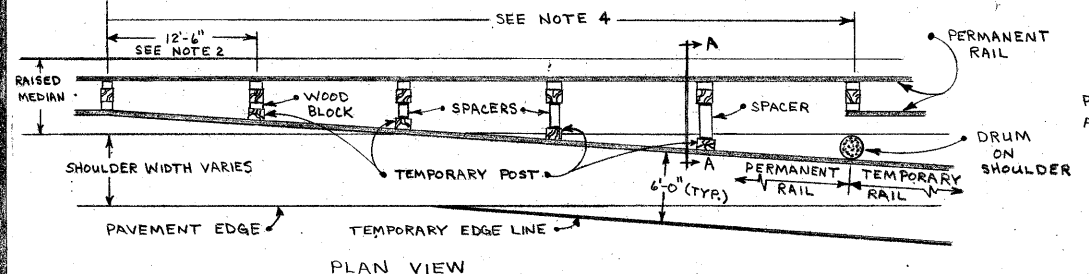


PLAN VIEW

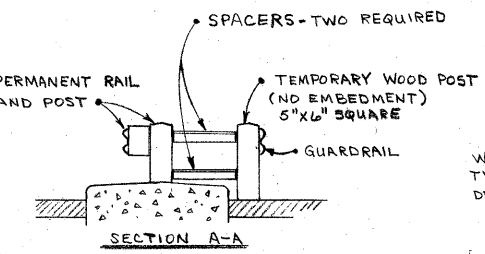


Notes:  
SEE SHEET 201

**ANCHOR DETAIL IN UNPAVED AREAS**

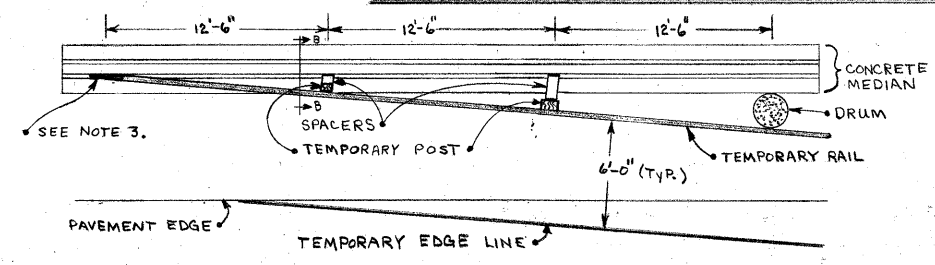


PLAN VIEW

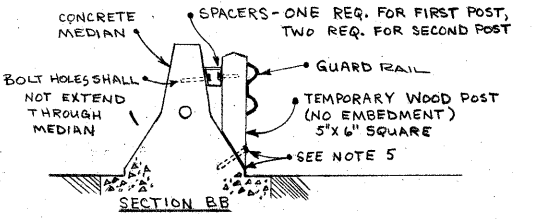


SECTION A-A

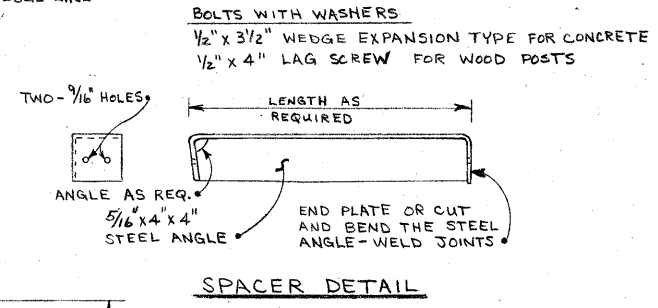
**ANCHOR DETAIL ON RAIL BARRIER MEDIAN**



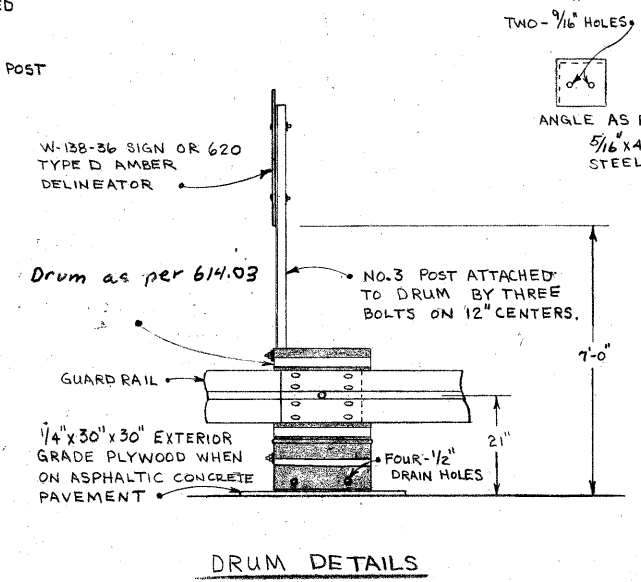
**ANCHOR DETAIL ON CONCRETE BARRIER MEDIAN**



SECTION B-B

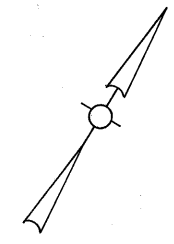


SPACER DETAIL

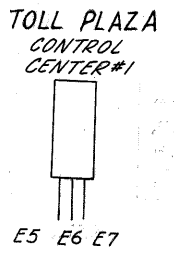
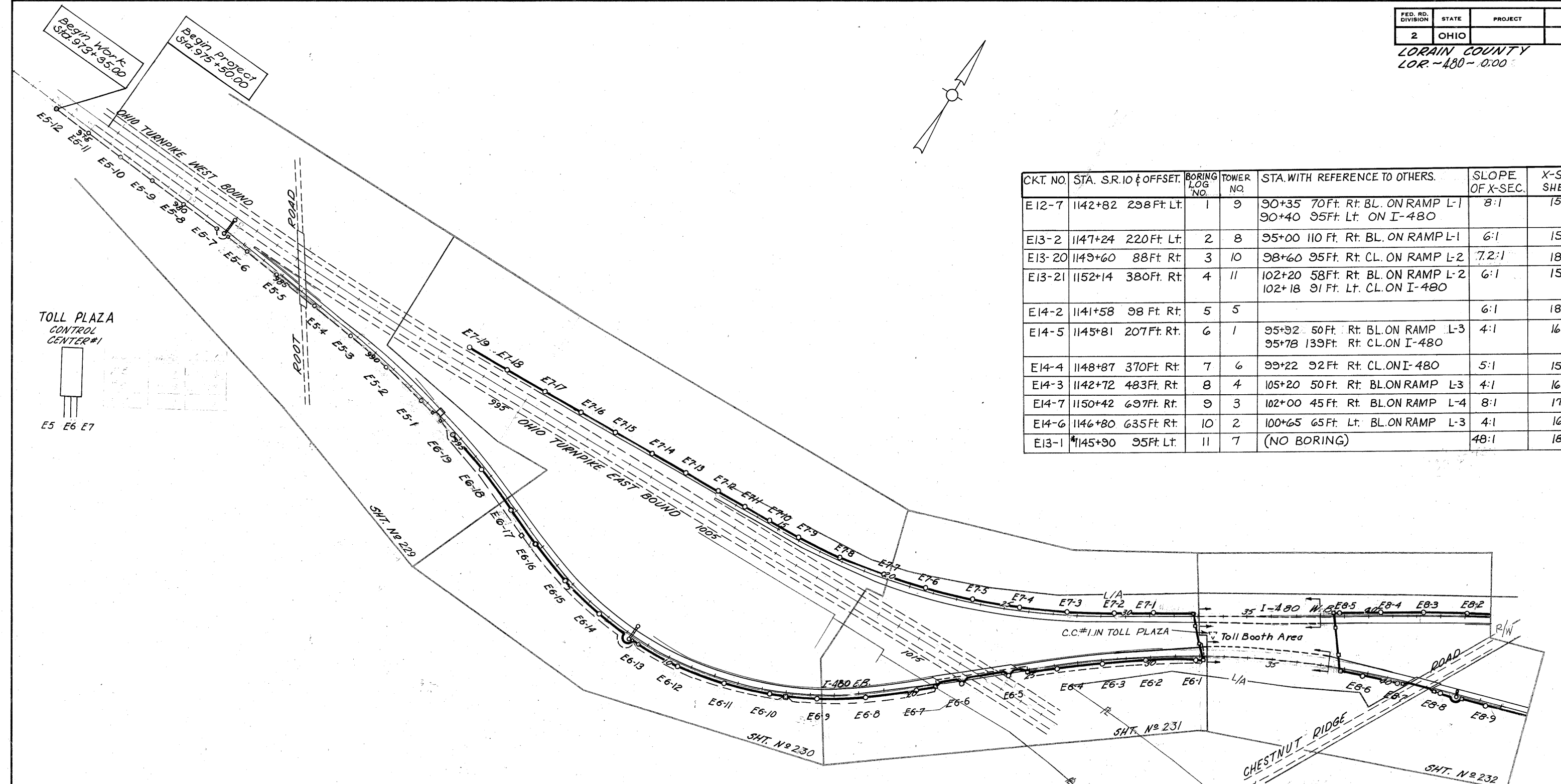


DRUM DETAILS

BUREAU OF DESIGN SERVICES DIVISION OF HIGHWAYS OHIO DEPARTMENT OF TRANSPORTATION	
TRAFFIC CONTROL	DATE
TEMPORARY TERMINAL TRANSITION DETAILS	
CONSTRUCTION DRAWING TC-91.10	
APPROVED: _____	Engineer of Design Services



CKT. NO.	STA. S.R. 10 ± OFFSET.	BORING LOG NO.	TOWER NO.	STA. WITH REFERENCE TO OTHERS.	SLOPE OF X-SEC.	X-SEC REF. SHEET NO.
E12-7	1142+82 238 Ft. Lt.	1	9	90+35 70 Ft. Rt. BL. ON RAMP L-1 90+40 95 Ft. Lt. ON I-480	8:1	156
E13-2	1147+24 220 Ft. Lt.	2	8	95+00 110 Ft. Rt. BL. ON RAMP L-1	6:1	159
E13-20	1149+60 88 Ft. Rt.	3	10	98+60 95 Ft. Rt. CL. ON RAMP L-2	7.2:1	186
E13-21	1152+14 380 Ft. Rt.	4	11	102+20 58 Ft. Rt. BL. ON RAMP L-2 102+18 91 Ft. Lt. CL. ON I-480	6:1	153
E14-2	1141+58 98 Ft. Rt.	5	5		6:1	182
E14-5	1145+81 207 Ft. Rt.	6	1	95+92 50 Ft. Rt. BL. ON RAMP L-3 95+78 139 Ft. Rt. CL. ON I-480	4:1	165
E14-4	1148+87 370 Ft. Rt.	7	6	99+22 92 Ft. Rt. CL. ON I-480	5:1	153
E14-3	1142+72 483 Ft. Rt.	8	4	105+20 50 Ft. Rt. BL. ON RAMP L-3	4:1	169
E14-7	1150+42 697 Ft. Rt.	9	3	102+00 45 Ft. Rt. BL. ON RAMP L-4	8:1	178
E14-6	1146+80 635 Ft. Rt.	10	2	100+65 65 Ft. Lt. BL. ON RAMP L-3	4:1	167
E13-1	*1145+90 95 Ft. Lt.	11	7	(NO BORING)	48:1	184



**LIGHTING DESIGN CRITERIA**

	I-480	U.S.R. 20	*S.R.10	Ramps
Width	24' ± 36'	24'	72'	16'
Average Initial Intensity In Footcandles	1.2	1.2	1.8	1.2
Minimum Initial Intensity In Footcandles	0.3	0.3	0.45	0.3
Distribution Type	II ± III	II	III	II
Lamp Watts	400 ± 700 Mercury	200w HPS	200w HPS	200w HPS
Clear Horizontal Lamp				
Initial Lumens	19,200 ± 34,600	22,000	22,000	22,000
Nominal Mounting Height	32.5' ± 40.0'	32.5'	32.5'	32.5'
Bracket Arm Length	10' ± 15'	12'	15'	12'

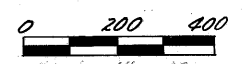
\* See key for Tower Lighting Distribution  
 • For East of Toll Plaza, will be 200W ± 310W HPS, initial Lumens = 22,000 and 31,000

**KEY PLAN LEGEND**

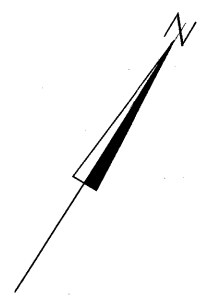
- △ Lighting Control Center
  - 400 Watt Mercury Light & Pole ±
  - Pull Box (UP Indicates Underpass Lighting Connection)
  - No. 4 AWG Circuit Cable
  - - - No. 2 AWG Circuit Cable
  - ⊕ West of Toll Plaza Only
  - ⊙ Tower Light Pole, 1000 Watt Symmetric
  - ⊙ Tower Light Pole 400 Watt Asymmetric
  - ⊙ Service Pole
  - ⊙ Underpass Luminaire
- All towers are located more than 42' from edge of traveled pavement unless indicated otherwise.

**EAST OF TOLL PLAZA**

- 310 Watt HPS Light & Pole
- ◆ Twin 310 Watt HPS Lights & Pole
- 200 Watt HPS Light & Pole



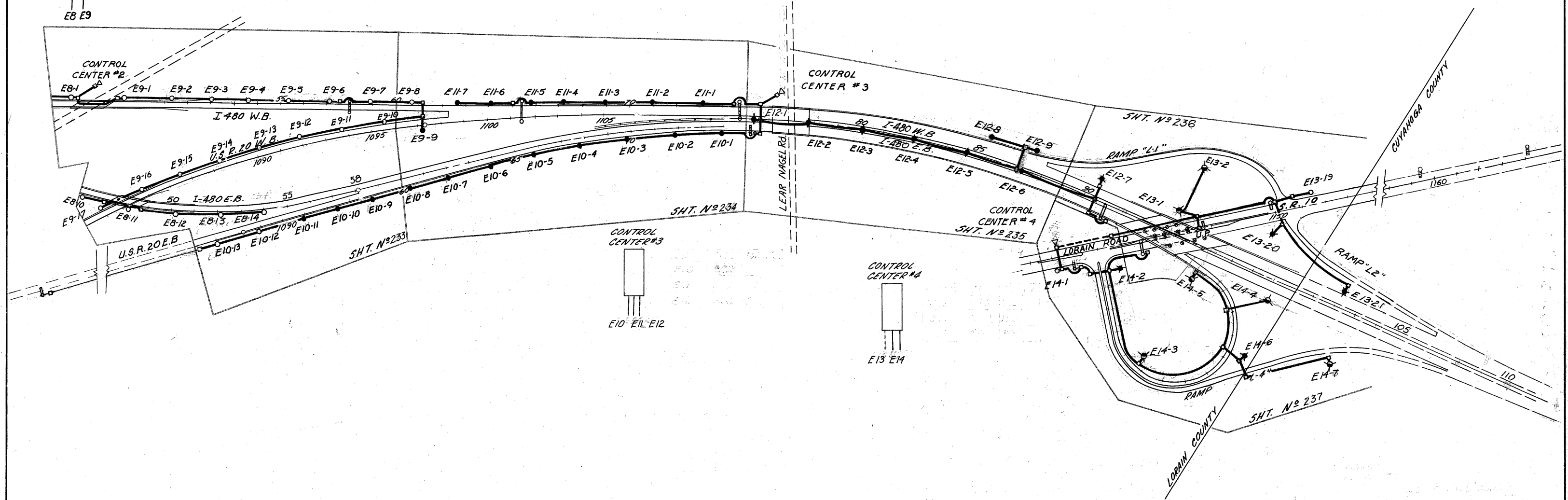
BRUNING 44560 10943



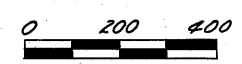
CONTROL CENTER #2

CIRCUIT	AMPS	MAX. V.D.
E8		
E9		

E8 E9



For Legend See Sheet 218.



# LIGHTING GENERAL NOTES

FHWA REGION	STATE	PROJECT
5	OHIO	

220  
375

LORAIN COUNTY  
LOR-480-0.00

## SPECIFICATIONS

THESE NOTES ARE SUPPLEMENTAL TO ITEMS 8625 AND 8713 OF THE STATE OF OHIO DEPARTMENT OF TRANSPORTATION CONSTRUCTION AND MATERIAL SPECIFICATIONS. REFER TO STANDARD CONSTRUCTION DRAWINGS LISTED ON THE TITLE SHEET.

## 625.03 - GENERAL

THE POWER SUPPLYING AGENCY FOR THIS PROJECT IS  
OHIO EDISON CO. CLEVELAND ELECTRIC  
47 NORTH MAIN ST. AND ILLUMINATION CO.  
AKRON, OHIO 44300 ILLUMINATING BUILDING  
CLEVELAND, OHIO 44113

THE PROJECT HAS BEEN DESIGNED ON THE BASIS OF 5% VOLTAGE DROP PERMISSIBLE ON BRANCH CIRCUITS. THE PROJECT WILL RECEIVE 480 VOLT TWO WIRE SECONDARY SERVICE ONE SIDE GROUNDED FROM THE OHIO EDISON CO. AND FROM THE CLEVELAND ELECTRIC ILLUMINATING CO.

THE PROJECT HAS BEEN DESIGNED ON THE BASIS OF CONTINUOUS LIGHTING WITH ULTIMATE POTENTIAL OF 1.2 FOOT CANDLE AVERAGE INITIAL, WITH A MAXIMUM UNIFORMITY RATIO OF 4.0 TO 1 FOR CONVENTIONAL UNITS AND 3.0 TO 1 FOR TOWERS.

## S713.21 TOWER LUMINAIRES

ASYMMETRIC LUMINAIRES FOR TOWER LIGHTING SHALL HAVE A SINGLE RATED 480 VOLT REGULATOR TYPE 400 WATT BALLAST DESIGNED FOR USE WITH A 400 WATT HIGH PRESSURE SODIUM LAMP.

SYMMETRIC LUMINAIRES FOR TOWER LIGHTING SHALL HAVE A SINGLE RATED 480 VOLT REGULATOR TYPE 1000 WATT BALLAST DESIGNED FOR USE WITH A 1000 WATT HIGH PRESSURE SODIUM LAMP.

## S625.07-S713.11 LUMINAIRES FOR MERCURY LAMPS

23,000 LUMEN HORIZONTAL STYLE B LUMINAIRES, DESIGNED FOR USE WITH 400 WATT MERCURY LAMPS, SHALL HAVE SINGLE RATED 480 VOLT, 400 WATT INTEGRAL REGULATOR BALLASTS.  
FOR TURNPIKE ADAPTATION LIGHTING, 23,000 LUMEN HORIZONTAL STYLE B LUMINAIRES, DESIGNED FOR USE WITH 250 WATT MERCURY LAMPS, SHALL HAVE SINGLE RATED 480 VOLT, 250 WATT INTEGRAL REGULATOR BALLASTS. STYLE B LUMINAIRES SHALL BE GENERAL ELECTRIC M-400, WESTINGHOUSE OV-25, MCGRAW EDISON UNISTYLE-400, OR EQUAL APPROVED BY THE ENGINEER.

## 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, OR THE APPROVED SHOP DRAWINGS FOR THE RESPECTIVE POLES TO BE PLACED THEREON. PAYMENT SHALL BE MADE AT THE UNIT PRICE BID FOR EACH SET OF THE SIZE REQUIRED AND NECESSARY TO INSTALL ONE POLE, 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, CROUSE-HINDS TYPE XJ-4, APPLETON TYPE XJ-4, OR EQUAL APPROVED BY THE ENGINEER.  
EACH EXPANSION FITTING SHALL HAVE A COPPER EXTERNAL BONDING JUMPER.

## ITEM 625 - SERVICE TO UNDERPASS LIGHTING, AS PER PLAN

THIS ITEM SHALL CONSIST OF PROVIDING COMPLETE ELECTRICAL SERVICE, EXCEPT FOR LUMINAIRES, LAMPS, AND STRUCTURE GROUNDING, FOR AN UNDERPASS LIGHTING SYSTEM ON BRIDGE NO. LOR.480.1998. THE INSTALLATION WORK SHALL INCLUDE CONDUITS, MOUNTINGS, FITTINGS, JUNCTION BOXES, CABLES, AND ALL INCIDENTALS NECESSARY TO COMPLETE, READY FOR USE. THE SERVICE AS DETAILED ON SHEET.239

THE LUMP SUM PRICE BID FOR 'ITEMS 625 - SERVICE TO UNDERPASS LIGHTING, AS PER PLAN' SHALL INCLUDE PAYMENT FOR ALL EQUIPMENT, LABOR, AND MATERIALS NECESSARY TO COMPLETE THE WORK AS SPECIFIED. COMPONENT PARTS NOT SPECIFICALLY MENTIONED BUT REQUIRED FOR SATISFACTORY OPERATION OF THIS ITEM SHALL BE FURNISHED AND CONSIDERED PAID FOR AS PART OF THE ITEM.

## HIGH VOLTAGE DIRECT CURRENT TEST

A HIGH VOLTAGE DIRECT CURRENT TEST, AS DESCRIBED IN SUPPLEMENTAL SPECIFICATION 839, SHALL BE PERFORMED ON ALL DISTRIBUTION CABLE, AND DUCT CABLE SYSTEMS TO BE INSTALLED ON THIS PROJECT. THE TEST SHALL NOT BE PERFORMED UNTIL AFTER ALL NEW CONSTRUCTION, SUCH AS GUARD RAIL, FENCE, DELINEATOR POSTS, SIGN SUPPORT, ETC, IN THE IMMEDIATE VICINITY OF THE LOCATION OF THE CABLE RUN BEING TESTED, HAS BEEN COMPLETED. THE TESTING REQUIREMENTS OF 625.22 (b) ARE HEREBY WAIVED FOR THOSE CIRCUITS ON WHICH THE HIGH VOLTAGE TEST IS TO BE PERFORMED.

## STANDARD CONSTRUCTION DRAWING HL-3

POLE BASE DETAILS SHOWN ON THIS DRAWING ARE ESSENTIALLY FOR GALVANIZED STEEL POLES. FOR ALUMINUM DESIGNS, OR OTHER PERMITTED STEEL MATERIAL DESIGNS, VARIATIONS FROM THESE DETAILS WILL BE ACCEPTABLE, AS APPROVED BY THE ENGINEER.

## CONNECTOR KITS

At the option of the Contractor, Type II cable connections may be substituted where Type II or III cable connections are specified in hand holes or transformer bases of light poles.

Type I through Type VII cable connections in pull boxes, junction boxes, and other enclosures below ground may be accomplished by the use of either of the following:

1. A sleeve or tee cable connector conforming to the general requirements of Style S or H, or other connecting device approved by the Engineer. The connector shall be installed in accordance with the manufacturer's directions and the connection shall be sealed and waterproofed with a hi-dielectric compound such as "Aqua Seal" as manufactured by Kearney, The Scotch #2200 compound manufactured by 3-M Company, or Kit as manufactured by Blackburn, or equal approved by the Engineer. The sealing material shall be applied in accordance with the manufacturer's directions to make a water-tight connection. Connections not accomplished in-line or in tee form shall be additionally protected by use of a hi-dielectric PVC, or other approved material, boot with an approved fastening device.
2. A preassembled kit, as manufactured by Joy or Bussman, or approved equal, with a waterproof or water-tight rating acceptable to the Engineer.

## POLYVINYL CHLORIDE PLASTIC CONDUIT

THIS SPECIFICATION COVERS POLYVINYL CHLORIDE CONDUIT FOR EITHER DIRECT BURIAL IN EARTH OR FOR ENCASEMENT IN CONCRETE AND SHALL BE OF THE SIZE AND TYPE SPECIFIED.

CONDUIT FURNISHED UNDER THIS SPECIFICATION SHALL CONFORM TO NEMA STANDARDS PUBLICATION NO. TC6-74 WITH THE EXCEPTION THAT CONDUIT AND CONDUIT FITTINGS COMPOSED OF ACRYLONITRILE-BUTADIENE-STYRENE (ABS) SHALL NOT BE ACCEPTABLE.

AS AN ALTERNATE TO POLYVINYL CHLORIDE, CORRUGATED COILABLE POLYPROPYLENE CONFORMING TO NEMA STANDARDS PUBLICATION NO. TC5 CAN BE USED.

## PLASTIC CAUTION TAPE

THE LOCATION OF UNDERGROUND DUCT CABLE AND NON-METALLIC CONDUIT INSTALLED FOR HIGH MAST LIGHTING CIRCUITS, AS SHOWN ON THE PLANS SHALL BE MARKED BY THE USE OF A CONTINUOUS IDENTIFYING TAPE BURIED IN THE TRENCH ABOVE THE DUCT CABLE OR CONDUIT. THE IDENTIFYING TAPE SHALL BE AN INERT MATERIAL APPROXIMATELY 6 INCHES WIDE, POLYETHYLENE PLASTIC HIGHLY RESISTANT TO ALKALI, ACID, OR OTHER CHEMICAL COMPOUNDS LIKELY TO BE ENCOUNTERED IN SOILS. THE TAPE SHALL BE BRIGHTLY COLORED FOR CONTRAST WITH THE SOIL. THE TAPE SHALL HAVE IDENTIFYING PRINTING, ELECTRIC, OR OTHER APPROPRIATE MESSAGE, REPEATED CONTINUOUSLY THE FULL LENGTH OF THE TAPE. TAPES SHALL BE SUPPLIED IN CONTINUOUS ROLLS. TAPES SHALL BE LOCATED APPROXIMATELY 8 IN. TO 12 IN. BELOW THE FINAL FINISHED GRADE MINIMUM. THE TAPE SHALL BE PLACED IN THE TRENCH WITH PRINTED SIDE UP AND SHALL BE ESSENTIALLY PARALLEL WITH THE FINISHED SURFACE. THE CAUTION TAPE SHALL BE ONE OF THE FOLLOWING TYPES, ALLEN SYSTEM, TERRA TAPE, TECTA TAPE, OR APPROVED EQUAL BY THE ENGINEER. PAYMENT SHALL BE AT THE UNIT PRICE BID LIN. FT. OF ITEM 625 PLASTIC CAUTION TAPE COMPLETE AND IN PLACE.

## 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.

## ITEM 625 - CONDUIT JACKED UNDER PAVEMENT, AS PER PLAN

THIS ITEM SHALL CONSIST OF INSTALLING CONDUIT OF THE SIZE OR SIZES INDICATED UNDER EXISTING PAVEMENT AND CONTIGUOUS SHOULDERS BY AN APPROVED METHOD SUCH AS 'DRILLING' OR 'JACKING'.

THE CONTRACTOR SHALL PLACE THE CONDUIT WITH THE LEAST AMOUNT OF DISTURBANCE TO THE EXISTING PAVEMENT, SUBBASE, BERM PAVEMENT, OR SHOULDERS OF THE ROADWAY. ALL PUSH PITS OR ANY NECESSARY EXCAVATIONS SHALL BE BACKFILLED AND RESTORED IN ACCORDANCE WITH 625.01. MEASUREMENT OF THE CONDUIT SHALL BE THE ACTUAL AMOUNT OF LINEAL FEET INSTALLED UNDER PAVEMENT AND SHOULDERS, MEASURED IN PLACE, AS ACCEPTED BY THE ENGINEER. THE UNIT PRICE BID FOR ITEM 625 'CONDUIT JACKED UNDER PAVEMENT, AS PER PLAN' SHALL BE FULL COMPENSATION FOR EXCAVATION, DRILLING OR JACKING, BACKFILLING, COMPACTION, RESTORATION, AND ALL LABOR, MATERIAL, EQUIPMENT, AND INCIDENTALS NECESSARY TO COMPLETE THE WORK AS SPECIFIED.

# LIGHTING GENERAL NOTES

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

221  
375

LORAIN COUNTY  
LOR 480-0.00

## ESTIMATED QUANTITIES

(A) AN ESTIMATED QUANTITY OF "220 LIN. FT. OF 605, 4-INCH SHALLOW PIPE UNDERDRAINS" IS PROVIDED IN THE LIGHTING GENERAL SUMMARY FOR USE AS DIRECTED BY THE ENGINEER IN PROVIDING POSITIVE DRAINAGE FOR PULL BOXES IN FILL AREAS. IT IS INTENDED THAT ALL PULL BOXES IN THESE AREAS BE PROVIDED WITH SUCH DRAINAGE, PROVIDED THE LENGTH OF UNDERDRAIN NECESSARY TO OBTAIN A SATISFACTORY OUTFALL DOES NOT EXCEED 20 FEET APPROXIMATELY. A PERFORATED PVC PIPE OR CONDUIT MATERIAL APPROVED BY THE ENGINEER MAY BE USED IN THE CONSTRUCTION OF THIS ITEM. SEE STANDARD CONSTRUCTION DRAWING HL-10

## 625.07-713.11 HIGH PRESSURE SODIUM LUMINAIRES

23,000 LUMEN HORIZONTAL STYLE B LUMINAIRES, DESIGNED FOR USE WITH 310 WATT HIGH PRESSURE SODIUM LAMPS, SHALL HAVE SINGLE RATED 480 VOLT, 310 WATT INTEGRAL REGULATOR BALLASTS. STYLE B LUMINAIRES SHALL BE GENERAL ELECTRIC M-400, WESTINGHOUSE OV-25, MCGRAW-EDISON UNISTYLE-400, OR EQUAL APPROVED BY THE ENGINEER.

23,000 LUMEN HORIZONTAL STYLE B LUMINAIRES, DESIGNED FOR USE WITH 200 WATT HIGH PRESSURE SODIUM LAMPS, SHALL HAVE SINGLE RATED 480 VOLT, 200 WATT INTEGRAL REGULATOR BALLASTS. STYLE B LUMINAIRES SHALL BE GENERAL ELECTRIC M-400, WESTINGHOUSE OV-25, MCGRAW-EDISON UNISTYLE-400, OR EQUAL APPROVED BY THE ENGINEER.

12,500 LUMEN HORIZONTAL STYLE A LUMINAIRES, DESIGNED FOR USE WITH 100 WATT HIGH PRESSURE SODIUM LAMPS, SHALL HAVE SINGLE RATED 480 VOLT, 100 WATT INTEGRAL REGULATOR BALLASTS. STYLE A LUMINAIRES SHALL BE GENERAL ELECTRIC M-250, WESTINGHOUSE OV-15, MCGRAW EDISON UNISTYLE-250, OR EQUAL APPROVED BY THE ENGINEER.

## 625.07-713.13 UNDERPASS LUMINAIRES

UNDERPASS LUMINAIRES SHALL BE HOLOPHANE "UNDERPASS WALLPACK," OR EQUAL WESTINGHOUSE, MCGRAW-EDISON, OR GENERAL ELECTRIC UNDERPASS UNIT APPROVED BY THE ENGINEER, AND SHALL BE FURNISHED WITH AN INTEGRAL FUSE HOLDER AND 10-AMPERE FUSE. THE INTEGRAL BALLAST SHALL BE OF A REGULATOR TYPE, SINGLE RATED 480 VOLTS, AND DESIGNED FOR USE WITH A 100 WATT HIGH PRESSURE SODIUM LAMP.

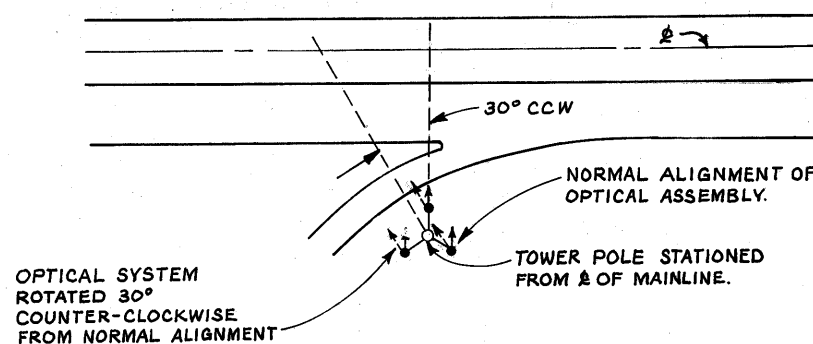
## LIGHT TOWERS AS PER PLAN

- ALL HIGH MAST TOWERS ON THIS PROJECT SHALL HAVE THE FOLLOWING:
- A LOWERING DEVICE WITH A POSITIVE LATCHING MECHANISM WHICH WILL REMOVE THE LOAD FROM THE THREE CABLES WHEN IT IS LATCHED IN POSITION AT THE TOP OF THE POLE. LATCHING AND UNLATCHING SHALL BE TRIGGERED BY OPERATION OF THE WINCH.
  - A CIRCUIT BREAKER ASSEMBLY OR FUSE BLOCK INSTALLED IN THE TOWER BASE WITH LUGS TO ACCOMMODATE BOTH INCOMING AND OUTGOING CIRCUIT CABLES OF THE SIZE SPECIFIED IN THE PLANS.
  - A HINGED DOOR WITH A NONREMOVABLE STAINLESS STEEL PIN AND HASP FOR PADLOCKING.
  - A SURGE ARRESTER INSTALLED IN OR ON THE LUMINAIRE SUPPORT RING AND CONNECTED BETWEEN THE HOT AND GROUNDED CONDUCTORS OF THE POWER CABLE.
  - A WINCH WITH CABLE FOLLOWER OR OTHER APPROVED MEANS TO CONTAIN THE CABLE ON THE WINCH.
  - FITTINGS FOR LIGHT TOWERS SHALL COMPLY WITH THE REQUIREMENTS OF 5713.21 PARAGRAPH G, EXCEPT GALVANIZED STEEL SHALL NOT BE PERMITTED.
  - THE LUMINAIRE SUPPORT RING SHALL HAVE ROLLER CONTACT CENTERING ARMS OR SILICONE RUBBER BUMPER ROLLERS HAVING A DUROMETER HARDNESS SUCH THAT THE SHOCK TRANSFERRED TO EQUIPMENT MOUNTED ON THE LOWERING RING WILL NOT EXCEED 4 G's.
  - THE HAND HOLES ON TOWER POLES SHALL BE LOCATED ON THE FAR SIDE OF THE POLE WITH RELATION TO THE MOVEMENT OF TRAFFIC ON THE ADJACENT SIDE OF THE ROADWAY TO WHICH THE TOWER IS STATIONED, UNLESS DIRECTED OTHERWISE BY THE ENGINEER.

## PORTABLE POWER UNIT

THE PORTABLE POWER UNIT SHALL HAVE A 20 FOOT CONTROL CORD.

## ASYMMETRIC HIGH MAST LUMINAIRE MOUNTING ARRANGEMENT



OPTICAL SYSTEM ROTATED 30° COUNTER-CLOCKWISE FROM NORMAL ALIGNMENT

THREE LUMINAIRE MOUNTING ARMS SHALL BE INSTALLED ON THE LUMINAIRE MOUNTING RING ASSEMBLY AT 120 DEGREES AND POSITIONED SO THAT ONE OF THE THREE ARMS WILL BE PERPENDICULAR TO THE CENTERLINE OR BASELINE FROM WHICH THE POLE IS STATIONED, AND WILL BE ON THE ROADWAY SIDE OF THE POLE. NORMALLY THE LUMINAIRES SHALL BE INSTALLED SO THAT THE "ARROW" OR "STREET SIDE" DESIGNATION ON THE REFLECTOR IS POSITIONED PERPENDICULAR TO THE CENTERLINE OR BASELINE FROM WHICH THE POLE IS STATIONED. ANY DEVIATION FROM THE STANDARD LUMINAIRE ALIGNMENT SHALL BE SPECIFIED IN 5 DEGREE INCREMENTS OF ROTATION OF THE LUMINAIRE OPTICAL ASSEMBLY IN A CLOCKWISE OR COUNTERCLOCKWISE DIRECTION AFTER THE ABOVE ALIGNMENT HAS BEEN MADE.

## 844 PADLOCKS AND KEYS

PADLOCKS FURNISHED SHALL BE EITHER BRASS OR BRONZE PADLOCKS EQUAL TO MASTER NO. 4 BKA OR WILSON BOHANNAN 660 AND SHALL BE KEYPED IN ACCORDANCE WITH SUPPLEMENTAL SPECIFICATION 844.10 (4), PARAGRAPH 3. PAYMENT WILL BE INCLUDED IN THE BID FOR THE ITEMS BEING LOCKED.

## 5713.02 ELECTRICAL CABLES

IN LIEU OF THE REQUIREMENTS LISTED UNDER 5713.02, PARAGRAPHS 2(a) AND 2(b), ALL CABLE TO BE USED FOR 300 AND 600 VOLT SERVICE SHALL BE UL TYPE RHH, OR RHW, OR RHH/RHW AND FURTHER MEET THE REQUIREMENTS OF UL TYPE USE.

ALL SINGLE CONDUCTOR CABLES TO BE USED FOR 300 AND 600 VOLT SERVICE SHALL NOT HAVE A SEPARATE OUTER COVERING.

## GROUND ROD AS PER PLAN

GROUND RODS FOR ALL LIGHT TOWERS SHALL HAVE A RESISTANCE TO EARTH NOT TO EXCEED 10 OHMS, IN LIEU OF 25 OHMS AS SPECIFIED IN 5625.10.

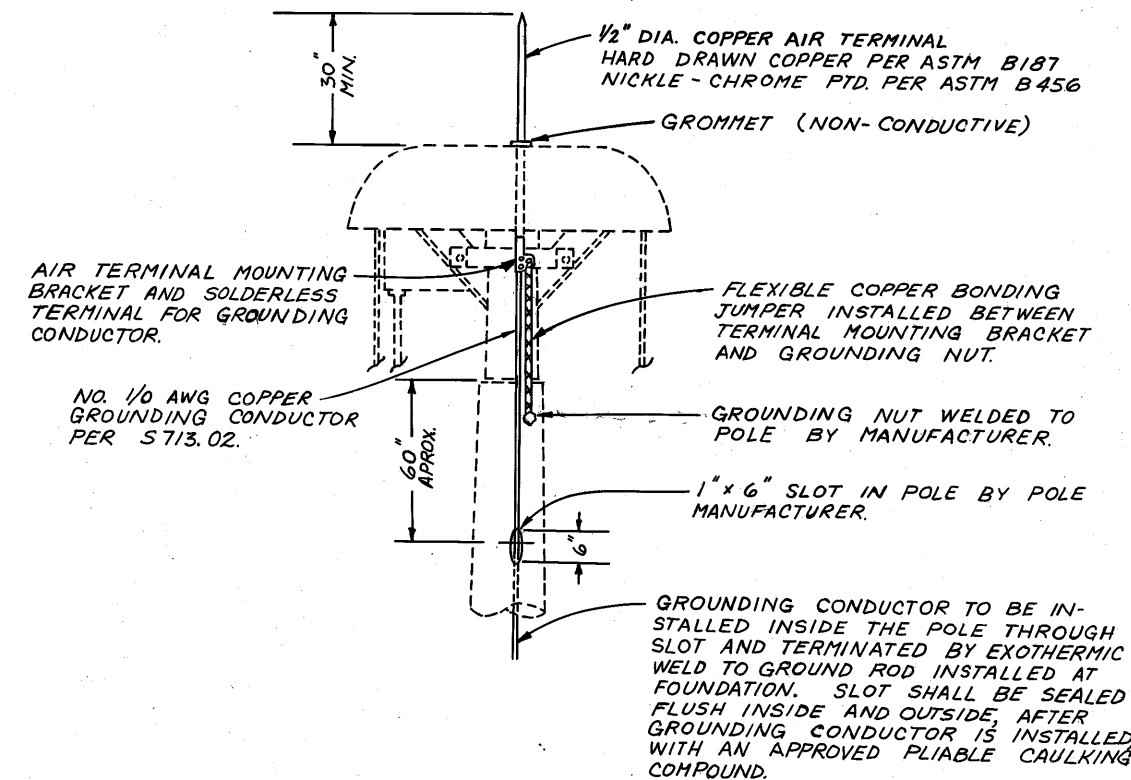
## LIGHT POLES

THE REQUIREMENTS OF 5713.01, PARAGRAPH 2(A) REQUIRING CIRCULAR CROSS SECTIONS FOR POLE SHAFTS IS HEREBY WAIVED. THE CROSS SECTION OF THE SHAFT MAY BE CIRCULAR OR MULTISIDED (WITH NOT LESS THAN 8 SIDES) AND THE DIAMETERS OR ACROSS THE FLAT DIMENSIONS MEASURED AT ANY POINT ALONG THE LONGITUDINAL AXIS SHALL NOT VARY FROM EACH OTHER MORE THAN 3/16 INCH. THE CROSS SECTION OF THE BRACKET ARMS SHALL BE COMPATIBLE WITH THAT OF THE POLE. ALL OTHER REQUIREMENTS OF 5713.01 SHALL APPLY.

## LIGHT POLE BREAKAWAY SUPPORTS

NEW GROUND MOUNTED POLES DESIGNATED BY REFERENCE LETTERS "B" AND "E" SHALL BE MOUNTED WITH ONE SET (4) OF THE ALCOA BREAKAWAY SUPPORTS, PART 100-1, AS MANUFACTURED BY THE ALUMINUM COMPANY OF AMERICA\* OR EQUAL AS APPROVED BY THE ENGINEER. THE BREAKAWAY SUPPORTS SHALL BE COVERED WITH A TWO PIECE ALUMINUM SKIRT. SEE SHEET NO. 240 FOR DETAILS. PAYMENT SHALL BE MADE AT THE UNIT PRICE BID FOR EACH SET OF BREAKAWAY SUPPORTS WITH COVER SKIRT NECESSARY TO INSTALL ONE POLE, AND THIS PAYMENT SHALL CONSTITUTE FULL COMPENSATION FOR FURNISHING AND INSTALLING THE BREAKAWAY SUPPORTS AND COVER SKIRT.

\* ONE SET (4) OF THE "POLE - SAFE" BREAKAWAY SUPPORTS AS MANUFACTURED BY TRANSPRO - SAFETY, INC.



## TOWER LIGHTNING PROTECTION SYSTEM (NEW INSTALLATION)

### TOWER LIGHTNING PROTECTION

THIS ITEM SHALL CONSIST OF FURNISHING AND INSTALLING AN AIR TERMINAL, MOUNTING BRACKET, BONDING JUMPER, AND GROUNDING CONDUCTOR ON LIGHT TOWERS TO PROVIDE LIGHTNING PROTECTION AS DETAILED ABOVE. PAYMENT SHALL BE MADE AT THE UNIT PRICE BID FOR EACH ITEM 5625 "TOWER LIGHTNING PROTECTION" AND SHALL BE FULL COMPENSATION FOR ALL LABOR, MATERIAL, EQUIPMENT AND INCIDENTALS NECESSARY TO COMPLETE THE WORK AS SPECIFIED.







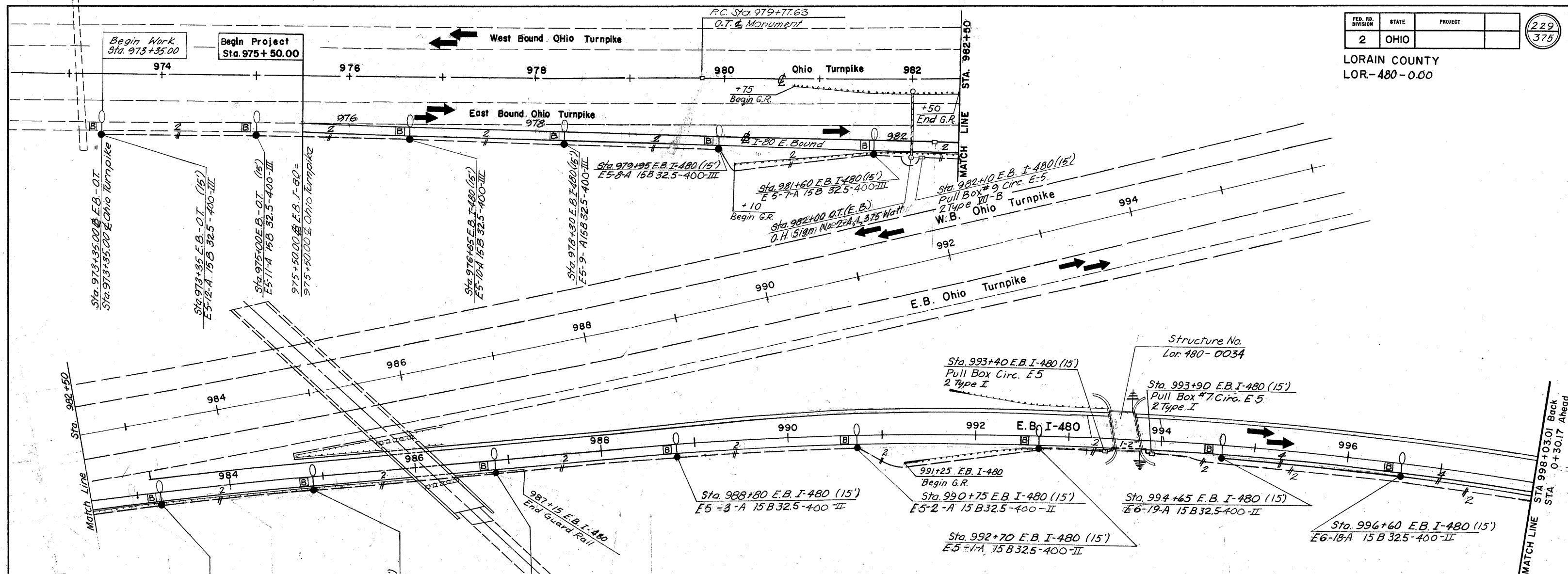








Reference No.	Side	Station	Station	Light Pole Design A15 B 32.5 Bree-Kaway Supports with Cover Skirt		Light Pole Foundation 24" x 6" Luminaires Type III 400 Watts 718.11		Luminaires Type III 400W 718.11 Lamp 400 Watt 718.14 Mercury Lamp 250 Watt 718.14 Mercury			Pole & Bracket Cable No. 10 ANG Ground Rod		Connector Kits		1 1/2" Duct Cable 24-2 ANG 600 Volt Cable 1 1/2" Duct Cable 24-4 ANG 600 Volt Cable		Trench 24" Deep	
				Ea.	Set	Ea.	Ea.	Ea.	Ea.	Ea.	LF.	Ea.	Ea.	Ea.	LF.	LF.		LF.
1																		
2	Ø	973+35	E.B.-O.T.	1	1	1	1				98	1	1	1				
3	Ø	973+35	975+00													175		165
4	Ø	975+00		1	1	1	1				98	1	1	1				
5	Ø	975+00	976+65													175		165
6	Ø	976+65	E.B.-I-480	1	1	1	1				98	1	1	1				
7	Ø	976+65	978+30													175		165
8	Ø	978+30		1	1	1	1				98	1	1	1				
9	Ø	978+30	979+95													175		165
10	Ø	979+95		1	1	1	1				98	1	1	1				
11	Ø	979+95	981+60													190		180
12	Ø	981+60		1	1	1	1				98	1	1	1				
13	Ø	981+60	982+10													60		50
14																		
15																		
16	Sheet No. 2	Sub Total	Retwy.	6	6	6	6				588	6	6	6		950		890
17																		
18	Lt.	992+87	W.B.-O.T.	1	1	1	1				98	1	1	1				
19	Lt.	992+87	994+67													190		180
20	Lt.	994+67		1	1	1	1				98	1	1	1				
21	Lt.	994+67	996+47													190		180
22	Lt.	996+47		1	1	1	1				98	1	1	1				
23	Lt.	996+47	998+27													190		180
24	Ø	0+90	2+76													196		
25	Sheet No. 2	Sub Total	Retwy.	3	3	3	3				294	3	3	3		766		540

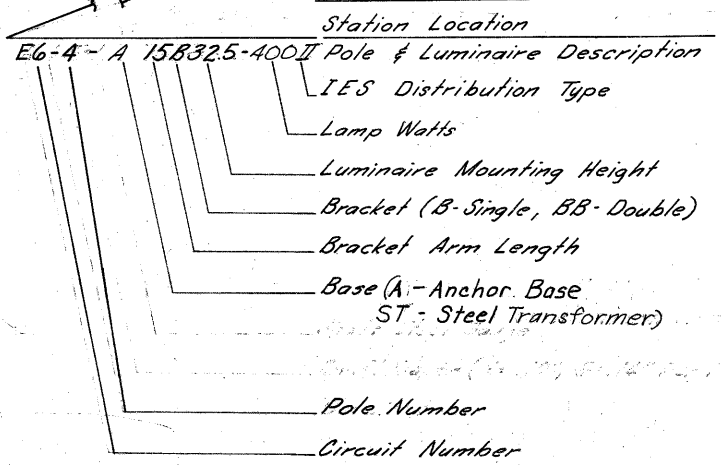


**LEGEND**

- Duct Cable, 1/2 #2 AWG
- Duct Cable, 1/2 #4 AWG
- Existing Pole, Relocated
- High Mast Pole, 3-400 Watt, Asymmetric
- High Mast Pole, 3-1000 Watt, Symmetric
- Note: "All Towers are located more than 42' from the edge of traveled pavement unless indicated other wise."
- Structure Ground
- Note: "The grounds indicated are not to be considered complete in number or more than approximate in location."

- See Sheet 222(240) for reference letters
- Median Pull Box
- Control Center
- Pull Box

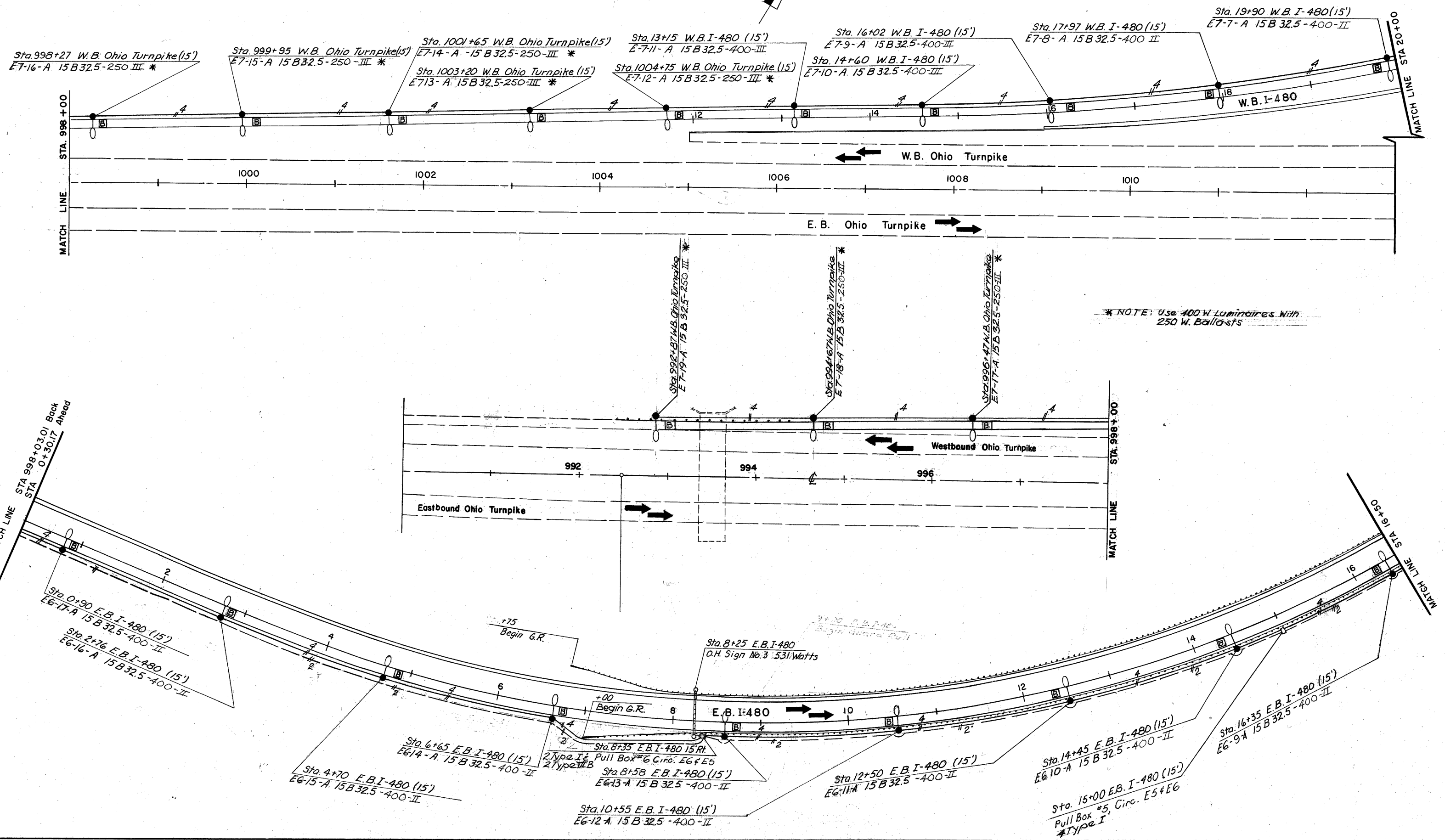
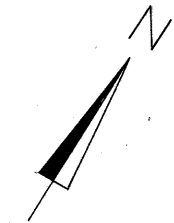
Underpass Luminaire Conduit, 713.04	Lamp Wattage*	
	Turnpike	East of Toll Plaza
Light Pole & Luminaire, Structure Mounted	400 Watt	200 Watt
Light Pole & Luminaire,		310 Watt
Light Pole & Luminaire,	400 Watt	200 Watt



\* Turnpike Area Light Source is Mercury, East of Toll Plaza is High Pressure Sodium.

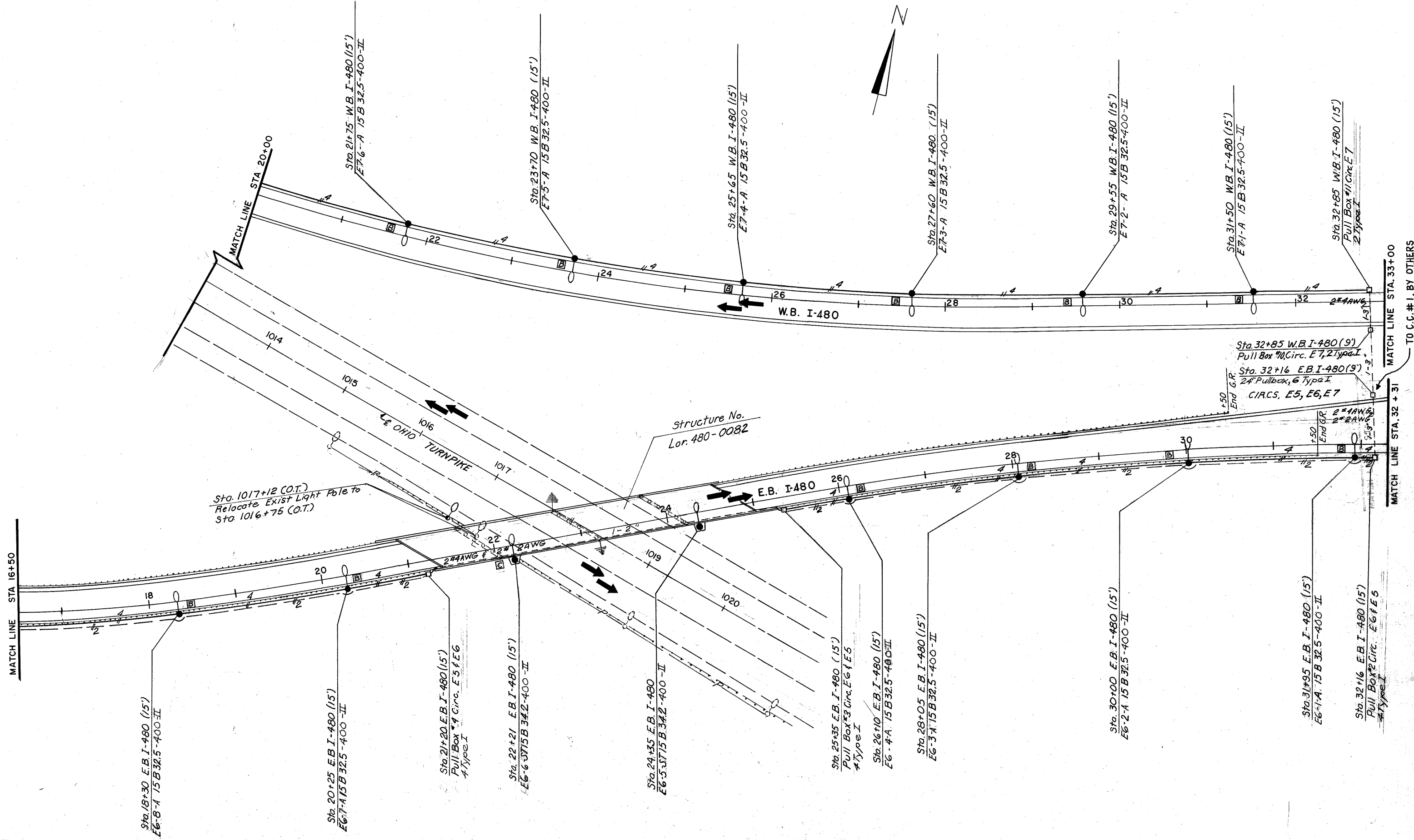
LORAIN COUNTY  
LOR-480-0.00

\* NOTE: Use 400 W Luminaires With  
250 W Ballasts





LORAIN COUNTY  
LOR.-480-0.00



Sta. 1017+12 (O.T.)  
Relocate Exist Light Pole to  
Sta. 1016+75 (O.T.)

Structure No.  
Lor. 480-0082

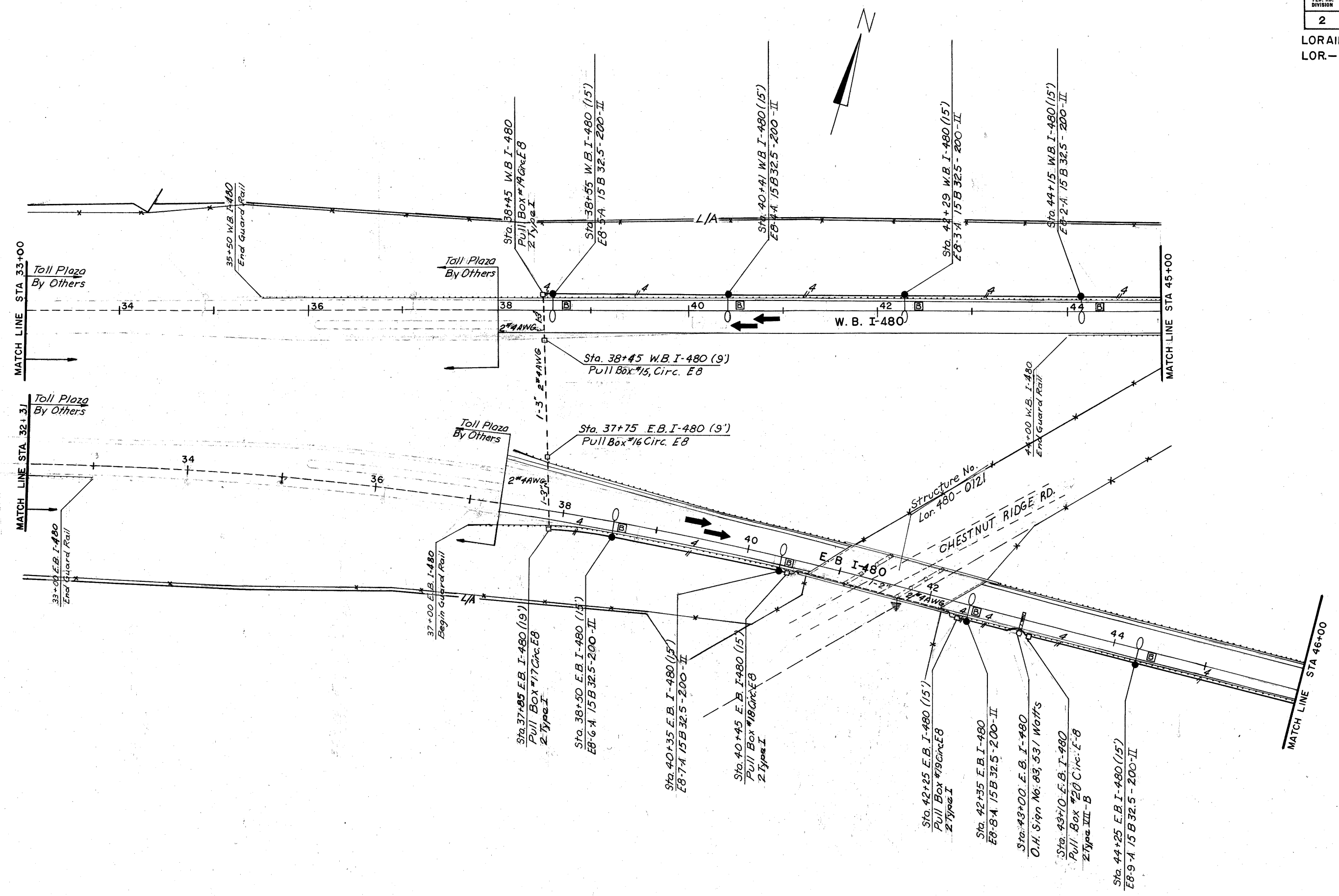
MATCH LINE STA 16+50

MATCH LINE STA 20+00

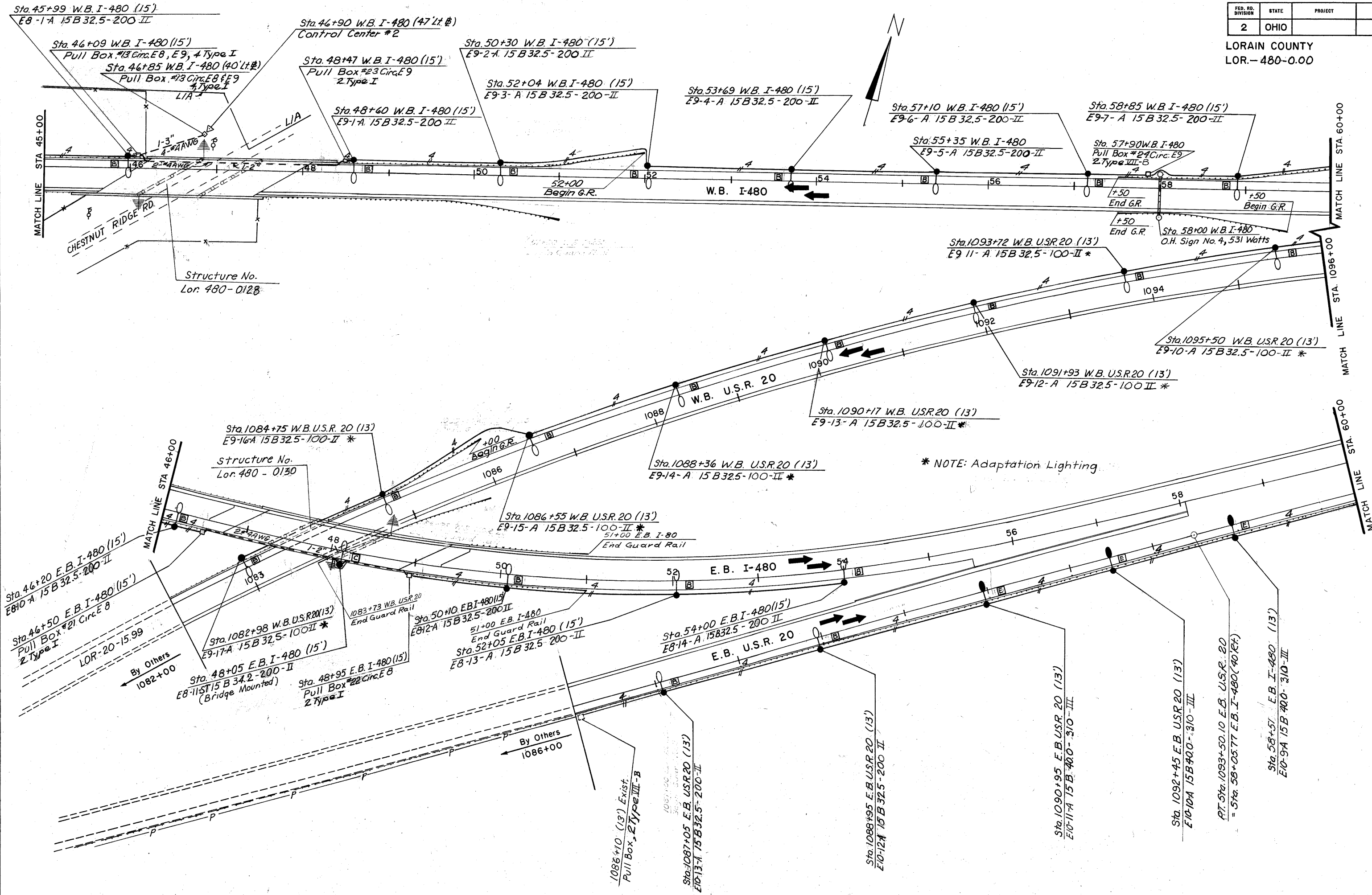
MATCH LINE STA. 33+00  
TO C.C.#1, BY OTHERS

MATCH LINE STA. 32 + 31

LORAIN COUNTY  
LOR-480-0:00



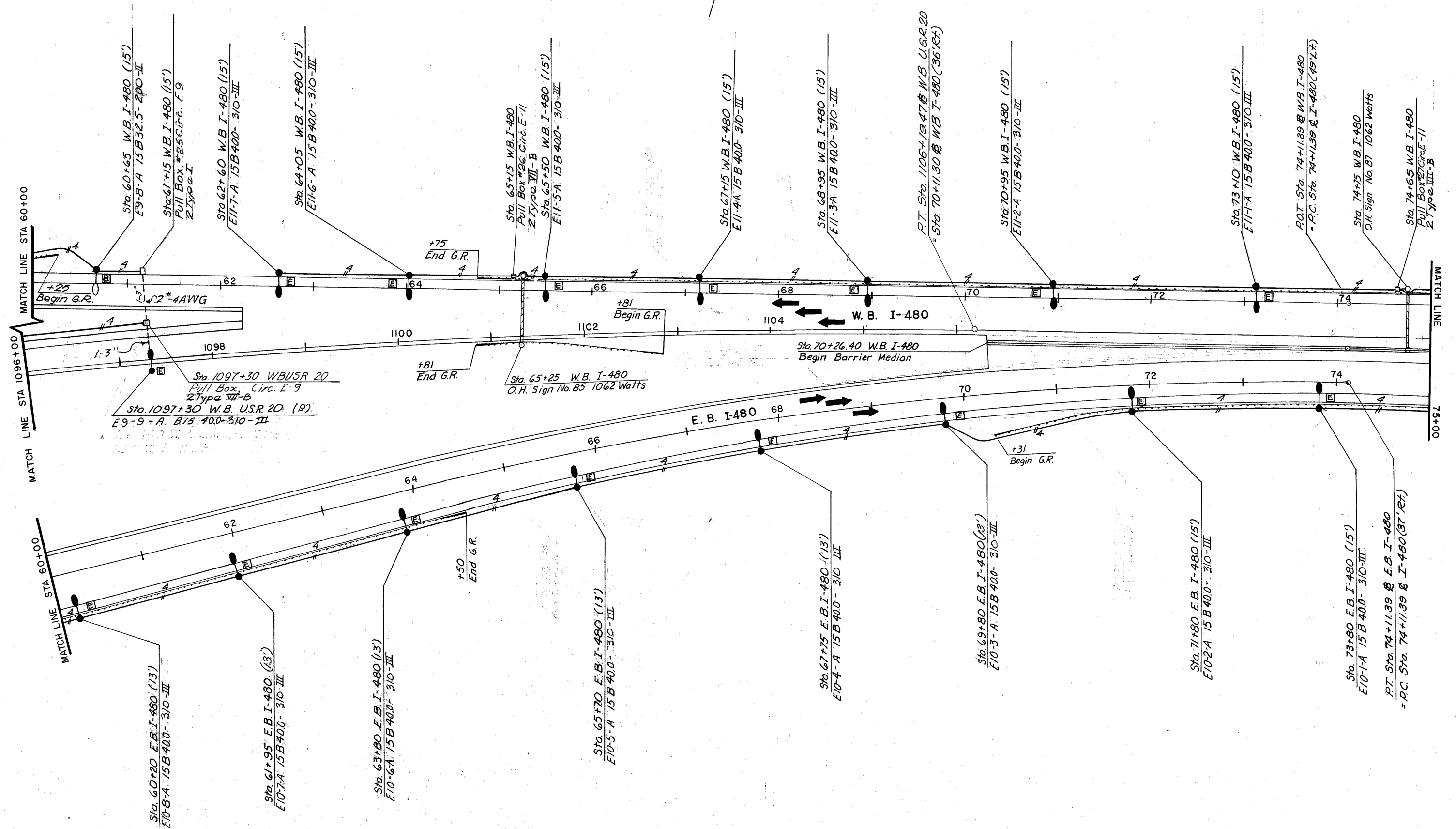
LORAIN COUNTY  
LOR.-480-0.00



FED. RD. DIVISION	STATE	PROJECT
2	OHIO	

234  
375

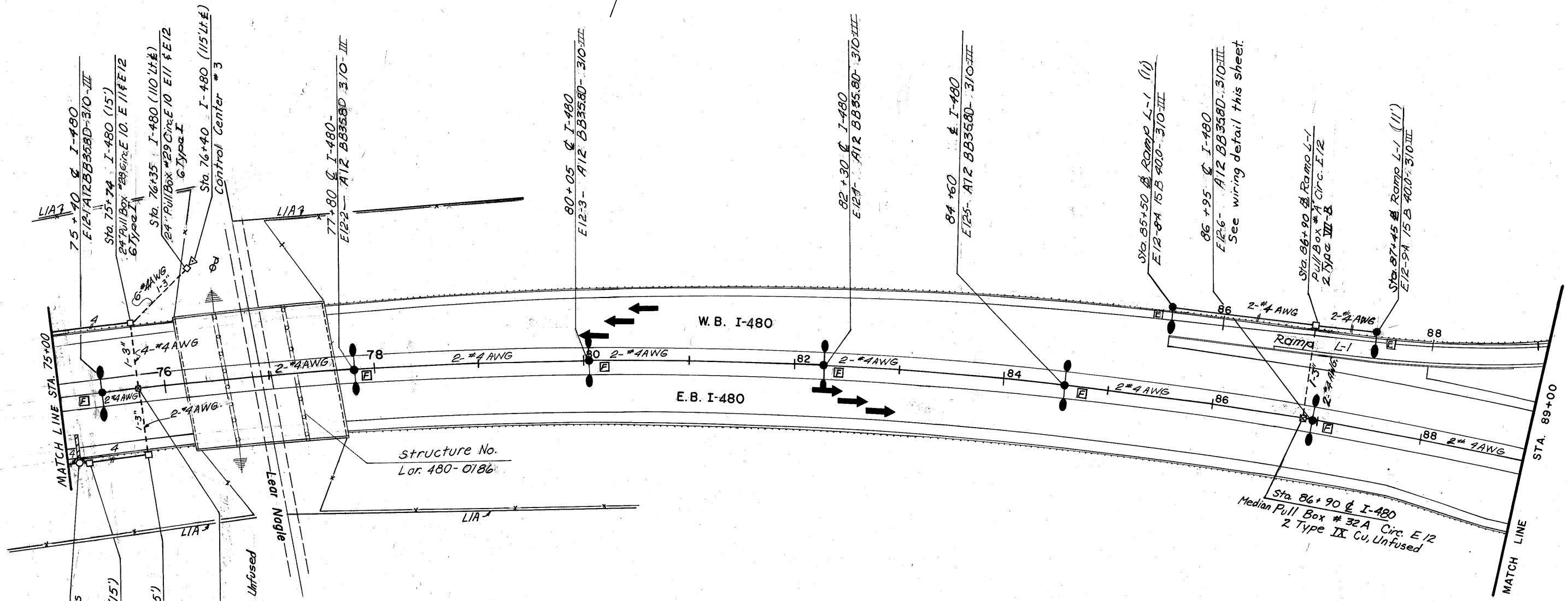
LORAIN COUNTY  
LOR-480-0.00



FED. RD. DIVISION	STATE	PROJECT
2	OHIO	

235  
375

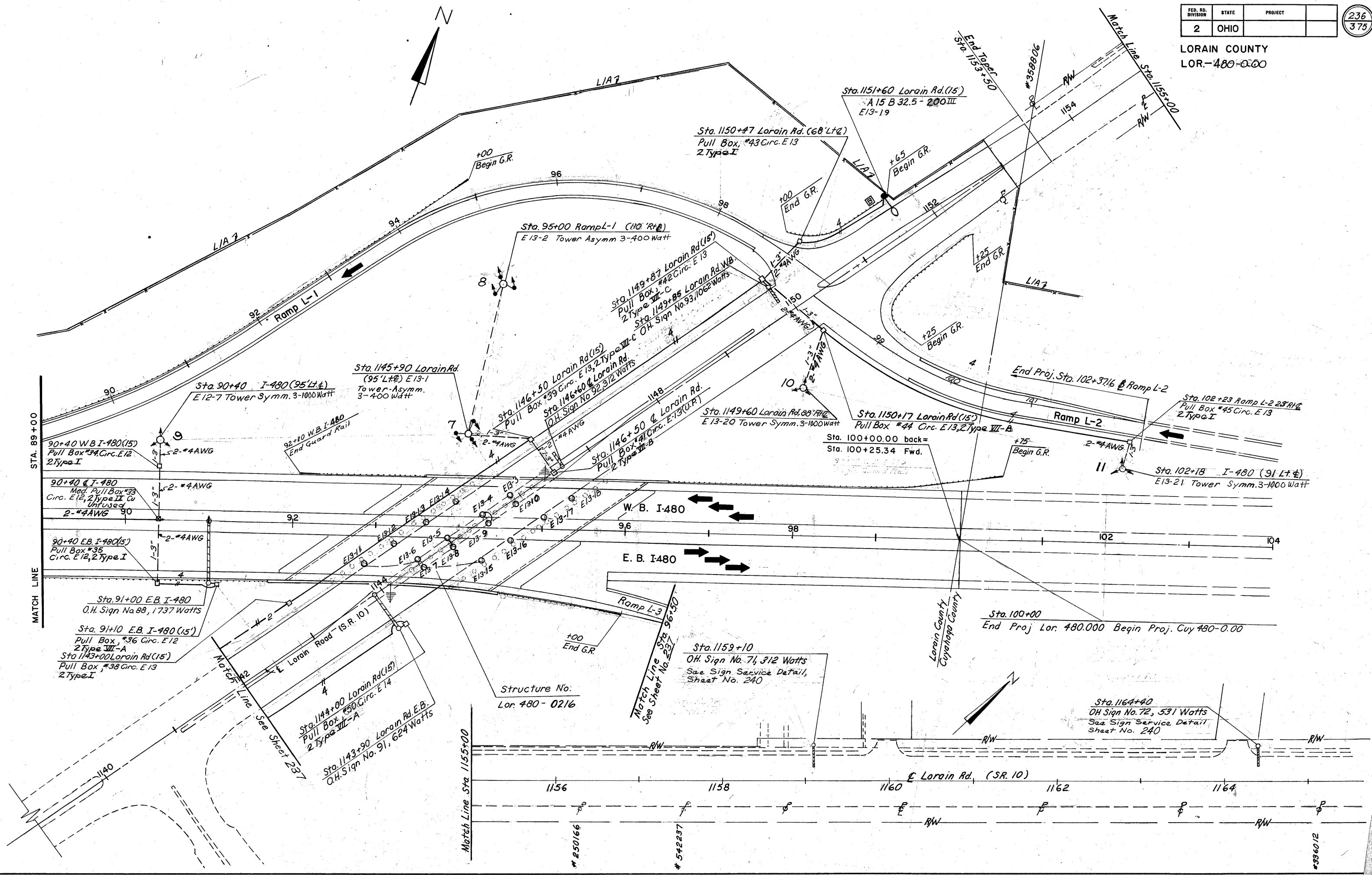
LORAIN COUNTY  
LOR-480-000



FED. RD. DIVISION	STATE	PROJECT
2	OHIO	

236  
375

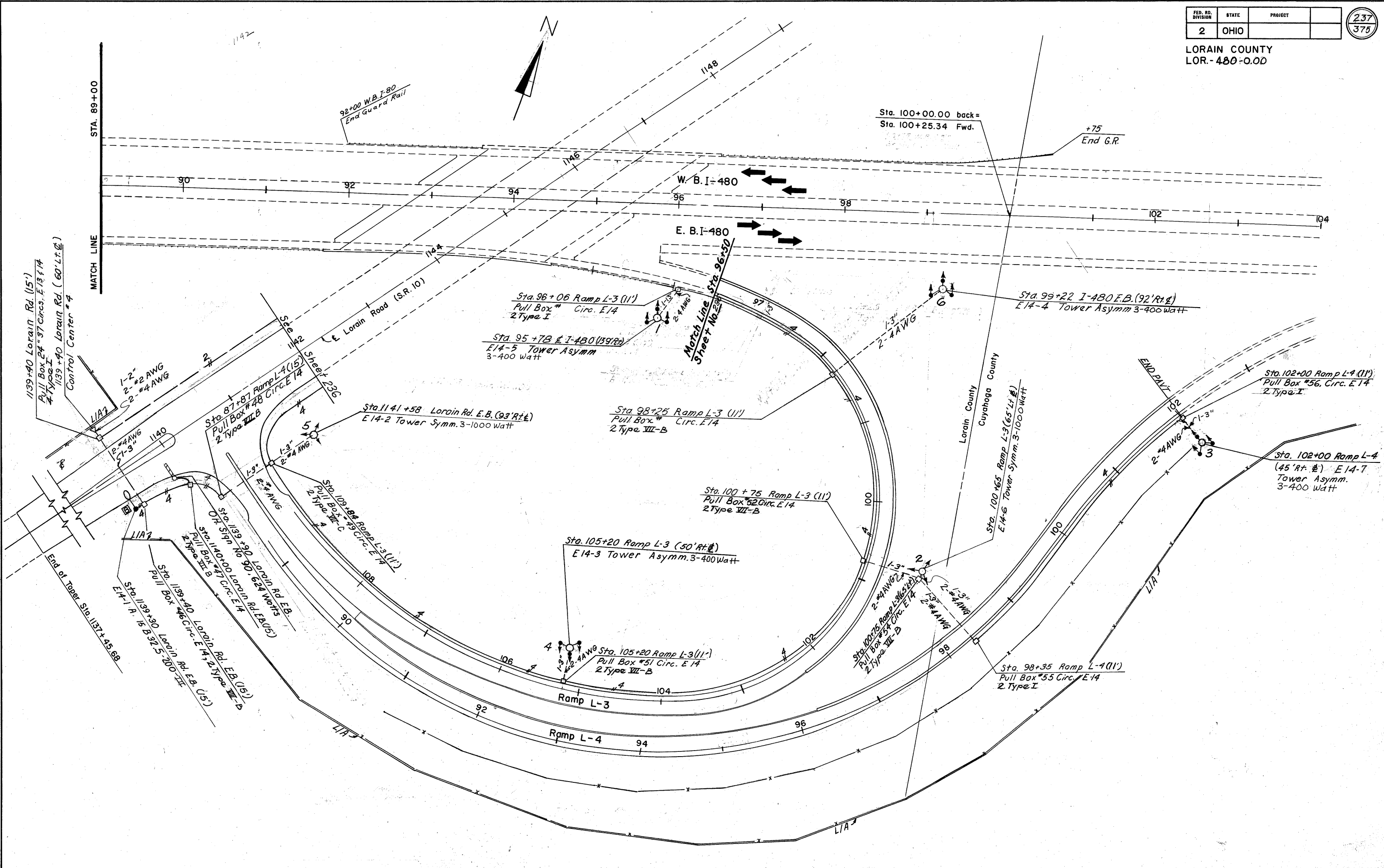
LORAIN COUNTY  
LOR-480-000

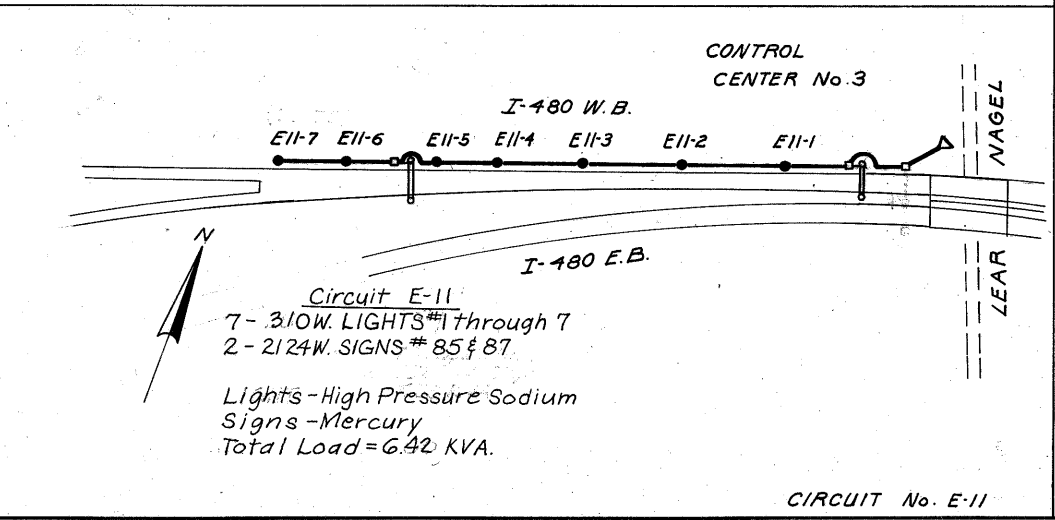
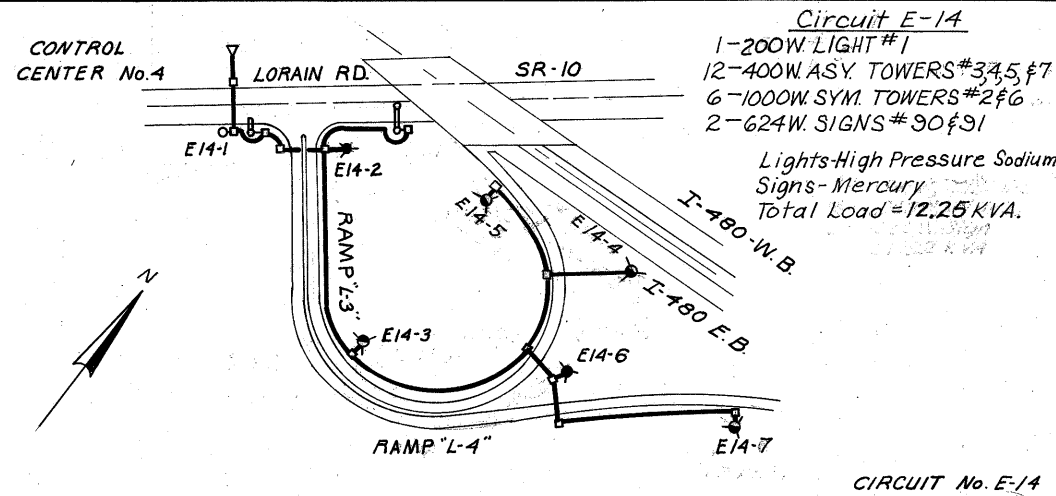
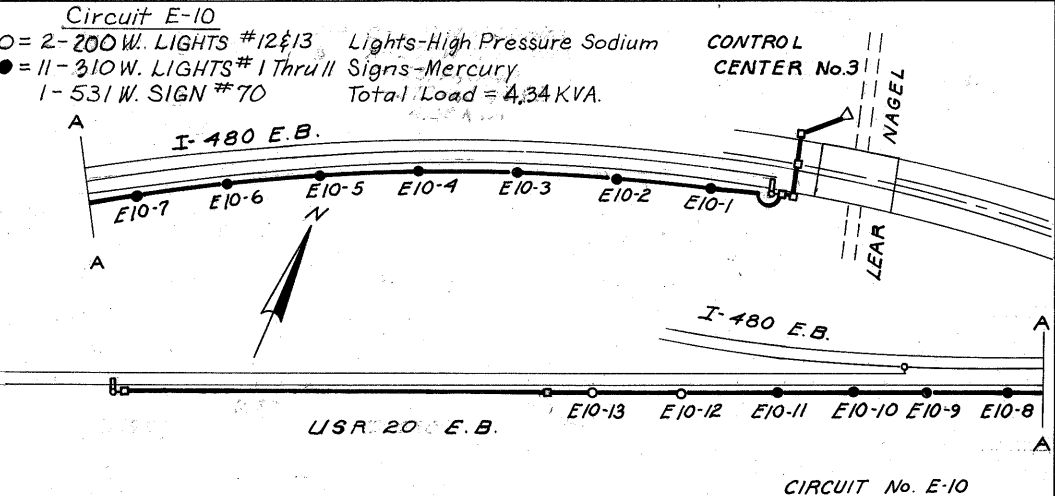
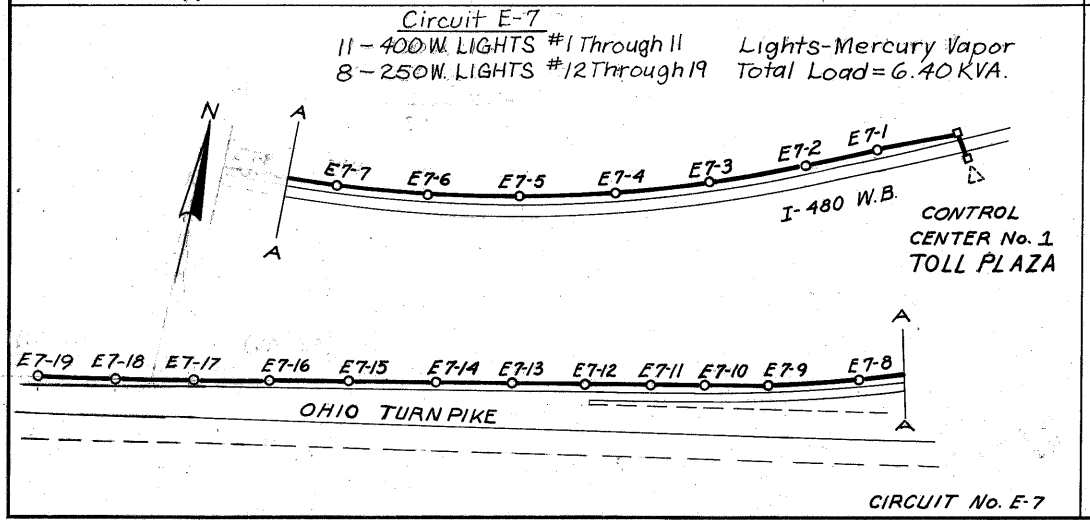
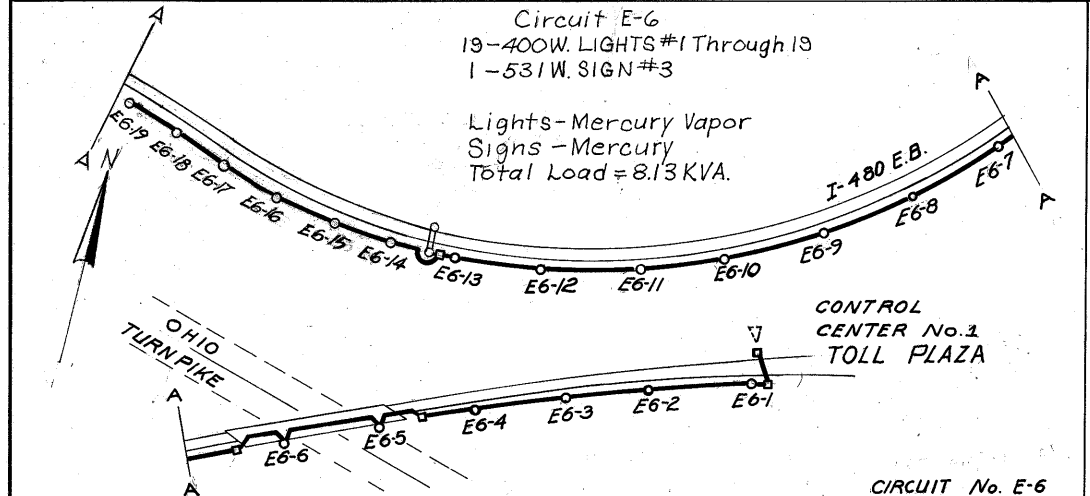
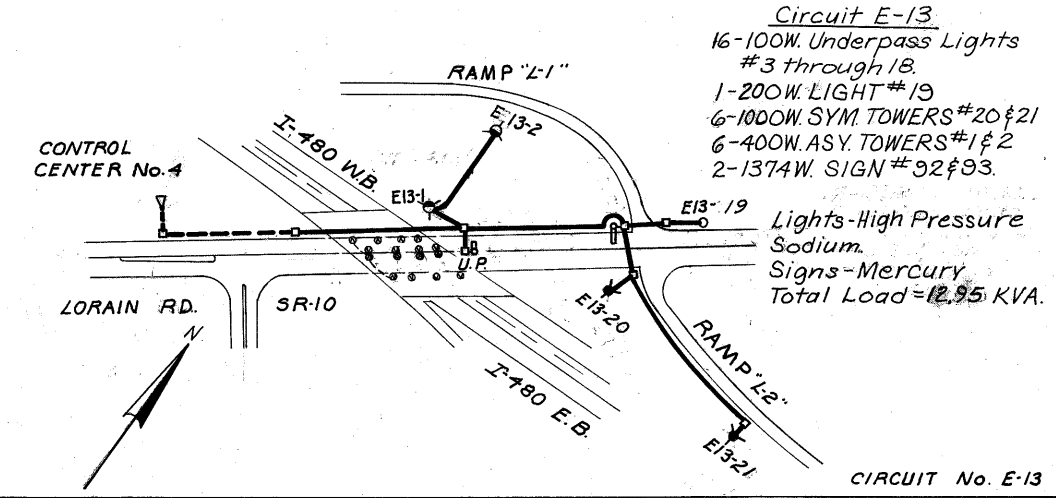
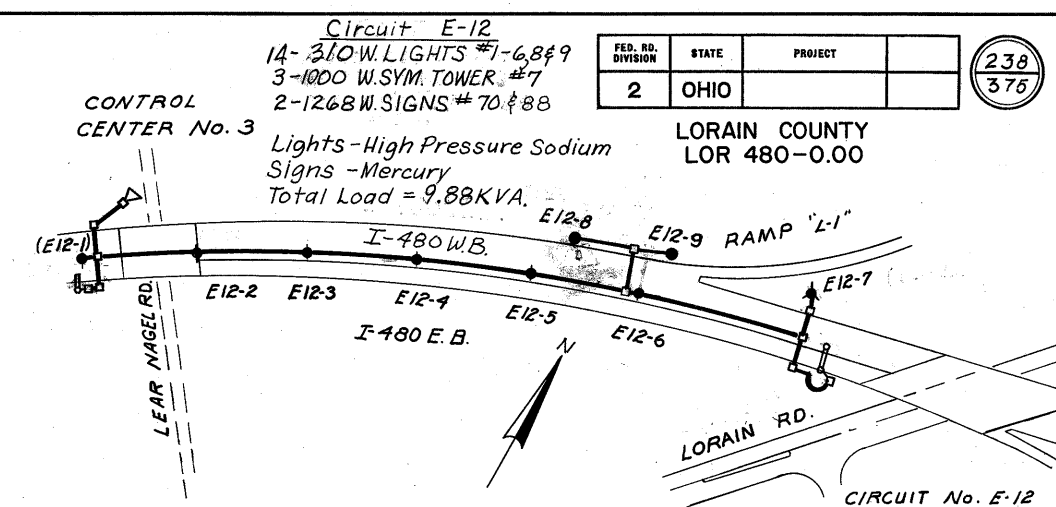
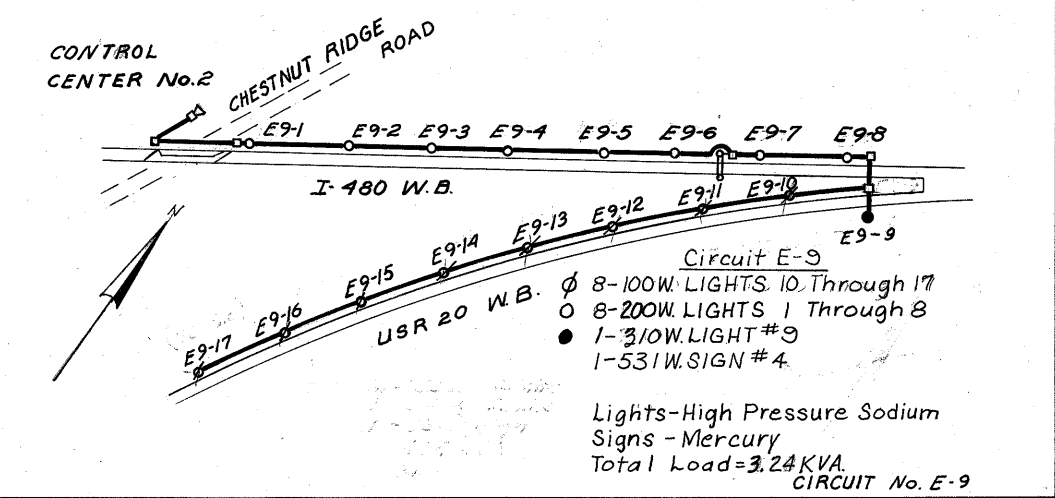
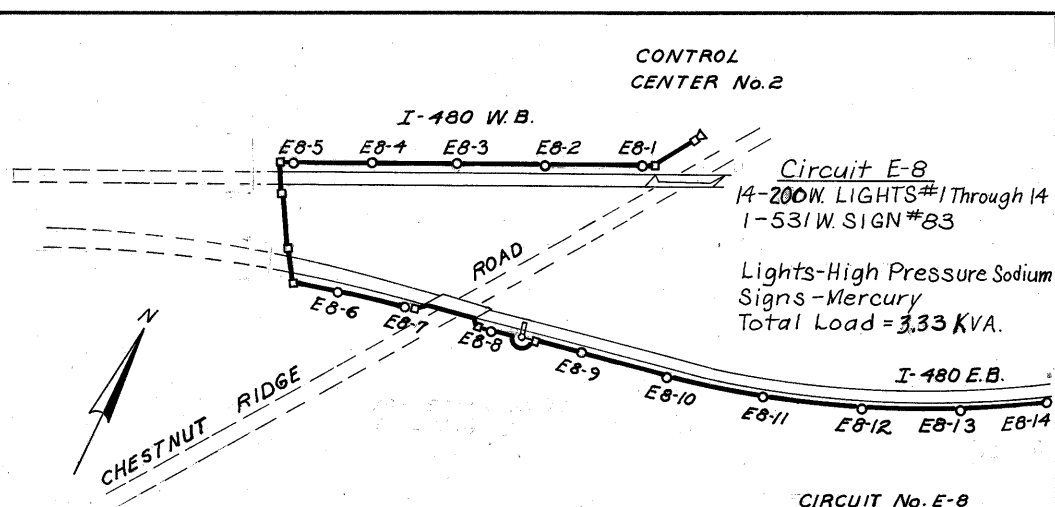
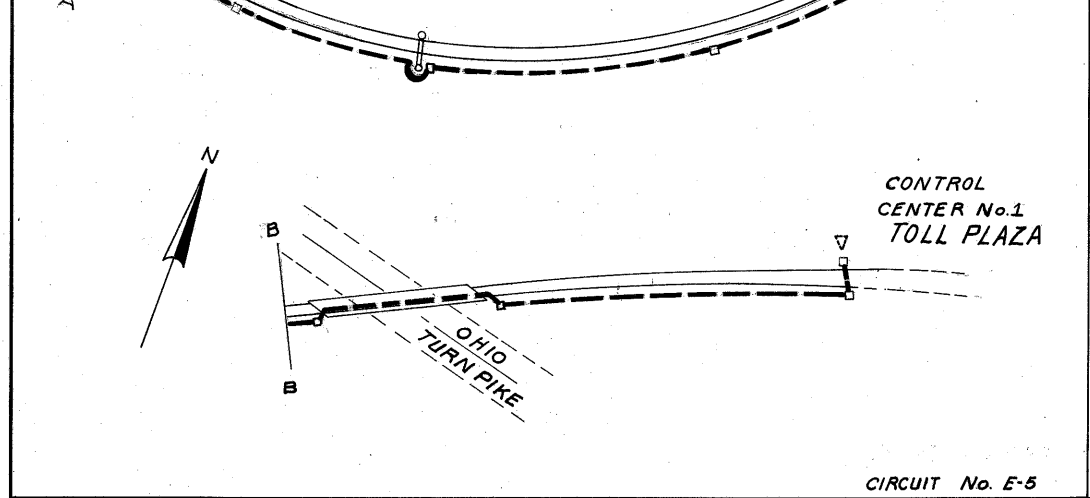
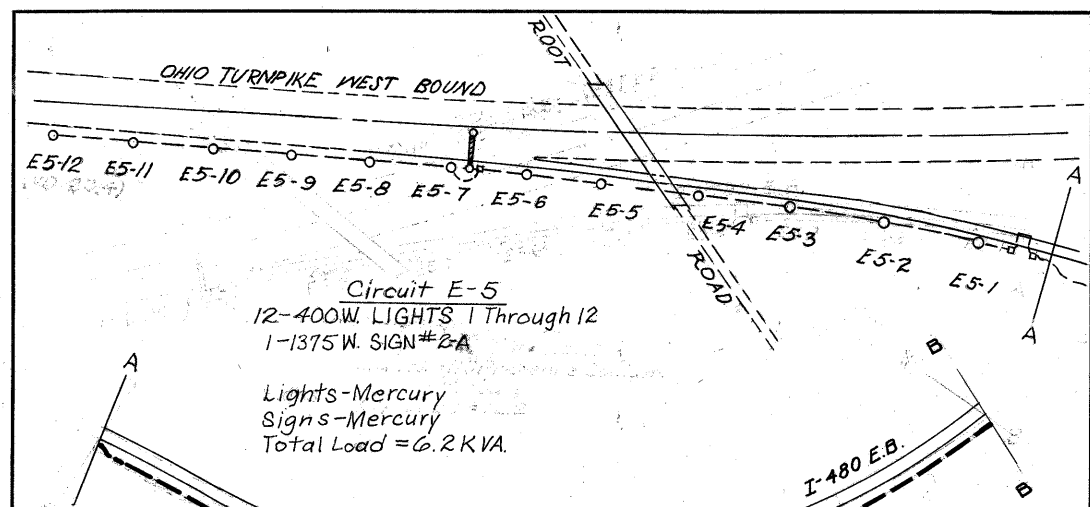


FED. RD. DIVISION	STATE	PROJECT
2	OHIO	

237  
375

LORAIN COUNTY  
LOR-480-0.00

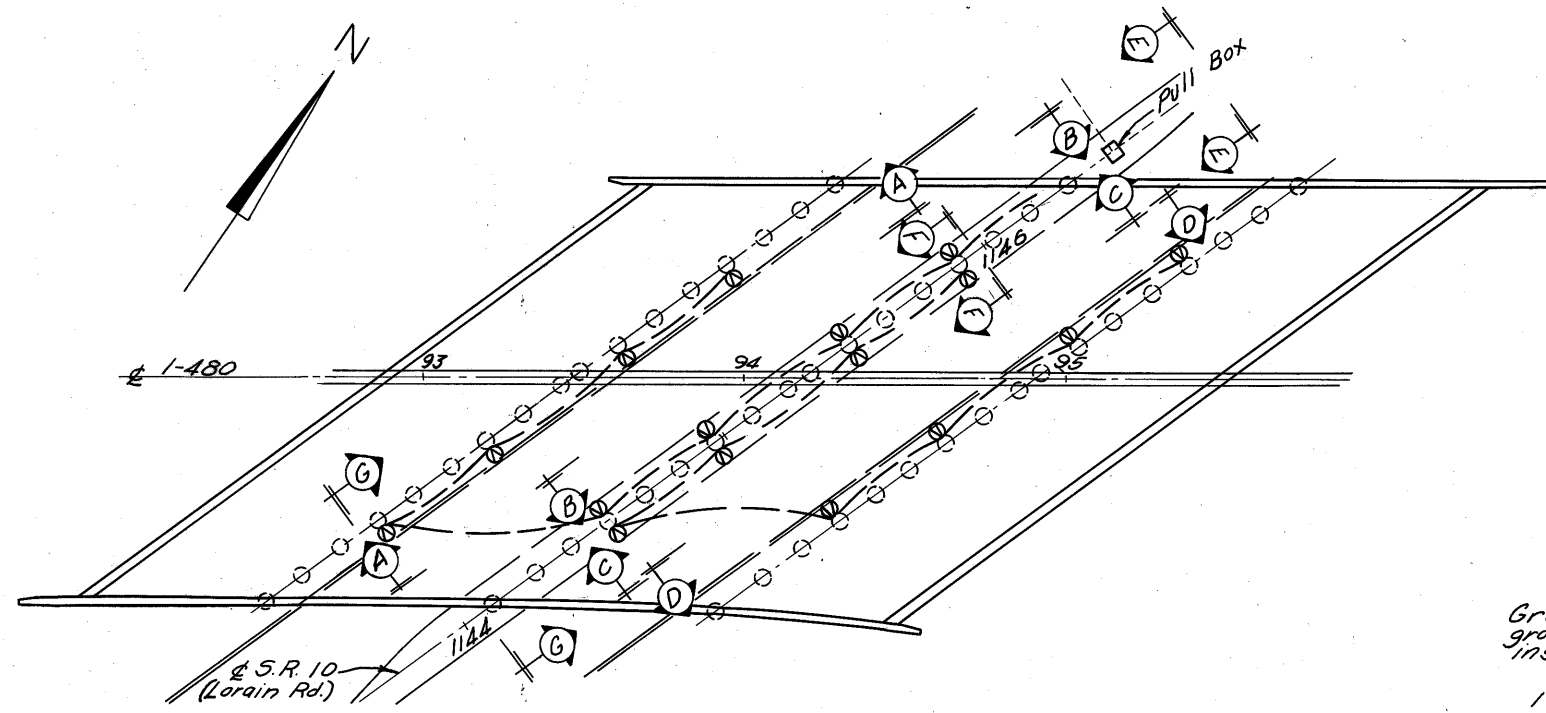




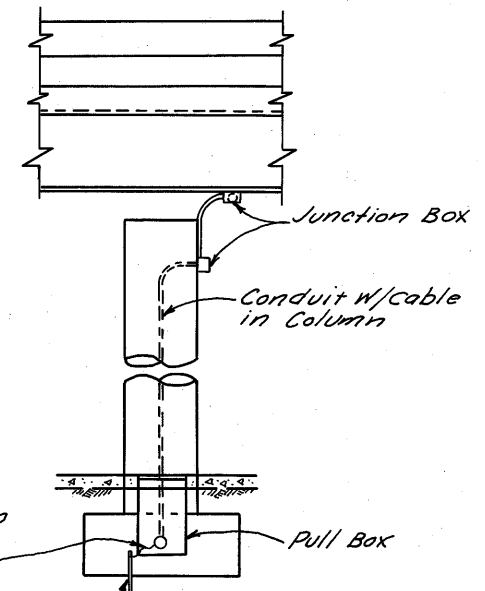
NOTE: FOR LEGEND SEE SHEET NO. 218



LORAIN COUNTY  
LOR. - 480-0.00



SCHEMATIC PLAN



SECTION E-E

UNDERPASS LIGHTING NOTES

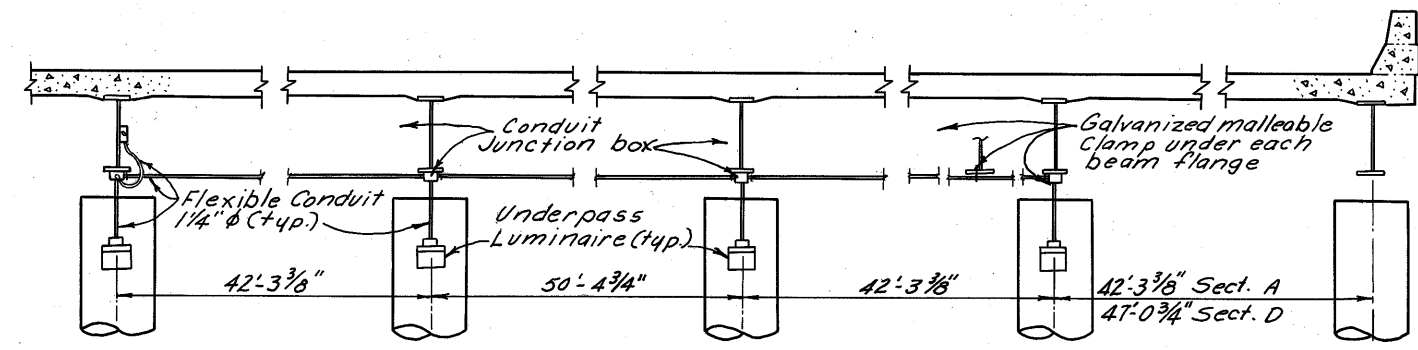
*Underpass Lighting* - Item 625 includes the installation of all electrical equipment on the bridge to the adjacent Roadway Pull Box. (See Lighting General Notes For Pay Item Description.)

*Quantities* - For detail listing of quantities see General Lighting Summary, Sheet No. 222.

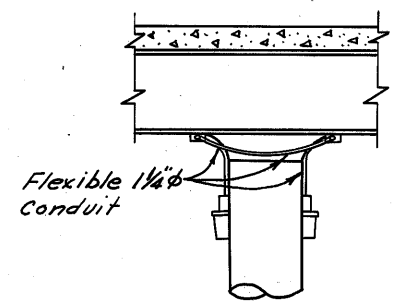
*Junction Boxes* - All Junction Boxes shall be as per 713.10.

*Anchorage* - The conduit and Junction Boxes shall be attached to the concrete with 1/4" flat head drive pins

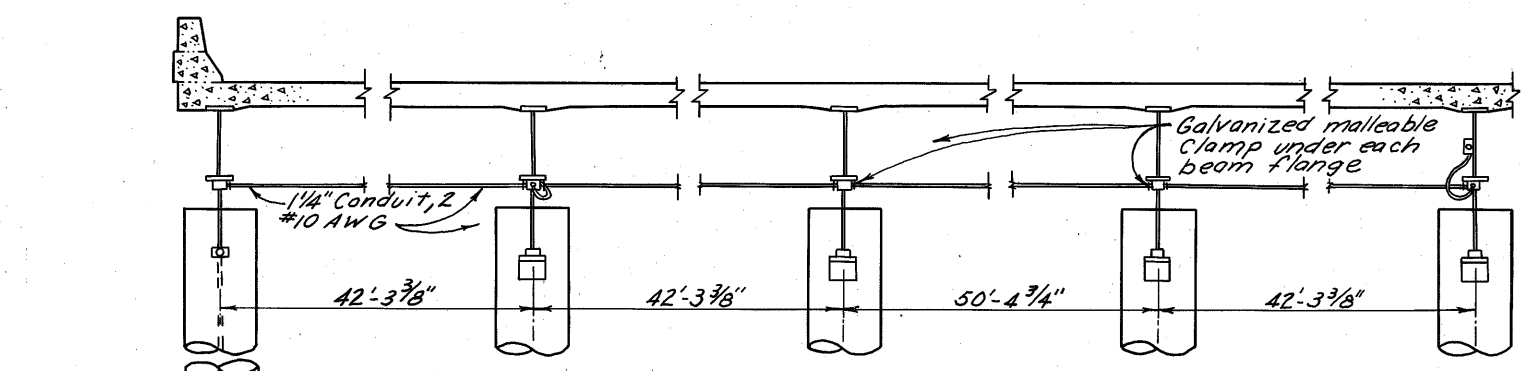
For additional details and notes, see Highway Lighting, Std. Dwg. HL - 6



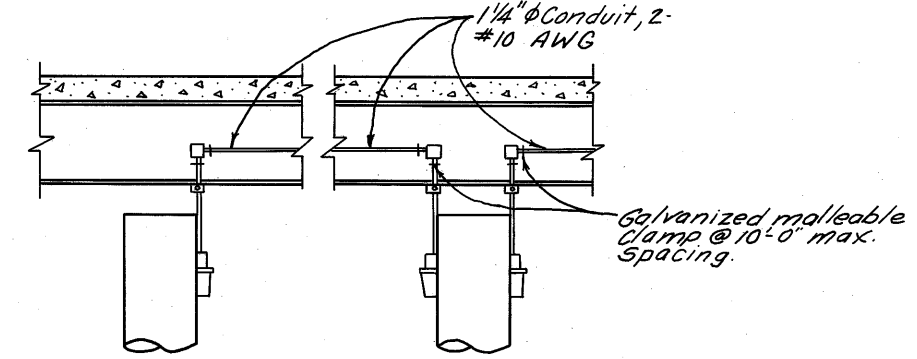
SECTION A-A  
SECTION D-D (Opp. hand except as noted)



SECTION F-F

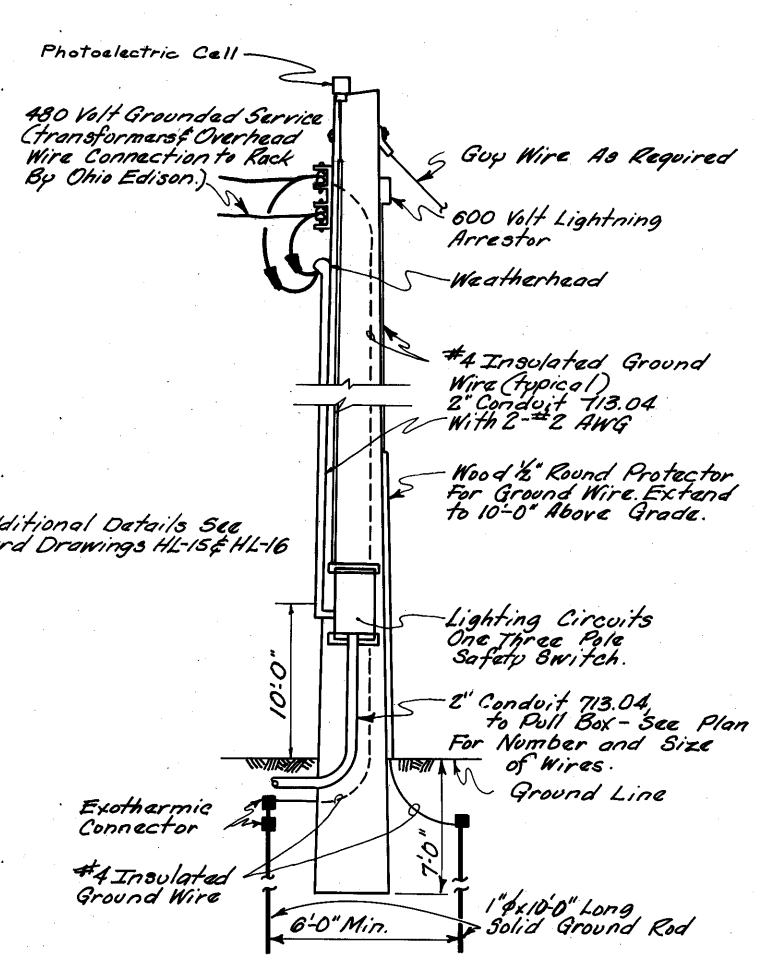


SECTION B-B  
SECTION C-C (Opp. hand)



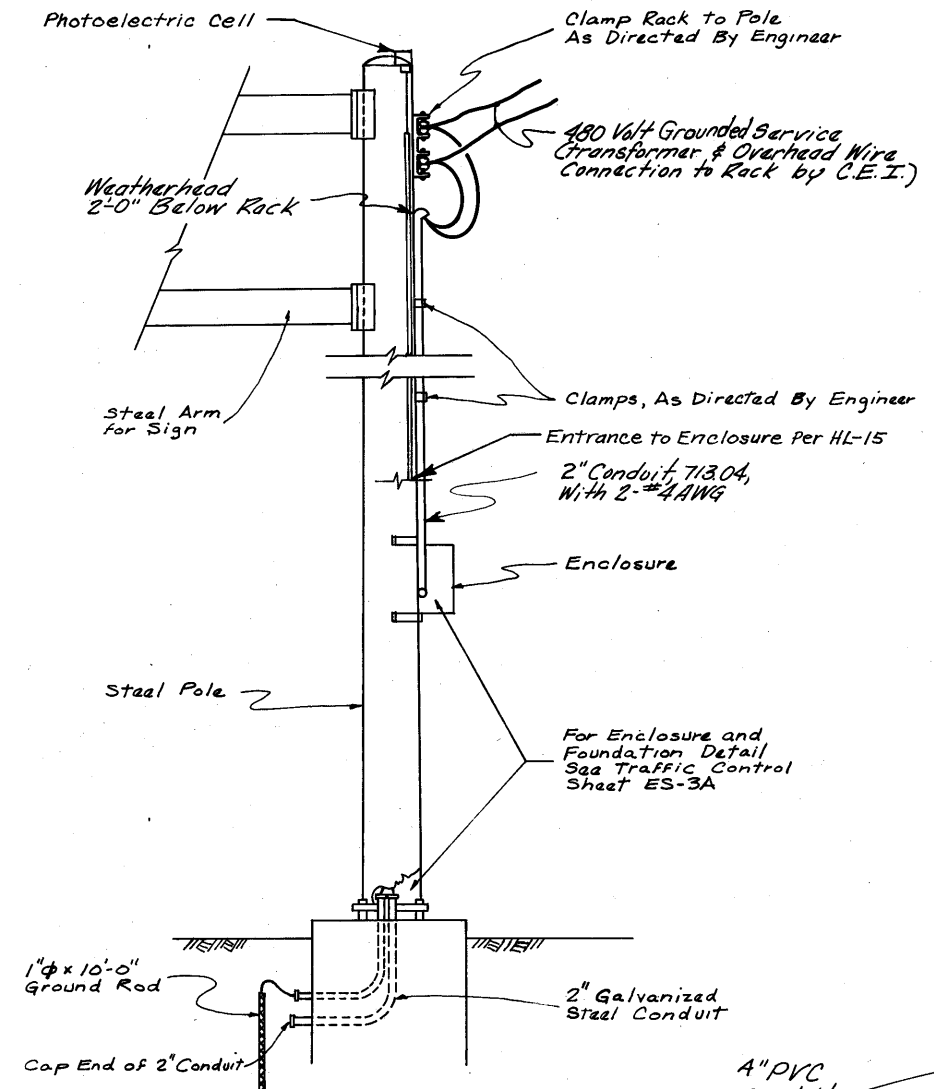
SECTION G-G

LORAIN COUNTY  
LOR 480-0.00

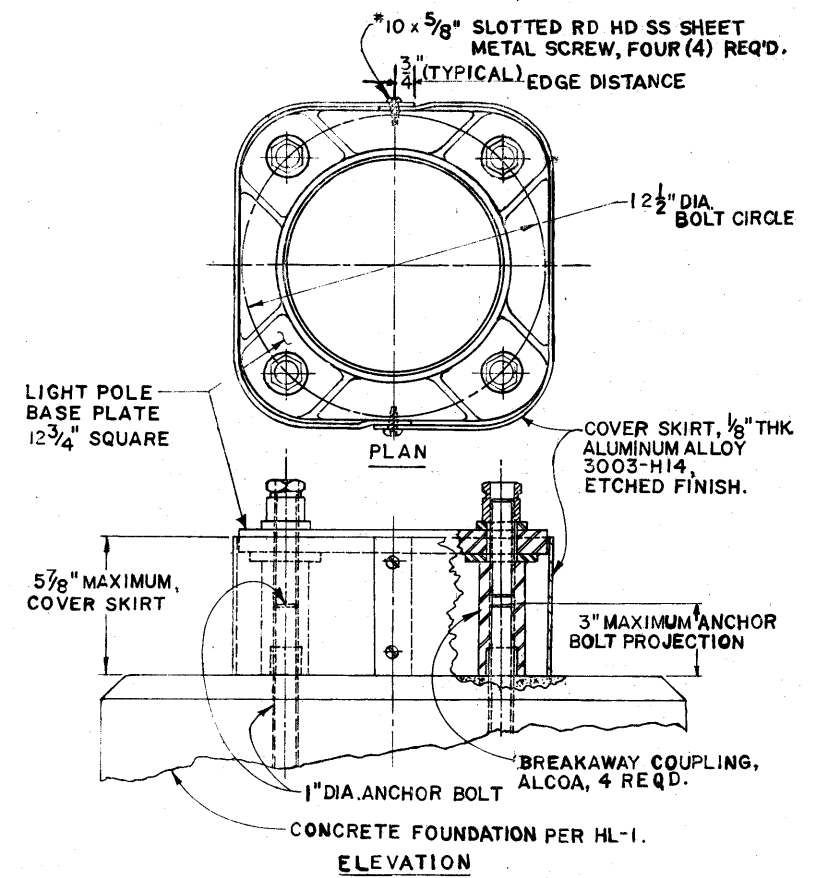


Note:  
For Additional Details See  
Standard Drawings HL-15 & HL-16

**CONTROL CENTER**  
No. 2 Sta. 46+90 W.B. I-480 (AT Lt.)  
No. 3 Sta. 76+40 I-480 (110' Lt. E.)  
No. 4 Sta. 1139+40 Lorain Rd. (60' Lt. E.)



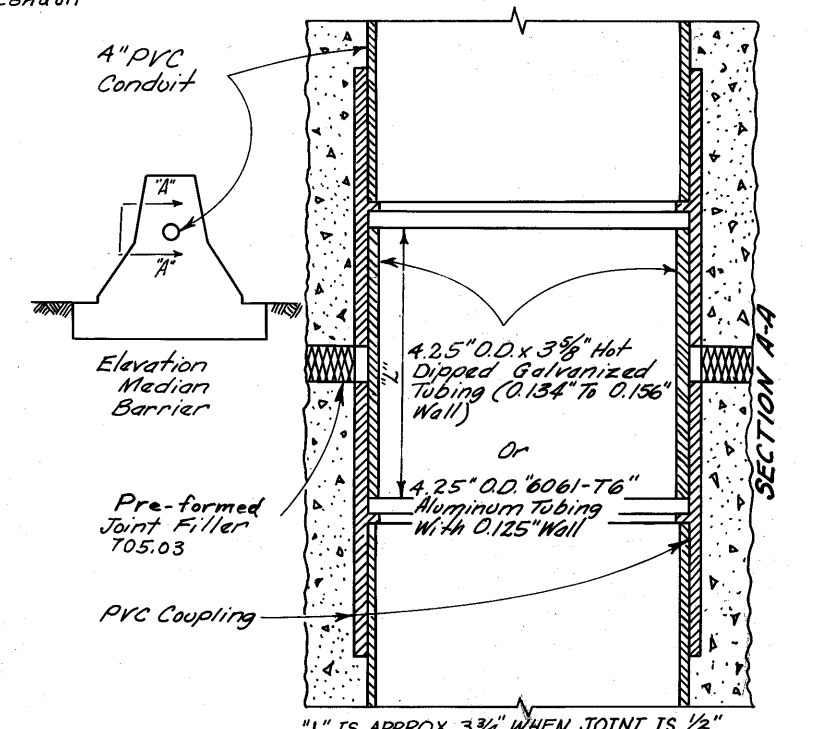
**SIGN SERVICE**  
Sta. 1159+10 Lorain Rd., Sign No. 71  
Sta. 1164+40 Lorain Rd., Sign No. 72



**BREAKAWAY SUPPORT AND COVER DETAIL**

REFERENCE LETTER	DESIGN NUMBER	FOUNDATION ANCHOR BOLTS		TRANSFORMER BASE STYLE
		SIZE	BOLT CIRCLE DIAMETER	
# B	A15B32.5	1" x 40"	12 1/2"	None
C	ST15B34.2	1" x 40"	15"	STEEL
# E	A15B40.0	1" x 40"	12 1/2"	None
F	A12BB35.8D*	1 1/4" x 70"	19 3/4"	None

\*D - With Special Base Plate  
\*\* For Bolt Circle details see Sheet 240 A  
# Light Pole to be mounted with Breakaway Supports See detail this sheet.



**DETAILS OF CONSTRUCTION JOINT 4" PVC COUPLING IN MEDIAN CONCRETE BARRIER**

Note: Conduit coupling as detailed herein shall be provided at all median barrier joints where a joint filler is used, as required or permitted by item 622 or standard construction Drawing MC-9.

# FOUNDATION AND PULL BOX DETAILS - MEDIAN MOUNTED LIGHT POLES - TYPE 3

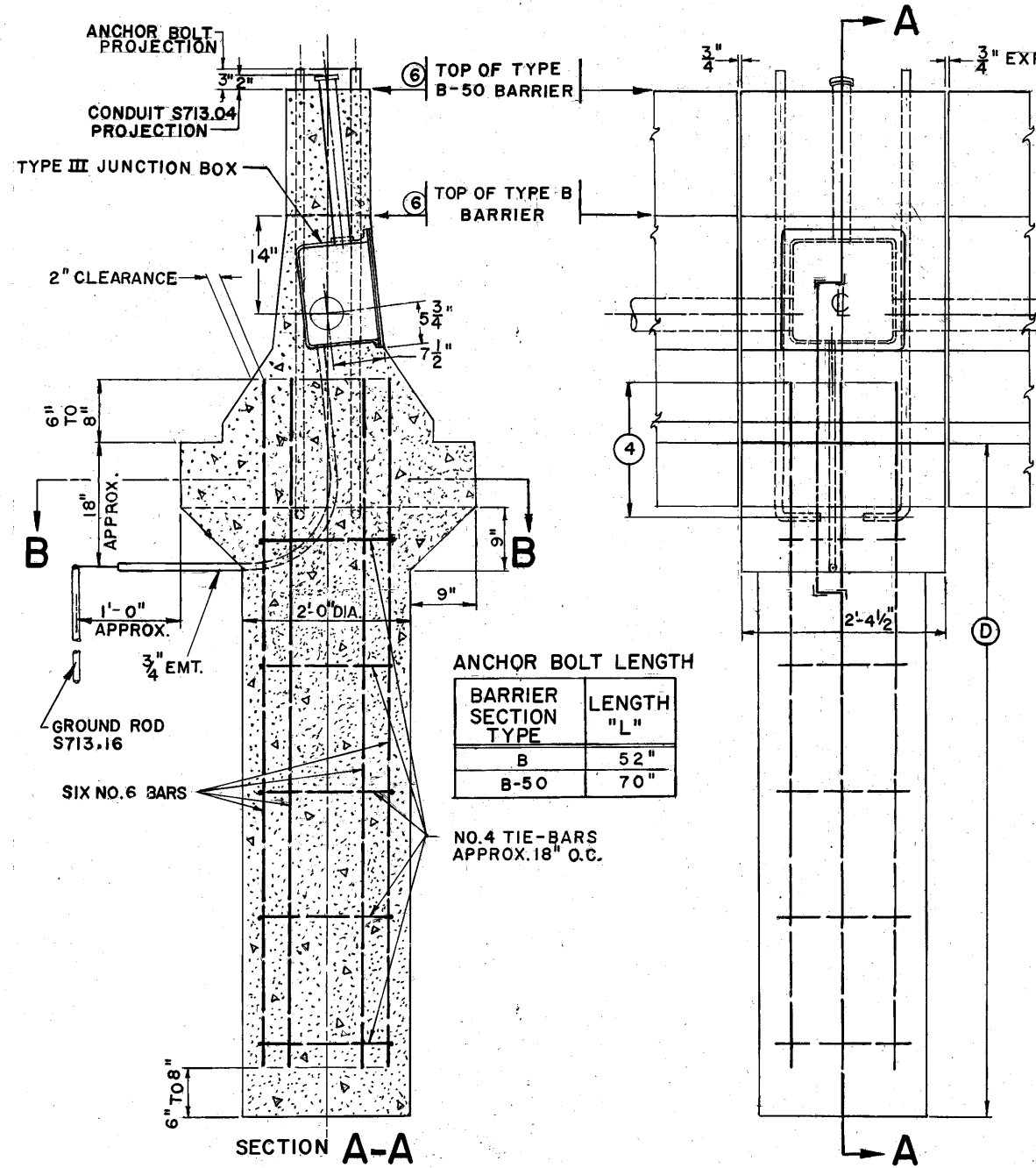
FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

LORAIN COUNTY  
LOR-480-0.00

240A  
375

## NOTES

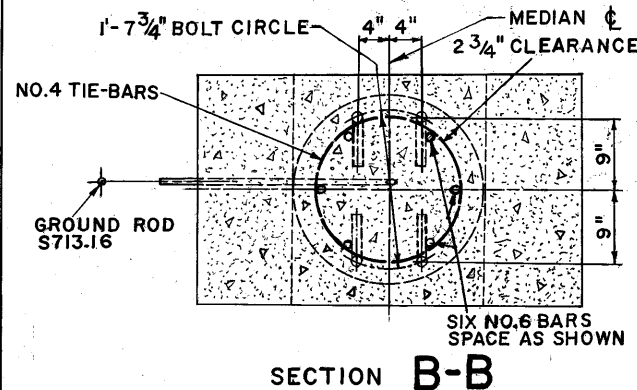
- FOUNDATION TO BE CAST-IN-PLACE CLASS "C" CONCRETE.
- REINFORCING TO COMPLY WITH AND BE PLACED IN ACCORDANCE WITH 509.
- LIGHT POLE ANCHOR BOLTS TO BE 1/4" DIA. x LENGTH "L" INCLUDING 6" L-BEND, WITH ONE HEX NUT PER BOLT, PROJECTION ABOVE CONCRETE 3", THREAD LENGTH 3", GALVANIZED LENGTH 4".
- MAINTAIN MINIMUM 17" OVERLAP OF ANCHOR BOLTS AND REINFORCEMENT BARS PER AASHTO.
- THE TOP OF THE CONCRETE BARRIER SHALL BE FLAT, SMOOTH, AND LEVEL TO ELIMINATE NEED FOR LIGHT POLE SHIMS. GRIND SURFACE, IF REQUIRED, TO MAKE CONCRETE LEVEL.
- REFER TO STANDARD CONSTRUCTION DRAWING MC-9 FOR BARRIER DIMENSIONS.
- JUNCTION BOXES SHALL CONFORM TO S713.10, EXCEPT THAT GALVANIZED STEEL PLATE COVERS SHALL CONFORM TO ASTM A-242 OR A-36.
- THE UNIT PRICE BID FOR EACH "ITEM S625, MEDIAN LIGHT POLE FOUNDATION," SHALL BE FULL COMPENSATION FOR FURNISHING AND PLACING ANCHOR BOLTS, REINFORCING, TYPE III JUNCTION BOX, EMT., AND ALL LABOR, MATERIAL, EQUIPMENT, AND INCIDENTALS NECESSARY TO COMPLETE THE WORK AS SPECIFIED.
- THE UNIT PRICE BID FOR EACH "ITEM S625, MEDIAN PULL BOX," SHALL BE FULL COMPENSATION FOR FURNISHING AND PLACING TYPE IV JUNCTION BOX, CONDUIT ELLS, AND ALL LABOR, MATERIAL, EQUIPMENT AND INCIDENTALS NECESSARY TO COMPLETE THE WORK AS SPECIFIED.
- CONSTRUCTION SHALL CONFORM TO THE REQUIREMENTS OF 622 AND S625.



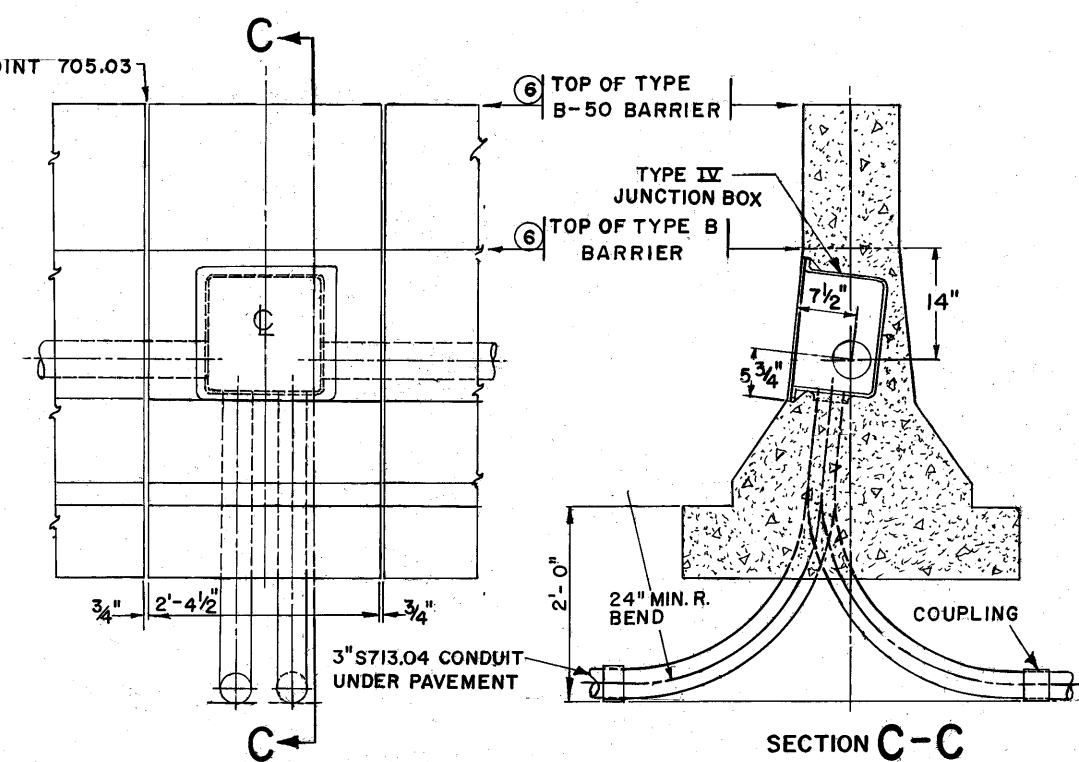
BARRIER SECTION TYPE	ANCHOR BOLT LENGTH "L"
B	52"
B-50	70"

NO. 4 TIE-BARS APPROX. 18" O.C.

## MEDIAN LIGHT POLE FOUNDATION



LIGHT POLE MOUNTING HEIGHT	MINIMUM FOUNDATION DEPTH BELOW GRADE
40'	8' - 0"
45'	9' - 0"
50'	10' - 0"



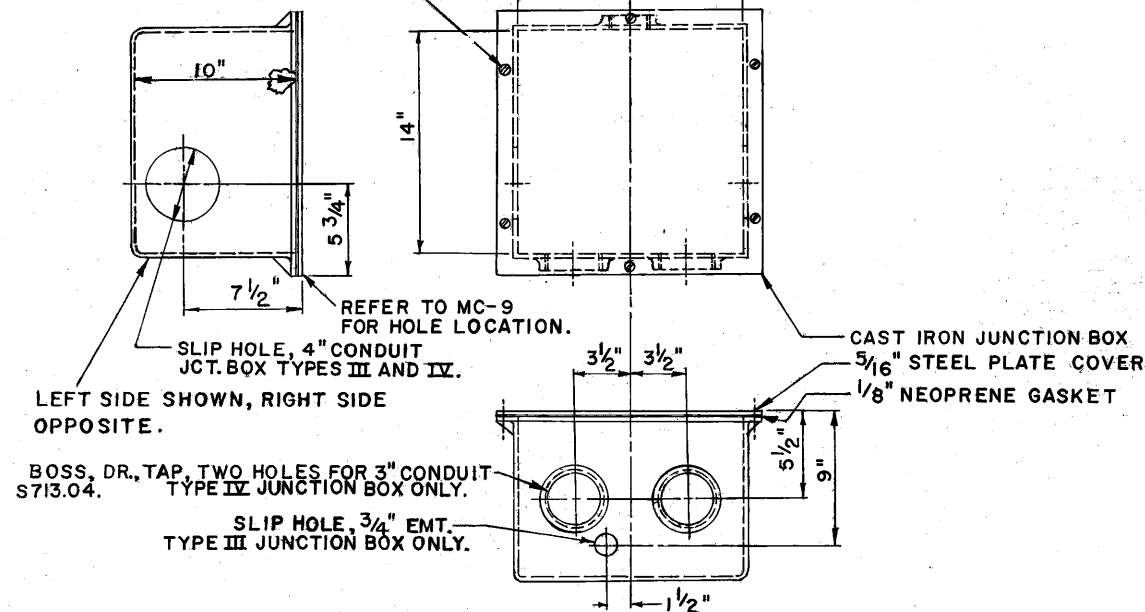
## MEDIAN PULLBOX

TYPE III JUNCTION BOX 2\"/>

BARRIER SECTION TYPE	CONDUIT LOCATION
B	6"
B-50	4"

BOSS, DRILL & TAP FOR 2\"/>

S.S. FLAT HD. SCREWS



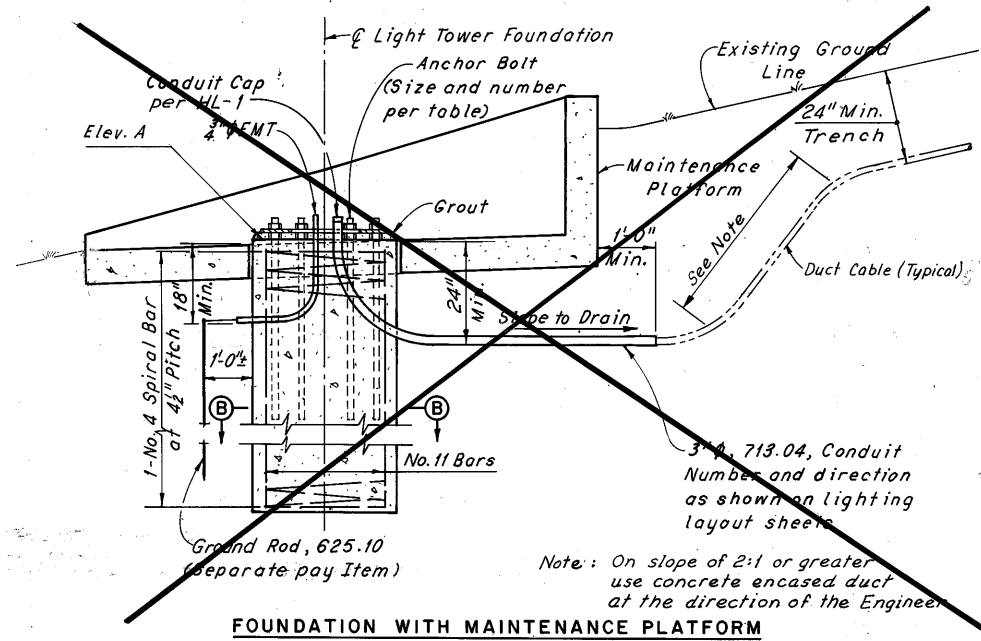
## JUNCTION BOX TYPES III AND IV

# LIGHT TOWER FOUNDATION DETAILS

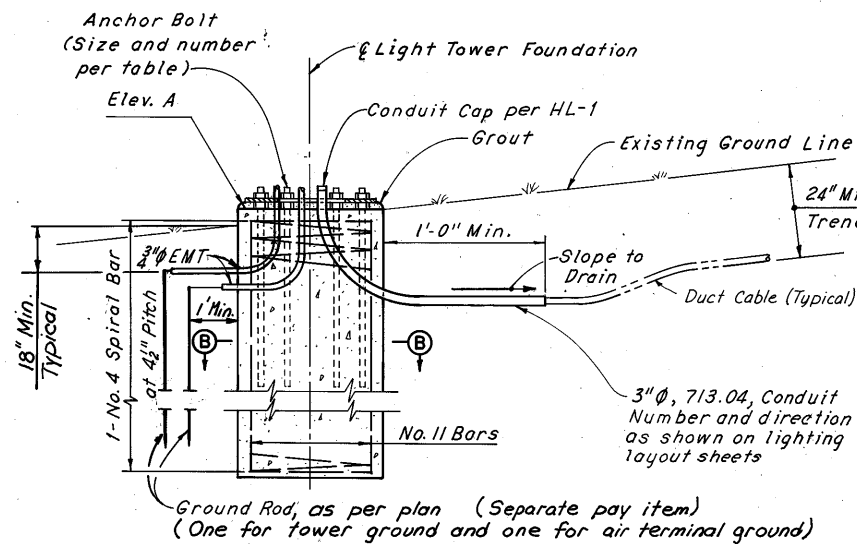
FHWA REGION	STATE	PROJECT
5	OHIO	

241  
375

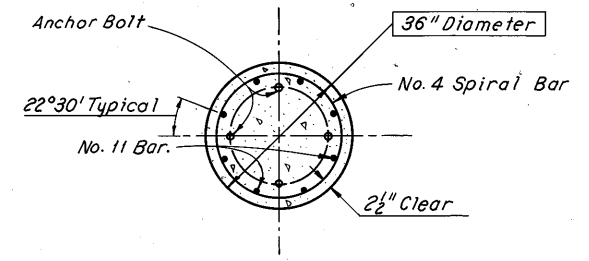
LORAIN COUNTY  
LOR 480-0.00



**FOUNDATION WITH MAINTENANCE PLATFORM**  
(Greater than 6.0:1 slope)  
(Maintenance Platform reinforcement not shown)

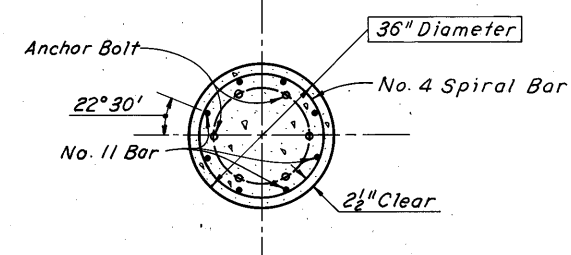


**FOUNDATION WITHOUT MAINTENANCE PLATFORM**  
(Less than 6.0:1 slope)



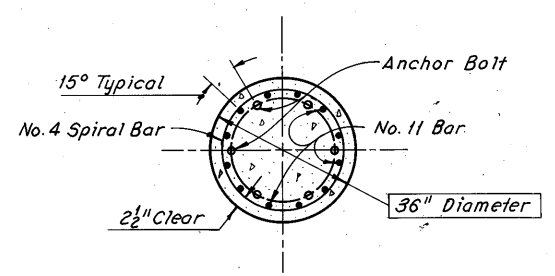
**SECTION B-B**  
(8-No. 11 Bars equally spaced)  
\*(4 Anchor Bolts equally spaced)

**TYPE I**



**SECTION B-B**  
(8-No. 11 Bars equally spaced)  
\*(6 Anchor Bolts equally spaced)

**TYPE II**



**SECTION B-B**  
(12-No. 11 Bars equally spaced)  
\*(6 Anchor Bolts equally spaced)

**TYPE III**

Embedment Depth	10'-0"	15'-0"	20'-0"	25'-0"	30'-0"
Number of Turns	**30	**43	**56	**69	**82

A = 2'-7" for a 36" Foundation

**SPIRAL REINFORCEMENT NOTE:**  
The length shown on the No. 4 Spiral Bar Bending Diagram is the Foundation embedment depth with a 3" clearance.  
Four steel channels, tee or angle spacers, weighing approximately 0.80 lbs. per foot of spacer shall be provided for each spiral unit. They shall be equally spaced along the periphery of the coil.

\*\* Number of turns @ 4 1/2" pitch includes 1/2 turns at each end.  
**NO. 4 SPIRAL BAR**

Notes:  
Comments shown are supplemental to O.D.O.T. Standard Construction Drawing HL-1.

Tower No.	LOCATION	POLE DATA			CAISSON DATA			
		Pole Height	Bolt Circle	Bolt Size	No. of Bolts	Foundation Depth	Section Type	No. 11 Bar Length
1	STA. 95+78 ± I-480 (139' Rt)	110'	26"	1 3/4" x 9/16"	6	20'-0"	III	19'-9"
2	STA. 100+65 ± L-3 (65' Lt)	110'	26"	1 3/4" x 9/16"	6	18'-6"	III	18'-3"
3	STA. 102+00 ± L-4 (45' Rt)	110'	26"	1 3/4" x 9/16"	6	20'-0"*	III	19'-9"
4	STA. 105+20 ± L-3 (50' Rt)	100'	23.5"	1 3/4" x 9/16"	6	17'-0"*	II	16'-9"
5	STA. 141+58 ± S.R. 10 (93' Rt)	100'	23.5"	1 3/4" x 9/16"	6	17'-0"*	II	16'-9"
6	STA. 99+22 ± I-480 (92' Rt)	110'	26"	1 3/4" x 9/16"	6	24'-6"	III	24'-3"
7	STA. 145+90 ± S.R. 10 (95' Lt)	120'	26"	1 3/4" x 9/16"	6	24'-6"*	III	24'-3"
8	STA. 95+00 ± L-1 (110' Rt)	110'	26"	1 3/4" x 9/16"	6	17'-0"*	III	16'-9"
9	STA. 90+40 ± I-480 (95' Lt)	110'	26"	1 3/4" x 9/16"	6	24'-6"	III	24'-3"
10	STA. 1149+60 ± S.R. 10 (88' Rt)	120'	26"	1 3/4" x 9/16"	6	18'-6"*	III	18'-3"
11	STA. 102+18 ± I-480 (91' Lt)	110'	26"	1 3/4" x 9/16"	6	20'-0"	III	19'-9"

\* Minimum of 1'-6" into sound rock.

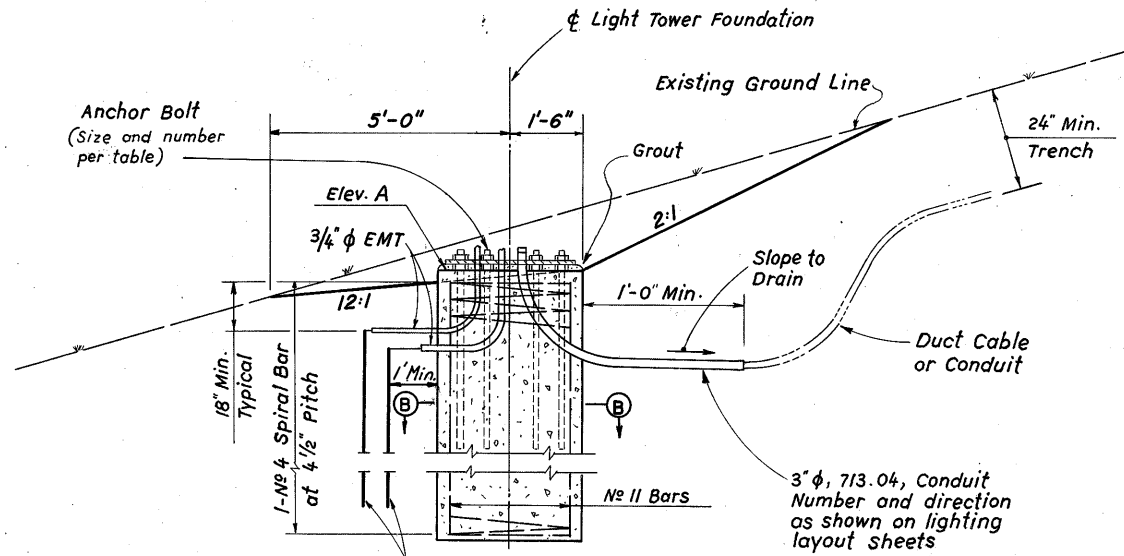
# The Contractor shall take special care in placing the anchor bolts to assure that the hand holes of the poles are facing in the direction away from traffic.

# LIGHT TOWER FOUNDATION DETAILS

FHWA REGION	STATE	PROJECT	
5	OHIO		

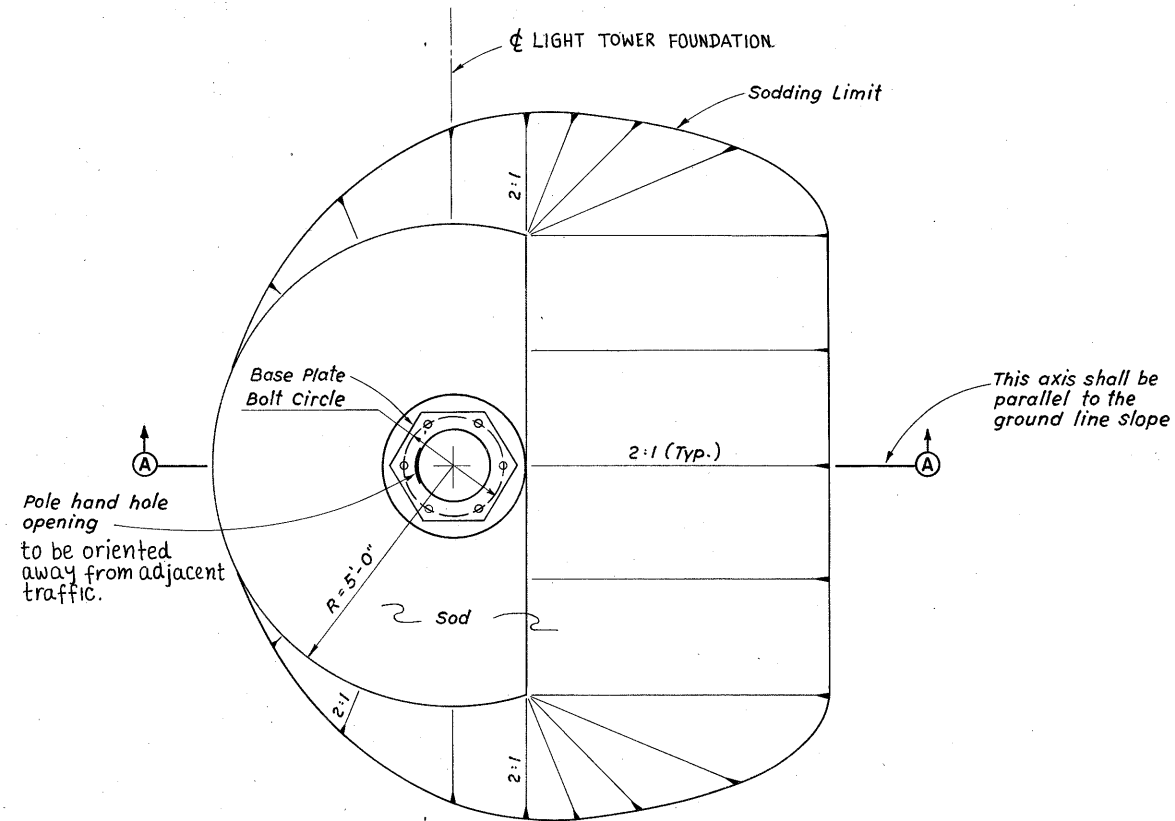
241A  
375

LORAIN COUNTY  
LOR 480-0.00

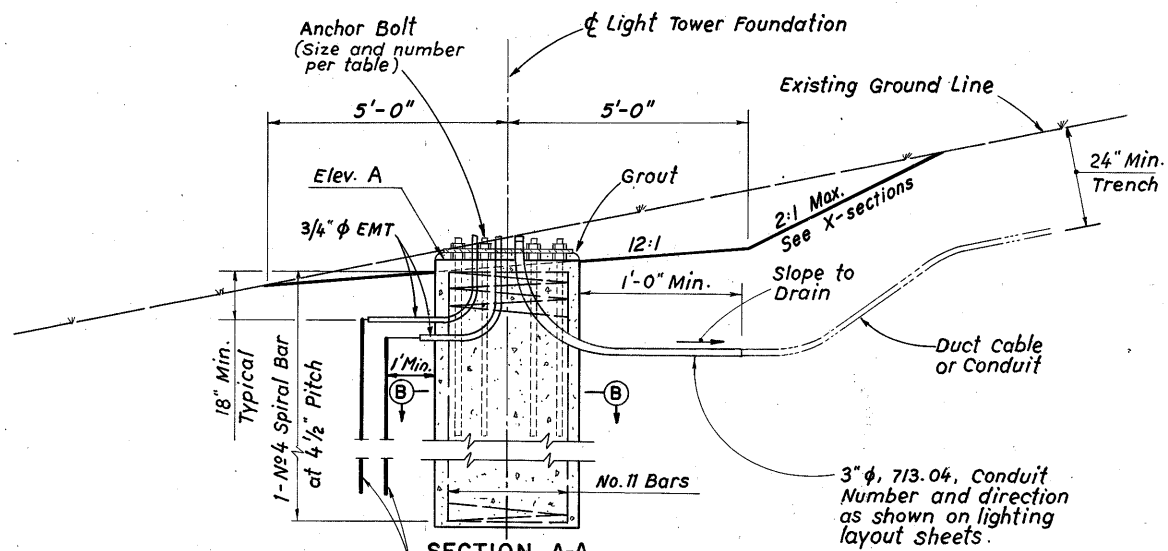


Ground Rod, as per plan  
(Separate pay item)  
(One for tower ground and one for air terminal ground)

**FOUNDATION WITHOUT MAINTENANCE PLATFORM**  
(Slope 3.99:1 to 3.01:1)

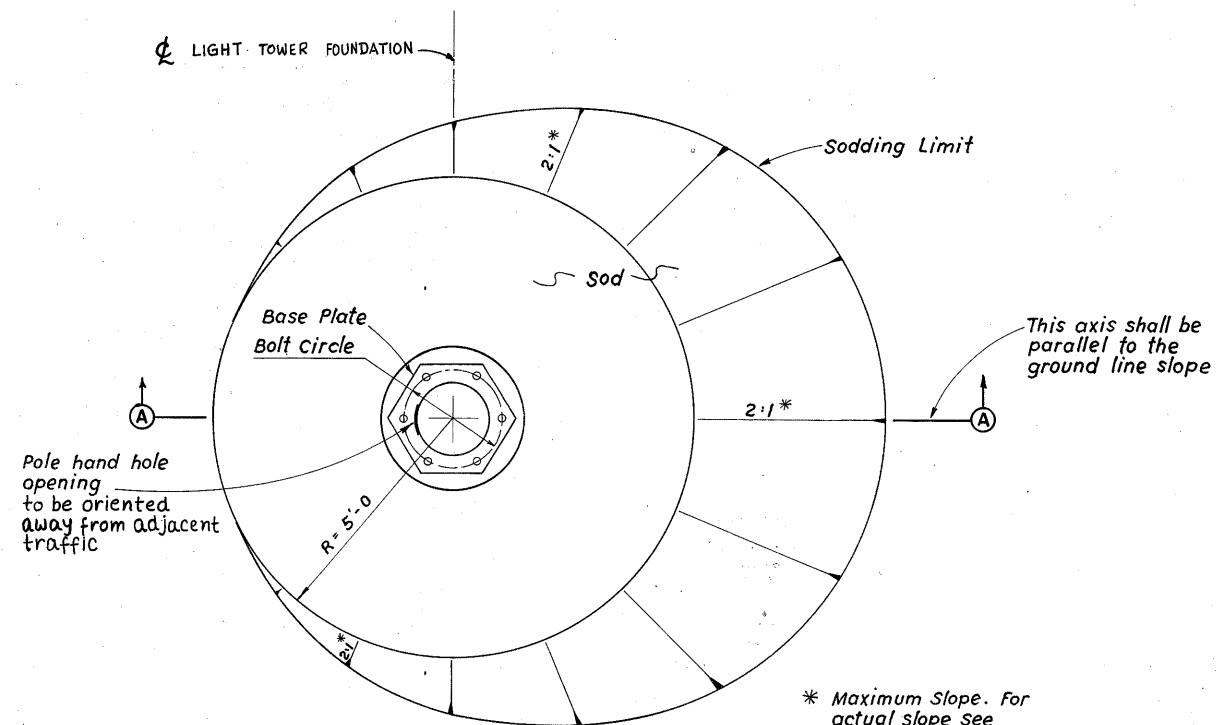


**GRADING PLAN**  
(Slope 3.99:1 to 3.01:1)



Ground Rod, as per plan  
(Separate pay item)  
(One for tower ground and one for air terminal ground)

**FOUNDATION WITHOUT MAINTENANCE PLATFORM**  
(Slope 5.99:1 to 4.00:1)



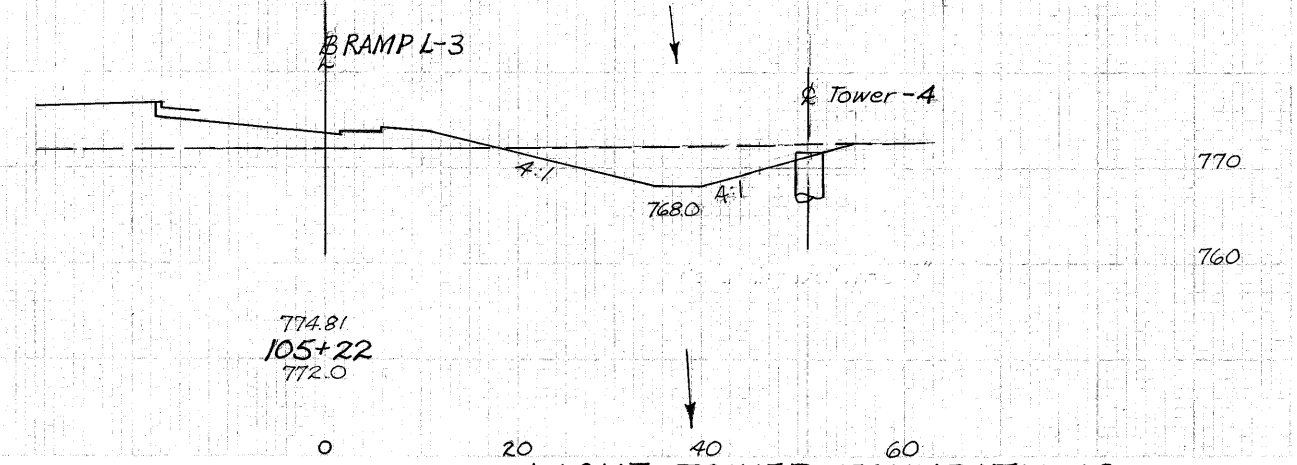
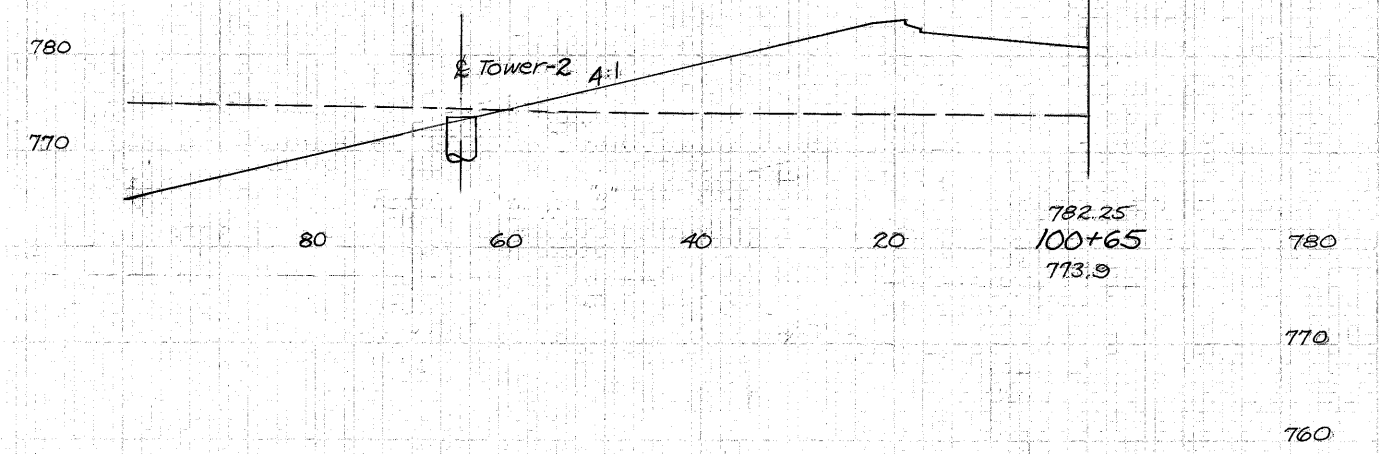
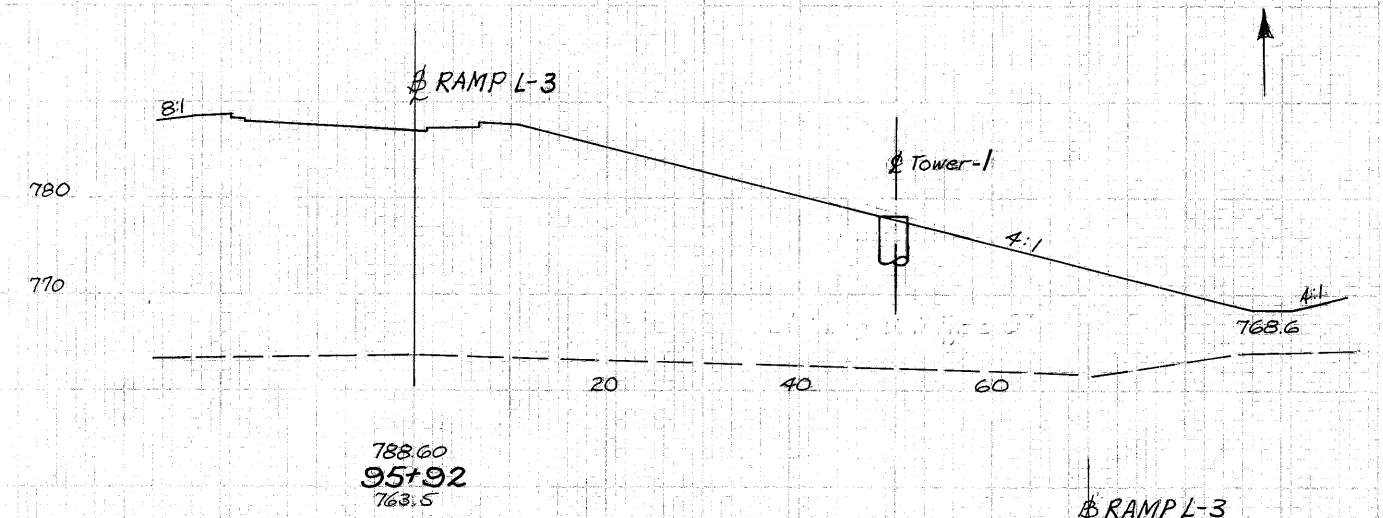
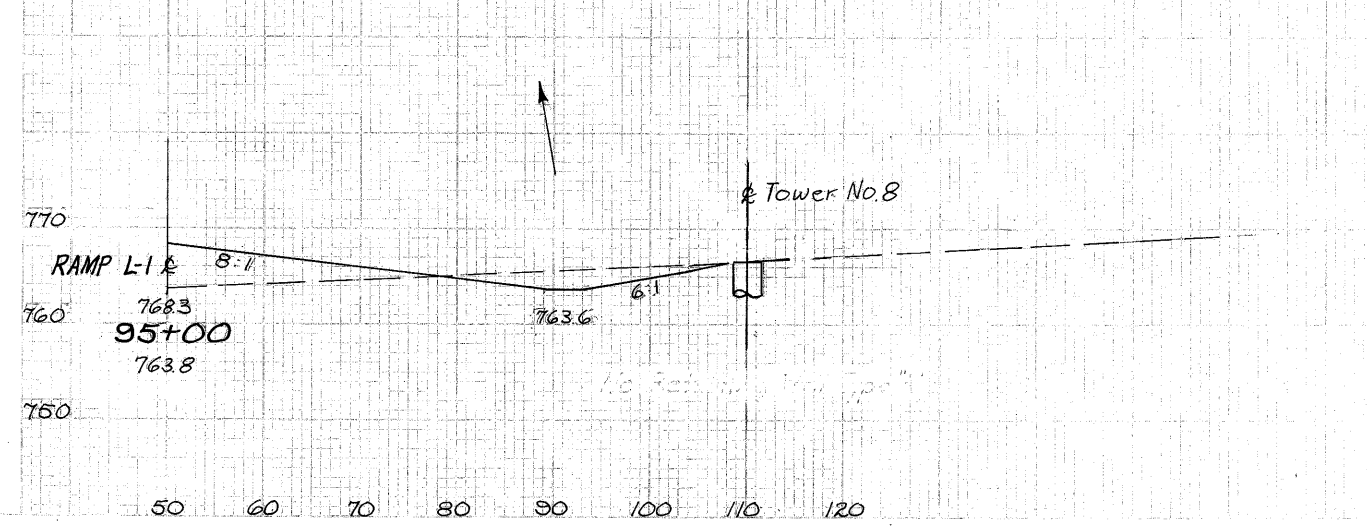
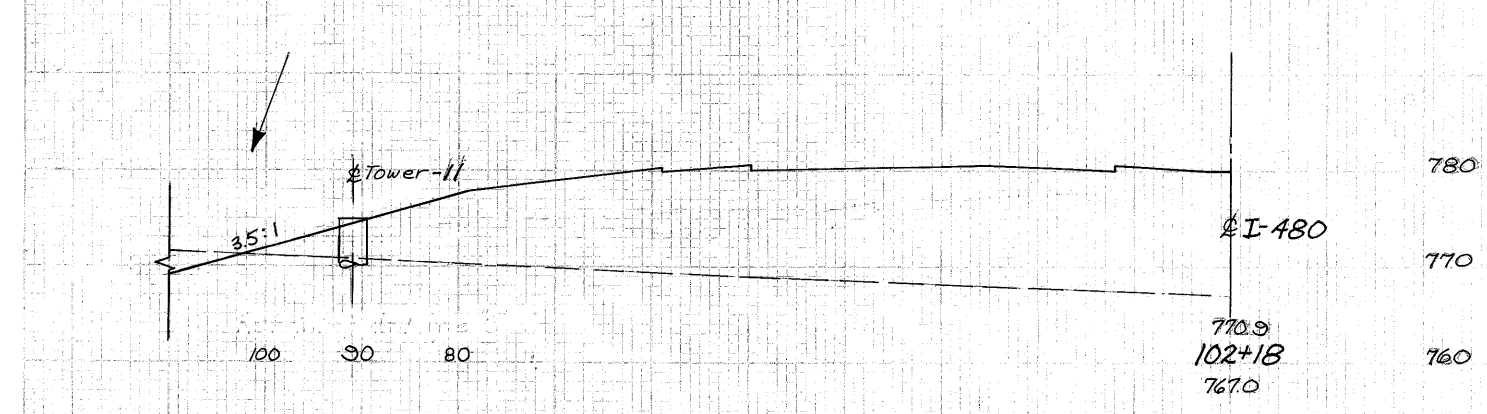
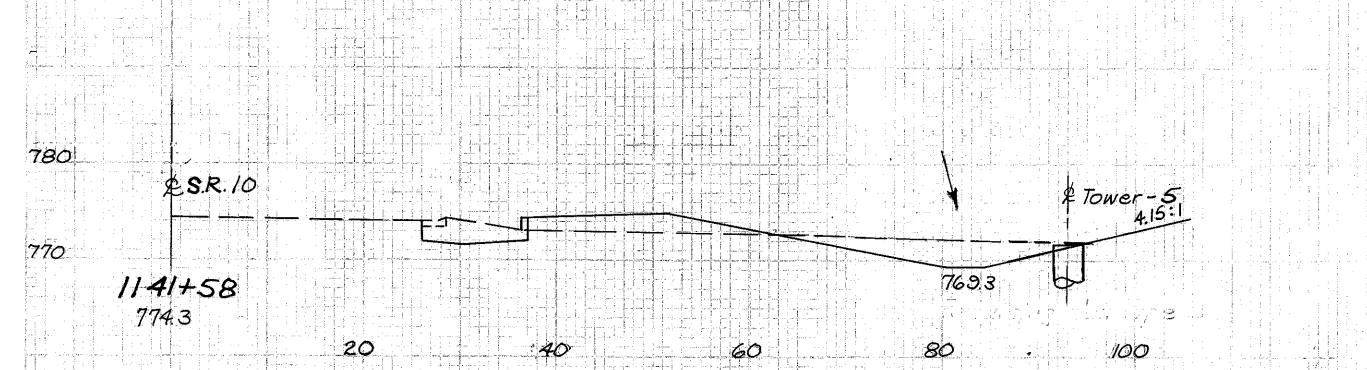
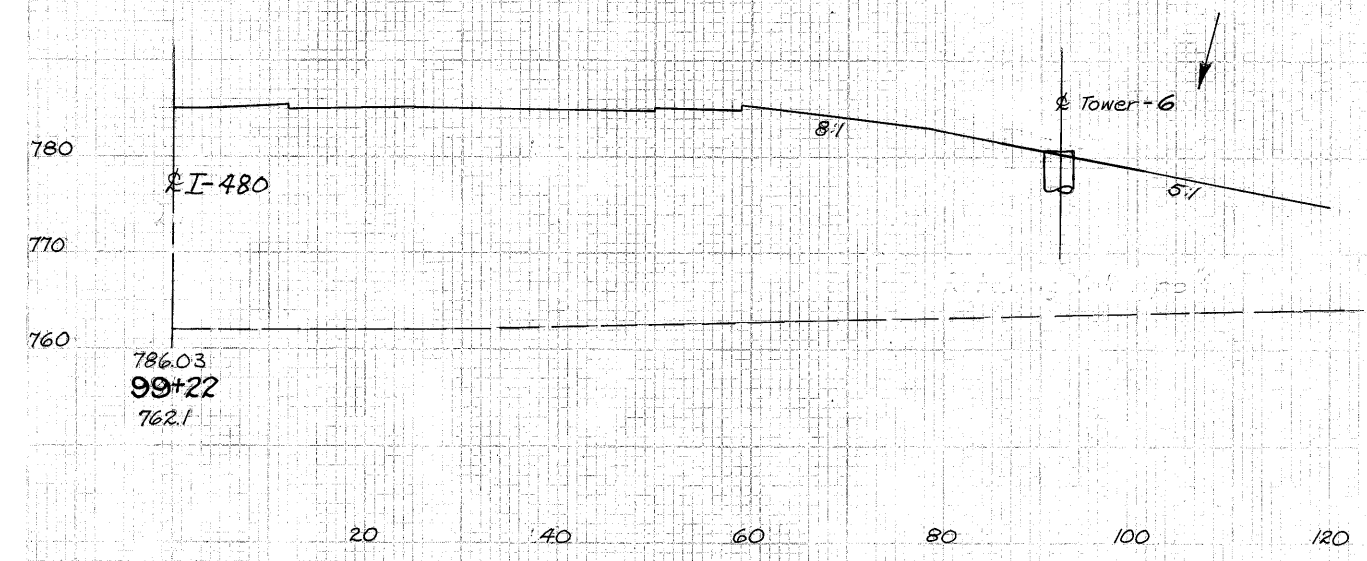
\* Maximum Slope. For actual slope see cross sections.

**GRADING PLAN**  
(Slope 5.99:1 to 4.00:1)

SECTION  
 2nd  
 1973

STATE OHIO PROJECT  
 241B  
 375

LORAIN COUNTY  
 LOR-480-0.00



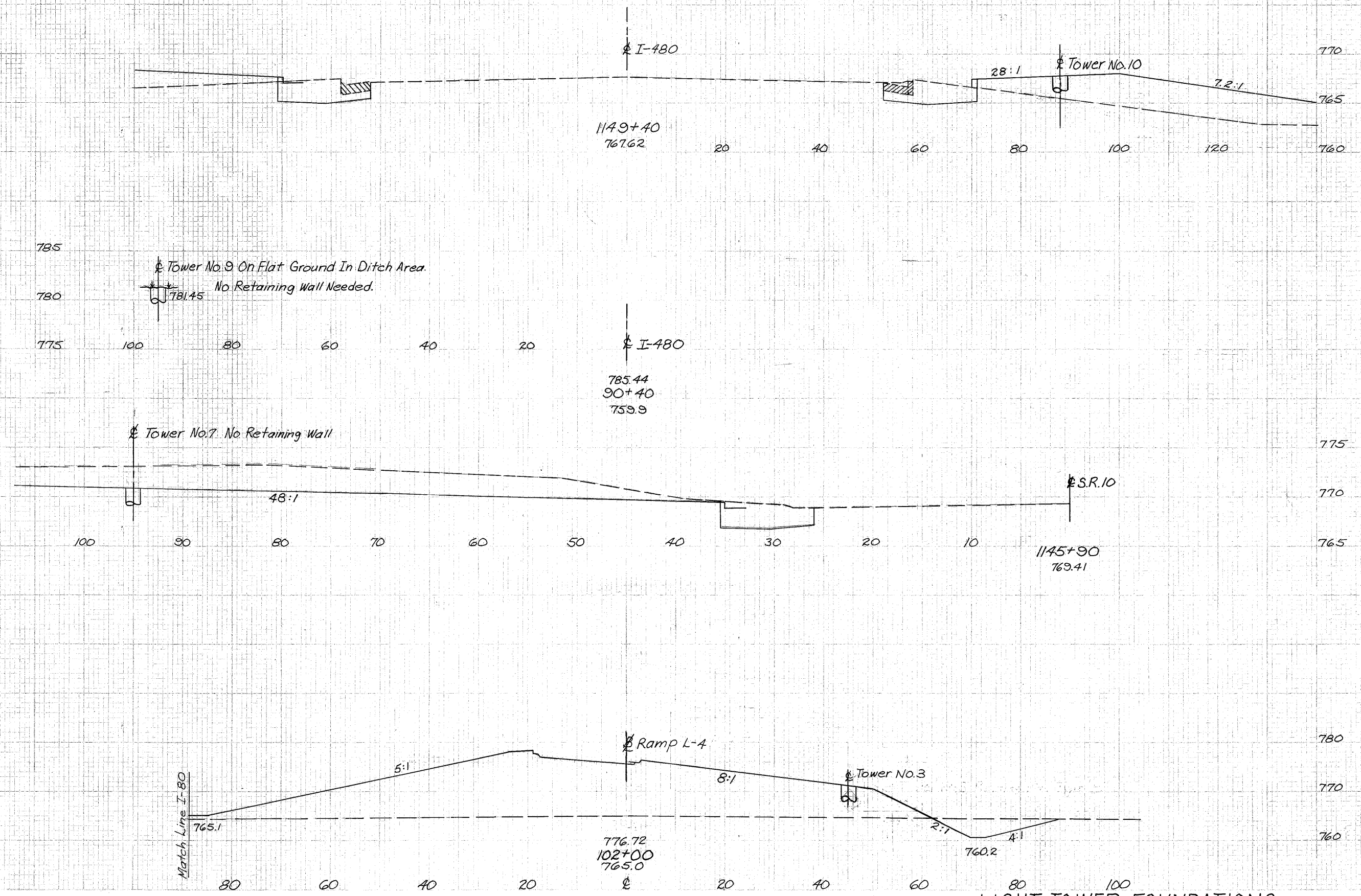
LIGHT TOWER FOUNDATIONS

SECTIONING  
 STATION  
 SO. 198.

PROJECT NO. 0-480  
 SHEET NO. 240  
 OF 375

LORAIN COUNTY  
 LOR-480-000

END AREA		VOLUME	
CUT	FILL	CU	CY



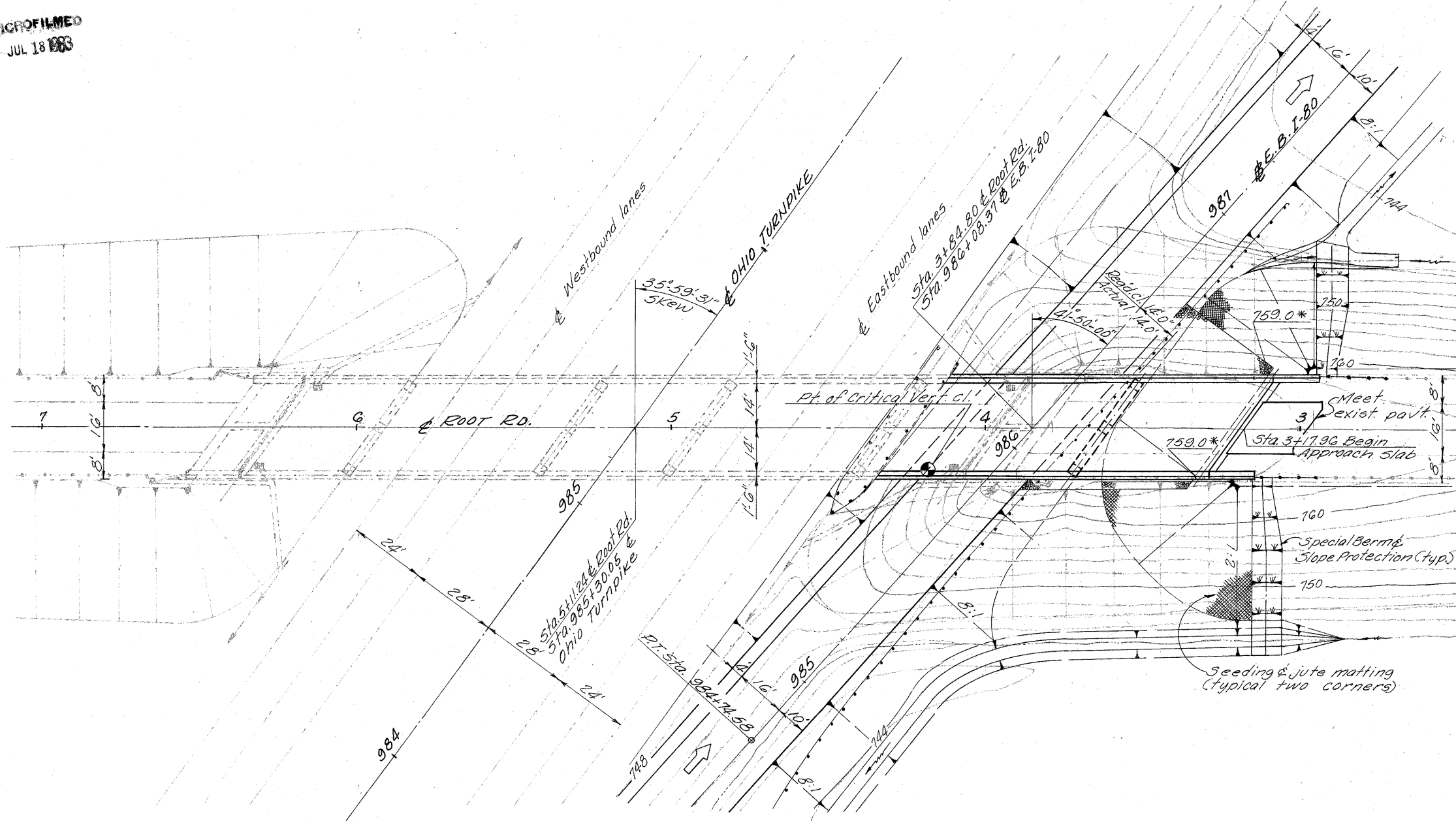
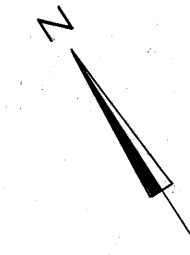
LIGHT TOWER FOUNDATIONS

MICROFILMED  
JUL 18 1983

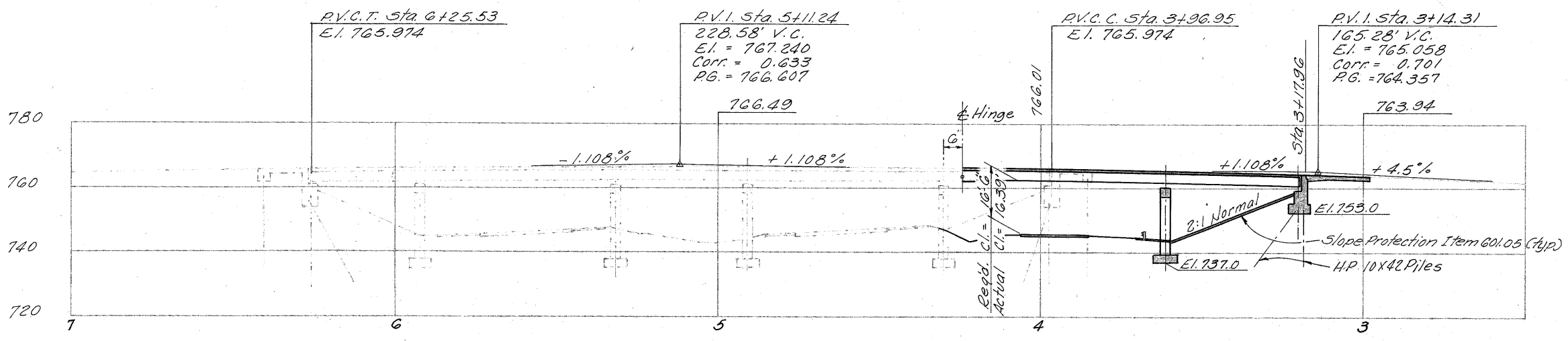
FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

242  
375

LORAIN COUNTY  
LOR-480-0.00



**PLAN**



**PROFILE ALONG & ROOT ROAD**

Note:  
Piling estimated average  
pay length = 15'-0"

**NOTES:**

- \* Elevation at top of slope and face of abutment.
- Earthwork limits shown are schematic. Final slopes shall agree with E.B.I-80 plan cross sections.
- The existing Root Road pavement shall be cut so that the approach slab can be placed to provide a proper connection between the new construction and the existing pavement.

**EXISTING STRUCTURE**

TYPE: Continuous steel beam with reinf. conc. deck & substructure.  
SPANS: 33'-4", 60'-6 3/4", 40'-9 1/2", 60'-6 3/4", 33'-4" 9/c brgs.  
ROADWAY: 28'-0" flt 1'-6" safety curbs.  
LOADING: CF-30 (1951)  
ALIGNMENT: Tangent  
CONDITION: Good

**PROPOSED STRUCTURE**

TYPE: Continuous steel beam with reinf. conc. deck & substructure.  
SPANS: 41'-0", 68'-6 1/2", 60'-6 3/4", 40'-9 1/2", 60'-6 3/4", 33'-4" 9/c brgs.  
ROADWAY: 28'-0" flt 1'-6" safety curbs.  
LOADING: CF-30 (1957)  
WEARING SURFACE: Mono. concrete  
SKEW: 35° 59' 31" Lt. forward  
ALIGNMENT: Tangent  
APPROACH Slab: AS-1-72 (20' lg., modified)

Sh. 2/12 not used.

BRIDGE NO. LOR-80-1802 APPEARING THROUGHOUT THIS BRIDGE PLAN SHALL BE CONSIDERED TO READ BRIDGE NO. LOR-480-0020

Approach slab shall be as shown on Std. Drwg. AS-1-72 except it shall be 16'-0" wide, jacking holes shall be omitted and top top steel shall have a 3" minimum cover instead of 2".

ALDEN E. STILSON & ASSOCIATES, LIMITED  
CONSULTING ENGINEERS  
CLEVELAND, OHIO COLUMBUS, OHIO WHEELING, W. VA.

**SITE PLAN**  
BRIDGE NO. LOR-80-1802  
ROOT ROAD (EXTENDED) OVER  
EAST BOUND I-80  
LORAIN COUNTY STA. 3+17.96  
SCALE 1" = 20'

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
G.W.M.	G.W.M.	R.T.	R.S.S.	G.W.M.	9/1/70	



MICROFILMED

JUL 18 1983

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

244  
375

LORAIN COUNTY  
LOR-480-0.00

STANDARD DRAWING REFERENCES

DESCRIPTION	DWG. NO.	SHT.	DATE
END DAM AND END CROSSFRAME	SD-1-69	1-2	6-12-69
CURB PLATES	SD-1-69	2	6-12-69
SCUPPERS	SD-1-69	3	6-12-69
MOMENT PLATES	SD-1-69	3	6-12-69
ROCKERS AND BOLSTERS	RB-1-55		2-2-59 R
APPROACH SLABS	AS-1-72		6-30-72

(R INDICATES REVISED DATE)

SUPPLEMENTAL SPECIFICATION REFERENCES

DESCRIPTION	NO.	DATE
CHEMICAL ADMIXTURE FOR CONCRETE, TYPE A, B OR D	808	1-1-71
CONCRETE CURING AND PROTECTIVE MEMBRANE	836	3-12-75

SPECIAL DETAILS

RAILING SHEET 252

DESIGN SPECIFICATIONS

THIS STRUCTURE CONFORMS TO THE REQUIREMENTS OF 'DESIGN SPECIFICATIONS FOR HIGHWAY STRUCTURES' OF THE STATE OF OHIO, DEPARTMENT OF HIGHWAYS, DATED 9-1-57, TOGETHER WITH CURRENT REVISIONS.

DESIGN DATA

DESIGN LOADING - CF 30 (1957)  
 CONCRETE CLASS C - UNIT STRESS 1200 PSI FOR SUPERSTRUCTURE  
 UNIT STRESS 1333 PSI FOR SUBSTRUCTURE  
 STRUCTURAL STEEL - ASTM A36 - UNIT STRESS 20000 PSI  
 REINFORCING STEEL - ASTM A615, A616 OR A617 - UNIT STRESS 20000 PSI.  
 SPIRAL REINFORCEMENT MAY BE PLAIN BARS ASTM A82, OR A615.

PROPOSED WORK-

LISTED HEREIN IS THE PROPOSED WORK TO COMPLETE THIS BRIDGE EXTENSION-

1. SHORE EXISTING SOUTH END SPAN.
2. CUT EXISTING SUPERSTRUCTURE.
3. REMOVE EXISTING SOUTH END SPAN.
4. REMOVE EXISTING SOUTH ABUTMENT.
5. PULL PILING AT EXISTING SOUTH ABUTMENT OR CUT OFF A MINIMUM OF 1'-0" BELOW FINAL SUBGRADE ELEVATION OF E.B. I-80
6. REMOVE EXISTING FILL AND GRADE AS INDICATED ON THE PLANS.
7. CONSTRUCT NEW PIER AND ABUTMENT.
8. ERECT NEW SUPERSTRUCTURE STEEL MAKING HINGED CONNECTION WITH EXISTING STEEL.
9. PLACE NEW CONCRETE DECK.
10. CUT AND REMOVE EXISTING ROOT ROAD PAVEMENT TO ACCEPT APPROACH SLAB.
11. CONSTRUCT APPROACH SLAB.
12. INSTALL NEW GUARD RAIL.

PLANS OF THE EXISTING BRIDGE MAY BE EXAMINED IN THE OFFICE OF THE OHIO TURNPIKE COMMISSION.

MONOLITHIC WEARING SURFACE THICKNESS IS ASSUMED TO BE 3/4".

DECK PROTECTION METHOD: EPOXY COATED REINFORCING STEEL, TOP MAT ONLY.

EXISTING STRUCTURE DIMENSIONS AFFECTING NEW WORK SHALL BE VARIFIED BY THE CONTRACTOR IN THE FIELD

PRESERVATION OF REINFORCING BARS-

SPECIAL CARE SHALL BE TAKEN IN REMOVING EXISTING CONCRETE TO AVOID DAMAGE TO REINFORCING BARS WHICH ARE TO BE INCORPORATED IN NEW WORK. ANY SUCH BARS WHICH ARE MADE UNUSABLE BY REMOVAL OPERATIONS SHALL BE REPLACED BY DOWEL BARS OF THE SAME SIZE SET 1'-0" INTO THE EXISTING CONCRETE ACCORDING TO SEC. 510.02 AT THE EXPENSE OF THE CONTRACTOR.

PLACING OF NEW CONCRETE IN CONTACT WITH EXISTING CONCRETE SHALL BE DONE IN ACCORDANCE WITH THE APPLICABLE PARTS OF SEC. 519.04.

PAINTING OF NEW STRUCTURAL STEEL-

THE FINISH COAT OF FIELD PAINT SHALL MATCH COLOR NO. 14159 IN FEDERAL STD. NO. 595 a.

PAINTING OF EXISTING STRUCTURAL STEEL-

ALL PORTIONS OF THE EXISTING STEEL WHERE THE PAINT IS DAMAGED DURING CONSTRUCTION SHALL BE REPAIRED IN ACCORDANCE WITH SECTION 514.06 EXCEPT THAT THE FINAL COAT SHALL MATCH COLOR NO. 14159 IN FEDERAL STANDARD NO. 595 a.

PILES

PILES SHALL BE DRIVEN TO FIRM CONTACT WITH BEDROCK. IF THE LENGTH OF PENETRATION IS APPROXIMATELY EQUAL TO THE DEPTH OF BEDROCK ACCORDING TO THE BRIDGE FOUNDATION INVESTIGATION REPORT, THE FIRM CONTACT SHALL BE CONSIDERED AS ATTAINED WHEN THE CAPACITY ACCORDING TO THE FORMULA IN 507.05 IS NOT LESS THAN THE FOLLOWING VALUE FOR A PILE HAMMER OF THE INDICATED ENERGY RATING-

FOR NEW ABUTMENT AND WINGWALL PILES	PILE CAPACITY	HAMMER ENERGY RATING
	TONS	7000 FT. LBS.
	TONS	11000 FT. LBS.
	TONS	15000 FT. LBS. OR GREATER

IF THE ENERGY RATING OF THE HAMMER IS BETWEEN THE RATINGS AS SHOWN ABOVE, THE REQUIRED FORMULA CAPACITY SHALL BE DETERMINED BY INTERPOLATION. THE DESIGN LOAD IS-

35 TONS PER PILE FOR THE ABUTMENTS

FOUNDATION BEARING PRESSURE

PIER FOOTINGS ARE DESIGNED FOR A MAXIMUM BEARING PRESSURE OF 7.5 TONS PER SQ. FT.

FOOTINGS

FOOTINGS SHALL EXTEND A MINIMUM OF 3 INCHES INTO BEDROCK. IF NECESSARY, THE FOOTINGS SHOULD BE LOWERED. HOWEVER, IF THE LOW POINT OF THE SURFACE OF THE BEDROCK OCCURS 2 FEET OR MORE ABOVE PLAN ELEVATION, THE FOOTINGS MAY BE RAISED, AFTER APPROVAL BY THE DIRECTOR, BUT TO AN ELEVATION NOT HIGHER THAN 741.0

STEPPING OF INDIVIDUAL FOOTINGS WILL NOT BE PERMITTED UNLESS SHOWN ON THE PLANS.

PILES:

PILES SHALL BE DRIVEN TO REFUSAL ON BEDROCK OR TO 20 BLOWS PER INCH FOR THE LAST FEW INCHES OF PENETRATION. THE DESIGN LOAD IS 35 TONS PER PILE FOR THE ABUTMENT PILES.

LAPS

Minimum bar lap shall be 30 diameters

100% State

ITEM	TOTAL	UNIT	DESCRIPTION	ABUTS	PIERS	SUPER	GENERAL
202	LUMP	SUM	PORTIONS OF EXISTING STRUCTURE REMOVED				LUMP
503	LUMP	SUM	COFFERDAMS, CRIBS AND SHEETING				LUMP
503	176	C.Y.	UNCLASSIFIED EXCAVATION	109	67		
505	LUMP	SUM	TEST PILE	LUMP			
507	180	L.F.	STEEL PILES, HP10X42	180			
509	24,997	LB	REINFORCING STEEL	5522	9814	9661	
SPECIAL	10,729	LB	EPOXY COATED REINFORCING STEEL (SEE PROPOSAL NOTE)	414		10,315	
511	106	C.Y.	CLASS C CONCRETE, SUPERSTRUCTURE (SEE PROPOSAL NOTE)			106	
511	44	C.Y.	CLASS C CONCRETE, ABUTMENTS ABOVE FOOTINGS	44			
511	29	C.Y.	CLASS C CONCRETE, PIER CAPS AND COLUMNS		29		
511	47	C.Y.	CLASS C CONCRETE, FOOTINGS	35	12		
513	92600	LB	NEW STRUCTURAL STEEL (SEE PROPOSAL NOTES)			92600	
514	92600	LB	FIELD PAINTING OF NEW STRUCTURAL STEEL			92600	
514	LUMP	SUM	CLEANING AND PAINTING OF EXISTING STRUCTURAL STEEL AS REQUIRED			LUMP	
516	38	L.F.	PREFORMED ELASTIC JOINT SEALER, 705.11			38	
517	262	L.F.	RAILING (ALUMINUM PIPE AND CONCRETE PARAPET)	30		232	
518	21	C.Y.	POROUS BACKFILL	21			
518	6	EA	SCUPPERS INCLUDING SUPPORTS			6	
518	32	L.F.	6 INCH PERFORATED, HELICAL CSP, 707.01	32			
518	46	L.F.	6 INCH NON-PERFORATED, HELICAL CSP, INCLUDING SPECIALS, 707.01	46			
601	210	S.Y.	CRUSHED AGGREGATE SLOPE PROTECTION	210			
808	106	UNIT	CHEMICAL ADMIXTURE FOR CONCRETE, TYPE A, B OR D			106	

ATTACHMENT OF GUARDRAIL TO CONCRETE PARAPETS:

Concrete insert anchor assemblies per Standard Construction Drawings GR-3 and GR-1 shall be placed during parapet construction.

3/12

ALDEN E. STILSON & ASSOCIATES, LIMITED CONSULTING ENGINEERS CLEVELAND, OHIO COLUMBUS, OHIO WHEELING, W. VA.							
<b>GENERAL NOTES AND ESTIMATED QUANTITIES</b>							
BRIDGE NO LOR-80-1802							
ROOT ROAD OVER E.B. I-80							
LORAIN COUNTY							
						STA. 3+17.96	
						STA. 6+27.75	
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED	
B.D.			B.I.P.	G.W.M.	9/11/70		

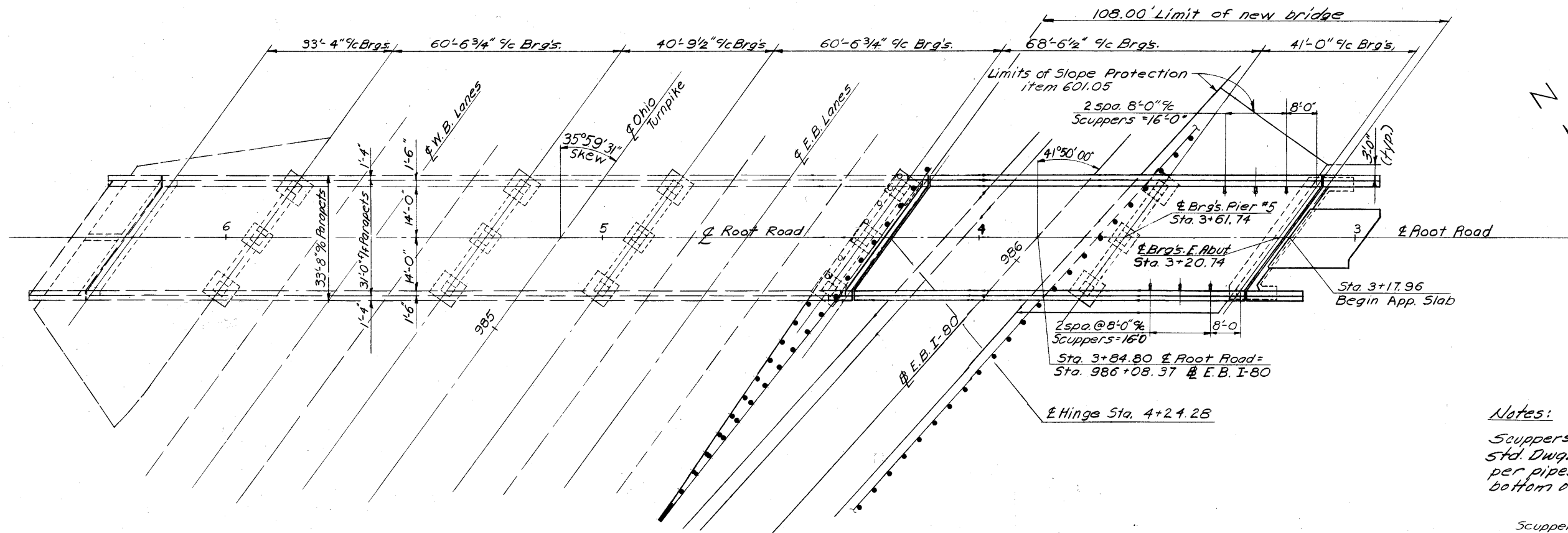
22-113-21

MICROFILMED  
JUL 18 1983

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

245  
375

LORAIN COUNTY  
LOR.-480-0.00



GENERAL PLAN

Notes:

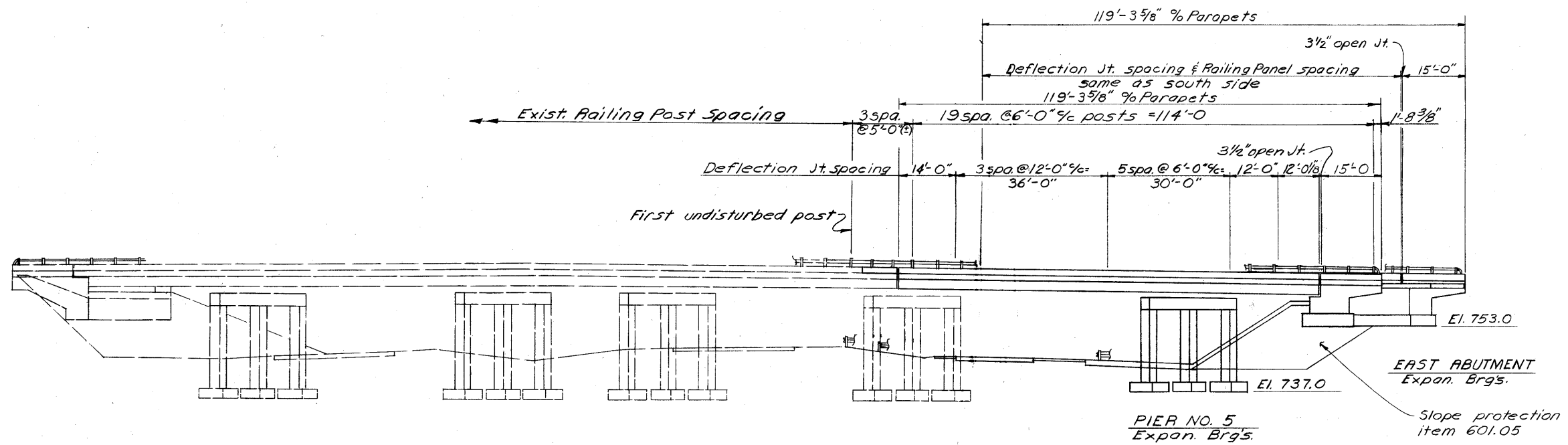
Scuppers shall be in accordance with std. Dwg. SD-1-69 except that the scupper pipes shall extend 8" below the bottom of beams instead of 2".

Scupper spacing shall be adjusted to clear intermediate cross frames by a minimum of six inches.

Scupper spacing is along face of curb.

Existing railing removed may be salvaged for reuse.

Railing post anchor bolts shall clear deflection joint by minimum of 8"



ELEVATION  
(Piles Not Shown)

4/12

ALDEN E. STILSON & ASSOCIATES, LIMITED  
CONSULTING ENGINEERS  
CLEVELAND, OHIO COLUMBUS, OHIO WHEELING, W. VA.

GENERAL PLAN  
BRIDGE NO LOR.-80-1802  
ROOT ROAD OVER E.B. I-80  
LORAIN COUNTY STA 3+17.96  
STA 6+27.75

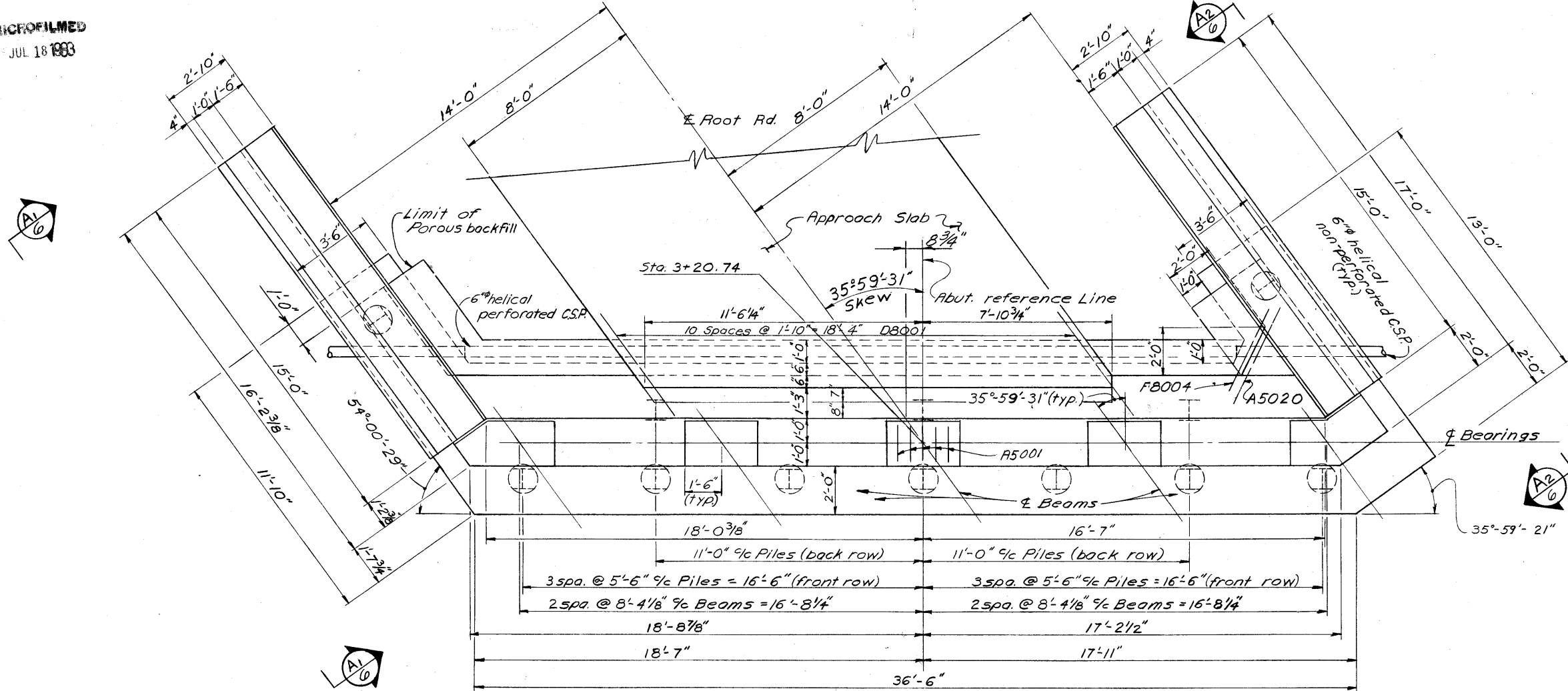
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
B.I.P.	DL		R.S.S.	G.W.M.	9/1/70	

MICROFILMED  
JUL 18 1983

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

LORAIN COUNTY  
LOR.-480-0.00

246  
375



**NOTES:**

All piles are  $\frac{1}{2}$ " P. 10 x 42 Piles.  
indicates vertical piles  
indicates piles battered 1:4

\* Elevations shown thus are pavement elevations at the face of backwall and point indicated.

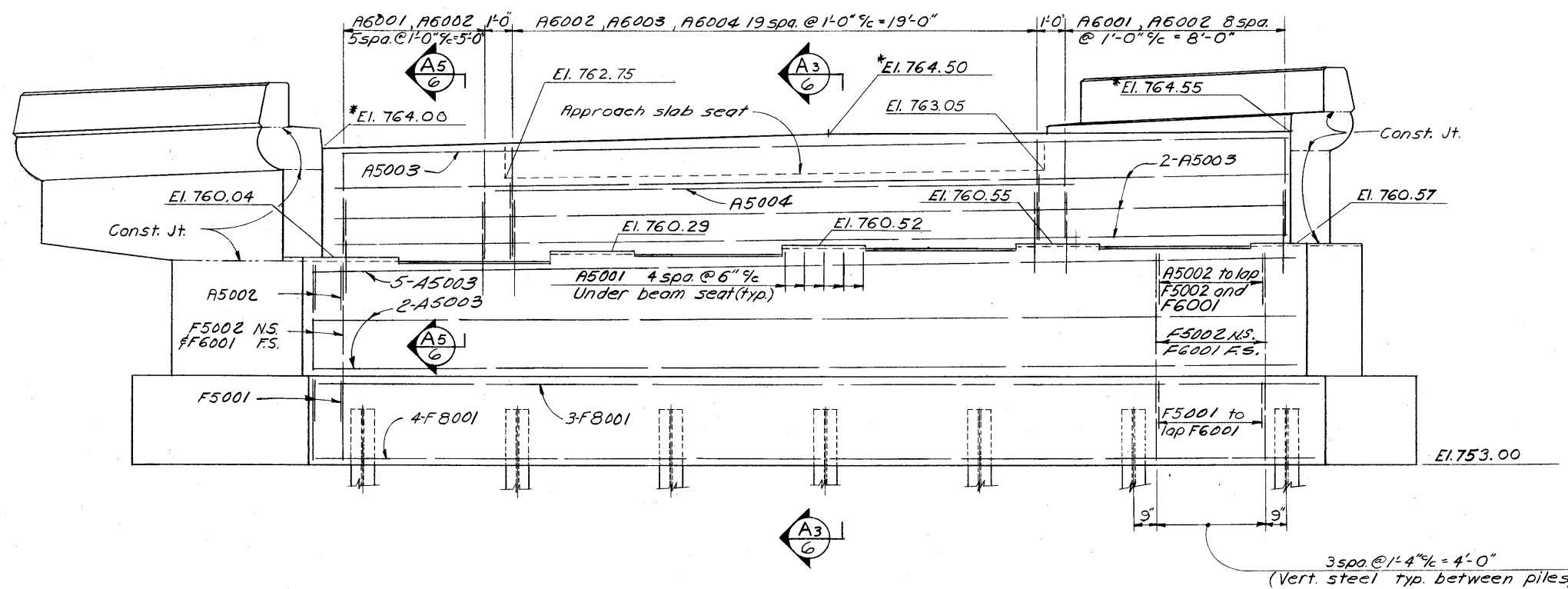
Porous backfill 1'-6" thick, full length of abutment and 2'-0" thick, full length of wings as shown, shall extend to the underside of approach slab & subgrade.

The porous backfill behind the abutment shall be drained by extending the 6" C.S.P. straight out into the side slopes, terminating near surface as shown on sheet 354.

Only that portion of the C.S.P. located in porous backfill shall be perforated.

In reinforcing bar call outs N.S. indicates Near Side  
F.S. indicates Far Side

BACKWALL CONCRETE: No backwall concrete shall be placed above the level of the optional construction joint at the approach slab seat until after the deck concrete in the span adjacent to the abutment has been placed.



3 spa @ 1'-4"  $\frac{1}{4}$  = 4'-0"  
(Vert. steel typ. between piles)

ALDEN E. STILSON & ASSOCIATES, LIMITED  
CONSULTING ENGINEERS  
CLEVELAND, OHIO COLUMBUS, OHIO WHEELING, W. VA.

**EAST ABUTMENT DETAILS**  
BRIDGE NO LOR.-80-1802  
ROOT ROAD OVER E.B. 1-80

LORAIN COUNTY STA. 3+17.96  
STA. 6+27.75

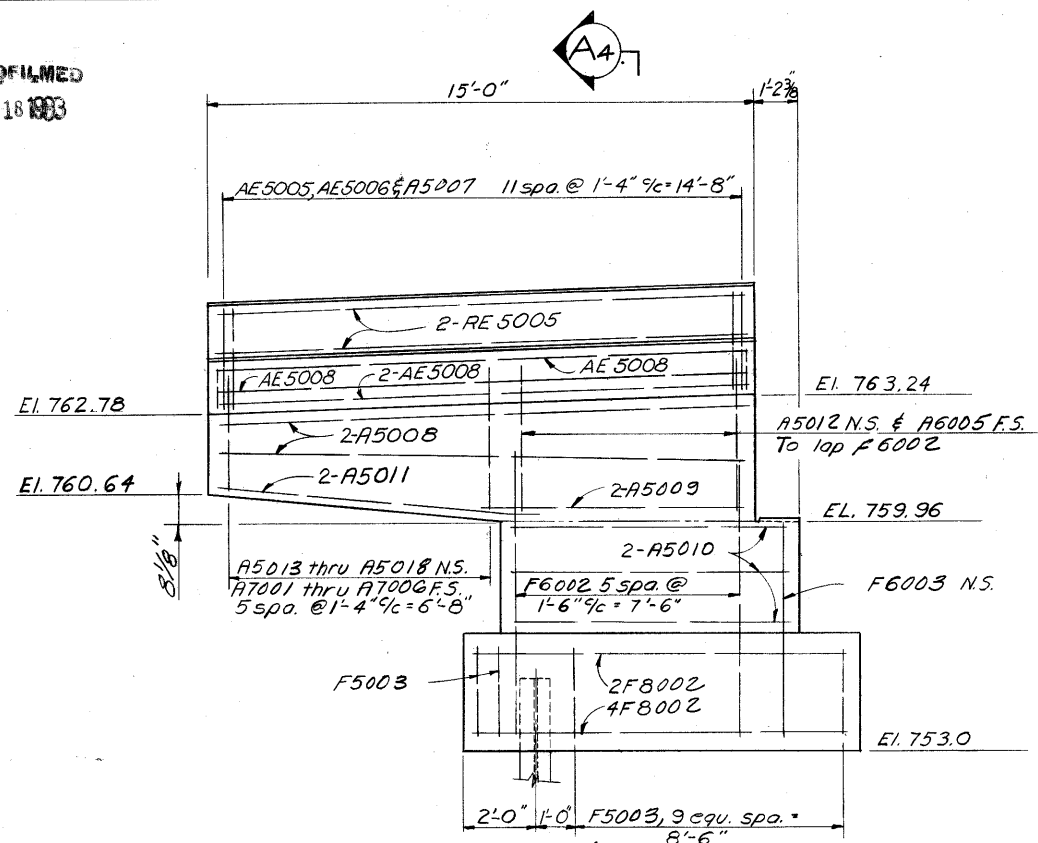
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
B.I.P.	D.L.		R.S.S.	G.W.M.	4/21/70	

MICROFILMED  
JUL 18 1983

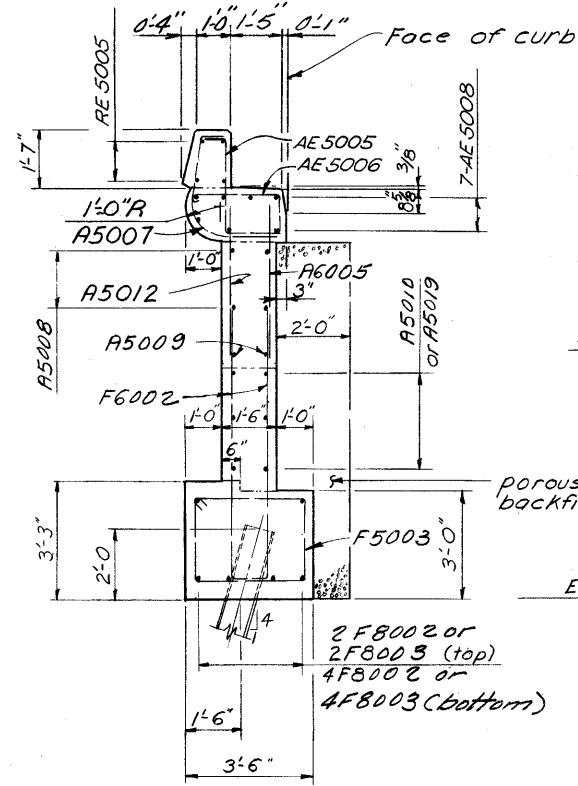
FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

247  
375

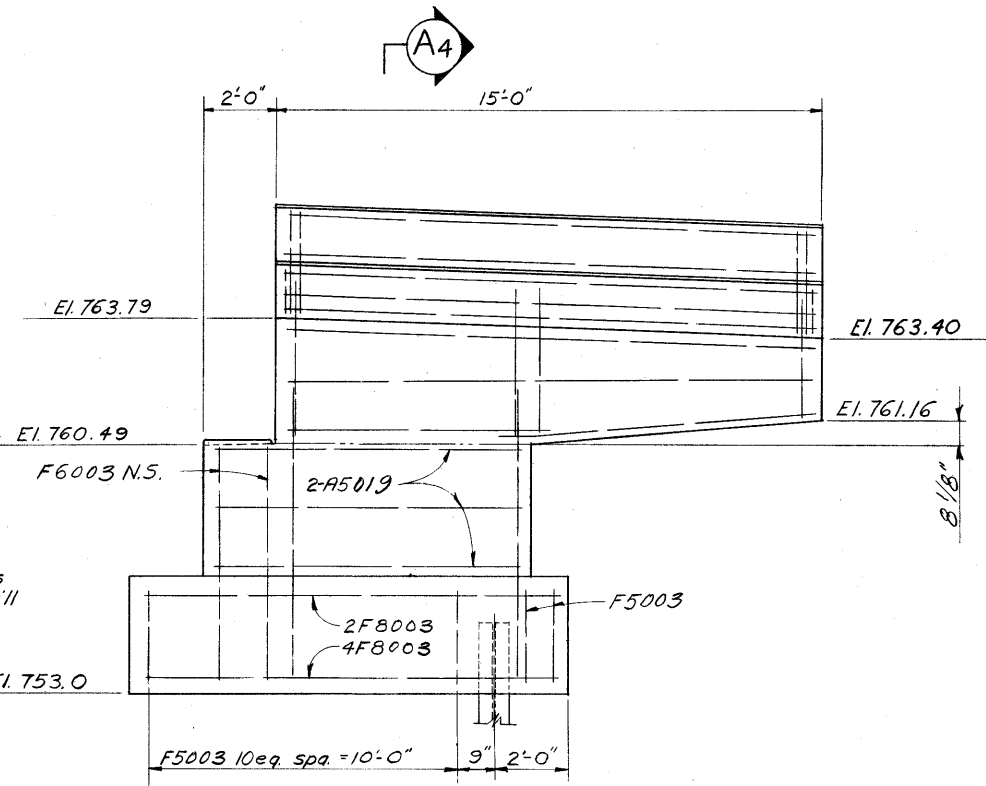
LORAIN COUNTY  
LOR. - 480-0.00



ELEVATION A1-A1

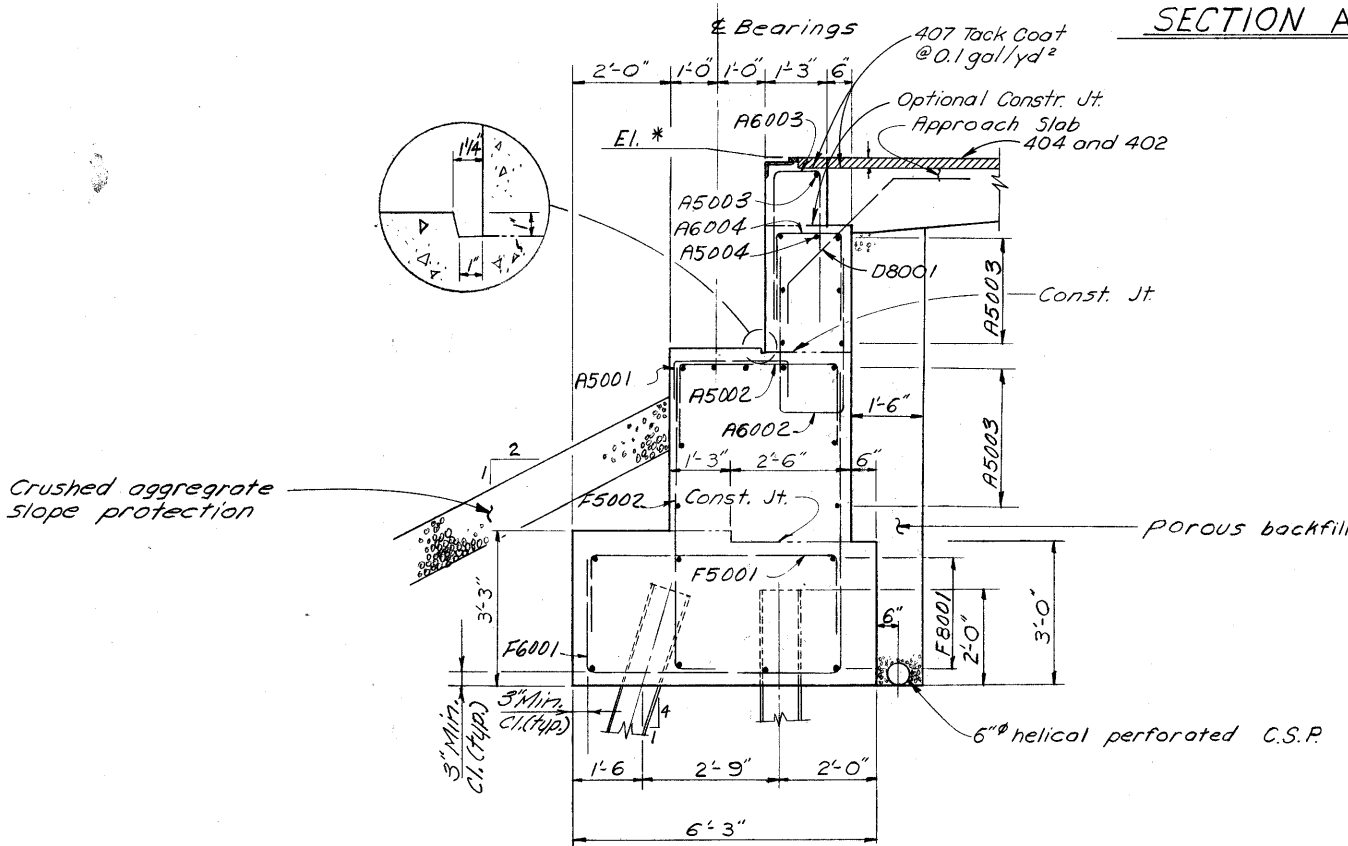


SECTION A4-A4

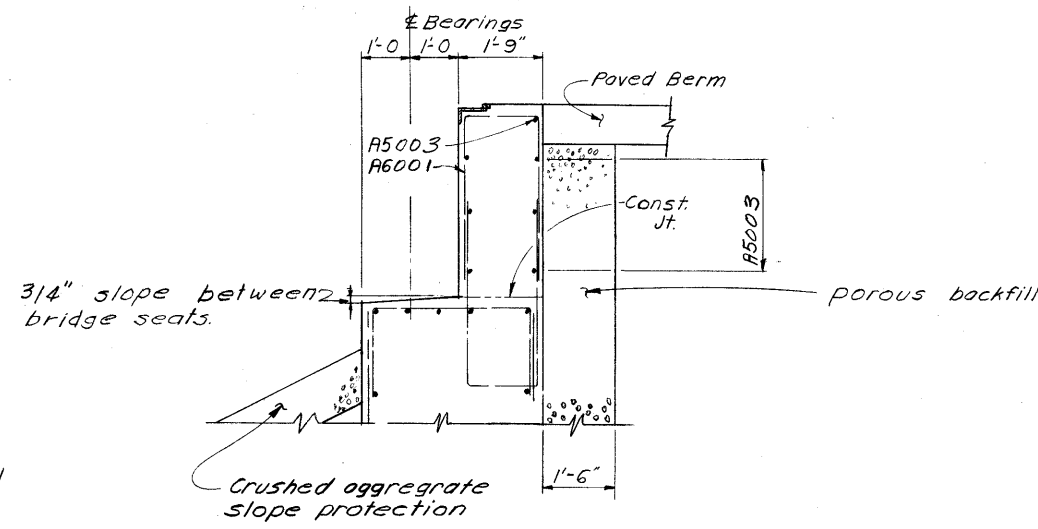


ELEVATION A2-A2

(For reinforcing bar details not shown see ELEV. A1-A1)



SECTION A3-A3



SECTION A5-A5

NOTES:  
In reinforcing bar callouts  
N.S. indicates near side  
F.S. indicates far side

6/12

ALDEN E. STILSON & ASSOCIATES, LIMITED  
CONSULTING ENGINEERS  
CLEVELAND, OHIO COLUMBUS, OHIO WHEELING, W. VA.

**EAST ABUTMENT DETAILS**  
BRIDGE NO LOR. - 80-1802  
ROOT ROAD OVER E.B. 1-80

LORAIN COUNTY STA. 3+17.96  
STA. 6+27.75

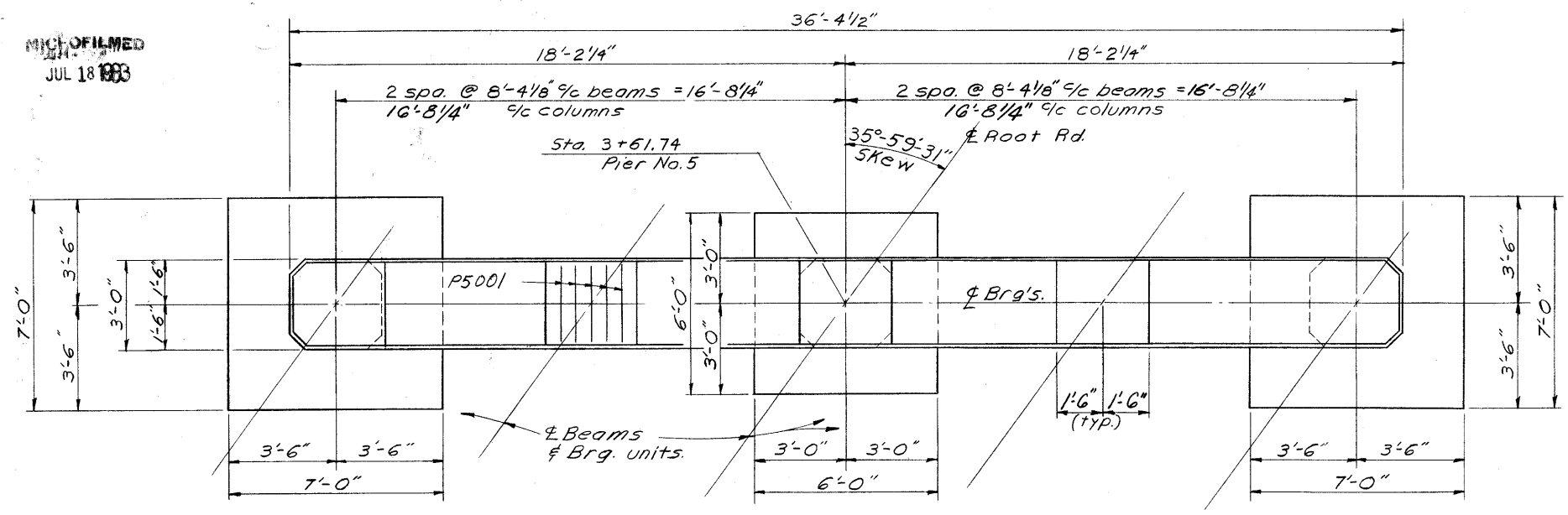
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
B.I.P.	DL			G.W.M.	6/2/70	

MICROFILMED  
JUL 18 1983

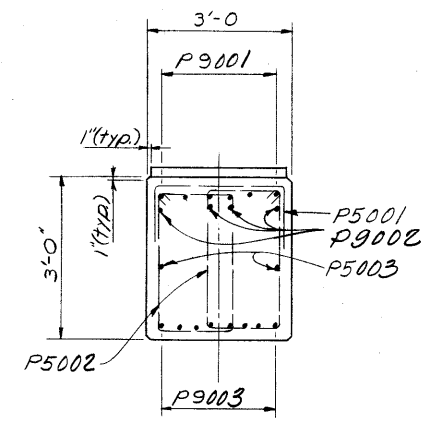
FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

248  
375

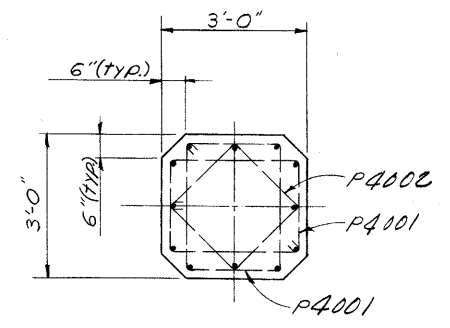
LORAIN COUNTY  
LOR.-480-0.00



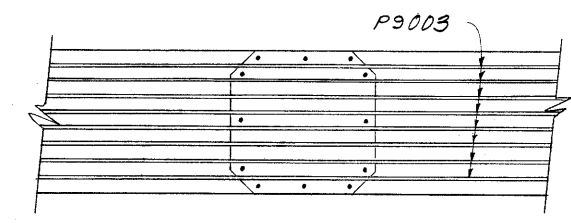
PLAN



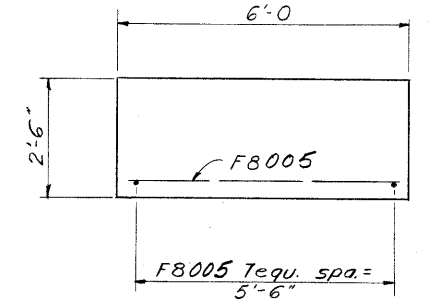
SECTION P1-R



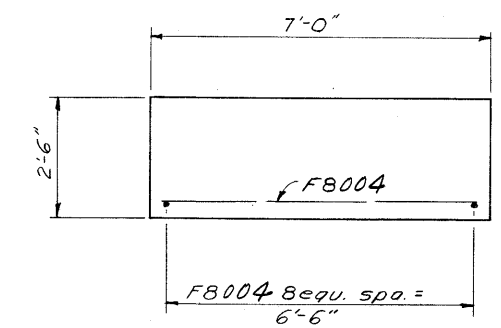
SECTION P2-P2  
(Typical for all columns)



SECTION P3-P3

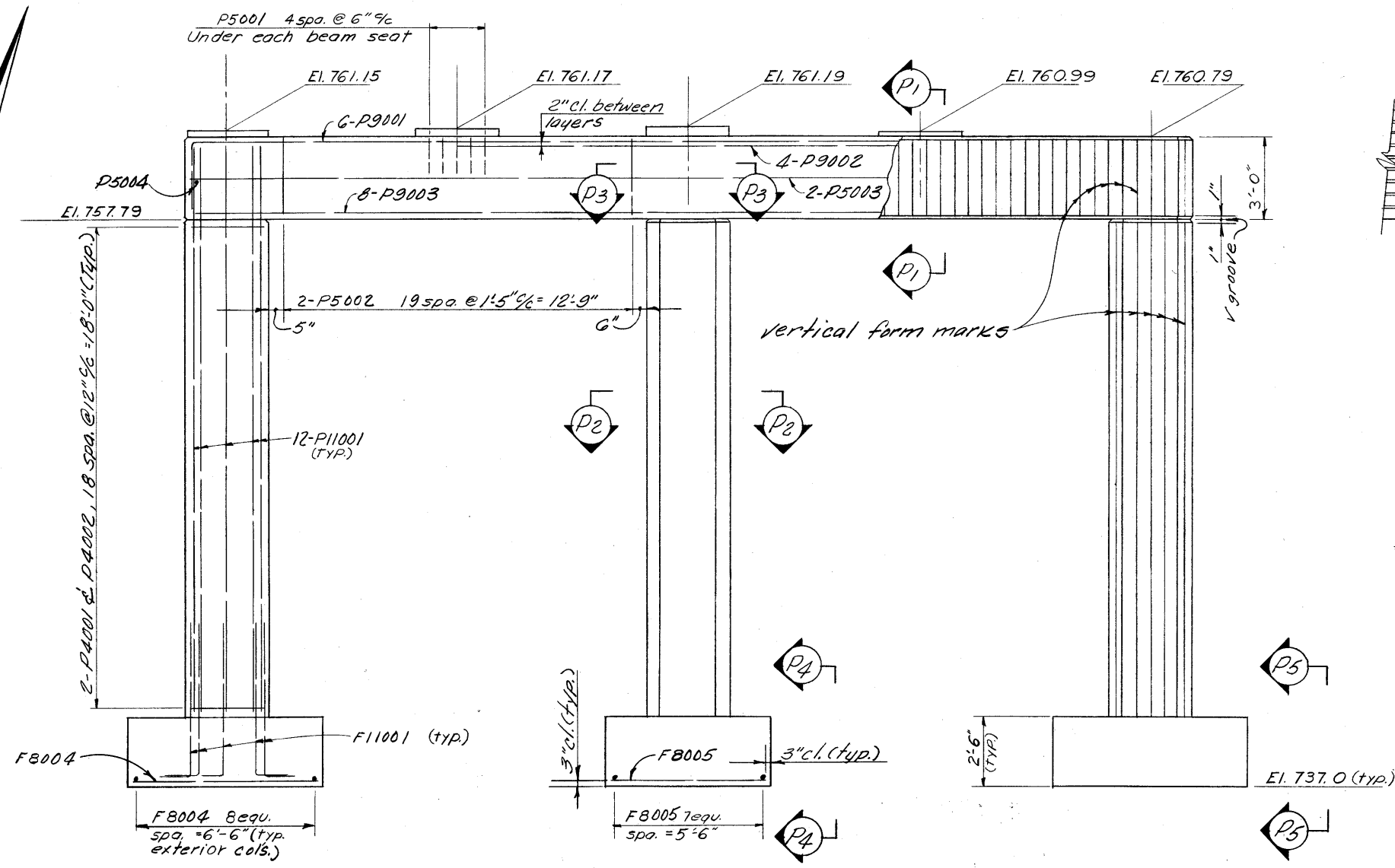


SECTION P4-P4



SECTION P5-P5

**NOTE:**  
All vertical reinforcing bars for Section P2-P2 and Section P3-P3 are P1101.  
Vertical form marks shall match those on existing piers.



ELEVATION

ALDEN E. STILSON & ASSOCIATES, LIMITED CONSULTING ENGINEERS CLEVELAND, OHIO COLUMBUS, OHIO WHEELING, W. VA.						
<b>PIER NO 5 DETAILS</b>						
BRIDGE NO LOR.-80-1802						
ROOT ROAD OVER E.B. I-80						
LORAIN COUNTY						
					STA. 3+17.96	
					STA. 6+27.75	
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
B.I.P.	DL		R.S.S.	G.W.M.	6/2/70	

7/12

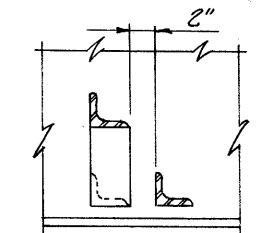
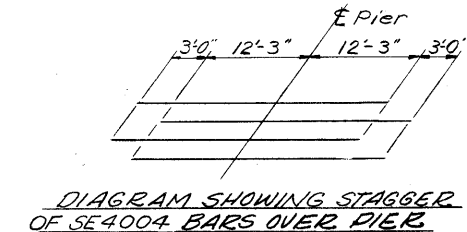
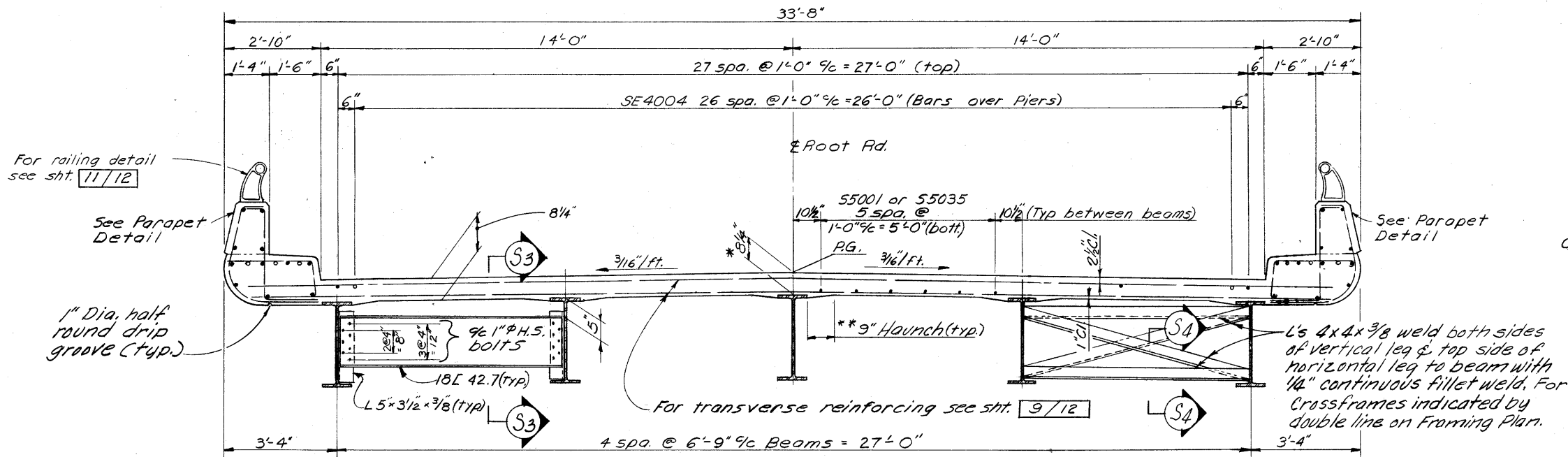
MICROFILMED  
JUL 18 1983

NOTE: Each longitudinal run of deck reinforcing except for SE4004 over the pier shall be comprised of 3-SE4001 & SE4002 bars lapped a min. of 1'-3" or 3-55001 & 3-55003 lapped a min. of 1'-7".

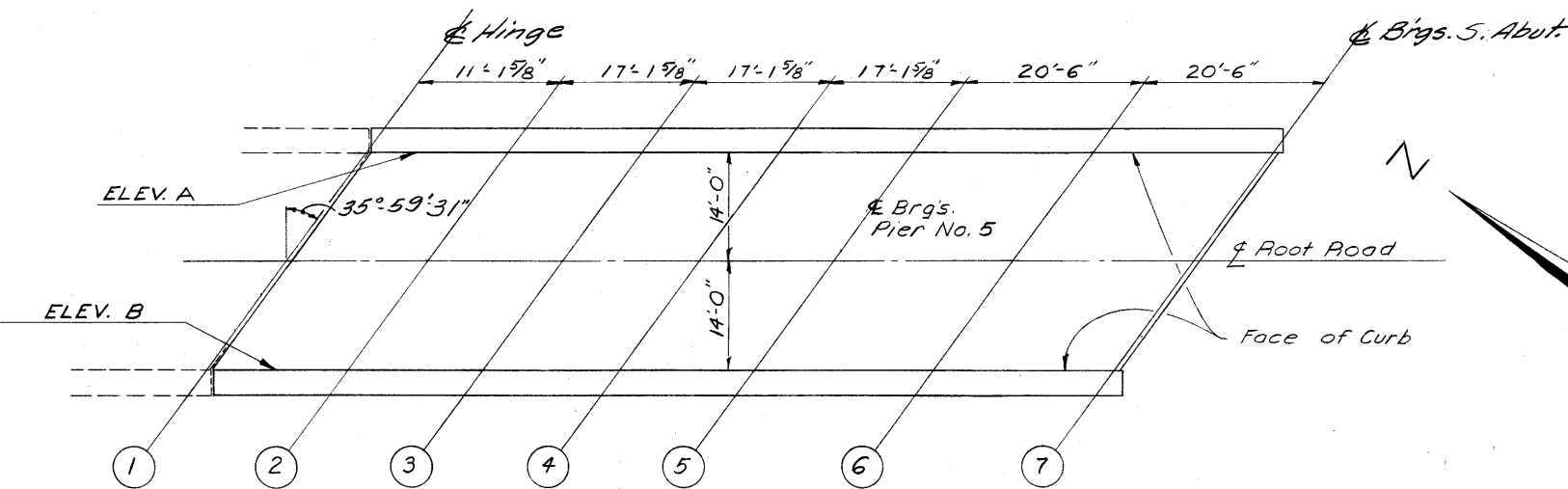
FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

249  
375

LORAIN COUNTY  
LOR. - 480-0.00



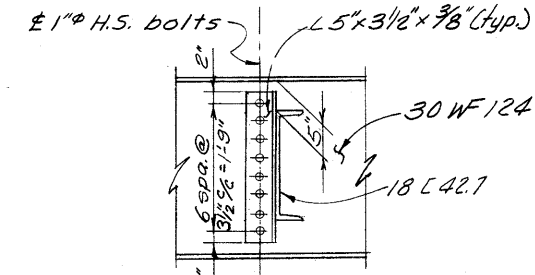
TRANSVERSE SECTION



DECK ELEVATIONS

LINE	1	2	3	4	5	6	7
ELEV. A	765.92	765.85	765.67	765.40	765.05	764.59	764.04
ELEV. B	766.09	766.03	765.90	765.69	765.41	765.03	764.57

The deck elevations shown are those which are required prior to placing of concrete deck. Proper allowance has been made for the dead load deflection caused by weight of the concrete.



SECTION S3-S3

NOTES:  
\* A haunch width of 9" shall be used for computing quantity of concrete. However, the haunch 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.

Longitudinal reinforcing steel shall be field cut as necessary to avoid interference with scuppers.

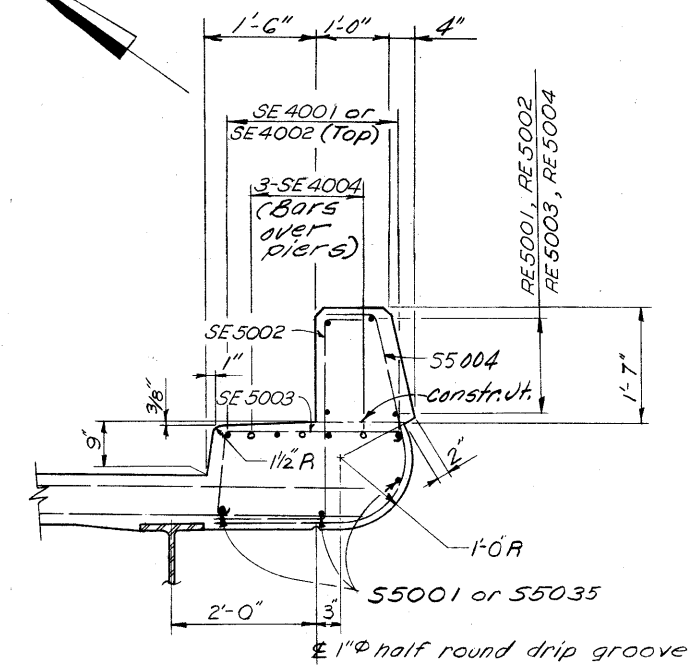
Field bend transverse bars to fit crown. Field bending to be included in Item 509 for payment.

For railing post spacing see sht. 4/12

Concrete parapets are included for payment with Item 517 Railing.

\* The distance shown from top of deck slab to top of steel beam is the design dimension. The quantity of deck concrete to be paid for shall be based on this dimension, even though deviation from it may be necessary because the exact thickness of the existing slab is not known, also the top flange of the new beam may not have the exact camber or conformation required to place it parallel to the finished grade.

For additional notes see sheet 10/12



TYPICAL PARAPET DETAIL

ALDEN E. STILSON & ASSOCIATES, LIMITED  
CONSULTING ENGINEERS  
CLEVELAND, OHIO COLUMBUS, OHIO WHEELING, W. VA.

**SUPERSTRUCTURE DETAILS**  
BRIDGE NO LOR. - 80-180Z  
ROOT ROAD OVER E.B. 1-80  
LORAIN COUNTY STA. 3+17.96  
STA. 6+27.75

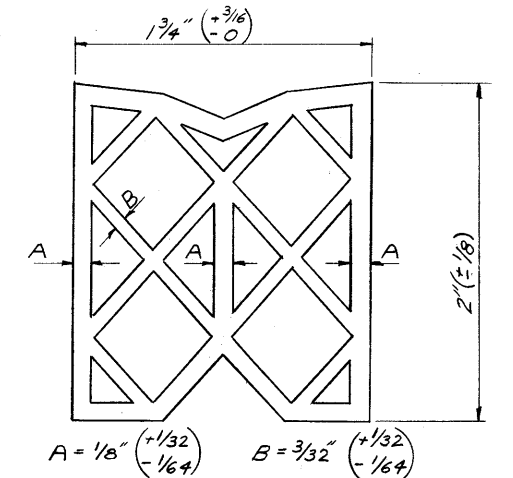
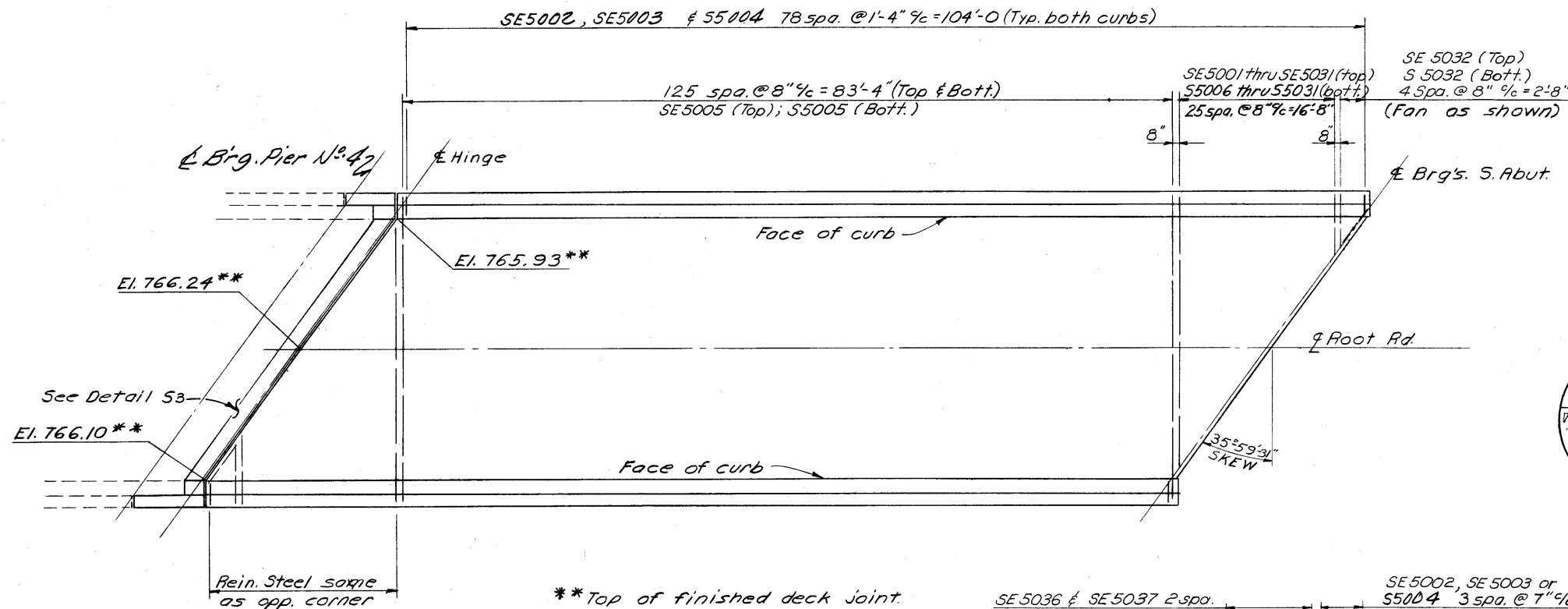
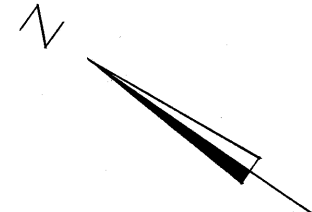
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
B.I.P.	DL		R.S.S.	G.W.M.	8/10	

MICROFILMED  
JUL 18 1983

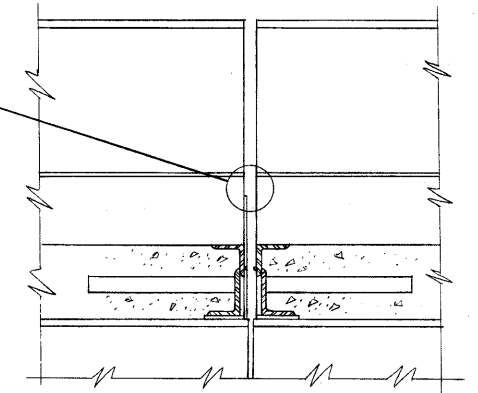
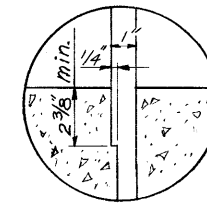
FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

250  
375

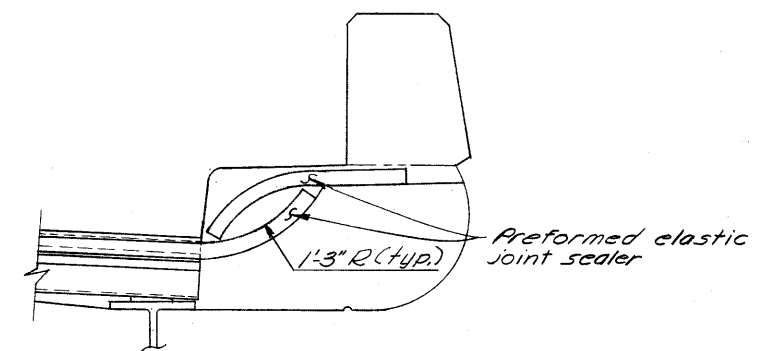
LORAIN COUNTY  
LOR.-480-0.00



DETAIL OF PREFORMED ELASTIC JOINT SEALER



SECTION S6-S6



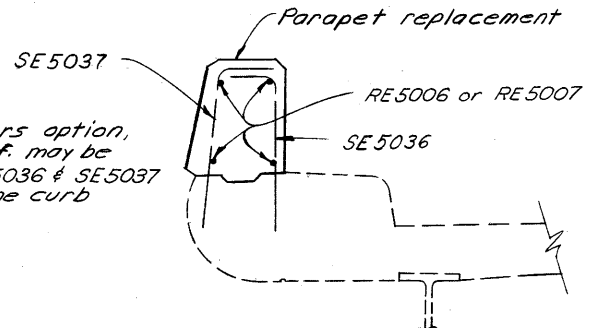
SECTION S7-S7

**TRANSVERSE SLAB REINFORCING**

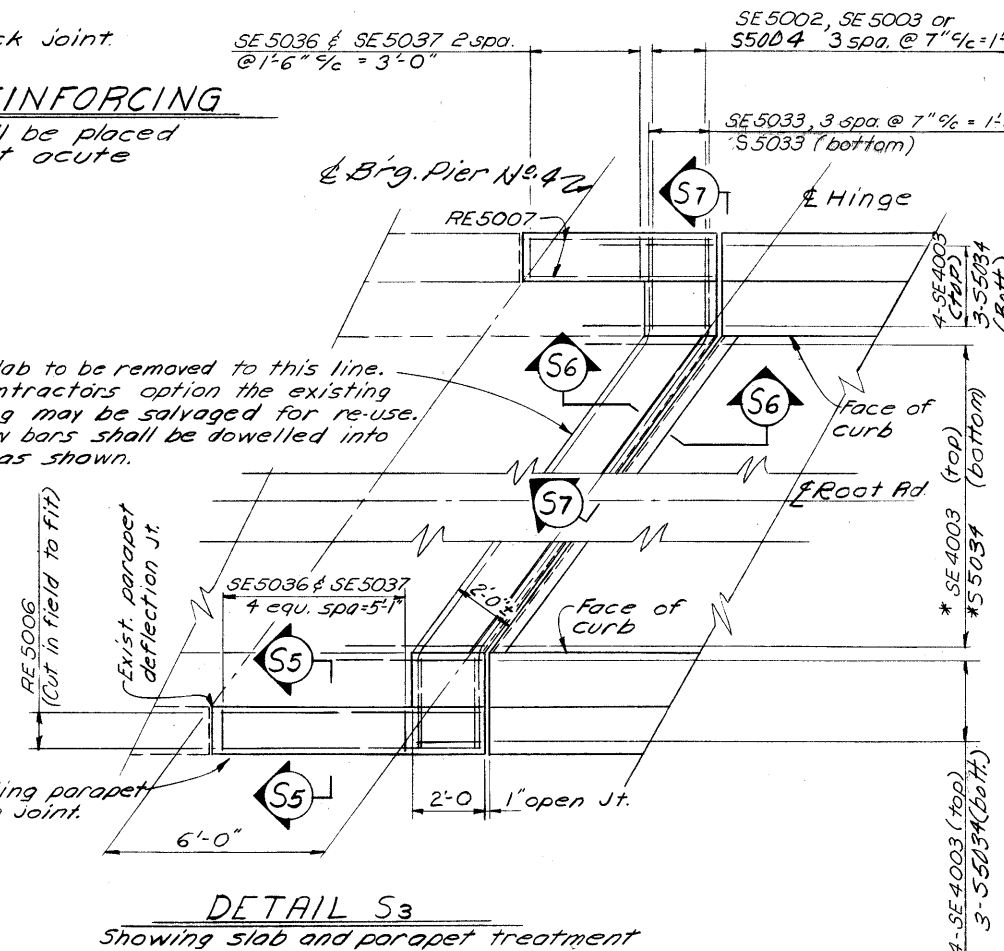
Transverse Reinforcing Steel shall be placed normal to Root Rd. except at acute corners of slab.

SE5036 & SE5037 2 spa @ 1'-6" c/c = 3'-0"  
SE5002, SE5003 or SE5004 3 spa @ 7" c/c = 1'-9" (Typ.)  
SE5033, 3 spa @ 7" c/c = 1'-9" (Top)  
SE5033 (bottom)

Existing slab to be removed to this line. At the contractor's option the existing reinforcing may be salvaged for re-use. If not new bars shall be dowelled into the slab as shown.



SECTION S5-S5



DETAIL S3  
Showing slab and parapet treatment at new deck hinge joint.

\*Space as shown on transverse section sh. 8/12, if used.

ALDEN E. STILSON & ASSOCIATES, LIMITED CONSULTING ENGINEERS CLEVELAND, OHIO COLUMBUS, OHIO WHEELING, W. VA.						
<b>SUPERSTRUCTURE DETAILS</b>						
BRIDGE NO LOR.-80-1802						
ROOT ROAD OVER E.B. 1-80						
LORAIN COUNTY					STA. 3+17.96	
					STA. 6+27.75	
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
B.I.P.	DL		R.S.S.	G.W.M.	9/10	

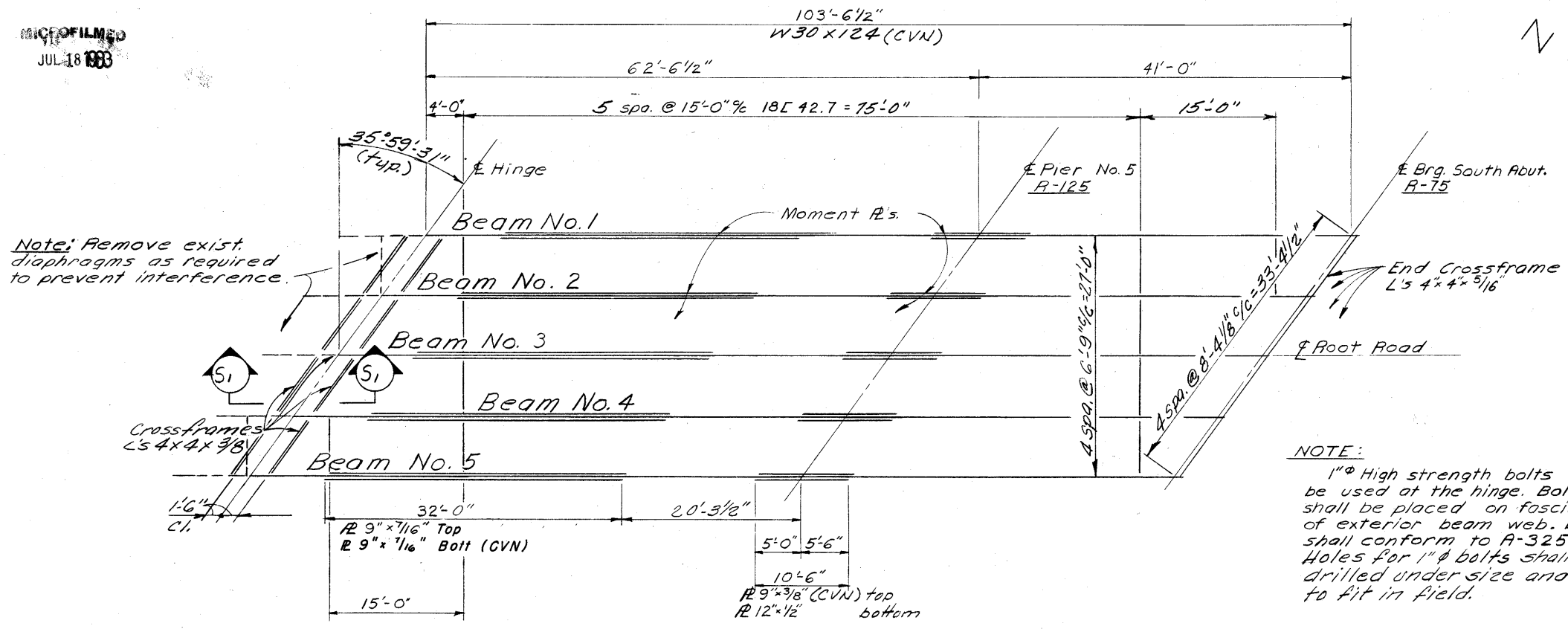
9/12

MICROFILMED  
JUL 18 1968

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

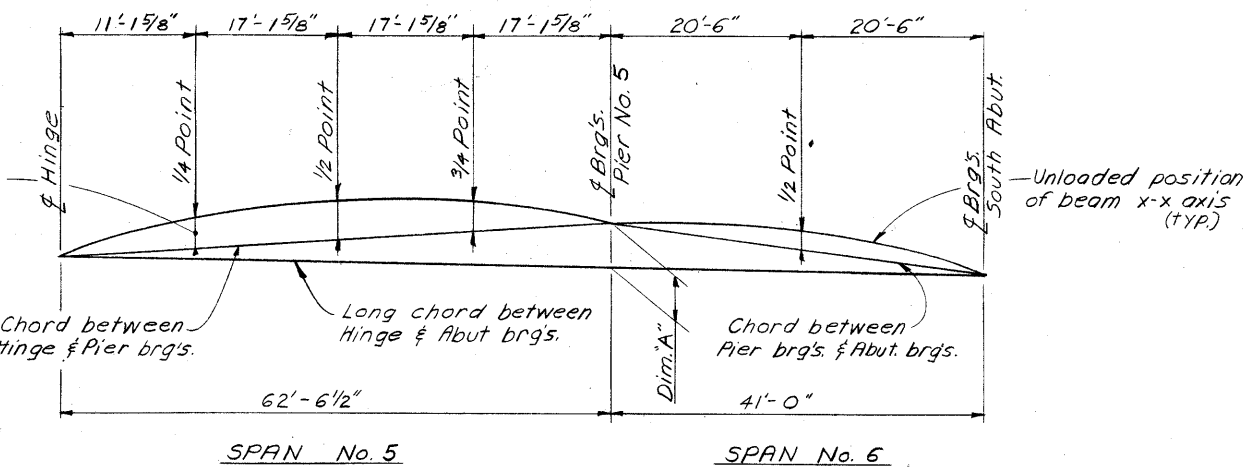
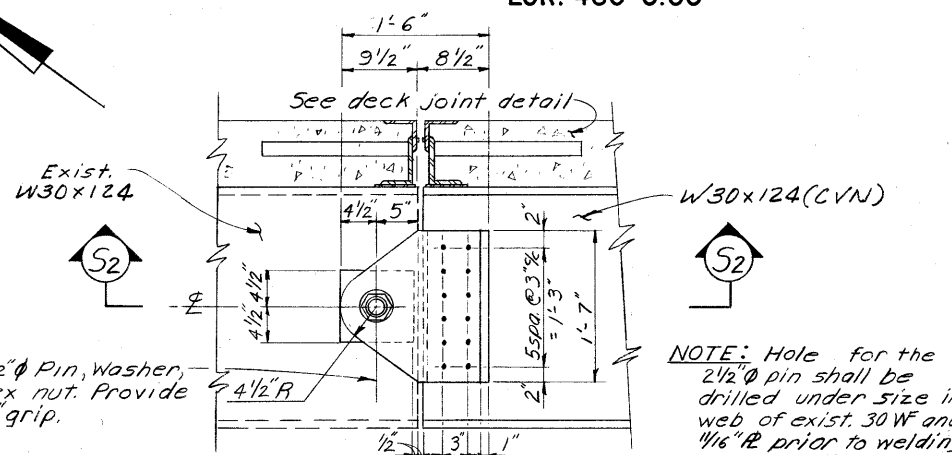
251  
375

LORAIN COUNTY  
LOR-480-0.00



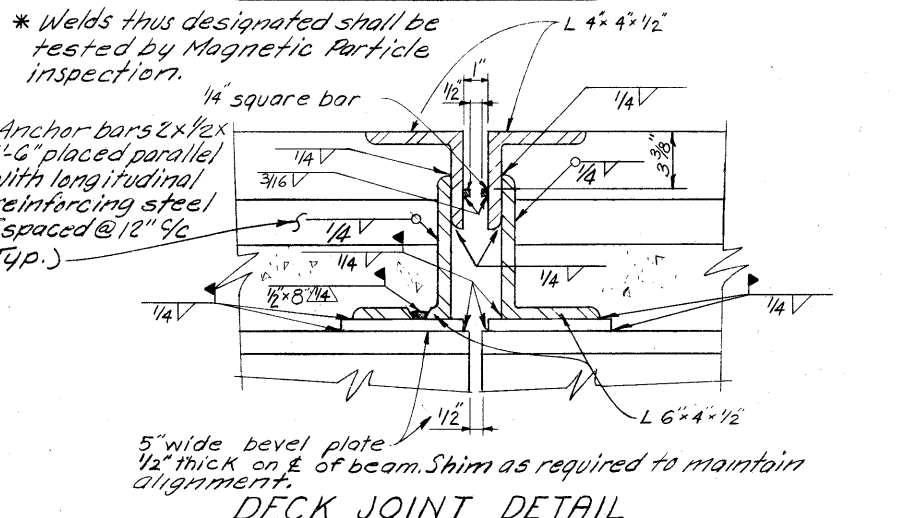
Note: Remove exist. diaphragms as required to prevent interference.

NOTE:  
1" High strength bolts shall be used at the hinge. Bolt heads shall be placed on fascia side of exterior beam web. Bolts shall conform to A-325 steel. Holes for 1" bolts shall be drilled under size and reamed to fit in field.



Location	SPAN No. 5			SPAN No. 6
	1/4	1/2	3/4	1/2
Beam No.	All	1,2,3	4,5	All
Deflection due to wt. of steel	1/16	1/8	1/8	1/16
Deflection due to Remaining D.L.	1/4	9/16	3/16	3/8
Adjustment req'd for vertical curve	1/16	1/4	15/16	3/4
Req'd shop camber	1"	1 15/16	1 5/8	1 7/16

Beam No	BLOCKING DIMENSIONS				
	PIER No. 5				
1	2	3	4	5	
Dim. "A"	3 1/8"	3"	2 5/16"	2 7/8"	2 13/16"



The Contractor shall, after field check of existing slab thickness, provide the fabricator with the necessary dimensions to shop assemble this joint. The right side of the joint as shown above must be welded to the supporting beams before the left side is welded. The joint shall be filled with a preformed elastic joint sealer of the size and shape shown on sheet 9/12 and meeting the requirement of Item 705.11.

Notes:

**CAMBER & BLOCKING DIAGRAM**

Steel Erection: During the erection of end dams and crossframes care shall be taken to insure that stringers, bearing parts and bridge seats remain in bearing contact.

Where (CVN) follows a shape or plate size designation, the material shall meet specified minimum notch toughness requirements. The fabricator shall submit to the Director a procedure designed for positive identification of material through all phases of fabrication. No material shall be fabricated until the Director has approved the procedure.

END DAMS AND SCUPPERS: Steel bar stock utilized for end dams and scuppers may be any weldable grade of low or mild carbon steel available commercially. This material is to be excluded from the requirements of 501.07 for test reports.

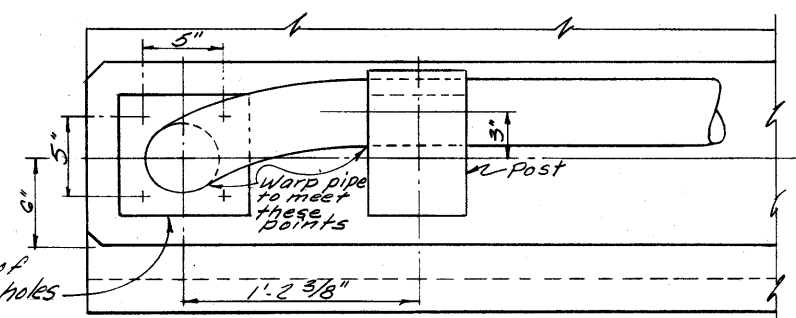
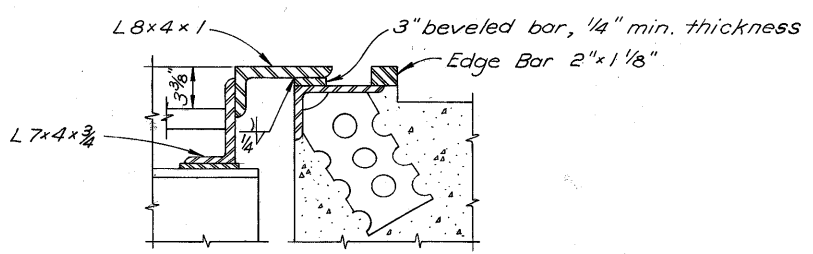
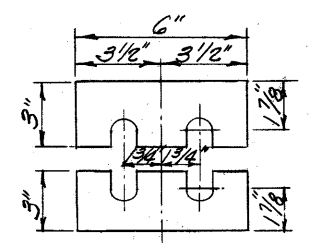
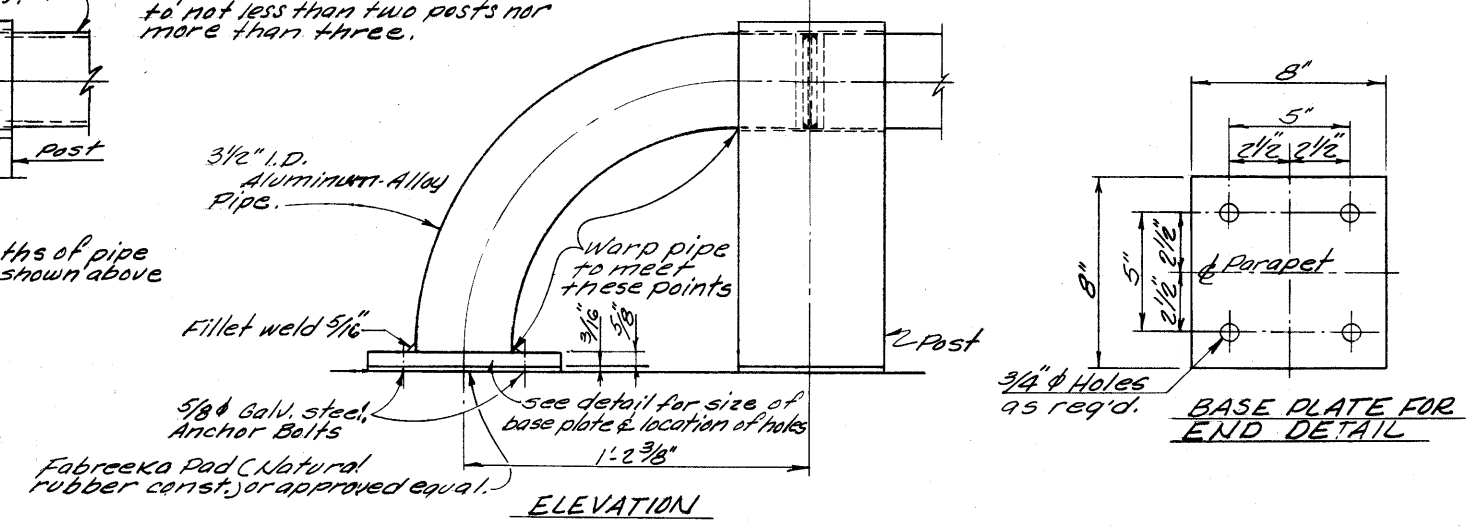
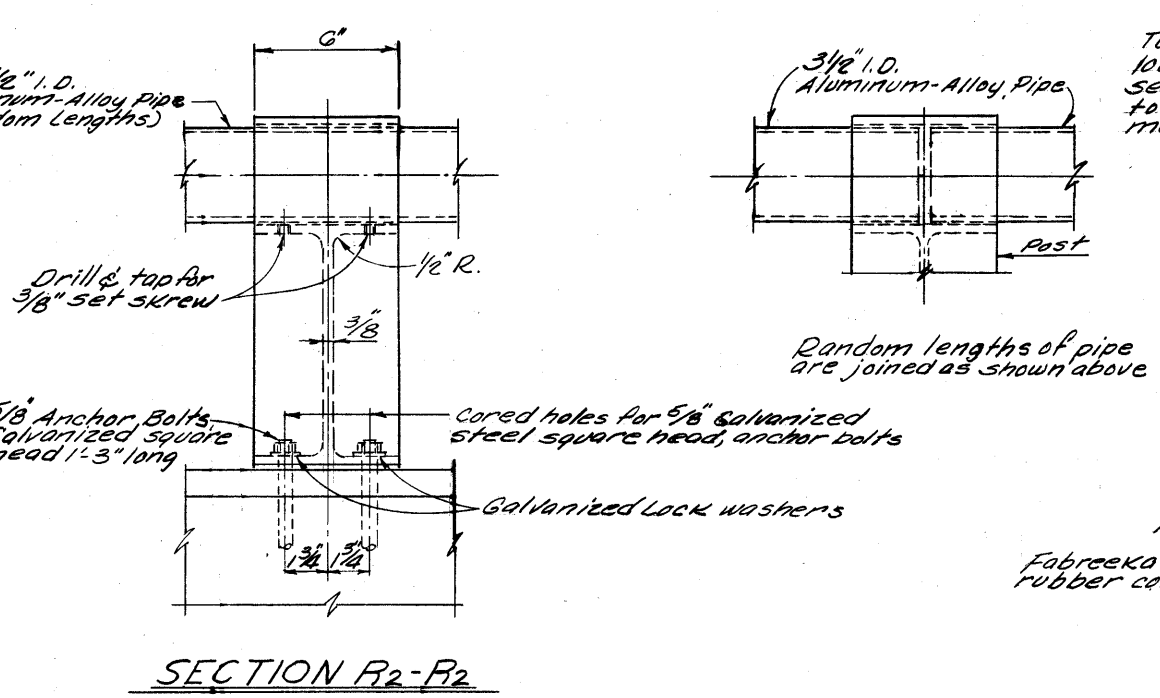
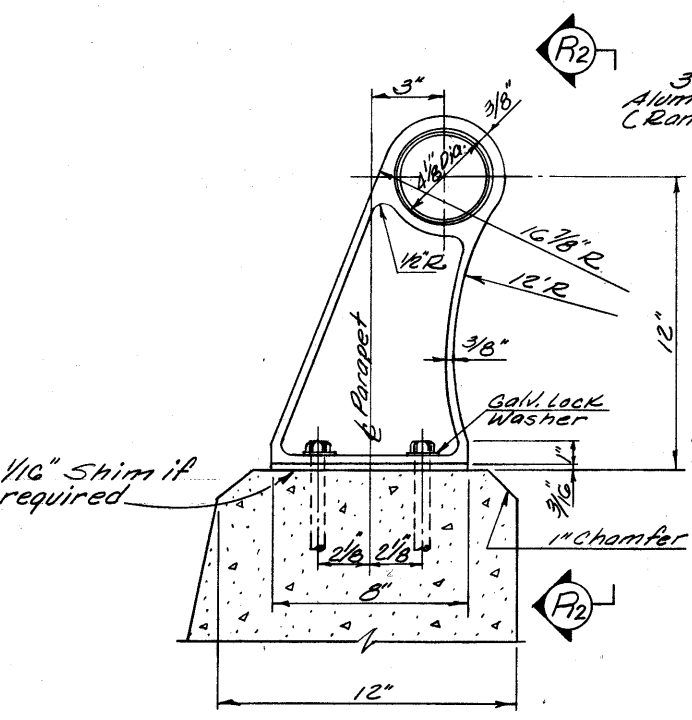
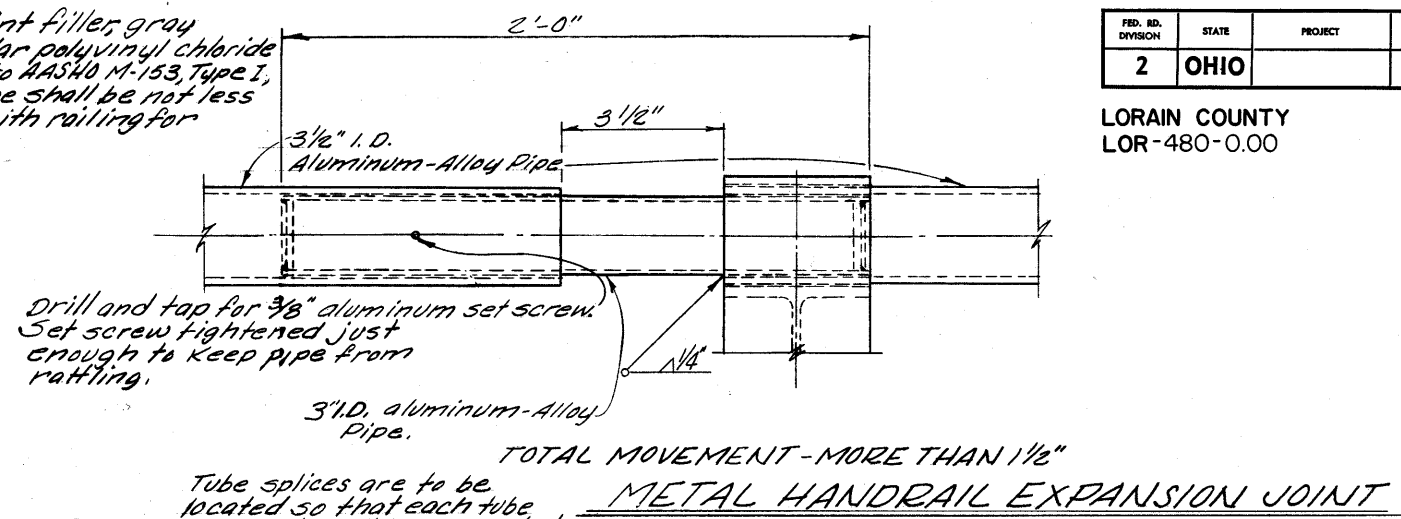
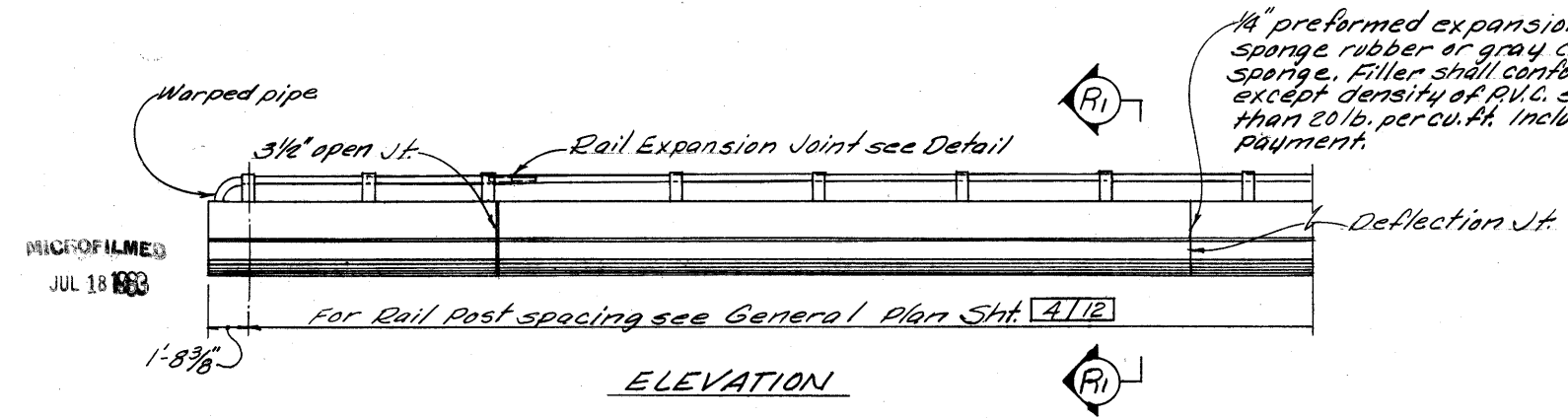
ALDEN E. STILSON & ASSOCIATES, LIMITED CONSULTING ENGINEERS CLEVELAND, OHIO COLUMBUS, OHIO WHEELING, W. VA.						
SUPERSTRUCTURE DETAILS						
BRIDGE NO LOR.- 80-1802						
ROOT ROAD OVER E.B. I-80						
LORAIN COUNTY					STA. 3+17.96	
					STA. 6+27.75	
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
B.I.P.	D.L.		R.S.S.	G.W.M.	7/10	7/10



FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

252  
375

LORAIN COUNTY  
LOR-480-0.00



Shims shall be provided under railing post, where necessary to provide for the vertical adjustment of the post. Shims shall be of aluminum alloy, 1/16 inch thick, cut as shown. Where more adjustment of the post is required, for plumb alignment, than can be corrected by one shim, the post shall be removed and the concrete surface corrected by grinding.

END DETAIL

11/12

ALDEN E. STILSON & ASSOCIATES, LIMITED  
CONSULTING ENGINEERS  
CLEVELAND, OHIO COLUMBUS, OHIO WHEELING, W. VA.

RAILING DETAILS  
BRIDGE NO. LOR-80-1802  
ROOT ROAD OVER E.B. I-80  
LORAIN COUNTY STA. 3+17.96  
STA. 6+27.75

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
				R.T.	9/4/70	

REPRODUCED  
JUL 18 1963

MARK	NUM.	LENGTH	WEIGHT	TYPE	A	B	C	D	E	NOTE
ABUTMENT										
A 5001	25	4-11	128	2	1-6	2-2	1-6			
A 5002	26	7-4	199	2	2-1	3-5	2-1			
A 5003	16	35-6	592	ST						
A 5004	1	19-4	20	ST						
A 5007	24	4-10	121	20	0-8	0-3	1-11	1-7		
A 5008	8	14-8	122	ST						
A 5009	4	7-8	32	ST						
A 5010	6	8-10	55	ST						
A 5011	4	8-3	34	12		6-8	1-7	0-7		
A 5012	12	4-0	50	ST						
A 5013	2	2-10		ST						1
THRU			42		VARY	LENGTH	BY	0-2	3/8	
A 5018	2	3-10		ST						1
A 5019	6	9-8	60	ST						
A 5020	6	4-6	28	ST						
A 6001	15	8-5	190	2	3-8	1-5	3-8			
A 6002	35	7-7	399	2	3-3	1-5	3-3			
A 6003	20	7-11	238	2	3-8	0-11	3-8			
A 6004	20	6-3	188	2	2-7	1-5	2-7			
A 6005	12	4-0	72	ST						
A 7001	2	2-10		ST						1
THRU			82		VARY	LENGTH	BY	0-2	3/8	
A 7006	2	3-10		ST						1
F 5001	26	8-3	224	2	1-7	5-4	1-7			
F 5002	26	7-0	190	2	6-6	0-8				
F 5003	25	11-1	289	3	3-0	2-3	3-0	2-3		
F 6001	26	14-1	550	2	6-6	5-4	2-7			
F 6002	12	18-8	336	2	8-11	1-2	8-11			
F 6003	3	6-6	29	ST						
D 8001	11	6-0	176	22	1-1	3-11	0-6			
F 8001	7	36-0	673	ST						
F 8002	6	11-4	182	ST						
F 8003	6	12-6	200	ST						
F 8004	2	4-0	21	ST						
PIER										
P 4001	114	9-10	749	3	2-0	2-8	2-0	2-8		
P 4002	57	7-10	298	3	1-10	1-10	1-10	1-10		
P 5001	25	5-5	141	2	1-6	2-8	1-6			
P 5002	40	8-11	372	3	1-6	2-8	1-6	2-8		
P 5003	2	36-0	75	ST						
P 5004	2	2-8	6	ST						
P 9001	6	40-9	831	2	2-8	36-0	2-8			
P 9002	4	16-8	227	ST						
P 9003	8	36-0	979	ST						
P11001	36	20-9	3969	ST						
F 8004	36	6-6	625	ST						
F 8005	16	5-6	235	ST						
F11001	36	6-10	1307	2	5-9	1-5				

MARK	NUM.	LENGTH	WEIGHT	TYPE	A	B	C	D	E	NOTE
SUPERSTRUCTURE										
S 5001	90	30-0	2816	ST						
S 5004	166	4-10	837	20	0-8	0-3	1-11	1-7		
S 5005	126	32-0	4205	ST						
S 5006	2	29-0		ST						1
THRU			949		VARY	LENGTH	BY	0-11		
S 5031	2	6-0		ST						1
S 5032	10	5-0	52	ST						
S 5033	4	38-6	161	12	2-0	28-0	2-0	20-3		
S 5034	30	1-8	52	ST						
S 5035	30	18-10	589	ST						
RAILING *										
RE5001	8	15-8		ST						2
RE5002	32	11-8		ST						2
RE5003	40	5-8		ST						2
RE5004	8	9-8		ST						2
RE5005	8	14-8		ST						2
RE5006	4	7-1		ST						2
RE5007	4	4-11		ST						2
* EPOXY COATED										
EPOXY COATED REINFORCING STEEL										
Abutments										
AE5005	24	4-8	117	1	0-8	2-9	1-6			
AE5006	24	3-4	83	2	2-4	1-2				
AE5008	14	14-8	214	St.						
Superstructure										
SE4001	108	30-0	2164	St.						
SE4002	36	17-9	427	St.						
SE4003	36	3-1	74	St.						
SE4004	33	27-6	606	St.						
SE5002	166	4-8	808	1	0-8	2-9	1-6			
SE5003	166	4-8	810	21	2-4	1-2				
SE5005	126	32-0	4205	St.						
SE5006	2	29-0		St.						1
Thru			949		VARY	LENGTH	BY	0-11		
SE5031	2	6-0		St.						1
SE5032	10	5-0	52	St.						
SE5033	4	38-6	161	12	2-0	28-0	2-0	20-3		
SE5036	8	3-6	29	1	0-8	3-0				
SE5037	8	3-7	30	6	0-3	3-0	0-8			

LORAIN COUNTY  
LOR-480-0.00

NOTES

- INDICATES SERIES BAR. EACH BAR VARIES FROM ADJACENT BAR(S) BY TABULATED AMOUNT(S), CALCULATED TO NEAREST 1/8 INCH. WEIGHT SHOWN IS FOR ENTIRE SERIES UTILIZING AVERAGE LENGTH.
- BARS INCLUDED WITH ITEM 517, RAILING, FOR PAYMENT.
- COST OF FIELD BENDING SHALL BE INCLUDED WITH ITEM 509.
- LIGHT POLE SUPPORT BARS INCLUDED WITH ITEM 509 FOR PAYMENT.
- END PREPARATION AND FIELD WELDING INCLUDED WITH ITEM 509.
- 'LENGTH' SHOWN FOR SPIRAL BARS IS DISTANCE FROM TOP OF FOOTING TO BOTTOM OF PIER CAP. 'NO. TURNS' SHOWN IS 'LENGTH' DIVIDED BY PITCH, PLUS 3 TURNS (NUMBER OF CLOSED COILS), EXPRESSED AS NEAREST WHOLE NUMBER.

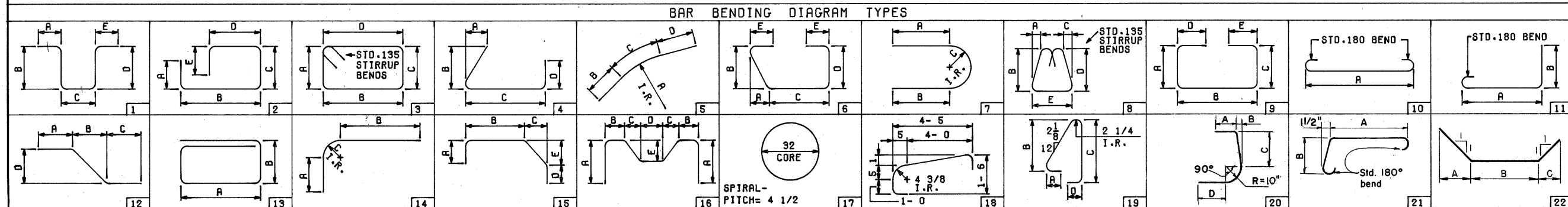
1 1/2 CLOSED COILS SHALL BE PROVIDED AT ENDS OF EACH SPIRAL UNIT. FOUR STEEL CHANNEL, TEE OR ANGLE SPACERS, WEIGHING APPROXIMATELY 0.80 LB. PER LIN. FT. OF SPACER SHALL BE PROVIDED FOR EACH SPIRAL UNIT. THEY SHALL BE EQUALLY SPACED ALONG PERIPHERY OF COIL. WEIGHT OF SPACERS, AT 0.80 LB. PER LIN. FT. WILL BE PAID FOR AS REINFORCING STEEL AND IS INCLUDED IN TABULATED WEIGHT.

Refer to CMS Sections 106.03, 700, 709.01 through 709.05 and 709.08. Sufficient additional reinforcing steel shall be provided for sampling. Random samples shall be replaced in the structures by the additional steel, spliced in accordance with 509.08.

Bar dimensions are out to out.

BAR SIZE DESIGNATION

BAR SIZE IS INDICATED IN THE BAR MARK. THE FIRST DIGIT WHERE FOUR DIGITS ARE USED, AND FIRST TWO DIGITS WHERE FIVE DIGITS ARE USED, INDICATE THE BAR SIZE NUMBER. FOR EXAMPLE, A7001 IS A NO. 7 SIZE BAR AND A10140 IS A NO. 10 SIZE.



ALDEN E. STILSON & ASSOCIATES, LIMITED CONSULTING ENGINEERS CLEVELAND, OHIO COLUMBUS, OHIO WHEELING, W. VA.						
<b>REINFORCING STEEL LIST</b> BRIDGE NO. LOR-80-18.02 ROOT ROAD OVER E.B. I-80						
LORAIN COUNTY			STA. 3+17.96 STA. 6+27.75			
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
B.I.P.			R.S.	G.W.M.	6/4/70	

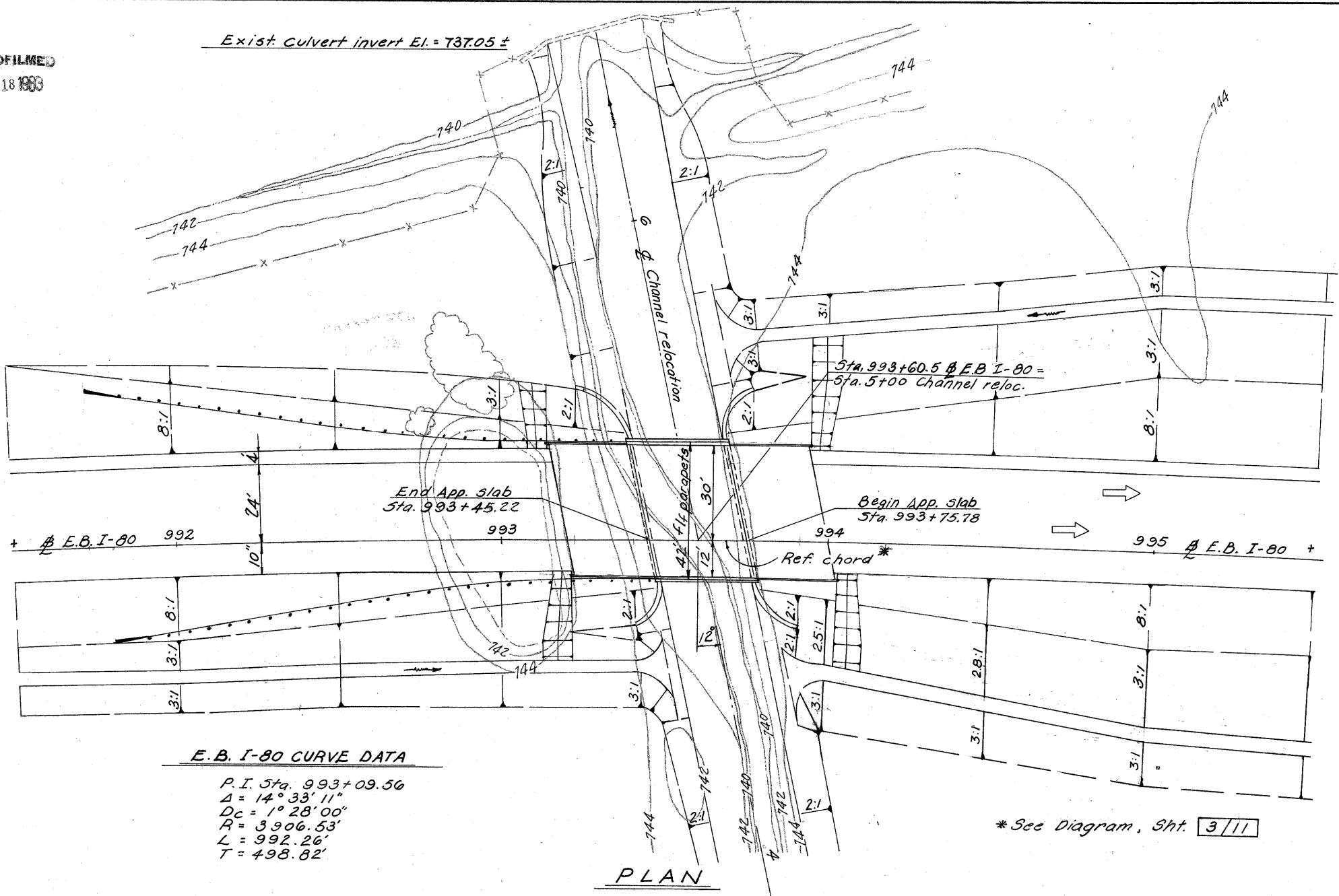
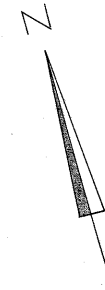
MICROFILMED  
JUL 18 1983

Exist. Culvert invert El. = 737.05 ±

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

LORAIN COUNTY  
LOR-480-0.00

254  
375

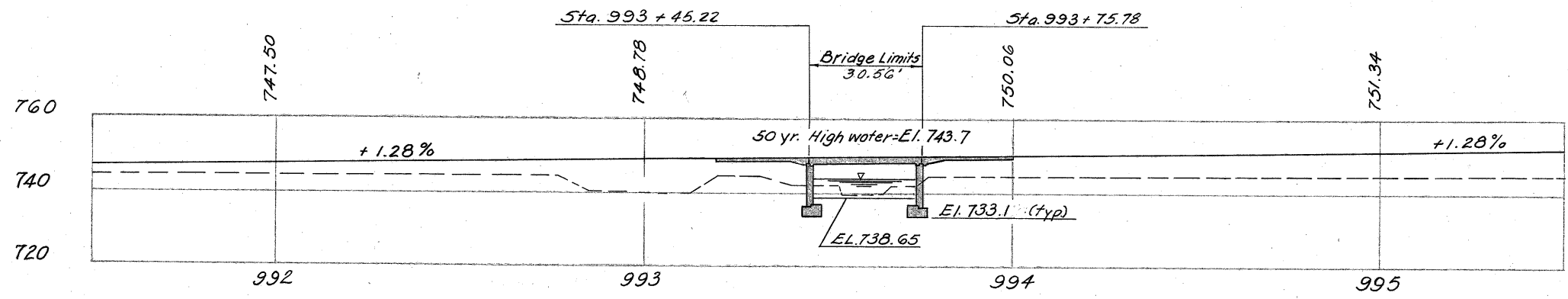


**E.B. I-80 CURVE DATA**  
 P.I. Sta. 993+09.56  
 $\Delta = 14^\circ 33' 11''$   
 $D_c = 1^\circ 28' 00''$   
 $R = 3906.53'$   
 $L = 992.26'$   
 $T = 498.82'$

PLAN

\* See Diagram, Sht. 3/11

Note:  
Earthwork limits shown are approximate. Actual slopes shall conform to plan cross-sections.



PROFILE ALONG EAST BOUND I-80

**EXISTING STRUCTURES**

160' ± Downstream  
 TYPE: Reinforced concrete double-box culvert.  
 SPANS: 2 at 14'-0"  
 CONDITION: Good  
 WATERWAY OPENING: 196 Sq. ft.

**PROPOSED STRUCTURE**

TYPE: Single span reinforced concrete slab deck, with reinforced concrete substructure.  
 SPANS: 28'-0" fl. abutments on fl.  
 ROADWAY: 42'-0" fl. parapets of BR-1-67 railing  
 LOADING: HS 20-44 & Interstate Alternate  
 WEARING SURFACE: Monolithic Conc.  
 SKEW: 12°00'00" Rt. fwd. with reference chord  
 ALIGNMENT: 1°28' curve rt.  
 SUPERELEVATION: 0.036 1/1  
 APPROACH SLABS: AS-1-72 (25)-Modified

**HYDROLOGICAL DATA**

Drainage Area = 2660 Ac.  
 $Q_{50 \text{ yrs.}} = 1362 \text{ cfs}$   
 $V_{50 \text{ yrs.}} = 9.6 \text{ cfs}$   
 $Q_{100} = 1540 \text{ cfs}$   
 $V_{100} = 9.8 \text{ /sec.}$   
 Elev. 100yr. = 744.2 ±

BRIDGE NO. LOR-80-1816 APPEARING THROUGHOUT THIS BRIDGE PLAN SHALL BE CONSIDERED TO READ BRIDGE NO. LOR-480-0034.

ALDEN E. STILSON & ASSOCIATES, LIMITED  
 CONSULTING ENGINEERS  
 CLEVELAND, OHIO      COLUMBUS, OHIO      WHEELING, W. VA.

**SITE PLAN**  
 BRIDGE NO. LOR-80-1816  
 E.B. I-80 OVER DRAINAGE DITCH

STA. 993+45.22  
 STA. 993+75.78  
 LORAIN COUNTY

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
G.W.M.	G.W.M.	M.M.A.		G.W.M.	9/29/70	

MICROFILMED  
JUL 18 1983

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

255  
375

LORAIN COUNTY  
LOR-480-0.00

**STANDARD DRAWING REFERENCES**

DESCRIPTION	DWG. NO.	SHT.	DATE
APPROACH SLABS	AS-1-72(MOD)*		6-30-72
STRUCTURE FOUNDING	HL-7		1-21-76

(R INDICATES REVISED DATE)

**SUPPLEMENTAL SPECIFICATION REFERENCES**

DESCRIPTION	NO.	DATE
CHEMICAL ADMIXTURE FOR CONCRETE, TYPE A, B OR D	808	1-1-71
CONCRETE CURING AND PROTECTIVE MEMBRANE	836	3-12-75

**DESIGN SPECIFICATIONS**  
THIS STRUCTURE CONFORMS TO THE '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 - HS20-44 AND THE INTERSTATE ALTERNATE LOADING  
CONCRETE CLASS C - UNIT STRESS 1200 PSI FOR SUPERSTRUCTURE  
UNIT STRESS 1333 PSI FOR SUBSTRUCTURE  
REINFORCING STEEL - ASTM A615, A616 OR A617 - UNIT STRESS 20000 PSI.

**EMBANKMENT CONSTRUCTION**  
~~BEFORE THE BACKWALL AND WINGWALLS ARE CONSTRUCTED, THE EMBANKMENT SHALL BE CONSTRUCTED UP TO THE LEVEL OF THE SUBGRADE WITH A 2 ON 1 SLOPE FROM THE FACE OF THE ABUTMENT TO THE SUBGRADE FOR A MINIMUM DISTANCE OF 200 FEET BACK OF THE ABUTMENT AND EXCAVATION FOR THE RELOCATED CHANNEL COMPLETED IN THE VICINITY OF THE BRIDGE.~~

**FOUNDATION BEARING PRESSURE**  
ABUTMENT AND WINGWALL FOOTINGS ARE DESIGNED FOR A MAXIMUM BEARING PRESSURE OF 2.5 TONS PER SQ. FT.

**BACKFILL**  
*Backfill shall not be placed higher than elevation 738.0 prior to placing of the deck slab.*

\* Std. dwg. AS-1-72 shall be modified to provide 3" clearance to the top re-bars instead of the 2" shown and jacking holes shall be omitted.

*Monolithic wearing surface thickness is assumed to be 1"*

*Deck Protection Method: Epoxy Coated reinforcing steel, top mat only.*

**LAPS**  
*Minimum bar lap shall be 30 diameters*

**ATTACHMENT OF GUARDRAIL TO CONCRETE PARAPETS**  
*Concrete insert anchor assemblies per Standard Construction Drawings GR-3 and GR-1 shall be placed during parapet construction.*

100% State

ITEM	TOTAL	UNIT	DESCRIPTION	ABUTS	WINGS	SUPER	GENERAL			
503	LUMP	SUM	COFFERDAMS, CRIBS AND SHEETING				LUMP			
503	449	C.Y.	UNCLASSIFIED EXCAVATION	162	287					
509	24770	LB	REINFORCING STEEL	4555	5516	14,699				
511	99	C.Y.	CLASS C CONCRETE, SUPERSTRUCTURE (See Proposal Note)			99				
511	130	C.Y.	CLASS C CONCRETE, ABUTMENTS ABOVE FOOTINGS	67	63					
511	133	C.Y.	CLASS C CONCRETE, FOOTINGS	72	61					
512	19	S.Y.	TYPE B WATERPROOFING	19						
512	23	L.F.	PREHOLDED SEALING STRIP	23						
516	100	S.F.	1 INCH PREFORMED EXPANSION JOINT FILLER	100						
518	65	C.Y.	POROUS BACKFILL	44	21					
519	30	L.F.	MEMBRANE WATERPROOFING (SEE PROPOSAL NOTE)							
808	99	UNIT	CHEMICAL ADMIXTURE FOR CONCRETE, TYPE A, B OR D				99			
SPEC.	2263	L.B.	EPOXY COATED REINFORCING STEEL (See Proposal)				2263			

2/11

**ALDEN E. STILSON & ASSOCIATES, LIMITED**  
CONSULTING ENGINEERS  
CLEVELAND, OHIO COLUMBUS, OHIO WHEELING, W. VA.

**GENERAL NOTES AND ESTIMATED QUANTITIES**  
BRIDGE NO. LOR-80-1816  
E.B.I-80 OVER DRAINAGE DITCH  
LORAIN COUNTY STA. 993 + 45.22  
STA. 993 + 75.78

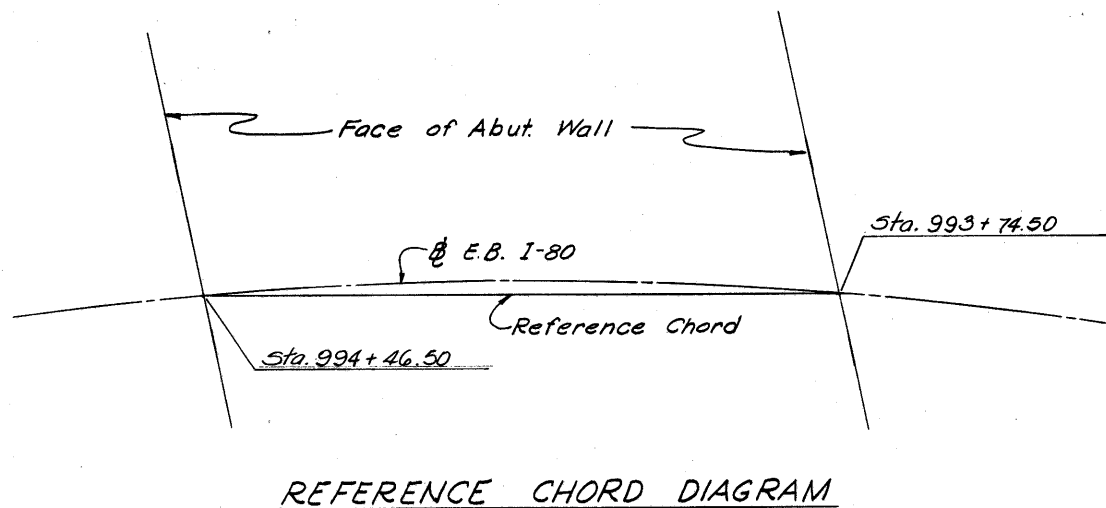
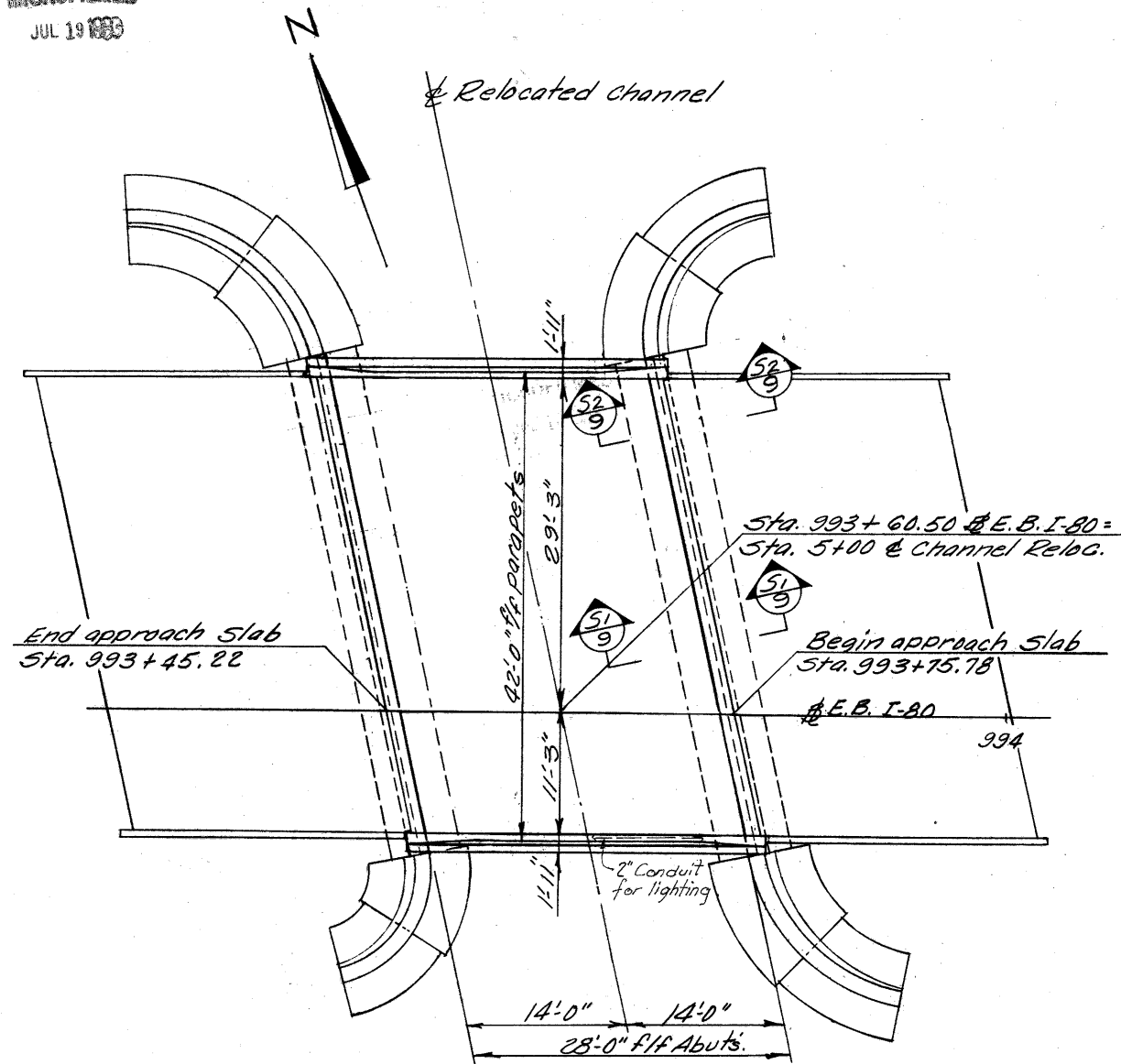
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
R.S.S.			B.I.P.	G.W.M.	6-11-70	6/70

MICROFILMED  
JUL 19 1988

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

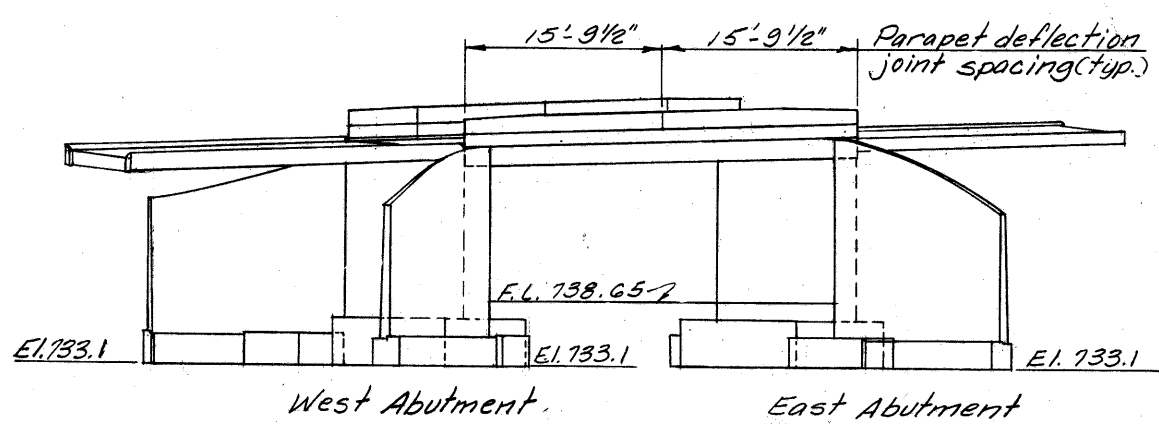
256  
375

LORAIN COUNTY  
LOR-480-0.00



REFERENCE CHORD DIAGRAM

GENERAL PLAN



ELEVATION

Note:  
 Preformed expansion joint filler in the railing parapet deflection joints may be either 1/4" gray sponge rubber or 1/4" gray cellular polyvinyl chloride (PVC) sponge. Either material shall meet the requirements of AASHTO M-153, Type 1, except the density of the PVC sponge shall be not less than 20 lb. per cu. ft.

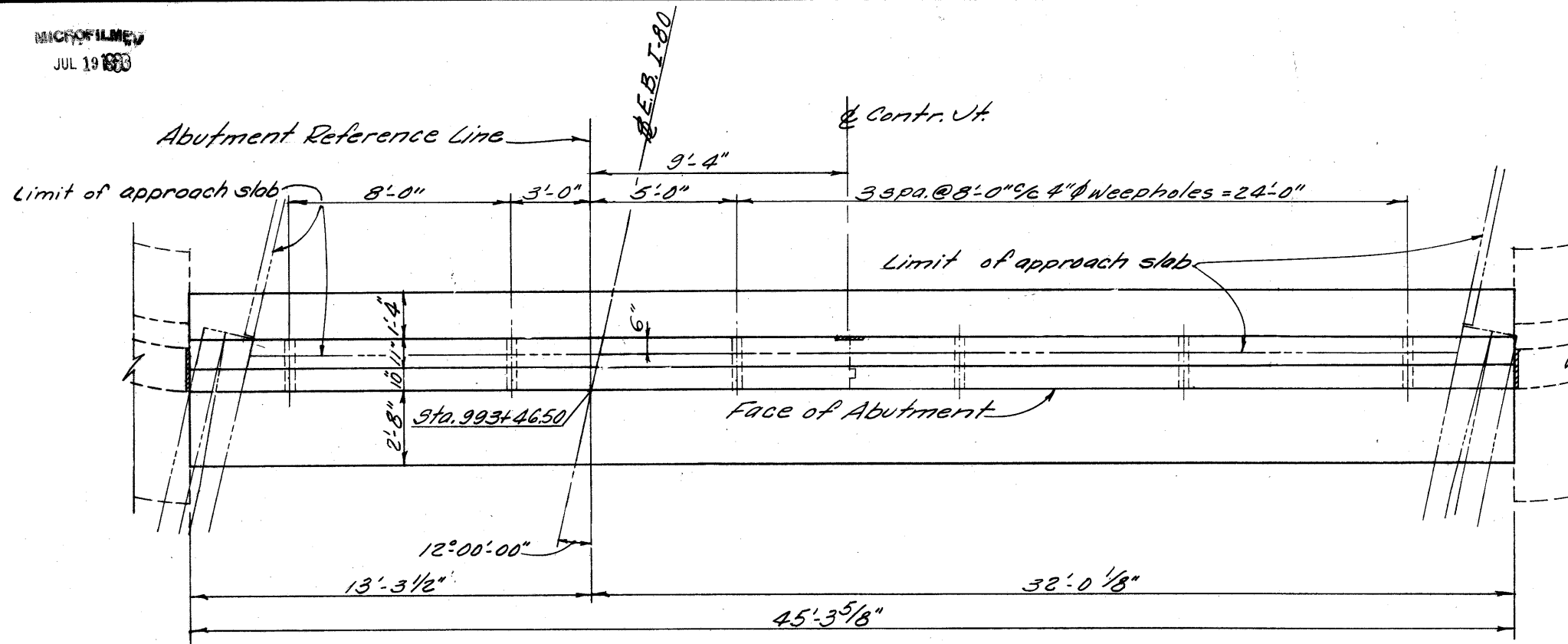
3 / 11

ALDEN E. STILSON & ASSOCIATES, LIMITED  
 CONSULTING ENGINEERS  
 CLEVELAND, OHIO    COLUMBUS, OHIO    WHEELING, W. VA.

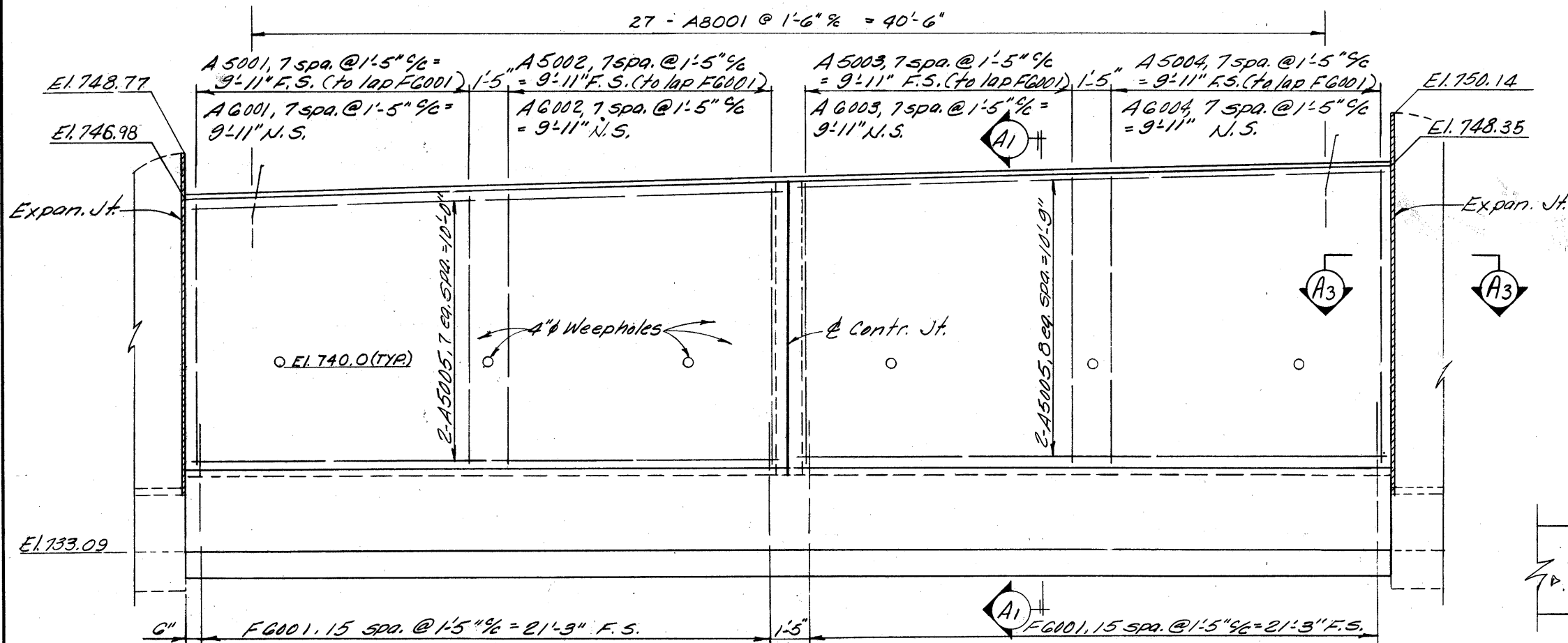
**GENERAL PLAN**  
 BRIDGE NO LOR-80-1816  
 E.B. I-80 OVER DRAINAGE DITCH

LORAIN COUNTY    STA. 993+45.22  
 STA. 993+75.78

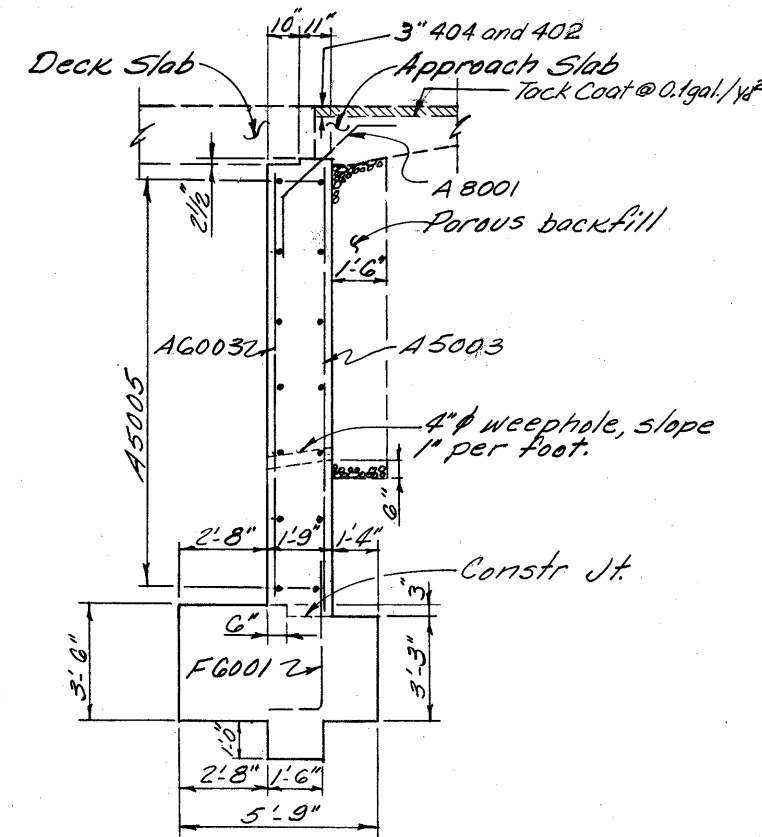
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
B.I.P.	R.T.		R.S.S.	G.W.M.	7/30/70	



PLAN



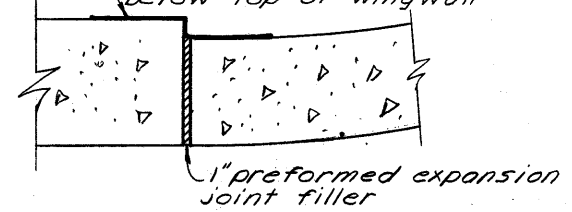
ELEVATION



SECTION A1-A1

Notes:  
 For details of contraction joint see sht. 5/11  
 In bar callouts: N.S. indicates near side.  
 F.S. indicates far side.  
 Porous backfill 1'-6" thick shall extend from 6" below weepholes vertically to underside of approach slab seat or to the subgrade.  
 For wingwall details see sht. 6/11

Type "B" waterproofing, 36" wide, Item 512.06 extending from top of footing to 6" below top of wingwall



SECTION A3-A3  
Expansion Joint Detail

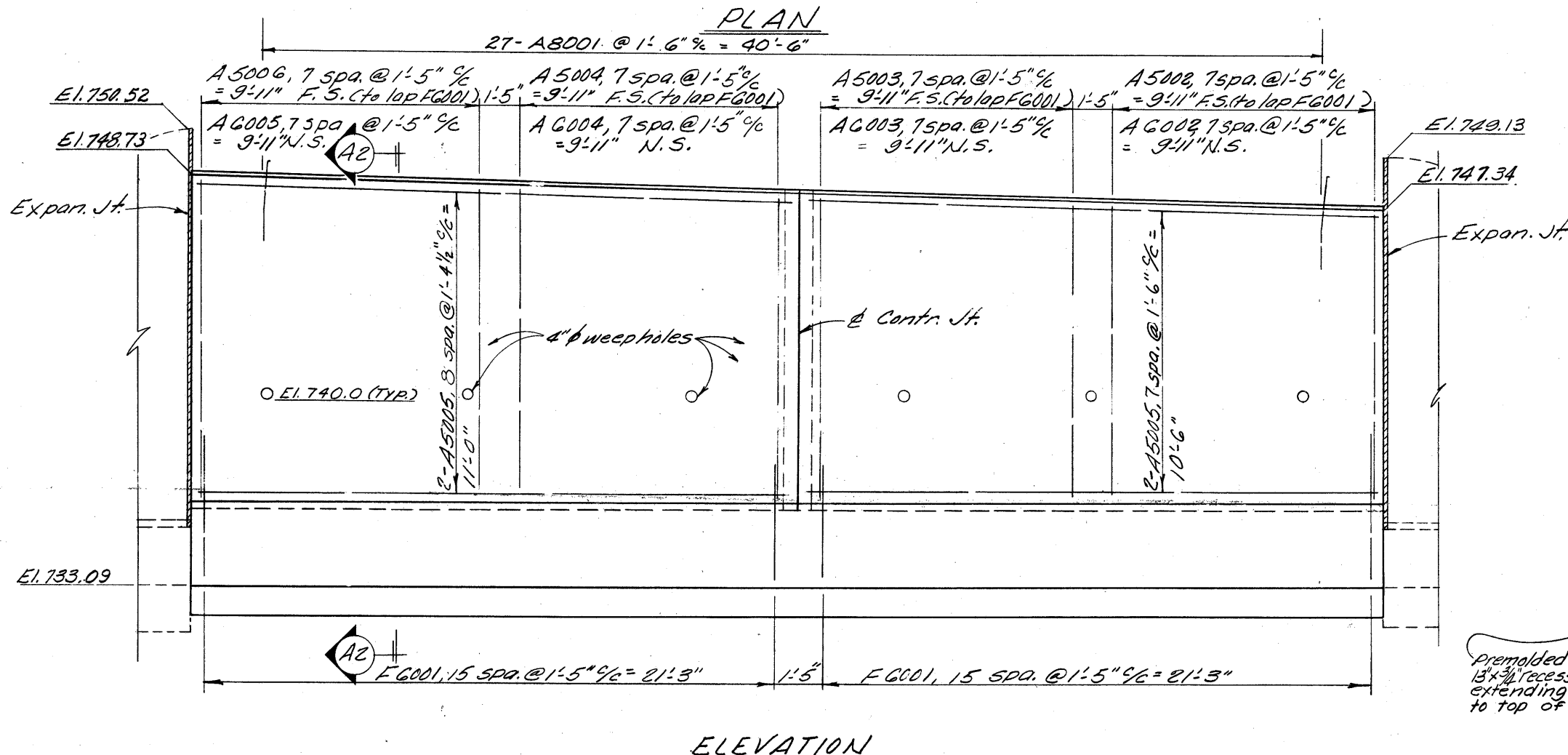
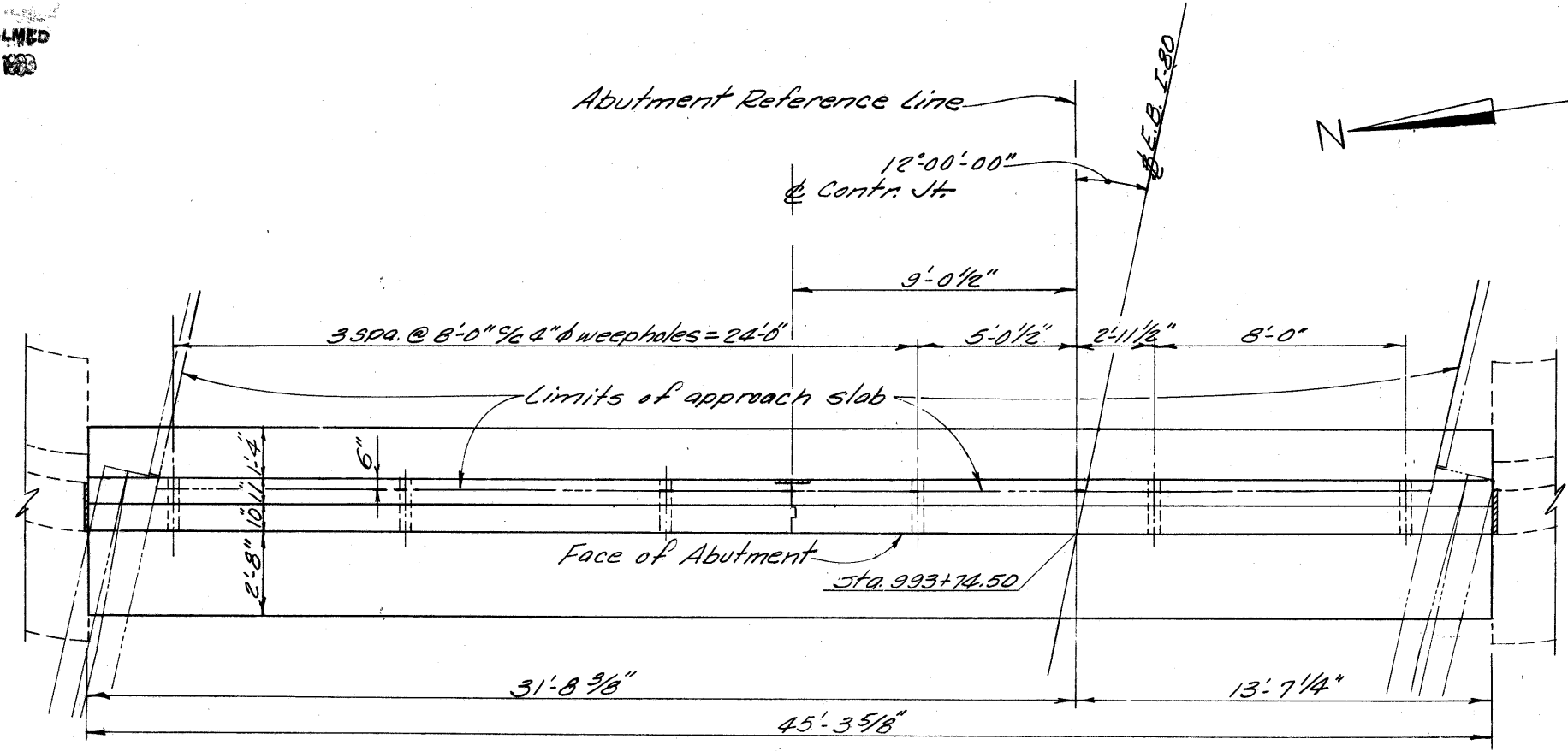
ALDEN E. STILSON & ASSOCIATES, LIMITED CONSULTING ENGINEERS CLEVELAND, OHIO COLUMBUS, OHIO WHEELING, W. VA.						
<b>WEST ABUTMENT DETAILS</b>						
BRIDGE NO LOR-80-1816						
E.B. I-80 OVER DRAINAGE DITCH						
LORAIN COUNTY					STA. 993+45.22	
					STA. 993+75.78	
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
B.I.P.	R.T.		R.S.S.	G.W.M.	6/80	7/0

MICROFILMED  
JUL 19 1983

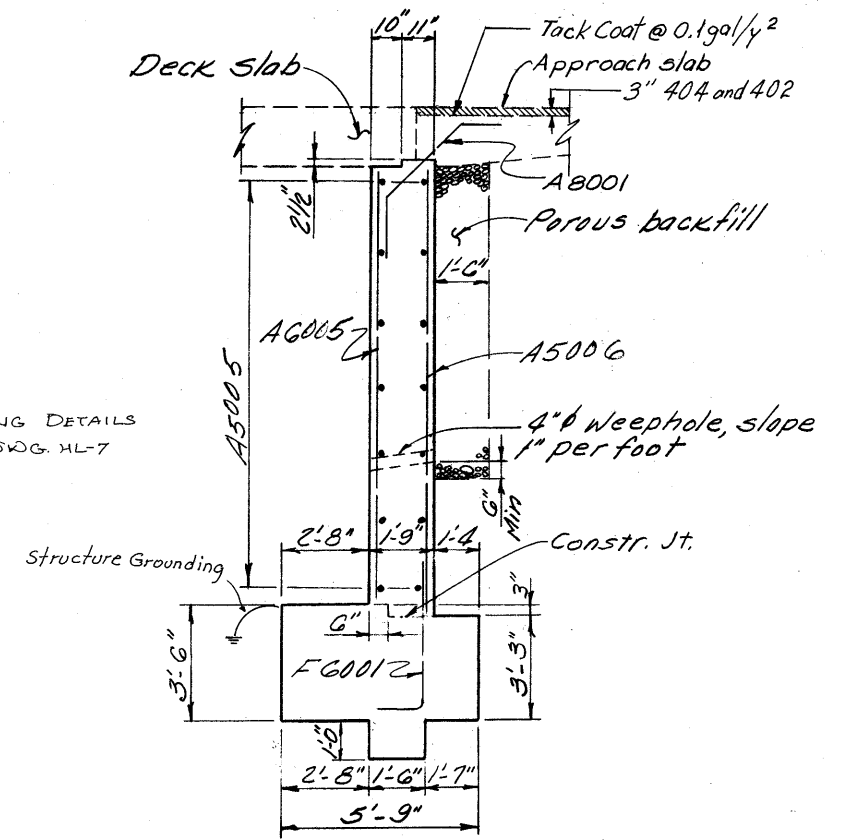
FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

258  
375

LORAIN COUNTY  
LOR-480-0.00



ELEVATION



FOR GROUNDING DETAILS  
SEE SEE. DWG. HL-7

**SECTION A2-A2**

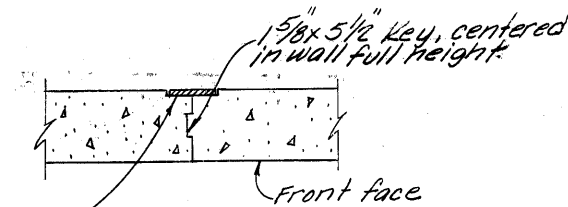
**Notes:**

In bar callouts: N.S. indicates near side.  
F.S. indicates far side.

For additional notes see Sht. 4/11

For wingwall details see Shts. 7/11

For expansion joint detail see section A3-A3 Sht. 4/11



Premolded Sealing Strip in  
1 1/2" x 3/4" recess as per Item 512,  
extending from top of footing  
to top of wall.

**CONTRACTION JOINT DETAIL**

ALDEN E. STILSON & ASSOCIATES, LIMITED  
CONSULTING ENGINEERS  
CLEVELAND, OHIO COLUMBUS, OHIO WHEELING, W. VA.

**EAST ABUTMENT DETAILS**

BRIDGE NO LOR-80-1816

E.B. I-80 OVER DRAINAGE DITCH

LORAIN COUNTY STA. 993+45 22

STA. 993+75 78

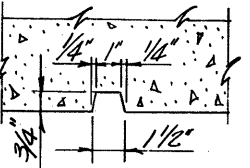
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVIS
B.I.P.	R.T.		R.S.S.	G.W.M.	6/30/70	

5/11

MICROFILMED  
JUL 19 1980

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

LORAIN COUNTY  
LOR-480-0.00



RUSTICATION GROOVE DETAIL

Notes:

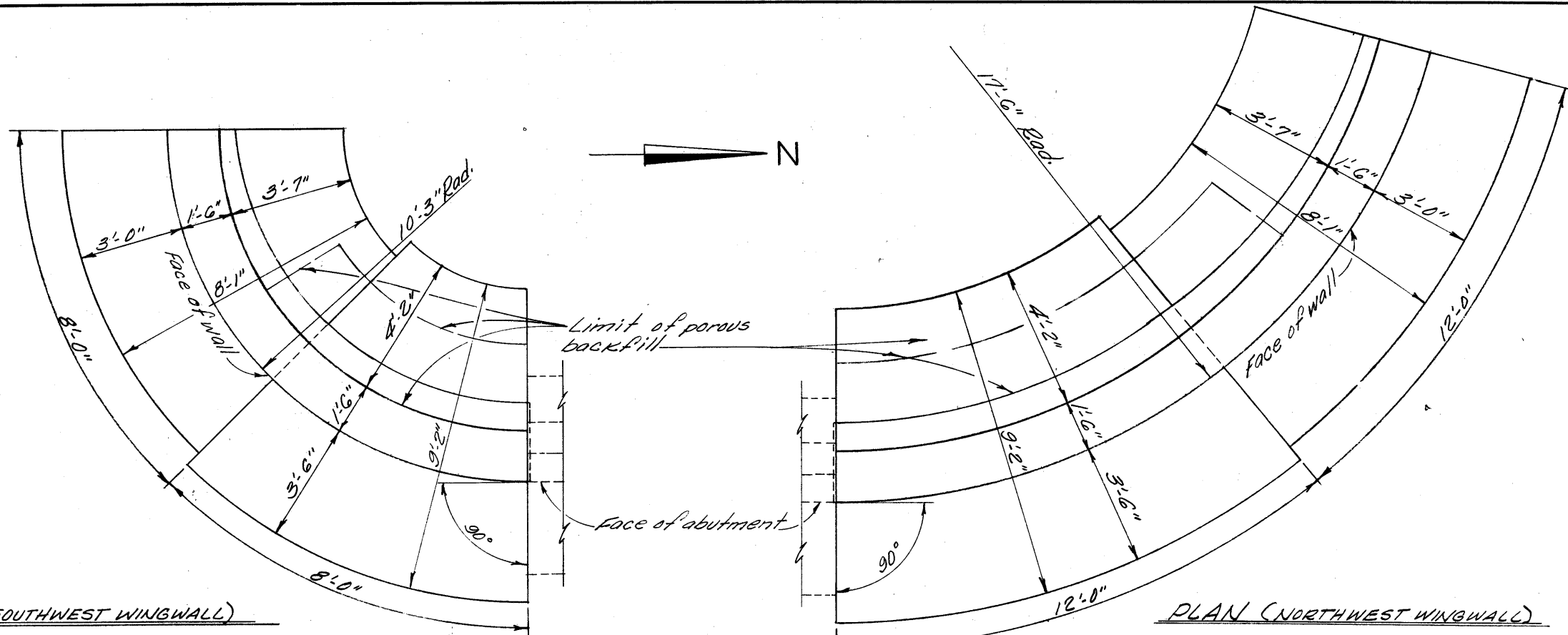
In reinforcing bar callouts:  
N.S. indicates near side,  
F.S. indicates far side.

All dimensions and reinforcing steel spacing and placement are measured along or radial to the face of wall.

Field bending of longitudinal reinforcing steel shall be included in item 509 for payment.

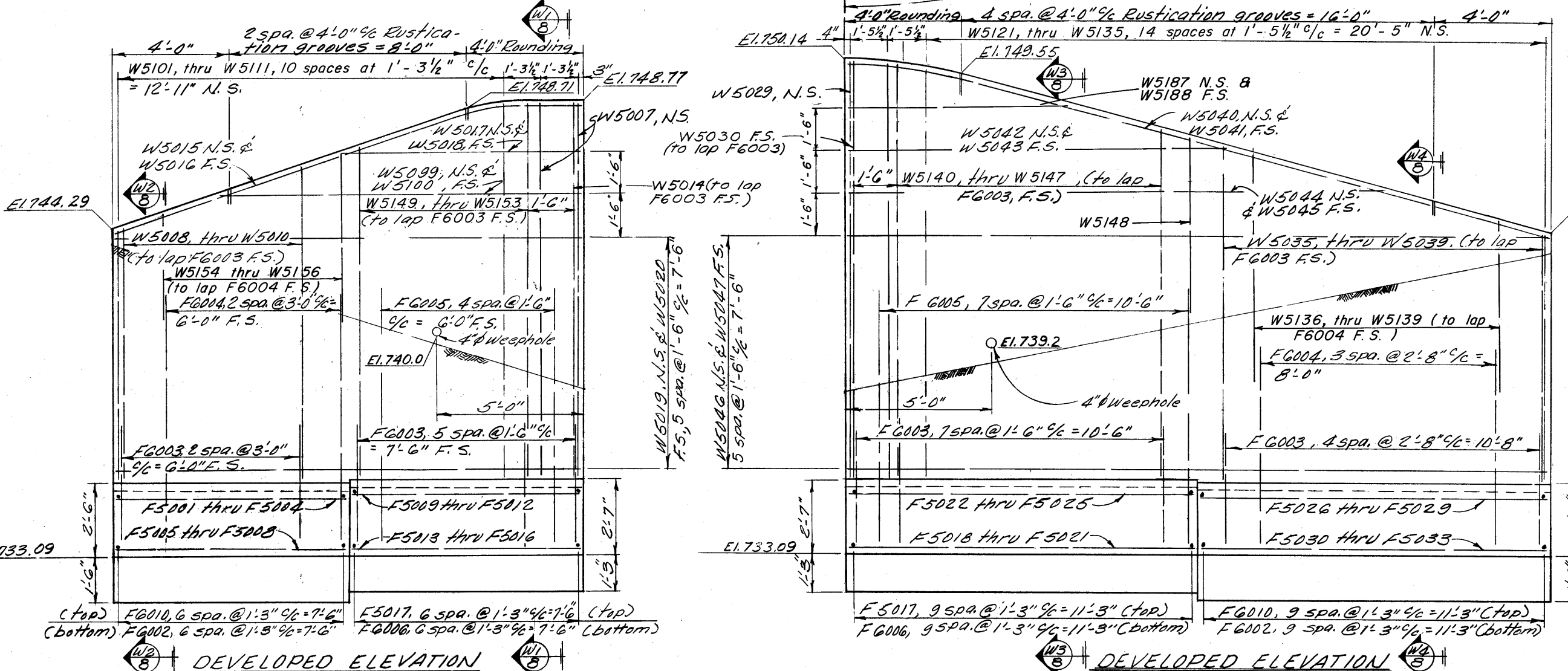
Footing keys shall be placed monolithically with footing in a carefully made trench against undisturbed earth.

For detail of expansion joint between wingwall and abutment see Section A3-A3 Sht. 411.



PLAN (SOUTHWEST WINGWALL)

PLAN (NORTHWEST WINGWALL)



DEVELOPED ELEVATION

DEVELOPED ELEVATION

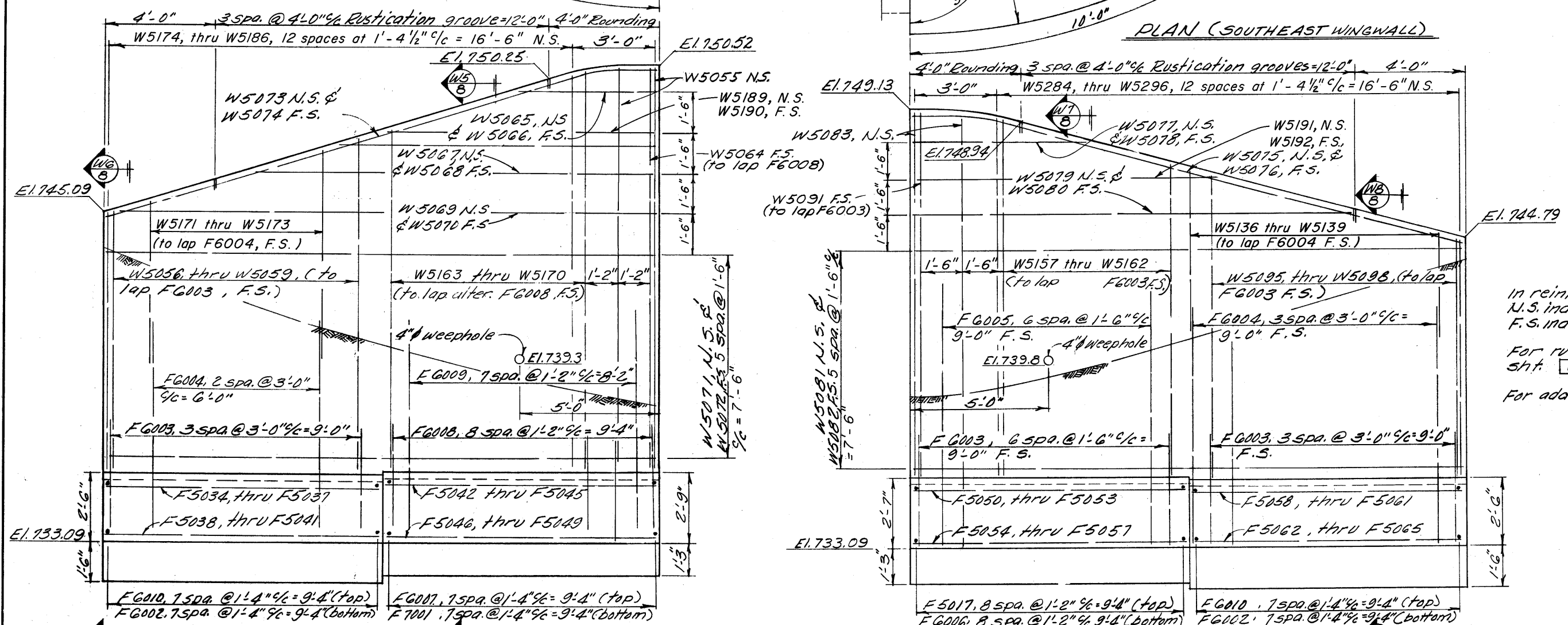
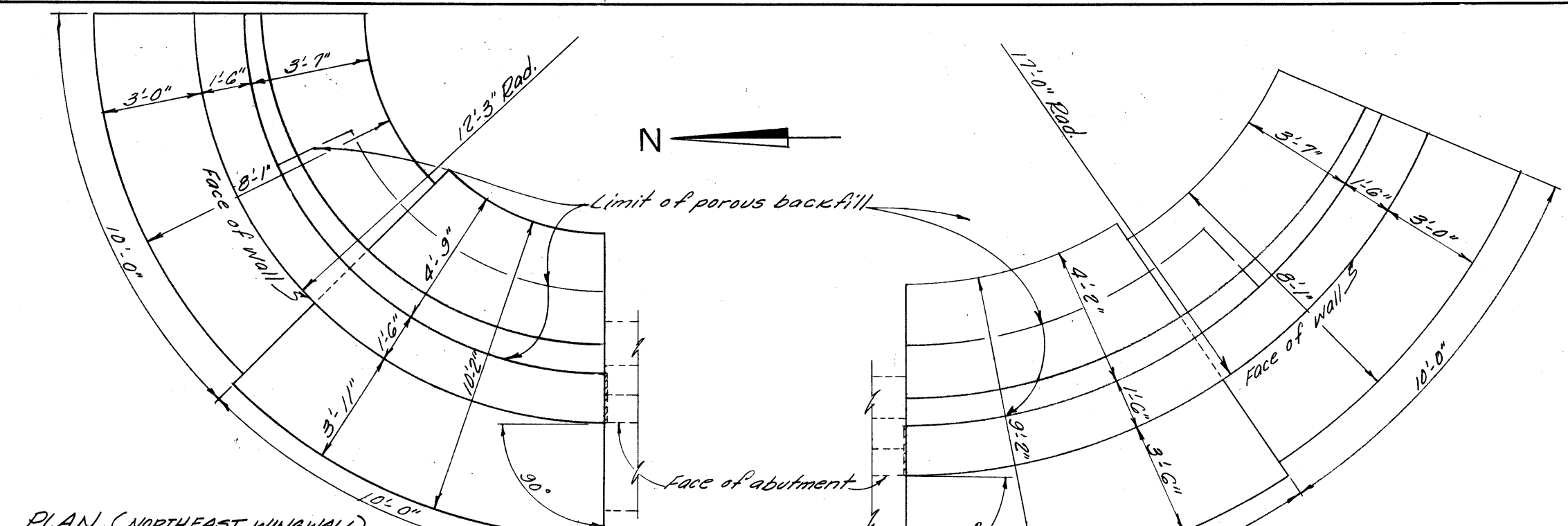
ALDEN E. STILSON & ASSOCIATES, LIMITED CONSULTING ENGINEERS CLEVELAND, OHIO    COLUMBUS, OHIO    WHEELING, W. VA.						
<b>WINGWALL DETAILS</b>						
BRIDGE NO LOR-80-1816						
E.B. I-80 OVER DRAINAGE DITCH						
LORAIN COUNTY					STA. 993+45.22	
					STA. 993+75.78	
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
B.I.P.	R.T.		P.S.S.	G.W.M.	1/30/70	

6/11



MICROFILMED  
JUL 19 1983

LORAIN COUNTY  
LOR-480-0.00



Notes:  
 In reinforcing bar callouts:  
 N.S. indicates near side.  
 F.S. indicates far side.  
 For rustication groove detail see  
 sh. 6/11  
 For additional notes see sh. 6/11

ALDEN E. STILSON & ASSOCIATES, LIMITED CONSULTING ENGINEERS CLEVELAND, OHIO    COLUMBUS, OHIO    WHEELING, W. VA.					
<b>WINGWALL DETAILS</b>					
BRIDGE NO LOR-80-1816 E.B. I-80 OVER DRAINAGE DITCH					
LORAIN COUNTY				STA. 993+45.22 STA. 993+75.78	
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE
B.I.P.	R.T.		R.S.S.	G.W.M.	7/90

DEVELOPED ELEVATION

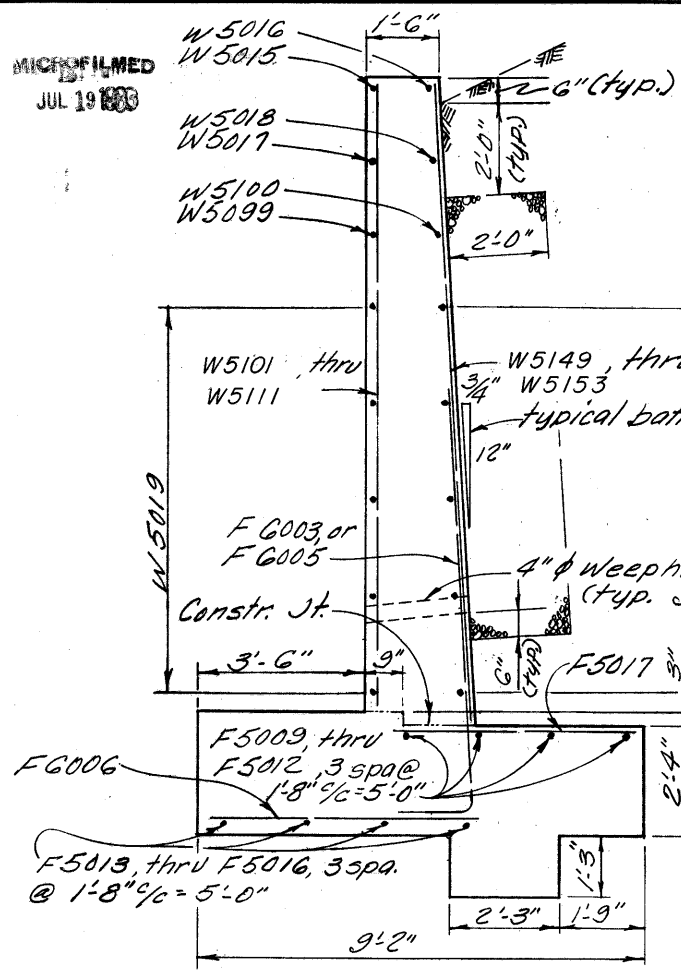
DEVELOPED ELEVATION

MICROFILMED  
JUL 19 1988

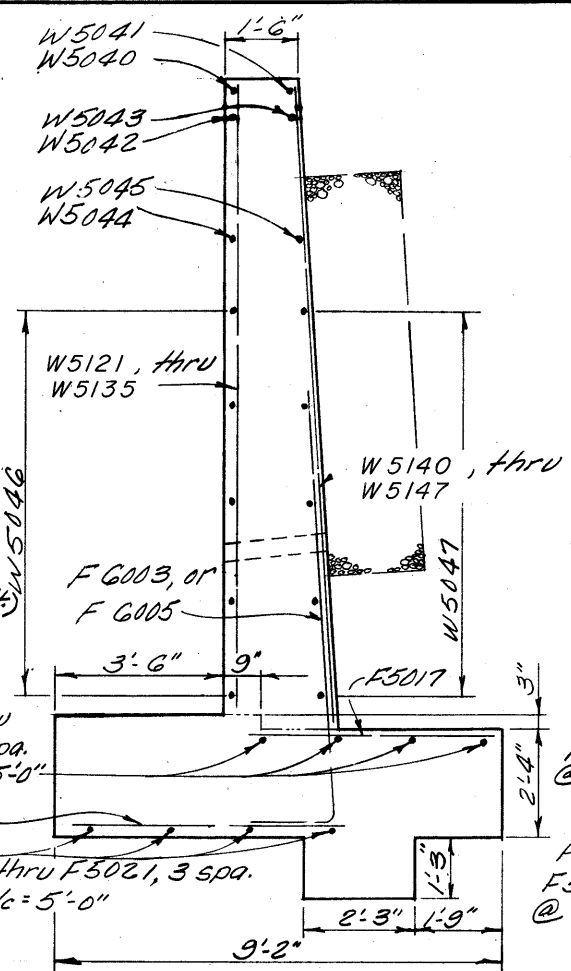
FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

261  
375

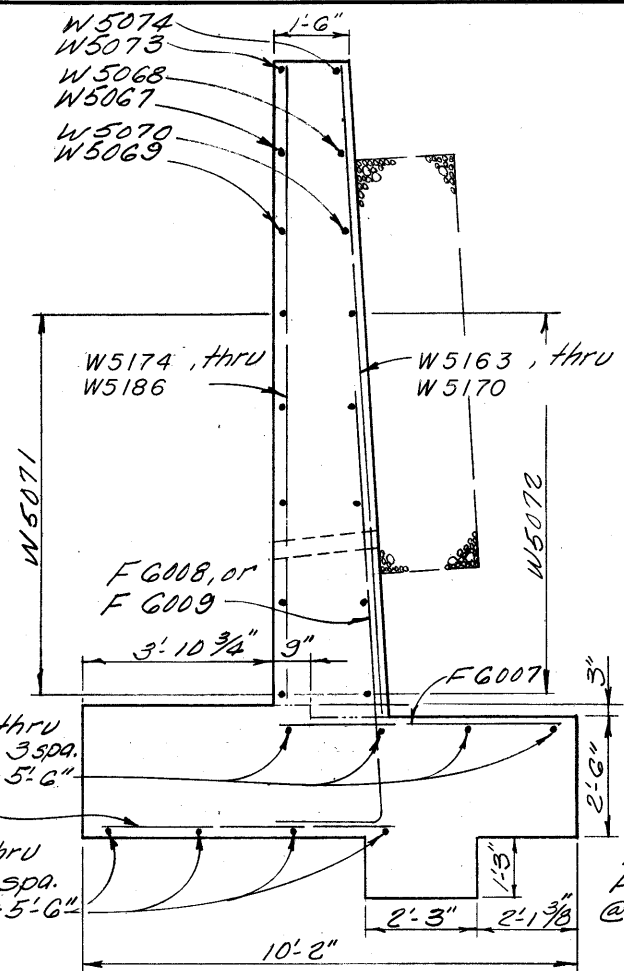
LORAIN COUNTY  
LOR-480-0.00



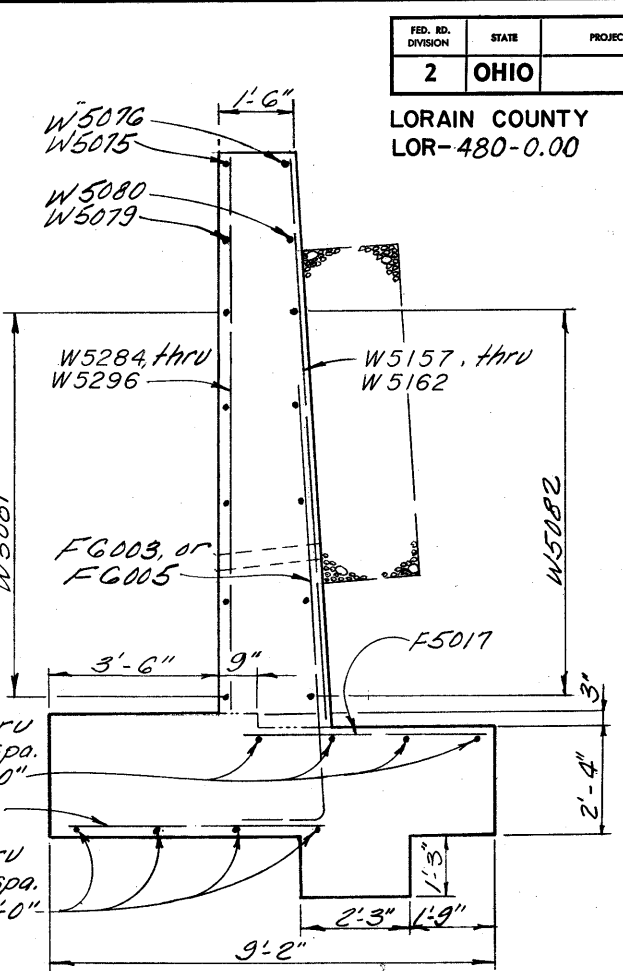
SECTION W1-W1



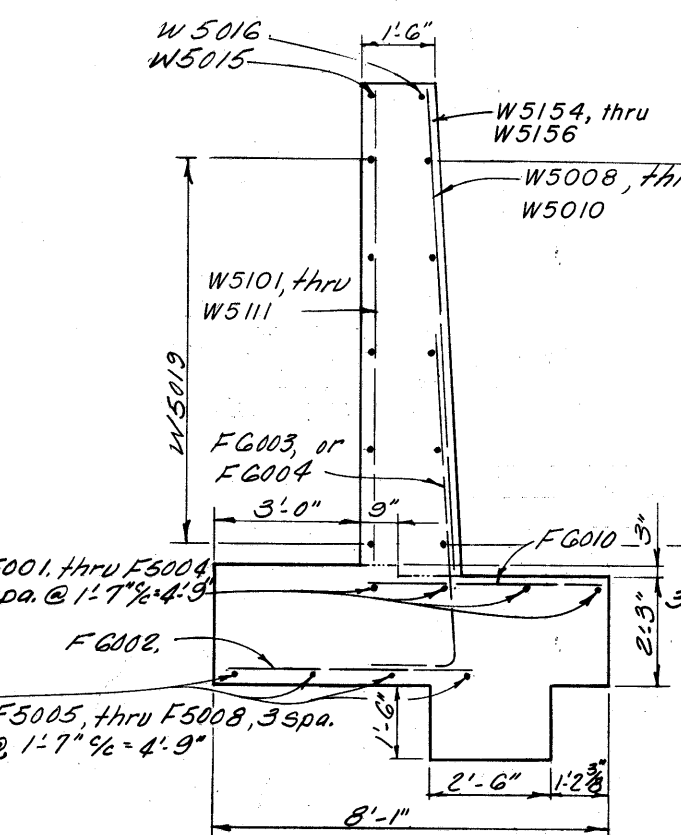
SECTION W3-W3



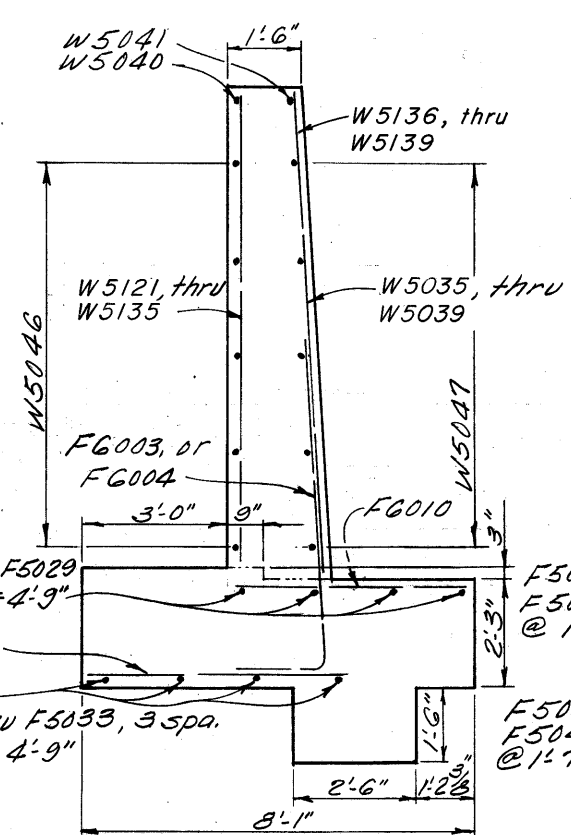
SECTION W5-W5



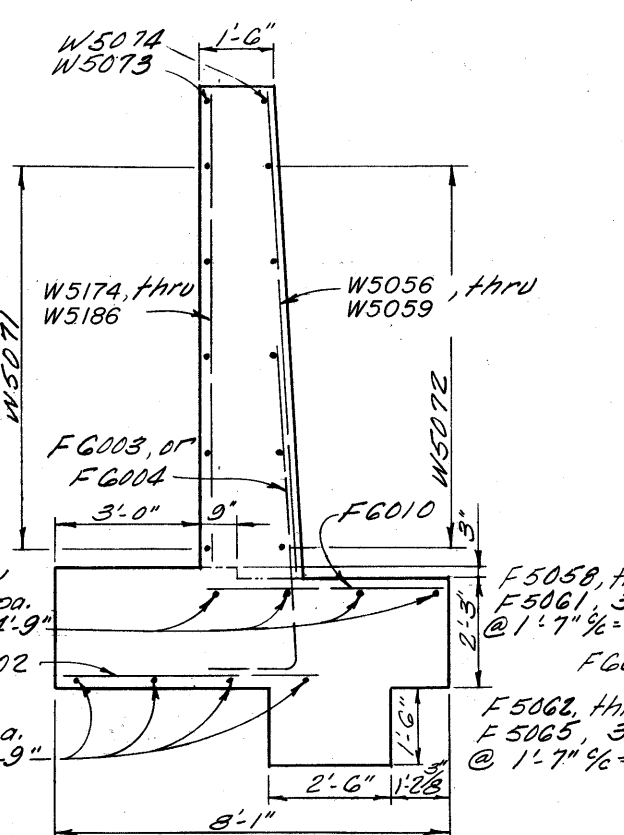
SECTION W7-W7



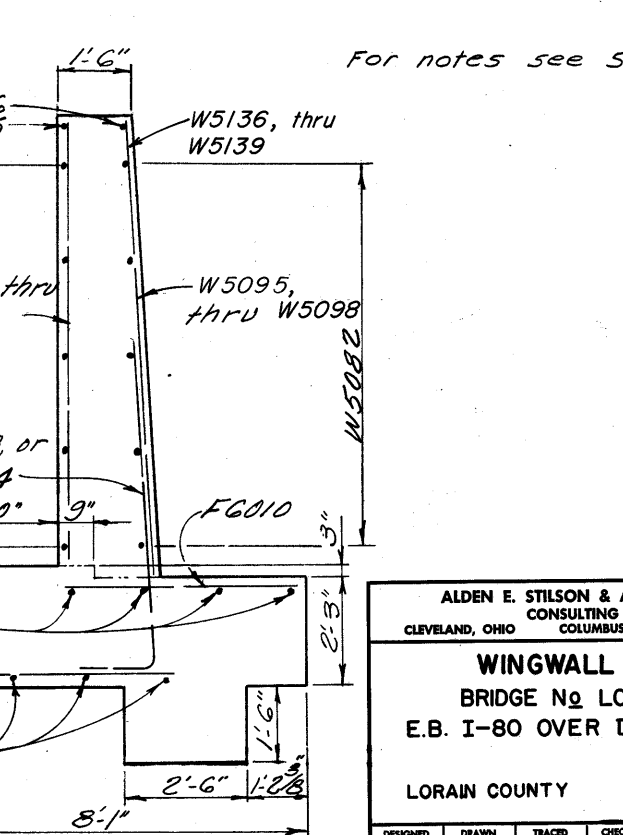
SECTION W2-W2



SECTION W4-W4



SECTION W6-W6



SECTION W8-W8

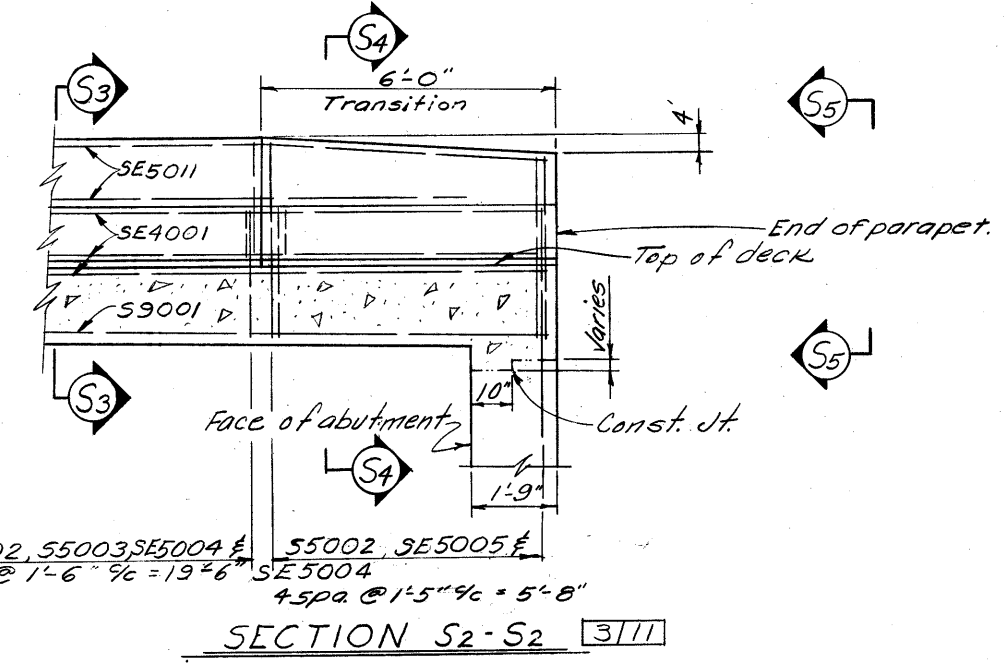
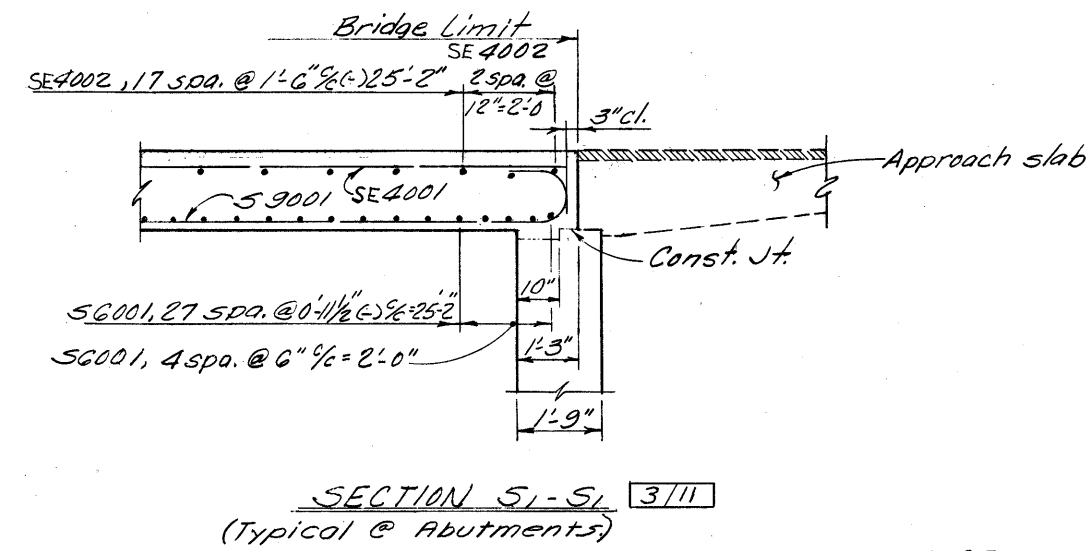
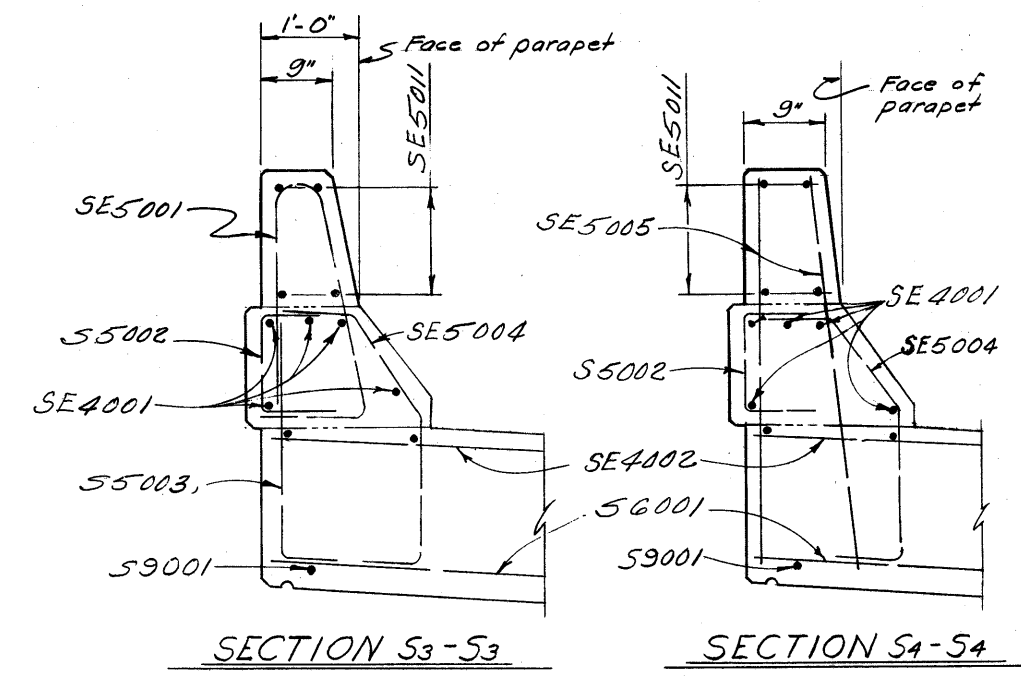
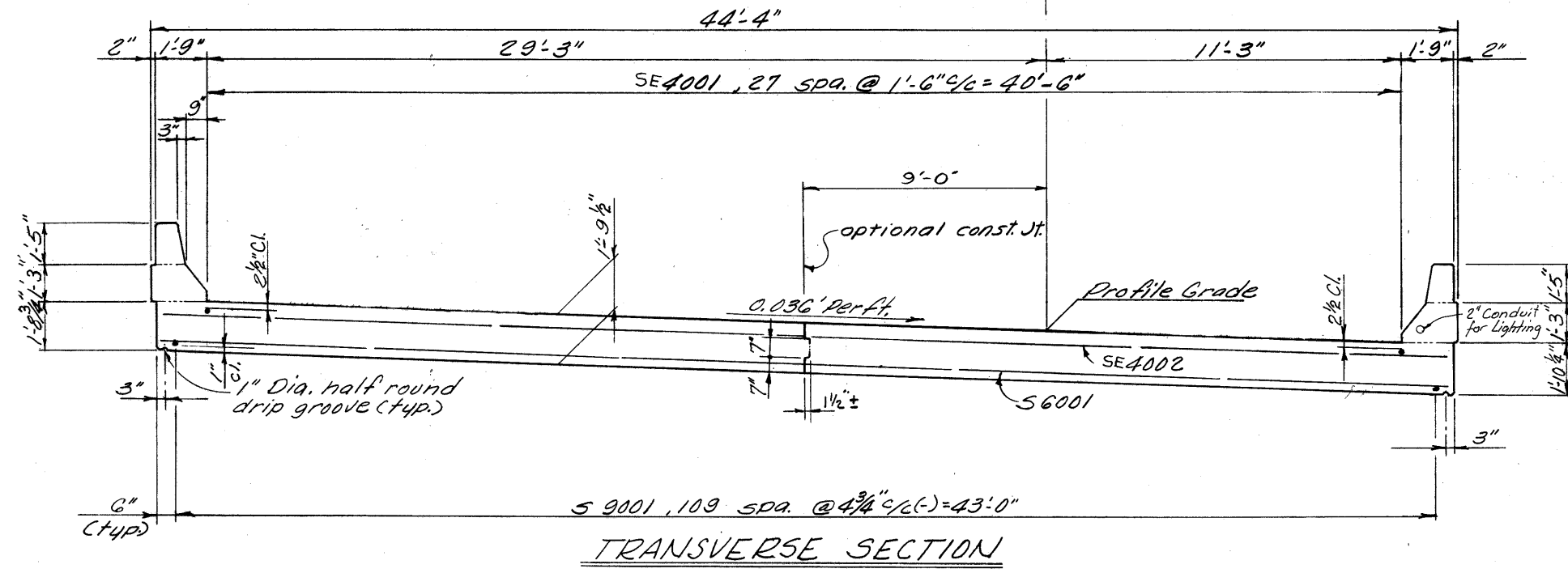
For notes see Sht. 6111.

ALDEN E. STILSON & ASSOCIATES, LIMITED  
CONSULTING ENGINEERS  
CLEVELAND, OHIO COLUMBUS, OHIO WHEELING, W. VA.

**WINGWALL DETAILS**  
BRIDGE No LOR-80-1816  
E.B. I-80 OVER DRAINAGE DITCH

LORAIN COUNTY STA. 993+45.22  
STA. 993+75.76

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
B.I.P.	R.T.		R.S.S.	G.W.M.	6/10/70	



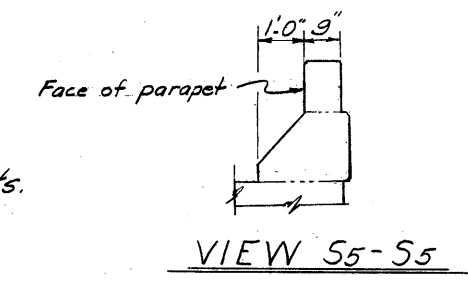
**NOTES:**

Concrete and reinforcing steel for parapets shall be included for payment with their respective items, Item 511 superstructure concrete and Item 509 reinforcing steel.

Camber of 1/2" shall be provided at the center of span for deflection due to weight of the slab. Allowance shall be made for false work deflection.

Parapets shall be placed after the shoring under the slab has been released sufficiently to permit full dead load deflection.

Transverse reinforcing bars shall be placed parallel to abutments. Longitudinal reinforcing bars shall be placed parallel to Ref. chord.



ALDEN E. STILSON & ASSOCIATES, LIMITED  
CONSULTING ENGINEERS  
CLEVELAND, OHIO COLUMBUS, OHIO WHEELING, W. VA.

**SUPERSTRUCTURE DETAILS**  
BRIDGE No LOR-80-1816  
E.B. I-80 OVER DRAINAGE DITCH

STA. 993+45.22  
LORAIN COUNTY STA. 993+75.78

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
B.I.P.	R.T.		R.S.S.	G.W.M.	7/170	

MICROFILMED  
JUL 19 1983

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

263  
375

LORAIN COUNTY  
LOR.-480-0.00

### NOTES

- INDICATES SERIES BAR. EACH BAR VARIES FROM ADJACENT BAR(S). BY TABULATED AMOUNT(S). CALCULATED TO NEAREST 1/8 INCH. WEIGHT SHOWN IS FOR ENTIRE SERIES UTILIZING AVERAGE LENGTH.
- BAR(S) INCLUDED WITH ITEM 517, RAILING, FOR PAYMENT.
- COST OF FIELD BENDING SHALL BE INCLUDED WITH ITEM 509.
- LIGHT POLE SUPPORT BARS INCLUDED WITH ITEM 509 FOR PAYMENT.
- END PREPARATION AND FIELD WELDING INCLUDED WITH ITEM 509.
- 'LENGTH' SHOWN FOR SPIRAL BARS IS DISTANCE FROM TOP OF FOOTING TO BOTTOM OF PIER CAP. 'NO. TURNS' SHOWN IS 'LENGTH' DIVIDED BY PITCH, PLUS 3 TURNS (NUMBER OF CLOSED COILS), EXPRESSED AS NEAREST WHOLE NUMBER.

1 1/2 CLOSED COILS SHALL BE PROVIDED AT 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 PERIPHERY OF COIL. WEIGHT OF SPACERS, AT 0.80 LB. PER LIN. FT. WILL BE PAID FOR AS REINFORCING STEEL AND IS INCLUDED IN TABULATED WEIGHT.

BAR DIMENSIONS ARE OUT TO OUT

Refer to CMS Sections 106.03, 700, 709.01 through 709.05 and 709.08. Sufficient additional reinforcing steel shall be provided for sampling. Random samples shall be replaced in the structures by the additional steel, spliced in accordance with 509.08.

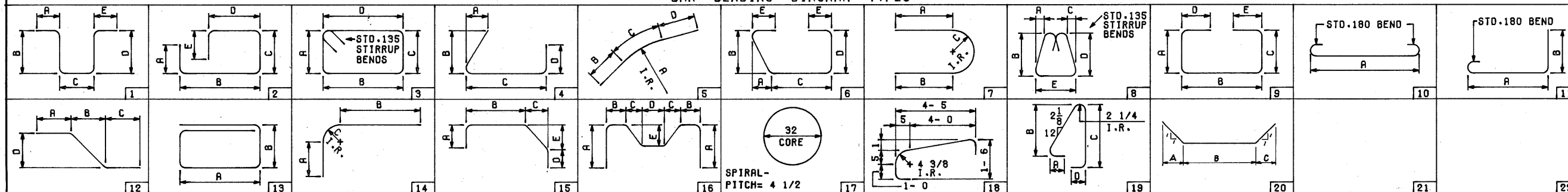
### BAR SIZE DESIGNATION

BAR SIZE IS INDICATED IN THE BAR MARK. THE FIRST DIGIT WHERE FOUR DIGITS ARE USED, AND FIRST TWO DIGITS WHERE FIVE DIGITS ARE USED, INDICATE THE BAR SIZE NUMBER. FOR EXAMPLE, A7001 IS A NO. 7 SIZE BAR AND A10140 IS A NO. 10 SIZE.

MARK	NUM.	LENGTH	WEIGHT	TYPE	A	B	C	D	E	NOTE
ABUTMENTS										
A 5001	8	10- 8	90	ST						
A 5002	16	11- 0	185	ST						
A 5003	16	11- 4	191	ST						
A 5004	16	11- 8	196	ST						
A 5005	68	22- 4	1584	ST						
A 5006	8	12- 0	101	ST						
WINGWALLS										
W 5101	1	8- 3		ST						1
THRU			120	VARY LENGTH BY				0- 5 1/4		
W 5111	1	12- 8		ST						1
W 5007	2	12- 9	26	ST						
W 5008	1	8- 6		ST						1
THRU			30	VARY LENGTH BY				1- 1 1/2		
W 5010	1	10- 9		ST						1
ABUTMENTS										
W 5014	1	13- 0	14	ST						
W 5015	1	16- 3	17	5	10- 1		16- 3			3
W 5016	1	14- 3	15	5	8-11		14- 3			3
W 5017	1	7- 0	7	5	10- 1		7- 0			
W 5018	1	6- 2	6	5	8-11		6- 2			
W 5019	6	15- 1	94	5	10- 1		15- 1			
W 5020	6	13- 3	83	5	8-11		13- 3			
W 5121	1	13-10		ST						1
THRU			177	VARY LENGTH BY				0- 4 1/4		
W 5135	1	8-10		ST						1
W 5029	2	14- 1	30	ST						
W 5030	1	14- 4	15	ST						
WINGWALLS										
W 5035	1	9- 1		ST						1
THRU			54	VARY LENGTH BY				0- 7 3/4		
W 5039	1	11- 8		ST						1
W 5040	1	24- 5	25	5	17- 4		24- 5			3
W 5041	1	22- 9	24	5	16- 2		22- 9			3
W 5042	1	9- 1	9	5	17- 4		9- 1			
W 5043	1	8- 6	9	5	16- 2		8- 6			
W 5044	1	16- 4	17	5	17- 4		16- 4			
W 5045	1	15- 2	16	5	16- 2		15- 2			
W 5046	6	23- 5	147	5	17- 4		23- 5			
W 5047	6	21-10	137	5	16- 2		21-10			
WINGWALLS										
W 5055	2	14- 4	30	ST						
W 5056	1	9- 5		ST						1
THRU			45	VARY LENGTH BY				0-10 5/8		
W 5059	1	12- 1		ST						1
WINGWALLS										
W 5064	1	14- 7	15	ST						
W 5065	1	4- 8	5	5	12- 1		4- 8			
W 5066	1	4- 3	4	5	10-11		4- 3			

MARK	NUM.	LENGTH	WEIGHT	TYPE	A	B	C	D	E	NOTE
( CONTINUED )										
WINGWALLS										
W 5067	1	10- 1	11	5	12- 1		10- 1			
W 5068	1	9- 2	10	5	10-11		9- 2			
W 5069	1	16- 1	17	5	12- 1		16- 1			
W 5070	1	14- 6	15	5	10-11		14- 6			
W 5071	6	19- 6	122	5	12- 1		19- 6			
W 5072	6	17- 6	110	5	10-11		17- 6			
W 5073	1	20- 4	21	5	12- 1		20- 4			3
W 5074	1	18- 6	19	5	10-11		18- 6			3
W 5075	1	20- 6	21	5	16-10		20- 6			3
W 5076	1	19- 1	20	5	15- 8		19- 1			3
W 5077	1	6- 1	6	5	16-10		6- 1			
W 5078	1	5- 8	6	5	15- 8		5- 8			
W 5079	1	14- 0	15	5	16-10		14- 0			
W 5080	1	13- 1	14	5	15- 8		13- 1			
W 5081	6	19- 6	122	5	16-10		19- 6			
W 5082	6	18- 4	115	5	15- 8		18- 4			
W 5083	2	13- 2	28	ST						
W 5284	1	12-10		ST						1
THRU			147	VARY LENGTH BY				0- 8		
W 5296	1	8-10		ST						1
W 5091	1	13- 5	14	ST						
WINGWALLS										
W 5095	1	11- 1		ST						1
THRU			42	VARY LENGTH BY				0- 8		
W 5098	1	9- 1		ST						1
W 5099	1	11- 9	12	5	10- 1		11- 9			
W 5100	1	10- 3	11	5	8-11		10- 3			
F 5001	1	7- 8		5	10- 2		7- 8			1
THRU			25	VARY LENGTH BY				1- 2		
				VARY DIM. A				BY 1- 7		
				VARY DIM. C				BY 1- 2		
F 5004	1	4- 2		5	5- 5		4- 2			1
F 5005	1	9- 9		5	13- 0		9- 9			1
THRU			33	VARY LENGTH BY				1- 3		
				VARY DIM. A				BY 1- 7		
				VARY DIM. C				BY 1- 3		
F 5008	1	6- 0		5	8- 3		6- 0			1
F 5009	1	7- 1		5	9-10		7- 1			1
THRU			22	VARY LENGTH BY				1- 2 3/8		
				VARY DIM. A				BY 1- 8		
				VARY DIM. C				BY 1- 2 3/8		
F 5012	1	3- 6		5	4-10		3- 6			1
F 5013	1	10- 0		5	13- 6		10- 0			1
THRU			34	VARY LENGTH BY				1- 3 3/8		
				VARY DIM. A				BY 1- 8		
				VARY DIM. C				BY 1- 3 3/8		
F 5016	1	6- 2		5	8- 6		6- 2			1
F 5017	26	8- 8	235	ST						
F 5018	1	13- 7		5	20- 9		13- 7			1
THRU			50	VARY LENGTH BY				1- 0 3/8		
				VARY DIM. A				BY 1- 8		
				VARY DIM. C				BY 1- 0 3/8		
F 5021	1	10- 6		5	15- 9		10- 6			1
F 5022	1	11- 3		5	17- 1		11- 3			1
THRU			40	VARY LENGTH BY				1- 1 3/8		
				VARY DIM. A				BY 1- 8		
				VARY DIM. C				BY 1- 1 3/8		
F 5025	1	7-11		5	12- 1		7-11			1

### BAR BENDING DIAGRAM TYPES



1011

ALDEN E. STILSON & ASSOCIATES, LIMITED  
CONSULTING ENGINEERS  
CLEVELAND, OHIO COLUMBUS, OHIO WHEELING, W. VA.

### REINFORCING STEEL LIST

BRIDGE NO LOR-80-1816  
E.B. I-80 OVER DRAINAGE DITCH

LORAIN COUNTY STA. 993+ 45.22  
STA. 993+ 75.78

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
B.I.P.			R.S.S.	G.W.M.	7/1/70	

MICROFILMED  
JUL 19 1963

MARK	NUM.	LENGTH	WEIGHT	TYPE	A	B	C	D	E	NOTE
WING WALLS (CONTINUED)										
F 5026	1	11- 8		5	17- 5		11- 8			1
THRU			42		VARY LENGTH BY		1- 1	3/ 8		
					VARY DIM. A BY		1- 7			
					VARY DIM. C BY		1- 1	3/ 8		
F 5029	1	8- 4		5	12- 8		8- 4			1
F 5030	1	13- 7		5	20- 3		13- 7			1
THRU			50		VARY LENGTH BY		1- 1			
					VARY DIM. A BY		1- 7			
					VARY DIM. C BY		1- 1			
F 5033	1	10- 4		5	15- 6		10- 4			1
F 5034	1	9- 8		5	12- 2		9- 8			1
THRU			32		VARY LENGTH BY		1- 3	5/ 8		
					VARY DIM. A BY		1- 7			
					VARY DIM. C BY		1- 3	5/ 8		
F 5037	1	5- 9		5	7- 5		5- 9			1
F 5038	1	12- 0		5	15- 0		12- 0			1
THRU			42		VARY LENGTH BY		1- 3	5/ 8		
					VARY DIM. A BY		1- 7			
					VARY DIM. C BY		1- 3	5/ 8		
F 5041	1	8- 1		5	10- 3		8- 1			1
F 5042	1	9- 3		5	11- 9		9- 3			1
THRU			29		VARY LENGTH BY		1- 6			
					VARY DIM. A BY		1-10			
					VARY DIM. C BY		1- 6			
F 5045	1	4- 9		5	6- 3		4- 9			1
F 5046	1	12- 9		5	15-11		12- 9			1
THRU			44		VARY LENGTH BY		1- 6			
					VARY DIM. A BY		1-10			
					VARY DIM. C BY		1- 6			
F 5049	1	8- 3		5	10- 5		8- 3			1
F 5050	1	9- 6		5	16- 7		9- 6			1
THRU			33		VARY LENGTH BY		1- 0			
					VARY DIM. A BY		1- 8			
					VARY DIM. C BY		1- 0			
F 5053	1	6- 6		5	11- 7		6- 6			1
F 5054	1	11- 6		5	20- 3		11- 6			1
THRU			42		VARY LENGTH BY		0-11	3/ 8		
					VARY DIM. A BY		1- 8			
					VARY DIM. C BY		0-11	3/ 8		
F 5057	1	8- 8		5	15- 3		8- 8			1
F 5058	1	9- 8		5	16-11		9- 8			1
THRU			35		VARY LENGTH BY		0-11			
					VARY DIM. A BY		1- 7			
					VARY DIM. C BY		0-11			
F 5061	1	6-11		5	12- 2		6-11			1
F 5062	1	11- 4		5	19- 9		11- 4			1
THRU			42		VARY LENGTH BY		0-11			
					VARY DIM. A BY		1- 7			
					VARY DIM. C BY		0-11			
F 5065	1	8- 7		5	15- 0		8- 7			1
F 6002	33	4-11	244	ST						
F 6003	37	5- 9	320	2	4- 0	1-11				
F 6004	14	8- 6	179	2	6- 9	1-11				
F 6005	20	10- 6	315	2	8- 9	1-11				
F 6006	26	5- 6	215	ST						
F 6007	8	5- 9	69	ST						
F 6008	9	5-11	80	2	4- 2	1-11				
F 6009	8	12- 6	150	2	10- 9	1-11				
F 6010	33	4- 9	235	ST						
F 7001	8	6- 0	98	ST						
S5002	44	1- 9	80	2	0- 6	1- 0	0- 6			

SUPERSTRUCTURE

MARK	NUM.	LENGTH	WEIGHT	TYPE	A	B	C	D	E	NOTE
S5002	48	1- 9	88	2	0- 6	1- 0	0- 6			
S5003	28	3- 3	95	2	2- 8	0- 9				
S6001	36	43- 8	2361	ST						
S9001	110	32- 6	12155	10	30- 0					
EPOXY COATED REINFORCING STEEL										
SE4001	42	30- 0	841	ST						
SE4002	22	43- 8	640	ST						
SE5001	28	5'- 4	156	19	0- 8	2- 5	2- 2			
SE5004	48	4- 3	213	15	0- 9	1- 8	1- 0	0- 9	0- 9	
SE5005	40	3- 9	156	ST						
SE5011	16	15- 5	257	ST						
WING WALLS CON'T.										
W5136	2	8- 9		ST						
THRU			65		VARY LENGTH BY		0- 8			
W5139	2	6- 9		ST						
W5140	1	14- 0		ST						
THRU			108		VARY LENGTH BY		0- 3	3/ 4		
W5147	1	12- 0	13	ST						
W5148	1	6-10	7	ST						
W5149	1	11- 0		ST						
THRU			62		VARY LENGTH BY		0- 5			
W5153	1	12- 8		ST						
W5154	1	6- 7		ST						
THRU			24		VARY LENGTH BY		1- 1			
W5156	1	8- 9		ST						
W5157	1	13- 6		ST						
THRU			78		VARY LENGTH BY		0- 5			
W5162	1	11- 5		ST						
W5163	1	12- 6		ST						
THRU			113		VARY LENGTH BY		0- 3	3/ 4		
W5170	1	14- 6		ST						
W5171	1	7- 1		ST						
THRU			25		VARY LENGTH BY		0- 11			
W5173	1	8- 11		ST						
W5174	1	9- 2		ST						
THRU			158		VARY LENGTH BY		0- 4	5/ 8		
W5186	1	14- 2	15	ST						
W5187	1	7- 5	8	5	17- 4		7- 5			
W5188	1	6-10	7	5	16- 2		6-10			
W5189	1	8- 11	3	5	17- 4		8- 11			
W5190	1	8- 4	9	5	16- 2		8- 4			
W5191	1	9- 7	10	5	17- 4		9- 7			
W5192	1	9- 0	9	5	16- 2		9- 0			

FED. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

264  
375

LORAIN COUNTY  
LOR-480-000

NOTES

- INDICATES SERIES BAR. EACH BAR VARIES FROM ADJACENT BAR(S) BY TABULATED AMOUNT(S). CALCULATED TO NEAREST 1/8 INCH. WEIGHT SHOWN IS FOR ENTIRE SERIES UTILIZING AVERAGE LENGTH.
- BARS INCLUDED WITH ITEM 517, RAILING, FOR PAYMENT.
- COST OF FIELD BENDING SHALL BE INCLUDED WITH ITEM 509.
- LIGHT POLE SUPPORT BARS INCLUDED WITH ITEM 509 FOR PAYMENT.
- END PREPARATION AND FIELD WELDING INCLUDED WITH ITEM 509.
- 'LENGTH' SHOWN FOR SPIRAL BARS IS DISTANCE FROM TOP OF FOOTING TO BOTTOM OF PIER CAP. 'NO. TURNS' SHOWN IS 'LENGTH' DIVIDED BY PITCH, PLUS 3 TURNS (NUMBER OF CLOSED COILS). EXPRESSED AS NEAREST WHOLE NUMBER.

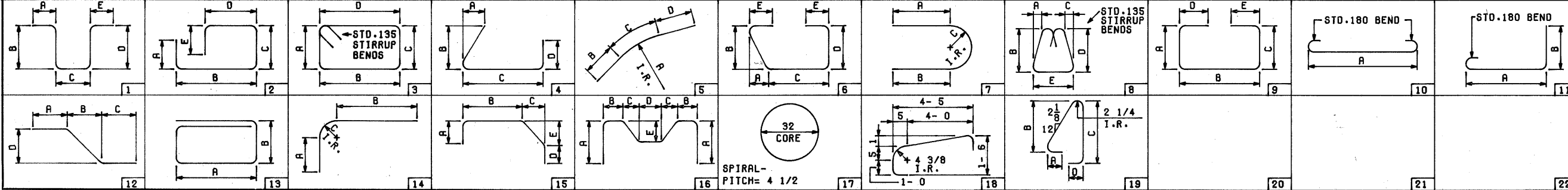
1 1/2 CLOSED COILS SHALL BE PROVIDED AT ENDS OF EACH SPIRAL UNIT. FOUR STEEL CHANNEL, TEE OR ANGLE SPACERS, WEIGHING APPROXIMATELY 0.80 LB. PER LIN. FT. OF SPACER SHALL BE PROVIDED FOR EACH SPIRAL UNIT. THEY SHALL BE EQUALLY SPACED ALONG PERIPHERY OF COIL. WEIGHT OF SPACERS, AT 0.80 LB. PER LIN. FT. WILL BE PAID FOR AS REINFORCING STEEL AND IS INCLUDED IN TABULATED WEIGHT.

*Bar dimensions are out to out.*  
*Refer to CMS Sections 106.03, 700, 709.01 through 709.05 and 709.08. Sufficient additional reinforcing steel shall be provided for sampling. Random samples shall be replaced in the structures by the additional steel, spliced in accordance with 509.08.*

BAR SIZE DESIGNATION

BAR SIZE IS INDICATED IN THE BAR MARK. THE FIRST DIGIT WHERE FOUR DIGITS ARE USED, AND FIRST TWO DIGITS WHERE FIVE DIGITS ARE USED, INDICATE THE BAR SIZE NUMBER. FOR EXAMPLE, A7001 IS A NO. 7 SIZE BAR AND A10140 IS A NO. 10 SIZE.

BAR BENDING DIAGRAM TYPES



ALDEN E. STILSON & ASSOCIATES, LIMITED CONSULTING ENGINEERS CLEVELAND, OHIO    COLUMBUS, OHIO    WHEELING, W. VA.						
<b>REINFORCING STEEL LIST</b>						
BRIDGE NO LOR-80-1816						
E.B. I-80 OVER DRAINAGE DITCH						
LORAIN COUNTY					STA. 993+ 45.22	STA. 993+ 75.78
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
B.I.P.			A.S.S.	G.W.M.	7/1/70	

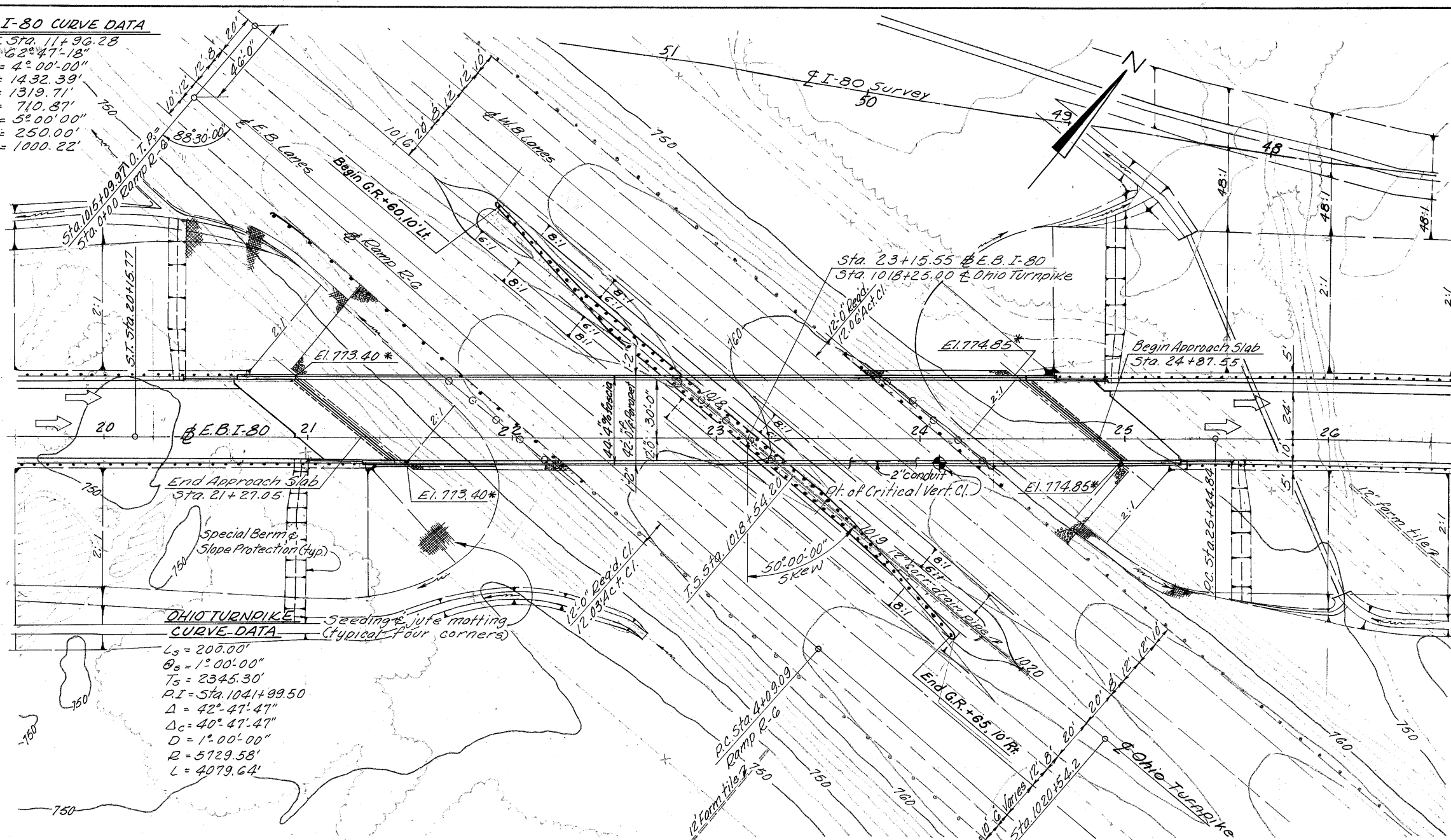
E. B. I-80 CURVE DATA

P.I. Sta. 11+96.28  
Δ = 62°47'18"  
Dc = 4°00'00"  
R = 1432.39'  
L = 1319.71'  
T = 710.87'  
Os = 5°00'00"  
Ls = 250.00'  
Ts = 1000.22'

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

LORAIN COUNTY  
LOR - 480-0.00

265  
375



OHIO TURNPIKE CURVE DATA

Ls = 200.00'  
Os = 1°00'00"  
Ts = 2345.30'  
P.I. = Sta. 10414.9950  
Δ = 42°47'47"  
Dc = 40°47'47"  
R = 5729.58'  
L = 4079.64'

PLAN

VERTICAL CURVE DATA

P.V.I. = Sta. 25+00  
700' V.C.  
El. 786.83  
Cor. = -3.64  
P.G. El. = 783.19  
G1 = +1.28%, G2 = -2.88%

E. B. I-80 CURVE DATA

P.I. Sta. 33+53.24  
Δ = 23°22'59"  
Dc = 1°28'00"  
R = 3906.53  
L = 1594.29'  
T = 303.40'

BRIDGE NO. LOR-80-1864 APPEARING THROUGHOUT THIS BRIDGE PLAN SHALL BE CONSIDERED TO READ BRIDGE NO. LOR-480-0082

NOTES:

\*Elevations marked with an asterisk are at top of slope of face of abutment.  
Earthwork limits shown are schematic. Actual limits shall conform to plan cross sections.  
The vertical curve data does not apply to bridge or graphic grade elevations. The bridge elevations were obtained by adding 0.12 feet to the elevations obtained from vertical curve data.  
Sh. 2114 not used.

PROPOSED STRUCTURE

TYPE: Continuous steel girder with reinforced concrete deck and substructure.  
SPANS: 75'-0", 112'-0", 102'-0", 66'-6" % Brigs.  
ROADWAY: 42'-0" Parapets, BR-1-67 Railing.  
LOADING: H.S. 20-44 and Interstate Alternate Loading.  
WEARING SURFACE: Monolithic Concrete  
SKEW: 50°00'00" Right forward  
ALIGNMENT: Tangent  
SUPERELEVATION:  
APPROACH SLABS: AS-1-72 (30' lg.) Modified

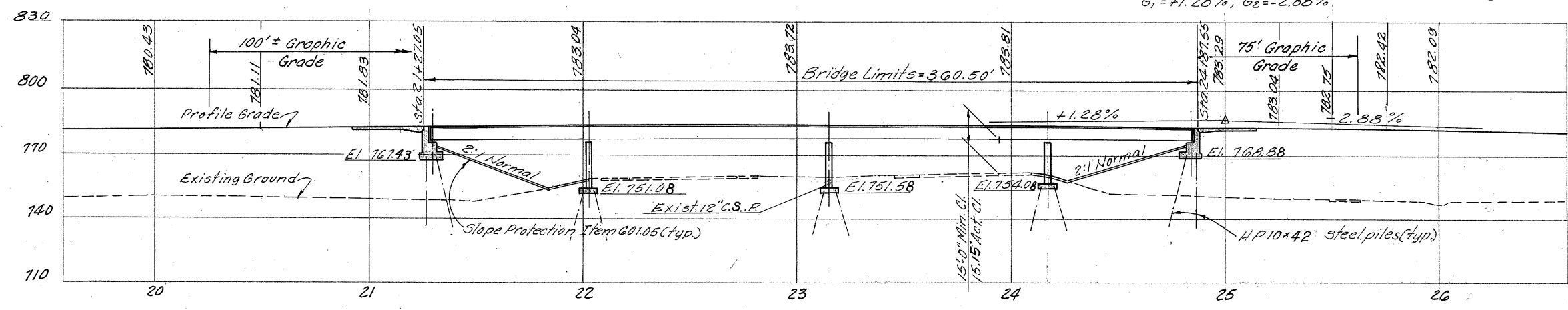
TRAFFIC ESTIMATE

Design Year - 1987  
Total A.D.T. - 8000

NOTE:

All piles shall be HP10x42 steel  
Estimated average pile lengths are:  
Abutments 35'  
Piers 20'

MICROFILMED  
JUL 19 1983



PROFILE ALONG E. B. I-80

ALDEN E. STILSON & ASSOCIATES, LIMITED  
CONSULTING ENGINEERS  
CLEVELAND, OHIO COLUMBUS, OHIO WHEELING, W. VA.

**SITE PLAN**  
BRIDGE NO. LOR-80-1864  
E. B. I-80 OVER OHIO TURNPIKE  
LORAIN COUNTY STA. 21+27.05  
STA. 24+87.55  
SCALE 1" = 30'-0"

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
G.W.M.	G.W.M.	R.T.	B.I.P.	G.W.M.	5/21/70	

MICROFILMED

JUL 19 1983

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

267  
375

LORAIN COUNTY  
LOR- 480-0.00

**STANDARD DRAWING REFERENCES**

DESCRIPTION	DWG. NO.	SHT.	DATE
END DAM AND END CROSSFRAME	SD-1-69	1-2	6-12-69
CURB PLATES	SD-1-69	2	6-12-69
SCUPPERS	SD-1-69	3	6-12-69
BRIDGE ROADWAY RAILING	BR-1-67	1	10-15-71 R
ROCKERS AND BOLSTERS	RB-1-55		2- 2-59 R
APPROACH SLABS	AS-1-72(MOD)*		6-30-72

(R INDICATES REVISED DATE)

**SUPPLEMENTAL SPECIFICATION REFERENCES**

DESCRIPTION	NO.	DATE
CHEMICAL ADMIXTURE FOR CONCRETE, TYPE A, B OR D	808	1- 1-71
CONCRETE CURING AND PROTECTIVE MEMBRANE	836	3- 12-75
SPECIAL PILE TESTS	838	1- 13-77
CONTRACTION JOINTS & END DAM		SHEET 354

**COMMON DETAIL REFERENCES**

SHEET 354

**DESIGN SPECIFICATIONS**

THIS STRUCTURE CONFORMS TO THE '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 - HS20-44 AND THE INTERSTATE ALTERNATE LOADING  
 CONCRETE CLASS C - UNIT STRESS 1200 PSI FOR SUPERSTRUCTURE  
 UNIT STRESS 1333 PSI FOR SUBSTRUCTURE  
 STRUCTURAL STEEL - ASTM A36 - UNIT STRESS 20000 PSI  
 REINFORCING STEEL - ASTM A615, A616 OR A617 - UNIT STRESS 20000 PSI.  
 SPIRAL REINFORCEMENT MAY BE PLAIN BARS ASTM A82, OR A615.

**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**

PILES SHALL BE DRIVEN TO A MINIMUM BEARING CAPACITY OF-  
 45 TONS PER PILE FOR THE ABUTMENTS AND WINGWALLS  
 45 TONS PER PILE FOR THE PIERS

**MAINTENANCE OF TRAFFIC**

TRAFFIC ON THE OHIO TURNPIKE SHALL BE MAINTAINED AT ALL TIMES BY MEANS OF THE EXISTING OHIO TURNPIKE ROADWAY AND THE TEMPORARY CROSSOVERS WITH THE FOLLOWING RESTRICTIONS-

**1. PERIOD MAY 1 THROUGH SEPTEMBER 14**

ALL TRAVEL LANES SHALL REMAIN OPEN AT ALL TIMES DURING THIS PERIOD. NO WORK MAY BE PERFORMED DURING THIS PERIOD CLOSER THAN 10 FEET FROM THE EDGE OF THE TURNPIKE PAVEMENT INCLUDING WORK TO BE PERFORMED ON STRUCTURES OVER THE TURNPIKE.

**2. PERIOD SEPTEMBER 15 THROUGH APRIL 30**

ONE PAIR OF LANES IN ONE DIRECTION OR SINGLE LANE IN EACH DIRECTION MAY BE CLOSED TO TRAFFIC DURING THE DAYLIGHT HOURS ON MONDAY, TUESDAYS, WEDNESDAYS AND THURSDAYS AND UNTIL 2:00 P.M. ON FRIDAYS UNLESS THE OHIO TURNPIKE COMMISSION SHALL DESIGNATE OTHERWISE BECAUSE OF WEATHER, AN EMERGENCY OR EXPECTED HEAVY TRAFFIC VOLUME PERIODS AS A RESULT OF A HOLIDAY OR SPECIAL EVENT. ALL TRAVEL LANES SHALL REMAIN OPEN BY MEANS OF THE EXISTING ROADWAYS FROM 2:00 P.M. ON FRIDAYS TO DAYLIGHT ON MONDAYS.

MONOLITHIC WEARING SURFACE THICKNESS IS ASSUMED TO BE 1" DECK PROTECTION METHOD: EPOXY COATED REINFORCING STEEL, TOP MAT ONLY.

**SUPPLEMENTAL SPECIFICATION REFERENCES - CON'T**

DESCRIPTION	NO	DATE
PAINTING FOR NEW STRUCTUAL STL.	846	4-25-77
INORGANIC ZINC SILICATE PAINT	950	4-25-77
BLUE - GREEN VINYL PAINT	951	4-25-77

**STANDARD DRAWING REFERENCES - CON'T**

DESCRIPTION	DWG. NO.	SHT.	DATE
POLE BASE DETAILS	HL-3	1	7-27-73
STRUCTURE LIGHTING I	HL-4	1	1-21-76
STRUCTURE LIGHTING II	HL-5	1	9-6-73
STRUCTURE GROUNDING	HL-7	1	1-21-76

**LAPS**

Minimum bar lap shall be 30 diameters.

**ATTACHMENT OF GUARDRAIL TO CONCRETE PARAPETS**

Concrete insert anchor assemblies per Standard Construction Drawings GR-3 and GR-1 shall be placed during parapet construction.

*100% State*

ITEM	TOTAL	UNIT	DESCRIPTION	ABUTS	PIERS	SUPER	GENERAL
503	LUMP	SUM	COFFERDAMS, CRIBS AND SHEETING				LUMP
503	910	C.Y.	UNCLASSIFIED EXCAVATION	410	500		
505	LUMP	SUM	TEST PILE				LUMP
506	LUMP	SUM	PILE TEST LOAD				LUMP
507	2500	L.F.	STEEL PILES, HP 10 x 42	1260	1240		
506	1	EACH	SUBSEQUENT PILE TEST LOAD				1
509	136,085	LB	REINFORCING STEEL	21419	41097	73,569	
511	571	C.Y.	CLASS C CONCRETE, SUPERSTRUCTURE (See Proposal Note)			571	
511	82	C.Y.	CLASS C CONCRETE, PIERS ABOVE FOOTINGS		82		
511	188	C.Y.	CLASS C CONCRETE, ABUTMENTS ABOVE FOOTINGS	188			
511	287	C.Y.	CLASS C CONCRETE, FOOTINGS	125	162		
512	21	L.F.	PREMOLDED SEALING STRIP	21			
513	431,300	LB	STRUCTURAL STEEL, PRIMER PER 846 (See Proposal Note)			431,300	
846	431,300	LB	FIELD PAINTING OF STRUCTURAL STEEL			431,300	
518	112	C.Y.	POROUS BACKFILL	112			
518	14	EA	SCUPPERS INCLUDING SUPPORTS			14	
518	117	L.F.	6 INCH PERFORATED, HELICAL CSP, 707.01	117			
518	106	L.F.	6 INCH NON-PERFORATED, HELICAL CSP, INCLUDING SPECIALS, 707.01	106			
601	895	S.Y.	CRUSHED AGGREGATE SLOPE PROTECTION				895
808	571	UNIT	CHEMICAL ADMIXTURE FOR CONCRETE, TYPE A, B OR D			571	
S625			SEE SHEET 222 FOR LIGHTING SUMMARY				
838	3	HR	SPECIAL PILE TESTS				3
SPEC.	71,986	LB	EPOXY COATED REINFORCING STEEL (SEE PROPOSAL NOTE)	2115		69871	

\* Std. dwg. AS-1-72 shall be modified to provide 3" clearance to the top re-bars instead of the 2" shown and jacking holes shall be omitted.

3/14

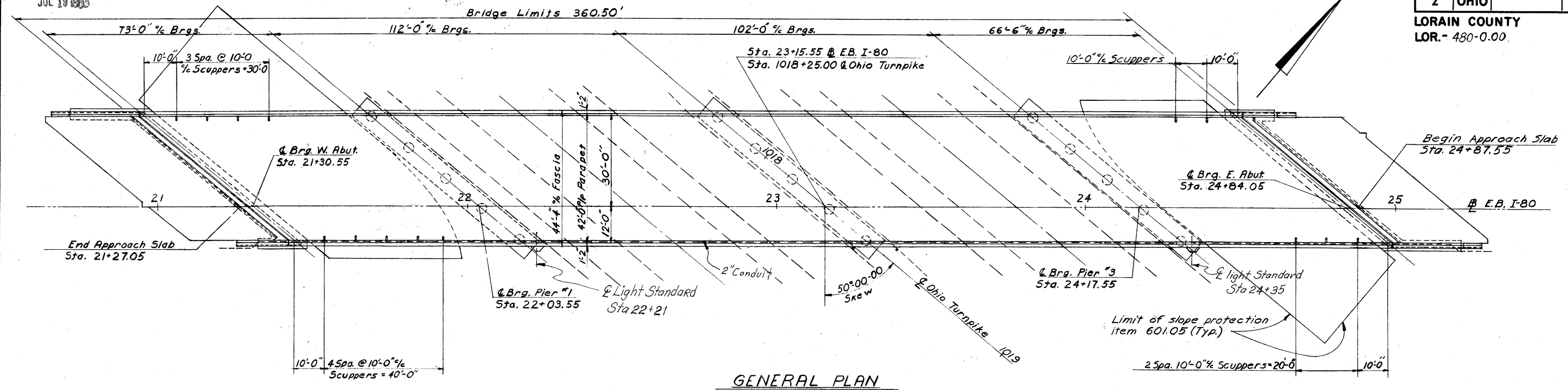
ALDEN E. STILSON & ASSOCIATES, LIMITED CONSULTING ENGINEERS CLEVELAND, OHIO COLUMBUS, OHIO WHEELING, W. VA.				
<b>GENERAL NOTES AND ESTIMATED QUANTITIES</b>				
<b>BRIDGE NO. LOR-80-1864</b>				
<b>I-80 OVER OHIO TURNPIKE</b>				
LORAIN COUNTY				STA. 21+27.05
				STA. 24+87.55
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED
B.D.			M.M.A. 3-19-70	G.W.M. 5/21/70

MICROFILMED  
JUL 19 1983

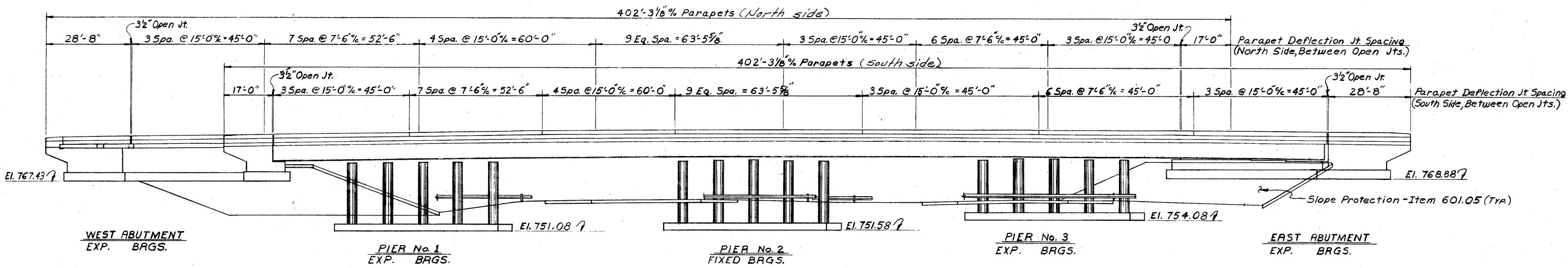
FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

268  
375

LORAIN COUNTY  
LOR-480-0.00



GENERAL PLAN



SOUTH ELEVATION  
(Piles Not Shown)

Scupper spacing shall be adjusted to clear intermediate crossframes by a minimum of six inches.  
Scupper spacing is along face of curb.

Notes:

4 / 14

ALDEN E. STILSON & ASSOCIATES, LIMITED  
CONSULTING ENGINEERS  
CLEVELAND, OHIO COLUMBUS, OHIO WHEELING, W. VA.

**GENERAL PLAN**  
**BRIDGE NO. 2 LOR-80-1864**  
**E.B. I-80 OVER OHIO TURNPIKE**  
LORAIN COUNTY STA. 21+27.05  
STA. 24+87.55

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
R.S.S.	D.L.		B.I.P.	G.W.M.	5/21/80	

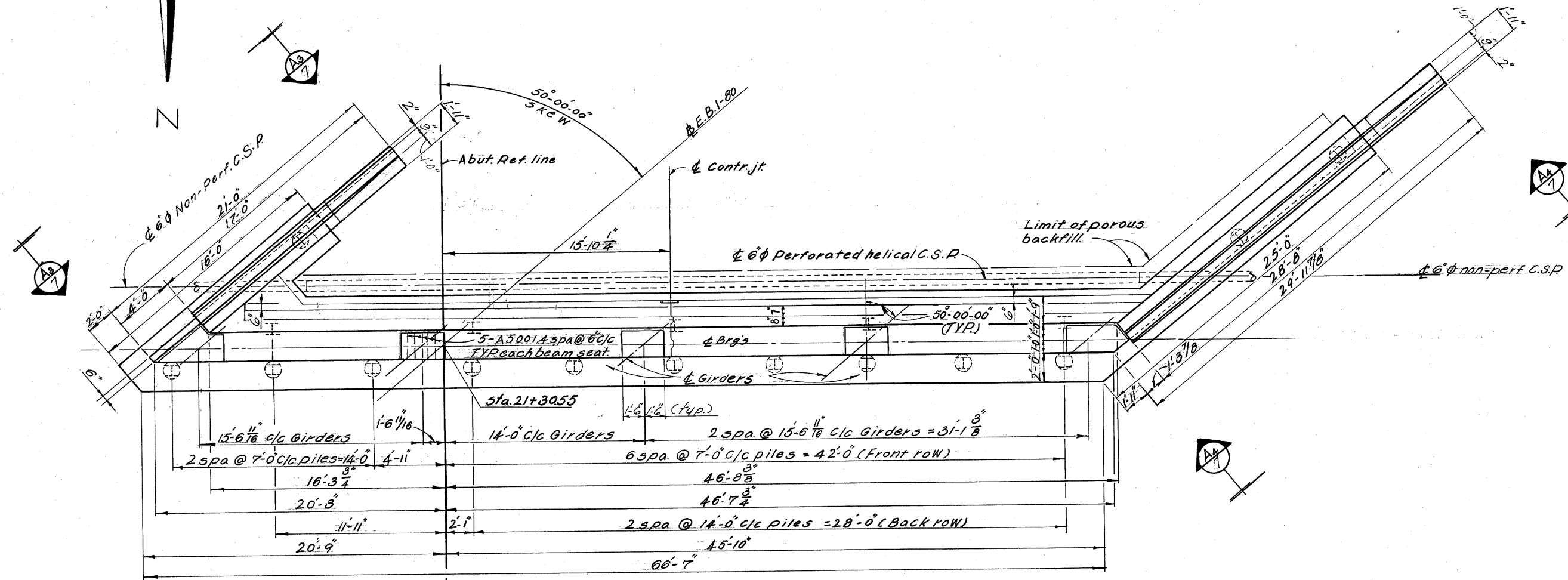


MICROFILMED  
JUL 19 1983

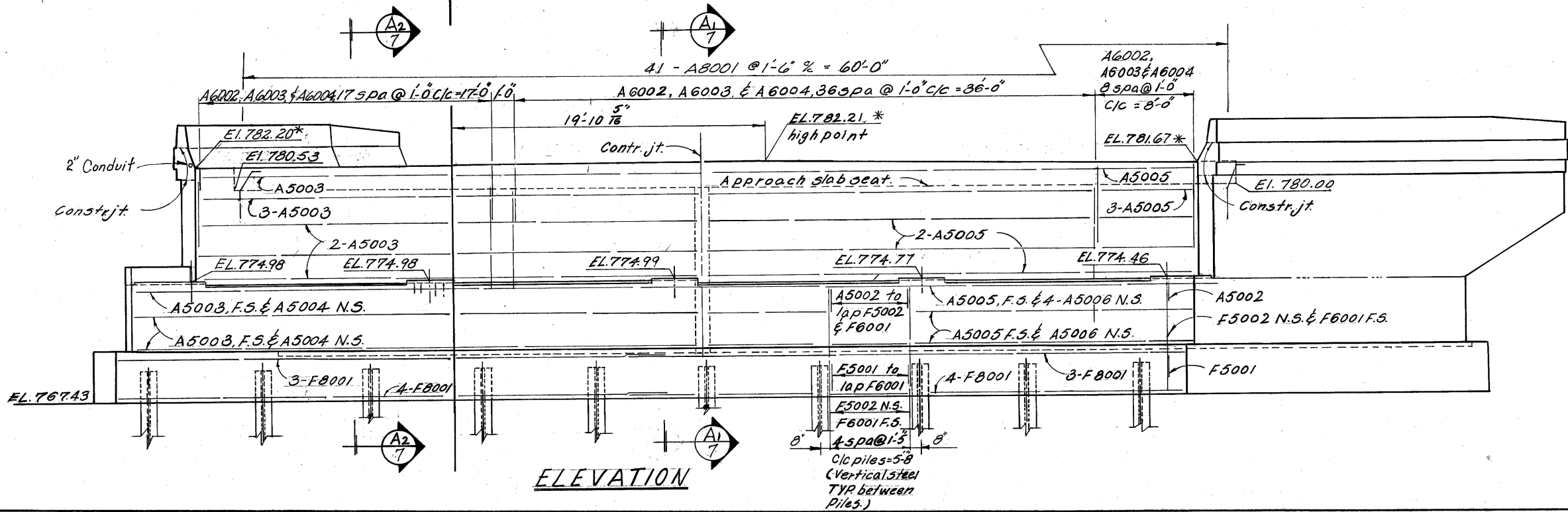
FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

269  
375

LORAIN COUNTY  
LOR.-480-0.00



PLAN



ELEVATION

**NOTE 5.**  
Porous backfill 1-6" thick, full length of abutment and 2-0" thick, full length of wings as shown, shall extend up to the subgrade.

For details of contraction joint see sheet 354

All piles are HP 10x42 Piles.  
⊞ Indicates vertical piles.  
⊞ Indicates piles battered 1:4

In reinforcing bar callouts N.S. indicates near side F.S. indicates far side.

\*Elevations shown thus are pavement elevations at the face of back wall and the point indicated.

Only that portion of the C.S.P. located in porous backfill shall be perforated.

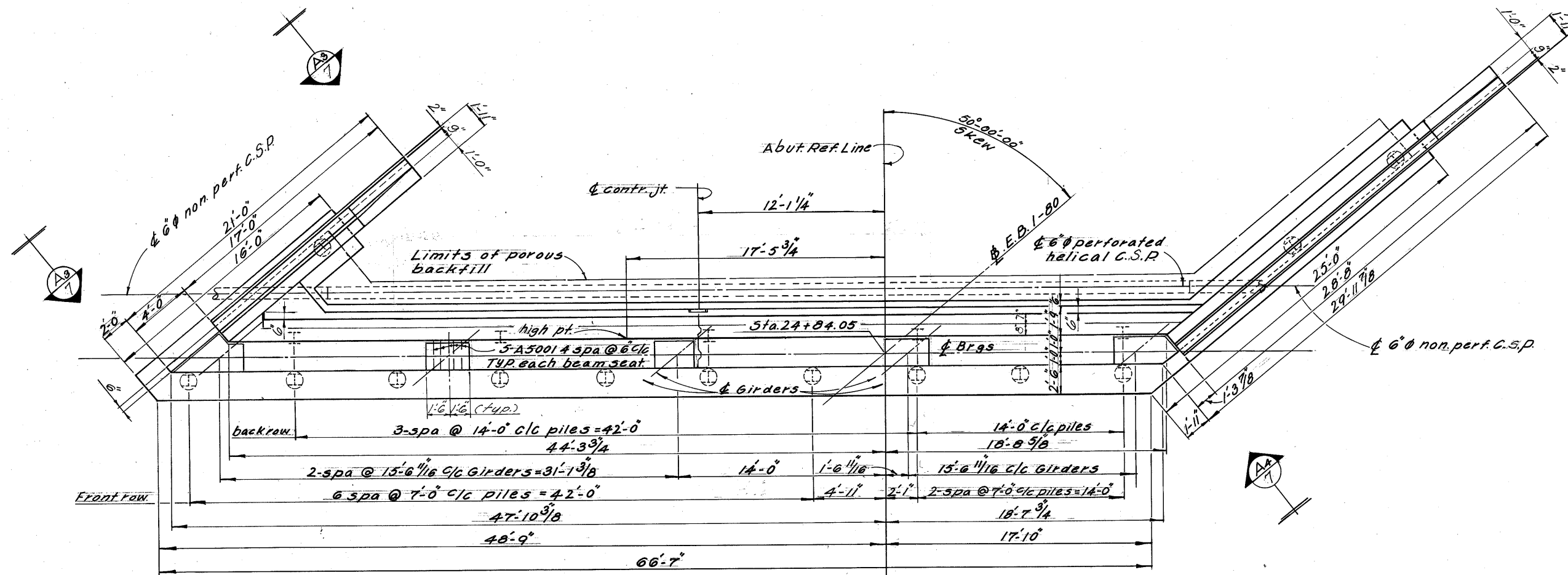
The 6" C.S.P. shall be extended out into the side slopes & terminated near the surface as shown by detail on sheet No. 354

BACKWALL CONCRETE: No backwall concrete shall be placed above the level of the optional construction joint at the approach slab seat until after the deck concrete in the span adjacent to the abutment has been placed.

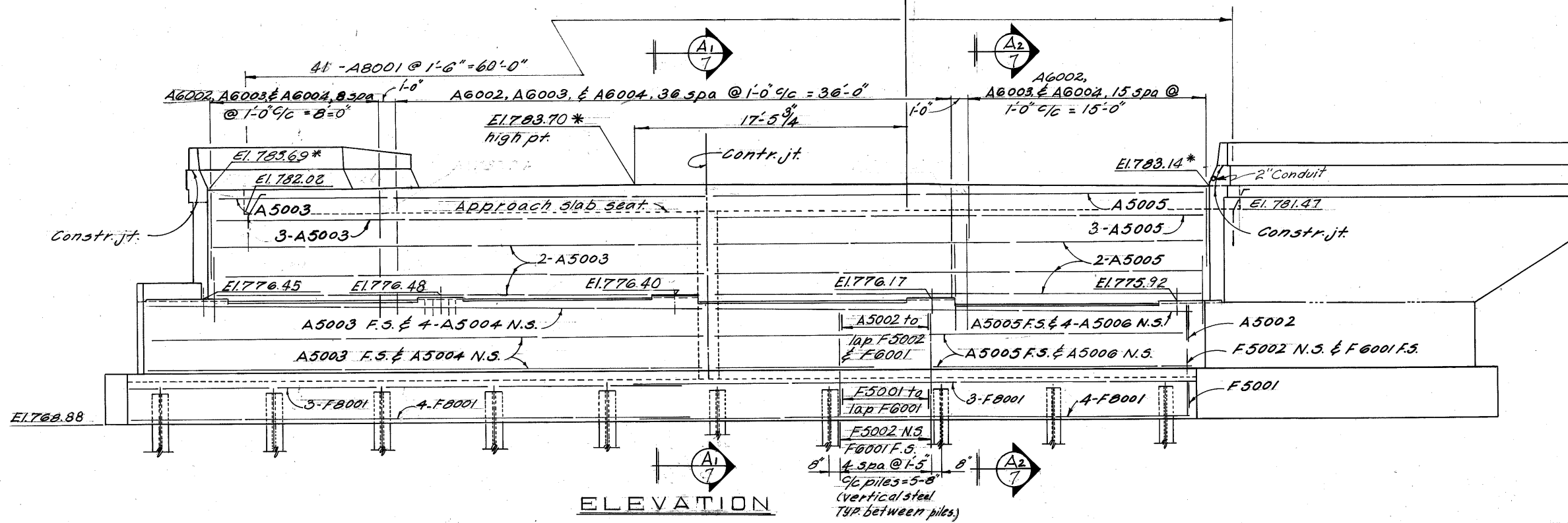
For details of electrical expansion fitting at abutment see Std. Dwg. HL-5

5/14

ALDEN E. STILSON & ASSOCIATES, LIMITED						
CONSULTING ENGINEERS						
CLEVELAND, OHIO	COLUMBUS, OHIO	WHEELING, W. VA.				
<b>WEST ABUTMENT DETAILS</b>						
BRIDGE NO LOR-80-1864						
E.B. I-80 OVER OHIO TURNPIKE						
LORAIN COUNTY					STA. 21+27.05	
					STA. 24+87.55	
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
R.S.S.	M.M.A.		B.I.P.	G.W.M.	5/21/70	



PLAN



ELEVATION

NOTES

All piles are HP 10x42 piles  
 I indicates vertical piles.  
 I indicates piles battered 1:4.

In reinforcing bar callouts  
 N.S. indicates near side  
 F.S. indicates far side

\*Elevations shown thus are pavement  
 elevations at the face of back wall  
 and the point indicated.

For additional notes see sht. No. 6/14

For details of electrical expansion  
 fitting at abutment see Std. Dwg. HL-5

ALDEN E. STILSON & ASSOCIATES, LIMITED  
 CONSULTING ENGINEERS  
 COLUMBUS, OHIO

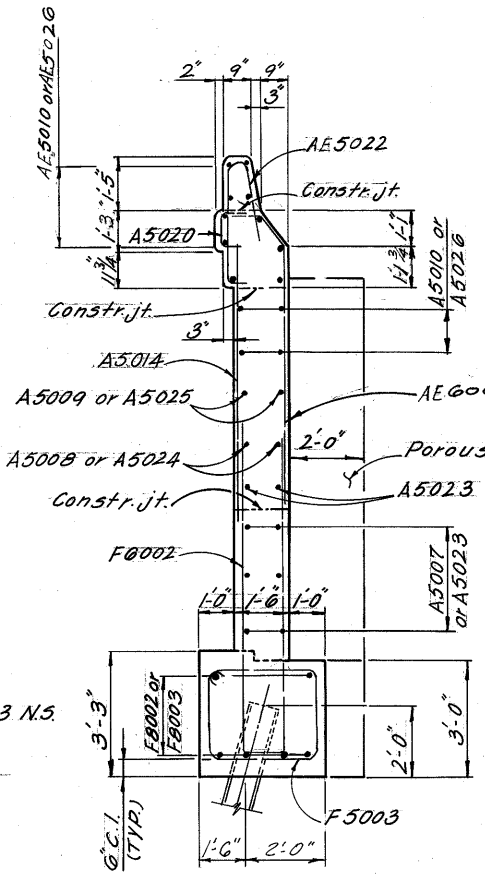
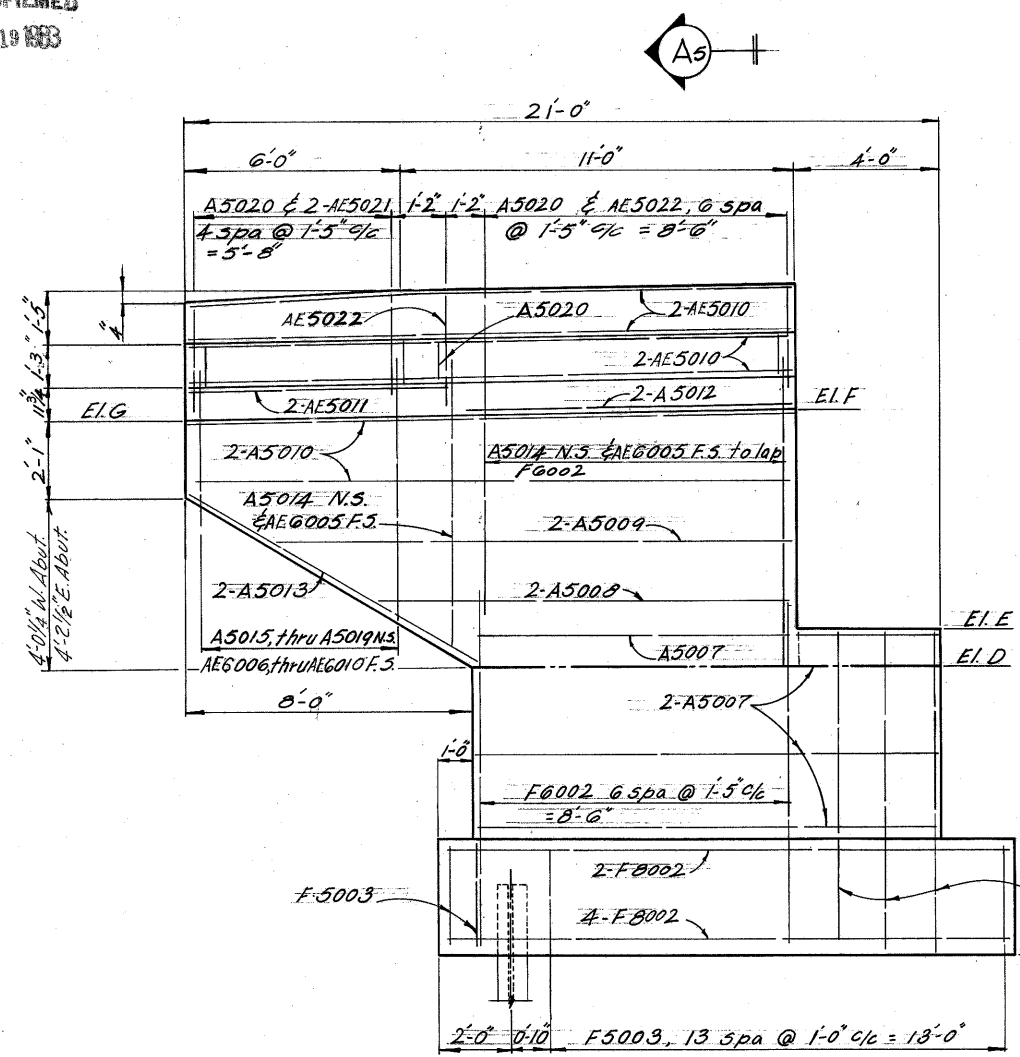
EAST ABUTMENT DETAILS

BRIDGE NO LOR-80-1864  
 E.B. I-80 OVER OHIO TURNPIKE  
 LORAIN COUNTY STA. 21+27.05  
 STA. 24+87.55

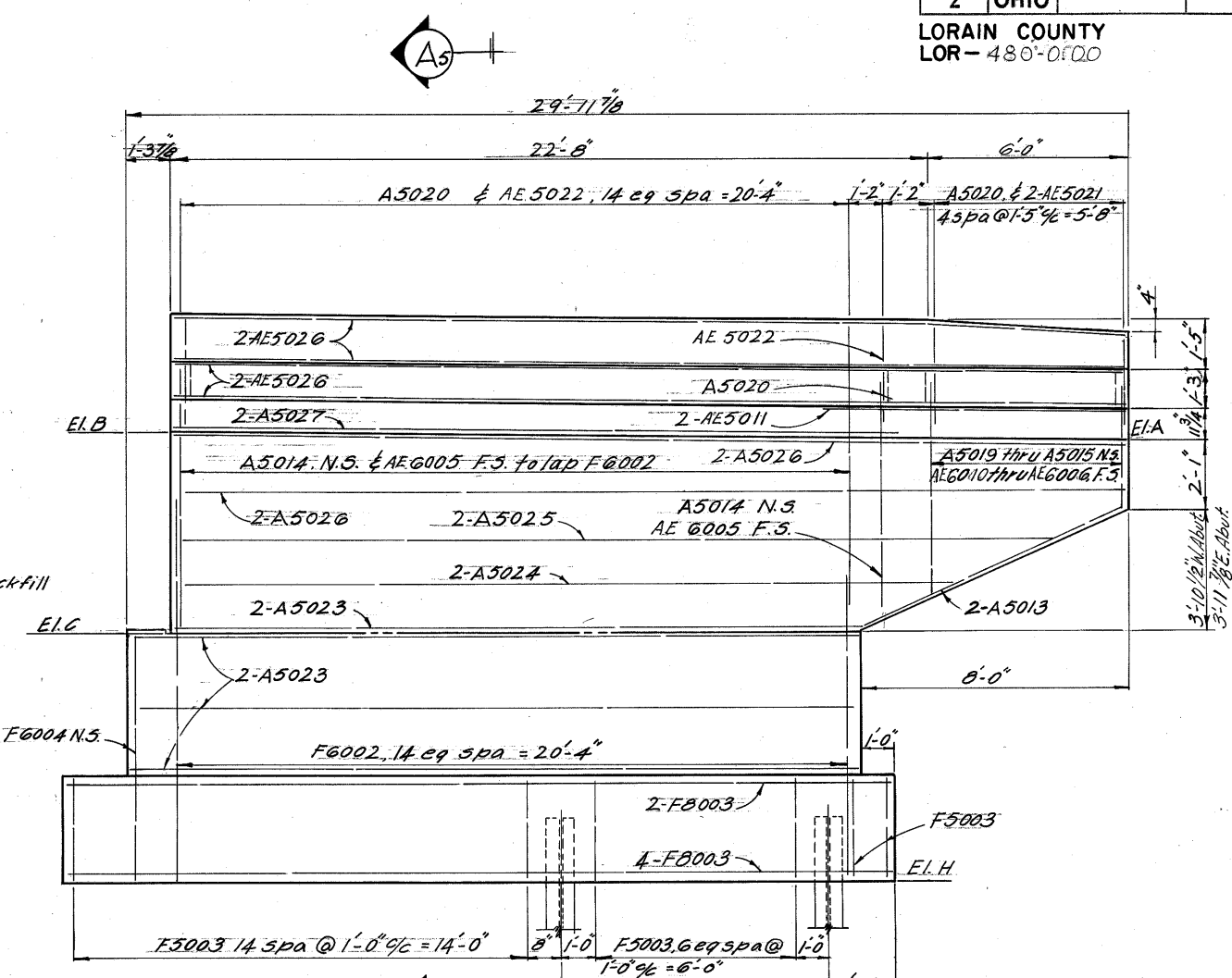
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
R.S.S.	MMA		B.I.P.	G.W.M.	5/22/70	

MICROFILMED  
JUL 19 1983

LORAIN COUNTY  
LOR-480-0100



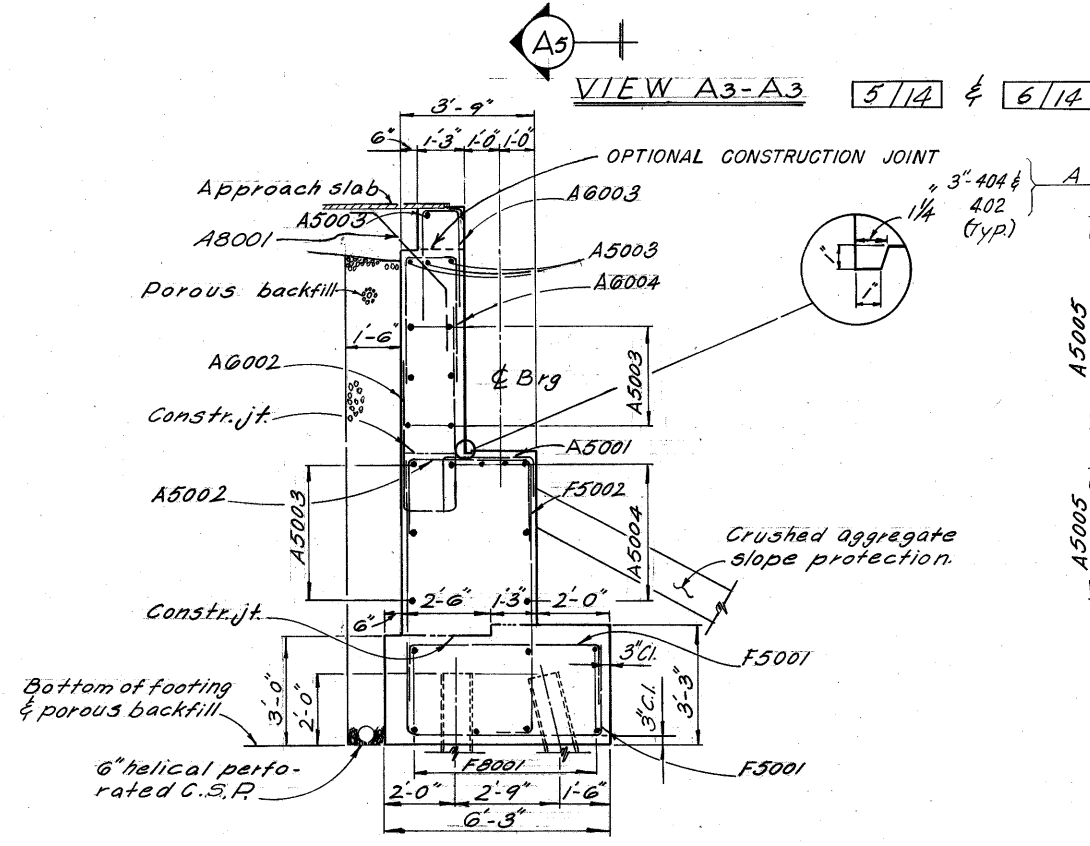
SECTION A5-A5



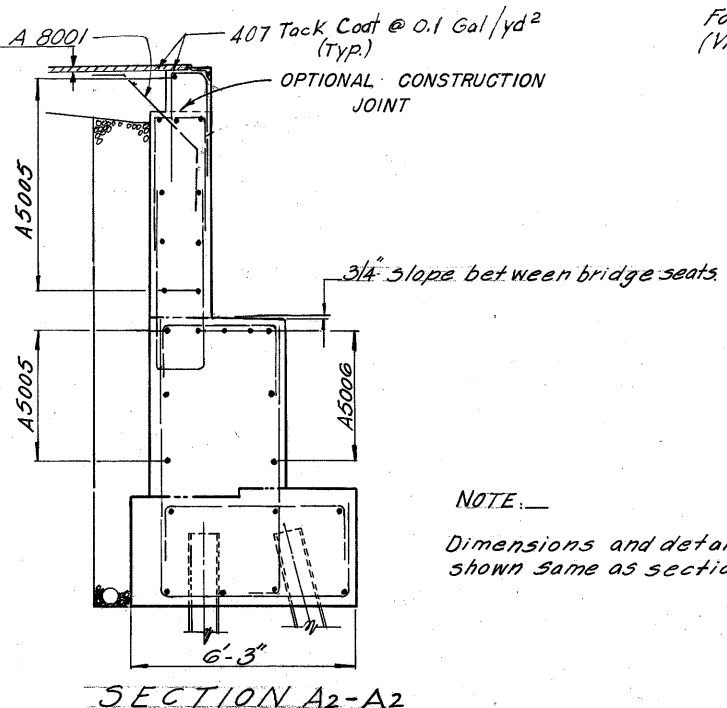
VIEW A4-A4 5/14 & 6/14

For details of electrical expansion fittings, couplings and conduit in turnback wingwalls (Views A3-A3 west abutment and A4-A4 East Abutment) See Std. Dwg. HL-5

	A	B	C	D	E	F	G	H
W. Abut	780.39	780.70	774.38	774.90	775.65	781.22	781.00	767.43
E. Abut	781.91	782.16	775.84	776.37	777.14	782.71	782.66	768.88



SECTION A1-A1



SECTION A2-A2

NOTE: Dimensions and details not shown same as section A1-A1

ALDEN E. STILSON & ASSOCIATES, LIMITED  
CONSULTING ENGINEERS  
CLEVELAND, OHIO COLUMBUS, OHIO WHEELING, W. VA.

**ABUTMENT DETAILS**  
BRIDGE NO LOR-80-1864  
E.B. I-80 OVER OHIO TURNPIKE  
LORAIN COUNTY STA. 21+27.05  
STA. 24+87.55

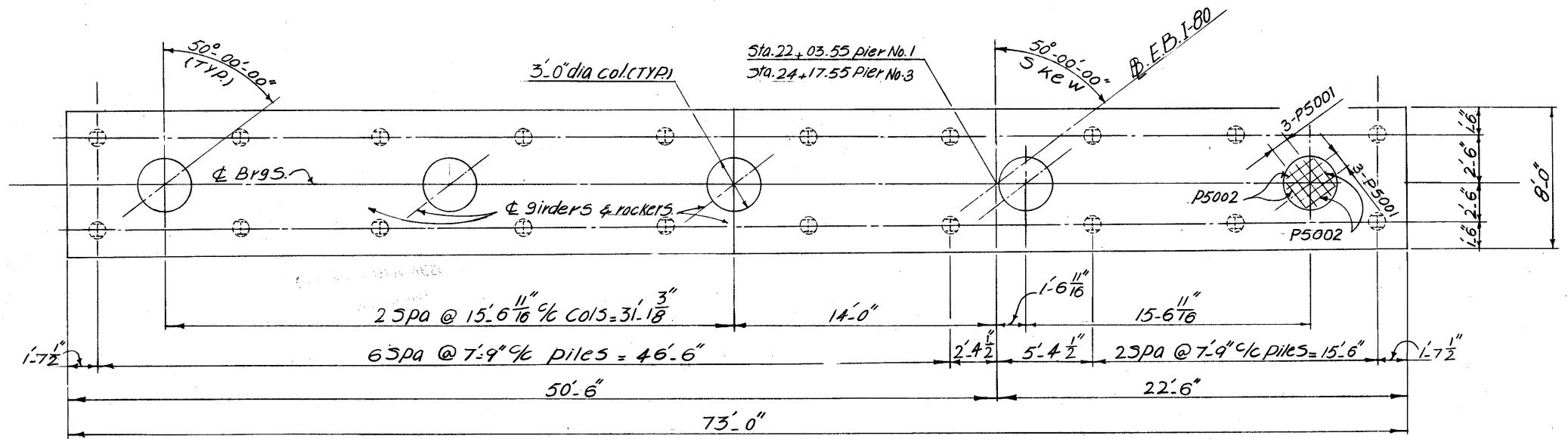
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
R.S.S.	M.M.A.		B.I.P.	G.W.M.	7/27/70	

MICROFILMED  
JUL 19 1983

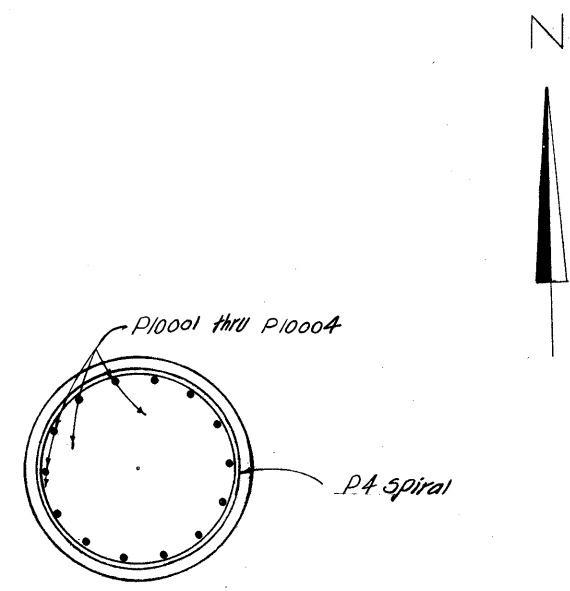
FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

272  
375

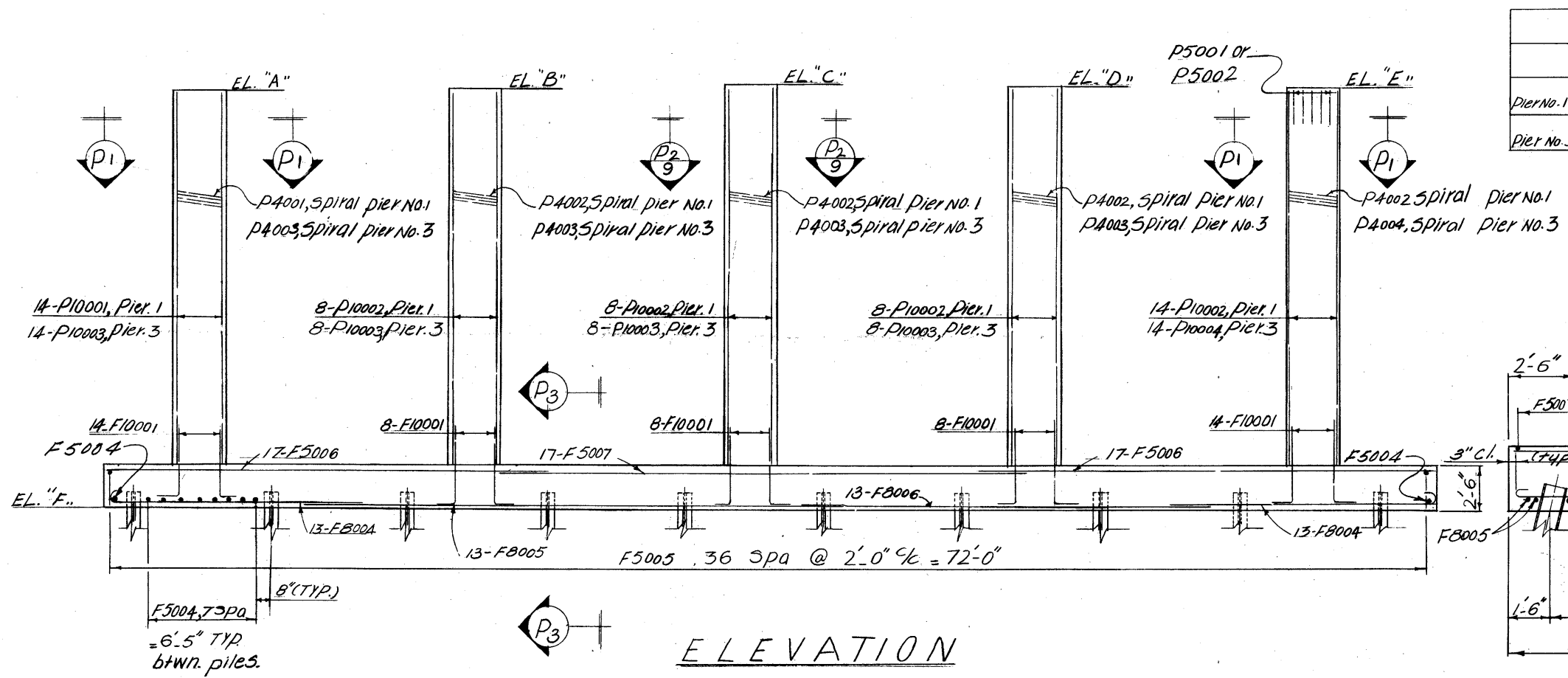
LORAIN COUNTY  
LOR.-480-0.00



PLAN



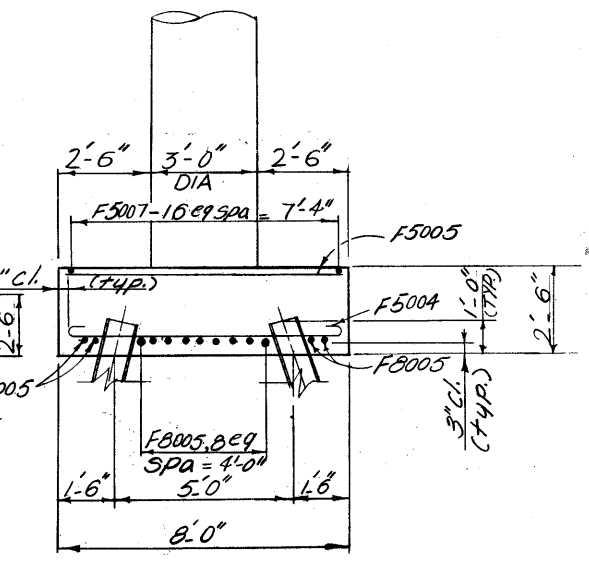
SECTION P1-P1



ELEVATION

	"A"	"B"	"C"	"D"	"E"	"F"
Pier No. 1	774.73	775.02	775.21	775.18	775.13	751.08
Pier No. 3	775.96	776.10	776.12	775.95	775.75	754.08

**NOTE**  
All piles are HP 10 x 42 piles.  
⊙ indicates piles battered 1:4.



SECTION P3-P3

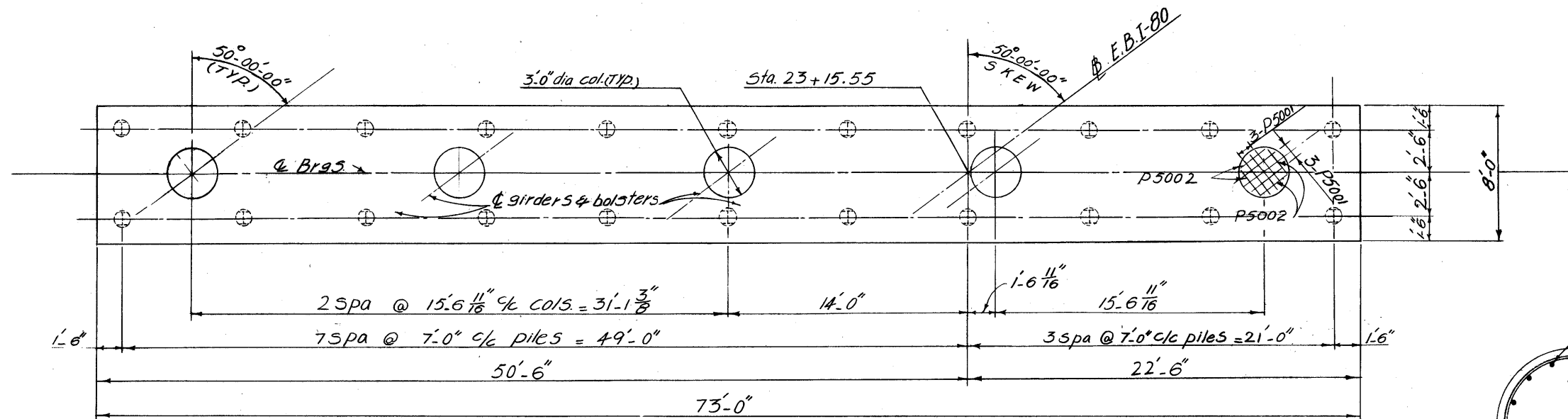
ALDEN E. STILSON & ASSOCIATES, LIMITED CONSULTING ENGINEERS CLEVELAND, OHIO COLUMBUS, OHIO WHEELING, W. VA.						
<b>PIER No 1 &amp; 3 DETAILS</b>						
BRIDGE No LOR-80-1864						
EB 1-80 OVER OHIO TURNPIKE						
LORAIN COUNTY					STA 21+27.05	
					STA 24+87.55	
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
R.S.S.	M.M.A.		B.I.P.	G.W.M.	5/25/70	

MICROFILMED  
JUL 19 1980

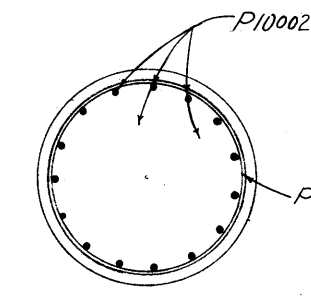
FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

273  
375

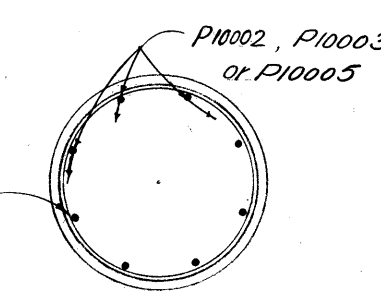
LORAIN COUNTY  
LOR.-480-0.00



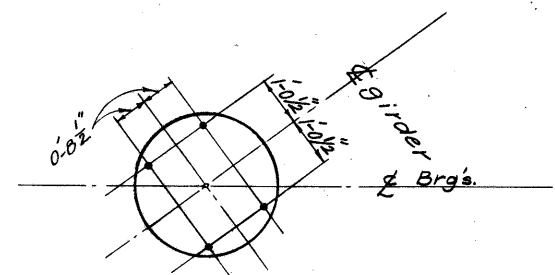
PLAN



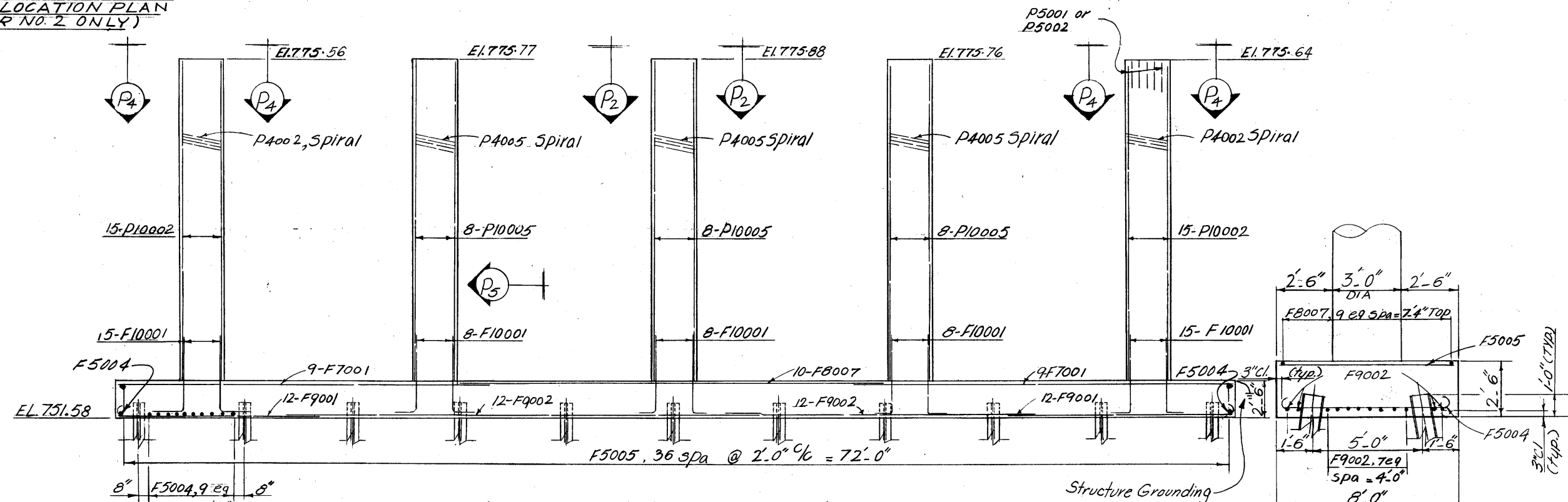
SECTION P4-P4



SECTION P2-P2  
(TYP. Interior Column)



BOLSTER ANCHOR BOLT HOLE LOCATION PLAN (PIER NO. 2 ONLY)



ELEVATION

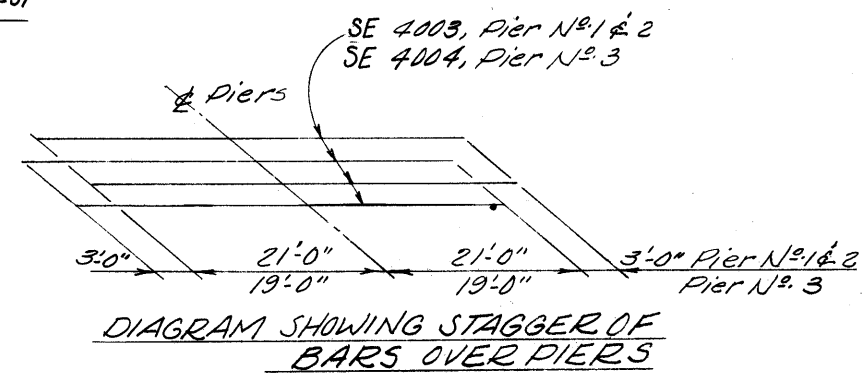
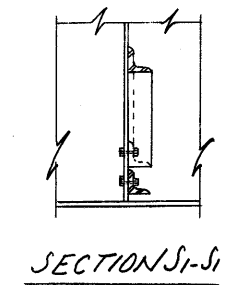
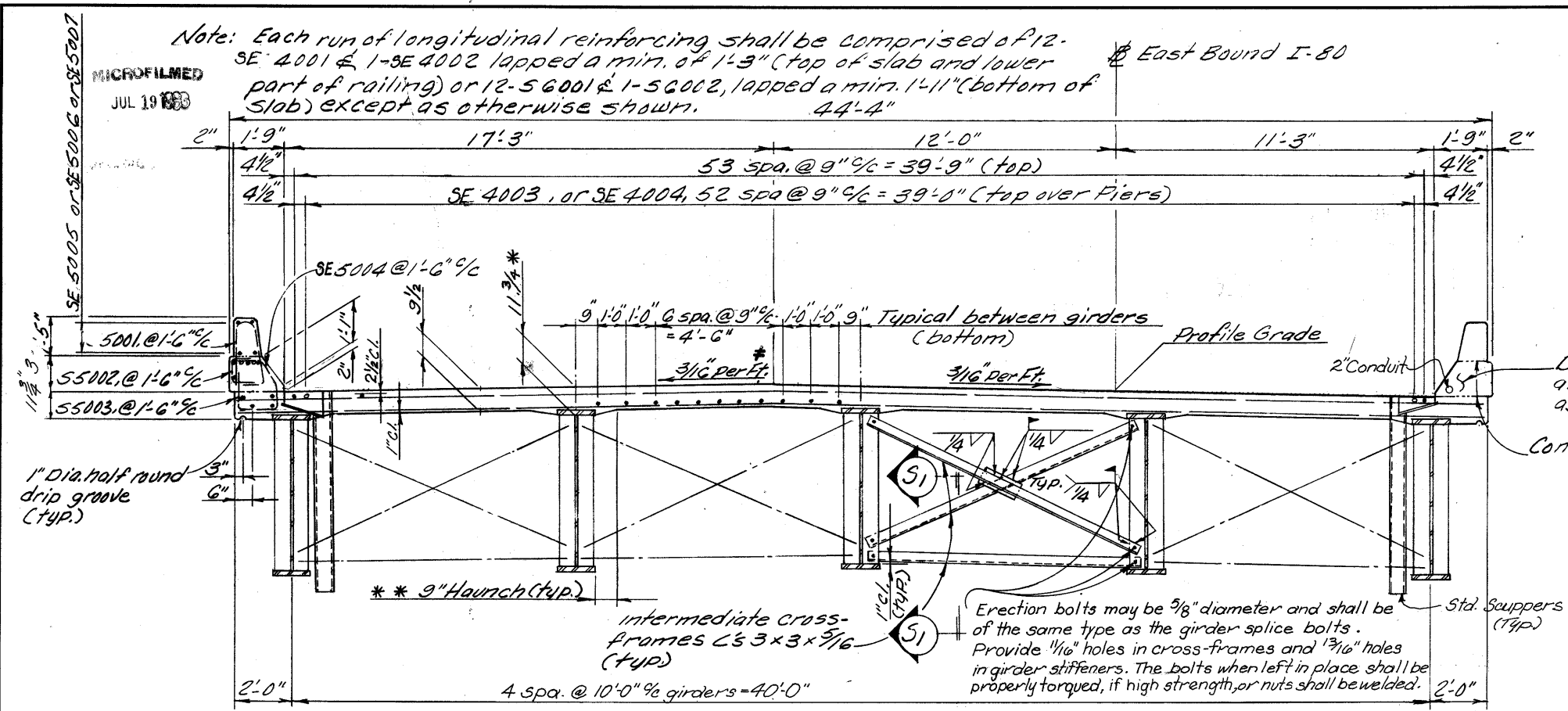
SECTION P5-P5

**NOTES:**  
 All piles are HP10x42-piles.  
 ⓐ Indicates piles battered 1:4  
 Special care shall be taken at pier No.2 in placing reinforcing steel in the top of the column so as to avoid interference with the drilling of anchor bar holes or the pre-setting of bearing anchors.  
 Bearing Anchors: At the option of the Contractor, bearing anchors (or formed holes), located and supported by templates, may be cast in place.  
 For Grounding details at Pier No.2, See std. Dwg. HL-7.

ALDEN E. STILSON & ASSOCIATES, LIMITED						
CONSULTING ENGINEERS						
CLEVELAND, OHIO		COLUMBUS, OHIO		WHEELING, W. VA.		9/14
<b>PIER NO. 2 DETAILS</b>						
BRIDGE NO LOR-80-1864						
E.B. I-80 OVER OHIO TURNPIKE						
LORAIN COUNTY				STA. 21 + 27.05		
				STA. 24 + 87.55		
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
R.S.S.	M.M.A.		B.I.P.	G.W.M.	5/25/70	

Note: Each run of longitudinal reinforcing shall be comprised of 12-SE 4001 & 1-SE 4002 lapped a min. of 1'-3" (top of slab and lower part of railing) or 12-56001 & 1-56002, lapped a min. 1'-11" (bottom of slab) except as otherwise shown. 44'-4"

East Bound I-80

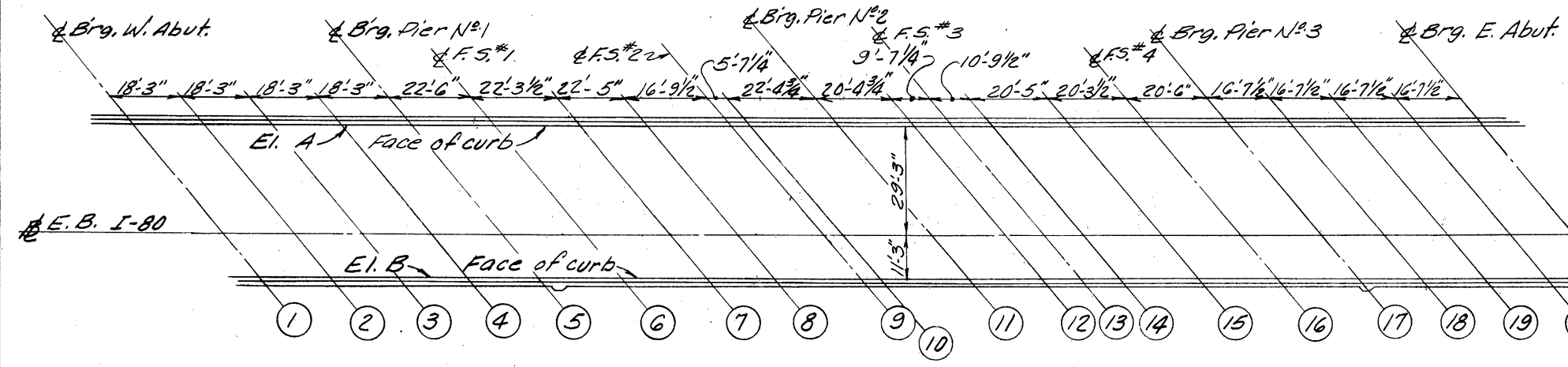


Details, dimensions and reinforcing same as for opposite railing  
Constr. Jt. (typ.)

Erection bolts may be 9/8" diameter and shall be of the same type as the girder splice bolts. Provide 1/16" holes in cross-frames and 3/16" holes in girder stiffeners. The bolts when left in place shall be properly torqued, if high strength, or nuts shall be welded.

### TRANSVERSE SECTION

\* Slope varies from Sta. 24+00.00 forward



### DECK ELEVATION LOCATIONS

The deck elevations shown are those which are required prior to placing of the concrete deck. Proper allowance has been made for the dead load deflection caused by the weight of the concrete.

END DAMS AND SCUPPERS: Steel bar stock utilized for end dams and scuppers may be any weldable grade of low or mild carbon steel available commercially. This material is to be excluded from the requirements of 501.07 for test reports.

SHOP DRAWINGS  
After all steel fabrication is completed, the Fabricator shall furnish a 35 millimeter microfilm copy of each shop drawing mounted on a 3 1/4" x 7 3/8" aperture card. The card shall be imprinted with the bridge and project number, Fabricator's name, drawing number and details shown on the drawing (girders, beams, crossframes, etc.)

For details of light standard pilasters, reinforcing and anchor bolts See std drawings HL-3 & HL-4

NOTES:  
For end dam details see sht. # 354  
Anchor bars shall be located 3/8" below deck surface.  
\* 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 511.18

\* A typical haunch width of 9" shall be used for all girders for computing quantity of concrete. However, the haunch 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

For transverse slab reinforcing see Sht. 12/14  
Concrete and reinforcing steel for parapets shall be included for payment with their respective items. Item 511 Superstructure concrete and Item 509 reinforcing steel.

Longitudinal reinforcing steel shall be field cut as necessary to avoid interference with scuppers.

Steel Erection: During the erection of end dams and crossframes care shall be taken to insure that stringers, bearing parts and bridge seats remain in bearing contact.

Line	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
Elev. A	781.70	781.95	782.18	782.41	782.62	782.90	783.14	783.33	783.42	783.46	783.56	783.65	783.70	783.74	783.79	783.79	783.76	783.74	783.75	783.74	783.69
Elev. B	782.22	782.46	782.67	782.85	783.02	783.23	783.41	783.54	783.58	783.60	783.64	783.67	783.68	783.70	783.69	783.63	783.55	783.48	783.40	783.30	783.16

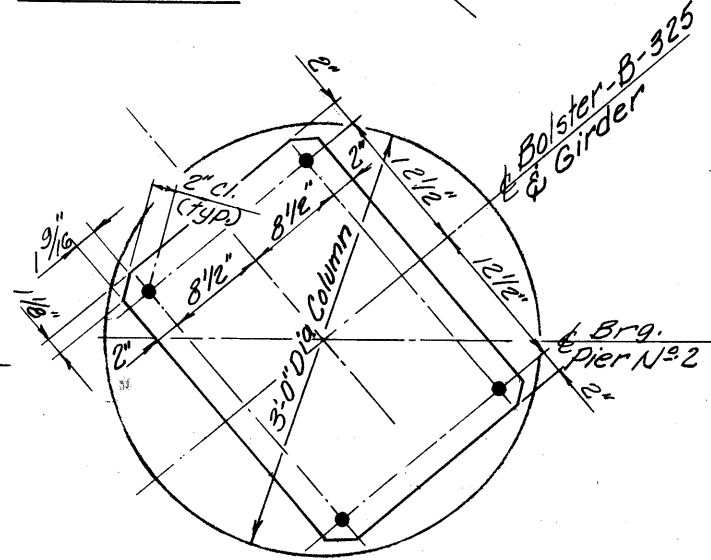
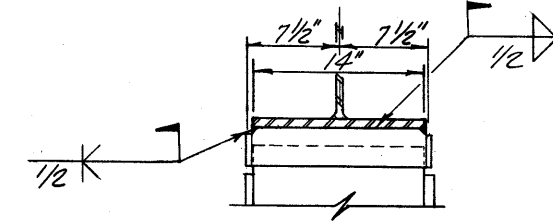
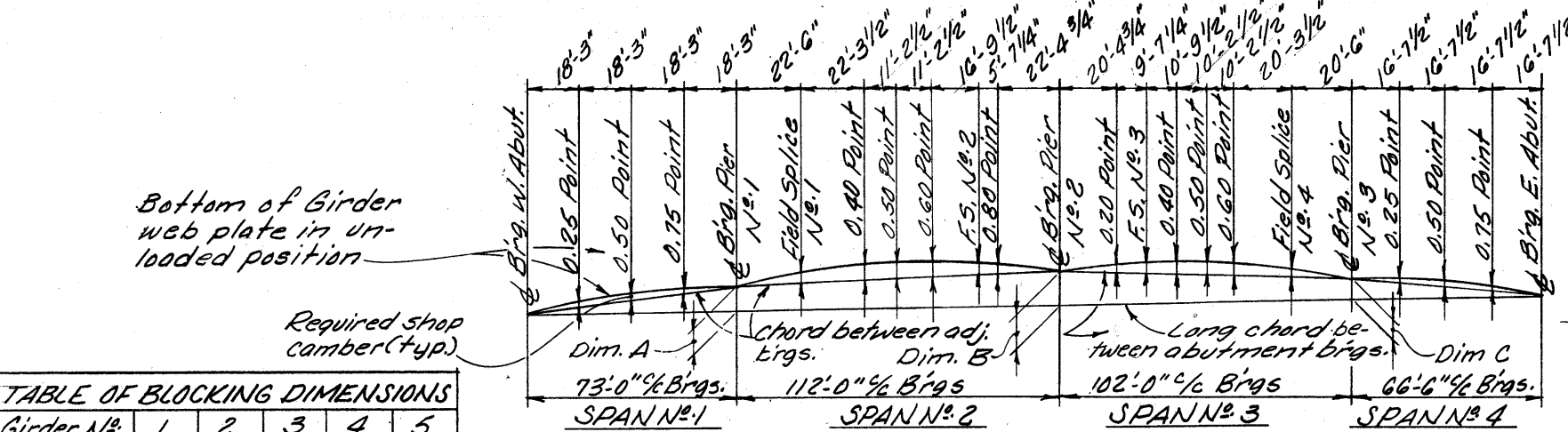
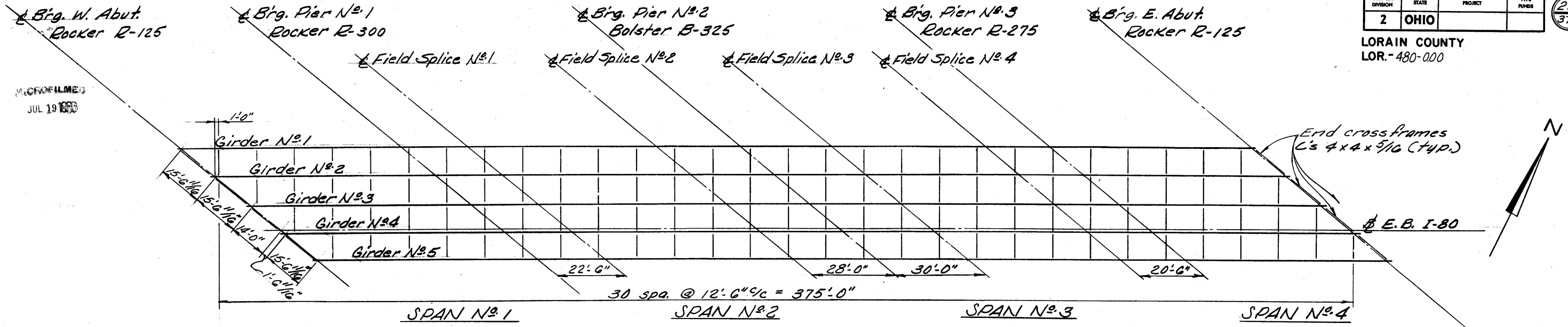
ALDEN E. STILSON & ASSOCIATES, LIMITED  
CONSULTING ENGINEERS  
CLEVELAND, OHIO COLUMBUS, OHIO WHEELING, W. VA.

**SUPERSTRUCTURE DETAILS**

BRIDGE NO LOR-80-1864  
E.B. I-80 OVER OHIO TURNPIKE  
LORAIN COUNTY STA. 21+27.05  
STA. 24+87.55

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
R.S.S.	R.T.		B.I.P.	G.W.M.	5/25/70	5-11-78

MICROFILMED  
JUL 19 1983



Note: For detail drawings and location of dimensions see Std. Dwg. RB-1-55

Bolster No.	Dimensions (inches)												
	A	B	C	D	F	G	H	K	L	M	R	T	Y
B-325	3/2	21	3/2	3/4	3/4	12	19 7/8	15	29	20	13	3/4	1 1/16

Girder No.	1	2	3	4	5
Dim. A	6 1/8"	6 5/8"	7 1/16"	7 3/16"	7 1/16"
Dim. B	9 3/4"	10 1/16"	10 3/16"	11 1/16"	11 1/8"
Dim. C	5 1/16"	6 3/16"	6 3/4"	6 3/4"	6 13/16"

Location	SPAN No. 1					SPAN No. 2					SPAN No. 3					SPAN No. 4				
	0.25 Pt.	0.50 Pt.	0.75 Pt.	F.S.*1	0.40	0.50	0.60	F.S.*2	0.80	0.20	F.S.*3	0.40	0.50	0.60	F.S.*4	0.25 Pt.	0.50 Pt.	0.75 Pt.		
Points along Girder	1	4	1	4	1	1	1	1	1	1	1	1	1	1	1	2	1	2		
Girder No.	thru 3	thru 5	thru 3	thru 5	thru 3	thru 3	thru 3	thru 3	thru 3	thru 3	thru 3	thru 3	thru 3	thru 3	1	thru 5	1	thru 5		
Deflection due to weight of steel	1/16	1/16	1/16	1/16	0	1/16	1/8	1/8	1/8	1/16	1/16	0	0	1/16	1/16	1/16	0	0		
Deflection due to remaining dead load	3/16	3/16	3/16	3/16	1/16	3/8	1/16	3/4	1/16	3/8	5/16	1/16	3/16	5/16	3/8	3/8	3/16	3/16		
Adjustment required for Vert. Curve	1/8	5/16	3/16	7/16	1/4	3/8	1/16	1/16	1/16	15/16	3/4	5/8	13/16	7/8	7/8	1/8	5/8	-1/4		
Required Shop Camber	3/8	3/16	7/16	11/16	5/16	13/16	17/8	15/16	17/8	13/8	11/8	1	11/4	15/16	15/16	13/16	-3/16	5/16		

ALDEN E. STILSON & ASSOCIATES, LIMITED  
CONSULTING ENGINEERS  
CLEVELAND, OHIO COLUMBUS, OHIO WHEELING, W. VA.

**SUPERSTRUCTURE DETAILS**  
BRIDGE No. LOR-80-1864  
E.B. I-80 OVER OHIO TURNPIKE  
LORAIN COUNTY STA. 21 + 27.05  
STA. 24 + 87.55

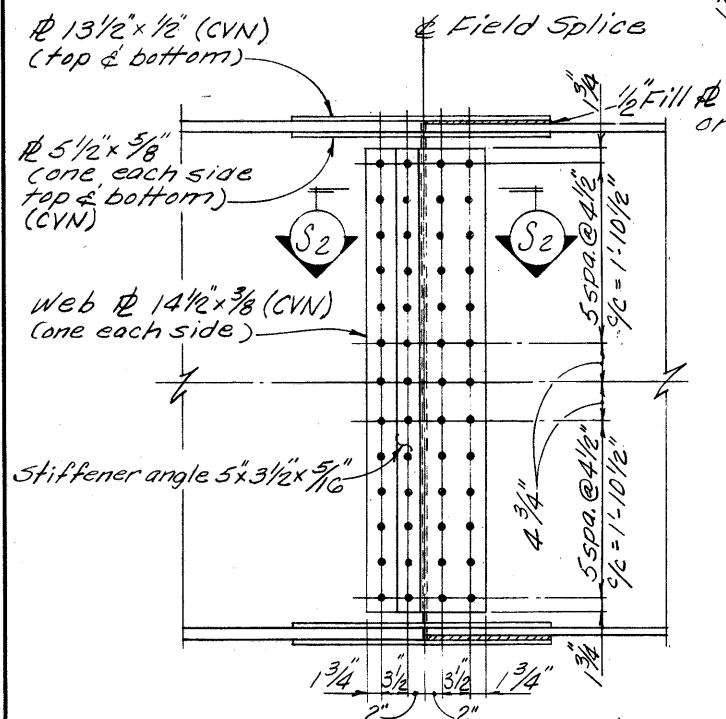
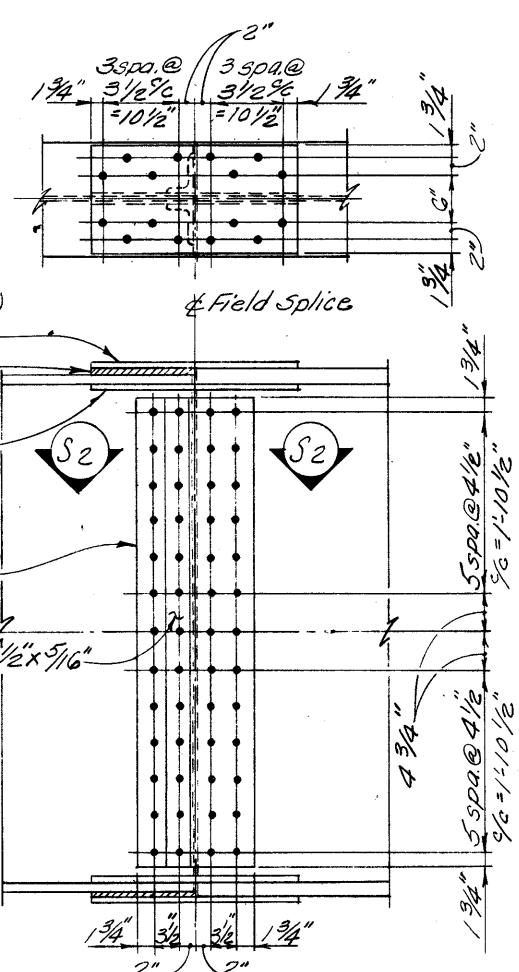
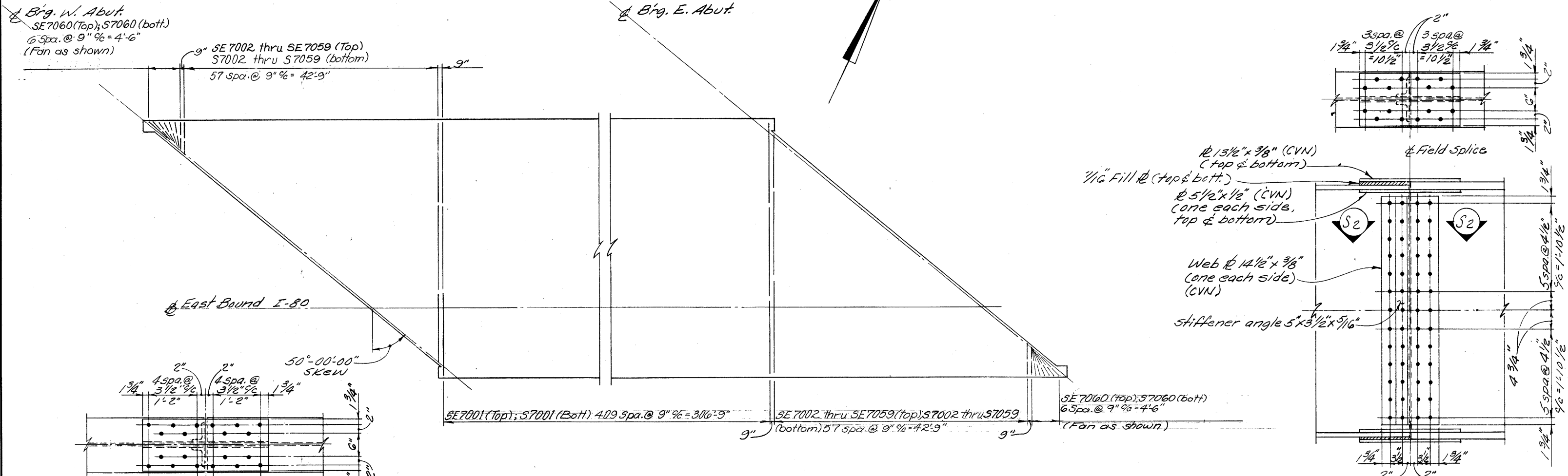
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
R.S.S.	R.T.		B.I.P.	G.W.M.	5-11-78	

MICROFILMED  
JUL 19 1983

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

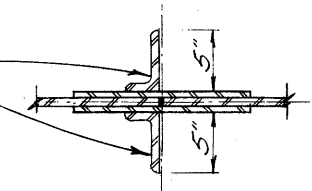
276  
375

LORAIN COUNTY  
LOR.-480-0.00



**TRANSVERSE SLAB REINFORCING**

Note: Transverse reinforcing steel shall be placed normal to  $\phi$  of East bound I-80 except at acute corners of slab.

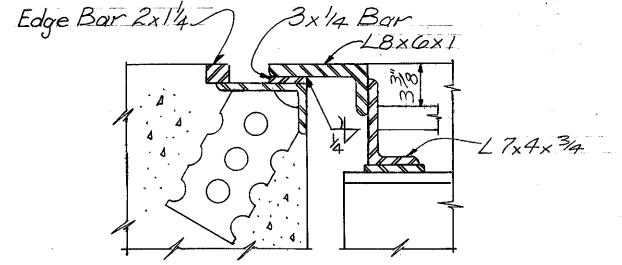


Stiffeners angle  $5 \times 3\frac{1}{2} \times 5\frac{1}{16}$   
Reverse outstanding leg or move stiffener a distance equal to bolt spacing to adjust to intermediate stiffener or cross frame spacing when necessary.

$1\frac{1}{4}$ " High strength bolts shall be used at field splices. Bolt heads on exterior girder web splices shall be on fascia side. Bolts shall conform to A325 steel.

**NOTES:**

Where a shape or plate is designed (CVN) the material shall meet specified minimum notch toughness requirements.



TYPICAL ROADWAY END DAM DETAIL  
For additional details see Std. Drawg. SD-169 Sh. 1 of 4

DETAIL OF FIELD SPlice No. 1, 2 & 3

DETAIL OF FIELD SPlice No. 4

ALDEN E. STILSON & ASSOCIATES, LIMITED CONSULTING ENGINEERS CLEVELAND, OHIO COLUMBUS, OHIO WHEELING, W. VA.						
<b>SUPERSTRUCTURE DETAILS</b>						
BRIDGE No LOR-80-1864						
E.B. I-80 OVER OHIO TURNPIKE						
LORAIN COUNTY					STA. 21 + 27.05	
					STA. 24 + 87.55	
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
R.S.S.	R.T.		B.I.P.	G.W.M.	5/17/70	

12/14

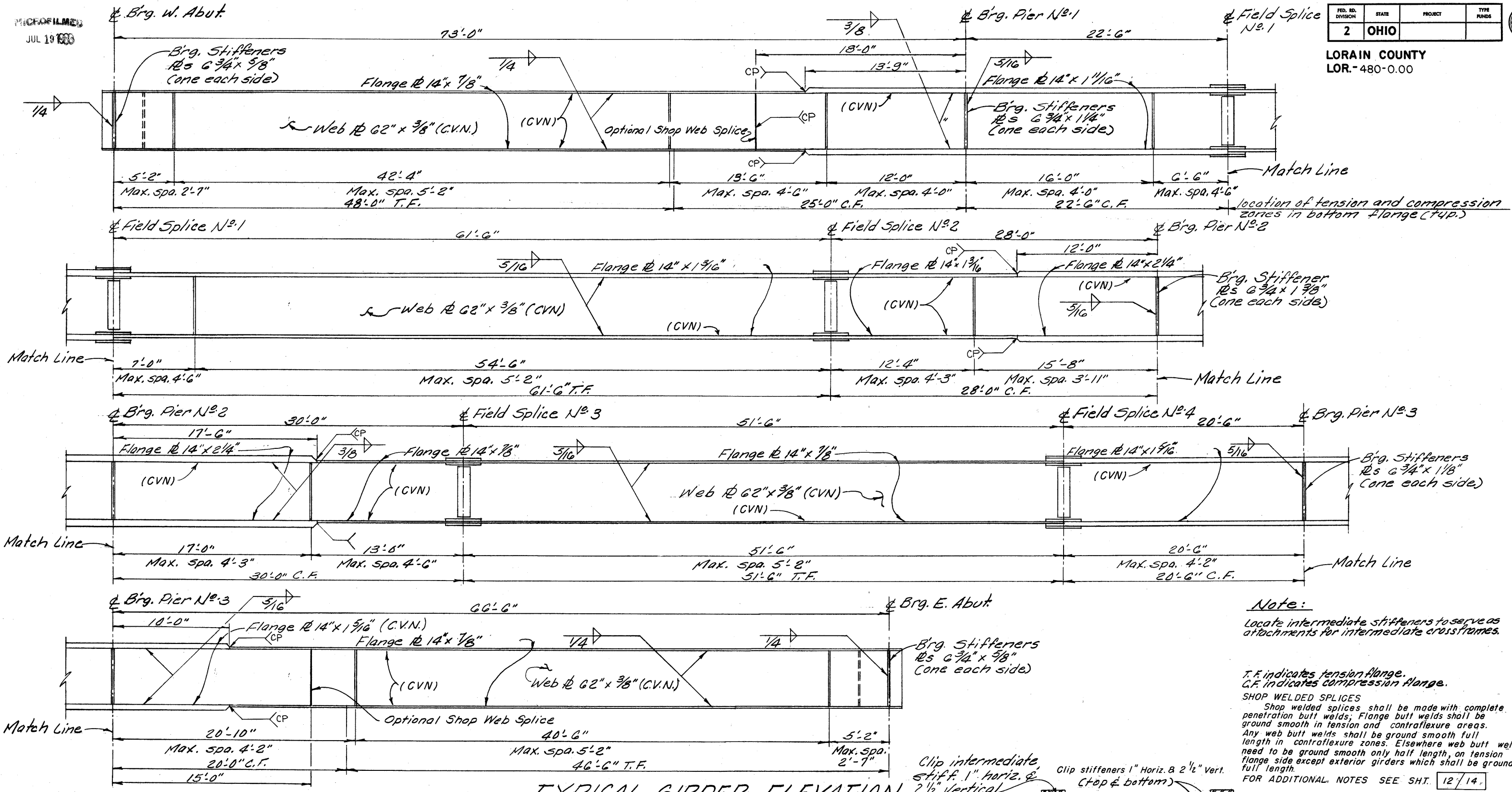


MICROFILMED  
JUL 19 1963

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

277  
375

LORAIN COUNTY  
LOR-480-0.00

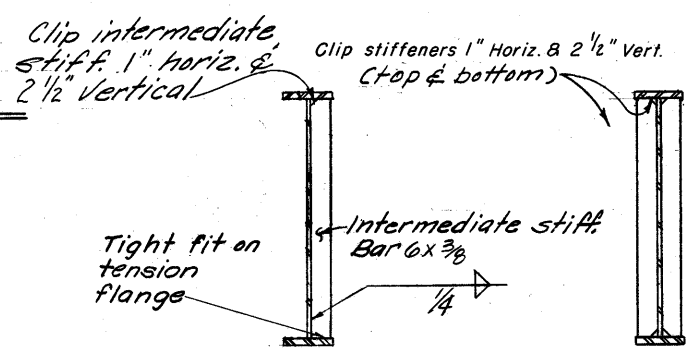


**Note:**  
Locate intermediate stiffeners to serve as attachments for intermediate crossframes.

T.F. indicates tension flange.  
C.F. indicates compression flange.  
SHOP WELDED SPLICES  
Shop welded splices shall be made with complete penetration butt welds; Flange butt welds shall be ground smooth in tension and contraflexure areas. Any web butt welds shall be ground smooth full length in contraflexure zones. Elsewhere web butt welds need to be ground smooth only half length, on tension flange side except exterior girders which shall be ground full length.  
FOR ADDITIONAL NOTES SEE SHT. 12/14.

**TYPICAL GIRDER ELEVATION**

Intermediate web stiffeners: Single transverse intermediate web stiffeners shall be used on alternate sides of the web of interior girders and on the inside of the web of fascia girders at the spacing shown.



ALDEN E. STILSON & ASSOCIATES, LIMITED CONSULTING ENGINEERS CLEVELAND, OHIO COLUMBUS, OHIO WHEELING, W. VA.						
<b>SUPERSTRUCTURE DETAILS</b>						
BRIDGE NO. LOR-80-1864						
E.B. I-80 OVER OHIO TURNPIKE						
LORAIN COUNTY					STA. 21 + 27.05	
					STA. 24 + 87.55	
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
R.S.S.	R.T.		B.I.P.	G.W.M.	7/10	

MICROFILMED  
JUL 19 1983

MARK	NUM.	LENGTH	WEIGHT	TYPE	A	B	C	D	E	NOTE
A 5001	50	4-11	256	2	1-6	2-2	1-6			
A 5002	92	7-4	704	2	2-1	3-5	2-1			
A 5003	26	31-10	863	ST						
A 5004	12	33-10	423	ST						
A 5005	26	32-10	890	ST						
A 5006	12	30-5	381	ST						
A 5007	16	12-8	211	ST						
A 5008	4	11-6	48	ST						
A 5009	4	14-3	59	ST						
A 5010	8	16-8	139	ST						
A 5012	4	10-10	45	ST						
A 5013	8	10-6	88	12		8-0	1-7	4-0		
A 5014	48	7-3	363	ST						
A 5015	4	2-10		ST						1
THRU			92		VARY LENGTH BY			0-9	1/2	
A 5019	4	6-0		ST						1
A 5020	68	1-9	124	2	0-6	1-0	0-6			
A 5023	16	21-8	362	ST						
A 5024	4	20-4	85	ST						
A 5025	4	24-10	104	ST						
A 5026	8	28-4	236	ST						
A 5027	4	22-6	94	ST						
A 6002	126	8-5	1593	2	3-8	1-5	3-8			
A 6003	126	6-7	1246	2	3-0	0-11	3-0			
A 6004	126	12-1	2287	2	5-6	1-5	5-6			
A 8001	82	5-6	1204	20	0-6	3-5	1-1			
F 5001	92	8-3	792	2	1-7	5-4	1-7			
F 5002	92	7-0	672	2	6-6	0-8				
F 5003	80	11-1	925	3	3-0	2-3	3-0	2-3		
F 6001	92	14-2	1958	2	6-6	5-5	2-7			
F 6002	44	18-10	1245	2	9-0	1-2	9-0			
F 6003	6	7-10	71	ST						
F 6004	2	6-3	19	ST						
F 8001	28	34-3	2561	ST						
F 8002	12	15-6	497	ST						
F 8003	12	24-5	782	ST						
					PIERS					
P 4001	1	20-10	392	17	NO. TURNS= 59	NO. SPACERS= 4	6			
P 4002	6	21-3	2393	17	NO. TURNS= 60	NO. SPACERS= 24	6			
P 4003	4	19-2	1437	17	NO. TURNS= 54	NO. SPACERS= 16	6			
P 4004	1	19-0	359	17	NO. TURNS= 54	NO. SPACERS= 4	6			
P 4005	3	21-6	1199	17	NO. TURNS= 60	NO. SPACERS= 12	6			
P 5001	90	2-9	258	2	0-6	2-0	0-6			
P 5002	60	2-5	151	2	0-6	1-8	0-6			
P10001	14	20-10	1255	ST						
P10002	68	21-3	6218	ST						
P10003	38	19-2	3134	ST						

MARK	NUM.	LENGTH	WEIGHT	TYPE	A	B	C	D	E	NOTE
P10004	14	19-0	1145	ST						
P10005	24	21-6	2220	ST						( CONTINUED )
F 5004	250	8-8	2260	10	7-6					
F 5005	111	7-6	868	ST						
F 5006	68	23-9	1684	ST						
F 5007	34	28-0	993	ST						
F 7001	18	24-5	898	ST						
F 8004	52	15-3	2117	11	14-2					
F 8005	26	30-0	2083	ST						
F 8006	26	21-8	1504	ST						
F 8007	10	28-0	748	ST						
F 9001	24	14-2	1156	ST						
F 9002	12	30-0	1224	ST						
F 9003	12	22-8	925	ST						
F10001	158	6-7	4476	2	5-6	1-5				
					SUPERSTRUCTURE					
S 5002	474	1-9	865	2	0-6	1-0	0-6			
S 5003	474	1-10	906	2	1-6	0-6				
S 6001	624	30-0	2817	ST						
S 6002	52	18-0	1406	ST						
S 7001	410	43-8	36595							
S 7002	2	41-3		ST						1
THRU			5542		VARY LENGTH BY		0-7 1/2			
S 7059	2	5-6		ST						1
S 7060	14	4-10	138	ST						
					EPOXY COATED REINFORCING BARS, ABUTMENTS					
AE5010	16	16-8	278	ST						
AE5011	8	7-4	61	ST						
AE5021	40	3-0	125	ST						
AE5022	48	6-5	321	19	2-5	3-3	0-8			
AE5026	16	28-4	473	ST						
AE6005	48	9-2	661	15		0-9	0-9	7-3	1-0	
AE6006	4	5-0		15		0-9	0-9	3-2	0-11	1
THRU			196		VARY LENGTH BY		0-9			
					VARY DIM BY		0-9			
AE6010	4	8-0		15		0-9	0-9	6-2	0-11	1
					EPOXY COATED REINFORCING BARS, SUPERSTRUCTURE					
SE4001	744	30-0	14910	ST						
SE4002	62	10-0	414	ST						
SE4003	114	45-0	3427	ST						
SE4004	57	41-0	1561	ST						
SE5001	474	5-4	2637	19	0-8	2-5	2-2			
SE5004	474	3-2	1566	15	0-8	0-8	1-1	0-9	0-9	
SE5005	104	14-8	1591	ST						
SE5006	104	7-2	777	ST						
SE5007	72	6-8	501	ST						
SE7001	410	43-8	36595	ST						
SE7002	2	41-3		ST						1
THRU			5542							
SE7059	2	5-6		ST						1
SE7060	14	4-10	138	ST						
LE505	8	2-10	24	9	0-7 1/2	1-10	0-7 1/2			4
LE506	8	8-5	72	4	0-6 1/2	3-2	2-4	3-2		4
LE507	12	7-3	90	21	1-10	1-4	1-10	0-6		4
LE508	8	3-2	26	ST						4

FED. RD. DIVISION 2 STATE OHIO PROJECT LORAIN COUNTY LOR-480-0.00 TYPE FUNDS 278 375

NOTES

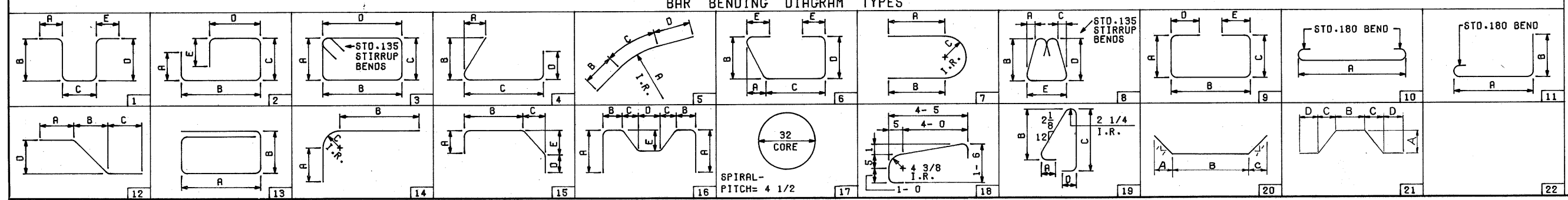
- INDICATES SERIES BAR. EACH BAR VARIES FROM ADJACENT BAR(S) BY TABULATED AMOUNT(S). CALCULATED TO NEAREST 1/8 INCH. WEIGHT SHOWN IS FOR ENTIRE SERIES UTILIZING AVERAGE LENGTH.
- BAR(S) INCLUDED WITH ITEM 517, RAILING, FOR PAYMENT.
- COST OF FIELD BENDING SHALL BE INCLUDED WITH ITEM 509.
- LIGHT POLE SUPPORT BARS INCLUDED WITH REINFORCING FOR PAYMENT.
- END PREPARATION AND FIELD WELDING INCLUDED WITH ITEM 509.
- 'LENGTH' SHOWN FOR SPIRAL BARS IS DISTANCE FROM TOP OF FOOTING TO BOTTOM OF PIER CAP. 'NO. TURNS' SHOWN IS 'LENGTH' DIVIDED BY PITCH. PLUS 3 TURNS (NUMBER OF CLOSED COILS), EXPRESSED AS NEAREST WHOLE NUMBER.

1 1/2 CLOSED COILS SHALL BE PROVIDED AT 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 PERIPHERY OF COIL. WEIGHT OF SPACERS, AT 0.80 LB. PER LIN. FT. WILL BE PAID FOR AS REINFORCING STEEL AND IS INCLUDED IN TABULATED WEIGHT.  
*Bar dimensions are out to out.*  
Refer to CMS Sections 106.03, 700, 709.01 through 709.05 and 709.08. Sufficient additional reinforcing steel shall be provided for sampling. Random samples shall be replaced.

BAR SIZE DESIGNATION

BAR SIZE IS INDICATED IN THE BAR MARK. THE FIRST DIGIT WHERE FOUR DIGITS ARE USED, AND FIRST TWO DIGITS WHERE FIVE DIGITS ARE USED, INDICATE THE BAR SIZE NUMBER. FOR EXAMPLE, A7001 IS A NO. 7 SIZE BAR AND A10140 IS A NO. 10 SIZE.

BAR BENDING DIAGRAM TYPES



ALDEN E. STILSON & ASSOCIATES, LIMITED CONSULTING ENGINEERS CLEVELAND, OHIO COLUMBUS, OHIO WHEELING, W. VA.						
<b>REINFORCING STEEL LIST</b>						
BRIDGE NO LOR-80-1864						
E.B. I-80 OVER OHIO TURNPIKE						
LORAIN COUNTY				STA. 21+27.05 STA. 24+87.55		
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
R.S.S.			B.I.P.	G.W.M.	5/20/70	

14114

MICROFILMED  
JUL 19 1988

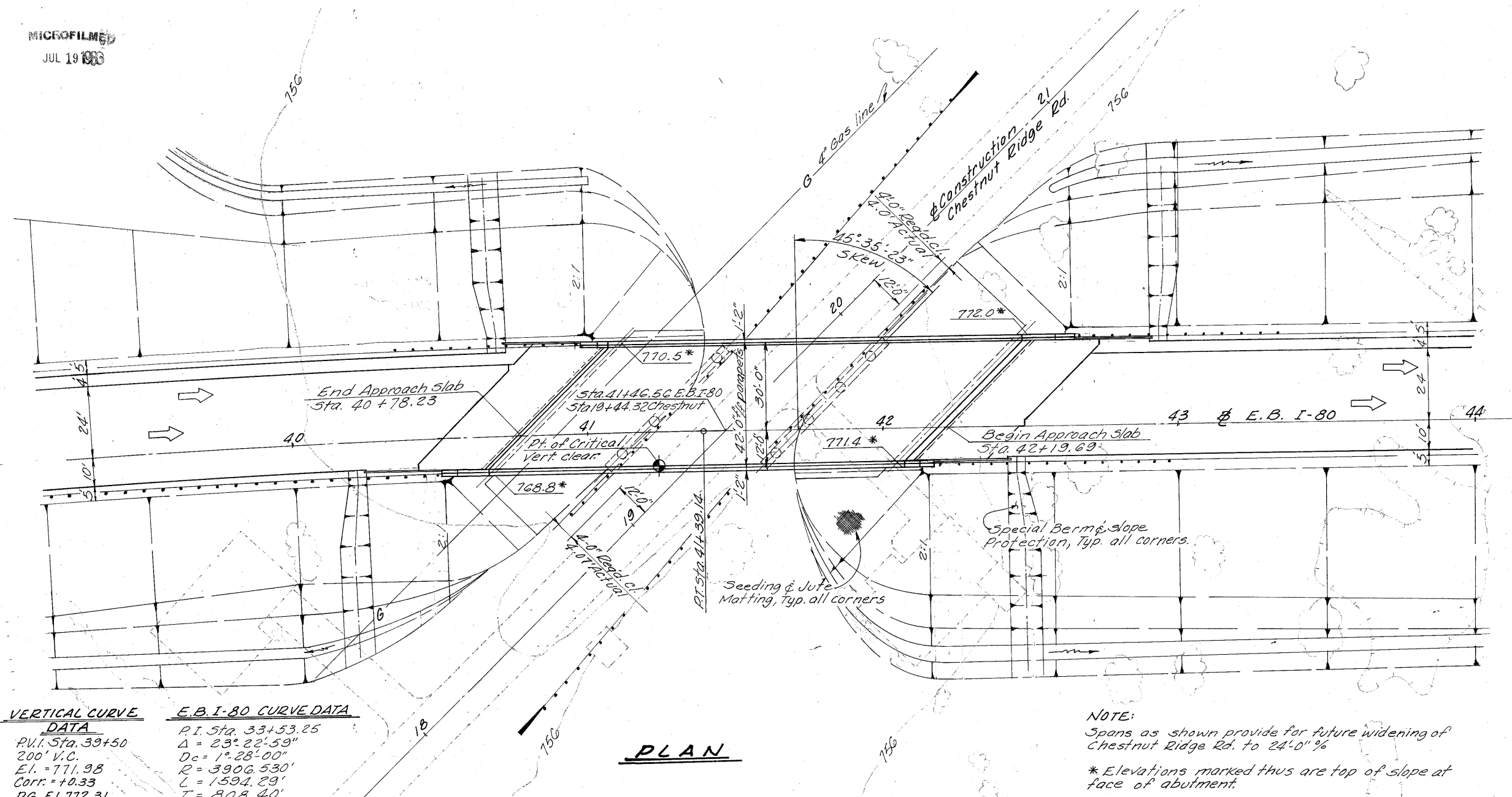
FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

279  
375

LORAIN COUNTY  
LOR-480-0.00



The tangent grade data does not apply to bridge or graphic grade elevations. The bridge elevations were obtained by adding 0.12 feet to the elevations obtained from tangent grade data.



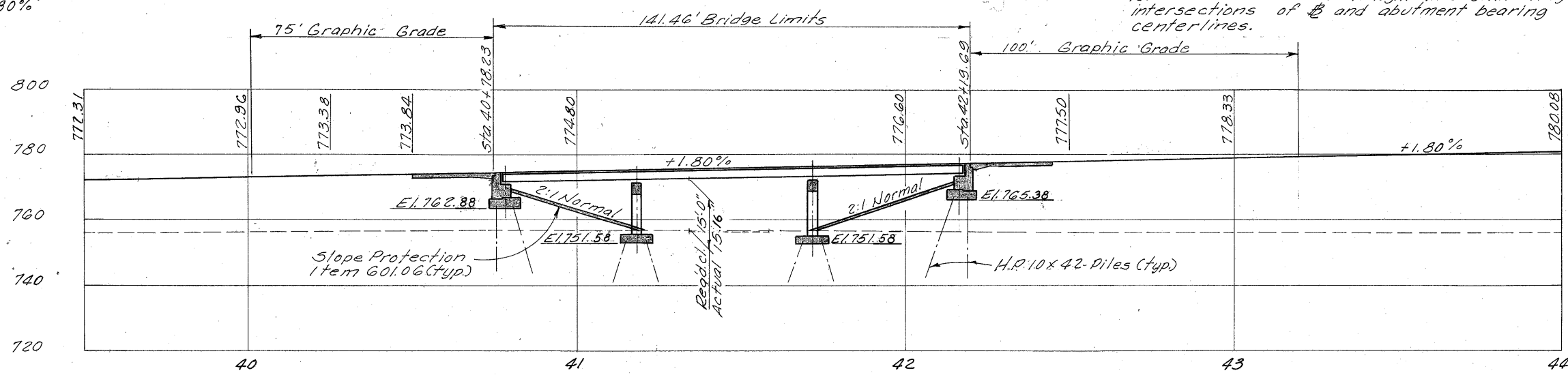
BRIDGE NO. LOR-80-1903 APPEARING THROUGHOUT THIS BRIDGE PLAN SHALL BE CONSIDERED TO READ BRIDGE NO. LOR-480-0121

VERTICAL CURVE DATA	E.B. I-80 CURVE DATA
P.V.I. Sta. 39+50	P.I. Sta. 33+53.25
200' V.C.	$\Delta = 23^\circ 22' 59''$
El. = 771.98	$D_c = 1^\circ 28' 00''$
Corr. = +0.33	$R = 3906.530'$
P.G. El. 772.31	$L = 1594.29'$
$G_1 = +0.484\%$	$T = 808.40'$
$G_2 = +1.80\%$	

**PLAN**

NOTE:  
Spans as shown provide for future widening of Chestnut Ridge Rd. to 24'-0" %  
\* Elevations marked thus are top of slope at face of abutment.  
Reference chord is a straight line connecting intersections of  $\Phi$  and abutment bearing centerlines.

**PROPOSED STRUCTURE**  
TYPE: Continuous steel beam with reinforced concrete deck & substructure  
SPANS: 40'-0" 50'-0", 45'-0" % brgs on  $\Phi$   
ROADWAY: 42'-0" flt parapets of BE-1-67 railing.  
LOADING: HS 20-44 plus Interstate Alternate.  
WEARING SURFACE: monolithic conc.  
SKEW: 45°-35'-23" Lt. forward with reference chord.  
ALIGNMENT: 1°-28'-00" Curve right & tangent.  
APPROACH SLABS: AS-1-72 (Mod) 25'-0" long.  
SUPERELEVATION: Varies.



**PROFILE ALONG  $\Phi$  EAST BOUND I-80**

Piling estimated average pay lengths are as follows:  
Abutments - 25'  
Piers - 15'

**TRAFFIC ESTIMATE**  
Design Year: 1987  
Total A.D.T.: 8000

ALDEN E. STILSON & ASSOCIATES, LIMITED  
CONSULTING ENGINEERS  
CLEVELAND, OHIO COLUMBUS, OHIO WHEELING, W. VA.

**SITE PLAN**  
BRIDGE NO. LOR-80-1903  
E.B. I-80 OVER CHESTNUT RIDGE RD.  
LORAIN COUNTY STA. 40+75.08  
SCALE 1"=20' STA. 42+22.54

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
G.W.M.	R.T.		R.S.S.	G.W.M.	9/1/70	

MICROFILMED  
JUL 19 1983

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

280  
375

LORAIN COUNTY  
LOR-480-000

STANDARD DRAWING REFERENCES			
DESCRIPTION	DWG. NO.	SHT.	DATE
END DAM AND END CROSSFRAME	SD-1-69	1-2	6-12-69
CURB PLATES	SD-1-69	2	6-12-69
SCUPPERS	SD-1-69	3	6-12-69
BOLTED SPLICES	SD-1-69	4	6-12-69
BRIDGE ROADWAY RAILING	BR-1-67	1	10-15-71 R
ROCKERS AND BOLSTERS	RB-1-55		2- 2-59 R
APPROACH SLABS	AS-1-72(MOD.)	*	G-30-72
STRUCTURE GROUNDING	HL-7		1-21-76

(R INDICATES REVISED DATE)

SUPPLEMENTAL SPECIFICATION REFERENCES - CON'T.		
DESCRIPTION	NO.	DATE
PAINTING FOR NEW STRUCTURAL STEEL	846	4-25-77
INORGANIC ZINC SILICATE PAINT	950	4-25-77
BLUE-GREEN VINYL PAINT	951	4-25-77

SUPPLEMENTAL SPECIFICATION REFERENCES			
DESCRIPTION	NO.	DATE	
CHEMICAL ADMIXTURE FOR CONCRETE, TYPE A, B OR D	808	1- 1-71	
CONCRETE CURING AND PROTECTIVE MEMBRANE	836	3-12-75	
SPECIAL PILE TESTS	838	1-13-77	
COMMON DETAIL REFERENCES			
CONTRACTION JOINTS & END DAMS	SHEET	354	

DESIGN SPECIFICATIONS

THIS STRUCTURE CONFORMS TO THE '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 - HS20-44 AND THE INTERSTATE ALTERNATE LOADING  
 CONCRETE CLASS C - UNIT STRESS 1200 PSI FOR SUPERSTRUCTURE  
 UNIT STRESS 1333 PSI FOR SUBSTRUCTURE  
 STRUCTURAL STEEL - ASTM A36 - UNIT STRESS 20000 PSI  
 REINFORCING STEEL - ASTM A615, A616 OR A617 - UNIT STRESS 20000 PSI.  
 SPIRAL REINFORCEMENT MAY BE PLAIN BARS ASTM A82, OR A615.

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 PIERS AND ABUTMENTS

PILES

PILES SHALL BE DRIVEN TO A MINIMUM BEARING CAPACITY OF-  
 35 TONS PER PILE FOR THE ABUTMENTS AND WINGWALLS  
 35 TONS PER PILE FOR THE PIERS

UTILITY LINES

ALL EXPENSE INVOLVED IN RELOCATING THE AFFECTED UTILITY LINES SHALL BE BORNE BY THE OWNERS. THE CONTRACTOR AND OWNERS ARE REQUESTED TO COOPERATE BY ARRANGING THEIR WORK IN SUCH A MANNER THAT INCONVENIENCE TO EITHER WOULD BE HELD TO A MINIMUM.

MAINTENANCE OF TRAFFIC

TWO LANES OF TRAFFIC WITH A MINIMUM HORIZONTAL WIDTH OF 20'-0 AND A MINIMUM VERTICAL CLEARANCE OF 13'-6 SHALL BE MAINTAINED ON CHESTNUT RIDGE ROAD AT ALL TIMES.

\* Std. Dwg. AS-1-72 shall be modified to provide 3" clearance to the top re-bars instead of the 2" shown and jacking holes shall be omitted.

ITEM	TOTAL	UNIT	DESCRIPTION	ABUTS	PIERS	SUPER	GENERAL		
503	462	C.Y.	UNCLASSIFIED EXCAVATION	312	150				
503	LUMP	SUM	COFFERDAMS, CRIBS AND SHEETING				LUMP		
505	LUMP	SUM	TEST PILE				LUMP		
507	1290	L.F.	STEEL PILES, HP10X42	750	540				
509	60319	LB	REINFORCING STEEL	16586	20925	22808			
511	193	C.Y.	CLASS C CONCRETE, SUPERSTRUCTURE (SEE PROPOSAL NOTES)			193			
511	133	C.Y.	CLASS C CONCRETE, ABUTMENTS ABOVE FOOTINGS	133					
511	85	C.Y.	CLASS C CONCRETE, PIER CAPS AND COLUMNS		85				
511	160	C.Y.	CLASS C CONCRETE, FOOTINGS	102	58				
512	15	L.F.	PREMOLDED SEALING STRIP	15					
513	130800	LB	STRUCTURAL STEEL, PRIMER PER 846 (SEE PROPOSAL NOTES)			130800			
846	130800	LB	FIELD PAINTING OF STRUCTURAL STEEL			130800			
516	70	S.F.	1/2 INCH PREFORMED EXPANSION JOINT FILLER				70		
518	70	C.Y.	POROUS BACKFILL	70					
518	5	EA	SCUPPERS INCLUDING SUPPORTS			5			
518	116	L.F.	6 INCH PERFORATED, HELICAL CSP, 707.01	116					
518	86	L.F.	6 INCH NON-PERFORATED, HELICAL CSP, INCLUDING SPECIALS, 707.01	86					
601	656	S.Y.	CONCRETE SLOPE PROTECTION				656		
808	193	UNIT	CHEMICAL ADMIXTURE FOR CONCRETE, TYPE A, B OR D			193			
838	3	HR.	SPECIAL PILE TESTS				3		
SPEC.	27158	LB.	EPOXY COATED REINFORCING STEEL (SEE PROPOSAL NOTE)	1123		26035			

Monolithic wearing surface thickness is assumed to be 1"

Deck Protection Method: Epoxy Coated reinforcing steel, top mat only.

Minimum bar lap shall be 30 diameters

ATTACHMENT OF GUARDRAIL TO CONCRETE PARAPETS:

Concrete insert anchor assemblies per Standard Construction Drawings GR-3 and GR-1 shall be placed during parapet construction.

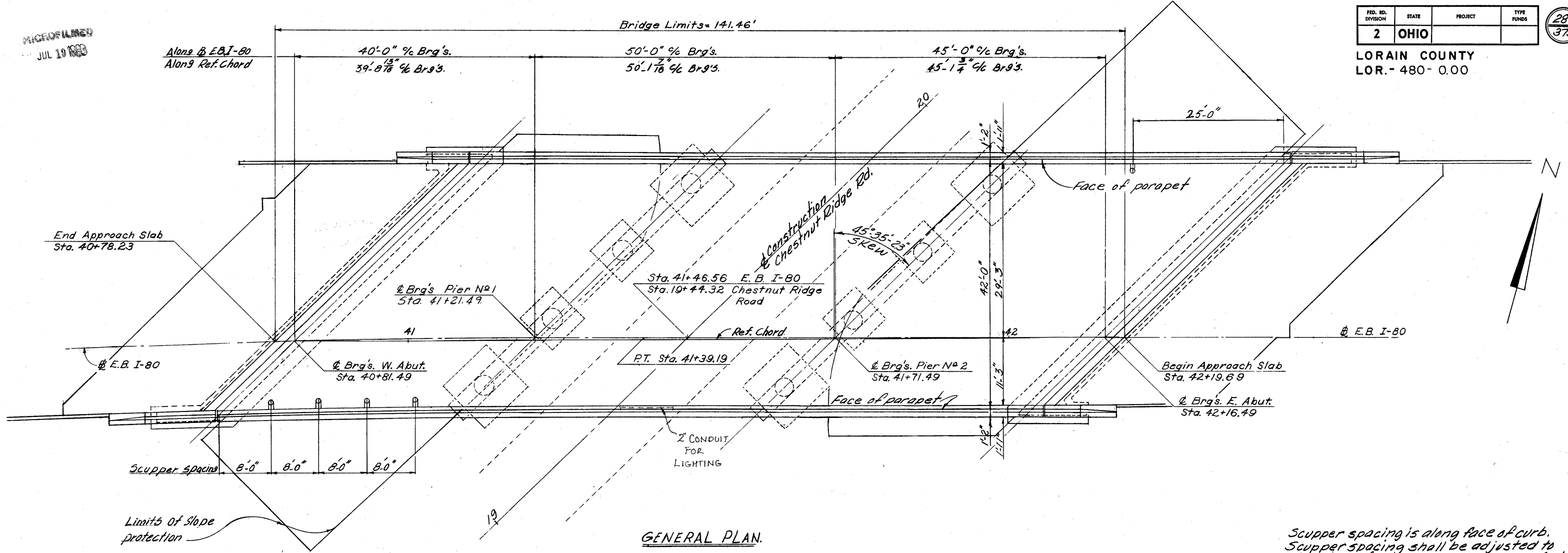
ALDEN E. STILSON & ASSOCIATES, LIMITED CONSULTING ENGINEERS CLEVELAND, OHIO COLUMBUS, OHIO WHEELING, W. VA.						
GENERAL NOTES AND ESTIMATED QUANTITIES						
BRIDGE NO LOR-80-1903						
E.B.I-80 OVER CHESTNUT RIDGE RD.						
LORAIN COUNTY STA. 40 + 75.08						
STA. 42 + 22.54						
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
B.D.			U.M.A.	G.W.M.	3-10-78	7/10

MICROFILMED  
JUL 19 1963

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

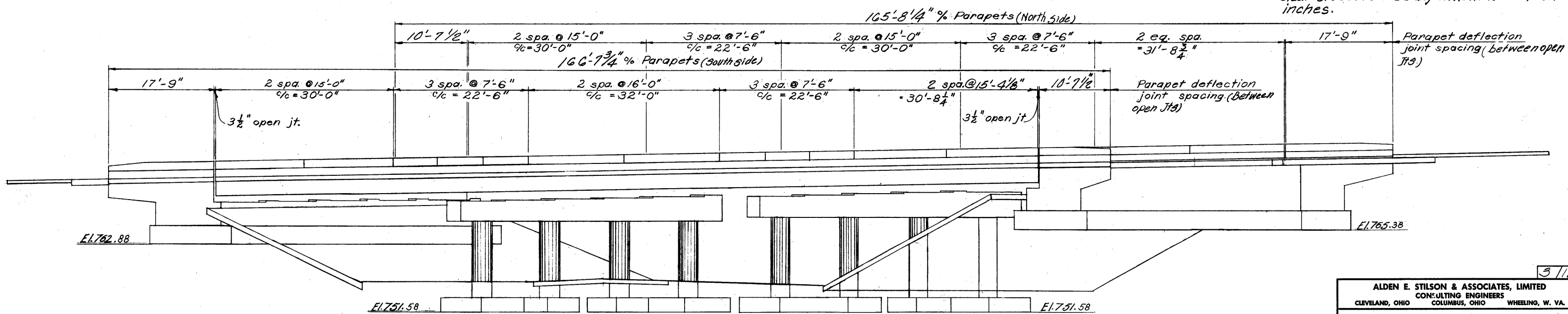
LORAIN COUNTY  
LOR.-480-000

281  
375



GENERAL PLAN.

Scupper spacing is along face of curb. Scupper spacing shall be adjusted to clear crossframes by a minimum of six inches.



ELEVATION  
(Piles not shown)

ALDEN E. STILSON & ASSOCIATES, LIMITED  
CONSULTING ENGINEERS  
CLEVELAND, OHIO COLUMBUS, OHIO WHEELING, W. VA.

**GENERAL PLAN**  
BRIDGE NO LOR.-80-1903  
E. B. I-80 OVER CHESTNUT RIDGE ROAD

LORAIN COUNTY STA. 40+78.23  
STA. 42+19.69

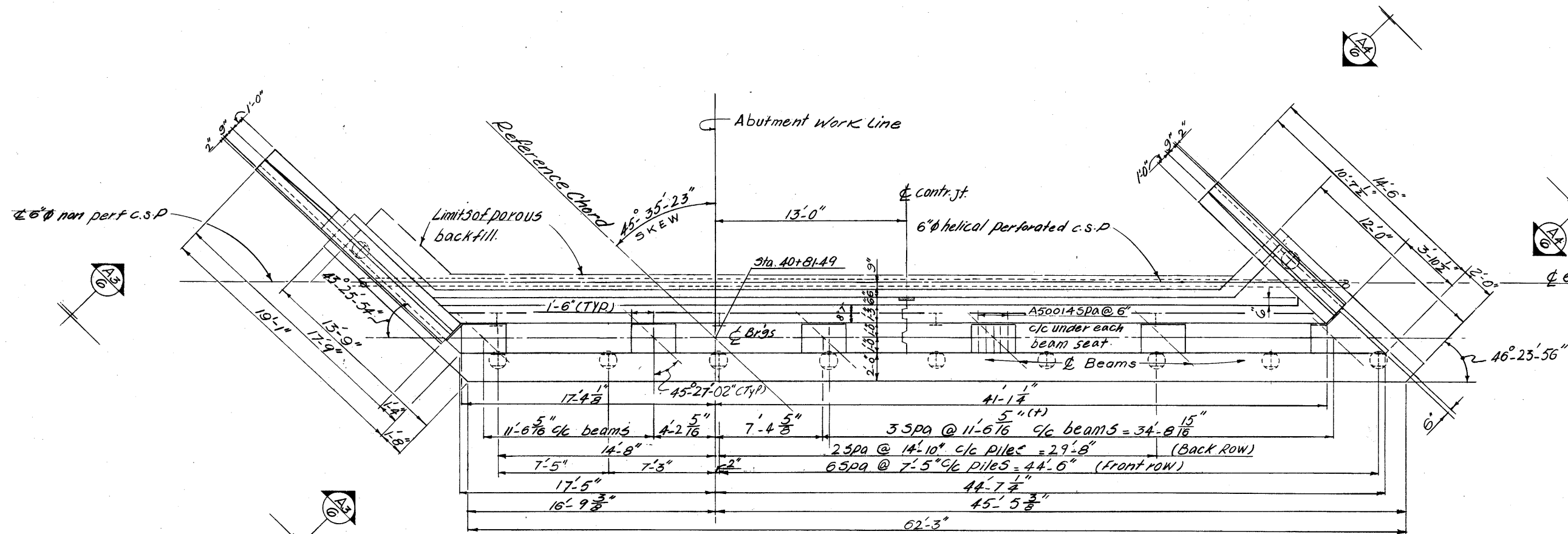
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
B.I.P.	J.P.		R.S.S.	G.W.M.	5/70	

MICROFILMED  
JUL 19 1983

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

282  
375

LORAIN COUNTY  
LOR.-480-000



PLAN

**NOTES:**  
 All piles are HP 10x42-piles.  
 I indicates vertical piles  
 ⊕ indicates piles battered 4:1  
 In reinforcing bar callouts:  
 N.S. indicates near side,  
 F.S. indicates far side.  
 \* Elevations shown thus are pavement elevations at the face of backwall and point indicated.  
 For details of contraction joint see sheet 354

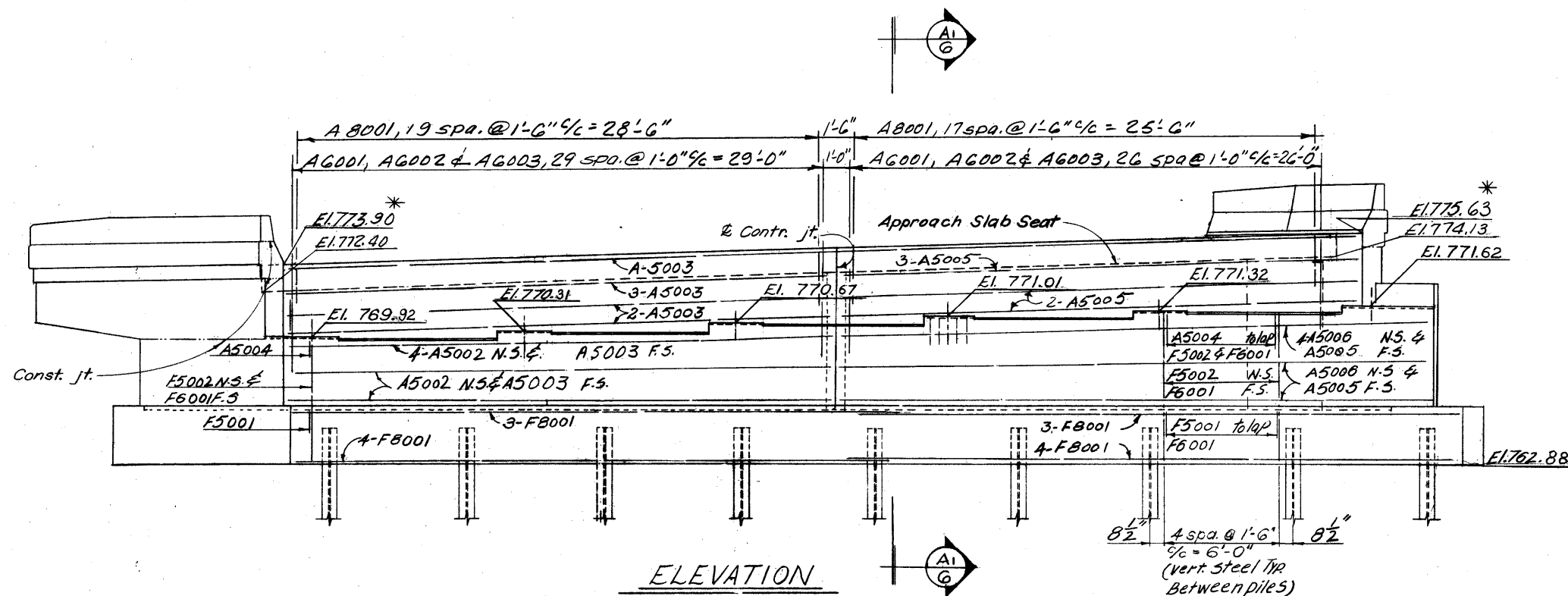
Concrete and reinforcing steel for parapets are included for payment with Item 511 Concrete, and Item 509 Reinforcing Steel.

Only that portion of the c.s.p. located in porous backfill shall be perforated.

Porous backfill 1'-6" thick, full length of abutment & 2'-0" thk full length of wings as shown by limits on the plan shall extend up to the plane of the subgrade.

The 6" c.s.p. shall be extended straight out into the side slopes and terminated near the surface as shown on Sht. N.S.

**BACKWALL CONCRETE:** No backwall concrete shall be placed above the level of the optional construction joint at the approach slab seat until after the deck concrete in the span adjacent to the abutment has been placed.



ELEVATION

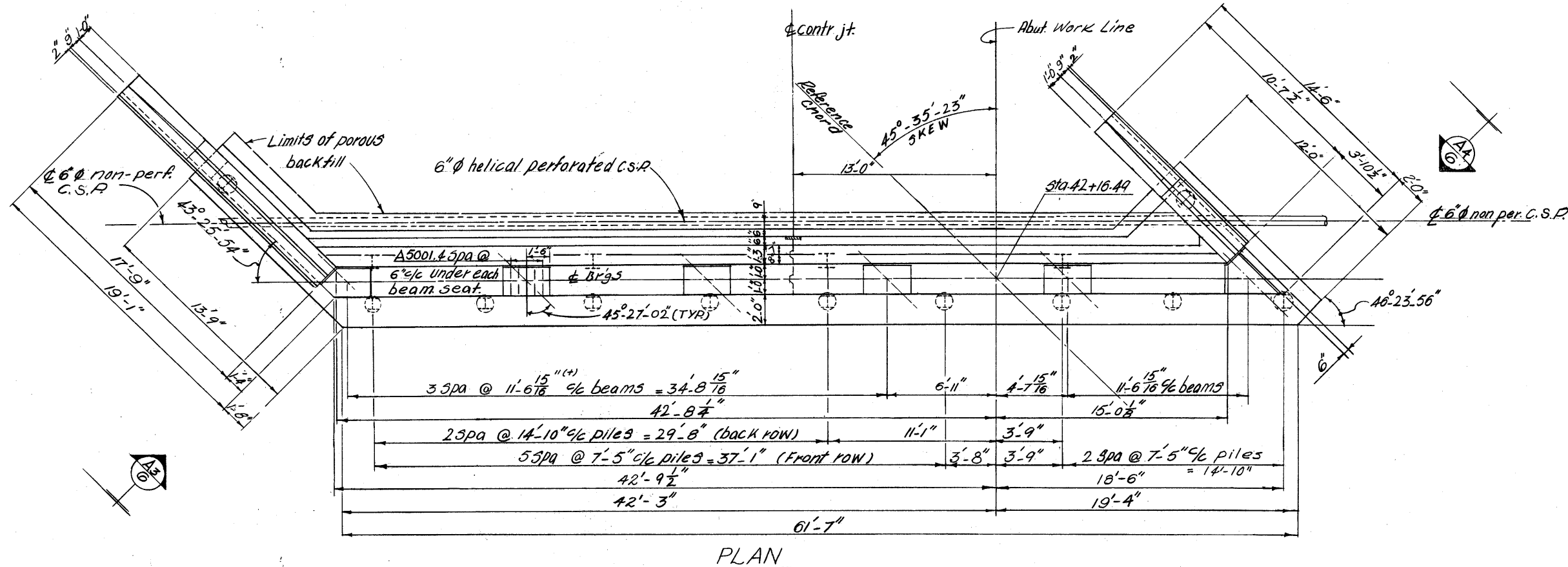
ALDEN E. STILSON & ASSOCIATES, LIMITED CONSULTING ENGINEERS CLEVELAND, OHIO COLUMBUS, OHIO WHEELING, W. VA.							
<b>WEST ABUTMENT DETAILS</b>							
BRIDGE NO LOR.-80-1903 E. B. I-80 OVER CHESTNUT RIDGE ROAD							
LORAIN COUNTY				STA. 40+78.23 STA. 42+19.69			
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED	
B.I.P.	R		R.S.S.	G.W.M.	7/12/70		

MICROFILMED  
JUL 19 1983

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

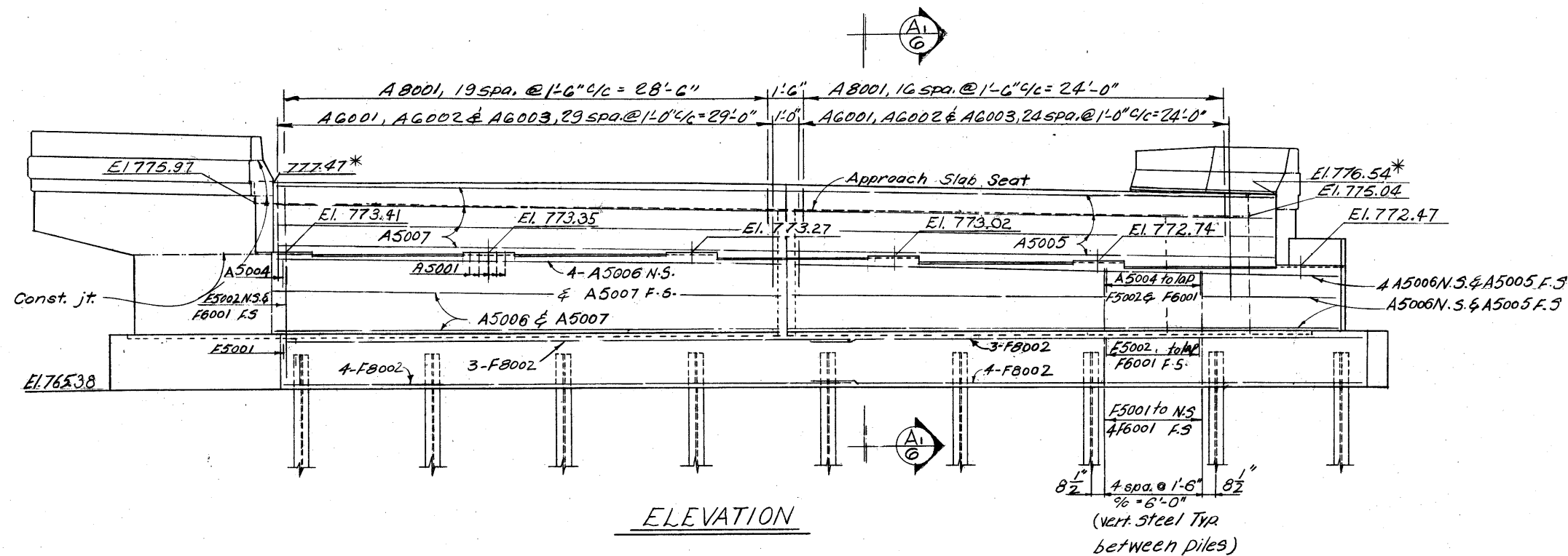
LORAIN COUNTY  
LOR. - 480- 0.00

283  
375



PLAN

NOTES:  
 All piles are HP 10x42 piles  
 indicates vertical piles  
 indicates piles battered 1:4  
 In reinforcing bar callouts:  
 N.S. indicates near side,  
 F.S. indicates far side.  
 \*Elevations shown thus are pavement elevations at the face of backwall and the point indicated.  
 For additional notes see sheet 4/11

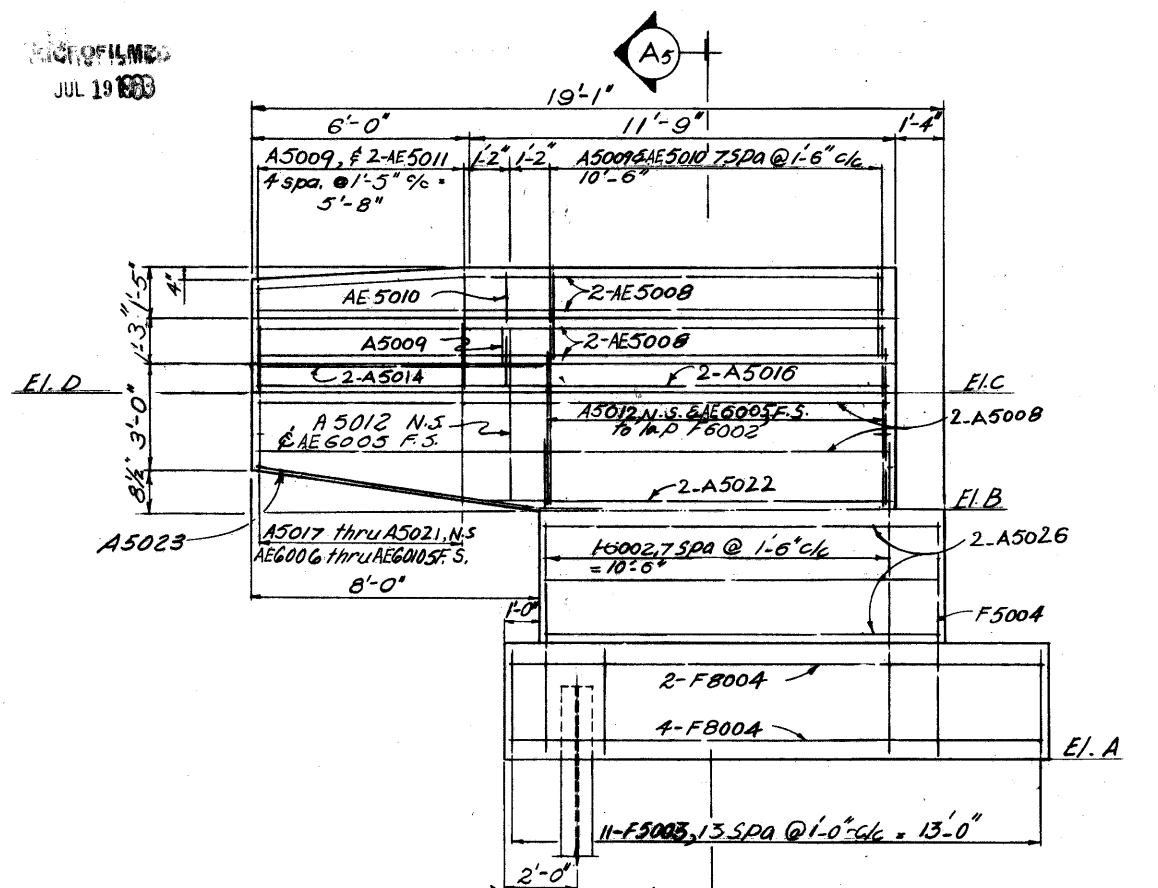


ELEVATION

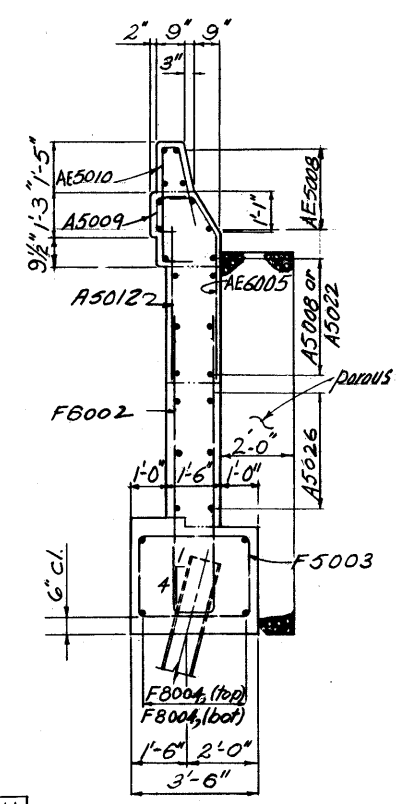
ALDEN E. STILSON & ASSOCIATES, LIMITED CONSULTING ENGINEERS CLEVELAND, OHIO COLUMBUS, OHIO WHEELING, W. VA.						
EAST ABUTMENT DETAILS						
BRIDGE NO LOR. - 80-1903						
E. B. I-80 OVER CHESTNUT RIDGE ROAD						
LORAIN COUNTY					STA. 40+78.23	
					STA. 42+19.69	
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
B.I.P.	J.P.		R.S.S.	G.W.M.	5/14/70	

MICROFILMED  
JUL 19 1988

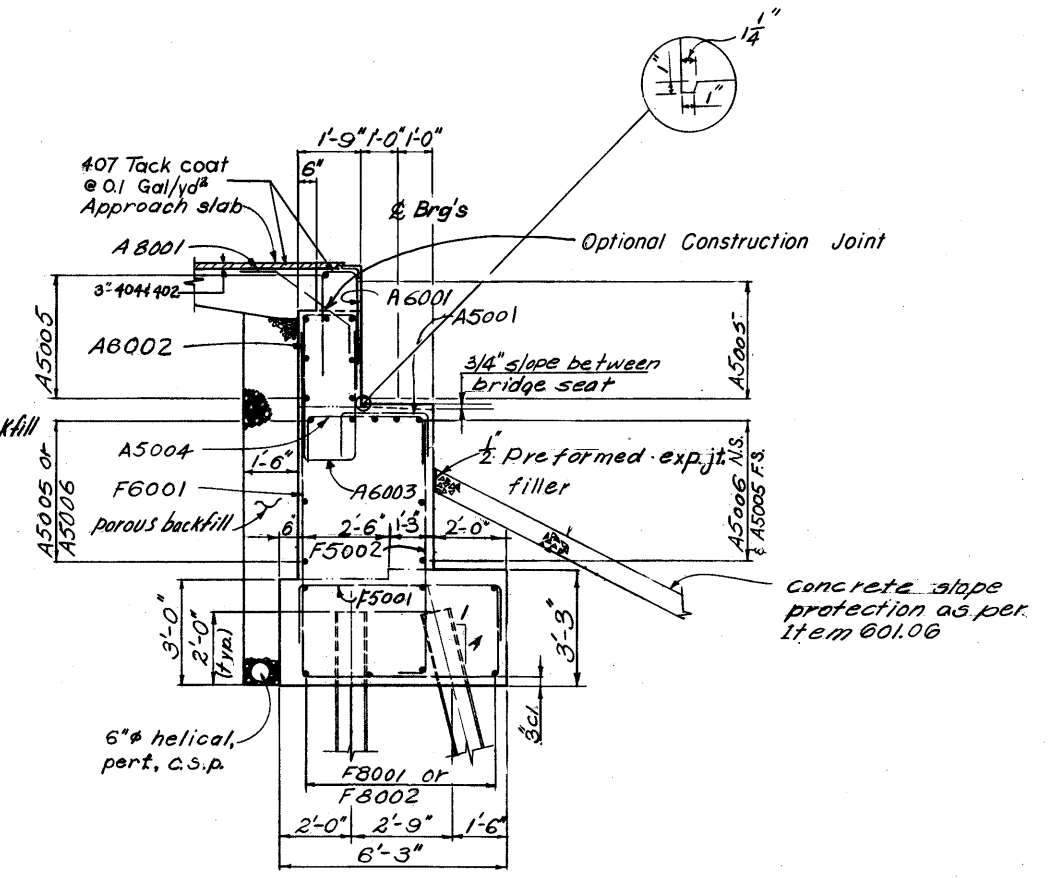
LORAIN COUNTY  
LOR. - 480-0.00



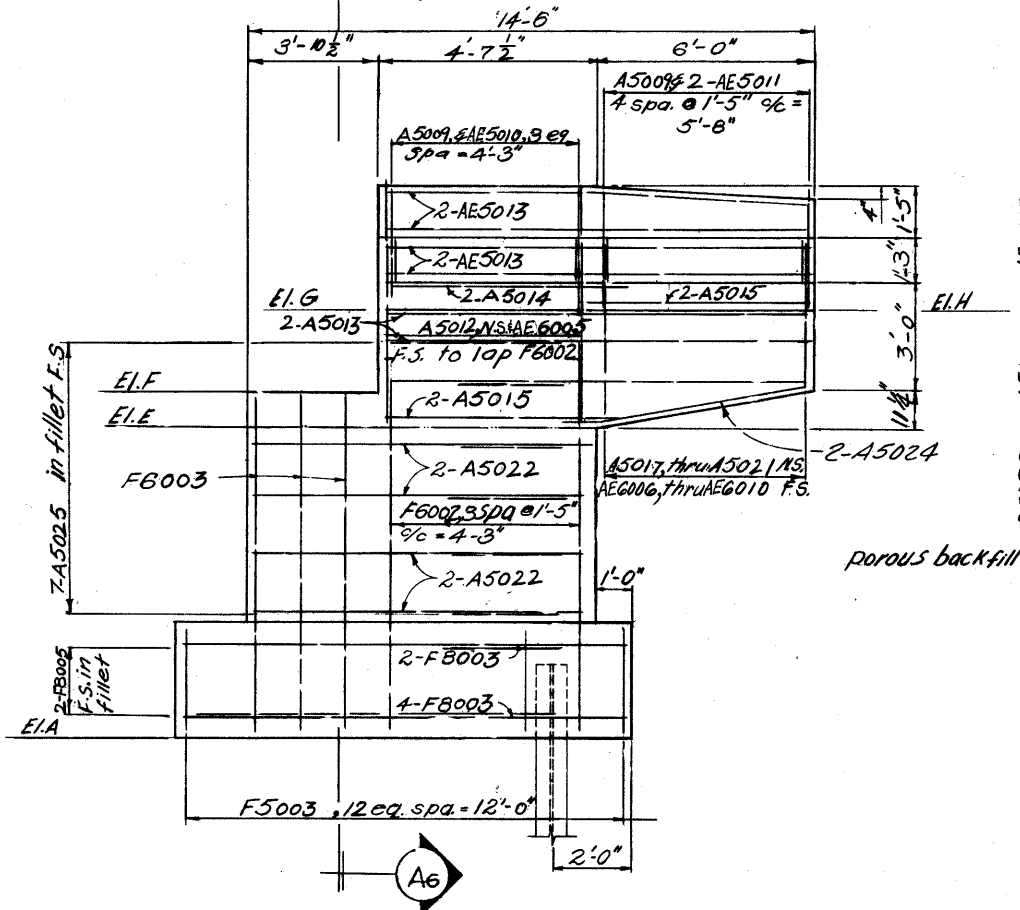
VIEW A<sub>3</sub>-A<sub>3</sub> Sht. 4/11 & 5/11



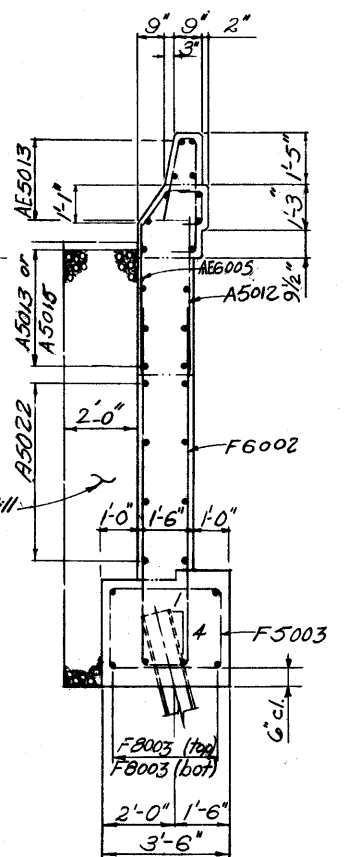
SECTION A5-A5



SECTION A-A 4/11 & 5/11



VIEW A<sub>4</sub>-A<sub>4</sub> Sht. 4/11 & 5/11



SECTION A6-A6

Location	E1.A	E1.B	E1.C	E1.D	E1.E	E1.F	E1.G	E1.H
W.Abut.	762.88	769.84	773.11	772.76	774.54	772.79	774.84	774.68
E.Abut.	765.38	773.33	776.68	776.92	772.39	773.69	775.75	775.96

**NOTES.**  
In reinforcing bar callout:  
N.S. indicates near side  
F.S. indicates far side  
For additional notes see  
Sht. No. 4/11  
All footing reinforcement  
shall have a minimum cover  
of 3".

6/11

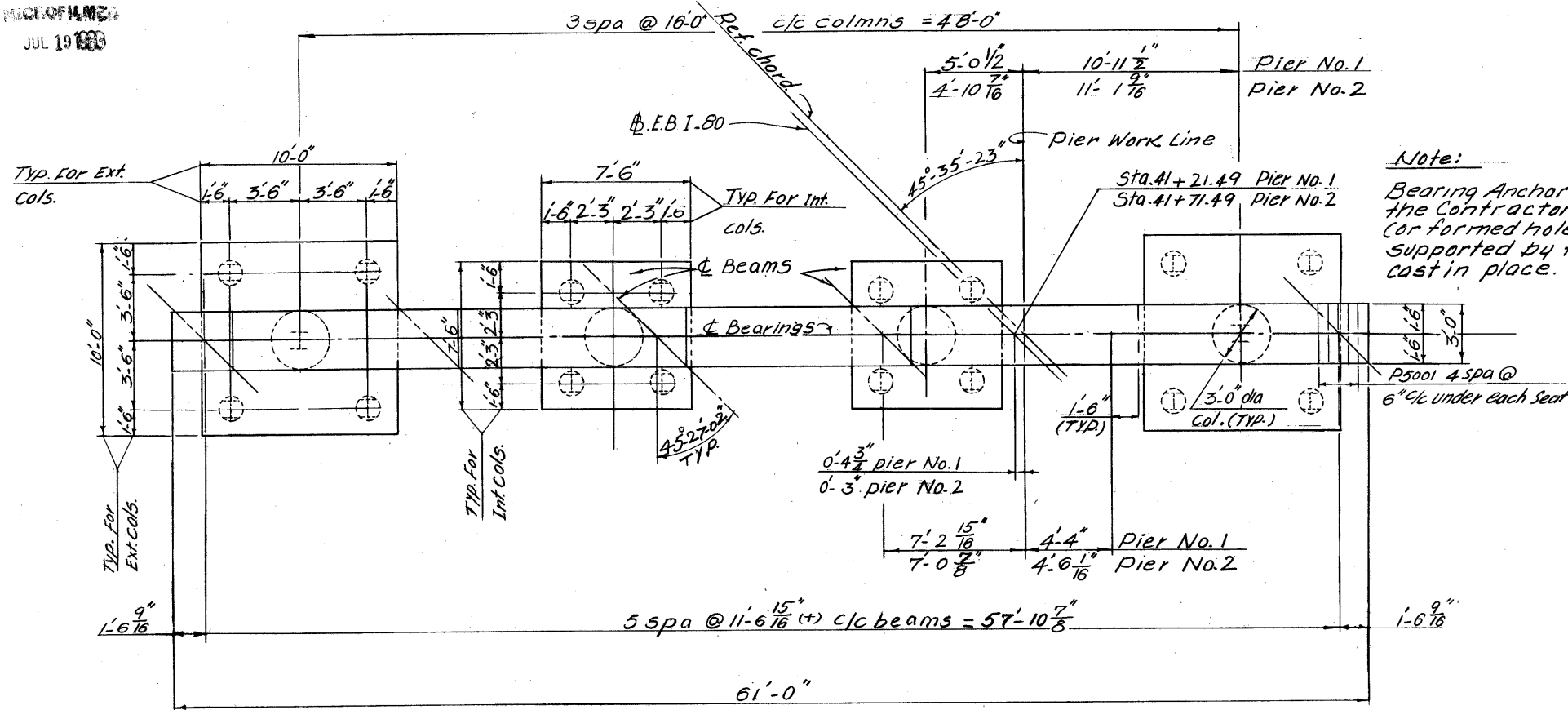
ALDEN E. STILSON & ASSOCIATES, LIMITED  
CONSULTING ENGINEERS  
CLEVELAND, OHIO COLUMBUS, OHIO WHEELING, W. VA.

**ABUTMENT DETAILS**  
BRIDGE NO LOR. - 80-1903  
E. B. I-80 OVER CHESTNUT RIDGE ROAD

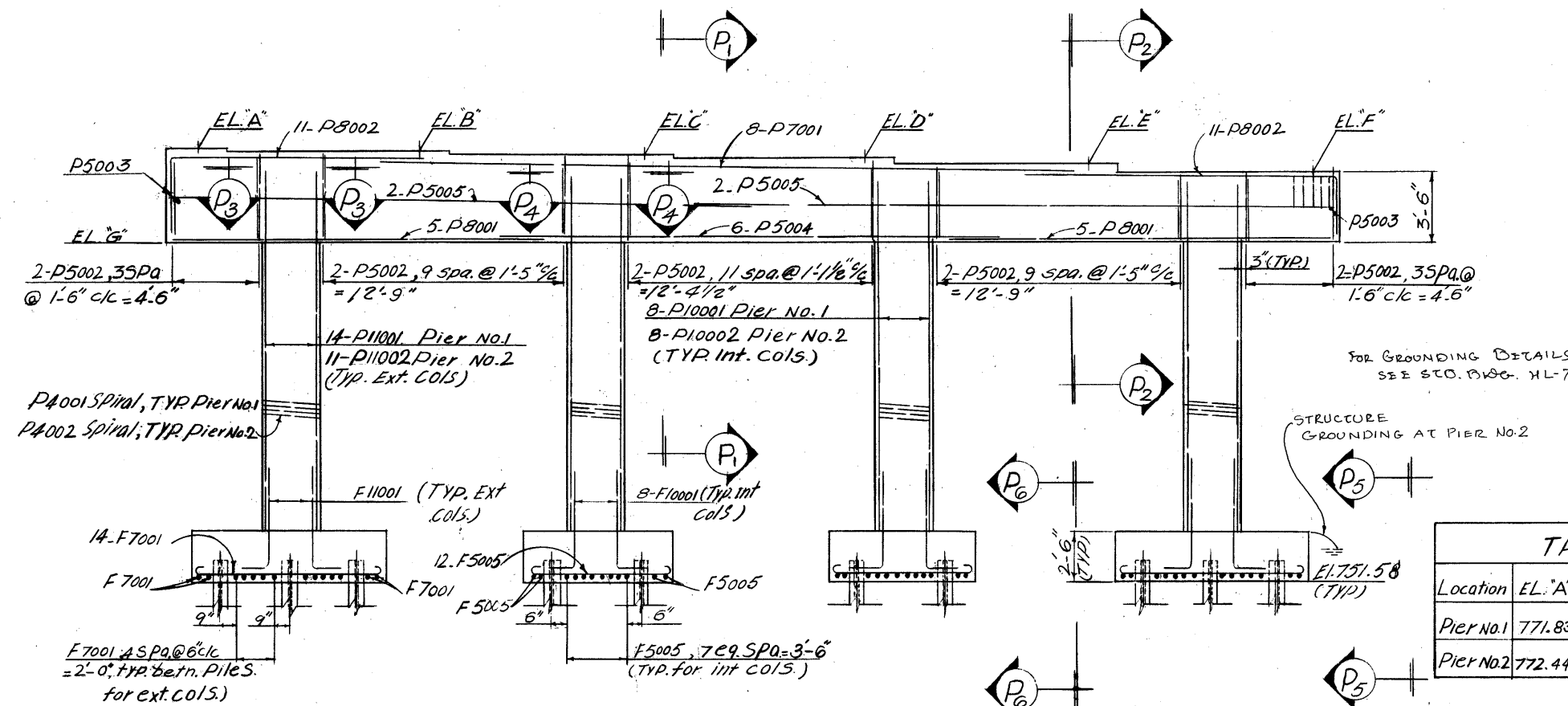
LORAIN COUNTY STA. 40+78.23  
STA. 42+19.69

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
B.I.P.	P		R.S.S.	G.W.M.	5/15/10	



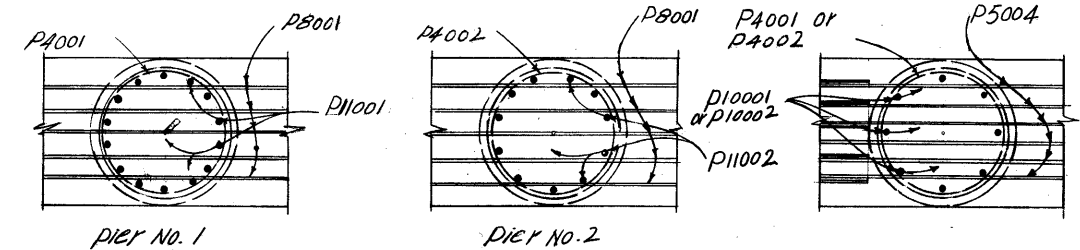
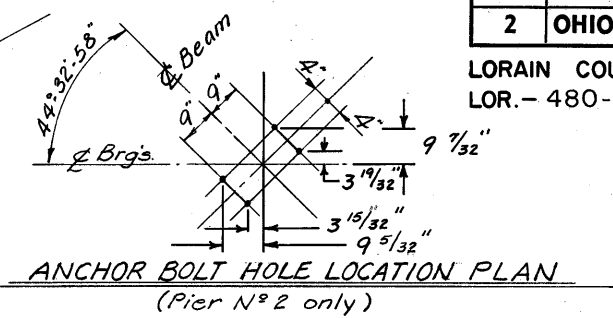


PLAN



ELEVATION

Note:  
Bearing Anchors: At the option of the Contractor, bearing anchors (or formed holes), located and supported by templates, may be cast in place.

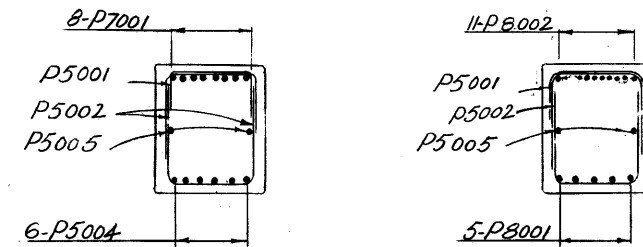


SECTION P3-P3

SECTION P4-P4

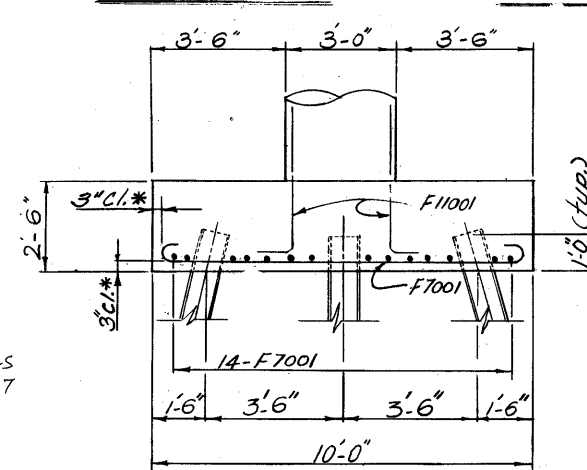
NOTES

All Piles are HP 10x42 Piles.  
I indicates vertical piles  
⊖ indicates pile battered 1:4  
Reinforcing Steel as Shown is typical for both piers unless otherwise Shown.  
Special care shall be taken at Pier No. 2 in Placing reinf. steel in the TOP of the cap so as to avoid interference with the drilling of anchor bar holes for bearing units or pre-setting of bearing anchors.

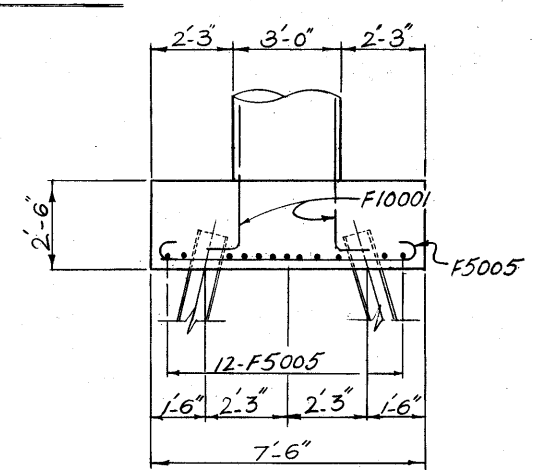


SECTION P1-P1

SECTION P2-P2



VIEW P5-P5  
\* Min. Clearance all footing surfaces.



VIEW P6-P6

Location	EL. "A"	EL. "B"	EL. "C"	EL. "D"	EL. "E"	EL. "F"	EL. "G"
Pier No. 1	771.83	771.58	771.32	771.03	770.72	770.38	766.88
Pier No. 2	772.44	772.32	772.16	771.89	771.62	771.35	767.85

ALDEN E. STILSON & ASSOCIATES, LIMITED  
CONSULTING ENGINEERS  
CLEVELAND, OHIO COLUMBUS, OHIO WHEELING, W. VA.

**PIER DETAILS**  
BRIDGE NO LOR. - 80-1903  
E. B. I-80 OVER CHESTNUT RIDGE ROAD

LORAIN COUNTY STA. 40+78.23  
STA. 42+19.69

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
B.I.P.	M.M.A.		R.S.S.	G.W.M.	5/15/70	

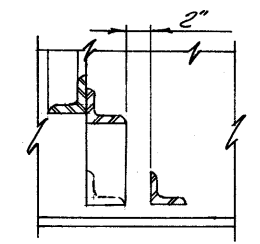
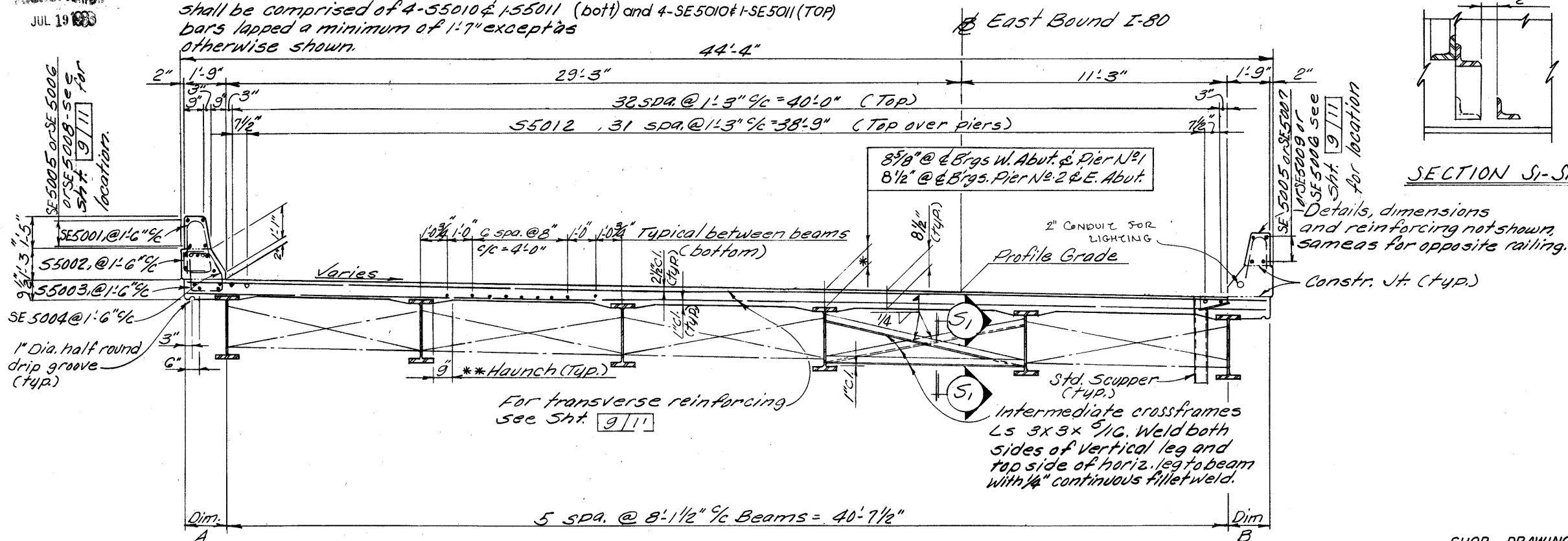
MICROFILM  
JUL 19 1988

Note: Each longitudinal run of reinforcing shall be comprised of 4-55010 & 1-55011 (bott) and 4-SE5010 & 1-SE5011 (TOP) bars lapped a minimum of 1'-7" except as otherwise shown.

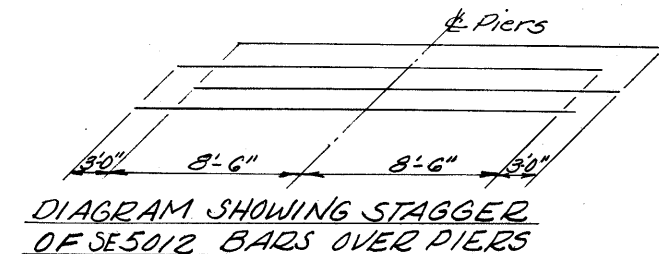
FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

LORAIN COUNTY  
LOR.-480-0.00

286  
375



Details, dimensions and reinforcing not shown, same as for opposite railing.



**NOTES:**

\* 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 beam may not have the exact camber or conformation required to place it parallel to the finished grade. For details of end dam see Sht. 287

**SHOP DRAWINGS**  
After all steel fabrication is completed, the Fabricator shall furnish a 35 millimeter microfilm copy of each shop drawing mounted on a 3 1/4" x 7 3/8" aperture card. The card shall be imprinted with the bridge and project number, Fabricator's name, drawing numbers and details shown on the drawing (girders, beams, crossframes, etc.)

**END DAMS AND SCUPPERS:**  
Steel bar stock utilized for end dams and scuppers may be any weldable grade of low or mild carbon steel available commercially. This material is to be excluded from the requirements of 501.07 for test reports.

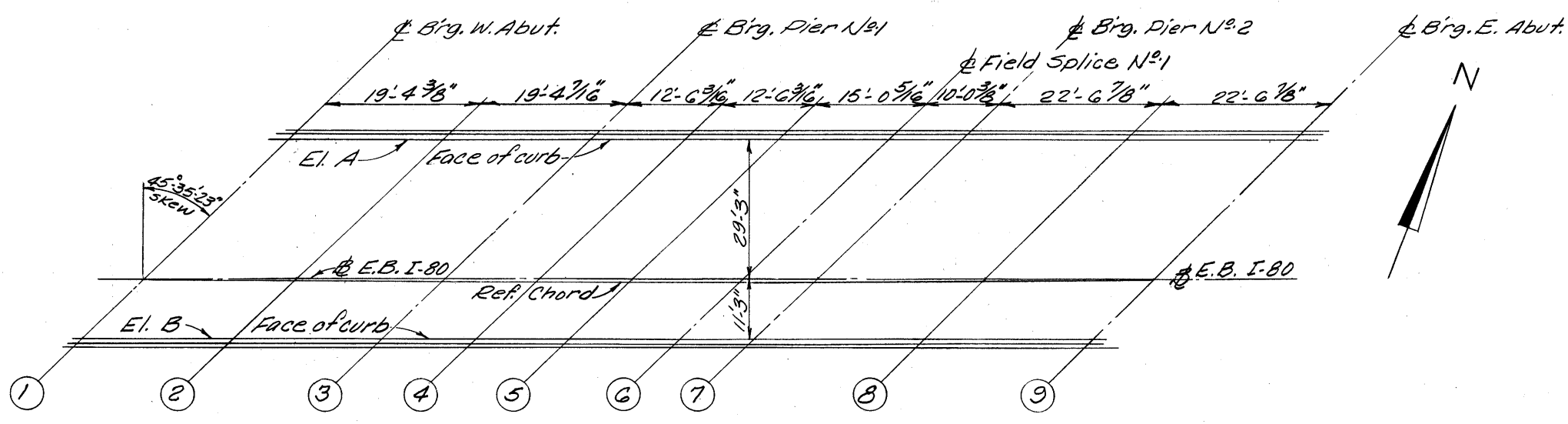
\* \* A haunch width of 9" shall be used for all beams in computing quantity of concrete. However the haunch width may vary between 6" and 12" provided that the slope shall be not more than 1:4 for a haunch less than 9" in width.

Concrete and reinforcing steel for parapets shall be included for payment with their respective items. Item 511 superstructure concrete and Item 509 reinforcing steel.

Longitudinal reinforcing steel shall be field cut as necessary to avoid interference with scuppers.

Steel Erection: During the erection of end dams and crossframes care shall be taken to insure that stringers, bearing parts and bridge seats remain in bearing contact.

For additional notes see Sht. 9/11.



The deck elevations shown are those which are required prior to placing of the concrete deck. Proper allowance has been made for the dead load deflection caused by the weight of the concrete.

Line	1	2	3	4	5	6	7	8	9
Elev. A	775.65	776.02	776.17	776.33	776.50	776.68	776.80	777.15	777.45
Elev. C	773.93	774.35	774.73	774.99	775.24	775.53	775.70	776.13	776.52

LOCATIONS	Dim. A	Dim. B
Brig. W. Abut.	1'-9"	2'-1 1/4"
1/2 Point	1'-9 7/8"	1'-9 7/8"
Brig. Pier No. 1	1'-10"	1'-7 5/8"
1/4 Point	1'-9 3/4"	1'-6 7/8"
1/2 Point	1'-9 5/8"	1'-6 1/2"
Field Splice No. 1	1'-9 1/2"	1'-6 5/8"
Brig. Pier No. 2	1'-9 3/8"	1'-6 3/4"
1/2 Point	1'-9 1/4"	1'-7"
Brig. E. Abut.	1'-9"	1'-7 1/8"

ALDEN E. STILSON & ASSOCIATES, LIMITED  
CONSULTING ENGINEERS  
CLEVELAND, OHIO COLUMBUS, OHIO WHEELING, W. VA.

**SUPERSTRUCTURE DETAILS**  
BRIDGE NO. LOR.-80-1903  
E. B. I-80 OVER CHESTNUT RIDGE ROAD

LORAIN COUNTY STA. 40+78.23  
STA. 42+19.69

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
B.I.P.	D.T.		R.S.S.	G.W.M.	7/10	

MICROFILMED  
JUL 19 1968

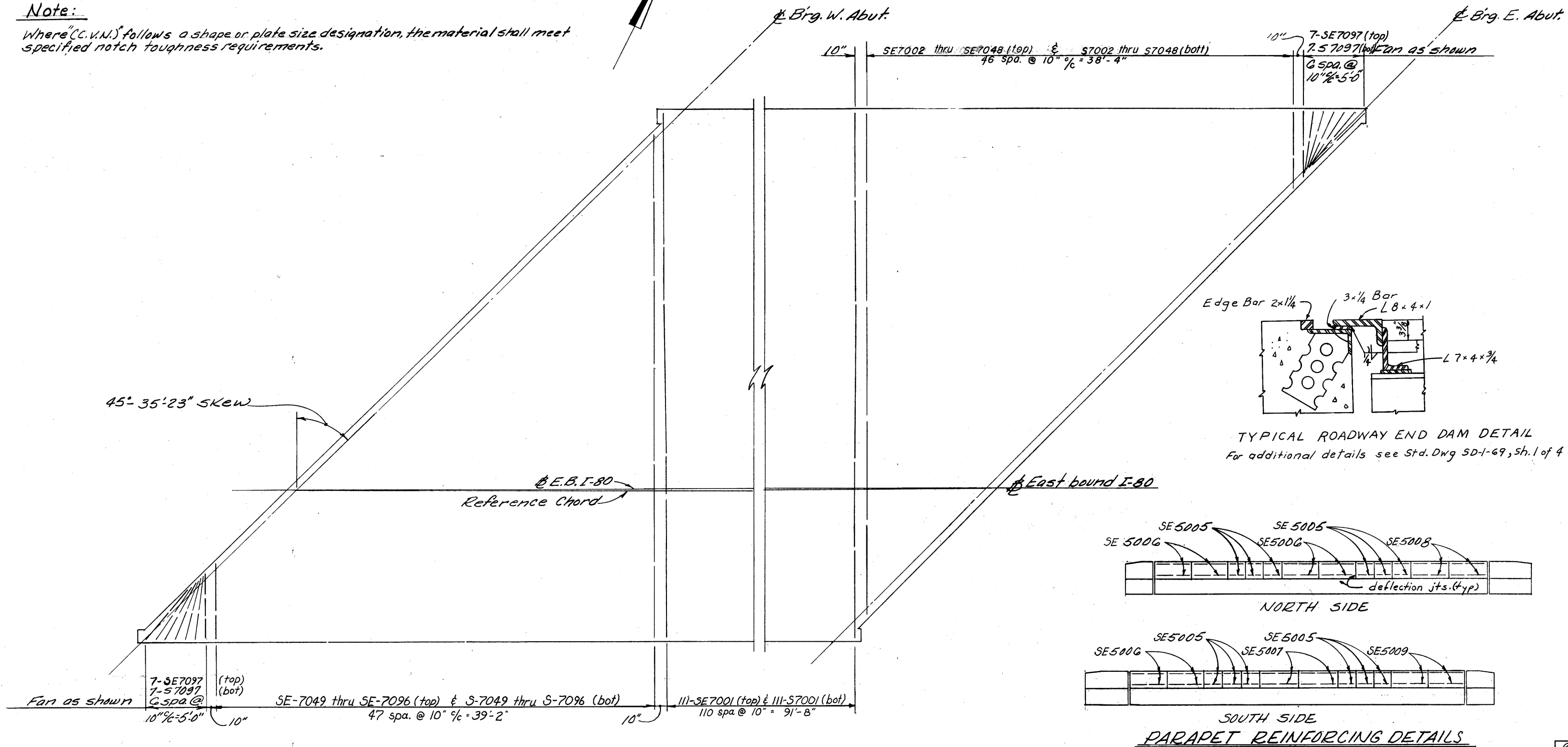
FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

287  
375

LORAIN COUNTY  
LOR.-480-0.00

**Note:**

Where "(C.V.N.)" follows a shape or plate size designation, the material shall meet specified notch toughness requirements.



**TRANSVERSE SLAB REINFORCING**

Note: Transverse reinforcing steel shall be placed normal to reference chord except at acute corners of slab.

ALDEN E. STILSON & ASSOCIATES, LIMITED  
CONSULTING ENGINEERS  
CLEVELAND, OHIO COLUMBUS, OHIO WHEELING, W. VA.

**SUPERSTRUCTURE DETAILS**  
BRIDGE NO LOR.-80-1903  
E. B. I-80 OVER CHESTNUT RIDGE ROAD

LORAIN COUNTY STA. 40+78.23  
STA. 42+19.69

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
B.I.P.	R.T.		R.S.S.	G.W.M.	5/13/70	

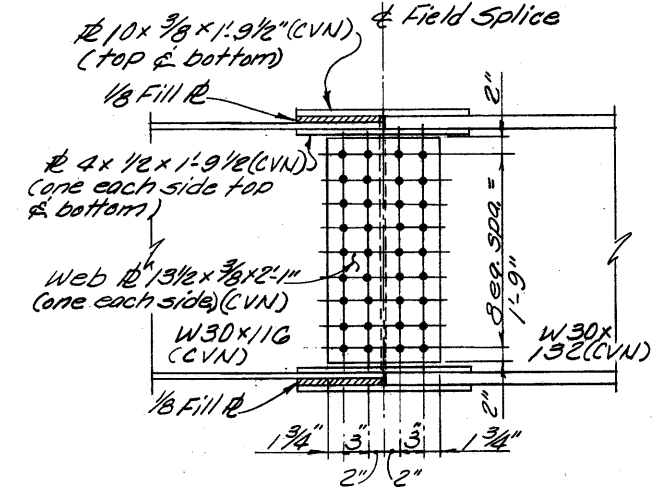
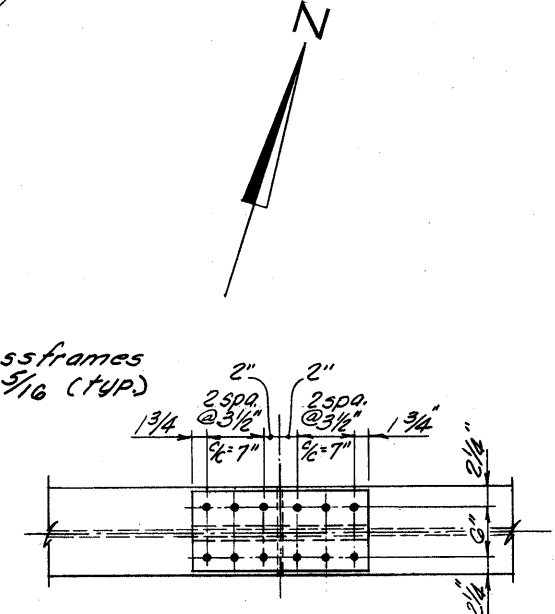
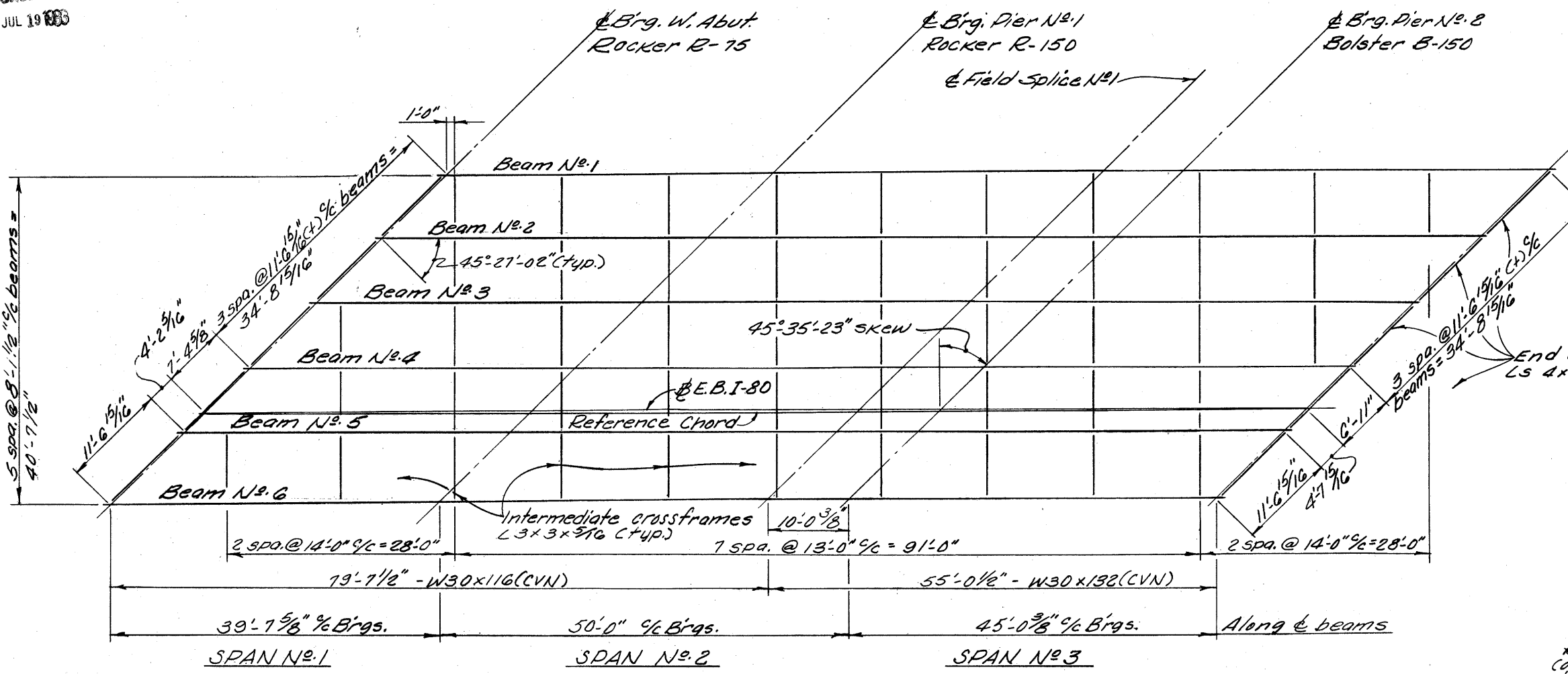
9/11

MICROFILMED  
JUL 19 1966

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

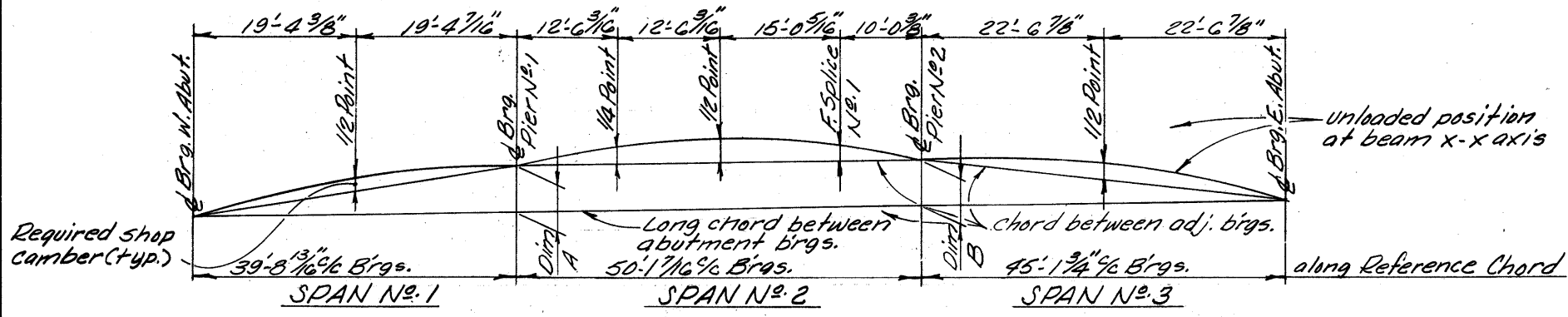
LORAIN COUNTY  
LOR.-480-0.00

288  
375



FIELD SPLICE DETAIL

NOTES: 1" high strength bolts shall be used at the field splice. Bolt heads shall be placed on fascia side of exterior beam web and bottom side of bottom flange. Bolts shall conform to ASTM. A-325. Crossframes may be shifted if necessary to avoid field splice. Place intermediate crossframes normal to beam. For additional notes, see sht. 311



CAMBER & BLOCKING DIAGRAM

DEFLECTION AND CAMBER					
SPAN	No. 1		No. 2		No. 3
LOCATION (All beams)	1/2 Pt.	1/4 Pt.	1/2 Pt.	F.S.#1	1/2 Pt.
Deflection due to weight of steel	0	0	0	0	0
Deflection due to remaining dead load	1/8	1/16	1/8	1/16	1/4
Adjustment required for curvature	0	1/16	1/16	1/16	0
Required shop Camber	1/8	1/8	3/16	1/8	1/4

Note: The blocking dimension with negative values are below long chord.

TABLE OF BLOCKING DIMENSIONS						
Beam No.	1	2	3	4	5	6
Dim. A	-3/16	-7/16	-5/8	-5/16	0	+1/4"
Dim. B	-9/16	-7/16	-1/2	-1/4	+1/16	+1/2"

ALDEN E. STILSON & ASSOCIATES, LIMITED  
CONSULTING ENGINEERS  
CLEVELAND, OHIO COLUMBUS, OHIO WHEELING, W. VA.

**SUPERSTRUCTURE DETAILS**  
BRIDGE No. LOR.-80-1903  
E. B. I-80 OVER CHESTNUT RIDGE ROAD

LORAIN COUNTY STA. 40+78.23  
STA. 42+19.69

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
B.I.P.	R.T.		R.S.S.	G.W.M.	5/13/70	

LORAIN COUNTY  
LOR-480-0.00

EPOXY COATED REBARS										
MARK	NUM.	LENGTH	WEIGHT	TYPE	A	B	C	D	E	NOTE
ABUTMENTS										
AE 5008	16	17-5	291	ST						
AE 5010	26	6-2	167	19		2-5	3-0	0-8		
AE 5011	40	3-0	125	ST						
AE 5013	16	10-4	172	ST						
SUPERSTRUCTURE										
SE 5001	184	5-4	1024	19	0-8	2-5	2-2			
SE 5004	184	3-2	608	15	0-8	0-8	1-0	0-9	0-9	
SE 5005	48	7-2	359	ST						
SE 5006	24	14-8	367	ST						
SE 5007	8	15-8	131	ST						
SE 5008	8	15-5	129	ST						
SE 5009	8	15-0	125	ST						
SE 5010	188	30-0	5883	ST						
SE 5011	47	22-9	1115	ST						
SE 5012	72	20-0	1502	ST						
SE 7001	111	43-8	9907	ST						
SE 7002	1	5-6		ST						1
THRU			2346	VARY LENGTH BY				0-9 7/8		
SE 7048	1	43-4		ST						1
SE 7049	1	5-6		ST						1
THRU			2396	VARY LENGTH BY				0-9 5/8		
SE 7096	1	43-4		ST						1
SE 7097	14	5-0	143	ST						

MARK	NUM.	LENGTH	WEIGHT	TYPE	A	B	C	D	E	NOTE
ABUTMENTS										
A 5001	60	4-11	308	2	1-6	2-2	1-6			
A 5002	6	30-3	189	ST						
A 5003	11	32-3	370	ST						
A 5004	82	8-2	698	2	2-6	3-5	2-6			
A 5005	22	27-8	635	ST						
A 5006	18	29-3	549	ST						
A 5007	11	31-5	360	ST						
A 5008	8	17-5	145	ST						
A 5009	46	1-9	84	2	0-6	1-0	0-6			
SUPERSTRUCTURE										
A 5012	26	3-5	93	ST						
A 5013	8	10-4	86	ST						
A 5014	8	6-1	51	ST						
A 5015	8	5-10	49	ST						
A 5016	4	11-7	48	ST						
A 5017	4	3-2		ST						1
THRU			76	VARY LENGTH BY				0-3		
A 5021	4	4-2		ST						1
A 5022	20	8-2	170	ST						
A 5023	4	9-7	40	12		8-0	1-7	0-6		
A 5024	4	7-7	32	12		6-0	1-7	0-6		
A 5025	14	5-2	75	ST						
A 5026	12	10-9	135	ST						
A 6001	112	7-11	1332	2	3-8	0-11	3-8			
A 6002	112	6-1	1023	2	2-6	1-5	2-6			
A 6003	112	7-7	1276	2	3-3	1-5	3-3			
PIERS										
A 8001	75	5-4	1068	20	1-1	3-4	0-6			
F 5001	82	8-3	706	2	1-7	5-4	1-7			
F 5002	82	7-0	599	2	6-6	0-8				
F 5003	54	11-1	624	3	2-3	3-0	2-3	3-0		
F 5004	2	6-6	14	ST						
F 6001	82	14-1	1735	2	6-6	5-4	2-7			
F 6002	24	19-6	703	2	9-4	1-2	9-4			
F 6003	6	7-6	68	ST						
F 8001	14	32-3	1206	ST						
F 8002	14	31-11	1193	ST						
F 8003	12	11-6	368	ST						
F 8004	12	13-3	425	ST						
F 8005	4	5-0	53	ST						
P 4001	4	12-6	954	17 NO. TURNS= 36						6
P 4002	4	13-6	1033	17 NO. TURNS= 39						6
P 5001	60	5-5	339	2	1-6	2-8	1-6			
P 5002	160	8-9	1460	2	3-2	2-8	3-2			
P 5003	4	2-8	11	ST						
P 5004	12	22-2	277	ST						
P 5005	8	31-2	260	ST						
P 7001	16	32-2	1052	ST						

MARK	NUM.	LENGTH	WEIGHT	TYPE	A	B	C	D	E	NOTE
PIERS										
P 8001	20	20-10	1112	ST						
P 8002	44	19-5	2281	2	16-6	3-2				
P10001	16	15-6	1067	ST						
P10002	16	16-6	1136	ST						
P11001	28	15-6	2306	ST						
P11002	22	16-6	1929	ST						
SUPERSTRUCTURE										
F 5005	48	8-2	409	10	7-0					
F 7001	112	11-2	2556	10	9-6					
F10001	32	6-7	906	2	5-6	1-5				
F11001	50	6-11	1837	2	5-10	1-5				
S 5002	184	1-9	336	2	0-6	1-0	0-6			
S 5003	184	2-0	384	2	1-8	0-6				
S 5010	196	30-0	6133	ST						
S 5011	49	22-9	1163							
S 7001	111	43-8	9907	ST						
S 7002	1	5-6		ST						1
THRU			2346	VARY LENGTH BY				0-9 7/8		
S 7048	1	43-4		ST						1
S 7049	1	5-6		ST						1
THRU			2396	VARY LENGTH BY				0-9 5/8		
S 7096	1	43-4		ST						1
S 7097	14	5-0	143	ST						

- NOTES
- INDICATES SERIES BAR. EACH BAR VARIES FROM ADJACENT BAR(S) BY TABULATED AMOUNT(S). CALCULATED TO NEAREST 1/8 INCH. WEIGHT SHOWN IS FOR ENTIRE SERIES UTILIZING AVERAGE LENGTH.
  - BAR(S) INCLUDED WITH ITEM 517, RAILING, FOR PAYMENT.
  - COST OF FIELD BENDING SHALL BE INCLUDED WITH ITEM 509.
  - LIGHT POLE SUPPORT BARS INCLUDED WITH ITEM 509 FOR PAYMENT.
  - END PREPARATION AND FIELD WELDING INCLUDED WITH ITEM 509.
  - 'LENGTH' SHOWN FOR SPIRAL BARS IS DISTANCE FROM TOP OF FOOTING TO BOTTOM OF PIER CAP. 'NO. TURNS' SHOWN IS 'LENGTH' DIVIDED BY PITCH, PLUS 3 TURNS (NUMBER OF CLOSED COILS), EXPRESSED AS NEAREST WHOLE NUMBER.

1 1/2 CLOSED COILS SHALL BE PROVIDED AT 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 PERIPHERY OF COIL. WEIGHT OF SPACERS, AT 0.80 LB. PER LIN. FT. WILL BE PAID FOR AS REINFORCING STEEL AND IS INCLUDED IN TABULATED WEIGHT.

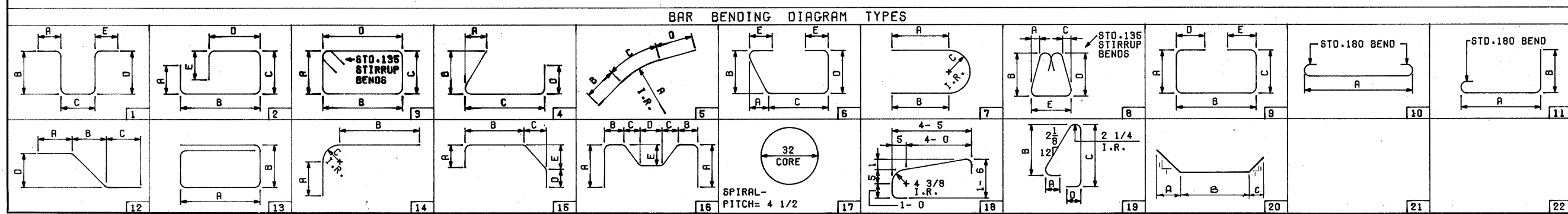
Bar dimensions are out to out.

Refer to CMS Sections 106.03, 100, 709.01 through 709.05 and 709.08. Sufficient additional reinforcing steel shall be provided for sampling. Random samples shall be replaced in the structures by the additional steel, spliced in accordance with 509.08.

**BAR SIZE DESIGNATION**

BAR SIZE IS INDICATED IN THE BAR MARK. THE FIRST DIGIT WHERE FOUR DIGITS ARE USED, AND FIRST TWO DIGITS WHERE FIVE DIGITS ARE USED, INDICATE THE BAR SIZE NUMBER. FOR EXAMPLE, A7001 IS A NO. 7 SIZE BAR AND A10140 IS A NO. 10 SIZE.

MICROFILMED  
JUL 19 1983



ALDEN E. STILSON & ASSOCIATES, LIMITED  
CONSULTING ENGINEERS  
CLEVELAND, OHIO COLUMBUS, OHIO WHEELING, W. VA.

**REINFORCING STEEL LIST**  
BRIDGE NO. LOR-80-1903  
E.B. I-80 OVER CHESTNUT RIDGE ROAD

LORAIN COUNTY STA. 40+78.23  
STA. 42+19.69

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISION
B.I.P.			R.S.S.	G.W.M.	5/18/70	

MICROFILMED  
JUL 19 1983

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

290  
375

LORAIN COUNTY  
LOR-480-0.00

**NOTE:**

Horizontal clearance is from future edge of pavement.

Earthwork limits shown are schematic. Actual limits shall conform to Plan cross sections.

\* Elevation of slope at face of abutment.

BRIDGE NO. LOR-80-1910 APPEARING THROUGHOUT THIS BRIDGE PLAN SHALL BE CONSIDERED TO READ BRIDGE NO. LOR-480-0128

**PROPOSED STRUCTURE**

TYPE: Continuous steel beam with reinforced concrete deck and substructure.

SPANS: 54'-3", 69'-6", 54'-3" % brgs.

ROADWAY: 42'-0" flt parapets of B2-1-67 railing.

LOADING: H.S. 20-44 & Interstate Alternate.

WEARING SURFACE: Monolithic Conc.

SKEW: 59°44'00" Lt. Forward.

ALIGNMENT: Tangent

APPROACH SLABS: 45-1-72 (MOD), 30' Long

**TRAFFIC ESTIMATE**

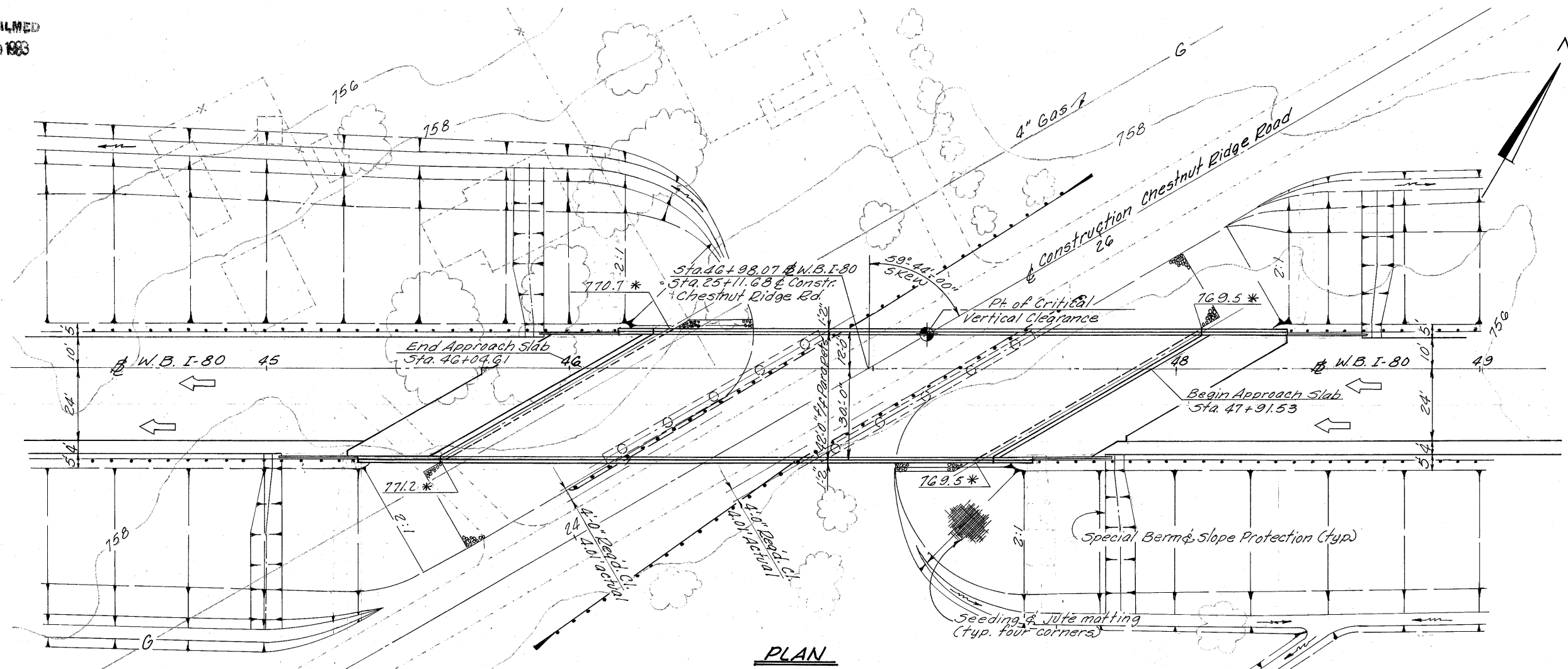
Design Year - 1987  
Total A.D.T. - 8000

ALDEN E. STILSON & ASSOCIATES, LIMITED  
CONSULTING ENGINEERS  
CLEVELAND, OHIO COLUMBUS, OHIO WHEELING, W. VA.

**SITE PLAN**

BRIDGE NO. LOR 80-1910  
W.B. I-80 OVER CHESTNUT RIDGE ROAD  
LORAIN COUNTY  
SCALE 1"=20'-0"

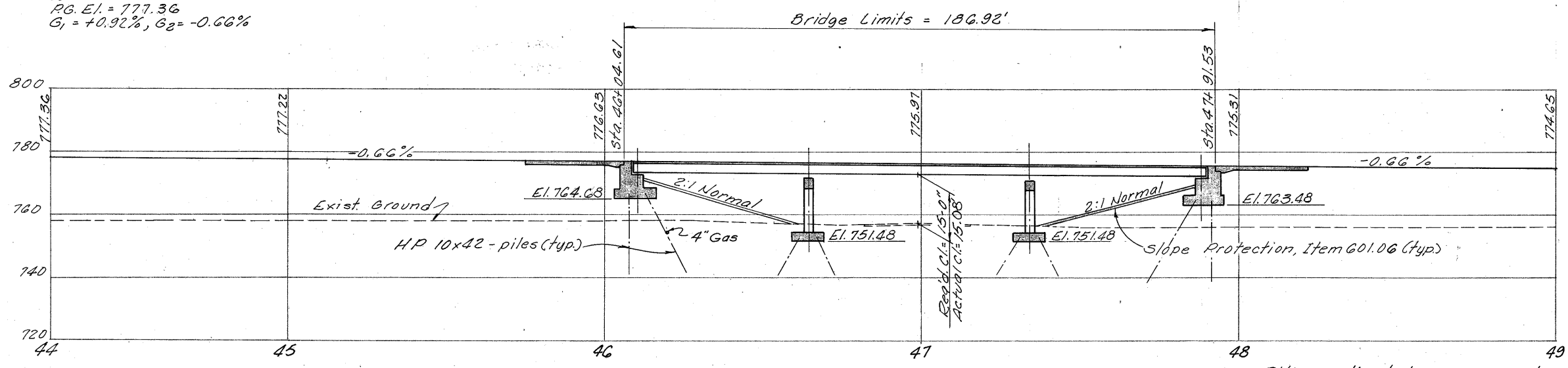
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
G.W.M.	G.W.M.	R.T.	B.I.P.	G.W.M.	5/1/70	



**PLAN**

**VERTICAL CURVE DATA**  
W.B. I-80

P.V.I. Sta. 44+00  
300' V.C.  
E.I. 777.95  
Corr = -0.59  
P.G. E.I. = 777.36  
G<sub>1</sub> = +0.92%, G<sub>2</sub> = -0.66%



**PROFILE ALONG WEST BOUND I-80**

Piling estimated average pay length:  
Abutments = 25'  
Piers = 15'

MICROFILMED

JUL 19 1983

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

291  
375

LORAIN COUNTY  
LOR-480-0.00

SUPPLEMENTAL SPECIFICATION REFERENCES - CON'T

DESCRIPTION	NO.	DATE
PAINTING FOR NEW STRUCTURAL STEEL	846	4-25-77
INORGANIC ZINC SILICATE PAINT	950	4-25-77
BLUE-GREEN VINYL PAINT	951	4-25-77

STANDARD DRAWING REFERENCES

DESCRIPTION	DWG. NO.	SHT.	DATE
END DAM AND END CROSSFRAME	SD-1-69	1-2	6-12-69
CURB PLATES	SD-1-69	2	6-12-69
SCUPPERS	SD-1-69	3	6-12-69
MOMENT PLATES	SD-1-69	3	6-12-69
BOLTED SPLICES	SD-1-69	4	6-12-69
BRIDGE ROADWAY RAILING	BR-1-67	1	10-15-71 R
ROCKERS AND BOLSTERS	RB-1-55		2- 2-59 R
APPROACH SLABS	AS-1-72 (MOD)*		2-30-72
STRUCTURE GROUNDING	HL-7		1-21-76

(R INDICATES REVISED DATE)

SUPPLEMENTAL SPECIFICATION REFERENCES

DESCRIPTION	NO.	DATE
CHEMICAL ADMIXTURE FOR CONCRETE, TYPE A, B OR D	808	1- 1-71
CONCRETE CURING AND PROTECTIVE MEMBRANE	836	3-12-75
SPECIAL PILE TESTS	838	1-13-77

COMMON DETAIL REFERENCES  
CONTRACTION JOINTS & END DAMS SHEET 354

DESIGN SPECIFICATIONS  
THIS STRUCTURE CONFORMS TO THE '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 - HS20-44 AND THE INTERSTATE ALTERNATE LOADING  
CONCRETE CLASS C - UNIT STRESS 1200 PSI FOR SUPERSTRUCTURE  
UNIT STRESS 1333 PSI FOR SUBSTRUCTURE  
STRUCTURAL STEEL - ASTM A36 - UNIT STRESS 20000 PSI  
REINFORCING STEEL - ASTM A615, A616 OR A617 - UNIT STRESS 20000 PSI.  
SPIRAL REINFORCEMENT MAY BE PLAIN BARS ASTM A82, OR A615.

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 PIERS.

PILES  
PILES SHALL BE DRIVEN TO A MINIMUM BEARING CAPACITY OF-  
35 TONS PER PILE FOR THE ABUTMENTS AND WINGWALLS  
35 TONS PER PILE FOR THE PIERS

UTILITY LINES  
ALL EXPENSE INVOLVED IN RELOCATING THE AFFECTED UTILITY LINES SHALL BE BORNE BY THE OWNERS. THE CONCURRENCE TO EITHER WOULD BE HELD TO A MINIMUM.

MAINTENANCE OF TRAFFIC  
TWO LANES OF TRAFFIC WITH A MINIMUM HORIZONTAL WIDTH OF 20'-0 AND A MINIMUM VERTICAL CLEARANCE OF 13'-6 SHALL BE MAINTAINED ON CHESTNUT RIDGE ROAD AT ALL TIMES.

LAPS  
MINIMUM BAR LAP SHALL BE 30 DIAMETERS

\* Std. Dwg. AS-1-72 shall be modified to provide 3" clearance to the top re-bars instead of the 2" shown and jacking holes shall be omitted.

ITEM	TOTAL	UNIT	DESCRIPTION	ABUTS	PIERS	SUPER	GENERAL		
503	LUMP	SUM	COFFERDAMS, CRIBS AND SHEETING				LUMP		
503	684	C.Y.	UNCLASSIFIED EXCAVATION	460	224				
505	LUMP	SUM	TEST PILE				LUMP		
507	1730	L.F.	STEEL PILES, HP10X42	950	780				
509	87096	LB	REINFORCING STEEL	22889	33238	30969			
511	249	C.Y.	CLASS C CONCRETE, SUPERSTRUCTURE (SEE PROPOSAL NOTE)			249			
511	192	C.Y.	CLASS C CONCRETE, ABUTMENTS ABOVE FOOTINGS	192					
511	106	C.Y.	CLASS C CONCRETE, PIER CAPS AND COLUMNS		106				
511	219	C.Y.	CLASS C CONCRETE, FOOTINGS	143	76				
512	15	L.F.	PREMOLDED SEALING STRIP	15					
513	208600	LB	STRUCTURAL STEEL, PRIMER PER 846 (SEE PROPOSAL NOTES)			208600			
846	208600	LB	FIELD PAINTING OF STRUCTURAL STEEL			208600			
516	98	S.F.	1/2 INCH PREFORMED EXPANSION JOINT FILLER				98		
518	103	C.Y.	PORDUS BACKFILL	103					
518	7	EA	SCUPPERS INCLUDING SUPPORTS			7			
518	84	L.F.	6 INCH PERFORATED, HELICAL CSP, 707.01	84					
518	148	L.F.	6 INCH NON-PERFORATED, HELICAL CSP, INCLUDING SPECIALS, 707.01	148					
601	757	S.Y.	CONCRETE SLOPE PROTECTION				757		
808	249	UNIT	CHEMICAL ADMIXTURE FOR CONCRETE, TYPE A, B OR D			249			
838	3	HR.	SPECIAL PILE TESTS				3		
SPECIAL	35896	LB.	EPOXY COATED REINFORCING STEEL (SEE PROPOSAL NOTE)	1491		34405			

MONOLITHIC WEARING SURFACE THICKNESS IS ASSUMED TO BE 1". DECK PROTECTION METHOD: EPOXY COATED REINFORCING STEEL, TOP MAT ONLY.

ATTACHMENT OF GUARDRAIL TO CONCRETE PARAPETS: CONCRETE INSERT ANCHOR ASSEMBLIES PER STANDARD CONSTRUCTION DRAWINGS GR-3 AND GR-1 SHALL BE PLACED DURING PARAPET CONSTRUCTION.

2/14

ALDEN E. STILSON & ASSOCIATES, LIMITED  
CONSULTING ENGINEERS  
CLEVELAND, OHIO COLUMBUS, OHIO WHEELING, W. VA.

**GENERAL NOTES AND ESTIMATED QUANTITIES**  
BRIDGE No LOR-80-1910  
W.B.I-80 OVER CHESTNUT RIDGE RD.  
LORAIN COUNTY STA. 46 + 04.61  
STA. 47 + 91.53

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
B.D.			U.M.A.	G.W.M.	5/1/70	

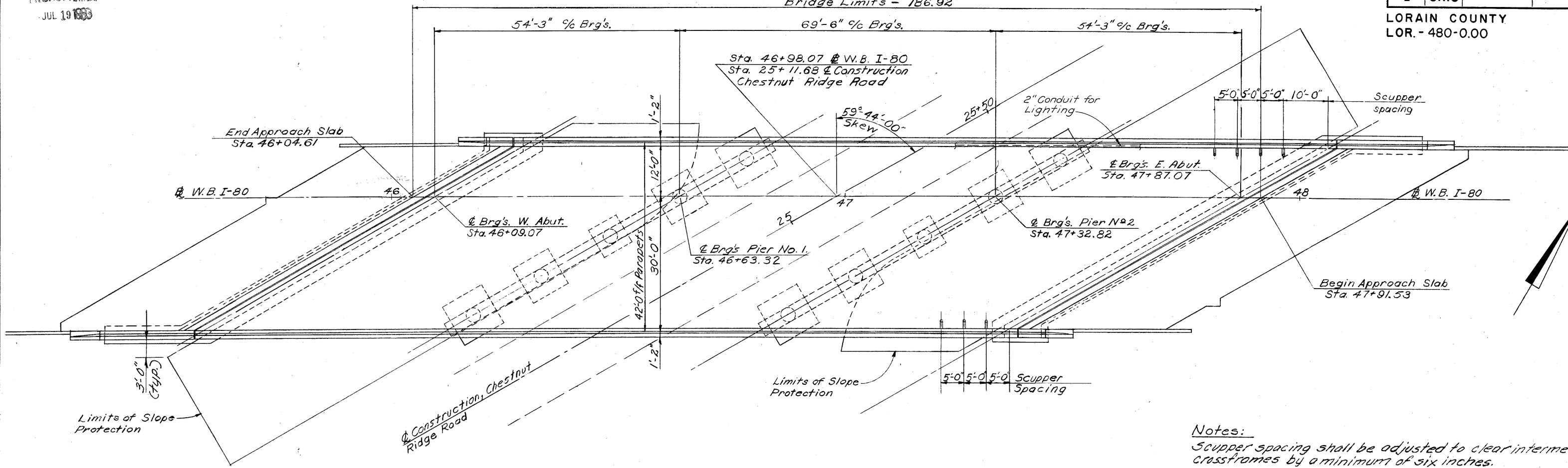
MICROFILMED  
JUL 19 1983

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

LORAIN COUNTY  
LOR. - 480-0.00

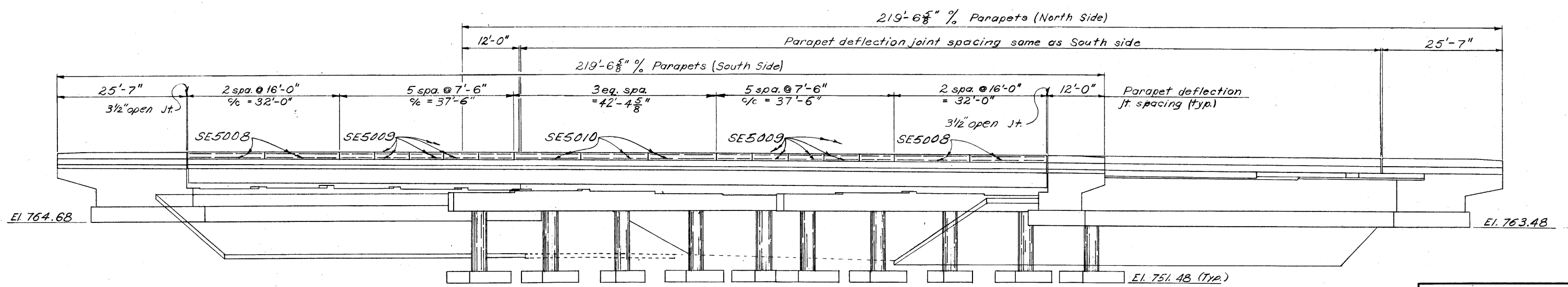
292  
375

Bridge Limits - 186.92'



GENERAL PLAN

Notes:  
Scupper spacing shall be adjusted to clear intermediate crossframes by a minimum of six inches.  
Scupper spacing is along face of curb.



W. Abut. Exp. Brg's.      Pier No 1 Fixed Brg's.      Pier No 2 Exp. Brg's.      E. Abut. Exp. Brg's.

ELEVATION  
(Piles not shown)

3 / 14

ALDEN E. STILSON & ASSOCIATES, LIMITED  
CONSULTING ENGINEERS  
CLEVELAND, OHIO      COLUMBUS, OHIO      WHEELING, W. VA.

**GENERAL PLAN**  
BRIDGE NO LOR. - 80-1910  
W B. I-80 OVER CHESTNUT RIDGE ROAD

LORAIN COUNTY      STA 46+04.61  
   STA 47+91.53

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
P.S.S.	J.P.		B.I.P.	G.W.M.	5/77	

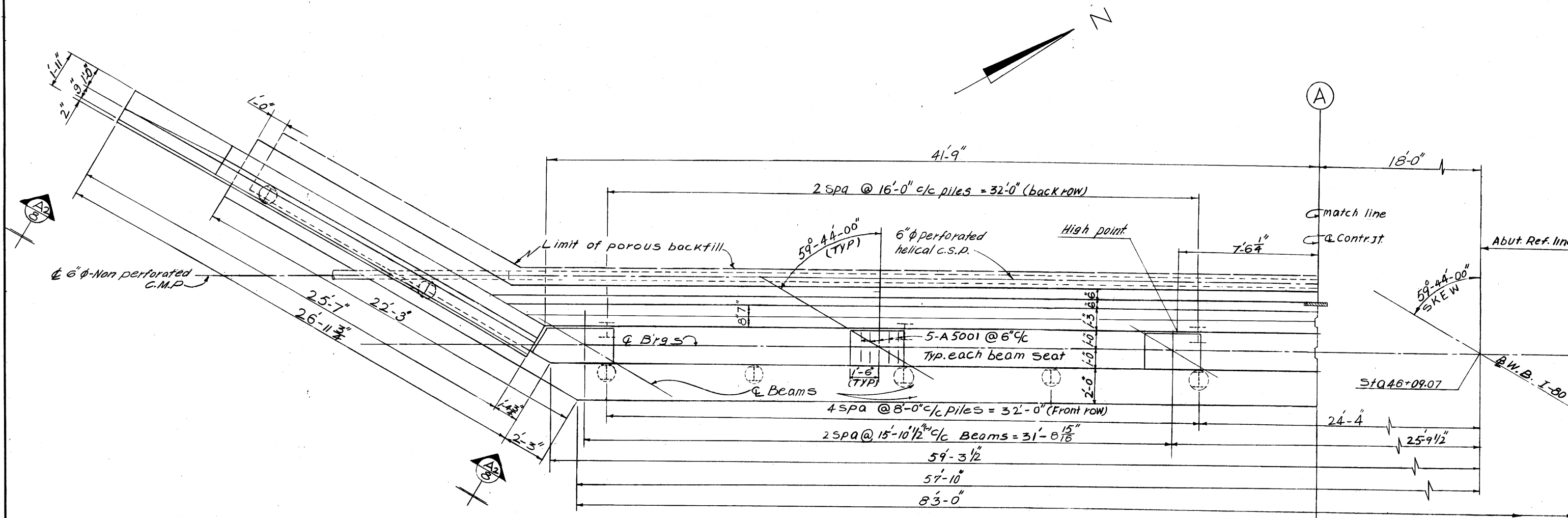


MICROFILMED  
JUL 19 1988

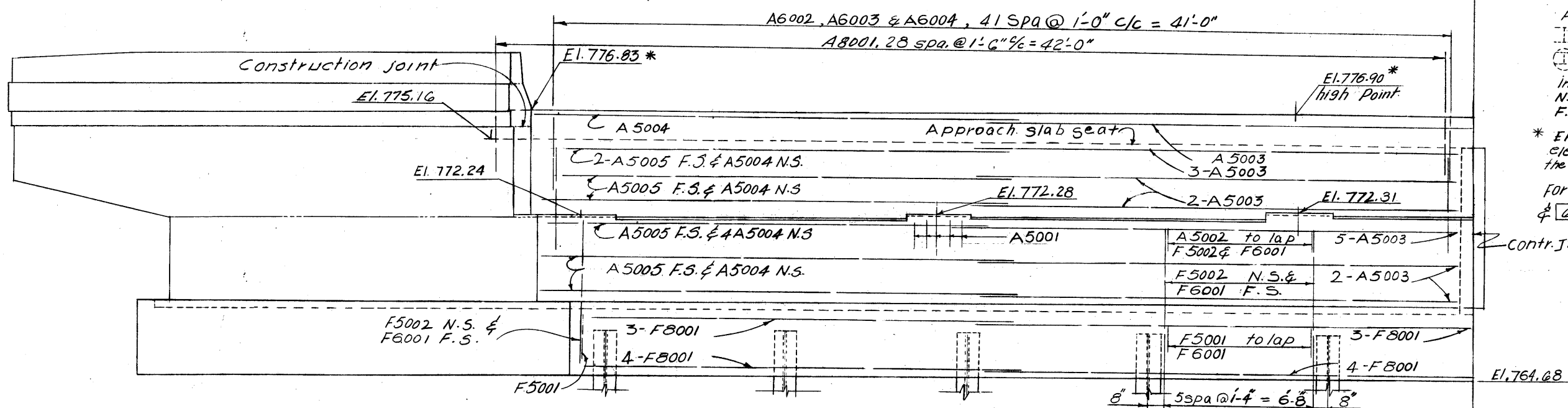
FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

293  
375

LORAIN COUNTY  
LOR. - 480-0.00



PART PLAN



ELEVATION

NOTES

- All piles are HP 10x42-piles
- ⊥ indicates vertical piles
- ⊙ indicates piles battered 1:4
- In reinforcing bar callouts N.S indicates near side F.S indicates far side
- \* Elevations shown thus are pavement elevations at the face of back wall and the point indicated.

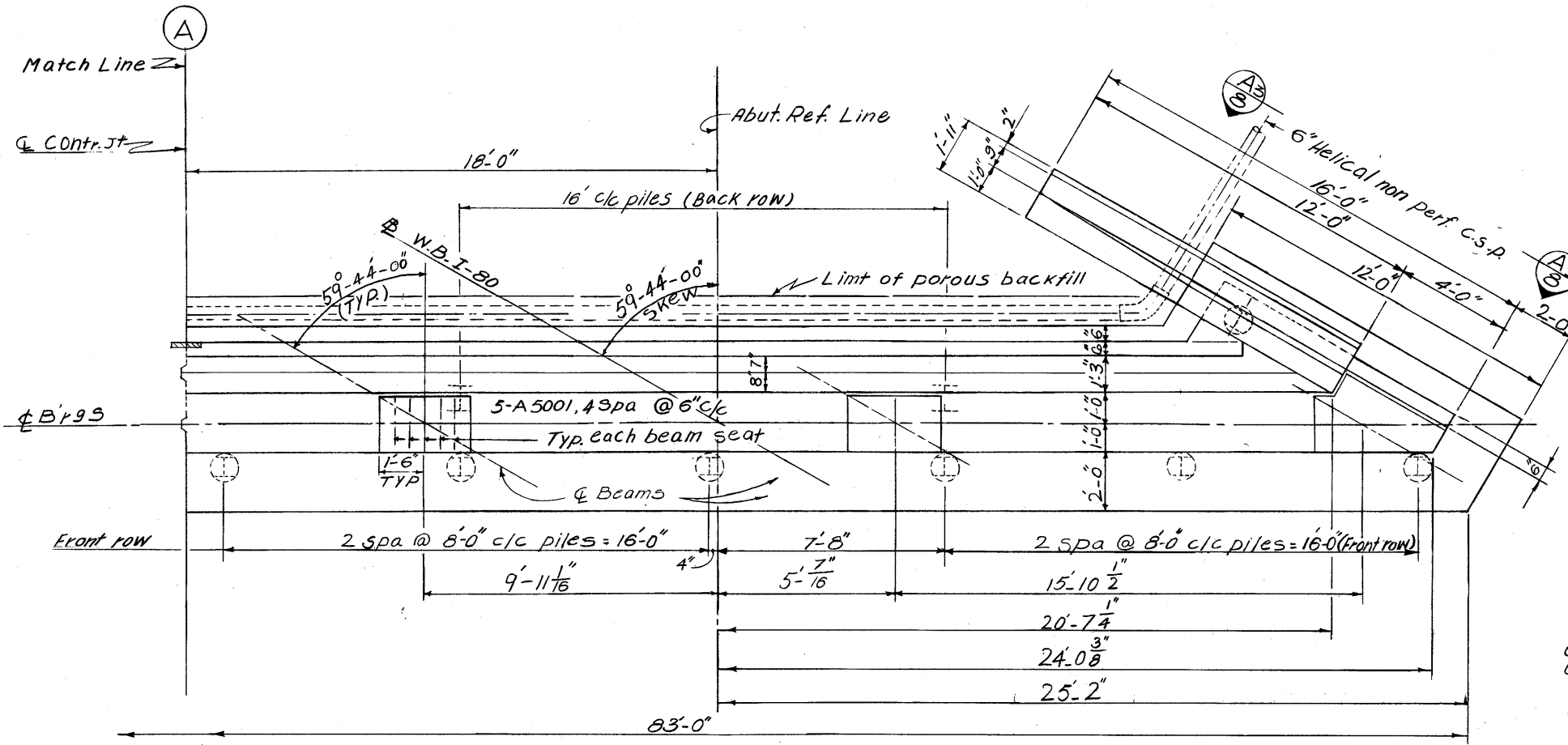
For additional notes see sheet 5/14 & 6/14

ALDEN E. STILSON & ASSOCIATES, LIMITED  
CONSULTING ENGINEERS  
CLEVELAND, OHIO COLUMBUS, OHIO WHEELING, W. VA.

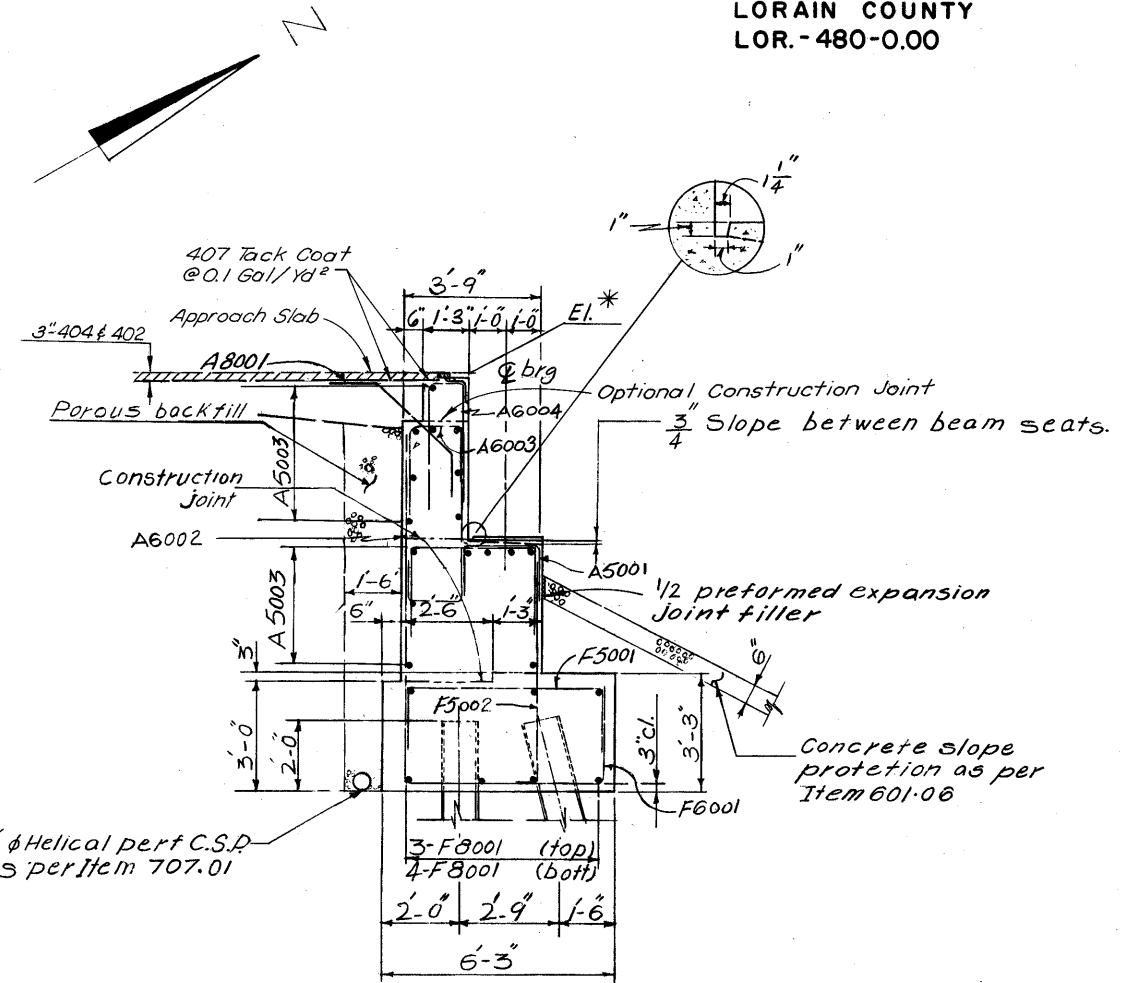
**WEST ABUTMENT DETAILS**  
BRIDGE NO. LOR. - 80-1910  
W.B. I-80 OVER CHESTNUT RIDGE ROAD

LORAIN COUNTY STA. 46+04.61  
STA. 47+91.53

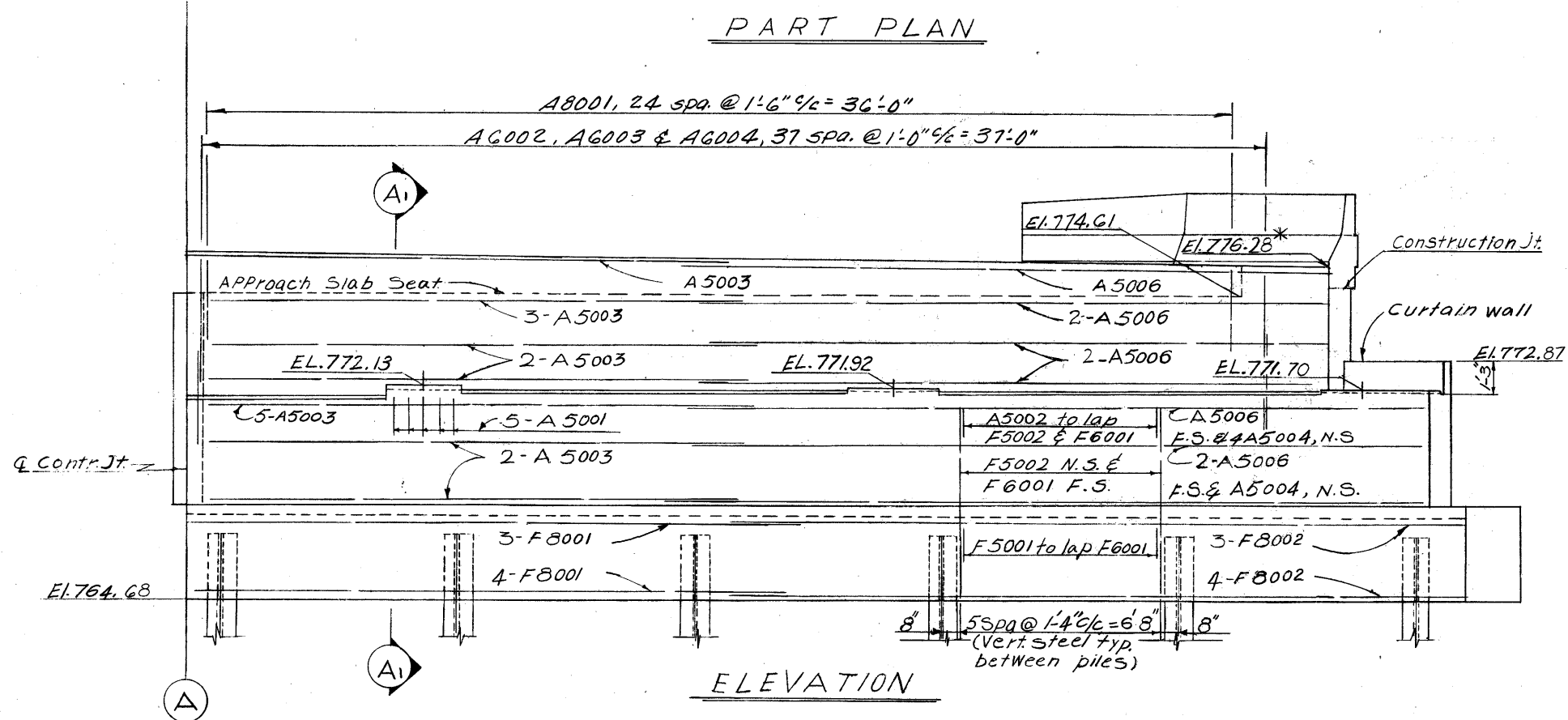
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
R.S.S.	M.M.A.		B.I.P.	G.W.M.	5/8/70	



PART PLAN



SECTION A1-A1



ELEVATION

- NOTES**
- All piles are HP10x42 piles
  - ⊥ indicates vertical piles
  - ⊙ indicates piles battered 1:4
  - in reinforcing bar callouts N.S. indicates near side F.S. indicates far side
  - \* Elevations shown thus are pavement elevations at the face of backwall and the point indicated
  - For additional notes see sheet 6/14

BACKWALL CONCRETE: No backwall concrete shall be placed above the level of the optional construction joint at the approach slab seat until after the deck concrete in the span adjacent to the abutment has been placed.

ALDEN E. STILSON & ASSOCIATES, LIMITED  
CONSULTING ENGINEERS  
CLEVELAND, OHIO COLUMBUS, OHIO WHEELING, W. VA.

**WEST ABUTMENT DETAILS**  
BRIDGE NO LOR. - 80-1910  
W.B. 1-80 OVER CHESTNUT RIDGE ROAD

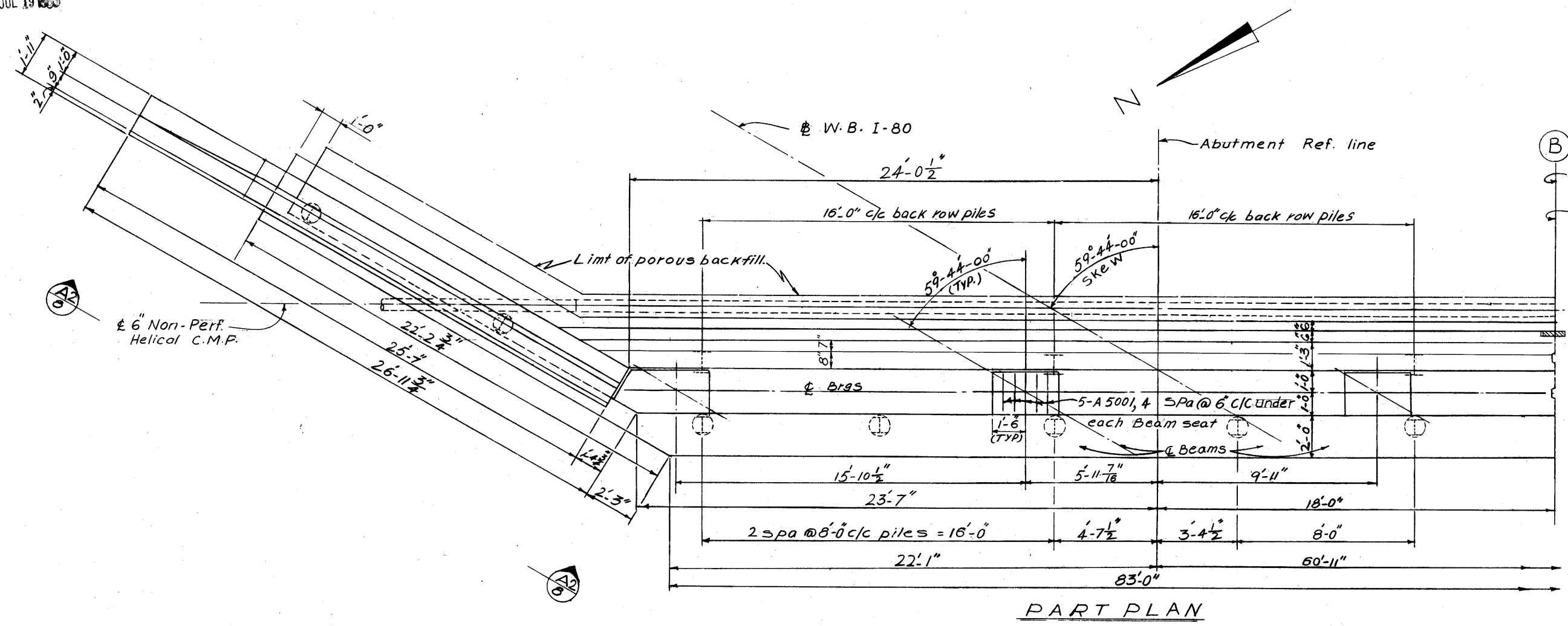
LORAIN COUNTY STA. 46+04.61  
STA. 47+91.53

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
R.S.S.	M.M.A.		B.I.P.	G.W.M.	5/6/70	

MICROFILMED  
JUL 19 1983

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		295 375

LORAIN COUNTY  
LOR. - 480-0.00



PART PLAN

**NOTES:**  
Porous backfill 1.6" thick full length of abutment and 2'-0" thick full length of wings shall extend up to the plane of the subgrade.

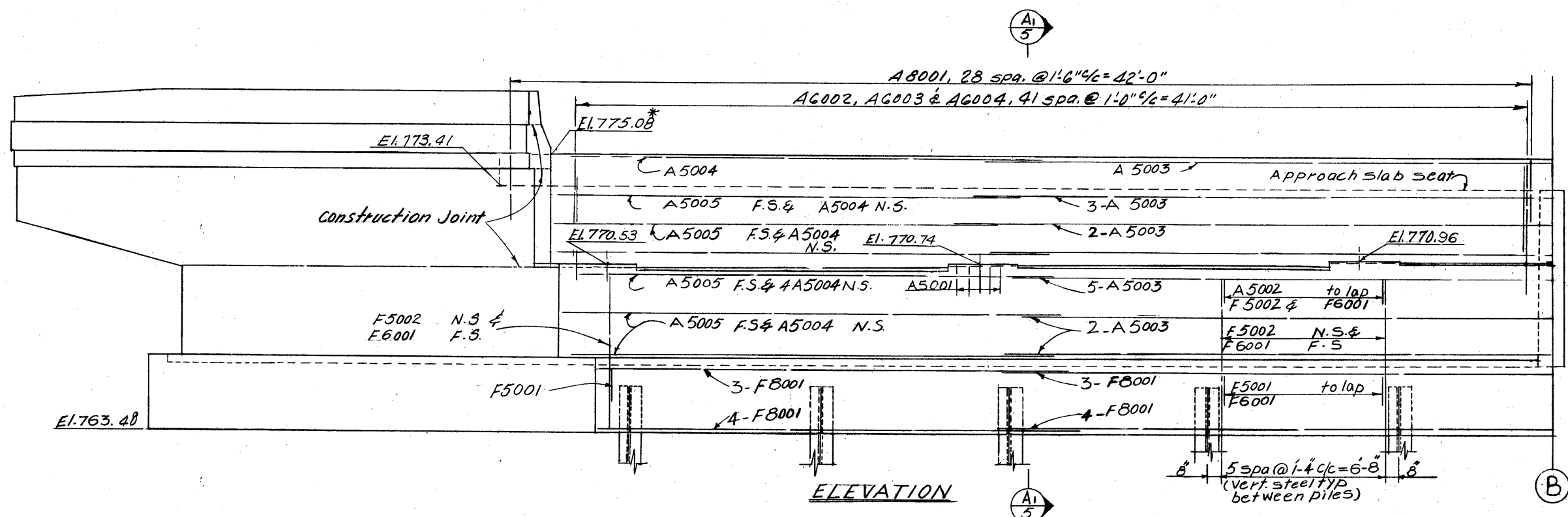
For contraction joint details, see common details Sht. No. 355

All Piles are HP 10X42 piles  
I indicates vertical piles  
⊖ indicates piles battered 1:4 in reinforcing bar callouts  
N.S. indicates near side  
F.S. indicates far side

\* Elevations shown thus are pavement elevations at the face of back Wall and the point indicated.

Only that portion of the C.S.P. located in porous backfill shall be perforated. The 6" C.S.P. shall be extended out into the side slopes & terminated near the surface as shown on common details Sht. No.

Adjustable type elbows meeting specification requirements for gage and coating are acceptable for making bends in perforated corrugated steel pipe. Elbows need not be perforated. See notes sheet 5/14



ELEVATION

ALDEN E. STILSON & ASSOCIATES, LIMITED  
CONSULTING ENGINEERS  
CLEVELAND, OHIO COLUMBUS, OHIO WHEELING, W. VA.

**EAST ABUTMENT DETAILS**  
BRIDGE NO LOR. - 80-1910  
W.B. I-80 OVER CHESTNUT RIDGE ROAD

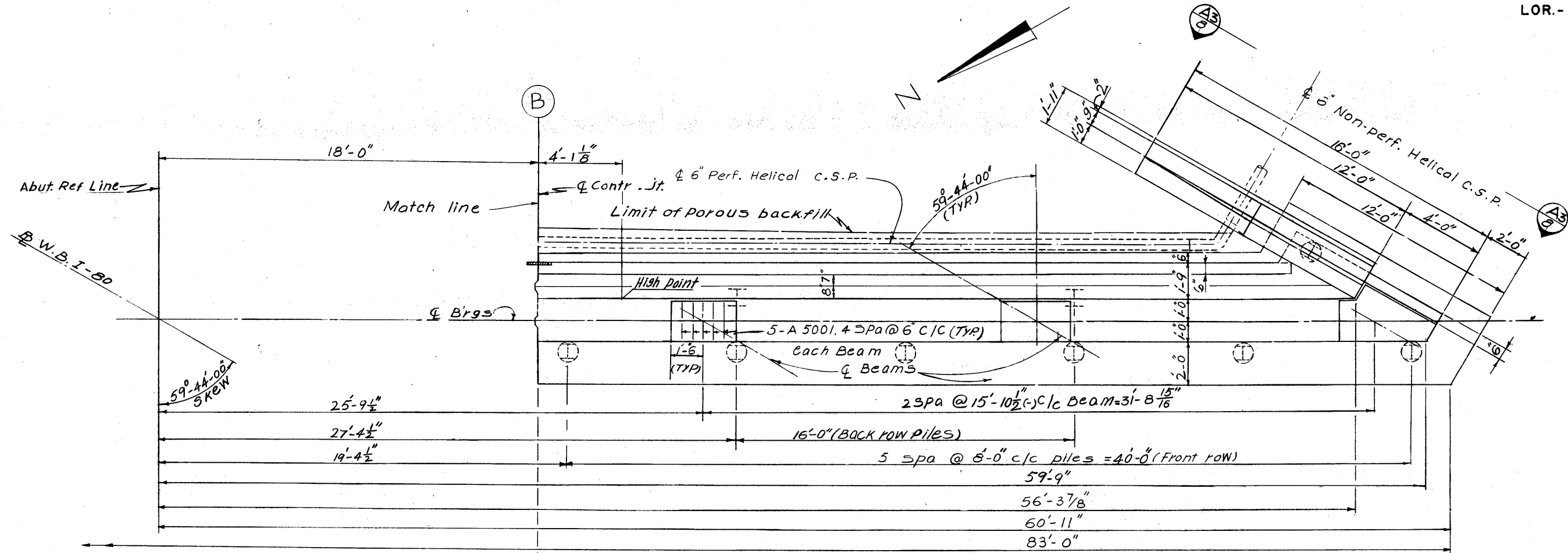
LORAIN COUNTY STA 46+04.61  
STA 47+91.53

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
R.S.S.	M.M.A.		B.I.P.	G.W.M.	5/8/70	

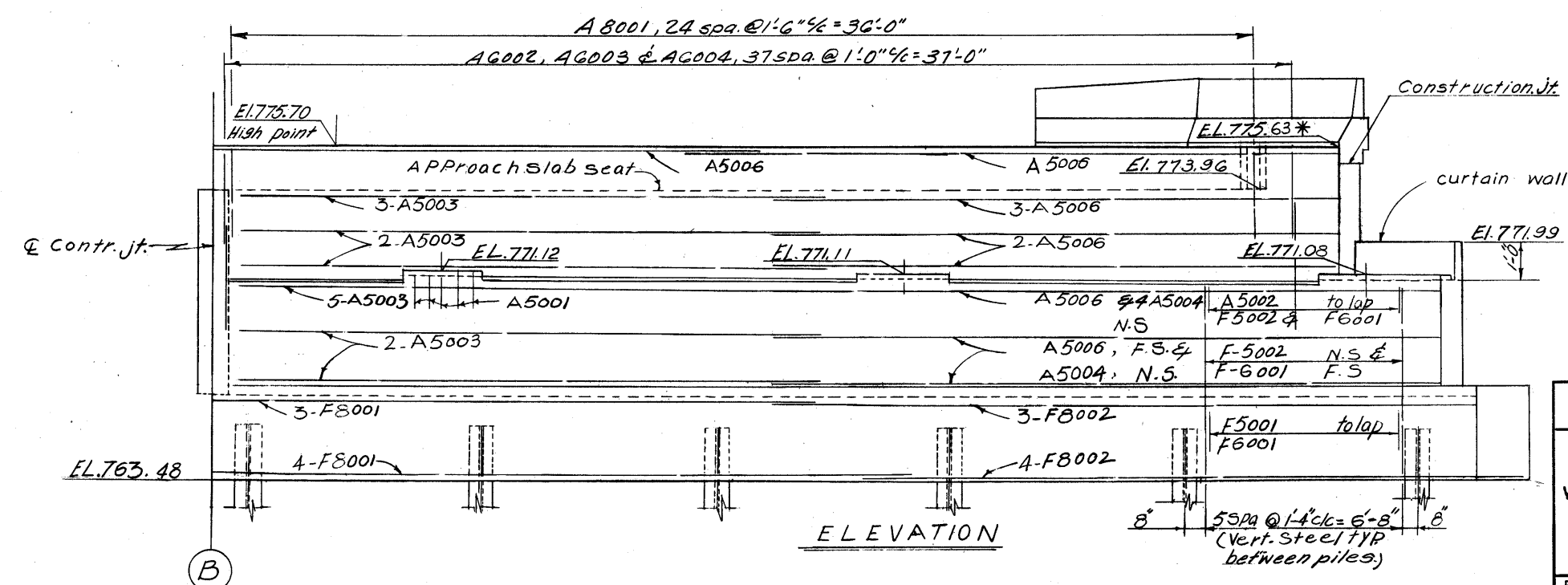
JUL 19 1960

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		296 375

LORAIN COUNTY  
LOR. - 480-000



PART PLAN



ELEVATION

NOTES

- All piles are HP10x42-piles
- ⊥ indicates vertical piles
- ⊙ indicates piles battered 1/4
- In reinforcing bar callouts N.S. indicates near side F.S. indicates far side
- Elevations shown thus are pavement elevations at the face of back wall and the point indicated.
- For additional notes see sheet 6/14

ALDEN E. STILSON & ASSOCIATES, LIMITED  
CONSULTING ENGINEERS  
CLEVELAND, OHIO COLUMBUS, OHIO WHEELING, W. VA.

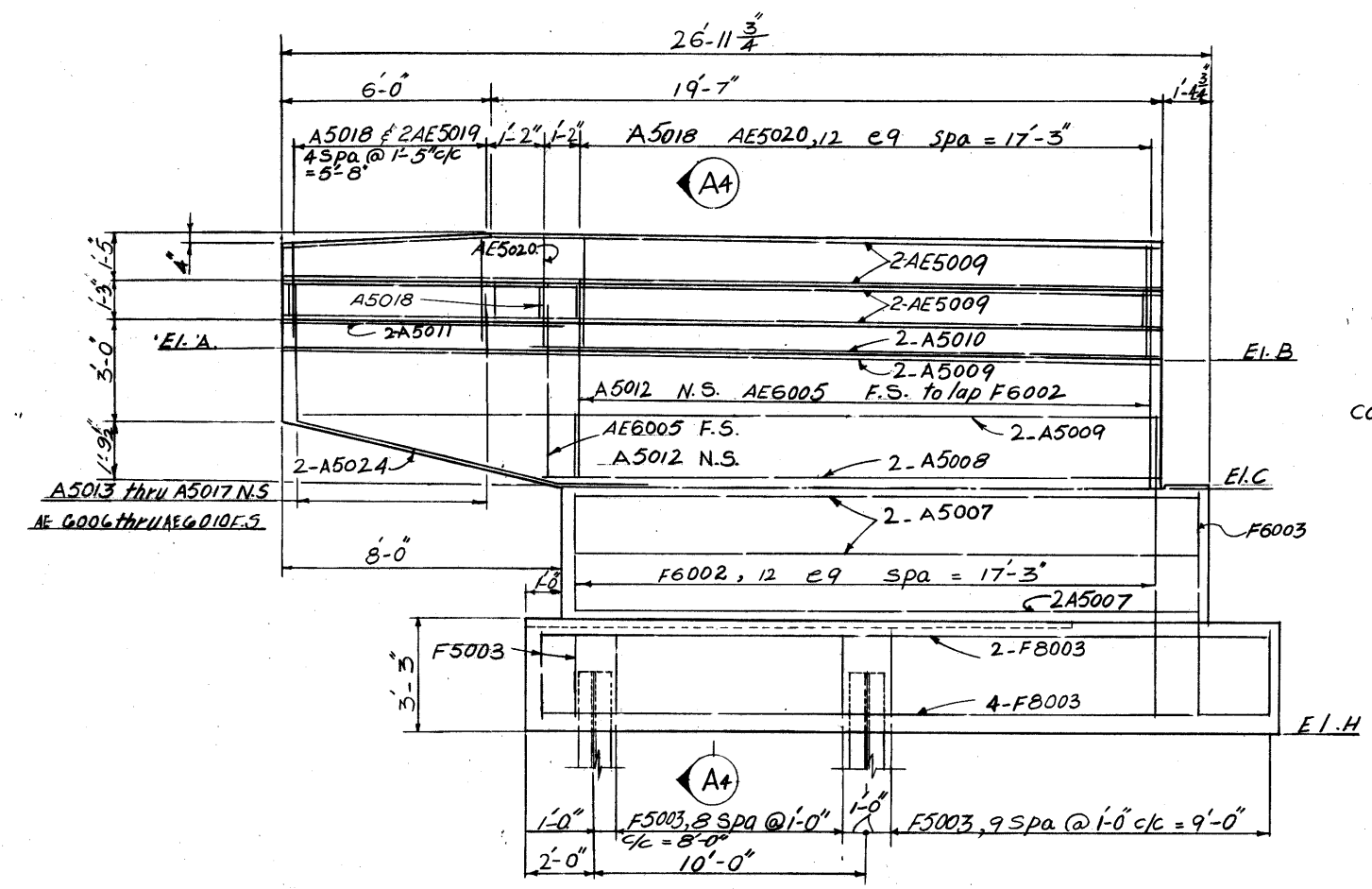
**EAST ABUTMENT DETAILS**  
BRIDGE NO LOR. - 80-1910  
W. B. I-80 OVER CHESTNUT RIDGE ROAD

LORAIN COUNTY STA. 46+04.61  
STA. 47+91.53

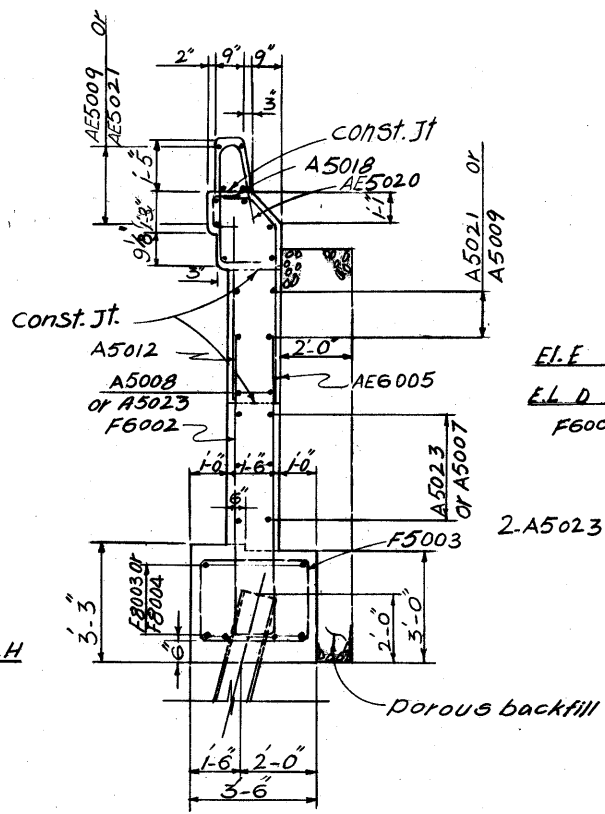
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
R.S.S.	M.M.A.		B.I.P.	G.W.M.	5/1/70	

JUL 19 1980

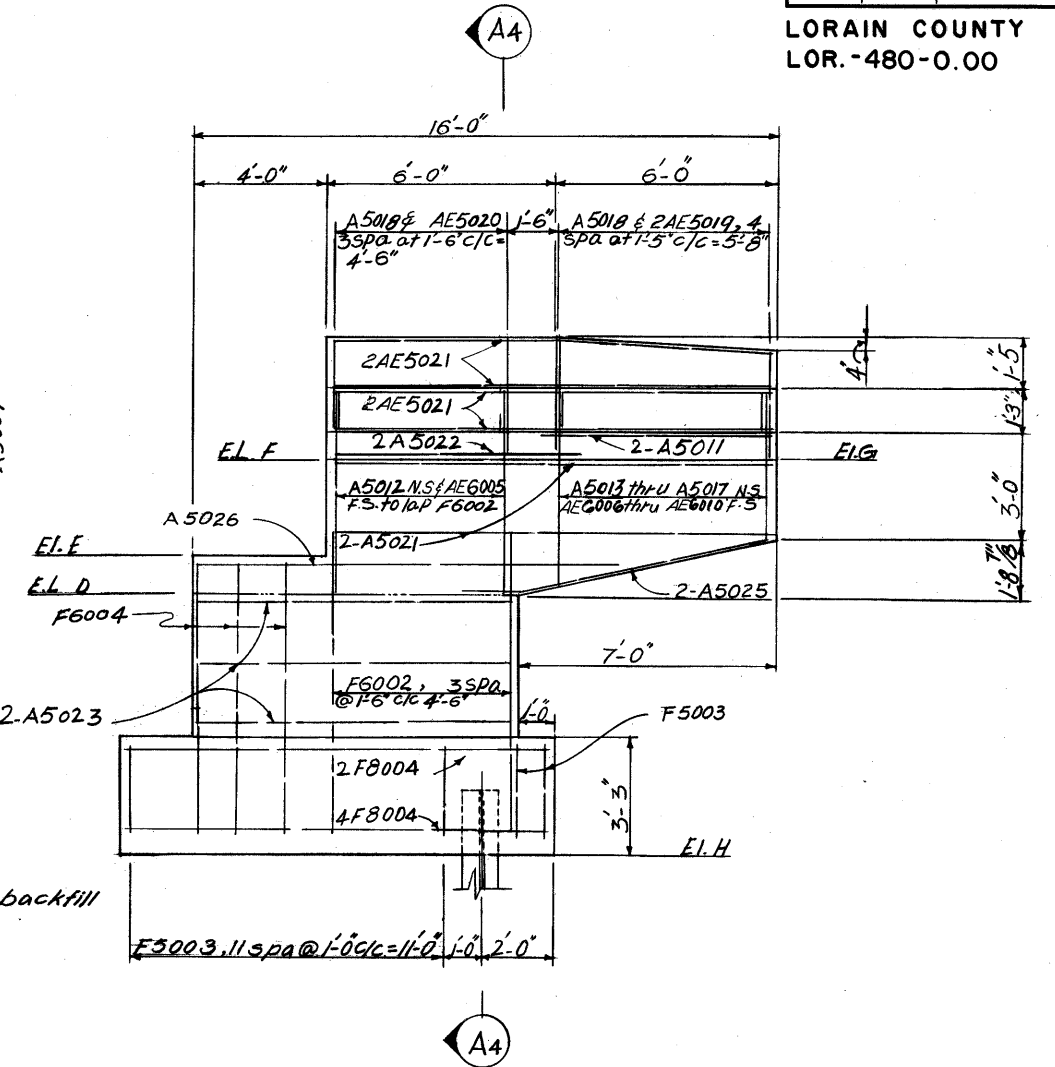
LORAIN COUNTY  
LOR.-480-0.00



VIEW A2-A2 446/14



SECTION A4-A4



VIEW A3-A3 547/14

Elev.	A	B	C	D	E	F	G	H
W. Abut.	776.21	776.06	772.17	771.62	772.87	775.51	775.59	764.68
E. Abut.	774.14	774.31	770.45	770.99	771.99	774.86	774.78	763.48

**NOTES**

In reinforcing bar callouts:  
N.S. indicates near side  
F.S. indicates far side

For additional notes see  
Sht No. 6/14

8/14

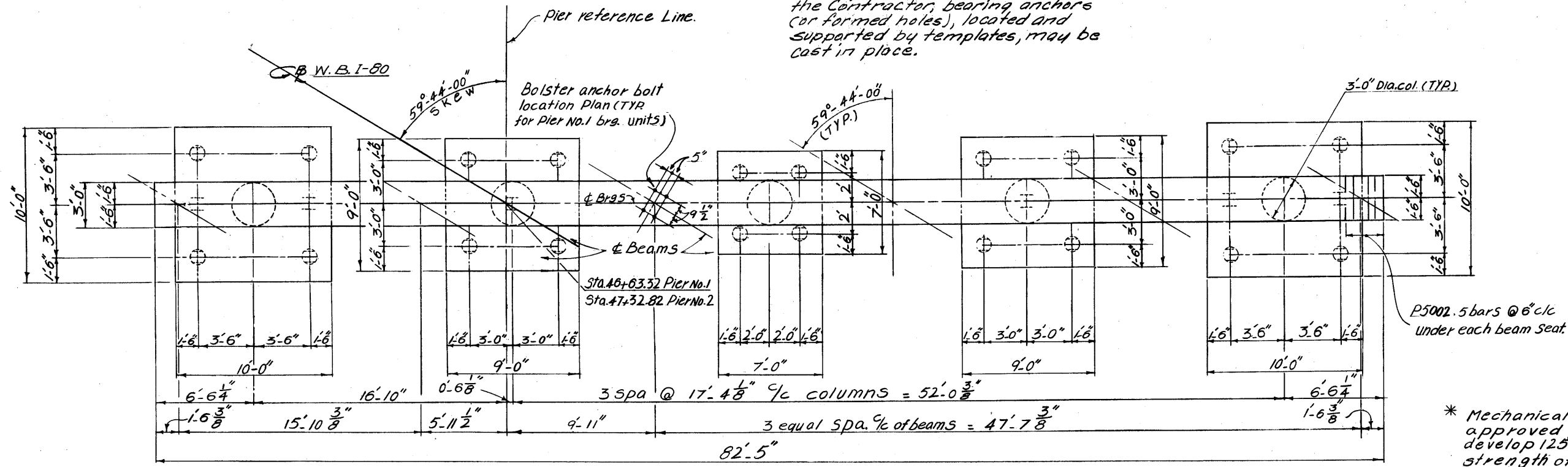
ALDEN E. STILSON & ASSOCIATES, LIMITED  
CONSULTING ENGINEERS  
CLEVELAND, OHIO COLUMBUS, OHIO WHEELING, W. VA.

**ABUTMENT DETAILS**  
BRIDGE NO LOR. - 80 - 1910  
W. B. 1-80 OVER CHESTNUT RIDGE ROAD

LORAIN COUNTY STA 46+04.61  
STA 47+91.53

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
R.S.S.	MMA		B.I.P.	G.W.M.	5/11/78	

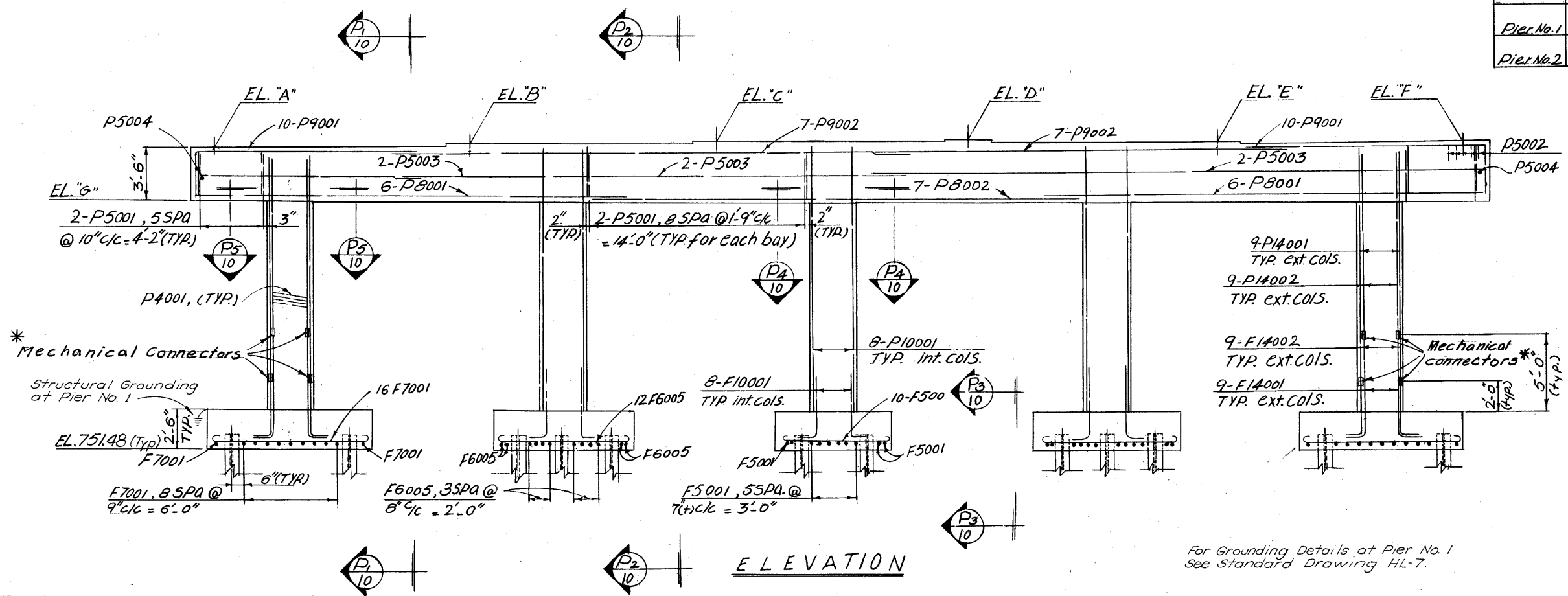
**Note:**  
Bearing Anchors: At the option of the Contractor, bearing anchors (or formed holes), located and supported by templates, may be cast in place.



PLAN

\* Mechanical connectors shall be of an approved positive type, designed to develop 125% of the specified yield strength of the bar.  
Cost of the mechanical connectors shall be included with Item 509 for payment.

Elev.	A	B	C	D	E	F	G
Pier No. 1	770.92	771.14	771.35	771.54	771.50	771.47	767.42
Pier No. 2	770.47	770.68	770.90	771.08	771.07	771.01	766.97



ELEVATION

**NOTES**  
All Piles are H P 10x42-Piles.  
I indicates vertical piles  
⊙ indicates pile battered 1:4  
Special care shall be taken at Pier No. 1 in placing reinf. steel in the top of the cap so as to avoid interference with the drilling of anchor bar holes for bearing units or pre-setting of bearing anchors. Alternate F14001 With F14002.

For Grounding Details at Pier No. 1  
See Standard Drawing HL-7.

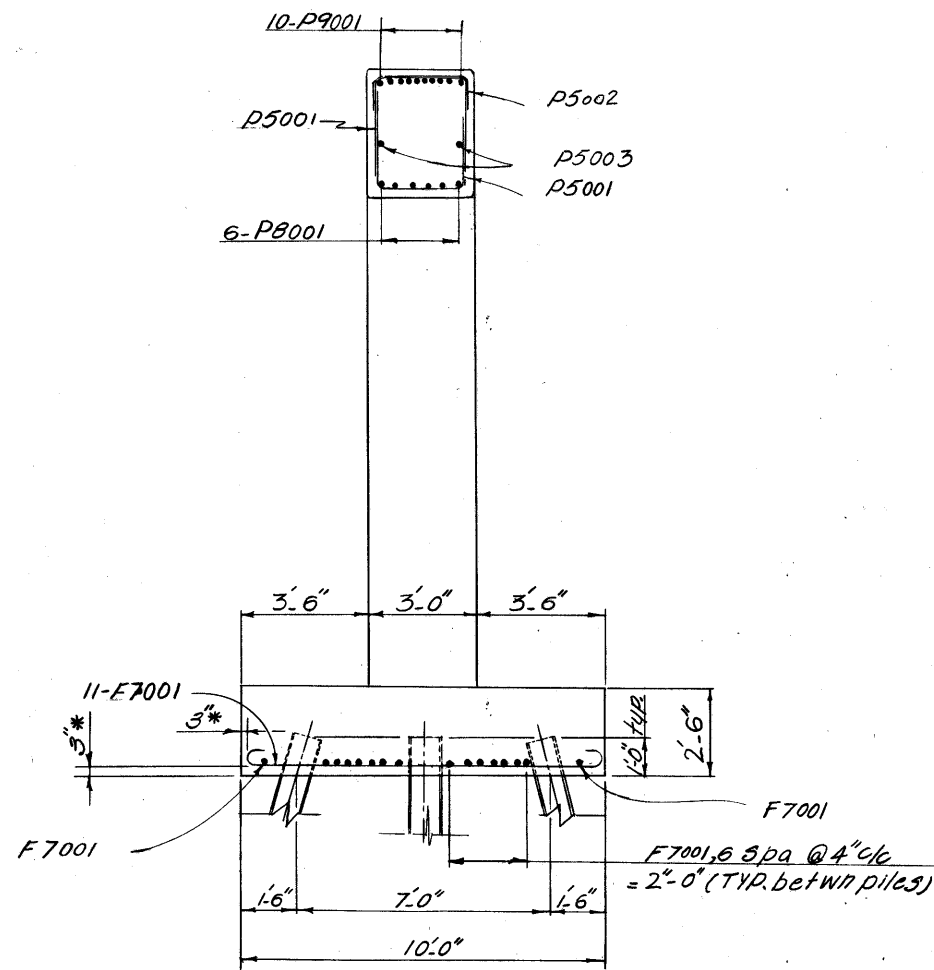
ALDEN E. STILSON & ASSOCIATES, LIMITED CONSULTING ENGINEERS CLEVELAND, OHIO COLUMBUS, OHIO WHEELING, W. VA.						
<b>PIER DETAILS</b>						
BRIDGE NO LOR. - 80-1910 W. B. I-80 OVER CHESTNUT RIDGE ROAD						
LORAIN COUNTY				STA. 46+04.61 STA. 47+91.53		
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
R.S.S.	M.M.A.		B.I.P.	G.W.M.	3/11/70	

MICROFILMED  
JUL 19 1980

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

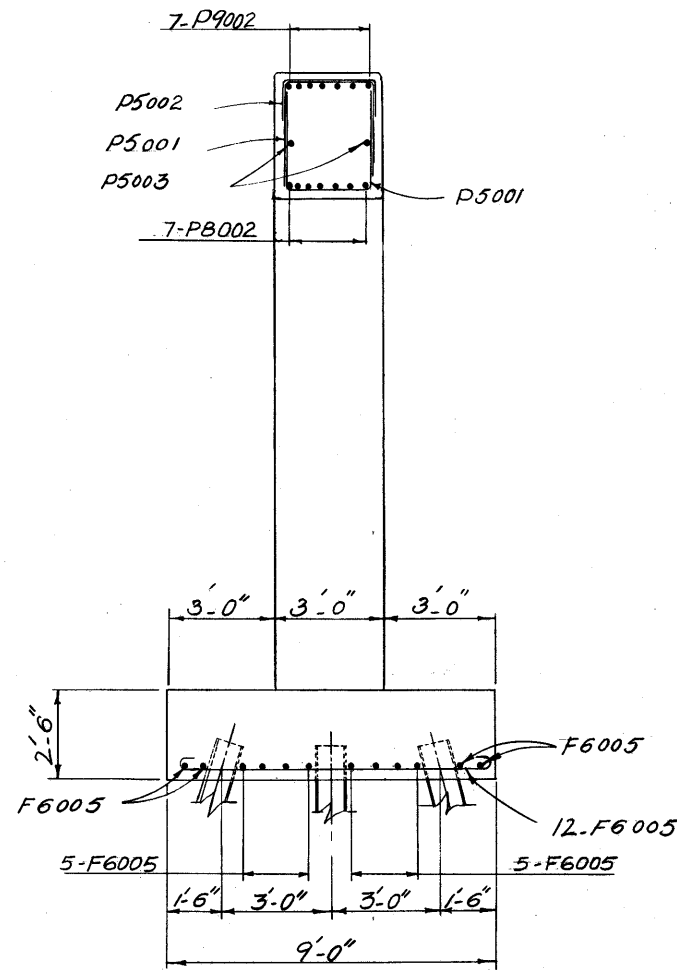
299  
375

LORAIN COUNTY  
LOR - 480-0.00

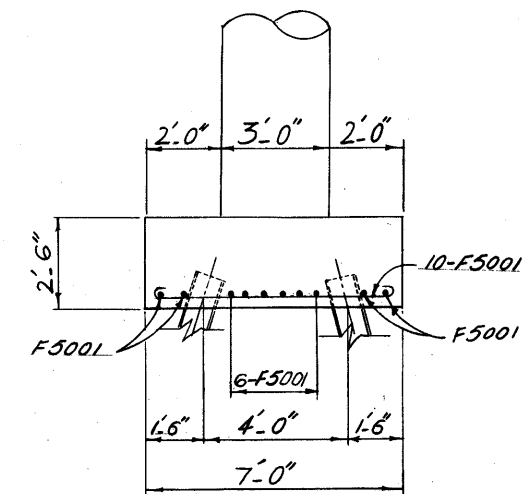


\* Min. clearance all footing surfaces

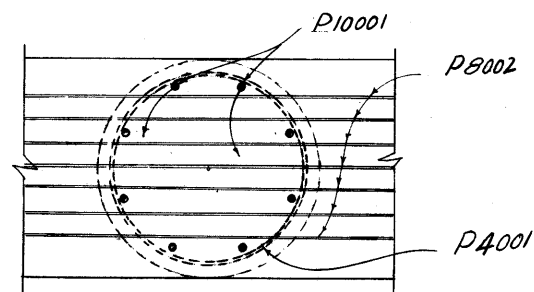
SECTION P<sub>1</sub>-P<sub>1</sub>



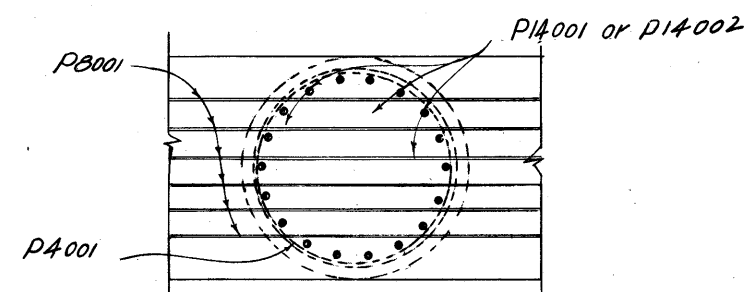
SECTION P<sub>2</sub>-P<sub>2</sub>



VIEW P<sub>3</sub>-P<sub>3</sub>



SECTION P<sub>4</sub>-P<sub>4</sub>



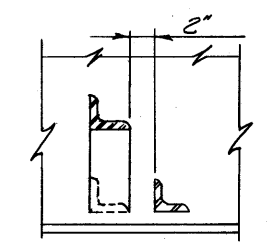
SECTION P<sub>3</sub>-P<sub>3</sub>

ALDEN E. STILSON & ASSOCIATES, LIMITED CONSULTING ENGINEERS CLEVELAND, OHIO COLUMBUS, OHIO WHEELING, W. VA.						
<b>PIER DETAILS</b>						
BRIDGE NO LOR - 80-1910 W. B. I-80 OVER CHESTNUT RIDGE ROAD						
LORAIN COUNTY				STA. 46+04.61 STA. 47+91.53		
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISION
R.S.S.	M.M.A.		B.I.P.	G.W.M.	5/11/70	

10/14

Note: Each longitudinal run of reinforcing shall be comprised of 6-SE5001 & SE5002 (top) and 6-S5001 & 1-S5002 (bottom) bars lapped a minimum of 1'-7" unless otherwise noted.

MICROFILMED  
JUL 19 1953



SECTION S1-S1

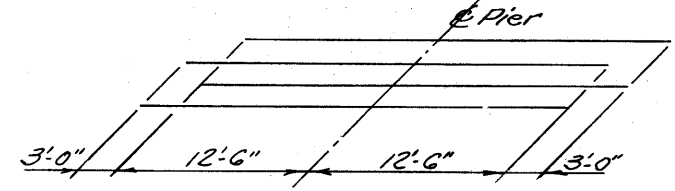


DIAGRAM SHOWING STAGGER OF SE5003 BARS OVER PIERS

NOTES:

\*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 beam may not have the exact camber or conformation required to place it parallel to the finished grade. This dimension is from top of deck slab to top of steel beam.

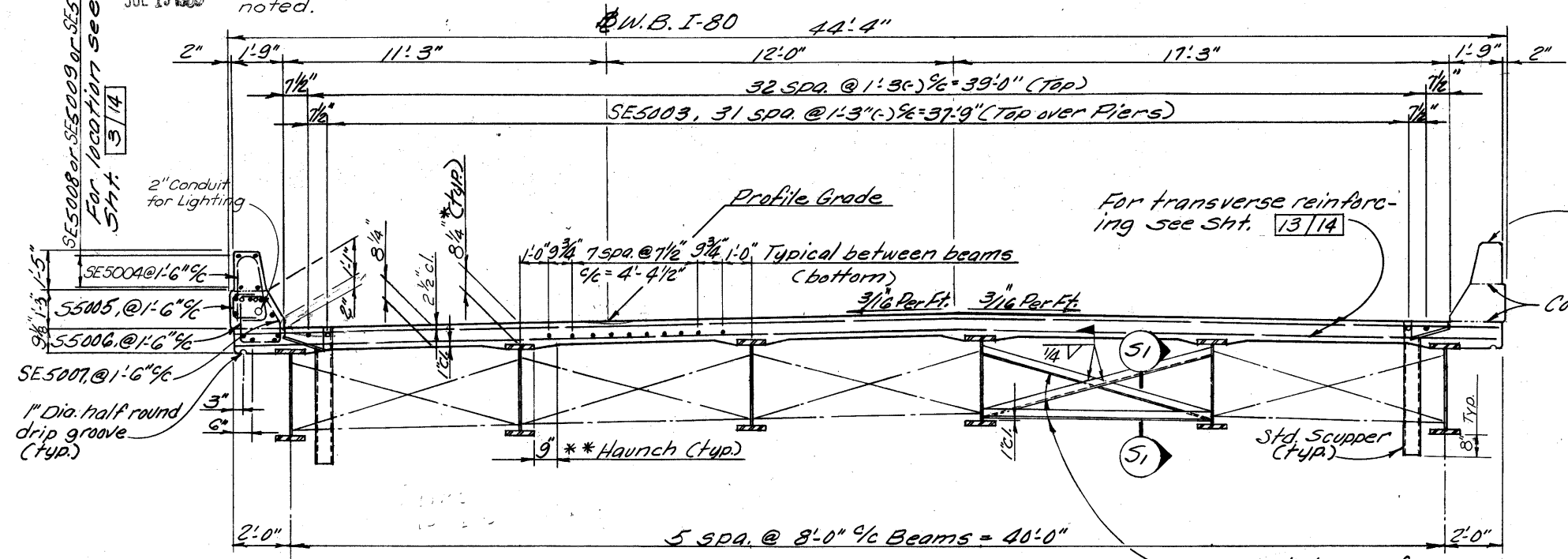
\*\* A haunch width of 9" shall be used for all beams in computing quantity of concrete. However, the haunch width may vary between 6" and 12" provided that the slope shall be not more than 1/4" for a haunch less than 9" in width.

For details of end dam see Sht. 354. Concrete and reinforcing steel for parapets shall be included for payment with their respective items. Item 511 Superstructure concrete and Item 509 reinforcing steel.

Longitudinal reinforcing steel shall be field cut as necessary to avoid interference with scuppers.

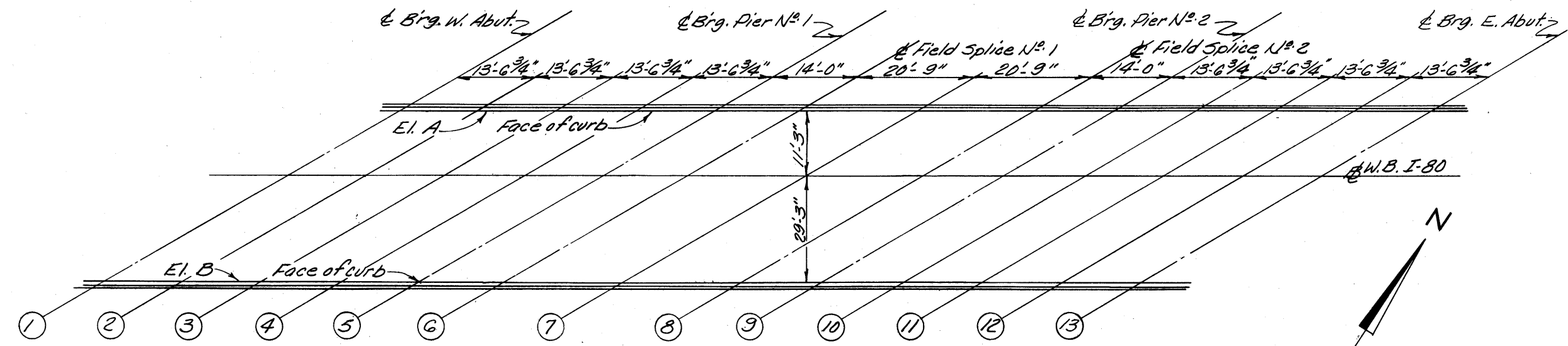
Field bend transverse reinforcing to fit crown. Cost of field bending to be included with Item 509.

Steel Erection: During the erection of end dams and crossframes care shall be taken to insure that stringers, bearing parts and bridge seats remain in bearing contact.



TRANSVERSE SECTION

Intermediate crossframes Ls 3x3x 3/16. Weld both sides of vertical leg and top side of horiz. leg to beam with 1/4" continuous fillet weld.



DECK ELEVATION LOCATIONS

The deck elevations shown are those which are required prior to placing of the concrete deck. Proper allowance has been made for the dead load deflection caused by the weight of the concrete.

TABLE OF DECK ELEVATIONS													
Line	1	2	3	4	5	6	7	8	9	10	11	12	13
Elev. A	776.26	776.19	775.10	776.00	775.90	775.82	775.71	775.55	775.45	775.37	775.29	775.20	775.09
Elev. B	776.82	776.58	776.66	776.56	776.46	776.38	776.26	776.10	776.00	775.92	775.84	775.75	775.64

For additional notes see Sht. 12/14

END DAMS AND SCUPPERS: Steel bar stock utilized for end dams and scuppers may be any weldable grade of low or mild carbon steel available commercially. This material is to be excluded from the requirements of 501.07 for test reports.

SHOP DRAWINGS  
After all steel fabrication is completed, the fabricator shall furnish a 35 millimeter microfilm copy of each shop drawing mounted on a 3 1/4 x 7 3/8 aperture card. The card shall be imprinted with the bridge and project number, fabricator's name, drawing number and details shown on the drawing (girders, beams, crossframes, etc.)

ALDEN E. STILSON & ASSOCIATES, LIMITED  
CONSULTING ENGINEERS  
CLEVELAND, OHIO COLUMBUS, OHIO WHEELING, W. VA.

**SUPERSTRUCTURE DETAILS**  
BRIDGE NO LOR. - 80-1910  
W. B. I-80 OVER CHESTNUT RIDGE ROAD

LORAIN COUNTY STA. 46+04.61  
STA. 47+91.53

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISION
R.S.S.	R.T.		B.I.P.	G.W.M.	5/1/70	

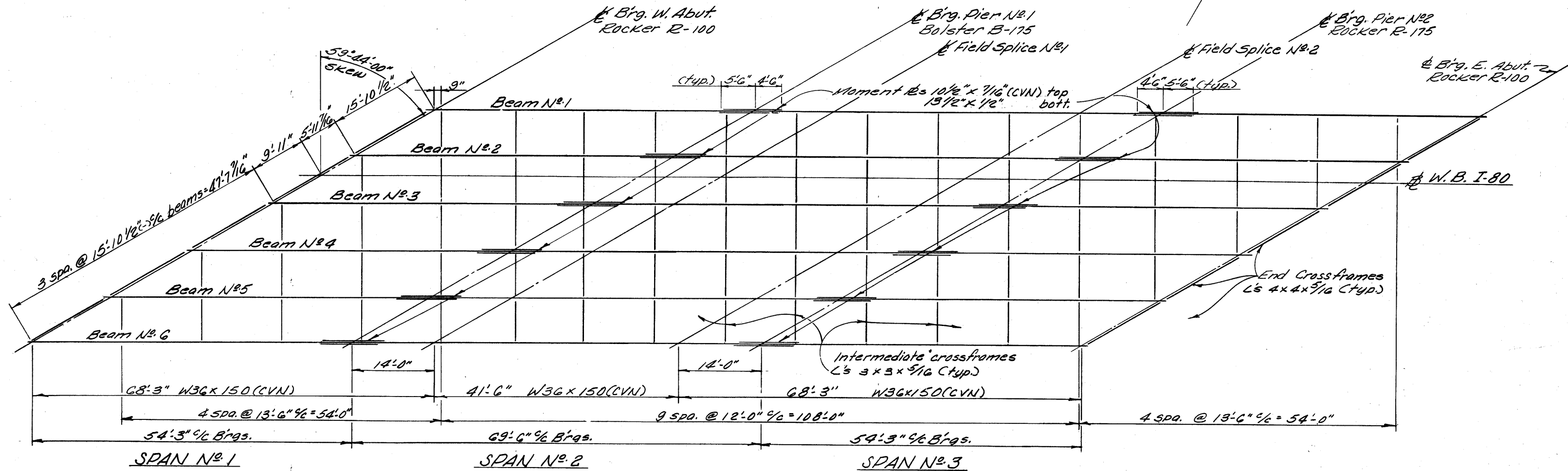


RECORDED  
JUL 19 1960

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

301  
375

LORAIN COUNTY  
LOR. - 480-0.00



**FRAMING PLAN**

**NOTES:**

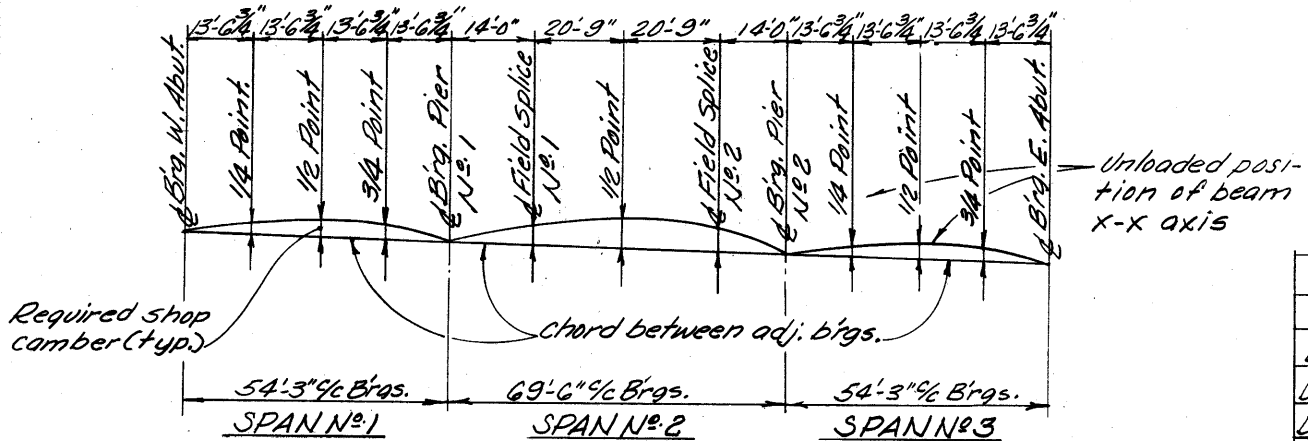
Where "(CVN)" follows a shape or plate size designation, the material shall meet specified notch toughness requirements.

Crossframes may be shifted as necessary to avoid field splices.

Place intermediate crossframes normal to beam.

For details of field splice see Std. Drwg. S.D.-1-69 Sht. No. 4.

For moment plate details see Std. Drwg. S.D.-1-69 Sht. No. 3.



**CAMBER & BLOCKING DIAGRAM**

Note: All blocking dimensions are 0'-0"

**DEFLECTION AND CAMBER**

	SPAN No. 1			SPAN No. 2			SPAN No. 3		
Location	1/4 Pt.	1/2 Pt.	3/4 Pt.	Sp. Pt.	1/2 Pt.	Sp. Pt.	1/4 Pt.	1/2 Pt.	3/4 Pt.
Deflection due to weight of steel	1/16	1/16	1/16	1/16	1/16	1/16	1/16	1/16	1/16
Deflection due to remaining dead load	3/16	1/4	1/8	1/8	5/16	1/8	1/8	1/4	3/16
Adjustment required for Vert. curve	0	0	0	0	0	0	0	0	0
Required Shop Camber	1/4	5/16	3/16	3/16	3/8	3/16	3/16	5/16	1/4

12/14

**ALDEN E. STILSON & ASSOCIATES, LIMITED**  
CONSULTING ENGINEERS  
CLEVELAND, OHIO COLUMBUS, OHIO WHEELING, W. VA.

**SUPERSTRUCTURE DETAILS**  
BRIDGE No. LOR. - 80-1910  
W. B. I-80 OVER CHESTNUT RIDGE ROAD

LORAIN COUNTY STA 46+04.61  
STA 47+91.53

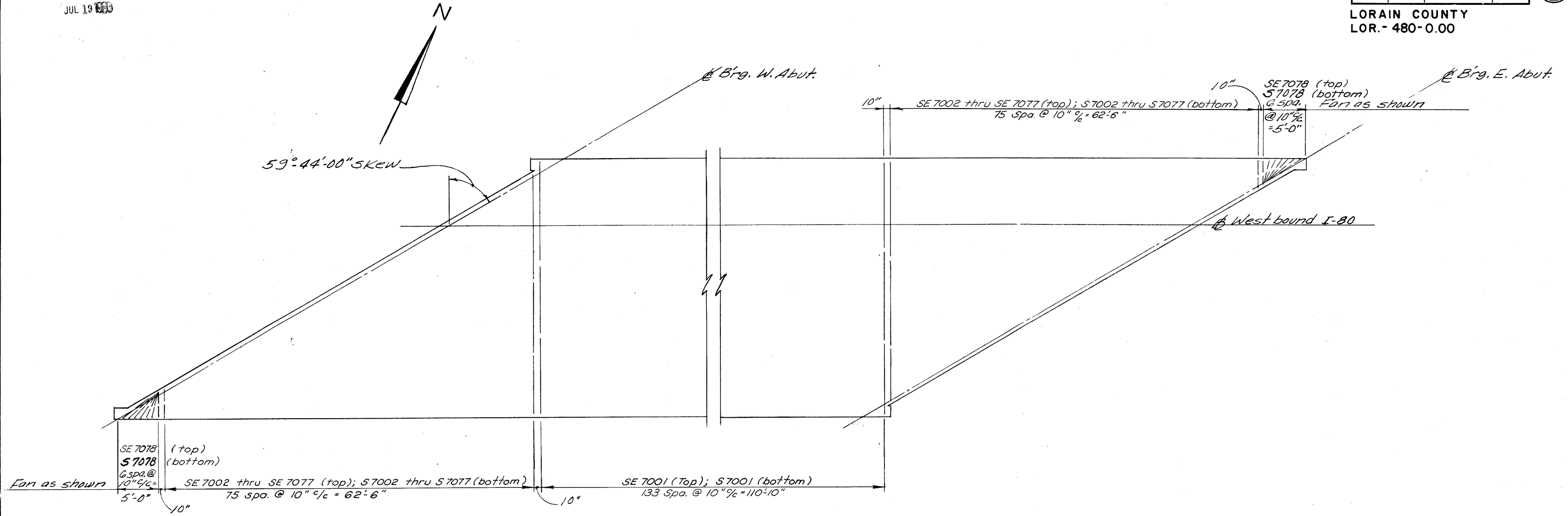
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
R.S.S.	D.T.		B.I.P.	G.W.M.	5/11/70	

REPRODUCTION  
JUL 19 1983

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

302  
375

LORAIN COUNTY  
LOR.-480-0.00



TRANSVERSE SLAB REINFORCING

Note: Transverse reinforcing steel shall be placed normal to  $\phi$  of West bound I-80 except at acute corners of slab.

13/14

ALDEN E. STILSON & ASSOCIATES, LIMITED  
CONSULTING ENGINEERS  
CLEVELAND, OHIO    COLUMBUS, OHIO    WHEELING, W. VA.

**SUPERSTRUCTURE DETAILS**  
BRIDGE No. LOR. - 80-1910  
W. B. I-80 OVER CHESTNUT RIDGE ROAD  
LORAIN COUNTY    STA. 46+04.61  
STA 47+91.53

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
R.S.S.	R.T.		B.I.P.	G.W.M.	5/11/70	

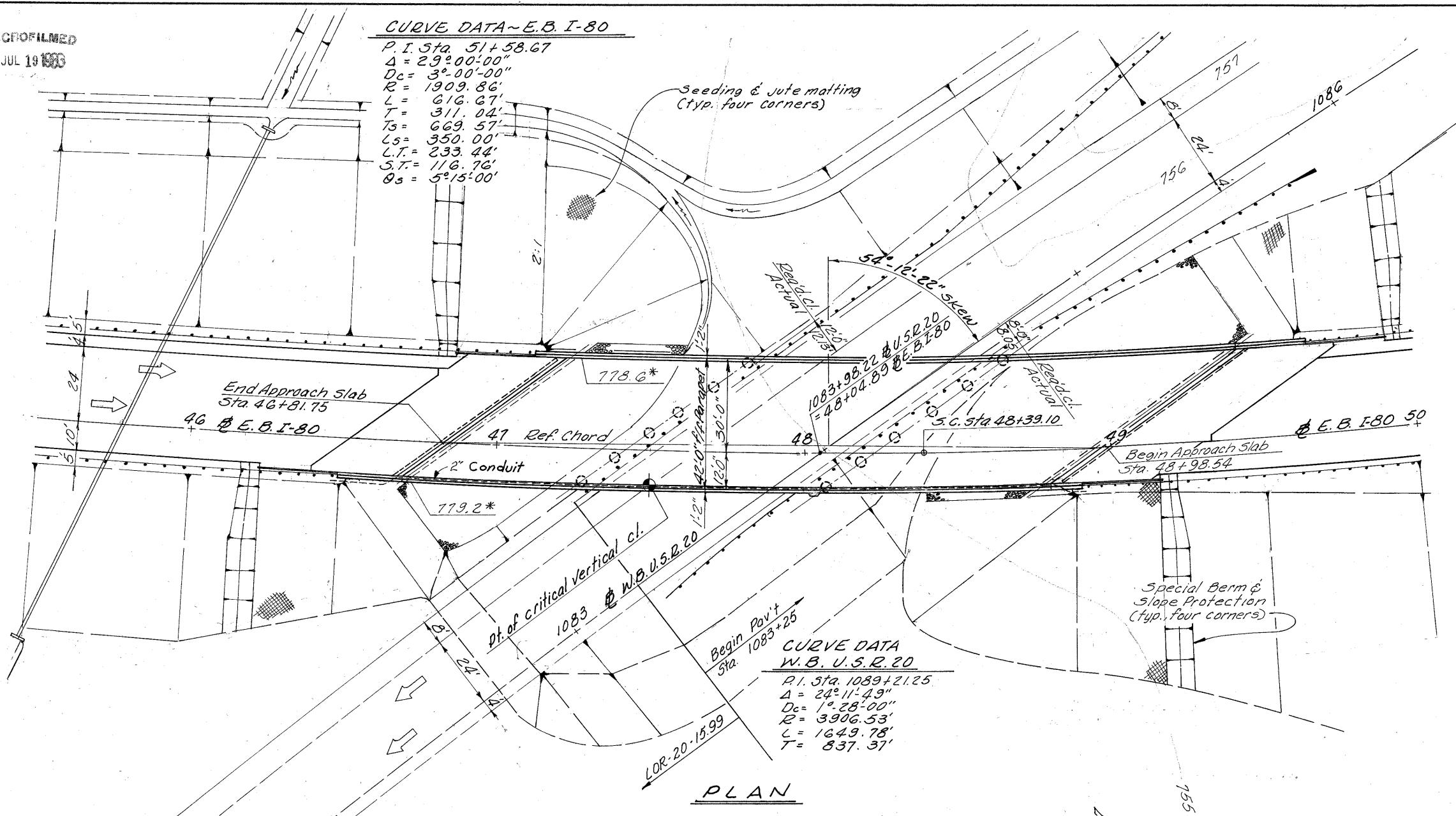
MICROFILMED  
JUL 19 1988

**CURVE DATA - E.B. I-80**  
 P.I. Sta. 51+58.67  
 $\Delta = 29^{\circ}00'00''$   
 $D_c = 3^{\circ}00'00''$   
 $R = 1909.86'$   
 $L = 616.67'$   
 $T = 311.04'$   
 $T_s = 669.57'$   
 $L_s = 350.00'$   
 $L.T. = 233.44'$   
 $S.T. = 116.76'$   
 $\theta_s = 5^{\circ}15'00''$

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

LORAIN COUNTY  
LOR-480-000

304  
375

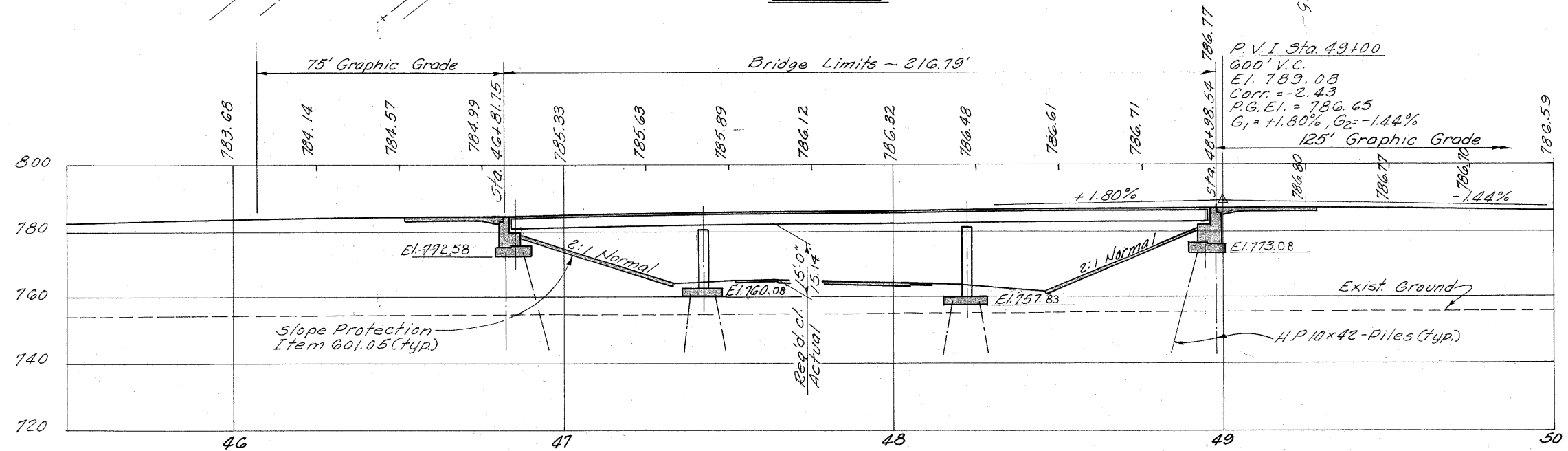


**PLAN**

BRIDGE NO. LOR-80-1912 APPEARING THROUGHOUT THIS BRIDGE PLAN SHALL BE CONSIDERED TO READ BRIDGE NO. LOR-480-0130

**NOTE:**  
 Earthwork limits shown are schematic, Actual limits shall conform to plan cross sections.  
 \* Elevation of slope at face of abutment. The vertical data does not apply to bridge or graphic grade elevations. The bridge elevations were obtained by adding 0.12 feet to the elevations obtained from vertical curve data.

**PROPOSED STRUCTURE**  
 TYPE: Continuous steel beam with reinforced concrete deck & substructure.  
 SPANS: 56'-0", 81'-0", 72'-0" % brgs. on  $\phi$   
 ROADWAY: 42'-0" ft parapets of BR-1-G7 railing.  
 LOADING: HS 20-44 plus Interstate Alternate.  
 WEARING SURFACE: Monolithic conc.  
 SKEW: 54°12'22" (with ref chord)  
 ALIGNMENT: 350' spiral and 3°00'00" curve left  
 APPROACH SLABS: AS-1-72 (Mod.) 30'-0" long.  
 SUPERELEVATION: Varies, 0.071% max.



**PROFILE ALONG EAST BOUND I-80**

**TRAFFIC ESTIMATE**  
 Design Year: 1987  
 Total A.D.T.: 8000

ALDEN E. STILSON & ASSOCIATES, LIMITED  
 CONSULTING ENGINEERS  
 CLEVELAND, OHIO COLUMBUS, OHIO WHEELING, W. VA.

**SITE PLAN**  
 BRIDGE NO. LOR-80-1912  
 E.B. I-80 OVER W.B. U.S.R. 20

LORAIN COUNTY STA. 46+81.75  
 STA. 48+98.54

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
G.W.M.	R.T.		B.I.P.	G.W.M.	4/29/79	

Piling Estimated Average pay length:  
 Abutments - 25'  
 Piers - 16'

STANDARD DRAWING REFERENCES CONT

DESCRIPTION	DWG. NO.	SHT	DATE
POLE BASE DETAILS	HL-3	I	7-27-73
STRUCTURE LIGHTING I	HL-4	I	1-21-76
STRUCTURE LIGHTING II	HL-5	I	9-6-73
STRUCTURE GROUNDING	HL-7	I	1-21-76

STANDARD DRAWING REFERENCES

DESCRIPTION	DWG. NO.	SHT.	DATE
END DAM AND END CROSSFRAME	SD-1-69	1-2	6-12-69
CURB PLATES	SD-1-69	2	6-12-69
SCUPPERS	SD-1-69	3	6-12-69
MOMENT PLATES	SD-1-69	3	6-12-69
BOLTED SPLICES	SD-1-69	4	6-12-69
BRIDGE ROADWAY RAILING	BR-1-67	1	10-15-71 R
ROCKERS AND BOLSTERS	RB-1-55		2- 2-59 R
APPROACH SLABS	AS-1-72 (MOD.)*		6-30-72

(R INDICATES REVISED DATE)

SUPPLEMENTAL SPECIFICATION REFERENCES-CONT

DESCRIPTION	NO.	DATE
PAINTING FOR NEW STRUCTURAL STEEL	846	4-25-77
INORGANIC ZINC SILICATE PAINT	950	4-25-77
BLUE GREEN VINYL PAINT	951	4-25-77

SUPPLEMENTAL SPECIFICATION REFERENCES

DESCRIPTION	NO.	DATE
CHEMICAL ADMIXTURE FOR CONCRETE, TYPE A, B OR D	808	1- 1-71
CONCRETE CURING AND PROTECTIVE MEMBRANE	836	3-12-75
SPECIAL PILE TESTS	838	1-13-77

COMMON DETAIL REFERENCES

CONTRACTION JOINTS & END DAMS	SHEET	354
DECK DRAINAGE DETAILS	SHEET	355

DESIGN SPECIFICATIONS

THIS STRUCTURE CONFORMS TO THE '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 - HS20-44 AND THE INTERSTATE ALTERNATE LOADING  
 CONCRETE CLASS C - UNIT STRESS 1200 PSI FOR SUPERSTRUCTURE  
 UNIT STRESS 1333 PSI FOR SUBSTRUCTURE  
 STRUCTURAL STEEL - ASTM A36 - UNIT STRESS 20000 PSI  
 REINFORCING STEEL - ASTM A615, A616 OR A617 - UNIT STRESS 20000 PSI.  
 SPIRAL REINFORCEMENT MAY BE PLAIN BARS ASTM A82, OR A615.

EMBANKMENT CONSTRUCTION

THE EMBANKMENTS SHALL BE CONSTRUCTED TO THE LEVEL OF THE SUBGRADE FROM THE EXISTING EMBANKMENT AT STATION 1082+00 TO STATION 1086+00 (MIN.) ON U.S.R. 20 AND FOR A MINIMUM OF 200 FEET BACK OF THE ABUTMENTS ON E.B.I-80. EXCAVATION SHALL THEN BE MADE FOR THE ABUTMENTS AND PIERS.

PILES

PILES SHALL BE DRIVEN TO A MINIMUM BEARING CAPACITY OF-  
 35 TONS PER PILE FOR THE ABUTMENTS AND WINGWALLS  
 35 TONS PER PILE FOR THE PIERS

LAPS

MINIMUM BAR LAPS SHALL BE 30 DIAMETERS.

ATTACHMENT OF GUARDRAIL TO CONCRETE PARAPETS: \* Std. Dwg. AS-1-72 shall be modified to provide concrete insert anchor assemblies per Standard Construction Drawings GR-3 and GR-1 shall be placed during parapet construction. 3" clearance to the top re-bars instead of the 2" shown and jacking holes shall be omitted.

ITEM	TOTAL	UNIT	DESCRIPTION	ABUTS	PIERS	SUPER	GENERAL			
503	603	C.Y.	UNCLASSIFIED EXCAVATION	376	227					
503	LUMP	SUM	COFFERDAMS, CRIBS AND SHEETING					LUMP		
505	LUMP	SUM	TEST PILE					LUMP		
507	1582	L.F.	STEEL PILES, HP10X42	750	832					
509	90744	LB	REINFORCING STEEL	21085	32114	37545				
511	305	C.Y.	CLASS C CONCRETE, SUPERSTRUCTURE(SEE PROPOSAL NOTE)			305				
511	60	C.Y.	CLASS C CONCRETE, PIERS ABOVE FOOTINGS		60					
511	169	C.Y.	CLASS C CONCRETE, ABUTMENTS ABOVE FOOTINGS	169						
511	236	C.Y.	CLASS C CONCRETE, FOOTINGS	127	109					
512	17	L.F.	PREMOLDED SEALING STRIP	17						
513	304600	LB	STRUCTURAL STEEL,PRIMER PER 846(SEE PROPOSAL NOTES)			304600				
846	304600	LB	FIELD PAINTING OF STRUCTURAL STEEL			304600				
518	107	C.Y.	POROUS BACKFILL	107						
518	7	EA	SCUPPERS INCLUDING SUPPORTS			7				
518	128	L.F.	6 INCH PERFORATED, HELICAL CSP, 707.01	128						
518	84	L.F.	6 INCH NON-PERFORATED, HELICAL CSP, INCLUDING SPECIALS, 707.01	84						
601	854	S.Y.	CRUSHED AGGREGATE SLOPE PROTECTION					854		
808	305	UNIT	CHEMICAL ADMIXTURE FOR CONCRETE, TYPE A, B OR D							
838	3	HR	SPECIAL PILE TESTS					3		
			COLD APPLIED LIQUID							
SPEC	44967	LB	EPOXY COATED REINFORCING STEEL(SEE PROPOSAL NOTE)	1490		43477				

MONOLITHIC WEARING SURFACE THICKNESS IS ASSUMED TO BE 1" DECK PROTECTION  
 METHOD: EPOXY COATED REINFORCING STEEL, TOP MAT ONLY

ALDEN E. STILSON & ASSOCIATES, LIMITED  
 CONSULTING ENGINEERS  
 CLEVELAND, OHIO COLUMBUS, OHIO WHEELING, W. VA.

GENERAL NOTES AND ESTIMATED QUANTITIES  
 BRIDGE NO. LOR-80-1912  
 E.B. I-80 OVER W.B. U.S.R. 20  
 LORAIN COUNTY STA. 46 + 81.75  
 STA. 48 + 98.54

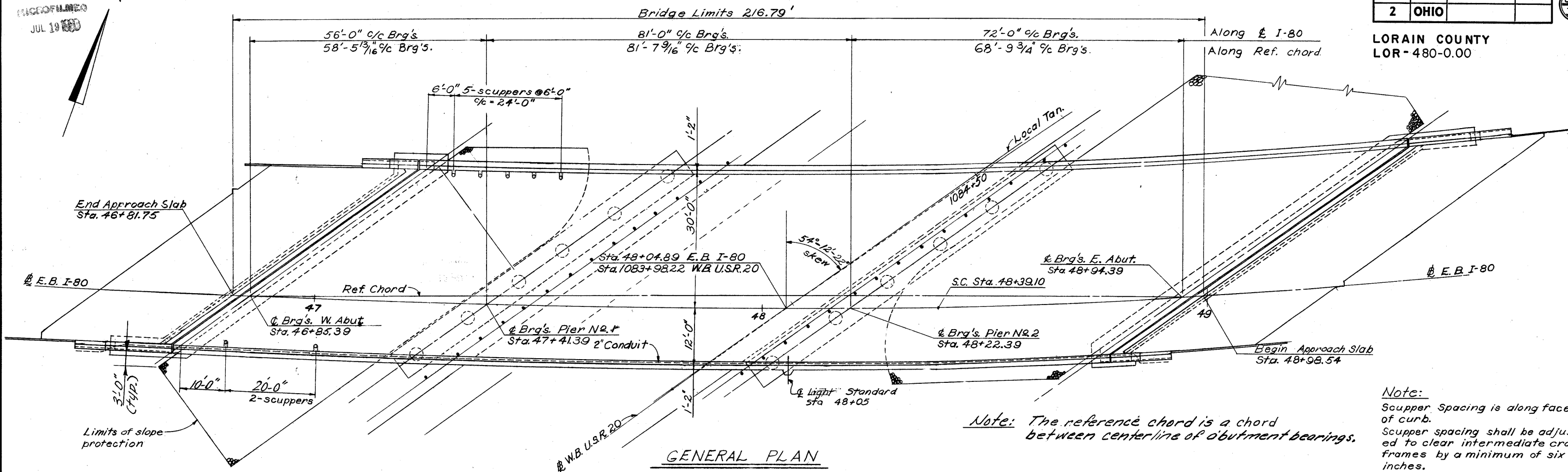
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISION
B.D.			M.M.A.	G.W.M.	3-12-70	4/29/70

MICROFILMED  
JUL 19 1960

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

306  
375

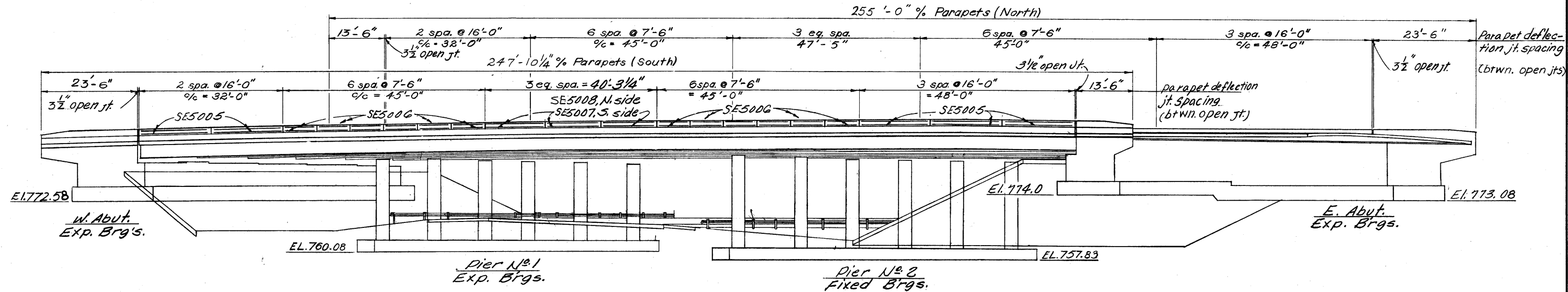
LORAIN COUNTY  
LOR-480-0.00



**GENERAL PLAN**

Note: The reference chord is a chord between centerline of abutment bearings.

Note: Scupper Spacing is along face of curb. Scupper spacing shall be adjusted to clear intermediate cross-frames by a minimum of six inches.



**ELEVATION**  
(Piles not shown)

3/13

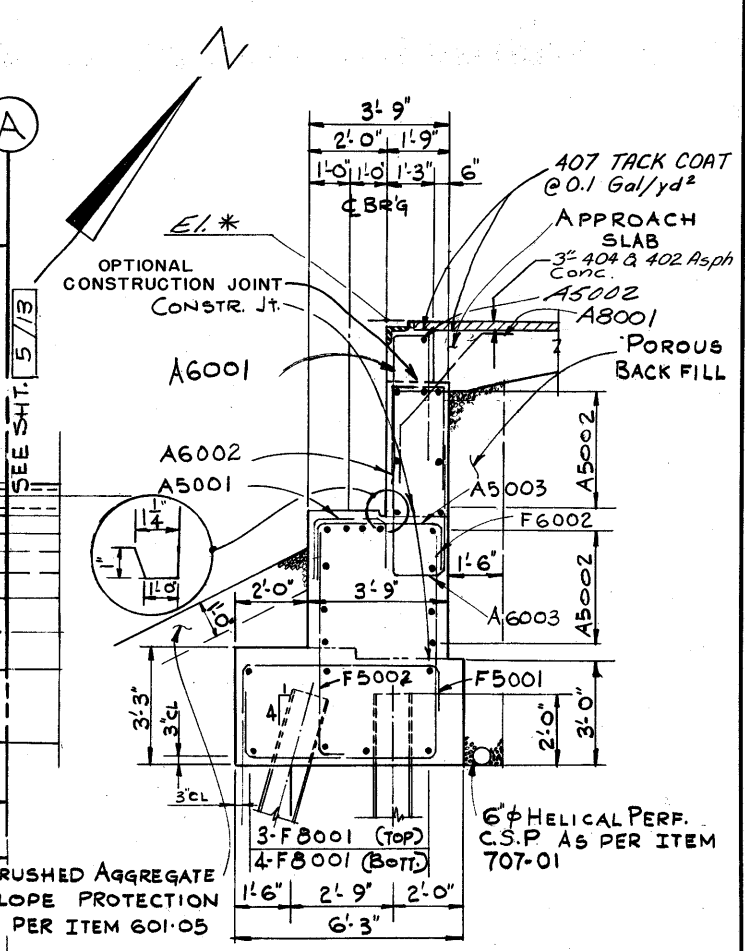
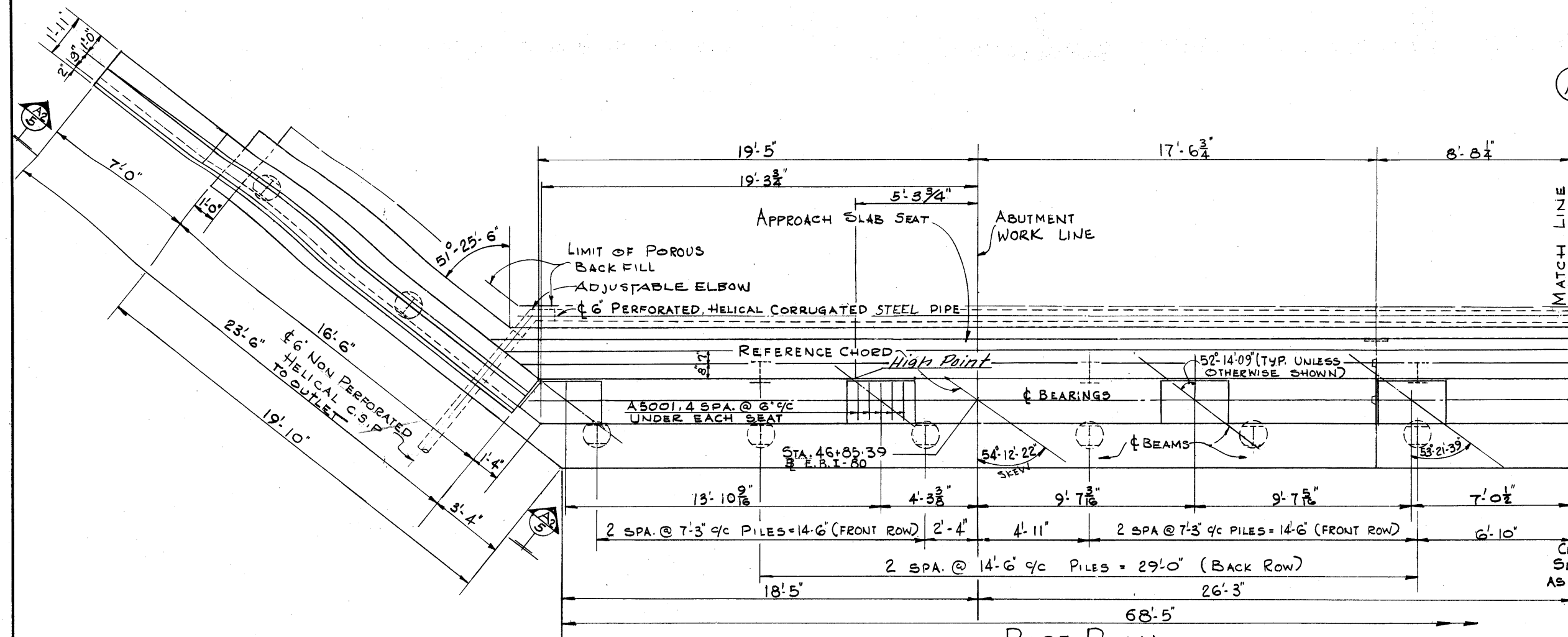
ALDEN E. STILSON & ASSOCIATES, LIMITED CONSULTING ENGINEERS CLEVELAND, OHIO COLUMBUS, OHIO WHEELING, W. VA.						
<b>GENERAL PLAN</b>						
BRIDGE NO LOR-80-1912 E. B. I-80 OVER W.B. U.S.R. 20						
LORAIN COUNTY STA. 46+81.75 STA. 48+98.54						
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
B.P.O. DALAL	R		B.I.P.	G.W.M.	4/29/70	

NOT FILLED  
JUL 19 1980

FED. RD. DIVISION	STATE	PROJEC	TYPE FUNDS
2	OHIO		

307  
375

LORAIN COUNTY  
LOR-480-0.00



**SECTION A1-A1**  
(TYPICAL EXCEPT FOR BAR CALLOUTS)

**NOTES:**

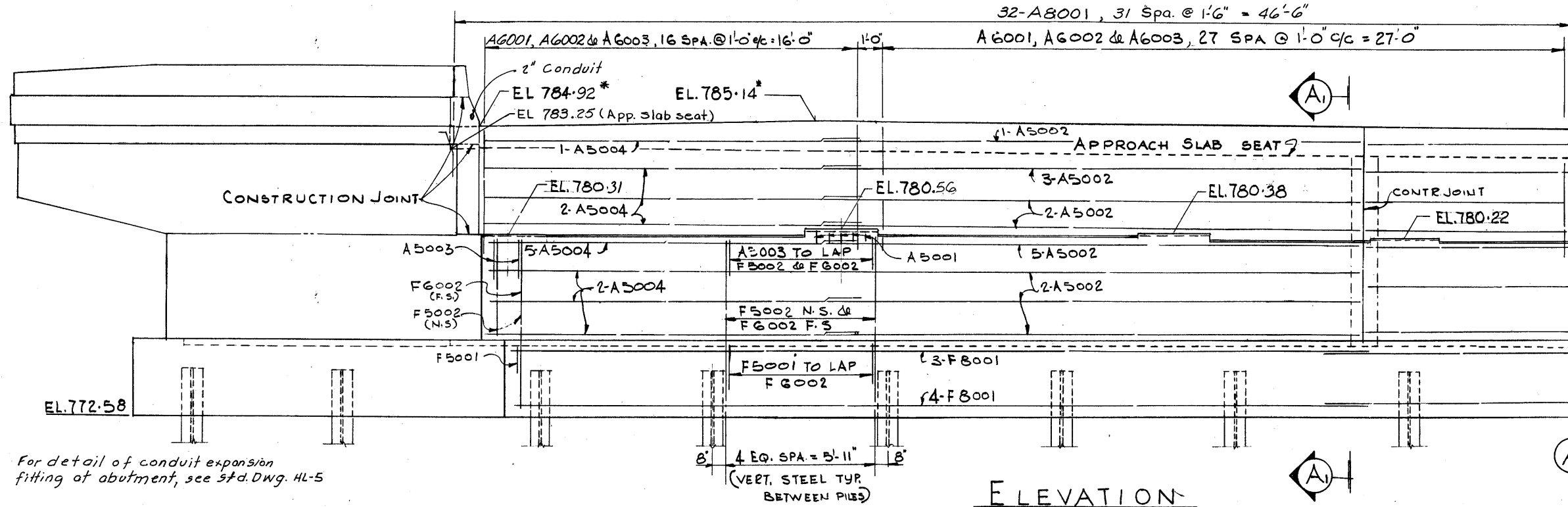
- ALL PILES ARE HP10x42 - PILES
- I INDICATES VERTICAL PILES.
- ⊙ INDICATES PILES BATTERED 1:4

IN REINFORCING BAR CALLOUTS  
N.S. INDICATES NEAR SIDE  
F.S. INDICATES FAR SIDE

\* ELEVATIONS SHOWN THUS ARE PAVEMENT ELEVATIONS AT THE FACE OF BACKWALL AND THE POINT INDICATED, SEE SECTION A1-A1

FOR ADDITIONAL NOTES SEE SH. 5/13

ADJUSTABLE TYPE ELBOWS MEETING SPECIFICATION REQUIREMENTS FOR GAGE AND COATING ARE ACCEPTABLE FOR MAKING BENDS IN C.S.P. ELBOW NEED NOT BE PERFORATED.



For detail of conduit expansion fitting at abutment, see Std. Dwg. HL-5

ALDEN E. STILSON & ASSOCIATES, LIMITED  
CONSULTING ENGINEERS  
CLEVELAND, OHIO COLUMBUS, OHIO WHEELING, W. VA.

**WEST ABUTMENT DETAILS**

BRIDGE NO LOR-80-1912  
E. B. 1-80 OVER W.B. U.S.R. 20

LORAIN COUNTY STA. 46+81.75  
STA. 48+98.54

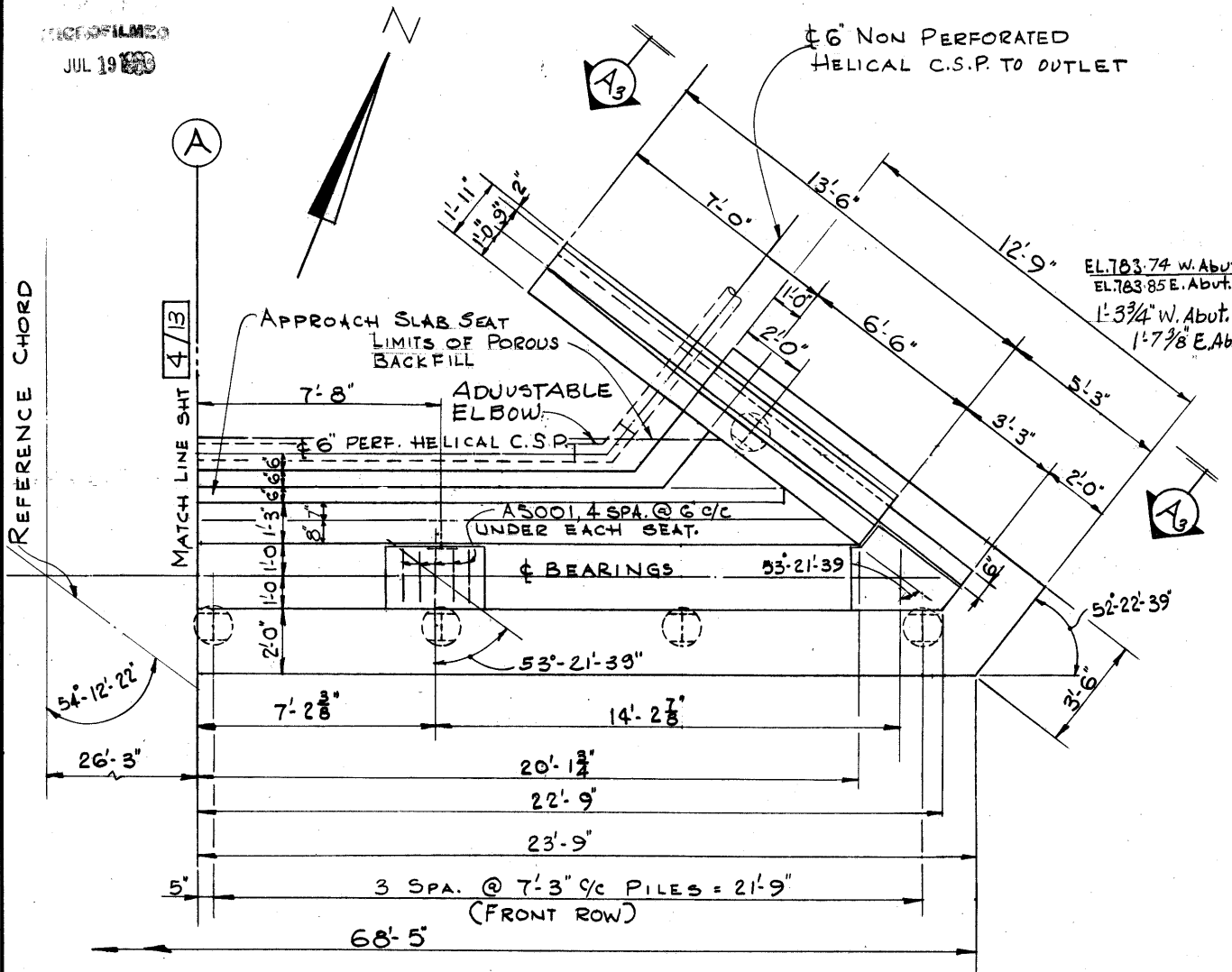
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISION
B.P.A.	B.A.L.		B.I.P.	G.W.M.	4/29/70	

REPRODUCED  
JUL 19 1963

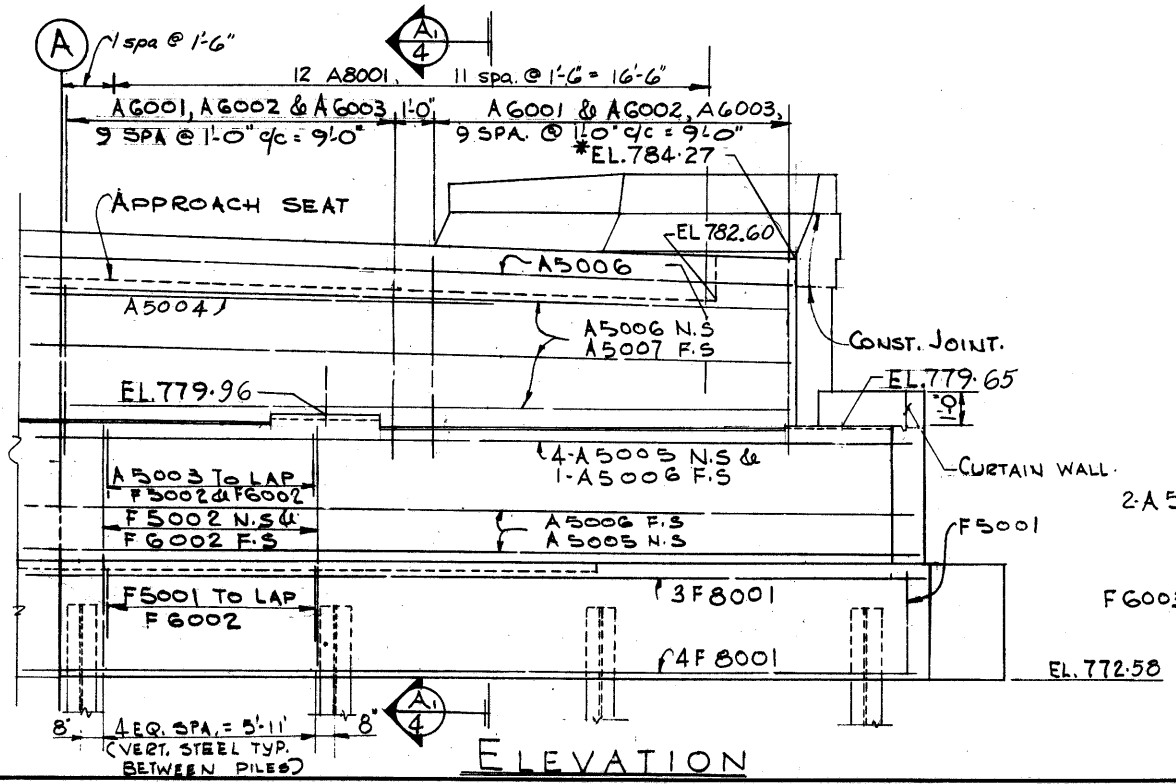
FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

LORAIN COUNTY  
LOR-480-0.00

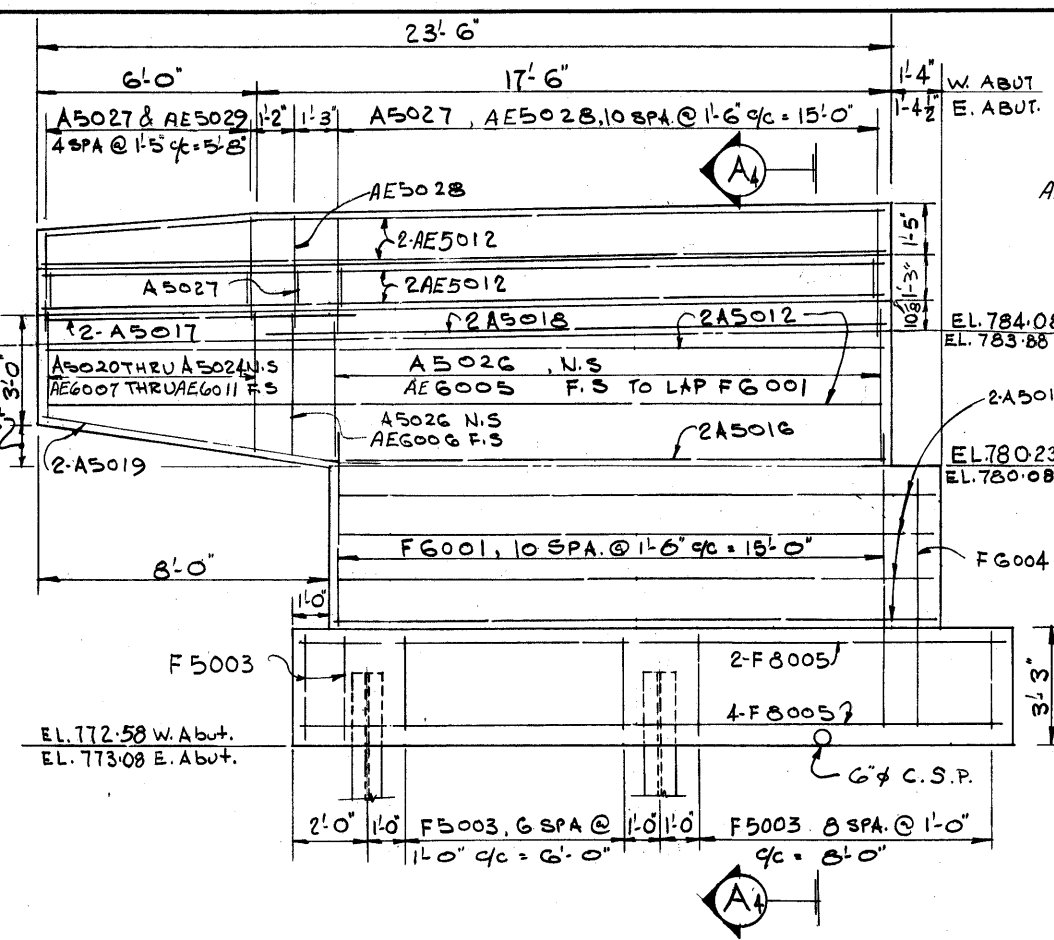
REFERENCE CHORD



PART PLAN

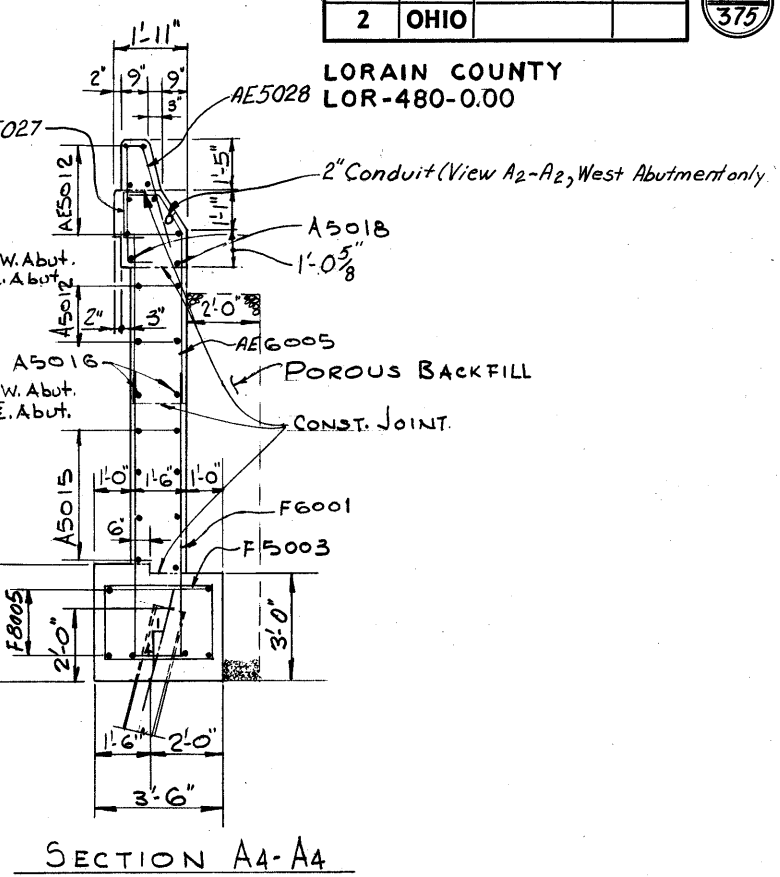


ELEVATION



VIEW A2-A2

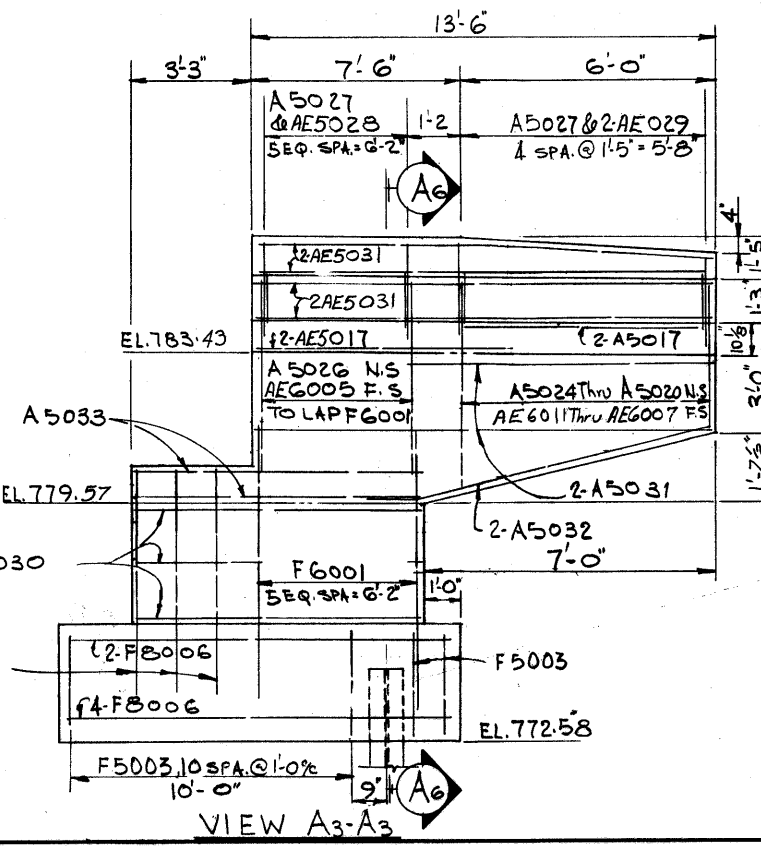
For details of electrical fitting, coupling and conduit in wingwall, See Sht HL-5



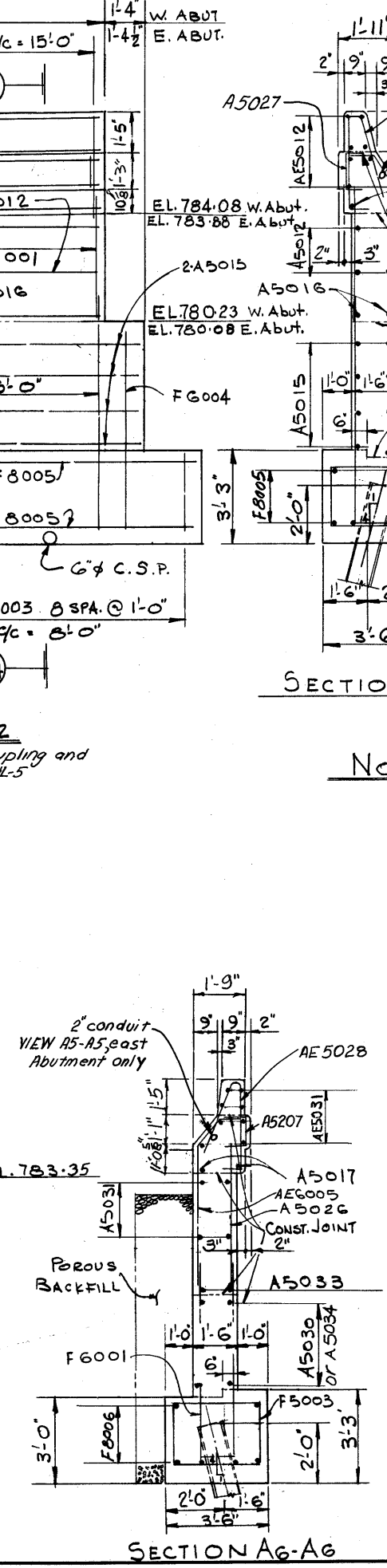
SECTION A4-A4

NOTES

- ALL PILES ARE HP 10x42 - PILES.
- ⊥ INDICATES VERTICAL PILES
- ⊙ INDICATES PILES BATTERED 1:4
- IN REINFORCING BAR CALLOUTS N.S. INDICATES NEAR SIDE F.S. INDICATES FAR SIDE
- \* ELEVATIONS SHOWN THUS ARE PAVEMENT ELEVATIONS AT FACE OF BACKWALL AND POINT INDICATED.
- POROUS BACKFILL 1'-6" THICK, FULL LENGTH OF ABUTMENT AND 2'-0" THICK FULL LENGTH OF WINGS AS SHOWN, SHALL EXTEND UP TO THE PLANE OF THE SUBGRADE.
- FOR DETAILS OF CONTRACTION JTS. SEE COMMON DETAILS SHT. NO. 354
- FOR DETAILS OF C.S.P. TERMINUS SEE COMMON DETAILS SHT. NO. 354
- FOR ADDITIONAL NOTES SEE SHT. 4/13



VIEW A3-A3



SECTION A6-A6

ALDEN E. STILSON & ASSOCIATES, LIMITED CONSULTING ENGINEERS CLEVELAND, OHIO COLUMBUS, OHIO WHEELING, W. VA.						
<b>WEST ABUTMENT DETAILS</b>						
BRIDGE NO LOR-80-1912						
E.B. I-80 OVER W.B. U.S.R. 20						
LORAIN COUNTY STA. 46 + 81.75						
STA. 48 + 98.54						
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	BY
B.P.L.	B.P.L.		B.I.P.	G.W.M.	4/20/70	
DALAL	DALAL					

308  
375

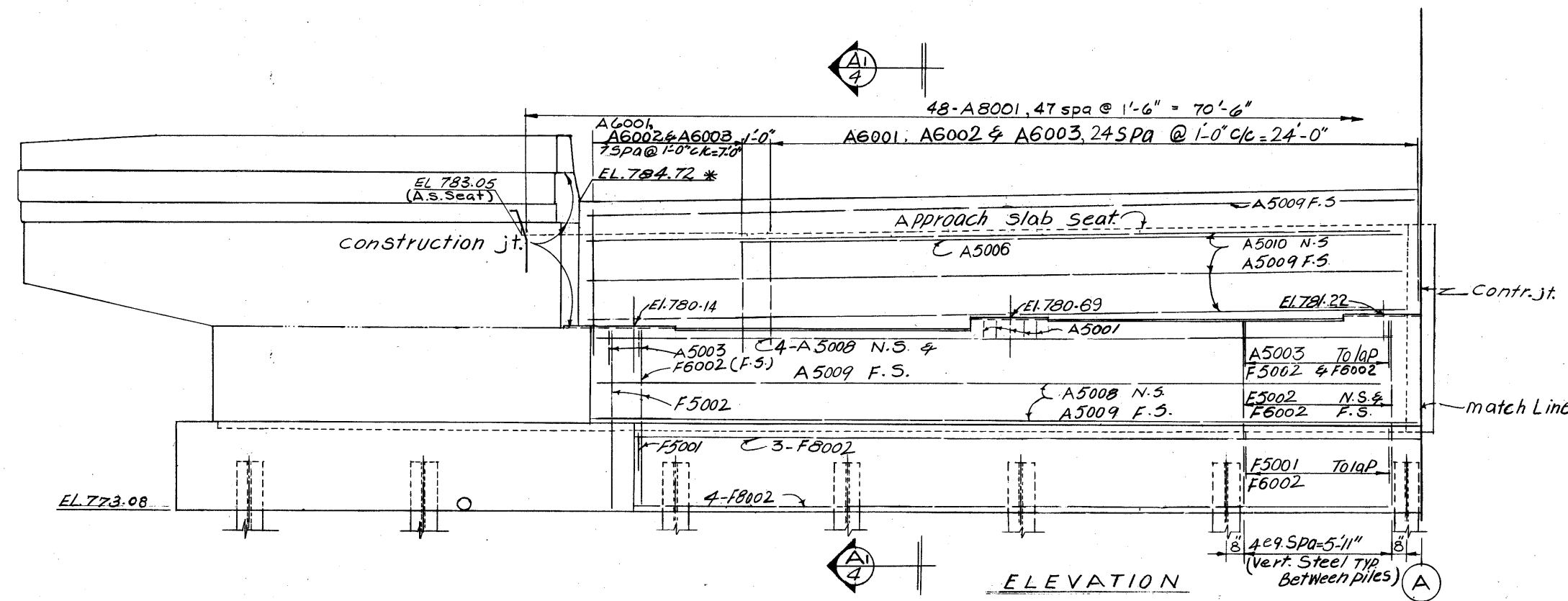
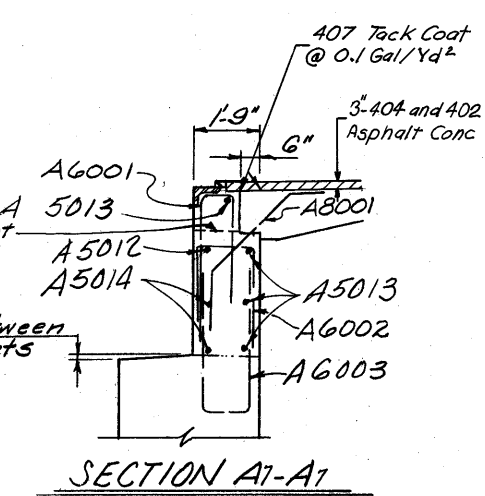
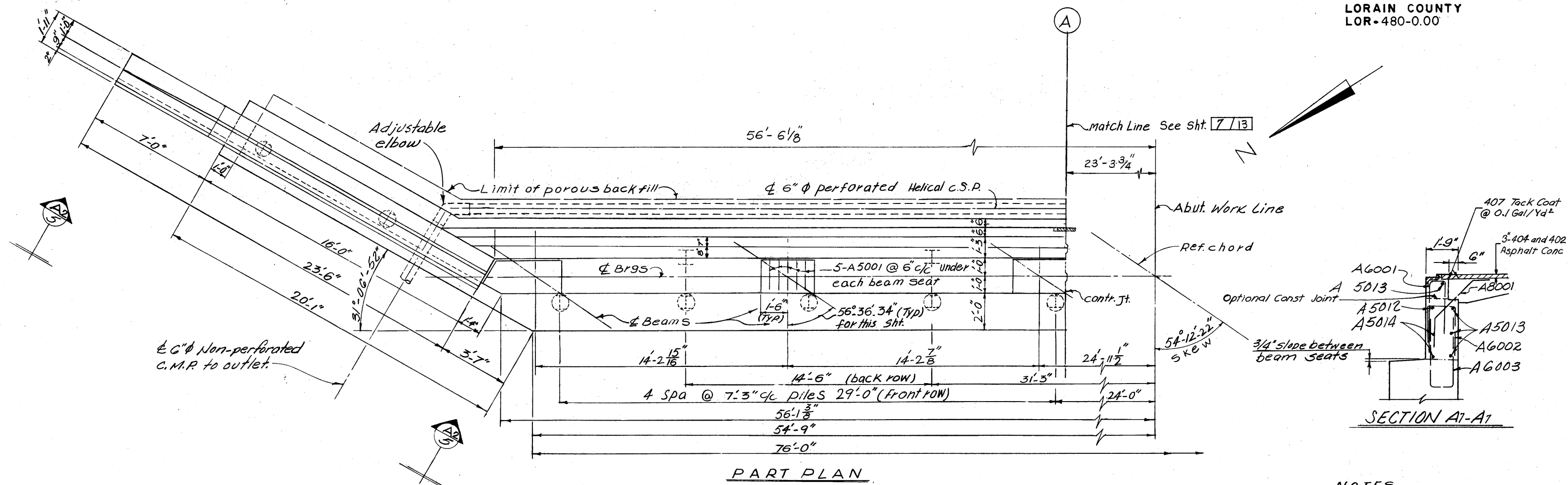
5/13

REVISIONS  
JUL 19 1960

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

309  
375

LORAIN COUNTY  
LOR-480-0.00



- NOTES**
- All piles are HP 10x42-piles
  - I indicates Vertical piles
  - ⊙ indicates piles battered 1:4
  - in reinforcing bar callouts N.S. indicates near side F.S. indicates far side
  - \* Elevations shown thus are pavement elevations at the face of backwall and the point indicated.

For additional notes See Sht. 4/13 & Sht. 5/13

BACKWALL CONCRETE: No backwall concrete shall be placed above the level of the optional construction joint at the approach slab seat until after the deck concrete in the span adjacent to the abutment has been placed.

ALDEN E. STILSON & ASSOCIATES, LIMITED  
CONSULTING ENGINEERS  
CLEVELAND, OHIO COLUMBUS, OHIO WHEELING, W. VA.

**EAST ABUTMENT DETAILS**  
BRIDGE NO LOR-80-1912  
E B. 1-80 OVER W.B. U.S.R 20

LORAIN COUNTY STA 46+81.75  
STA. 48+98.54

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISION
B.P.N.	MMA		B.I.P.	G.W.M.	4/30/70	

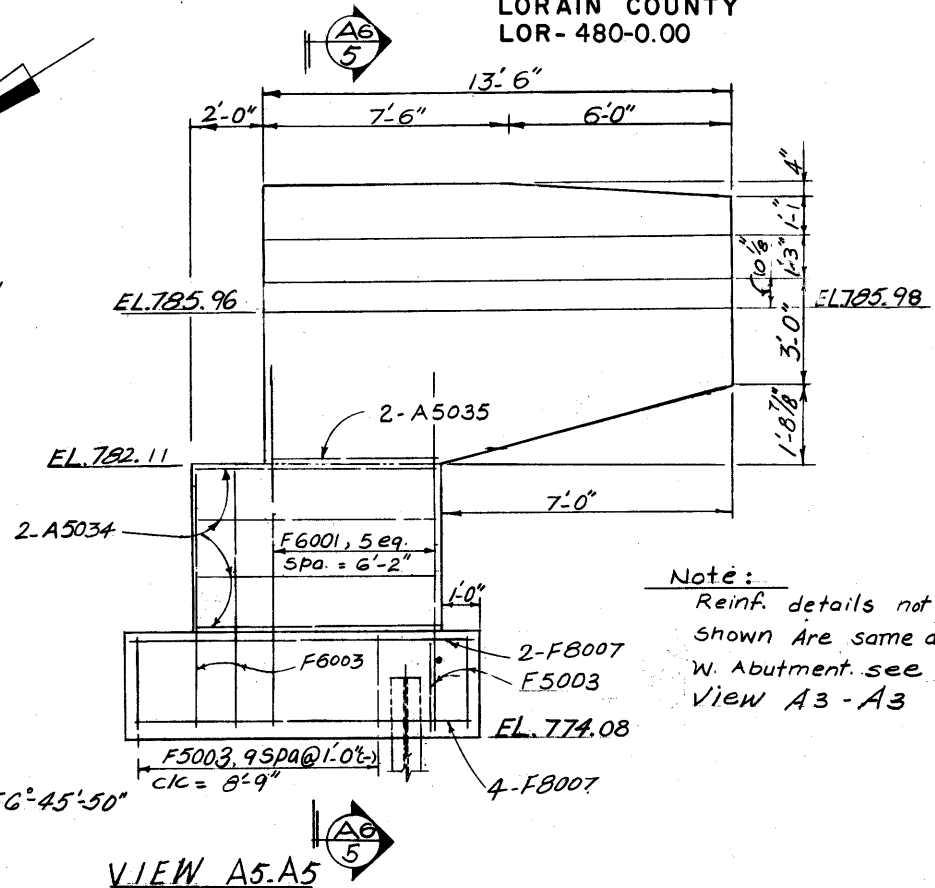
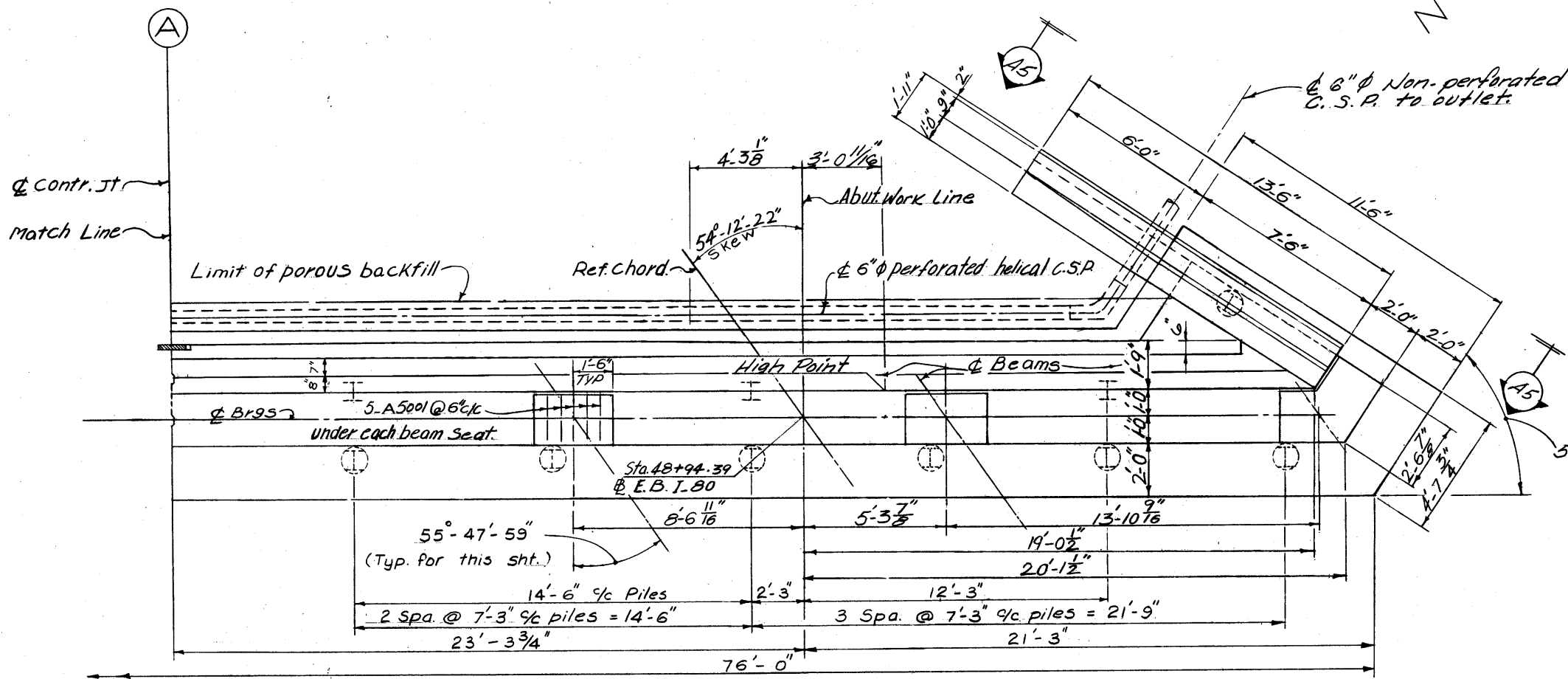


REPRODUCTION  
JUL 19 1960

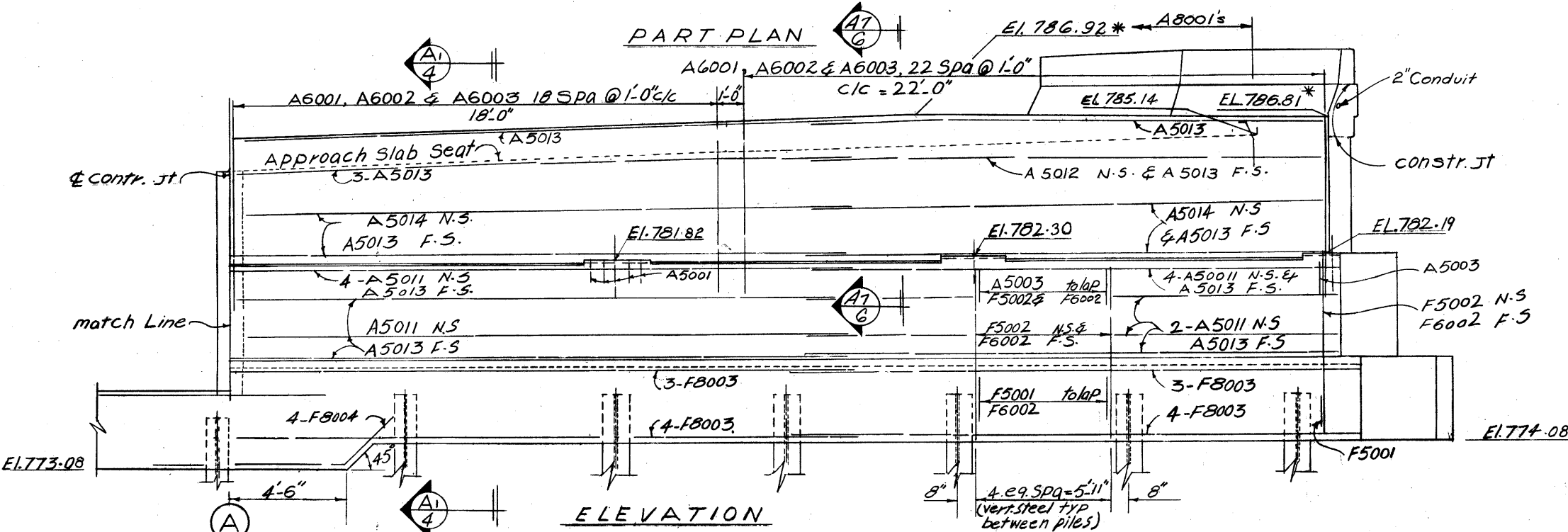
FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

310  
375

LORAIN COUNTY  
LOR-480-0.00



PART PLAN



**NOTES**

All piles are HP 10x42 piles  
 I indicates vertical piles  
 I indicates piles battered 1:4

In reinforcing bar callouts  
 N.S. indicates near side  
 F.S. indicates far side

\* Elevations shown thus are pavement elevations at the face of back wall and the point indicated.

For additional notes see sht. 4/13, 5/13 & 6/13.

For detail of conduit expansion fitting of abutment, see Std Dwg HL-5

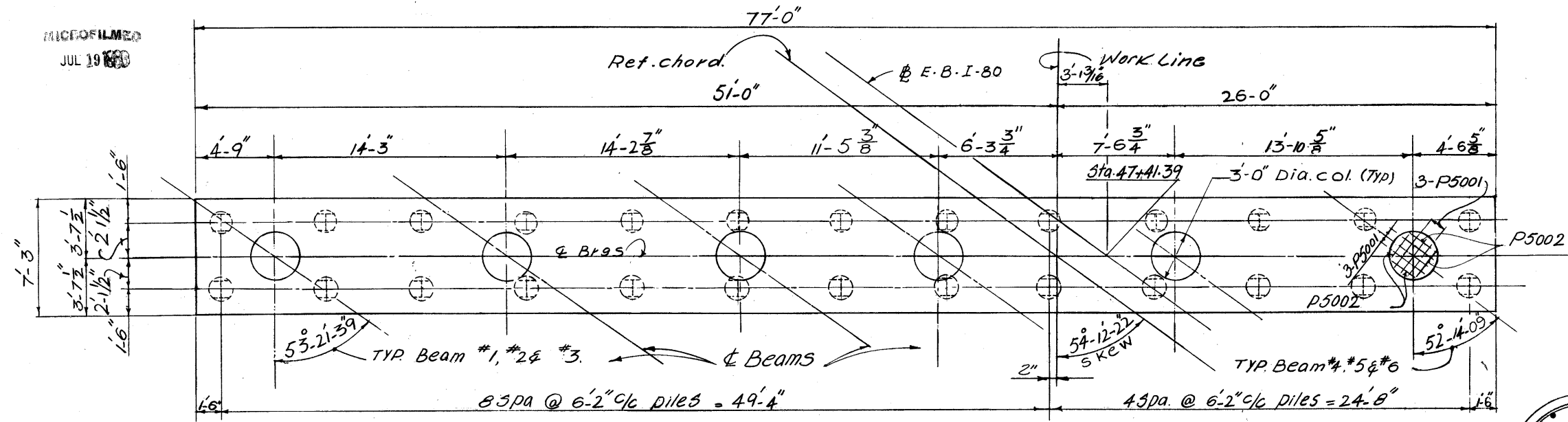
For details of electrical expansion fitting, coupling and conduit in wing wall, see Std. Dwg. HL-5

ALDEN E. STILSON & ASSOCIATES, LIMITED CONSULTING ENGINEERS CLEVELAND, OHIO COLUMBUS, OHIO WHEELING, W. VA.						
<b>EAST ABUTMENT DETAILS</b>						
BRIDGE No LOR-80-1912						
E. B. I-80 OVER W.B. U.S.R. 20						
LORAIN COUNTY					STA. 46+81.75	
					STA. 48+98.54	
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
SPIN	M.M.A.		B. I.P.	G.W.M.	4/10	
DALAL						

MICROFILMED  
JUL 19 1963

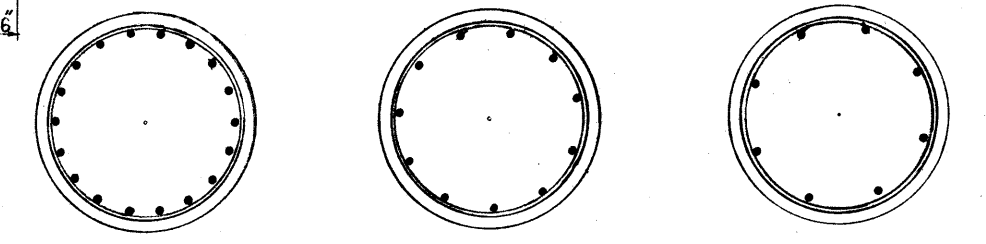
FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		311 375

LORAIN COUNTY  
LOR-480-0.00



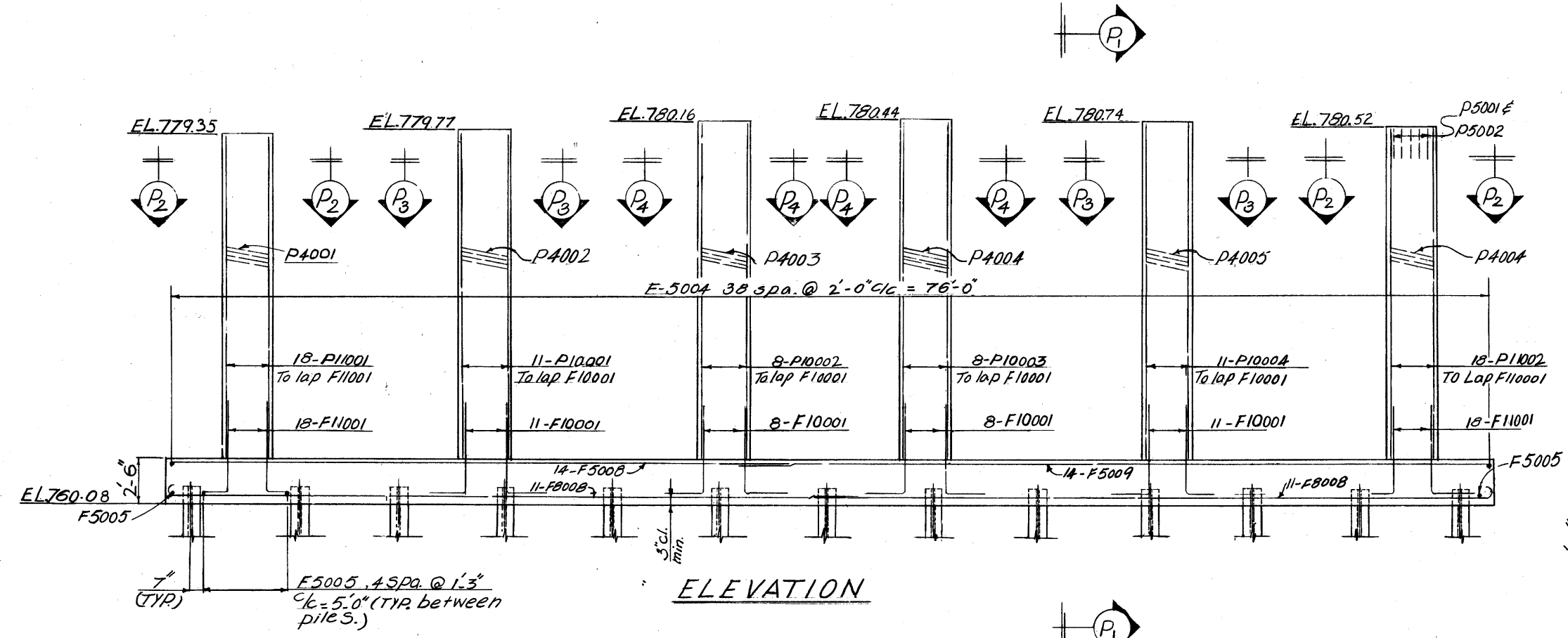
PLAN

NOTE:  
P5001 & P5002 bar are spaced 6" c/c and are TYP for all columns.



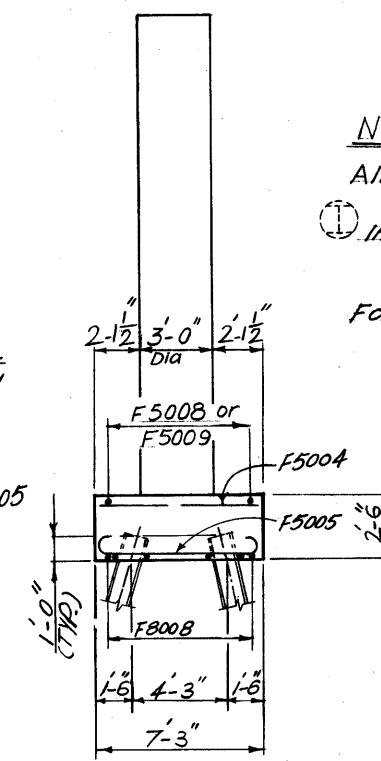
SECTION P<sub>2</sub>-P<sub>2</sub>    SECTION P<sub>3</sub>-P<sub>3</sub>    SECTION P<sub>4</sub>-P<sub>4</sub>

All vertical column bars are P11 or P10 and all spirals are P4 as indicated on the elevation view.



ELEVATION

NOTES:  
All piles are HP 10x42-piles  
⊙ Indicates pile battered 1:4  
For location of beams see sht 12/13



SECTION P-A

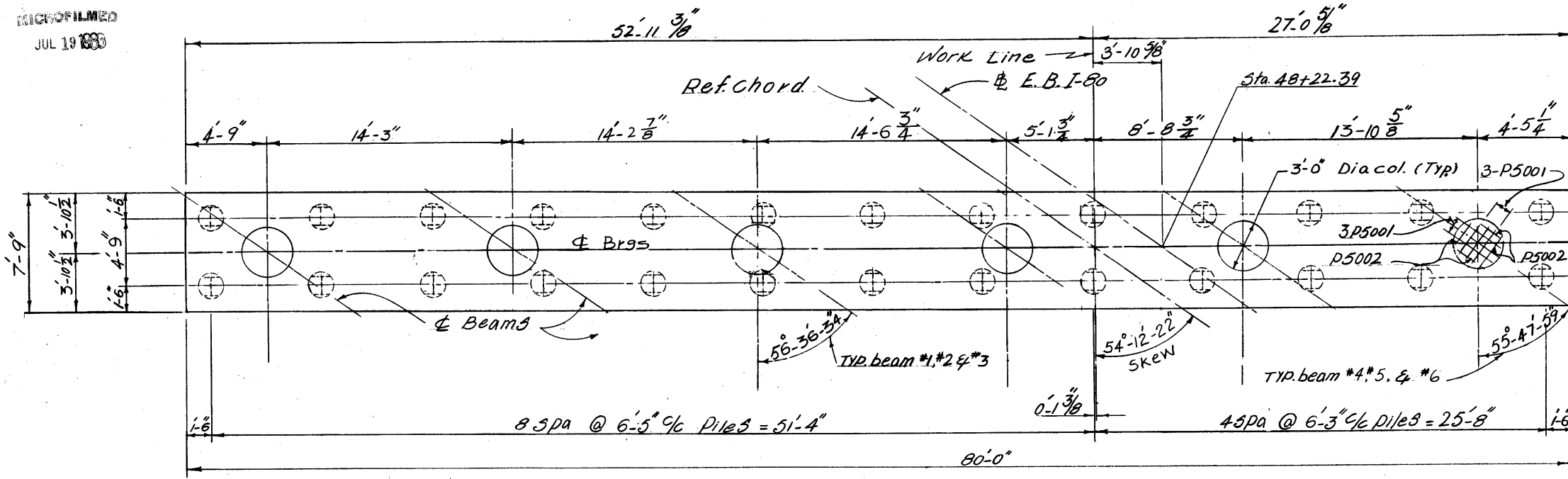
ALDEN E. STILSON & ASSOCIATES, LIMITED CONSULTING ENGINEERS CLEVELAND, OHIO    COLUMBUS, OHIO    WHEELING, W. VA.						
<b>PIER NO 1 DETAILS</b>						
BRIDGE NO LOR-80-1912 E. B. I-80 OVER W.B. U.S.R. 20						
STA. 46+81.75 LORAIN COUNTY    STA. 48+98.54						
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
BON DALAL	M.M.H.		B.I.P.	G.W.M.	4/15/70	

MICROFILMED  
JUL 19 1983

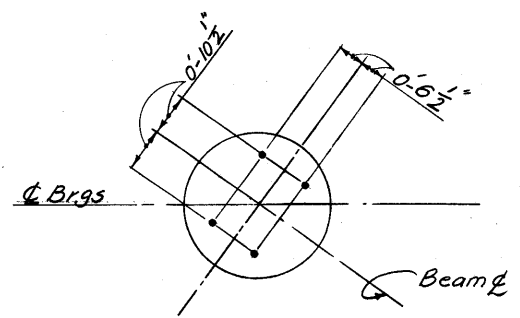
FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

312  
375

LORAIN COUNTY  
LOR-480-0.00



PLAN

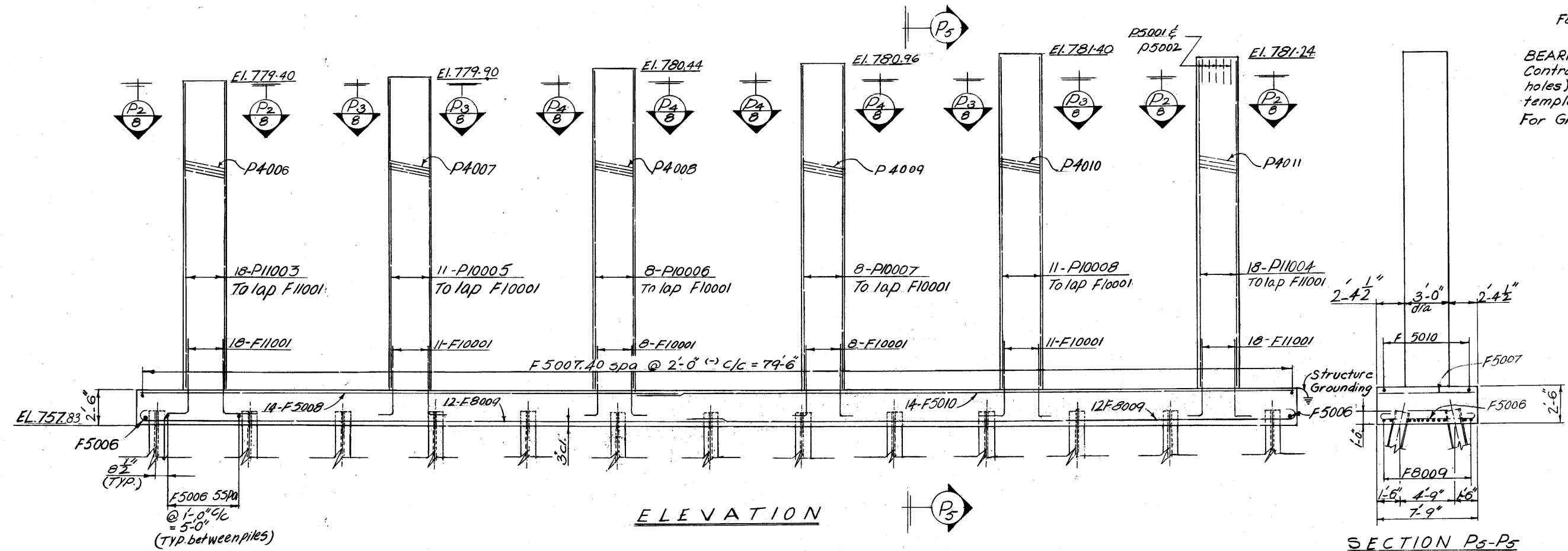


NOTE  
P5001 & P5002 bars are spaced 6" c/c & are TYP for all columns.

NOTES

- All piles are HP10x42-piles
- ⊙ indicates piles battered 1:4
- Special care shall be taken at pier No. 2 in placing reinforcing steel in the top of the columns so as to avoid interference with the drilling of anchor bar holes or the pre-setting of bearing anchors.
- For location of beams see sht 12/13

BEARING ANCHORS: At the option of the Contractor, bearing anchors (or formed holes), located and supported by templates, may be cast in place. For Grounding Details see std. Dwg HL-7

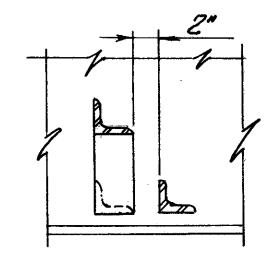
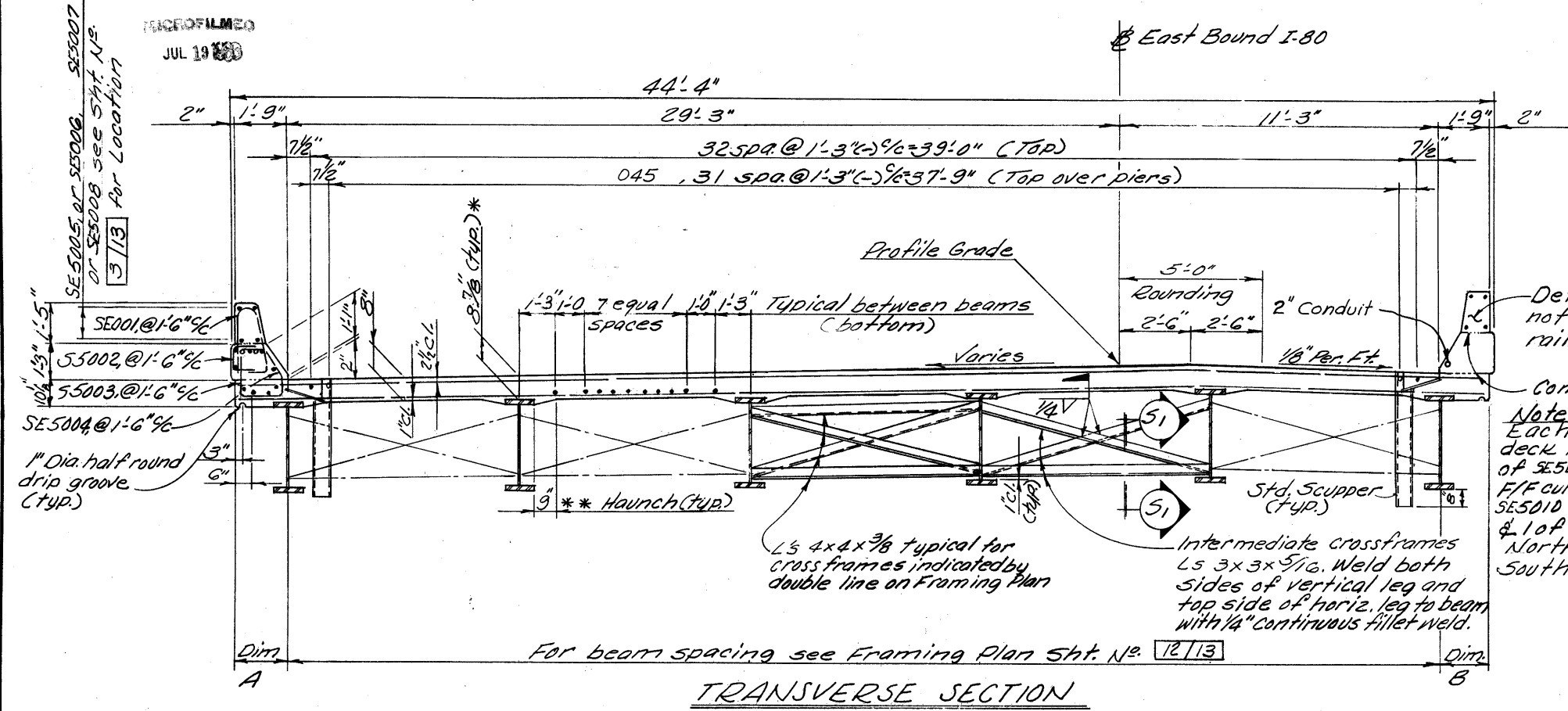


ELEVATION

SECTION P5-P5

ALDEN E. STILSON & ASSOCIATES, LIMITED CONSULTING ENGINEERS CLEVELAND, OHIO    COLUMBUS, OHIO    WHEELING, W. VA.						
PIER NO 2 DETAILS						
BRIDGE NO LOR-80-1912						
E B I-80 OVER W.B. U.S.R. 20						
LORAIN COUNTY				STA. 46 + 81.75		
				STA. 48 + 98.54		
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
DALAL	M.M.A.		B.I.P.	G.W.M.	4/30/70	

LORAIN COUNTY  
LOR-480-0.00



SECTION SI-SI

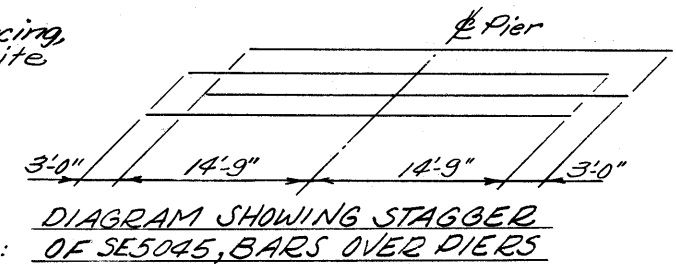


DIAGRAM SHOWING STAGGER OF SE5045 BARS OVER PIERS

Details, dimensions and reinforcing, not shown same as for opposite railing.

Constr. Jt. (Typ.)

Note:  
Each run of longitudinal deck reinforcing, with exception of SE5045 over Pier, shall be as follows:  
F/F curbs: top, 7SE5009 & 1 of series SE5010 thru SE5042. Bottom, 7-55009 & 1 of series 55046 thru 55095.  
North curb: 7SE5009 & 1SE5044  
South curb: 7SE5009 & 1SE5043

NOTES:

\* 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 beam may not have the exact number or conformation required to place it parallel to the finished grade.

\*\* A haunch width of 9" shall be used for all beams in computing quantity of concrete. However the haunch 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.

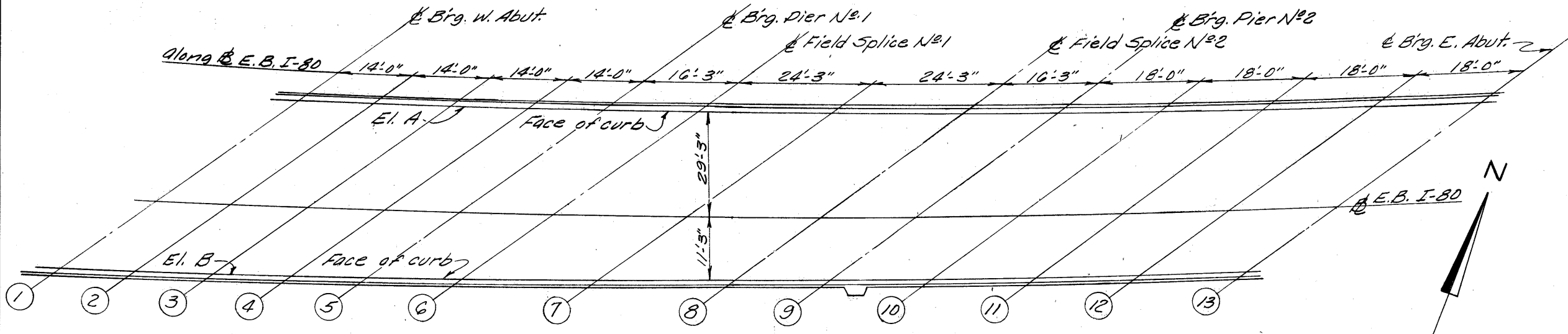
For transverse slab reinforcing see Sht. 11/13  
Concrete and reinforcing steel for railing shall be included for payment with their respective items, Item 511 superstructure concrete and item 509 reinforcing steel.

Longitudinal reinforcing steel shall be field cut as necessary to avoid interference with scuppers.

For scupper details std. Dwg. SD-1-69.

For end dam details see sht #354.

END DAMS AND SCUPPERS: Steel bar stock utilized for end dams and scuppers may be any weldable grade of low or mild carbon steel available commercially. This material is to be excluded from the requirements of 501.07 for test reports.



DECK ELEVATION LOCATIONS

The deck elevations shown are those which are required prior to placing of the concrete deck. Proper allowance has been made for the dead load deflection caused by the weight of the concrete.

NOTES (cont.)

For details of pilaster, anchor bolts and pilaster see Std. Dwg. HL-3 & HL-4. L-bars shall be epoxy coated LE-bars.

Line	1	2	3	4	5	6	7	8	9	10	11	12	13
Elev. A	784.28	784.37	784.43	784.47	784.50	784.55	784.59	784.55	784.60	784.68	784.74	784.75	784.72
Elev. B	784.94	785.15	785.34	785.51	785.67	785.87	786.13	786.32	786.43	786.57	786.70	786.77	786.80

TABLE OF SLAB CANTILEVERS

LOCATION	Dim. A	Dim. B
@ Brg. W. Abut.	1'-9"	1'-9"
1/4 Point	1'-7"	1'-10 1/2"
1/2 Point	1'-5 7/8"	1'-11 3/8"
3/4 Point	1'-5 3/4"	1'-11 1/2"
@ Brg. Pier No. 1	1'-6 3/8"	1'-10 3/4"
Field Splice Pt.	1'-9"	1'-9"
1/2 Point	1'-7 1/8"	1'-10 3/8"
Field Splice Pt.	1'-9"	1'-9"
@ Brg. Pier No. 2	1'-6 3/4"	2'-2 1/4"
1/4 Point	1'-6 3/8"	2'-0 1/8"
1/2 Point	1'-8 1/8"	2'-8 1/8"
3/4 Point	2'-0"	2'-8"
@ Brg. E. Abut.	2'-6"	2'-6"

10/13

ALDEN E. STILSON & ASSOCIATES, LIMITED  
CONSULTING ENGINEERS  
CLEVELAND, OHIO COLUMBUS, OHIO WHEELING, W. VA.

**SUPERSTRUCTURE DETAILS**  
BRIDGE NO LOR-80-1912  
E. B. I-80 OVER W.B.U.S.R. 20

LORAIN COUNTY STA. 46+81.75  
STA. 48+98.54

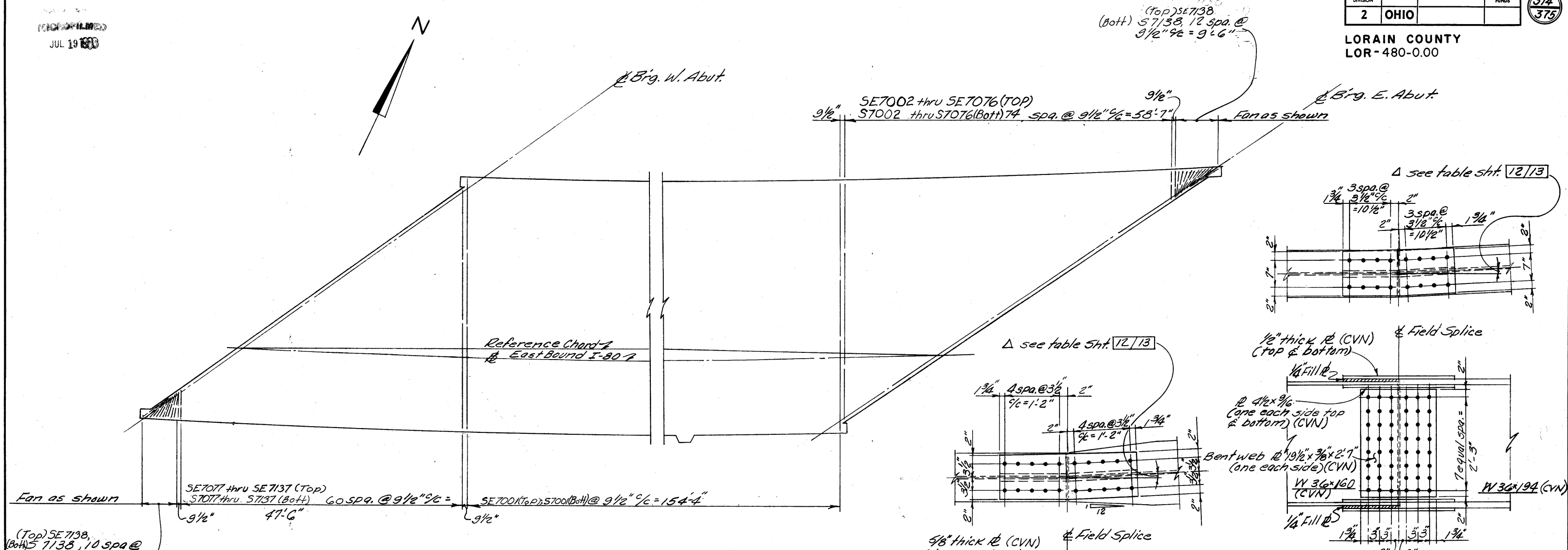
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
SPIN	R.T.			B.I.P.	G.W.M. 4/30/10	

REPRODUCED  
JUL 19 1983

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

LORAIN COUNTY  
LOR-480-0.00

314  
375



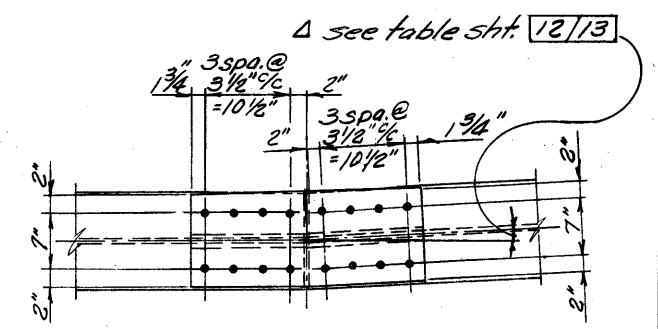
TRANSVERSE SLAB REINFORCING

NOTE:

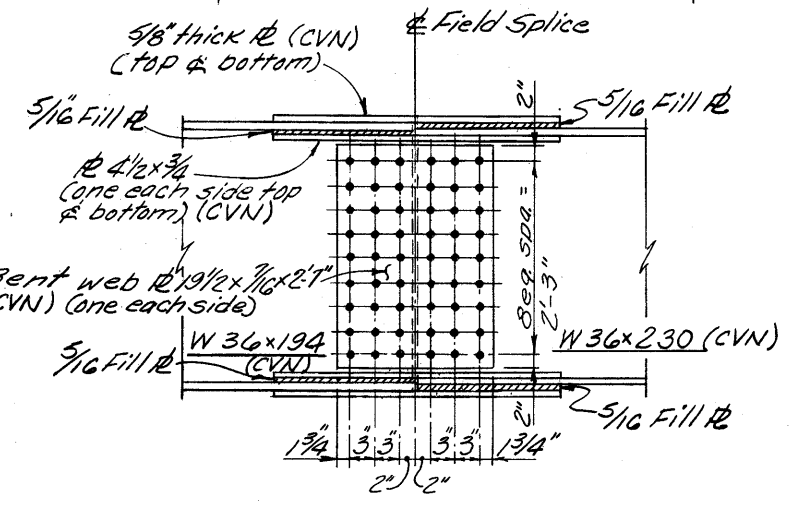
Transverse reinforcing steel shall be placed normal to the reference chord except at acute corners of slab.

NOTES

Where "(CVN)" follows a shape or plate size designation the material shall meet specified minimum notch toughness requirements.



FIELD SPICE DETAIL NO. 1

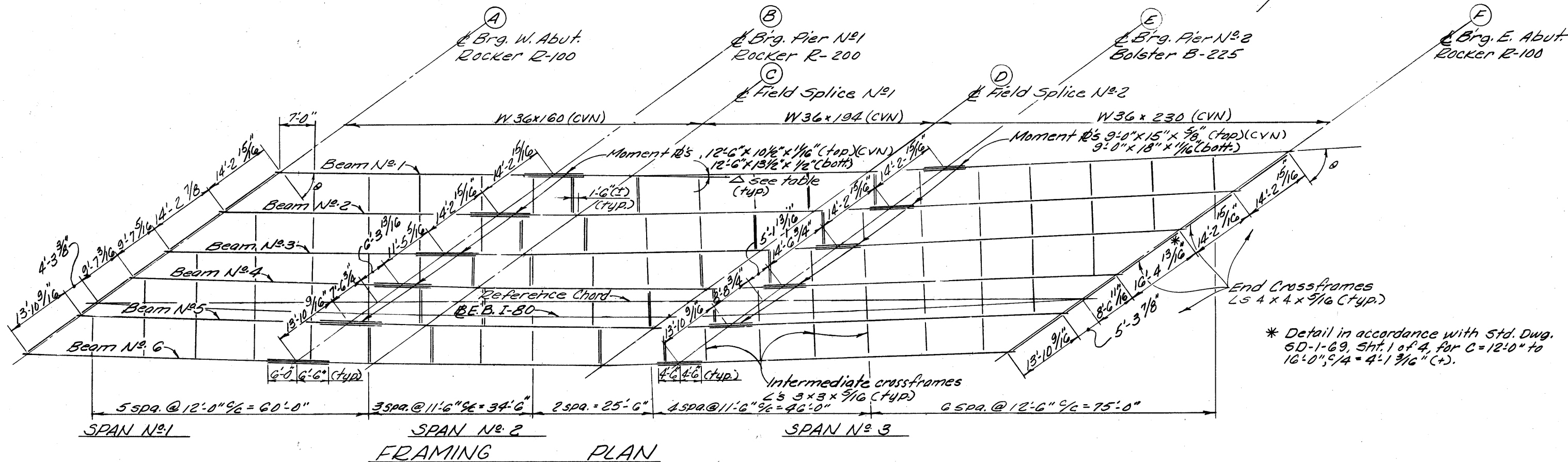


FIELD SPICE DETAIL NO. 2

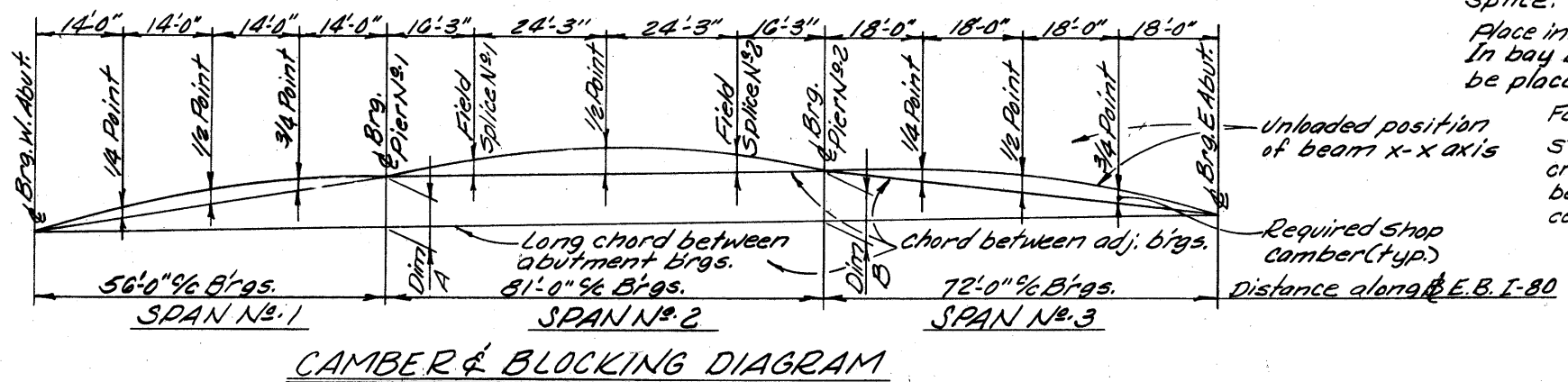
NOTE: 1" high strength bolts shall be used at the field splice. Bolt heads shall be placed on fascia side of exterior beam web and bottom side of bottom flange. Bolts shall conform to A-325 steel.

ALDEN E. STILSON & ASSOCIATES, LIMITED CONSULTING ENGINEERS CLEVELAND, OHIO COLUMBUS, OHIO WHEELING, W. VA.						
<b>SUPERSTRUCTURE DETAILS</b>						
BRIDGE NO LOR-80-1912						
E. B. I-80 OVER W.B. U.S.R. 20						
LORAIN COUNTY					STA. 46+81.75	
					STA. 48+98.54	
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
BIPIN DALAL	R.T.		B.I.P.	G.W.M.	4/30/70	

11/13



\* Detail in accordance with Std. Dwg. 6D-1-69, Sht. 1 of 4, for C=12'-0" to 16'-0", C/4 = 4'-1 3/16" (+).



**NOTES:** Crossframes may be shifted if necessary to avoid field splice.  
Place intermediate crossframes normal to beams. In bay between beam lines 3 & 4, crossframes shall be placed normal to beam line 3.  
For additional notes see sht. 11113

**STEEL ERECTION:** During the erection of end dams and crossframes care shall be taken to insure that stringers, bearing parts and bridge seats remain in bearing contact.

**TABLE OF BLOCKING DIMENSIONS**

Beam No.	1	2	3	4	5	6
Dim. A	1 1/8"	1 1/16"	2 3/8"	2 3/8"	2 7/16"	2 7/16"
Dim. B	-1/16"	1/2"	1 1/16"	2 5/8"	3 9/16"	3 1/4"

**TABLE OF DEFLECTION ANGLES & BEAM LENGTHS**

Bearing Point or Splice Point	Beam No. 1, 2 & 3		Beam No. 4, 5 & 6	
	Length	53'-21'-39"	52'-14'-09"	57'-3'-13/16"
Δ	0°-00'-00"	0°-00'-00"	1°-36'-45"	1°-15'-25"
Length	49'-9'-15/16"	48'-0'-7/8"	17'-0'-11/16"	16'-8'-3/8"
Δ	0°-00'-00"	0°-00'-00"	0°-00'-00"	0°-00'-00"
Length	73'-1'-9/16"	71'-7'-3/16"	56'-36'-34"	55'-47'-59"
Δ	0	0		

**DEFLECTION AND CAMBER**

Location	SPAN No. 1									SPAN No. 2						SPAN No. 3												
	1/4 Pt.	1/2 Pt.	3/4 Pt.	Splice Point			1/2 Point			Splice Point			1/4 Point		1/2 Point		3/4 Point											
Beam No.	thru 1	thru 2	thru 3	1	2	3	4	5	6	1	2	3	4	5	6	1	2	3	4	5	6	1	2	3	4	5	6	
Deflection due to weight of steel	1/16	1/16	0	1/16	1/16	1/16	1/16	1/16	1/16	1/8	1/8	1/8	1/8	1/8	1/8	1/16	1/16	1/16	1/16	1/16	1/16	1/16	1/16	1/16	1/8	1/8	1/8	
Deflection due to remaining dead load	3/16	3/16	1/16	3/16	1/4	1/4	1/4	1/4	3/16	7/16	1/2	1/2	1/2	1/2	7/16	1/4	5/16	5/16	5/16	1/4	1/4	1/4	1/2	1/2	1/2	1/2	7/16	7/16
Adjustment required for vertical curve	3/16	5/16	1/4	3/16	1/2	9/16	7/16	5/16	5/16	1/16	9/16	11/16	5/8	1/2	1/2	-1/2	7/16	5/8	5/16	3/16	-1/16	7/16	3/16	0	9/16	1/8	3/8	
Required Shop Camber	7/16	9/16	5/16	7/16	13/16	7/8	3/4	5/8	9/16	5/8	13/16	13/16	1 1/4	1 1/8	1 1/16	-3/16	13/16	1	11/16	1/2	1/4	3/4	13/16	5/8	13/16	11/16	15/16	

ALDEN E. STILSON & ASSOCIATES, LIMITED  
CONSULTING ENGINEERS  
CLEVELAND, OHIO COLUMBUS, OHIO WHEELING, W. VA.

**SUPERSTRUCTURE DETAILS**  
BRIDGE No LOR-80-1912  
E. B. I-80 OVER W.B. U.S.R. 20

LORAIN COUNTY STA. 46+81.75  
STA. 48+98.54

DESIGNED: BIPIN DALAL  
DRAWN: R.T.  
CHECKED: B.I.P.  
REVIEWED: G.W.M.  
DATE: 4/20/70

LORAIN COUNTY  
LOR-480-0.00

MICROFILMED  
JUL 19 1980

NOTES

1. INDICATES SERIES BAR. EACH BAR VARIES FROM ADJACENT BAR(S) BY TABULATED AMOUNT(S), CALCULATED TO NEAREST 1/8 INCH. WEIGHT SHOWN IS FOR ENTIRE SERIES UTILIZING AVERAGE LENGTH.
2. BARS INCLUDED WITH ITEM 517, RAILING, FOR PAYMENT.
3. COST OF FIELD BENDING SHALL BE INCLUDED WITH ITEM 509.
4. LIGHT POLE SUPPORT BARS INCLUDED WITH ITEM 509 FOR PAYMENT.
5. END PREPARATION AND FIELD WELDING INCLUDED WITH ITEM 509.
6. 'LENGTH' SHOWN FOR SPIRAL BARS IS DISTANCE FROM TOP OF FOOTING TO BOTTOM OF PIER CAP. 'NO. TURNS' SHOWN IS 'LENGTH' DIVIDED BY PITCH. PLUS 3 TURNS (NUMBER OF CLOSED COILS), EXPRESSED AS NEAREST WHOLE NUMBER.

1 1/2 CLOSED COILS SHALL BE PROVIDED AT 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 PERIPHERY OF COIL. WEIGHT OF SPACERS, AT 0.80 LB. PER LIN. FT. WILL BE PAID FOR AS REINFORCING STEEL AND IS INCLUDED IN TABULATED WEIGHT.

BAR DIMENSIONS ARE OUT TO OUT.

Refer to CMS Sections 106.03, 700, 709.01 through 709.05 and 709.08. Sufficient additional reinforcing steel shall be provided for sampling. Random samples shall be replaced in the structures by the additional steel, spliced in accordance with 509.08.

BAR SIZE DESIGNATION

BAR SIZE IS INDICATED IN THE BAR MARK. THE FIRST DIGIT WHERE FOUR DIGITS ARE USED, AND FIRST TWO DIGITS WHERE FIVE DIGITS ARE USED, INDICATE THE BAR SIZE NUMBER. FOR EXAMPLE, A7001 IS A NO. 7 SIZE BAR AND A10140 IS A NO. 10 SIZE.

MARK	NUM.	LENGTH	WEIGHT	TYPE	A	B	C	D	E	NOTE
SUPERSTRUCTURE (CONTINUED)										
S 7002	1	43-2		ST						1
THRU			3781	VARY LENGTH BY	0-6					
S 7076	1	6-2		ST						1
S 7077	1	6-3		ST						1
THRU			3081	VARY LENGTH BY	0-7 3/8					
S 7137	1	43-2		ST						1
S 7138	24	5-8	278	ST						
ABUTMENTS										
EPOXY COATED REINFORCING STEEL										
SUPERSTRUCTURE										
AE5012	16	23-4	389	ST						
AE5028	36	6-2	232	19	2-5	3-0	0-8			
AE5029	40	3-0	125	ST						
AE5031	16	13-2	220	ST						
AE6005	34	6-8	34	15	4-9	1-0	0-9	0-9		
AE6006	2	6-5	19	15	4-6	1-0	0-9	0-9		
AE6007	4	5-0		15	0-9	0-9	3-2	0-11	1	
THRU			165	VARY LENGTH BY	0-3					
AE6011	4	6-0		15	0-9	4-2	0-11	1	1	
SUPERSTRUCTURE										
SE5001	287	3-4	1596	19	0-8	2-5	2-2			
SE5004	287	3-2	948	15	0-8	1-0	0-9	0-9		
SE5005	40	15-8	654	ST						
SE5006	96	7-2	718	ST						
SE5007	12	13-1	164	ST						
SE5008	12	15-6	194	ST						
SE5009	357	30-0	11171	ST						
SE5010		10-9		ST						1
THRU			493	VARY LENGTH BY	0-2 5/8					
SE5042	1	17-11		ST						1
SE5043	9	10-9	101	ST						
SE5044	9	17-11	168	ST						
SE5045	72	32-6	2441	ST						
SE7001	197	43-9	17583	ST						
SE7002	1	43-2		ST						1
THRU			3781	VARY LENGTH BY	0-6					
SE7076	1	6-2		ST						1
SE7077	1	6-3		ST						1
THRU			3081	VARY LENGTH BY	0-7 3/8					
SE7137	1	43-2		ST						1
SE7138	24	5-8	278	ST						
PILASTER										
LE505	4	2-10	12	1	0-7 1/2	1-10	0-7 1/2			
LE506	4	8-5	36	4	0-6 1/2	3-2	2-4	3-2		
LE507	6	7-3	45	21	1-10	1-4	1-10	0-6		
LE508	4	3-2	13	ST						

MARK	NUM.	LENGTH	WEIGHT	TYPE	A	B	C	D	E	NOTE
PIERS										
P 4001	1	16-7	312	17 NO. TURNS= 47						NO. SPACERS= 4 6
P 4002	1	17-0	319	17 NO. TURNS= 48						NO. SPACERS= 4 6
P 4003	1	17-5	326	17 NO. TURNS= 49						NO. SPACERS= 4 6
P 4004	2	17-8	665	17 NO. TURNS= 50						NO. SPACERS= 8 6
P 4005	1	18-0	339	17 NO. TURNS= 51						NO. SPACERS= 4 6
P 4006	1	18-11	353	17 NO. TURNS= 53						NO. SPACERS= 4 6
P 4007	1	19-5	365	17 NO. TURNS= 55						NO. SPACERS= 4 6
P 4008	1	20-0	373	17 NO. TURNS= 56						NO. SPACERS= 4 6
P 4009	1	20-6	385	17 NO. TURNS= 58						NO. SPACERS= 4 6
P 4010	1	20-11	392	17 NO. TURNS= 59						NO. SPACERS= 4 6
P 4011	1	20-8	386	17 NO. TURNS= 58						NO. SPACERS= 4 6
P 5001	72	5-3	394	2	1-7	2-4	1-7			
P 5002	48	4-7	229	2	1-7	1-8	1-7			
P10001	11	17-0	805	ST						
P10002	8	17-5	600	ST						
P10003	8	17-8	608	ST						
P10004	11	18-0	852	ST						
P10005	11	19-5	919	ST						
P10006	8	20-0	688	ST						
P10007	8	20-6	706	ST						
P10008	11	20-11	990	ST						
P11001	18	16-7	1586	ST						
P11002	18	17-8	1690	ST						
P11003	18	18-11	1809	ST						
P11004	18	20-8	1976	ST						
F 5004	39	6-9	275	ST						
F 5005	62	7-11	512	10	6-9					
F 5006	74	8-5	650	10	7-3					
F 5007	41	7-3	310	ST						
F 5008	28	36-4	1061	ST						
F 5009	14	41-9	610	ST						
F 5010	14	44-9	653	ST						
F 8008	22	40-7	2384	11	39-6					
F 8009	24	42-1	2697	11	41-0					
F10001	76	6-7	2153	2	1-5	5-6				
F11001	72	7-2	2742	2	1-8	5-10				
SUPERSTRUCTURE										
S 5002	287	1-9	524	2	0-6	1-0	0-6			
S 5003	287	2-0	599	2	1-8	0-6				
S5009	350	30-0	10952	ST						
S 5046	1	10-9		ST						1
THRU			747	VARY LENGTH BY	0-1 3/4					
S 5095	1	17-11		ST						1
S 7001	197	43-8	17583	ST						

MARK	NUM.	LENGTH	WEIGHT	TYPE	A	B	C	D	E	NOTE
ABUTMENT										
A 5001	60	4-11	308	2	1-6	2-2	1-6			
A 5002	19	22-0	436	ST						
A 5003	100	7-10	817	2	2-4	3-5	2-4			
A 5004	19	18-6	367	ST						
A 5005	6	31-0	194	ST						
A 5006	8	26-2	218	ST						
A 5007	3	28-6	89	ST						
A 5008	6	32-5	203	ST						
A 5009	6	35-11	225	ST						
A 5010	3	32-10	103	ST						
A 5011	14	22-4	326	ST						
A 5012	9	23-4	219	ST						
A 5013	18	20-5	383	ST						
A 5014	2	21-10	46	ST						
A 5015	16	16-6	275	ST						
A 5016	4	15-2	63	ST						
A 5017	12	7-5	93	ST						
A 5018	4	17-4	72	ST						
A 5019	4	9-8	40	12	8-0	1-7	1-4			
A 5020	4	3-2		ST						1
THRU			76	VARY LENGTH BY	0-3					
A 5024	4	4-2		ST						1
A 5025	2	4-6	9	ST						
A 5026	34	4-7	163	ST						
A 5027	58	1-9	106	2	0-6	1-0	0-6			
A 5030	6	9-5	59	ST						
A 5031	8	13-2	110	ST						
A 5032	4	8-9	37	12	7-0	1-7	1-6			
A 5033	1	10-6	11	ST						
A 5034	8	8-2	68	ST						
A 5035	2	6-2	13	ST						
A 6001	140	8-1	1700	2	3-9	0-11	3-9			
A 6002	140	6-5	1349	2	2-8	1-5	2-8			
A 6003	140	9-11	2085	2	4-5	1-5	4-5			
A 8001	92	5-6	1351	20	0-6	3-5	1-1			
F 5001	98	8-3	843	2	1-7	5-4	1-7			
F 5002	100	7-2	747	2	6-8	0-8				
F 5003	61	11-7	737	3	2-6	3-0	2-6	3-0		
F 6001	34	18-10	962	2	9-0	1-2	9-0			
F 6002	98	14-5	2122	2	6-8	5-4				

MICROFILMED  
JUL 19 1983

**PROPOSED STRUCTURE**

TYPE: Continuous steel beam with reinforced concrete deck and substructure

SPANS: 36'-0", 67'-6", 36'-0" % brgs. on  $\phi$

ROADWAY: Variable width (see plan) with conc. barrier median & BR-1-G7 railing.

LOADING: HS-20-44 & Interstate Alternate.

WEARING SURFACE: Monolithic Conc.

SKEW: 5°-41'-09" Rt. forward

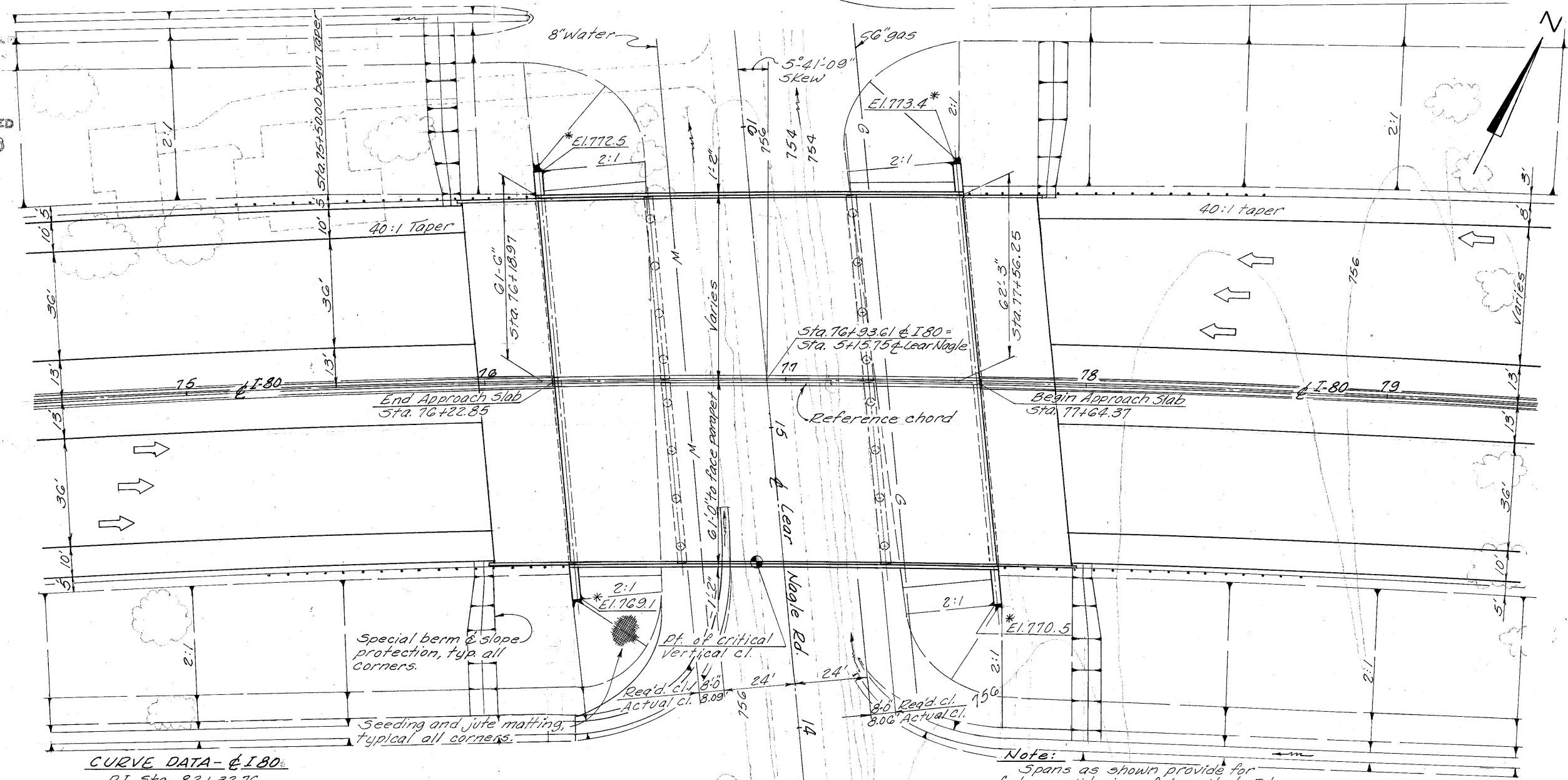
ALIGNMENT: 1°-27'-10.5" Curve right

APPROACH SLABS: AS-172 (Modified) 25' Long

SUPERELEVATION: 0.036/1

**NOTE:**  
The Vertical Curve Data does not apply to bridge or graphic grade elevations. The bridge elevations were obtained by adding 0.12 feet to the elevations obtained from vertical curve data.

BRIDGE NO. LOR-80-1968 APPEARING THROUGHOUT THIS BRIDGE PLAN SHALL BE CONSIDERED TO READ BRIDGE NO. LOR-480-0186

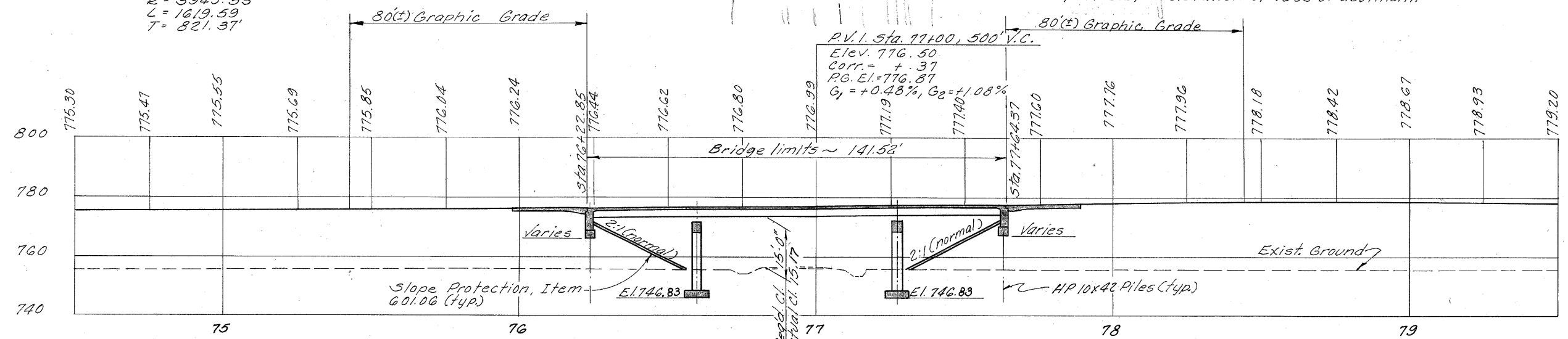


**CURVE DATA -  $\phi$  I-80**

PI. Sta. 82+32.76  
 $\Delta = 23^\circ 31' 52''$   
 $D_c = 1^\circ 27' 10.5''$   
 $R = 3943.53'$   
 $L = 1619.59'$   
 $T = 821.37'$

**PLAN**

**Note:**  
Spans as shown provide for future widening of Lear Nagle Rd. to 48'-0" %.  
\* Top of slope elevation of face of abutment.



**PROFILE ALONG  $\phi$  I-80**

**TRAFFIC ESTIMATE**  
Design Year ~ 1987  
Total A.D.T ~ 40,000

ALDEN E. STILSON & ASSOCIATES, LIMITED  
CONSULTING ENGINEERS  
CLEVELAND, OHIO COLUMBUS, OHIO WHEELING, W. VA.

**SITE PLAN**

BRIDGE NO. LOR-80-1968  
I-80 OVER LEAR NAGLE ROAD

LORAIN COUNTY STA. 76+22.85  
SCALE 1" = 20' STA. 77+64.37

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
G.W.M.	R.T.		R.S.S.	G.W.M.	7/21/70	



MICROFILMED  
JUL 19 1980

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

318  
375

LORAIN COUNTY  
LOR-480-0.00

STANDARD DRAWING REFERENCES

DESCRIPTION	DWG. NO.	SHT.	DATE
MOMENT PLATES	SD-1-69	3	6-12-69
BOLTED SPLICES	SD-1-69	4	6-12-69
BRIDGE ROADWAY RAILING	BR-1-67	1	10-15-71 R
APPROACH SLABS	AS-1-72 (MOD)*	6-30-72	
STRUCTURE GROUNDING	HL-7		1-21-76

(R INDICATES REVISED DATE)

SUPPLEMENTAL SPECIFICATION REFERENCES

DESCRIPTION	NO.	DATE
CHEMICAL ADMIXTURE FOR CONCRETE, TYPE A, B OR D	808	1-1-71
CONCRETE CURING AND PROTECTIVE MEMBRANE	836	3-12-75

DESIGN SPECIFICATIONS

THIS STRUCTURE CONFORMS TO THE '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 - HS20-44 AND THE INTERSTATE ALTERNATE LOADING  
 CONCRETE CLASS C - UNIT STRESS 1200 PSI FOR SUPERSTRUCTURE  
 UNIT STRESS 1333 PSI FOR SUBSTRUCTURE  
 STRUCTURAL STEEL - ASTM A36 - UNIT STRESS 20000 PSI  
 REINFORCING STEEL - ASTM A615, A616 OR A617 - UNIT STRESS 20000 PSI.  
 SPIRAL REINFORCEMENT MAY BE PLAIN BARS ASTM A82, OR A615.

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 PIERS.

PILES

PILES SHALL BE DRIVEN TO A MINIMUM BEARING CAPACITY OF-  
 35 TONS PER PILE FOR THE ABUTMENTS

FOUNDATION BEARING PRESSURE

PIER FOOTINGS ARE DESIGNED FOR A MAXIMUM BEARING PRESSURE OF 8 TONS PER SQ. FT.

PIER FOOTINGS

FOOTINGS SHALL EXTEND A MINIMUM OF 3 INCHES INTO BEDROCK. IF NECESSARY, THE FOOTINGS SHOULD BE LOWERED. HOWEVER, IF THE LOW POINT OF THE SURFACE OF THE BEDROCK OCCURS 2 FEET OR MORE ABOVE PLAN ELEVATION, THE FOOTINGS MAY BE RAISED, AFTER APPROVAL BY THE DIRECTOR, BUT TO AN ELEVATION NOT HIGHER THAN 752.50

STEPPING OF INDIVIDUAL FOOTINGS WILL NOT BE PERMITTED UNLESS SHOWN ON THE PLANS.

UTILITY LINES

ALL EXPENSE INVOLVED IN RELOCATING THE AFFECTED UTILITY LINES SHALL BE BORNE BY THE OWNERS. THE CONTRACTOR AND OWNERS ARE REQUESTED TO COOPERATE BY ARRANGING THEIR WORK IN SUCH A MANNER THAT INCONVENIENCE TO EITHER WOULD BE HELD TO A MINIMUM.

MAINTENANCE OF TRAFFIC

TWO LANES OF TRAFFIC WITH A MINIMUM HORIZONTAL WIDTH OF 20'-0 AND A MINIMUM VERTICAL CLEARANCE OF 13'-6 SHALL BE MAINTAINED ON LEAR NAGLE ROAD AT ALL TIMES.

SUPPLEMENTAL SPECIFICATION REFERENCES-CON'T

DESCRIPTION	NO.	DATE
PAINTING FOR NEW STRUCTURAL STEEL.	846	4-25-77
INORGANIC ZINC SILICATE PAINT	950	4-25-77
BLUE-GREEN VINYL PAINT	951	4-25-77

LAPS

MINIMUM BAR LAP SHALL BE 30 DIAMETERS.

ITEM	TOTAL	UNIT	DESCRIPTION	ABUTS	PIERS	SUPER	GENERAL
503	LUMP	SUM	COFFERDAMS, CRIBS AND SHEETING				LUMP
503	738	C.Y.	UNCLASSIFIED EXCAVATION INCLUDING ROCK	355	383		
505	LUMP	SUM	TEST PILE				LUMP
507	760	L.F.	STEEL PILES, HP10X42	760			
509	149998	LB	REINFORCING STEEL	21322	48071	80605	
SPECIAL	71230	LB	EPOXY COATED REINFORCING STEEL (SEE PROPOSAL NOTE)			71230	
511	636	C.Y.	CLASS C CONCRETE, SUPERSTRUCTURE (SEE PROPOSAL NOTE)			636	
511	133	C.Y.	CLASS C CONCRETE, ABUTMENTS ABOVE FOOTINGS	133			
511	176	C.Y.	CLASS C CONCRETE, PIER CAPS AND COLUMNS		176		
511	159	C.Y.	CLASS C CONCRETE, FOOTINGS	99	60		
512	306	L.F.	PREMOLDED SEALING STRIP	306			
513	368100	LB	STRUCTURAL STEEL, PRIMER PER 846 (SEE PROPOSAL NOTES)			368100	
846	368100	LB	FIELD PAINTING OF STRUCTURAL STEEL			368100	
516	251	S.F.	1 INCH PREFORMED EXPANSION JOINT FILLER	251			
516	147	S.F.	1/2 INCH PREFORMED EXPANSION JOINT FILLER	147			
516	240	S.F.	1/4 INCH PREFORMED EXPANSION JOINT FILLER	240			
516	32	EA.	9" X 3/4" X 1'-10" LAMINATED ELASTOMERIC BEARING			32	
518	164	C.Y.	POROUS BACKFILL	164			
518	290	L.F.	6 INCH PERFORATED, HELICAL CSP, 707.01	290			
518	58	L.F.	6 INCH NON-PERFORATED, HELICAL CSP, INCLUDING SPECIALS, 707.01	58			
601	1014	S.Y.	CONCRETE SLOPE PROTECTION				1014
S625			SEE SHEET 222 FOR LIGHTING SUMMARY				
808	636	UNIT	CHEMICAL ADMIXTURE FOR CONCRETE, TYPE A, B OR D*			636	

MONOLITHIC WEARING SURFACE THICKNESS IS ASSUMED TO BE 1".  
 DECK PROTECTION METHOD: EPOXY COATED REINFORCING STEEL,  
 TOP MAT ONLY.

ATTACHMENT OF GUARDRAIL TO CONCRETE PARAPETS:  
 Concrete insert anchor assemblies per Standard Construction  
 Drawings GR-3 and GR-1 shall be placed during parapet construction.

\* Std. Dwg. AS-1-72 shall be modified to provide 3" clearance to the top re-bars instead of the 2" shown and jack holes shall be omitted.

2/13

ALDEN E. STILSON & ASSOCIATES, LIMITED  
 CONSULTING ENGINEERS  
 CLEVELAND, OHIO COLUMBUS, OHIO WHEELING, W. VA.

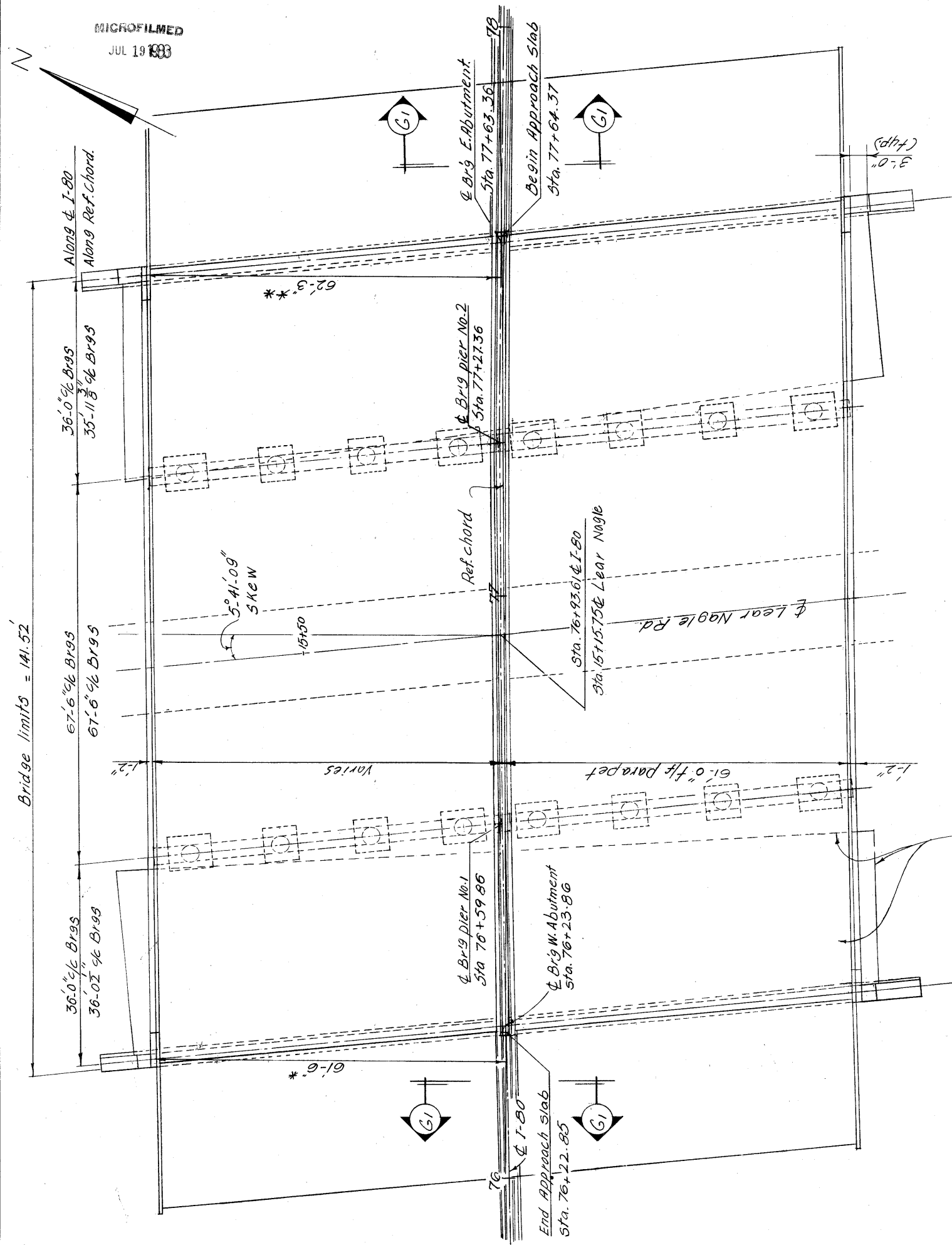
**GENERAL NOTES AND  
 ESTIMATED QUANTITIES**

**BRIDGE NO. LOR-80-1968**  
 I-80 OVER LEAR NAGLE ROAD

LORAIN COUNTY STA. 76 + 22.85  
 STA. 77 + 64.37

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
B.I.P.			M.M.A.	G.W.M.	6-5-70	7/10

MICROFILMED  
JUL 19 1988



**GENERAL PLAN**

**NOTES:**

- \* To face of parapet at Sta. 76+18.97
- \*\* To face of parapet at Sta. 77+56.25

The reference chord is a chord between center line of abutment bearings.

Limits of slope protection  
Item 601.06. (TIP)

4" Raceway Looking East Approach Slab

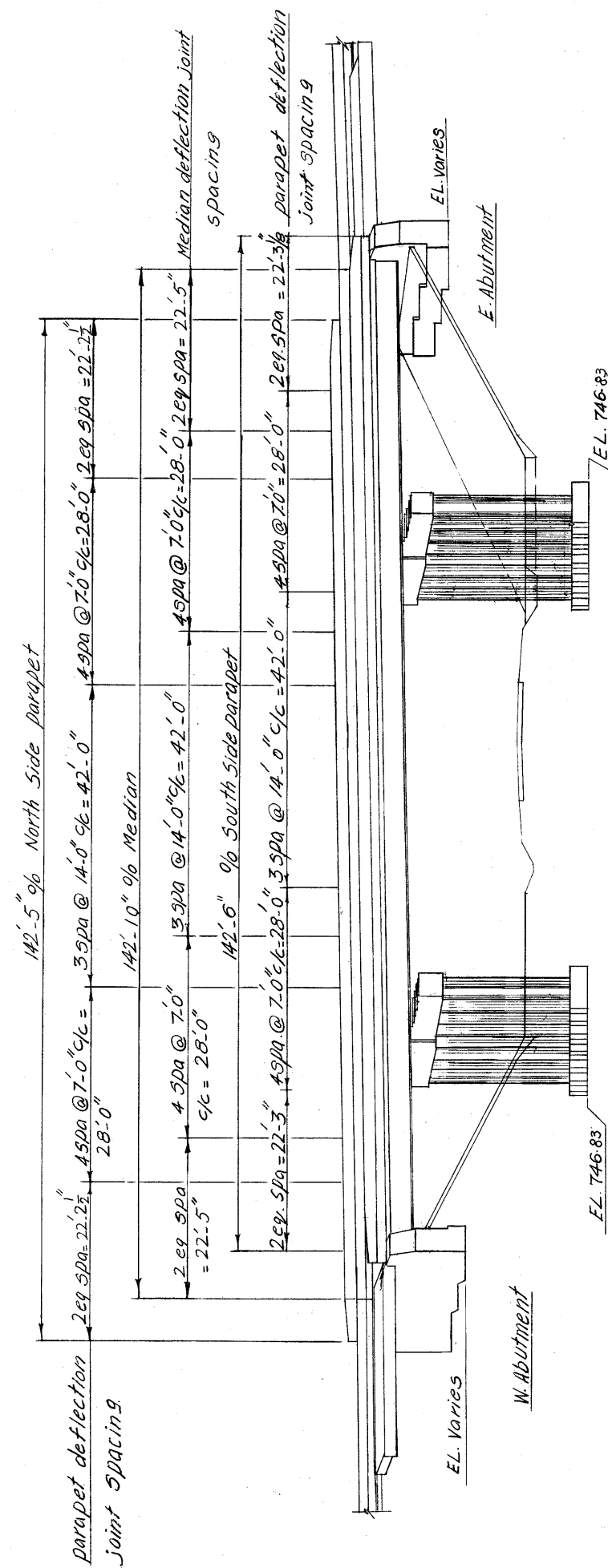
Concrete Barrier Median, Type B

Joint Sealer 705.01 or 705.02 (Typ)

1" Pref. Exp. Jt. Filler (Typ)

Item 310, Subbase Grading A

**SECTION G1-G1**



**ELEVATION**

Pier No. 2  
Fixed bearing

Pier No. 1  
Fixed bearing

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

3/9  
375

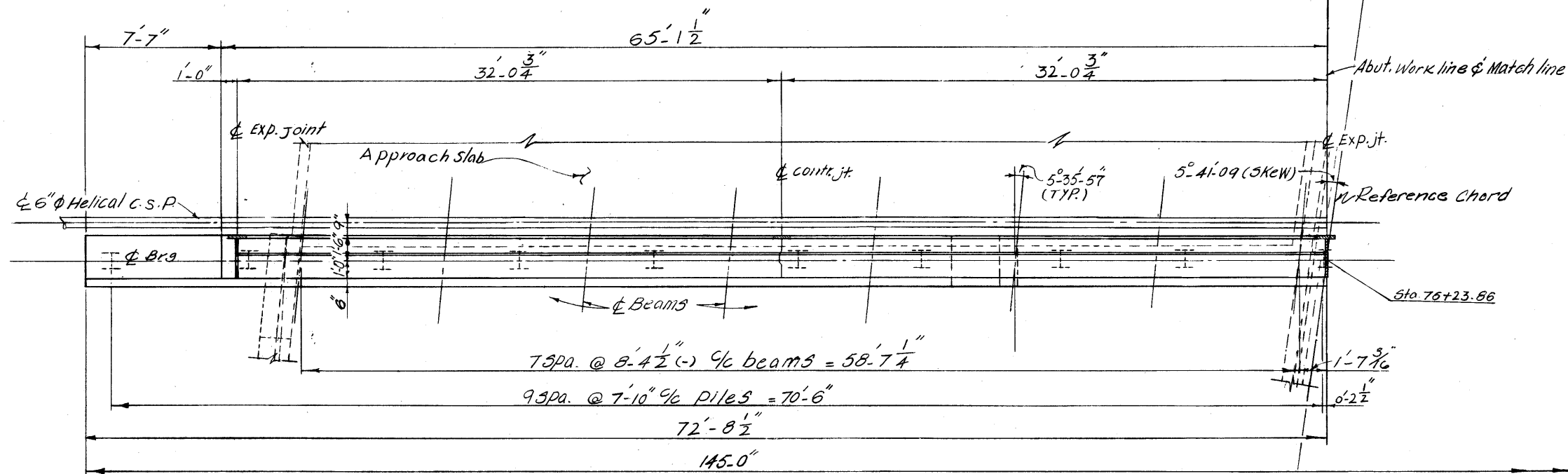
LORAIN COUNTY  
LOR-480-0.00

ALDEN E. STILSON & ASSOCIATES, LIMITED  
CONSULTING ENGINEERS  
CLEVELAND, OHIO COLUMBUS, OHIO WHEELING, W. VA.

**GENERAL PLAN**  
**BRIDGE NO LOR.-80-1968**  
**I-80 OVER LEARY NAGLE ROAD**  
LORAIN COUNTY STA. 76+22.85  
LORAIN COUNTY STA. 77+64.37

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
B.I.P.	M.M.A.		R.S.S.	G.W.M.	6/1/70	

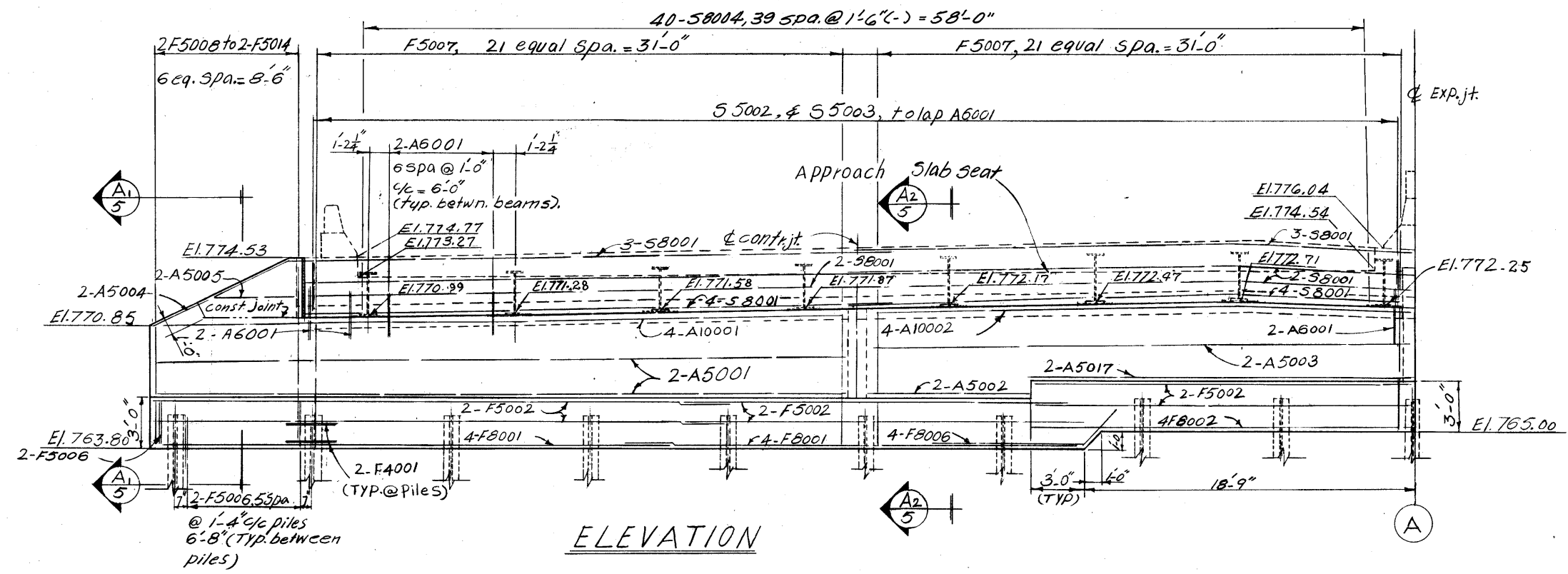
Note:  
Terminate 6" φ C.S.P. porous backfill drain  
as shown on Comon Details, Sht. #354



PART PLAN

**NOTES**  
**POROUS BACKFILL** 1'-6" thick, full length of Abutment and Wings, shall extend up to the Subgrade and laterally to the surface of the embankment slopes.  
**REINFORCING BARS** Shown on this sheet which are prefixed by 'B', are superstructure bars and are shown here for placement only.  
**FIELD BENDING** of transverse bars shall be included. With Item 509 for payment.  
**CONCRETE WING WALLS** above seats shall not be placed until the structural steel has been erected and bars which are to be threaded through the beam web have been placed.  
**PREFORMED EXPANSION JOINT** filler shall extend full length of beam seat and from beam seat to top of slab.  
**ALL PILES** are HP10x42 steel piles and are vertical.  
**FOR EXPANSION JOINT** details see detail sheet. 6/13

**FOR CONTRACTION JOINT** details see detail sheet. 6/13  
**AT BEAM LOCATIONS** provide a level surface at the elevation shown for a minimum distance of 1'-0" either side of beam.  
 Only that portion of the 6" φ C.S.P. located in the porous backfill need be perforated.



ELEVATION

ALDEN E. STILSON & ASSOCIATES, LIMITED  
 CONSULTING ENGINEERS  
 CLEVELAND, OHIO COLUMBUS, OHIO WHEELING, W. VA.

**WEST ABUTMENT DETAILS**  
 BRIDGE NO LOR-80-1968  
 I-80 OVER LEAR NAGLE ROAD

LORAIN COUNTY STA. 76+22.85  
 STA. 77+64.37

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
B.I.P.	MMA		R.S.S.	G.W.M.	9/21/70	

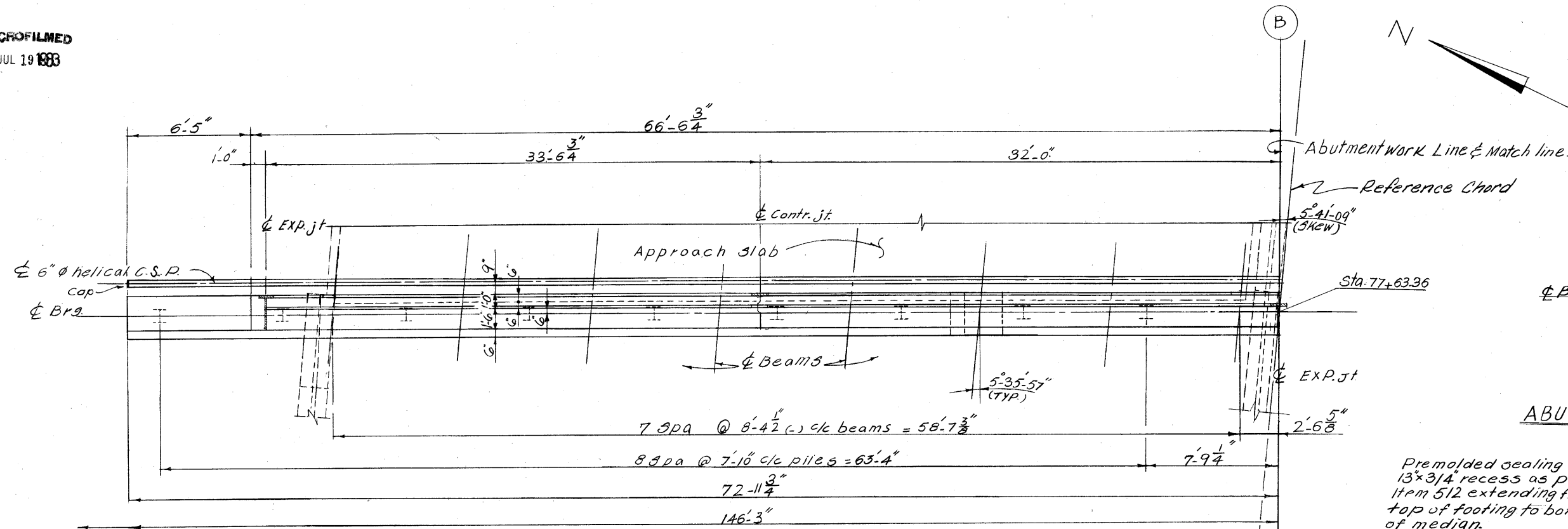


MICROFILMED  
JUL 19 1988

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

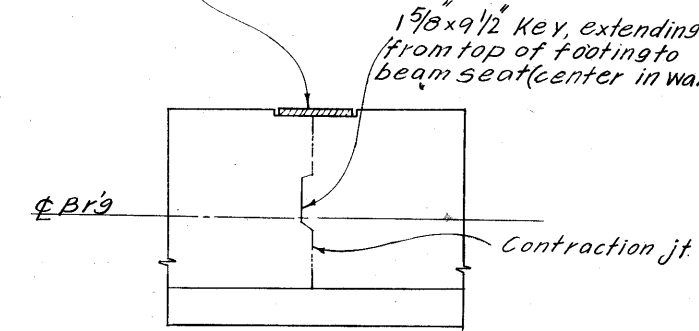
322  
375

LORAIN COUNTY  
LOR-480-0.00



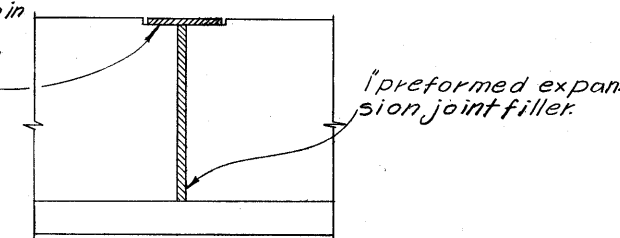
PART PLAN

Premolded sealing strip in 13x3/4" recess as per Item 512, extending from top of footing to beam seat



ABUTMENT CONTRACTION JOINT DETAIL

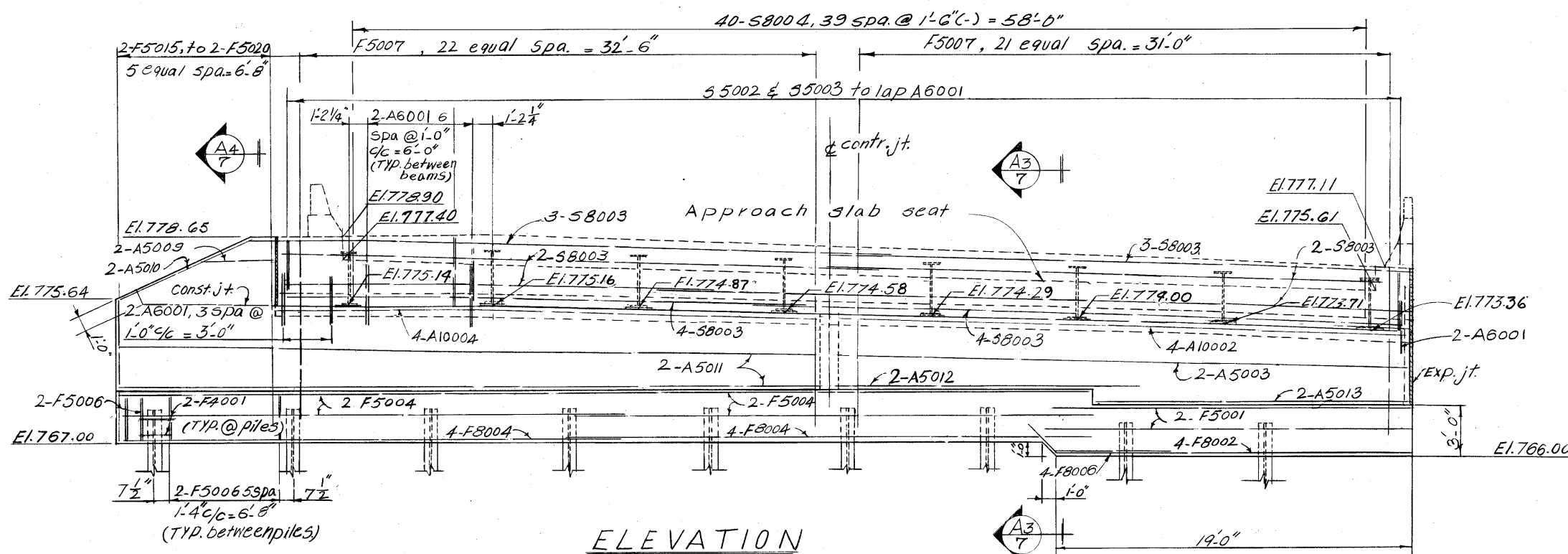
Premolded sealing strip 13x3/4" recess as per Item 512 extending from top of footing to bottom of median.



ABUTMENT EXPANSION JOINT DETAIL

NOTES

All piles are HP 10 X 42 piles and are vertical.  
For additional notes see sheet No. 4/13



ELEVATION

6/13

ALDEN E. STILSON & ASSOCIATES, LIMITED  
CONSULTING ENGINEERS  
CLEVELAND, OHIO COLUMBUS, OHIO WHEELING, W. VA.

**EAST ABUTMENT DETAILS**  
BRIDGE NO. LOR-80-1968  
1-80 OVER LEAR NAGLE ROAD

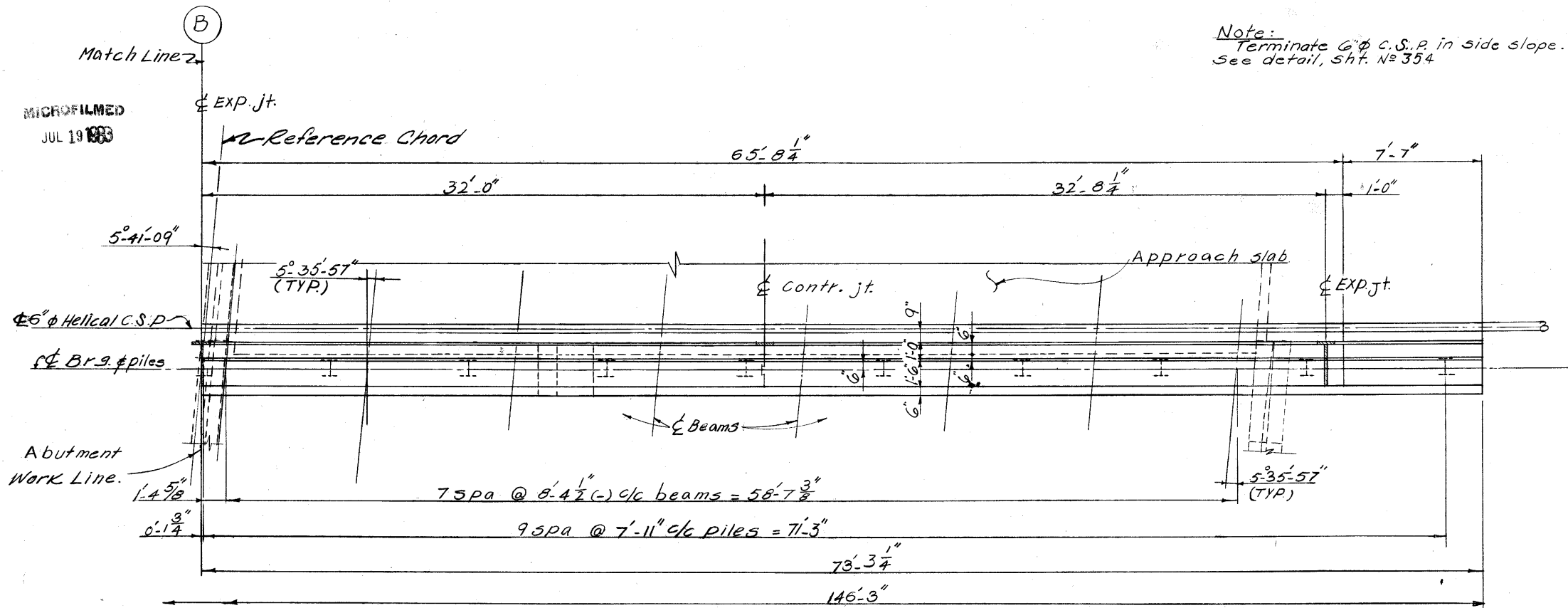
LORAIN COUNTY STA. 76+22.85  
LORAIN COUNTY STA. 77+64.37

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
B.I.P.	M.M.A.		R.S.S.	G.W.M.	9/21/70	

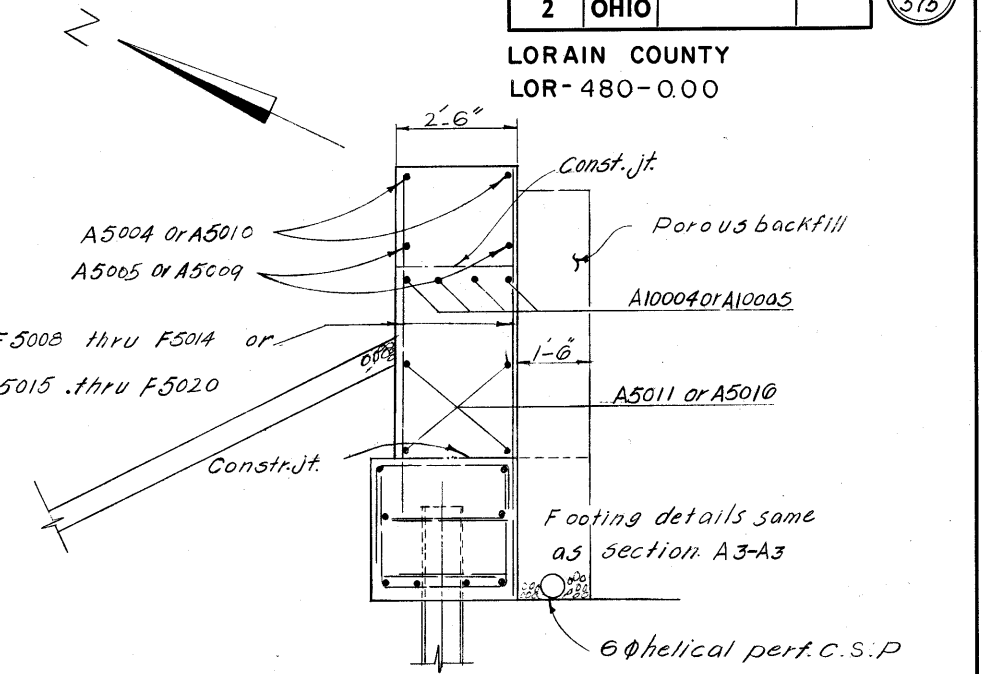
FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		323 375

LORAIN COUNTY  
LOR-480-000

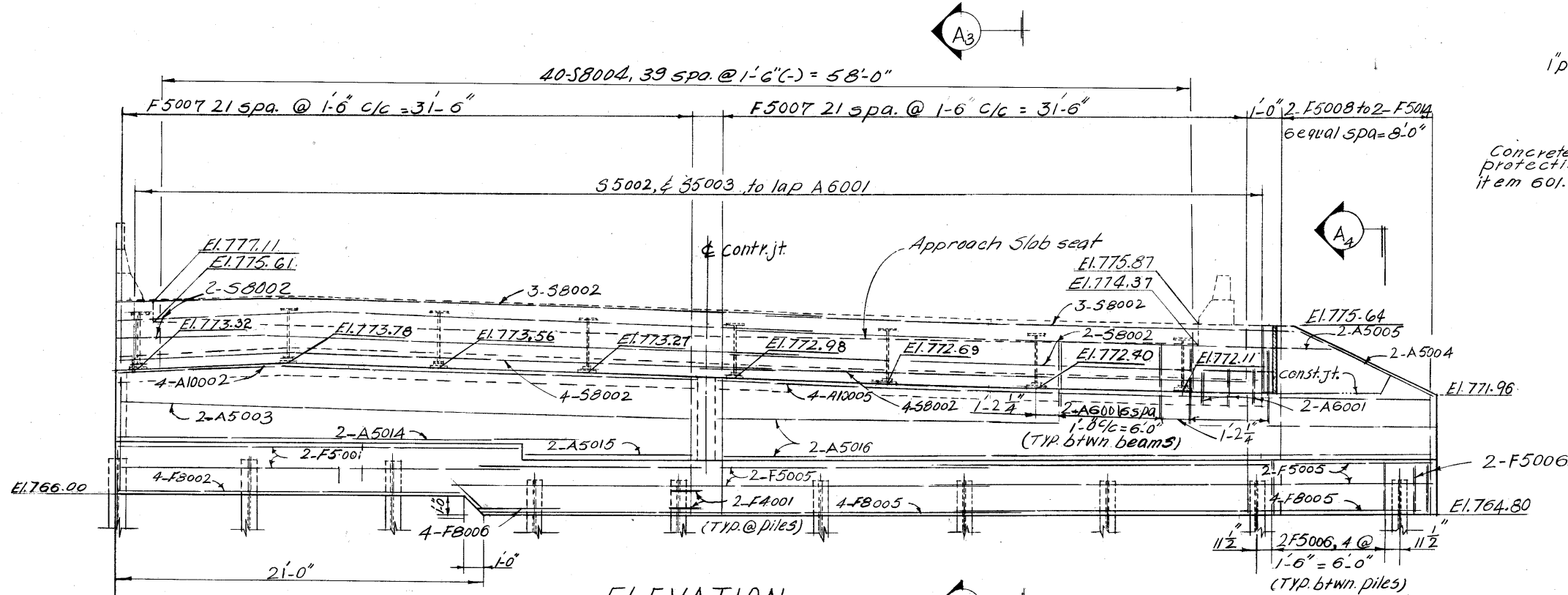
Note:  
Terminate 6" φ C.S.P. in side slope.  
See detail, sht. No. 354



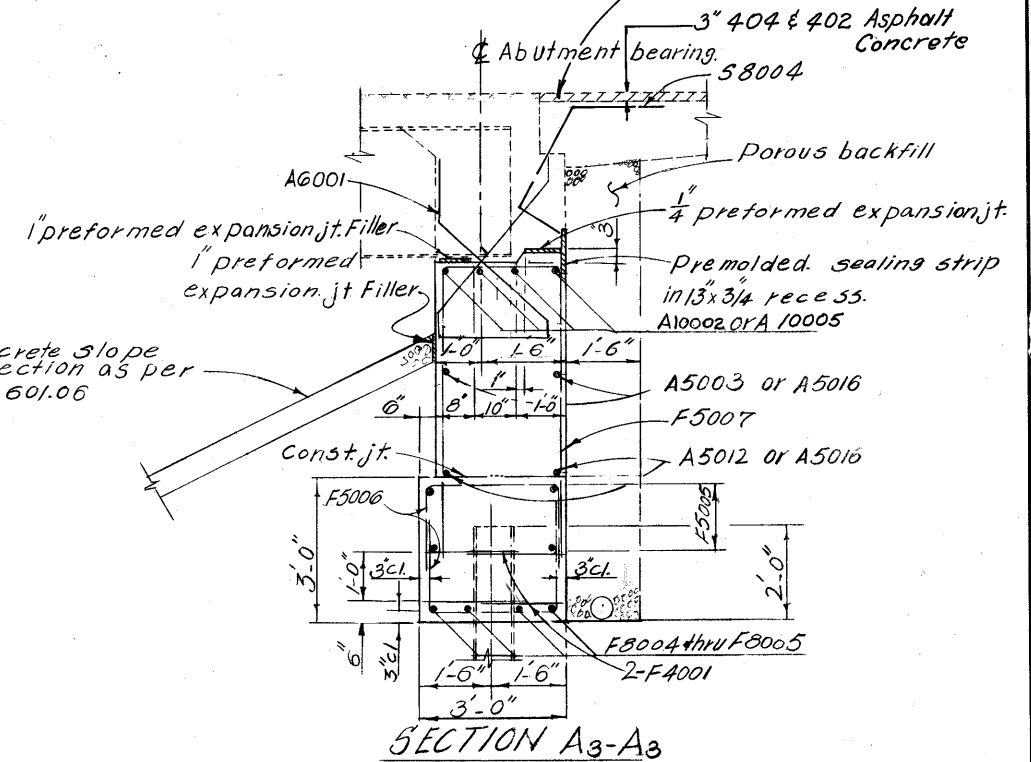
PART PLAN



SECTION A4-A4 407 Tack Coat @ 0.1 gal/yd



ELEVATION



NOTES

All piles are HP 10x42 piles and are vertical.  
For additional notes see sheet No. 4/13

ALDEN E. STILSON & ASSOCIATES, LIMITED CONSULTING ENGINEERS CLEVELAND, OHIO COLUMBUS, OHIO WHEELING, W. VA.						
<b>EAST ABUTMENT DETAILS</b>						
BRIDGE NO LOR-80-1968						
I-80 OVER LEAR NAGLE ROAD						
LORAIN COUNTY					STA. 76+22.85	
LORAIN COUNTY					STA. 77+64.37	
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
BIP	MMA		R.S.S.	G.W.M.	6/24/70	

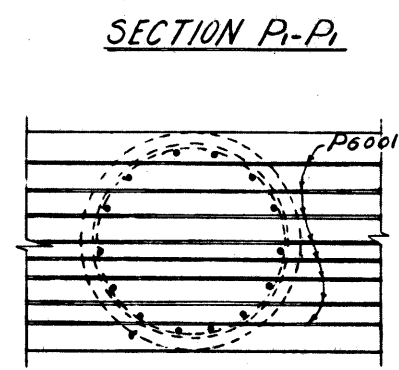
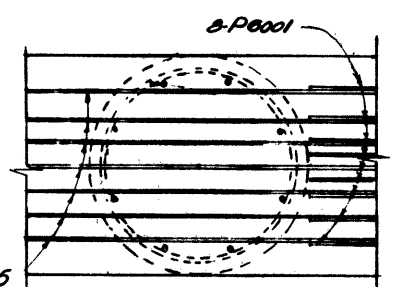
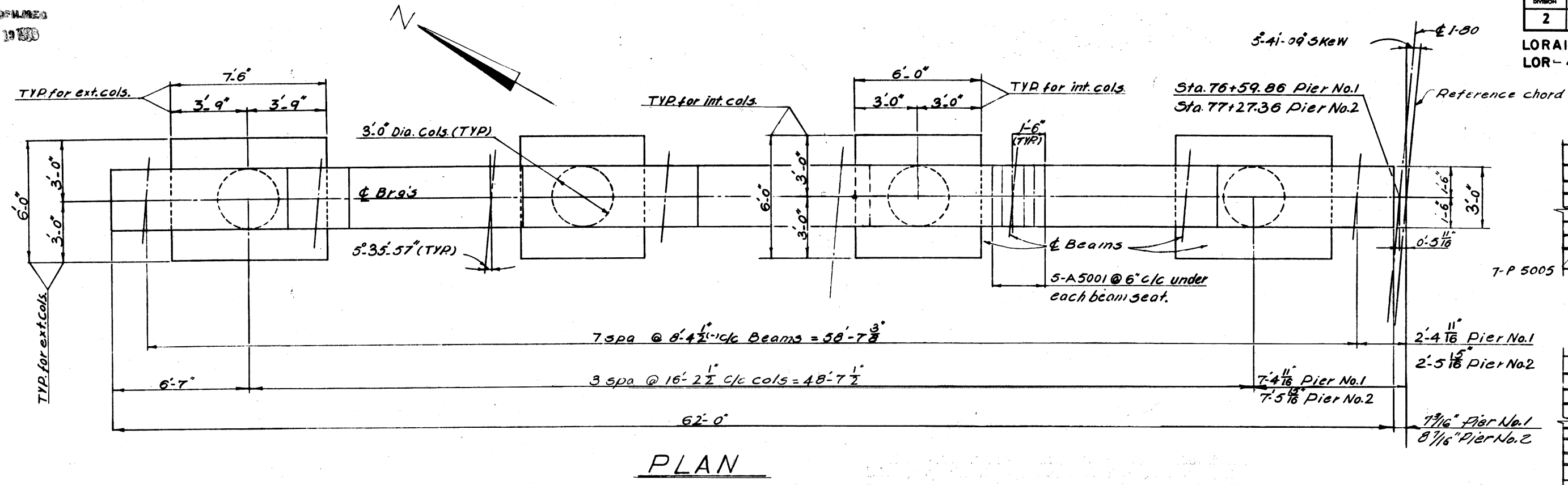
MICROFILMED  
JUL 19 1983

RECORDED  
JUL 19 1968

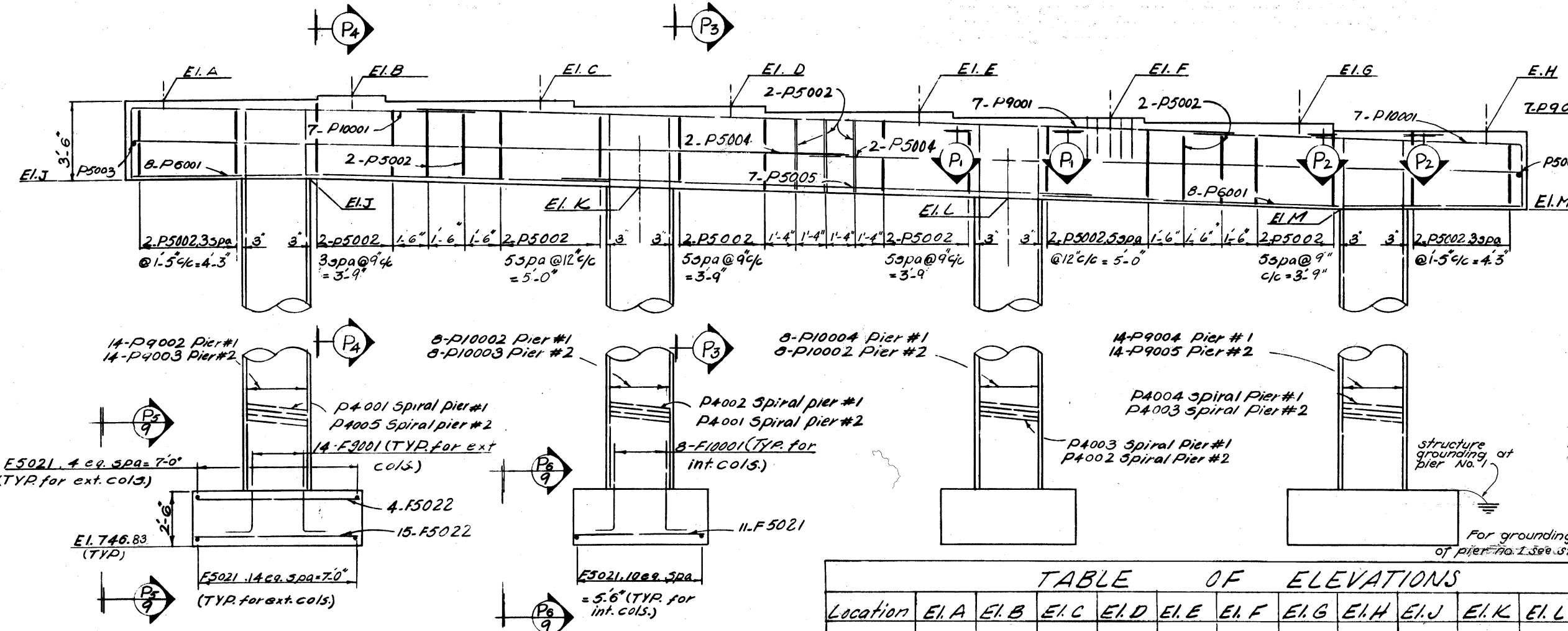
FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

324  
375

LORAIN COUNTY  
LOR-480-0.00



PLAN



**NOTE**  
Vertical column bars & spirals are as indicated on elevation.

SECTION P3-P3 SECTION P4-P4

**NOTE**  
All Footing reinforcement shall have a minimum cover of 3\"/>

**TABLE OF ELEVATIONS**

Location	E.I. A	E.I. B	E.I. C	E.I. D	E.I. E	E.I. F	E.I. G	E.I. H	E.I. J	E.I. K	E.I. L	E.I. M
Pier No. 1	774.10	774.28	773.99	773.69	773.40	773.11	772.81	772.46	770.60	770.07	769.49	768.96
Pier No. 2	774.74	774.80	774.50	774.21	773.92	773.63	773.33	772.98	771.23	770.66	770.05	769.48

ELEVATION

8/13

**PIER DETAILS**  
BRIDGE NO LOR-80-1968  
1-80 OVER LEAR NAGLE ROAD  
LORAIN COUNTY STA. 76+22.85  
STA. 77+64.37

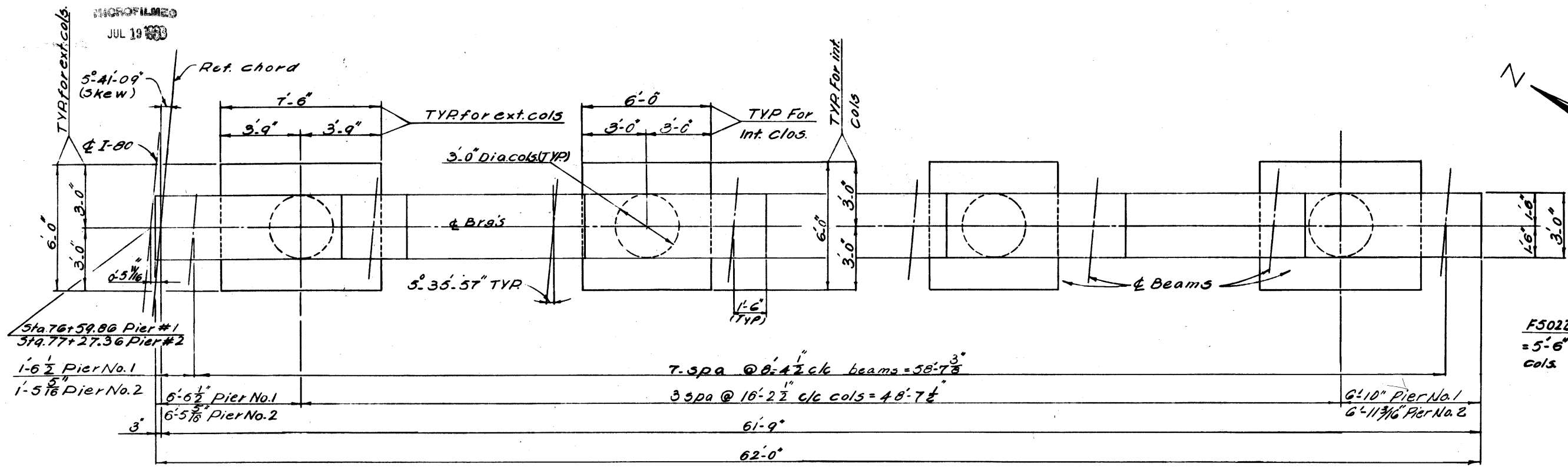
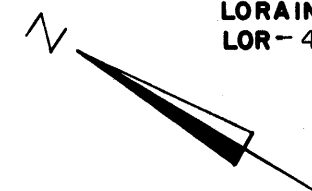
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
B.I.P.	M.M.A.		R.S.S.	G.W.M.	70	

ALDEN E. STILSON & ASSOCIATES, LIMITED  
CONSULTING ENGINEERS  
CLEVELAND, OHIO COLUMBUS, OHIO WHEELING, W. VA.

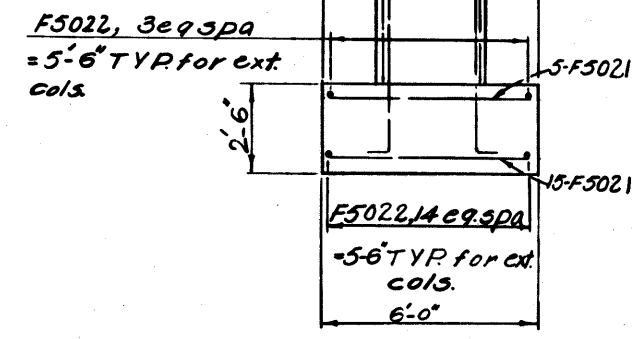
FIG. NO.	STATE	PROJECT	TYPE
2	OHIO		

325  
375

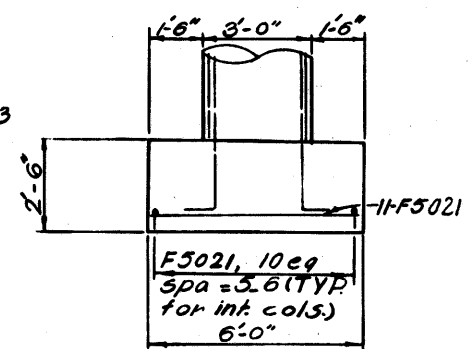
LORAIN COUNTY  
LOR-480-0.00



Sta 76+59.86 Pier #1  
Sta 77+27.36 Pier #2  
1'-6 1/2" Pier No.1  
1'-5 1/8" Pier No.2  
6'-6 1/2" Pier No.1  
6'-5 7/8" Pier No.2

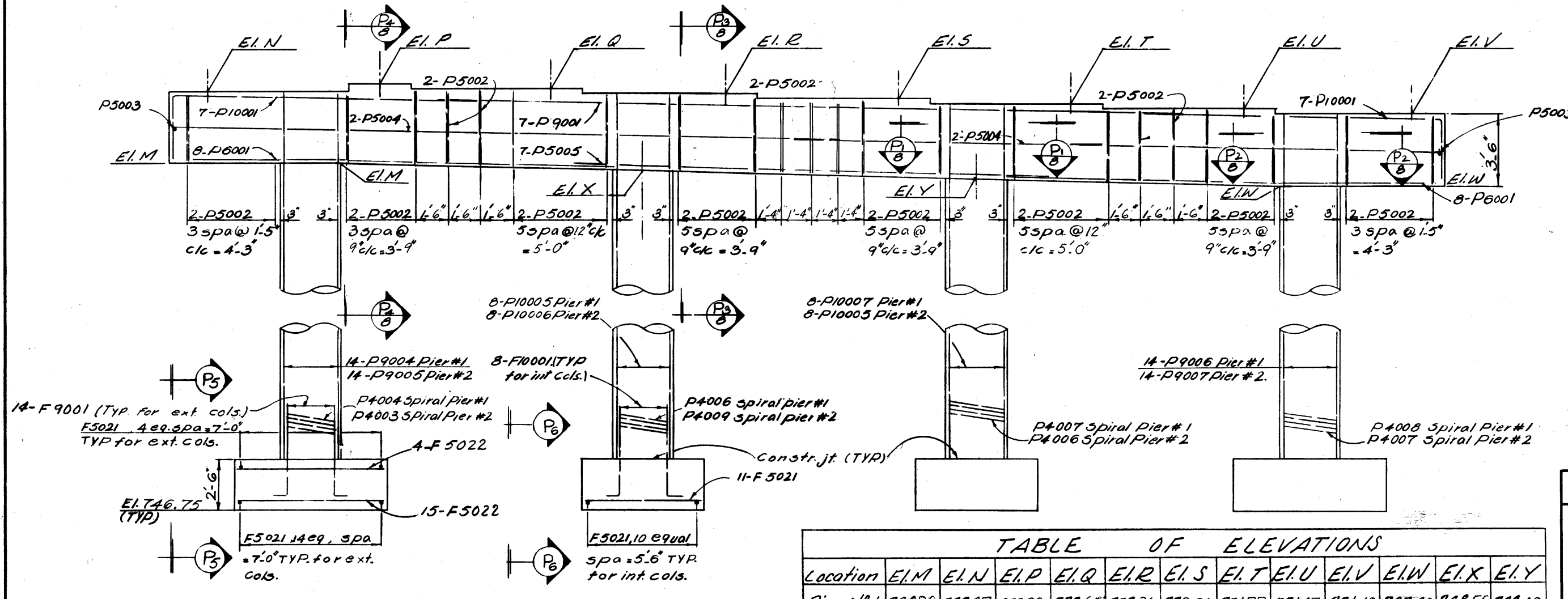


SECTION P3-P3



SECTION P6-P6

Note:  
For additional notes see sht. B/13



ELEVATION

TABLE OF ELEVATIONS

Location	E1.M	E1.N	E1.P	E1.Q	E1.R	E1.S	E1.T	E1.U	E1.V	E1.W	E1.X	E1.Y
Pier No.1	768.98	772.47	772.93	772.65	772.36	772.06	771.77	771.47	771.18	767.68	768.55	768.09
Pier No.2	769.48	772.99	773.45	773.18	772.89	772.65	772.30	772.01	771.72	768.22	769.07	766.63

ALDEN E. STILSON & ASSOCIATES, LIMITED  
CONSULTING ENGINEERS  
CLEVELAND, OHIO COLUMBUS, OHIO WHEELING, W. VA.

PIER DETAILS  
BRIDGE NO LOR.-80-1968  
I-80 OVER LEAR NAGLE ROAD  
LORAIN COUNTY STA. 76+22.85  
STA. 77+64.37

9/13

DESIGNED	DRAWN	TRACE	CHECKED	REVISED	DATE	BY
B.I.P.	M.All		R.S.S.	G.W.M.	9/21/70	

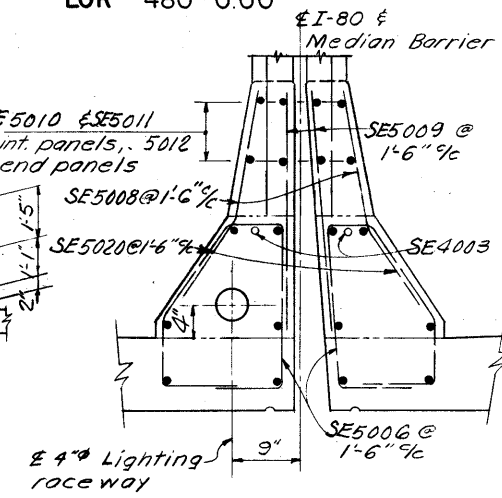
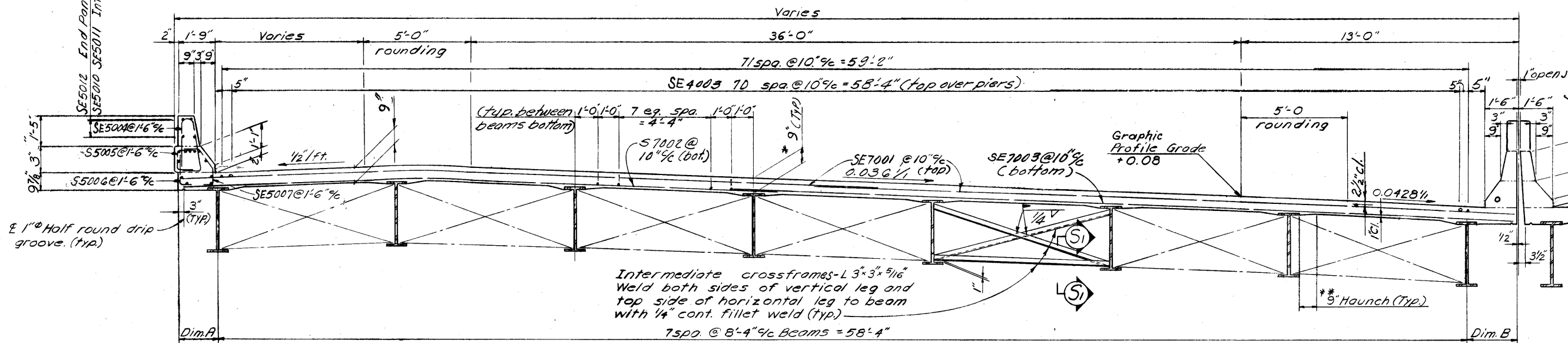


MICROFILMED  
JUL 19 1968

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

326  
375

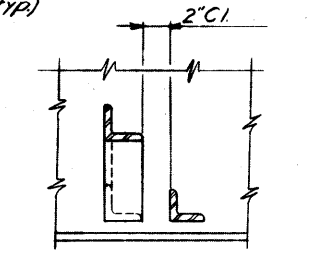
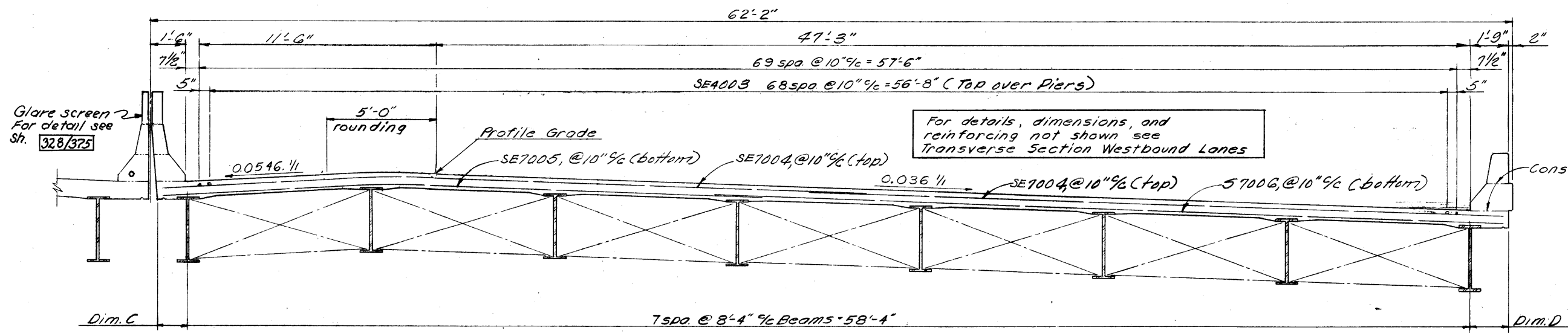
LORAIN COUNTY  
LOR - 480-0.00



**TRANSVERSE SECTION (WESTBOUND LANES)**

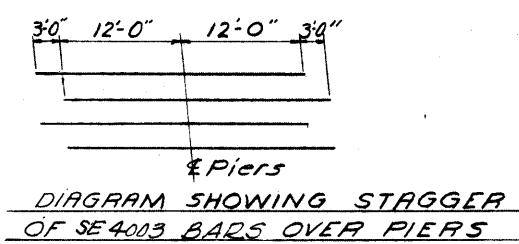
Each longitudinal run of reinforcing shall be comprised of 4-SE4001 and 1-SE4002 lapped a min. of 1'-3" (top) and 4-S5013 and S5014 bar lapped a min. of 1'-7" (bottom) unless otherwise noted.

Blockout for lighting raceway shall be increased to 8" for the first and last 3'-0" length of superstructure median to accommodate coupling and/or expansion devices.



**TRANSVERSE SECTION (EASTBOUND LANES)**

Concrete and reinforcing steel for parapets and median barrier shall be included for payment with their respective items. Item 511 superstructure concrete and item 509 reinforcing steel.  
Transverse reinforcing shall be field bent to fit roadway rounding. Cost shall be included with Item 509.



Location	Dim. A	Dim. B	Dim. C	Dim. D
E Brg. W. Abut.	1'-9"	2'-3 1/2"	1'-3 5/8"	1'-11 7/8"
1/2 Point	1'-10 1/8"	2'-0 3/8"	1'-6 7/8"	1'-9 1/8"
E Brg. Pier #1	1'-11 1/4"	1'-10 7/8"	1'-8 5/8"	1'-7 1/2"
F.S. #1	2'-0 1/4"	1'-9 1/2"	1'-9 1/2"	1'-6 7/8"
1/2 Point	2'-1 1/2"	1'-9 1/4"	1'-9 3/4"	1'-6 7/8"
3/4 Point	2'-2 5/8"	1'-10"	1'-9"	1'-8"
E Brg. Pier #2	2'-3 3/4"	1'-11 1/2"	1'-7 3/8"	1'-9 7/8"
1/2 Point	2'-4 7/8"	2'-2 1/4"	1'-4 3/4"	2'-1"
E Brg. E. Abut.	2'-6"	2'-5 1/8"	1'-1"	2'-5"

\* Deck slab depth: The distance shown from the top of deck slab to top of steel beam is the design dimension. The quantity of deck concrete to be paid for shall be based on this dimension, even though deviation from it may be necessary because the top flange of the beam may not have the exact camber or conformation required to place it parallel to the finished grade.

\*\* A haunch width of 9" shall be used for computing quantity of concrete. However, the haunch 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.

Transverse reinforcing steel shall be placed parallel to abutments.  
Steel Erection: During the erection of end dams and crossframes care shall be taken to insure that stringers, bearing parts and bridge seats remain in bearing contact.

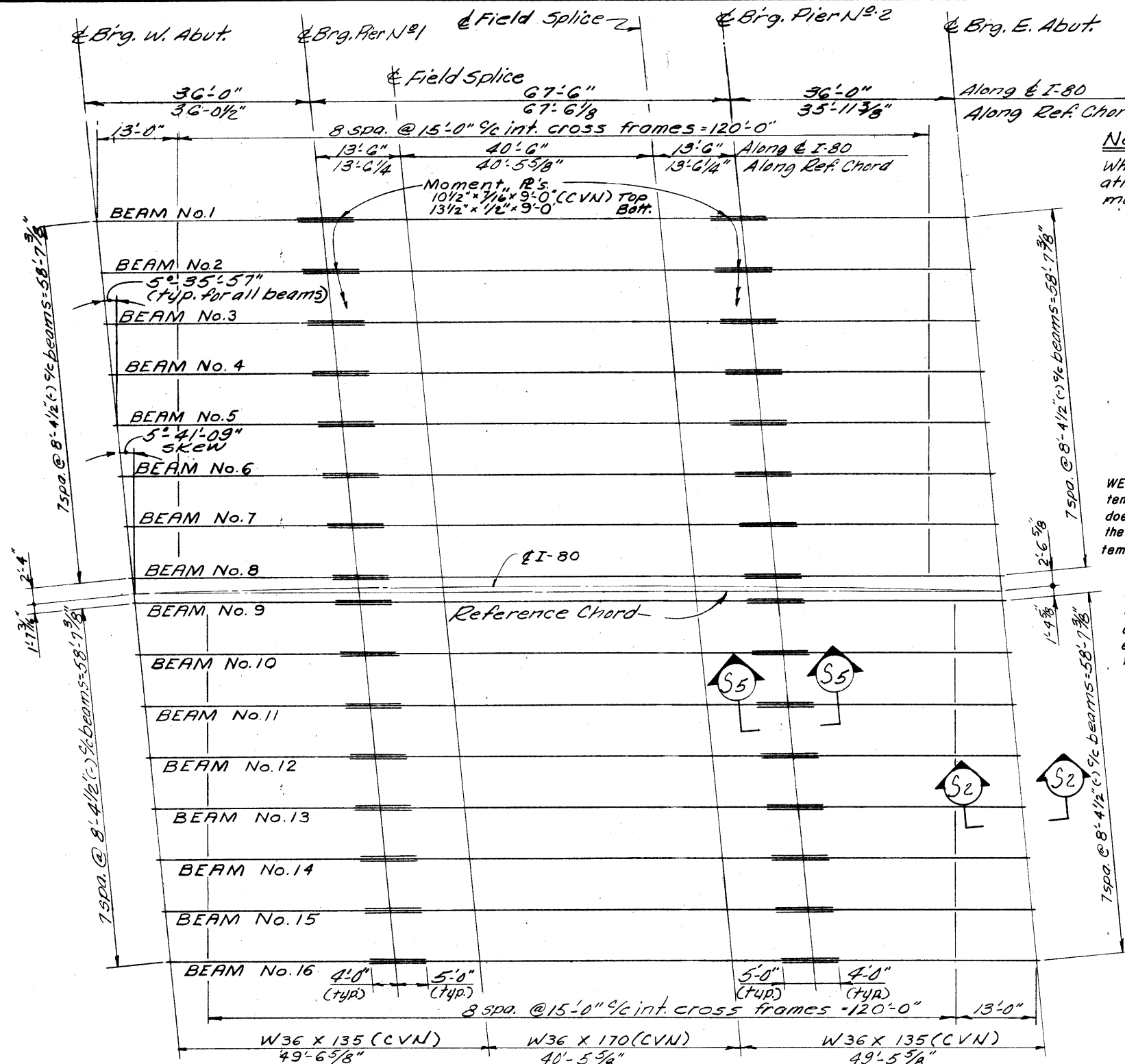
**SECTION S1-S1**

10/13

ALDEN E. STILSON & ASSOCIATES, LIMITED  
CONSULTING ENGINEERS  
CLEVELAND, OHIO COLUMBUS, OHIO WHEELING, W. VA.

**SUPERSTRUCTURE DETAILS**  
BRIDGE NO LOR.-80-1968  
I-80 OVER LEAR NAGLE ROAD  
LORAIN COUNTY STA. 76+22.85  
STA. 77+64.37

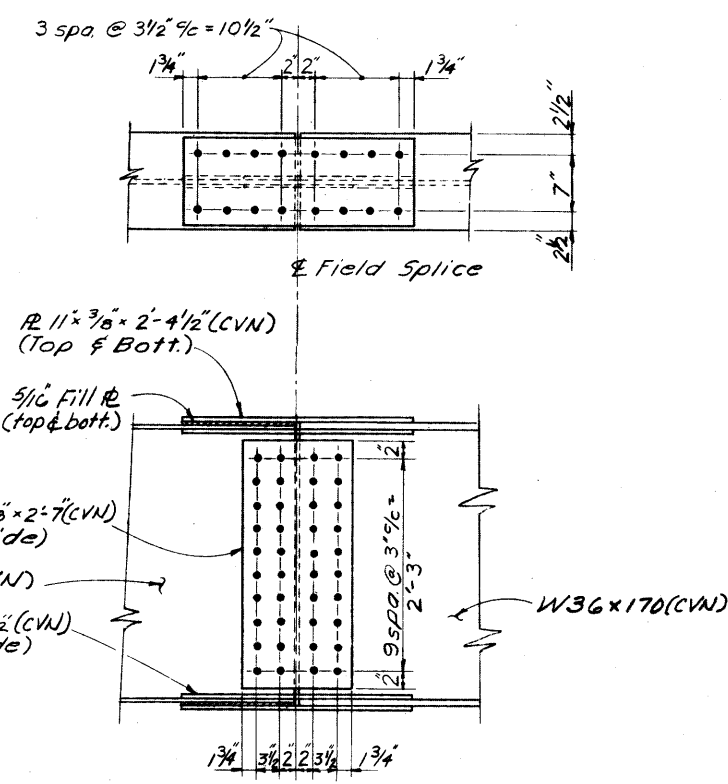
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
B.I.P.	DL		R.S.S.	G.W.M.	7/10	



**Note:**  
Where (CVN) follows a shape or plate size designation, the material shall meet specified minimum notch toughness requirements.

**WELDING** shall be controlled so that the plate temperature at the elastomer bonded surface does not exceed 300°F as determined by the use of pyrometric sticks or other temperature monitoring devices.

**SCUPPERS:** Steel bar stock utilized for scuppers may be any weldable grade of low or mild carbon steel available commercially. This material is to be excluded from the requirements of 501.07 for test reports.

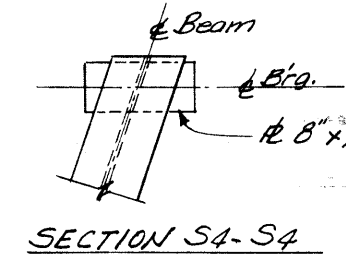


**FIELD SPLICE DETAIL**

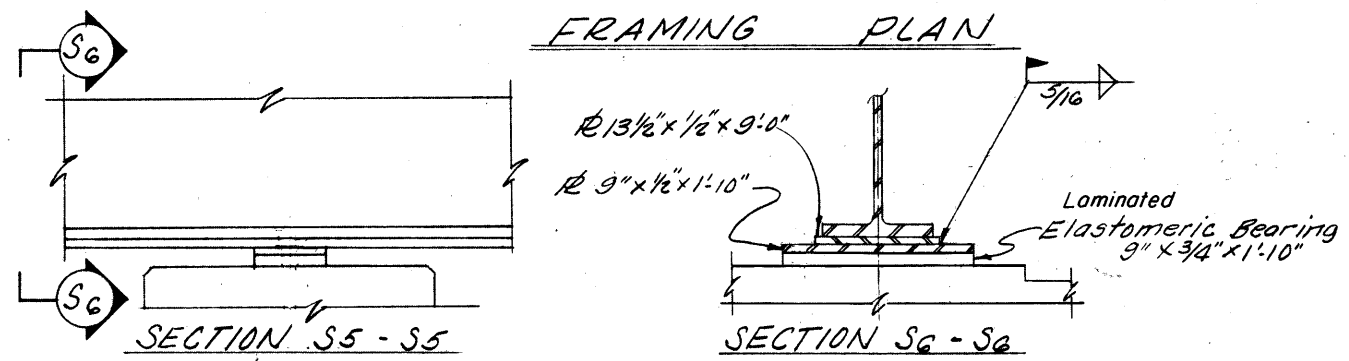
**Notes:**  
1" High strength bolts shall be used at field splices. Bolt heads shall be placed on fascia side of exterior beam web and bottom side of bottom flange. Bolts shall conform to A 325 steel.

Crossframes may be shifted if necessary to avoid field splice.  
Place intermediate crossframes normal to beams.

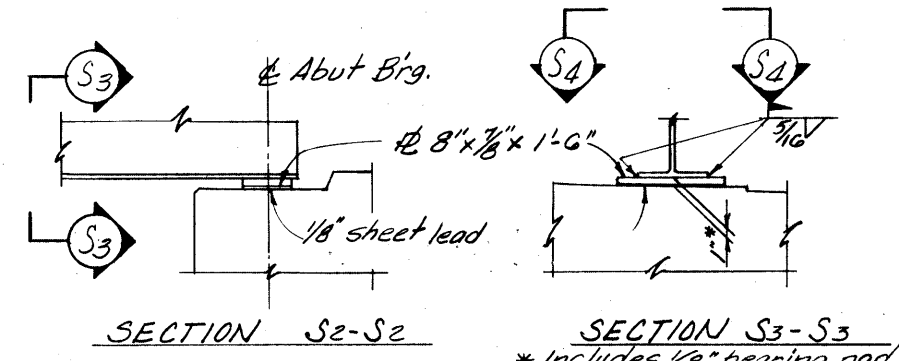
**SHOP DRAWINGS**  
Laminated elastomeric bearing shall be molded from two 60 Durometer Elastomeric Pads with one internal plate and may be vulcanized bonded to the upper steel load plate during the molding process. Shop drawings shall be prepared and submitted for approval according to the pertinent paragraphs of 501.05 and 513.02.



SECTION S4-S4



BEARING DETAIL AT PIERS



BEARING DETAIL AT ABUTMENTS

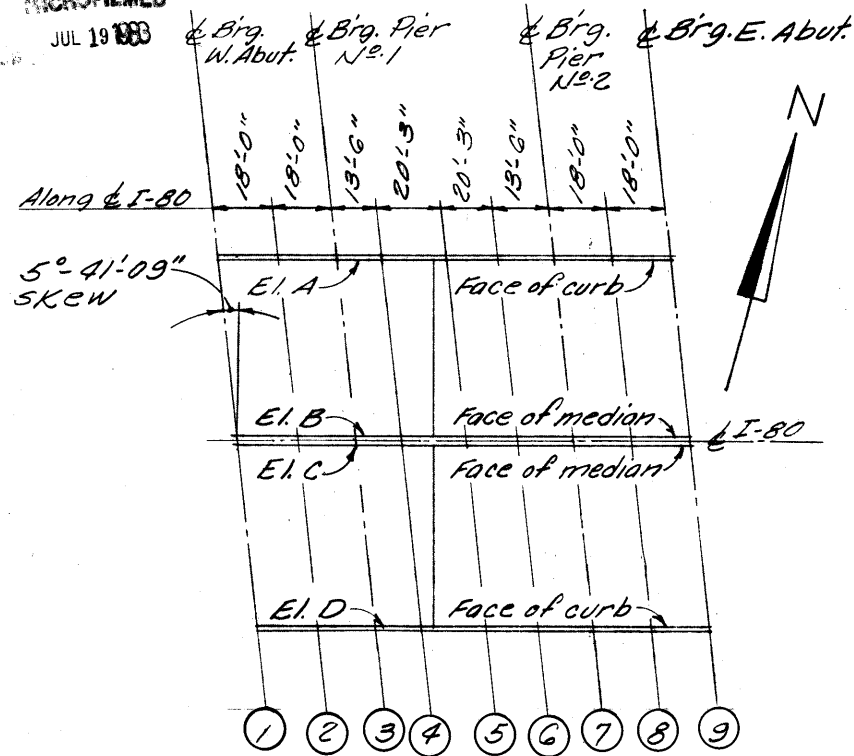
ALDEN E. STILSON & ASSOCIATES, LIMITED CONSULTING ENGINEERS CLEVELAND, OHIO COLUMBUS, OHIO WHEELING, W. VA.						
<b>SUPERSTRUCTURE DETAILS</b>						
BRIDGE NO. LOR-80-1968						
1-80 OVER LEAR NAGLE ROAD						
LORAIN COUNTY					STA. 76+22.85	
					STA. 77+64.37	
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
B.I.P.	D.L.		R.S.S.	G.W.M.	7/15/70	

MICROFILMED  
JUL 19 1983

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

LORAIN COUNTY  
LQR-480-0.00

328  
375

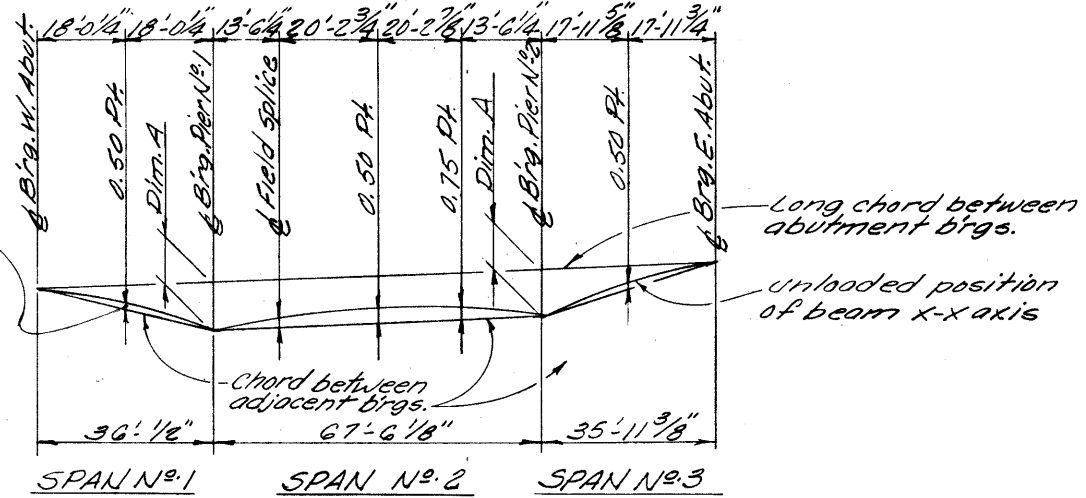


DECK ELEVATION LOCATIONS

NOTE: The deck elevations shown are those which are required prior to placing of the concrete deck. Proper allowance has been made for the dead load deflection caused by the weight of the concrete.

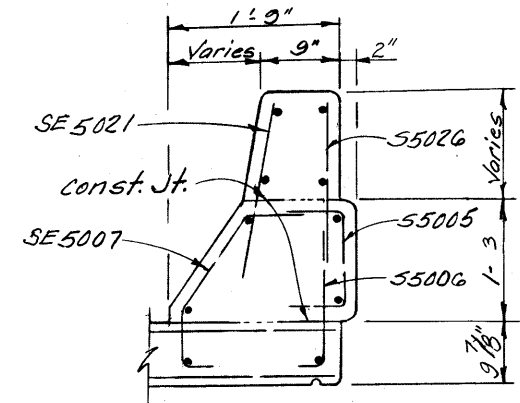
LINE	1	2	3	4	5	6	7	8	9
E1. A	777.61	777.78	777.94	778.09	778.29	778.43	778.56	778.73	778.90
E1. B	776.03	776.16	776.29	776.41	776.58	776.70	776.81	776.96	777.11
E1. C	776.04	776.16	776.29	776.41	776.59	776.70	776.81	776.96	777.11
E1. D	774.77	774.90	775.04	775.15	775.33	775.45	775.57	775.72	775.87

Beam No.	1, 9 & 10	2 thru 8 & 11 thru 16
Dim. A	0	-7/16"

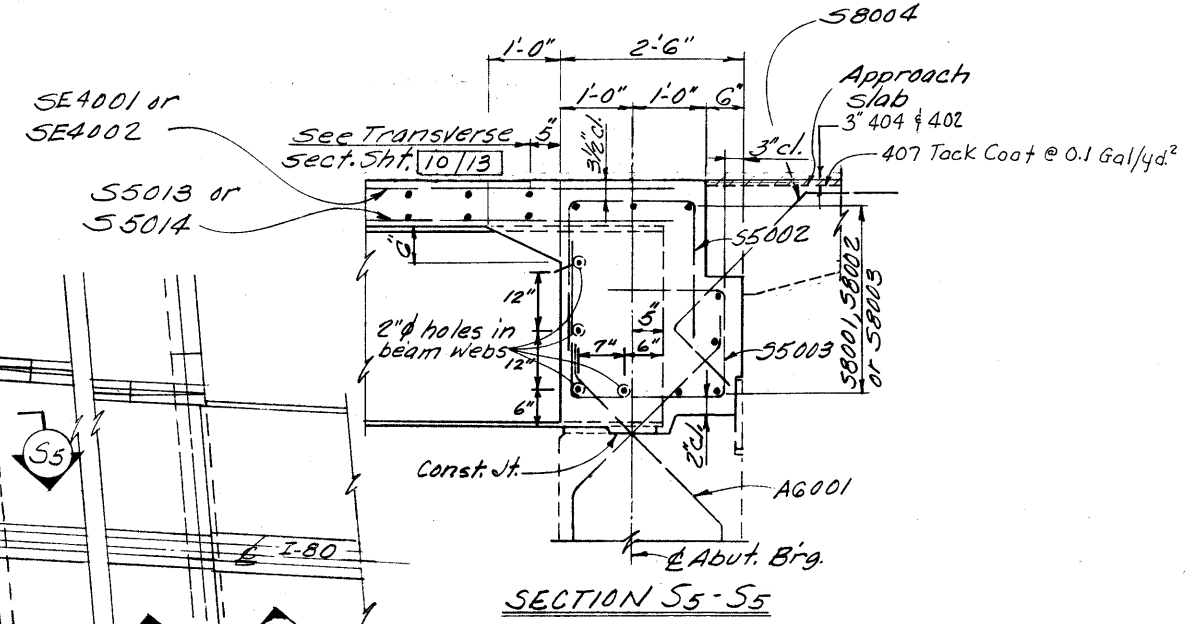


CAMBER & BLOCKING DIAGRAM

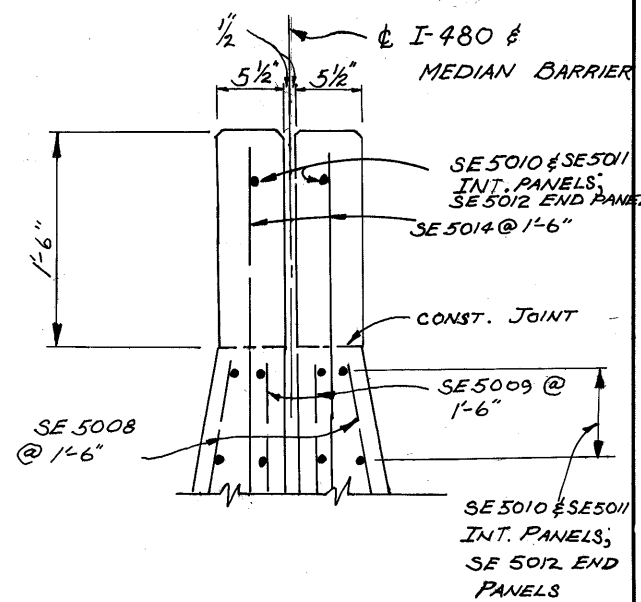
LOCATION	SPAN No. 1		SPAN No. 2		SPAN No. 3
	0.50 F.S.#	0.50 B.S.	0.50 F.S.#	0.50 B.S.	0.50
Deflection due to weight of steel	0	1/16	1/16	1/16	0
Deflection due to remaining dead load	0	1/4	1/2	1/4	0
Adjustment req'd for vertical curve	0	1/16	1/8	1/16	0
Required shop camber	0	3/8	1/16	3/8	0



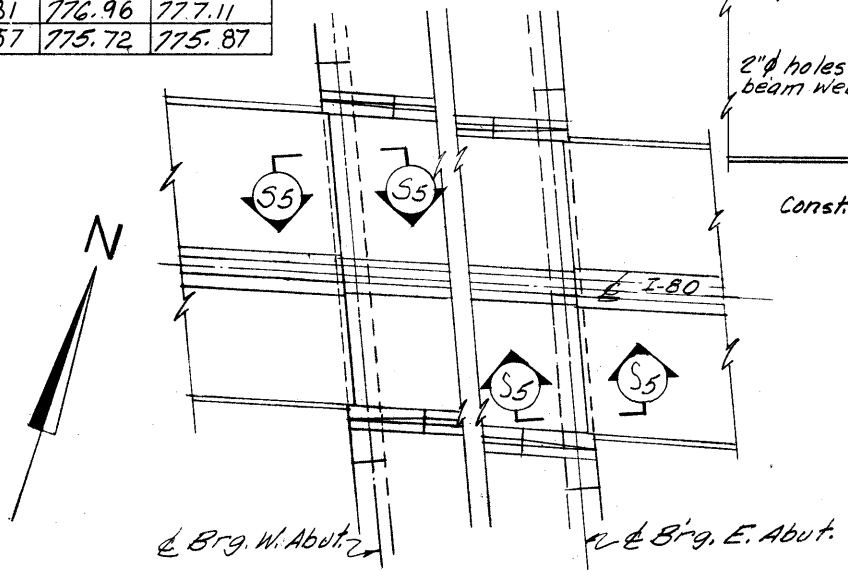
TYPICAL REINFORCEMENT @ 6'-0" TRANSITION SECTIONS OF PARAPET



SECTION S5-S5



SECTION SHOWING GLARE SCREEN



DECK PLAN

ALDEN E. STILSON & ASSOCIATES, LIMITED  
CONSULTING ENGINEERS  
CLEVELAND, OHIO COLUMBUS, OHIO WHEELING, W. VA.

**SUPERSTRUCTURE DETAILS**  
BRIDGE NO. LOR.-80-1968  
I-80 OVER LEAR NAGLE ROAD

LORAIN COUNTY STA. 76+22.85  
STA. 77+64.37

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
B.I.P.	R.T.		R.S.S.	G.W.M.	9/5/10	

TICHOPILMEX  
JUL 19 1968

Table with 12 columns: MARK, NUM., LENGTH, WEIGHT, TYPE, A, B, C, D, E, NOTE. Rows include items A 5001-5017, A 6001, A10001-10005, F 4001, F 5001-5008, F 5014-5015, F 5020, F 8001-8006, P 4001-4008, P 5001-5005. Includes sub-section 'PIERS'.

Table with 12 columns: MARK, NUM., LENGTH, WEIGHT, TYPE, A, B, C, D, E, NOTE. Rows include items P 6001, P 9001-9007, P10001-10007, F 5021-5022, F 9001, F10001, S 5001-5006, S 5013-5014, S 5026, S 7001-7003, S 7005-7006, S 8001-8002. Includes sub-section 'SUPERSTRUCTURE'.

Table with 12 columns: MARK, NUM., LENGTH, WEIGHT, TYPE, A, B, C, D, E, NOTE. Rows include items S 8003-8004, SE4001-4003, SE4004-4015, SE5004, SE5007-5009, SE5010-5015, SE5020-5021, SE7001, SE7004.

FED. RD. DIVISION 2 OHIO PROJECT TYPE FUNDS 329 375  
LORAIN COUNTY LOR-480-0.00

NOTES

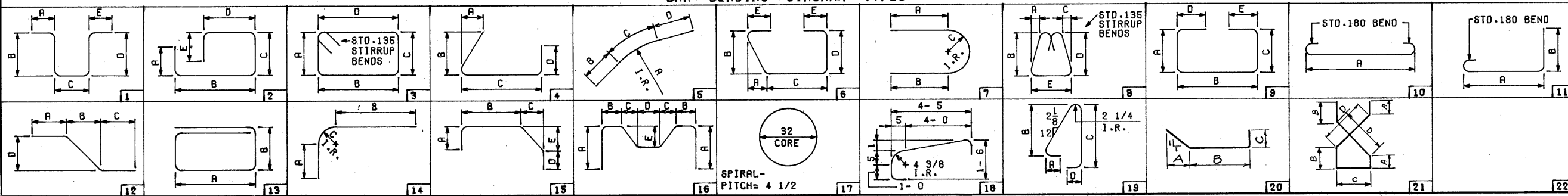
- 1. INDICATES SERIES BAR. EACH BAR VARIES FROM ADJACENT BAR(S) BY TABULATED AMOUNT(S), CALCULATED TO NEAREST 1/8 INCH. WEIGHT SHOWN IS FOR ENTIRE SERIES UTILIZING AVERAGE LENGTH.
2. BARS INCLUDED WITH ITEM 517, RAILING, FOR PAYMENT.
3. COST OF FIELD BENDING SHALL BE INCLUDED WITH ITEM 509.
4. LIGHT POLE SUPPORT BARS INCLUDED WITH ITEM 509 FOR PAYMENT.
5. END PREPARATION AND FIELD WELDING INCLUDED WITH ITEM 509.
6. 'LENGTH' SHOWN FOR SPIRAL BARS IS DISTANCE FROM TOP OF FOOTING TO BOTTOM OF PIER CAP. 'NO. TURNS' SHOWN IS 'LENGTH' DIVIDED BY PITCH. PLUS 3 TURNS (NUMBER OF CLOSED COILS), EXPRESSED AS NEAREST WHOLE NUMBER. SPIRAL BARS SHALL NOT HAVE DEFORMATIONS BUT SHALL IN OTHER RESPECTS CONFORM TO ITEM 509. 1 1/2 CLOSED COILS SHALL BE PROVIDED AT 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 PERIPHERY OF COIL. WEIGHT OF SPACERS, AT 0.80 LB. PER LIN. FT. WILL BE PAID FOR AS REINFORCING STEEL AND IS INCLUDED IN TABULATED WEIGHT.

Refer to CMS Sections 106.03, 700, 709.01 through 709.05 and 709.08. Sufficient additional reinforcing steel shall be provided for sampling. Random samples shall be replaced in the structures by the additional steel, spliced in accordance with 509.08.

BAR SIZE DESIGNATION

BAR SIZE IS INDICATED IN THE BAR MARK. THE FIRST DIGIT WHERE FOUR DIGITS ARE USED, AND FIRST TWO DIGITS WHERE FIVE DIGITS ARE USED, INDICATE THE BAR SIZE NUMBER. FOR EXAMPLE, A7001 IS A NO. 7 SIZE BAR AND A10140 IS A NO. 10 SIZE.

BAR BENDING DIAGRAM TYPES



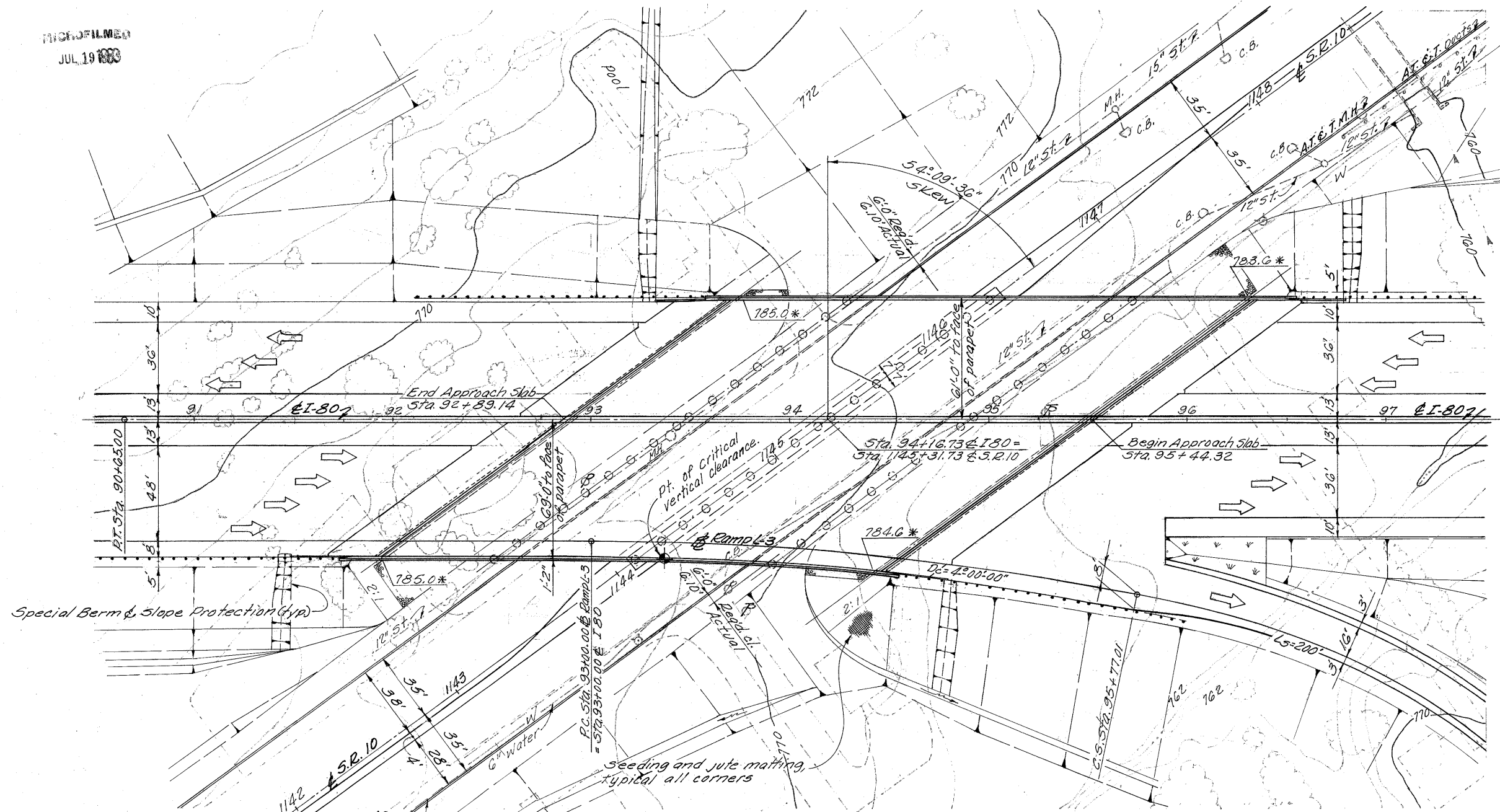
ALDEN E. STILSON & ASSOCIATES, LIMITED CONSULTING ENGINEERS CLEVELAND, OHIO COLUMBUS, OHIO WHEELING, W. VA. REINFORCING STEEL LIST BRIDGE NO LOR-80-1968 I-80 OVER LEAR NAGLE ROAD LORAIN COUNTY STA. 76+22.85 STA. 77+64.37 DESIGNED DRAWN TRACED CHECKED REVIEWED DATE REVISED B.I.P. R.S.S. G.W.M. 6/19/70

MICROFILMED  
JUL 19 1988

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

LORAIN COUNTY  
LOR-480-0.00

330  
375



**NOTE:**  
\* Elevation indicated thus are top of slope at face of abutment.

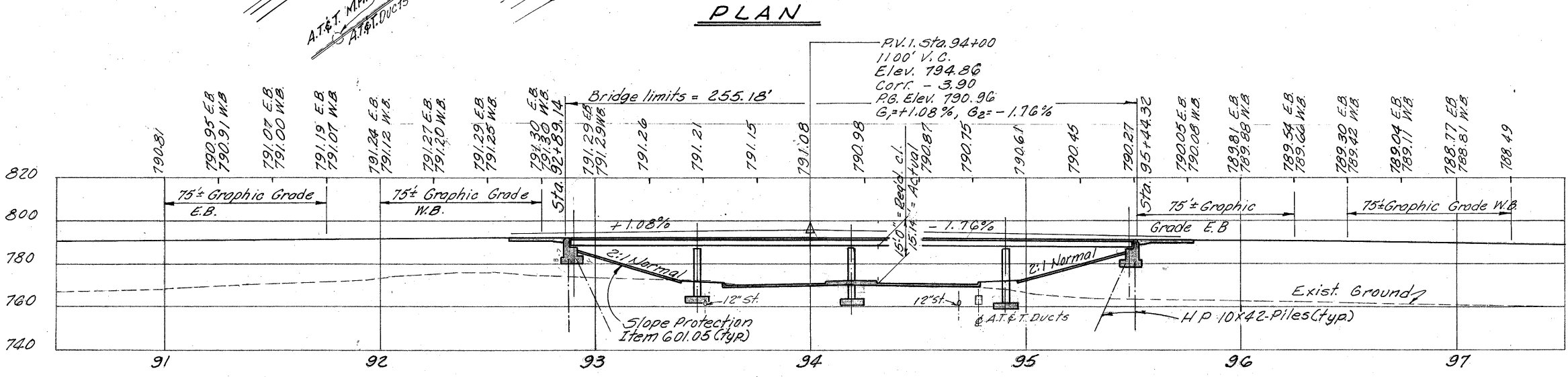
Earthwork limits shown are schematic. Actual slopes shall conform to plan cross sections.

The vertical curve data does not apply to bridge or graphic grade elevations. The bridge elevations were obtained by adding 0.12 feet to the elevations obtained from vertical curve data.

BRIDGE NO. LOR-80-1998 APPEARING THROUGHOUT THIS BRIDGE PLAN SHALL BE CONSIDERED TO READ BRIDGE NO. LOR-480-0216.

**PROPOSED STRUCTURE**  
 TYPE: Continuous steel beam with reinforced concrete deck and substructure.  
 SPANS: 51'-0", 72'-9", 72'-9", 51'-0" 9/16 bearings.  
 ROADWAY: Variable width (see plan), with Concrete Barrier Type Median & Railing.  
 LOADING: HS20-44 plus Interstate alternate.  
 WEARING SURFACE: Monolithic Conc. alternate.  
 SKEW: 54°09'36" Lt. forward.  
 ALIGNMENT: Tangent  
 APPROACH SLABS: A5-1-72(30'lg.) modified.  
 SUPERELEVATION: None

**TRAFFIC ESTIMATE**  
 Design Year - 1987  
 Total A.D.T. - 40,000



PROFILE ALONG E I-80

Estimated average pay length for abutment piling is 23'.

ALDEN E. STILSON & ASSOCIATES, LIMITED  
 CONSULTING ENGINEERS  
 CLEVELAND, OHIO COLUMBUS, OHIO WHEELING, W. VA.

**SITE PLAN**  
 BRIDGE NO. LOR-80-1998  
 I-80 OVER SR. NO. 10 (LORAIN ROAD)  
 LORAIN COUNTY STA. 92+89.14  
 STA. 95+44.32  
 SCALE 1"=30'-0"

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
G.W.M.	G.W.M.	R.T.	B.I.P.	G.W.M.	9/6/87	1/10

MICROFILMED  
JUL 19 1983

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

331  
375

LORAIN COUNTY  
LOR-480-0.00

STANDARD DRAWING REFERENCES

DESCRIPTION	DWG. NO.	SHT.	DATE
END DAM AND END CROSSFRAME	SD-1-69	1-2	6-12-69
CURB PLATES	SD-1-69	2	6-12-69
SCUPPERS	SD-1-69	3	6-12-69
MOMENT PLATES	SD-1-69	3	6-12-69
BOLTED SPLICES	SD-1-69	4	6-12-69
BRIDGE ROADWAY RAILING	BR-1-67	1	10-15-71 R
ROCKERS AND BOLSTERS	RB-1-55		2- 2-59 R
APPROACH SLABS	AS-1-72		6-30-72
STRUCTURE GROUNDING	HL-7		1-26-72

(R INDICATES REVISED DATE)

SUPPLEMENTAL SPECIFICATION REFERENCES

DESCRIPTION	NO.	DATE
CHEMICAL ADMIXTURE FOR CONCRETE, TYPE A, B OR D	808	1- 1-71
CONCRETE CURING AND PROTECTIVE MEMBRANE	836	3-12-75

COMMON DETAIL REFERENCES

CONTRACTION JOINTS & END DAMS	SHEET 354
EXPANSION JOINTS	SHEET 354
DECK DRAINAGE DETAILS	SHEET 355

DESIGN SPECIFICATIONS

THIS STRUCTURE CONFORMS TO THE '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 - HS20-44 AND THE INTERSTATE ALTERNATE LOADING  
CONCRETE CLASS C - UNIT STRESS 1200 PSI FOR SUPERSTRUCTURE  
UNIT STRESS 1333 PSI FOR SUBSTRUCTURE  
STRUCTURAL STEEL - ASTM A36 - UNIT STRESS 20000 PSI  
REINFORCING STEEL - ASTM A615, A616 OR A617 - UNIT STRESS 20000 PSI.  
SPIRAL REINFORCEMENT MAY BE PLAIN BARS ASTM A82, OR A615.

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 FOR PIER NO.3

PILES

PILES SHALL BE DRIVEN TO A MINIMUM BEARING CAPACITY OF-  
35 TONS PER PILE FOR THE ABUTMENTS

FOUNDATION BEARING PRESSURE

PIER FOOTINGS ARE DESIGNED FOR A MAXIMUM BEARING PRESSURE OF 2.5 TONS PER SQ. FT.

LAPS

MINIMUM BAR LAPS SHALL BE 30 DIAMETERS.

\*Std. Dwg. AS-1-72 shall be modified to provide 3" clearance to the top re-bars instead of the 2" shown and jacking holes shall be omitted.

UTILITY LINES

ALL EXPENSE INVOLVED IN RELOCATING THE AFFECTED UTILITY LINES SHALL BE BORNE BY THE OWNERS. THE CONTRACTOR AND OWNERS ARE REQUESTED TO COOPERATE BY ARRANGING THEIR WORK IN SUCH A MANNER THAT INCONVENIENCE TO EITHER WOULD BE HELD TO A MINIMUM.

MAINTENANCE OF TRAFFIC

TWO LANES OF TRAFFIC WITH A MINIMUM HORIZONTAL WIDTH OF 26'-0 AND A MINIMUM VERTICAL CLEARANCE OF 13'-6 SHALL BE MAINTAINED ON S.R. 10 AT ALL TIMES.

SUPPLEMENTAL SPECIFICATION REFERENCES- CONT

DESCRIPTION	NO.	DATE
PAINTING FOR NEW STRUCTURAL STEEL	846	4-25-77
INORGANIC ZINC SILICATE PAINT	950	4-25-77
BLUE-GREEN VINYL PAINT	951	4-25-77

ATTACHMENT OF GUARDRAIL TO CONCRETE PARAPETS: CONCRETE INSERT ANCHOR ASSEMBLIES PER STANDARD CONSTRUCTION DRAWINGS GR-3 AND GR-1 SHALL BE PLACED DURING PARAPET CONSTRUCTION.

ITEM	TOTAL	UNIT	DESCRIPTION	ABUTS	PIERS	SUPER	GENERAL		
503	LUMP	SUM	COFFERDAMS, CRIBS AND SHEETING				LUMP		
503	3180	C.Y.	UNCLASSIFIED EXCAVATION	1055	2125				
505	LUMP	SUM	TEST PILE				LUMP		
507	2185	L.F.	STEEL PILES, HP10X42	2185					
509	305311	LB	REINFORCING STEEL	57,132	113591	134,588			
511	1066	C.Y.	CLASS C CONCRETE, SUPERSTRUCTURE(SEE PROPOSAL NOTE)			1066			
511	300	C.Y.	CLASS C CONCRETE, PIERS ABOVE FOOTINGS		300				
511	466	C.Y.	CLASS C CONCRETE, ABUTMENTS ABOVE FOOTINGS	466					
511	758	C.Y.	CLASS C CONCRETE, FOOTINGS	348	410				
512	100	L.F.	PREMOLDED SEALING STRIP	100					
513	836000	LB	STRUCTURAL STEEL, PRIMER PER 846(SEE PROPOSAL NOTE)			836000			
846	836000	LB	FIELD PAINTING OF STRUCTURAL STEEL			836000			
516	110	S.F.	1 INCH PREFORMED EXPANSION JOINT FILLER	110					
518	262	C.Y.	POROUS BACKFILL	262					
518	12	EA	STANDARD SCUPPERS INCLUDING SUPPORTS			12			
518	12	EA	TYPE 3 SCUPPERS INCLUDING SUPPORTS, AS PER PLAN			12			
518	436	L.F.	6 INCH PERFORATED, HELICAL CSP, 707.01	436					
518	112	L.F.	6 INCH NON-PERFORATED, HELICAL CSP, INCLUDING SPECIALS, 707.01	112					
601	1720	S.Y.	CRUSHED AGGREGATE SLOPE PROTECTION				1720		
5625			SEE SHEET 222 FOR LIGHTING SUMMARY						
808	1066	UNIT	CHEMICAL ADMIXTURE FOR CONCRETE, TYPE A, B OR D			1066			
SPEC	138582	LB	EPOXY COATED REINFORCING STEEL(SEE PROPOSAL NOTE)	2074		136508			

MONOLITHIC WEARING SURFACE THICKNESS IS ASSUMED TO BE 1" DECK PROJECTION METHOD: EPOXY COATED REINFORCING STEEL, TOP MAT ONLY.

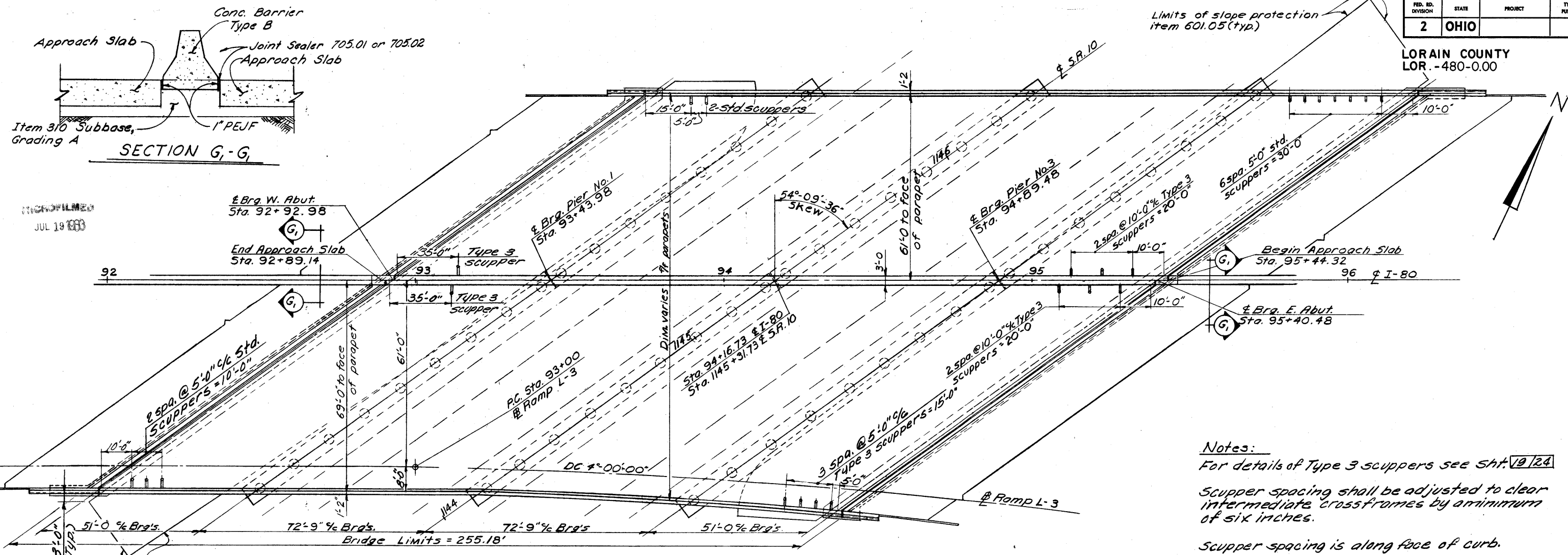
EBL

2/24

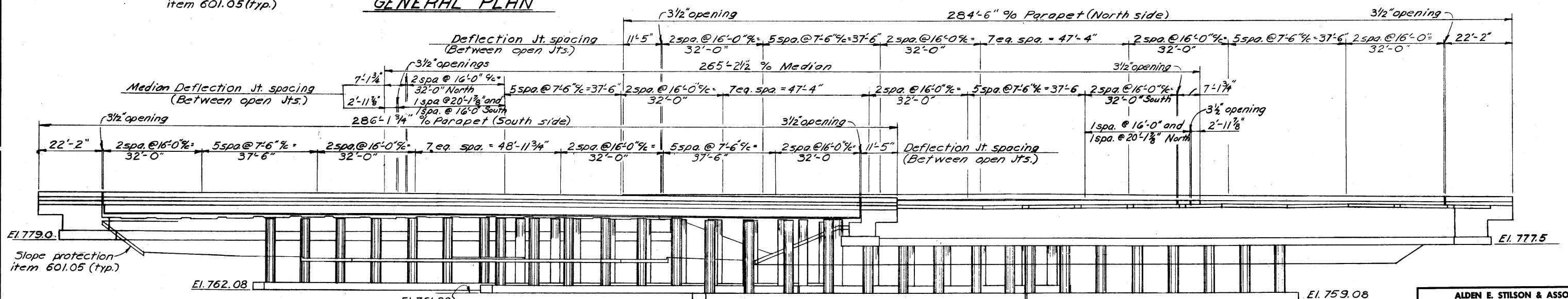
ALDEN E. STILSON & ASSOCIATES, LIMITED  
CONSULTING ENGINEERS  
CLEVELAND, OHIO COLUMBUS, OHIO WHEELING, W. VA.

GENERAL NOTES AND ESTIMATED QUANTITIES  
BRIDGE NO. LOR-80-1998  
I-80 OVER S.R. 10 (LORAIN ROAD)  
LORAIN COUNTY STA. 92 + 89.14  
STA. 95 + 44.32

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
P.S.S.			B.D. 4-17-70	G.W.M. 5/20/70		



**GENERAL PLAN**



ALDEN E. STILSON & ASSOCIATES, LIMITED  
CONSULTING ENGINEERS  
CLEVELAND, OHIO COLUMBUS, OHIO WHEELING, W. VA.

**GENERAL PLAN**  
BRIDGE NO LOR-80-1998  
I-80 OVER S.R. 10 (LORAIN ROAD)  
LORAIN COUNTY STA. 92+89.14  
STA. 95+44.32

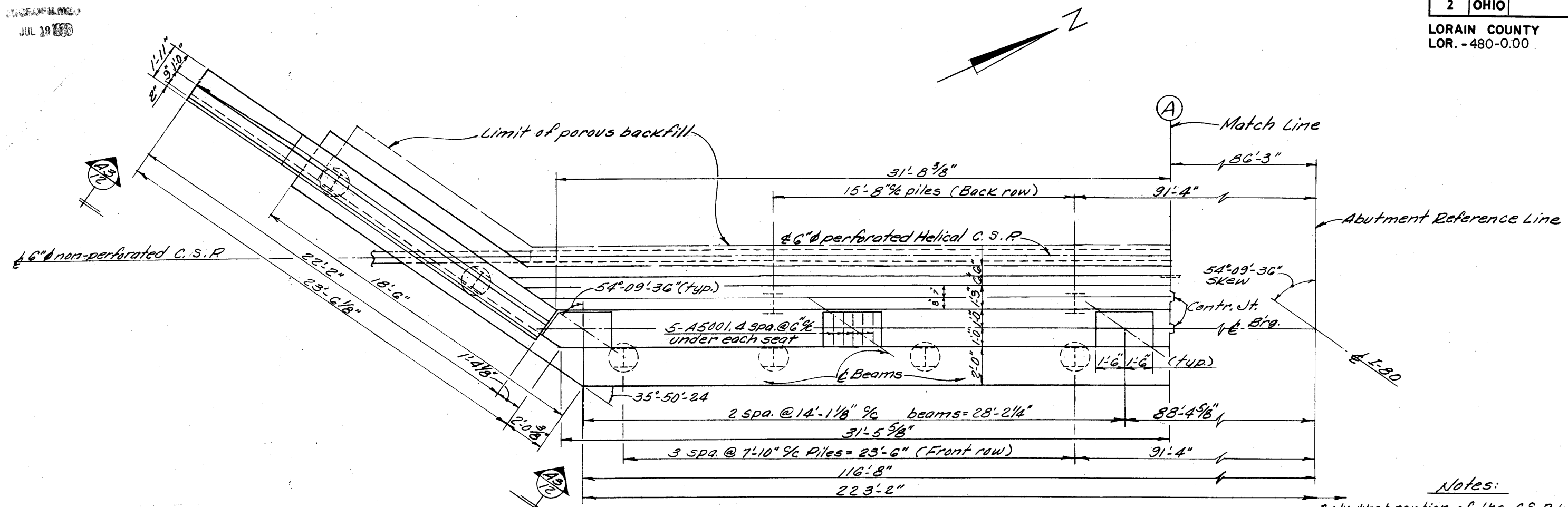
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
R.S.S.	DL.		B.I.P.	G.W.M.	7/24/70	

DATE OF MEET  
JUL 19 1980

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

333  
375

LORAIN COUNTY  
LOR. - 480-0.00



PLAN

Notes:

Only that portion of the C.S.P. located in porous backfill shall be perforated. The 6" C.S.P. porous backfill drain shall be extended out into the side slopes & terminated near the surface as shown by detail on Sht.

All piles are HP 10x42 - Piles  
 I indicates vertical piles  
 I indicates piles battered 1:4

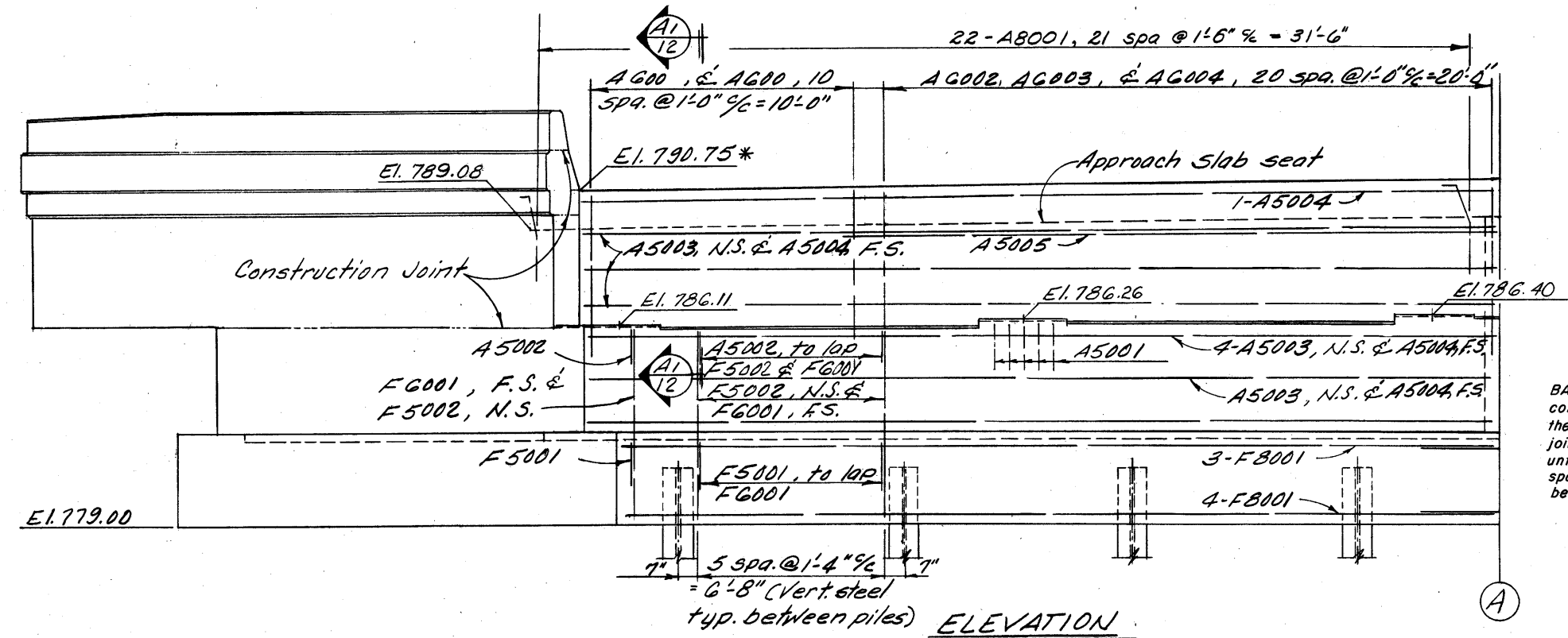
In reinforcing bar callouts  
 N.S. indicates near side.  
 F.S. indicates far side.

\* Elevations shown thus are pavement elevations at the face of backwall and the point indicated.

Porous Backfill 1'-6" thick, full length of abutment and 2'-0" thick, full length of wings as shown, shall extend up to the subgrade or underside of approach slab.

For details of contraction joint and expansion joint see Common Details Sht.

BACKWALL CONCRETE: No backwall concrete shall be placed above the level of the optional construction joint at the approach slab seat until after the deck concrete in the span adjacent to the abutment has been placed.



ELEVATION

4/24

ALDEN E. STILSON & ASSOCIATES, LIMITED			
CLEVELAND, OHIO	COLUMBUS, OHIO	WHEELING, W. VA.	
<b>WEST ABUTMENT DETAILS</b>			
BRIDGE NO LOR-80-1998			
I-80 OVER S.R. 10 (LORAIN ROAD)			
LORAIN COUNTY	STA. 92+89.14		
	STA. 95+44.32		
DESIGNED	DRAWN	TRACED	CHECKED
R.S.S.	R.T.		B.I.P.
			G.W.M. 7/24/70

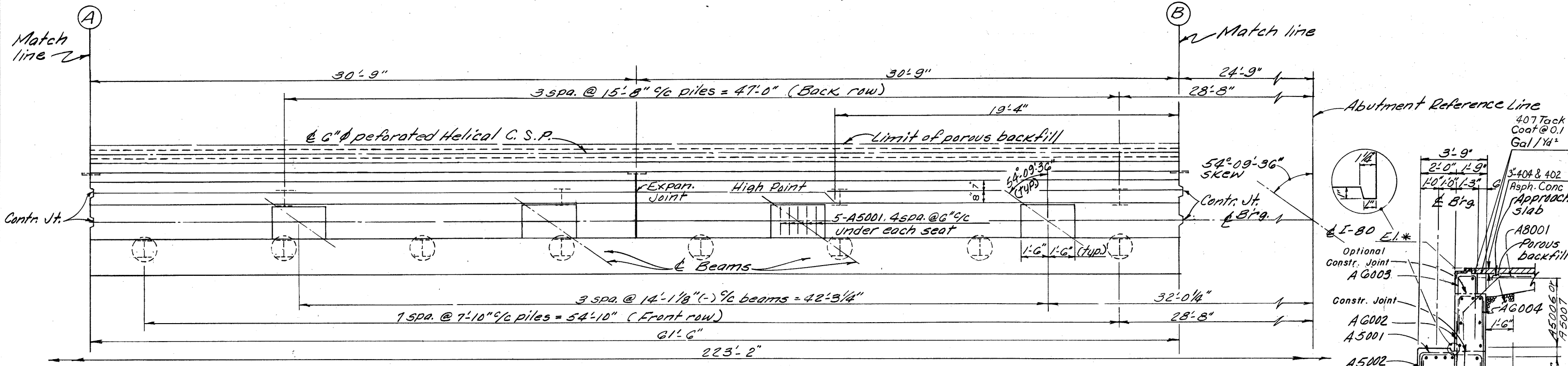
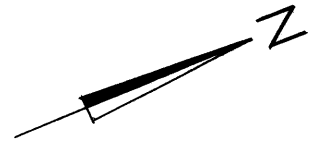


JUL 19 1980

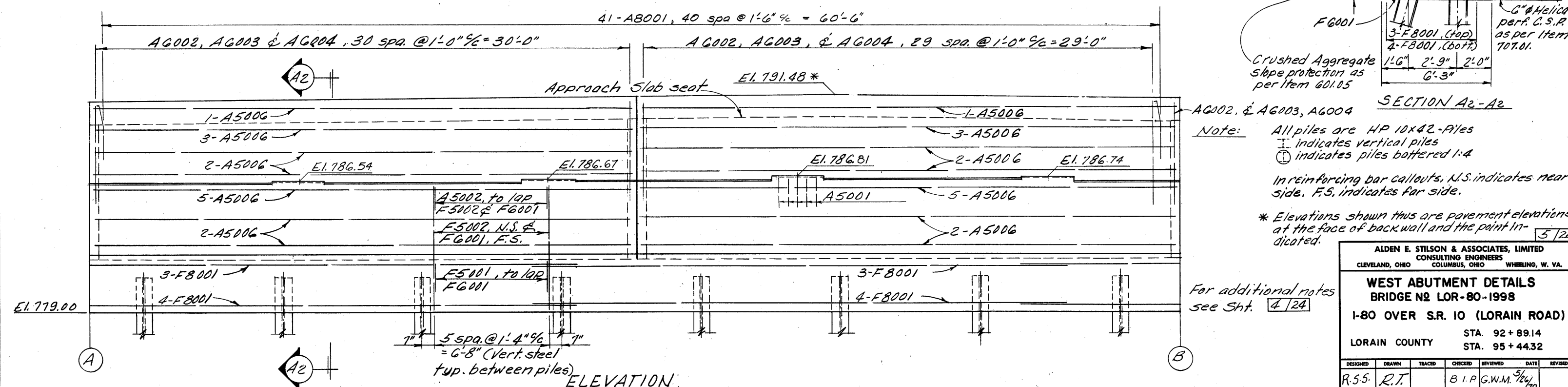
FED. ID. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

334  
375

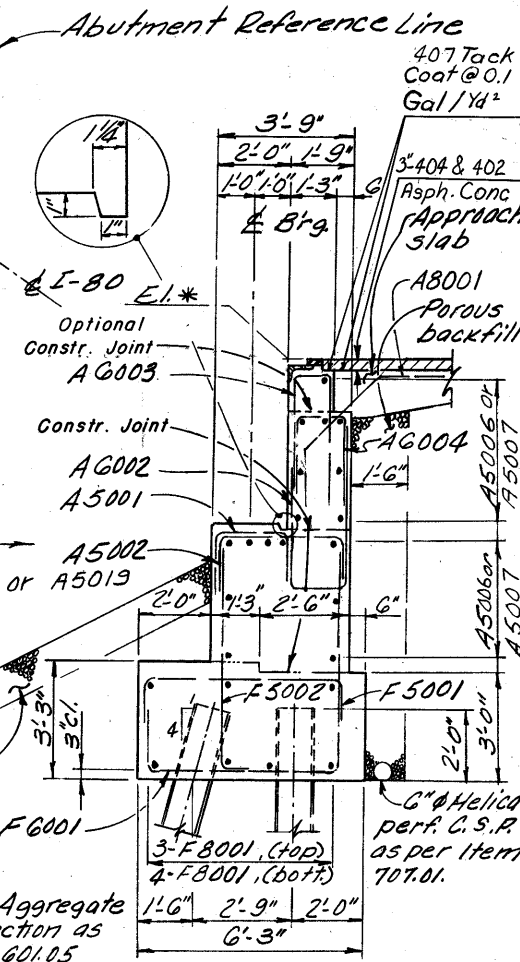
LORAIN COUNTY  
LOR. - 480.0.00



PLAN



ELEVATION

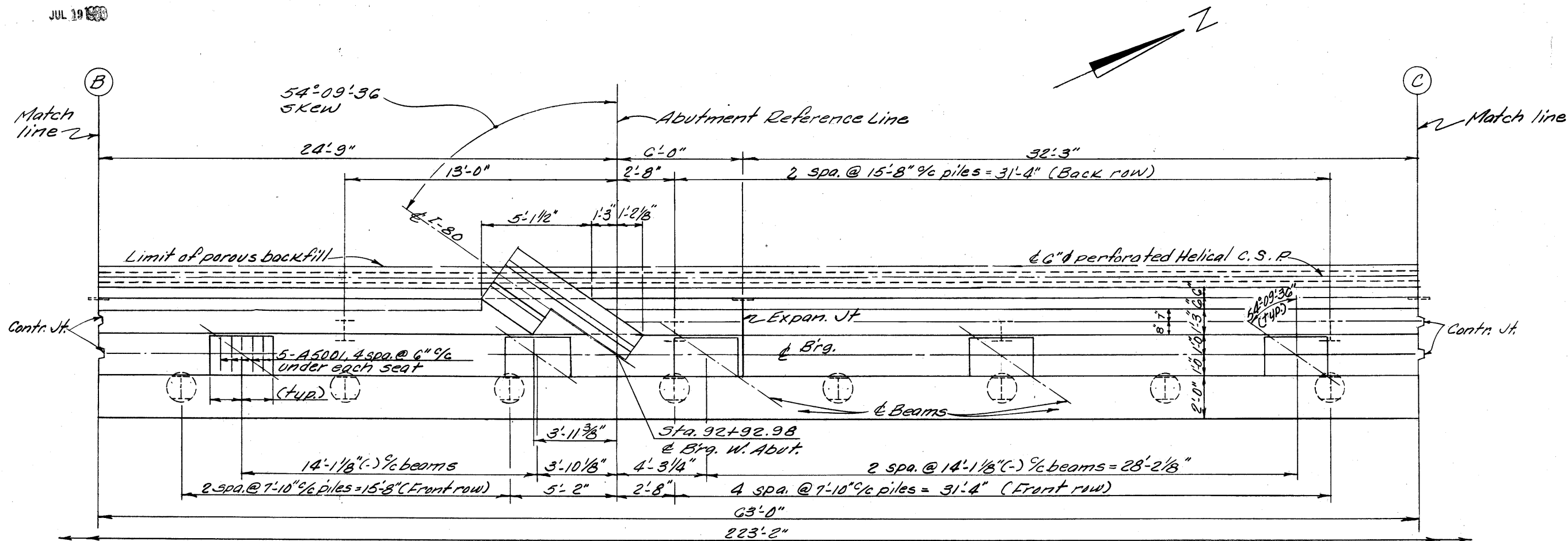


SECTION A2-A2

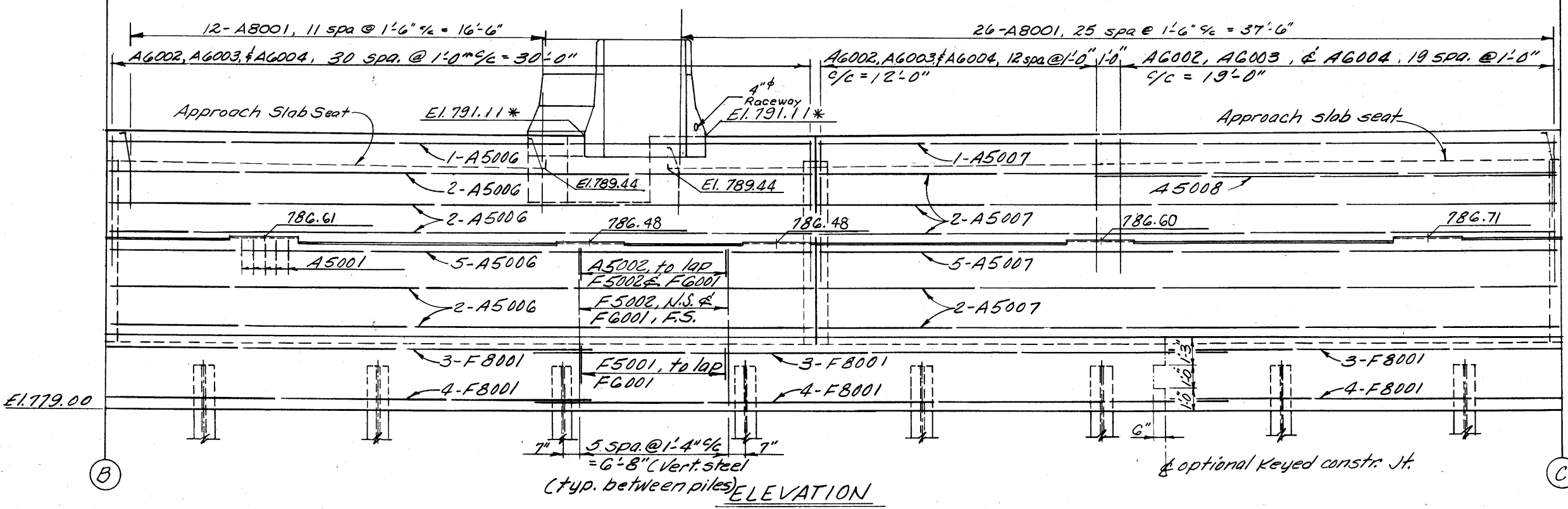
Note: All piles are HP 10x42-Piles  
 ⊥ indicates vertical piles  
 ⊕ indicates piles battered 1:4  
 In reinforcing bar callouts, N.S. indicates near side, F.S. indicates far side.  
 \* Elevations shown thus are pavement elevations at the face of back wall and the point indicated.

For additional notes see Sht. 4/24

ALDEN E. STILSON & ASSOCIATES, LIMITED CONSULTING ENGINEERS CLEVELAND, OHIO COLUMBUS, OHIO WHEELING, W. VA.						
<b>WEST ABUTMENT DETAILS</b> BRIDGE NO LOR-80-1998 I-80 OVER S.R. 10 (LORAIN ROAD)						
LORAIN COUNTY			STA. 92+89.14 STA. 95+44.32			
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISION
R.S.S.	R.T.		B.I.P.	G.W.M.	5/6/70	



PLAN



ELEVATION

**Notes:**

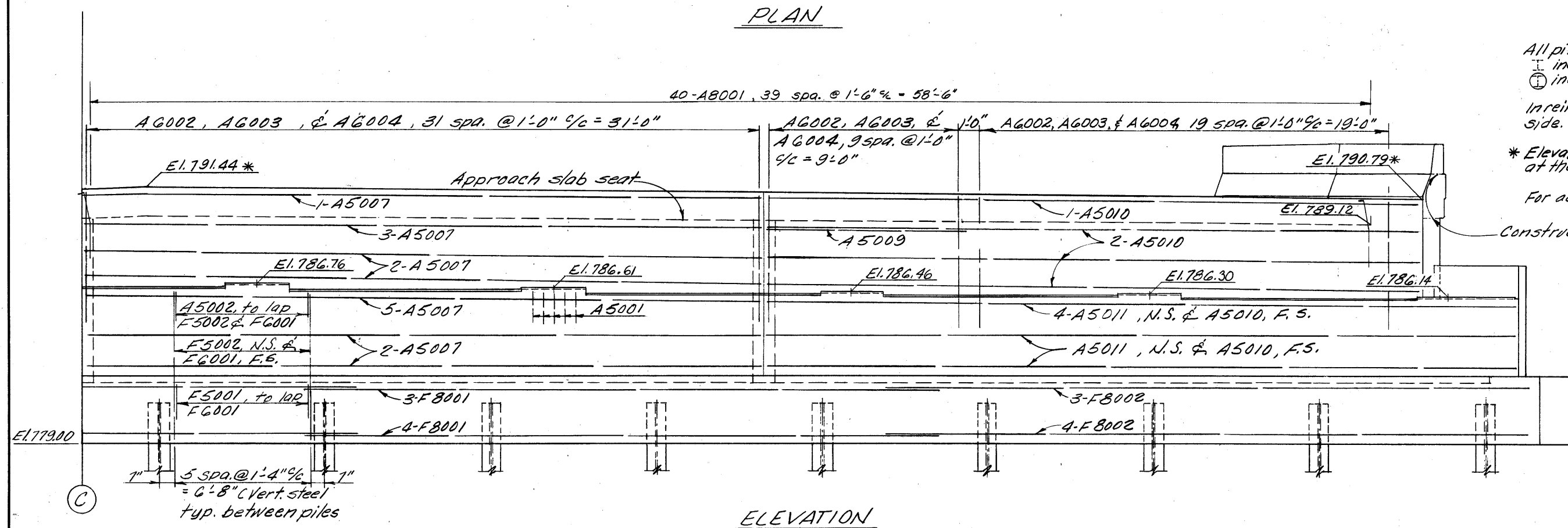
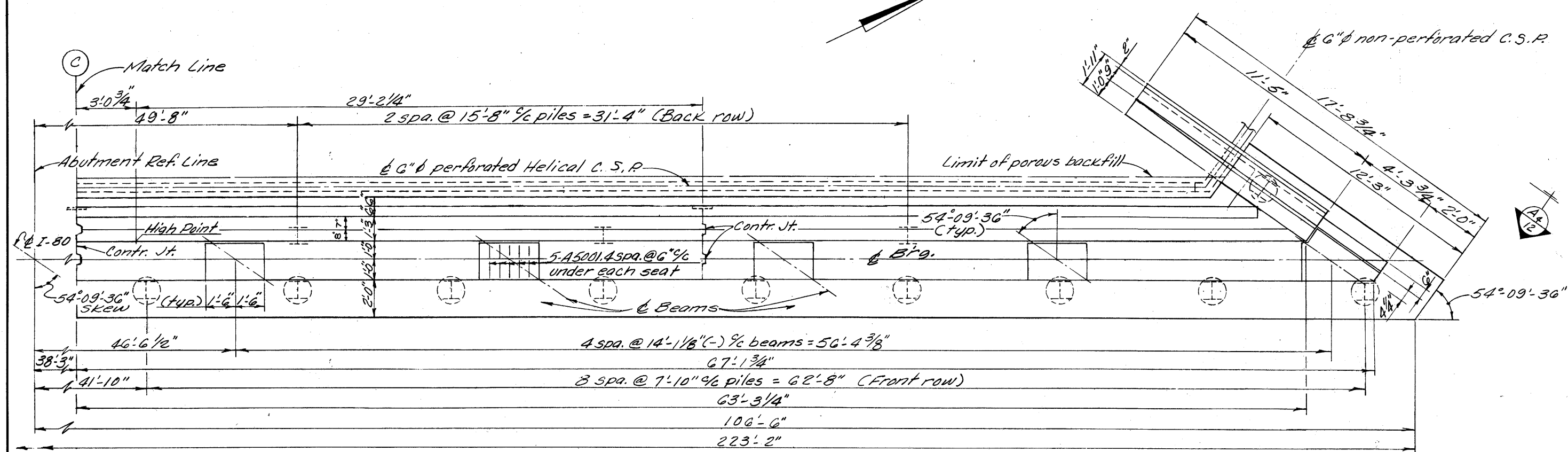
- All piles are HP 10 x 42 - Piles
- ⊥ indicates vertical piles
- ⊕ indicates piles battered 1:4
- In reinforcing bar callouts N.S. indicates near side. F.S. indicates far side.
- \* Elevations shown thus are pavement elevations at the face of backwall and the point indicated.
- For additional notes see Sht. 4/24
- The shape of the median on the abutment shall match the shape of the median on the superstructure.
- For details of abutment median see Sht. 12/24

ALDEN E. STILSON & ASSOCIATES, LIMITED CONSULTING ENGINEERS CLEVELAND, OHIO COLUMBUS, OHIO WHEELING, W. VA.						
<b>WEST ABUTMENT DETAILS</b>						
BRIDGE NO LOR-80-1998						
I-80 OVER S.R. 10 (LORAIN ROAD)						
LORAIN COUNTY					STA. 92+89.14	
					STA. 95+44.32	
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
R.S.S.	R.T.		B.I.P.	G.W.M.	5/26/70	

JUL 19 1990

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		336 375

LORAIN COUNTY  
LOR. - 480-0.00



**Note:**

All piles are HP10x42 -piles  
 ⊥ indicates vertical piles  
 ⊕ indicates piles battered 1:4

In reinforcing bar callouts, N.S. indicates near side. F.S. indicates far side.

\* Elevations shown thus are pavement elevations at the face of back wall and the point indicated.

For additional notes see Sht. 4/24

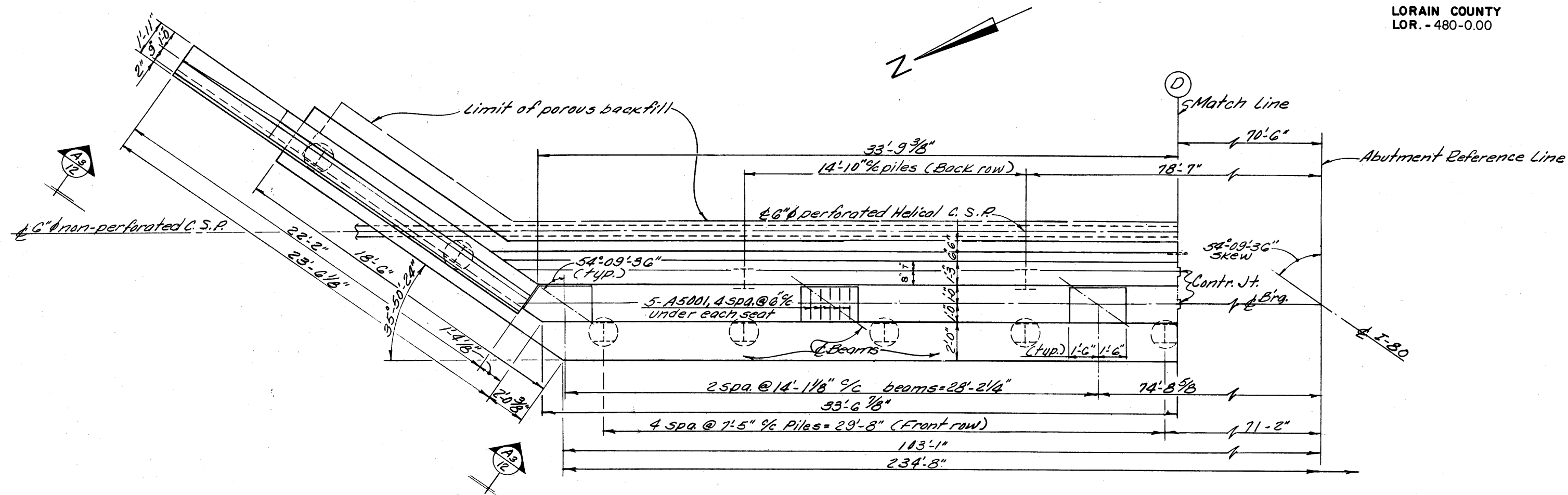
ALDEN E. STILSON & ASSOCIATES, LIMITED							
CONSULTING ENGINEERS		COLUMBUS, OHIO		WHEELING, W. VA.			
<b>WEST ABUTMENT DETAILS</b>							
BRIDGE NO LOR-80-1998							
I-80 OVER S.R. 10 (LORAIN ROAD)							
LORAIN COUNTY				STA. 92+89.14			
				STA. 95+44.32			
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISD	
R.S.S.	R.T.		B.I.P.	G.W.M.	5/24/10		

RECORDED  
JUL 19 1960

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

337  
375

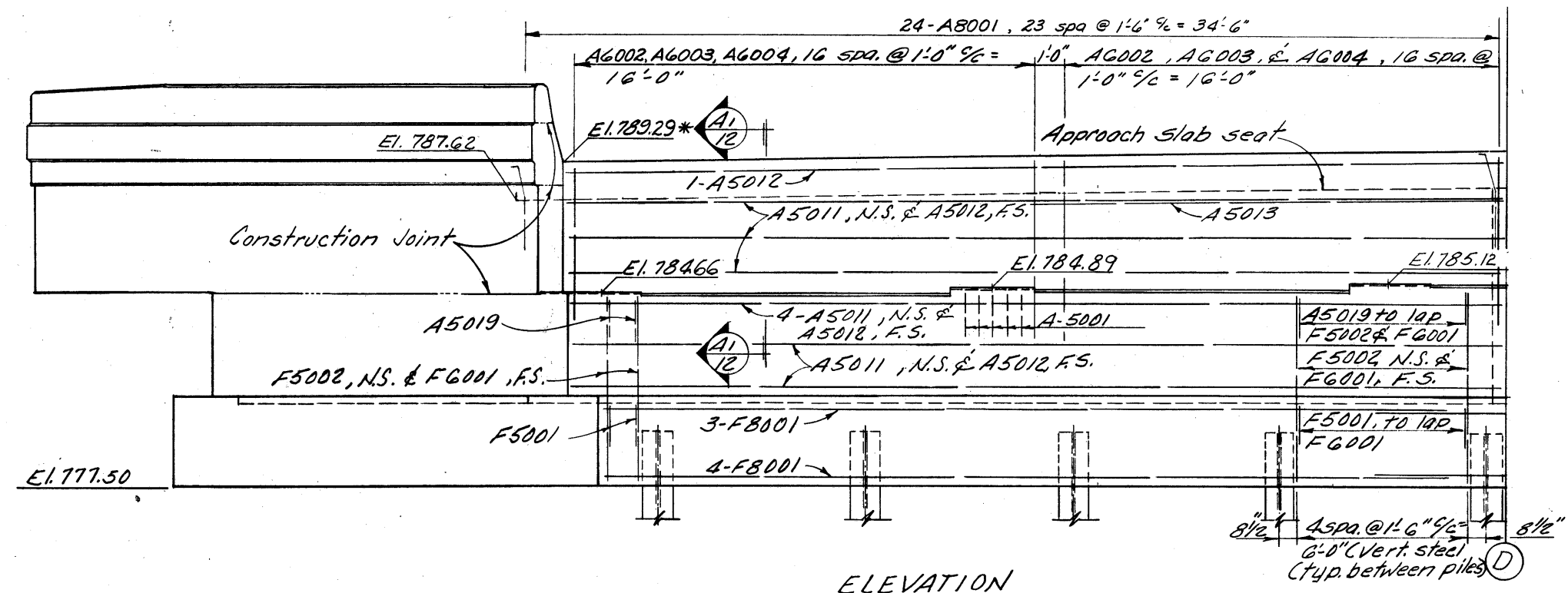
LORAIN COUNTY  
LOR. - 480-0.00



PLAN

Notes:

All piles are HP 10x42-Piles  
 ⊥ indicates vertical piles  
 ⊕ indicates piles battered 1:4  
 In reinforcing bar callouts,  
 N.S. indicates near side,  
 F.S. indicates far side.  
 \* Elevations shown thus are pavement elevations at the face of backwall and the point indicated.  
 For additional notes see Sht. 4/24



ELEVATION

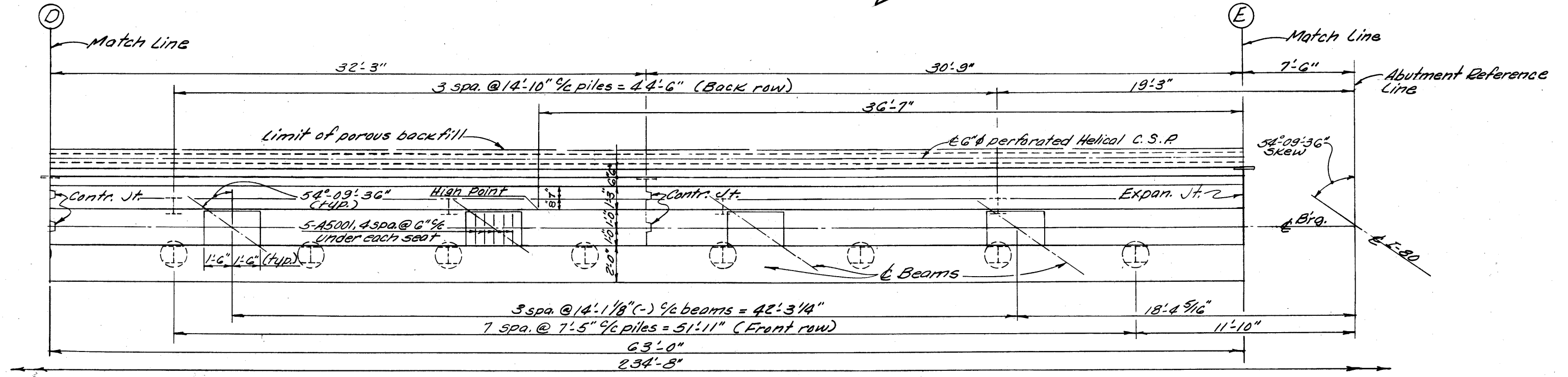
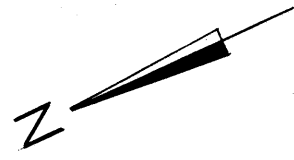
ALDEN E. STILSON & ASSOCIATES, LIMITED CONSULTING ENGINEERS CLEVELAND, OHIO COLUMBUS, OHIO WHEELING, W. VA.						
<b>EAST ABUTMENT DETAILS</b> BRIDGE NO LOR-80-1998 I-80 OVER S.R. 10 (LORAIN ROAD)						
LORAIN COUNTY					STA. 92+89.14	
					STA. 95+44.32	
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
R.S.S.	R.T.		B.I.P.	G.W.M.	5/27/70	

MICROFILMED  
JUL 19 1980

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

338  
375

LORAIN COUNTY  
LOR. - 480-000



PLAN

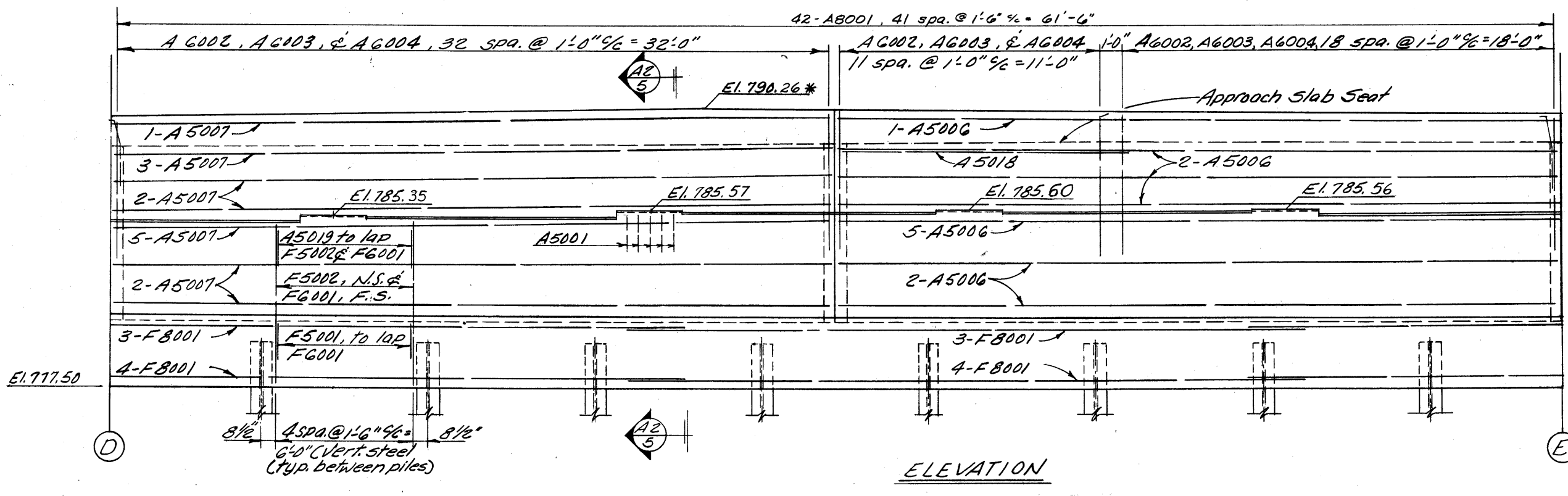
Notes:

All piles are HP 10 x 42 - Piles  
indicates vertical piles  
indicates piles battered 1:4

In reinforcing bar callouts,  
N.S. indicates near side.  
F.S. indicates far side.

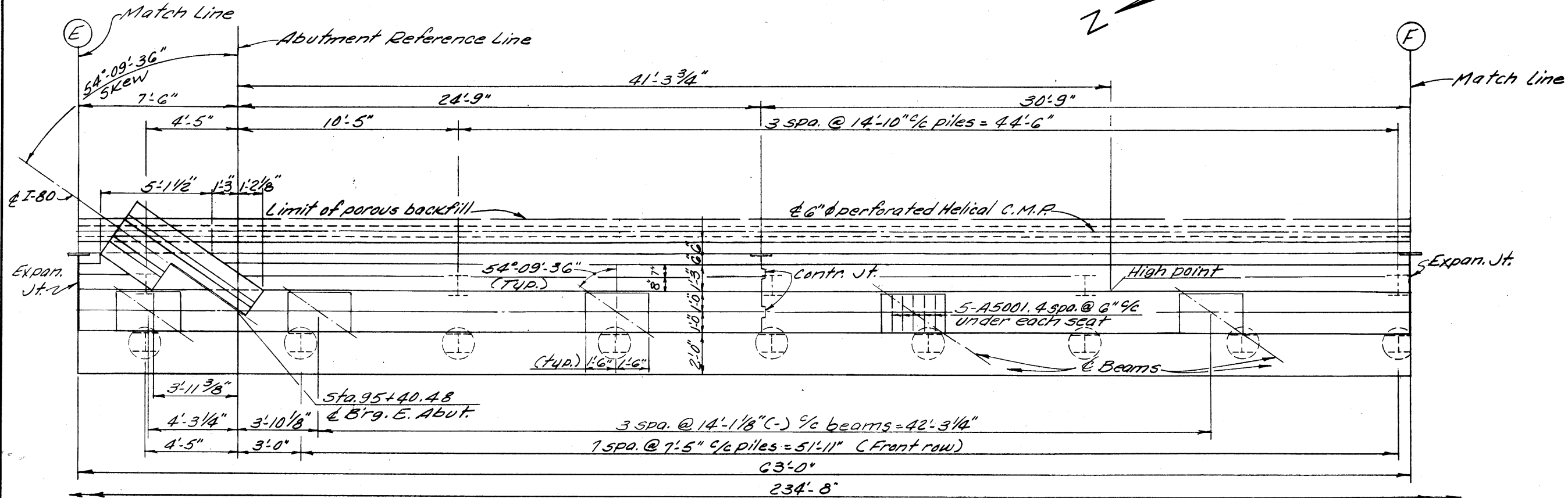
\* Elevations shown thus are pavement elevations at the face of backwall and the point indicated.

For additional notes see sht. 4/24

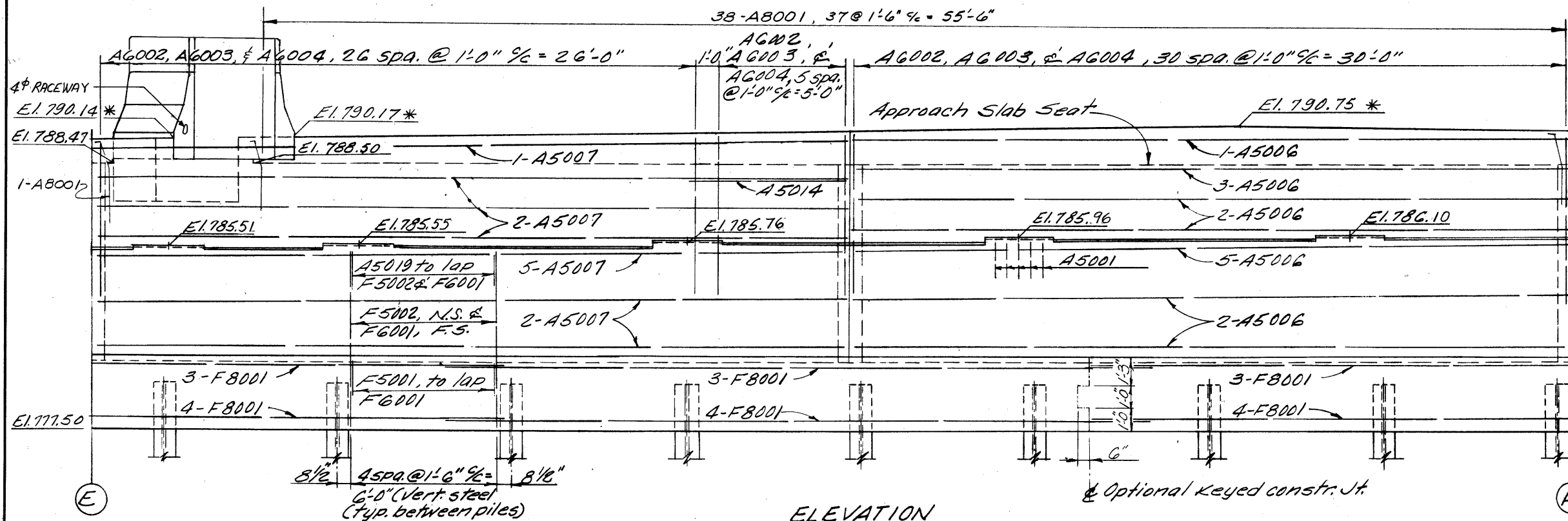


ELEVATION

ALDEN E. STILSON & ASSOCIATES, LIMITED					
CLEVELAND, OHIO		COLUMBUS, OHIO		WHEELING, W. VA.	
<b>EAST ABUTMENT DETAILS</b>					
<b>BRIDGE NO LOR-80-1998</b>					
<b>I-80 OVER S.R. 10 (LORAIN ROAD)</b>					
LORAIN COUNTY				STA. 92+89.14	
				STA. 95+44.32	
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE
R.S.S.	R.T.		B.I.P.	G.W.M.	5/17/70



PLAN



ELEVATION

Notes:  
 All piles are HP 10 x 42 - Piles  
 ⊥ indicates vertical piles  
 ⊕ indicates piles battered 1:4  
 In reinforcing bar callouts, N.S. indicates near side. F.S. indicates far side.  
 \* Elevations shown thus are pavement elevations at the face of backwall and the point indicated.  
 For additional notes see Sht. 4/24  
 The shape of the median on the abutment shall match the shape of the median on the super-structure.  
 For Details of abutment median see Sht. 12/24

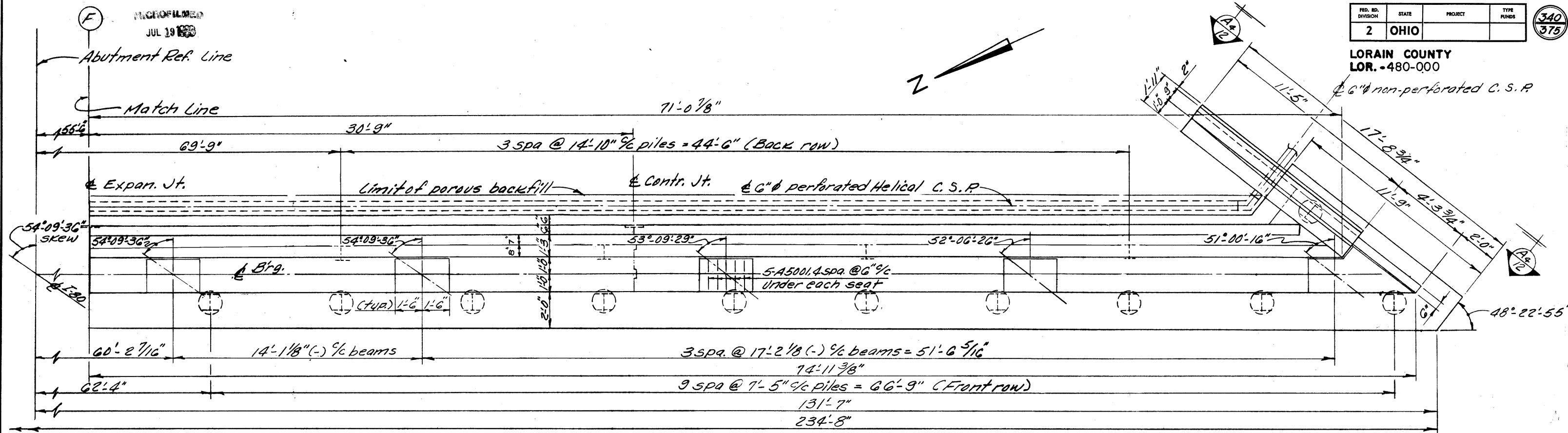
ALDEN E. STILSON & ASSOCIATES, LIMITED							
CLEVELAND, OHIO		COLUMBUS, OHIO		WHEELING, W. VA.			
<b>EAST ABUTMENT DETAILS</b>							
<b>BRIDGE NO LOR-80-1998</b>							
<b>I-80 OVER S.R. 10 (LORAIN ROAD)</b>							
LORAIN COUNTY				STA. 92+89.14			
				STA. 95+44.32			
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED	
R.S.S.	R.T.		B.I.P.	G.W.M.	7/1/70		

MICROFILMED  
JUL 19 1980

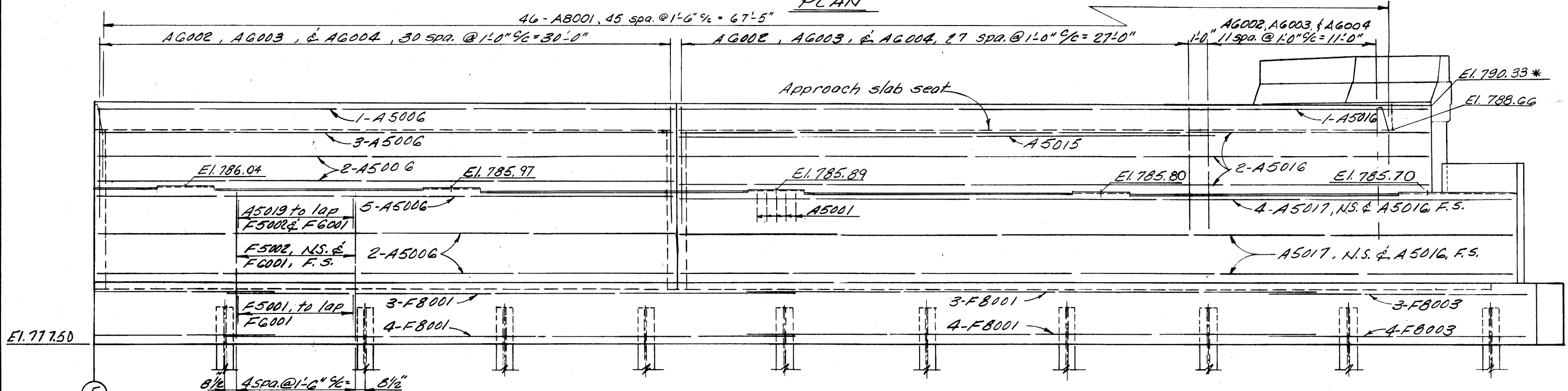
FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

340  
375

LORAIN COUNTY  
LOR.-480-000



PLAN



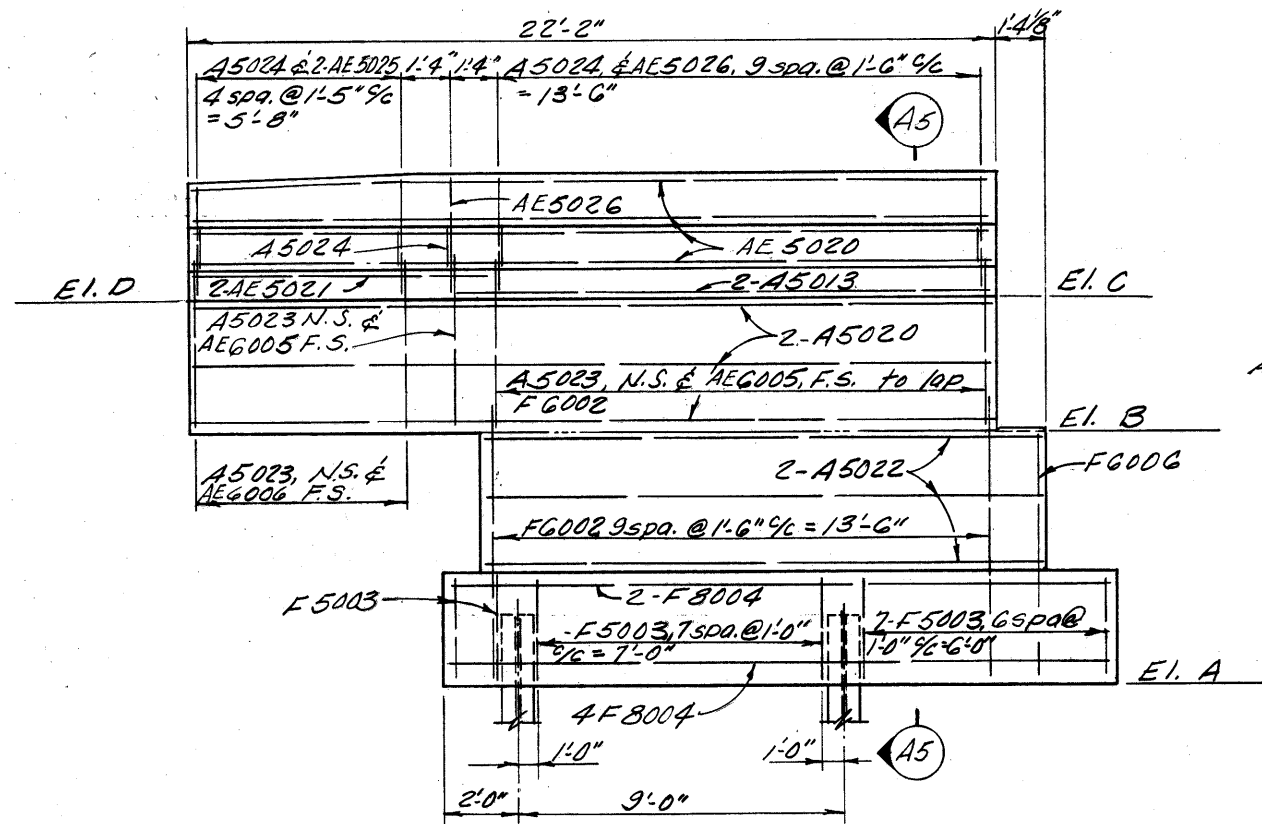
ELEVATION

Notes:

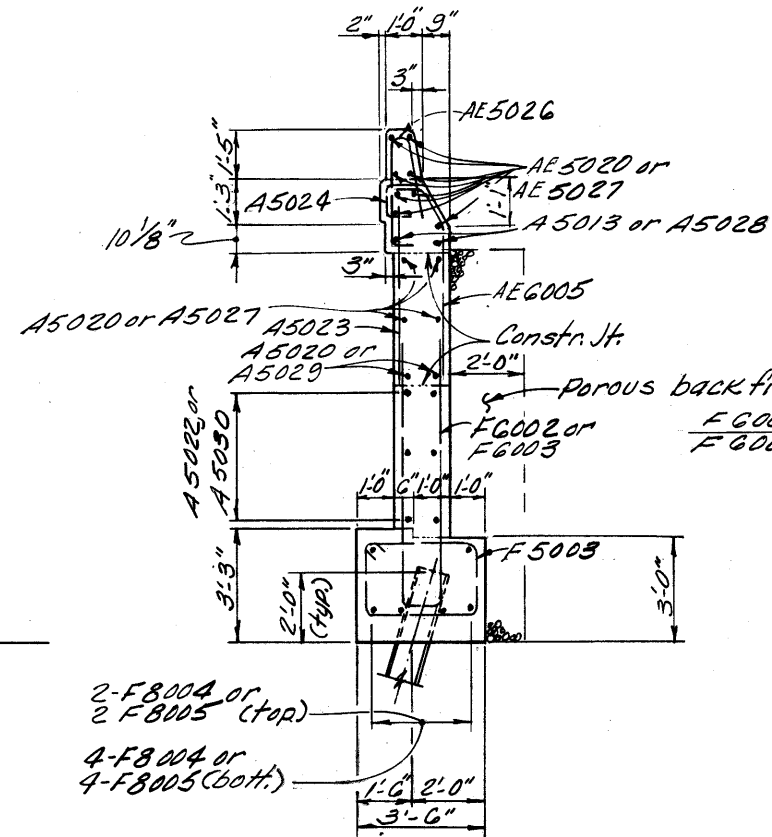
All piles are HP 10 x 42 Piles  
⊥ indicates vertical piles.  
⊙ indicates piles battered 1:4  
In reinforcing bar callouts, N.S. indicates near side, F.S. indicates far side.  
\* Elevations shown thus are pavement elevations at the face of backwall and the point indicated.  
For additional notes see Sht. 4/24

ALDEN E. STILSON & ASSOCIATES, LIMITED CONSULTING ENGINEERS CLEVELAND, OHIO COLUMBUS, OHIO WHEELING, W. VA.						
EAST ABUTMENT DETAILS BRIDGE NO LOR-80-1998 I-80 OVER S.R. 10 (LORAIN ROAD)						
LORAIN COUNTY					STA. 92+89.14	
					STA. 95+44.32	
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
R.S.S.	R.T.		B.I.P.	G.W.M.	5/27/70	

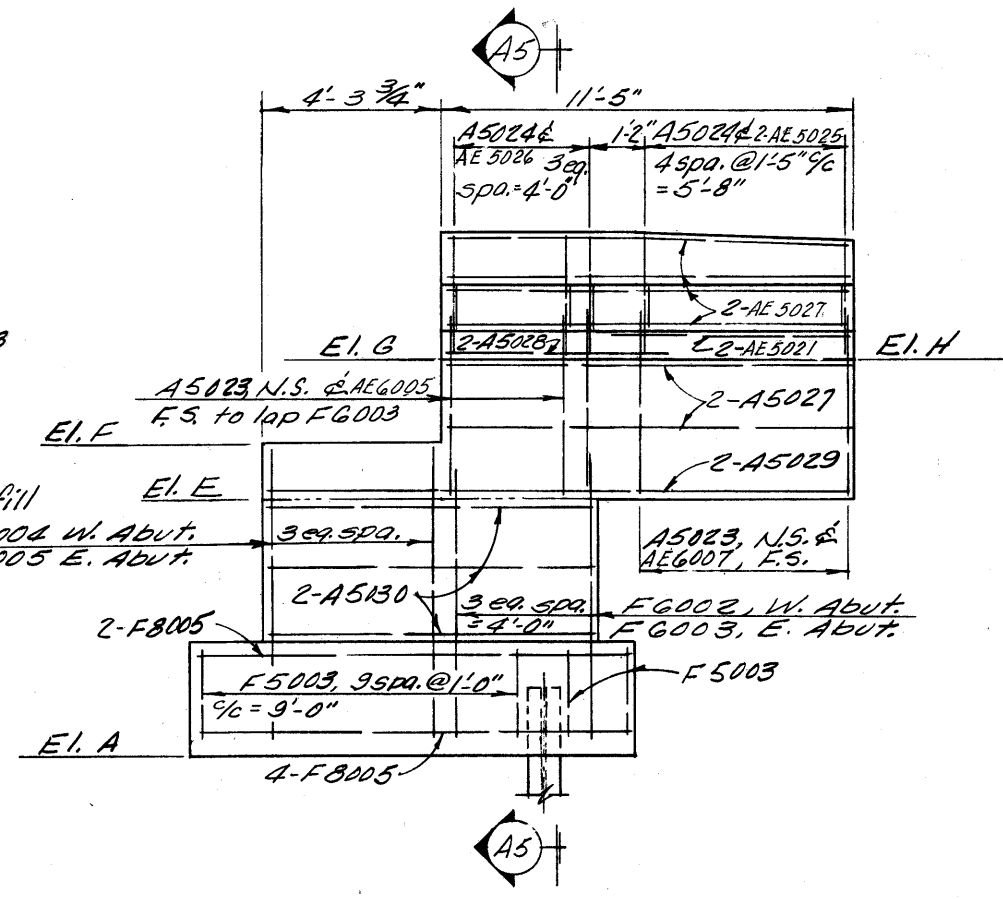
11/24



ELEVATION A-3 A-3 Sht. 4/24 & 8/24

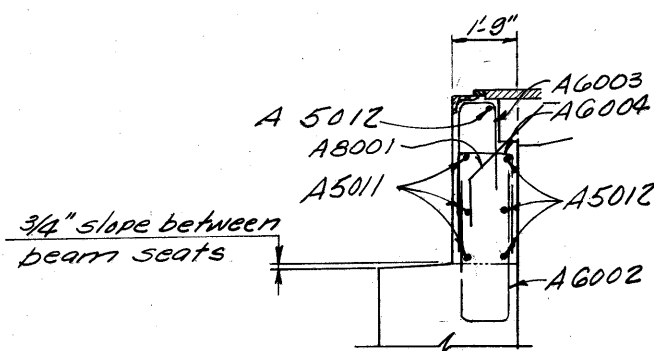


SECTION A-5 A-5

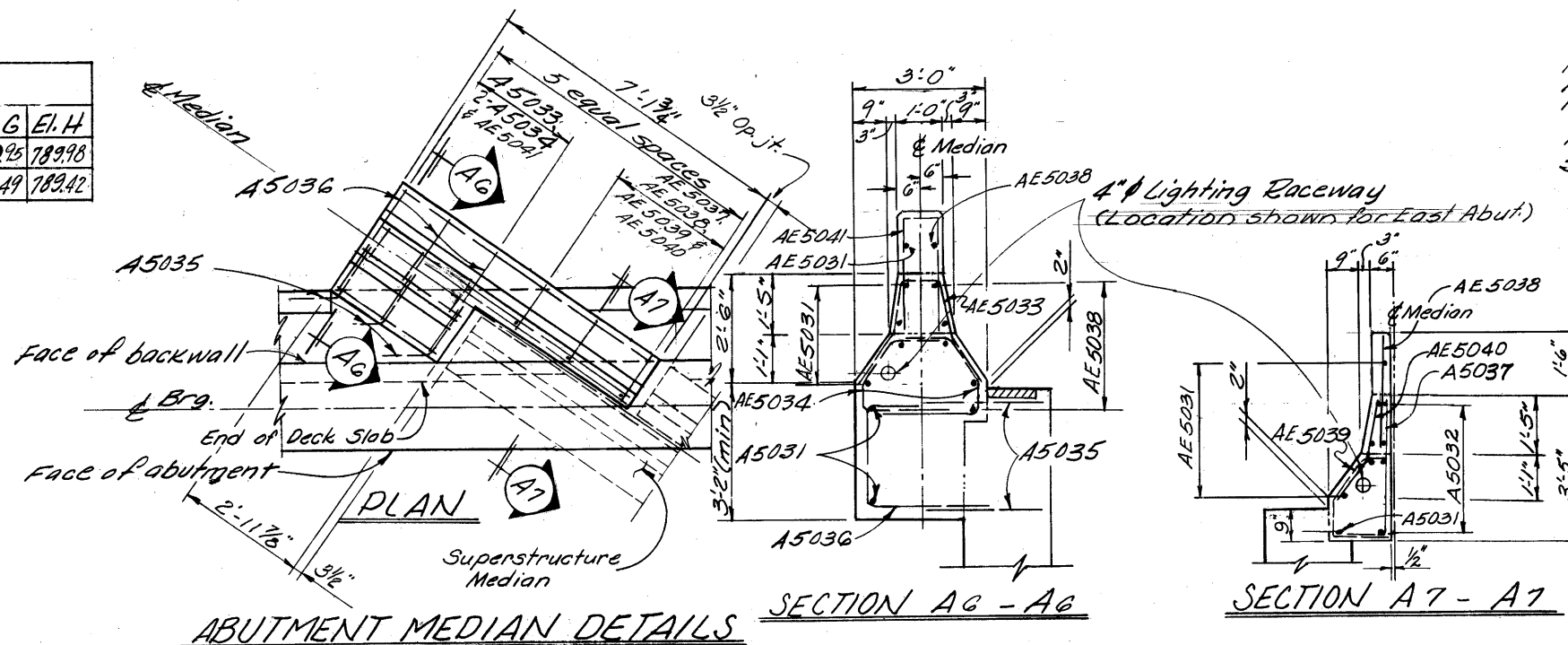


ELEVATION A-4 A-4 Sht. 7/24 & 11/24

Location	EI.A	EI.B	EI.C	EI.D	EI.E	EI.F	EI.G	EI.H
West Abutment	779.00	786.09	789.91	789.85	786.06	787.78	789.25	789.98
East Abutment	777.50	784.58	788.45	788.24	785.62	787.08	789.49	789.42



SECTION A1-A1  
Details not shown same as section A2-A2



ABUTMENT MEDIAN DETAILS

SECTION A7-A7

NOTES:  
In reinforcing bar callouts:  
N.S. indicates near side  
F.S. indicates far side  
For additional notes see  
Sht. 4/24

ALDEN E. STILSON & ASSOCIATES, LIMITED CONSULTING ENGINEERS CLEVELAND, OHIO COLUMBUS, OHIO WHIRLING, W. VA.						
<b>ABUTMENT DETAILS</b>						
BRIDGE NO LOR-80-1998						
I-80 OVER S.R. 10 (LORAIN ROAD)						
LORAIN COUNTY					STA. 92+89.14	
					STA. 95+44.32	
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
R.S.S.	R.T.		B.I.P.	G.W.M.	12/70	

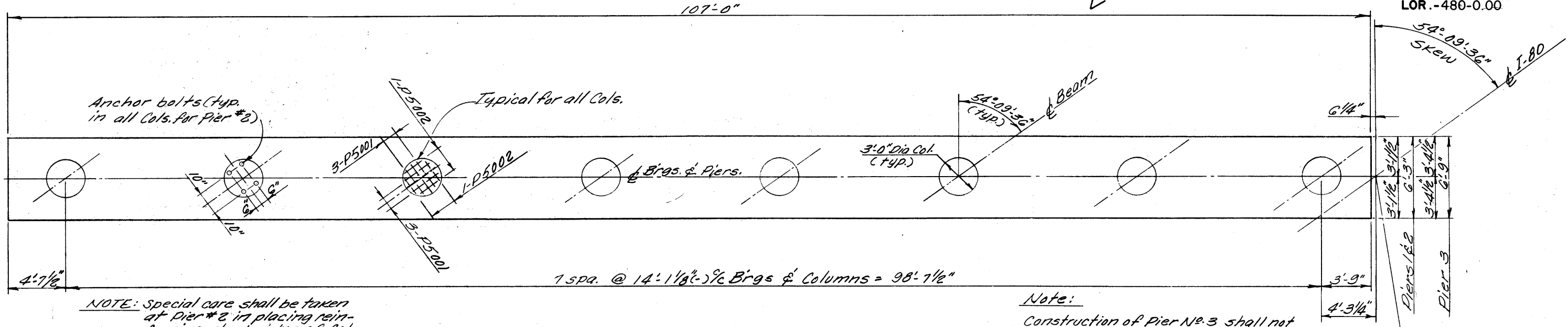


MICROFILMED  
JUL 19 1960

FED. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

342  
375

LORAIN COUNTY  
LOR.-480-0.00



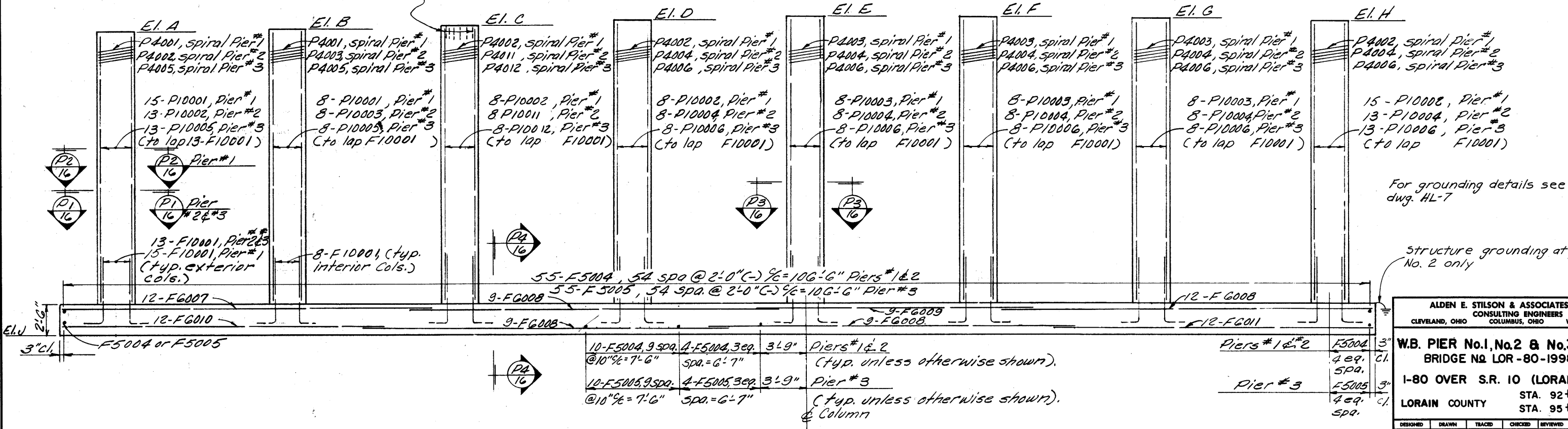
NOTE: Special care shall be taken at Pier #2 in placing reinforcing steel in top of column so as to avoid interference with the drilling of anchor bar holes or the pre-setting of bearing anchors.

Note: Construction of Pier No. 3 shall not commence until roadway embankment has been completed to subgrade elevation.

**PLAN**

	EI. A	EI. B	EI. C	EI. D	EI. E	EI. F	EI. G	EI. H	EI. J
Pier No. 1	785.55	785.72	785.89	786.06	786.22	786.20	786.10	785.99	762.08
Pier No. 2	785.07	785.27	785.46	785.65	785.83	785.83	785.75	785.67	761.08
Pier No. 3	784.68	784.90	785.11	785.32	785.53	785.54	785.48	785.42	759.08

Bearing Anchors: At the option of the Contractor, bearing anchors (or formed holes), located and supported by templates, may be cast in place.



**ELEVATION**

13/24

ALDEN E. STILSON & ASSOCIATES, LIMITED  
CONSULTING ENGINEERS  
CLEVELAND, OHIO COLUMBUS, OHIO WHEELING, W. VA.

**W.B. PIER No. 1, No. 2 & No. 3 DETAILS**  
BRIDGE No. LOR-80-1998

1-80 OVER S.R. 10 (LORAIN ROAD)  
LORAIN COUNTY STA. 92+89.14  
STA. 95+44.32

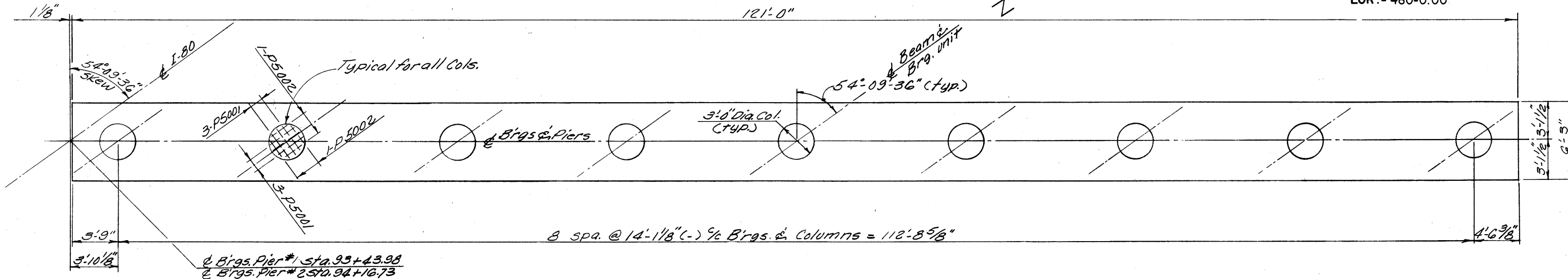
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
R.S.S.	R.T.		B.I.P.	G.W.M.	5/77	

MICROFILMED  
JUL 19 1980

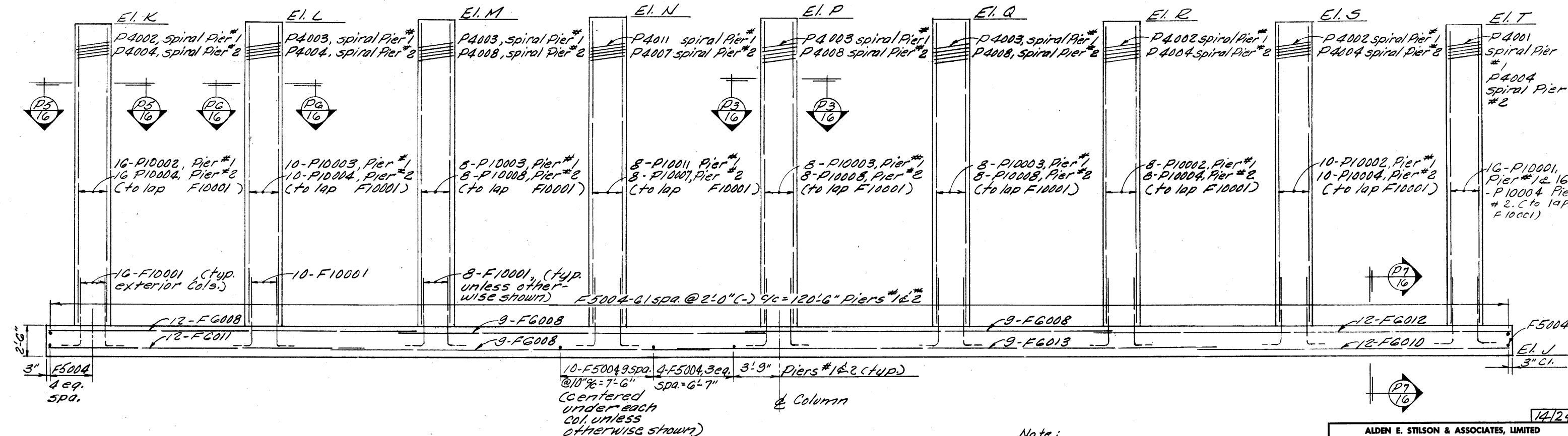
FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

343  
375

LORAIN COUNTY  
LOR.-480-0.00



PLAN



**TABLE OF ELEVATIONS**

	EI. K	EI. L	EI. M	EI. N	EI. P	EI. Q	EI. R	EI. S	EI. T	EI. J
Pier No. 1	786.00	786.15	786.29	786.38	786.26	786.13	786.01	785.88	785.75	762.08
Pier No. 2	785.69	785.86	786.02	786.13	786.03	785.93	785.82	785.71	785.60	761.08

ELEVATION

Note:  
For additional notes see sht. 13/24

14/24

ALDEN E. STILSON & ASSOCIATES, LIMITED  
CONSULTING ENGINEERS  
CLEVELAND, OHIO    COLUMBUS, OHIO    WHEELING, W. VA.

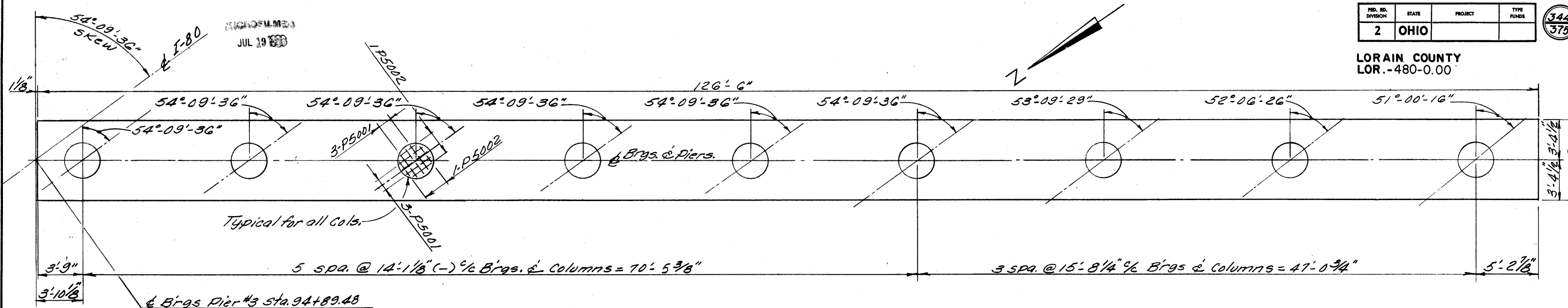
**E.B. PIER No. 1 & No. 2 DETAILS**  
**BRIDGE No. LOR-80-1998**  
**I-80 OVER S.R. 10 (LORAIN ROAD)**  
LORAIN COUNTY    STA. 92+89.14  
STA. 95+44.32

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISION
R.S.S.	R.T.		B. I. P.	G.W.M.	5/17/70	

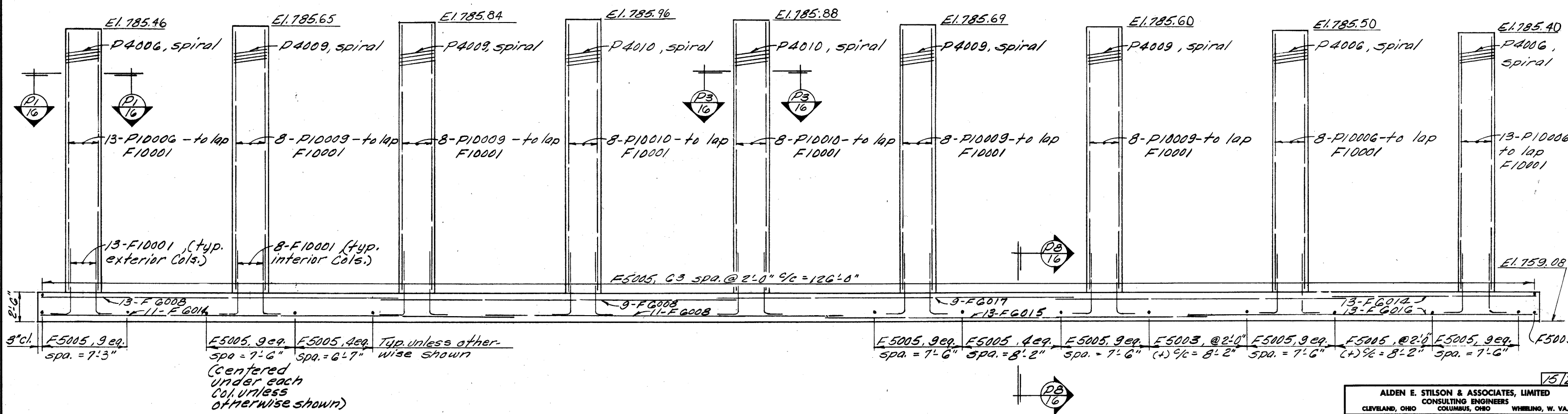
FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

344  
375

LORAIN COUNTY  
LOR.-480-0.00



PLAN



ELEVATION

ALDEN E. STILSON & ASSOCIATES, LIMITED  
CONSULTING ENGINEERS  
CLEVELAND, OHIO COLUMBUS, OHIO WHEELING, W. VA.

**E.B. PIER No.3 DETAILS**  
BRIDGE No LOR-80-1998  
I-80 OVER S.R. 10 (LORAIN ROAD)  
LORAIN COUNTY STA. 92+89.14  
STA. 95+44.32

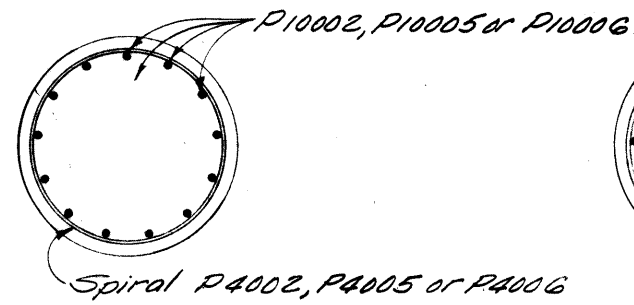
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
R.S.S.	R.T.		B.I.P.	G.W.M.	5/24/70	

MICROFILMED  
JUL 19 1980

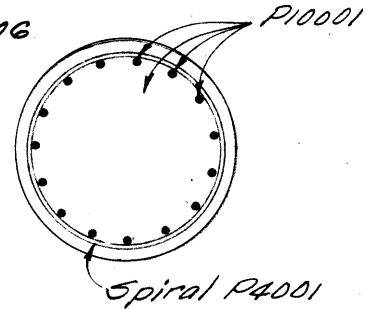
FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

345  
375

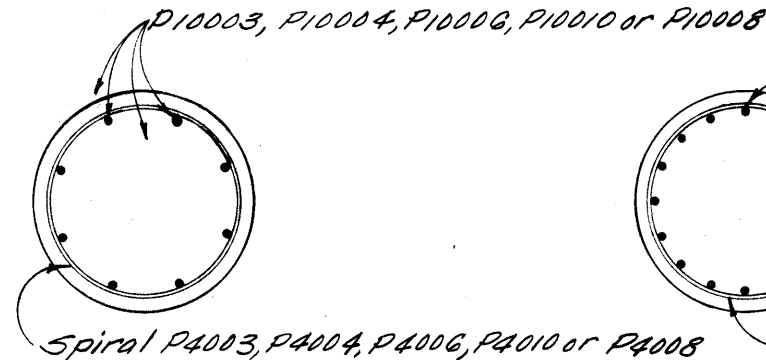
LORAIN COUNTY  
LOR.-480-0.00



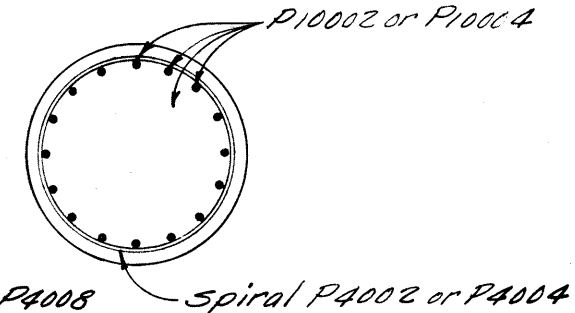
SECTION P1-P1



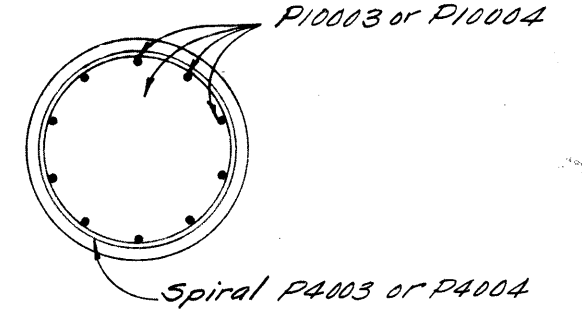
SECTION P2-P2



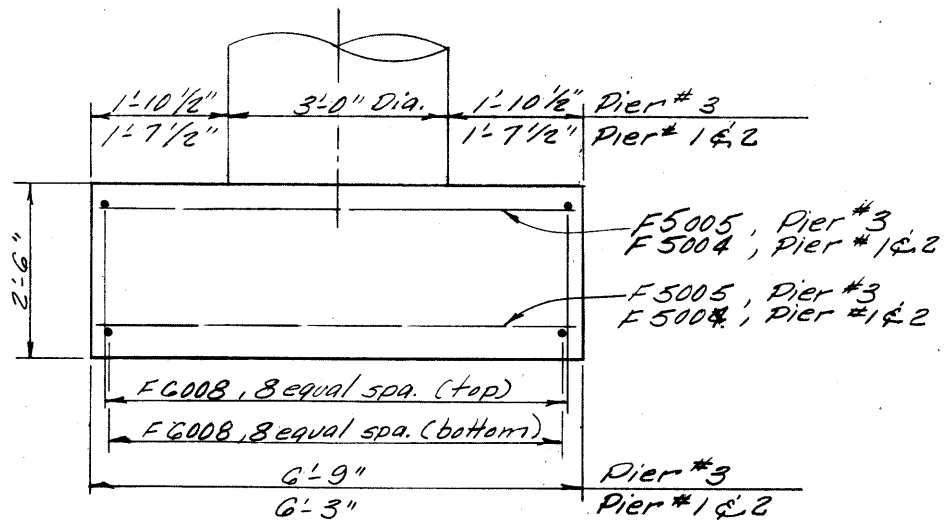
SECTION P3-P3



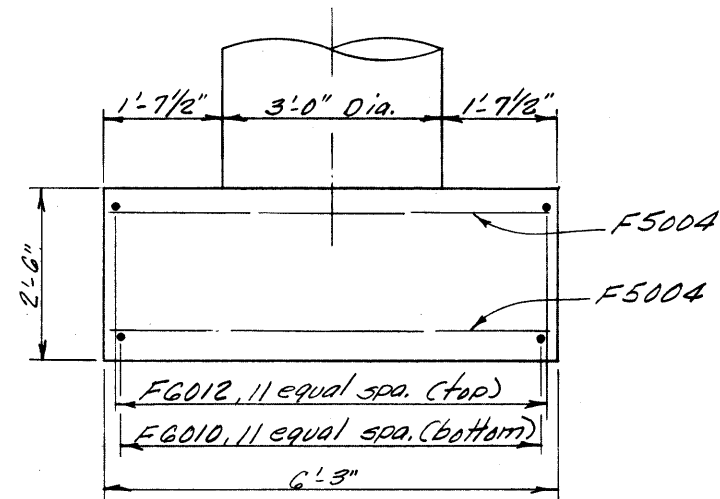
SECTION P5-P5



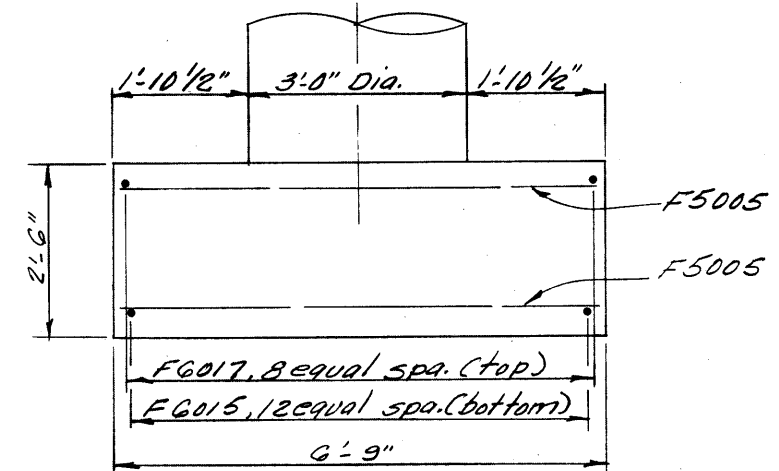
SECTION P6-P6



SECTION P4-P4



SECTION P7-P7



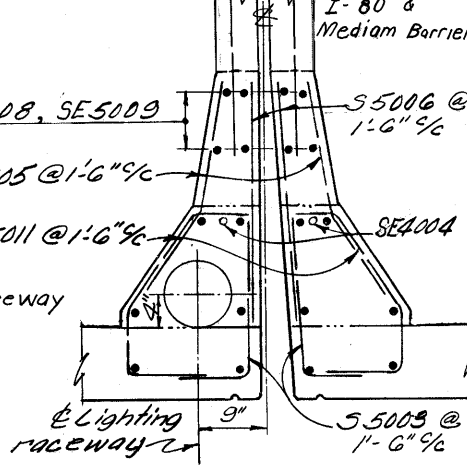
SECTION P8-P8

NOTE: Footing reinforcement shall be 3" clear from all surfaces.

16/24

ALDEN E. STILSON & ASSOCIATES, LIMITED CONSULTING ENGINEERS CLEVELAND, OHIO COLUMBUS, OHIO WHEELING, W. VA.						
<b>PIER DETAILS</b>						
BRIDGE N2 LOR-80-1998						
I-80 OVER S.R. 10 (LORAIN ROAD)						
						STA. 92+89.14
						STA. 95+44.32
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
R.S.S.	R.T.		B.I.P.	G.W.M.	5/77	7/70

LORAIN COUNTY  
LOR.-480-0.00



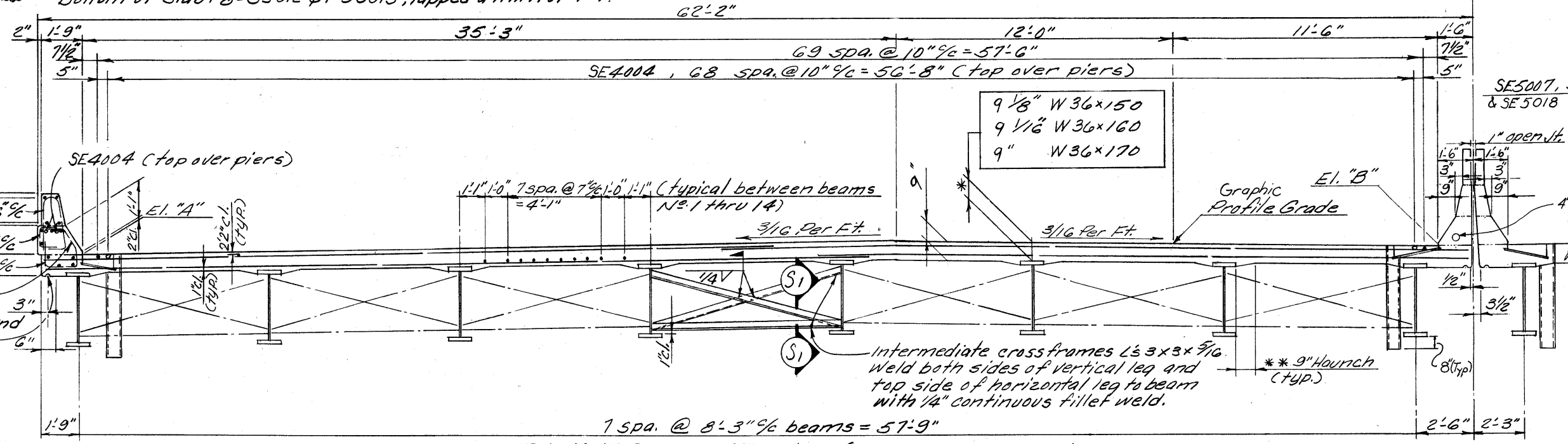
**DETAIL S2**

Blockout for the lighting raceway shall be increased from 4" to 8" for the first and last 3'-0" length of superstructure median to accommodate coupling and/or expansion devices.

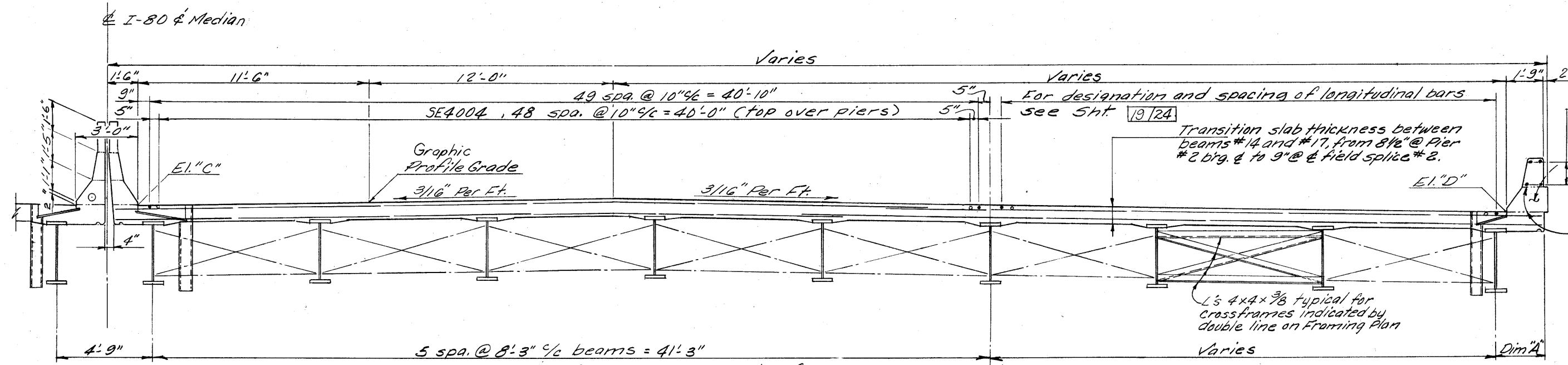
For Detail of Glare Screen, See sh. 19/24

**NOTE:** Each run of longitudinal reinforcing, unless otherwise shown, shall be as follows:  
 Top of slab and lower part of railing and median: 8-SE4001 & 1-SE4002 lapped a min. of 1'-3"  
 Bottom of slab: 8-55012 & 1-55013, lapped a min. of 1'-7"

MICROFILMED  
JUL 19 1968



**TRANSVERSE SECTION (WESTBOUND LANES)**



**TRANSVERSE SECTION (EASTBOUND LANES)**

Notes:

- For scupper details see STD. DWG. 50-1-69
- For End Dam details see sht. #354
- \* Deck slab depth: The distance shown from the top of deck slab to top of steel beam is the design dimension. The quantity of deck concrete to be paid for shall be based on this dimension, even though deviation from it may be necessary because the top flange of the beam may not have the exact camber or conformation required to place it parallel to the finished grade.
- \*\* A haunch width of 9" shall be used for computing quantity of concrete. However, the haunch 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.

For transverse slab reinforcing see sht. 18/24 & 19/24

Concrete and reinforcing steel for parapets and median barrier shall be included for payment with their respective items, Item 511 Superstructure concrete and Item 509 reinforcing steel.

Longitudinal reinforcing steel shall be field cut as necessary to avoid interference with scuppers.

Steel Erection: During the erection of end dams and crossframes care shall be taken to insure that stringers, bearing parts and bridge seats remain in bearing contact.

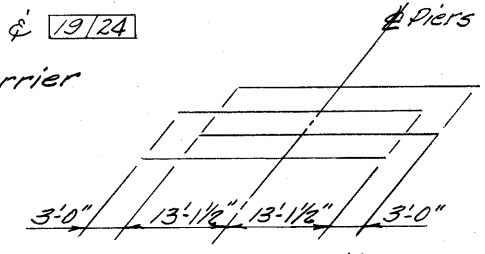
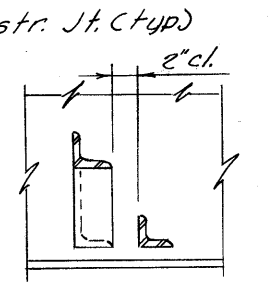


DIAGRAM SHOWING STAGGER OF SE4004 BARS OVER PIERS.

SLAB CANTILEVERS	
Location	Dim. "A"
& Brq. W. Abut.	1'-9"
Span #2 - 0.50 Pt.	1'-9 3/8"
& Brq. Pier #2	1'-11 1/8"
Span #3 - F.S. #2	2'-3 7/8"
" " " 0.50 Pt.	1'-11 1/8"
" " " F.S. #3	1'-9 3/8"
& Brq. Pier #3	1'-10 1/8"
Span #4 - 0.25 Pt.	2'-0"
" " " 0.50 Pt.	2'-2 5/8"
" " " 0.75 Pt.	2'-6 3/4"
& Brq. E. Abut.	3'-0"

SE5007, SE5008, or SE5010

Details, dimensions and reinforcing same as for opposite railing unless otherwise shown



**SECTION S1-S1**

ALDEN E. STILSON & ASSOCIATES, LIMITED  
 CONSULTING ENGINEERS  
 CLEVELAND, OHIO COLUMBUS, OHIO WHEELING, W. VA.

**SUPERSTRUCTURE DETAILS**  
**BRIDGE NO LOR-80-1998**  
 I-80 OVER S.R. 10 (LORAIN ROAD)

LORAIN COUNTY STA. 92+89.14  
 STA. 95+44.32

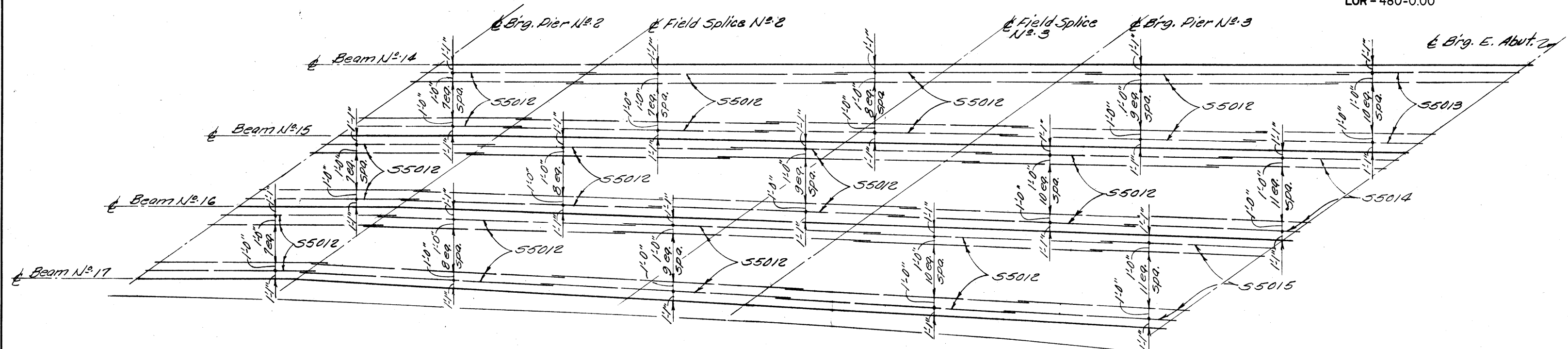
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
R.S.S.	R.T.		B.I.P.	G.W.M.	3/70	

MARCH 1963  
JUL 1963

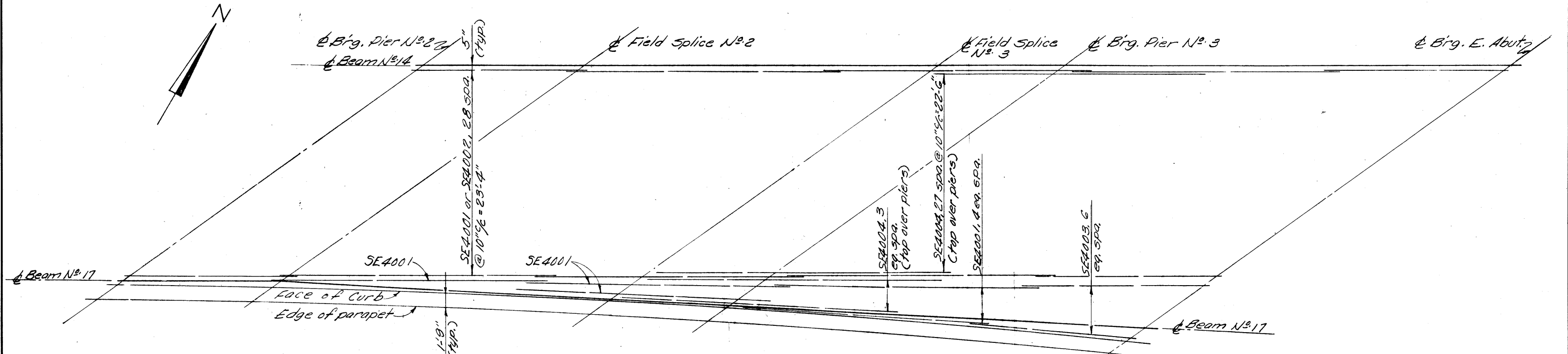
FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

LORAIN COUNTY  
LOR-480-0.00

347  
375



PLAN OF BOTTOM REINFORCING



PLAN OF TOP REINFORCING

LONGITUDINAL SLAB REINFORCING (Between beams #14 thru #17)

NOTE: Each run of longitudinal reinforcing shall be as follows:  
 Top of slab, 8-SE4001 & 1-SE4002 or SE4003 lapped a min. of 1'-3"  
 Bottom of slab, 8-55012 & 1-55013, 55014 or 55015 lapped a min. of 1'-7"

ALDEN E. STILSON & ASSOCIATES, LIMITED CONSULTING ENGINEERS CLEVELAND, OHIO COLUMBUS, OHIO WHEELING, W. VA.						
<b>SUPERSTRUCTURE DETAILS</b>						
BRIDGE NO LOR-80-1998						
I-80 OVER S.R. 10 (LORAIN ROAD)						
LORAIN COUNTY					STA. 92+89.14	
					STA. 95+44.32	
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
R.S.S.	R.T.		S.I.P.	G.W.M.	5/23/70	

18/24

MICROFILMED  
JUL 19 1980

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

348  
375

LORAIN COUNTY  
LOR.-480-0.00

SE 7001 (Top), 57001 (Bott.)  
7 spa. @ 10" = 5'-10"

⊕ Brg. W. Abut.

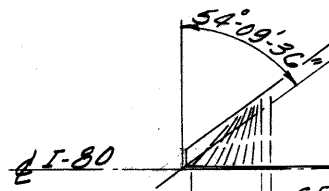
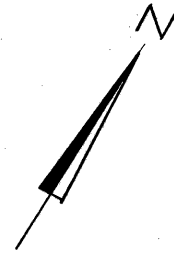
SE 7052, thru SE 7096, 44  
spa. @ 10" = 36'-8" (top)  
57097 thru 57141, 44  
spa. @ 10" = 36'-8" (bot.)

SE 7142, 195 spa. @ 10" =  
162'-6" (top)  
57143, 195 spa. @ 10" =  
162'-6"

SE 7142, 38 spa. @ 10" =  
31'-8" (top)  
57143, 38 spa. @ 10"  
= 31'-8" (bottom)

SE 7222, thru SE 7276, 54 spa.  
@ 10" = 45'-0" (top)  
57222 thru 57276, 54 spa.  
@ 10" = 45'-0" (bottom)

⊕ Brg. E. Abut.



SE 7002 thru SE 7049 (Top)  
57002 thru 57049 47 spa. @  
10" = 39'-2" (Bot.)  
SE 7001 (Top), 57001 (Bott.)  
7 spa. @ 10" = 5'-10"

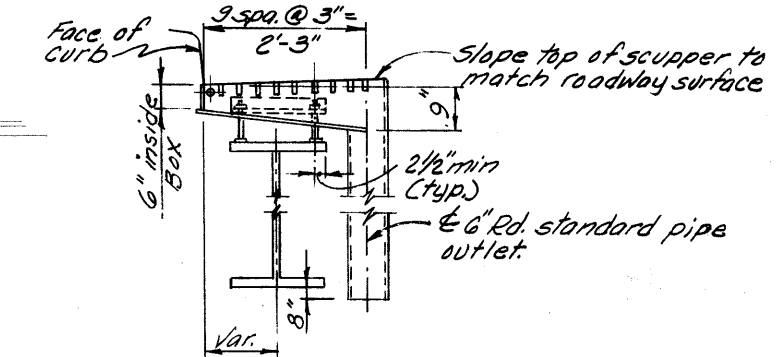
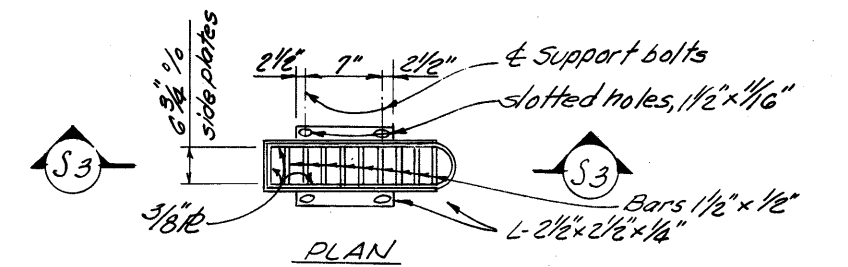
SE 7050, 44 spa. @ 10" =  
36'-8" (top)  
57051, 44 spa. @ 10" =  
36'-8" (bottom)

SE 7050, 195 spa. @ 10" =  
162'-6" (top)  
57051, 195 spa. @ 10" =  
162'-6" (bottom)

SE 7144 thru SE 7182 38  
spa. @ 10" = 31'-8" (top)  
57183 thru 57221, 38  
spa. @ 10" = 31'-8" (bottom)

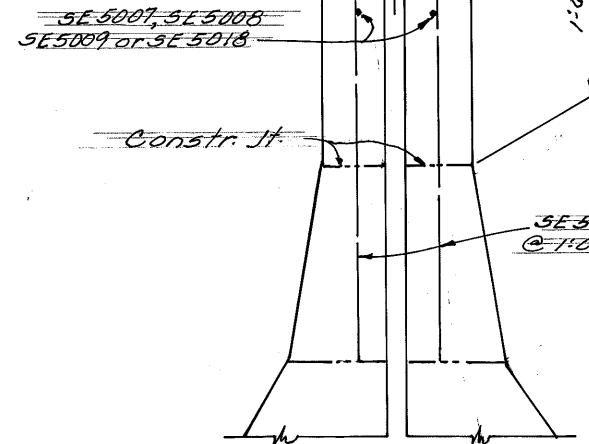
TRANSVERSE SLAB REINFORCING (WEST BOUND LANES)

Note: Transverse slab reinforcing bars shall be placed normal to ⊕ of I-80 except at acute corner of slab.



SECTION S3-S3  
TYPE 3 SCUPPER DETAIL

Notes. For additional scupper details see Std. Dwg. 50-1-69 Sht. 3  
For scupper spacing see General Plan Sht. 3/24



MEDIAN BARRIER WITH GLARE SCREEN

ALDEN E. STILSON & ASSOCIATES, LIMITED CONSULTING ENGINEERS CLEVELAND, OHIO COLUMBUS, OHIO WHEELING, W. VA.						
<b>SUPERSTRUCTURE DETAILS</b>						
<b>BRIDGE NO LOR-80-1998</b>						
I-80 OVER S.R. 10 (LORAIN ROAD)						
LORAIN COUNTY						STA. 92+89.14
						STA. 95+44.32
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISION
R.S.S.	R.T.		B.I.P.	G.W.M.	5/1/70	

19/24

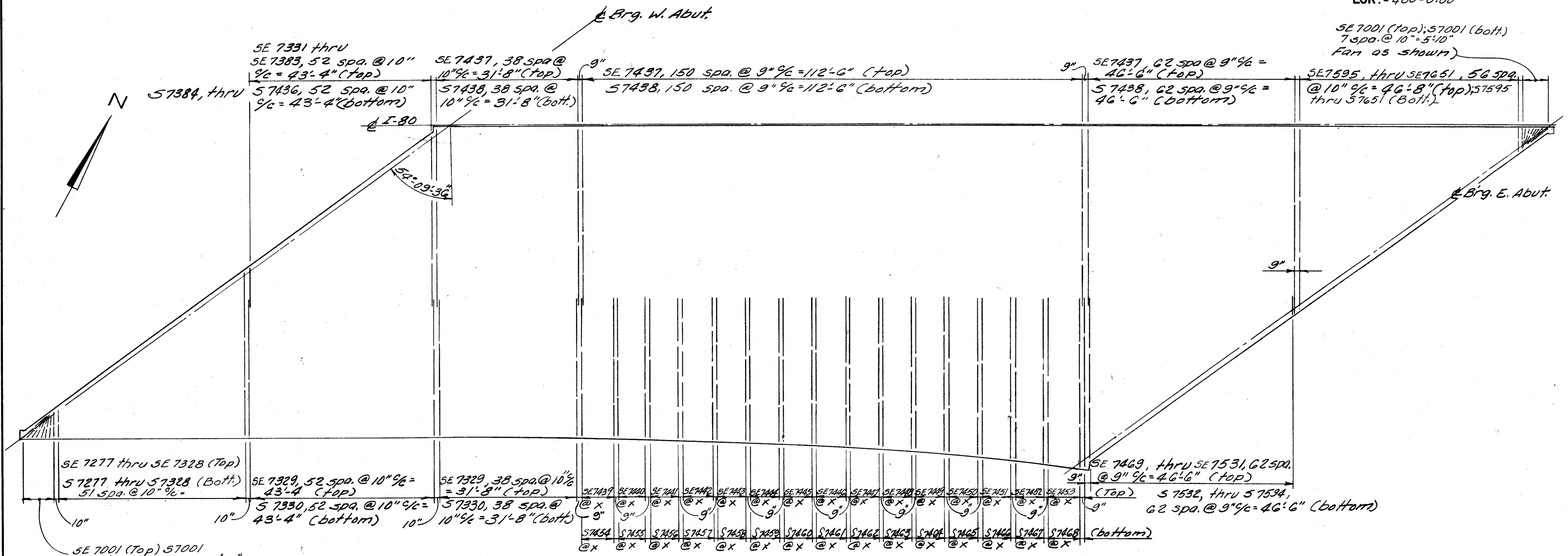
DATE OF P.L.M. 2  
JUL 19 1980

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

349  
375

LORAIN COUNTY  
LOR.-480-0.00

SE 7001 (Top); 57001 (Bottom)  
7 spa. @ 10" = 5'-10"  
Fan as shown



**TRANSVERSE SLAB REINFORCING (EAST BOUND LANES)**

Note: Transverse slab reinforcing bars shall be placed normal to centerline of I-80 except at acute corner of slab.

20/24

ALDEN E. STILSON & ASSOCIATES, LIMITED						
CONSULTING ENGINEERS						
CLEVELAND, OHIO	COLUMBUS, OHIO	WHEELING, W. VA.				
<b>SUPERSTRUCTURE DETAILS</b>						
<b>BRIDGE NO LOR-80-1998</b>						
<b>I-80 OVER S.R. 10 (LORAIN ROAD)</b>						
LORAIN COUNTY					STA. 92+89.14	
					STA. 95+44.32	
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
R.S.S.	D.T.		B.I.P.	G.W.M.	5/70	

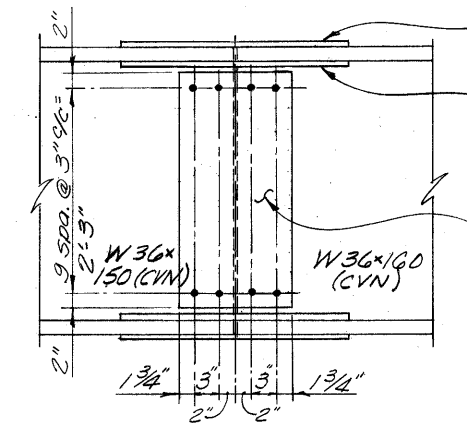
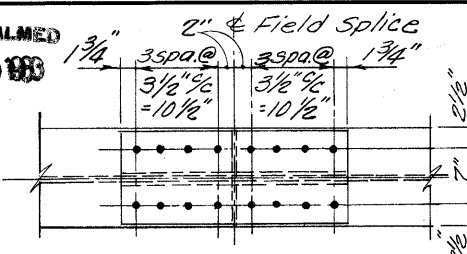


MICROFILMED  
JUL 19 1968

FED. AD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

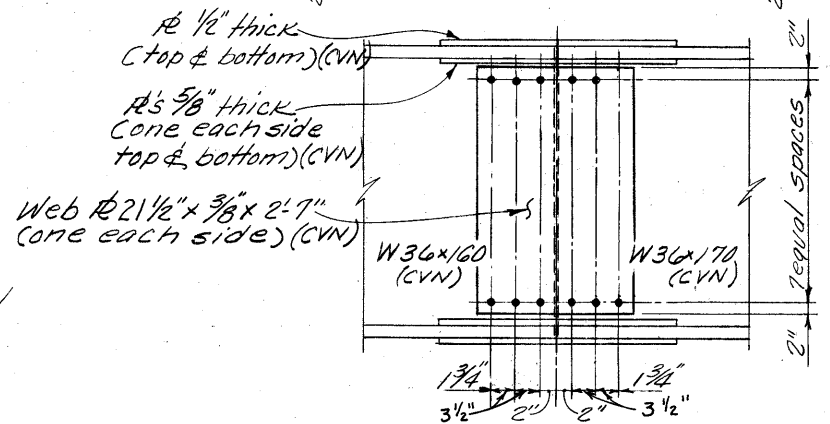
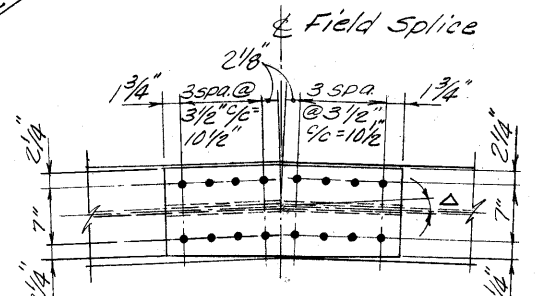
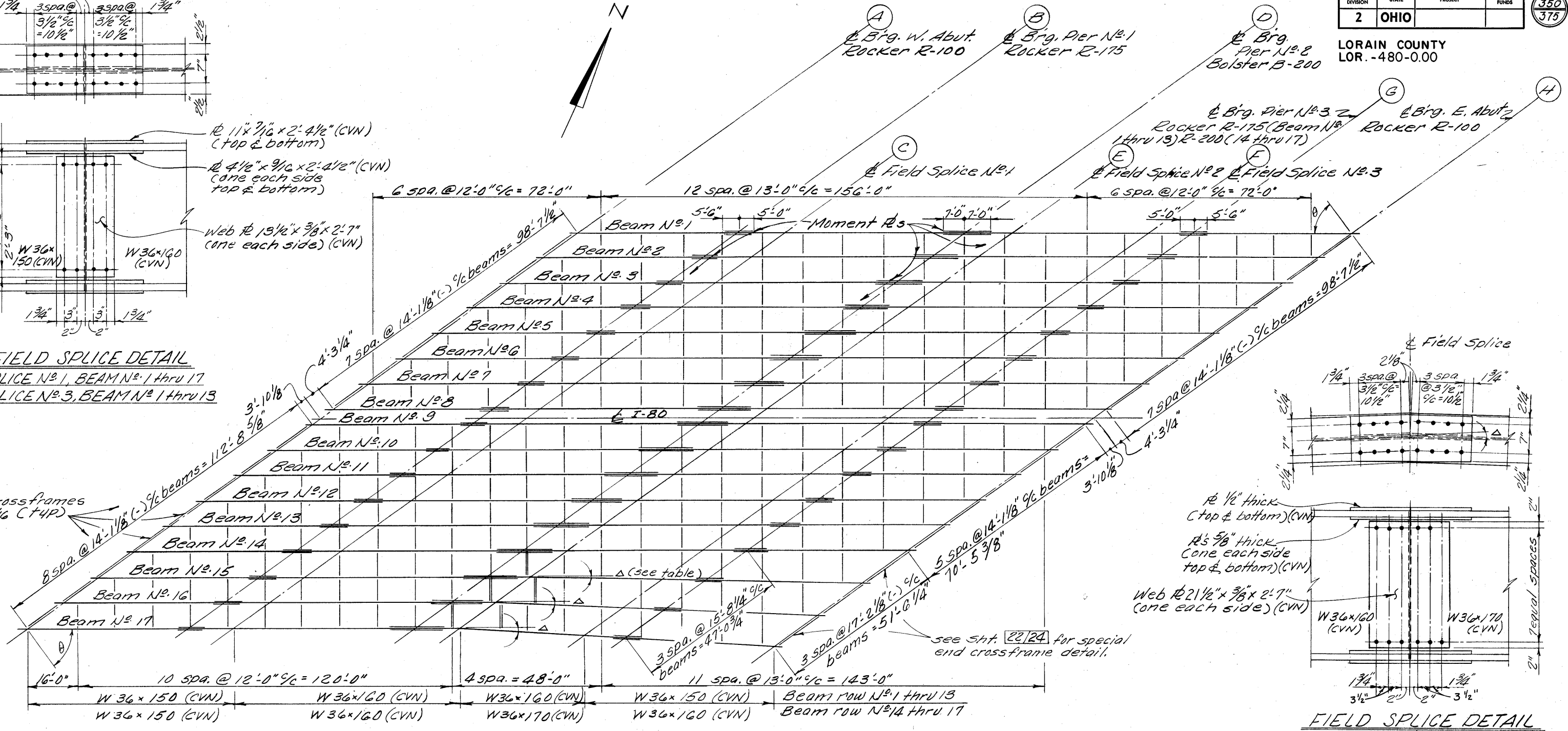
LORAIN COUNTY  
LOR.-480-0.00

350  
375



**FIELD SPICE DETAIL**  
FIELD SPICE NO. 1, BEAM NO. 1 THRU 17  
FIELD SPICE NO. 3, BEAM NO. 1 THRU 13

End Crossframes  
4x4x5/16 (T4P)



**FIELD SPICE DETAIL**  
FIELD SPICE NO. 2 & 3, BEAM NO. 14 THRU 17

Note: For Field Splice No. 2  
Beam No. 1 thru 13 see  
Std Dwg. 5 D-1-69  
Sht. 4 of 4

**FRAMING PLAN**

Notes:  
1" dia high strength bolts shall be used at field splices. Bolt heads shall be placed on fascia side of exterior beam web and bottom side of bottom flange. Bolts shall conform to A-325 steel.  
Crossframes may be shifted if necessary to avoid field splice.  
Crossframes shall be placed normal to beam lines 1 thru 16

**TABLE OF MOMENT PLATE SIZES**

Location	Beam No.	Top PL	Bot PL
Pier No. 1	1 thru 17	10 1/2 x 7 1/8	13 1/2 x 1/2
Pier No. 2	1 thru 17	10 1/2 x 1 1/8	13 1/2 x 1/2
Pier No. 3	1 thru 13	10 1/2 x 7 1/8	13 1/2 x 1/2
Pier No. 3	14 thru 17	10 1/2 x 1 1/8	13 1/2 x 1/2

Top Moment Plates shall be (CVN)

**TABLE OF DEFLECTION ANGLES & BEAM LENGTHS**

Bearing Point or Splice Point	Beam Row No. 1 thru 14	Beam Row No. 15	Beam Row No. 16	Beam Row No. 17
A	54°-09'-36"	54°-09'-36"	54°-09'-36"	54°-09'-36"
B	51'-0"	51'-0"	51'-0"	51'-0"
C	14'-6"	14'-6"	14'-6"	14'-6"
D	18'-0"	18'-0"	18'-0"	18'-0"
E	40'-3"	39'-3 1/16"	38'-4 1/2"	37'-5 7/16"
F	14'-6"	14'-1 5/16"	13'-9 7/8"	13'-5 5/16"
G	51'-0"	49'-9 5/8"	48'-7 1/16"	47'-5 1/2"
H	54°-09'-36"	53°-09'-29"	52°-06'-26"	51°-00'-16"

ALDEN E. STILSON & ASSOCIATES, LIMITED  
CONSULTING ENGINEERS  
CLEVELAND, OHIO COLUMBUS, OHIO WHEELING, W. VA.

**SUPERSTRUCTURE DETAILS**  
BRIDGE NO. LOR-80-1998  
I-80 OVER S.R. 10 (LORAIN ROAD)

LORAIN COUNTY STA. 92+89.14  
STA. 95+44.32

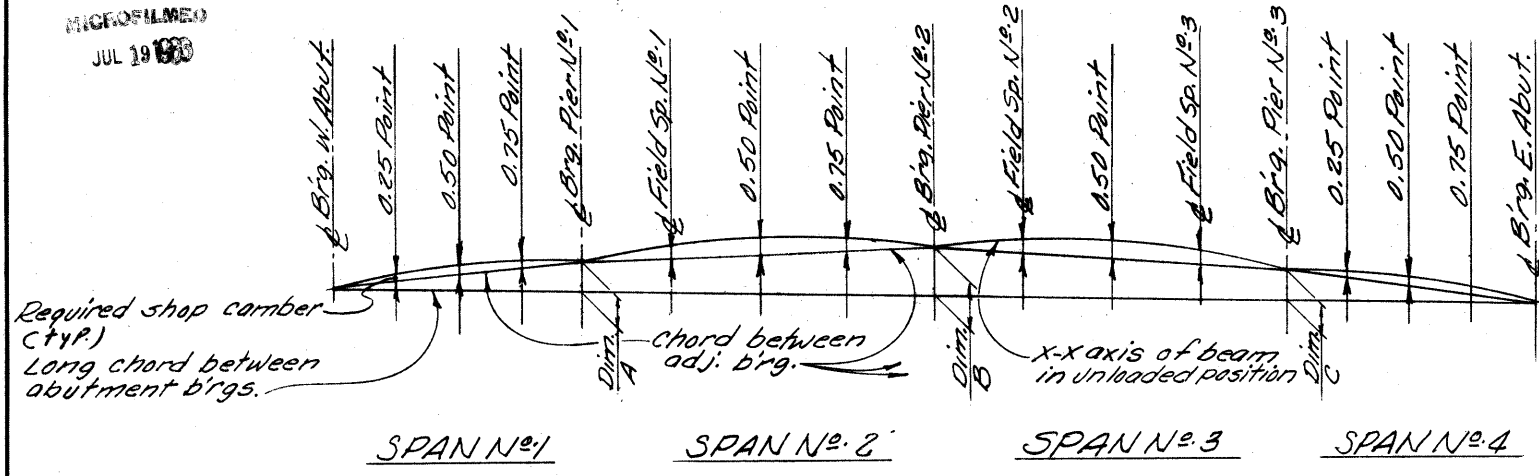
DESIGNED: R.S.S. DRAWN: R.T. TRACED: B.I.P. CHECKED: G.W.M. REVIEWED: DATE: 2/23/70

MICROFILMED  
JUL 19 1980

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

351  
375

LORAIN COUNTY  
LOR-480-0.00

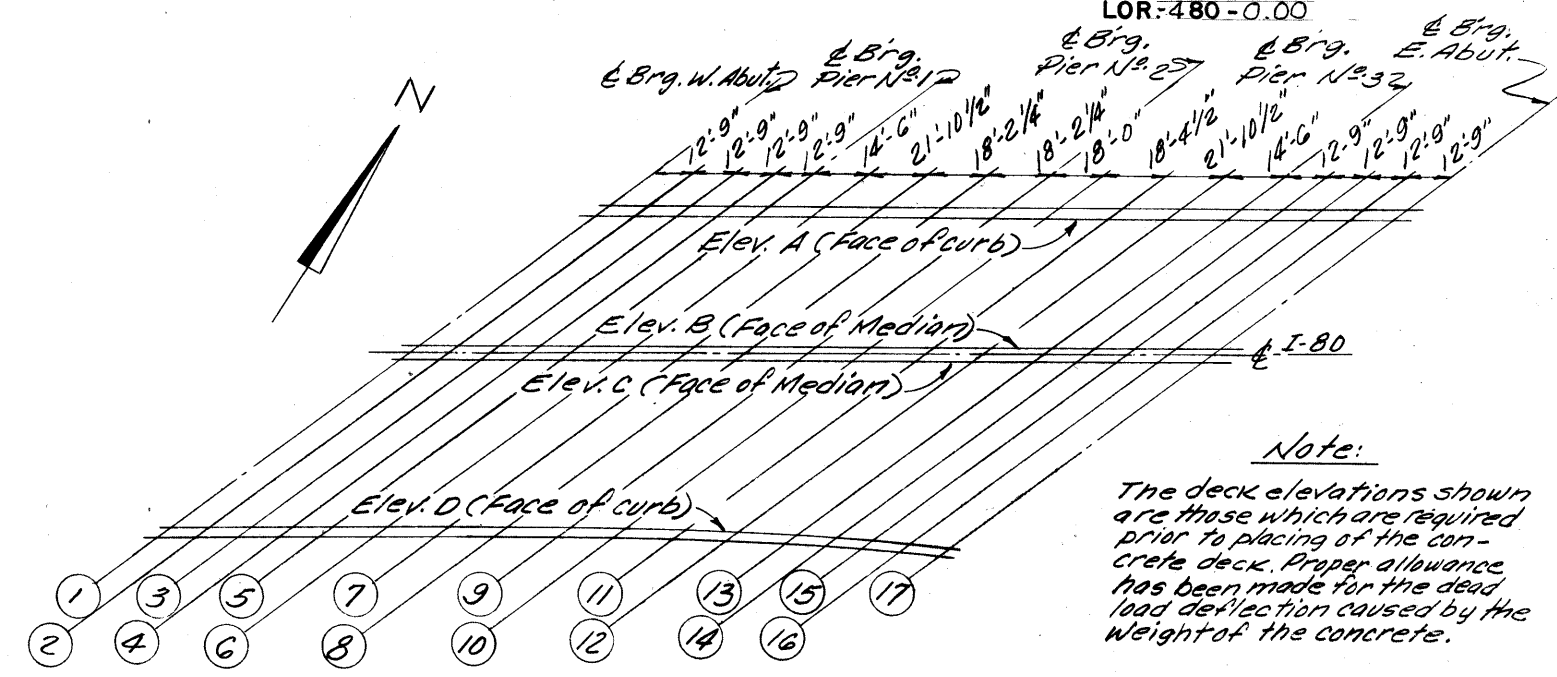


CAMBER & BLOCKING DIAGRAM

Location	SPAN NO. 1		SPAN NO. 2			SPAN NO. 3			SPAN NO. 4			
	0.25	0.50	0.75	F.S.#1	0.50	0.75	F.S.#2	0.50	F.S.#3	0.25	0.50	0.75
Deflection due to weight of steel	1/16	1/16	0	1/16	1/8	1/16	1/16	1/8	1/16	0	1/16	1/16
Deflection due to remaining dead load	3/16	3/16	1/16	3/16	3/8	3/16	3/16	3/8	3/16	1/16	3/16	3/16
Adjust req'd. for vertical curve	1/16	1/8	1/16	1/8	1/4	3/16	3/16	1/4	1/8	1/16	1/8	1/16
Required shop camber	5/16	3/8	1/8	3/8	3/4	7/16	7/16	3/4	3/8	1/8	3/8	5/16

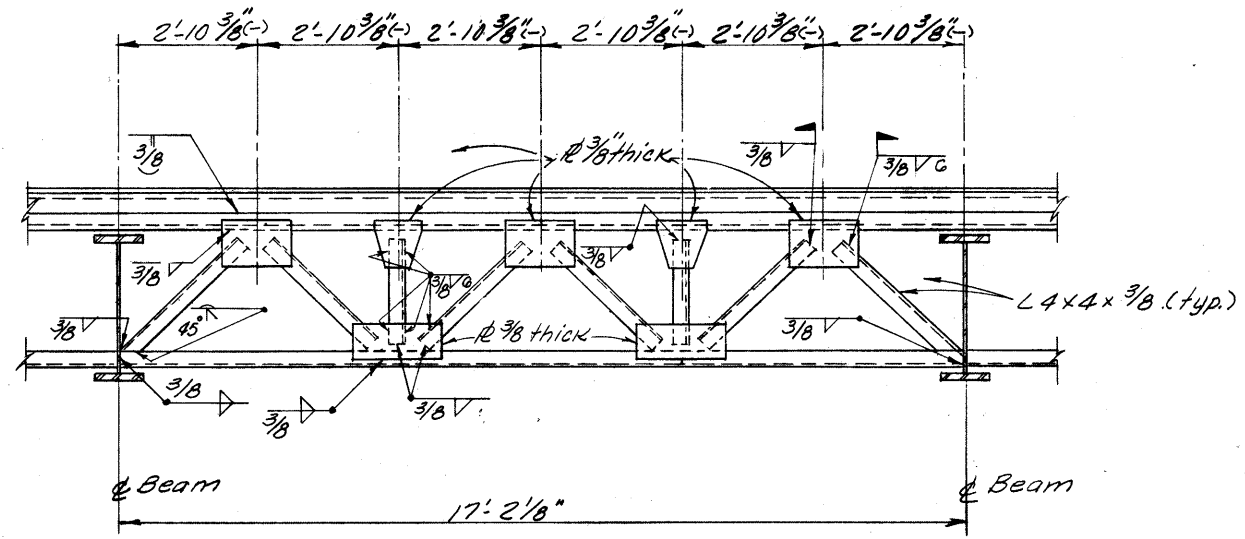
Beam No.	Dim. A	Dim. B	Dim. C
Hr. 14	1 9/16	2 3/8	1 9/16
15	1 9/16	2 7/16	1 9/16
16	1 5/8	2 9/16	1 5/8
17	1 1/16	2 1/16	1 1/16

LINE	TABLE OF DECK ELEVATIONS																
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
ELEV. A	790.79	790.76	790.72	790.66	790.61	790.56	790.47	790.36	790.24	790.14	790.03	789.86	789.72	789.64	789.54	789.43	789.30
ELEV. B	791.10	791.10	791.09	791.06	791.03	791.01	790.97	790.90	790.82	790.76	790.68	790.56	790.46	790.39	790.32	790.23	790.13
ELEV. C	791.12	791.12	791.10	791.08	791.05	791.03	790.99	790.93	790.85	790.79	790.73	790.60	790.51	790.44	790.37	790.28	790.19
ELEV. D	790.75	790.78	790.80	790.80	790.81	790.82	790.83	790.81	790.77	790.75	790.72	790.64	790.57	790.53	790.48	790.42	790.35



DECK ELEVATIONS

See Transverse Section sht. 17/24 for Elev. locations.



SPECIAL END CROSSFRAME

(For additional details see Std. Dwg. SD-1-69, Sht. #1)

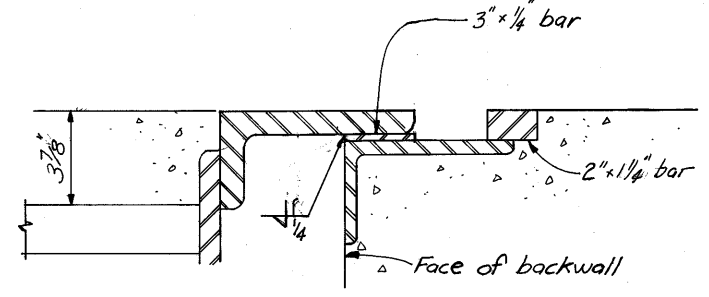
Note:

Where "(GVN)" follows a shape or plate size designation, the material shall meet specified minimum notch toughness requirements.

SHOP DRAWINGS

After all steel fabrication is completed, the Fabricator shall furnish a 35 millimeter microfilm copy of each shop drawing mounted on a 3 1/4" x 7 3/8" aperture card. The card shall be imprinted with the bridge and project number, Fabricator's name, drawing number and details shown on the drawing (girders, beams, crossframes, etc.)

SCUPPERS: Steel bar stock utilized for scuppers may be any weldable grade of low or mild carbon steel available commercially. This material is to be excluded from the requirements of 501.07 for test reports.



END DAM DETAIL

(See SD-1-69, sheet 1 of 4 for additional details)

22/24

ALDEN E. STILSON & ASSOCIATES, LIMITED CONSULTING ENGINEERS CLEVELAND, OHIO COLUMBUS, OHIO WHEELING, W. VA.			
<b>SUPER STRUCTURE BRIDGE NO. LOR-80-1998</b>			
I-80 OVER S.R. 10 (LORAIN ROAD)			
LORAIN COUNTY		STA. 92+89.14 STA. 95+44.32	
DESIGNED	DRAWN	TRACED	CHECKED
R.S.S.	R.T.		B.I.P.
			G.W.M. 3/70

MARK	NUM.	LENGTH	WEIGHT	TYPE	A	B	C	D	E	NOTE
AE5020	28	21-10	638	ST						
AE5021	8	7-5	62	ST						
AE5025	40	2-11	122	ST						
AE5026	30	6-4	198	19		2-5	3-2	0-8		
AE5027	24	11-1	277	ST						
AE5031	1-0	6-11	72	ST						
AE5033	6	5-11	37	20	0-3	0-9	0-11	1-5		
AE5034	12	3-11	49	15	1-6	0-8	0-11	0-9	0-9	
AE5038	18	2-8	50	ST						
AE5039	6	2-11	18	15	0-8	0-8	1-1	0-6	0-9	
AE5040	6	2-5	15	12	1-5	0-11		0-6		
AE5041	6	5-11	37	9	2-9	0-8	2-9	0	0	
AE6005	30	6-9	304	15		0-9	0-9	4-10	1-0	
AE6006	10	6-7	99	15		0-9	0-9	4-9	0-11	
AE6007	10	6-5	96	15		0-9	0-9	4-7	0-11	

MICROFILMED  
JUL 19 1988

MARK	NUM.	LENGTH	WEIGHT	TYPE	A	B	C	D	E	NOTE
A 5001	170	4-11	872	2	1-6	2-2	1-6			
A 5002	169	7-8	1351	2	2-3	3-5	2-3			
A 5003	9	31-3	293	ST						
A 5004	7	34-0	248	ST						
A 5005	1	20-10	22	ST						
A 5006	100	30-5	3172	ST						
A 5007	66	31-11	2197	ST						
A 5008	1	19-0	20	ST						
A 5009	1	9-0	9	ST						
A 5010	10	30-9	321	ST						
A 5011	15	33-3	520	ST						
A 5012	7	36-5	266	ST						
A 5013	5	16-0	83	ST						
A 5014	1	5-6	6	ST						
A 5015	1	27-3	28	ST						
A 5016	10	40-0	417	ST						
A 5017	6	42-9	268	ST						
A 5018	1	12-0	13	ST						
A 5019	157	9-2	1501	2	3-0	3-5	3-0			
A 5022	12	15-2	190	ST						
A 5023	50	4-10	252	ST						
A 5024	50	1-9	91	2	0-6	1-0	0-6			
A 5028	4	5-3	22	ST						
A 5029	4	15-10	66	ST						
A 5030	12	8-11	112	ST						
A 5031	4	6-11	27	ST						
A 5032	8	5-6	46	ST						
A 5035	6	3-1	19	12	1-4	0-6	1-6			
A 5036	6	7-9	48	2	2-9	2-6	2-9			
A 5037	6	3-7	22	1	0-8	3-1				
A 6002	452	8-3	5601	2	3-7	1-5	3-7			
A 6003	452	9-1	6167	2	4-3	0-11	4-3			
A 6004	452	7-1	4809	2	3-0	1-5	3-0			
A 8001	291	5-6	4273	21	0-6	3-5	1-1			
F 5001	326	8-3	2805	2	1-7	5-4	1-7			
F 5002	326	7-0	2380	2	6-6	0-8				
F 5003	58	11-1	670	3	3-0	2-3	3-0	2-3		
F 6001	326	14-0	6855	2	6-6	5-4	2-6			
F 6002	24	17-8	637	2	8-5	1-2	8-5			
F 6003	4	19-8	118	2	9-5	1-2	9-5			
F 6004	4	7-6	45	ST						
F 6005	4	8-6	51	ST						
F 6006	2	6-6	20	ST						
F 8001	105	30-0	8410	ST						
F 8002	7	31-0	579	ST						
F 8003	7	14-6	271	ST						

MARK	NUM.	LENGTH	WEIGHT	TYPE	A	B	C	D	E	NOTE
F 8004	12	18-0	577	ST						(CONTINUED)
F 8005	12	11-3	360	ST						
P 4001	3	20-10	1176	17	NO. TURNS=	NO. SPACERS=	59	12	6	
P 4002	7	21-2	2752	17	NO. TURNS=	NO. SPACERS=	59	28	6	
P 4003	8	21-4	3193	17	NO. TURNS=	NO. SPACERS=	60	32	6	
P 4004	10	21-10	4063	17	NO. TURNS=	NO. SPACERS=	61	40	6	
P 4005	2	23-0	853	17	NO. TURNS=	NO. SPACERS=	64	8	6	
P 4006	8	23-7	3516	17	NO. TURNS=	NO. SPACERS=	66	32	6	
P 4007	1	22-5	419	17	NO. TURNS=	NO. SPACERS=	63	4	6	
P 4008	3	22-1	1238	17	NO. TURNS=	NO. SPACERS=	62	12	6	
P 4009	4	23-10	1783	17	NO. TURNS=	NO. SPACERS=	67	16	6	
P 4010	2	24-2	894	17	NO. TURNS=	NO. SPACERS=	67	8	6	
P 4011	2	21-8	811	17	NO. TURNS=	NO. SPACERS=	61	8	6	
P 4012	1	23-4	433	17	NO. TURNS=	NO. SPACERS=	65	4	6	
P 5001	306	5-1	1622	2	1-6	2-4	1-6			
P 5002	204	1-6	319	ST						
P10001	39	20-10	3496	ST						
P10002	78	21-2	7104	ST						
P10003	66	21-4	6059	ST						
P10004	105	21-10	9865	ST						
P10005	21	23-0	2078	ST						
P10006	79	23-7	8017	ST						
P10007	8	22-5	772	ST						
P10008	24	22-2	2289	ST						
P10009	32	23-10	3282	ST						
P10010	16	24-2	1664	ST						
P10011	16	21-8	1492	ST						
P10012	8	23-4	803	ST						
F 5004	698	5-9	4186	ST						
F 5005	359	6-3	2340	ST						
F 6007	36	30-11	1672	ST						
F 6008	228	30-3	10359	ST						
F 6009	27	21-0	852	ST						
F 6010	60	26-3	2366	ST						
F 6011	60	25-9	2321	ST						
F 6012	24	35-10	1292	ST						
F 6013	18	44-3	1196	ST						
F 6014	24	39-10	1436	ST						
F 6015	13	32-7	636	ST						
F 6016	13	29-6	576	ST						
F 6017	9	31-9	429	ST						
F10001	492	6-7	13937	2	5-6	1-5				
SUPERSTRUCTURE										
S 5002	337	1-9	615	2	0-6	1-0	0-6			
S 5003	679	2-0	1416	2	1-6	0-8				
S 5006	342	2-6	892	ST						

- NOTES
- INDICATES SERIES BAR. EACH BAR VARIES FROM ADJACENT BAR(S) BY TABULATED AMOUNT(S), CALCULATED TO NEAREST 1/8 INCH. WEIGHT SHOWN IS FOR ENTIRE SERIES UTILIZING AVERAGE LENGTH.
  - BARS INCLUDED WITH ITEM 517, RAILING, FOR PAYMENT.
  - COST OF FIELD BENDING SHALL BE INCLUDED WITH ITEM 509.
  - LIGHT POLE SUPPORT BARS INCLUDED WITH ITEM 509 FOR PAYMENT.
  - END PREPARATION AND FIELD WELDING INCLUDED WITH ITEM 509.
  - 'LENGTH' SHOWN FOR SPIRAL BARS IS DISTANCE FROM TOP OF FOOTING TO BOTTOM OF PIER CAP. 'NO. TURNS' SHOWN IS 'LENGTH' DIVIDED BY PITCH, PLUS 3 TURNS (NUMBER OF CLOSED COILS), EXPRESSED AS NEAREST WHOLE NUMBER.

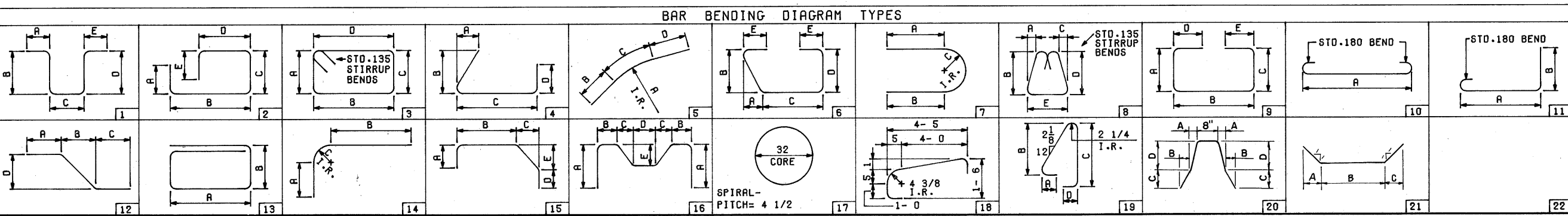
1 1/2 CLOSED COILS SHALL BE PROVIDED AT ENDS OF EACH SPIRAL UNIT. FOUR STEEL CHANNEL, TEE OR ANGLE SPACERS, WEIGHING APPROXIMATELY 0.80 LB. PER LIN. FT. OF SPACER SHALL BE PROVIDED FOR EACH SPIRAL UNIT. THEY SHALL BE EQUALLY SPACED ALONG PERIPHERY OF COIL. WEIGHT OF SPACERS, AT 0.80 LB. PER LIN. FT. WILL BE PAID FOR AS REINFORCING STEEL AND IS INCLUDED IN TABULATED WEIGHT.

BAR DIMENSIONS ARE OUT TO OUT.

Refer to CMS Sections 106.03, 700, 709.01 through 709.05, and 709.08. Sufficient additional reinforcing steel shall be provided for sampling. Random samples shall be replaced in the structures by the additional steel, spliced in accordance with 509.08.

BAR SIZE DESIGNATION

BAR SIZE IS INDICATED IN THE BAR MARK. THE FIRST DIGIT WHERE FOUR DIGITS ARE USED, AND FIRST TWO DIGITS WHERE FIVE DIGITS ARE USED, INDICATE THE BAR SIZE NUMBER. FOR EXAMPLE, A7001 IS A NO. 7 SIZE BAR AND A10140 IS A NO. 10 SIZE.



23/24

ALDEN E. STILSON & ASSOCIATES, LIMITED  
CLEVELAND, OHIO CONSULTING ENGINEERS  
COLUMBUS, OHIO WHEELING, W. VA.

### REINFORCING STEEL LIST

BRIDGE NO. LOR.-80-1998  
I-80 OVER SR.10 (LORAIN ROAD)

LORAIN COUNTY STA. 92+89.14  
STA. 95+44.32

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISOR
R.S.S.			B.I.P.	G.W.M.	5/28/70	

NOT RECORDED  
JUL 19 1983

LORAIN COUNTY  
LOR-480-0.00

NOTES

- INDICATES SERIES BAR. EACH BAR VARIES FROM ADJACENT BAR(S) BY TABULATED AMOUNT(S). CALCULATED TO NEAREST 1/8 INCH. WEIGHT SHOWN IS FOR ENTIRE SERIES UTILIZING AVERAGE LENGTH.
- BARS INCLUDED WITH ITEM 517. RAILING, FOR PAYMENT.
- COST OF FIELD BENDING SHALL BE INCLUDED WITH ITEM 509.
- LIGHT POLE SUPPORT BARS INCLUDED WITH ITEM 509 FOR PAYMENT.
- END PREPARATION AND FIELD WELDING INCLUDED WITH ITEM 509.
- 'LENGTH' SHOWN FOR SPIRAL BARS IS DISTANCE FROM TOP OF FOOTING TO BOTTOM OF PIER CAP. 'NO. TURNS' SHOWN IS 'LENGTH' DIVIDED BY PITCH, PLUS 3 TURNS (NUMBER OF CLOSED COILS). EXPRESSED AS NEAREST WHOLE NUMBER.

1 1/2 CLOSED COILS SHALL BE PROVIDED AT 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 PERIPHERY OF COIL. WEIGHT OF SPACERS, AT 0.80 LB. PER LIN. FT. WILL BE PAID FOR AS REINFORCING STEEL AND IS INCLUDED IN TABULATED WEIGHT.

BAR DIMENSIONS ARE OUT TO OUT.

Refer to CMS Sections 106.03, 700, 709.01 through 709.05, and 709.08. Sufficient additional reinforcing steel shall be provided for sampling. Random samples shall be replaced in the structures by the additional steel, spliced in accordance with 509.08.

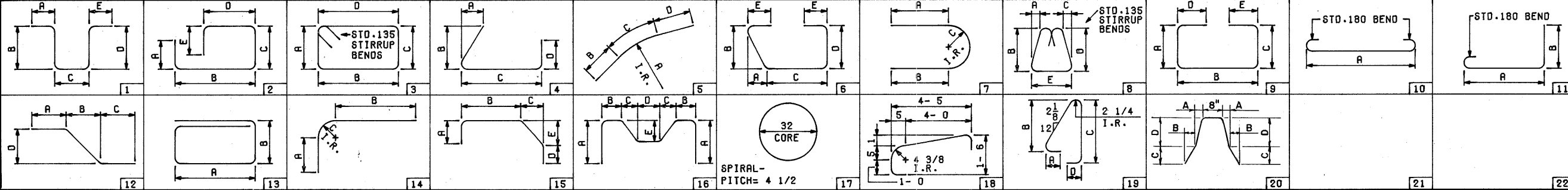
BAR SIZE DESIGNATION

BAR SIZE IS INDICATED IN THE BAR MARK. THE FIRST DIGIT WHERE FOUR DIGITS ARE USED, AND FIRST TWO DIGITS WHERE FIVE DIGITS ARE USED, INDICATE THE BAR SIZE NUMBER. FOR EXAMPLE, A7001 IS A NO. 7 SIZE BAR AND A10140 IS A NO. 10 SIZE.

MARK	NUM.	LENGTH	WEIGHT	TYPE	A	B	C	D	E	NOTE
SUPERSTRUCTURE (CONTINUED)										
SE5010	28	6-8	195	ST						
SE5011	342	2-11	1040	15	0-8	0-8	1-1	0-6	0-9	
S 5012	1279	30-0	40020	ST						
S 5013	139	21-9	3153	ST						
S 5014	14	19-3	281	ST						
S 5015	16	16-9	280	ST						
S 5016	8	19-9	165	ST						
S 7001	32	5-6	360	ST						
S 7002	1	6-0		ST						1
THRU			1987		VARY	LENGTH	BY	0-7	1/4	
S 7049	1	34-6		ST						1
S 7051	241	28-2	13875	ST						
S 7097	1	9-2		ST						1
THRU			2035		VARY	LENGTH	BY	0-7	1/8	
S 7141	1	35-1		ST						1
S 7143	235	35-8	17132	ST						
S 7183	1	27-7		ST						1
THRU			1299		VARY	LENGTH	BY	0-7	1/8	
S 7221	1	5-0		ST						1
S 7222	1	37-10		ST						1
THRU					VARY	LENGTH	BY	0-7	1/8	
S 7276	1	6-0	2464	ST						1
S 7277	1	7-1		ST						1
THRU					VARY	LENGTH	BY	0-7	3/8	
S 7328	1	38-5	2418	ST						1
S 7330	92	36-0	6770	ST						
S 7384	1	5-0		ST						1
THRU			2248		VARY	LENGTH	BY	0-7	1/4	
S 7436	1	36-6		ST						1
S 7438	253	36-6	18875	ST						
S 7454	10	36-6		ST						1
THRU			12136		VARY	LENGTH	BY	0-5	1/4	
S 7468	10	42-8		ST						1
S 7532	1	42-8		ST						1
THRU			3332		VARY	LENGTH	BY	0-6	1/2	
S 7594	1	9-1		ST						1
S 7595	1	42-7		ST						1
THRU			2835		VARY	LENGTH	BY	0-7	7/8	
S 7651	1	6-1		ST						1

MARK	NUM.	LENGTH	WEIGHT	TYPE	A	B	C	D	E	NOTE
EPOXY COATED REINFORCING STEEL, SUPERSTRUCTURE										
SE5017	342	2-7	921	ST						
SE5018	8	19-10	165	ST						
SE7001	32	5-6	360	ST						
SE7002	1	6-0		ST						1
THRU			1987		VARY	LENGTH	BY	0-7		
SE7049	1	34-6		ST						1
SE7050	241	32-4	15928	ST						
SE7052	1	5-0		ST						1
THRU			1652		VARY	LENGTH	BY	0-7	1/8	
SE7096	1	30-11		ST						1
SE7142	235	31-6	15131	ST						
SE7144	1	31-9		ST						1
THRU			1631		VARY	LENGTH	BY	0-7	1/8	
SE7182	1	9-2		ST						1
SE7222	1	37-10		ST						1
THRU			2464		VARY	LENGTH	BY	0-7	1/8	
SE7276	1	6-0		ST						1
SE7277	1	7-1		ST						1
THRU			2418		VARY	LENGTH	BY	0-7	3/8	
SE7328	1	38-5		ST						1
SE7329	92	31-10	5986	ST						
SE7331	1	5-0		ST						1
THRU			2474		VARY	LENGTH	BY	0-8	1/4	
SE7383	1	40-8		ST						1
SE7437	253	40-8	21030	ST						
SE7439	10	32-4		ST						1
THRU			10859		VARY	LENGTH	BY	0-5	1/4	
SE7453	10	38-6		ST						1
SE7469	1	38-6		ST						1
THRU			2801		VARY	LENGTH	BY	0-6	1/2	
SE7531	1	5-0		ST						1
SE7595	1	42-7		ST						1
THRU			2835		VARY	LENGTH	BY	0-7	1/8	
SE7651	1	6-1		ST						1
SE 4001	1392	30-0	27896	ST						
SE 4002	171	19-0	2170	ST						
SE 4003	7	22-0	103	ST						
SE 4004	464	29-3	9066	ST						
SE5001	337	5-4	1875	19	0-8	2-5	2-2			
SE5004	337	3-2	1113	15	0-8	0-8	1-1	0-9	0-9	
SE5005	342	2-5	862	12	1-5	0-11		0-6		
SE5007	136	15-8	2222	ST						
SE5008	180	7-2	1346	ST						
SE5009	126	6-5	843	ST						

BAR BENDING DIAGRAM TYPES



24124

ALDEN E. STILSON & ASSOCIATES, LIMITED  
CONSULTING ENGINEERS  
CLEVELAND, OHIO COLUMBUS, OHIO WHEELING, W. VA.

**REINFORCING STEEL LIST**  
BRIDGE NO. LOR.-80-1998  
I-80 OVER SR. 10 (LORAIN ROAD)

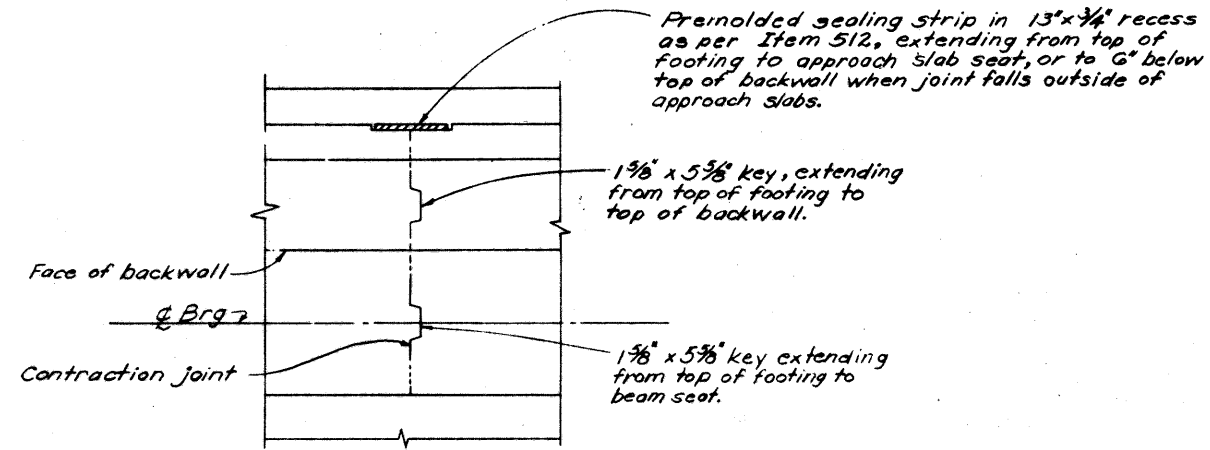
LORAIN COUNTY STA. 92+89.14  
STA. 95+44.32

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
R.S.S.			B.I.P.	G.W.M.	5/20/70	

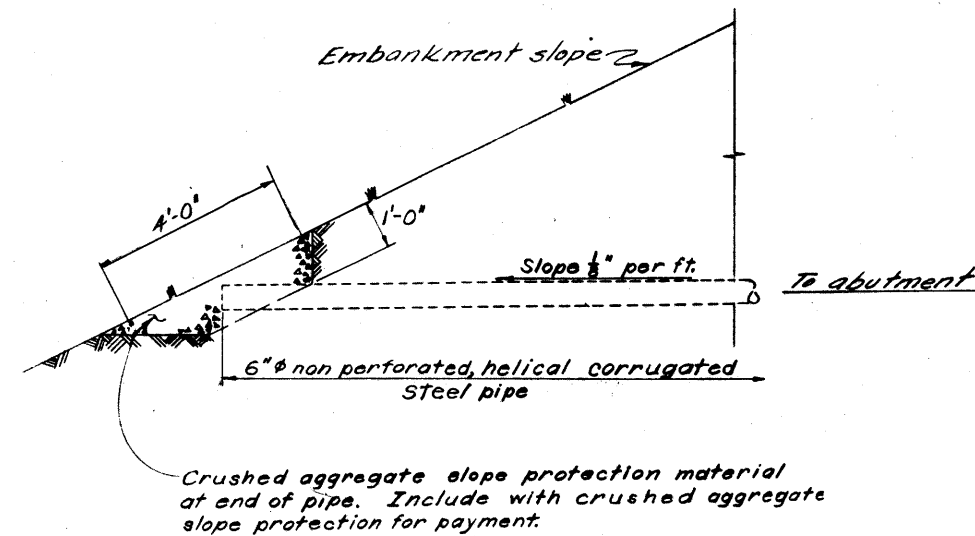
REPRODUCTION  
JUL 19 1969

FED. RD. DIVISION	STATE	PROJECT	TYPE
2	OHIO		354
			375

LORAIN COUNTY  
LOR-480-0.00

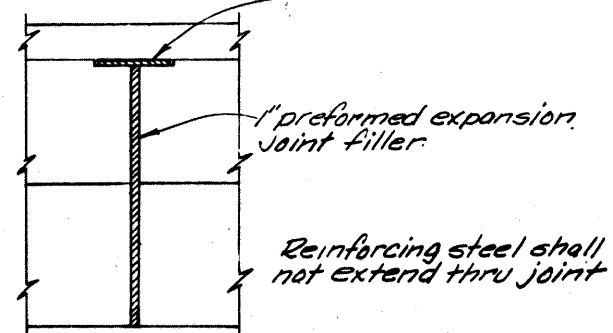


ABUTMENT CONTRACTION JOINT DETAIL

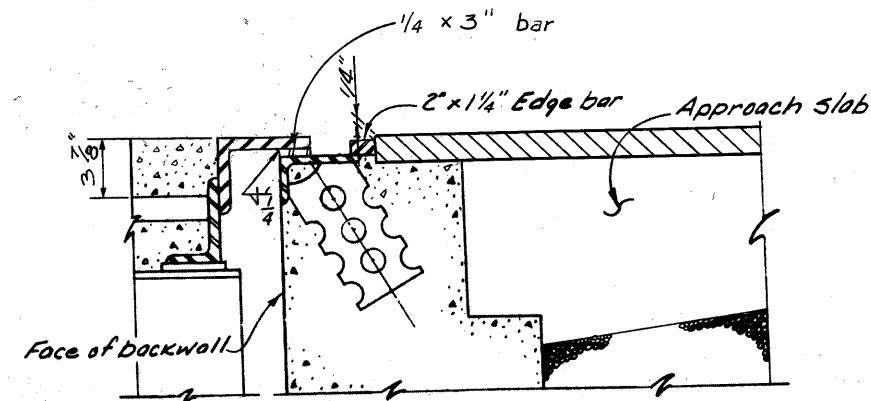


DETAIL - SHOWING METHOD OF TERMINATING ABUTMENT POROUS BACKFILL DRAIN AT EMBANKMENT SLOPE.

Preformed sealing strip in 13x3/4 inch recess as per Item 512 extending from top of footing to approach slab seat or to top of median



ABUTMENT EXPANSION JOINT DETAIL



END DAM DETAIL

For additional end dam details, see Std. Dwg. SD-1-69, Sheet 1 of 4.

ALDEN E. STILSON & ASSOCIATES, LIMITED CONSULTING ENGINEERS CLEVELAND, OHIO COLUMBUS, OHIO WHEELING, W. VA.						
<b>COMMON DETAILS (BRIDGE)</b>						
LORAIN COUNTY						
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	BY
B.I.P.	R.T.		R.S.S.	G.W.M.	7/14/69	

Job No.	FED. RD. DIVISION	STATE	PROJECT
03653(0)	2	OHIO	I-480-3(4)153

356  
375

LORAIN COUNTY  
LOR-80-18.62  
I-480-3(3)  
R/W PLAN

2  
21

Note - Construction Plan Title Sheet was used as sheet 1 of 21 for R/W plans.

1  
2

# CENTER LINE SURVEY PLAT

I-80 OUTER BELT SOUTH FREEWAY  
LORAIN COUNTY  
CITY OF NORTH RIDGEVILLE

RIDGEVILLE TOWNSHIP  
T-6N. R-16W.

#104884

THIS IMPROVEMENT HAS BEEN DECLARED A LIMITED ACCESS HIGHWAY FROM STATION 975+50 TO STATION 100+00 BY ACTION OF THE DIRECTOR OF HIGHWAYS AND RECORDED MARCH 14, 1967 IN VOLUME 52, PAGE 186 OF THE DIRECTOR'S JOURNAL PURSUANT TO LAW.

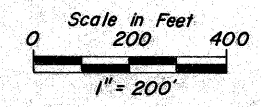
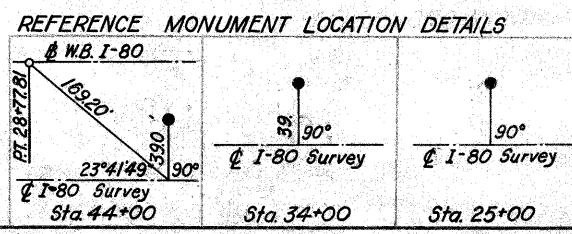
Begin Project  
Sta. 975+50  
Lor-80-18.62

Begin Acquisition  
Sta. 986+23.55  
Lor-80-18.62

OHIO TURNPIKE  
CURVE DATA  
P.I. = 986+13.21  
Δ = 4° 14' 07" L.T.  
D = 0° 20' 00"  
T = 635.58'  
Lc = 1270.58'  
R = 17,188.74'

OHIO TURNPIKE  
CURVE DATA  
P.I. = 1041+99.50  
Δ = 42° 47' 47"  
Dc = 1° 0' 0"  
Lc = 4079.64'  
R = 5729.58'  
Ls = 200'  
Ts = 18' 0" 0"  
T = 2345.30'

ITEM 604			
MONUMENT	ASSEMBLIES	REFERENCE	MONUMENTS
Station	Location	Station	Location
1003+50	Q Med. I-80 Survey	44+00	39.00' Lt. I-80 Sur.
1014+75.86	Q O.T.	34+00	" " " "
5+42.83	Q I-80	25+00	" " " "
		15+00	39.00' Lt. I-80 Sur.
		1095+00	34.01' Lt. U.S.R. 20
1140+18.72	Q Lorain Rd. (S.R. 10)		
100% State	Quantity - 2	100% State	Quantity - 0
Interstate	Quantity - 2	Interstate	Quantity - 5
Total Carried to Gen. Summary			



Received 4-15-82 at 2:10 P.M.  
Recorded 4-15-82  
Plat Book 33 Page 5 of 6  
Signed (S) Recorder Lorain County, Ohio  
Fee \$ 34.56

I hereby certify that this plat is a true delineation of a survey made for the Ohio Department of Highways in Lorain County.  
By Roman M. Dicks  
Registered Surveyor No. 592  
Date Jan. 15, 1971  
Alden E. Stilson & Associates, United  
Consulting Engineers

NO TRANSFER NECESSARY  
JULIAN A. PUOR  
LORAIN COUNTY AUDITOR  
104 H-15-58  
DEPUTY

Completion Date	
Rev. Date	Description

104884  
104884

# 104884  
104884

Job No.	FED. RD. DIVISION	STATE	PROJECT
03653 (0)	2	OHIO	I-480-3(4)153

357  
375

LORAIN COUNTY  
LOR. 80-18.62  
I-480-3(3)  
R/W PLAN

3  
21

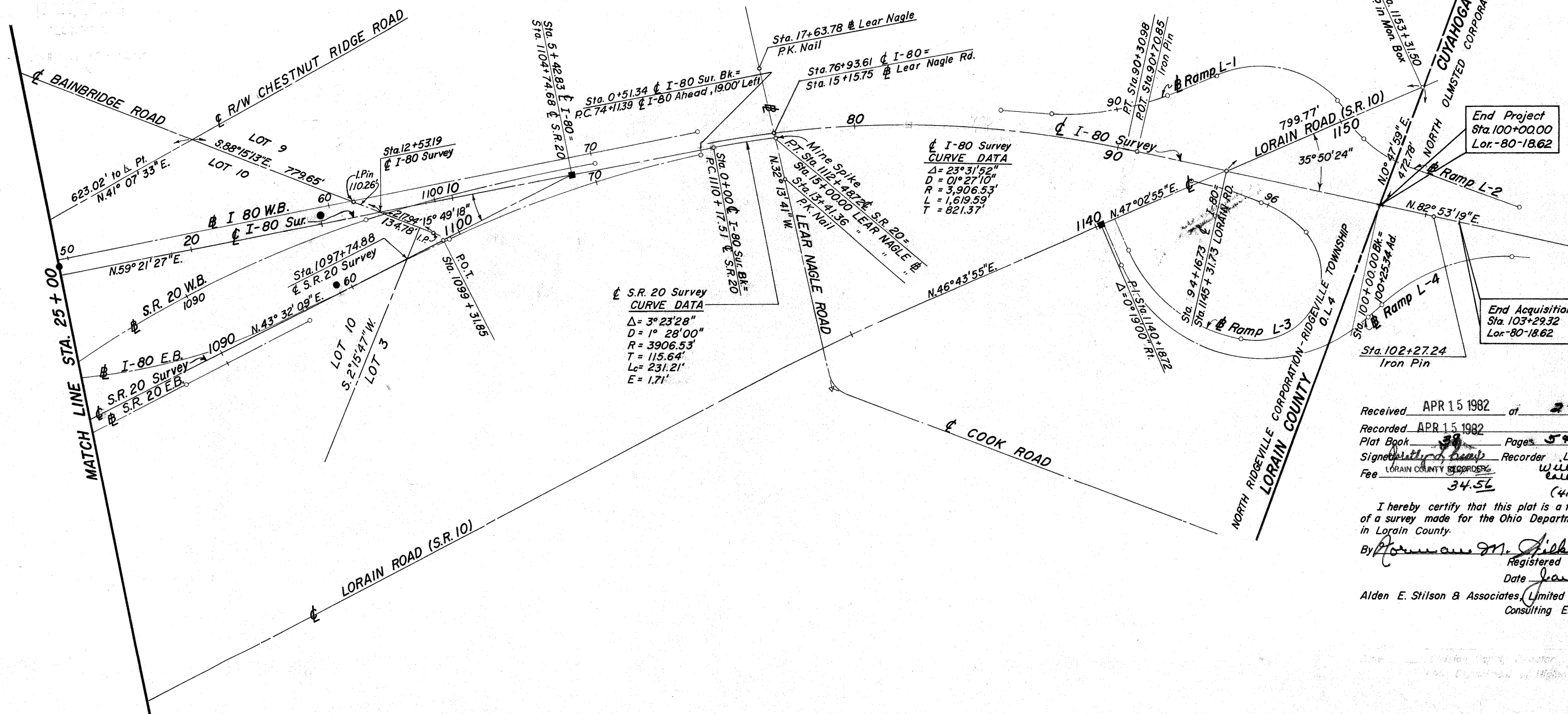
2  
2

# CENTER LINE SURVEY PLAT

I-80 OUTER BELT SOUTH FREEWAY  
LORAIN COUNTY  
CITY OF NORTH RIDGEVILLE

RIDGEVILLE TOWNSHIP  
T-6N. R-16W.

T-6N. R-16W. CUYAHOGA COUNTY OLMSTED TOWNSHIP O.L.I. T-6N. R-15W.



End Project  
Sta. 100+00.00  
Lor. 80-18.62

End Acquisition  
Sta. 103+29.32  
Lor. 80-18.62

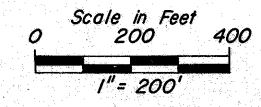
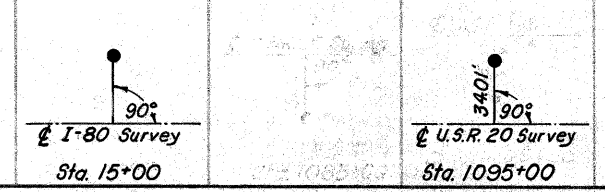
Received APR 15 1982 at 2:19 P.M.  
Recorded APR 15 1982  
Plat Book 38 Pages 546  
Signed [Signature] Recorder Lorain County, Ohio  
Fee 34.56 (419-324-1511)  
will [Signature]

I hereby certify that this plat is a true delineation of a survey made for the Ohio Department of Highways in Lorain County.

By [Signature] Registered Surveyor No. 598  
Date Jan. 15, 1971

Alden E. Stilson & Associates, Limited  
Consulting Engineers

REFERENCE MONUMENT LOCATION DETAILS



NO TRANSFER NECESSARY  
JULIAN A. PIOR  
LORAIN COUNTY AUDITOR  
4-15-82

Completion Date	
Rev. Date	Description

# PROPERTY MAP

## I-80 OUTER BELT SOUTH FREEWAY

### LORAIN COUNTY

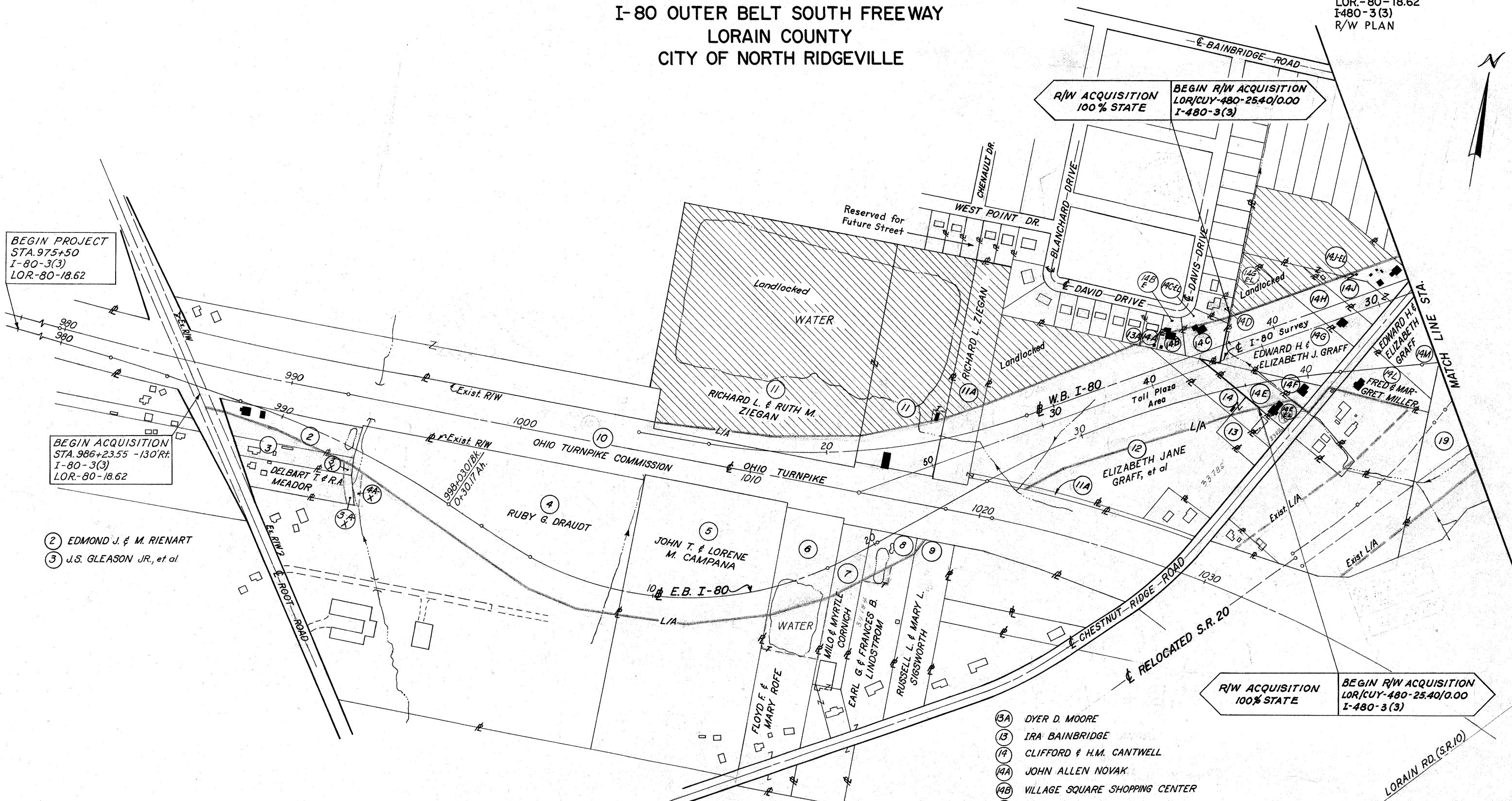
### CITY OF NORTH RIDGEVILLE

Job No.	FED. RD. DIVISION	STATE	PROJECT
03653(0)	2	OHIO	I-480-3(4)153

358  
375

LORAIN COUNTY  
LOR.-80-18.62  
I-480-3(3)  
R/W PLAN

4  
21



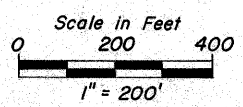
BEGIN PROJECT  
STA. 975+50  
I-80-3(3)  
LOR-80-18.62

BEGIN ACQUISITION  
STA. 986+23.55 -130' R/L  
I-80-3(3)  
LOR-80-18.62

- ② EDMOND J. & M. RIENART
- ③ J.S. GLEASON JR., et al

- ⑬A DYER D. MOORE
- ⑬B IRA BAINBRIDGE
- ⑭ CLIFFORD & H.M. CANTWELL
- ⑭A JOHN ALLEN NOVAK
- ⑭B VILLAGE SQUARE SHOPPING CENTER
- ⑭C DONALD F. & P.J. KISER
- ⑭D DONALD C. YATES
- ⑭E ROLAND R. & J. HIRSCH
- ⑭F ELIZABETH J. & E. GRAFF
- ⑭G EDWARD H. & E.J. GRAFF
- ⑭H RAYMOND J. & D.J. GREGA
- ⑭J EMANUEL C. & R.M. GOTTWALD

R/W ACQUISITION 100% STATE  
BEGIN R/W ACQUISITION LOR/CUY-480-25.40/0.00 I-480-3(3)



NAME	REVISION	DATE
J.R.Y.	Added 14E-EL	3-14-73
J.R.Y.	Added Type Funds Delineators	4-3-73



Job No.	FED. RD. DIVISION	STATE	PROJECT
03653(0)	2	OHIO	I-480-3(4)153

LORAIN COUNTY  
LOR-80-18.62  
I-480-3(3)  
R/W PLAN

# PROPERTY MAP

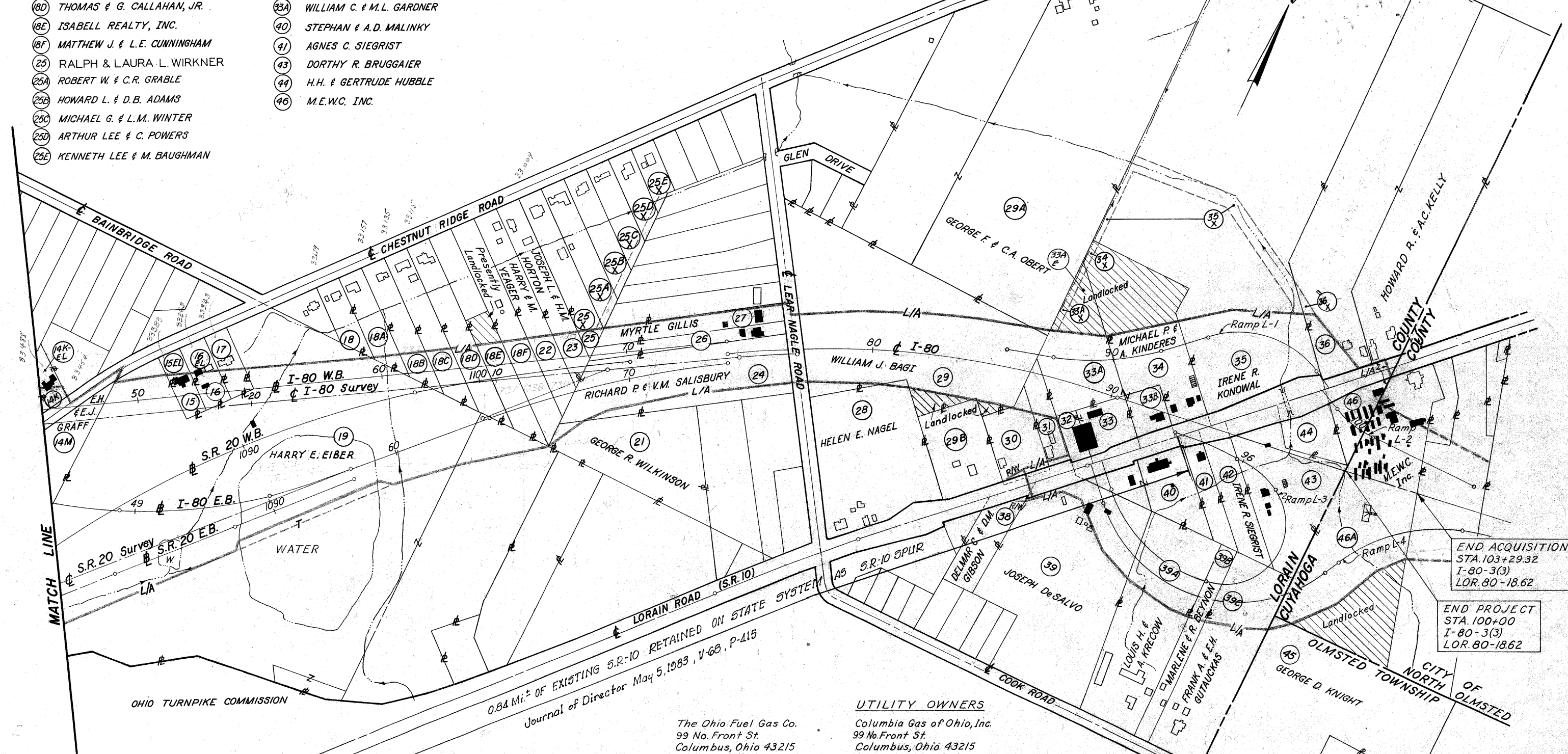
## I-80 OUTER BELT SOUTH FREEWAY

### LORAIN COUNTY

#### CITY OF NORTH RIDGEVILLE

- PAR. NO. NAME
- (15) JAMES R. & M.L. FOOR
  - (16) MARY E. PALMER
  - (17) ARTHUR E. & A.M. DAY
  - (18A) GEORGE F. & M.E. LENZER
  - (18B) LOUIS & V. CHARLES, JR.
  - (18C) JAMES R. & D.E. BUSH
  - (18D) THOMAS & G. CALLAHAN, JR.
  - (18E) ISABELL REALTY, INC.
  - (18F) MATTHEW J. & L.E. CUNNINGHAM
  - (25) RALPH & LAURA L. WIRKNER
  - (25A) ROBERT W. & C.R. GRABLE
  - (25B) HOWARD L. & D.B. ADAMS
  - (25C) MICHAEL G. & L.M. WINTER
  - (25D) ARTHUR LEE & C. POWERS
  - (25E) KENNETH LEE & M. BAUGHMAN

- (26) BERT D. & B.M. SPICE
- (29B) MARVIN H. & V. CALHOUN
- (30) RUTH E. & M.P. POHLE
- (31) JAMES B. & R.G. DALLAPIAZZA
- (32) DONALD M. GARDNER
- (33) WILLIAM C. GARDNER
- (33A) WILLIAM C. & M.L. GARDNER
- (40) STEPHAN & A.D. MALINKY
- (41) AGNES C. SIEGRIST
- (43) DORTHY R. BRUGGAIER
- (44) H.H. & GERTRUDE HUBBLE
- (46) M.E.W.C. INC.



END ACQUISITION  
STA. 103+29.32  
I-80-3(3)  
LOR. 80-18.62

END PROJECT  
STA. 100+00  
I-80-3(3)  
LOR. 80-18.62

0.84 Mi.² OF EXISTING S.R.10 RETAINED ON STATE SYSTEM  
Journal of Director May 5, 1983, V-68, P-415

The Ohio Fuel Gas Co.  
99 No. Front St.  
Columbus, Ohio 43215

Ohio Edison Co.  
47 North Main St.  
Akron, Ohio

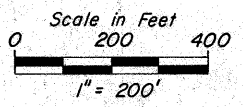
UTILITY OWNERS  
Columbia Gas of Ohio, Inc.  
99 No. Front St.  
Columbus, Ohio 43215

Cleveland Electric Illuminating Co.  
Illuminating Bldg.  
Public Square  
Cleveland, Ohio 44113

Elyria Telephone Co.  
363 Third St.  
Elyria, Ohio

American Telephone & Telegraph  
One North Wacker Drive  
Chicago, Illinois 60606

Water Lines  
City of North Ridgeville  
Center Ridge Road  
North Ridgeville, Ohio



NAME	REVISION	DATE
25	NAME CHANGE	12-5-73
J.E.C.	Added Retention info. S.R.10 Spur.	5-27-83

# SUMMARY OF ADDITIONAL RIGHT OF WAY REQUIRED

TOTAL OWNERSHIPS 71 TOTAL OWNERSHIPS WITH BUILDINGS TO BE REMOVED 26  
 TOTAL TAKES 12 TOTAL TAKES WITH BUILDINGS 9

PARCEL NO.	OWNER	AUD. NO. *	TYPE FUNDS	RECORDED		DEED AREA	TOTAL P.R.O.	TOTAL TAKE	P.R.O. IN TAKE	NET TAKE		LEFT RESIDUE		RIGHT RESIDUE		SHEET NO.	REMARKS
				BOOK	PAGE					LAND	BLDG.	NET	P.R.O.	NET	P.R.O.		
1	Not Used																
2WL	Edmund J. & Mary Reinart	015-110-007	S	415	408	89,970(c)	11,213	59,885	3,891	55,994	Yes		22,763	7,322	8,9		
3WL	J.S. Gleason, Jr.; Admin. of Vet. Affairs	015-110-008	S	795	726	43,559(c)	4,916	2,409		2,409	No		36,234	4,916	9		
3X	J.S. Gleason, Jr.; Admin. of Vet. Affairs	015-110-008	S	795	726			549		549							
4WL	Ruby G. Droudt	015-110-010	S	726	341	36,854(c)	0.71	12.27		12.27			23.87	0.71	9,10		* Deed Area = 35.34 Ac.
4X	" "	"	S	"	"			0.14		0.14							Channel
5WL	John T. & Lorene M. Campana	015-110-011	S	728	597	17,454(c)	0.09	8.27		8.27			9.09	0.09	10		Channel
3A-X	Delbart T. & Ruby A. Meador	015-110-009	S	1025	699	65,341(c)	6,699	3,708		3,708			58,642	6,699	9		Channel
6WL	Floyd F. & Mary Rofe	015-110-017	S	489	487	6.78 Ac.	0.42	2.39		2.39			3.97	0.42	10		* Actual (Calc.)
6T	" "	"	S	"	"			1.17		1.17							Fill Lake
7WL	Milo & Myrtle Cornich	015-110-018	S	797	524	119,914(c)	7,186	31,568		31,568			81,160	7,186	"		
8WL	Earl G. & Frances B. Lindstrom	015-110-019	S	616	481	5.47 Ac.	0.27	0.81		0.81			4.39	0.27	10,11		
8T	" "	"	S	"	"			0.11		0.11							Fill Lake
9WL	Russell L. & Mary L. Sigsworth	015-110-022	S	917	276	116,613(c)	5,459	1,526		1,526			109,628	5,459	11		
10	Ohio Turnpike Commission														8-11		No Easements Required
11WL	Richard L. & Ruth M. Ziegan	015-110-024	S	833	100/102	2751 Ac.		2.83		2.83	Yes	24.68			10,11		Lt. Residue Landlocked
11T	" "	"	S	"	"			0.05		0.05					11		Remove Building
11A-WL	Richard L. Ziegan	015-110-020	S	849	520	158,047(c)	568	49,282		49,282	No	94,873	13,324	568	11		Lt. Residue Landlocked
12WL	Elizabeth Jane Graff, et al	010-106-038	S	1003	23	15,564(c)	0.20	8.18		8.18			4.69	0.20	11,12		Lt. Residue Landlocked
13A-WL	Dyer D. Moore	010-105-018	S	976	405	11,250(c)									11		No R/W Required
14WL	Clifford & Helen M. Cantwell	101-106-023	S	834	511	60,219(c)	3,000	38,884		38,884	Yes		18,335	3,000	11,13		
14A-WL	John Allen Novak	010-105-017	S	1036	855	11,250(c)		2,860		2,860	No	8,390			11		
14B-WL	Frank K. & Mildred L. Imler	010-105-016	S	1087	484	14,900(c)		9,336		9,336	Yes	5,564			11,13		
14B-EL	" "	"	S	"	"			5,564		5,564							
14B-T	" "	010-105-016	S	"	"			2,626		2,626							Remove Building
14B-U	" "	"	S	"	"			2,410		2,410							For Utility Lines
14C-WL	Donald F. & Phyllis J. Kiser	010-105-015	S	930	905	33,059(c)		26,127		26,127		6,932			13		
14C-EL	" "	"	S	"	"			6,932		6,932							
14C-T	" "	"	S	"	"			1,315		1,315							Remove Building
14D-WL	Donald C. Yates	010-105-014	S	994	608	14,108(c)		602		602	No	13,506			13		
14E-WL	Roland R. & Jacquelyn Hirsch	010-106-034	I	1002	773	44,894(c)	3,581	31,533		31,533	Yes		9,780	3,581	12,13		* Deed Area = 50,530 S.F.
14E-T	" "	"	I	"	"			4,933		4,933							Remove Building
14F-WL	Elizabeth J. & Edward Graff	010-106-033	I	982	985	0.475 Ac.	0.092	0.475	0.092	0.383							Total Take
14G-WL	Edward H. & Elizabeth J. Graff	010-106-020	I	478	360	4.24 Ac.	0.15	3.41	0.15	3.26	No	0.83					Lt. Residue Landlocked
14G-EL	" "	"	S	"	"			0.83		0.83							
14H-WL	Raymond J. & Dorothy J. Grega	010-106-019	I	988	962	65,088(c)	3,750	41,523	3,750	37,773	Yes	23,565 (LL)			12,13		" "
14H-EL	" "	"	S	"	"			23,565	0	23,565	No	0			13		" "
14J-WL	Emanuel C. & R.M. Gottwald	010-106-017	I	815	82	4.83 Ac.	0.19	1.33	0.19	1.14	Yes	3.50			13		" "
14J-EL	" "	"	S	"	"			3.50	0	3.50							" "
14J-T	" "	"	I	"	"			0.01		0.01							Remove Building
14K-WL	Lloyd C. & Ruth M. Levitt	010-106-016	I	898	363	23,921(c)	2,751	9,358	2,751	6,607	Yes	14,563			13		
14K-EL	" "	"	S	"	"			14,563		14,563							
14L-WL	Fred L. & Margaret E. Miller	010-107-006	I	509	295	1,333 Ac.	0.171	1,333	0.171	1,162	Yes				12,13		Total Take
14M-WL	Edward H. & Elizabeth J. Graff	010-106-020	I	478	360	2,960(c)	0.469	2,960	0.469	2,491	No						" "
15 WL	James Ronald & Mable Lynn Foor	010-107-018	I	976	47	27,000(c)	2,700	15,399		15,399	Yes	8,901	2,700		15		
15 EL	" "	"	S	"	"			11,601		11,601							
15-T	" "	"	I	"	"			442		442							Remove Building
16WL	Mary E. Palmer	010-107-017	I	837	233	33,000(c)	3,300	14,934		14,934	Yes	14,766	3,300		15		
16T	" "	"	I	"	"			1,506		1,506							Remove Building
17WL	Arthur E. & Alice M. Day	010-107-019	I	976	686	30,000(c)	3,000	9,867		9,867	No	17,133	3,000		"		
18	Not Used																
18A-WL	George F. & M.E. Lenzer	009-121-006	I	783	366	45,665(c)	3,000	4,599		4,599		38,066	3,000		15		
18B-WL	Louis & V. Charles, Jr.	009-121-005	I	771	515	57,861(c)	3,000	13,797		13,797		41,064	3,000		15,16		
18C-WL	James R. & D.E. Bush	009-121-004	I	702	353	70,057(c)	3,000	22,996		22,996		44,061	3,000		16		
18D-WL	Thomas & G. Callahan, Jr.	009-121-003	I	551	60	82,356(c)	3,000	32,298		32,298		47,058	3,000		"		
18E-WL	Isabell Realty, Inc.	009-121-010	I	834	280	54,784(c)		41,729		41,729		13,055			"		Presently Landlocked
18F-WL	Matthew J. & Lorraine E. Cunningham	009-121-001	I	913	361	96,090(c)	3,000	40,063		40,063		53,027	3,000		"		
19WL	HARRY E. EIBER	010-107-003	I	1032	688	53,564(c)	0.24	26.76		26.76	Yes	2.10	0.24	24.46	12,16		
19WL	" "	010-107-003	I	"	"												
19T	" "	003-101-003	I	"	"			0.48		0.48					14		Construct Embankment
19T-1	" "	010-107-003	I	"	"			0.04		0.04					12		Construct Ditch
14E-EL	Roland R. & Jacquelyn Hirsch	010-106-034	S	1002	773			13,961	3,581	9,780		0	0		12,13		Excess parcel split by survey dated 5-10-2006 Sold 8/9/2006 Instrument # 2006058570

\* Parcel 13 Not Used  
 \* Parcel Added At End of Summary

Job No.	FED. RD. DIVISION	STATE	PROJECT
03653 (0)	2	OHIO	I-480-3(4)153

360  
375

LORAIN COUNTY  
 LOR-80-18.62  
 R/W PLAN

6  
21

I-480-3(3)

ITEM 607 FENCE				
Sht. No.	Side	Station to	Station	Type CL-LL
8	Rt.	985+18	989+00	356
9	Rt.	989+00	1003+00	1,500
10	Lt.	1005+42	1013+00	849
10	Rt.	1003+00	1017+00	1,523
11	Lt.	1013+00	39+00	1,493
10&11	Rt.	1013+50	39+00	1,603
12	Lt.	39+00	37+05	195
13	Rt.	39+00	37+10	178
Total-100% State-(Carried to Gen. Sum) 7,697				
12	Lt.	37+05	25+00	1,286
13	Rt.	37+10	25+00	1,642
14	Rt.	1084+50	1096+25	1,269
15	Rt.	25+00	13+62	1,135
16	Lt.	13+63	0+51.34	1,311
16	Rt.	13+63	0+51.34	1,348
17	Lt.	74+11.39	86+00	1,440
17	Rt.	74+11.39	86+00	1,210
18	Rt.	85+90	100+00.00	3,146
19	Lt.	85+90	100+00.00	1,500
20	Lt.	100+83	105+70	619
20	Rt.	99+50	106+29	814
Total Interstate-(Carried to Gen. Sum) 16,391				
<b>Grand Total 24,088</b>				

NOTE:  
 \* All Properties Are Located In Ridgeville Township, Lorain County. The First Three Numbers (7-00) Are Omitted From The Auditor's Number.

LEGEND  
 Ac = Acres  
 (c) = Calculated (Sq. Ft.)  
 I = Interstate  
 S = State

S.L.R.	Added Sale of 14E-EL	9-14-06
J.R.Y.	Added 14H-EL	10-10-78
J.R.Y.	Added 14E-EL	3-4-78
J.R.Y.	Re-Added 14J-1, 14K-1, 15T & Added 14G-EL	1-3-73
"	Added 16-EL & State Funds	"
"	Name Change Par. 14B-WL & 19-WL	2-28-73
E.L.H.	Deleted 14J-T, Added 14JEL	5-9-72
E.L.H.	Deleted 15T Added 15EL	4-18-72
J.A.	Parcel 14D-WL Name Change	6-23-71
J.A.	Revisions as per Div. #3 7-19 Letter	7-27-71
J.R.Y.	Par. 14H-WL Name	

# SUMMARY OF ADDITIONAL RIGHT OF WAY REQUIRED

PARCEL NO.	OWNER	AUD. NO. *	TYPE FUNDS	RECORDED		DEED AREA	TOTAL P.R.O.	TOTAL TAKE	P.R.O. IN TAKE	NET TAKE		LEFT RESIDUE		RIGHT RESIDUE		SHEET NO.	REMARKS
				BOOK	PAGE					LAND	BLDG.	NET	P.R.O.	NET	P.R.O.		
20	Not Used	003-102-026		778	111												
21WL	George R. aka George Russell Wilkinson	004-109-027	I	913	910	46.78Ac.	1.26	0.11		0.11	No			45.41	1.26	16	* Taxed on
22WL	Harry & Mary Yeager	004-109-012	I	327	330	87,588(c)	3,000	28,617		28,617	No	55,971	3,000				
23WL	Joseph L. & Hazel M. Horton	004-109-011		688	91	79,085(c)	3,000	17,170		17,170	"	58,915	3,000				
24WL	Richard P. & Vesta M. Salisbury	004-109-022		925	626	5.02Ac.	0.16	4.10	0.13	3.97	"			0.89	0.03	16,17	* Deed Area = 5.31 Ac.
25WL	RALPH & LAURA L. WIRKNER	004-109-010		1026	687	70,583(c)	3,000	5,723		5,723	"	61,860	3,000			16	
25X	"	"		"	"	"	"	1,199		1,199	"					21	Channel
25A-X	Robert W. Jr. & Catherine R. Grable	004-109-009		991	778	62,081(c)	"	5,250		5,250	"	59,081	"			"	"
25B-X	Howard L. & Dora B. Adams	004-109-008		725	214	53,579(c)	"	"		"	"	50,579	"			"	"
25C-X	Michael G. & Lynn M. Winter	004-109-007		993	64	45,077(c)	"	"		"	"	42,077	"			"	"
25D-X	Arthur Lee & Charlene Powers	004-109-006		880	28	36,574(c)	"	"		"	"	33,574	"			"	"
25E-X	Kenneth Lee & Marcella Baughman	004-109-005		857	59	28,443(c)	"	3,051		3,051	"	25,443	"			"	"
26WL	Bert D. & Beatrice May Spice	004-109-021		493	31	1,000Ac.	0.036	1,000	0.036	0.964	Yes					16,17	Total Take
27WL	Myrtle Gillis	004-109-020		626	87	1,343 Ac.	0.052	1,343	0.052	1,291	Yes					"	"
28WL	Helen E. Nagel	004-108-008		750	701	6.72Ac.	1.01	0.05		0.05	No			5.66	1.01	17	
29WL	William J. Baqi	004-108-024		1014	226	12.63Ac.	0.56	6.83	0.20	6.63	"	4.79	0.32	0.65	0.05	17,18	Rt. Residue Landlocked = 0.40Ac.
29E-1	"	"		"	"	"	"	0.25	0.05	0.20	"	8	"	"	"	"	"
29E-2	"	"		"	"	"	"	0.31	0	0.31	"	"	"	"	"	"	"
29A-WL	George F. & Charles A. Obert	004-108-003		805	103	29.00Ac.	0.63	0.01		0.01	"	28.36	0.63	0	"	17,19	
29B-WL	Marvin H. & Virgine Calhoun	004-108-023		993	553	99,800(c)	11,230	120		120	"			88,450	11,230	17,18	
30WL	Ruth E. & M. Patricia Pohle	004-108-009		932	332	59,680(c)	3,000	4,063		4,063	"			49,777		18	
30WL-1	"	"		"	"	"	"	2,953	1,269	1,684	"					"	"
30WD	"	"		"	"	"	"	2,887	1,731	1,156	"					"	"
31WL	James B. & Richard G. Dallapiozza	004-108-010		904	307	38,969(c)	4,305	16,828		16,828	No			15,940		18	Rt. Residue Landlocked
31WL-1	"	"		"	"	"	"	6,201	4,305	1,896	"					"	"
32WL	Donald M. Gardner	004-108-012		450	377	"	"	"		"	Yes					18	Total Take
33WL	William C. Gardner	004-108-013		406	55	"	"	"		"	Yes					"	"
33A-WL	William C. & Marian L. Gardner	004-108-011		503	192	3.62Ac.	0.17	2.03	0.00	2.03	Yes	0.82				18,19	Lt. Residue Landlocked
33A-X	"	"		"	"	"	"	0.17		0.17	"					"	Channel
34WL	Michael P. & Ann Kenderes	004-108-014		654	530	4.65Ac.	0.17	2.36	0.17	2.19	"	2.29				19	Lt. Residue Landlocked
34X	"	"		"	"	"	"	0.06		0.06	"					"	Channel
35WL	Irene Rose Konowal	004-108-015		941	42	45.55Ac.	1.22	4.36	0.71	3.65	No	40.68	0.51			19	
35X	"	"		"	"	"	"	1.51		1.51	"					"	Channel
36WL	Howard R. & Anna C. Kelly	004-108-016		853	417	20.35 Ac.	0.29	0.77	0.24	0.53	"	19.53	0.05			19	
36X	"	"		"	"	"	"	0.09		0.09	"					"	Channel
37	Not Used																
38WD	Delmar C. & Dorothy M. Gibson	004-110-008		760	118	62,156 (c)	7,920	8,711	7,920	791	No			53,445		18	
39WL	Joseph DeSalvo	004-110-013		765	244	9.39Ac.	0.49	1.89	0.21	1.68	Yes			7.21	0.27	18	* Deed Area = 9.58 Ac.
39WD	"	"		"	"	"	"	0.02	0.01	0.01	"					"	
39A-WL	Louis H. & Adella Krecow	004-110-014		761	613	5.66Ac.	0.17	2.25		2.25	No			3.24	0.17	"	* Taxed on 5.65 Ac.
39B-WL	Marlene & Robert Beynon	004-110-015		960	230	53,465(c)	1,800	19,901		19,901	"			31,764	1,800	"	
39C-WL	Frank A. & Evelyn H. Gutauckas	004-110-016		678	301	4.92Ac.	0.17	1.61		1.61	"			3.14	0.17	"	
40WL	Stephan & Anna D. Malinky	004-110-017		517	330	"	"	"		"	Yes					18	Total Take
41WL	Agnes C. Siegrist	004-110-019		524	407	"	"	"		"	"					"	"
42WL	Irene Rose Siegrist	004-110-020		298	110	"	"	"		"	No					"	"
43WL	Dorothy R. Bruggaier	004-110-021		361	365	"	"	"		"	Yes					18,19	"
44WL	H.H. & Gertrude Hubble	004-110-022		784	536	1.24Ac.	0.32	1.24	0.32	0.92	No					19,20	"
45WL	George D. Knight	264-5-2		12377	659	11.22Ac.	0.36	0.06		0.06	"			10.80	0.36	18	Cuyahoga Co. Records
46WL	M.E.W.C., Inc.	004-110-023		924	385	47,259(c)	11,683	46,673	11,097	35,576	Yes			586		19,20	Deed Area = 1.07Ac.
46AWL	"	234-8-2		11806	785	9.02Ac.	0.16	5.88		5.88	"	0.91	0.16	2.07		20	Cuyahoga Co. Records - Rt. Res. LL.
46A-T	"	"	I	"	"	"	"	0.04		0.04	"					"	Remove Building
46A-T1	"	"	"	"	"	"	"	0.01		0.01	"					"	"
* 14K-T	Lloyd C. & Ruth M. Levitt	010-106-016	I	898	363	23,921(c)		4890		4890	"					13	Remove Building
* 16-EL	Mary E. Palmer	010-107-017	S	835	333	33,000(c)		18066		18066	"					15	
* 33B-WL	William C. & Marian L. Gardner	"	I	"	"	"		0.77	0.17	0.60	"					18,19	
33A-E	"	"	S	"	"	"		0.82			"	0		0		19	

INTERSTATE

\*NOTE:  
All Properties Are Located In  
Ridgeville Township, Lorain County.  
The First Three Numbers (7-00) Are  
Omitted From The Auditors Number.

LEGEND  
Ac. = Acres  
(c) = Calculated (S.F.)  
I = Interstate  
S = State

JA	Revisions as per Div #3 7-19 Letter	7-27-71
J.R.Y.	Par. 21 WL Deed Area Revised	6-7-71
J.R.Y.	Par. 35 WL Deed Area Revised	6-17-71
J.R.Y.	Par. 36 WL Deed Area Revised	8-20-71
J.R.Y.	Par. 29 Name Change & Deed Area	10-27-71
J.R.Y.	Re-Added Par. 14 K-T & Added Par. 16-EL	1-3-73
"	Added State Funds	"
E.L.H.	Rev. 33A-WL, Added 33 B-WL & 33A-E	10-4-72

\* Parcel Added At End of Summary

Sent to Appraisal Bureau 5-19-71

Job No.	FED. RD. DIVISION	STATE	PROJECT
03653 (0)	2	OHIO	I-480-3(4)153

362  
375

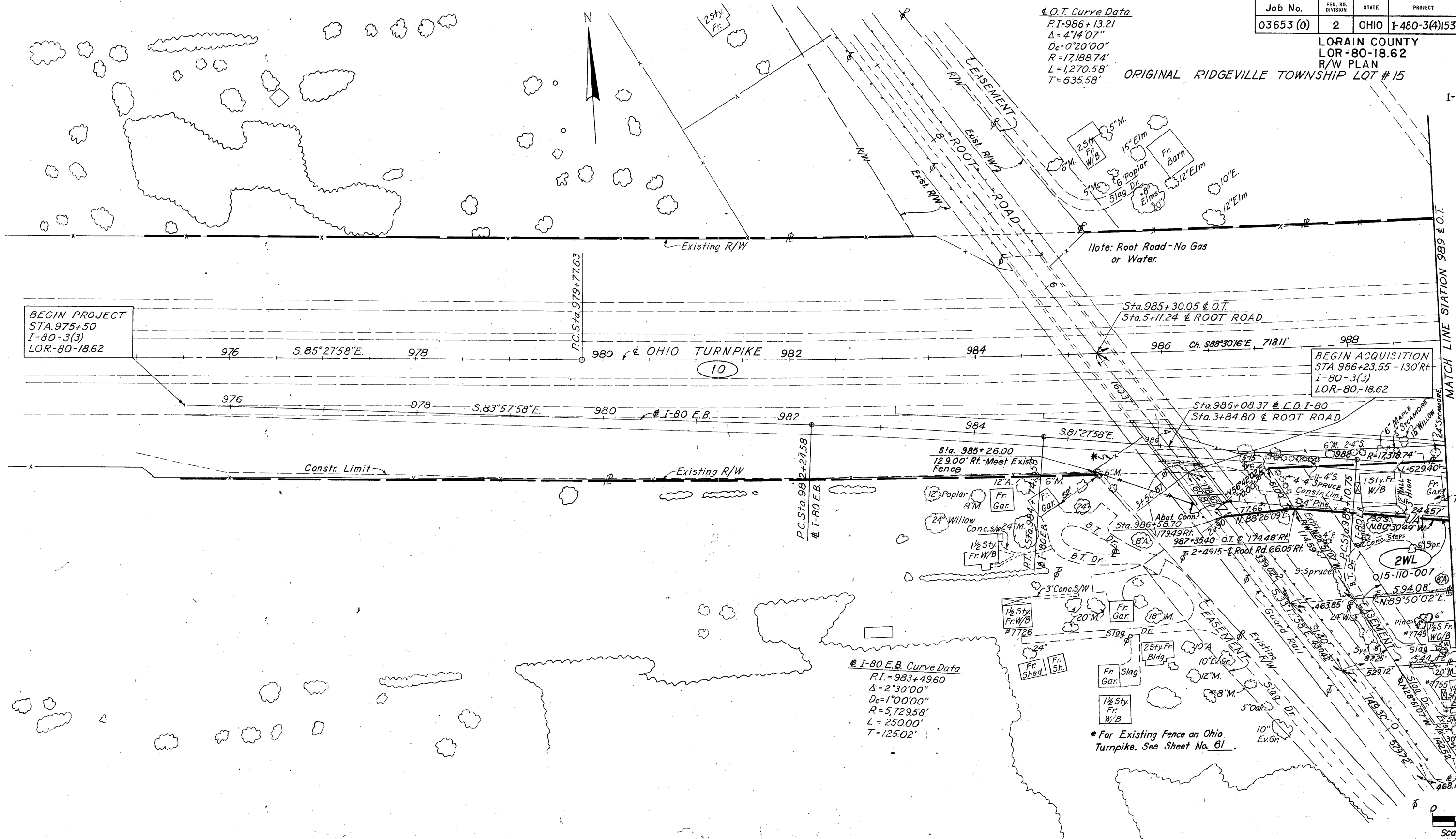
LORAIN COUNTY  
LOR-80-18.62  
R/W PLAN  
ORIGINAL RIDGEVILLE TOWNSHIP LOT #15

8  
21

I-480-3(3)

**± O.T. Curve Data**  
 P.I.=986+13.21  
 $\Delta=4^{\circ}14'07''$   
 $D_c=0^{\circ}20'00''$   
 $R=17,188.74'$   
 $L=1,270.58'$   
 $T=635.58'$

ORIGINAL RIDGEVILLE TOWNSHIP LOT #15



BEGIN PROJECT  
STA. 975+50  
I-80-3(3)  
LOR-80-18.62

Sta. 985+30.05 ± O.T.  
Sta. 5+11.24 ± ROOT ROAD

BEGIN ACQUISITION  
STA. 986+23.55 -130' R/  
I-80-3(3)  
LOR-80-18.62

Cont. 55,994 S.F.  
P.R.R. 3,891 S.F.  
Total 59,885 S.F.

\* For Existing Fence on Ohio Turnpike. See Sheet No. 61

Rev.		Date	Description
J.A.	7-27-71		Revisions as per Div. #3 7-19 Letter.

OHIO TURNPIKE R/W STA. 975+00 To STA. 989+00

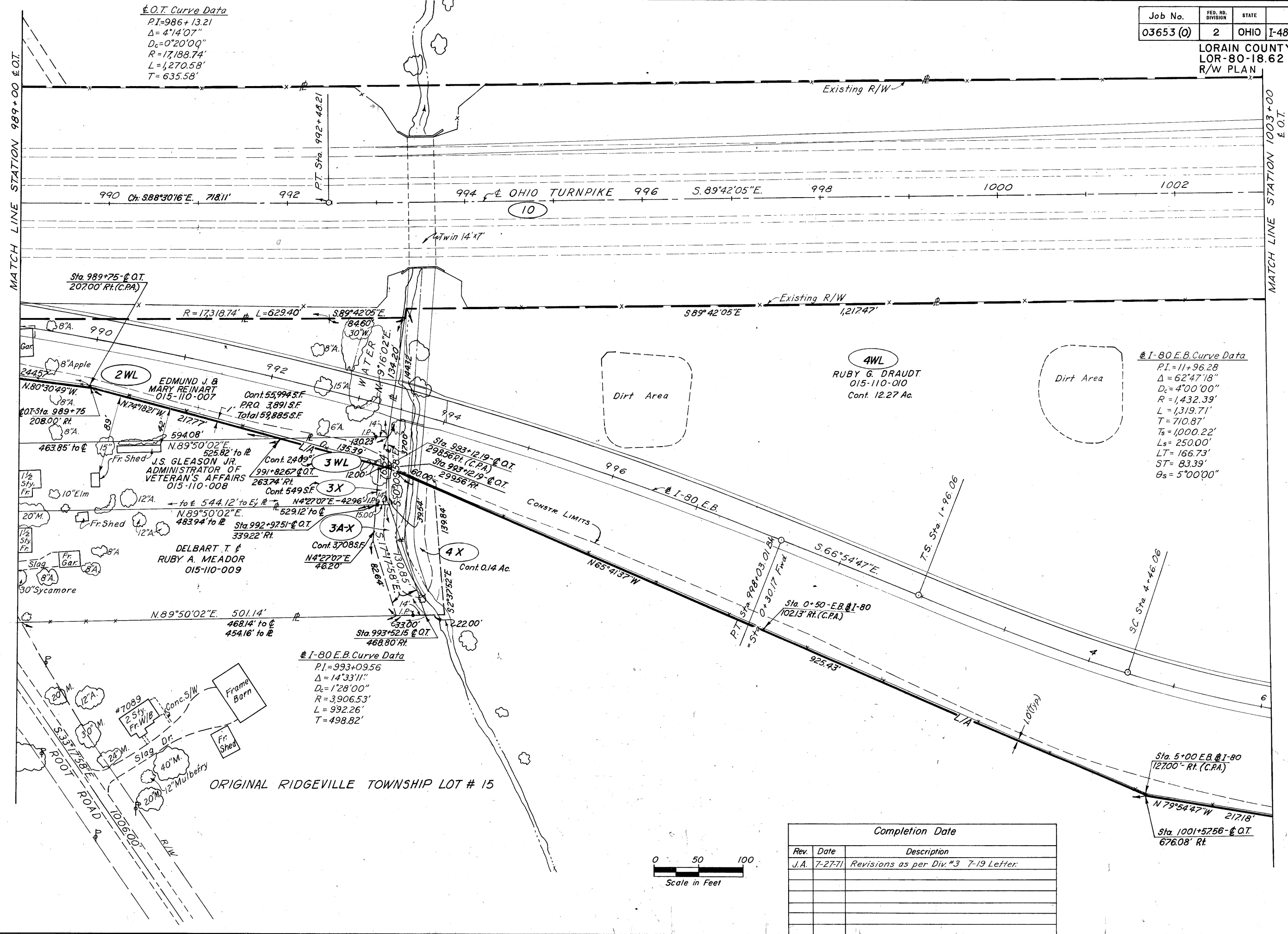
Job No.	FED. RD. DIVISION	STATE	PROJECT
03653 (0)	2	OHIO	I-480-3(4)153

363  
375

9  
21

LORAIN COUNTY  
LOR-80-18.62  
R/W PLAN

I-480-3(3)

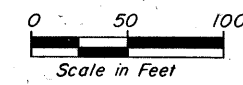


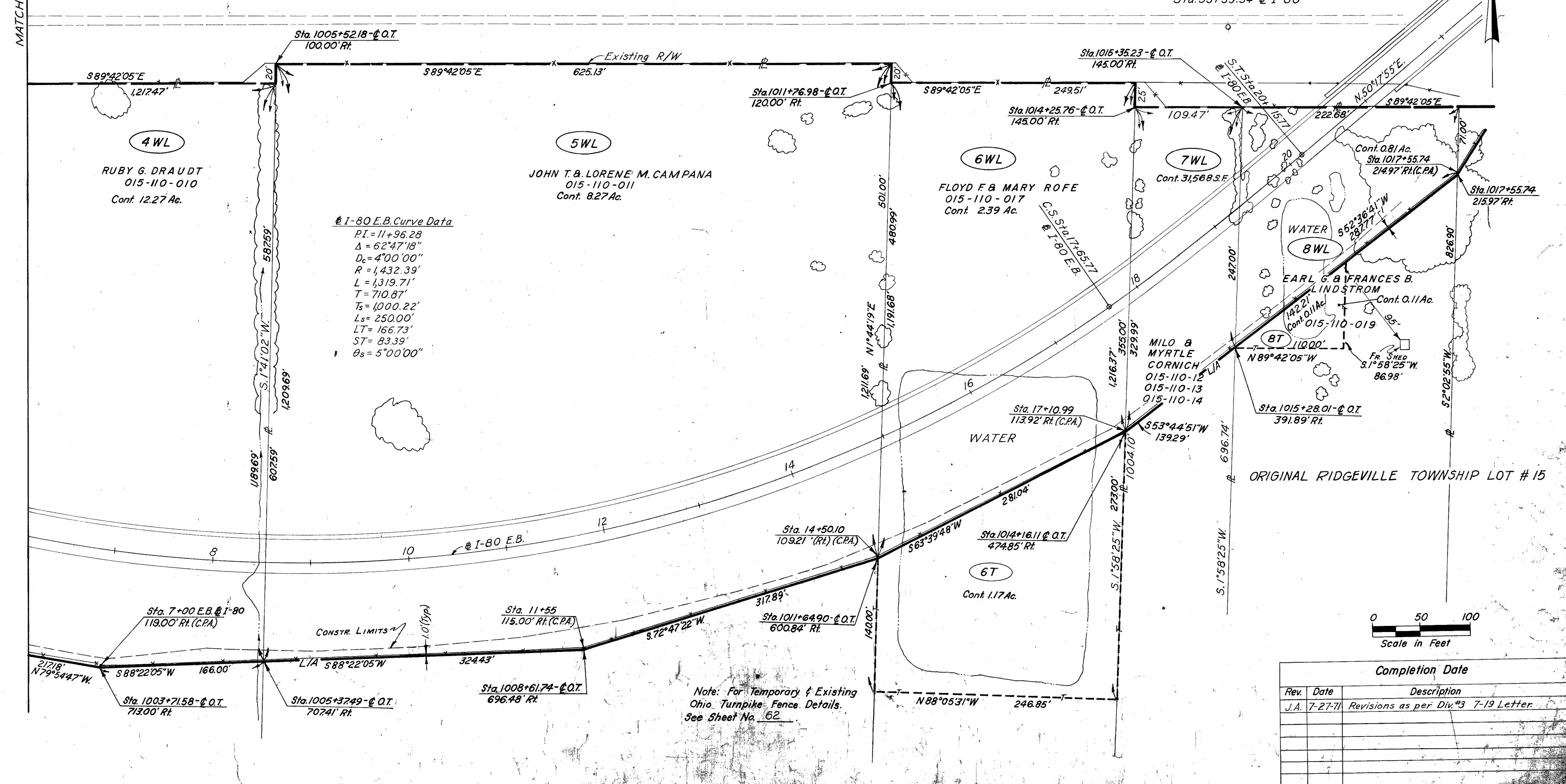
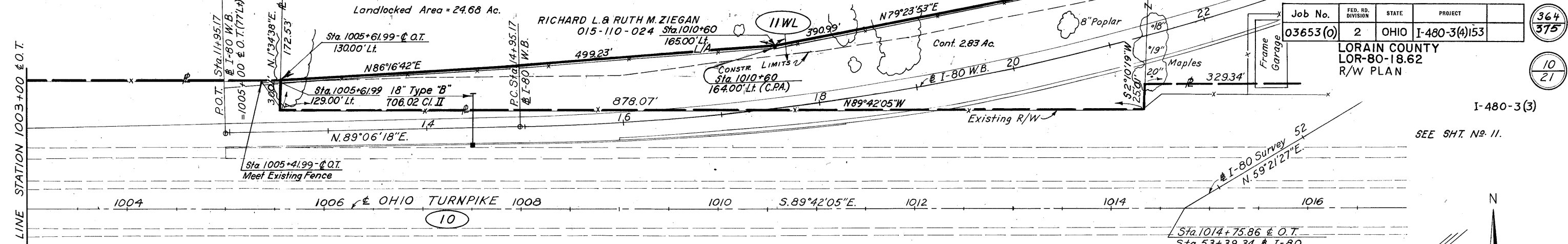
**± O.T. Curve Data**  
 P.I.=986+13.21  
 Δ=4°14'07"  
 D<sub>c</sub>=0°20'00"  
 R=17,188.74'  
 L=1,270.58'  
 T=635.58'

**± I-80 E.B. Curve Data**  
 P.I.=11+96.28  
 Δ=62°47'18"  
 D<sub>c</sub>=4°00'00"  
 R=1,432.39'  
 L=1,319.71'  
 T=710.87'  
 T<sub>s</sub>=1000.22'  
 L<sub>s</sub>=250.00'  
 LT=166.73'  
 ST=83.39'  
 θ<sub>s</sub>=5°00'00"

**± I-80 E.B. Curve Data**  
 P.I.=993+09.56  
 Δ=14°33'11"  
 D<sub>c</sub>=1°28'00"  
 R=3,906.53'  
 L=992.26'  
 T=498.82'

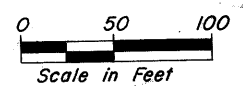
Rev.	Date	Description
J.A.	7-27-71	Revisions as per Div. #3 7-19 Letter.





**I-80 E.B. Curve Data**  
 P.I. = 11+96.28  
 Δ = 62°47'18"  
 D<sub>c</sub> = 4'00"00"  
 R = 1,432.39'  
 L = 1,319.71'  
 T = 710.87'  
 T<sub>s</sub> = 1,000.22'  
 L<sub>s</sub> = 250.00'  
 LT = 166.73'  
 ST = 83.39'  
 θ<sub>s</sub> = 5°00'00"

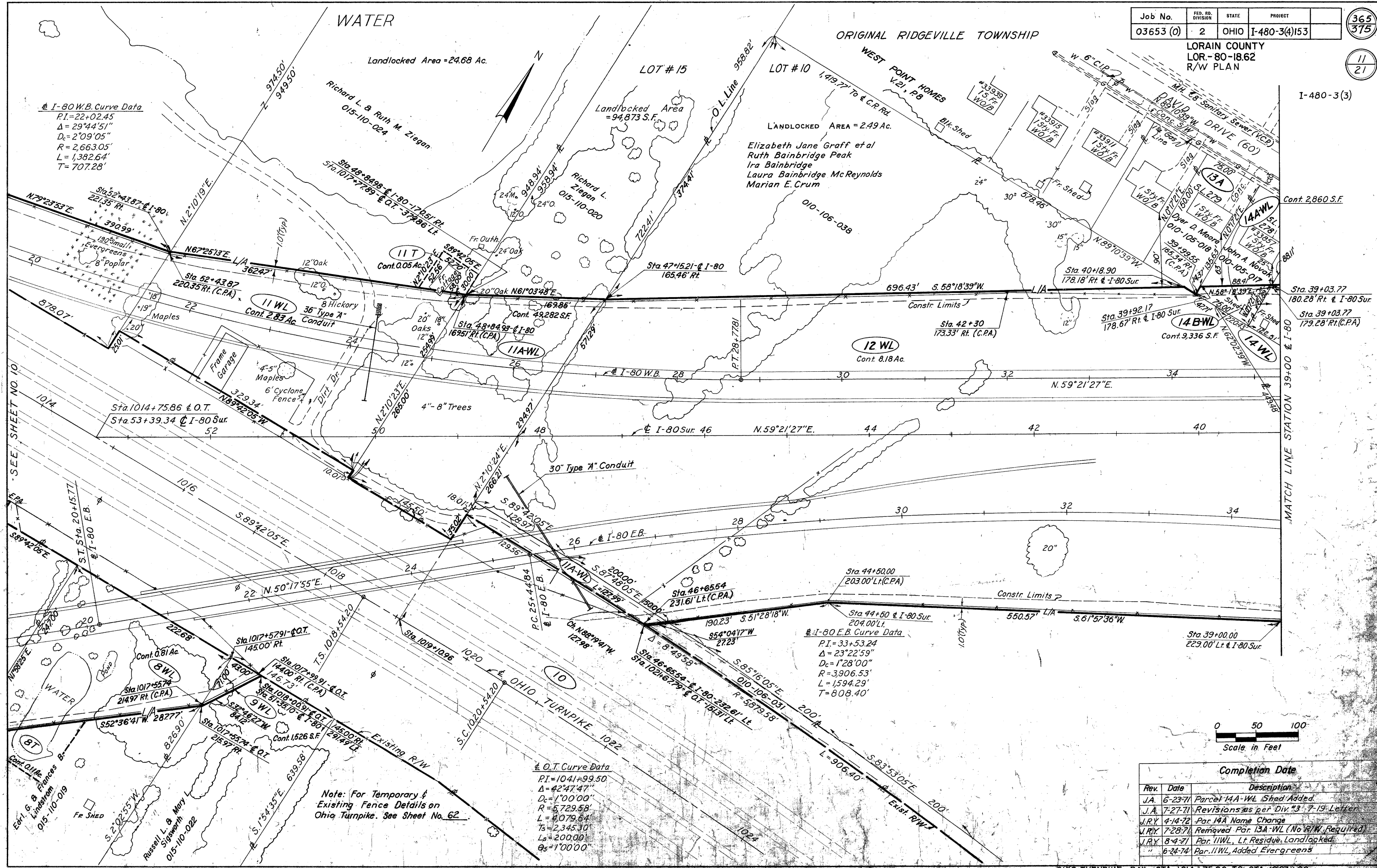
Note: For Temporary & Existing Ohio Turnpike Fence Details. See Sheet No. 62.



Rev.	Date	Description
J.A.	7-27-71	Revisions as per Div. #3 7-19 Letter

LORAIN COUNTY  
LOR-80-1862  
R/W PLAN

I-480-3(3)

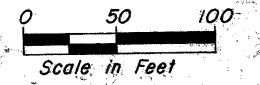


**I-80 W.B. Curve Data**  
 P.I. = 22+02.45  
 $\Delta = 29^{\circ}44'51''$   
 $D_c = 2^{\circ}09'05''$   
 $R = 2,663.05'$   
 $L = 1,382.64'$   
 $T = 707.28'$

**I-80 E.B. Curve Data**  
 P.I. = 33+53.24  
 $\Delta = 23^{\circ}22'59''$   
 $D_c = 1^{\circ}28'00''$   
 $R = 3,906.53'$   
 $L = 1,594.29'$   
 $T = 808.40'$

**O.T. Curve Data**  
 P.I. = 1041+99.50  
 $\Delta = 42^{\circ}47'47''$   
 $D_c = 1^{\circ}00'00''$   
 $R = 5,729.58'$   
 $L = 4,079.64'$   
 $T_s = 2,345.30'$   
 $L_s = 200.00'$   
 $\theta_s = 1^{\circ}00'00''$

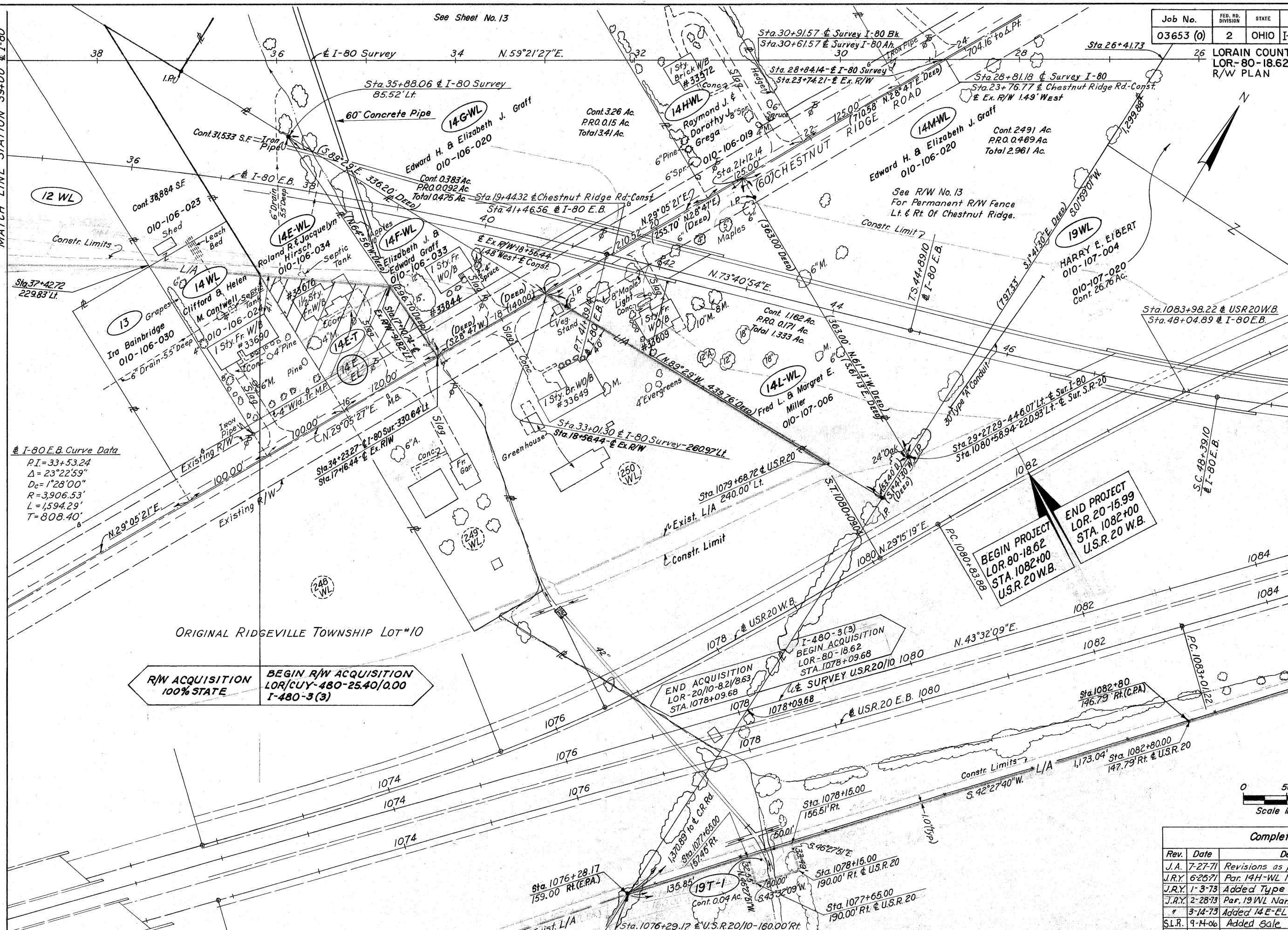
Note: For Temporary & Existing Fence Details on Ohio Turnpike. See Sheet No. 62



Rev.	Date	Description	Completion Date
J.A.	6-23-71	Parcel 14A-WL Shed Added	
J.A.	7-27-71	Revisions as per Div. 3-7-19 Letter	
J.R.Y.	4-14-72	Par. 14A Name Change	
J.R.Y.	7-28-71	Removed Par. 13A-WL (No R/W Required)	
J.R.Y.	8-4-71	Par. 11WL, Lt. Residue, Landlocked	
	6-24-74	Par. 11WL, Added Evergreens	

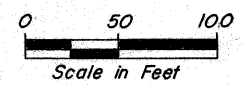
MATCH LINE STATION 39+00 & I-80

MATCH LINE STATION 25+00 & I-80



**R/W ACQUISITION 100% STATE**  
**BEGIN R/W ACQUISITION LOR/CUY-480-25.40/0.00 I-480-3(3)**

**BEGIN PROJECT LOR-80-18.62 STA. 1082+00 U.S.R. 20 W.B.**  
**END PROJECT LOR-20-15.99 STA. 1082+00 U.S.R. 20 W.B.**



Completion Date		
Rev.	Date	Description
J.A.	7-27-71	Revisions as per Div #3 7-19 Letter
J.R.Y.	6-25-71	Par. 14H-WL Name Change
J.R.Y.	1-3-73	Added Type Funds Delineators
J.R.Y.	2-28-73	Par. 19 WL Name Change
*	3-14-73	Added 14E-EL
S.L.R.	9-14-06	Added Scale 14E-EL - NOTE SURVEY PLAN SHEET



LOR-480-0.00  
 LORAIN COUNTY  
 CITY OF NORTH RIDGEVILLE  
 ORIGINAL RIDGEVILLE TOWNSHIP LOT 10  
 T-6-N, R-16-W



0 5 10 20  
 HORIZONTAL  
 SCALE IN FEET

PID NO.

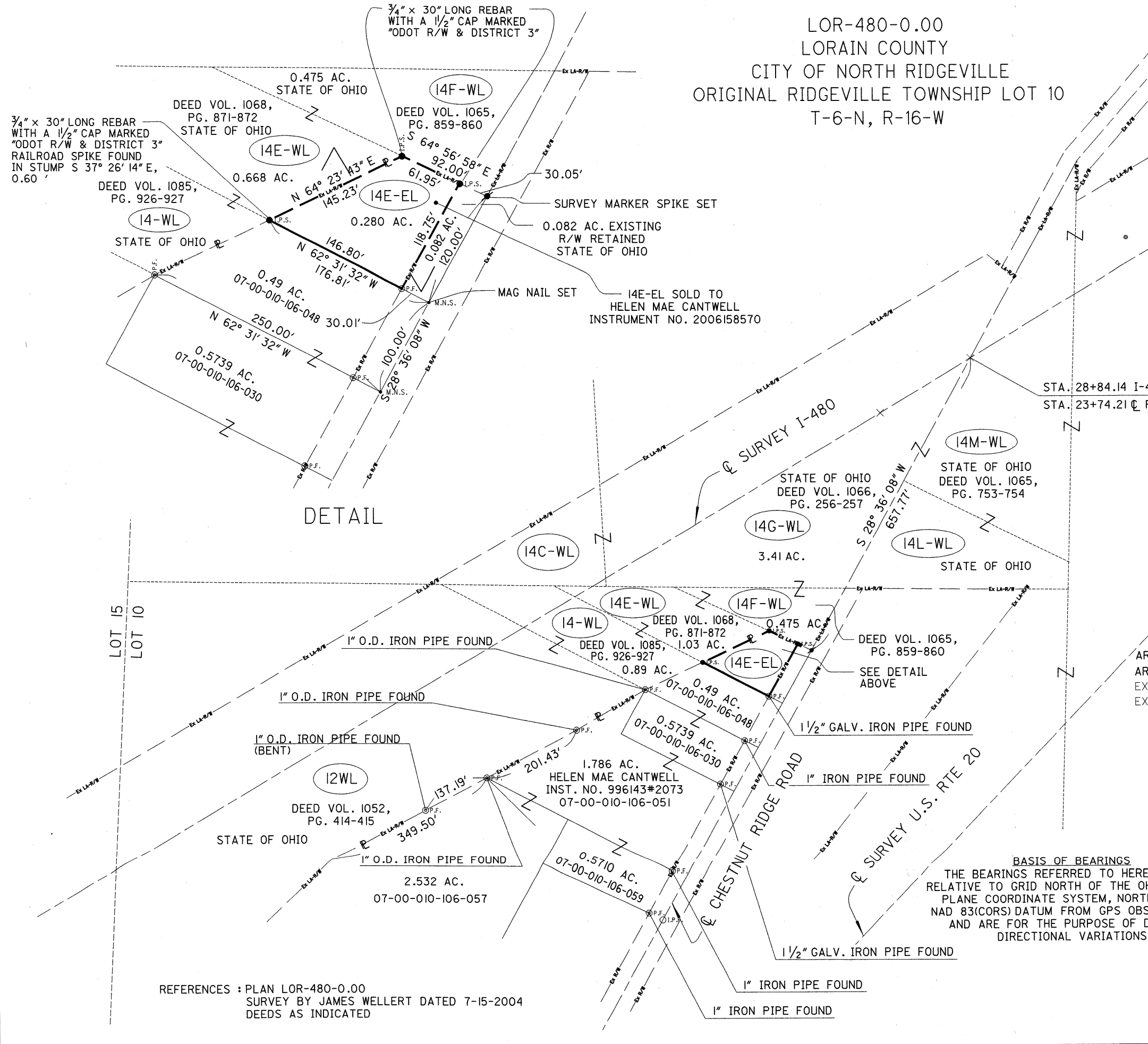
BY/REVISIONER  
 MGA  
 REVIEWER  
 JEK

**RIGHT OF WAY PLAN**  
**EXCESS LAND SALE PARCEL 14E-ES**

**LOR-480-0.00**

1/1

13A  
 21



3/4" x 30" LONG REBAR WITH A 1/2" CAP MARKED "ODOT R/W & DISTRICT 3"

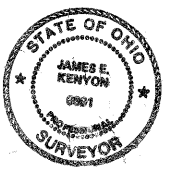
DEED VOL. 1068, PG. 871-872 STATE OF OHIO  
 0.475 AC.  
 DEED VOL. 1065, PG. 859-860 STATE OF OHIO  
 0.668 AC.  
 DEED VOL. 1085, PG. 926-927 STATE OF OHIO  
 0.280 AC.  
 STATE OF OHIO  
 0.49 AC.  
 07-00-010-106-048  
 0.5739 AC.  
 07-00-010-106-030

SURVEY MARKER SPIKE SET  
 0.082 AC. EXISTING R/W RETAINED STATE OF OHIO  
 MAG NAIL SET  
 14E-EL SOLD TO HELEN MAE CANTWELL INSTRUMENT NO. 2006158570

STA. 28+84.14 I-480 Q SURVEY  
 STA. 23+74.21 Q R/W CHESTNUT RIDGE ROAD

**MONUMENT LEGEND**  
 ○ R.F. RAILROAD SPIKE FOUND  
 ○ I.R.P. IRON PIN FOUND  
 ● I.P.S. IRON PIN SET ARE 3/4" BY 30" REBAR WITH 1/2" ALUMINUM CAP STAMPED "ODOT R/W & DISTRICT 3"  
 ⊙ I.P.F. IRON PIPE FOUND  
 ✱ SURVEY MARKER SPIKE SET  
 • M.N.S. MAG NAIL SET

AUDITOR PARCEL NUMBER 07-00-010-106-034  
 RECORD AREA = 1.03 ACRES DEED VOLUME 1068, PAGE 871-872  
 AREA TO BE SOLD = 0.280 AC. = 12,192 S.F.  
 AREA TO BE RETAINED = 0.082 AC. = 3,581 S.F.  
 EXISTING R/W (CHESTNUT RIDGE ROAD) = 0.082 AC. = 3,581 S.F.  
 EXISTING L/A R/W (I-480) = 0.668 AC. = 29,121 S.F.  
 1.030 AC TOTAL = 44,894 S.F.

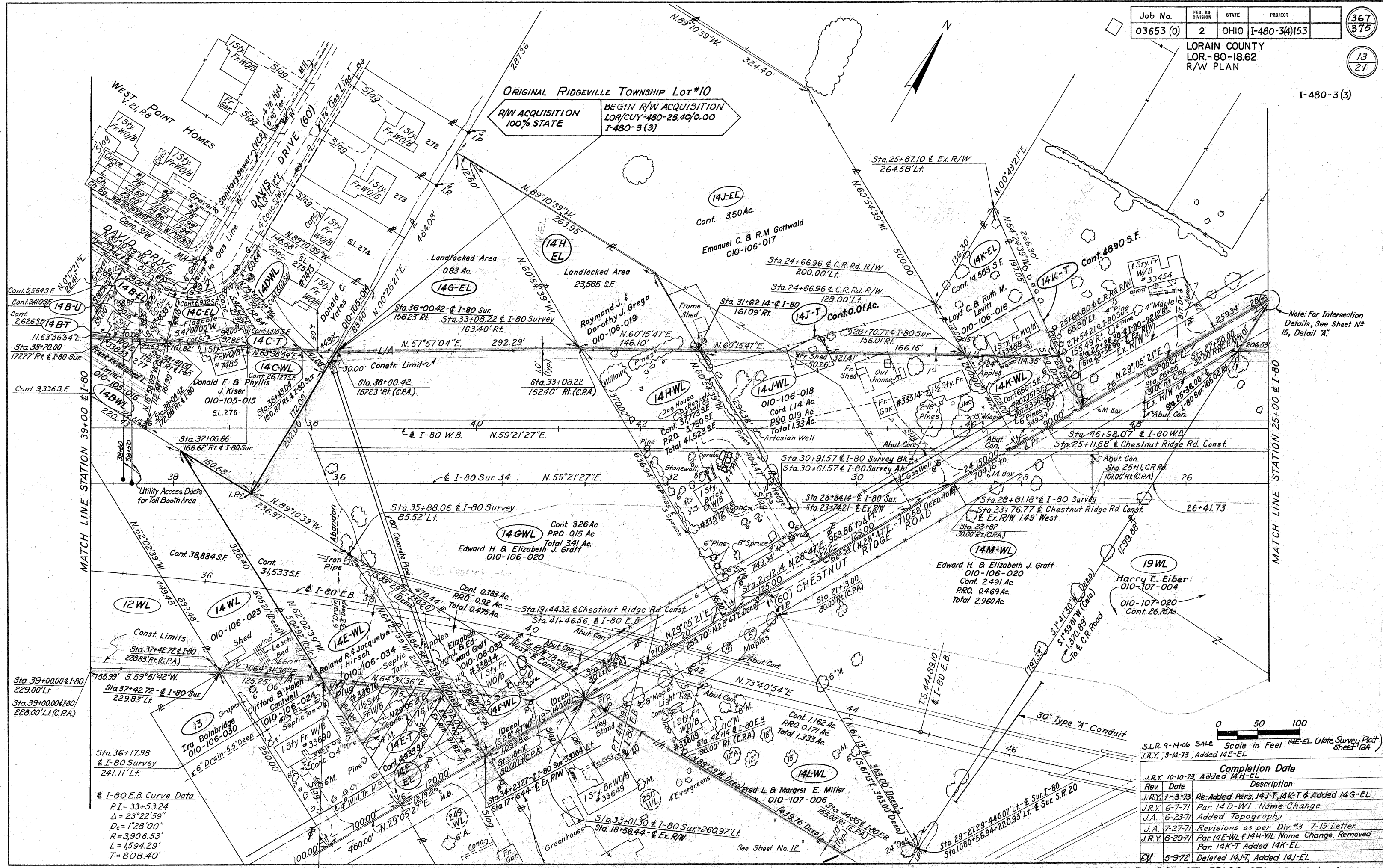


I HEREBY CERTIFY THAT THIS PLAT IS A TRUE DELINEATION OF A SURVEY MADE FOR THE OHIO DEPARTMENT OF TRANSPORTATION IN APRIL 2006 BY DISTRICT THREE SURVEY DEPARTMENT.  
 THE ESTABLISHMENT OF THE PROPERTY LINES AND EXISTING RIGHT OF WAY LINES SHOWN ON THIS PLAN AS OF THIS DATE WERE PERFORMED BY ME OR UNDER MY DIRECT SUPERVISION.  
 BY James E. Kenyon  
 JAMES E. KENYON  
 SURVEYOR NO. 6891 DATE MAY 10, 2006

**BASIS OF BEARINGS**  
 THE BEARINGS REFERRED TO HEREIN ARE RELATIVE TO GRID NORTH OF THE OHIO STATE PLANE COORDINATE SYSTEM, NORTH ZONE, NAD 83(CORS) DATUM FROM GPS OBSERVATIONS AND ARE FOR THE PURPOSE OF DEFINING DIRECTIONAL VARIATIONS

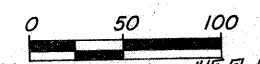
REFERENCES : PLAN LOR-480-0.00  
 SURVEY BY JAMES WELLERT DATED 7-15-2004  
 DEEDS AS INDICATED

REV. BY	DATE	DESCRIPTION
MGA	9-15-06	SALE OF PARCEL 14E-EL
DATE COMPLETED	5-10-2006	



ORIGINAL RIDGEVILLE TOWNSHIP LOT #10  
R/W ACQUISITION 100% STATE  
BEGIN R/W ACQUISITION LOR/CIY-480-25.40/0.00 I-480-3(3)

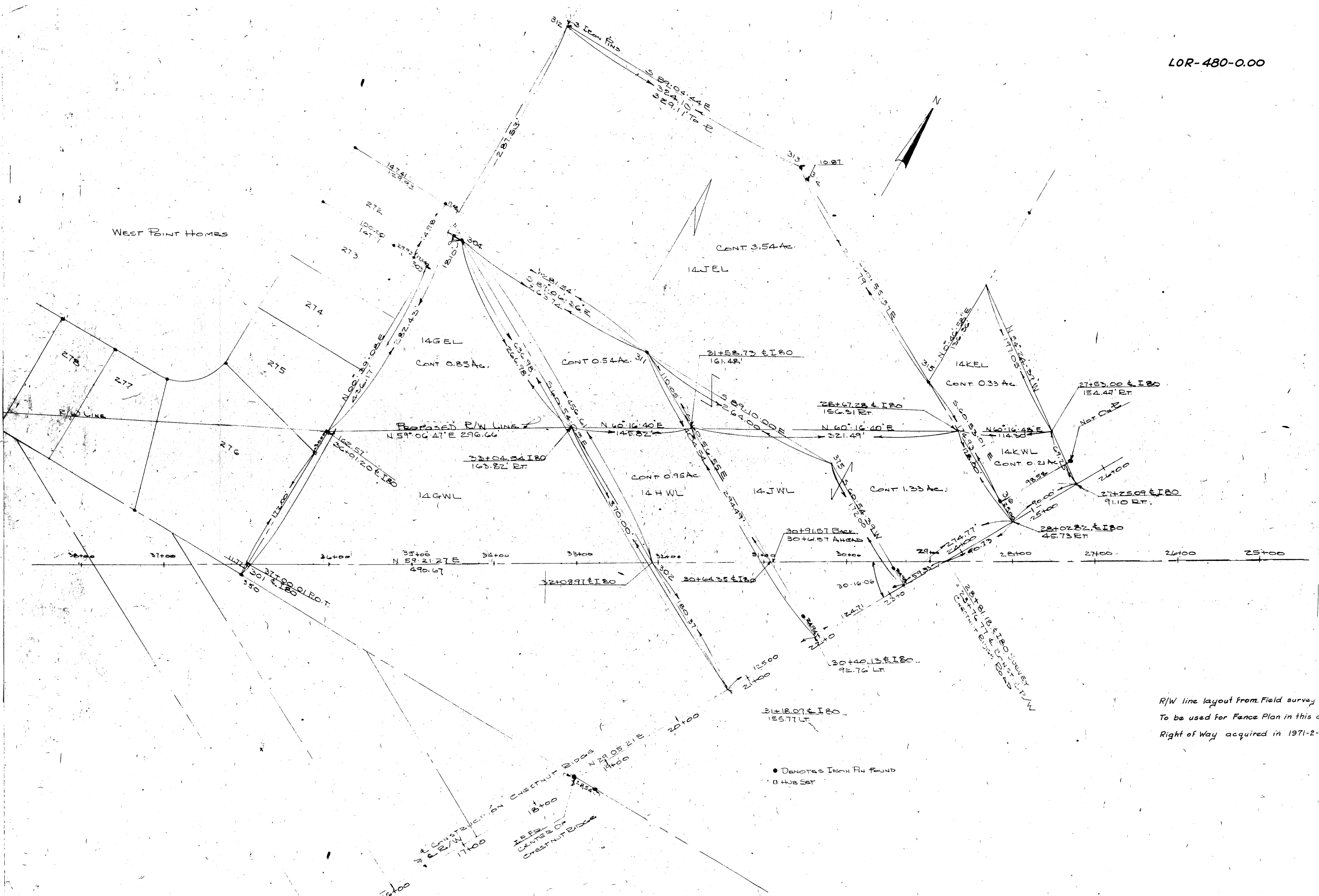
Note: For Intersection Details, See Sheet No. 15, Detail 'A'.



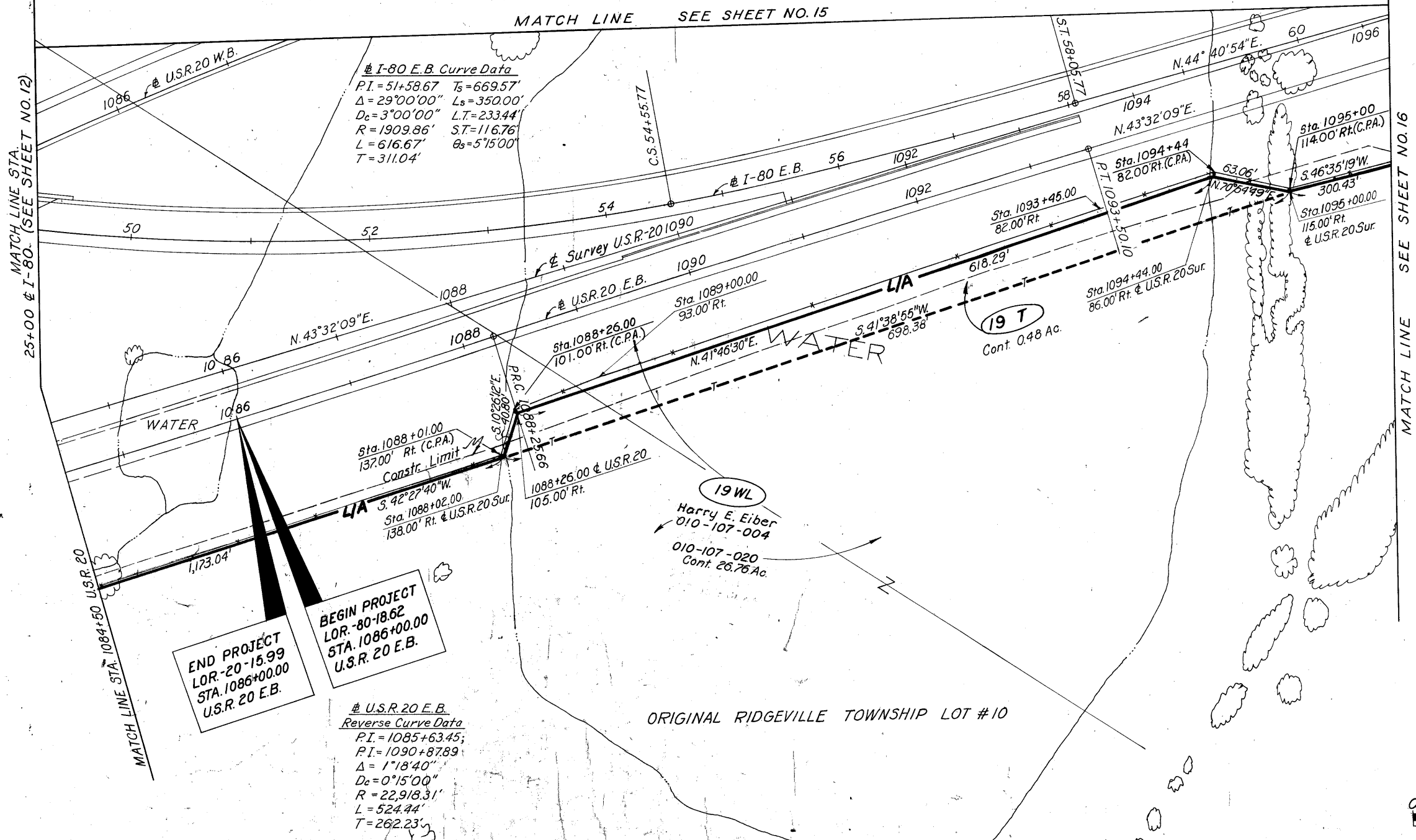
S.L.R. 9-14-06 SALE Scale in Feet 14E-EL (Note Survey Plat Sheet 13A)  
J.R.Y. 3-14-73, Added 14E-EL

Rev.	Date	Description
J.R.Y.	10-10-73	Added 14H-EL
J.R.Y.	7-3-73	Re-Added Pars. 14J-T, 14K-T & Added 14G-EL
J.R.Y.	6-7-71	Par. 14D-WL Name Change
J.A.	6-23-71	Added Topography
J.A.	7-27-71	Revisions as per Div. #3 7-19 Letter
J.R.Y.	6-29-71	Par. 14E-WL & 14H-WL Name Change, Removed
J.R.Y.	5-9-72	Deleted 14J-T, Added 14K-EL

**I-80 E.B. Curve Data**  
 PI = 33+53.24  
 Δ = 23°22'59"  
 Dc = 128'00"  
 R = 3,906.53'  
 L = 1,594.29'  
 T = 808.40'



R/W line layout from Field survey 1973  
To be used for Fence Plan in this area.  
Right of Way acquired in 1971-2-3



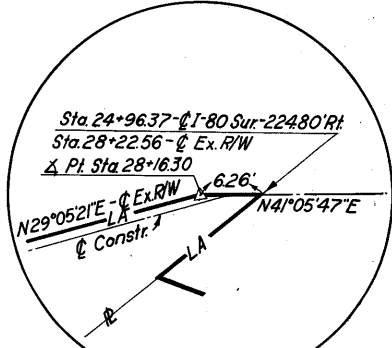
**I-80 E.B. Curve Data**  
 P.I. = 51+58.67 T<sub>s</sub> = 669.57'  
 Δ = 29°00'00" L<sub>s</sub> = 350.00'  
 D<sub>c</sub> = 3°00'00" L.T. = 233.44'  
 R = 1909.86' S.T. = 116.76'  
 L = 616.67' Θ<sub>s</sub> = 5°15'00"  
 T = 311.04'

**U.S.R. 20 E.B. Reverse Curve Data**  
 P.I. = 1085+63.45;  
 P.I. = 1090+87.89  
 Δ = 1°18'40"  
 D<sub>c</sub> = 0°15'00"  
 R = 22,918.31'  
 L = 524.44'  
 T = 262.23'

**END PROJECT**  
 LOR-20-15.99  
 STA. 1086+00.00  
 U.S.R. 20 E.B.

**BEGIN PROJECT**  
 LOR-80-18.62  
 STA. 1086+00.00  
 U.S.R. 20 E.B.

Rev. Date		Description	Completion Date
J.A.	7-27-71	Revisions as per Div. #3, 7-19 Letter.	
J.R.Y.	7-28-73	Par. 13 WL Name Change	



DETAIL 'A'

ORIGINAL RIDGEVILLE TOWNSHIP

LOT #10

LOT #9

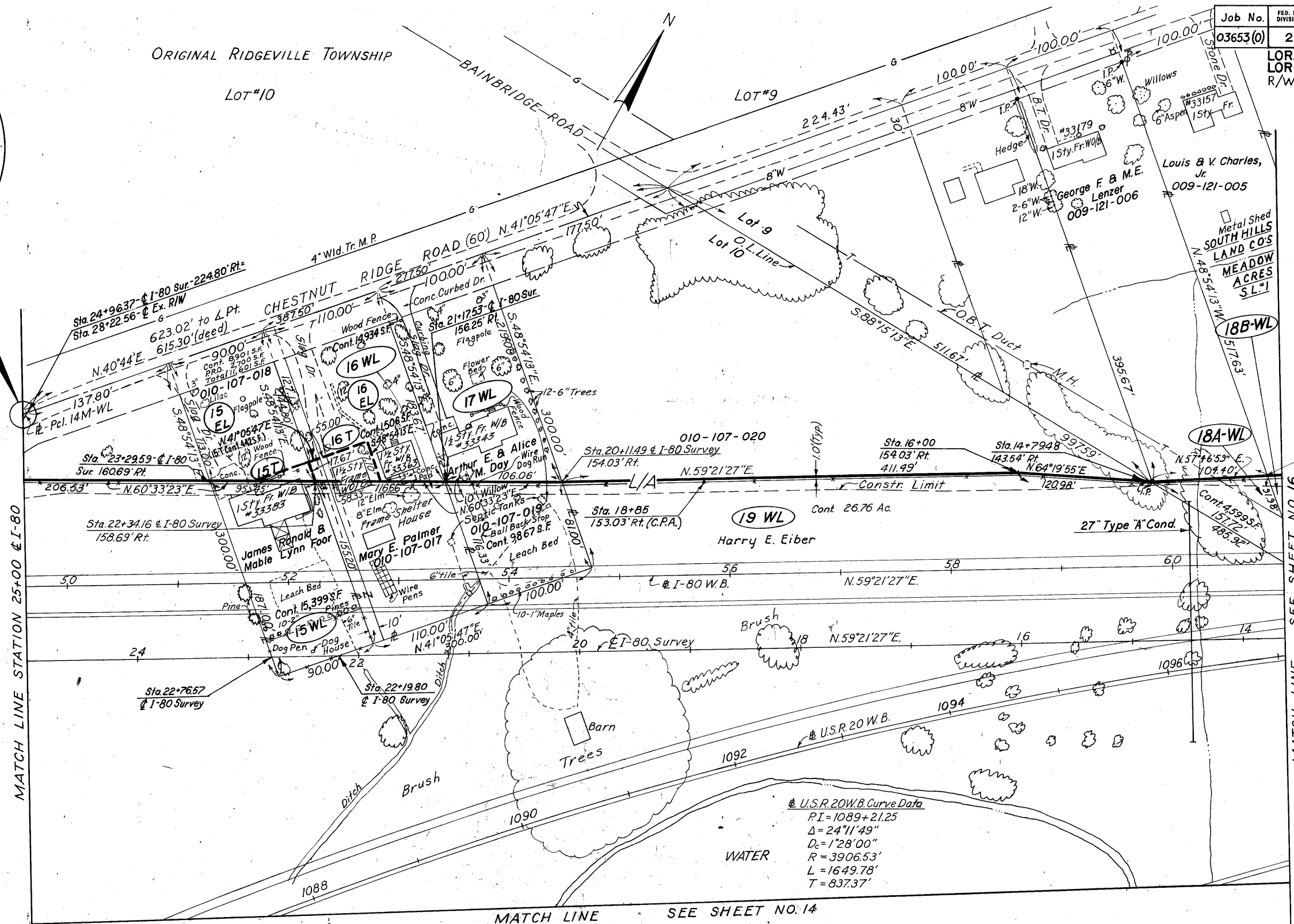
Job No.	FED. RD. DIVISION	STATE	PROJECT
03653(0)	2	OHIO	I-480-3(4)153

369  
375

15  
21

LORAIN COUNTY  
LOR-80-18.62  
R/W PLAN

I-480-3(3)



MATCH LINE STATION 25+00 & I-80

MATCH LINE SEE SHEET NO. 16

Sta. 22+76.57  
I-80 Survey

Sta. 22+19.80  
I-80 Survey

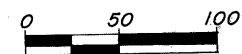
Sta. 18+85  
153.03' Rt. (C.P.A.)

Sta. 16+00  
154.03' Rt.  
411.49'

Sta. 14+79.48  
143.54' Rt.  
120.98'

Sta. 13+75.12  
146.41' Rt. & I-80 Survey

U.S.R. 20 W.B. Curve Data  
P.I. = 1089+21.25  
 $\Delta$  = 24°11'49"  
 $D_c$  = 1'28"00"  
R = 3906.53'  
L = 1649.78'  
T = 837.37'



Rev.	Date	Description	Completion Date
J.A.	1-28-71	Added Information	
J.A.	6-23-71	Added Topography	
J.A.	7-27-71	Revisions as per Div. #3 7-19 Letter	
E.H.	4-18-72	Deleted 15T, Added 15EL	
J.R.Y.	2-28-73	Par. 19 WL Name Change	

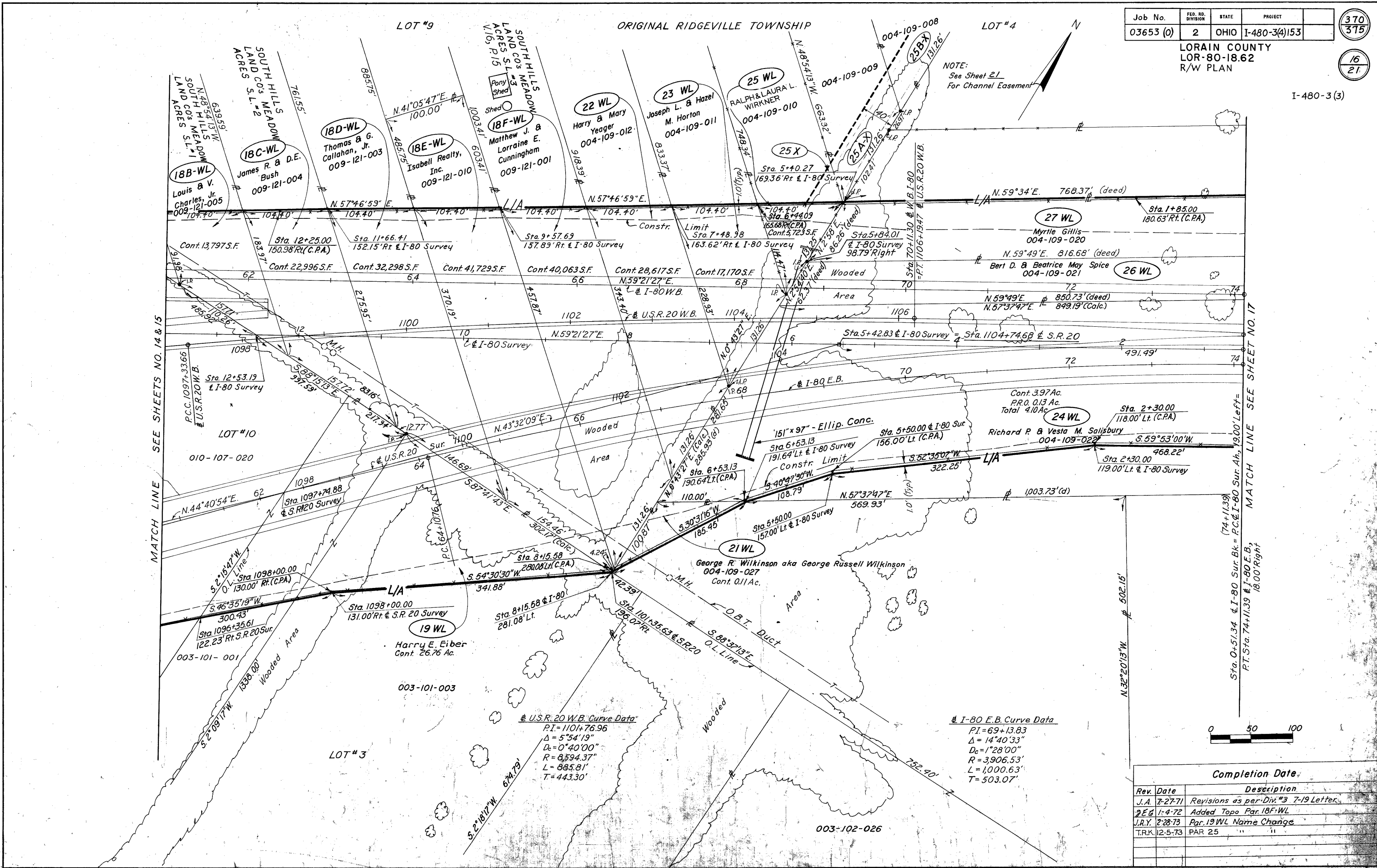
Job No.	FED. RD. DIVISION	STATE	PROJECT
03653 (0)	2	OHIO	I-480-3(4)153

370  
375

LORAIN COUNTY  
LOR-80-18.62  
R/W PLAN

16  
21

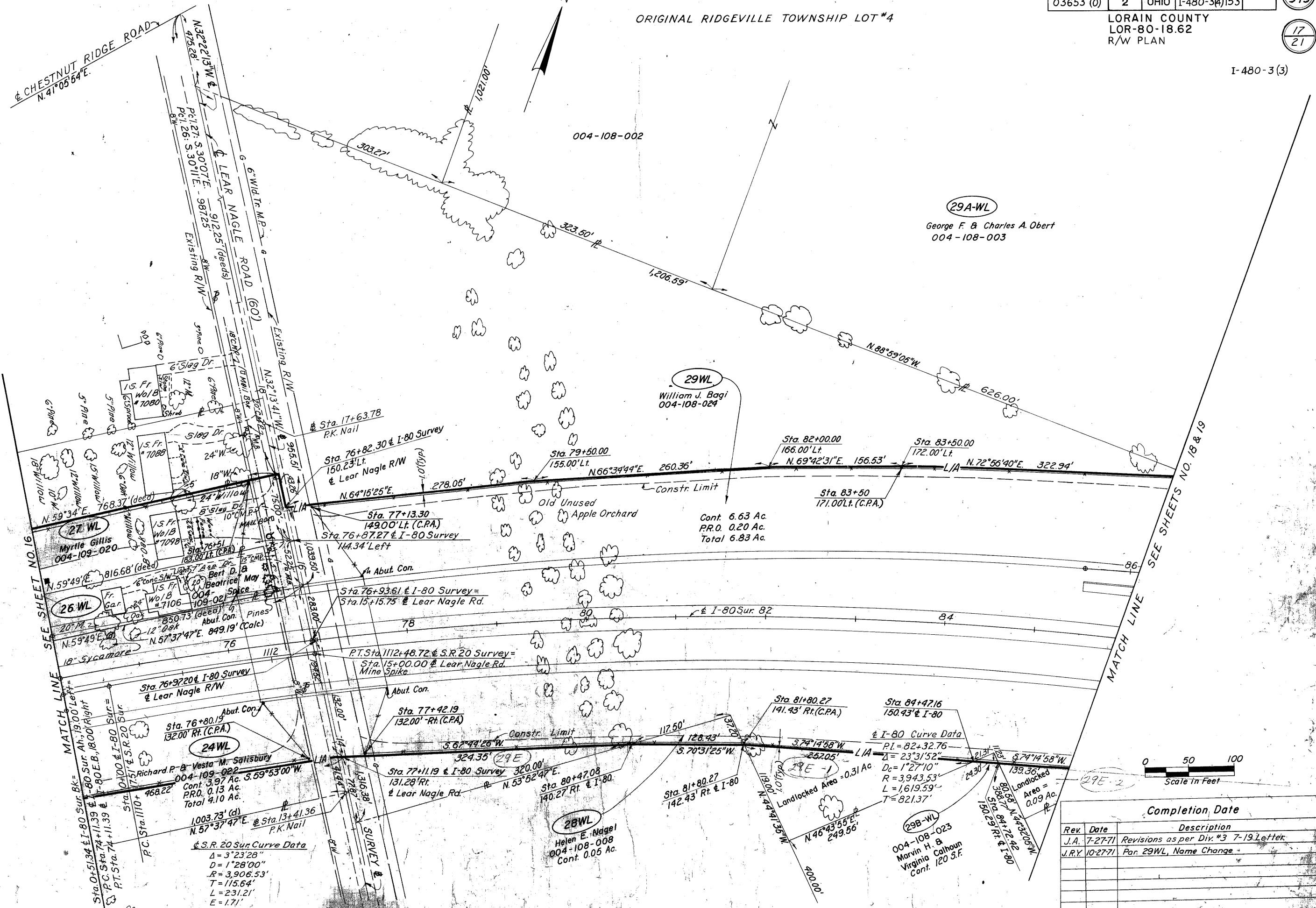
I-480-3(3)



Rev. Date	Description
J.A. 7-27-71	Revisions as per Div. #3 7-19 Letter.
ZEG 1-4-72	Added Topo Par. 18F-WL
J.R.Y. 2-28-73	Par. 19WL Name Change
TRK 12-5-73	PAR 25 " "

I-80 SURVEY R/W Sta. 13+60 to Sta. 0+51.34 = Sta. 74+11.39 Fwd

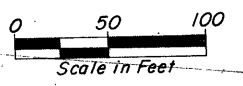
ORIGINAL RIDGEVILLE TOWNSHIP LOT #4



SEE SHEET NO. 16

MATCH LINE

SEE SHEETS NO. 18 & 19



Completion Date

Rev.	Date	Description
J.A.	7-27-71	Revisions as per Div. #3 7-19 Letter
J.R.Y.	10-27-71	Par. 29WL, Name Change

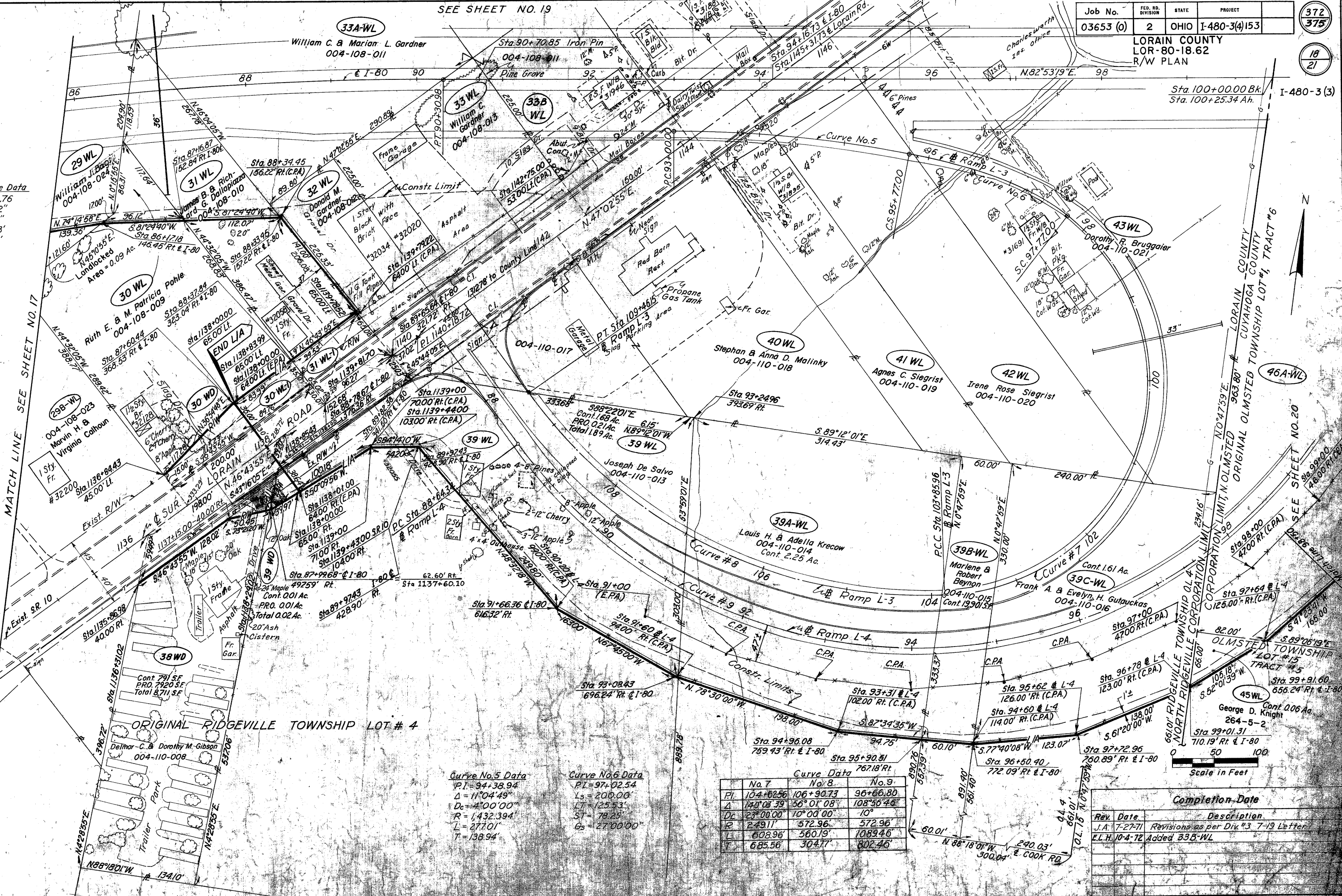
Job No.	FED. RD. DIVISION	STATE	PROJECT
03653 (0)	2	OHIO	I-480-3(4)153

LORAIN COUNTY  
LOR-80-18.62  
R/W PLAN

Sta. 100+00.00 Bk.  
Sta. 100+25.34 Ah.  
I-480-3(3)

I-80 Curve Data  
PI = 82+32.76  
Δ = 23°31'52"  
Dc = 1°27'10"  
R = 3,943.53'  
L = 1,619.59'  
T = 821.37'

MATCH LINE SEE SHEET NO. 17



Curve No. 5 Data  
PI = 94+38.94  
Δ = 11°04'49"  
Dc = 4°00'00"  
R = 1,432.394'  
L = 277.01'  
T = 138.94'

Curve No. 6 Data  
PI = 97+02.54  
Ls = 200.00'  
Dc = 1°25'53"  
ST = 78.25'  
Cs = 27°00'00"

Curve Data		
No. 7	No. 8	No. 9
PI	104+62.56	106+90.73
Δ	140°08'59"	56°01'08"
Dc	23°08'00"	10°00'00"
R	2,491.1'	572.96'
L	608.96'	560.19'
T	685.56'	304.77'

Completion Date

Rev. Date	Description
J.A. 7-27-71	Revisions as per Div. #3 7-19 Letter
E.L.H. 10-4-72	Added 33B-WL





Job No.	FED. RD. DIVISION	STATE	PROJECT
03653 (0)	2	OHIO	I-480-3(4)153

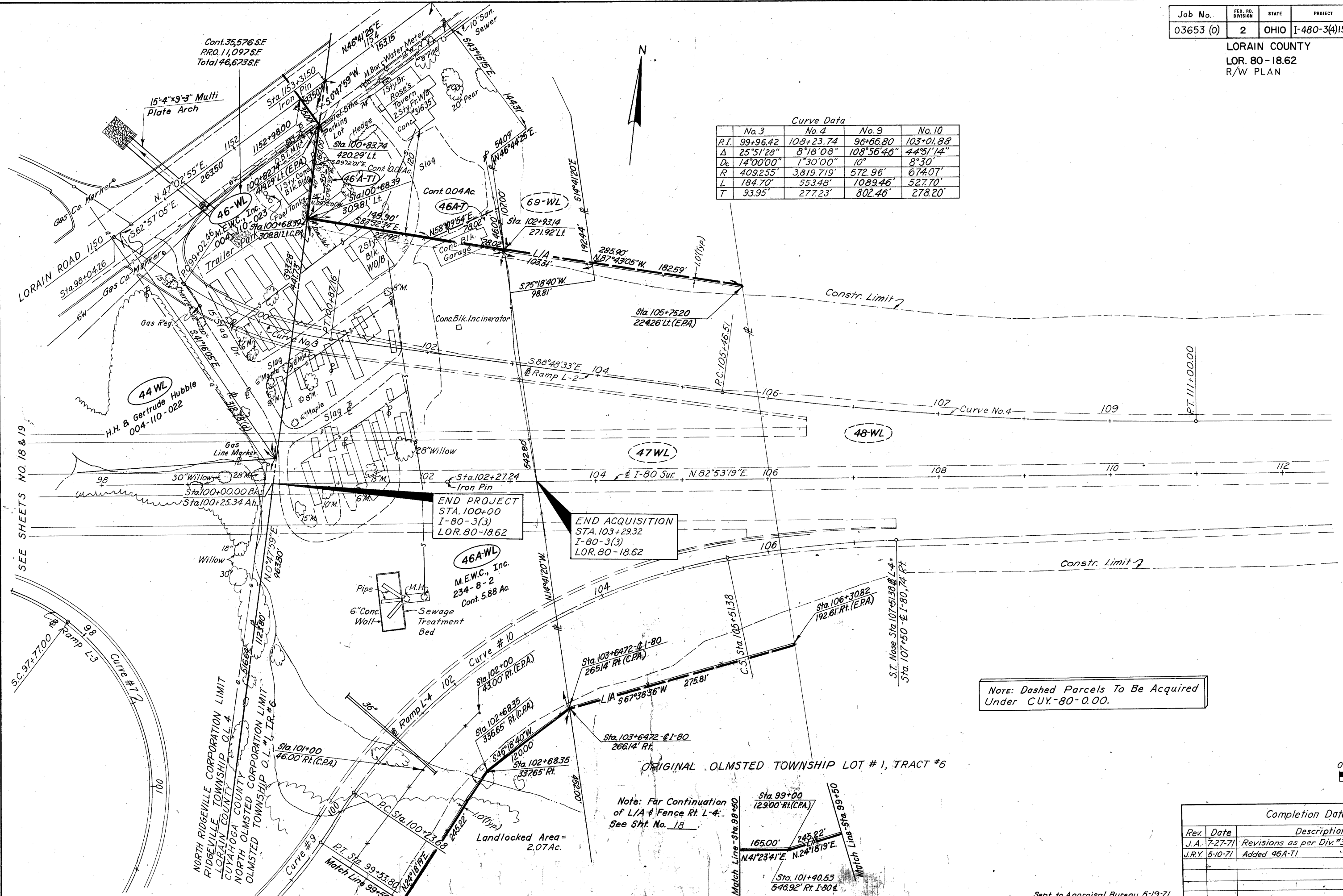
374  
375

LORAIN COUNTY  
LOR. 80-18.62  
R/W PLAN

20  
21

I-480-3(3)

	No.3	No.4	No.9	No.10
P.I.	99+96.42	103+23.74	96+66.80	103+01.88
Δ	25°51'28"	8°18'08"	108°56'46"	44°51'14"
Dc	14°00'00"	1°30'00"	10°	8°30'
R	409.255'	3,819.719'	572.96'	674.07'
L	184.70'	553.48'	1089.46'	527.70'
T	93.95'	277.23'	802.46'	278.20'



END PROJECT  
STA. 100+00  
I-80-3(3)  
LOR. 80-18.62

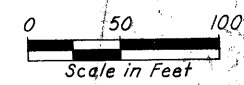
END ACQUISITION  
STA. 103+29.32  
I-80-3(3)  
LOR. 80-18.62

NOTE: Dashed Parcels To Be Acquired  
Under CUY-80-0.00.

ORIGINAL OLMSTED TOWNSHIP LOT #1, TRACT #6

Note: For Continuation  
of L/A & Fence Rt. L-4.  
See Sht. No. 18

Rev.	Date	Description	Completion Date
J.A.	7-27-71	Revisions as per Div. #3 7-19 Letter	
J.R.Y.	5-10-71	Added 46A-T1	



Sent to Appraisal Bureau 5-19-71

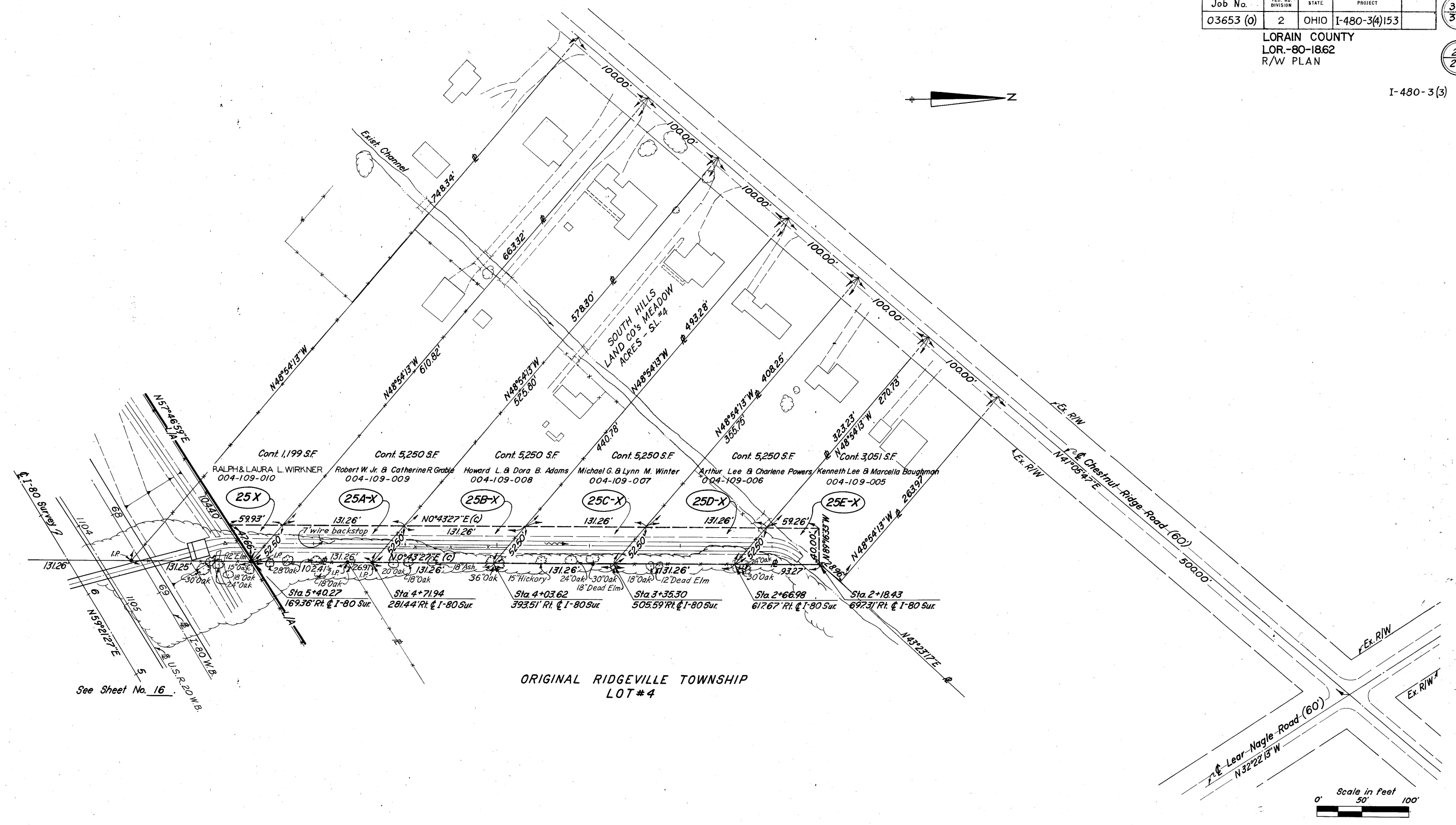
I-80 R/W STA. 98+00 To STA. 112+00

Job No.	FED. RD. DIVISION	STATE	PROJECT	375 375
03653 (0)	2	OHIO	I-480-3(4)153	

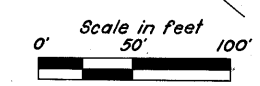
LORAIN COUNTY  
LOR-80-1862  
R/W PLAN

21  
21

I-480-3(3)



See Sheet No. 16



Completion Date		
Rev.	Date	Description
JA	7-27-71	Revisions as per Div. #3 7-19 Letter.
J.R.Y.	8-6-71	Topo. Added Par. 25A-X & 25D-X
T.R.K.	12-5-73	PAR. 25 NAME CHANGE

INTRODUCTION

THE PROJECT CONSISTS OF THE SOILS INVESTIGATION OF 2.3 MILES OF IR 480, BEGINNING AT THE OHIO TURNPIKE, IMMEDIATELY WEST OF ROOT ROAD, EXTENDING EASTWARD TO NORTHEASTWARD AND TERMINATING AT THE LORAIN-CUYAHOGA COUNTY LINE, IMMEDIATELY SOUTH OF SR 10. INCLUDED IN THIS REPORT ARE SOIL PROFILES OF THE IR 480-SR 10 INTERCHANGE RAMP L-1, L-2, L-3, L-4 AND EASTBOUND AND WESTBOUND USR 20.

FOR MAXIMUM PROPOSED CUTS AND FILL EMBANKMENTS, SEE THE PROJECT INDEX ON THIS SHEET.

GEOLOGY AND OBSERVATIONS OF THE PROJECT

THE ALIGNMENT TRAVERSES A RELATIVELY FLAT PORTION OF THE GLACIATED LAKE PLAIN, IN AN AREA WHERE THIN GLACIAL DRIFT OVERLIES SHALE AND SANDSTONE BEDROCK OF LOWER MISSISSIPPIAN AND UPPER DEVONIAN AGES. A LARGE POND IS LOCATED BETWEEN IR 480 (EASTBOUND) STATIONS 54+00 AND 59+50.

EXPLORATION

EXPLORATORY BORINGS WERE MADE BY MEANS OF TRUCK-MOUNTED MECHANICAL SOIL AUGER AND HAND AUGER (IN DIFFICULT ACCESS AREAS), ON AUGUST 15, 1968, JUNE 12, 13, 25 AND 26, 1969, AND JULY 15, 16 AND 23, 1969. INCLUDED IN THIS REPORT ARE LOGS OF BORINGS MADE FOR THE STRUCTURE FOUNDATION INVESTIGATIONS ON THE PROJECT. SUPPLEMENTAL BORINGS WERE MADE ON AUGUST 3, 1971.

INVESTIGATIONAL FINDINGS

MATERIALS ENCOUNTERED ON THE PROJECT WERE PREDOMINANTLY COMPRISED OF SANDY SILTS (A-4a) WITH SOME SILT CLAYS (A-6a AND A-6b), AND SANDS (A-3a), GENERALLY HAVING LOW MOISTURE CONTENTS AND MOISTURE CONTENTS IN THE LOWER PORTIONS OF THE PLASTIC RANGE.

WET MATERIALS WERE ENCOUNTERED AT IR 480 (EASTBOUND) STATIONS 994+00, 1012+00, 1016+00, 53+75 TO 59+00, 62+50, AND 70+00. WESTBOUND IR 480 STATIONS 1012+50, 1031+00, 51+50, 56+00, 65+00 AND 72+00, IR 480 STATIONS 77+05, 80+00, 85+00 AND 92+67, AND RAMP L-1 STATION 90+00.

"SOIL INFORMATION- ALL AVAILABLE SOIL AND BEDROCK INFORMATION WHICH CAN BE CONVENIENTLY SHOWN ON THE SOIL PROFILE AND/OR STRUCTURE FOUNDATION INVESTIGATION SHEETS HAS BEEN SO REPORTED. ADDITIONAL SUBSURFACE INVESTIGATIONS MAY HAVE BEEN MADE TO STUDY SOME SPECIAL ASPECT OF THE PROJECT. COPIES OF THIS DATA, IF ANY, MAY BE INSPECTED IN THE DISTRICT DEPUTY DIRECTOR'S OFFICE, THE BUREAU OF TESTS AT 1600 WEST BROAD STREET, THE PAVEMENT AND SOILS SECTION OF THE BUREAU OF ROADWAY DESIGN OR IN THE BRIDGE BUREAU AT 25 SOUTH FRONT STREET."

LEGEND FOR PROJECT AVERAGE RESULTS OF TESTS - 133 SAMPLES TESTED

Table with 12 columns: DESCRIPTION, H. R. B. CLASS, OHIO CLASS, % AGG., % C. SAND, % F. SAND, % SILT, % CLAY, LIQUID LIMIT, PLASTICITY INDEX, WATER CONTENT, SAMPLES TESTED. Includes visual classification symbols for boulders, shale, sandstone, etc.

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

Revised 9/8/71

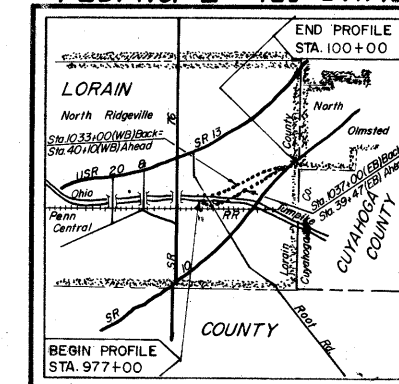
SOIL PROFILE

LORAIN COUNTY
LOR-480-0.00

OHIO STATE HIGHWAY TESTING LABORATORY
1620 W. BROAD ST. COLUMBUS 23, OHIO

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

FED. NO. I-480-3(4)153



LOCATION MAP
Recon.-L.E.S.- 8/13/68
Drilling - Auger - 8/15/68, 6/12/69 to 7/23/69
Drafting - E.J.S. - 8/19/69
REVISION
Drilling - L.M.D. - 8/3/71 and 8/6/71
Drafting - R.A.W., C.L.L. - 9/8/71

SOIL INFORMATION

"SOIL INFORMATION" All available soil and bedrock information which can be conveniently shown on the soil profile and /or structure foundation investigation sheets has been so reported. Additional subsurface investigations may have been made to study some special aspect of the project. Copies of this data, if any, may be inspected in the District Deputy Director's Office, the Bureau of Tests at 1600 West Broad Street, the Pavement and Soils Section of the Bureau of Location and Design or in the Bridge Bureau at 25 South Front Street.

PROJECT INDEX

Table with 5 columns: STATIONS FROM TO, PLAN VIEW SHEET, PROFILE SHEET, CUT MAX., FILL EMB. MAX. Lists stations for EASTBOUND IR 480, WESTBOUND IR 480, RAMP L-1, RAMP L-2, RAMP L-3, RAMP L-4, EASTBOUND USR 20, and WESTBOUND USR 20.

MICROFILMED  
JUL 20 1990

Revised 9/8/71

SUMMARY OF SOIL TEST DATA

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

STATION & OFFSET	DEPTH FROM TO	%	%	%	%	%	L.L.	P.I.	%	SHTL CLASS.
		TO AGG.	C.S.	F.S.	SILT	CLAY			W.C.	
EASTBOUND IR 80										
985+40 30'Rt	0.0-5.0	12	2	44	16	26	NP	NP	19	A-4a
	5.0-8.0	5	2	46	30	17	NP	NP	17	A-4a
	8.0-10.0	9	1	57	16	17	NP	NP	13	A-3a
990+00 20'Rt	0.0-4.0	3	1	12	31	53	36	15	16	A-6a*
	4.0-6.0	2	1	55	15	27	NP	NP	19	A-4a
993+00 BL	0.0-2.0	0	0	5	32	63	53	25	38	A-7-6
994+00 BL	0.0-4.0	4	8	27	28	33	27	8	10	A-4a
	4.0-6.0	11	3	43	19	29	NP	NP	27	A-4a
997+00 BL	0.0-4.0	0	2	14	32	52	3C	11	17	A-6a
	4.0-8.0	14	3	48	13	22	NP	NP	12	A-3a
1002+00 BL	0.8-6.0	0	4	5	37	50	25	12	17	A-6a
	6.0-13.5	19	3	47	15	16	NP	NP	12	A-3a
1007+00 BL	0.6-5.0	13	5	16	32	34	29	10	17	A-4a
	5.0-6.0	0	4	12	40	44	27	10	14	A-4a
	6.0-11.0	0	5	17	39	39	21	5	11	A-4a
	11.0-16.0	0	6	23	34	37	18	4	11	A-4a
	16.0-18.5	29	7	27	25	12	NP	NP	8	A-4a
1012+00 BL	0.6-5.0	0	3	9	26	62	41	16	24	A-7-6
	5.0-7.0	13	9	23	25	30	25	9	11	A-4a
	7.0-12.0	11	7	51	5	26	17	3	27	A-3a
1016+00 BL	0.6-5.0	8	5	21	31	35	27	10	24	A-4a
	5.0-10.0	7	6	22	35	26	NP	NP	10	A-4a
	10.0-13.5	33	6	30	13	18	NP	NP	9	A-2-4
1024+00 BL	0.0-5.0	0	6	12	36	44	33	18	17	A-6b
	5.0-10.0	11	8	34	27	20	NP	NP	11	A-4a
	10.0-15.0	19	4	34	27	16	NP	NP	12	A-4a
	15.0-18.5	6	4	41	31	18	NP	NP	13	A-4a
1033+00 BL	0.8-6.0	0	6	13	40	41	30	11	18	A-6a
	6.0-8.0	8	6	19	31	36	22	8	11	A-4a
	8.0-11.0	20	6	38	25	11	NP	NP	12	A-4a
	11.0-15.0	13	3	45	27	12	NP	NP	12	A-4a
41+55 BL	0.0-4.0	11	16	27	21	25	NP	NP	12	A-4a
	4.0-7.0	31	9	26	15	19	20	5	14	A-2-4
	7.0-9.0	3	5	54	12	26	NP	NP	18	A-4a
	9.0-13.0	2	5	16	37	40	22	6	13	A-4a
	13.0-15.0	14	2	53	15	16	NP	NP	12	A-3a
46+00 BL	0.8-5.0	0	1	7	28	64	42	23	24	A-7-6
	5.0-7.0	0	6	11	35	48	28	13	19	A-6a
	7.0-10.0	0	8	15	29	48	27	11	12	A-6a
WESTBOUND IR 80										
49+50 BL	0.0-5.0	0	2	39	18	41	29	12	20	A-6a
	5.0-10.0	20	3	42	17	18	NP	NP	19	A-2-4
	10.0-13.0	8	3	45	24	20	NP	NP	13	A-4a
53+25 BL	0.6-2.0	0	6	28	22	44	32	15	22	A-6a
	2.0-5.5	19	3	51	11	16	NP	NP	16	A-3a
53+75 BL	0.0-5.0	3	4	30	18	45	33	16	30	A-6a
62+50 BL	0.6-4.0	0	4	24	31	41	32	12	44	A-6a
	4.0-8.0	12	8	23	15	42	28	11	38	A-6a
	8.0-9.0	22	18	17	19	24	26	9	35	A-4a
70+00 BL	0.6-2.0	0	4	21	29	46	36	16	40	A-6b
	2.0-5.0	0	14	22	26	38	26	7	39	A-4a
	5.0-9.0	0	17	29	26	28	NP	NP	38	A-4a
	9.0-11.0	9	7	45	14	21	NP	NP	29	A-3a
WESTBOUND IR 80										
1012+50 BL	0.0-5.0	12	2	12	35	39	35	11	20	A-6a
	5.0-6.0	0	16	10	42	32	31	12	38	A-6a
	6.0-10.0	13	7	37	29	14	NP	NP	9	A-4a
1017+00 BL	0.6-5.0	4	2	23	28	43	29	12	18	A-6a
	5.0-10.0	6	8	43	24	19	NP	NP	9	A-4a
	10.0-14.0	24	5	39	16	16	NP	NP	9	A-2-4
1025+00 BL	0.8-5.0	0	9	16	33	42	30	11	18	A-6a
	5.0-7.0	15	6	17	26	36	20	6	11	A-4a
1031+00 BL	0.6-3.0	0	14	21	31	34	27	10	38	A-4a
	3.0-5.0	0	12	27	33	28	25	6	37	A-4a
	5.0-11.0	18	10	51	11	10	NP	NP	31	A-3a
47+50 BL	0.0-3.0	10	3	27	23	37	26	6	12	A-4a
	3.0-5.0	0	4	43	13	40	24	7	17	A-4a
	5.0-7.0	12	12	38	16	25	19	3	17	A-4a
	7.0-12.0	5	3	10	43	39	22	6	13	A-4a
	12.0-14.0	7	5	12	37	39	20	5	13	A-4a
51+00 BL	0.0-4.0	7	2	40	16	35	24	9	15	A-4a
	4.0-8.0	6	5	29	26	34	22	2	16	A-4a
	8.0-10.0	0	2	62	14	14	NP	NP	12	A-3a
51+50 BL	0.6-3.0	0	3	12	26	59	37	17	46	A-6b
	3.0-8.0	0	4	46	25	23	NP	NP	40	A-4a
	8.0-10.0	0	2	56	27	15	NP	NP	30	A-4a
56+00 100'Rt	0.6-5.0	0	4	27	27	42	29	11	43	A-6a
	5.0-7.0	0	3	41	24	32	23	6	44	A-4a
	7.0-9.0	14	3	31	28	24	NP	NP	33	A-4a
58+00 BL	0.6-5.0	5	8	25	26	36	30	12	13	A-6a
	5.0-8.0	0	14	24	26	36	28	11	18	A-6a
	8.0-9.0	12	13	33	19	23	NP	NP	19	A-4a
60+00 BL	0.6-6.0	0	4	19	35	42	35	16	25	A-6b
	6.0-8.0	0	21	27	25	27	24	8	18	A-4a
	8.0-10.0	3	7	36	30	24	NP	NP	13	A-4a
65+00 BL	0.6-5.0	0	5	34	36	25	27	10	44	A-4a
	5.0-7.0	0	10	30	25	35	25	9	41	A-4a
72+00 BL	0.6-3.0	0	3	17	26	54	38	18	39	A-6b
	3.0-5.0	0	13	21	4	62	30	11	34	A-6a
	5.0-7.0	11	8	23	22	36	21	7	32	A-4a
	7.0-9.5	20	8	43	15	14	NP	NP	32	A-3a
77+05 CL	0.6-6.0	0	4	32	23	41	27	11	20	A-6a
	6.0-9.0	27	2	47	8	16	NP	NP	20	A-2-4
	9.0-12.0	21	5	49	10	15	NP	NP	15	A-3a
80+00 CL	0.6-3.0	15	9	27	19	30	27	9	20	A-4a
	3.0-6.0	0	15	53	15	27	NP	NP	22	A-4a
	6.0-11.0	0	12	17	19	52	25	11	14	A-6a
	11.0-16.0	33	6	16	17	23	15	3	11	A-4a
85+00 CL	0.6-5.0	0	3	29	30	38	23	9	23	A-4a
95+00 CL	0.6-4.0	4	5	10	31	50	33	12	21	A-6a
	4.0-8.0	12	8	27	29	24	NP	NP	13	A-4a
100+47 CL	0.9-3.0	0	16	18	25	41	32	12	19	A-6a
	3.0-5.0	8	6	13	27	46	33	14	25	A-6a
	5.0-7.0	0	1	17	40	42	27	12	21	A-6a
	7.0-10.0	5	8	14	31	42	28	11	15	A-6a
	10.0-13.0	8	8	29	30	27	NP	NP	14	A-4a
	13.0-15.0	18	4	48	12	18	NP	NP	14	A-3a
RAMP L-1										
90+00 BL	0.6-3.0	5	2	14	27	52	32	12	24	A-6a
	3.0-5.0	0	1	57	13	29	NP	NP	23	A-4a
	5.0-6.0	0	0	76	6	9	NP	NP	13	A-3a
96+00 BL	0.0-6.0	19	7	16	31	27	26	11	22	A-6a
	6.0-10.0	13	3	48	21	15	NP	NP	12	A-4a
	10.0-12.0	30	3	29	21	17	NP	NP	13	A-4a
RAMP L-2										
99+00 BL	0.6-5.0	8	9	13	28	42	31	11	22	A-6a*
	5.0-10.0	0	5	11	36	48	29	11	23	A-6a
	10.0-13.0	0	7	11	33	49	28	11	12	A-6a
BROWNISH-GRAY WEATHERED SHALE VISUAL										
EASTBOUND IR 80										
1019+00 15'Lt	5.0-6.0	6	3	45	24	22	NP	NP	21	A-4a
	6.0-11.0	35	7	4	21	29	22	6	16	A-4a
	15.0-15.9	4	3	4	28	61	27	12	16	A-6a
	20.0-20.4	23	16	34	-	-	NP	NP	11	A-3a

RECORDED  
JUL 20 1973

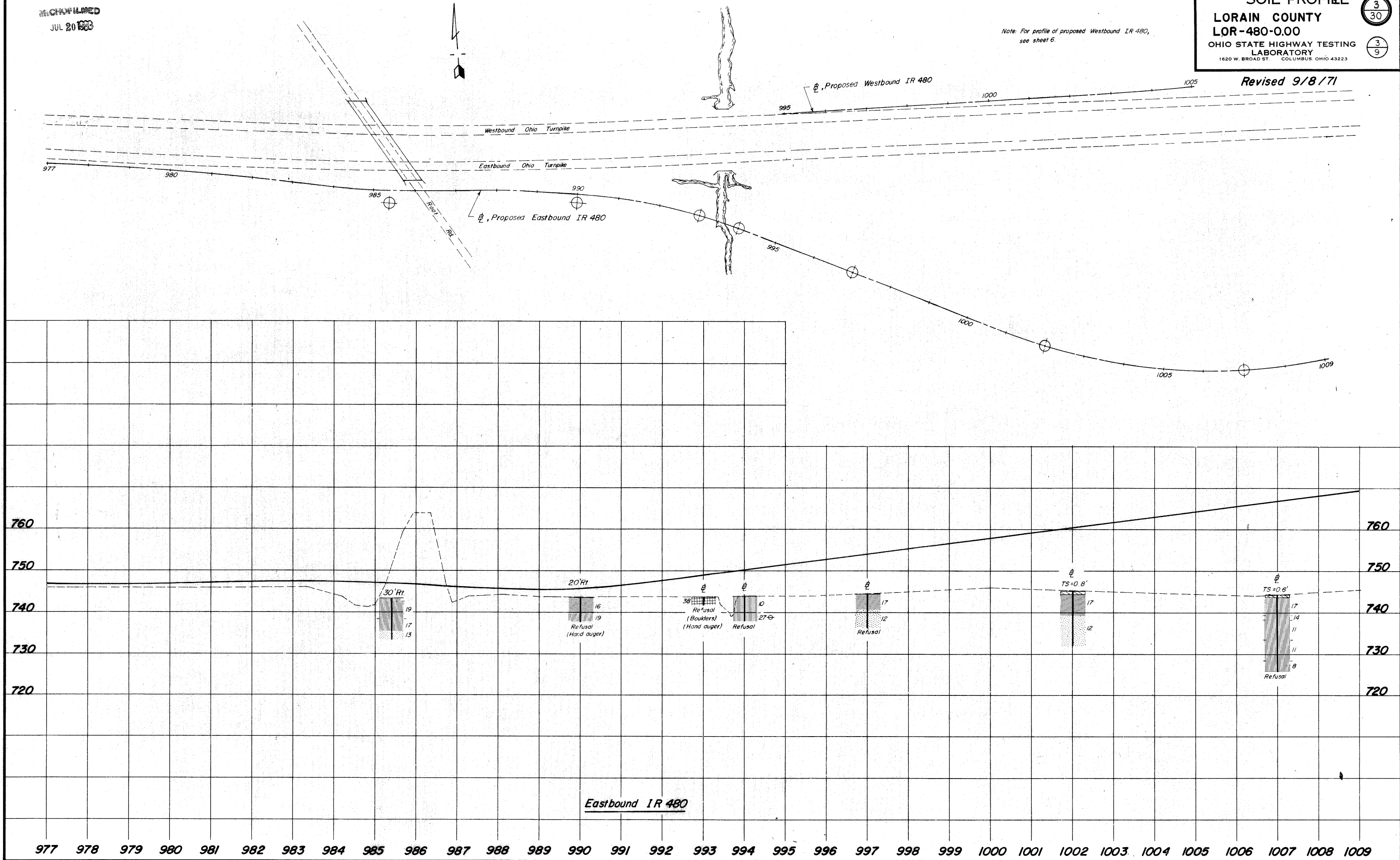
SOIL PROFILE  
LORAIN COUNTY  
LOR-480-0.00  
OHIO STATE HIGHWAY TESTING  
LABORATORY  
1620 W. BROAD ST. COLUMBUS, OHIO 43223

3  
30

3  
9

Note: For profile of proposed Westbound IR 480,  
see sheet 6.

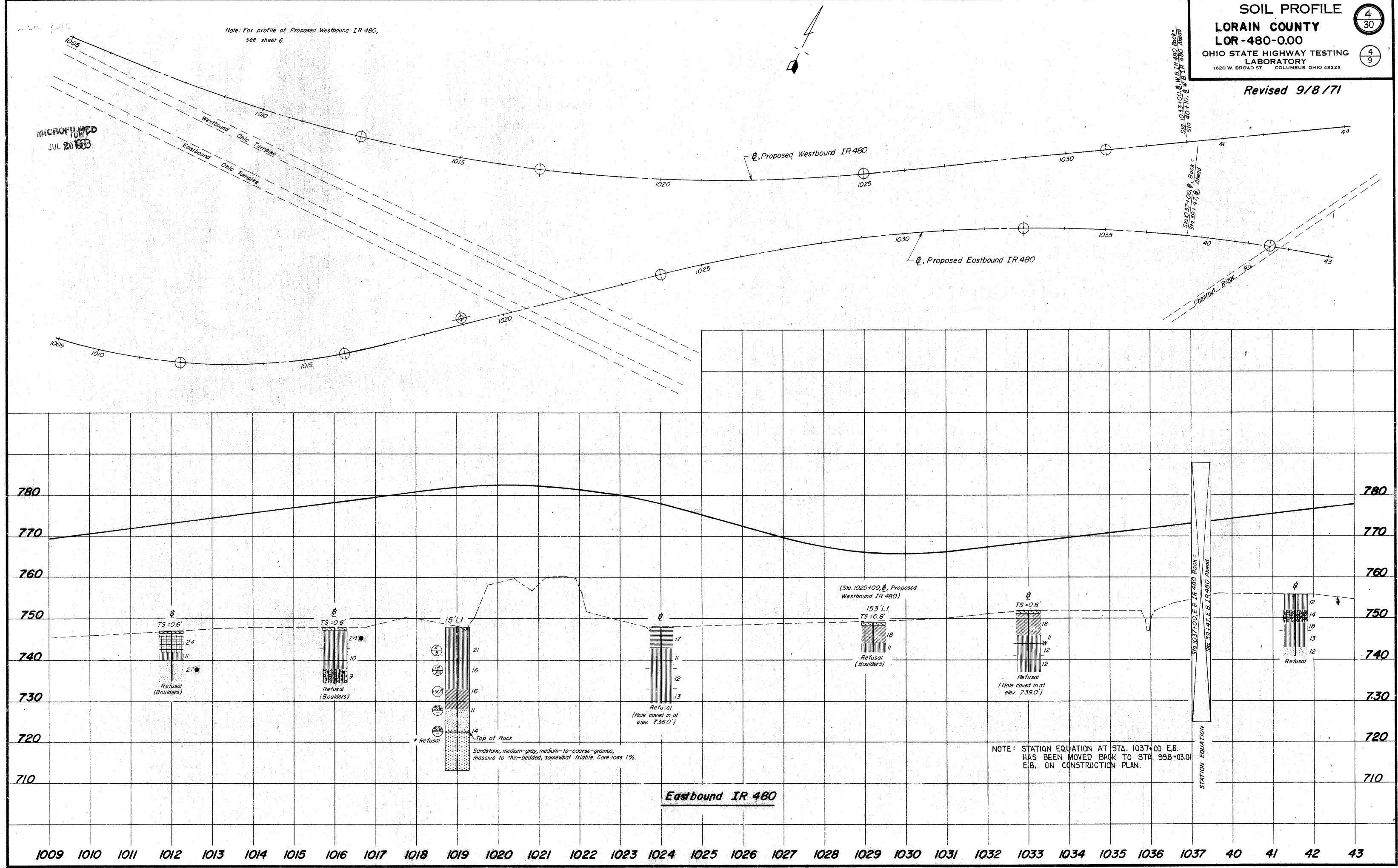
Revised 9/8/71



Revised 9/8/71

Note: For profile of Proposed Westbound IR 480, see sheet 6.

MICROFILMED  
 JUL 20 1983



**Eastbound IR 480**

NOTE: STATION EQUATION AT STA. 1037+00 E.B. HAS BEEN MOVED BACK TO STA. 998+03.01 E.B. ON CONSTRUCTION PLAN.

MICROFILMED  
JUL 20 1970

**SOIL PROFILE**

**LORAIN COUNTY**

**LOR-480-0.00**

**OHIO STATE HIGHWAY TESTING LABORATORY**

1620 W. BROAD ST. COLUMBUS, OHIO 43223

5

30

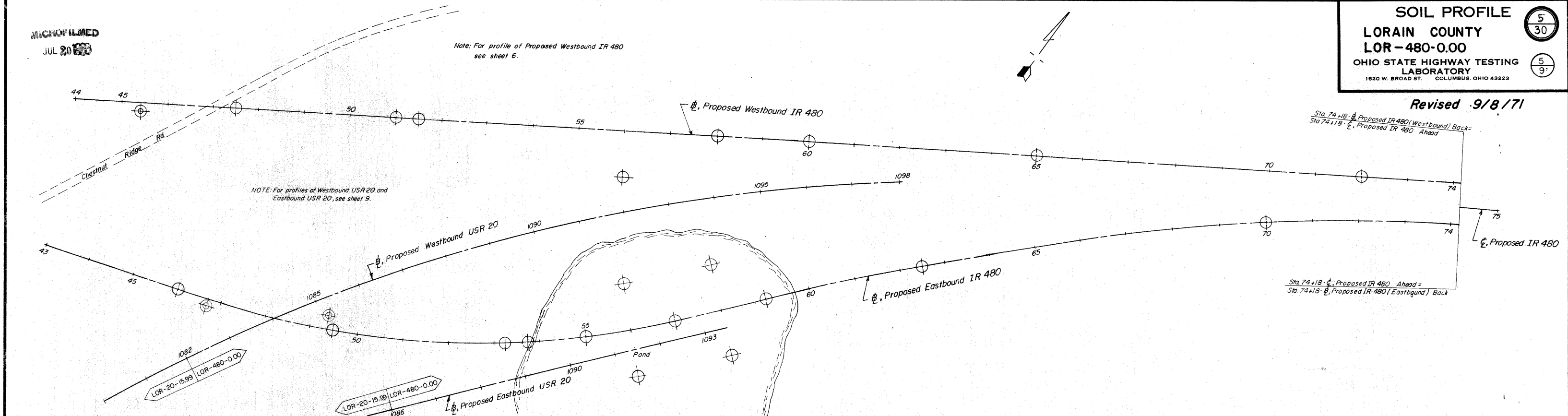
5

9

**Revised 9/8/71**

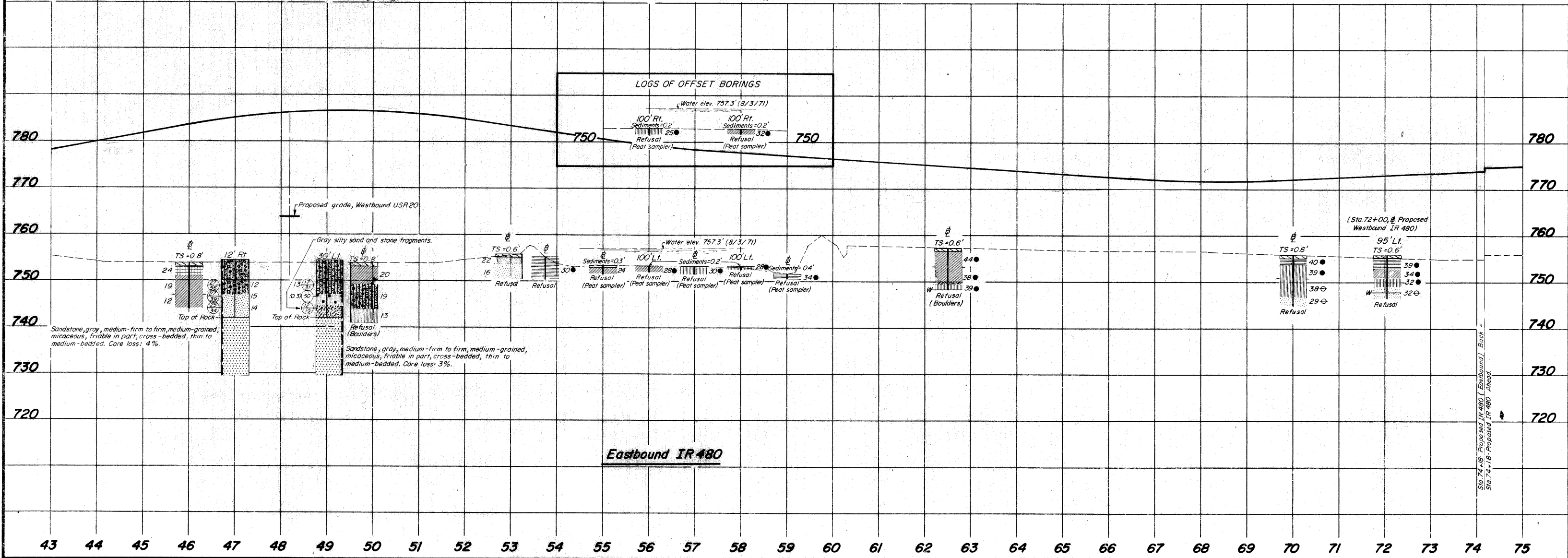
Note: For profile of Proposed Westbound IR 480 see sheet 6.

NOTE: For profiles of Westbound USR 20 and Eastbound USR 20, see sheet 9.



Sta. 74+18.0 Proposed IR 480 (Westbound) Back =  
Sta. 74+18.0 Proposed IR 480 Ahead

Sta. 74+18.0 Proposed IR 480 Ahead =  
Sta. 74+18.0 Proposed IR 480 (Eastbound) Back



Sta. 74+18.0 Proposed IR 480 (Eastbound) Back =  
Sta. 74+18.0 Proposed IR 480 Ahead



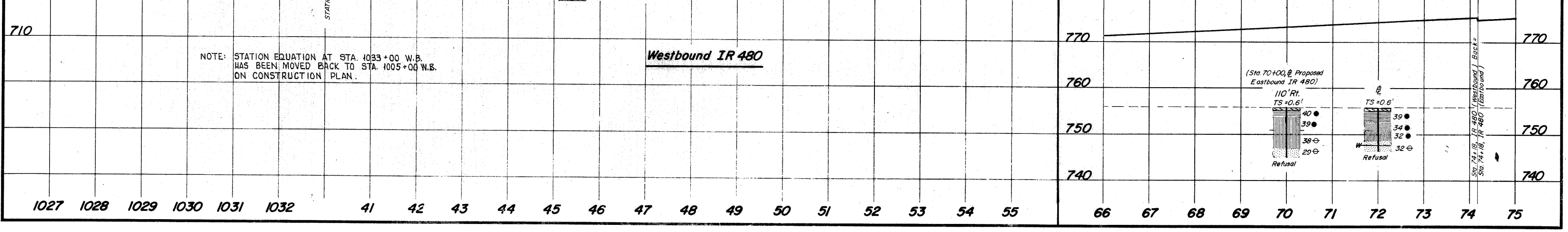
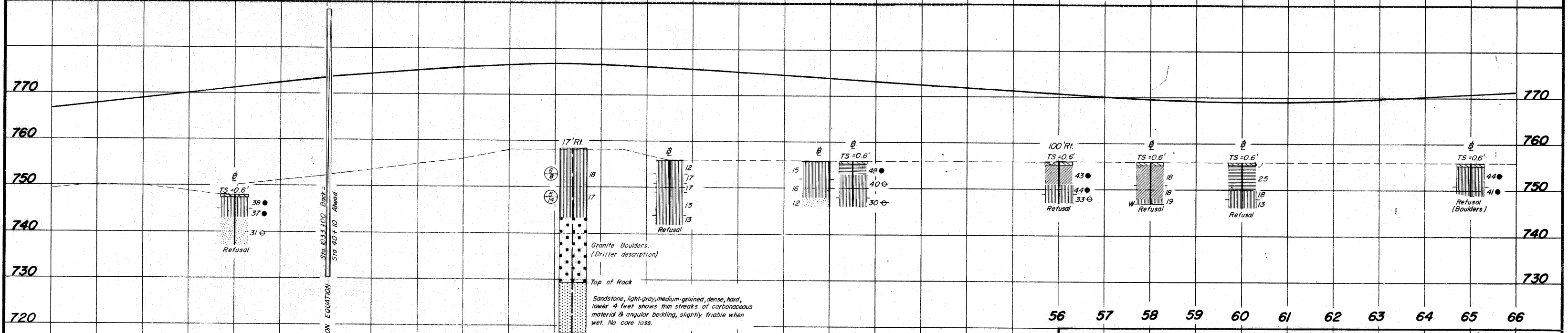
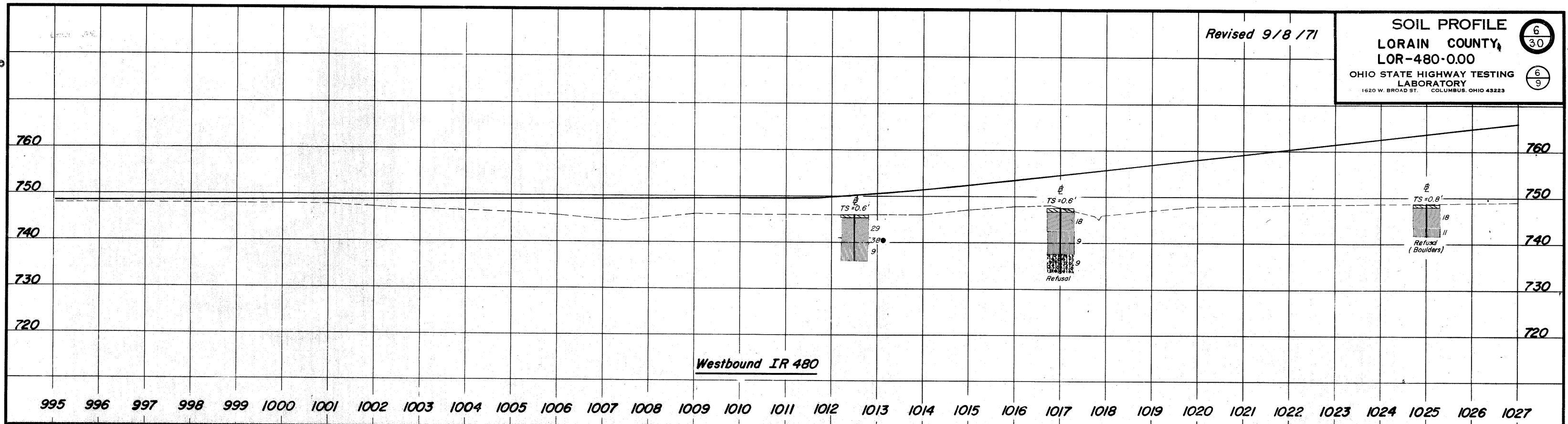
RECORDED  
JUL 20 1966

Revised 9/8/71

SOIL PROFILE  
 LORAIN COUNTY,  
 LOR-480-0.00  
 OHIO STATE HIGHWAY TESTING  
 LABORATORY  
 1620 W. BROAD ST. COLUMBUS, OHIO 43223

6  
30

6  
9

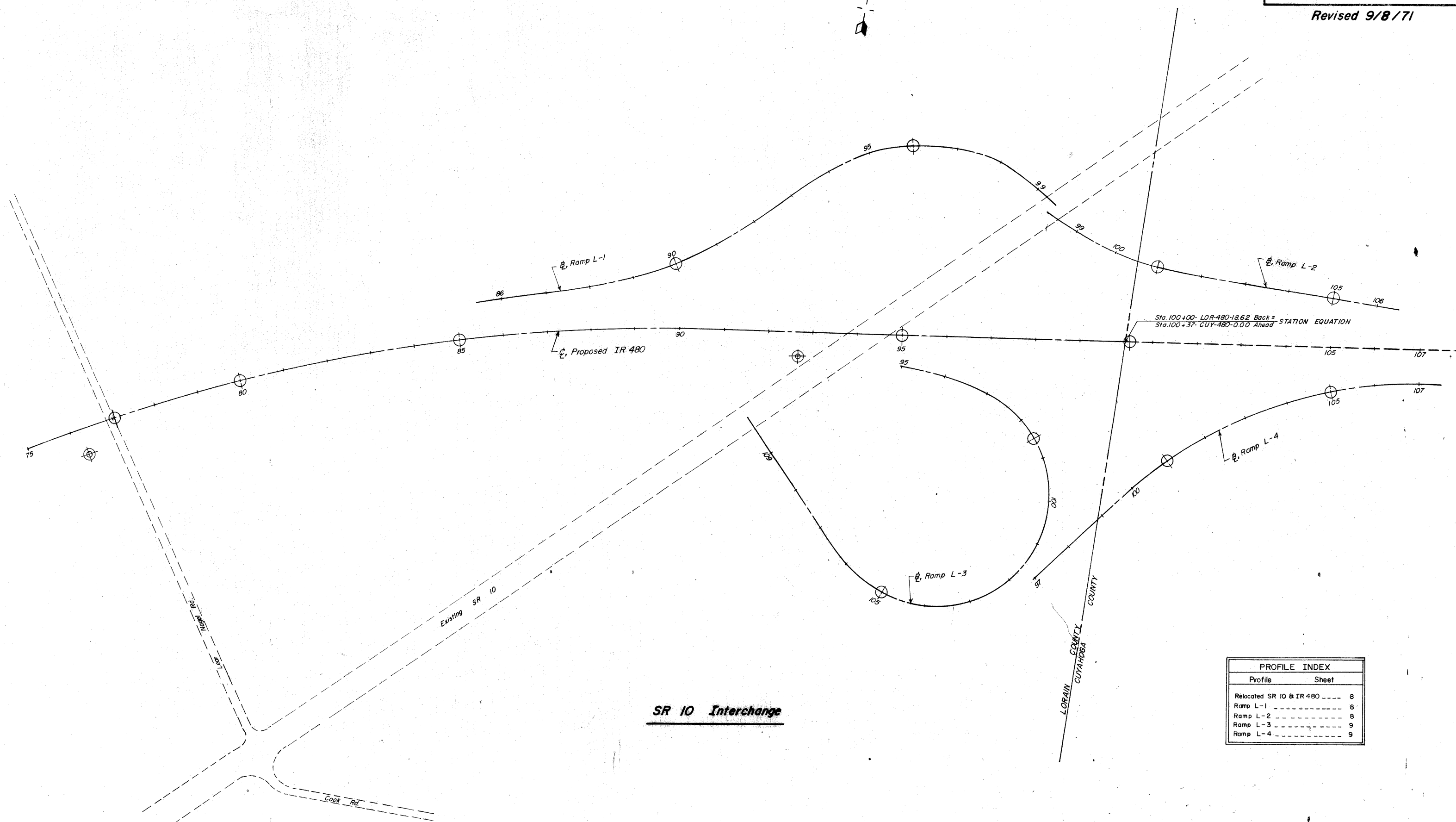


MICROFILMED  
JUL 20 1970

SOIL PROFILE  
LORAIN COUNTY  
LOR-480-0.00  
OHIO STATE HIGHWAY TESTING LABORATORY  
1620 W. BROAD ST. COLUMBUS 23, OHIO

7  
30  
7  
9

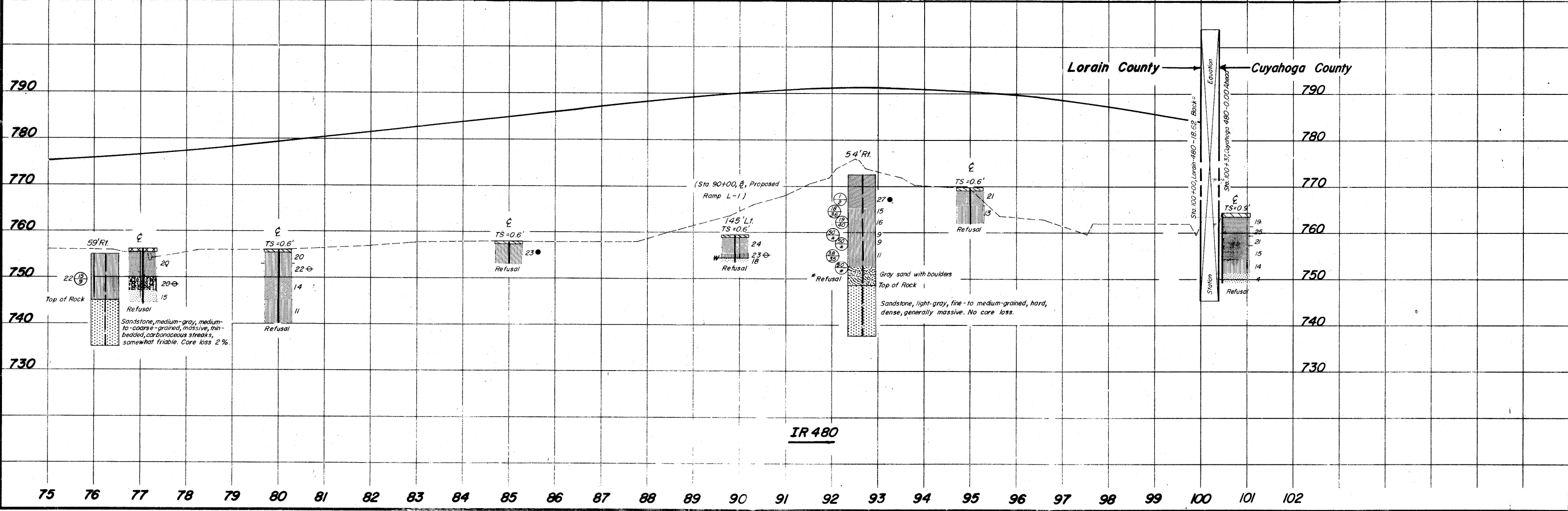
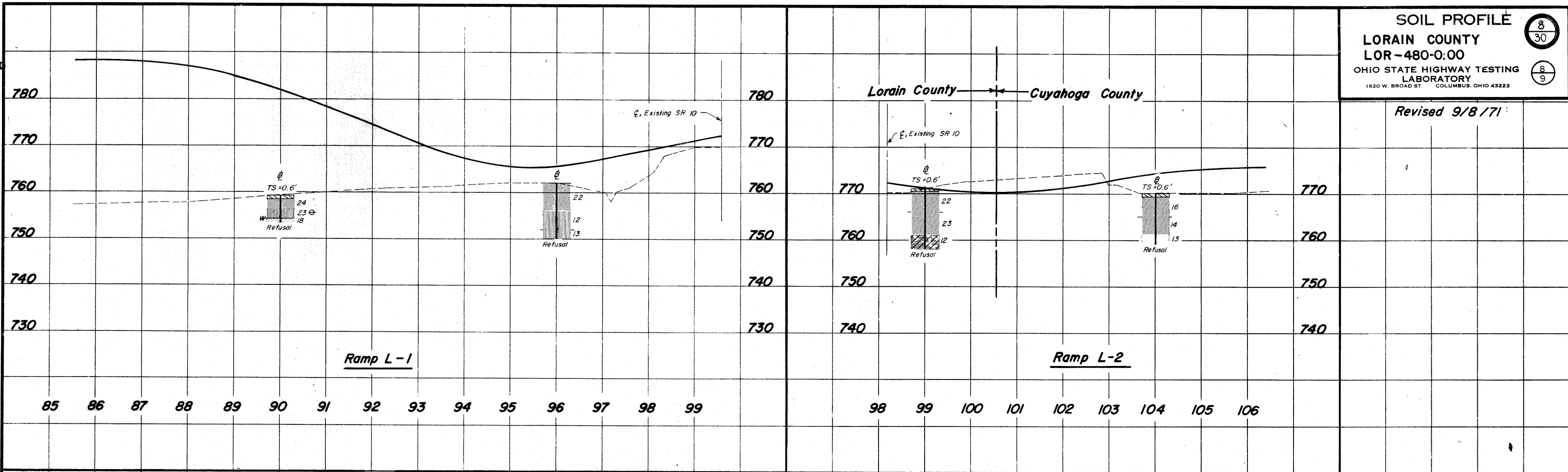
Revised 9/8/71



**SR 10 Interchange**

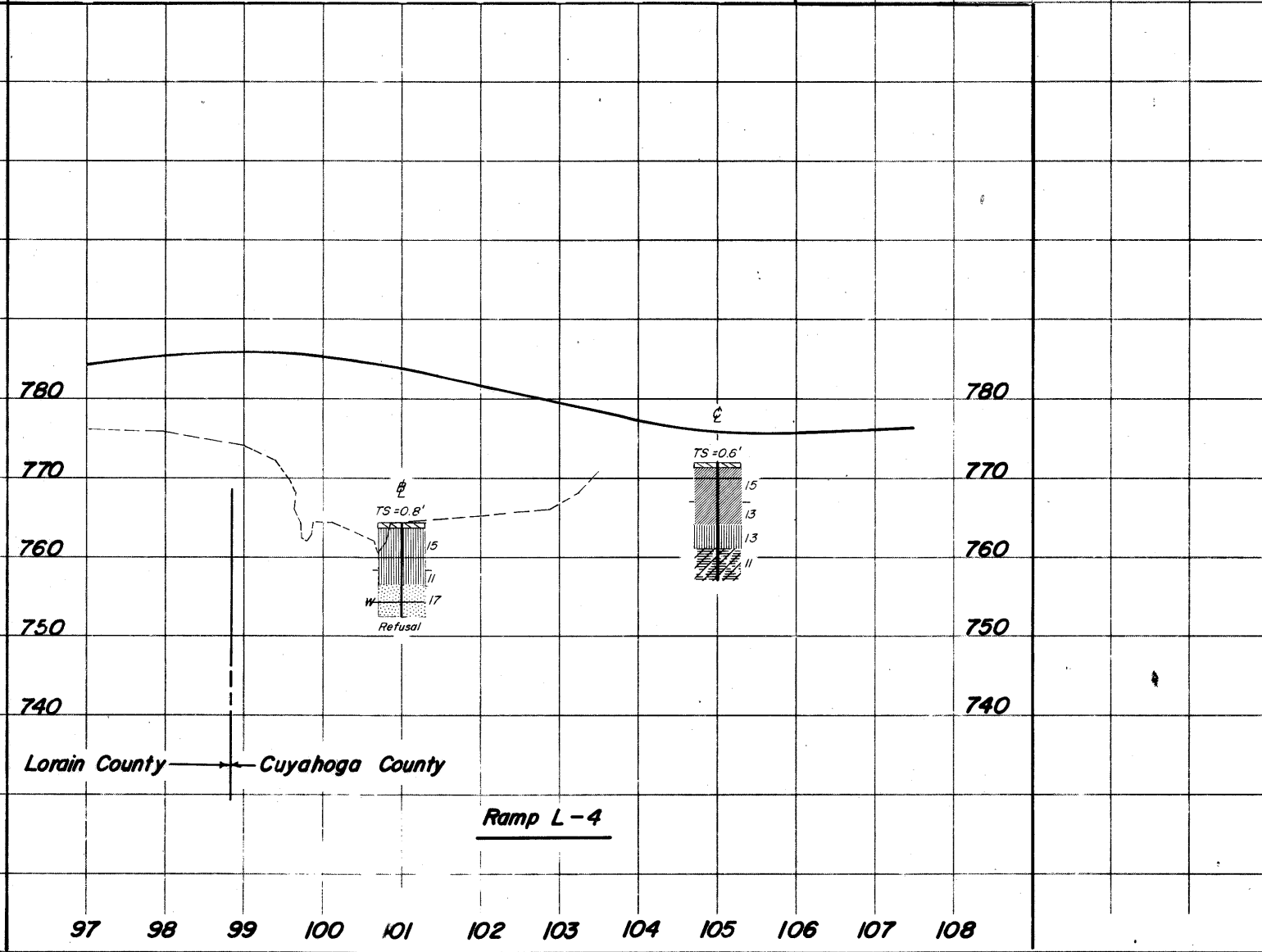
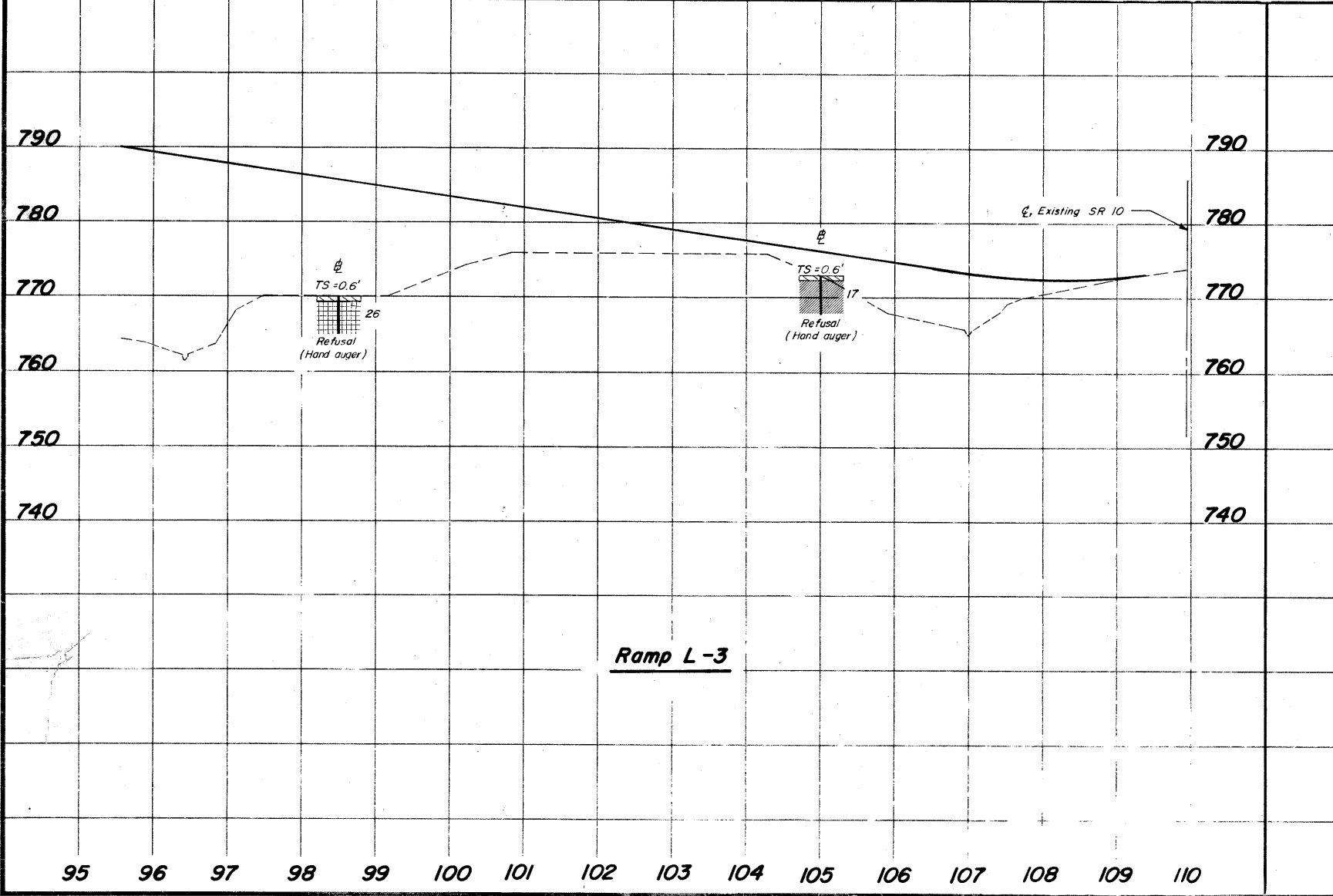
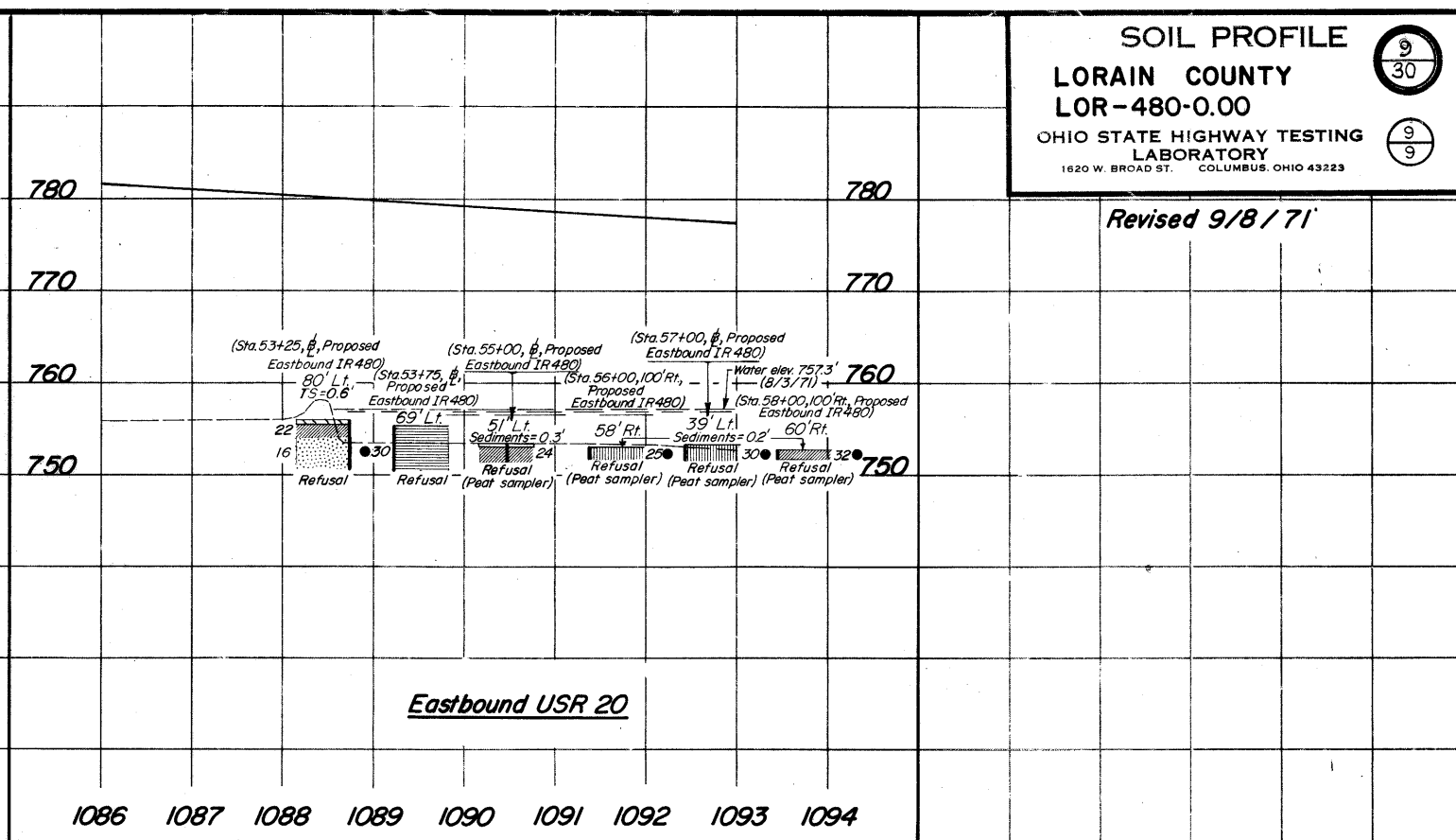
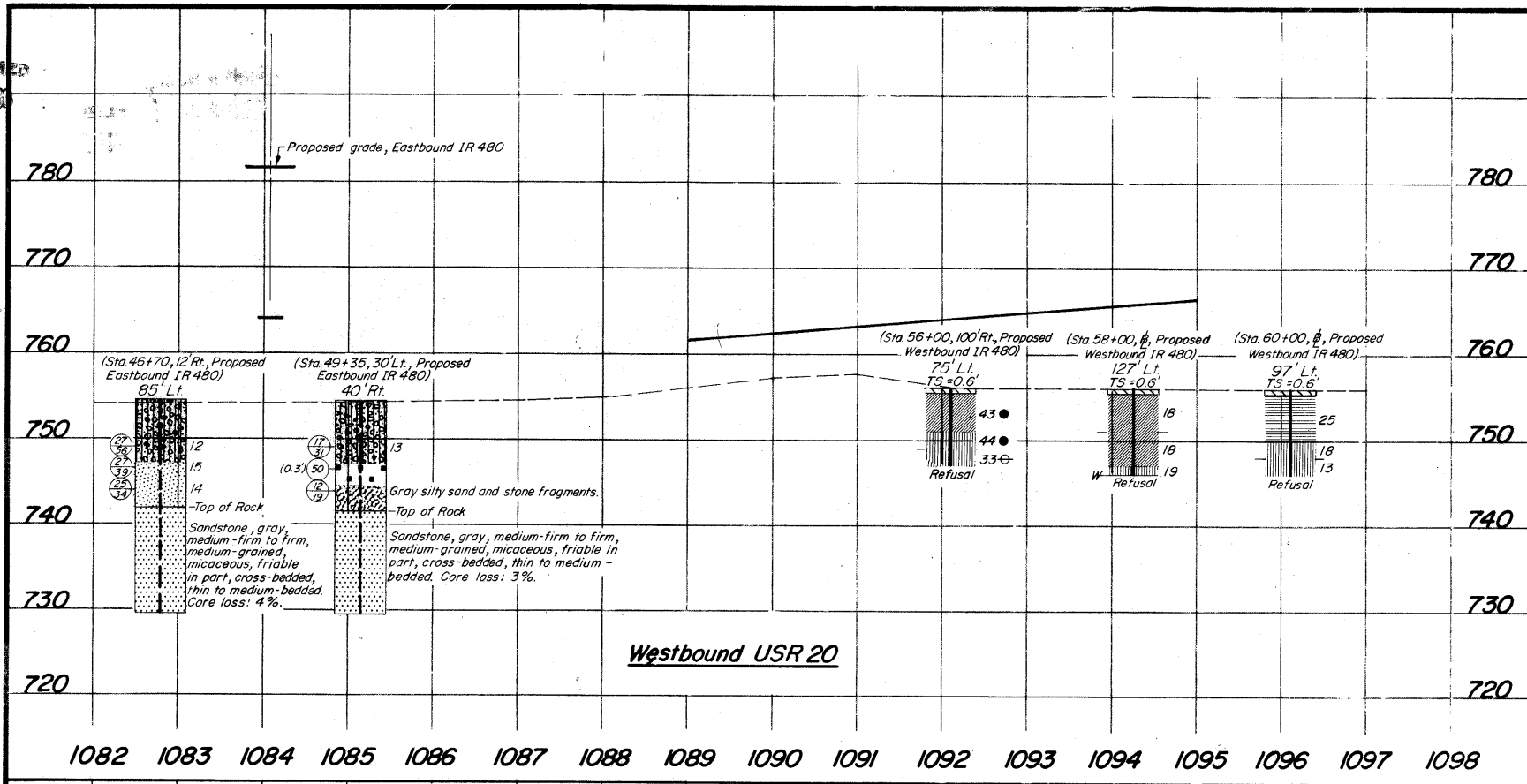
PROFILE INDEX	
Profile	Sheet
Relocated SR 10 & IR 480	8
Ramp L-1	8
Ramp L-2	8
Ramp L-3	9
Ramp L-4	9

Revised 9/8/71



TE-96  
 1800-12-69  
 MICROFILMED  
 JUL 20 1983

Revised 9/8/71



**GENERAL OBSERVATIONS OF THE SITE**

THE STRUCTURE SITE IS LOCATED ON THE RELATIVELY FLAT GLACIATED LAKE PLAIN, IN AN AREA WHERE SHALLOW LAGUNA AND BEACH DEPOSITS OVERLIE SANDSTONE BEDROCK, OF LOWER MISSISSIPPIAN AND UPPER DEVONIAN AGE.

**EXPLORATION**

THE EXPLORATION CONSISTED OF TWO DRIVE SAMPLE-CORE BORINGS, MADE BETWEEN MARCH 3 AND 5, 1970, TWO MECHANICALLY DRIVEN ROD PENETRATION TESTS, AND TWO HAND DRIVEN PROCES, MADE ON APRIL 10, 1970.

**INVESTIGATIONAL FINDINGS**

THE BORINGS DISCLOSED GREATLY SLOPING BEDROCK SURFACE, ENCOUNTERED AT 11 AND 12-FOOT DEPTHS, ELEVATIONS 732 AND 730 FEET, IS OVERLAIN BY DEPOSITS TO VERY DEEP GRAVELLY SANDY SILT AND SILTY SAND AND CLAY WITH INTERVALS OF COBBLES. THE BORINGS WERE TERMINATED AT 15 AND 25-FOOT DEPTHS, ELEVATIONS 726 AND 719 FEET, 4 AND 13 FEET BELOW BEDROCK SURFACE.

ROD SOUNDINGS MET RAPID INCREASE IN PENETRATION RESISTANCE WITH INCREASE IN DEPTH. THE HAND BORINGS AND DRIVE RODS WERE TERMINATED UPON ENCOUNTER WITH REFUSAL TO PENETRATION AT 4 TO 6-FOOT DEPTHS, ELEVATIONS 739 AND 737 FEET, CONSIDERED TO BE ON BOULDERS ABOVE BEDROCK SURFACE, AS REVEALED BY THE BORINGS.

NO FREE WATER OBSERVATIONS WERE MADE IN ANY OF THE HAND PROCS OR DRIVE ROD SOUNDINGS.

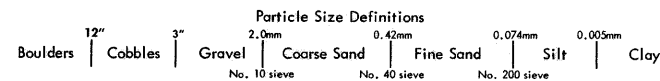
- Auger Boring Location - Plan View.  
 Press and / or Drive Sample and / or Core Boring Location - Plan View.  
 Drive Rod Penetration Resistance Sounding Location - Plan View.  
 Capped Pile.  
 Footing.  
 Footing on Pile.  
 TR Top of Rock

**LEGEND**

- Horizontal Bar on Boring Log Indicates the Depth the Sample Was Taken.  
 Figures Beside the Boring Log in Profile Indicate the Number of Blows for Standard Penetration Test.  
 X = Number of Blows for First 6 inches.  
 Y = Number of Blows for Second 6 inches.  
 Drive Rod Penetration Resistance Sounding Log - Profile.  
 Casing.  
 Resistance "R" < 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



**LOG OF BORING**

Date Started 3-5-70, Date Completed 3-5-70, Boring No. B-3, Station & Offset 993+65, 31' Lt. (Rear Pier), Surface Elev. 741.0', Water Elev. \_\_\_\_\_

Elev.	Depth	Std. Pen (N)	Rec. ft.	Loss ft.	Description	Sample No.	Physical Characteristics							SHTL Class.		
							% Agg.	% C.S.	% F.S.	% Silt	% Clay	L.L.	P.I.		W.C.	
741.0	0				Topsoil											
740.5	0.5	3/4			Brown Silty Clay	1	0	4	22	38	36	32	19	24	A-6b	
738.5	2.5	4/8			Brown Sandy Silt with Cobbles	2	9	2	38	22	29	25	10	18	A-4a	
736.0	5.0				No Sample Recovered - Cobbles - (Driller's Desc.)											
730.0	10.0				TOP OF ROCK											
726.0	14.0		1.5	3+5	Sandstone, gray, firm, fine-grained, thin-bedded, broken. Core loss 62%.											

**LOG OF BORING**

Date Started 3-3-70, Date Completed 3-3-70, Boring No. B-8, Station & Offset 993+98, 12' Rt. (Forward Abutment), Surface Elev. 744.3', Water Elev. \_\_\_\_\_

Elev.	Depth	Std. Pen (N)	Rec. ft.	Loss ft.	Description	Sample No.	Physical Characteristics							SHTL Class.		
							% Agg.	% C.S.	% F.S.	% Silt	% Clay	L.L.	P.I.		W.C.	
744.3	0				Topsoil											
743.3	1.0	4/3			Brownish-Gray Sandy Silt	1	0	5	44	24	27	NP	NP	22	A-4a	
741.8	2.5	5/6			Brown Silty Sand	2	3	3	57	15	22	NP	NP	17	A-4a	
739.3	4.5				No Sample Recovered - Cobble - (Driller's Desc.)											
736.8	7.5	50 (0.2')			Brown Silty Sand and Cobbles	3	0	39	40	-21	-	NP	NP	16	A-3a	
734.3	9.5	50 (0.7')			Gray Silty Sand	4	0	2	71	15	12	NP	NP	19	A-4a	
719.3	24.0		1.0	2.0	TOP OF ROCK											
	26.0		3.5	1.5	Sandstone, gray, medium-firm to firm, fine to medium-grained, slightly carbonaceous in part, thin-to medium-bedded, broken in part. Core loss: 27%.											

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.

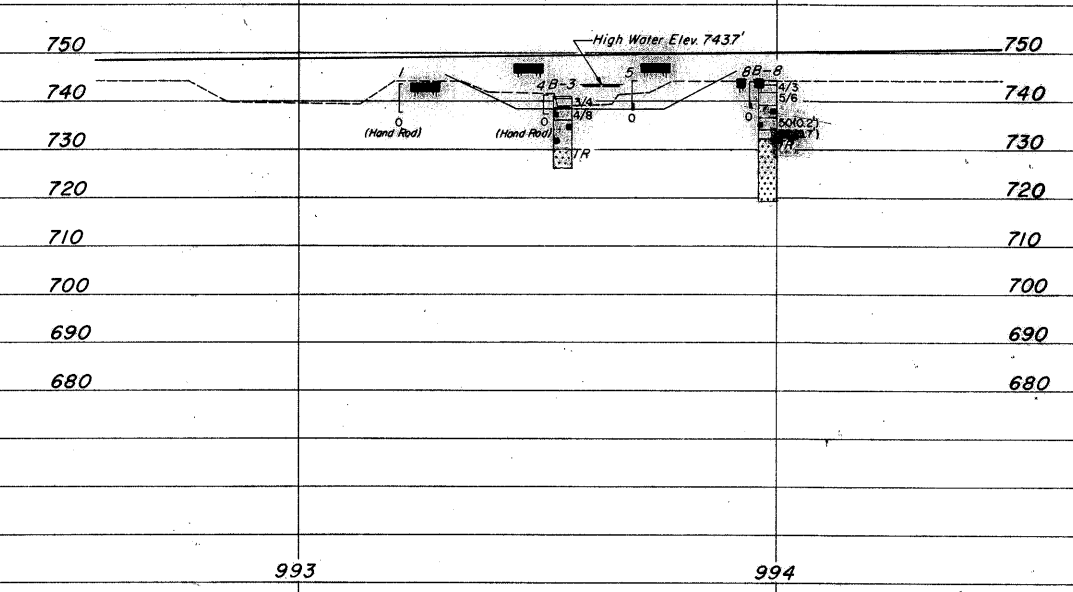
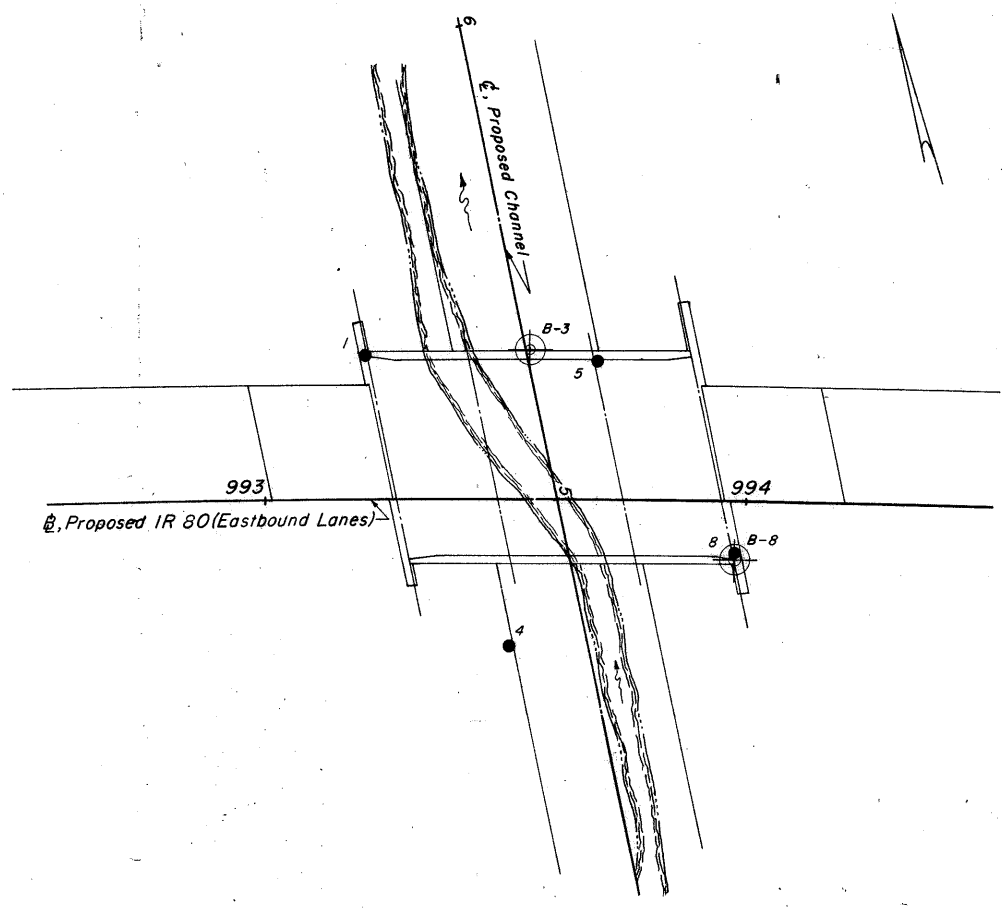
**OHIO DEPARTMENT OF HIGHWAYS TESTING LABORATORY**  
 1620 WEST BROAD STREET, COLUMBUS, OHIO 43223

**STRUCTURE FOUNDATION INVESTIGATION**  
 BRIDGE NO. LOR-480-0034  
 EASTBOUND IR 80 OVER CHANNEL SEC. LOR-480-0.00

CHECKED BY R.D.R.	REVIEWED BY G.P.H.	DATE 4/17/70
----------------------	-----------------------	-----------------

MICROFILMED  
JUL 20 1969

LOR-480-0.00



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

STRUCTURE FOUNDATION INVESTIGATION  
 BRIDGE NO. LOR-480-0034  
 EASTBOUND IR 80 OVER CHANNEL  
 SEC. LOR-480-0.00

PLAN AND PROFILE

DRAWN BY	CHECKED BY	REVIEWED BY	DATE
L.L.L.	R.D.R.	G.P.H.	4/17/70

SCALE: 1" = 20'

Test Location No. \_\_\_\_\_ Station & Offset \_\_\_\_\_

Surface Elev. \_\_\_\_\_ Water Elev. \_\_\_\_\_

Piling \_\_\_\_\_  
 Hammer \_\_\_\_\_  
 Formula \_\_\_\_\_  
 Reference \_\_\_\_\_  
 Rod Condition \_\_\_\_\_

Test Location No. \_\_\_\_\_ Station & Offset \_\_\_\_\_

Surface Elev. \_\_\_\_\_ Water Elev. \_\_\_\_\_

Piling \_\_\_\_\_  
 Hammer \_\_\_\_\_  
 Formula \_\_\_\_\_  
 Reference \_\_\_\_\_  
 Rod Condition \_\_\_\_\_

Test Location No. \_\_\_\_\_ Station & Offset \_\_\_\_\_

Surface Elev. \_\_\_\_\_ Water Elev. \_\_\_\_\_

Piling \_\_\_\_\_  
 Hammer \_\_\_\_\_  
 Formula \_\_\_\_\_  
 Reference \_\_\_\_\_  
 Rod Condition \_\_\_\_\_

Test Location No. \_\_\_\_\_ Station & Offset \_\_\_\_\_

Surface Elev. \_\_\_\_\_ Water Elev. \_\_\_\_\_

Piling \_\_\_\_\_  
 Hammer \_\_\_\_\_  
 Formula \_\_\_\_\_  
 Reference \_\_\_\_\_  
 Rod Condition \_\_\_\_\_

Test Location No. 1  
 Station & Offset 903+21.30'LT  
REAR ABUTMENT

Surface Elev. 743.6 Water Elev. \_\_\_\_\_

Piling \_\_\_\_\_  
 Hammer \_\_\_\_\_  
 Formula \_\_\_\_\_  
 Reference \_\_\_\_\_  
 Rod Condition GOOD

HAND ROD

Test Location No. 4  
 Station & Offset 903+51.30'RT  
REAR PIER

Surface Elev. 741.5 Water Elev. \_\_\_\_\_

Piling \_\_\_\_\_  
 Hammer \_\_\_\_\_  
 Formula \_\_\_\_\_  
 Reference \_\_\_\_\_  
 Rod Condition GOOD

HAND ROD

Test Location No. 5  
 Station & Offset 903+60.20'LT  
FORWARD PIER

Surface Elev. 742.1 Water Elev. \_\_\_\_\_

Piling \_\_\_\_\_  
 Hammer \_\_\_\_\_  
 Formula \_\_\_\_\_  
 Reference \_\_\_\_\_  
 Rod Condition GOOD

TEST ROD

Test Location No. 8  
 Station & Offset 903+08.11'RT  
FORWARD ABUTMENT

Surface Elev. 744.0 Water Elev. \_\_\_\_\_

LOR-480-0.00

Piling \_\_\_\_\_  
 Hammer \_\_\_\_\_  
 Formula \_\_\_\_\_  
 Reference \_\_\_\_\_  
 Rod Condition GOOD

TEST ROD

12  
30  
3

OHIO STATE HIGHWAY TESTING LABORATORY  
 1620 WEST BROAD ST. COLUMBUS 23, OHIO

STRUCTURE FOUNDATION INVESTIGATION  
 BRIDGE NO. LOR-480-0034  
 EASTBOUND I/R 80 OVER CHANNEL  
 SEC. LOR-480-0.00

DRIVE ROD PENETRATION RESISTANCE DATA

PLOTTED BY R. C.	CHECKED BY R. D. R.	REVIEWED BY G. P. H.	DATE 4/17/70
---------------------	------------------------	-------------------------	-----------------

MICROFILMED

JUL 20 1968

GEOLOGY OF THE SITE

THE STRUCTURE SITE IS LOCATED ON A RELATIVELY FLAT PORTION OF THE GLACIATED LAKE PLAIN, IN AN AREA WHERE MODERATELY DEEP GLACIAL DRIFT OVERLIES SANDSTONE BEDROCK, OF MISSISSIPPIAN AGE.

EXPLORATION








THE EXPLORATION CONSISTED OF TWO DRIVE SAMPLE-CORE BORINGS AND FIVE DRIVE ROD PENETRATION TESTS, MADE ON AUGUST 5 AND 6, 1968.

INVESTIGATIONAL FINDINGS










BORINGS DISCLOSED MEDIUM-DENSE TO VERY DENSE SANDS, SILTS AND GRAVELS WITH STIFF CLAYS, OVERLIE SLOPING BEDROCK SURFACE, ENCOUNTERED AT 23 AND 26-FOOT DEPTHS, ELEVATIONS 727 AND 722 FEET. THE BORINGS WERE TERMINATED AT 30 AND 35-FOOT DEPTHS, ELEVATIONS 720 AND 713 FEET, AFTER PENETRATING 7 AND 10 FEET OF BEDROCK.

ROD SOUNDINGS ENCOUNTERED GRADUAL INCREASE IN RESISTANCE TO PENETRATION WITH INCREASING DEPTH AND WERE TERMINATED UPON ENCOUNTER WITH NEAR-REFUSAL AND REFUSAL TO PENETRATION AT 14 TO 26-FOOT DEPTHS, ELEVATIONS 736 TO 730 FEET, CONSIDERED TO BE ON VERY DENSE MATERIALS, AS REVEALED BY THE BORINGS.

NO FREE WATER WAS OBSERVED IN ANY OF THE ROD SOUNDING HOLES.

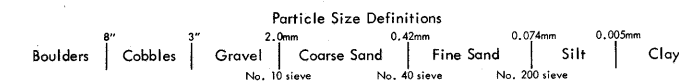
-  Auger Boring Location - Plan View.
-  Press and / or Drive Sample and / or Core Boring Location - Plan View.
-  Drive Rod Penetration Resistance Sounding Location - Plan View.
-  Capped Pile
-  Footing
-  Footing on Pile
-  TR Top of Rock

LEGEND

-  Horizontal Bar on Boring Log Indicates the Depth the Sample Was Taken.
-  Figures Beside the Boring Log in Profile Indicate the Number of Blows for Standard Penetration Test.  
X = Number of Blows for First 6 inches.  
Y = Number of Blows for Second 6 inches.
-  Drive Rod Penetration Resistance Sounding Log - Profile
-  Casing
-  Resistance "R" < 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 Indurated Clay
-  Indurated Clay
-  Weathered Shale
-  Shale
-  Weathered Sandstone
-  Sandstone
-  Leached Dolomite
-  Dolomite
-  Leached Limestone
-  Limestone



LOG OF BORING

Date Started 8-6-68 Sampler Type SS Dia 1 3/8" Water Elev. \_\_\_\_\_  
 Date Completed 8-6-68 Casing Length 25' Dia 3 1/2"  
 Boring No. B-1 Station & Offset 1019+00, 15' Lt. (Rear Abutment) Surface Elev. 748.0'

Elev.	Depth	Std. Pen (N)	Rec. ft.	Loss ft.	Description	Sample No.	Physical Characteristics										SHTL Class.		
							% Agg.	% C.S.	% F.S.	% Silt	% Clay	L.L.	P.I.	W.C.					
748.0	0																		
	2																		
	4																		
743.0	6	4/5			Brown Sandy Silt	1	6	3	45	24	22	NP	NP	21					A-4a
	8																		
738.0	10	18/25			Gray Sandy Gravelly Silt	2	35	7	8	21	29	22	6	16					A-4a
	12																		
733.0	14																		
	16	50* (0.9')			Gray Silt and Clay	3	4	3	4	28	61	27	12	16					A-6a
	18																		
728.0	20	50* (0.4')			Gray Silty Gravelly Sand	4	23	16	34	-27	-	NP	NP	11					A-3a
	22																		
723.0	24	50/*			Gray Silty Sand with Stone Fragments	5	37	20	29	-14	-	NP	NP	14					A-1-b
722.5	26				TOP OF ROCK														
	28		4.4	0.1															
	30				Sandstone, medium-gray, medium-to-coarse-grained, massive to thin-bedded, somewhat friable. Core Loss 1%.														
	32																		
	34		5.0	0.0															
713.0					BOTTOM OF BORING														

\*Refusal

LOG OF BORING

Date Started 8-7-68 Sampler Type SS Dia 1 3/8" Water Elev. \_\_\_\_\_  
 Date Completed 8-7-68 Casing Length 22' Dia 3 1/2"  
 Boring No. B-10 Station & Offset 1022+90, 07' Rt. (Forward Abutment) Surface Elev. 750.0'

Elev.	Depth	Std. Pen (N)	Rec. ft.	Loss ft.	Description	Sample No.	Physical Characteristics										SHTL Class.		
							% Agg.	% C.S.	% F.S.	% Silt	% Clay	L.L.	P.I.	W.C.					
750.0	0																		
	2																		
	4																		
745.0	6	11/13			Brownish-Gray Sandy Clay	1	7	5	12	32	44	32	33	31					A-6a
	8																		
740.0	10	22/17			Gray Gravelly Sandy Silt	2	25	9	23	22	21	NP	NP	11					A-4a
	12																		
	14																		
735.0	16	50/*			Gray Silty Sandy Gravel	3	37	15	18	17	13	NP	NP	14					A-2-4
	18																		
730.0	20	50* (0.7')			Gray Silty Gravelly Sand	4	16	15	42	15	12	NP	NP	12					A-3a
	22																		
727.0	24		2.2	0.8	TOP OF ROCK														
	26																		
	28		4.5	0.5	Sandstone, light-gray, medium-to-coarse-grained, massive to thin-bedded, somewhat friable. Core Loss 3%.														
720.0	30				BOTTOM OF BORING														

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

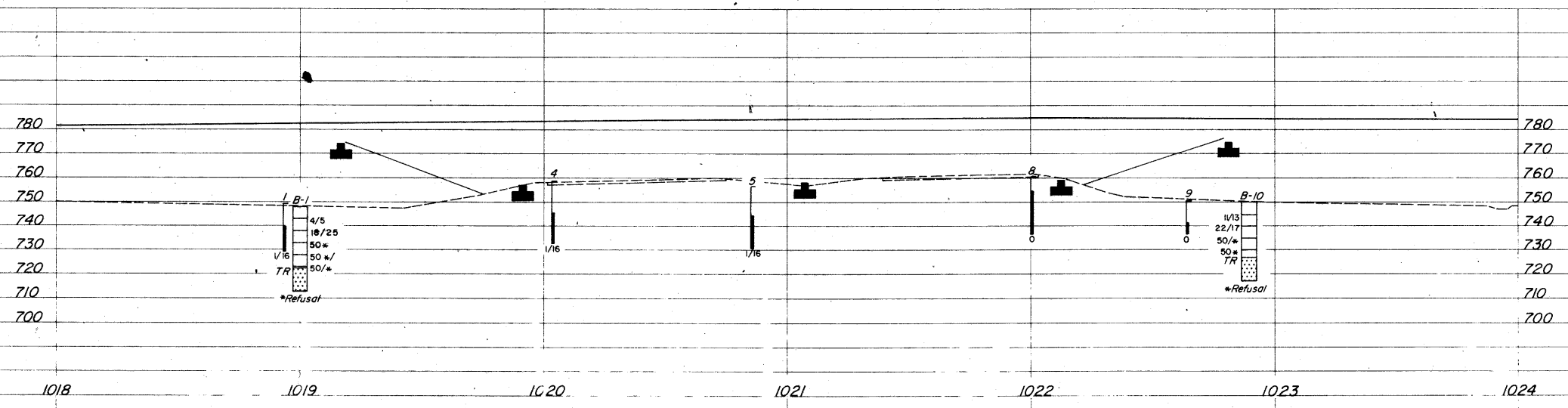
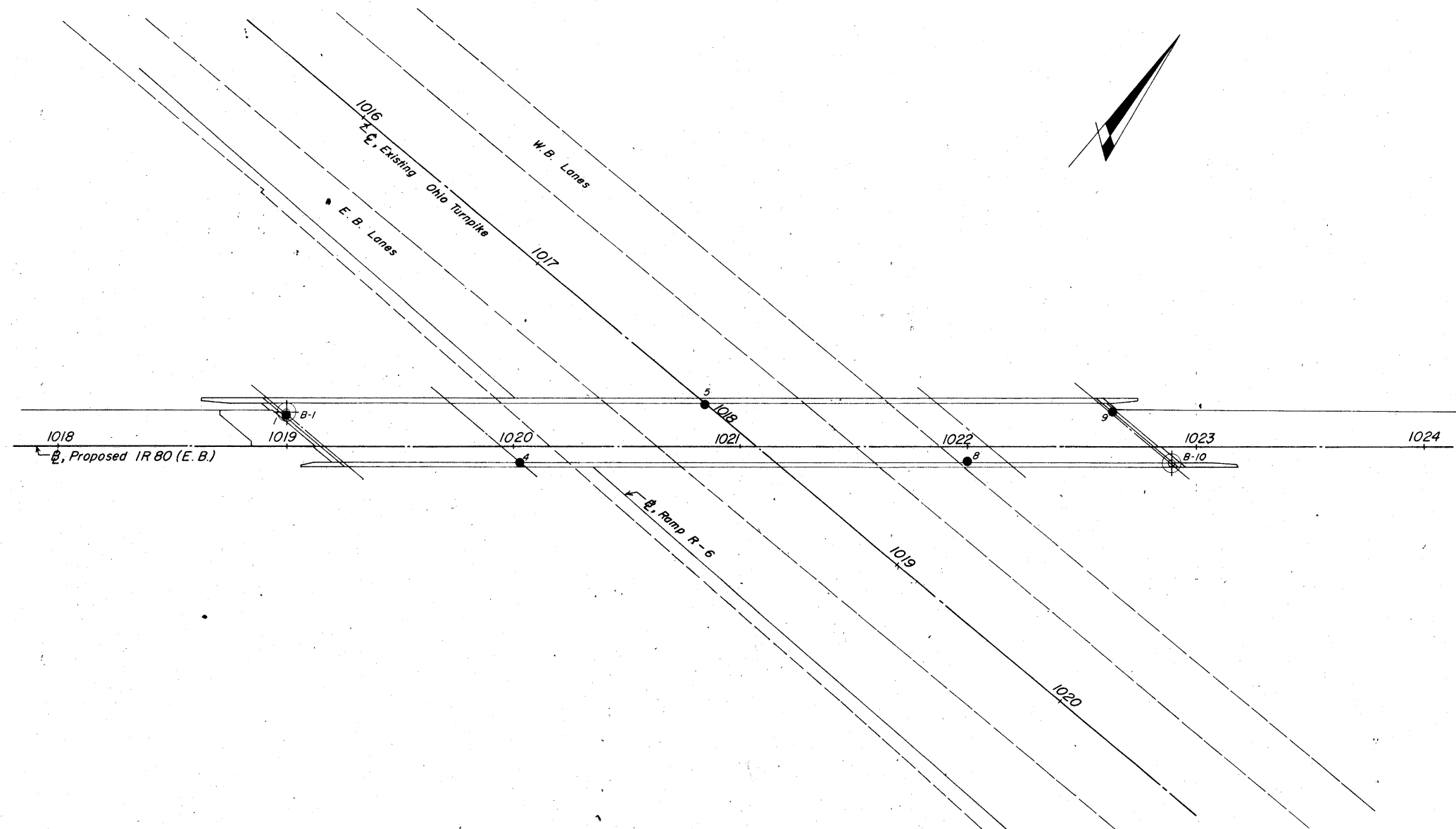
OHIO DEPARTMENT OF HIGHWAYS  
TESTING LABORATORY  
1620 WEST BROAD STREET, COLUMBUS 23, OHIO

STRUCTURE FOUNDATION INVESTIGATION  
BRIDGE NO. LOR-480-0082  
E.B.OVER OHIO TURNPIKE  
SEC. LOR-480-0.00

CHECKED BY \_\_\_\_\_ REVIEWED BY \_\_\_\_\_ DATE 8/22/68



MICROFILMED  
JUL 20 1968



OHIO DEPARTMENT OF HIGHWAYS  
TESTING LABORATORY  
1620 WEST BROAD STREET, COLUMBUS 23, OHIO

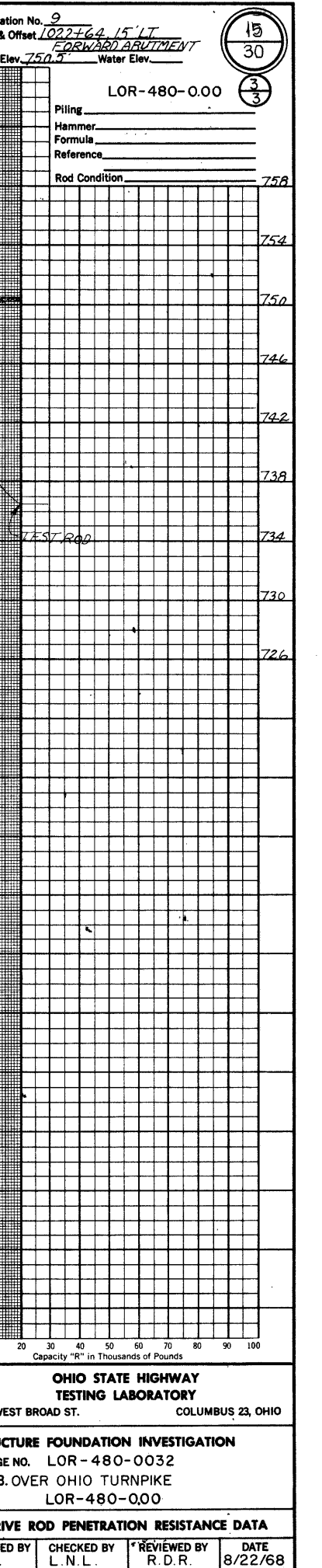
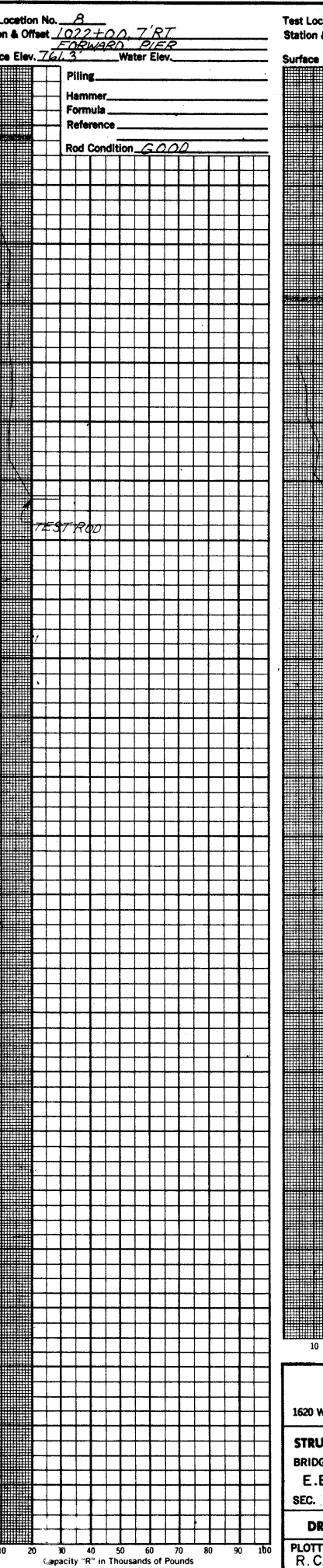
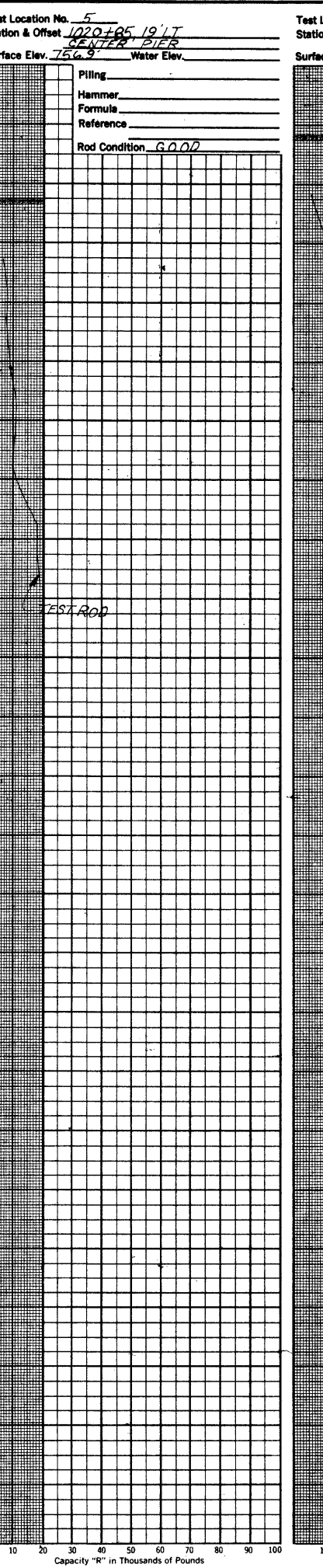
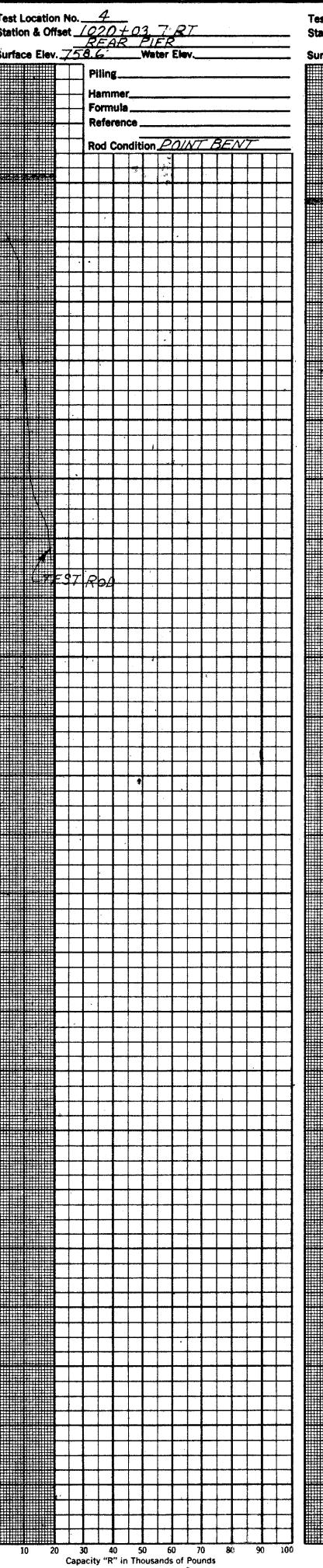
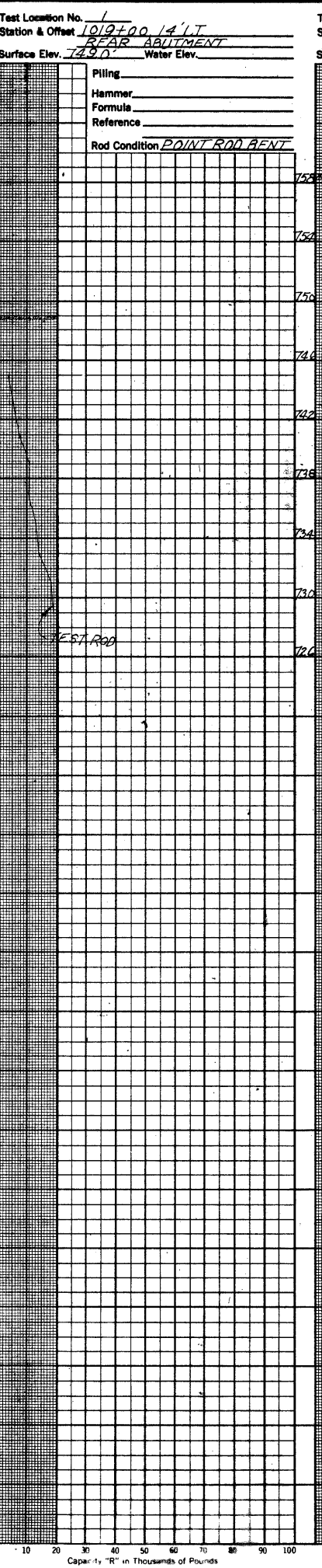
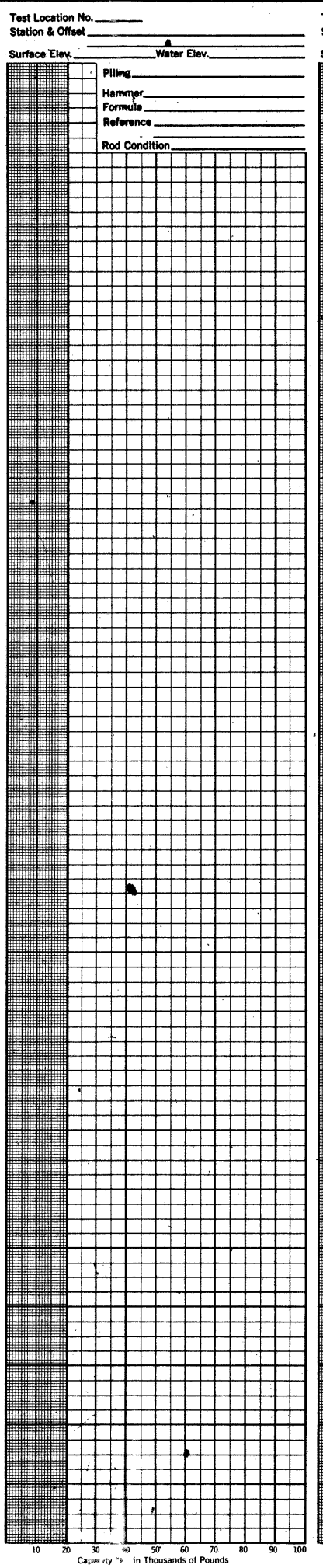
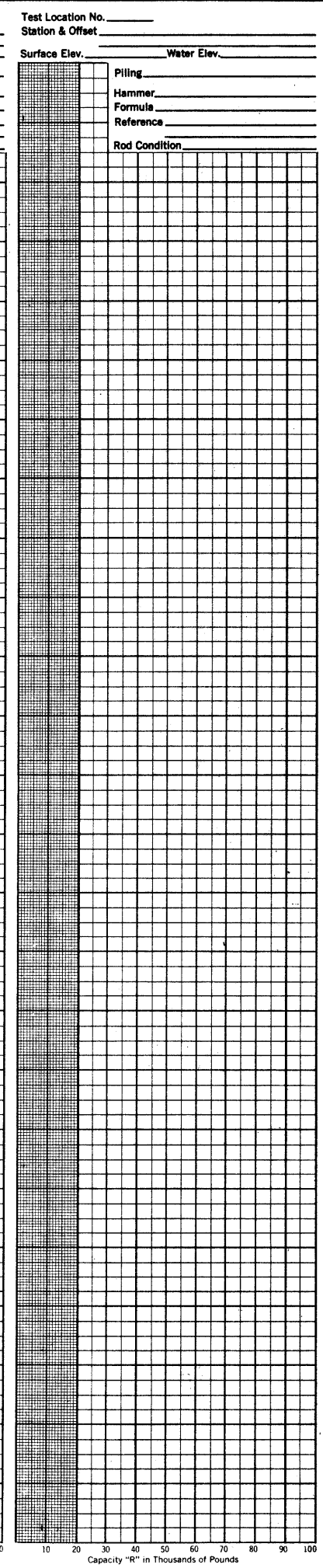
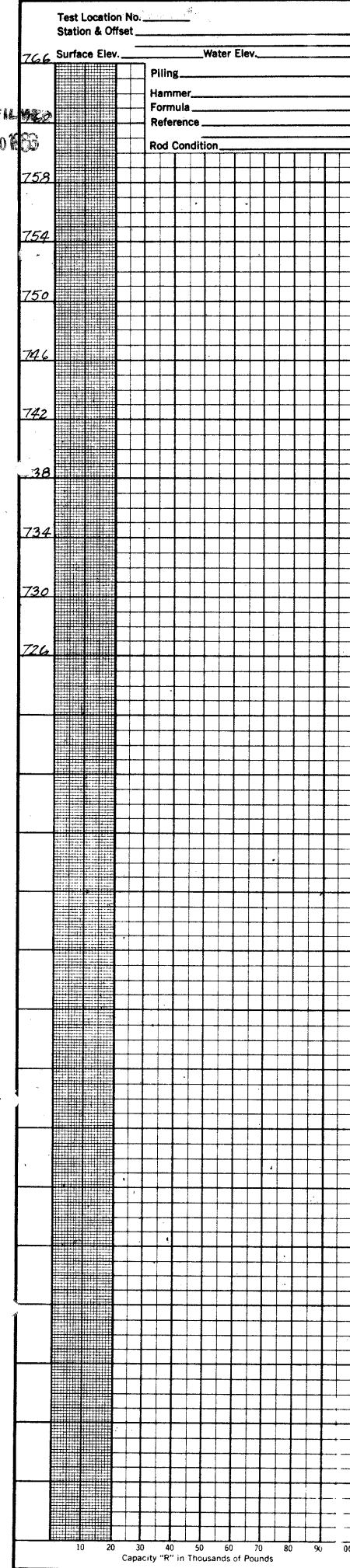
STRUCTURE FOUNDATION INVESTIGATION  
BRIDGE NO. LOR-480-0082  
E.B.OVER OHIO TURNPIKE  
SEC. LOR-480-000

PLAN AND PROFILE

DRAWN BY J.E.C.	CHECKED BY L.N.L.	REVIEWED BY R.D.R.	DATE 8/22/68
--------------------	----------------------	-----------------------	-----------------

SCALE: 1" = 30'

MICROFILMED  
JUL 20 1968



15  
30

LOR-480-0.00

3  
3

**OHIO STATE HIGHWAY TESTING LABORATORY**  
1620 WEST BROAD ST. COLUMBUS 23, OHIO

**STRUCTURE FOUNDATION INVESTIGATION**  
BRIDGE NO. LOR-480-0032  
E.B. OVER OHIO TURNPIKE  
SEC. LOR-480-0.00

**DRIVE ROD PENETRATION RESISTANCE DATA**

PLOTTED BY R.C. CHECKED BY L.N.L. REVIEWED BY R.D.R. DATE 8/22/68

MICROFILMED  
JUL 20 1988

**GEOLOGY OF THE SITE**

THE STRUCTURE SITE IS LOCATED ON A RELATIVELY FLAT PORTION OF THE GLACIATED LAKE PLAIN, IN AN AREA WHERE MODERATELY DEEP GLACIAL DRIFT OVERLIES SANDSTONE BEDROCK OF MISSISSIPPIAN AGE.

**EXPLORATION**








THE EXPLORATION CONSISTED OF TWO DRIVE SAMPLER-CORE BORINGS AND FOUR DRIVE ROD PENETRATION TESTS, MADE ON JUNE 20 AND 21, 1968.







**INVESTIGATIONAL FINDINGS**

BORINGS DISCLOSED VERY NERSE INTERVALS OF SAND, SILTS, AND BOULDERS, OVERLIE SLOPING BEDROCK SURFACE, ENCOUNTERED AT 18 AND 19-FOOT DEPTHS, ELEVATIONS 736 AND 733 FEET. THE BORINGS WERE TERMINATED AT 30 AND 35-FOOT DEPTHS, ELEVATIONS 724 AND 717 FEET, AFTER PENETRATING 12 AND 16 FEET OF BEDROCK.







ROD SOUNDINGS SHOWED RAPID INCREASE IN RESISTANCE TO PENETRATION WITH INCREASING DEPTH AND WERE TERMINATED AT 12 TO 15-FOOT DEPTHS, ELEVATIONS 742 TO 740 FEET, CONSIDERED TO BE ON BOULDERS OR VERY DENSE MATERIALS, AS REVEALED BY THE BORINGS.

NO FREE WATER WAS OBSERVED IN ANY OF THE ROD SOUNDING HOLES.










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

-  Coal
-  Weathered Indurated Clay
-  Indurated Clay
-  Weathered Shale
-  Shale
-  Boulders

**SYMBOLS OF ROCK TYPES**

-  Weathered Sandstone
-  Sandstone
-  Leached Dolomite
-  Dolomite
-  Leached Limestone
-  Limestone

**LEGEND**

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

**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.

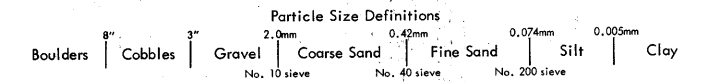
**Drive Sample Borings - Drive-Press Sample Borings**

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			Sampler Type		Dia.		Water Elev.		Date Completed			Casing Length		Dia.	
6-20-68			SS		1 3/8"				6-20-68						
Boring No.			Station & Offset		Surface Elev.										
B-4			1075+76, 2' Rt. (Rear Pier)		754.4'										
Elev.	Depth	Std. Pen. (N)	Rec. ft.	Loss ft.	Description	Sample No.	% Agg.	% C.S.	% F.S.	% Silt	% Clay	LL	PI	WC	SHTL Class.
754.4	0														
	2														
	4														
749.4	6	4/5			Brown Silty Gravelly Sand	1	23	8	35	14	20	20	4	17	A-2-4
	8														
744.4	10	22/25			Gray Silty Sand	2	8	2	60	13	17	NP	NP	13	A-3a
	12														
	14		1.0	1.5											
	16														
736.4	18				TOP OF ROCK										
	20		1.9	0.1	Sandstone, light gray, fine-grained, hard, dense, angle-bedding, thin ferruginous streaks, angle-fracture of carbonaceous material at 19 feet, horizontal ferruginous streaks in bottom 1.5 feet. Core Loss 25%.										
	22														
730.4	24		4.1	0.9	Sandstone, medium-gray, medium-grained, poorly cemented somewhat micaceous, dense, massive in structure. Core Loss 32%.										
	26														
	28		4.0	1.0											
724.4	30				BOTTOM OF BORING										

LOG OF BORING															
Date Started			Sampler Type		Dia.		Water Elev.		Date Completed			Casing Length		Dia.	
6-20-68			SS		1 3/8"				6-20-68						
Boring No.			Station & Offset		Surface Elev.										
B-8			1078+80, 8' Rt. (Forward Abutment)		752.4'										
Elev.	Depth	Std. Pen. (N)	Rec. ft.	Loss ft.	Description	Sample No.	% Agg.	% C.S.	% F.S.	% Silt	% Clay	LL	PI	WC	SHTL Class.
752.4	0														
	2														
	4														
747.44	6	6/14			Brownish-Gray Sandy Silt	1	10	5	14	28	43	29	10	17	A-4a
	8														
742.4	10	17/36			Brownish-Gray Gravelly Sandy Silt	2	21	15	14	20	30	21	6	10	A-4a
	12														
	14														
737.4	16	50*			No Sample Recovered - Sandstone Boulders (Driller's Description)	V	I	S	U	A	L				
	18														
733.4	20		1.0	1.5	TOP OF ROCK										
	22				Sandstone, light gray, medium to fine grained, hard, dense, few dark carbonaceous bedding streaks, micaceous in part, good recovery, grain size uniform & consistent throughout. Core Loss 3%.										
	24		4.5	0.5											
	26														
	28		4.9	0.1											
	30														
	32														
	34		5.0	0.0											
717.4					BOTTOM OF BORING										

\* Refusal

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 23, OHIO

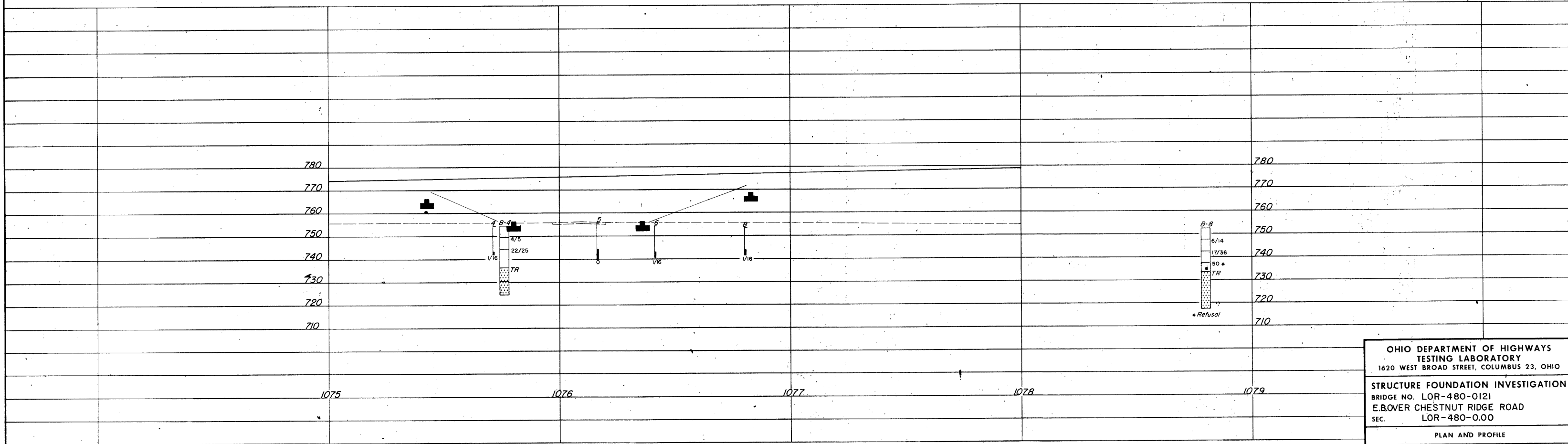
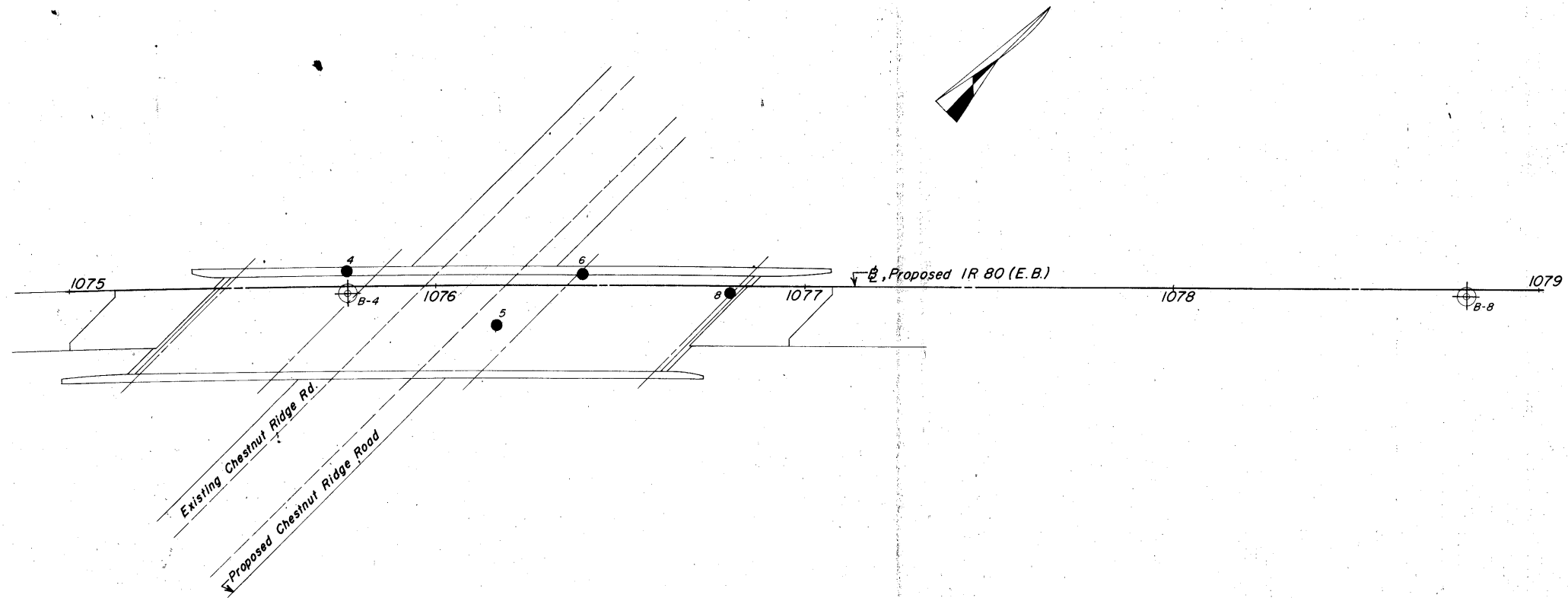
STRUCTURE FOUNDATION INVESTIGATION  
BRIDGE NO. LOR-480-0121  
E.B.OVER CHESTNUT RIDGE ROAD  
SEC. LOR-480-0.00

CHECKED BY L.N.L.	REVIEWED BY R.D.R.	DATE 7/31/68
----------------------	-----------------------	-----------------

MICROFILMED  
JUL 20 1980

LOR-480-0.00

17  
30  
2/3



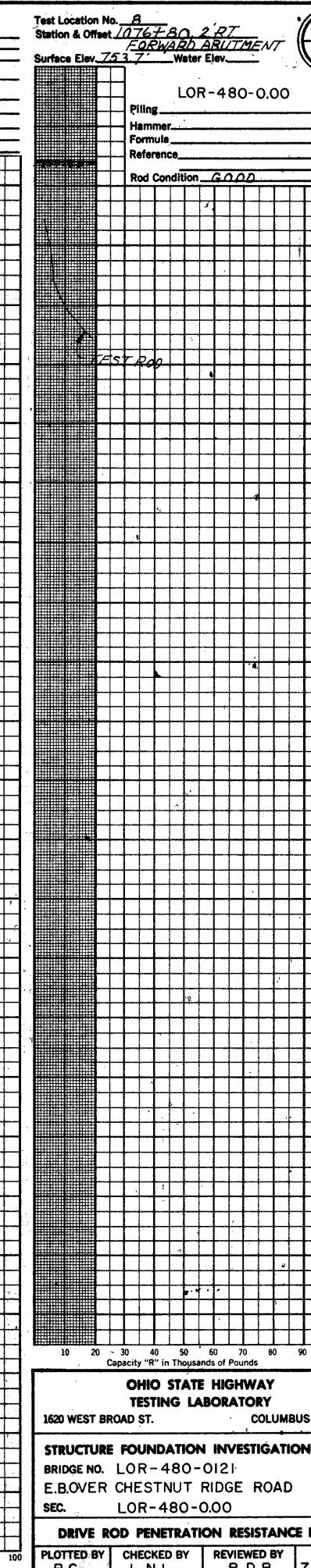
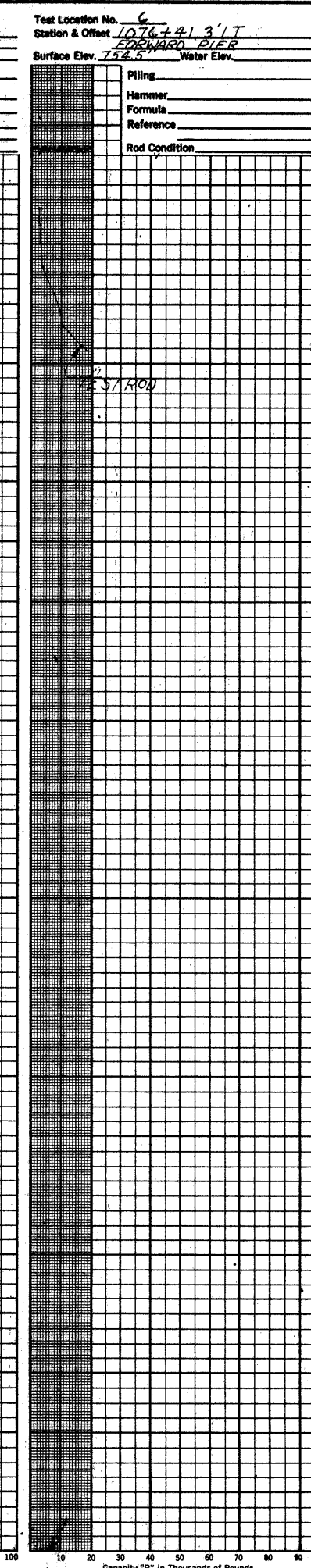
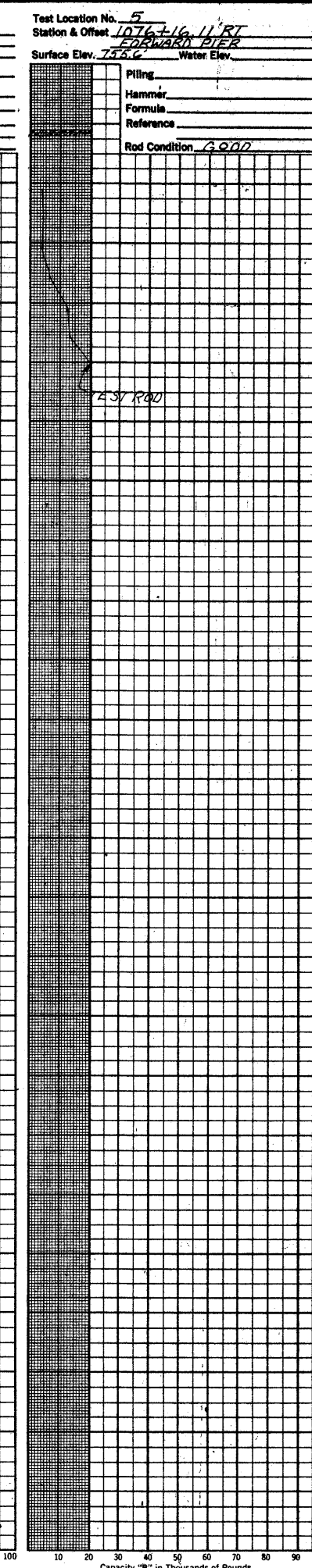
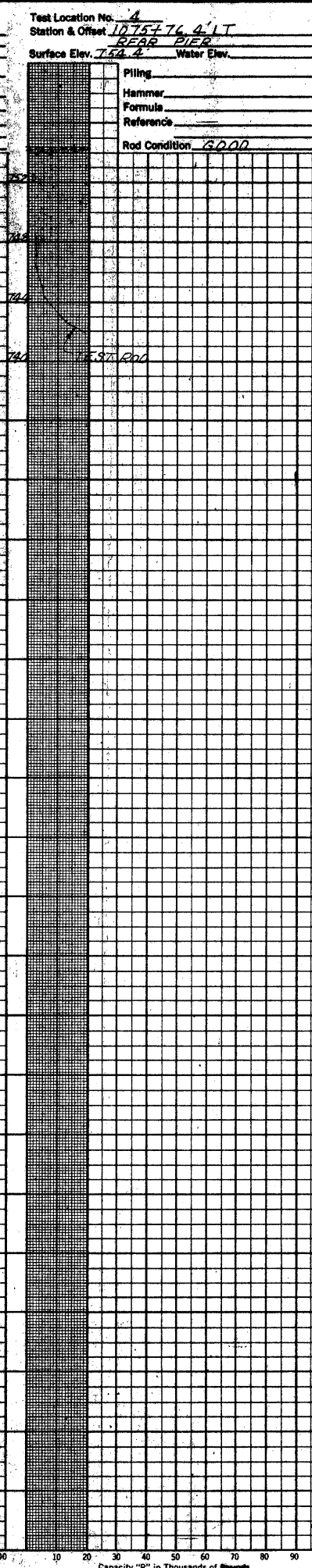
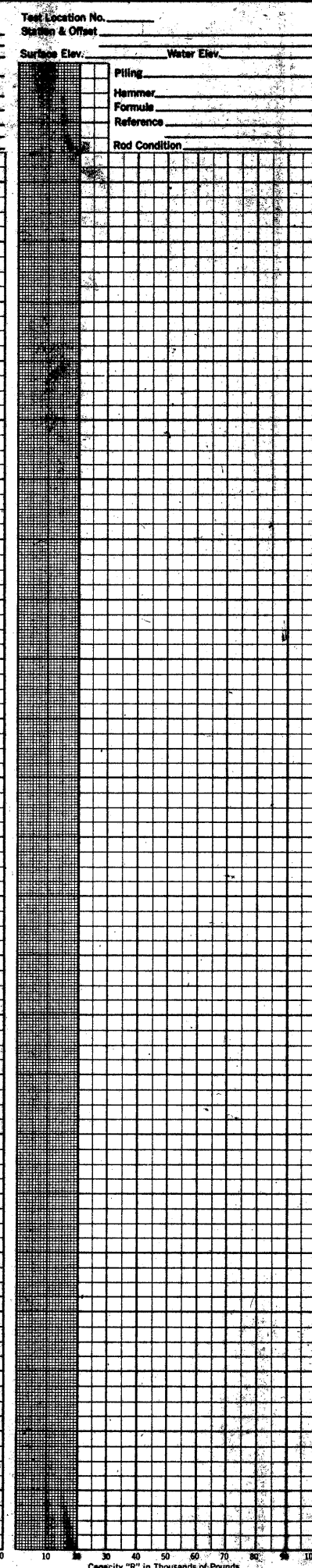
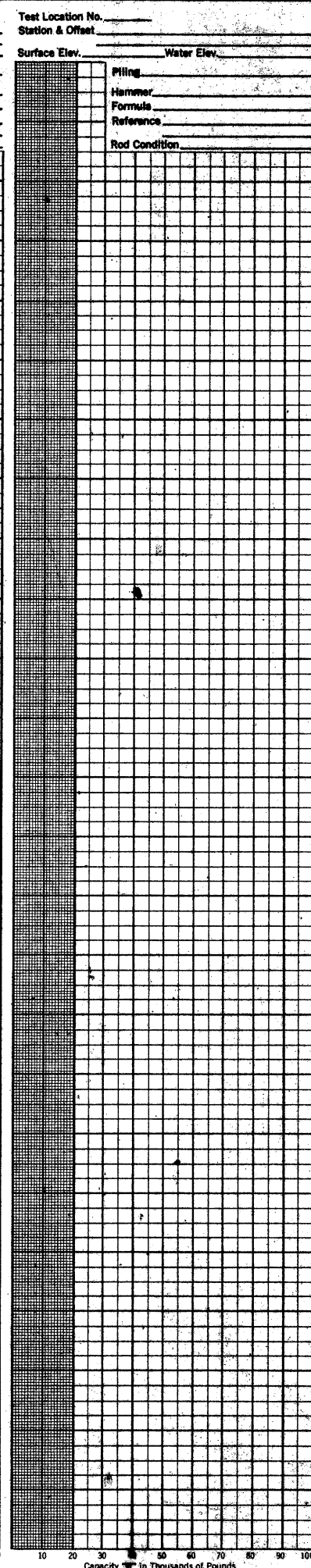
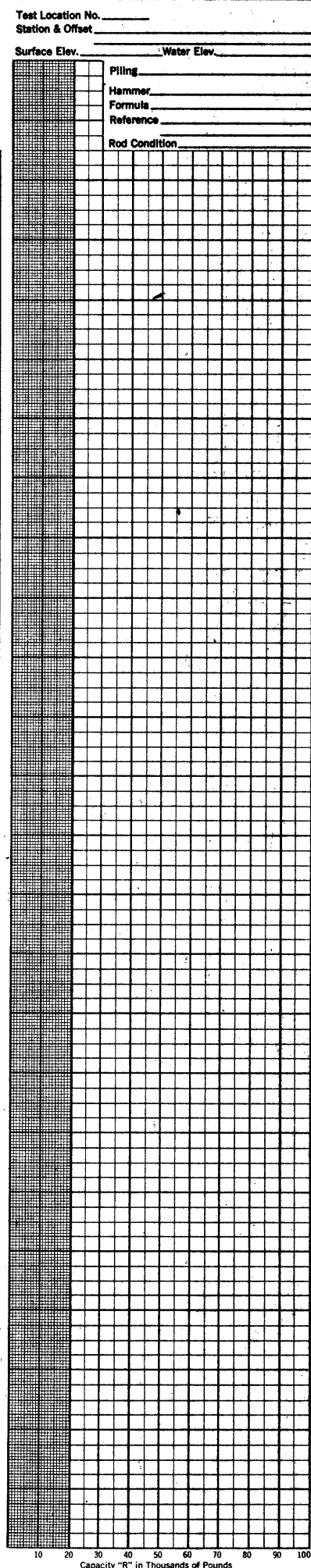
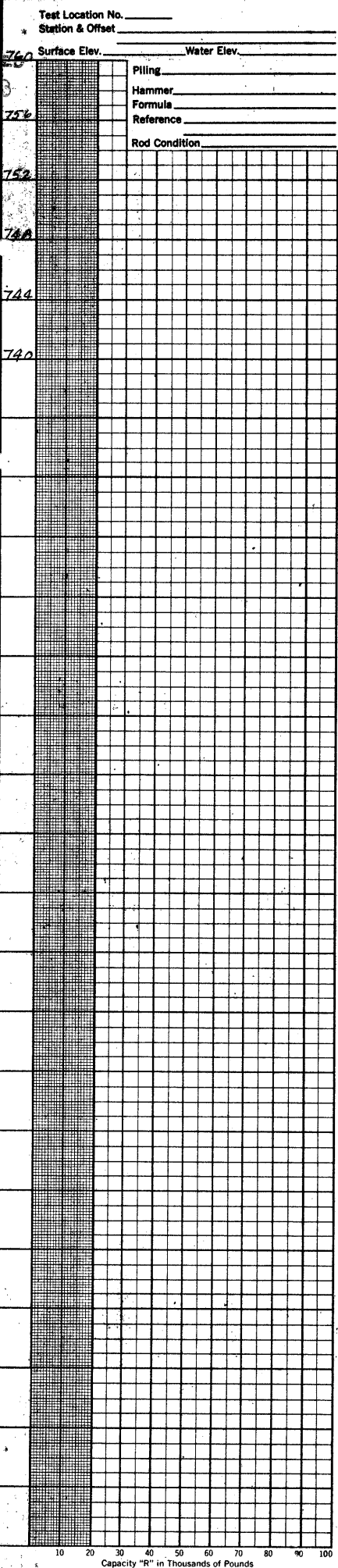
OHIO DEPARTMENT OF HIGHWAYS  
TESTING LABORATORY  
1620 WEST BROAD STREET, COLUMBUS 23, OHIO

STRUCTURE FOUNDATION INVESTIGATION  
BRIDGE NO. LOR-480-0121  
E. BOVER CHESTNUT RIDGE ROAD  
SEC. LOR-480-0.00

PLAN AND PROFILE

DRAWN BY M.S.F.	CHECKED BY L.N.L.	REVIEWED BY R.D.R.	DATE 7/31/68
--------------------	----------------------	-----------------------	-----------------

SCALE: 1" = 20'



18  
30  
3

**OHIO STATE HIGHWAY TESTING LABORATORY**  
1620 WEST BROAD ST. COLUMBUS 23, OHIO

**STRUCTURE FOUNDATION INVESTIGATION**  
BRIDGE NO. LOR-480-0121  
E. BOVER CHESTNUT RIDGE ROAD  
SEC. LOR-480-000

**DRIVE ROD PENETRATION RESISTANCE DATA**

PLOTTED BY R.C.	CHECKED BY L.N.L.	REVIEWED BY R.D.R.	DATE 7/31/68
--------------------	----------------------	-----------------------	-----------------

MICROFILMED  
JUL 20 1968








**GEOLOGY OF THE SITE**  
THE STRUCTURE SITE IS LOCATED ON A RELATIVELY FLAT PORTION OF THE GLACIATED LAKE PLAIN, IN AN AREA WHERE MODERATELY DEEP GLACIAL DRIFT OVERLIES SANDSTONE BEDROCK, OF MISSISSIPPIAN AGE.

**EXPLORATION**  
THE EXPLORATION CONSISTED OF TWO DRIVE SAMPLE-CORE BORINGS AND FOUR DRIVE ROD PENETRATION TESTS, MADE BETWEEN JUNE 18 AND 20, 1968.







**INVESTIGATIONAL FINDINGS**  
BORINGS DISCLOSED VERY DEEP INTERVALS OF SAND, GRAVEL, AND BOULDERS TO SLIPPING BEDROCK SURFACE, ENCOUNTERED AT 20 AND 29-FOOT DEPTHS, ELEVATIONS 736 AND 730 FEET. THE BORINGS WERE TERMINATED AT 30-FOOT DEPTHS, ELEVATIONS 726 AND 719 FEET, AFTER PENETRATING 10 AND 11 FEET OF BEDROCK.










ROD SOUNDINGS ENCOUNTERED VERY ERRATIC RESISTANCE TO PENETRATION WITH INCREASING DEPTH AND WERE TERMINATED AT 18 TO 22-FOOT DEPTHS, ELEVATIONS 740 TO 735 FEET, CONSIDERED TO BE ON BOULDERS, AS REVEALED BY THE BORINGS.

NO FREE WATER WAS OBSERVED IN ANY OF THE ROD SOUNDING HOLES.

-  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

**SYMBOLS OF ROCK TYPES**

-  Coal
-  Weathered Indurated Clay
-  Indurated Clay
-  Weathered Shale
-  Shale
-  Boulders

- LEGEND**
-  Horizontal Bar on Boring Log Indicates the Depth the Sample Was Taken.
  -  Figures Beside the Boring Log in Profile Indicate the Number of Blows for Standard Penetration Test.  
X = Number of Blows for First 6 inches.  
Y = Number of Blows for Second 6 inches.
  -  Drive Rod Penetration Resistance Sounding Log - Profile
  -  Casing
  -  Resistance "R" < 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.

**GENERAL INFORMATION**

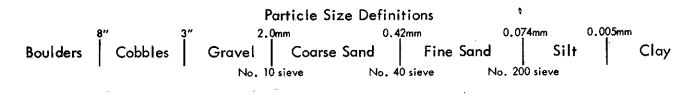
**Drive Rod Penetration Sounding Tests**  
Drive rod penetration resistance tests constitute driving a 1.315-inch diameter steel rod, with a 45° cone point, into the ground, using a 122-pound drop-hammer with a free fall of five feet. At one or two-foot depth intervals, a measurement is taken to determine 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 6-18-68 Sampler Type SS Dia 1 3/8" Water Elev. \_\_\_\_\_  
 Date Completed 6-19-68 Casing Length \_\_\_\_\_ Dia \_\_\_\_\_  
 Boring No. B-1 Station & Offset 45+29, 17' Rt. (Rear Abutment) Surface Elev 758.5'

Elev.	Depth	Std. Pen (N)	Rec. ft.	Loss ft.	Description	Sample No.	Physical Characteristics								SHTL Class.
							% Agg.	% C.S.	% F.S.	% Silt	% Clay	L.L.	P.I.	W.C.	
758.5	0														
753.5	5	6/8			Brown Sandy Silt	1	14	21	17	27	21	23	6	18	A-4s
748.5	10	5/14			Brownish-Gray Sandy Silt	2	8	7	20	28	37	21	5	17	A-4s
743.5	15				No Sample Recovered - Granite Boulder (Driller's Description)	V									
738.5	20				No Sample Recovered - Boulder (Driller's Description)	V									
733.5	25		0.7	4.3	No Sample Recovered - Granite Boulders (Driller's Description)	V									
729.5	29		1.9	3.1											
	30				TOP OF ROCK										
	32		5.0	0.0	Sandstone, light gray medium grained, dense, hard, lower 4 feet shows thin streaks of carbonaceous material & angular bedding, slightly friable when wet. No Core Loss										
	34														
	36														
	38		5.0	0.0											
718.5	40				BOTTOM OF BORING										

**LOG OF BORING**

Date Started 6-18-68 Sampler Type SS Dia 1 3/8" Water Elev. \_\_\_\_\_  
 Date Completed 6-18-68 Casing Length \_\_\_\_\_ Dia \_\_\_\_\_  
 Boring No. B-2 Station & Offset 47+54, E. (Forward Abutment) Surface Elev 756.3'

Elev.	Depth	Std. Pen (N)	Rec. ft.	Loss ft.	Description	Sample No.	Physical Characteristics								SHTL Class.
							% Agg.	% C.S.	% F.S.	% Silt	% Clay	L.L.	P.I.	W.C.	
756.3	0														
751.3	5	5/3			Brownish-Gray Gravelly Sandy Silt	1	15	11	20	22	32	25	7	24	A-4s
746.3	10				Gray Sandy Silt	2	4	7	14	35	40	20	3	14	A-4s
741.3	15				Gray Silty Sand with Stone Fragments with Boulders	3	20	6	37	25	12	NP	NP	15	A-4s
736.3	20				TOP OF ROCK										
	22														
	24		4.7	0.3	Sandstone, light gray, medium grained, dense, hard, massive, uniform throughout, good recovery. 0.6% loss.										
	26														
	28														
	30		5.0	0.1	BOTTOM OF BORING										

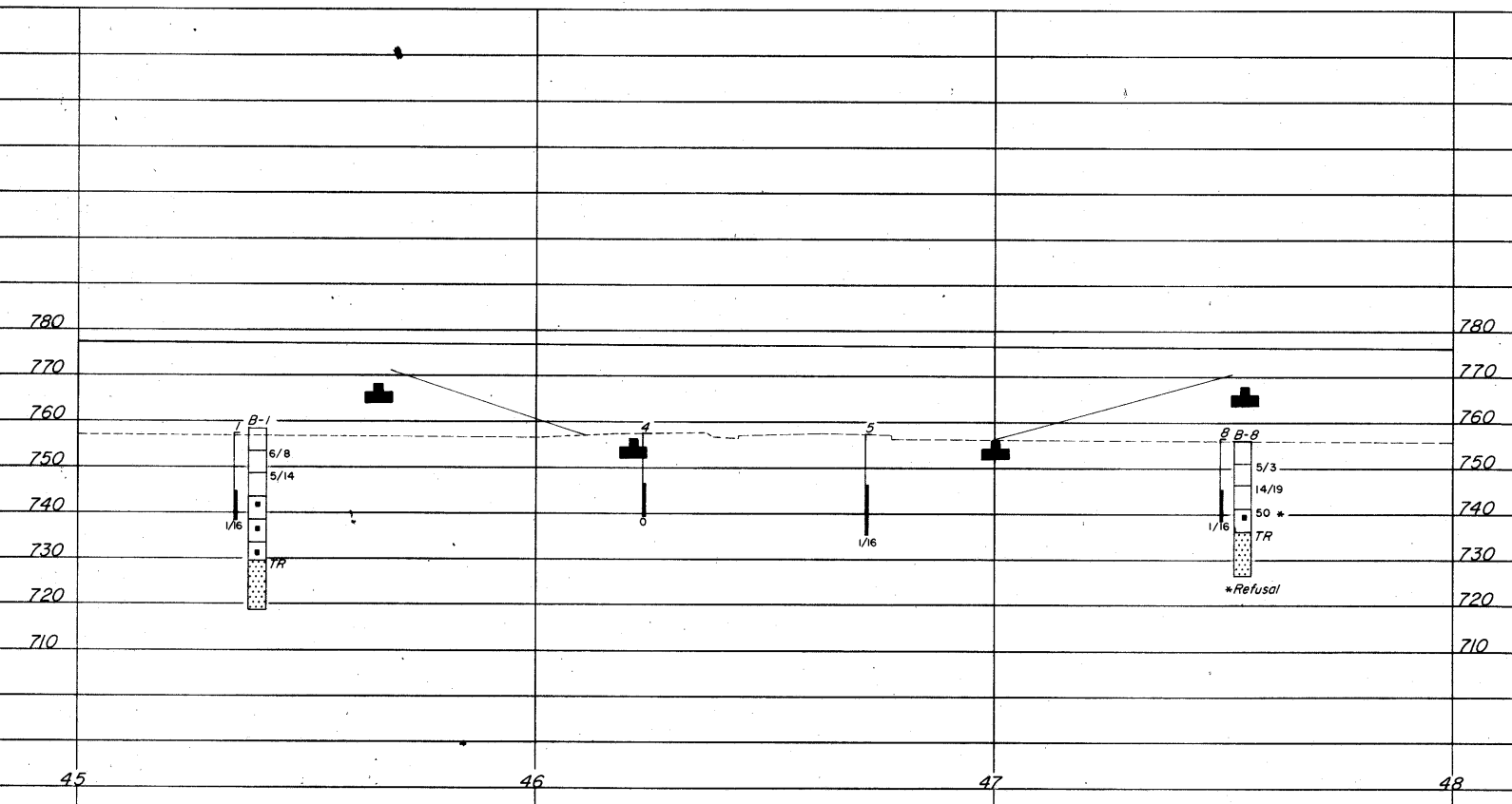
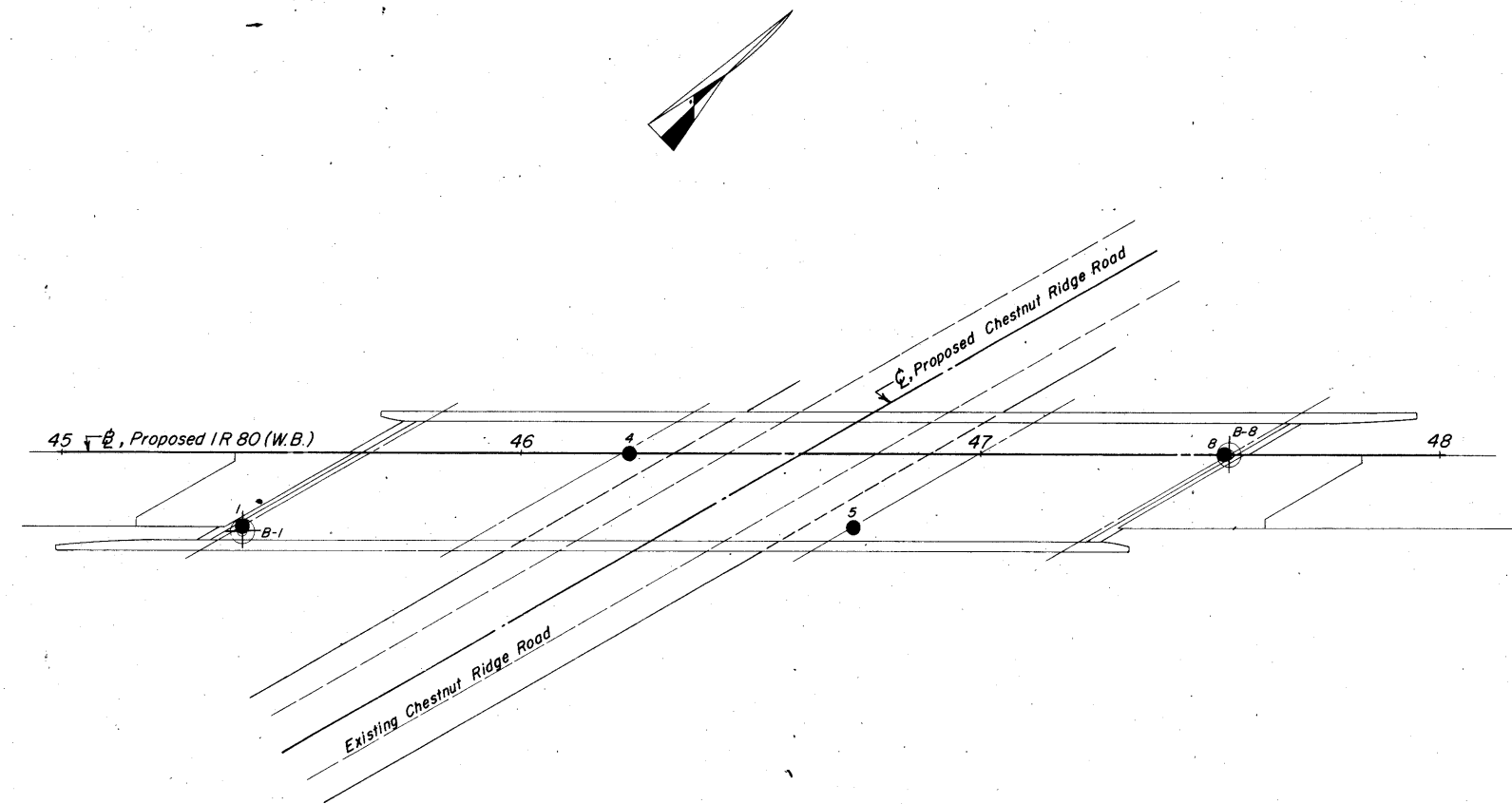
NOTE: Information shown by this subsurface investigation was obtained solely for the use in establishing design controls for the project. The State of Ohio does not guarantee the accuracy of this data and it is not to be construed as a part of the plans governing construction of the project.

**OHIO DEPARTMENT OF HIGHWAYS  
TESTING LABORATORY**  
1620 WEST BROAD STREET, COLUMBUS 23, OHIO

**STRUCTURE FOUNDATION INVESTIGATION**  
BRIDGE NO. LOR-480-0128  
W.B. OVER CHESTNUT RIDGE ROAD  
SEC. LOR-480-0.00

CHECKED BY L. N. L.	REVIEWED BY R. D. R.	DATE 7/30/68
------------------------	-------------------------	-----------------

MICROFILMED  
JUL 20 1983



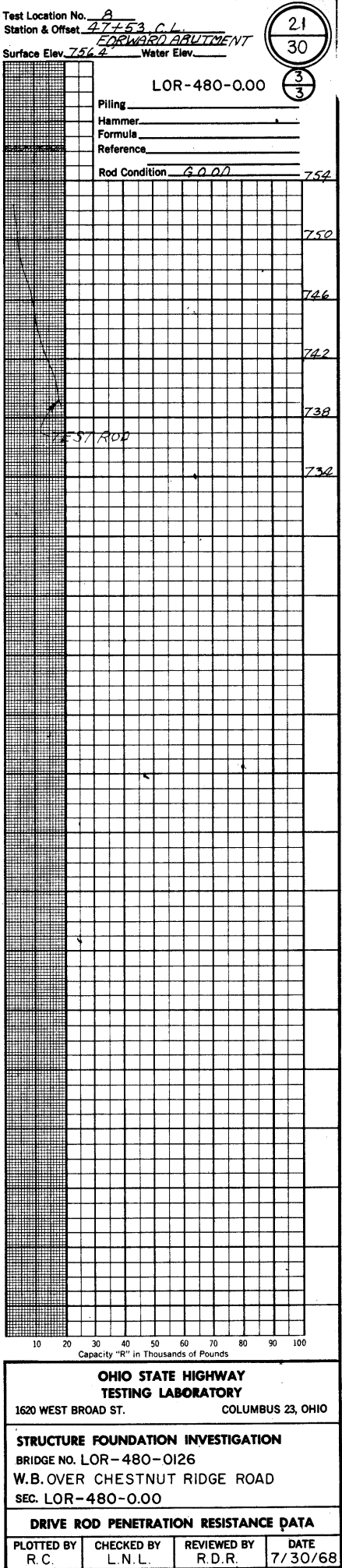
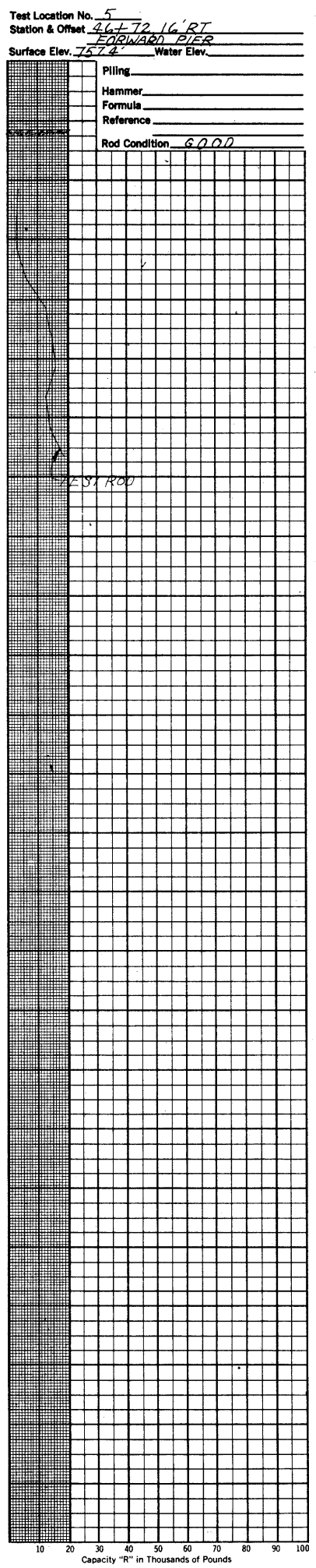
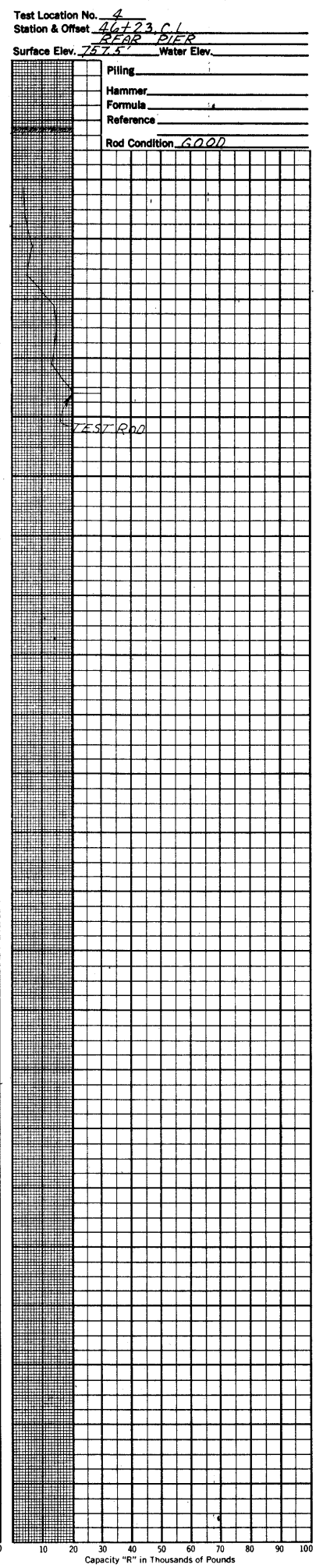
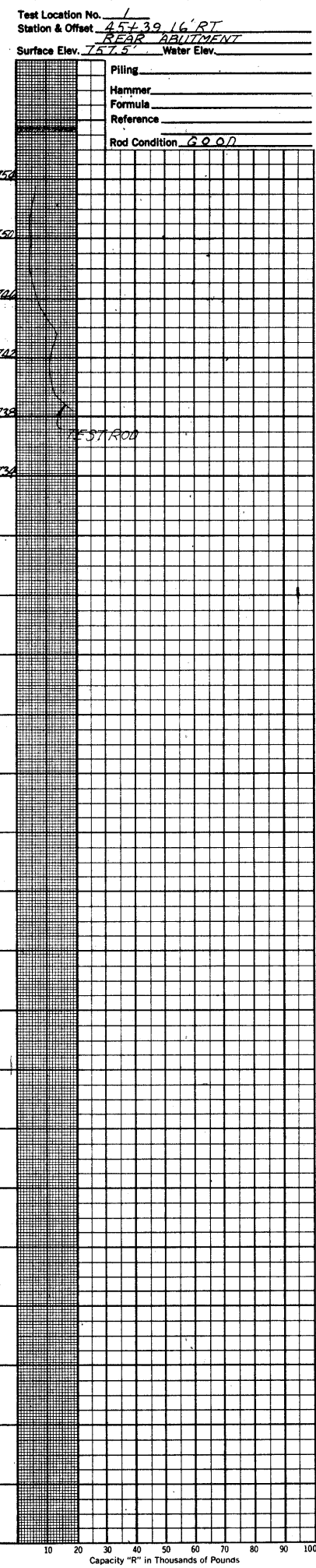
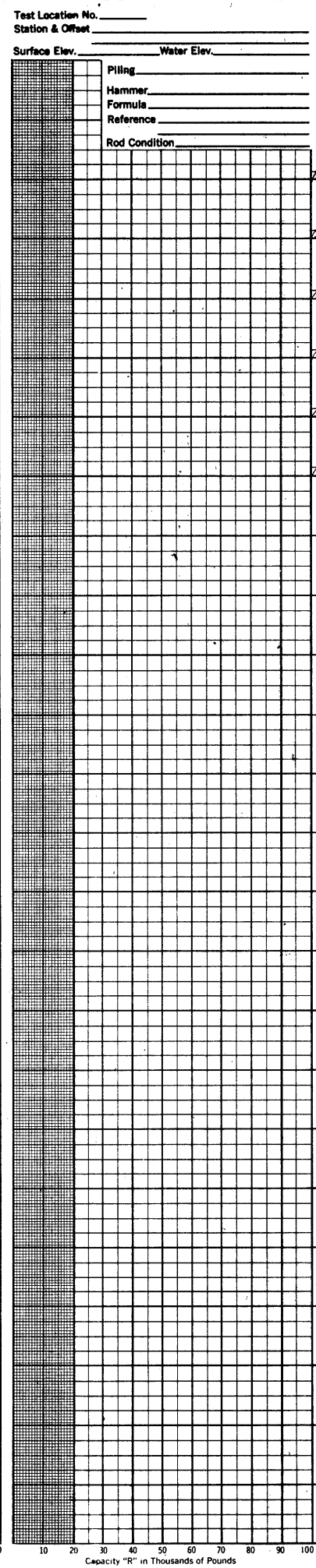
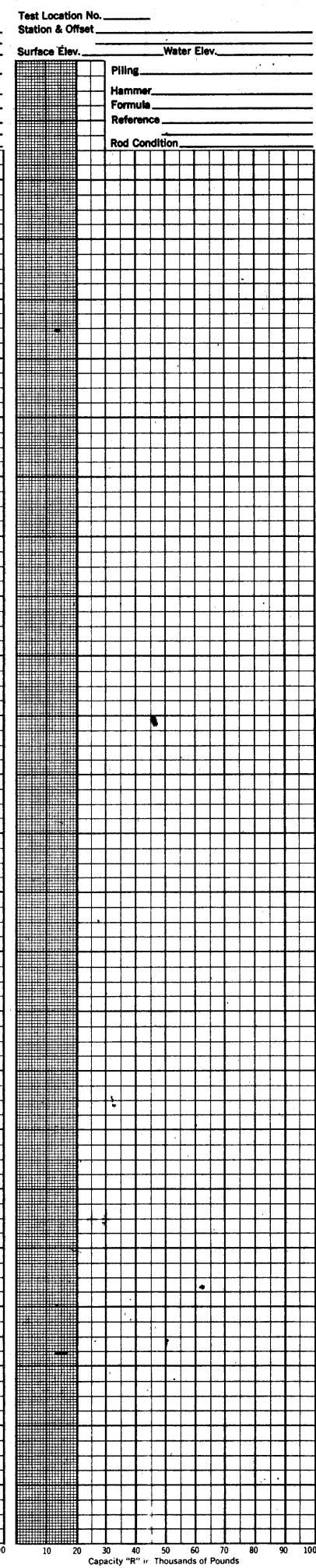
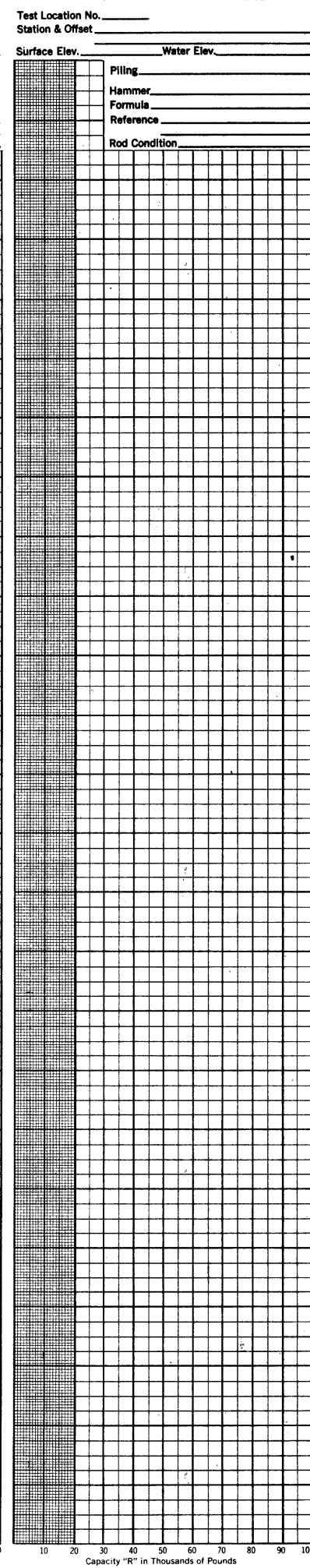
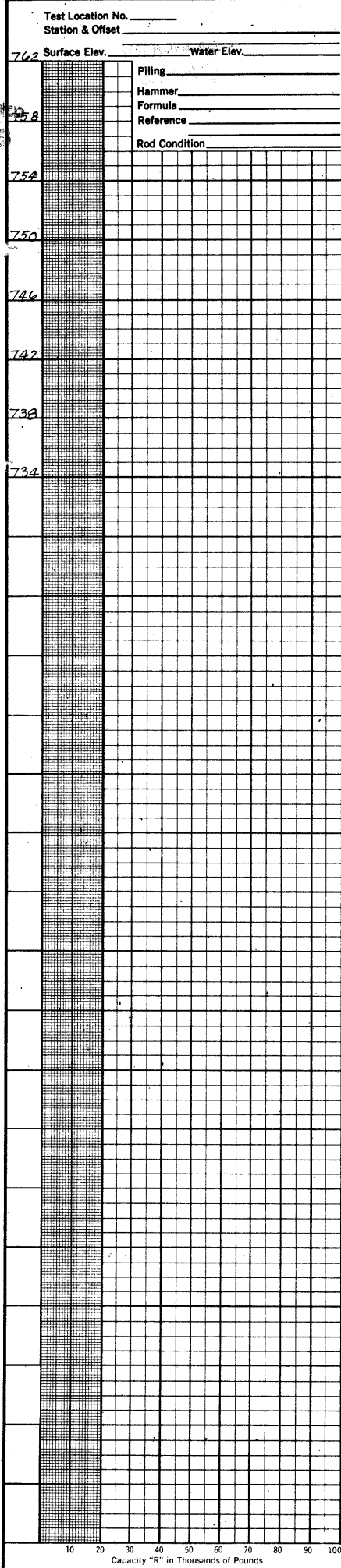
OHIO DEPARTMENT OF HIGHWAYS  
TESTING LABORATORY  
1620 WEST BROAD STREET, COLUMBUS 23, OHIO

STRUCTURE FOUNDATION INVESTIGATION  
BRIDGE NO. LOR-480-0128  
W.B. OVER CHESTNUT RIDGE ROAD  
SEC. LOR-480-0.00

PLAN AND PROFILE

DRAWN BY M.S.F.	CHECKED BY L.N.L.	REVIEWED BY R.D.R.	DATE 7/30/68
--------------------	----------------------	-----------------------	-----------------

SCALE: 1" = 20'



**OHIO STATE HIGHWAY TESTING LABORATORY**  
1620 WEST BROAD ST. COLUMBUS 23, OHIO

**STRUCTURE FOUNDATION INVESTIGATION**  
BRIDGE NO. LOR-480-0126  
W.B. OVER CHESTNUT RIDGE ROAD  
SEC. LOR-480-0.00

**DRIVE ROD PENETRATION RESISTANCE DATA**

PLOTTED BY R.C.	CHECKED BY L.N.L.	REVIEWED BY R.D.R.	DATE 7/30/68
--------------------	----------------------	-----------------------	-----------------



RECORDED  
JUL 20 1969

**GEOLOGY OF THE SITE**

THE STRUCTURE SITE IS LOCATED ON THE GLACIATED LAKE PLAIN REGION, IN AN AREA WHERE MODERATELY DEEP GLACIAL DRIFT AND LACUSTRINE DEPOSITS OVERLIE SANDSTONE BEDROCK, OF DEVONIAN AGE.

**EXPLORATION**

THE EXPLORATION CONSISTED OF TWO DRIVE SAMPLE-CORE BORINGS AND FOUR DRIVE ROD PENETRATION TESTS, MADE BETWEEN AUGUST 13 AND 15, 1969.

**INVESTIGATIONAL FINDINGS**

BORINGS DISCLOSED VERY DENSE SILTS AND SANDS WITH BOULDERS OVERLIE BEDROCK SURFACE, ENCOUNTERED 12 AND 13-FOOT DEPTHS, ELEVATIONS 743 AND 742 FEET. THE BORINGS WERE TERMINATED AT 25-FOOT DEPTH, ELEVATIONS 731 AND 730 FEET, AFTER PENETRATING 12 AND 13 FEET OF BEDROCK.

THE ROD SOUNDINGS ENCOUNTERED INCREASING RESISTANCE TO PENETRATION WITH INCREASING DEPTH AND WERE TERMINATED DUE TO NEAR-REFUSAL AND REFUSAL TO PENETRATION AT 10 TO 16-FOOT DEPTHS, ELEVATIONS 744 TO 739 FEET, CONSIDERED TO BE IN VERY DENSE SAND AND ON BEDROCK SURFACE AS REVEALED BY THE BORINGS.

NO FREE WATER OBSERVATIONS WERE MADE IN ANY OF THE ROD SOUNDING HOLES.

IF IT IS THE INTENTION TO FOUND SUBSTRUCTURE UNITS ON BEDROCK, IT IS CONSIDERED ADVISABLE THAT THE OPEN EXCAVATIONS BE INSPECTED IN THE FIELD IN ORDER TO INSURE THAT THE EXCAVATIONS HAVE BEEN EXTENDED TO ROCK THROUGHOUT THE ENTIRE FOUNDING AREA.

UNCONFINED COMPRESSION TESTS ON SIMILAR SANDSTONE BEDROCK INDICATE A CRUSHING STRENGTH ON THE ORDER OF 250 TONS PER SQUARE FOOT.

**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
- 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.

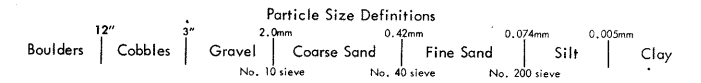
**Drive Sample Borings - Drive-Press Sample Borings**

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.



**LOG OF BORING**  
Date Started 8-14-69, Sampler Type SS, Dia 1 3/8", Water Elev. \_\_\_\_\_  
Date Completed 8-15-69, Casing Length 12', Dia 3 1/2"  
Boring No. B-1, Station B Offset 46' 70', 12' Rt. (Rear Abutment), Surface Elev. 754.5'

Elev.	Depth	SPT	Pen	Loss	Description	Sample							SMTL				
						No.	A25	CS	FS	SH	CL	NP		WC	Class.		
754.5	0																
749.5	5	27/56			Brownish-Gray Silty Gravelly Sand	1	25	9	31	19	16	NP	NP	12	A-2-4		
747.0	8	27/39			Brown Silty Sand	2	11	6	52	15	16	NP	NP	15	A-3a		
744.5	10	25/34			Gray Silty Sand	3	11	4	52	23	10	NP	NP	14	A-3a		
742.0	12																
	14		2.0	0.5	TOP OF ROCK												
	16																
	18		5.0	0.0	Sandstone, gray, medium-firm to firm, medium-grained, micaceous, friable in part, cross-bedded, thin to medium-bedded. Core Loss 4%.												
	20																
	22																
	24																
729.5					BOTTOM OF BORING												

**LOG OF BORING**  
Date Started 8-13-69, Sampler Type SS, Dia 1 3/8", Water Elev. \_\_\_\_\_  
Date Completed 8-14-69, Casing Length 13', Dia 3 1/2"  
Boring No. B-2, Station B Offset 49' 35', 30' Lt. (Forward Abutment), Surface Elev. 756.0'

Elev.	Depth	SPT	Pen	Loss	Description	Sample							SMTL				
						No.	% Agg.	CS	FS	SH	CL	NP		WC	Class.		
756.0	0																
751.0	5	17/31			Brown Silty Gravelly Sand	1	22	14	30	16	18	NP	NP	13	A-2-4		
748.5	8	50*			Brown Sandstone Boulders	2	-	-	-	-	-	-	-	10	Visual		
746.0	10	12/19			Gray Silty Sand and Stone Fragments	3	52	4	26	11	7	-	-	11	-		
743.0	12																
	14		1.9	0.1	TOP OF ROCK												
	16																
	18		4.8	0.2	Sandstone, gray, medium-firm to firm, medium-grained, micaceous, friable in part, cross-bedded, thin to medium bedding. Core Loss 3%.												
	20																
	22																
	24		5.0	0.0													
731.0					BOTTOM OF BORING												

\*Refusal

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.

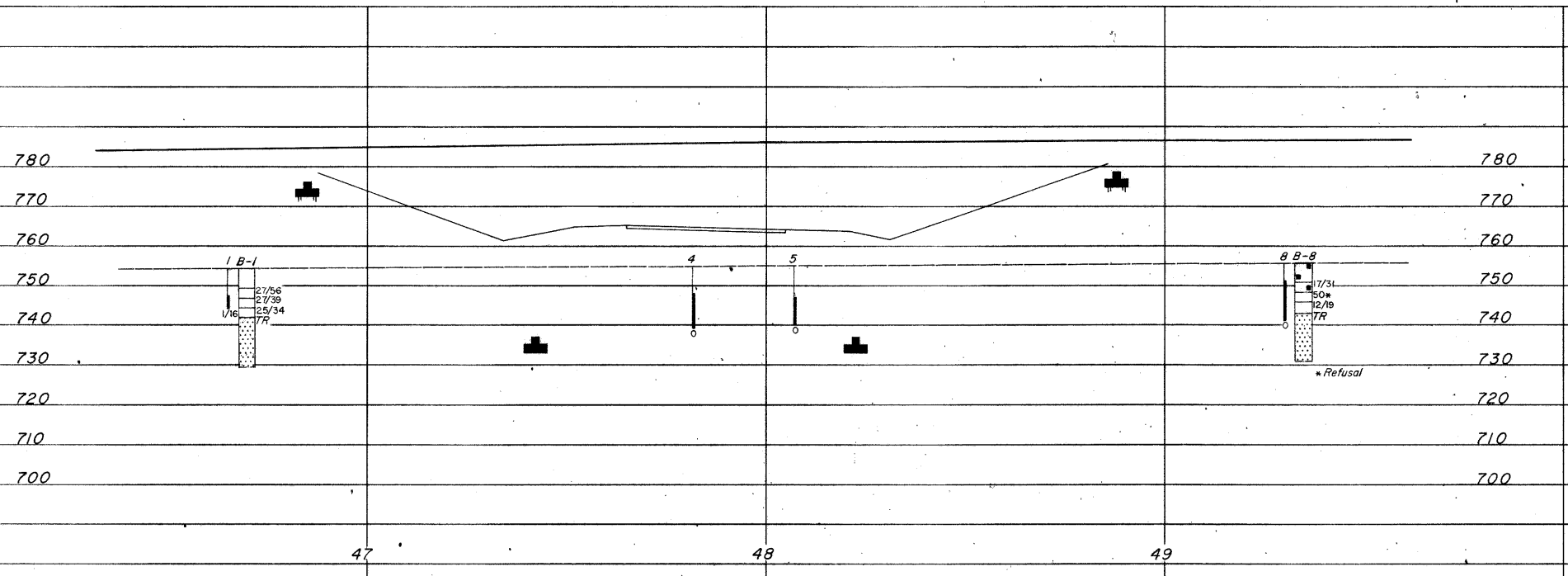
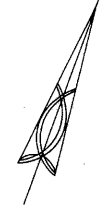
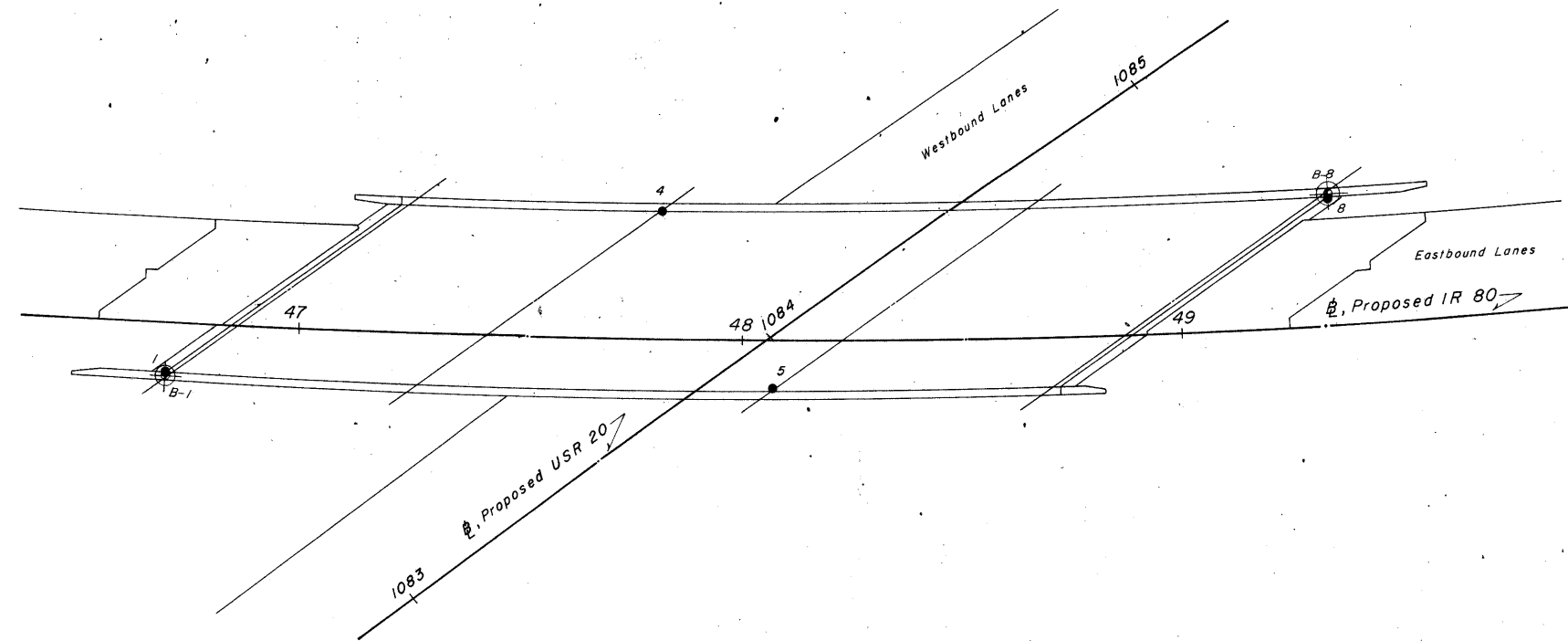
**OHIO DEPARTMENT OF HIGHWAYS**  
**TESTING LABORATORY**  
1620 WEST BROAD STREET, COLUMBUS, OHIO 43223  
**STRUCTURE FOUNDATION INVESTIGATION**  
**BRIDGE NO. LOR-480-0130**  
**E.B.OVER WESTBOUND USR 20**  
**SEC. LOR-480-0.00**

CHECKED BY L.N.L. REVIEWED BY R.D.R. DATE 9/5/69

REVISIONS  
JUL 20 1970

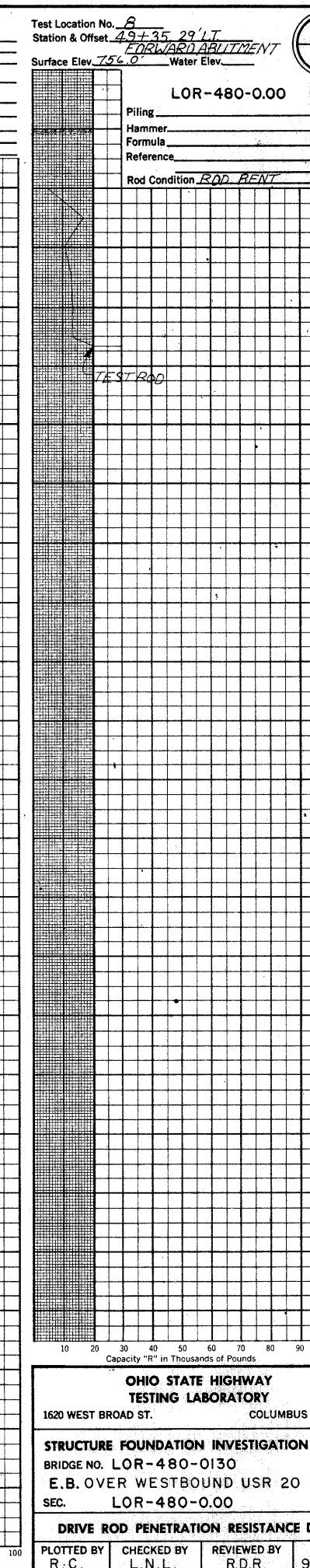
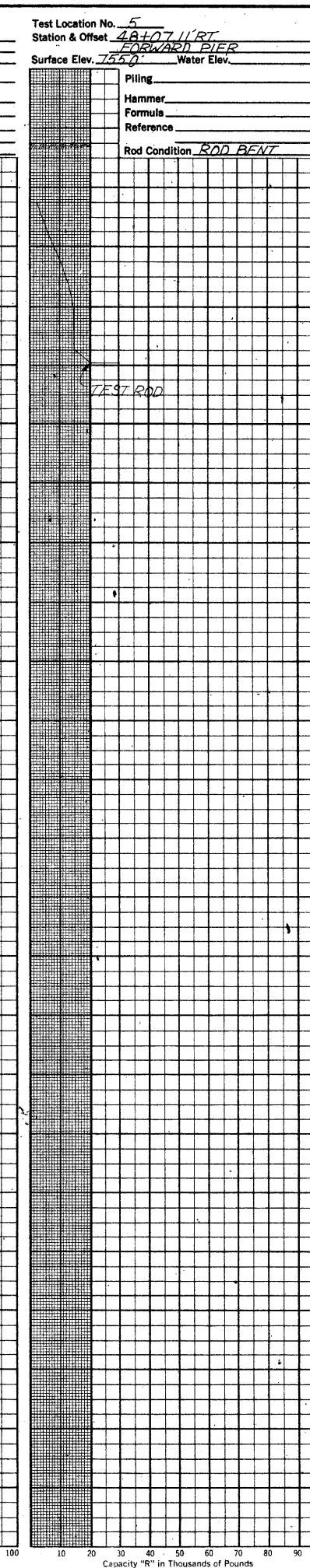
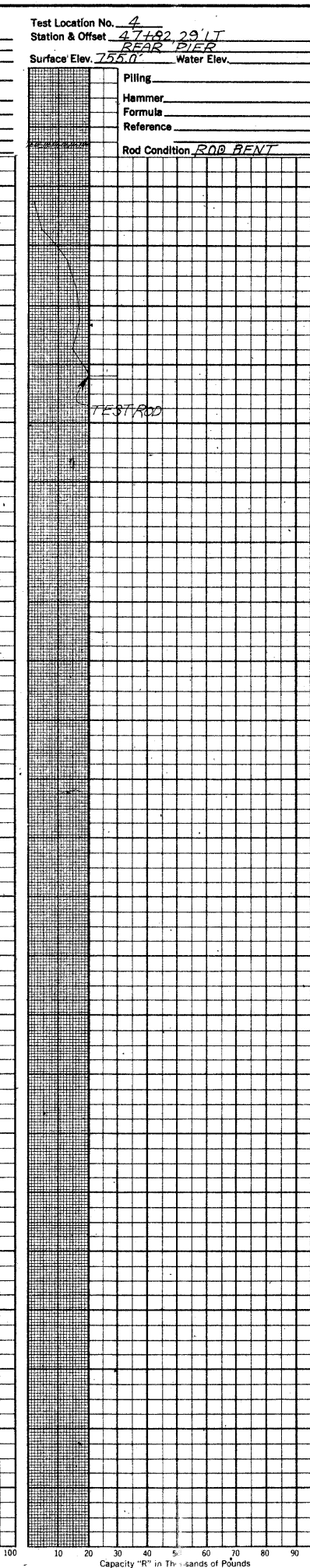
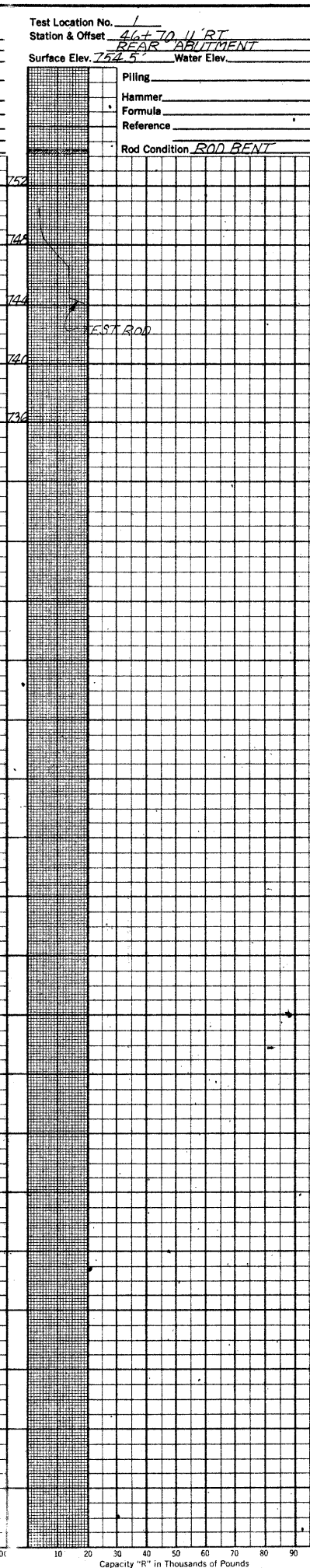
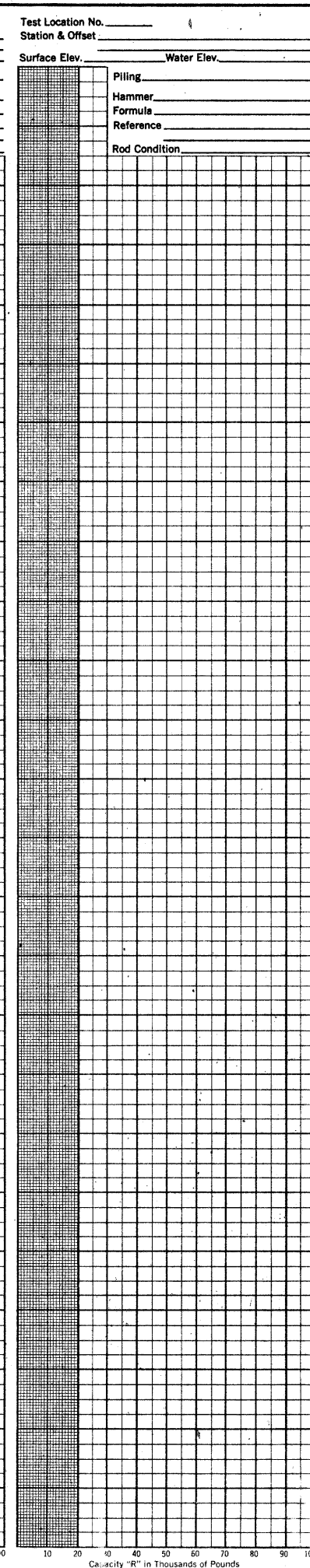
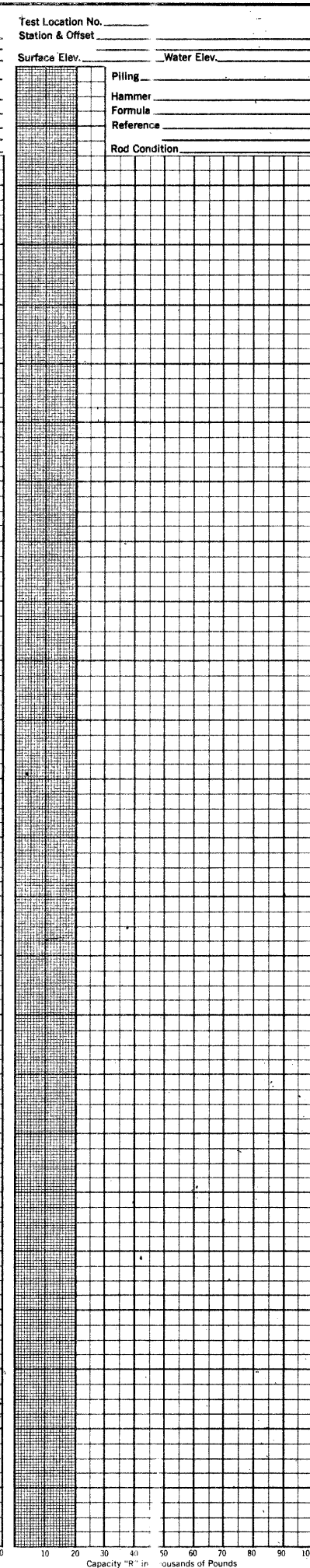
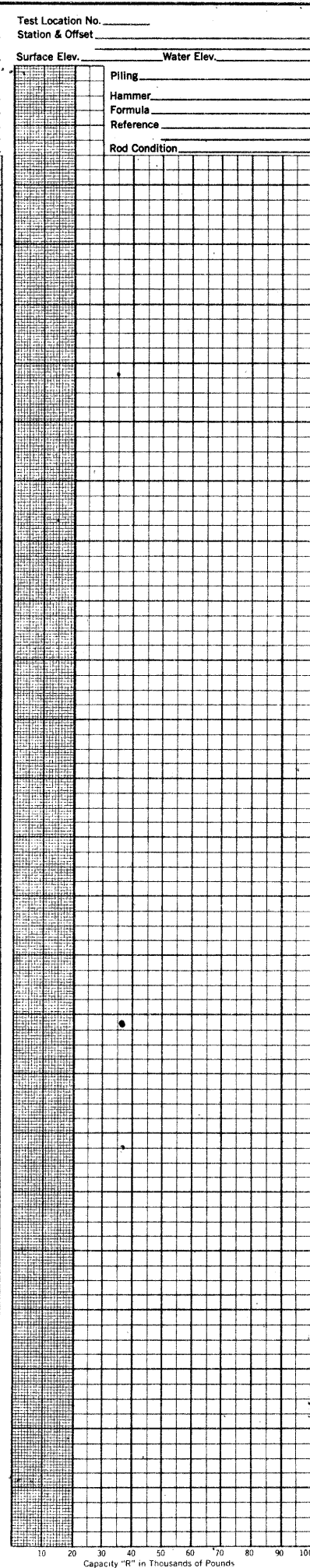
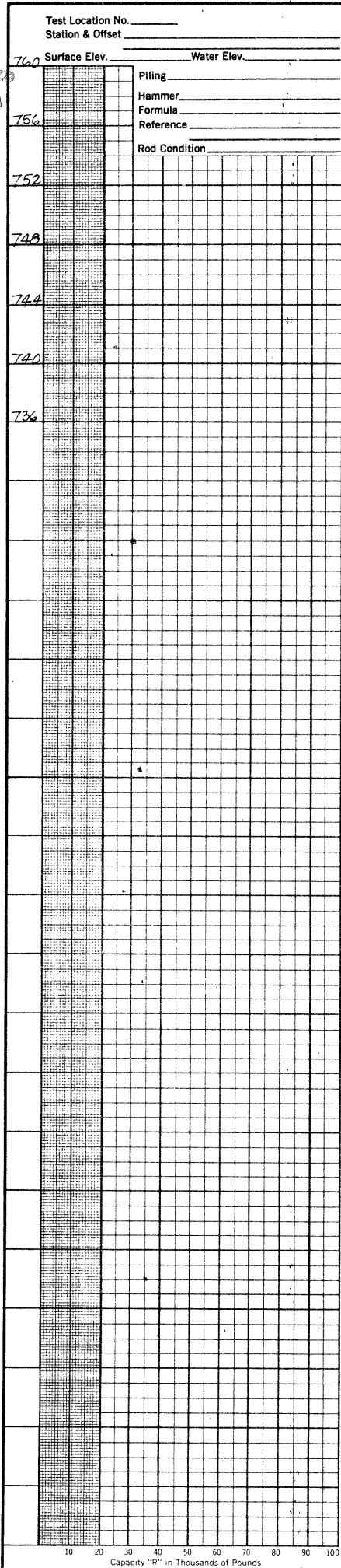
LOR-480-0.00

23  
30  
2  
3



OHIO DEPARTMENT OF HIGHWAYS TESTING LABORATORY 1620 WEST BROAD STREET, COLUMBUS 23, OHIO			
STRUCTURE FOUNDATION INVESTIGATION BRIDGE NO. LOR-480-0130 E.B. OVER WESTBOUND USR 20 SEC. LOR-480-000			
PLAN AND PROFILE			
DRAWN BY J.E.C.	CHECKED BY L.N.L.	REVIEWED BY R.D.R.	DATE 9/5/69

SCALE: 1" = 20'



24  
30  
3

**OHIO STATE HIGHWAY TESTING LABORATORY**  
1620 WEST BROAD ST. COLUMBUS 23, OHIO

**STRUCTURE FOUNDATION INVESTIGATION**  
BRIDGE NO. LOR-480-0130  
E.B. OVER WESTBOUND USR 20 SEC.  
LOR-480-0.00

**DRIVE ROD PENETRATION RESISTANCE DATA**

PLOTTED BY R.C.	CHECKED BY L.N.L.	REVIEWED BY R.D.R.	DATE 9/5/69
--------------------	----------------------	-----------------------	----------------

MICROFILMED  
JUL 20 1983

LORAIN COUNTY  
LOR-480-000

**GEOLOGY OF THE SITE**

THE STRUCTURE SITE IS LOCATED ON A RELATIVELY FLAT PORTION OF THE GLACIATED LAKE PLAIN, IN AN AREA WHERE MODERATELY DEEP GLACIAL DRIFT OVERLIES SANDSTONE BEDROCK, OF MISSISSIPPIAN AGE.

**EXPLORATION**

THE EXPLORATION CONSISTED OF TWO DRIVE SAMPLE-CORE BORINGS, MADE ON AUGUST 8, 1968, AND EIGHT DRIVE ROD PENETRATION TESTS, MADE ON JUNE 19 AND 20, 1968.

**INVESTIGATIONAL FINDINGS**

BORINGS DISCLOSED MEDIUM-DENSE SILTY SAND OVERLYING SLOPING BEDROCK SURFACE, ENCOUNTERED AT 9 AND 10-FOOT DEPTHS, ELEVATIONS 747 AND 745 FEET. THE BORINGS WERE TERMINATED AT 20-FOOT DEPTH, ELEVATIONS 736 AND 735 FEET, AFTER PENETRATING 10 AND 11 FEET OF BEDROCK.

ROD SOUNDINGS ENCOUNTERED RAPID INCREASE IN RESISTANCE TO PENETRATION WITH INCREASING DEPTH AND WERE TERMINATED UPON ENCOUNTER WITH NEAR-REFUSAL AND REFUSAL TO PENETRATION AT 7 TO 11-FOOT DEPTHS, ELEVATIONS 748 TO 744 FEET, CONSIDERED TO BE ON OR SLIGHTLY ABOVE BEDROCK SURFACE, AS REVEALED BY THE BORINGS.

NO FREE WATER WAS OBSERVED IN ANY OF THE ROD SOUNDING HOLES.

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

**LEGEND**

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

**SYMBOLS OF ROCK TYPES**

- Coal
- Weathered Indurated Clay
- Indurated Clay
- Weathered Shale
- Shale
- 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.

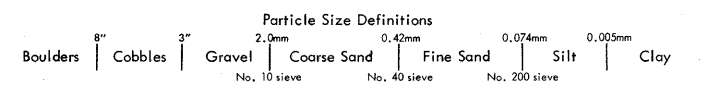
**Drive Sample Borings - Drive-Press Sample Borings**

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.



LOG OF BORING  
Date Started 8-8-68 Date Completed 8-8-68 Boring No. B-4  
Station & Offset 76+26, 59' Rt. (Rear Abutment)  
Surface Elev. 754.9'

Table with columns: 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. Rows show data for Brown Silty Sand and Sandstone.

LOG OF BORING  
Date Started 8-8-68 Date Completed 8-8-68 Boring No. B-9  
Station & Offset 77+06, 70' Lt. (Forward Pier)  
Surface Elev. 756.0'

Table with columns: 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. Rows show data for Brownish-Gray Silty Sand with Stone Fragments and Sandstone.

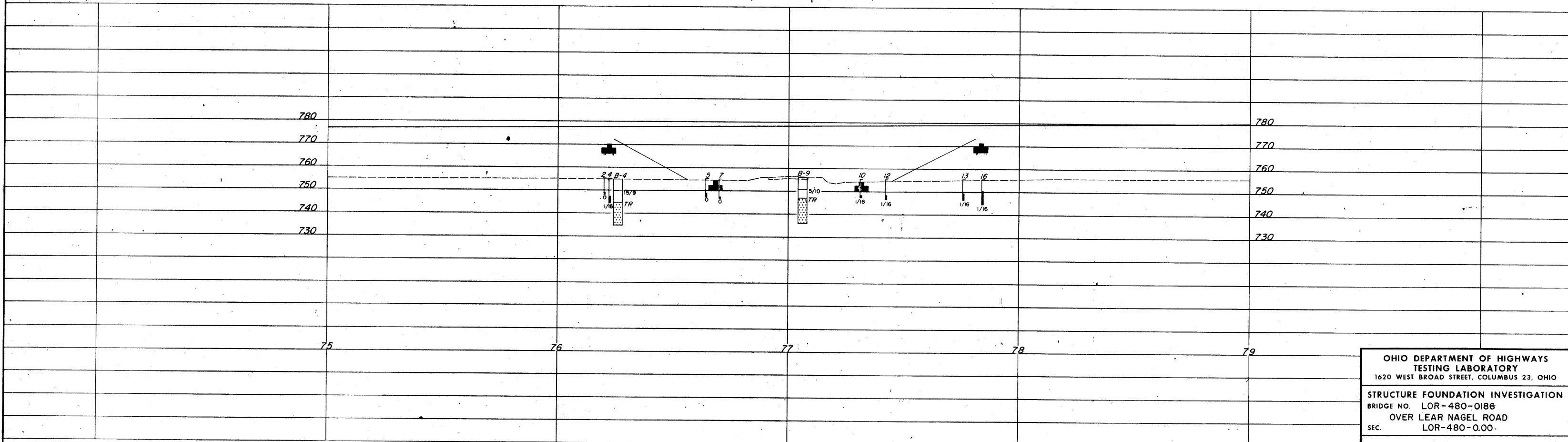
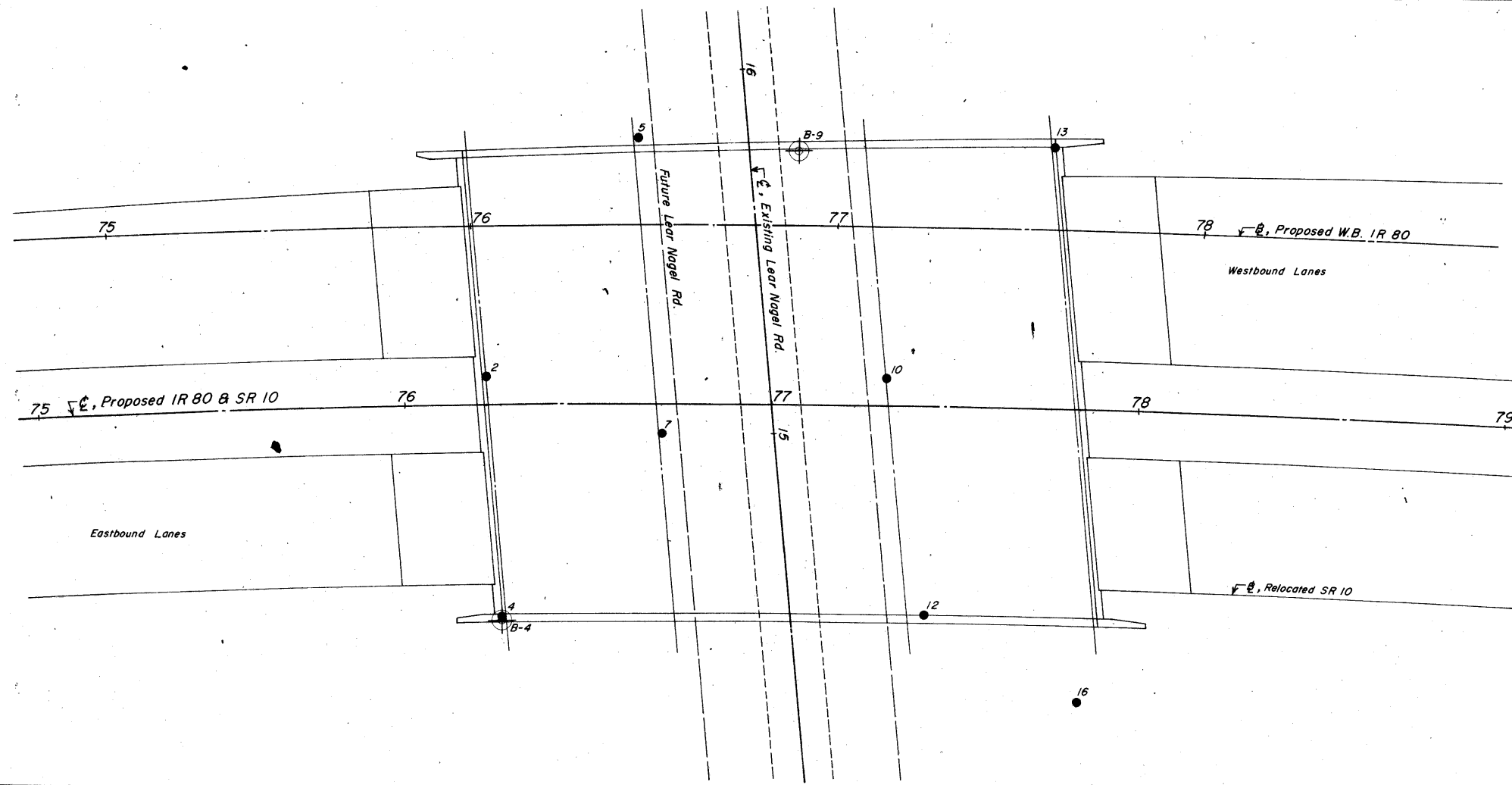
NOTE: Information shown by this subsurface investigation was obtained solely for the use in establishing design controls for the project. The State of Ohio does not guarantee the accuracy of this data and it is not to be construed as a part of the plans governing construction of the project.

OHIO DEPARTMENT OF HIGHWAYS TESTING LABORATORY  
1620 WEST BROAD STREET, COLUMBUS 23, OHIO  
STRUCTURE FOUNDATION INVESTIGATION BRIDGE NO. LOR-480-0186  
OVER LEAR NAGEL ROAD  
SEC. LOR-480-000  
CHECKED BY L.N.L. REVIEWED BY R.D.R. DATE 8/22/68

MICROFILMED  
JUL 20 1983

LOR-480-0.00

26  
30  
2  
3



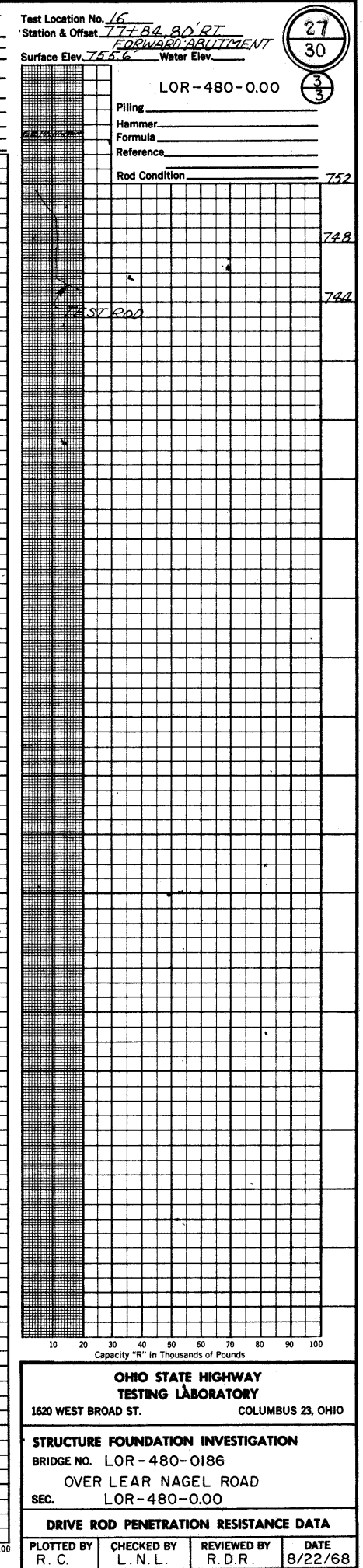
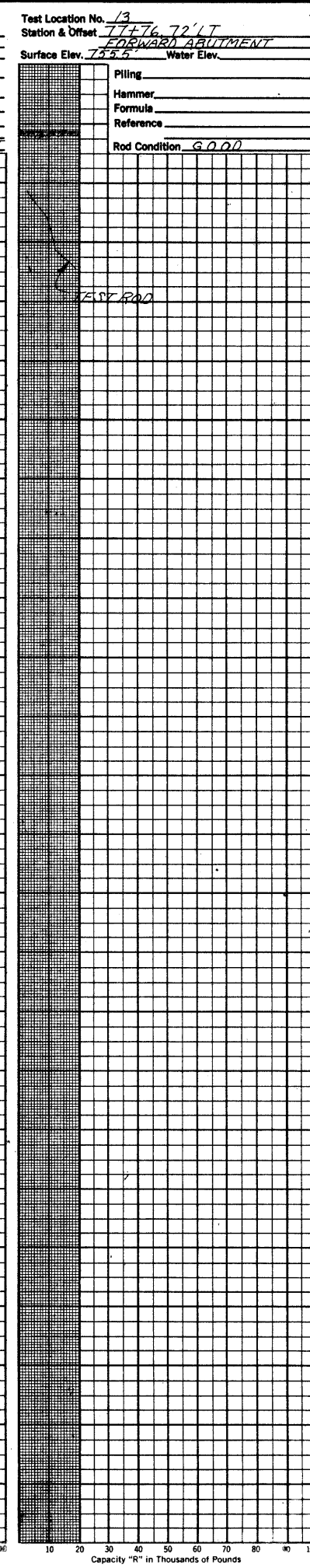
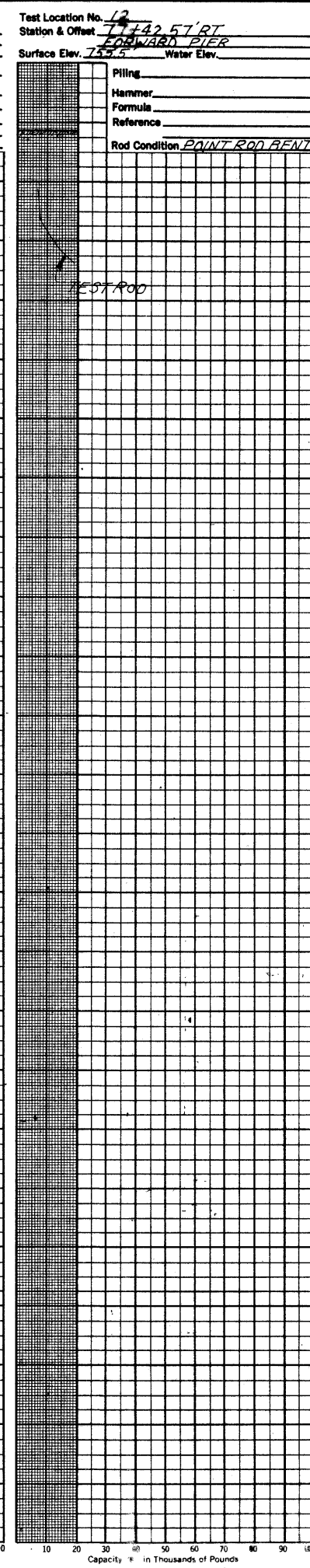
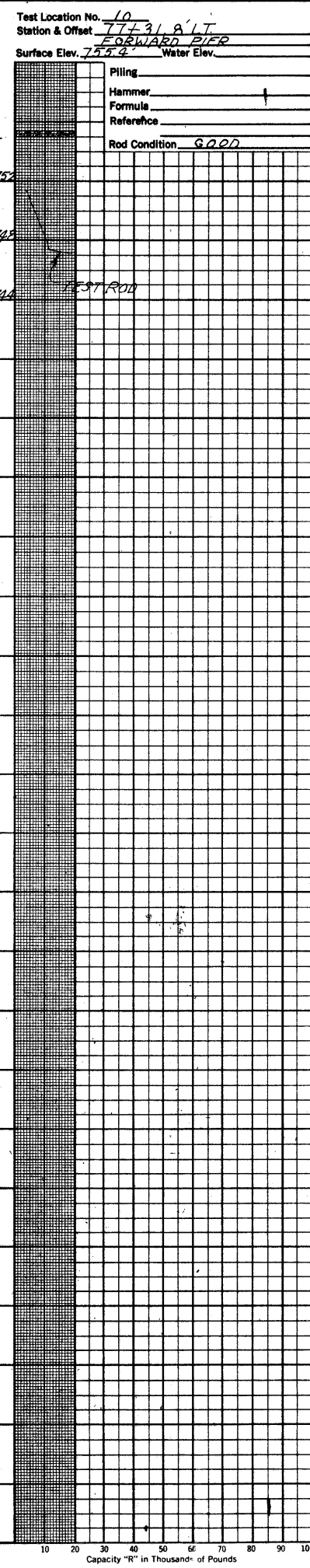
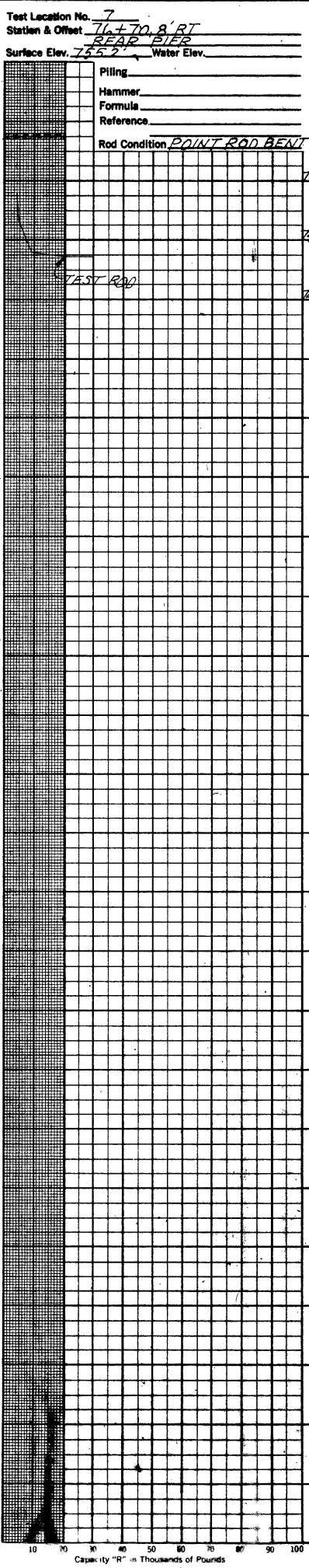
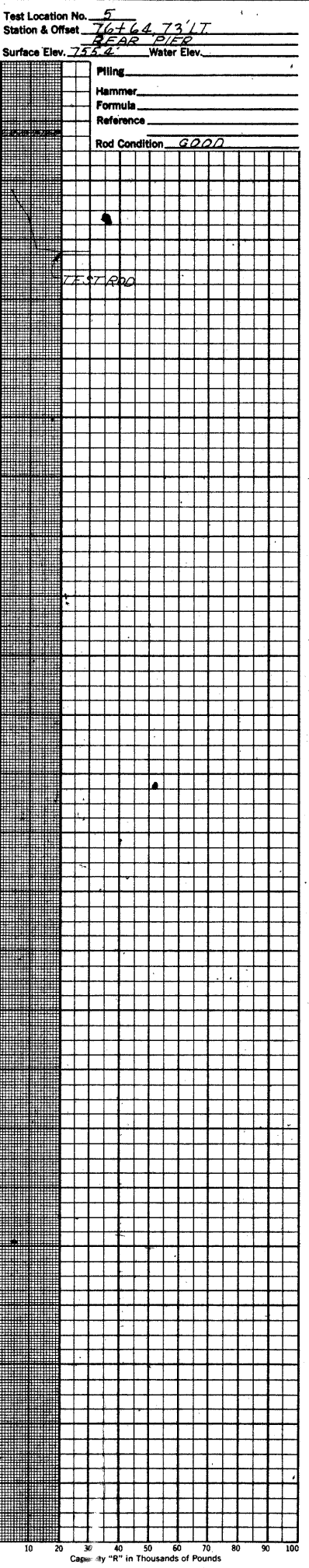
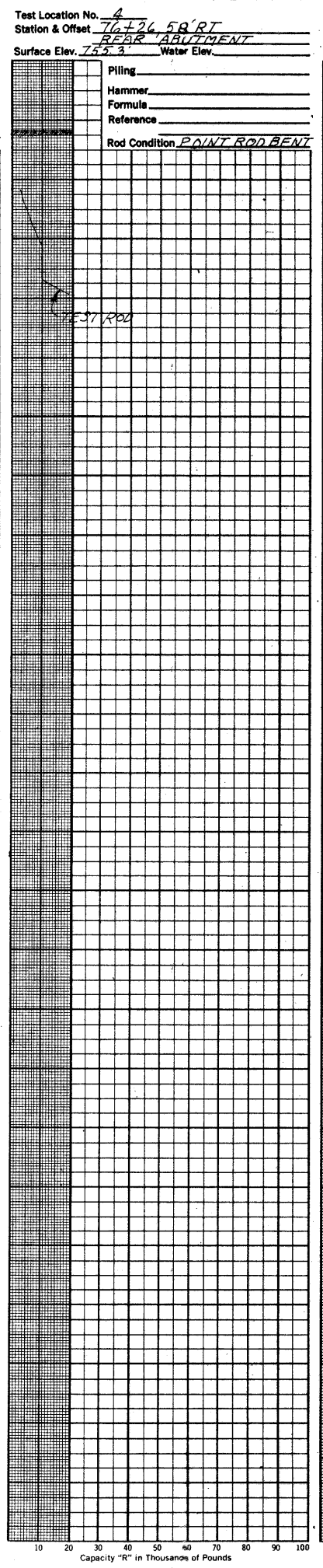
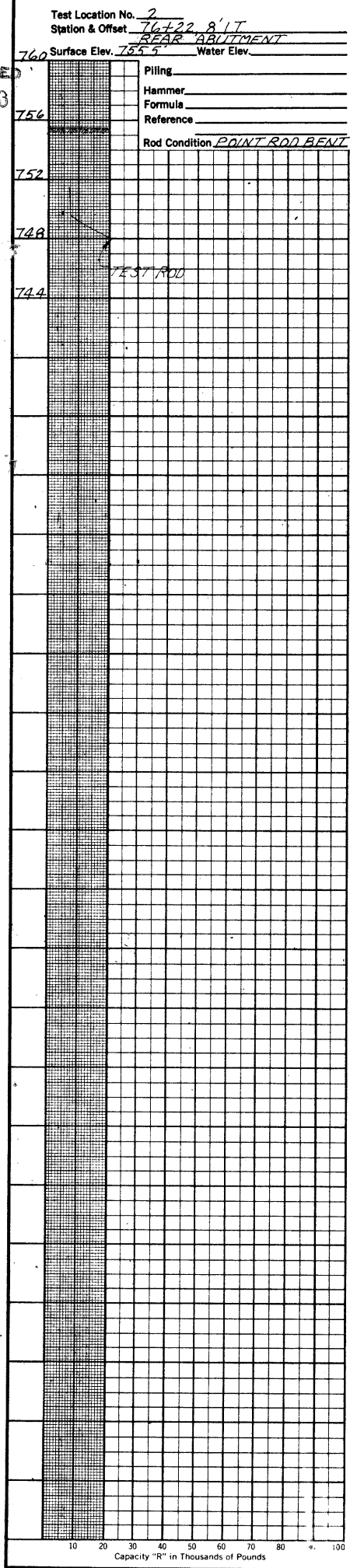
OHIO DEPARTMENT OF HIGHWAYS  
TESTING LABORATORY  
1620 WEST BROAD STREET, COLUMBUS 23, OHIO

STRUCTURE FOUNDATION INVESTIGATION  
BRIDGE NO. LOR-480-0186  
OVER LEAR NAGEL ROAD  
SEC. LOR-480-0.00

PLAN AND PROFILE

DRAWN BY J.E.C.	CHECKED BY L.N.L.	REVIEWED BY R.D.R.	DATE 8/22/68
--------------------	----------------------	-----------------------	-----------------

SCALE: 1" = 20'



27  
30  
3

OHIO STATE HIGHWAY  
TESTING LABORATORY  
1620 WEST BROAD ST. COLUMBUS 23, OHIO

STRUCTURE FOUNDATION INVESTIGATION  
BRIDGE NO. LOR-480-0186  
OVER LEAR NAGEL ROAD  
SEC. LOR-480-000

DRIVE ROD PENETRATION RESISTANCE DATA

PLOTTED BY R. C. CHECKED BY L. N. L. REVIEWED BY R. D. R. DATE 8/22/68

**GEOLOGY OF THE SITE**

THE STRUCTURE SITE IS LOCATED ON A RELATIVELY FLAT PORTION OF THE GLACIATED LAKE PLAIN, IN AN AREA WHERE MODERATELY DEEP GLACIAL DRIFT OVERLIES SANDSTONE BEDROCK, OF MISSISSIPPIAN AGE.

**EXPLORATION**

THE EXPLORATION CONSISTED OF TWO DRIVE SAMPLE-CORE BORINGS AND ELEVEN DRIVE ROD PENETRATION TESTS, MADE BETWEEN JUNE 12 AND 19, 1968.

**INVESTIGATIONAL FINDINGS**

BORINGS DISCLOSED VERY DENSE INTERVALS OF SAND, SILT, AND STIFF CLAYS WITH SOME BOULDERS, OVERLIE SLOPING BEDROCK SURFACE, ENCOUNTERED AT 17 AND 24-FOOT DEPTHS, ELEVATIONS 751 AND 749 FEET. THE BORINGS WERE TERMINATED AT 30 AND 35-FOOT DEPTHS, ELEVATIONS 739 AND 738 FEET, AFTER PENETRATING 11 AND 15 FEET OF BEDROCK.

ROD SOUNDINGS ENCOUNTERED RAPID INCREASE IN RESISTANCE TO PENETRATION WITH INCREASING DEPTH AND WERE TERMINATED AT 8 TO 17-FOOT DEPTHS, ELEVATIONS 763 TO 754 FEET, CONSIDERED TO BE ON BOULDERS OR VERY DENSE MATERIALS, AS REVEALED BY THE BORINGS.

NO FREE WATER WAS OBSERVED IN ANY OF THE ROD SOUNDING HOLES.

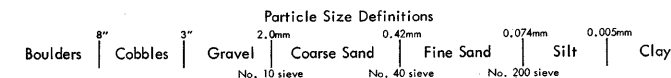
- ⊕ Auger Boring Location - Plan View.
- ⊙ Press and / or Drive Sample and / or Core Boring Location - Plan View.
- Drive Rod Penetration Resistance Sounding Location - Plan View.
- ▬ Capped Pile
- ▬ Footing
- ▬ Footing on Pile
- TR Top of Rock

**LEGEND**

- H 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
- 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 Indurated Clay
- ▧ Indurated Clay
- ▩ Weathered Shale
- Shale
- Boulders
- ▨ Weathered Sandstone
- ▩ Sandstone
- ▧ Leached Dolomite
- Dolomite
- ▩ Leached Limestone
- Limestone



**LOG OF BORING**

Date Started 6-12-68 Sampler Type SS Dia 1 3/8" Water Elev. \_\_\_\_\_  
 Date Completed 6-12-68 Casing Length \_\_\_\_\_ Dia \_\_\_\_\_  
 Boring No. B-5 Station & Offset 92+67, 54' Rt. (Rear Pier) Surface Elev. 772.7'

Elev.	Depth	Std. Pen (N)	Rec. ft.	Loss ft.	Description	Sample No.	Physical Characteristics										SHTL Class.	
							% Agg.	% C.S.	% F.S.	% Silt	% Clay	LL	PI	WC	Class.			
772.7	0																	
	2																	
767.7	4																	
	6	1/2			Brown Sandy Clay	1	13	24	18	18	27	29	11	27	A-6a			
765.2	8	18/36			Brown and Gray Gravelly Sandy Silt	2	15	8	11	34	32	26	8	15	A-4a			
	10	19/40			Brown and Gray Sandy Silt	3	8	7	11	37	37	26	8	16	A-4a			
760.2	12	50/*			Gray Gravelly Sandy Silt	4	18	11	22	30	19	19	5	9	A-4a			
757.7	14	50/*			Gray Sandy Silt	5	9	6	30	30	25	18	6	9	A-4a			
755.2	16	38/35			Gray Gravelly Sandy Silt	6	15	14	22	27	22	19	3	11	A-4a			
752.7	18	58/35			Gray Sand with Boulders	7	0	26	72	-	NP	NP	16		Visual			
748.7	20		1.1	1.4	TOP OF ROCK													
	22																	
	24		5.0	0.0														
	26																	
	28																	
	30				Sandstone, light gray, fine to medium grained, hard, dense, generally massive. No Core Loss.													
	32																	
	34		5.0	0.0														
737.7					BOTTOM OF BORING													

\*Refusal

**LOG OF BORING**

Date Started 6-13-68 Sampler Type SS Dia 1 3/8" Water Elev. \_\_\_\_\_  
 Date Completed 6-14-68 Casing Length \_\_\_\_\_ Dia \_\_\_\_\_  
 Boring No. B-16 Station & Offset 95+77, 61' Lt. (Forward Pier) Surface Elev. 768.5'

Elev.	Depth	Std. Pen (N)	Rec. ft.	Loss ft.	Description	Sample No.	Physical Characteristics										SHTL Class.	
							% Agg.	% C.S.	% F.S.	% Silt	% Clay	LL	PI	WC	Class.			
768.5	0																	
	2																	
	4																	
765.5	6	4/9			Brown Sandy Clay	1	6	17	17	25	35	32	11	20	A-6a			
	8	4/7			Brown Sandy Clay	2	0	19	19	26	36	36	18	21	A-6b			
761.0	10	17/26			Brown and Gray Sandy Silt	3	0	6	33	36	25	17	4	12	A-4a			
	12	50/*			Gray Silty Sand	4	13	6	51	18	12	NP	NP	15	A-3a			
753.5	14	50/*			Gray Silty Gravelly Sand	5	37	9	36	9	9	NP	NP	13	A-2-d			
751.0	16	50/*			TOP OF WEATHERED ROCK													
748.5	18				Gray Weathered Sandstone	6	14	5	60	-1-	NP	NP	14	Visual				
	20				TOP OF ROCK													
	22																	
	24		5.0	0.0	Sandstone, light gray, fine to medium grained, dense, hard, generally massive, black carbonaceous zone 27.5 feet. No Core Loss.													
	26																	
	28																	
	30		5.0	0.0	BOTTOM OF BORING													

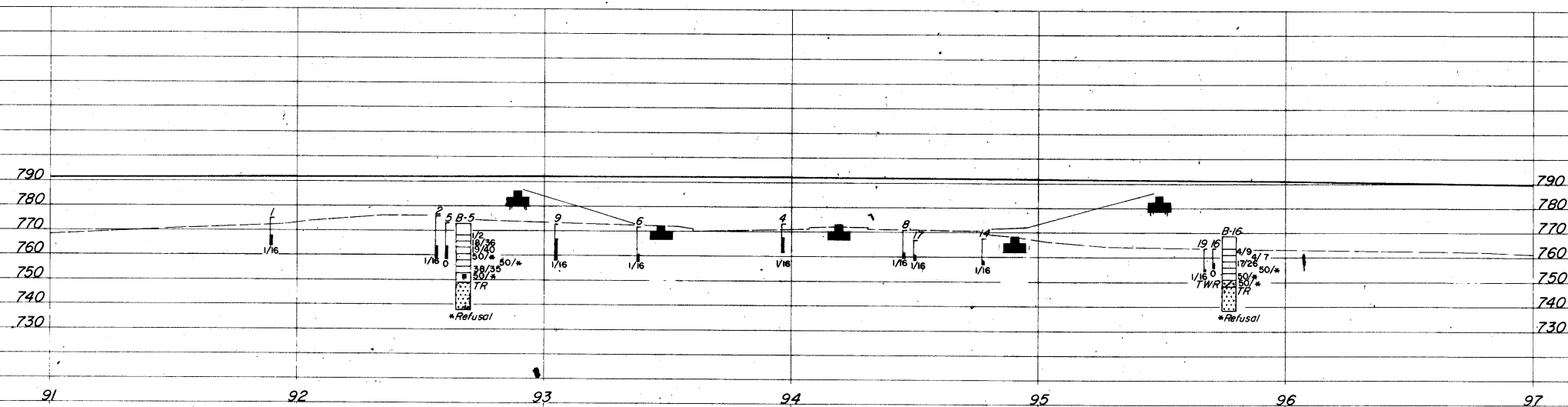
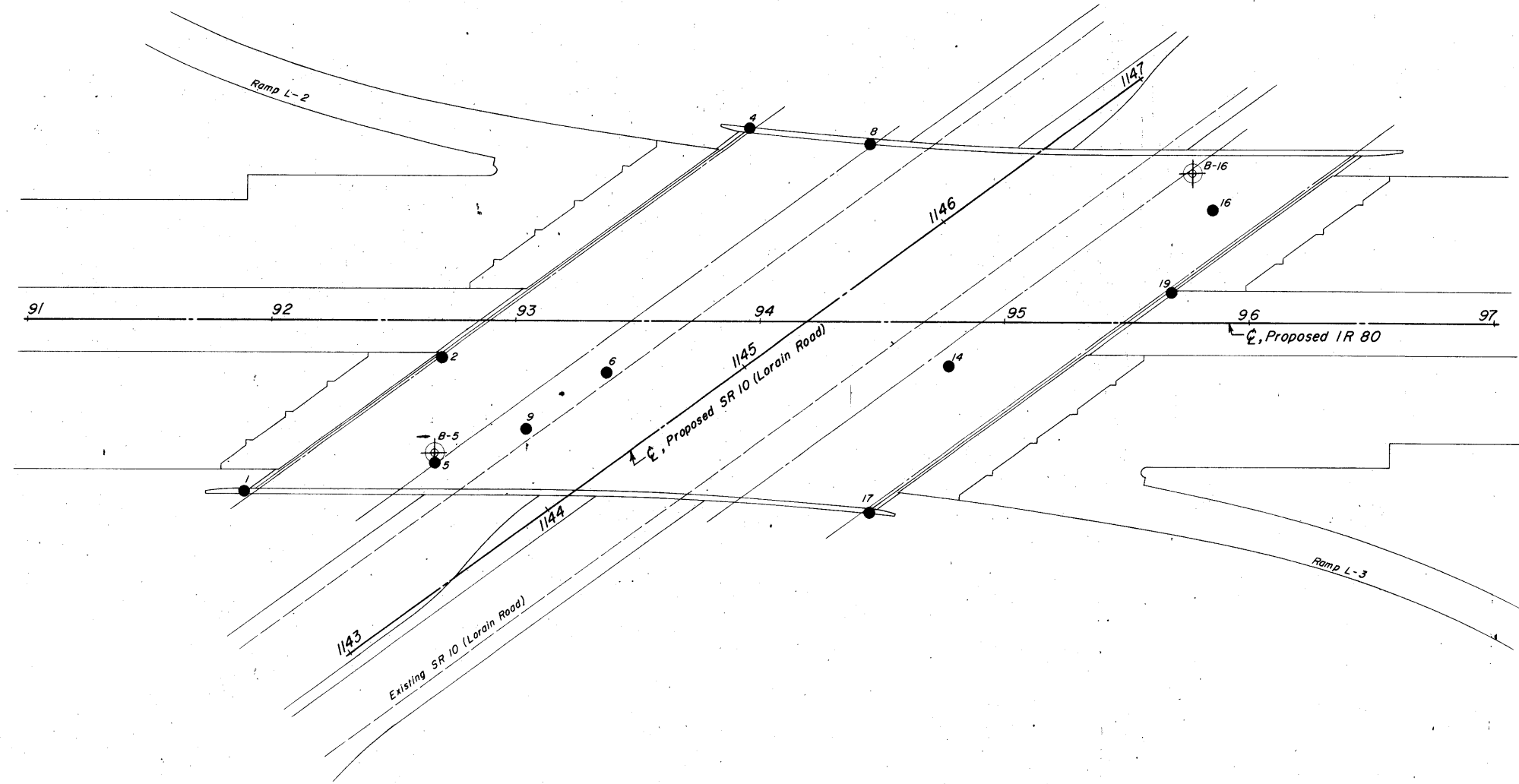
NOTE: Information shown by this subsurface investigation was obtained solely for the use in establishing design controls for the project. The State of Ohio does not guarantee the accuracy of this data and it is not to be construed as a part of the plans governing construction of the project.

**OHIO DEPARTMENT OF HIGHWAYS TESTING LABORATORY**  
1620 WEST BROAD STREET, COLUMBUS 23, OHIO

**STRUCTURE FOUNDATION INVESTIGATION**  
BRIDGE NO. LOR-480-0216  
OVER SR 10 (LORAIN ROAD)  
SEC. LOR-480-0.00

CHECKED BY L.N.L. REVIEWED BY R.D.R. DATE 7/30/68

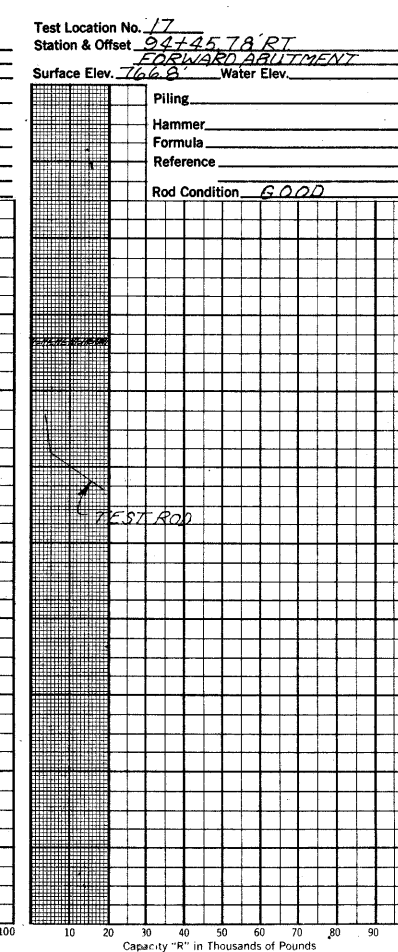
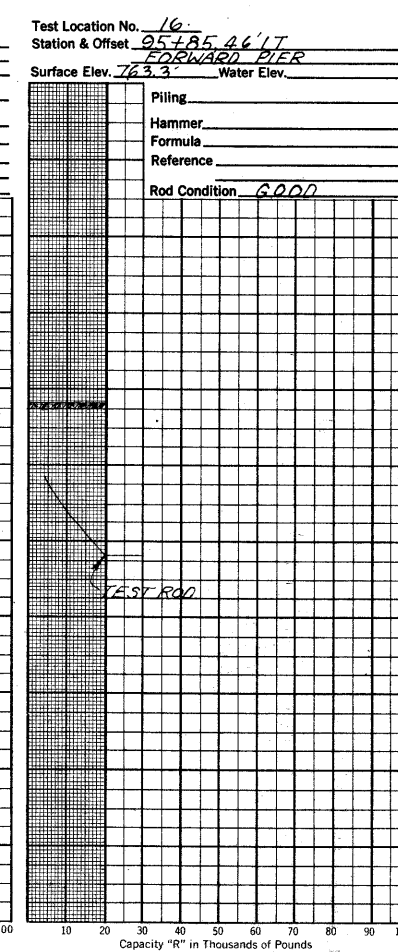
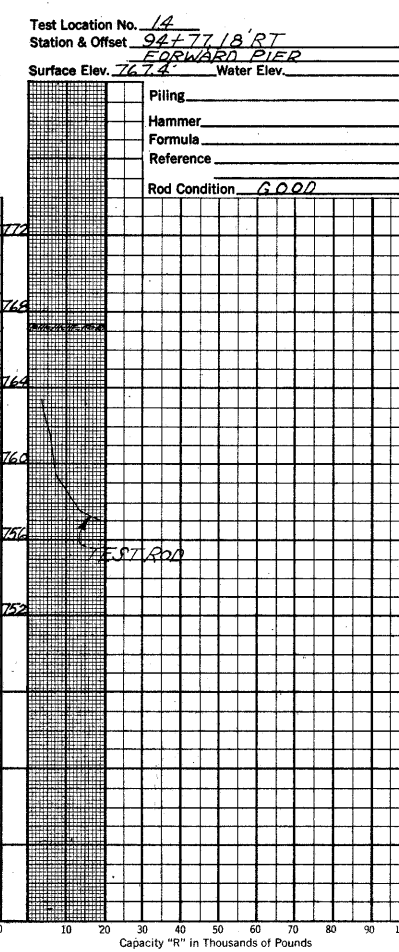
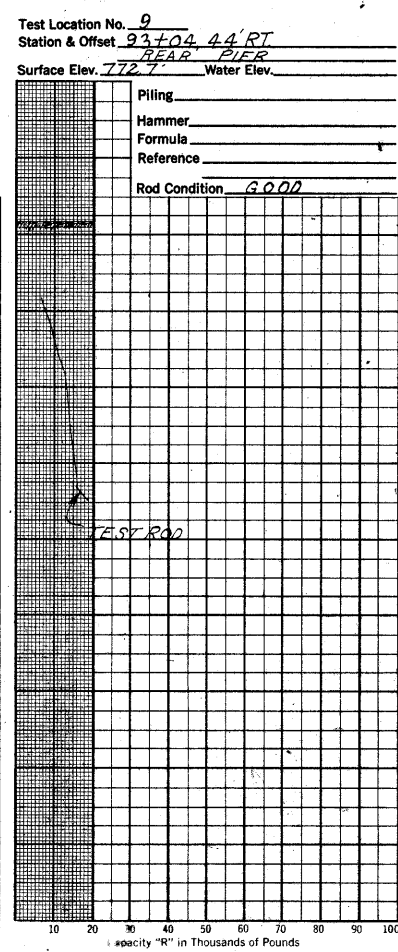
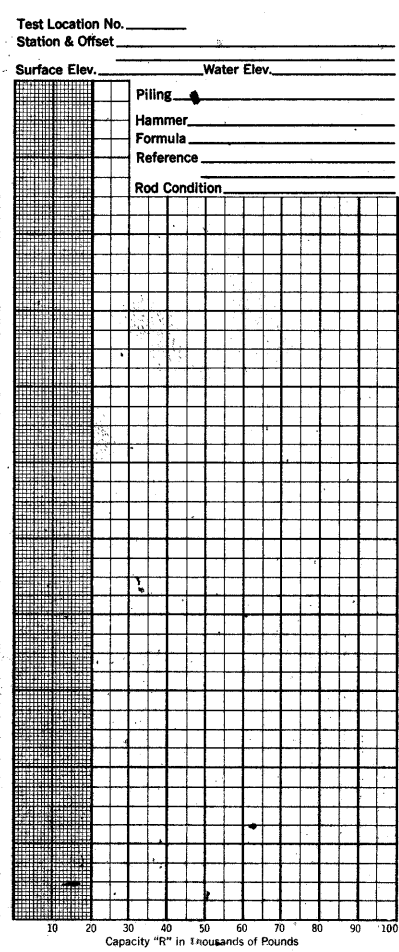
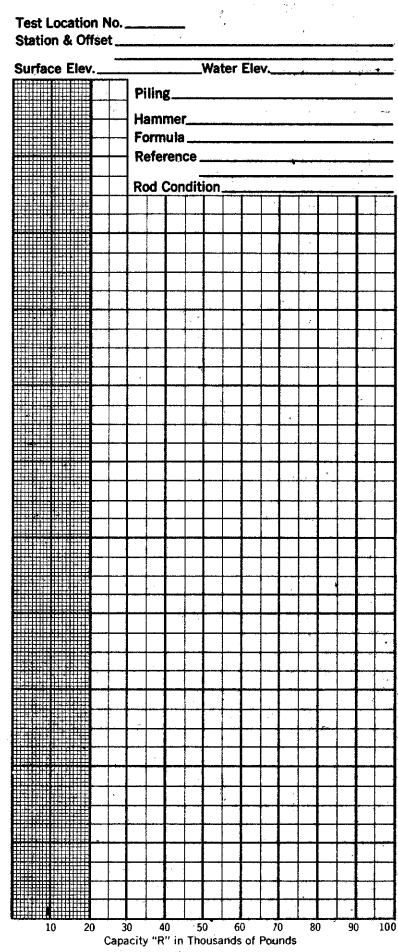
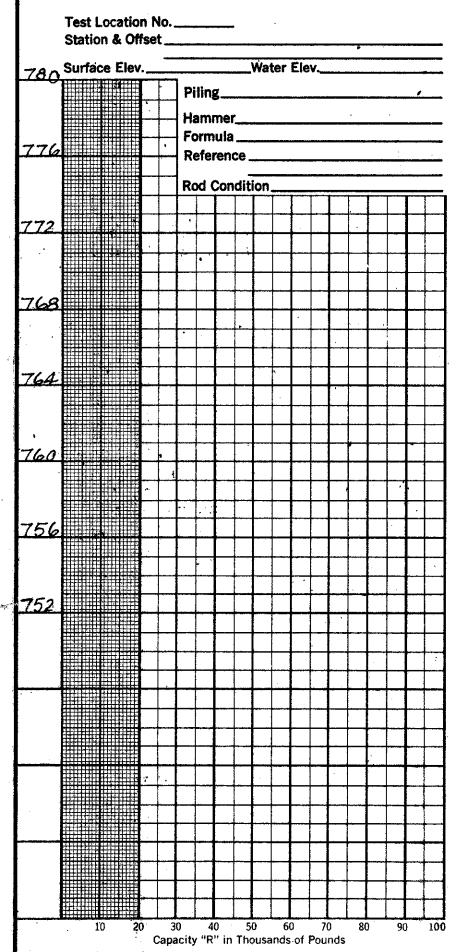
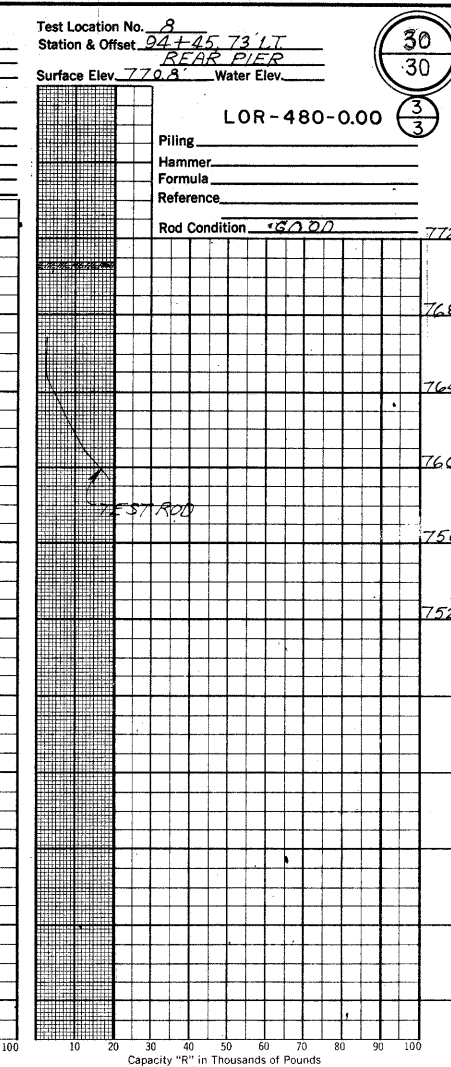
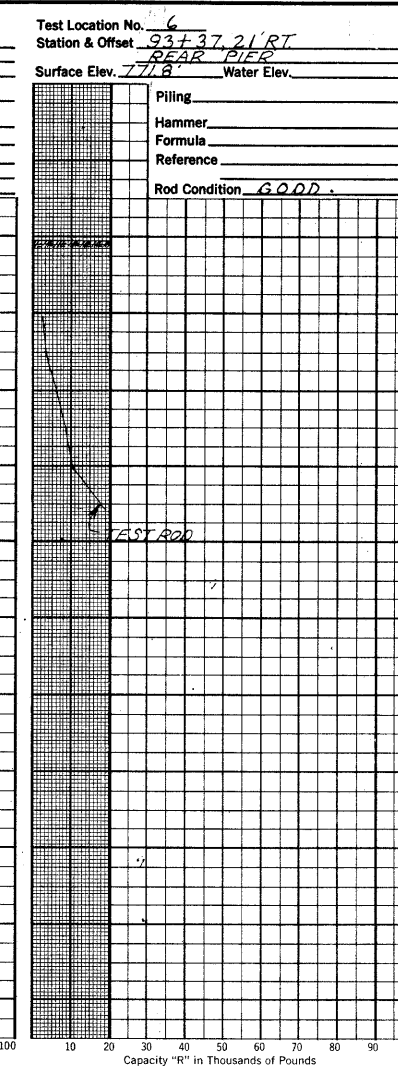
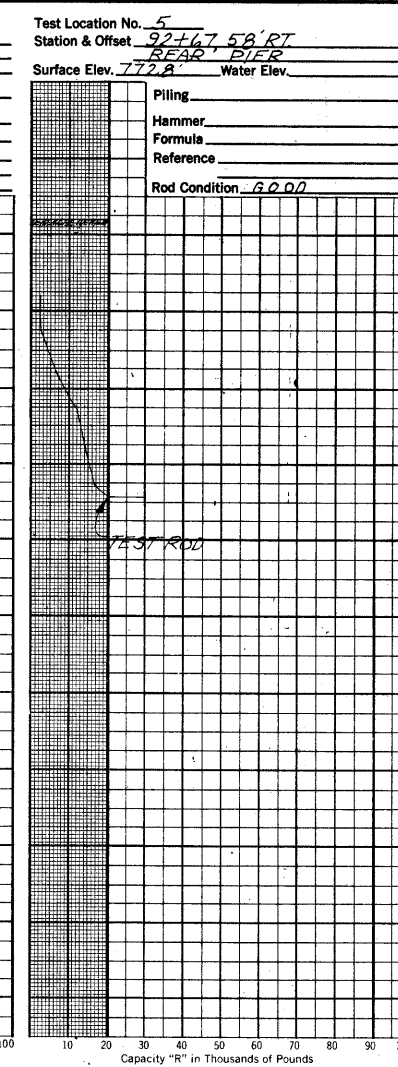
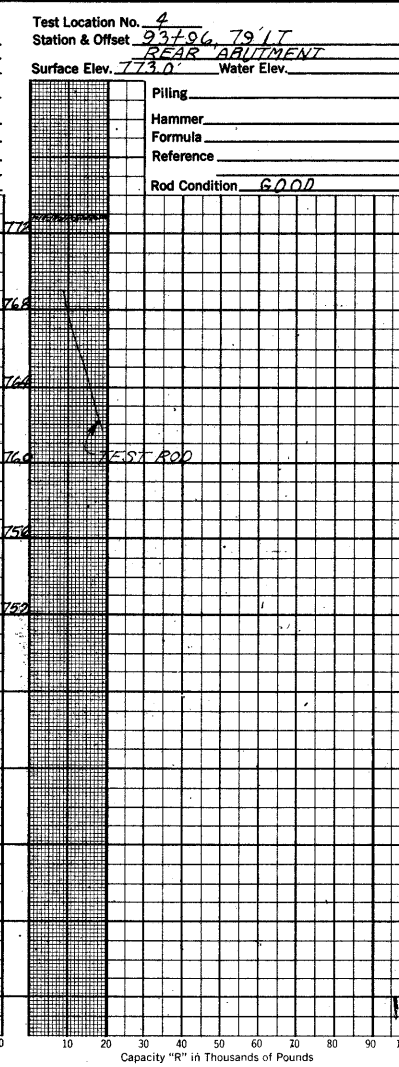
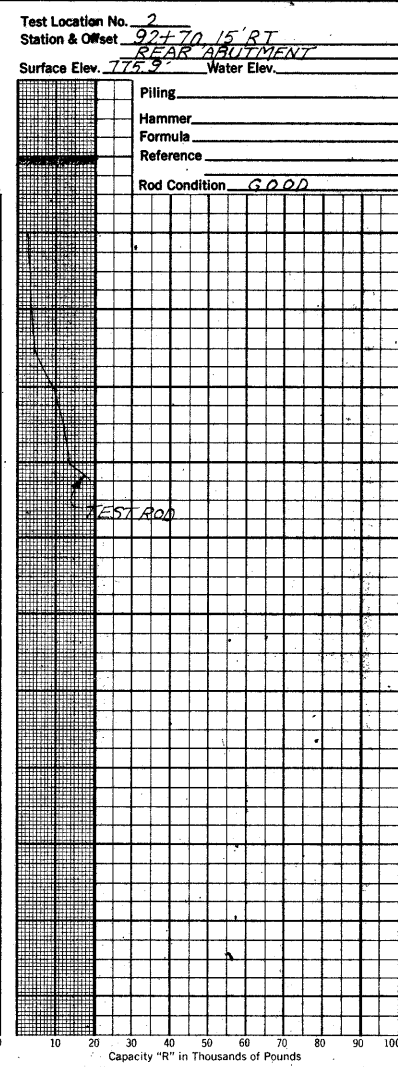
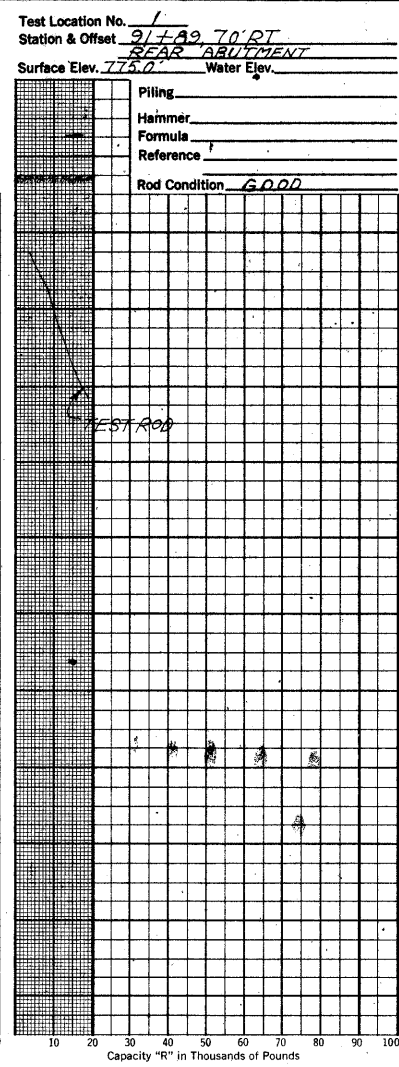
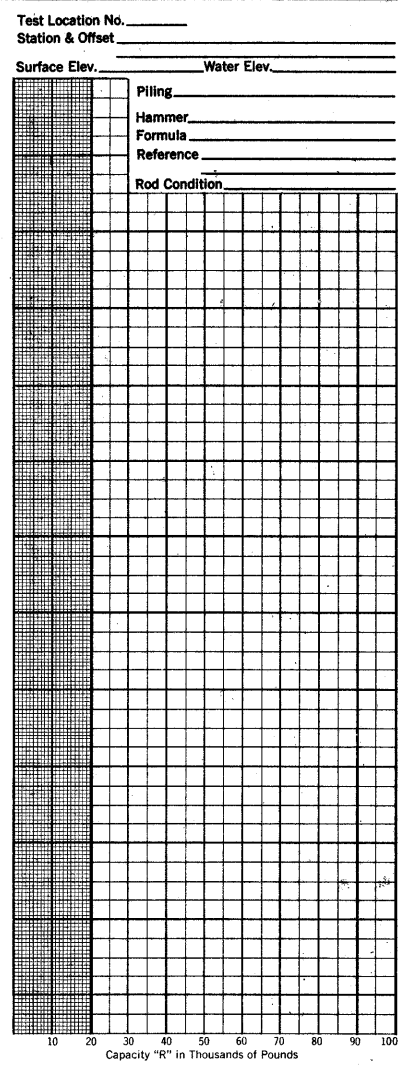
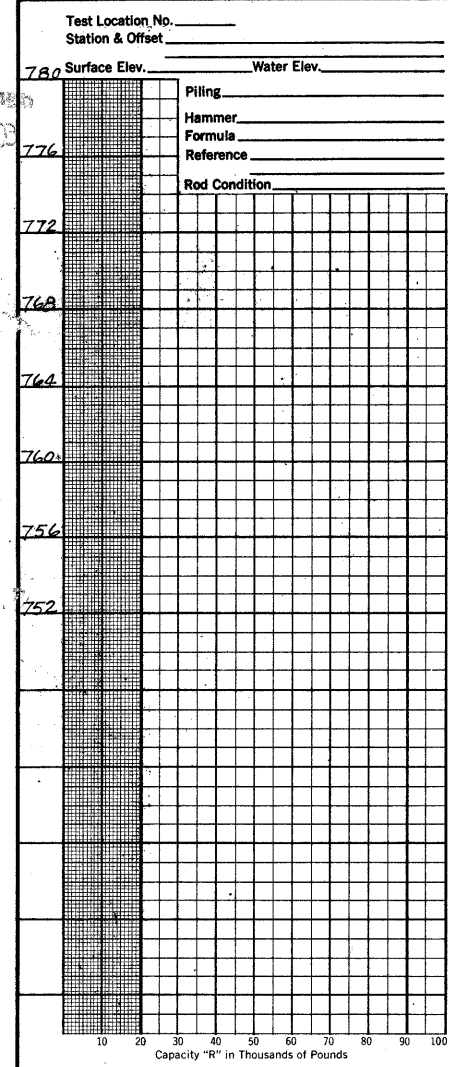
MICROFILMED  
JUL 20 1980



SCALE: 1" = 30'

OHIO DEPARTMENT OF HIGHWAYS TESTING LABORATORY 1620 WEST BROAD STREET, COLUMBUS 23, OHIO		
STRUCTURE FOUNDATION INVESTIGATION BRIDGE NO. LOR-480-0216 OVER SR 10 (LORAIN ROAD) SEC. LOR-480-000		
PLAN AND PROFILE		
DRAWN BY M.S.F.	CHECKED BY L.N.L.	REVIEWED BY R.D.R.
		DATE 7/30/68





**OHIO STATE HIGHWAY TESTING LABORATORY**  
1620 WEST BROAD ST. COLUMBUS 23, OHIO

**STRUCTURE FOUNDATION INVESTIGATION**  
BRIDGE NO. LOR-480-0216  
OVER SR10 (LORAIN ROAD)  
SEC. LOR-480-0.00

**DRIVE ROD PENETRATION RESISTANCE DATA**

PLOTTED BY R.C. CHECKED BY L.N.L. REVIEWED BY R.D.R. DATE 7/30/68