FED. RD. DIVISION	STATE	PROJECT	
2	OHIO	I-90-1(40)01	

1 / 499

LORAIN COUNTY
LOR - 90-13.01

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
LOR - 90 - 13.01
LORAIN COUNTY
ELYRIA TOWNSHIP
CITY OF ELYRIA
VILLAGE OF SHEFFIELD

I-90-1(40)01

1965 SPECIFICATIONS

CONVENTIONAL SIGNS

PROPERTY LINE
COUNTY LINE
TOWNSHIP LINE
LOT LINE
CORPORATION LINE
CENTER LINE
FENCE LINE
POLE LINE
EXISTING RIGHT OF WAY
PROPOSED RIGHT OF WAY — R/W
PROPOSED LIMITED ACCESS — L.A.
PROPOSED LIMITED ACCESS RIGHT OF WAY — L.A. & R/W
RAILROAD
GUARD RAIL
DRAIN PIPE — PROPOSED EXIST.
TREES & STUMPS
WORK LIMITS

Sheet No. 412, 415, 417, 415, 416, 417, 421 revised 10-31-66
Sheet No. 422B supersedes Sheet No. 422A. 10-31-66

LIMITED ACCESS

THIS IMPROVEMENT IS ESPECIALLY DESIGNED FOR THROUGH TRAFFIC AND HAS BEEN DECLARED A LIMITED ACCESS HIGHWAY OR FREEWAY BY ACTION OF THE DIRECTOR OF HIGHWAYS IN ACCORDANCE WITH THE PROVISIONS OF SECTION 5511.02 OF THE REVISED CODE OF OHIO.

THE STANDARD SPECIFICATIONS OF THE STATE OF OHIO, DEPARTMENT OF HIGHWAYS, INCLUDING CHANGES AND SUPPLEMENTAL SPECIFICATIONS LISTED IN THE PROPOSAL SHALL GOVERN THIS IMPROVEMENT.

THE RIGHT-OF-WAY FOR THIS IMPROVEMENT WILL BE PROVIDED BY THE STATE OF OHIO.

I HEREBY APPROVE THESE PLANS AND DECLARE THAT THE MAKING OF THIS IMPROVEMENT WILL NOT REQUIRE THE CLOSING OF THE HIGHWAY TO TRAFFIC AND THAT PROVISIONS FOR THE MAINTENANCE AND SAFETY OF TRAFFIC WILL BE AS SET FORTH ON THESE PLANS AND ESTIMATES.

APPROVED: D.H. Emmer
DATE: 1-27-66 DIVISION DEPUTY DIRECTOR

APPROVED: C.H. Alvater
DATE: 3-25-66 ENGINEER OF BRIDGES

APPROVED: R.N. Riebolt
DATE: 3-31-66 ENGINEER OF LOCATION & DESIGN

APPROVED: R.E. Shultz
DATE: 3-31-66 DEPUTY DIRECTOR OF DESIGN & CONSTRUCTION

APPROVED: T.H. Bonnell
DATE: 4-5-66 DEPUTY DIRECTOR OF RIGHT-OF-WAY

APPROVED: E.W. Wilson
DATE: 4-5-66 DEPUTY DIRECTOR OF PLANNING & PROGRAMMING

APPROVED:
DATE: _____ FIRST ASSISTANT DIRECTOR

APPROVED: R.E. Mashek
DATE: 4/6/66 DIRECTOR OF HIGHWAYS

INDEX OF SHEETS

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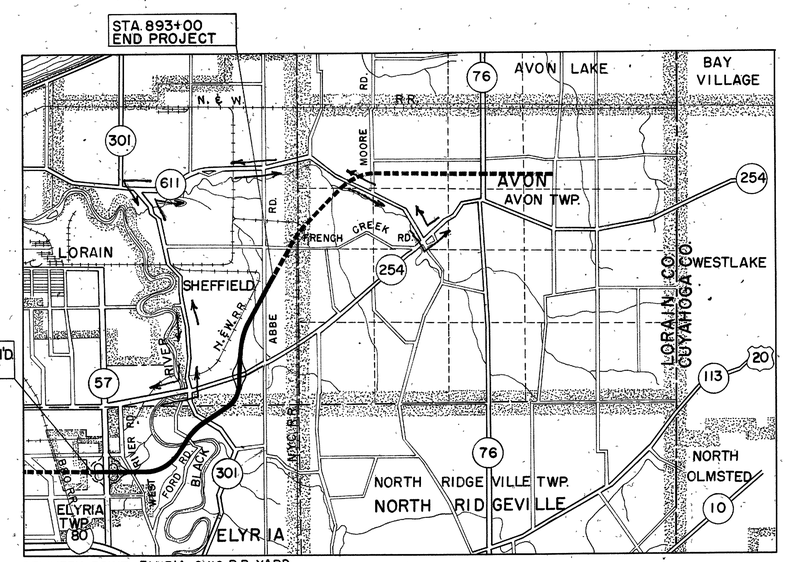
RIGHT OF WAY AND FENCE	462-499

NOTE: SHEET NUMBERS 22, 346 THRU 350 HAVE BEEN DELETED FROM THE PLANS



DELIVERY POINT ELYRIA, OHIO R.R. YARD
AVERAGE HAUL FROM SIDING 5.2 MILES N.&W. R.R. - B.&O. R.R.

LOCATION MAP

0 1 2 3 4 5
SCALE IN MILES

PORTION TO BE IMPROVED
STATE HIGHWAYS
OTHER ROADS
DETOURS
PORTION TO BE IMPROVED UNDER SEPARATE CONTRACT

REVISED PAGE 41, 5-24-66-C.E.H.
Sheet No. 412, 414, 415, 416, 417, 418, 419, 420, 421, 422 & 422A revised 6-29-66
Sheet No. 422, 422A, 422B, 433A, 434A, 435, 436 & 437 revised 7-22-66
Sheet No. 435, 434A, 435 & 436 revised 8-24-66
Sheet No. 435, 434A, 435 & 436 revised 9-2-66
Sheet No. 435, 434A, 435 & 436 revised 9-21-66
Sheet No. 435, 434A, 435 & 436 revised 10-6-66
Sheet No. 435, 434A, 435 & 436 revised 10-31-66

SCALES

PLAN	1" = 50'	1" = 50'
PROFILE - HORIZONTAL	1" = 50'	
PROFILE - VERTICAL	1" = 10'	1" = 10'
CROSS SECTIONS	1" = 10'	
PROFILE VERTICAL	1" = 5'	1" = 5'
PROFILE VERTICAL	1" = 5'	

0 50 100 150 200
0 10 20 30 40
0 5 10 15 20

DESIGN DESIGNATION
Current A.D.T. 1975
Design Year A.D.T. 33,060
D.H.V. 3,140
D. (directional distribution) 62
T. (percent B & C Trucks) 4
V. (design speed) 70

LINE DATA

PROJECT	BEGIN STATION	SUSPEND STATION	RESUME STATION	END STATION	LENGTH LIN. FT.	LENGTH MILES
I-90-1(40)01-	670+74.01			893+00	22,225.99	4.209
	TOTAL LENGTH OF PROJECT				22,225.99	4.209

WORK	BEGIN STATION	SUSPEND STATION	RESUME STATION	END STATION	LENGTH LIN. FT.	LENGTH MILES
I.R.-90-643+05 Bk-670+74.01 Ahd.	632+09			904+40	24,461.99	
S.R. 57	132+40			168+40	3,600.00	
WEST RIVER ROAD	42+25			54+50	1,225.00	
FORD ROAD ROAD	46+50			53+00	650.00	
GULF ROAD (S.R.301)	122+50			139+00	1,650.00	
S.R.254 (100% STATE)	73+50	80+88.37	93+37.12	116+00	3,001.25	
S.R.254 I-90-1(40)01	80+88.37			93+37.12	1,248.75	
ABBE ROAD INTERSECTION W/S.R.254	20+00	24+80.50	25+38.54	32+20	1,161.96	
RELOC. ABBE ROAD	27+00			67+30	4,030.00	
	TOTAL LENGTH OF WORK				41,028.95	7.770

STD. DRWG'S. (CON'T.)		SUPPLEMENTAL SPECIFICATIONS	
AS-1-54	8-10-65	801	9-2-65
FSB-1-62	1-15-63	808	7-14-65
BR-1-65	11-24-65	811	3-29-65
SD-1-65	11-8-65	814	8-24-65
RB-1-55	2-2-59	815	8-6-65
SP-53	6-30-61	816	8-6-65
HL-4	1-1-66	909	6-11-65
MH-1A	6-1-65	1001	9-2-65
		825	4-22-65
		828	7-21-65
		806	9-2-65

STANDARD DRAWINGS

BP-1	6-1-65	MC-1	6-1-65	F-1	6-1-65	CB-2-2-A&B	6-1-65	GR-1	6-1-65
BP-2	6-1-65	MC-3	6-1-65	F-2	6-1-65	CB-4	6-1-65	GR-2A	9-1-65
BP-3	6-1-65	MC-4	6-1-65	F-3	6-1-65	CB-5	6-1-65		
BP-4	6-1-65	MC-5	6-1-65	F-4	6-1-65	CB-6	6-1-65	GR-5A	6-1-65
BP-5	6-1-65	MC-6	6-1-65	HW-1	6-1-65	CB-7	6-1-65	GR-5B	6-1-65
BP-6	6-1-65	FACI-1	6-1-65	HW-2	6-1-65	CB-8	6-1-65	GR-6	6-1-65
BP-7	1-1-66	FACI-2	6-1-65	HW-3	6-1-65	MH-1	6-1-65	L-1	6-1-65
				HW-E	6-1-65	I-2A	6-1-65	HL-3	11-1-65

FILE NO. 95-L

LORAIN COUNTY - LOR-90-13.01
DATE OF LETTING _____
CONTRACT NO. _____

PREPARED AND RECOMMENDED BY
SHAFFER, PARRETT AND ASSOCIATES
CONSULTING ENGINEERS
MANSFIELD OHIO WOOSTER

DEPARTMENT OF COMMERCE
BUREAU OF PUBLIC ROADS

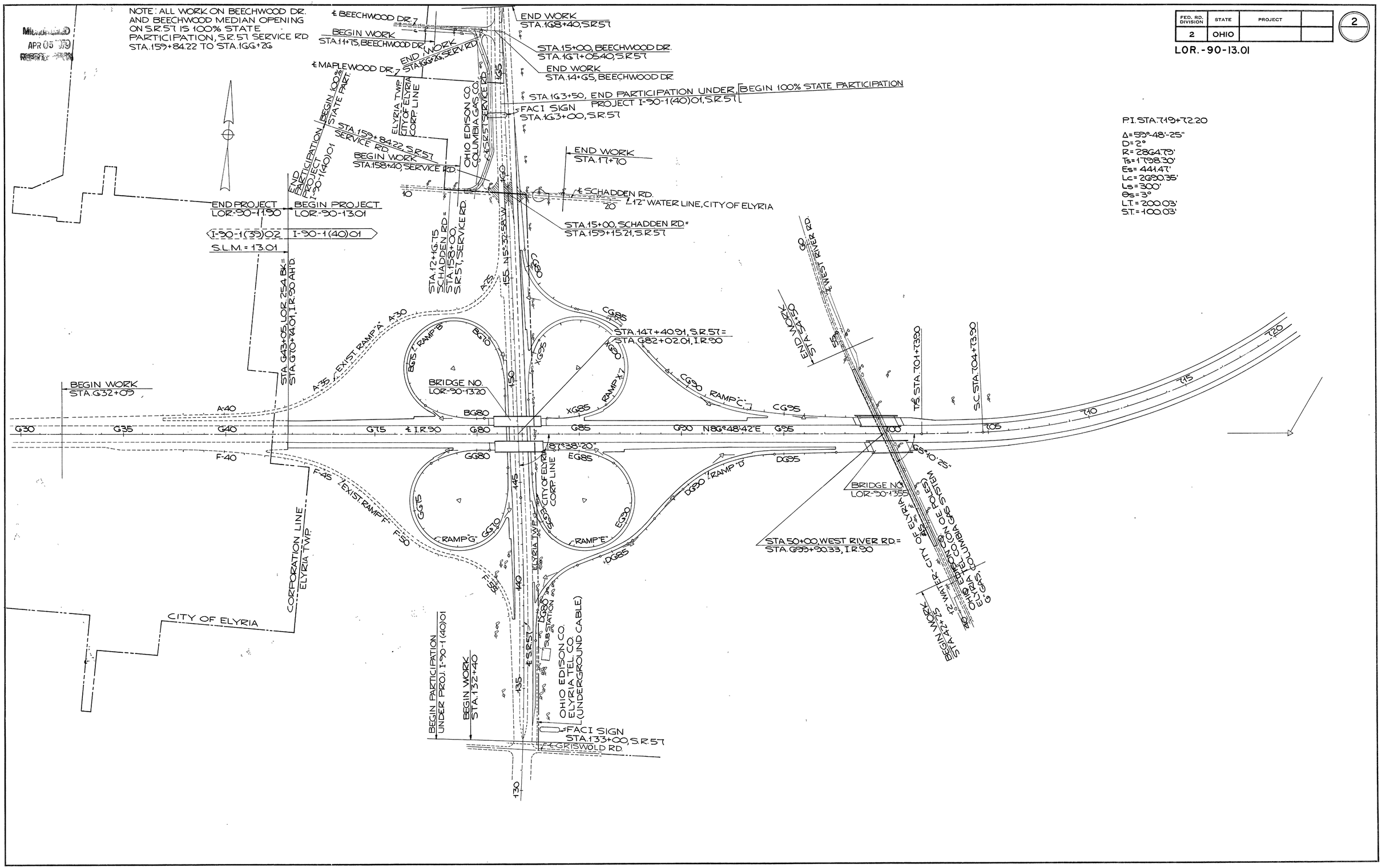
APPROVED

DIVISION ENGINEER _____ DATE _____

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

2

LOR.-90-13.01



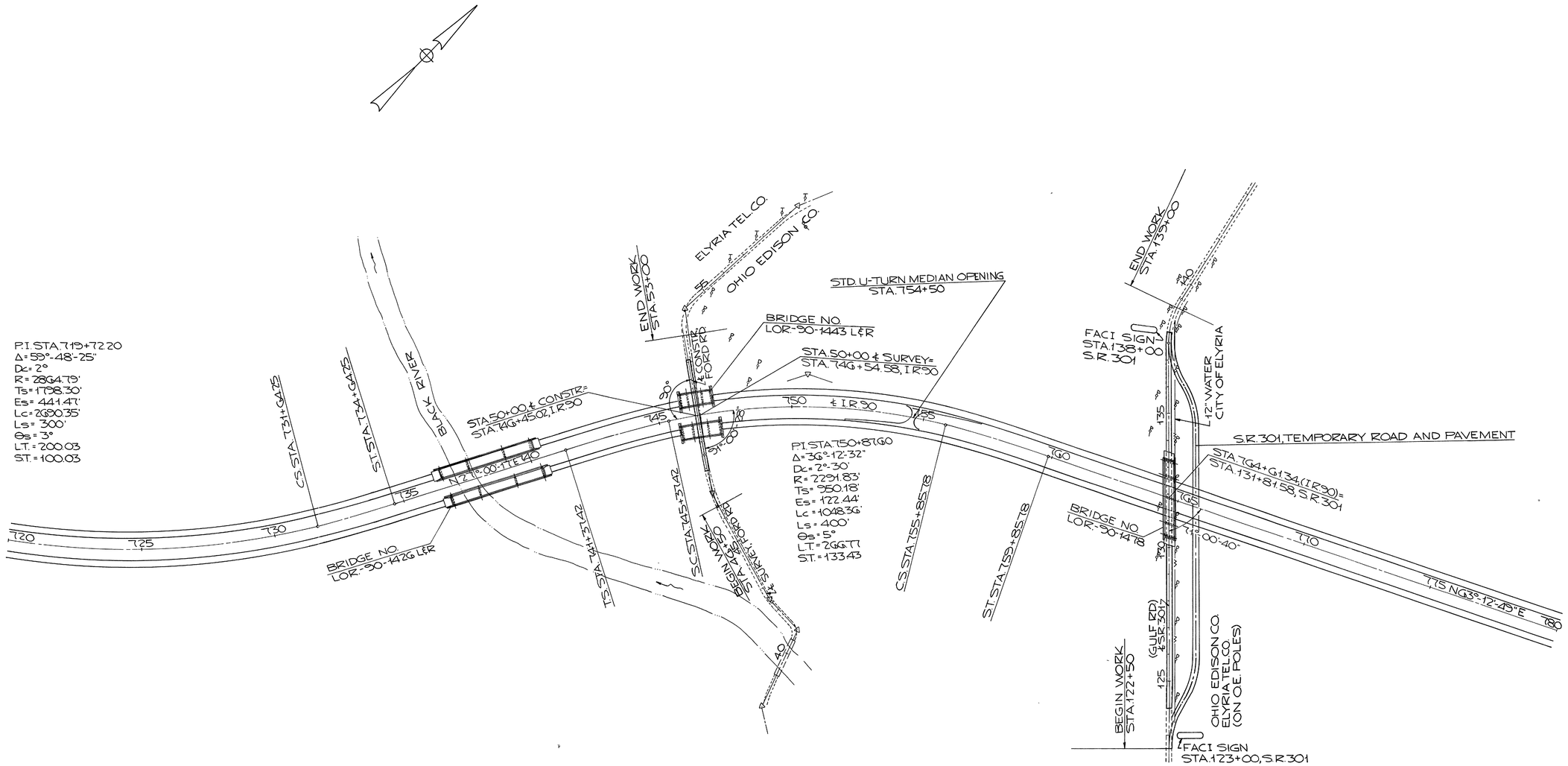
SCHEMATIC PLAN NO. 1

MICROFILMED
APR 05 '79
RECORDS CENTER

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

LOR.-90-13.01

3



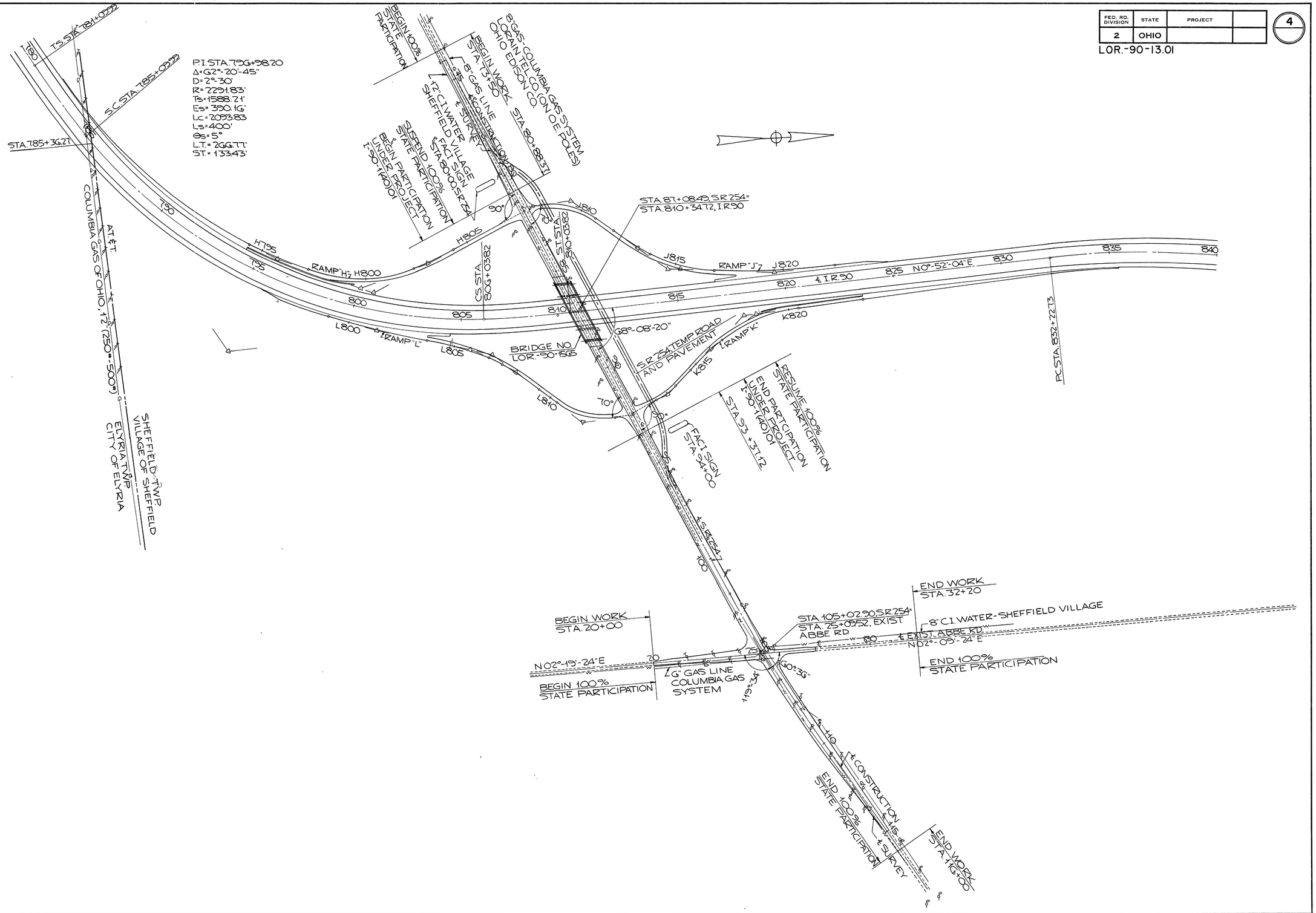
SCHEMATIC PLAN NO. 2

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

LOR.-90-13.01

4

MICROFILMED
APR 05 '79



SCHEMATIC PLAN NO. 3

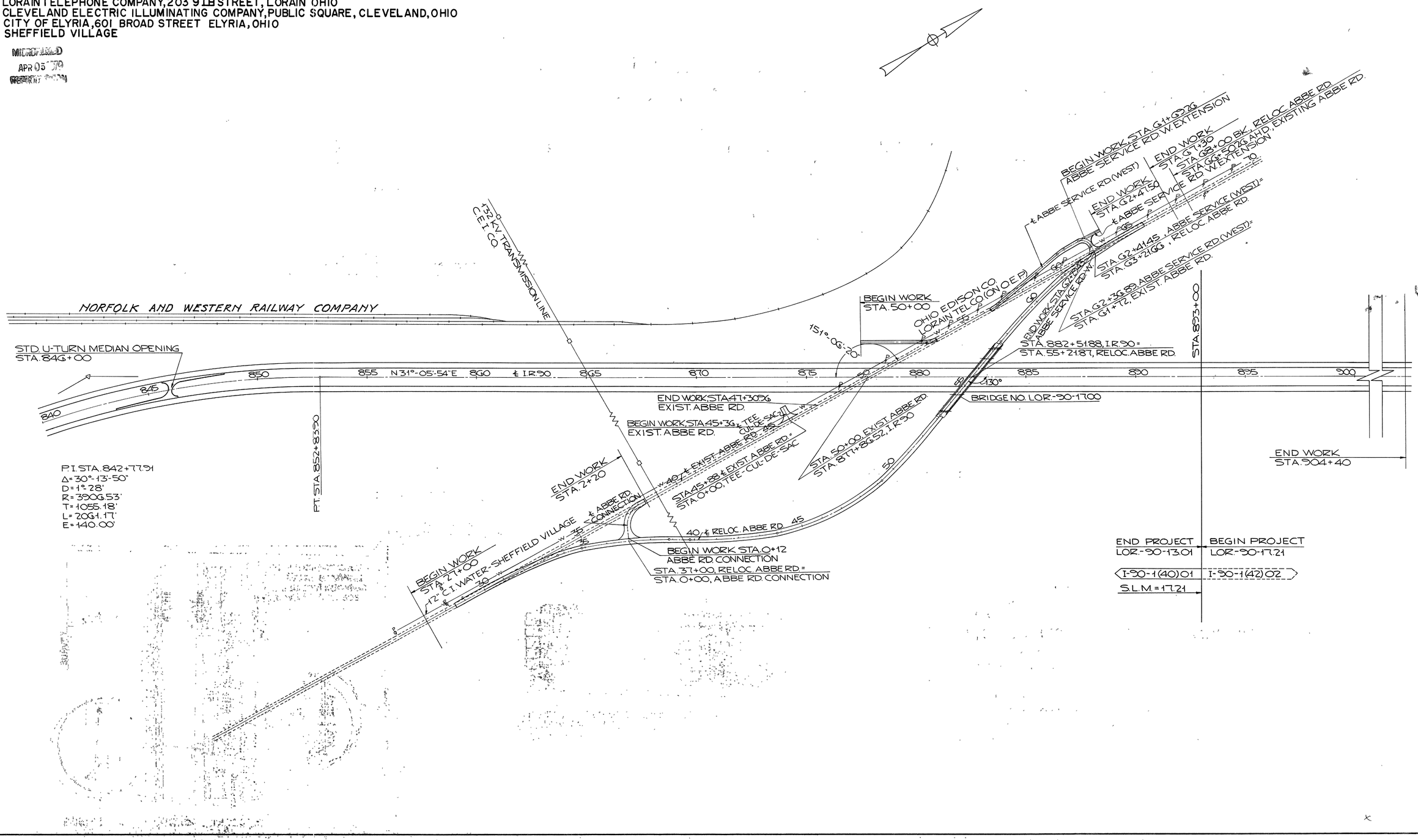
FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

5

LOR.-90-13.01

UTILITY OWNERS
OHIO EDISON, 47 NORTH MAIN STREET, AKRON, OHIO
COLUMBIA GAS OF OHIO, 99 NORTH FRONT STREET, COLUMBUS, OHIO
AMERICAN TELEPHONE AND TELEGRAPH COMPANY, 100 ERIEVIEW PLAZA, CLEVELAND, OHIO
ELYRIA TELEPHONE COMPANY, 363 THIRD STREET, ELYRIA, OHIO
LORAIN TELEPHONE COMPANY, 203 9TH STREET, LORAIN OHIO
CLEVELAND ELECTRIC ILLUMINATING COMPANY, PUBLIC SQUARE, CLEVELAND, OHIO
CITY OF ELYRIA, 601 BROAD STREET ELYRIA, OHIO
SHEFFIELD VILLAGE

MICROFILMED
APR 05 '79



SCHEMATIC PLAN NO. 4

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

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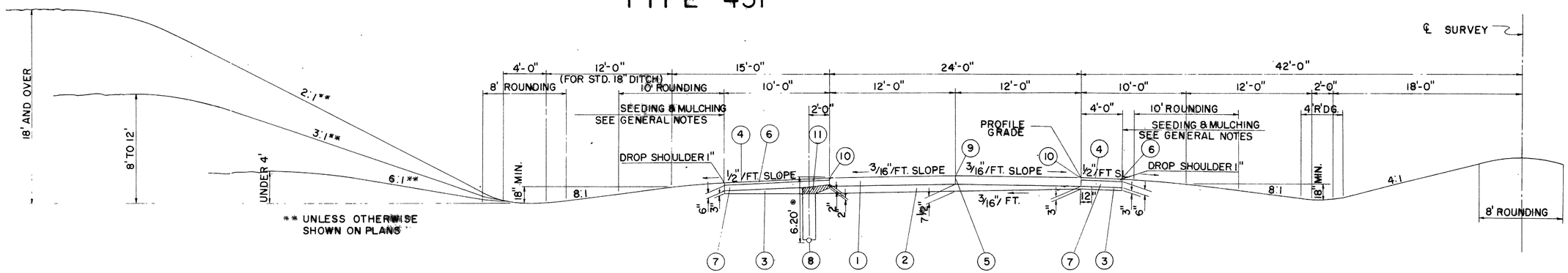
LOR.-90-13.01

FOR DETAILS NOT SHOWN
SEE STD. DRWG. MC-1

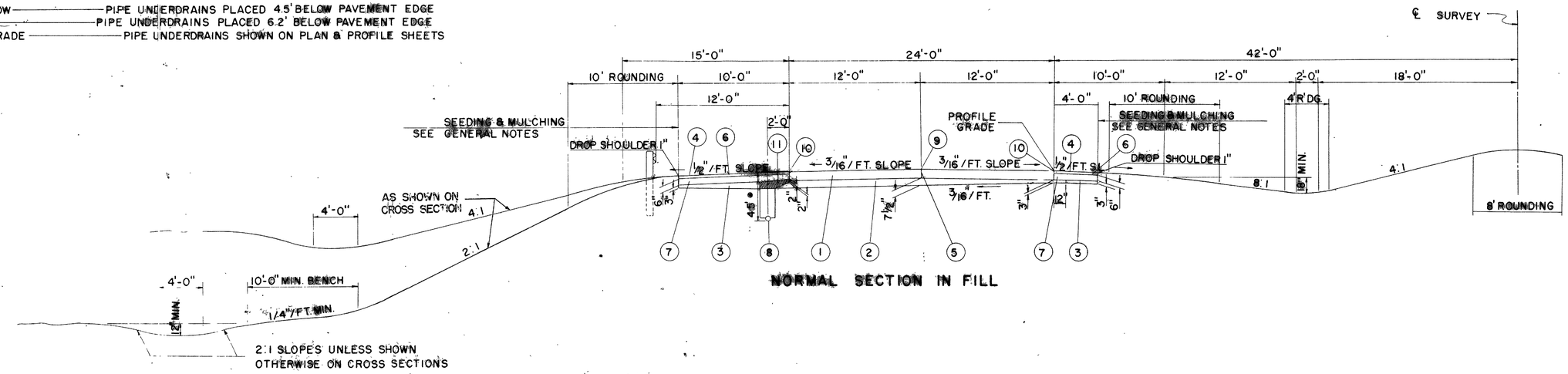
TYPICAL SECTIONS - I.R. 90

TYPE 451

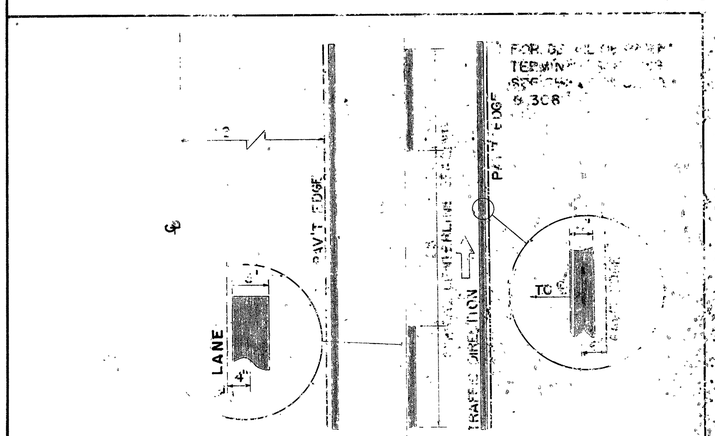


NORMAL SECTION IN CUT

• NOTE:
NORMAL SHALLOW — PIPE UNDERDRAINS PLACED 4.5' BELOW PAVEMENT EDGE
NORMAL DEEP — PIPE UNDERDRAINS PLACED 6.2' BELOW PAVEMENT EDGE
ALL SPECIAL GRADE — PIPE UNDERDRAINS SHOWN ON PLAN & PROFILE SHEETS



NORMAL SECTION IN FILL



PAVEMENT MARKING DETAILS

℄ STATIONING

FROM	TO STATION	
31.83	701+40	W.B.L.
31.79	701+40	E.B.
57.25	740+62.42	E.B.
47.25	740+62.42	W.B.
78.82	830+51.40	E.B. & W.B.L.
55.15	893+00	E.B.L. & W.B.L.

SEE SHEET NO. 144 FOR TYPICAL SECTIONS OF SPEED CHANGE LANES

ITEM LEGEND

1	451	10" REINFORCED PORTLAND CEMENT CONCRETE PAVEMENT
2	310	SUBBASE - GRADING A OR B, AS PER PLAN
3	310	SUBBASE
4	409	SEAL COAT COVER AGGREGATE USING 0.008 CU. YD. NO. 8 AGGREGATE PER SQ. YD. AND 0.25 GAL. BITUMINOUS MATERIAL PER SQ. YD. (SEE NOTE IN PROPOSAL)
5		STANDARD LONGITUDINAL JOINT
6	301	3" BITUMINOUS AGGREGATE BASE - 702.01, (85-100); OR 702.09, R.T. 12 - SEE NOTE IN PROPOSAL
7	304	AGGREGATE BASE
8	605	6" PIPE UNDERDRAIN
9	621	6" LANE LINES AND CENTER LINES. SEE DETAIL SHEET NO. 6
10	621	4" EDGE LINES. SEE DETAIL SHEET NO. 6
11	SPECIAL	DRAINAGE CONNECTION, USING NO. 8 AGGREGATE. SEE NOTE IN PROPOSAL

FOR DETAILS NOT SHOWN
SEE STD. DRWG. MC-1

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

LOR.-90-13.01

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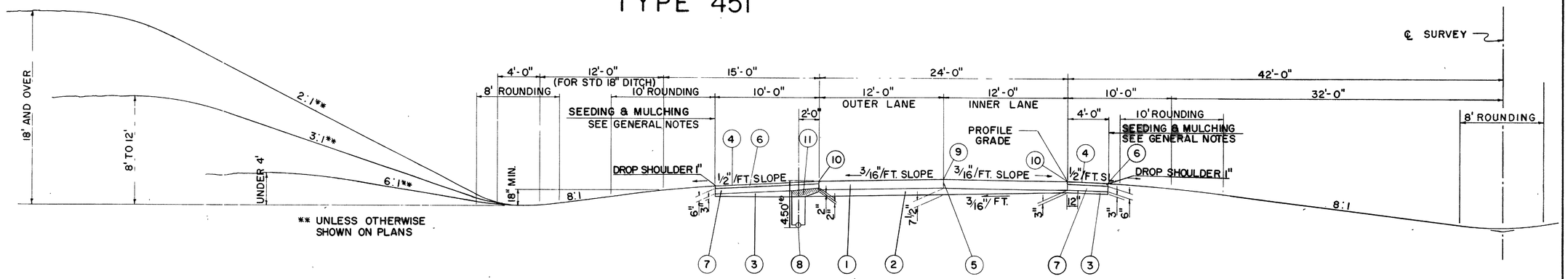
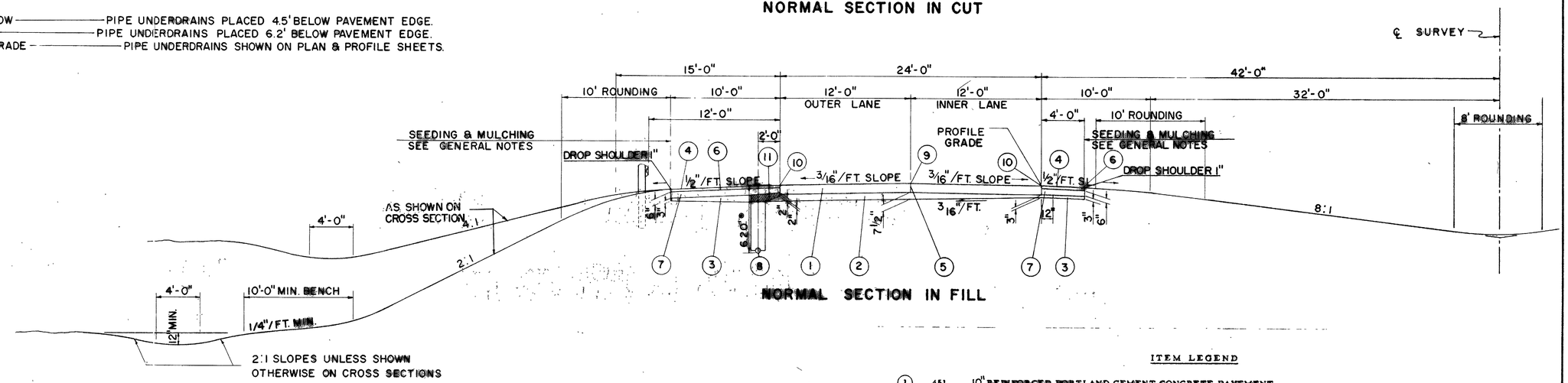
TYPICAL SECTIONS - I.R. 90

TYPE 451



NORMAL SECTION IN CUT

NOTE:
NORMAL SHALLOW ——— PIPE UNDERDRAINS PLACED 4.5' BELOW PAVEMENT EDGE.
NORMAL DEEP ——— PIPE UNDERDRAINS PLACED 6.2' BELOW PAVEMENT EDGE.
ALL SPECIAL GRADE ——— PIPE UNDERDRAINS SHOWN ON PLAN & PROFILE SHEETS.



NORMAL SECTION IN FILL

ITEM LEGEND

1	451	10" REINFORCED PORTLAND CEMENT CONCRETE PAVEMENT
2	310	SUBBASE - GRADING A OR B, AS PER PLAN
3	310	SUBBASE
4	409	SEAL COAT COVER AGGREGATE USING 0.008 CU. YD. NO. 8 AGGREGATE PER SQ. YD. AND 0.25 GAL. BITUMINOUS MATERIAL PER SQ. YD. SEE NOTE IN PROPOSAL
5		STANDARD LONGITUDINAL JOINT
6	301	3" BITUMINOUS AGGREGATE BASE - 702.01, (85-100); OR 702.09, R.T. 12 (SEE NOTE IN PROPOSAL)
7	304	AGGREGATE BASE
8	605	6" PIPE UNDERDRAIN
9	621	6" LANE LINES AND CENTER LINES. SEE DETAIL SHEET NO. 6
10	621	4" EDGE LINES. SEE DETAIL SHEET NO. 6
11	SPECIAL	DRAINAGE CONNECTION, USING NO. 8 AGGREGATE. SEE NOTE IN PROPOSAL

FOR PAVEMENT MARKING DETAILS, SEE SHEET NO. 6

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

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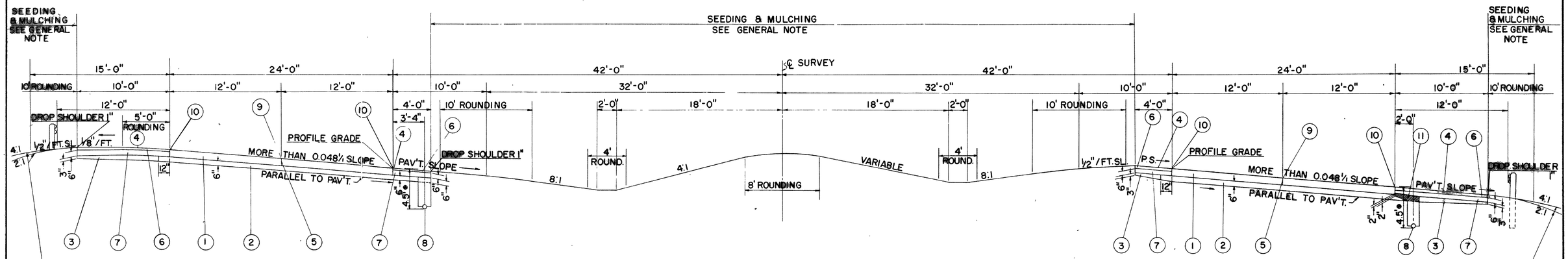
LOR.-90-13.01

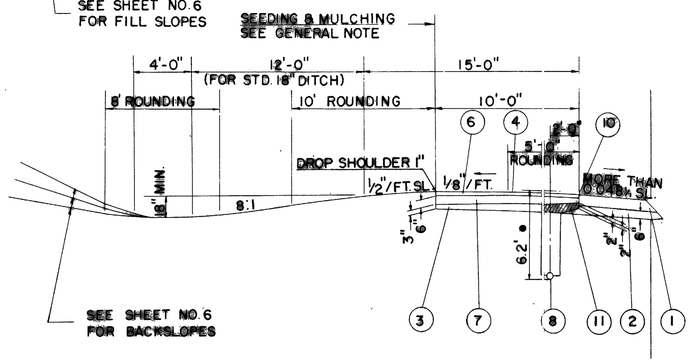
TYPICAL SECTIONS - I.R. 90
SUPERELEVATED PAVEMENT
TYPE 451

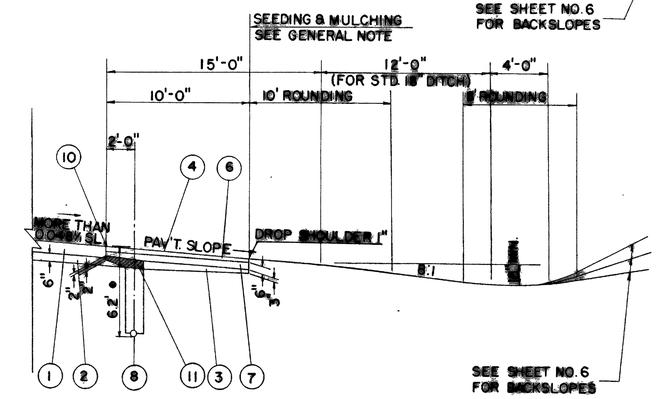


SEE SHEET NO. 6 FOR FILL SLOPES

SEE SHEET NO. 6 FOR BACKSLOPES

SUPERELEVATED SECTION IN FILL





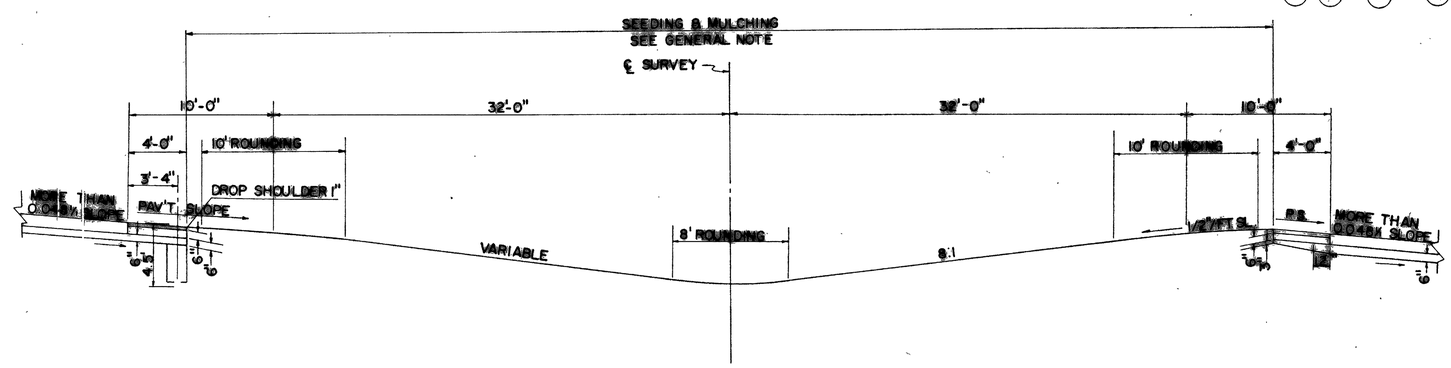
* NOTE:
NORMAL SHALLOW ——— PIPE UNDERDRAINS PLACED 4.5' BELOW PAVEMENT EDGE
NORMAL DEEP ——— PIPE UNDERDRAINS PLACED 6.2' BELOW PAVEMENT EDGE.
ALL SPECIAL GRADE ——— PIPE UNDERDRAINS, SHOWN ON PLAN & PROFILE SHEETS.

FOR ITEM LEGEND SEE SHEET NO. 6
FOR PAVEMENT MARKING DETAILS SEE SHEET NO. 6

IN CUT

MEDIAN

STATION		
701 +00	[illegible]	E.B. & W.B.
722 +25	[illegible]	E.B.L.
723 +00	[illegible]	W.B.
727 +15	[illegible]	W.B.
731 +30	[illegible]	W.B.
740 + 62.[illegible]	[illegible] 39.77	E.B.L.
740 + 62.[illegible]	[illegible] 58.40	E.B.L. & W.B.L.
809 + 00	[illegible] 76.82	E.B.L. & W.B.L.



IN CUT

VEE MEDIAN

℄ STATIONING STATION	TO STATION	
747 + 53.30	748 + 50	E.B.L.
752 + 00	760 + 60.78	E.B.L. & W.B.L.
780 + 34.99	809 + 00	E.B.L. & W.B.L.

SUPERELEVATED SECTION WITH VEE MEDIAN

TYPICAL SUPERELEVATED SECTIONS - I.R. 90 W/ MOUND & VEE MEDIAN

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

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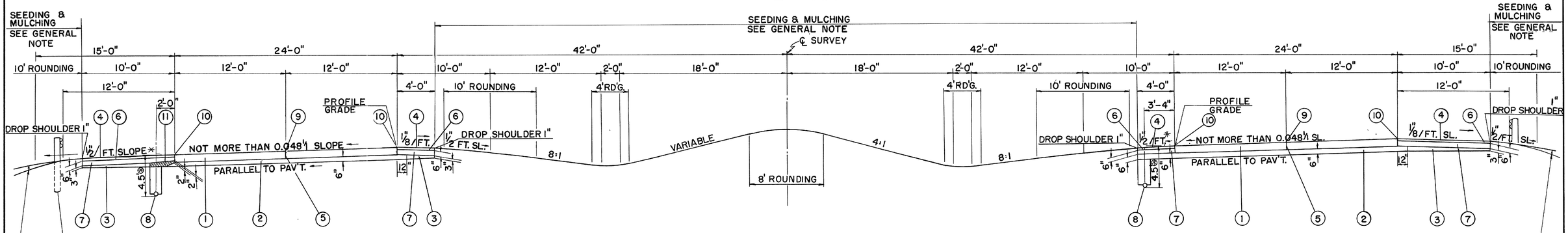
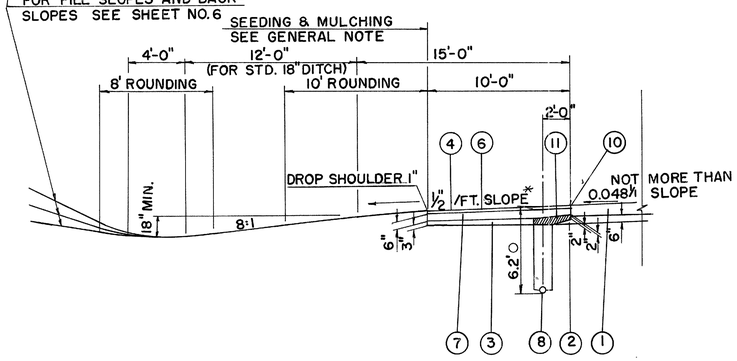
LOR.-90-13.01

TYPICAL SECTIONS - I.R. 90
SUPERELEVATED PAVEMENT
TYPE 451

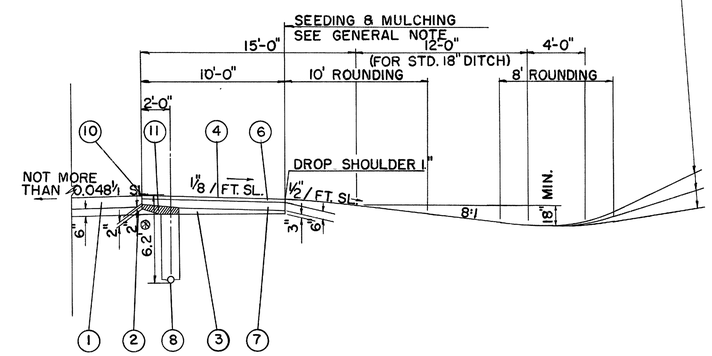


SUPERELEVATED SECTION IN FILL

⊗NOTE:
NORMAL SHALLOW ——— PIPE UNDERDRAINS PLACED 4.5' BELOW PAVEMENT EDGE
NORMAL DEEP ——— PIPE UNDERDRAINS PLACED 6.2' BELOW PAVEMENT EDGE.
ALL SPECIAL GRADE ——— PIPE UNDERDRAINS, SHOWN ON PLAN & PROFILE SHEETS.



IN CUT



IN CUT

SUPERELEVATED SECTION
℄ STATIONING

STATION	TO STATION	
830+51.48	854+55.15	E.B.L. & W.B.L.

*OR RATE OF SUPERELEVATION WHICHEVER IS GREATER.

ITEM LEGEND

NO.	ITEM	DESCRIPTION
1	451	10" REINFORCED PORTLAND CEMENT CONCRETE PAVEMENT
2	310	SUBBASE — GRADING A OR B, AS PER PLAN
3	310	SUBBASE
4	409	SEAL COAT. COVER AGGREGATE USING 0.008 CU. YD. NO. 8 AGGREGATE PER SQ. YD. AND 0.25 GAL. BITUMINOUS MATERIAL PER SQ. YD. SEE NOTE IN PROPOSAL
5		STANDARD LONGITUDINAL JOINT.
6	301	3" BITUMINOUS AGGREGATE BASE; 702.01, (85-100); OR 702.09, RT. 12 SEE NOTE IN PROPOSAL
7	304	AGGREGATE BASE,
8	605	6" PIPE UNDERDRAIN.
9	621	6" LANE LINES AND CENTER LINES. SEE DETAIL SHEET NO. 6
10	621	4" EDGE LINES. SEE DETAIL SHEET NO. 6
11		SPECIAL DRAINAGE CONNECTION, USING NO. 8 AGGREGATE SEE NOTE IN PROPOSAL

FOR PAVEMENT MARKING DETAILS SEE SHEET NO. 6

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

LOR.-90-13.01

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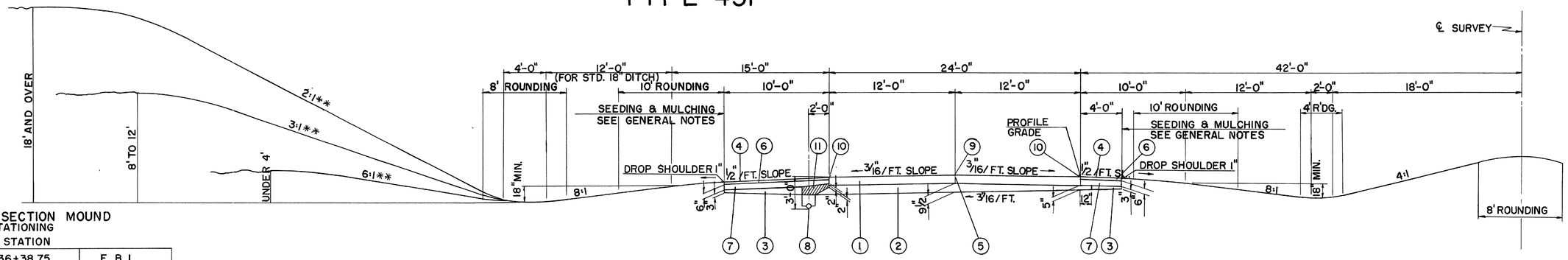
FOR DETAILS NOT SHOWN
SEE STD. DRWG. MC-1

TYPICAL SECTIONS - I.R. 90

TYPE 451



NORMAL SECTION MOUND

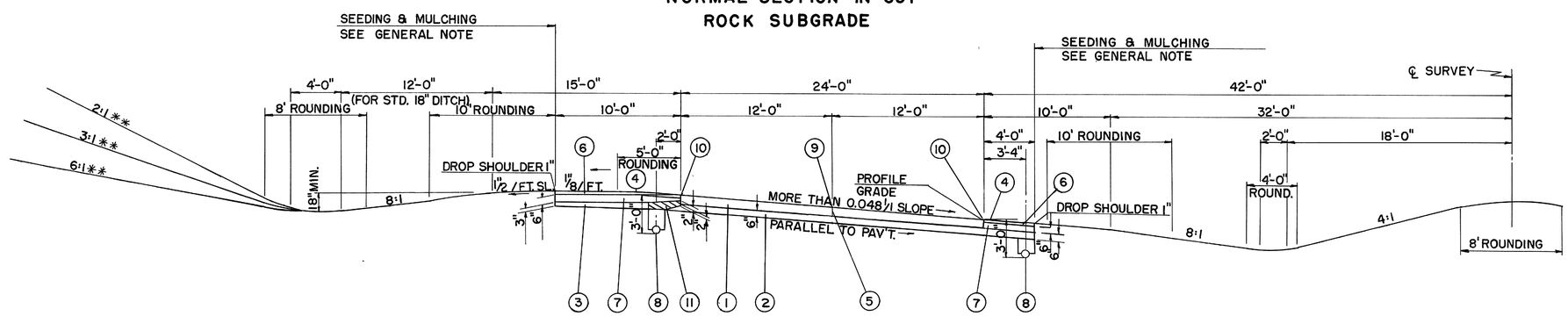
STATION	℄ STATIONING TO STATION	
735+39.25	736+38.75	E. B. L.
735+39.25	736+28.75	W. B. L.

** UNLESS OTHERWISE SHOWN ON PLANS

NORMAL SECTION IN CUT
ROCK SUBGRADE

SUPERELEVATED SECTION MOUND

STATION	℄ STATIONING TO STATION	
714+00	722+25	E.B.L. & W.B.L.
722+25	723+00	W.B.L.
724+25	725+25	E.B.L.
725+25	727+15	E.B.L. & W.B.L.
727+15	728+15	E.B.L.
728+15	731+30	E.B.L. & W.B.L.
731+30	732+25	E.B.L.
732+25	735+39.25	E.B.L. & W.B.L.



SUPERELEVATED SECTION IN CUT
ROCK SUBGRADE

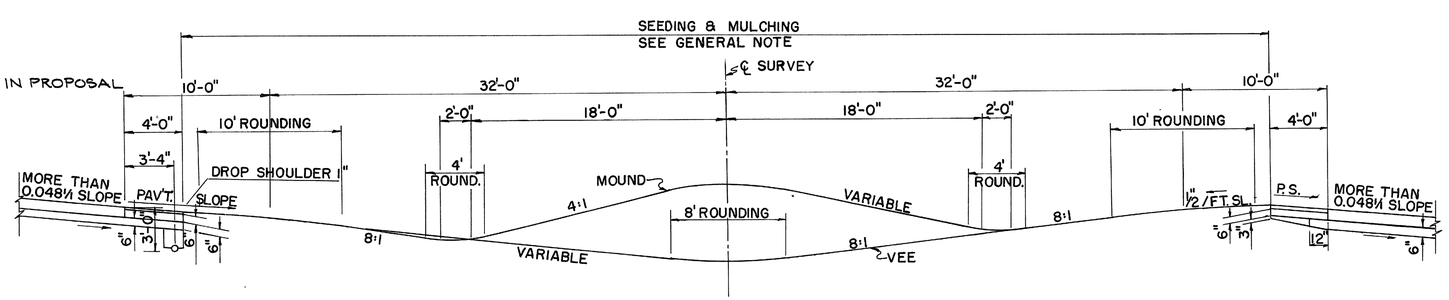
SUPERELEVATED SECTION VEE

STATION	℄ STATIONING TO STATION	
747+33.75	748+50	W.B.L.
748+50	752+00	E.B.L. & W.B.L.

ITEM LEGEND

NO.	ITEM	DESCRIPTION
1	451	10" REINFORCED PORTLAND CEMENT CONCRETE PAVEMENT
2	310	SUBBASE - GRADING A OR B, AS PER PLAN
3	310	SUBBASE
4	409	SEAL COAT. COVER AGGREGATE USING 0.008 CU. YD. NO. 8 AGGREGATE PER SQ. YD. AND 0.25 GAL. BITUMINOUS MATERIAL PER SQ. YD. SEE NOTE IN PROPOSAL
5		STANDARD LONGITUDINAL JOINT
6	301	3" BITUMINOUS AGGREGATE BASE: 702.01, (85-100); OR 702.09, RT. 12, SEE NOTE IN PROPOSAL
7	304	AGGREGATE BASE,
8	605	6" PIPE UNDERDRAIN
9	621	6" LANE LINES AND CENTER LINES. SEE DETAIL SHEET NO. 6
10	621	4" EDGE LINES. SEE DETAIL SHEET NO. 6
11		SPECIAL DRAINAGE CONNECTION, USING NO. 8 AGGREGATE SEE NOTE IN PROPOSAL.

FOR PAVEMENT MARKING DETAILS SEE SHEET NO. 6



SUPERELEVATED SECTION IN
ROCK SUBGRADE
MOUND MEDIAN & VEE MEDIAN

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

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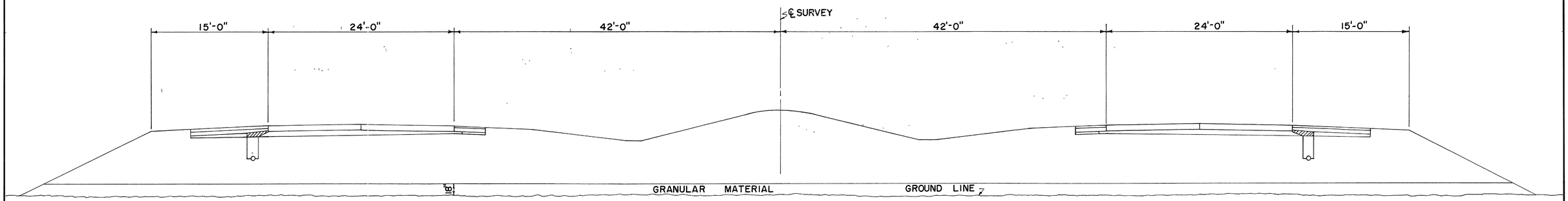
LOR.-90-13.01

TYPICAL SECTIONS - I.R. 90

EMBANKMENT CONSTRUCTION USING GRANULAR MATERIAL

TYPE 451



GRANULAR MATERIAL SECTIONS

STATION	TO	STATION	E.B.L. LIN. FT.	W.B.L. LIN. FT.
739+27		746+00	673.00	673.00
		TOTAL	673.00	673.00

EMBANKMENT CONSTRUCTION USING GRANULAR MATERIAL.
THE AREA ON WHICH EMBANKMENT IS TO BE PLACED SHALL BE CLEARED AND GRUBBED AS DESCRIBED IN 201.03, BUT THE REQUIREMENTS OF 201.04 RELATING TO SCALPING AND FOUNDATION COMPACTION ARE HEREBY WAIVED. THE LOWER 18" OF FILL IN THIS AREA SHALL BE CONSTRUCTED USING 203.03 GRANULAR BORROW, AS PER PLAN. THE MATERIALS SHALL MEET THE REQUIREMENTS SET FORTH BELOW. THE INITIAL LIFT ACROSS THIS AREA SHALL BE PLACED BY THE METHOD OF END DUMPING WITH A COMPACTED THICKNESS OF BETWEEN 12" AND 18" AS DETERMINED BY THE ENGINEER TO BE NECESSARY TO SUPPORT THE CONSTRUCTION EQUIPMENT. ABOVE THE 18" GRANULAR LAYER THE EMBANKMENT SHALL BE CONSTRUCTED USING SUITABLE EMBANKMENT MATERIAL PLACED IN ACCORDANCE WITH 203.09 REQUIREMENTS. A PERIOD OF AT LEAST 3 MONTHS SHALL ELAPSE BETWEEN COMPLETION OF THE EMBANKMENT AND PLACEMENT OF THE PAVEMENT.

MATERIAL FOR THIS ITEM SHALL MEET THE REQUIREMENTS OF 203.03 FOR GRANULAR MATERIAL WITH THE FURTHER REQUIREMENT THAT AT LEAST 85% BY WEIGHT OF THE GRAINS OR PARTICLES SHALL BE RETAINED ON THE 200 SIEVE.

FOR PAVEMENT BUILDUP, SEE SHEET NO. 6

FOR PAVEMENT MARKING DETAILS, SEE SHEET NO. 6

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

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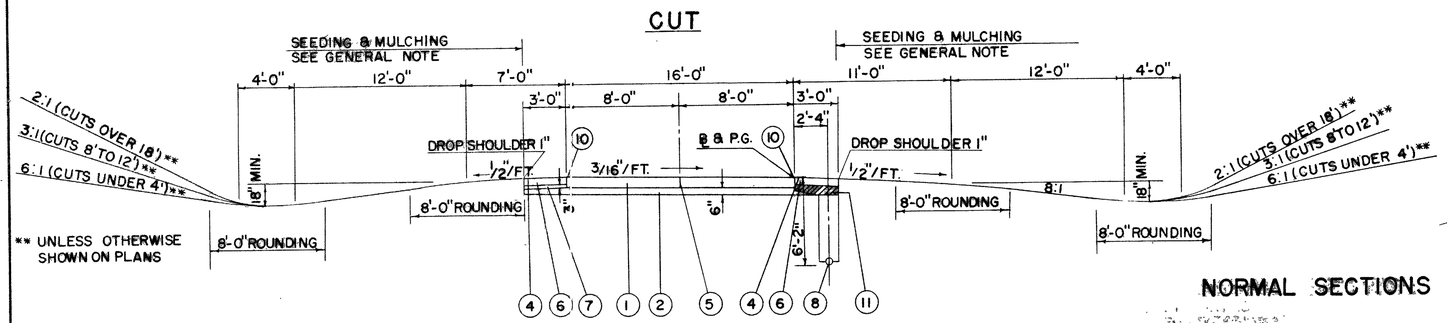
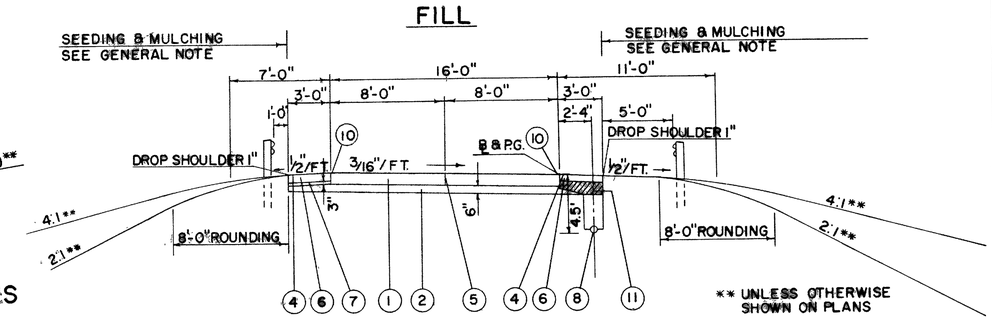
LOR.- 90-13.01

RAMP TYPICAL SECTIONS - S.R. 57 INTERCHANGE

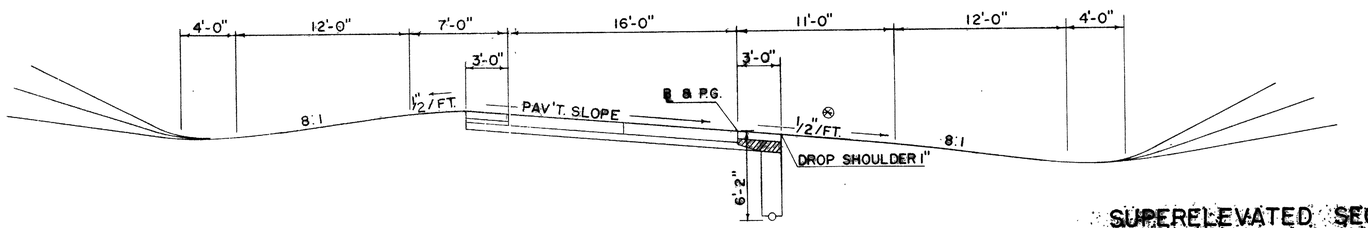
TYPE 451

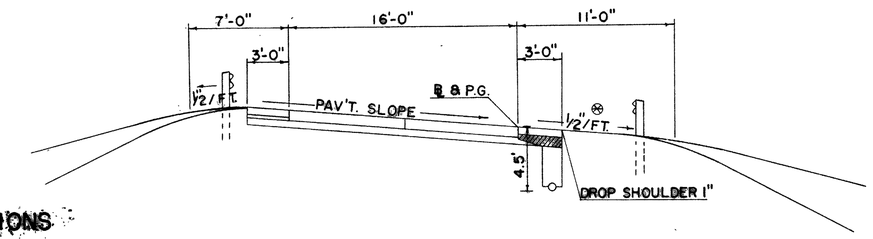
FOR DETAILS NOT SHOWN
SEE STD. DRWG. MC-1



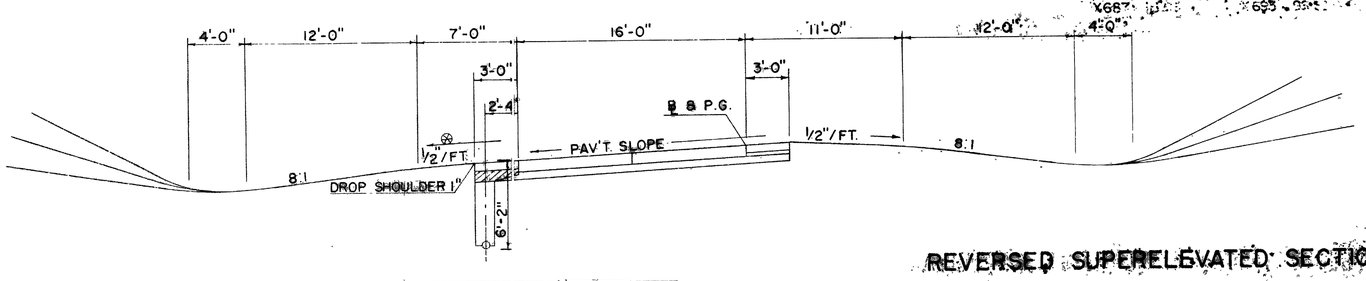


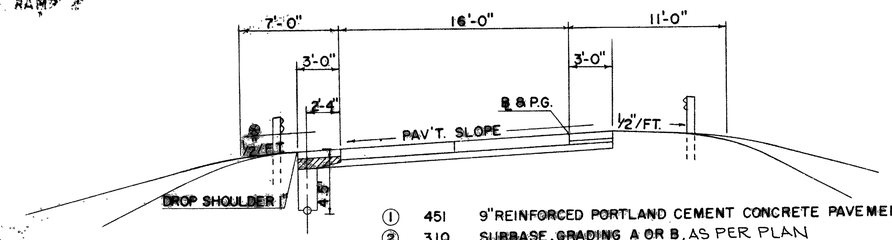
NORMAL SECTIONS





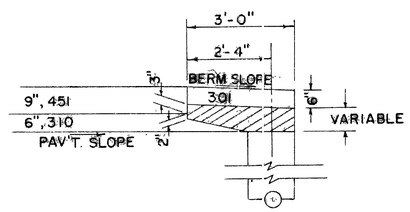
SUPERELEVATED SECTIONS





REVERSED SUPERELEVATED SECTIONS

①	451	9" REINFORCED PORTLAND CEMENT CONCRETE PAVEMENT
②	310	SUBBASE, GRADING A OR B, AS PER PLAN
④	409	SEAL COAT COVER AGGREGATE USING 0.008 CU. YD. NO. 8 AGGREGATE PER SQ. YD. AND 0.25 GAL. BITUMINOUS MATERIAL PER SQ. YD. SEE NOTE IN PROPOSAL.
⑤		STD. LONGITUDINAL JOINT
⑥	301	6" BITUMINOUS AGGREGATE BASE, 702.01, (85-100) OR 702.09, R.T. 12 SEE NOTE IN PROPOSAL
⑦	304	AGGREGATE BASE
⑧	605	6" PIPE UNDERDRAIN
⑩	621	4" WIDE EDGE LINE
⑪	SPEC.	DRAINAGE CONNECTION USING NO. 8 AGGREGATE (SEE NOTE IN PROPOSAL)



DETAIL OF SPECIAL DRAINAGE CONNECTION

⊗ PAV'T. SLOPE IF GREATER THAN 1/2"/FT.

RAMP TYPICAL SECTIONS - S.R. 254 INTERCHANGE

TYPE 451

FOR DETAILS NOT SHOWN
SEE STD. DRWG. MC-1

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

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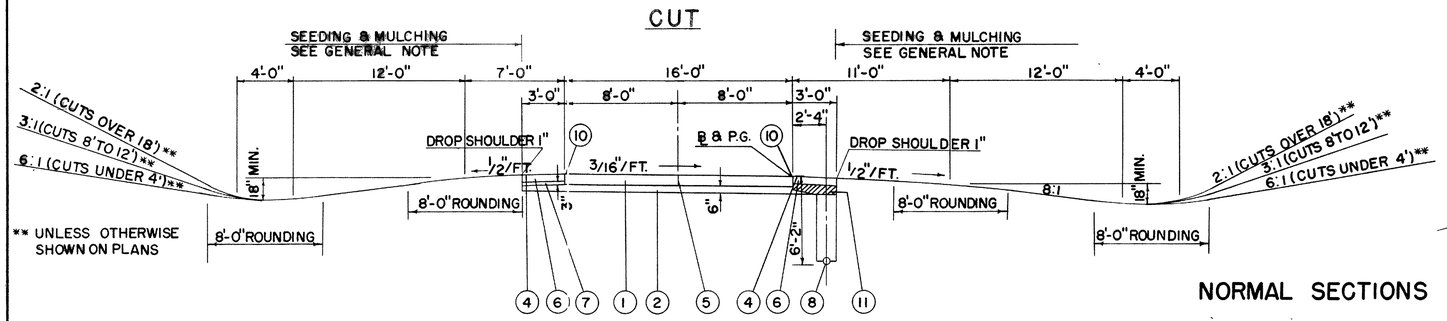
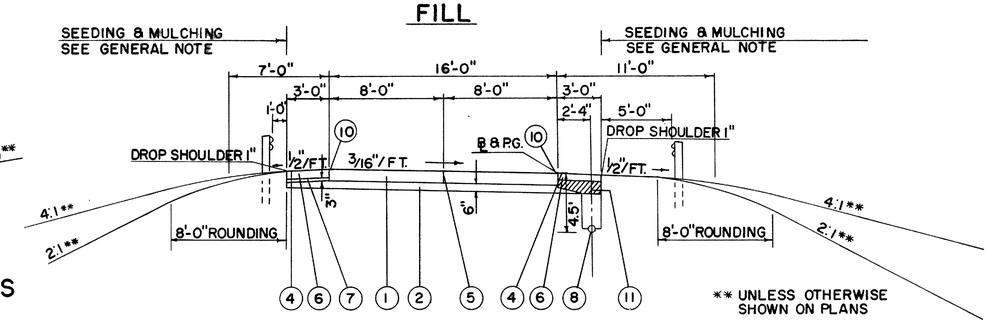
LOR.- 90-13.01

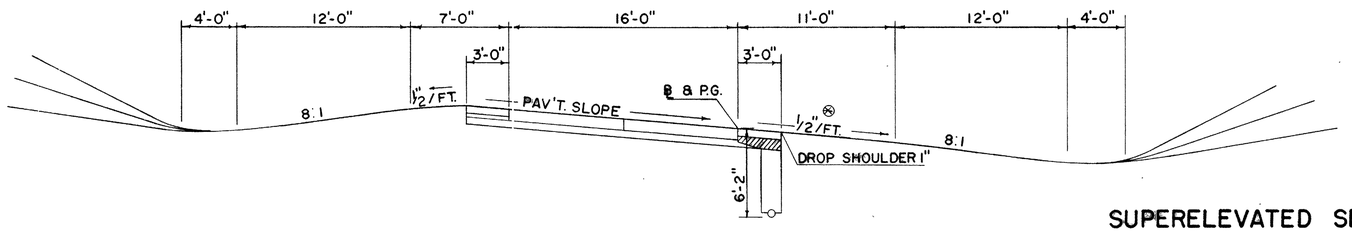
CUT

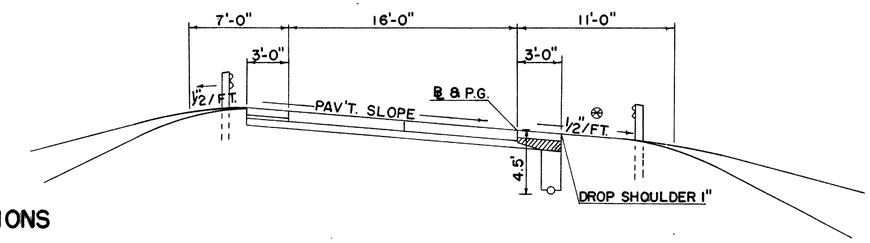


FILL



NORMAL SECTIONS

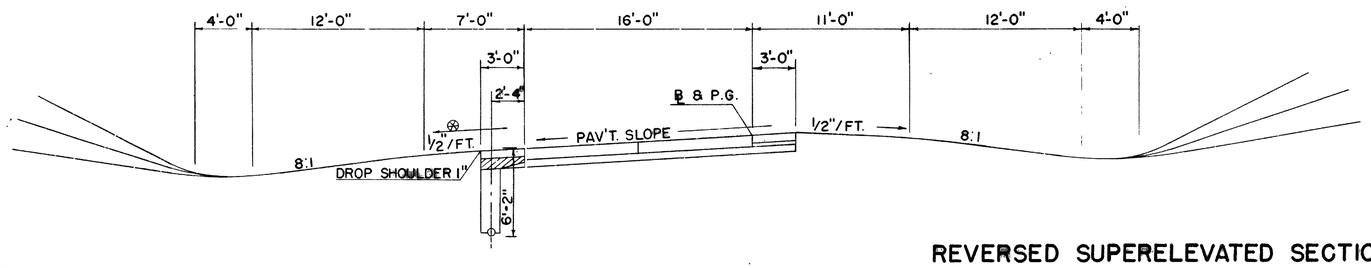


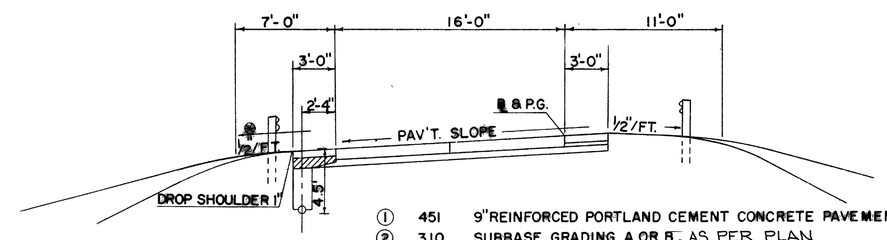


SUPERELEVATED SECTIONS

℄ STATIONING

STATION	TO	STATION	
[illegible]		[illegible]	[illegible]
[illegible]		[illegible]	[illegible]
[illegible]		[illegible]	[illegible]
L814+14.70		[illegible]	[illegible]
L804+68.03		[illegible]	[illegible]

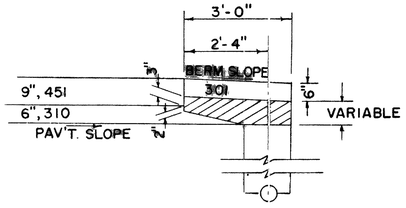




REVERSED SUPERELEVATED SECTIONS

℄ STATIONING

STATION	TO	STATION	
[illegible]		[illegible]	[illegible]
[illegible]		[illegible]	[illegible]
[illegible]		[illegible]	[illegible]
L804+[illegible]		L813+23.08	[illegible]



DETAIL OF SPECIAL DRAINAGE CONNECTION

①	451	9" REINFORCED PORTLAND CEMENT CONCRETE PAVEMENT
②	310	SUBBASE, GRADING A OR B, AS PER PLAN
④	409	SEAL COAT COVER AGGREGATE USING 0.008 CU.YD. NO. 8 AGGREGATE PER SQ.YD. AND 0.25 GAL. BITUMINOUS MATERIAL PER SQ.YD. SEE NOTE IN PROPOSAL
⑤		STD. LONGITUDINAL JOINT
⑥	301	6" BITUMINOUS AGGREGATE BASE, 702.01, (85-100) OR 702.09, R.T. 12 SEE NOTE IN PROPOSAL
⑦	304	AGGREGATE BASE
⑧	605	6" PIPE UNDERDRAIN
⑩	621	4" WIDE EDGE LINE
⑪	SPEC.	DRAINAGE CONNECTION USING NO. 8 AGGREGATE. SEE NOTE IN PROPOSAL

⊗ PAV'T. SLOPE IF GREATER THAN 1/2"/FT.

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

LOR.-90-13.01

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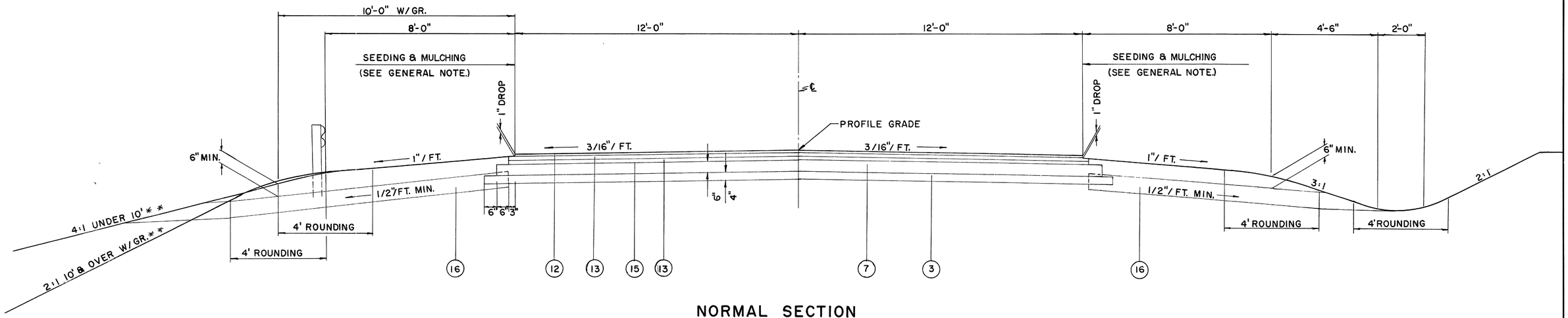
FOR DETAILS NOT SHOWN SEE STD. DWG. MC-1

TYPICAL SECTION WEST RIVER ROAD

TYPE 404 ON 304



NORMAL SECTION

STA 44+87.50 TO STA 53+00.00 = 812.50 LIN. FT.

TOTAL = 812.50 LIN. FT.

* * UNLESS OTHERWISE SHOWN ON PLANS

NO.	ITEM	DESCRIPTION
3	310	SUBBASE
7	304	AGGREGATE BASE
12	404	1¼" ASPHALT CONCRETE (70-85)
13	402	1½" ASPHALT CONCRETE (70-85)
13	402	1½" ASPHALT CONCRETE (70-85)
15	408	BITUMINOUS PRIME COAT; 702.09, RT.-2 OR RT.-3 APPLIED AT RATE OF 0.4 GAL. PER SQ. YD.
16	605	AGGREGATE DRAINS
* * 25	407	TACK COAT 702.04, MS-2 OR RS-1 OR 702.02 RC-70 OR RC-250 APPLIED AT THE RATE OF 0.1 GAL. PER SQ. YD.

** TO BE USED WHEN FEATHERING OR RESURFACING

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

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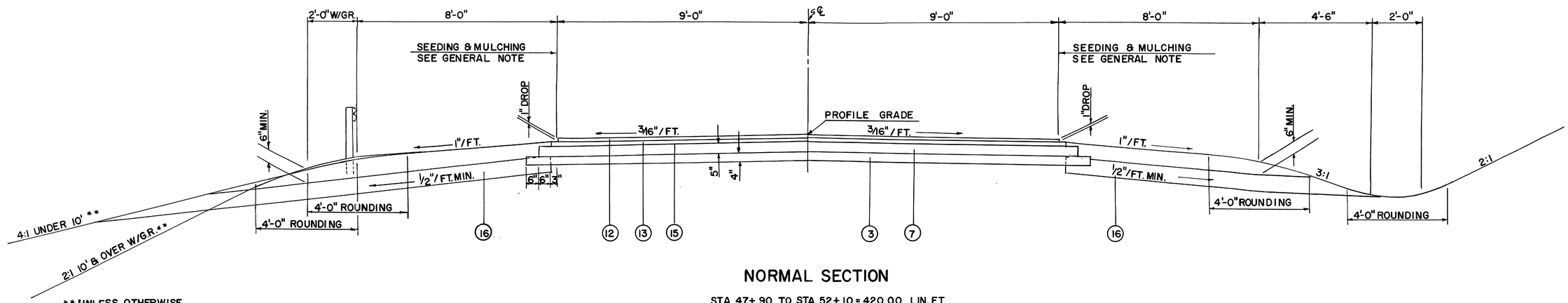
FOR DETAILS NOT SHOWN
SEE STD. DRWG. MC-1

TYPICAL SECTION FORD ROAD

TYPE 404 ON 304



** UNLESS OTHERWISE
SHOWN ON PLANS

NORMAL SECTION

STA 47+ 90 TO STA 52+ 10 = 420.00 LIN. FT.
TOTAL = 420.00 LIN. FT.

ITEM LEGEND

NO.	ITEM	DESCRIPTION
3	310	SUBBASE
7	304	AGGREGATE BASE
12	404	1¼" ASPHALT CONCRETE (70-85)
13	402	1½" ASPHALT CONCRETE (70-85)
15	408	BITUMINOUS PRIME COAT; 702.09, RT-2 OR RT-3 APPLIED AT THE RATE OF 0.4 GAL. PER SQ. YD.
16	605	AGGREGATE DRAINS
25	407 ***	TACK COAT; 702.04, MS-2 OR RS-1 OR 702.02, RC-70 OR RC-250, APPLIED AT THE RATE OF 0.1 GAL. PER SQ. YD.

*** TO BE USED WHEN FEATHERING OR RESURFACING

FOR DETAILS NOT SHOWN
SEE STD. DRWG. MC-1

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

LOR.-90-13.01

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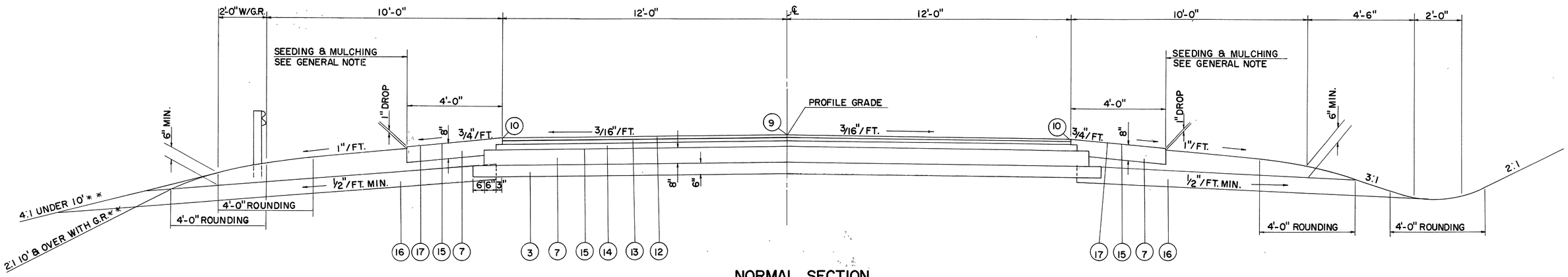
TYPICAL SECTIONS - S.R. 301

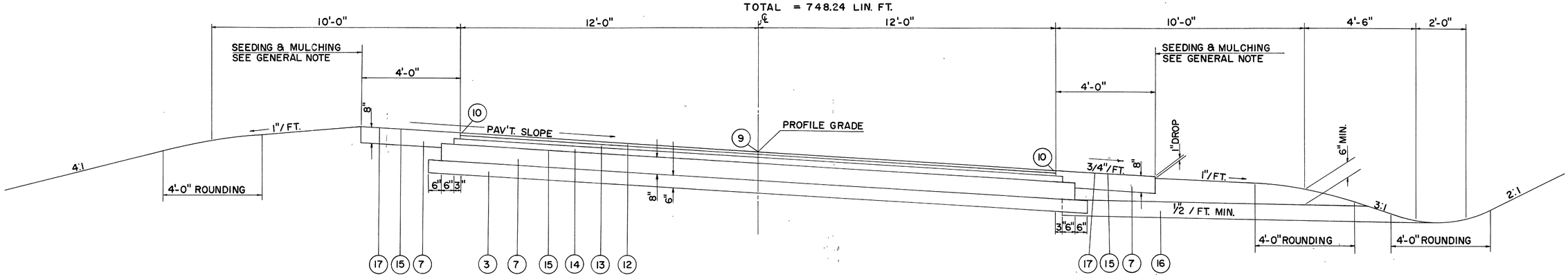
TYPE 404 ON 304



** UNLESS OTHERWISE SHOWN ON PLANS

NORMAL SECTION

STA 124+80.00 TO STA 130+07.20 = 527.20 LIN. FT.
STA 133+55.96 TO STA 135+77.00 = 221.04 LIN. FT.
TOTAL = 748.24 LIN. FT.



SUPERELEVATED SECTION

STA 133+77.00 TO STA 137+61.95 = 384.95 LIN. FT.
TOTAL = 384.95 LIN. FT.

* NOTE: THE AGGREGATE DRAINS SHALL BE PLACED PRIOR TO THE PLACEMENT OF THE STABILIZED BERM, WAIVING THE PLACEMENT REQUIREMENT OF 605.05

③	310	SUBBASE
⑦	304	AGGREGATE BASE
⑫	404	1¼" ASPHALT CONCRETE (70-85)
⑬	402	1½" ASPHALT CONCRETE (70-85)
⑭	302	3" ASPHALT CONCRETE (70-85)
⑮	408	BITUMINOUS PRIME COAT; 702.09 ; RT-2 OR RT-3 APPLIED AT THE RATE OF 0.4 GAL. PER SQ. YD.
* ⑯	605	AGGREGATE DRAINS
⑰	409	SEAL COAT; COVER AGGREGATE USING 0.008 CU.YDS. NO.8 AGGREGATE PER SQ.YD. & 0.30 GAL. BITUMINOUS MATERIAL 702.09 , RT-9 OR RT-10, OR 702.02, MC-800 OR MC-3000 PER SQ. YD.
⑨	621	6" LANE LINES AND CENTER LINES. SEE DETAIL SHEET NO. 6
⑩	621	4" EDGE LINES. SEE DETAIL SHEET NO. 6

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

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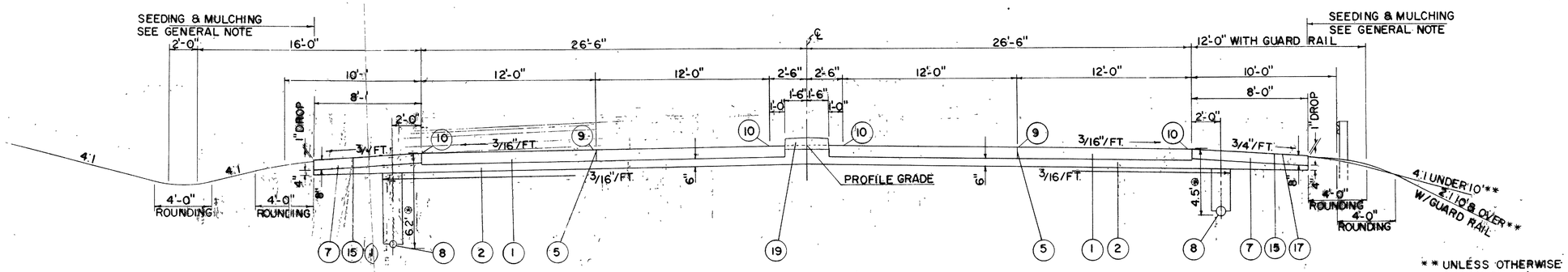
FOR DETAILS NOT SHOWN
SEE STD. DRWG. MC-1

TYPICAL SECTIONS - S.R. 254

TYPE 451 & TYPE 404 ON 304

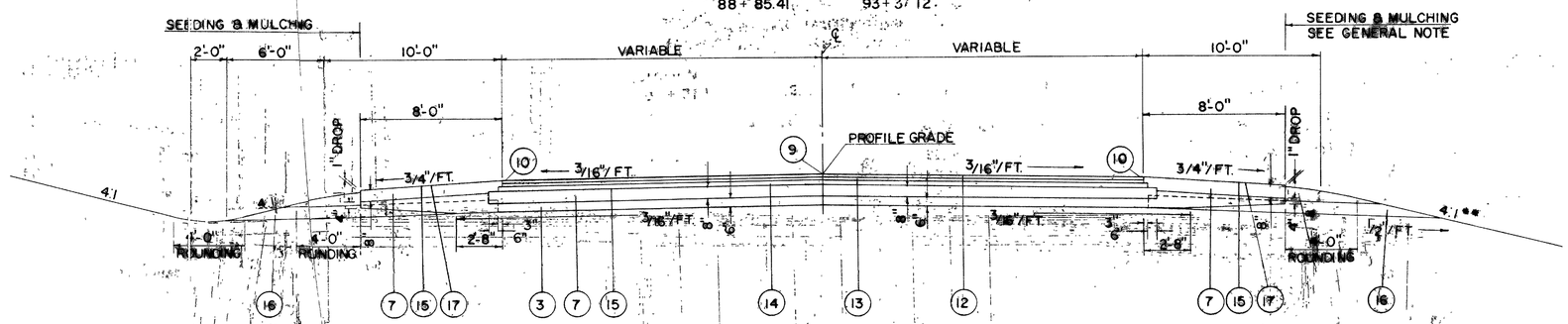


** UNLESS OTHERWISE SHOWN ON PLANS

NORMAL SECTION

℄ STATIONING

STATION	TO	STATION
80+88.37		85+37.57
88+85.41		93+37.12



TRANSITION SECTION

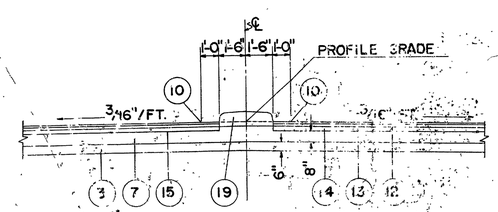
℄ STATIONING

STATION	TO	STATION
74+00		80+47
110+20		115

* NOTE: THE AGGREGATE DRAINS SHALL BE PLACED PRIOR TO THE PLACEMENT OF THE STABILIZED BERM, WAIVING THE PLACEMENT REQUIREMENT OF 605.05

⊕ NOTE

NORMAL SHALLOW ——— PIPE UNDERDRAINS PLACED 4.5' BELOW PAVEMENT EDGE
NORMAL DEEP ——— PIPE UNDERDRAINS PLACED 6.2 BELOW PAVEMENT EDGE
ALL SPECIAL GRADE ——— PIPE UNDERDRAINS SHOWN ON PLAN & PROFILE SHEETS



TYPE 404 PAVEMENT WITH CONC. MEDIAN

ITEM LEGEND

NO.	ITEM	DESCRIPTION
1	451	9" REINFORCED PORTLAND CEMENT CONCRETE PAVEMENT
2	310	SUBBASE - GRADING A OR B, AS PER PLAN
3	310	SUBBASE
5		STANDARD LONGITUDINAL JOINT
7	304	AGGREGATE BASE
8	605	6" PIPE UNDERDRAIN
9	621	6" LANE LINES AND CENTER LINES. SEE DETAIL SHEET NO. 6
10	621	4" EDGE LINES. SEE DETAIL SHEET NO. 6
12	404	1 1/4" ASPHALT CONCRETE (70-85)
13	402	1 3/4" ASPHALT CONCRETE (70-85)
14	302	3" ASPHALT CONCRETE (70-85)
15	408	BITUMINOUS PRIME COAT - 702.09, RT-2 OR RT-3 APPLIED AT THE RATE OF 0.4 GAL. PER SQ. YD.
* 16	605	AGGREGATE DRAINS
17	409	SEAL COAT: COVER AGGREGATE USING 0.008 CU. YDS. NO. 8 AGGREGATE PER SQ. YD. AND 0.30 GAL. BITUMINOUS MATERIAL - 702.09, RT-9 OR RT-10, OR 702.02, MC-800 OR MC-3000 PER SQ. YD.
19	612	STANDARD CONCRETE MEDIAN

FOR DETAILS NOT SHOWN
SEE STD. DRWG. MC-1

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

LOR.-90-13.01

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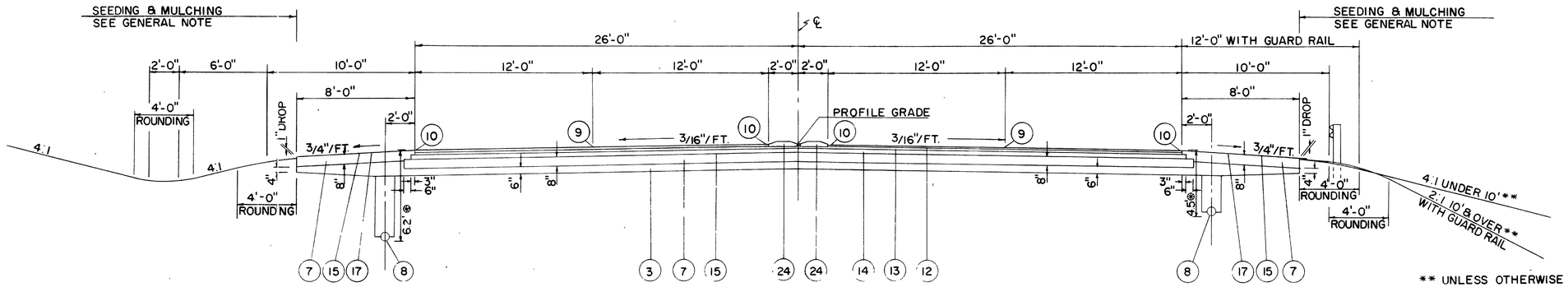
TYPICAL SECTIONS - S.R. 254

TYPE 404 ON 304

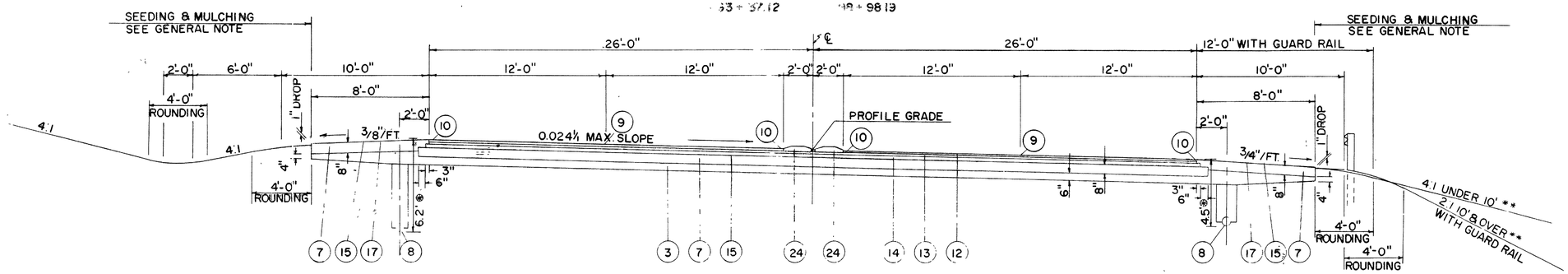


** UNLESS OTHERWISE
SHOWN ON PLANS

NORMAL SECTION

℄ STATIONING

STATION TO STATION
33 + 57.12 98 + 98.19



SUPERELEVATED SECTION

STATIONING

STATION TO STATION
98 + 98.19 110 + 20

⊛ NOTE
NORMAL SHALLOW ——— PIPE UNDERDRAINS PLACED 4.5' BELOW PAVEMENT EDGE
NORMAL DEEP ——— PIPE UNDERDRAINS PLACED 6.2' BELOW PAVEMENT EDGE
ALL SPECIAL GRADE ——— PIPE UNDERDRAINS SHOWN ON PLAN & PROFILE SHEETS

ITEM LEGEND

NO.	ITEM	DESCRIPTION
3	310	SUBBASE
7	304	AGGREGATE BASE
8	605	6" PIPE UNDERDRAIN
9	621	6" LANE LINES AND CENTER LINES. SEE DETAIL SHEET NO. 6
10	621	4" EDGE LINES. SEE DETAIL SHEET NO. 6
12	404	1 1/4" ASPHALT CONCRETE (70-85)
13	402	1 3/4" ASPHALT CONCRETE (70-85)
14	302	3" ASPHALT CONCRETE (70-85)
15	408	BITUMINOUS PRIME COAT - 702.09, RT-2 OR RT-3, APPLIED AT THE RATE OF 0.4 GAL. PER SQ. YD.
17	409	SEAL COAT; COVER AGGREGATE USING 0.008 CU. YDS. NO. 8 AGGREGATE PER SQ. YD. AND 0.30 GAL. BITUMINOUS MATERIAL - 702.09, RT-9 OR RT-10, OR 702.00, MC-800 OR MC-3000 PER SQ. YD.
24	613	STANDARD TRAFFIC DIVIDERS

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

LOR.-90-13.01

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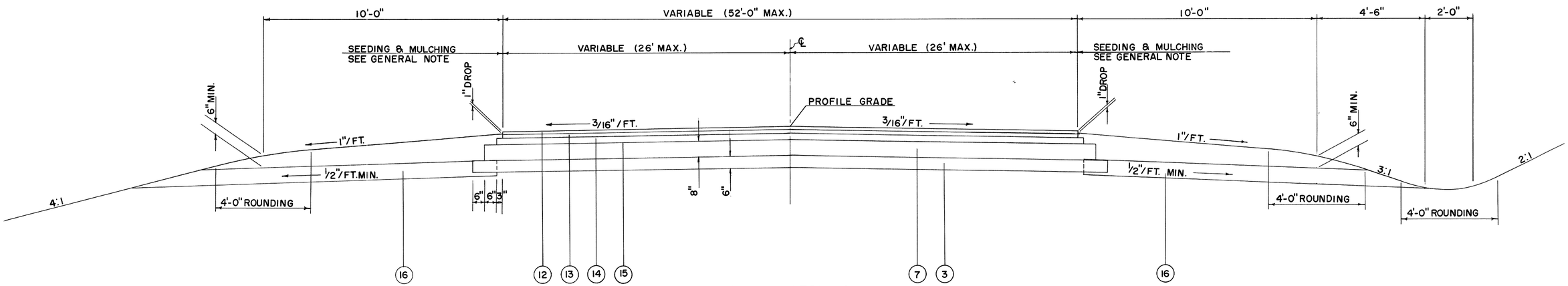
FOR DETAILS NOT SHOWN
SEE DRWG.MC-1

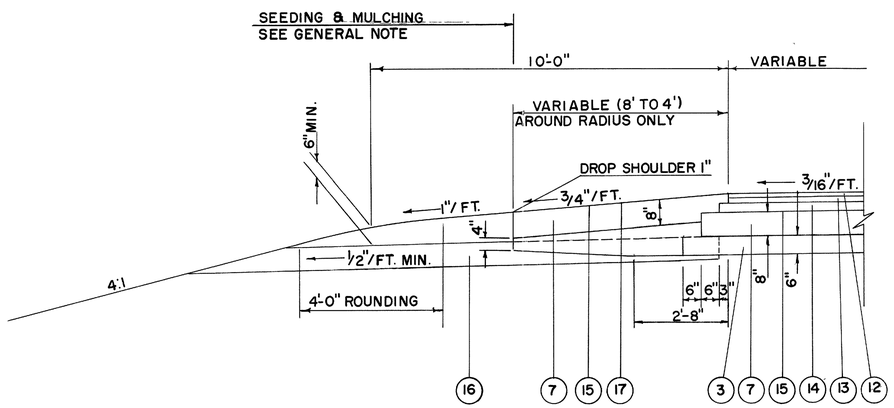
TYPICAL SECTIONS ABBE RD. INTERSECTION WITH S.R.254

TYPE 404 ON 304



NORMAL SECTION

STA 20+00.00 TO STA 23+88.19 = 388.19 LIN. FT.
STA 26+26.11 TO STA 27+50.00 = 123.89 LIN. FT.
TOTAL = 512.08 LIN. FT.



NORMAL SECTION WITH STABILIZED BERM

AROUND INTERSECTION TURNING RADIUS ONLY

3	310	SUBBASE
7	304	AGGREGATE BASE
12	404	1 1/4" ASPHALT CONCRETE (70-85)
13	402	1 3/4" ASPHALT CONCRETE (70-85)
14	302	3" ASPHALT CONCRETE (70-85)
15	408	BITUMINOUS PRIME COAT; 702.09 , RT-2 OR RT-3 APPLIED AT THE RATE OF 0.4 GAL. PER SQ.YD.
* 16	605	AGGREGATE DRAINS
17	409	SEAL COAT; COVER AGGREGATE USING 0.008 CU.YDS. NO.8 AGGREGATE PER SQ.YD. & 0.30 GAL. BITUMINOUS MATERIAL 702.09 , RT-9 OR RT-10, OR 702.02 MC-800 OR MC-3000 PER SQ.YD.
** 25	407	TACK COAT; 702.04, MS-2 OR RS-1 OR 702.02 RC-70 OR RC-250 APPLIED AT THE RATE OF 0.1 GAL. PER SQ.YD.

* NOTE: THE AGGREGATE DRAINS SHALL BE PLACED PRIOR TO THE PLACEMENT OF THE STABILIZED BERMS, WAIVING THE PLACEMENT REQUIREMENT OF 605.05

** TO BE USED WHEN FEATHERING OR RESURFACING

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

LOR.-90-13.01

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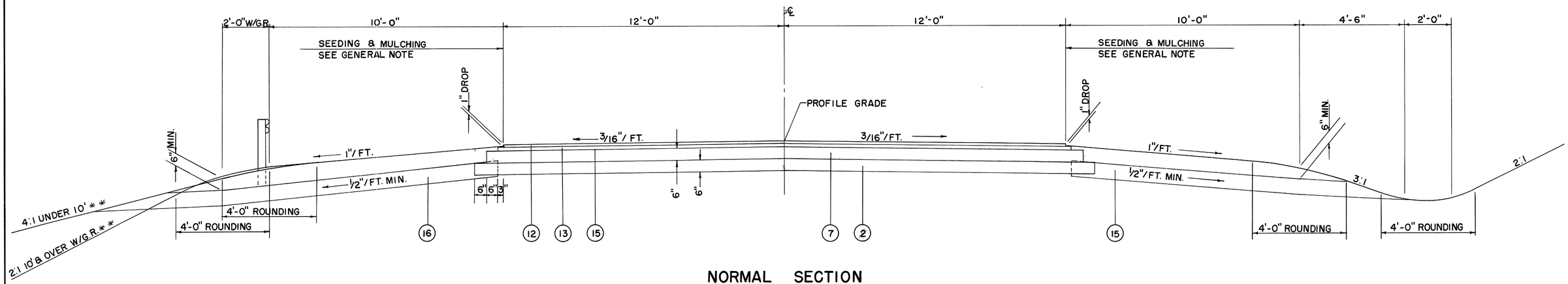
FOR DETAILS NOT SHOWN
SEE STD. DRWG. MC-1

TYPICAL SECTIONS RELOC. ABBE RD.

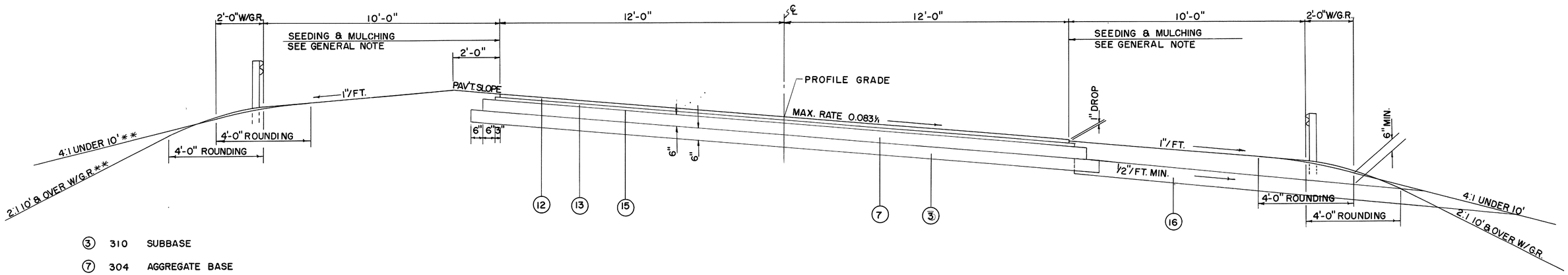
TYPE 404 ON 304



NORMAL SECTION

STA 57+25.81 TO STA 57+31.98 = 6.17 LIN. FT.
TOTAL = 6.17 LIN. FT.

** UNLESS OTHERWISE SHOWN ON PLANS



3	310	SUBBASE
7	304	AGGREGATE BASE
12	404	1 1/4" ASPHALT CONCRETE (70-85)
13	402	1 1/2" ASPHALT CONCRETE (70-85)
15	408	BITUMINOUS PRIME COAT, 702.09, RT-2 OR RT-3 APPLIED AT RATE OF 0.4 GAL. PER SQ. YD.
16	605	AGGREGATE DRAINS
* 25	407	TACK COAT, 702.04, MS-2 OR RS-1 OR 702.02, RC-70 OR RC-250 APPLIED AT THE RATE OF 0.1 GAL. PER SQ. YD.

* TO BE USED WHEN FEATHERING OR RESURFACING

SUPERELEVATED SECTION

STA 28+94.11 TO STA 53+17.93= 2423.82 LIN. FT.
STA 57+31.98 TO STA 65+54.09= 822.11 LIN. FT.
TOTAL= 3245.93 LIN. FT.

FOR DETAILS NOT SHOWN
SEE STD. DRWG. MC-1

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

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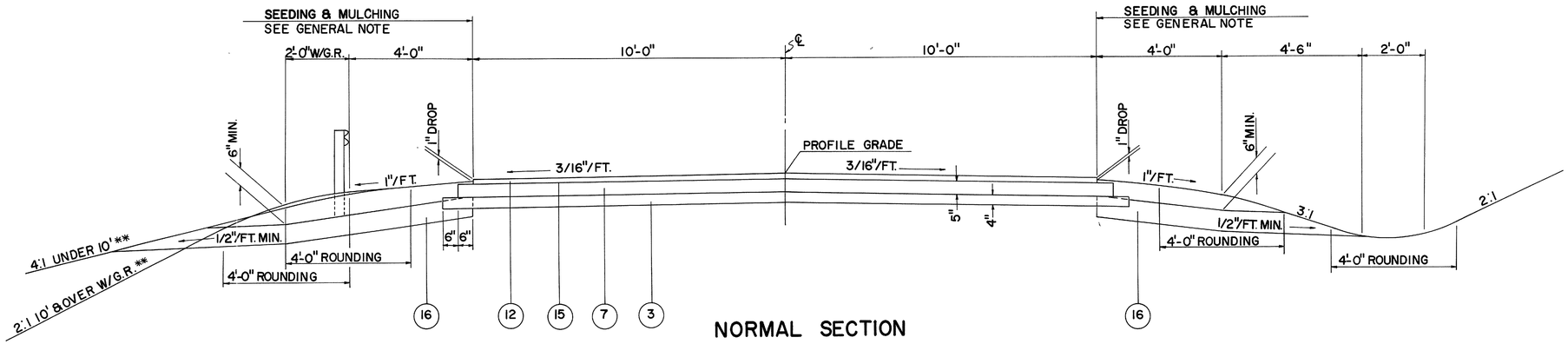
LOR.-90-13.01

TYPICAL SECTIONS - SERVICE ROADS

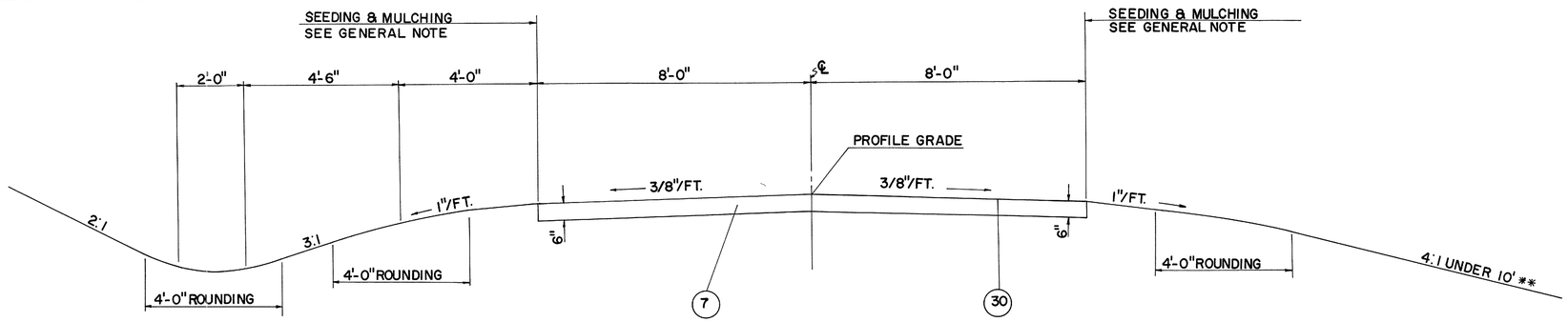
TYPE 404 ON 304 & 304



NORMAL SECTION

ABBE SERVICE ROAD WEST STA. 56+70 TO STA. 62+02.04 = 532.09 LIN.FT.
TOTAL 532.09 LIN.FT.

** UNLESS OTHERWISE SHOWN ON PLANS



NORMAL SECTION

ABBE SERVICE ROAD WEST STA. 50+00 TO STA. 53+33.52 = 333.52 LIN.FT.
TOTAL 332.52 LIN.FT.

(3)	310	SUBBASE
(7)	304	AGGREGATE BASE
*(12)	404	2" ASPHALT CONCRETE (70-85)
(15)	408	BITUMINOUS PRIME COAT; 702.09, RT-2 OR RT-3 APPLIED AT THE RATE OF 0.4 GAL PER SQ. YD.
(16)	605	AGGREGATE DRAINS
(30)	616	CALCIUM CHLORIDE

*NOTE: 404 IS TO BE PLACED IN TWO (2) ONE (1) INCH COURSES

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

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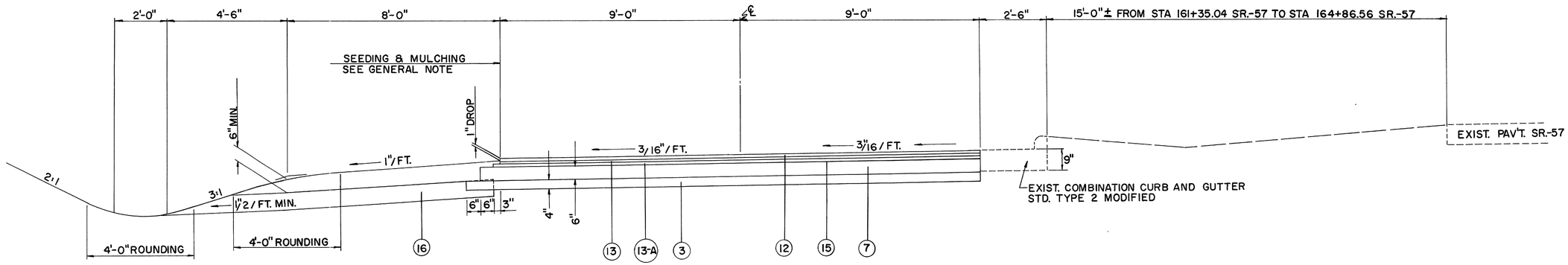
LOR.-90-13.01

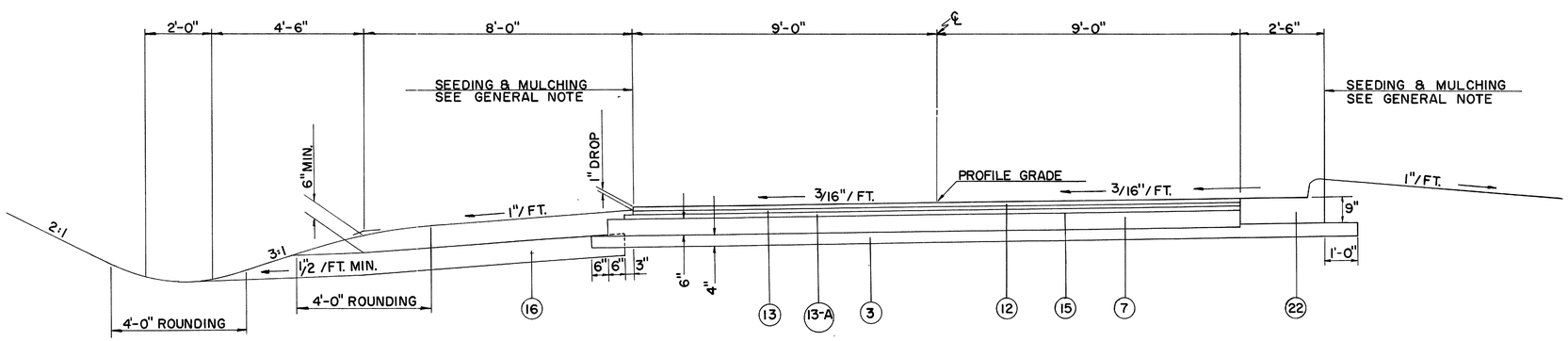
FOR DETAILS NOT SHOWN
SEE STD. DRWG. MC-1

TYPICAL SECTIONS - SR.-57 SERVICE RD.

TYPE 404 ON 304



STA 159+84.22 TO STA 164+86.56



STA 158+67.18 TO STA 159+84.22
STA 164+86.56 TO STA 166+47.62

NO.	ITEM	DESCRIPTION
7	304	AGGREGATE BASE
12	404	1¼" ASPHALT CONCRETE (70-85)
15	408	BITUMINOUS PRIME COAT; 702.09 RT-2 OR RT-3 APPLIED AT THE RATE OF 0.4 GAL. PER. SQ. YD.
16	605	AGGREGATE DRAINS
22	609	COMBINATION CURB & GUTTER STD. TYPE 2 (MODIFIED) AS PER PLAN (PAVEMENT SLOPE)
3	310	SUBBASE
13	402	1¼" ASPHALT CONCRETE (70-85)
13-A	402	1½" ASPHALT CONCRETE (70-85)

TYPICAL SECTION SR. 57 SERVICE ROAD

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

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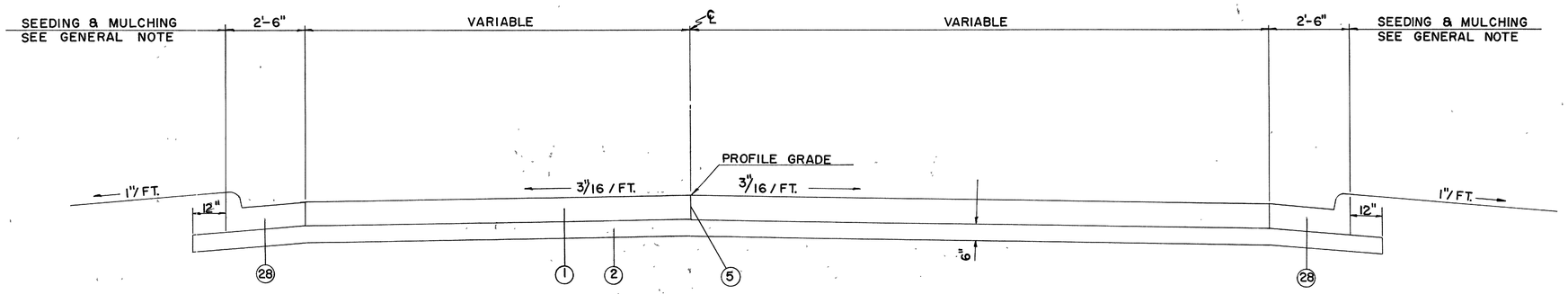
LOR.-90-13.01

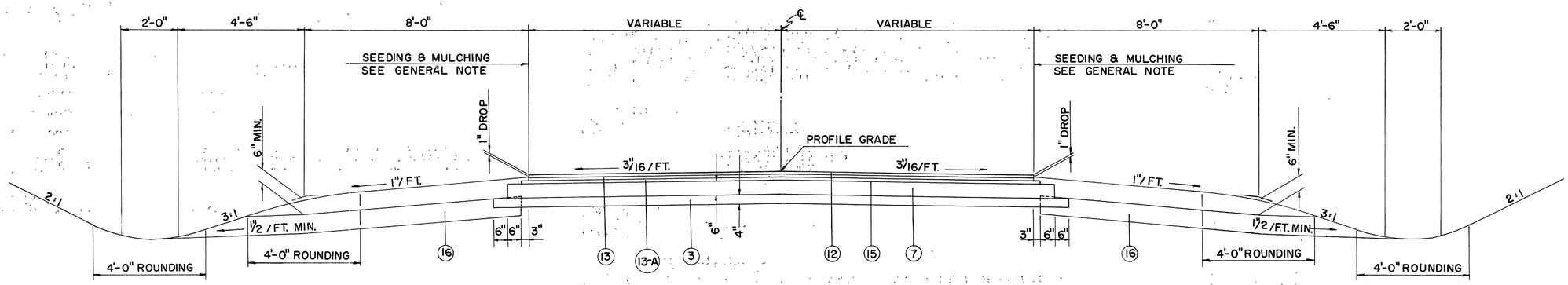
TYPICAL SECTIONS - BEECHWOOD DR.

TYPE 451 & 404 ON 304

FOR DETAILS NOT SHOWN
SEE STD. DRWG. MC-1



STA. 13+41.57 TO STA. 14+65



STA. 12+00 TO STA. 13+41.57

NO.	ITEM	DESCRIPTION
1	451	9" REINF. PORTLAND CEMENT CONCRETE PAVEMENT.
2	310	SUBBASE, GRADING A OR B, AS PER PLAN
7	304	AGGREGATE BASE
12	404	1 1/4" ASPHALT CONCRETE (70-85)
15	408	BITUMINOUS PRIME COAT; 702.09 RT.-2 OR RT.-3 APPLIED AT THE RATE OF 0.4 GAL. PER. SQ. YD.
16	605	AGGREGATE DRAINS.
28	609	COMBINATION CURB AND GUTTER STD. TYPE 2
3	310	SUBBASE
13	402	1 1/4" ASPHALT CONCRETE (70-85)
13-A	402	1 1/2" ASPHALT CONCRETE (70-85)
5		STD. LONGITUDINAL JOINT

TYPICAL SECTIONS BEECHWOOD DRIVE

GENERAL NOTES

FIELD OFFICE

THE CONTRACTOR SHALL, IN ADDITION TO THE REQUIREMENTS OF 105.152, PROVIDE A SUITABLE FIELD OFFICE HAVING A MINIMUM OF 500 SQ. FT. OF FLOOR SPACE. THE CONTRACTOR SHALL HAVE A TELEPHONE INSTALLED AND MAINTAINED IN THIS FIELD OFFICE DURING THE CONSTRUCTION OF THIS PROJECT. THE CONTRACTOR SHALL ALSO PROVIDE AND MAINTAIN SANITARY PROVISIONS AS PER 107.06. FIELD OFFICE SHALL BE SITUATED SO THAT IT CAN REMAIN DURING THE LIFE OF THE CONTRACT, UNLESS AUTHORIZED BY THE ENGINEER. ALL THE ABOVE IS INCLUDED IN THE LUMP SUM PRICE BID FOR FIELD OFFICE.

DESIGN SPEED

THE GEOMETRIGS FOR THIS PROJECT HAVE BEEN PLANNED FOR A DESIGN SPEED OF 70 MILES PER HOUR.

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.

CONSTRUCTION LAYOUT STAKES

SEE NOTE IN PROPOSAL DESCRIBING THE WORK INCLUDED IN THIS LUMP SUM PAY ITEM.

SUPERELEVATION

SUPERELEVATED CURVES SHALL BE BUILT WITHOUT CROWN. THE CROWN SHALL BE WORKED OUT OF THE PAVEMENT IN THE PORTION BETWEEN THE BEGINNING OF THE TRANSITION AND THE POINT WHERE THE SUPERELEVATION EQUALS TWICE THE CROWN.

FEDERAL AID CONSTRUCTION IDENTIFICATION SIGN

THE CONTRACTOR SHALL FURNISH, ERECT, MAINTAIN AND SUBSEQUENTLY REMOVE FEDERAL AID CONSTRUCTION IDENTIFICATION SIGNS AT EACH OF THE FOLLOWING APPROXIMATE LOCATIONS:

(1) STATE ROUTE 57 - STA. 133+00 RT & STA. 163+00 LT

(2) STATE ROUTE 301 - STA. 123+00 RT & STA. 138+00 LT

(3) STATE ROUTE 254 - STA. 80+00 RT & STA. 94+00 LT

TOTAL OF SIX (6) SIGNS. SIGN DETAILS SHALL BE AS SPECIFIED ON STANDARD DRAWING FACI-1, "CODE N-55(1)-120(2)". THE SIGNS SHALL BE ERECTED IN ACCORDANCE WITH STANDARD DRAWING FACI-2. ADDITIONAL REQUIREMENTS SHALL BE IN ACCORDANCE WITH NOTES IN THE PROPOSAL.

ELEVATION DATUM

ALL ELEVATIONS ARE BASED ON U.S.G.S. DATUM.

203 SUBGRADE PREPARATION

on 310

ON THIS PROJECT WHERE THE 304 SHOULDERS ON 310 TREATED WITH 409 ARE USED, THEY SHALL BE CONSIDERED TO BE "PAVED SHOULDERS" FOR THE PURPOSE OF COMPUTING THE AREA OF SUBGRADE PREPARATION TO BE PAID FOR UNDER "203 SUBGRADE PREPARATION".

203 BORROW, USING GRANULAR MATERIAL, AS PER PLAN

SEE NOTE ON SHEET NO. 11

REMOVAL OF EXISTING PIPE

THE REMOVAL OF ALL EXISTING PIPE DRAINS WHICH WOULD NORMALLY BE REMOVED IN VARIOUS EXCAVATION ITEMS SHALL BE INCLUDED FOR PAYMENT IN THE UNIT PRICES BID FOR THE RESPECTIVE EXCAVATION ITEMS, UNLESS OTHERWISE ITEMIZED IN THE PLANS.

REMOVAL OF TREES AND STUMPS

ALL TREES AND STUMPS SPECIFICALLY MARKED FOR REMOVAL WITHIN THE CONSTRUCTION LIMITS OF THIS PROJECT SHALL BE REMOVED UNDER THE LUMP SUM PRICE BID FOR ITEM 201 - CLEARING AND GRUBBING, EXCEPT THAT THOSE TREES FOR WHICH PROTECTION AND PRESERVATION WORK IS INDICATED ELSEWHERE IN THESE PLANS SHALL NOT BE REMOVED. ALL ELM TREES DEAD OR ALIVE SHALL BE REMOVED.

THE FOLLOWING IS AN APPROXIMATE ESTIMATE OF THE NUMBER OF TREES AND STUMPS TO BE REMOVED.

REMOVAL OF TREES AND STUMPS (Continued)

PROJECT NO.	TREES 18"	TREES 30"	TREES 48"	STUMPS 18"	STUMPS 30"	STUMPS 48"
I-90-1(40)01	1,206	82	8	92	12	1
100% STATE	24	11	2	2	0	0
TOTAL	1,230	93	10	94	12	1

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".

CENTERLINE REFERENCE MONUMENTS, AS PER PLAN

MONUMENTS SHALL BE CONSTRUCTED OF CLASS C CONCRETE, CAST-IN-PLACE IN A CIRCULAR HOLE EIGHT INCHES (8") IN DIAMETER AND FORTY-FOUR INCHES (44") IN DEPTH. TOP OF CONCRETE SHALL BE FINISHED AT A DEPTH OF TWO INCHES (2") BELOW GROUND LEVEL AND THE UPPER SIX INCH (6") PORTION OF THE CONCRETE SHALL BE FORMED. A ONE-HALF (1/2) INCH STEEL ROD SIX INCHES (6") LONG SHALL BE EMBEDDED IN THE WET CONCRETE AS DIRECTED BY THE ENGINEER TO MARK THE CENTERLINE AND STATION.

FOR LOCATIONS, SEE SHEET NO. 462

ROUNDING OF CORNERS ON CROSS SECTIONS

THE ROUNDED CORNERS, SHOWN ON STANDARD DRAWING MC-1, AS MODIFIED BY THE TYPICAL SECTIONS, APPLY TO ALL CROSS SECTIONS EVEN THOUGH OTHERWISE SHOWN IN THESE PLANS.

SEEDING

QUANTITIES FOR SEEDING ON THE MAINLINE, RAMPS AND S.R. 57 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. QUANTITIES FOR SEEDING THE REMAINING INTERSECTING ROADS ARE CALCULATED FOR THE SOIL AREAS BETWEEN LINES TEN FEET (10') OUTSIDE THE WORK LIMITS, AS SHOWN ON THE CROSS SECTIONS, OR TO THE RIGHT-OF-WAY LINE IF SUCH LINE IS LESS THAN TEN FEET (10') FROM THE WORK LIMITS.

SEEDING FORMULA

THE FOLLOWING SEED MIXTURE SHALL, IN LIEU OF THE MIXTURES LISTED IN 659.09, BE USED THROUGHOUT THE LIMITS OF THIS PROJECT:

65% KENTUCKY 31 FESCUE
27% KENTUCKY BLUEGRASS
5% ALSIKE CLOVER
3% REDTOP

COMMERCIAL FERTILIZER

ALL AREAS TO BE SEEDED UNDER 659, SODDED UNDER 660, OR JUTE MATTED UNDER 667, SHALL HAVE COMMERCIAL FERTILIZER 12-12-12 APPLIED.

SPECIAL SEEDING PREPARATION AREAS

THE REFERENCE IN THE FIRST PARAGRAPH OF 659.09 TO PREPARATION OF THE SEED BED IN FRONT OF RESIDENCES, ETC., SHALL ON THIS PROJECT BE CONSIDERED TO BE PARTICULARLY APPLICABLE TO ALL AREAS LISTED IN 659.09 IN ADDITION TO THE FOLLOWING AREAS:

W. RIVER ROAD

STA. 42+50 TO STA. 48+00 LEFT
STA. 42+25 TO STA. 43+00 RIGHT
STA. 51+50 TO STA. 53+75 RIGHT

STATE ROUTE 301

STA. 133+50 TO STA. 136+75 LEFT
STA. 123+00 TO STA. 127+50 RIGHT

STATE ROUTE 254

STA. 73+50 TO STA. 78+00 LEFT
STA. 97+00 TO STA. 99+00 LEFT
STA. 111+00 TO STA. 116+00 LEFT
STA. 73+50 TO STA. 79+50 RIGHT
STA. 93+25 TO STA. 96+50 RIGHT
STA. 107+00 TO STA. 116+00 RIGHT

ABBE ROAD INTERSECTION

STA. 20+00 TO STA. 24+00 RIGHT

RELOCATED ABBE ROAD

STA. 28+00 TO STA. 30+00 LEFT
STA. 29+00 TO STA. 31+50 RIGHT
STA. 34+00 TO STA. 36+25 RIGHT
STA. 61+00 TO STA. 65+50 RIGHT

ABBE SERVICE ROAD WEST

STA. 54+00 TO STA. 56+00 LEFT
STA. 58+00 TO STA. 61+50 LEFT

EXISTING ABBE ROAD

STA. 47+00 TO STA. 48+00 RIGHT

SHADEN ROAD

STA. 16+00 TO STA. 17+70 LEFT

BEECHWOOD DRIVE

STA. 11+75 TO STA. 13+00 LEFT

DRILLED WELL ABANDONED

THE EXISTING CONCRETE OR STONE SLAB WELL COVER AND PUMPING EQUIPMENT SHALL BE REMOVED AND DISPOSED OF. THE CASING SHALL BE CUT OFF AT LEAST TWO FEET (2') BELOW THE PROPOSED FINISHED GRADE OUTSIDE PROPOSED PAVEMENT AREAS OR AT LEAST TWO FEET (2') BELOW THE PROPOSED SUBGRADE ELEVATION INSIDE PROPOSED PAVEMENT AREAS AND CAPPED WITH CLASS E CONCRETE OR A STANDARD THREADED PIPE CAP.

THE UNIT PRICE BID FOR EACH "DRILLED WELL ABANDONED" SHALL INCLUDE PAYMENT FOR ALL LABOR, TOOLS, MATERIALS, AND INCIDENTALS NECESSARY TO COMPLETE THIS ITEM.

SPECIAL, DRILLED WELL ABANDONED,(2),17 EACH, TOTAL SHEET 40

SPECIAL, CLEANING AND DISPOSAL OF SEPTIC TANKS

THIS ITEM SHALL INCLUDE CLEANING, BACKFILLING AND REMOVAL OF ALL OR ANY PORTION OF EXISTING SEPTIC TANKS.

ALL SEPTIC TANKS LYING WITHIN THE PROPOSED RIGHT-OF-WAY LIMITS SHALL BE CLEANED AND EMPTIED. MATERIAL REMOVED FROM THESE TANKS SHALL BE CLASSIFIED AS UNSUITABLE AND DISPOSED OF OUTSIDE THE RIGHT-OF-WAY OR EASEMENT LINES.

WHEN THE SEPTIC TANKS ARE LOCATED ABOVE THE FINISHED PAVEMENT OR GROUND LINES, THEY SHALL BE ENTIRELY REMOVED AND DISPOSED OF IN ACCORDANCE WITH SEC. 203.05.

WHEN THE TANKS ARE LOCATED BELOW THE FINISHED PAVEMENT OR GROUND LINES, THE TOPS OF THE TANKS SHALL BE REMOVED, AND THE WALLS SHALL BE REMOVED TO A DEPTH OF THREE FEET (3') BELOW THE FINISHED SUBGRADE OR GROUND LINES. THE REMOVED MATERIAL SHALL BE DISPOSED OF AS EXPLAINED ABOVE. THE TANKS SHALL BE BACKFILLED WITH SUITABLE SOIL OR GRANULAR MATERIAL IN ACCORDANCE WITH 203.08.

THIS ITEM SHALL BE PAID FOR AT THE UNIT PRICE BID PER EACH FOR "ITEM SPECIAL - CLEANING AND DISPOSAL OF SEPTIC TANKS", WHICH PRICE AND PAYMENT SHALL CONSTITUTE FULL COMPENSATION FOR CLEANING, REMOVING AND DISPOSING OF EXCESS MATERIALS, BACKFILLING AND FOR ALL LABOR, TOOLS, EQUIPMENT AND INCIDENTALS NECESSARY TO COMPLETE THIS ITEM, INCLUDING INCIDENTAL EXCAVATION.

SPECIAL, CLEANING AND DISPOSAL OF SEPTIC TANKS,(2),17 EACH,TOTAL SHEET 40

CLEANING PRIVY VAULTS

PRIVY VAULTS SHALL BE CLEANED AND FILLED WITH SUITABLE MATERIAL AS DIRECTED BY THE ENGINEER. MATERIAL REMOVED FROM THESE VAULTS SHALL BE CLASSIFIED AS UNSUITABLE AND DISPOSED OF OUTSIDE THE LIMITS OF RIGHT-OF-WAY OR EASEMENT LINES. THE CLEANING OF PRIVY VAULTS SHALL BE PAID FOR UNDER "SPECIAL, CLEANING OF PRIVY VAULTS".

THE BACKFILLING OF PRIVY VAULTS SHALL BE PAID FOR UNDER 203 EMBANKMENT. THE PRICE BID FOR THIS ITEM SHALL CONSTITUTE FULL COMPENSATION FOR PERFORMING ALL THE REQUIREMENTS OF THE ITEM AND FOR ALL LABOR, EQUIPMENT, TOOLS AND INCIDENTALS NECESSARY TO COMPLETE THIS ITEM.

AN ESTIMATED AMOUNT OF EMBANKMENT FOR BACKFILLING PRIVY VAULTS HAS BEEN CARRIED TO CROSS SECTIONS.

SPECIAL, CLEANING PRIVY VAULTS (2),3 EACH,TOTAL SHEET 40

PROOF ROLLING

AN ESTIMATED QUANTITY FOR THIS ITEM HAS BEEN PROVIDED IN THE GENERAL SUMMARY FOR USE IN PROOF ROLLING OF SUBGRADE FOR THE MAINLINE AND RAMP PAVEMENTS, AND FOR PAVED SHOULDERS, IN ACCORDANCE WITH SUPPLEMENTAL SPECIFICATION 801.

FLARING GUARD RAIL AT BRIDGES

THE GUARD RAIL SHALL BE FLARED TO MEET THE BRIDGE RAILING IN SUCH A MANNER THAT THE CHANGE IN ALIGNMENT SHALL NOT EXCEED 1:20.

GUARD RAIL DETAILS

DETAILS OF GUARD RAIL ON THE PLANS DO NOT SHOW FLARED LEAD PANELS IN ALL CASES. STANDARD CONSTRUCTION DRAWING GR-5A, GR-5B AND GR-6 APPLY TO ALL GUARD RAIL CONSTRUCTION.

INACTIVE GAS WELL

INACTIVE GAS WELLS, IF ENCOUNTERED ON THIS PROJECT, SHALL BE VENTED IN THE MANNER SHOWN ON SHEET NO. 28 . THE QUANTITIES SHOWN ON SHEET NO. 28 HAVE BEEN INCLUDED IN THE GENERAL SUMMARY FOR THE ABOVE WORK.

ACTIVE GAS WELL

SPECIAL, PLUGGING GAS WELLS (SEE NOTE IN PROPOSAL).

CONNECTIONS TO EXISTING PIPE

AT PLACES WHERE THE PLANS PROVIDE FOR PROPOSED PIPE TO BE CONNECTED TO EXISTING PIPE, IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO LOCATE THE EXISTING PIPE BOTH AS TO LINE AND GRADE BEFORE HE STARTS TO LAY THE PROPOSED PIPE. PAYMENT FOR THIS OPERATION SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THE PERTINENT 603 CONDUIT ITEM.

CATCH BASINS ADJUSTED TO GRADE AND CONVERTED TO STANDARD NUMBER 2-2B AND CATCH BASINS RECONSTRUCTED TO STANDARD NUMBER 2-2B OR 8 SHALL BE INTERPRETED TO MEAN THAT THE TOP OF THE FINISHED CATCH BASINS SHALL HAVE ALL THE CHARACTERISTICS, AS SHOWN ON THE STANDARD DRAWINGS OF A STANDARD NUMBER 2-2B OR 8 WHICHEVER IS CALLED FOR ON THE PLANS.

GENERAL NOTES

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 LIMITS BY 603 CONDUIT, TYPE B WITH CLASS B BEDDING, 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 TILE FIELDS WHICH CROSS THE ROADWAY SHALL BE INTERCEPTED BY 603 TYPE E CONDUIT AND CARRIED IN A LONGITUDINAL DIRECTION TO AN 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:

603	6" CONDUIT, TYPE B WITH CLASS B BEDDING	300 LIN. FT.
603	8" CONDUIT, TYPE B WITH CLASS B BEDDING	300 LIN. FT.
603	12" CONDUIT, TYPE B WITH CLASS B BEDDING	300 LIN. FT.
603	8" CONDUIT, TYPE E	300 LIN. FT.
603	12" CONDUIT, TYPE E	300 LIN. FT.
603	6" CONDUIT, TYPE F	300 LIN. FT.
603	8" CONDUIT, TYPE F	300 LIN. FT.
603	12" CONDUIT, TYPE F	300 LIN. FT.
601	DUMPED ROCK CHANNEL PROTECTION	100 CU. YDS.

ALL NECESSARY PIPE SPECIALS WHICH 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.

FIELD TILE CONNECTION

WHEN FIELD TILE IS TO BE CONNECTED AT THE RIGHT-OF-WAY LINE, TILE LOCATION SHALL BE MARKED AND THE TILE PLUGGED UNTIL SAID TIME AS THE CONNECTION CAN BE MADE.

605 AGGREGATE DRAINS

AGGREGATE DRAINS SHALL BE PLACED AT FIFTY FOOT (50') INTERVALS ON EACH SIDE OF NORMAL CROWNED SECTIONS AND AT TWENTY-FIVE FOOT (25') INTERVALS ON THE LOW SIDE ONLY OF SUPERELEVATED SECTIONS, EXCEPT WHERE ITEM 605 PIPE UNDERDRAINS HAVE BEEN PROVIDED.

AN AGGREGATE DRAIN SHALL BE PLACED AT THE LOW POINT OF EACH SAG VERTICAL CURVE.

SPRING DRAINS

REFERENCE IS MADE TO THE DETAILED DRAWING ON SHEET NO. 29 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:

605	6" UNCLASSIFIED PIPE UNDERDRAIN, 707.06 OR 707.12, AS PER PLAN	250 LIN. FT.
605	AGGREGATE DRAINS FOR SPRINGS, AS PER PLAN	15 LIN. FT.

THE CONTRACTOR SHALL NOT ORDER MATERIALS FOR "SPRING DRAINS" UNTIL AUTHORIZED BY THE ENGINEER AND IN THE EVENT NO SPRINGS ARE ENCOUNTERED, THE ITEM SHALL BE NON-PERFORMED.

SKEWED PIPE ENDS

WHERE REQUIRED BY THE STRUCTURE DETAILS, THE SKEWED END SECTIONS OF PIPE EXCEPT CORRUGATED SHALL BE SPECIALLY FABRICATED BY THE MANUFACTURER. THE SHORT SIDE OF ANY SPECIALLY FABRICATED PIPE SECTION SHALL NOT BE LESS THAN TWO FEET (2') LONG.

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 OR POLLUTED WATER OF ANY KIND.

EXISTING PIPE CARRYING FLOW WHICH COMES WITHIN THE CATEGORY OUTLINED ABOVE SHALL BE PLUGGED WITH CLASS E CONCRETE AT THE RIGHT-OF-WAY LINE. PAYMENT FOR SAID PLUGGING SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM 203 EXCAVATION.

PIPE SPECIALS

WHERE CALLED FOR ON THE PLANS, TWO (2) 30^{0} BENDS MAY BE USED IN LIEU OF ONE (1) 60^{0} BEND AT NO ADDITIONAL COST TO THE STATE.

THIS PROJECT SHALL BE CONSTRUED TO MEAN BENDS AND BRANCHES, PIPE SPECIALS ON WHICH SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THE PERTINENT CONDUIT ITEM.

601 RIP-RAP, 6" REINFORCED CONCRETE SLAB

SEE SHEET NO. 28 FOR DETAIL.

DUMPED ROCK CHANNEL PROTECTION

DUMPED ROCK CHANNEL PROTECTION AT THE OUTLET OF PIPES, AS SHOWN ON THE PLANS, SHALL BE PLACED IMMEDIATELY AFTER THE PIPE HAS BEEN PLACED AND THE OUTLET CHANNEL IS CUT.

SOD AT HEADWALLS

AN 18" STRIP OF SOD SHALL BE PLACED ALONG THE BACK AND BOTH ENDS OF EACH HEADWALL AND ALONG BOTH SIDES OF PAVED GUTTER TO PREVENT EROSION. THE ABOVE ITEM HAS BEEN INCLUDED IN QUANTITIES OF 660 SODDING.

SWALE PROTECTION

THE FOLLOWING ESTIMATED QUANTITY HAS BEEN INCLUDED IN THE GENERAL SUMMARY FOR USE AS DIRECTED BY THE ENGINEER FOR ADDITIONAL EROSION CONTROL:

601	DUMPED ROCK CHANNEL PROTECTION	1,000 CU. YDS.

MATERIAL WILL NOT BE DELIVERED UNLESS REQUESTED BY THE ENGINEER.

CONTRACTION AND EXPANSION JOINTS

ALTHOUGH SPECIFIC LOCATIONS OF CERTAIN EXPANSION AND CONTRACTION JOINTS HAVE BEEN DETAILED ON THIS PLAN, NO WAIVER OF THE SPECIFICATIONS IS INTENDED. PROVISION OF EXPANSION JOINTS AT ALL MAJOR STRUCTURES AND THE MAXIMUM SPACING BETWEEN CONTRACTION JOINTS SHALL IN ALL CASES BE IN ACCORDANCE WITH STANDARD CONSTRUCTION DRAWINGS AND THE SPECIFICATIONS.

PART WIDTH CONSTRUCTION

BECAUSE OF THE NECESSITY OF BUILDING PORTIONS OF THIS PROJECT UNDER TRAFFIC AND CONSTRUCTING THE PAVEMENT PART AT A TIME, EXTREME CARE SHALL BE TAKEN TO PREVENT THE CONSTRUCTION OF A BUTT JOINT ON CENTERLINE IN THE 304 AND 310 COURSES.

THIS SHALL BE ACCOMPLISHED BY BUILDING THE 304 AND 310 COURSES, PLACED WITH THE FIRST PORTION OF THE PAVEMENT BUILT, AT LEAST EIGHTEEN INCHES (18") BEYOND THE CENTERLINE AND BY SURFACING NO CLOSER THAN EIGHTEEN INCHES (18") TO THIS EDGE OF THE ABOVE COURSES. WHEN THE SECOND PORTION OF THE PAVEMENT IS BUILT, AT LEAST TWELVE INCHES (12") OF THESE PROJECTING COURSES SHALL BE BROKEN DOWN AND THOROUGHLY KEYED IN WITH THE NEWLY PLACED CORRESPONDING COURSES IN THE SECOND PORTION OF THE PAVEMENT BUILT. PAYMENT FOR THIS OPERATION SHALL BE INCLUDED IN THE UNIT PRICES BID FOR THE PERTINENT PAVEMENT ITEMS.

310 SUBBASE, GRADING A OR B AS PER PLAN

MATERIAL FOR THIS ITEM SHALL MEET THE REQUIREMENTS OF GRADING A OR B OF 310.02 EXCEPT THAT FOR EITHER GRADING, NO MORE THAN 10% OF THE MATERIAL SHALL PASS A NO. 200 SIEVE AFTER ALL OPERATIONS OF PLACING AND COMPACTING HAVE BEEN COMPLETED.

310 UNDER APPROACH SLABS

THE AREA BETWEEN THE SURFACE OF THE SUBGRADE AND THE BOTTOM OF THE APPROACH SLAB SHALL BE FILLED WITH 310 SUBBASE OR 310 SUBBASE, GRADING A OR B, AS PER PLAN, WHICHEVER IS CALLED FOR ON THE PLANS.

SEQUENCE OF CONSTRUCTION (PAVING)

(1) INSTALL PIPE UNDERDRAIN ON OUTSIDE SHOULDER. INSTALLATION OF SHALLOW UNDERDRAIN IN MEDIAN MAY BE DEFERRED UNTIL 451 IS IN PLACE

(2) PLACE SUBBASE OUT TO OUTSIDE EDGE OF UNDERDRAIN OR TO ONE FOOT (1') BEYOND EDGE OF PAVEMENT WHERE NO UNDERDRAIN IS PRESENT

(3) CONSTRUCT 451

(4) REMOVE SUBBASE AND ANY CONTAMINATED BACKFILL OVER DRAIN AND REPLACE WITH NO. 8 AGGREGATE AS SHOWN ON TYPICAL SECTION

(5) COMPLETE SHOULDER CONSTRUCTION

DUST CONTROL

AN ESTIMATED AMOUNT OF 616 CALCIUM CHLORIDE AND 616 WATER HAS BEEN PROVIDED FOR DUST CONTROL, AS DIRECTED BY THE ENGINEER, AS SHOWN BELOW:

616	WATER	100 M. GAL.
616	CALCIUM CHLORIDE	10 TONS

MAINTENANCE OF TRAFFIC

STATE ROUTE 57

TWO LANES OF TRAFFIC SHALL BE MAINTAINED AT ALL TIMES IN EACH DIRECTION ON S.R. 57, EXCEPT DURING THE CONSTRUCTION OF SPEED CHANGE LANES OR OTHER CONSTRUCTION ADJACENT TO THE EXISTING PAVEMENT. AT SUCH TIME, ONE LANE OF TRAFFIC WILL BE MAINTAINED AT ALL TIMES ON THE RESPECTIVE NORTH OR SOUTH BOUND PAVEMENT WHERE THE CONSTRUCTION WORK IS IN EFFECT.

TRAFFIC CONTROL DEVICES SHALL CONSIST OF 55 GALLON STEEL DRUMS. THE DRUMS SHALL BE PAINTED YELLOW AND SHALL BE THREE-QUARTERS FILLED WITH SAND TO HOLD THEM IN PLACE.

MAINTENANCE OF TRAFFIC (Continued)

SHADEN ROAD

SHADEN ROAD SHALL BE KEPT OPEN TO TRAFFIC UNTIL SUCH TIME AS CONSTRUCTION WORK ON BEECHWOOD DRIVE AND WEST RIVER ROAD HAVE BEEN COMPLETED AND TRAFFIC PLACED THEREON.

WEST RIVER ROAD

WEST RIVER ROAD SHALL BE CLOSED TO TRAFFIC FOR A PERIOD OF TIME NOT TO EXCEED THIRTY (30) DAYS WHILE THE CONTRACTOR IS COMPLETING GRADING OPERATIONS FOR THE GRADE CHANGE OF WEST RIVER ROAD. THE CONTRACTOR SHALL THEN OPEN WEST RIVER ROAD TO TWO-WAY TRAFFIC AS OUTLINED IN 614.02(c).

AFTER COMPLETION OF THE WEST RIVER STRUCTURE, THE ROAD SHALL BE CLOSED TO TRAFFIC FOR A PERIOD OF TIME NOT TO EXCEED FOURTEEN (14) DAYS, TO PERMIT THE CONTRACTOR TO COMPLETE THE PAVEMENT ON SAID WEST RIVER ROAD.

FORD ROAD

FORD ROAD SHALL BE CLOSED TO TRAFFIC FOR A PERIOD NOT TO EXCEED TEN (10) DAYS DURING WHICH TIME THE CULVERTS AT STATION 48+00 AND STATION 52+00 SHALL BE CONSTRUCTED.

AFTER COMPLETION OF THE STRUCTURES OVER FORD ROAD THE ROAD SHALL BE CLOSED TO TRAFFIC FOR A PERIOD NOT TO EXCEED FIVE (5) DAYS DURING WHICH TIME THE PAVING ON FORD ROAD SHALL BE PLACED.

STATE ROUTE 301 (Gulf Road)

A TEMPORARY ROADWAY WITH CLASS "B" PAVEMENT SHALL BE CONSTRUCTED, AS PER PLAN SHOWN ON SHEET NO. 329, FOR THE MAINTENANCE OF TWO-WAY TRAFFIC ON STATE ROUTE 301 (Gulf Road). THE TEMPORARY ROADWAY SHALL NOT BE IN USE FOR A PERIOD OF TIME EXCEEDING EIGHT (8) MONTHS.

STATE ROUTE 254

A TEMPORARY ROADWAY WITH CLASS "B" PAVEMENT SHALL BE CONSTRUCTED, AS PER PLAN, SHOWN ON SHEET NO.305, FOR THE MAINTENANCE OF TWO-WAY TRAFFIC ON STATE ROUTE 254 DURING THE CONSTRUCTION OF THE STATE ROUTE 254 STRUCTURE AND THE PAVEMENT FROM STATION 80+88.37 TO STATION 93+37.12. THE TEMPORARY ROADWAY AND PAVEMENT SHALL NOT BE IN USE FOR A PERIOD OF TIME EXCEEDING TEN (10) MONTHS.

AFTER THE COMPLETION OF THE ABOVE WORK, STATE ROUTE 254 AND THE ABBE ROAD INTERSECTION WILL BE CLOSED TO TRAFFIC FOR A PERIOD OF TIME NOT EXCEEDING ONE HUNDRED TWENTY (120) DAYS IN ORDER TO ALLOW THE CONTRACTOR TO COMPLETE CONSTRUCTION WORK ON S.R. 254 AND ABBE ROAD. DETOUR FOR S.R. 254 IS SHOWN ON SHEET NO. 1.

ABBE ROAD

TWO-WAY TRAFFIC WILL BE MAINTAINED AT ALL TIMES ON EXISTING ABBE ROAD (EXCEPT AS NOTED ABOVE) WHILE RELOCATED ABBE ROAD IS UNDER CONSTRUCTION AND UNTIL SUCH TIME AS RELOCATED ABBE ROAD IS TIED INTO EXISTING ABBE ROAD. AT SUCH TIME, ONE-WAY TRAFFIC WILL BE MAINTAINED WHILE RELOCATED ABBE ROAD IS TIED INTO EXISTING ABBE ROAD.

LIGHTS, SIGNS AND BARRICADES AT ADJACENT ROAD INTERSECTIONS

THE CONTRACTOR SHALL, IN ADDITION TO THE GENERAL REQUIREMENTS OF 614 (MAINTAINING TRAFFIC) ON THIS PROJECT, PERFORM THE FOLLOWING: ERECT AND MAINTAIN STANDARD 48" x 30" SIZE "ROAD CLOSED" SIGNS, SIGN SUPPORTS AND LIGHTS AT THE FOLLOWING LOCATIONS DURING THE PERIODS IN WHICH THE AFFECTED ROADS ARE CLOSED TO TRAFFIC:

(1) WEST RIVER ROAD :	AT THE INTERSECTIONS OF WEST RIVER ROAD WITH SHADEN ROAD AND GRISWOLD ROAD.
(2) FORD ROAD :	AT THE INTERSECTIONS OF FORD ROAD WITH STATE ROUTE 301 AND WEST RIVER ROAD.
(3) STATE ROUTE 254 :	AT THE INTERSECTIONS OF S.R. 254 WITH S.R. 301 AND CASE ROAD.
(4) ABBE ROAD :	AT THE INTERSECTIONS OF ABBE ROAD WITH FRENCH CREEK ROAD AND BURNS ROAD.

SIGN SUPPORTS AND LIGHTS FOR "ROAD CLOSED" SIGNS SHALL BE AS DETAILED IN THE "OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES."

PAYMENT FOR PROVIDING, ERECTING, MAINTAINING, AND REMOVING LIGHTS, SIGNS AND SIGN SUPPORTS SHALL BE INCLUDED IN THE LUMP SUM PRICE BID FOR "ITEM 614 MAINTAINING TRAFFIC."

ALTERNATE METHODS

IF THE CONTRACTOR SO ELECTS, HE MAY SUBMIT ALTERNATE METHODS FOR THE MAINTENANCE OF TRAFFIC PROVIDED THE INTENT OF THE ABOVE PROVISIONS IS FOLLOWED AND NO ADDITIONAL INCONVENIENCE TO THE TRAVELING PUBLIC RESULTS THEREFROM. NO ALTERNATE PLAN SHALL BE PLACED INTO EFFECT UNTIL APPROVAL HAS BEEN GRANTED, IN WRITING, BY THE DIRECTOR.

614 MAINTAINING TRAFFIC

AN ESTIMATED AMOUNT OF 410 TRAFFIC COMPACTED SURFACE TYPE A OR B FOR MAINTAINING TRAFFIC AND 616 CALCIUM CHLORIDE HAS BEEN PROVIDED FOR MAINTAINING TRAFFIC AS SHOWN BELOW:

GENERAL NOTES

614 MAINTAINING TRAFFIC (Continued)

	I-90-1(40)01		100% STATE	
	410	616	410	616
SHADEN ROAD	5 CU. YD.	0.1 TON		
BEECHWOOD DRIVE			10 CU. YD.	0.5 TON
S.R. 57 SERVICE ROAD	5 CU. YD.	0.2 TON	15 CU. YD.	0.5 TON
WEST RIVER ROAD	25 CU. YD.	1.0 TON		
FORD ROAD	5 CU. YD.	0.1 TON		
S.R. 301 (GULF ROAD)	5 CU. YD.	0.1 TON		
S.R. 254			50 CU. YD.	1.0 TON
ABBE ROAD INTERSECTION			20 CU. YD.	0.5 TON
EXISTING ABBE ROAD	50 CU. YD.	2.0 TON		
RELOCATED ABBE ROAD	25 CU. YD.	1.0 TON		
ABBE SERVICE ROAD WEST	25 CU. YD.	1.0 TON		
PRIVATE DRIVEWAYS	50 CU. YD.	2.0 TON	50 CU. YD.	2.0 TON
TOTALS	195 CU. YD.	7.5 TON	145 CU. YD.	4.5 TON

PAYMENT FOR ALL OF THE ABOVE MAINTENANCE OF TRAFFIC, INCLUDING BARREL BARRICADES, EXCEPT FOR 615 TEMPORARY ROADS AND CLASS B TEMPORARY PAVEMENT, AND 410 TRAFFIC COMPACTED SURFACE TYPE A OR B AND 616 CALCIUM CHLORIDE SHALL BE INCLUDED IN THE LUMP SUM BID FOR 614 MAINTAINING TRAFFIC.

TRENCH FOR WIDENING

Trench excavation for base widening shall be performed only on one side of the pavement at a time. The open trench shall be adequately maintained and protected with temporary guide markers or borricades at all times. Placement of proposed subbase and base material shall follow as closely as possible behind the excavation operations. The length of widening trench which is open at any one time shall be held to a minimum and shall at all times be subject to approval of the Engineer.

ITEM SPECIAL-EXPANSION ANCHOR BOLT

Where new concrete pavement 6' or less in width abuts existing concrete pavement, Expansion Anchor Bolts, as per Standard Drawing BP-3, shall be placed in the existing concrete pavement at 5' intervals. See Note in Proposal.
Dowel holes shall be formed and poid for in accordance with 510. Estimated Quantities 125 each to General Summary.

MAINTENANCE OF SEWER FLOWS

The Contractor shall conduct his operations so as to maintain at all times sewer flows through existing facilities to remain in place and through existing facilities to be replaced until new facilities are completed and placed into use.
Payment for any additional costs involved in maintaining these flows by pumping or by any other means approved by the Engineer shall be included in the unit prices bid for the respective items of 603 Conduit.

REVISION OF PLAN QUANTITIES

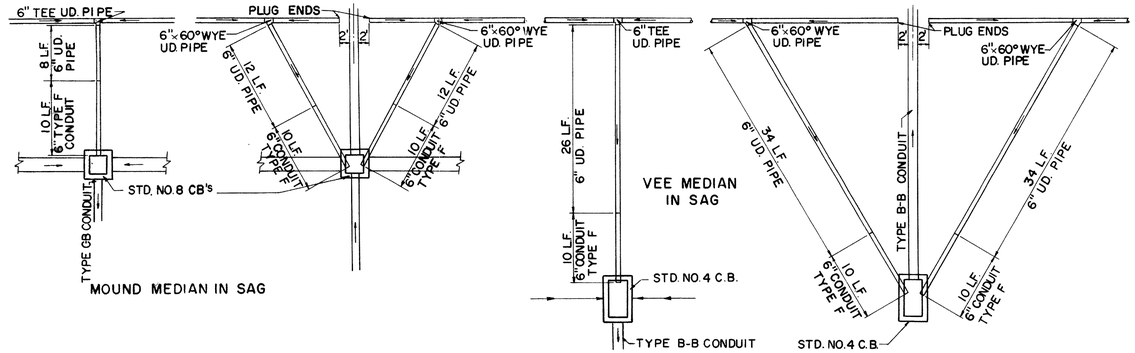
SUBSEQUENT TO THE COMPLETION OF THESE PLANS THE MAINLINE (I.R. 90) PAVEMENT AND MAINLINE SPEED CHANGE LANES TO THE RAMP NOSE HAVE BEEN CHANGED FROM 9-INCH THICKNESS TO 10-INCH THICKNESS.

THE TYPICAL SECTIONS AND AN ESTIMATED QUANTITY OF THE AFFECTED ITEMS HAS BEEN CHANGED IN THE GENERAL SUMMARY. REMAINING REFERENCES TO 9-INCH PAVEMENT APPEARING THROUGHOUT THE PLANS HAVE NOT BEEN CHANGED.

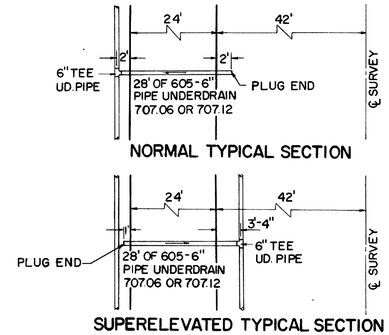
THE ITEMS AFFECTED WITH CORRESPONDING ESTIMATED QUANTITY CHANGES MADE ON THE GENERAL SUMMARY ARE AS FOLLOWS:

ITEM 451	9" REINFORCED PORTLAND CEMENT CONCRETE PAV'T.	33,517 S.Y.
ITEM 451	10" REINFORCED PORTLAND CEMENT CONCRETE PAV'T.	124,163 S.Y.

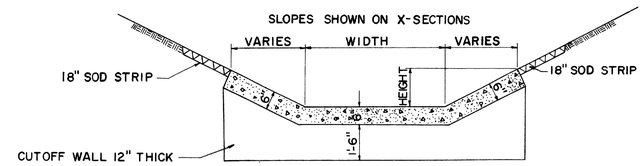
THE ABOVE ESTIMATED QUANTITIES ARE ESSENTIALLY CORRECT. PAYMENT WILL BE BASED ON FINAL MEASUREMENT FOR ALL QUANTITIES AFFECTED EVEN THOUGH NOT SPECIFICALLY ENUMERATED HEREIN.



DETAILS FOR OUTLETTING INSIDE UNDERDRAINS (INSIDE UNDERDRAIN IN SUPERELEVATED SECTIONS ONLY)



DETAIL FOR TRANSVERSE DRAINS

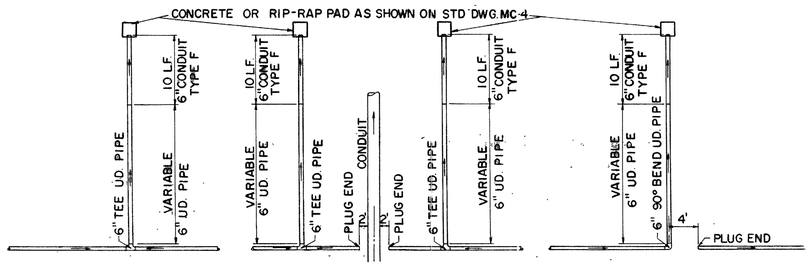


NOTE: 601 PAVED GUTTER SECTION SHALL BE DESIGNATED BY A NUMBER. THE FIRST NUMBER WILL BE THE PAVED GUTTER, GUTTER BOTTOM WIDTH IN FEET AND TENTHS OF FEET. THE SECOND NUMBER WILL BE THE HEIGHT OF THE PAVED GUTTER IN INCHES.

I. E. 4' BOTTOM, 12" HEIGHT = 601 PAVED GUTTER 4.0-12

SEE SHEETS 36, 42

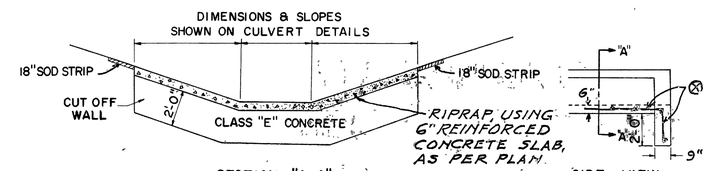
601 PAVED GUTTER, AS PER PLAN



DETAILS FOR OUTLETTING OUTSIDE UNDERDRAINS

GENERAL NOTES FOR UNDERDRAINS

NORMAL SHALLOW UNDERDRAINS ARE 4.50' BELOW EDGE OF PAVEMENT.
NORMAL DEEP UNDERDRAINS ARE 6.20' BELOW EDGE OF PAVEMENT.
SPECIAL GRADE UNDERDRAINS AND ONLY SPECIAL GRADE UNDERDRAINS ARE SHOWN IN PLAN ON PLAN & PROFILE SHEETS.
UNDERDRAINS GOING OVER THE TOP OF 603 PIPE ARE FIGURED TO CLEAR THE TOP OF THE 603 PIPE BY A MINIMUM OF 6".
UNDERDRAINS GOING OVER THE TOP OF 603 PIPE HAVE A TEN FOOT LENGTH OF 6" TYPE F CONDUIT TO BRIDGE THE 603 PIPE TRENCH.
THE TOP OF THE UNDERDRAINS OUTLETTING INTO A CATCH BASIN SHALL BE AT LEAST AS HIGH AS THE TOP OF THE PIPE OUTLETTING FROM THE CATCH BASIN.
THE F/L OF UNDERDRAINS OUTLETTING INTO THE OUTSIDE DITCH SHALL BE 6" ABOVE THE F/L OF THE DITCH WITH A CONCRETE OR RIP-RAP PAD AS SHOWN ON STD DRAWING MC-4 THE COST OF THE PAD SHALL BE INCLUDED IN THE PRICE BID PER LINEAL FOOT OF 603, 6" CONDUIT, TYPE F.
THE LOCATIONS OF THE TRANSVERSE DRAINS WHICH ARE NOTED ON THE PLAN AND PROFILE SHEETS ARE APPROXIMATE. THE TRANSVERSE DRAINS ARE TO BE LOCATED AT THE POINT WHERE THE 310 INTERSECTS THE EXISTING GROUND.

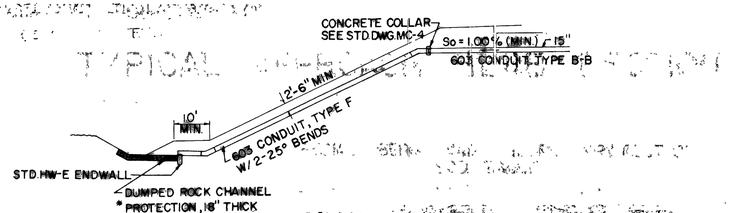


NOTE:

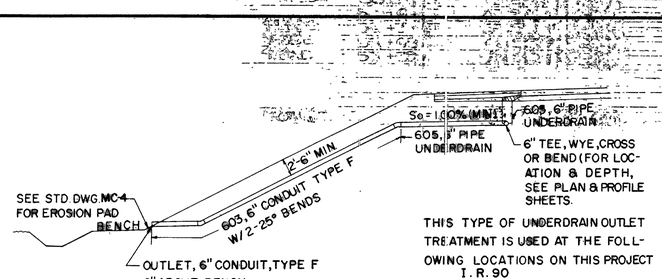
PAYMENT FOR CUT OFF WALLS SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM 601 RIPRAP, USING 6" REINFORCED CONCRETE SLAB, AS PER PLAN. LOCATIONS OF CUTOFF WALLS ARE NOTED ON STRUCTURE DETAIL SHEETS.

⊗ REINFORCEMENT – 3/8" Φ BARS @ 24" C/C, TWO WAYS.

RIP-RAP CUTOFF WALL DETAIL



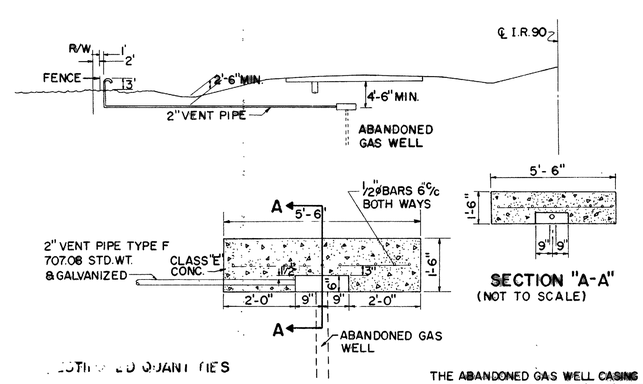
MEDIAN OUTLET DETAIL IN HIGH FILL



THIS TYPE OF UNDERDRAIN OUTLET TREATMENT IS USED AT THE FOLLOWING LOCATIONS ON THIS PROJECT I. R. 90

STA. C698+40 LT., RAMP C
STA. 722 + 50 RT.
STA. 740 + 80 RT.
STA. 727 + 95 LT.

PIPE UNDERDRAIN OUTLET DETAIL IN HIGH FILL



ESTIMATED QUANTITIES

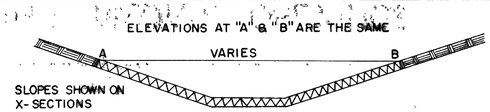
602 CONCRETE MASONRY - 1.64 CU. YDS.

603 2" CONDUIT, TYPE F 707.08 - 78 LIN. FT. STD. WT. & GALVANIZED AS PER PLAN.

CONTRACTOR

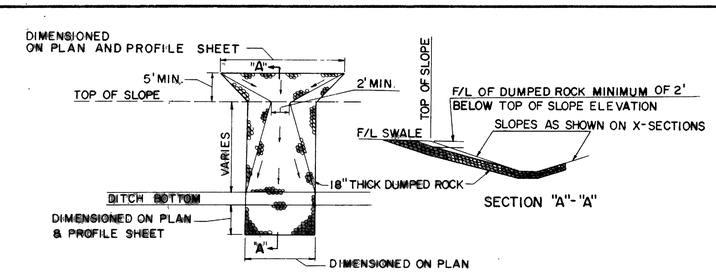
THE ABANDONED GAS WELL CASING SHALL BE CUT OFF AT LEAST 4½ FT. BELOW BOTTOM OF SUBBASE. COST OF THIS OPERATION SHALL BE INCLUDED IN THE UNIT PRICE BID FOR 602 CONCRETE MASONRY. THE PIPE SPECIALS SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THE VENT PIPE.

ABANDONED GAS WELL VENT DETAIL

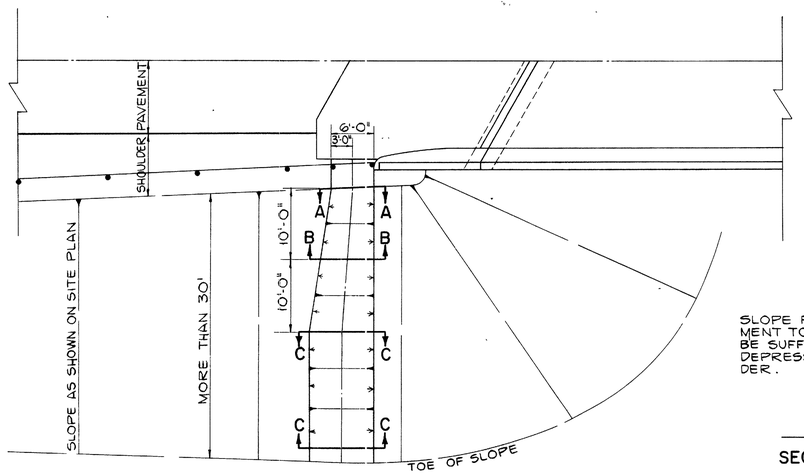


NOTE: WIDTH OF DITCH SODDING SHOWN ON THE PLAN AND PROFILE SHEETS IS THE ACTUAL WIDTH OF SOD STRIP TO BE PLACED IN THE DITCH CONFORMING TO THE SLOPES ON THE X-SECTIONS.

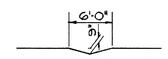
DITCH SODDING



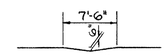
EROSION CONTROL AT SWALES



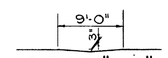
SLOPE FROM EDGE OF PAVEMENT TO SECTION "A-A" SHALL BE SUFFICIENT TO PROVIDE A 9" DEPRESSION AT EDGE OF SHOULDER.



SECTION "A-A"



SECTION "B-B"



SECTION "C-C"

1965 SPECIFICATIONS

SPECIAL BERM AND SLOPE PROTECTION

PRIOR TO PLACEMENT OF SOD ON THE BERM AND SLOPE, GALVANIZED POULTRY FENCE SHALL BE PLACED ON THE FINISHED GRADE IN STRANDS WHICH SHALL BE AT RIGHT ANGLES TO THE DIRECTION OF FLOW. EACH STRAND SHALL BE STAKED SECURELY ON TOP AND BOTTOM WITH STAKES AT FOUR FOOT INTERVALS, AND ALTERNATED IN ROWS FOUR FOOT APART.

STAKES SHALL BE 1"x1"x8" WOOD STAKES AND SHALL BE PERPENDICULAR TO THE GROUND AND FLUSH WITH THE TOP OF THE SOD.

THE FENCE SHALL BE SECURED TO THE WOOD STAKES BY METAL STAPLES.

THE FENCE SHALL BE STRAIGHT LINE POULTRY FENCE OR EQUIVALENT WITH STRAND WIDTH OF FOUR FEET HAVING A TWO INCH MESH AND ALL WIRE NO. 20 GAUGE.

THE STRANDS OF FENCING SHALL BE FASTENED TOGETHER AT TWELVE INCH INTERVALS BY MEANS OF HOG RINGS.

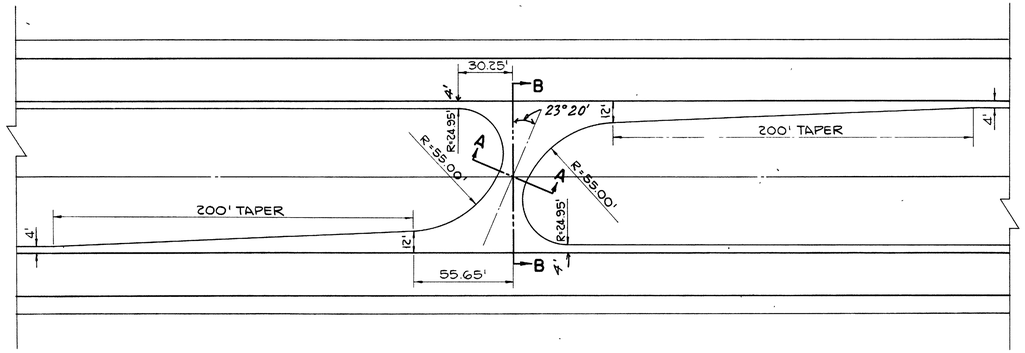
SOD SHALL BE LAID IN ACCORDANCE WITH CONSTRUCTION AND MATERIALS SPECIFICATIONS, SECTION 660.06, THIS ITEM IS REQUIRED ONLY WHERE RATE OF SIDE SLOPE IS GREATER THAN SIX TO ONE.

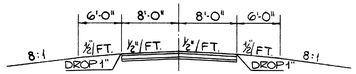
PAYMENT FOR ALL THE ABOVE SHALL BE INCLUDED IN THE UNIT PRICE BID FOR 660, *SODDING FOR SPECIAL BERM & SLOPE PROTECTION*, AS PER PLAN.

TYPICAL APPROACH SLAB EROSION CONTROL

SPECIAL BERM AND SLOPE PROTECTION SOD TABLE

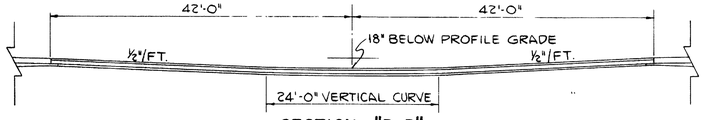
LOCATION	STATION	QUANTITY
[illegible]	[illegible]	[illegible]





SECTION "A-A"

SAME PAVEMENT BUILDUP AS FOR PAVED SHOULDER, SEE SHEET NO. 6



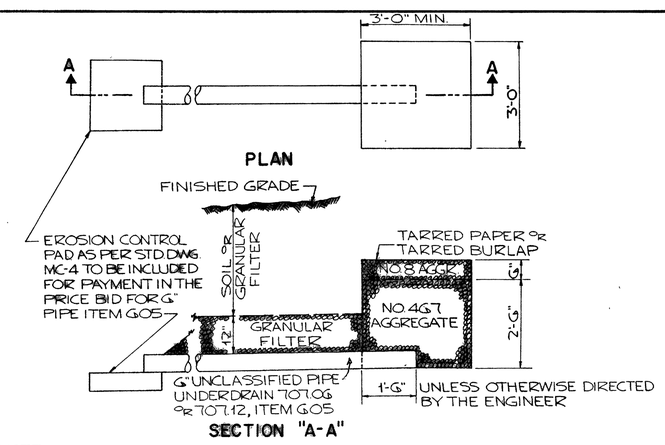
SECTION "B-B"

ESTIMATED QUANTITIES FOR U-TURN MEDIAN OPENINGS

STATION	203 SUBGRADE PREPARATION	409 SEAL COAT	301 BITUMINOUS AGGREGATE BASE	304 AGGREGATE BASE	310 SUBBASE	605 AGGREGATE DRAINS
	LN YDS.	SQ. YDS.	CU. YDS.	CU. YDS.	CU. YDS.	LIN. FT.
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
754+60	309	309	42.5	55.5	[illegible]	40
843+00	309	309	42.5	55.5	[illegible]	40
TOTAL	1018	1018	850	970	86	80

NOTE: 404 [illegible]

STANDARD U-TURN MEDIAN OPENINGS

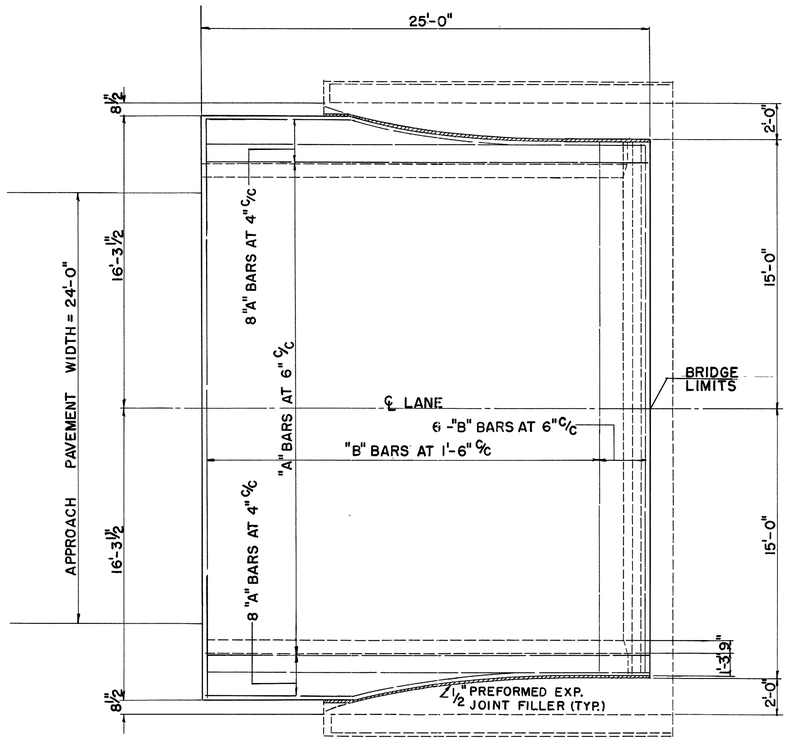


SECTION "A-A"

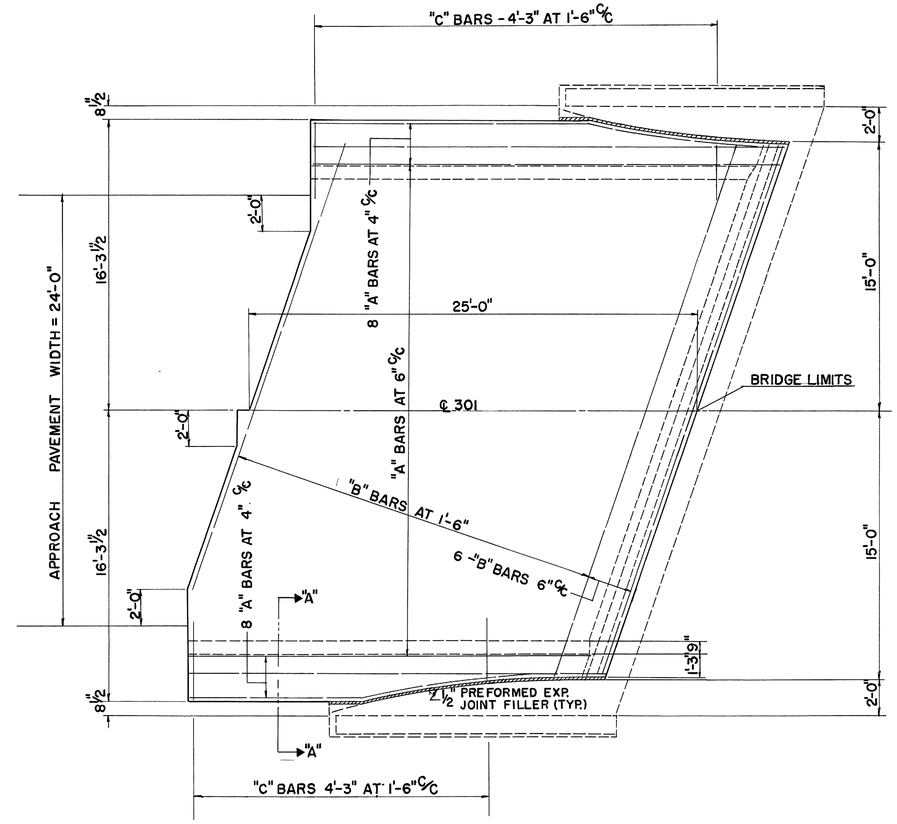
NOTE:
AGGREGATES, TARRED PAPER OR TARRED BURLAP, AND NECESSARY EXCAVATION FOR SPRING DRAINS SHALL BE INCLUDED FOR PAYMENT IN THE UNIT PRICE BID PER LIN. FT. FOR ITEM 605, AGGREGATE DRAINS FOR SPRINGS, AS PER PLAN.
THE 6" PIPE 707.06 OR 707.12 SHALL BE COVERED WITH GRANULAR FILTER MATERIAL (605.03(c)) TO A HEIGHT OF (1) FOOT ABOVE THE TOP OF THE PIPE. THE REMAINDER OF THE BACKFILL FOR THIS ITEM SHALL BE SOIL OR GRANULAR FILTER MATERIAL PLACED IN ACCORDANCE WITH 603.08.
SPRING DRAINS SHALL BE BUILT IN REASONABLY CLOSE CONFORMITY WITH THE DETAIL SHOWN ABOVE. THE LENGTHS AND EXACT LOCATIONS OF THE DRAINS SHALL BE DETERMINED BY THE ENGINEER. SEE NOTE ON SHEET NO. 26

AGGREGATE SPRING DRAIN DETAIL

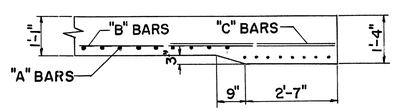
TYPICAL APPROACH SLAB DETAILS



APPROACH SLAB DETAIL
BRIDGE NO. LOR.-90-1426 L&R



APPROACH SLAB DETAIL
BRIDGE NO. LOR.-90-1478



SECTION A-A

NOTE: REFER TO STANDARD DRAWING AS I-54 FOR TYPICAL SECTIONS AND DETAILS OF APPROACH SLABS. STANDARDS TO BE MODIFIED AS NECESSARY TO ACCOMODATE REINFORCING PLAN AS SHOWN.

CONCRETE TO BE CLASS "C"

PREFORMED EXP. JOINT FILLER SHALL BE INCLUDED IN THE PRICE BID FOR 611 REINFORCED CONCRETE APPROACH SLABS.

NOTE: "A" BARS = 8
"B" BARS = 5
"C" BARS = 5

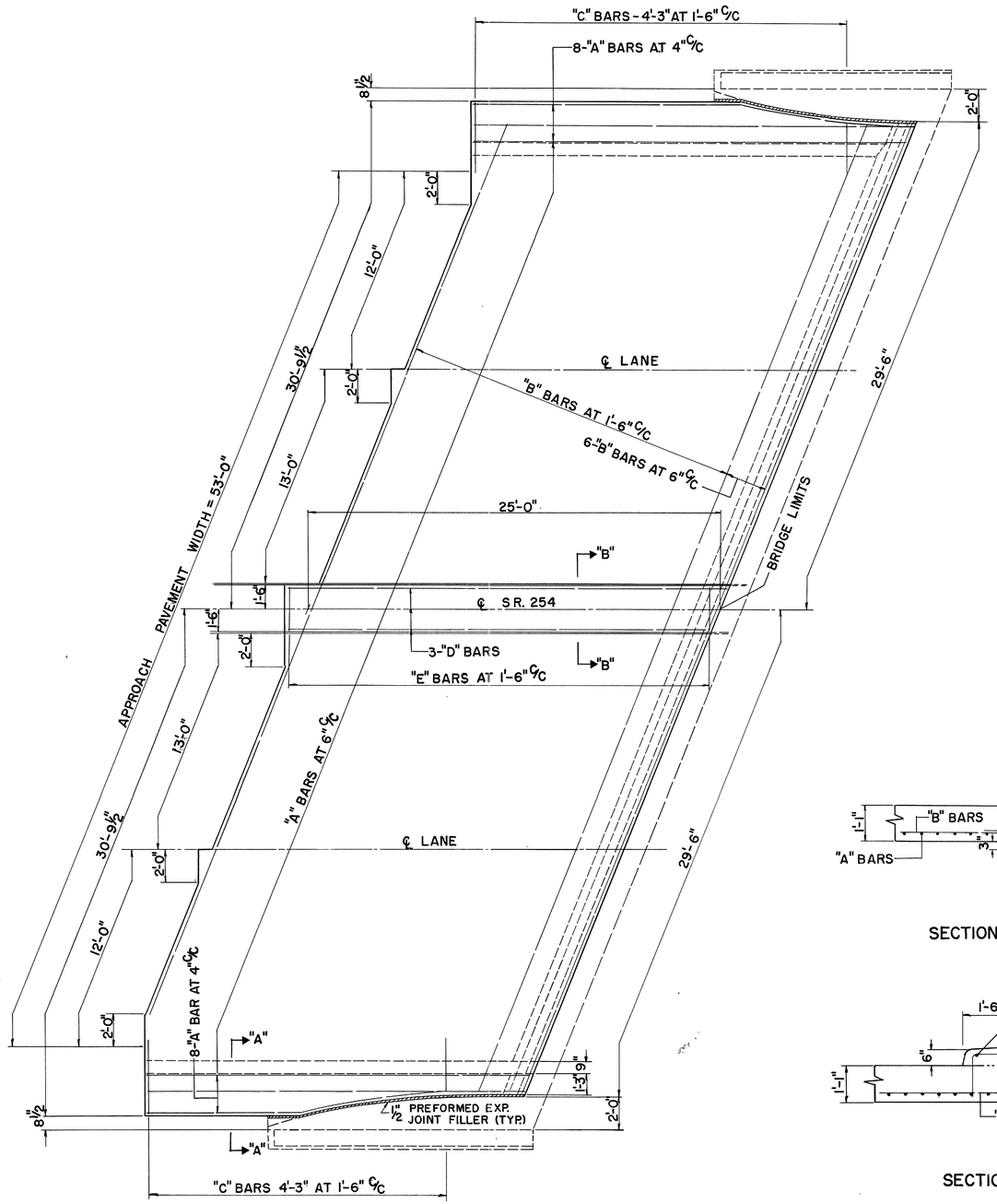
"C" BARS SHALL BE PLACED NORMAL TO THE ℄ OF ROADWAY

TYPICAL APPROACH SLAB DETAILS

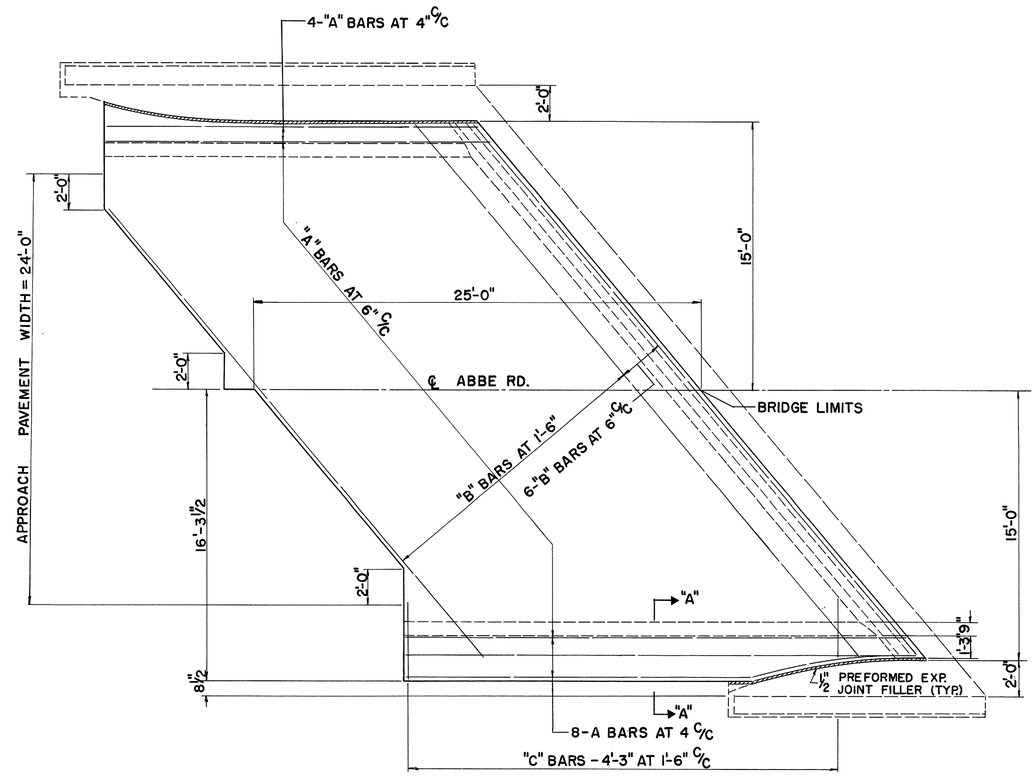
FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

LOR.-90-13.01

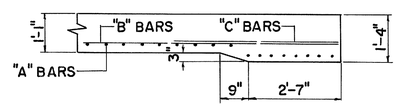
31



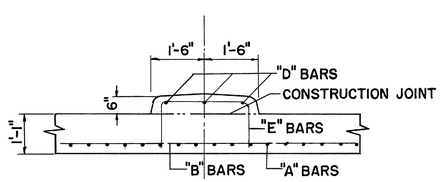
APPROACH SLAB DETAIL
BRIDGE NO. LOR.-90-1565



APPROACH SLAB DETAIL
BRIDGE NO. LOR.-90-1700



SECTION A-A



SECTION B-B

NOTE: REFER TO STANDARD DRAWING AS I-54 FOR TYPICAL SECTIONS AND DETAILS OF APPROACH SLABS. STANDARDS TO BE MODIFIED AS NECESSARY TO ACCOMODATE REINFORCING PLAN AS SHOWN.

CONCRETE TO BE CLASS "C"

PREFORMED EXP. JOINT FILLER SHALL BE INCLUDED IN THE PRICE BID FOR 611 REINFORCED CONCRETE APPROACH SLABS

NOTE: "A" BARS = 8
"B" BARS = 5
"C" BARS = 5
"D" BARS = 5
"E" BARS = 5 (STIRRUPS)

"C" & "E" BARS SHALL BE PLACED NORMAL TO THE ℄ OF ROADWAY

CALCULATIONS

LINE	DESCRIPTION	QUANTITY	UNIT
	451 9"REINFORCED PORTLAND CEMENT CONCRETE PAVEMENT		
1	STA.670+74.01 TO STA.893+00 = 22,225.99 LIN. FT.		
2	DEDUCT FOR STRUCTURE NO. LOR.-90-1320 AND APPROACH SLABS = 293.00 LIN. FT.		
3	DEDUCT FOR STRUCTURE NO. LOR.-90-1355 AND APPROACH SLABS = 232.96 LIN. FT.		
4	DEDUCT FOR STRUCTURE NO. LOR.-90-1426 AND APPROACH SLABS = 418.50 LIN. FT.		
5	DEDUCT FOR STRUCTURE NO. LOR.-90-1443 AND APPROACH SLABS = 194.02 LIN. FT.		
6	LINE 1 LESS LINES 2 THRU 5 = 21,087.51 LIN. FT.		
7	21,087.51 LIN. FT. x 2 x 24 ⁄ 9 = 112,466.72 SQ YDS.		
	PROJECT I-90-1(40)01 TO SHEET NO. 36 ——→ USE	112,466.8	SQ.YDS.
	409 SEAL COAT AREA		
	INSIDE 4' WIDE PAVED SHOULDER		
8	STA. 670+74.01 TO STA. 893+00 (LT. & RT.) = 22,225.99 LIN. FT.		
9	LESS STRUCTURE LINES 2,3, & 5 MINUS (APPROACH SLABS-6") = 572.98 LIN. FT.		
10	LESS STRUCTURE LINE 4 = 418.50 LIN. FT.		
11	LINE 8 LESS LINES 9 & 10 = 21,234.51 LIN. FT.		
12	21,234.51 LIN. FT. x 2 x 4 = 169,876.08 SQ. FT.		
	OUTSIDE 10' WIDE PAVED SHOULDER		
13	STA.670+74.01 TO STA.671+90.02 (LT.) = 116.01 LIN. FT.		
14	STA.685+58.50 TO STA. 693+18.10 (LT.) = 759.60 LIN. FT.		
15	STA.702+29.75 TO STA. 704+73.90 (LT.) = 244.15 x 6,191.56/6,262.56 = 241.38 LIN. FT.		
16	STA.704+73.90 TO STA. 731+64.25 (LT.) = 2690.35 x 2793.70/2864.70 = 2,623.67 LIN. FT.		
17	STA.731+64.25 TO STA. 781+09.99 (LT. & RT.) = 4,945.74 x 2 = 9,891.48 LIN. FT.		
18	LESS STRUCTURE LINE 4 = 418.50 x 2 = -837.00 LIN. FT.		
19	LESS STRUCTURE LINE 5 MINUS APPROACH SLABS-6") = 145.02 x 2 = -290.04 LIN. FT.		
20	LESS TRANSITION @ STRUCTURE, LINE 4 = 114.20 x 5.71 x 1/2 x 4 = -1,304.16 SQ. FT.		
21	STA.781+09.99 TO STA. 782+31.16 (LT.) = 121.17 x 22,626.02/22,697.02 = 120.79 LIN. FT.		
22	STA.798+73.00 TO STA. 806+03.82 (LT.) = 730.82 x 2220.83/2291.83 = 708.18 LIN. FT.		
23	STA.806+03.82 TO STA. 810+03.82 (LT. & RT.) = 400.00 x 2 = 800.00 LIN. FT.		
24	STA.810+03.82 TO STA. 816+79.84 (LT.) = 676.02 LIN. FT.		
25	STA.825+81.49 TO STA. 832+22.73 (LT.) = 641.24 LIN. FT.		
26	STA.822+22.73 TO STA. 835+45.54 (LT.) = 322.81 x 3977.53/3906.53 = 328.68 LIN. FT.		
27	STA.835+45.54 TO STA. 893+00.00 (LT. & RT.) = 5,754.46 x 2 = 11,508.92 LIN. FT.		
28	STA.670+74.01 TO STA. 678+46.00 (RT.) = 771.99 LIN. FT.		
29	STA.692+21.87 TO STA. 693+62.50 (RT.) = 140.63 LIN. FT.		
30	STA.709+53.27 TO STA. 731+64.25 (RT.) = 2,210.98 x 2935.70/2864.70 = 2,265.78 LIN. FT.		
31	STA.781+09.99 TO STA. 785+09.99 (RT.) = 400 x 6946.49/6875.49 = 404.13 LIN. FT.		
32	STA.785+09.99 TO STA. 795+68.03 (RT.) = 1,058.04 x 2362.83/2,291.83 = 1,090.82 LIN. FT.		
33	STA.804+52.50 TO STA. 806+03.82 (RT.) = 151.32 x 2362.83/2,291.83 = 156.01 LIN. FT.		
34	STA.810+03.82 TO STA. 819+54.00 (RT.) = 950.18 LIN. FT.		
35	SUM OF LINES, 13 THRU 19 & 21 THRU 34 = 33,068.47 LIN. FT.		
36	33,068.47 LIN. FT. x 10 = 330,684.70 SQ. FT.		
37	SUM OF LINES 12, 20, & 36 = 499,256.62 SQ. FT. ⁄ 9 SQ. FT./SQ.YD = 55,472.96 SQ.YDS.		
	409 SEAL COAT BITUMINOUS MATERIAL (SEE NOTE IN PROPOSAL)		
38	FROM LINE 37 = 55,472.96 SQ. YDS.		
39	FROM SHEET NO. 29 (STD. U-TURN MEDIAN OPENING) = 1,018.00 SQ. YDS.		
40	FROM SHEET NO. 231 (S.R.57 INTERCHANGE QUANTITIES) = 13,922.20 SQ. YDS.		
41	FROM SHEET NO. 307 (S.R. 254 INTERCHANGE QUANTITIES) = 8,103.30 SQ. YDS.		
42	SUM LINES 38 THRU 41 = 78,516.46 SQ.YDS. x 0.25 GALLONS/SQ.YD. = 19,629.12 GALLONS		
	TOTAL PROJECT I-90-1(40)01 ONLY TO SHEET NO. 35 ——→ USE	19,630.0	GALLONS
	409 SEAL COAT BITUMINOUS MATERIAL (702.09, RT-8 OR RT-9 OR 702.02 MC-800 OR MC-3000		
	PROJECT I-90-1(40)01		
43	FROM SHEET NO.307 (S.R. 254 INTERCHANGE QUANTITIES) = 1,073.50 SQ. YDS.		
44	FROM SHEET NO.359 (SIDEROAD QUANTITIES) = 833.90 SQ. YDS.		
45	SUM LINES 43 & 44 = 1907.40 SQ.YDS. x 0.30 GALLONS/SQ.YD. = 572.22 GALLONS		
	TOTAL PROJECT I-90-1(40)01 TO SHEET NO. 35 ——→ USE	573.0	GALLONS
	100% STATE PARTICIPATION		
46	FROM SHEET NO.307 (S.R.254 INTERCHANGE QUANTITIES) = 4,645.80 SQ. YDS.		
47	4,645.80 SQ.YDS. x 0.30 GALLONS/SQ.YD. = 1,363.74 GALLONS		
	TOTAL 100% STATE PARTICIPATION TO SHEET NO. 35 ——→ USE	1,364.0	GALLONS
	409 SEAL COAT COVER AGGREGATE NO. 8		
	PROJECT I-90-1(40)01		
48	FROM LINE 42 = 78,516.46 SQ.YDS.		
49	FROM LINE 45 = 1,907.40 SQ.YDS.		
50	SUM LINES 48 & 49 = 80,423.86 SQ.YDS. x 0.008 CU.YDS./SQ.YD. = 643.39 CU.YDS.		
51	TOTAL PROJECT I-90-1(40)01 TO SHEET NO.35 ——→ USE	644.0	CU.YDS.

LINE	DESCRIPTION	QUANTITY	UNIT
	409 SEAL COAT COVER AGGREGATE NO. 8 (CON'T)		
	100% STATE PARTICIPATION		
52	FROM LINE 47 = 4,645.80 SQ.YDS. x 0.008 CU.YDS./SQ.YD. = 37.17 CU.YDS.		
	TOTAL 100% STATE PARTICIPATION TO SHEET NO.35 ——→ USE	38.0	CU.YDS.
	301 BITUMINOUS AGGREGATE BASE		
53	FROM LINE 37 = 499,256.62 SQ. FT. X 0.25 FT. THICKNESS ⁄ 27 CU.FT./CU.YD. = 4,622.75 CU.YDS.		
	PROJECT I-90-1(40)01 TO SHEET NO. 35 ——→ USE	4622.8	CU.YDS.
	304 AGGREGATE BASE		
54	FROM LINE 12 = 169,876.08 SQ. FT. x 0.50 FT. THICKNESS = 84,938.04 CU.FT.		
55	FROM LINE 35 = 33,068.47 LIN. FT. x 4.77778 CU.FT./FT. = 157,993.87 CU.FT.		
	OUTSIDE PAVED SHOULDER WITHOUT UNDERDRAINS		
56	STA.740+47.25 TO STA.741+37.42 (LT.) = 90.17 LIN. FT.		
57	STA.741+37.42 TO STA.745+37.42 (LT.) = 400 X 6,942.38/6,875.49 = 403.89 LIN. FT.		
58	STA.745+37.42 TO STA.745+82.69 (LT.) = 45.27 X 2,358.72/2,291.83 = 46.59 LIN. FT.		
59	STA.781+47.49 TO STA.785+09.99 (RT.) = 362.50 X 5,856.90/5,790.01 = 366.69 LIN. FT.		
60	STA.785+09.99 TO STA.789+00.00 (RT.) = 390.01 X 2,358.72/2,291.83 = 401.39		
61	STA.833+00.00 TO STA.852+83.90 (LT.) = 1,983.90 X 3,973.42/3,906.53 = 2,017.87 LIN. FT.		
62	SUM LINES 56 THRU 61 = 3,326.60 LIN. FT. X 0.22222 CU.FT./FT. = 739.24 CU. FT.		
63	DEDUCT FOR TRANSITION LINE 20 = 1,304.16 SQ.FT. X 0.50 FT. THICKNESS = -652.08 CU. FT.		
64	SUM LINES 54,55,62 & 63 = 243,019.07 CU. FT. ⁄ 27 CU. FT./CU.YD. = 9000.71 CU.YDS.		
	PROJECT I-90-1(40)01 TO SHEET NO.35 ——→ USE	9000.7	CU.YDS.
	304 WATER		
	PROJECT I-90-1(40)01		
65	FROM SHEET NO. 35 = 14,756.5 CU.YDS. 304 X 5 GALLONS/CU.YD. ⁄ 1000 GALLONS/M.GAL. = 73.78 M.GAL.		
	TOTAL PROJECT I-90-1(40)01 TO SHEET NO. 35 ——→ USE	74	M.GAL.
	100% STATE PARTICIPATION		
66	FROM SHEET NO. 35 = 5528.8 CU.YDS. 304 X 5 GALLONS/CU.YD. ⁄ 1000 GALLONS/M.GAL. = 27.64 M.GAL.		
	TOTAL 100% STATE PARTICIPATION TO SHEET NO. 35 ——→ USE	28	M.GAL.
	203 SUBGRADE PREPARATION		
	PROJECT I-90-1(40)01		
	UNDER SIDEROAD PAVEMENT		
	WEST RIVER ROAD = 2,504.00 SQ.YDS.		
	FORD ROAD = 840.00 SQ.YDS.		
	GULF ROAD (S.R.301) = 2,782.00 SQ.YDS.		
	ABBE ROAD = 8,783.00 SQ.YDS.		
	ABBE SERVICE RD. WEST = 1,434.00 SQ.YDS.		
	ABBE ROAD CONNECTION = 504.00 SQ.YDS.		
	ABBE ROAD TEE-CUL-DE-SAC = 237.00 SQ.YDS.		
	SCHADDEN ROAD CUL-DE-SAC = 376.00 SQ.YDS.		
	S.R.57 SERVICE ROAD = 234.00 SQ.YDS.		
67	TOTAL SIDEROAD AREA = 17,694.00 SQ.YDS.		
68	FROM SHEET NO. 36 AREA UNDER 451 PAVEMENT = 156,415.30 SQ.YDS.		
69	LINE 42 LESS LINE 39 AREA UNDER PAVED SHOULDER = 77,498.46 SQ.YDS.		
70	LINE 43 AREA UNDER STABILIZED SHOULDER, SR 254 1,073.50 SQ.YDS.		
71	FROM SHEET NO. 38 AREA UNDER APPROACH SLABS = 2,144.50 SQ.YDS.		
72	FROM SHEET NO. 38 AREA UNDER CONCRETE MEDIAN = 446.10 SQ.YDS.		
73	FROM SHEET NO. 38 LENGTH OF STD. NO. 6 CURB = 4,963.0 LIN. FT. X 0.50 FT. WIDE ⁄ 9 = 275.72 SQ.YDS.		
74	FROM SHEET NO. 38 LENGTH OF STD. NO. 7 CURB = 1,375.6 LIN. FT. X 0.67 FT. WIDE ⁄ 9 = 102.41 SQ.YDS.		
75	FROM SHEET NO. 38 LENGTH OF STD. NO. 8 CURB = 1,558.0 LIN. FT. x 1.00 FT. WIDE ⁄ 9 = 173.11 SQ.YDS.		
76	FROM SHEET NO. 38 LENGTH OF STD. NO. 2 CURB (MOD) = 130.02 LIN. FT. X 2.50 FT. WIDE ⁄ 9 = 36.17 SQ.YDS.		
77	DEDUCT FOR ROCK SUBGRADE = -19,824.60 SQ.YDS.		
78	SUM OF LINES 67 THRU 77 = 236,034.67 SQ.YDS.		
	PROJECT I-90-1(40)01 TO SHEET NO. 35 ——→ USE	236,035.0	SQ.YDS.
	100% STATE PARTICIPATION		
	UNDER SIDEROAD PAVEMENT		
	S.R.57 SERVICE ROAD = 1,328.00 SQ.YDS.		
	BEECHWOOD DRIVE = 303.00 SQ.YDS.		
	S.R. 254 = 13,930.00 SQ.YDS.		
	ABBE ROAD INTERSECTION = 2,895.00 SQ.YDS.		
79	TOTAL SIDEROAD AREA = 18,456.00 SQ.YDS.		
80	FROM LINE 46 AREA UNDER STABILIZED BERMS = 4,645.80 SQ.YDS.		
81	FROM SHEET NO. 36 AREA UNDER 451 PAVEMENT = 1,263.30 SQ.YDS.		
82	FROM SHEET NO. 38 AREA UNDER CONCRETE MEDIAN = 151.20 SQ.YDS.		
83	FROM SHEET NO. 38 LENGTH OF STD. NO. 2 CURB = 231.20 LIN. FT. X 2.50 FT. WIDE ⁄ 9 = 64.22 SQ.YDS.		
84	FROM SHEET NO. 38 LENGTH OF STD. NO. 2 CURB (MOD) = 243.50 LIN. FT. X 2.50 FT. WIDE ⁄ 9 = 67.64 SQ.YDS.		
85	SUM OF LINES 79 THRU 84 = 24,648.16 SQ.YDS.		
86	TOTAL 100% STATE PARTICIPATION TO SHEET NO.35 ——→ USE	24,649.0	SQ.YDS.

CALCULATIONS

LINE	DESCRIPTION			QUANTITY	UNIT
	203 PROOF ROLLING				
87	FROM LINE 68	156,415.30	SQ. YDS.		
88	FROM LINE 42	78,516.46	SQ. YDS.		
89	FROM LINE 71	2,144.50	SQ. YDS.		
90	FROM LINE 72	446.10	SQ. YDS.		
91	FROM LINE 73	275.72	SQ. YDS.		
92	FROM LINE 74	102.41	SQ. YDS.		
93	FROM LINE 75	173.11	SQ. YDS.		
94	DEDUCT APPROACH SLABS FOR STRUCTURE NO. LOR.-90-1478 =	176.40	SQ. YDS.		
95	DEDUCT APPROACH SLABS FOR STRUCTURE NO. LOR.-90-1700 =	174.20	SQ. YDS.		
96	DEDUCT FOR ROCK SUBGRADE =	19,824.60	SQ. YDS.		
97	SUM OF LINES 87 THRU 96 = 217,898.40 SQ. YDS. ÷ 2000 SQ. YDS./HOUR = 108.95 HOURS				
	TOTAL PROJECT I-90-1(40)01 TO SHEET NO. 35 → USE			109.0	HOURS
	203 WATER				
	PROJECT I-90-1(40)01				
98	FROM SHEET NO. 35 EMBANKMENT =	1,189,959	CU. YDS.		
99	FROM SHEET NO. 35 GRANULAR BORROW =	12,128	CU. YDS.		
100	FROM SHEET NO. 35 SUBBASE GRADING A OR B =	30,069	CU. YDS.		
101	FROM SHEET NO. 35 SUBBASE =	9,064	CU. YDS.		
102	FROM SHEET NO. 35 STABILIZED CRUSHED AGGREGATE =	113	CU. YDS.		
103	FROM SHEET NO. 35 STABILIZED CRUSHED AGGREGATE (CRUSHED LIMESTONE) =	69	CU. YDS.		
104	FROM SHEET NO. 40 DRAINAGE CONNECTION USING NO. 8 AGGREGATE =	3,219	CU. YDS.		
105	SUM OF LINES 98 THRU 104 = 1,244,621 CU. YDS. x 5 GALLONS/CU. YD. ÷ 1000 GALLONS/M.GAL = 6223.11 M.GAL				
	TOTAL PROJECT I-90-1(40)01 TO SHEET NO. 35 → USE			6,223.0	M.GAL
	100% STATE PARTICIPATION				
106	FROM SHEET NO. 35 EMBANKMENT =	16,256	CU. YDS.		
107	FROM SHEET NO. 35 SUBBASE GRADING A OR B =	240	CU. YDS.		
108	FROM SHEET NO. 35 SUBBASE =	4,190	CU. YDS.		
109	FROM SHEET NO. 35 STABILIZED CRUSHED AGGREGATE =	44	CU. YDS.		
110	FROM SHEET NO. 35 STABILIZED CRUSHED AGGREGATE (CRUSHED LIMESTONE) =	30	CU. YDS.		
111	SUM OF LINES 106 THRU 110 = 20,760 CU. YDS. x 5 GALLONS/CU. YD. ÷ 1000 GALLONS/M.GAL. = 103.8 CU. YDS.				
	TOTAL 100% STATE PARTICIPATION TO SHEET NO. 35 → USE			104.0	M.GAL
	659 COMMERCIAL FERTILIZER (12-12-12)				
	PROJECT I-90-1(40)01				
112	FROM SHEET NO. 39 SEEDING AND MULCHING =	950,915	SQ. YDS.		
113	FROM SHEET NO. 39 SODDING =	15,346	SQ. YDS.		
114	FROM SHEET NO. 39 SODDING SPECIAL BERM AND SLOPE PROTECTION =	295	SQ. YDS.		
115	FROM SHEET NO. 39 JUTE MATTING =	6,781	SQ. YDS.		
116	SUM OF LINES 112 THRU 115 = 973,337 SQ. YDS. x 0.00009 TON/SQ. YD. = 87.60 TONS				
	TOTAL PROJECT I-90-1(40)01 TO SHEET NO. 39 → USE			87.60	TONS
	100% STATE PARTICIPATION				
117	FROM SHEET NO. 39 SEEDING AND MULCHING =	33,109	SQ. YDS.		
118	FROM SHEET NO. 39 SODDING =	1,369	SQ. YDS.		
119	FROM SHEET NO. 39 JUTE MATTING =	1,318	SQ. YDS.		
120	SUM OF LINES 117 THRU 119 = 35,796 SQ. YDS. x 0.00009 TON/SQ. YD. = 3.22 TONS				
121	TOTAL 100% STATE PARTICIPATION TO SHEET NO. 39 → USE			3.22	TONS
	659 AGRICULTURAL LIMING				
	PROJECT I-90-1(40)01				
122	FROM LINE 116 = 87.60 TONS x 5 = 438.00 TONS				
	TOTAL PROJECT I-90-1(40)01 TO SHEET NO. 39 → USE			438.00	TONS
	100% STATE PARTICIPATION				
123	FROM LINE 120 = 3.22 TONS x 5 = 16.11 TONS				
	TOTAL 100% STATE PARTICIPATION TO SHEET NO. 39 → USE			16.11	TONS

LINE	STATION	TO STATION	℄ LENGTH FEET	CURVE CORR.	ADJUSTED LENGTH FEET	310 SUBBASE A OR B CU.YD./FT.	310 SUBBASE A OR B CU. YDS.	310 SUBBASE CU.YD./FT.	310 SUBBASE CU. YDS.	NO.8 AGGREGATE CU.YD./FT.	NO.8 AGGREGATE CU. YDS.	QUANTITY	UNIT
	310 SUBBASE GRADING A OR B; 310 SUBBASE; SPECIAL DRAINAGE CONNECTION W/NO.8 AGG.												
	WEST BOUND LINE												
124	670+74.01	671+90.02	116.01		116.01	0.49280	57.17	0.13717	15.91	0.05521	6.40		
125	671+90.02	680+53.78	863.76		863.76	0.48148	415.88	0.02778	24.00				
126	680+53.78	680+78.28	24.50		24.50	0.75926	18.60	0.02778	0.68				
127	683+22.28	683+46.78	24.50		24.50	0.75926	18.60	0.02778	0.68				
128	683+46.78	685+58.50	211.72		211.72	0.48148	101.94	0.02778	5.88				
129	685+58.50	693+18.10	759.60		759.60	0.49280	374.33	0.13717	104.19	0.05521	41.94		
130	693+18.10	698+48.87	530.77		530.77	0.48148	255.56	0.02778	14.74				
131	698+48.87	698+73.37	24.50		24.50	0.75926	18.60	0.02778	0.68				
132	700+57.33	700+81.83	24.50		24.50	0.75926	18.60	0.02778	0.68				
133	700+81.83	701+40.00	58.17		58.17	0.48148	28.01	0.02778	1.62				
134	701+40.00	701+73.90	33.90		33.90	0.47363	16.06	0.03193	1.08				
135	701+73.90	702+29.75	55.85	0.99883	55.78	0.47363	26.42	0.03193	1.78				
136	702+29.75	702+52.50	22.75	0.99601	22.66	0.47234	10.70	0.13128	2.97	0.04689	1.06		
137	702+52.50	703+77.50	125.00	0.99244	124.06	0.47004	58.31	0.13533	16.79	0.04767	5.91		
138	703+77.50	704+73.90	96.40	0.98519	94.97	0.47004	44.64	0.14005	13.30	0.04938	4.69		
139	704+73.90	731+64.25	2,690.35	0.98115	2,639.64	0.47004	1,240.74	0.14005	369.68	0.04938	130.35		
140	731+64.25	733+01.75	137.50	0.98691	135.70	0.47004	63.78	0.14005	19.00	0.04938	6.70		
141	733+01.75	734+26.75	125.00	0.99503	124.38	0.47004	58.46	0.13533	16.83	0.04767	5.93		
142	734+26.75	734+64.25	37.50	0.99921	37.47	0.56025	20.99	0.14868	5.57	0.05616	2.13		
143	734+64.25	735+39.25	75.00		75.00	0.56025	42.02	0.14868	11.15	0.05616	4.26		
144	735+39.25	736+28.75	89.50		89.50	0.65046	58.22	0.16675	14.92	0.06756	6.05		
145	736+28.75	736+53.25	24.50		24.50	0.64082	15.70						
146	DEDUCT FOR PAVED BERM TAPERS								-10.48				
147	740+22.75	740+47.25	24.50		24.50	0.64082	15.70						
148	740+47.25	740+62.42	15.17		15.17	0.50394	7.64	0.16376	2.54				
149	740+62.42	741+37.42	75.00		75.00	0.49360	37.22	0.17037	12.78				
150	741+37.42	741+74.92	37.50	1.00074	37.53	0.53576	20.11	0.12396	4.65				
151	741+74.92	743+30.32	155.40	1.00526	156.22	0.53576	83.70	0.12083	18.88				
152	743+30.32	745+37.42	207.10	1.01543	210.30	0.53704	112.94	0.12500	26.29				
153	745+37.42	745+82.33	44.91	1.02356	45.97	0.53704	24.69	0.12500	5.75				
154	747+09.82	755+85.78	875.96	1.02356	896.60	0.52675	472.28	0.10185	91.32	0.04938	44.27		
155	755+85.78	757+92.88	207.10	1.01543	210.30	0.52675	110.78	0.10185	21.42	0.04938	10.38		
156	757+92.88	759+48.28	155.40	1.00526	156.22	0.52675	82.29	0.08090	12.64	0.04177	6.53		
157	759+48.28	759+85.78	37.50	1.00074	37.53	0.52572	19.73	0.08582	3.22	0.04407	1.65		
158	759+85.78	760+60.78	75.00		75.00	0.48560	36.42	0.13700	10.28	0.05076	3.81		
159	760+60.78	780+34.99	1,974.21		1,974.21	0.49280	972.89	0.13717	270.80	0.05521	109.00		
160	780+34.99	781+09.99	75.00		75.00	0.48142	36.11	0.13389	10.04	0.05058	3.79		
161	781+09.99	781+47.49	37.50	0.99926	37.47	0.48142	18.04	0.13389	5.02	0.05058	1.90		
162	781+47.49	782+31.16	83.67	0.99615	83.35	0.47004	39.18	0.13377	11.15	0.04710	3.93		
163	782+31.16	785+09.99	278.83	0.98739	275.31	0.46181	127.14	0.03819	10.51				
164	785+09.99	798+73.00	1,363.01	0.97644	1,330.89	0.46181	614.62	0.03819	50.83				
165	798+73.00	806+03.82	730.82	0.97644	713.60	0.47004	335.42	0.14005	99.94	0.04938	35.24		
166	806+03.82	808+41.32	237.50	0.98576	234.12	0.47004	110.05	0.14005	32.79	0.04938	11.56		
167	808+41.32	809+66.32	125.00	0.99534	124.42	0.47004	58.48	0.13533	16.84	0.04767	5.93		
168	809+66.32	810+03.82	37.50	0.99926	37.47	0.48142	18.04	0.13389	5.02	0.05058	1.90		
169	810+03.82	810+78.82	75.00		75.00	0.48142	36.11	0.13389	10.04	0.05058	3.79		
170	810+78.82	816+79.84	601.02		601.02	0.49280	296.18	0.13717	82.44	0.05521	33.18		
171	816+79.84	825+81.49	901.65		901.65	0.48148	434.13	0.02778	25.05				
172	825+81.49	830+51.48	469.99		469.99	0.49280	231.61	0.13717	64.47	0.05521	25.95		
173	830+51.48	831+63.98	112.50		112.50	0.52366	58.91	0.09525	10.72	0.04853	5.46		
174	831+63.98	832+22.73	58.75		58.75	0.52675	30.95	0.08090	4.75	0.04177	2.45		
175	832+22.73	833+00.00	77.27	1.01382	78.34	0.52675	41.27	0.08090	6.34	0.04177	3.21		
176	833+00.00	852+83.90	1,983.90	1.01382	2,011.32	0.53651	1,079.21	0.12083	243.03				
177	852+83.90	853+42.65	58.75		58.75	0.52675	30.95	0.08090	4.75	0.04177	2.45		
178	853+42.65	854+55.15	112.50		112.50	0.52366	58.91	0.09525	10.72	0.04853	5.46		
179	854+55.15	873+00.00	3,844.55		3,844.55	0.49280	1,894.74	0.13717	527.40	0.05521	212.27		
	EAST BOUND LANE												
180	670+74.01	678+46.00	771.99		771.99	0.49280	380.44	0.13717	105.89	0.05521	42.62		
181	678+46.00	680+58.24	212.24		212.24	0.48148	102.19	0.02778	5.90				
182	680+58.24	680+82.74	24.50		24.50	0.75926	18.60	0.02778	0.68				
183	683+26.74	683+51.24	24.50		24.50	0.75926	18.60	0.02778	0.68				
184	683+51.24	692+21.87	870.63		870.63	0.48148	419.19	0.02778	24.19				
185	692+21.87	693+62.50	140.63		140.63	0.49280	69.30	0.13717	19.29	0.05521	7.76		
186	693+62.50	698+98.83	536.33		536.33	0.48148	258.23	0.02778	14.90				
187	698+98.83	699+23.33	24.50		24.50	0.97673	23.93	0.02778	0.68				
188	701+07.29	701+31.79	24.50		24.50	0.87114	21.49	0.02778	0.68				

CALCULATIONS

LINE	DESCRIPTION											QUAN.	UNIT
	STATION	TO STATION	℄ LENGTH FEET	CURVE CORR.	ADJUSTED LENGTH FEET	310 SUBBASE A OR B CU.YD./FT.	CU. YD.	310 SUBBASE CU.YD./FT.	CU. YD.	NO.8 AGGREGATE CU.YD./FT.	CU. YD.		
	EAST BOUND LANE CON'T.												
189	701+31.75	701+40.00	8.21		8.21	0.48148	3.95	0.02778	0.23				
190	701+40.00	701+73.90	33.90		33.90	0.47869	16.23	0.03196	1.08				
191	701+73.90	702+52.50	78.60	1.00165	78.73	0.51528	40.57						
192	702+52.50	704+73.90	221.40	1.00958	223.52	0.51852	115.90						
193	704+73.90	709+53.27	479.37	1.01885	488.41	0.51852	253.25						
194	709+53.27	731+64.25	2,210.98	1.01885	2,252.66	0.52675	1,186.59	0.10185	229.43	0.04938	111.24		
195	731+64.25	732+71.35	107.10	1.01436	108.64	0.52675	57.23	0.10185	11.06	0.04938	5.36		
196	732+71.35	734+26.75	155.40	1.00561	156.27	0.52675	82.32	0.08090	12.64	0.04177	6.53		
197	734+26.75	734+64.25	37.50	1.00079	37.53	0.55316	20.76	0.08959	3.36	0.04613	1.73		
198	734+64.25	735+39.25	75.00		75.00	0.59071	44.30	0.15672	11.75	0.05899	4.42		
199	735+39.25	736+38.75	99.50		99.50	0.65046	64.72	0.16675	16.59	0.06756	6.72		
200	736+38.75	736+63.25	24.50		24.50	0.64082	15.70						
201	DEDUCT FOR PAVED BERM TAPERS								-10.48				
202	740+32.75	740+57.25	24.50		24.50	0.64082	15.70						
203	740+57.25	740+62.42	5.17		5.17	0.49280	2.55	0.13717	0.71	0.05521	0.29		
204	740+62.42	741+37.42	75.00		75.00	0.48142	36.11	0.13389	10.04	0.05058	3.79		
205	741+37.42	741+74.92	37.50	0.99926	37.47	0.48142	18.04	0.13389	5.02	0.05058	1.90		
206	741+74.92	742+99.92	125.00	0.99534	124.42	0.47004	58.48	0.13533	16.84	0.04767	5.93		
207	742+99.92	745+37.42	237.50	0.98576	234.12	0.47004	110.05	0.14005	32.79	0.04938	11.56		
208	745+37.42	745+64.86	27.44	0.97644	26.79	0.47004	12.59	0.14005	3.75	0.04938	1.32		
209	747+28.20	755+85.78	857.58	0.97644	837.31	0.47004	393.60	0.14005	117.27	0.04938	41.35		
210	755+85.78	758+23.28	237.50	0.98576	234.12	0.47004	110.05	0.14005	32.79	0.04938	11.56		
211	758+23.28	759+48.28	125.00	0.99534	124.42	0.47004	58.48	0.13533	16.84	0.04767	5.93		
212	759+48.28	759+85.78	37.50	0.99926	37.47	0.48142	18.04	0.13389	5.02	0.05058	1.90		
213	759+85.78	760+60.78	75.00		75.00	0.48142	36.11	0.13389	10.04	0.05058	3.79		
214	760+60.78	780+34.99	1,974.21		1,974.21	0.49280	972.89	0.13717	270.80	0.05521	109.00		
215	780+34.99	781+09.99	75.00		75.00	0.48560	36.42	0.13700	10.28	0.05076	3.81		
216	781+09.99	781+47.49	37.50	1.00074	37.53	0.52572	19.73	0.08582	3.22	0.04407	1.65		
217	781+47.49	783+02.89	155.40	1.00526	156.22	0.53657	83.82	0.12083	18.88				
218	783+02.89	785+09.99	207.10	1.01543	210.30	0.53704	112.94	0.12500	26.29				
219	785+09.99	789+00.00	390.01	1.02356	399.20	0.53704	214.39	0.12500	49.90				
220	789+00.00	795+68.03	668.03	1.02356	683.77	0.52675	360.18	0.10185	69.64	0.04938	33.76		
221	795+58.03	804+52.50	884.47	1.02356	905.31	0.51852	469.42						
222	804+52.50	806+03.82	151.32	1.02356	154.89	0.52675	81.59	0.10185	15.78	0.04938	7.65		
223	806+03.82	808+10.92	207.10	1.01543	210.30	0.52675	110.78	0.10185	21.42	0.04938	10.38		
224	808+10.92	809+66.32	155.40	1.00526	156.22	0.52675	82.29	0.08090	12.64	0.04177	6.53		
225	809+66.32	810+03.82	37.50	1.00074	37.53	0.52572	19.73	0.08582	3.22	0.04407	1.65		
226	810+03.82	810+78.82	75.00		75.00	0.48560	36.42	0.13700	10.28	0.05076	3.81		
227	810+78.82	819+54.00	875.18		875.18	0.49280	431.29	0.13717	120.05	0.05521	48.32		
228	819+54.00	830+51.48	1,097.48		1,097.48	0.48148	528.41	0.02778	30.49				
229	830+51.48	831+63.98	112.50		112.50	0.47164	53.06	0.03299	3.71				
230	831+63.98	832+22.73	58.75		58.75	0.46181	27.13	0.03819	2.24				
231	832+22.73	835+45.54	322.81	0.98618	318.35	0.46181	147.02	0.03819	12.16				
232	835+45.54	852+17.65	1,672.11	0.98618	1,649.00	0.47004	775.10	0.14005	230.94	0.04938	81.43		
233	852+17.65	852+83.90	66.25	0.98618	65.33	0.47004	30.71	0.13533	8.84	0.04767	3.11		
234	852+83.90	853+42.65	58.75		58.75	0.47004	27.61	0.13533	7.95	0.04767	2.80		
235	853+42.65	854+55.15	112.50		112.50	0.48142	54.16	0.13389	15.06	0.05058	5.69		
236	854+55.15	893+00.00	3,844.85		3,844.85	0.49280	1,894.74	0.13717	527.40	0.05521	212.27		
237	SUM OF LINES 124 THRU 236						21,162.89		4514.92		1,557.15		
238	310 SUBBASE GRADING A OR B TO SHEET NO. 35 → USE											21,162.9	CUYDS
239	310 SUBBASE TO SHEET NO. 35 → USE											4,514.9	CUYDS
240	SPECIAL, DRAINAGE CONNECTION USING NO.8 AGGREGATE TO SHEET NO. 40 → USE											1,557.2	CUYDS

SUMMARY OF TABLES

	FROM SHEET NO.	201. CLEARING & GRUBBING	202 PIPE REMOVED 15" AND UNDER	202 PIPE REMOVED OVER 15"	202 PIPE REMOVED FOR REUSE 21"	202 EXIST. CURB AND GUTTER REMOVED AND DISPOSED OF	202 EXIST. CURB REMOVED AND DISPOSED OF	202 EXIST. SIDEWALK REMOVED AND DISPOSED OF	202 EXIST. PAVEMENT REMOVED AND DISPOSED OF	202 EXIST. STRUCTURES REMOVED	202 PORTIONS OF EXIST. STRUCTURES REMOVED	202 MANHOLES REMOVED	202 CATCH BASINS REMOVED	203 EXCAVATION NOT INCLUDING EMBANKMENT CONSTRUCTION	203 EMBANKMENT	203 GRANULAR BORROW AS PER PLAN	203 SUBGRADE PREPARATION	203 PROOF ROLLING	203 WATER	301 BITUMINOUS AGGREGATE BASE, 702.01 (85-100) OR 702.09 RT-12	302 ASPHALT CONCRETE (70-85)	304 AGGREGATE BASE	304 WATER	310 SUBBASE, GRADING A OR B, AS PER PLAN	310 SUBBASE	402 ASPHALT CONCRETE (70-85)	404 ASPHALT CONCRETE (70-85)	407 TACK COAT, 702.04, M52 OR RS-1 OR 702.02 RC-70 OR RC-250	408 BITUMINOUS PRIME COAT, 702.09 RT-2 OR RT-3	409 SEAL COAT, BITUMINOUS MATERIAL, SEE NOTE IN PROPOSAL	409 SEAL COAT, BITUMINOUS MATERIAL, 702.09, RT-8 OR RT-9 OR 702.02 MC-800 OR MC-3000	410 SEAL COAT COVER AGGREGATE NO. 8	410 TRAFFIC COMPACTED SURFACE, TYPE A OR B	411 STABILIZED CRUSHED AGGREGATE	411 STABILIZED CRUSHED AGGREGATE CRUSHED LIMESTONE	FROM SHEET NO.
		LUMP	LIN. FT.					SQ. FT.	SQ. YD.	LUMP		EACH		CU. YD.			SQ. YD	HOUR	M. GAL.	CU. YD.		M. GAL.	CU. YD.		CU. YD.		GAL.			CU. YD.			
I-90-1 (40) 01																																			
GENERAL NOTES	25,26,27	LUMP																														195			25,26,27
SPECIAL CONST. DETAILS	28,29																1,018			85.0		170.0			86.0										28,29
CALCULATIONS	32																23,035			4,622.8		9,000.7	74						19,630	573	644				32
CALCULATIONS	33																	109	6,223																33
CALCULATIONS	34																							21,162.9	4,514.9										34
PLAN & PROFILE																																			
G30 +00 TO G41+00	43																																		43
G41 +00 TO G79+00	44													483	6,276																				44
G79 +00 TO G90+00	45													983	97,588																				45
G90 +00 TO 701+00	46													257	139,229																				46
701 +00 TO 712+00	47									LUMP				48,601	7,338																				47
712 +00 TO 723+00	48													165,005	6,282																				48
723 +00 TO 734+00	49													228,149	38,316																				49
734 +00 TO 745+00	50													74,617	249,487	12,128																			50
745 +00 TO 756+00	51													164,777	45,528																				51
756 +00 TO 767+00	52													141,171																					52
767 +00 TO 778+00	53													35,531	745																				53
778 +00 TO 789+00	54													4,202	16,463																				54
789 +00 TO 800+00	55													60,854	1,339																				55
800 +00 TO 811+00	56													159,189	106																				56
811 +00 TO 822+00	57													21,786	6,951																				57
822 +00 TO 833+00	58													5,982	35,827																				58
833 +00 TO 844+00	59													6,771	31,172																				59
844 +00 TO 855+00	60													6,321	34,788																				60
855 +00 TO 866+00	61									LUMP				4,588	35,121																				61
866 +00 TO 877+00	62		17					520						1,560	24,931																				62
877 +00 TO 888+00	63							114						1,554	36,365																				63
888 +00 TO 899+00	64													2,726	21,460																				64
899 +00 TO 908+00	65												1	1,858																					65
S.R. 57 INTERCHANGE	231,232,233		109		182	590			3,521		LUMP	1	3	51,534	233,328					2,224.1		973.3		4,731.4	1,053.3		18.0	38.0		307.9				26.2		231,232,233
S.R. 254 INTERCHANGE	301,308,309							310	236	LUMP				126,401	39,095					1,246.8		785.4		4,175.2	526.5					429.4						301,308,309
SIDE ROAD SUMMARY	359,360		640	573				305	126	LUMP			3	29,388	83,205						236.6	382.7.1			2,883.2		763.7	740.7		807.8.1				86.7	68.5	359,360
CULVERT SUMMARY	377													1,561	19																					377
DELINEATOR SUMMARY	380																																			380
SIGNING SUMMARY	388																																			388
LIGHTING SUMMARY	395																																			395
RIGHT OF WAY	462																																			462
RIGHT OF WAY	499																																			499
TOTAL I-90-1 (40) 01		LUMP	766	573	182	590		1,249	3,883	LUMP	LUMP	1	6	1,346,392	1,189,959	12,128	23,053	109	6,223	8,178.7	236.6	14,756.5	74	30,062.5	9,063.9		781.7	778.7		27.7	88,174	19,630	573	644	195	112.9	68.5	
100% STATE																																				
GENERAL NOTES	25,26,27	LUMP																														145			25,26,27
CALCULATIONS	32																24,649						28								1,364	38			32
CALCULATIONS	33																		104																33
CALCULATIONS	34																																		34
S.R. 57 INTERCHANGE	231,232,233		490	135		266							4	256	144							390.4		239.6	204.4		125.6	86.7			817.8						231,232,233
S.R. 254 INTERCHANGE	301,308,309						65	72	273			1	3	22,561	16,045						141.7.7	5,138.4			3,385.6		817.9	695.6		13.2	9,178.4				43.5	30.2	301,308,309
CULVERT SUMMARY	377										LUMP			219	67																					377
RIGHT OF WAY	462																																			462
RIGHT OF WAY	499																																			499
TOTAL 100% STATE		LUMP	490	135		266	65	72	273		LUMP	1	7	25,336	16,256		24,649		104		141.7.7	5,528.8	28	239.6	4,190.0		943.5	782.3		13.2	10,058.2		1,364	38	145	43.5	30.2	
TOTAL THIS SHEET		LUMP	1,256	708	182	856	65	1,321	4,156	LUMP	LUMP	2	13	1,371,728	1,206,215	12,128	261,702	109	6,327	8,178.7	1,654.3	20,285.3	102	30,309.1	13,253.9		1,725.2	1,561.0		409	18,875.6	19,630	1,937	682	340	156.4	98.7	

SUMMARY OF TABLES (CON'T.)

★ SEE SHEET 27 "REVISION OF PLAN QUANTITIES

	FROM SHEET NO.		451	452	510	601				602																																		FROM SHEET NO.
			REINFORCED PORTLAND CEMENT CONC. PAVEMENT ★ 9"	PLAIN PORTLAND CEMENT CONCRETE PAVEMENT 7"	DOWEL HOLES	RIPRAP USING GREENFORCED GEOTEXTILE AS PER PL AN	DUMPED ROCK CHANNEL PROTECTION	PAVED GUTTER STANDARD TYPE 1, 2.0-12	PAVED GUTTER STANDARD TYPE 1, 4.0-12	CONCRETE MASONRY		603 CONDUIT TYPE — A WITH CLASS B BEDDING — 706.02 CLASS								706.04		707.03 GAGE					707.05	B WITH CLASS B BEDDING														
			★ 9"	7"							15"		24"	72"	42"	84"	21"	24"	30"	42"	53"×34"	76"×48"	84"	84"	108"	120"	14'3"×81"	36"	706.02 Class III or 706.08 21"		6"	8"	10"	12"	15"	18"	21"	24"	27"	30"	36"	42"	
			SQ.YD.		EACH	SQ.YD.	CU.YD.	LIN. FT.		CU.YDS.	LIN. FT.																																
I-90-1(40)01																																											
GENERAL NOTES	25,26,27				125		1,025																								250	250		250									25,26,27
SPECIAL CONST. DETAILS	28,29									1.6																																	28,29
CALCULATIONS	32		112,466.8																																								32
CALCULATIONS	33																																										33
CALCULATIONS	34																																										34
PLAN & PROFILE																																											
G30+00 TO G41+00	43																																										43
G41+00 TO G79+00	44																																										44
G79+00 TO G90+00	45						10	232		0.5																									198								45
G90+00 TO 701+00	46						39			0.3																									335								46
701+00 TO 712+00	47						37																																				47
712+00 TO 723+00	48						165			0.4																					58						76						48
723+00 TO 734+00	49						611			0.7																										212	82						49
734+00 TO 745+00	50						8			0.5																									84								50
745+00 TO 756+00	51						360			0.7																					60				92			114					51
756+00 TO 767+00	52						6																								60												52
767+00 TO 778+00	53						14																											342									53
778+00 TO 789+00	54						10			0.3																									105								54
789+00 TO 800+00	55						2																								30												55
800+00 TO 811+00	56																																										56
811+00 TO 822+00	57																																								92		57
822+00 TO 833+00	58						16			0.3																									134								58
833+00 TO 844+00	59						3			0.3																									124								59
844+00 TO 855+00	60						631			0.3																					42			54	143								60
855+00 TO 866+00	61						416			0.3																									121								61
866+00 TO 877+00	62						42			0.3																							308		80								62
877+00 TO 888+00	63						8			0.5																									165								63
888+00 TO 899+00	64																																										64
899+00 TO 908+00	65																																										65
SR.57 INTERCHANGE	231,232,233		23,496				310	183		2.4			27																320		93			184	194	122	220						231,232,233
SR.254 INTERCHANGE	301,308,309		20,453.9				329		163	8.8																					21			53	184	153		150		354		87	301,308,309
SIDEROAD SUMMARY	359,360			125.2			127			0.9		32																								357								359,360
CULVERT SUMMARY	377					577.4	244			288.0				56	48	40	136	94	52	114	806	196	468	180	652		286	265															377
DELINEATOR SUMMARY	380																																										380
SIGNING SUMMARY	388																																										388
LIGHTING SUMMARY	395																																										395
RIGHT OF WAY	462																																										462
RIGHT OF WAY	499						182																																				499
TOTAL I-90-1(40)01			156,415.3	125.2	125	577.4	4595	415	163	307.1		32	27	56	48	40	136	94	52	114	806	196	468	180	652		286	265	320		614	250	308	883	1959	844	378	264		354	92	87	
100% STATE																																											
GENERAL NOTES	25,26,27						75																								50	50		50									25,26,27
CALCULATIONS	32																																										32
CALCULATIONS	33																																										33
CALCULATIONS	34																																										34
SR.57 INTERCHANGE	231,232,233		1,263.3				2			1.1																								32	517			59					231,232,233
SR.254 INTERCHANGE	301,308,309			80.4			72	159		0.8																								114	86			60	656				301,308,309
CULVERT SUMMARY	377					137.5	147			195																144																		377
RIGHT OF WAY	462																																										462
RIGHT OF WAY	499																																										499
TOTAL 100% STATE			1,263.3	80.4		137.5	296	159		214																144					50	50		196	603			119	656				
TOTAL THIS SHEET			157,678.6	205.6	125	714.9	4,891	574	163	328.5		32	27	56	48	40	136	94	52	114	806	196	468	180	652	144	286	265	320		664	300	308	1,079	2562	844	378	383	656	354	92	87	

SUMMARY OF TABLES (CON'T.)

	FROM SHEET NO.	603 CONDUIT TYPE: C WITH CLASS B BEDDING 12"	15"	18"	21"	24"	27"	30"	33"	36"	D 12"	15"	18"	24"	706.02 OR 706.08		30"	706.04 CLASS HE II 76"x48"	707.01 OR 707.02 18"	21"	24"	30"	E 706.07, 706.08 OR 706.09 8"	12"	10"	12"	F 6"	8"	10"	12"	15"	18"	30"	707.08 STD. WT & GALVANIZED AS PER PLAN 2"	CONDUIT RECONSTRUCTED TYPE B WITH CLASS B BEDDING 21"	FROM SHEET NO.
		LIN. FT.																																			
I-90-1(40)01																																					
GENERAL NOTES	25,26,27																						250	250			250	250		250							25,26,27
SPECIAL CONST. DETAILS	28,29																																78				28,29
CALCULATIONS	32																																				32
CALCULATIONS	33																																				33
CALCULATIONS	34																																				34
PLAN & PROFILE																																					
630+00 TO 641+00	43																																				43
641+00 TO 679+00	44																																				44
679+00 TO 690+00	45																										10				75						45
690+00 TO 701+00	46																										36				76						46
701+00 TO 712+00	47																																				47
712+00 TO 723+00	48	38	38	500	450																						99										48
723+00 TO 734+00	49			76																							170					70					49
734+00 TO 745+00	50	57																									125				104						50
745+00 TO 756+00	51				550	285																					60				106						51
756+00 TO 767+00	52			650	400																						50										52
767+00 TO 778+00	53																								339												53
778+00 TO 789+00	54																										20										54
789+00 TO 800+00	55																									60	20	10		10							55
800+00 TO 811+00	56						498		529	75																	20										56
811+00 TO 822+00	57	38	10							400																	30										57
822+00 TO 833+00	58	38																									26										58
833+00 TO 844+00	59	38																									20										59
844+00 TO 855+00	60																										30										60
855+00 TO 866+00	61	38																									30				388						61
866+00 TO 877+00	62	38																									20										62
877+00 TO 888+00	63	76																									60										63
888+00 TO 899+00	64																										20										64
899+00 TO 908+00	65																																				65
SR 57 INTERCHANGE	231,232,233	200	413																40								364				48				182		231,232,233
SR 254 INTERCHANGE	301,308,309		50	50				10																	92		200		10								301,308,309
SIDEROAD SUMMARY	359,360		50	376							312	28	102	72			152		52		72	104	92				26	10	8	20							359,360
CULVERT SUMMARY	377									175																							91				377
DELINEATOR SUMMARY	380																																				380
SIGNING SUMMARY	388																																				388
LIGHTING SUMMARY	395																																				395
RIGHT OF WAY	462																																				462
RIGHT OF WAY	499																																				499
TOTAL I-90-1(40)01		561	561	1,652	1,400	285	498	10	529	650	312	28	102	72			152		52	40	72	104	92	250	250	431	60	1,086	270	18	280	797	70	91	78	182	
100% STATE																																					
GENERAL NOTES	25,26,27																						50	50			50	50		50							25,26,27
CALCULATIONS	32																																				32
CALCULATIONS	33																																				33
CALCULATIONS	34																																				34
SR 57 INTERCHANGE	231,232,233				72														134									10			10						231,232,233
SR 254 INTERCHANGE	301,308,309										64	44	36														60			68	62						301,308,309
CULVERT SUMMARY	377																																				377
RIGHT OF WAY	462																																				462
RIGHT OF WAY	499																																				499
TOTAL 100% STATE					72						64	44	36						134				50	50			110	60		118	72						
TOTAL THIS SHEET		561	561	1,652	1,472	285	498	10	529	650	376	72	138	72			152		52	174	72	104	92	300	300	431	60	1,196	330	18	398	869	70	91	78	182	

SUMMARY OF TABLES (CON'T.)

	FROM SHEET NO.	604 CATCH BASINS STANDARD NO. 2-2A	2-2B	4	5	6	CATCH BASINS SIDE DITCH STANDARD NO. 1	CATCH BASINS STANDARD NO. 8	CATCH BASINS RECONSTRUCTED TO STANDARD NO. 2-2B	CATCH BASINS RECONSTRUCTED TO STANDARD NO. 8	CATCH BASINS ADJUSTED TO GRADE AND CONVERTED TO STD. NO. 2-2B	PAVED SHOULDER INLET, STANDARD NO. 2-A-10	MANHOLES STANDARD NO. 1	MANHOLES ADJUSTED TO GRADE	STANDARD MONUMENT ASSEMBLY	CENTER LINE REFERENCE MONUMENT, AS PER PLAN
		EACH					EACH									
I-90-1 (40) 01																
GENERAL NOTES	25,26,27															
SPECIAL CONST. DETAILS	28,29															
CALCULATIONS	32															
CALCULATIONS	33															
CALCULATIONS	34															
PLAN & PROFILE																
G30+00 TO G41+00	43															
G41+00 TO G79+00	44															
G79+00 TO G90+00	45		2													
G90+00 TO 701+00	46		1	1		2										
701+00 TO 712+00	47															
712+00 TO 723+00	48							5								
723+00 TO 734+00	49				2			4								
734+00 TO 745+00	50		2													
745+00 TO 756+00	51		1	3												
756+00 TO 767+00	52			2									1			
767+00 TO 778+00	53															
778+00 TO 789+00	54			1												
789+00 TO 800+00	55			1												
800+00 TO 811+00	56			2									1			
811+00 TO 822+00	57							2					1			
822+00 TO 833+00	58							2								
833+00 TO 844+00	59							2								
844+00 TO 855+00	60			2												
855+00 TO 866+00	61							2								
866+00 TO 877+00	62							2								
877+00 TO 888+00	63							4								
888+00 TO 899+00	64															
899+00 TO 908+00	65															
S.R.51 INTERCHANGE	231,232,233		4		4	5	1	1	1	1	2	1				
S.R.254 INTERCHANGE	301,308,309				8	3							1			
SIDEROAD SUMMARY	359,360	3	6				1						1			
CULVERT SUMMARY	377												2			
DELINEATOR SUMMARY	380															
SIGNING SUMMARY	388															
LIGHTING SUMMARY	395															
RIGHT OF WAY	462														19	37
RIGHT OF WAY	499															
TOTAL I-90-1(40)01		3	16	12	14	10	2	24	1	1	2	1	7		19	37
100% STATE																
GENERAL NOTES	25,26,27															
CALCULATIONS	32															
CALCULATIONS	33															
CALCULATIONS	34															
S.R.51 INTERCHANGE	231,232,233		1		1	1		1								
S.R.254 INTERCHANGE	301,308,309	1	2		4									1		
CULVERT SUMMARY	377															
RIGHT OF WAY	462														6	
RIGHT OF WAY	499															
TOTAL 100% STATE		1	3		5	1		1						1	6	
TOTAL THIS SHEET		4	19	12	19	11	2	25	1	1	2	1	7	1	25	37

	605 SHALLOW PIPE UNDERDRAINS 6"	SHALLOW PIPE UNDERDRAINS TOT. 6" OR TOT. 12"	UNCLASSIFIED PIPE UNDERDRAINS TOT. 6" OR TOT. 12"	DEEP PIPE UNDERDRAINS 6"	AGGREGATE DRAINS	AGGREGATE DRAINS FOR SPRINGS AS PER PLAN	606 GUARD RAIL TYPE 4	GUARD RAIL TYPE 4, BARRIER	GUARD RAIL TYPE 4 AS PER PLAN	GUARD POSTS	TEMPORARY GUARD RAIL, SEE NOTE IN PROPOSAL	607 FENCE, TYPE 47		REMOVING & RESETTING GATE, TYPE 47 WIDTH = 16'
	LIN. FT.						LIN. FT.			EACH	LIN. FT.	LIN. FT.		EACH
I-90-1 (40) 01														
GENERAL NOTES			250			15								
SPECIAL CONST. DETAILS					80.0									
CALCULATIONS														
CALCULATIONS														
CALCULATIONS														
PLAN & PROFILE														
G30+00 TO G41+00														
G41+00 TO G79+00	1,528							115.0						
G79+00 TO G90+00	908						575.0	185.0						
G90+00 TO 701+00	1,353						472.7	150.0						
701+00 TO 712+00	1,056		68	2,145			568.5							
712+00 TO 723+00	138	2,992	28	230			200.0							
723+00 TO 734+00		3,418	140				1003.5							
734+00 TO 745+00	880	571		44			1896.5							
745+00 TO 756+00	236	2,467		292			662.5	150.0						
756+00 TO 767+00	405			2,250			200.0							
767+00 TO 778+00			56	2,200										
778+00 TO 789+00			66	2,275										
789+00 TO 800+00	1,100			2,148										
800+00 TO 811+00	999			1,774			275.0							
811+00 TO 822+00	683		56	1,140										
822+00 TO 833+00	2,050			379										
833+00 TO 844+00	2,192			74										
844+00 TO 855+00	2,022			434										
855+00 TO 866+00	2,134			152			325.0							
866+00 TO 877+00	2,192			44										
877+00 TO 888+00	1,776			534			225.0							
888+00 TO 899+00	1,000			62										
S.R.51 INTERCHANGE	9,446			3,765	625		4883.8			23				
S.R.254 INTERCHANGE	4,669			2,997			300.0				1,225			
SIDEROAD SUMMARY					3,759.0		2,412.5							
CULVERT SUMMARY														
DELINEATOR SUMMARY														
SIGNING SUMMARY							300.0		150					
LIGHTING SUMMARY														
RIGHT OF WAY														
RIGHT OF WAY												42,930.7		1
TOTAL I-90-1(40)01	36,767	9,448	664	22,939	4,101.5	15	14,300.0	600.0	150	23	1,225	42,930.7		1
100% STATE														
GENERAL NOTES														
CALCULATIONS														
CALCULATIONS														
CALCULATIONS														
S.R.51 INTERCHANGE					340.5									
S.R.254 INTERCHANGE				3,375	818.0		400.0							
CULVERT SUMMARY														
RIGHT OF WAY														
RIGHT OF WAY												10,825		
TOTAL 100% STATE				3,375	1,158.5		400.0					10,825		
TOTAL THIS SHEET	36,767	9,448	664	26,314	5,260.0	15	14,700.0	600.0	150	23	1,225	44,082.2		1

	609 CONCRETE CURB STANDARD TYPE 6	7	8	COMBINATION CONCRETE CURB AND GUTTER STD. TYPE 2	2 MODIFIED AS PER PLAN	611 REINFORCED CONCRETE, T=13" APPROACH SLABS	612 CONCRETE MEDIAN	FROM SHEET NO.
	LIN. FT.					SQ. YDS.		
I-90-1 (40) 01								
GENERAL NOTES								25,26,27
SPECIAL CONST. DETAILS								28,29
CALCULATIONS								32
CALCULATIONS								33
CALCULATIONS								34
PLAN & PROFILE								
G30+00 TO G41+00								43
G41+00 TO G79+00								44
G79+00 TO G90+00						400.0		45
G90+00 TO 701+00						327.0		46
701+00 TO 712+00						114.5		47
712+00 TO 723+00								48
723+00 TO 734+00								49
734+00 TO 745+00						347.2		50
745+00 TO 756+00						266.8		51
756+00 TO 767+00								52
767+00 TO 778+00								53
778+00 TO 789+00								54
789+00 TO 800+00								55
800+00 TO 811+00								56
811+00 TO 822+00								57
822+00 TO 833+00								58
833+00 TO 844+00								59
844+00 TO 855+00								60
855+00 TO 866+00								61
866+00 TO 877+00								62
877+00 TO 888+00								63
888+00 TO 899+00								64
899+00 TO 908+00								65
S.R.51 INTERCHANGE	4,719	1,213.6	718		130.2		133.5	231,232,233
S.R.254 INTERCHANGE	244	162.0	840			338.4	312.2	301,308,309
SIDEROAD SUMMARY						350.6		359,360
CULVERT SUMMARY								377
DELINEATOR SUMMARY								380
SIGNING SUMMARY								388
LIGHTING SUMMARY								395
RIGHT OF WAY								462
RIGHT OF WAY								499
TOTAL I-90-1(40)01	4,963	1,375.6	1,558		130.2	2,144.5	446.1	
100% STATE								
GENERAL NOTES								25,26,27
CALCULATIONS								32
CALCULATIONS								33
CALCULATIONS								34
S.R.51 INTERCHANGE				231.2	243.5			231,232,233
S.R.254 INTERCHANGE							151.2	301,308,309
CULVERT SUMMARY								377
RIGHT OF WAY								462
RIGHT OF WAY								499
TOTAL 100% STATE				231.2	243.5		151.2	
TOTAL THIS SHEET	4,963	1,375.6	1,558	231.2	373.7	2,144.5	597.3	

SUMMARY OF TABLES (CON'T.)

	FROM SHEET NO.	G13 TRAFFIC DIVIDERS	G14 MAINTAINING TRAFFIC	G15 TEMPORARY ROADS	G15 CLASS B TEMPORARY PAVEMENT	G16 WATER	G16 CALCIUM CHLORIDE	G20 DELINEATORS TYPE A-1 POST MOUNTED	G20 C-2 POST MOUNTED	G20 C-3 POST MOUNTED	G20 A-1 BRACKET MOUNTED	G20 C-2 BRACKET MOUNTED	G21 4" EDGE LINES	G21 4" LANE LINES AND CENTER LINES	G21 6" LANE LINES AND CENTER LINES	G21 4" BARRIER LINES	G21 8" CHANNELIZING LINES	G21 24" STOP LINES	G21 24" BROAD TRANSVERSE STRIPES	G21 CURB AND ISLAND MARKING	G25 CONDUIT, 3" RIGID FERROUS METAL TYPE II OR TYPE III	G25 MARKER MARKED CONDUIT	G57 RIP-RAP FOR TREE PROTECTION	G59 SEEDING & MULCHING AS PER PLAN	G59 COMMERCIAL FERTILIZER, 12-12-12	G59 AGRICULTURAL LIMING	G60 SODDING	G60 SODDING, SPECIAL AND SLOPE PROTECTION, AS PER PLAN	G67 JUTE MATTING	FROM SHEET NO.
		EACH	LUMP		SQ.YD.	M.GAL.	TON	EACH					MILE				FEET	LUMP			LIN. FT.	EACH		SQ.YD.	TON		SQ.YDS.			
I-90-1(40)01																														
GENERAL NOTES	25,26,27		LUMP			100	17.5																							25,26,27
SPECIAL CONST. DETAILS	28,29																										295			28,29
CALCULATIONS	32																													32
CALCULATIONS	33																								87.6	438.0				33
CALCULATIONS	34																													34
PLAN & PROFILE																														
G30+00 TO G41+00	43												15.473	0.127	3.157															43
G41+00 TO G79+00	44																							18,177						44
G79+00 TO G90+00	45																							12,749			154			45
G90+00 TO 701+00	46																							14,671			110		140	46
701+00 TO 712+00	47																							27,251			298			47
712+00 TO 723+00	48																							30,829			385		250	48
723+00 TO 734+00	49																							38,027			151			49
734+00 TO 745+00	50																							37,188						50
745+00 TO 756+00	51																							36,525			1,188		420	51
756+00 TO 767+00	52																							38,958			1,707		280	52
767+00 TO 778+00	53																							27,006			302			53
778+00 TO 789+00	54																							25,055					275	54
789+00 TO 800+00	55																							24,291					140	55
800+00 TO 811+00	56																							23,301			1,466		280	56
811+00 TO 822+00	57																							15,956			789		250	57
822+00 TO 833+00	58																							28,462			110		250	58
833+00 TO 844+00	59																							31,995					250	59
844+00 TO 855+00	60																							30,327					300	60
855+00 TO 866+00	61																							27,609					250	61
866+00 TO 877+00	62																							22,082					250	62
877+00 TO 888+00	63																							21,643					500	63
888+00 TO 899+00	64																							16,016						64
899+00 TO 908+00	65																							3,420						65
SR57 INTERCHANGE	231,232,233												4.098	0.036			2.669		LUMP	LUMP				191,723			2,571		1,109	231,232,233
SR254 INTERCHANGE	301,308,309			LUMP	4,605								3.170	0.038	0.177		1,781	LUMP	LUMP	LUMP				117,013			4,970		1,837	301,308,309
SIDEROAD SUMMARY	359,360			LUMP	4,172		0.4						0.530		0.102	0.133							4	83,975			957			359,360
CULVERT SUMMARY	377																										188			377
DELINEATOR SUMMARY	380							168	319	8	6	10																		380
SIGNING SUMMARY	388																													388
LIGHTING SUMMARY	395																				512	30								395
RIGHT OF WAY	462																													462
RIGHT OF WAY	499																													499
TOTAL I-90-1(40)01			LUMP	LUMP	8,777	100	17.9	168	319	8	6	10	23.271	0.201	3.436	0.133	4,450	LUMP	LUMP	LUMP		512	30	4	950,915	87.60	438.00	15,346	295	6,781	
100% STATE																														
GENERAL NOTES	25,26,27		LUMP				45																							25,26,27
CALCULATIONS	32																								3.22	16.11				32
CALCULATIONS	33																													33
CALCULATIONS	34																													34
SR57 INTERCHANGE	231,232,233																						2	4,932			310		300	231,232,233
SR254 INTERCHANGE	301,308,309	224											1.759		0.248	0.284		LUMP	LUMP	LUMP				28,177			1,051		1,018	301,308,309
CULVERT SUMMARY	377																										8			377
RIGHT OF WAY	462																													462
RIGHT OF WAY	499																													499
TOTAL 100% STATE		224	LUMP				45						1.759		0.248	0.284		LUMP	LUMP	LUMP			2	33,109	3.22	16.11	1,369		1,318	
TOTAL THIS SHEET		224	LUMP	LUMP	8,777	100	22.4	168	319	8	6	10	25.030	0.201	3.684	0.417	4,450	LUMP	LUMP	LUMP	512	30	6	984,024	90.82	454.11	16,715	295	8,099	

SUMMARY OF TABLES (CON'T.)

	FROM SHEET NO.		SPECIAL							815		816										625	816			FROM SHEET NO.
				EXPANSION ANCHOR BOLTS	DRILLED WELLS ABANDONED	CLEANING AND DISPOSAL OF SEPTIC TANKS	CLEANING PRIVY VAULTS	DRAINAGE CONNECTION USING NO.8 AGGREGATE	PLUGGING GAS WELLS (SEE NOTE IN PROPOSAL)		SIGN ERECTION GROUND MOUNT	SIGN ERECTION OVERHEAD	OVERHEAD SIGN SUPPORTS TYPE						STRUCTURAL SUPPORTS STEEL BEAM TYPE				GROUND ROD UNIT	CONCRETE FOR SIGN SUPPORT FOUNDATIONS			
													7.5	9.24	10.48	12.24								OVERHEAD	GROUND MOUNTED	
													DESIGN													
													2	2	4	3										
													SPAN		ARM LENGTH											
													7.1'	7.5'	7'	16'	16'									
				EACH	EACH			CU.YD.	EACH		SQ.FT	SQ.FT.	EACH						LIN. FT.			EACH	CU.YDS.			
I-90-1(40)01																										
GENERAL NOTES	25			125	2	2	2																			25
SPECIAL CONST. DETAILS	28,29																									28,29
CALCULATIONS	32																									32
CALCULATIONS	33																									33
CALCULATIONS	34							1,557.2																		34
PLAN & PROFILE																										
G30+00 TO G41+00	43																									43
G41+00 TO G79+00	44																									44
G79+00 TO G90+00	45																									45
G90+00 TO 701+00	46																									46
701+00 TO 712+00	47																									47
712+00 TO 723+00	48																									48
723+00 TO 734+00	49																									49
734+00 TO 745+00	50																									50
745+00 TO 756+00	51				1	1																				51
756+00 TO 767+00	52																									52
767+00 TO 778+00	53																									53
778+00 TO 789+00	54																									54
789+00 TO 800+00	55																									55
800+00 TO 811+00	56				1	1																				56
811+00 TO 822+00	57																									57
822+00 TO 833+00	58																									58
833+00 TO 844+00	59																									59
844+00 TO 855+00	60																									60
855+00 TO 866+00	61																									61
866+00 TO 877+00	62				1	1			1																	62
877+00 TO 888+00	63																									63
888+00 TO 899+00	64																									64
899+00 TO 908+00	65																									65
SR 57 INTERCHANGE	231,232,233				1	1		1045.0																		231,232,233
SR 254 INTERCHANGE	301,308,309				6	7	1	616.4																		301,308,309
SIDEROAD SUMMARY	359,360				2	3																				359,360
CULVERT SUMMARY	377																									377
DELINEATOR SUMMARY	380																									380
SIGNING SUMMARY	388									907	1277	1	1	1	2	1			632	719	936	2047	6	337	186	388
LIGHTING SUMMARY	395																									395
RIGHT OF WAY	462																									462
RIGHT OF WAY	499																									499
TOTAL I-90-1(40)01				125	14	16	3	3218.6	1		907	1277	1	1	1	2	1		632	719	936	2047	6	337	186	
100% STATE																										
CALCULATIONS	32																									32
CALCULATIONS	33																									33
CALCULATIONS	34																									34
SR 57 INTERCHANGE	231,232,233																									231,232,233
SR 254 INTERCHANGE	301,308,309				3	1			1																	301,308,309
CULVERT SUMMARY	377																									377
RIGHT OF WAY	462																									462
RIGHT OF WAY	499																									499
TOTAL 100% STATE					3	1			1																	
TOTAL THIS SHEET				125	17	17	3	3218.6	2		907	1277	1	1	1	2	1		632	719	936	2047	6	337	186	

GENERAL SUMMARY

TYPE CODE 7221- UNLESS OTHERWISE SHOWN

ITEM	I-90-1(40)01		100% STATE	QUANTITY	UNIT	
						ROADWAY
201	LUMP		LUMP	LUMP	LUMP	CLEARING AND GRUBBING
202	766		490	1256	LIN.FT.	PIPE REMOVED, 15" AND UNDER
202	573		135	708	LIN.FT.	PIPE REMOVED, OVER 15"
202	182			182	LIN.FT.	PIPE REMOVED FOR REUSE, 21"
202	590		266	856	LIN.FT.	EXISTING CURB AND GUTTER REMOVED AND DISPOSED OF
202			65	65	LIN.FT.	EXISTING CURB REMOVED AND DISPOSED OF
202	1249		72	1321	SQ.FT.	EXISTING SIDEWALK REMOVED AND DISPOSED OF
202	3883		273	4156	SQ.YD.	EXISTING PAVEMENT REMOVED AND DISPOSED OF
202	LUMP			LUMP	LUMP	EXISTING STRUCTURES REMOVED
202	LUMP		LUMP	LUMP	LUMP	PORTIONS OF EXISTING STRUCTURES REMOVED
202	1		1	2	EACH	MANHOLE REMOVED
202	6		7	13	EACH	CATCH BASIN REMOVED
203	1,346,392		25,336	1,371,728	CU.YD.	EXCAVATION NOT INCLUDING EMBANKMENT CONSTRUCTION, AS PER PLAN
203	1,189,959		16,256	1,206,215	CU.YD.	EMBANKMENT
203	12,128			12,128	CU.YD.	BORROW, USING GRANULAR MATERIAL, AS PER PLAN
203	237,053		24,649	261.702	SQ.YD.	SUBGRADE PREPARATION
203	109			109	HOUR	PROOF ROLLING
203	6223		104	6327	M.GAL	WATER
410	195		145	340	CU.YD.	TRAFFIC COMPACTED SURFACE TYPE A OR B
411	113		44	157	CU.YD.	STABILIZED CRUSHED AGGREGATE
411	69		31	100	CU.YD.	STABILIZED CRUSHED AGGREGATE (CRUSHED LIMESTONE)
604	19		6	25	EACH	STANDARD MONUMENT ASSEMBLY
604	37			37	EACH	CENTER LINE REFERENCE MONUMENT, AS PER PLAN
606	14,300		400	14,700	LIN.FT.	GUARD RAIL, TYPE 4
606	600			600	LIN.FT.	GUARD RAIL, TYPE 4 BARRIER DESIGN
606	150			150	LIN.FT.	GUARD RAIL, TYPE 4 AS PER PLAN
606	23			23	EACH	GUARD POST
606	1225			1225	LIN.FT.	TEMPORARY GUARD RAIL, AS PER PLAN
607	42,931		1083	44,014	LIN.FT.	FENCE, TYPE 47
607	1			1	EACH	REMOVING AND RESETTING GATE, TYPE 47, WIDTH = 16'
615	LUMP			LUMP	LUMP	TEMPORARY ROAD
615	8777			8777	SQ.YD.	CLASS B TEMPORARY PAVEMENT
616	100			100	M.GAL.	WATER
616	18		5	23	TON.	CALCIUM CHLORIDE
SPECIAL	14		3	17	EACH	DRILLED WELLS ABANDONED
SPECIAL	16		1	17	EACH	CLEANING AND DISPOSAL OF SEPTIC TANK
SPECIAL	3			3	EACH	CLEANING PRIVY VAULT
SPECIAL	1		1	2	EACH	PLUGGING GAS WELL
						ROADWAY CONTINUED ON SHEET 42
						WATER LINES- TYPE CODE Y060
814						FOR WATER LINE QUANTITIES SEE SHEET NO. 404
						PAVEMENT
451	124,163			124,163	~~CU.~~ S.Y.D	10" REINFORCED PORTLAND CEMENT CONCRETE PAVEMENT
301	8179			8179	CU.YD.	BITUMINOUS AGGREGATE BASE, 702.01 (85-100), OR 702.09, RT-12, AS PER PLAN
302	237		1418	1655	CU.YD.	ASPHALT CONCRETE (70-85)
304	14,757		5529	20,286	CU.YD.	AGGREGATE BASE
304	74		28	102	M.GAL.	WATER
310	30,070		240	30,310	CU.YD.	SUBBASE, GRADING A OR B, AS PER PLAN
310	9064		4190	13,254	CU.YD.	SUBBASE
402	782		944	1726	CU.YD.	ASPHALT CONCRETE (70-85)
404	779		783	1562	CU.YD.	ASPHALT CONCRETE (70-85)
407	28		14	42	GAL.	TACK COAT, 702.04, MS-2 OR RS-1, OR 702.02, RC-70 OR RC-250
408	8818		10,059	18,877	GAL.	BITUMINOUS PRIME COAT, 702.09, RT-2 OR RT-3
409	19,630			19,630	GAL.	SEAL COAT BITUMINOUS MATERIAL, AS PER PLAN
409	573		1364	1937	GAL.	SEAL COAT BITUMINOUS MATERIAL, 702.09, RT-8 OR RT-9, OR 702.02, MC-800 OR MC-3000
409	644		38	682	CU.YD.	SEAL COAT COVER AGGREGATE, NO. 8
451	32,253		1264	33,517	SQ.YD.	9" REINFORCED PORTLAND CEMENT CONCRETE PAVEMENT
452	126		81	207	SQ.YD.	7" PLAIN PORTLAND CEMENT CONCRETE PAVEMENT
609	4963			4963	LIN.FT.	CONCRETE CURB STANDARD TYPE 6
609	1376			1376	LIN.FT.	CONCRETE CURB STANDARD TYPE 7
609	1558			1558	LIN.FT.	CONCRETE CURB STANDARD TYPE 8
609			232	232	LIN.FT.	COMBINATION CURB AND GUTTER STANDARD TYPE 2
609	131		244	375	LIN.FT.	COMBINATION CURB AND GUTTER STANDARD TYPE 2 MODIFIED, AS PER PLAN
611	2145			2145	SQ.YD.	REINFORCED CONCRETE APPROACH SLAB (T. = 13")
612	446		152	598	SQ.YD.	CONCRETE MEDIAN, STANDARD
613			224	224	EACH	TRAFFIC DIVIDER, STANDARD
SPECIAL	3219			3219	CU.YD.	DRAINAGE CONNECTION USING NO. 8 AGGREGATE
510	125			125	EACH	DOWEL HOLES
SPECIAL	125			125	EACH	EXPANSION ANCHOR BOLTS

ITEM	I-90-1(40)01		100% STATE	QUANTITY	UNIT	
						DRAINAGE
602	307.1		21.4	328.5	CU.YD.	CONCRETE MASONRY
603	32			32	LIN.FT.	15" CONDUIT TYPE A WITH CLASS B BEDDING
603	27			27	LIN.FT.	24" CONDUIT TYPE A 706.02 WITH CLASS B BEDDING
603	56			56	LIN.FT.	72" CONDUIT TYPE A, 706.02 WITH CLASS B BEDDING
603	136			136	LIN.FT.	21" CONDUIT TYPE A, 706.02 CLASS III OR 706.08 WITH CLASS B BEDDING
603	48			48	LIN.FT.	42" CONDUIT TYPE A, 706.02 WITH CLASS B BEDDING
603	40			40	LIN.FT.	84" CONDUIT TYPE A, 706.02 WITH CLASS B BEDDING
603	94			94	LIN.FT.	24" CONDUIT TYPE A, 706.02 CLASS III OR 706.08 WITH CLASS B BEDDING
603	52			52	LIN.FT.	30" CONDUIT TYPE A, 706.02 OR 706.08 WITH CLASS B BEDDING
603	114			114	LIN.FT.	42" CONDUIT TYPE A, 706.02 CLASS IV WITH CLASS B BEDDING
603	806			806	LIN.FT.	53"X34" CONDUIT TYPE A, 706.04 CLASS HE II WITH CLASS B BEDDING
603	196			196	LIN.FT.	76"X48" CONDUIT TYPE A, 706.04 CLASS HE II WITH CLASS B BEDDING
603	468			468	LIN.FT.	84" CONDUIT TYPE A, 707.03 8-7 GAGE WITH CLASS B BEDDING
603	180			180	LIN.FT.	84" CONDUIT TYPE A, 707.03 10-8 GAGE WITH CLASS B BEDDING
603	652			652	LIN.FT.	108" CONDUIT TYPE A, 707.03 7-5 GAGE WITH CLASS B BEDDING
603			144	144	LIN.FT.	120" CONDUIT TYPE A, 707.03 8-7 GAGE WITH CLASS B BEDDING
603	286			286	LIN.FT.	14'-3" X 8'-11" CONDUIT TYPE A, 707.03 5-3 GAGE WITH CLASS B BEDDING
603	265			265	LIN.FT.	36" CONDUIT TYPE A, 707.05 10 GAGE WITH CLASS B BEDDING
603	614		50	664	LIN.FT.	6" CONDUIT TYPE B WITH CLASS B BEDDING
603	250		50	300	LIN.FT.	8" CONDUIT TYPE B WITH CLASS B BEDDING
603	308			308	LIN.FT.	10" CONDUIT TYPE B WITH CLASS B BEDDING
603	883		196	1079	LIN.FT.	12" CONDUIT TYPE B WITH CLASS B BEDDING
603	1959		603	2562	LIN.FT.	15" CONDUIT TYPE B WITH CLASS B BEDDING
603	844			844	LIN.FT.	18" CONDUIT TYPE B WITH CLASS B BEDDING
603	378			378	LIN.FT.	21" CONDUIT TYPE B WITH CLASS B BEDDING
603	264		119	383	LIN.FT.	24" CONDUIT TYPE B WITH CLASS B BEDDING
603			656	656	LIN.FT.	27" CONDUIT TYPE B WITH CLASS B BEDDING
603	354			354	LIN.FT.	30" CONDUIT TYPE B WITH CLASS B BEDDING
603	92			92	LIN.FT.	36" CONDUIT TYPE B WITH CLASS B BEDDING
603	87			87	LIN.FT.	42" CONDUIT TYPE B WITH CLASS B BEDDING
603	320			320	LIN.FT	21" CONDUIT TYPE B 706.02 CLASS III OR 706.08 WITH CLASS B BEDDING
603	561			561	LIN.FT.	12" CONDUIT TYPE C WITH CLASS B BEDDING
603	561			561	LIN.FT.	15" CONDUIT TYPE C WITH CLASS B BEDDING
603	1652			1652	LIN.FT.	18" CONDUIT TYPE C WITH CLASS B BEDDING
603	1400		72	1472	LIN.FT.	21" CONDUIT TYPE C WITH CLASS B BEDDING
603	285			285	LIN.FT.	24" CONDUIT TYPE C WITH CLASS B BEDDING
603	498			498	LIN.FT.	27" CONDUIT TYPE C WITH CLASS B BEDDING
603	10			10	LIN.FT.	30" CONDUIT TYPE C WITH CLASS B BEDDING
603	529			529	LIN.FT	33" CONDUIT TYPE C WITH CLASS B BEDDING
603	650			650	LIN.FT.	36" CONDUIT TYPE C WITH CLASS B BEDDING
603	312		64	376	LIN.FT.	12" CONDUIT TYPE D
603	28		44	72	LIN.FT.	15" CONDUIT TYPE D
603	102		36	138	LIN.FT.	18" CONDUIT TYPE D
603	72			72	LIN.FT.	24" CONDUIT TYPE D
603	104			104	LIN.FT.	24" CONDUIT TYPE D 707.01 OR 707.02
603	72			72	LIN.FT.	21" CONDUIT TYPE D 707.01 OR 707.02
603	152			152	LIN.FT.	30" CONDUIT TYPE D 706.02 OR 706.08
603	92			92	LIN.FT.	30" CONDUIT TYPE D 707.01 OR 707.02
603	52			52	LIN.FT.	76"X48" CONDUIT TYPE D 706.04 CLASS HE II
603	40		134	174	LIN.FT.	18" CONDUIT TYPE D 707.01 OR 707.02
603	250		50	300	LIN.FT.	8" CONDUIT TYPE E
603	250		50	300	LIN.FT	12" CONDUIT TYPE E
603	431			431	LIN.FT.	10" CONDUIT TYPE E 706.07, 706.08 OR 706.09
603	60			60	LIN.FT.	12" CONDUIT TYPE E 706.07, 706.08 OR 706.09
603	1686		110	1796	LIN.FT.	6" CONDUIT TYPE F
603	270		60	330	LIN.FT.	8" CONDUIT TYPE F
603	18			18	LIN.FT.	10" CONDUIT TYPE F
603	280		118	398	LIN.FT.	12" CONDUIT TYPE F
603	797		72	869	LIN.FT.	15" CONDUIT TYPE F
603	70			70	LIN.FT.	18" CONDUIT TYPE F
603	91			91	LIN.FT.	30" CONDUIT TYPE F
603	78			78	LIN.FT.	2" CONDUIT TYPE F 707.08 STANDARD WEIGHT AND GALVANIZED, AS PER PLAN
603	182			182	LIN.FT.	21" CONDUIT RECONSTRUCTED WITH CLASS B BEDDING

REV. 5-24-66

GENERAL SUMMARY

TYPE CODE 7221- UNLESS OTHERWISE SHOWN
* TYPE CODE Y005

ITEM	I-90-1(40)01		100% STATE	QUANTITY	UNIT	DESCRIPTION
						DRAINAGE - CONTINUED
604	3		1	4	EACH	STANDARD NO. 2-2-A CATCH BASIN
604	16		3	19	EACH	STANDARD NO. 2-2-B CATCH BASIN
604	12			12	EACH	STANDARD NO. 4 CATCH BASIN
604	14		5	19	EACH	STANDARD NO. 5 CATCH BASIN
604	10		1	11	EACH	STANDARD NO. 6 CATCH BASIN
604	2			2	EACH	STANDARD NO. 7 SIDE DITCH CATCH BASIN
604	24		1	25	EACH	STANDARD NO. 8 CATCH BASIN
604	1			1	EACH	CATCH BASIN RECONSTRUCTED TO STANDARD NO. 2-2B, AS PER PLAN
604	1			1	EACH	CATCH BASIN RECONSTRUCTED TO STANDARD NO. 8, AS PER PLAN
604	2			2	EACH	CATCH BASIN ADJUSTED TO GRADE AND CONVERTED TO STANDARD NO. 2-2B, AS PER PLAN
604	1			1	EACH	STANDARD NO. 2-A-10 PAVED SHOULDER INLET
604	7			7	EACH	STANDARD NO. 1 MANHOLE
604			1	1	EACH	MANHOLE ADJUSTED TO GRADE, USING HEAVY MANHOLE FRAME AND COVER, AS PER PLAN
605	36,767			36,767	LIN. FT.	6" SHALLOW PIPE UNDERDRAIN
605	9,448			9,448	LIN. FT.	6" SHALLOW PIPE UNDERDRAIN, 707.06 OR 707.12
605	664			664	LIN. FT.	6" UNCLASSIFIED PIPE UNDERDRAIN, 707.06 OR 707.12
605	22,939		3,375	26,314	LIN. FT.	6" DEEP PIPE UNDERDRAIN
605	4,102		1,159	5,261	LIN. FT.	AGGREGATE DRAIN
605	15			15	LIN. FT.	AGGREGATE DRAIN FOR SPRING, AS PER PLAN
601	578		138	716	Sq. Yd.	*Riprap, using 6" reinforced concrete slab, as per plan
601	4595		296	4891	Cu. Yd.	*Dumped Rock channel protection
601	415		159	574	Lin. Ft.	*Paved gutter, Standard Type 1-2, as per plan
601	163			163	Lin. Ft.	*Paved gutter, Standard Type 1-4, as per plan
						ROADWAY - CONTINUED FROM SHEET 41
659	950.915		33,109	984,024	SQ. YD.	* SEEDING AND MULCHING, AS PER PLAN
659	87.60		3.22	90.82	TON	* COMMERCIAL FERTILIZER (12-12-12)
659	438.00		16.11	454.11	TON	* AGRICULTURAL LIMING
660	15,346		1,369	16,715	SQ. YD.	* SODDING
660	295			295	SQ. YD.	* SODDING, FOR SPECIAL BERM AND SLOPE PROTECTION, AS PER PLAN
667	6,781		1,318	8,099	SQ. YD.	* JUTE MATTING
657	4		2	6	SQ. YD.	RIPRAP FOR TREE PROTECTION
						TRAFFIC CONTROL
620	6			6	EACH	MONO-DIRECTIONAL DELINEATOR, TYPE A-1, BRACKET MOUNTED
620	10			10	EACH	MONO-DIRECTIONAL DELINEATOR, TYPE C-2, BRACKET MOUNTED
620	168			168	EACH	MONO-DIRECTIONAL DELINEATOR, TYPE A-1, POST MOUNTED
620	379			379	EACH	MONO-DIRECTIONAL DELINEATOR, TYPE C-2, POST MOUNTED
620	8			8	EACH	MONO-DIRECTIONAL DELINEATOR, TYPE C-3, POST MOUNTED
621	23.27		1.76	25.03	MILE	4" EDGE LINE
621	0.20			0.20	MILE	4" LANE LINE AND CENTER LINE
621	3.44		0.25	3.69	MILE	6" LANE LINE AND CENTER LINE
621	0.14		0.29	0.43	MILE	4" BARRIER LINE
621	4,450			4,450	LIN. FT.	8" CHANNELIZING LINE
621	LUMP			LUMP	LUMP	24" STOP LINE
621	LUMP			LUMP	LUMP	24" BROAD TRANSVERSE STRIPE
621	LUMP		LUMP	LUMP	LUMP	CURB AND ISLAND MARKING
625	512			512	LIN. FT.	3" CONDUIT, RIGID FERROUS METAL, 713.04, TYPE II OR TYPE III.
625	30			30	EACH	MARKER, MARKED CONDUIT
816	1			1	EACH	OVERHEAD SIGN SUPPORT, TYPE 7.5, DESIGN 2, 71' SPAN
816	1			1	EACH	OVERHEAD SIGN SUPPORT, TYPE 7.5, DESIGN 2, 75' SPAN
816	1			1	EACH	OVERHEAD SIGN SUPPORT, TYPE 9.24, DESIGN 2, 7' ARMS
816	2			2	EACH	OVERHEAD SIGN SUPPORT, TYPE 10.48, DESIGN 4, 16' ARMS
816	1			1	EACH	OVERHEAD SIGN SUPPORT, TYPE 12.24, DESIGN 3, 16' ARMS
816	64			64	LIN. FT.	STRUCTURAL SUPPORT, STEEL BEAM TYPE 6 B 8.5
816	72			72	LIN. FT.	STRUCTURAL SUPPORT, STEEL BEAM TYPE 10 B 11.5
816	94			94	LIN. FT.	STRUCTURAL SUPPORT, STEEL BEAM TYPE 10 B 17
816	205			205	LIN. FT.	STRUCTURAL SUPPORT, STEEL BEAM TYPE 12 B 22
625	6			6	EACH	GROUND ROD UNIT
816	34			34	CU. YD.	CONCRETE FOUNDATION FOR OVERHEAD SIGN SUPPORT, AS PER PLAN
816	19			19	CU. YD.	CONCRETE FOUNDATION FOR GROUND MOUNTED SIGN SUPPORT, AS PER PLAN
815	1277			1277	SQ. FT.	SIGN ERECTION, OVERHEAD MOUNTED, AS PER PLAN
815	907			907	SQ. FT.	SIGN ERECTION, GROUND MOUNTED, AS PER PLAN.

ITEM	I-90-1(40)01		100% STATE	QUANTITY	UNIT	DESCRIPTION
						BUILDING REMOVALS
202	LUMP			LUMP	LUMP	EXISTING 2 STORY FRAME RESIDENCE REMOVED, PARCEL 8-WL
202	LUMP			LUMP	LUMP	EXISTING 2 STORY FRAME RESIDENCE, FRAME BARN, FRAME SHED REMOVED, PARCEL 13-WL
202	LUMP			LUMP	LUMP	EXISTING 2 STORY FRAME RESIDENCE, TWO FRAME SHEDS REMOVED, PARCEL 20-WL
202	LUMP			LUMP	LUMP	EXISTING FRAME SHED REMOVED, PARCEL 25-WL
202	LUMP			LUMP	LUMP	EXISTING 1 STORY FRAME RESIDENCE, 2 CAR GARAGE, FIVE FRAME SHEDS REMOVED, PARCEL 26-WL
202	LUMP			LUMP	LUMP	EXISTING 1 1/2 STORY FRAME RESIDENCE, 2 CAR FRAME GARAGE, FRAME BARN REMOVED, PARCEL 28-WL
202	LUMP			LUMP	LUMP	EXISTING 1 STORY FRAME RESIDENCE WITH ATTACHED GARAGE, 1 STORY FRAME RESIDENCE, FRAME GARAGE REMOVED, PARCEL 30-WL
202	LUMP			LUMP	LUMP	EXISTING 1 STORY FRAME RESIDENCE REMOVED, PARCEL 40-WL-1
202	LUMP			LUMP	LUMP	EXISTING CONCRETE BLOCK STORAGE BUILDING, FRAME AND CONCRETE SALES BUILDING,
						CONCRETE SHED, FRAME SHED REMOVED, PARCEL 41-WL
202	LUMP			LUMP	LUMP	EXISTING 1½ STORY BRICK RESIDENCE, CONCRETE BLOCK GARAGE WITH STORAGE, CONCRETE BLOCK CHICKEN HOUSE, BARN WITH
						ATTACHED CORN CRIB, 2 FRAME STORAGE SHEDS, METAL BUILDING REMOVED, PARCEL 42-WL
202	LUMP			LUMP	LUMP	EXISTING 1 STORY BRICK RESIDENCE REMOVED, PARCEL 43-WL
202	LUMP			LUMP	LUMP	EXISTING 1 1/2 STORY BRICK RESIDENCE, 2 CAR CONCRETE BLOCK GARAGE REMOVED, PARCEL 44-WL
202	LUMP			LUMP	LUMP	EXISTING 1 1/2 STORY FRAME RESIDENCE, 1 1/2 STORY FRAME BARN REMOVED, PARCEL 45-WL
202	LUMP			LUMP	LUMP	EXISTING 1 1/2 STORY FRAME RESIDENCE WITH ATTACHED GARAGE REMOVED, PARCEL 46-WL
202	LUMP			LUMP	LUMP	EXISTING 1 1/2 STORY BRICK RESIDENCE WITH ATTACHED GARAGE, PLAYHOUSE REMOVED, PARCEL 47-WL
202	LUMP			LUMP	LUMP	EXISTING 1 1/2 STORY FRAME RESIDENCE, TWO FRAME SHEDS REMOVED, PARCEL 48-WL
202	LUMP			LUMP	LUMP	EXISTING 2 STORY FRAME RESIDENCE, CONCRETE BLOCK GARAGE REMOVED, PARCEL 51-WL
202	LUMP			LUMP	LUMP	EXISTING FRAME FRUIT STAND REMOVED, PARCEL 52-WL
202			LUMP	LUMP	LUMP	EXISTING 2 STORY FRAME RESIDENCE REMOVED, PARCEL 57-WD
202			LUMP	LUMP	LUMP	EXISTING 1 STORY FRAME RESIDENCE, FRAME SHED REMOVED, PARCEL 59-WD
202			LUMP	LUMP	LUMP	EXISTING 1 1/2 STORY FRAME RESIDENCE REMOVED, PARCEL 64-WD
202	LUMP			LUMP	LUMP	EXISTING 2 STORY FRAME RESIDENCE, TWO FRAME GARAGES, TWO FRAME SHEDS,
						TWO FRAME CORN CRIBS, METAL BUILDING REMOVED, PARCEL 72-WL
202	LUMP			LUMP	LUMP	EXISTING 2 FRAME SHEDS REMOVED, PARCEL 72-T-2
202	LUMP			LUMP	LUMP	EXISTING FRAME BARN REMOVED, PARCEL 79-WD-2
202	LUMP			LUMP	LUMP	EXISTING 1 1/2 STORY FRAME SHED REMOVED, PARCEL 79-WD-3
202	LUMP			LUMP	LUMP	EXISTING TWO FRAME SHEDS REMOVED, PARCEL 79-WL
						WATER LINES SEE SHEET 404
614	LUMP		LUMP	LUMP	LUMP	MAINTAINING TRAFFIC
	LUMP		LUMP	LUMP	LUMP	FIELD OFFICE
	LUMP		LUMP	LUMP	LUMP	CONSTRUCTION LAYOUT STAKES

STRUCTURES OVER 20 FOOT SPAN

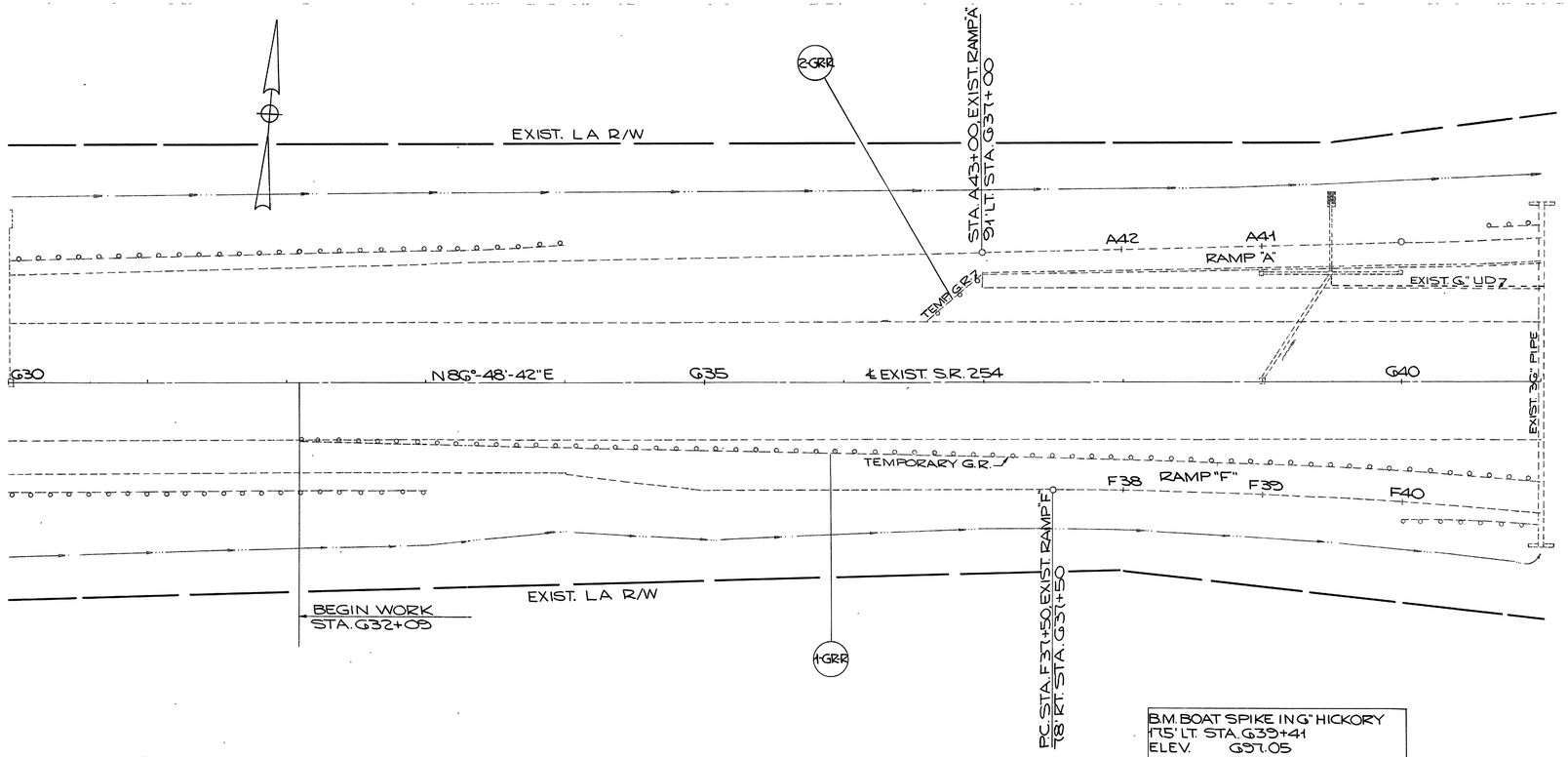
FOR ESTIMATED QUANTITIES

STRUCTURE	LOR.-90-1320	SEE SHEET NO. 406
STRUCTURE	LOR.-90-1355	SEE SHEET NO. 413
STRUCTURE	LOR.-90-1426	SEE SHEET NO. 424
STRUCTURE	LOR.-90-1443	SEE SHEET NO. 432
STRUCTURE	LOR.-90-1478	SEE SHEET NO. 439
STRUCTURE	LOR.-90-1565	SEE SHEET NO. 447
STRUCTURE	LOR.-90-1700	SEE SHEET NO. 455

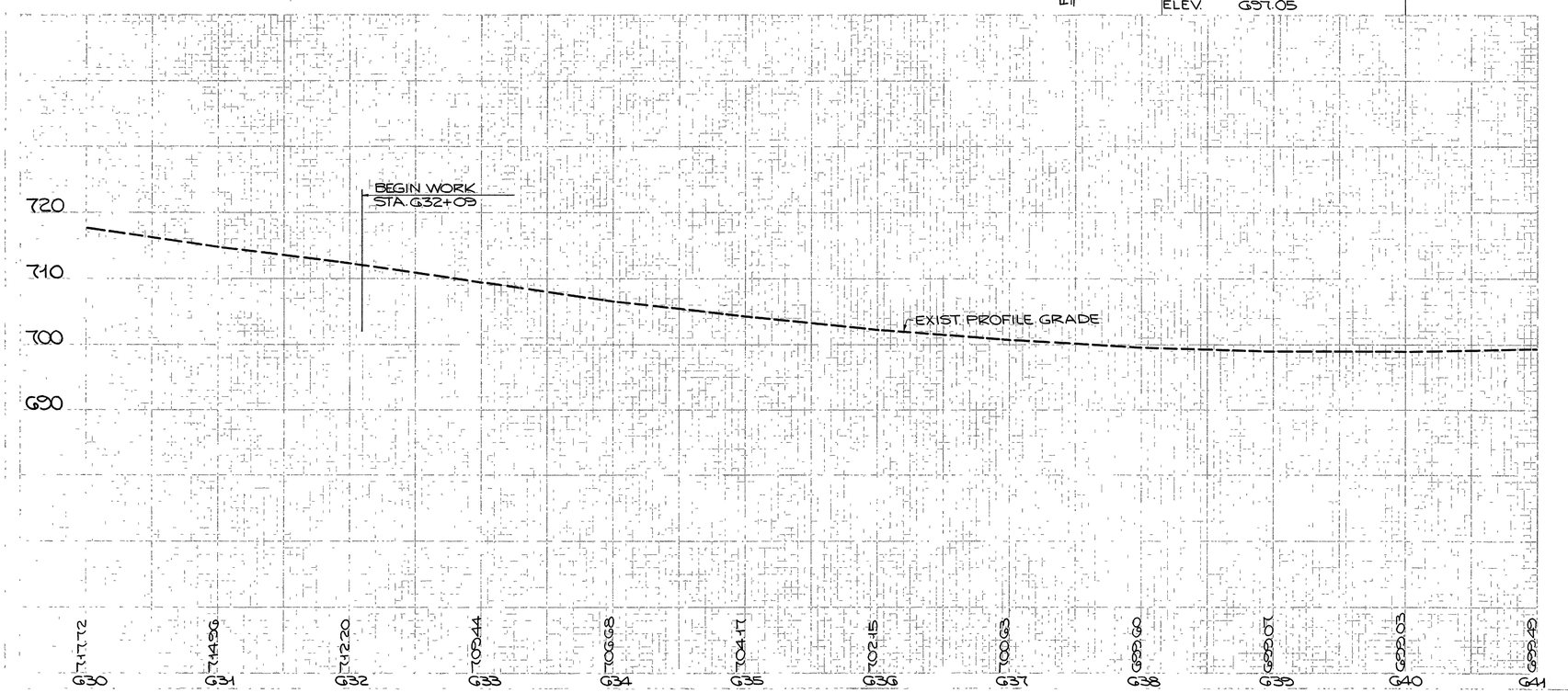
Rev. 4-4-66

NO.	DATE	REVISION	
2	04/10		

LOR.-90-13.01



1-GRR & 2-GRR THE REMOVAL OF EXIST. TEMPORARY GUARD RAIL SHALL BE INCLUDED IN THE PRICE BID FOR 203 EXCAVATION NOT INCLUDING EMBANKMENT CONSTRUCTION AND SHALL BECOME THE PROPERTY OF THE CONTRACTOR.



STA. G30+00 TO STA. G41+00

I.R. 90 PAVEMENT MARKING TABLE

STATION FROM	STATION TO	LOCATION	G21 EDGE LINES 4" MILES	G21 LANE LINES & CENTER LINES 4" MILES	G21 LANE LINES & CENTER LINES 6" MILES	
G10+74.01	893+00	INSIDE EDGE, E.B.L. W.B.L.	8.419			
G10+74.01	893+00	& OF E.B.L. & W.B.L.			3.157	
G10+74.01	G71+50.02	OUTSIDE EDGE W.B.L.	0.022			
G78+42	G84+34	" " "		0.042		
G84+34	G93+18.10	" " "	0.167			
G96+83	G98+83	" " "		0.014		
702+27.15	782+31.16	" " "	1.515			
789+03.16	816+79.84	" " "	0.526			
820+54	822+54	" " "		0.014		
825+81.47	893+00	" " "	1.272			
G10+74.01	G79+69	OUTSIDE EDGE E.B.L.	0.170			
G79+69	G85+70	" " "		0.043		
G92+21.87	702+81.27	" " "	0.201			
709+53.27	795+68.03	" " "	1.632			
798+97	800+97	" " "		0.014		
804+52.50	828+73.54	" " "	0.459			
835+45.54	893+00	" " "	1.030			
TOTALS			15.473	0.127	3.157	

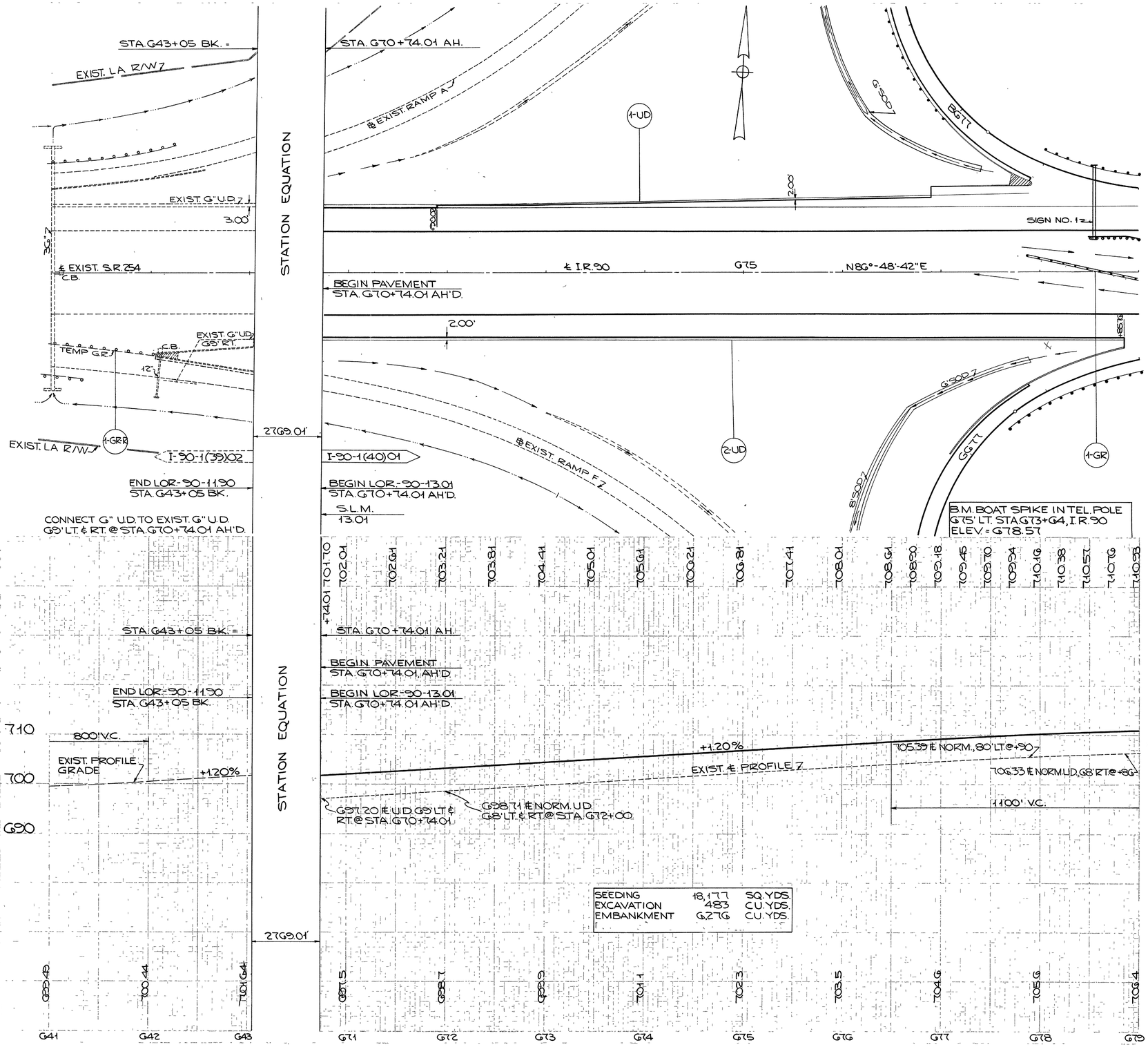
FED. RD. STA. NO.	STATE	PROJECT		
2	OHIO			

LOR.-90-13.01

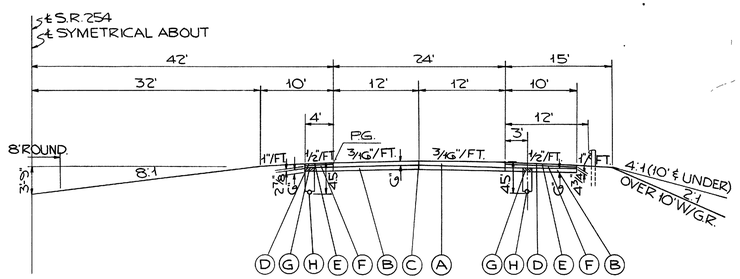
CROSS REFERENCES	
FOR	SEE SHEET NO.
RAMP DETAILS	160,193,207,211
GRADING PLANS	213,220

REFERENCE NO.	SIDE	STATION FROM	STATION TO	G05 SHALLOW PIPE UNDER DRAIN 6" LIN.FT.		G06 GUARD RAIL TYPE 4 BARRIER LIN.FT.							
1-UD	LT.	670+74	677+90	716									
2-UD	RT.	670+74	678+86	812									
1-GR	LT.&RT.	677+87	679+00			115							
TOTALS				1528		115							

(1-GR) SEE NOTE ON SHEET NO. 43



TYPICAL SECTION ADJOINING PAVEMENT (PROJ. LOR.-90-11.90)



1963 SPECIFICATIONS

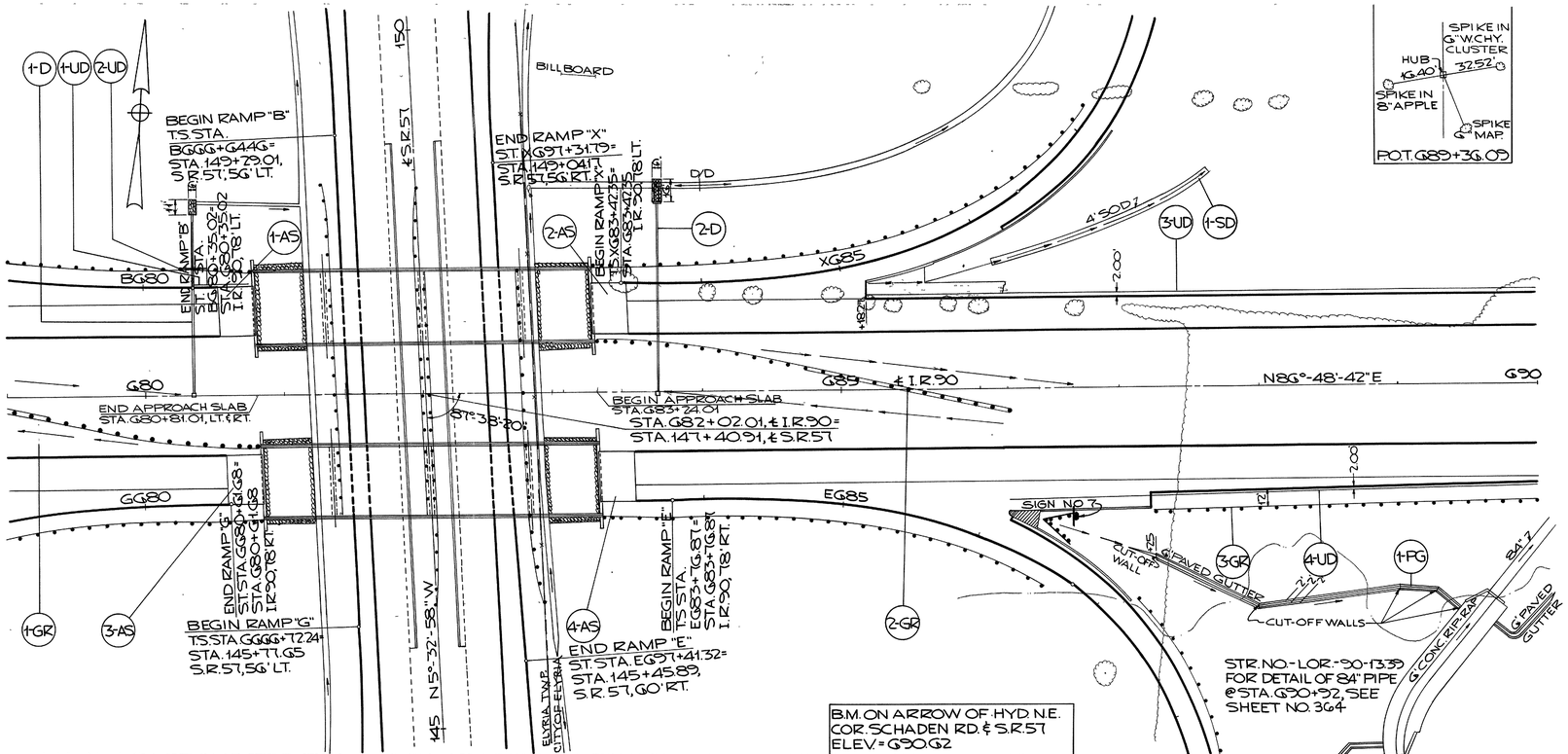
(A)	T-71	9" REINFORCED PORTLAND CEMENT CONCRETE PAV'T.
(B)	I-22	SUBBASE, GRADING A OR B (THICKNESS AS SHOWN)
(C)		STD. LONGITUDINAL JOINT
(D)	T-31	BITUMINOUS SURFACE TREATMENT USING 0.008 CU.YD NO. 6 AGGREGATE PER SQ.YD. & 0.25 GAL. BITUMINOUS MATERIAL PER SQ.YD. (SEE NOTE IN PROP.)
(E)	B-21	3" WATERPROOFED AGGREGATE BASE COURSE
(F)	B-112	POROUS BASE COURSE (THICKNESS AS SHOWN)
(G)		REMOVE SUBBASE WIDTH OF ITEM I-1 TRENCH & REPLACE WITH CLASS 3 BACKFILL
(H)	I-1	6" PIPE, CLASS I-3

STA. 641+00 TO STA. 679+00

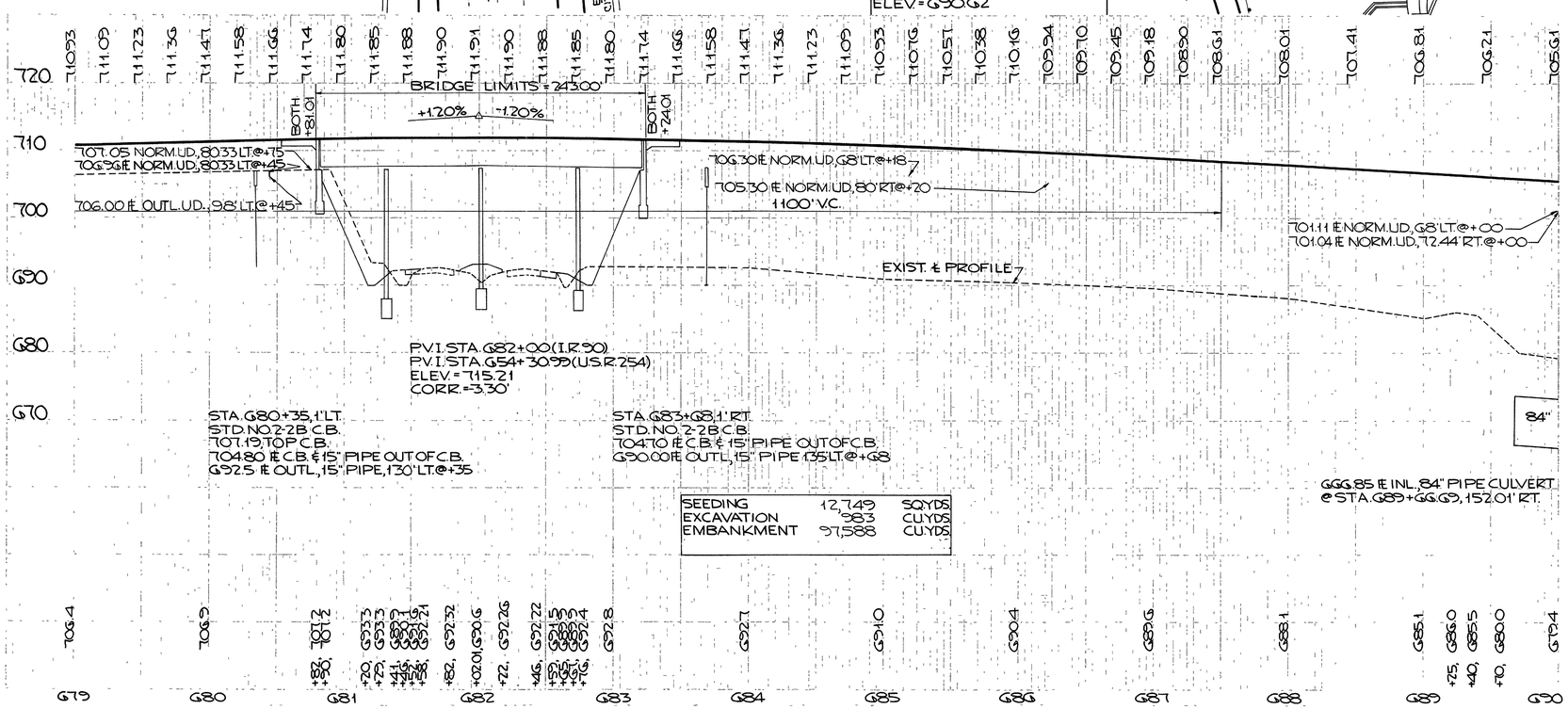
FED. RD. REGION	STATE	FUNCTION	
2	OHIO		

LOR.-90-13.01

CROSS REFERENCES	
FOR	SEE SHEET NO.
RAMP DETAILS	160,188,193,198
TAPER DETAILS	145,204,205,206
TAPER TYP. SEC.	144
S.R.57	147
GRADING PLANS	213 TO 221



REFERENCE NO	SIDE	STATION FROM	STATION TO	G05 SHALLOW PIPE UNDER DRAINS 6" LIN.FT.		G03 CONDUIT TYPE F 6" LIN.FT.	G03 CONDUIT TYPE F 15" LIN.FT.	G03 CONDUIT TYPE B-B 15" LIN.FT.	G02 MASON. CLASS "C" STD. HW-E ENDWL CU.YD.	G05 PIPE SPECIALS 6" TEE EACH	G03 PIPE SPECIALS TYPE 15" 25° BEND EACH	G11 REINF. CONC. APPR. SLAB T=13" SQ.YDS.	G04 CATCH BASINS STD NO. 2-2B EACH	G01 DUMPED ROCK CHANN. PROT. T=18" CU.YDS.
1-UD	LT.	G80+37	G80+75	38										
2-UD	LT.	G80+45		8		10				1				
3-UD	LT.	G85+18	G90+00	482										
4-UD	LT.	G86+20	G90+00	380										
1-D	LT.	G80+35					35	98	0.26		2		1	4
2-D	LT.	G83+68					40	100	0.26		2		1	6
1-AS	LT.	G80+53.78	G80+78.78									100		
2-AS	LT.	G83+21.78	G83+46.78									100		
3-AS	RT.	G80+58.24	G80+83.24									100		
4-AS	RT.	G83+26.24	G83+51.24									100		
TOTALS				908		10	75	198	0.52	1	4	400	2	10



SEEDING	12,749	SQ.YDS.
EXCAVATION	983	CU.YDS.
EMBANKMENT	97,588	CU.YDS.

REFERENCE NO	SIDE	STATION FROM	STATION TO	G01 PAVED GUTTER 2.0-12 LIN.FT.	G06 GUARDRAIL TYPE 4 LIN.FT.	G06 GUARDRAIL TYPE 4 (BARRIER) LIN.FT.		G60 SODDING SQ.YDS.
1-GR	RT.	G79+00	G80+81		150	35		
2-GR	LT.&RT.	G83+24	G86+20		150	150		
3-GR	RT.	G87+25	G90+00		275			
1-SD	LT.	G86+10	G87+65					77
1-PG	RT.	G87+25	G89+43	232				77
TOTALS				232	575	185		154

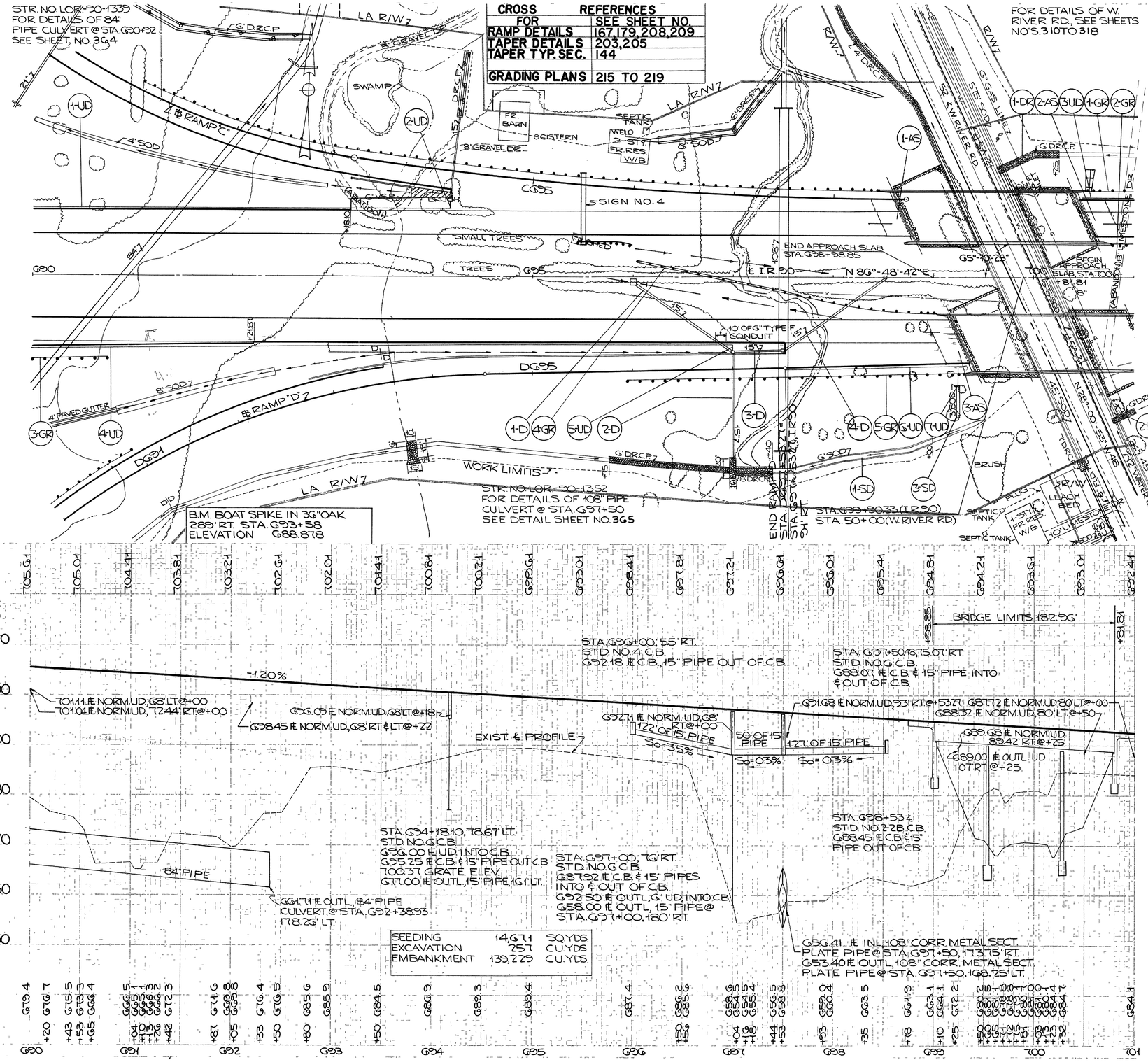
PROPOSED STRUCTURE – BRIDGE NO. LOR.-90-1320

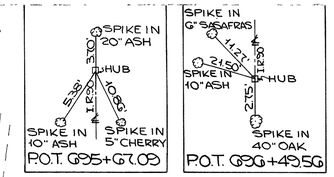
TYPE - CONTINUOUS STEEL BEAM WITH REINFORCED CONCRETE DECK AND SUBSTRUCTURE
SPANS - 49'-0"; 2@70'-3"; 49'-0" % BRGS.
ROADWAY - 52'-0" F/F PARAPETS
LOAD FREQUENCY - CF 2000 (57)
SKEW - 2°-21'-40" RF
WEARING SURFACE - 1" MONOLITHIC CONCRETE
APPROACH SLABS - AS-1-54 (25' LONG)
ALLIGNMENT - TANGENT

STA. G79+00 TO STA. G90+00

LOR.-90-13.01

CROSS REFERENCES FOR	SEE SHEET NO.
RAMP DETAILS	167,179,208,209
TAPER DETAILS	203,205
TAPER TYP. SEC.	144
GRADING PLANS	215 TO 219





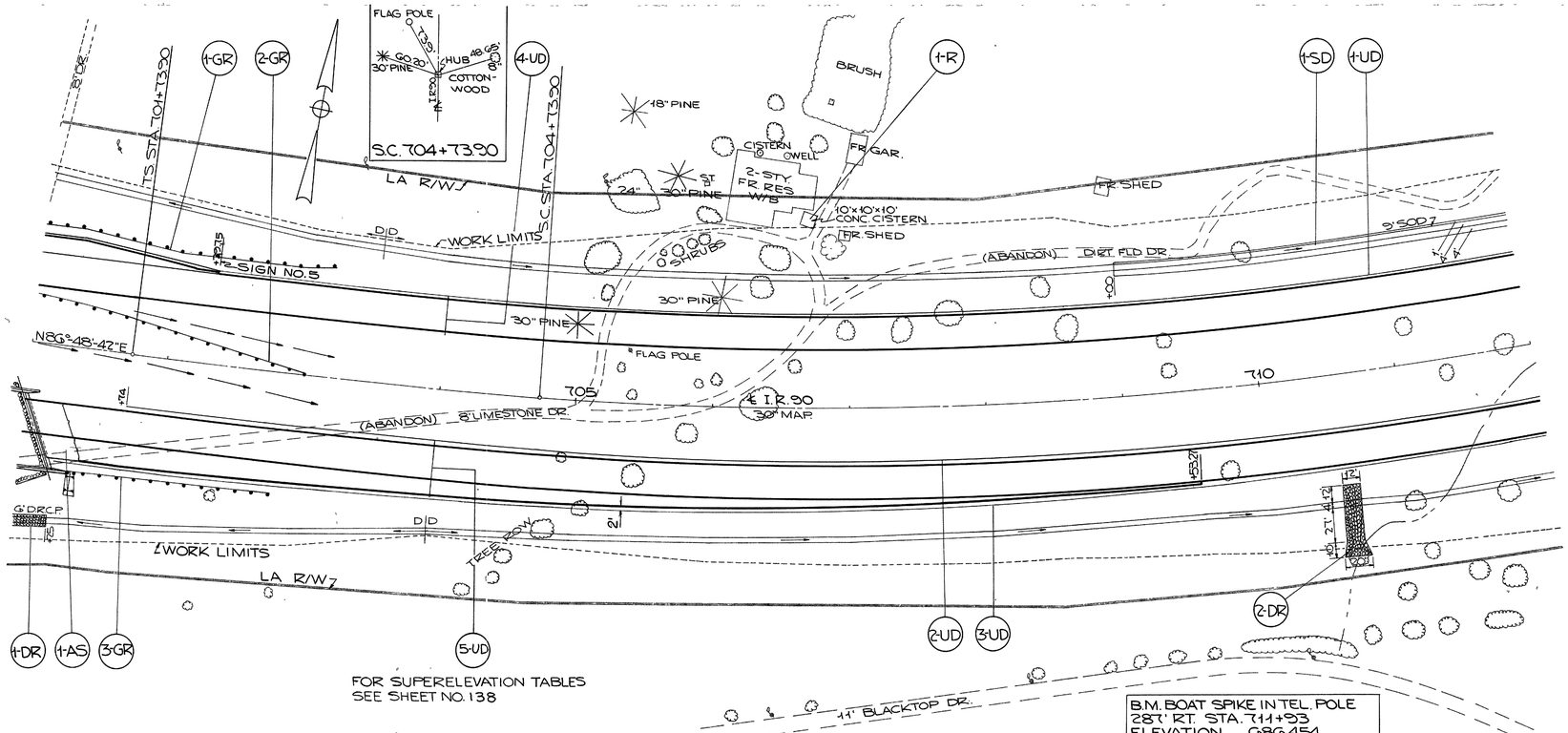
REFERENCE NO.	SIDE	STATION FROM	STATION TO	G05 SHALLOW PIPE UNDER DRAINS G" LIN.FT.	G03 CONDUIT TYPE F 6" LIN.FT.	G03 CONDUIT TYPE F 15" LIN.FT.	G03 CONDUIT TYPE B/B 15" LIN.FT.	G03 PIPE SPECIALS TYPE F 25° BENDS 15" EACH	G02 MASON. CLASS "C" STD. HW-E ENDWL CU.YD.	G05 PIPE SPECIALS 6" 30° BEND EACH	G05 PIPE SPECIALS 6" TEE EACH	G11 REINF. CONC. APPR. SLAB T=13" SQ.YDS.	G04 CATCH BASINS STD. NO. 4 EACH	G04 CATCH BASINS STD. NO. 22B EACH	G01 DUMPED ROCK CHANN. PROT. T=18" CU.YDS.	G67 JUTE MATTING SQ.YDS.
1-UD	LT.	G90+00	G94+18	418												
2-UD	LT.	G94+18				8				1						
3-UD	LT.	100+50	101+00	50												
4-UD	RT.	G90+00	G97+00	690		10										
5-UD	RT.	G97+00				8				1						
6-UD	RT.	G97+537	G99+36	183												
7-UD	RT.	G99+25		12		10					1					
1-D	RT.	G96+00	G97+00				122						1			140
2-D	RT.	G97+00				66	36	2	0.26					1	7	
3-D	RT.	G97+00	G97+50.48				50							1		
4-D	RT.	G97+50	G98+53				127							1		
1-AS	LT.	G98+488	G98+738									100.4				
2-AS	LT.	100+568	100+818									100.2				
3-AS	RT.	G98+888	G99+138									126.4				
1-DR	LT.	G99+64	100+25												23	
2-DR	RT.	100+86	101+00												9	
TOTALS				1353		36	736	2	0.26	2	1	327.0	1	2	1	39	140

REFERENCE NO.	SIDE	STATION FROM	STATION TO	G06 GUARD RAIL TYPE 4 LIN.FT.	G06 GUARD RAIL TYPE 4 BARRIER LIN.FT.	G60 SODDING SQ.YDS.
1-GR	LT.	100+53	101+00	47		
2-GR	LT.	100+78	101+00	22		
3-GR	RT.	G90+00	G90+75	75		
4-GR	LT. & RT.	G96+05	G99+01	150	150	
5-GR	RT.	G97+537	G99+32	178.73		
2-SD	RT.	G99+25				11
1-SD	RT.	G97+60	G99+00			99
TOTALS				472.73	150	110

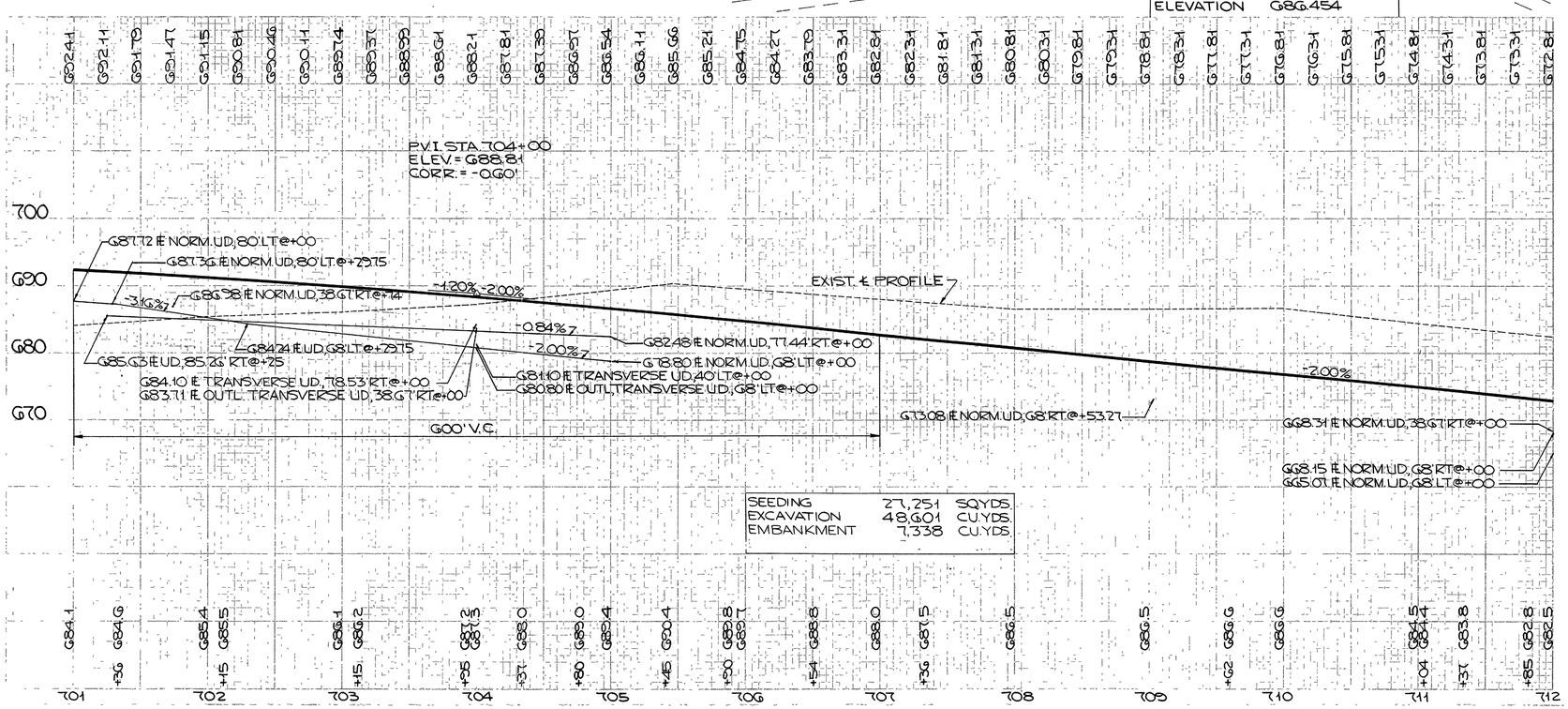
PROPOSED STRUCTURE — BRIDGE NO. LOR.-90-1355

TYPE — CONTINUOUS STEEL BEAM WITH REINFORCED CONCRETE DECK AND SUBSTRUCTURE
SPANS — 52', 74', 52', & BEARINGS
ROADWAY — LT. BRIDGE - 50' F/F PARAPETS
RT. BRIDGE - WIDTH VARIES FROM 59.27' TO 55.58' F/F PARAPETS
LOAD FREQUENCY — CF 2000 (57)
SKEW — 24°-49'-35" RF
WEARING SURFACE — 1" MONOLITHIC CONCRETE
APPROACH SLABS — AS-1-54 (25' LONG)
ALIGNMENT — TANGENT

STA. G90+00 TO STA. 701+00

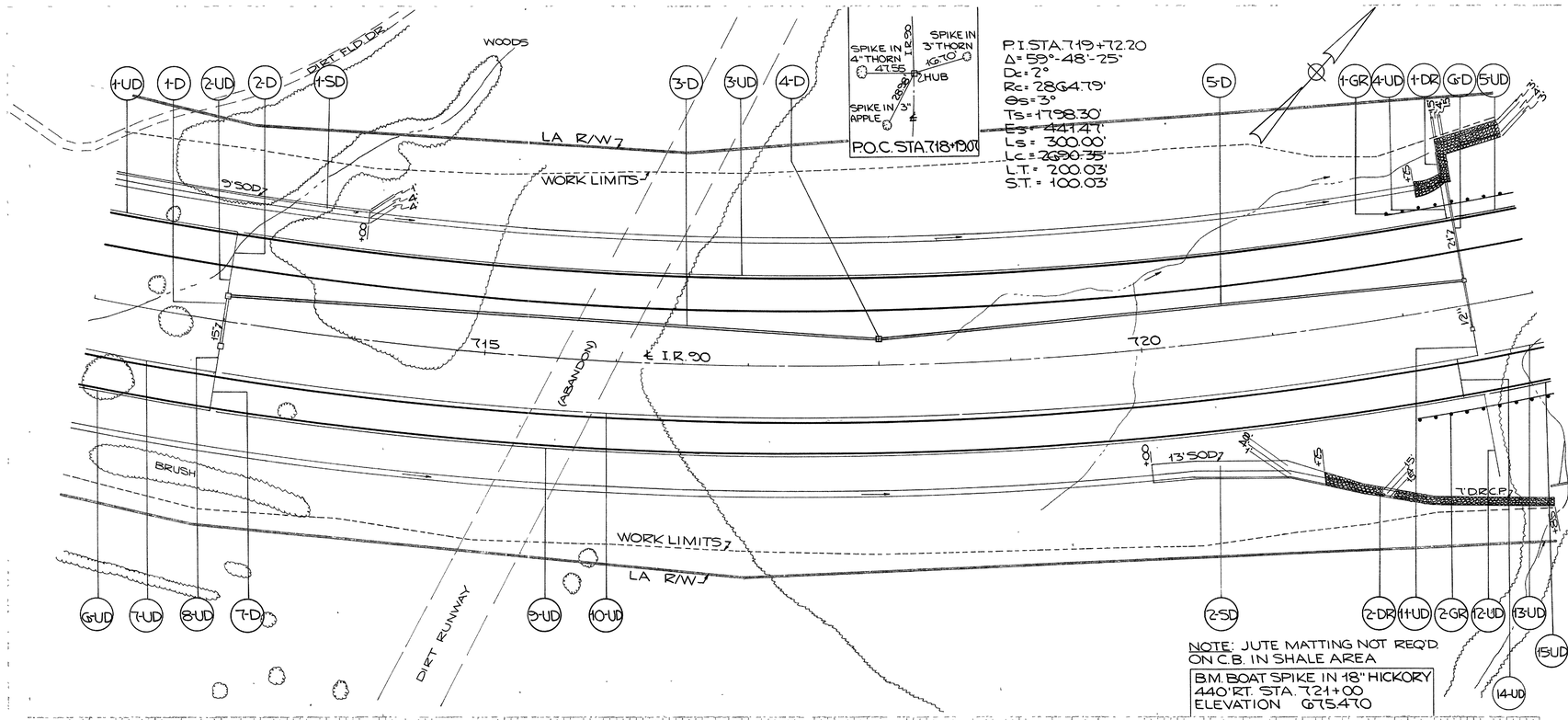


REFERENCE NO.	SIDE	STATION FROM	STATION TO	605 SHALLOW PIPE UNDER-DRAINS 6" LIN.FT.	605 DEEP PIPE UNDER-DRAINS 6" LIN.FT.	605 UNCLASSIFIED PIPE UNDER-DRAINS 707.06 OR 707.12 6" LIN.FT.	611 REINF. CONC. APPR. SLAB T=13" SQ.YDS.	601 DUMPED ROCK CHANN. PROT. 18" THICK CU.YDS.	606 GUARD RAIL TYPE 4 LIN.FT.	660 SODDING SQ.YDS.	605 PIPE SPECIALS 6" TEE EACH		202 EXIST. STRUCT. REMOVED LUMP
1-UD	LT.	701+00	712+00	30	1070								
2-UD	RT.	701+74	712+00	1026									
3-UD	RT.	701+25	712+00		1075								
4-UD	LT.	704+00				28					1		
5-UD	RT.	704+00				40					1		
1-AS	RT.	701+06.19	701+31.19				114.5						
1-SD	LT.	705+00	712+00							298			
1-DR	RT.	701+00	701+25					9					
2-DR	RT.	710+56						28					
1-R	LT.	706+70											LUMP
1-GR	LT.	701+00	703+15						215.5				
2-GR	LT.	701+00	702+01						203				
3-GR	LT.	701+35.5	702+85.5						150				
TOTALS				1056	2145	68	114.5	37	568.5	298	2		LUMP



SEEDING	27,251	SQ.YDS.
EXCAVATION	48,601	CU.YDS.
EMBANKMENT	7,338	CU.YDS.

STA. 701+00 TO STA. 712+00



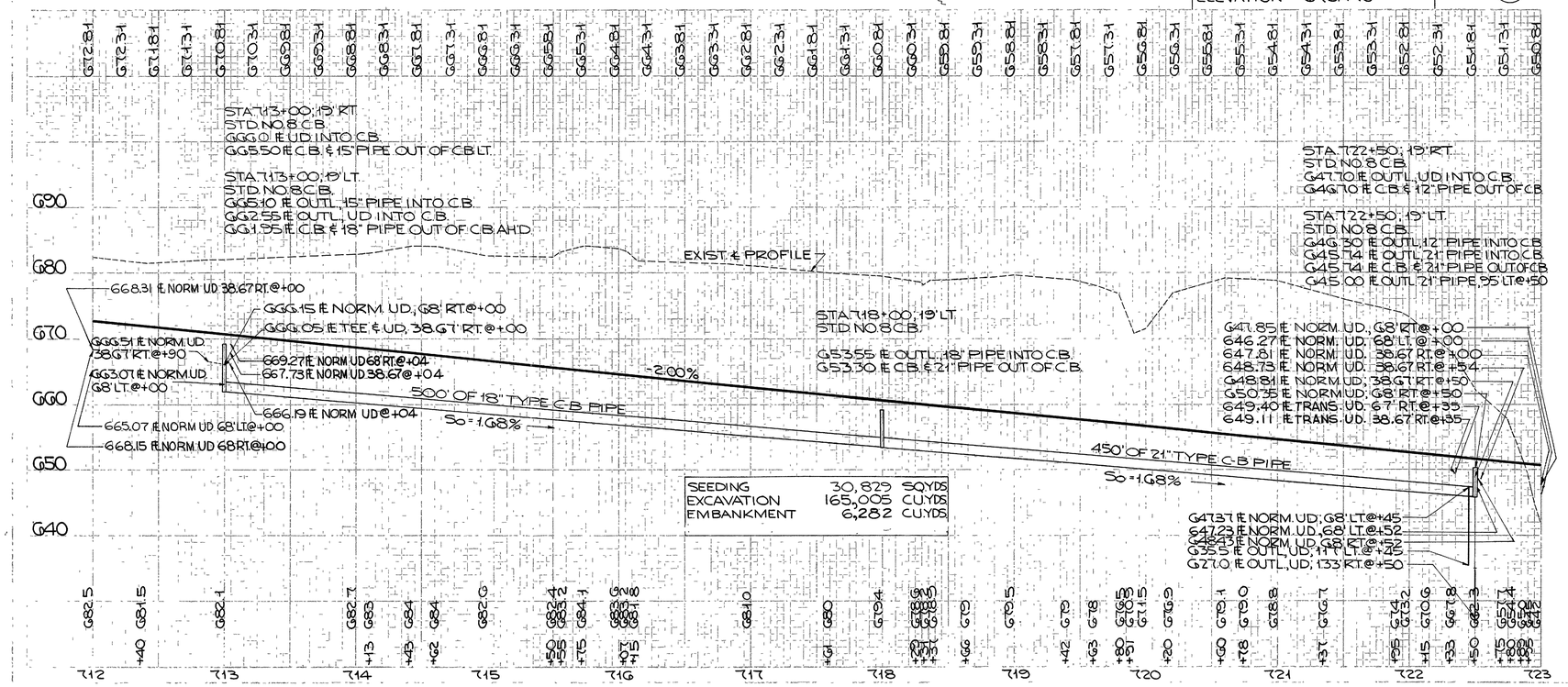
CROSS REFERENCES	
FOR DETAILS OF	SEE SHEET NO.
SUPERELEVATION	138

FED. RD. DIVISION	STATE	PROJECT		
2	OHIO			

48

LOR.-90-13.01

REFERENCE NO.	SIDE	STATION FROM	STATION TO	605 SHALLOW PIPE UNDERDRAIN 6" LIN.FT.	605 DEEP PIPE UNDERDRAINS 6" LIN.FT.	605 SHALLOW PIPE UNDERDRAINS 707.06 OR 707.12 6" LIN.FT.	603 CONDUIT TYPE F 6" LIN.FT.	605 UNCLASS PIPE UNDERDRAINS 707.06 OR 707.12 6" LIN.FT.	605 PIPE SPECIALS 6"-90° BEND EACH	605 PIPE SPECIALS 6" TEE EACH	603 PIPE SPECIALS TYPE 6"-75° BEND T EACH			606 GUARD RAIL TYPE 4 LIN.FT.
1-UD	LT.	712+00	713+00		100				1					
2-UD	LT.	713+00			10		10							
3-UD	LT.	713+04	722+48			944								
4-UD	LT.	722+45				40	10			1				
5-UD	LT.	722+52	723+00			48								
6-UD	RT.	712+00	713+00		100				1					
7-UD	RT.	712+00	713+00	90	10									
8-UD	RT.	713+00			10		10			1				
9-UD	RT.	713+04	722+50			946								
10-UD	RT.	713+04	722+50			946								
11-UD	RT.	722+50				10	10		1					
12-UD	RT.	722+50				12	59		1		2			
13-UD	RT.	722+54	723+00			46								
14-UD	RT.	722+35						28		1				
15-UD	RT.	722+52	723+00	48										
1-GR	LT.	722+00	723+00											98
2-GR	RT.	722+00	723+00											102
TOTALS				138	230	2992	99	28	4	3	2			200

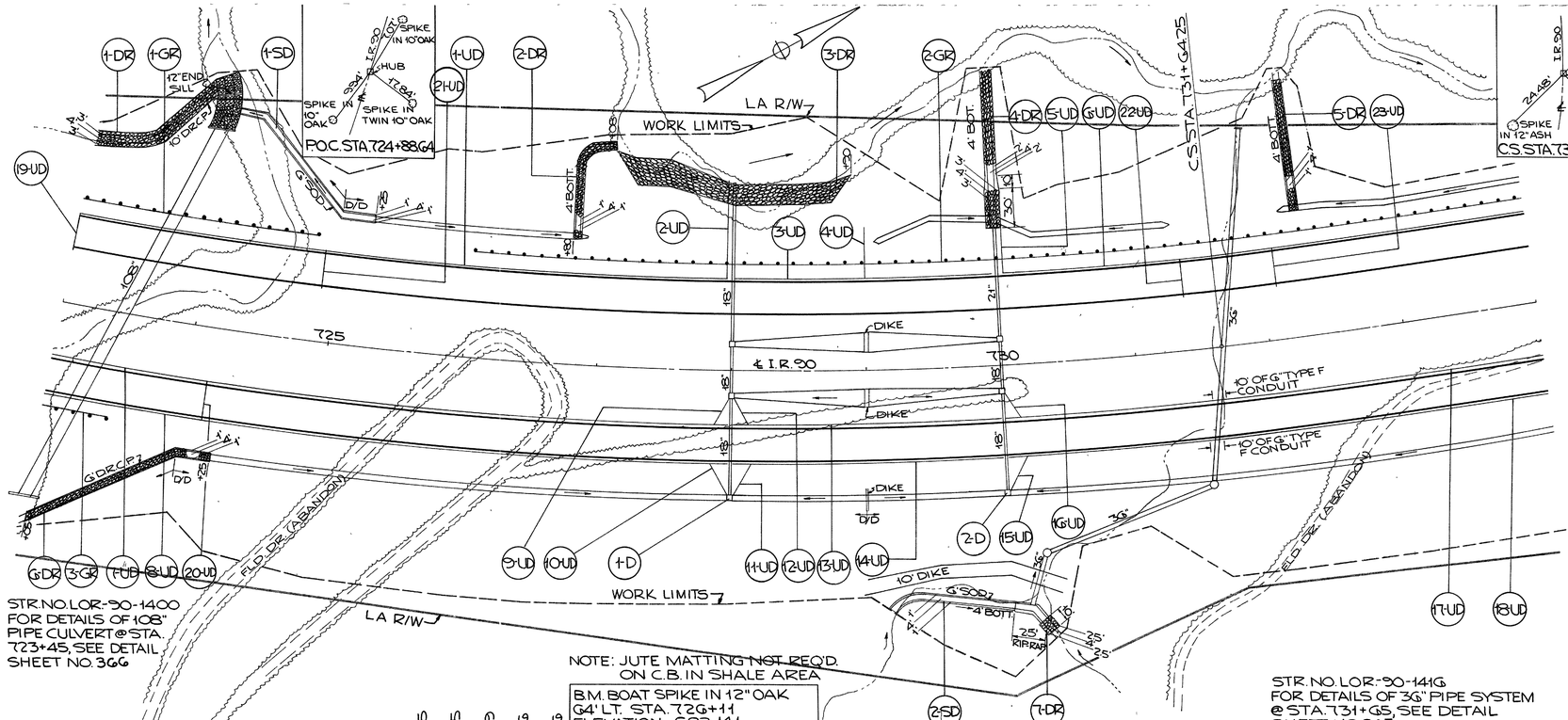


REFERENCE NO.	SIDE	STATION FROM	STATION TO	603 CONDUIT TYPE C-B 12" LIN.FT.	603 CONDUIT TYPE C-B 18" LIN.FT.	603 CONDUIT TYPE C-B 21" LIN.FT.	603 CONDUIT TYPE C-B 15" LIN.FT.	603 CONDUIT TYPE B-B 6" LIN.FT.	603 CONDUIT TYPE B-B 21" LIN.FT.	602 MASON CLASS "C" STD. HW-E ENDWL CU.YDS.	604 CATCH BASINS STD. NO. 8 EACH	601 DUMPED ROCK CHANN. PROT. T=18" CU.YDS.			606 SODDING SQ.YDS.	607 JUTE MATTING SQ.YDS.
1-D	LT.&RT.	713+00					38				2					250
2-D	LT.	713+00						29								
3-D	LT.	713+00	718+00		500											
4-D	LT.	718+00									1					
5-D	LT.	718+00	722+50			450										
6-D	LT.&RT.	722+50		38					76	0.36	2					
7-D	RT.	713+00					29									
1-SD	LT.	712+00	714+00												197	
2-SD	RT.	720+00	721+25												188	
1-DR	LT.	722+25	723+00									81				
2-DR	RT.	721+25	722+85									84				
TOTALS				38	500	450	38	58	76	0.36	5	165			385	250

STA. 712+00 TO STA. 723+00

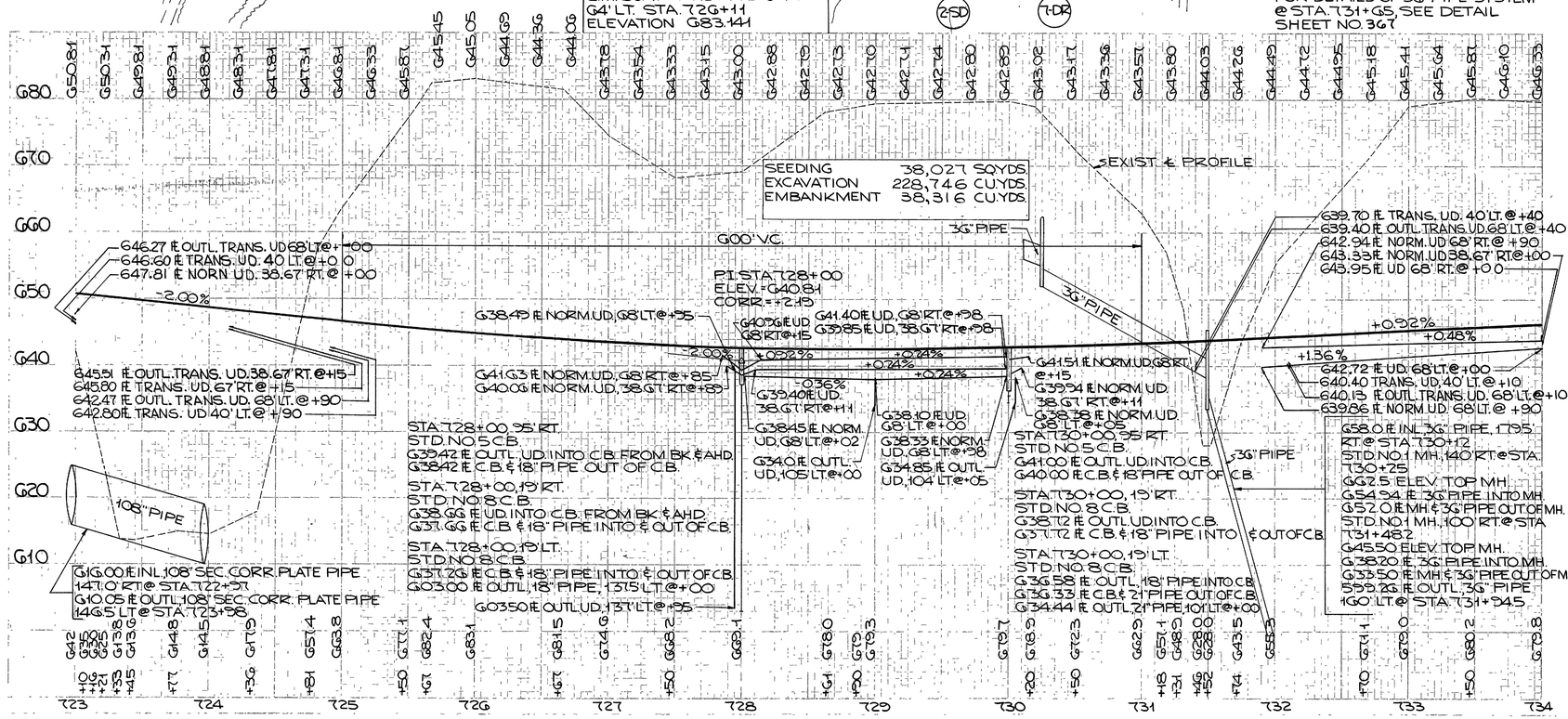
FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

LOR.-90-13.01



REFERENCE NO.	SIDE	STATION FROM	STATION TO	605 SHALLOW UNCLASS. PIPE UNDERDRAINS 707.06 OR 707.12 6" LIN. FT.	605 UNCLASS. PIPE UNDERDRAINS 707.06 OR 707.12 6" LIN. FT.	603 CONDUIT TYPE F 6" LIN. FT.	605 PIPE SPECIALS 6"-90° BEND EACH	605 PIPE SPECIALS 6"-60° WYE EACH	605 PIPE SPECIALS 6" TEE EACH	603 PIPE SPECIALS TYPE 6"-22½° BEND EACH
1-UD	LT.	723+00	727+95	495						
2-UD	LT.	727+95		16		70	1			2
3-UD	LT.	728+02	729+98	196						
4-UD	LT.	729+00		27		10			1	
5-UD	LT.	730+05		26		10	1			
6-UD	LT.	730+05	734+00	395						
7-UD	RT.	723+00	727+98	498						
8-UD	RT.	723+20	727+98	478						
9-UD	RT.	727+89	728+00	12		10		1		
10-UD	RT.	727+85	728+00	21		10		1		
11-UD	RT.	728+00	728+15	21		10		1		
12-UD	RT.	728+00	728+11	12		10		1		
13-UD	RT.	728+02	729+98	196						
14-UD	RT.	728+02	729+98	196						
15-UD	RT.	730+00	730+15	21		10		1		
16-UD	RT.	730+00	730+11	12		10		1		
17-UD	RT.	730+02	734+00	388		10				
18-UD	RT.	730+02	734+00	388		10				
19-UD	LT.	723+00			28				1	
20-UD	RT.	724+15			28				1	
21-UD	LT.	724+90			28				1	
22-UD	LT.	731+40			28				1	
23-UD	LT.	732+10			28				1	
TOTALS				3418	140	170	2	6	6	2

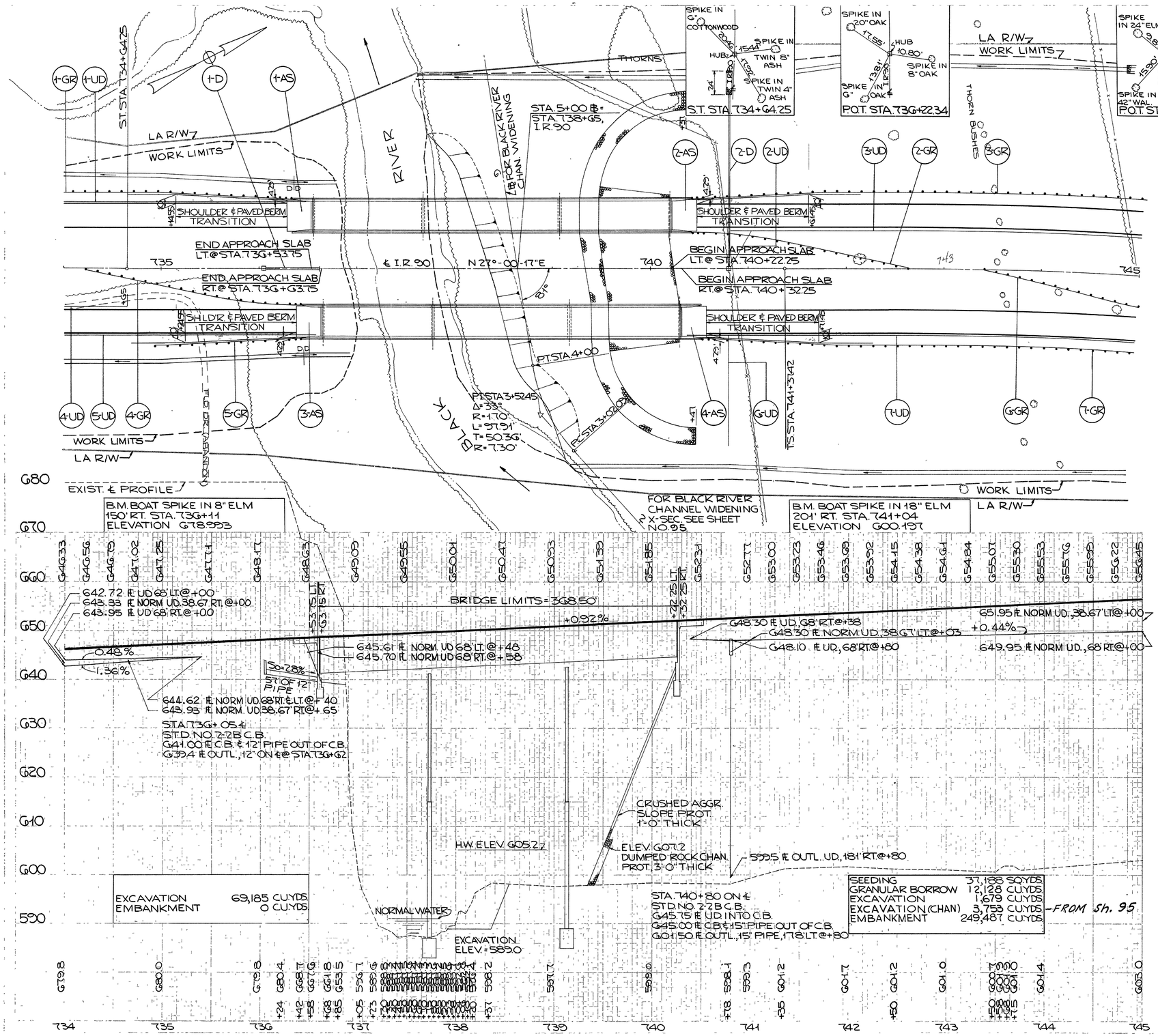
REFERENCE NO.	SIDE	STATION FROM	STATION TO	603 CONDUIT TYPE C-B 18" LIN. FT.	603 CONDUIT TYPE B-B 18" LIN. FT.	603 CONDUIT TYPE B-B 21" LIN. FT.	603 CONDUIT TYPE F 18" LIN. FT.	602 CONC. MASON CLASS STD. HW-E ENDWL CU. YD.	603 PIPE SPECIALS TYPE F 18"-25° BEND EACH	604 CATCH BASINS STD. NO. 5 EACH	604 CATCH BASINS STD. NO. 8 EACH	601 DUMPED ROCK CHANN. PROT. T=18" CU. YDS.	601 DUMPED ROCK CHANN. PROT. T=36" CU. YDS.	660 SODDING SQ. YDS.	606 GUARD RAIL TYPE 4 LIN. FT.
1-D	LT.&RT.	728+00		38	136		70	0.30	2	1	2				
2-D	LT.&RT.	730+00		38	136	82		0.36		1	2				
1-SD	LT.	724+10	725+25											91	
2-SD	RT.	729+15	730+02											60	
1-DR	LT.	723+00	724+00									60			
2-DR	LT.	726+80	727+08									34			
3-DR	LT.	727+08	728+90										366		
4-DR	LT.	730+00										59			
5-DR	LT.	732+30										36			
6-DR	RT.	723+05	724+25									51			
7-DR	RT.	730+30										5			
1-GR	LT.	723+00	724+82	70											177
2-GR	LT.	726+03	734+00												785
3-GR	RT.	723+00	723+46	02											48
TOTALS				76	212	82	70	0.66	2	2	4	245	366	151	10035



STA. 723+00 TO STA. 734+00

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

LOR.-90-13.01



EXCAVATION	
EMBANKMENT	69,185 CUYDS.
	0 CUYDS.

SEEDING	37,188 SQYDS.
GRANULAR BORROW	12,128 CUYDS.
EXCAVATION	1,679 CUYDS.
EXCAVATION (CHAN)	3,753 CUYDS. —FROM Sh. 95
EMBANKMENT	249,487 CUYDS.

REFERENCE NO.	SIDE	STATION FROM	STATION TO	605 SHALLOW PIPE UNDER-DRAINS 707.06 OR 707.12 6" LIN.FT.	605 SHALLOW PIPE UNDER-DRAINS 6" LIN.FT.	605 DEEP PIPE UNDER-DRAINS 6" LIN.FT.	603 CONDUIT TYPE F 6" LIN.FT.	605 PIPE SPECIALS 6" TEE EACH	605 PIPE SPECIALS 6"×60° WYE EACH	605 PIPE SPECIALS TYPE 6" 75° BEND EACH		611 REINF. CONC. APPR. SLABS 13" THICK SQYDS.	606 GUARD RAIL TYPE 4 LIN.FT.	
1-UD	LT.	734+00	736+48	248										
2-UD	LT.	740+80	741+03			35	10		1					
3-UD	LT.	740+82	745+00		418									
4-UD	RT.	734+00	734+65	65										
5-UD	RT.	734+00	736+58	258										
6-UD	RT.	740+80				9	115	1		2				
7-UD	RT.	740+38	745+00		462									
1-GR	LT.	734+00	736+34										234	
2-GR	LT.	740+42	742+64										225	
3-GR	LT.	740+42	745+00										462.5	
4-GR	RT.	734+23	736+44										225	
5-GR	RT.	734+94	736+44										150	
6-GR	RT.	743+42	745+00										162.5	
7-GR	RT.	740+52	745+00										437.5	
1-AS	LT.	736+28.75	736+53.75									86.8		
2-AS	LT.	740+22.25	740+47.25									86.8		
3-AS	RT.	736+38.75	736+63.75									86.8		
4-AS	RT.	740+32.25	740+57.25									86.8		
TOTALS				571	880	44	125	1	1	2		347.2	1826.5	

REFERENCE NO.	SIDE	STATION FROM	STATION TO	603 CONDUIT TYPE C-B 12" LIN.FT.	603 CONDUIT TYPE B-B 15" LIN.FT.	603 CONDUIT TYPE F 15" LIN.FT.	602 MASON. CLASS C STD. HW-E ENDWL. CUYDS.	604 CATCH BASINS STD. NO. 2-2B EACH	603 PIPE SPECIAL TYPE F 15" 75° BENDS EACH		601 DUMPED ROCK CHANN. PROT. T=18" CUYDS.	
1-D	℄	736+05	736+62	57			0.23	1				
2-D	LT.	740+80			84	104	0.26	1	2		8	
TOTALS				57	84	104	0.49	2	2		8	

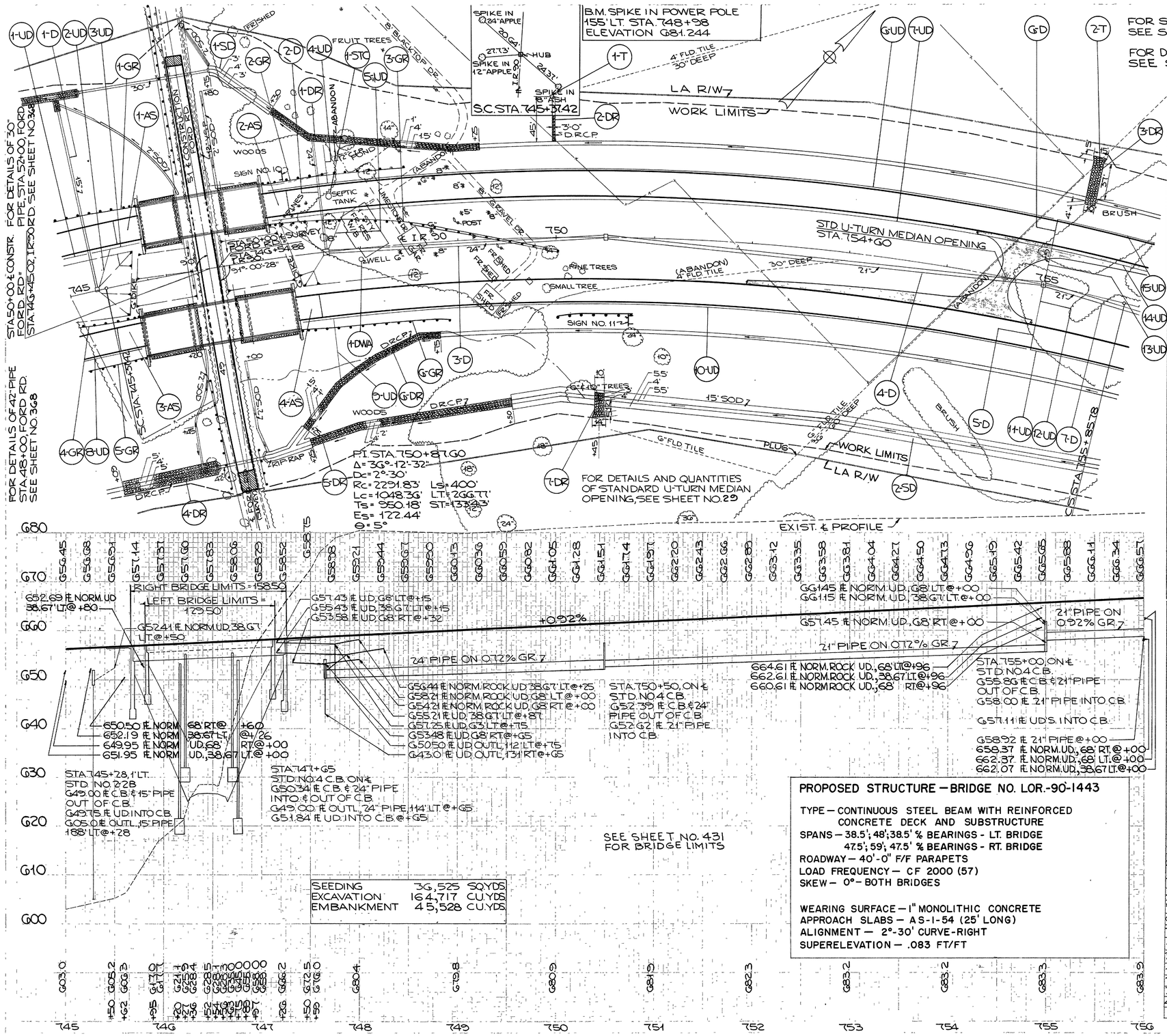
PROPOSED STRUCTURE — BRIDGE NO. LOR.-90-1426

TYPE — CONTINUOUS STEEL GIRDER WITH REINFORCED CONCRETE DECK AND SUBSTRUCTURE
SPANS — 112'; 140'; 112'; ⅝ BEARINGS
ROADWAY — 30'-0" F/F, 2'-0" SAFETY CURBS
SKEW — 0° (STAGGERED 10.00')
LOAD FREQUENCY — CF 2000 (57)
WEARING SURFACE — 1" MONOLITHIC CONCRETE
APPROACH SLABS — AS-1-54 (25' LONG, MODIFIED)
ALIGNMENT — TANGENT

STA. 734+00 TO STA. 745+00

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

LOR.-90-13.01



PROPOSED STRUCTURE — BRIDGE NO. LOR.-90-1443

TYPE — CONTINUOUS STEEL BEAM WITH REINFORCED CONCRETE DECK AND SUBSTRUCTURE
SPANS — 38.5'; 48'; 38.5' % BEARINGS - LT. BRIDGE
47.5'; 59'; 47.5' % BEARINGS - RT. BRIDGE
ROADWAY — 40'-0" F/F PARAPETS
LOAD FREQUENCY — CF 2000 (57)
SKEW — 0° - BOTH BRIDGES

WEARING SURFACE — 1" MONOLITHIC CONCRETE
APPROACH SLABS — AS-1-54 (25' LONG)
ALIGNMENT — 2°-30' CURVE-RIGHT
SUPERELEVATION — .083 FT/FT

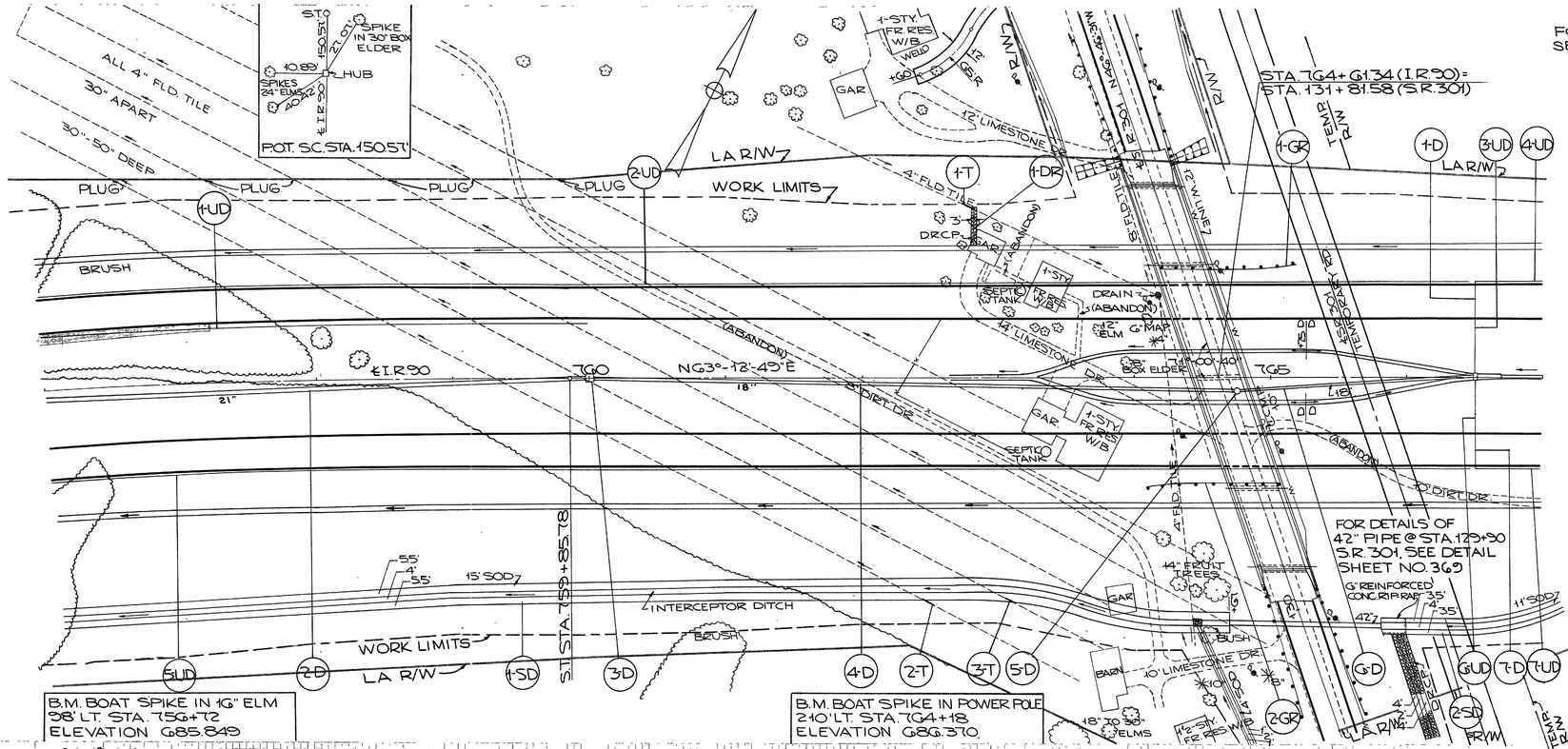
REFERENCE NO.	SIDE	STATION FROM	STATION TO	605 SHALLOW PIPE UNDERDRAIN 6" LIN. FT.	605 DEEP PIPE UNDERDRAIN 6" LIN. FT.	605 SHALLOW PIPE UNDERDRAIN 707.06 OR 707.12 6" LIN. FT.	603 CONDUIT TYPE F 6" LIN. FT.	605 PIPE SPECIALS 6" TEE EACH	6" 90° BEND EACH	6" 60° WYE EACH		SPECIAL CLEAN & DISPOS OF SEPTIC TANK EACH	SPECIAL DRILLED WELLS ABAND EACH	606 GUARD RAIL TYPE 4 LIN. FT.	606 GUARD RAIL TYPE 4 BARRIER LIN. FT.
1-UD	LT.	745+00	745+26	26											
2-UD	LT.	745+28	745+50		34		10			1					
3-UD	LT.	745+30	745+80	50											
4-UD	LT.	747+75				44			1						
5-UD	LT.	747+65	747+87			34	10			1					
6-UD	LT.	747+15	754+96			781									
7-UD	LT.	747+15	754+96			781									
8-UD	RT.	745+00	745+60	60											
9-UD	RT.	747+65				63			1						
10-UD	RT.	747+32	754+96			764									
11-UD	RT.	755+00	756+00		100				1						
12-UD	RT.	755+00			29		10								
13-UD	LT.	755+00			29		10		1						
14-UD	LT.	755+00	756+00	100											
15-UD	LT.	755+00			100				1						
1-DWA	RT.	748+00											1		
1-STC	LT.	747+75										1			
1-GR	LT.	745+00	745+83											87.5	
2-GR	LT.	747+09	748+55											150	
3-GR	LT. & RT.	747+10	750+04											150	150
4-GR	RT.	745+00	745+65											62.5	
5-GR	RT.	745+00	745+63											62.5	
6-GR	RT.	747+29	748+85											150	
TOTALS				236	292	2467	40		3	2	2		1	1	662.5	150

REFERENCE NO.	SIDE	STATION FROM	STATION TO	603 CONDUIT TYPE C-B 21" LIN. FT.	24" LIN. FT.	603 CONDUIT TYPE B-B 6" LIN. FT.	15" LIN. FT.	603 CONDUIT TYPE F 24" LIN. FT.	6" LIN. FT.	15" LIN. FT.	602 MASON. STD HW-E ENDWL CU. YDS.	603 PIPE SPECIAL TYPE F 25° BEND 15" EACH	611 REINF CONC. APPR. SLABS 13" THICK SQ. YDS.	604 CATCH BASIN STD. NO. 4 EACH	228 EACH	601 DUMPED ROCK CHANN. PROT. T=18" CU. YDS.	600 SODDING SQ. YDS.	607 JUTE MATTING SQ. YDS.
1-D	LT.	745+28				92				108	0.26	2			1			
2-D	LT.	747+65					114				0.41			1				140
3-D	RT.	747+65	750+50		285									1				140
4-D	RT.	750+50	755+00	450										1				140
5-D	RT.	755+00				30												
6-D	LT.	755+00				30												
7-D	RT.	755+00	756+00	100														
1-T	LT.	750+00						10										
2-T	LT.	755+30						10										
1-DR	LT.	747+30	749+25													84		
2-DR	LT.	750+00														8		
3-DR	LT.	755+30														27		
4-DR	RT.	745+09	745+87													64		
5-DR	RT.	747+25	749+50													99		
6-DR	RT.	747+25	748+75													65		
7-DR	RT.	750+45														13		
1-SD	LT.	746+75	747+30														92	
2-SD	RT.	749+50	756+00														1076	
1-AS	LT.	745+58.16	745+88.18										667					
2-AS	LT.	747+09.40	747+33.82										667					
3-AS	RT.	745+37.11	745+65.31										667					
4-AS	RT.	747+27.16	747+53.24										667					
TOTALS				550	285	60	92	114	20	108	0.67	2	2668	3	1	360	1188	420

STA. 745+00 TO STA. 756+00

LOR.-90-13.01

FOR DETAILS OF SR301
SEE SHEET NO'S 323 TO 329



STA. 755+00 TO STA. 767+00

REFERENCE NO.	SIDE	STATION FROM	STATION TO	605 SHALLOW PIPE UNDER-DRAINS 6" LIN.FT.	605 DEEP PIPE UNDER-DRAINS 6" LIN.FT.	603 CONDUIT TYPE F 6" LIN.FT.		605 PIPE SPECIAL 6"-30° BEND EACH		601 DUMPED ROCK CHANN. PROT. T=18" CU.YDS.	606 GUARD RAIL TYPE 4 LIN.FT.	660 SODDING SQ.YDS.
1-UD	LT.	755+00	760+045	405								
2-UD	LT.	755+00	766+46		1046							
3-UD	LT.	766+50			29	10						
4-UD	LT.	766+50	767+00		50			1				
5-UD	RT.	755+00	766+46		1046							
6-UD	RT.	766+50			29	10						
7-UD	RT.	766+50	767+00		50			1				
1-DR	LT.	762+80								6		
1-GR	LT.	764+20	765+20								100	
2-GR	RT.	764+10	765+10								100	
1-T	LT.	762+80				10						
2-T	RT.	762+50				10						
3-T	RT.	763+10				10						
1-SD	RT.	755+00	764+67									1570
2-SD	RT.	766+00	767+00									137
TOTALS				405	2250	50		2		6	200	1707

REFERENCE NO.	SIDE	STATION FROM	STATION TO	603 CONDUIT TYPE C-B 21" LIN.FT.	603 CONDUIT TYPE C-B 18" LIN.FT.	603 CONDUIT TYPE B-B 6" LIN.FT.		604 CATCH BASIN STD. NO. 4 EACH	604 MANHOLE STD. NO. 1 EACH			607 JUTE MATTING SQ.YDS.	
1-D	LT.	766+50				30							
2-D	RT.	755+00	760+00	400									
3-D	℄	760+00						1				140	
4-D	RT.	760+00	764+75		475								
5-D	RT.	764+75							1				
6-D	℄	764+75	766+50		175			1				140	
7-D	RT.	766+50				30							
TOTALS				400	650	60		2	1			280	

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

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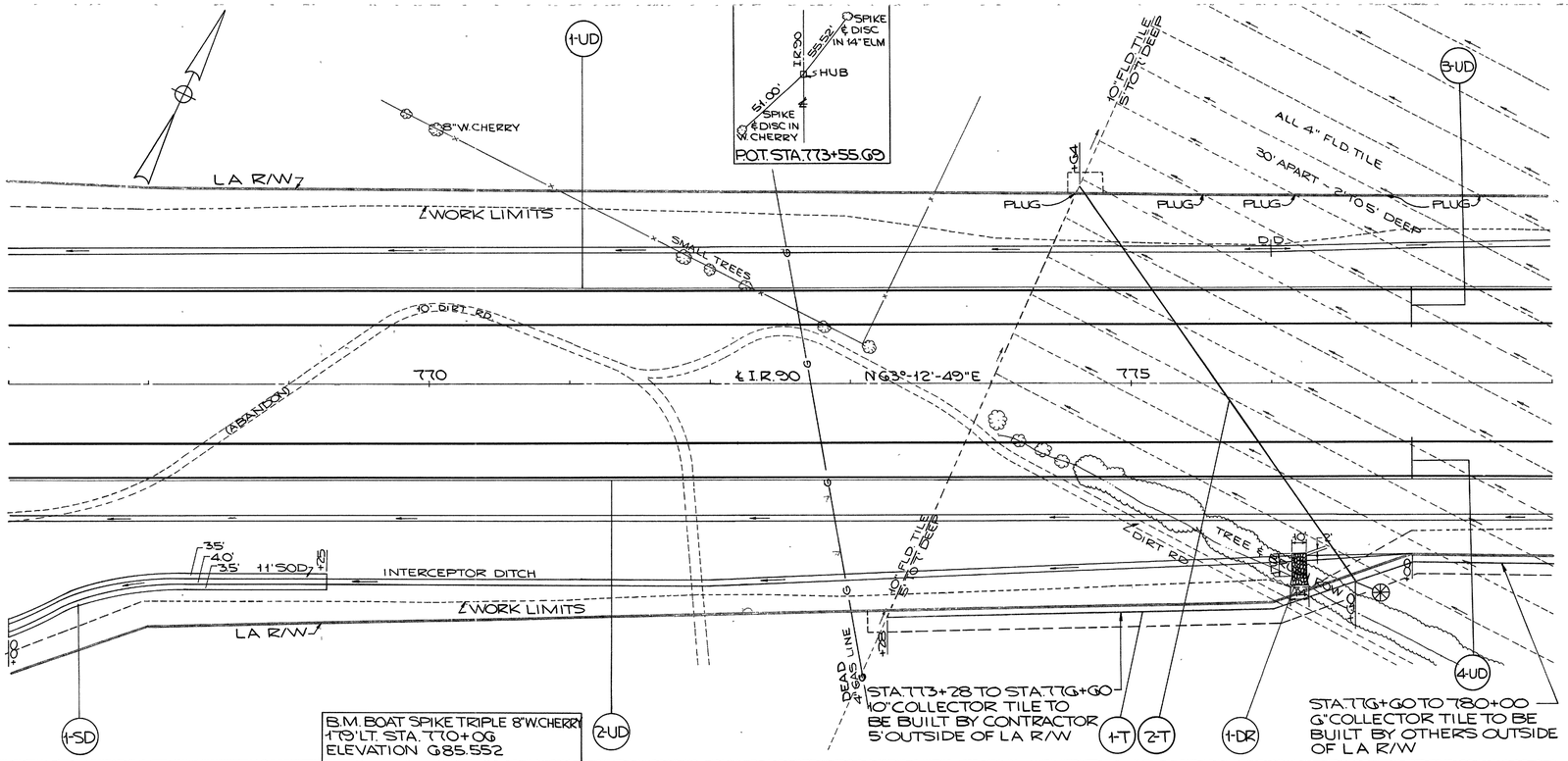
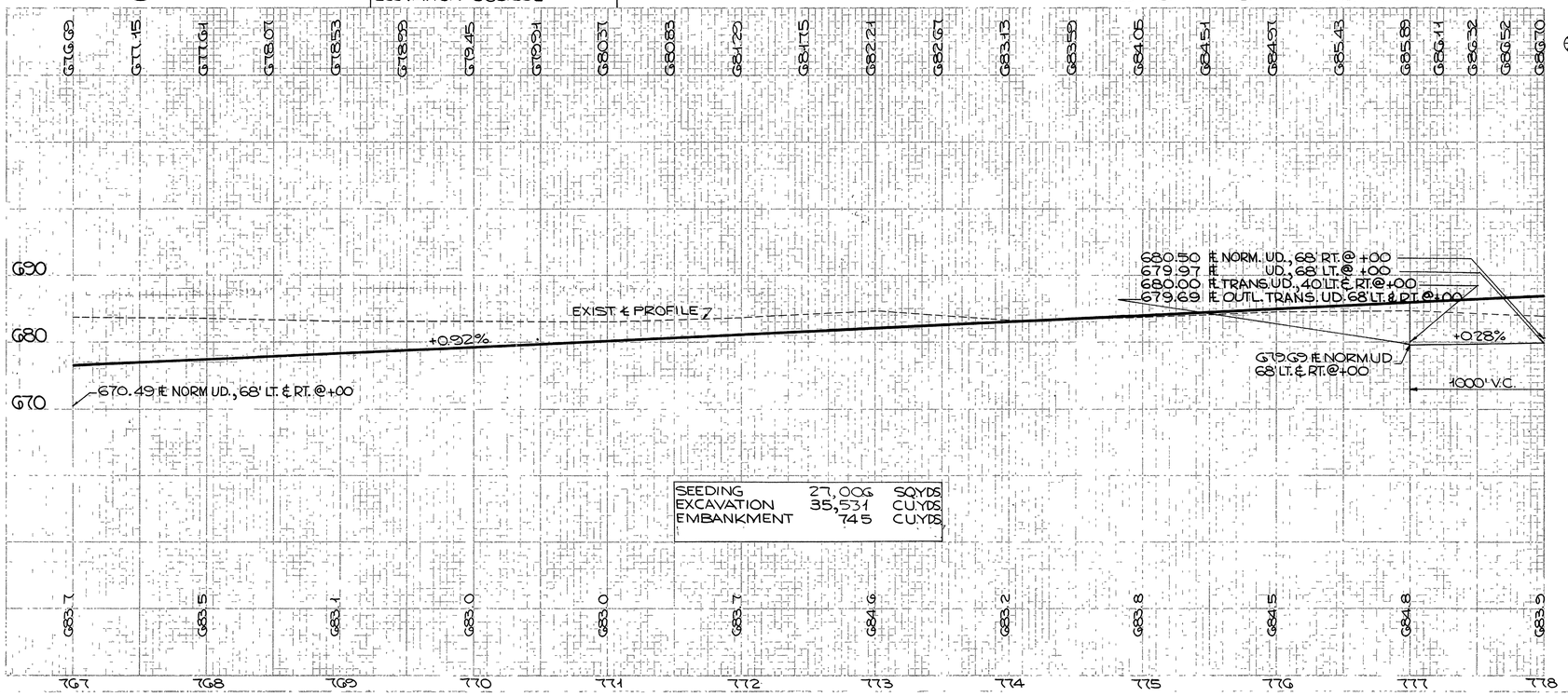


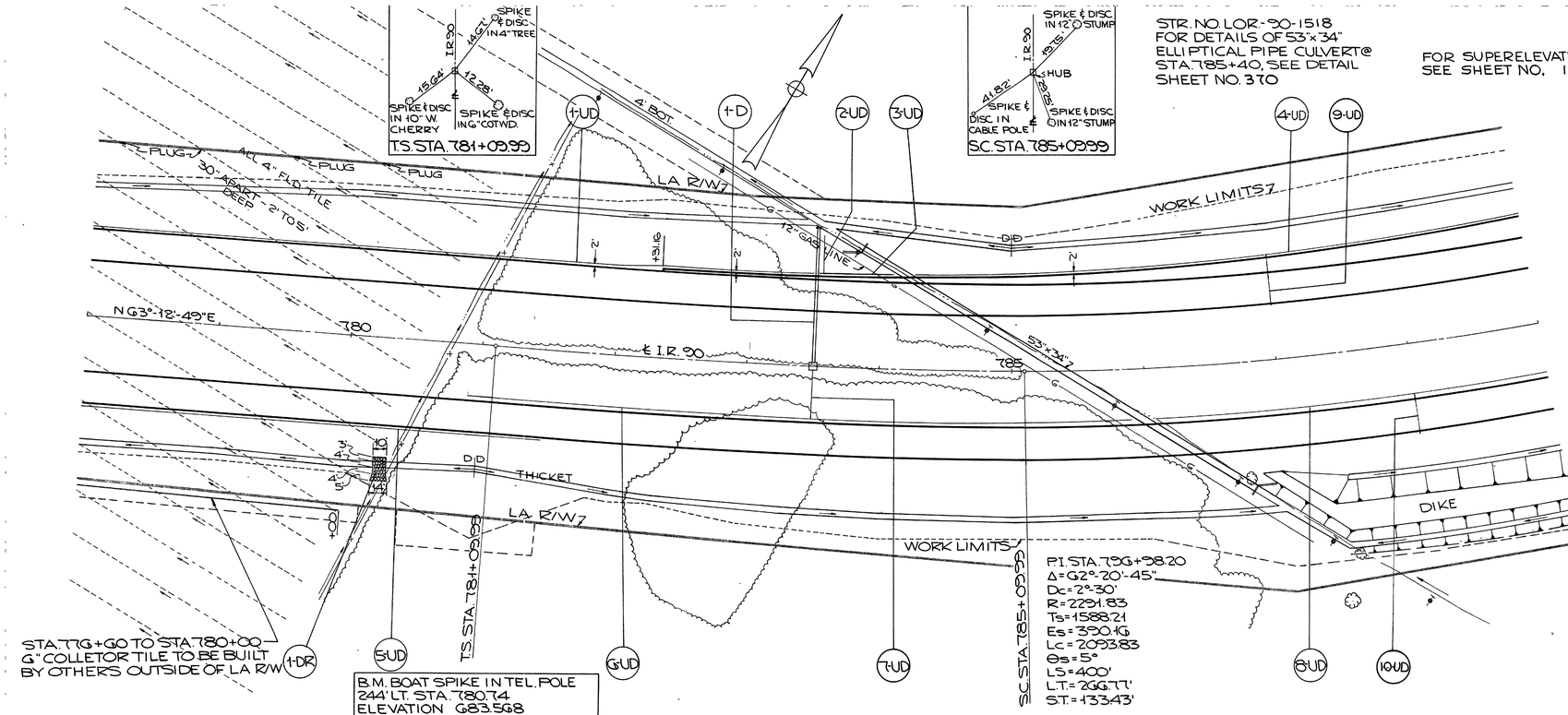
REFERENCE NO.	SIDE	STATION FROM	STATION TO	605 DEEP PIPE UNDERDRAINS 6" LIN.FT.	603 CONDUIT TYPE B-B 12" LIN.FT.			603 CONDUIT TYPE E 706.07 706.08 OR 706.09 10" LIN.FT.	605 UNCLASS. PIPE UNDERDRAINS 706.06 OR 706.12 6" LIN.FT.	605 PIPE SPECIALS 6" TEE EACH		601 DUMPED ROCK CHANN. PROT. T=18" CU.YDS.	660 SODDING SQ.YDS.	
1-UD	LT.	767+00	778+00	1100										
2-UD	RT.	767+00	778+00	1100										
3-UD	LT.	777+00							28	1				
4-UD	RT.	777+00							28	1				
1-SD	RT.	767+00	765+25										302	
1-DR	RT.	776+25										14		
1-T	RT.	773+28	776+60					339						
2-T	LT.&RT.	774+64	776+60		342									
TOTALS				2200	342			339	56	2		14	302	

⊛ COLLECTOR TILE LOCATION SHALL BE MARKED UNTIL SUCH TIME AS COLLECTOR TILE BY OTHERS CAN BE CONNECTED.

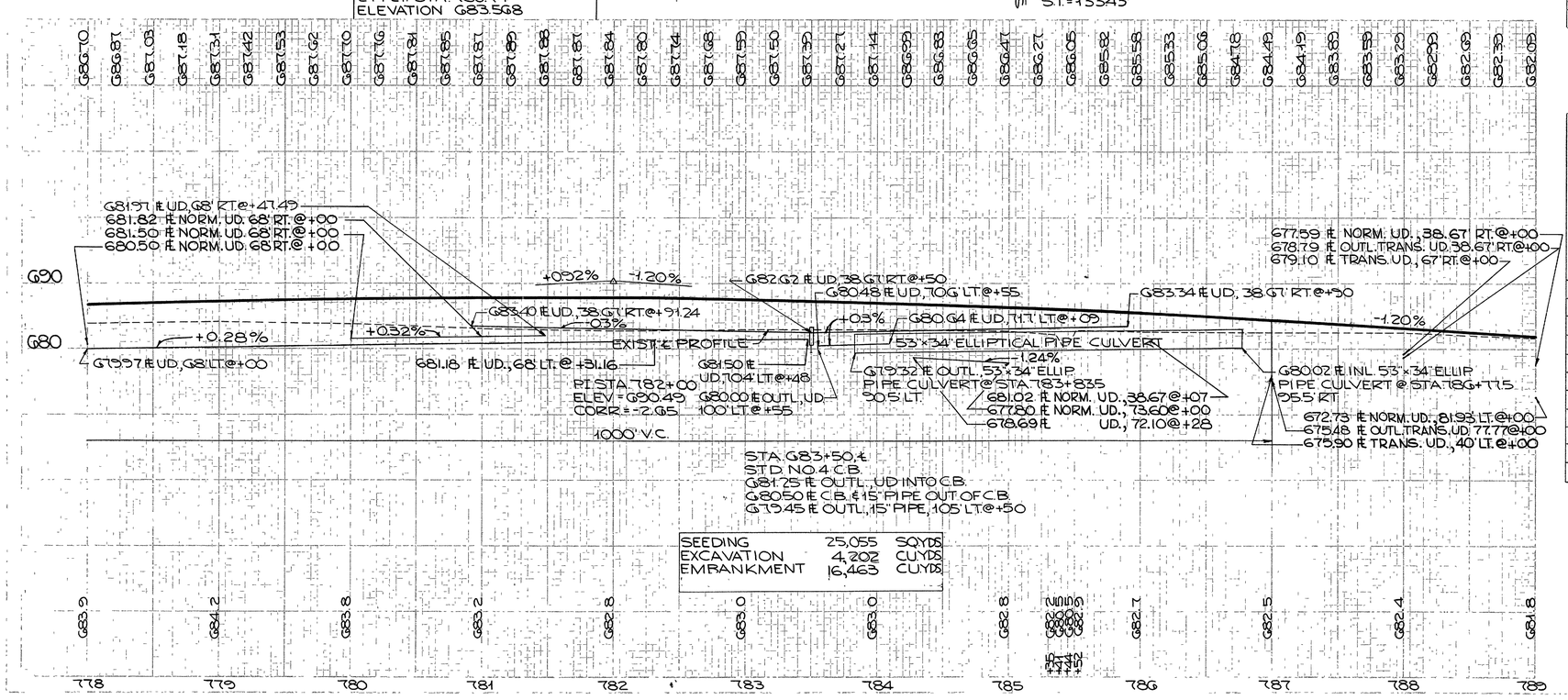


SEEDING	27,006	SQ.YDS.
EXCAVATION	35,531	CU.YDS.
EMBANKMENT	745	CU.YDS.

STA. 767+00 TO STA. 778+00



REFERENCE NO.	SIDE	STATION FROM	STATION TO	605 DEEP PIPE UNDER-DRAINS 6" LIN. FT.	603 CONDUIT TYPE F 6" LIN. FT.	605 UNCLASS PIPE UNDER DRAINS 706.06 OR 706.12 6" LIN. FT.	605 PIPE SPECIALS 6" TEE EACH	6" 90° BEND EACH
1-UD	LT.	778+00	783+48	548				
2-UD	LT.	883+55		29	10		1	
3-UD	LT.	783+52	784+09	57				
4-UD	LT.	784+28	789+00	472				
5-UD	RT.	778+00	781+47.49	348				
6-UD	RT.	780+91.24	785+90	499				
7-UD	RT.	783+50		29	10		1	
8-UD	RT.	786+07	789+00	293				
9-UD	LT.	787+00				38	1	
10-UD	RT.	788+00				28	1	
TOTALS				2275	20	66	4	



REFERENCE NO.	SIDE	STATION FROM	STATION TO	603 CONDUIT TYPE B-B 15" LIN. FT.		602 MASON. STD. HW-E ENDW. CLASS C CU.YDS.	604 CATCH BASIN STD. NO. 4 EACH					601 DUMPED ROCK CHANN. PROT. T=18" CU.YDS.	667 JUTE MATTING SQ.YDS.
1-D	LT.	783+50		105		0.26	1						275
1-DR	RT.	780+28										10	
TOTALS				105		0.26	1					10	275

STA. 778+00 TO STA. 789+00

FED. RD. DIVISION	STATE	PROJECT	
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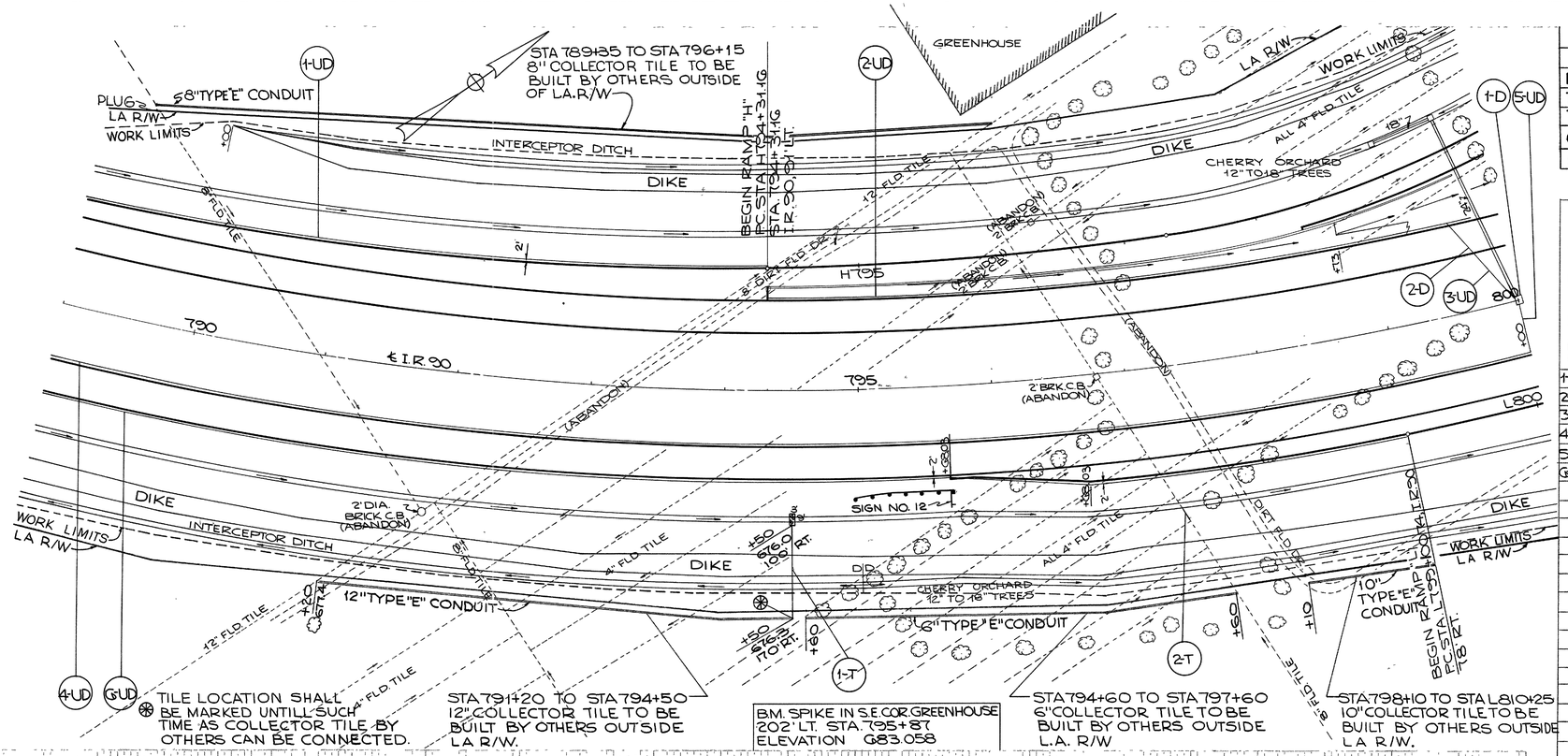
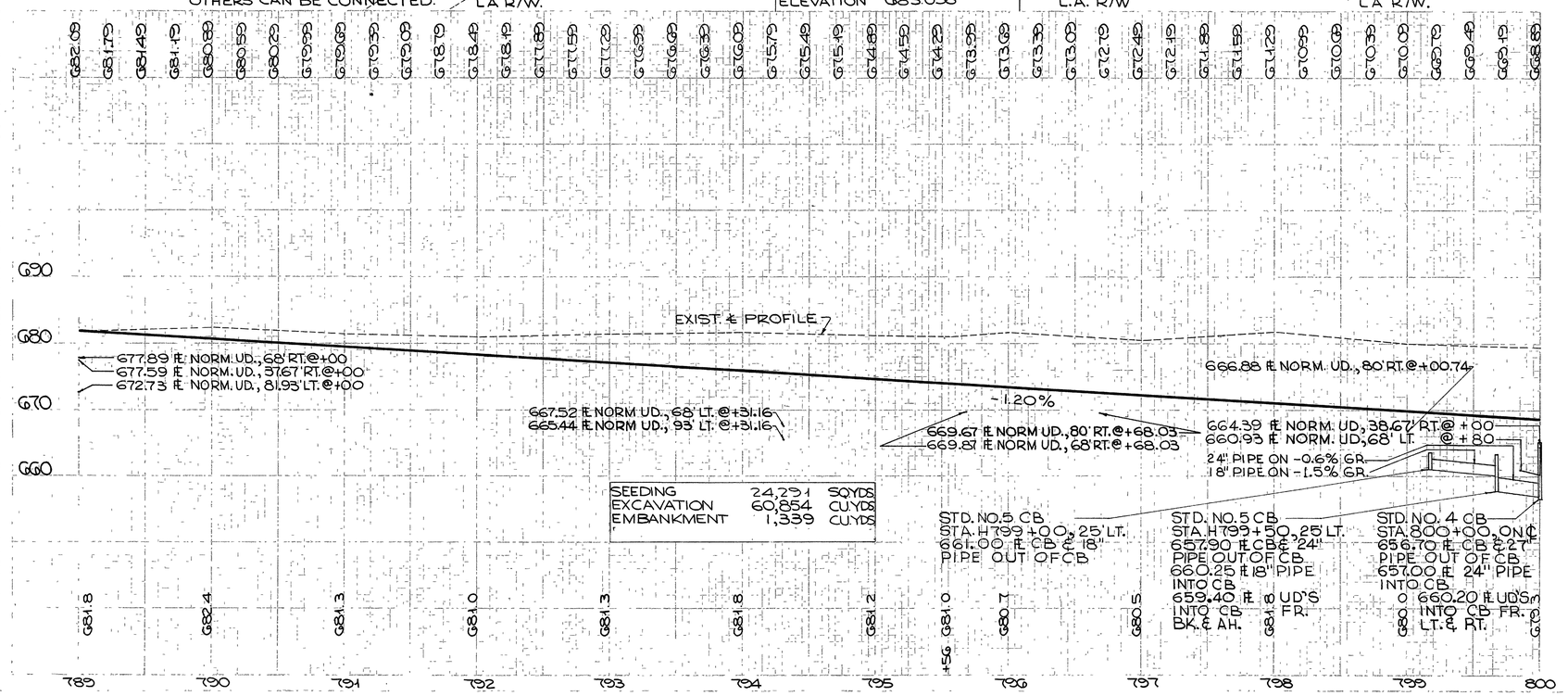
CROSS REFERENCES	
FOR	SEE SHEET NO.
RAMP DETAILS	243,259,267
TAPER DETAILS	265,266
TAPER TYP. SEC.	266
GRADING PLANS	237,239,242
SUPERELEVATION	139



REFERENCE NO.	SIDE	STATION FROM	STATION TO	G05 SHALLOW PIPE UNDERDRAINS 6" LIN.FT.	G05 DEEP PIPE UNDERDRAINS 6" LIN.FT.	G03 CONDUIT TYPE F 6" LIN.FT.		G05 PIPE SPECIALS 6"30° BEND EACH	G5"60° WYE EACH					
1-UD	LT.	789+00	794+31.16		531									
2-UD	LT.	794+31.16	799+80		549				1					
3-UD	LT.	799+60	800+00		38	10								
4-UD	RT.	789+00	800+00	1100										
5-UD	RT.	800+00			79	10		1						
6-UD	RT.	789+00	799+00.74		1001									
TOTALS				1100	2148	20		1	1					



REFERENCE NO.	SIDE	STATION FROM	STATION TO	G03 CONDUIT TYPE B 6" LIN.FT.	G04 CATCH BASINS STD. NO. 4 EACH			G03 CONDUIT TYPE E 706.07, 706.08 OR 706.09 LIN.FT.	12"	G03 CONDUIT TYPE F 8"	12"	G01 DUMPED ROCK CHANN. PROT. T=18" CU.YDS.		GG7 JUTE MATTING SQ.YDS.
1-D	℄	800+00			1									140
2-D	LT.	799+80		30										
1-T	RT.	794+50							60		10	2		
2-T	RT.	797+35								10				
TOTALS				30	1				60	10	10	2		140

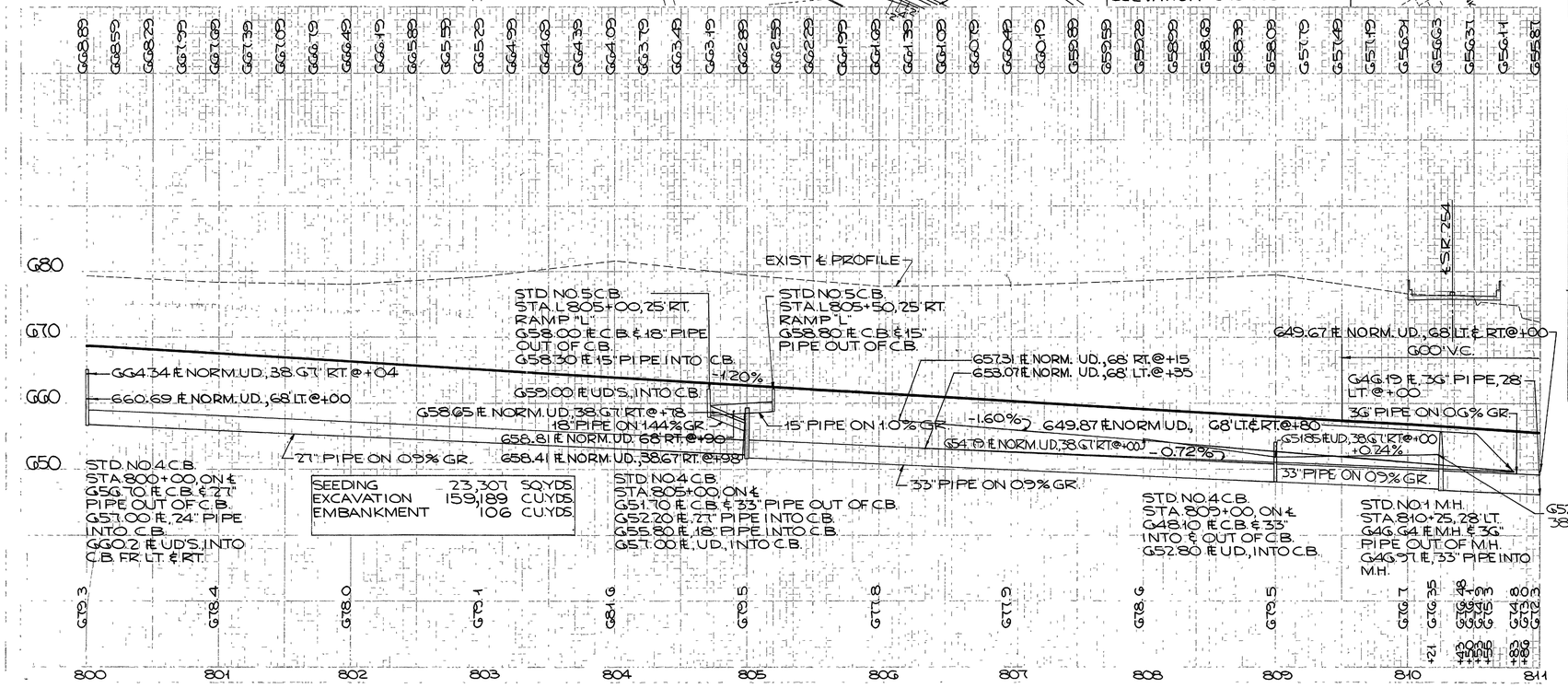
STA. 789+00 TO STA. 800+00

FED. RD. DIVISION	STATE	PROJECT		
2	OHIO			

LOR.-90-13.01

CROSS REFERENCE FOR	SEE SHEET NO.
RAMP DETAILS	243,259,260,267
S.R. 254	273
SUPERELEVATION	139
GRADING PLANS	237,239,242

REFERENCE NO.	SIDE	STATION FROM	STATION TO	605 SHALLOW PIPE UNDER DRAINS 6" LIN. FT.	605 DEEP PIPE UNDER DRAINS 6" LIN. FT.	603 CONDUIT TYPE F 6" LIN. FT.	605 PIPE SPECIALS 6" 90° BEND EACH	605 PIPE SPECIALS 6" TEE EACH		606 GUARD RAIL TYPE 4 LIN. FT.		660 SODDING SQ. YDS.	SPECIAL DRILLED WELL ABAND. EACH	SPECIAL CLEAN. & DISPOSAL OF SEPTIC TANK EACH
1-UD	LT.	800+00	811+00		1100									
2-UD	RT.	800+04	804+78	474										
3-UD	RT.	804+78	805+00		35	10	1							
4-UD	RT.	804+50	811+00		610									
5-UD	RT.	804+58	810+225	525										
6-UD	RT.	805+00			29	10		1						
1-GR	LT.	805+63	811+02							137.5				
2-GR	RT.	805+67	811+06							137.5				
1-STC	RT.	808+85												1
1-DWA	RT.	805+17											1	
1-SD	LT.	801+25	811+00									951		
2-SD	RT.	806+00	811+00									515		
TOTALS				999	1774	20	1	1		2750		1466	1	1



SEEDING	23,307	SQ. YDS.
EXCAVATION	159,189	CU. YDS.
EMBANKMENT	106	CU. YDS.

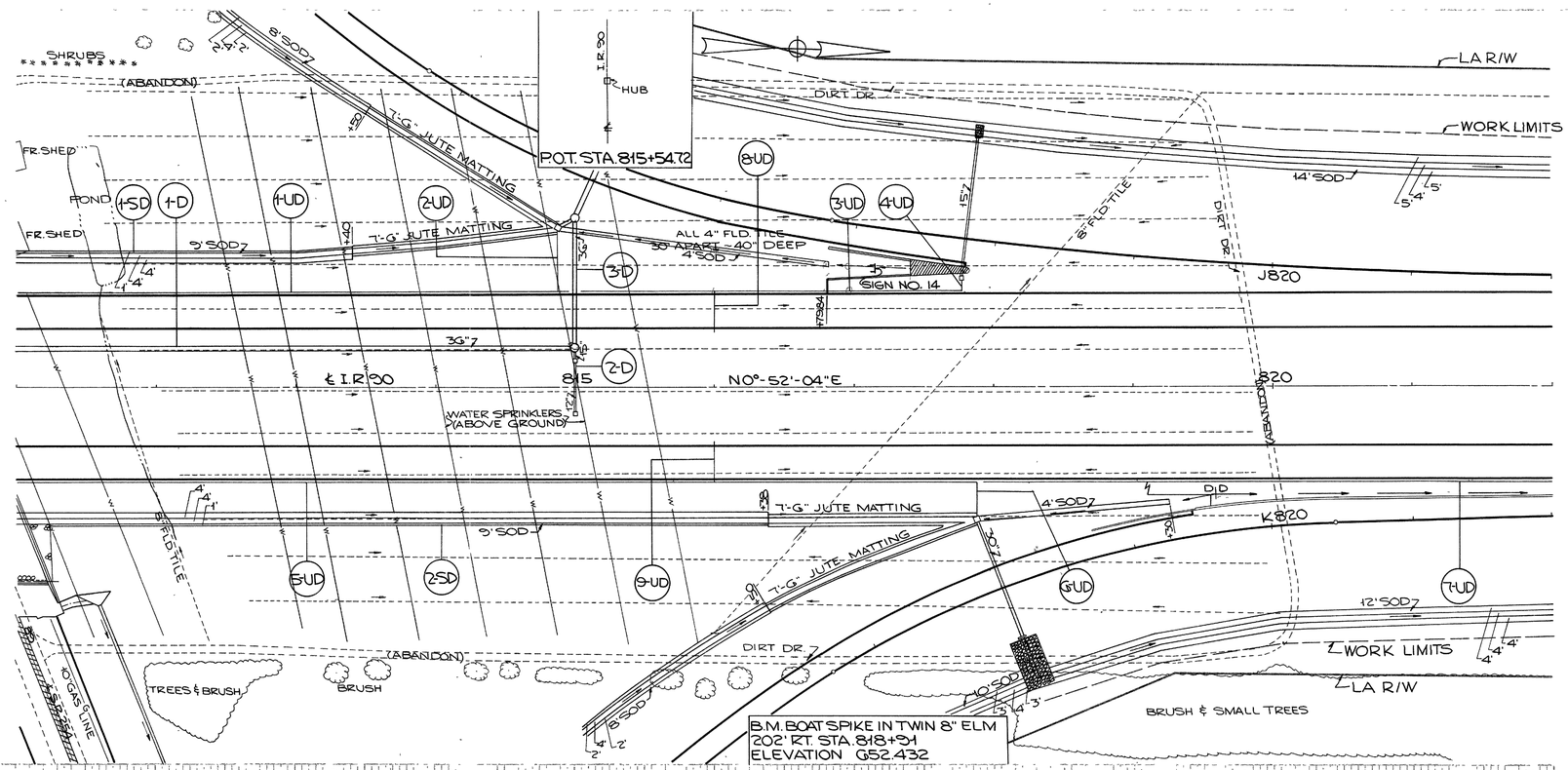
REFERENCE NO.	SIDE	STATION FROM	STATION TO	603 CONDUIT TYPE C.B. 27" LIN. FT.	603 CONDUIT TYPE C.B. 33" LIN. FT.	603 CONDUIT TYPE C.B. 36" LIN. FT.	604 CATCH BASINS STD. NO. 4 EACH	604 MAN-HOLES STD. NO. 1 EACH						667 JUTE MATTING SQ. YDS.
1-D	LT.	800+00	805+00	498										
2-D	LT.	805+00	809+00		399		1							140
3-D	LT.	809+00	810+25		130		1							140
4-D	LT.	810+25	811+00			75		1						
TOTALS				498	529	75	2	1						280

STA. 800+00 TO STA. 811+00

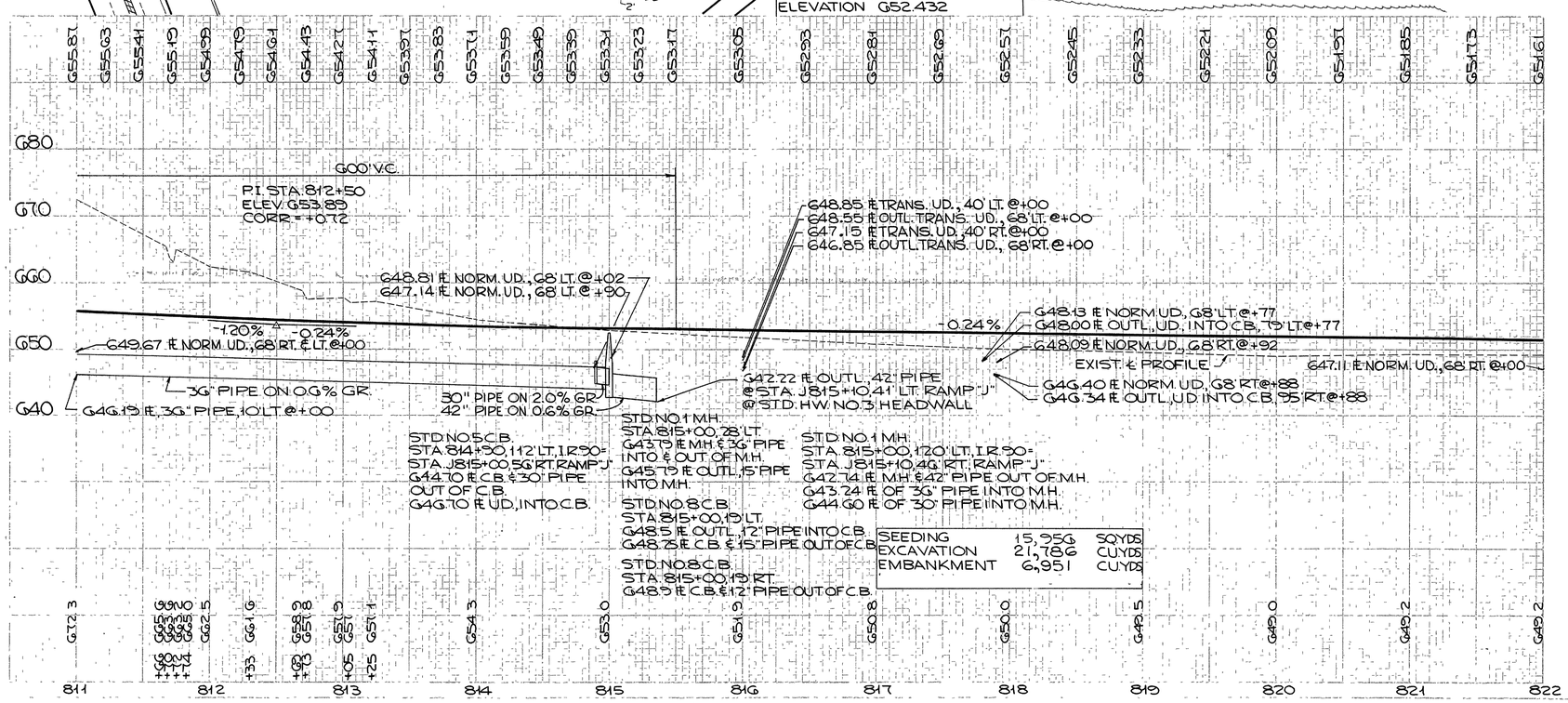
FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

LOR.-90-13.01

CROSS REFERENCES	
FOR	SEE SHEET NO.
RAMP DETAILS	248,249,254,255, 268
GRADING PLANS	238,240,241



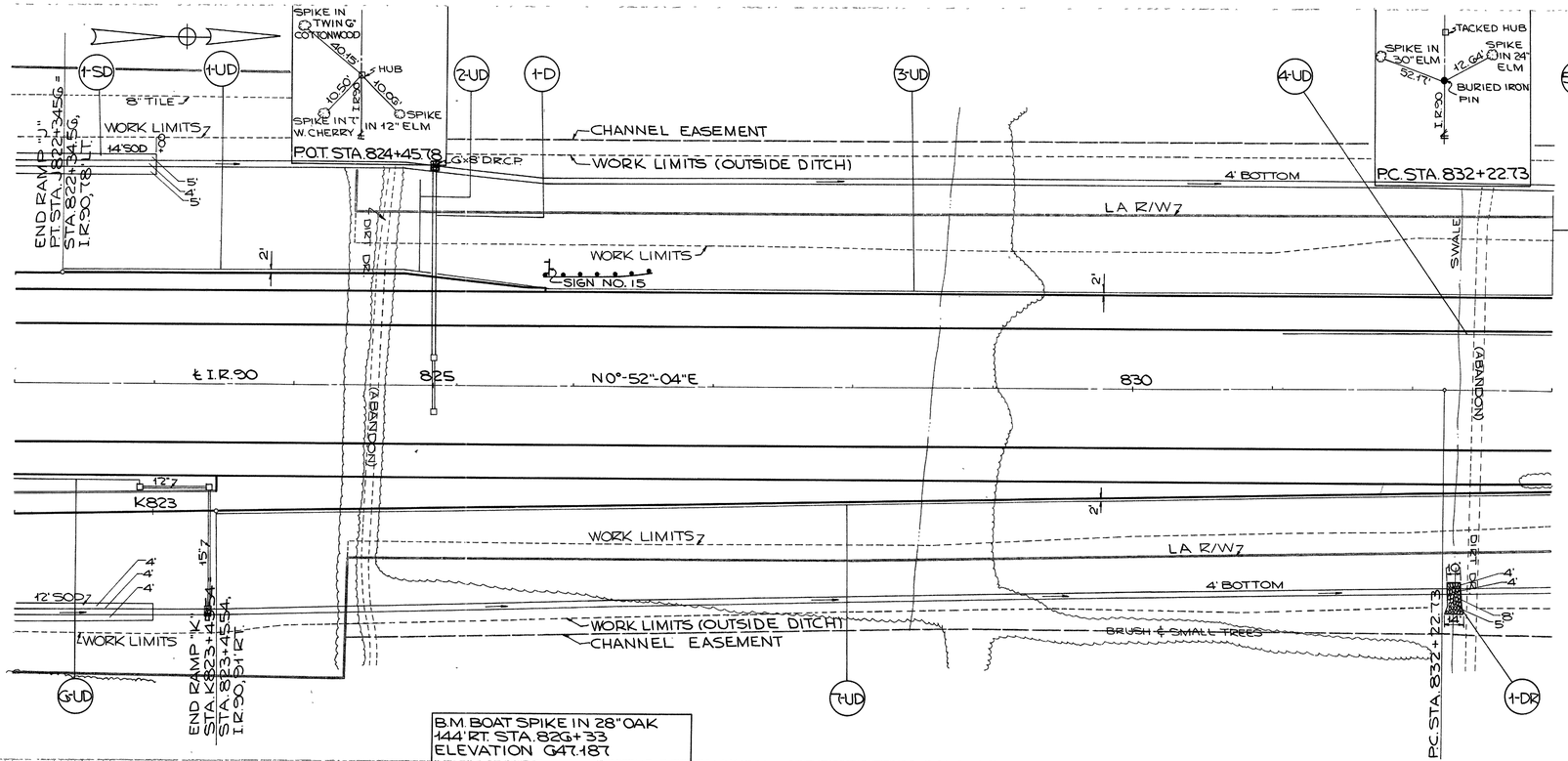
REFERENCE NO.	SIDE	STATION FROM	STATION TO	G05 SHALLOW PIPE UNDER-DRAINS 6" LIN. FT.	G05 DEEP PIPE UNDER-DRAINS 6" LIN. FT.	G03 CONDUIT TYPE F 6" LIN. FT.	G05 PIPE SPECIALS 6" TEE EACH	G05 PIPE SPECIALS 6" 30° BEND EACH	G05 UNCLASS. PIPE UNDER DRAINS 706.06 OR 706.12 6" LIN. FT.					G60 SODDING SQYDS.
1-UD	LT.	811+00	814+98		398									
2-UD	LT.	814+90			36	10	1							
3-UD	LT.	815+02	817+77	275										
4-UD	LT.	817+77				10		1						
5-UD	RT.	811+00	817+88		688									
6-UD	RT.	817+88			18	10		1						
7-UD	RT.	817+92	822+00	408										
8-UD	LT.	816+00					1		28					
9-UD	RT.	816+00					1		28					
1-SD	LT.	811+00	813+40											246
2-SD	RT.	811+00	816+38											543
TOTALS				683	1140	30	3	2	56					789



SEEDING	15,956 SQYDS.
EXCAVATION	21,786 CUYDS.
EMBANKMENT	6,951 CUYDS.

REFERENCE NO.	SIDE	STATION FROM	STATION TO	G03 CONDUIT TYPE C-B 12" LIN. FT.	G03 CONDUIT TYPE C-B 15" LIN. FT.	G03 CONDUIT TYPE C-B 36" LIN. FT.	G03 CONDUIT TYPE B-B 36" LIN. FT.	G04 MAN-HOLES STD. NO. 1 EACH	G04 CATCH BASINS STD. NO. 8 EACH					G67 JUTE MATTING SQYDS.
1-D	LT.	811+00	815+00			400								
2-D	LT. & RT.	815+00		38	10				2					250
3-D	LT.	815+00					92	1						
TOTALS				38	10	400	92	1	2					250

STA. 811+00 TO STA. 822+00



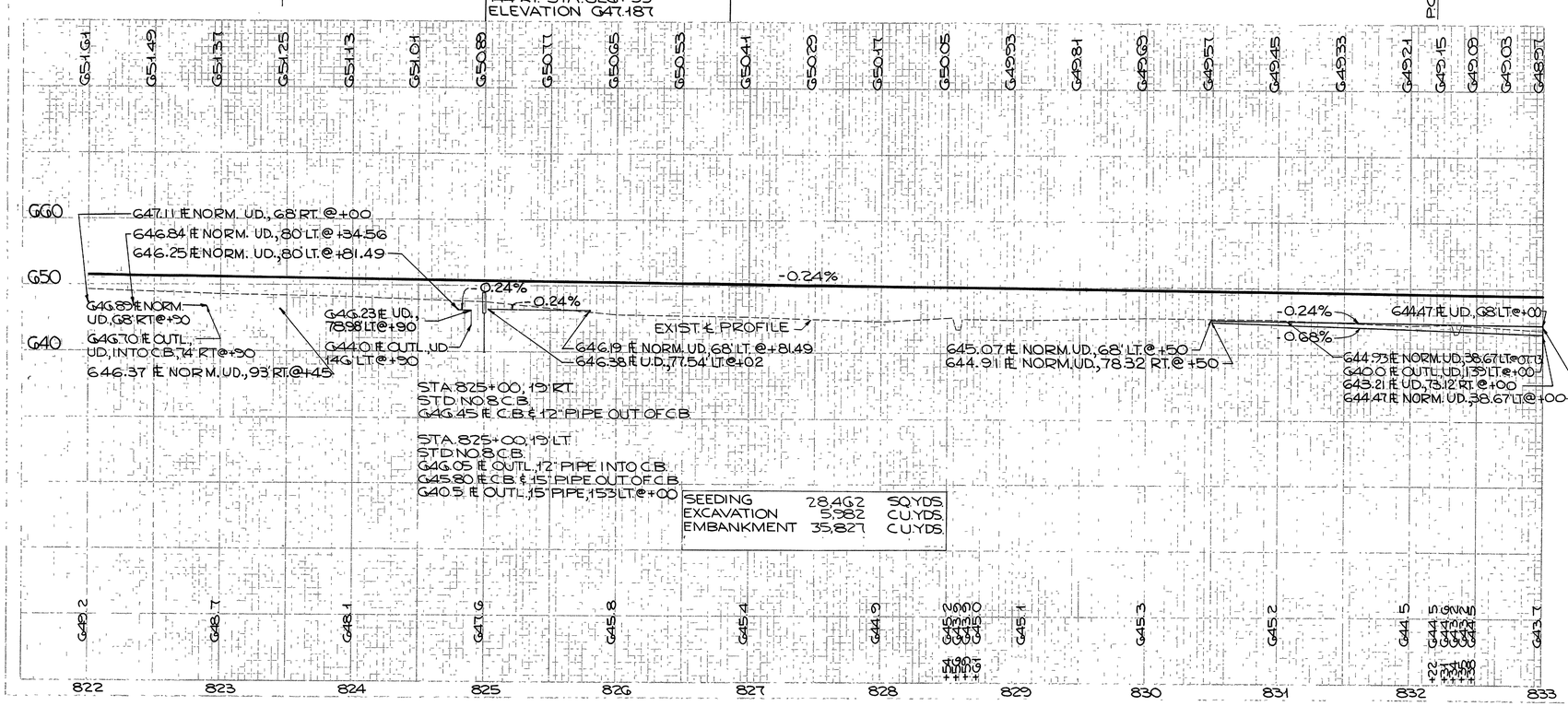
CROSS REFERENCES	
FOR	SEE SHEET NO.
RAMP DETAILS	255,268
TAPER DETAILS	265,266
TAPER TYP. SEC.	266

FED. RD. DIVISION	STATE	FEDERAL AID PROJECT		
2	OHIO			

LOR.-90-13.01

58

REFERENCE NO.	SIDE	STATION FROM	STATION TO	605 SHALLOW PIPE UNDER-DRAINS 6" LIN.FT.	605 DEEP PIPE UNDER-DRAINS 6" LIN.FT.	603 CONDUIT TYPE F 6" LIN.FT.	603 CONDUIT TYPE C-B 12" LIN.FT.	603 CONDUIT TYPE B-B 15" LIN.FT.	602 MASON. STD. HW-E ENDWL CLASS C CU.YD.	605 PIPE SPECIALS 6" TEE EACH	605 PIPE SPECIALS 6"-30° BEND EACH	604 CATCH BASINS STD NO.8 EACH	601 DUMPED ROCK CHANN PROT. 18" THICK CU.YD.	600 SODDING SQ.YDS.	607 JUTE MATTING SQ.YD.
1-UD	LT.	822+34.56	824+38	264											
2-UD	LT.	824+90			68	10				1					
3-UD	LT.	825+02	833+00	548	250										
4-UD	LT.	831+07.73	833+00	193											
5-UD	LT.	833+00			61	10					1				
6-UD	RT.	822+00	822+90	90		6					1				
7-UD	RT.	823+45	833+00	955											
1-D	LT.&RT.	825+00					38	134	0.26			2	3		250
1-SD	LT.	822+35	823+00											110	
1-DR	RT.	832+30											13		
TOTALS				2050	379	26	38	134	0.26	1	2	2	16	110	250

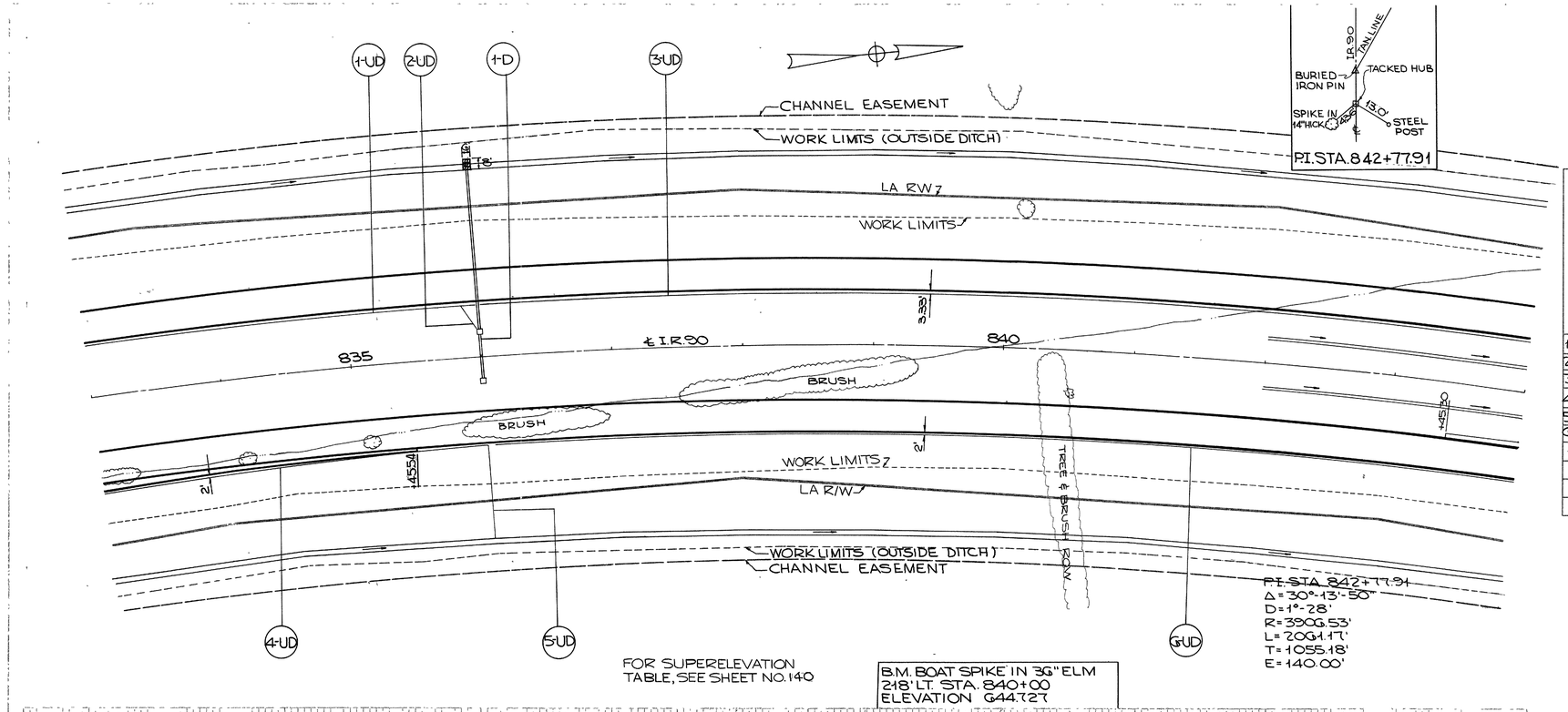


SEEDING	28,462	SQ.YDS.
EXCAVATION	5,982	CU.YDS.
EMBANKMENT	35,827	CU.YDS.

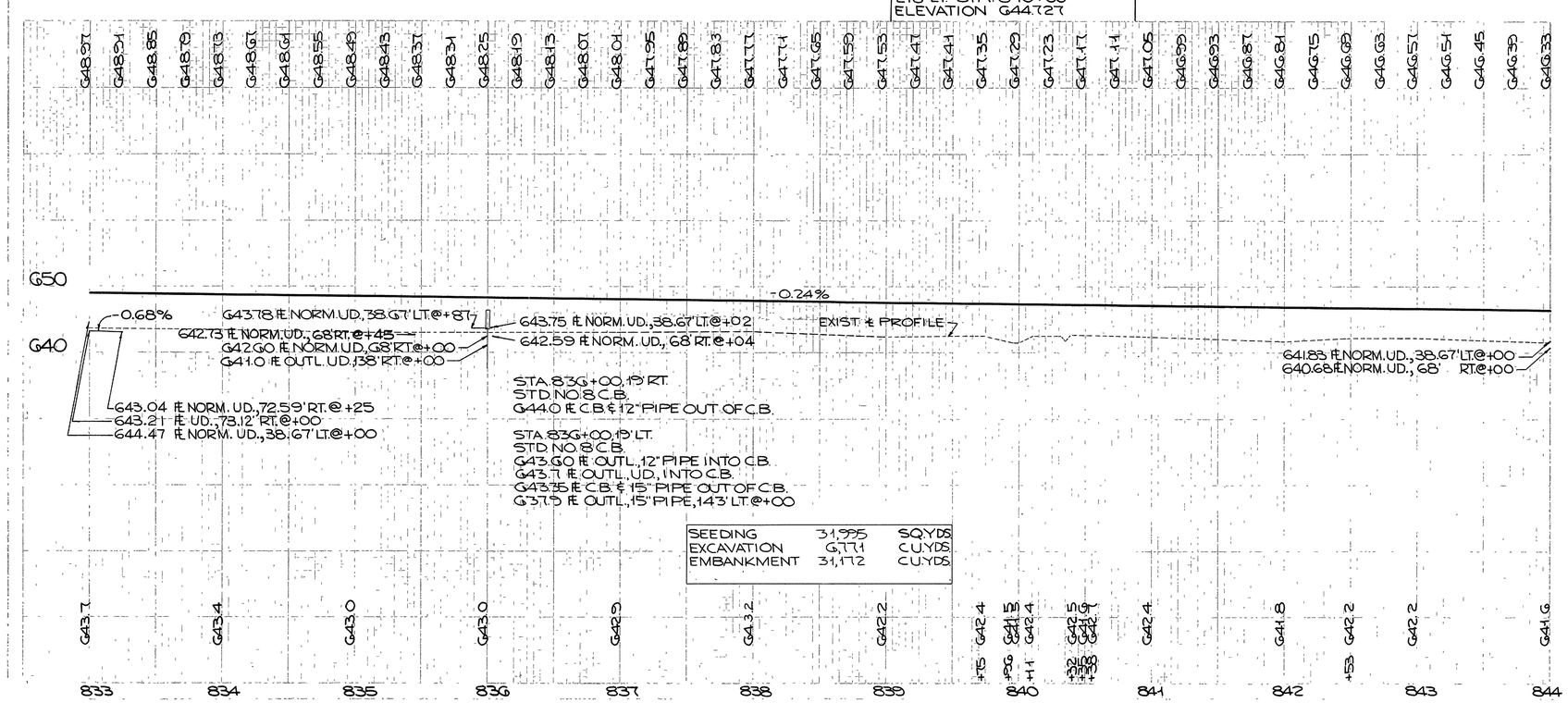
STA. 822+00 TO STA. 833+00

PROJ. NO. DIST-CO	STATE	PROJECT	
2	OHIO		

LOR.-90-13.01

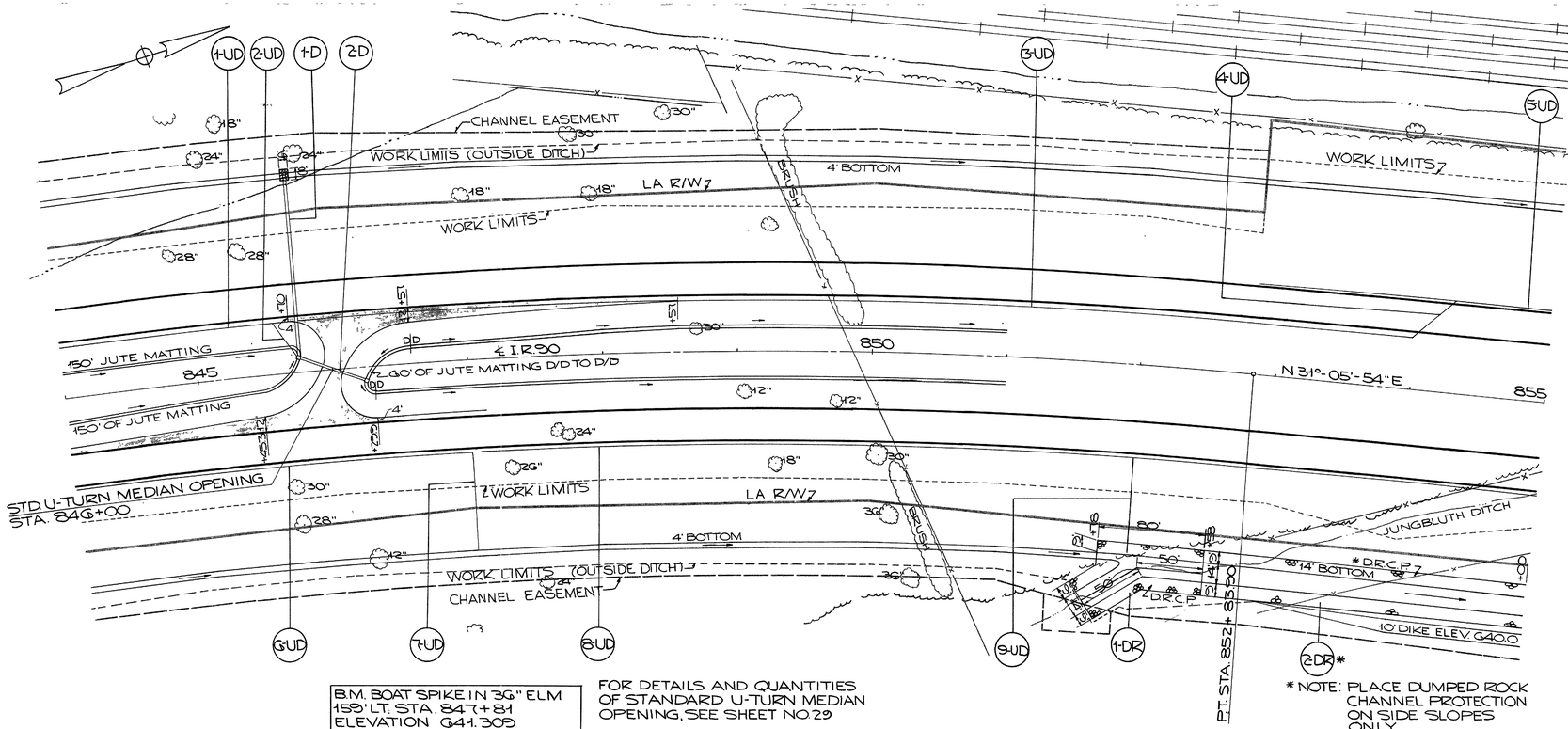


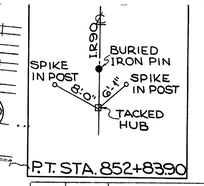
REFERENCE NO.	SIDE	STATION FROM	STATION TO	605 SHALLOW PIPE UNDERDRAINS 6" LIN. FT.	605 DEEP PIPE UNDERDRAINS 6" LIN. FT.	603 CONDUIT TYPE F 6" LIN. FT.	603 CONDUIT TYPE C-B 12" LIN. FT.	603 CONDUIT TYPE B/B 15" LIN. FT.	602 MASON. STD. HW-E ENDW. CLASS C CU. YD.	605 PIPE SPECIALS 6"-60° WYE EACH	605 PIPE SPECIALS 6"-30° BEND EACH	604 CATCH BASINS STD. NO. 8 EACH	601 DUMPED ROCK CHAN. PROT. 18" THICK CU. YDS.		667 JUTE MATTING SQ. YDS.
1-UD	LT.	833+00	835+98	298											
2-UD	LT.	835+87	836+00		14	10				1					
3-UD	LT.	836+02	844+00	798											
4-UD	RT.	833+00	836+00	300											
5-UD	RT.	836+00			60	10					1				
6-UD	RT.	836+04	844+00	796											
1-D	LT. & RT.	836+00					38	124	0.26			2	3		250
TOTALS				2192	74	20	38	124	0.26	1	1	2	3		250



STA. 833+00 TO STA. 844+00

LOR.-90-13.01





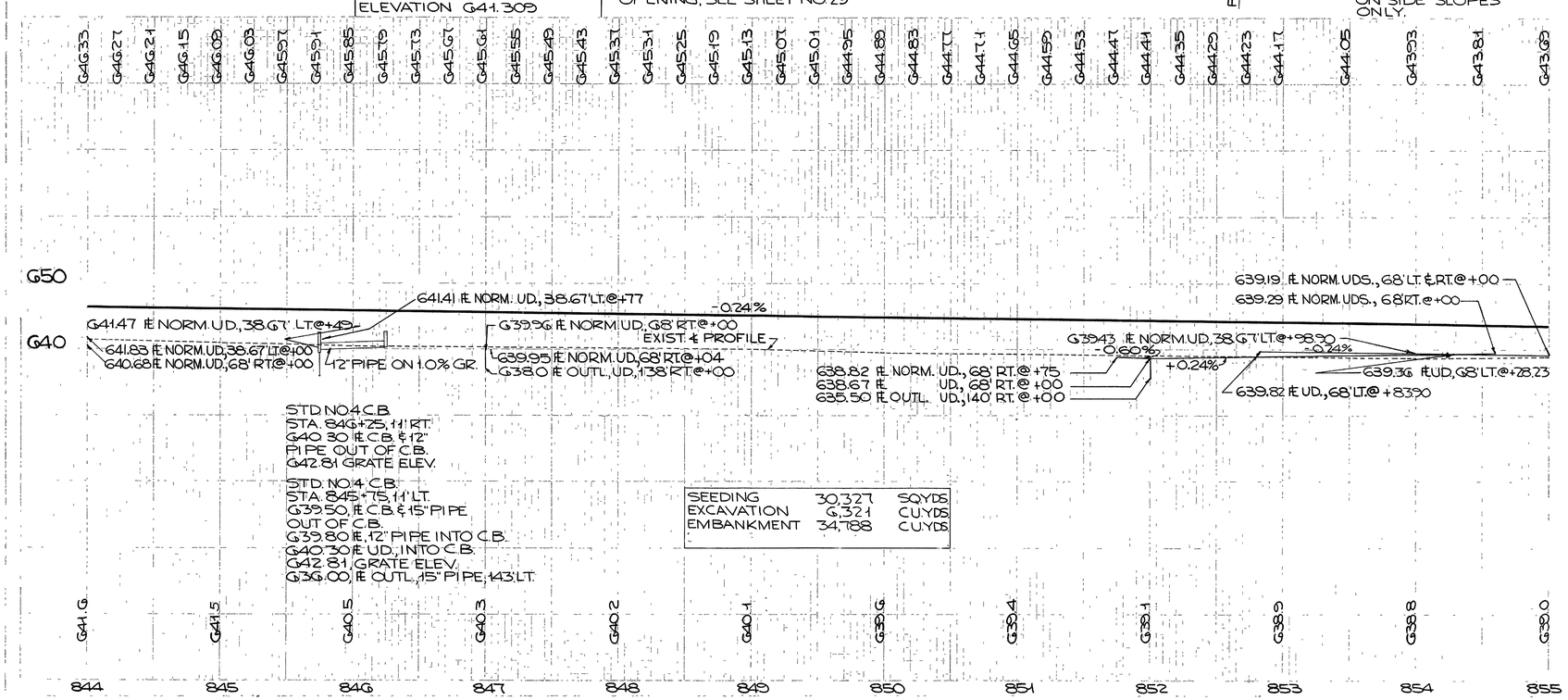
B.M. BOAT SPIKE IN 36" ELM 159' LT. STA. 847+81 ELEVATION 641.309

FOR DETAILS AND QUANTITIES OF STANDARD U-TURN MEDIAN OPENING, SEE SHEET NO. 29

* NOTE: PLACE DUMPED ROCK CHANNEL PROTECTION ON SIDE SLOPES ONLY.

REFERENCE NO.	SIDE	STATION FROM	STATION TO	G05 SHALLOW PIPE UNDER DRAINS 6" LIN. FT.	G05 DEEP PIPE UNDER DRAINS 6" LIN. FT.	G03 CONDUIT TYPE F 6" LIN. FT.	G03 CONDUIT TYPE B-B 6" LIN. FT.	G05 PIPE SPECIALS 6"-60° WYE EACH	6"-45° BEND EACH	6"-45° WYE EACH	6"-30° BEND EACH	6" TEE EACH
1-UD	LT.	844+00	845+73	173								
2-UD	LT.	845+49	845+75		27	10		1				
3-UD	LT.	845+77	853+88.00	822								
4-UD	LT.	853+88.00	854+28.23				42		1	1		
5-UD	LT.	852+83.90	855+00	216								
6-UD	RT.	844+00	847+00	300								
7-UD	RT.	847+00			60	10					1	
8-UD	RT.	847+04	855+00	511	285							
9-UD	RT.	852+00			62	10						1
TOTALS				2022	434	30	42	1	1	1	1	1

REFERENCE NO.	SIDE	STATION FROM	STATION TO	G03 CONDUIT TYPE B-B 15" LIN. FT.	G03 CONDUIT TYPE B-B 12" LIN. FT.	G02 MASON. STD. HW-E ENDWL. CLASS C CU.YD.	G04 CATCH BASINS STD. NO.4 EACH	G01 DUMPED ROCK CHANN. PROT. 18" THICK 18" CU.YD.	30" CU.YD.	GG7 JUTE MATTING SQ.YD.
1-D	LT.&RT.	845+75		143		0.26		3		
2-D	LT.&RT.	845+75	846+25		54		2			300
1-DR	RT.	851+78	852+58						35	
2-DR	RT.	852+58	855+00					27.1		
TOTALS				143	54	0.26	2	27.1	35	300



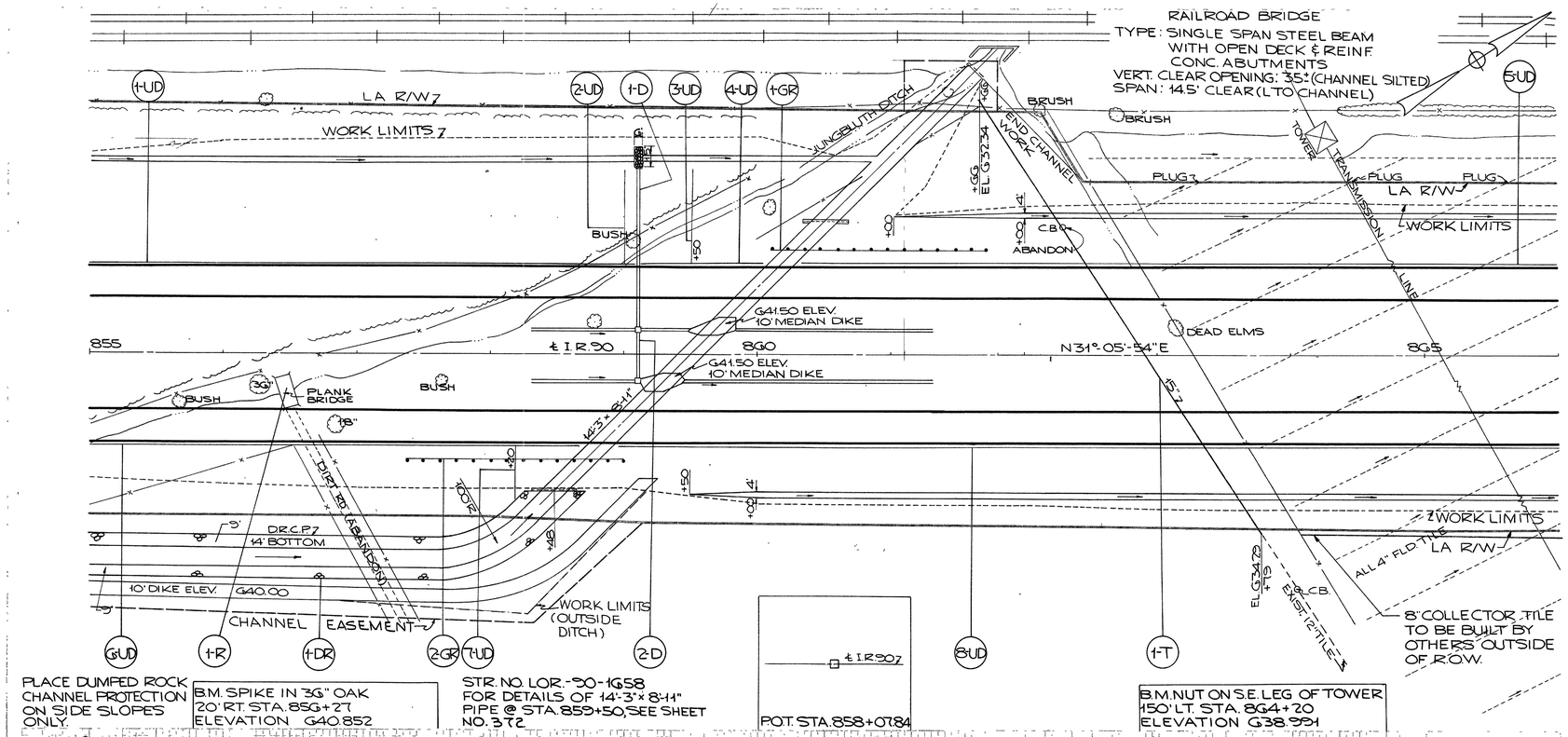
STD. NO. 4 C.B.
STA. 846+25, 11' RT.
640.30 ft C.B. & 12" PIPE OUT OF C.B.
642.81 GRATE ELEV.

STD. NO. 4 C.B.
STA. 845+75, 11' LT.
639.50 ft C.B. & 15" PIPE OUT OF C.B.
639.80 ft 12" PIPE INTO C.B.
640.30 ft UD., INTO C.B.
642.81, GRATE ELEV.
636.00 ft OUTL., 15" PIPE, 143' LT.

SEEDING	30,327	SQ.YDS.
EXCAVATION	6,321	C.U.YDS.
EMBANKMENT	34,788	C.U.YDS.

STA. 844+00 TO STA. 855+00

L OR.-90-13.01

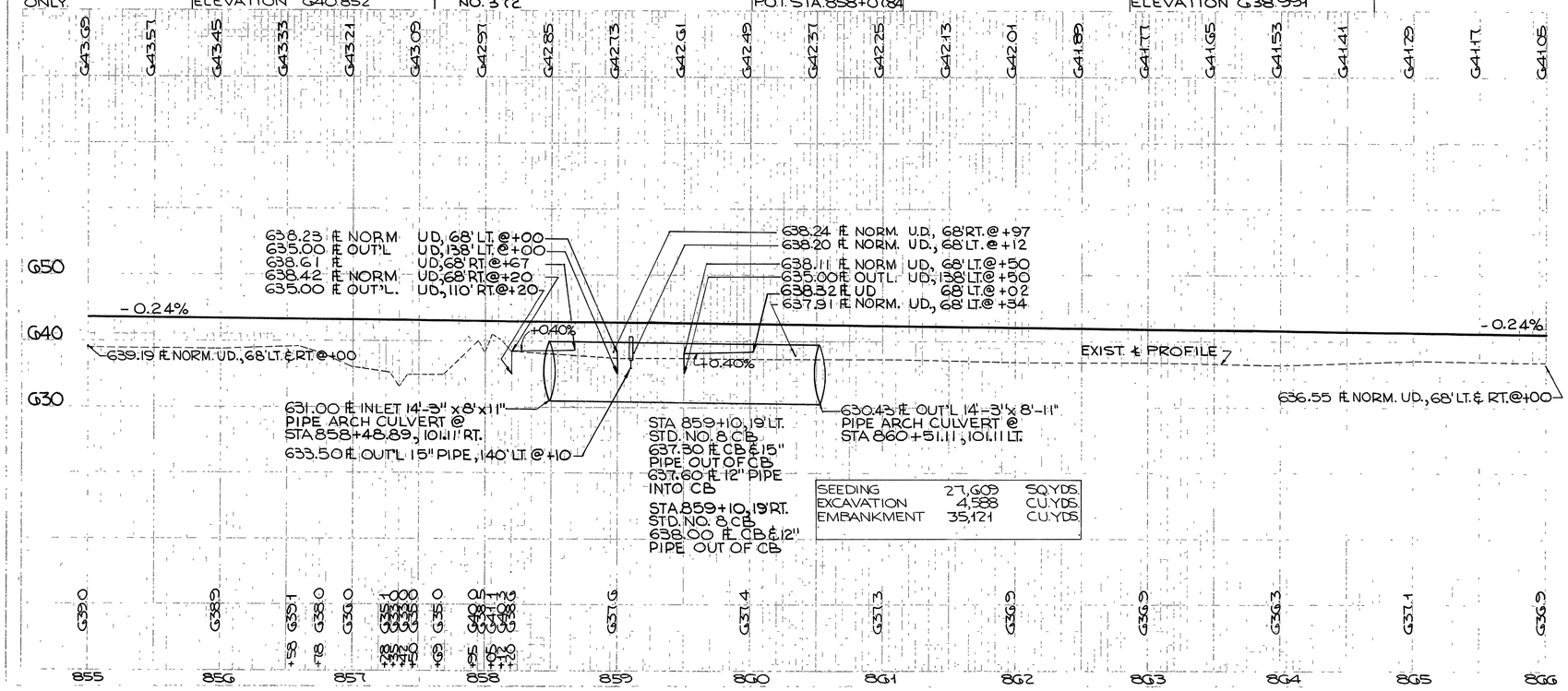


PLACE DUMPED ROCK CHANNEL PROTECTION ON SIDE SLOPES ONLY.

B.M. SPIKE IN 36" OAK
20' RT. STA. 856+27
ELEVATION G40.852

STR. NO. LOR.-90-1658 FOR DETAILS OF 14'-3" x 8'-11" PIPE @ STA. 859+50, SEE SHEET NO. 372

B.M. NUT ON S.E. LEG OF TOWER
150' LT. STA. 864+20
ELEVATION G38.991

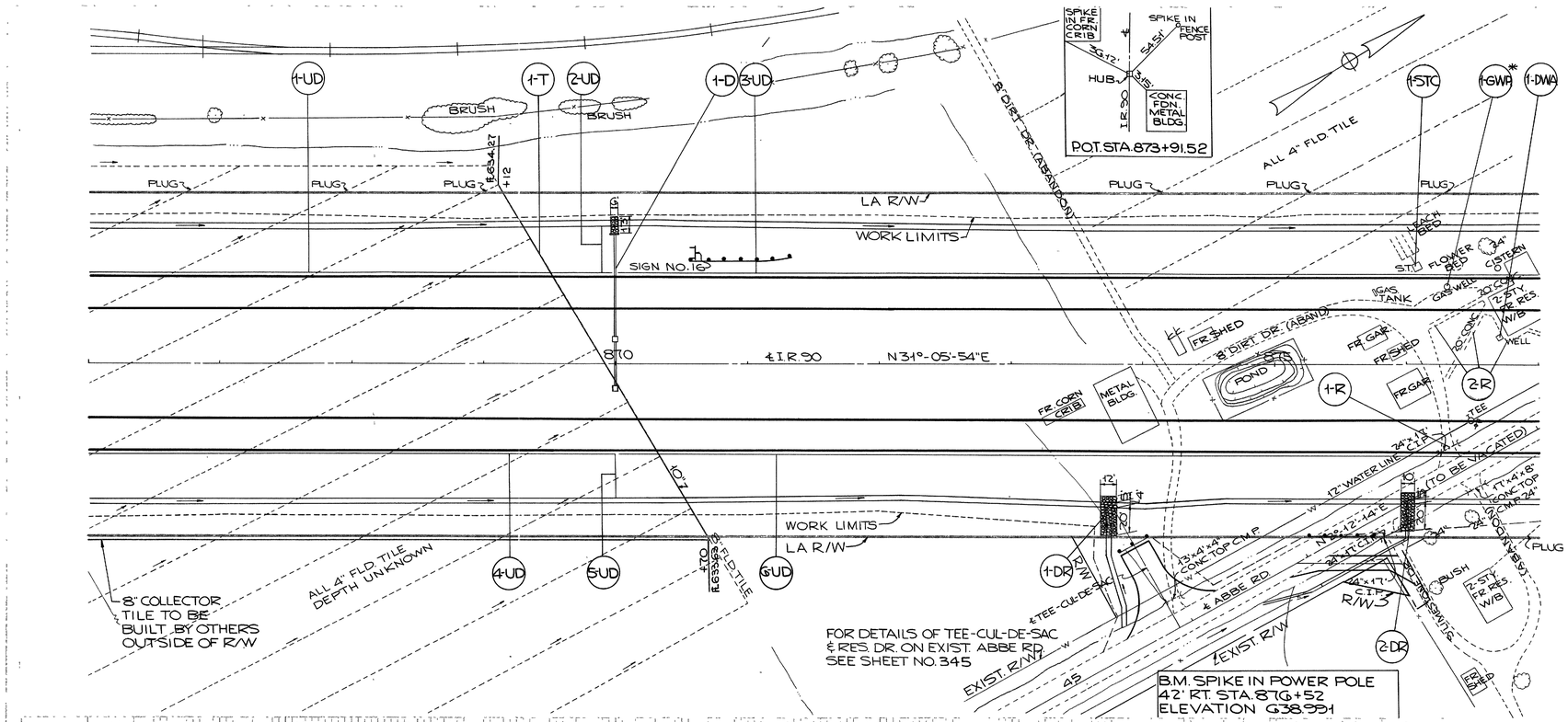


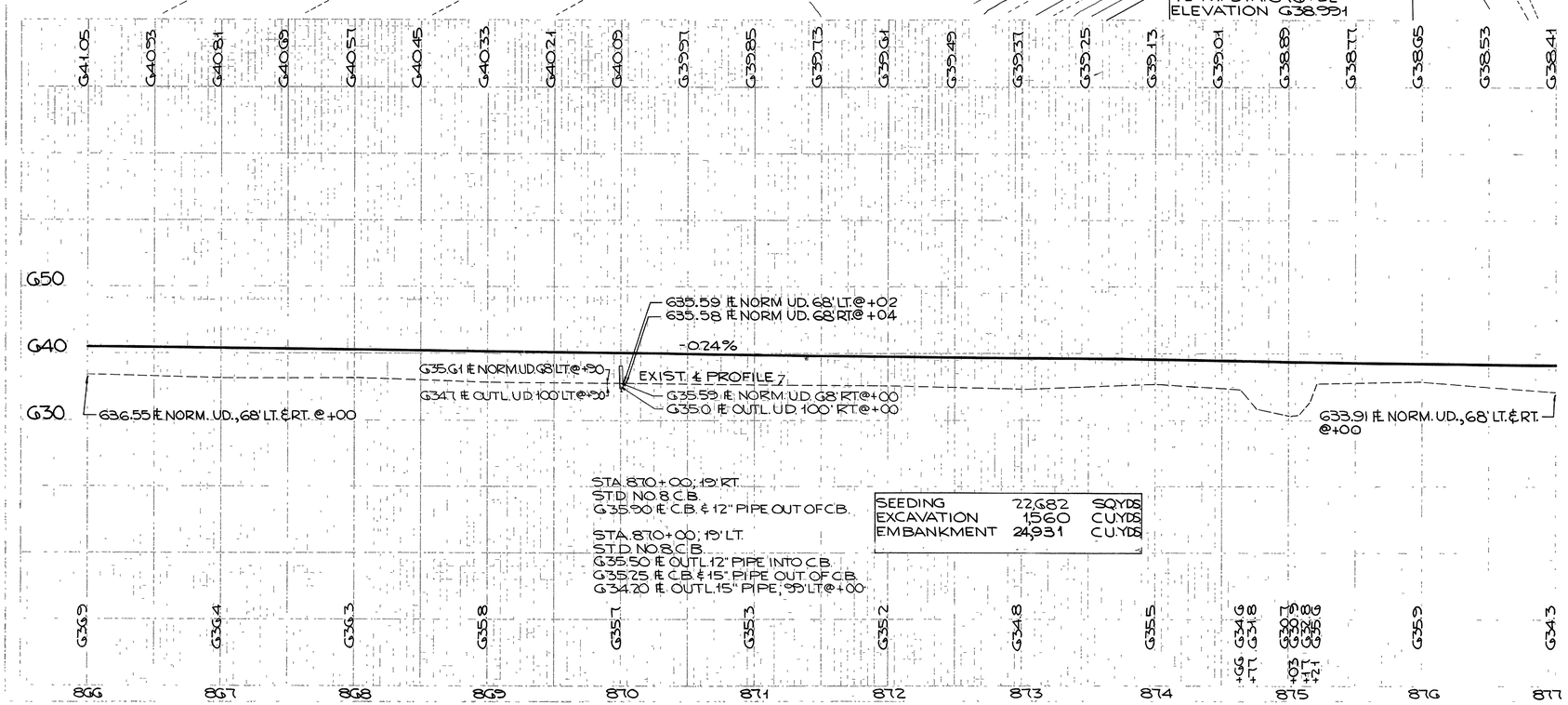
SEEDING	27,609	SQ.YDS.
EXCAVATION	4,588	CU.YDS.
EMBANKMENT	35,121	CU.YDS.

REFERENCE NO.	SIDE	STATION FROM	STATION TO	G05 SHALLOW PIPE UNDERDRAINS 6" LIN.FT.	G05 DEEP PIPE UNDERDRAINS 6" LIN.FT.	G03 CONDUIT TYPE F 6" LIN.FT.	G03 CONDUIT TYPE C-B 12" LIN.FT.	G03 CONDUIT TYPE B-B 15" LIN.FT.	G02 MASON STD. HW-E ENDWL CLASS "C" CU.YDS.	G05 PIPE SPECIALS 6" TEE EACH	G04 CATCH BASIN STD NO. 8 EACH	G01 DUMPED ROCK CHANN PROT. T=18" CU.YDS.	G06 GUARD RAIL TYPE 4 LIN.FT.	G67 JUTE MATTING SQ.YDS.
1-UD	LT.	855+00	859+08	408										
2-UD	LT.	859+00			60	10				1				
3-UD	LT.	859+50			60	10				1				
4-UD	LT.	859+12	860+02	90										
5-UD	LT.	860+34	866+00	566										
6-UD	RT.	855+00	858+67	367										
7-UD	RT.	858+20			32	10				1				
8-UD	RT.	858+97	866+00	703										
1-GR	LT.	860+10	861+72.5										162.5	
2-GR	RT.	857+375	859+00										162.5	
1-D	LT.	859+10						121	0.26			5		
2-D	LT. & RT.	859+10					38				2			250
1-DR	RT.	855+00	858+48									411		
TOTALS				2134	152	30	38	121	0.26	3	2	416	325	250

REFERENCE NO.	SIDE	STATION FROM	STATION TO	G03 CONDUIT TYPE F 15" LIN.FT.							202 EXIST. STRUCT. REMOV. LUMP	
1-R	RT.	856+75									LUMP	
1-T	LT. & RT.	861+66	863+79	388								
TOTALS				388							LUMP	

STA. 855+00 TO STA. 866+00





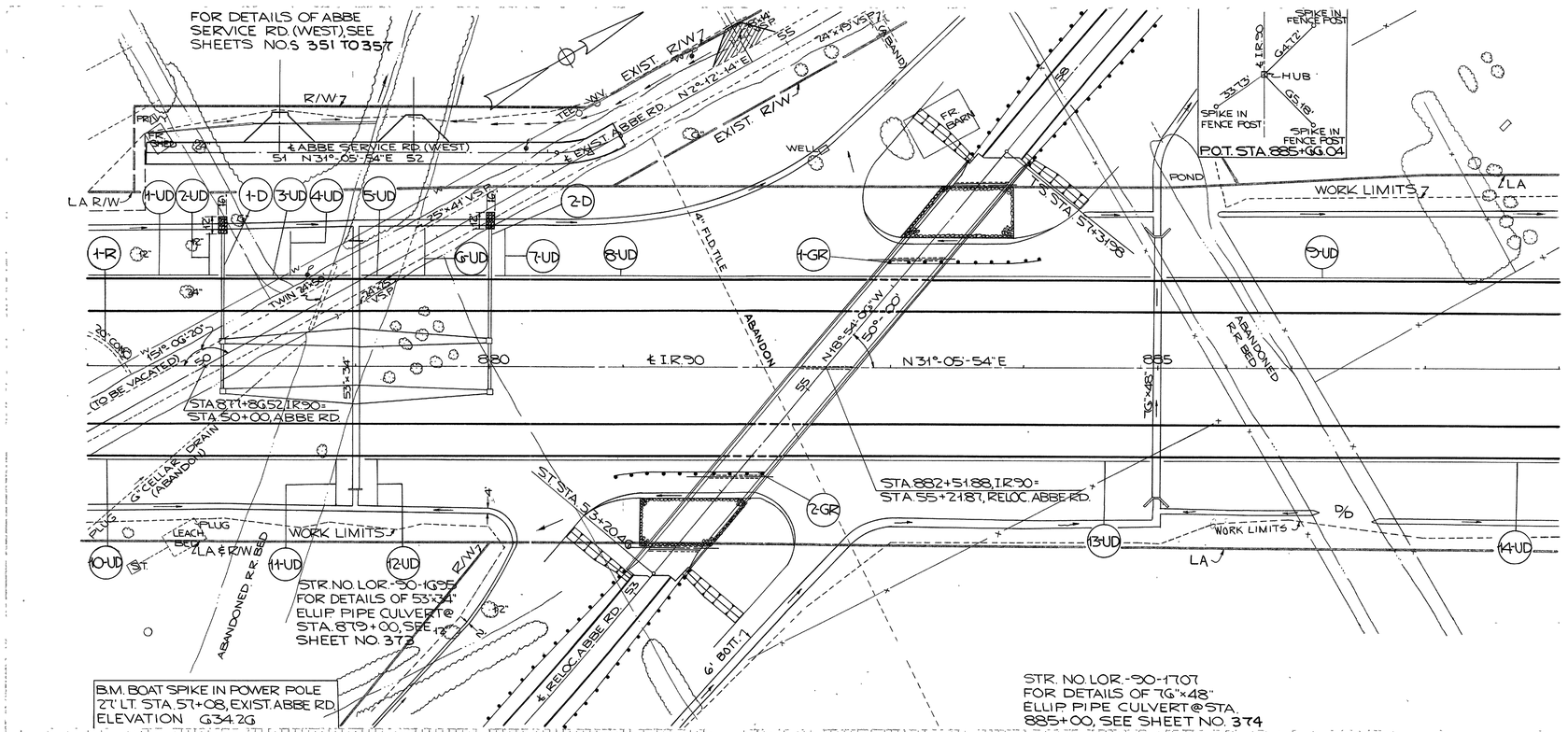
REFERENCE NO	SIDE	STATION FROM	STATION TO	G05 SHALLOW PIPE UNDERDRAINS 6" LIN.FT.	G05 DEEP PIPE UNDERDRAINS 6" LIN.FT.	G03 CONDUIT TYPE F 6" LIN.FT.	G03 CONDUIT TYPE C-B 12" LIN.FT.	G03 CONDUIT TYPE B-B 10" LIN.FT.	G03 CONDUIT TYPE B-B 15" LIN.FT.	G02 MASON, CLASS C STD. HW-E ENDWL CU.YDS	G05 PIPE SPECIALS 6" TEE EACH	G05 PIPE SPECIALS 6"-30° BEND EACH	G04 CATCH BASINS STD. NO. 8 EACH	G01 DUMPED ROCK CHANN. PROT. T=18" EACH	G07 JUTE MATTING SQ.YDS
1-UD	LT.	866+00	869+98	398											
2-UD	LT.	869+90			22	10					1				
3-UD	LT.	870+02	877+00	698											
4-UD	RT.	866+00	870+00	400											
5-UD	RT.	870+00			22	10						1			
6-UD	RT.	870+04	877+00	696											
1-T	LT.&RT.	869+12	870+70					308							
1-D	LT.&RT.	870+00					38		80	0.26			2	5	250
1-DR	RT.	873+73												20	
2-DR	RT.	876+00												17	
TOTALS				2,192	44	20	38	308	80	0.26	1	1	2	42	250

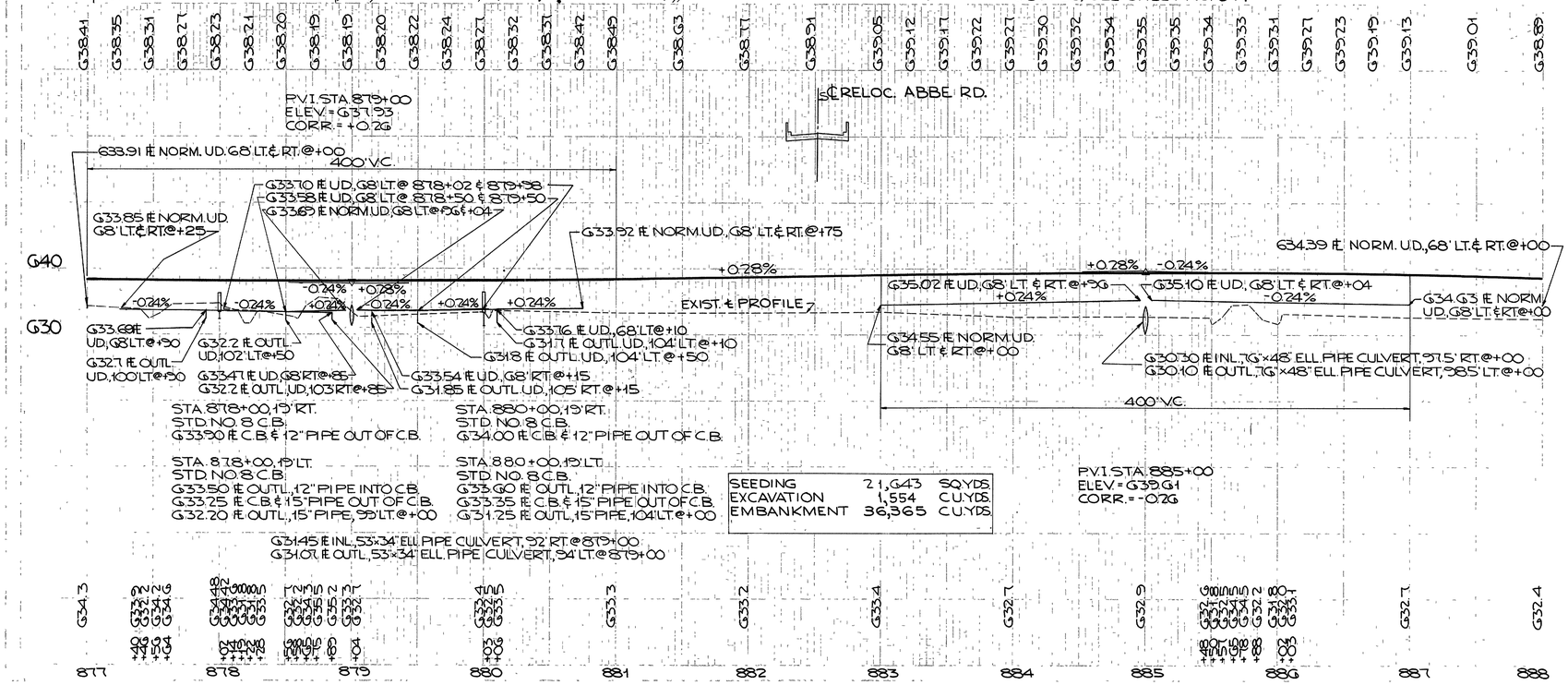
REFERENCE NO	SIDE	STATION FROM	STATION TO	202 EXIST. SDWK. REMOV. AND DISPOS. OF SQ.FT.	202 PIPE REMOV. OVER 15" LIN.FT.		SPECIAL PLUGGING GAS WELL LUMP	SPECIAL DRILLED WELLS ABAND. EACH		SPECIAL CLEAN. & DISPOS. OF SEPTIC TANK EACH			
1-R	RT.	876+30			17								
2-R	LT.&RT.	876+20	877+00	520									
1-STC	LT.	876+07								1			
* 1-GWP	LT.	876+30					1						
1-DWA	LT.	876+70						1					
TOTALS				520	17		1	1		1			

* PLUGGING GAS WELLS:
THE WELL SHALL BE FILLED SOLID FROM THE BOTTOM TO THE TOP AND ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE REQUIREMENTS OF THE STATE OF OHIO DIVISION OF MINES. (SEE NOTE IN PROPOSAL)

STA. 866+00 TO STA. 877+00

LOR.-90-13.01





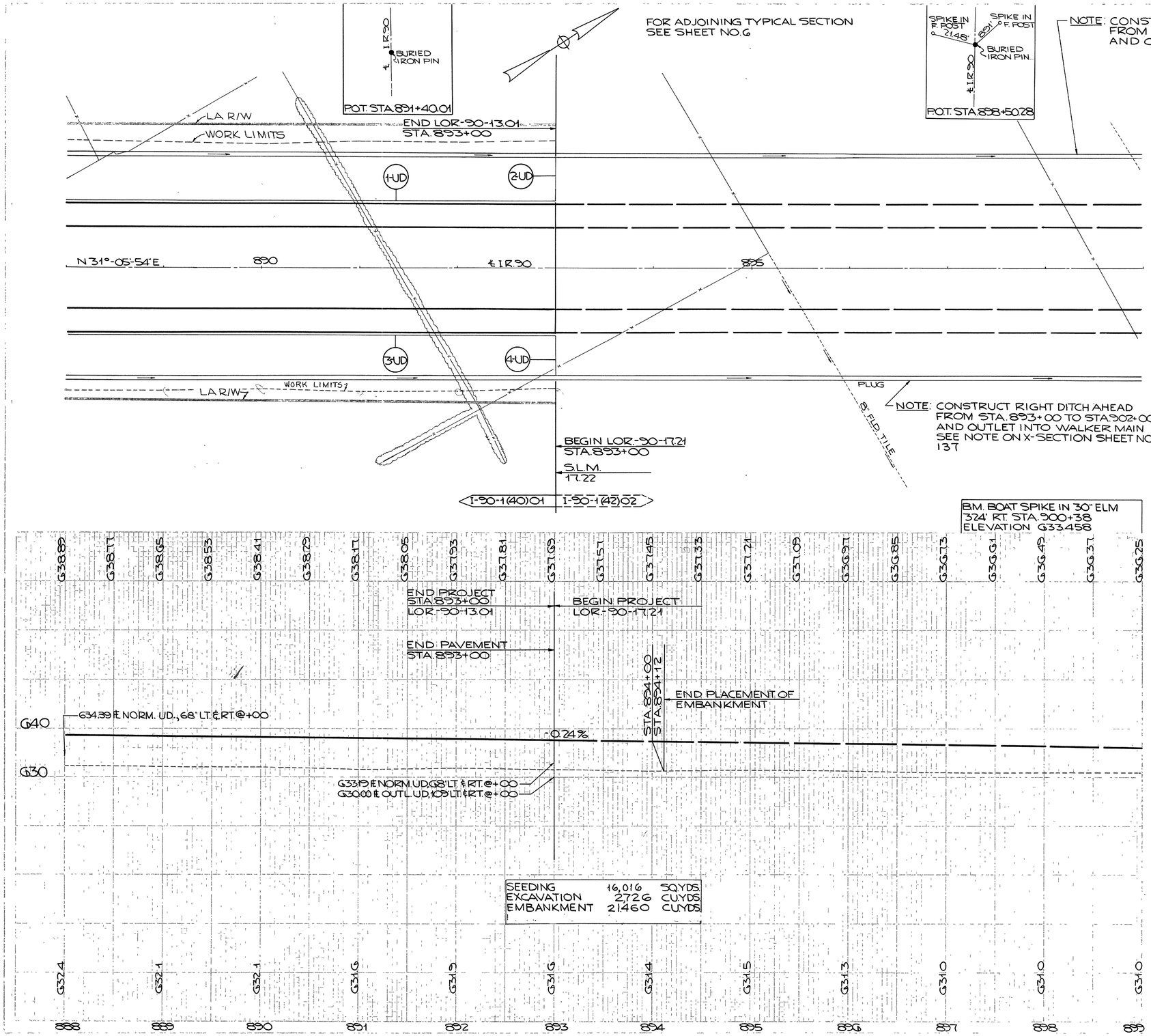
REFERENCE NO.	SIDE	STATION FROM	STATION TO	605 SHALLOW PIPE UNDER-DRAINS 6" LIN.FT.	605 DEEP PIPE UNDER-DRAINS 6" LIN.FT.	603 CONDUIT TYPE F 6" LIN.FT.	603 CONDUIT TYPE C-B 12" LIN.FT.	603 CONDUIT TYPE B-B 15" LIN.FT.	602 MASON. CLASS C STD. HW-E ENDWL CUYDS	605 PIPE SPECIALS 6" TEE EACH	604 CATCH BASINS STD. NO. 8 EACH	601 DUMPED ROCK CHANN. PROT. T=18" CUYD.	667 JUTE MATTING SQYDS.
1-UD	LT.	877+00	877+98	98									
2-UD	LT.	877+50			22	10				1			
3-UD	LT.	878+02	878+96		94								
4-UD	LT.	878+50			24	10				1			
5-UD	LT.	879+04	879+98		94								
6-UD	LT.	879+50			26	10				1			
7-UD	LT.	880+10			26	10				1			
8-UD	LT.	880+02	884+96	494									
9-UD	LT.	885+04	888+00	296									
10-UD	RT.	877+00	878+96		196								
11-UD	RT.	878+85			25	10				1			
12-UD	RT.	879+15			27	10				1			
13-UD	RT.	879+04	884+96	592									
14-UD	RT.	885+04	888+00	296									
1-D	LT.&RT.	878+00					38	80	0.26		2	4	250
2-D	LT.&RT.	880+00					38	85	0.26		2	4	250
TOTALS				1776	534	60	76	165	0.52	6	4	8	500

REFERENCE NO.	SIDE	STATION FROM	STATION TO	202 EXIST. SDWK. REMOV. & DISPOS. OF SQ.FT.	606 GUARD RAIL TYPE 4 LIN.FT.
1-R	LT.&RT.	877+00	877+32	114	
1-GR	LT.	883+00	884+11		112.5
2-GR	RT.	880+94	882+04		112.5
TOTALS				114	2250

STA. 877+00 TO STA. 888+00

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

LOR-90-13.01

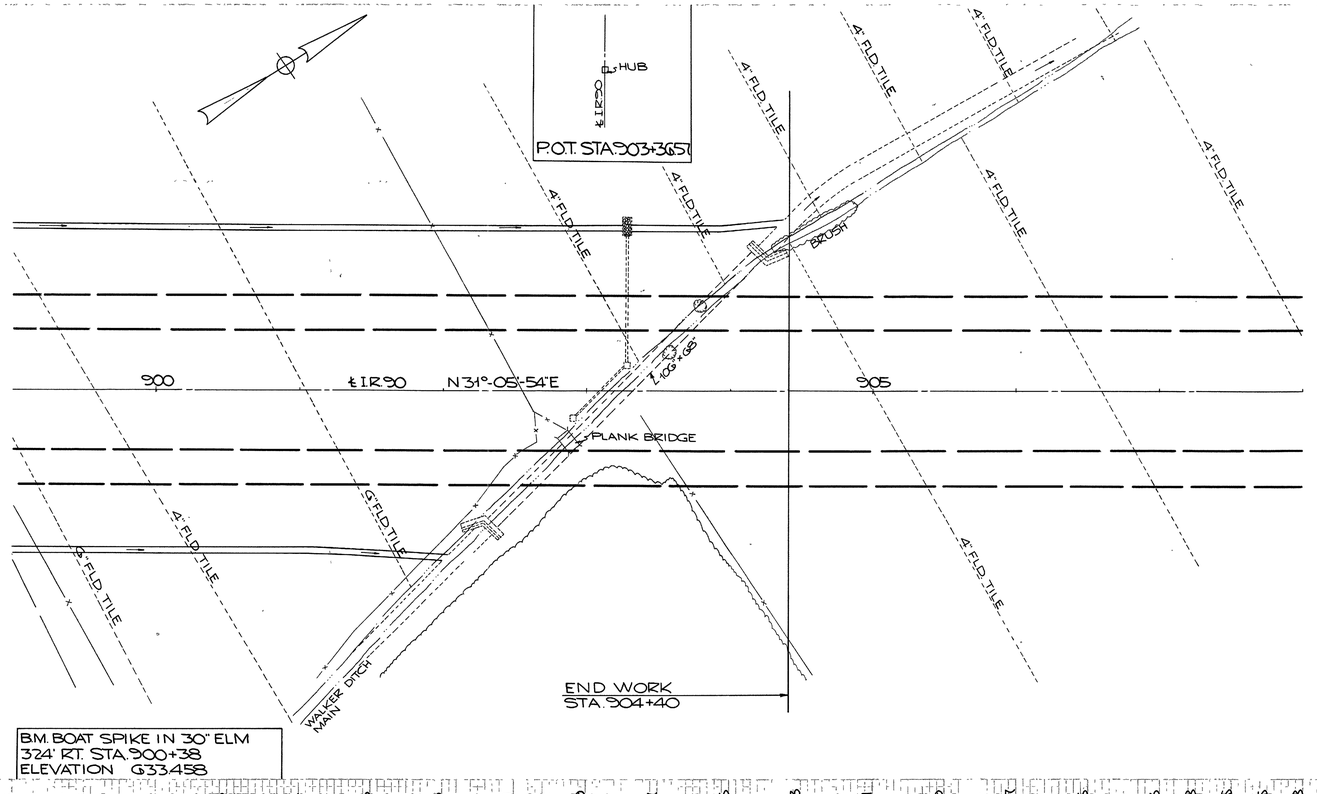


REFERENCE NO.	SIDE	STATION FROM	STATION TO	G05 SHALLOW PIPE UNDER-DRAINS 6" LIN.FT.	G05 DEEP PIPE UNDER-DRAINS 6" LIN.FT.	G03 CONDUIT TYPE F 6" LIN.FT.	G05 PIPE SPECIAL 6"-90° BEND EACH
1-UD	LT.	888+00	893+00	500			1
2-UD	LT.	893+00			31	10	
3-UD	RT.	888+00	893+00	500			1
4-UD	LT.	893+00			31	10	
TOTALS				1000	62	20	2

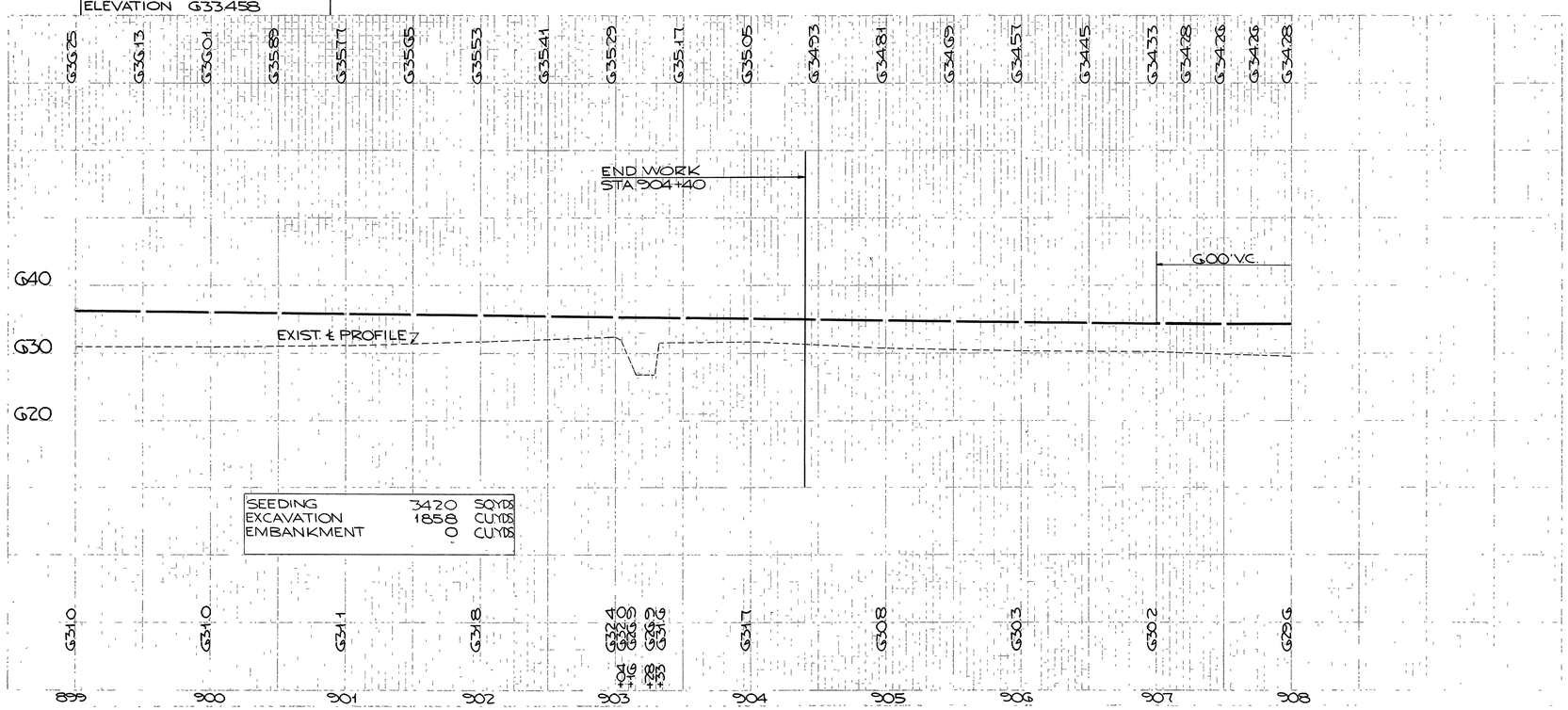
STA. 888+00 TO STA. 899+00

FED. RD DIVISION	STATE	PROJECT		
2	OHIO			

LOR-90-13.01



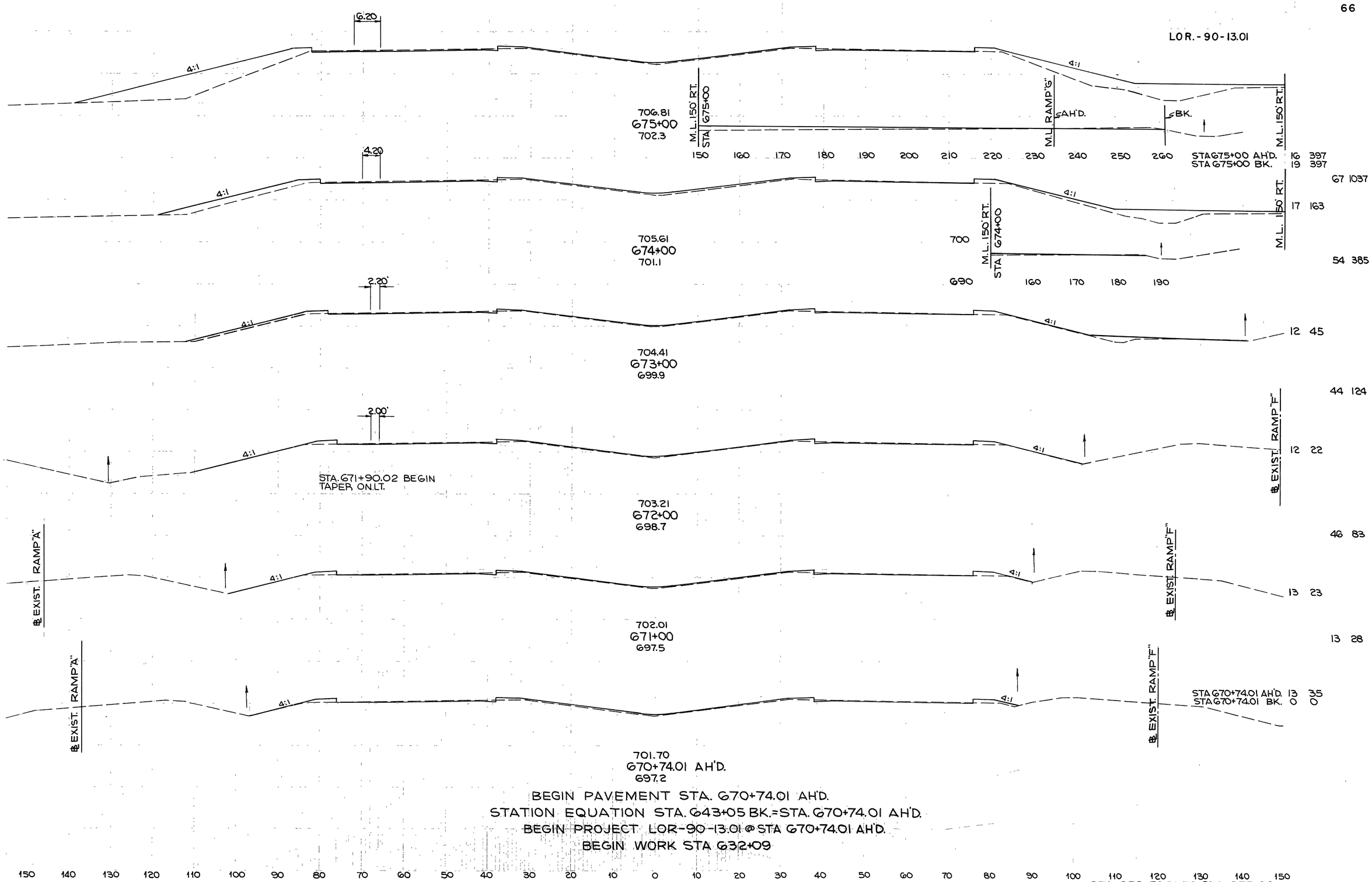
B.M. BOAT SPIKE IN 30" ELM
324' RT. STA. 900+38
ELEVATION 633.458



SEEDING	3420	SQYDS
EXCAVATION	1858	CUYDS
EMBANKMENT	0	CUYDS

STA. 899+00 TO STA. 908+00

LOR.-90-13.01

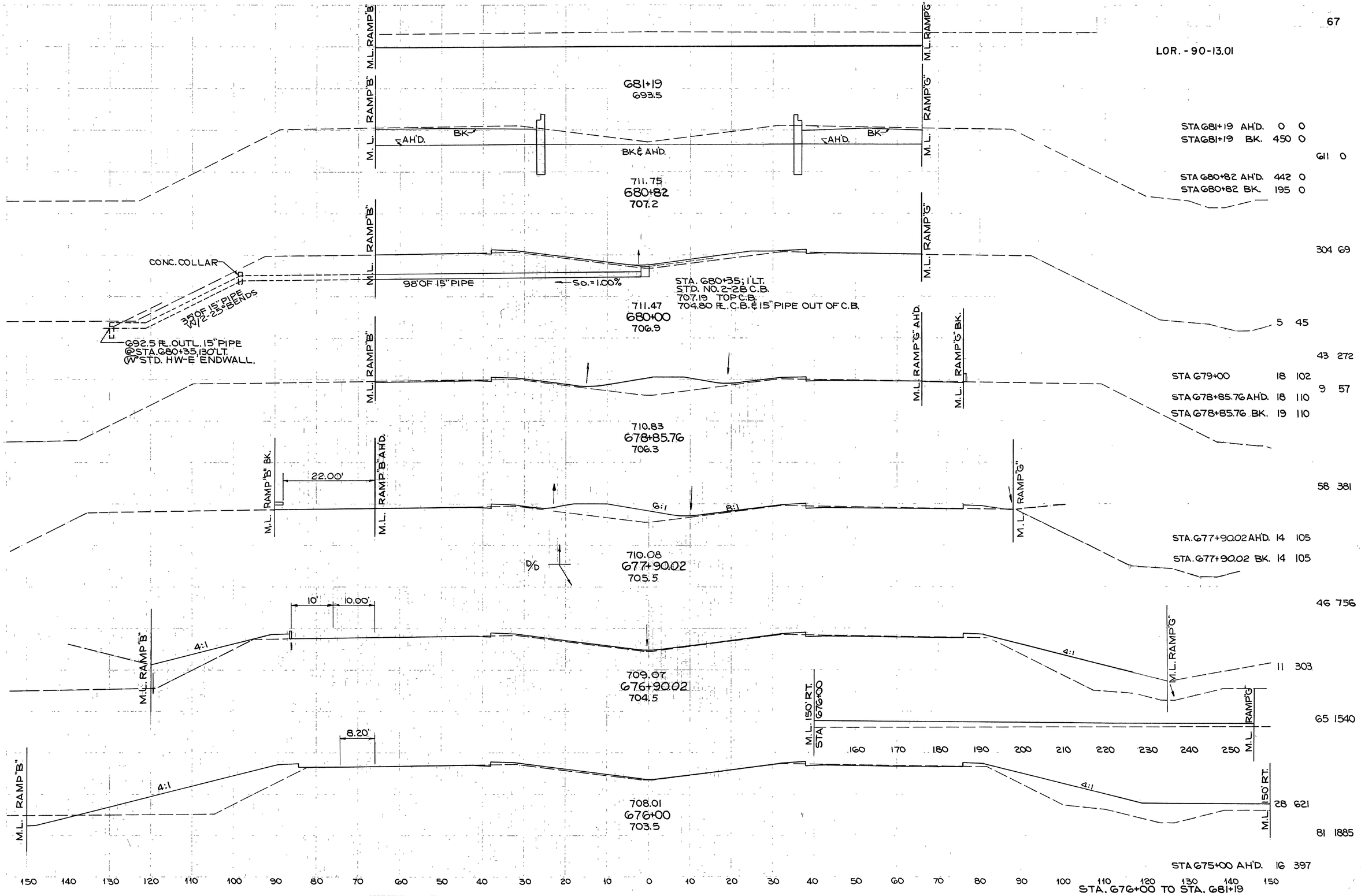


BEGIN PAVEMENT STA. 670+74.01 AH'D.

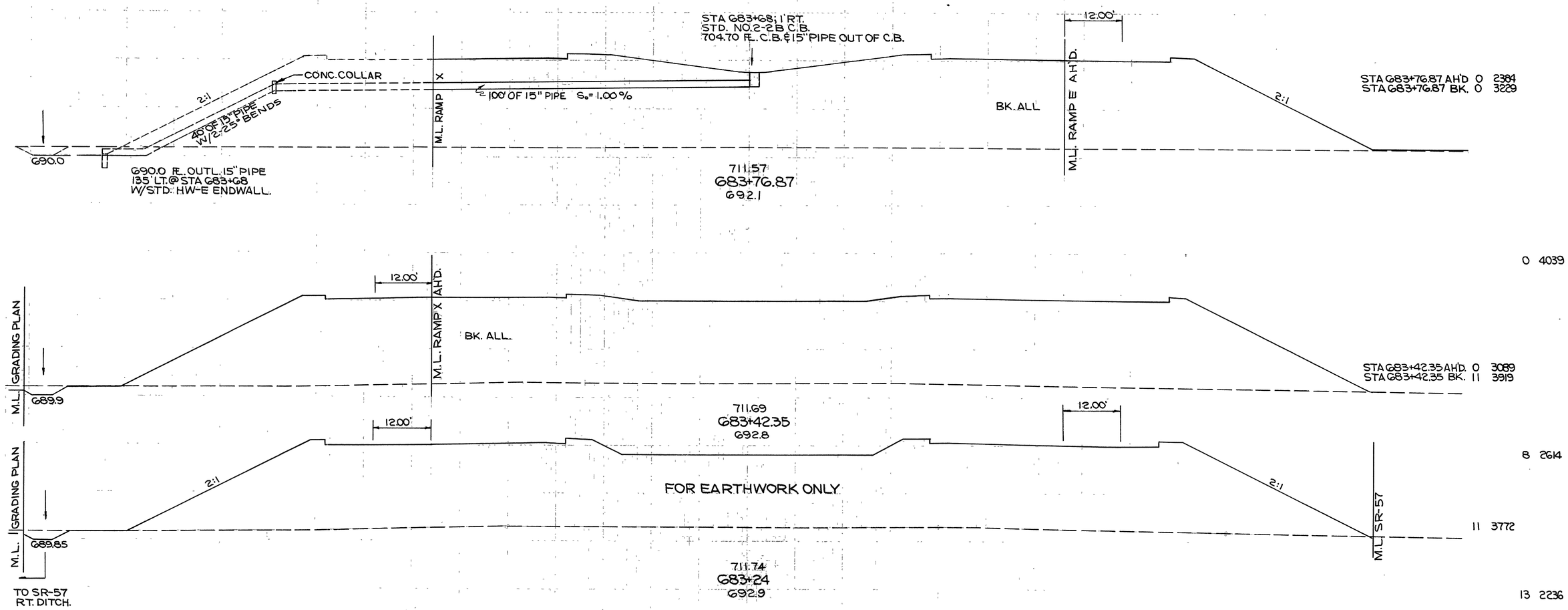
STATION EQUATION STA. 643+05 BK.=STA. 670+74.01 AH'D.

BEGIN PROJECT LOR-90-13.01 @ STA 670+74.01 AH'D.

BEGIN WORK STA 632+09


LOR.-90-13.01
M.L. RAMP "B"
M.L. RAMP "G"
681+19
693.5
AH'D.
BK.
BK. & AH'D.
711.75
680+82
707.2
CONC. COLLAR
98' OF 15" PIPE
So.=1.00%
STA. 680+35; 1' LT.
STD. NO. 2-2B C.B.
707.19 TOP C.B.
704.80 FL. C.B. & 15" PIPE OUT OF C.B.
711.47
680+00
706.9
35' OF 15" PIPE W/2-25° BENDS
692.5 FL. OUTL. 15" PIPE @STA. 680+35, 130' LT. W/ STD. HW-E ENDWALL.
M.L. RAMP "G" AH'D.
M.L. RAMP "G" BK.
710.83
678+85.76
706.3
M.L. RAMP "B" BK.
M.L. RAMP "B" AH'D.
22.00'
6:1
8:1
710.08
677+90.02
705.5
10'
10.00'
4:1
709.07
676+90.02
704.5
M.L. 150' RT. STA 676+00
8.20'
708.01
676+00
703.5
150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150
STA. 676+00 TO STA. 681+19
STA 681+19 AH'D. 0 0
STA 681+19 BK. 450 0
611 0
STA 680+82 AH'D. 442 0
STA 680+82 BK. 195 0
304 69
5 45
43 272
STA 679+00 18 102
STA 678+85.76 AH'D. 18 110
STA 678+85.76 BK. 19 110
9 57
58 381
STA. 677+90.02 AH'D. 14 105
STA. 677+90.02 BK. 14 105
46 756
11 303
65 1540
28 621
81 1885
STA 675+00 AH'D. 16 397

LOR.-90-13.01



STA 682+92
"O" FILL SECTION

STA 682+92 AH'D. 11 0
STA 682+92 BK. 0 0

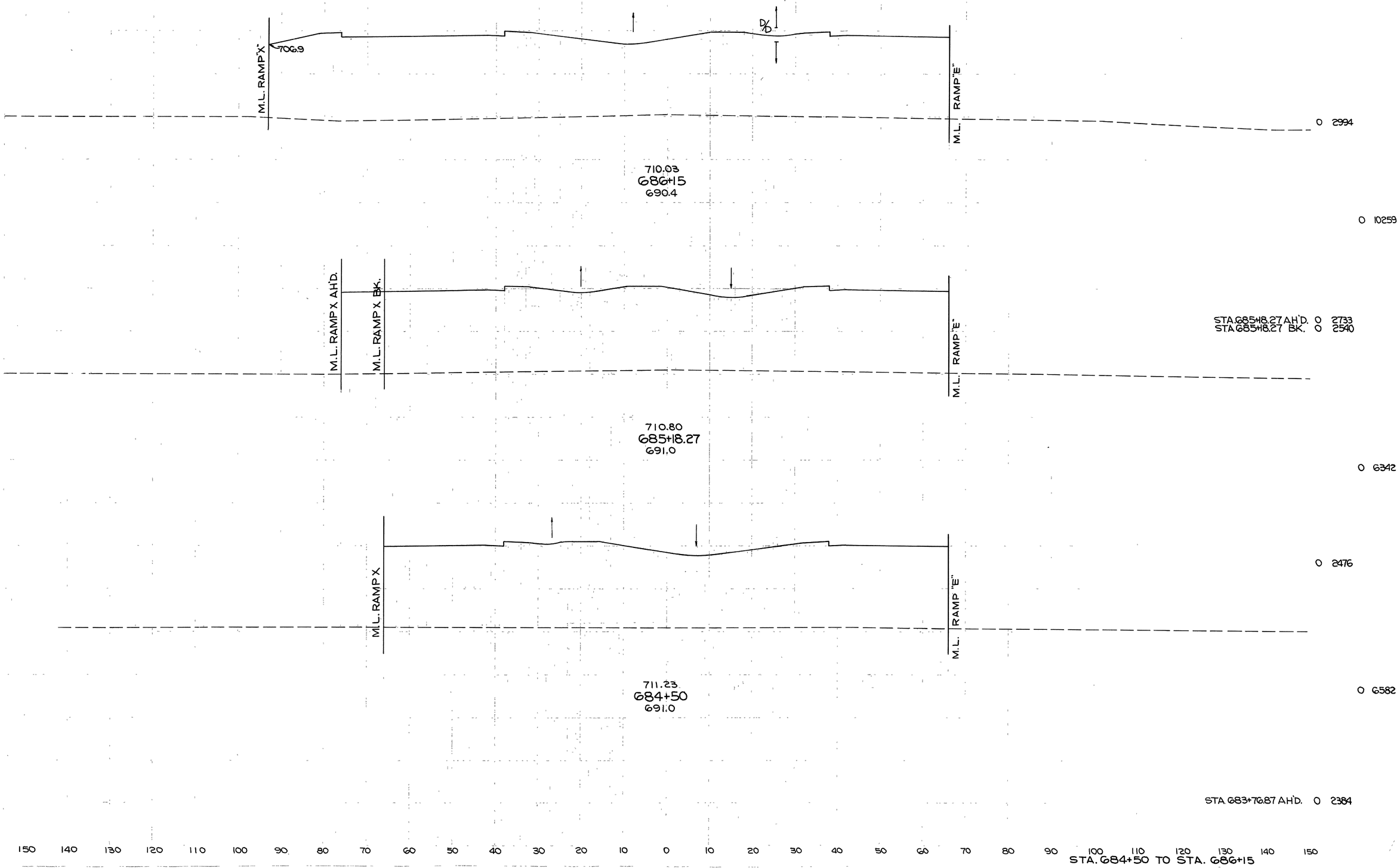
0 0

STA 681+19 AH'D. 0 0

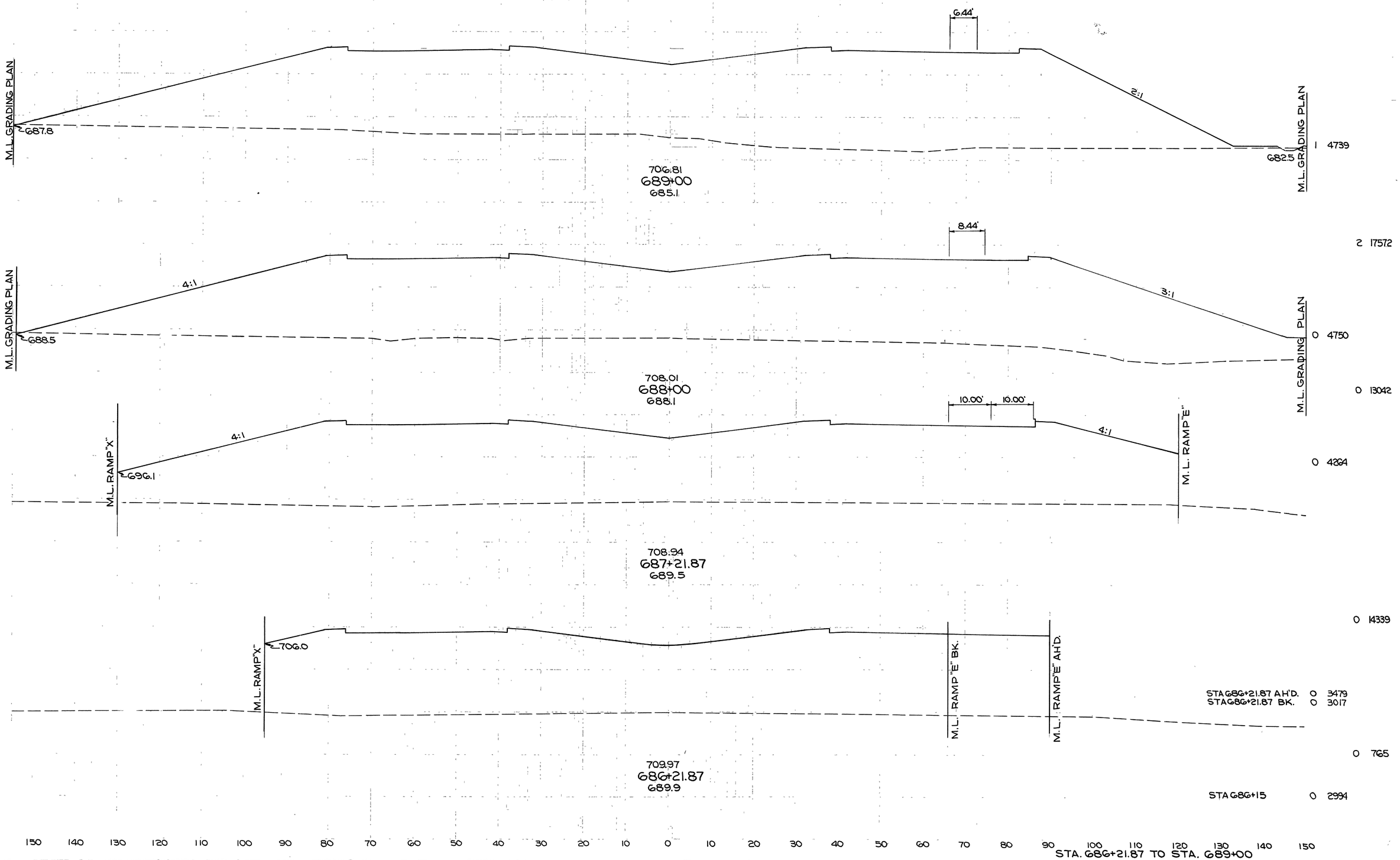
150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

STA 682+92 TO STA 683+76.87

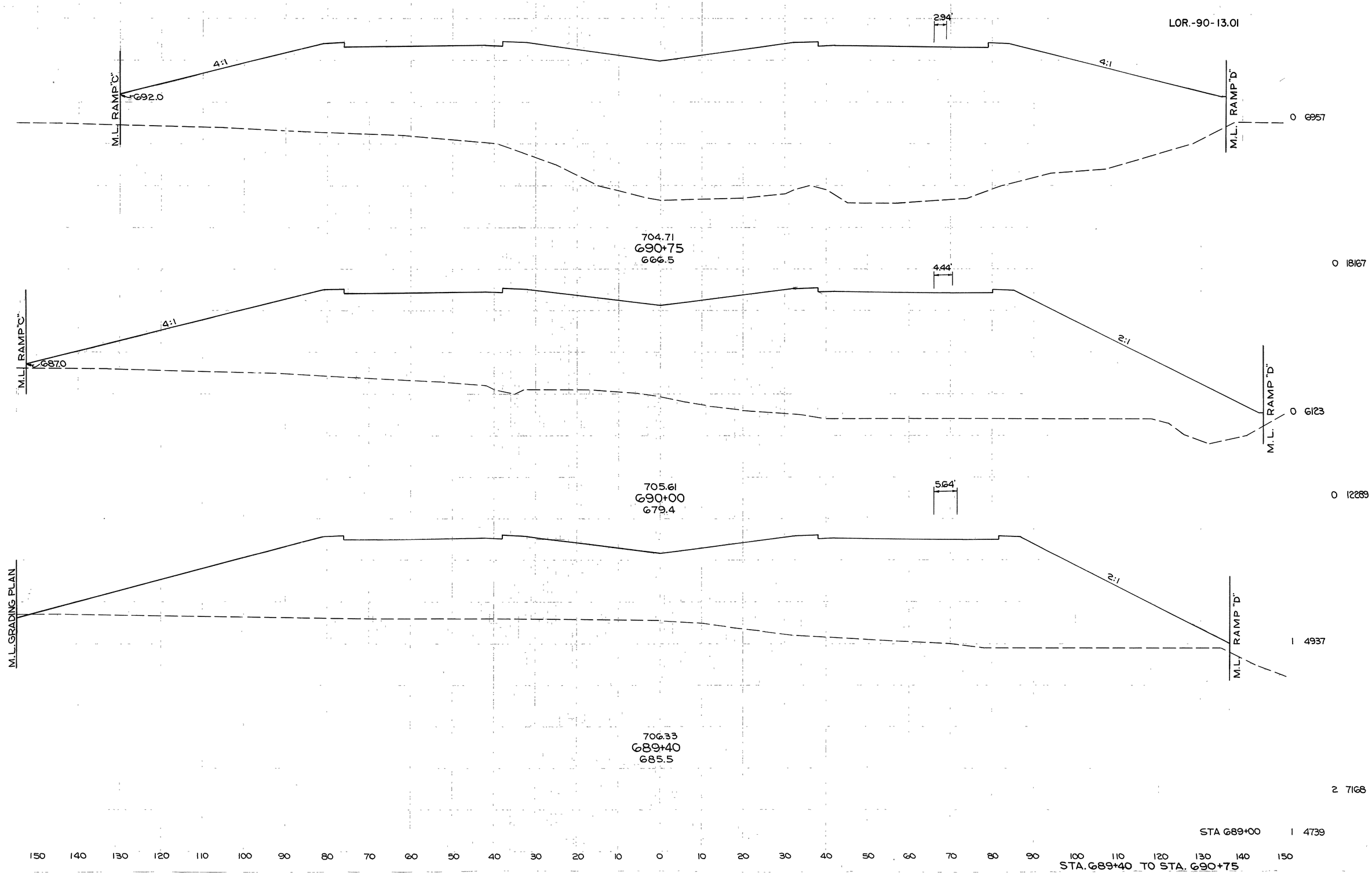
LOR.-90-13.01


M.L. RAMP "X"
706.9
D/D
M.L. RAMP "E"
0 2994
710.03
686+15
690.4
0 10259
M.L. RAMP X AH'D.
M.L. RAMP X BK.
M.L. RAMP "E"
STA.685+18.27 AH'D. 0 2733
STA.685+18.27 BK. 0 2540
710.80
685+18.27
691.0
0 6342
M.L. RAMP X
M.L. RAMP "E"
0 2476
711.23
684+50
691.0
0 6582
STA.683+76.87 AH'D. 0 2384
150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150
STA. 684+50 TO STA. 686+15

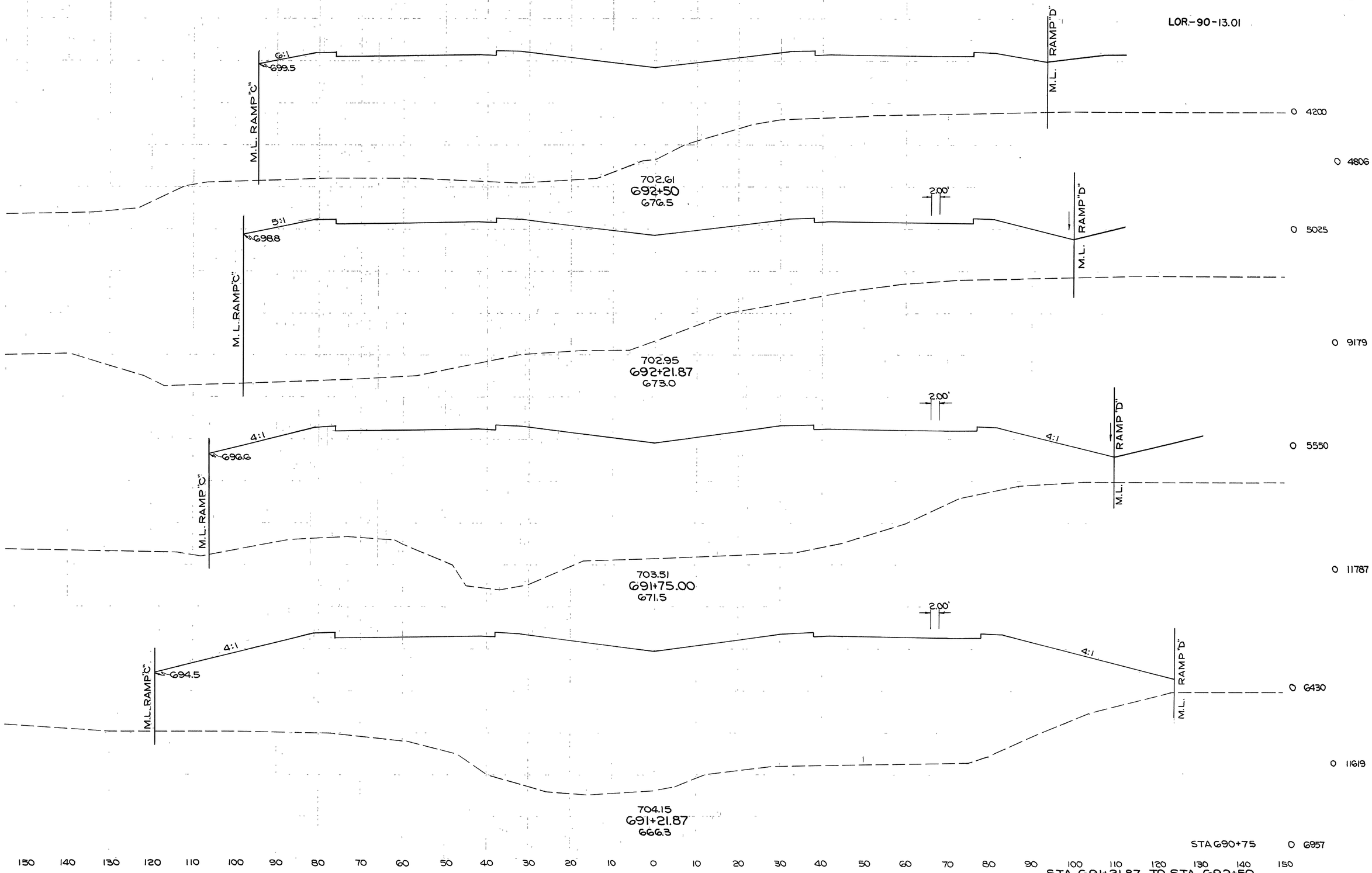
LOR.-90-13.01


6.44'
2:1
M.L. GRADING PLAN
687.8
682.5
706.81
689+00
685.1
1 4739
8.44'
2 17572
4:1
3:1
688.5
0 4750
708.01
688+00
688.1
0 13042
10.00'
10.00'
4:1
4:1
M.L. RAMP "X"
696.1
M.L. RAMP "E"
0 4284
708.94
687+21.87
689.5
0 14339
706.0
STA 686+21.87 AH'D. 0 3479
STA 686+21.87 BK. 0 3017
M.L. RAMP "E" BK.
M.L. RAMP "E" AH'D.
0 765
709.97
686+21.87
689.9
STA 686+15 0 2994
150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150
STA. 686+21.87 TO STA. 689+00

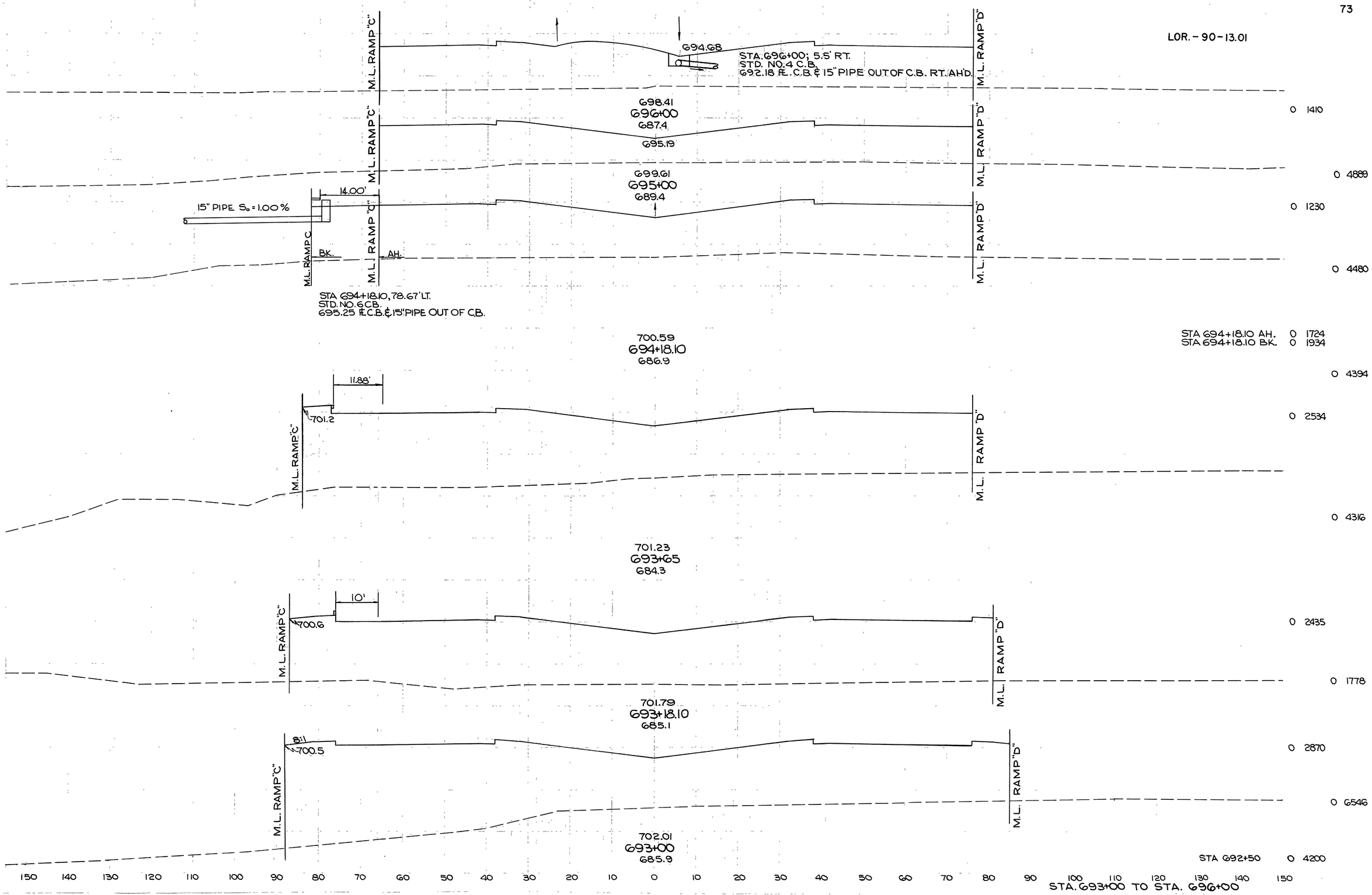
LOR.-90-13.01


2.94'
4:1
4:1
692.0
M.L. RAMP "C"
M.L. RAMP "D"
0 6957
704.71
690+75
666.5
0 18167
4.44'
4:1
2:1
687.0
M.L. RAMP "C"
M.L. RAMP "D"
0 6123
705.61
690+00
679.4
5.64'
0 12289
2:1
M.L. GRADING PLAN
M.L. RAMP "D"
1 4937
706.33
689+40
685.5
2 7168
STA 689+00
1 4739
150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150
STA. 689+40 TO STA. 690+75

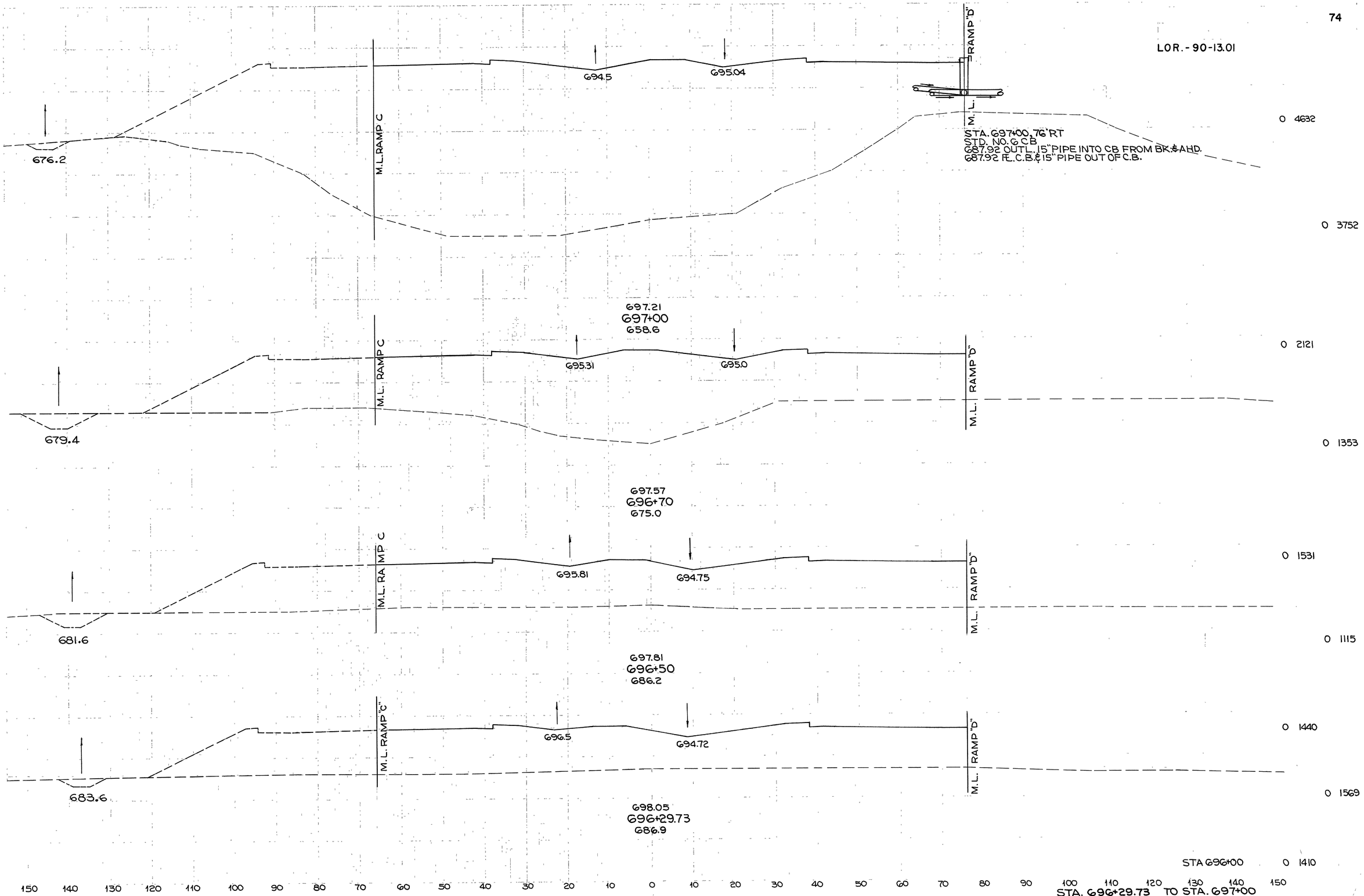
LOR.-90-13.01


M.L. RAMP "C"
M.L. RAMP "D"
6:1
699.5
0 4200
0 4806
702.61
692+50
676.5
2.00'
5:1
698.8
0 5025
0 9179
702.95
692+21.87
673.0
4:1
696.6
0 5550
0 11787
703.51
691+75.00
671.5
694.5
0 6430
0 11619
704.15
691+21.87
666.3
STA. 690+75
0 6957
150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150
STA. 691+21.87 TO STA. 692+50

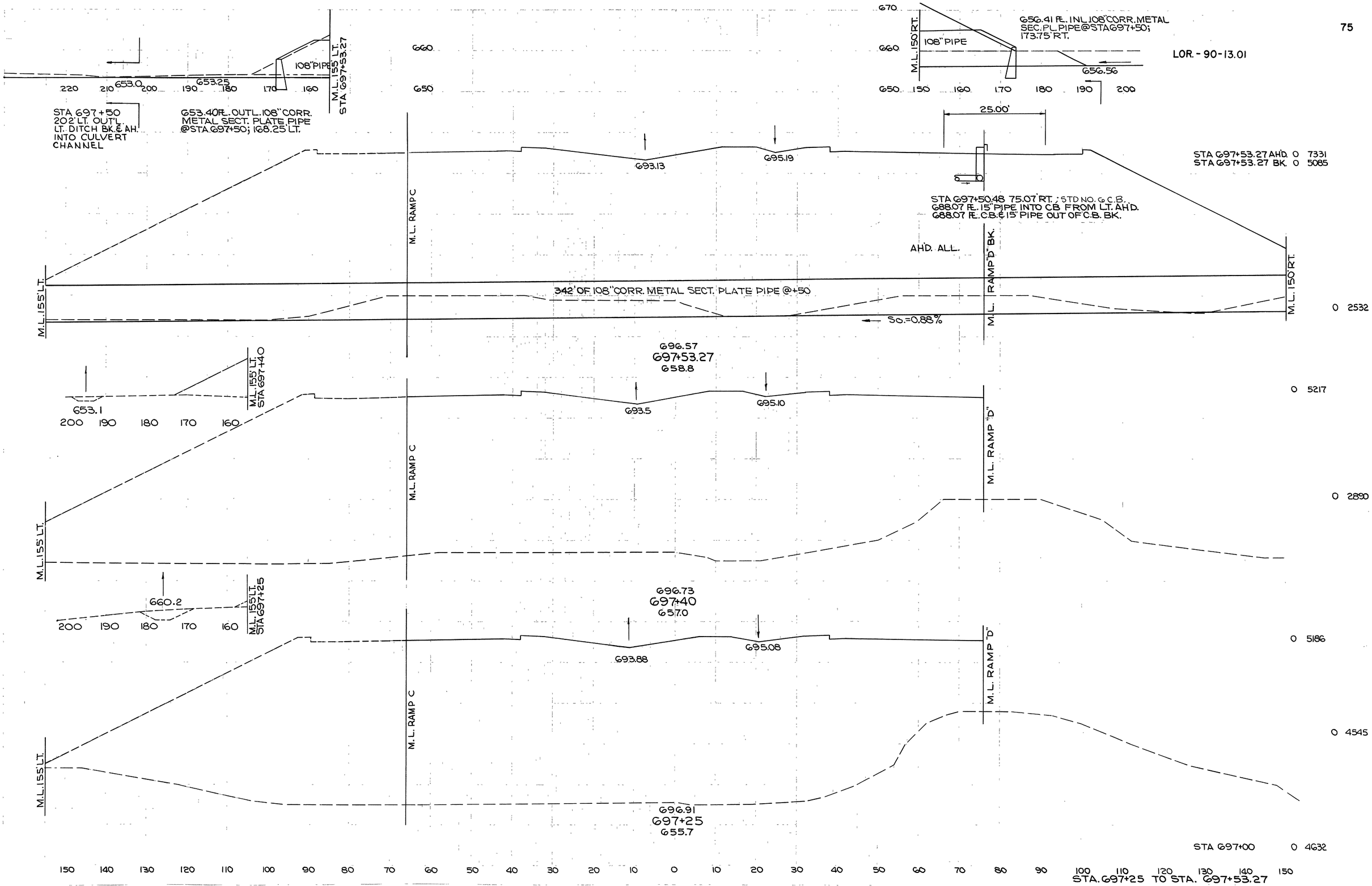
LOR. - 90 - 13.01


M.L. RAMP "C"
M.L. RAMP "D"
694.68
STA. 696+00; 5.5' RT.
STD. NO. 4 C.B.
692.18 FL. C.B. & 15" PIPE OUT OF C.B. RT. AH'D.
698.41
696+00
687.4
695.19
699.61
695+00
689.4
14.00'
15" PIPE S_o = 1.00 %
BK.
AH.
STA. 694+18.10, 78.67' LT.
STD. NO. 6 C.B.
695.25 FL. C.B. & 15" PIPE OUT OF C.B.
700.59
694+18.10
686.9
11.88'
701.2
701.23
693+65
684.3
10'
700.6
701.79
693+18.10
685.1
8:1
700.5
702.01
693+00
685.9
0 1410
0 4889
0 1230
0 4480
STA 694+18.10 AH. 0 1724
STA 694+18.10 BK. 0 1934
0 4394
0 2534
0 4316
0 2435
0 1778
0 2870
0 6546
STA 692+50 0 4200
150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150
STA. 693+00 TO STA. 696+00

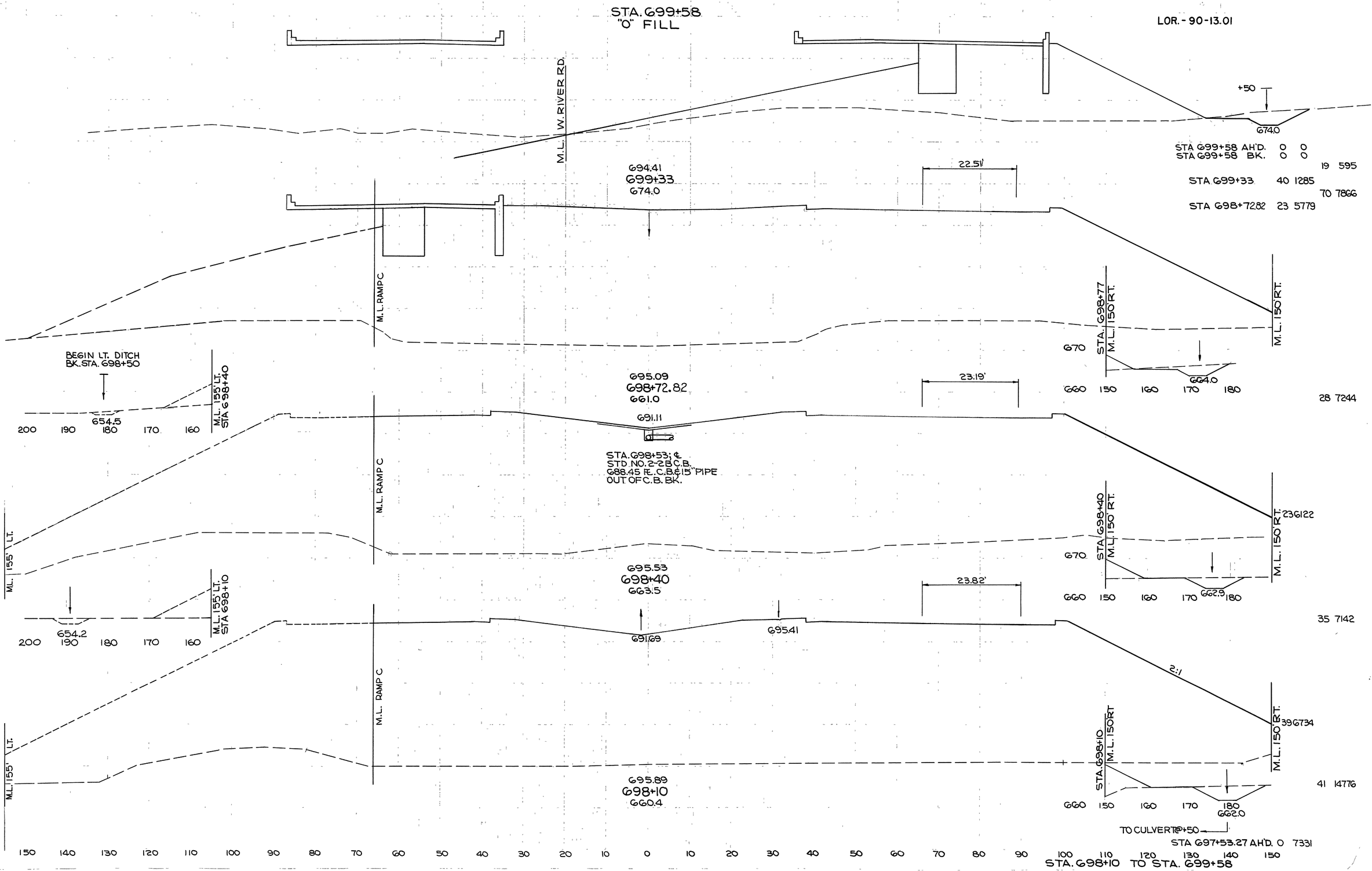
LOR.-90-13.01


RAMP "D"
694.5
695.04
M.L. RAMP C
676.2
M.L.
STA. 697+00, 76' RT
STD. NO. 6 C.B.
687.92 OUT L. 15" PIPE INTO CB FROM BK. & AHD.
687.92 FL. C.B. & 15" PIPE OUT OF C.B.
0 4632
0 3752
697.21
697+00
658.6
695.31
695.0
679.4
0 2121
0 1353
697.57
696+70
675.0
695.81
694.75
681.6
0 1531
0 1115
697.81
696+50
686.2
M.L. RAMP "C"
696.5
694.72
683.6
0 1440
0 1569
698.05
696+29.73
686.9
STA 696+00
0 1410
150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150
STA. 696+29.73 TO STA. 697+00

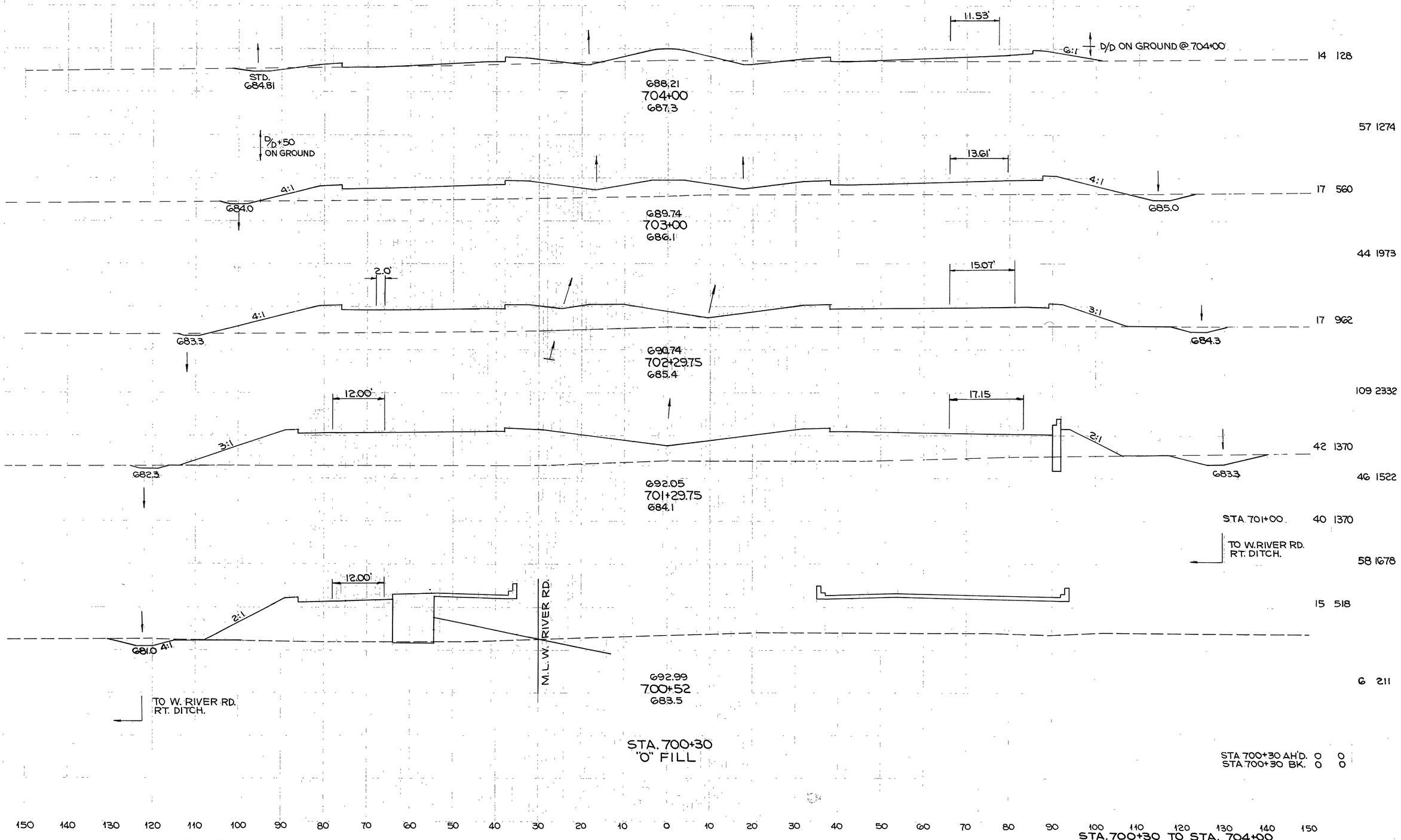
LOR.-90-13.01


108" PIPE
M.L. 155' LT. STA. 697+53.27
653.0
653.25
220 210 200 190 180 170 160
STA 697+50
202' LT. OUT'L.
LT. DITCH BK.& AH.
INTO CULVERT
CHANNEL
653.40 FL. OUT'L. 108" CORR.
METAL SECT. PLATE PIPE
@STA 697+50; 168.25' LT.
660
650
670
656.41 FL. INL. 108" CORR. METAL
SEC. PL. PIPE @ STA 697+50;
173.75' RT.
M.L. 150' RT.
656.56
150 160 170 180 190 200
25.00'
693.13
695.19
STA 697+53.27 AH'D. 0 7331
STA 697+53.27 BK. 0 5085
M.L. RAMP C
STA 697+50.48 75.07' RT. ; STD NO. 6 C.B.
688.07 FL. 15" PIPE INTO C.B. FROM LT. AH'D.
688.07 FL. C.B. & 15" PIPE OUT OF C.B. BK.
AH'D. ALL.
M.L. RAMP "D" BK.
M.L. 155' LT.
342' OF 108" CORR. METAL SECT. PLATE PIPE @+50
M.L. 150' RT.
0 2532
So.=0.88%
696.57
697+53.27
658.8
M.L. 155' LT. STA 697+40
653.1
200 190 180 170 160
693.5
695.10
0 5217
M.L. RAMP "D"
0 2890
660.2
M.L. 155' LT. STA 697+25
696.73
697+40
657.0
693.88
695.08
0 5186
0 4545
696.91
697+25
655.7
STA 697+00 0 4632
150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150
STA. 697+25 TO STA. 697+53.27

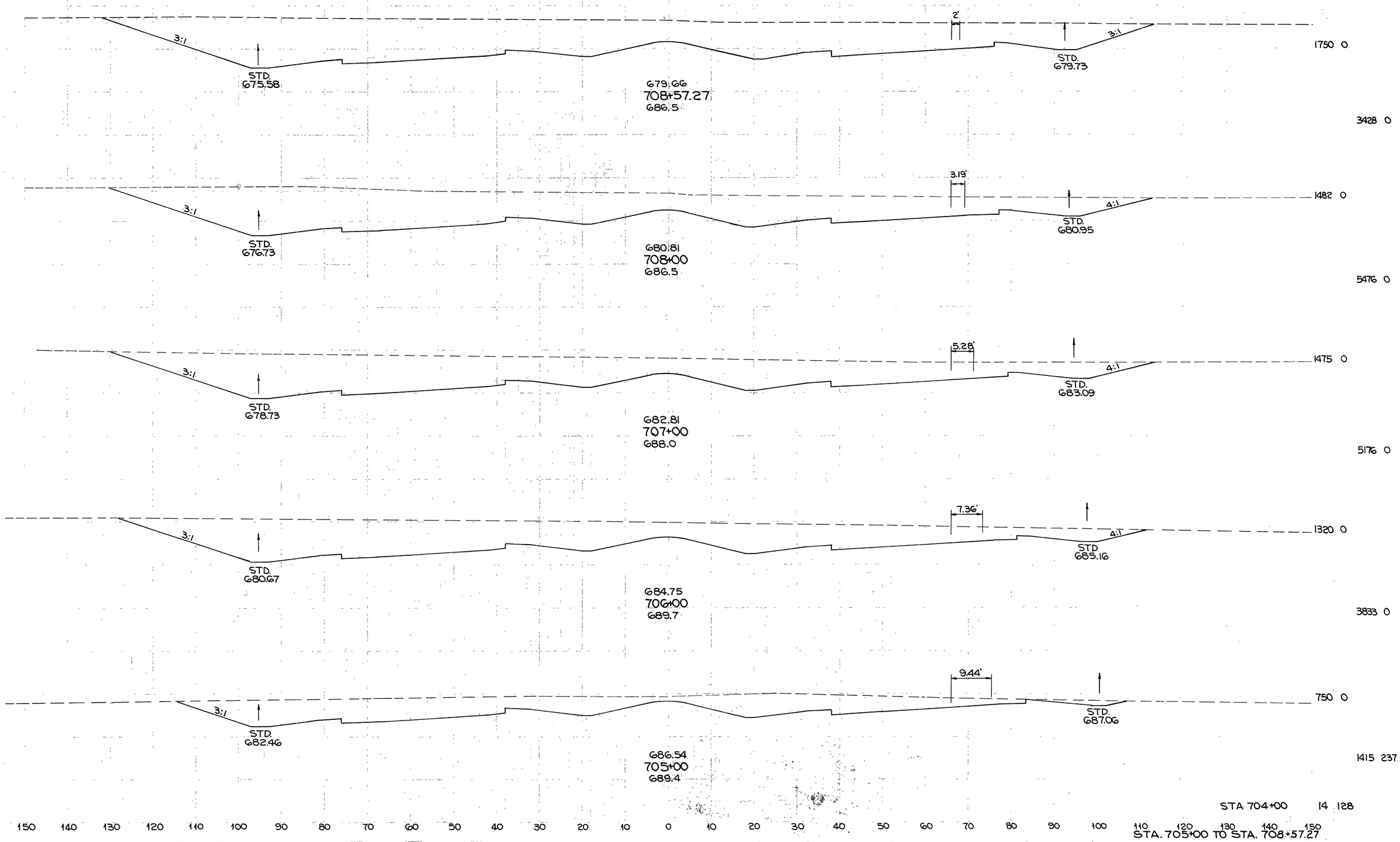
LOR.-90-13.01


STA. 699+58
"0" FILL
M.L. W. RIVER RD.
+50
674.0
STA 699+58 AH'D. 0 0
STA 699+58 BK. 0 0
19 595
STA 699+33 40 1285
70 7866
STA 698+72.82 23 5779
694.41
699+33
674.0
22.51'
M.L. RAMP C
M.L. 150' RT.
STA. 698+77
M.L. 150' RT.
670
664.0
660 150 160 170 180
BEGIN LT. DITCH
BK. STA. 698+50
M.L. 155' LT.
STA 698+40
654.5
200 190 180 170 160
695.09
698+72.82
661.0
23.19'
691.11
28 7244
STA. 698+53; ℄
STD. NO. 2-2 B.C.B.
688.45 FL. C.B. & 15" PIPE
OUT OF C.B. BK.
M.L. RAMP C
M.L. 155' LT.
M.L. 150' RT.
236122
STA 698+40
M.L. 150' RT.
670
662.9
660 150 160 170 180
695.53
698+40
663.5
23.82'
M.L. 155' LT.
STA 698+10
654.2
200 190 180 170 160
691.69
695.41
35 7142
2:1
M.L. RAMP C
M.L. 150' RT.
396734
STA. 698+10
M.L. 150' RT.
M.L. 155' LT.
695.89
698+10
660.4
41 14776
660 150 160 170 180
662.0
TO CULVERT @+50
STA 697+53.27 AH'D. 0 7331
150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150
STA. 698+10 TO STA. 699+58

LOR.-90-13.01

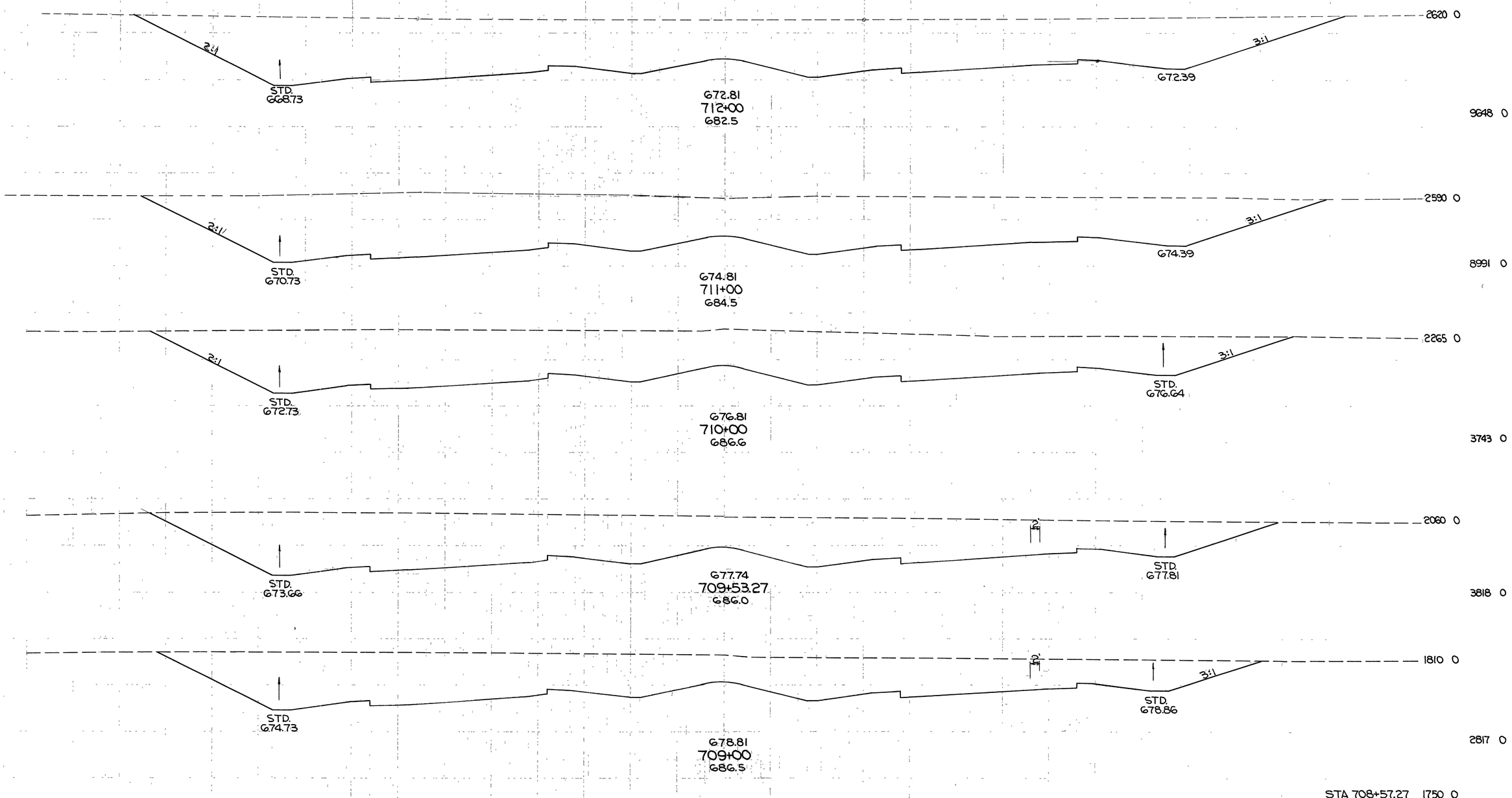

11.53'
6:1
D/D ON GROUND @ 704+00
STD.
684.81
688.21
704+00
687.3
14 128
57 1274
D/D+50
ON GROUND
13.61'
4:1
4:1
684.0
685.0
689.74
703+00
686.1
17 560
44 1973
2.0'
15.07'
4:1
3:1
683.3
684.3
690.74
702+29.75
685.4
17 962
109 2332
12.00'
17.15
3:1
2:1
682.3
683.3
692.05
701+29.75
684.1
42 1370
46 1522
STA. 701+00
40 1370
TO W. RIVER RD.
RT. DITCH.
58 1678
12.00'
2:1
15 518
681.0
4:1
M.L.W. RIVER RD.
692.99
700+52
683.5
6 211
TO W. RIVER RD.
RT. DITCH.
STA. 700+30
"0" FILL
STA. 700+30 AH'D. 0 0
STA. 700+30 BK. 0 0
150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150
STA. 700+30 TO STA. 704+00

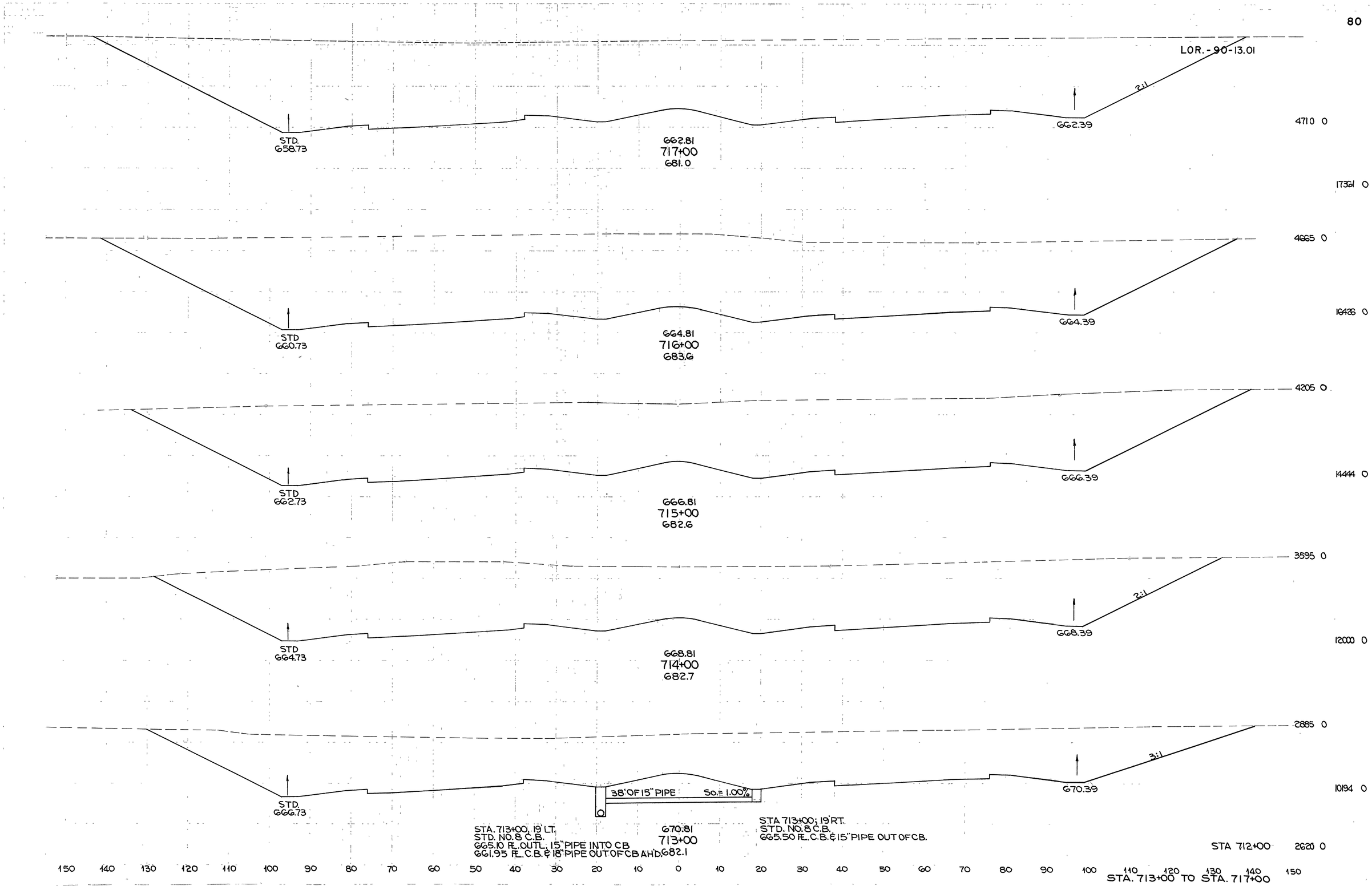
LOR.-90-13.01



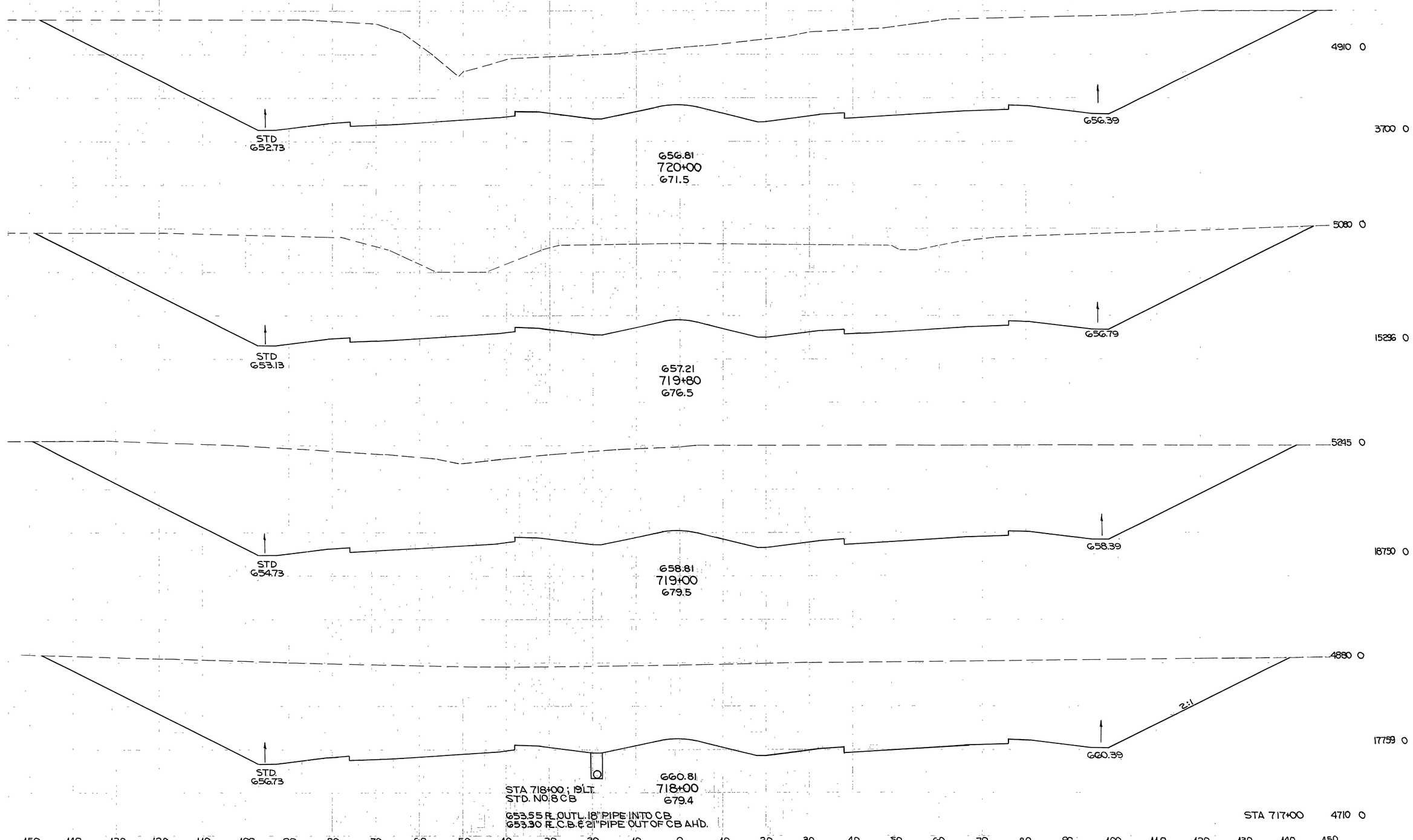
STA. 705+00 TO STA. 708+57.27

LOR.-90-13.01


2620 0
2:1
STD.
668.73
672.81
712+00
682.5
3:1
672.39
9648 0
2590 0
2:1
STD.
670.73
674.81
711+00
684.5
3:1
674.39
8991 0
2265 0
2:1
STD.
672.73
676.81
710+00
686.6
3:1
STD.
676.64
3743 0
2080 0
STD.
673.66
677.74
709+53.27
686.0
STD.
677.81
3818 0
1810 0
STD.
674.73
678.81
709+00
686.5
3:1
STD.
678.86
2817 0
STA 708+57.27 1750 0
150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150
STA. 709+00 TO STA. 712+00

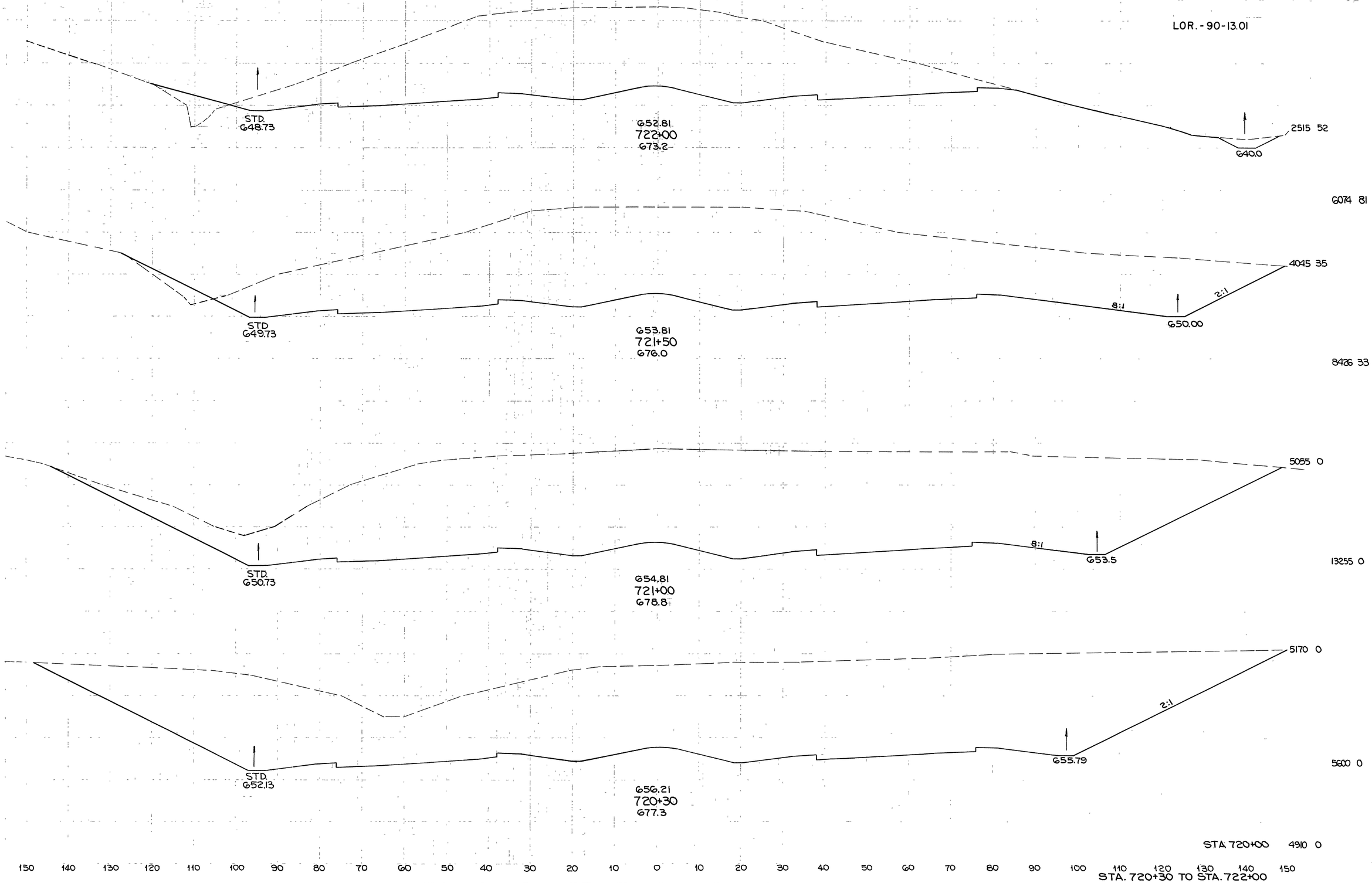

LOR.-90-13.01
2:1
STD.
658.73
662.81
717+00
681.0
662.39
4710 0
17361 0
4665 0
STD
660.73
664.81
716+00
683.6
664.39
16426 0
4205 0
STD
662.73
666.81
715+00
682.6
666.39
14444 0
3595 0
2:1
STD
664.73
668.81
714+00
682.7
668.39
12000 0
2885 0
3:1
STD.
666.73
38' OF 15" PIPE
So = 1.00%
670.39
10194 0
STA. 713+00, 19' LT.
STD. NO. 8 C.B.
665.10 FL. OUTL. 15" PIPE INTO C.B.
661.95 FL. C.B. & 18" PIPE OUT OF C.B. AHD.
670.81
713+00
682.1
STA 713+00; 19' RT.
STD. NO. 8 C.B.
665.50 FL. C.B. & 15" PIPE OUT OF C.B.
STA 712+00
2620 0
150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150
STA. 713+00 TO STA. 717+00

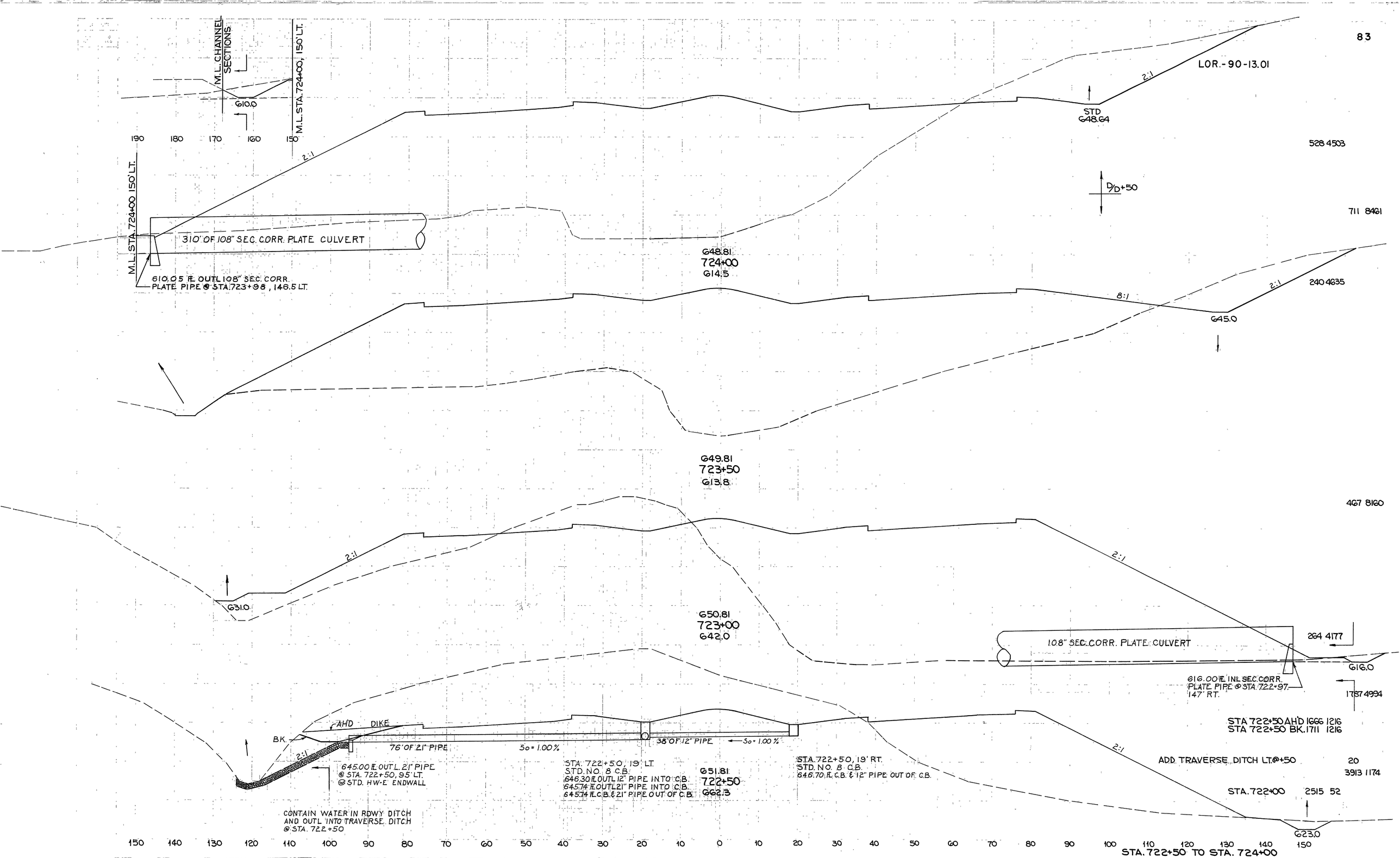
LOR.-90-13.01



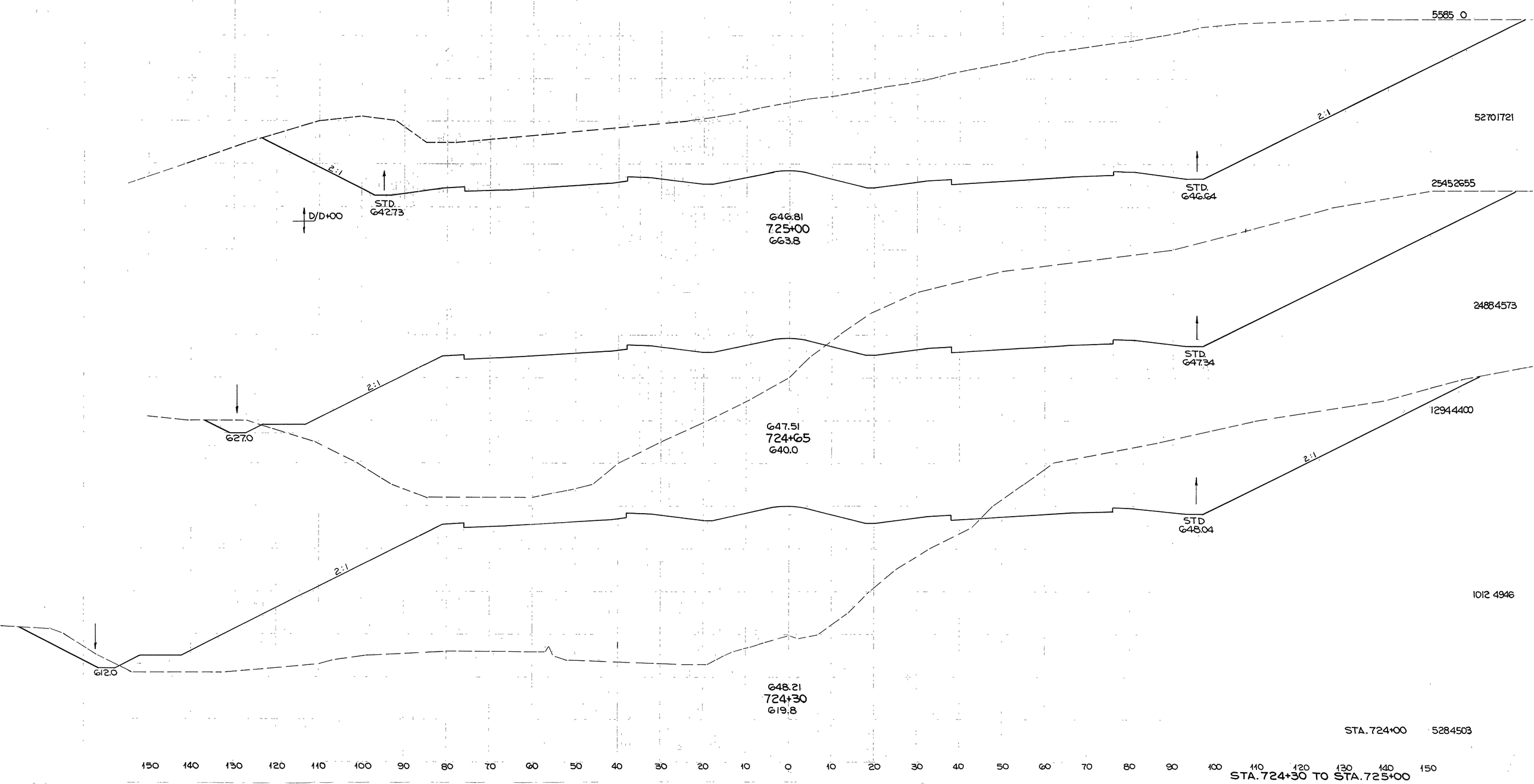
STA. 718+00 TO STA. 720+00

LOR.-90-13.01

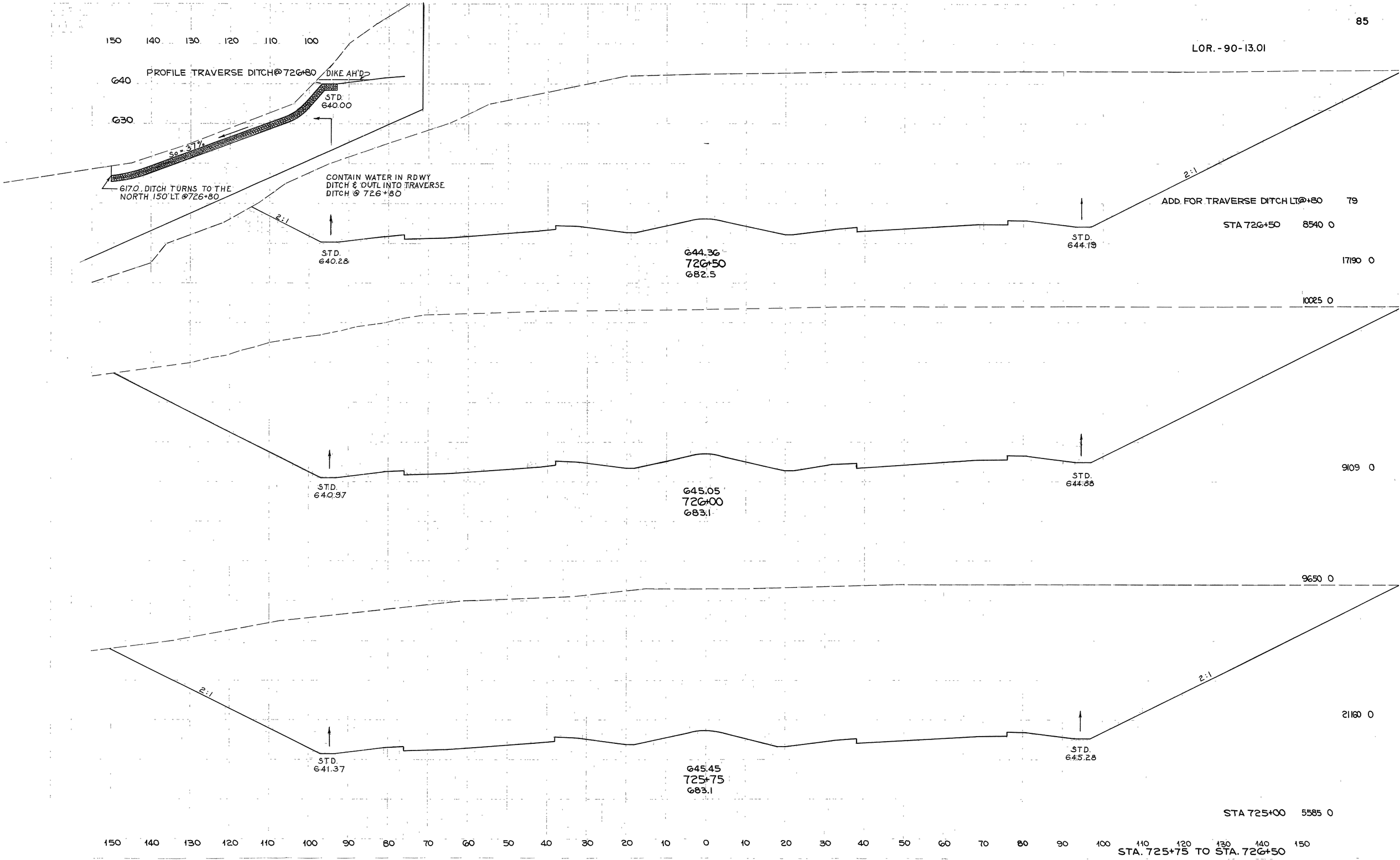

STD.
648.73
652.81
722+00
673.2
2515 52
640.0
6074 81
STD.
649.73
653.81
721+50
676.0
4045 35
8:1
2:1
650.00
8426 33
STD.
650.73
654.81
721+00
678.8
5055 0
8:1
653.5
13255 0
STD.
652.13
656.21
720+30
677.3
5170 0
2:1
655.79
5600 0
STA. 720+00
4910 0
150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150
STA. 720+30 TO STA. 722+00


M.L. CHANNEL SECTIONS
610.0
M.L. STA. 724+00, 150' LT.
190
180
170
160
150
2:1
M.L. STA. 724+00 150' LT.
310' OF 108" SEC. CORR. PLATE CULVERT
610.05 FL OUTL 108" SEC. CORR. PLATE PIPE @ STA. 723+98, 146.5 LT.
648.81
724+00
614.5
STD
648.64
LOR.-90-13.01
2:1
528 4503
D/D+50
711 8461
8:1
2:1
645.0
240 4635
649.81
723+50
613.8
4G7 8160
2:1
2:1
631.0
650.81
723+00
642.0
10.8" SEC. CORR. PLATE CULVERT
264 4177
616.0
616.00 FL INL SEC. CORR. PLATE PIPE @ STA. 722+97, 147' RT.
1787 4994
STA 722+50 AH'D 1666 1216
STA 722+50 BK. 1711 1216
AH'D
DIKE
BK.
2:1
76' OF 21" PIPE
So = 1.00%
38' OF 12" PIPE
So = 1.00%
645.00 FL OUTL. 21" PIPE @ STA. 722+50, 95' LT. @ STD. HW-E ENDWALL
STA. 722+50, 19' LT.
STD. NO. 8 C.B.
646.30 FL OUTL 12" PIPE INTO C.B.
645.74 FL OUTL 21" PIPE INTO C.B.
645.74 FL C.B. & 21" PIPE OUT OF C.B.
651.81
722+50
662.3
STA. 722+50, 19' RT.
STD. NO. 8 C.B.
646.70 FL C.B. & 12" PIPE OUT OF C.B.
2:1
ADD TRAVERSE DITCH LT. @ +50
20
3913 1174
STA. 722+00
2515 52
CONTAIN WATER IN RDWY DITCH AND OUTL INTO TRAVERSE DITCH @ STA. 722+50
623.0
150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150
STA. 722+50 TO STA. 724+00

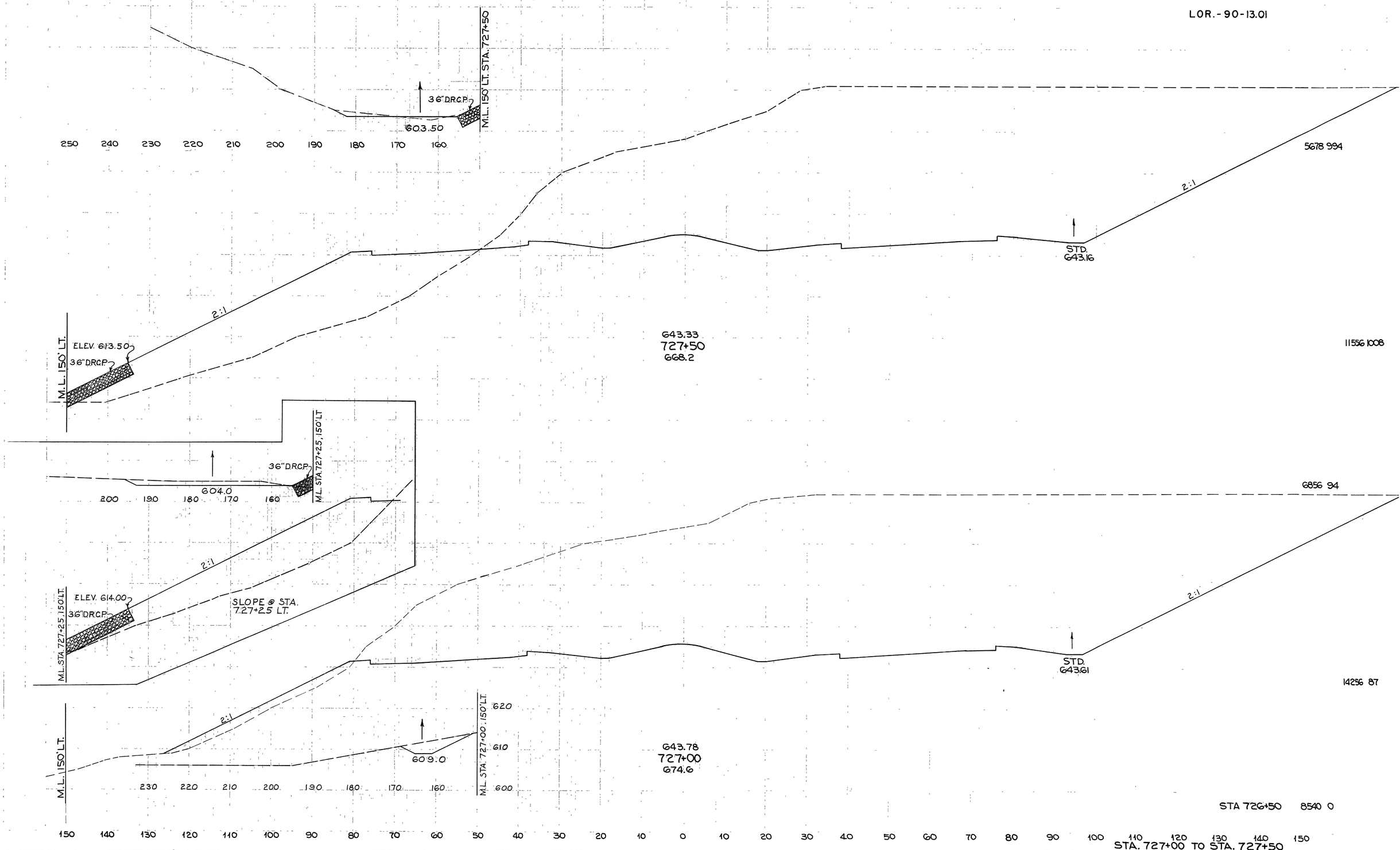
LOR.-90-13.01


5585 0
52701721
25452655
24884573
12944400
1012 4946
5284503
2:1
STD.
642.73
D/D+00
646.81
725+00
663.8
STD.
646.64
STD.
647.34
627.0
647.51
724+65
640.0
STD
648.04
612.0
648.21
724+30
619.8
STA. 724+00
150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150
STA. 724+30 TO STA. 725+00

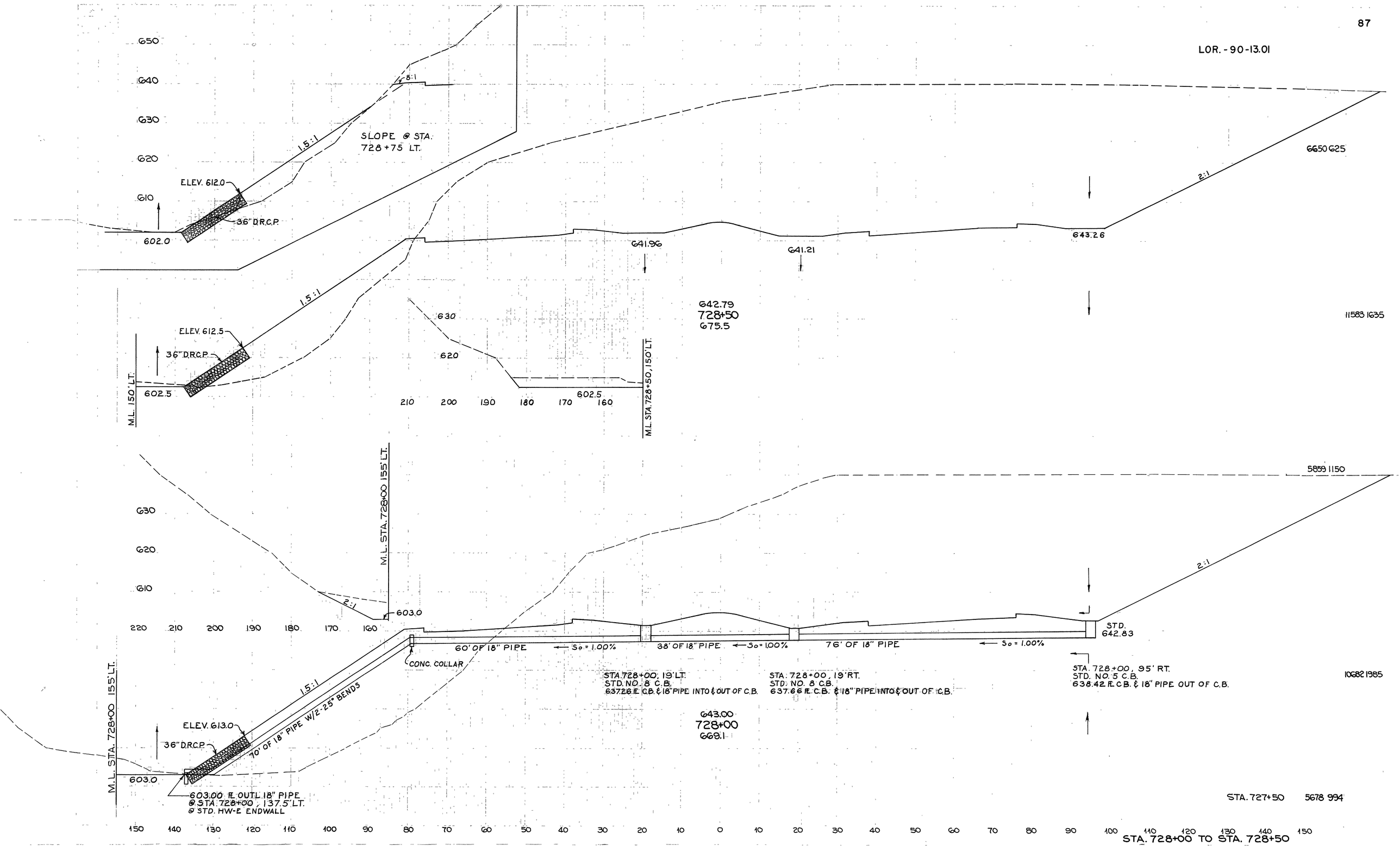
LOR.-90-13.01


150 140 130 120 110 100
640
630
PROFILE TRAVERSE DITCH @ 726+80
DIKE AH'D
STD. 640.00
So = 3.7%
617.0, DITCH TURNS TO THE NORTH 150' LT. @ 726+80
CONTAIN WATER IN RDWY DITCH & OUTL INTO TRAVERSE DITCH @ 726+80
2:1
STD. 640.28
644.36
726+50
682.5
STD. 644.19
ADD. FOR TRAVERSE DITCH LT @ +80 79
STA 726+50 8540 0
17190 0
10025 0
STD. 640.97
645.05
726+00
683.1
STD. 644.88
9109 0
9650 0
STD. 641.37
645.45
725+75
683.1
STD. 645.28
21160 0
STA 725+00 5585 0
150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150
STA. 725+75 TO STA. 726+50

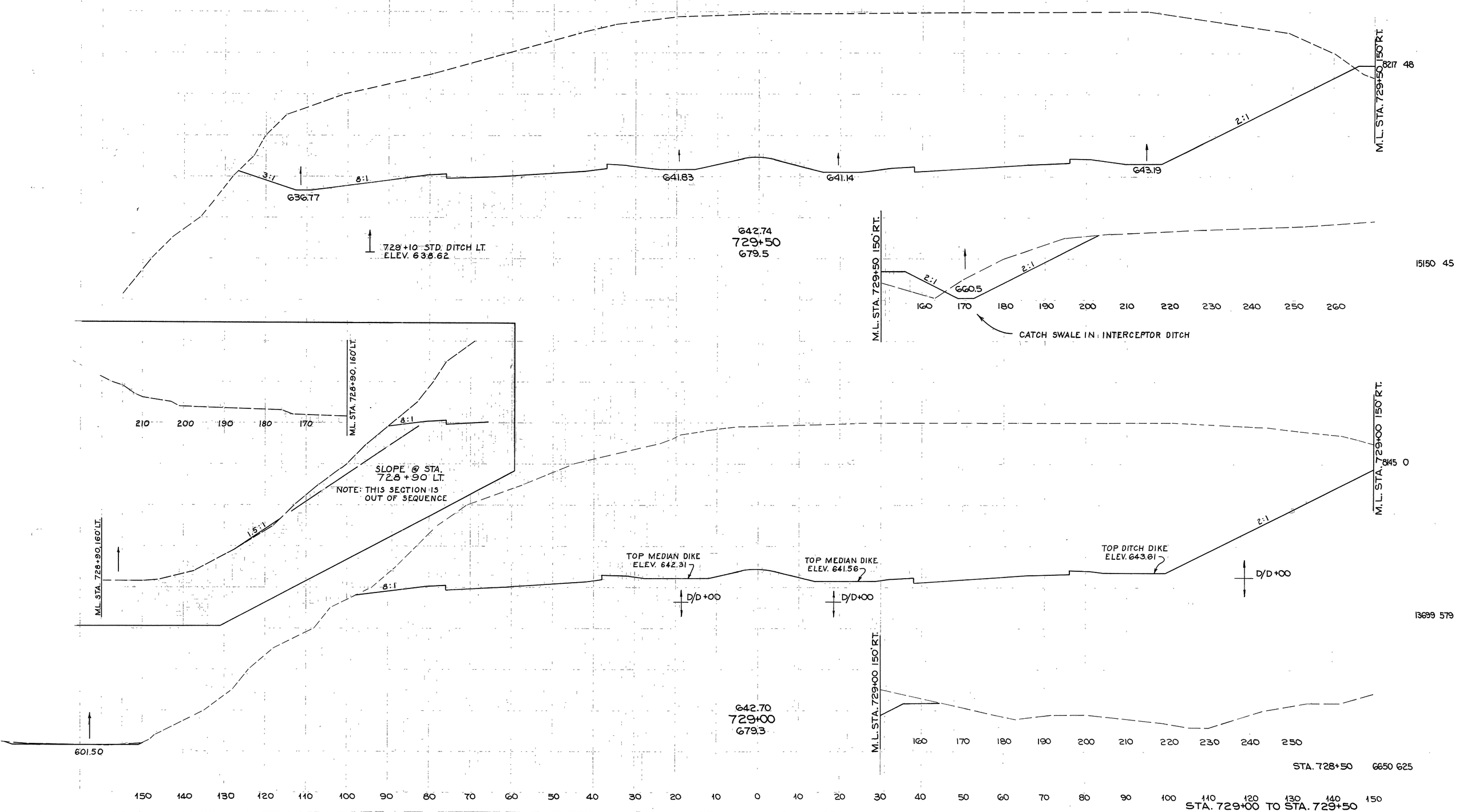
LOR.-90-13.01


M.L. 150' LT. STA. 727+50
36"DRCP
603.50
250 240 230 220 210 200 190 180 170 160
5678 994
2:1
STD.
643.16
643.33
727+50
668.2
11556 1008
M.L. 150' LT.
ELEV. 613.50
36"DRCP
2:1
M.L. STA. 727+25, 150' LT
36"DRCP
604.0
200 190 180 170 160
6856 94
2:1
M.L. STA. 727+25, 150 LT.
ELEV. 614.00
36"DRCP
SLOPE @ STA.
727+25 LT.
2:1
STD.
643.61
14256 87
2:1
M.L. STA. 727+00, 150' LT.
620
610
600
609.0
230 220 210 200 190 180 170 160
M.L. 150' L.T.
643.78
727+00
674.6
STA 726+50 8540 0
150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150
STA. 727+00 TO STA. 727+50

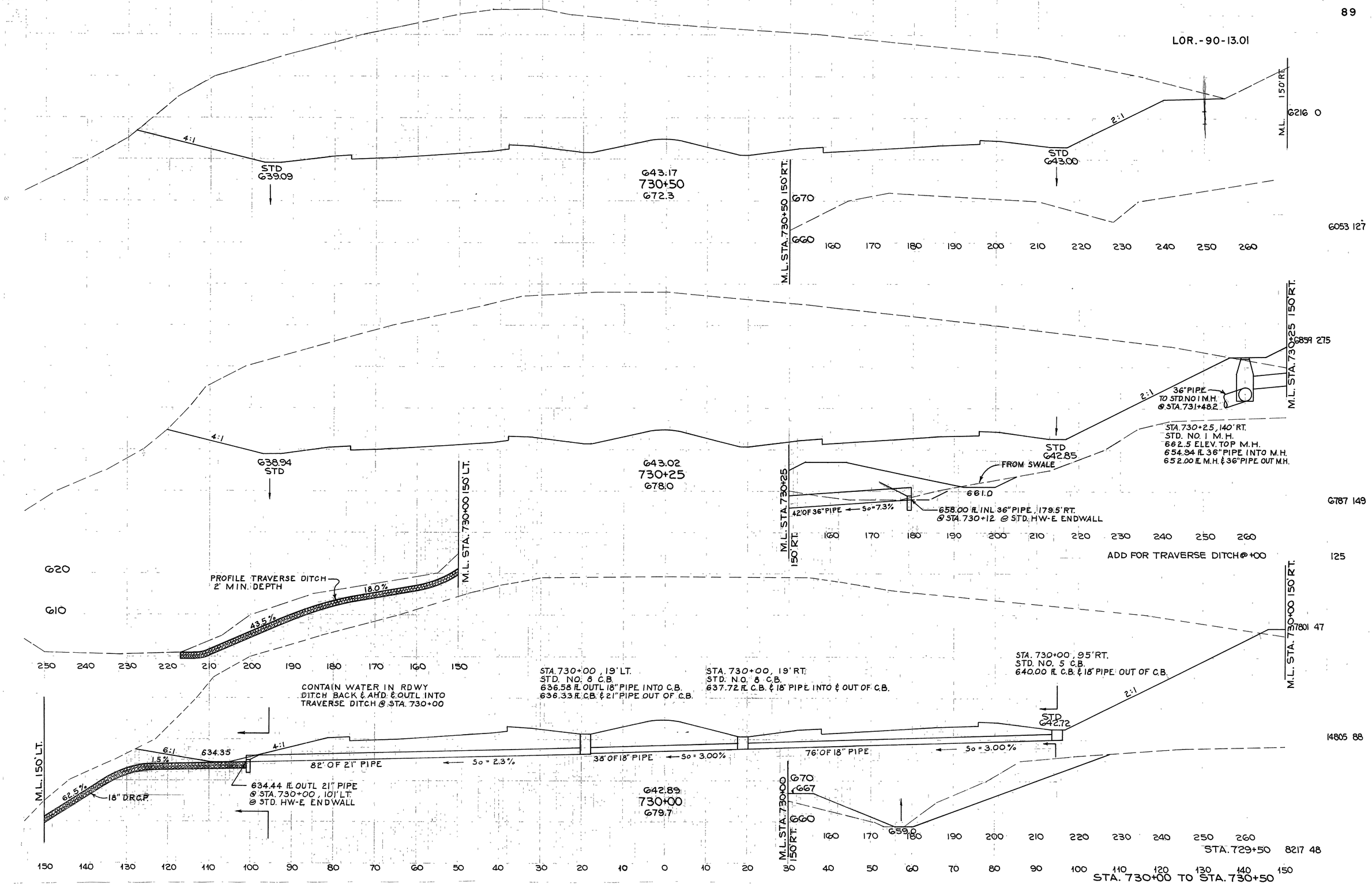
LOR. - 90 - 13.01


650
640
630
620
610
8:1
1.5:1
SLOPE @ STA. 728+75 LT.
ELEV. 612.0
36" D.R.C.P.
602.0
641.96
641.21
643.26
2:1
6650 6625
642.79
728+50
675.5
11583 1635
1.5:1
ELEV. 612.5
36" D.R.C.P.
602.5
M.L. 150' LT.
630
620
602.5
210 200 190 180 170 160
M.L. STA. 728+50, 150' LT.
5859 1150
630
620
610
2:1
603.0
220 210 200 190 180 170 160
M.L. STA. 728+00 155' LT.
STD. 642.83
60' OF 18" PIPE
So = 1.00%
38' OF 18" PIPE
So = 1.00%
76' OF 18" PIPE
So = 1.00%
CONC. COLLAR
STA. 728+00, 19' LT.
STD. NO. 8 C.B.
637.26 FL C.B. & 18" PIPE INTO & OUT OF C.B.
STA. 728+00, 19' RT.
STD. NO. 8 C.B.
637.66 FL C.B. & 18" PIPE INTO & OUT OF C.B.
STA. 728+00, 95' RT.
STD. NO. 5 C.B.
638.42 FL C.B. & 18" PIPE OUT OF C.B.
10682 1985
1.5:1
70' OF 18" PIPE W/2-25° BENDS
ELEV. 613.0
36" D.R.C.P.
603.0
M.L. STA. 728+00 155' LT.
643.00
728+00
669.1
603.00 FL OUT L 18" PIPE
@ STA. 728+00, 137.5' LT.
@ STD. HW-E ENDWALL
STA. 727+50 5678 994
150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150
STA. 728+00 TO STA. 728+50

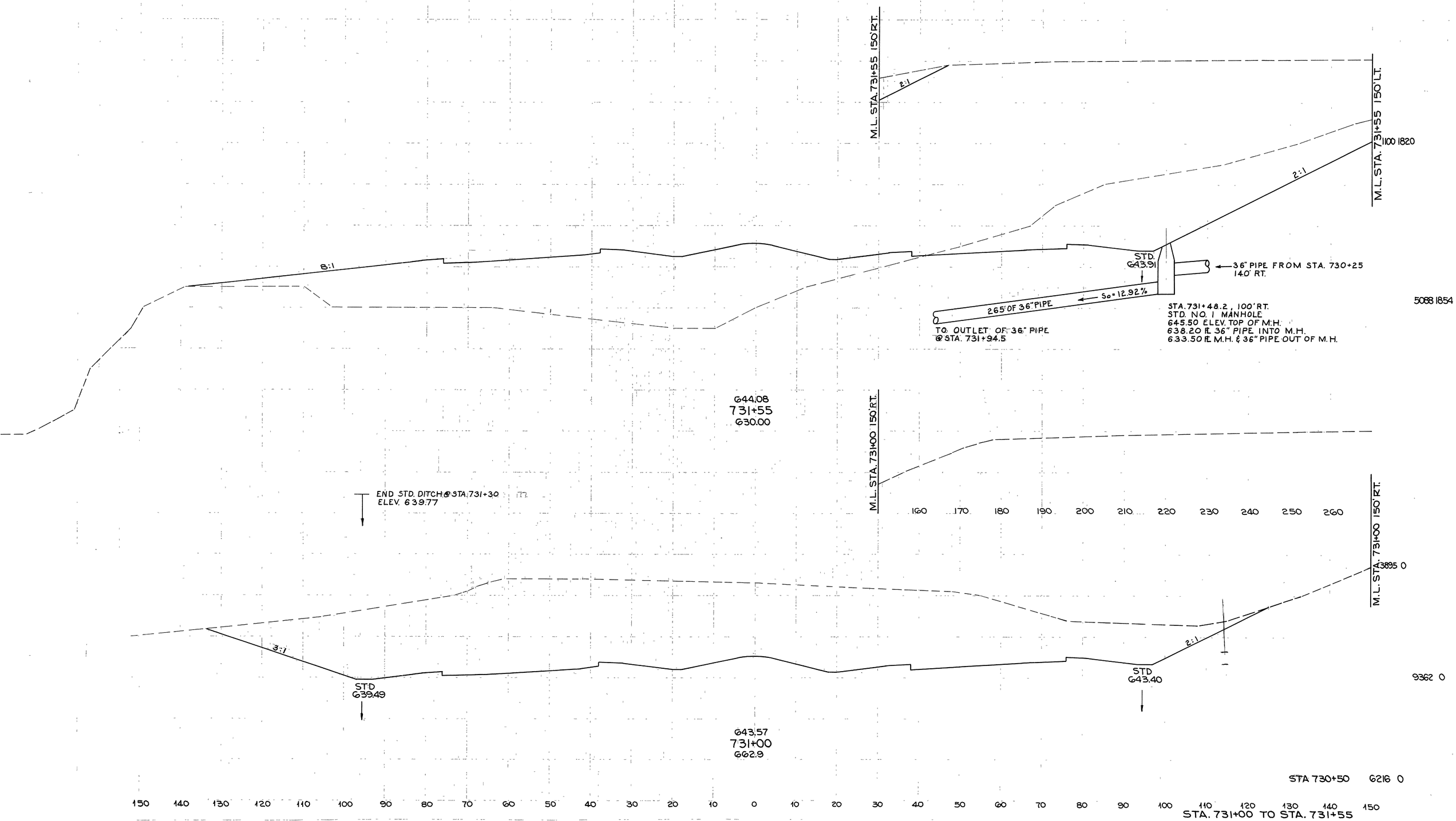
LOR.-90-13.01


M.L. STA. 729+50 150' R.T.
8217 48
3:1
8:1
636.77
641.83
641.14
643.19
2:1
729+10 STD. DITCH LT.
ELEV. 638.62
642.74
729+50
679.5
M.L. STA. 729+50 150' R.T.
2:1
660.5
2:1
160 170 180 190 200 210 220 230 240 250 260
CATCH SWALE IN INTERCEPTOR DITCH
15150 45
210 200 190 180 170
M.L. STA. 728+90, 160' LT.
8:1
SLOPE @ STA.
728+90 LT.
NOTE: THIS SECTION IS
OUT OF SEQUENCE
M.L. STA. 729+00 150' R.T.
8145 0
1.5:1
M.L. STA. 728+90, 160' LT.
8:1
TOP MEDIAN DIKE
ELEV. 642.31
D/D+00
TOP MEDIAN DIKE
ELEV. 641.56
D/D+00
TOP DITCH DIKE
ELEV. 643.61
2:1
D/D+00
13699 579
601.50
642.70
729+00
679.3
M.L. STA. 729+00 150' R.T.
160 170 180 190 200 210 220 230 240 250
STA. 728+50 6650 625
150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150
STA. 729+00 TO STA. 729+50

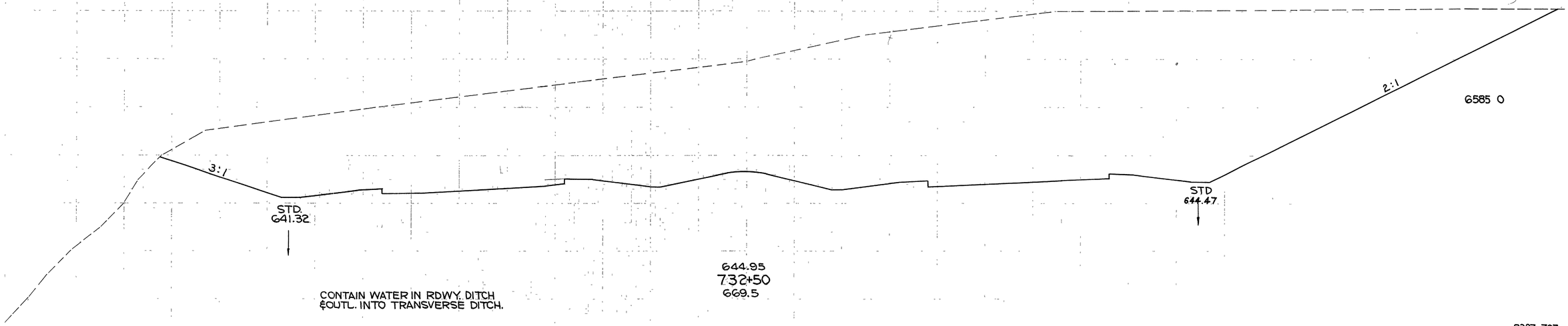
LOR.-90-13.01


4:1
STD
639.09
643.17
730+50
672.3
M.L. STA. 730+50 150' RT.
670
660
160 170 180 190 200 210 220 230 240 250 260
STD
643.00
2:1
M.L. 150' RT.
6216 0
6053 127
M.L. STA. 730+25 150' RT.
6859 275
2:1
36" PIPE
TO STD. NO 1 M.H.
@ STA. 731+48.2
STA. 730+25, 140' RT.
STD. NO. 1 M.H.
662.5 ELEV. TOP M.H.
654.94 FL 36" PIPE INTO M.H.
652.00 FL M.H. & 36" PIPE OUT M.H.
4:1
638.94
STD
643.02
730+25
678.0
M.L. STA. 730+00 150' LT.
M.L. STA. 730+25
STD
642.85
FROM SWALE
661.0
42' OF 36" PIPE
So = 7.3%
658.00 FL INL 36" PIPE, 179.5' RT.
@ STA. 730+12 @ STD. HW-E ENDWALL
6787 149
M.L. 150' RT.
160 170 180 190 200 210 220 230 240 250 260
ADD FOR TRAVERSE DITCH @ +00
125
620
610
PROFILE TRAVERSE DITCH
2' MIN. DEPTH
18.0%
43.5%
M.L. STA. 730+00 150' RT.
7801 47
250 240 230 220 210 200 190 180 170 160 150
CONTAIN WATER IN RDWY
DITCH BACK & AHD & OUTL INTO
TRAVERSE DITCH @ STA. 730+00
STA. 730+00, 19' LT.
STD. NO. 8 C.B.
636.58 FL OUTL 18" PIPE INTO C.B.
636.33 FL C.B. & 21" PIPE OUT OF C.B.
STA. 730+00, 19' RT.
STD. NO. 8 C.B.
637.72 FL C.B. & 18" PIPE INTO & OUT OF C.B.
STA. 730+00, 95' RT.
STD. NO. 5 C.B.
640.00 FL C.B. & 18" PIPE OUT OF C.B.
2:1
STD
642.72
14805 88
M.L. 150' LT.
6:1
634.35
4:1
1.5%
82' OF 21" PIPE
So = 2.3%
38' OF 18" PIPE
So = 3.00%
76' OF 18" PIPE
So = 3.00%
62.5%
18" DRCP
634.44 FL OUTL 21" PIPE
@ STA. 730+00, 101' LT.
@ STD. HW-E ENDWALL
642.89
730+00
679.7
M.L. STA. 730+00 150' RT.
670
667
660
659.0
160 170 180 190 200 210 220 230 240 250 260
STA. 729+50 8217 48
150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150
STA. 730+00 TO STA. 730+50

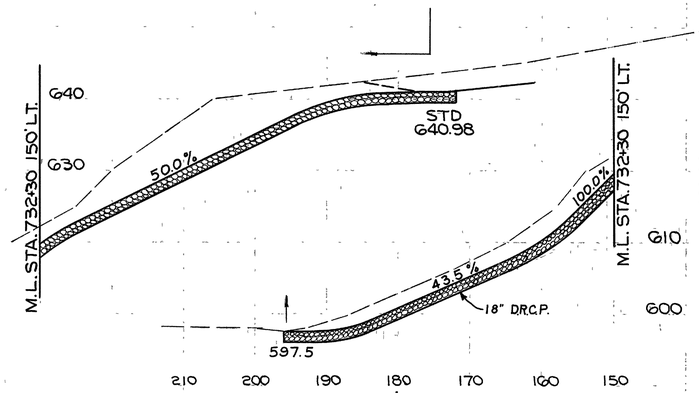
LOR.-90-13.01


M.L. STA. 731+55 150' RT.
2:1
M.L. STA. 731+55 150' LT.
1100 1820
2:1
8:1
STD.
643.91
36" PIPE FROM STA. 730+25
14.0' RT.
265' OF 36" PIPE
So = 12.92%
TO OUTLET OF 36" PIPE
@ STA. 731+94.5
STA. 731+48.2, 100' RT.
STD. NO. 1 MANHOLE
645.50 ELEV. TOP OF M.H.
638.20 ft. 36" PIPE INTO M.H.
633.50 ft. M.H. & 36" PIPE OUT OF M.H.
5088 1854
644.08
731+55
630.00
M.L. STA. 731+00 150' RT.
END STD. DITCH @ STA. 731+30
ELEV. 639.77
160 170 180 190 200 210 220 230 240 250 260
M.L. STA. 731+00 150' RT.
3895 0
3:1
2:1
STD
639.49
STD
643.40
9362 0
643.57
731+00
662.9
STA 730+50 6216 0
150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150
STA. 731+00 TO STA. 731+55

LOR.-90-13.01



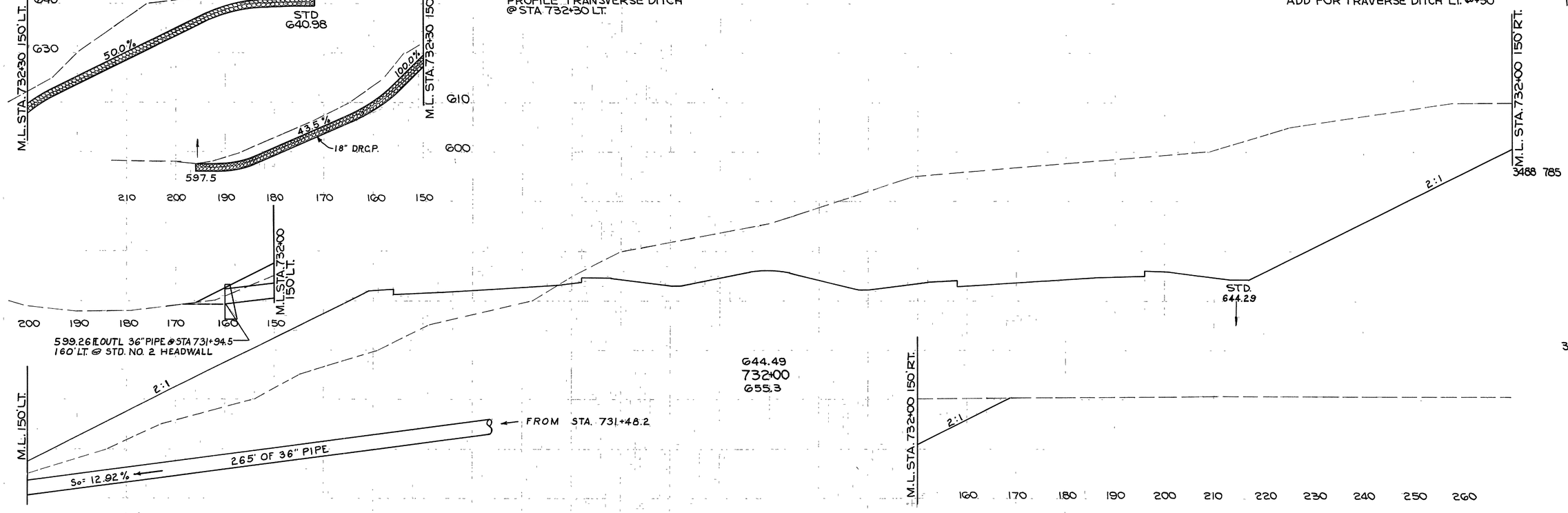
9327 727



PROFILE TRANSVERSE DITCH
@ STA. 732+30 LT.

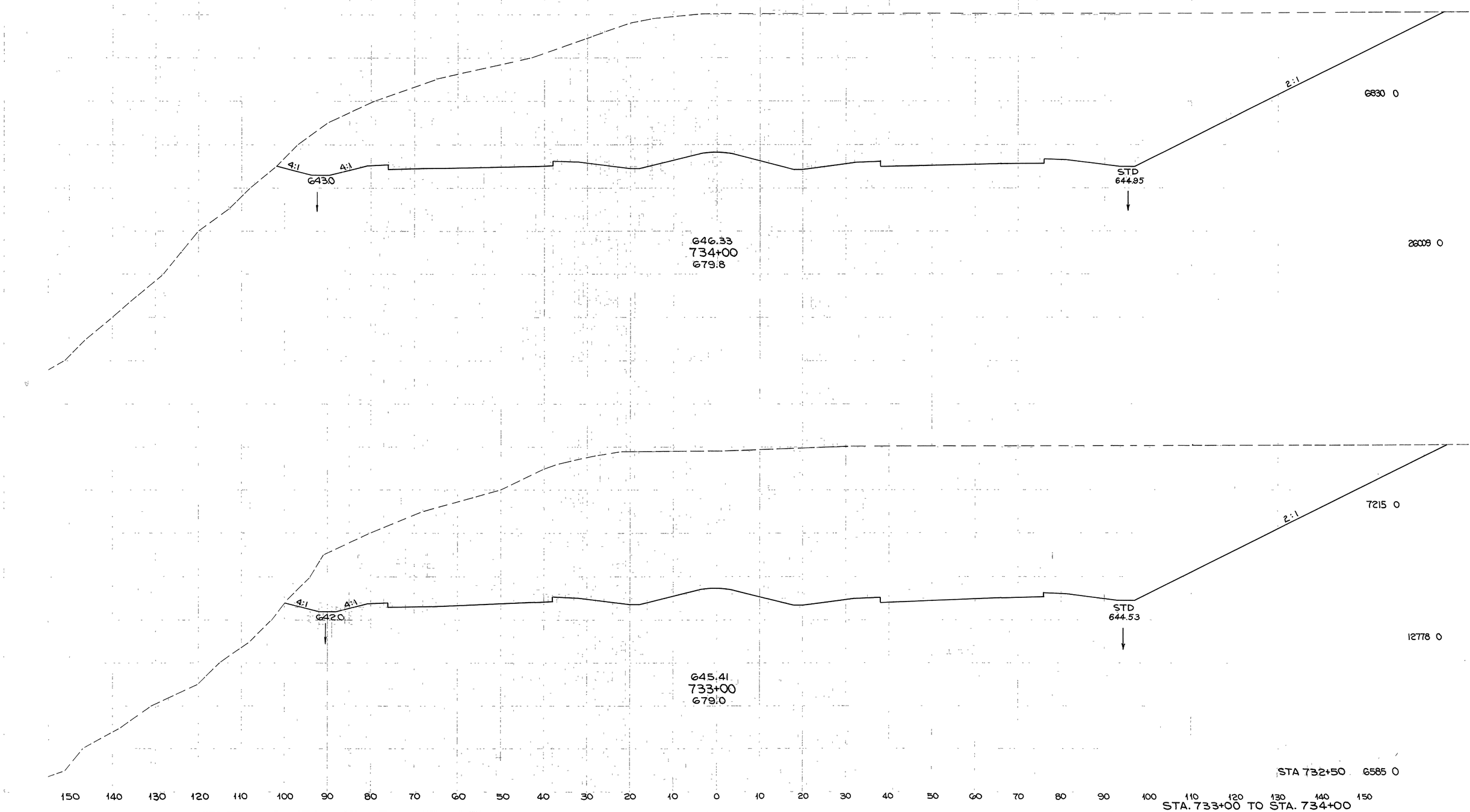
ADD FOR TRAVERSE DITCH LT. @+30

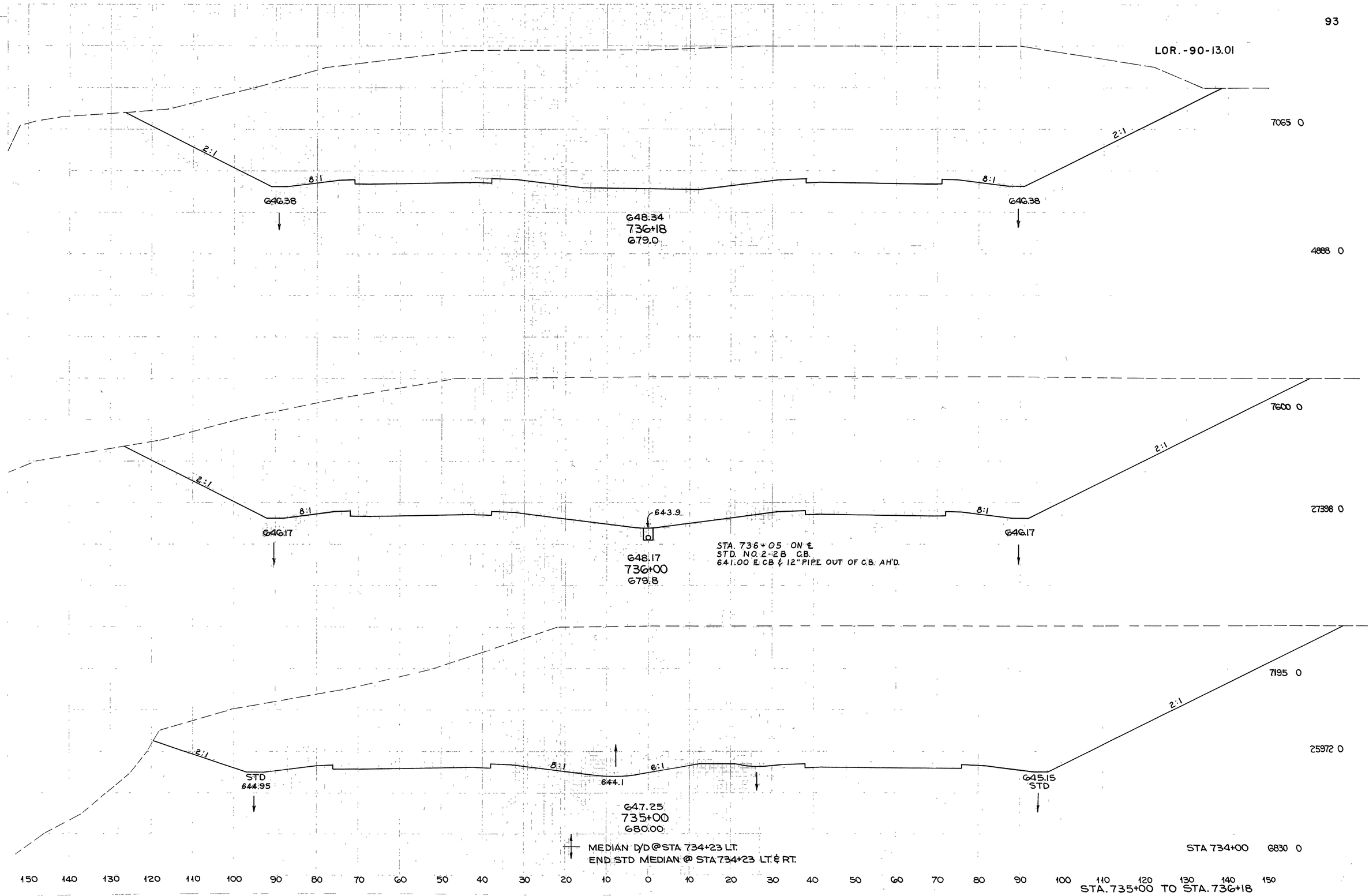
177



STA. 732+00 TO STA. 732+50

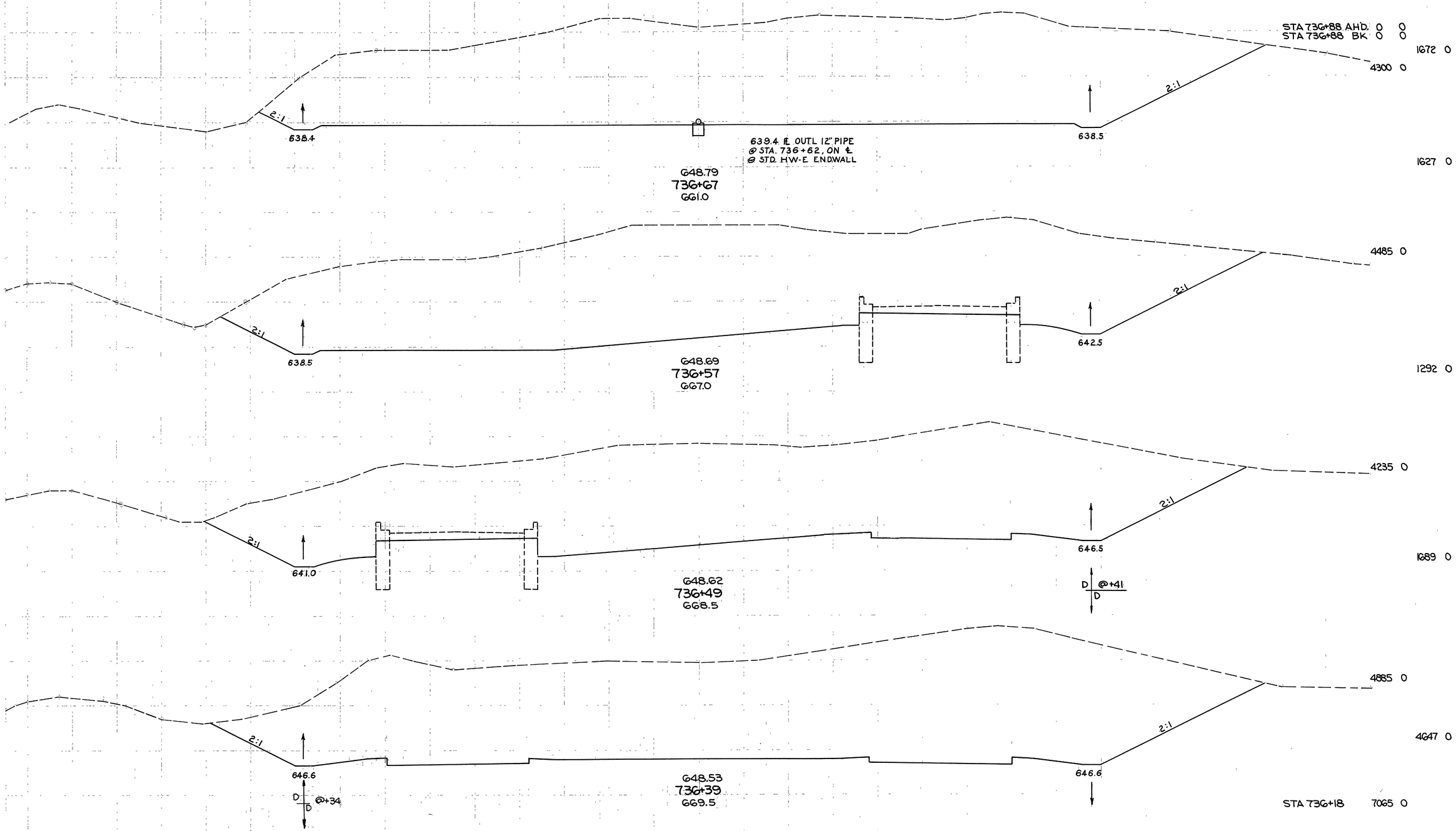
LOR.-90-13.01


4:1
4:1
643.0
646.33
734+00
679.8
STD
644.95
2:1
6830 0
26009 0
4:1
4:1
642.0
645.41
733+00
679.0
STD
644.53
2:1
7215 0
12778 0
STA 732+50 6585 0
150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150
STA. 733+00 TO STA. 734+00

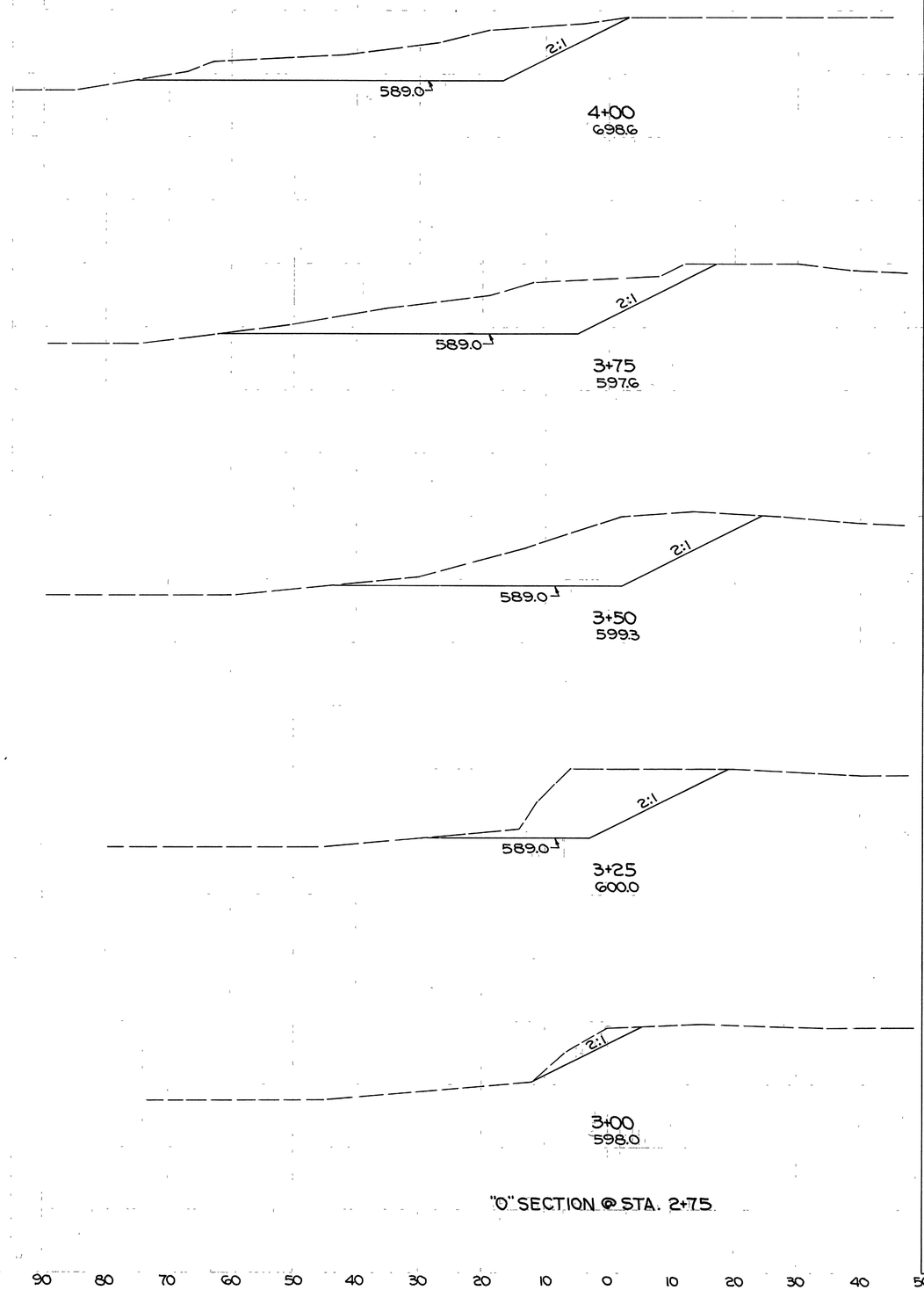

LOR.-90-13.01
7065 0
2:1
8:1
646.38
648.34
736+18
679.0
4888 0
7600 0
646.17
643.9
648.17
736+00
679.8
STA. 736+05 ON ℄
STD. NO. 2-2B C.B.
641.00 IE CB & 12" PIPE OUT OF C.B. AH'D.
27398 0
7195 0
STD
644.95
6:1
644.1
647.25
735+00
680.00
645.15
STD
25972 0
MEDIAN D/D @ STA 734+23 LT.
END STD MEDIAN @ STA 734+23 LT. & RT.
STA 734+00 6830 0
150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150
STA. 735+00 TO STA. 736+18

LOR.-90-13.01

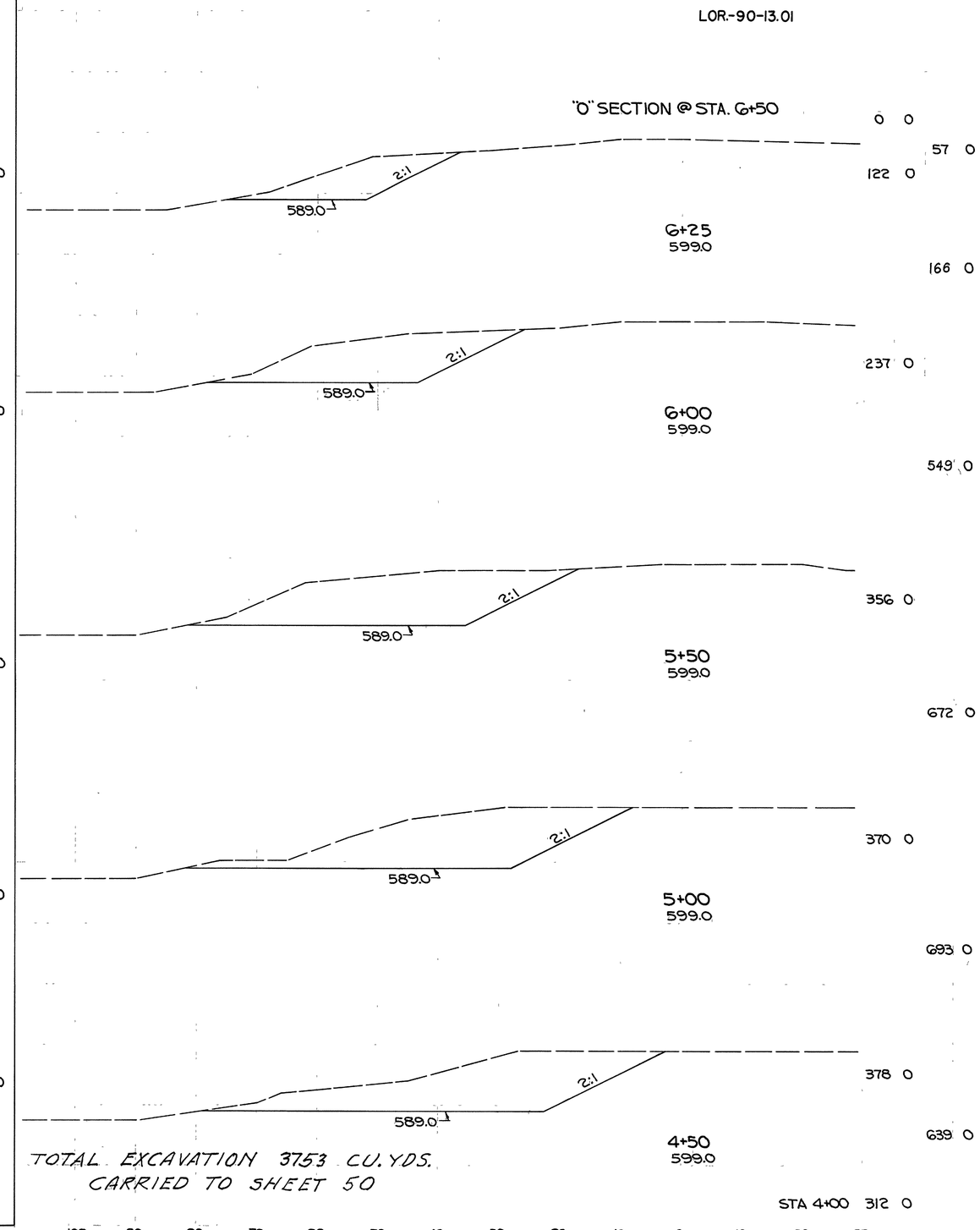
"O" SECTION STA 736+88



LOR.-90-13.01



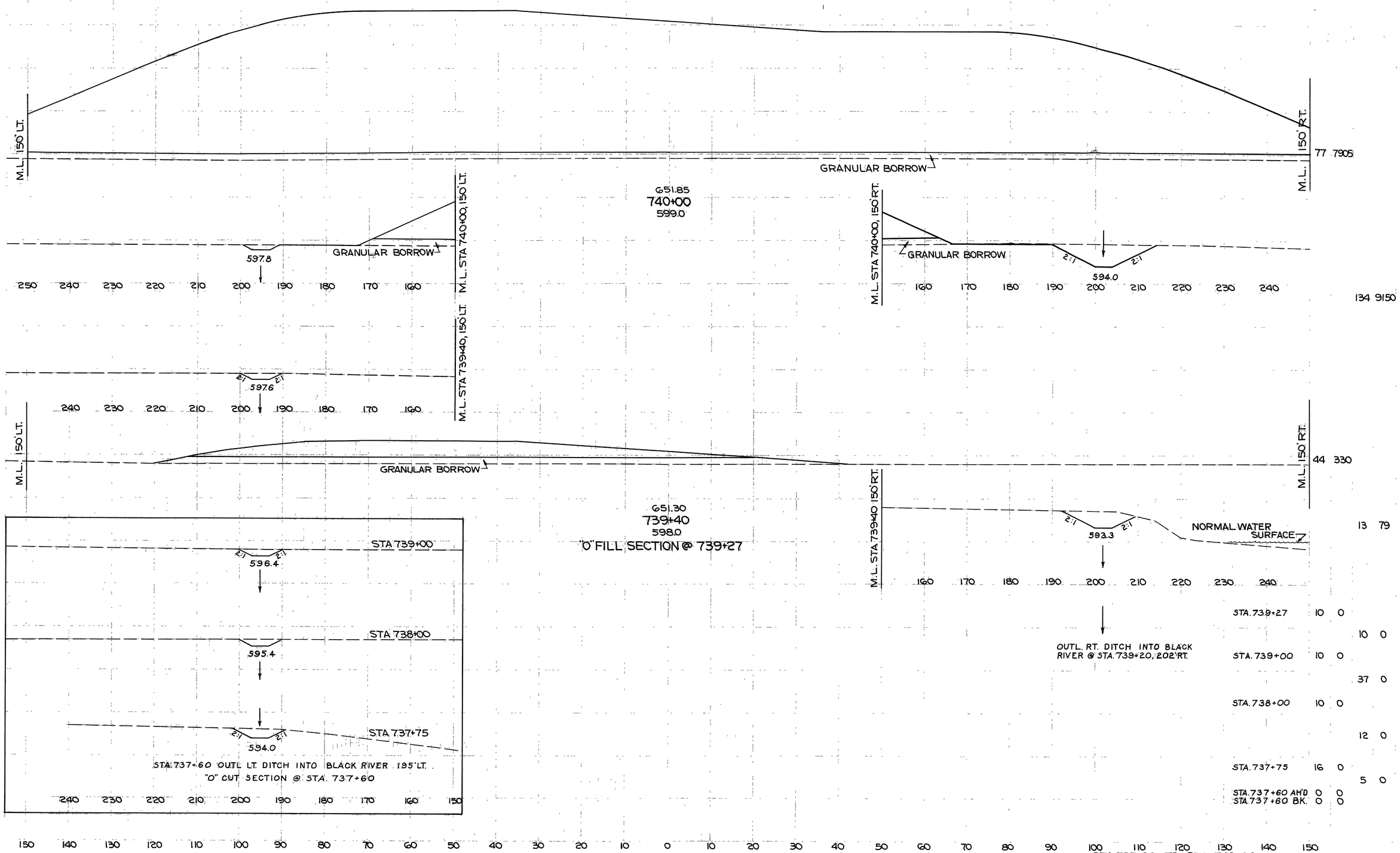
END AREA		VOLUME	
CUT	FILL	CUT	FILL
312	0		
		294	0
322	0		
		302	0
330	0		
		254	0
218	0		
		114	0
27	0		
		13	0
0	0		



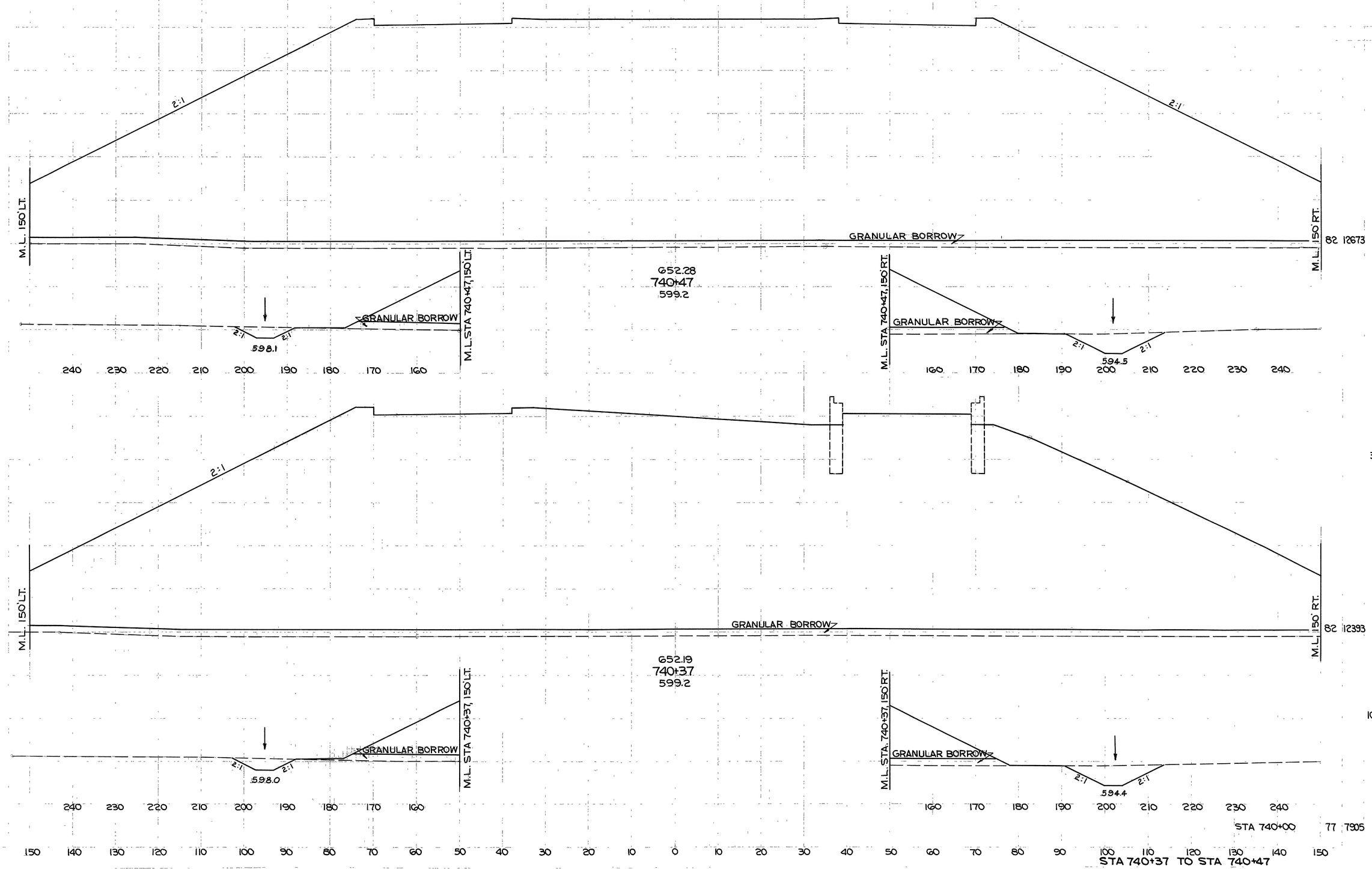
TOTAL EXCAVATION 3753 CU. YDS.
CARRIED TO SHEET 50

X-SECTIONS FOR BLACK RIVER CHANNEL WIDENING

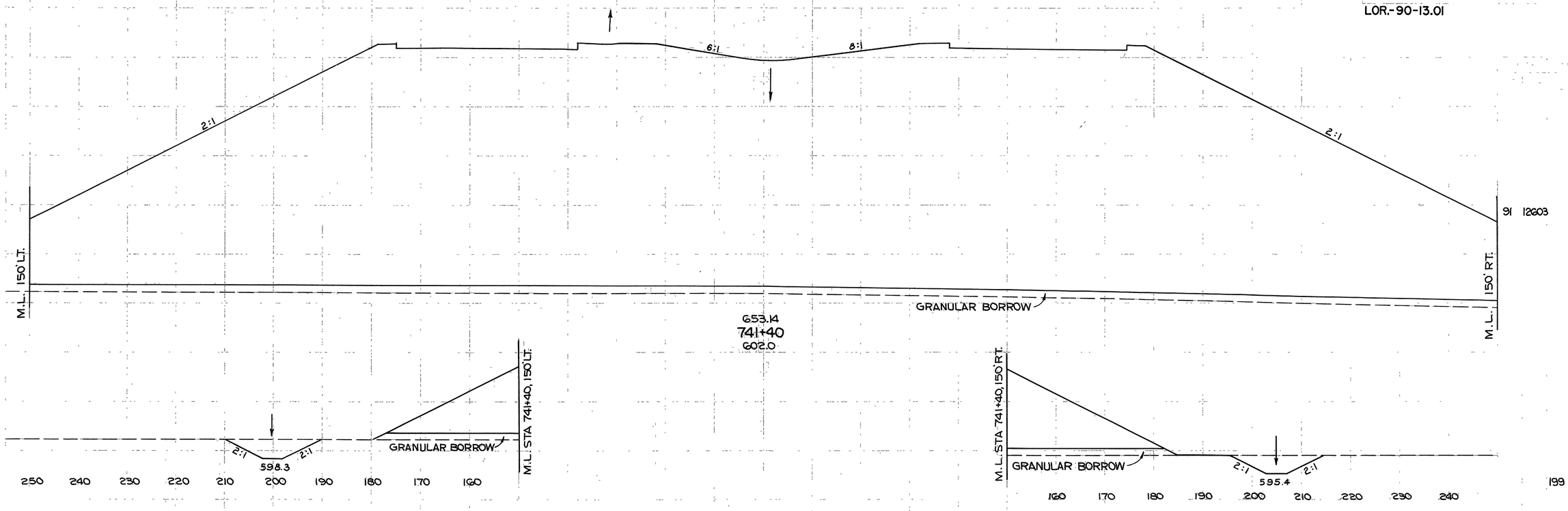
LOR.-90-13.01


M.L. 150' LT.
M.L. 150' RT.
77 7905
GRANULAR BORROW
651.85
740+00
599.0
M.L. STA 740+00, 150' LT.
M.L. STA 740+00, 150' RT.
597.8
GRANULAR BORROW
250 240 230 220 210 200 190 180 170 160
160 170 180 190 200 210 220 230 240
594.0
2:1
M.L. STA 739+40, 150' LT.
597.6
240 230 220 210 200 190 180 170 160
134 9150
44 330
M.L. STA 739+40 150' RT.
GRANULAR BORROW
651.30
739+40
598.0
"0" FILL SECTION @ 739+27
593.3
NORMAL WATER SURFACE
13 79
160 170 180 190 200 210 220 230 240
STA 739+00
596.4
STA 738+00
595.4
STA 737+75
594.0
STA. 737+60 OUTL. LT. DITCH INTO BLACK RIVER 195' LT.
"0" CUT SECTION @ STA. 737+60
240 230 220 210 200 190 180 170 160 150
OUTL. RT. DITCH INTO BLACK RIVER @ STA. 739+20, 202' RT.
STA. 739+27 10 0
10 0
STA. 739+00 10 0
37 0
STA. 738+00 10 0
12 0
STA. 737+75 16 0
5 0
STA. 737+60 AH'D 0 0
STA. 737+60 BK. 0 0
150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150
STA 737+60 TO STA 740+00

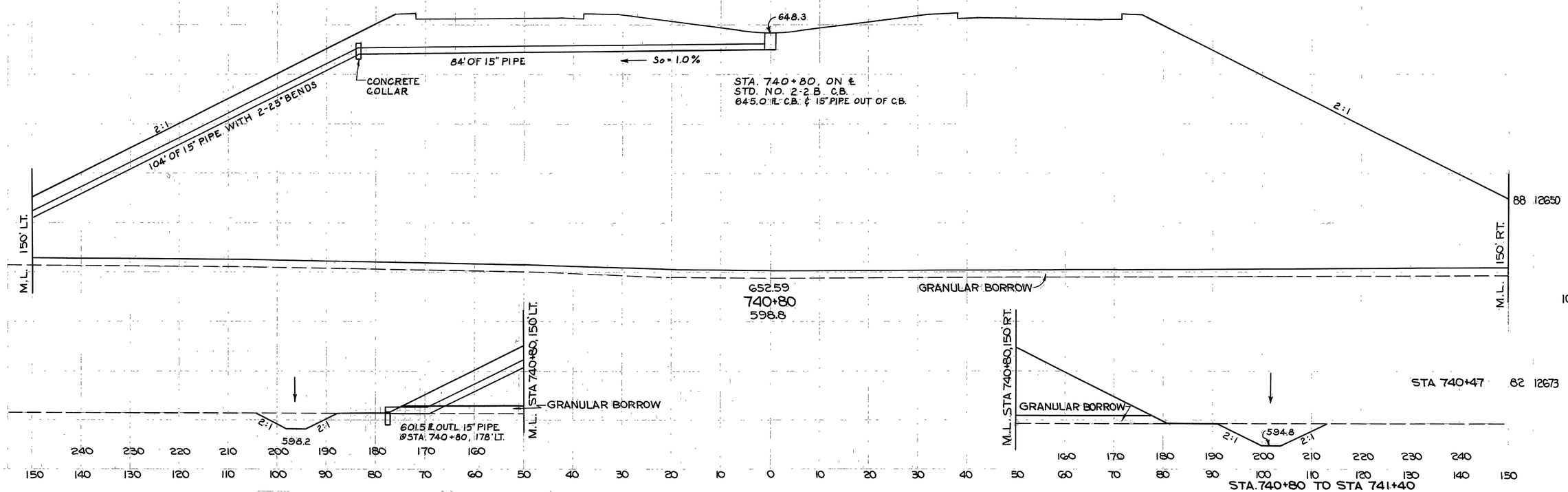
LOR.-90-13.01


2:1
M.L. 150' LT.
GRANULAR BORROW
M.L. 150' RT.
82 12673
G52.28
740+47
599.2
M.L. STA 740+47, 150' LT.
M.L. STA 740+47, 150' RT.
598.1
594.5
240 230 220 210 200 190 180 170 160
30 4642
G52.19
740+37
599.2
M.L. STA 740+37, 150' LT.
M.L. STA 740+37, 150' RT.
598.0
594.4
82 12393
109 13908
STA 740+00
77 7905
150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150
STA 740+37 TO STA 740+47

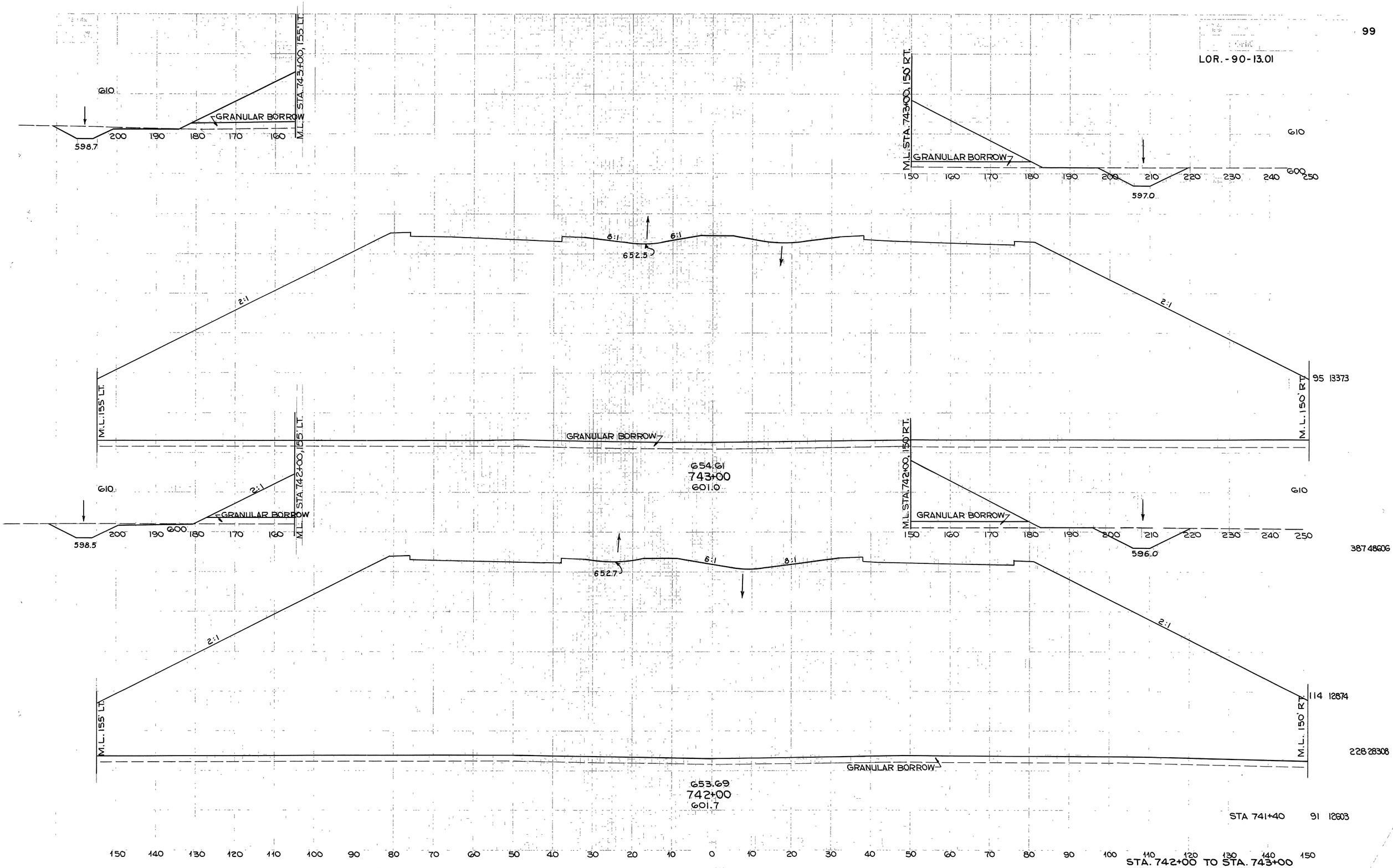
LOR.-90-13.01



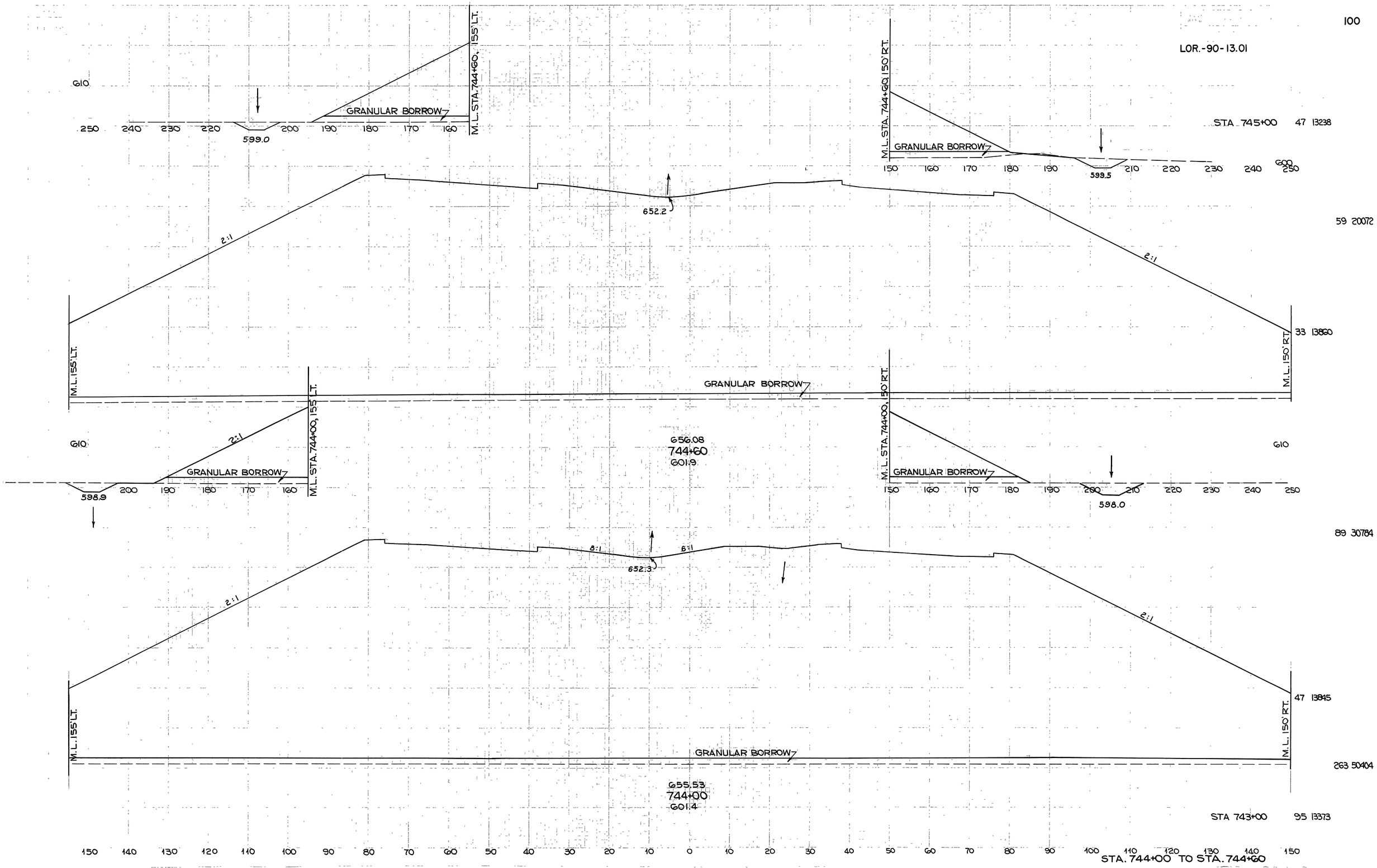
199 28059



LOR.-90-13.01


610
GRANULAR BORROW
598.7
200 190 180 170 160
M.L. STA. 743+00, 155' LT.
M.L. STA. 743+00, 150' RT.
GRANULAR BORROW
150 160 170 180 190 200 210 220 230 240 250
597.0
8:1
6:1
652.5
2:1
M.L. 155' LT.
M.L. 150' RT.
95 13373
GRANULAR BORROW
654.61
743+00
601.0
M.L. STA. 742+00, 155' LT.
M.L. STA. 742+00, 150' RT.
598.5
596.0
387 48606
652.7
114 12874
M.L. 155' LT.
M.L. 150' RT.
228 28308
653.69
742+00
601.7
STA 741+40
91 12603
150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150
STA. 742+00 TO STA. 743+00

LOR.-90-13.01



STA. 745+00 47 13238

59 20072

33 13860

89 30784

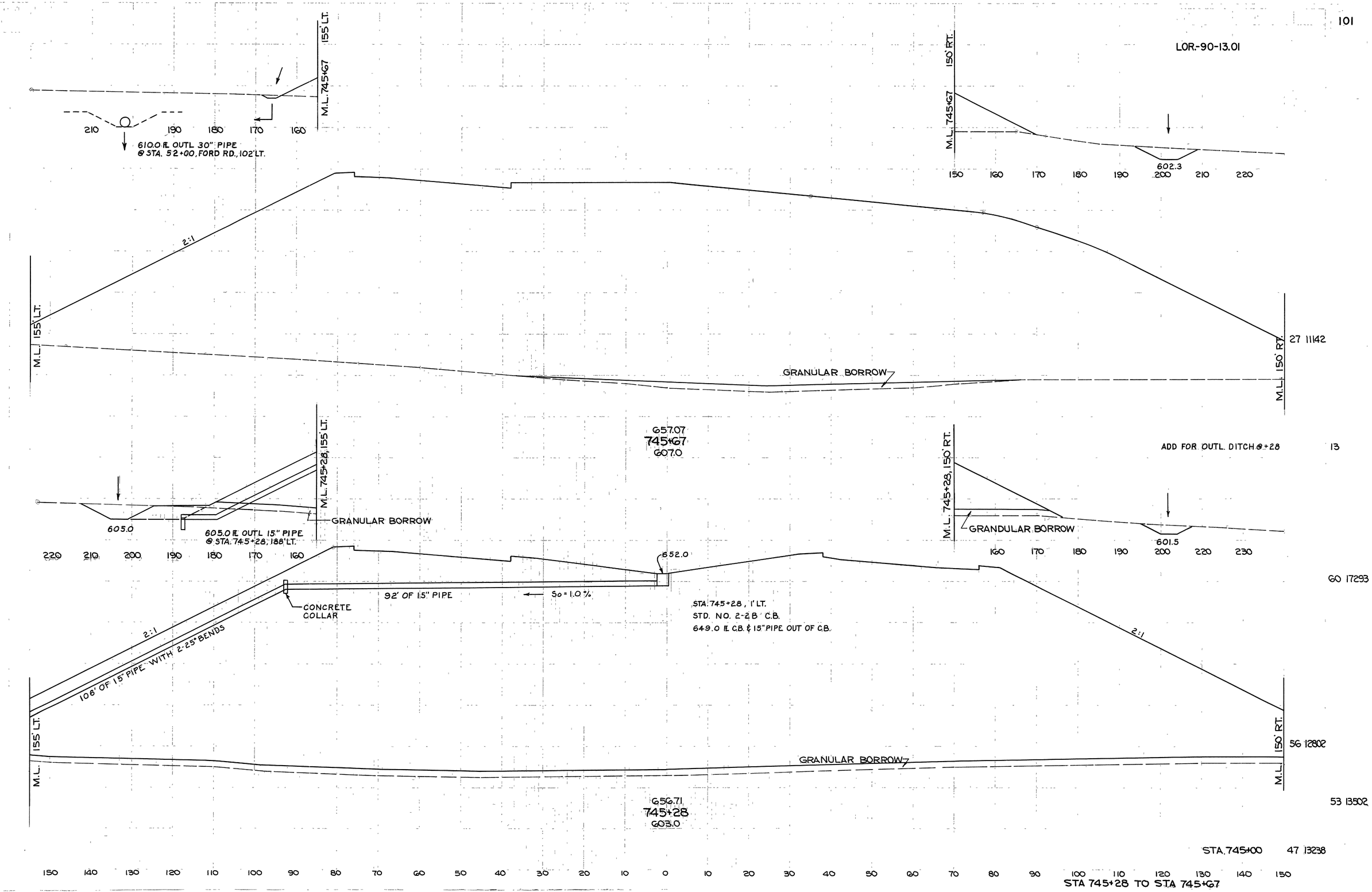
47 13845

263 50404

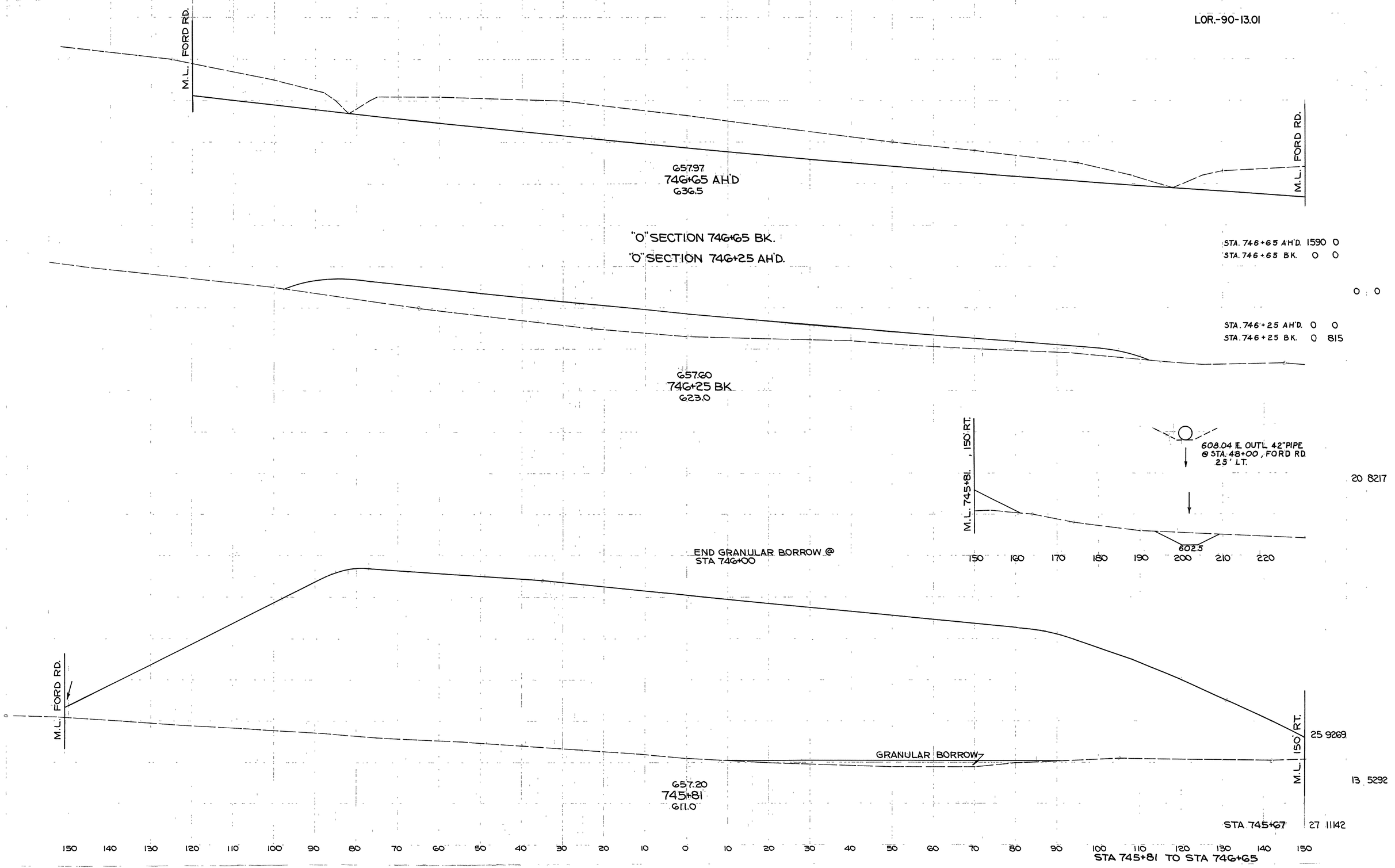
STA 743+00 95 13373

STA. 744+00 TO STA. 744+60

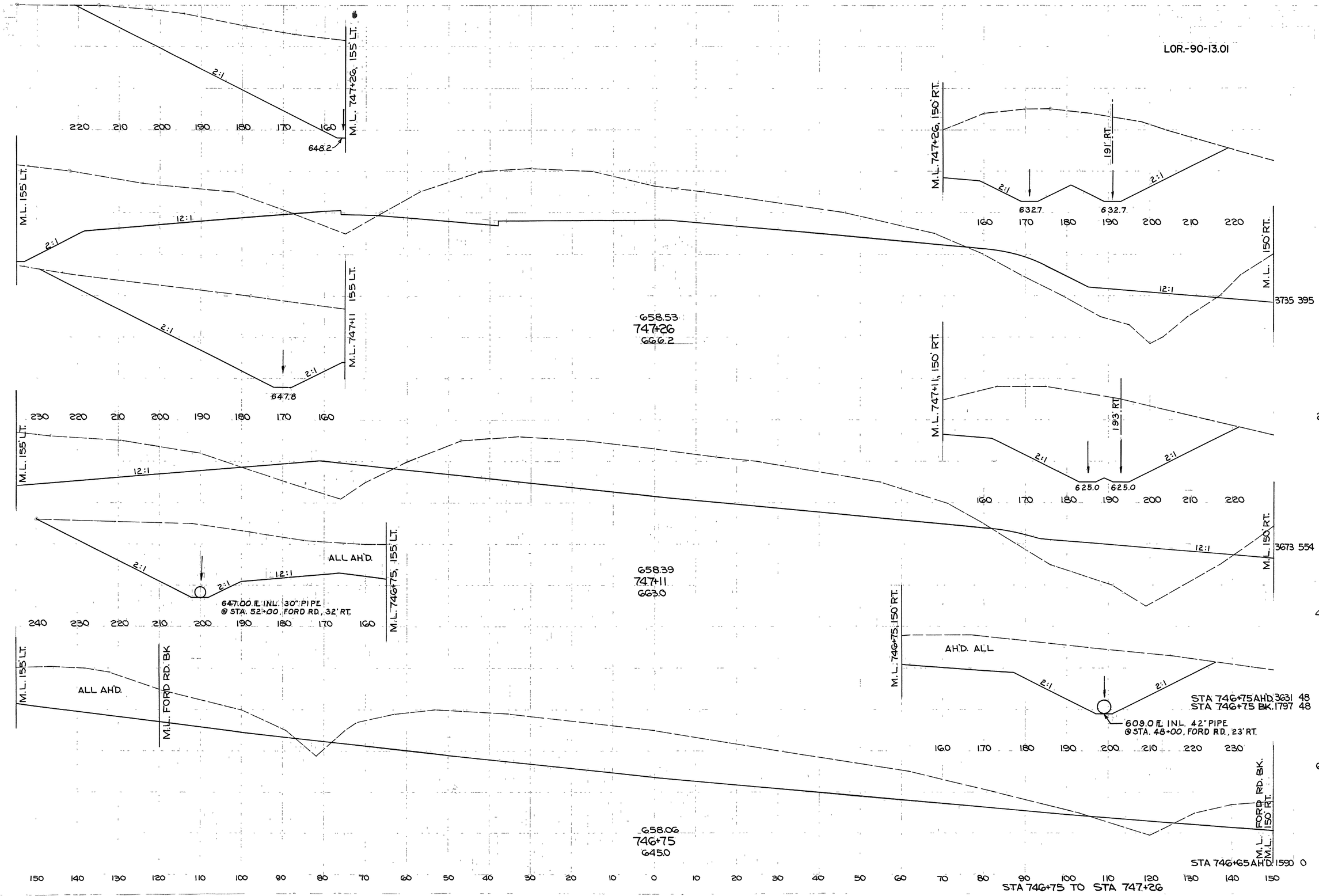
LOR.-90-13.01


155' LT.
M.L. 745+67
210
190
180
170
160
610.0 IE. OUTL 30" PIPE
@ STA. 52+00, FORD RD., 102' LT.
150' RT.
M.L. 745+67
602.3
150
160
170
180
190
200
210
220
2:1
M.L. 155' LT.
M.L. 150' RT.
27 11142
GRANULAR BORROW
657.07
745+67
607.0
ADD FOR OUTL. DITCH @ +28
13
155' LT.
M.L. 745+28
605.0
605.0 IE. OUTL 15" PIPE
@ STA. 745+28, 188' LT.
GRANULAR BORROW
220
210
200
190
180
170
160
652.0
92' OF 15" PIPE
So = 1.0 %
CONCRETE
COLLAR
STA. 745+28, 1' LT.
STD. NO. 2-2B C.B.
649.0 IE. C.B. & 15" PIPE OUT OF C.B.
2:1
106' OF 15" PIPE WITH 2-25° BENDS
M.L. 745+28, 150' RT.
GRANDULAR BORROW
601.5
160
170
180
190
200
220
230
60 17293
155' LT.
M.L.
150' RT.
M.L.
56 12802
GRANULAR BORROW
656.71
745+28
603.0
53 13502
STA. 745+00
47 13238
150
140
130
120
110
100
90
80
70
60
50
40
30
20
10
0
10
20
30
40
50
60
70
80
90
100
110
120
130
140
150
STA 745+28 TO STA 745+67

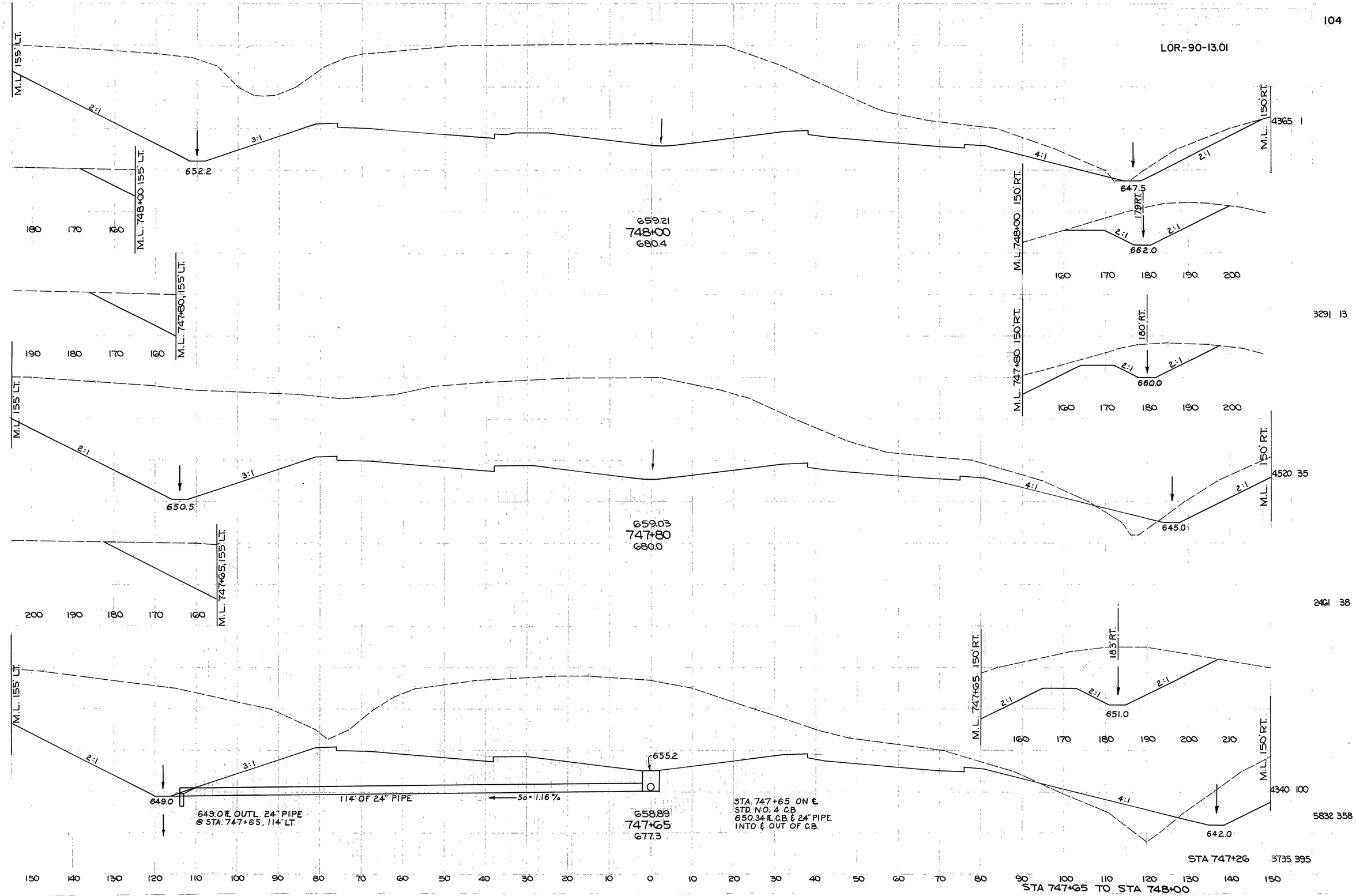
LOR.-90-13.01


M.L. FORD RD.
657.97
746+65 AH'D
636.5
"O" SECTION 746+65 BK.
"O" SECTION 746+25 AH'D.
STA. 746+65 AH'D. 1590 0
STA. 746+65 BK. 0 0
0 0
STA. 746+25 AH'D. 0 0
STA. 746+25 BK. 0 815
657.60
746+25 BK
623.0
M.L. 745+81, 150' RT.
608.04 E. OUT'L 42" PIPE
@ STA. 48+00, FORD RD.
25' LT.
20 8217
602.5
150 160 170 180 190 200 210 220
END GRANULAR BORROW @
STA 746+00
M.L. FORD RD.
GRANULAR BORROW
M.L. 150' RT.
25 9269
13 5292
657.20
745+81
611.0
STA 745+67
27 11142
150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150
STA 745+81 TO STA 746+65

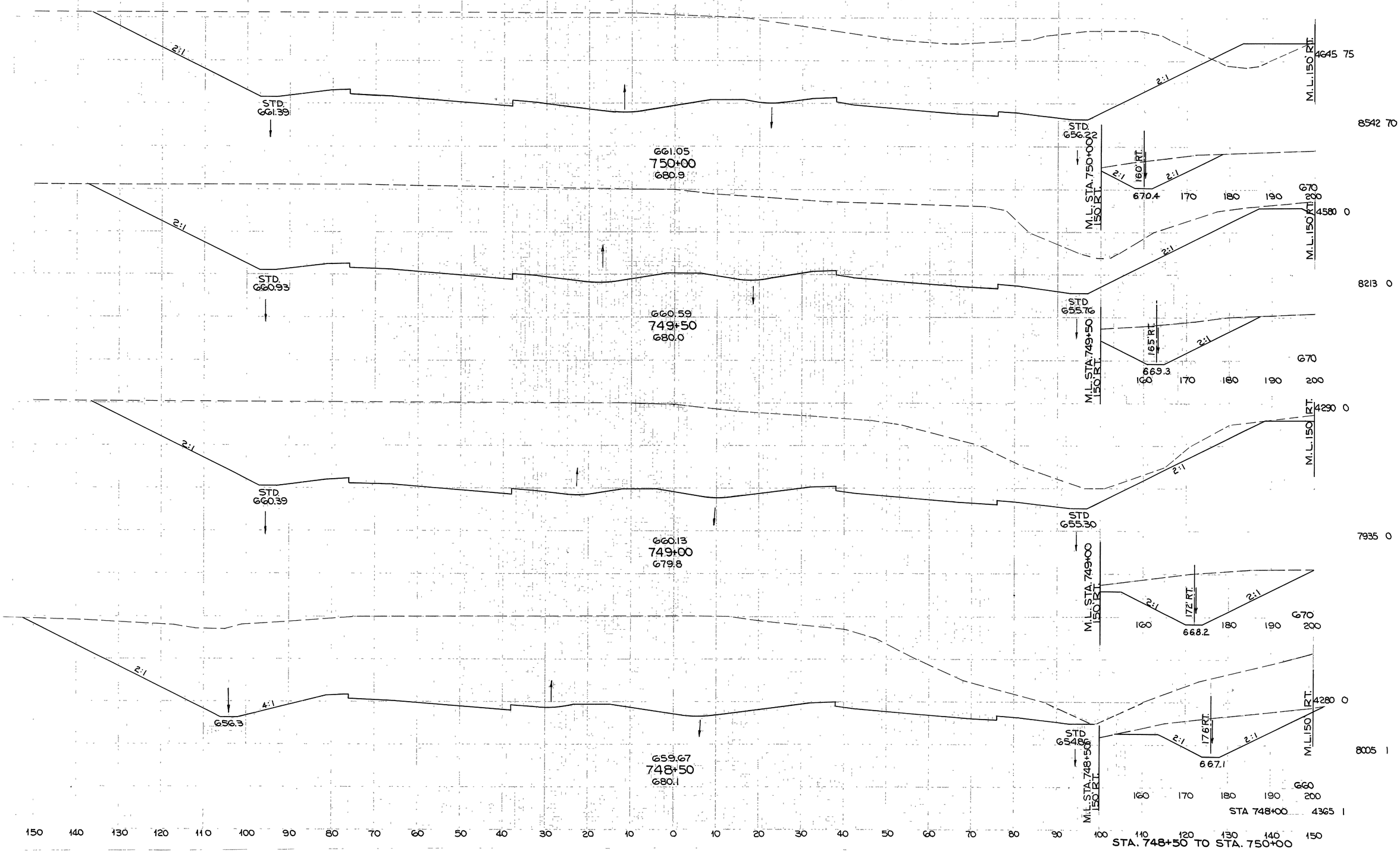
LOR.-90-13.01


M.L. 747+26, 155' LT.
2:1
220 210 200 190 180 170 160
648.2
M.L. 155' LT.
12:1
2:1
M.L. 747+11 155 LT.
2:1
2:1
647.8
658.53
747+26
666.2
M.L. 747+26, 150' RT.
191' RT.
2:1
2:1
632.7
632.7
160 170 180 190 200 210 220
M.L. 150' RT.
12:1
3735 395
M.L. 747+11, 150' RT.
193' RT.
2:1
2:1
625.0 625.0
160 170 180 190 200 210 220
2058 264
230 220 210 200 190 180 170 160
M.L. 155' LT.
12:1
M.L. 150' RT.
12:1
3673 554
ALL AH'D.
2:1
2:1
12:1
M.L. 746+75, 155' LT.
647.00 ft. INL. 30" PIPE
@ STA. 52+00, FORD RD., 32' RT.
658.39
747+11
663.0
4869 401
240 230 220 210 200 190 180 170 160
M.L. 155' LT.
ALL AH'D.
M.L. FORD RD. BK
M.L. 746+75, 150' RT.
AH'D. ALL
2:1
2:1
STA 746+75 AH'D. 3631 48
STA 746+75 BK. 1797 48
609.0 ft. INL. 42" PIPE
@ STA. 48+00, FORD RD., 23' RT.
160 170 180 190 200 210 220 230
627 9
M.L. FORD RD. BK.
M.L. 150' RT.
658.06
746+75
645.0
STA 746+65 AH'D. 1590 0
150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150
STA 746+75 TO STA 747+26

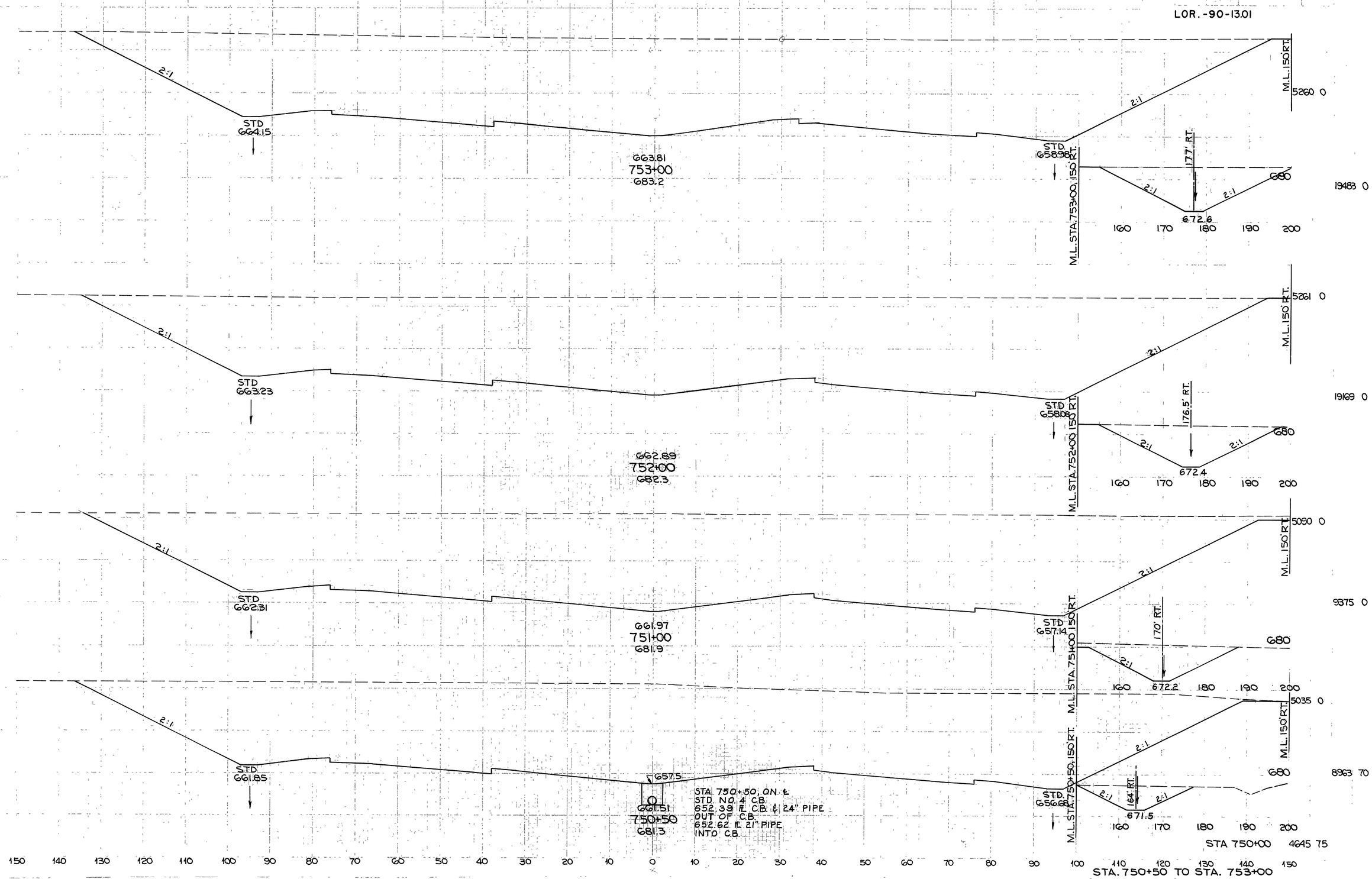
LOR.-90-13.01


M.L. 155' LT.
2:1
3:1
652.2
M.L. 748+00 155' LT.
180 170 160
659.21
748+00
680.4
4:1
2:1
647.5
178' RT.
M.L. 150' RT.
4365 1
M.L. 748+00 150' RT.
2:1
2:1
662.0
160 170 180 190 200
M.L. 747+80 155' LT.
190 180 170 160
M.L. 747+80 150' RT.
180' RT.
2:1
2:1
660.0
160 170 180 190 200
3291 13
M.L. 155' LT.
2:1
3:1
650.5
659.03
747+80
680.0
4:1
2:1
645.0
M.L. 150' RT.
4520 35
M.L. 747+65 155' LT.
200 190 180 170 160
2461 38
M.L. 155' LT.
2:1
3:1
649.0
649.0 ℄ OUTL. 24" PIPE
@ STA. 747+65, 114' LT.
114' OF 24" PIPE
So = 1.16%
655.2
658.89
747+65
677.3
STA. 747+65 ON ℄
STD. NO. 4 C.B.
650.34 ℄ C.B. & 24" PIPE
INTO & OUT OF C.B.
4:1
642.0
M.L. 150' RT.
4340 100
5832 358
M.L. 747+65 150' RT.
183' RT.
2:1
2:1
2:1
651.0
160 170 180 190 200 210
STA 747+26 3735 395
150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150
STA 747+65 TO STA 748+00

LOR.-90-13.01

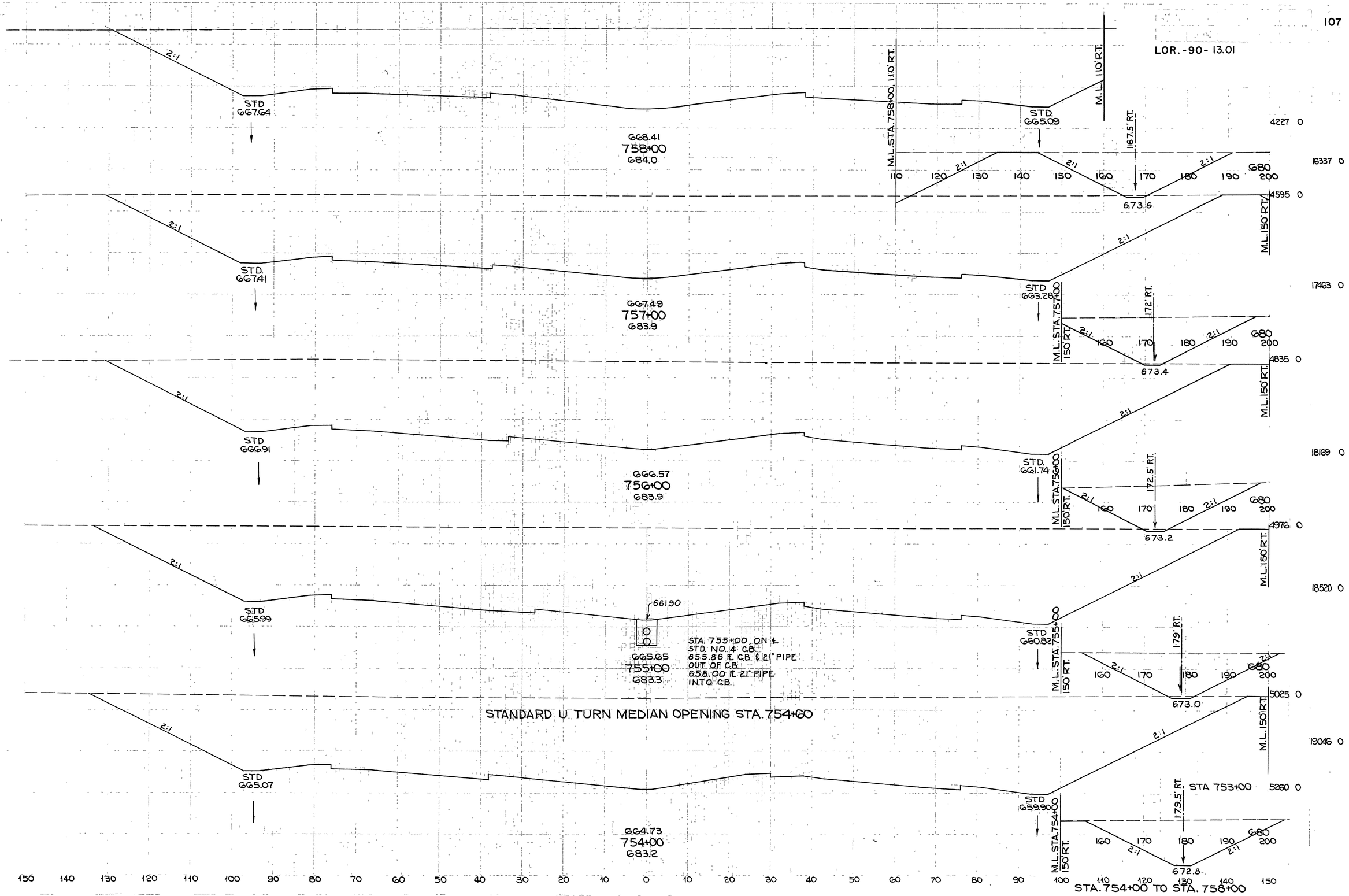

2:1
STD.
661.39
661.05
750+00
680.9
STD.
656.22
M.L. STA. 750+00
150' RT.
160' RT.
670.4
170
180
190
200
670
M.L. 150' RT.
4645 75
8542 70
4580 0
2:1
STD.
660.93
660.59
749+50
680.0
STD
655.76
M.L. STA. 749+50
150' RT.
165' RT.
669.3
160
170
180
190
200
670
M.L. 150' RT.
4290 0
8213 0
2:1
STD.
660.39
660.13
749+00
679.8
STD
655.30
M.L. STA. 749+00
150' RT.
172' RT.
668.2
160
180
190
200
670
M.L. 150 RT.
7935 0
2:1
4:1
656.3
659.67
748+50
680.1
STD
654.86
M.L. STA. 748+50
150' RT.
176' RT.
667.1
160
170
180
190
200
660
M.L. 150 RT.
4280 0
8005 1
STA 748+00
4365 1
150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150
STA. 748+50 TO STA. 750+00

LOR.-90-13.01



STA. 750+50 TO STA. 753+00

LOR.-90-13.01


2:1
STD 667.64
668.41
758+00
684.0
M.L. STA. 758+00, 110' RT.
M.L. 110' RT.
STD. 665.09
167.5' RT.
110 120 130 140 150 160 170 180 190 200
680
673.6
4227 0
16337 0
4595 0
M.L. 150' RT.
STD. 667.41
667.49
757+00
683.9
STD 663.28
M.L. STA. 757+00 150' RT.
172' RT.
673.4
17463 0
4835 0
STD 666.91
666.57
756+00
683.9
STD. 661.74
M.L. STA. 756+00 150' RT.
172.5' RT.
673.2
18169 0
4976 0
STD 665.99
661.90
665.65
755+00
683.3
STA. 755+00 ON ℄
STD. NO. 4 C.B.
655.86 ft. C.B. & 21" PIPE
OUT OF C.B.
658.00 ft. 21" PIPE
INTO C.B.
STD 660.82
M.L. STA. 755+00 150' RT.
179' RT.
673.0
18520 0
5025 0
STANDARD U TURN MEDIAN OPENING STA. 754+60
STD 665.07
664.73
754+00
683.2
STD 659.90
M.L. STA. 754+00 150' RT.
179.5' RT.
672.8
19046 0
STA 753+00 5260 0
150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150
STA. 754+00 TO STA. 758+00

LOR.-90-13.01

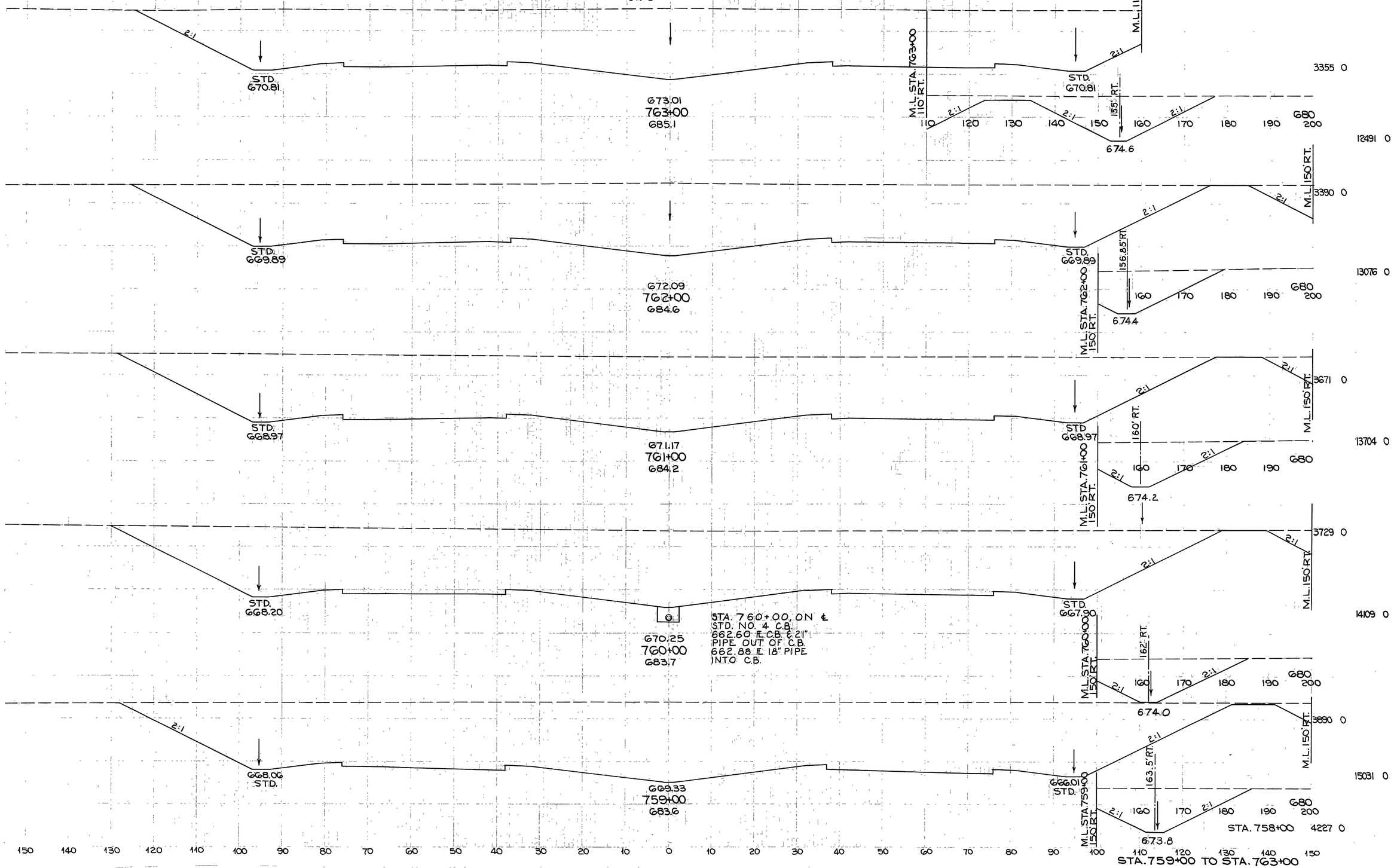
LT. MEDIAN DITCH

STATION	DIST. LT.	ELEV.
763+50	2.5'	669.49
763+75	10.0'	670.66

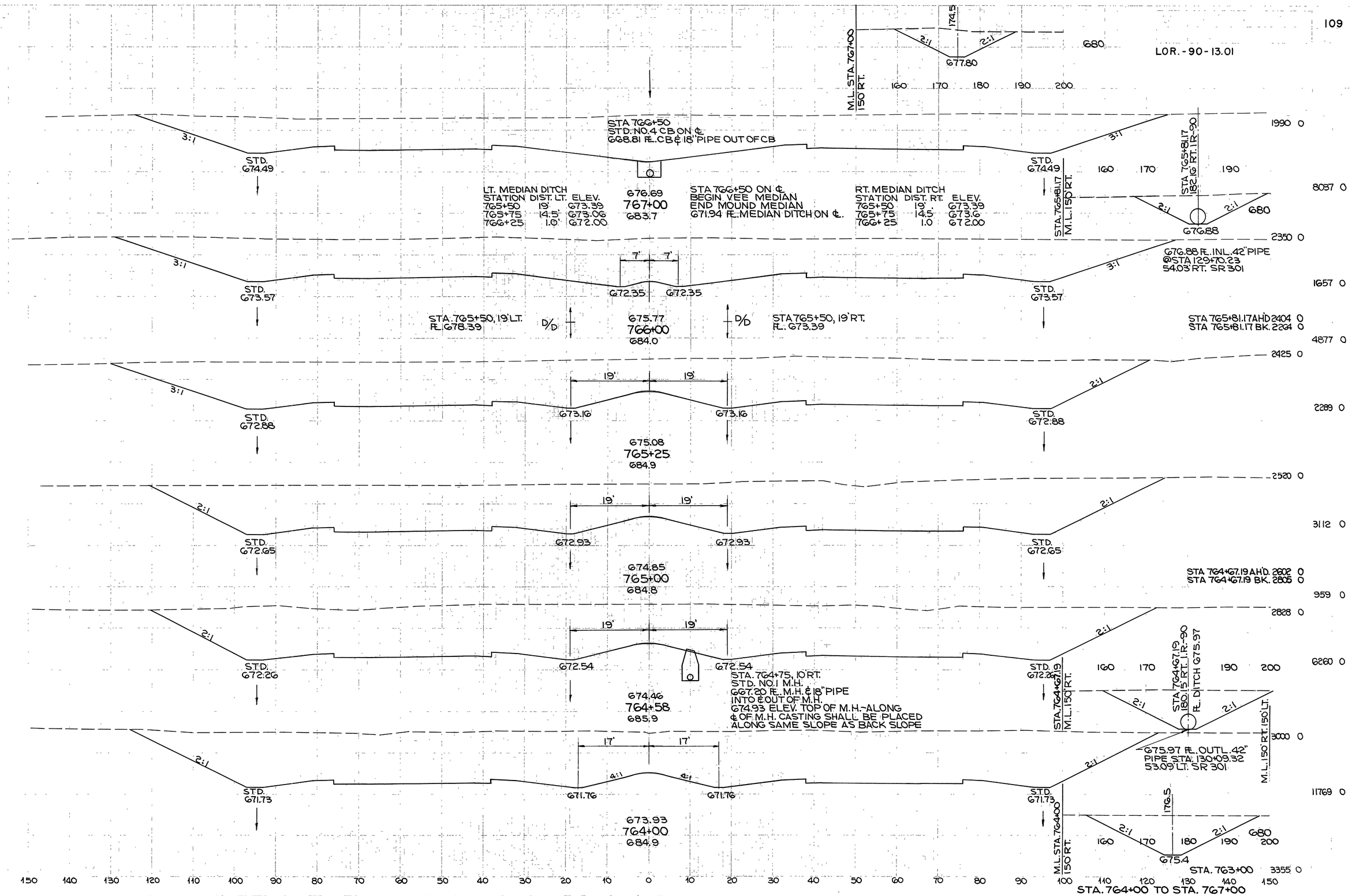
STA. 763+25 ON ℄
BEGIN MOUND MEDIAN
END VEE MEDIAN
668.95 ft. MEDIAN DITCH
ON ℄

RT. MEDIAN DITCH

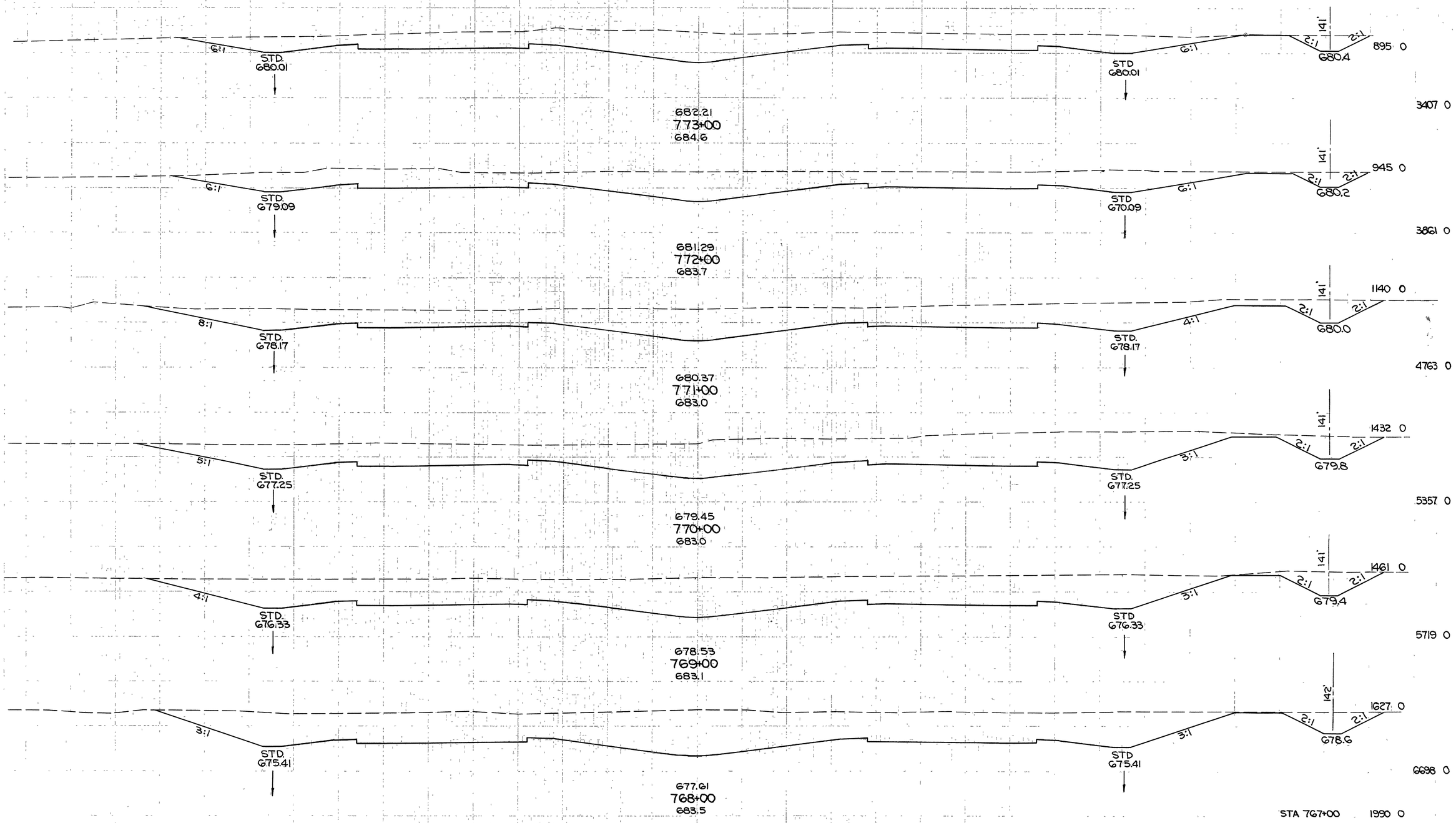
STATION	DIST. RT.	ELEV.
763+50	2.5'	669.49
763+75	10.0'	670.66

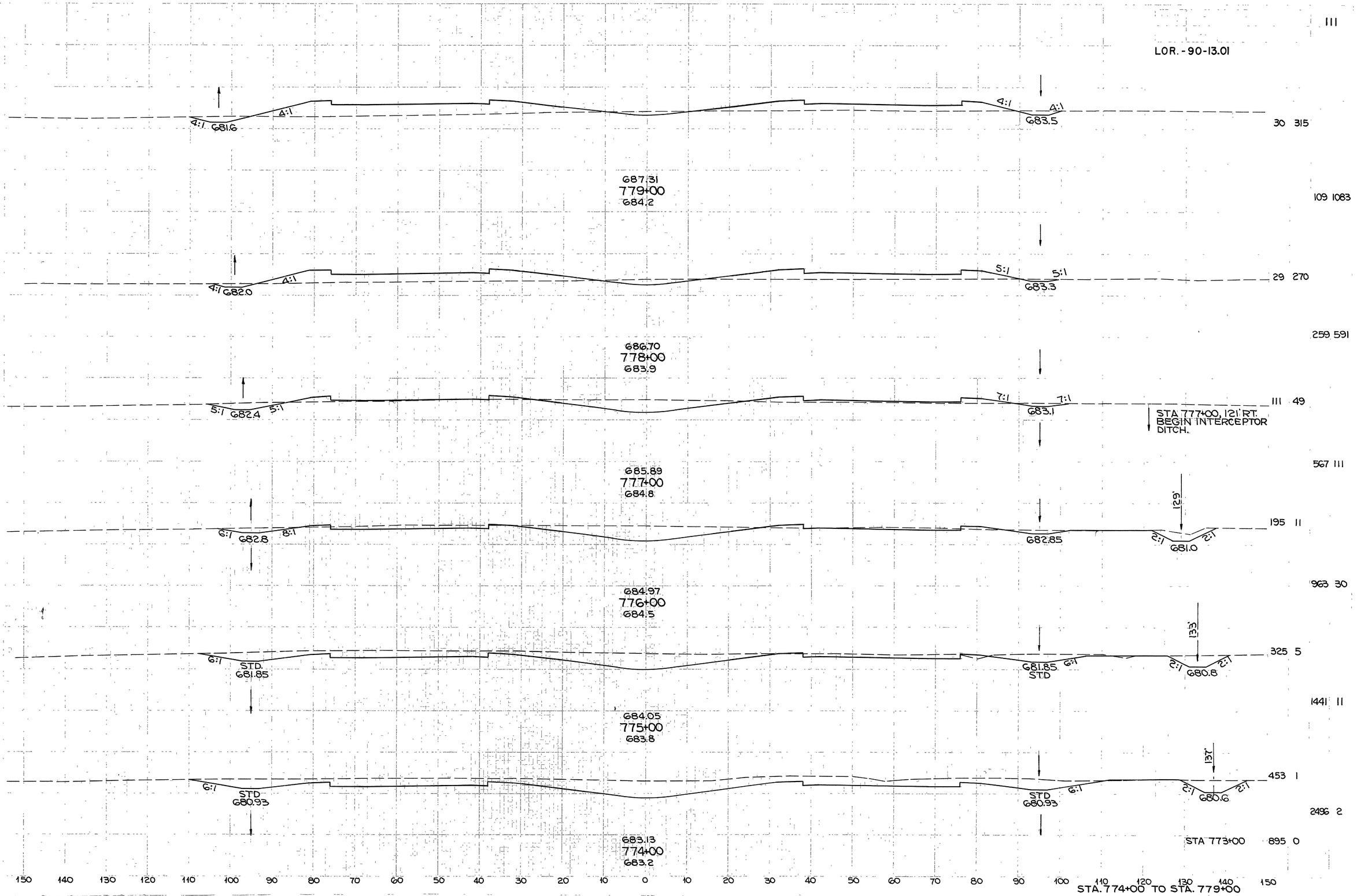


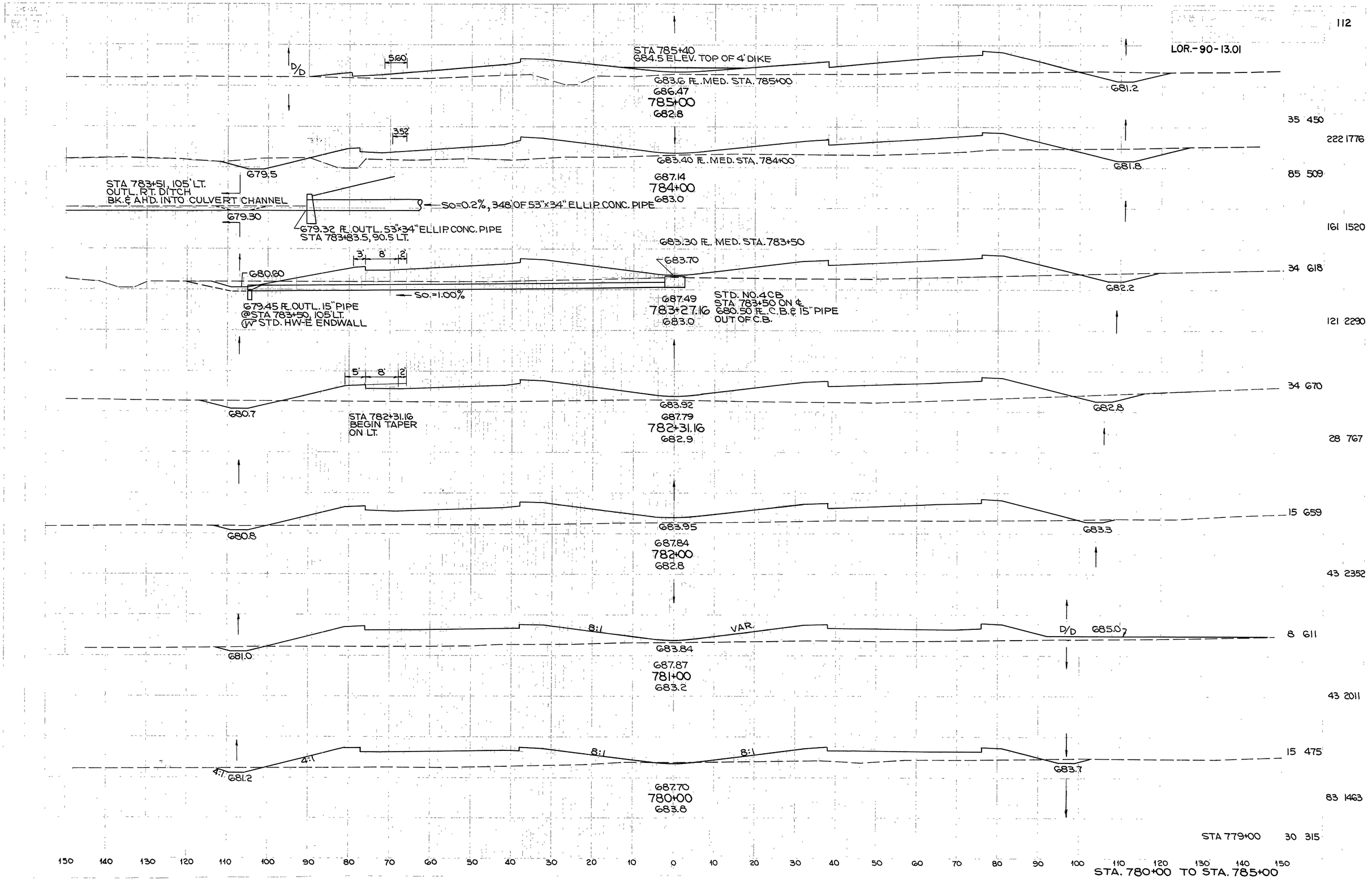
LOR.-90-13.01


M.L. STA. 767+00
150' RT.
174.5
2:1
2:1
677.80
680
160 170 180 190 200
STA 766+50
STD. NO. 4 CB ON ℄
668.81 FL. CB & 18" PIPE OUT OF CB
3:1
STD. 674.49
LT. MEDIAN DITCH
STATION DIST. LT. ELEV.
765+50 19' 673.39
765+75 14.5' 673.06
766+25 1.0' 672.00
676.69
767+00
683.7
STA 766+50 ON ℄
BEGIN VEE MEDIAN
END MOUND MEDIAN
671.94 FL. MEDIAN DITCH ON ℄.
RT. MEDIAN DITCH
STATION DIST. RT. ELEV.
765+50 19' 673.39
765+75 14.5' 673.6
766+25 1.0 672.00
STA. 765+81.17
M.L. 150' RT.
STA 765+81.17
182.16' RT. I.R.-90
676.88
680
676.88 FL. INL. 42" PIPE
@STA 129+70.23
54.03' RT. SR 301
7' 7'
672.35 672.35
STA. 765+50, 19' LT.
FL. 678.39
D/D
675.77
766+00
684.0
STA 765+50, 19' RT.
FL. 673.39
STA 765+81.17 AHD 2404
STA 765+81.17 BK. 2234
19' 19'
673.16 673.16
675.08
765+25
684.9
672.93 672.93
674.85
765+00
684.8
STA 764+67.19 AHD. 2802
STA 764+67.19 BK. 2805
672.54 672.54
STA. 764+75, 10' RT.
STD. NO. 1 M.H.
667.20 FL. M.H. & 18" PIPE
IN TO & OUT OF M.H.
674.93 ELEV. TOP OF M.H.-ALONG
℄ OF M.H. CASTING SHALL BE PLACED
ALONG SAME SLOPE AS BACK SLOPE
674.46
764+58
685.9
STA. 764+67.19
180.15' RT. I.R.-90
FL. DITCH 675.97
STA. 764+67.19
M.L. 150' RT.
M.L. 150' RT. 150' LT.
17' 17'
4:1 4:1
671.76 671.76
673.93
764+00
684.9
675.97 FL. OUTL. 42"
PIPE STA. 130+09.32
53.09' LT. SR 301
M.L. STA. 764+00
150' RT.
176.5
675.4
STA. 763+00
1990 0
8037 0
2350 0
1657 0
4877 0
2425 0
2289 0
2520 0
3112 0
959 0
2828 0
6260 0
3000 0
11769 0
3355 0
150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150
STA. 764+00 TO STA. 767+00

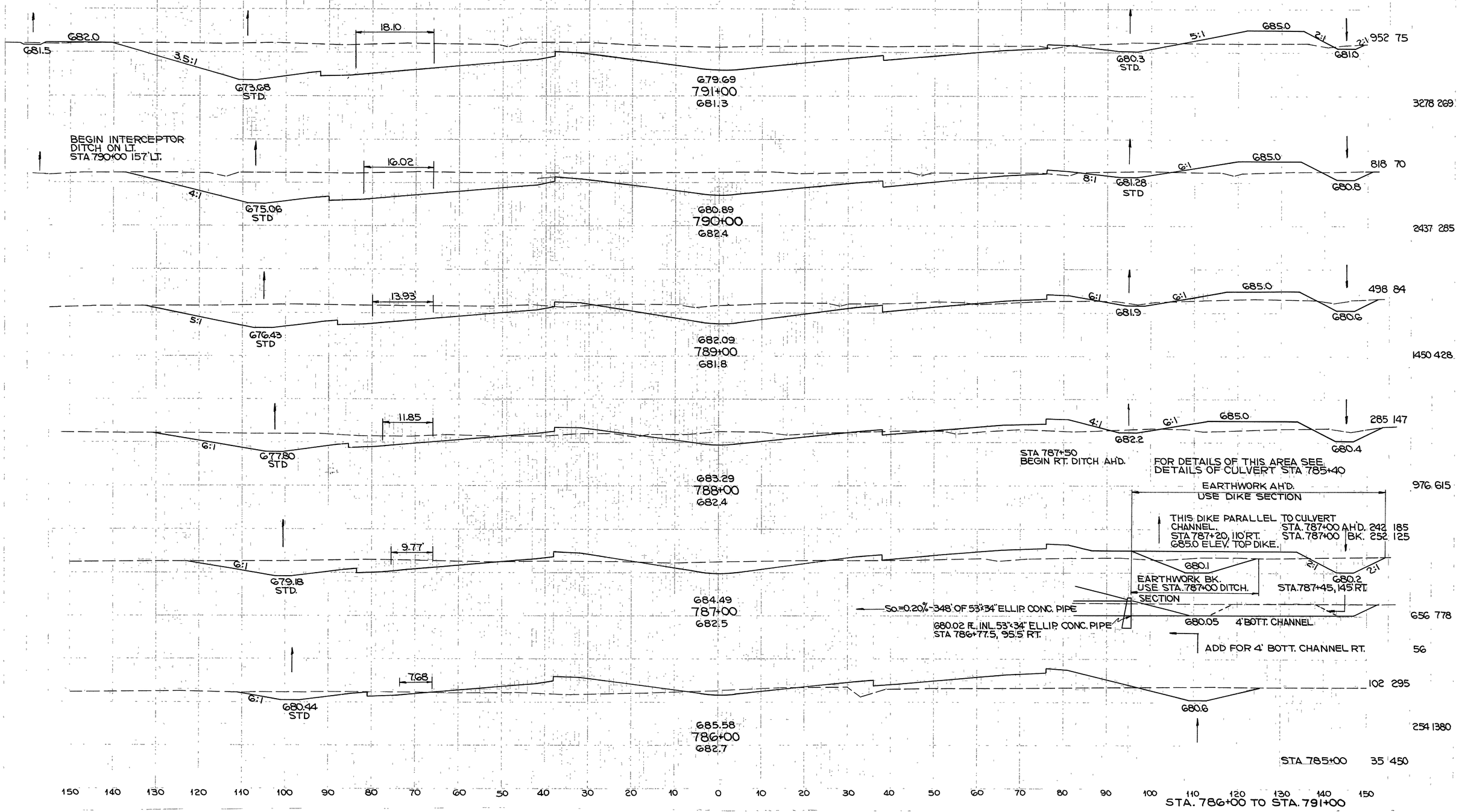
LOR.-90-13.01


6:1
STD.
680.01
682.21
773+00
684.6
6:1
STD
680.01
2:1
2:1
14'
680.4
895 0
3407 0
6:1
STD.
679.09
681.29
772+00
683.7
6:1
STD
679.09
2:1
2:1
14'
680.2
945 0
3861 0
8:1
STD.
678.17
680.37
771+00
683.0
4:1
STD.
678.17
2:1
2:1
14'
680.0
1140 0
4763 0
5:1
STD.
677.25
679.45
770+00
683.0
3:1
STD.
677.25
2:1
2:1
14'
679.8
1432 0
5357 0
4:1
STD.
676.33
678.53
769+00
683.1
3:1
STD
676.33
2:1
2:1
14'
679.4
1461 0
5719 0
3:1
STD.
675.41
677.61
768+00
683.5
3:1
STD
675.41
2:1
2:1
14'
678.6
1627 0
6698 0
STA 767+00
1990 0
150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150
STA. 768+00 TO STA. 773+00

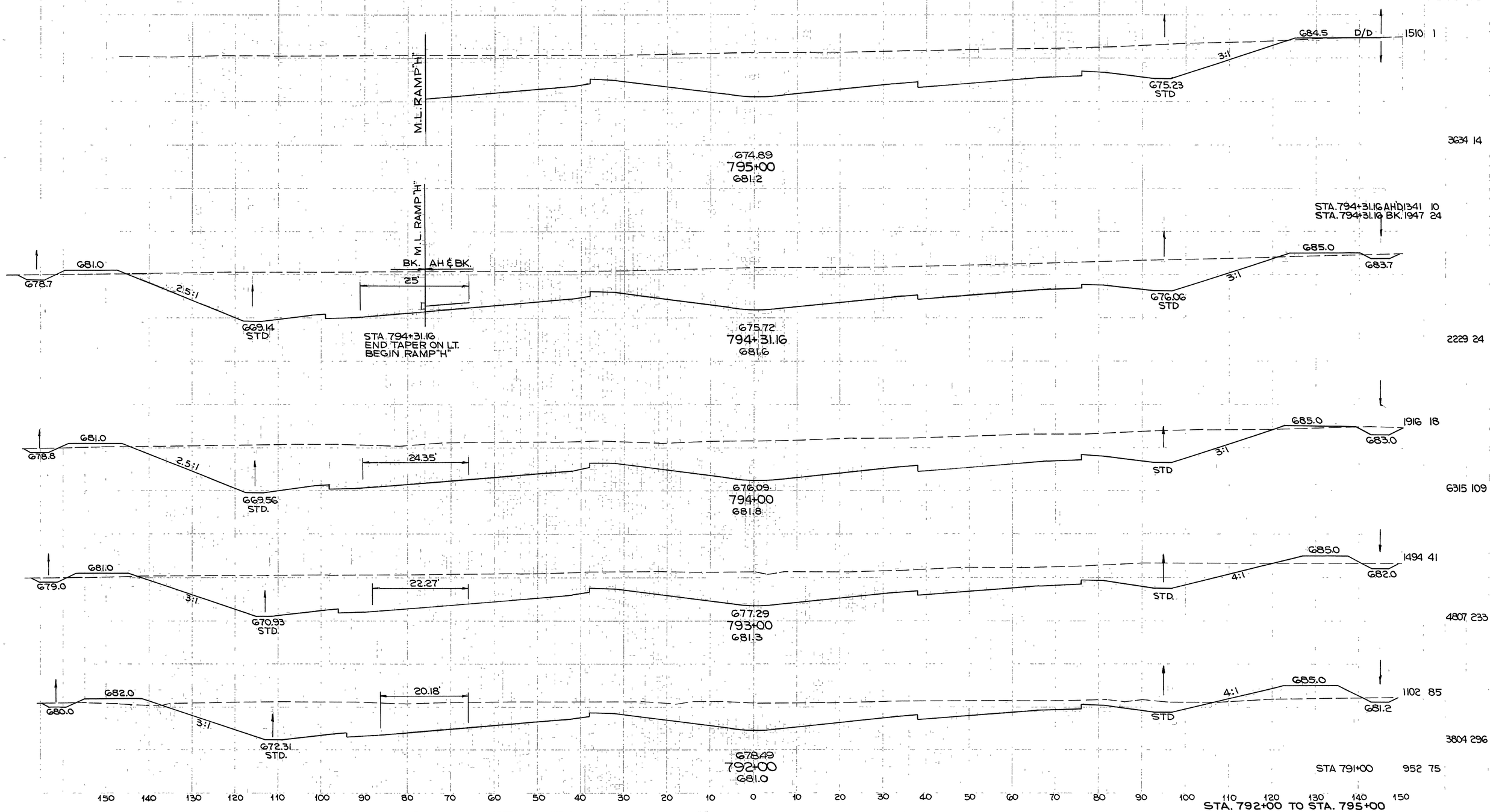

LOR.-90-13.01
4:1
681.6
4:1
683.5
30 315
687.31
779+00
684.2
109 1083
4:1
682.0
4:1
5:1
683.3
5:1
29 270
259 591
686.70
778+00
683.9
5:1
682.4
5:1
7:1
683.1
7:1
111 49
STA 777+00, 121' RT.
BEGIN INTERCEPTOR
DITCH.
567 111
685.89
777+00
684.8
6:1
682.8
8:1
682.85
129'
2:1
681.0
2:1
195 11
963 30
684.97
776+00
684.5
6:1
STD.
681.85
681.85
STD
6:1
133'
2:1
680.8
2:1
325 5
1441 11
684.05
775+00
683.8
6:1
STD
680.93
STD
680.93
6:1
137'
2:1
680.6
2:1
453 1
2496 2
683.13
774+00
683.2
STA 773+00
895 0
150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150
STA. 774+00 TO STA. 779+00


112
LOR.-90-13.01
STA 785+40
684.5 ELEV. TOP OF 4' DIKE
D/D
5.60'
683.6 FL. MED. STA. 785+00
686.47
785+00
682.8
681.2
35 450
222 1776
3.52'
683.40 FL. MED. STA. 784+00
679.5
681.8
687.14
784+00
683.0
85 509
STA 783+51, 105' LT.
OUTL. RT. DITCH
BK. & AH'D. INTO CULVERT CHANNEL
679.30
So=0.2%, 348' OF 53"x34" ELLIP. CONC. PIPE
679.32 FL. OUTL. 53"x34" ELLIP. CONC. PIPE
STA 783+83.5, 90.5 LT.
161 1520
683.30 FL. MED. STA. 783+50
3' 8' 2'
683.70
680.60
34 618
682.2
So.=1.00%
679.45 FL. OUTL. 15" PIPE
@STA 783+50, 105' LT.
W/ STD. HW-E ENDWALL
687.49
783+27.16
683.0
STD. NO. 4 CB
STA 783+50 ON ℄
680.50 FL. C.B. & 15" PIPE
OUT OF C.B.
121 2290
5' 8' 2'
34 670
680.7
683.92
687.79
782+31.16
682.9
682.8
STA 782+31.16
BEGIN TAPER
ON LT.
28 767
15 659
680.8
683.95
687.84
782+00
682.8
683.3
43 2352
8:1
VAR.
D/D 685.0
8 611
681.0
683.84
687.87
781+00
683.2
43 2011
15 475
4:1
8:1
8:1
4:1 681.2
683.7
687.70
780+00
683.8
83 1463
STA 779+00 30 315
150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150
STA. 780+00 TO STA. 785+00

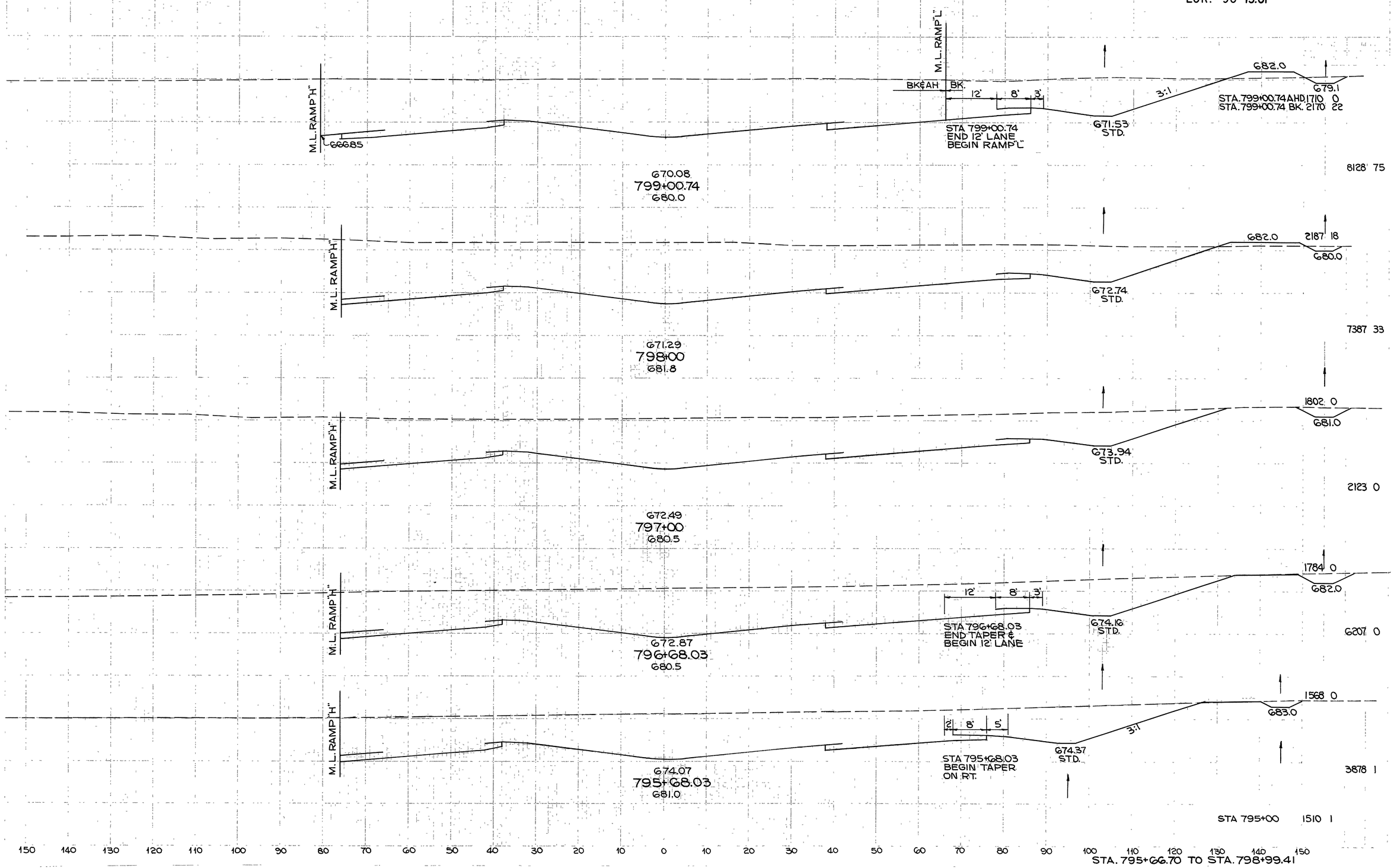
LOR.-90-13.01


682.0
681.5
3.5:1
18.10
673.68
STD.
679.69
791+00
681.3
5:1
685.0
2:1
2:1
680.3
STD.
681.0
952 75
3278 269
BEGIN INTERCEPTOR
DITCH ON LT.
STA 790+00 157' LT.
4:1
16.02
675.06
STD
680.89
790+00
682.4
8:1
6:1
681.28
STD
685.0
680.8
818 70
2437 285
5:1
13.93'
676.43
STD
682.09
789+00
681.8
6:1
6:1
681.9
685.0
680.6
498 84
1450 428
6:1
11.85
677.80
STD
683.29
788+00
682.4
4:1
6:1
682.2
685.0
680.4
285 147
STA 787+50
BEGIN RT. DITCH AH'D.
FOR DETAILS OF THIS AREA SEE,
DETAILS OF CULVERT STA 785+40
EARTHWORK AH'D.
USE DIKE SECTION
976 615
THIS DIKE PARALLEL TO CULVERT
CHANNEL.
STA 787+20, 110' RT.
685.0 ELEV. TOP DIKE.
STA. 787+00 AH'D. 242 185
STA. 787+00 BK. 252 125
6:1
9.77'
679.18
STD.
684.49
787+00
682.5
680.1
2:1
2:1
680.2
STA.787+45, 145' RT.
EARTHWORK BK.
USE STA. 787+00 DITCH.
SECTION
So=0.20%-348' OF 53"x34" ELLIP. CONC. PIPE
680.02 FL. INL. 53"x34" ELLIP. CONC. PIPE
STA 786+77.5, 95.5' RT.
680.05
4' BOTT. CHANNEL
656 778
ADD FOR 4' BOTT. CHANNEL RT.
56
7.68
6:1
680.44
STD
680.6
102 295
685.58
786+00
682.7
254 1380
STA 785+00
35 450
150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150
STA. 786+00 TO STA. 791+00

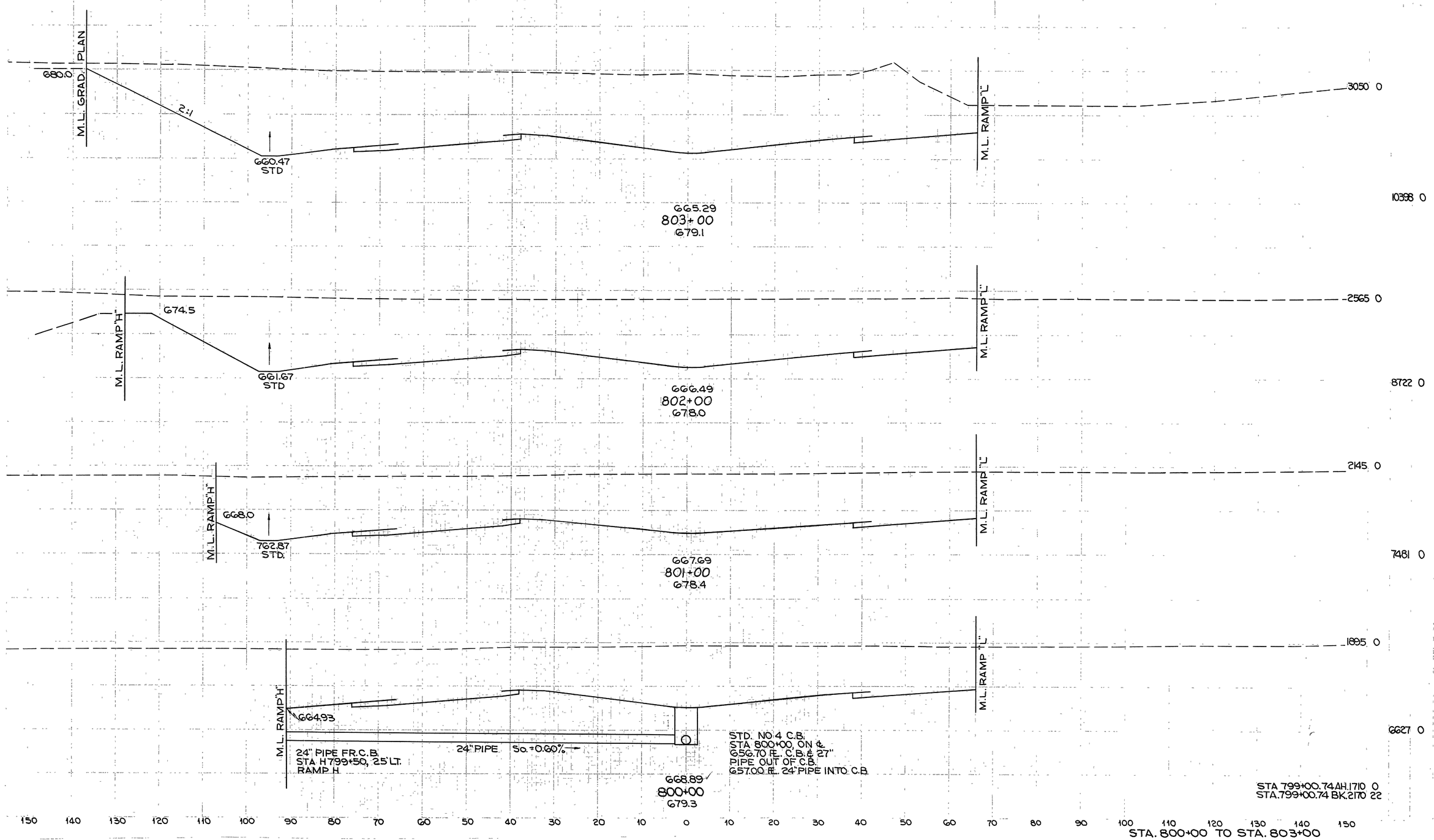
LOR.-90-13.01

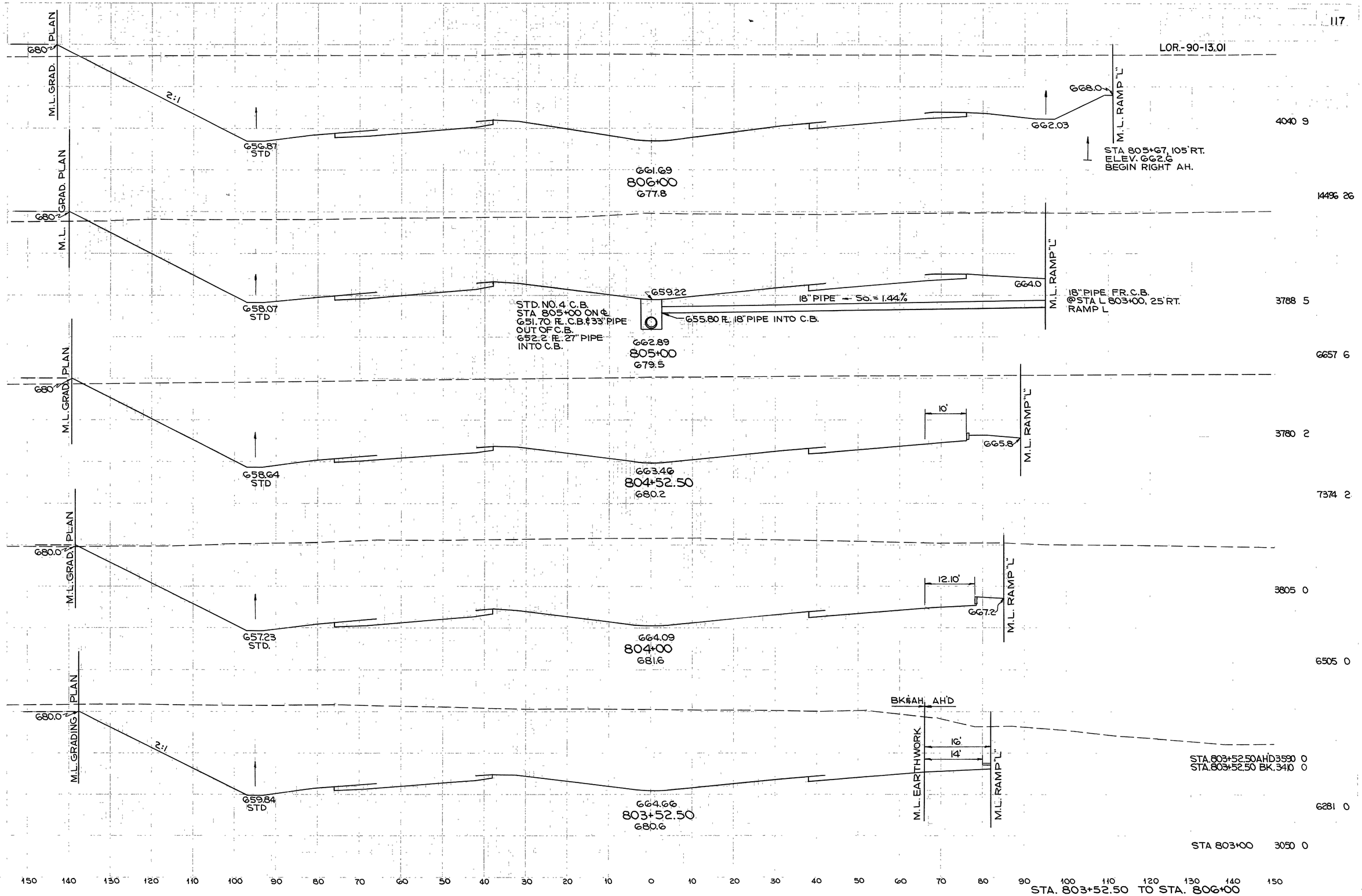

M.L. RAMP "H"
674.89
795+00
681.2
684.5
D/D
1510 1
3:1
675.23
STD
3634 14
M.L. RAMP "H"
BK.
AH & BK.
25'
681.0
678.7
2.5:1
669.14
STD
STA 794+31.16
END TAPER ON LT.
BEGIN RAMP "H"
675.72
794+31.16
681.6
STA.794+31.16 AHD 1341 10
STA.794+31.16 BK. 1947 24
685.0
683.7
3:1
676.06
STD
2229 24
681.0
678.8
2.5:1
669.56
STD.
24.35'
676.09
794+00
681.8
STD
3:1
685.0
683.0
1916 18
6315 109
681.0
679.0
3:1
670.93
STD.
22.27'
677.29
793+00
681.3
STD.
4:1
685.0
682.0
1494 41
4807 233
682.0
680.0
3:1
672.31
STD.
20.18'
678.49
792+00
681.0
STD
4:1
685.0
681.2
1102 85
3804 296
STA 791+00
952 75
150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150
STA. 792+00 TO STA. 795+00

LOR. - 90-13.01

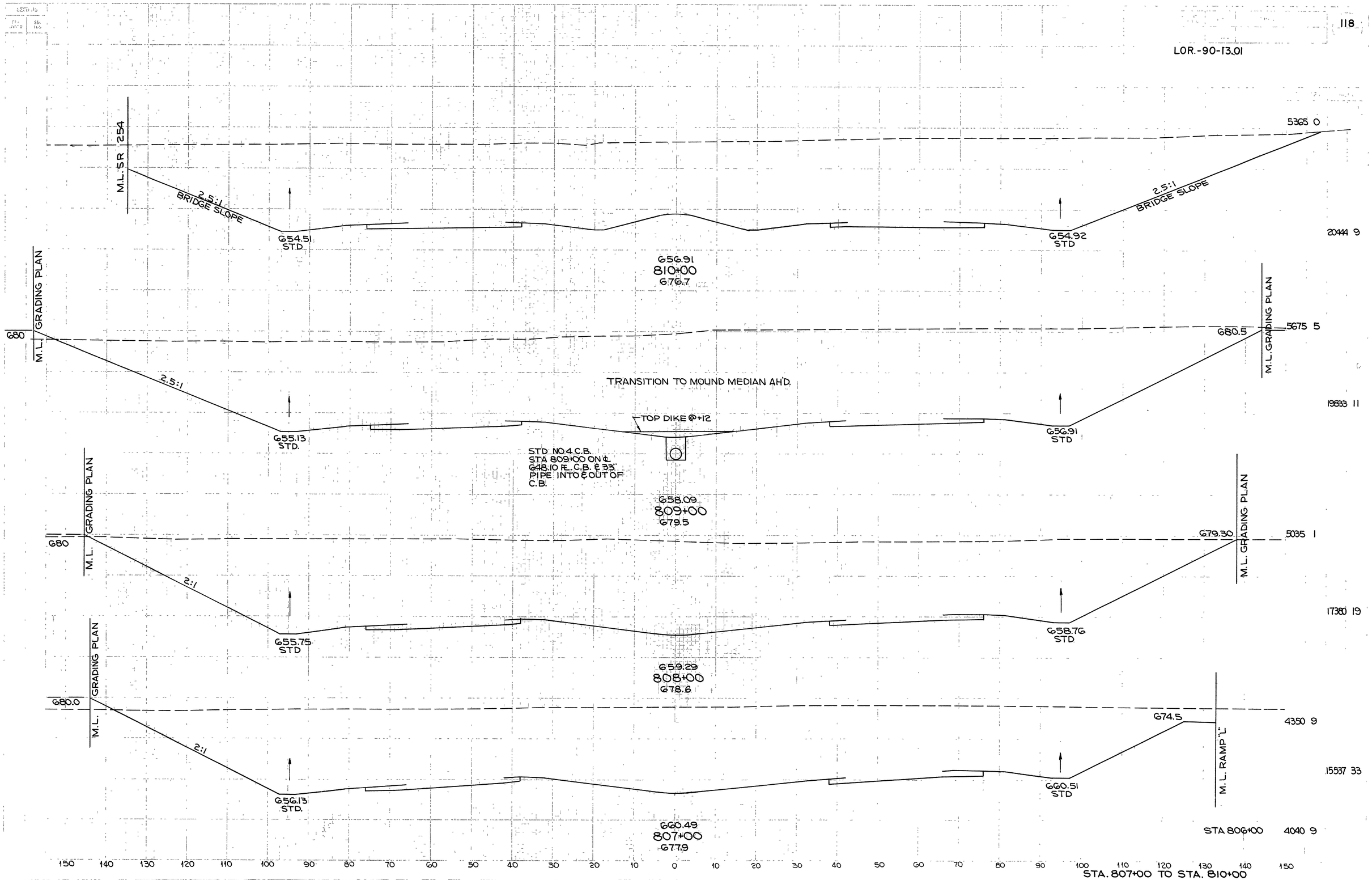

M.L. RAMP "H"
M.L. RAMP "L"
BK℄AH
BK.
12'
8'
3'
3:1
682.0
679.1
STA. 799+00.74 AHD 1710 0
STA. 799+00.74 BK. 2170 22
671.53
STD.
STA 799+00.74
END 12' LANE
BEGIN RAMP "L"
666.85
670.08
799+00.74
680.0
8128 75
682.0
2187 18
680.0
672.74
STD.
671.29
798+00
681.8
7387 33
1802 0
681.0
673.94
STD.
672.49
797+00
680.5
2123 0
1784 0
682.0
674.16
STD.
STA 796+68.03
END TAPER &
BEGIN 12' LANE
672.87
796+68.03
680.5
6207 0
1568 0
683.0
2'
8'
5'
3:1
674.37
STD.
STA 795+68.03
BEGIN TAPER
ON RT.
674.07
795+68.03
681.0
3878 1
STA 795+00 1510 1
150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150
STA. 795+66.70 TO STA. 798+99.41

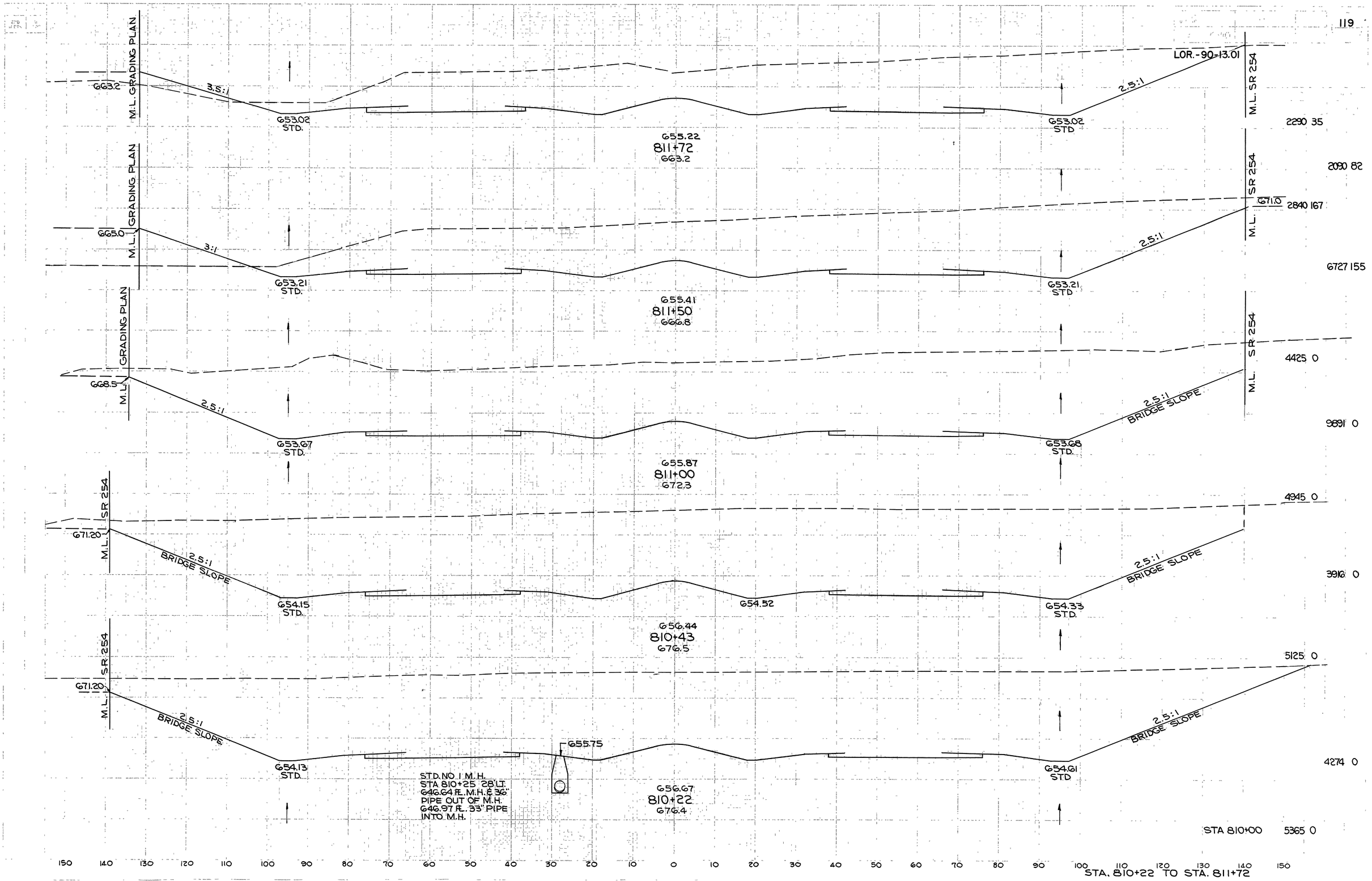
LOR.-90-13.01


M.L. GRAD. PLAN
680.0
2:1
660.47
STD
665.29
803+00
679.1
M.L. RAMP "L"
3050 0
10398 0
M.L. RAMP "H"
674.5
661.67
STD
666.49
802+00
678.0
M.L. RAMP "L"
2565 0
8722 0
M.L. RAMP "H"
668.0
662.87
STD.
667.69
801+00
678.4
M.L. RAMP "L"
2145 0
7481 0
M.L. RAMP "H"
664.93
24" PIPE FR.C.B.
STA H799+50, 25' LT.
RAMP H
24" PIPE So.=0.60%
668.89
800+00
679.3
STD. NO.4 C.B.
STA 800+00, ON ℄
656.70 FL. C.B. & 27"
PIPE OUT OF C.B.
657.00 FL. 24" PIPE INTO C.B.
M.L. RAMP "L"
1895 0
6627 0
STA 799+00.74 AH.1710 0
STA.799+00.74 BK.2170 22
150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150
STA. 800+00 TO STA. 803+00

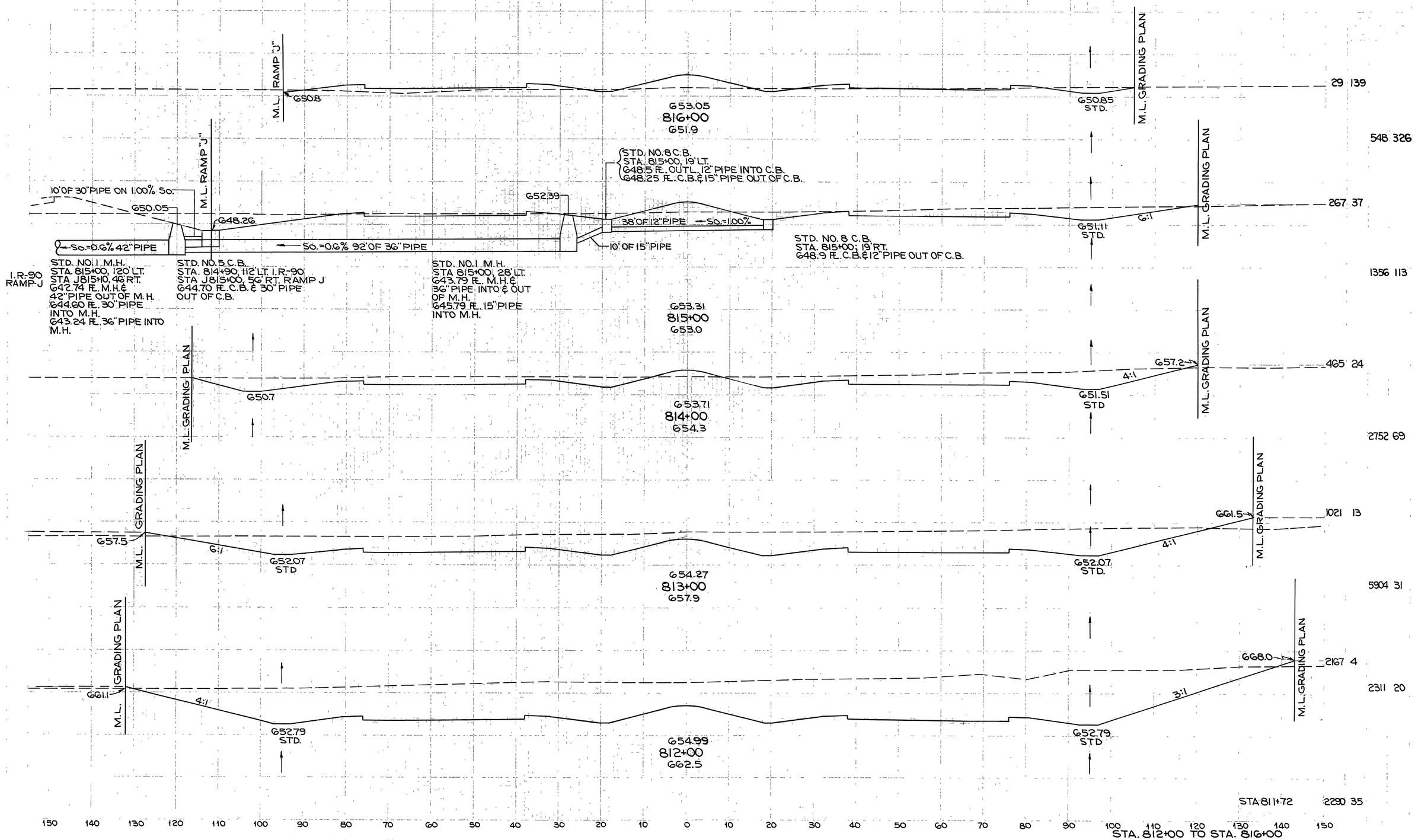

M.L. GRAD. PLAN
680
2:1
656.87
STD
661.69
806+00
677.8
LOR.-90-13.01
668.0
662.03
M.L. RAMP "L"
STA 805+67, 105' RT.
ELEV. 662.6
BEGIN RIGHT AH.
4040 9
14496 26
M.L. GRAD. PLAN
680
658.07
STD
STD. NO. 4 C.B.
STA. 805+00 ON ℄
651.70 FL. C.B. & 33" PIPE
OUT OF C.B.
652.2 FL. 27" PIPE
INTO C.B.
659.22
662.89
805+00
679.5
655.80 FL. 18" PIPE INTO C.B.
18" PIPE — So. = 1.44%
664.0
18" PIPE FR. C.B.
@ STA L 803+00, 25' RT.
RAMP L
3788 5
6657 6
M.L. GRAD. PLAN
680
658.64
STD
663.46
804+52.50
680.2
10'
665.8
3780 2
7374 2
M.L. GRAD. PLAN
680.0
657.23
STD.
664.09
804+00
681.6
12.10'
667.2
3805 0
6505 0
M.L. GRADING PLAN
680.0
2:1
659.84
STD
664.66
803+52.50
680.6
BK & AH. AH'D
M.L. EARTHWORK
16'
14'
STA. 803+52.50 AH'D 3590 0
STA. 803+52.50 BK. 3410 0
6281 0
STA 803+00 3050 0
150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150
STA. 803+52.50 TO STA. 806+00

LOR.-90-13.01

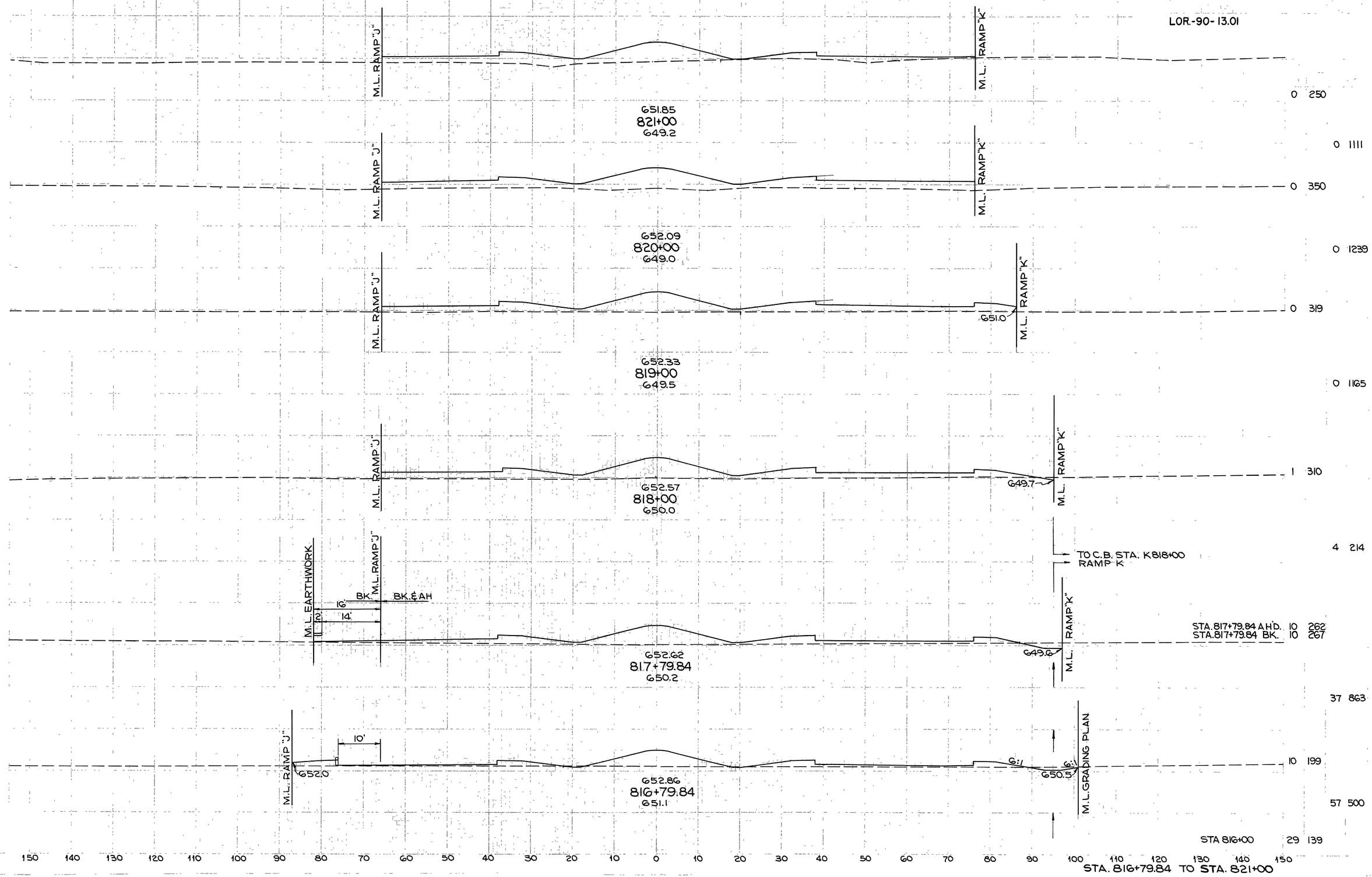

M.L. SR 254
2.5:1 BRIDGE SLOPE
654.51 STD
656.91
810+00
676.7
654.92 STD
2.5:1 BRIDGE SLOPE
5365 0
20444 9
M.L. GRADING PLAN
680
680.5
5675 5
M.L. GRADING PLAN
2.5:1
TRANSITION TO MOUND MEDIAN AHD.
19833 11
TOP DIKE @+12
655.13 STD.
656.91 STD
STD NO 4 C.B.
STA 809+00 ON ℄
648.10 FL. C.B. & 33" PIPE INTO & OUT OF C.B.
658.09
809+00
679.5
M.L. GRADING PLAN
680
679.30
5035 1
M.L. GRADING PLAN
2:1
17380 19
655.75 STD
658.76 STD
659.29
808+00
678.6
M.L. GRADING PLAN
680.0
674.5
4350 9
M.L. RAMP "L"
2:1
15537 33
656.13 STD.
660.51 STD
660.49
807+00
677.9
STA 806+00 4040 9
150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150
STA. 807+00 TO STA. 810+00


M.L. GRADING PLAN
663.2
3.5:1
653.02
STD.
655.22
811+72
663.2
653.02
STD
2.5:1
LOR.-90-13.01
M.L. SR 254
2290 35
2090 82
M.L. GRADING PLAN
665.0
3:1
653.21
STD.
655.41
811+50
666.8
653.21
STD
2.5:1
M.L. SR 254
671.0
2840 167
6727 155
M.L. GRADING PLAN
668.5
2.5:1
653.67
STD.
655.87
811+00
672.3
653.68
STD.
2.5:1
BRIDGE SLOPE
M.L. SR 254
4425 0
9891 0
M.L. SR 254
671.20
2.5:1
BRIDGE SLOPE
654.15
STD.
654.52
654.33
STD.
2.5:1
BRIDGE SLOPE
4945 0
3916 0
M.L. SR 254
671.20
2.5:1
BRIDGE SLOPE
654.13
STD.
655.75
STD. NO. 1 M.H.
STA. 810+25 28' LT.
646.64 FL. M.H. & 36"
PIPE OUT OF M.H.
646.97 FL. 33" PIPE
INTO M.H.
656.67
810+22
676.4
654.61
STD
2.5:1
BRIDGE SLOPE
5125 0
4274 0
STA 810+00
5365 0
150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150
STA. 810+22 TO STA. 811+72

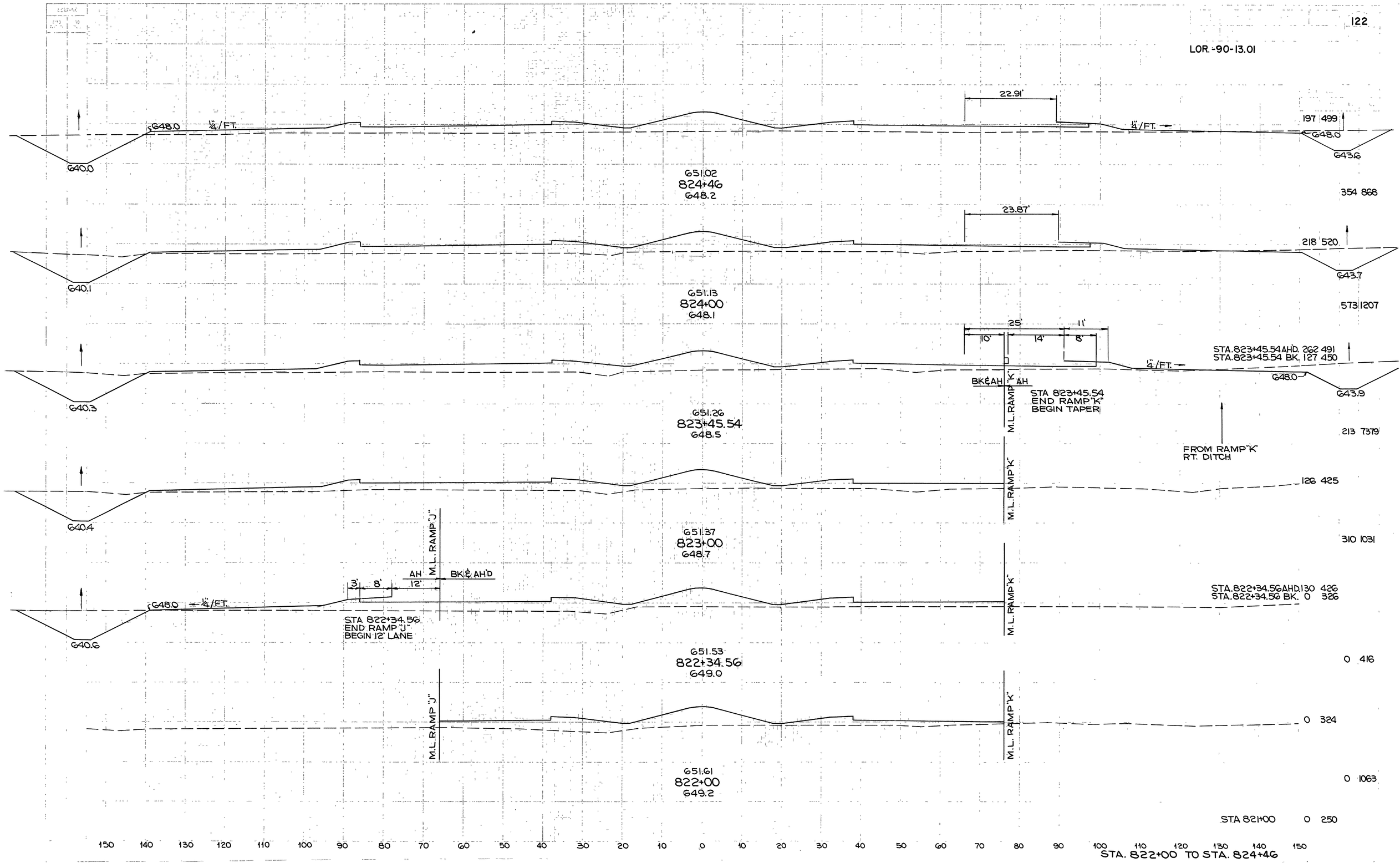
LOR.-90-13.01


M.L. RAMP "J"
650.8
653.05
816+00
651.9
650.85
STD.
M.L. GRADING PLAN
29 139
548 326
STD. NO. 8 C.B.
STA. 815+00, 19' LT.
648.5 FL. OUTL. 12" PIPE INTO C.B.
648.25 FL. C.B. & 15" PIPE OUT OF C.B.
10' OF 30" PIPE ON 1.00% So.
650.05
652.39
648.26
38' OF 12" PIPE
So.=1.00%
651.11
STD.
6:1
267 37
So.=0.6% 42" PIPE
So.=0.6% 92' OF 36" PIPE
10' OF 15" PIPE
STD. NO. 8 C.B.
STA. 815+00, 19' RT.
648.9 FL. C.B. & 12" PIPE OUT OF C.B.
I.R.-90
RAMP-J
STD. NO. 1 M.H.
STA. 815+00, 120' LT.
STA J815+10, 46' RT.
642.74 FL. M.H. &
42" PIPE OUT OF M.H.
644.60 FL. 30" PIPE
INTO M.H.
643.24 FL. 36" PIPE INTO
M.H.
STD. NO. 5 C.B.
STA. 814+90, 112' LT. I.R.-90
STA J815+00, 56' RT. RAMP J
644.70 FL. C.B. & 30" PIPE
OUT OF C.B.
STD. NO. 1 M.H.
STA 815+00, 28' LT.
643.79 FL. M.H. &
36" PIPE INTO & OUT
OF M.H.
645.79 FL. 15" PIPE
INTO M.H.
1356 113
653.31
815+00
653.0
650.7
653.71
814+00
654.3
651.51
STD
4:1
657.2
465 24
2752 69
GRADING PLAN
M.L.
657.5
6:1
652.07
STD
654.27
813+00
657.9
652.07
STD.
661.5
1021 13
5904 31
661.1
4:1
652.79
STD.
654.99
812+00
662.5
652.79
STD
3:1
668.0
2167 4
2311 20
STA 811+72
2290 35
150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150
STA. 812+00 TO STA. 816+00

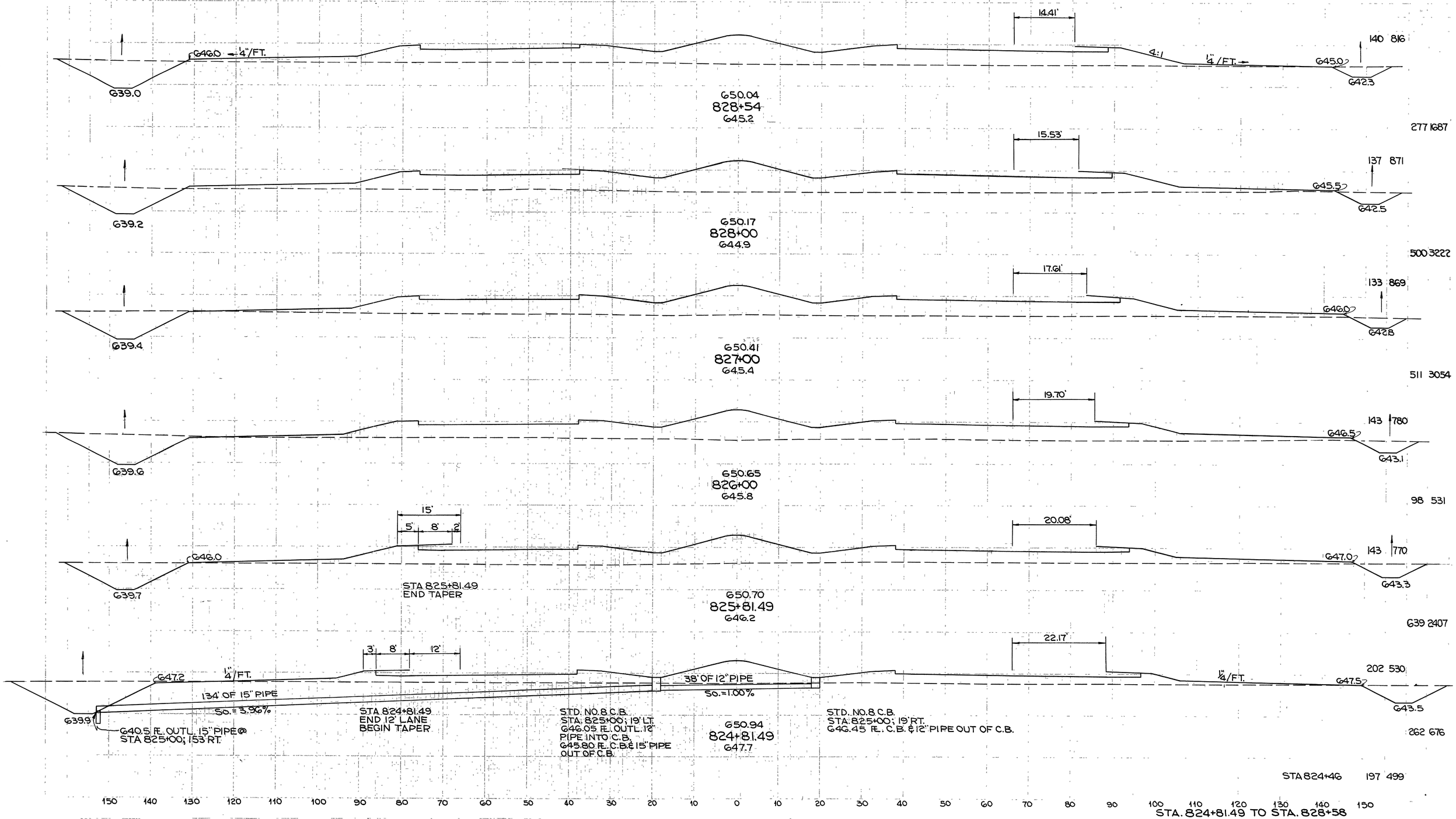
LOR.-90-13.01


M.L. RAMP "J"
M.L. RAMP "K"
651.85
821+00
649.2
0 250
652.09
820+00
649.0
0 1111
0 350
652.33
819+00
649.5
0 1239
651.0
0 319
652.57
818+00
650.0
0 1165
649.7
1 310
M.L. EARTHWORK
BK.
BK.&AH
16'
14'
TO C.B. STA. K818+00
RAMP K
4 214
652.62
817+79.84
650.2
649.6
STA.817+79.84 A.H.D. 10 262
STA.817+79.84 BK. 10 267
37 863
10'
652.0
652.86
816+79.84
651.1
6:1
650.5
M.L. GRADING PLAN
10 199
57 500
STA 816+00 29 139
150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150
STA. 816+79.84 TO STA. 821+00

LOR.-90-13.01

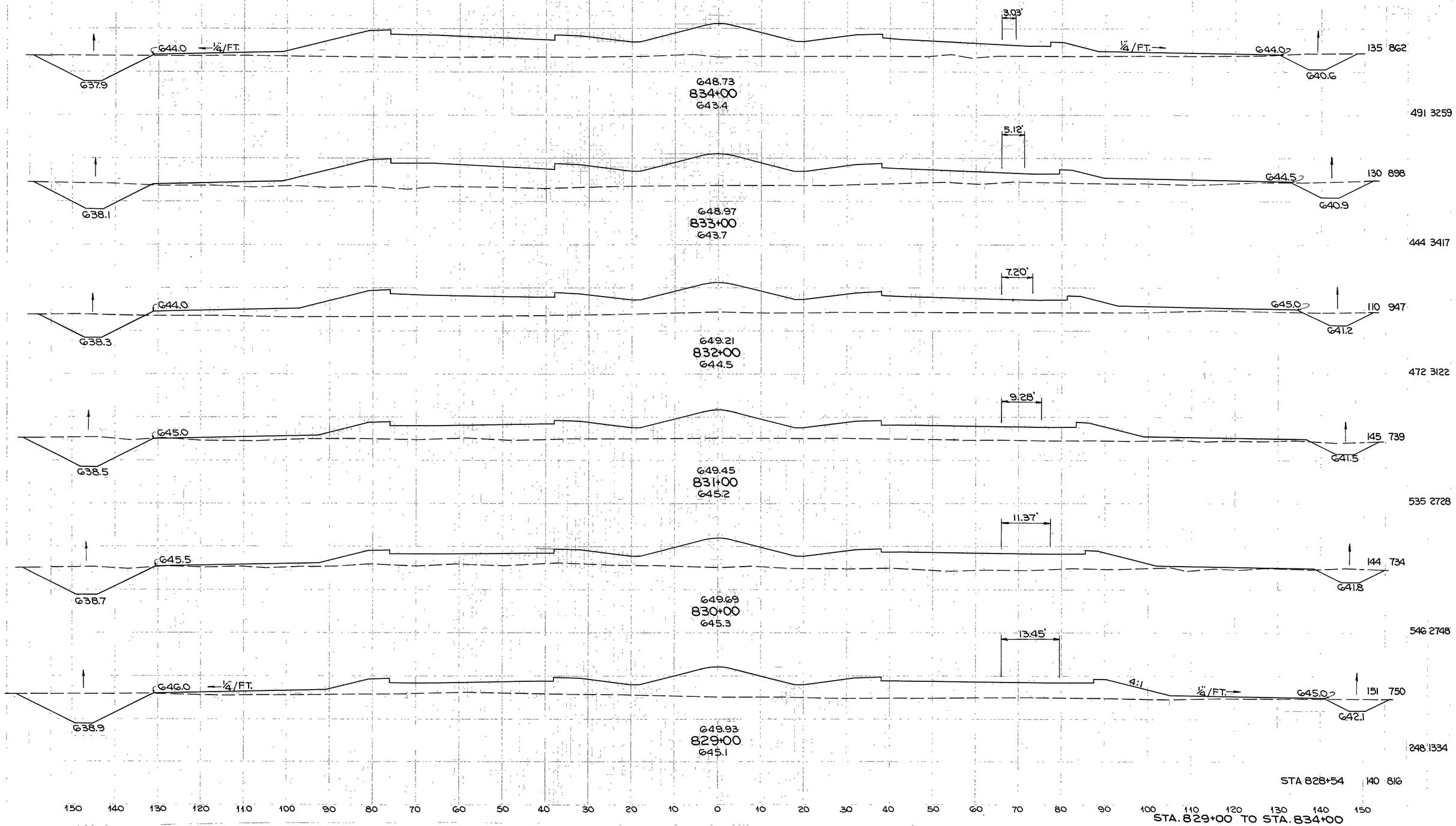

22.91'
648.0
1/4"/FT.
1/4"/FT.
197 499
648.0
640.0
643.6
651.02
824+46
648.2
354 868
23.87'
218 520
640.1
643.7
651.13
824+00
648.1
573 1207
25'
11'
10'
14'
8'
STA. 823+45.54 AHD. 262 491
STA. 823+45.54 BK. 127 450
1/4"/FT.
BK & AH
AH
M.L. RAMP "K"
STA 823+45.54
END RAMP "K"
BEGIN TAPER
648.0
640.3
643.9
651.26
823+45.54
648.5
213 7379
FROM RAMP "K"
RT. DITCH
M.L. RAMP "K"
126 425
640.4
651.37
823+00
648.7
310 1031
M.L. RAMP "J"
AH
BK & AH'D
3'
8'
12'
STA. 822+34.56 AHD. 130 426
STA. 822+34.56 BK. 0 326
648.0
1/4"/FT.
640.6
STA. 822+34.56
END RAMP "J"
BEGIN 12' LANE
651.53
822+34.56
649.0
0 416
M.L. RAMP "J"
0 324
651.61
822+00
649.2
0 1063
STA 821+00 0 250
150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150
STA. 822+00 TO STA. 824+46

LOR.-90-13.01

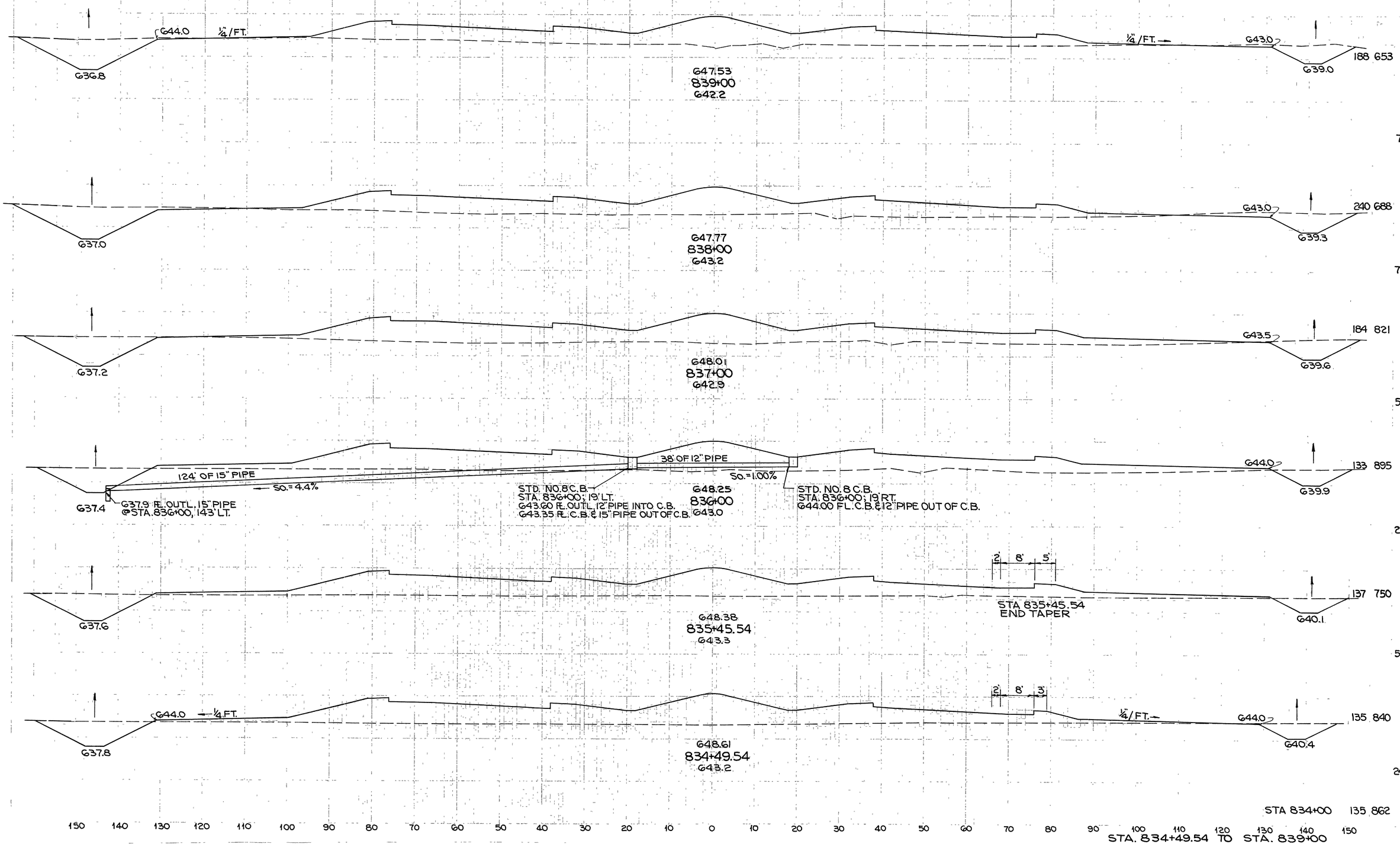


STA. 824+81.49 TO STA. 828+58

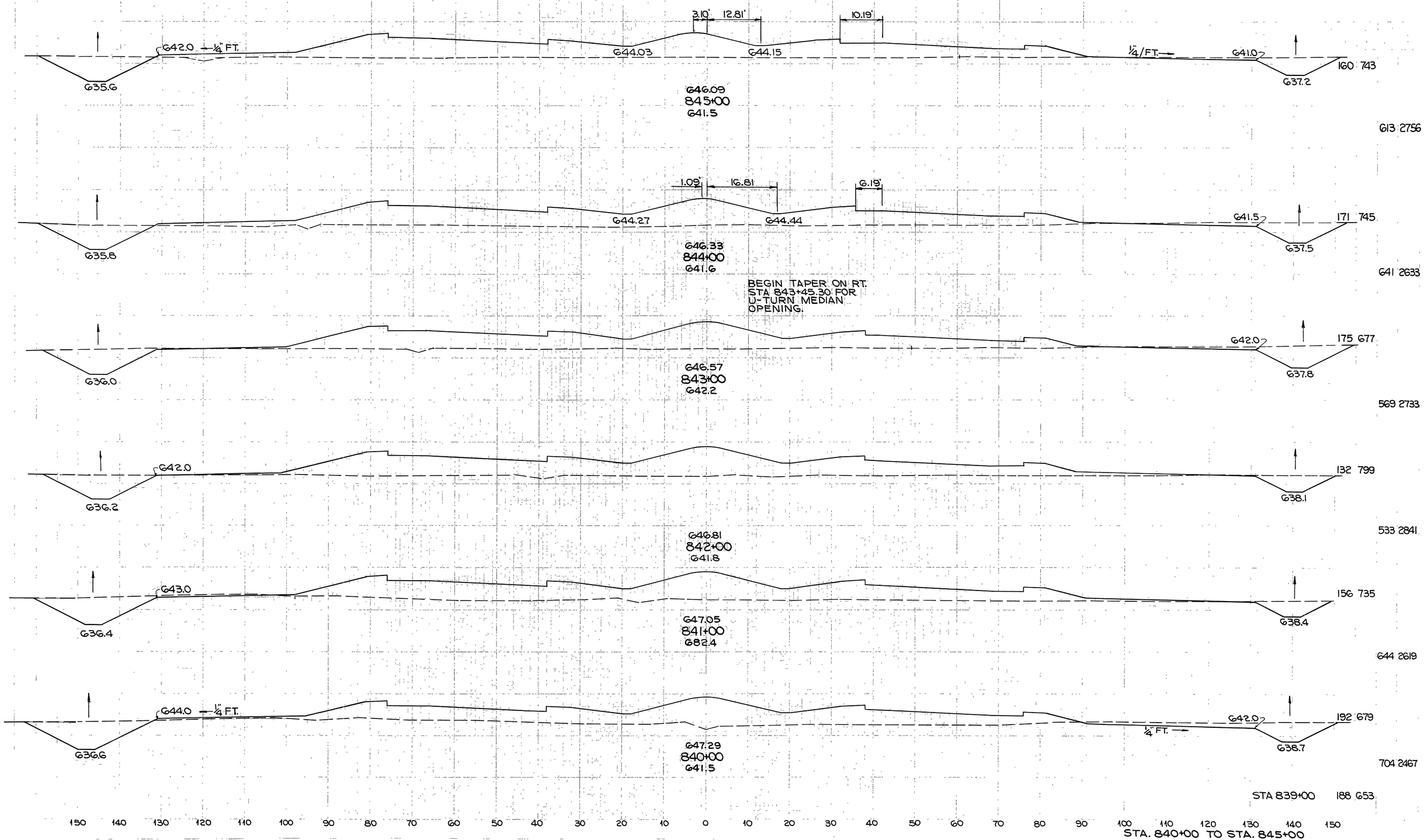
LOR.-90-13.01


3.03'
644.0
1/4/FT.
1/4/FT.
644.0
135 862
637.9
640.6
648.73
834+00
643.4
491 3259
5.12'
644.5
130 898
638.1
640.9
648.97
833+00
643.7
444 3417
7.20'
644.0
645.0
110 947
638.3
641.2
649.21
832+00
644.5
472 3122
9.28'
645.0
145 739
638.5
641.5
649.45
831+00
645.2
535 2728
11.37'
645.5
144 734
638.7
641.8
649.69
830+00
645.3
546 2748
13.45'
646.0
1/4/FT.
4:1
1/4/FT.
645.0
151 750
638.9
642.1
649.93
829+00
645.1
248 1334
STA 828+54
140 816
150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150
STA. 829+00 TO STA. 834+00

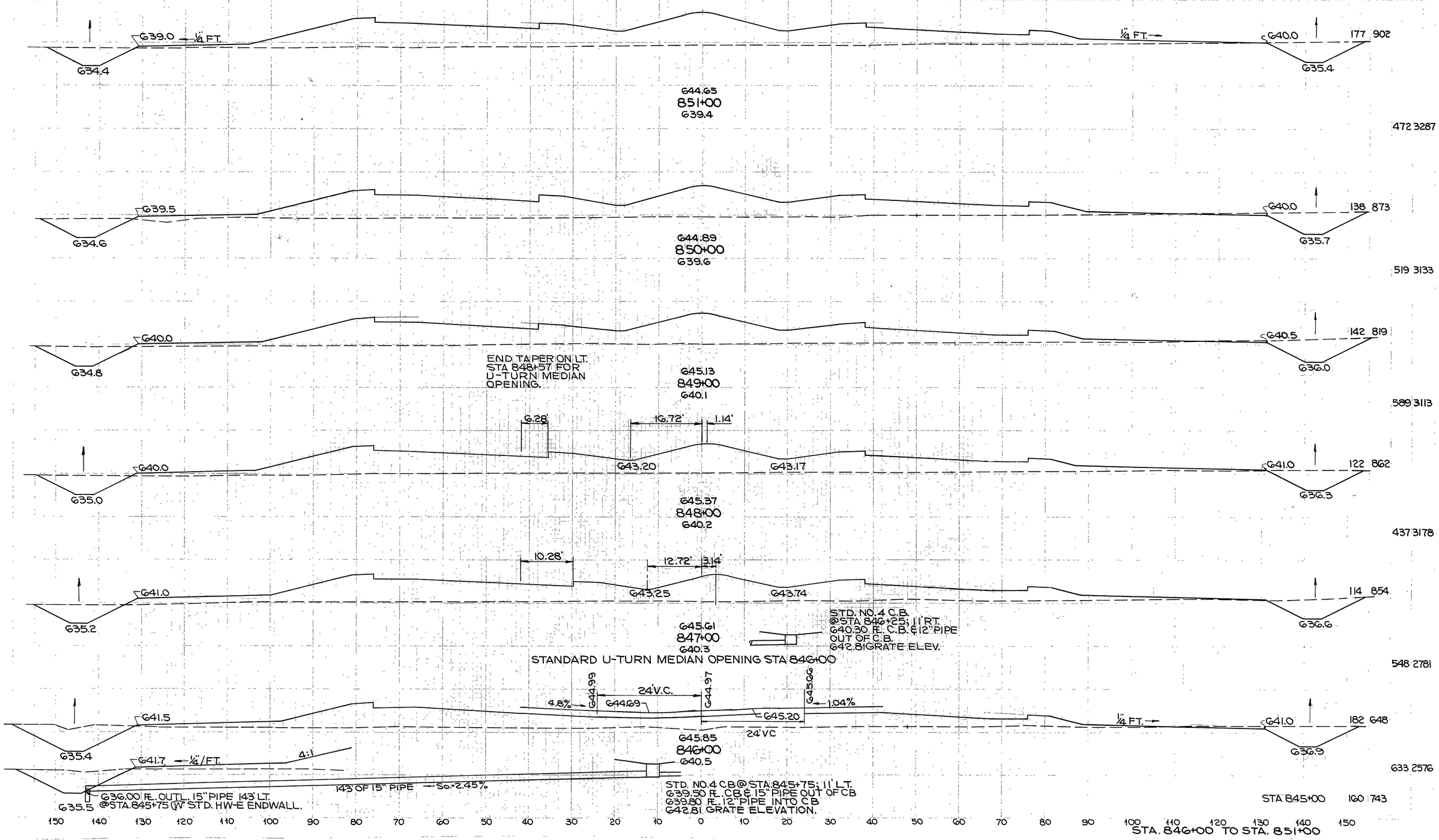
LOR.-90-13.01


644.0
1/4"/FT.
636.8
647.53
839+00
642.2
1/4"/FT.
643.0
639.0
188 653
793 2483
637.0
647.77
838+00
643.2
643.0
639.3
240 688
785 2794
637.2
648.01
837+00
642.9
643.5
639.6
184 821
587 3178
124' OF 15" PIPE
SO.=4.4%
637.4
637.9 FL. OUTL. 15" PIPE
@STA. 836+00, 143' LT.
38' OF 12" PIPE
SO.=1.00%
STD. NO. 8 C.B.
STA. 836+00; 19' LT.
643.60 FL. OUTL. 12" PIPE INTO C.B.
643.35 FL. C.B. & 15" PIPE OUT OF C.B.
648.25
836+00
643.0
STD. NO. 8 C.B.
STA. 836+00; 19' RT.
644.00 FL. C.B. & 12" PIPE OUT OF C.B.
644.0
639.9
133 895
272 1659
637.6
648.38
835+45.54
643.3
2'
8'
5'
STA 835+45.54
END TAPER
640.1
137 750
504 2944
644.0
1/4 FT.
637.8
648.61
834+49.54
643.2
2'
8'
3'
1/4"/FT.
644.0
640.4
135 840
248 1562
STA 834+00 135 862
150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150
STA. 834+49.54 TO STA. 839+00

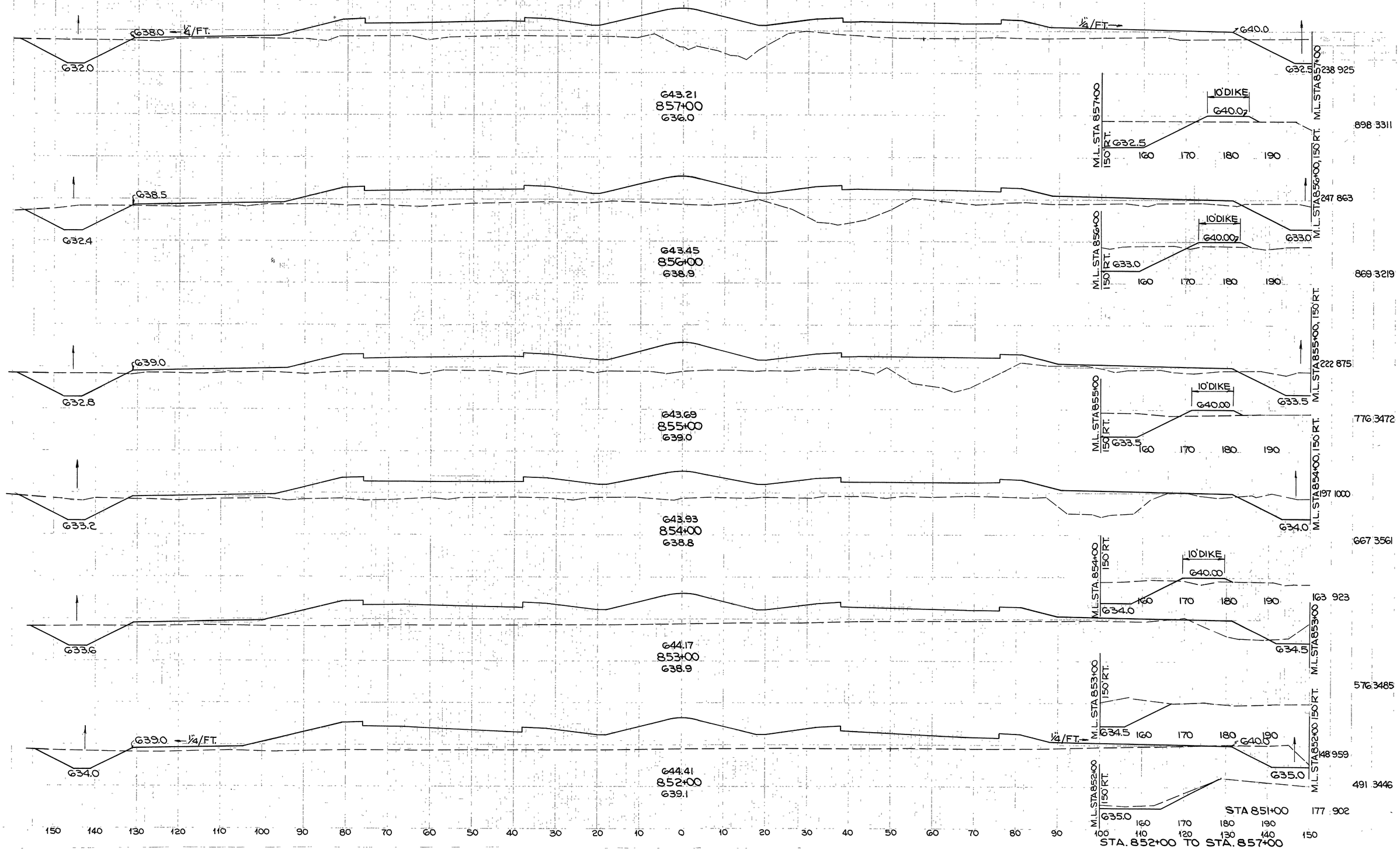
LOR.-90-13.01


3.10'
12.81'
10.19'
642.0 ← 1/4" FT.
644.03
644.15
1/4"/FT.
641.0
160 743
635.6
637.2
646.09
845+00
641.5
613 2756
1.09'
16.81
6.19'
644.27
644.44
641.5
171 745
635.8
637.5
646.33
844+00
641.6
641 2633
BEGIN TAPER ON RT.
STA 843+45.30 FOR
U-TURN MEDIAN
OPENING.
642.0
175 677
636.0
637.8
646.57
843+00
642.2
569 2733
642.0
132 799
636.2
638.1
646.81
842+00
641.8
533 2841
643.0
156 735
636.4
638.4
647.05
841+00
642.4
644 2619
644.0 ← 1/4" FT.
642.0
192 679
1/4" FT.
636.6
638.7
647.29
840+00
641.5
704 2467
STA 839+00
188 653
150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150
STA. 840+00 TO STA. 845+00

LOR.-90-13.01


639.0 ← 1/4 FT.
634.4
644.65
851+00
639.4
1/4 FT. →
640.0
177 902
635.4
472 3287
639.5
634.6
644.89
850+00
639.6
640.0
138 873
635.7
519 3133
640.0
634.8
END TAPER ON LT.
STA 848+57 FOR
U-TURN MEDIAN
OPENING.
645.13
849+00
640.1
640.5
142 819
636.0
589 3113
6.28'
16.72'
1.14'
640.0
635.0
643.20
643.17
645.37
848+00
640.2
641.0
122 862
636.3
437 3178
10.28'
12.72'
3.14'
641.0
635.2
643.25
643.74
645.61
847+00
640.3
STD. NO. 4 C.B.
@STA 846+25; 11' RT.
640.30 FL. C.B. & 12" PIPE
OUT OF C.B.
642.81 GRATE ELEV.
114 854
636.6
548 2781
STANDARD U-TURN MEDIAN OPENING STA 846+00
644.99
24' V.C.
644.97
645.66
4.8%
644.69
645.20
1.04%
24' VC
641.5
635.4
641.7 ← 1/4 FT.
4:1
645.85
846+00
640.5
1/4 FT. →
641.0
182 648
636.9
633 2576
636.00 FL. OUTL. 15" PIPE 143' LT.
@STA 845+75 W/ STD. HW-E ENDWALL.
635.5
143' OF 15" PIPE — So=2.45%
STD. NO. 4 CB @ STA 845+75; 11' LT.
639.50 FL. CB & 15" PIPE OUT OF CB
639.80 FL. 12" PIPE INTO CB
642.81 GRATE ELEVATION.
STA 845+00
160 743
150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150
STA. 846+00 TO STA. 851+00

LOR.-90-13.01



STA. 852+00 TO STA. 857+00

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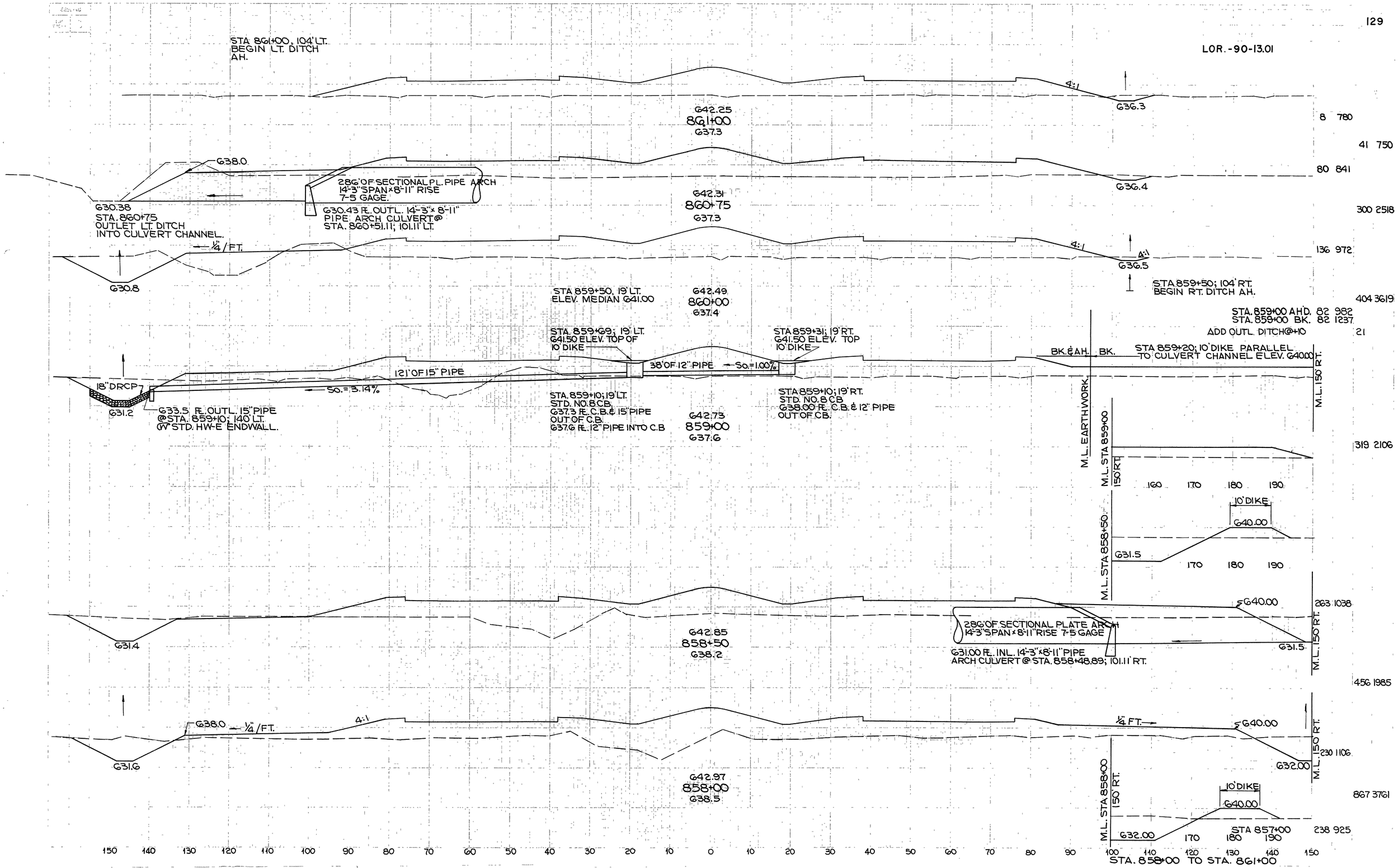
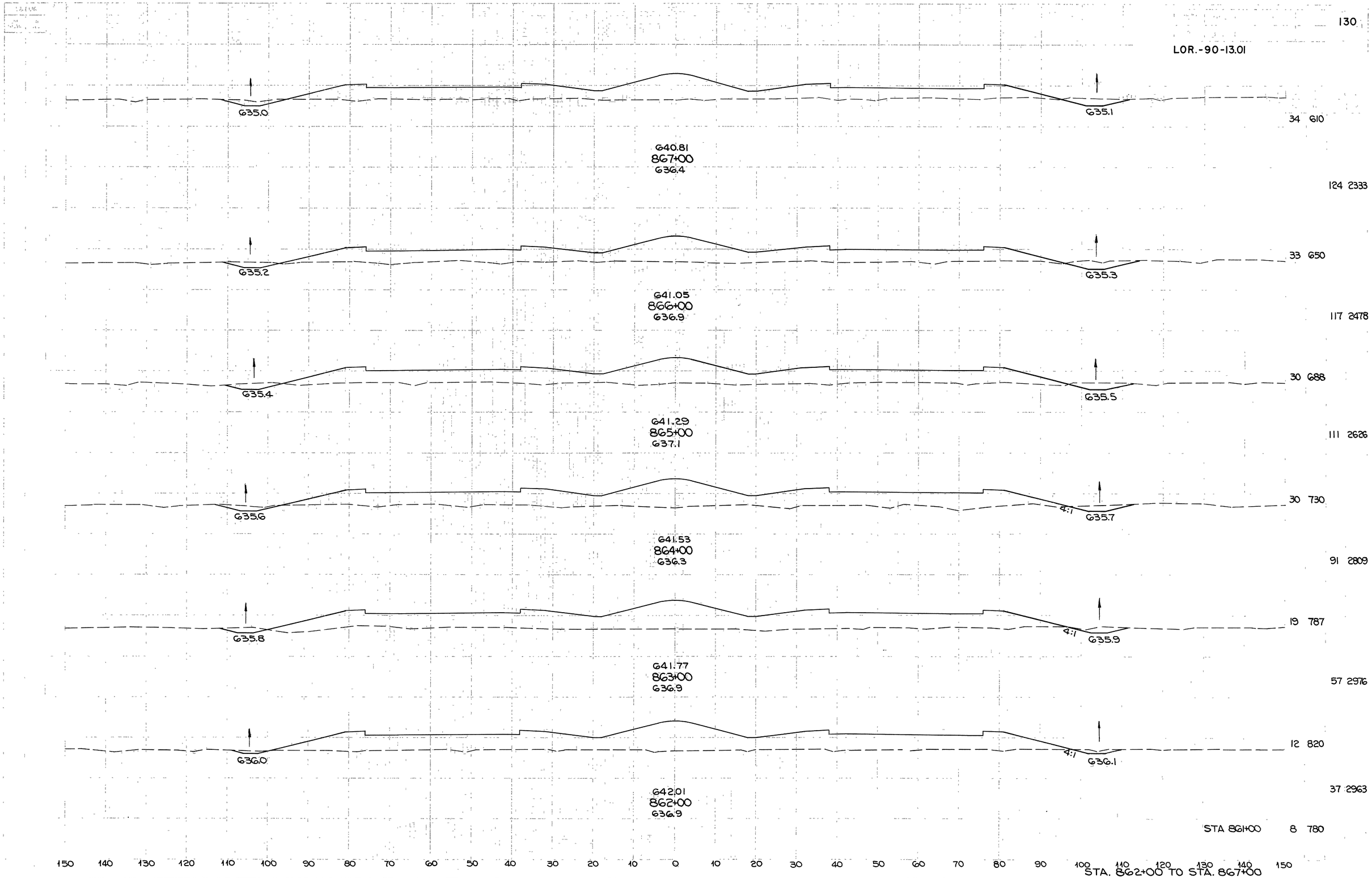
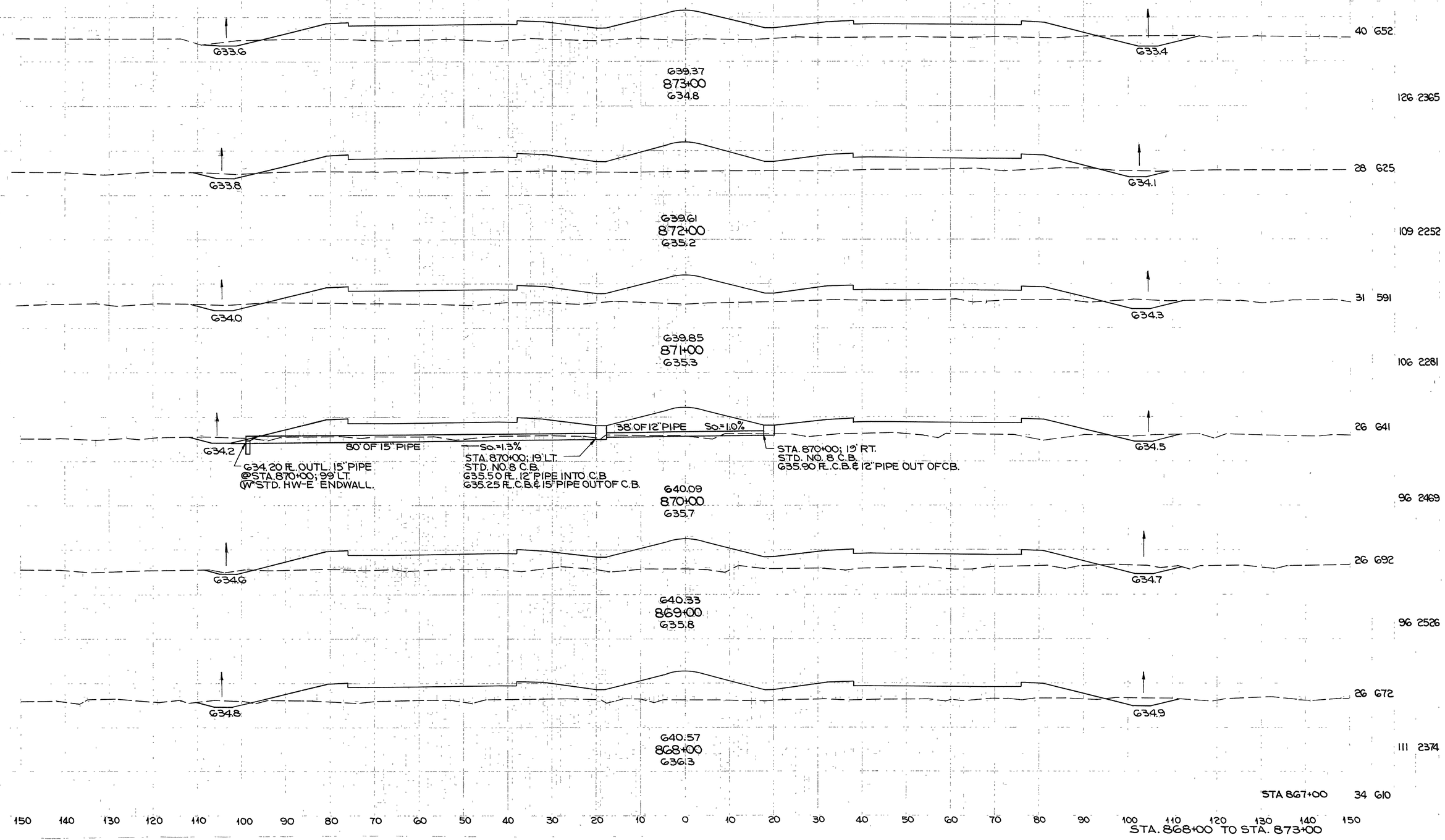
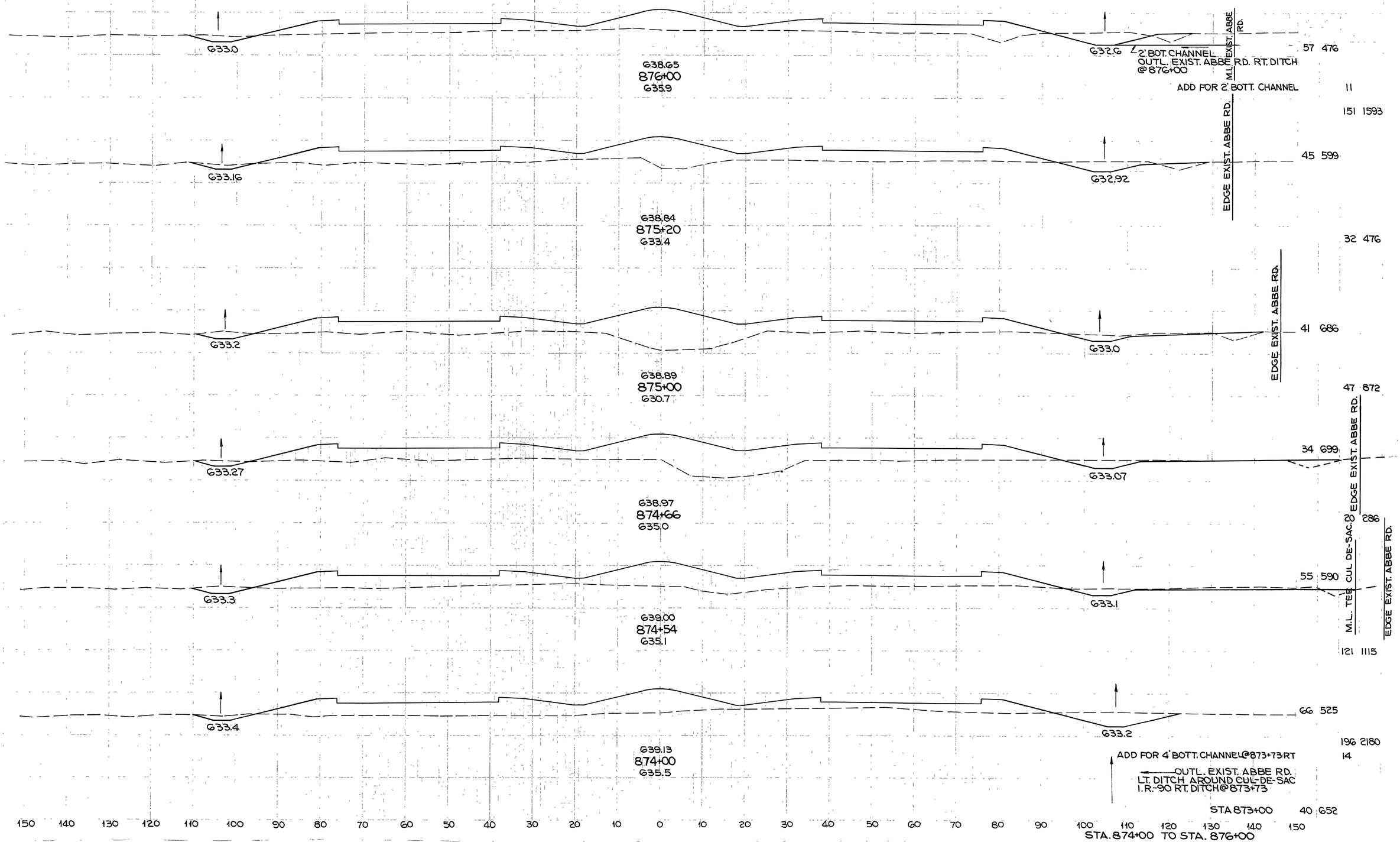

STA 861+00, 104' LT.
BEGIN LT. DITCH
AH.
4:1
636.3
642.25
861+00
637.3
8 780
41 750
638.0
286' OF SECTIONAL PL. PIPE ARCH
14'-3" SPAN × 8'-11" RISE
7-5 GAGE.
636.4
80 841
630.38
STA. 860+75
OUTLET LT. DITCH
INTO CULVERT CHANNEL.
630.43 FL. OUTL. 14'-3" × 8'-11"
PIPE ARCH CULVERT @
STA. 860+51.11; 101.11' LT.
642.31
860+75
637.3
300 2518
¼"/FT.
4:1
636.5
136 972
630.8
STA 859+50; 104' RT.
BEGIN RT. DITCH AH.
STA 859+50, 19' LT.
ELEV. MEDIAN 641.00
642.49
860+00
637.4
404 3619
STA. 859+00 AHD. 82 982
STA. 859+00 BK. 82 1237
ADD OUTL. DITCH @ +10
21
STA. 859+69; 19' LT.
641.50 ELEV. TOP OF
10' DIKE
STA 859+31; 19' RT.
641.50 ELEV. TOP
10' DIKE
BK. & AH.
BK.
STA 859+20; 10' DIKE PARALLEL
TO CULVERT CHANNEL ELEV. 640.00
121' OF 15" PIPE
38' OF 12" PIPE
So.=1.00%
18" DRCP
So.=3.14%
631.2
633.5 FL. OUTL. 15" PIPE
@ STA. 859+10; 140' LT.
W/ STD. HW-E ENDWALL.
STA. 859+10; 19' LT.
STD. NO. 8 C.B.
637.3 FL. C.B. & 15" PIPE
OUT OF C.B.
637.6 FL. 12" PIPE INTO C.B
642.73
859+00
637.6
STA 859+10; 19' RT.
STD. NO. 8 C.B.
638.00 FL. C.B. & 12" PIPE
OUT OF C.B.
M.L. EARTHWORK
M.L. 150' RT.
319 2106
M.L. STA 859+00
150' RT.
160
170
180
190
10' DIKE
640.00
M.L. STA 858+50
631.5
170
180
190
640.00
263 1038
286' OF SECTIONAL PLATE ARCH
14'-3" SPAN × 8'-11" RISE 7-5 GAGE
631.4
642.85
858+50
638.2
631.5
631.00 FL. INL. 14'-3" × 8'-11" PIPE
ARCH CULVERT @ STA. 858+48.89; 101.11' RT.
456 1985
638.0
¼"/FT.
4:1
¼"/FT.
640.00
631.6
642.97
858+00
638.5
632.00
230 1106
867 3761
M.L. STA 858+00
150' RT.
10' DIKE
640.00
632.00
170
STA 857+00
180
190
238 925
150
140
130
120
110
100
90
80
70
60
50
40
30
20
10
0
10
20
30
40
50
60
70
80
90
100
110
120
130
140
150
STA. 858+00 TO STA. 861+00


130
LOR.-90-13.01
635.0
635.1
34 610
640.81
867+00
636.4
124 2333
635.2
635.3
33 650
641.05
866+00
636.9
117 2478
635.4
635.5
30 688
641.29
865+00
637.1
111 2626
635.6
4:1
635.7
30 730
641.53
864+00
636.3
91 2809
635.8
4:1
635.9
19 787
641.77
863+00
636.9
57 2976
636.0
4:1
636.1
12 820
642.01
862+00
636.9
37 2963
STA 861+00
8 780
150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150
STA. 862+00 TO STA. 867+00

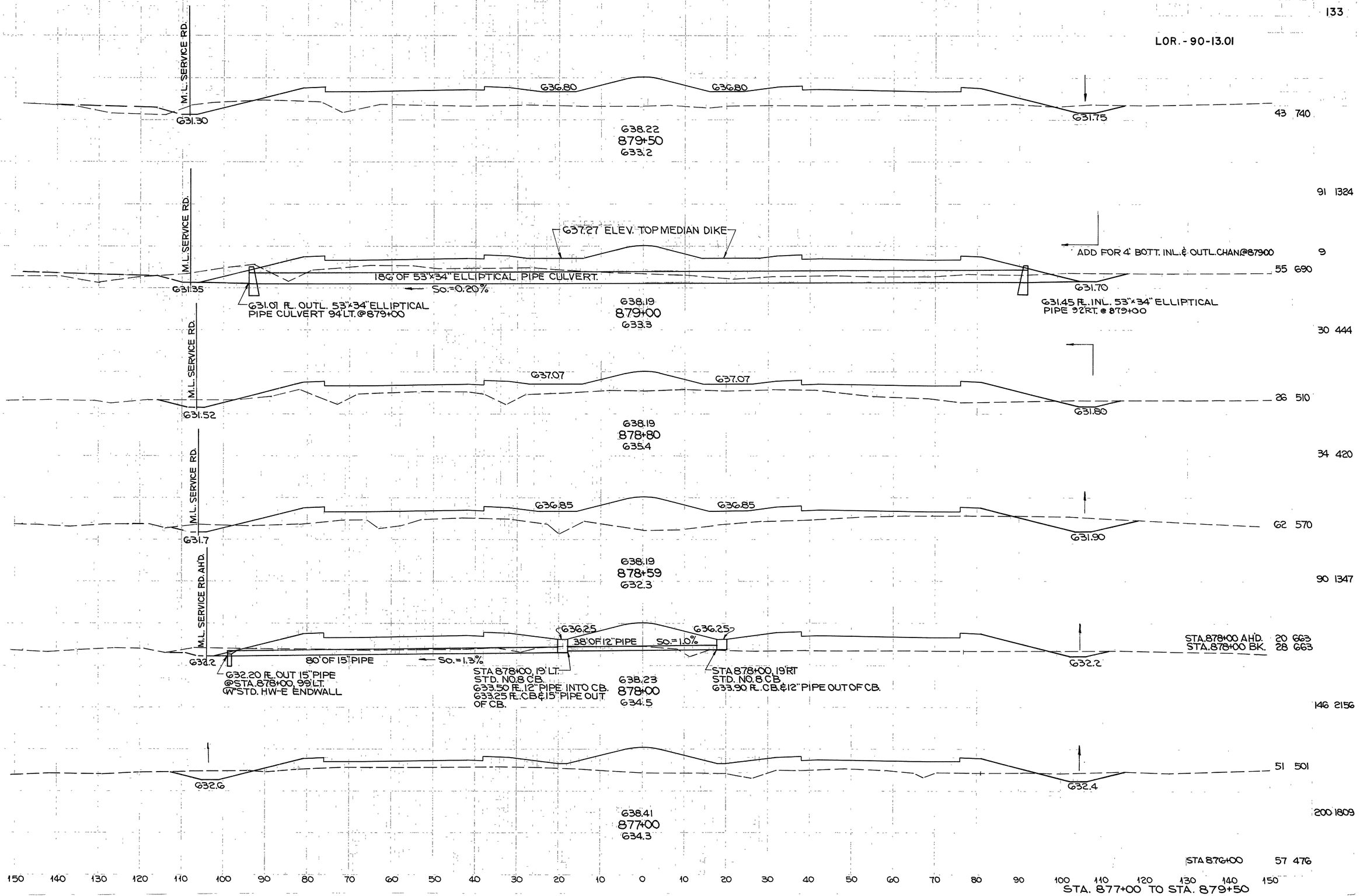
LOR.-90-13.01


633.6
633.4
40 652
639.37
873+00
634.8
126 2365
633.8
634.1
28 625
639.61
872+00
635.2
109 2252
634.0
634.3
31 591
639.85
871+00
635.3
106 2281
38' OF 12" PIPE
So.=1.0%
26 641
634.2
80' OF 15" PIPE
So.=1.3%
634.5
634.20 FL. OUTL. 15" PIPE
@STA. 870+00; 99' LT.
(W) STD. HW-E ENDWALL.
STA. 870+00; 19' LT.
STD. NO. 8 C.B.
635.50 FL. 12" PIPE INTO C.B.
635.25 FL. C.B. & 15" PIPE OUT OF C.B.
STA. 870+00; 19' RT.
STD. NO. 8 C.B.
635.90 FL. C.B. & 12" PIPE OUT OF C.B.
640.09
870+00
635.7
96 2469
634.6
634.7
26 692
640.33
869+00
635.8
96 2526
634.8
634.9
26 672
640.57
868+00
636.3
111 2374
STA 867+00
34 610
150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150
STA. 868+00 TO STA. 873+00

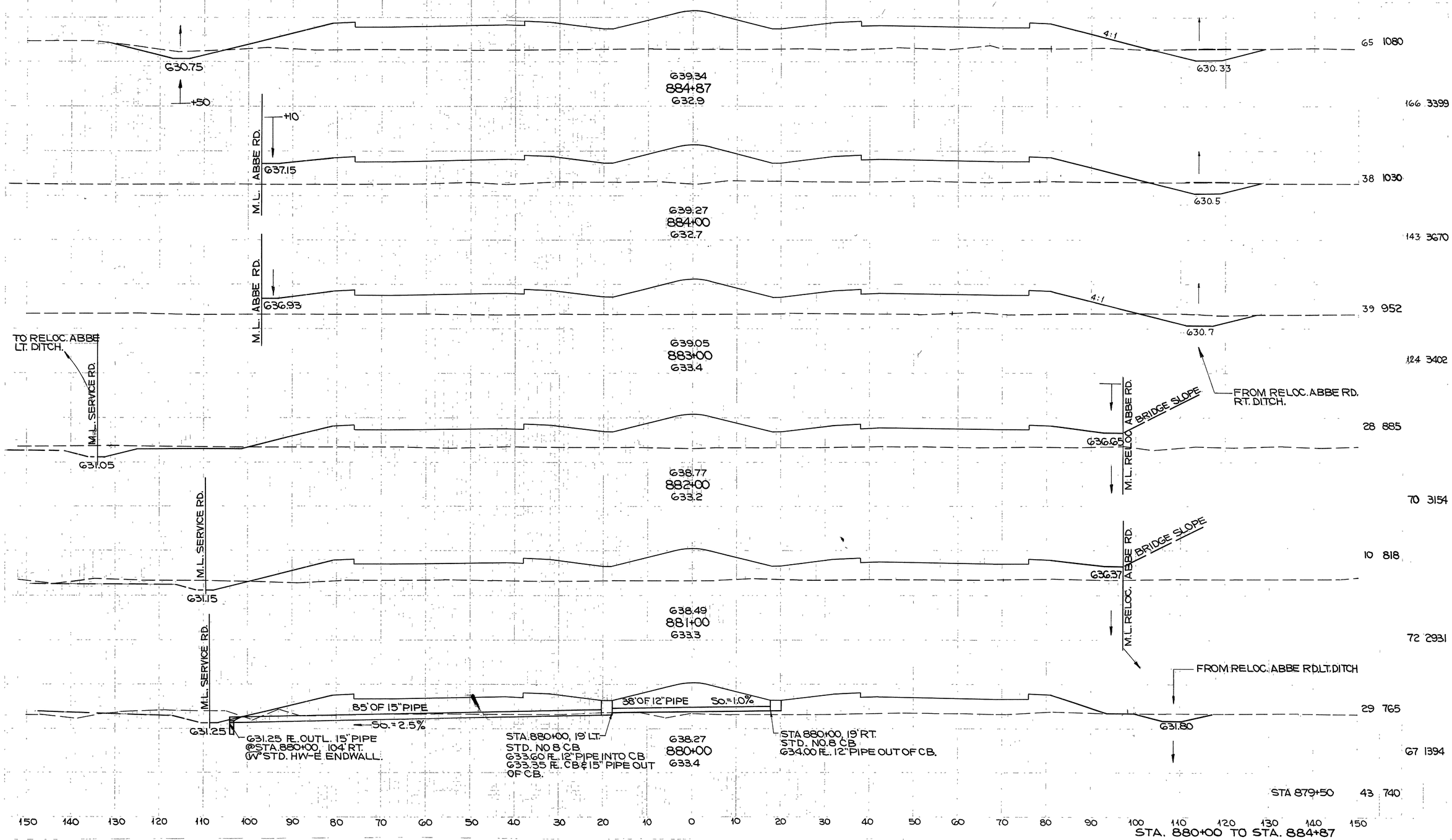
LOR.-90-13.01

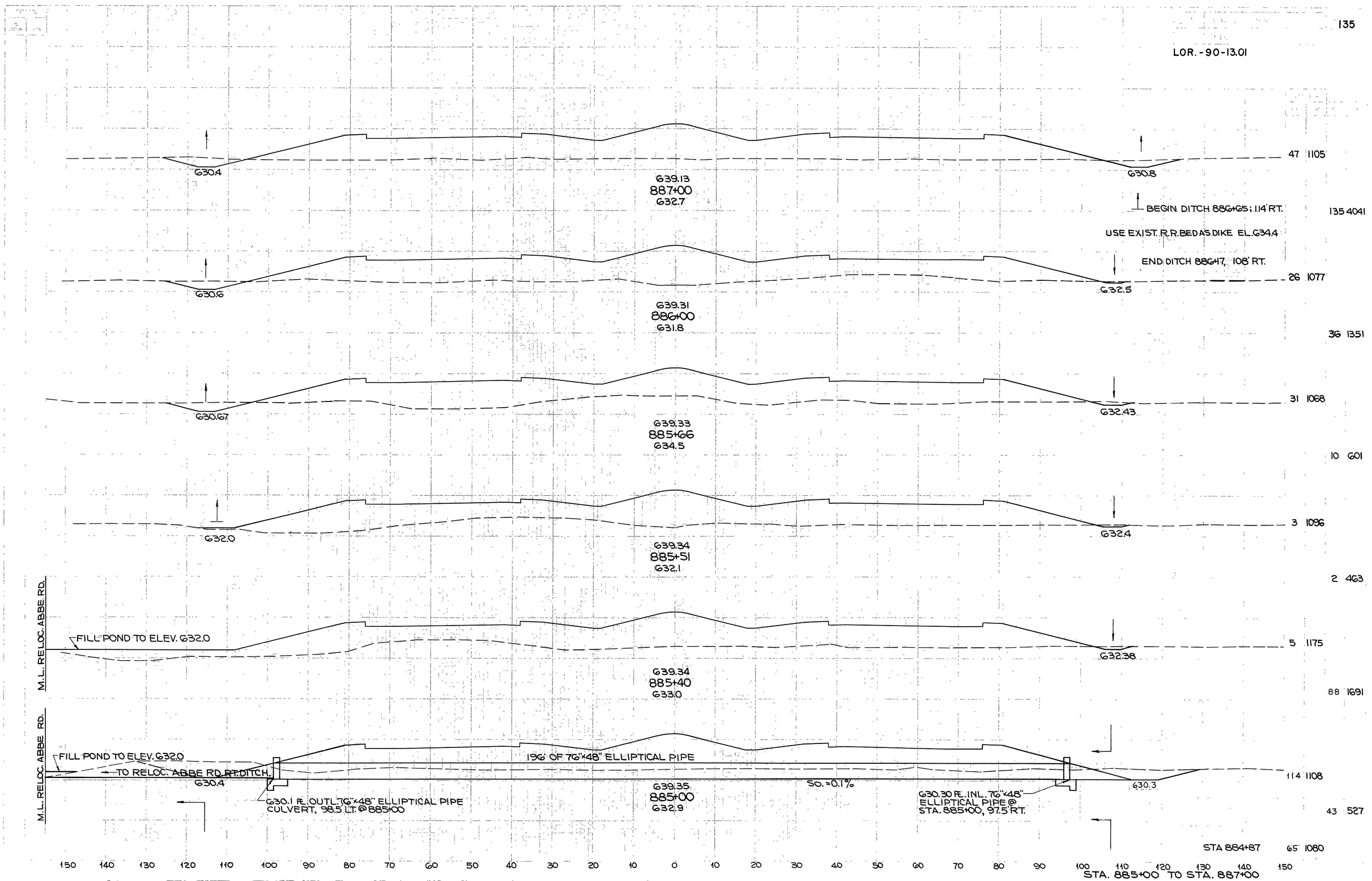

633.0
638.65
876+00
635.9
632.6
2' BOT. CHANNEL
OUTL. EXIST. ABBE RD. RT. DITCH
@876+00
M.L. EXIST. ABBE RD.
57 476
ADD FOR 2' BOTT. CHANNEL
11
151 1593
633.16
638.84
875+20
633.4
632.92
EDGE EXIST. ABBE RD.
45 599
32 476
633.2
638.89
875+00
630.7
633.0
EDGE EXIST. ABBE RD.
41 686
47 872
633.27
638.97
874+66
635.0
633.07
EDGE EXIST. ABBE RD.
34 699
286
633.3
639.00
874+54
635.1
633.1
M.L. TEE CUL DE-SAC.
55 590
EDGE EXIST. ABBE RD.
121 1115
633.4
639.13
874+00
635.5
633.2
66 525
196 2180
ADD FOR 4' BOTT. CHANNEL@873+73 RT
14
OUTL. EXIST. ABBE RD.
LT. DITCH AROUND CUL-DE-SAC
I.R.-90 RT. DITCH@873+73
STA 873+00
40 652
150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150
STA. 874+00 TO STA. 876+00

LOR.-90-13.01


M.L. SERVICE RD.
636.80
636.80
631.30
631.75
638.22
879+50
633.2
43 740
91 1324
637.27 ELEV. TOP MEDIAN DIKE
ADD FOR 4' BOTT. INL.& OUTL.CHAN.@879+00
9
55 690
186' OF 53"x34" ELLIPTICAL PIPE CULVERT.
So.=0.20%
631.35
631.70
631.01 FL. OUTL. 53"x34" ELLIPTICAL
PIPE CULVERT 94' LT. @879+00
638.19
879+00
633.3
631.45 FL. INL. 53"x34" ELLIPTICAL
PIPE 92' RT. @ 879+00
30 444
637.07
637.07
631.52
631.80
638.19
878+80
635.4
26 510
34 420
636.85
636.85
631.7
631.90
638.19
878+59
632.3
62 570
90 1347
M.L. SERVICE RD. AH'D.
636.25
636.25
38' OF 12" PIPE
So.=1.0%
80' OF 15" PIPE
So.=1.3%
632.2
632.2
STA.878+00 AH'D. 20 663
STA.878+00 BK. 28 663
632.20 FL. OUT 15" PIPE
@STA.878+00, 99' LT.
W/STD. HW-E ENDWALL
STA 878+00, 19' LT.
STD. NO.8 C.B.
633.50 FL. 12" PIPE INTO C.B.
633.25 FL. C.B.& 15" PIPE OUT
OF C.B.
638.23
878+00
634.5
STA 878+00, 19' RT
STD. NO.8 C.B.
633.90 FL. C.B.& 12" PIPE OUT OF C.B.
146 2156
632.6
632.4
51 501
638.41
877+00
634.3
200 1809
STA 876+00 57 476
150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150
STA. 877+00 TO STA. 879+50

LOR.-90-13.01

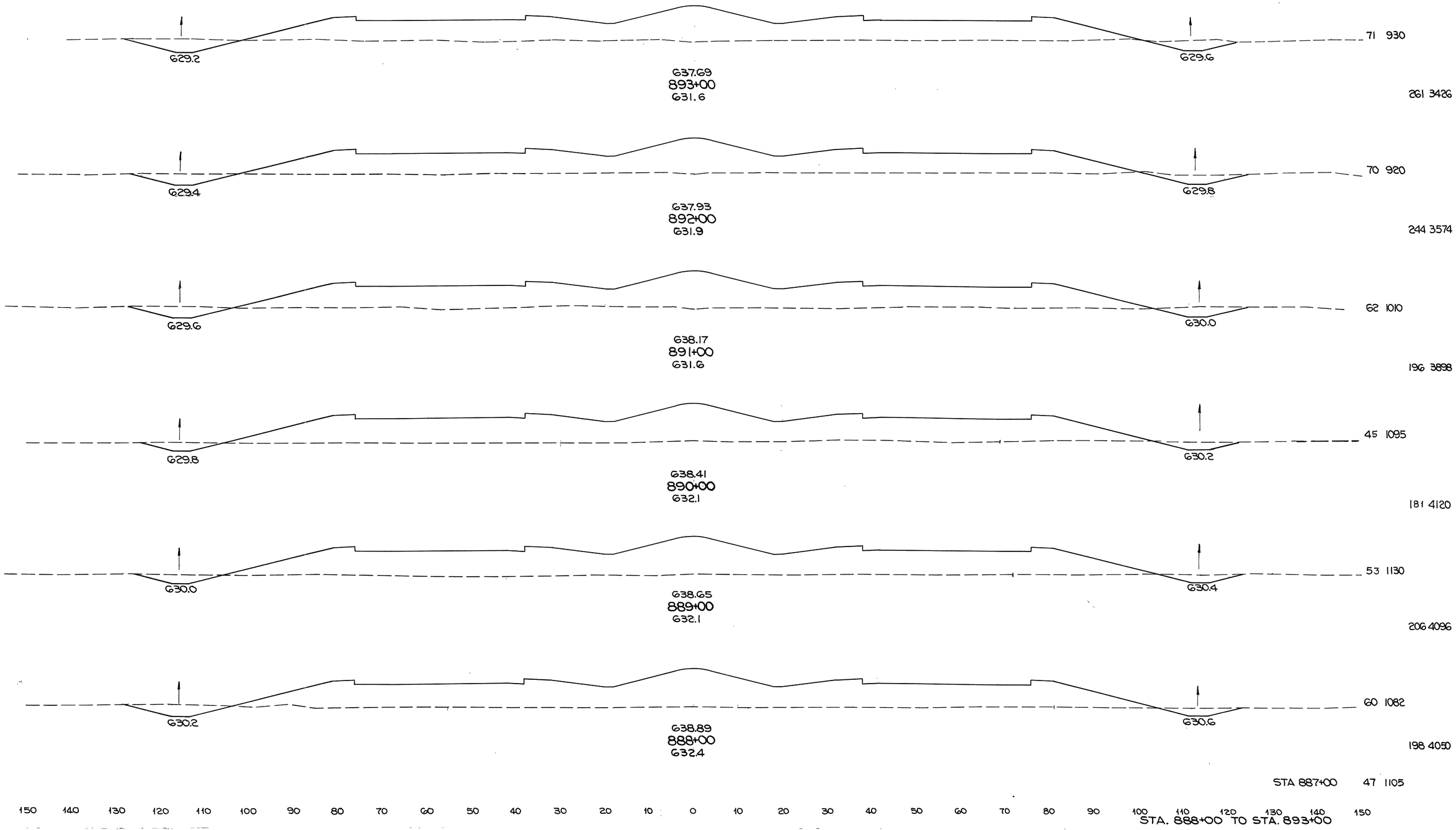

630.75
+50
639.34
884+87
632.9
4:1
630.33
65 1080
166 3399
+10
M.L. ABBE RD.
637.15
639.27
884+00
632.7
630.5
38 1030
143 3670
M.L. ABBE RD.
636.93
639.05
883+00
633.4
4:1
630.7
39 952
124 3402
TO RELOC. ABBE LT. DITCH.
M.L. SERVICE RD.
631.05
638.77
882+00
633.2
M.L. RELOC. ABBE RD.
BRIDGE SLOPE
636.65
FROM RELOC. ABBE RD. RT. DITCH.
28 885
70 3154
M.L. SERVICE RD.
631.15
638.49
881+00
633.3
M.L. RELOC. ABBE RD.
BRIDGE SLOPE
636.37
10 818
72 2931
M.L. SERVICE RD.
631.25
85' OF 15" PIPE
So.=2.5%
38' OF 12" PIPE
So.=1.0%
631.25 FL. OUT L. 15" PIPE @STA. 880+00, 104' RT. W/ STD. HW-E ENDWALL.
STA. 880+00, 19' LT. STD. NO 8 C.B. 633.60 FL. 12" PIPE INTO C.B. 633.35 FL. C.B. & 15" PIPE OUT OF C.B.
638.27
880+00
633.4
STA. 880+00, 19' RT. STD. NO. 8 C.B. 634.00 FL. 12" PIPE OUT OF C.B.
FROM RELOC. ABBE RD. LT. DITCH
631.80
29 765
67 1394
STA 879+50
43 740
150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150
STA. 880+00 TO STA. 884+87


135
LOR.-90-13.01
630.4
639.13
887+00
632.7
630.8
47 1105
BEGIN DITCH 886+65; 114' RT.
135 4041
USE EXIST. R.R. BED AS DIKE EL. 634.4
END DITCH 886+17, 108' RT.
630.6
639.31
886+00
631.8
632.5
26 1077
36 1351
630.67
639.33
885+66
634.5
632.43
31 1068
10 601
632.0
639.34
885+51
632.1
632.4
3 1096
2 463
M.L. RELOC. ABBE RD.
FILL POND TO ELEV. 632.0
639.34
885+40
633.0
632.38
5 1175
88 1691
M.L. RELOC. ABBE RD.
FILL POND TO ELEV. 632.0
TO RELOC. ABBE RD. RT. DITCH
630.4
196' OF 76"×48" ELLIPTICAL PIPE
630.1 FL. OUTL. 76"×48" ELLIPTICAL PIPE CULVERT, 98.5' LT. @ 885+00
639.35
885+00
632.9
SO. = 0.1%
630.30 FL. INL. 76"×48" ELLIPTICAL PIPE @ STA. 885+00, 97.5' RT.
630.3
114 1108
43 527
STA 884+87
65 1080
150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150
STA. 885+00 TO STA. 887+00

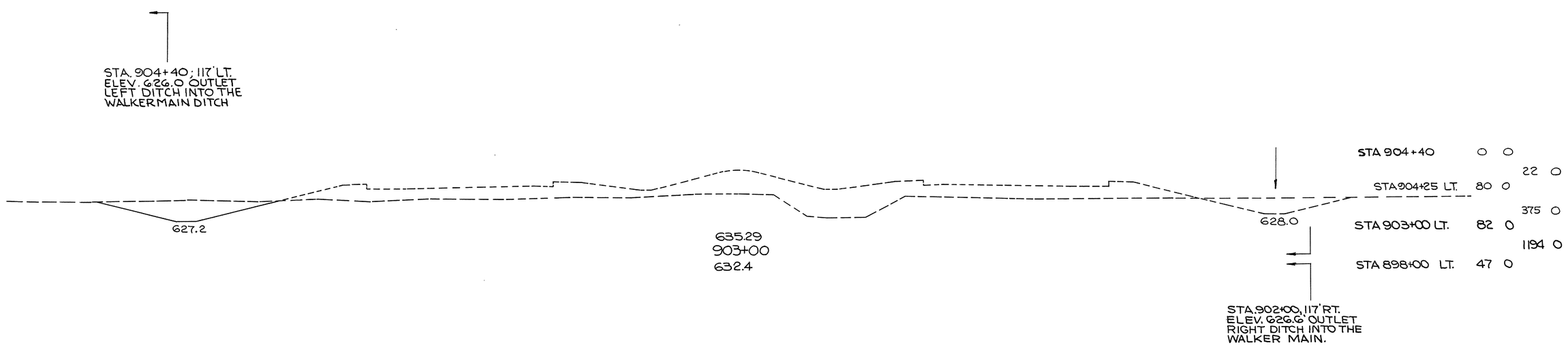
NOTE: LOR. 90-13.01 DITCHES
DITCHES SHALL BE CONSTRUCTED, AS SHOWN ON THE X-SECTIONS, FROM STA. 893+00 TO STA. 902+00 ON THE RIGHT AND AND FROM STA. 893+00 TO STA. 904+40 ON THE LEFT. IN THE EVENT THESE DITCHES AHEAD HAVE BEEN CONSTRUCTED IN CONNECTION WITH PROJECT LOR.-90-17.21 THIS WORK SHALL BE NON-PREFORMED.

STA 893+00
END PROJECT LOR.-90-13.01
BEGIN PROJECT LOR.-90-17.21
END PAVEMENT LOR.-90-13.01

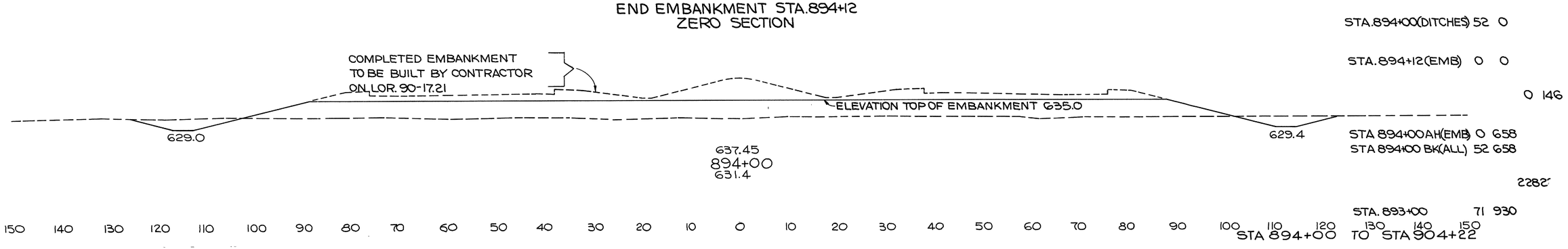
LOR.-90-13.01



END WORK STA 904+40



END EMBANKMENT STA. 894+12
ZERO SECTION



SUPERELEVATION TABLES

W.B.L. STA.701+40 TO STA.735+39.25 E.B.L.

℄ PAV'T. ELEV.	LEFT EDGE ELEV.	DEDUCT FR. RT. EDGE	RIGHT EDGE ELEV.	STATION	LEFT EDGE ELEV.	ADD TO LT. EDGE	RIGHT EDGE ELEV.	℄ PAV'T. ELEV.
692.11	691.92	0	691.92	701+40	691.92	0	691.92	692.11
691.96	691.77	-0.02	691.79	+50	691.79	+0.02	691.81	691.98
691.99	691.40	-0.08	691.48	TS +33.90	691.48	+0.08	691.56	691.67
691.57	691.38	-0.09	691.47	+75	691.47	+0.09	691.56	691.66
691.19	691.00	-0.15	691.15	702+00	691.15	+0.15	691.30	691.34
690.94	690.75	-0.19	690.94	+15	690.94	+0.19	691.13	691.13
690.76	690.57	-0.24	690.81	+25	690.81	+0.24	691.05	691.00
690.29	690.10	-0.36	690.46	+50	690.46	+0.36	690.82	690.65
690.23	690.05	-0.37	690.42	+52.5	690.42	+0.37	690.79	690.61
	689.62	-0.49	690.11	+75	690.11	+0.49	690.60	
	689.13	-0.61	689.74	703+00	689.74	+0.61	690.35	
	688.63	-0.74	689.37	+25	689.37	+0.74	690.11	
	688.13	-0.86	688.99	+50	688.99	+0.86	689.85	
	687.62	-0.99	688.61	+75	688.61	+0.99	689.60	
	687.10	-1.11	688.21	704+00	688.21	+1.11	689.32	
	686.57	-1.24	687.81	+25	687.81	+1.24	689.05	
	686.03	-1.36	687.39	+50	687.39	+1.36	688.75	
	685.51	-1.48	686.99	+73.90	686.99	+1.48	688.47	
	685.48	-1.49	686.97	+75	686.97	+1.49	688.46	
	685.25	-1.54	686.79	+85.50	686.79	+1.54	688.33	
	685.00	↑	686.54	705+00	686.54	↑	688.08	
	684.57		686.11	+25	686.11		687.65	
	684.12		685.66	+50	685.66		687.20	
	683.67		685.21	+75	685.21		686.75	
	683.21		684.75	706+00	684.75		686.29	
	682.73		684.27	+25	684.27		685.81	
	682.25		683.79	+50	683.79		685.33	
	681.77		683.31	+75	683.31		684.85	
	681.27		682.81	707+00	682.81		684.35	
	680.77		682.31	+25	682.31		683.85	
	680.27		681.81	+50	681.81		683.35	
	679.77		681.31	+75	681.31		682.85	
	679.27		680.81	708+00	680.81		682.35	
	678.77		680.31	+25	680.31		681.85	
	678.27		679.81	+50	679.81		681.35	
	677.77		679.31	+75	679.31		680.85	
	677.27		678.81	709+00	678.81		680.35	
	676.77		678.31	+25	678.31		679.85	
	676.27		677.81	+50	677.81		679.35	
	675.77		677.31	+75	677.31		678.85	
	675.27		676.81	710+00	676.81		678.35	
	674.77		676.31	+25	676.31		677.85	
	674.27		675.81	+50	675.81		677.35	
	673.77		675.31	+75	675.31		676.85	
	673.27		674.81	711+00	674.81		676.35	
	672.77		674.31	+25	674.31		675.85	
	672.27		673.81	+50	673.81		675.35	
	671.77		673.31	+75	673.31		674.85	
	671.27		672.81	712+00	672.81		674.35	
	670.77		672.31	+25	672.31		673.85	
	670.27		671.81	+50	671.81		673.35	
	669.77		671.31	+75	671.31		672.85	
	669.27		670.81	713+00	670.81		672.35	
	668.77		670.31	+25	670.31		671.85	
	668.27		669.81	+50	669.81		671.35	
	667.77		669.31	+75	669.31		670.85	
	667.27		668.81	714+00	668.81		670.35	
	666.77		668.31	+25	668.31		669.85	
	666.27		667.81	+50	667.81		669.35	
	665.77		667.31	+75	667.31		668.85	
	665.27		666.81	715+00	666.81		668.35	
	664.77		666.31	+25	666.31		667.85	
	664.27		665.81	+50	665.81		667.35	
	663.77		665.31	+75	665.31		666.85	
	663.27		664.81	716+00	664.81		666.35	
	662.77		664.31	+25	664.31		665.85	
	662.27		663.81	+50	663.81		665.35	
	661.77		663.31	+75	663.31		664.85	
	661.27		662.81	717+00	662.81		664.35	
	660.77		662.31	+25	662.31		663.85	
	660.27		661.81	+50	661.81		663.35	
	659.77	-1.54	661.31	+75	661.31	+1.54	662.85	

W.B.L. STA.701+40 TO STA.735+39.25 (CON'T.) E.B.L.

℄ PAV'T. ELEV.	LEFT EDGE ELEV.	DEDUCT FR.RT. EDGE	RIGHT EDGE ELEV.	STATION	LEFT EDGE ELEV.	ADD TO LT. EDGE	RIGHT EDGE ELEV.	℄ PAV'T. ELEV.
	659.27	-1.54	660.81	718+00	660.81	+1.54	662.35	
	658.77	↑	660.31	+25	660.31	↑	661.85	
	658.27		659.81	+50	659.81		661.35	
	657.77		659.31	+75	659.31		660.85	
	657.27		658.81	719+00	658.81		660.35	
	656.77		658.31	+25	658.31		659.85	
	656.27		657.81	+50	657.81		659.35	
	655.77		657.31	+75	657.31		658.85	
	655.27		656.81	720+00	656.81		658.35	
	654.77		656.31	+25	656.31		657.85	
	654.27		655.81	+50	655.81		657.35	
	653.77		655.31	+75	655.31		656.85	
	653.27		654.81	721+00	654.81		656.35	
	652.77		654.31	+25	654.31		655.85	
	652.27		653.81	+50	653.81		655.35	
	651.77		653.31	+75	653.31		654.85	
	651.27		652.81	722+00	652.81		654.35	
	650.77		652.31	+25	652.31		653.85	
	650.27		651.81	+50	651.81		653.35	
	649.77		651.31	+75	651.31		652.85	
	649.27		650.81	723+00	650.81		652.35	
	648.77		650.31	+25	650.31		651.85	
	648.27		649.81	+50	649.81		651.35	
	647.77		649.31	+75	649.31		650.85	
	647.27		648.81	724+00	648.81		650.35	
	646.77		648.31	+25	648.31		649.85	
	646.27		647.81	+50	647.81		649.35	
	645.77		647.31	+75	647.31		648.85	
	645.27		646.81	725+00	646.81		648.35	
	644.79		646.33	+25	646.33		647.87	
	644.33		645.87	+50	645.87		647.41	
	643.91		645.45	+75	645.45		646.99	
	643.51		645.05	726+00	645.05		646.59	
	643.15		644.69	+25	644.69		646.23	
	642.82		644.36	+50	644.36		645.90	
	642.52		644.06	+75	644.06		645.60	
	642.24		643.78	727+00	643.78		645.32	
	642.00		643.54	+25	643.54		645.08	
	641.79		643.33	+50	643.33		644.87	
	641.61		643.15	+75	643.15		644.69	
	641.46		643.00	728+00	643.00		644.54	
	641.34		642.88	+25	642.88		644.42	
	641.25		642.79	+50	642.79		644.33	
	641.19		642.73	+75	642.73		644.27	
	641.16		642.70	729+00	642.70		644.24	
	641.17		642.71	+25	642.71		644.25	
	641.20		642.74	+50	642.74		644.28	
	641.26		642.80	+75	642.80		644.34	
	641.35		642.89	730+00	642.89		644.43	
	641.48		643.02	+25	643.02		644.56	
	641.63		643.17	+50	643.17		644.71	
	641.82		643.36	+75	643.36		644.90	
	642.03		643.57	731+00	643.57		645.11	
	642.26		643.80	+25	643.80		645.34	
	642.49		644.03	+50	644.03		645.57	
	642.62		644.16	+64.25	644.16		645.70	
	642.72	↓	644.26	+75	644.26	↓	645.80	
	642.89	-1.54	644.43	+93.15	644.43	+1.54	645.97	
	642.98	-1.51	644.49	732+00	644.49	+1.51	646.00	
	643.34	-1.38	644.72	+25	644.72	+1.38	646.10	
	643.69	-1.26	644.95	+50	644.95	+1.26	646.21	
	644.05	-1.13	645.18	+75	645.18	+1.13	646.31	
	644.40	-1.01	645.41	733+00	645.41	+1.01	646.42	
	644.76	-0.88	645.64	+25	645.64	+0.88	646.52	
	645.11	-0.76	645.87	+50	645.87	+0.76	646.63	
	645.47	-0.63	646.10	+75	646.10	+0.63	646.73	
	645.82	-0.51	646.33	734+00	646.33	+0.51	646.84	
	646.18	-0.38	646.56	+25	646.56	+0.38	646.94	
646.39	646.21	-0.37	646.58	+26.75	646.58	+0.37	646.95	646.77
646.72	646.53	-0.26	646.79	+50	646.79	+0.26	647.05	646.98
646.92	646.73	-0.19	646.92	+64.25	646.92	+0.19	647.11	647.11
647.05	646.86	-0.16	647.02	+75	647.02	+0.16	647.18	647.21

W.B.L. STA.701+40 TO STA.735+39.25 (CON'T.) E.B.L.

℄ PAV'T. ELEV.	LEFT EDGE ELEV.	DEDUCT FR.RT. EDGE	RIGHT EDGE ELEV.	STATION	LEFT EDGE ELEV.	ADD TO LT. EDGE	RIGHT EDGE ELEV.	℄ PAV'T. ELEV.
647.34	647.15	-0.10	647.25	735+00	647.25	+0.10	647.35	647.44
647.64	647.45	-0.03	647.48	+25	647.48	+0.03	647.51	647.67
647.80	647.61	-0.00	647.61	+39.25	647.61	+0.00	647.61	647.80

W.B.L. STA.740+62.42 TO STA.760+60.78 E.B.L.

℄ PAV'T. ELEV.	LEFT EDGE ELEV.	ADD TO RT. EDGE	RIGHT EDGE ELEV.	STATION	LEFT EDGE ELEV.	DEDUCT FR. LT. EDGE	RIGHT EDGE ELEV.	℄ PAV'T.
652.61	652.42	+0.00	652.42	740+62.42	652.42	-0.00	652.42	652.61
652.73	652.57	+0.03	652.54	+75	652.54	-0.03	652.51	652.70
652.96	652.86	+0.09	652.77	741+00	652.77	-0.09	652.68	652.87
653.19	653.16	+0.16	653.00	+25	653.00	-0.16	652.84	653.03
653.30	653.30	+0.19	653.11	+37.42	653.11	-0.19	652.92	653.11
653.42	653.48	+0.25	653.23	+50	653.23	-0.25	652.98	653.17
653.65	653.83	+0.37	653.46	+74.92	653.46	-0.37	653.09	653.27
	653.84	+0.38	653.46	+75	653.46	-0.38	653.08	
	654.19	+0.50	653.69	742+00	653.69	-0.50	653.19	
	654.55	+0.63	653.92	+25	653.92	-0.63	653.29	
	654.90	+0.75	654.15	+50	654.15	-0.75	653.40	
	655.26	+0.88	654.38	+75	654.38	-0.88	653.50	
	655.61	+1.00	654.61	743+00	654.61	-1.00	653.61	
	655.97	+1.13	654.84	+25	654.84	-1.13	653.71	
	656.32	+1.25	655.07	+50	655.07	-1.25	653.82	
	656.68	+1.38	655.30	+75	655.30	-1.38	653.92	
	657.03	+1.50	655.53	744+00	655.53	-1.50	654.03	
	657.39	+1.63	655.76	+25	655.76	-1.63	654.13	
	657.74	+1.75	655.99	+50	655.99	-1.75	654.24	
	658.10	+1.88	656.22	+75	656.22	-1.88	654.34	
	658.45	+2.00	656.45	+99.92	656.45	-2.00	654.45	
	658.45	↑	656.45	745+00	656.45	↑	654.45	
	658.68		656.68	+25	656.68		654.68	
	658.79		656.79	+37.42	656.79		654.79	
	658.91		656.91	+50	656.91		654.91	
	659.14		657.14	+75	657.14		655.14	
	659.37		657.37	746+00	657.37		655.37	
	659.60		657.60	+25	657.60		655.60	
	659.83		657.83	+50	657.83		655.83	
	660.06		658.06	+75	658.06		656.06	
	660.29		658.24	747+00	658.29		656.29	
	660.52		658.52	+25	658.52		656.52	
	660.75		658.75	+50	658.75		656.75	
	660.98		658.98	+75	658.98		656.98	
	661.21		659.21	748+00	659.21		657.21	
	661.44		659.44	+25	659.44		657.44	
	661.61		659.61	+50	659.67		657.67	
	661.90		659.90	+75	659.90		657.90	
	662.13		660.13	749+00	660.13		658.13	
	662.36		660.36	+25	660.36		658.36	
	662.59		660.59	+50	660.59		658.59	
	662.82		660.82	+75	660.82		658.82	
	663.05		661.05	750+00	661.05		659.05	
	663.28	↓	661.28	+25	661.28	↓	659.28	
	663.51	+2.00	661.51	+50	661.51	-2.00	659.51	

SUPERELEVATION TABLES

W.B.L STA. 740+62.42 TO STA. 760+60.78 (CON'T.) E.B.L

℄ PAV'T. ELEV.	LEFT EDGE ELEV.	ADD TO RT. EDGE	RIGHT EDGE ELEV.	STATION	LEFT EDGE ELEV.	DEDUCT FR. LT EDGE	RIGHT EDGE ELEV.	℄ PAV'T. ELEV.
	663.74	+2.00	671.74	750+75	671.74	-2.00	659.74	
	663.97	↑	671.97	751+00	671.97	↓	659.97	
	664.20		672.20	+25	672.20		660.20	
	664.43		672.43	+50	672.43		660.43	
	664.66		672.66	+75	672.66		660.66	
	664.89		672.89	752+00	672.89		660.89	
	665.12		673.12	+25	673.12		661.12	
	661.35		673.35	+50	673.35		661.35	
	665.58		673.58	+75	673.58		661.58	
	665.81		673.81	753+00	673.81		661.81	
	666.04		674.04	+25	674.04		662.04	
	666.27		674.27	+50	674.27		662.27	
	666.50		674.50	+75	674.50		662.50	
	666.73		674.73	754+00	674.73		662.73	
	666.96		674.96	+25	674.96		662.96	
	667.19		675.19	+50	675.19		663.19	
	667.42		675.42	+75	675.42		663.42	
	667.65		675.65	755+00	675.65		663.65	
	667.88		675.88	+25	675.88		663.88	
	668.11		676.11	+50	676.11		664.11	
	668.34		676.34	+75	676.34		664.34	
	668.44		676.44	+85.18	676.44		664.44	
	668.57	↓	676.57	756+00	676.57	↓	664.57	
	668.78	+2.00	676.78	+23.38	676.78	-2.00	664.78	
	668.79	+1.99	676.80	+25	676.80	-1.99	664.81	
	668.90	+1.87	677.03	+50	677.03	-1.87	665.16	
	669.00	+1.74	677.26	+75	677.26	-1.74	665.52	
	669.11	+1.62	677.49	757+00	677.49	-1.62	665.87	
	669.21	+1.49	677.72	+25	677.72	-1.49	666.23	
	669.32	+1.37	677.95	+50	677.95	-1.37	666.58	
	669.42	+1.24	678.18	+75	678.18	-1.24	666.94	
	669.53	+1.12	678.41	758+00	678.41	-1.12	667.29	
	669.63	+0.99	678.64	+25	678.64	-0.99	667.65	
	669.74	+0.87	678.87	+50	678.87	-0.87	668.00	
	669.84	+0.74	679.10	+75	679.10	-0.74	668.36	
	669.95	+0.62	679.33	759+00	679.33	-0.62	668.71	
	670.05	+0.49	679.56	+25	679.56	-0.49	669.07	
	670.14	+0.37	679.77	+48.78	679.77	-0.37	669.40	
669.98	670.16	+0.37	679.79	+50	679.79	-0.37	669.42	669.60
670.21	670.26	+0.24	680.02	+75	680.02	-0.24	669.78	669.97
670.31	670.31	+0.19	680.12	+85.18	680.12	-0.19	669.93	670.12
670.44	670.40	+0.15	680.25	760+00	680.25	-0.15	670.10	670.29
670.67	670.57	+0.09	680.48	+25	680.48	-0.09	670.39	670.58
670.90	670.74	+0.03	680.71	+50	680.71	-0.03	670.68	670.87
671.00	670.81	+0.00	680.81	+60.78	680.81	-0.00	670.81	671.00

W.B.L. STA. 780+34.99 TO STA. 810+78.82 E.B.L.

℄ PAV'T. ELEV.	LEFT EDGE ELEV.	DEDUCT FR RT. EDGE	RIGHT EDGE ELEV.	STATION	LEFT EDGE ELEV.	ADD TO LT. EDGE	RIGHT EDGE ELEV.	℄ PAV'T. ELEV.
687.97	687.78	-0.00	687.78	780+34.99	687.78	+0.00	687.78	687.97
687.96	687.77	-0.04	687.81	+50	687.81	+0.04	687.85	688.00
687.94	687.75	-0.10	687.85	+75	687.85	+0.10	687.95	688.04
687.90	687.71	-0.16	687.87	781+00	687.87	+0.16	688.03	688.06
687.88	687.69	-0.19	687.88	+0.99	687.88	+0.19	688.07	688.07
687.82	687.63	-0.26	687.89	+25	687.89	+0.26	688.15	688.08
687.69	687.51	-0.37	687.88	+47.49	687.88	+0.37	688.25	688.07
	687.49	-0.39	687.88	+50	687.88	+0.39	688.27	
	687.36	-0.51	687.87	+75	687.87	+0.51	688.38	
	687.20	-0.64	687.80	782+00	687.84	+0.64	688.48	
	687.04	-0.76	687.80	+25	687.80	+0.76	688.56	
	686.85	-0.89	687.74	+50	687.74	+0.89	688.63	
	686.67	-1.01	687.68	+75	687.68	+1.01	688.69	
	686.45	-1.14	687.59	783+00	687.59	+1.14	688.73	
	686.24	-1.26	687.50	+25	687.50	+1.26	688.76	
	686.00	-1.39	687.39	+50	687.39	+1.39	688.78	
	685.76	-1.51	687.27	+75	687.27	+1.51	688.78	
	685.50	-1.64	687.14	784+00	687.14	+1.64	688.78	
	685.23	-1.76	686.99	+25	686.99	+1.76	688.75	
	684.94	-1.89	686.83	+50	686.83	+1.89	688.72	
	684.68	-2.00	686.68	+72.49	686.68	+2.00	688.68	
	684.65	↑	686.65	+75	686.65	↑	688.65	
	684.47		686.47	785+00	686.47		688.47	
	684.39		686.39	+0.99	686.39		688.39	
	684.27		686.27	+25	686.27		688.27	
	684.05		686.05	+50	686.05		688.05	
	683.82		685.82	+75	685.82		687.82	
	683.58		685.58	786+00	685.58		687.58	
	683.33		685.33	+25	685.33		687.33	
	683.06		685.06	+50	685.06		687.06	
	682.78		684.78	+75	684.78		686.78	
	682.49		684.49	787+00	684.49		686.49	
	682.19		684.19	+25	684.19		686.19	
	681.89		683.89	+50	683.89		685.89	
	681.59		683.59	+75	683.59		685.59	
	681.29		683.29	788+00	683.29		685.29	
	680.99		682.99	+25	682.99		684.99	
	680.69		682.69	+50	682.69		684.69	
	680.39		682.39	+75	682.39		684.39	
	680.09		682.09	789+00	682.09		684.09	
	679.79		681.79	+25	681.79		683.79	
	679.49		681.49	+50	681.49		683.49	
	679.19		681.19	+75	681.19		683.19	
	678.89		680.89	790+00	680.89		682.89	
	678.59		680.59	+25	680.59		682.59	
	678.29		680.29	+50	680.29		682.29	
	677.99		679.99	+75	679.99		681.99	
	677.69		679.69	791+00	679.69		681.69	
	677.39		679.39	+25	679.39		681.39	
	677.09		679.09	+50	679.09		681.09	
	676.79		678.79	+75	678.79		680.79	
	676.49		678.49	792+00	678.49		680.49	
	676.19		678.19	+25	678.19		680.19	
	675.89		677.89	+50	677.89		679.89	
	675.59		677.59	+75	677.59		679.59	
	675.29		677.29	793+00	677.29		679.29	
	674.99		676.99	+25	676.99		678.99	
	674.69		676.69	+50	676.69		678.69	
	674.39		676.39	+75	676.39		678.39	
	674.09		676.09	794+00	676.09		678.09	
	673.79		675.79	+25	675.79		677.79	
	673.49		675.49	+50	675.49		677.49	
	673.19		675.19	+75	675.19		677.19	
	672.89		674.89	795+00	674.89		676.89	
	672.59		674.59	+25	674.59		676.59	
	672.29		674.29	+50	674.29		676.29	
	671.99		673.99	+75	673.99		675.99	
	671.69		673.69	796+00	673.69		675.69	
	671.39		673.39	+25	673.39		675.39	
	671.09		673.09	+50	673.09		675.09	
	670.19	↓	672.79	+75	672.79	↓	674.79	
	670.49	-2.00	672.49	797+00	672.49	+2.00	674.49	

W.B.L. STA. 780+34.99 TO STA. 810+78.82 (CON'T.) E.B.L.

℄ PAV'T. ELEV.	LEFT EDGE ELEV.	DEDUCT FR. RT. EDGE	RIGHT EDGE ELEV.	STATION	LEFT EDGE ELEV.	ADD TO LT. EDGE	RIGHT EDGE ELEV.	℄ PAV'T. ELEV.
	670.19	-2.00	672.19	797+25	672.19	+2.00	674.19	
	669.89	↑	671.89	+50	671.89	↑	673.89	
	669.59		671.59	+75	671.59		673.59	
	669.29		671.29	798+00	671.29		673.29	
	668.99		670.99	+25	670.99		672.99	
	668.69		670.69	+50	670.69		672.69	
	668.39		670.39	+75	670.39		672.39	
	668.09		670.09	799+00	670.09		672.09	
	667.79		669.79	+25	669.79		671.79	
	667.49		669.49	+50	669.49		671.49	
	667.19		669.19	+75	669.19		671.19	
	666.89		668.89	800+00	668.89		670.89	
	666.59		668.59	+25	668.59		670.59	
	666.29		668.29	+50	668.29		670.29	
	665.99		667.99	+75	667.99		669.99	
	665.69		667.69	801+00	667.69		669.69	
	665.39		667.39	+25	667.39		669.39	
	665.09		667.09	+50	667.09		669.09	
	664.79		666.79	+75	666.79		668.79	
	664.49		666.49	802+00	666.49		668.49	
	664.19		666.19	+25	666.19		668.19	
	663.89		665.89	+50	665.89		667.89	
	663.59		665.59	+75	665.59		667.59	
	663.29		665.29	803+00	665.29		667.29	
	662.99		664.99	+25	664.99		666.99	
	662.69		664.69	+50	664.69		666.69	
	662.39		664.39	+75	664.39		666.39	
	662.09		664.09	804+00	664.09		666.09	
	661.79		663.79	+25	663.79		665.79	
	661.49		663.49	+50	663.49		665.49	
	661.19		663.19	+75	663.19		665.19	
	660.89		662.89	805+00	662.89		664.89	
	660.59		662.59	+25	662.59		664.59	
	660.29		662.29	+50	662.29		664.29	
	659.99		661.99	+75	661.99		663.99	
	659.69		661.69	806+00	661.69		663.69	
	659.64		661.64	+0.82	661.64		663.64	
	659.39	↓	661.39	+25	661.39	↓	663.39	
	659.19	-2.00	661.19	+41.32	661.19	+2.00	663.19	
	659.13	-1.96	661.09	+50	661.09	+1.96	663.05	
	658.96	-1.83	660.79	+75	660.79	+1.83	662.62	
	658.78	-1.71	660.49	807+00	660.49	+1.71	662.20	
	658.61	-1.58	660.19	+25	660.19	+1.58	661.77	
	658.43	-1.46	659.89	+50	659.89	+1.46	661.35	
	658.26	-1.33	659.59	+75	659.59	+1.33	660.92	
	658.08	-1.21	659.29	808+00	659.29	+1.21	660.50	
	657.91	-1.08	658.99	+25	658.99	+1.08	660.07	
	657.73	-0.96	658.69	+50	658.69	+0.96	659.65	
	657.56	-0.83	658.39	+75	658.39	+0.83	659.22	
	657.38	-0.71	658.09	809+00	658.09	+0.71	658.80	
	657.21	-0.58	657.79	+25	657.79	+0.58	658.37	
	657.11	-0.51	657.62	+38	657.62	+0.51	658.13	
	657.03	-0.46	657.49	+50	657.49	+0.46	657.95	
657.10	656.92	-0.37	657.29	+66.32	657.29	+0.37	657.66	657.48
657.05	656.86	-0.33	657.19	+75	657.19	+0.33	657.52	657.38
656.89	656.76	-0.21	656.91	810+00	656.91	+0.21	657.12	657.10
656.86	656.67	-0.19	656.86	+0.82	656.86	+0.19	657.05	657.05
656.69	656.50	-0.13	656.63	+25	656.63	+0.13	656.76	656.82
656.49	656.36	-0.07	656.37	+50	656.37	+0.07	656.44	656.56
656.29	656.10	-0.01	656.11	+75	656.11	+0.01	656.12	656.30
656.26	656.07	-0.00	656.07	+78.82	656.07	+0.00	656.07	656.26

SUPERELEVATION TABLES

W.B.L. STA. 830+51.48 TO STA. 854+55.15 E.B.L.

℄ PAV'T. ELEV.	LEFT EDGE ELEV.	ADD TO RT. EDGE	RIGHT EDGE ELEV.	STATION	LEFT EDGE ELEV.	DEDUCT FR.LT. EDGE	RIGHT EDGE ELEV.	℄ PAV'T. ELEV.
649.76	649.57	0	649.57	830+51.48	649.57	0	649.57	649.76
649.70	649.57	+0.06	649.51	+75	649.51	-0.06	649.45	649.64
649.64	649.57	+0.12	649.45	831+00	649.45	-0.12	649.33	649.52
649.58	649.57	+0.18	649.39	+25	649.39	-0.18	649.21	649.40
649.58	649.58	+0.19	649.39	+26.48	649.39	-0.19	649.20	649.39
649.52	649.63	+0.30	649.33	+50	649.33	-0.30	649.03	649.22
649.49	649.67	+0.37	649.30	+63.98	649.30	-0.37	648.93	649.11
	649.70	+0.43	649.27	+75	649.27	-0.43	648.84	
	649.77	+0.56	649.21	832+00	649.21	-0.56	648.65	
	649.83	+0.67	649.16	+22.73	649.16	-0.67	648.49	
	649.83	+0.68	649.15	+25	649.15	-0.68	648.47	
	649.89	+0.80	649.09	+50	649.09	-0.80	648.29	
	649.96	+0.93	649.03	+75	649.03	-0.93	648.10	
	650.03	+1.06	648.97	833+00	648.97	-1.06	647.91	
	650.07	+1.15	648.92	+18.98	648.92	-1.15	647.77	
	650.06	↓	648.91	+25	648.91	↓	647.76	
	650.00		648.85	+50	648.85		647.70	
	649.94		648.79	+75	648.79		647.64	
	649.88		648.73	834+00	648.73		647.58	
	649.82		648.67	+25	648.67		647.52	
	649.76		648.61	+50	648.61		647.46	
	649.70		648.55	+75	648.55		647.40	
	649.64		648.49	835+00	648.49		647.34	
	649.58		648.43	+25	648.43		647.28	
	649.52		648.37	+50	648.37		647.22	
	649.46		648.31	+75	648.31		647.16	
	649.40		648.25	836+00	648.25		647.10	
	649.34		648.19	+25	648.19		647.04	
	649.28		648.13	+50	648.13		646.98	
	649.22		648.07	+75	648.07		646.92	
	649.16		648.01	837+00	648.01		646.86	
	649.10		647.95	+25	647.95		646.80	
	649.04		647.89	+50	647.89		646.74	
	648.98		647.83	+75	647.83		646.68	
	648.92		647.77	838+00	647.77		646.62	
	648.86		647.71	+25	647.71		646.56	
	648.80		647.65	+50	647.65		646.50	
	648.74		647.59	+75	647.59		646.44	
	648.68		647.53	839+00	647.53		646.38	
	648.62		647.47	+25	647.47		646.32	
	648.56		647.41	+50	647.41		646.26	
	648.50		647.35	+75	647.35		646.20	
	648.44		647.29	840+00	647.29		646.14	
	648.38		647.23	+25	647.23		646.08	
	648.32		647.17	+50	647.17		646.02	
	648.26		647.11	+75	647.11		645.96	
	648.20		647.05	841+00	647.05		645.90	
	648.14		646.99	+25	646.99		645.84	
	648.08		646.93	+50	646.93		645.78	
	648.02		646.87	+75	646.87		645.72	
	647.96		646.81	842+00	646.81		645.66	
	647.90		646.75	+25	646.75		645.60	
	647.84		646.69	+50	646.69		645.54	
	647.78		646.63	+75	646.63		645.48	
	647.72		646.57	843+00	646.57		645.42	
	647.66		646.51	+25	646.51		645.36	
	647.60		646.45	+50	646.45		645.30	
	647.54		646.39	+75	646.39		645.24	
	647.48		646.33	844+00	646.33		645.18	
	647.42		646.27	+25	646.27		645.12	
	647.36		646.21	+50	646.21		645.06	
	647.30		646.15	+75	646.15		645.00	
	647.24		646.09	845+00	646.09		644.94	
	647.18		646.03	+25	646.03		644.88	
	647.12		645.97	+50	645.97		644.82	
	647.06		645.91	+75	645.91		644.76	
	647.00		645.85	846+00	645.85		644.70	
	646.94		645.79	+25	645.79		644.64	
	646.88		645.73	+50	645.73		644.58	
	646.82		645.67	+75	645.67		644.52	
	646.76	↓	645.61	847+00	645.61	↓	644.46	
	646.70	+1.15	645.55	+25	645.55	-1.15	644.40	

W.B.L. STA. 830+51.48 TO STA. 854+55.15 (CON'T.) E.B.L.

℄ PAV'T. ELEV.	LEFT EDGE ELEV.	ADD TO RT. EDGE	RIGHT EDGE ELEV.	STATION	LEFT EDGE ELEV.	DEDUCT FR.LT. EDGE	RIGHT EDGE ELEV.	℄ PAV'T. ELEV.
	646.64	+1.15	645.49	847+50	645.49	-1.15	644.34	
	646.58	↓	645.43	+75	645.43	↓	644.28	
	646.52		645.37	848+00	645.37		644.22	
	646.46		645.31	+25	645.31		644.16	
	646.40		645.25	+50	645.25		644.10	
	646.34		645.19	+75	645.19		644.04	
	646.28		645.13	849+00	645.13		643.98	
	646.22		645.07	+25	645.07		643.92	
	646.16		645.01	+50	645.01		643.86	
	646.10		644.95	+75	644.95		643.80	
	646.04		644.89	850+00	644.89		643.74	
	645.98		644.83	+25	644.83		643.68	
	645.92		644.77	+50	644.77		643.62	
	645.86		644.71	+75	644.71		643.56	
	645.80		644.65	851+00	644.65		643.50	
	645.74		644.59	+25	644.59		643.44	
	645.68		644.53	+50	644.53		643.38	
	645.62	↓	644.47	+75	644.47	↓	643.32	
	645.59	+1.15	644.44	+87.65	644.44	-1.15	643.29	
	645.50	+1.08	644.41	852+00	644.41	-1.08	643.32	
	645.31	+0.96	644.35	+25	644.35	-0.96	643.39	
	645.13	+0.84	644.29	+50	644.29	-0.84	643.45	
	644.94	+0.71	644.23	+75	644.23	-0.71	643.52	
	644.88	+0.67	644.21	+83.50	644.21	-0.67	643.54	
	644.76	+0.59	644.17	853+00	644.17	-0.59	643.58	
	644.57	+0.46	644.11	+25	644.11	-0.46	643.65	
644.26	644.44	+0.37	644.07	+42.65	644.07	-0.37	643.70	643.88
644.24	644.39	+0.34	644.05	+50	644.05	-0.34	643.71	643.90
644.18	644.20	+0.21	643.99	+75	643.99	-0.21	643.78	643.97
644.17	644.17	+0.19	643.98	+80.15	643.98	-0.19	643.79	643.98
644.12	644.07	+0.14	643.93	854+00	643.93	-0.14	643.79	643.98
644.06	643.95	+0.08	643.87	+25	643.87	-0.08	643.79	643.99
644.00	643.82	+0.01	643.81	+50	643.81	-0.01	643.80	643.99
643.99	643.80	0	643.80	+55.15	643.80	0	643.80	643.99

W.B.L. STA. 915+57.86 TO STA. 932+93.69 E.B.L.

℄ PAV'T. ELEV.	LEFT EDGE ELEV.	ADD TO RT. EDGE	RIGHT EDGE ELEV.	STATION	LEFT EDGE ELEV.	DEDUCT FR.LT. EDGE	RIGHT EDGE ELEV.	℄ PAV'T. ELEV.
645.18	644.99	0	644.99	915+57.86	644.99	0	644.99	645.18
645.53	645.38	+0.04	645.34	+75	645.34	-0.04	645.30	645.49
646.04	645.96	+0.11	645.85	916+00	645.85	-0.11	645.74	645.94
646.55	646.53	+0.17	646.36	+25	646.36	-0.17	646.19	646.38
646.71	646.71	+0.19	646.52	+32.86	646.52	-0.19	646.33	646.52
647.06	647.14	+0.27	646.87	+50	646.87	-0.27	646.60	646.79
647.48	647.66	+0.37	647.29	+70.36	647.29	-0.37	646.92	647.10
	647.78	+0.40	647.38	+75	647.38	-0.40	646.98	
	648.19	+0.48	647.71	+91.11	647.71	-0.48	647.23	
	648.41	+0.52	647.89	917+00	647.89	-0.52	647.37	

W.B.L. STA. 915+57.86 TO STA. 932+93.69 (CON'T.) E.B.L.

℄ PAV'T. ELEV.	LEFT EDGE ELEV.	ADD TO RT. EDGE	RIGHT EDGE ELEV.	STATION	LEFT EDGE ELEV.	DEDUCT FR.LT. EDGE	RIGHT EDGE ELEV.	℄ PAV'T. ELEV.
	649.05	+0.65	648.40	917+25	648.40	-0.65	647.75	
	649.67	+0.77	648.90	+49.36	648.90	-0.77	648.13	
	649.68	↓	648.91	+50	648.91	↓	648.14	
	650.10		649.33	+70.36	649.33		648.56	
	650.19		649.42	+75	649.42		648.65	
	650.70		649.93	918+00	649.93		649.16	
	651.21		650.44	+25	650.44		649.67	
	651.72		650.95	+50	650.95		650.18	
	652.23		651.46	+75	651.46		650.69	
	652.74		651.97	919+00	651.97		651.20	
	653.24		652.47	+25	652.47		651.70	
	653.73		652.96	+50	652.96		652.19	
	654.21		653.44	+75	653.44		652.67	
	654.67		653.90	920+00	653.90		653.13	
	655.11		654.34	+25	654.34		653.57	
	655.55		654.78	+50	654.78		654.01	
	655.97		655.20	+75	655.20		654.43	
	656.37		655.60	921+00	655.60		654.83	
	656.76		655.99	+25	655.99		655.22	
	657.14		656.37	+50	656.37		655.60	
	657.50		656.73	+75	656.73		655.96	
	657.85		657.08	922+00	657.08		656.31	
	658.18		657.41	+25	657.41		656.64	
	658.51		657.74	+50	657.74		656.97	
	658.81		658.04	+75	658.04		657.27	
	659.10		658.33	923+00	658.33		657.56	
	659.38		658.61	+25	658.61		657.84	
	659.65		658.88	+50	658.88		658.11	
	659.90		659.13	+75	659.13		658.36	
	660.13		659.36	924+00	659.36		658.59	
	660.36		659.59	+25	659.59		658.82	
	660.57		659.80	+50	659.80		659.03	
	660.76		659.99	+75	659.99		659.22	
	660.94		660.17	925+00	660.17		659.40	
	661.11		660.34	+25	660.34		659.57	
	661.26		660.49	+50	660.49		659.72	
	661.40		660.63	+75	660.63		659.86	
	661.52		660.75	926+00	660.75		659.98	
	661.63		660.86	+25	660.86		660.09	
	661.73		660.96	+50	660.96		660.19	
	661.81		661.04	+75	661.04		660.27	
	661.88		661.11	927+00	661.11		660.34	
	661.93		661.16	+25	661.16		660.39	
	661.97		661.20	+50	661.20		660.43	
	662.00		661.23	+75	661.23		660.46	
	662.01		661.24	928+00	661.24		660.47	
	662.01		661.24	+25	661.24		660.47	
	661.99		661.22	+50	661.22		660.45	
	661.96		661.19	+75	661.19		660.42	
	661.92		661.15	929+00	661.15		660.38	
	661.86		661.09	+25	661.09		660.32	
	661.79		661.02	+50	661.02		660.25	
	661.70		660.93	+75	660.93		660.16	
	661.60		660.83	930+00	660.83		660.06	
	661.49		660.72	+25	660.72		659.95	
	661.36		660.59	+50	660.59		659.82	
	661.22		660.45	+75	660.45		659.68	
	661.06	↓	660.29	931+00	660.29	↓	659.52	
	661.05	+0.77	660.28	+02.19	660.28	-0.77	659.51	
	660.78	+0.66	660.12	+25	660.12	-0.66	659.46	
	660.47	+0.53	659.94	+50	659.94	-0.53	659.41	
	660.33	+0.48	659.85	+60.44	659.85	-0.48	659.37	
	660.15	+0.41	659.74	+75	659.74	-0.41	659.33	
659.88	660.06	+0.37	659.69	+81.19	659.69	-0.37	659.32	659.50
659.71	659.80	+0.28	659.52	932+00	659.52	-0.28	659.24	659.43
659.55	659.55	+0.19	659.36	+18.69	659.36	-0.19	659.17	659.36
659.49	659.47	+0.17	659.30	+25	659.30	-0.17	659.13	659.32
659.25	659.17	+0.11	659.06	+50	659.06	-0.11	658.95	659.14
658.99	658.85	+0.05	658.80	+75	658.80	-0.05	658.75	658.94
658.80	658.61	0	658.61	+93.69	658.61	0	658.61	658.80

GEOMETRIC LAYOUT PLAN & INDEX
I.R.90 & S.R 57 INTERCHANGE

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

LOR.-90-13.01

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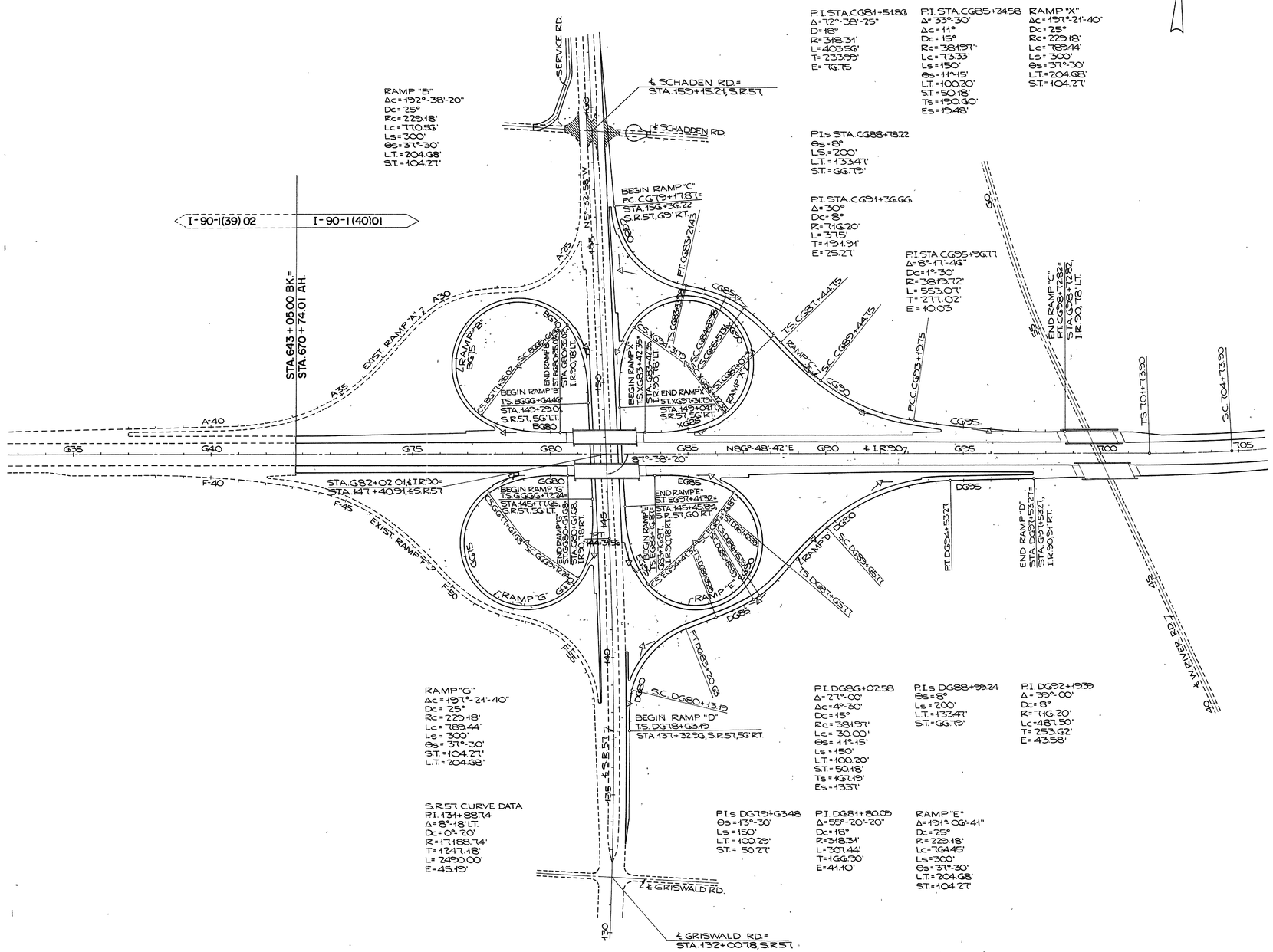

P.I. REFERENCES

RAMP "B"

P. I.	STATION	OFFSET
CENTER OF 25° CURVE	I.R. 90 678+87.12	323.29' LT.
	S.R. 57 150+76.90	301.29' LT.

RAMP "X"

P. I.	STATION	OFFSET
CENTER OF 25° CURVE	I.R. 90 684+90.23	323.29' LT.
	S.R. 57 150+52.05	301.29' RT.

RAMP "D"

P. I.	STATION	OFFSET
P.I. D679+63.48	S.R. 57 138+32.92	56.29' RT.
P.I. D681+80.09	S.R. 57 140+42.46	109.50' RT.
P.I. D686+02.58	I.R. 90 687+54.35	533.34' RT.
P.I. D688+99.24	I.R. 90 689+55.02	309.31' RT.
P.I. D692+19.39	I.R. 90 691+99.77	102.53' RT.

RAMP "E"

P. I.	STATION	OFFSET
CENTER OF 25° CURVE	I.R. 90 685+24.75	323.29' RT.
	S.R. 57 144+05.27	309.44' RT.

RAMP "G"

P. I.	STATION	OFFSET
CENTER OF 25° CURVE	I.R. 90 679+13.79	323.29' RT.
	S.R. 57 144+29.73	301.29' LT.

RAMP "C"

P. I.	STATION	OFFSET
P.I. C681+51.86	S.R. 57 154+02.41	77.99' RT.
P.I. C685+24.58	I.R. 90 686+78.96	567.33' LT.
P.I.s C688+78.22	I.R. 90 689+28.74	305.98' LT.
P.I. C691+36.66	I.R. 90 691+31.78	145.66' LT.
P.I. C695+96.77	I.R. 90 695+95.80	78.00' LT.

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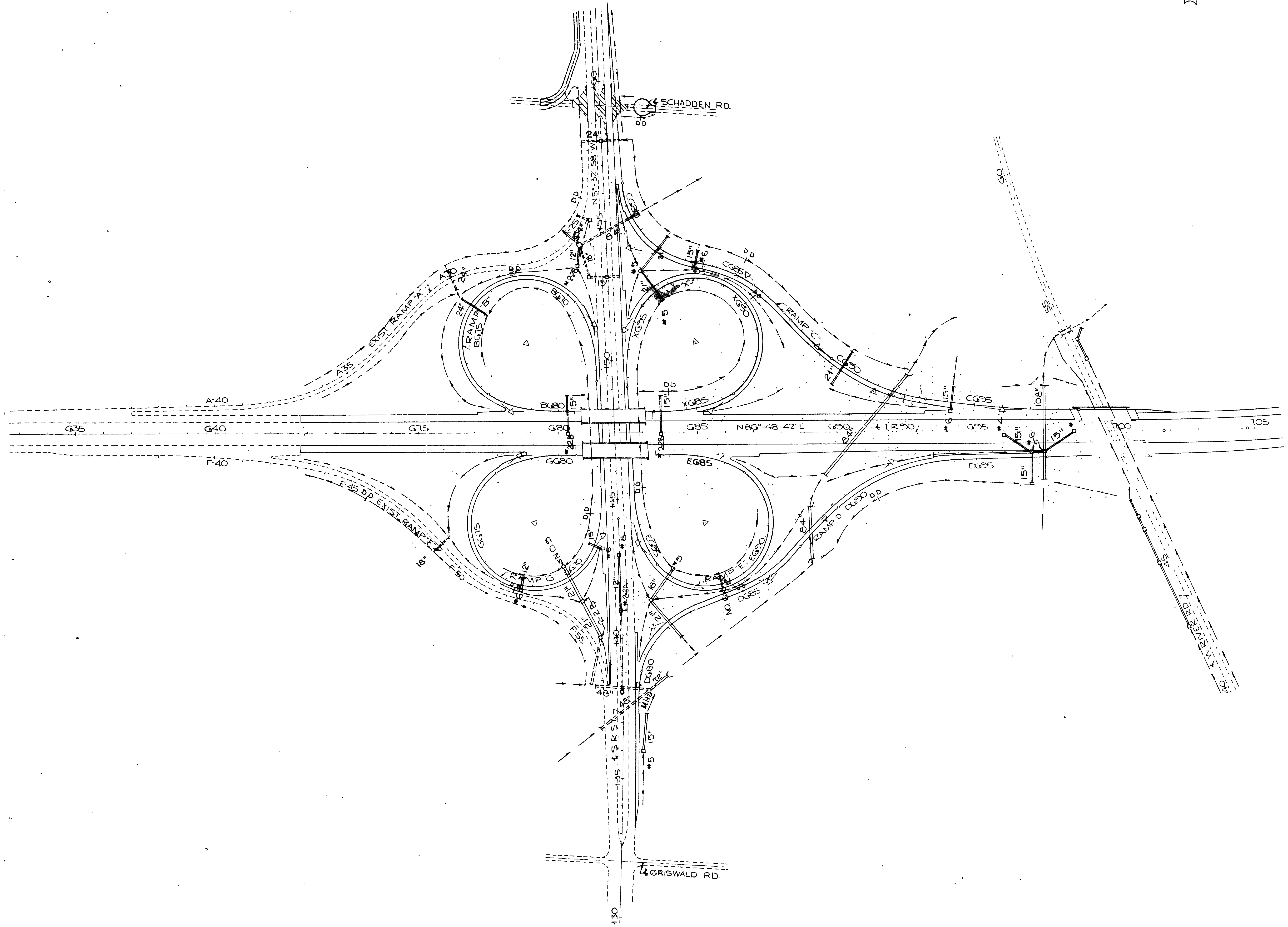
S.R. 57 INTERCHANGE
DRAINAGE LAYOUT PLAN

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

LOR.-90-13.01



CROSS SECTION LAYOUT PLAN S.R.57 INTERCHANGE

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

LOR.-90-13.01

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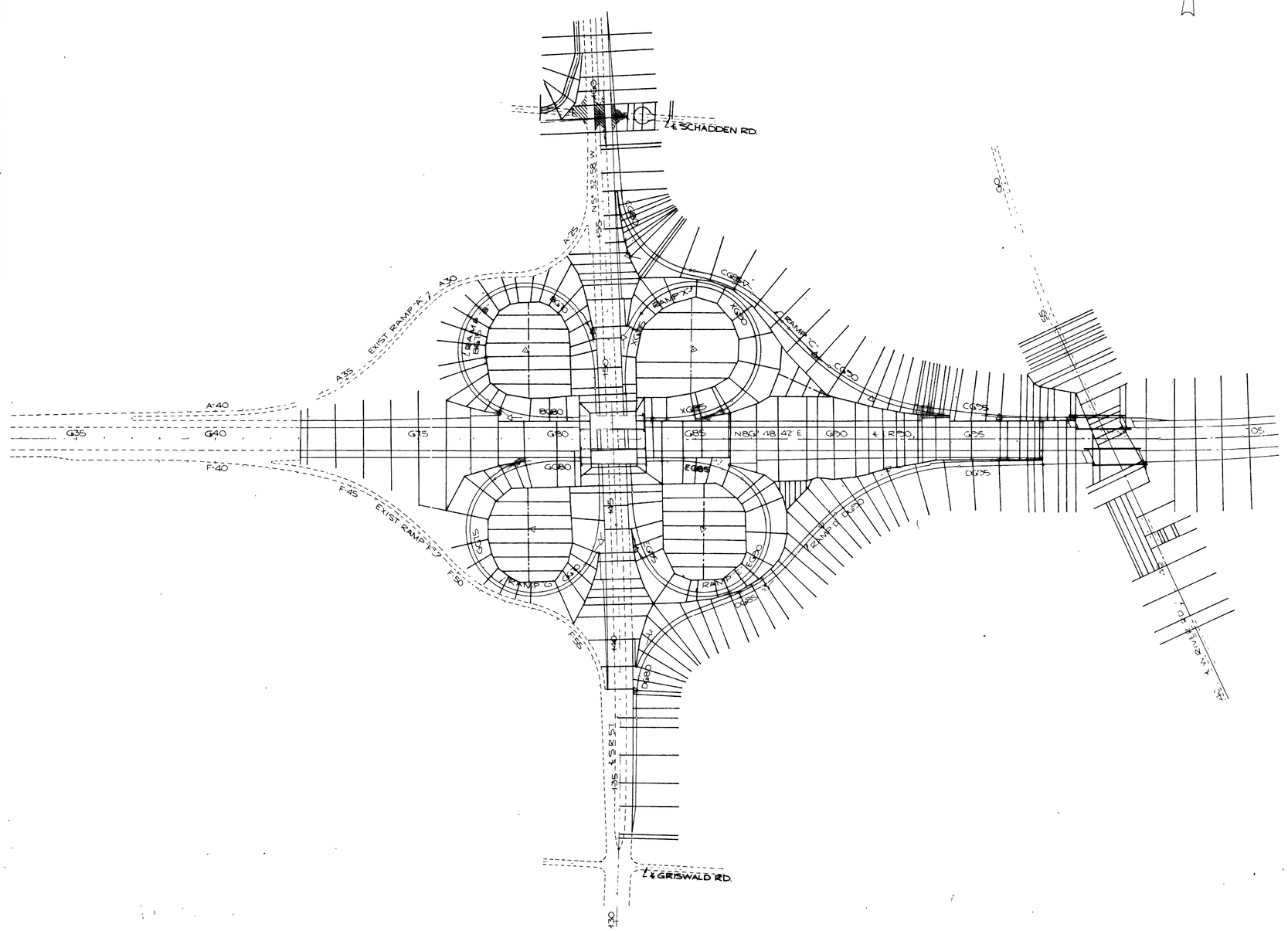
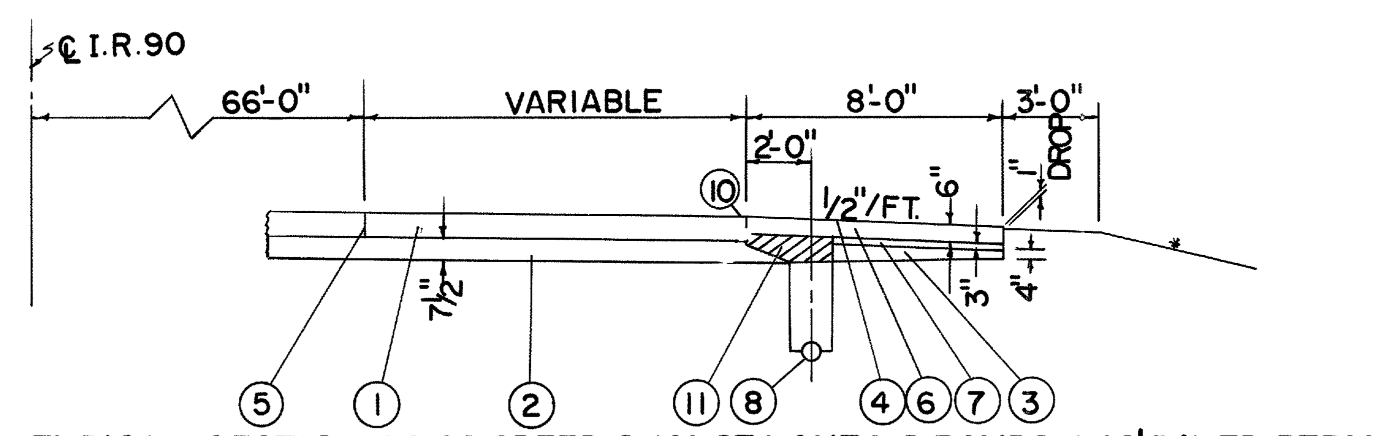
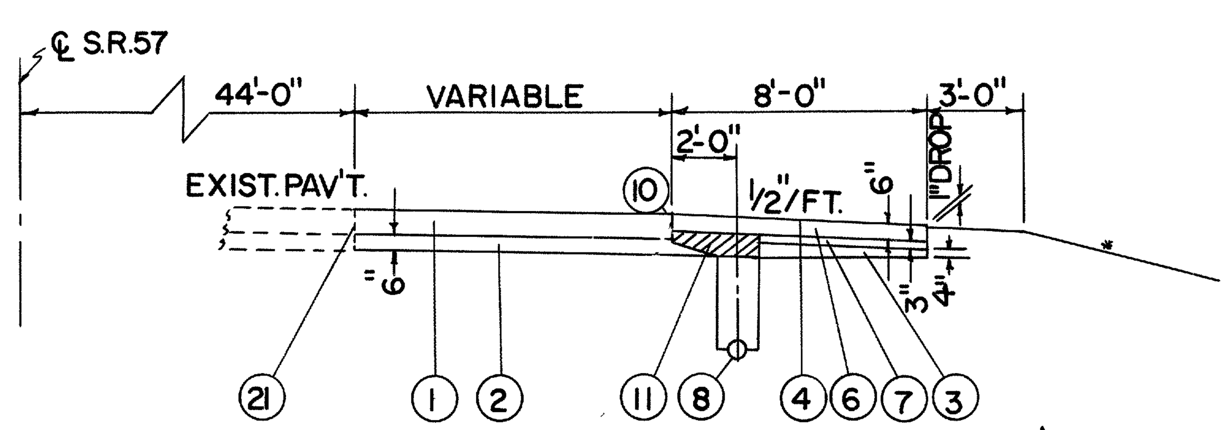


S.R.57 INTERCHANGE PAVEMENT QUANTITIES
S.R. 57 INTERCHANGESPECIAL TYPICAL SECTIONS & DETAILS

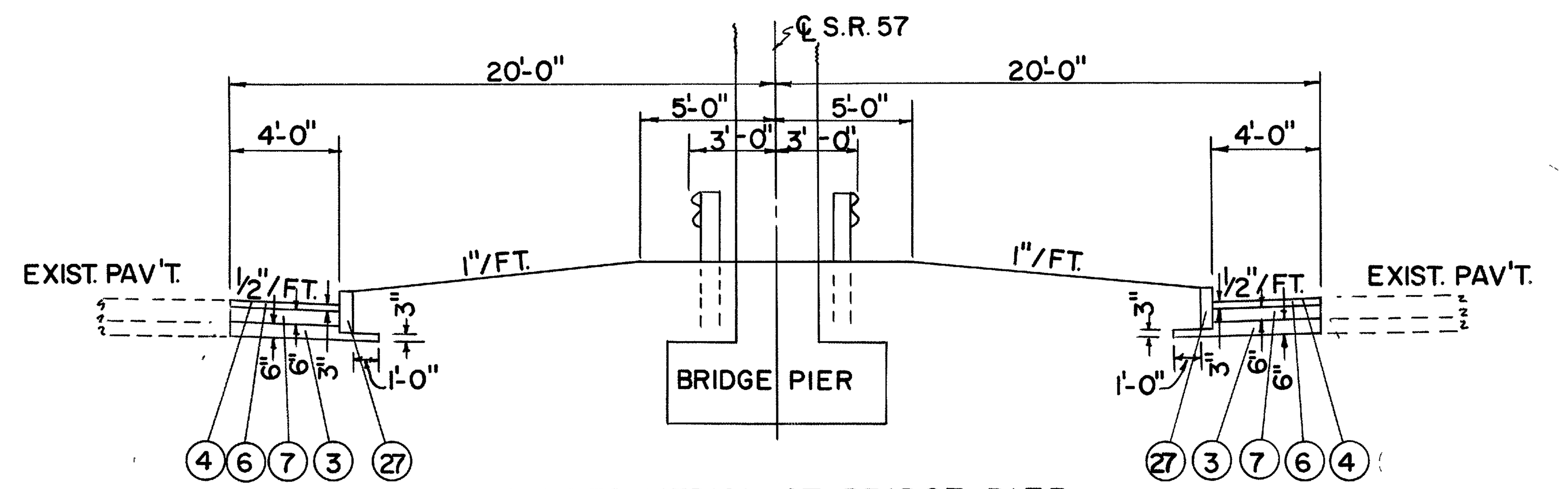
REFERENCE NO.	FROM SHEET NO.	DESIGNATION	FROM	TO	SIDE	304 AGGREGATE BASE CU. YDS.	301 BITUMINOUS AGGREGATE BASE CU. YDS.	310 SUBBASE GRADING A OR B CU. YDS.	310 SUBBASE CU. YDS.	409 SEAL COAT FOR PAVED BERM SQ. YDS.	451 REINF. PORTLAND CEMENT CONCRETE PAVEMENT 9" SQ. YDS.	SPECIAL DRAINAGE CONNECTION USING NO. 8 AGGREGATE CU. YDS.	621 EDGE LINES 4" MILES	621 LANE LINES 4" MILES	621	621 CHANNELIZING LINES 8" FEET	621 BROAD TRANSVERSE STRIPES 24" LUMP SUM	621 CURB & ISLAND MARKINGS LUMP SUM	REMARKS
1-P	160	RAMP B	B666+64.46	I.R.90 680+53.04	Ƀ	61.3	196.1	593.4	57.6	1176.5	2863.1	98.0	0.465			344	LUMP	LUMP	INCLUDES ALL PAVEMENT & PAVED BERM QUANTITIES LT. OF 66' LT. I.R.90 FROM STA.676+90.02 TO STA.680+77.09 & LT. OF 44' LT. S.R.57 FROM STA.149+29.01 TO STA.151+04.93
2-P	160	I.R.90	671+90.02	676+90.02	LT.	33.0	90.7	65.8	53.2	555.6	228.9●	35.8	0.095						INCLUDES ALL PAVEMENT & PAVED BERM QUANTITIES LT. OF 66' LT. I.R.90 FROM STA.671+90.02 TO STA.676+90.02
3-P	166	RAMP C	C679+17.87	C689+00	Ƀ	29.5	112.2	357.8	8.6	673.0	1735.1	67.8	0.355					LUMP	PAVED BERM BETWEEN RAMP C & S.R.57 CARRIED WITH 18-P
4-P	167	RAMP C	C689+00	I.R.90 702+29.75	Ƀ	47.8	154.6	480.6	58.6	929.6	2236.3	80.0	0.352			648	LUMP	LUMP	INCLUDES ALL PAVEMENT & PAVED BERM QUANTITIES LT. OF 66' LT. I.R.90 FROM STA.693+18.10 TO STA.702+29.75
5-P	198	RAMP X	I.R.90 683+42.35	X697+31.79	Ƀ	70.7	199.1	568.0	62.6	1227.8	2831.0	100.5	0.468			323	LUMP	LUMP	INCLUDES ALL PAVEMENT & PAVED BERM QUANTITIES LT.OF 66' LT., I.R.90 FROM STA.683+21.09 TO STA.685+58.50 & RT.OF 44' RT. S.R.57 FROM STA.149+04.17 TO STA.152+44.57
6-P	178	RAMP D	D678+63.19	D689+00	Ƀ	34.9	126.9	404.1	17.8	761.2	2007.3	72.8	0.360			242	LUMP	LUMP	INCLUDES ALL PAVEMENT & PAVED BERM QUANTITIES RT. OF 44' RT. S.R.57 FROM STA.137+32.96 TO STA. 140+19.63
7-P	179	RAMP D	D689+00	D697+53.27	Ƀ	123.3	154.7	294.1	93.4	1212.2	1505.7	76.9	0.249					LUMP	INCLUDES ALL PAVEMENT & PAVED BERM QUANTITIES RT. OF 66' RT. I.R.90 FROM STA.693+62.50 TO STA.697+53.27
8-P	179	I.R.90	697+53.27	709+53.27	RT.	51.1	152.8	224.2	84.7	927.8	1189.4●	68.3	0.230	0.019		256			INCLUDES ALL PAVEMENT & PAVED BERM QUANTITIES RT. OF 66' RT. I.R.90 FROM STA.697+53.27 TO STA.709+53.27
9-P	188	I.R.90	687+21.87	692+21.87	RT.	33.0	90.7	65.8	53.2	555.6	228.9●	35.8	0.095						INCLUDES ALL PAVEMENT & PAVED BERM QUANTITIES RT. OF 66' RT. I.R.90 FROM STA.687+21.87 TO STA. 692+21.87
10-P	188	RAMP E	I.R.90 683+76.87	E697+41.32	Ƀ	60.8	195.3	607.4	55.2	1171.6	2922.5	98.5	0.473			329	LUMP	LUMP	INCLUDES ALL PAVEMENT & PAVED BERM QUANTITIES RT. OF 66' RT. I.R.90 FROM STA.683+27.93 TO STA.687+21.87 & RT. OF 44' RT. S.R.57 FROM STA.144+13.74 TO STA.145+45.89
11-P	193	RAMP G	G666+72.24	I.R.90 680+58.98	Ƀ	69.0	199.2	567.4	62.6	1227.8	2832.5	100.2	0.468			322	LUMP	LUMP	INCLUDES ALL PAVEMENT & PAVED BERM QUANTITIES RT.OF 66' RT. I.R.90 FROM STA.678+46 TO STA.680+83.93 & LT. OF 44' LT. S.R.57 FROM STA.142+36.27 TO STA.145+77.65
12-P	146	S.R.57	138+31.98	142+00	LT.	21.5	61.1	41.0	32.2	366.6	228.1	22.9	0.070						INCLUDES ALL PAVEMENT & PAVED BERM QUANTITIES LT. OF 44' LT. S.R.57 FROM STA.138+31.98 TO STA.142+00
13-P	146	S.R.57	133+14.79	137+32.96	RT.	20.6	61.9	85.8	38.0	373.0	494.2	26.2	0.079	0.007					INCLUDES ALL PAVEMENT & PAVED BERM QUANTITIES RT. OF 44' RT. S.R.57 FROM STA.133+14.79 TO STA.137+32.96
14-P	147	S.R.57	142+00	142+36.27	LT.	1.8	5.4	2.7	6.8	32.1	38.7	2.3	0.007						INCLUDES ALL PAVEMENT & PAVED BERM QUANTITIES LT. OF 44' LT. S.R.57 FROM STA.142+00 TO STA. 142+36.27
15-P	147	S.R.57	145+77.65	149+29.01	LT.	17.4	52.1	81.0	26.5	312.3	468.5	21.9	0.067						INCLUDES ALL PAVEMENT & PAVED BERM QUANTITIES LT. OF 44' LT. S.R.57 FROM STA.145+77.65 TO STA.149+29.01
16-P	147	S.R.57	145+45.89	149+04.17	RT.	17.7	53.1	88.1	27.0	318.5	511.0	22.4	0.068			75			INCLUDES ALL PAVEMENT & PAVED BERM QUANTITIES RT.OF 44' RT. S.R.57 FROM STA.145+45.89 TO STA.149+04.17
17-P	147	S.R.57	152+44.57	153+00	RT.	2.7	8.2	10.2	4.2	49.3	58.2	3.5	0.010						INCLUDES ALL PAVEMENT & PAVED BERM QUANTITIES RT. OF 44' RT. S.R.57 FROM STA.152+44.57 TO STA.153+00
18-P	148	S.R.57	153+00	156+36.22	RT.	19.7	56.1	37.2	29.5	336.5	206.6	21.0	0.064						INCLUDES ALL PAVEMENT & PAVED BERM QUANTITIES RT. OF 44' RT. S.R.57 FROM STA.153+00 TO STA.156+36.22
19-P	148	S.R.57	156+36.22	162+86.22	RT.	31.6	95.3	156.8	48.3	577.8	908.6	40.6	0.123	0.010		130			INCLUDES ALL PAVEMENT & PAVED BERM QUANTITIES RT. OF 44' RT. S.R.57 FROM STA.156+36.22 TO STA.162+86.22
1-PB	193	RAMP F	G671+58	G672+78	LT.	3.9	7.9		13.8	47.3									CONSTRUCT 3' PAVED BERM AGAINST EXISTING RAMP F WHEN RAMP F-1 IS REMOVED
2-PB	146	S.R.57	140+19.63	142+00	RT.	8.9	26.8		13.7	160.8		12.8							CONSTRUCT 8' WIDE PAVED BERM AGAINST EXISTING S.R.57, 44' RT. FROM STA.140+19.63 TO STA.142+00
3-PB	147	S.R.57	145+58	149+20	LT.	26.8	13.4		31.8	160.9									CONSTRUCT 4' WIDE PAVED BERM ON INSIDE EDGE OF S.B.L. FROM STA.145+58 TO STA.149+20
4-PB	147	S.R.57	151+04.93	153+00	LT.	12.1	33.9		18.1	203.4		13.8							CONSTRUCT 8' WIDE PAVED BERM AGAINST EXISTING S.R.57, 44' LT. FROM STA.151+04.93 TO STA.153+00, INCLUDING EXTRA P.B. BETWEEN RAMP B & S.R.57
5-PB	147	S.R.57	142+00	144+13.74	RT.	13.8	38.2		20.5	229.3		15.1							CONSTRUCT 8' WIDE PAVED BERM AGAINST EXISTING S.R.57, 44' RT. FROM STA.142+00 TO STA.144+13.74 INCLUDING EXTRA P.B. BETWEEN RAMP E & S.R.57
6-PB	147	S.R.57	145+58	149+20	RT.	26.8	13.4		31.8	160.9									CONSTRUCT 4' WIDE PAVED BERM ON INSIDE EDGE OF N.B.L. FROM STA.145+58 TO STA.149+20
7-PB	148	S.R.57	153+00	154+12.27	LT.	5.5	16.6		8.5	99.8		7.9							CONSTRUCT 8' WIDE PAVED BERM AGAINST EXIST. S.R.57, 44' LT. FROM STA.153+00 TO STA.154+12.27
8-PB	148	S.R.57	158+50	160+00	LT.	8.3	4.2		8.3	50.0									CONSTRUCT 3' WIDE PAVED BERM AGAINST EXIST. S.R.57, 44' LT. FROM STA.158+50 TO STA.160+00, WHEN SCHADDEN RD. INTERSECTION IS REMOVED
9-PB	160	RAMP A	B671+10	B671+85	RT.	2.1	4.2		5.2	25.0									CONSTRUCT 3' WIDE PAVED BERM AGAINST EXIST. RAMP A, WHEN RAMP A-1 IS REMOVED
TOTALS						855.6	2224.1	4731.4	971.7	13,922.2	23,494.6	1045.0	4.098	0.036		2669	LUMP	LUMP	



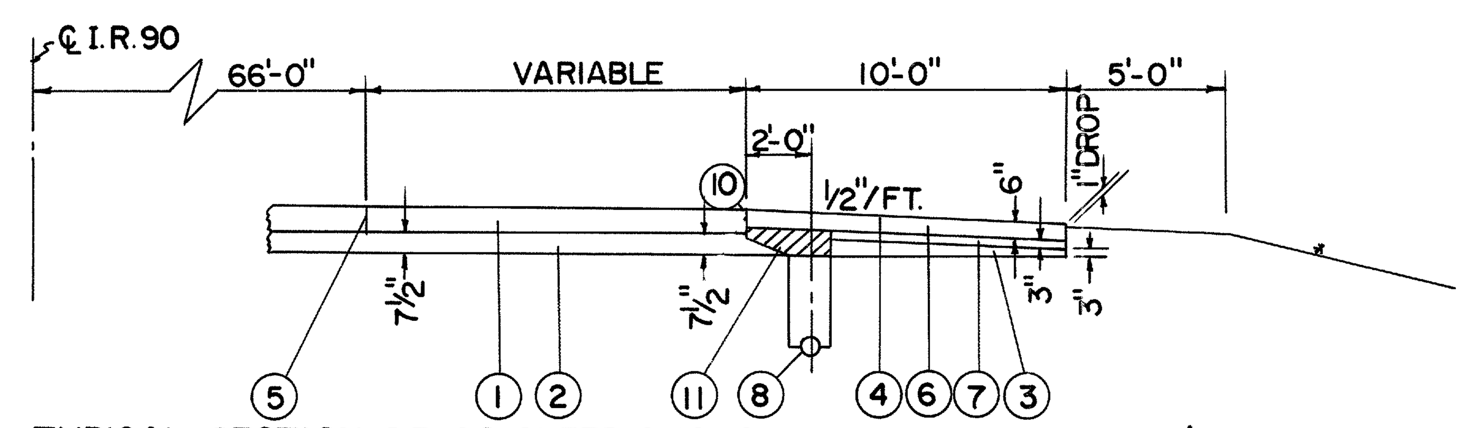
TYPICAL SECTION I.R.90 SPEED CHANGE LANES & RAMPS W/ 8' PAVED BERM



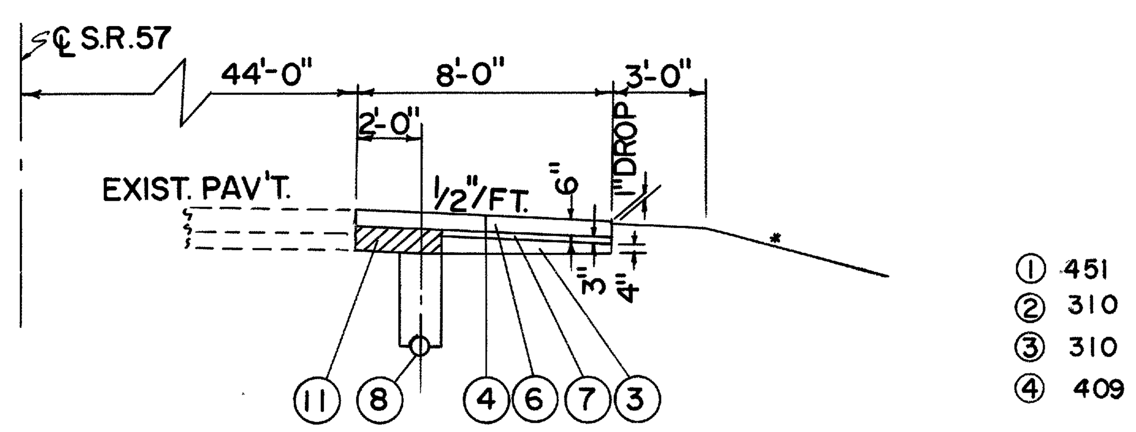
TYPICAL SECTION S.R.57 SPEED CHANGE LANES & RAMPS W/8' PAVED BERM



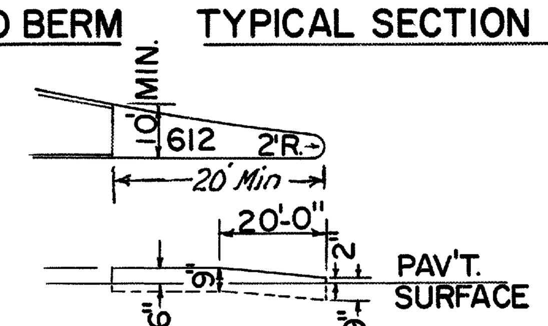
TYPICAL SECTION S.R.57 MOUNDED MEDIAN AT BRIDGE PIER



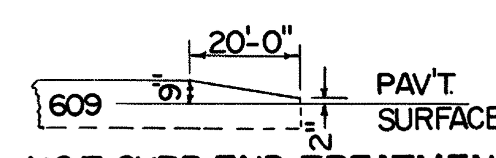
TYPICAL SECTION I.R. 90 SPEED CHANGE LANES & RAMPS W/10' PAVED BERM



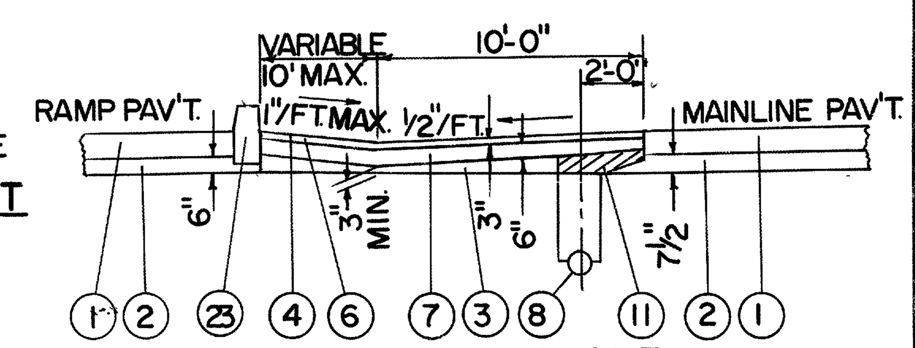
TYPICAL SECTION PAVED BERM AGAINST EXISTING S.R.57



EXIT NOSE DETAIL



NO.7 CURB END TREATMENT



DETAIL OF PAVED BERM SWALE

① 451 9" REINFORCED PORTLAND CEMENT CONC. PAVEMENT
② 310 SUBBASE, GRADING A OR B
③ 310 SUBBASE
④ 409 SEAL COAT; COVER AGGREGATE USING 0.008 C.Y. NO.8 AGGREGATE PER SQ.YD. AND 0.25 GAL. BITUMINOUS MATERIAL PER SQ.YD. (SEE NOTE IN PROPOSAL)
⑤ STD. LONGITUDINAL JOINT
⑥ 301 BITUMINOUS AGGREGATE BASE, 702.01 (85-100) OR 702.09 R.T. 12
⑦ 304 AGGREGATE BASE
⑧ 605 6" PIPE UNDERDRAIN
⑩ 621 4" WIDE EDGE LINE (SEE DETAIL SHEET NO. 6)
⑪ SPEC. DRAINAGE CONNECTION USING NO.8 AGGREGATE (SEE NOTE IN PROPOSAL)
㉑ EXPANSION BOLTS, WIDTH 6' OR LESS- OVER 6', BUTT JOINT, SEE NOTE SHEET 27
㉓ 609 CURB, TYPE 8
㉗ 609 CURB, TYPE 6

* FOR CUT & FILL SLOPES SEE RAMP TYPICAL SECTIONS ON SHEET NO. 12

S.R. 57 INTERCHANGE

RAMP SUPERELEVATION TABLES
COMBINED ACCELERATION & DECELERATION LANE TABLES

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

LOR.-90-13.01

RAMP SUPERELEVATION TABLES

RAMP "B"

STATION	℄ LEFT EDGE	RIGHT EDGE
BG70+38.17	689.64	690.89
+50	689.65	690.96
+54.17	689.65	690.98
+75	689.71	691.04
BG71+00	689.87	691.20
+25	690.11	691.44
+50	690.45	691.78
+75	690.86	692.19
BG72+00	691.37	692.70
+25	691.96	693.29
+50	692.65	693.98
+75	693.41	694.74
BG73+00	694.27	695.60
+25	695.17	696.50
+50	696.07	697.40
+75	696.97	698.30
BG74+00	697.87	699.20
+25	698.77	700.10
+50	699.67	701.00
+75	700.57	701.90
BG75+00	701.47	702.80
+25	702.35	703.68
+50	703.19	704.52
+75	703.99	705.32
+79.20	704.12	705.45
BG76+00	704.75	705.98
+25	705.47	706.57
+50	706.15	707.13
+75	706.79	707.64
+95.20	707.28	708.03

RAMP "X"

STATION	℄ LEFT EDGE	RIGHT EDGE
XG87+16.06	706.79	708.04
+25	706.96	707.85
+32.06	706.38	707.71
+50	705.91	707.24
+75	705.22	706.55
XG88+00	704.48	705.81
+25	703.70	705.03
+50	702.88	704.21
+75	702.04	703.37
XG89+00	701.12	702.45
+25	700.36	701.69
+50	699.52	700.85
+75	698.68	700.01
XG90+00	697.84	699.17
+25	697.00	698.33
+50	696.16	697.49
+75	695.32	696.65
XG91+00	694.48	695.81
+25	693.68	695.01
+50	692.95	694.28
+75	692.30	693.63
XG92+00	691.72	693.05
+25	691.22	692.55
+50	690.79	692.12
+75	690.44	691.77
+80.62	690.31	691.70
XG93+00	690.16	691.39
+25	689.96	691.07
+50	689.83	690.81
+75	689.78	690.64
+96.62	689.79	690.54

RAMP "D"

STATION	℄ RIGHT EDGE	LEFT EDGE
DG81+45.02	693.71	694.46
+50	693.70	694.47
+75	693.72	694.62
DG82+00	693.79	694.81
+15.21	693.85	694.95
+25	693.90	694.95
+50	694.06	694.99
+75	694.24	695.04
DG83+00	694.42	695.10
+25	694.60	695.15
+50	694.78	695.21
+75	694.96	695.26
DG84+00	695.14	695.32
+25	695.32	695.37
+35.39	695.39	695.39
+50	695.50	695.43
+75	695.68	695.48
DG85+00	695.86	695.54
+25	696.04	695.59
+50	696.22	695.65
+75	696.40	695.70
DG86+00	696.58	695.76
+00.39	696.58	695.76
+25	696.76	696.06
+50	696.94	696.36
+75	697.12	696.67
DG87+00	697.30	696.97
+25	697.48	697.28
+50	697.66	697.58
+65.39	697.77	697.77
+75	697.84	697.89
DG88+00	698.02	698.19
+25	698.20	698.50
+50	698.38	698.80
+75	698.56	699.11
DG89+00	698.74	699.41
+25	698.92	699.72
+50	699.10	700.02
+75	699.28	700.33
DG90+00	699.46	700.63
+25	699.63	700.93
+31.39	699.67	701.00
+50	699.77	701.10
+75	699.90	701.23
DG91+00	700.00	701.33
+25	700.08	701.41
+50	700.13	701.46
+75	700.17	701.50
DG92+00	700.18	701.51
+25	700.17	701.50
+50	700.13	701.46
+75	700.08	701.41
DG93+00	700.00	701.33
+25	699.90	701.23
+45.27	699.80	701.13
+53.27	699.76	701.05

RAMP "E"

STATION	℄ RIGHT EDGE	LEFT EDGE
EG87+16.06	707.34	708.09
+25	707.15	707.94
+50	706.55	707.47
+75	705.92	706.96
EG88+00	705.24	706.41
+25	704.53	705.82
+32.06	704.30	705.63
+50	703.77	705.10
+75	702.97	704.30
EG89+00	702.13	703.46
+25	701.27	702.60
+50	700.41	701.74
+75	699.55	700.88
EG90+00	698.69	700.02
+25	697.83	699.16
+50	696.97	698.30
+75	696.15	697.48
EG91+00	695.41	696.74
+25	694.74	696.07
+50	694.15	695.48
+75	693.64	694.97
EG92+00	693.21	694.54
+25	692.85	694.18
+50	692.57	693.90
+75	692.37	693.70
EG93+00	692.25	693.58
+25	692.20	693.53
+50	692.23	693.56
+75	692.30	693.63
+94.97	692.36	693.69
EG94+00	692.37	693.67
+10.97	692.40	693.65

RAMP "G"

STATION	℄ RIGHT EDGE	LEFT EDGE
GG70+08.03	692.40	693.15
+25	692.35	693.18
+50	692.27	693.23
+75	692.23	693.31
GG71+00	692.25	693.46
+24.03	692.34	693.67
+25	692.35	693.68
+50	692.52	693.85
+75	692.77	694.10
GG72+00	693.08	694.41
+25	693.47	694.80
+50	693.92	695.25
+75	694.45	695.78
GG73+00	695.05	696.38
+25	695.73	697.06
+50	696.47	697.80
+75	697.25	698.58
GG74+00	698.03	699.36
+25	698.81	700.14
+50	699.59	700.92
+75	700.37	701.70
GG75+00	701.15	702.48
+25	701.93	703.26
+50	702.71	704.04
+75	703.49	704.82
GG76+00	704.27	705.60
+25	705.03	706.36
+50	705.75	707.08
+74.97	706.34	707.67
+75	706.42	707.73
+87.97	706.75	708.00

RAMP "C"

STATION	℄ LEFT EDGE	RIGHT EDGE
CG81+17.87	690.33	691.41
+25	690.41	691.45
+50	690.70	691.62
+75	691.02	691.81
CG82+00	691.37	692.04
+25	691.76	692.30
+50	692.17	692.59
+75	692.60	692.89
CG83+00	693.03	693.20
+25	693.46	693.50
+33.98	693.61	693.61
+50	693.89	693.81
+75	694.31	694.10
CG84+00	694.71	694.38
+25	695.08	694.62
+50	695.43	694.85
+75	695.76	695.05
CG85+00	696.07	695.24
+20.64	696.30	695.37
+25	696.35	695.44
+50	696.61	695.82
+75	696.85	696.19
CG86+00	697.07	696.53
+25	697.26	696.85
+50	697.43	697.14
+75	697.59	697.43
CG87+00	697.75	697.71
+07.31	697.80	697.80
+25	697.91	698.00
+50	698.07	698.28
+75	698.23	698.57
CG88+00	698.39	698.85
+25	698.55	699.14
+50	698.71	699.42
+75	698.87	699.71

RAMP "C" (CONT'D)

STATION	℄ LEFT EDGE	RIGHT EDGE
CG89+00	699.03	699.99
+25	699.19	700.28
+50	699.35	700.56
+73.31	699.50	700.83
+75	699.51	700.84
CG90+00	699.67	701.00
+25	699.83	701.16
+50	699.99	701.32
+75	700.15	701.48
CG91+00	700.31	701.64
+25	700.47	701.80
+50	700.61	701.94
+75	700.72	702.05
CG92+00	700.80	702.13
+03.15	700.80	702.13
+25	700.84	702.06
+50	700.84	701.94
+75	700.82	701.79
CG93+00	700.75	701.60
+19.15	700.68	701.43

RAMPS G & B COMBINED ACCELERATION & DECELERATION LANE NEXT TO S.R. 57

STATION	OFFSET	ELEVATION
145+77.65	12.00	692.52
146+00		692.47
+25		692.40
+50		692.31
+75		692.21
147+00	12.00	692.16

STATION	OFFSET	ELEVATION
+25	12.00	692.07
+50		692.01
+75		691.93
148+00		691.87
+25		691.83
+50	12.00	691.76

STATION	OFFSET	ELEVATION
+75	12.00	691.70
149+00		691.60
+25		691.52
+29.01	12.00	691.50

SEE SHEET NO. 144 FOR LANE TYPICAL SECTION

RAMPS G & E COMBINED ACCELERATION & DECELERATION LANE NEXT TO I.R. 90

STATION	OFFSET	ELEVATION
680+61.68	12.00	711.51
+75		711.55
681+00		711.61
+25		711.66
+50		711.69
+75	12.00	711.71

STATION	OFFSET	ELEVATION
682+00	12.00	711.72
+25		711.71
+50		711.69
+75		711.66
683+00		711.61
+25	12.00	711.55

STATION	OFFSET	ELEVATION
683+50	12.00	711.47
+75	12.00	711.39
+76.87	12.00	711.38

SEE SHEET NO. 144 FOR LANE TYPICAL SECTIONS

RAMPS B & X COMBINED ACCELERATION & DECELERATION LANE NEXT TO I.R. 90

STATION	OFFSET	ELEVATION
680+35.02	12.00	711.42
+50		711.47
+75		711.55
681+00		711.61
+25		711.66
+50	12.00	711.69

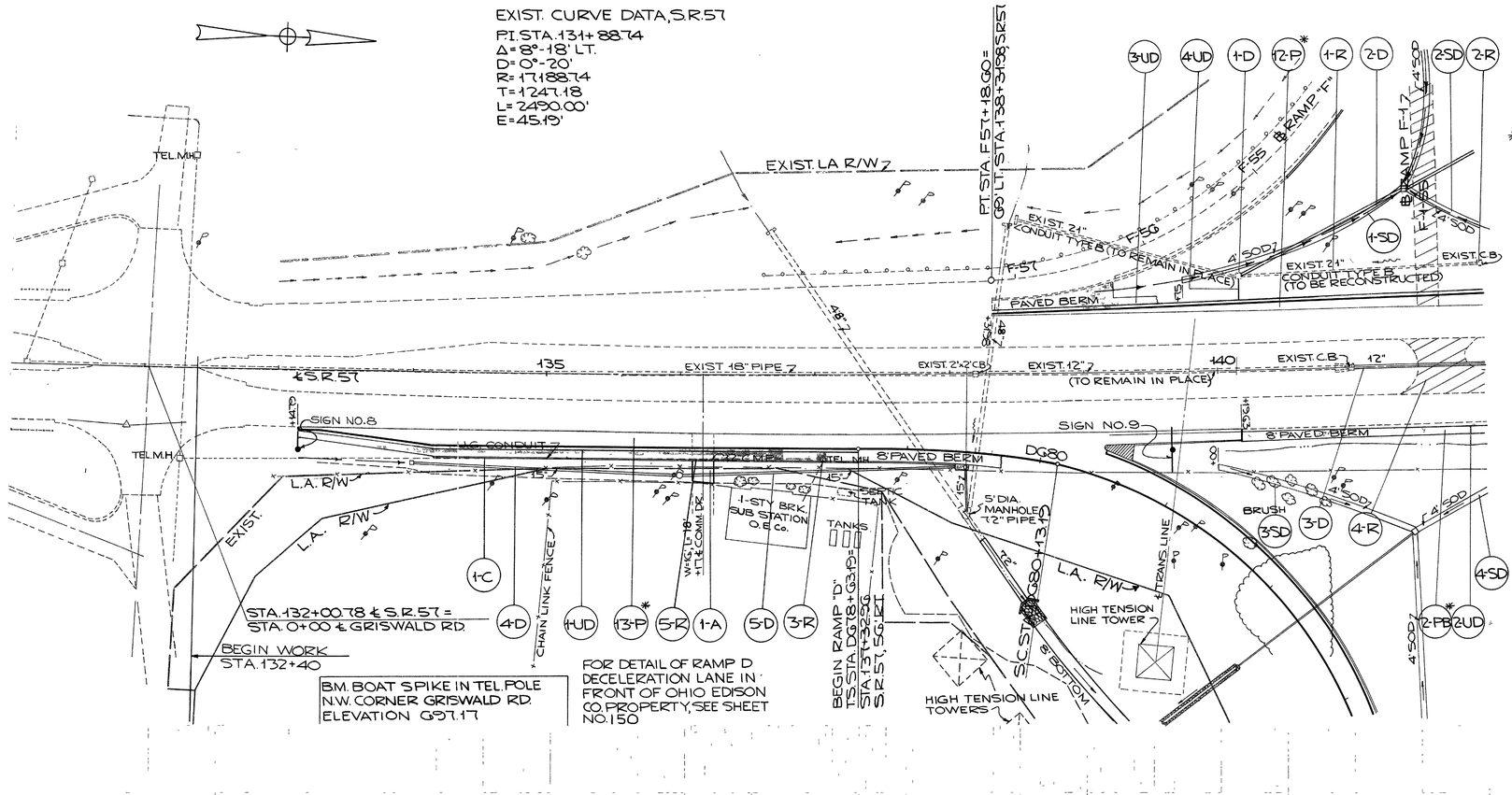
STATION	OFFSET	ELEVATION
+75	12.00	711.71
682+00		711.72
+25		711.71
+50		711.69
+75		711.66
683+00	12.00	711.61

STATION	OFFSET	ELEVATION
683+25	12.00	711.55
+42.35	12.00	711.50

SEE SHEET NO. 144 FOR LANE TYPICAL SECTIONS

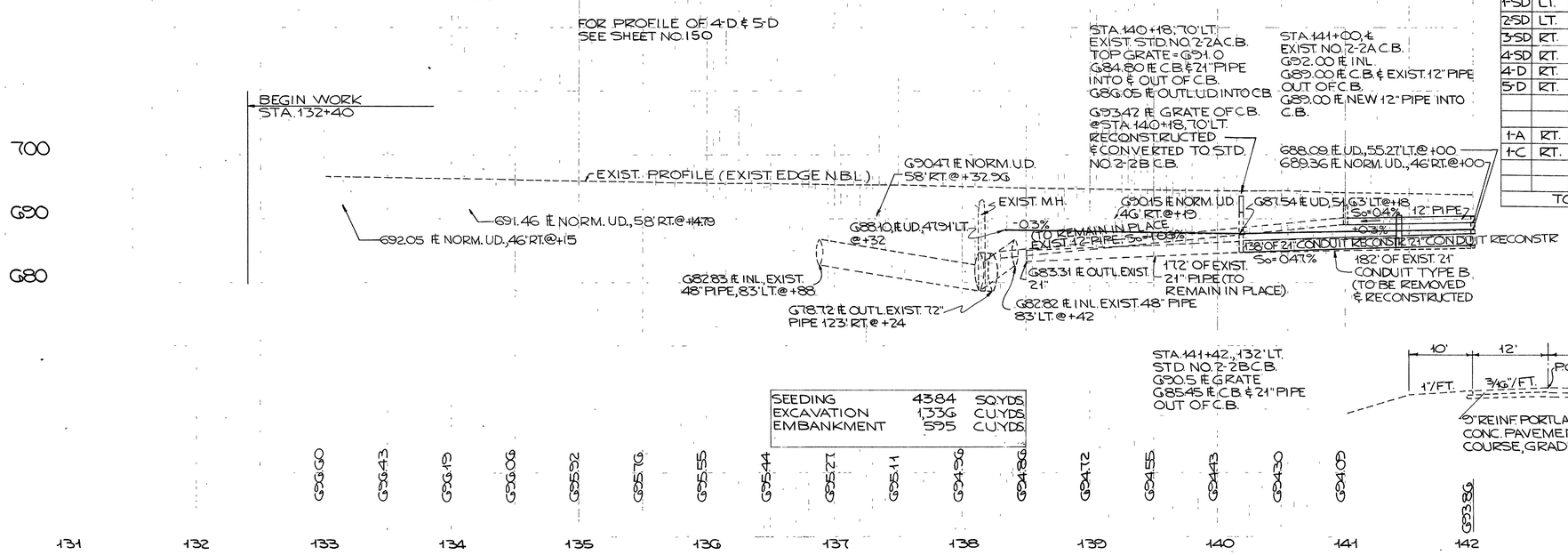
LOR.-90-13.01

CROSS REFERENCES	
FOR	SEE SHEET NO
RAMP "D" DETAILS	178 TO 187, 209
TAPER DETAILS	203, 206
GRADING PLANS	217 TO 221
TAPER TYP. SECT.	144
* PAV'T. QUAN.	144



REFERENCE NO.	SIDE	STATION FROM	STATION TO	G05 SHALLOW PIPE UNDER-DRAIN 6"	G03 CONDUIT TYPE F 6"	G03 CONDUIT TYPE C-B 12"	G03 CONDUIT RECON. TYPE B-B 24"	G04 CATCH BASINS STD. NO. 2-2B	G04 CATCH BASINS RECONSTR. TO STD. NO. 22B C.B.	202 MAN-HOLES REMOV.	202 EXIST. PAV'T. REMOV. & DISPOS. (9" UN-REINF. CONC.) SQ.YDS.	202 PIPE REMOVED FOR RE-USE TYPE B 24"	202 CATCH BASINS REMOV.	202 REMOV. OF PIPE 15" & UNDER
				LIN.FT.	LIN.FT.	LIN.FT.	LIN.FT.	EACH	EACH	EACH	SQ.YDS.	LIN.FT.	EACH	LIN.FT.
1-UD	RT.	133+15	137+32.96	418										
2-UD	RT.	139+19	142+00	281										
3-UD	LT.	138+32	142+00	368										
4-UD	LT.	140+18		8	10									
1-D	LT.	140+18							1					
2-D	LT.	140+18	141+42				138	1						
3-D	℄	141+00	142+00			100								
1-R	LT.	140+18	142+00									182		
2-R	LT.	142+00											1	
3-R	RT.	137+05								1				
4-R	LT.&RT.	141+34	142+00								205			
5-R	RT.	136+20												23
TOTALS				1075	10	100	138	1	1	1	205	182	1	23

REFERENCE NO.	SIDE	STATION FROM	STATION TO	G03 CONDUIT TYPE C-B 15"	G03 CONDUIT TYPE B-B 15"	G04 SIDE DITCH CATCH BASIN STD. NO. 7	G60 SODDING	G04 CATCH BASINS STD. NO. 2-2B		G09 CONC. CURB STD. TYPE 7			411 STABIL. CRUSHED AGGR. 9"
				LIN.FT.	LIN.FT.	EACH	SQ.YDS.	EACH		LIN.FT.			CU.YDS.
1-SD	LT.	139+75	141+40				80						
2-SD	LT.	141+44	142+00				29						
3-SD	RT.	140+00	141+41				67						
4-SD	RT.	141+45	142+00				27						
4-D	RT.	134+00	136+00	200				1					
5-D	RT.	136+00	137+32.96	97	36	1							
1-A	RT.	136+17											8.0
1-C	RT.	134+14.79	137+32.96							318.2			
TOTALS				297	36	1	203	1		318.2			8.0

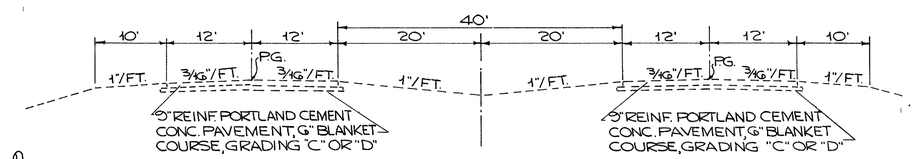


STA. 140+18, 70' LT.
EXIST. STD. NO. 2-2A C.B.
TOP GRATE = G91.0
G84.80 ℄ C.B. & 24" PIPE INTO & OUT OF C.B.
G86.05 ℄ OUT'L. U.D. INTO C.B.
G93.42 ℄ GRATE OF C.B. @ STA. 140+18, 70' LT. RECONSTRUCTED & CONVERTED TO STD. NO. 2-2B C.B.

STA. 141+00, ℄
EXIST. NO. 2-2A C.B.
G92.00 ℄ INL.
G89.00 ℄ C.B. & EXIST. 12" PIPE OUT OF C.B.
G89.00 ℄ NEW 12" PIPE INTO C.B.

STA. 141+42, 132' LT.
STD. NO. 2-2B C.B.
G90.5 ℄ GRATE
G85.45 ℄ C.B. & 24" PIPE OUT OF C.B.

SEEDING	4384 SQ.YDS.
EXCAVATION	1,336 CU.YDS.
EMBANKMENT	595 CU.YDS.

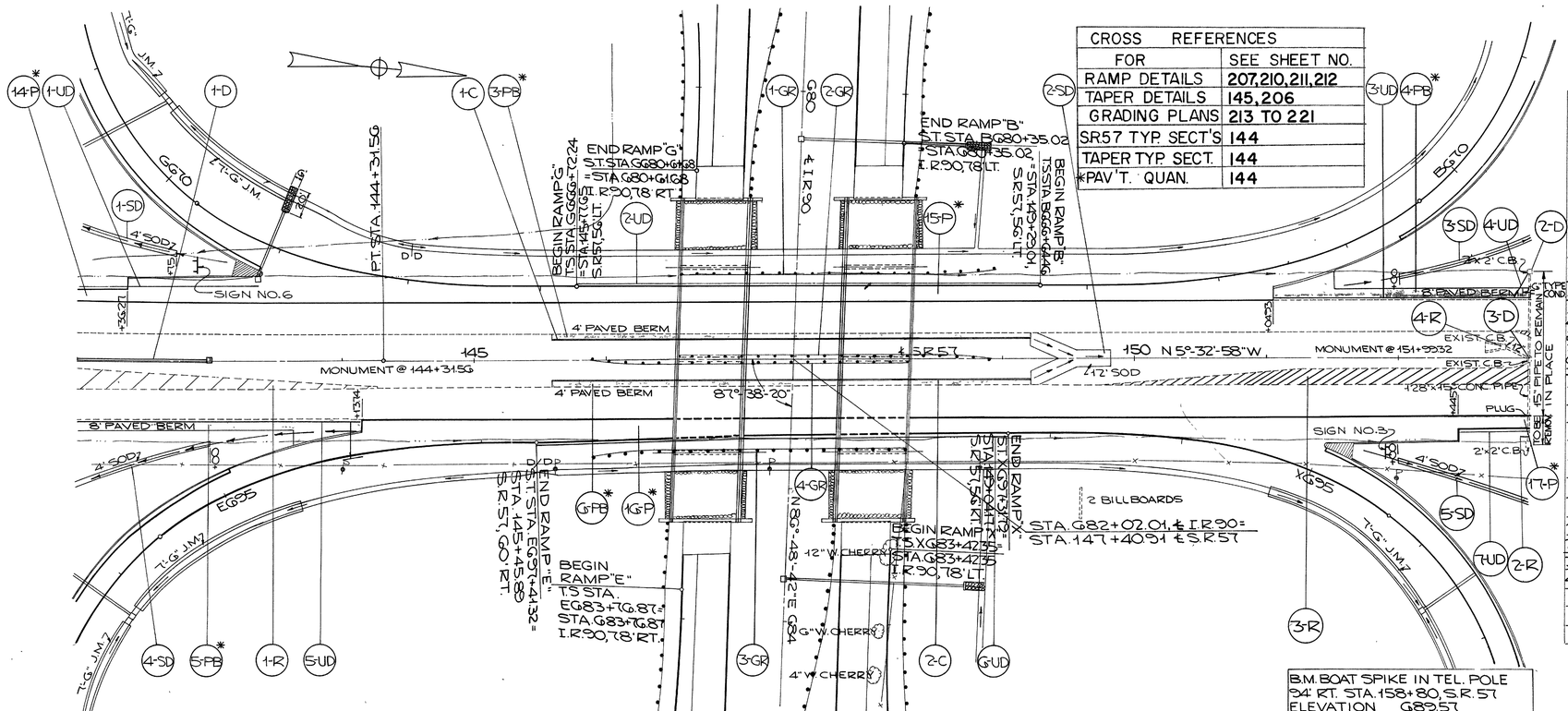


TYPICAL SECTION
EXISTING S.R.57

S.R.57, STA. 131+00 TO STA. 142+00

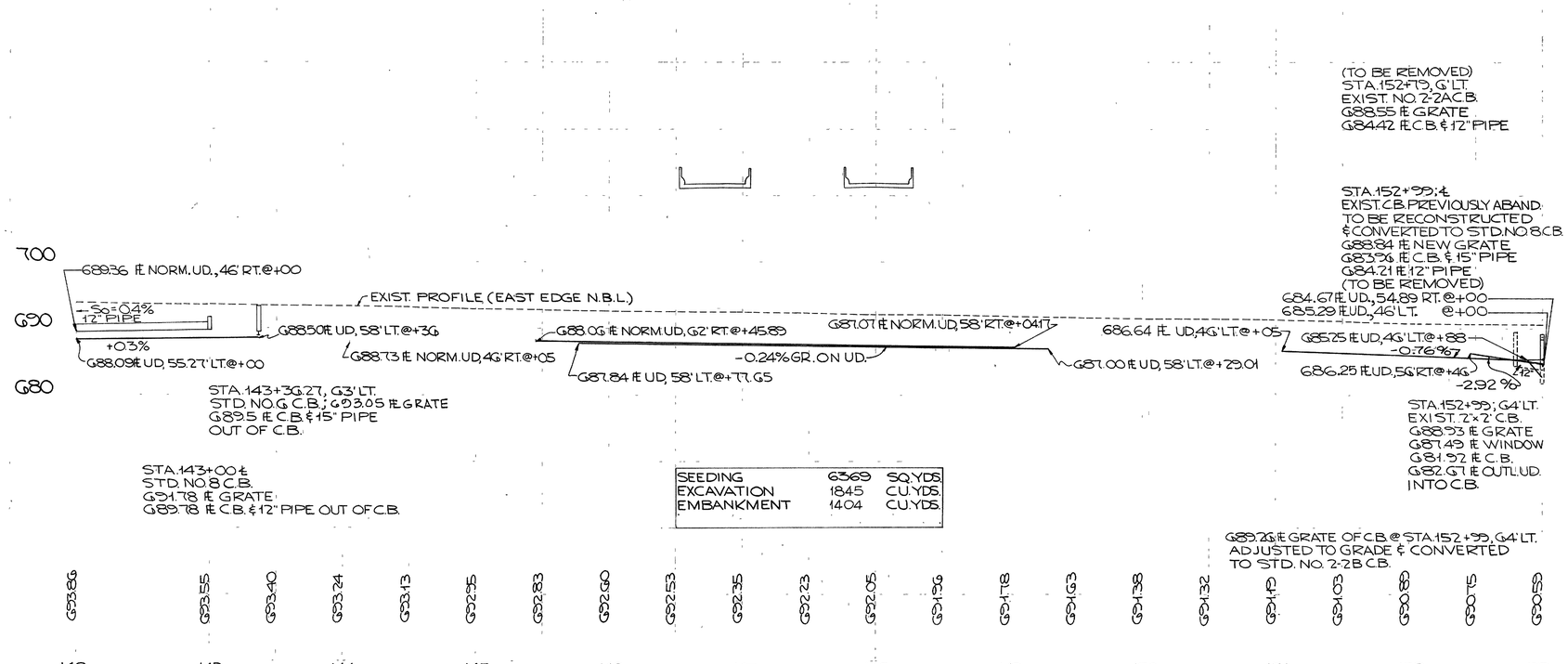
LOR.-90-13.01

CROSS REFERENCES FOR	SEE SHEET NO.
RAMP DETAILS	207,210,211,212
TAPER DETAILS	145,206
GRADING PLANS	213 TO 221
SR.57 TYP. SECT'S	144
TAPER TYP. SECT.	144
*PAV'T. QUAN.	144



REFERENCE NO.	SIDE	STATION FROM	STATION TO	G05 SHALLOW PIPE UNDERDRAINS G" LIN.FT.	G05 DEEP PIPE UNDERDRAINS G" LIN.FT.	G03 CONDUIT TYPE C-B 12" LIN.FT.	G03 CONDUIT TYPE F G" LIN.FT.	G05 PIPE SPECIALS 6" GO° WYE EACH	G05 PIPE SPECIALS 6" TEE EACH	G04 CATCH BASINS STD. NO. 8 EACH	G04 CATCH BASINS ADJUST. TO GRADE & CONVERT. TO STD. NO. 22B EACH	G67 JUTE MATTING SQ.YDS.	G09 CONC. CURB STD. TYPE G LIN.FT.	G06 GUARD RAIL TYPE 4 LIN.FT.
1-UD	LT.	142+00	143+36		136									
2-UD	LT.	145+77.65	149+29.01		351									
3-UD	LT.	151+05	153+00		190		5							
4-UD	LT.	152+88	152+99		12		10	1						
5-UD	RT.	142+00	144+14	214					1					
6-UD	RT.	145+45.88	149+04.17	358										
7-UD	RT.	152+46	153+00		54									
1-D	℄	142+00	143+00			100				1		250		
2-D	LT.	152+99									1			
1-C	LT.	145+58	149+20										362	
2-C	RT.	145+58	149+20										362	
1-GR	LT.	146+56	148+94											237.5
2-GR	LT.	146+53	148+91											237.5
3-GR	RT.	145+88	148+26											237.5
4-GR	RT.	145+92	148+30											237.5
TOTALS				572	743	100	15	1	1	1	1	250	724	950.0

REFERENCE NO.	SIDE	STATION FROM	STATION TO	202 EXIST. PAV'T. REMOV. & DISPOS. OF (9" UN-REINF. CONC.) SQ.YDS.	202 PIPE REMOV. 15" & UNDER LIN. FT.	202 EXIST. PAV'T. REMOV. & DISPOS. OF (9" REINF. CONC.) SQ.YDS.	202 CATCH BASINS REMOV. EACH	G60 SODDING SQ.YDS.	G04 CATCH BASINS RECONST. TO STD. NO. 8 EACH	G67 JUTE MATTING SQ.YDS.
1-R	RT.	142+00	144+28.4	190						
2-R	RT.	152+99			20		1			
1-SD	LT.	142+00	142+75					33		
2-SD	LT. & RT.	149+20	149+82					93		
3-SD	LT.	152+00	153+00					47		
4-SD	RT.	142+00	143+00					47		
5-SD	RT.	152+00	153+00					47		
3-R	RT.	149+75	153+00			335				
4-R	LT.	152+79			22		1			
3-D	℄	152+99							1	125
TOTALS				190	42	335	2	267	1	125

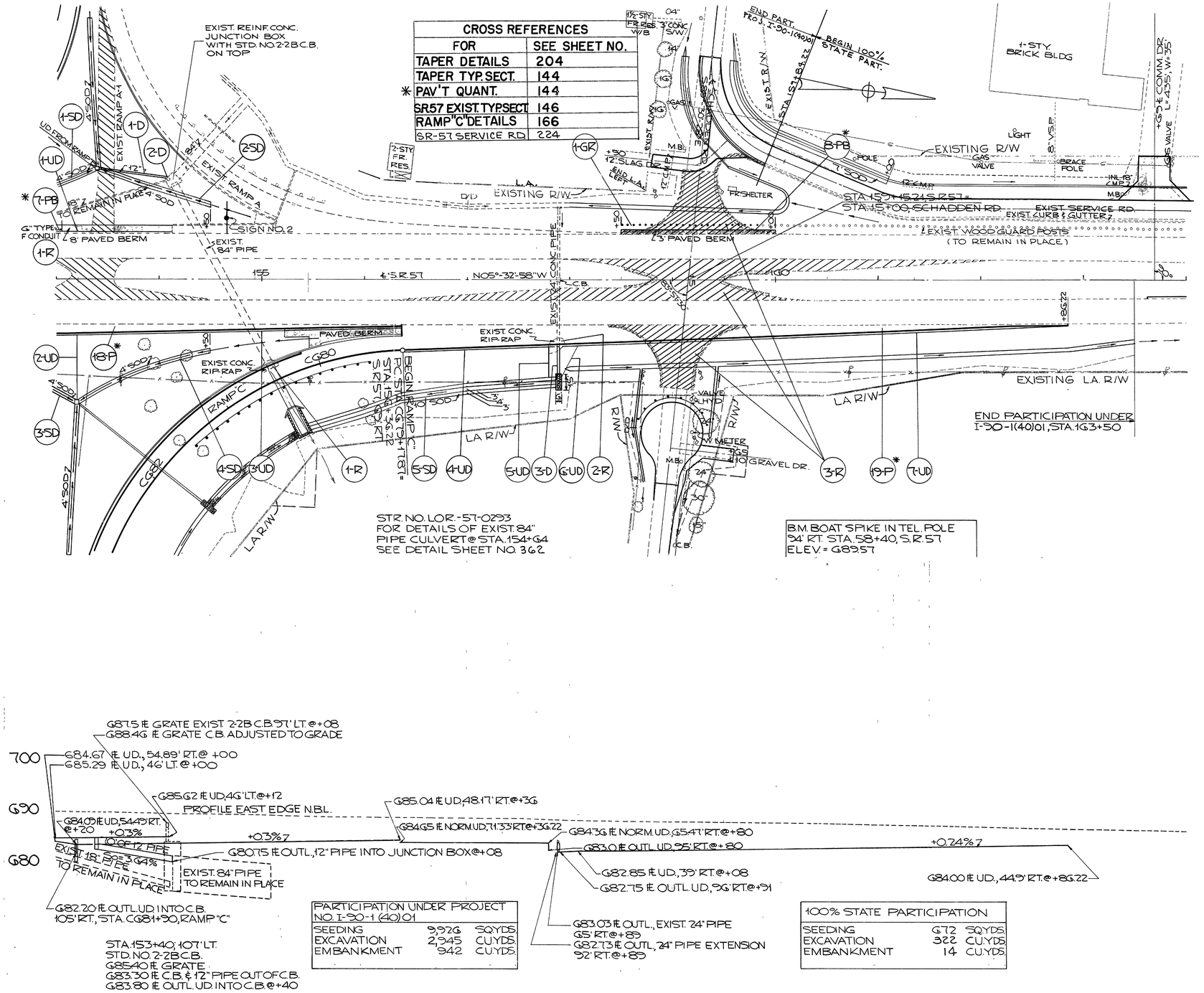


SEEDING	6369	SQ.YDS.
EXCAVATION	1845	CU.YDS.
EMBANKMENT	1404	CU.YDS.

S.R. 57, STA. 142+00 TO STA. 153+00

LOR-90-13.01

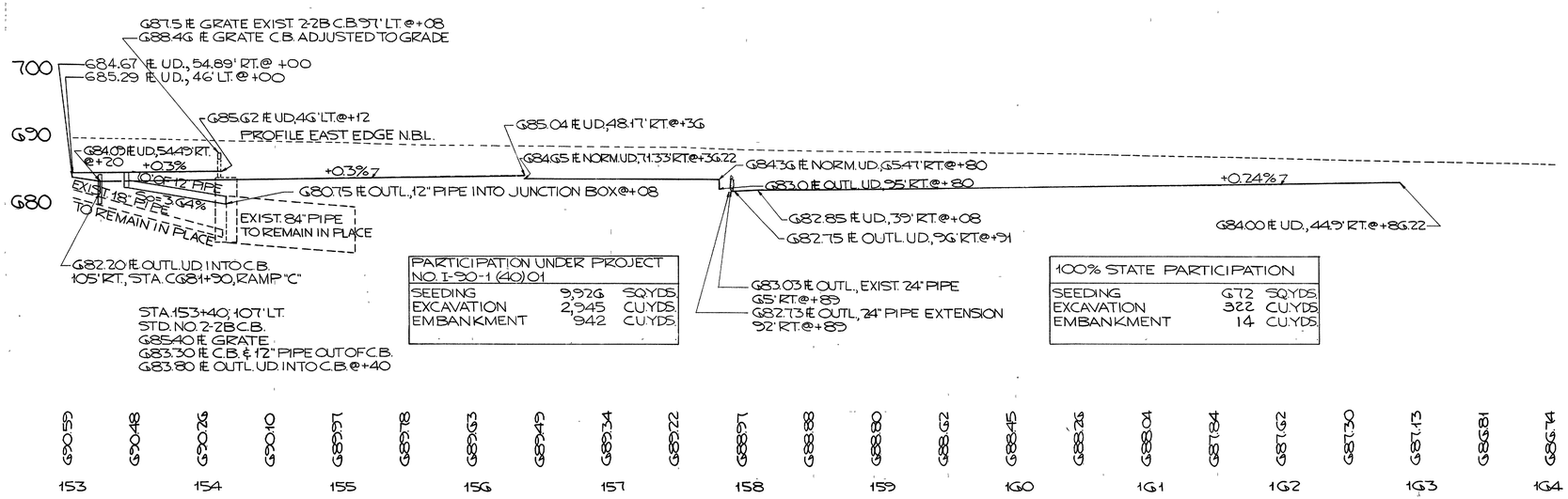
CROSS REFERENCES	
FOR	SEE SHEET NO.
TAPER DETAILS	204
TAPER TYP. SECT.	144
* PAV'T QUANT.	144
SR57 EXIST. TYP. SECT.	146
RAMP "C" DETAILS	166
SR-57 SERVICE RD.	224



REFERENCE NO.	SIDE	STATION FROM	STATION TO	G05 SHALLOW PIPE UNDER-DRAINS 6" LIN.FT.	G05 DEEP PIPE UNDER-DRAINS 6" LIN.FT.	G03 CONDUIT TYPE F 6" LIN.FT.	G05 PIPE SPECIALS 6" GO WYE EACH	G05 PIPE SPECIALS 6" TEE EACH	G03 CONDUIT TYPE B-B 12" LIN.FT.	G03 CONDUIT TYPE A-B 706.02 24" LIN.FT.	G04 CATCH BASINS STD. NO. 2-2B EACH	G04 CATCH BASINS ADJUST. TO GRADE 2-2B EACH	G02 MASON. STD. HW-E ENDWL CU.YDS.	G01 DUMPED ROCK CHANN. PROT. 18" THICK CU.YDS.
1-UD	LT.	153+00	154+12		107	5								
2-UD	RT.	153+20			54	10		1						
3-UD	RT.	153+00	156+36		336									
4-UD	RT.	156+36.22	157+87	151										
5-UD	RT.	157+80			20	10		1						
6-UD	RT.	157+91	157+08		26	10	1							
7-UD	RT.	157+91	162+86	195	300									
1-D	LT.	153+40	154+08						70		1			
2-D	LT.	154+08										1		
3-D	RT.	157+89								27			041	5
TOTALS				346	843	35	1	2	70	27	1	1	041	5

REFERENCE NO.	SIDE	STATION FROM	STATION TO	202 PORTIONS OF EXIST. STRUCT. REMOV. (CONC. RIP-RAP) LUMP	202 EXIST. PAV'T REMOV. AND DISPOS. OF (W/ REINF. CONC.) SQ.YDS.	202 EXIST. CURB & GUTTER REMOV. AND DISPOS. OF LIN.FT.	606 GUARD POSTS EACH			660 SODDING SQ.YDS.		
1-R	LT.&RT.	153+00	154+48		324							
2-R	RT.	157+89		LUMP								
3-R	LT.&RT.	156+25	162+10		1498	590						
4-R	RT.	155+05		LUMP								
1-GR	LT.	158+50	159+82				23					
1-SD	LT.	153+00	153+40							18		
2-SD	LT.	153+40	154+50							51		
3-SD	RT.	153+00	153+20							9		
4-SD	RT.	153+20	154+50							62		
5-SD	RT.	156+36.0	157+86							166		
TOTALS				LUMP	1822	590	23			306		

REFERENCE NO.	SIDE	STATION FROM	STATION TO

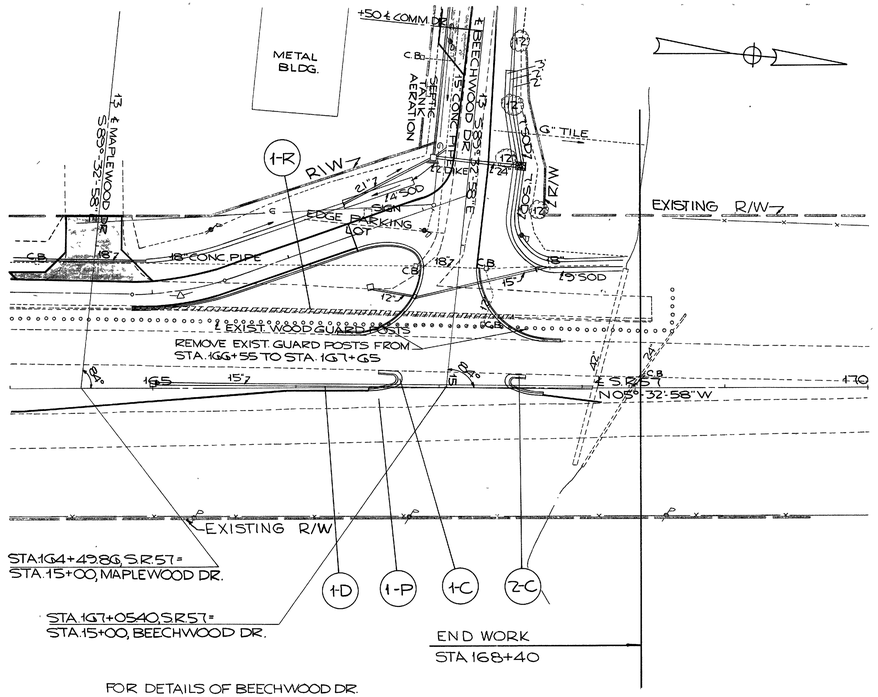


PARTICIPATION UNDER PROJECT NO. I-90-1 (40) 01		
SEEDING	9,926	SQ.YDS.
EXCAVATION	2,945	CU.YDS.
EMBANKMENT	942	CU.YDS.

100% STATE PARTICIPATION		
SEEDING	672	SQ.YDS.
EXCAVATION	322	CU.YDS.
EMBANKMENT	14	CU.YDS.

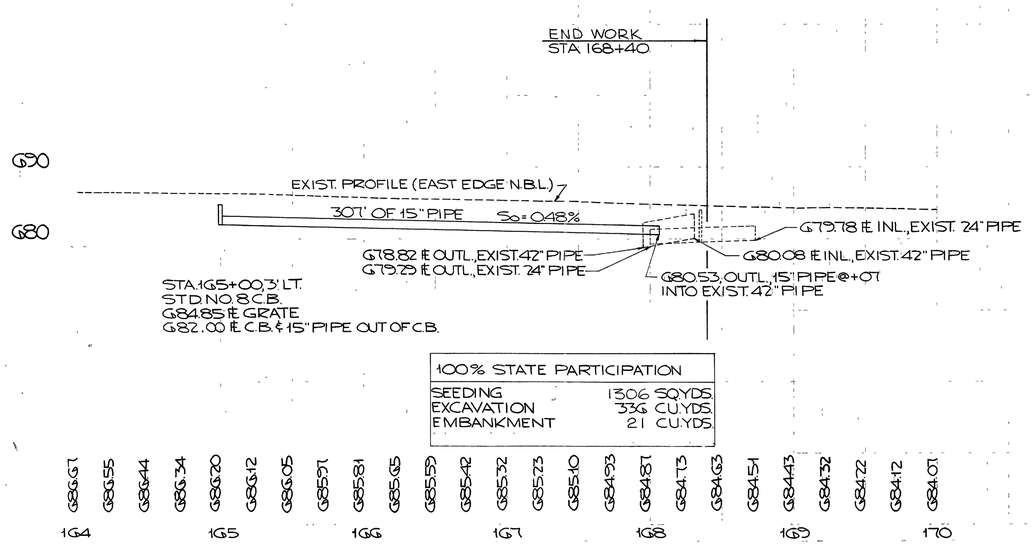
STA. 153+00 TO STA. 164+00, S.R.57

LOR.-90-13.01



FOR DETAILS OF BEECHWOOD DR. INTERSECTION WITH MEDIAN X-OVER, SEE SHEET NO. 230

B.M. SPIKE IN BRACE POLE
41' LT. STA. 13+89, BEECHWOOD DR.
ELEV. = 687.528



100% STATE PARTICIPATION	
SEEDING	1306 SQ.YDS.
EXCAVATION	336 CU.YDS.
EMBANKMENT	21 CU.YDS.

REFERENCE NO.	SIDE	STATION FROM	STATION TO	202 EXIST. CURB & GUTTER REMOV. & DISPOS. OF	603 CONDUIT TYPE B-B 15"		604 CATCH BASINS STD. NO. 8		667 JUTE MATTING		609 COMB. CURB AND GUTTER STD. TYPE 2	609 COMB. CURB AND GUTTER STD. TYPE 2 (MOD.)	451.1 REINF. PORT. CEMENT CONC. PAV'T. 9"	310 SUBBASE GRAD. A OR B 6"
				LIN. FT.	LIN. FT.		EACH		SQ.YDS.		LIN. FT.		SQ.YDS.	CU.YDS.
1-P	℄	163+62	168+21										507.4	96.1
1-D	LT.	165+00	168+07		307		1		250					
1-C	LT. & RT.	166+52.41	166+75.20									40.6		
2-C	LT. & RT.	167+49.15	167+72.61								41.5			
1-R	LT.	164+86.56	167+52	266										
TOTALS				266	307		1		250		41.5	40.6	507.4	96.1

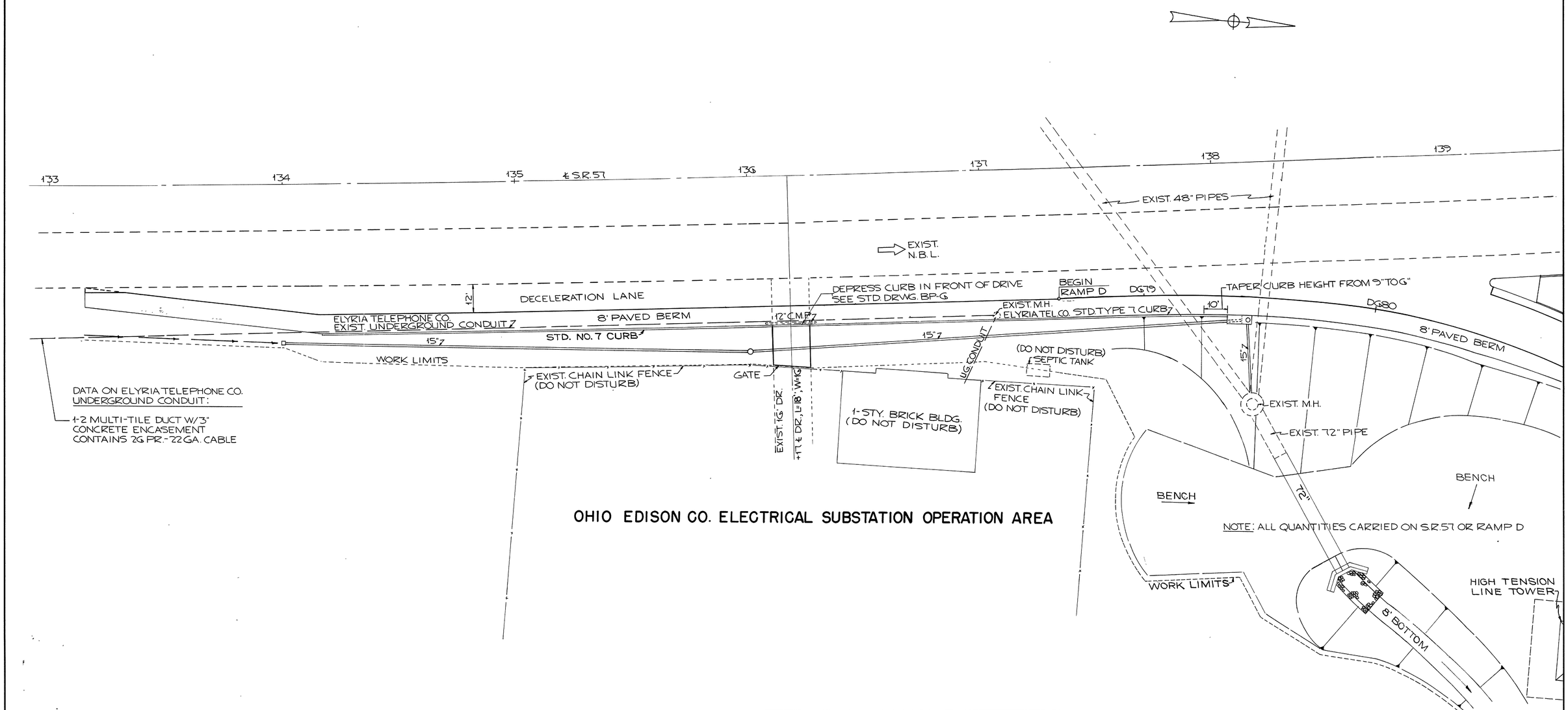
NOTE: ALL QUANTITIES ON THIS SHEET ARE FOR 100% STATE PARTICIPATION.

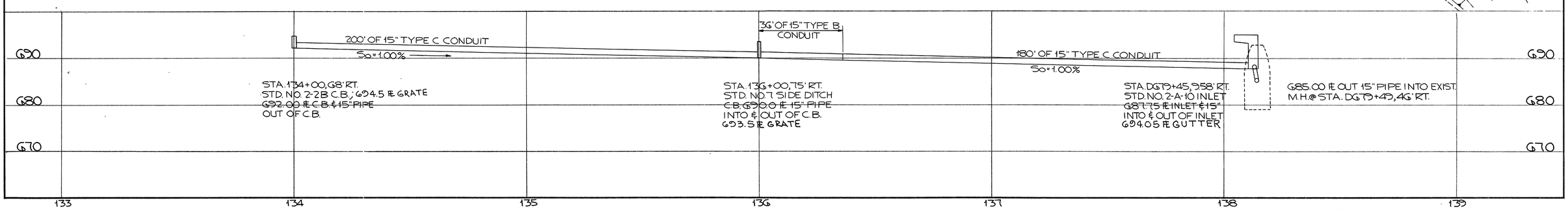
STA. 164+00 TO STA. 170+00, S.R. 57

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

150

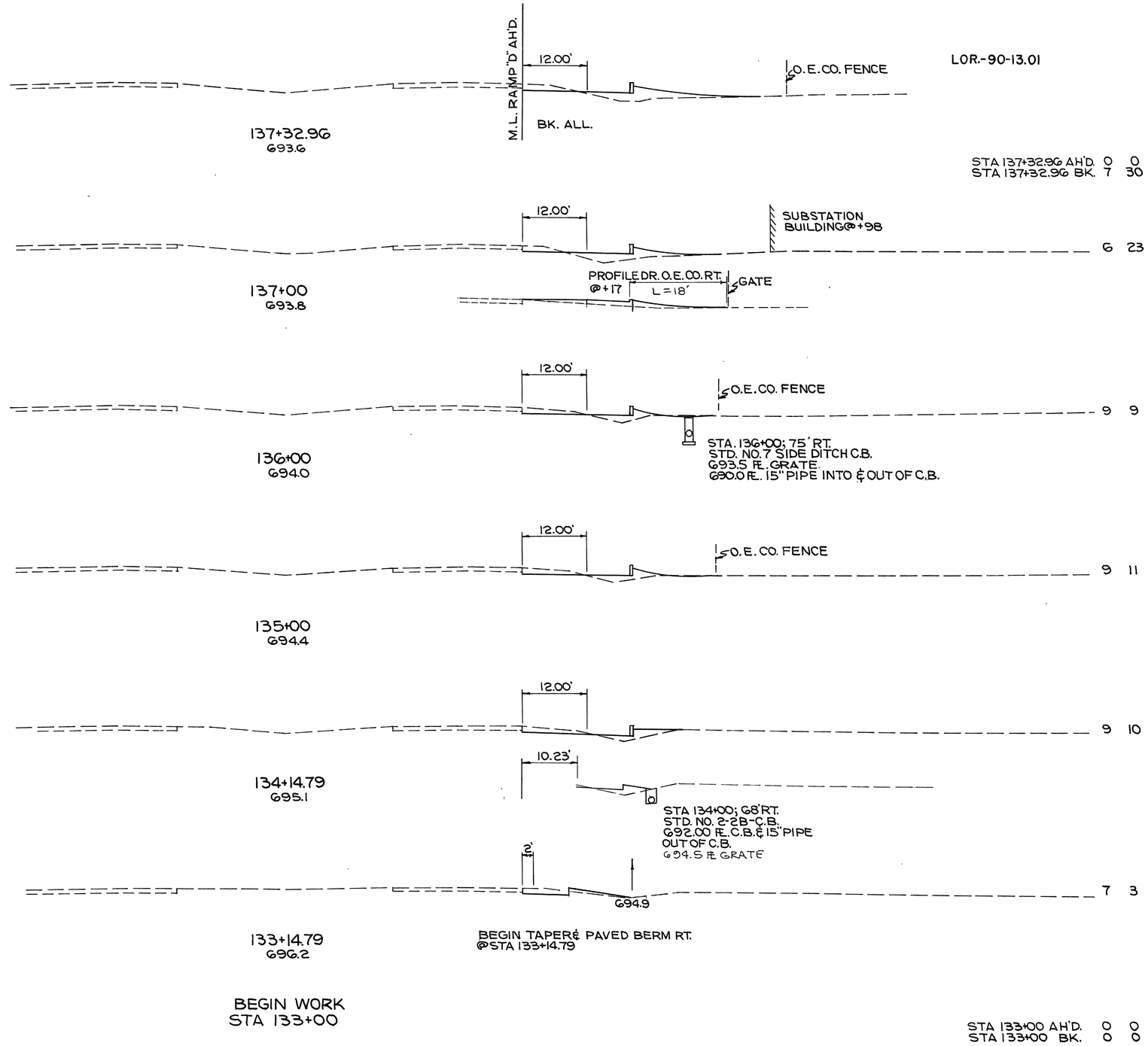
LOR.-90-13.01





DETAIL OF RAMP D DECELERATION LANE IN FRONT OF OHIO EDISON CO. PROPERTY

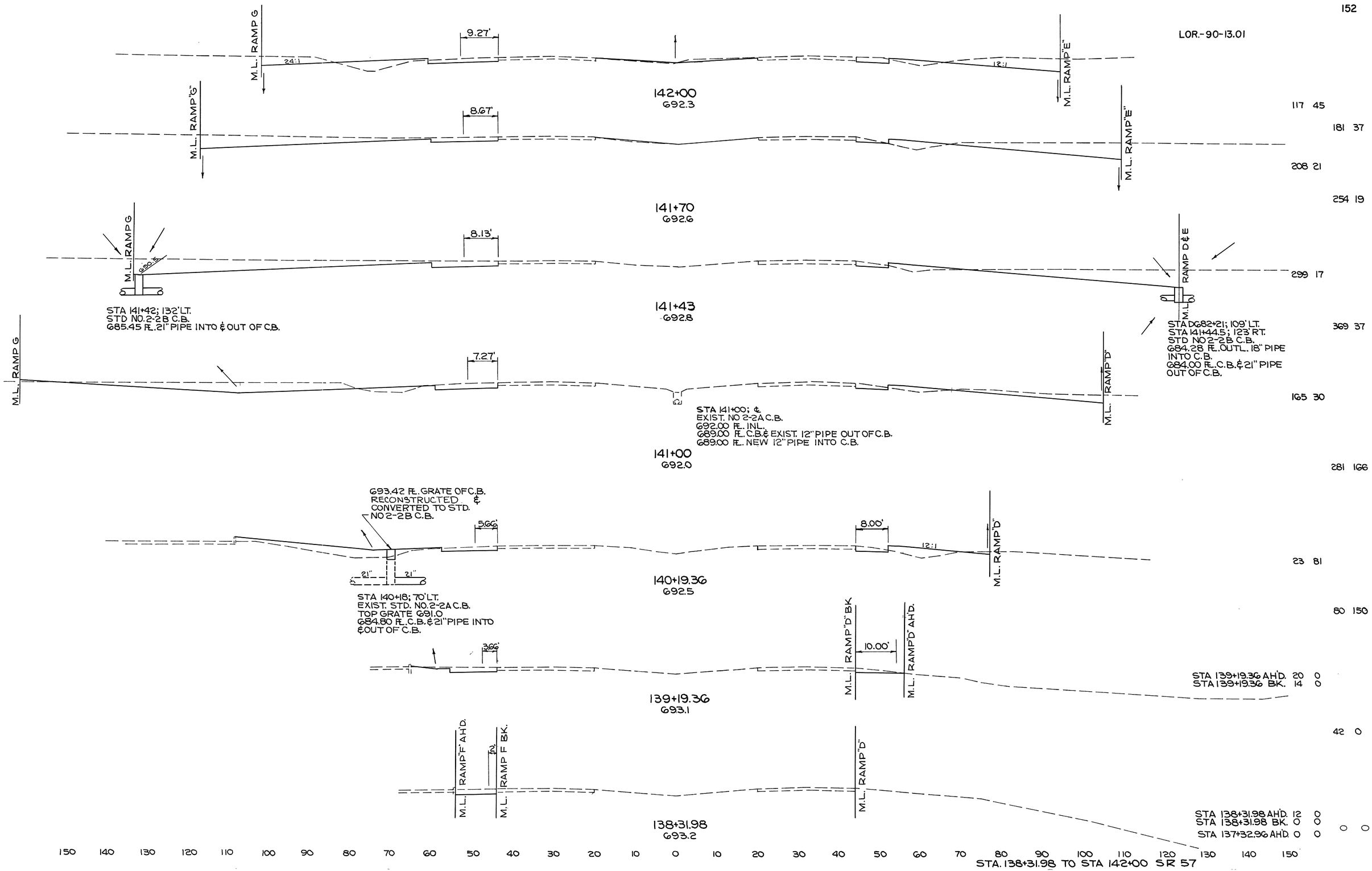
LOR.-90-13.01



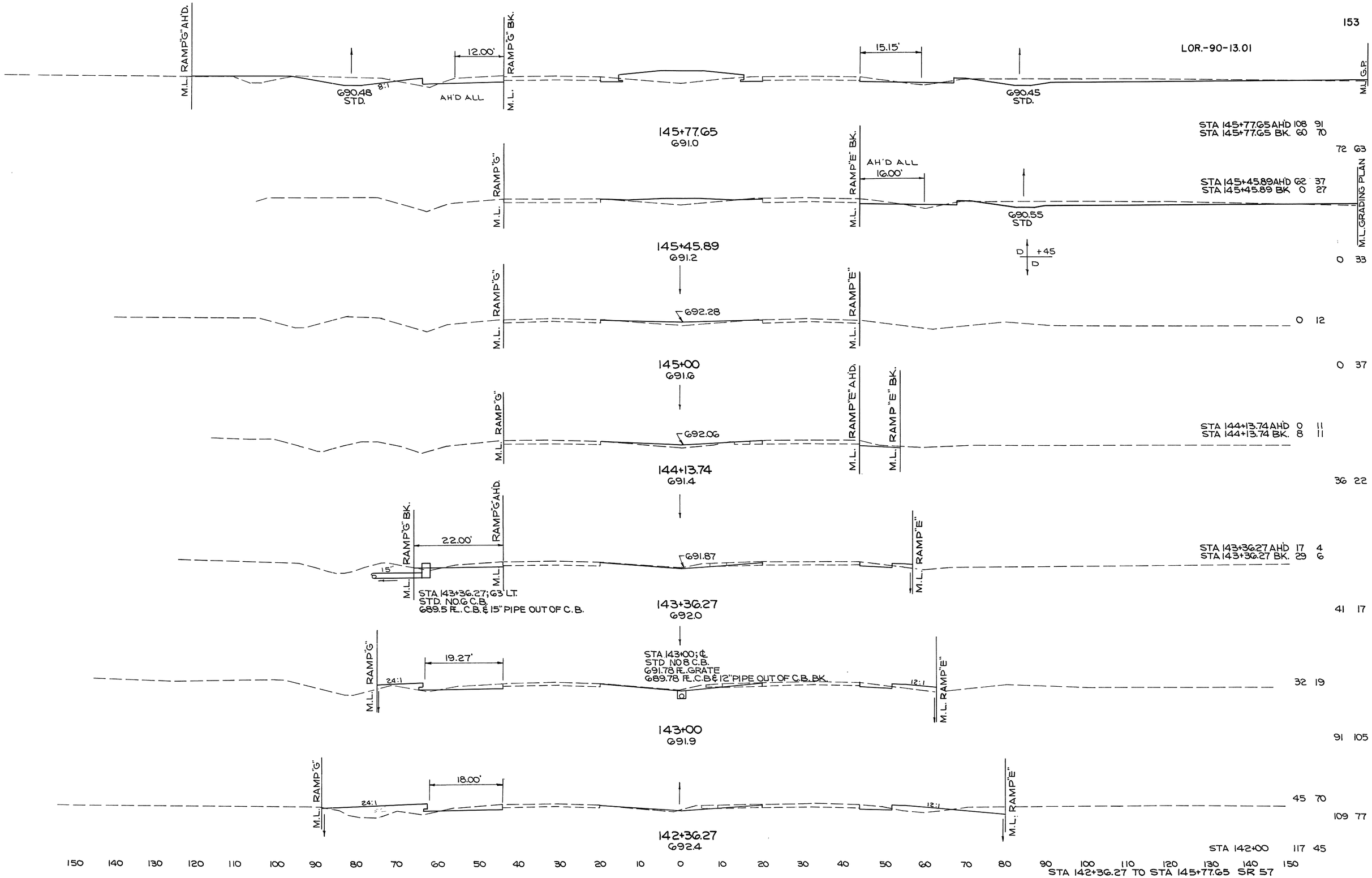
150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

STA 133+00 TO STA 137+32.92 SR 57

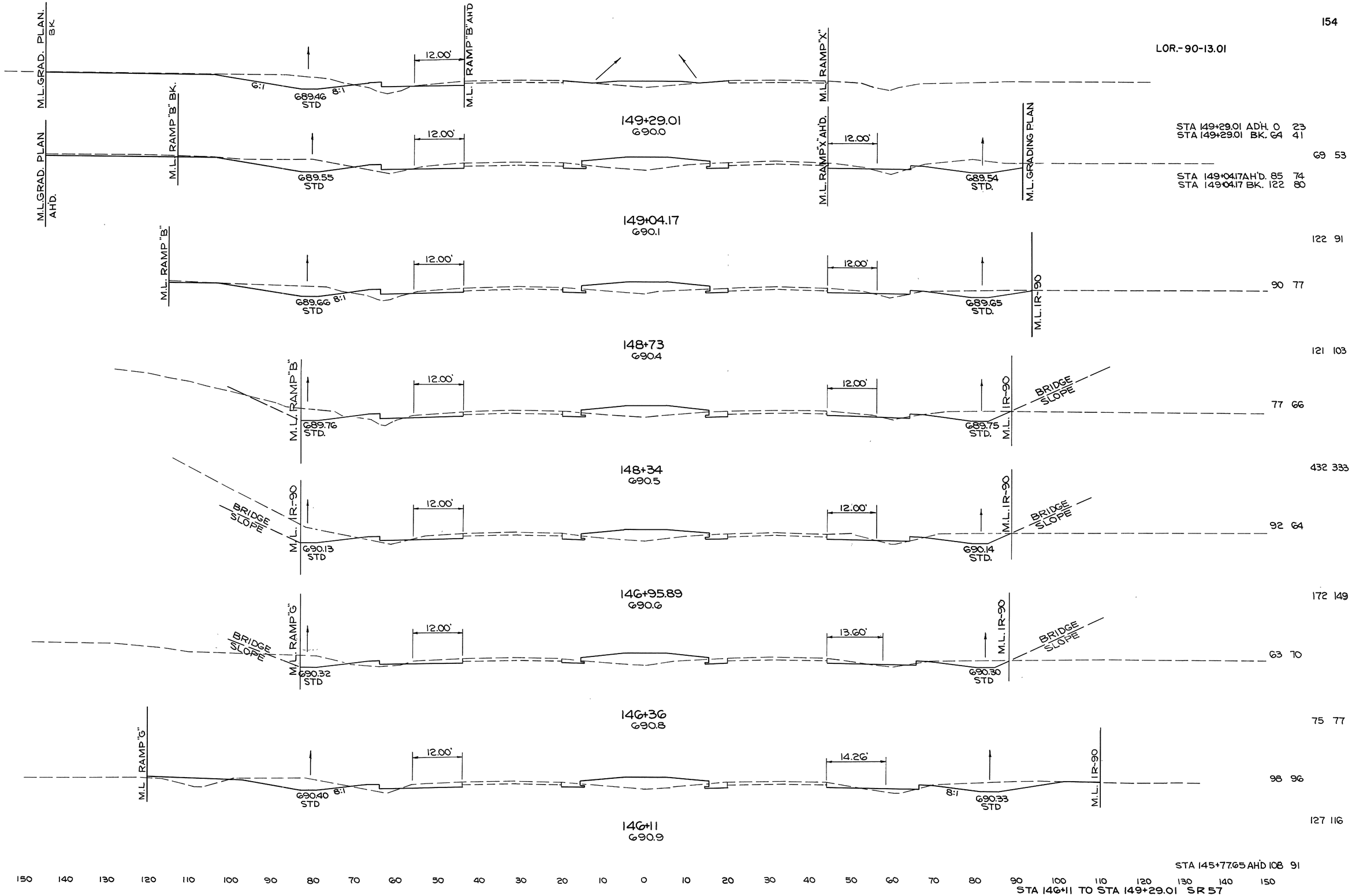
LOR.-90-13.01

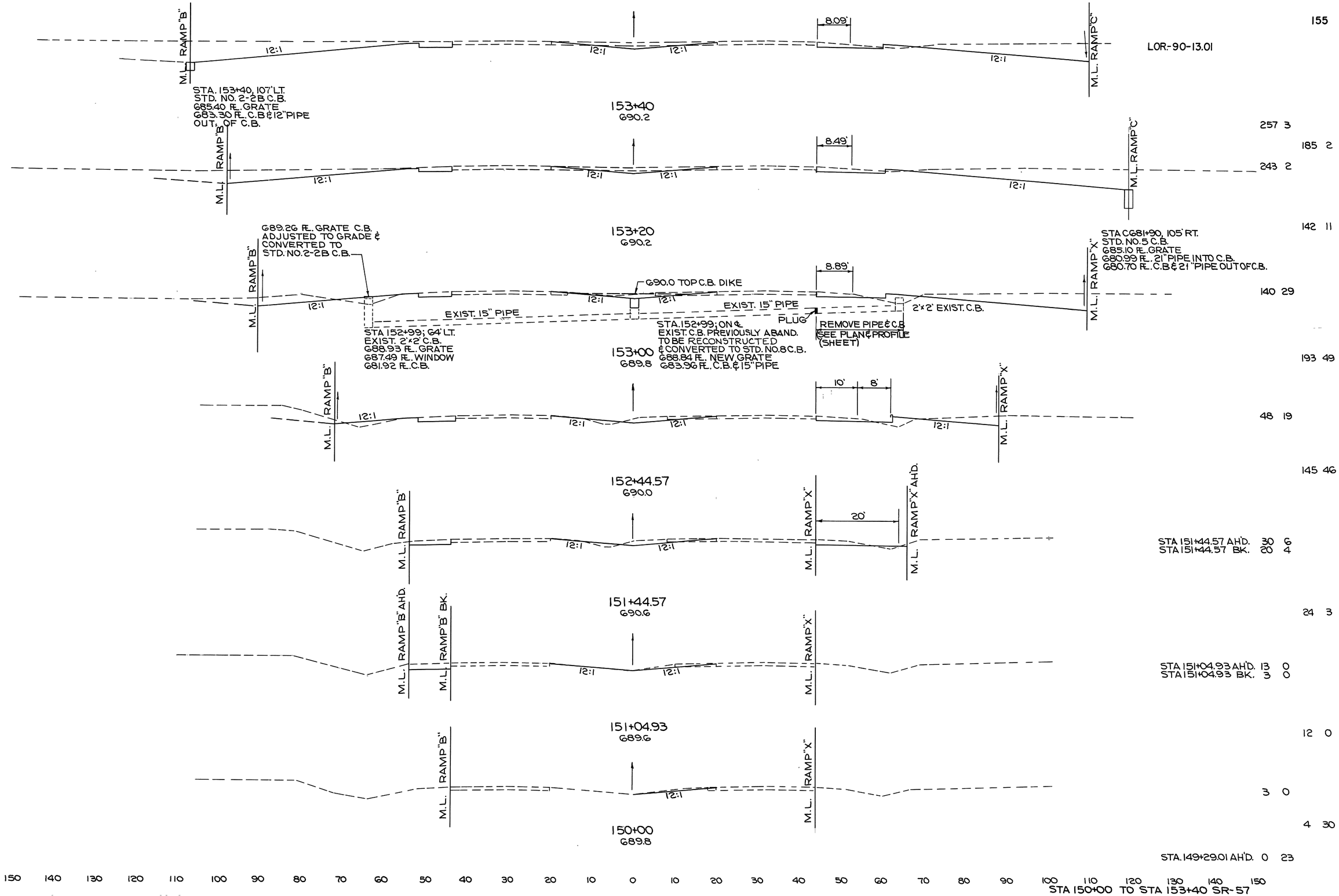

M.L. RAMP G
9.27'
24:1
12:1
M.L. RAMP "E"
142+00
692.3
M.L. RAMP "G"
8.67'
M.L. RAMP "E"
141+70
692.6
M.L. RAMP G
692.5
8.13'
M.L. RAMP D & E
STA 141+42; 132' LT.
STD NO. 2-2B C.B.
685.45 FL. 21" PIPE INTO & OUT OF C.B.
141+43
692.8
STA D682+21; 109' LT.
STA 141+44.5; 123' RT.
STD NO 2-2B C.B.
684.28 FL. OUTL. 18" PIPE
INTO C.B.
684.00 FL. C.B. & 21" PIPE
OUT OF C.B.
M.L. RAMP G
7.27'
M.L. RAMP "D"
STA 141+00; ℄
EXIST. NO 2-2A C.B.
692.00 FL. INL.
689.00 FL. C.B. & EXIST. 12" PIPE OUT OF C.B.
689.00 FL. NEW 12" PIPE INTO C.B.
141+00
692.0
693.42 FL. GRATE OF C.B.
RECONSTRUCTED &
CONVERTED TO STD.
NO 2-2B C.B.
5.66'
8.00'
12:1
M.L. RAMP "D"
21"
21"
140+19.36
692.5
STA 140+18; 70' LT.
EXIST. STD. NO. 2-2A C.B.
TOP GRATE 691.0
684.80 FL. C.B. & 21" PIPE INTO
& OUT OF C.B.
3.66'
M.L. RAMP "D" BK
10.00'
M.L. RAMP "D" AH'D.
139+19.36
693.1
M.L. RAMP "F" AH'D.
IN.
M.L. RAMP F BK.
M.L. RAMP "D"
138+31.98
693.2
117 45
181 37
208 21
254 19
299 17
369 37
165 30
281 166
23 81
80 150
STA 139+19.36 AH'D. 20 0
STA 139+19.36 BK. 14 0
42 0
STA 138+31.98 AH'D. 12 0
STA 138+31.98 BK. 0 0
STA 137+32.96 AH'D. 0 0
0 0
150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150
STA. 138+31.98 TO STA 142+00 SR 57

LOR.-90-13.01

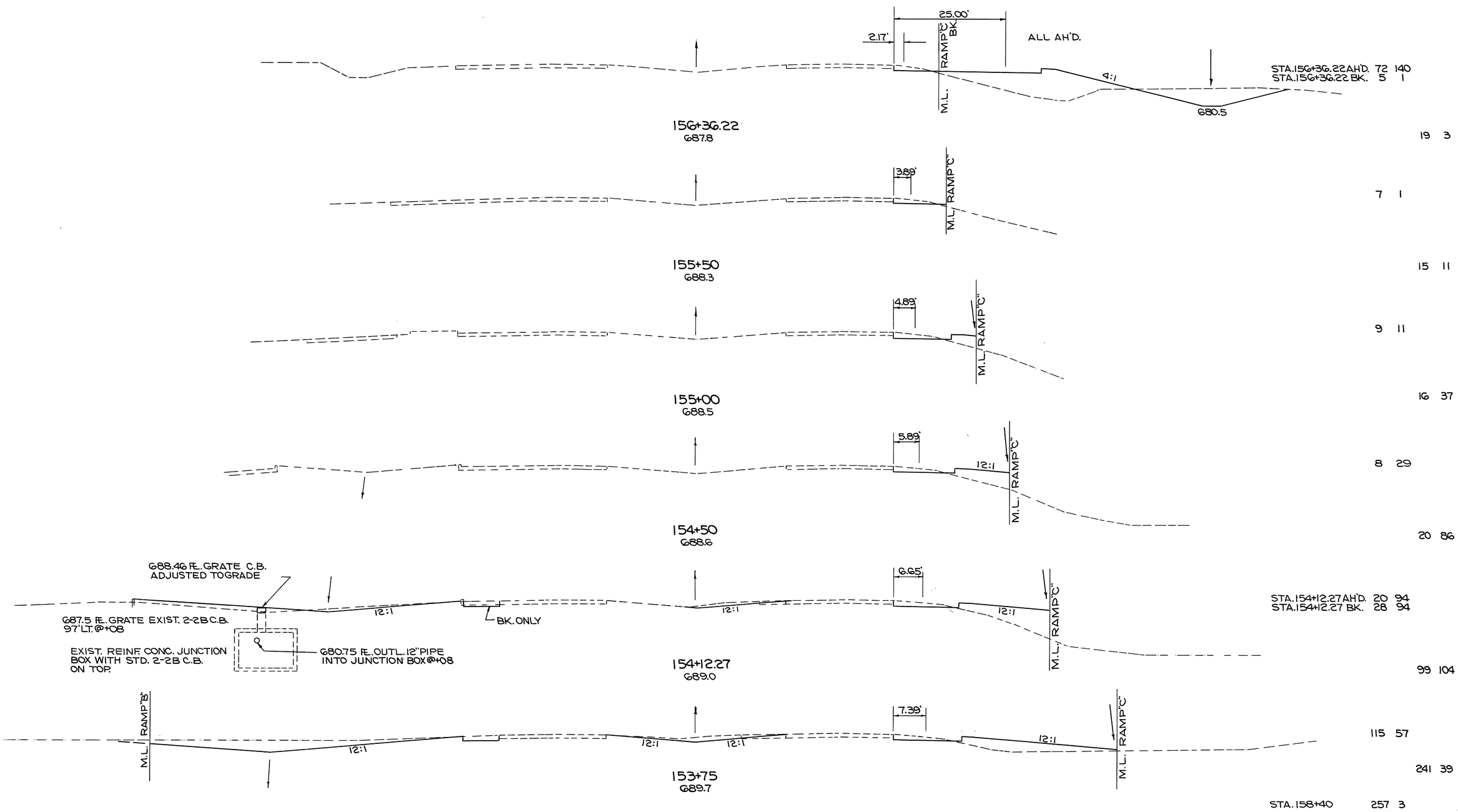

M.L. RAMP"G" AH'D.
12.00'
RAMP"G" BK.
M.L.
690.48
STD.
8:1
AH'D ALL
15.15'
690.45
STD.
M.L. G.P.
145+77.65
691.0
RAMP"G"
RAMP"E" BK.
AH'D ALL
16.00'
690.55
STD
STA 145+77.65 AH'D 108 91
STA 145+77.65 BK. 60 70
72 63
STA 145+45.89 AH'D 62 37
STA 145+45.89 BK 0 27
M.L. GRADING PLAN
145+45.89
691.2
D +45 D
0 33
692.28
RAMP"E"
0 12
145+00
691.6
0 37
692.06
RAMP"E" AH'D.
RAMP "E" BK.
STA 144+13.74 AH'D 0 11
STA 144+13.74 BK. 8 11
144+13.74
691.4
36 22
RAMP"G" BK.
RAMP"G" AH'D.
22.00'
691.87
15"
STA 143+36.27 AH'D 17 4
STA 143+36.27 BK. 29 6
STA 143+36.27; 63 LT.
STD. NO.6 C.B.
689.5 FL. C.B. & 15" PIPE OUT OF C.B.
143+36.27
692.0
41 17
19.27'
24:1
STA 143+00; ℄
STD NO 8 C.B.
691.78 FL. GRATE
689.78 FL. C.B & 12" PIPE OUT OF C.B. BK.
12:1
32 19
143+00
691.9
91 105
18.00'
24:1
12:1
45 70
109 77
142+36.27
692.4
STA 142+00 117 45
150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150
STA 142+36.27 TO STA 145+77.65 SR 57

LOR.-90-13.01

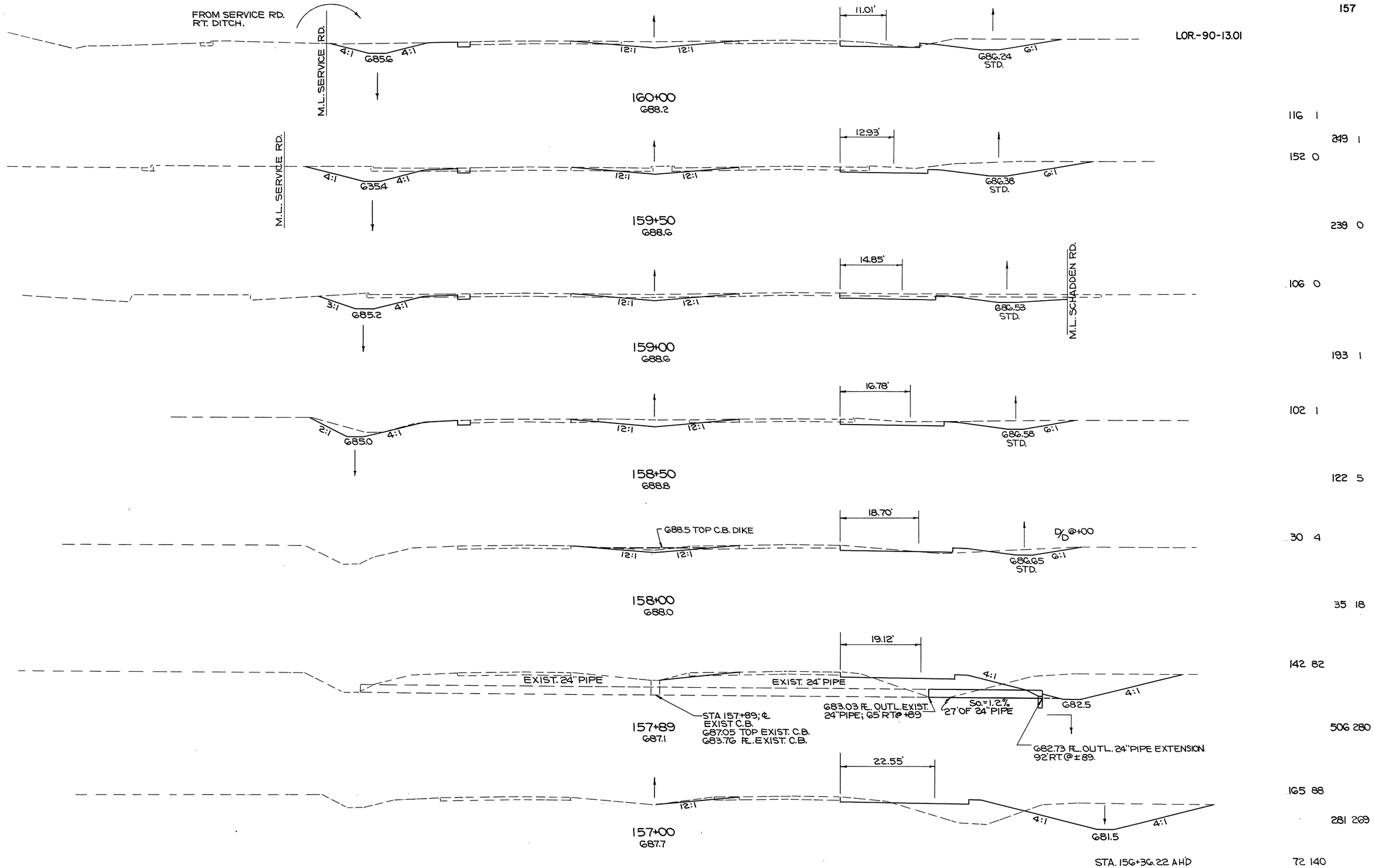

M.L. GRAD. PLAN. BK.
M.L. RAMP "B" BK.
M.L. GRAD. PLAN AH'D.
M.L. RAMP "B" AH'D
M.L. RAMP "X"
M.L. RAMP "X" AH'D.
M.L. GRADING PLAN
M.L. RAMP "B"
M.L. IR-90
M.L. RAMP "G"
12.00'
13.60'
14.26'
6:1
8:1
689.46 STD
689.55 STD
689.66 STD
689.76 STD.
690.13 STD
690.40 STD
690.32 STD
689.54 STD.
689.65 STD.
689.75 STD.
690.14 STD.
690.30 STD
690.33 STD
BRIDGE SLOPE
149+29.01
690.0
149+04.17
690.1
148+73
690.4
148+34
690.5
146+95.89
690.6
146+36
690.8
146+11
690.9
STA 149+29.01 AD'H. 0 23
STA 149+29.01 BK. 64 41
69 53
STA 149+04.17 AH'D. 85 74
STA 149+04.17 BK. 122 80
122 91
90 77
121 103
77 66
432 333
92 64
172 149
63 70
75 77
98 96
127 116
STA 145+77.65 AH'D 108 91
150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150
STA 146+11 TO STA 149+29.01 SR 57


LOR-90-13.01
155
M.L. RAMP "B"
M.L. RAMP "C"
12:1
8.09'
STA. 153+40, 107' LT.
STD. NO. 2-2B C.B.
685.40 FL. GRATE
683.30 FL. C.B & 12" PIPE
OUT OF C.B.
153+40
690.2
257 3
185 2
243 2
8.49'
M.L. RAMP "X"
STA C681+90, 105' RT.
STD. NO. 5 C.B.
685.10 FL. GRATE
680.99 FL. 21" PIPE INTO C.B.
680.70 FL. C.B & 21" PIPE OUT OF C.B.
142 11
689.26 FL. GRATE C.B.
ADJUSTED TO GRADE &
CONVERTED TO
STD. NO. 2-2B C.B.
153+20
690.2
690.0 TOP C.B. DIKE
8.89'
EXIST. 15" PIPE
PLUG
2'x2' EXIST. C.B.
140 29
STA 152+99; 64' LT.
EXIST. 2'x2' C.B.
688.93 FL. GRATE
687.49 FL. WINDOW
681.92 FL. C.B.
STA. 152+99; ON ℄
EXIST. C.B. PREVIOUSLY ABAND.
TO BE RECONSTRUCTED
& CONVERTED TO STD. NO. 8 C.B.
688.84 FL. NEW GRATE
683.96 FL. C.B. & 15" PIPE
REMOVE PIPE & C.B.
(SEE PLAN & PROFILE
(SHEET)
153+00
689.8
193 49
10'
8'
48 19
145 46
152+44.57
690.0
20'
M.L. RAMP "X" AH'D.
STA 151+44.57 AH'D. 30 6
STA 151+44.57 BK. 20 4
24 3
M.L. RAMP "B" AH'D.
M.L. RAMP "B" BK.
151+44.57
690.6
STA 151+04.93 AH'D. 13 0
STA 151+04.93 BK. 3 0
12 0
151+04.93
689.6
3 0
4 30
150+00
689.8
STA. 149+29.01 AH'D. 0 23
150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150
STA 150+00 TO STA 153+40 SR-57

LOR.-90-13.01


25.00'
2.17'
RAMP "C" BK.
ALL AH'D.
4:1
M.L.
680.5
STA.156+36.22 AH'D. 72 140
STA.156+36.22 BK. 5 1
156+36.22
687.8
19 3
3.89'
M.L. RAMP "C"
7 1
155+50
688.3
15 11
4.89'
M.L. RAMP "C"
9 11
155+00
688.5
16 37
5.89'
12:1
M.L. RAMP "C"
8 29
154+50
688.6
20 86
688.46 FL. GRATE C.B.
ADJUSTED TO GRADE
6.65'
12:1
687.5 FL. GRATE EXIST. 2-2B C.B.
97' LT. @+08
BK. ONLY
EXIST. REINF. CONC. JUNCTION
BOX WITH STD. 2-2B C.B.
ON TOP.
680.75 FL. OUTL. 12" PIPE
INTO JUNCTION BOX @+08
M.L. RAMP "C"
STA.154+12.27 AH'D. 20 94
STA.154+12.27 BK. 28 94
154+12.27
689.0
99 104
M.L. RAMP "B"
7.39'
M.L. RAMP "C"
115 57
153+75
689.7
241 39
STA. 158+40 257 3
150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150
STA 153+75 TO STA. 156+36.22 SR-57

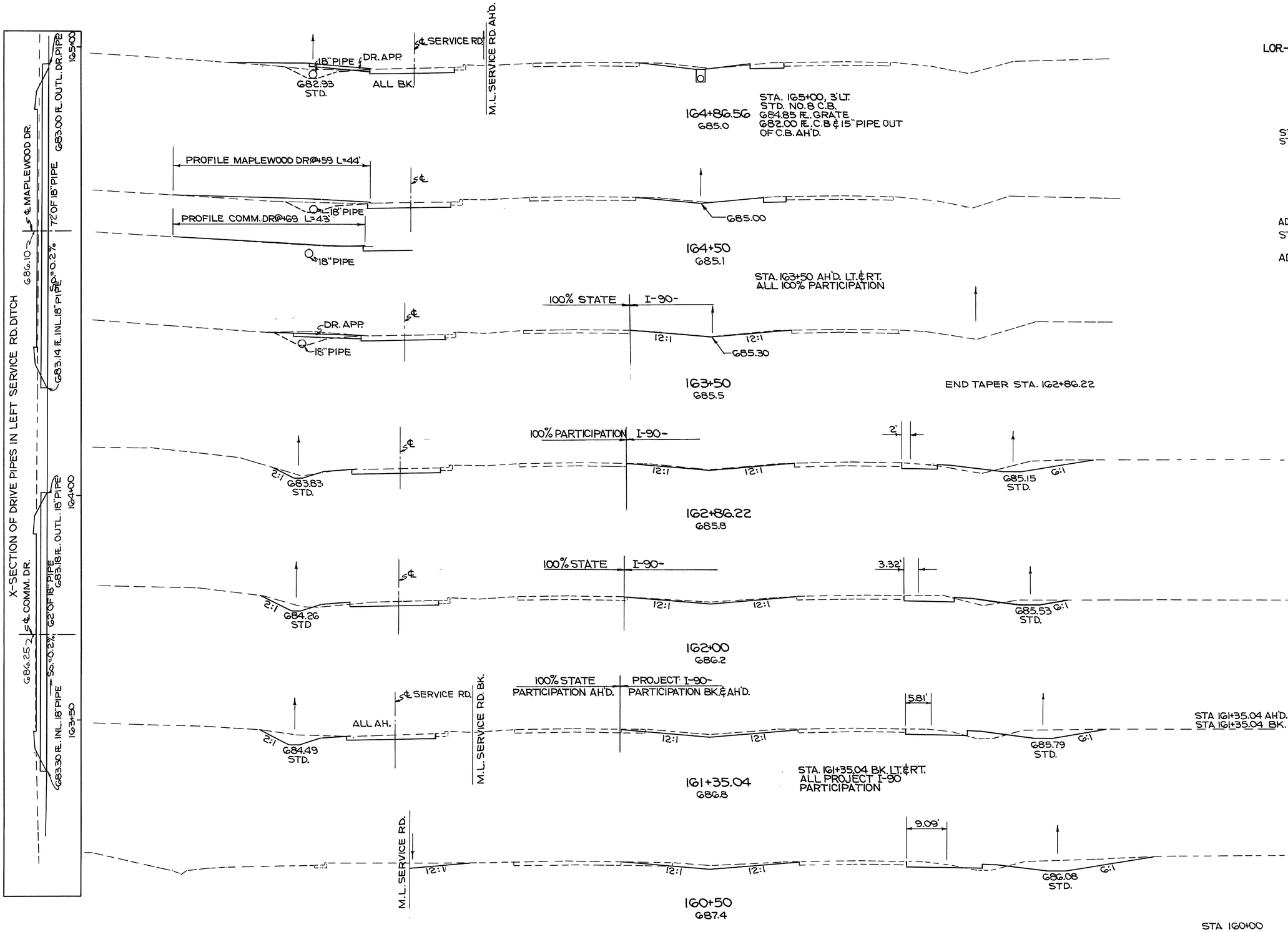
LOR.-90-13.01



STA 157+00 TO STA 160+00 SR-57

LOR.-90-13.01

100% STATE PART.



STA. 164+86.56 AH'D. 11 1
STA. 164+86.56 BK. 42 1

57 1

43 0

84 0

ADD FOR MAPLEWOOD DR. 5 5

STA. 164+00 45 0

85 0

ADD FOR COMM. DR. @+69 5 3

I-90-1(40) 01

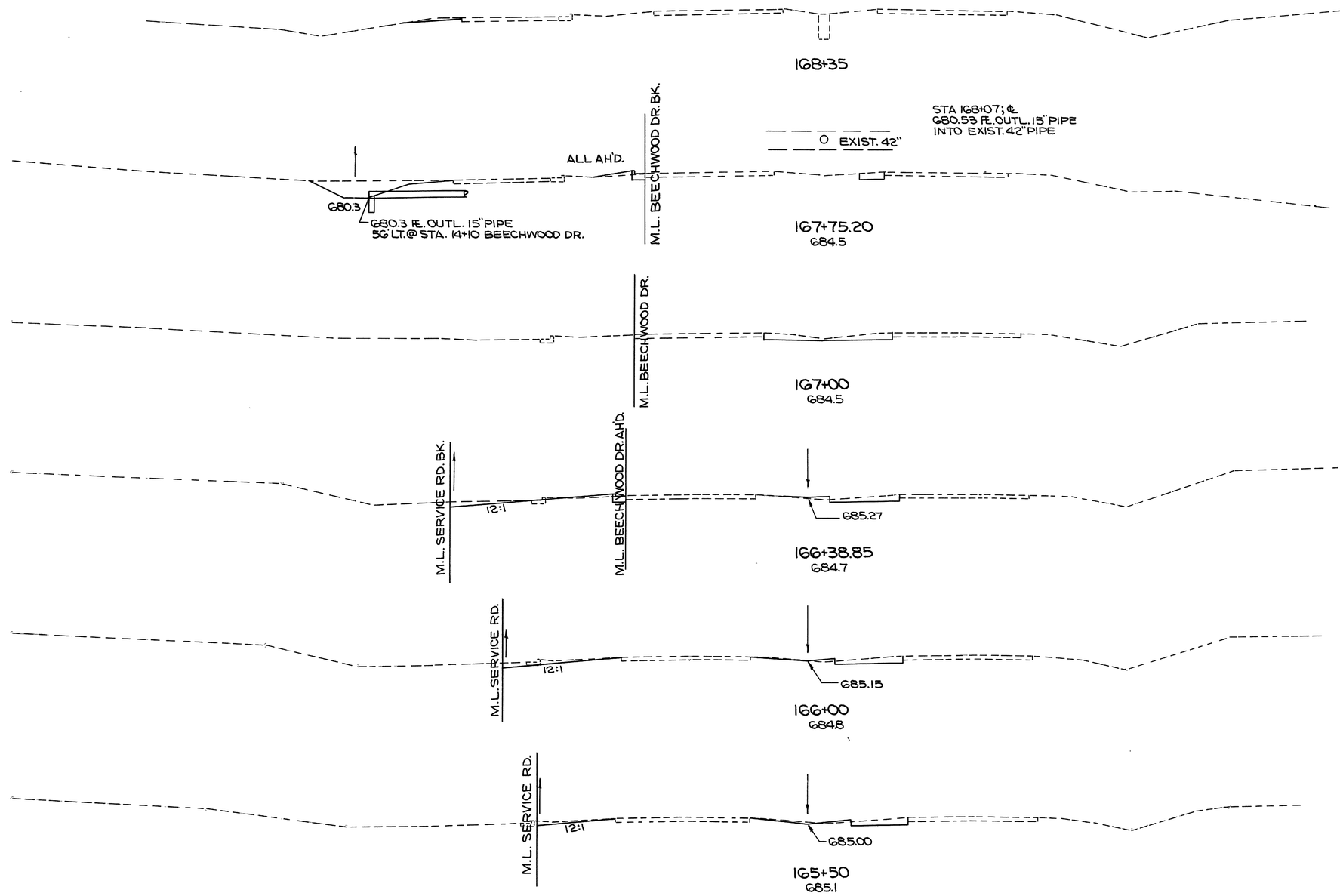
END AREA		VOLUME			
CUT	FILL	CUT	FILL		
1	0			47	0
		38	8		
					85 1
30	7			25	1
		96	21		
					77 6
30	6			23	3
		93	18		
					70 4
		184	22		
70	5				
		172	6		
116	1				

STA 161+35.04 AH'D. 47 9 35 0
STA 161+35.04 BK. 47 9 0 0

STA 160+00

STA 160+50 TO STA 164+86.56 SR-57

END WORK STA 168+40



STA 168+40 AH'D. 0 0
STA 168+40 BK. 0 0
1 0
2 0
49 3
STA 167+75.20 AH'D. 42 3
STA 167+75.20 BK. 5 0
32 0
18 0
31 2
STA 166+38.85 AH'D. 9 2
STA 166+38.85 BK. 15 4
22 4
16 2
27 3
13 1
28 3
STA 164+86.56 AH'D. 11 1

STA 165+50 TO STA. 168+35 SR-57

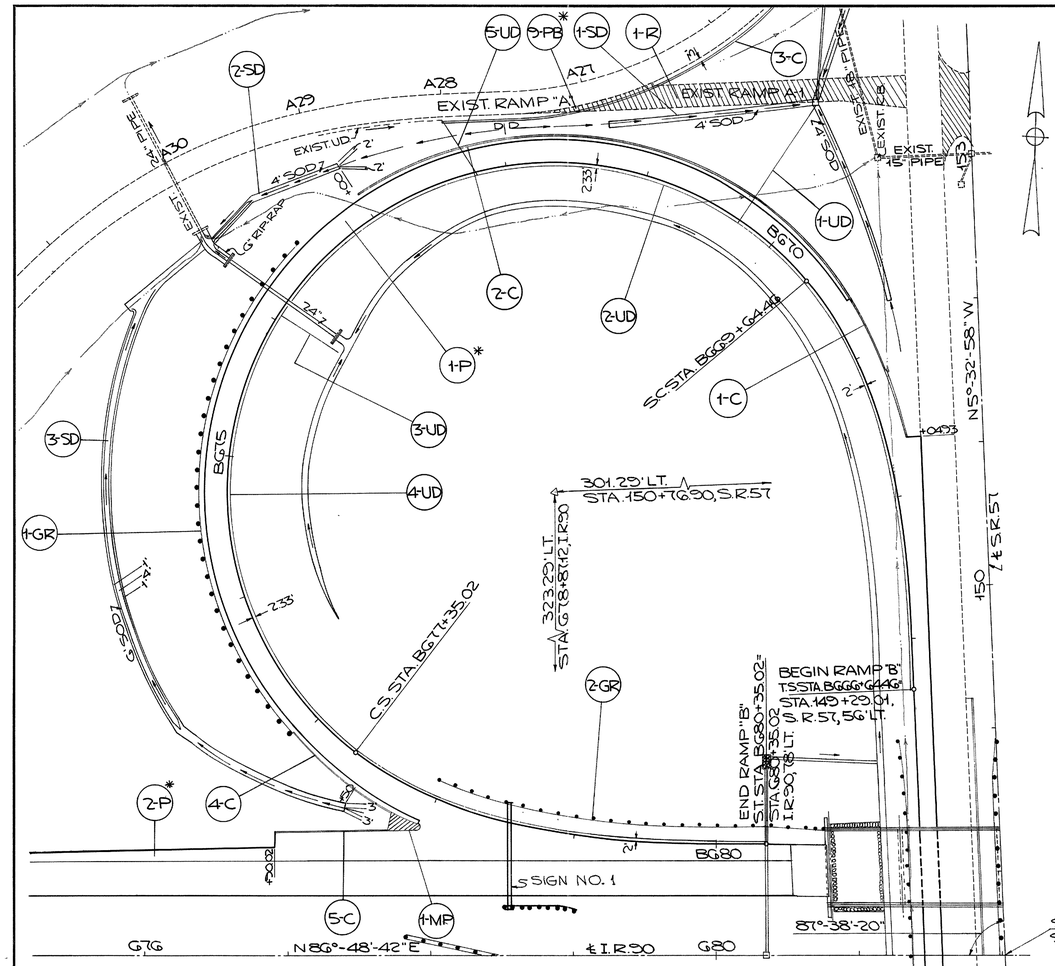
FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

160

LOR.-90-13.01

FOR DETAILS OF 24" PIPE CULVERT @ STA. BG73+85 SEE SHEET NO. 361

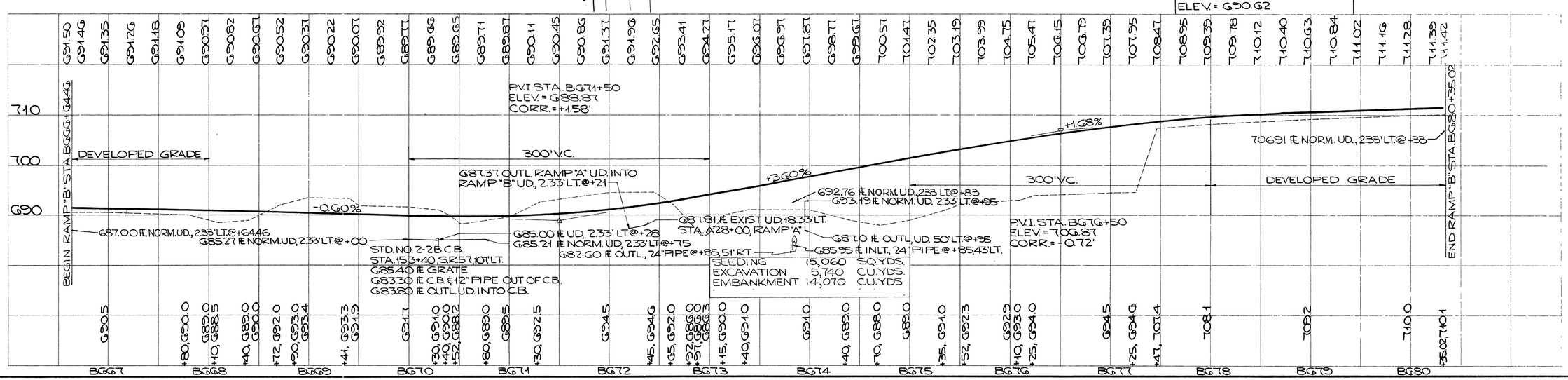
CROSS REFERENCES	
FOR	SEE SHEET NO.
RAMP "B" DETAILS	206,207
SUPERELEVATION	145
GRADING PLAN	213,214
* PAV'T. QUAN.	144



CURVE DATA

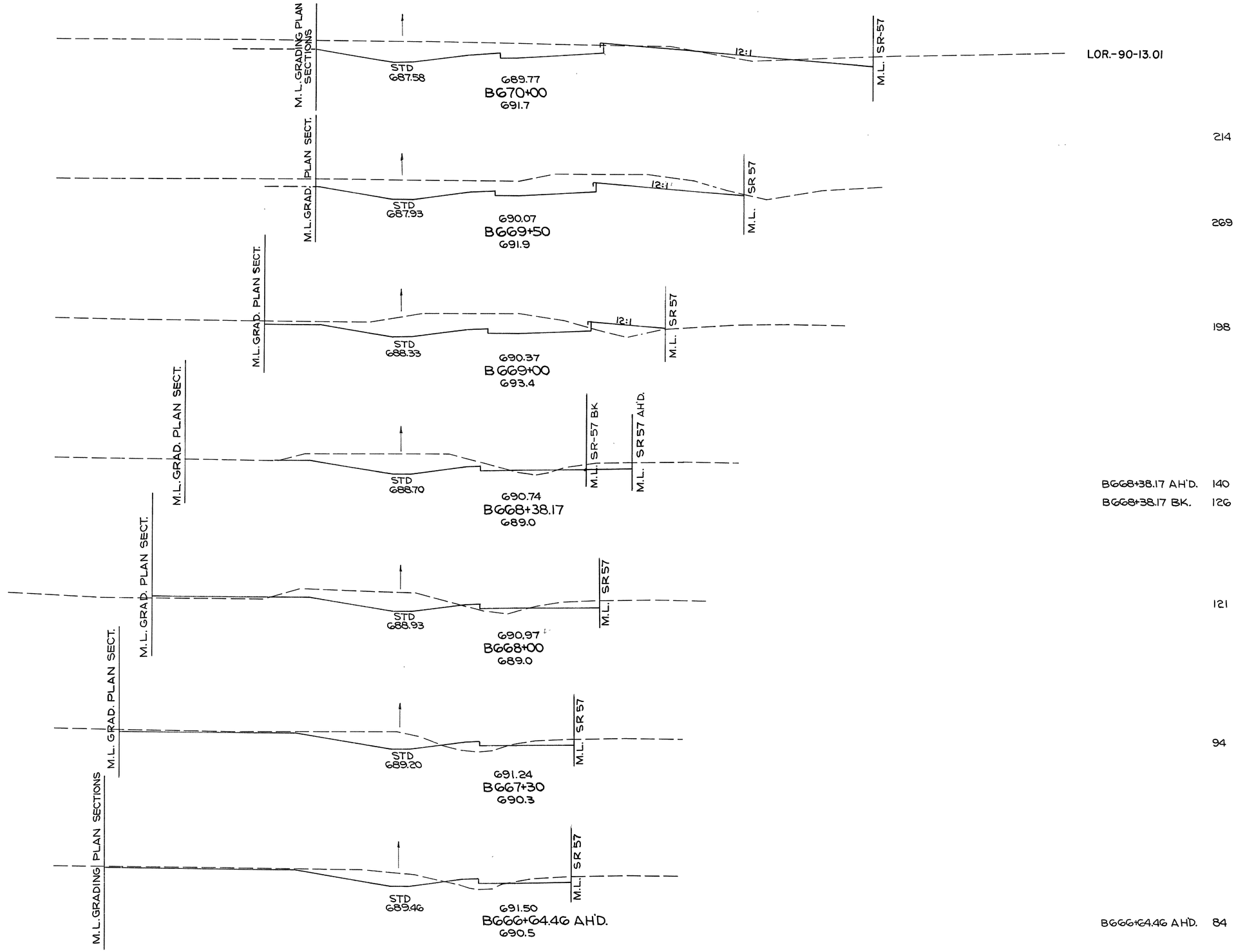
Δc = 192°-38'-20"
Dc = 25°
R = 229.18'
Lc = 770.56
Ls = 300.00'
Qs = 37°-30'
L.T. = 204.68'
S.T. = 104.27'

REFERENCE NO.	SIDE	STATION FROM	STATION TO	605 SHALLOW PIPE UNDER-DRAIN 6" LIN.FT.	605 DEEP PIPE UNDER-DRAIN 6" LIN.FT.	603 CONDUIT TYPE F 6" LIN.FT.	603 CONDUIT TYPE B-B 6" LIN.FT.	605 PIPE SPECIALS 6" TEE EACH	605 PIPE SPECIALS 6"-90° WYE EACH	609 CONC. CURB & GUTTER TYPE 6 LIN.FT.	609 CONC. CURB & GUTTER TYPE 7 LIN.FT.	609 CONC. CURB & GUTTER TYPE 8 LIN.FT.	606 GUARD RAIL TYPE 4 LIN.FT.	612 CONC. MEDIAN SQ.YDS.	202 EXIST. PAV'T. REMOV. & DISPOS. OF (9" REINF. CONC.) SQ.YDS.	660 SODDING SQ.YDS.
1-UD	LT.&RT.	BG70+28			70	10	20	1								
2-UD	LT.	BGGG+64.46	BG73+83	668	50											
3-UD	LT.	BG73+95			38	10		1								
4-UD	LT.	BG73+81	BG80+33	646												
5-UD	LT.&RT.	RAMP A A28+00	BG72+21				45		1							
1-GR	RT.	BG73+50	BG76+90										375			
2-GR	LT.	BG77+76	I.R.30 G80+77										275			
1-MP	RT.	BG77+76	BG77+97											20.4		
1-C	RT.	BGG8+38	BG70+38							1635						
2-C	RT.	BG70+38	BG73+00							284						
3-C	RT.	RAMP A A25+32.56	RAMP A A28+00							276						
4-C	RT.	BG76+52.00	BG77+76							88						
5-C	RT.	I.R.30 G76+90.02	I.R.30 G77+10.02							80						
1-SD	RT.	BG70+28	BG71+32													65
2-SD	RT.	BG73+00	BG73+81													48
3-SD	RT.	BG73+81	BG77+50													330
1-R	RT.	BGG9+95	BG71+85												396	
TOTALS				1314	158	20	65	2	1	1776	1650	650	20.4	396	443	



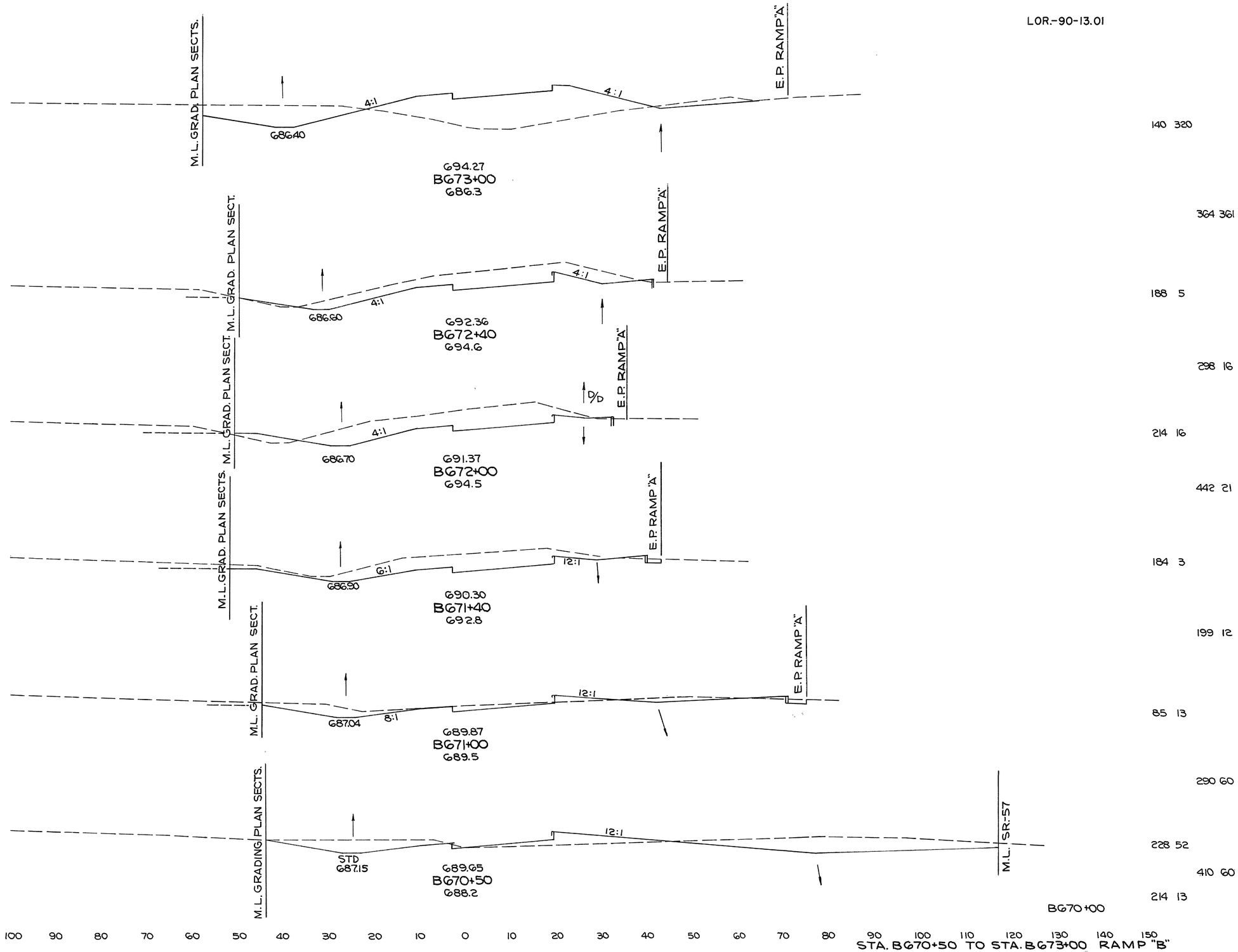
RAMP "B", STA. BGGG+64.46 TO STA. BG80+35.02

LOR.-90-13.01

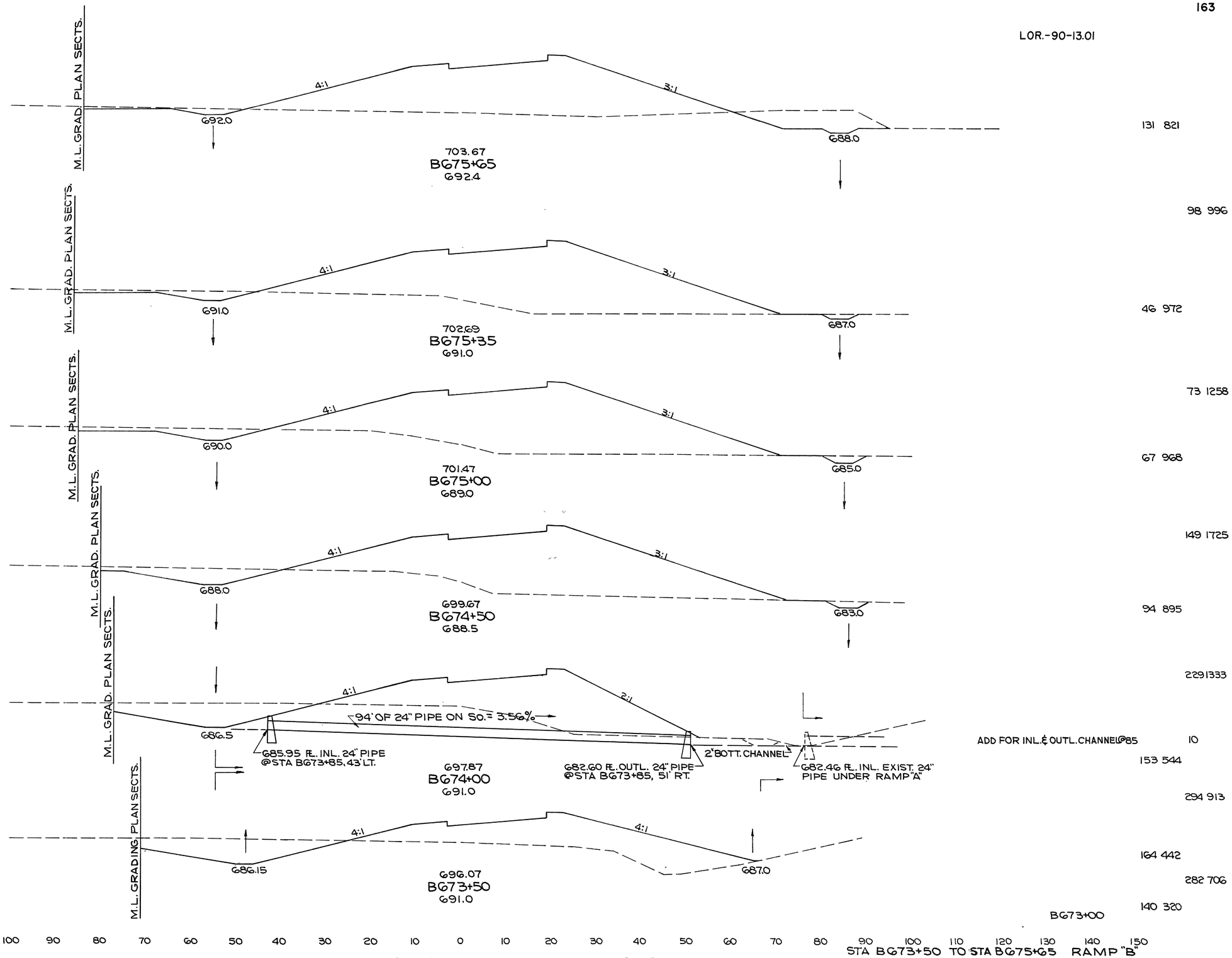


	214	13
	447	12
	269	0
	433	26
	198	28
	387	39
B668+38.17 AH'D.	140	6
B668+38.17 BK.	126	6
	174	19
	121	21
	279	49
	94	17
	216	39
B666+64.46 AH'D.	84	15
B666+64.46 BK.	0	0

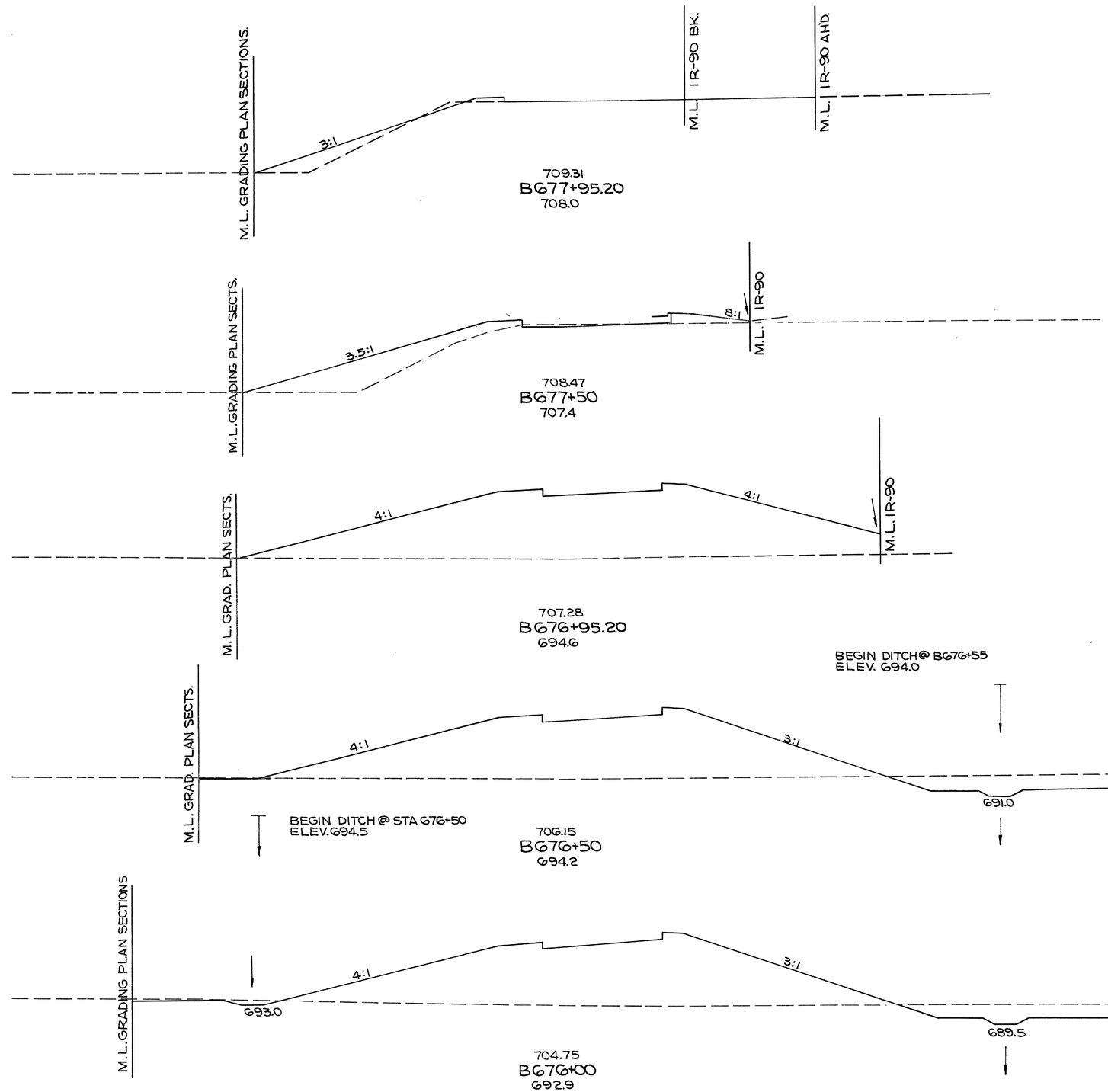
LOR.-90-13.01


M.L. GRAD. PLAN SECTS.
E.P. RAMP "A"
4:1
4:1
686.40
694.27
BG73+00
686.3
140 320
M.L. GRAD. PLAN SECT.
E.P. RAMP "A"
4:1
4:1
686.80
692.36
BG72+40
694.6
364 361
188 5
M.L. GRAD. PLAN SECT.
E.P. RAMP "A"
D/D
4:1
686.70
691.37
BG72+00
694.5
298 16
214 16
M.L. GRAD. PLAN SECTS.
E.P. RAMP "A"
6:1
12:1
686.90
690.30
BG71+40
692.8
442 21
184 3
M.L. GRAD. PLAN SECT.
E.P. RAMP "A"
12:1
8:1
687.04
689.87
BG71+00
689.5
199 12
85 13
M.L. GRADING PLAN SECTS.
M.L. SR-57
12:1
STD
687.15
689.65
BG70+50
688.2
290 60
228 52
410 60
214 13
BG70+00
150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150
STA. BG70+50 TO STA. BG73+00 RAMP "B"

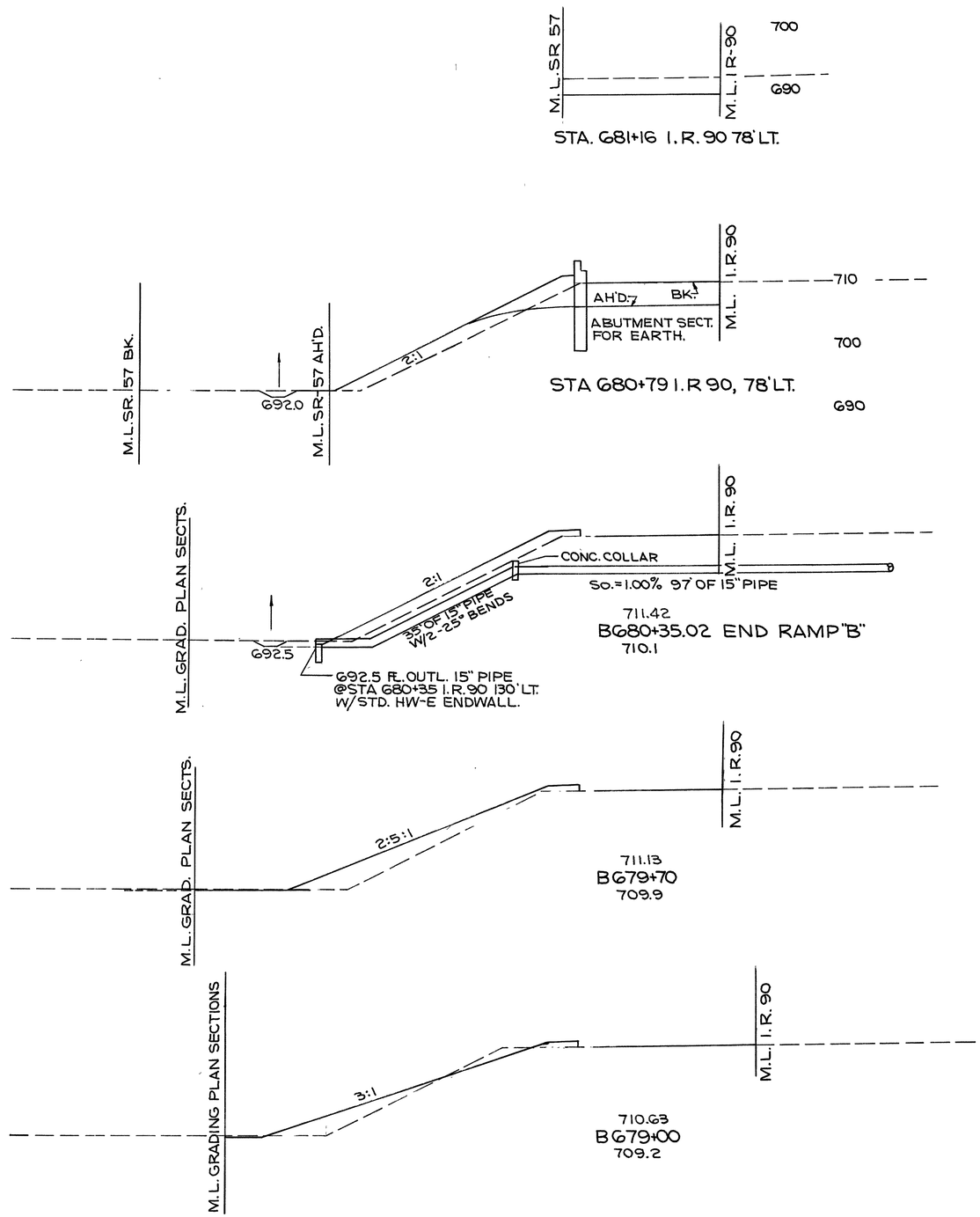
LOR.-90-13.01


M.L. GRAD. PLAN SECTS.
4:1
3:1
692.0
688.0
703.67
BG75+65
692.4
131 821
98 996
M.L. GRAD. PLAN SECTS.
4:1
3:1
691.0
687.0
702.69
BG75+35
691.0
46 972
73 1258
M.L. GRAD. PLAN SECTS.
4:1
3:1
690.0
685.0
701.47
BG75+00
689.0
67 968
M.L. GRAD. PLAN SECTS.
4:1
3:1
688.0
683.0
699.67
BG74+50
688.5
149 1725
94 895
M.L. GRAD. PLAN SECTS.
4:1
2:1
94' OF 24" PIPE ON SO.= 3.56%
686.5
685.95 FL. INL. 24" PIPE
@STA BG73+85, 43' LT.
697.87
BG74+00
691.0
682.60 FL. OUTL. 24" PIPE
@STA BG73+85, 51' RT.
2' BOTT. CHANNEL
682.46 FL. INL. EXIST. 24"
PIPE UNDER RAMP "A"
ADD FOR INL.& OUTL. CHANNEL@85
2291333
10
153 544
294 913
M.L. GRADING PLAN SECTS.
4:1
4:1
686.15
687.0
696.07
BG73+50
691.0
164 442
282 706
140 320
BG73+00
150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150
STA BG73+50 TO STA BG75+65 RAMP "B"

LOR.-90-13.01



BG77+95.20 AH'D.	4	55
BG77+95.20 BK.	4	55
	9	197
	6	180
	6	1201
	0	1003
	101	1567
	121	869
	218	1615
	114	875
	159	1099
BG75+65	131	821



STA. 681+16 AH'D. 0 0
STA. 681+16 BK. 65 0

110 40

STA. 680+79 AH'D. 95 58
STA. 680+79 BK. 4 86

7 124

4 66

7 191

2 92

18 186

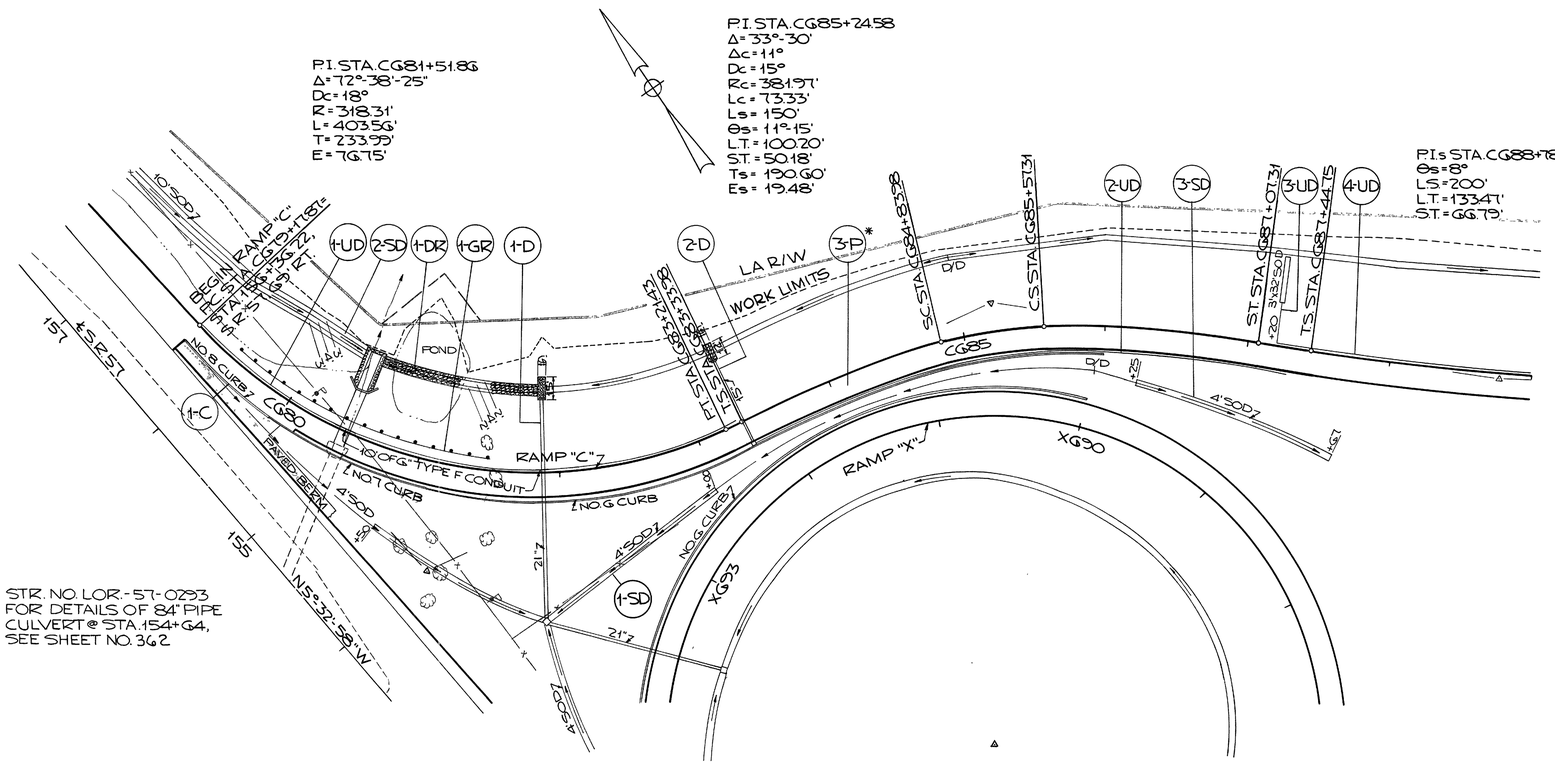
12 51

31 205

BG77+95.20 AH'D. 4 55

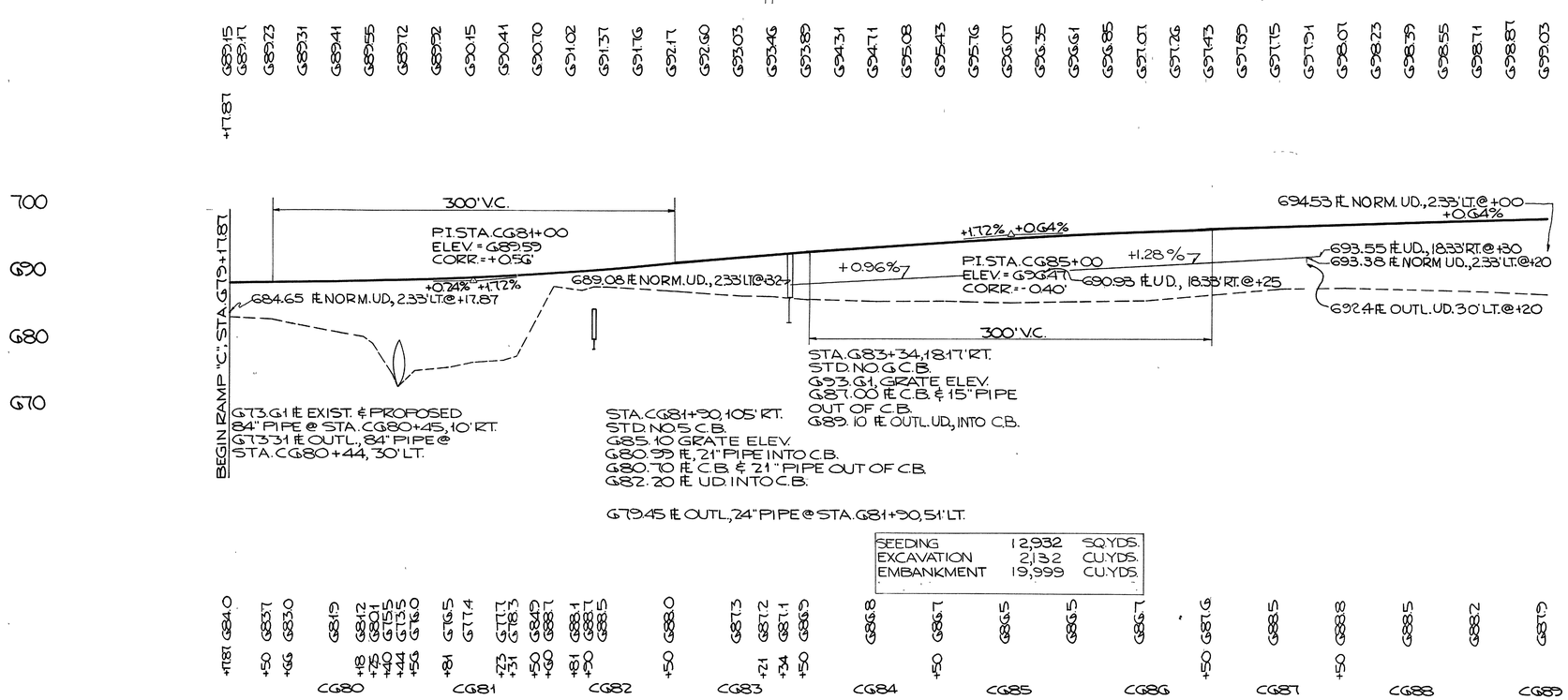
LOR.-90-13.01

CROSS REFERENCES	
FOR	SEE SHEET NO.
RAMP "C" DETAILS	204,208
SUPERELEVATION	145
GRADING PLAN	215,216
* PAV'T. QUAN.	144



REFERENCE NO.	SIDE	STATION FROM	STATION TO	G05 PIPE UNDERDRAINS SHALLOW 6"	G05 PIPE UNDERDRAINS DEEP 6"	G03 CONDUIT TYPE B-B 15"	G03 CONDUIT TYPE B-B 21"	G03 CONDUIT TYPE F 6"	G05 PIPE SPECIALS 6"-30° BEND	G04 CATCH BASINS STD. NO. 5	G04 CATCH BASINS STD. NO. 6	G02 MASON. CLASS C	G01 DUMPED ROCK CHANN PROT. T=18"	G09 CONC. CURB STD. TYPE 6	G09 CONC. CURB STD. TYPE 8	G60 SODDING	G06 GUARD RAIL TYPE 4
				LIN.FT.	LIN.FT.	LIN.FT.	LIN.FT.	EACH	EACH	EACH	EACH	CU.YDS	CU.YDS	LIN.FT.		SQ.YDS	LIN.FT.
1-UD	LT.	CG79+18	CG83+32	394				20									
2-UD	RT.	CG83+34	CG87+30		388												
3-UD	LT.	CG87+20		18				10	1							11	
4-UD	LT.	CG87+20	CG89+00	180													
1-D	LT.&RT.	CG81+50					* 156			1		0.36	5				
2-D	LT.&RT.	CG83+34				65					1	0.26	4				
1-C	LT.	CG79+18	CG86+00											1/2	1/2		
1-DR	LT.	CG80+47	CG81+87										50				
1-SD	RT.	CG81+50	CG83+00													68	
2-SD	LT.	CG79+18	CG80+33													110	
3-SD	RT.	CG86+25	CG87+67													65	
1-GR	LT.	CG79+50	CG81+50														200
TOTALS				592	388	65	156	30	1	1	1	0.62	59	1/2	1/2	254	200

* 706.02 Class III
or 706.08

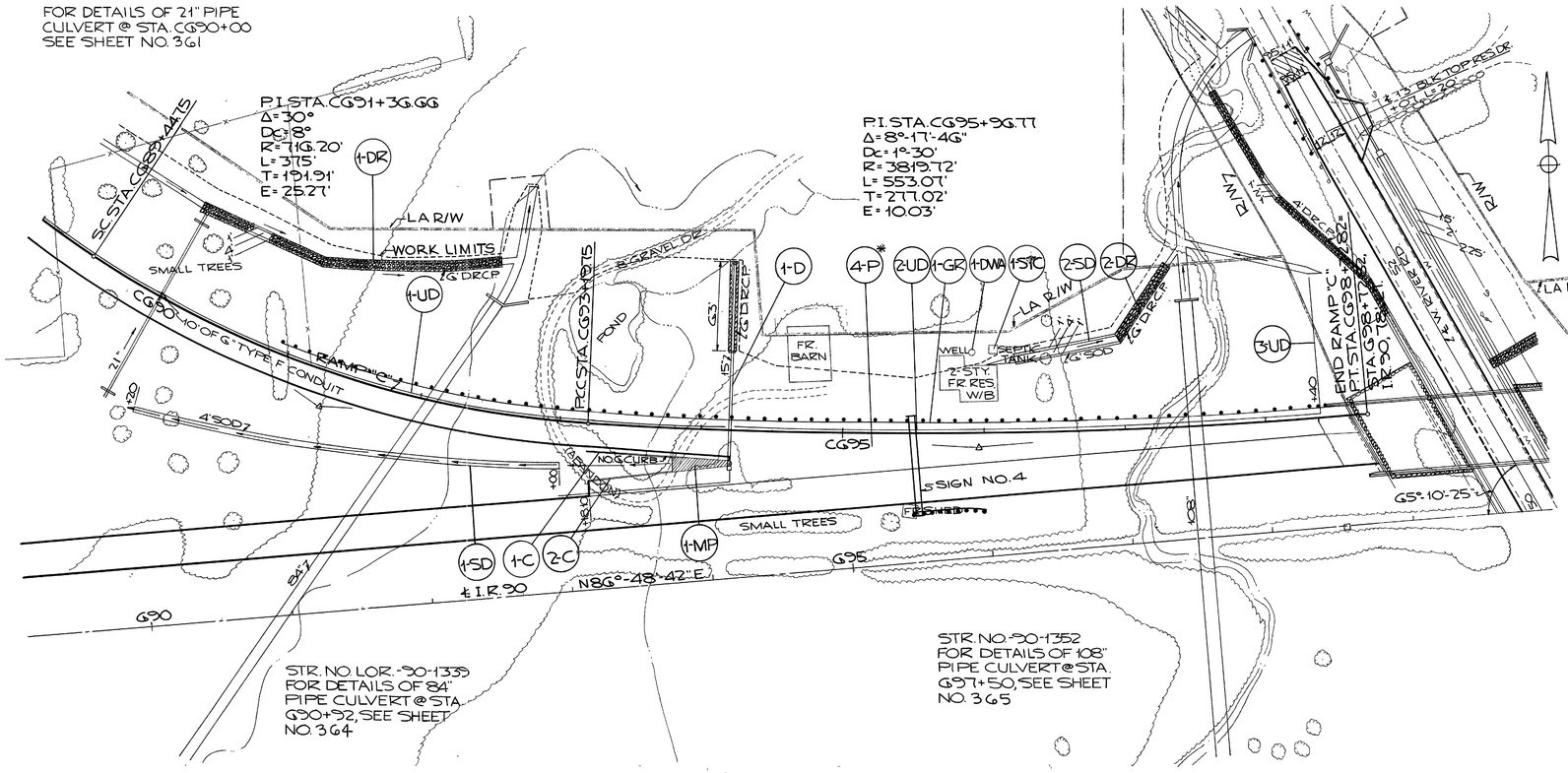


SEEDING	12,932	SQ.YDS.
EXCAVATION	2,132	CU.YDS.
EMBANKMENT	19,999	CU.YDS.

RAMP "C" STA. CG79+17.87 TO STA. CG89+00

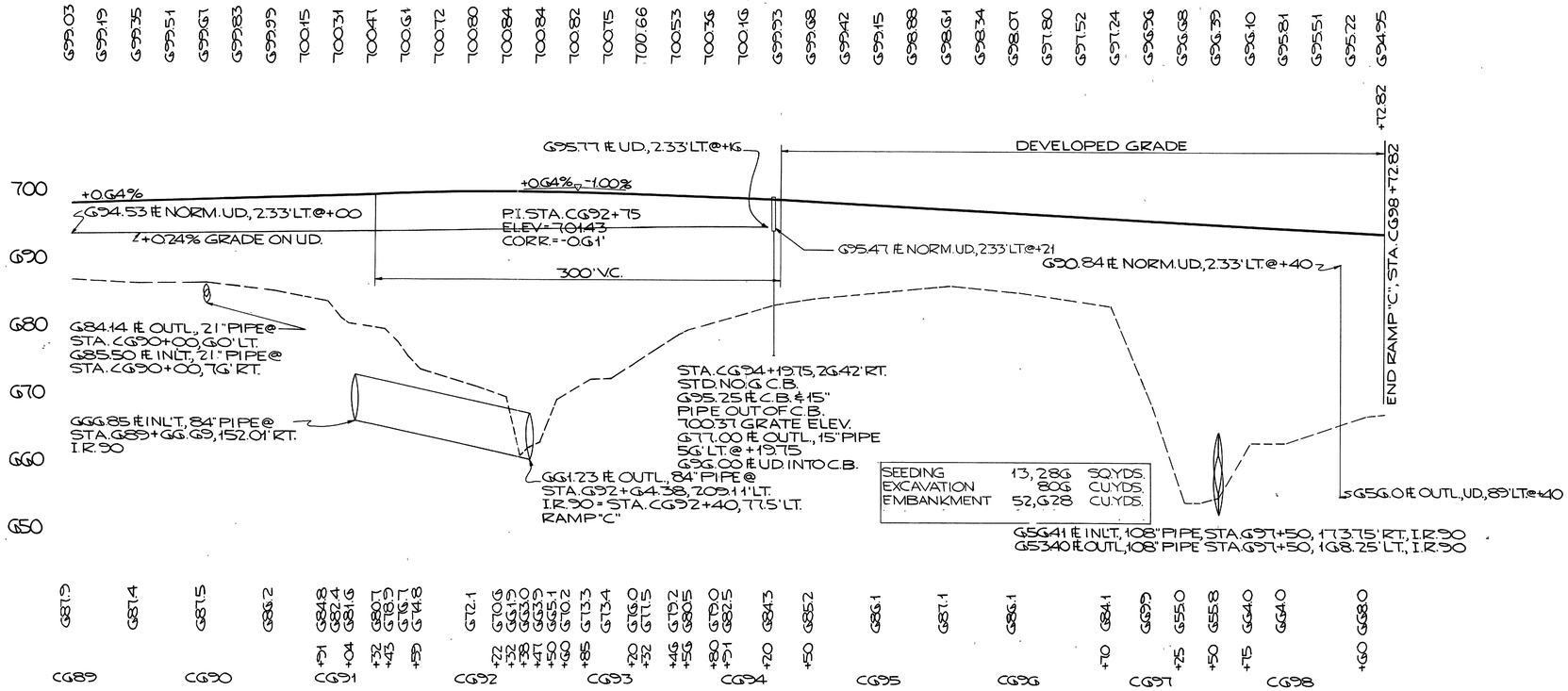
LOR-90-13.01

CROSS REFERENCES	
FOR	SEE SHEET NO.
RAMP "C" DETAILS	203,208
SUPERELEVATION	145
GRADING PLAN	215,216
PAV'T. QUAN.	144
WEST RIVER RD.	310 TO 318



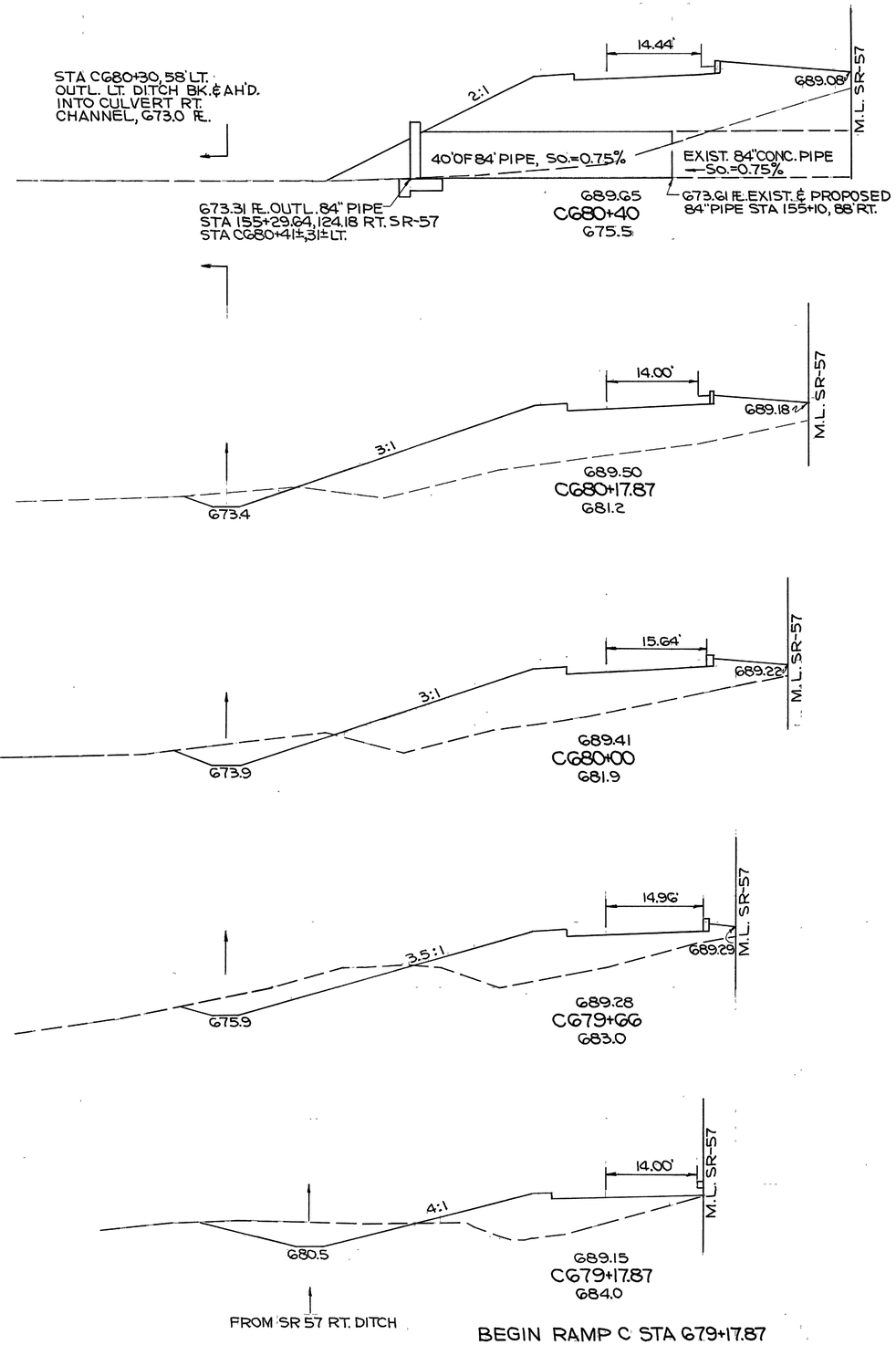
REFERENCE NO.	SIDE	STATION FROM	STATION TO	G05 PIPE UNDER DRAINS SHALLOW	G05 PIPE UNDER DRAINS DEEP	G03 CONDUIT 6" TYPE F	G03 CONDUIT 15" TYPE F	G03 CONDUIT 15" TYPE BB	G02 MASON.	G05 PIPE SPECIALS 6"-90° BEND	G03 PIPE SPECIALS TYPE F 6"-22½° BENDS	G04 CATCH BASIN STD. NO. 6	G01 DUMPED ROCK CHANN. PROT. T=18"	G09 CURB TYPE 6	G12 CONC. MEDIAN	G00 SODDING
				LIN.FT.	LIN.FT.	LIN.FT.	LIN.FT.	LIN.FT.	CUYDS.	EACH	EACH	EACH	CUYD	LIN.FT.	SQYDS.	SQYDS.
1-UD	LT.	CG89+00	CG94+16	506	10											
2-UD	LT.	CG94+21	CG98+40	419												
3-UD	LT.	CG98+40			108	4				1	2					
1-D	LT.&RT.	CG94+19.75				48	38	0.26				1	22			
1-SD	RT.	CG90+20	CG93+00													137
2-SD	LT.	CG96+25	CG97+00													51
1-DR	LT.	CG89+95	CG92+40										76			
2-DR	LT.	CG97+00	CG97+40										23			
1-C	RT.	CG93+19.75	CG93+19.75											G1		
2-C	LT.	I.R.90 CG93+18.10	I.R.90 CG93+18.10											G1		
1-MP	RT.	CG93+19.75	CG94+19.75												35.3	
TOTALS				419	516	9	48	38	0.26	1	2	1	121	122	35.3	188

REFERENCE NO.	SIDE	STATION FROM	STATION TO	SPECIAL DRILLED WELLS ABAND.	SPECIAL CLEAN & DISPOS. OF SEPTIC TANK	G06 GUARD RAIL TYPE 4
				EACH	EACH	LIN.FT.
1-DWA	LT.	CG95+90		1		
1-STC	LT.	CG96+06			1	
1-GR	LT.	CG90+92.16	CG98+45.80			750
TOTALS				1	1	750



SEEDING	13,286 SQ.YDS.
EXCAVATION	806 CU.YDS.
EMBANKMENT	52,628 CU.YDS.

RAMP "C" STA. CG89+00 TO STA. CG98+72.82



0 694

9 478

22 472

22 282

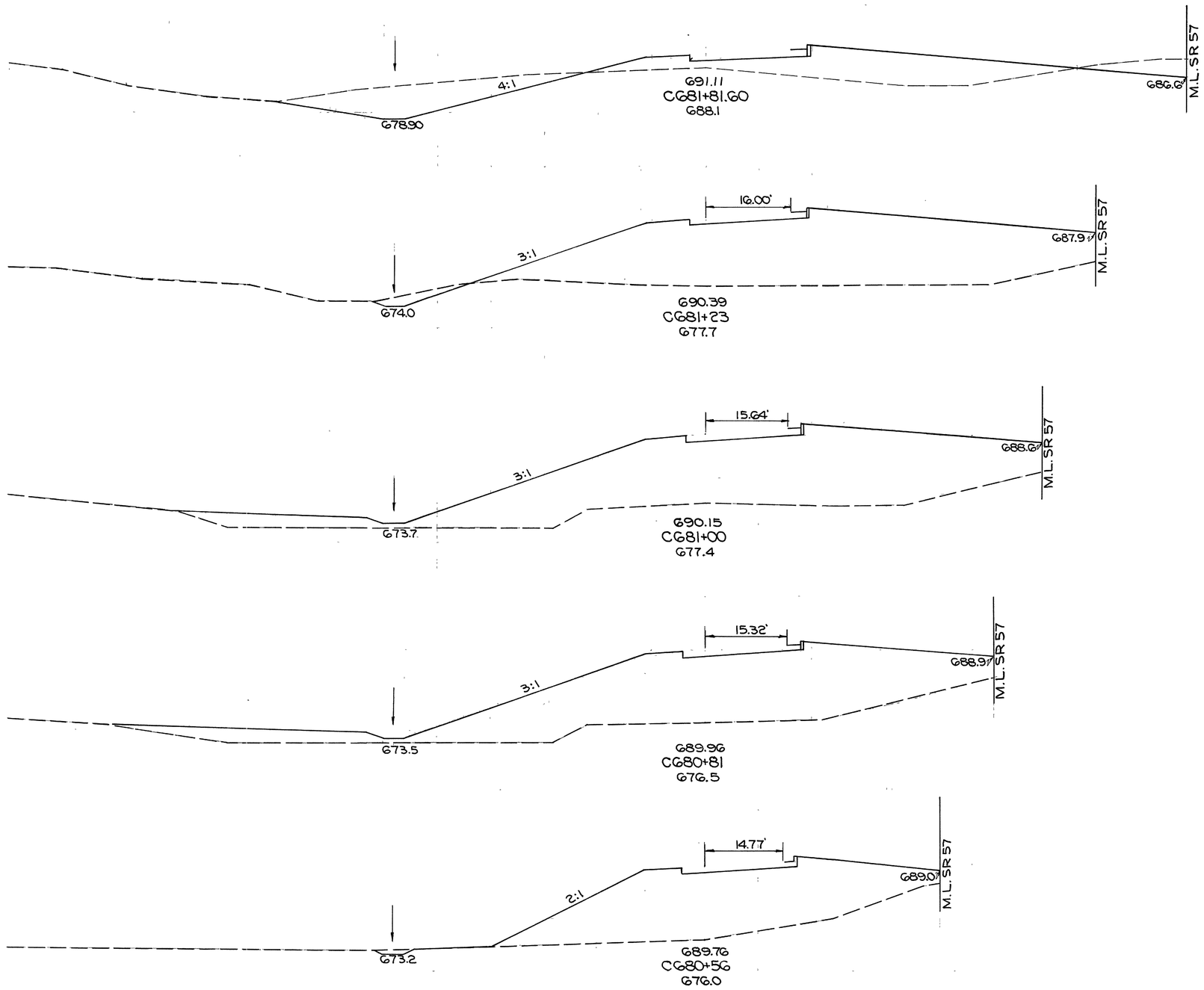
44 380

79 375

82 215

138 326

STA. CG79+17.87 A.H. 73 151
STA. CG79+17.87 BK. 0 0



235 315

277 1585

20 1145

8 1045

0 1308

0 879

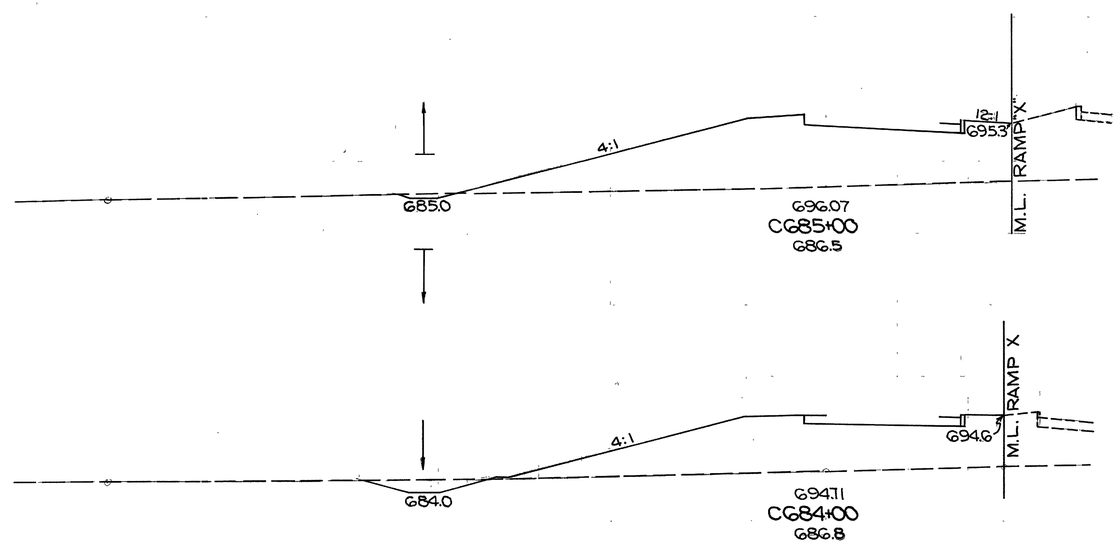
0 1190

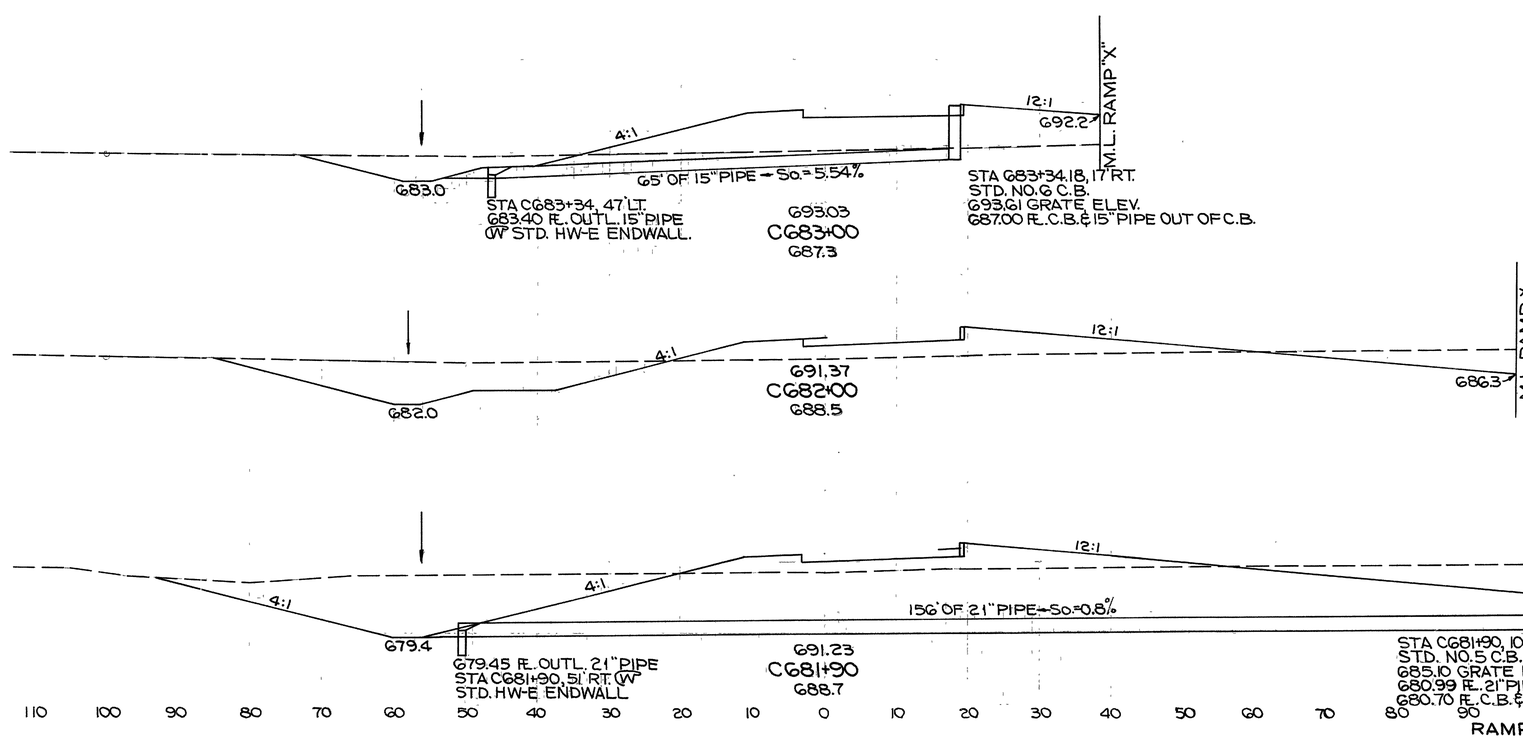
3 903

6 760

2 431

STA CG80+40 0 694





6 495

43 1607

17 373

157 1248

68 301

593 835

252 150

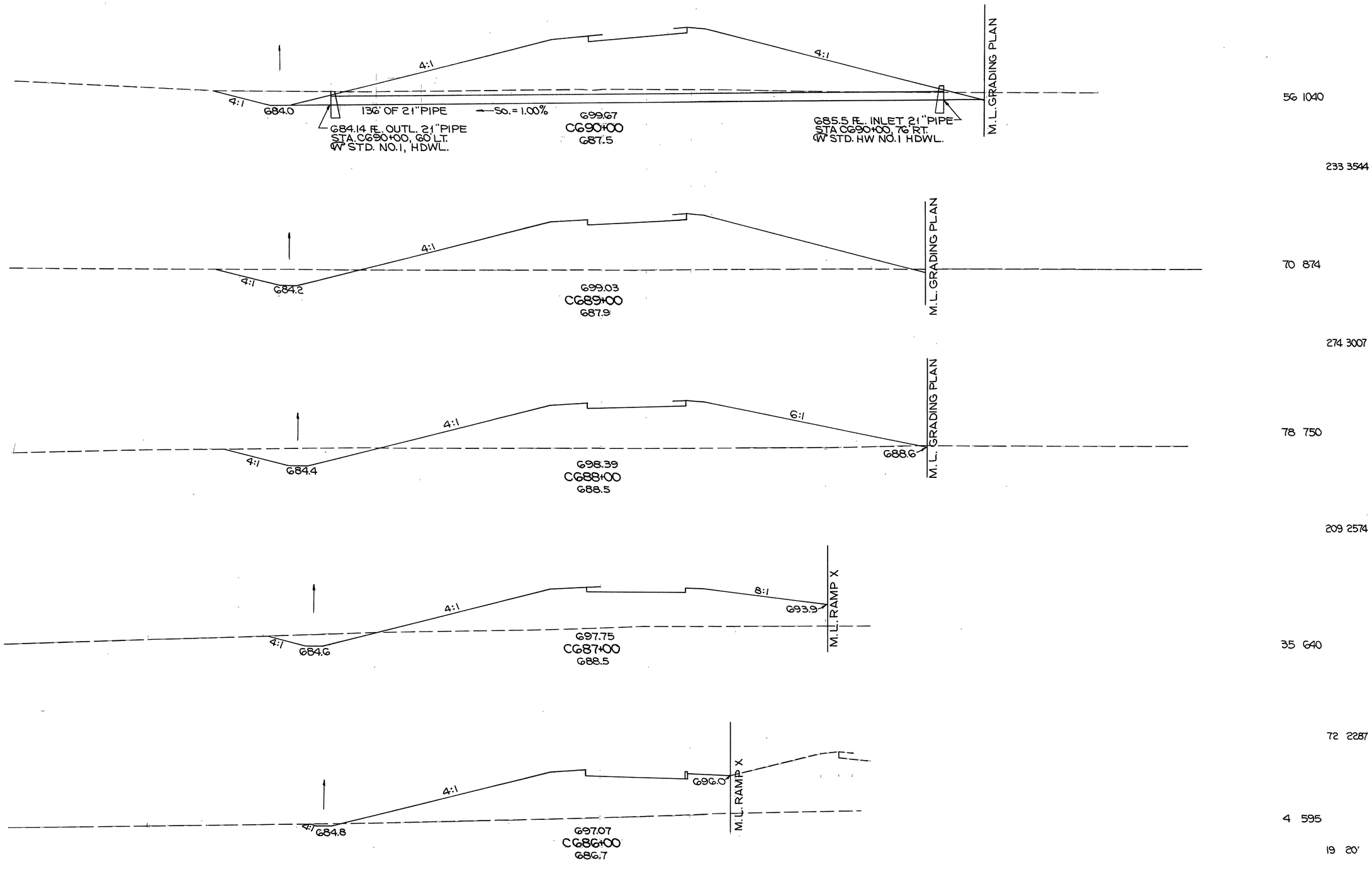
125 50

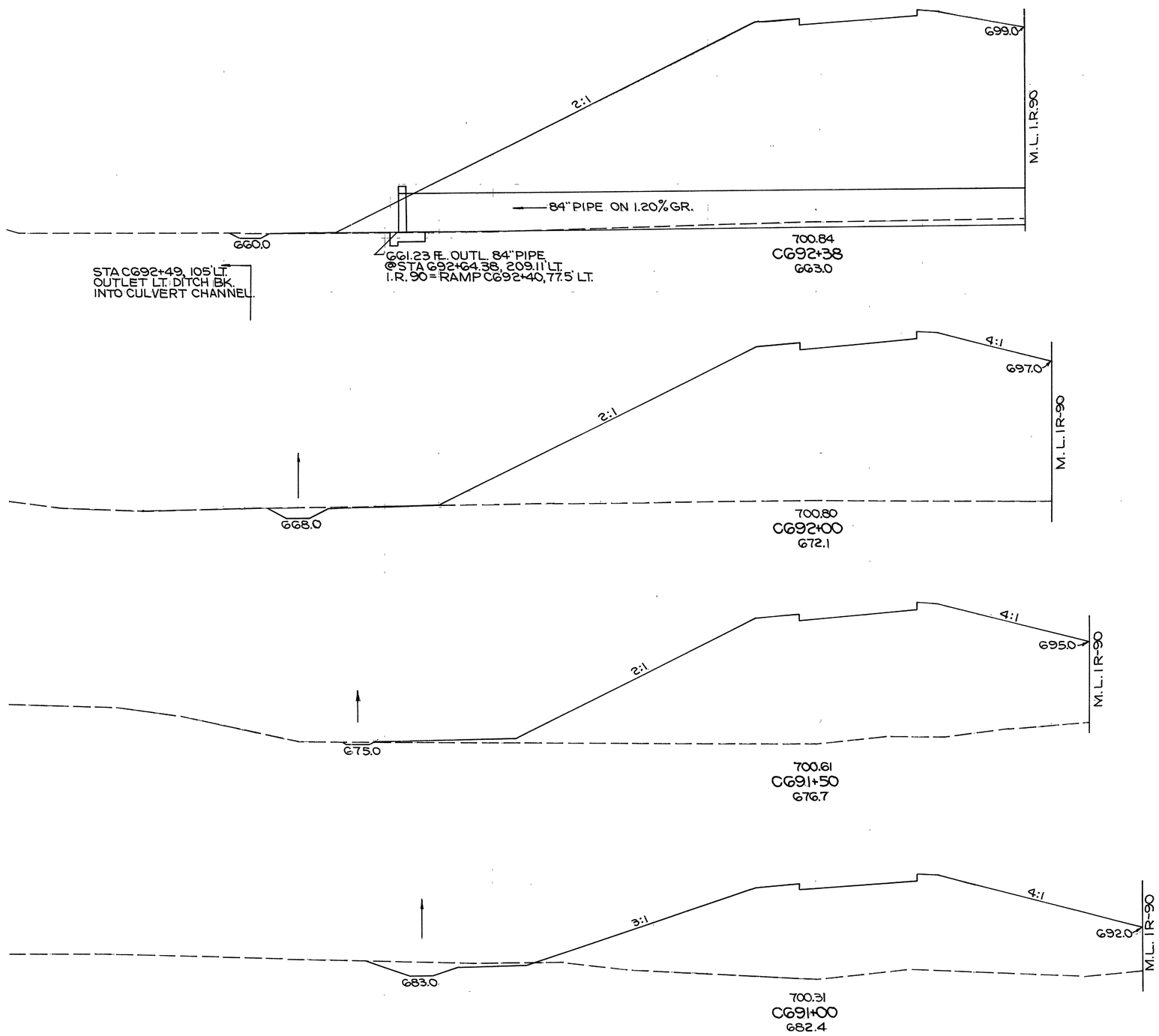
422 120

102 68

235 315

LOR.-90-13.01


4:1
4:1
4:1
684.0
136' OF 21" PIPE
So. = 1.00%
684.14 FL. OUTL. 21" PIPE
STA. CG90+00, 60' LT.
W/ STD. NO.1, HDWL.
699.67
CG90+00
687.5
685.5 FL. INLET 21" PIPE
STA CG90+00, 76' RT.
W/ STD. HW NO.1 HDWL.
M.L. GRADING PLAN
56 1040
233 3544
4:1
4:1
684.2
699.03
CG89+00
687.9
M.L. GRADING PLAN
70 874
274 3007
4:1
4:1
6:1
684.4
698.39
CG88+00
688.5
688.6
M.L. GRADING PLAN
78 750
209 2574
4:1
4:1
8:1
684.6
697.75
CG87+00
688.5
693.9
M.L. RAMP X
35 640
72 2287
4:1
4:1
684.8
697.07
CG86+00
686.7
696.0
M.L. RAMP X
4 595
19 20'
STA CG85+00
6 495
150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150
RAMP C STA CG86+00 TO STA CG90+00



G 3390

17 4134

18 2485

20 4079

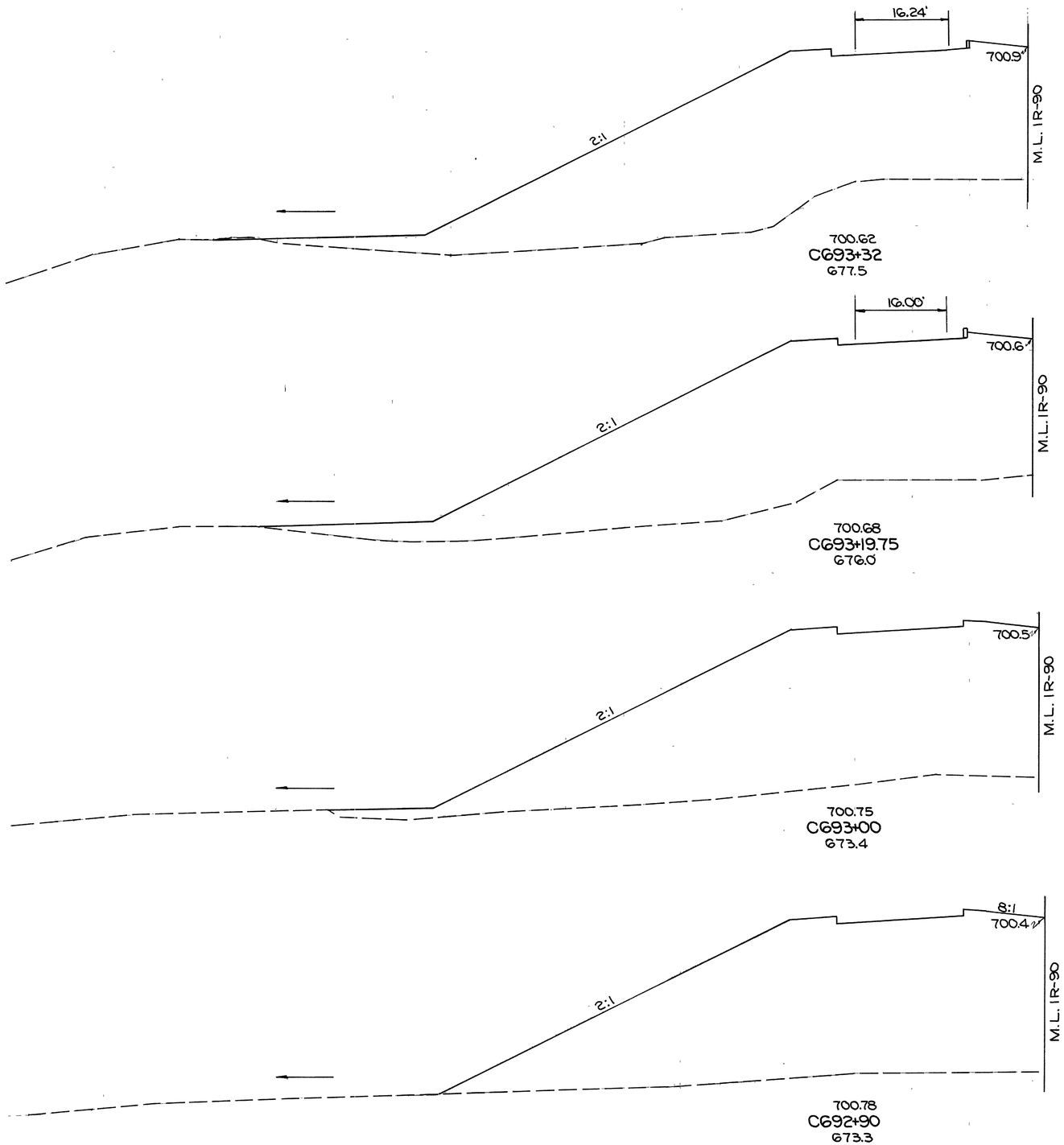
3 1920

40 3121

40 1450

178 4611

STA CG90+00 56 1040



3 2110

1 963

0 2135

0 1549

0 2100

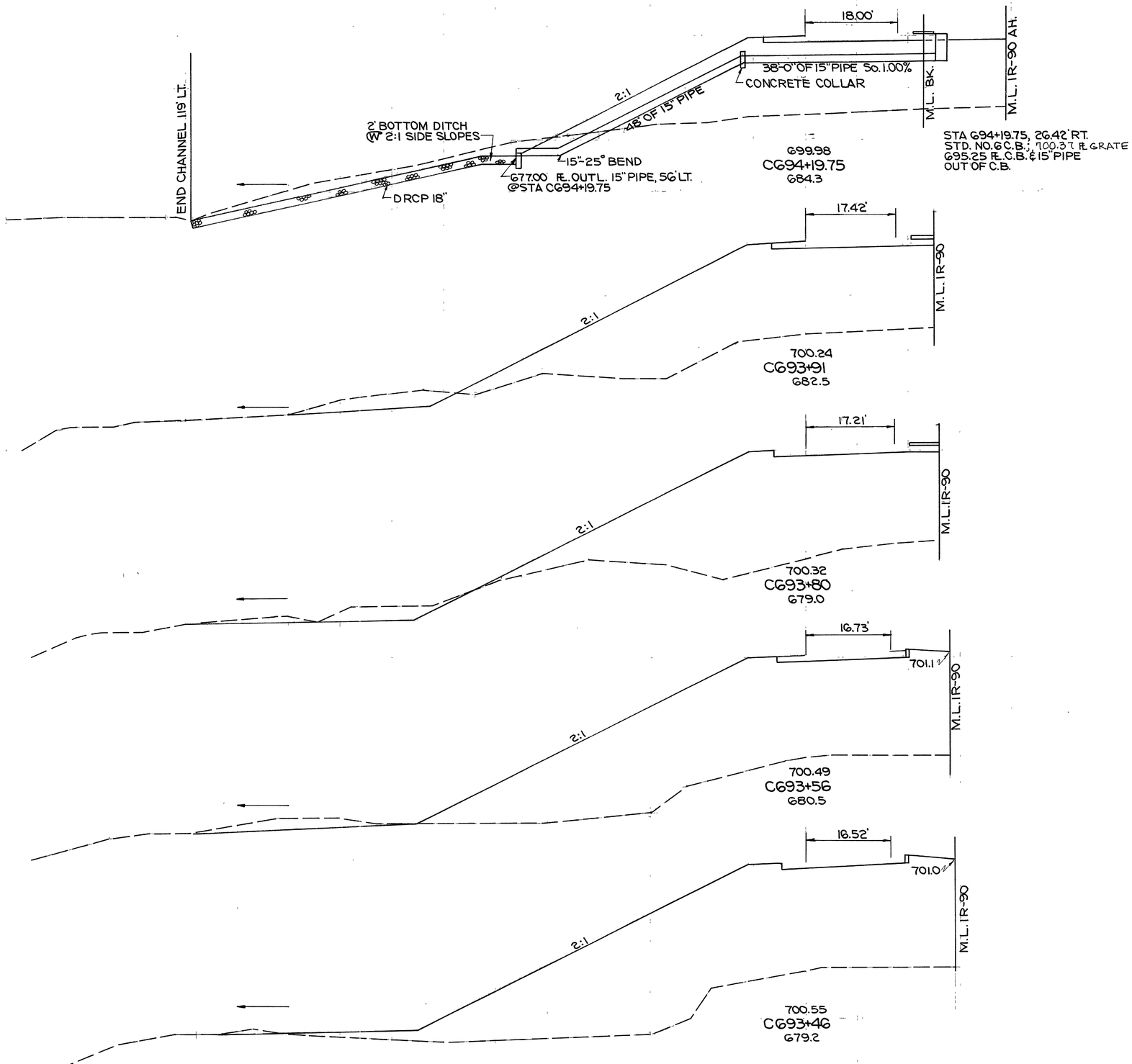
0 769

0 2050

G 5238

STA CG92+38 G 3390

RAMP C STA CG92+90 TO STA CG93+32



STA C694+19.75 A.H. 8 973
STA C694+19.75 BK. 8 765

43 1043

72 1193

30 492

75 1220

60 1225

60 1535

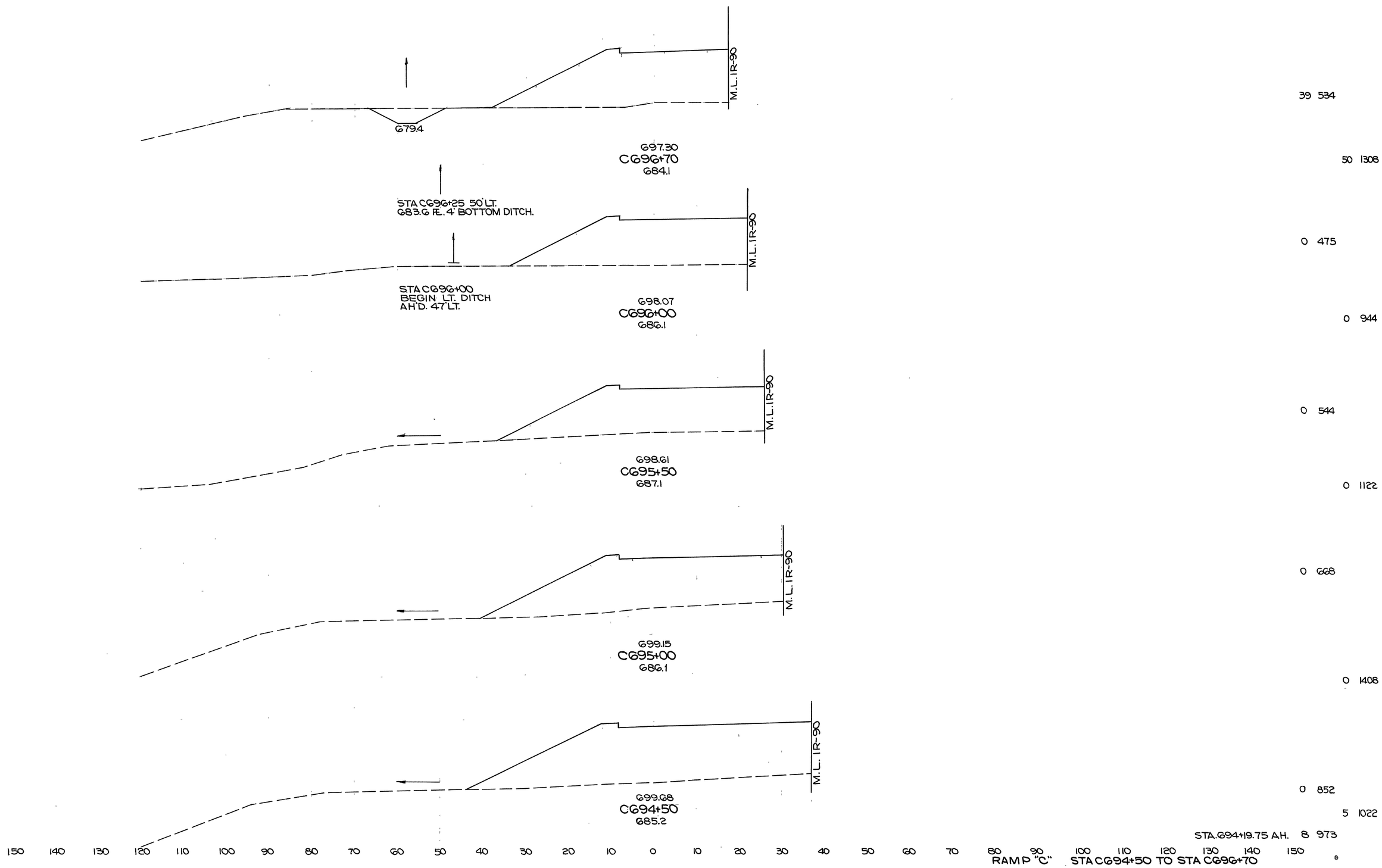
12 632

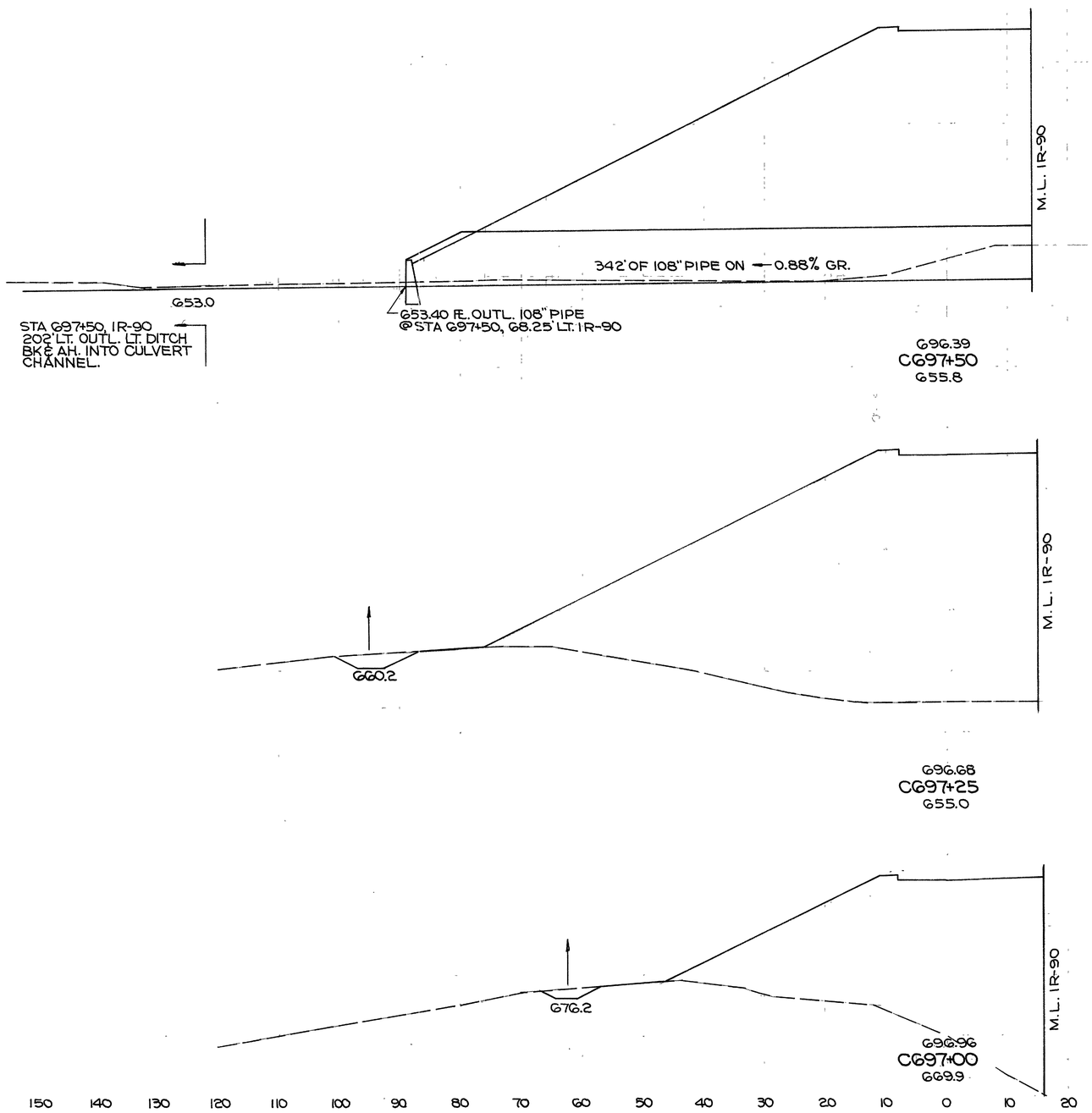
5 1880

2 1034

STA C693+32 3 2110

RAMP C STA C693+46 TO STA C694+19.75


M.L. IR-90
679.4
697.30
C696+70
684.1
39 534
50 1308
STA C696+25 50' LT.
683.6 FE. 4' BOTTOM DITCH.
M.L. IR-90
0 475
STA C696+00
BEGIN LT. DITCH
AH'D. 47' LT.
698.07
C696+00
686.1
0 944
M.L. IR-90
0 544
698.61
C695+50
687.1
0 1122
M.L. IR-90
0 668
699.15
C695+00
686.1
0 1408
M.L. IR-90
0 852
699.68
C694+50
685.2
5 1022
STA.694+19.75 A.H. 8 973
150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150
RAMP "C" STA C694+50 TO STA C696+70



RAMP "C" STA C697+00 TO STA C697+50

0 2675

23 2400

15 1634

10 1130

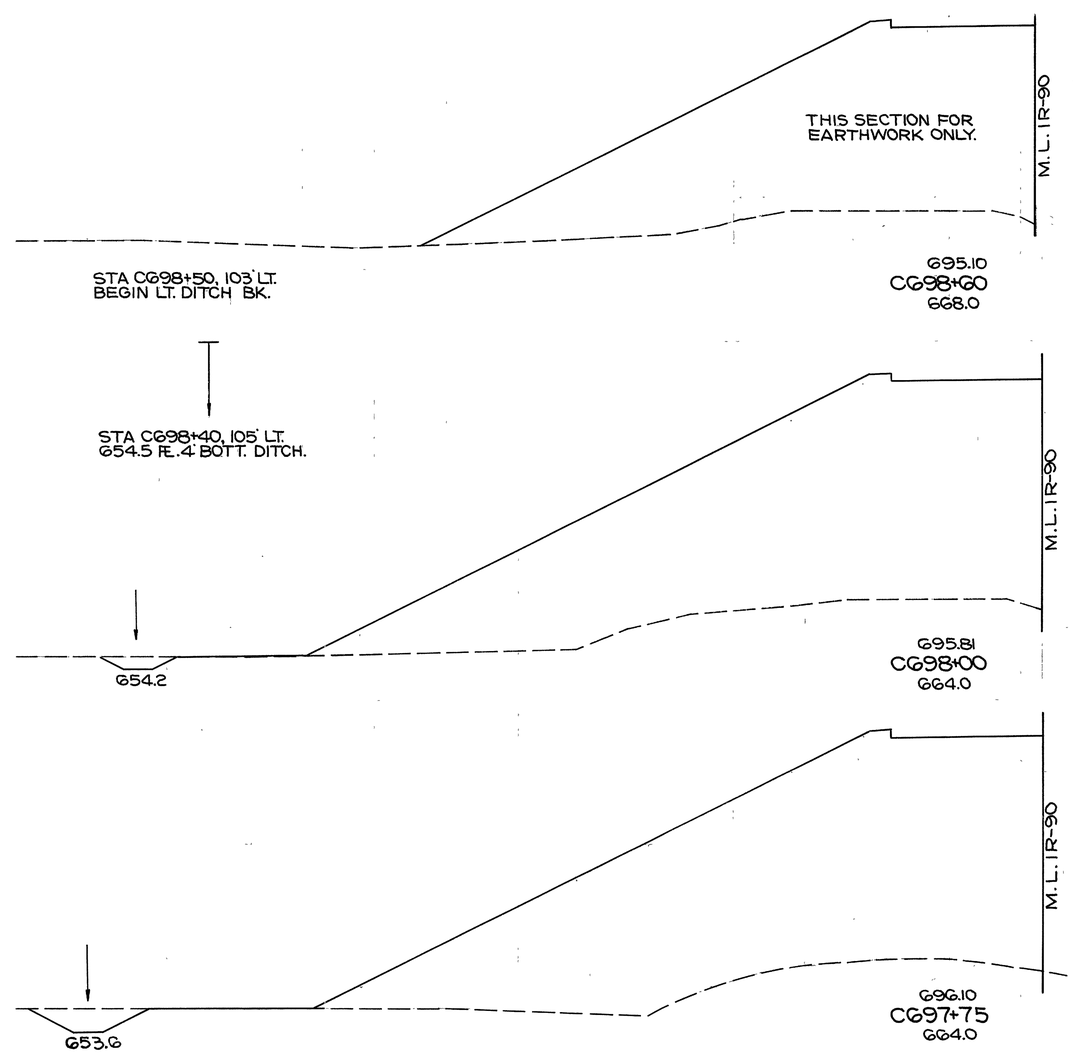
27 924

STA C696+70 39 534

11 2350

ZERO SECTION
699+13

END RAMP C STA C698+22.82



RAMP C STA C697+75 TO STA C698+60

STA. 699+13 0 0

0 1418

0 1445

18 3878

16 2045

23 1947

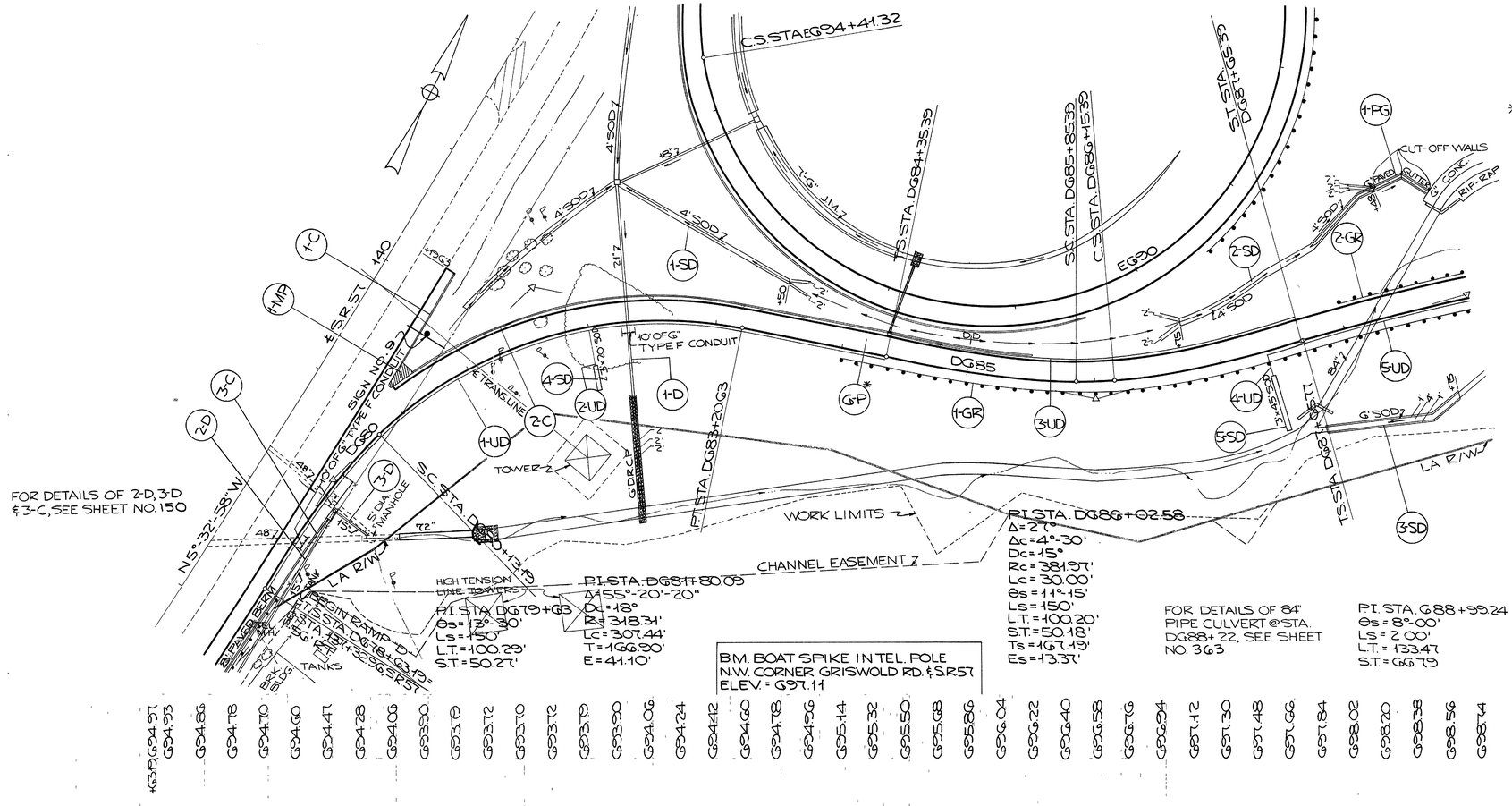
33 2180

15 2239

STA C697+50 0 2675

LOR.-90-13.01

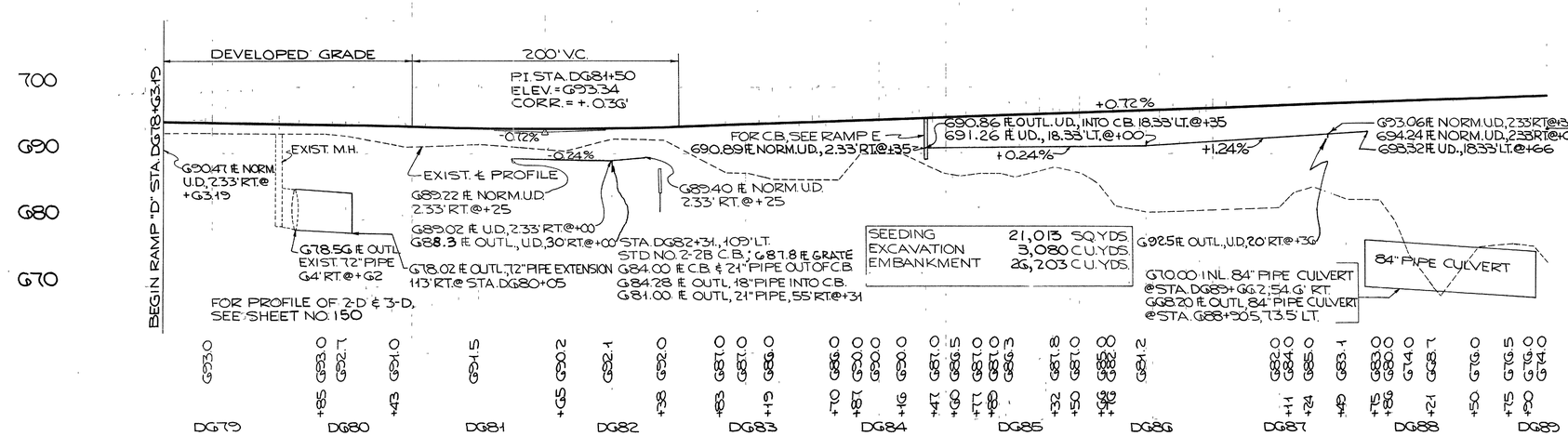
CROSS REFERENCES	
FOR	SEE SHEET NO.
RAMP "D" DETAILS	203, 209
SUPERELEVATIONS	145
GRADING PLAN	217 TO 219
* PAV'T QUANT.	144



REFERENCE NO.	SIDE	STATION FROM	STATION TO	605 SHALLOW PIPE UNDER-DRAIN 6"	605 DEEP PIPE UNDER-DRAIN 6"	603 CONDUIT TYPE F 6"	603 CONDUIT TYPE B-B 24"	602 MASON. STD. HW-E ENDWL CLASS "C" CU.YD.	605 PIPE SPECIALS 6" TEE	605 PIPE SPECIALS	605 PIPE SPECIALS	605 PIPE SPECIALS 6"-90° BEND	604 CATCH BASINS STD. NO. 2-2B	601 DUMPED ROCK CHANN. PROT. 18"
				LIN.FT.	LIN.FT.	LIN.FT.	LIN.FT.	CU.YD.	EACH				EACH	CU.YD.
1-UD	RT.	DG78+63.19	DG84+35.39	442	100	30								
2-UD	RT.	DG82+00		18		10			1					
3-UD	LT.	DG84+35.39	DG87+66	321		10								
4-UD	RT.	DG87+36		8		10						1		
5-UD	RT.	DG87+36	DG89+00	164										
1-D	LT. & RT.	DG82+31					164*	036					1	36
TOTALS				953	100	60	164	036	1			1	1	36

* 706.02 Class III or 706.08

REFERENCE NO.	SIDE	STATION FROM	STATION TO	609 CONC. CURB STD. TYPE 6	609 CONC. CURB STD. TYPE 7	601 PAVED GUTTER 2.0'-12'	606 GUARD RAIL TYPE 4	612 CONC. MEDIAN	660 SODDING	603 CONDUIT TYPE C-B 15"	604 PAVED SHLDR. INLET STD. NO. 2-A-10
				LIN.FT.		LIN.FT.	LIN.FT.	SQ.YDS.	SQ.YDS.	LIN.FT.	EACH
1-C	LT.	SR 57 133+39	SR 57 140+15	63							
2-C	LT.	DG80+64	DG85+50	501							
3-C	RT.	DG78+63.19	DG79+36		134						
1-MP	LT.	DG80+42	DG80+64					18.4			
1-PG	LT.	DG88+48	DG88+86			48			16		
1-GR	RT.	DG84+00	DG88+97				500				
2-GR	LT.	DG88+00	DG89+00				100				
1-SD	LT.	DG82+33	DG83+50						68		
2-SD	LT.	DG86+75	DG88+48						89		
3-SD	RT.	DG87+65	DG88+75						77		
2-D		DG78+63.19	DG79+45							82	
3-D		DG79+45	DG79+49							34	1
4-SD	RT.	DG82+00							8		
5-SD	RT.	DG87+36							17		
TOTALS				582	134	48	600	18.4	275	116	1



SEEDING	21,013 SQ.YDS.
EXCAVATION	3,080 C.U.YDS.
EMBANKMENT	26,203 C.U.YDS.

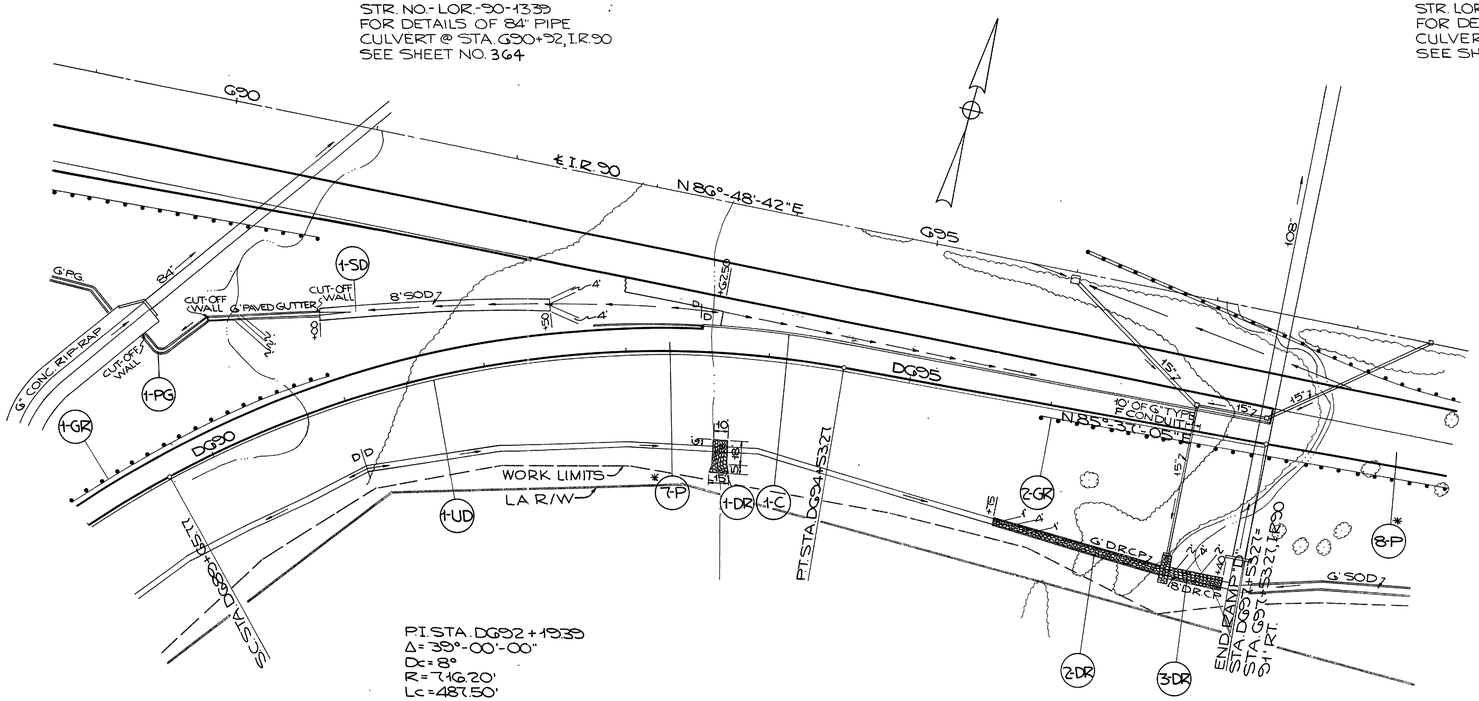
RAMP "D" STA. DG78+63.19 TO STA. DG89+00

LOR.-90-13.01

STR. NO.- LOR.-90-1339
FOR DETAILS OF 84" PIPE
CULVERT @ STA. G90+92, I.R.90
SEE SHEET NO. 364

STR. LOR.-90-14.00
FOR DETAILS OF 108" PIPE
CULVERT @ STA. G97+50, I.R.90
SEE SHEET NO. 366

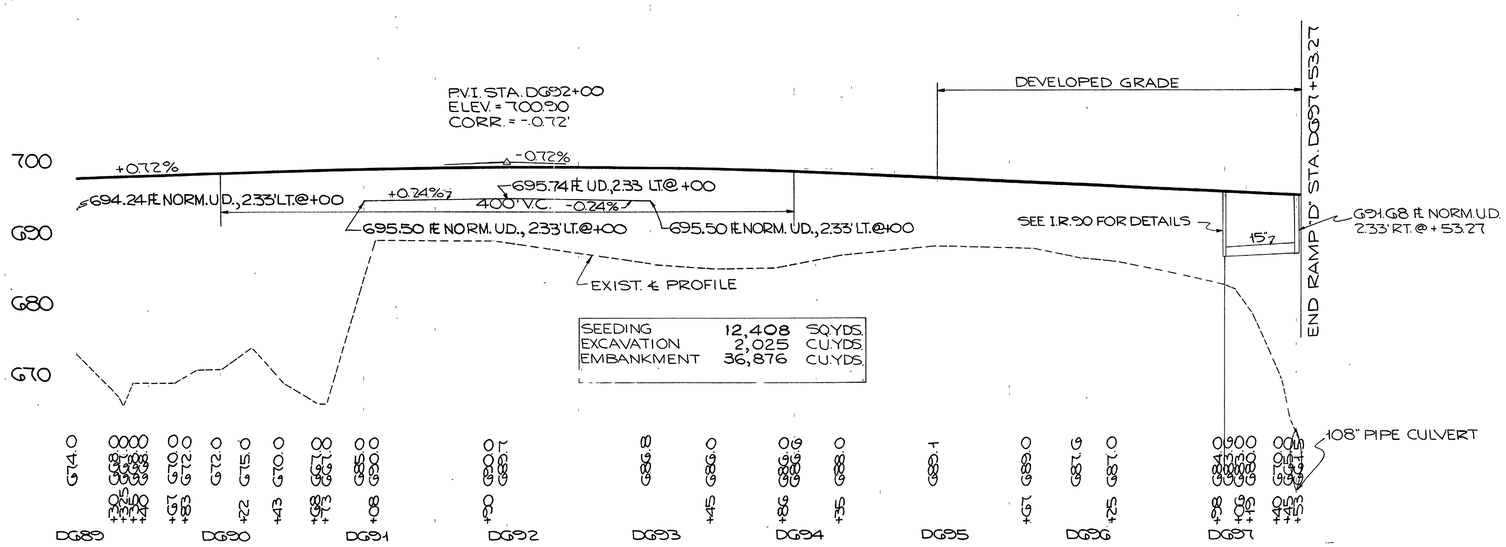
CROSS REFERENCES	
FOR	SEE SHEET NO.
RAMP "D" DETAILS	205, 209
SUPERELEVATIONS	145
GRADING PLAN	217 TO 219
* PAV'T QUANT.	144



P.I. STA. DG92 + 19.39
Δ = 39°-00'-00"
Dc = 8°
R = 716.20'
Lc = 487.50'
T = 253.62'
E = 43.58'

B.M. BOAT SPIKE IN 36" OAK
289' RT. STA. G93+58
ELEVATION 688.43

G98.74 G98.92 G99.10 G99.28 G99.46 G99.63 G99.77 G99.90 100.00 100.08 100.13 100.17 100.18 100.17 100.13 100.08 100.00 99.90 99.77 99.63 99.46 99.28 99.10 98.92 98.74 98.56 98.36 98.15 97.92 97.67 97.40 97.11 96.82 96.52 96.22 96.18 +53.27

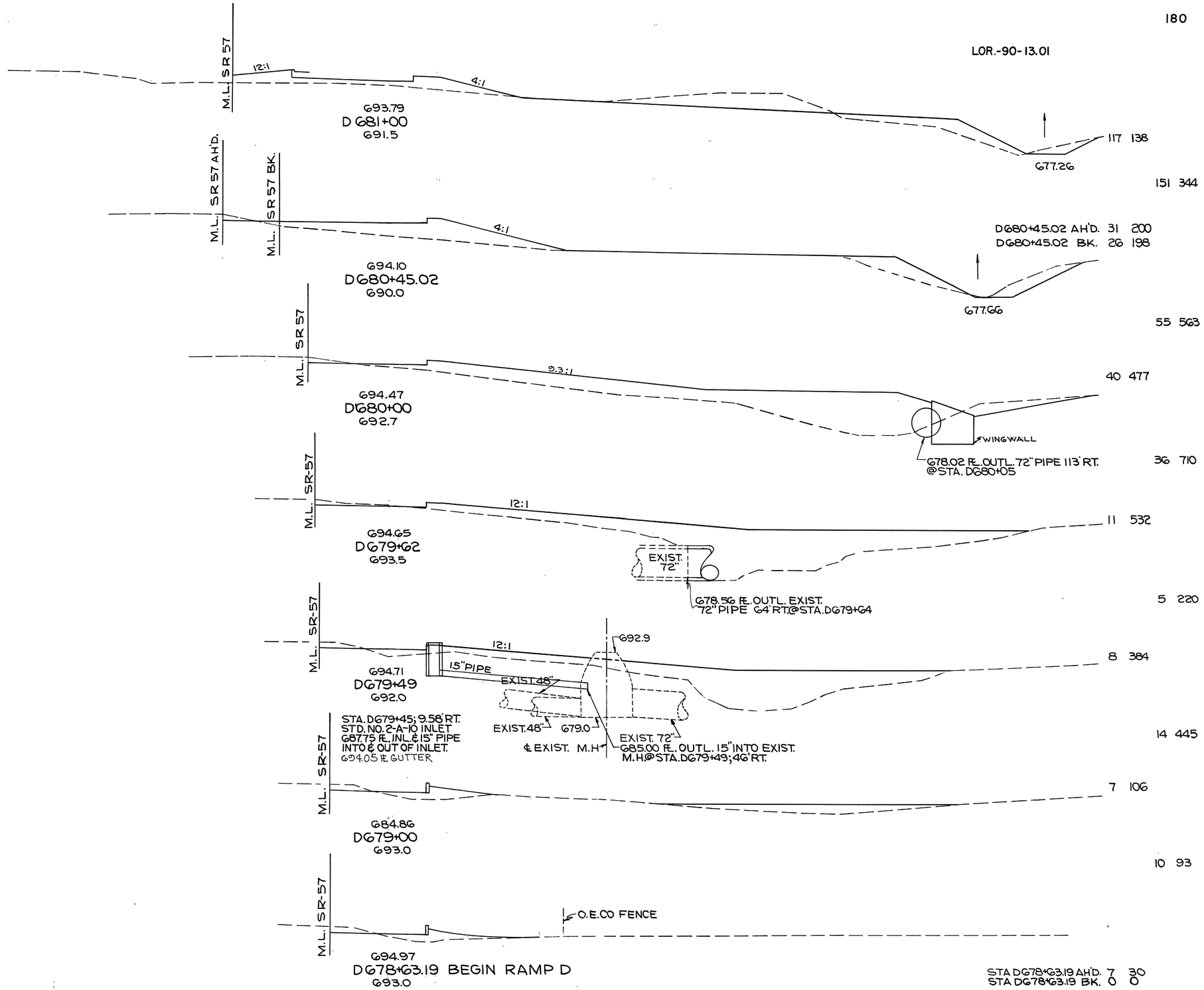


SEEDING	12,408	SQ.YDS.
EXCAVATION	2,025	CU.YDS.
EMBANKMENT	36,876	CU.YDS.

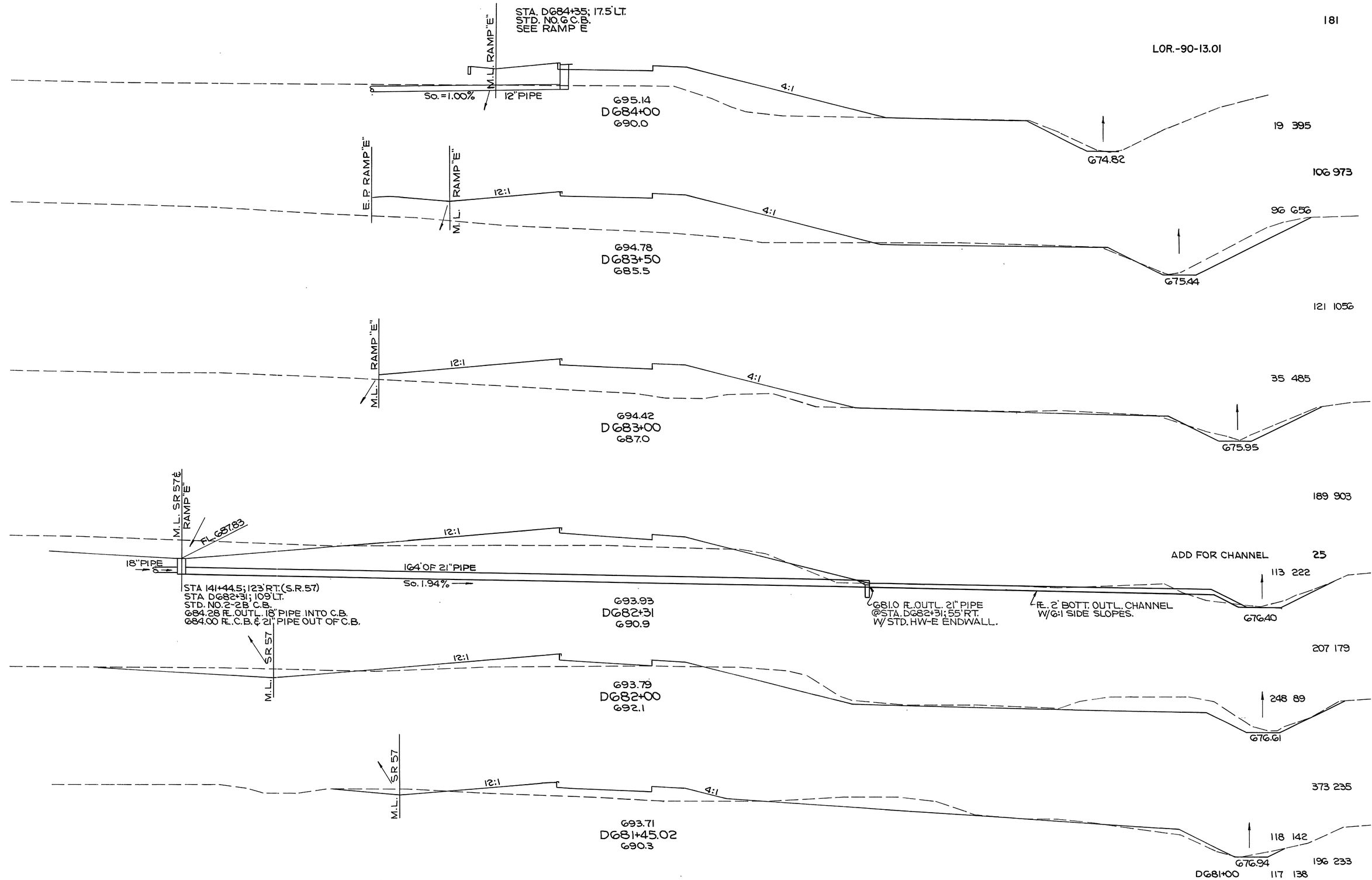
REFERENCE NO.	SIDE	STATION FROM	STATION TO	G05 SHALLOW PIPE UNDER-DRAIN 6" LIN.FT.	G03 CONDUIT TYPE F 6" LIN.FT.	G01 DUMPED ROCK CHANN. PROT. T=18" CU.YDS	G09 CONC. CURB STD. TYPE 7 LIN.FT.	G09 CONC. CURB STD. TYPE 8 LIN.FT.	G01 PAVED GUTTER 2.0-12 LIN.FT.	G06 GUARD RAIL TYPE 4 LIN.FT.		G60 SODDING SQ.YDS.		
1-UD	RT.	DG89+00	DG97+53.27	843	10									
1-C	RT.	DG92+81.5	DG97+53.27				76	400						
1-GR	LT.	DG89+00	DG90+96							200				
2-GR	RT.	DG95+94.5	DG97+53.27							158.77				
1-DR	RT.	DG93+71				14								
2-DR	RT.	DG95+75	DG96+97			42								
3-DR	RT.	DG97+03	DG97+40			18								
1-PG	LT.	DG89+91	DG90+14						135			45		
1-SD	LT.	DG91+00	DG92+50									145		
TOTALS				843	10	74	76	400	135	358.77		190		

RAMP "D" STA. DG89 + 00 TO STA. DG97 + 53.27

LOR.-90-13.01

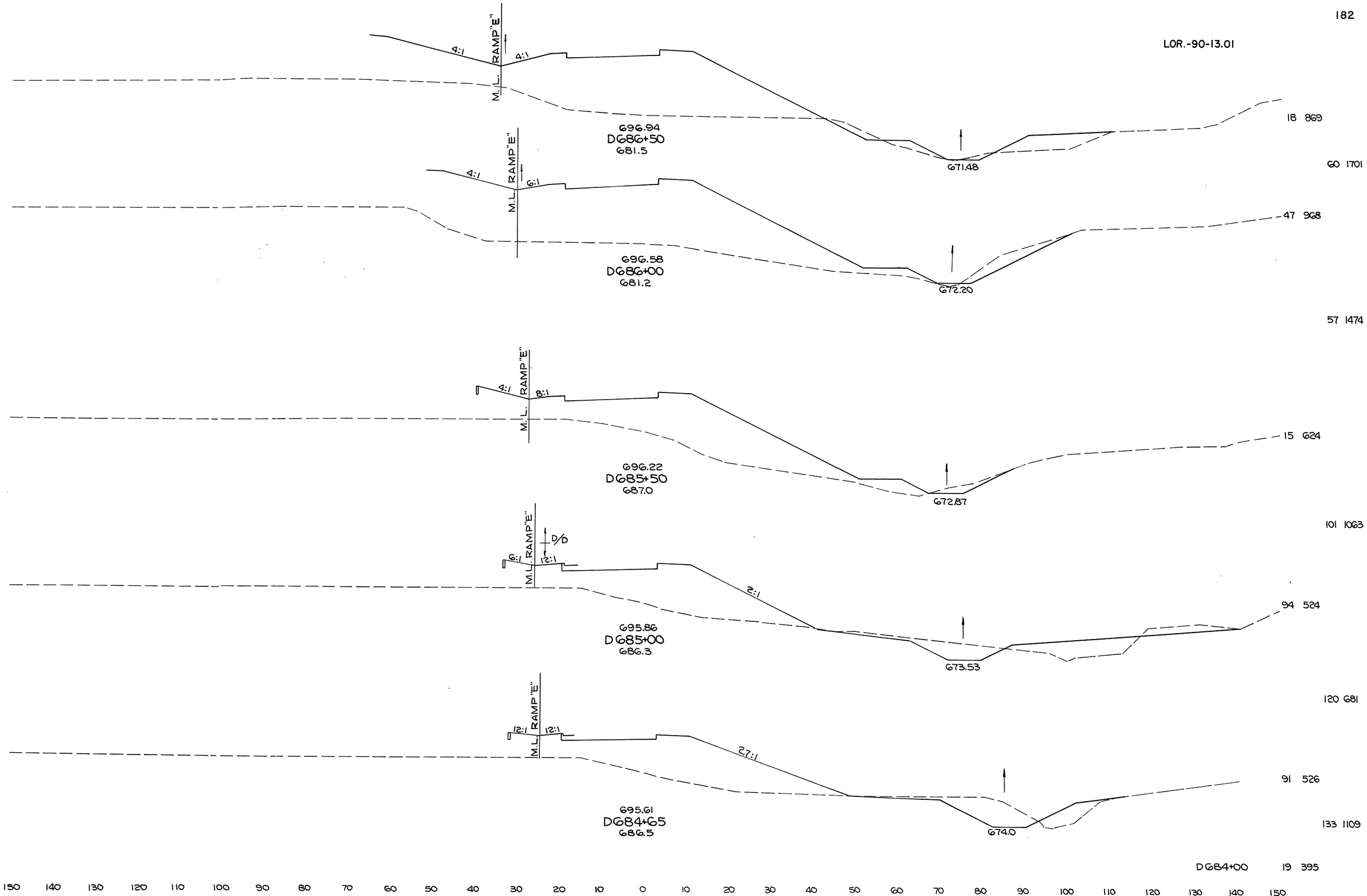

M.L. SR 57
12:1
4:1
693.79
D 681+00
691.5
677.26
117 138
151 344
M.L. SR 57 AH'D.
M.L. SR 57 BK.
4:1
694.10
D680+45.02
690.0
677.66
D680+45.02 AH'D. 31 200
D680+45.02 BK. 26 198
55 563
M.L. SR 57
9.3:1
694.47
D680+00
692.7
WINGWALL
678.02 FL. OUTL. 72" PIPE 113' RT.
@STA. D680+05
40 477
36 710
M.L. SR-57
12:1
694.65
D679+62
693.5
EXIST. 72"
678.56 FL. OUTL. EXIST.
72" PIPE 64' RT.@STA.D679+64
11 532
5 220
M.L. SR-57
12:1
692.9
15" PIPE
694.71
D679+49
692.0
EXIST. 48"
EXIST. 48"
679.0
℄ EXIST. M.H.
EXIST. 72"
685.00 FL. OUTL. 15" INTO EXIST.
M.H.@STA.D679+49; 46' RT.
8 384
14 445
M.L. SR-57
STA. D679+45; 9.58' RT.
STD. NO. 2-A-10 INLET
687.75 FL. INL. & 15" PIPE
INTO & OUT OF INLET.
694.05 FL. GUTTER
7 106
684.86
D679+00
693.0
10 93
M.L. SR-57
O.E.CO FENCE
694.97
D678+63.19 BEGIN RAMP D
693.0
STA D678+63.19 AH'D. 7 30
STA D678+63.19 BK. 0 0
150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150
RAMP "D" STA. D678+63.19 TO STA. D681+00

LOR.-90-13.01

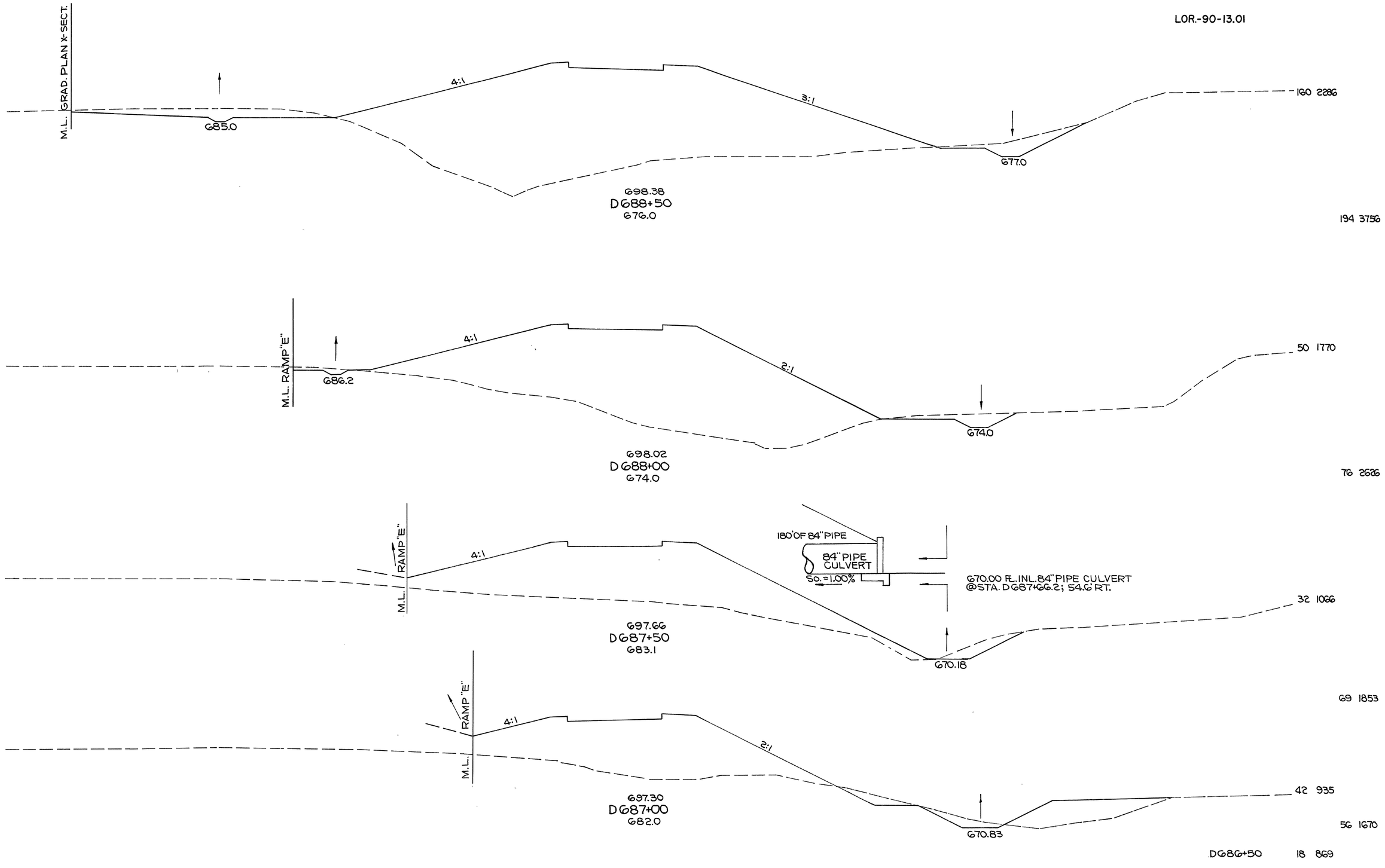


RAMP "D" STA. D681+45.02 TO STA. D684+00

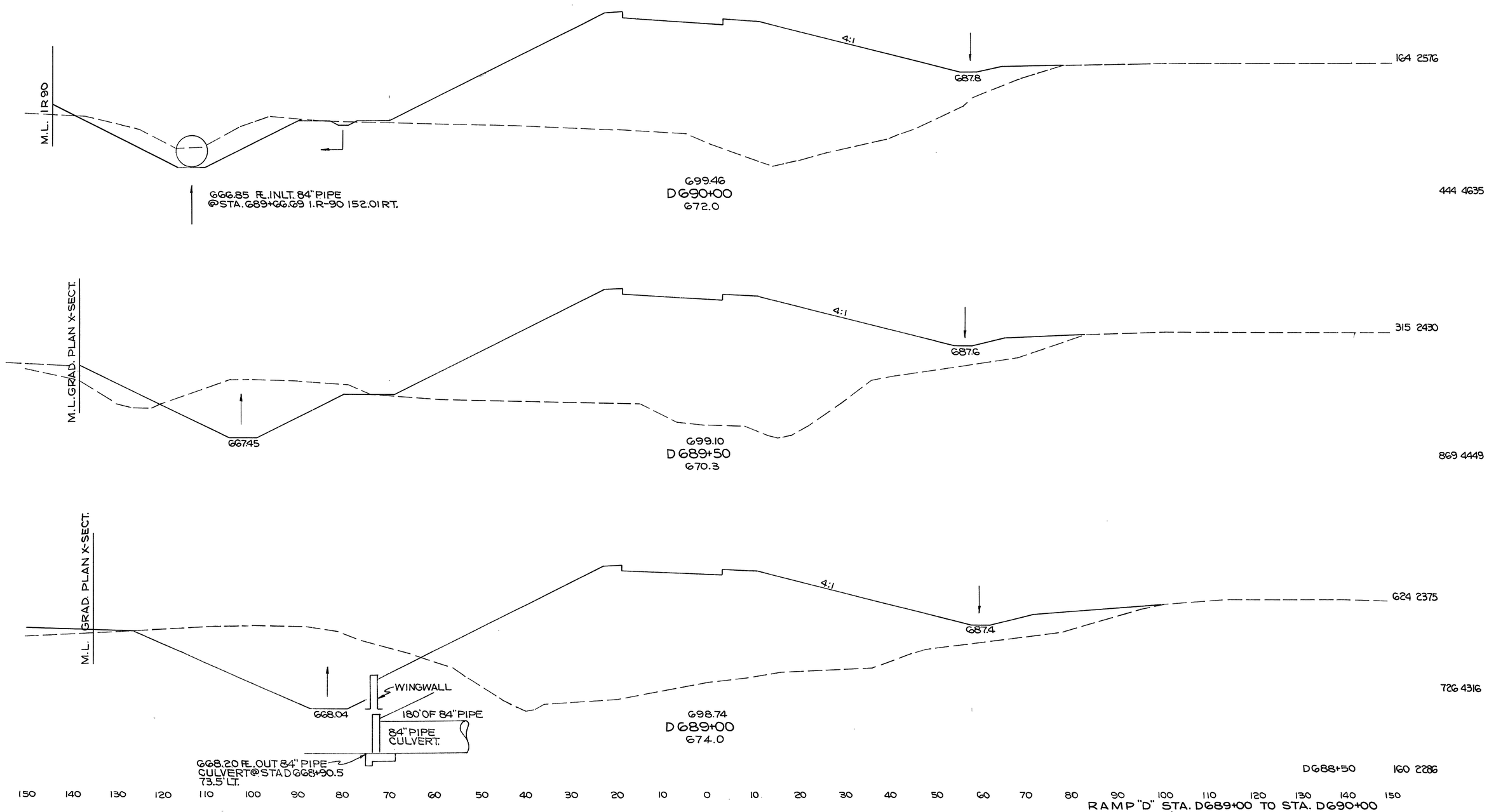
LOR.-90-13.01


RAMP "E"
M.L.
4:1
4:1
696.94
D686+50
681.5
671.48
18 869
RAMP "E"
M.L.
4:1
6:1
696.58
D686+00
681.2
672.20
60 1701
47 968
57 1474
RAMP "E"
M.L.
4:1
8:1
696.22
D685+50
687.0
672.87
15 624
101 1063
RAMP "E"
M.L.
D/D
6:1
12:1
2:1
695.86
D685+00
686.3
673.53
94 524
120 681
RAMP "E"
M.L.
12:1
12:1
2.7:1
695.61
D684+65
686.5
674.0
91 526
133 1109
D684+00
19 395
150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150
RAMP "D" STA. D684+65 TO STA. D686+50

LOR.-90-13.01

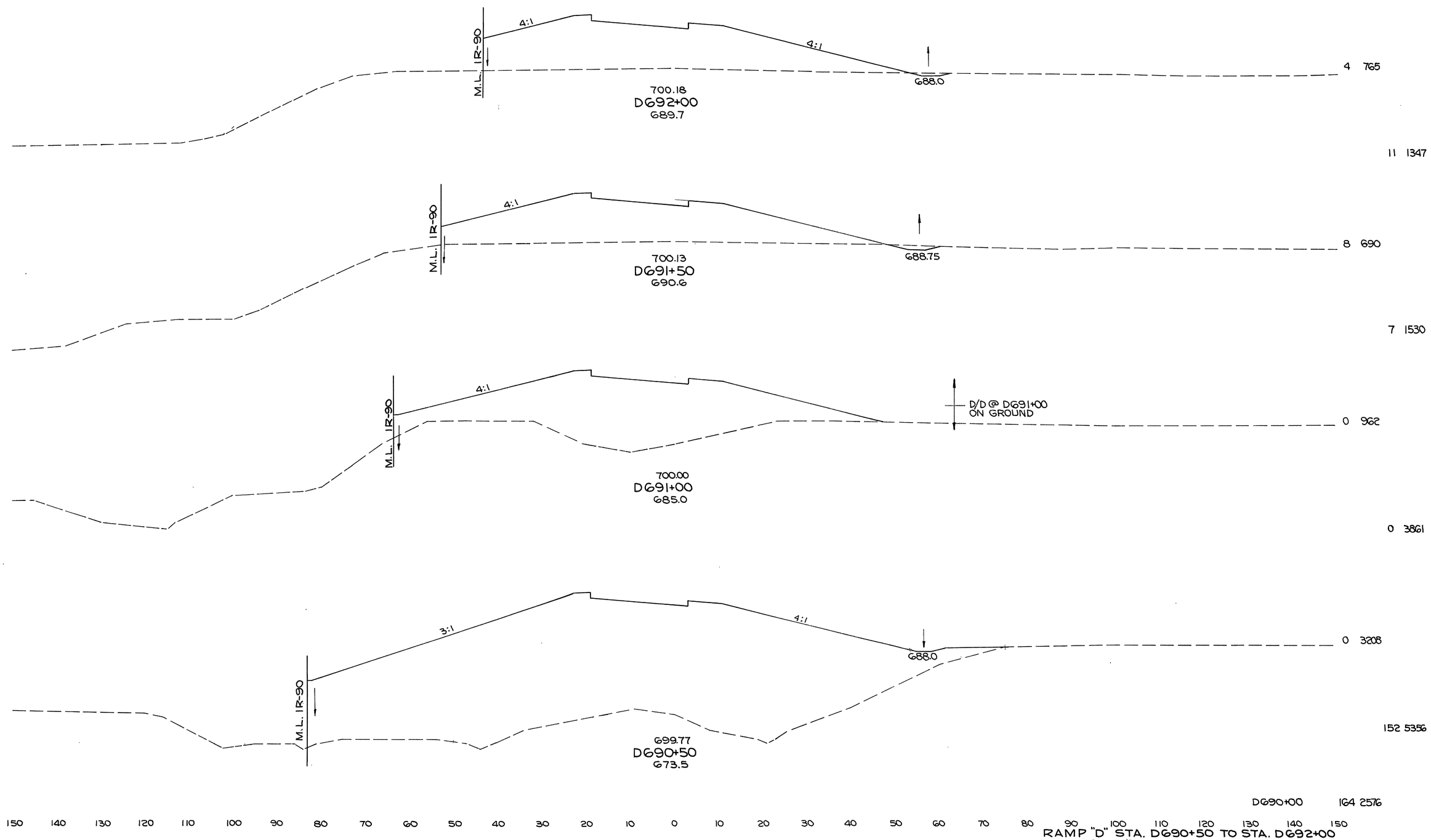

M.L. GRAD. PLAN X-SECT.
4:1
3:1
685.0
677.0
160 2286
698.38
D688+50
676.0
194 3756
M.L. RAMP "E"
4:1
2:1
686.2
674.0
50 1770
698.02
D688+00
674.0
76 2686
RAMP "E"
M.L.
4:1
180' OF 84" PIPE
84" PIPE CULVERT
So.=1.00%
670.00 FL. INL. 84" PIPE CULVERT @STA. D687+66.2; 54.6' RT.
32 1066
697.66
D687+50
683.1
670.18
69 1853
RAMP "E"
M.L.
4:1
2:1
42 935
697.30
D687+00
682.0
670.83
56 1670
D686+50
18 869
150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150
RAMP "D" STA. D687+00 TO STA. D688+50

LOR.-90-13.01



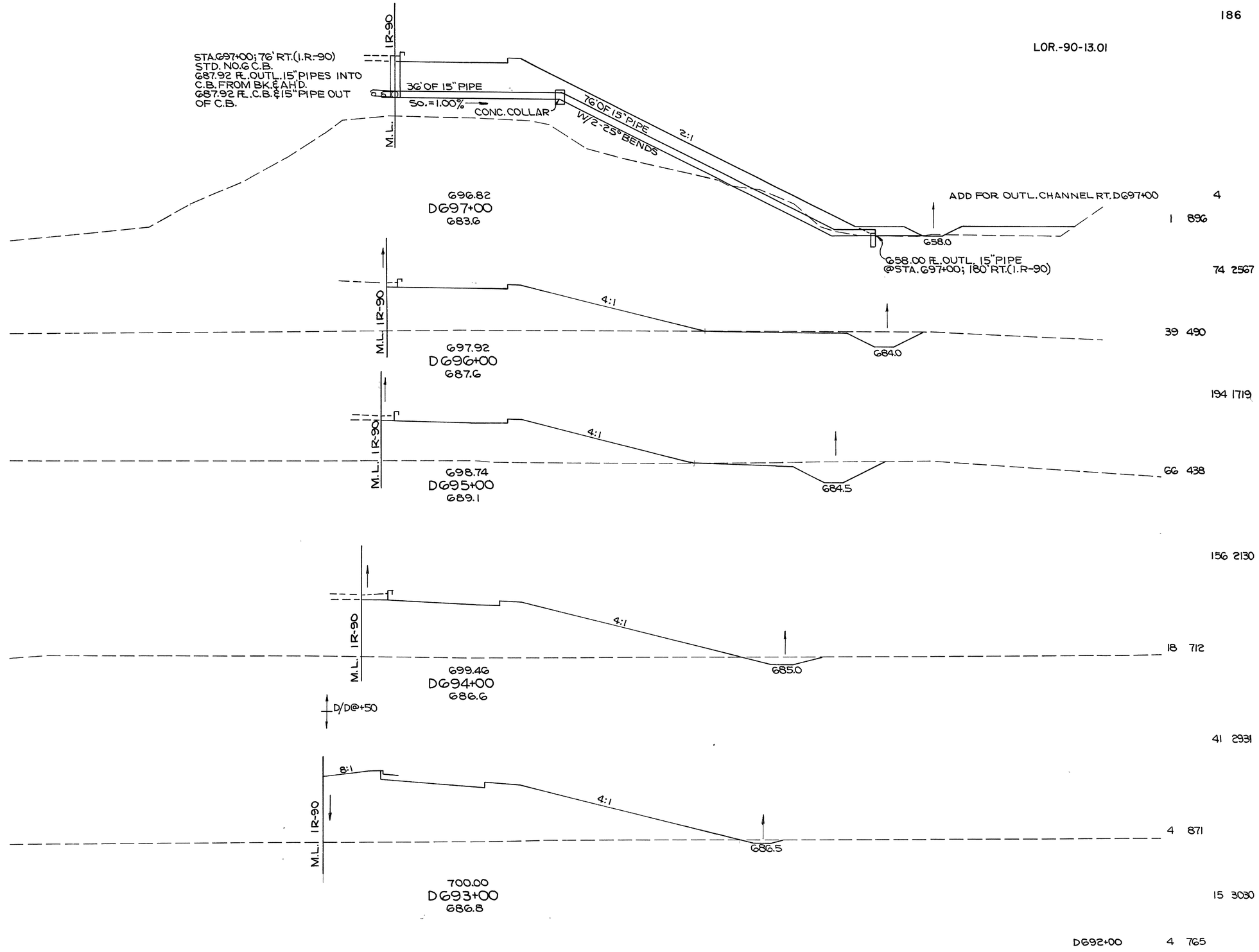
RAMP "D" STA. D689+00 TO STA. D690+00

LOR.-90-13.01

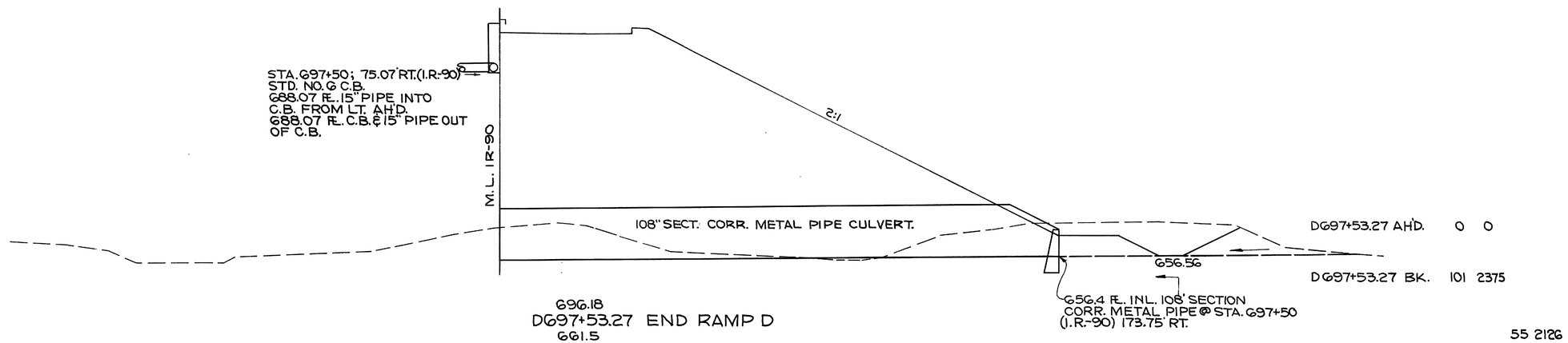


RAMP "D" STA. D690+50 TO STA. D692+00

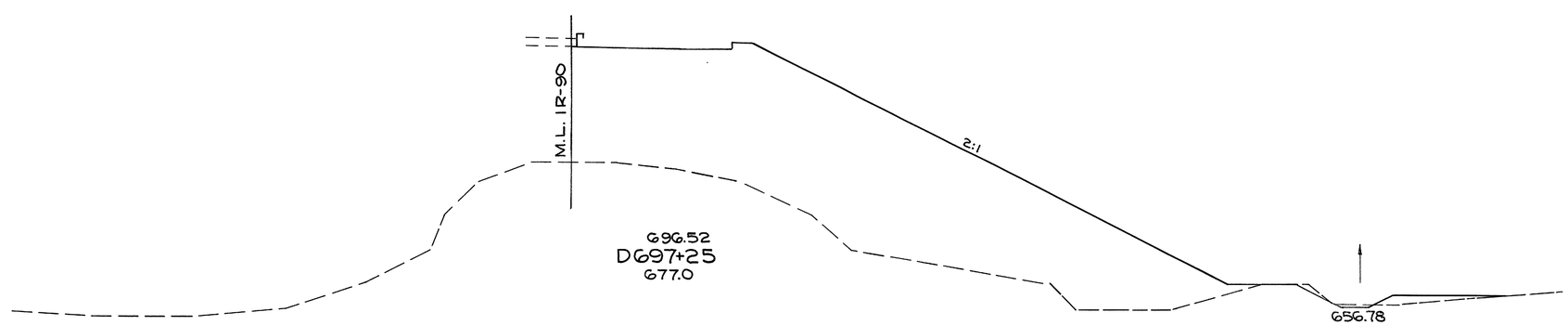
LOR.-90-13.01



RAMP "D" STA. D693+00 TO STA. D697+00



STA DG97+25 5 1686



3 1195

DG97+00 1 896

150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

RAMP "D" STA. DG97+25 TO STA. DG97+53.27

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

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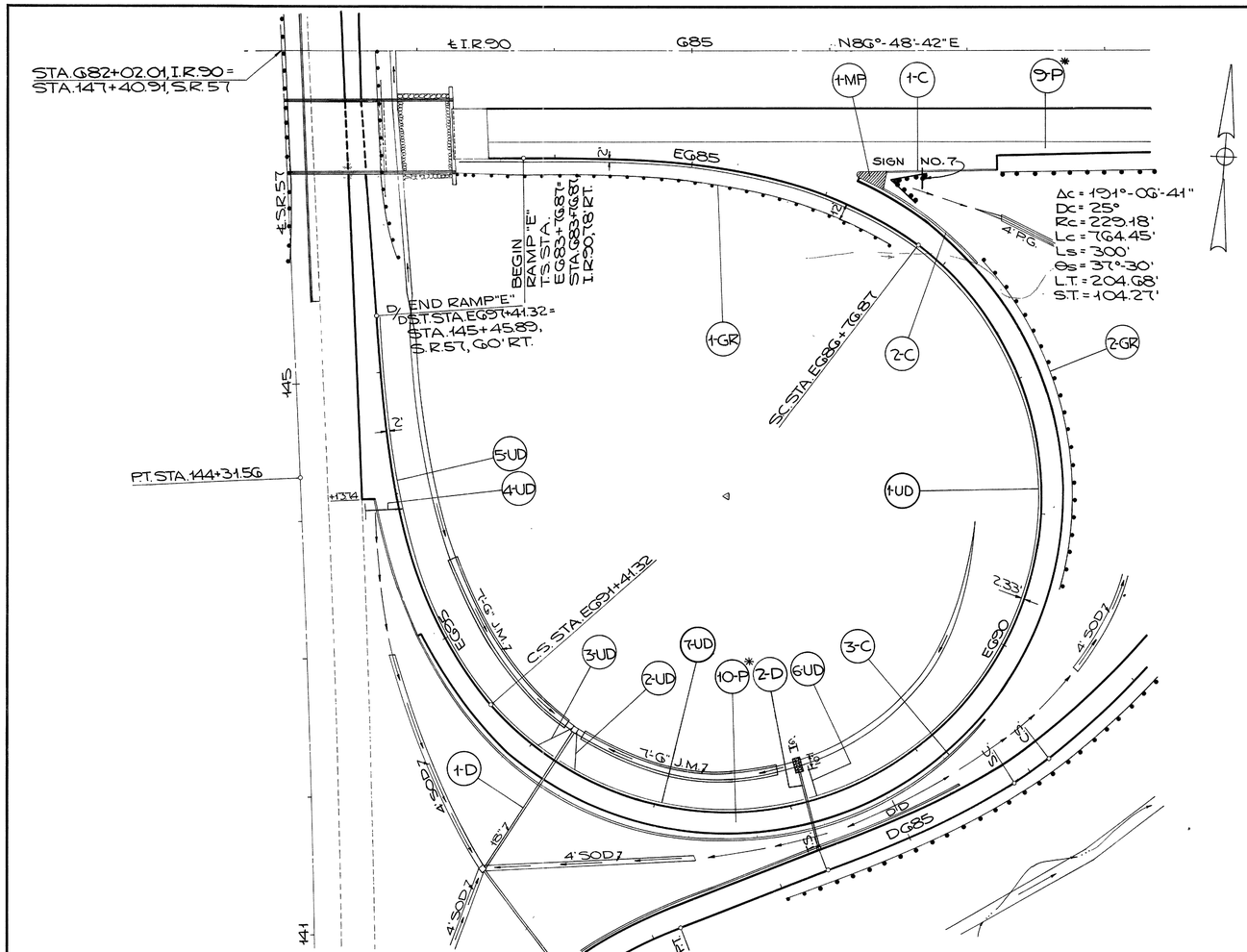
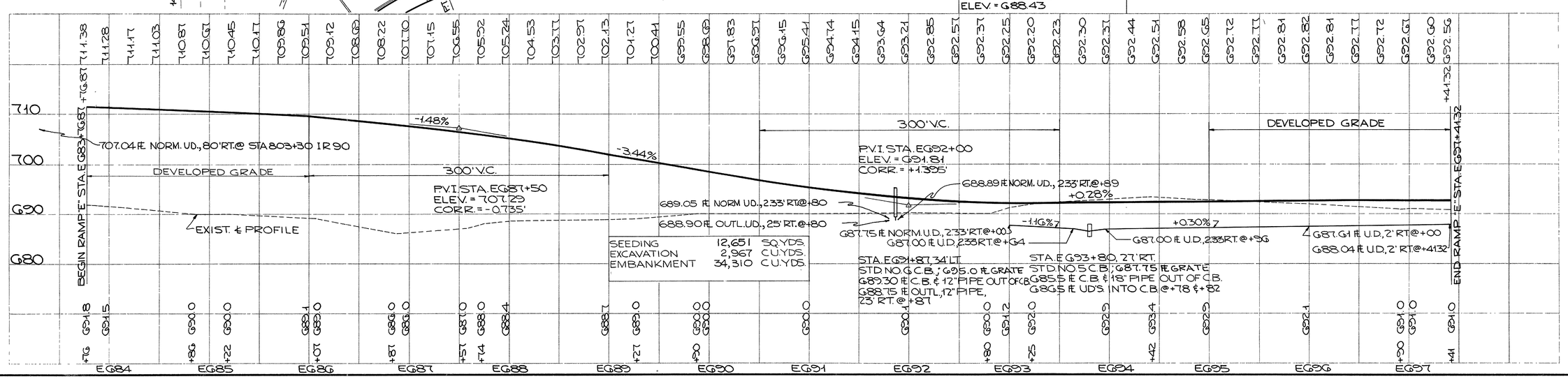


CROSS REFERENCES	
FOR	SEE SHEET NO.
RAMP "E" DETAILS	204, 206, 210
SUPERELEVATION	145
GRADING PLAN	217 TO 219
* PAVE'T. QUAN.	144

REFERENCE NO.	SIDE	STATION FROM	STATION TO	G05 SHALLOW PIPE UNDER-DRAIN 6" LIN.FT.	G05 DEEP PIPE UNDER-DRAIN 6" LIN.FT.	G03 CONDUIT TYPE F 6" LIN.FT.	G03 CONDUIT TYPE B-B 18" LIN.FT.	G05 PIPE SPECIAL 6"-60° WYE EACH	G05 PIPE SPECIAL 6" TEE EACH	G04 CATCH BASINS STD. NO. 5 EACH	G09 CONC. CURB STD. TYPE 6 EACH	G09 CONC. CURB STD. TYPE 8 EACH	G06 GUARD RAIL TYPE 4 LIN.FT.	G12 CONC. MEDIAN SQ.YDS.	G67 JUTE MATTING SQ.YDS.
1-UD	RT.	I.R.90 G83+30	EG91+85	855											
2-UD	RT.	EG93+64	EG93+78		18	10		1							
3-UD	RT.	EG93+82	EG93+96		18	10		1							
4-UD	LT.&RT.	EG96+00					28	1							
5-UD	RT.	EG93+82	EG97+41.32		360										
6-UD	RT.	EG91+80			13	10			1						
7-UD	RT.	EG91+89	EG93+78	111	78										
1-D	LT.&RT.	EG93+80					122			1					267
1-C	RT.	I.R.90 G86+41.81	I.R.90 G87+21.81								80				
2-C	LT.	EG86+35	EG87+66								88				
3-C	LT.	EG90+50	EG96+09								356	65			
1-MP	LT.	EG86+15	EG86+35											204	
1-GR	RT.	I.R.90 G83+25	EG86+60										325		
2-GR	LT.	EG87+17	EG89+47										250		
TOTALS				966	487	30	28	122	3	1	1	356	65	575	204	267

REFERENCE NO.	SIDE	STATION FROM	STATION TO	G01 DUMPED ROCK CHANN. PROT. T=18" CU.YD.	G02 MASON CLASS C STD. HW-E ENDWL CU.YD.	G03 CONDUIT TYPE B-B 12" LIN.FT.	G04 CATCH BASINS STD. NO. 6 EACH
2-D	LT.&RT.	EG91+87		4	0.23	57	1
TOTALS				4	0.23	57	1

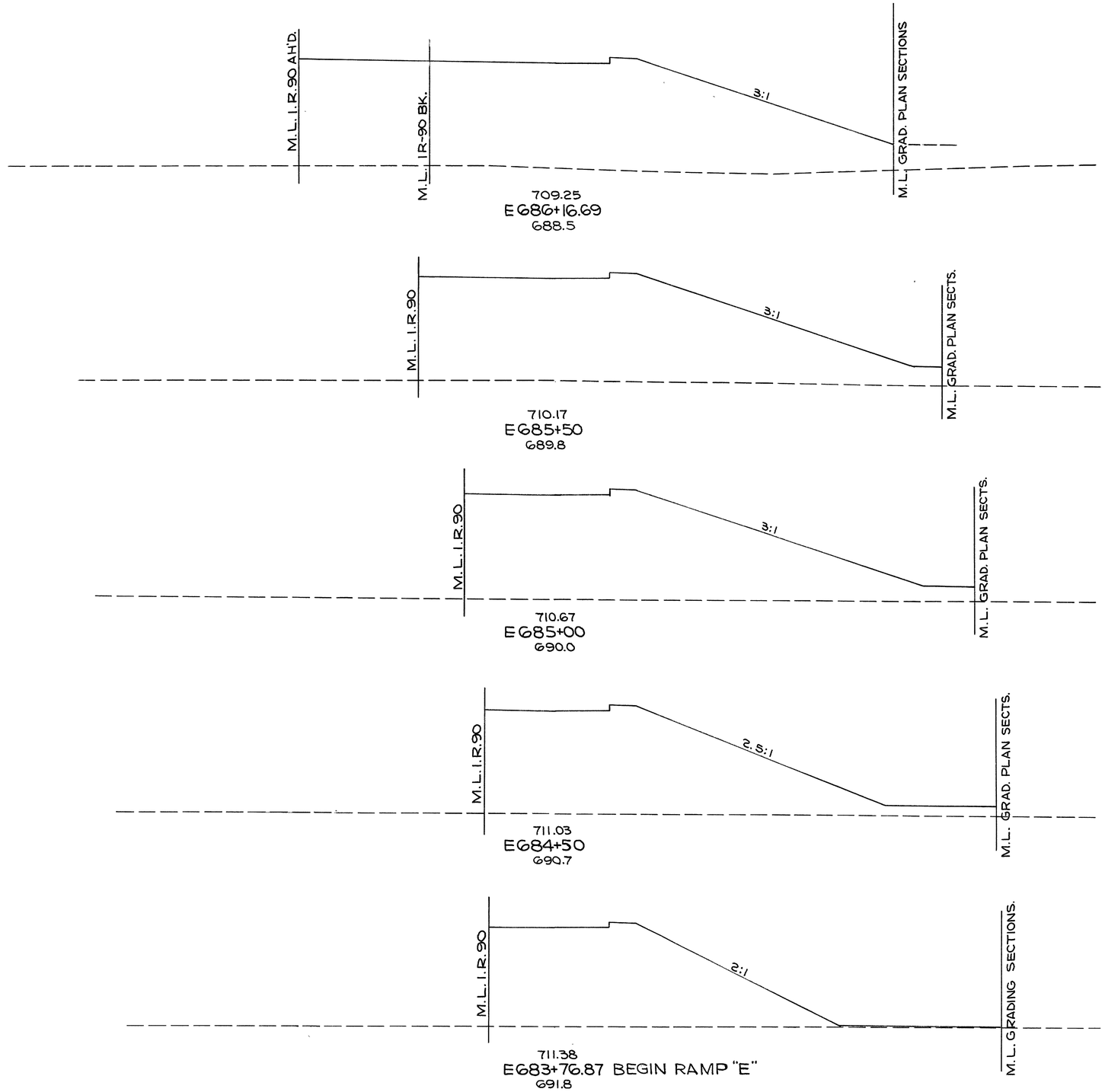
B.M. BOAT SPIKE IN 36" OAK 289' RT. STA. G93+58 ELEV. = 688.43



SEEDING	12,651 SQ.YDS.
EXCAVATION	2,967 CU.YDS.
EMBANKMENT	34,310 CU.YDS.

RAMP "E" STA. EG83+76.87 TO STA. EG97+41.32

LOR.-90-13.01



E686+16.69 AH'D. 0 1753
E686+16.69 BK. 0 1290

0 3285

0 1370

0 2419

0 1243

0 2136

0 1064

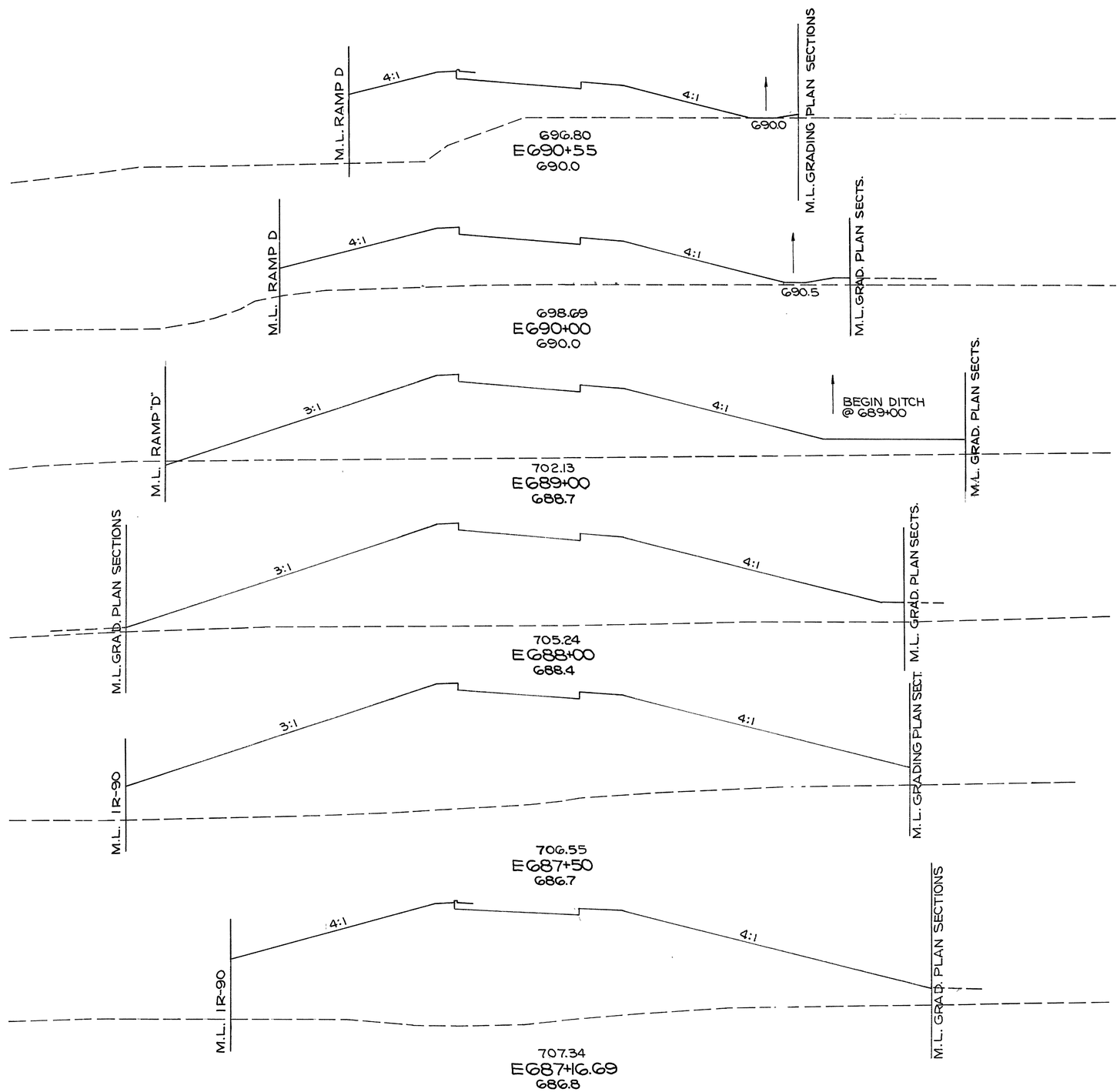
0 2646

E683+76.87 AH'D. 0 890
E683+76.87 BK. 0 0

150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

RAMP "E" STA. E683+76.87 TO STA. E686+16.69

LOR.-90-13.01



0 540

0 1181

0 620

2 3176

1 1095

2 4931

0 1568

0 3354

0 2054

0 2451

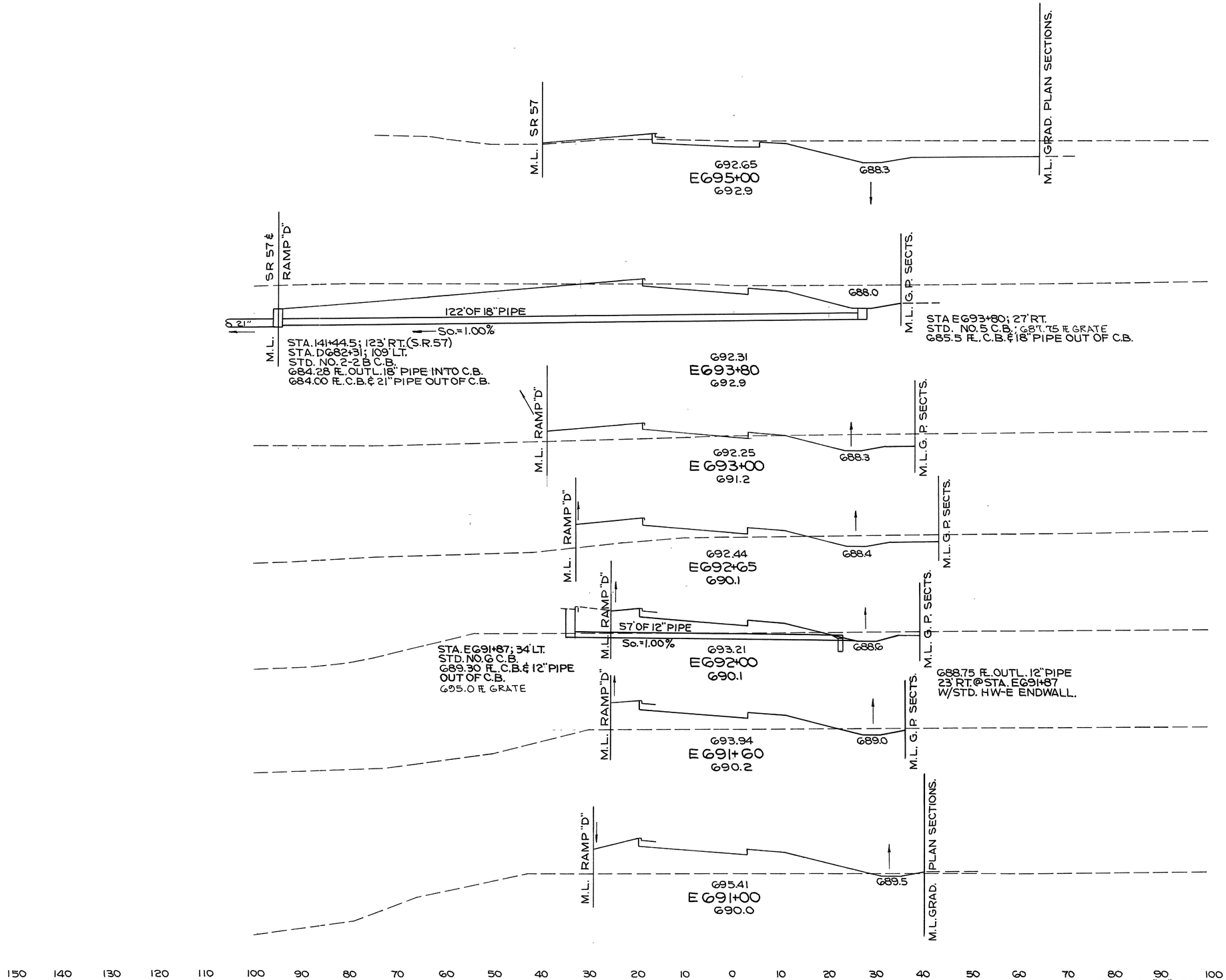
0 1920

0 6802

E686+16.69 AH'D. 0 1753

150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

RAMP "E" STA. E687+16.69 TO STA. E690+55



195 10

1069 38

286 7

513 119

60 73

68 127

45 123

79 286

21 115

24 193

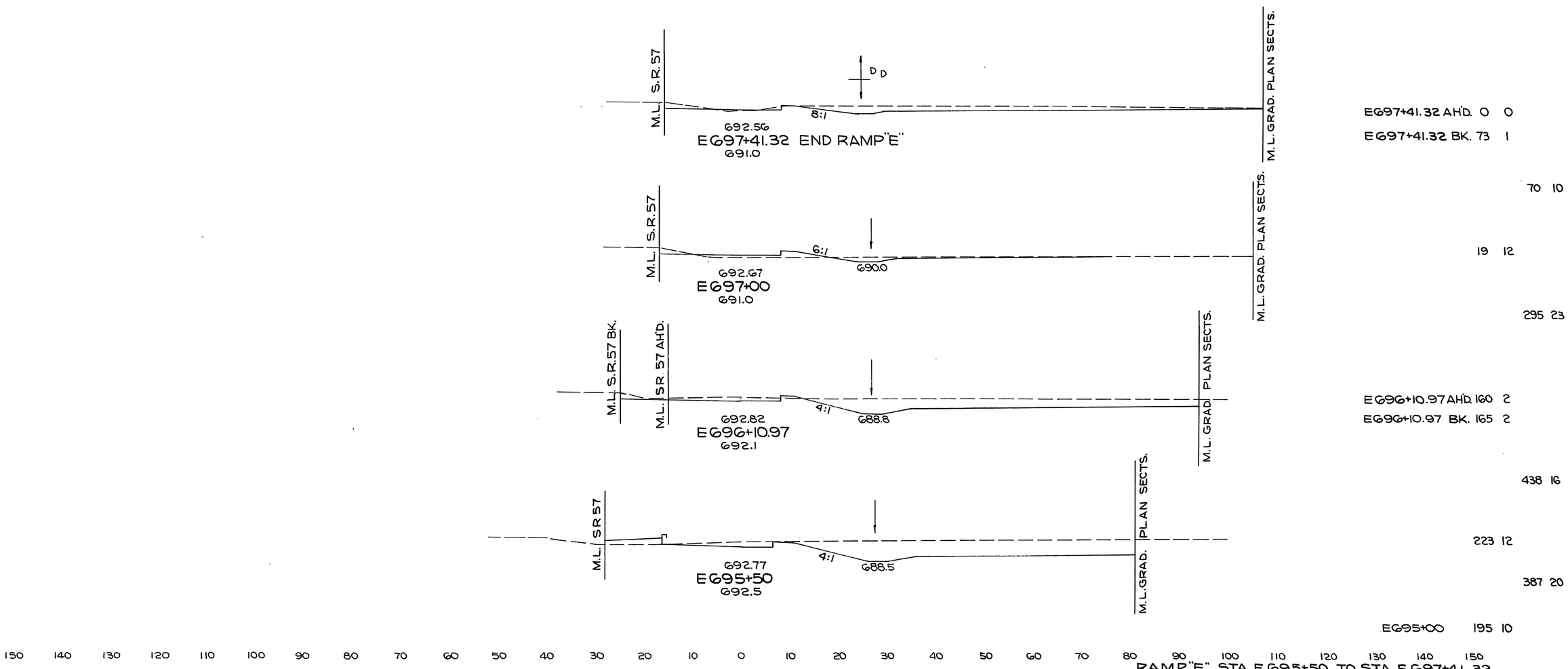
12 145

17 439

3 250

3 658

0 540


M.L.
S.R.57
D D
8:1
692.56
E697+41.32 END RAMP"E"
691.0
M.L. GRAD. PLAN SECTS.
6:1
692.67
690.0
E697+00
691.0
M.L. S.R.57 BK.
M.L. SR 57 AH'D.
4:1
692.82
688.8
E696+10.97
692.1
M.L. GRAD PLAN SECTS.
SR 57
4:1
692.77
688.5
E695+50
692.5
M.L.GRAD. PLAN SECTS.
E697+41.32 AH'D. 0 0
E697+41.32 BK. 73 1
70 10
19 12
295 23
E696+10.97 AH'D. 160 2
E696+10.97 BK. 165 2
438 16
223 12
387 20
E695+00 195 10
150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150
RAMP"E" STA. E695+50 TO STA. E697+41.32

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

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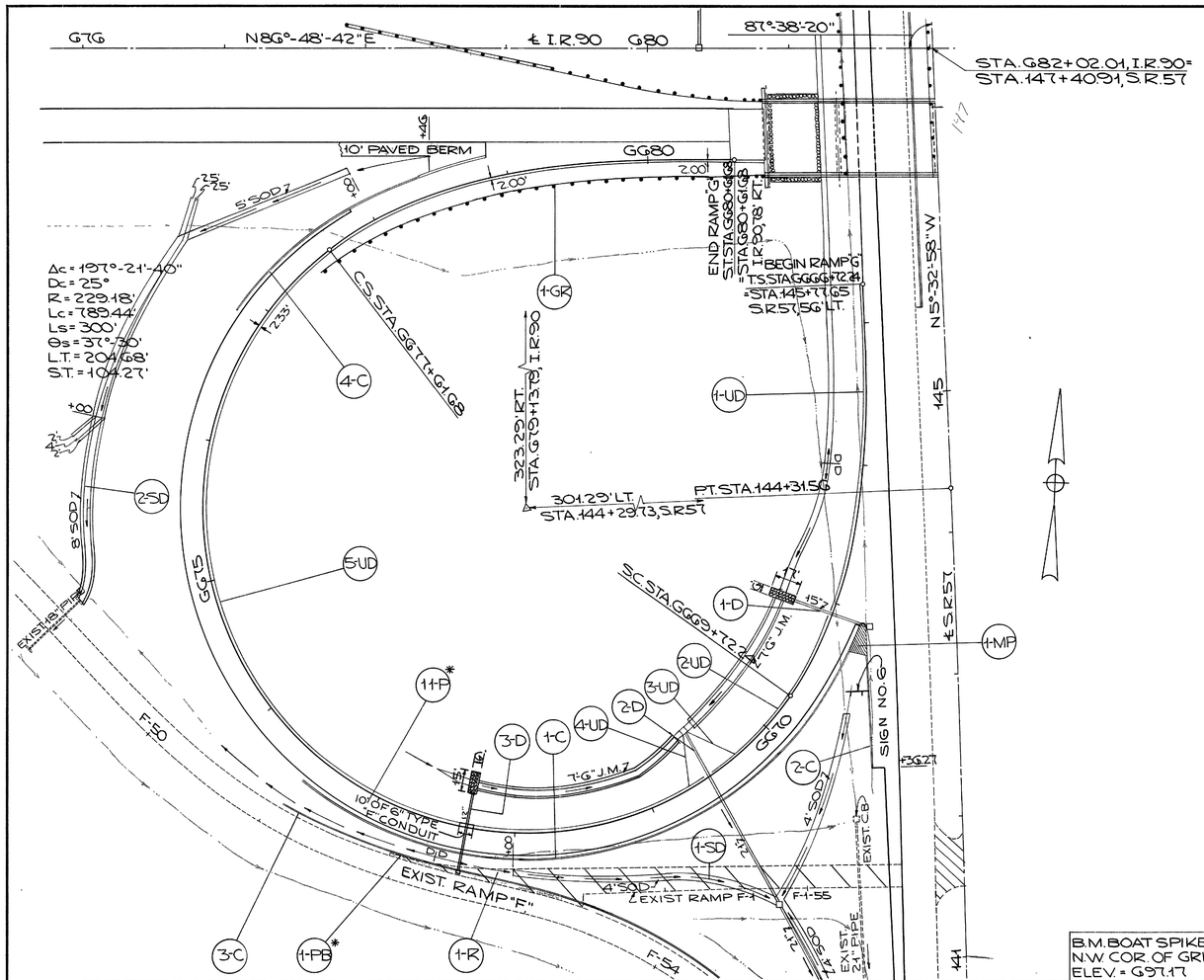
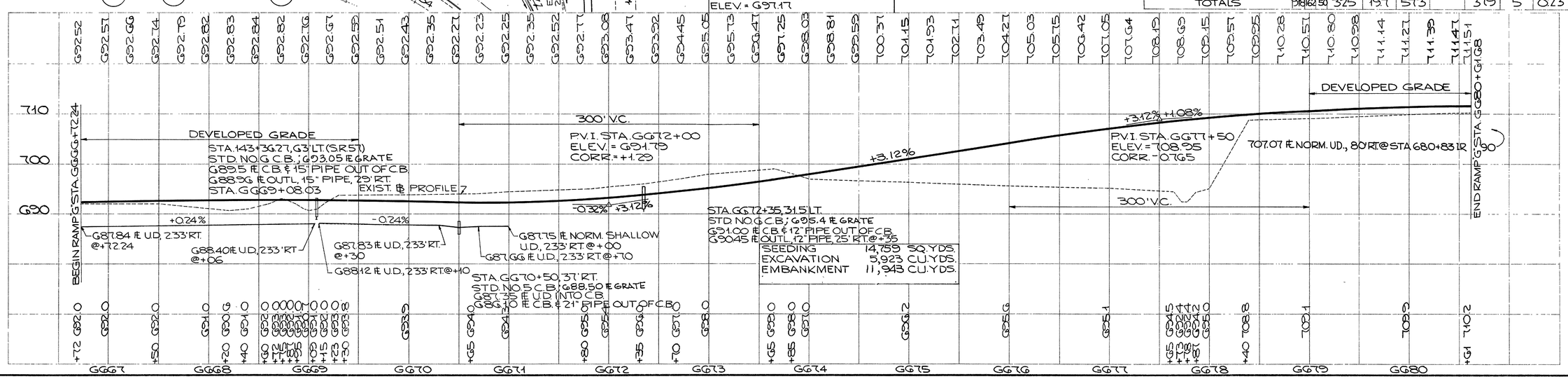


CROSS REFERENCES	
FOR	SEE SHEET NO.
RAMP "G" DETAILS	145,211
SUPERELEVATION	145
GRADING PLAN	220,221
* PAV'T. QUAN.	144

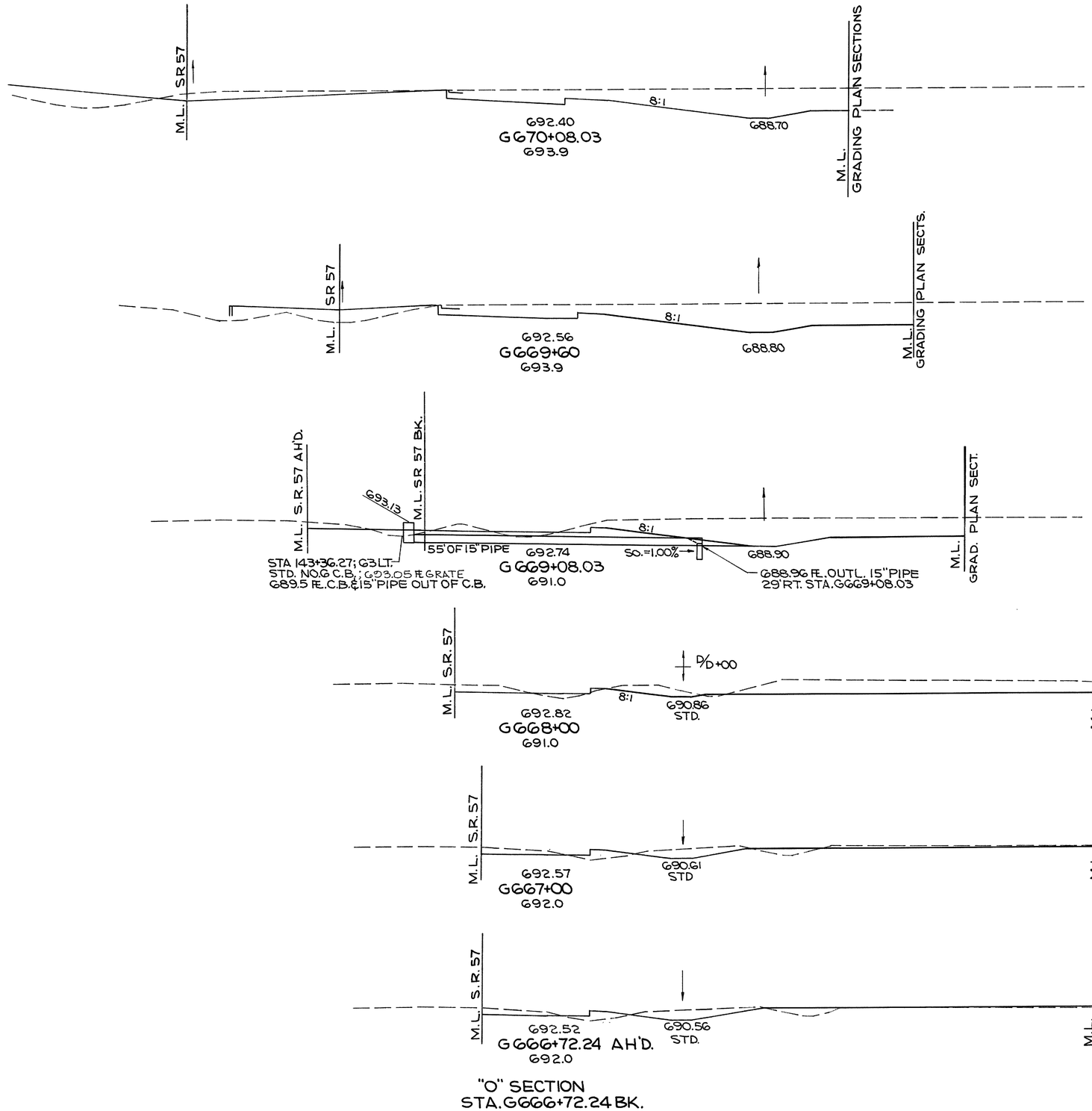
REFERENCE NO.	SIDE	STATION FROM	STATION TO	G05 SHALLOW PIPE UNDER-DRAIN 6" LIN.FT.	G05 DEEP PIPE UNDER DRAIN 6" LIN.FT.	G03 CONDUIT TYPE F 6" LIN.FT.	G03 CONDUIT TYPE B-B 15" 21" LIN.FT.	G02 MASON. CLASS "C" STD. HW-E ENDWL CU.YDS.	G05 PIPE SPECIALS 6"-60° WYE EACH	G03 CONDUIT RECONST. TYPE B-B 21" LIN.FT.	G04 CATCH BASINS STD. NO. 5 6 EACH	G01 DUMPED ROCK CHANN. PROT. T=18" CU.YDS.	G07 JUTE MATTING SQ.YDS.
1-UD	RT.	GGGG+72	GGG9+06		234								
2-UD	RT.	GGG9+10	GG70+51		141								
3-UD	RT.	GG70+30	GG70+50		30	10			1				
4-UD	RT.	GG70+70	GG70+70		30	10			1				
5-UD	RT.	GG70+55	I.R.90 G80+83	973	45	10							
1-D	LT.&RT.	GGG9+08.03					55	0.26			1	6	
2-D	LT.&RT.	GG70+50					94			44	1		217
TOTALS				973	480	30	55 94	0.26	2	44	1 1	6	217

REFERENCE NO.	SIDE	STATION FROM	STATION TO	G09 CONC. CURB STD. TYPE 6 7 8 LIN.FT.	G06 GUARD RAIL TYPE 4 LIN.FT.	G12 CONC. MEDIAN SQ.YDS.	202 EXIST. PAV'T. REMOV. & DISPOS. OF (9" NON-REINF. CONC.) SQ.YDS.		G60 SODDING SQ.YDS.	G01 DUMPED ROCK CHANN. PROT. T=18" CU.YDS.	G02 MASON. CLASS C STD. HW-E ENDWL CU.YD.	G03 CONDUIT TYPE B-B 12" LIN.FT.	G04 CATCH BASINS STD. NO. 6 EACH
1-C	LT.	GGG9+27	GG73+50	458									
2-C	LT.	S.R.57 142+36.27	S.R.57 143+16	80									
3-C	LT.	F51+08	F54+68	380									
4-C	LT.	GG71+80	GG78+81.71	162	50								
3-D	LT.&RT.	GG72+35								5	0.23	57	1
1-MP	LT.	GGG9+06	GGG9+27			19.7							
1-R	LT.	F-1-51+51	F-1-55+67				573						
1-GR	RT.	GG77+50	I.R.90 G80+84		325								
1-SD	LT.	GG70+61	GG72+00						84				
2-SD	LT.	GG75+05	GG78+00						295				
TOTALS				918	162 50	325	19.7	573		379	5	0.23	57	1



SEEDING	14,759 SQ.YDS.
EXCAVATION	5,923 CU.YDS.
EMBANKMENT	11,943 CU.YDS.

RAMP "G" STA.GGGG+72.24 TO STA.GG80+61.68



258 0

495 20

298 23

540 36

G669+08.03 AH'D. 263 14

G669+08.03 BK. 254 7

871 26

181 6

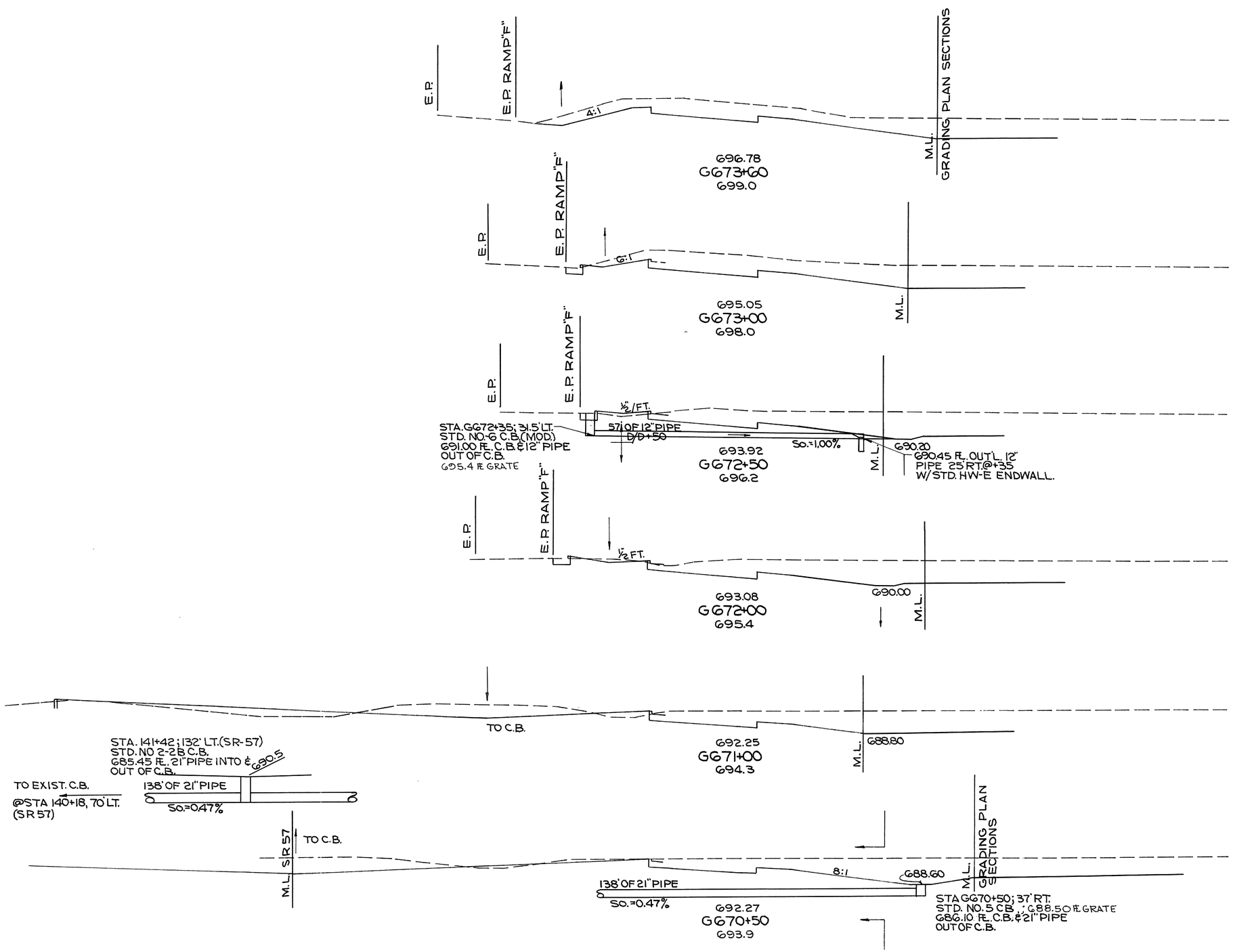
433 43

53 17

43 21

G666+72.24 AH'D. 31 25

G666+72.24 BK. 0 0



211 0

451 1

195 1

319 6

150 5

328 6

204 1

770 104

212 55

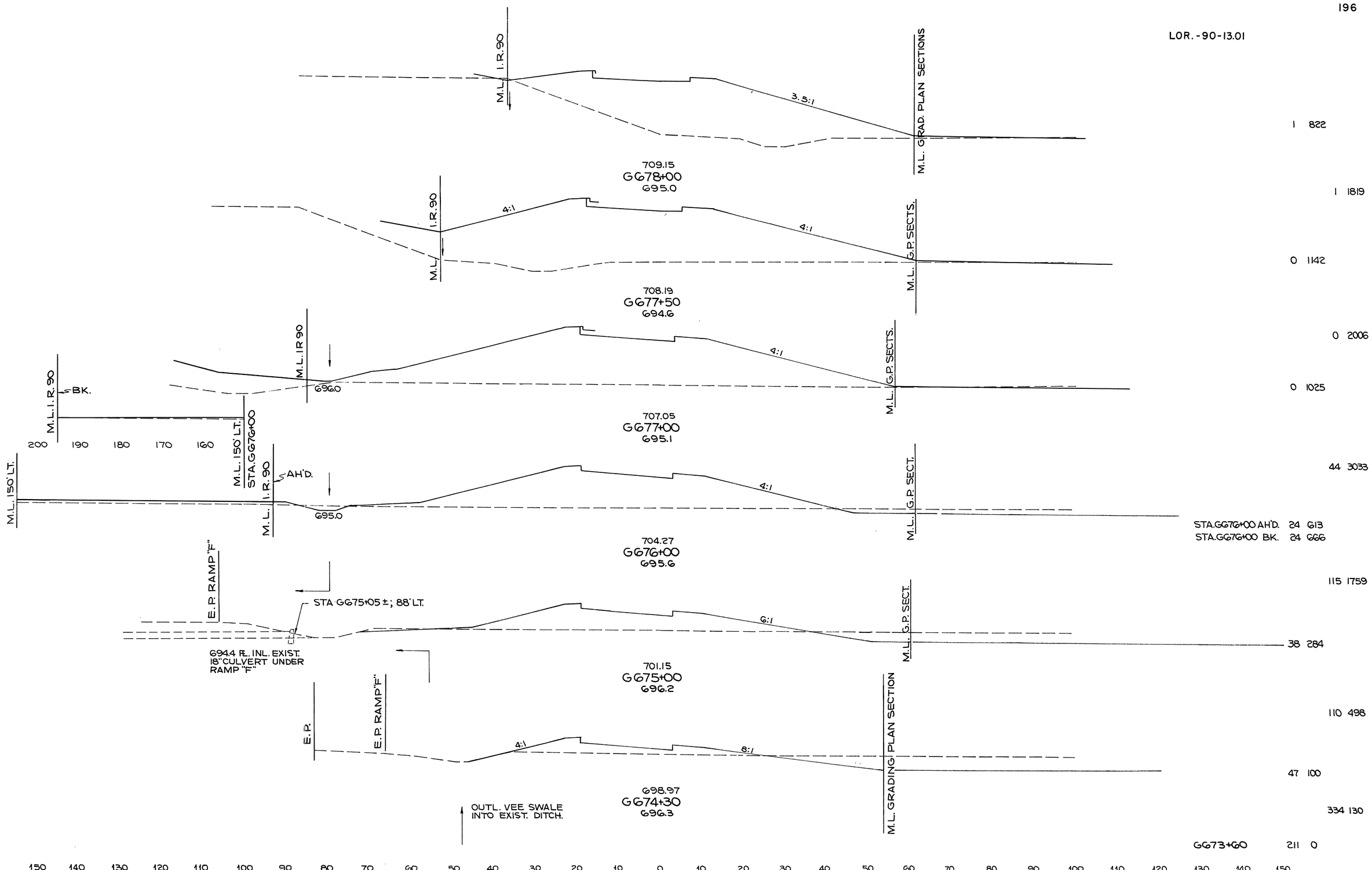
484 57

311 6

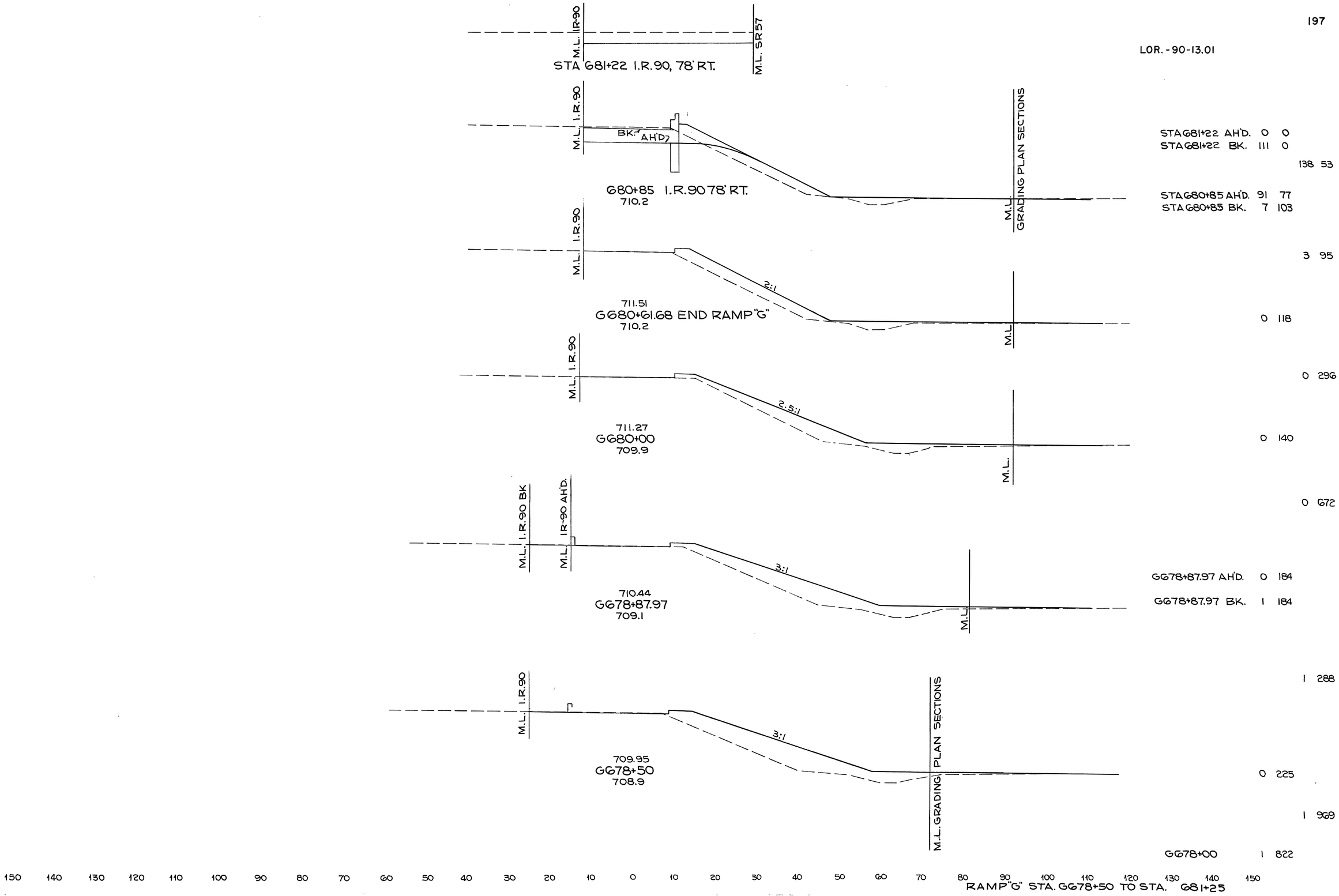
442 5

GG70+08.03 258 0

LOR.-90-13.01



RAMP "G" STA. GG74+30 TO STA. GG78+00



STA 681+22 AH'D.	0	0
STA 681+22 BK.	111	0
		138 53
STA 680+85 AH'D.	91	77
STA 680+85 BK.	7	103
		3 95
		0 118
		0 296
		0 140
		0 672
G678+87.97 AH'D.	0	184
G678+87.97 BK.	1	184
		1 288
		0 225
		1 969
G678+00	1	822

FED. RD. DIVISION	STATE	PROJECT	
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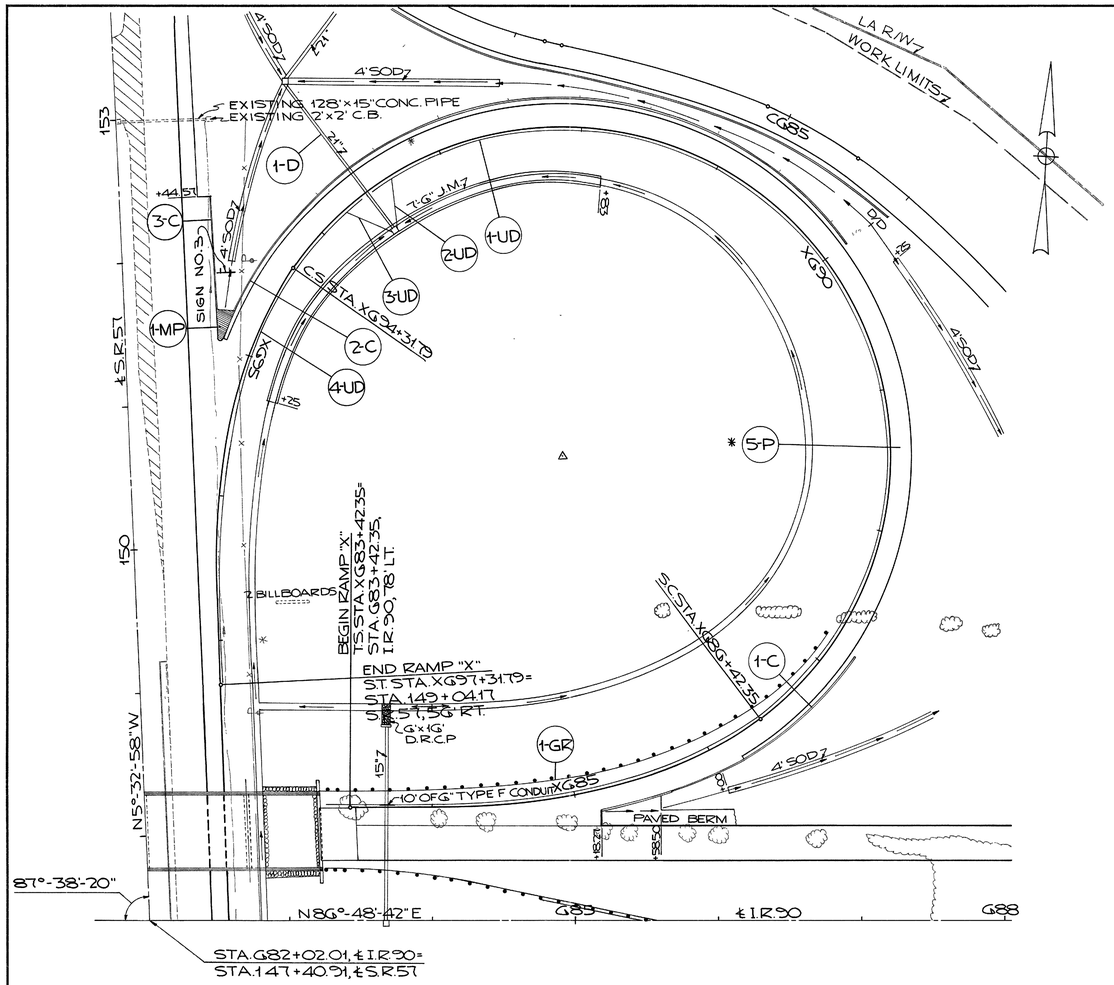
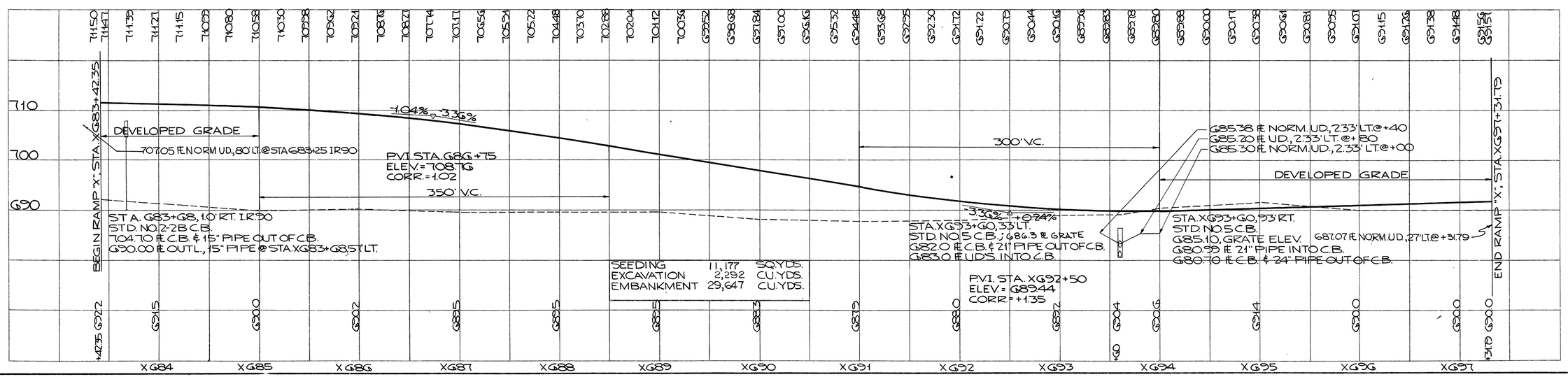


RAMP "X"
Δc = 197°-21'-40"
Dc = 25°
Rc = 229.18
Lc = 789.44
Ls = 300'
θs = 37°-30'
L.T. = 204.98'
S.T. = 104.27'

CROSS REFERENCES	
FOR	SEE SHEET NO.
RAMP "X" DETAILS	145,205,212
SUPERELEVATION	145
GRADING PLAN	215,216
* PAVE'T. QUAN.	144

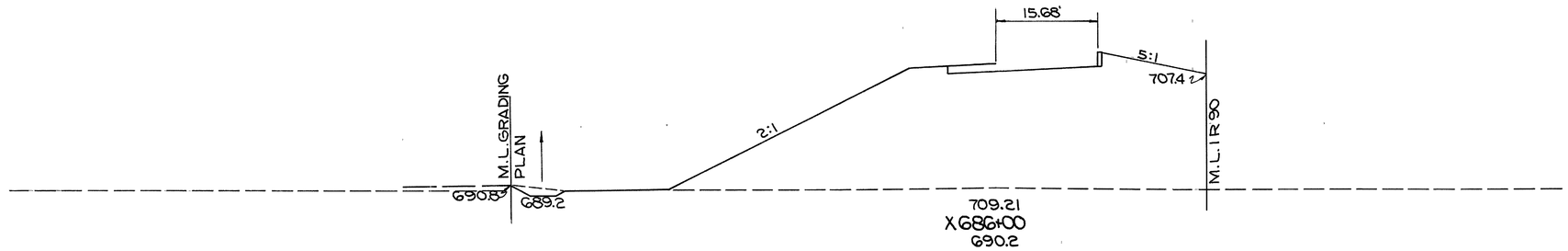
REFERENCE NO.	SIDE	STATION FROM	STATION TO	G05 PIPE UNDERDRAINS SHALLOW	G05 PIPE UNDERDRAINS DEEP	G03 CONDUIT TYPE F 6"	G05 PIPE SPECIAL 6"-90° WYE	G12 CONC. MEDIAN	G06 GUARDRAIL TYPE 4	G09 CONC. CURB G1718
				LIN. FT.		LIN. FT.	EACH	SQ.YDS.	LIN. FT.	LIN. FT.
1-UD	LT.	I.R.90 G83+25	XG93+58	103		10				
2-UD	LT.	XG93+40	XG93+60		25	10	1			
3-UD	LT.	XG93+60	XG93+80		25	10	1			
4-UD	LT.	XG93+62	XG97+32	370						
1-MP	RT.	XG84+66.62	XG84+96.62					19.7		
1-C	RT.	XG85+16	XG87+16							87.51
2-C	RT.	XG90+00	XG94+77							87.51
3-C	RT.	S.R.57 151+64.51	S.R.57 152+44.51							
1-GR	LT.	G83+21	XG87+20						387.5	
TOTALS				1330	50	30	2	19.7	387.5	87.51

REFERENCE NO.	SIDE	STATION FROM	STATION TO	G03 CONDUIT		G03 CONDUIT TYPE BB 21"	G02 MASON	G04 CATCH BASINS STD. NO. 5				GG7 JUTE MATTING
				LIN. FT.			CU.YDS.	EACH			CU.YDS.	SQ.YDS.
1-D	LT.&RT.	XG93+60				126		1				250
TOTALS						126		1				250

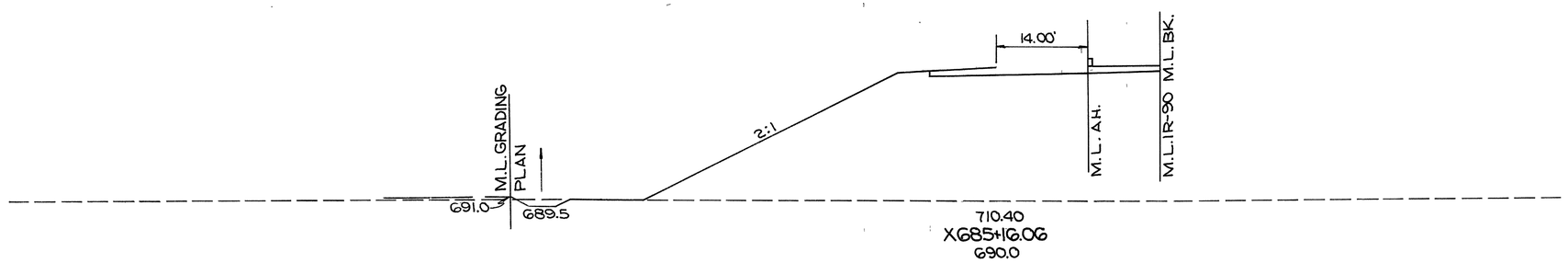


RAMP "X" STA. XG83+42.35 TO STA. XG97+31.79

LOR.-90-13.01

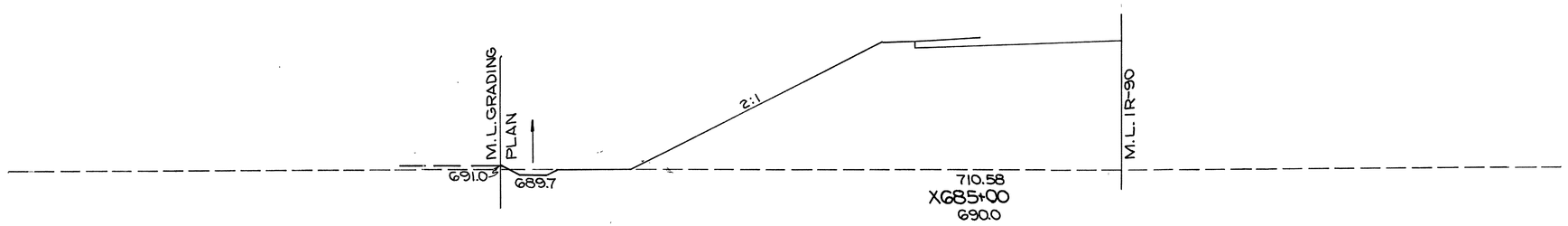


8 1145



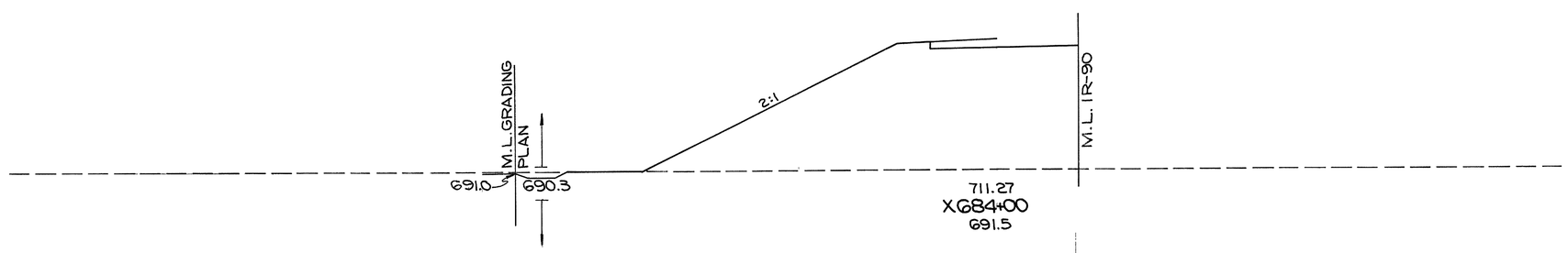
23 3249

STA X685+16.06 A.H. 7 945
STA X685+16.06 BK. 7 1160



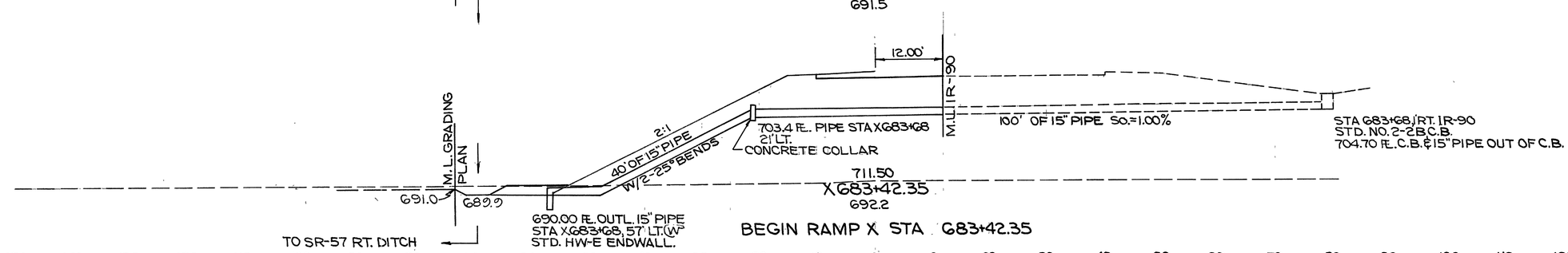
4 642

6 1000



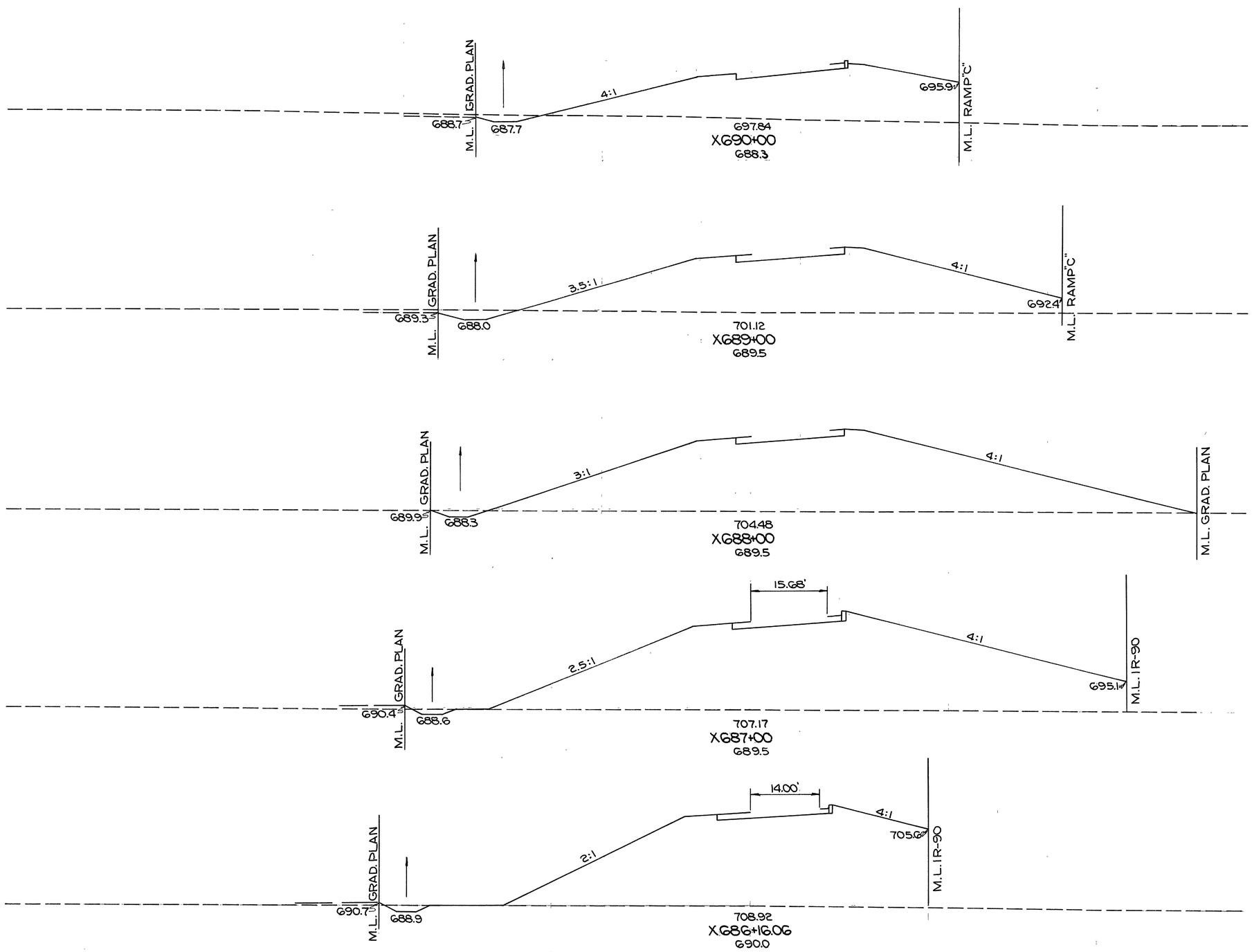
22 3430

6 852



18 1796

STA X683+42.35 AH. 11 830
STA X683+42.35 BK. 0 0



15 840

65 2846

20 897

57 4091

11 1312

57 5372

9 1589

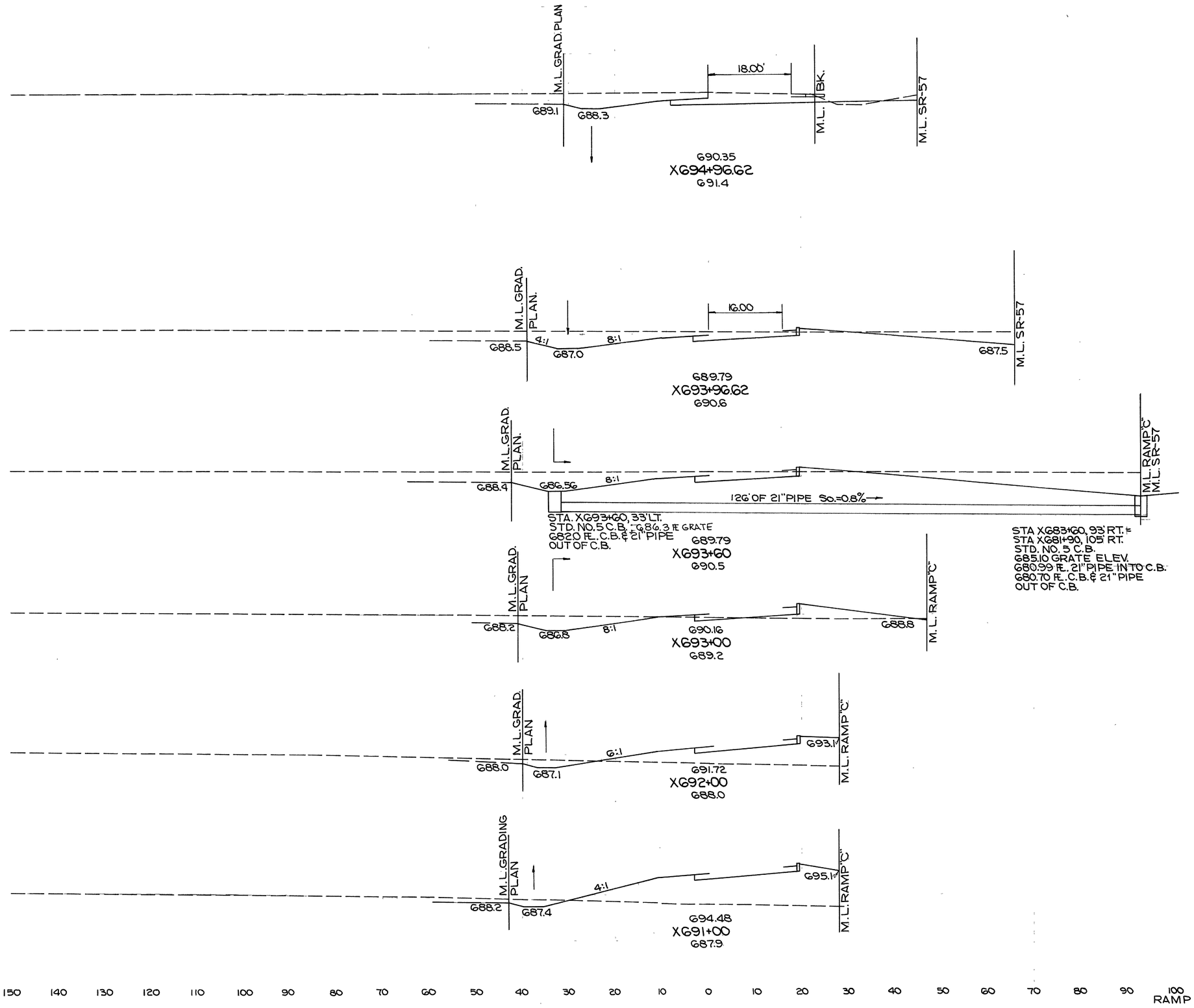
26 4370

8 1222

5 704

8 1115

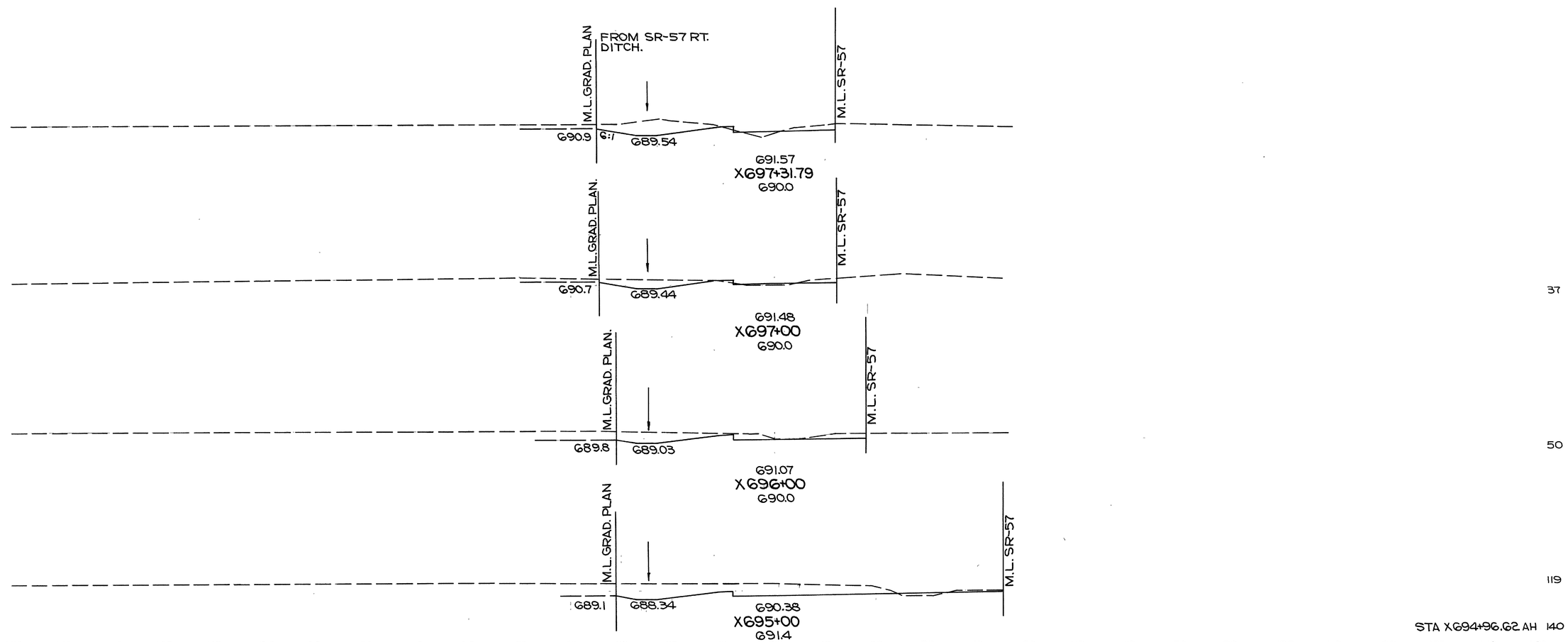
LOR.-90-13.01



STA X694+96.22 AH.	140	7
STA X694+96.22 BK.	132	0
	522	13
	150	7
	298	11
	289	9
	396	59
	67	44
	159	383
	19	163
	63	885
	15	315
	56	1769
STA X690+00	15	640

END RAMP X STA. XG97+31.79

STA XG97+31.79 AH. 0 0
STA XG97+31.79 BK. 49 6



RAMP X STA XG95+00 TO STA XG97+31.79

TYPICAL DECELERATION LANE TAPERS S.R. 57 INTERCHANGE

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

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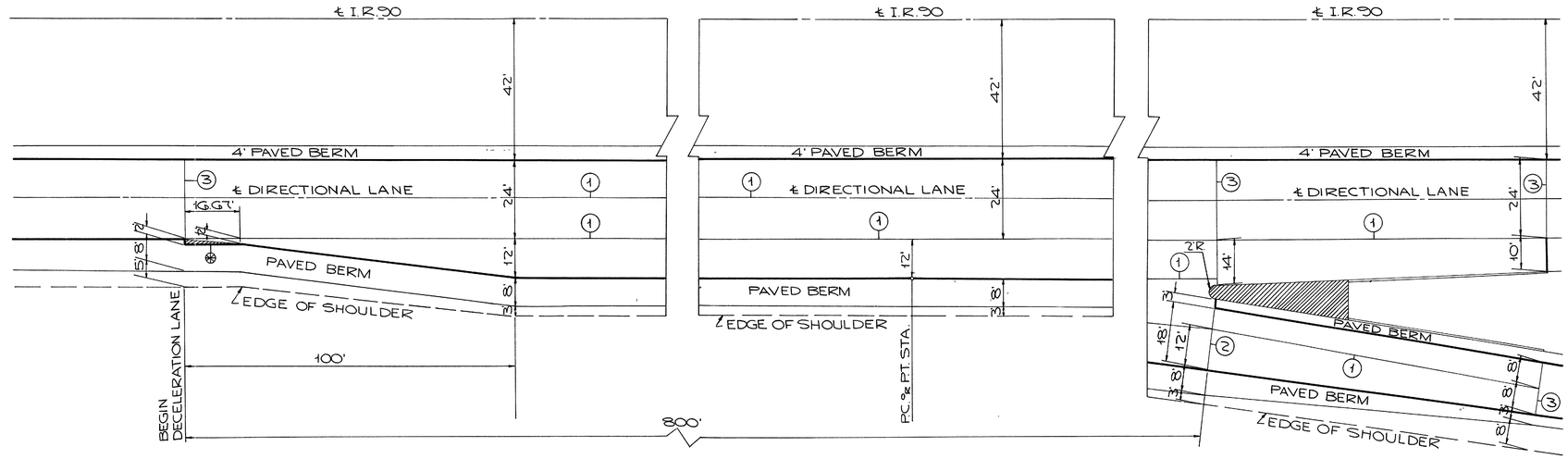
LOR.-90-13.01

SEE PLAN & PROFILE SHEETS FOR LOCATION

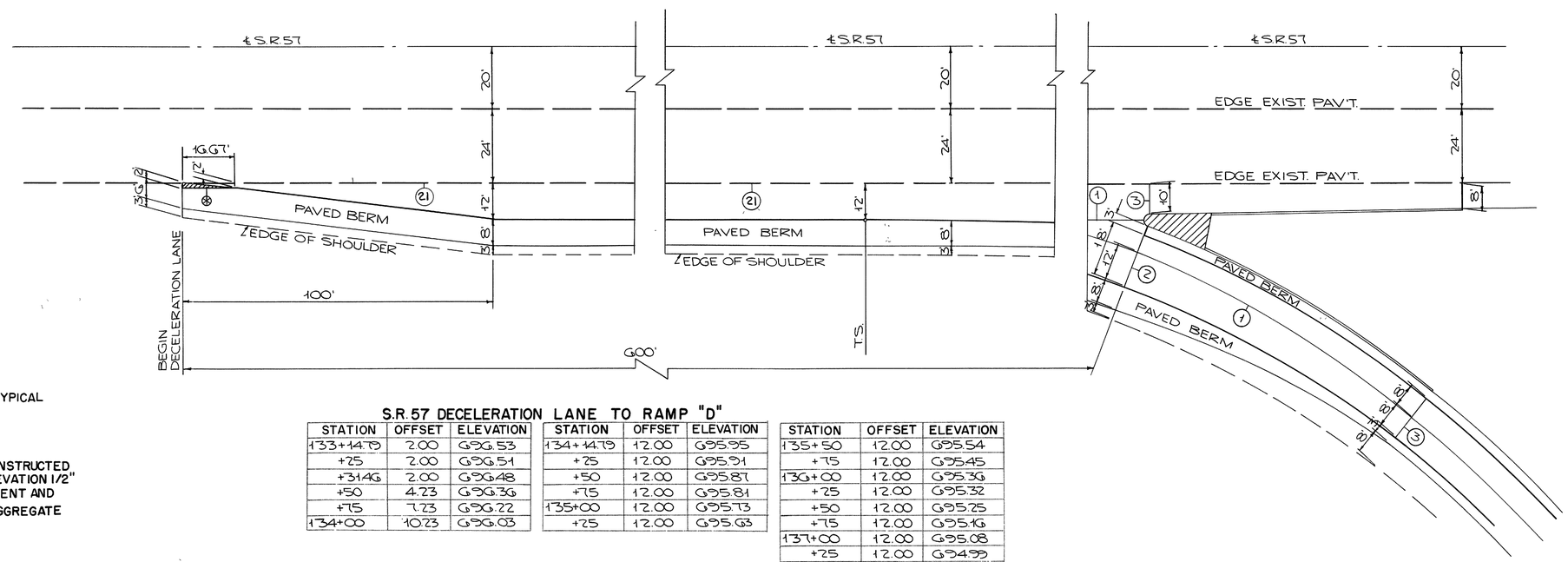


I.R.90 DECELERATION LANE TO RAMP "C"

STATION	OFFSET	ELEVATION
698+72.82	12.00	694.95
+75	12.00	694.92
699+00	12.00	694.62
+25	12.00	694.32
+50	12.00	694.02
+75	12.00	693.72

STATION	OFFSET	ELEVATION
700+00	12.00	693.42
+25	12.00	693.12
+50	12.00	692.82
+75	12.00	692.52
701+00	12.00	692.22
+25	12.00	691.92

STATION	OFFSET	ELEVATION
+29.75	12.00	691.86
+50	9.57	691.62
+75	6.57	691.28
702+00	3.57	690.94
+13.08	2.00	690.75
+25	2.00	690.54
+29.75	2.00	690.45



JOINT LEGEND

1. STANDARD LONGITUDINAL JOINT
2. STANDARD EXPANSION JOINT
3. STANDARD CONTRACTION JOINT
21. SEE SHEET NO. 144

FOR DECELERATION LANE TAPER TYPICAL SECTIONS, SEE SHEET NO. 144

⊗ CROSSHATCHED AREA SHALL BE CONSTRUCTED OF CONCRETE PAVEMENT TO AN ELEVATION 1/2" LOWER THAN THE ADJACENT PAVEMENT AND SURFACE WITH 409 USING NO.8 AGGREGATE AS THE MAXIMUM SIZE.

S.R.57 DECELERATION LANE TO RAMP "D"

STATION	OFFSET	ELEVATION
133+14.79	2.00	696.53
+25	2.00	696.51
+31.46	2.00	696.48
+50	4.23	696.36
+75	7.23	696.22
134+00	10.23	696.03

STATION	OFFSET	ELEVATION
134+14.79	12.00	695.95
+25	12.00	695.91
+50	12.00	695.87
+75	12.00	695.81
135+00	12.00	695.73
+25	12.00	695.63

STATION	OFFSET	ELEVATION
135+50	12.00	695.54
+75	12.00	695.45
136+00	12.00	695.36
+25	12.00	695.32
+50	12.00	695.25
+75	12.00	695.16
137+00	12.00	695.08
+25	12.00	694.99
+32.96	12.00	694.97

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

LOR.-90-13.01

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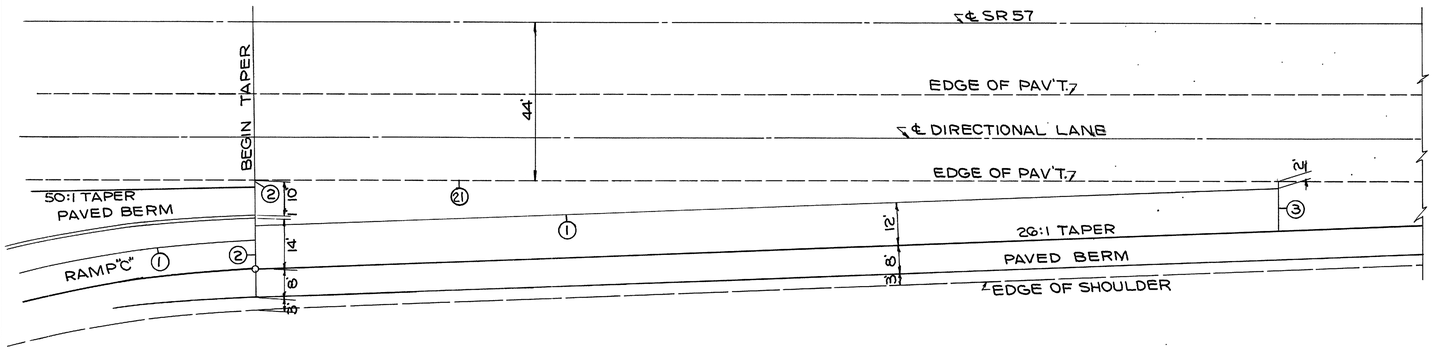
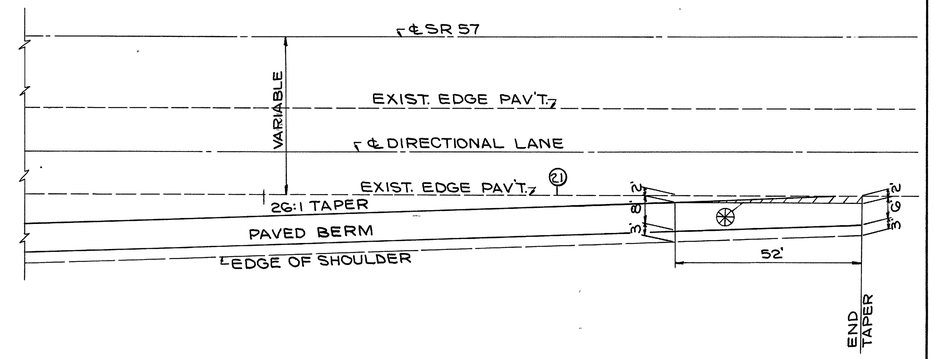
ACCELERATION LANE TAPERS S.R. 57 INTERCHANGE

SEE PLAN & PROFILE SHEETS FOR LOCATION





JOINT LEGEND

1. STANDARD LONGITUDINAL JOINT
2. STANDARD EXPANSION JOINT
3. STANDARD CONTRACTION JOINT
21. SEE SHEET NO. 144

RAMP "C" ACCELERATION LANE TAPER TO S.R. 57

STATION	OFFSET	ELEVATION
156+36.22	25.00	689.15
+50	24.47	689.11
+75	23.51	689.05
157+00	22.55	688.99
+25	21.59	688.93
+50	20.62	688.90
+75	19.66	688.82

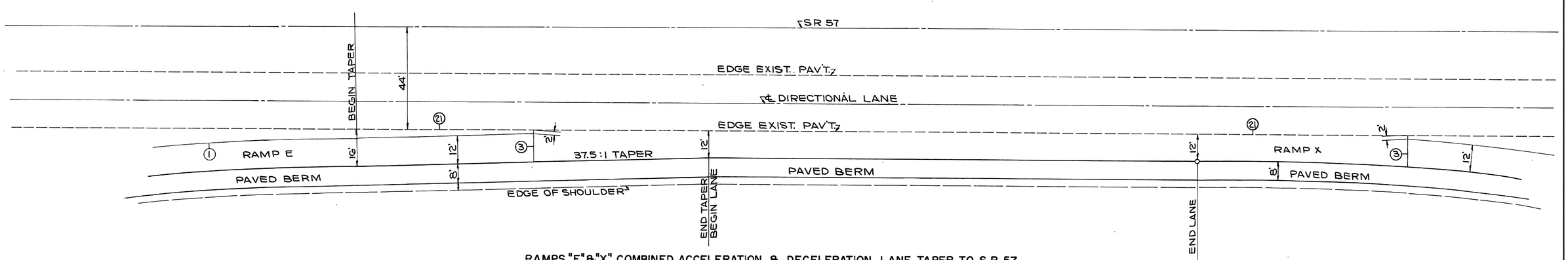
STATION	OFFSET	ELEVATION
158+00	18.70	688.69
+25	17.74	688.68
+50	16.78	688.62
+75	15.82	688.61
159+00	14.85	688.57
+25	13.89	688.49
+50	12.93	688.42

STATION	OFFSET	ELEVATION
+75	11.97	688.34
160+00	11.01	688.28
+25	10.05	688.25
+50	9.09	688.12
+75	8.12	688.05
161+00	7.16	687.93
+25	6.20	687.87

STATION	OFFSET	ELEVATION
+50	5.24	687.76
+75	4.28	687.64
162+00	3.32	687.57
+25	2.35	687.37
+34.22	2.00	687.31
+50	2.00	687.27
+75	2.00	687.18
+86.22	2.00	687.11

FOR ACCELERATION LANE TAPER TYPICAL SECTIONS, SEE SHEET NO. 144

⊛ CROSSHATCHED AREA SHALL BE CONSTRUCTED OF CONCRETE PAVEMENT TO AN ELEVATION 1/2" LOWER THAN THE ADJACENT PAVEMENT AND SURFACE WITH 409 USING NO. 8 AGGREGATE AS THE MAXIMUM SIZE.



RAMPS "E" & "X" COMBINED ACCELERATION & DECELERATION LANE TAPER TO S.R. 57

STATION	OFFSET	ELEVATION
145+45.89	16.00	692.56
+50	15.89	692.55
+75	15.22	692.49
146+00	14.56	692.37
+25	13.89	692.36
+50	13.22	692.32
+75	12.56	692.23

STATION	OFFSET	ELEVATION
+95.89	12.00	692.18
147+00	↑	692.16
+25		692.08
+50		692.04
+75		691.92
148+00	↓	691.86
+25	12.00	691.85

STATION	OFFSET	ELEVATION
+50	12.00	691.77
+75	↑	691.69
149+00	↓	691.59
+04.17	12.00	691.57

TYPICAL ACCELERATION LANE TAPERS FOR S.R. 57 INTERCHANGE, RAMPS "C", "E"

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

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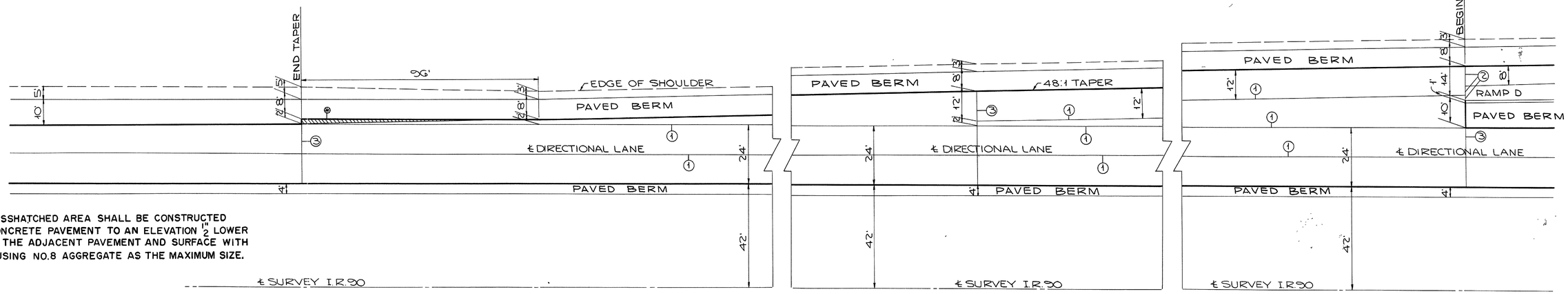
LOR-90-13.01

TYPICAL ACCELERATION LANE TAPERS SR 57 INTERCHANGE

NOTE: SEE PLAN & PROFILE SHEETS FOR LOCATION



⊛ CROSSHATCHED AREA SHALL BE CONSTRUCTED OF CONCRETE PAVEMENT TO AN ELEVATION 1/2" LOWER THAN THE ADJACENT PAVEMENT AND SURFACE WITH 409 USING NO.8 AGGREGATE AS THE MAXIMUM SIZE.

JOINT LEGEND

1. STANDARD LONGITUDINAL JOINT
2. STANDARD EXPANSION JOINT
3. STANDARD CONTRACTION JOINT
4. KEY JOINT WITHOUT TIE BARS

RAMP D ACCELERATION LANE TAPER TO IR-90

STATION	OFFSET	ELEVATION
697+53.27	25.00	696.18
697+75	24.55	695.93
698+00	24.03	695.63
698+25	23.51	695.34
698+50	22.98	695.05
698+75	22.46	694.76
699+00	21.94	694.47
699+25	21.42	694.18
699+50	20.90	693.88

STATION	OFFSET	ELEVATION
699+75	20.38	693.59
700+00	19.86	693.30
700+25	19.34	693.01
700+50	18.82	692.72
700+75	18.30	692.42
701+00	17.78	692.13
701+25	17.26	691.84
701+50	16.73	691.57
701+75	16.21	691.42

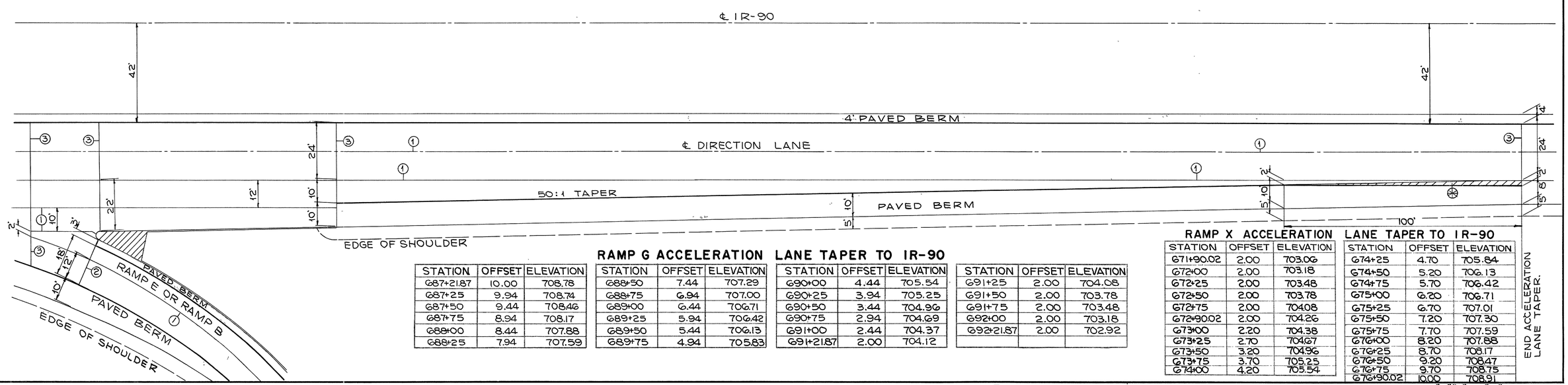
STATION	OFFSET	ELEVATION
702+00	15.69	691.25
702+25	15.17	691.11
702+50	14.65	691.03
702+75	14.13	690.88
703+00	13.61	690.70
703+25	13.09	690.51
703+50	12.57	690.30
703+75	12.05	690.09
704+00	11.53	689.86

STATION	OFFSET	ELEVATION
704+25	11.01	689.62
704+50	10.48	689.35
704+75	9.96	689.08
705+00	9.44	688.68
705+25	8.92	688.22
705+50	8.40	687.74
705+75	7.88	687.25
706+00	7.36	686.76
706+25	6.84	686.25

STATION	OFFSET	ELEVATION
706+50	6.32	685.73
706+75	5.80	685.22
707+00	5.28	684.69
707+25	4.76	684.15
707+50	4.23	683.62
707+75	3.71	683.09
708+00	3.19	682.55
708+25	2.67	682.02
708+50	2.15	681.49

STATION	OFFSET	ELEVATION
708+57.27	2.00	681.33
708+75	2.00	680.98
709+00	2.00	680.48
709+25	2.00	679.98
709+50	2.00	679.48
709+53.27	2.00	679.41

FOR ACCELERATION LANE TAPER TYPICAL SECTIONS SEE SHEET NO. 144



RAMP G ACCELERATION LANE TAPER TO IR-90

STATION	OFFSET	ELEVATION
687+21.87	10.00	708.78
687+25	9.94	708.74
687+50	9.44	708.46
687+75	8.94	708.17
688+00	8.44	707.88
688+25	7.94	707.59

STATION	OFFSET	ELEVATION
688+50	7.44	707.29
688+75	6.94	707.00
689+00	6.44	706.71
689+25	5.94	706.42
689+50	5.44	706.13
689+75	4.94	705.83

STATION	OFFSET	ELEVATION
690+00	4.44	705.54
690+25	3.94	705.25
690+50	3.44	704.96
690+75	2.94	704.69
691+00	2.44	704.37
691+21.87	2.00	704.12

STATION	OFFSET	ELEVATION
691+25	2.00	704.08
691+50	2.00	703.78
691+75	2.00	703.48
692+00	2.00	703.18
692+21.87	2.00	702.92

RAMP X ACCELERATION LANE TAPER TO IR-90

STATION	OFFSET	ELEVATION
671+90.02	2.00	703.06
672+00	2.00	703.18
672+25	2.00	703.48
672+50	2.00	703.78
672+75	2.00	704.08
672+90.02	2.00	704.26
673+00	2.20	704.38
673+25	2.70	704.67
673+50	3.20	704.96
673+75	3.70	705.25
674+00	4.20	705.54

STATION	OFFSET	ELEVATION
674+25	4.70	705.84
674+50	5.20	706.13
674+75	5.70	706.42
675+00	6.20	706.71
675+25	6.70	707.01
675+50	7.20	707.30
675+75	7.70	707.59
676+00	8.20	707.88
676+25	8.70	708.17
676+50	9.20	708.47
676+75	9.70	708.75
676+90.02	10.00	708.91

TYPICAL ACCELERATION LANE TAPERS SR.57 INTERCHANGE, RAMPS "D", "G", & "X"

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

LOR.-90-13.01

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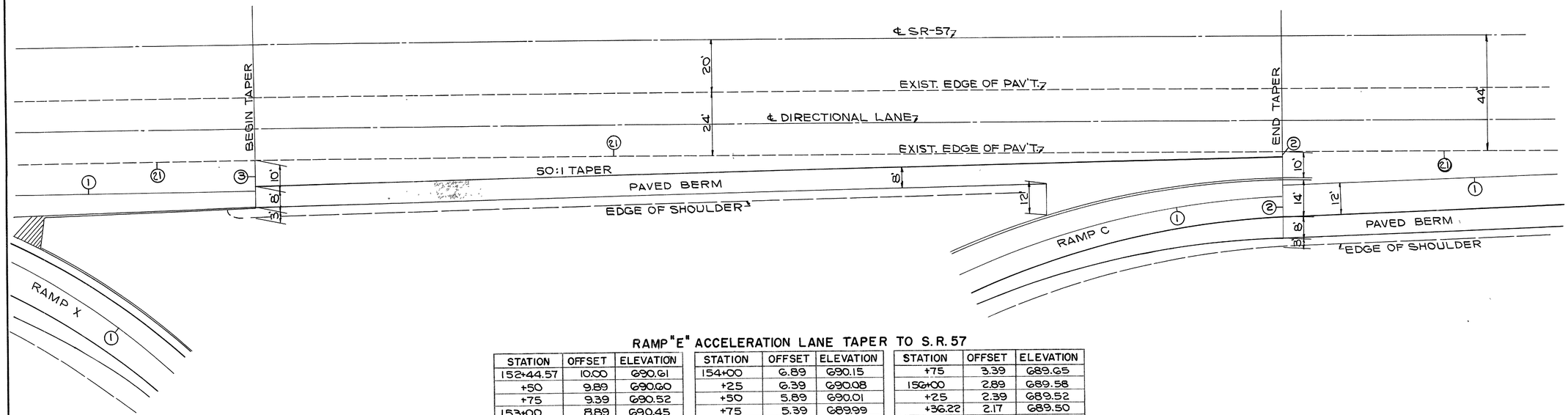
ACCELERATION LANE TAPERS S.R. 57 INTERCHANGE

SEE PLAN & PROFILE SHEETS FOR LOCATION

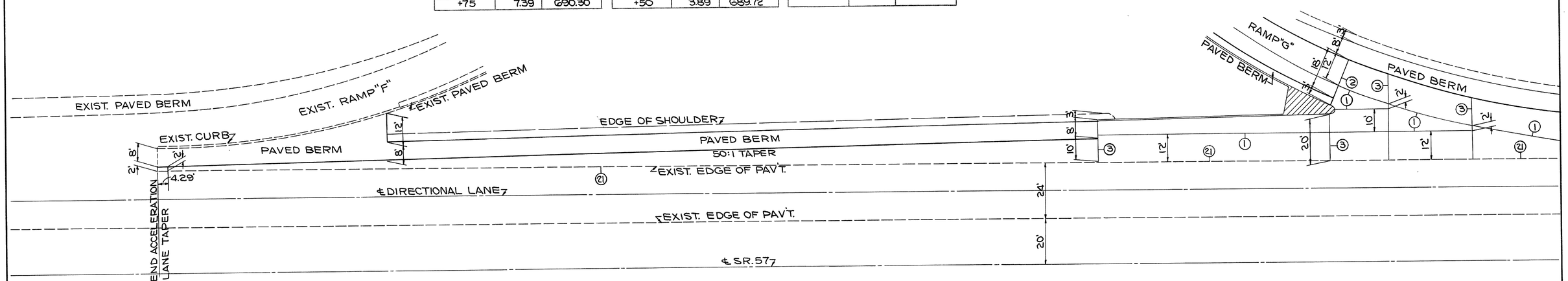


RAMP "E" ACCELERATION LANE TAPER TO S.R. 57

STATION	OFFSET	ELEVATION
152+44.57	10.00	690.61
+50	9.89	690.60
+75	9.39	690.52
153+00	8.89	690.45
+25	8.39	690.37
+50	7.89	690.36
+75	7.39	690.30

STATION	OFFSET	ELEVATION
154+00	6.89	690.15
+25	6.39	690.08
+50	5.89	690.01
+75	5.39	689.99
155+00	4.89	689.89
+25	4.39	689.76
+50	3.89	689.72

STATION	OFFSET	ELEVATION
+75	3.39	689.65
156+00	2.89	689.58
+25	2.39	689.52
+36.22	2.17	689.50



RAMP "B" ACCELERATION LANE TAPER TO S.R. 57

STATION	OFFSET	ELEVATION
138+31.98	2.00	694.86
+36.27	2.00	694.84
+50	2.27	694.77
+75	2.77	694.65
139+00	3.27	694.59

STATION	OFFSET	ELEVATION
139+25	3.77	694.50
139+50	4.27	694.45
+75	4.77	694.41
140+00	5.27	694.35
+25	5.77	694.26

STATION	OFFSET	ELEVATION
140+50	6.27	694.19
+75	6.77	694.11
141+00	7.27	694.04
+25	7.77	693.96
+50	8.27	693.89

STATION	OFFSET	ELEVATION
141+75	8.77	693.80
142+00	9.27	693.71
+25	9.77	693.62
+36.27	10.00	693.58

FOR ACCELERATION LANE TAPER TYPICAL SECTIONS, SEE SHEET NO. 144

JOINT LEGEND

1. STANDARD LONGITUDINAL JOINT
2. STANDARD EXPANSION JOINT
3. STANDARD CONTRACTION JOINT
21. SEE SHEET NO. 144

SR-57 INTERCHANGE ACCELERATION LANE TAPERS FOR RAMPS "B" & "E"

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

LOR.-90-13.01

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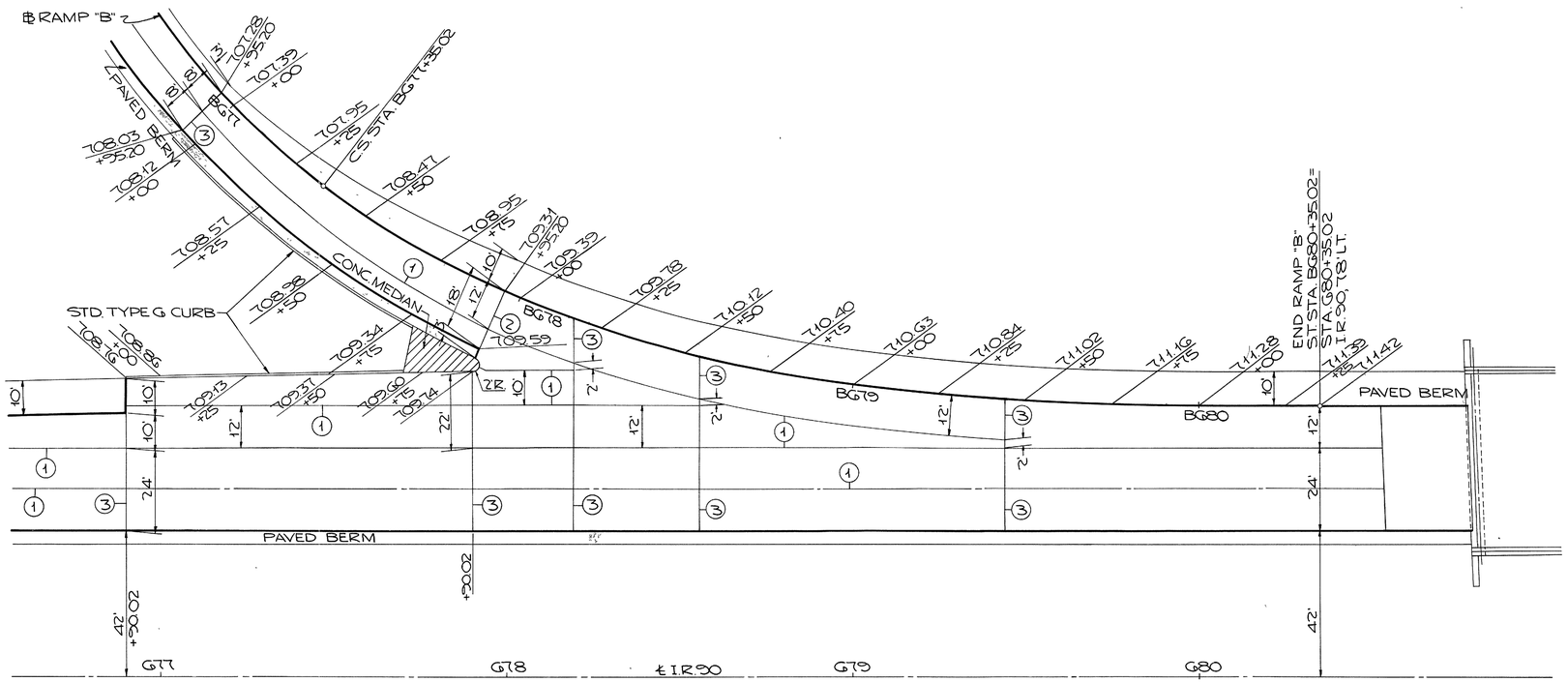
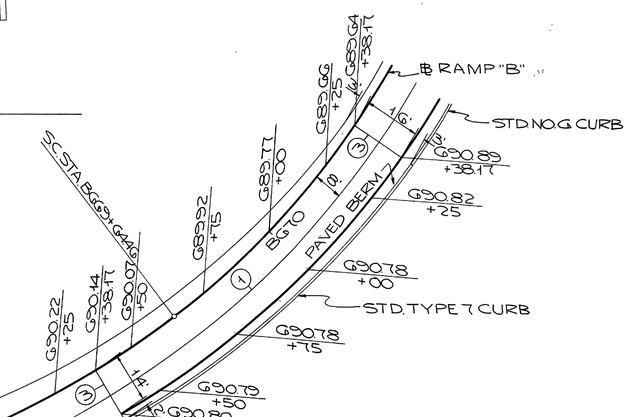
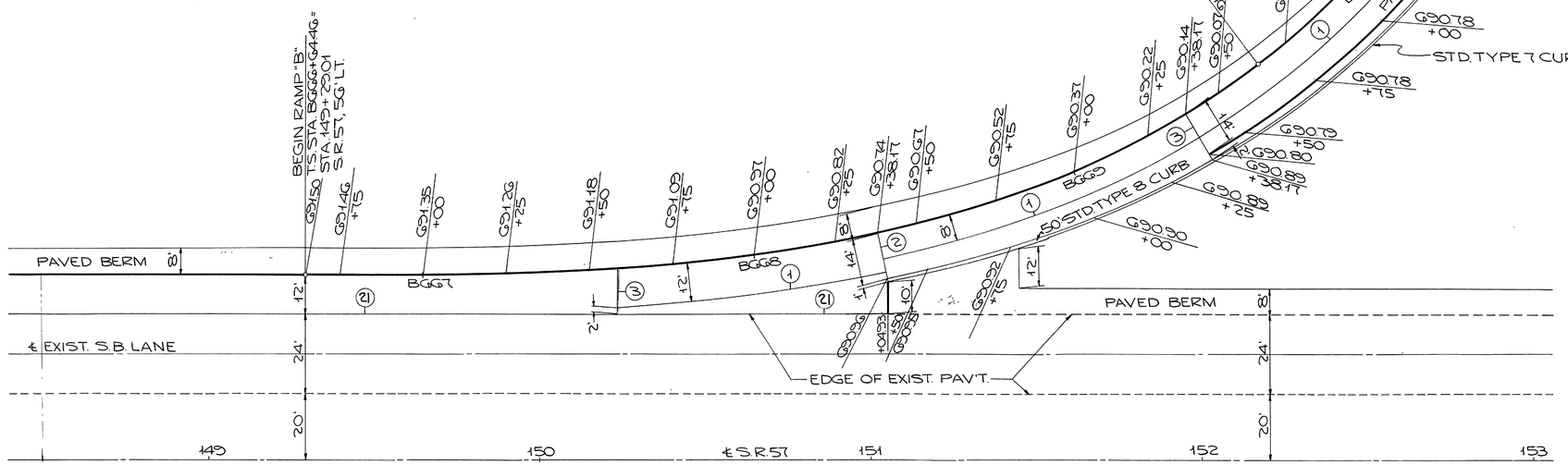






JOINT LEGEND

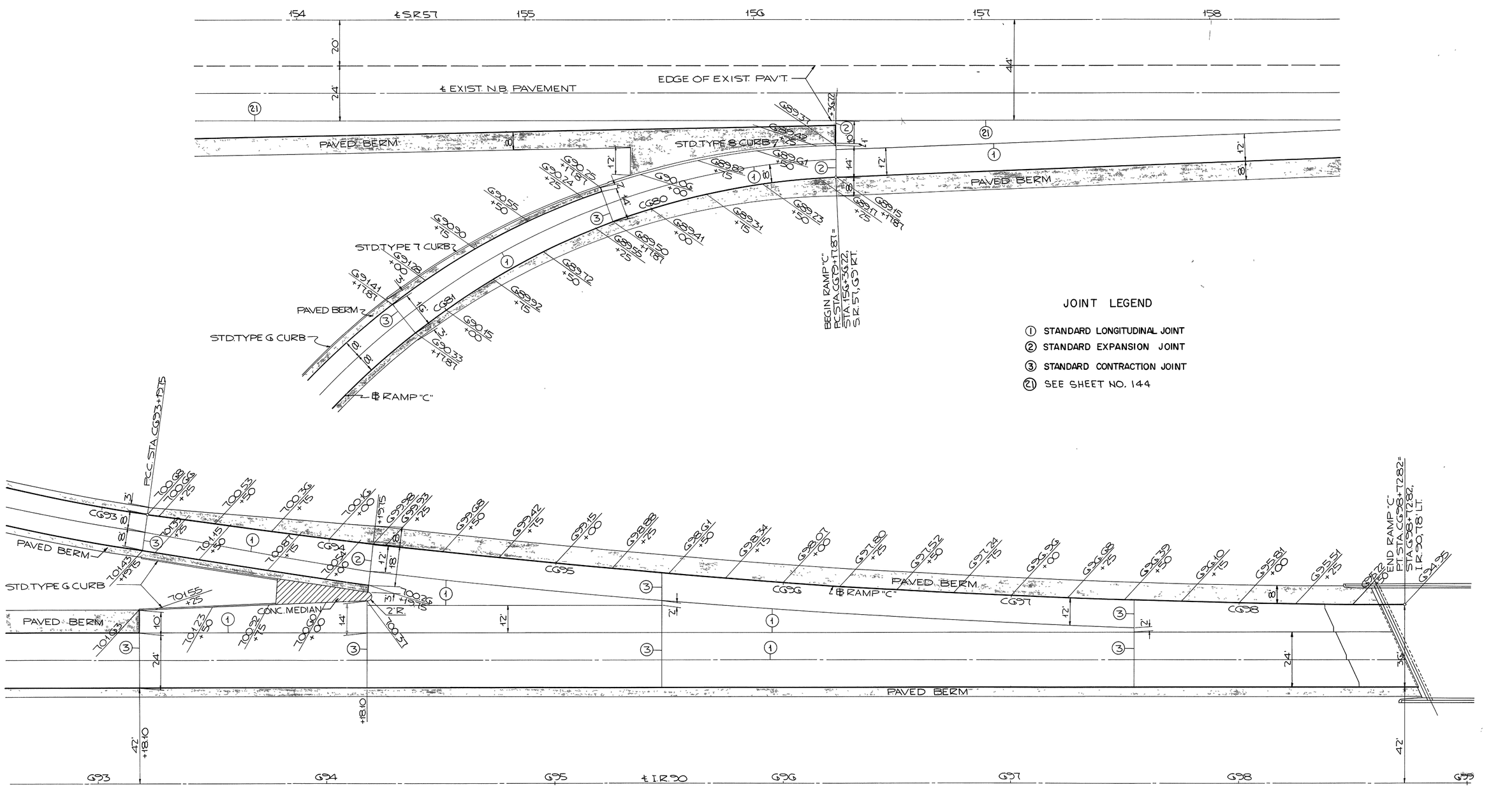
1. STANDARD LONGITUDINAL JOINT
2. STANDARD EXPANSION JOINT
3. STANDARD CONTRACTION JOINT
21. SEE SHEET NO. 144

RAMP "B" DETAILS

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

LOR.-90-13.01

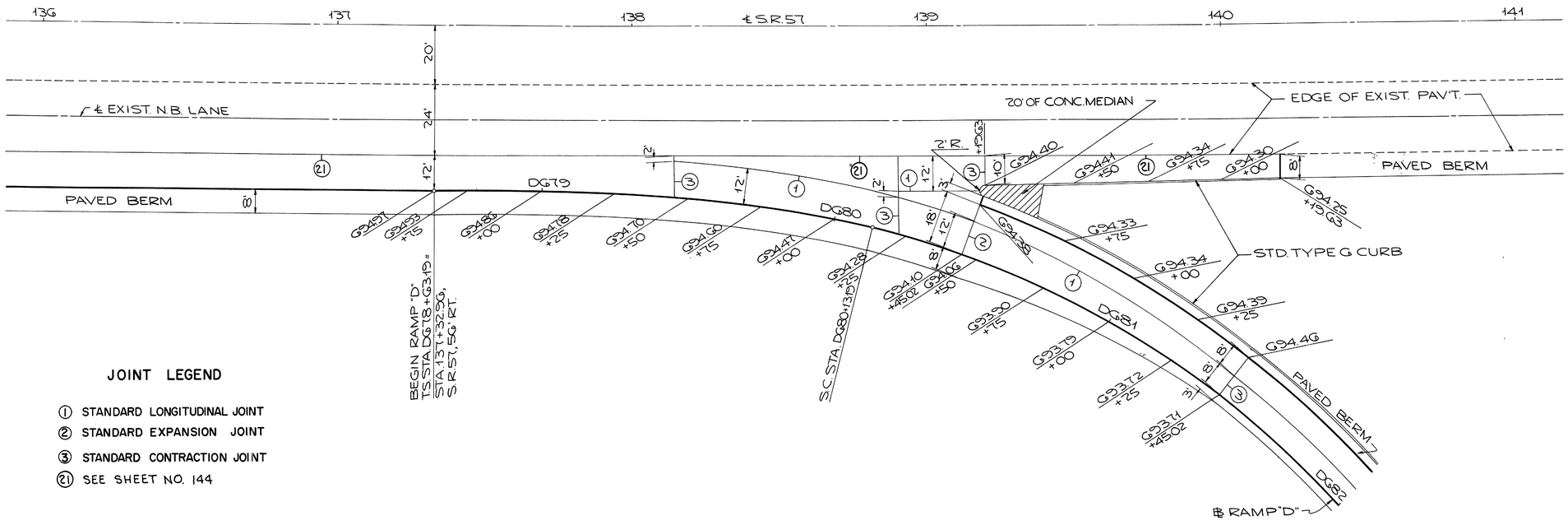
208



RAMP "C" DETAILS

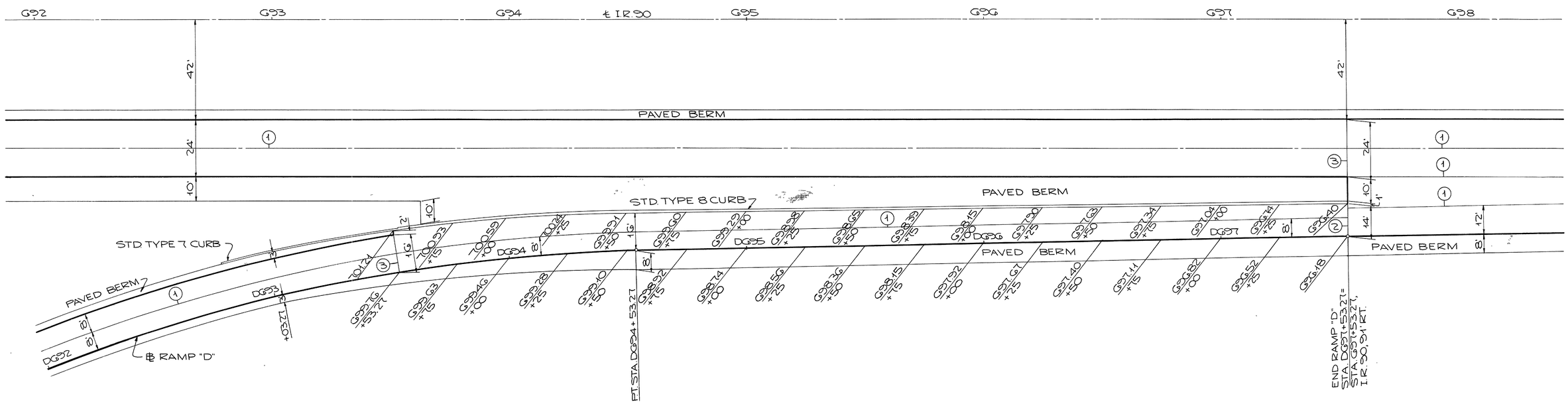
FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

LOR.-90-13.01



JOINT LEGEND

1. STANDARD LONGITUDINAL JOINT
2. STANDARD EXPANSION JOINT
3. STANDARD CONTRACTION JOINT
21. SEE SHEET NO. 144

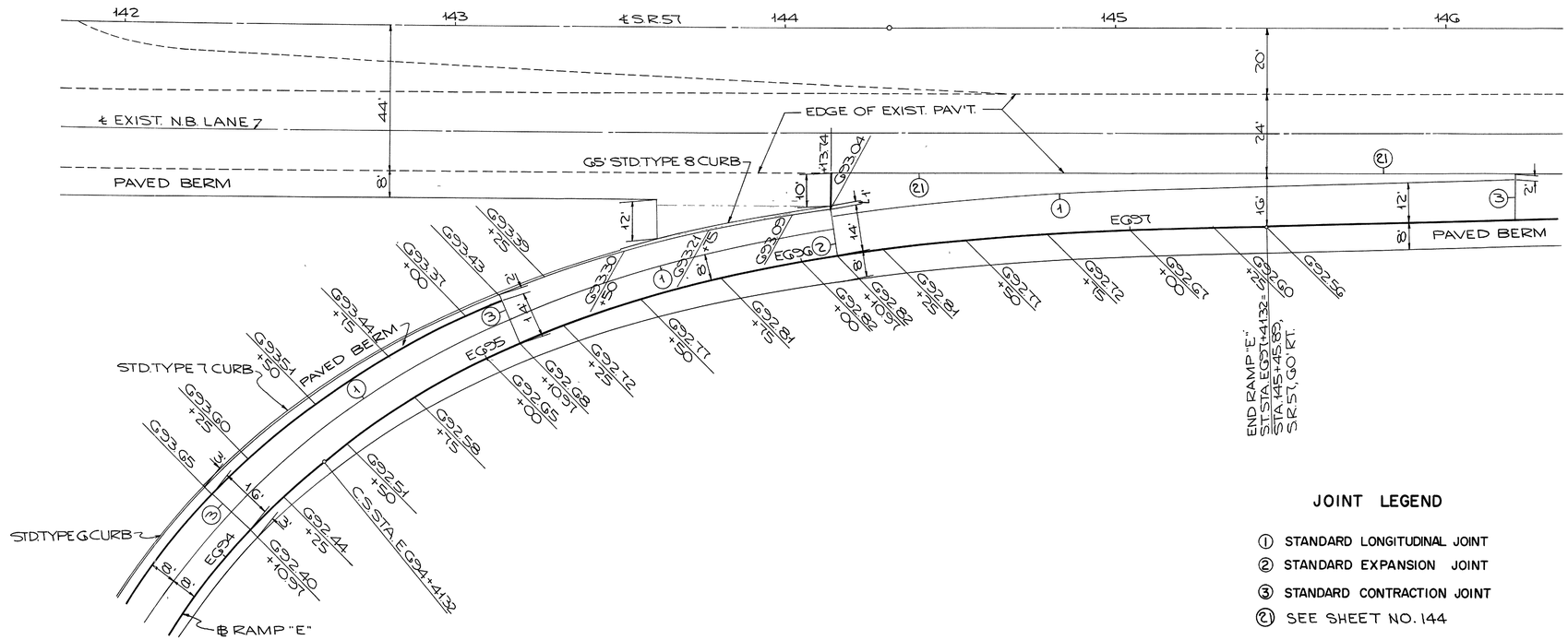


RAMP "D" DETAILS

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

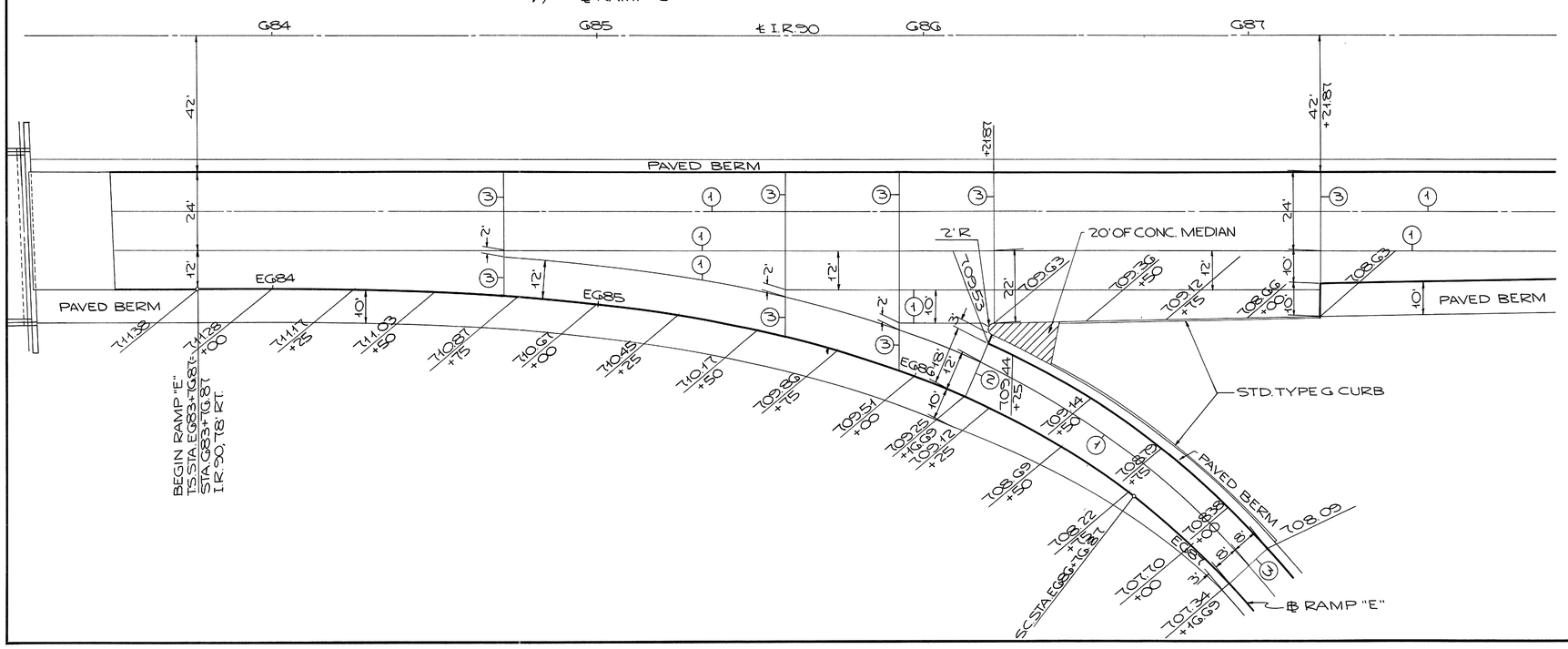
LOR-90-13.01

210



JOINT LEGEND

1. STANDARD LONGITUDINAL JOINT
2. STANDARD EXPANSION JOINT
3. STANDARD CONTRACTION JOINT
21. SEE SHEET NO. 144

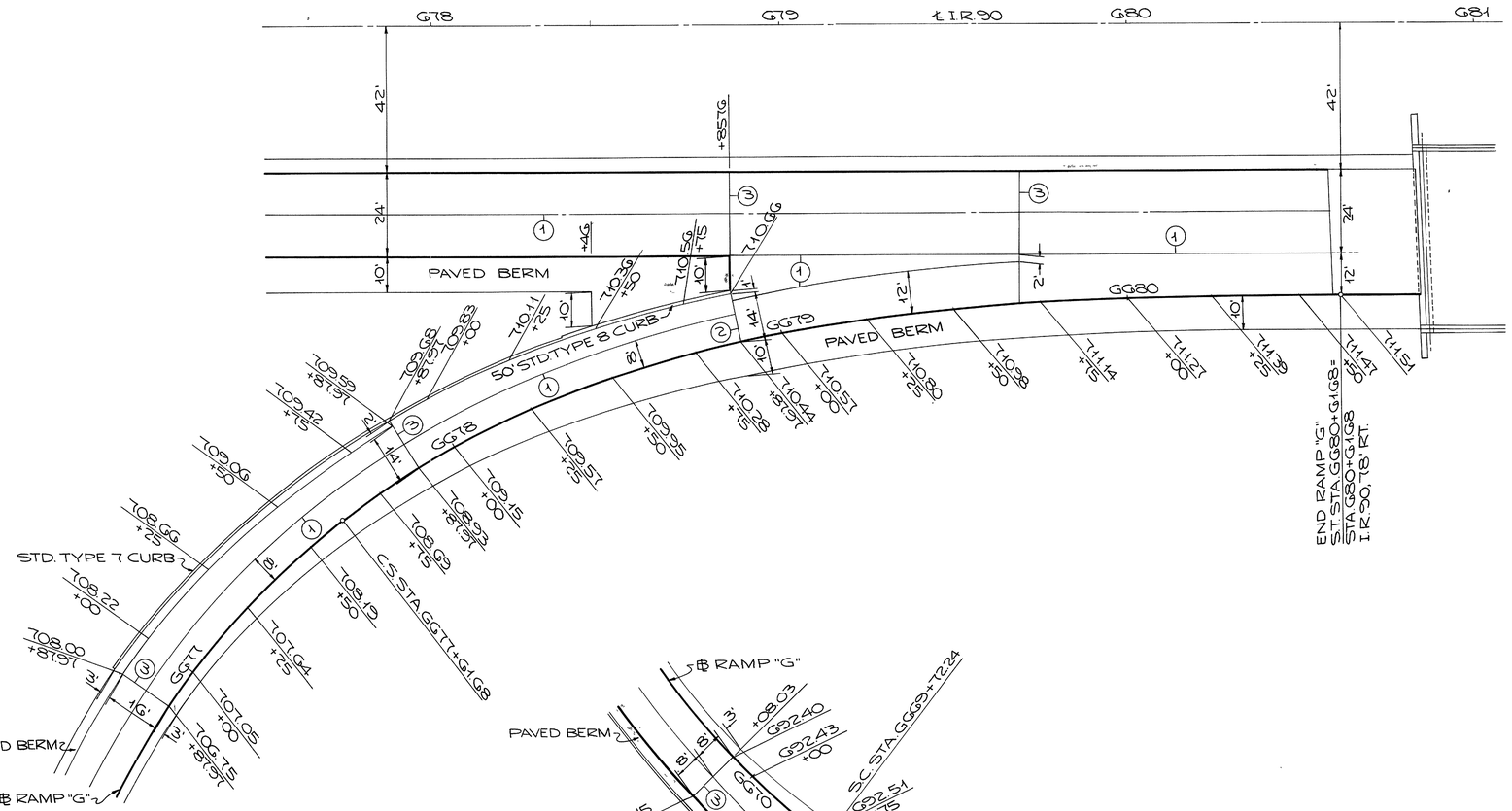


RAMP "E" DETAILS

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

LOR.-90-13.01

211



JOINT LEGEND

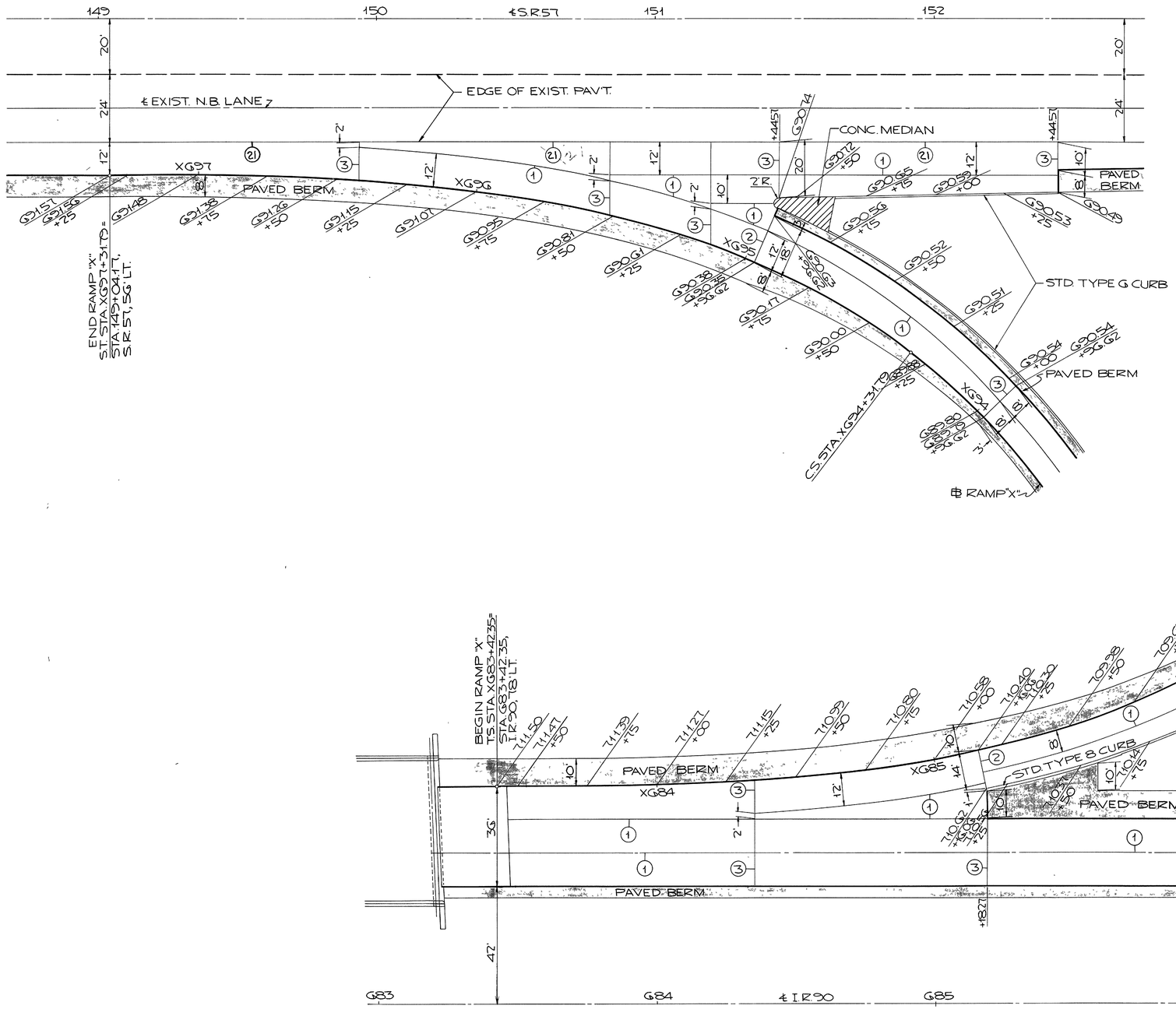
1. STANDARD LONGITUDINAL JOINT
2. STANDARD EXPANSION JOINT
3. STANDARD CONTRACTION JOINT
21. SEE SHEET NO. 144

RAMP "G" DETAILS

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

LOR-90-13.01

212



JOINT LEGEND

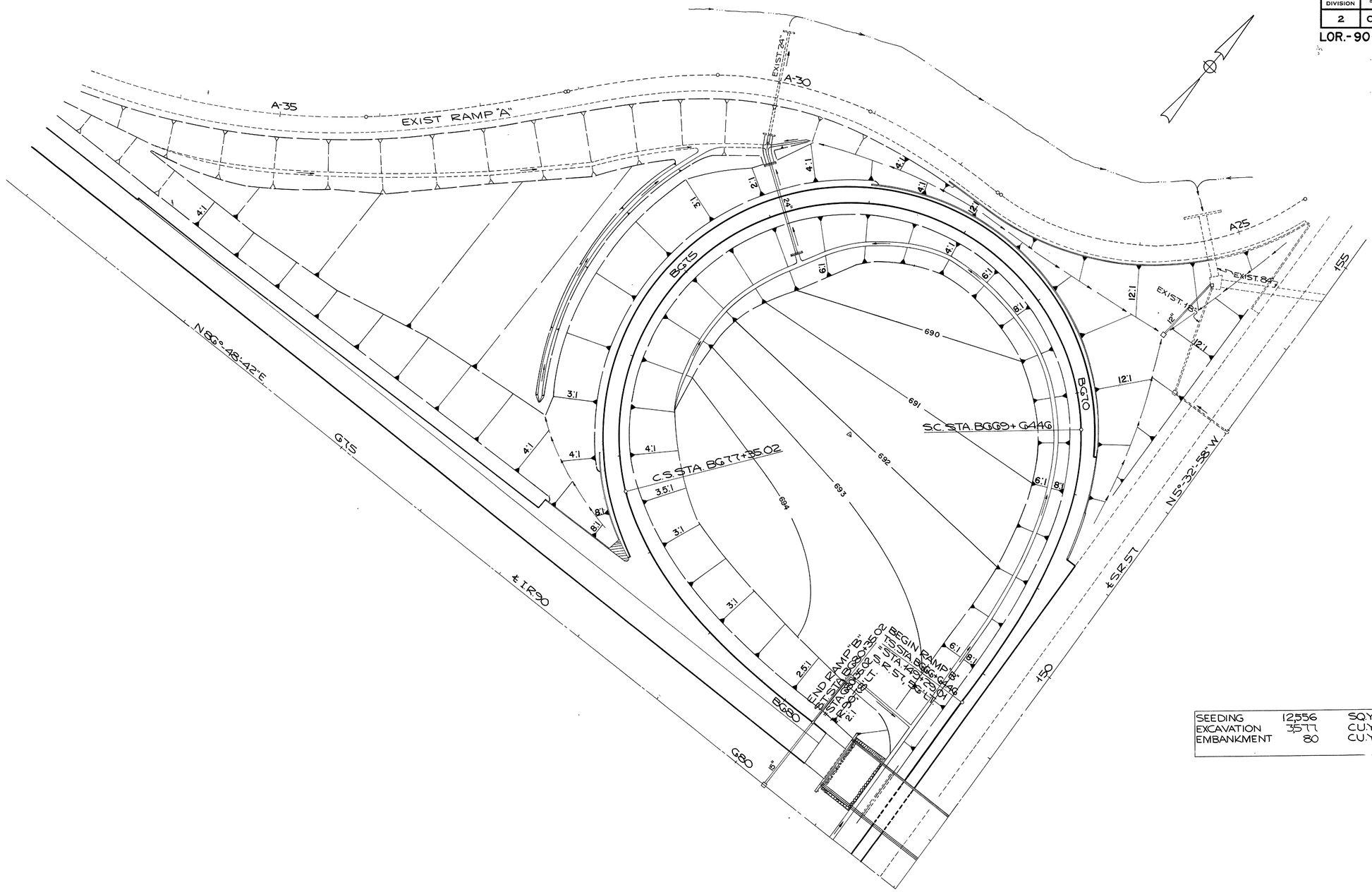
1. STANDARD LONGITUDINAL JOINT
2. STANDARD EXPANSION JOINT
3. STANDARD CONTRACTION JOINT
21. SEE SHEET NO 144

RAMP "X" DETAILS

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

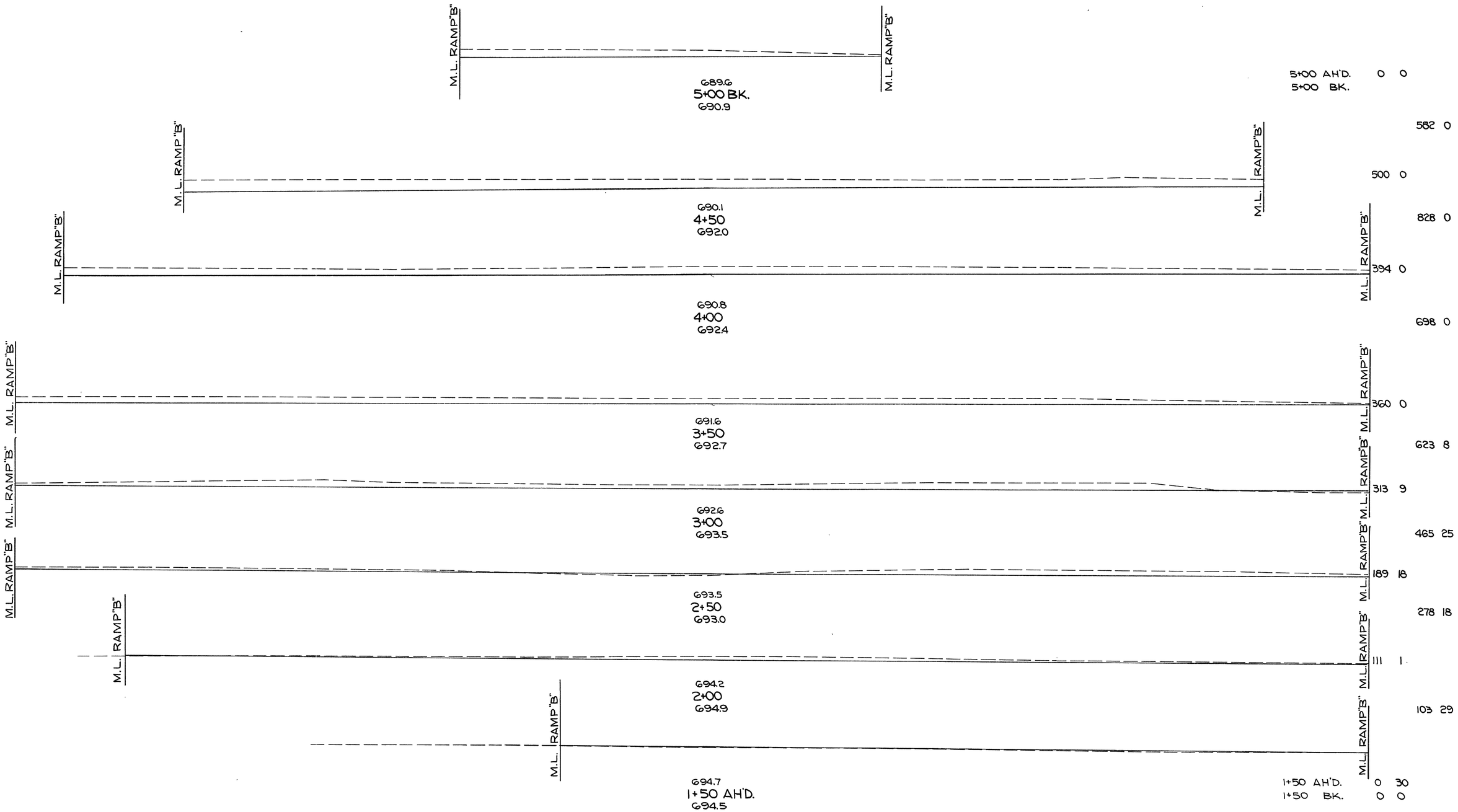
LOR.-90-13.01

213



SEEDING	12,556	SQ.YDS.
EXCAVATION	3577	CU.YDS.
EMBANKMENT	80	CU.YDS.

GRADING PLAN FOR RAMP "B"
N.W. QUADRANT OF S.R. 57 INTERCHANGE



RAMP"B" GRADING PLAN X-SECTIONS.

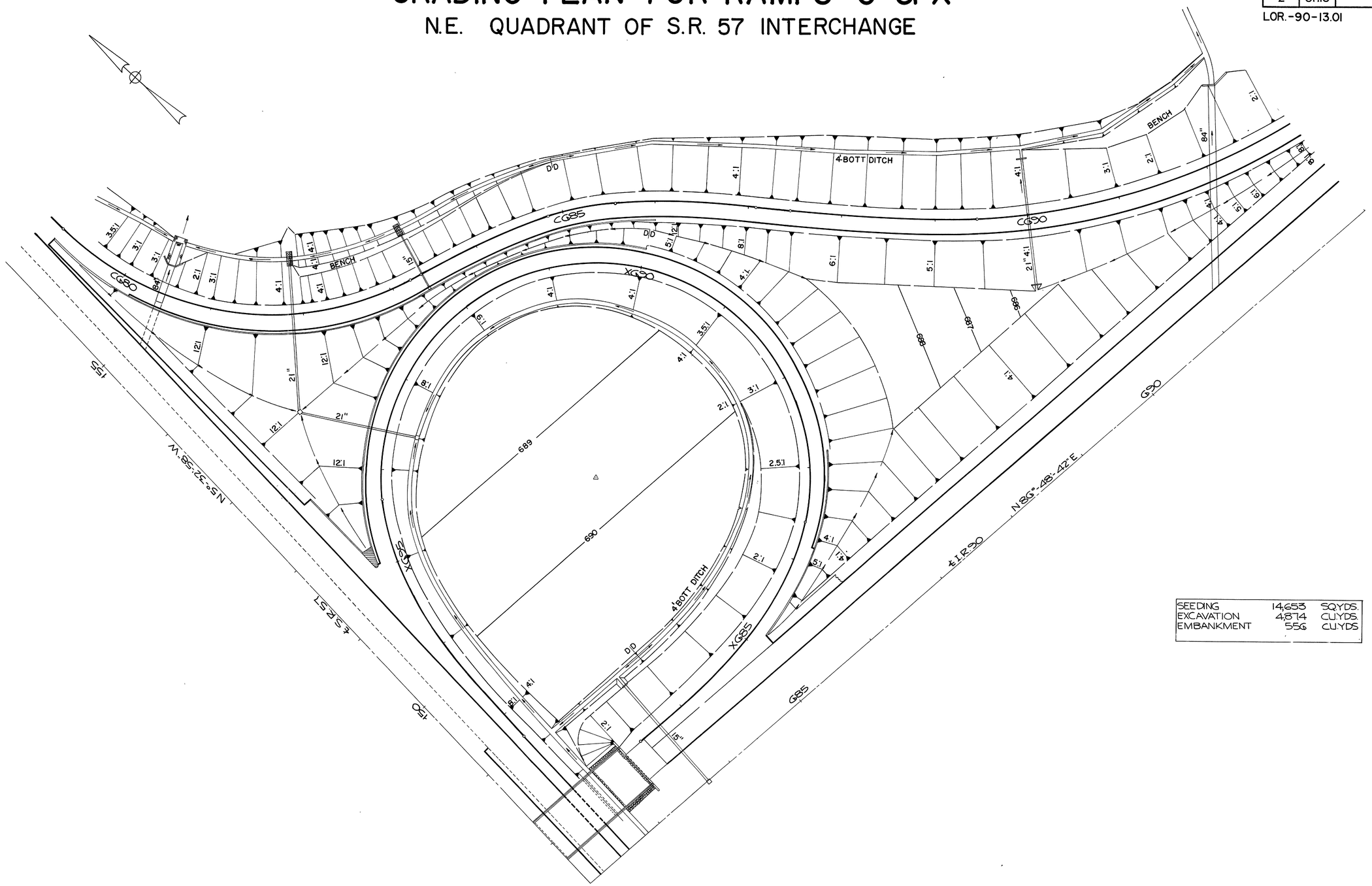
GRADING PLAN FOR RAMPS "C" & "X"

N.E. QUADRANT OF S.R. 57 INTERCHANGE

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

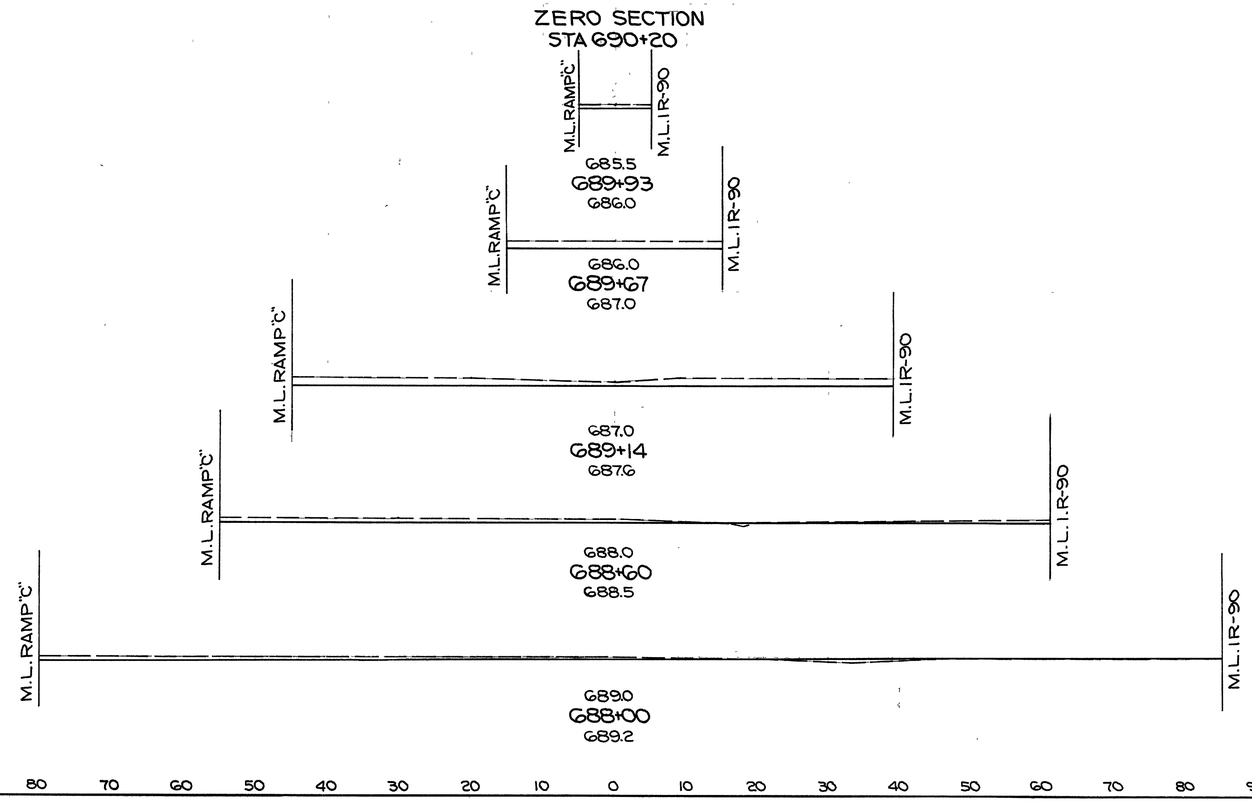
215

LOR.-90-13.01



SEEDING	14,653	SQ.YDS.
EXCAVATION	4,874	CU.YDS.
EMBANKMENT	556	CU.YDS

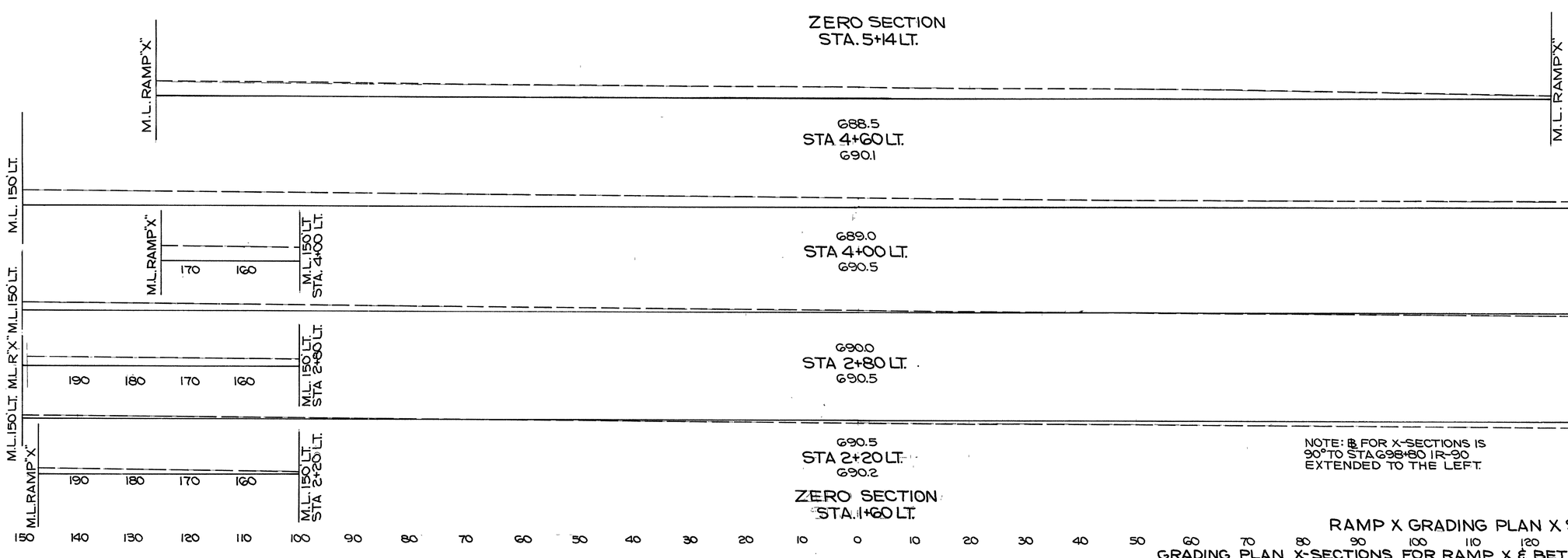
LOR.-90-13.01



STA 690+20	0	0		
			3	0
STA 689+93	5	0		
			17	0
STA 689+67	30	0		
			108	0
STA 689+14	80	0		
			124	1
STA 688+60	44	1		
			71	17
STA 688+00 AH	20	15		
STA 688+00 BK	0	0		
			323	18

NOTE: ℄ FOR X-SECTIONS IS FROM STA 688+00; 235' LT. I.R.-90 TO STA 689+75; 160' LT. I.R.-90

GRADING PLAN X SECTIONS
BETWEEN IR-90 ℄ RAMP "C"



STA. 5+14	0	0		
			500	0
STA 4+60	500	0		
			1302	0
STA 4+00 LT.	672	0		
			2227	133
STA 2+80 LT.	330	60		
			444	236
STA 2+20 LT.	70	152		
			78	169
STA 1+60	0	0		
TOTAL	4551	538		

NOTE: ℄ FOR X-SECTIONS IS 90° TO STA 698+80 IR-90 EXTENDED TO THE LEFT.

RAMP X GRADING PLAN X SECTIONS

GRADING PLAN X-SECTIONS FOR RAMP X ℄ BETWEEN IR-90 ℄ RAMP C

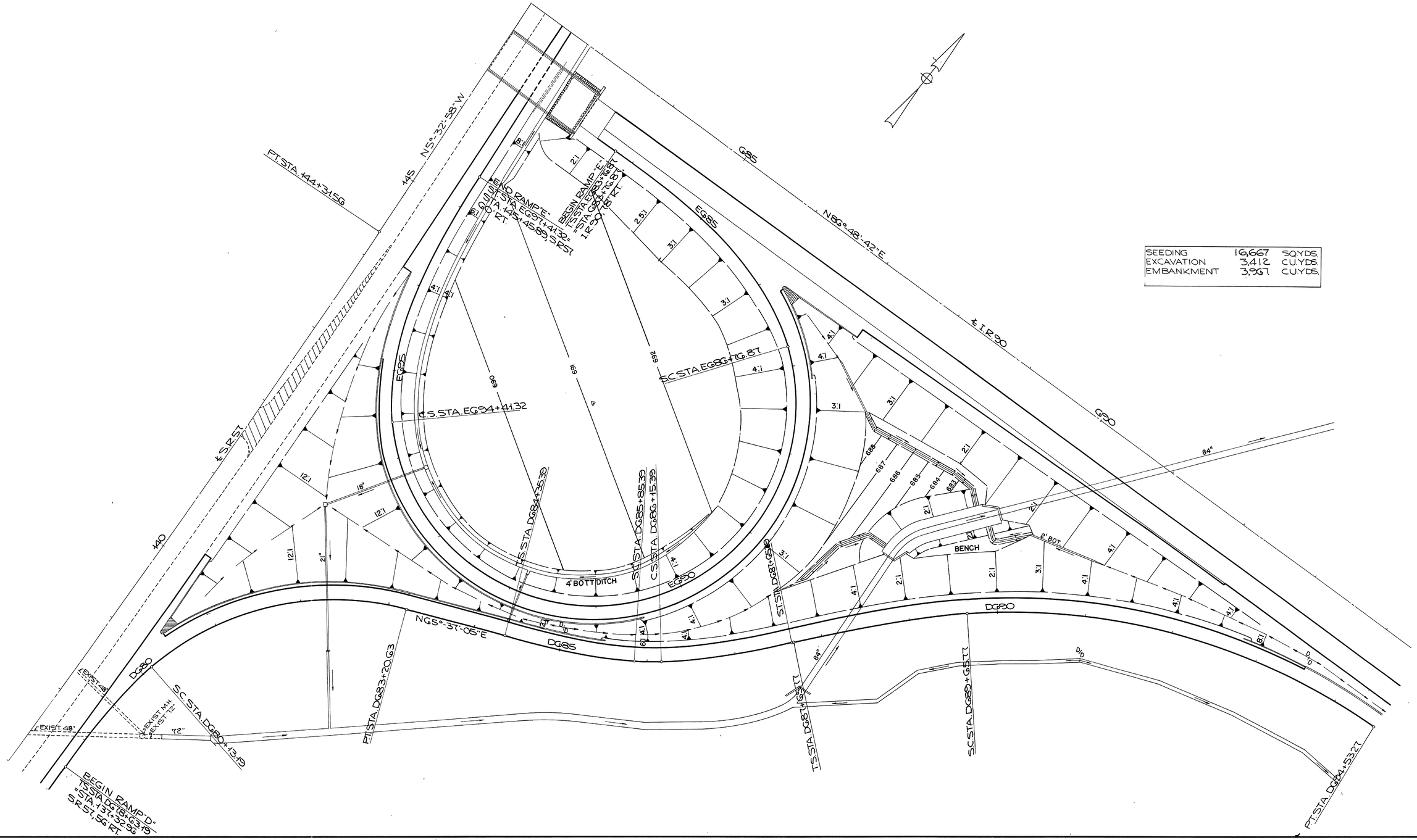
GRADING PLAN FOR RAMPS "D" & "E"

S.W. QUADRANT OF S.R. 57 INTERCHANGE

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

217

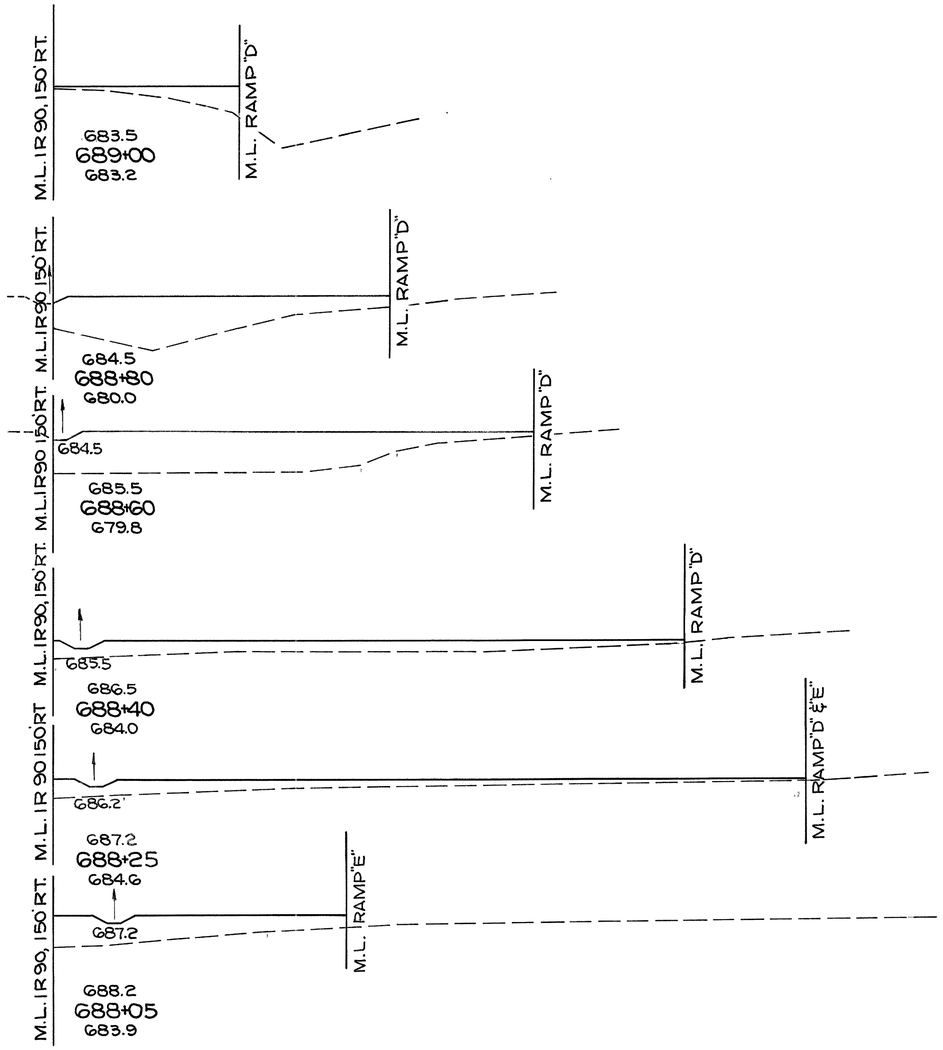
LOR.-90-13.01



SEEDING	16,667	SQ.YDS.
EXCAVATION	3,412	CU.YDS.
EMBANKMENT	3,967	CU.YDS.

GRADING PLAN FOR RAMPS "D" & "E"

"O" SECTION @ STA 690+25

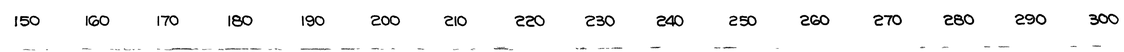


STA 690+25 AH'D.	0	0		
STA. 690+25 BK	0	0		
	0	37	37	17
			0	91
	0	209		
			0	180
	0	276		
			0	141
	0	106		
			0	60
	0	111		
			0	86
	0	121		
			0	56

STA 687+80 AH'D.	0	0
STA. 687+80 BK	0	0

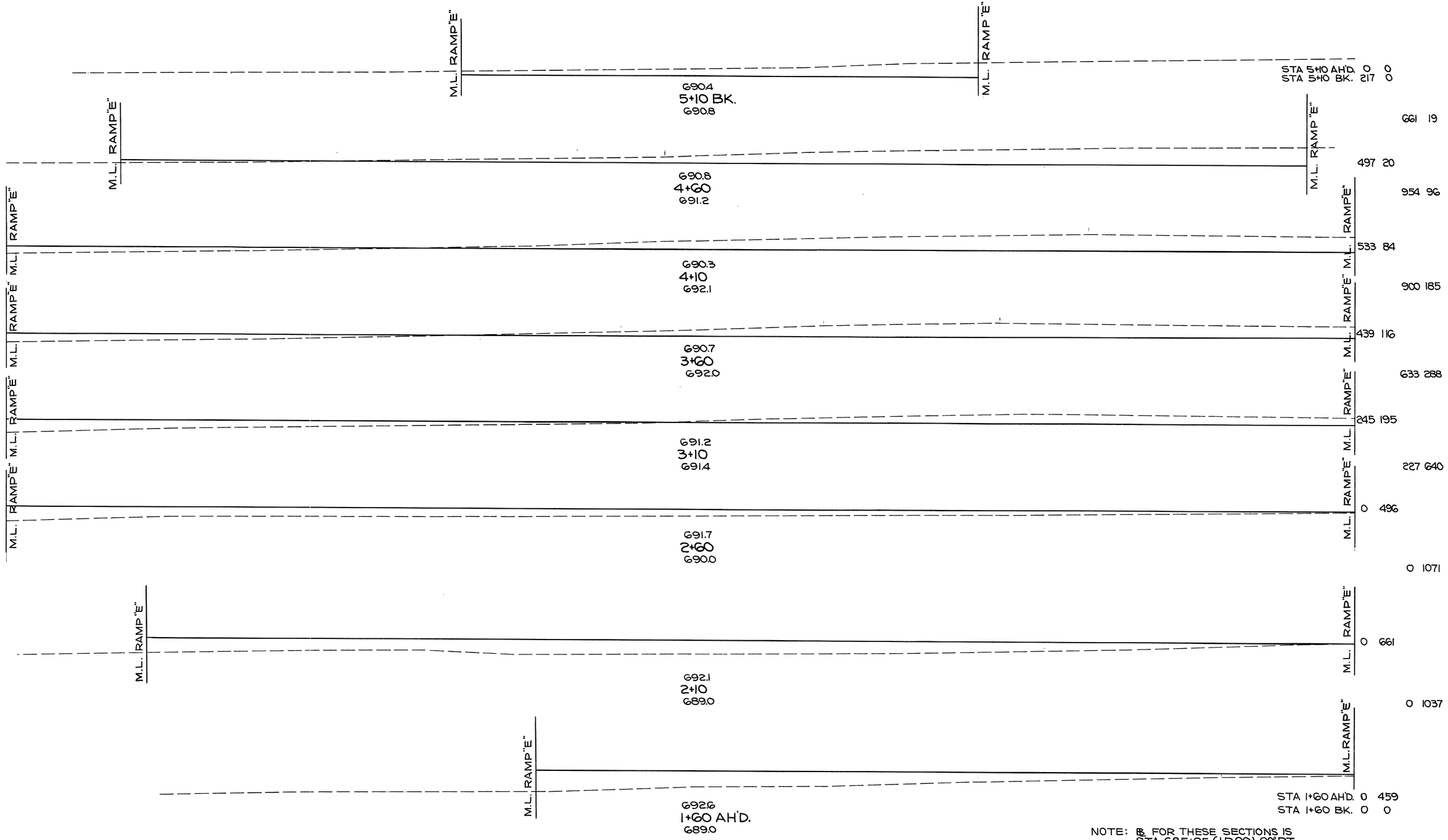
NOTE: THESE SECTIONS ARE IR90
SECTIONS EXTENDED TO THE RT.

"O" SECTION @ STA 687+80



GRADING PLAN X-SECTIONS BETWEEN IR90 & RAMP "D"

LOR.-90-13.01



RAMP "E" GRADING PLAN X-SECTIONS

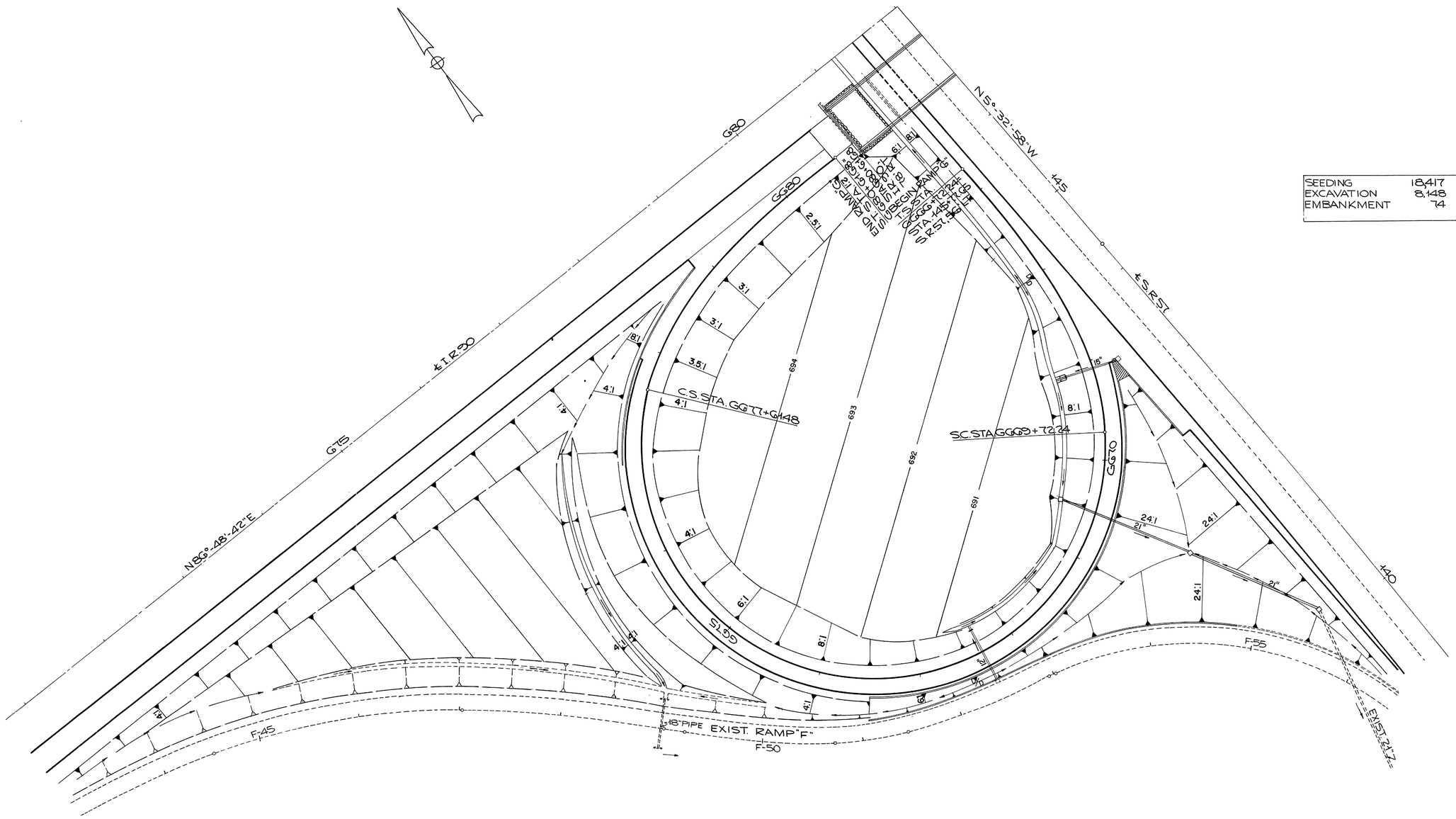
GRADING PLAN FOR RAMP "G"

S.E. QUADRANT OF S.R. 57 INTERCHANGE

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

220

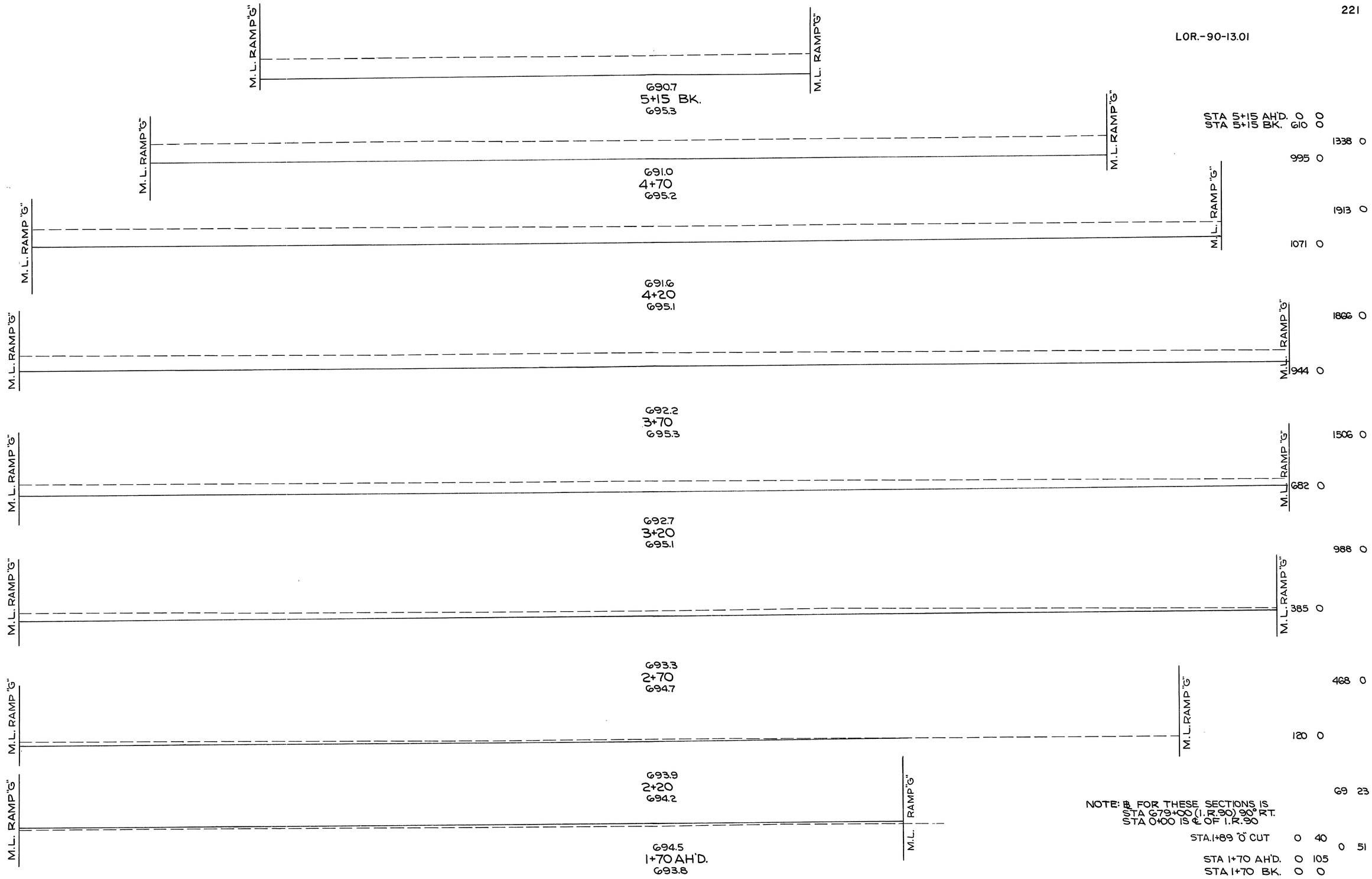
LOR.-90-13.01



SEEDING	18,417	SQ.YDS.
EXCAVATION	8,148	CU.YDS.
EMBANKMENT	74	CU.YDS.

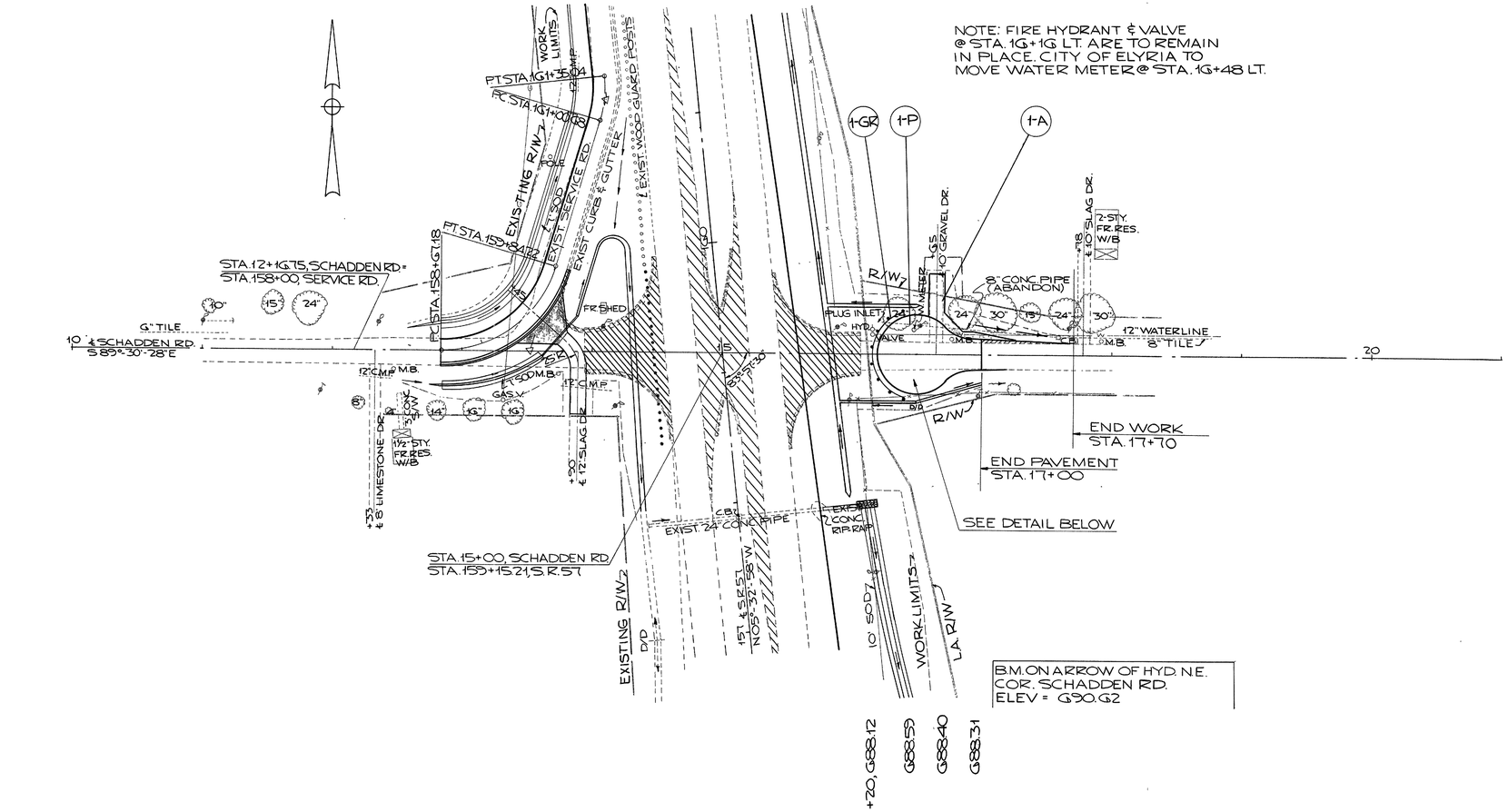
GRADING PLAN FOR RAMP "G" & EXISTING RAMP "F"

LOR.-90-13.01

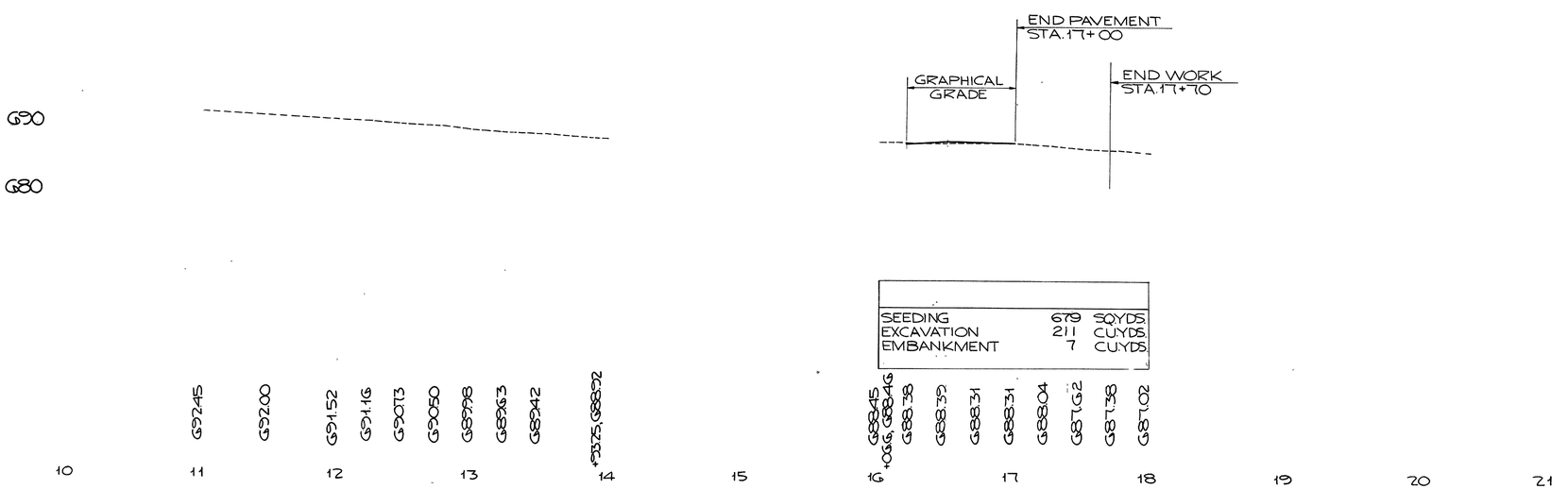


RAMP "G" GRADING PLAN X-SECTIONS

LOR-90-13.01

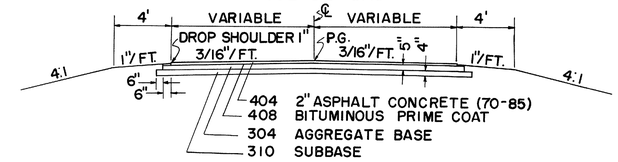


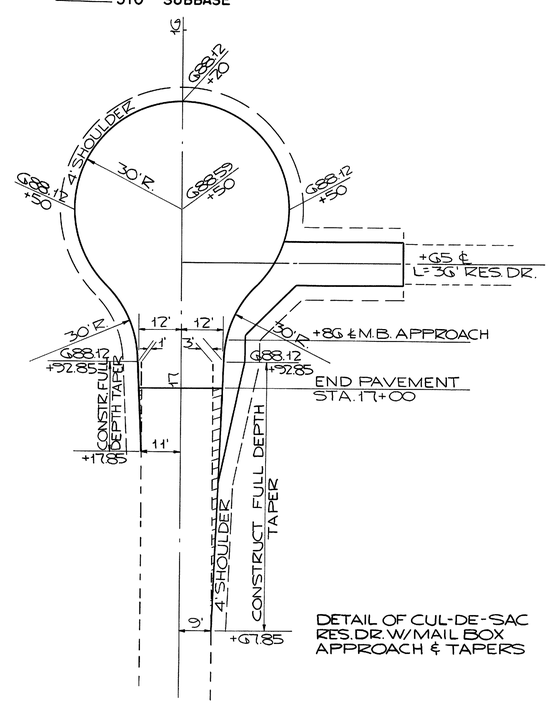
REFERENCE NO.	SIDE	STATION FROM	STATION TO		304 AGGR. BASE 5" CUYDS.	310 SUBBASE 4" CUYDS.	408 BITUM. PRIME COAT GAL.	404 ASPHAL. CONC. (70-85) 2" CUYDS.		609 GUARD RAIL TYPE 4 LIN.FT.			
1-P	℄	16+20	17+70		56.1	46.7	154.7	21.5					
1-A	LT.	16+65			11.1		31.9	4.4					
1-GR	LT. & RT.	16+16								87.5			
TOTALS					67.2	46.7	186.6	25.9		87.5			



SEEDING	679	SQYDS.
EXCAVATION	211	CUYDS.
EMBANKMENT	7	CUYDS.

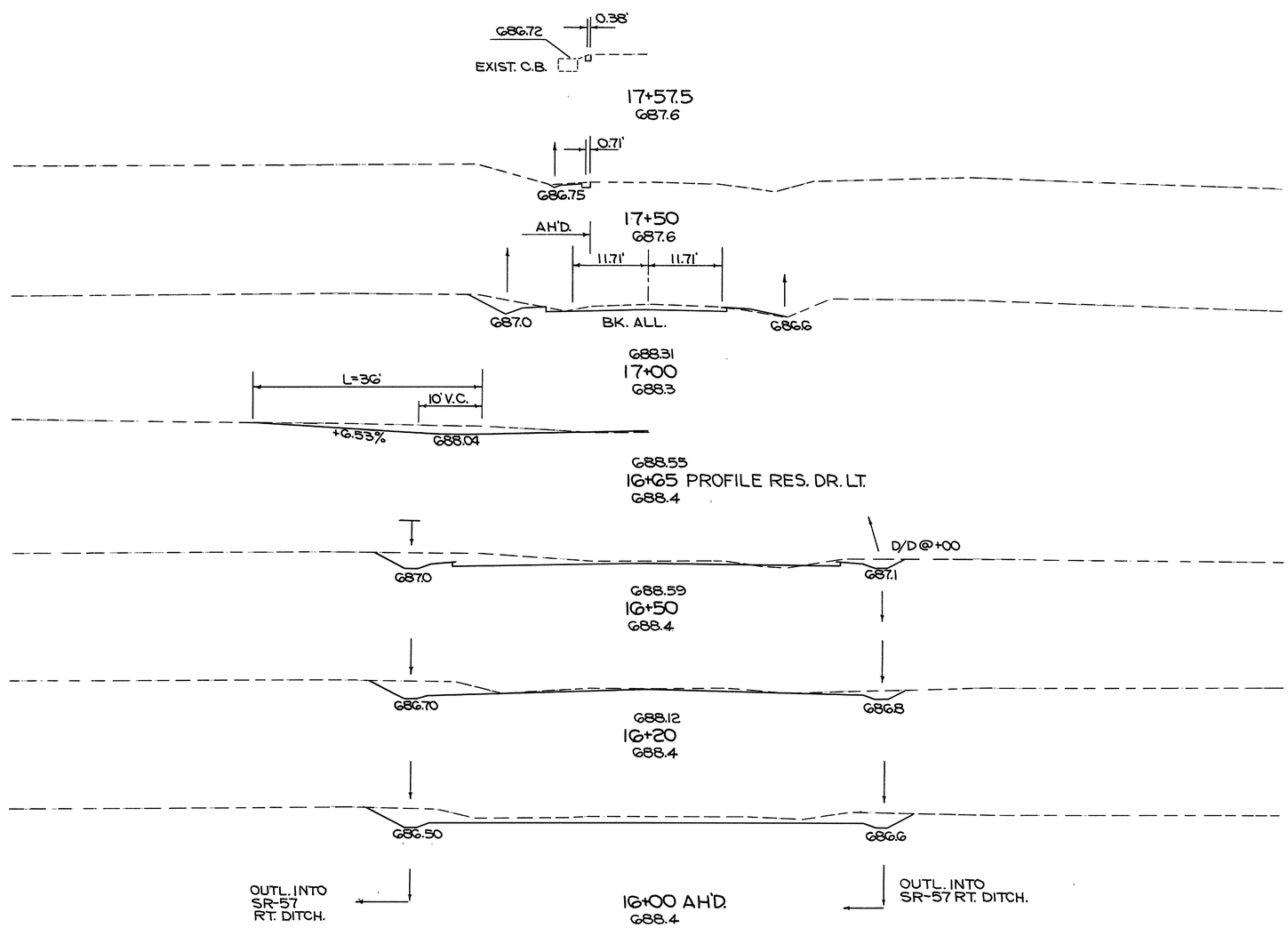
TYPICAL SECTION CUL-DE-SAC





DETAIL OF CUL-DE-SAC RES. DR. W/ MAIL BOX APPROACH & TAPERS

END WORK STA.17+70

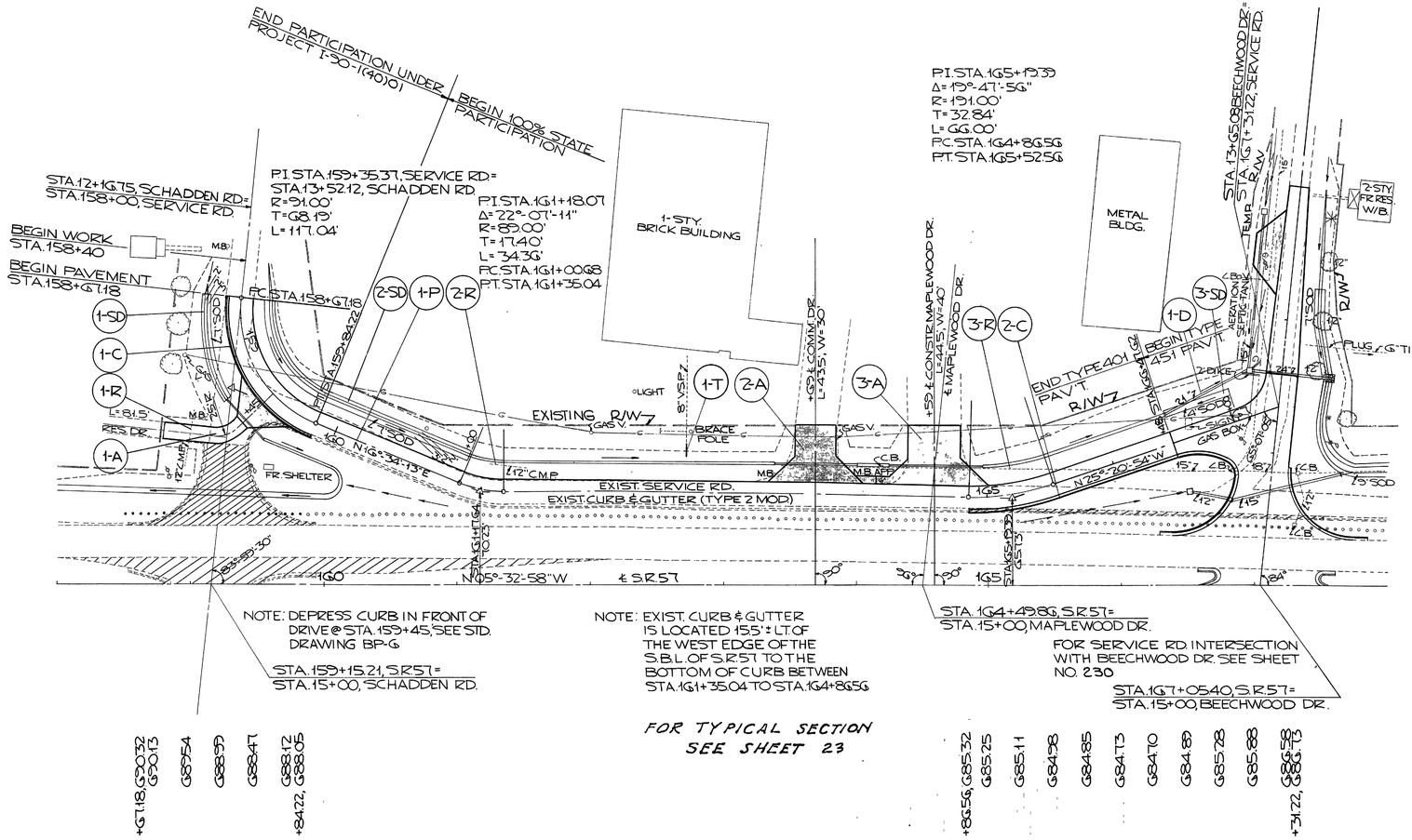


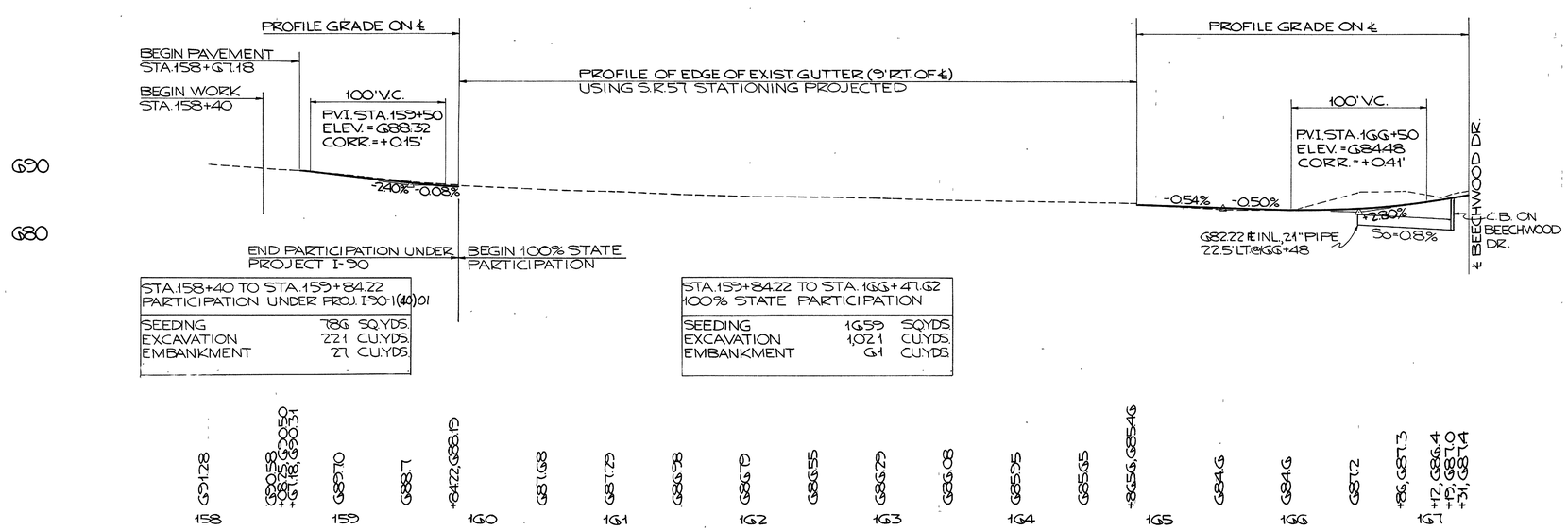
STA 17+70 AH'D.	0	0
STA 17+70 BK.	0	0
		1 0
	1	0
		1 0
	3	0
		14 0
STA 17+00 AH'D.	12	0
STA 17+00 BK.	33	2
ADD FOR DRIVE LT. @ 65		5 0
		82 5
	55	3
		56 2
	45	0
		52 0
STA 16+00 AH'D.	96	0
STA 16+00 BK.	0	0

150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

STA. 16+00 TO STA. 17+70 SCHADDEN RD.

LOR-90-13.01





STA.158+40 TO STA.159+84.22
PARTICIPATION UNDER PROJ. I-90-1(40)01

SEEDING	786	SQ.YDS.
EXCAVATION	22.1	CU.YDS.
EMBANKMENT	2.7	CU.YDS.

STA.159+84.22 TO STA.166+47.62
100% STATE PARTICIPATION

SEEDING	1659	SQ.YDS.
EXCAVATION	102.1	CU.YDS.
EMBANKMENT	6.1	CU.YDS.

QUANTITIES FOR 100% STATE PARTICIPATION

REFERENCE NO.	SIDE	STATION FROM	STATION TO	202 PIPE REMOV. 15" & UNDER	402 ASPHALT CONC. (70-85)		304 AGGREGATE BASE			404 ASPHALT CONC. (70-85)		408 PRIME COAT	605 AGGR. DRAINS	609 COMB. CURB & GUTTER STD. TYPE 2 MOD.		310 SUBBASE
					1¼"	1½"	5"	7"		1¼"	2"					4"
				LIN.FT.	CU.YDS.					CU.YD.		GAL.	LIN.FT.	LIN.FT.		
2-R	LT.	161+22	161+53	30												
3-R	LT.	163+43	166+84	340												
1-P	℄	159+84.22	166+47.62		46.1	56.1	73.04			46.1		538.1	262.5			166.4
2-C	RT.	164+86.56	166+47.62											164.6		
2-A	LT.	163+69						36.8			10.5	75.8				
3-A	LT.	164+59						49.8			14.2	102.5				
TOTALS				370	46.1	56.1	73.04	86.6		46.1	24.7	716.4	262.5	164.6		166.4

QUANTITIES FOR 100% STATE PARTICIPATION

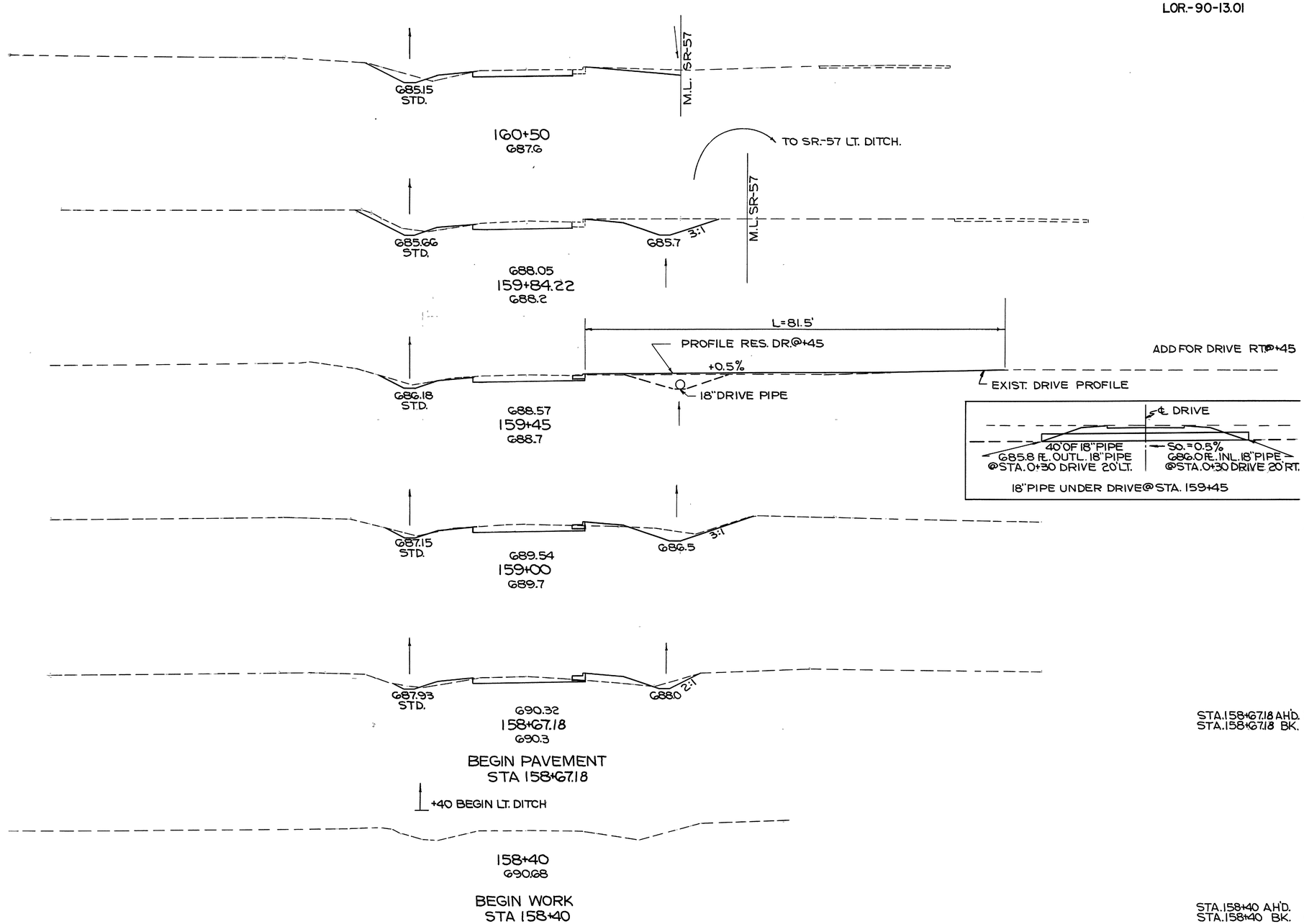
REFERENCE NO.	SIDE	STATION FROM	STATION TO	602 MASON. CLASS C STD. HW-E ENDWL.	603 CONDUIT TYPE F	603 CONDUIT TYPE D 707.01 OR 707.02	603 CONDUIT TYPE C-B	660 SODDING	202 CATCH BASINS REMOV.				
					8"	18"	21"						
				CU.YD.	LIN.FT.	LIN.FT.	LIN.FT.	SQ.YDS.	EACH				
2-A	LT.	163+69				62							
3-A	LT.	164+59				72							
1-T	LT.	162+12			10								
1-D	LT.	166+48	167+20	0.36			72						
3-R	LT.	163+43	166+84						1				
2-SD	LT.	159+84.22	161+00					26					
3-SD	LT.	166+48	167+00					27					
TOTALS				0.36	10	134	72	123	1				

QUANTITIES FOR PARTICIPATION UNDER PROJECT I-90-1(40)01

REFERENCE NO.	SIDE	STATION FROM	STATION TO	202 PIPE REMOV. 15" & UNDER	304 AGGR. BASE		310 SUBBASE	402 ASPHALT CONC. (70-85)		404 ASPHALT CONC. (70-85)		408 BITUM. PRIME COAT	411 STABIL. CRUSHED AGGREGATE	603 CONDUIT TYPE D 707.01 OR 707.02	605 AGGR. DRAINS	609 COMB. CURB & GUTTER STD TYPE 2 MODIFIED	660 SODDING
														18"			
					5"	6"	4"	1¼"	1½"	1¼"	2"						
				LIN.FT.	CU.YDS.		CU.YDS.	CU.YDS.		CU.YDS.		GAL.	C.Y.	LIN.FT.	LIN.FT.	LIN.FT.	SQ.YDS.
1-P	℄	158+67.18	159+84.22			40.6	34.9	8.1	9.9	8.1		34.9			62.5		
1-A	RT.	159+45			9.9						4.0	28.4	18.2	40			
1-C	RT.	158+67.18	159+84.22													130.2	
1-SD	LT.	158+67.18	159+84.22														66
1-R	RT.	159+27	159+45	44													
TOTALS				44	9.9	40.6	34.9	8.1	9.9	8.1	4.0	63.3	18.2	40	62.5	130.2	66

STA. 158+00 TO STA. 167+00, S.R.57 SERVICE RD.

LOR.-90-13.01

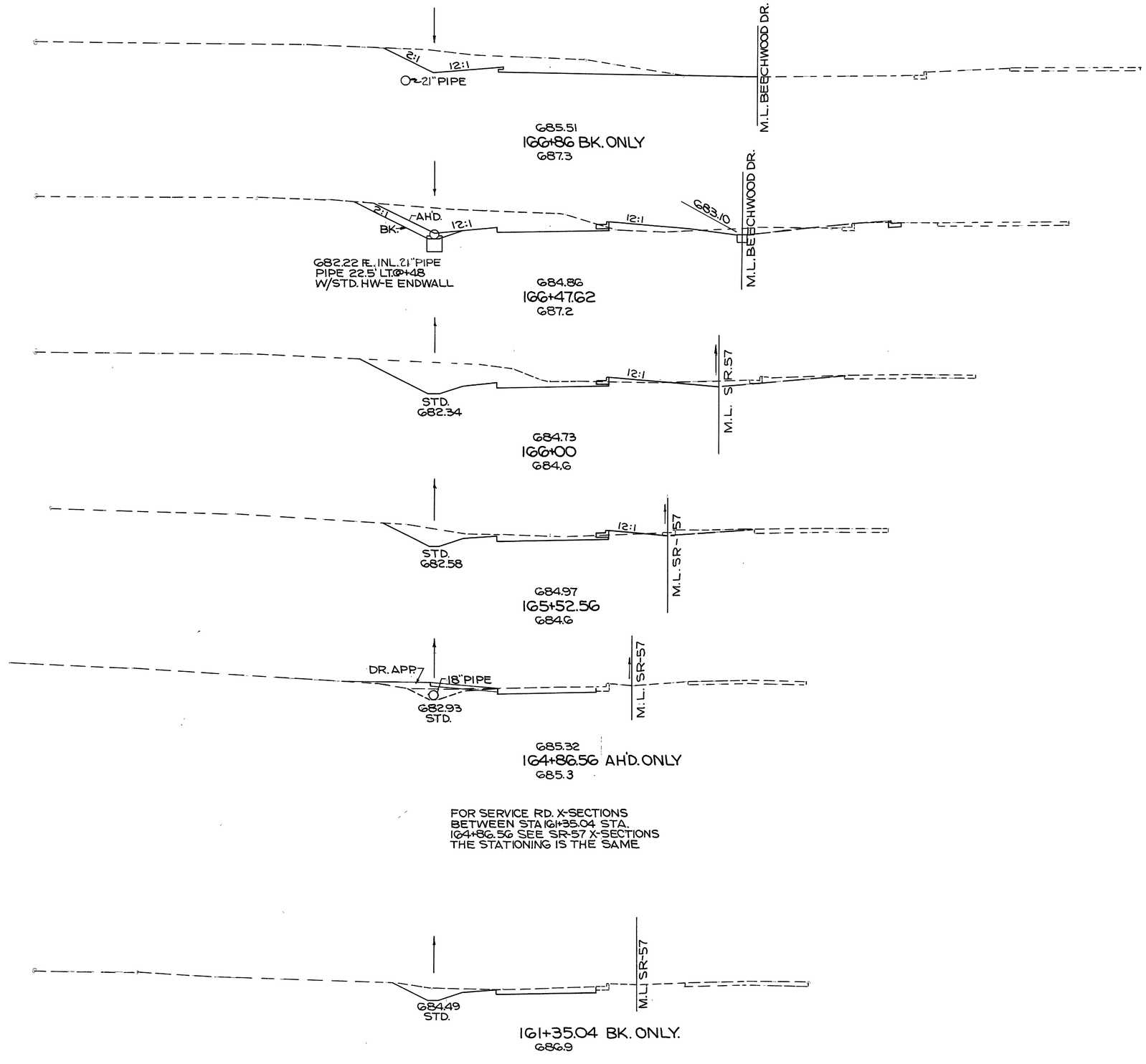


	38	5
	125	10
	65	3
	86	2
ADD FOR DRIVE RT@+45	10	0
	54	0
	80	3
	42	4
	41	13
STA.158+67.18 AH'D.	26	18
STA.158+67.18 BK.	8	18
	4	9
STA.158+40 AH'D.	0	0
STA.158+40 BK.	0	0

150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

STA.158+40 TO STA.160+50 SR-57 SERVICE RD.

LOR.-90-13.01



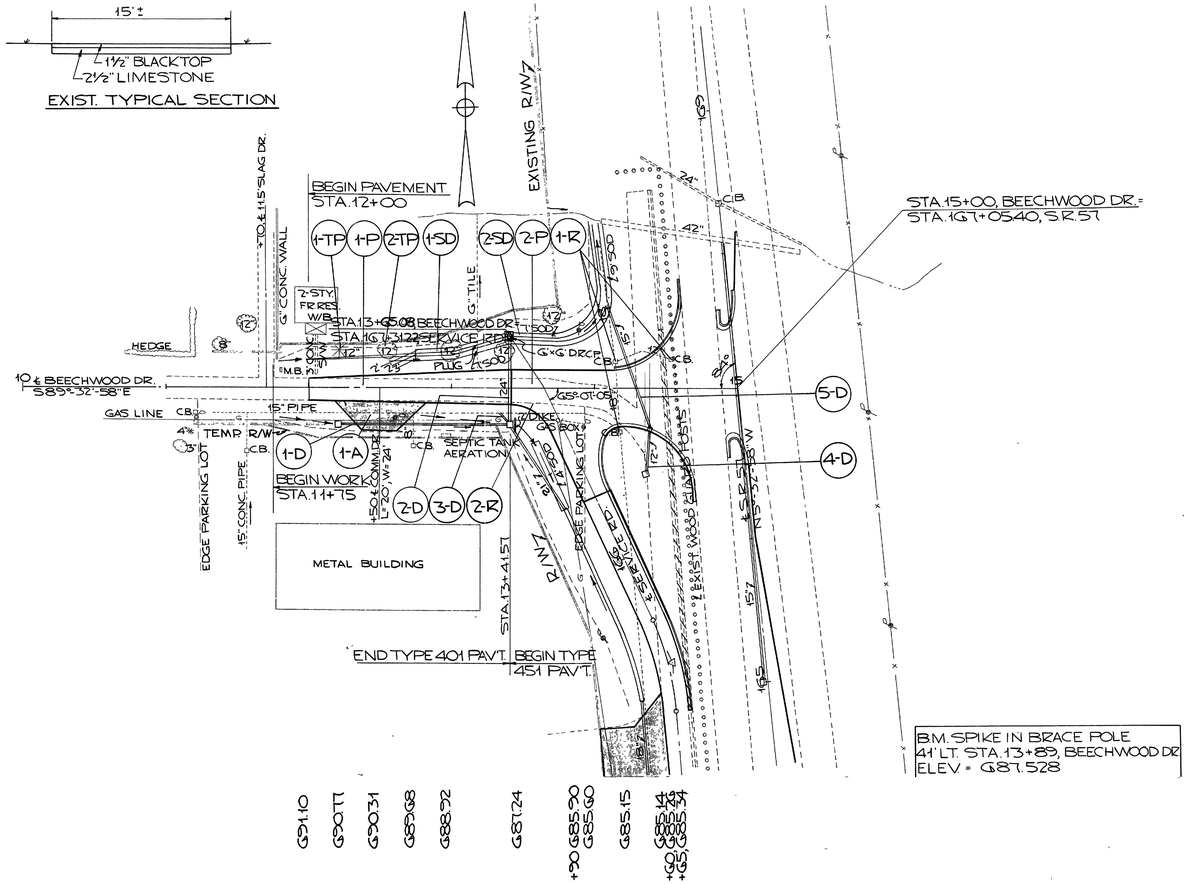
FOR SERVICE RD. X-SECTIONS BETWEEN STA 161+35.04 STA. 164+86.56 SEE SR-57 X-SECTIONS THE STATIONING IS THE SAME

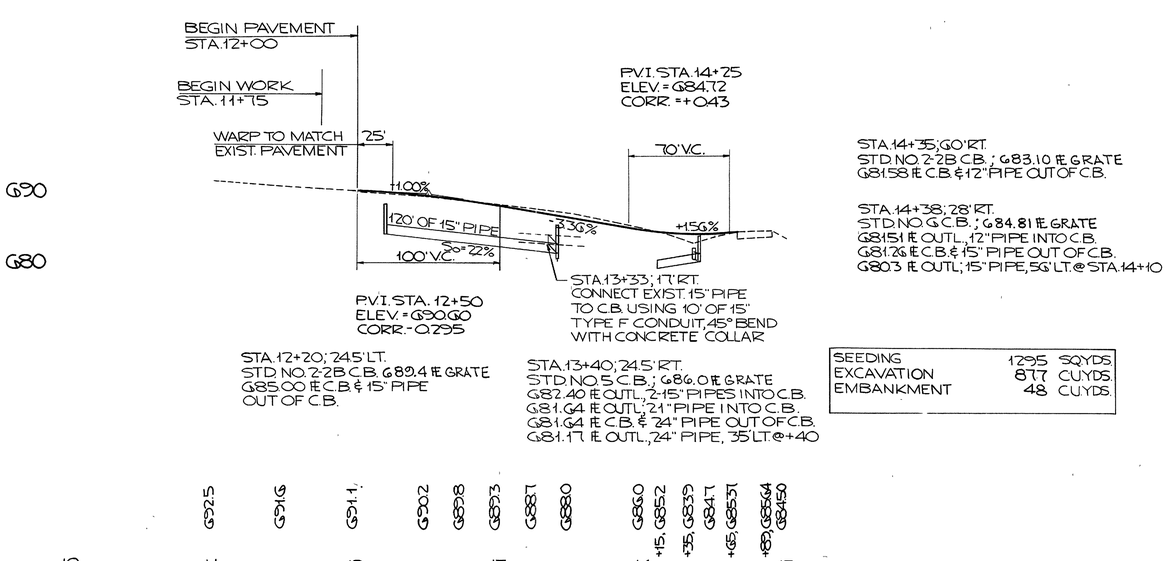
STA 166+86 AH'D.	0	0
STA 166+86 BK.	142	1
	208	12
STA 166+47.62 AH'D.	151	15
STA. 166+47.62 BK.	175	15
	286	18
	149	5
	176	8
	52	4
	104	5
STA 164+86.56 AH	33	0
STA 164+86.56 BK	0	0
STA. 161+35.04 AH.	0	0
STA. 161+35.04 BK.	40	0
	122	8
STA 160+50	38	5

150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

STA. 161+35.04 TO STA. 166+86 SR-57 SERVICE RD.

FOR DETAILS OF BEECHWOOD DR. S.R.57 & SERVICE RD. INTERSECTION SEE SHEET NO. 230





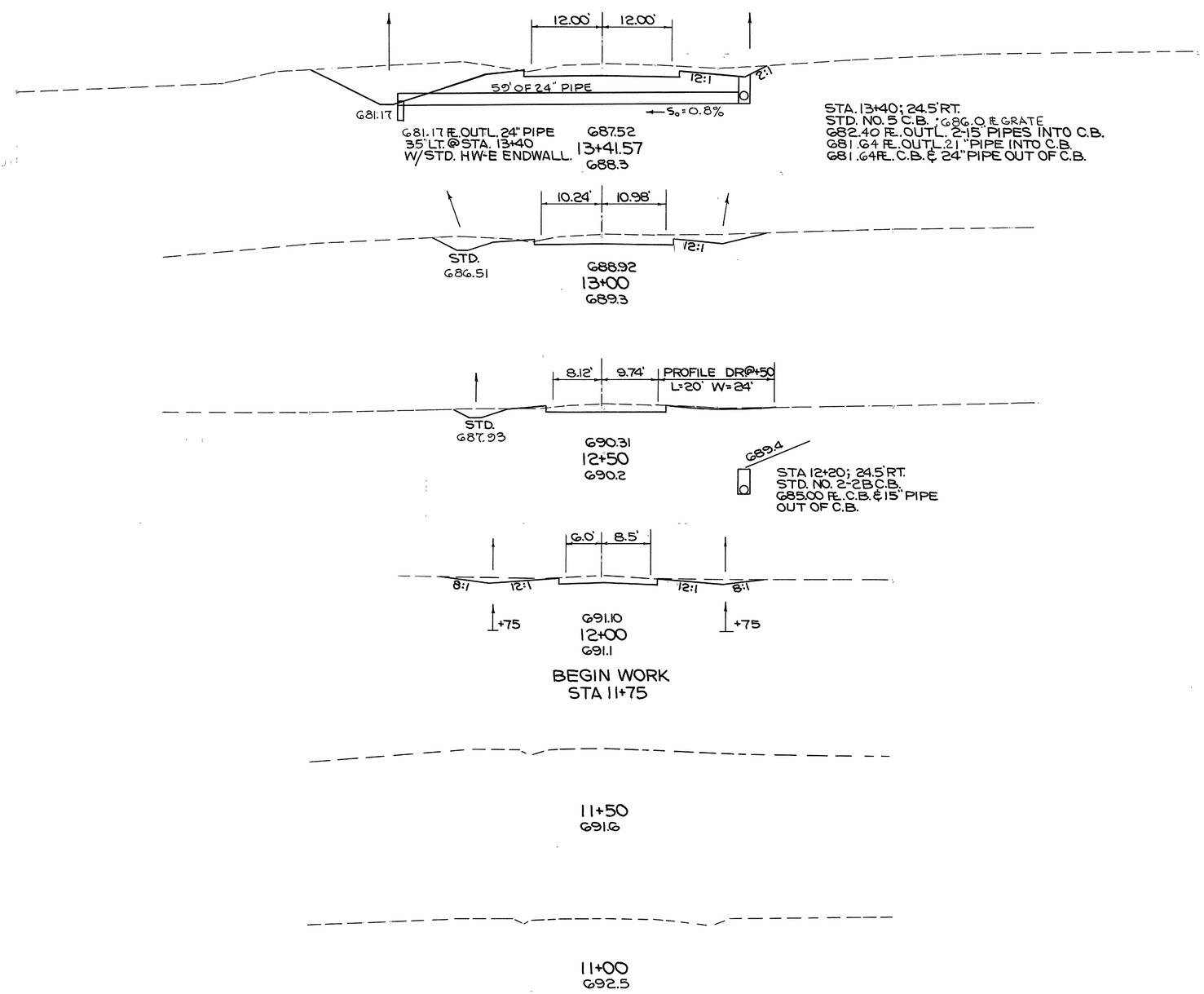
SEEDING	1295 SQYDS.
EXCAVATION	877 CUYDS.
EMBANKMENT	48 CUYDS.

REFERENCE NO.	SIDE	STATION FROM	STATION TO	402 ASPHALT CONC. (70-85) 1¼"	402 ASPHALT CONC. (70-85) 1½"	310 SUBBASE 4"	304 AGGR. BASE 6"	304 AGGR. BASE 7"	310 SUBBASE GRADING A & B 6"	404 ASPHAL. CONC. (70-85) 1¼"	404 ASPHAL. CONC. (70-85) 2"	408 BITUM. PRIME COAT	451 REINF. PORT. CEMENT CONC. PAV'T. 9"	605 AGGR. DRAINS	609 COMB. CURB & GUTTER TYPE 2 (100)	609 COMB. CURB & GUTTER TYPE 2 (100)
							CUYDS	CUYDS	CUYDS	CUYDS		GAL.	SQYDS	LIN.FT.	LIN.FT.	
1-P	℄	12+00	13+41.57	105	129	38.0	544			105		124.3		39		
2-P	℄	13+41.57	14+65						143.5				755.9	39	187	383
1-A	RT.	12+50						19.0			54	39.1				
TOTALS				105	129	38.0	544	19.0	143.5	105	54	163.4	755.9	78	187	383

ALL QUANTITIES ON THIS SHEET ARE FOR 100% STATE PARTICIPATION

REFERENCE NO.	SIDE	STATION FROM	STATION TO	202 PIPE REMOV. 15" & UNDER	202 PIPE REMOV. OVER 15"	202 CATCH BASINS REMOV.
				LIN. FT.	LIN. FT.	EACH
1-R	RT.	14+13	14+53	40	135	3
2-R	RT.	13+33	14+16	80		
TOTALS				120	135	3

REFERENCE NO.	SIDE	STATION FROM	STATION TO	601 DUMPED ROCK CHANN. PROT.	602 MASON. CLASS C STD. HW-E ENDWL.	603 CONDUIT TYPE B-B 12"	603 CONDUIT TYPE B-B 15"	603 CONDUIT TYPE B-B 24"	603 CONDUIT TYPE F 15"	603 PIPE SPECIALS TYPE F 45° BEND 15"	604 CATCH BASINS STD. NO. 5	604 CATCH BASINS STD. NO. 6	604 CATCH BASINS STD. NO. 228	657 RIP-RAP FOR TREE PROT.	660 SODDING	667 JUTE MATTING
				CUYD.	CUYDS.	LIN.FT.	LIN.FT.	LIN.FT.	LIN.FT.	EACH	EACH			SQYDS	SQYDS	SQYDS.
1-D	RT.	12+20	13+40				120						1			
2-D	LT.&RT.	13+40		2	0.41			59			1					50
3-D	RT.	13+33	13+40						10	1						
4-D	RT.	14+35	14+38			32							1			
5-D	LT.&RT.	14+10	14+38		0.26		90				1					
1-SD	LT.	12+75	13+37												52	
2-SD	LT.	13+43	14+28												135	
1-TP	LT.	12+22												1		
2-TP	LT.	12+55												1		
TOTALS				2	0.67	32	210	59	10	1	1	1	1	2	187	50



157 1

167 2

60 1

92 3

39 2

69 2

STA. 12+00 AH'D.	35	0
STA. 12+00 BK.	19	0
STA. 11+75 AH'D.	0	0
STA. 11+75 BK.	0	0

9 0

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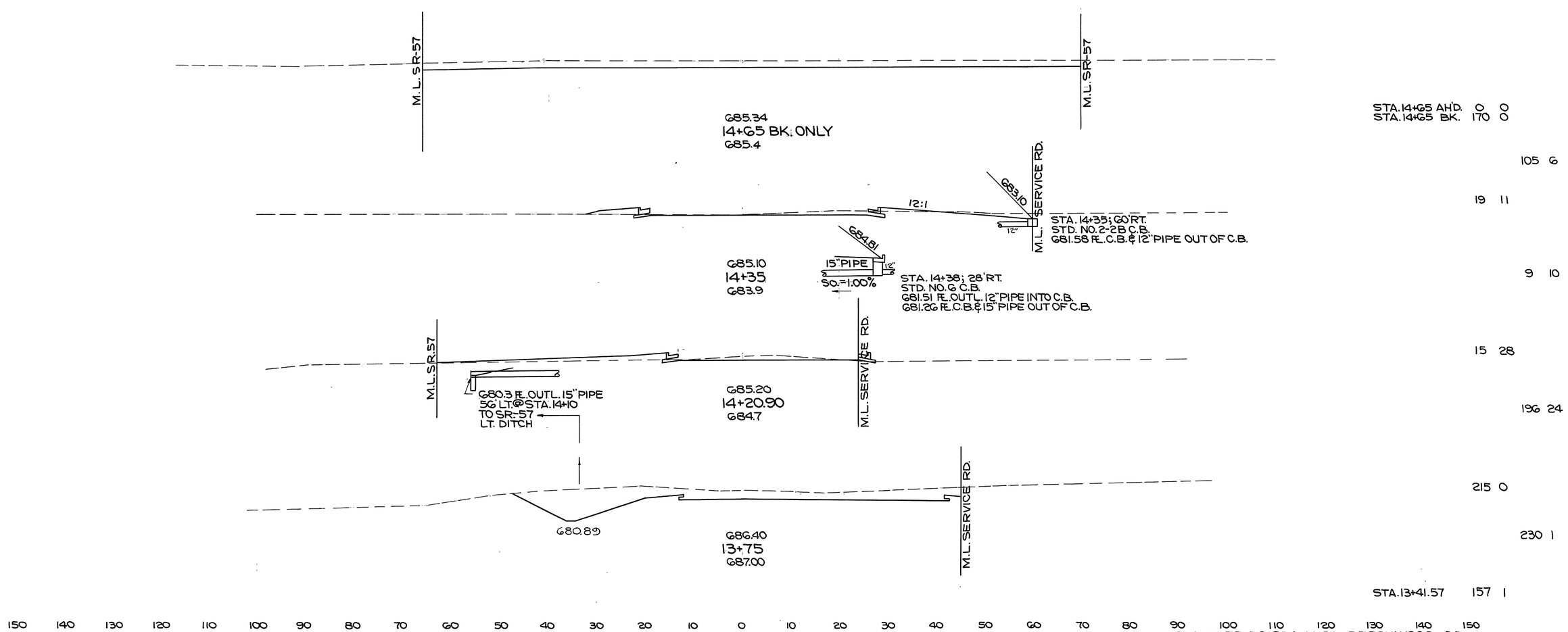
M.L. SR-57
M.L. SR-57
685.34
14+65 BK. ONLY
685.4
683.10
12:1
M.L. SERVICE RD.
12"
STA. 14+35; 60' RT.
STD. NO. 2-2B C.B.
681.58 FL. C.B. & 12" PIPE OUT OF C.B.
684.61
15" PIPE
12"
SO.=1.00%
685.10
14+35
683.9
STA. 14+38; 28' RT.
STD. NO. 6 C.B.
681.51 FL. OUTL. 12" PIPE INTO C.B.
681.26 FL. C.B. & 15" PIPE OUT OF C.B.
M.L. SR-57
M.L. SERVICE RD.
680.3 FL. OUTL. 15" PIPE
56' LT. @ STA. 14+10
TO SR.-57
LT. DITCH
685.20
14+20.90
684.7
M.L. SERVICE RD.
680.89
686.40
13+75
687.00
M.L. SERVICE RD.
STA. 14+65 AHD. 0 0
STA. 14+65 BK. 170 0
105 6
19 11
9 10
15 28
196 24
215 0
230 1
STA. 13+41.57 157 1
150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150
STA. 13+75 TO STA. 14+65 BEECHWOOD DR.

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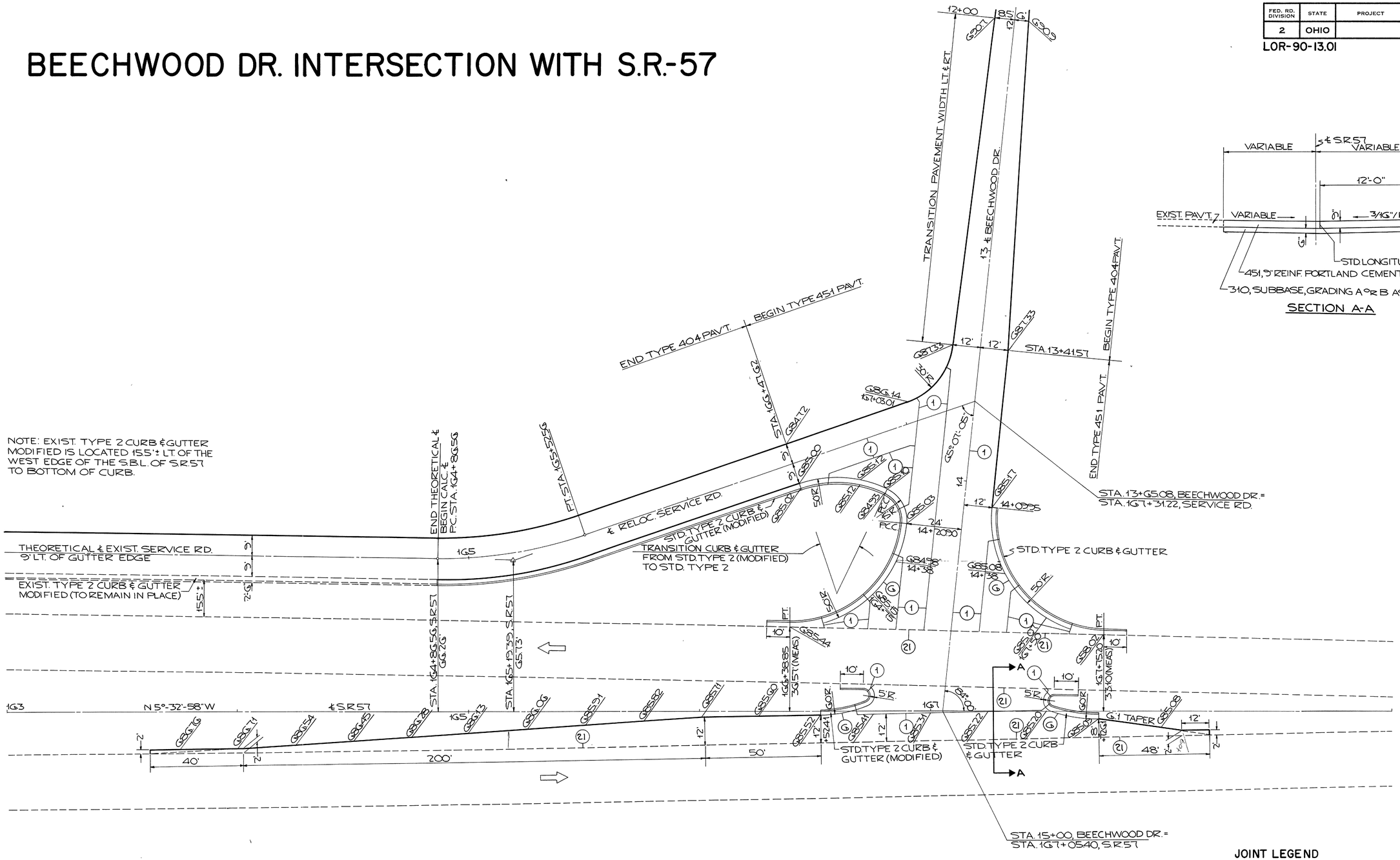
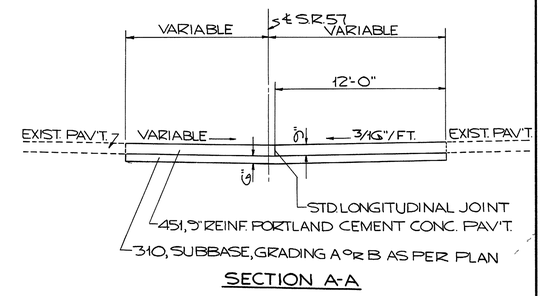
BEECHWOOD DR. INTERSECTION WITH S.R.-57





SECTION A-A

JOINT LEGEND

1. STANDARD LONGITUDINAL JOINT
2. SEE SHEET NO. 144
6. KEY JOINT WITH DOWELS

DETAIL OF BEECHWOOD DR. INTERSECTION WITH S.R.-57

S.R. 57 INTERCHANGE SUMMARY OF TABLES

	FROM SHEET NO.	202 PIPE REMOVED 15" AND UNDER (LIN. FT.)	202 PIPE REMOVED OVER 15" (LIN. FT.)	202 PIPE REMOVED 21" FOR REUSE (LIN. FT.)	202 EXIST. CURB AND GUTTER REMOVED AND DISPOSED OF (LIN. FT.)	202 EXIST. PAVEMENT REMOVED AND DISPOSED OF (SQ.YD.)	202 CATCH BASINS REMOVED (EACH)	202 MANHOLES REMOVED (EACH)	202 PORTIONS OF EXIST. STRUCTURES REMOVED (LUMP)	203 EXCAVATION NOT INCLUDING EMBANKMENT CONSTRUCTION (CU.YD.)	203 EMBANKMENT (CU.YD.)	301 BITUMINOUS AGGREGATE BASE (CU.YD.)	304 AGGREGATE BASE (CU.YD.)	310 SUBBASE GRADING A OR B (CU.YD.)	310 SUBBASE (CU.YD.)	402 ASPHALT CONCRETE (70-85) (CU.YD.)	404 ASPHALT CONCRETE (70-85) (CU.YD.)	408 BITUMINOUS PRIME COAT, TYPE 2 OR RT-2 OR RT-3 (GAL.)	409 SEAL COAT FOR PAVED BERMS (SQ.YD.)	411 STABILIZED CRUSHED AGGREGATE (CU.YD.)	451 REINFORCED PORTLAND CEMENT CONC. PAVEMENT 9" (SQ.YD.)	601 DUMPED ROCK CHANNEL PROTECTION (CU.YD.)	601 PAVED GUTTER STANDARD TYPE 1 2.0-12 (LIN.FT.)	602 CONCRETE MASONRY (CU.YD.)	FROM SHEET NO.
I-90-1(40)01																									
S.R.57 INTERCHANGE PAVEMENT QUANTITIES	144											2,224.1	855.6	4,731.4	971.7				13,922.2		23,494.6				144
S.R.57																									
131+00 TO 142+00	146	23		182		205	1	1		1,336	595									8.0					146
142+00 TO 153+00	147	42				525	2			1,845	1,404														147
153+00 TO 164+00	148				530	1,822			LUMP	2,345	942											5		0.4	148
RAMP B																									
B666+64.46 TO B680+35.02	160					396				5,140	14,070														160
RAMP C																									
C670+17.81 TO C685+00	166									2,132	19,999											59		0.6	166
C685+00 TO C697+53.27	167									806	52,628											121		0.3	167
RAMP D																									
D678+63.19 TO D685+00	178									3,080	26,203											36	48	0.4	178
D685+00 TO D697+53.27	179									2,025	36,876											74	135		179
RAMP E																									
E683+76.81 TO E697+41.32	188									2,967	34,310											4		0.2	188
RAMP G																									
G666+72.24 TO G680+61.68	193					573				5,923	11,943											11		0.5	193
RAMP X																									
X683+42.35 TO X697+31.72	198									2,292	29,647														198
GRADING PLAN RAMPS A & B	213									3,577	80														213
GRADING PLAN RAMPS C & X	215									4,814	556														215
GRADING PLAN RAMPS D & E	217									3,412	3,967														217
GRADING PLAN RAMPS G & F	220									8,148	74														220
SCHADDEN RD.																									
10+00 TO 21+00	222									211	7		67.2		46.7		25.9	186.6							222
S.R.57 SERVICE RD.																									
158+00 TO 167+00	224	44								221	27		50.5		34.9	18.0	12.1	123.3		18.2					224
TOTAL I-90-1(40)01		109		182	530	3,521	3	1	LUMP	51,534	233,328	2,224.1	973.3	4,731.4	1,053.3	18.0	38.0	309.9	13,922.2	26.2	23,494.6	310	183	2.4	
100% STATE																									
S.R.57																									
153+00 TO 164+00	148									322	14														148
164+00 TO 170+00	149				266					336	21			96.1							507.4				149
S.R.57 SERVICE RD.																									
158+00 TO 167+00	224	370					1			1,021	61		317.0		166.4	102.2	70.8	716.4						0.4	224
BEECHWOOD DR.																									
10+00 TO 15+00	227	120	135				3			877	48		73.4	143.5	38.0	23.4	15.9	163.4			755.9	2		0.7	227
TOTAL 100% STATE		490	135		266		4			2,556	144		390.4	239.6	204.4	125.6	86.7	879.8			1,263.3	2		1.1	
TOTAL THIS SHEET		599	135	182	856	3,521	7	1	LUMP	54,090	233,472	2,224.1	1,363.7	4,971.0	1,257.7	143.6	124.7	1,189.7	13,922.2	26.2	24,757.9	312	183	3.5	

NOTE: 409 SEAL COAT IS TAKEN TO CALCULATIONS AND BROKEN DOWN INTO COVER AGGREGATE AND BITUMINOUS MATERIAL

S.R.57 INTERCHANGE SUMMARY OF TABLES (CON'T.)

FROM SHEET NO.	603 CONDUIT TYPE A: 706.02 WITH CLASS B BEDDING 24" (LIN. FT.)	A: 706.02 Class III or 706.08 21"	B WITH CLASS B BEDDING 6"	B 12"	B 15"	B 18"	B 21"	B 24"	B WITH CLASS B BEDDING, RECONSTRUCTED 21"	C WITH CLASS B BEDDING 21"	C 12"	C 15"	D 707.01 OR 707.02 18"	F 6"	F 8"	F 15"
I-90-1(40)01																
144																
146					36				138		100	297		10		
147											100			15		
148	27			70										35		
160			65											20		
166		156			65									30		
167					38									94		48
178		164										116		60		
179														10		
188			28	57		122								30		
193				57	55		94		44					30		
198							126							30		
213																
215																
217																
220																
222																
224													40			
TOTAL I-90-1(40)01	27	320	93	184	194	122	220		182		200	413	40	364		48
100% STATE																
148																
149					307											
224										72			134		10	
227				32	210			59								10
TOTAL 100% STATE				32	517			59		72			134		10	10
TOTAL THIS SHEET	27	320	93	216	711	122	220	59	182	72	200	413	174	364	10	58

FROM SHEET NO.	604 CATCH BASINS STANDARD NO. 2-2B (EACH)	5	6	8	7	SIDE DITCH 2-2B	CATCH BASINS USED AND CONVERTED TO STD. NO. 2-2B	CATCH BASINS RECONSTRUCTED TO STD. NO. 2-2B	CATCH BASINS RECONSTRUCTED TO STD. NO. 8	PAVED SHOULDER INLET STD. NO. 2-A-10	605 SHALLOW PIPE UNDERDRAINS 6" (LIN. FT.)	DEEP PIPE UNDERDRAINS 6"	AGGREGATE DRAINS	606 GUARD RAIL TYPE 4 (LIN. FT.)	GUARD POSTS (EACH)	609 CONCRETE CURB STANDARD TYPE 6 (LIN. FT.)	7	8	COMBINATION CONCRETE CURB AND GUTTER STD. TYPE 2	2 MODIFIED AS PER PLAN	FROM SHEET NO.
I-90-1(40)01																					
144																					144
146	2				1			1			1,075						3182				146
147				1			1		1		572	743		950		724					147
148	1						1				346	843			23						148
160											1,314	158		650		727	163	50			160
166		1	1								592	388		200		486	110	102			166
167			1								419	516		750		122					167
178	1									1	953	100		600		582	734				178
179											843			3588			76	400			179
188		1	1								966	487		575		563	147	65			188
193		1	2								973	480		325		918	162	50			193
198		1									1,393	50		387.5		597	164	51			198
213																					213
215																					215
217																					217
220																					220
222														87.5							222
224												625								1302	224
TOTAL I-90-1(40)01	4	4	5	1	1	2	1	1	1		9,446	3,765	625	4,883.8	23	4,719	1,213.6	718		1302	
100% STATE																					
148																					148
149				1															41.5	406	149
224												262.5								1646	224
227	1	1	1									78							189.7	38.3	227
TOTAL 100% STATE	1	1	1	1								340.5							231.2	243.5	
TOTAL THIS SHEET	5	5	6	2	1	2	1	1	1		9,446	3,765	403.0	4,883.8	23	4,719	1,213.6	718	231.2	373.7	

S.R. 57 INTERCHANGE SUMMARY OF TABLES (CON'T.)

	FROM SHEET NO.	G12 CONCRETE MEDIAN	G21 EDGE LINES 4"	G21 LANE LINES AND CENTER LINES 4"	G21 LANE LINES AND CENTER LINES 6"	G21 CHANNELIZING LINES 8"	G21 BROAD TRANSVERSE STRIPES 24"	G21 CURB AND ISLAND MARKING	G57 RIP-RAP FOR TREE PROTECTION	G59 SEEDING AND MULCHING	G60 SODDING	G67 JUTE MATTING	SPECIAL DRAINAGE CONNECTION USING NO.8 AGGREGATE	SPECIAL DRILLED WELLS ABANDONED	SPECIAL CLEANING AND DISPOSAL OF SEPTIC TANK	FROM SHEET NO.
		SQ.YD.	MILES			FEET	LUMP		SQ.YD.				CU.YD.	EACH	EACH	
I-90-1(40)01																
	144		4.098	0.036		2,669	LUMP	LUMP					1045.0			144
	146									4,384	203					146
	147									6,369	267	375				147
	148									9,926	306					148
	160	204								15,060	443					160
	166									12,932	254					166
	167	35.3								13,286	188			1	1	167
	178	18.4								21,013	275					178
	179									12,408	190					179
	188	20.4								12,651		267				188
	193	19.7								14,759	319	217				193
	198	19.7								11,177		250				198
	213									12,556						213
	215									14,653						215
	217									16,667						217
	220									18,417						220
	222									679						222
	224									786	66					224
TOTAL I-90-1(40)01		133.9	4.098	0.036		2,669	LUMP	LUMP		197,723	2571	1,109	1045.0	1	1	
100% STATE																
	148									672						148
	149									1,306		250				149
	224									1,659	123					224
	227								2	1,295	187	50				227
TOTAL 100% STATE									2	4,932	310	300				
TOTAL THIS SHEET		133.9	4.098	0.036		2,669	LUMP	LUMP	2	202,655	2,881	1,409	1045.0	1	1	

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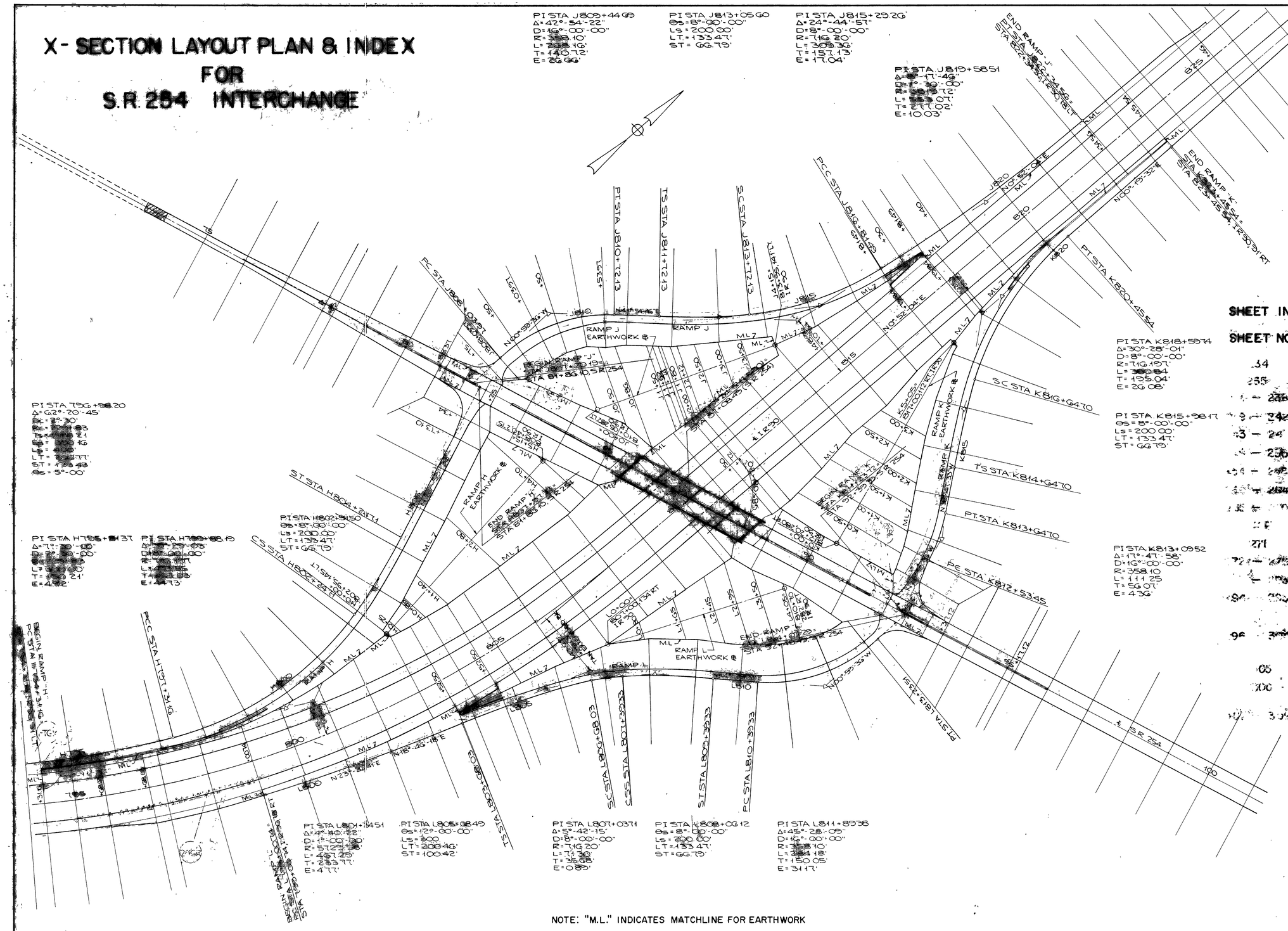
X-SECTION LAYOUT PLAN & INDEX FOR S.R. 254 INTERCHANGE



NOTE: "M.L." INDICATES MATCHLINE FOR EARTHWORK

SHEET INDEX FOR S.R. 254 INTERCHANGE

SHEET NO.	DESCRIPTION
234	X-SECTION LAYOUT PLAN & INDEX
235	GEOMETRIC LAYOUT PLAN
236	GRADING & DRAINAGE PLAN
237	GRADING & DRAINAGE PLAN X-SECTIONS
238	RAMP "H" PLAN & PROFILE & X-SECTIONS
239	RAMP "J" PLAN & PROFILE & X-SECTIONS
240	RAMP "K" PLAN & PROFILE & X-SECTIONS
241	RAMP "L" PLAN & PROFILE & X-SECTIONS
[illegible]	RAMP DETAILS
[illegible]	RAMP SUPERELEVATION TABLES
271	S.R. 254 SUPERELEVATION TABLE
272 – 275	S.R. 254 PLAN & PROFILE
[illegible]	S.R. 254 X-SECTIONS
[illegible]	S.R. 254 DETAILS
[illegible]	ABBE RD INTERSECTION WITH S.R. 254
305	S.R. 254 TEMPORARY RUNAROUND
306	S.R. 254 INTERCHANGE PAVEMENT QUANTITIES & DETAILS
[illegible]	S.R. 254 INTERCHANGE SUMMARY OF TABLES

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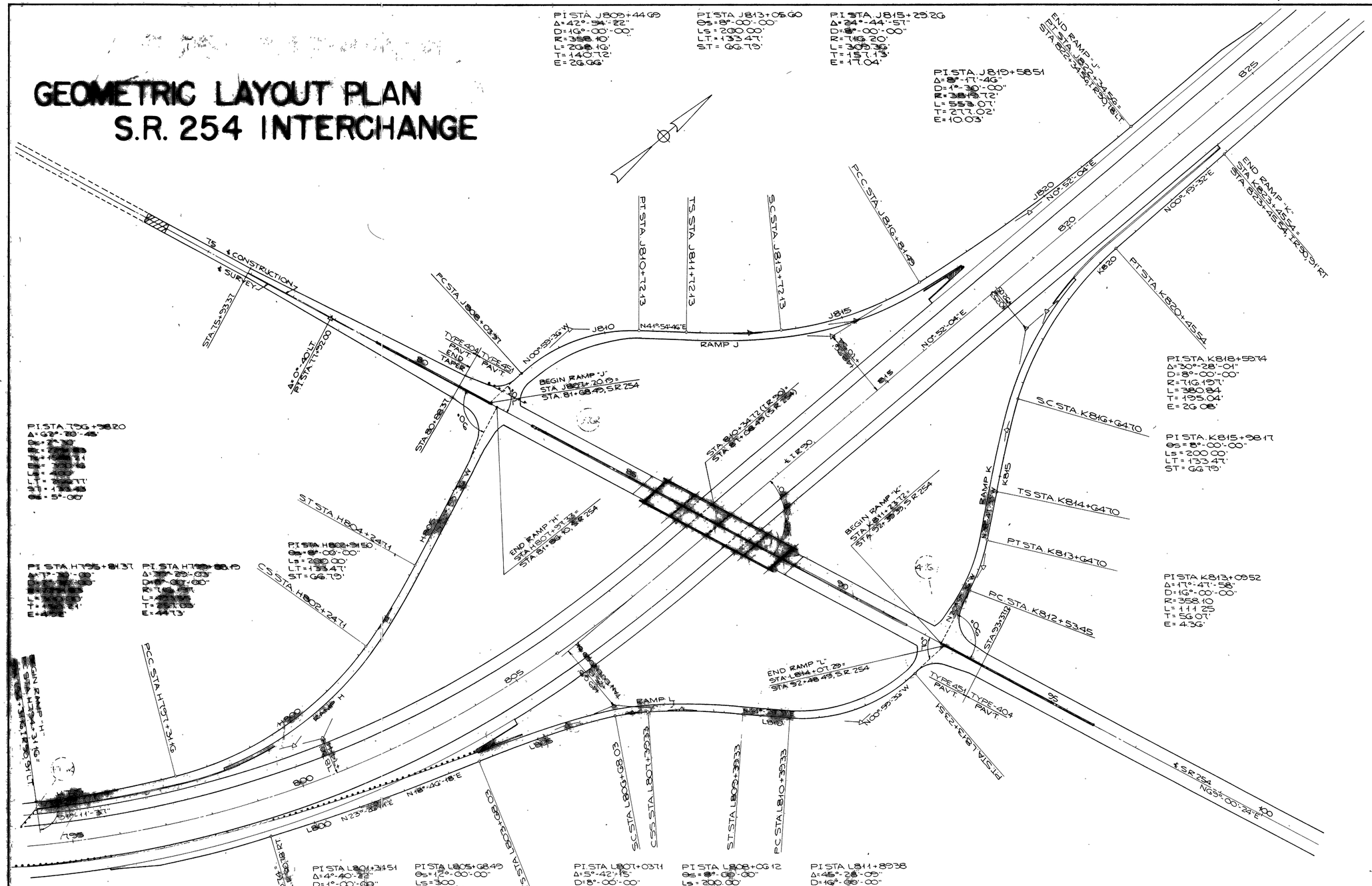
GEOMETRIC LAYOUT PLAN
S.R. 254 INTERCHANGE



P.I. REFERENCES		
RAMP	STATION	OFFSET
RAMP "H"		
P.I. STA. H795+81.37	I.R. 90 795+87.53	89.00' LT.
P.I. STA. H799+86.19	I.R. 90 800+11.46	85.33' LT.
P.I. STA. H800+49.33	I.R. 90 800+74.44	78.30' LT.
P.I. STA. H802+91.50	I.R. 90 803+14.40	247.02' LT.
RAMP "J"		
P.I. STA. J809+44.69	S.R. 254 82+45.27	210.96' LT.
P.I. STA. J813+05.60	I.R. 90 813+40.235	262.75' LT.
P.I. STA. J814+78.89	I.R. 90 814+70.94	148.96' LT.
P.I. STA. J815+29.26	I.R. 90 815+27.94	140.64' LT.
P.I. STA. J819+58.51	I.R. 90 819+57.55	78.00' LT.

P.I. REFERENCES		
RAMP	STATION	OFFSET
RAMP "K"		
P.I. STA. K813+09.52	S.R. 254, 92+39.39 I.R. 90, 813+04.85	185.91' LT. 423.54' RT.
P.I. STA. K815+38.17	I.R. 90 816+27.75	238.74' RT.
P.I. STA. K818+11.58	I.R. 90 817+[illegible]	102.53' RT.
P.I. STA. K818+59.74	I.R. 90 818+[illegible]	101.31' RT.
RAMP "L"		
P.I. STA. L801+34.51	I.R. 90 801+[illegible]	89.50' RT.
P.I. STA. L805+68.49	I.R. 90 805+[illegible]	136.92' RT.
P.I. STA. L808+74.38	I.R. 90 808+[illegible]	149.69' RT.
P.I. STA. L807+[illegible]	I.R. 90 807+[illegible]	TANGENT TO BK.
P.I. STA. L808+6.12	[illegible]	TANGENT TO BK.
P.I. STA. L811+89.38	S.R. 254 81+[illegible]	219.73' RT.

*NOTE: STATIONING AS NOTED WAS PROJECTED BK. FROM S.T. STATION OF CURVE ALONG TAN.

RAIL QUANTITIES		
REFERENCE		TEMPORARY GUARD RAIL 606 SEE NOTE (PROPOSAL)
1-TGR	ACROSS W.B.L. I.R.	[illegible]
2-TGR	CHANNELIZE E.B.L. I.R.	[illegible]
3-TGR	ACROSS RAMP J	87
4-TGR	ACROSS RAMP K	87
	TOTAL	[illegible]

SR 254 GEOMETRIC LAYOUT PLAN & TEMPORARY GUARD RAIL PLAN

S.R. 254 INTERCHANGE DRAINAGE LAYOUT PLAN

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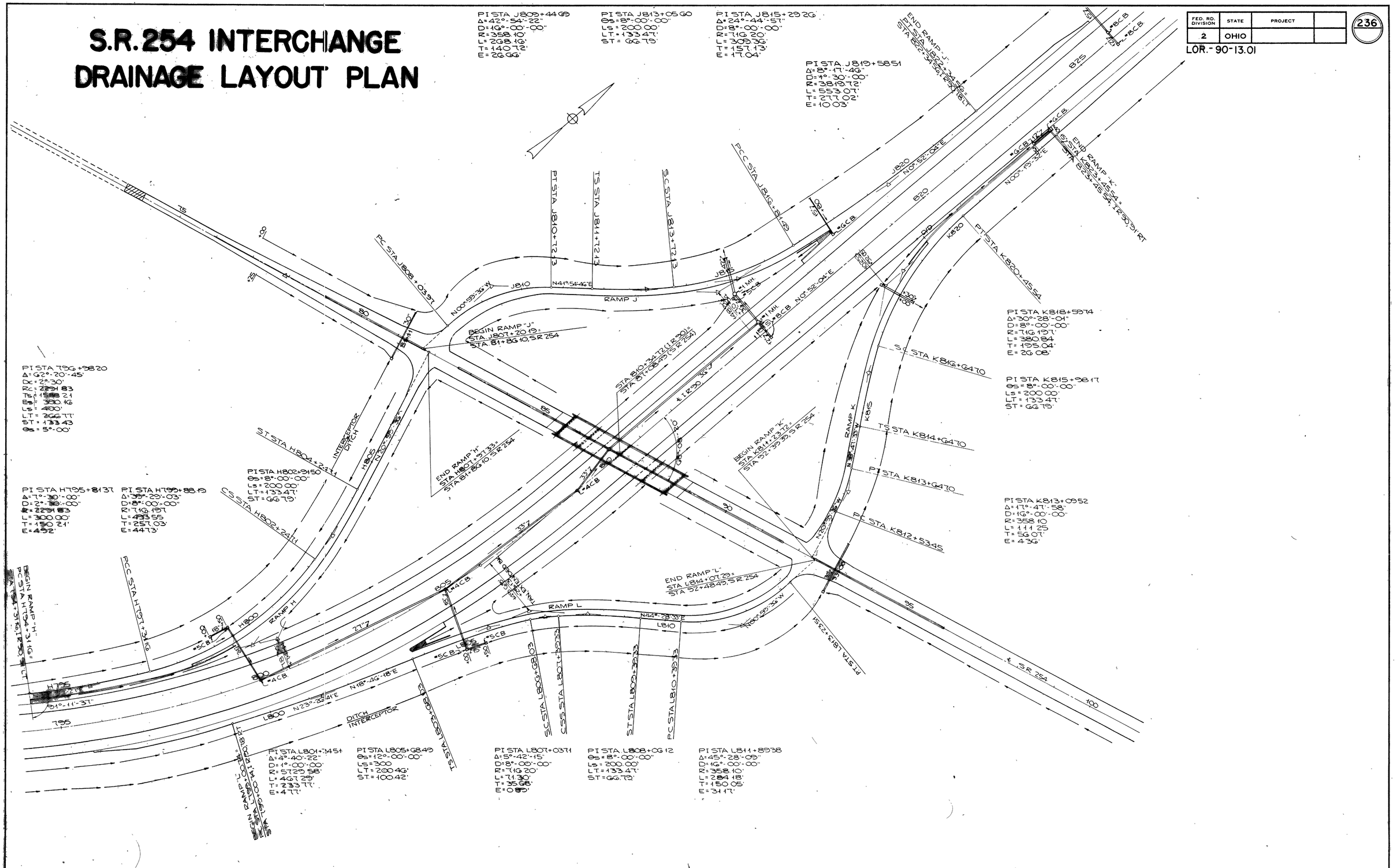


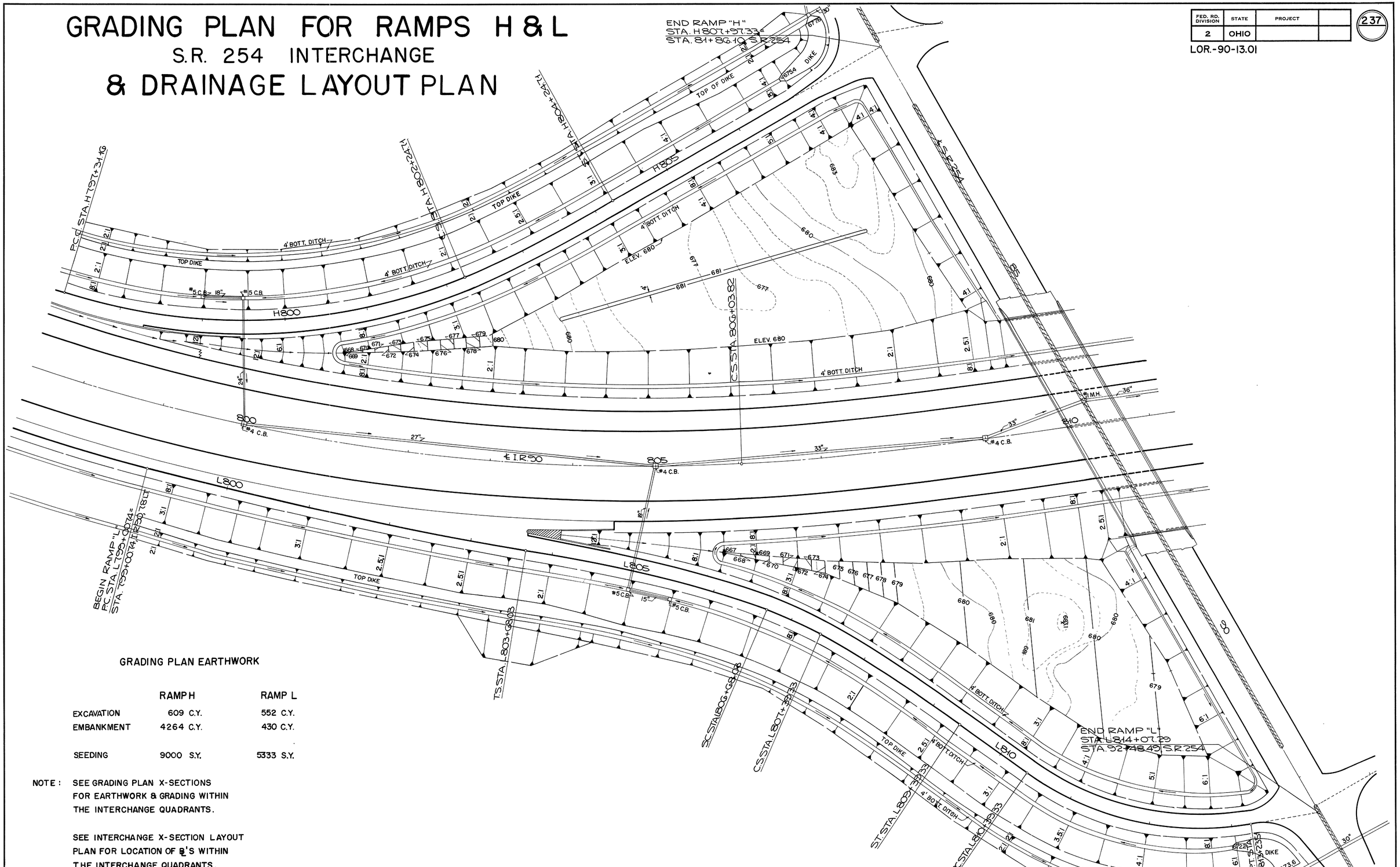
S.R. 254 DRAINAGE LAYOUT PLAN

GRADING PLAN FOR RAMPS H & L
S.R. 254 INTERCHANGE
& DRAINAGE LAYOUT PLAN

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

LOR.-90-13.01

237



GRADING PLAN EARTHWORK

	RAMP H	RAMP L
EXCAVATION	609 C.Y.	552 C.Y.
EMBANKMENT	4264 C.Y.	430 C.Y.
SEEDING	9000 S.Y.	5333 S.Y.

NOTE: SEE GRADING PLAN X-SECTIONS FOR EARTHWORK & GRADING WITHIN THE INTERCHANGE QUADRANTS.

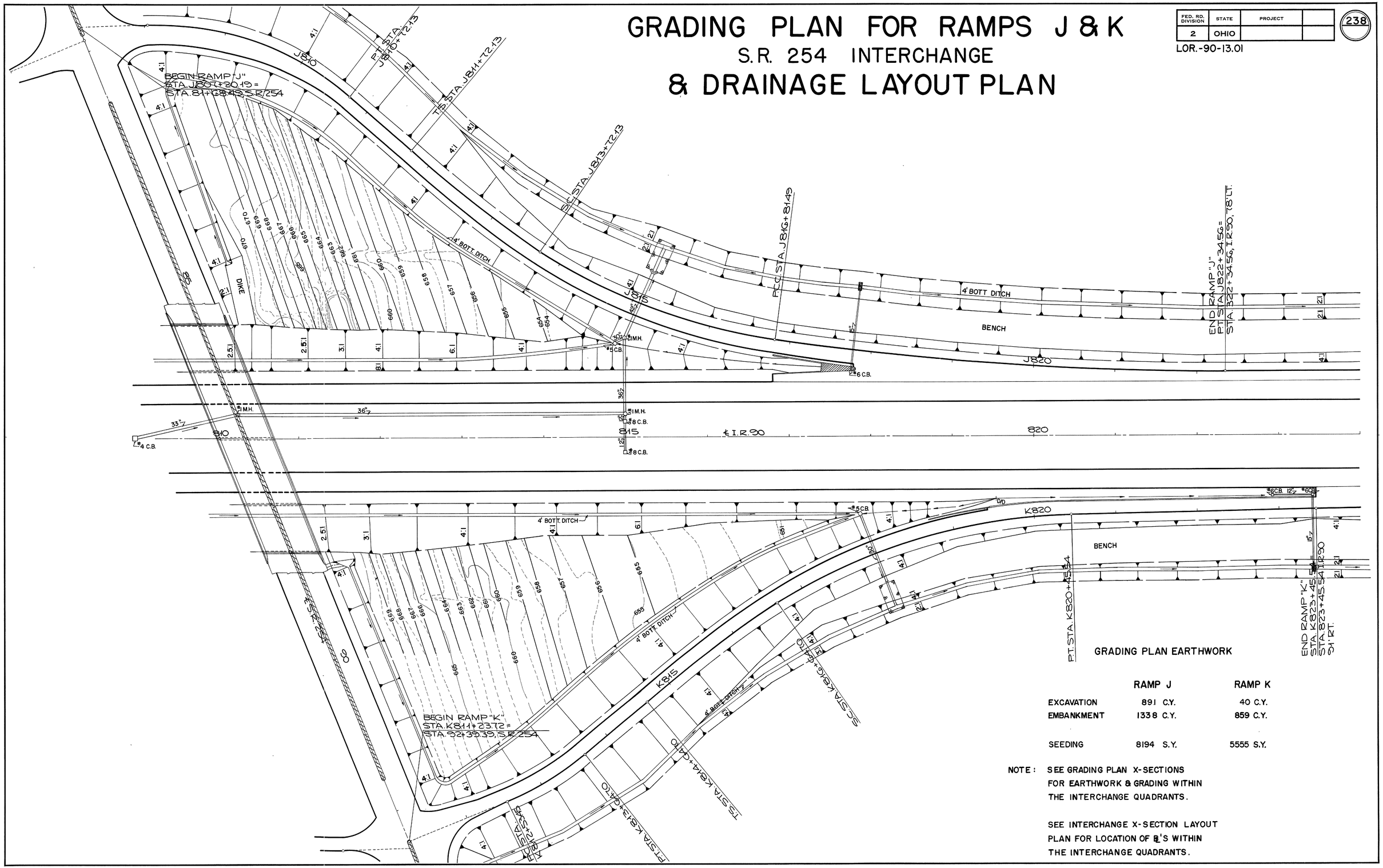
SEE INTERCHANGE X-SECTION LAYOUT PLAN FOR LOCATION OF ℄'S WITHIN THE INTERCHANGE QUADRANTS.

GRADING PLAN FOR RAMPS J & K
S.R. 254 INTERCHANGE
& DRAINAGE LAYOUT PLAN

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

LOR.-90-13.01

238

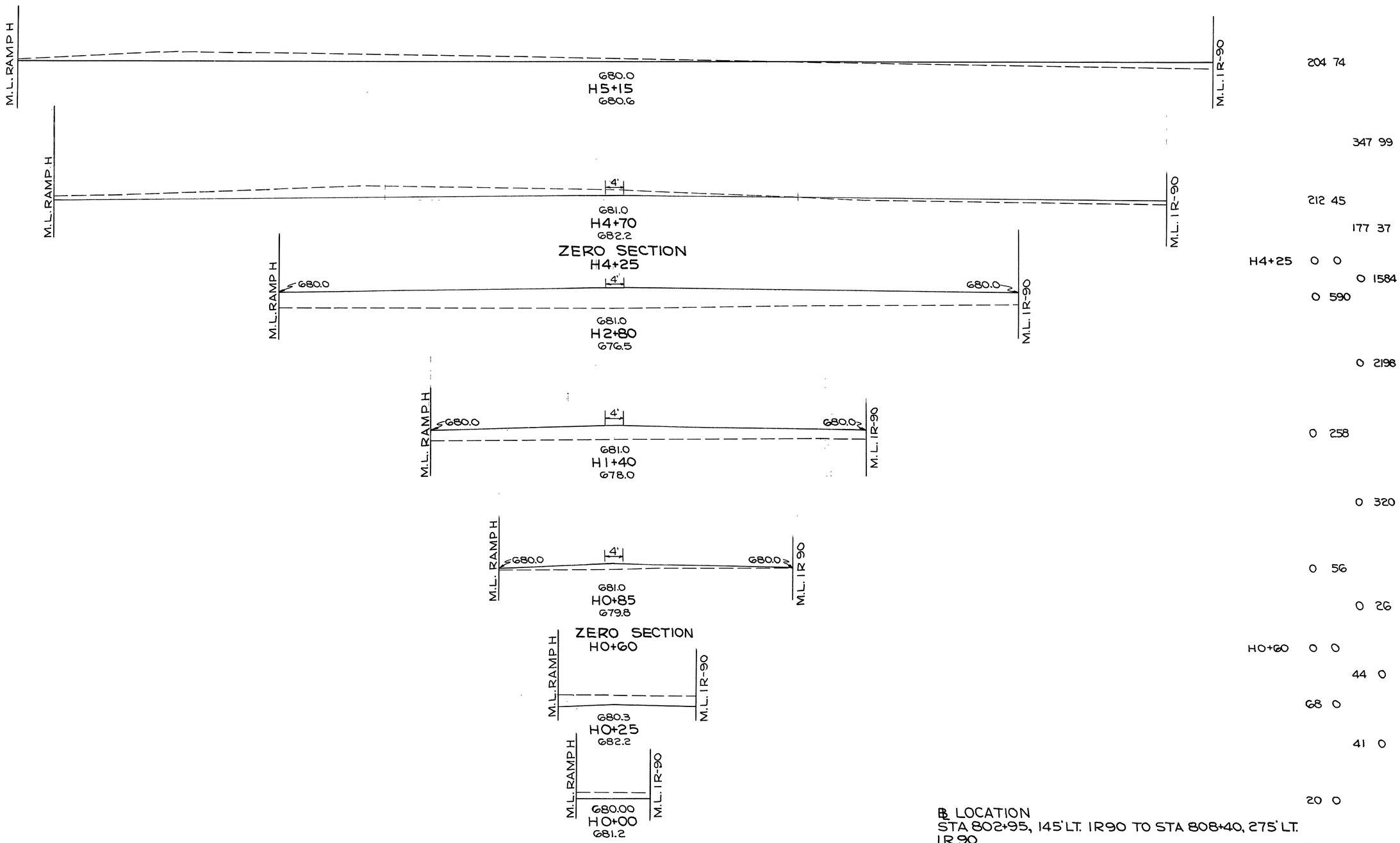


GRADING PLAN EARTHWORK

	RAMP J	RAMP K
EXCAVATION	891 C.Y.	40 C.Y.
EMBANKMENT	1338 C.Y.	859 C.Y.
SEEDING	8194 S.Y.	5555 S.Y.

NOTE: SEE GRADING PLAN X-SECTIONS FOR EARTHWORK & GRADING WITHIN THE INTERCHANGE QUADRANTS.

SEE INTERCHANGE X-SECTION LAYOUT PLAN FOR LOCATION OF ℄'S WITHIN THE INTERCHANGE QUADRANTS.

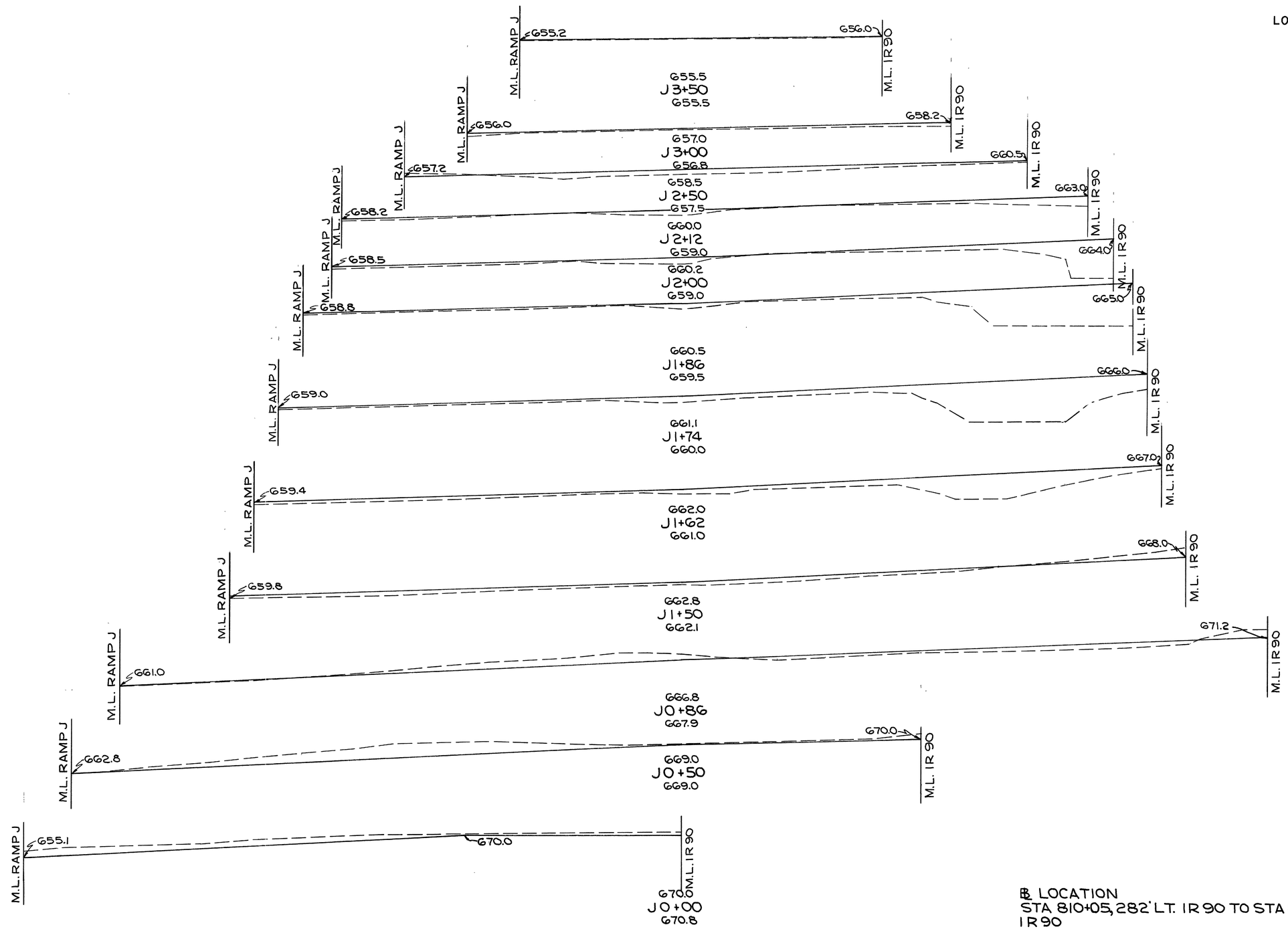


℄ LOCATION
STA 802+95, 145' LT. IR90 TO STA 808+40, 275' LT. IR 90

150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

SR-254 INTERCHANGE X-SECTIONS FOR RAMP H QUADRANT STA H0+00 TO STA H5+15

ZERO SECTION
J4+15

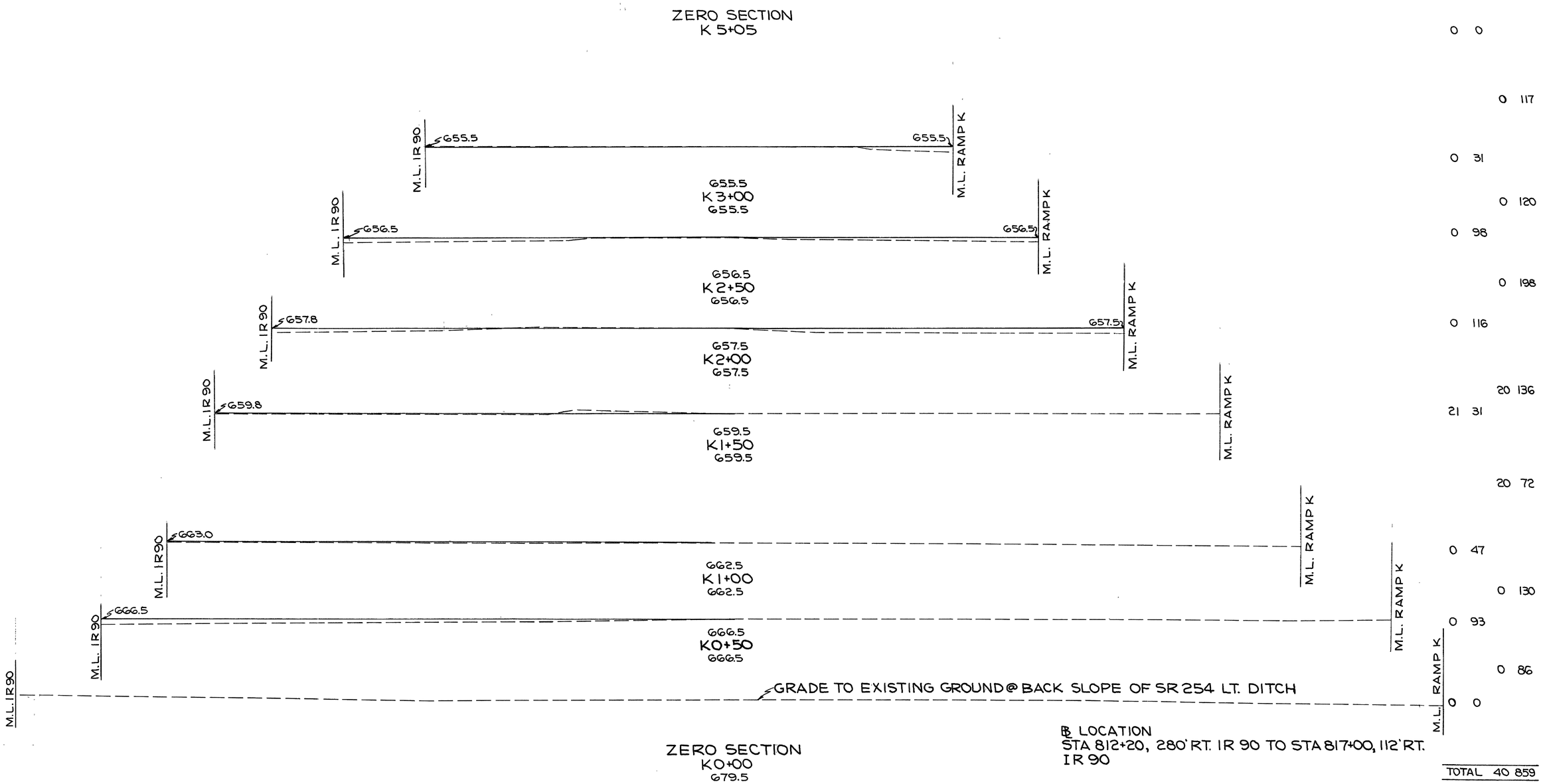


℄ LOCATION
STA 810+05, 282' LT. 1R90 TO STA 813+95, 141' LT. 1R90

0	0	0	24
0	20	0	79
0	65	8	155
8	102	6	135
0	89	0	65
0	210	0	154
0	383	0	183
0	437	0	161
0	289	8	92
35	123	186	238
122	78	214	52
200	0	303	0
128	0	166	0
70' BK.	0	0	
	891	1338	

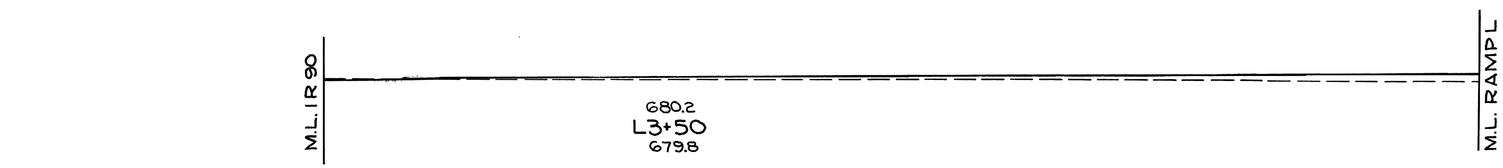
150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

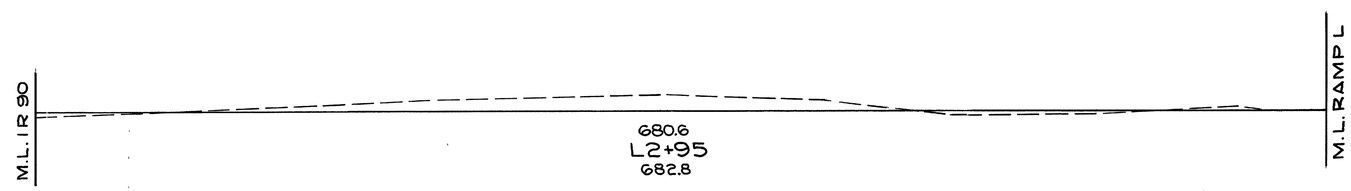
S.R. 254 INTERCHANGE GRADING PLAN X-SECTIONS FOR RAMP J QUADRANT STA J0+00 TO STA J4+15

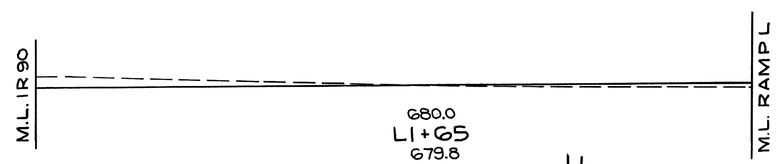


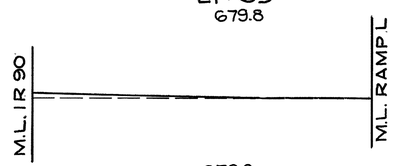
SR 254 INTERCHANGE GRADING PLAN X-SECTIONS FOR RAMP K QUADRANT STA 0+00 TO STA K 5+05

ZERO SECTION
L4+05









ZERO SECTION
L0+00

℄ LOCATION
STA 807+00, 134' RT. IR 90 TO STA 810+70, 282' RT. IR 90

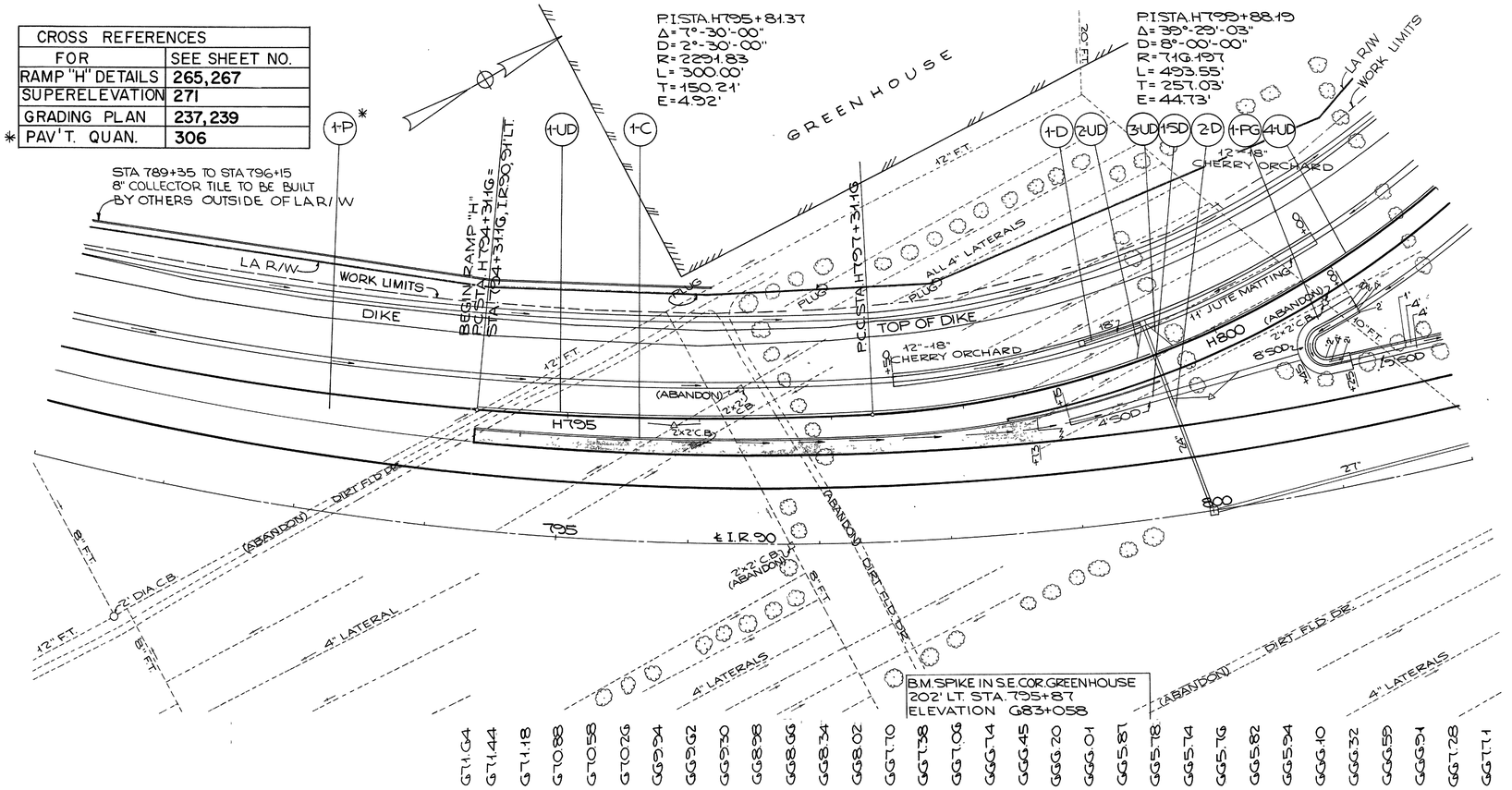
0	0
0	155
0	93
162	129
159	34
156	37
109	6
197	38
24	20
37	52
0	13
0	19
0	0
TOTAL 552	430

150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

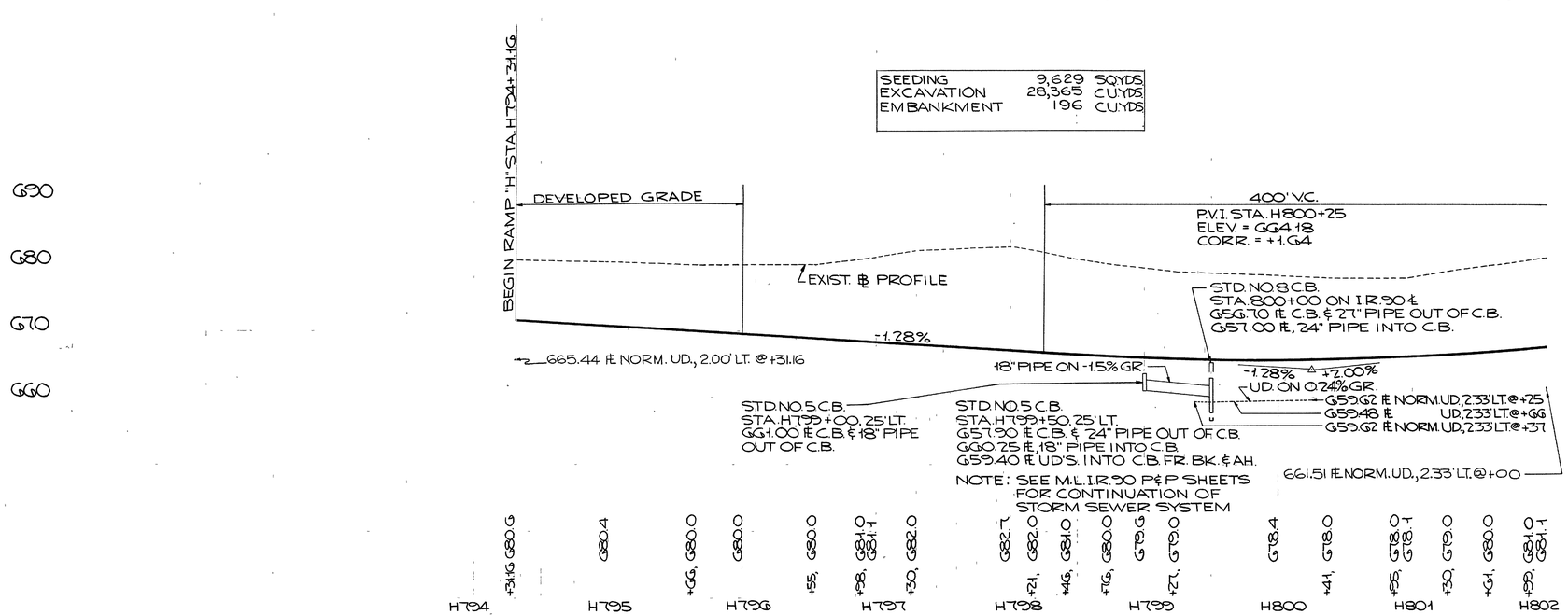
SR 254 INTERCHANGE X-SECTIONS FOR RAMP L QUADRANT STA L0+00 TO STA L4+05

LOR.-90-13.01

CROSS REFERENCES	
FOR	SEE SHEET NO.
RAMP "H" DETAILS	265, 267
SUPERELEVATION	271
GRADING PLAN	237, 239
* PAV'T. QUAN.	306



REFERENCE NO.	SIDE	STATION FROM	STATION TO	605 DEEP PIPE UNDER-DRAIN 6" LIN.FT.	603 CONDUIT TYPE C-B 18" LIN.FT.	603 CONDUIT TYPE B-B 24" LIN.FT.	603 CONDUIT TYPE F 6" LIN.FT.	605 PIPE SPECIAL 6"-60° WYE EACH	604 CATCH BASIN STD. NO. 5 EACH	609 CONC. CURB STD. TYPE 8 LIN.FT.	609 CONC. CURB STD. TYPE 7 LIN.FT.	601 PAVED GUTTER 4.0-12 LIN.FT.	660 SODDING SQYDS.	667 JUTE MATTING SQYDS.
1-UD	LT.	H794+31	H799+48	517										
2-UD	LT.	H799+37	H799+50	16			10	1						
3-UD	LT.	H799+50	H799+66	16			10	1						
4-UD	LT.	H799+52	H802+00	248										
1-D	LT.	H799+00	H799+50		50				1					267
2-D	LT.&RT.	H799+50	I.R.90 800+00			150			1					200
1-C	RT.	H794+31	H799+47							438	86			
1-PG	RT.	H801+00	I.R.90 801+25									82	80	
1-SD	RT.	H798+75	H800+45										80	
TOTALS				797	50	150	20	2	2	438	86	82	160	467



RAMP "H" STA. H794+31.16 TO STA. H802+00

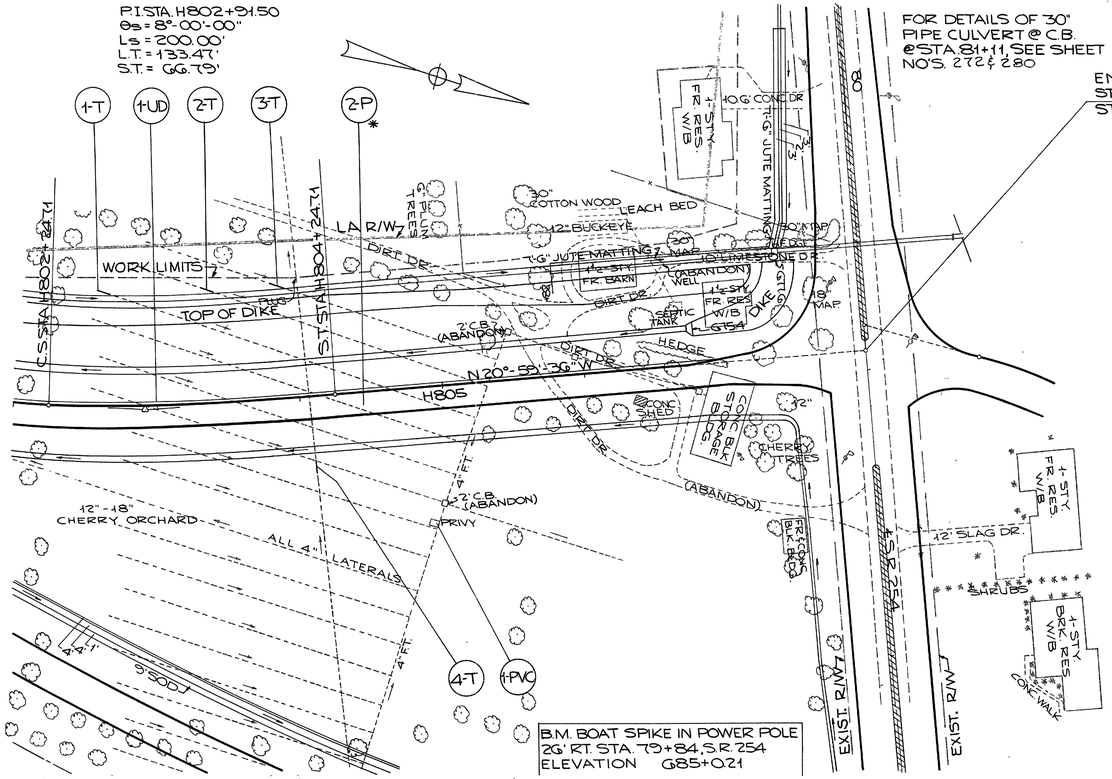
LOR.-90-13.01

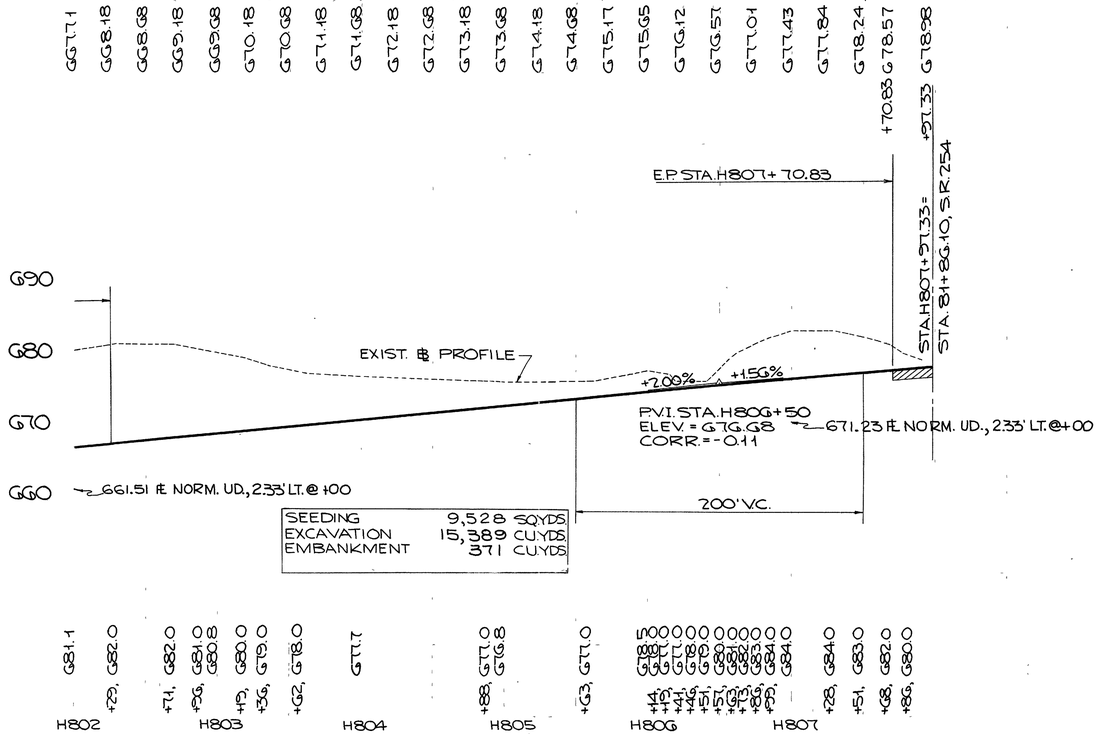
P.I. STA. H802+91.50
θs = 8°-00'-00"
Ls = 200.00'
L.T. = 133.47'
S.T. = 66.79'

FOR DETAILS OF 30" PIPE CULVERT @ C.B. @ STA. 81+11, SEE SHEET NO'S. 272 & 280

END RAMP "H" STA. H807+97.33 = STA. 81+86.10, S.R. 254

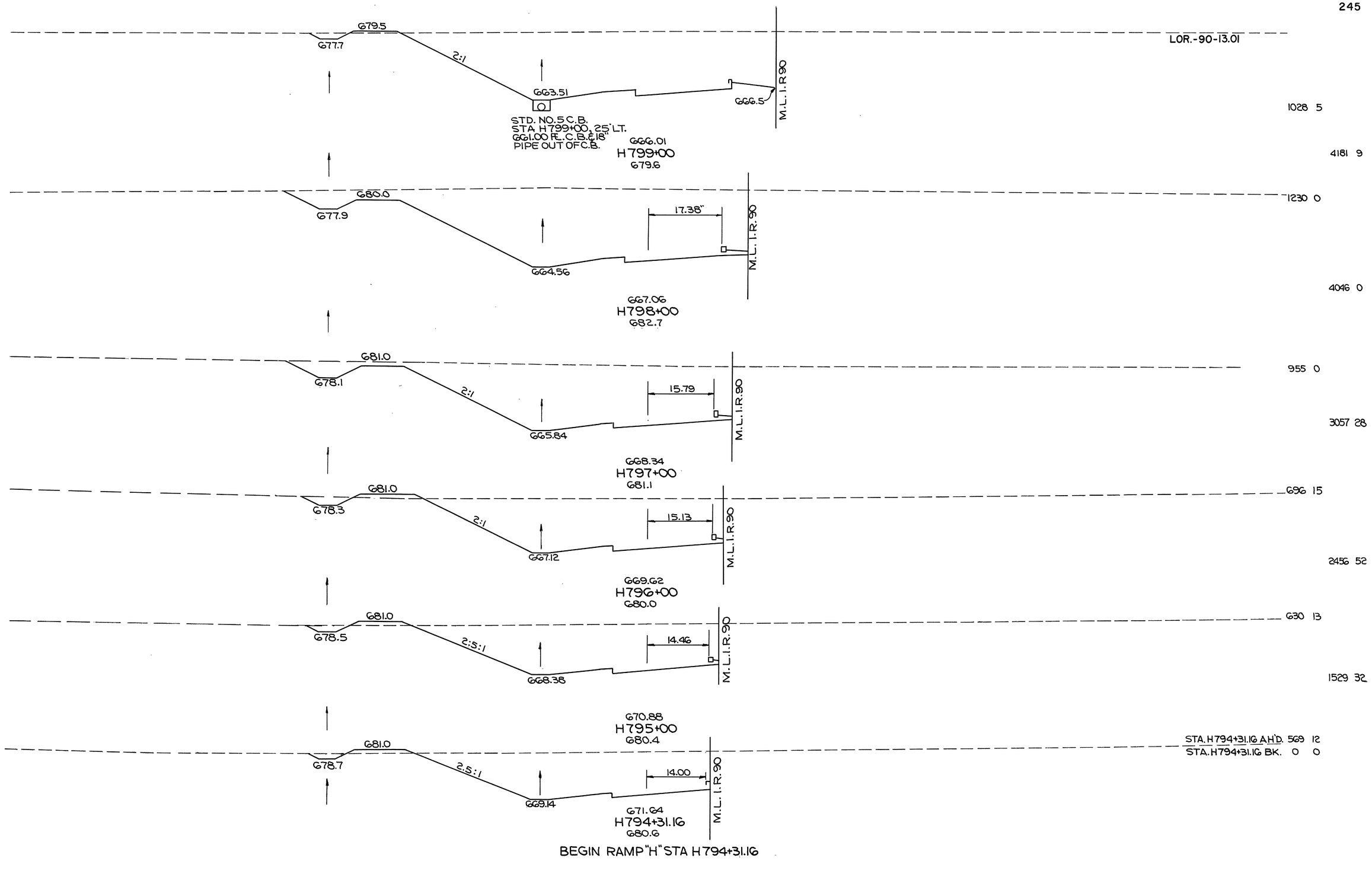
CROSS REFERENCES	
FOR	SEE SHEET NO.
RAMP "H" INTERSECTION DETAIL WITH S.R. 254	269
SUPERELEVATION	271
GRADING PLAN	237, 239
* PAV'T. QUAN.	306



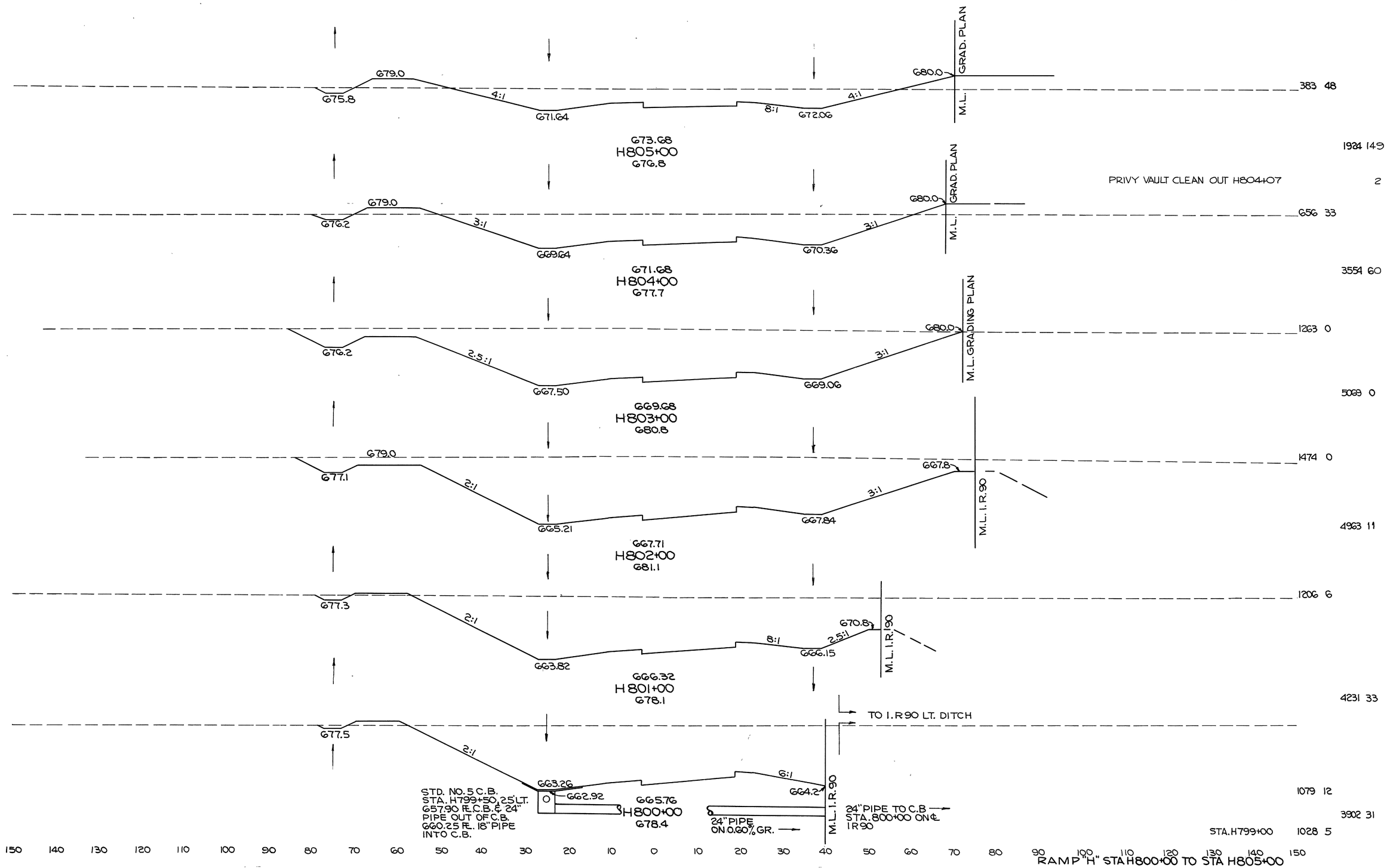


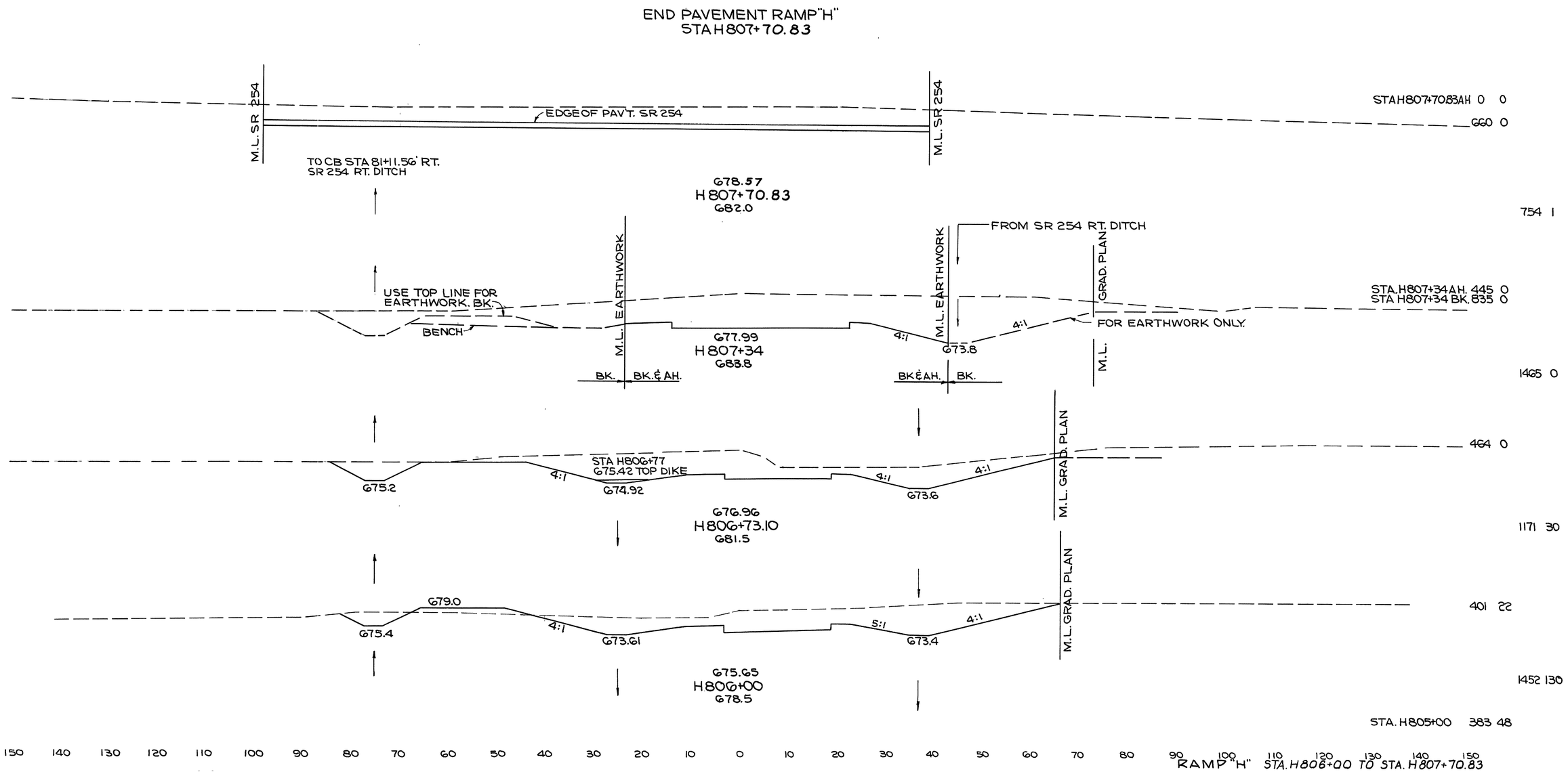
REFERENCE NO.	SIDE	STATION FROM	STATION TO	G05 DEEP PIPE UNDER DRAINS G" LIN. FT.	G03 CONDUIT TYPE F G" LIN. FT.								SPECIAL PRIVY VAULT CLEAN-OUT EACH
1-UD	LT.	H802+00	H807+00	500									
1-PVC	RT.	H804+07											1
1-T	LT.	H802+65			10								
2-T	LT.	H803+40			10								
3-T	LT.	H803+90			10								
4-T	RT.	H804+10			10								
		TOTALS		500	40								1

RAMP "H" STA. H802+00 TO STA. H807+97.33


LOR.-90-13.01
679.5
677.7
2:1
663.51
666.5
M.L. I.R.90
STD. NO.5 C.B.
STA H799+00, 25' LT.
661.00 RL. C.B.&18"
PIPE OUT OF C.B.
666.01
H799+00
679.6
1028 5
4181 9
680.0
677.9
17.38'
664.56
667.06
H798+00
682.7
1230 0
4046 0
681.0
678.1
15.79
665.84
668.34
H797+00
681.1
955 0
3057 28
681.0
678.3
15.13
667.12
669.62
H796+00
680.0
696 15
2456 52
681.0
678.5
2.5:1
14.46
668.38
670.88
H795+00
680.4
630 13
1529 32
681.0
678.7
14.00
669.14
671.64
H794+31.16
680.6
STA. H794+31.16 AHD. 569 12
STA. H794+31.16 BK. 0 0
BEGIN RAMP "H" STA H794+31.16
150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150
RAMP "H" STA H794+00 TO STA H799+00

LOR.-90-13.01


GRAD. PLAN
M.L.
679.0
675.8
4:1
671.64
8:1
672.06
4:1
680.0
383 48
673.68
H805+00
676.8
1924 149
GRAD. PLAN
M.L.
PRIVY VAULT CLEAN OUT H804+07
679.0
676.2
3:1
669.64
670.36
3:1
680.0
656 33
2
671.68
H804+00
677.7
3554 60
M.L. GRADING PLAN
676.2
2.5:1
667.50
669.06
3:1
680.0
1263 0
669.68
H803+00
680.8
5069 0
679.0
677.1
2:1
665.21
667.84
3:1
667.8
1474 0
M.L. I.R.90
667.71
H802+00
681.1
4963 11
677.3
2:1
663.82
666.15
8:1
2.5:1
670.8
1206 6
M.L. I.R.90
666.32
H801+00
678.1
4231 33
TO I.R 90 LT. DITCH
677.5
2:1
663.26
662.92
665.76
H800+00
678.4
6:1
664.2
STD. NO. 5 C.B.
STA. H799+50, 25' LT.
657.90 FL. C.B. ℄ 24"
PIPE OUT OF C.B.
660.25 FL. 18" PIPE
INTO C.B.
24" PIPE
ON 0.60% GR.
24" PIPE TO C.B
STA. 800+00 ON ℄
I R 90
M.L. I.R.90
1079 12
3902 31
STA. H799+00
1028 5
150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150
RAMP "H" STA H800+00 TO STA H805+00


END PAVEMENT RAMP "H"
STA H807+70.83
M.L. SR 254
EDGE OF PAV'T. SR 254
STA H807+70.83 AH 0 0
GGO 0
TO CB STA 81+11.56' RT.
SR 254 RT. DITCH
678.57
H807+70.83
682.0
754 1
FROM SR 254 RT. DITCH
M.L. EARTHWORK
GRAD. PLAN
USE TOP LINE FOR
EARTHWORK. BK.
BENCH
STA. H807+34 AH. 445 0
STA H807+34 BK. 835 0
677.99
H807+34
683.8
4:1
673.8
FOR EARTHWORK ONLY
M.L.
BK.
BK. & AH.
BK & AH.
1465 0
464 0
STA H806+77
675.42 TOP DIKE
675.2
674.92
673.6
676.96
H806+73.10
681.5
1171 30
679.0
675.4
673.61
5:1
673.4
675.65
H806+00
678.5
401 22
1452 130
STA. H805+00 383 48
150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150
RAMP "H" STA. H806+00 TO STA. H807+70.83

LOR.-90-13.01

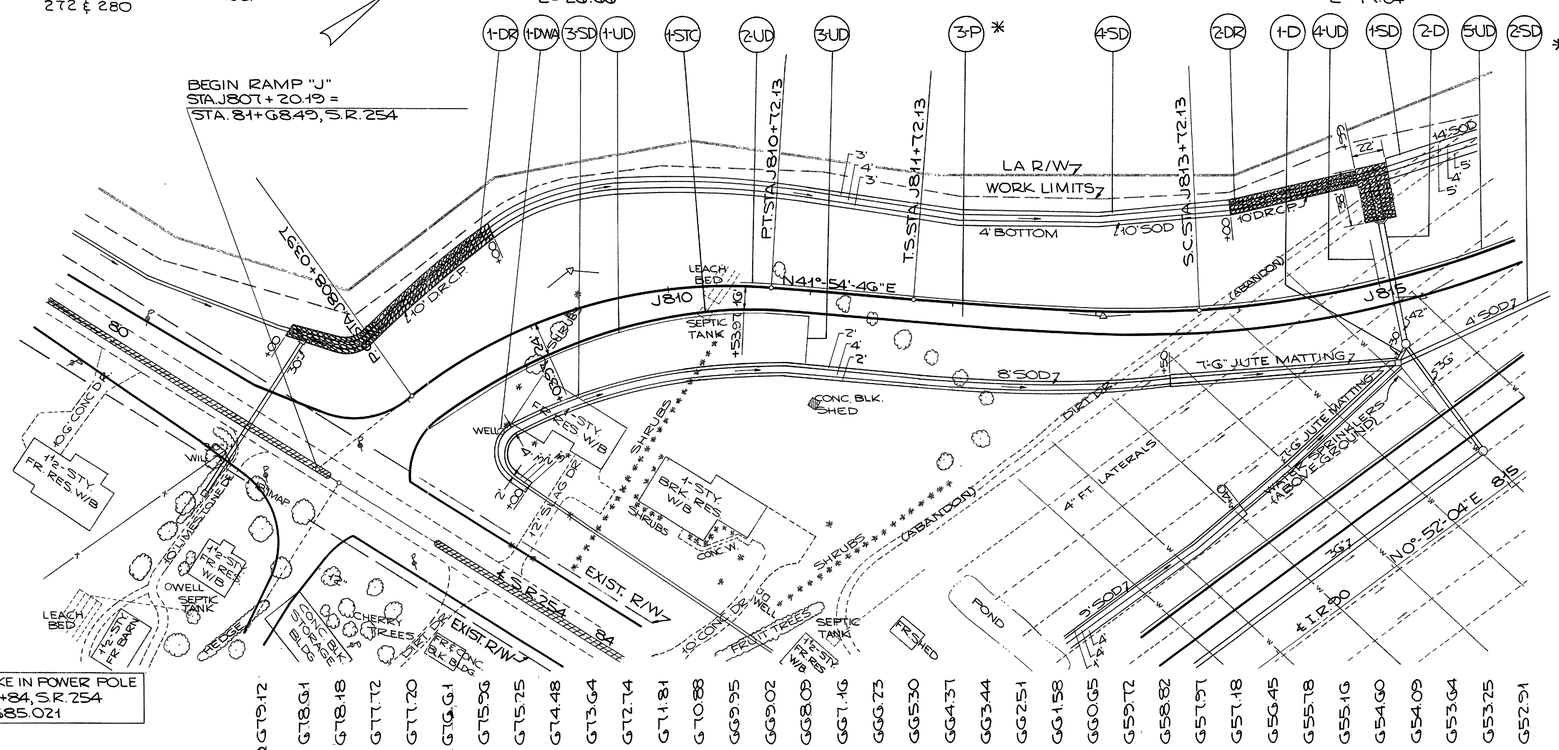
CROSS REFERENCES	
FOR	SEE SHEET NO.
RAMP "J" DETAILS	269
SUPERELEVATION	271
GRADING PLAN	238,240
* PAV'T. QUAN.	306

FOR DETAILS OF 30" PIPE CULVERT @ C.B. @ STA. 81+11 S.R. 254, SEE SHEET NOS. 272 & 280

P.I. STA. J809+44.69
Δ = 42°-54'-22"
D = 16°-00'-00"
R = 358.10'
L = 268.16'
T = 140.72'
E = 26.66'

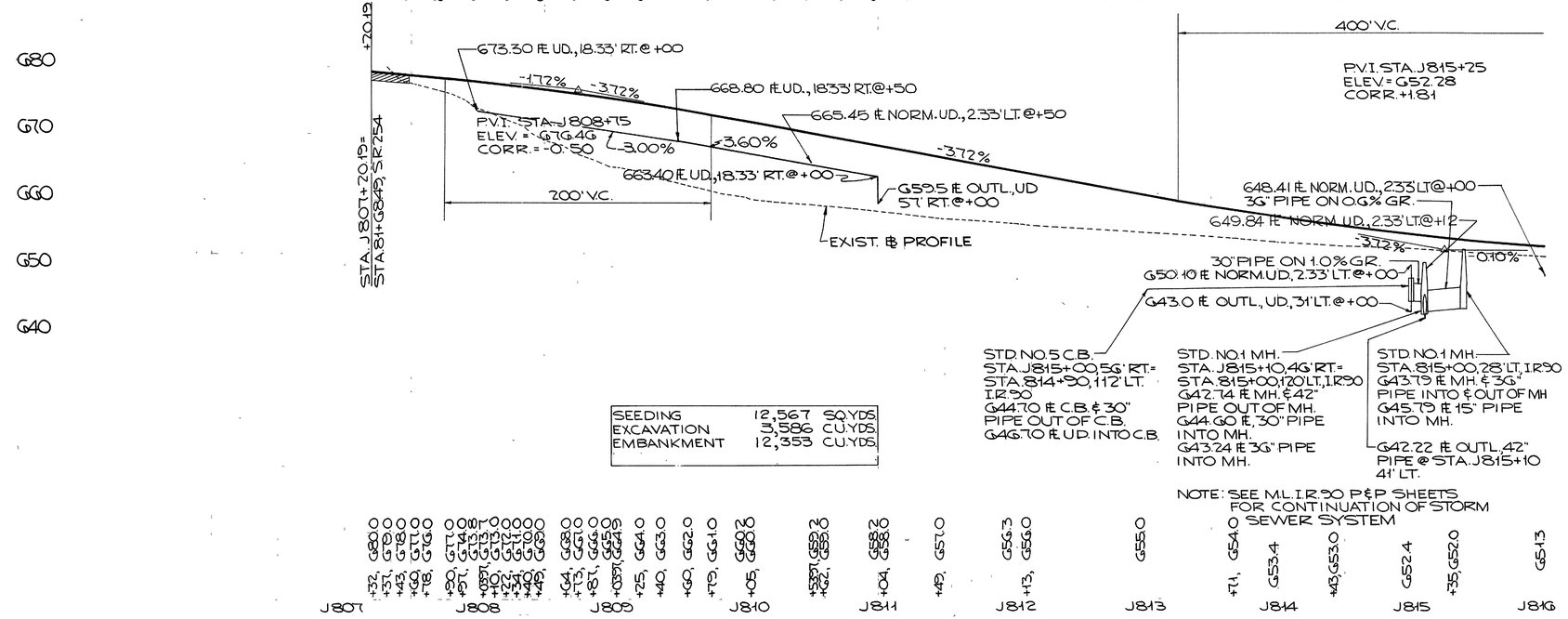
P.I. STA. J813.05.60
θs = 8°-00'-00"
Ls = 200.00'
L.T. = 133.47'
S.T. = 66.79'

P.I. STA. J815+29.26
Δ = 24°-44'-57"
D = 8°-00'-00"
R = 716.20'
L = 309.36'
T = 157.13'
E = 17.04'



REFERENCE NO.	SIDE	STATION FROM	STATION TO	G05 SHALLOW PIPE UNDER-DRAIN 6" LIN.FT.	G05 DEEP PIPE UNDER-DRAIN 6" LIN.FT.	G03 CONDUIT TYPE C-B 30" LIN.FT.	G03 CONDUIT TYPE F 6" LIN.FT.	G03 CONDUIT TYPE B-B 42"	G02 MASON. CLASS "C" STD. NO. 3 H.DWL. CU.YDS.	G05 PIPE SPECIALS 6"-30° BEND EACH	G05 PIPE SPECIALS 6" TEE EACH	G04 CATCH BASIN, STD. NO. 5 EACH	G04 MANHOLE, STD. NO. 1 EACH	G01 DUMPED ROCK CHANN. PROT. 30" THICK CU.YDS.	G67 JUTE MATTING SQ.YDS.
1-UD	RT.	J808+00	J811+00	300											
2-UD	RT.	J810+50	J815+08	458											
3-UD	LT.	J811+00			29		10			1					
4-UD	LT.	J815+00			19		10				1				
5-UD	LT.	J815+12	J816+00	88											
1-D	RT.	J815+00	J815+10			10						1			268
2-D	LT. & RT.	J815+10						87	6.7				1	78	
TOTALS				846	48	10	20	87	6.7	1	1	1	1	78	268

B.M. BOAT SPIKE IN POWER POLE
26' RT. STA. 79+84, S.R. 254
ELEVATION 685.021



REFERENCE NO.	SIDE	STATION FROM	STATION TO	SPECIAL DRILLED WELL ABAND. EACH	SPECIAL CLEANING & DISPOSAL OF SEPTIC TANK EACH							G01 DUMPED ROCK CHANN. PROT. T=18" CU.YDS.	G60 SODDING SQ.YDS.
1-DWA	RT.	J808+45		1									
1-STC	RT.	J810+25			1								
1-DR	LT.	S.R. 254 81+00	J809+00									104	
1-SD	LT.	J815+21	J816+00										118
2-SD	RT.	J815+00	J816+00										52
3-SD	RT.	S.R. 254 83+00	J813+50										456
4-SD	LT.	J807+00	J814+00										593
2-DR	LT.	J814+00	J814+99									52	
TOTALS				1	1							156	1219

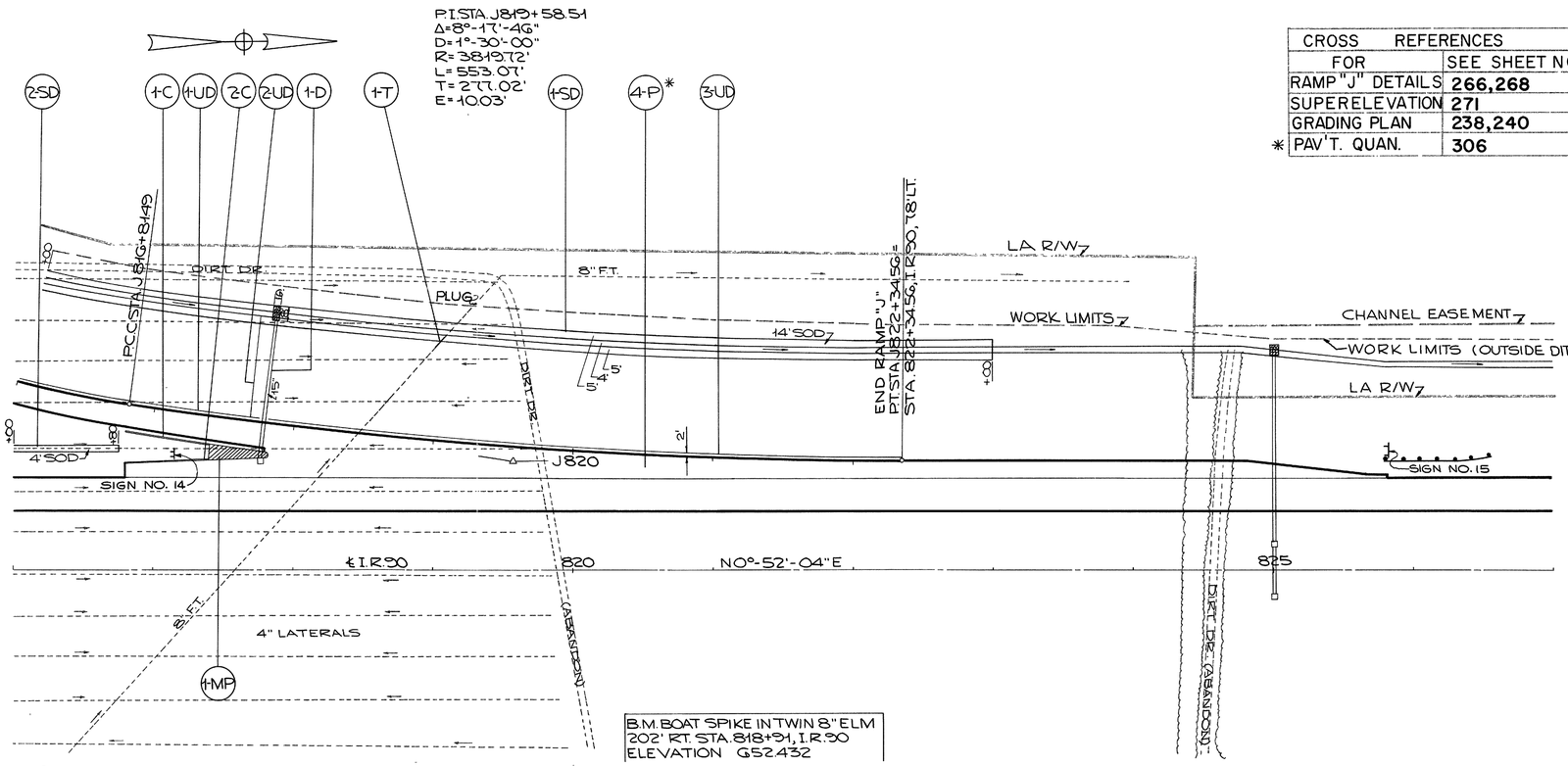
SEEDING	12,567 SQ.YDS.
EXCAVATION	3,586 CU.YDS.
EMBANKMENT	12,353 CU.YDS.

NOTE: SEE M.L.I.R. 90 P&P SHEETS FOR CONTINUATION OF STORM SEWER SYSTEM

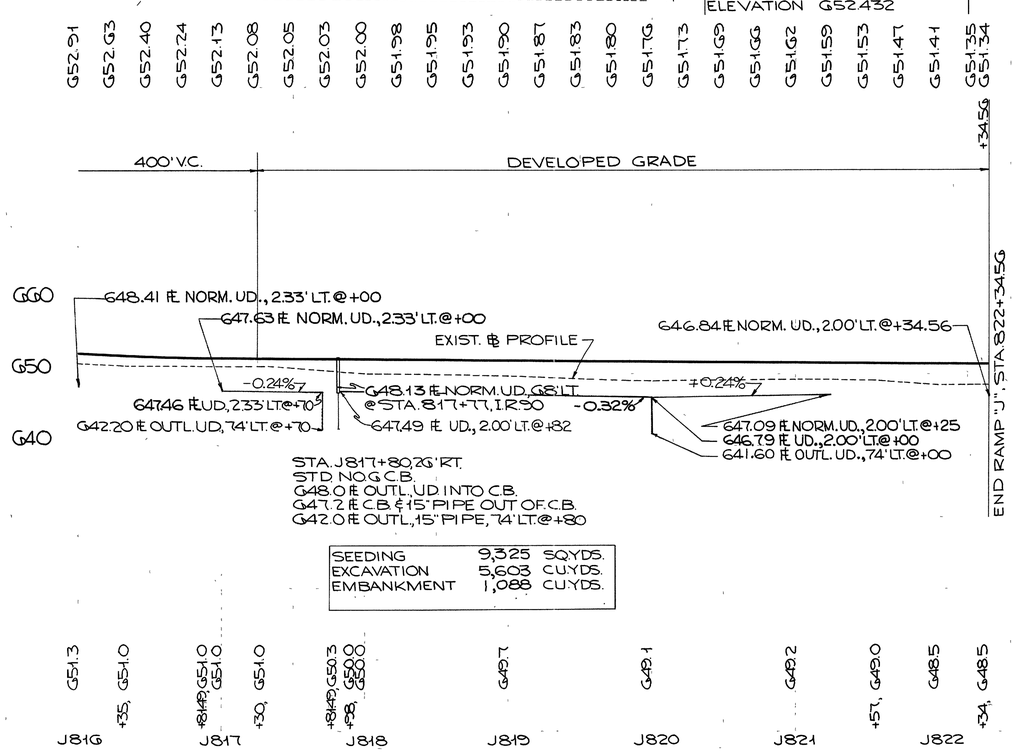
RAMP "J" STA. J807+20.19 TO STA. J816+00

LOR.-90-13.01

CROSS REFERENCES	
FOR	SEE SHEET NO.
RAMP "J" DETAILS	266,268
SUPERELEVATION	271
GRADING PLAN	238,240
* PAV'T. QUAN.	306



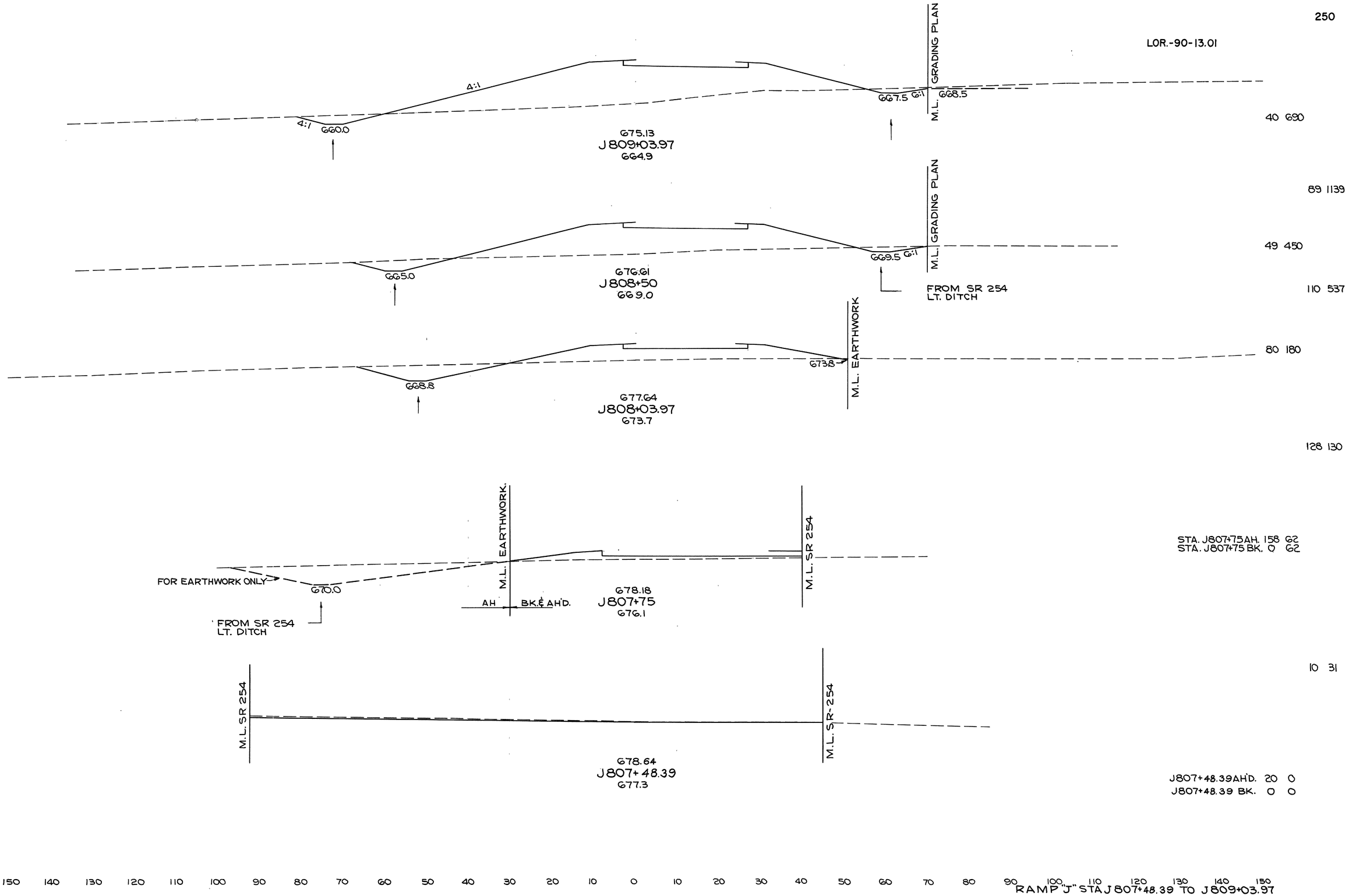
REFERENCE NO.	SIDE	STATION FROM	STATION TO	605 SHALLOW PIPE UNDER-DRAINS 6" LIN.FT.	603 CONDUIT TYPE B-B 15" LIN.FT.	603 CONDUIT TYPE F 6 LIN.FT.	603 CONDUIT TYPE F 10 LIN.FT.	660 SODDING SQ.YDS.	602 MASON. STD. HW-E ENDWL CLASS "C" CU.YDS.	605 PIPE SPECIALS 6" TEE EACH	604 CATCH BASIN STD. NO. 6 EACH	601 DUMPED ROCK CHANN. PROT. 18" THICK CU.YDS.	609 CONC. CURB STD. TYPE 6 LIN.FT.	612 CONC. MEDIAN SQ.YDS.
1-UD	LT.	J816+00	J817+78	178										
2-UD	LT.	J817+70		62			10			1				
3-UD	LT.	J817+82	J822+35	453										
1-D	LT. & RT.	J817+80			100				026		1	3		
1-C	RT.	J816+81.49	J817+41.49										60	
2-C	LT.	I.R.30 816+70.84	I.R.30 817+39.84										60	
1-MP	RT.	J817+41.49	J817+81.49											35.3
1-SD	LT.	J816+00	J822+34.56					1050						
2-SD	RT.	J816+00	J816+80					34						
1-T	LT.	J818+85					10							
TOTALS				693	100		10 10	1084	026	1	1	3	120	35.3



SEEDING	9,325	SQ.YDS.
EXCAVATION	5,603	CU.YDS.
EMBANKMENT	1,088	CU.YDS.

RAMP "J" STA. J816+00 TO STA. J822+34.56

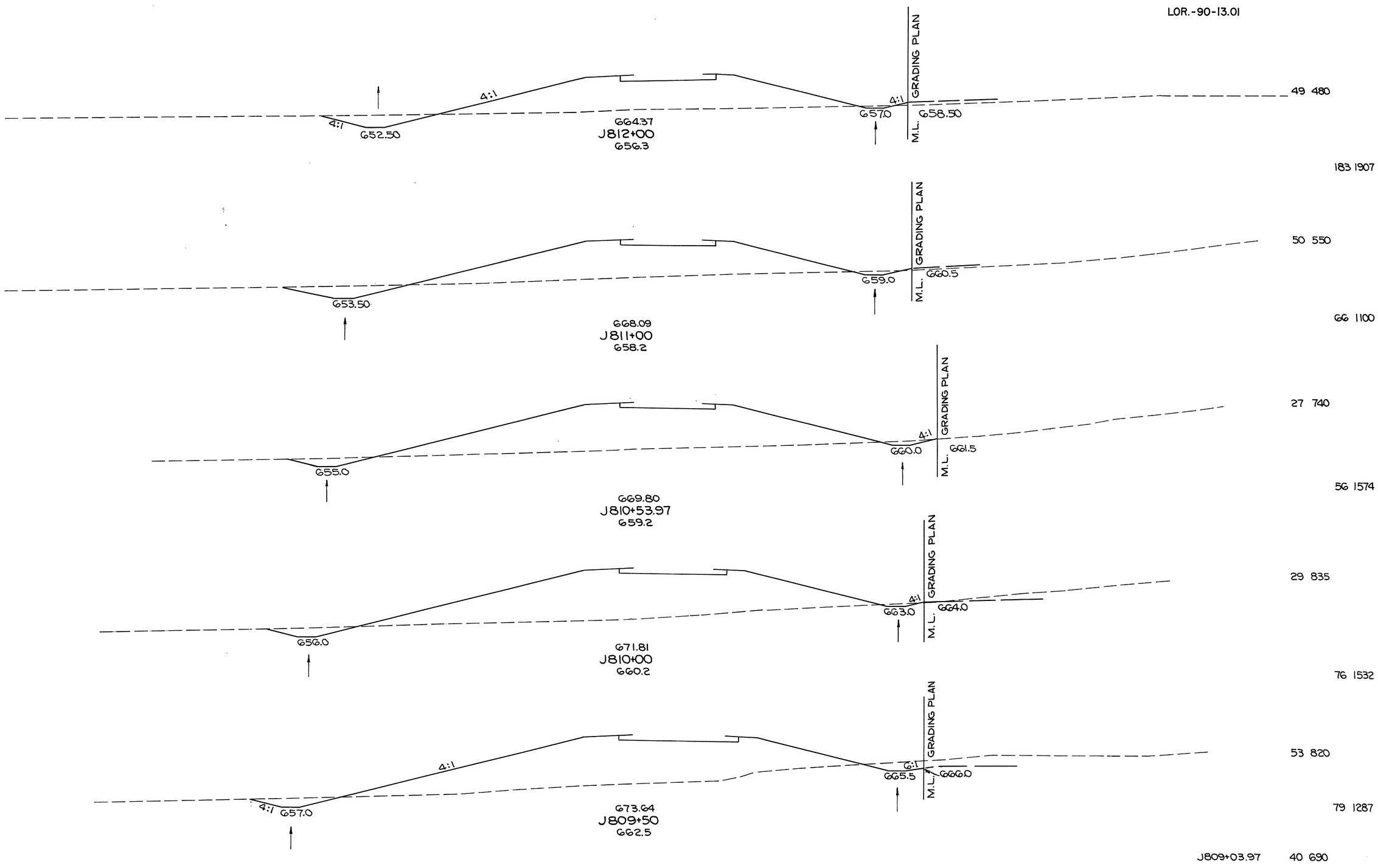
LOR.-90-13.01



STA. J807+75 AH. 158 62
STA. J807+75 BK. 0 62

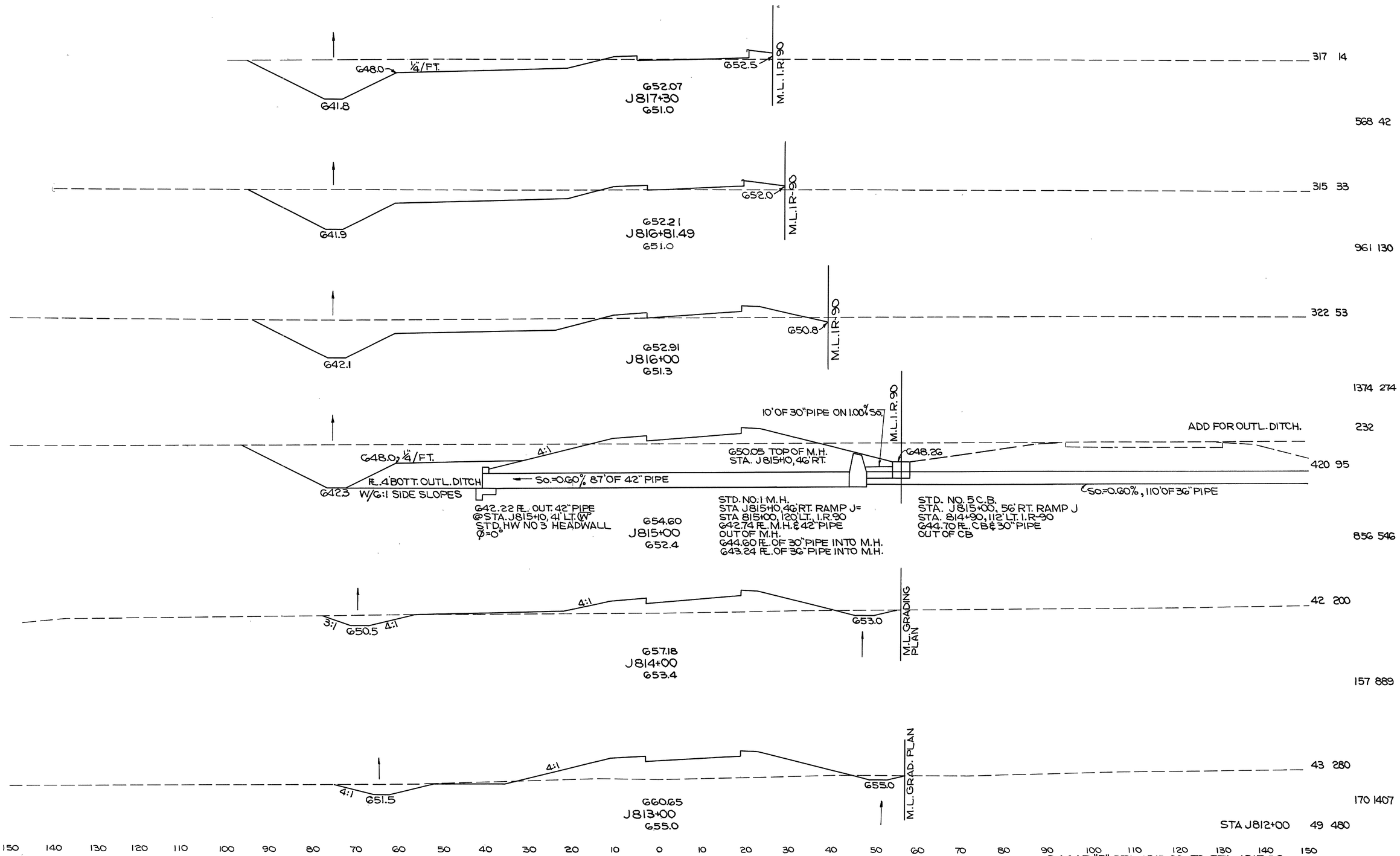
J807+48.39 AH'D. 20 0
J807+48.39 BK. 0 0

LOR.-90-13.01

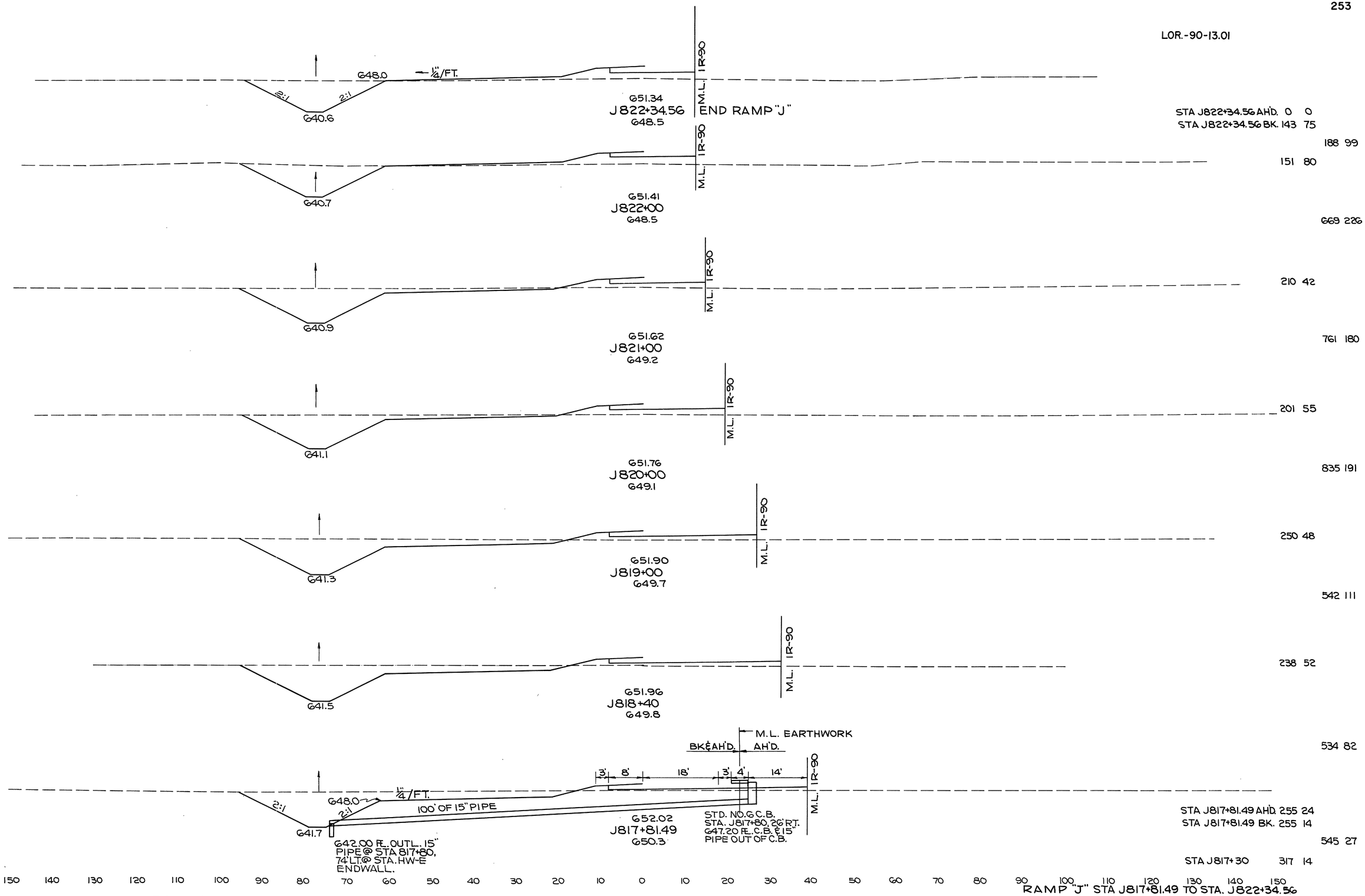


RAMP "J" STA J809+50 TO J812+00

LOR.-90-13.01


G48.0
1/4"/FT.
G41.8
G52.07
J817+30
G51.0
G52.5
M.L. I.R. 90
317 14
568 42
G41.9
G52.21
J816+81.49
G51.0
G52.0
M.L. I.R-90
315 33
961 130
G42.1
G52.91
J816+00
G51.3
G50.8
M.L. I.R-90
322 53
1374 274
10' OF 30" PIPE ON 1.00% So.
M.L. I.R. 90
ADD FOR OUTL. DITCH.
232
G48.0, 1/4"/FT.
4:1
G50.05 TOP OF M.H.
STA. J815+10, 46' RT.
G48.26
420 95
FL. 4' BOTT. OUTL. DITCH
So.=0.60% 87' OF 42" PIPE
G42.3 W/6:1 SIDE SLOPES
So.=0.60%, 110' OF 36" PIPE
G42.22 FL. OUT. 42" PIPE
@ STA. J815+10, 41' LT. @ 90°
STD. HW NO 3 HEADWALL
Ø=0°
G654.60
J815+00
G52.4
STD. NO. 1 M.H.
STA J815+10, 46' RT. RAMP J=
STA 815+00, 120' LT., I.R. 90
G42.74 FL. M.H. & 42" PIPE
OUT OF M.H.
G44.60 FL. OF 30" PIPE INTO M.H.
G43.24 FL. OF 36" PIPE INTO M.H.
STD. NO. 5 C.B.
STA. J815+00, 56' RT. RAMP J
STA. 814+90, 112' LT. I.R-90
G44.70 FL. CB & 30" PIPE
OUT OF CB
856 546
4:1
3:1
G50.5
4:1
G53.0
M.L. GRADING PLAN
42 200
G657.18
J814+00
G53.4
157 889
4:1
4:1
G651.5
G655.0
M.L. GRAD. PLAN
43 280
G660.65
J813+00
G55.0
170 1407
STA J812+00
49 480
150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150
RAMP "J" STA J813+00 TO STA J817+30

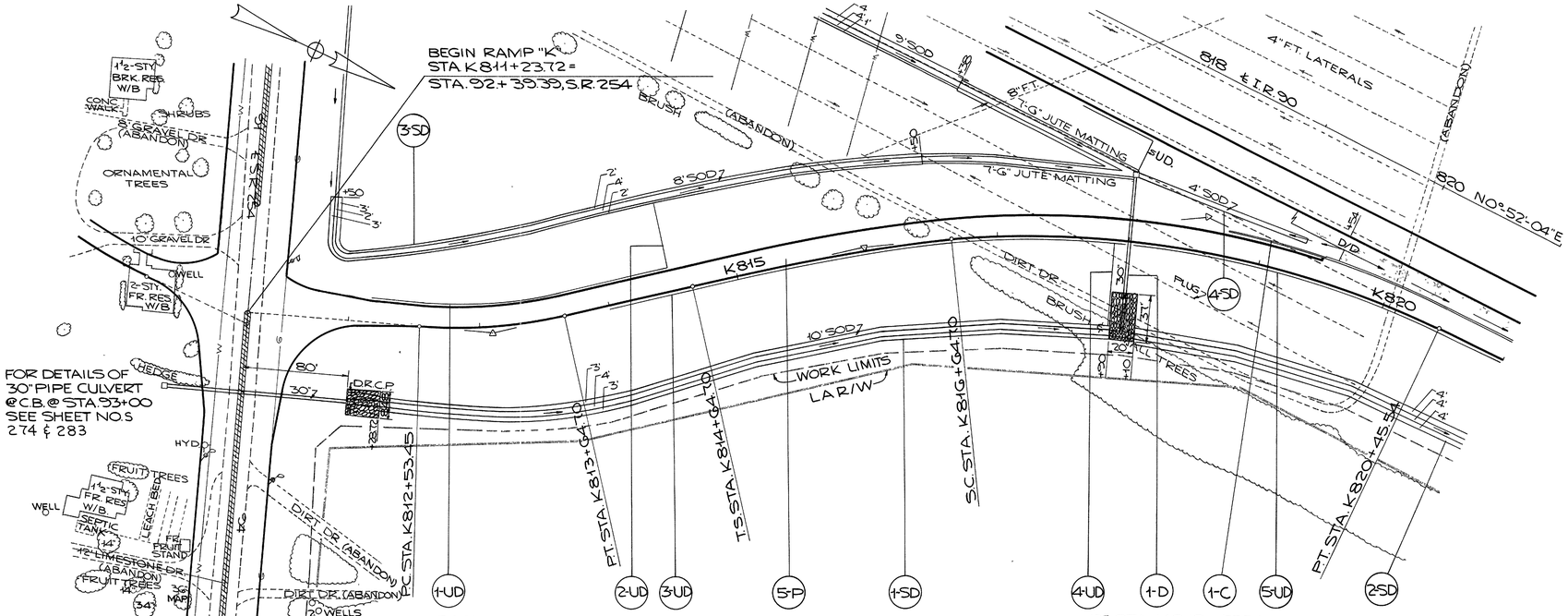
LOR.-90-13.01



RAMP "J" STA J817+81.49 TO STA. J822+34.56

LOR.-90-13.01

CROSS REFERENCES	
FOR	SEE SHEET NO.
RAMP "K" DETAILS	268,270
SUPERELEVATION	271
GRADING PLAN	238,241
PAV'T. QUAN.	306



FOR DETAILS OF 30" PIPE CULVERT @ C.B. @ STA. 93+00 SEE SHEET NOS. 274 & 283

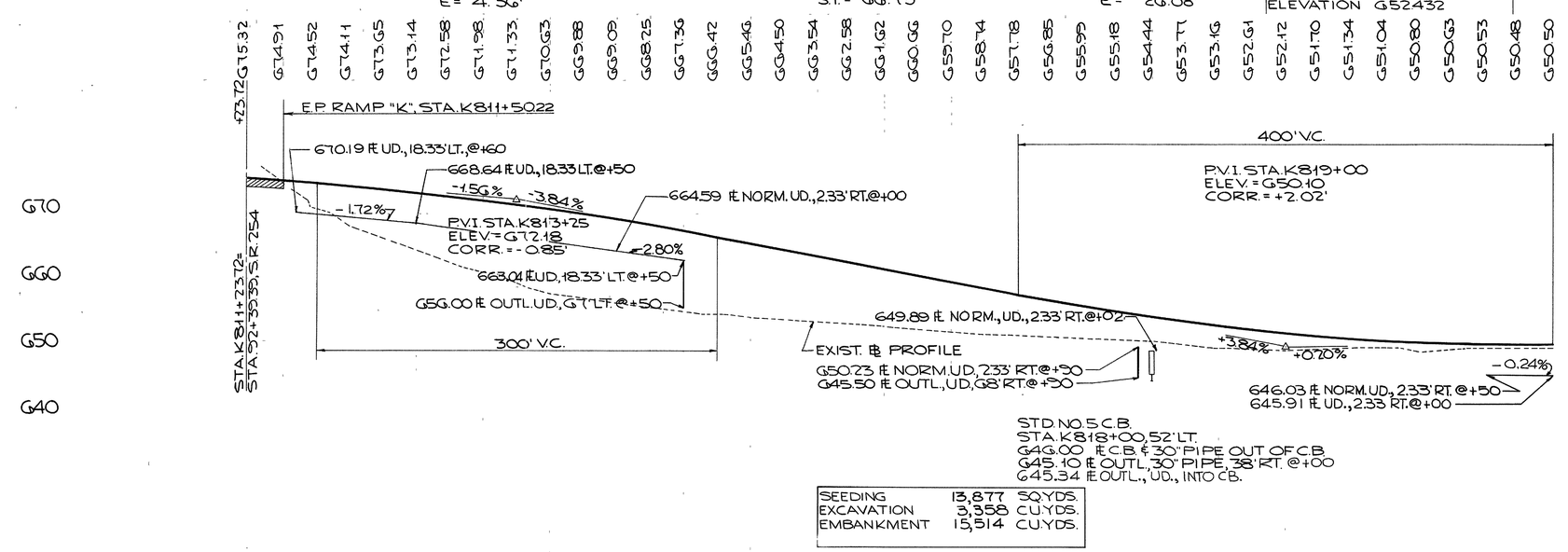
P.I. STA. K813+09.52
Δ = 17°-47'-58"
D = 16°-00'-00"
R = 358.10'
L = 111.25'
T = 56.07'
E = 4.36'

P.I. STA. K815+98.17
θs = 8°-00'-00"
Ls = 200.00'
LT = 133.47'
ST = 66.79'

P.I. STA. K818+59.74
Δ = 30°-28'-01"
D = 8°-00'-00"
R = 716.197'
L = 380.84'
T = 195.04'
E = 26.08'

B.M. BOAT SPIKE IN TWIN 8" ELM
202' RT. STA. 818+91, I.R. 90
ELEVATION 652432

REFERENCE NO.	SIDE	STATION FROM	STATION TO	G05 SHALLOW PIPE UNDER-DRAIN 6" LIN.FT.	G03 CONDUIT TYPE B-B 30" LIN.FT.	G03 CONDUIT TYPE F 6" LIN.FT.	G02 MASON. CLASS "C" STD. HW-E ENDWL CU.YDS	G05 PIPE SPECIALS 6"-90° BEND EACH	G05 PIPE SPECIALS 6" TEE EACH	G09 CONC. CURB STD. TYPE 7 LIN.FT.	G09 CONC. CURB STD. TYPE 8 LIN.FT.	G04 CATCH BASIN STD. NO. 5 EACH	G01 DUMPED ROCK CHANN. PROT. T=18" CU.YDS	GG7 JUTE MATTING SQ.YDS	GG0 SODDING SQ.YDS
1-UD	LT.	K812+17	K814+50	233											
2-UD	LT.	K814+50		39		10		1							
3-UD	RT.	K814+00	K817+98	398											
4-UD	RT.	K817+90		56		10			1						
5-UD	RT.	K818+92	K821+00	298											
1-D	LT & RT	K818+00			90		0.51					1	38	268	
1-C	LT.	K818+74	K821+00							76	156				
1-SD	RT.	K812+29	K817+30												634
2-SD	RT.	K818+10	K827+00												382
3-SD	LT.	S.R. 254 91+50	K816+50												445
4-SD	LT.	K818+00	K819+30												61
TOTALS				1024	90	20	0.51	1	1	76	156	1	38	268	1522

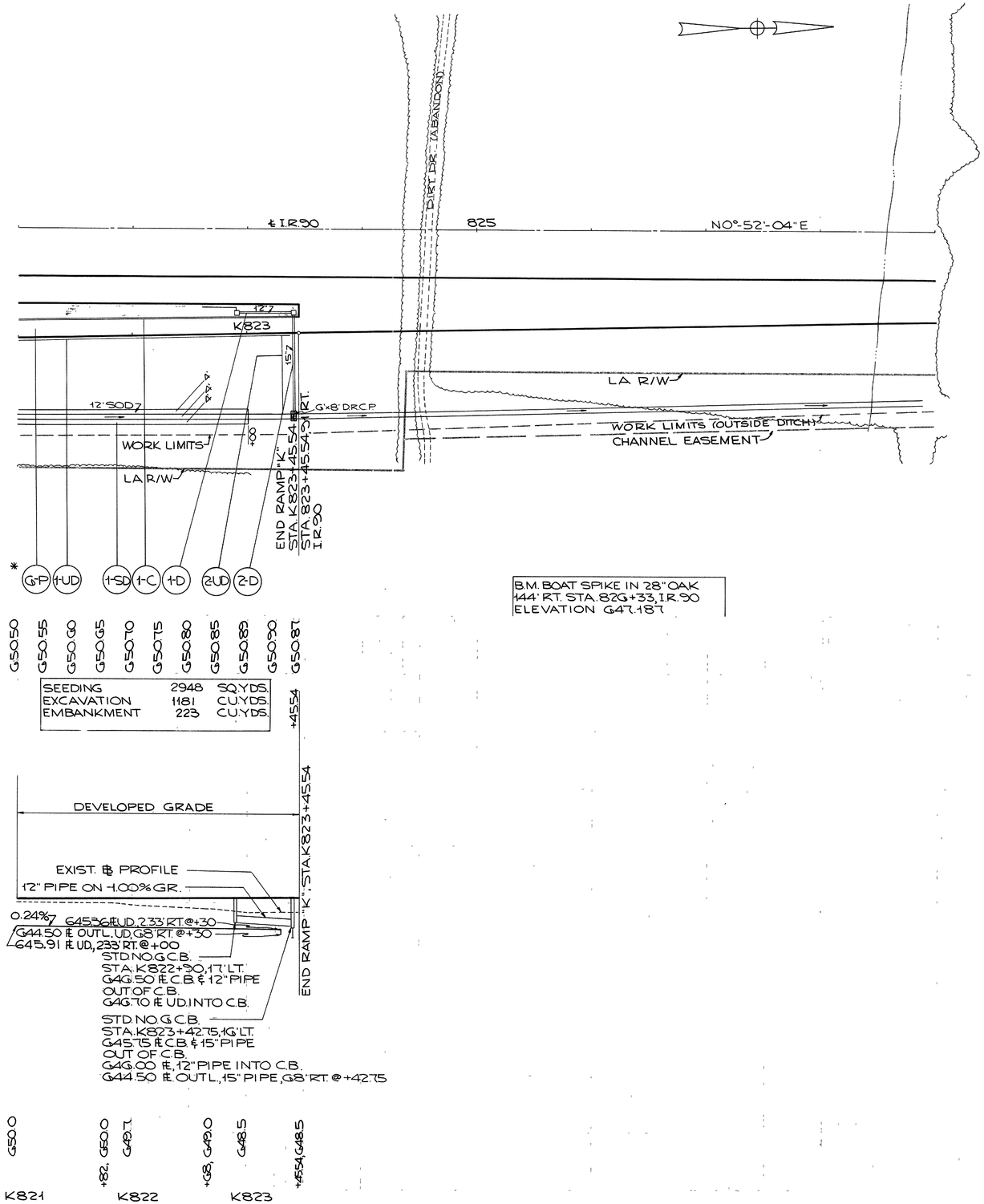


SEEDING	13,877	SQ.YDS.
EXCAVATION	3,358	CU.YDS.
EMBANKMENT	15,514	CU.YDS.

STD. NO. 5 C.B.
STA. K818+00, 52' LT.
646.00 ft C.B. & 30" PIPE OUT OF C.B.
645.10 ft OUTL., 30" PIPE, 38' RT. @ +00
645.34 ft OUTL., UD., INTO C.B.

LOR.-90-13.01

CROSS REFERENCES	
FOR	SEE SHEET NO.
RAMP "K" DETAILS	265,268
SUPERELEVATION	271
GRADING PLAN	238,241
* PAV'T. QUAN.	306

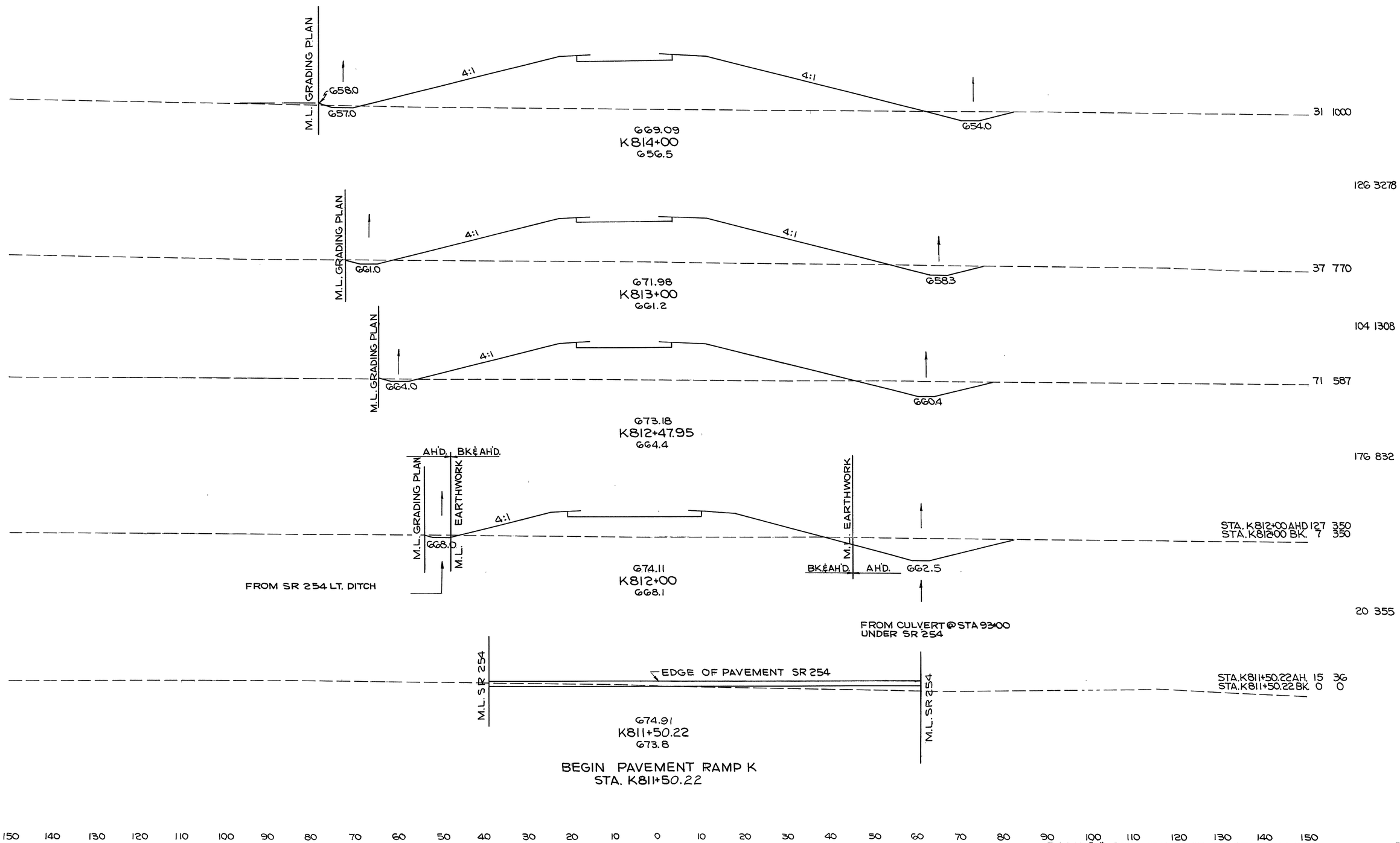


SEEDING	2948 SQ.YDS.
EXCAVATION	1181 CU.YDS.
EMBANKMENT	223 CU.YDS.

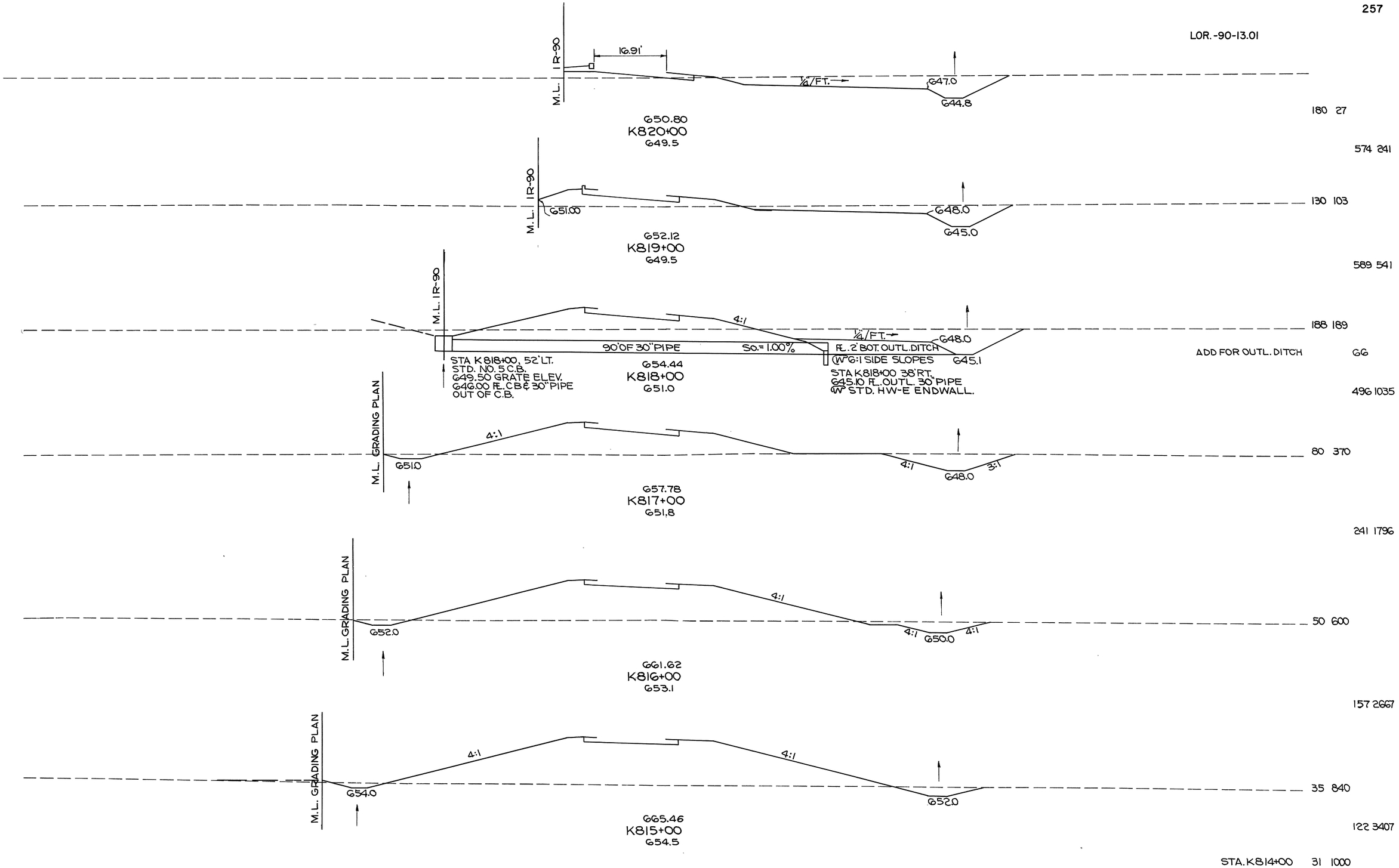
B.M. BOAT SPIKE IN 28" OAK
144' RT. STA. 826+33, I.R.90
ELEVATION 647.187

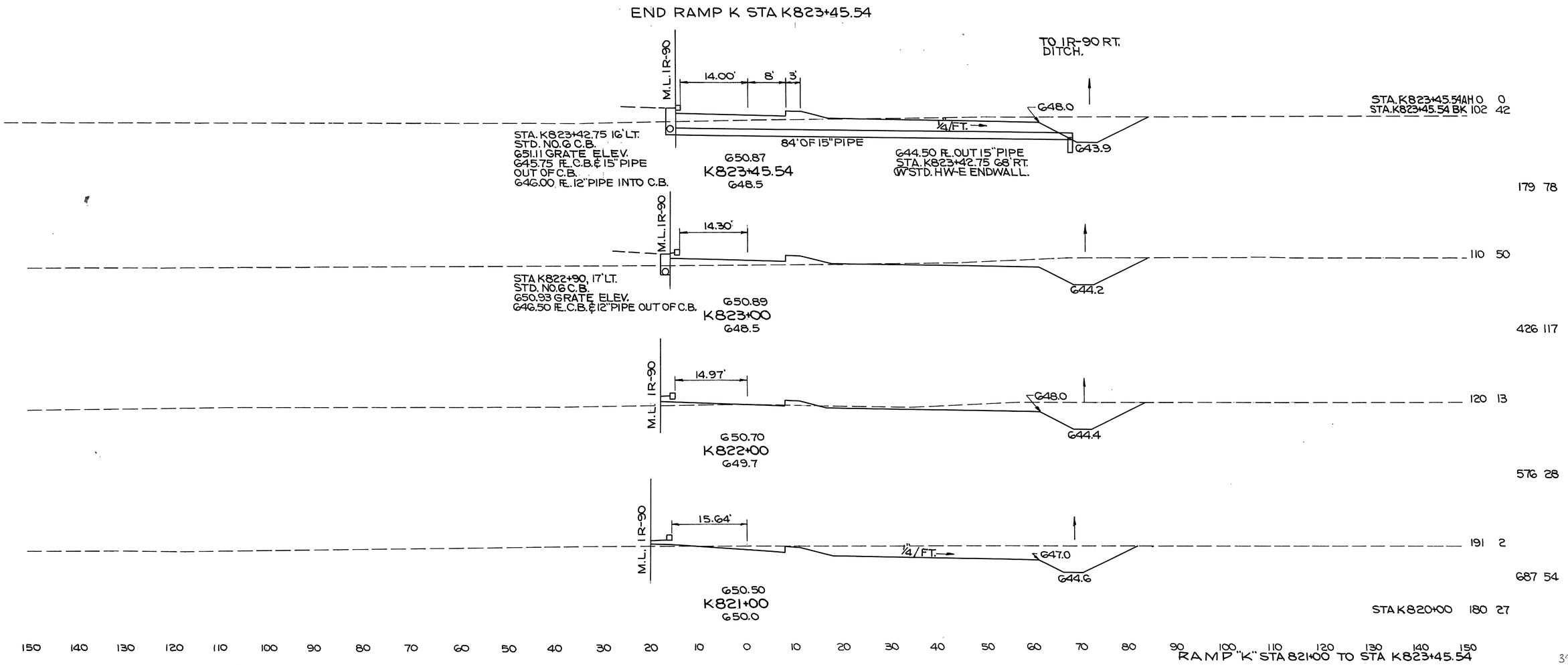
REFERENCE	SIDE	STATION FROM	STATION TO	605 SHALLOW PIPE UNDER-DRAIN 6" LIN. FT.	603 CONDUIT TYPE B-B 12" LIN. FT.	603 CONDUIT TYPE B-B 15" LIN. FT.	603 CONDUIT TYPE F 6" LIN. FT.		602 MASON. STD. HW-E ENDWL. CLASS C CU. YDS.	605 PIPE SPECIALS 6" TEE EACH	604 CATCH BASIN STD. NO. 6 EACH	609 CONC. CURB STD. TYPE 8 LIN. FT.	601 DUMPED ROCK CHANN PROT. T=18" CU. YDS.	660 SODDING SQ. YDS.
1-UD	RT.	K821+00	K823+38	238										
2-UD	RT.	K823+30		56			10			1				
1-D	LT.	K822+50	K823+42.75		53						1			
2-D	LT. & RT.	K823+42.75				84			0.26		1		3	
1-SD	LT.	K821+00	K823+00											293
1-C	LT.	K821+00	K823+45.54									245.5		
TOTALS				294	53	84	10		0.26	1	2	245.5	3	293

RAMP "K" STA. K821+00 TO STA. K823+45.54


M.L. GRADING PLAN
658.0
657.0
4:1
4:1
654.0
669.09
K814+00
656.5
31 1000
126 3278
M.L. GRADING PLAN
661.0
4:1
4:1
658.3
671.98
K813+00
661.2
37 770
104 1308
M.L. GRADING PLAN
664.0
4:1
660.4
673.18
K812+47.95
664.4
71 587
176 832
AH'D.
BK & AH'D.
M.L. GRADING PLAN
EARTHWORK
4:1
M.L.
668.0
M.L.
EARTHWORK
BK & AH'D.
AH'D.
662.5
674.11
K812+00
668.1
FROM SR 254 LT. DITCH
STA. K812+00 AHD 127 350
STA. K812+00 BK. 7 350
20 355
FROM CULVERT @ STA 93+00
UNDER SR 254
M.L. SR 254
EDGE OF PAVEMENT SR 254
M.L. SR 254
674.91
K811+50.22
673.8
STA. K811+50.22 AH. 15 36
STA. K811+50.22 BK. 0 0
BEGIN PAVEMENT RAMP K
STA. K811+50.22
150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150
RAMP "K" STA. K811+50.22 TO STA. K814+00

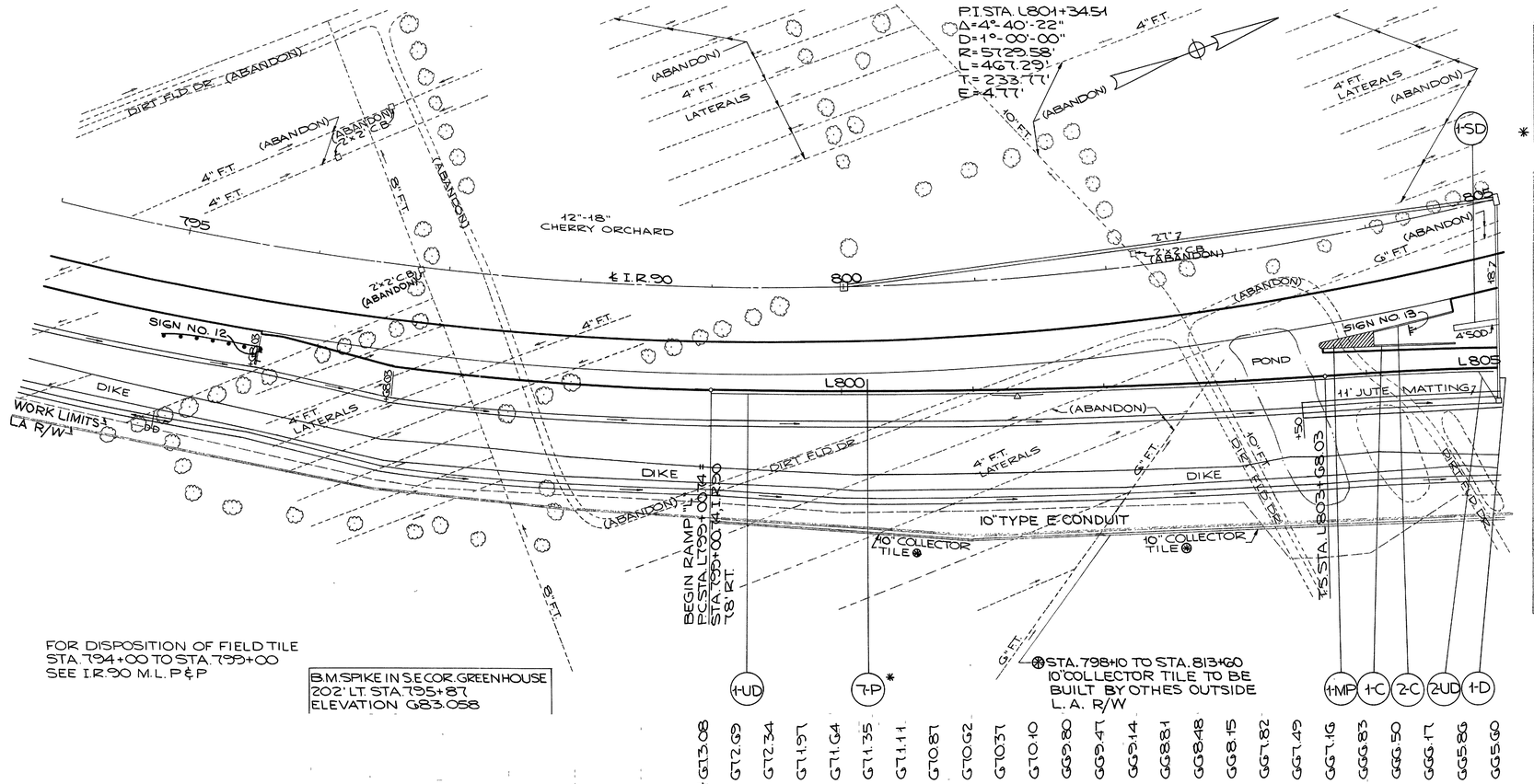
LOR.-90-13.01


M.L. IR-90
16.91'
¼"/FT.
647.0
644.8
650.80
K820+00
649.5
180 27
574 241
M.L. IR-90
651.00
648.0
645.0
652.12
K819+00
649.5
130 103
589 541
M.L. IR-90
4:1
¼"/FT.
648.0
90'OF 30"PIPE
So.=1.00%
FL. 2' BOT. OUTL. DITCH
(W)6:1 SIDE SLOPES
645.1
STA K818+00, 52'LT.
STD. NO. 5 C.B.
649.50 GRATE ELEV.
646.00 FL. CB & 30" PIPE
OUT OF C.B.
654.44
K818+00
651.0
STA K818+00 38'RT.
645.10 FL. OUTL. 30" PIPE
(W) STD. HW-E ENDWALL.
188 189
ADD FOR OUTL. DITCH
66
496 1035
M.L. GRADING PLAN
4:1
651.0
4:1
648.0
3:1
657.78
K817+00
651.8
80 370
241 1796
M.L. GRADING PLAN
4:1
652.0
4:1
650.0
4:1
661.62
K816+00
653.1
50 600
157 2667
M.L. GRADING PLAN
4:1
4:1
654.0
652.0
665.46
K815+00
654.5
35 840
122 3407
STA. K814+00 31 1000
150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150
RAMP "K" STA K815+00 TO STA K820+00


END RAMP K STA K823+45.54
M.L. IR-90
14.00'
8'
3'
TO IR-90 RT. DITCH.
G48.0
STA. K823+45.54 AH 0 0
STA. K823+45.54 BK 102 42
1/4/FT.
STA. K823+42.75 16' LT.
STD. NO. 6 C.B.
651.11 GRATE ELEV.
645.75 FE. C.B. & 15" PIPE OUT OF C.B.
646.00 FE. 12" PIPE INTO C.B.
84' OF 15" PIPE
650.87
K823+45.54
648.5
644.50 FE. OUT 15" PIPE
STA. K823+42.75 68' RT.
W/STD. HW-E ENDWALL.
643.9
179 78
M.L. IR-90
14.30'
110 50
STA K822+90, 17' LT.
STD. NO. 6 C.B.
650.93 GRATE ELEV.
646.50 FE. C.B. & 12" PIPE OUT OF C.B.
650.89
K823+00
648.5
644.2
426 117
M.L. IR-90
14.97'
120 13
G48.0
G50.70
K822+00
G49.7
644.4
576 28
M.L. IR-90
15.64'
191 2
1/4/FT.
G47.0
G44.6
687 54
G50.50
K821+00
G50.0
STA K820+00 180 27
150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150
RAMP "K" STA 821+00 TO STA K823+45.54

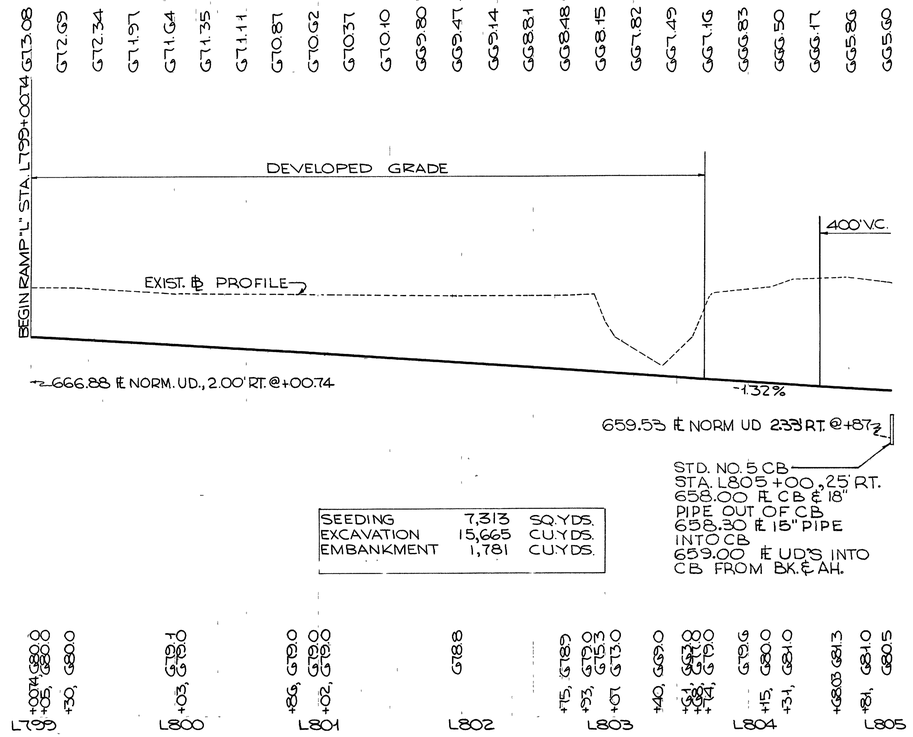
LOR.-90-13.01

CROSS REFERENCES	
FOR	SEE SHEET NO.
RAMP "L" DETAILS	266,267
SUPERELEVATION	271
GRADING PLAN	237,242
* PAV'T. QUAN.	306



REFERENCE NO.	SIDE	STATION FROM	STATION TO	605 DEEP PIPE UNDER-DRAINS 6" LIN.FT.	603 CONDUIT TYPE F 6" LIN.FT.	603 CONDUIT TYPE B-B 18" LIN.FT.	605 PIPE SPECIALS 6"-60° WYE EACH	604 CATCH BASIN STD. NO. 5 EACH	609 CONC. CURB STD. TYPE 6 LIN.FT.	612 CONC. MEDIAN SQ.YDS.		660 SODDING SQ.YDS.	667 JUTE MATTING SQ.YDS.
1-UD	RT.	L799+00	L804+98	598									
2-UD	RT.	L804+87	L805+00	16	10		1						
1-SD	LT.	L804+70	L805+00									15	
1-D	LT.&RT.	L805+00				153		1					200
1-MP	LT.	L803+68.03	L804+08.03							35.1			
1-C	LT.	L804+08.03	L804+68.03						61				
2-C	LT.	I.R.90 803+92.50	I.R.90 803+92.50						63				
TOTALS				614	10	153	1	1	124	35.1		15	200

REFERENCE NO.	SIDE	STATION FROM	STATION TO

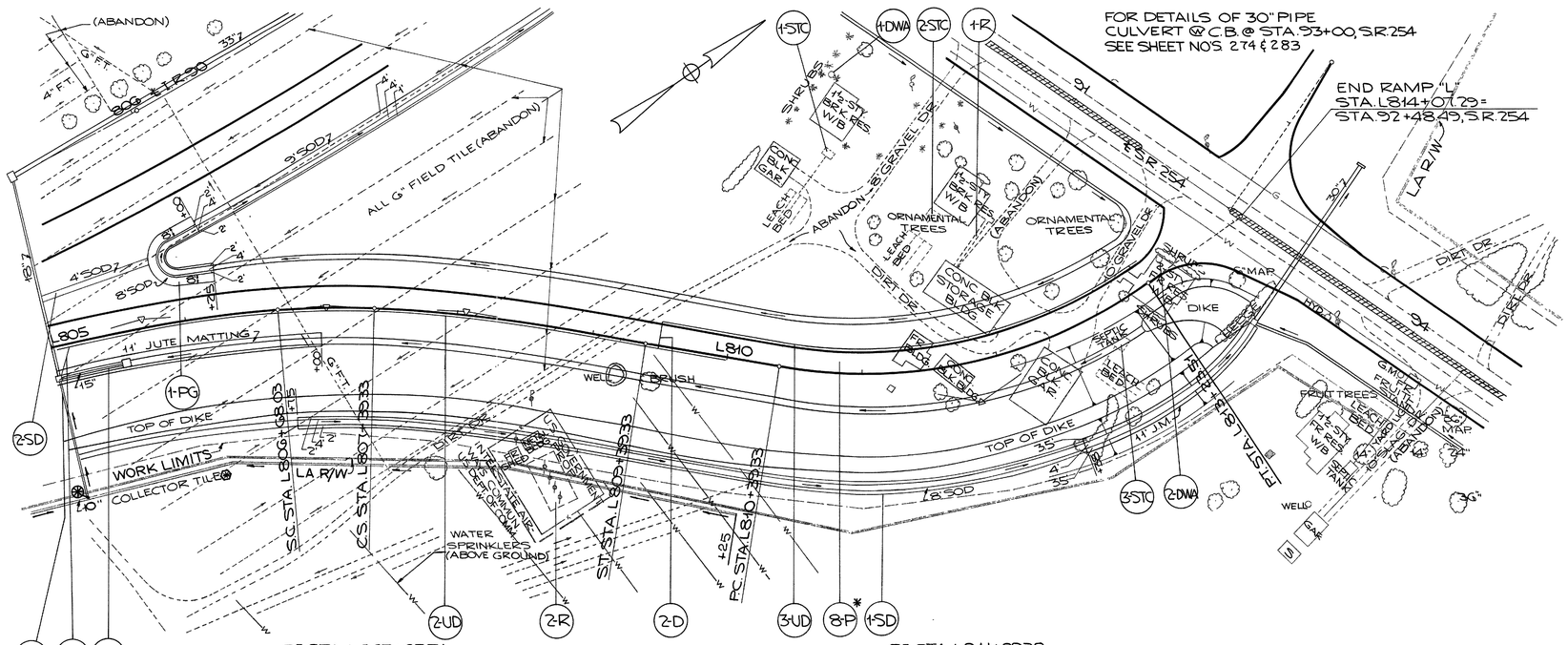


SEEDING	7,313	SQ.YDS.
EXCAVATION	15,665	CU.YDS.
EMBANKMENT	1,781	CU.YDS.

RAMP "L" STA. L799+00 TO STA. L805+00

LOR.-90-13.01

CROSS REFERENCES	
FOR	SEE SHEET NO.
RAMP "L" DETAILS	270
SUPERELEVATION	271
GRADING PLAN	237,242
* PAV'T. QUAN.	306



P.I. STA. 805+68.49
Θs = 12°-00'-00"
Ls = 300.00'
L.T. = 200.46'
S.T. = 100.42'

P.I. STA. L807+03.71
Δ = 5°-42'-15"
D = 8°-00'-00"
R = 716.20'
L = 71.30'
T = 35.68'
E = 0.89'

P.I. STA. L808+06.12
Θs = 8°-00'-00"
Ls = 200.00'
L.T. = 133.47'
S.T. = 66.79'

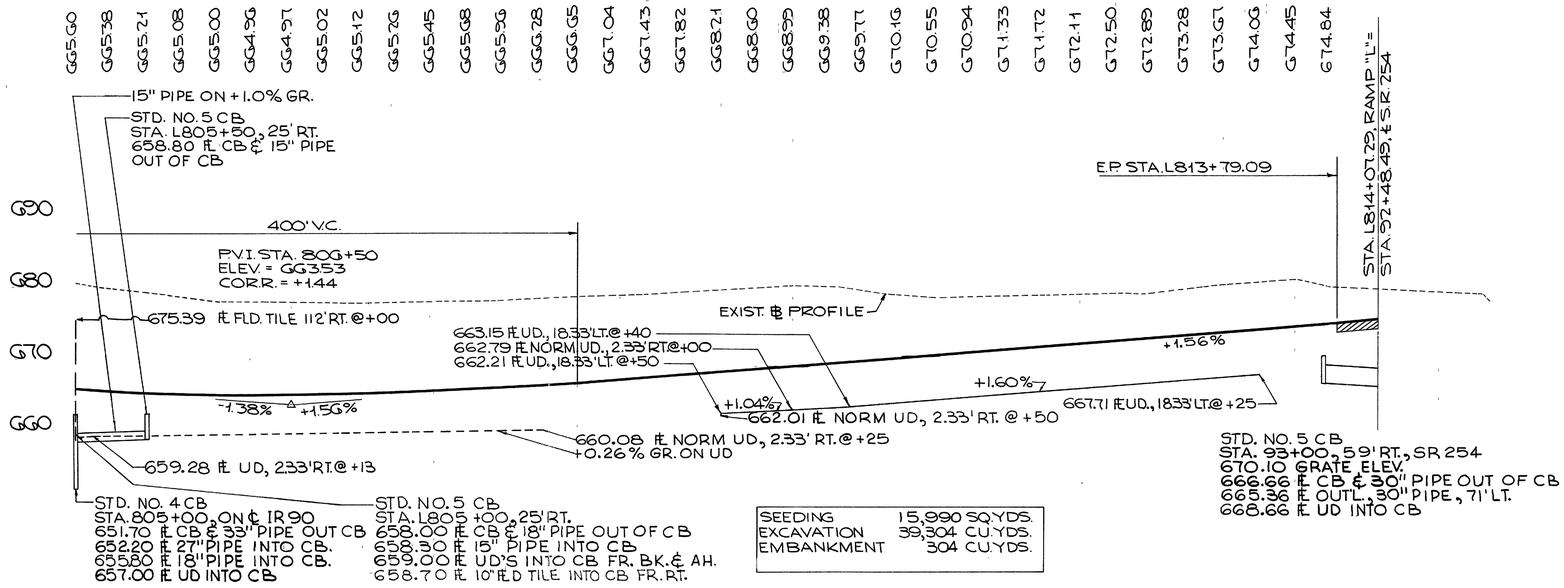
STA 798+10 TO STA L810+25
10" COLLECTOR TILE TO BE BUILT BY OTHERS OUTSIDE L.A. R/W

P.I. STA. L811+89.38
Δ = 45°-28'-09"
D = 16°-00'-00"
R = 358.10'
L = 284.18'
T = 150.05'
E = 31.17'

B.M. SPIKE IN POWER POLE 25' LT. STA. 810+58, I.R. 90 ELEVATION 675.933

* TILE SHALL BE PLUGGED AND LOCATION MARKED UNTILL SUCH TIME AS COLLECTOR TILE CAN BE CONNECTED.

REFERENCE NO.	SIDE	STATION FROM	STATION TO	605 DEEP PIPE UNDER DRAIN 6" LIN.FT.	603 CONDUIT TYPE C-B 15" LIN.FT.	603 CONDUIT TYPE B-B 6" LIN.FT.	603 CONDUIT TYPE F 6" LIN.FT.	605 PIPE SPECIALS 6"-90° WYE EACH	605 PIPE SPECIALS 6"-90° BEND EACH	605 PIPE SPECIALS 6" TEE EACH	604 CATCH BASIN STD. NO. 5 EACH		601 PAVED GUTTER 4-0-12 LIN.FT.	660 SODDING SQ.YDS.	667 JUTE MATTING SQ.YDS.
1-UD	RT.	L805+00	L805+13	16			10	1							
2-UD	RT.	L805+02	L810+00	498						1					
3-UD	LT.	L809+50	L813+25	395					1						
1-D	RT.	L805+00	L805+50		50						1				268
2-D	LT.&RT.	L809+50				21									
1-SD	RT.	L806+75	L812+38											553	
2-SD	LT.	L805+00	L805+80											36	
1-PG	LT.	L806+25	I.R. 90 806+00										81	80	
TOTALS				909	50	21	10	1	1	1	1		81	669	268

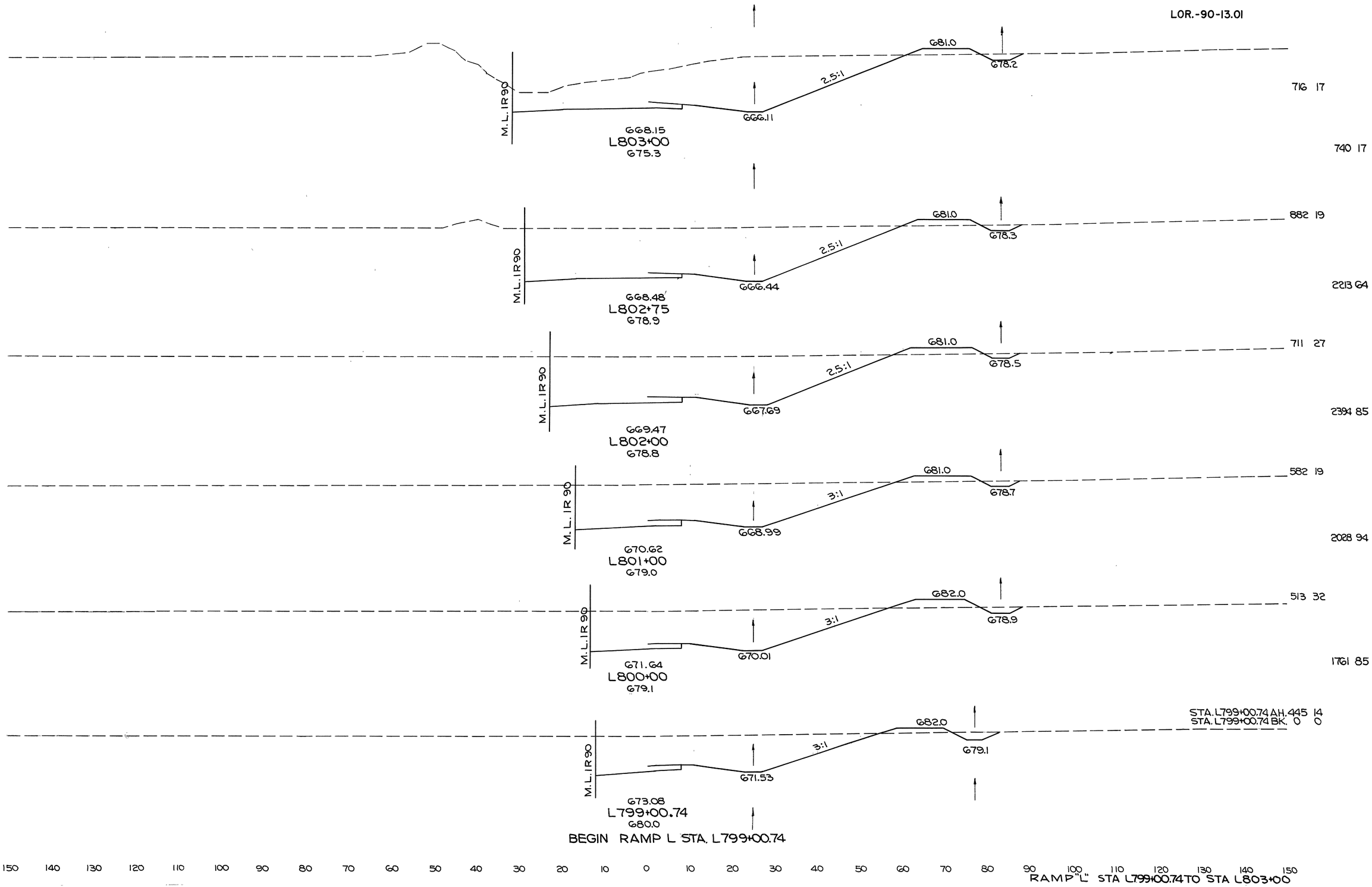


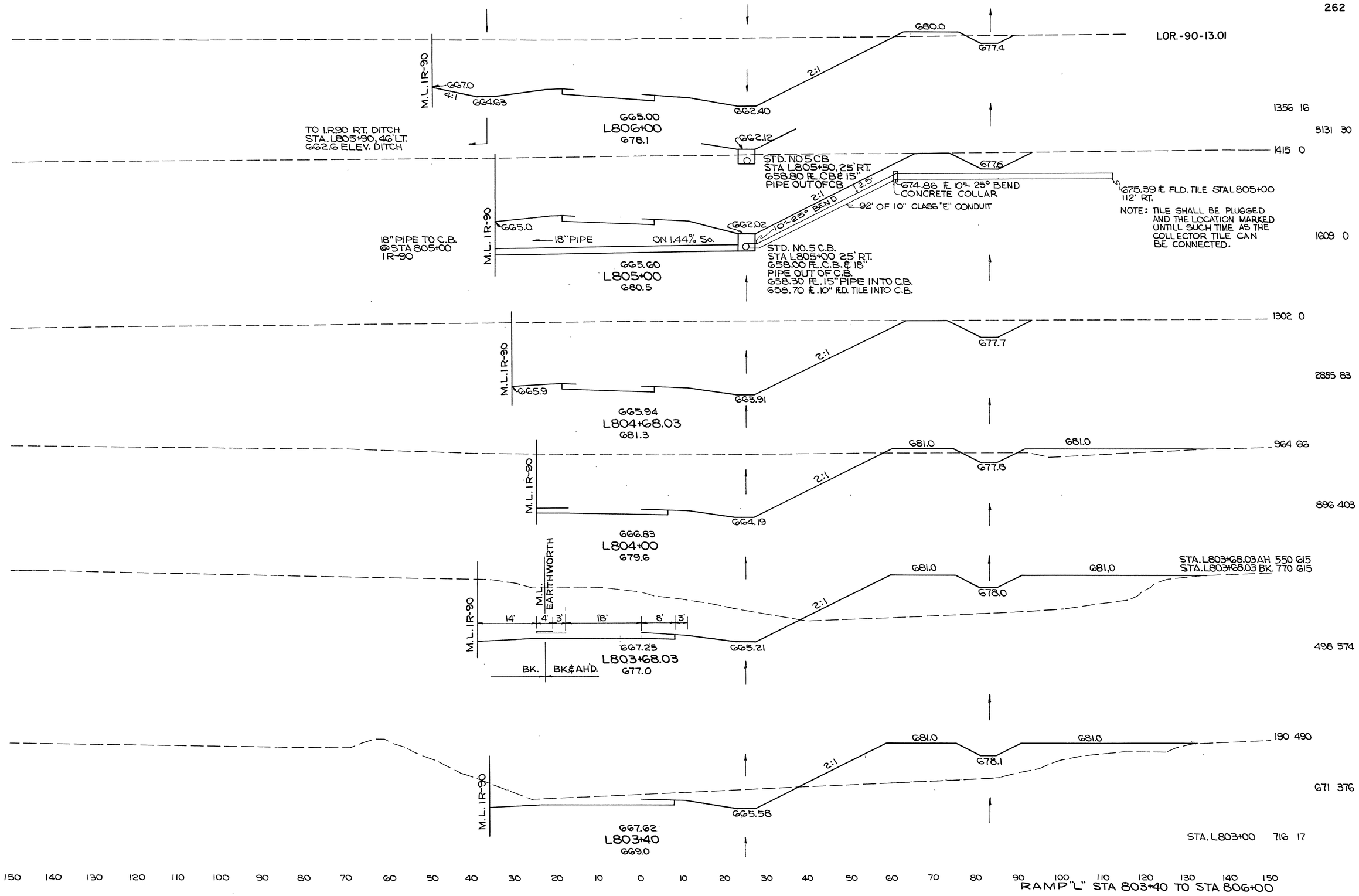
SEEDING	15,990 SQ.YDS.
EXCAVATION	39,304 CU.YDS.
EMBANKMENT	304 CU.YDS.

REFERENCE NO.	SIDE	STATION FROM	STATION TO	202 EXIST. SDWK. REMOV. & DISPOS OF SQ.FT.	SPECIAL DRILLED WELL ABAND. EACH	SPECIAL CLEAN. & DISPOSAL OF SEPTIC TANK EACH	603 CONDUIT TYPE E 706.07, 706.08 OR 706.09 10" LIN.FT.	202 EXIST. STRUCT. REMOV. LUMP	603 PIPE SPECIALS CLASS E 10"-25° BEND			
1-STC	LT.	L810+50				1						
2-STC	LT.	L811+70				1						
3-STC	RT.	L812+85				1						
1-DWA	LT.	L810+45			1							
2-DWA	LT.	L813+40			1							
1-R	LT.	L812+10		165								
2-R	RT.	L808+75						LUMP				
1-T	RT.	L805+00					92		2			
TOTALS				165	2	3	92	LUMP	2			

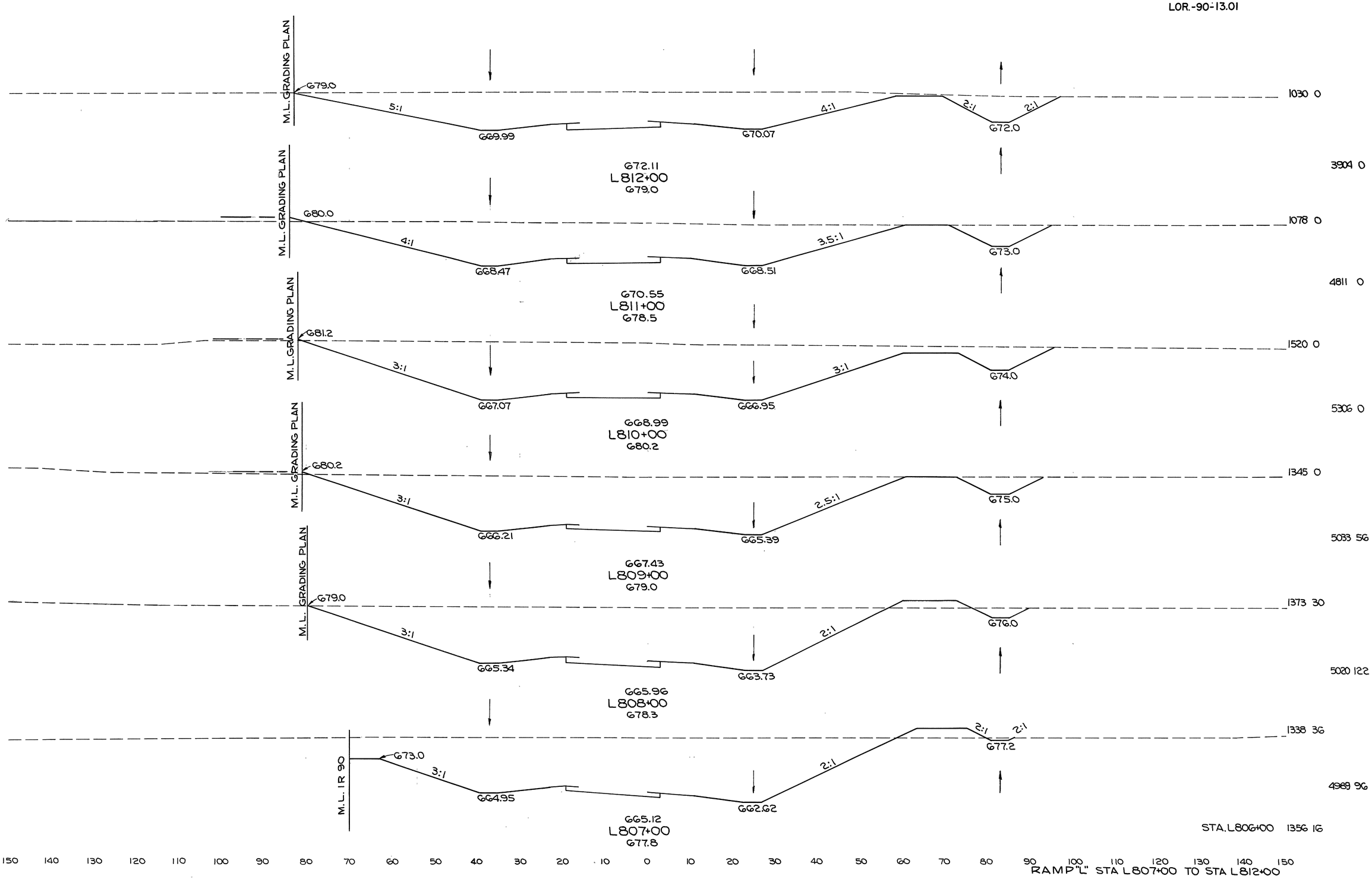
RAMP "L" STA. L805+00 TO STA. L814+07.29

LOR.-90-13.01


M.L. IR 90
668.15
L803+00
675.3
666.11
2.5:1
681.0
678.2
716 17
740 17
M.L. IR 90
668.48
L802+75
678.9
666.44
2.5:1
681.0
678.3
882 19
2213 64
M.L. IR 90
669.47
L802+00
678.8
667.69
2.5:1
681.0
678.5
711 27
2394 85
M.L. IR 90
670.62
L801+00
679.0
668.99
3:1
681.0
678.7
582 19
2028 94
M.L. IR 90
671.64
L800+00
679.1
670.01
3:1
682.0
678.9
513 32
1761 85
M.L. IR 90
673.08
L799+00.74
680.0
671.53
3:1
682.0
679.1
STA. L799+00.74 AH. 445 14
STA. L799+00.74 BK. 0 0
BEGIN RAMP L STA. L799+00.74
150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150
RAMP "L" STA L799+00.74 TO STA L803+00


LOR.-90-13.01
680.0
677.4
2:1
M.L. 1R-90
667.0
4:1
664.63
662.40
665.00
L806+00
678.1
1356 16
5131 30
TO 1.R.90 RT. DITCH
STA. L805+90, 46' LT.
662.6 ELEV. DITCH
662.12
STD. NO 5 CB
STA L805+50, 25' RT.
658.80 FL. CB & 15"
PIPE OUT OF CB
1415 0
677.6
674.86 FL 10" 25° BEND
CONCRETE COLLAR
2.5'
2:1
10"-25° BEND
92' OF 10" CLASS "E" CONDUIT
675.39 FL FLD. TILE STA. L805+00
112' RT.
NOTE: TILE SHALL BE PLUGGED AND THE LOCATION MARKED UNTILL SUCH TIME AS THE COLLECTOR TILE CAN BE CONNECTED.
665.0
662.02
18" PIPE TO C.B.
@ STA 805+00
1R-90
18" PIPE
ON 1.44% Sa.
1609 0
665.60
L805+00
680.5
STD. NO. 5 C.B.
STA L805+00 25' RT.
658.00 FL. C.B. & 18"
PIPE OUT OF C.B.
658.30 FL. 15" PIPE INTO C.B.
658.70 FL. 10" FLD. TILE INTO C.B.
1302 0
677.7
665.9
663.91
2855 83
665.94
L804+68.03
681.3
964 66
681.0
677.8
664.19
896 403
666.83
L804+00
679.6
M.L. EARTHWORTH
STA. L803+68.03 AH 550 615
STA. L803+68.03 BK. 770 615
678.0
14'
4'
3'
18'
8'
3'
667.25
L803+68.03
677.0
665.21
498 574
BK.
BK. & AH'D.
678.1
190 490
671 376
665.58
667.62
L803+40
669.0
STA. L803+00 716 17
150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150
RAMP "L" STA 803+40 TO STA 806+00

LOR.-90-13.01


M.L. GRADING PLAN
G79.0
5:1
G69.99
G70.07
4:1
2:1
2:1
G72.0
1030 0
G72.11
L812+00
G79.0
3904 0
M.L. GRADING PLAN
G80.0
4:1
G68.47
G68.51
3.5:1
G73.0
1078 0
G70.55
L811+00
G78.5
4811 0
M.L. GRADING PLAN
G81.2
3:1
G67.07
G66.95
3:1
G74.0
1520 0
G68.99
L810+00
G80.2
5306 0
M.L. GRADING PLAN
G80.2
3:1
G66.21
G65.39
2.5:1
G75.0
1345 0
G67.43
L809+00
G79.0
5083 56
M.L. GRADING PLAN
G79.0
3:1
G65.34
G63.73
2:1
G76.0
1373 30
G65.96
L808+00
G78.3
5020 122
M.L. IR 90
G73.0
3:1
G64.95
G62.62
2:1
2:1
2:1
G77.2
1338 36
G65.12
L807+00
G77.8
4989 96
STA. L806+00 1356 16
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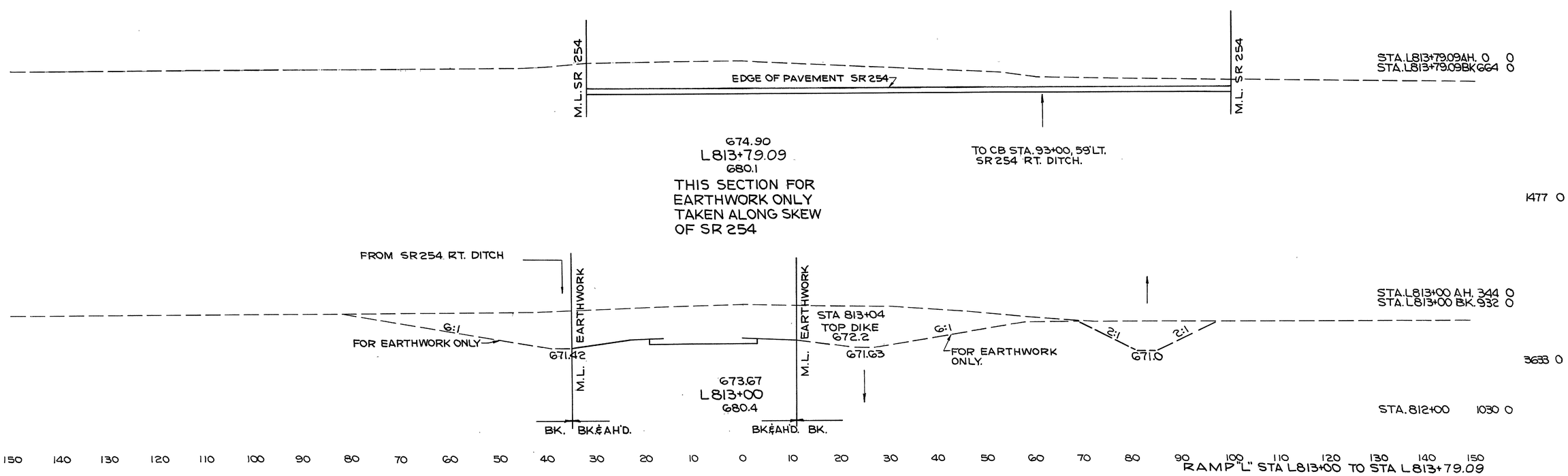
RAMP "L" STA L807+00 TO STA L812+00


M.L. SR 254
EDGE OF PAVEMENT SR 254
M.L. SR 254
STA. L813+79.09 AH. 0 0
STA. L813+79.09 BK 664 0
674.90
L813+79.09
680.1
TO CB STA. 93+00, 59' LT.
SR 254 RT. DITCH.
THIS SECTION FOR
EARTHWORK ONLY
TAKEN ALONG SKEW
OF SR 254
1477 0
FROM SR 254 RT. DITCH
6:1
FOR EARTHWORK ONLY
671.42
M.L. EARTHWORK
M.L. EARTHWORK
STA 813+04
TOP DIKE
672.2
671.63
6:1
FOR EARTHWORK
ONLY.
2:1
2:1
671.0
STA. L813+00 A.H. 344 0
STA. L813+00 BK. 932 0
3633 0
673.67
L813+00
680.4
STA. 812+00 1030 0
BK. BK.&AH'D.
BK&AH'D. BK.
150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150
RAMP "L" STA L813+00 TO STA L813+79.09

FED. RD. DIVISION	STATE	PROJECT	
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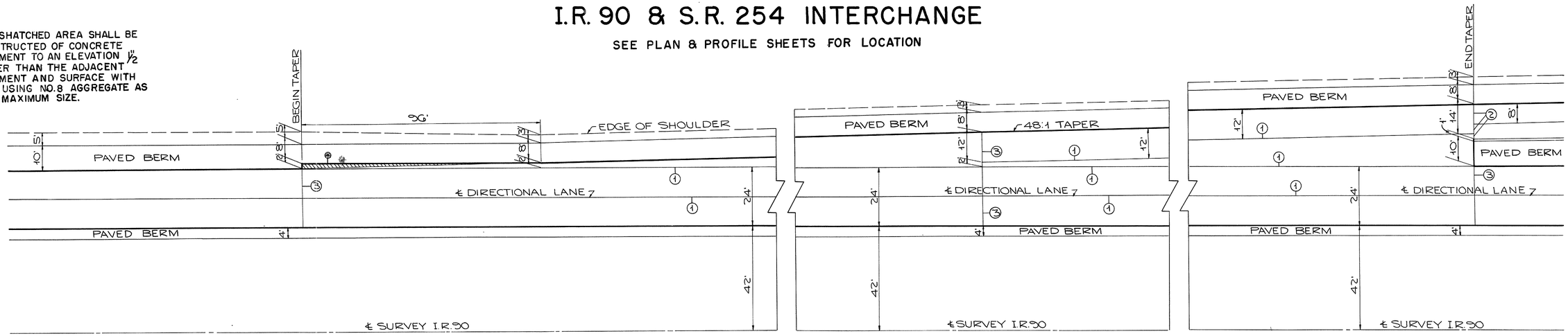
TYPICAL 1200' ACCELERATION LANE FOR RAMPS "H" & "K"
I.R. 90 & S.R. 254 INTERCHANGE

SEE PLAN & PROFILE SHEETS FOR LOCATION

⊛ ▨ CROSSHATCHED AREA SHALL BE CONSTRUCTED OF CONCRETE PAVEMENT TO AN ELEVATION 1/2" LOWER THAN THE ADJACENT PAVEMENT AND SURFACE WITH 409 USING NO.8 AGGREGATE AS THE MAXIMUM SIZE.



JOINT LEGEND
1. STANDARD LONGITUDINAL JOINT
2. STANDARD EXPANSION JOINT
3. STANDARD CONTRACTION JOINT
4. KEY JOINT WITHOUT TIE BARS
5. EXPANSION JOINT WITHOUT DOWELS

PAVEMENT OFFSETS AND ELEVATIONS FOR

RAMP "H" ACCELERATION LANE

STATION	OFFSET	ELEVATION
782+31.16	2.00	686.93
+50	2.00	686.78
+75	2.00	686.58
783+00	2.00	686.38
+25	2.00	686.13
+27.16	2.00	686.11
+50	2.48	685.86
+75	3.00	685.51
784+00	3.52	685.26
+25	4.04	684.93
+50	4.56	684.58
+75	5.08	684.23
785+00	5.60	684.00
+09.99	5.81	683.91
+25	6.12	683.76
+50	6.64	683.50
+75	7.16	683.22
786+00	7.68	682.94

STATION	OFFSET	ELEVATION
786+25	8.20	682.65
+50	8.73	682.33
+75	9.25	682.01
787+00	9.77	681.68
+25	10.29	681.33
+50	10.81	681.99
+75	11.33	680.65
788+00	11.85	680.30
+25	12.37	679.96
+50	12.89	679.62
+75	13.41	679.27
789+00	13.93	678.93
+03.16	14.00	678.88
+25	14.45	678.59
+50	14.98	678.24
+75	15.50	677.90
790+00	16.02	677.56
+25	16.54	677.21

STATION	OFFSET	ELEVATION
790+50	17.06	676.87
+75	17.58	676.53
791+00	18.10	676.18
+25	18.62	675.84
+50	19.14	675.50
+75	19.66	675.15
792+00	20.18	674.81
+25	20.70	674.47
+50	21.23	674.12
+75	21.75	673.78
793+00	22.27	673.43
+25	22.79	673.09
+50	23.31	672.75
+75	23.83	672.40
794+00	24.35	672.06
+25	24.87	671.72
+31.16	25.00	671.64

RAMP "K" ACCELERATION LANE

STATION	OFFSET	ELEVATION
823+45.54	25.00	650.87
+50	24.91	650.86
+75	24.39	650.81
824+00	23.87	650.76
+25	23.34	650.71
+50	22.82	650.65
+75	22.30	650.60
825+00	21.78	650.55
+25	21.26	650.50
+50	20.74	650.45
+75	20.22	650.40
826+00	19.70	650.34
+25	19.18	650.29
+50	18.66	650.24
+75	18.14	650.19
827+00	17.61	650.13
+25	17.09	650.08
+50	16.57	650.03

STATION	OFFSET	ELEVATION
827+75	16.05	649.98
828+00	15.53	649.93
+25	15.01	649.88
+50	14.49	649.82
+73.54	14.00	649.77
+75	13.97	649.77
829+00	13.45	649.72
+25	12.93	649.67
+50	12.41	649.62
+75	11.89	649.56
830+00	11.37	649.51
+25	10.84	649.46
+50	10.32	649.41
+75	9.80	649.30
831+00	9.28	649.19
+25	8.76	649.07
+50	8.24	648.89
+75	7.72	648.70

STATION	OFFSET	ELEVATION
832+00	7.20	648.49
+25	6.68	648.28
+50	6.16	648.08
+75	5.64	647.88
833+00	5.12	647.69
+25	4.59	647.54
+50	4.07	647.50
+75	3.55	647.47
834+00	3.03	647.43
+25	2.51	647.40
+49.54	2.00	647.36
+50	2.00	647.36
+75	2.00	647.30
835+00	2.00	647.24
+25	2.00	647.18
+45.54	2.00	647.13

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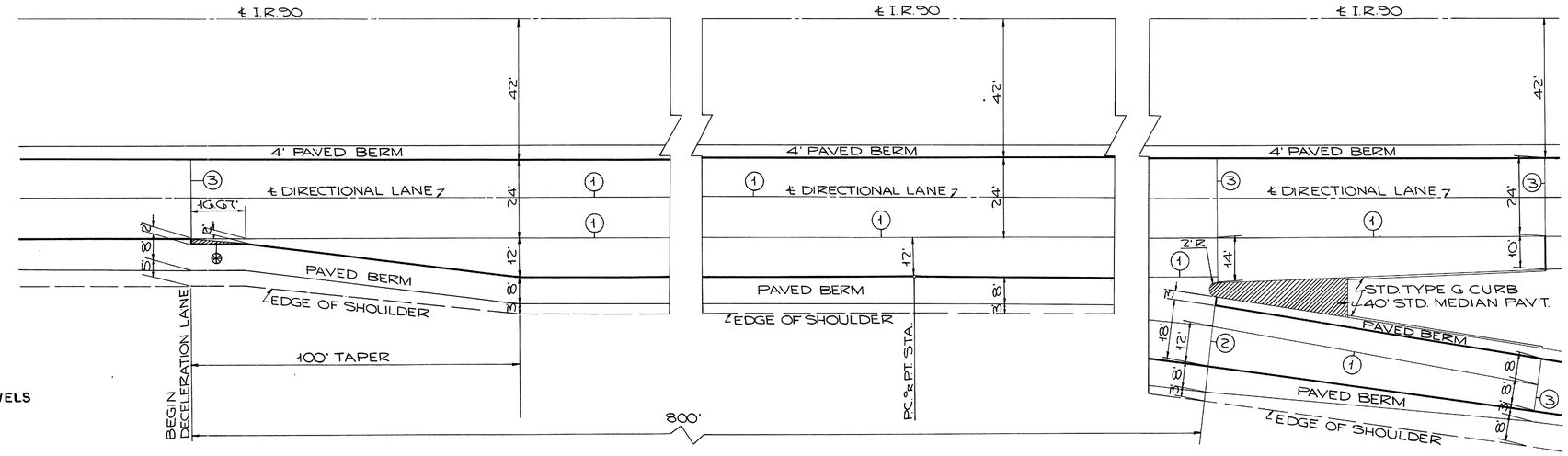
TYPICAL 800' DECELERATION LANE FOR RAMPS "J" & "L"
I.R. 90 & S.R. 254 INTERCHANGE

⊛ CROSSHATCHED AREA SHALL BE CONSTRUCTED OF CONCRETE PAVEMENT TO AN ELEVATION 1/2" LOWER THAN THE ADJACENT PAVEMENT AND SURFACE WITH 409 USING NO.8 AGGREGATE AS THE MAXIMUM SIZE.

JOINT LEGEND

1. STANDARD LONGITUDINAL JOINT
2. STANDARD EXPANSION JOINT
3. STANDARD CONTRACTION JOINT
4. KEY JOINT WITHOUT TIE BARS
5. EXPANSION JOINT WITHOUT DOWELS



PAVEMENT OFFSETS AND ELEVATIONS FOR

NOTE
SEE PLAN & PROFILE SHEETS FOR LOCATION

RAMP "J" DECELERATION LANE

STATION	OFFSET	ELEVATION
822+34.56	12.00	651.34
+50	12.00	651.30
+75	12.00	651.24
823+00	12.00	651.18
+25	12.00	651.12
+50	12.00	651.06

STATION	OFFSET	ELEVATION
823+75	12.00	651.00
824+00	12.00	650.94
+25	12.00	650.88
+50	12.00	650.82
+75	12.00	650.76
+81.49	12.00	650.75

STATION	OFFSET	ELEVATION
825+00	9.78	650.74
+25	6.78	650.72
+50	3.78	650.71
+64.82	2.00	650.70
+75	2.00	650.68
825+81.49	2.00	650.67

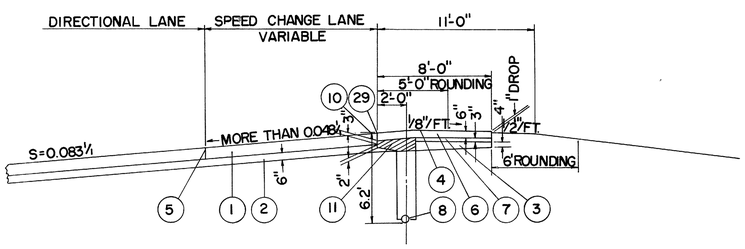
RAMP "L" DECELERATION LANE

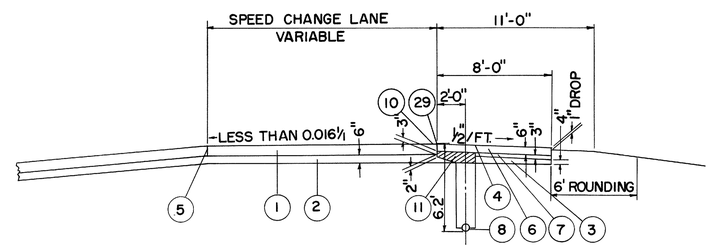
STATION	OFFSET	ELEVATION
795+68.03	2.00	676.24
+75	2.00	676.16
+84.70	2.00	676.04
796+00	3.84	676.01
+25	6.84	675.96
+50	9.84	675.91

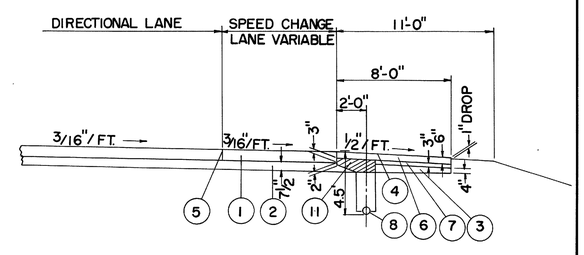
STATION	OFFSET	ELEVATION
796+68.03	12.00	675.87
+75	12.00	675.79
797+00	12.00	675.49
+25	12.00	675.19
+50	12.00	674.89
+75	12.00	674.59

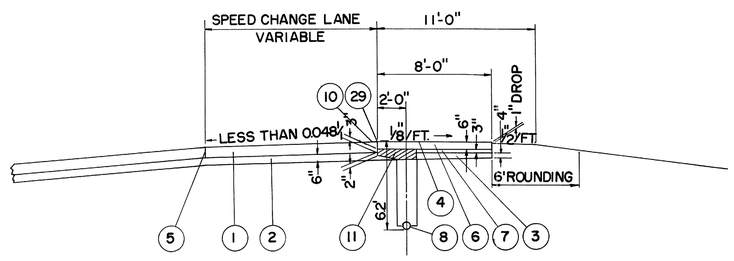
STATION	OFFSET	ELEVATION
798+00	12.00	674.29
+25	12.00	673.99
+50	12.00	673.69
+75	12.00	673.39
799+00	12.00	673.09
+00.74	12.00	673.08

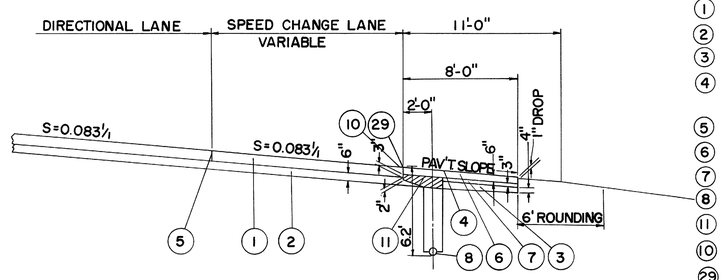
SPECIAL TYPICAL SECTIONS FOR SPEED CHANGE LANES-S.R.254 INTERCHANGE











1	ITEM 451	9" REINFORCED PORTLAND CEMENT CONCRETE PAVEMENT.
2	ITEM 310	SUBBASE, GRADING "A" OR "B"
3	ITEM 310	SUBBASE
4	ITEM 409	SEAL COAT; COVER AGGREGATE USING 0.008 CU.YD. NO.8 AGGREGATE PER SQ YD. AND 0.25 GAL BITUMINOUS MATERIAL PER SQ. YD. (SEE NOTE IN PROPOSAL)
5	ITEM	STANDARD LONGITUDINAL JOINT
6	ITEM 301	BITUMINOUS AGGREGATE BASE, 702.01 (85-100) OR 702.09 R.T. 12
7	ITEM 304	AGGREGATE BASE
8	ITEM I-1	6" PIPE UNDERDRAIN
11	ITEM SPEC.	DRAINAGE CONNECTION USING NO.8 AGGREGATE (SEE NOTE IN PROPOSAL)
10	ITEM 621	4" EDGE LINES. (SEE SHEET NO. 6)
29		SEAL JOINT (SEE SHEET NO. 6 FOR DESCRIPTION)

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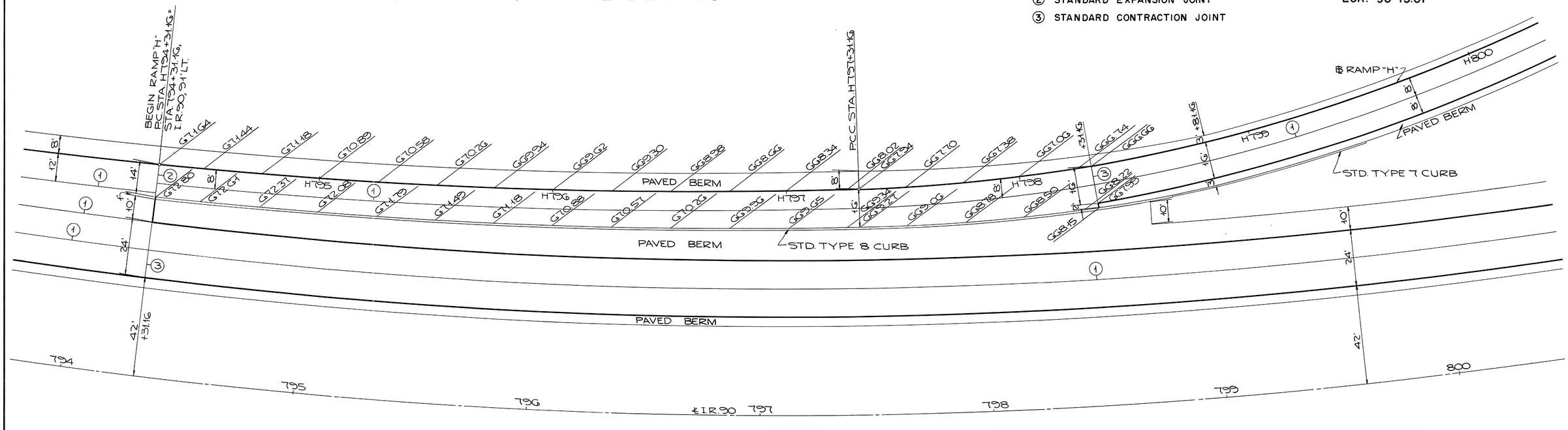
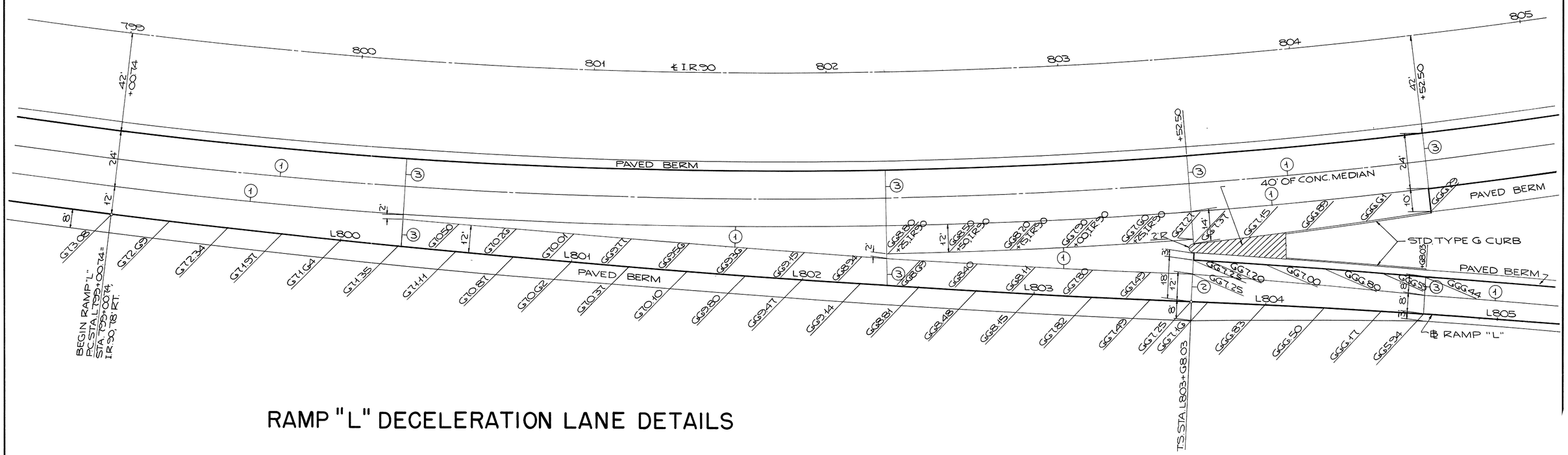
JOINT LEGEND

1. STANDARD LONGITUDINAL JOINT
2. STANDARD EXPANSION JOINT
3. STANDARD CONTRACTION JOINT

RAMP "H" ACCELERATION LANE DETAILS





RAMP "L" DECELERATION LANE DETAILS

RAMP "H" & "L" ACCELERATION & DECELERATION LANE DETAILS

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2	OHIO		

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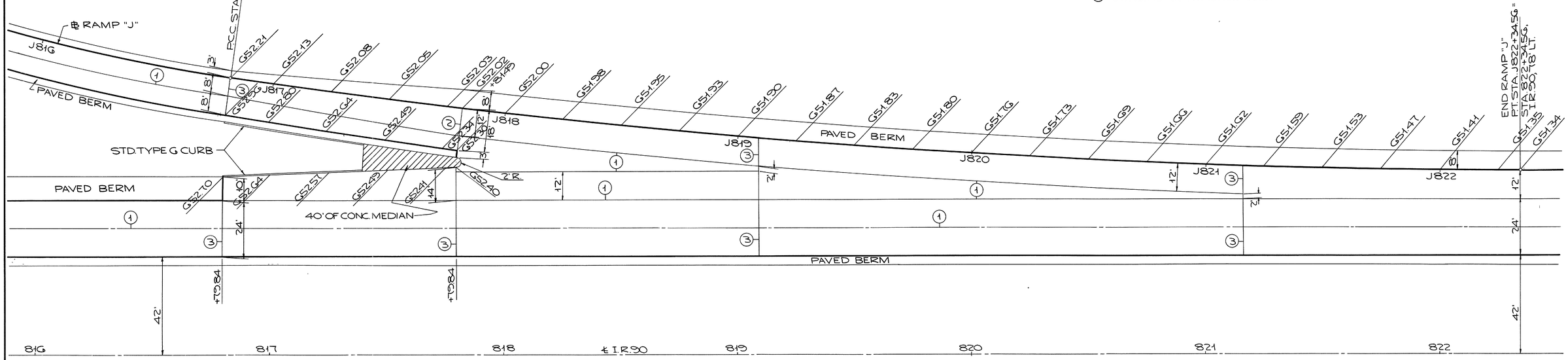
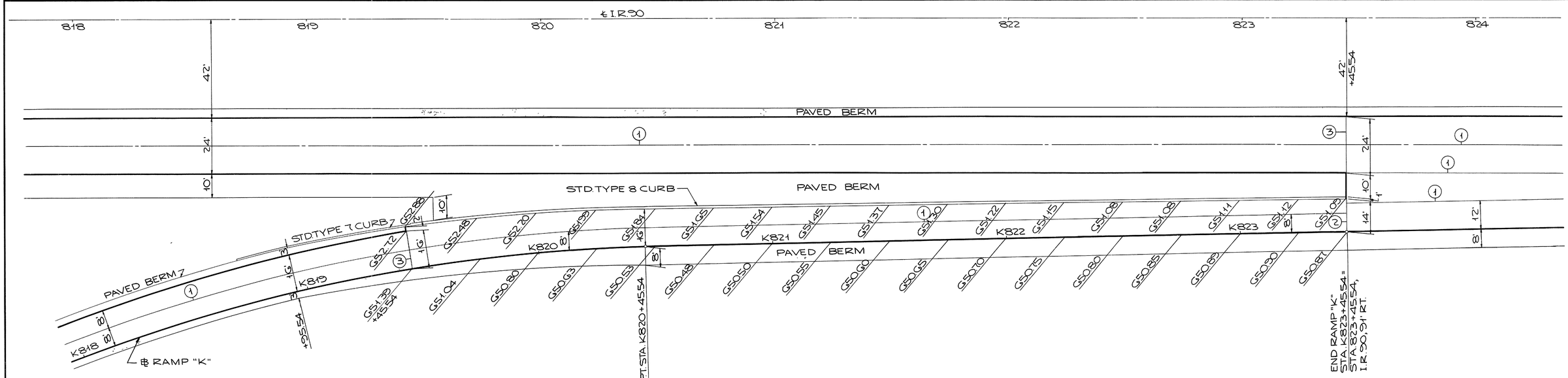
RAMP "J" DECELERATION LANE DETAILS

JOINT LEGEND

1. STANDARD LONGITUDINAL JOINT
2. STANDARD EXPANSION JOINT
3. STANDARD CONTRACTION JOINT





RAMP "K" ACCELERATION LANE DETAILS

RAMPS "H" & "J" INTERSECTION DETAIL
S.R. 254 INTERCHANGE

⊛ ▨ CROSSHATCHED AREA SHALL BE CONSTRUCTED OF CONCRETE PAVEMENT TO AN ELEVATION 1/2" LOWER THAN THE ADJACENT PAVEMENT AND SURFACED WITH 409 USING NO.8 AGGREGATE AS THE MAXIMUM SIZE.

JOINT LEGEND

- (1) STANDARD LONGITUDINAL JOINT
- (3) STANDARD CONTRACTION JOINT
- (4) KEY JOINT WITHOUT TIE BARS

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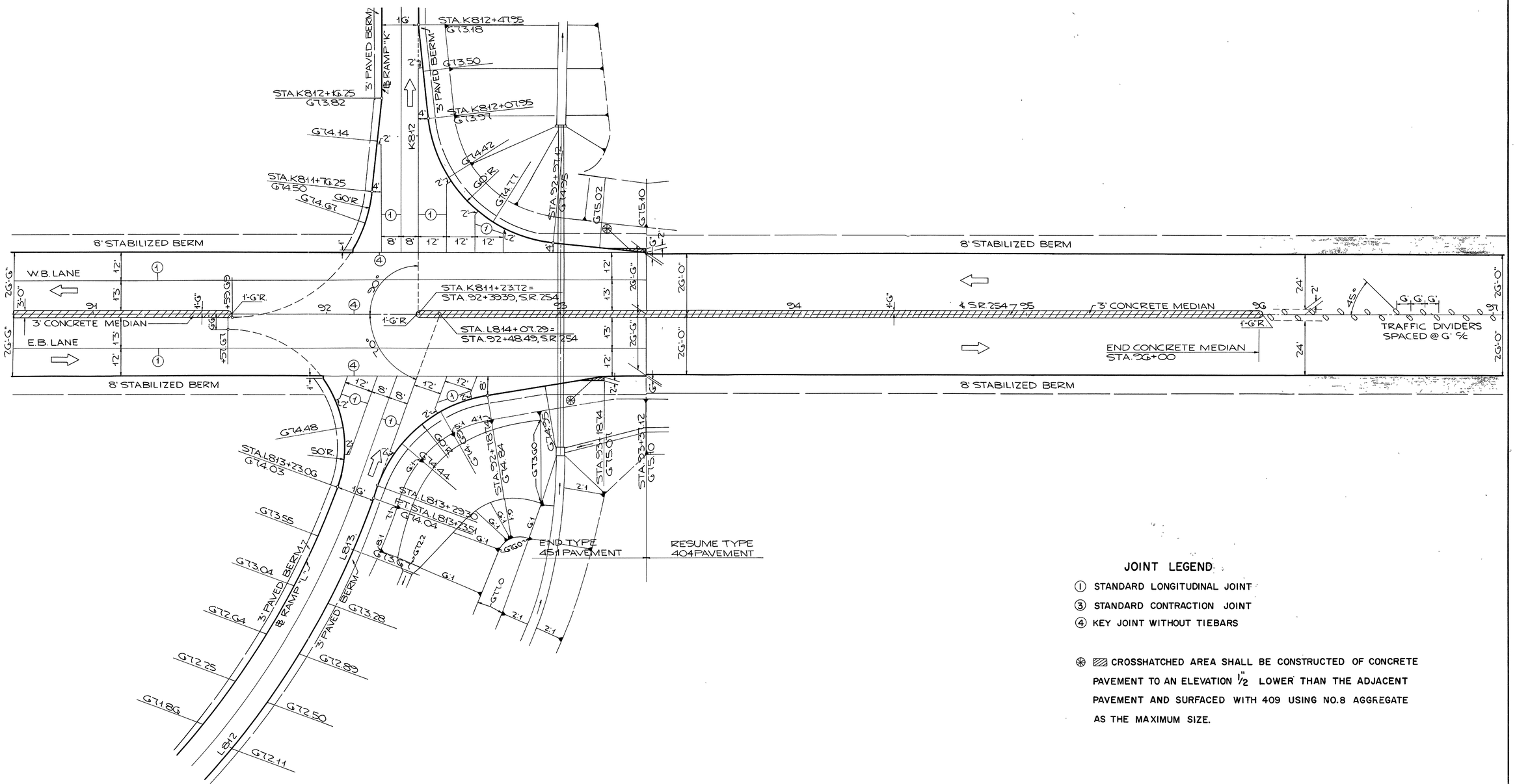
RAMPS "K" & "L" INTERSECTION DETAIL
S.R. 254 INTERCHANGE



JOINT LEGEND

1. STANDARD LONGITUDINAL JOINT
3. STANDARD CONTRACTION JOINT
4. KEY JOINT WITHOUT TIEBARS

⊛ ▨ CROSSHATCHED AREA SHALL BE CONSTRUCTED OF CONCRETE PAVEMENT TO AN ELEVATION 1/2" LOWER THAN THE ADJACENT PAVEMENT AND SURFACED WITH 409 USING NO.8 AGGREGATE AS THE MAXIMUM SIZE.

S.R. 254 INTERCHANGE RAMP SUPERELEVATION TABLES

RAMP "H"

STA.	℄ LEFT EDGE	RIGHT EDGE
H798+31.16	66.66	67.99
+50	66.45	67.78
+75	66.20	67.53
H799+00	66.01	67.34
+25	65.87	67.20
+50	65.78	67.11
+75	65.74	67.07
H800+00	65.76	67.09
+25	65.82	67.15
+50	65.94	67.27
+75	66.10	67.43
H801+00	66.32	67.65
+25	66.59	67.92
+50	66.91	68.24
+75	67.28	68.61
H802+00	67.71	69.04
+08.71	67.86	69.19
+24.71	68.17	69.42
+25	68.18	69.43
+50	68.68	69.80
+75	69.18	70.18
H803+00	69.68	70.55
+25	70.18	70.93
+50	70.68	71.30
+75	71.18	71.68
H804+00	71.68	72.05
+24.71	72.17	72.42
NORMAL SECTIONS		
H806+17.60	75.98	76.23
+25	76.12	76.33
+50	76.57	76.66
+76.60	76.88	76.88

RAMP "J"

STA.	℄ LEFT EDGE	RIGHT EDGE
J810+53.97	69.80	69.55
+72.13	69.13	68.88
+75	69.02	68.78
J811+00	68.09	67.98
+22.13	67.27	67.27
+25	67.16	67.17
+50	66.23	66.37
+72.13	65.41	65.66
+75	65.30	65.56
J812+00	64.37	64.76
+25	63.44	63.95
+50	62.51	63.15
+75	61.58	62.34
J813+00	60.65	61.54
+25	59.72	60.73
+50	58.82	59.96
+72.13	58.07	59.32
+75	57.97	59.23
+88.13	57.55	58.88
J814+00	57.18	58.51
+25	56.45	57.78
+50	55.78	57.11
+75	55.16	56.49
J815+00	54.60	55.93
+25	54.09	55.42
+50	53.64	54.97
+64.49	53.39	54.72
+75	53.25	54.53
J816+00	52.91	54.07
+25	52.63	53.66
+50	52.40	53.31
+75	52.24	53.02
+81.49	52.21	52.96

RAMP "K"

STA.	LEFT EDGE	℄ RIGHT EDGE
K812+53.45	73.07	73.07
+75	72.47	72.58
K813+00	71.75	71.98
+03.45	71.64	71.89
+25	71.08	71.33
+50	70.38	70.63
+64.70	69.95	70.20
+75	69.68	69.88
K814+00	69.02	69.09
+14.70	68.60	68.60
+25	68.30	68.25
+50	67.54	67.36
+64.70	67.07	66.82
+75	66.72	66.42
K815+00	65.89	65.46
+25	65.05	64.50
+50	64.22	63.54
+75	63.38	62.58
K816+00	62.55	61.62
+25	61.71	60.66
+50	60.88	59.70
+64.70	60.39	59.14
+75	60.04	58.74
+80.70	59.85	58.52
K817+00	59.11	57.78
+25	58.18	56.85
+50	57.32	55.99
+75	56.51	55.18
K818+00	55.77	54.44
+25	55.10	53.77
+50	54.49	53.16
+75	53.94	52.61
+95.54	53.53	52.20
K819+00	53.45	52.12
+25	53.03	51.70
+45.54	52.72	51.39

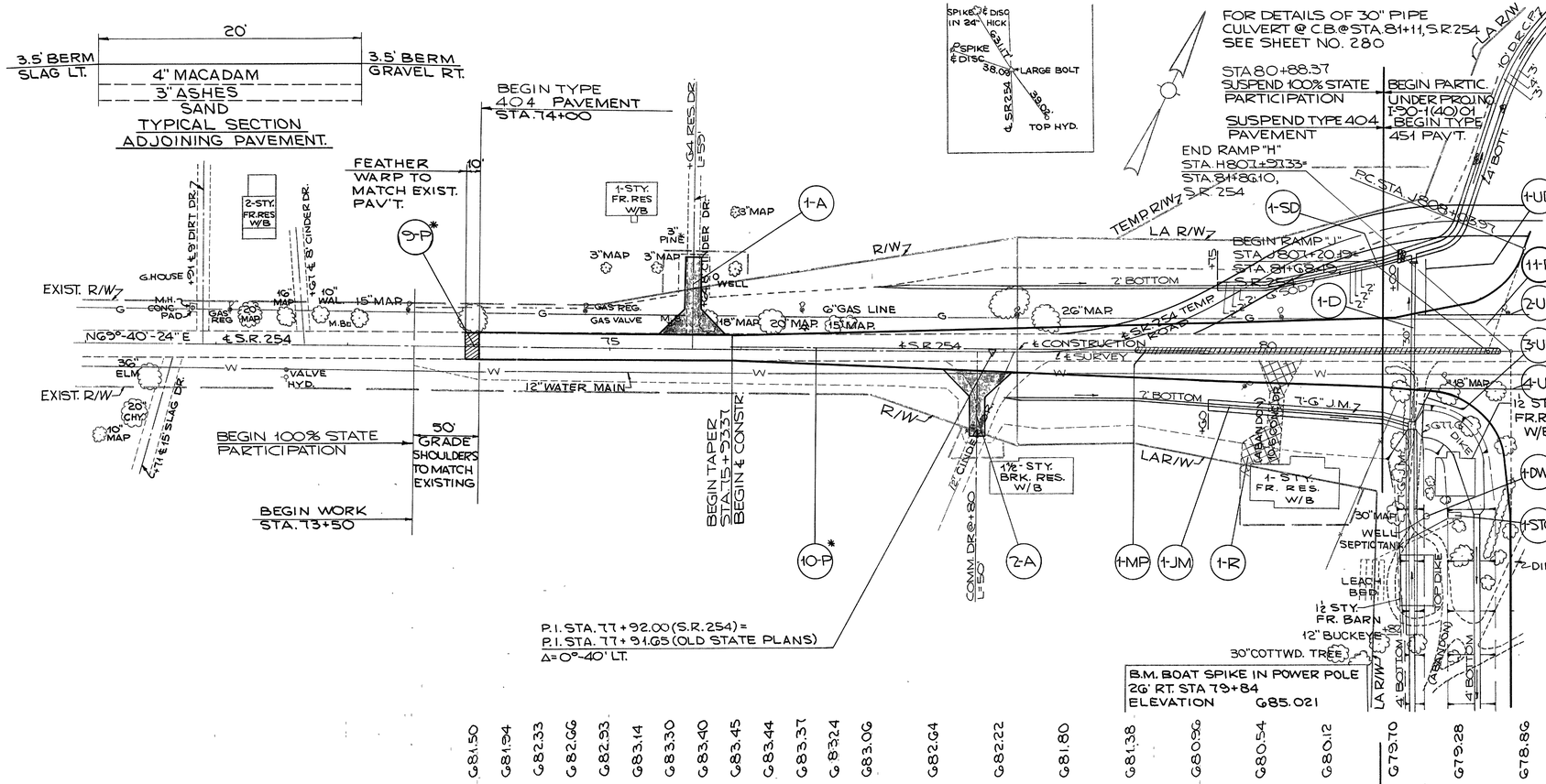
RAMP "L"

STA.	LEFT EDGE	℄ RIGHT EDGE
L804+08.03	66.44	65.94
+75	66.39	65.86
L805+00	66.26	65.60
+25	66.16	65.38
+50	66.12	65.21
+75	66.11	65.08
L806+00	66.16	65.00
+25	66.24	64.96
+34.03	66.29	64.96
+50	66.30	64.97
+68.03	66.33	65.00
+75	66.35	65.02
L807+00	66.45	65.12
+23.33	66.58	65.25
+25	66.58	65.26
+39.33	66.61	65.36
+50	66.65	65.45
+75	66.75	65.68
L808+00	66.91	65.96
+25	67.10	66.28
+50	67.35	66.65
+75	67.61	67.04
L809+00	67.88	67.43
+25	68.14	67.82
+39.33	68.29	68.04
+50	68.41	68.21
+75	68.67	68.60
+88.33	68.82	68.82
L810+00	68.94	68.99
+25	69.20	69.38
+39.33	69.35	69.60
+50	69.52	69.77
+75	69.91	70.16
L811+00	70.30	70.55
+25	70.69	70.94
+50	71.08	71.33
+75	71.47	71.72
L812+00	71.86	72.11
+25	72.25	72.50
+50	72.64	72.89
+73.51	73.01	73.26
+75	73.04	73.28
L813+00	73.55	73.67
+23.51	74.04	74.04

S.R. 254 SUPERELEVATION TABLE

STA.	LEFT EDGE ELEV.	ADD TO OR DEDUCT FROM P.G.	PROFILE GRADE	ADD TO OR DEDUCT FROM P.G.	RIGHT EDGE ELEV.
98+88.19	76.23	-0.41	76.64	-0.41	76.23
99+00	76.23	↑	76.64	-0.41	76.23
+25	76.28		76.69	-0.34	76.35
+50	76.33		76.74	-0.28	76.46
+75	76.38		76.79	-0.22	76.57
100+00	76.43		76.84	-0.16	76.68
+25	76.48		76.89	-0.09	76.80
+50	76.53		76.94	-0.03	76.91
+62.19	76.55		76.96	0.00	76.96
+75	76.58		76.99	+0.03	77.02
101+00	76.63		77.04	+0.09	77.13
+25	76.68		77.09	+0.16	77.25
+50	76.73		77.14	+0.22	77.36
+75	76.78		77.19	+0.28	77.47
+86.19	76.80		77.21	+0.31	77.52
102+00	76.83		77.24	+0.34	77.58
+25	76.87	↓	77.28	+0.41	77.69
+26.19	76.87	-0.41	77.28	+0.41	77.69
+50	76.81	-0.47	77.28	+0.47	77.75
+75	76.74	-0.53	77.27	+0.53	77.80
103+00	76.63	-0.59	77.22	+0.59	77.81
+10.19	76.57	-0.62	77.19	+0.62	77.81
+25	76.53	↑	77.15	↑	77.77
+50	76.43		77.05		77.67
+75	76.30		76.92		77.54
104+00	76.14		76.76		77.38
+25	75.96		76.58		77.20
+50	75.75		76.37		76.99
+75	75.51		76.13		76.75
105+00	75.24		75.86		76.48
+25	74.95		75.57		76.19
+30	74.88		75.50		76.12
+50	74.62		75.24		75.86
+56	74.55		75.17		75.79
+75	74.28		74.90		75.52
106+00	73.90	↓	74.52	↓	75.14
+08	73.78	-0.62	74.40	+0.62	75.02
+11.61	73.73	-0.61	74.34	+0.61	74.95
+25	73.55	-0.58	74.13	+0.58	74.71
+50	73.22	-0.52	73.74	+0.52	74.26
+75	72.90	-0.45	73.35	+0.45	73.80
+80	72.83	-0.44	73.27	+0.44	73.71
+92	72.67	-0.41	73.08	+0.41	73.49
107+00	72.55	↑	72.96	+0.39	73.35
+24	72.18		72.59	+0.33	72.92
+25	72.16		72.57	+0.33	72.90
+32	72.05		72.46	+0.31	72.77
+50	71.77		72.18	+0.27	72.45
+75	71.40		71.81	+0.20	72.01
108+00	71.08		71.49	+0.14	71.63
+25	70.81		71.22	+0.08	71.30
+50	70.58		70.99	+0.02	71.01
+56	70.53		70.94	0.00	70.94
+60	70.49		70.90	-0.01	70.89
+75	70.39		70.80	-0.05	70.75
109+00	70.25		70.66	-0.11	70.55
+25	70.16		70.57	-0.17	70.40
+36	70.11		70.52	-0.20	70.32
+50	70.11		70.52	-0.24	70.28
+75	70.11		70.52	-0.30	70.22
110+00	70.15	↓	70.56	-0.36	70.20
+20	70.22	-0.41	70.63	-0.41	70.22

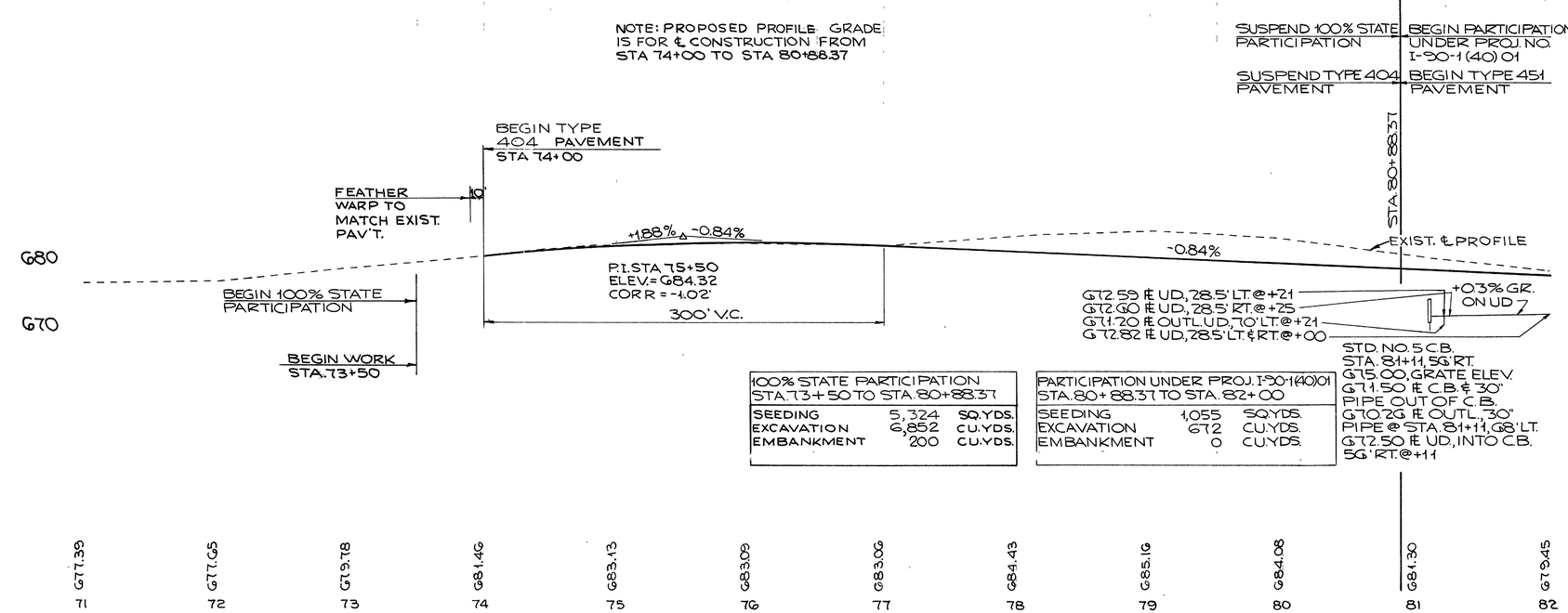
LOR-90-13.01



CROSS REFERENCES	
TAPER DETAIL	295
℄ CONST. LAYOUT	295
RAMP H & J DETAIL	269
PAV'T. QUANT.	306
SR 254 TEMPORARY RD.	305

QUANTITIES FOR PARTICIPATION UNDER PROJECT NO. I-90-1(40)01

REFERENCE NO.	SIDE	STATION FROM	STATION TO	603 CONDUIT TYPE B-B 30" LIN. FT.	602 MASON STD. HW-E END WL CLASS "C" CU. YD.	604 CATCH BASINS STD. NO. 5 EACH	605 SHALLOW PIPE UNDER-DRAIN 6" LIN. FT.	605 PIPE SPECIALS 6" TEE LIN. FT.	605 PIPE SPECIALS 6"-60° WYE LIN. FT.	603 CONDUIT TYPE F 6" LIN. FT.	612 CONC. MEDIAN SQ. YDS.	660 SODDING SQ. YDS.	667 JUTE MATTING SQ. YDS.	SPECIAL DRILLED WELLS ABAND. EACH	SPECIAL CLEAN. & DISPOS. OF SEPTIC TANK EACH
1-D	LT. & RT.	81+11		124	0.51	1							156		
1-MP	℄	80+88.37	81+79.64								30.3				
1-STC	RT.	81+42	81+78												1
1-DWA	RT.	81+21												1	
1-UD	LT.	81+21					32	1		10					
2-UD	LT.	81+15	82+00				85								
3-UD	RT.	81+11	81+25				22		1	10					
4-UD	RT.	81+15	82+00				85								
1-SD	LT.	80+88.37	81+00									8			
TOTALS				124	0.51	1	224	1	1	20	30.3	8	156	1	1

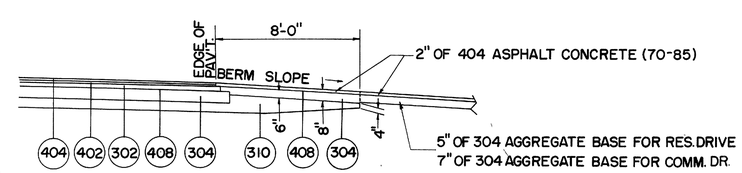


QUANTITIES FOR 100% STATE PARTICIPATION

REFERENCE NO.	SIDE	STATION FROM	STATION TO	304 AGGR. BASE 5" CU. YD.	304 AGGR. BASE 7" CU. YD.	202 EXIST. PAV'T. REMOV. & DISPOS. OF (CONC.) SQ. YDS.			408 BITUM. PRIME COAT GAL.	404 ASPHAL CONC. (70-85) 2" CU. YD.	612 CONC. MEDIAN SQ. YDS.	660 SODDING SQ. YDS.	667 JUTE MATTING SQ. YDS.		
1-A	LT.	75+64		11.7					49.2	6.8					
2-A	RT.	77+80			14.0				44	6.2					
1-SD	LT.	79+75	80+88.37									78			
1-JM	RT.	79+60	80+88.37										112		
1-R	RT.	80+10				17.0									
1-MP	℄	78+98.5	80+88.37								63.2				
TOTALS				11.7	14.0	17.0			53.6	13.0	63.2	78	112		

100% STATE PARTICIPATION STA. 73+50 TO STA. 80+88.37		
SEEDING	5,324	SQ. YDS.
EXCAVATION	6,852	CU. YDS.
EMBANKMENT	200	CU. YDS.

PARTICIPATION UNDER PROJ. I-90-1(40)01 STA. 80+88.37 TO STA. 82+00		
SEEDING	1,055	SQ. YDS.
EXCAVATION	672	CU. YDS.
EMBANKMENT	0	CU. YDS.

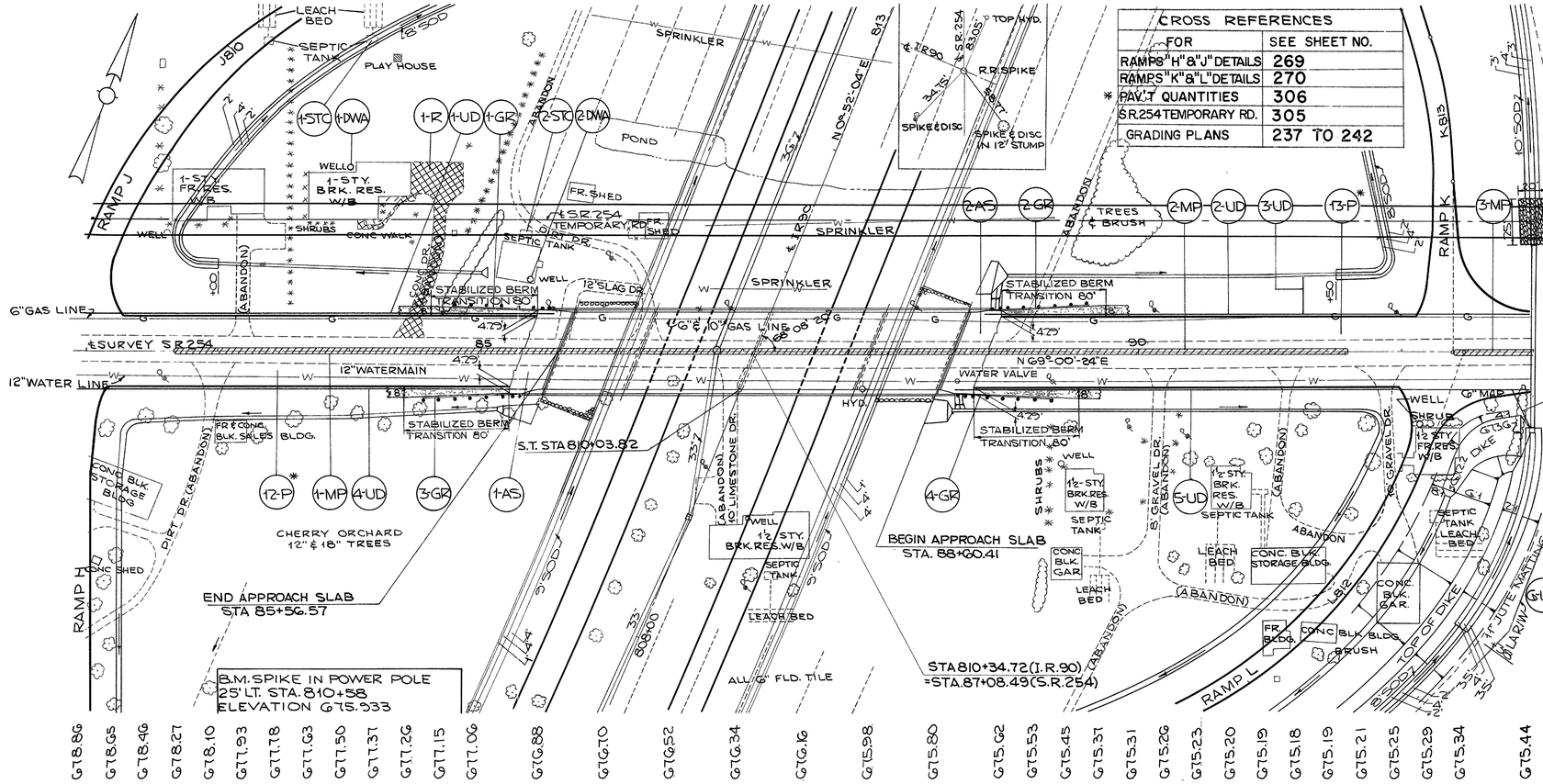


DETAIL OF RES. & COMM. DRIVE APPROACHES ACROSS STABILIZED BERM

STA 71+00 TO STA. 82+00 S.R. 254

CROSS REFERENCES	
FOR	SEE SHEET NO.
RAMPS "H" & "J" DETAILS	269
RAMPS "K" & "L" DETAILS	270
* PAV'T QUANTITIES	306
S.R. 254 TEMPORARY RD.	305
GRADING PLANS	237 TO 242

FOR DETAILS OF 30" PIPE CULVERT & C.B. @ STA. 93+00, S.R. 254, SEE SHEETS NO. 283



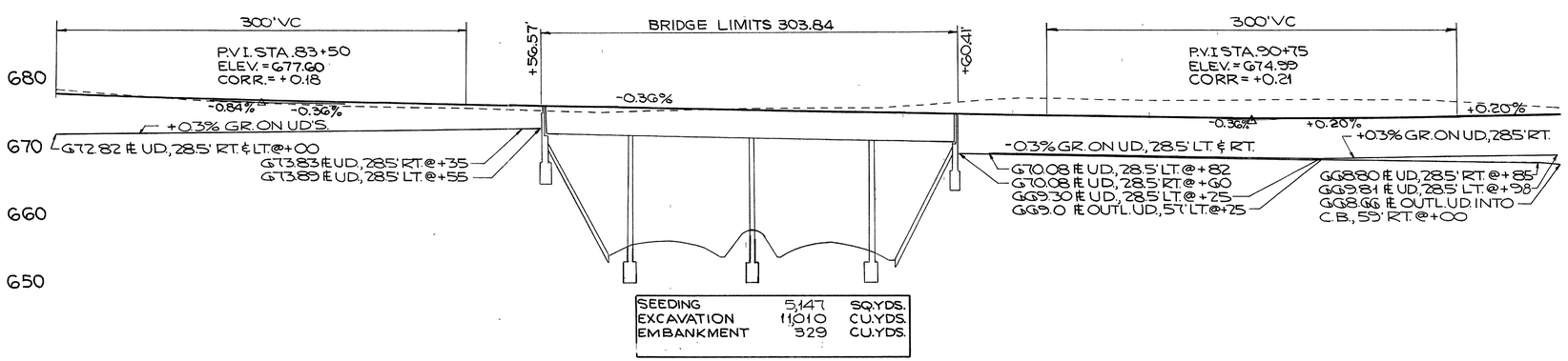
LOR.-90-13.01

REFERENCE NO	SIDE	STATION FROM	STATION TO	605 SHALLOW PIPE UNDER DRAIN 6" LIN.FT.	603 CONDUIT TYPE F 6" LIN.FT.		605 PIPE SPECIALS 6" TEE EACH	605 PIPE SPECIALS 6"-60° WYE EACH			202 EXIST. SDWK REMOV. & DISPOS. OF SQ.FT.	202 EXIST. PAV'T. REMOV. & DISPOS. OF (CONC.) SQ.YDS.	SPECIAL DRILLED WELL ABAND. EACH	SPECIAL CLEAN & DISPOS. OF SEPTIC TANK EACH
1-UD	LT.	82+00	85+55	355										
2-UD	LT.	88+82	92+98	416										
3-UD	LT.	91+25		19	10		1							
4-UD	RT.	82+00	85+35	335										
5-UD	RT.	88+60	92+98	438										
6-UD	RT.	92+85	93+00	25	10			1						
1-R	LT.	84+50									145	236		
1-STC	LT.	84+15												1
2-STC	LT.	85+35												1
1-DWA	LT.	84+00											1	
2-DWA	LT.	85+40											1	
TOTALS				1588	20		1	1			145	236	2	2

ALL QUANTITIES ON THIS SHEET ARE FOR PARTICIPATION UNDER PROJ. NO. I-90-1(40)01

REFERENCE NO	SIDE	STATION FROM	STATION TO		310 SUBBASE GRADING A OR B 6" CU.YD.	611 REINF. CONC. APPR. SLAB T=13" SQ.YDS.			606 GUARD RAIL TYPE 4 LIN.FT.	612 CONC. MEDIAN SQ.YDS.			
1-GR	LT.	84+81	85+56						75				
2-GR	LT.	88+88	89+63						75				
3-GR	RT.	84+55	85+30						75				
4-GR	RT.	88+61	89+36						75				
1-AS	℄	85+31.57	85+56.57		27.6	169.2							
2-AS	℄	88+60.41	88+85.41		27.6	169.2							
1-MP	℄	82+67.82	85+30.17							87.8			
2-MP	℄	88+86.81	91+59.17							90.7			
3-MP	℄	92+39.39	93+00							20.6			
TOTALS					55.2	338.4			300	199.1			

NOTE: CONCRETE MEDIAN ON APPROACH SLABS IS TO BE INCLUDED IN THE PRICE BID FOR 611 REINFORCED CONCRETE APPROACH SLABS.



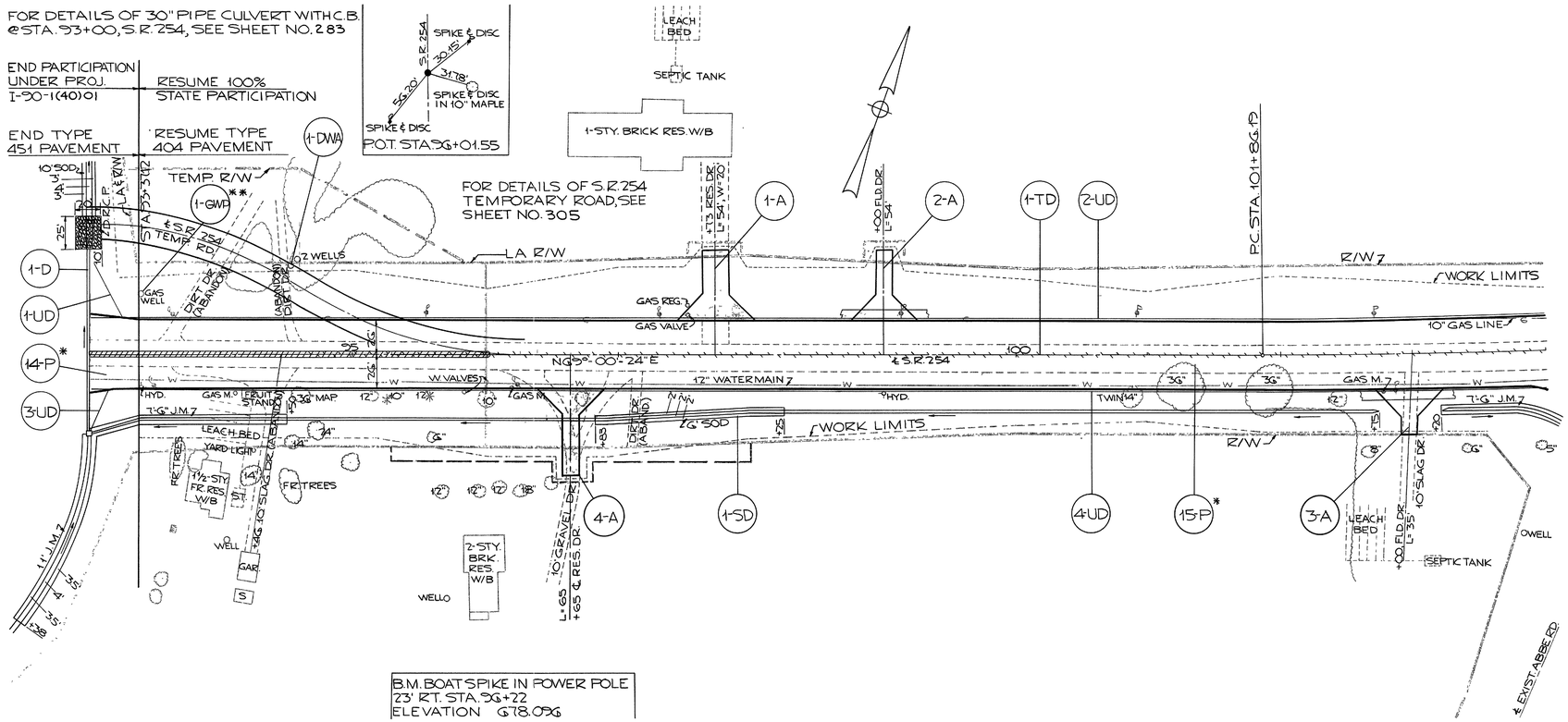
SEEDING	5,147	SQ.YDS.
EXCAVATION	11,010	CU.YDS.
EMBANKMENT	329	CU.YDS.

PROPOSED STRUCTURE — BRIDGE NO. LOR.-90-1565

TYPE - CONTINUOUS STEEL BEAM WITH REINFORCED CONCRETE DECK AND SUBSTRUCTURE
SPANS - 61.5'; 88'; 88'; 61.5' ℄ BEARINGS
ROADWAY - 59'-0" F/F OF 2'-0" SAFETY CURBS WITH 3' RAISED MEDIAN.
LOAD FREQUENCY - CF 400 (57)
SKEW - 21°-51'-40" L.F.
WEARING SURFACE: 1" MONOLITHIC CONCRETE.
APPROACH SLABS - AS-1-54 (25' LONG, MODIFIED)
ALIGNMENT - TANGENT

STA 82+00 TO STA 93+00 S.R. 254

LOR-90-13.01



B.M. BOAT SPIKE IN POWER POLE
23' RT. STA. 96+22
ELEVATION 678.096

QUANTITIES FOR PARTICIPATION UNDER PROJECT NO. I-90-1(40)01

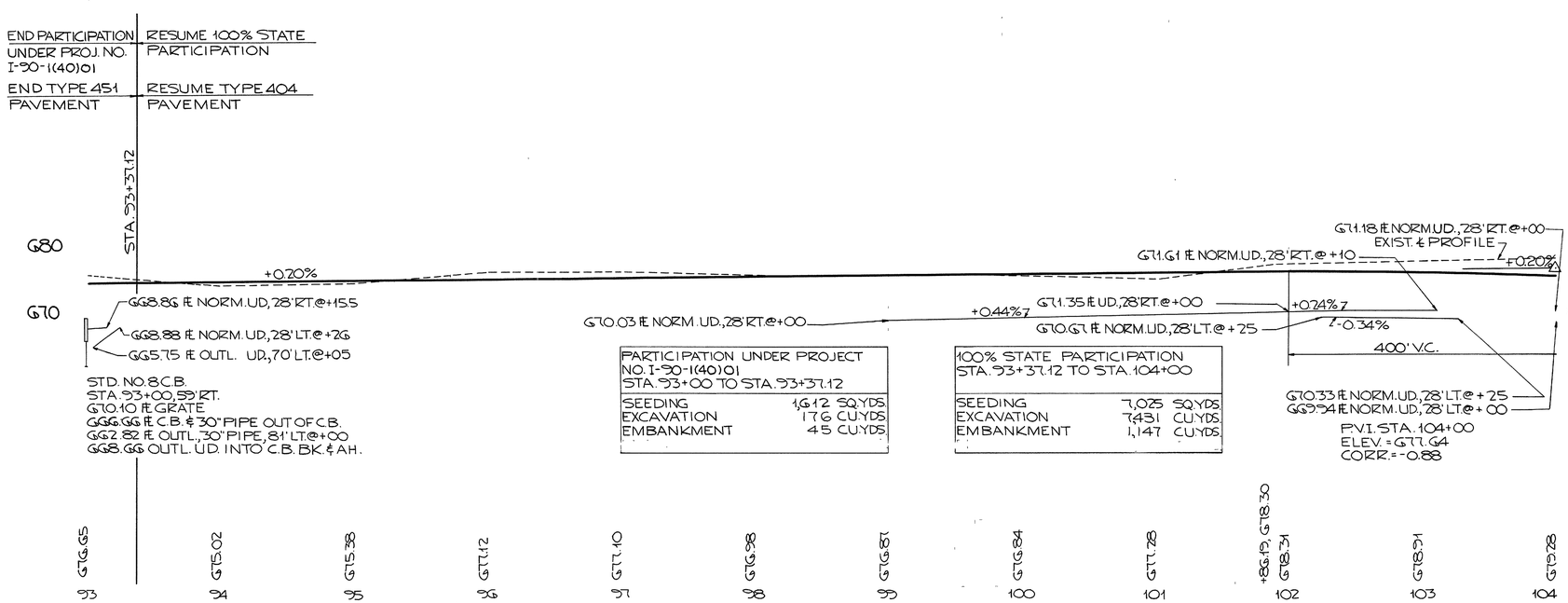
REFERENCE NO	SIDE	STATION FROM	STATION TO	605 DEEP PIPE UNDER-DRAIN 6" LIN.FT.	603 CONDUIT TYPE F 6" LIN.FT.	605 PIPE SPECIALS 6"-60° WYE EACH	603 CONDUIT TYPE B-B 30" LIN.FT.	604 CATCH BASIN STD. NO. 5 EACH	612 CONC. MEDIAN SQ.YDS.	601 DUMPED ROCK CHANN. PROT. T=30" CU.YDS.	602 CONC. MASON. CLASS C STD. HW-E ENDWL. CU.YDS.	660 SODDING SQ.YDS.	667 JUTE MATTING SQ.YDS.
1-UD	LT.	93+05	93+26	34	10	1							
2-UD	LT.	93+02	93+37.12	35									
3-UD	RT.	93+00	93+15.5	25	10	1							
4-UD	RT.	93+02	93+37.12	35									
1-MP	℄	93+00	93+37.12						124				
1-D	LT.&RT.	93+00					140	1		51	0.51		210
TOTALS				129	20	2	140	1	124	51	0.51		210

* FOR PAVEMENT QUANTITIES, SEE SHEET NO. 306

QUANTITIES FOR 100% STATE PARTICIPATION

REFERENCE NO.	SIDE	STATION FROM	STATION TO	304 AGGR. BASE 5" CU.YDS.	411 STABIL. CRUSHED AGGR. 6" CU.YDS.	408 BITUM. PRIME COAT GAL.	404 ASPHAL. CONC. (10-85) 2" CU.YD.	605 DEEP PIPE UNDER-DRAIN 6" LIN.FT.	612 CONC. MEDIAN SQ.YDS.	613 TRAFFIC DIVIDERS EACH	660 SODDING SQ.YDS.	667 JUTE MATTING SY.	603 CONDUIT TYPE D 18" L.F.	SPEC. DRILLED WELLS ABANDON PLUGGING GAS WELLS EACH
1-A	LT.	97+73		16.4		65.1	9.2							
2-A	LT.	99+00			12.9									
3-A	RT.	103+00			8.7									
4-A	RT.	96+65		12.8		52.4	7.3						36	
2-UD	LT.	93+37.12	104+00					106.3						
4-UD	RT.	93+37.12	104+00					106.3						
** 1-GWP	LT.	93+38												1
1-SD	RT.	96+83	98+25								97			
1-MP	℄	93+37.12	96+01.5						88.0					
1-TD	LT.&RT.	96+05	103+98							133				
1-DWA	LT.	94+58												1
1-D	RT.	93+37.12	94+50									98		
TOTALS				29.2	21.6	117.5	16.5	212.6	88.0	133	97	98	36	1 1

** PLUGGING GAS WELLS:
THE WELL SHALL BE FILLED SOLID FROM THE BOTTOM TO THE TOP AND ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE REQUIREMENTS OF THE STATE OF OHIO DIVISON OF MINES. (SEE NOTE IN PROPOSAL)



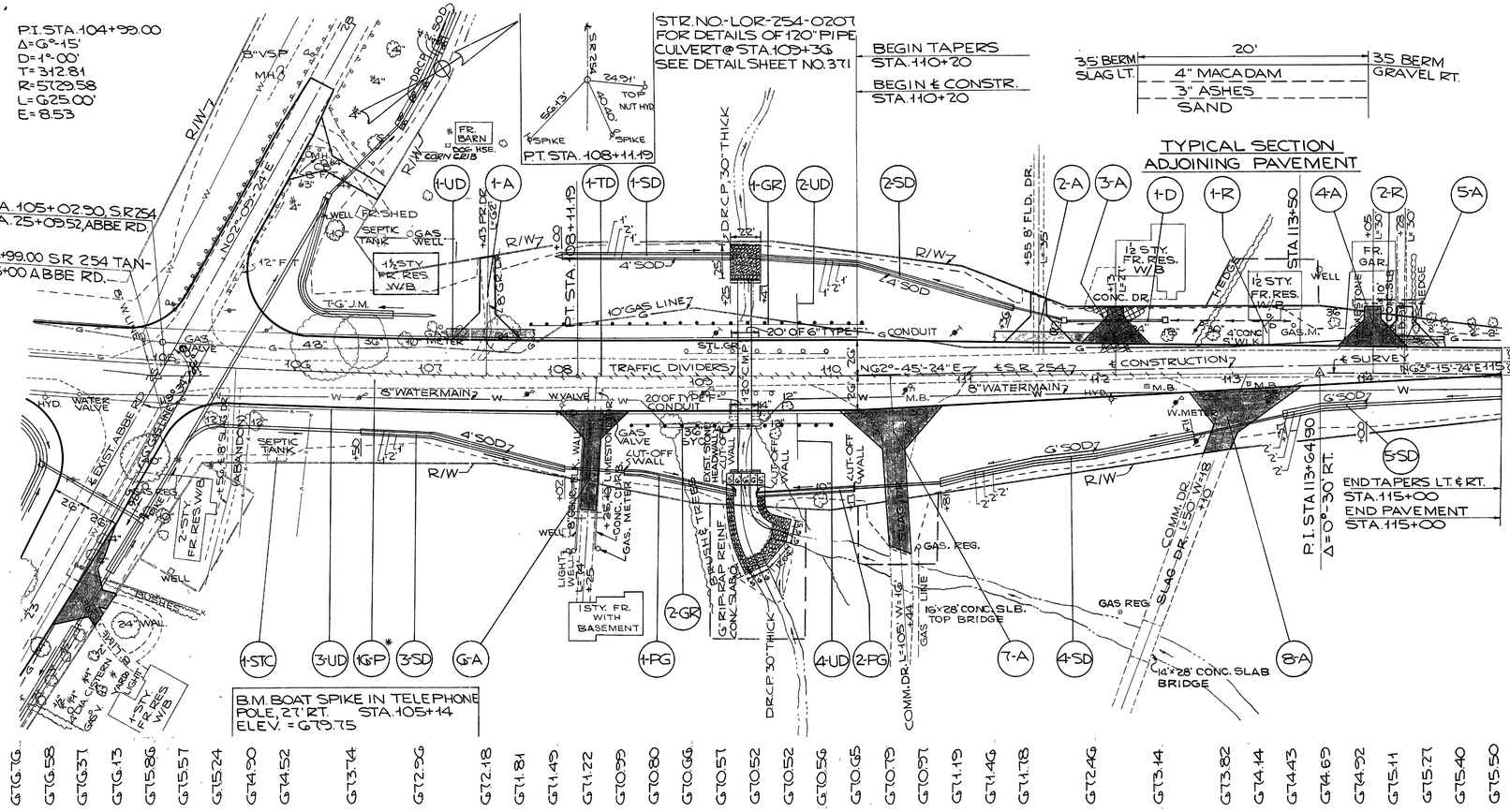
PARTICIPATION UNDER PROJECT NO. I-90-1(40)01 STA. 93+00 TO STA. 93+37.12	
SEEDING	1,612 SQ.YDS
EXCAVATION	176 CU.YDS
EMBANKMENT	45 CU.YDS

100% STATE PARTICIPATION STA. 93+37.12 TO STA. 104+00	
SEEDING	7,025 SQ.YDS
EXCAVATION	7,431 CU.YDS
EMBANKMENT	1,147 CU.YDS

STA. 93+00 TO STA. 104+00, S.R. 254

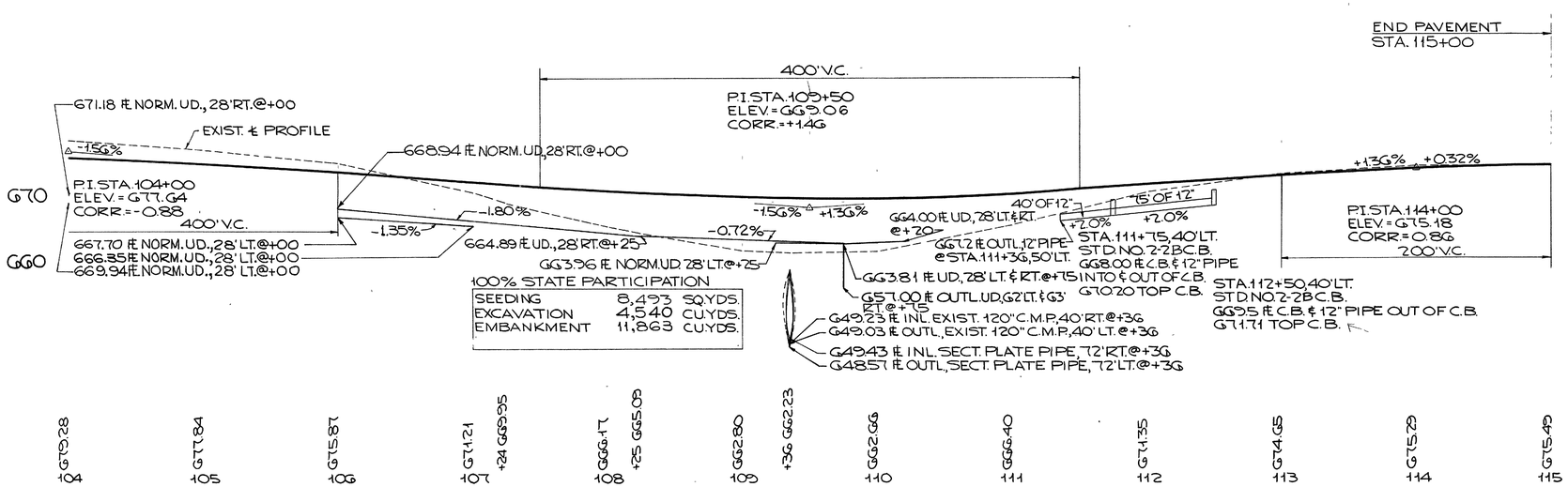
LOR.-90-13.01

CROSS REFERENCES	
FOR	SEE SHEET NO.
ABBE RD. INTER.	296
TRAFFIC DIVIDER SPACING	295
℄ CONST. LAYOUT	295
* PAV'T QUANT.	306
SUPERELEVATION	271



REFERENCE NO.	SIDE	STATION FROM	STATION TO	G05 DEEP PIPE UNDER DRAIN 6" LIN.FT.	G03 CONDUIT TYPE F 6" LIN.FT.	G03 CONDUIT TYPE B-B 12" LIN.FT.	G02 MASON. STD. HW-E ENDWL. CLASS "C" CUYD.	G05 PIPE SPECIALS 6" TEE EACH	G04 CATCH BASIN STD. NO. 2-28 EACH		G01 PAVED GUTTER 2.0-12 LIN.FT.	G06 GUARD RAIL TYPE 4 LIN.FT.	
1-UD	LT.	104+00	110+20	600	20								
2-UD	LT.	109+15		24	10			1					
3-UD	RT.	104+00	110+20	600	20								
4-UD	RT.	109+75		25	10			1					
1-D	LT.	111+36	112+50			114	026		2				
1-GR	LT.	107+75	110+25									250	
2-GR	RT.	108+50	110+00									150	
1-PG	RT.	108+455	109+29								84		
2-PG	RT.	109+43	110+17								75		
TOTALS				1249	60	114	026	2	2		159	400	

ALL QUANTITIES ON THIS SHEET ARE FOR 100% STATE PARTICIPATION



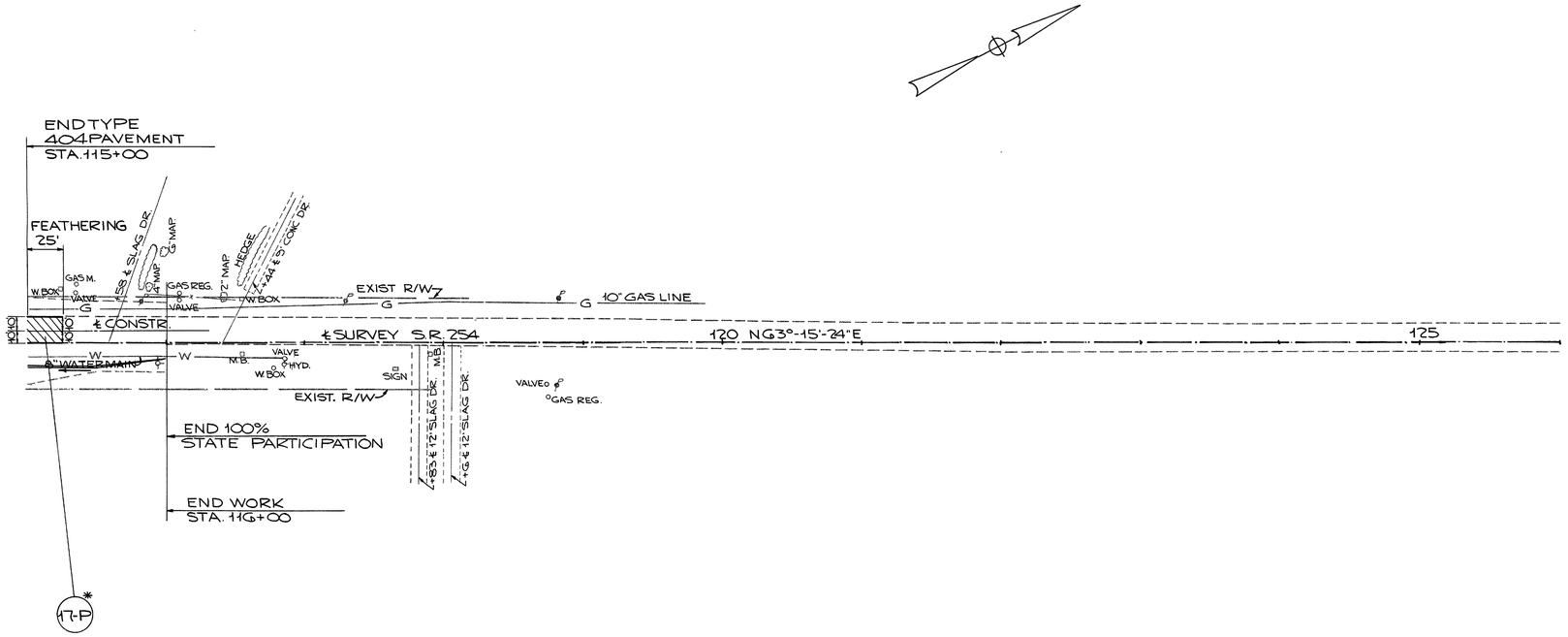
100% STATE PARTICIPATION

SEEDING	8,493	SQ.YDS.
EXCAVATION	4,540	CU.YDS.
EMBANKMENT	11,863	CU.YDS.

NOTE: PROPOSED PROFILE GRADE IS FOR ℄ CONSTRUCTION FROM STA. 110+20 TO STA. 115+25

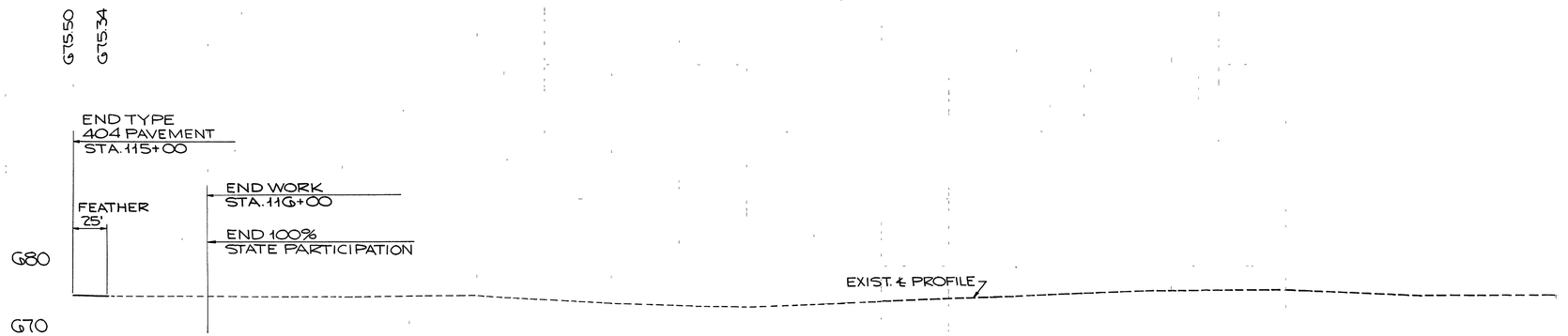
REFERENCE NO.	SIDE	STATION FROM	STATION TO	411 STABIL. CRUSHED AGGR. (CRUSHED LIMESTN. 6") CU.YD.	G13 TRAFFIC DIVIDERS CU.YD.	G03 CONDUIT TYPE D 12" LIN.FT.	G03 CONDUIT TYPE D 15" LIN.FT.	G03 CONDUIT TYPE F 12" LIN.FT.	304 AGGR. BASE 5" CUYD.	304 AGGR. BASE 7" CUYD.	202 REMOVAL & DISPOSAL OF EXIST. RIGID PAV'T SY.	202 REMOVAL & DISPOSAL OF EXIST. SIDEWALK SY.	202 REMOVAL & DISPOSAL OF EXIST. CURB LF.	G60 SODDING SQ.YD.	408 BITUM. PRIME COAT GAL.	404 ASPHAL. CONC. (70-85) 2" CUYD.	452 PLAIN PORT. CEMENT CONC. PAV'T. 7" SQ.YD.	SPECIAL LEAN. & DISPOS. OF SEPTIC TANK EACH
1-TD	LT. & RT.	106+00	112+60		91													
1-A	LT.	107+43		14.7														
2-A	LT.	111+55		8.7														
3-A	LT.	112+13									89						804	
4-A	LT.	114+05							4.7						63	33.2		
5-A	LT.	114+28		6.8														
6-A	RT.	108+25					44		14.4				65		56.7	8.0		
7-A	RT.	110+44				64				44.0					113.8	16.0		
8-A	RT.	113+10					68		26.5						79.9	11.3		
1-R	LT.	113+25										72						
2-R	LT.	114+15									14							
1-STC	RT.	105+50																1
1-SD	LT.	108+00	109+25											57				
2-SD	LT.	109+47	111+36											91				
3-SD	RT.	106+50	108+02											73				
4-SD	RT.	110+81	112+71											132				
5-SD	RT.	113+37	114+00											43				
1-PG	RT.	108+455	109+29											28				
2-PG	RT.	109+43	110+17											25				
TOTALS				30.2	91	64	44	68	19.1	70.5	103	72	65	449	256.7	68.5	80.4	1

STA. 104+00 TO STA. 115+00, S.R. 254



B.M. TOP OF NUT ON HYDRANT
17' RT. STA. 112+08
ELEVATION 673.44

* FOR PAVEMENT QUANTITIES
SEE SHEET NO. 306



100% STATE PARTICIPATION

SEEDING	309	SQ.YDS.
EXCAVATION	85	CU.YDS.
EMBANKMENT	6	CU.YDS.

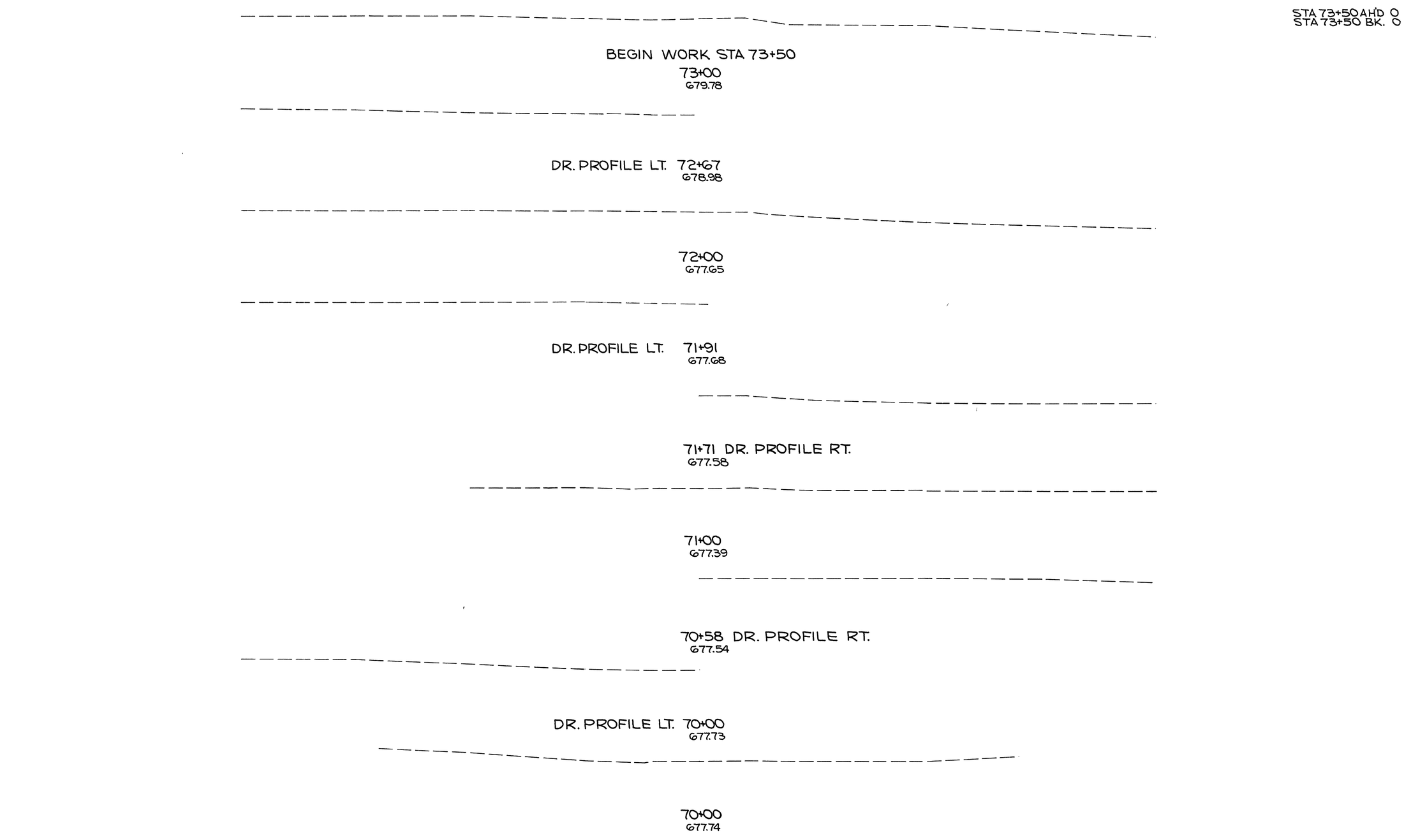
675.49	675.46	675.50	675.68	674.38	673.94	674.91	675.51	676.11	676.15	675.85	675.62
115	116	117	118	119	120	121	122	123	124	125	126

STA. 115+00 TO STA. 126+00, S.R. 254

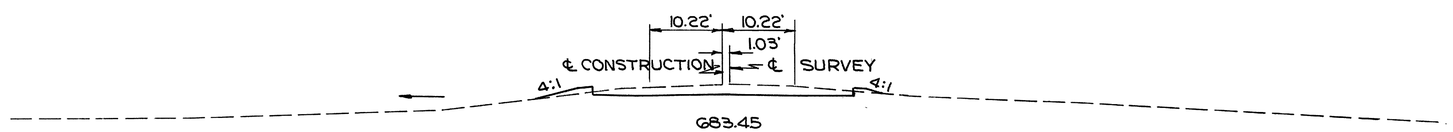
LOR.-90-13.01

GRADE SHOULDERS TO
MATCH EXISTING SHOULDERS
STA 73+50 TO STA 74+00

STA 73+50 AH'D 0 0
STA 73+50 BK. 0 0



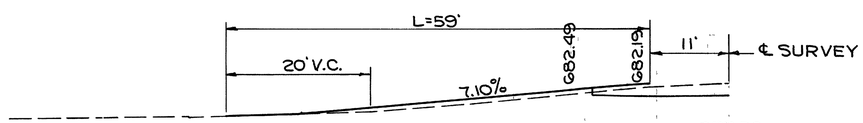
STA. 70+00 TO STA. 73+00 SR 254



683.45
76+00
683.09

STA 75+93.37 BEGIN TAPERS LT.&RT.

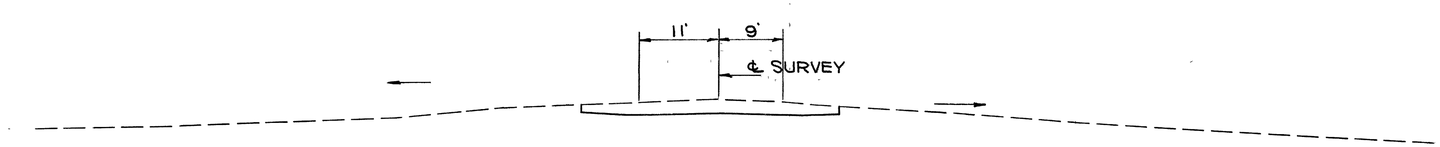
47 6



683.36
DR. PROFILE LT. 75+64
683.38

ADD FOR DR. STA. 75+64 LT. 0 26

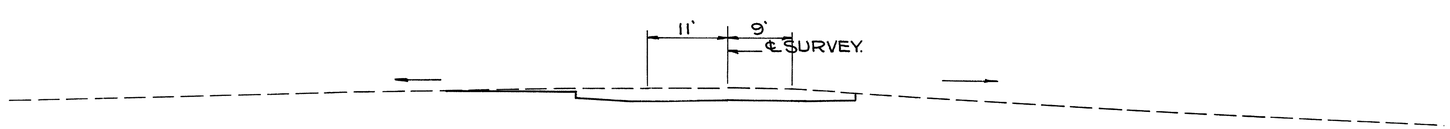
204 11



63 0

682.93
75+00
683.13

228 0



STA 74+00 AH'D. 60 0
STA 74+00 BK. 0 0

681.50
74+00
681.46

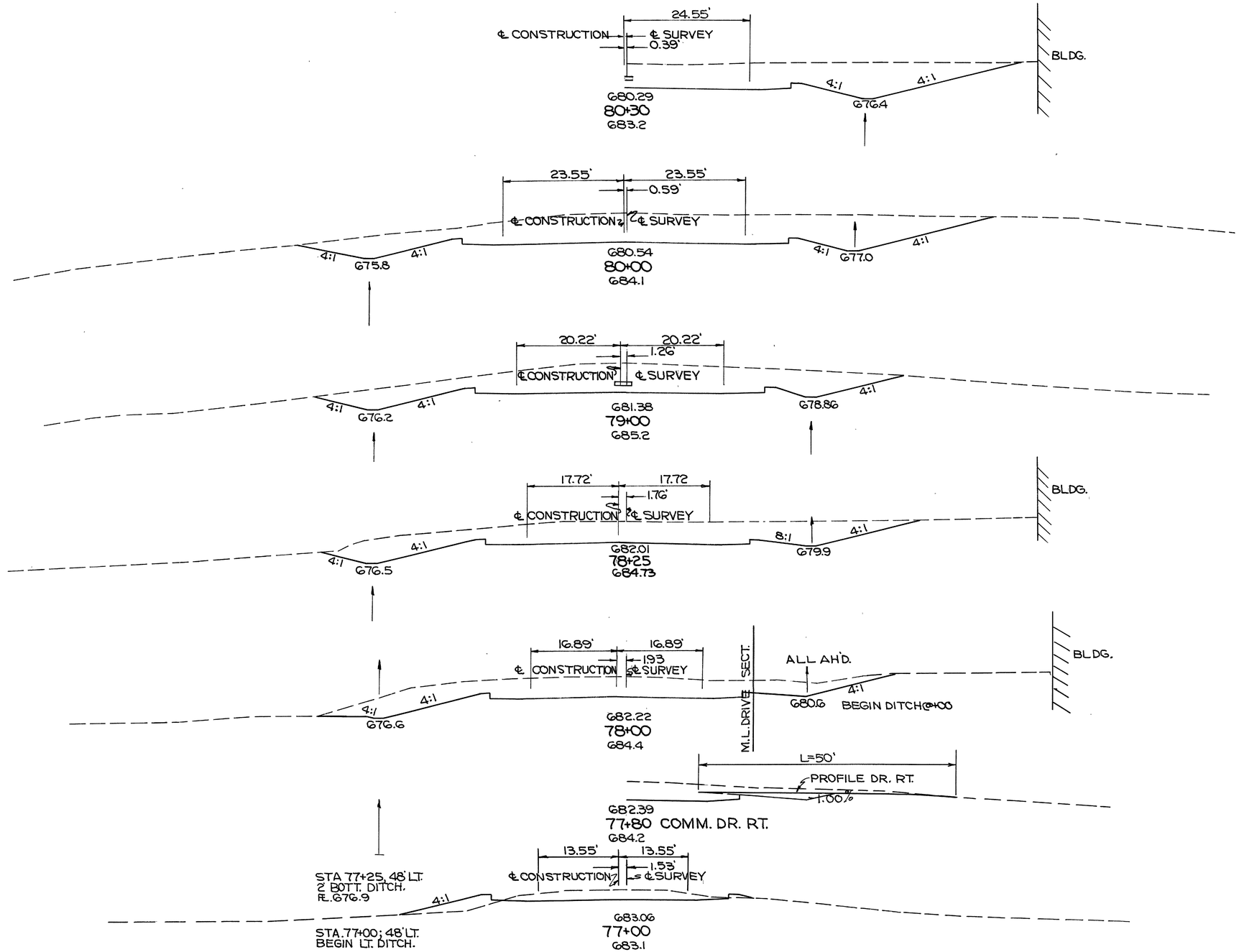
BEGIN PAVEMENT STA 74+00

STA 73+50 0 0

150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

STA 74+00 TO STA 76+00 SR 254

LOR.-90-13.01

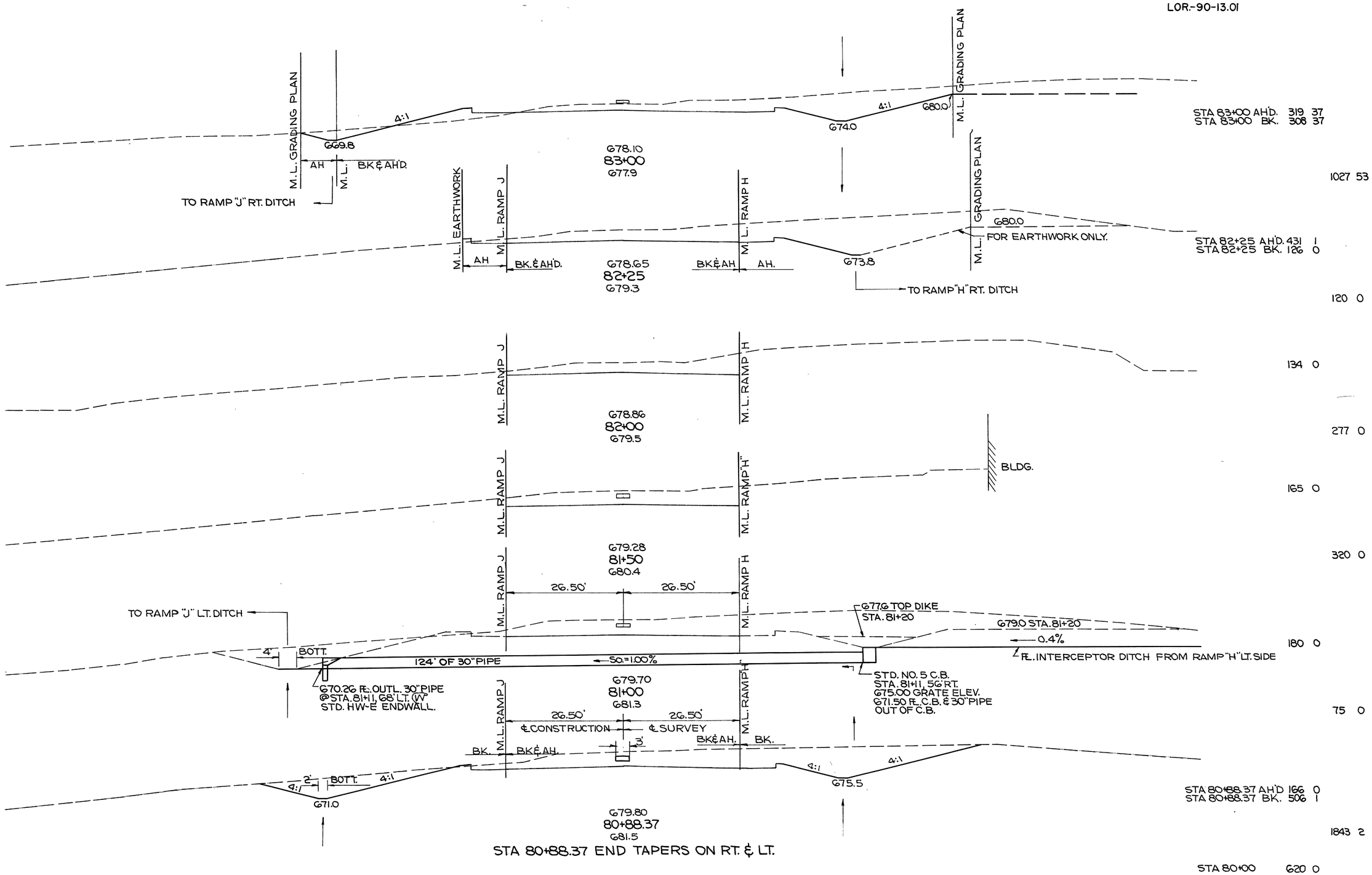


620	0	
2037	0	
480	0	
1232	0	
407	0	
350	0	
STA. 78+00 AH'D.	348	0
STA. 78+00 BK.	300	0
693	74	
ADD FOR DR. 77+80	41	2
74	40	
224	85	
STA 76+00	47	6

150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

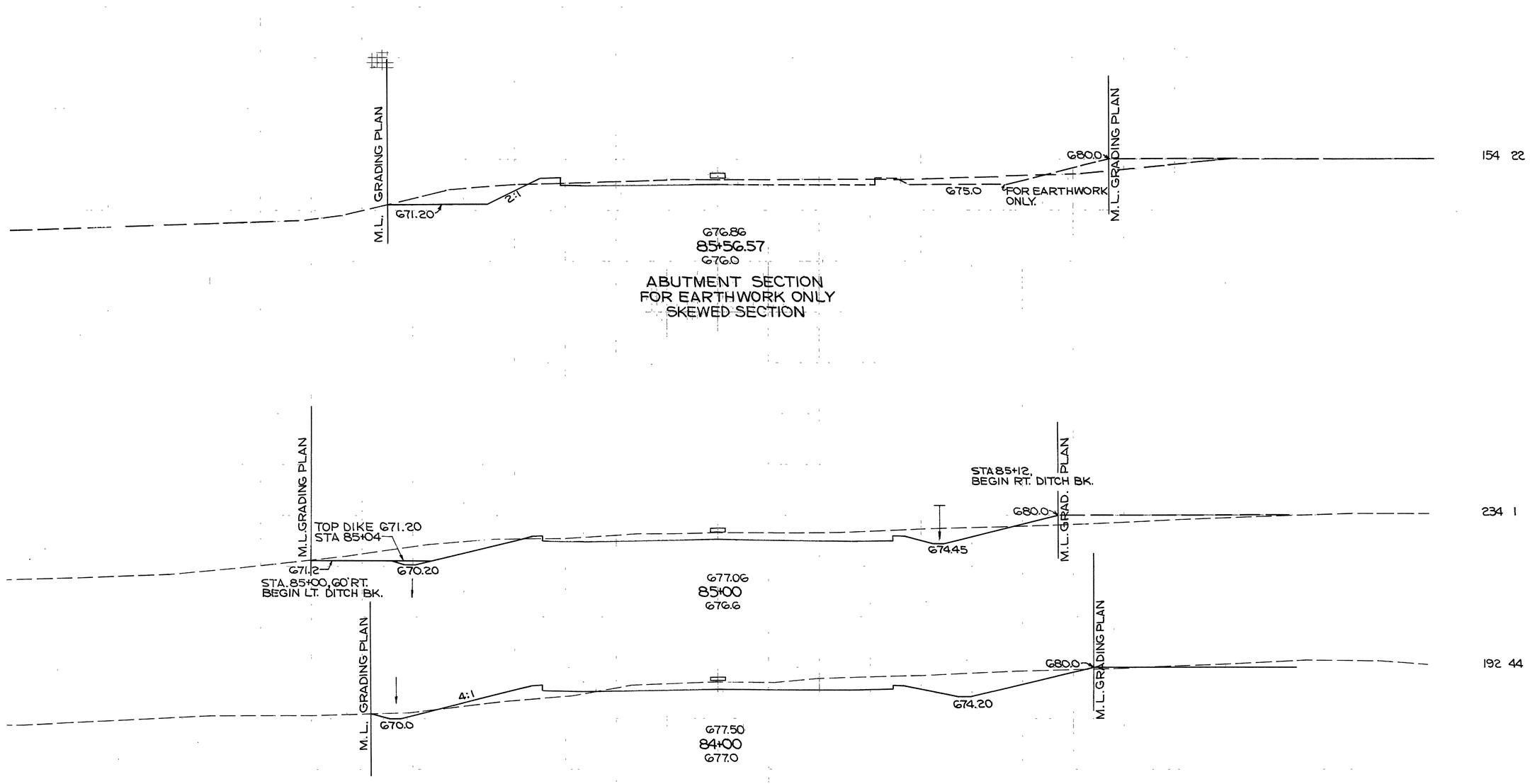
STA 77+00 TO STA 80+30 SR 254

LOR.-90-13.01

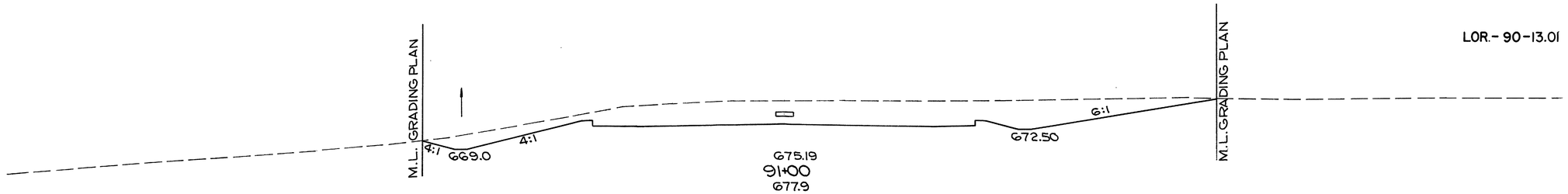

M.L. GRADING PLAN
4:1
669.8
AH
M.L.
BK & AH'D.
TO RAMP "J" RT. DITCH
678.10
83+00
677.9
674.0
4:1
680.0
M.L. GRADING PLAN
STA 83+00 AH'D. 319 37
STA 83+00 BK. 308 37
1027 53
M.L. EARTHWORK
M.L. RAMP J
AH
BK. & AH'D.
678.65
82+25
679.3
M.L. RAMP H
BK & AH
AH.
673.8
TO RAMP "H" RT. DITCH
680.0
FOR EARTHWORK ONLY.
STA 82+25 AH'D. 431 1
STA 82+25 BK. 126 0
120 0
M.L. RAMP J
M.L. RAMP H
134 0
678.86
82+00
679.5
277 0
BLDG.
165 0
679.28
81+50
680.4
320 0
26.50'
26.50'
TO RAMP "J" LT. DITCH
677.6 TOP DIKE
STA. 81+20
679.0 STA. 81+20
0.4%
180 0
4'
BOTT.
124' OF 30" PIPE
S0=1.00%
FL. INTERCEPTOR DITCH FROM RAMP "H" LT. SIDE
670.26 FL. OUTL. 30" PIPE
@ STA. 81+11, 68' LT. (W)
STD. HW-E ENDWALL.
STD. NO. 5 C.B.
STA. 81+11, 56' RT.
675.00 GRATE ELEV.
671.50 FL. C.B. & 30" PIPE
OUT OF C.B.
679.70
81+00
681.3
75 0
26.50'
26.50'
℄ CONSTRUCTION
℄ SURVEY
3'
BK.
BK & AH.
BK & AH.
BK.
2'
BOTT.
4:1
4:1
671.0
4:1
4:1
675.5
STA 80+88.37 AH'D 166 0
STA 80+88.37 BK. 506 1
679.80
80+88.37
681.5
1843 2
STA 80+88.37 END TAPERS ON RT. & LT.
STA 80+00 620 0
150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150
STA 80+88.37 TO STA 83+00 SR 254

ZERO SECTION
STA 86+04

STA 86+04 AH'D 0 0
STA 86+04 BK. 0 0

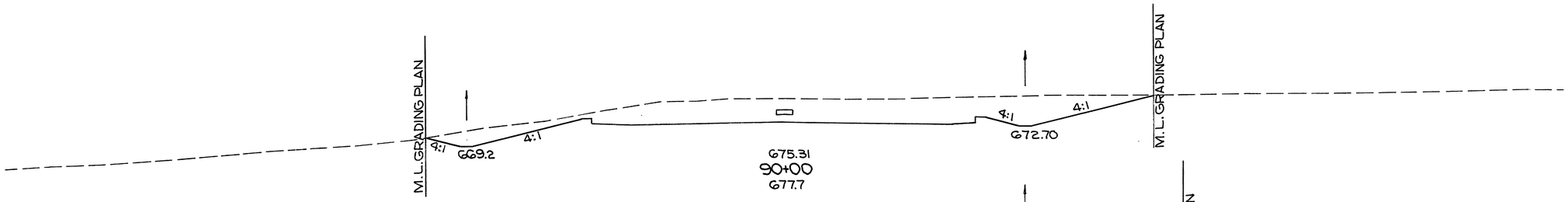


LOR.-90-13.01



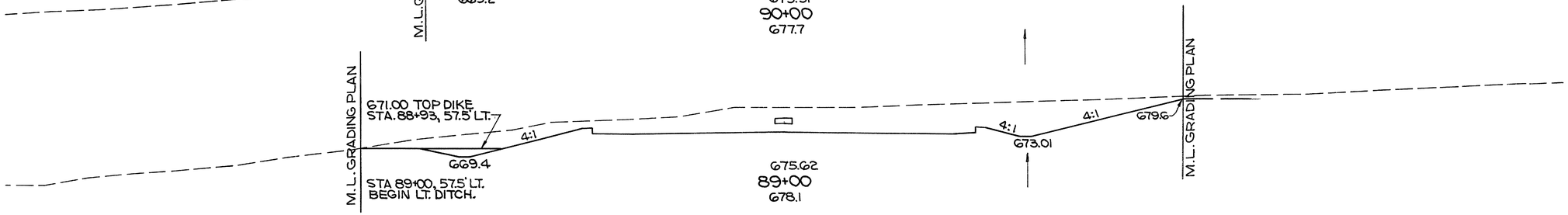
512 0

1809 0



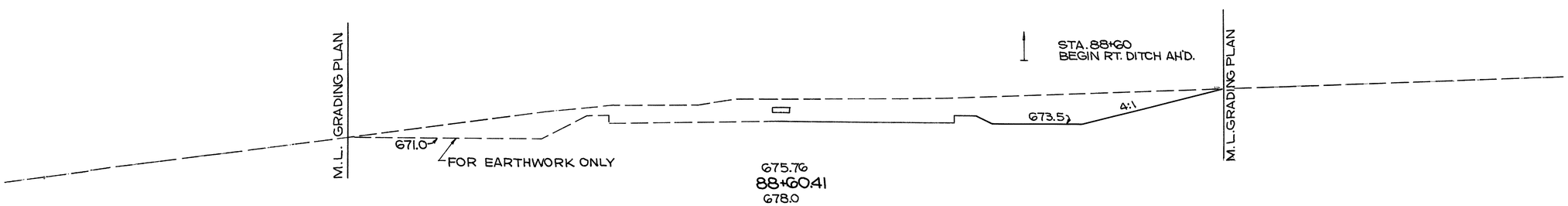
465 0

1870 0



545 0

774 0



510 0

448 0

ABUTMENT SECTION
FOR EARTHWORK ONLY
SKEWED SECTION

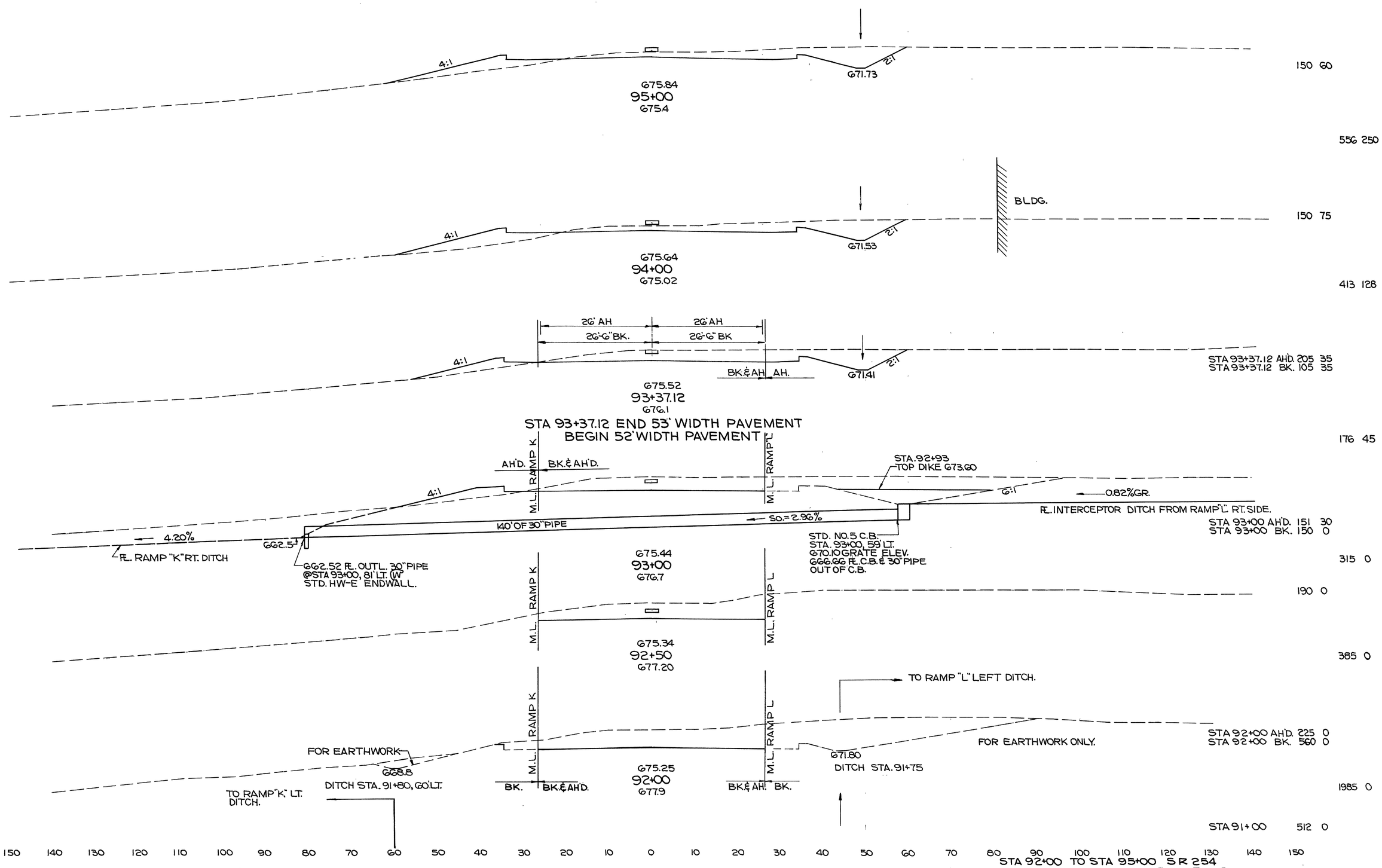
ZERO SECTION
STA 88+13

STA 88+13. AH'D. 0 0
STA 88+13 BK. 0 0

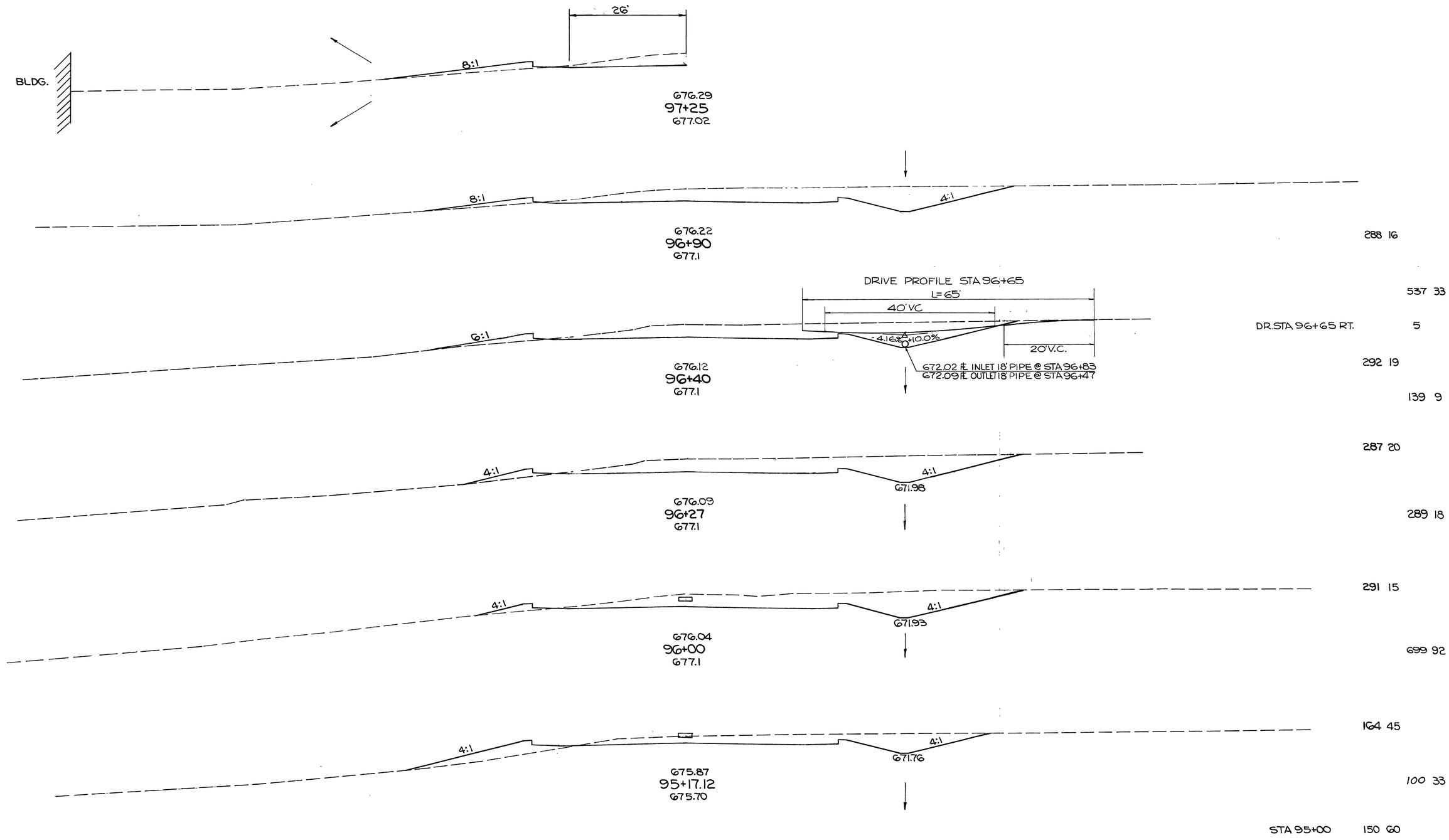
150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

STA 88+13.00 TO STA 91+00 SR 254

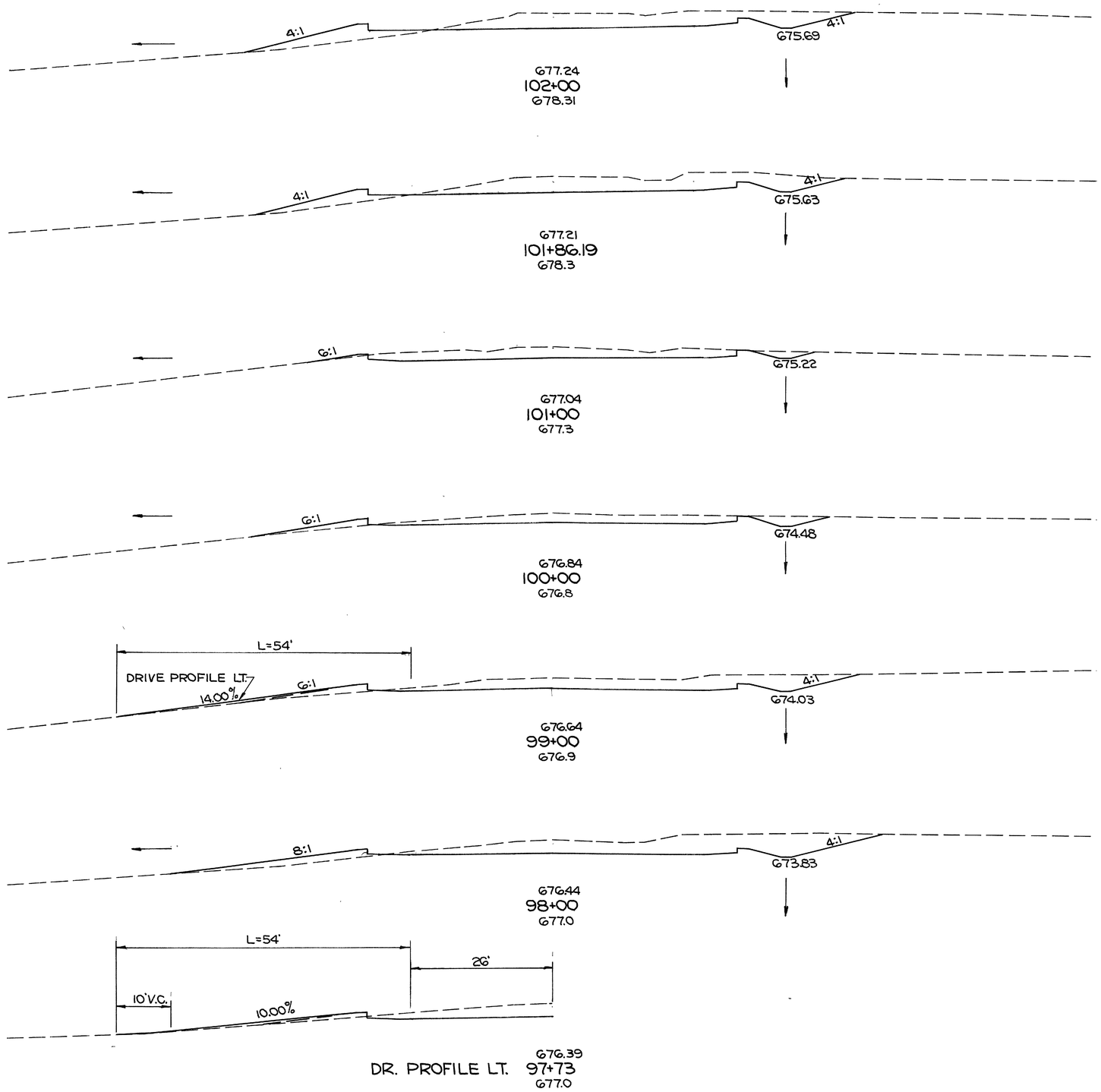
LOR. - 90-13.01


4:1
2:1
G71.73
G75.84
95+00
G75.4
150 60
556 250
BLDG.
4:1
2:1
G71.53
G75.64
94+00
G75.02
150 75
413 128
26' AH
26' AH
26'-6" BK.
26'-6" BK
4:1
2:1
BK.&AH
AH.
G71.41
G75.52
93+37.12
G76.1
STA 93+37.12 AH'D. 205 35
STA 93+37.12 BK. 105 35
STA 93+37.12 END 53' WIDTH PAVEMENT
BEGIN 52' WIDTH PAVEMENT
176 45
M.L. RAMP K
M.L. RAMP L
AH'D.
BK.&AH'D.
STA. 92+93
TOP DIKE G73.60
4:1
6:1
0.82%GR.
RE. INTERCEPTOR DITCH FROM RAMP "L" RT. SIDE.
140' OF 30" PIPE
SO.=2.96%
STA 93+00 AH'D. 151 30
STA 93+00 BK. 150 0
4.20%
G62.5
RE. RAMP "K" RT. DITCH
G62.52 RE. OUTL. 30" PIPE
@STA 93+00, 81' LT. (W)
STD. HW-E ENDWALL.
STD. NO. 5 C.B.
STA. 93+00, 59' LT.
G70.10 GRATE ELEV.
G66.66 RE. C.B. & 30" PIPE
OUT OF C.B.
G75.44
93+00
G76.7
315 0
190 0
G75.34
92+50
G77.20
385 0
TO RAMP "L" LEFT DITCH.
FOR EARTHWORK
G68.8
DITCH STA. 91+80, 60' LT.
TO RAMP "K" LT.
DITCH.
BK.
BK.&AH'D.
G75.25
92+00
G77.9
BK.&AH.
BK.
G71.80
DITCH STA. 91+75
FOR EARTHWORK ONLY.
STA 92+00 AH'D. 225 0
STA 92+00 BK. 560 0
1985 0
STA 91+00 512 0
150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150
STA 92+00 TO STA 95+00 SR 254

LOR.-90-13.01


26'
BLDG.
8:1
676.29
97+25
677.02
8:1
4:1
676.22
96+90
677.1
288 16
DRIVE PROFILE STA 96+65
L=65'
40' VC
537 33
6:1
-4.162%
+10.0%
DR. STA 96+65 RT.
5
20' V.C.
676.12
96+40
677.1
672.02 ft. INLET 18" PIPE @ STA 96+83
672.09 ft. OUTLET 18" PIPE @ STA 96+47
292 19
139 9
287 20
4:1
4:1
671.98
676.09
96+27
677.1
289 18
291 15
4:1
4:1
671.93
676.04
96+00
677.1
699 92
164 45
4:1
4:1
671.76
675.87
95+17.12
675.70
100 33
STA 95+00
150 60
150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150
STA 95+17.12 TO STA 97+25 SR 254

LOR.-90-13.01

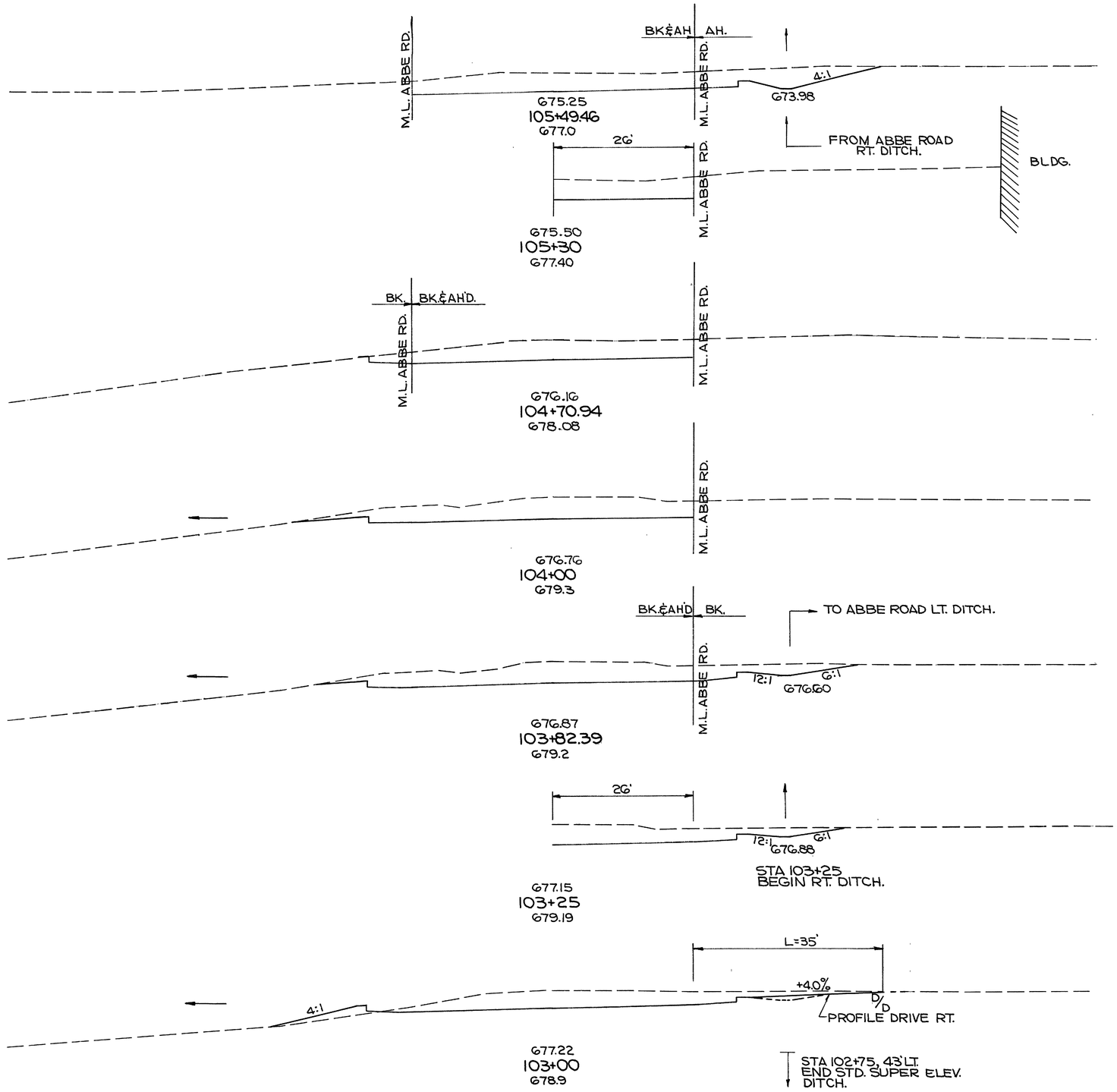


175	55
	94 26
190	45
	482 75
112	2
	417 30
113	14
	496 59
155	18
ADD DR. LT.@+00	2 2
	676 107
210	40
	1014 114
ADD DR. LT. 97+73	2 2
STA. 96+90 A.H'D.	288 16

150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

STA 97+73 TO STA 102+00 SR 254

LOR.-90-13.01



STA 105+49.46 AH'D 255 0
STA 105+49.46 BK. 170 0

495 0

STA 104+70.94 AH'D. 170 0
STA. 104+70.94 BK. 182 0

502 0

200 0

130 0

STA 103+82.39 AH'D. 200 0
STA 103+82.39 BK. 250 0

686 30

ADD DR. RT. @ 00 2 0
200 20

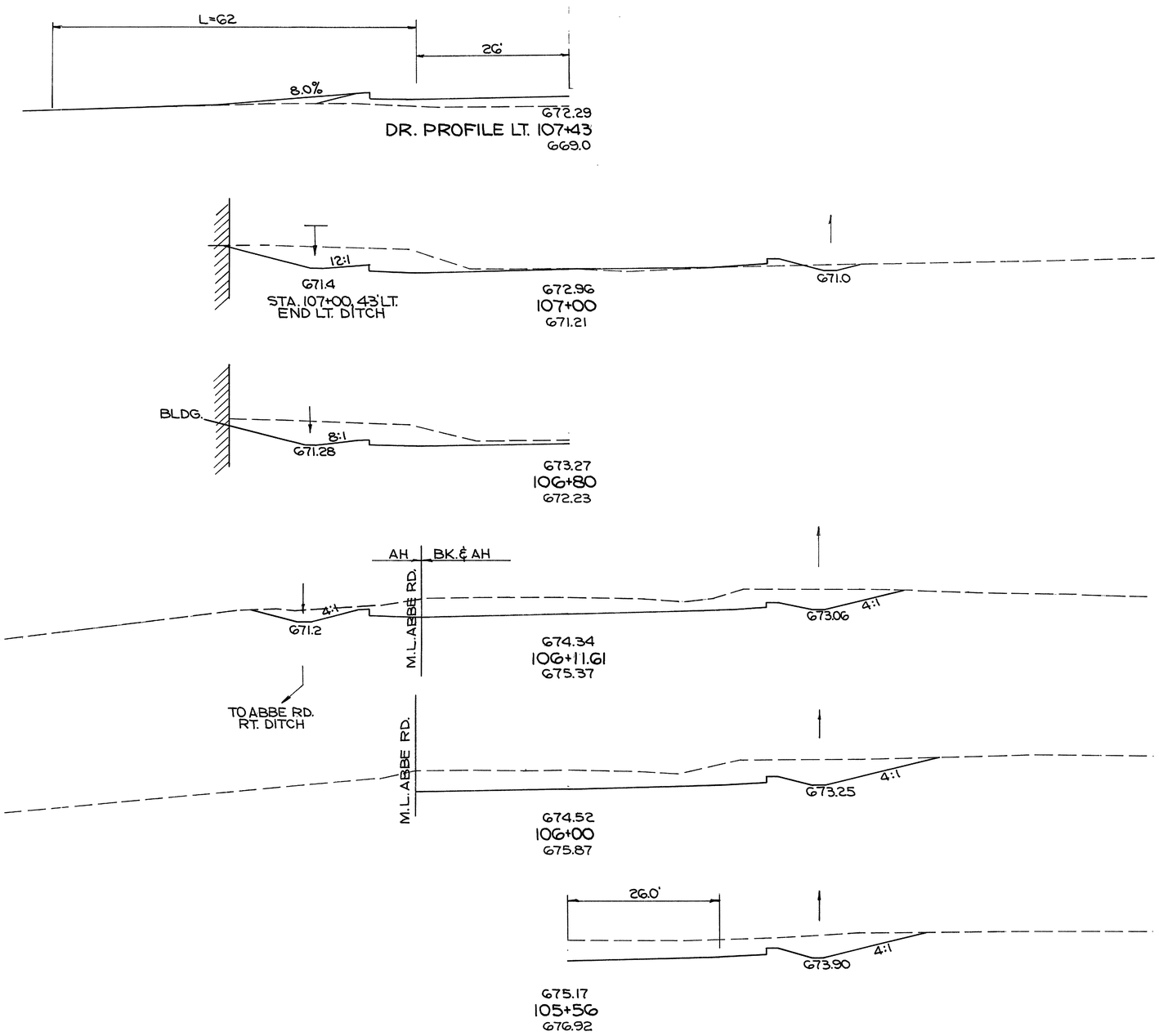
694 139

STA 102+00 175 55

150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

STA 103+00 TO STA 105+30 SR 254

LOR.-90-13.01



ADD FOR DR.107+43 1 7

135 9

663 15

STA 106+11.61 AH'D. 270 0
STA 106+11.61 BK. 220 0

105 0

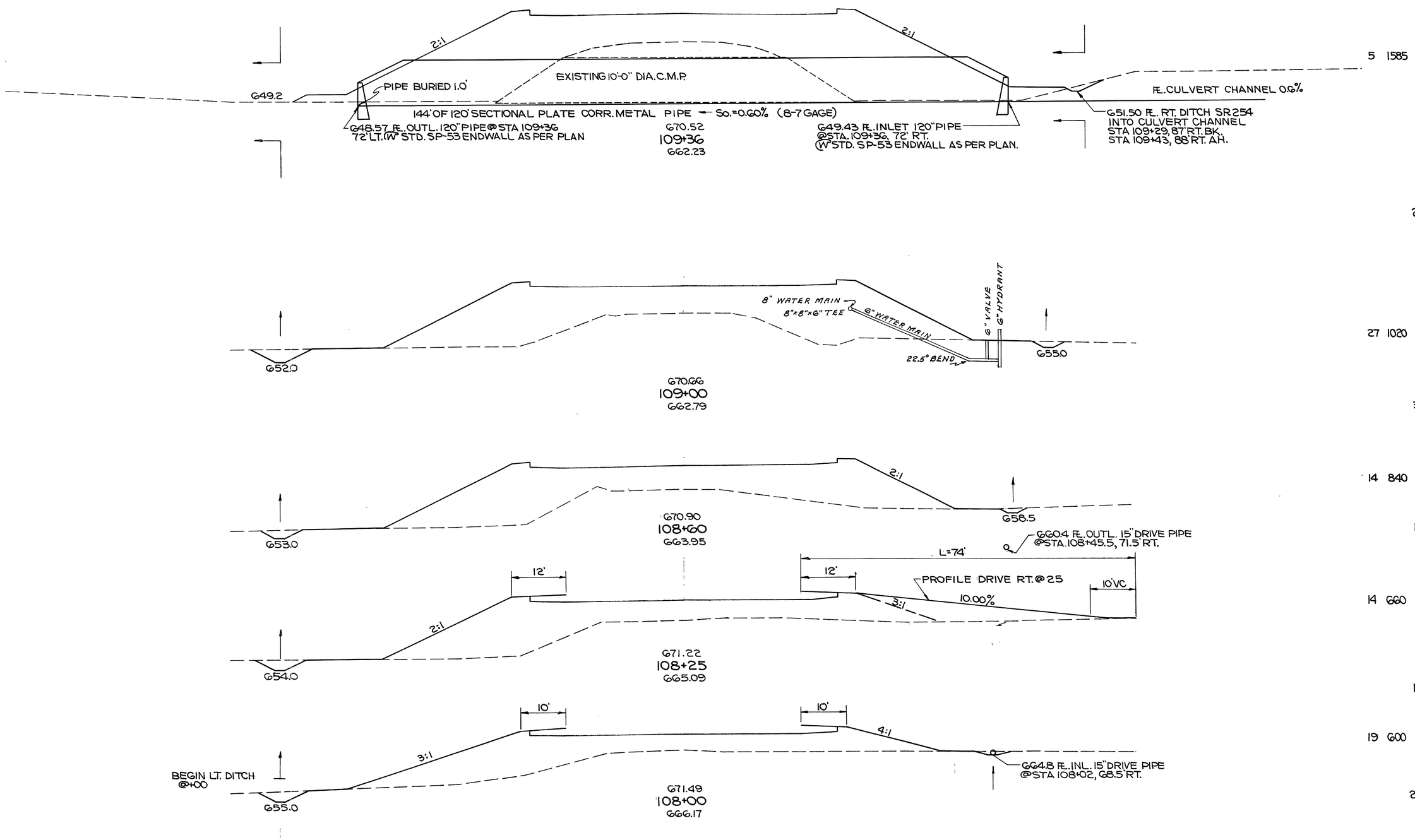
270 0

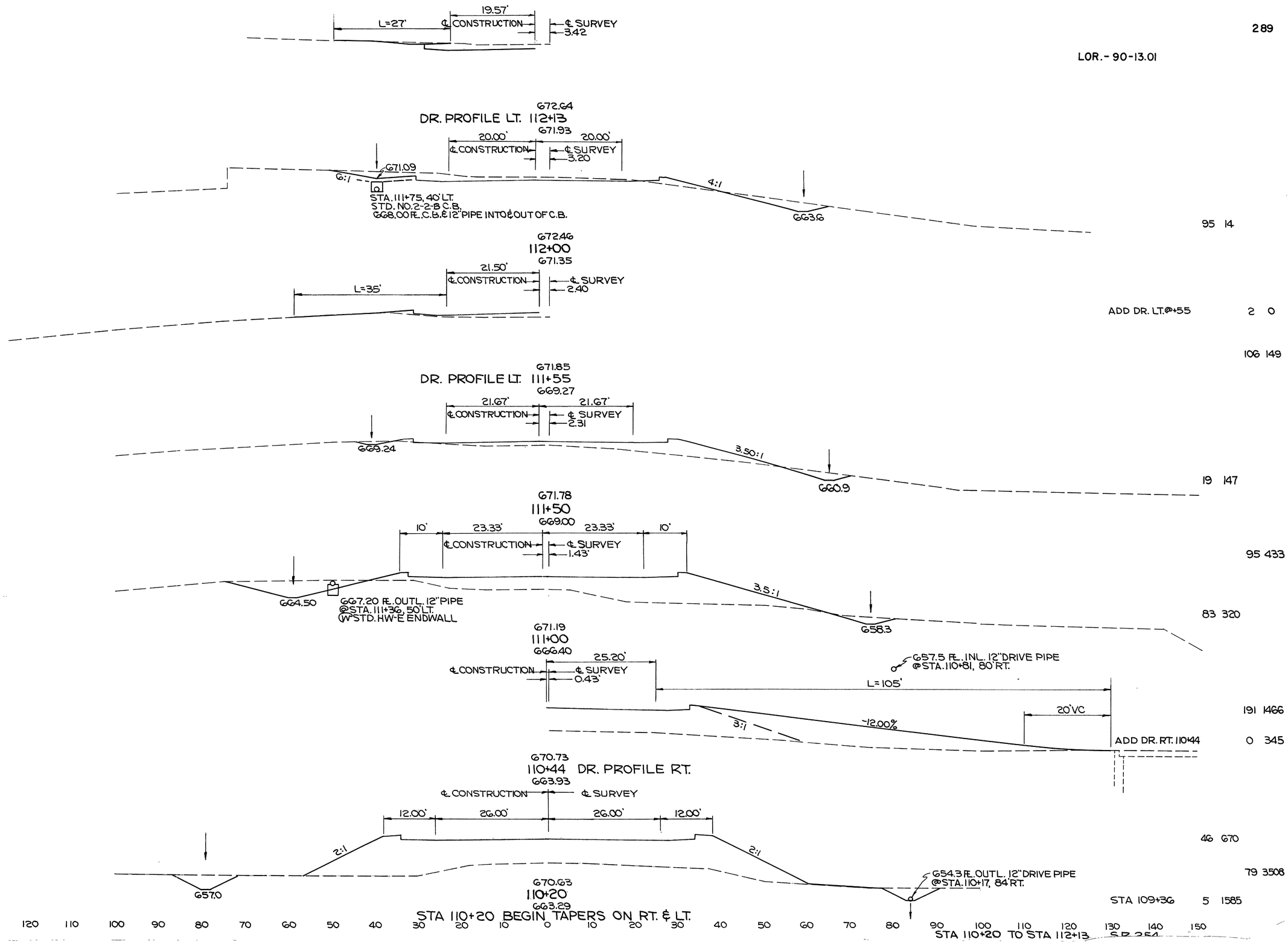
491 0

STA 105+49.46 AH. 255 0

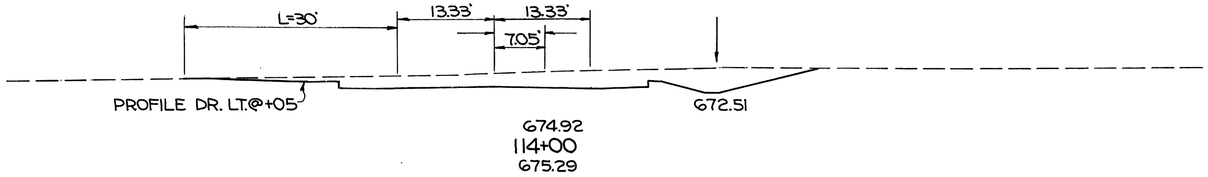
150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

STA 105+56 TO STA 107+43 SR 254


2:1
2:1
EXISTING 10'-0" DIA. C.M.P.
PIPE BURIED 1.0'
649.2
144' OF 120" SECTIONAL PLATE CORR. METAL PIPE — So.=0.60% (8-7 GAGE)
648.57 FL. OUTL. 120" PIPE @ STA 109+36
72' LT. (W) STD. SP-53 ENDWALL AS PER PLAN
670.52
109+36
662.23
649.43 FL. INLET 120" PIPE
@ STA. 109+36, 72' RT.
(W) STD. SP-53 ENDWALL AS PER PLAN.
FL. CULVERT CHANNEL 0.6%
651.50 FL. RT. DITCH SR 254
INTO CULVERT CHANNEL
STA 109+29, 87' RT. BK.
STA 109+43, 88 RT. AH.
5 1585
21 1737
8" WATER MAIN
8"x8"x6" TEE
6" WATER MAIN
22.5° BEND
6" VALVE
6" HYDRANT
652.0
655.0
670.66
109+00
662.79
27 1020
30 1378
2:1
653.0
670.90
108+60
663.95
658.5
660.4 FL. OUTL. 15" DRIVE PIPE
@ STA. 108+45.5, 71.5' RT.
L=74'
12'
12'
PROFILE DRIVE RT. @ 25
10.00%
3:1
10' VC
14 840
18 972
14 660
2:1
654.0
671.22
108+25
665.09
15 583
10'
10'
4:1
19 600
3:1
BEGIN LT. DITCH
@+00
655.0
664.8 FL. INL. 15" DRIVE PIPE
@ STA 108+02, 68.5' RT.
671.49
108+00
666.17
285 1128
STA 107+00
135 9
150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150
STA 108+00 TO STA 109+36 SR 254

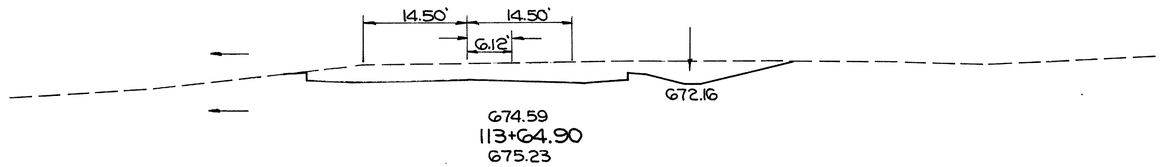

L=27'
19.57'
℄ CONSTRUCTION
℄ SURVEY
3.42
LOR.-90-13.01
672.64
DR. PROFILE LT. 112+13
671.93
20.00'
20.00'
℄ CONSTRUCTION
℄ SURVEY
3.20
671.09
6:1
4:1
STA. 111+75, 40' LT.
STD. NO. 2-2-B C.B.
668.00 FL. C.B. & 12" PIPE INTO & OUT OF C.B.
663.6
95 14
672.46
112+00
671.35
21.50'
℄ CONSTRUCTION
℄ SURVEY
2.40
L=35'
ADD DR. LT. @+55
2 0
106 149
671.85
DR. PROFILE LT. 111+55
669.27
21.67'
21.67'
℄ CONSTRUCTION
℄ SURVEY
2.31
669.24
3.50:1
660.9
19 147
671.78
111+50
669.00
10'
23.33'
23.33'
10'
℄ CONSTRUCTION
℄ SURVEY
1.43'
95 433
664.50
667.20 FL. OUTL. 12" PIPE
@ STA. 111+36, 50' LT.
W/ STD. HW-E ENDWALL
3.5:1
658.3
83 320
671.19
111+00
666.40
25.20'
℄ CONSTRUCTION
℄ SURVEY
0.43'
657.5 FL. INL. 12" DRIVE PIPE
@ STA. 110+81, 80' RT.
L=105'
20' VC
191 1466
3:1
-12.00%
ADD DR. RT. 110+44
0 345
670.73
110+44 DR. PROFILE RT.
663.93
℄ CONSTRUCTION
℄ SURVEY
12.00'
26.00'
26.00'
12.00'
46 670
2:1
2:1
79 3508
657.0
654.3 FL. OUTL. 12" DRIVE PIPE
@ STA. 110+17, 84' RT.
670.63
110+20
663.29
STA 109+36
5 1585
STA 110+20 BEGIN TAPERS ON RT. & LT.
150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150
STA 110+20 TO STA 112+13

LOR.-90-13.01



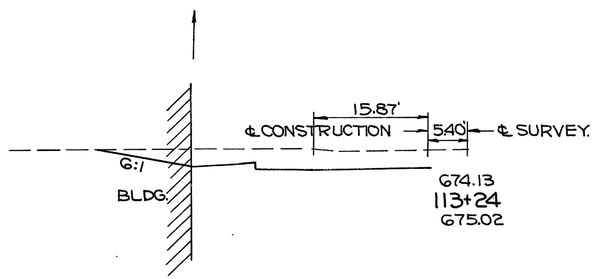
ADD DR. LT.@+05 2 0

140 0



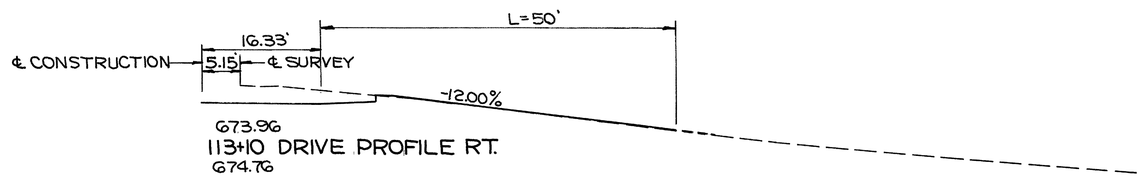
188 0

150 0

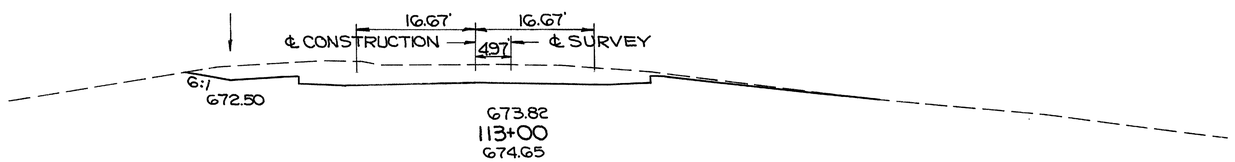


G70.9 FL. INL. 12" DRIVE PIPE
@STA. 113+37.8, 31.3' RT.

354 0

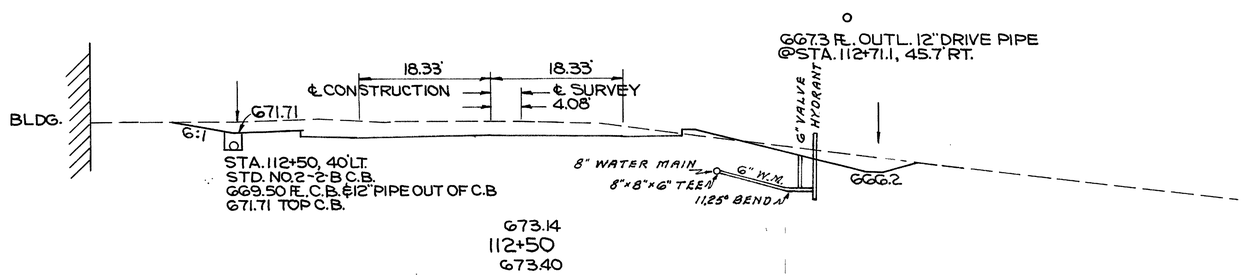


ADD DR. RT.@+10 5 0



145 0

280 3



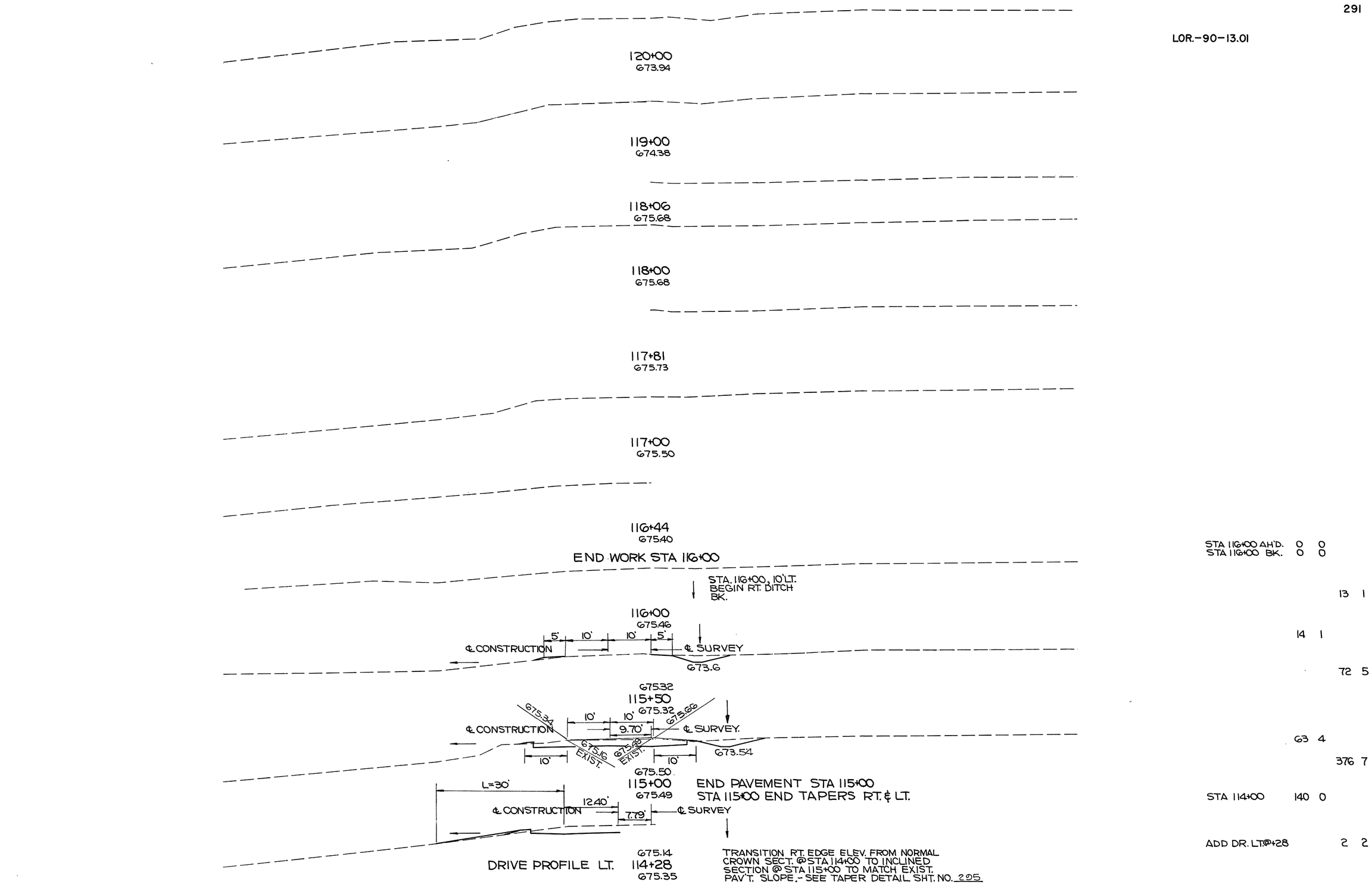
157 3

234 16

STA 112+00 95 14

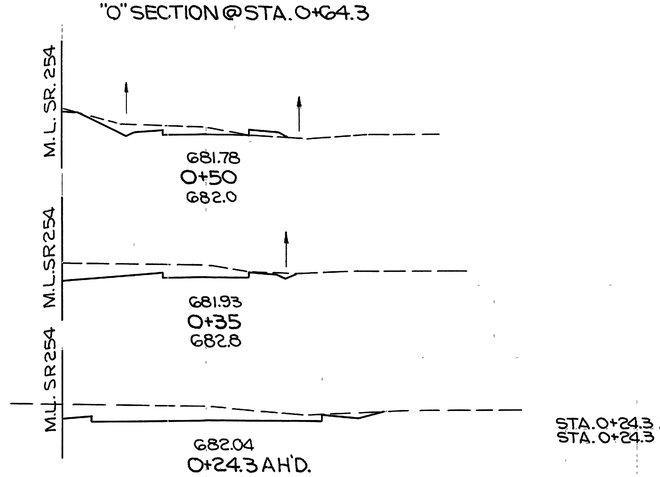
150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

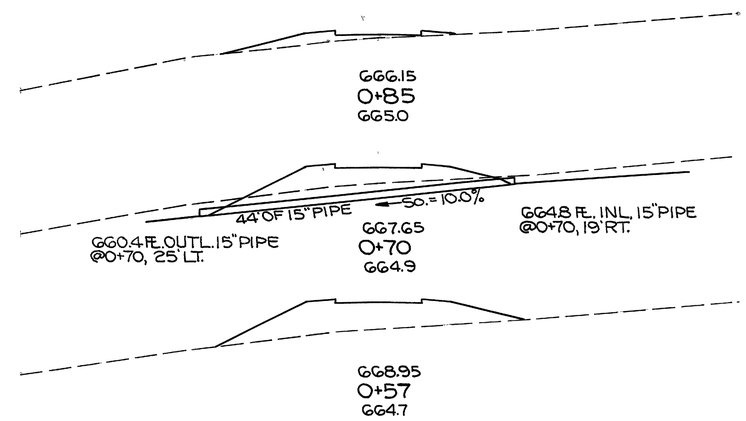
STA 112+50 TO STA 114+00 SR 254

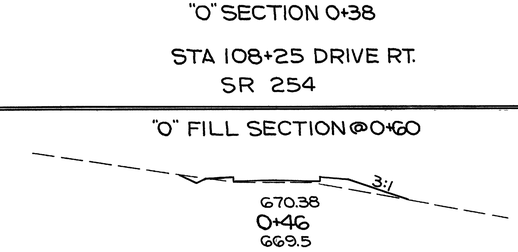


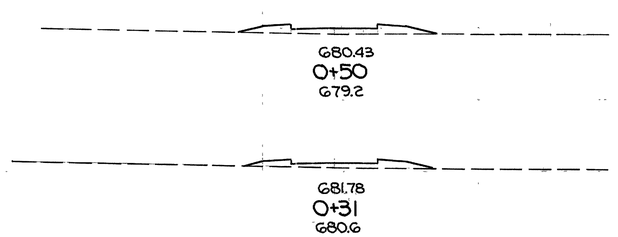
STA 116+00 AH'D.	0	0
STA 116+00 BK.	0	0
		13 1
	14	1
		72 5
	63	4
		376 7
STA 114+00	140	0
ADD DR. LT.@+28		2 2

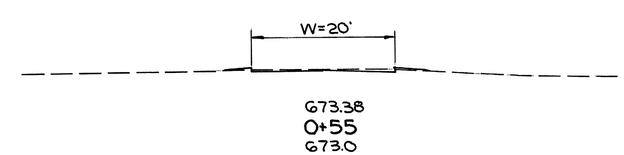
	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL		
"O" SECTION @ STA. 0+64.3						
M.L. SR. 254 — 681.78 / 0+50 / 682.0	0	0				
			5	1		
M.L. SR 254 — 681.93 / 0+35 / 682.8	18	4				
			16	1		
M.L. SR 254 — 682.04 / 0+24.3 AH'D. / 683.2	41	0				
			20	0		
STA. 0+24.3 AH'D.	62	0				
STA. 0+24.3 BK	0	0				
"O" SECTION 0+70 — 680.43 / 0+50 / 679.2	0	0				
			0	9		
681.78 / 0+31 / 680.6	0	24				
			0	14		
"O" SECTION 0+21 — STA 75+64 DR. LT. SR 254	0	17				
			0	3		
"O" SECTION 0+21	0	0				
"O" SECTION 1+00 — 666.15 / 0+85 / 665.0					0 0	
					0 25	0 7
						0 24
44' OF 15" PIPE; 660.4 FE. OUTL. 15" PIPE @ 0+70, 25' LT.; 667.65 / 0+70 / 664.9; 664.8 FE. INL. 15" PIPE @ 0+70, 19' RT.					0 60	
						0 43
668.95 / 0+57 / 664.7					0 120	
						0 42
"O" SECTION 0+38 — STA 108+25 DRIVE RT. SR 254					0 0	
"O" FILL SECTION @ 0+60 — 670.38 / 0+46 / 669.5					0 0	
						1 4
					2 14	
						0 3
"O" SECTION 0+36 — STA 107+43 DRIVE LT. SR 254					0 0	
"O" SECTION 0+80 — W=20' — 673.38 / 0+55 / 673.0					0 0	
						1 1
					2 2	
						1 1
"O" SECTION 0+36 — STA 97+73 DRIVE LT. S.R. 254					0 0	





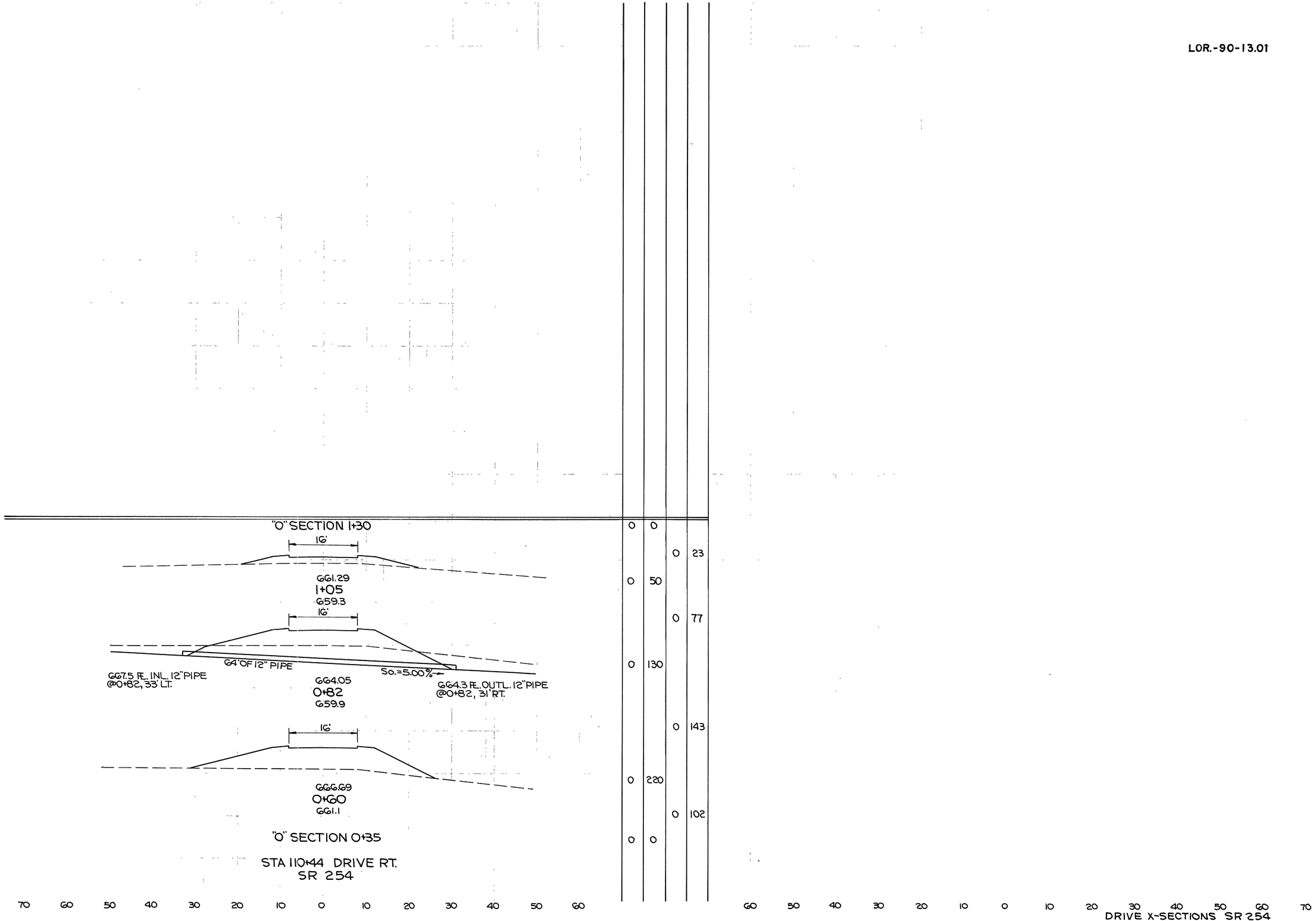


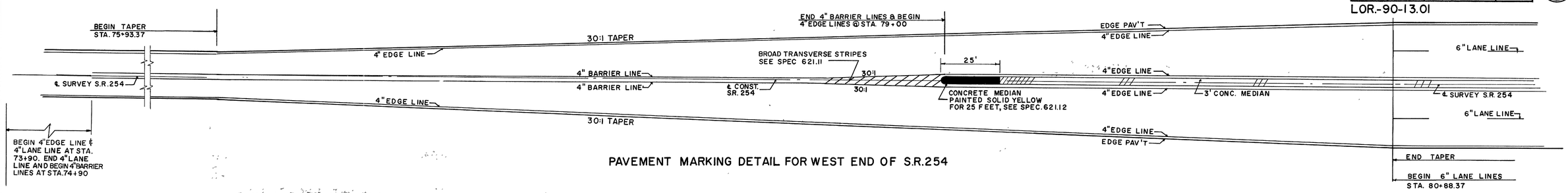




60 50 40 30 20 10 0 10 20 30 40 50 60 60 50 40 30 20 10 0 10 20 30 40 50 60

DRIVE X-SECTIONS SR 254


"O" SECTION 1+30
16'
661.29
1+05
659.3
16'
64' OF 12" PIPE
So.=5.00%
667.5 FE. INL. 12" PIPE
@0+82, 33' LT.
664.05
0+82
659.9
664.3 FE. OUTL. 12" PIPE
@0+82, 31' RT.
16'
666.69
0+60
661.1
"O" SECTION 0+35
STA 110+44 DRIVE RT.
SR 254
0 0
0 23
0 50
0 77
0 130
0 143
0 220
0 102
0 0
70 60 50 40 30 20 10 0 10 20 30 40 50 60
60 50 40 30 20 10 0 10 20 30 40 50 60 70
DRIVE X-SECTIONS SR 254

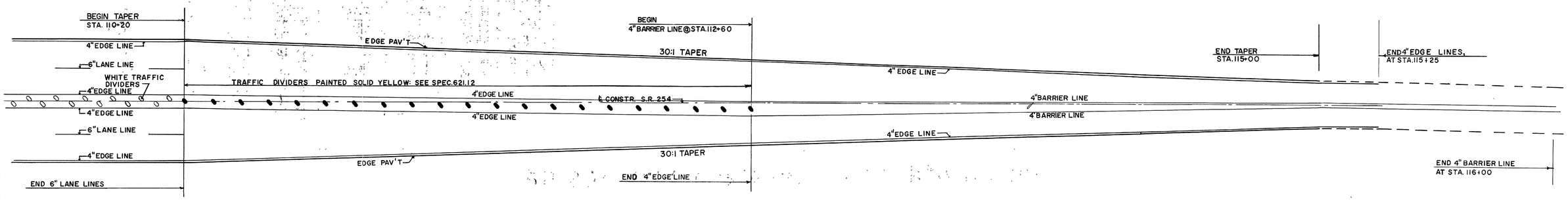


PAVEMENT MARKING DETAIL FOR WEST END OF S.R.254

FOR TAPER DETAILS & TRAFFIC DIVIDER PLACING
SEE TAPER DETAIL SHEET NO. 295

BARRIER LINES SHALL BE PLACED AS SHOWN TO CONFORM TO SPECIFICATION 621 AND DESCRIBED IN 621.08.

FOR OTHER NOTES SEE PAVEMENT MARKING DETAIL SHEET NOS. 306, 378



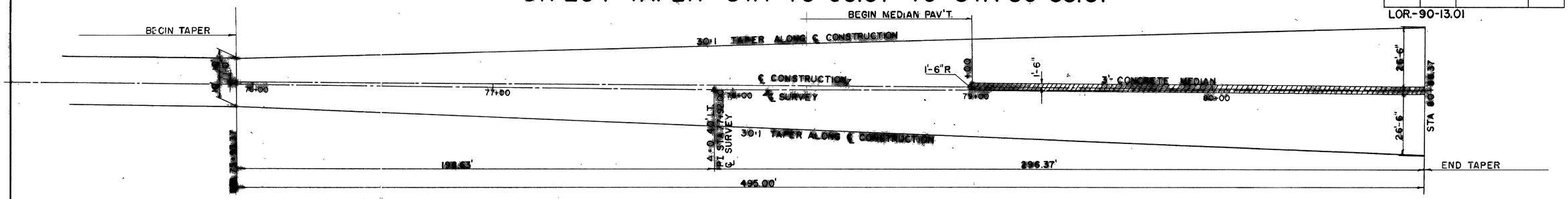
PAVEMENT MARKING DETAIL FOR EAST END OF S.R.254

FED. RD DIVISION	STATE	PROJECT	

LOR.-90-13.01

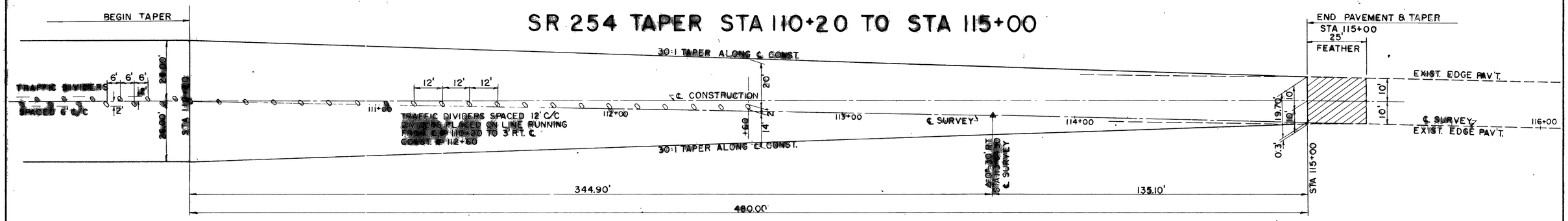
295

SR 254 TAPER STA 75+93.37 TO STA 80+88.37



SR 254 TAPER TABLE							
STATION	DIST. FR. ℄ SURVEY TO ℄ CONST.	LT. & RT. WIDTH OF PAVEMENT FR. ℄ CONST.	LT. & RT. EDGE ELEVATION	STATION	DIST. FR. ℄ SURVEY TO ℄ CONST.	LT. & RT. WIDTH OF PAVEMENT FR. ℄ CONST.	LT. & RT. EDGE ELEVATION
75+93.37	1.[illegible]	10.00	[illegible]	[illegible]	1.29	20.[illegible]	[illegible]
76+00	1.03	10.23	[illegible]	[illegible]	1.09	21.05	[illegible]
+25	1.16	11.05	[illegible]	+[illegible]	0.93	21.89	[illegible]
+50	1.28	11.89	[illegible]	+[illegible]	0.76	22.72	[illegible]
+75	1.40	12.72	[illegible]	[illegible]	0.50	23.[illegible]	[illegible]
77+00	1.53	13.56	[illegible]	+[illegible]	0.42	24.39	[illegible]
+[illegible]	1.6[illegible]	14.39	[illegible]	+[illegible]	0.30	24.95	[illegible]
+[illegible]	1.77	15.22	[illegible]	+[illegible]	0.20	25.22	[illegible]
+[illegible]	1.9[illegible]	16.05	[illegible]	+[illegible]	0.08	25.05	[illegible]
+[illegible]	1.[illegible]	16.62	[illegible]	[illegible]	0.00	26.50	[illegible]
78+[illegible]	1.9[illegible]	16.89	[illegible]				
+[illegible]	1.76	17.72	[illegible]				
+[illegible]	1.[illegible]	18.55	[illegible]				
+[illegible]	1.43	19.39	[illegible]				

SR 254 TAPER STA 110+20 TO STA 115+00



SR 254 TAPER TABLE								
STATION	DIST. FR. ℄ SURVEY TO ℄ CONST.	LT. & RT. WIDTH OF PAVEMENT FR. ℄ CONST.	LT. & RT. EDGE ELEVATION	STATION	DIST. FR. ℄ SURVEY TO ℄ CONST.	LT. & RT. WIDTH OF PAVEMENT FR. ℄ CONST.	LT. EDGE ELEVATION	RT. EDGE ELEVATION
110+20	0.00	26.00	670.22	113+75	6.39	14.17	674.47	674.47
+25	0.09	25.83	670.25	114+00	7.05	13.33	674.71	674.71
+50	0.53	25.00	670.40	+25	7.71	12.50	674.91	674.95
+75	0.98	24.17	670.58	+50	8.38	11.67	675.09	675.19
111+00	1.42	23.33	670.83	+75	9.04	10.83	675.23	675.43
+25	1.86	22.50	671.11	115+00	9.70	10.00	675.34	675.66
+50	2.31	21.67	671.44					
+75	2.75	20.83	671.79					
112+00	3.20	20.00	672.15					
+25	3.64	19.17	672.50					
+50	4.08	18.33	672.85					
+75	4.53	17.50	673.21					
113+00	4.97	16.67	673.56					
+25	5.41	15.83	673.88					
+50	5.86	15.00	674.20					
+[illegible]	6.12	14.50	674.36					

NORMAL CROWN SECTION

100'

TRANSITION RT. EDGE TO MATCH EXIST. PAV'T. SLOPE @ STA 115+00

SR 254 TAPER DETAILS

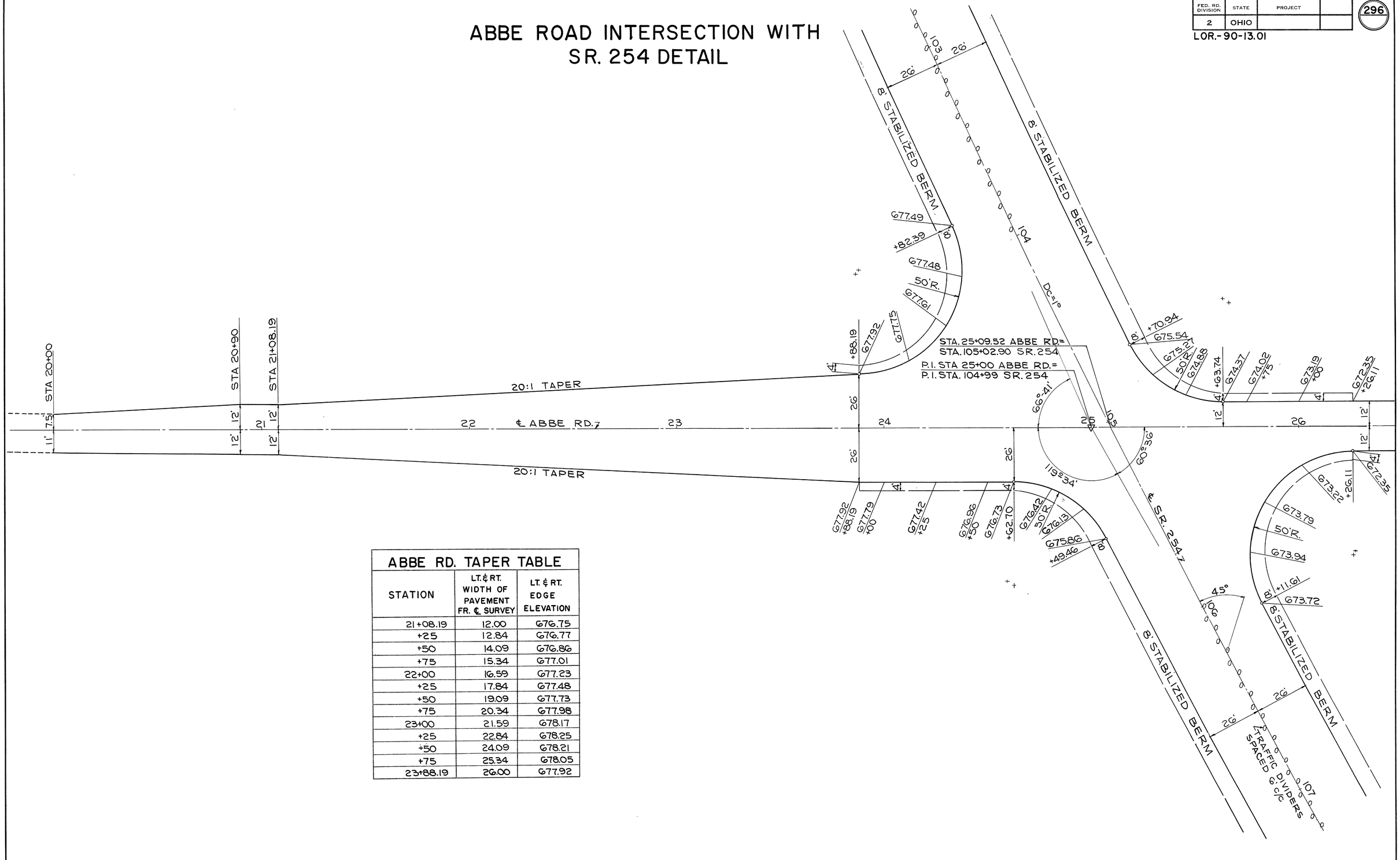
260

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

LOR.-90-13.01

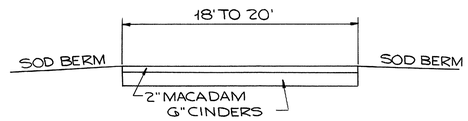
296

ABBE ROAD INTERSECTION WITH SR. 254 DETAIL

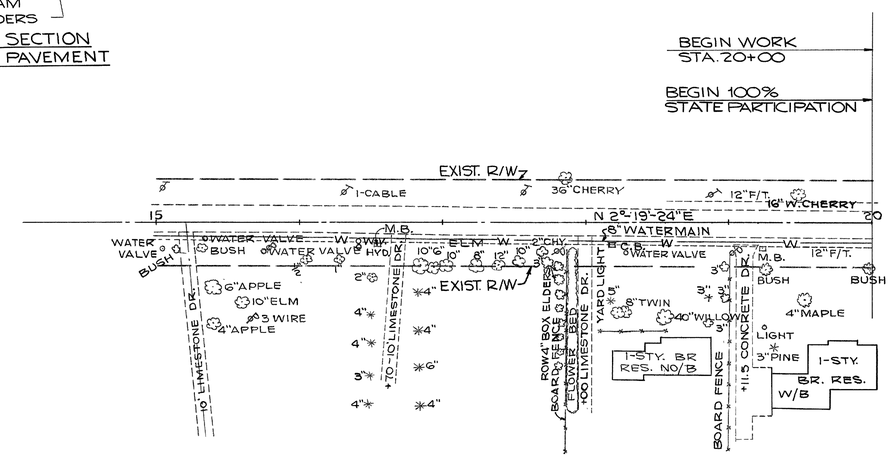


ABBE RD. TAPER TABLE

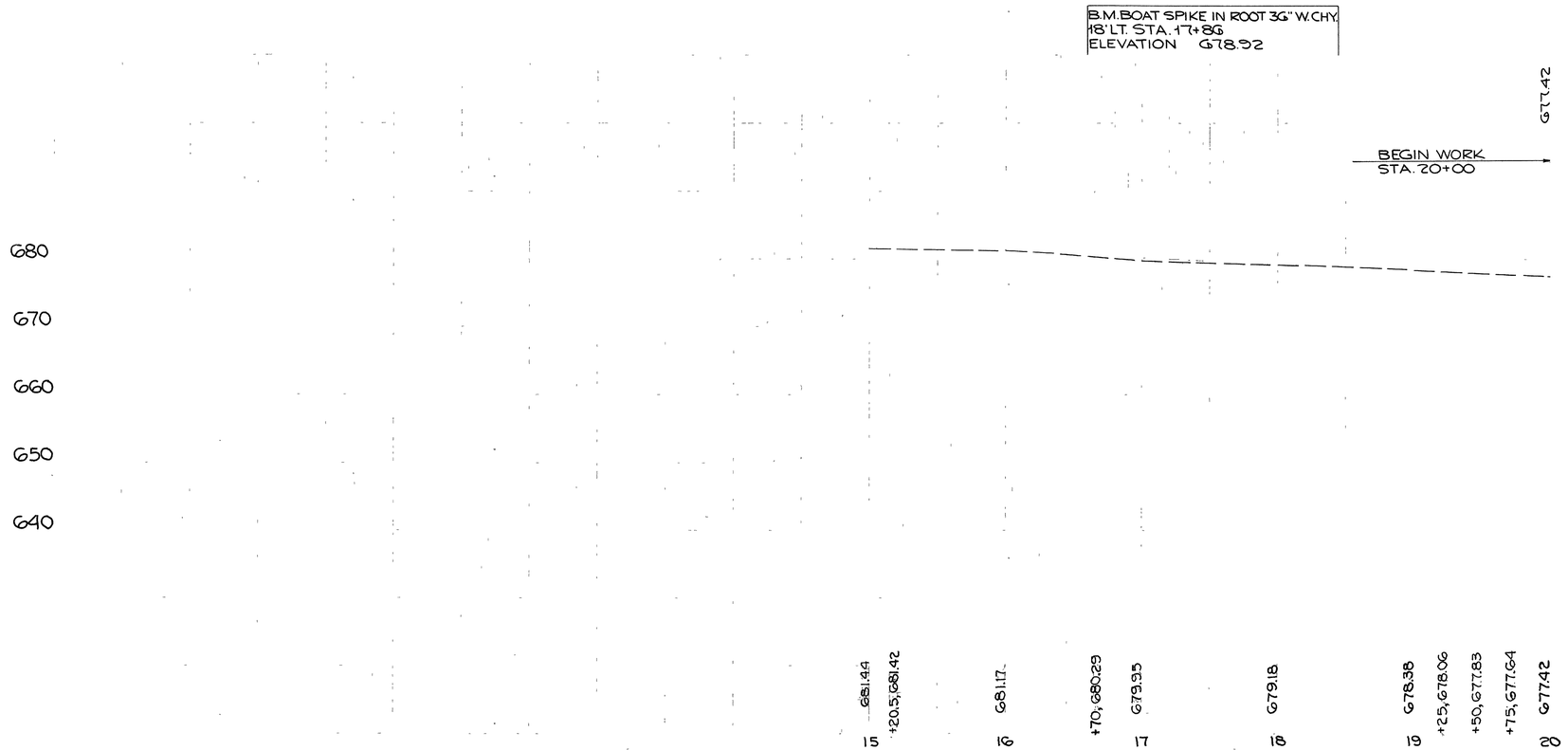
STATION	LT. & RT. WIDTH OF PAVEMENT FR. ℄ SURVEY	LT. & RT. EDGE ELEVATION
21+08.19	12.00	676.75
+25	12.84	676.77
+50	14.09	676.86
+75	15.34	677.01
22+00	16.59	677.23
+25	17.84	677.48
+50	19.09	677.73
+75	20.34	677.98
23+00	21.59	678.17
+25	22.84	678.25
+50	24.09	678.21
+75	25.34	678.05
23+88.19	26.00	677.92



TYPICAL SECTION
ADJOINING PAVEMENT

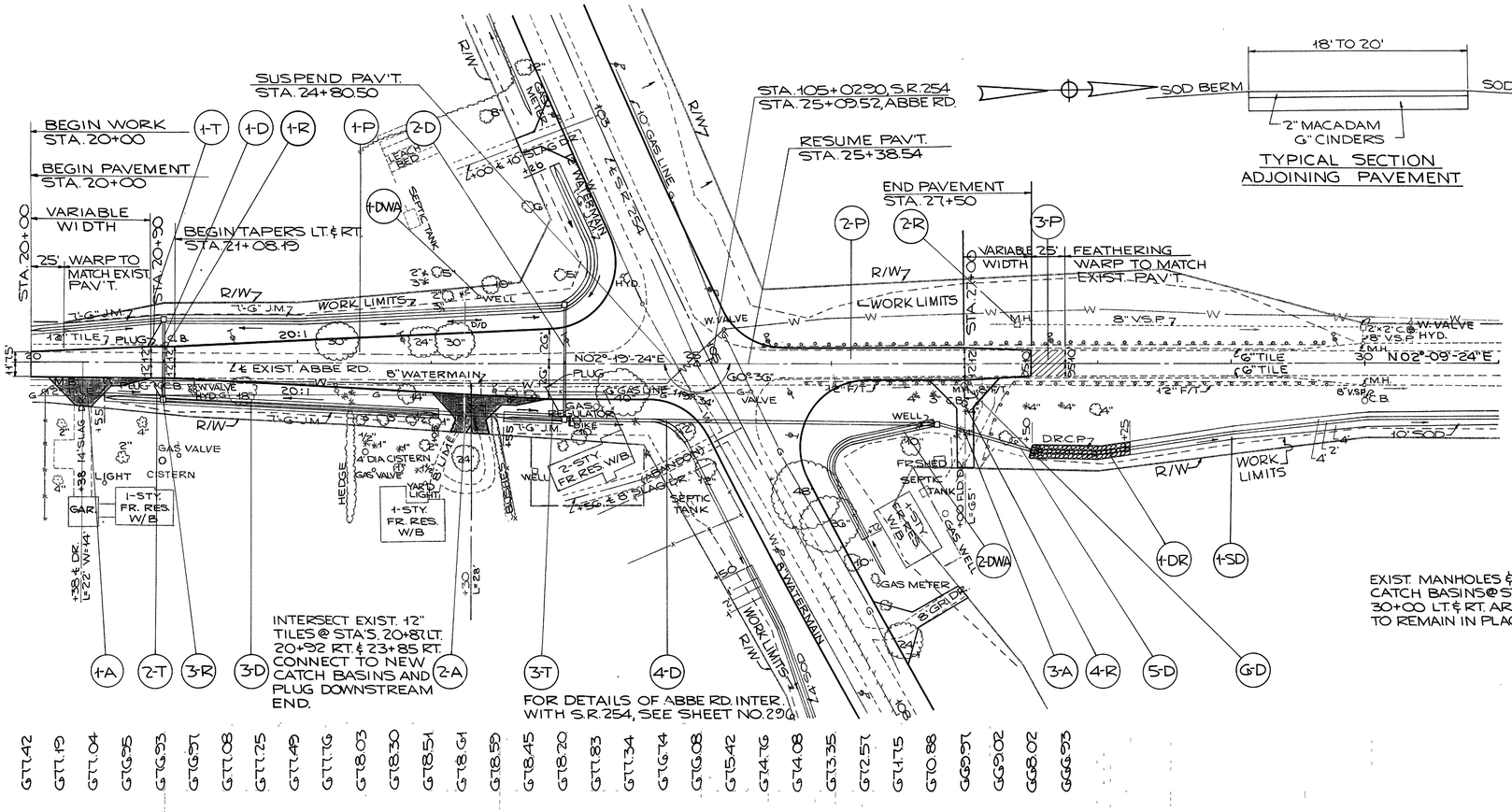


B.M. BOAT SPIKE IN ROOT 36" W. CHY.
18' LT. STA. 17+86
ELEVATION 678.92



STA 15+00 TO STA 20+00 ABBE RD. INTERSECTION WITH SR-254

LOR.-90-13.01



INTERSECT EXIST. 12" TILES @ STA'S. 20+87 LT. 20+92 RT. & 23+85 RT. CONNECT TO NEW CATCH BASINS AND PLUG DOWNSTREAM END.

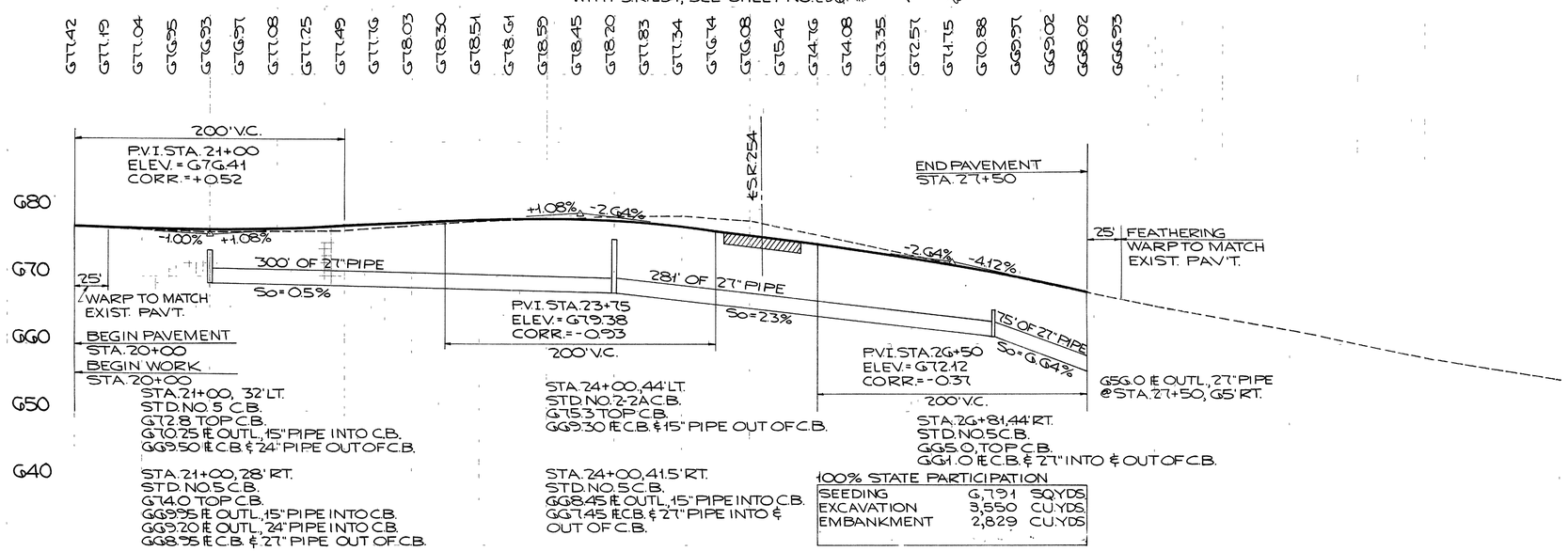
FOR DETAILS OF ABBE RD. INTER. WITH S.R. 254, SEE SHEET NO. 296

EXIST. MANHOLES & CATCH BASINS @ STA. 30+00 LT. & RT. ARE TO REMAIN IN PLACE

TYPICAL SECTION ADJOINING PAVEMENT

ALL QUANTITIES ON THIS SHEET ARE FOR 100% STATE PARTICIPATION

REFERENCE NO.	SIDE	STATION FROM	STATION TO	603 CONDUIT TYPE B-B 15"	24"	27"	603 CONDUIT TYPE F 15"	602 MASON STD. HW-E ENDWL CLASS "C"	603 PIPE SPECIALS TYPE F 15" 90° BEND	604 CATCH BASINS STD. NO. 5	22A	604 MANHOLE ADJUSTED TO GRADE	601 DUMPED ROCK CHANN. PROT. 30" THICK	202 MANHOLES REMOVED	CATCH BASINS REM.	667 JUTE MATTING	660 SODDING
				LIN. FT.			LIN. FT.	CU. YD.	EACH	EACH		EACH	CU. YD.	EACH		SQ. YDS.	
1-T	LT.	20+87	21+00				22		1								
2-T	RT.	20+92	21+00				12		1								
3-T	RT.	23+85	24+00				28		1								
1-D	LT. & RT.	21+00			60					1						339	
2-D	LT. & RT.	24+00		86							1					89	
3-D	RT.	21+00	24+00			300				1						210	
4-D	RT.	24+00	26+81			281				1						36	
5-D	RT.	26+81	27+50			75		0.47		1						134	
6-D	RT.	27+00										1					
1-R	LT.	21+00													1		
2-R	LT.	27+38												1			
3-R	RT.	20+98													1		
4-R	RT.	27+00													1		
1-SD	RT.	28+25	32+00														427
1-DR	RT.	27+50	28+25										72				
TOTALS				86	60	656	62	0.47	3	4	1	1	72		1	3	808 427

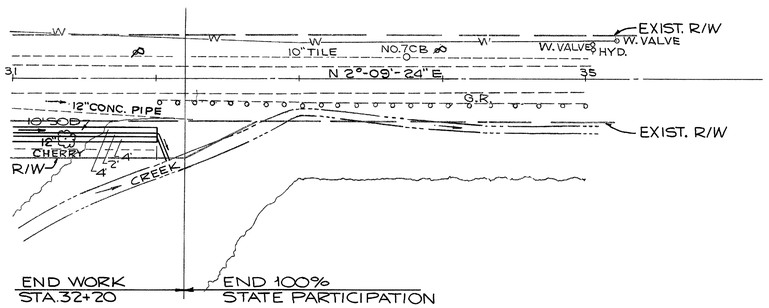


100% STATE PARTICIPATION

SEEDING	6,791	SQ. YDS.
EXCAVATION	3,550	CU. YDS.
EMBANKMENT	2,829	CU. YDS.

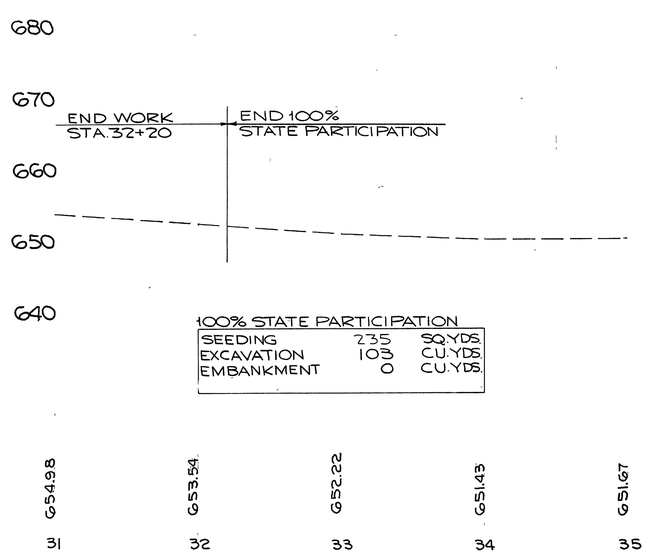
REFERENCE NO.	SIDE	STATION FROM	STATION TO	304 AGGR. BASE 5"	8"	402 ASPHAL CONC. (70-85) 1½"	302 ASPHAL CONC. (70-85) 3"	605 AGGR. DRAINS	411 STABIL. CRUSHED AGGR. 6"	310 SUBBASE VAR.	408 BITUM. PRIME COAT	407 TACK COAT	409 SEAL COAT FOR STABIL. BERM	404 ASPHAL CONC. (70-85) 1½	2	F	SPECIAL DRILLED WELL ABAND.
				CU. YD.		CU. YD.	CU. YD.	LIN. FT.	CU. YD.	CU. YDS.	GAL.		SQ. YD.	CU. YD.			EACH
1-P	℄	20+00	24+80.50		524.9	104.7	181.9	290		359.7	265.4		1306.6	148			
2-P	℄	25+38.54	27+50		197.1	36.0	62.7	153		157.9	351.9		126.9	25.1			
3-P	℄	27+50	27+75									54				0.7	
1-A	RT.	20+38		12.6							36.3			5.0			
2-A	RT.	23+30		17.6							50.6			7.0			
3-A	RT.	27+00							21.9								1
1-DWA	LT.	23+35															1
2-DWA	RT.	26+60															1
TOTALS				30.2	724.6	140.7	244.6	443	21.9	557.6	652.6	54	257.5	37.2	0.7		2

STA. 20+00 TO STA. 31+00, ABBE RD. INTERSECTION WITH S.R. 254



NOTE: SODDING QUANTITY CARRIED ON PRECEDING SHEET

B.M. BOAT SPIKE IN TEL. POLE
18' LT. STA. 31+86
ELEVATION = 659.57

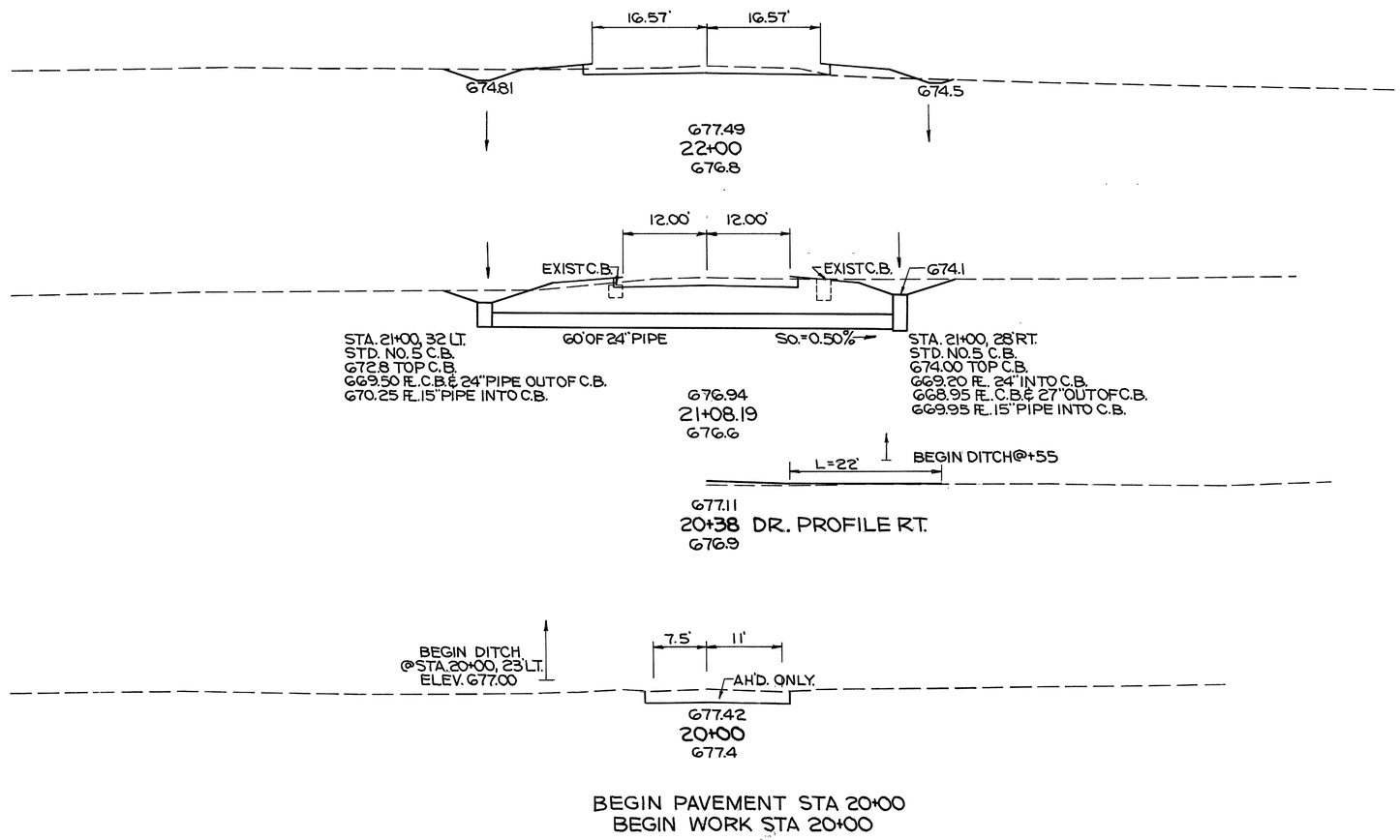


100% STATE PARTICIPATION

SEEDING	235	SQ.YDS.
EXCAVATION	103	CU.YDS.
EMBANKMENT	0	CU.YDS.

STA 31+00 TO STA 35+00 ABBE RD. INTERSECTION WITH SR-254

LOR.-90-13.01



46 17

175 46

57 10

196 21

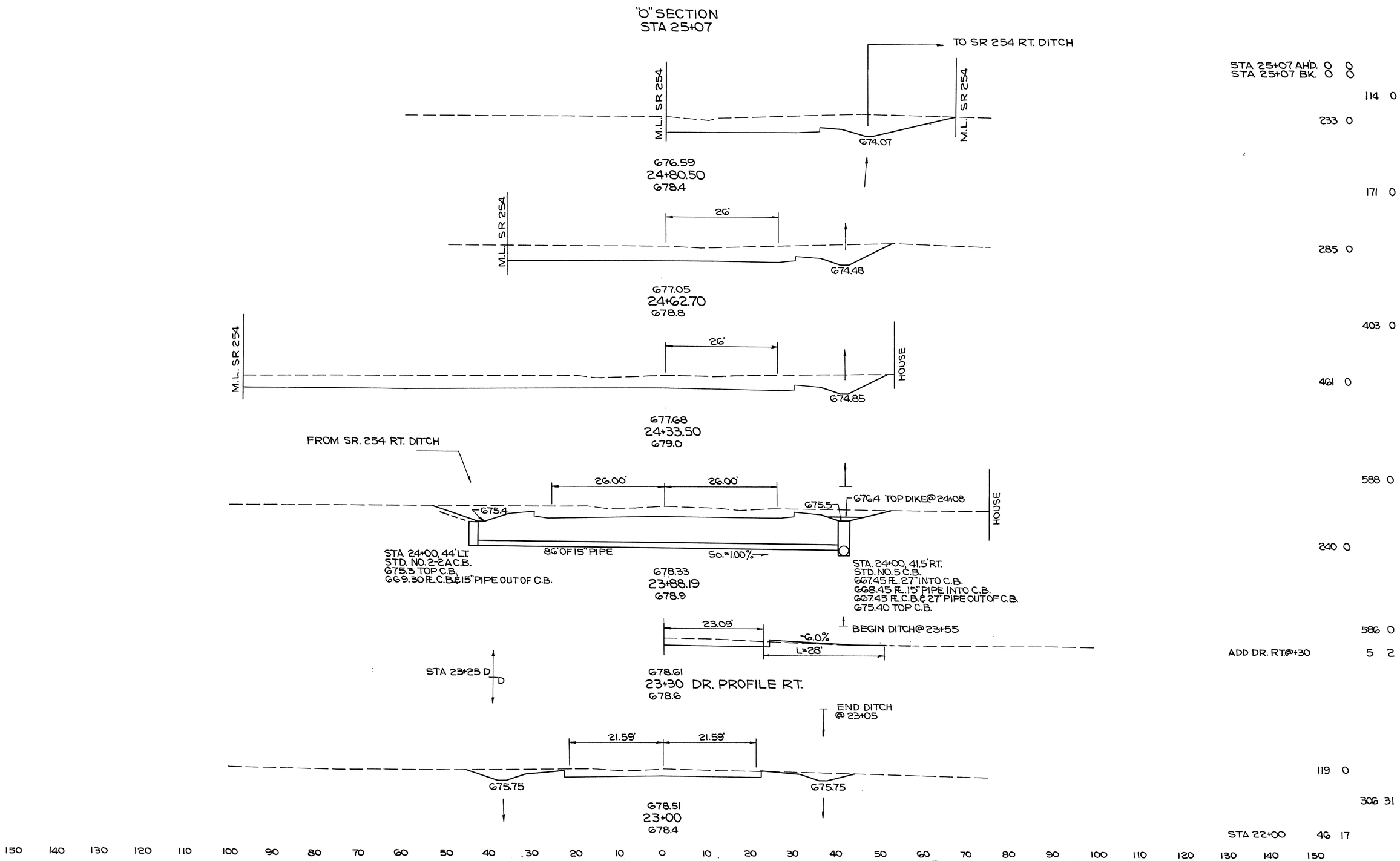
ADD DR. RT @ +38 2 1

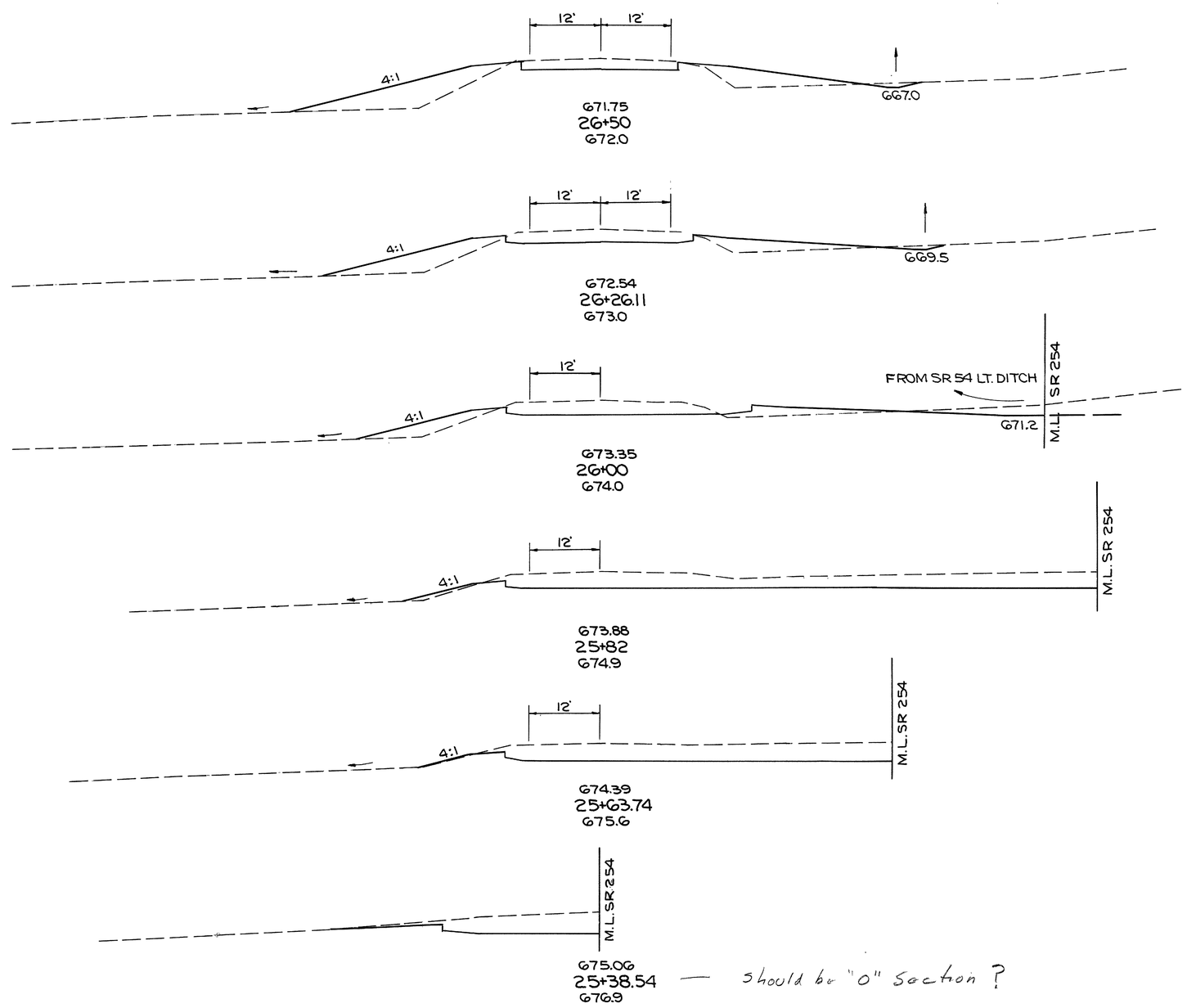
STA 20+00 AH'D. 41 0
STA 20+00 BK. 0 0

150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

STA 20+00 TO STA 22+00 ABBE RD. INTERSECTION WITH S.R.254

LOR.-90-13.01


"O" SECTION
STA 25+07
TO SR 254 RT. DITCH
M.L. SR 254
674.07
676.59
24+80.50
678.4
26'
674.48
677.05
24+62.70
678.8
674.85
HOUSE
677.68
24+33.50
679.0
FROM SR. 254 RT. DITCH
26.00'
675.4
675.5
676.4 TOP DIKE@ 24+08
STA 24+00, 44' LT.
STD. NO. 2-2A C.B.
675.3 TOP C.B.
669.30 F.L. C.B. & 15" PIPE OUT OF C.B.
8G' OF 15" PIPE
So.=1.00%
678.33
23+88.19
678.9
STA. 24+00, 41.5' RT.
STD. NO. 5 C.B.
667.45 F.L. 27" INTO C.B.
668.45 F.L. 15" PIPE INTO C.B.
667.45 F.L. C.B. & 27" PIPE OUT OF C.B.
675.40 TOP C.B.
23.09'
-6.0%
L=28'
BEGIN DITCH@ 23+55
STA 23+25 D
D
678.61
23+30 DR. PROFILE RT.
678.6
END DITCH
@ 23+05
21.59'
675.75
678.51
23+00
678.4
150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150
STA 23+00 TO STA 25+07 ABBE RD INTERSECTION WITH SR 254
STA 25+07 AHD. 0 0
STA 25+07 BK. 0 0
114 0
233 0
171 0
285 0
403 0
461 0
588 0
240 0
586 0
ADD DR. RT.@+30 5 2
119 0
306 31
STA 22+00 46 17



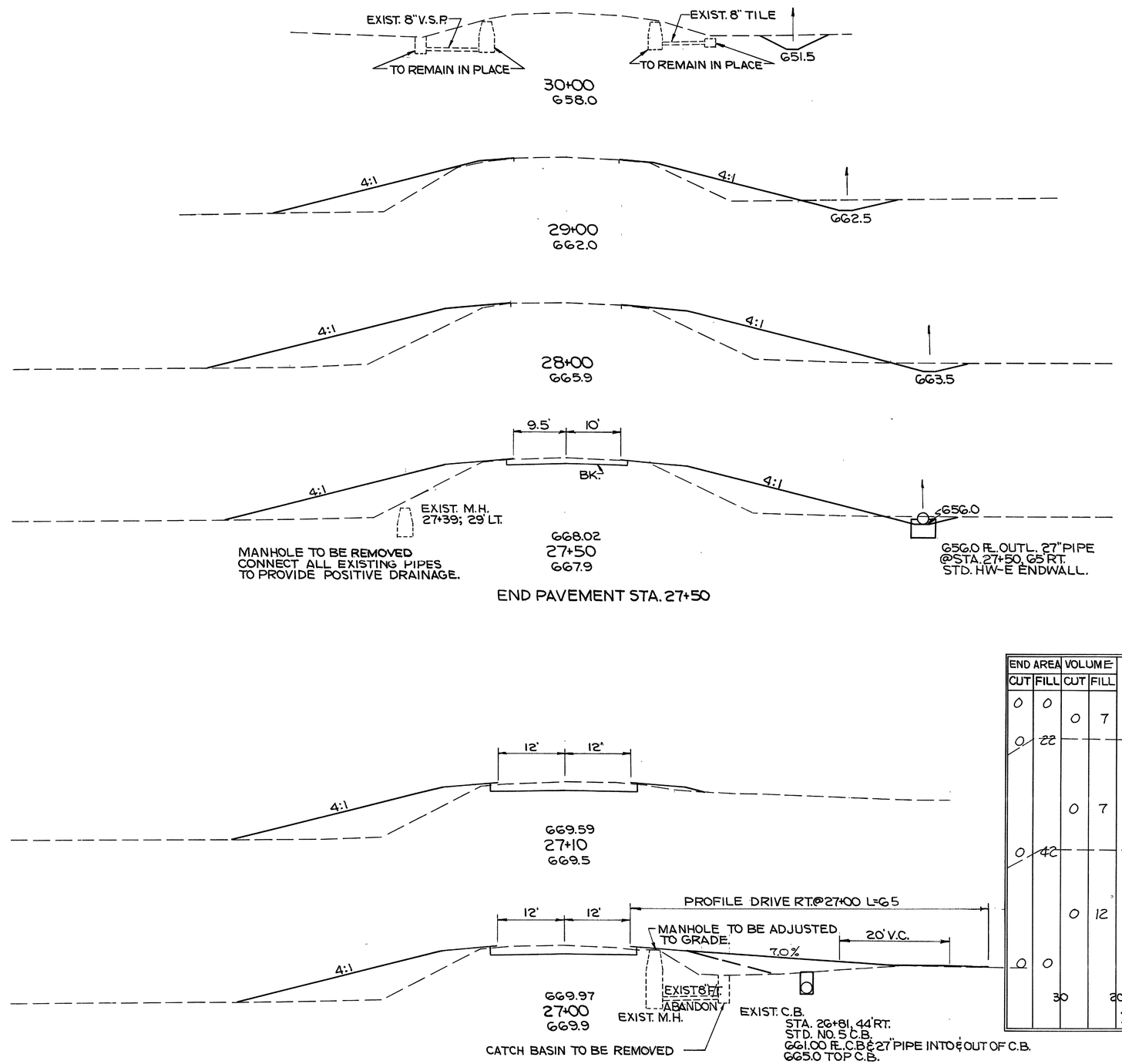
56	134
54	114
65	123
80	97
100	78
113	29
239	9
149	4
202	2
136	1
90	0
33	0
STA 25+19 AHD.	0 0
STA 25+19 BK.	0 0

150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

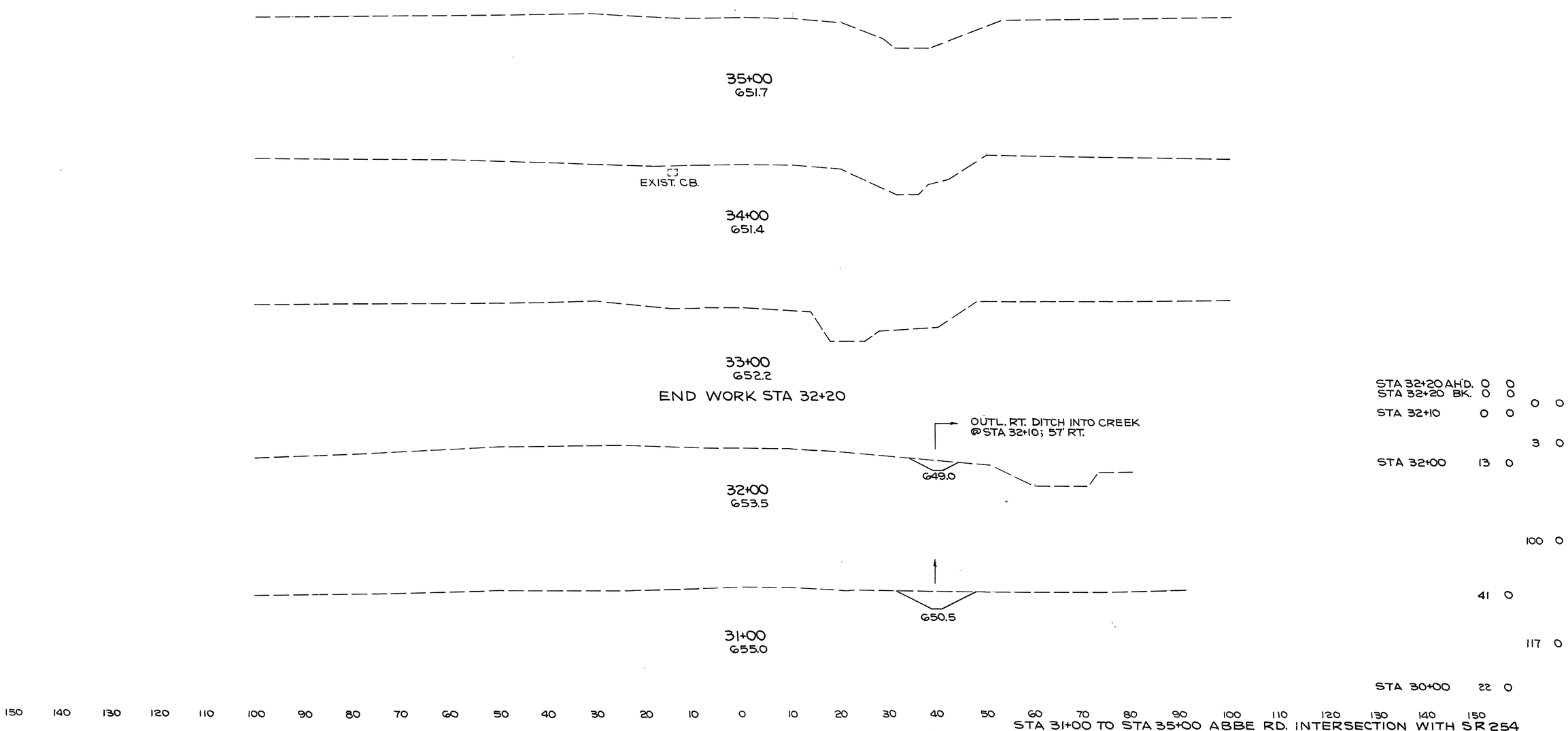
STA 25+19 TO STA 26+50 ABBE RD. INTERSECTION WITH SR 254

LOR.-90-13.01

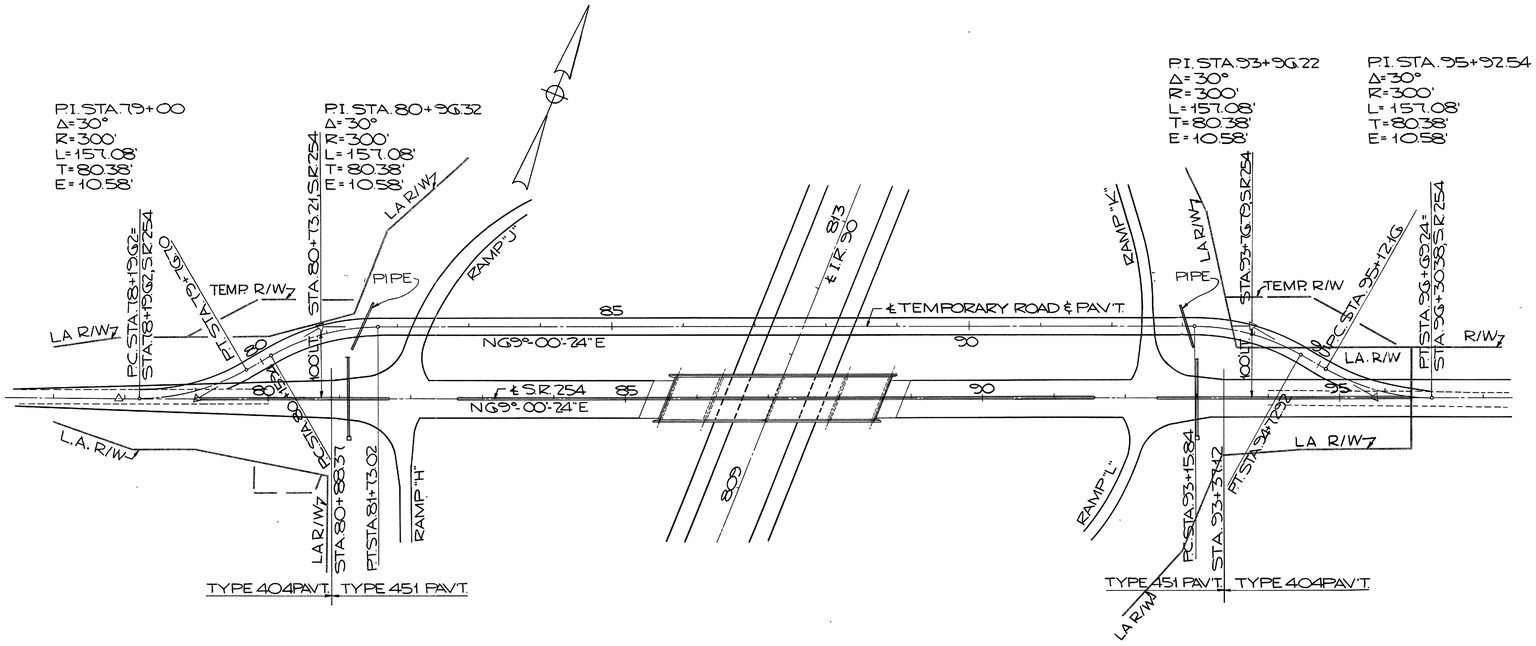
MATCH SHOULDERS & SLOPES WITH EXISTING @ STA. 30+00

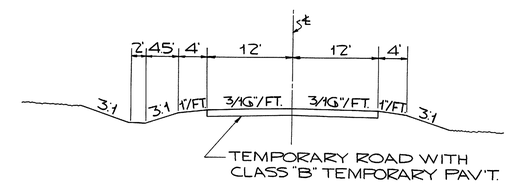


		22	0
		78	263
		20	142
		59	893
		12	340
		22	586
STA 27+50 A.H'D.		12	293
STA 27+50 BK.		34	298
		56	341
		42	168
		16	68
		42	197
		91	306
STA 26+50		56	134


35+00
651.7
EXIST. CB.
34+00
651.4
33+00
652.2
END WORK STA 32+20
OUTL. RT. DITCH INTO CREEK
@STA 32+10; 57' RT.
649.0
32+00
653.5
650.5
31+00
655.0
STA 32+20 AH'D. 0 0
STA 32+20 BK. 0 0
STA 32+10 0 0
0 0
3 0
STA 32+00 13 0
100 0
41 0
117 0
STA 30+00 22 0
150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150
STA 31+00 TO STA 35+00 ABBE RD. INTERSECTION WITH SR 254

LOR.-90-13.01



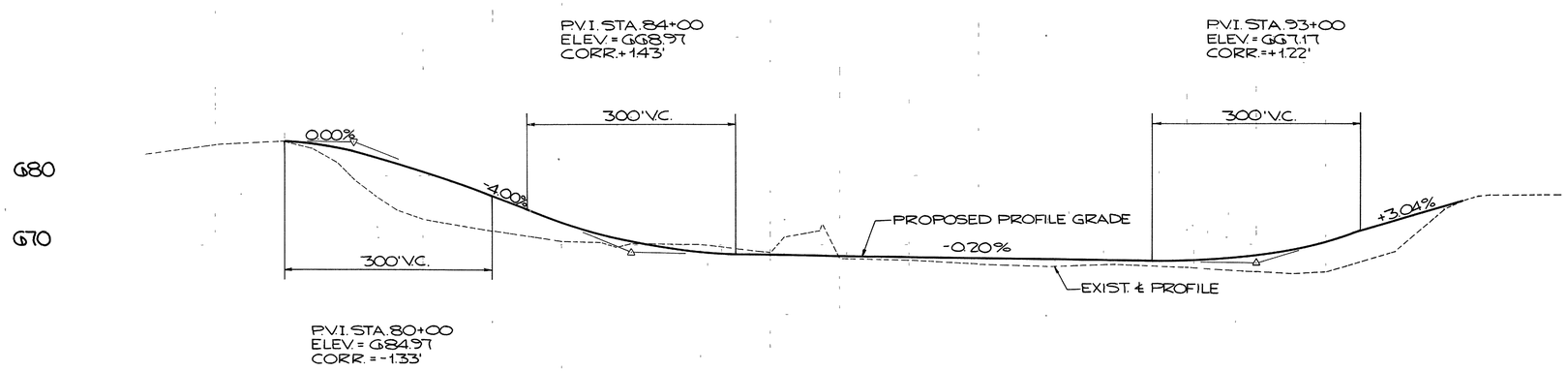


TYPICAL SECTION

ESTIMATED QUANTITIES

G15	TEMPORARY ROADS	LUMP SUM
G15	CLASS "B" TEMPORARY PAVEMENT	4605 SQ.YDS.

NOTE: ALL QUANTITIES FOR TEMPORARY ROAD AND PAVEMENT ARE FOR PROJECT I-90-1(40)-01



S.R. 254 TEMPORARY ROAD

S.R.254 INTERCHANGE PAVEMENT QUANTITIES

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

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LOR.-90-13.01

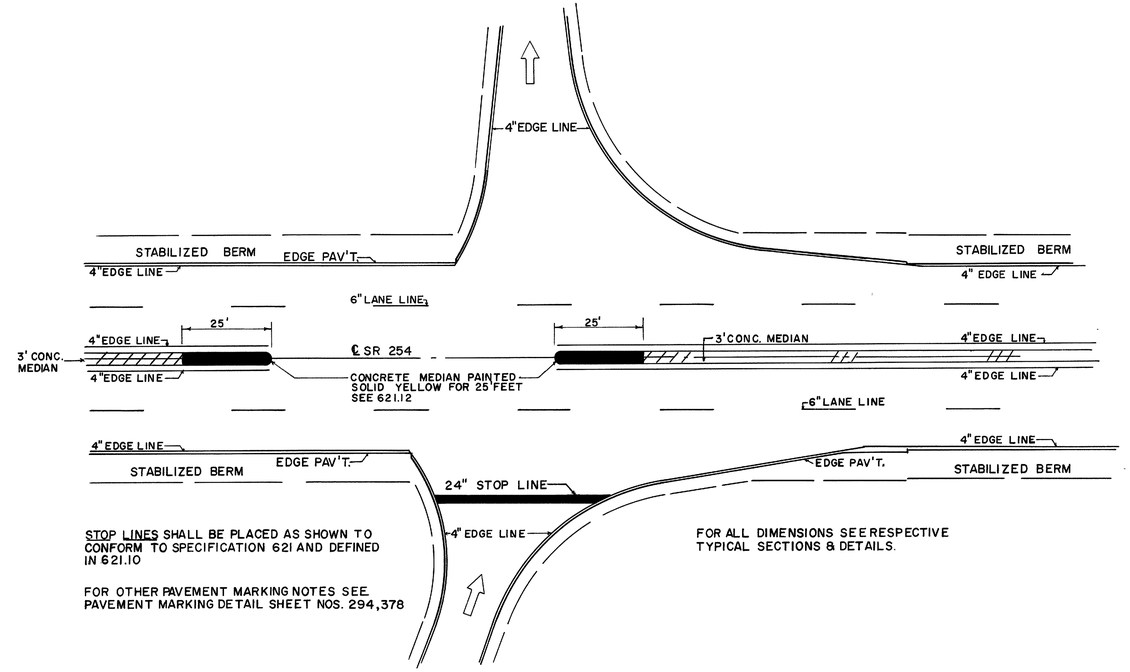
QUANTITIES FOR PARTICIPATION UNDER PROJECT NO. I-90-1(40)01

REFERENCE NO.	FROM SHEET NO.	DESIGNATION	FROM	TO	SIDE	304 AGGREGATE BASE	301 BITUM. AGGREGATE BASE	310 SUBBASE GRADING A OR B	310 SUBBASE	409 SEAL COAT FOR PAVED BERM	409 SEAL COAT FOR STABILIZED BERM	451 REINF. PORTLAND CEMENT CONCRETE PAVEMENT 9"	SPECIAL DRAINAGE CONNECT. USING NO. 8 AGGREGATE	621 EDGE LINES 4"	621 LANE LINES 4"	621 LANE LINES 6"	621 CHANNELIZING LINES 8"	621 STOP LINES 24"	621 BROAD TRANSVERSE 24" STRIPES	621 CURB AND ISLAND MARKINGS	408 BITUMINOUS PRIME COAT	REMARKS
						CU. YDS.	CU. YDS.	CU. YDS.	CU. YDS.	SQ. YDS.	SQ. YDS.	SQ. YDS.	CU. YDS.	MILES			FEET	LUMP SUM	LUMP	SUM	GAL.	
1-P	243	RAMP H	I.R.90 782+31.16	H802+00	℄	185.3	320.5	542.5	189.5	2241.7		2,978.8	150.3	0.437	0.08		248			LUMP		INCLUDES ALL PAVEMENT AND PAVED BERM LT. OF 66' LT. I.R.90 ℄ STA. 782+31.16 TO STA. 798+73
2-P	244	RAMP H	H802+00	H807+70.83	℄	20.6	69.0	242.0		41.64		1,198.4	35.0	0.229								INCLUDES ALL PAVEMENT AND PAVED BERM FROM STA. H802+00 TO EDGE OF S.R. 254 PAVEMENT
3-P	248	RAMP J	J807+48.39	J816+00	℄	26.0	98.3	359.6		591.0		1,819.9	58.4	0.332				LUMP				INCLUDES ALL PAVEMENT AND PAVED BERM FROM EDGE OF S.R. 254 PAVEMENT TO STA. J816+00
4-P	249	RAMP J	J816+00	I.R.90 825+81.49	℄	47.2	143.4	423.9	74.5	862.0		1,926.0	69.7	0.221			648		LUMP	LUMP		INCLUDES ALL PAVEMENT AND PAVED BERM LT. OF 66' LT. I.R.90 ℄ STA. 816+79.84 TO STA. 825+81.49
5-P	254	RAMP K	K811+50.22	K821+00	℄	72.3	134.9	374.6	37.9	936.2		1,885.0	72.9	0.344						LUMP		INCLUDES ALL PAVEMENT AND PAVED BERM FROM RT. OF 66' RT. OF I.R.90 ℄ STA. 819+54 TO STA. 821+00
6-P	255	RAMP K	K821+00	I.R.90 835+45.54	℄	122.1	239.5	425.2	157.2	1605.5		2,079.3	108.6	0.273	0.08		256			LUMP		INCLUDES ALL PAVEMENT AND PAVED BERM RT. OF 66' RT. I.R. 90 ℄ STA. 821+00 TO STA. 835+45.54
7-P	259	RAMP L	I.R.90 795+68.03	L805+00	℄	46.4	139.6	339.2	67.4	839.6		1,861.8	60.7	0.204			629		LUMP	LUMP		INCLUDES ALL PAVEMENT AND PAVED BERM RT. OF 66' RT. I.R. 90 ℄ STA. 795+68.03 TO STA. 804+52.50
8-P	260	RAMP L	L805+00	L813+79.09	℄	26.9	101.6	337.0		610.9		1,676.8	60.8	0.343				LUMP				INCLUDES ALL PAVEMENT AND PAVED BERM FROM STA. H805+00 TO EDGE OF S.R. 254 PAVEMENT
11-P	272	S.R.254	80+88.37	82+00	℄	2.0		115.9			8.8	627.1		0.036		0.06				LUMP	3.5	INCLUDES ALL PAVEMENT AND STABILIZED BERM QUANTITIES NORMAL TO S.R. 254
12-P	273	S.R.254	82+00	85+31.57	℄	11.4.8		415.8			516.6	1,864.6		0.352		0.06				LUMP	206.7	INCLUDES ALL PAVEMENT AND STABILIZED BERM QUANTITIES NORMAL TO S.R. 254
13-P	273	S.R.254	88+85.41	93+00	℄	118.2		503.4			531.8	2,330.0		0.381		0.06				LUMP	212.7	INCLUDES ALL PAVEMENT AND STABILIZED BERM QUANTITIES NORMAL TO S.R. 254
14-P	274	S.R.254	93+00	93+37.12	℄	3.6		40.9			16.3	206.2		0.018		0.06					6.5	INCLUDES ALL PAVEMENT AND STABILIZED BERM QUANTITIES NORMAL TO S.R. 254
TOTALS						785.4	1246.8	4120.0	526.5	8103.3	1073.5	20,453.9	616.4	3.170	0.08	0.57	1781	LUMP	LUMP	LUMP	429.4	

QUANTITIES FOR 100% STATE PARTICIPATION

REFERENCE NO.	FROM SHEET NO.	DESIGNATION	FROM	TO	SIDE	302 ASPHALT CONCRETE (70-85)	304 AGGREGATE BASE	310 SUBBASE	402 ASPHALT CONCRETE (70-85)	404 ASPHALT CONCRETE (70-85)	407 TACK COAT	408 BITUM PRIME COAT	409 SEAL COAT FOR STABILIZED BERM	605 AGGREGATE DRAIN	621 EDGE LINES 4"	621 LANE LINES 6"	621 4" BARRIER LINES	621 CURB & ISLAND MARKINGS	621 BROAD TRAVERSE 24" STRIPES
						CU. YDS.	CU. YDS.	CU. YDS.	CU. YDS.	CU. YDS.	GAL.		SQ. YDS.	LIN. FT.	MILES		MILES	LUMP	SUM
9-P	272	S.R.254	73+90	74+00	℄					0.2	2.2				0.004	0.002			
10-P	272	S.R.254	74+00	80+88.37	℄	201.0	829.7	679.5	115.4	82.2		423.1	1145.6	195	0.332	0.007	0.155	LUMP	LUMP
15-P	274	S.R.254	93+37.12	104+00	℄	509.3	1807.1	1447.6	294.3	210.2		3160.1	1788.6		0.802	0.151		LUMP	
16-P	275	S.R.254	104+00	115+00	℄	462.8	1602.3	1300.9	267.5	191.1		2803.2	1454.1	180	0.612	0.088	0.091	LUMP	
17-P	276	S.R.254	115+00	115+25	℄					0.7	5.6				0.009		0.038		
TOTALS						1173.1	4239.1	3428.0	677.2	484.4	7.8	7386.4	4388.3	375	1.759	0.248	0.284	LUMP	LUMP

FOR DETAILS OF EXIT NOSE, NO. 7 CURB END TREATMENT, & PAVED BERM SWALE, SEE SHEET NO. 144



STOP LINES SHALL BE PLACED AS SHOWN TO CONFORM TO SPECIFICATION 621 AND DEFINED IN 621.10

FOR OTHER PAVEMENT MARKING NOTES SEE PAVEMENT MARKING DETAIL SHEET NOS. 294, 378

FOR ALL DIMENSIONS SEE RESPECTIVE TYPICAL SECTIONS & DETAILS.

PAVEMENT MARKING DETAIL FOR RAMP INTERSECTION WITH S.R.254

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

LOR.-90-13.01

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S.R. 254 INTERCHANGE SUMMARY OF TABLES

	FROM SHEET NO.	202 EXIST. PAVEMENT REMOVED AND DISPOSED OF	202 EXIST. SIDEWALK REMOVED AND DISPOSED OF	202 EXIST. CURB REMOVED AND DISPOSED OF	202 EXIST. STRUCTURES REMOVED	202 MANHOLES REMOVED	202 CATCH BASINS REMOVED	203 EXCAVATION NOT INCLUDING EMBANKMENT CONSTRUCTION	203 EMBANKMENT	301 BITUMINOUS AGGREGATE BASE	302 ASPHALT CONCRETE (70-85)	304 AGGREGATE BASE	310 SUBBASE GRADING A OR B, AS PER PLAN	310 SUBBASE	402 ASPHALT CONCRETE (70-85)	404 ASPHALT CONCRETE (70-85)	407 TACK COAT	408 BITUMINOUS PRIME COAT	409 SEAL COAT (FOR PAVED BERMS)	409 SEAL COAT (FOR STABIL. BERMS)	411 STABILIZED CRUSHED AGGREGATE	411 STABILIZED CRUSHED AGGREGATE (CRUSHED LIMESTONE)	451 REINFORCED PORTLAND CEMENT CONC. PAVEMENT 9"	452 PLAIN PORTLAND CEMENT CONCRETE PAVEMENT 7"	601 DUMPED ROCK CHANNEL PROTECTION	601 PAVED GUTTER STANDARD TYPE I 4.0-12	601 PAVED GUTTER STANDARD TYPE I 2.0-12	602 CONCRETE MASONRY	FROM SHEET NO.
		SQ.YD.	SQ.FT.	LIN.FT.	LUMP	EACH		CU.YD.		CU.YD.							GAL.	GAL.	SQ.YDS.		CU.YD.		SQ.YDS.		CU.YD.	LIN.FT.		CU.YD.	
I-90-1 (40)01																													
GEOMETRIC LAYOUT PLAN S.R. 254 INTERCHANGE	235																												235
GRADING PLAN "H" & "L"	237							1,161	4,694																				237
GRADING PLAN "J" & "K"	238							931	2,197																				238
RAMP H H+04+31.16 TO H802+00	243							28,365	196																82				243
RAMP H H802+00 TO H807+97.33	244							15,389	371																				244
RAMP J J807+20.19 TO J816+00	248							3,586	12,353															234			6.7		248
RAMP J J816+00 TO J822+34.56	249							5,603	1,088															3			0.3		249
RAMP K K811+23.72 TO K821+00	254							3,358	15,514															38			0.5		254
RAMP K K821+00 TO K823+45.54	255							1,181	223															3			0.3		255
RAMP L L805+00.74 TO L805+00	259							15,665	1,781																				259
RAMP L L805+00 TO L814+07.29	260		165		LUMP			39,304	304																81				260
S.R. 254 80+88.37 TO 82+00	272							672	0																		0.5		272
S.R. 254 82+00 TO 93+00	273	236	145					11,010	329				552																273
S.R. 254 93+00 TO 93+37.12	274							176	45															51			0.5		274
S.R. 254 TEMPORARY RD.	305																												305
S.R. 254 INTERCHANGE PAVEMENT QUANTITIES	306									1,246.8		785.4	4,120.0	526.5				429.4	8,103.3	1,013.5			20,453.9						306
TOTAL I-90-1 (40)01		236	310		LUMP			126,401	39,075	1,246.8		785.4	4,175.2	526.5				429.4	8,103.3	1,013.5			20,453.9		329	163		8.8	
100% STATE																													
S.R. 254 79+50 TO 80+88.37	272	170						6,852	200			25.7				13.0		53.6											272
S.R. 254 93+37.12 TO 104+00	274							7,431	1,147			29.2				16.5		117.5			21.6								274
S.R. 254 104+00 TO 115+00	275	103	72	65				4,540	11,863			89.6				68.5		256.7				30.2		80.4		159	0.3		275
S.R. 254 115+00 TO 126+00	276							85	6																				276
ABBE RD. INTERSECTION 20+00 TO 31+00	298					1	3	3,550	2,829		244.6	754.8		557.6	140.7	113.2	5.4	1,364.2		257.5	21.9				72			0.5		298
ABBE RD. INTERSECTION 31+00 TO 35+00	299							103	0																				299
S.R. 254 INTERCHANGE PAVEMENT QUANTITIES	306										1,173.1	4,239.1		3,428.0		677.2	48.4.4	7.8	7,386.4		4,388.3									306
TOTAL 100% STATE		273	72	65		1	3	22,561	16,045		1,417.7	5,138.4		3,985.6		817.9	695.6	13.2	9,178.4		4,645.8	43.5	30.2		80.4		72		159		0.8	
TOTAL THIS SHEET		509	382	6	LUMP	1	3	148,962	55,140	1,246.8	1,417.7	5,923.8	4,175.2	4,512.1		817.9	695.6	13.2	9,601.8	8,103.3	5,119.3	43.5	30.2	20,453.9	80.4		401	163	159		9.6	

NOTE: 409 SEAL COAT IS TAKEN TO CALCULATIONS AND BROKEN DOWN INTO COVER AGGREGATE AND BITUMINOUS MATERIAL

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

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S.R.254 INTERCHANGE SUMMARY OF TABLES (CON'T.)

	FROM SHEET NO.	603 CONDUIT TYPE B WITH CLASS B BEDDING 6"	12"	15"	18"	24"	27"	30"	42"	C WITH CLASS B BEDDING 15"	18"	30"	D 12"	15"	18"	E 706.07 706.08 OR 706.09 10"	F 6"	10"	12"	15"	604 CATCH BASIN STANDARD NO. 2-2A	2-2B	5	6	MANHOLE STANDARD NO.1	MANHOLE ADJUSTED TO GRADE	605 SHALLOW PIPE UNDERDRAIN 6"	DEEP PIPE UNDERDRAIN 6"	AGGREGATE DRAIN	606 GUARD RAIL TYPE 4	TEMPORARY GUARD RAIL, SEE NOTE IN PROPOSAL	609 CONCRETE CURB STD. TYPE 6	7	8	FROM SHEET NO.
		LIN. FT.																			EACH						LIN. FT.								
I-90-(40)01																																			
GEOMETRIC LAYOUT PLAN S.R.254 INTERCHANGE	235																														1,225				235
GRADING PLAN "H" & "L"	237																																		237
GRADING PLAN "J" & "K"	238																																		238
RAMP H H794+31.16 TO H802+00	243					150					50						20						2					797					86	438	243
RAMP H H802+00 TO H901+91.33	244																40											500							244
RAMP J J801+20.19 TO J816+00	248								87			10					20						1		1		846	48							248
RAMP J J816+00 TO J822+34.56	249			100													10	10						1			693					120			249
RAMP K K811+23.72 TO K821+00	254							90									20						1				1,024						76	156	254
RAMP K K821+00 TO K823+45.54	255		53	84													10							2			294							246	255
RAMP L L795+00.74 TO L805+00	259				153												10						1					614				124			259
RAMP L L805+00 TO L814+07.29	260	21								50						92	10						1					909							260
S.R.254 80+88.37 TO 82+00	272							124									20						1				224								272
S.R.254 82+00 TO 93+00	273																20										1,588			300					273
S.R.254 93+00 TO 93+37.12	274							140									20						1					129							274
S.R.254 TEMPORARY RD.	305																																		305
S.R.254 INTERCHANGE PAVEMENT QUANTITIES	306																																		306
TOTAL I-90-1(40)01		21	53	184	153	150		354	87		50	50	10							92	200	10						8	3	1			4,669	2,997			300	1,225		244	162	840	
100% STATE																																			
S.R.254 74+50 TO 80+88.37	272																																		272
S.R.254 93+37.12 TO 104+00	274														36													2,126							274
S.R.254 104+00 TO 115+00	275		114										64	44			60		68			2						1,249		400					275
S.R.254 115+00 TO 126+00	276																																		276
ABBE RD. INTERSECTION 20+00 TO 31+00	298			86		60	656													62		1		4		1			443						298
ABBE RD. INTERSECTION 31+00 TO 35+00	299																																		299
S.R.254 INTERCHANGE PAVEMENT QUANTITIES	306																												375						306
TOTAL 100% STATE			114	86		60	656						64	44	36		60		68	62		1	2	4		1		3,375	818	400					
TOTAL THIS SHEET		21	167	270	153	210	656	354	87		50	50	10		64	44	36		92		260	10	68	62		1	2	12	3	1	1		4,669	6,372	818		700	1,225		244	162	840	

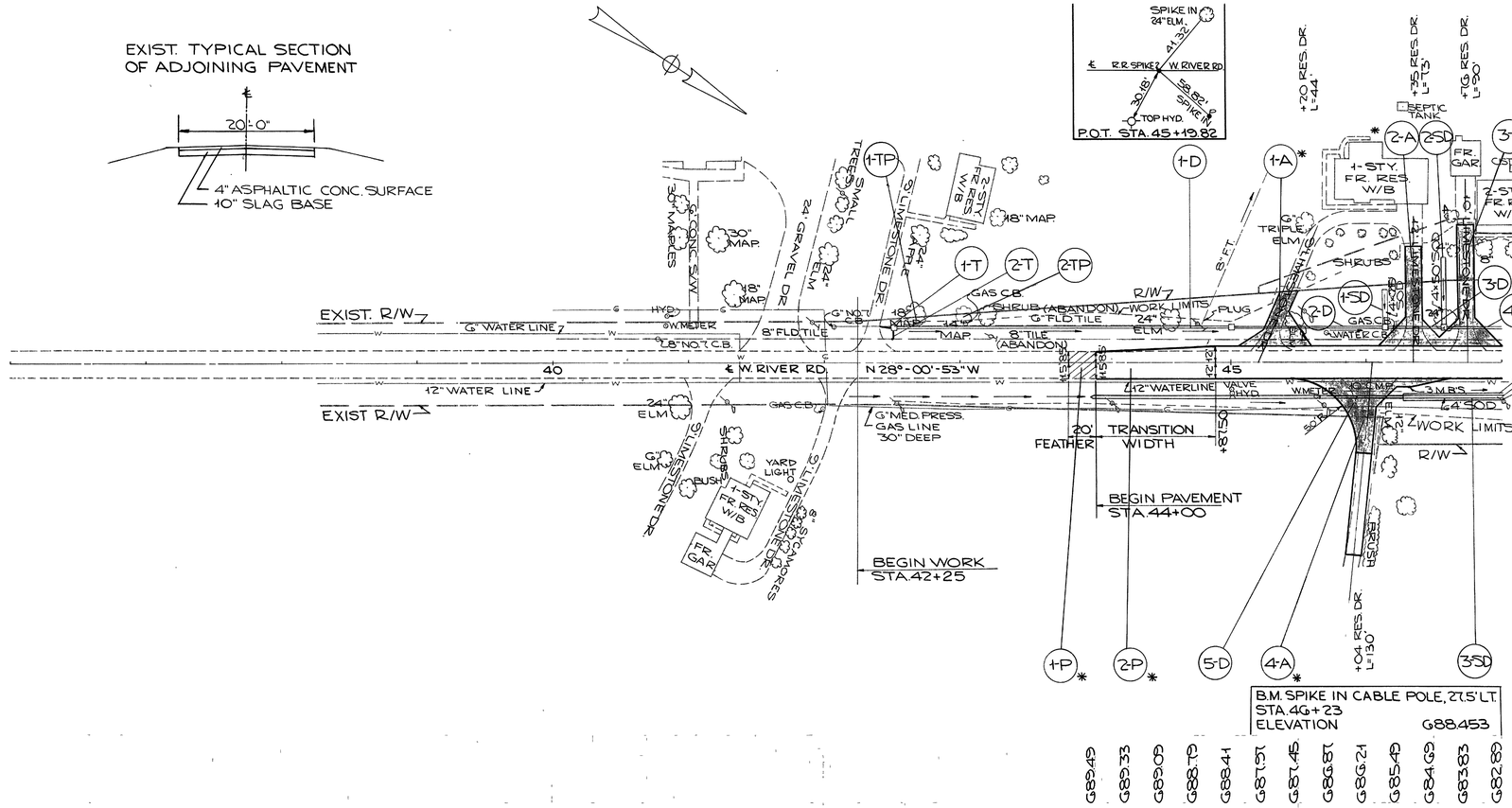
S.R. 254 INTERCHANGE SUMMARY OF TABLES (CON'T.)

	FROM SHEET NO.	G11 REINFORCED CONCRETE APPROACH SLAB (SQ. YDS.)	G12 CONCRETE MEDIAN (SQ. YDS.)	G13 TRAFFIC DIVIDERS (EACH)	G15 TEMPORARY ROADS (LUMP)	G15 CLASS B TEMPORARY PAVEMENT (SQ.YD.)	G21 EDGE LINES 4" (MILES)	G21 LANE LINES AND CENTER LINES 4" (MILES)	G21 LANE LINES AND CENTER LINES 6" (MILES)	G21 BARRIER LINES 4" (MILES)	G21 8" CHANNELIZING LINES (FEET)	G21 STOP LINES 24" (LUMP)	G21 BROAD TRANSVERSE STRIPES 24" (LUMP)	G21 CURB AND ISLAND MARKING (LUMP)	G59 SEEDING & MULCHING (SQ.YD.)	G60 SODDING (SQ.YD.)	G67 JUTE MATTING (SQ.YD.)	SPECIAL DRAINAGE CONNECTION USING NO.8 AGGREGATE (CU.YD.)	SPECIAL DRILLED WELLS ABANDONED (EACH)	SPECIAL CLEANING AND DISPOSAL OF SEPTIC TANK (EACH)	SPECIAL CLEANING PRIVY VAULTS (EACH)	SPECIAL PLUGGING GAS WELLS (EACH)	FROM SHEET NO.
I-90-(40)01																							
	235																						235
	237														14,333								237
	238														13,749								238
	243														9,629	160	467						243
	244														9,528						1		244
	248														12,567	1,219	268		1	1			248
	249		35.3												9,325	1,084							249
	254														13,877	1,522	268						254
	255														2,948	293							255
	259		35.1												7,313	15	200						259
	260														15,990	669	268		2	3			260
	272		30.3												1,055	8	156		1	1			272
	273	338.4	199.1												5,147				2	2			273
	274		12.4												1,612		210						274
	305				LUMP	4,605																	305
	306						3.170	0.038	0.177		1,781	LUMP	LUMP	LUMP				616.4					306
TOTAL I-90-1(40)01		338.4	312.2		LUMP	4,605	3.170	0.038	0.177		1,781	LUMP	LUMP	LUMP	117,013	4,970	1,837	616.4	6	7	1		
100% STATE																							
	272		63.2												5,324	78	112						272
	274		88.0	133											7,025	91	98		1			1	274
	275			91											8,493	449				1			275
	276														309								276
	298														6,791	427	808		2				298
	299														235								299
	306						1.759		0.248	0.284				LUMP									306
TOTAL 100% STATE			151.2	224			1.759		0.248	0.284				LUMP	28,177	1,051	1,018		3	1		1	
TOTAL THIS SHEET		338.4	463.4	224	LUMP	4,605	4.929		0.425	0.284	1,781	LUMP	LUMP	LUMP	145,250	6,021	2,855	616.4	9	8	1	1	

Rev. 4-4-66

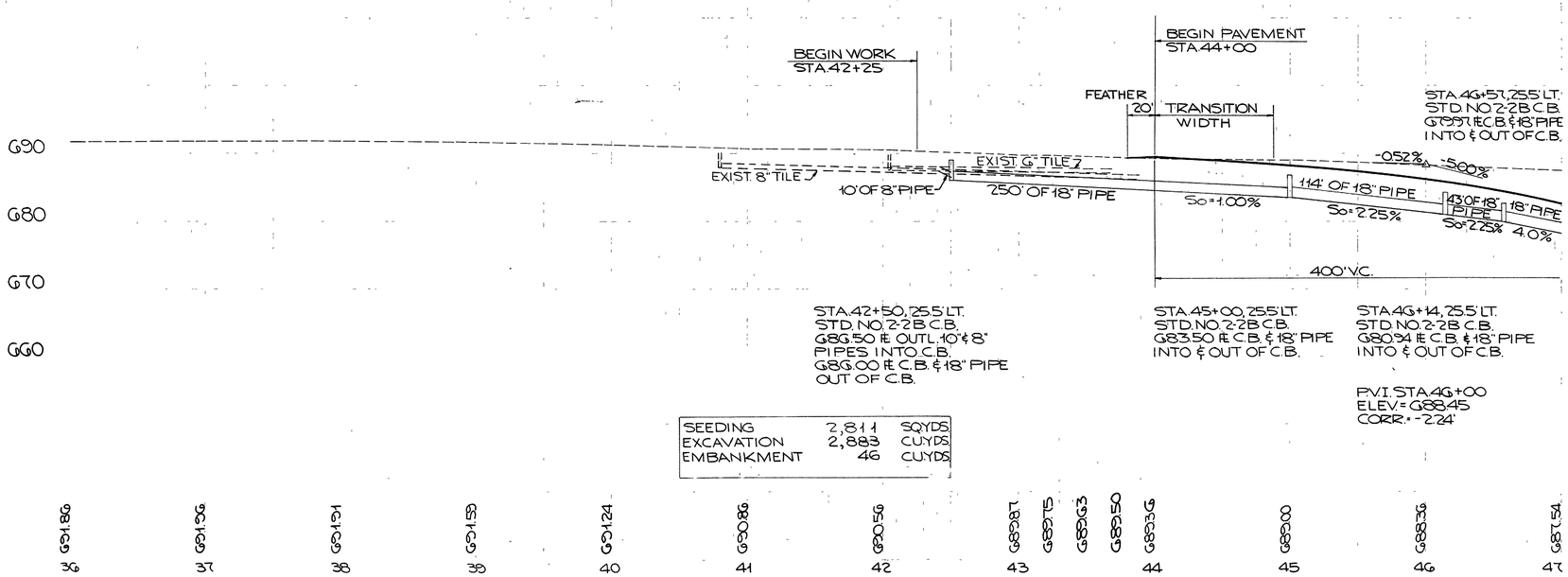
LOR.-90-13.01

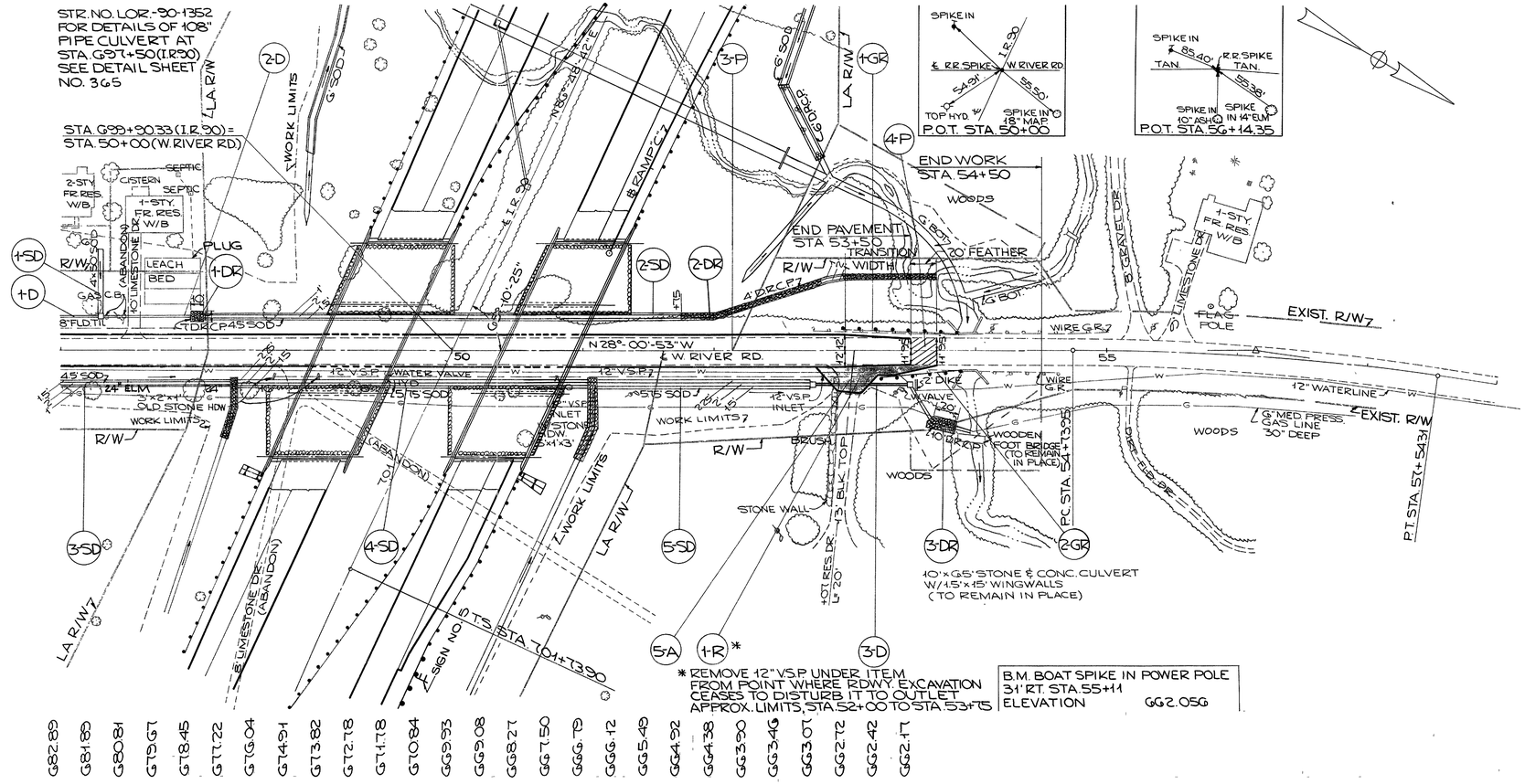
EXIST. TYPICAL SECTION OF ADJOINING PAVEMENT



REFERENCE NO.	SIDE	STATION FROM	STATION TO	603 CONDUIT TYPE B-B 18" LIN.FT.	603 CONDUIT TYPE C-B 18" LIN.FT.	603 CONDUIT TYPE F 8" LIN.FT.	603 CONDUIT TYPE F 10" LIN.FT.	603 CONDUIT TYPE D 18" LIN.FT.	603 PIPE SPECIAL TYPE F 10"-30° BEND EACH	604 CATCH BASINS STD. TYPE 2-2B EACH				610 SODDING SQYDS.	657 RIP RAP FOR TREE PROT. SQYDS.
1-T	LT.	42+40	42+50			10									
2-T	LT.	42+50				8			1						
1-D	LT.	42+50	45+00		250					1					
2-D	LT.	45+00	46+14	114						1					
3-D	LT.	46+14	46+57	43						1					
4-D	LT.	46+57	47+00	43						1					
5-D	RT.	45+82.5	46+26.5				58								
1-SD	LT.	46+14												11	
2-SD	LT.	46+57												22	
3-SD	RT.	46+26.5	47+00											39	
1-TP	LT.	42+68													2
2-TP	LT.	43+03													2
TOTALS				200	250	10	8	58	1	4				72	4

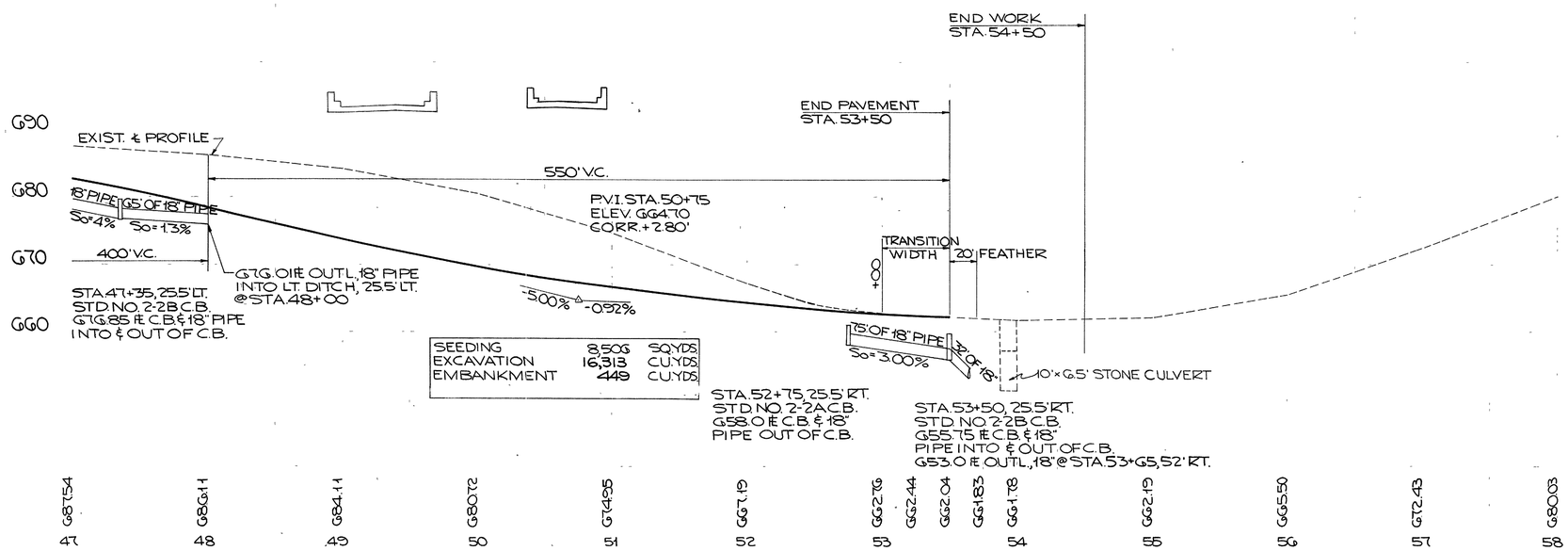
* FOR PAVEMENT QUANTITIES, SEE SHEET NO. 311





REFERENCE NO.	SIDE	STATION FROM	STATION TO	603 CONDUIT TYPE B-B 18" LIN. FT.	603 CONDUIT TYPE C-B 18" LIN. FT.	602 MASONRY CLASS "C" STD. HW-E END-WALL CUYDS	604 CATCH BASINS STD. TYPE 22A EACH	604 CATCH BASINS STD. TYPE 22B EACH	601 DUMPED ROCK CHANN PROT. 18" THICK CUYDS	601 DUMPED ROCK CHANN PROT. 30" THICK CUYDS	606 GUARD RAIL TYPE 4 LIN. FT.		202 PIPE REMOVED 15" AND UNDER LIN. FT.	660 SODDING SQYDS
1-D	LT.	47+00	47+35	35										
2-D	LT.	47+35	48+00		65	0.30		1						
3-D	RT.	52+75	53+65	75	32	0.30	1	1						
1-R	LT.	52+00	53+75										175	
1-GR	LT.	52+99	53+86								87.5			
2-GR	RT.	53+27	53+89								62.5			
1-DR	LT.	48+00	48+10							7				
2-DR	LT.	51+75	53+10						47					
3-DR	RT.	53+65	53+85							20				
1-SD	LT.	47+35												22
2-SD	LT.	48+10	51+75											191
3-SD	RT.	47+00	48+27											68
4-SD	RT.	48+33	51+04											181
5-SD	RT.	51+10	52+75											110
TOTALS				110	97	0.6	1	2	47	27	150.0		175	572

REFERENCE NO.	SIDE	STATION FROM	STATION TO	304 AGGR. BASE 5" CUYDS.	411 STABIL. CRUSHED AGGR. 8"	605 AGGR. DRAIN LIN. FT.		310 SUBBASE 4" CUYDS.	408 BITUM. PRIME COAT GAL.	407 BITUM. TACK COAT GAL.	404 ASPHAL. CONC. (70-85) 1¼" CUYDS.	404 ASPHAL. CONC. (70-85) 2"	402 ASPHAL. CONC. (70-85) 1½"	404 ASPHAL. CONC. (70-85) F CUYDS.
1-P	LT.	43+80	44+00							4.4				0.9
2-P	℄	44+00	47+00	138.4		75		96.0	318.9		27.1		66.4	
3-P	℄	47+00	53+50	305.3		315		211.6	703.9		59.9		146.6	
4-P	LT.	53+50	53+70							4.6				1.0
1-A	LT.	45+20		14.9					43.9			5.7		
2-A	LT.	46+35		19.5					56.0			7.8		
3-A	LT.	46+76		22.6					65.1			9.0		
4-A	RT.	46+04		27.5	22.5				79.0			11.0		
5-A	RT.	53+07		11.5					33.2			4.6		
TOTALS				537	22.5	390		307.6	1300.0	9.0	87.0	38.1	213.0	1.9



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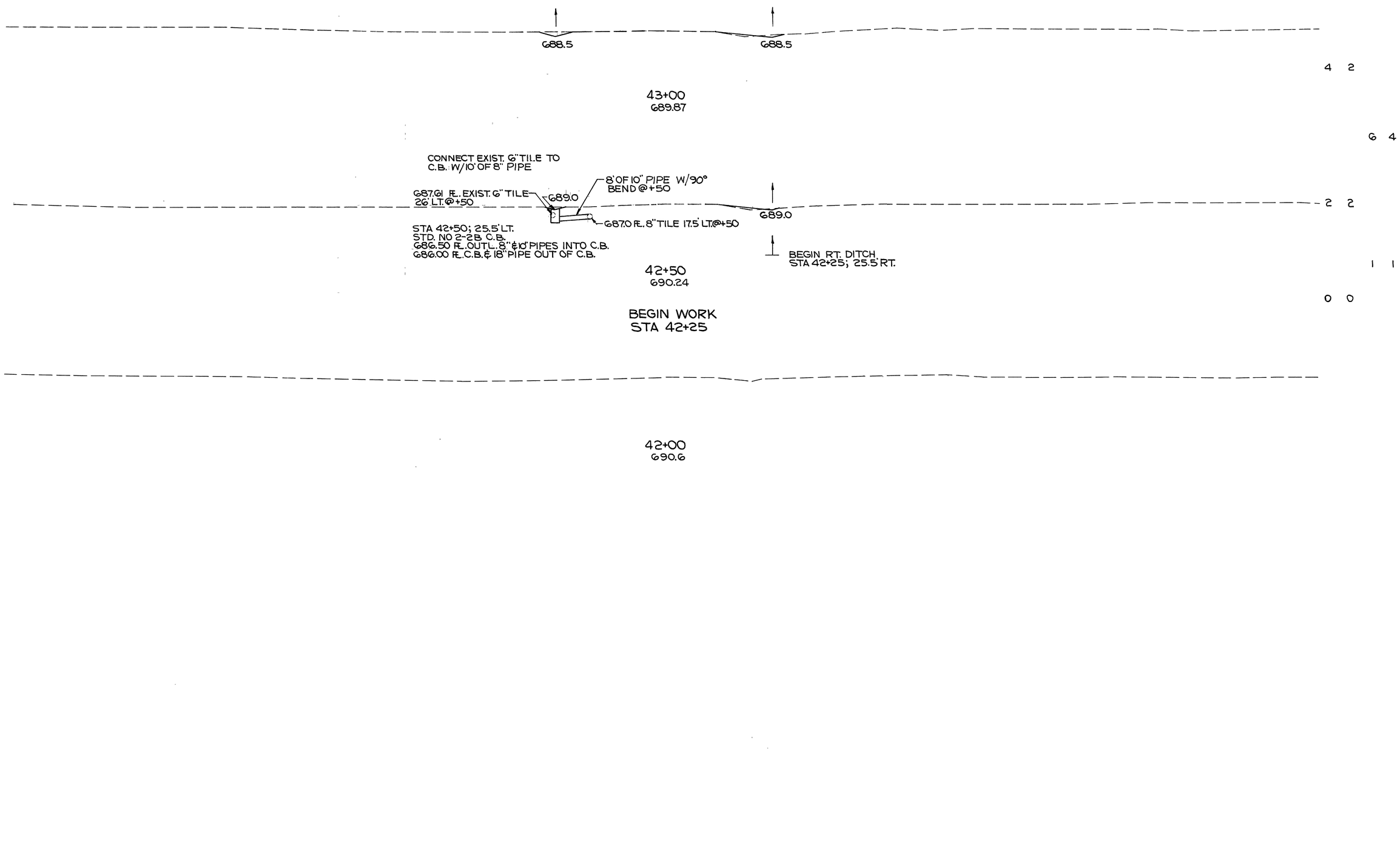
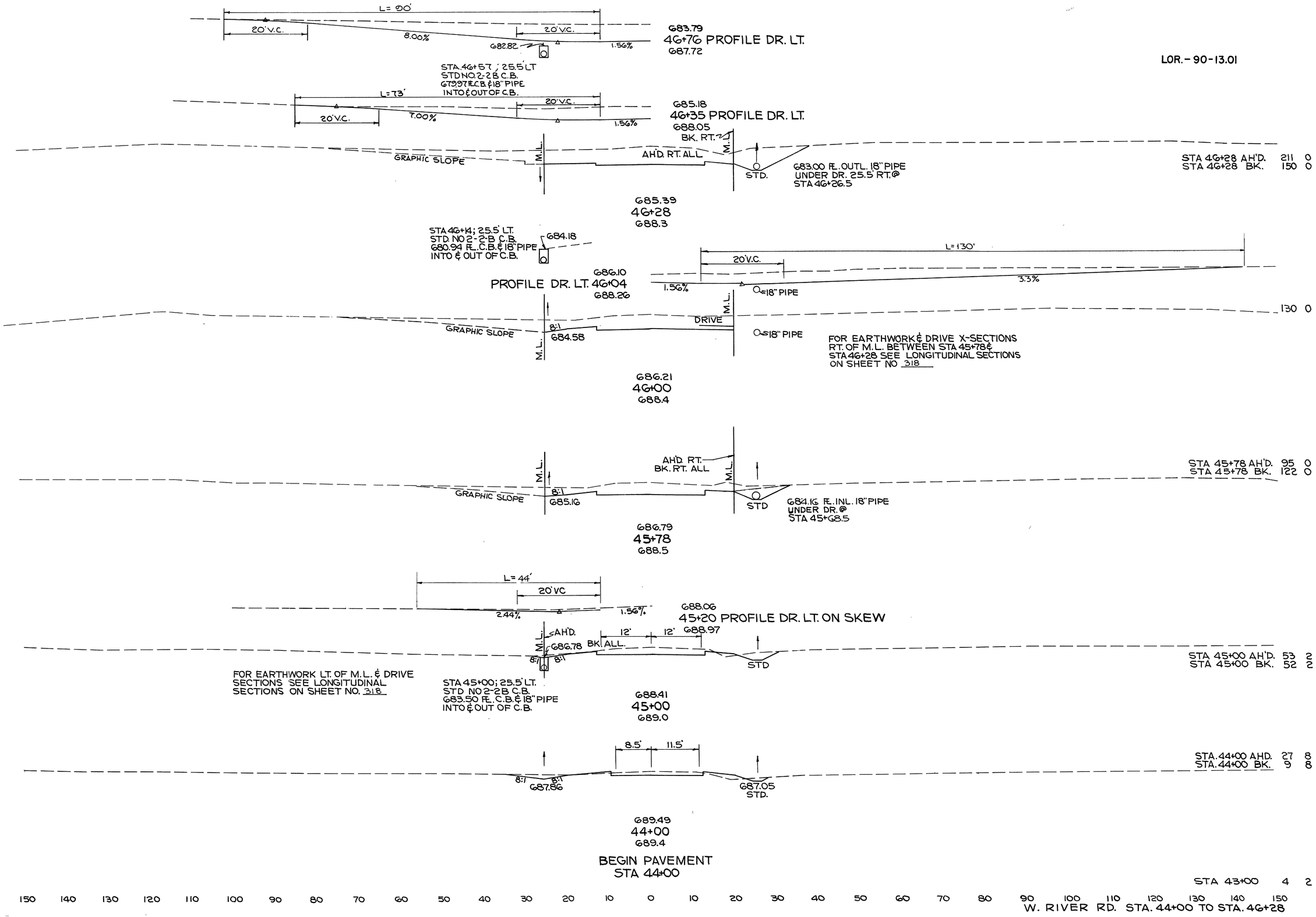
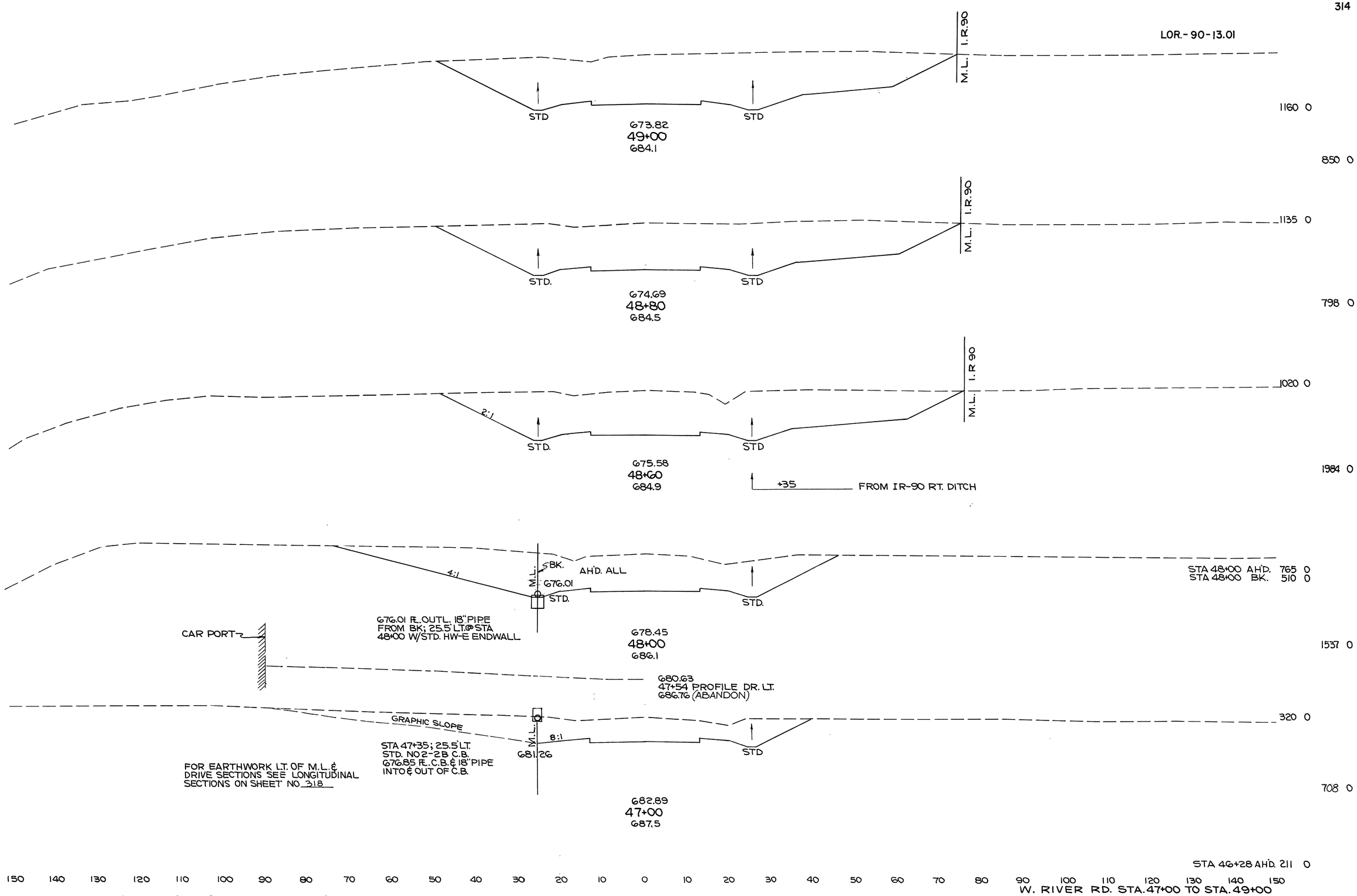
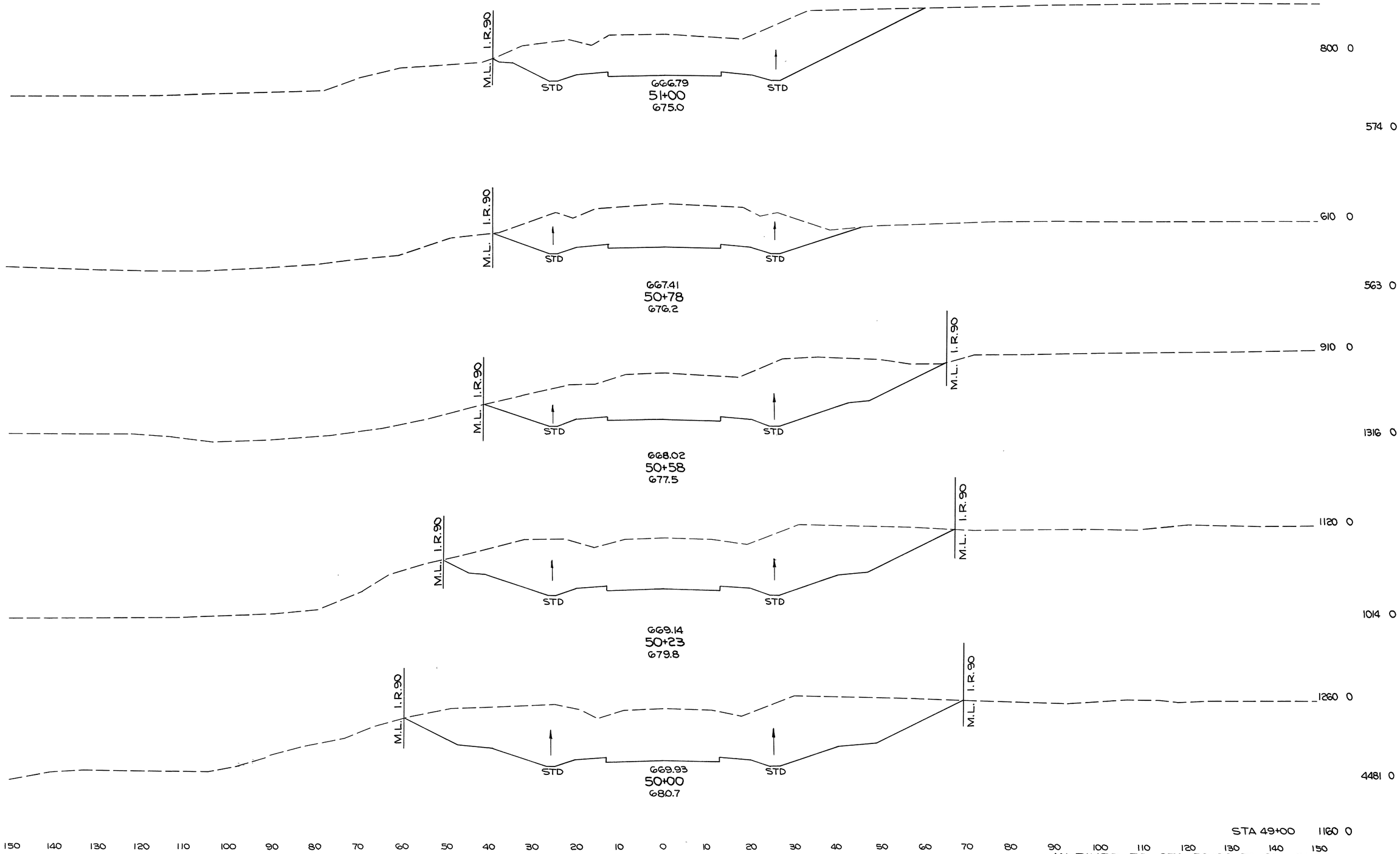

688.5
688.5
43+00
689.87
CONNECT EXIST. 6" TILE TO
C.B. W/10' OF 8" PIPE
8' OF 10" PIPE W/90°
BEND @+50
687.61 FL. EXIST. 6" TILE
26' LT. @+50
689.0
689.0
687.0 FL. 8" TILE 17.5' LT. @+50
STA 42+50; 25.5' LT.
STD. NO 2-2B C.B.
686.50 FL. OUT L. 8" & 10" PIPES INTO C.B.
686.00 FL. C.B. & 18" PIPE OUT OF C.B.
BEGIN RT. DITCH
STA 42+25; 25.5' RT.
42+50
690.24
BEGIN WORK
STA 42+25
42+00
690.6
4 2
6 4
2 2
1 1
0 0
150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150
W. RIVER RD. STA. 42+00 TO STA. 43+00

LOR.-90-13.01

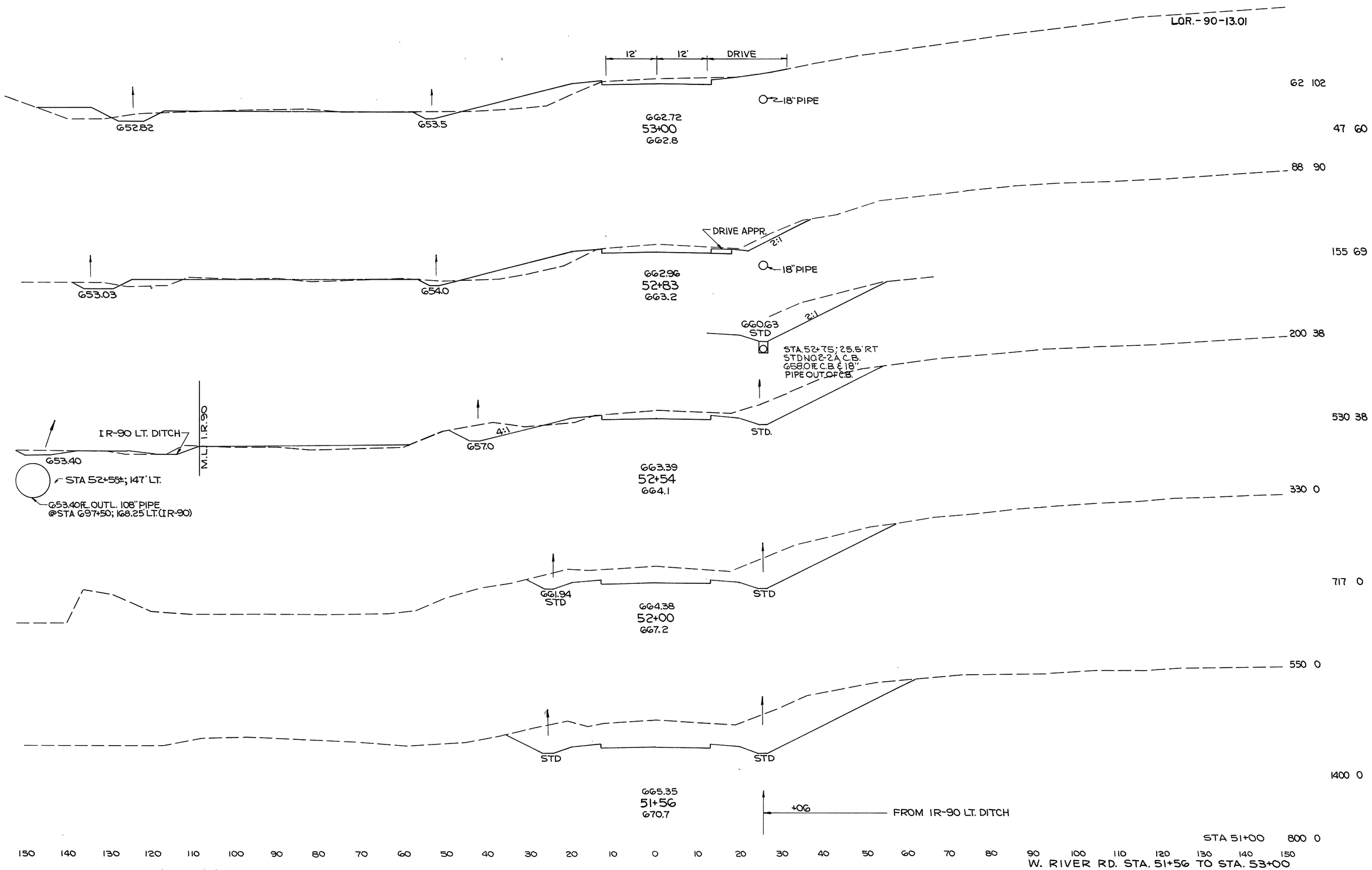

L= 90'
20' V.C.
20' V.C.
8.00%
1.56%
683.79
46+76 PROFILE DR. LT.
687.72
682.82
STA. 46+57; 25.5' LT
STD NO. 2-2B C.B.
679.97 FL. C.B. & 18" PIPE
INTO & OUT OF C.B.
L=73'
20' V.C.
20' V.C.
7.00%
1.56%
685.18
46+35 PROFILE DR. LT.
688.05
BK. RT.
M.L.
GRAPHIC SLOPE
AH'D. RT. ALL.
STD.
683.00 FL. OUTL. 18" PIPE
UNDER DR. 25.5' RT. @
STA 46+26.5
STA 46+28 AH'D. 211 0
STA 46+28 BK. 150 0
685.39
46+28
688.3
STA 46+14; 25.5' LT.
STD. NO 2-2-B C.B.
680.94 FL. C.B. & 18" PIPE
INTO & OUT OF C.B.
684.18
145 0
L=130'
20' V.C.
686.10
PROFILE DR. LT. 46+04
688.26
1.56%
3.3%
18" PIPE
130 0
DRIVE
GRAPHIC SLOPE
8:1
684.58
18" PIPE
FOR EARTHWORK & DRIVE X-SECTIONS
RT. OF M.L. BETWEEN STA 45+78 &
STA 46+28 SEE LONGITUDINAL SECTIONS
ON SHEET NO 318
686.21
46+00
688.4
92 0
AH'D. RT.
BK. RT. ALL
GRAPHIC SLOPE
8:1
685.16
STD
684.16 FL. INL. 18" PIPE
UNDER DR. @
STA 45+68.5
STA 45+78 AH'D. 95 0
STA 45+78 BK. 122 0
686.79
45+78
688.5
253 3
L= 44'
20' VC
2.44%
1.56%
688.06
45+20 PROFILE DR. LT. ON SKEW
AH'D.
686.78
BK. ALL.
12'
12'
688.97
8:1
8:1
STD
STA 45+00 AH'D. 53 2
STA 45+00 BK. 52 2
FOR EARTHWORK LT. OF M.L. & DRIVE
SECTIONS SEE LONGITUDINAL
SECTIONS ON SHEET NO. 318
STA 45+00; 25.5' LT.
STD NO 2-2B C.B.
683.50 FL. C.B. & 18" PIPE
INTO & OUT OF C.B.
688.41
45+00
689.0
146 19
8.5'
11.5'
8:1
8:1
687.86
687.05
STD.
STA. 44+00 AH'D. 27 8
STA. 44+00 BK. 9 8
689.49
44+00
689.4
24 19
BEGIN PAVEMENT
STA 44+00
STA 43+00 4 2
150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150
W. RIVER RD. STA. 44+00 TO STA. 46+28


LOR.-90-13.01
I.R.90
M.L.
STD
673.82
49+00
684.1
1160 0
850 0
674.69
48+80
684.5
1135 0
798 0
2:1
675.58
48+60
684.9
1020 0
1984 0
+35
FROM IR-90 RT. DITCH
4:1
BK.
AH'D. ALL
676.01
STA 48+00 AH'D. 765 0
STA 48+00 BK. 510 0
676.01 FL. OUTL. 18" PIPE
FROM BK; 25.5' LT. @ STA
48+00 W/STD. HW-E ENDWALL
CAR PORT
678.45
48+00
686.1
1537 0
680.63
47+54 PROFILE DR. LT.
686.76 (ABANDON)
GRAPHIC SLOPE
8:1
STA 47+35; 25.5' LT.
STD. NO 2-2B C.B.
676.85 FL. C.B. & 18" PIPE
INTO & OUT OF C.B.
681.26
320 0
FOR EARTHWORK LT. OF M.L. &
DRIVE SECTIONS SEE LONGITUDINAL
SECTIONS ON SHEET NO 318
682.89
47+00
687.5
708 0
STA 46+28 AH'D. 211 0
150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150
W. RIVER RD. STA. 47+00 TO STA. 49+00

LOR. - 90 - 13.01

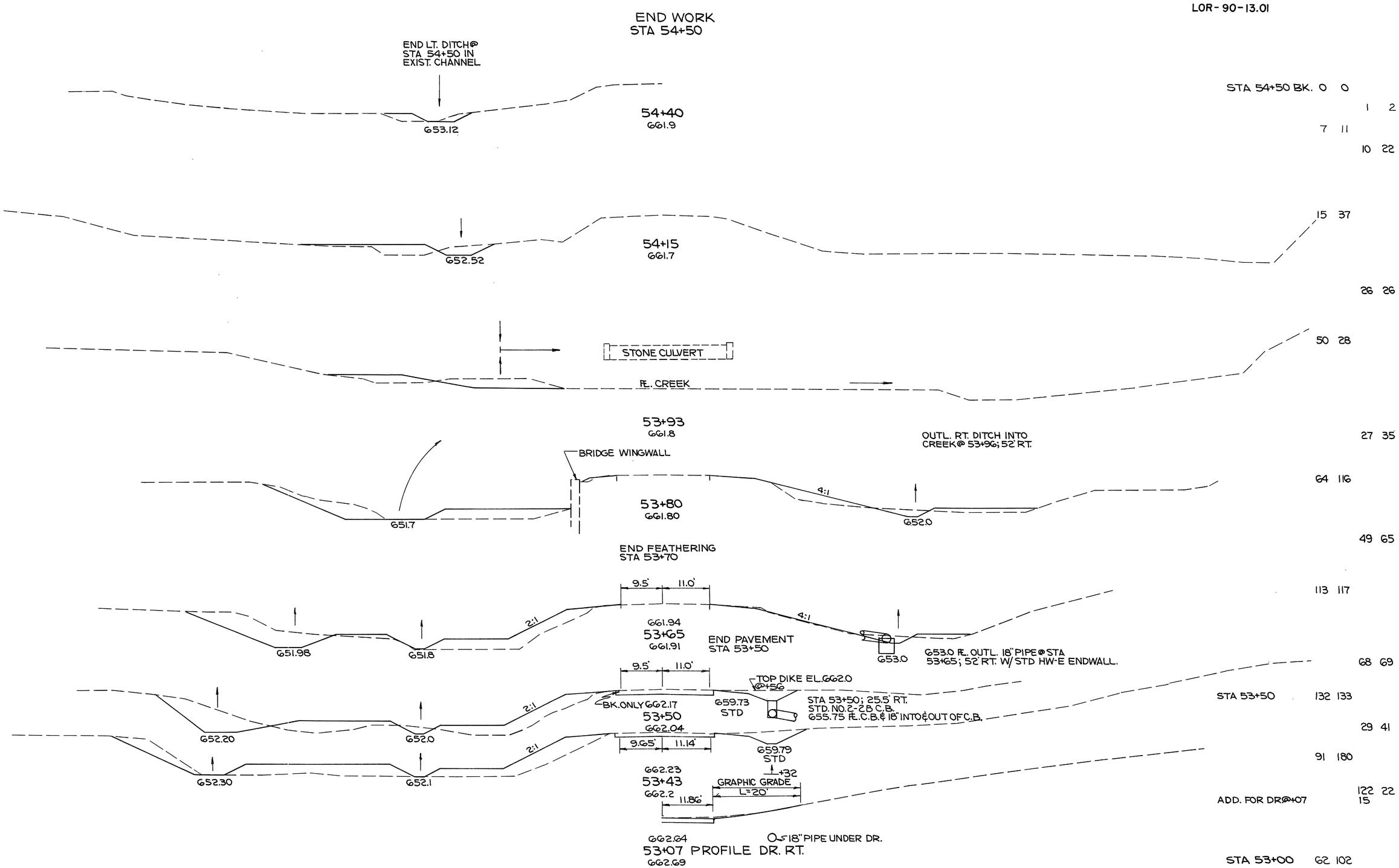


W. RIVER RD. STA. 50+00 TO STA. 51+00



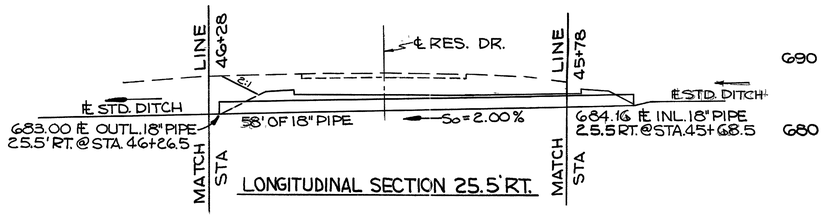
W. RIVER RD. STA. 51+56 TO STA. 53+00

LOR-90-13.01

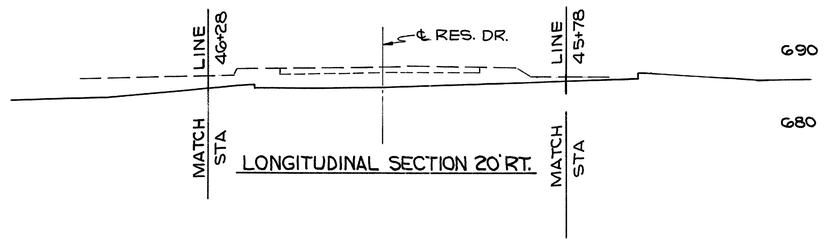


W. RIVER RD. STA. 53+43 TO STA. 54+50

LOR.-90-13.01

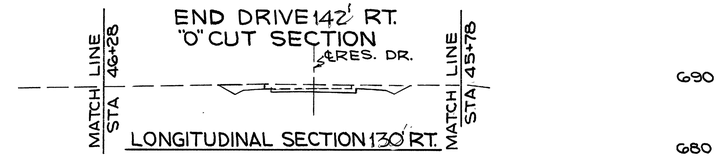


LONGITUDINAL SECTION 25.5' RT.

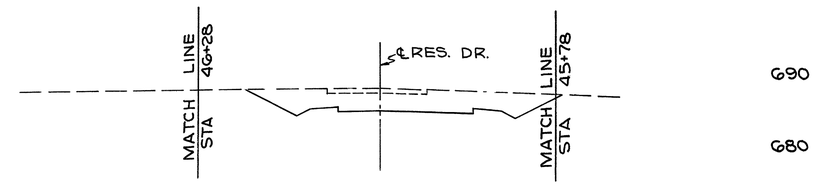


LONGITUDINAL SECTION 20' RT.

END DRIVE 142' RT.
"0" CUT SECTION



LONGITUDINAL SECTION 130' RT.



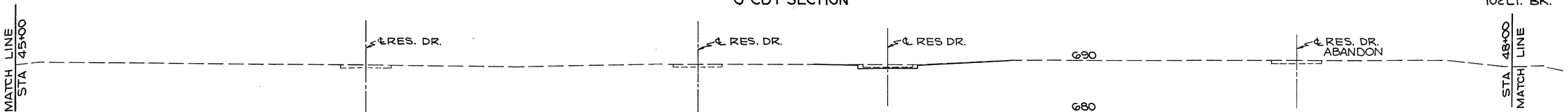
LONGITUDINAL SECTION 40' RT.

46+50 46+00 45+50

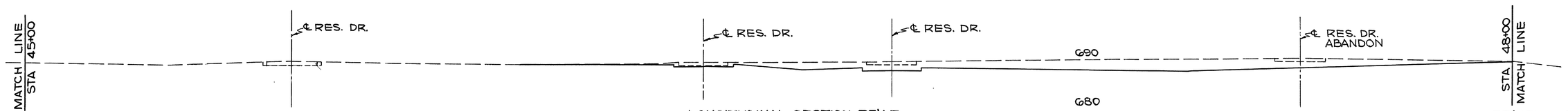
142' RT. AH'D.	0	0		
142' RT. BK.	0	0		
			4	0
130' RT.	20	0		
			220	0
40' RT.	112	0		
			66	0
25.5' RT.	132	0		
			24	0
20' RT. AH'D.	105	0		

END WORK 102' LT.
"0" CUT SECTION

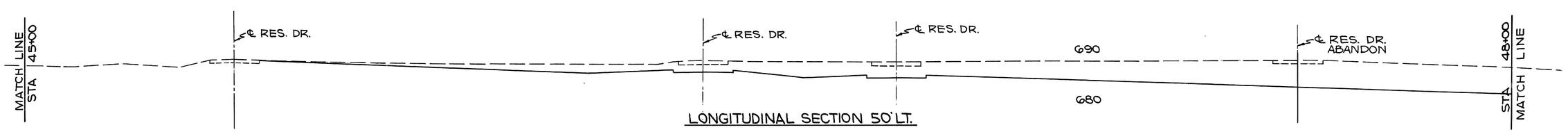
102' LT. AH'D.	0	0		
102' LT. BK.	0	0		
			3	0
90' LT.	12	0		
			71	0
75' LT.	244	0		
			444	0
50' LT.	715	0		
			882	0
25.5' LT. AH'D.	1228	0		



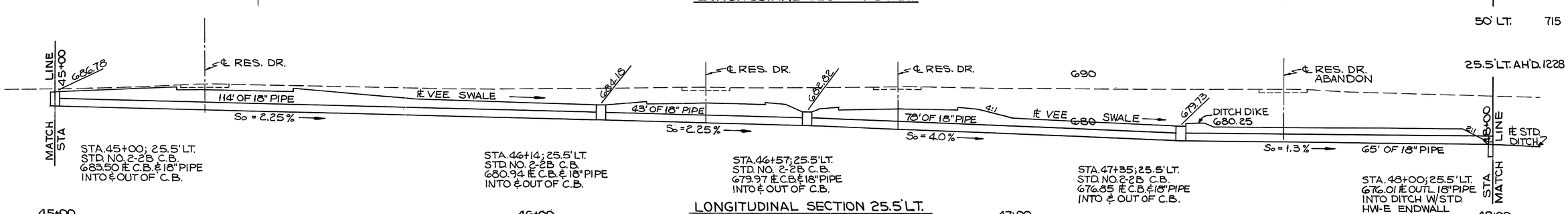
LONGITUDINAL SECTION 90' LT.



LONGITUDINAL SECTION 75' LT.



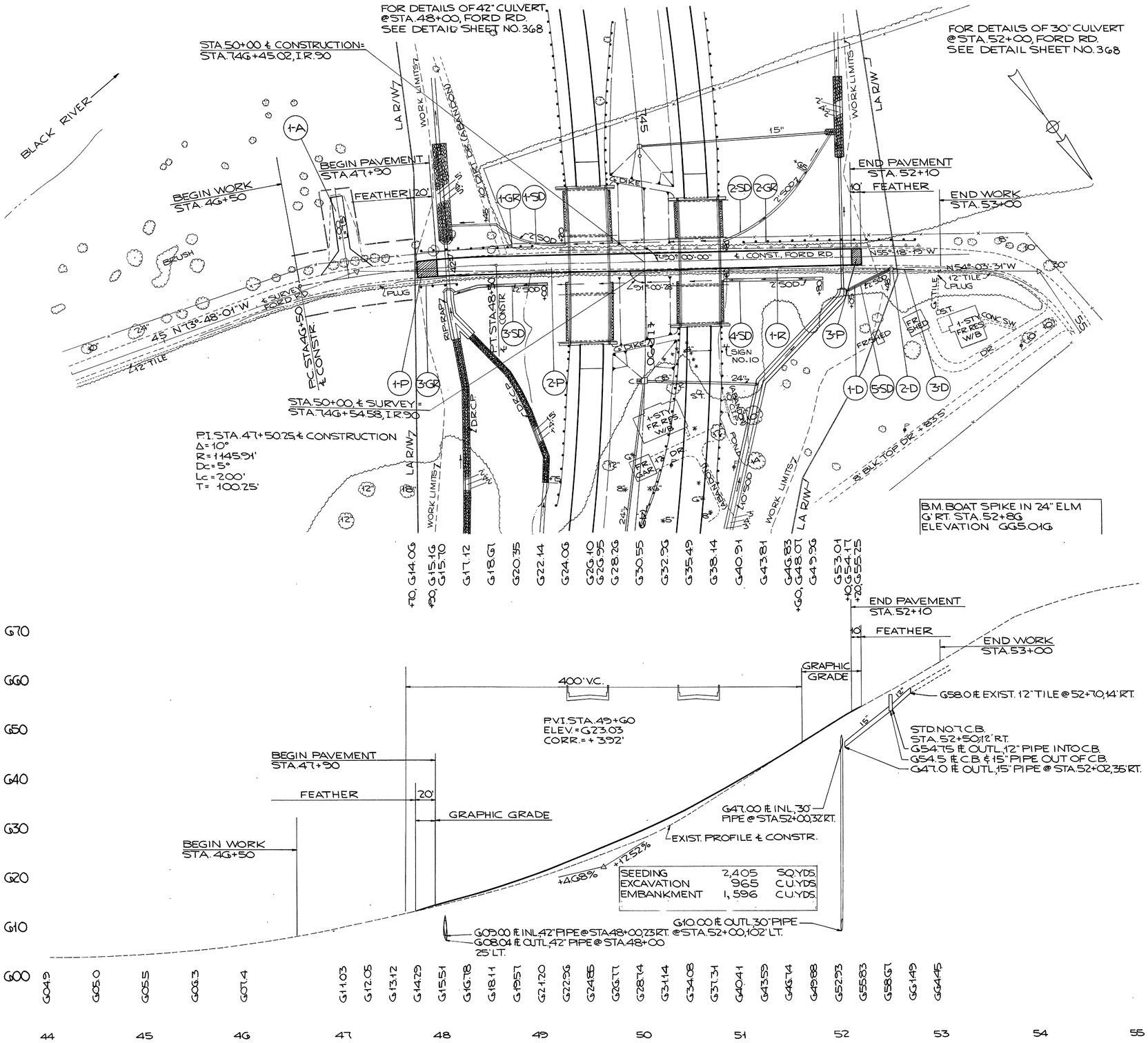
LONGITUDINAL SECTION 50' LT.

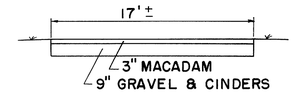


LONGITUDINAL SECTION 25.5' LT.

W. RIVER ROAD LONGITUDINAL SECTIONS W/ DRIVES
STA 45+00 TO STA 48+00 LT.
STA 45+78 TO STA 46+28 RT.

LOR.-90-13.01





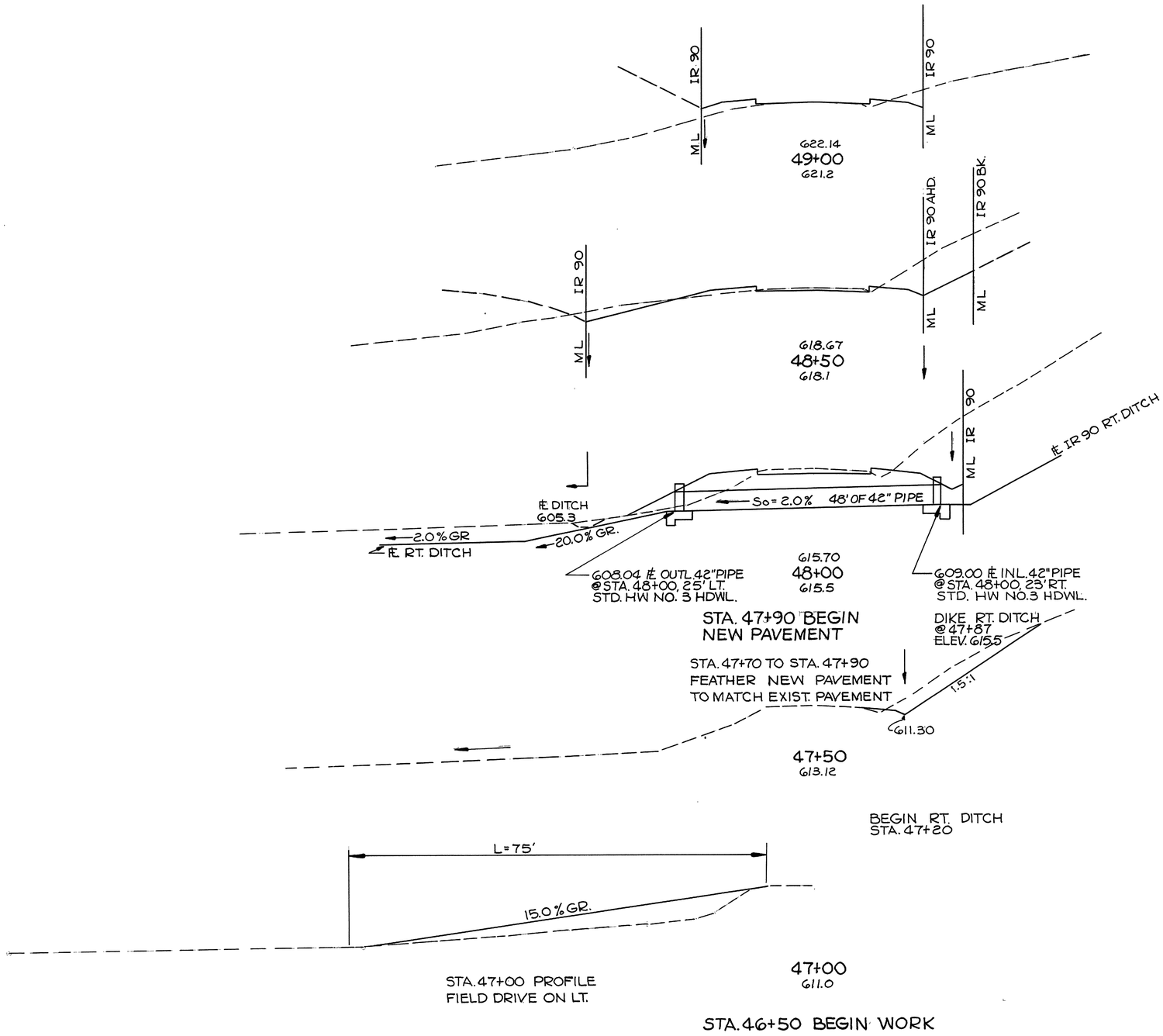
EXISTING TYPICAL SECTION
FORD RD.

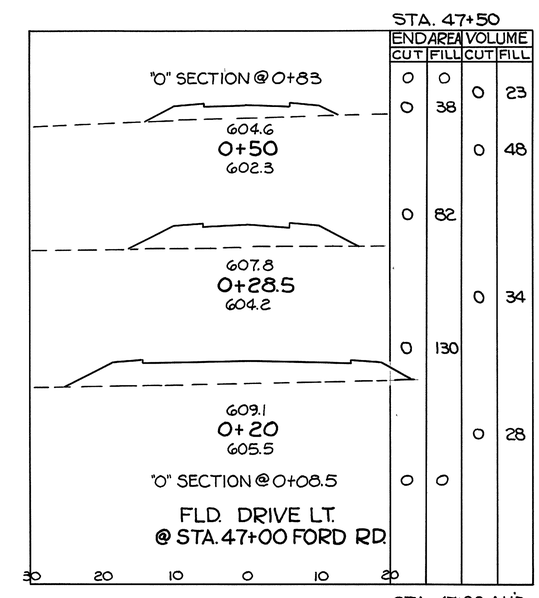
REFERENCE NO.	SIDE	STATION FROM	STATION TO	G03 CONDUIT TYPE C-B 15" LIN. FT.	G03 CONDUIT TYPE F 12" LIN. FT.	G02 MASON. STD. HW-E ENDWL. CLASS "C" CU. YDS.		G04 STD. NO. 7 SIDE DITCH CATCH BASIN EACH		202 PIPE REMOV. 15" & UNDER LIN. FT.	G06 GUARD RAIL TYPE 4 LIN. FT.		G60 SODDING SQ. YDS.
1-D	RT.	52+02	52+50	50		0.26							
2-D	RT.	52+50						1					
3-D	RT.	52+50	52+70		20								
1-GR	LT.	47+75	48+87.5								112.5		
2-GR	LT.	51+00	52+75								175.0		
3-GR	RT.	47+72	48+09.5								37.5		
1-R	RT.	48+05	52+70							465			
1-SD	LT.	48+45	49+20										18
2-SD	LT.	50+80	51+65										24
3-SD	RT.	48+05	49+00										23
4-SD	RT.	50+80	51+80										23
5-SD	RT.	52+05	52+48										10
TOTALS				50	20	0.26		1		465	325.0		98

REFERENCE NO.	SIDE	STATION FROM	STATION TO	304 AGGR. BASE 5" CU. YDS.	6" CU. YDS.	402 ASPHAL. CONC. (70-85) 1½" CU. YDS.	G05 AGGR. DRAIN LIN. FT.	310 SUBBASE 4" CU. YDS.	408 BITUM. PRIME COAT GAL.	407 BITUM. TACK COAT GAL.	404 ASPHAL. CONC. (70-85) 1¼" CU. YDS.	F CU. YDS.
1-P	℄	47+70	47+90							3.9		0.9
2-P	℄	47+90	52+10	126.4		36.0	74	106.3	345.3		27.2	
3-P	℄	52+10	52+20							1.9		0.3
1-A	LT.	47+00			24.1							
TOTALS				126.4	24.1	36.0	74	106.3	345.3	5.8	27.2	1.2

STA. 44+00 TO STA. 55+00, FORD RD.

LOR.-90-13.01





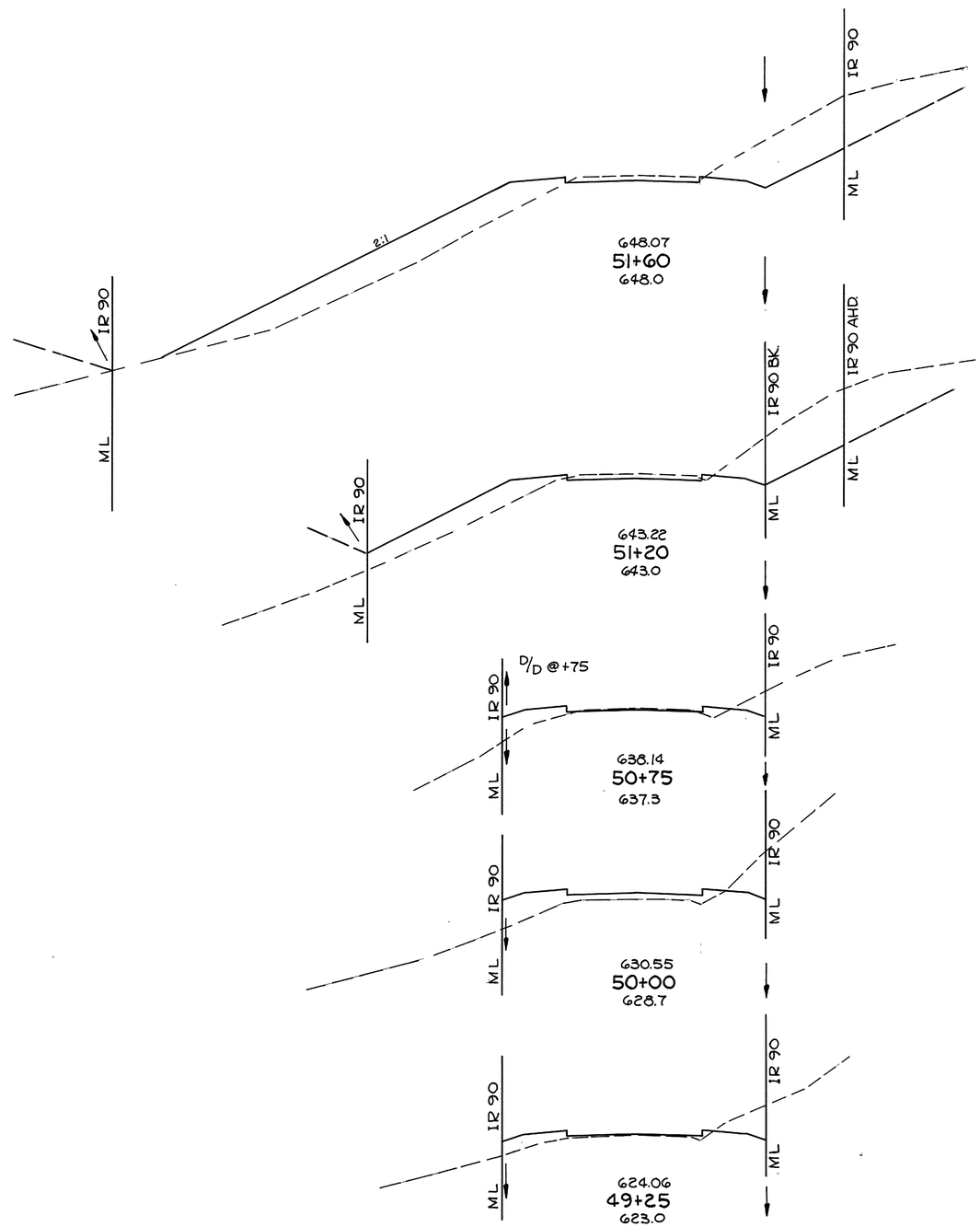
	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
	0	0		
	0	38	0	23
			0	48
	0	82		
			0	34
	0	130		
			0	28
	0	0		

7	14	
47	22	
STA. 48+50 AHD. 44	10	
STA. 48+50 BK. 99	10	
175	68	
90	63	
134	58	
STA. 47+50 55	0	
31	0	
STA. 47+20 AHD. 0	0	
STA. 47+20 BK. 0	0	
ADD DR. LT. @ 47+00	0	133

150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

STA. 47+00 TO STA. 49+00 FORD RD.

LOR.-90-13.01



	139	210
	201	219
STA 51+20 AH'D.	133	86
STA 51+20 BK.	40	86
	41	90
	9	22
	38	100
	18	50
	53	93
	20	17
	13	14
STA. 49+00	7	14

150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

STA. 49+25 TO STA. 51+60 FORD RD.

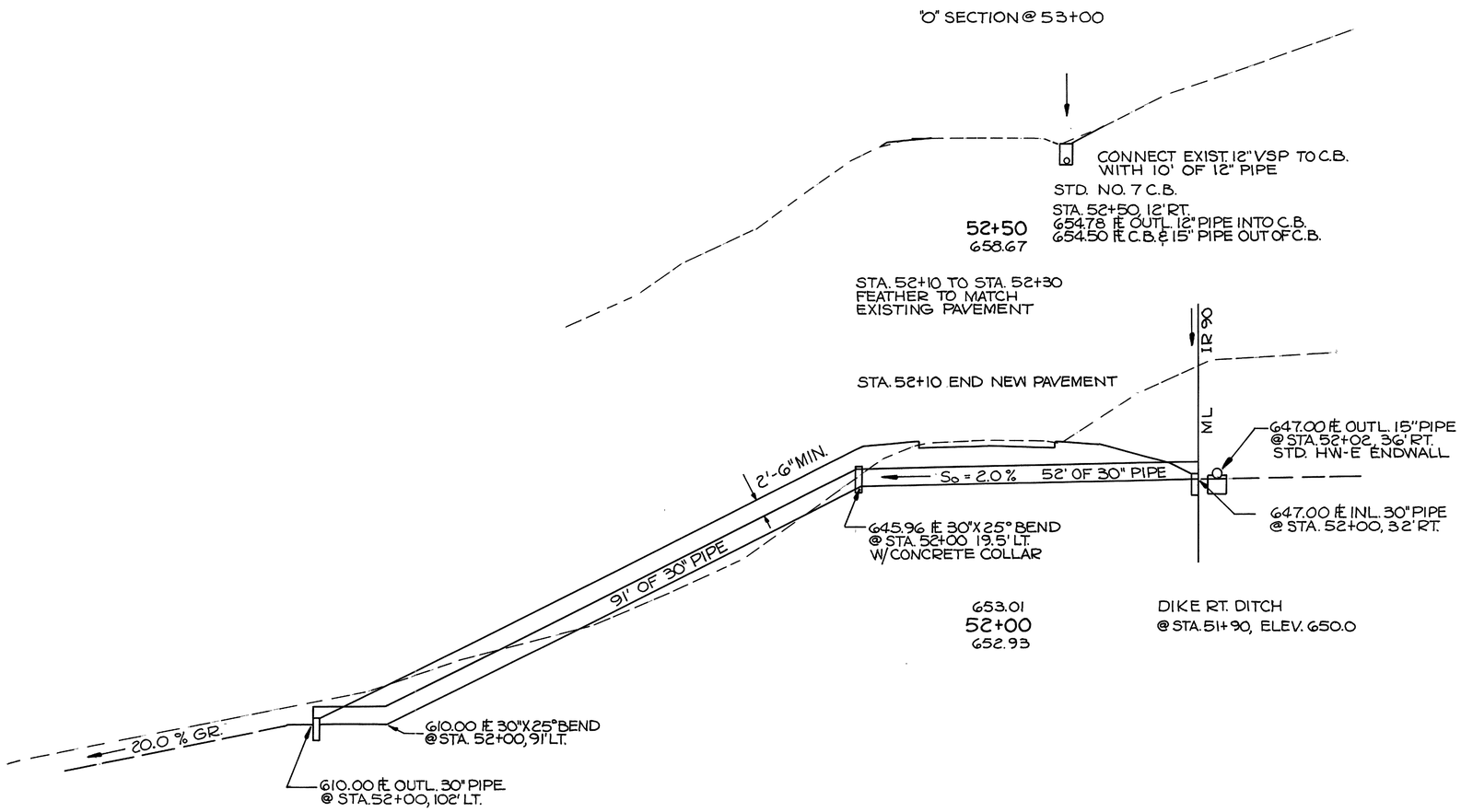
STA. 53+00 AHD. 0 0
STA. 53+00 BK. 0 0

END WORK STA. 53+00

4 1

"O" SECTION @ 53+00

4 1



71 357

73 385

157 441

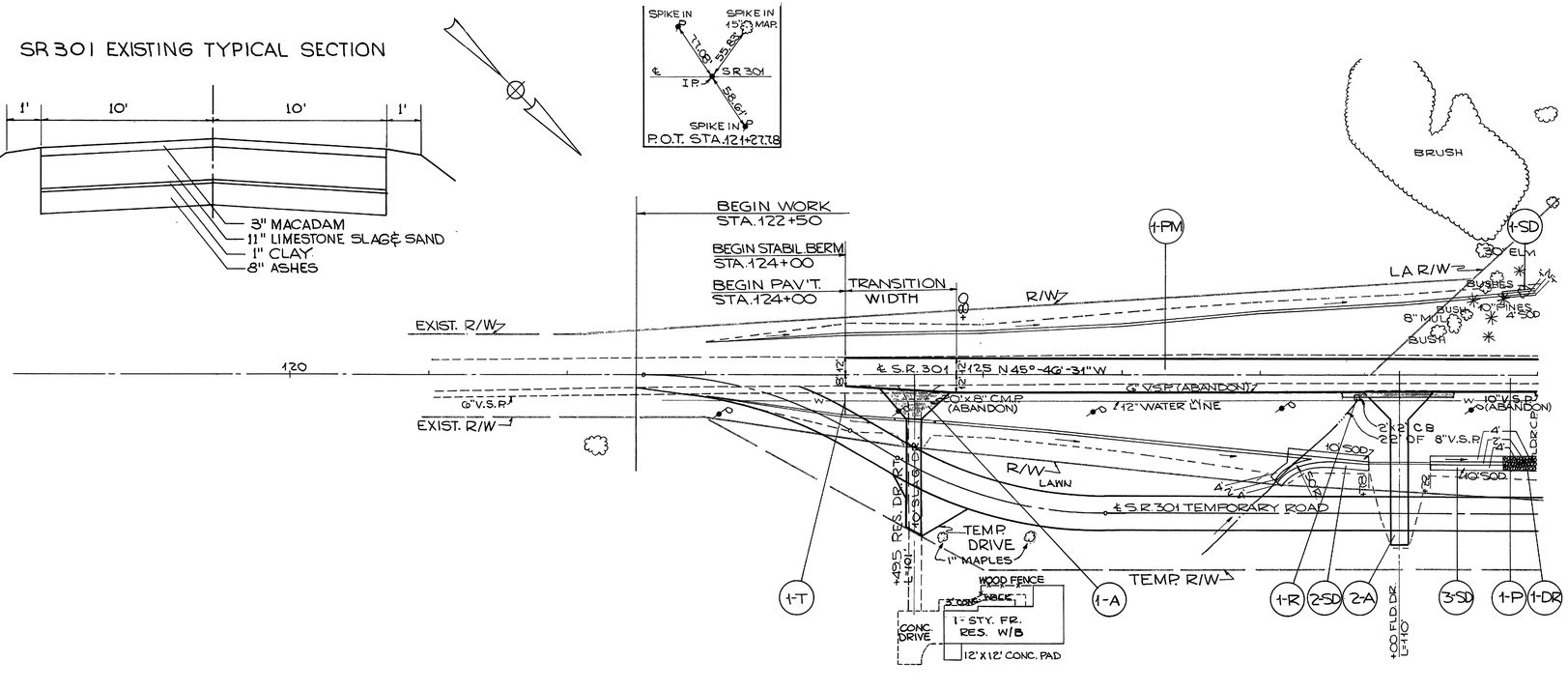
STA. 51+60 139 210

150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

STA. 52+00 TO STA. 52+50 FORD RD.

LOR.-90-13.01

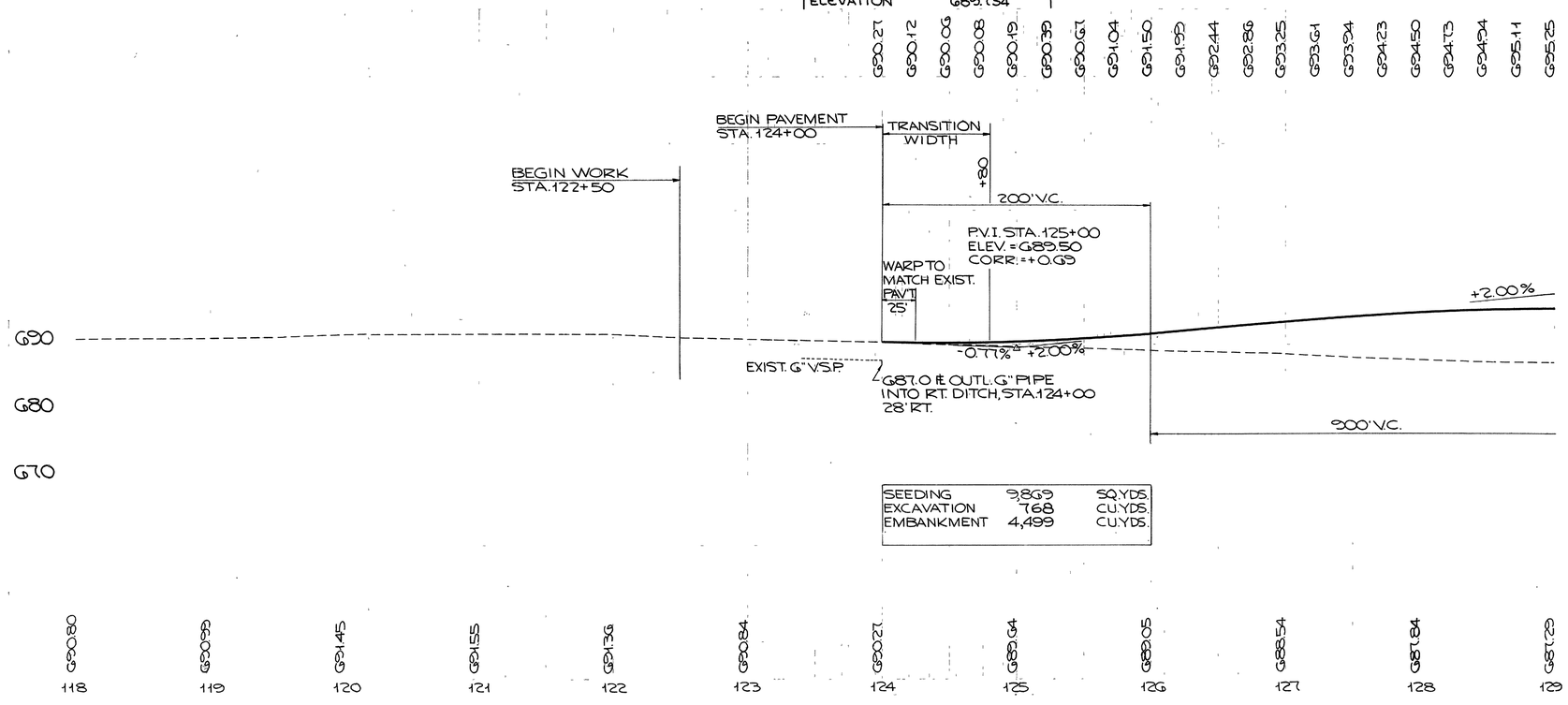
SR 301 EXISTING TYPICAL SECTION



REFERENCE NO.	SIDE	STATION FROM	STATION TO	G03 CONDUIT TYPE F 6" LIN. FT.	G03 PIPE SPECIALS TYPE F 6"-90° BEND EACH	G21 BARRIER LINES 4" MILES	G21 EDGE LINES 4" MILES	G21 LANE LINES & CENTER LINES 6" MILES	202 CATCH BASINS REMOV. EACH			G01 DUMPED ROCK CHANN. PROT. T=18" CU.YDS	G60 SODDING SQ.YDS.
1-T	RT.	124+00		16	1								
1-PM	LT.&RT.	124+00	138+00				0.530	0.102					
1-BL	RT.	131+00	138+00			0.133							
1-R	RT.	127+70							1				
1-SD	LT.	128+75	130+10										G4
2-SD	RT.	127+18	127+78										90
3-SD	RT.	128+22	128+75										G1
1-DR	RT.	128+75	129+00									15	
TOTALS				16	1	0.133	0.530	0.102	1			15	215

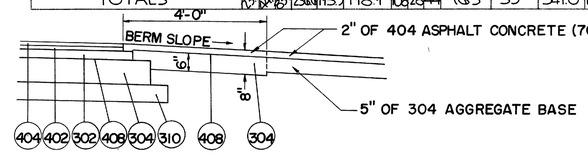
B.M. BOAT SPIKE IN POWER POLE 267' RT. STA. 124+37.4 ELEVATION 689.734

FOR DETAILS OF S.R. 301 TEMPORARY ROAD, SEE SHEET NO. 329



SEEDING	9,869	SQ.YDS.
EXCAVATION	768	CU.YDS.
EMBANKMENT	4,499	CU.YDS.

REFERENCE NO.	SIDE	STATION FROM	STATION TO	304 AGGR. BASE 5"	304 6"	304 8"	302 ASPHAL. CONC. 3" (70-85)	402 1½"	452 PLAIN PORT. CEMENT CONC. PAV'T. 7"	G03 CONDUIT TYPE D 12"	15"	18"	G05 AGGR. DRAIN	411 STABIL. CRUSHED AGGR. 8" CRUSHED LIME-STONE	310 SUBBASE 6"	408 BITUM. PRIME COAT	409 SEAL COAT FOR STABIL. BERMS	404 ASPHAL. CONC. (70-85) 1¼"	404 2"
				CU.YD.			CU.YD.		SQ.YD.	LIN. FT.			LIN. FT.	CU.YD.	CU.YD.	GAL.	SQ.YDS.	CU.YD.	
1-P	℄	124+00	129+00			45.0	111.9	54.8					386		242.4	706.6	423.1	45.7	
2-P	℄	129+00	130+01.20			8.0	24.3	11.9					61		52.6	154.8	95.3	9.9	
3-P	℄	133+55.96	138+00			45.0	100.4	49.2					318		217.2	608.0	315.5	41.0	
1-A	RT.	124+49.5		69							28			24.0		28.4			4.0
2-A	RT.	128+00			18.0							44							
3-A	RT.	134+98.08		69						36				35.0		28.4			4.0
4-A	LT.	136+41							118.1	42									
5-A	RT.	136+00			16.0					30									
6-A	RT.	138+32		99												28.4			4.0
1-AS	℄	130+01.20	130+32.20												14.4				
2-AS	℄	133+30.96	133+55.96												14.4				
TOTALS				47	34	98	236.6	115.9	118.1	108	28	44	765	59	541.0	1554.6	833.9	96.6	12.0

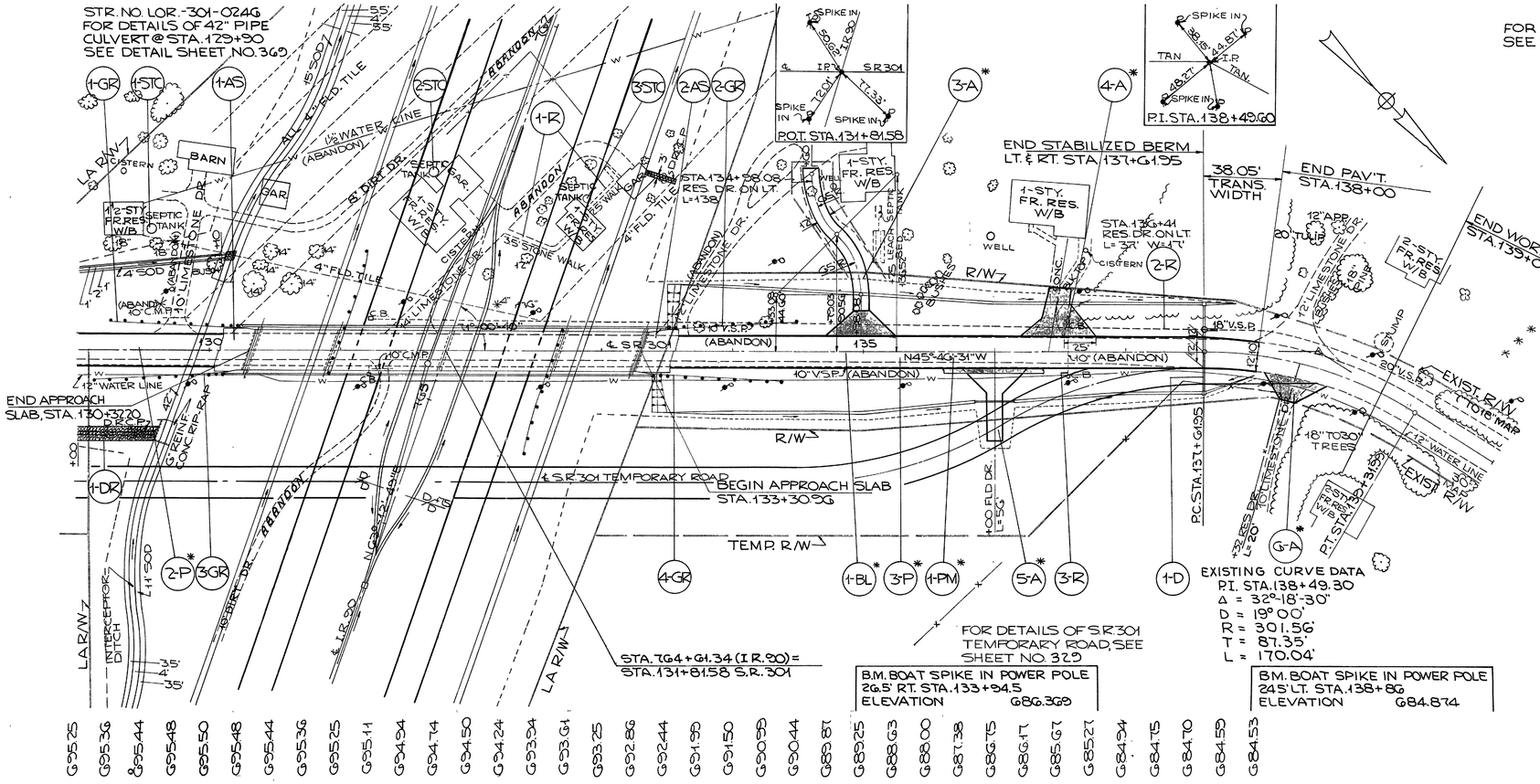


DETAIL OF RES. DRIVE APPROACHES ACROSS STABILIZED BERM

STA. 118+00 TO STA. 129+00 S.R. 301

FOR SR 301 EXISTING TYPICAL SECTION
SEE SHEET NO. 323

LOR.-90-13.01

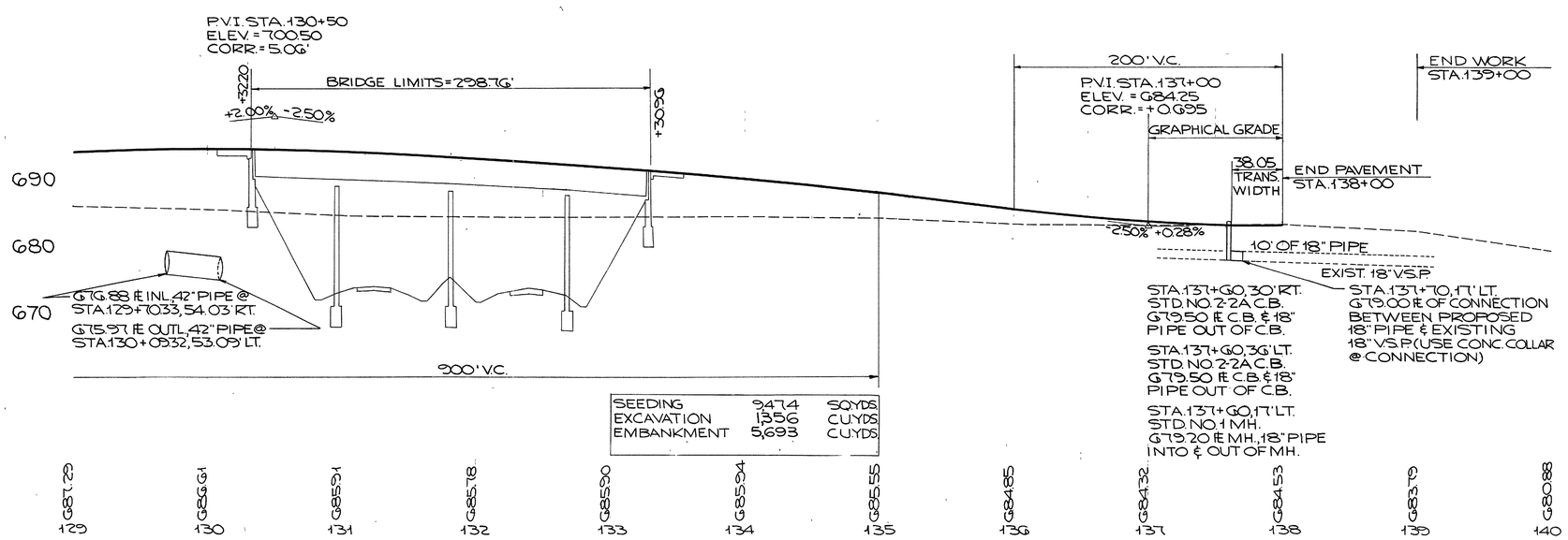


REFERENCE	SIDE	STATION FROM	STATION TO	603 CONDUIT TYPE B-B 18"	603 CONDUIT TYPE C-B	611 REINF. CONC. APPR. SLAB T=13"	604 CATCH BASIN STD. NO. 2-2A	604 MAN-HOLE STD. NO. 1	601 DUMPED ROCK CHANN. PROT. 18" THICK	606 GUARD RAIL TYPE 4	202 EXIST. SDWK. REMOV. & DISPOS OF	202 PIPE REMOV.	202 PIPE REMOV. OVER 15"	202 CATCH BASINS REMOV.	SPECIAL CLEAN & DISPOSAL OF SEPTIC TANK
				LIN. FT.	LIN. FT.	SQ. YDS.	EACH	EACH	CU. YD.	LIN. FT.	SQ. FT.	LIN. FT.	LIN. FT.	EACH	EACH
1-D	LT. & RT.	137+60		47	29		2	1							
1-GR	LT.	129+25	130+25							100					
2-GR	LT.	133+52	134+52							100					
3-GR	RT.	129+12	130+12							100					
4-GR	RT.	133+39	134+39							100					
1-AS	⊄	130+00.20	130+32.20			88.2									
2-AS	⊄	133+30.96	133+55.96			88.2									
1-STC	LT.	129+55													1
2-STC	LT.	131+70													1
3-STC	LT.	132+90													1
1-R	LT.	132+15	133+15								305				
2-R	LT.	136+56	137+70										114		
3-R	RT.	136+56												2	
1-DR	RT.	129+00	129+63						38						
TOTALS				47	29	176.4	2	1	38	400	305		114	2	3

*FOR QUANTITIES NOT SHOWN, SEE SHEET NO. 323

S.R. 301
SUPERELEVATION TABLE

STATION	LT. EDGE ELEV.	⊄ & P.G. ELEV.	RT. EDGE ELEV.
135+77	687.13	687.32	687.13
136+00	686.82	686.75	686.56
+25	686.40	686.17	685.98
+50	685.66	685.67	685.48
+52	685.64	685.64	685.45
+75	685.39	685.27	685.08
+90	685.25	685.06	684.87
137+00	685.18	684.94	684.70
+25	685.06	684.75	684.39
+50	685.04	684.70	684.76
+61.95	685.07	684.62	684.06
+75	685.13	684.59	683.98
138+00	685.34	684.53	683.86



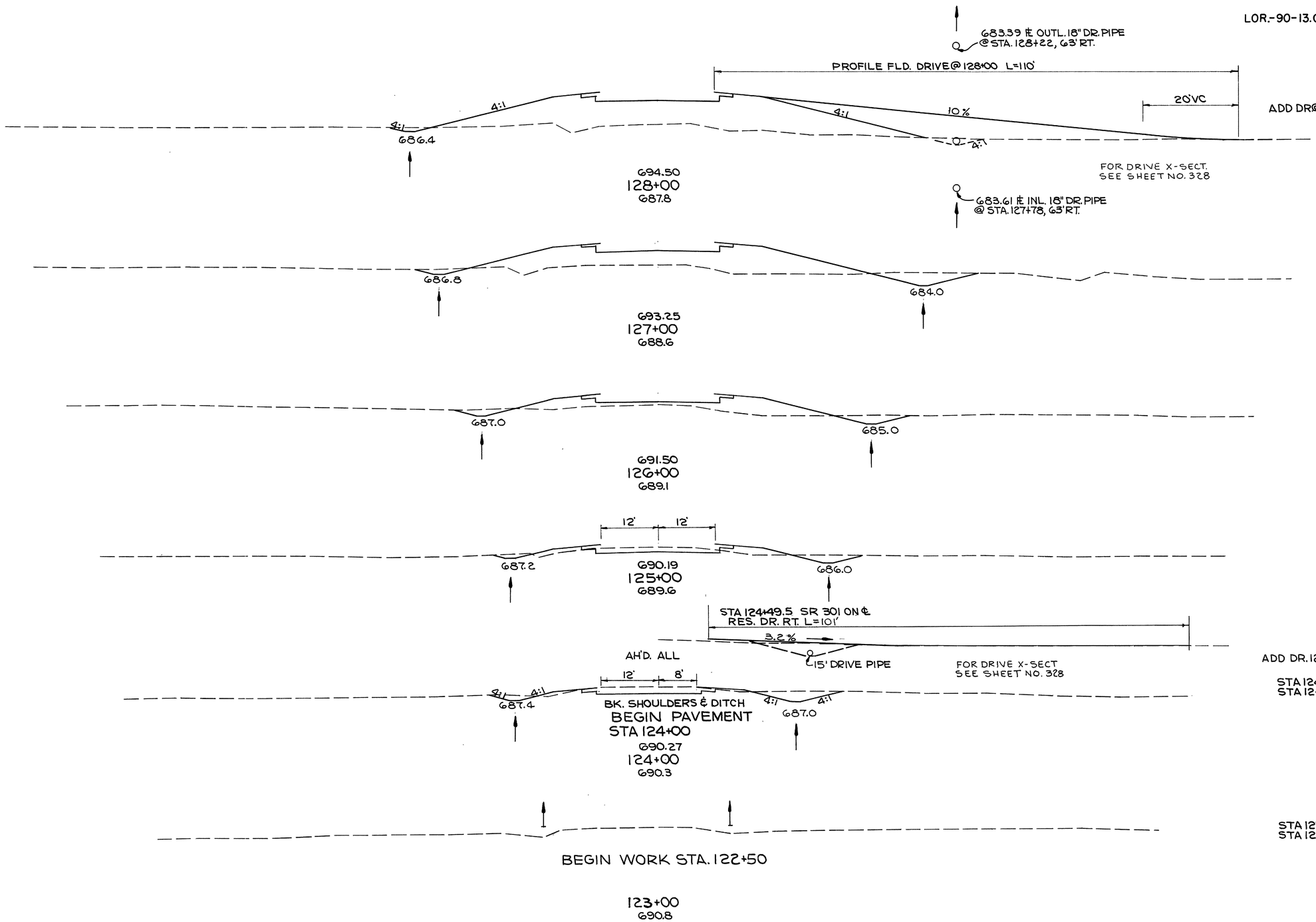
PROPOSED STRUCTURE — BRIDGE NO. LOR-90-1478

TYPE — CONTINUOUS STEEL BEAM WITH REINFORCED CONCRETE DECK AND SUBSTRUCTURE
SPANS — 60'-6"; 2 AT 86'-6"; 60'-6" ℄ BEARINGS
ROADWAY — 30'-0" F/F 2'-0" SAFETY CURBS

LOAD FREQUENCY — CF 400 (57)
SKEW — 18°-59'-20"
WEARING SURFACE — 1" MONOLITHIC CONCRETE
APPROACH SLABS — AS-1-54 (25' LONG, MODIFIED)
ALIGNMENT — TANGENT

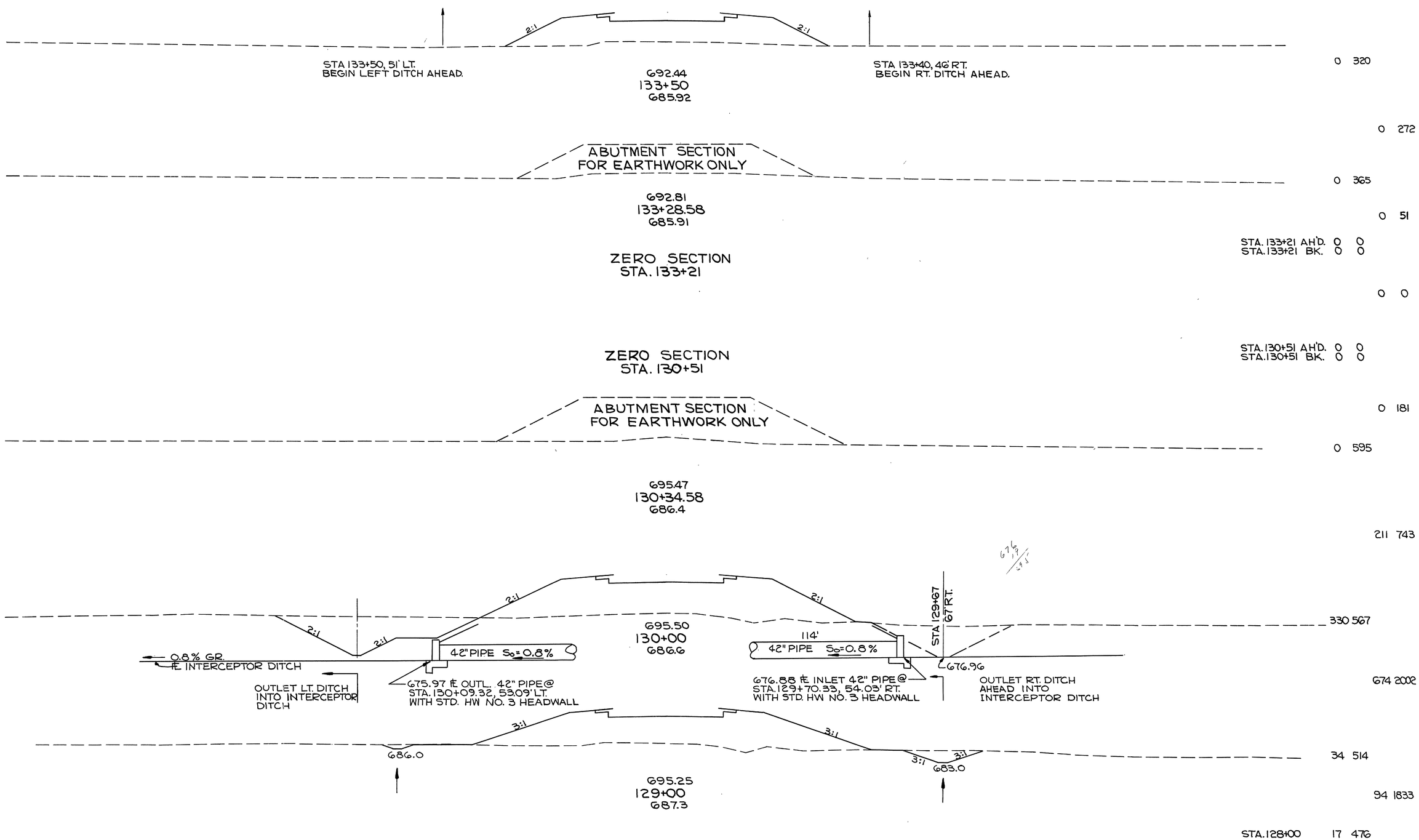
STA. 129+00 TO STA. 140+00 S.R. 301

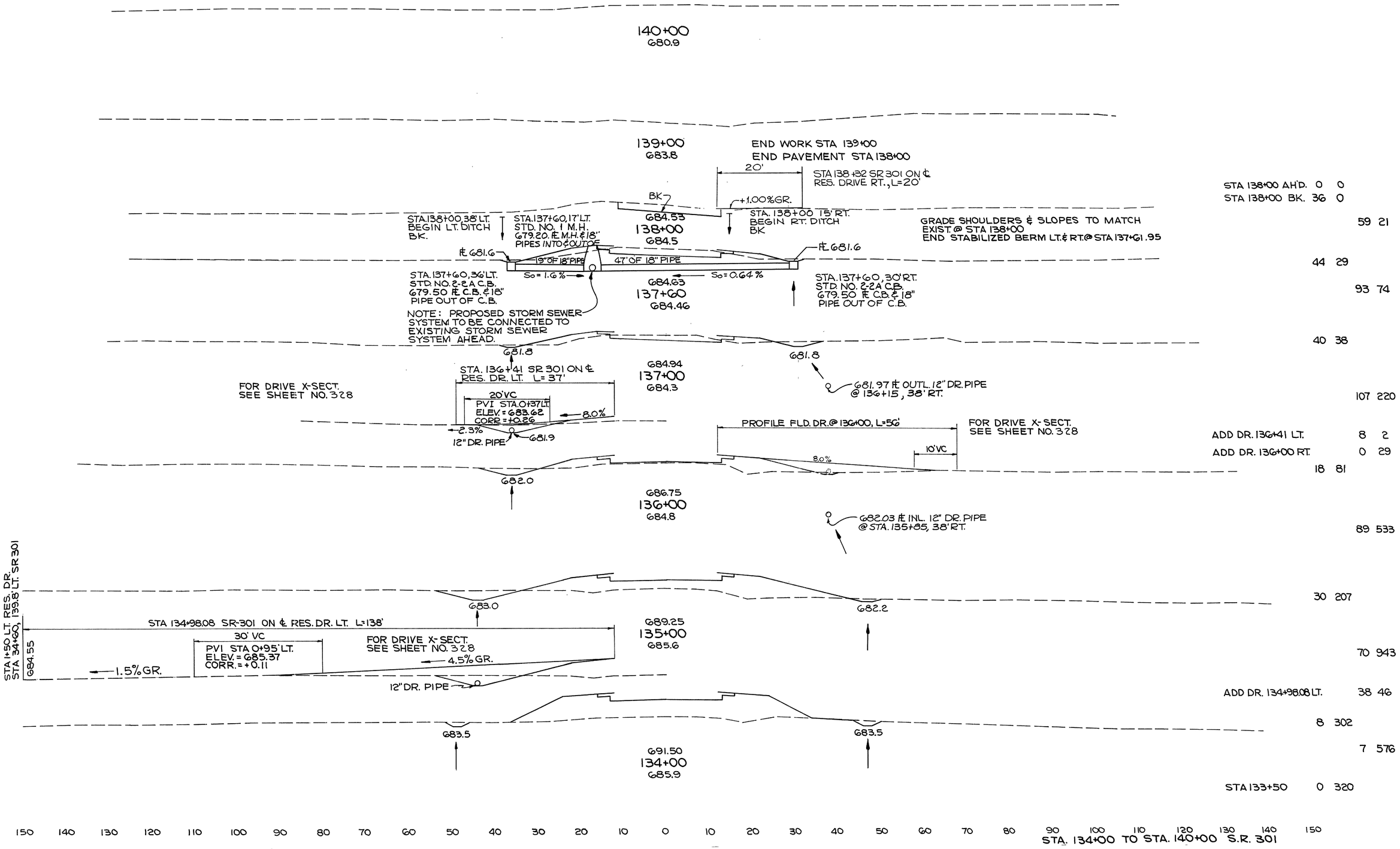
LOR.-90-13.01



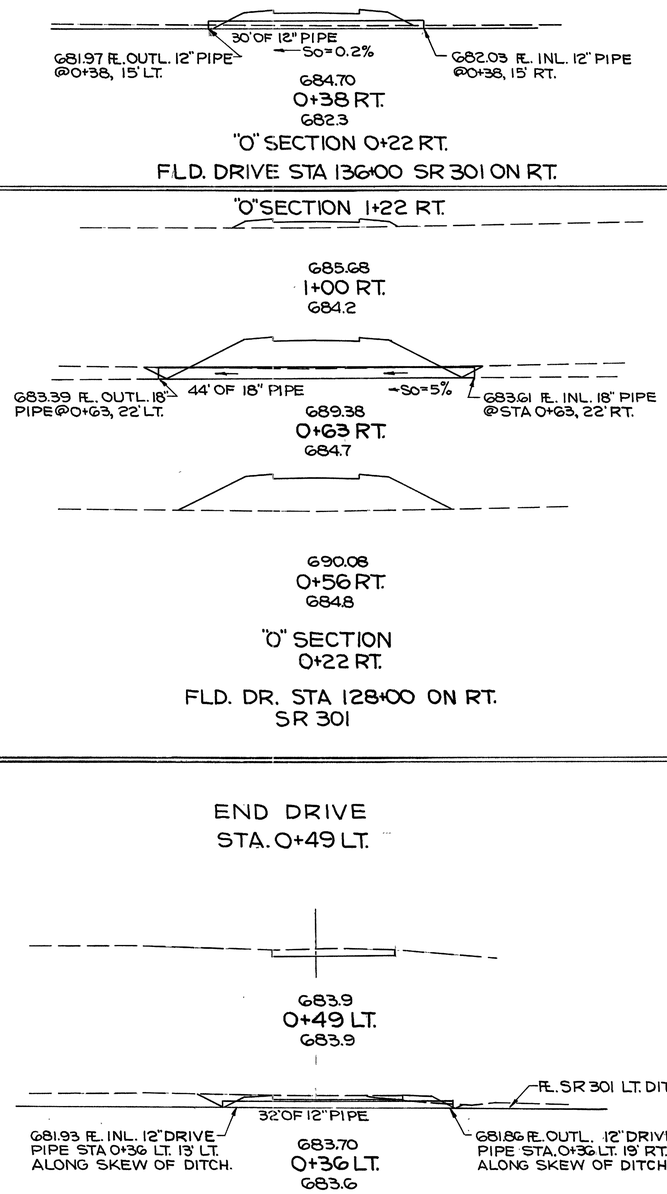
ADD DR @ 128+00 RT.	10	235
	17	476
	122	1400
	49	280
	139	713
	26	105
	139	241
	49	25
	189	61
ADD DR. 124+49.5 RT.	27	1
STA 124+00 AH'D.	53	8
STA 124+00 BK.	26	8
	48	15
STA 123+00 AH'D.	0	0
STA 123+00 BK.	0	0

LOR.-90-13.01


2:1
2:1
STA 133+50, 51' LT.
BEGIN LEFT DITCH AHEAD.
692.44
133+50
685.92
STA 133+40, 46' RT.
BEGIN RT. DITCH AHEAD.
0 320
0 272
ABUTMENT SECTION
FOR EARTHWORK ONLY
0 365
692.81
133+28.58
685.91
0 51
STA. 133+21 AH'D. 0 0
STA. 133+21 BK. 0 0
ZERO SECTION
STA. 133+21
0 0
STA. 130+51 AH'D. 0 0
STA. 130+51 BK. 0 0
ZERO SECTION
STA. 130+51
0 181
ABUTMENT SECTION
FOR EARTHWORK ONLY
0 595
695.47
130+34.58
686.4
211 743
2:1
2:1
2:1
2:1
STA 129+67
67' RT.
330 567
695.50
130+00
686.6
114'
42" PIPE S₀=0.8%
42" PIPE S₀=0.8%
0.8% GR.
℄ INTERCEPTOR DITCH
676.96
OUTLET LT. DITCH
INTO INTERCEPTOR
DITCH
675.97 ℄ OUTL. 42" PIPE @
STA. 130+09.32, 53.09' LT.
WITH STD. HW NO. 3 HEADWALL
676.88 ℄ INLET 42" PIPE @
STA. 129+70.33, 54.03' RT.
WITH STD. HW NO. 3 HEADWALL
OUTLET RT. DITCH
AHEAD INTO
INTERCEPTOR DITCH
674 2002
3:1
3:1
686.0
3:1
3:1
683.0
34 514
695.25
129+00
687.3
94 1833
STA. 128+00 17 476
150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150
STA. 129+00 TO STA. 133+50 SR 301


140+00
680.9
139+00
683.8
END WORK STA 139+00
END PAVEMENT STA 138+00
20'
STA 138+32 SR 301 ON ℄
RES. DRIVE RT., L=20'
BK
+1.00% GR.
684.53
138+00
684.5
STA. 138+00 15' RT.
BEGIN RT. DITCH
BK
STA. 138+00, 38' LT.
BEGIN LT. DITCH
BK.
STA. 137+60, 17' LT.
STD. NO. 1 M.H.
679.20 ℄ M.H. & 18"
PIPES INTO & OUT OF
GRADE SHOULDERS & SLOPES TO MATCH
EXIST. @ STA 138+00
END STABILIZED BERM LT. & RT. @ STA 137+61.95
℄ 681.6
19' OF 18" PIPE
47' OF 18" PIPE
So = 1.6%
So = 0.64%
684.63
137+60
684.46
STA. 137+60, 36' LT.
STD. NO. 2-2A C.B.
679.50 ℄ C.B. & 18"
PIPE OUT OF C.B.
STA. 137+60, 30' RT.
STD. NO. 2-2A C.B.
679.50 ℄ C.B. & 18"
PIPE OUT OF C.B.
NOTE: PROPOSED STORM SEWER
SYSTEM TO BE CONNECTED TO
EXISTING STORM SEWER
SYSTEM AHEAD.
681.8
684.94
137+00
684.3
STA. 136+41 SR 301 ON ℄
RES. DR. LT. L=37'
FOR DRIVE X-SECT.
SEE SHEET NO. 328
20' VC
PVI STA. 0+37 LT.
ELEV. = 683.62
CORR. = +0.26
8.0%
2.3%
12" DR. PIPE
681.9
681.97 ℄ OUTL. 12" DR. PIPE
@ 136+15, 38' RT.
PROFILE FLD. DR. @ 136+00, L=56'
FOR DRIVE X-SECT.
SEE SHEET NO. 328
10' VC
8.0%
682.0
686.75
136+00
684.8
682.03 ℄ INL. 12" DR. PIPE
@ STA. 135+85, 38' RT.
STA 1+50 LT. RES. DR.
STA 34+60, 139.8' LT. SR 301
683.0
682.2
STA 134+98.08 SR-301 ON ℄ RES. DR. LT. L=138'
30' VC
PVI STA 0+95' LT.
ELEV. = 685.37
CORR. = +0.11
FOR DRIVE X-SECT.
SEE SHEET NO. 328
4.5% GR.
1.5% GR.
684.55
12" DR. PIPE
689.25
135+00
685.6
683.5
683.5
691.50
134+00
685.9
STA 138+00 AH'D. 0 0
STA 138+00 BK. 36 0
59 21
44 29
93 74
40 38
107 220
ADD DR. 136+41 LT. 8 2
ADD DR. 136+00 RT. 0 29
18 81
89 533
30 207
70 943
ADD DR. 134+98.08 LT. 38 46
8 302
7 576
STA 133+50 0 320
150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150
STA. 134+00 TO STA. 140+00 S.R. 301

		END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
"0" SECTION 0+68 RT.	STA 0+68 AH	0	0		
	STA. 0+68 BK.	0	0		
				0	19
		0	35		
				0	10
"0" SECTION 0+22 RT.	STA. 0+22 AH'D.	0	0		
"0" SECTION 1+22 RT.	STA. 1+22 AH	0	0		
	STA 1+22 BK.	0	15		
				9	126
		8	100		
				1	30
		0	130		
				0	79
"0" SECTION 0+22 RT.	STA. 0+22 AH'D.	0	0		
	STA 0+49 AH'D.	0	0		
	STA 0+49 BK.	16	0		
				6	1
		9	5		
				2	1
	STA 0+22 AH'D.	0	0		



END DRIVE
STA. 0+49 LT.

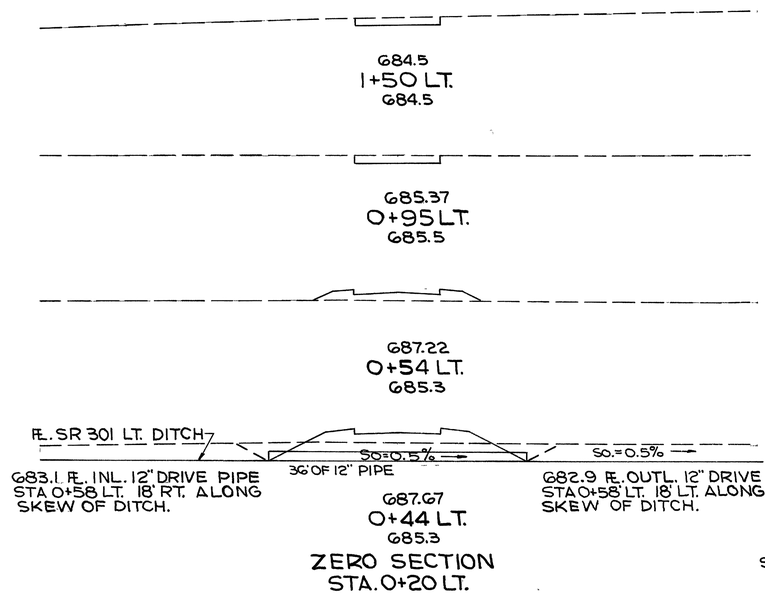
FLD. DR. STA 128+00 ON RT.
SR 301

ZERO SECTION
STA 0+22 LT.

RES. DRIVE STA. 136+41 ON LT.
SR 301

END DRIVE
STA 1+50 LT.

STA 1+50 AH	0	0	
STA 1+50 BK.	9	0	
			18 0
	9	0	
			7 19
	0	25	
			4 11
	20	35	
			9 16
STA 0+20 AH'D.	0	0	

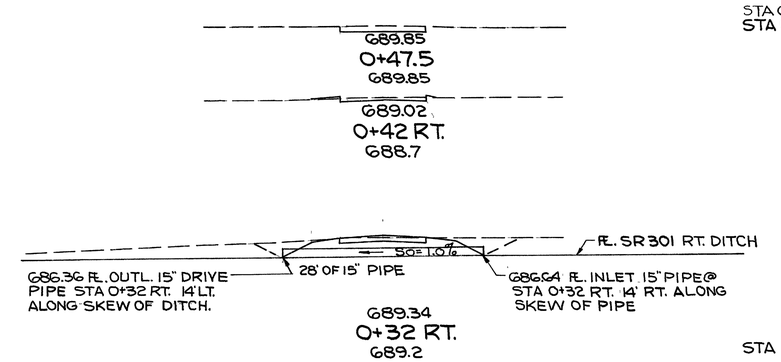


ZERO SECTION
STA. 0+20 LT.

RES. DRIVE STA. 134+98.08 ON LT.
SR 301

END DRIVE STA 1+11

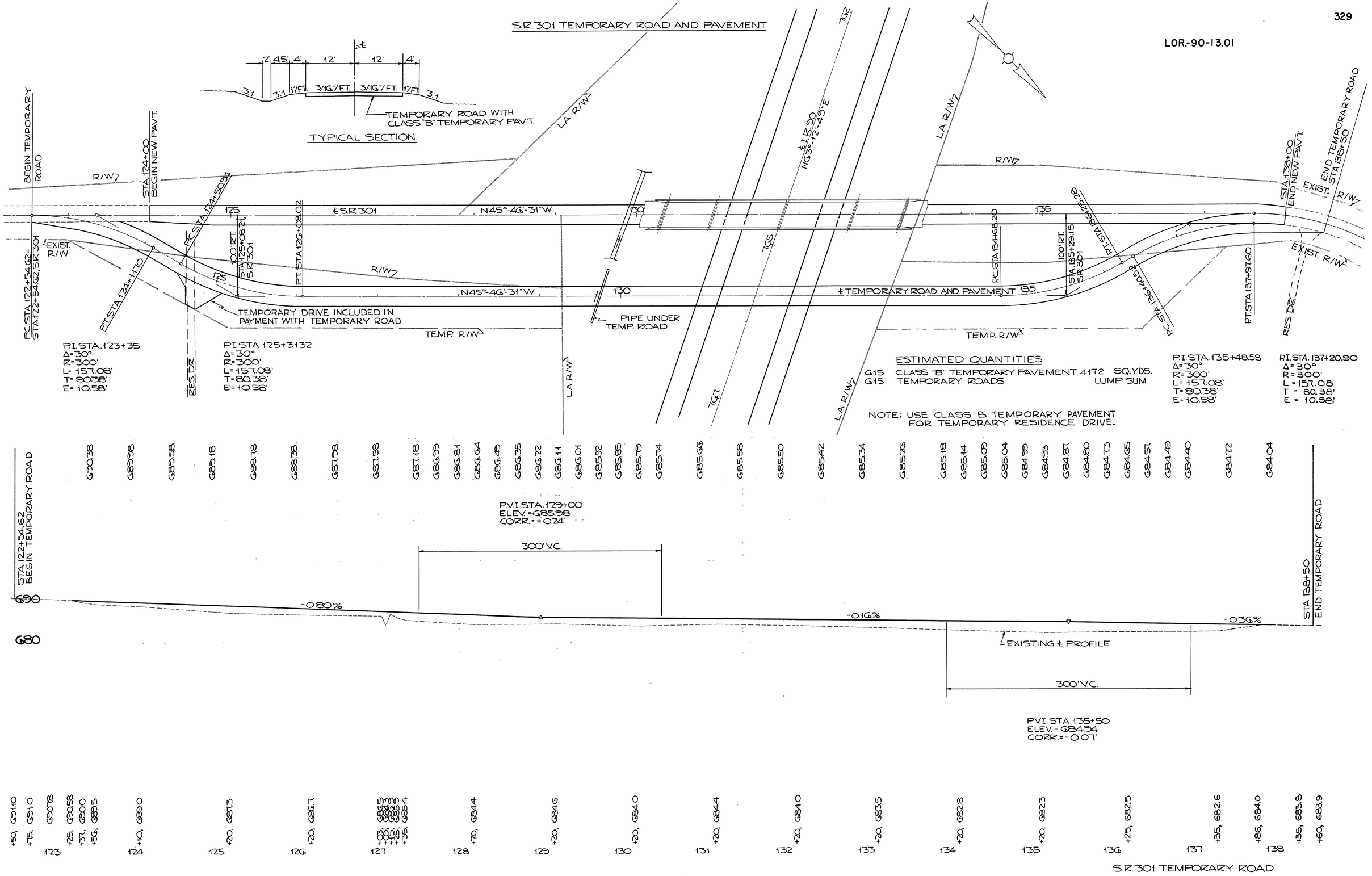
STA 0+47.5 AH'D	0	0	
STA 0+47.5 BK.	9	0	
			15 1
	6	2	
			6 1
	24	0	
			6 0
STA 0+18 AH'D.	0	0	



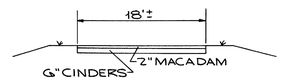
ZERO SECTION
STA. 0+18 RT.

RES. DRIVE STA. 124+49.5 ON RT.
SR 301

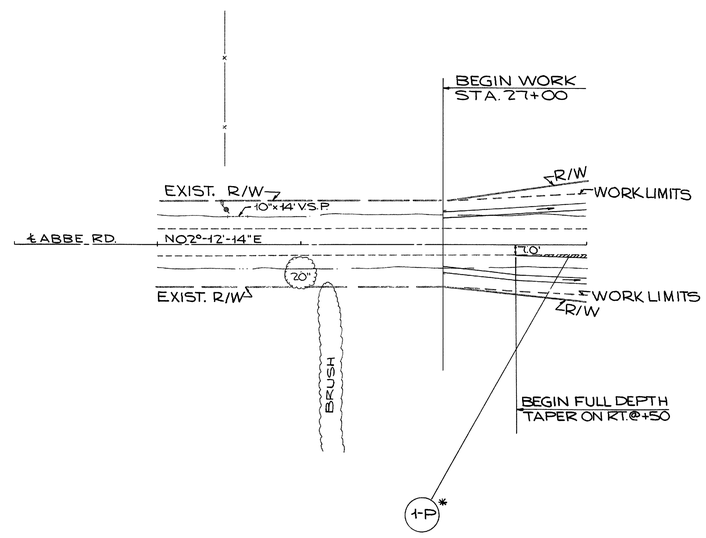
DRIVE X-SECTIONS SR 301


S.R. 301 TEMPORARY ROAD AND PAVEMENT
2' 4.5' 4' 12' ℄ 12' 4'
3:1 3:1 1:1 FT. 3/16" FT. 3/16" FT. 1:1 FT. 3:1
TEMPORARY ROAD WITH CLASS "B" TEMPORARY PAV'T.
TYPICAL SECTION
BEGIN TEMPORARY ROAD
STA. 124+00 BEGIN NEW PAV'T.
R/W
LA R/W
℄ I.R. 90 N 39°-12'-45" E
TG2
TG3
TG1
℄ S.R. 301
N45°-46'-31" W
125
130
135
EXIST. R/W
PC STA. 124+50.34
100' RT. STA. 125+08.21, S.R. 301
P.T. STA. 126+08.02
PC STA. 122+54.62 = STA. 122+54.62, S.R. 301
PT STA. 124+41.70
TEMPORARY DRIVE INCLUDED IN PAYMENT WITH TEMPORARY ROAD
TEMP. R/W
PIPE UNDER TEMP. ROAD
℄ TEMPORARY ROAD AND PAVEMENT
PC STA. 134+68.20
100' RT. STA. 135+29.15 S.R. 301
PT STA. 134+29.20
PC STA. 136+40.52
PT STA. 137+97.60
STA. 138+00 END NEW PAV'T.
END TEMPORARY ROAD STA. 138+50
EXIST. R/W
RES. DR.
P.I. STA. 123+35
Δ = 30°
R = 300'
L = 157.08'
T = 80.38'
E = 10.58'
P.I. STA. 125+31.32
Δ = 30°
R = 300'
L = 157.08'
T = 80.38'
E = 10.58'
P.I. STA. 135+48.58
Δ = 30°
R = 300'
L = 157.08
T = 80.38'
E = 10.58'
P.I. STA. 137+20.90
Δ = 30°
R = 300'
L = 157.08
T = 80.38'
E = 10.58'
ESTIMATED QUANTITIES
G15 CLASS "B" TEMPORARY PAVEMENT 4172 SQ. YDS.
G15 TEMPORARY ROADS LUMP SUM
NOTE: USE CLASS B TEMPORARY PAVEMENT FOR TEMPORARY RESIDENCE DRIVE.
STA. 122+54.62 BEGIN TEMPORARY ROAD
G90.38 G89.98 G89.58 G89.18 G88.78 G88.38 G87.98 G87.58 G87.18 G86.99 G86.81 G86.64 G86.49 G86.35 G86.22 G86.11 G86.01 G85.92 G85.85 G85.79 G85.74 G85.66 G85.58 G85.50 G85.42 G85.34 G85.26 G85.18 G85.14 G85.09 G85.04 G84.99 G84.93 G84.87 G84.80 G84.73 G84.65 G84.57 G84.49 G84.40 G84.22 G84.04
P.V.I. STA. 129+00
ELEV. = G85.38
CORR. = +0.24'
300' V.C.
-0.80%
-0.16%
-0.36%
STA. 138+50 END TEMPORARY ROAD
G90
G80
EXISTING ℄ PROFILE
300' V.C.
P.V.I. STA. 135+50
ELEV. = G84.94
CORR. = -0.07'
+50, G91.10
+75, G91.0
G90.78
+25, G90.58
+37, G90.0
+56, G89.5
+10, G89.0
+20, G87.3
+20, G86.7
+20, G85.5
+20, G84.4
+20, G84.6
+20, G84.0
+20, G84.4
+20, G84.0
+20, G83.5
+20, G82.8
+20, G82.3
+25, 682.5
+35, 682.6
+86, 684.0
+35, 683.8
+60, 683.9
123
124
125
126
127
128
129
130
131
132
133
134
135
136
137
138
S.R. 301 TEMPORARY ROAD

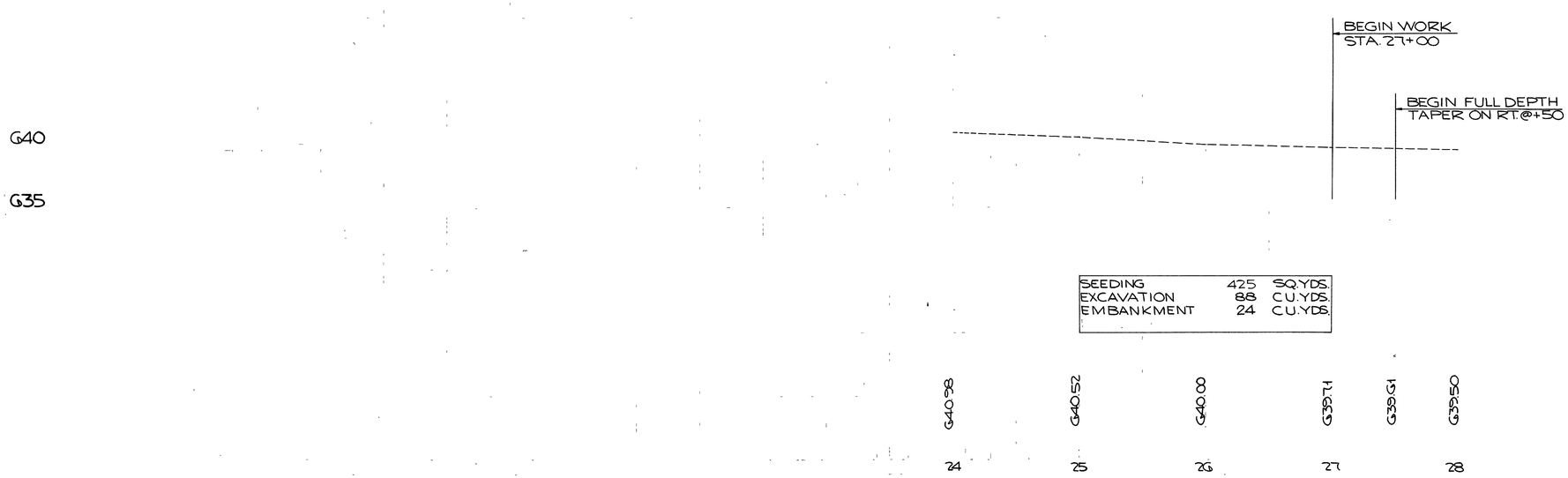
LOR.-90-13.01



TYPICAL SECTION, EXIST. ABBE RD.



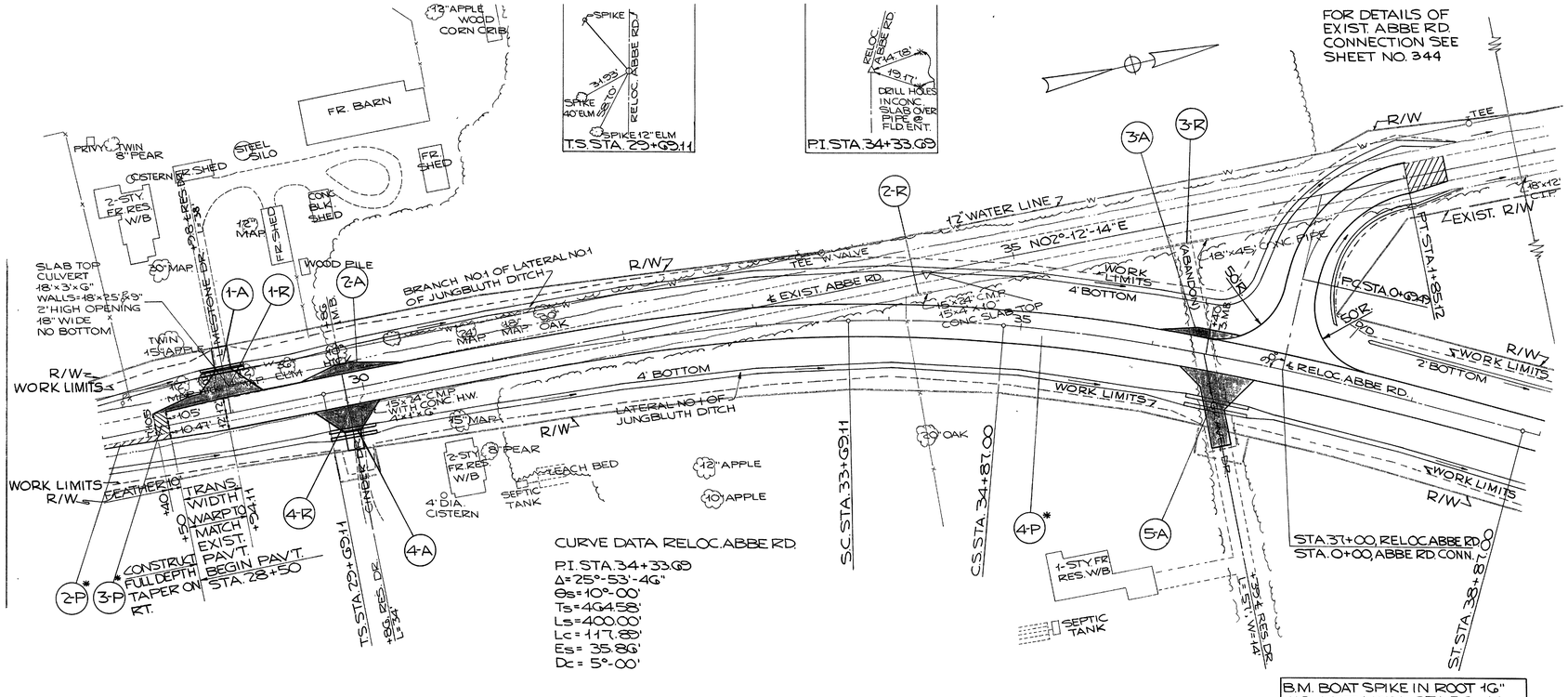
* 1-P, FOR PAVEMENT QUANTITIES, SEE SHEET NO. 334



SEEDING	425	SQ.YDS.
EXCAVATION	88	CU.YDS.
EMBANKMENT	24	CU.YDS.

STA. 25+00 TO STA. 28+00, RELOC. ABBE RD.

LOR.-90-13.01

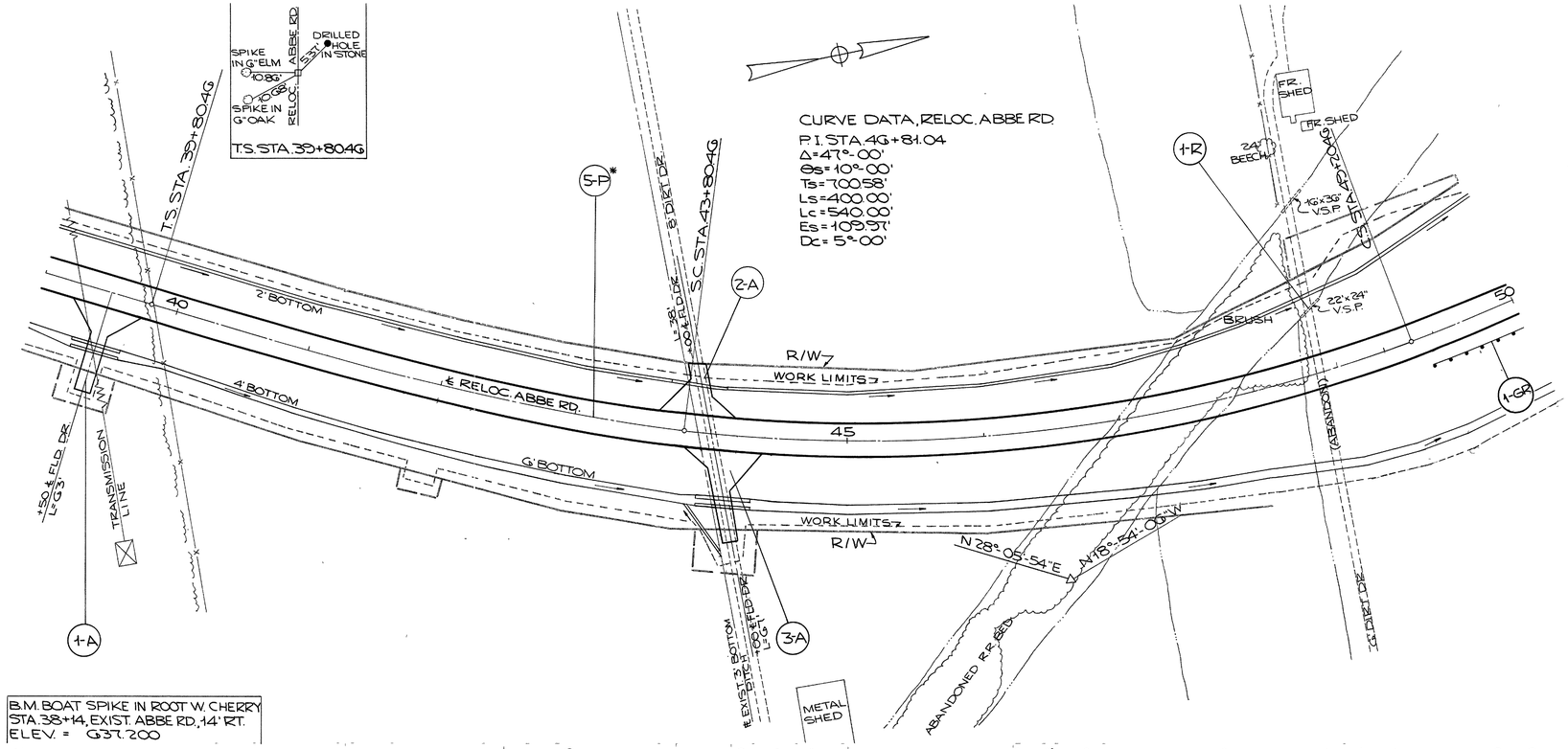


STA. 28+00 TO STA. 39+00, RELOC. ABBE RD.

* 2-P, 3-P, 4-P, FOR PAVEMENT QUANTITIES, SEE SHEET NO. 334

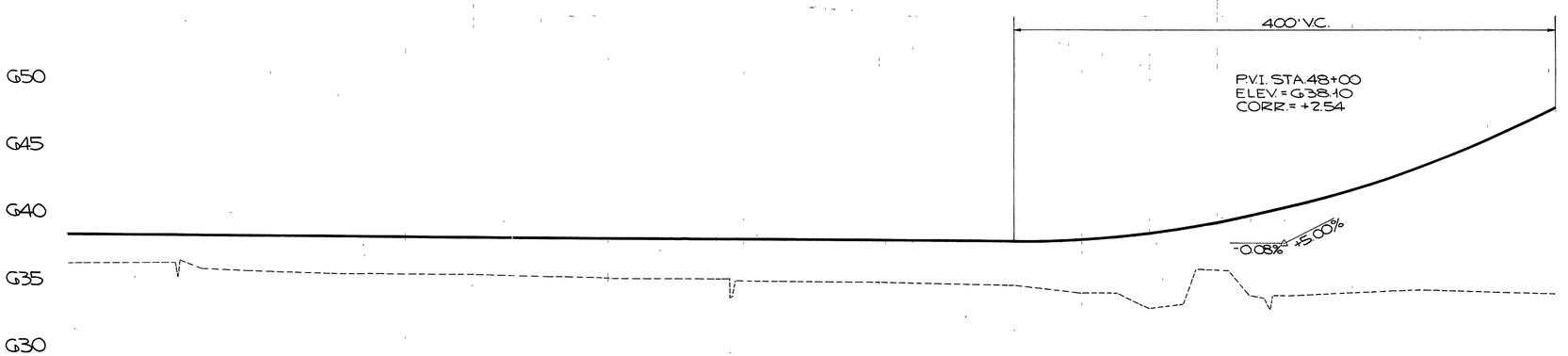
REFERENCE NO.	SIDE	STATION FROM	STATION TO	603 CONDUIT TYPE D 707.01 OR 707.02 21"	24"	30"	411 STABIL. CRUSHED AGGR. CRUSHED LIMEST. 8"	304 AGGR. BASE 5"	408 BITUM. PRIME COAT GAL.	404 ASPHAL. CONC. (70-85) 2" CU.YD.		202 EXIST. PAV'T. REMOV. & DISPOS. OF SQ.YD.	202 PIPE REMOV. OVER 15" LIN.FT.	202 EXIST. STRUCT. REMOV. LUMP
				LIN. FT.			CU.YD.	CU.YDS.						
1-A	LT.	28+98		72			5.3	11.5	33.2	4.6				
2-A	LT.	29+86						4.3	12.3	1.7				
3-A	LT.	36+40						3.7	10.7	1.5				
4-A	RT.	29+86			64		4.2	9.9	28.4	4.0				
5-A	RT.	36+39				92		17.4	50.2	7.0				
1-R	LT.	28+91	29+07											LUMP
2-R	LT.	34+17	34+32									7	15	
3-R	LT.	35+87	36+32										45	
4-R	RT.	29+83	29+98										15	
TOTALS				72	64	92	9.5	46.8	134.8	18.8		7	75	LUMP

LOR.-90-13.01



B.M. BOAT SPIKE IN ROOT W. CHERRY
STA. 38+14, EXIST. ABBE RD., 14' RT.
ELEV. = G37.200

G38.82 G38.80 G38.78 G38.76 G38.74 G38.72 G38.70 G38.68 G38.66 G38.64 G38.62 G38.60 G38.58 G38.56 G38.54 G38.52 G38.50 G38.48 G38.46 G38.44 G38.42 G38.40 G38.38 G38.36 G38.34 G38.32 G38.30 G38.28 G38.26 G38.28 G38.38 G38.56 G38.81 G39.15 G39.57 G40.06 G40.64 G41.29 G42.03 G42.84 G43.73 G44.71 G45.76 G46.89 G48.10



SEEDING	11,439	SQ.YDS.
EXCAVATION	1,927	CU.YDS.
EMBANKMENT	10,072	CU.YDS.

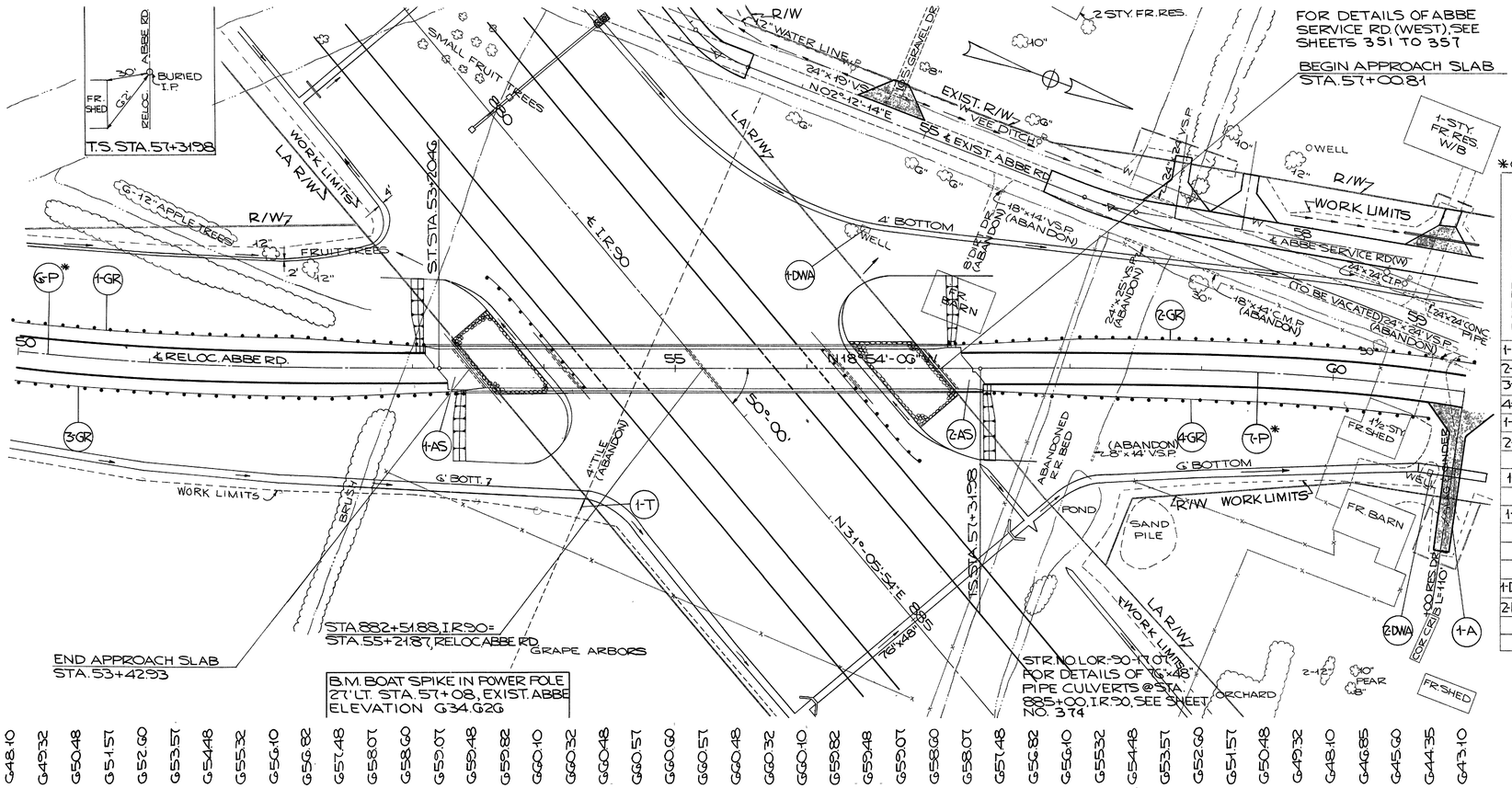
G36.68 G36.68 G35.98 G35.98 G35.28 G35.28 G35.84 G35.84 G35.54 G35.54 G35.55 G35.23 G34.93 G34.63 G35.34 G35.24 G35.04 G34.44 G34.44 G33.34 G34.64 G34.24 G36.04 G34.24 G34.04 G33.94 G33.84 G34.24 G34.64 G34.44
+80 +85 +90 +95 +00 +05 +10 +15 +75 +25 +34 +58 +73 +85 +88 +91
39 40 41 42 43 44 45 46 47 48 49 50

STA. 39+00 TO STA. 50+00, RELOC. ABBE RD.

*5-P, FOR PAVEMENT QUANTITIES, SEE SHEET NO. 334

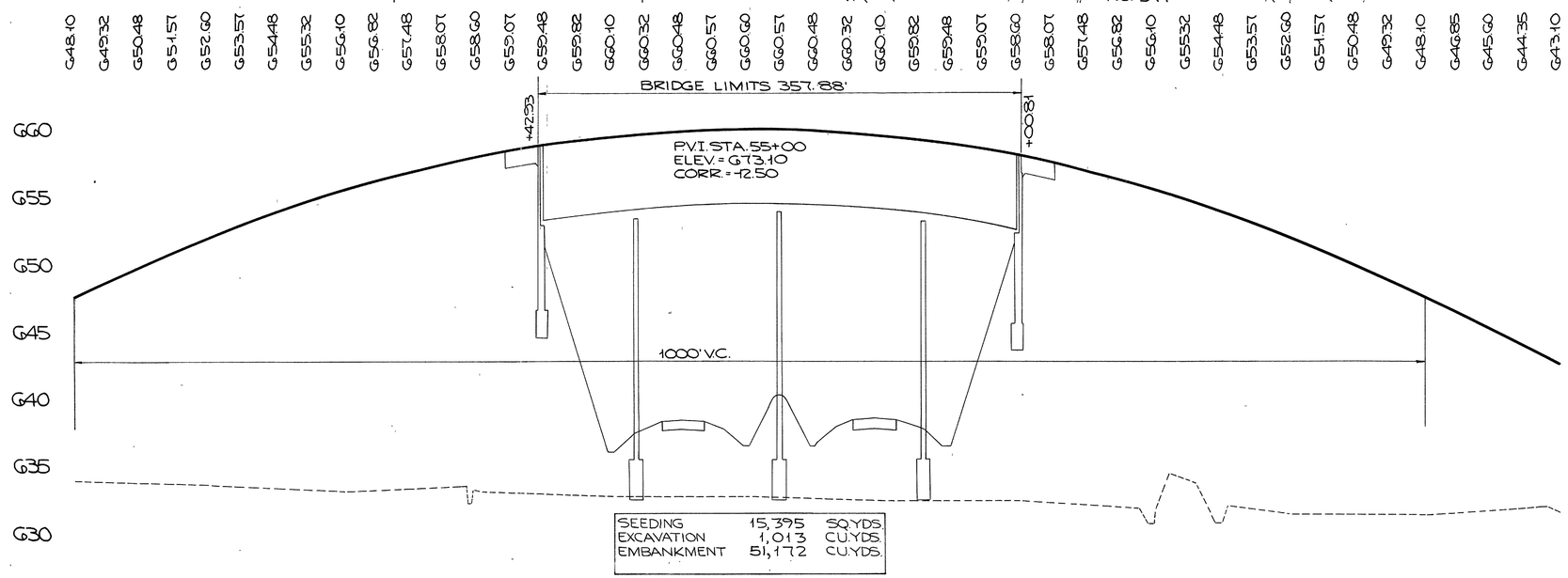
REFERENCE NO.	SIDE	STATION FROM	STATION TO	603 CONDUIT TYPE D 706.02 OR 706.08 30" LIN.FT.	411 STABIL. CRUSHED AGGR. G" CU.YDS.	603 CONDUIT TYPE D 707.01 OR 707.02 24"	202 PIPE REMOVED OVER 15" LIN.FT.	606 GUARD RAIL TYPE 4 LIN.FT.					
1-A	RT.	39+50		72	21.4								
2-A	RT.	44+00			16.8	40							
3-A	RT.	44+20		80	23.3								
1-R	LT.	48+40	48+65				22						
1-GR	RT.	49+85	50+00					72					
TOTALS				152	61.5	40	22	72					

LOR.-90-13.01



*G-P, 7-P, FOR PAVEMENT QUANTITIES, SEE SHEET NO. 334

REFERENCE NO.	SIDE	STATION FROM	STATION TO	603 CONDUIT TYPE D 706.04 CLASS HE II 76"x48" LIN. FT.	611 REINF. CONC. APPR. SLABS T=13" SQ. YDS.	606 GUARD RAIL TYPE 4 LIN. FT.	304 AGGR. BASE 5" CU. YDS.	310 SUBBASE CU. YDS.	603 CONDUIT TYPE F 6" LIN. FT.	408 BITUM. PRIME COAT GAL.	404 ASPHAL. CONC. (70-85) 2" CU. YDS.		SPECIAL DRILLED WELL ABAND. EACH
1-GR	LT.	49+94	53+08			312.5							
2-GR	LT.	57+06	61+05			400.0							
3-GR	RT.	50+00	53+39			340.5							
4-GR	RT.	57+37	60+76			337.5							
1-AS	℄	53+17.93	53+42.93		87.1			14.2					
2-AS	℄	57+00.81	57+25.81		87.1			14.2					
1-A	RT.	61+00		52			26.6			76.4	10.6		
1-T	RT.	54+25							10				
1-DWA	LT.	56+44											1
2-DWA	RT.	60+80											1
TOTALS				52	174.2	1390.5	26.6	28.4	10	76.4	10.6		2



PROPOSED STRUCTURE — BRIDGE NO. LOR.-90-1700

TYPE — CONTINUOUS STEEL GIRDER WITH REINFORCED CONCRETE DECK AND SUBSTRUCTURE
SPANS — 69'-6"; 106'-6"; 106'-6"; 69'-6" % BEARINGS
ROADWAY — 30'-0" F/F OF 2'-0" SAFETY CURBS
LOAD FREQUENCY — CF 400 (57)
SKEW — 40°-00' RF
WEARING SURFACE — 1" MONOLITHIC CONCRETE
APPROACH SLABS — AS-1-54 (25' LONG, MODIFIED)
ALIGNMENT — TANGENT

STA. 50+00 TO STA. 61+00, RELOC. ABBE RD.

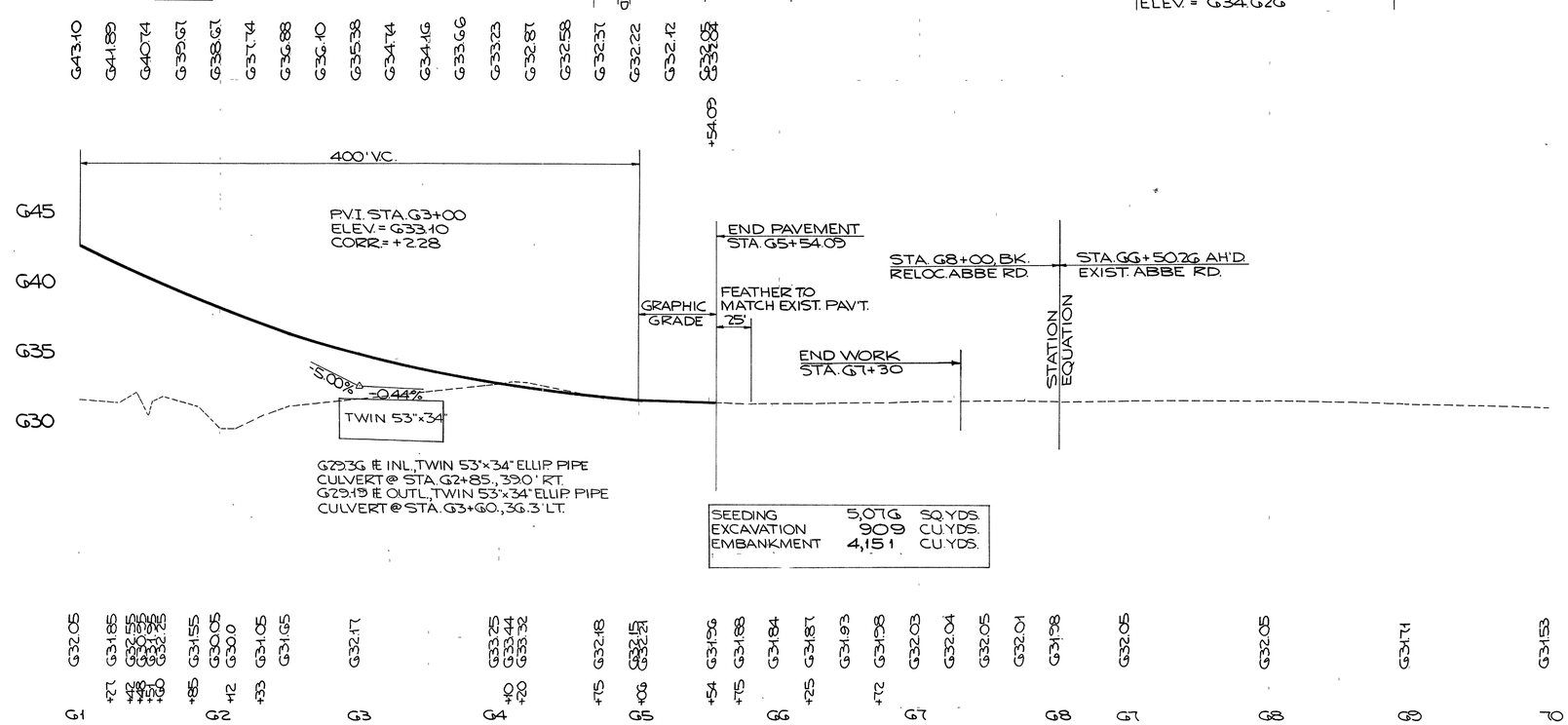
LOR.-90-13.01

FOR EXISTING ABBE ROAD TYPICAL SECTION, SEE SHEET NO. 330

REFERENCE NO.	SIDE	STATION FROM	STATION TO	304 AGGR. BASE 5" CUYDS.			202 EXIST. STRUCT. REMOV. LUMP	408 BITUM. PRIME COAT GAL.	404 ASPHAL. CONC. (10-85) 2" CUYDS.					
1-A	LT.	63+00		2.4				7.0	1.0					
2-A	LT.	65+06		4.3				12.3	1.7					
3-A	RT.	65+06		9.9				28.4	4.0					
1-R	LT.	63+90					LUMP							
2-R	℄	62+05					LUMP							
3-R	℄	64+10					LUMP							
TOTALS				16.6			LUMP	47.7	6.7					

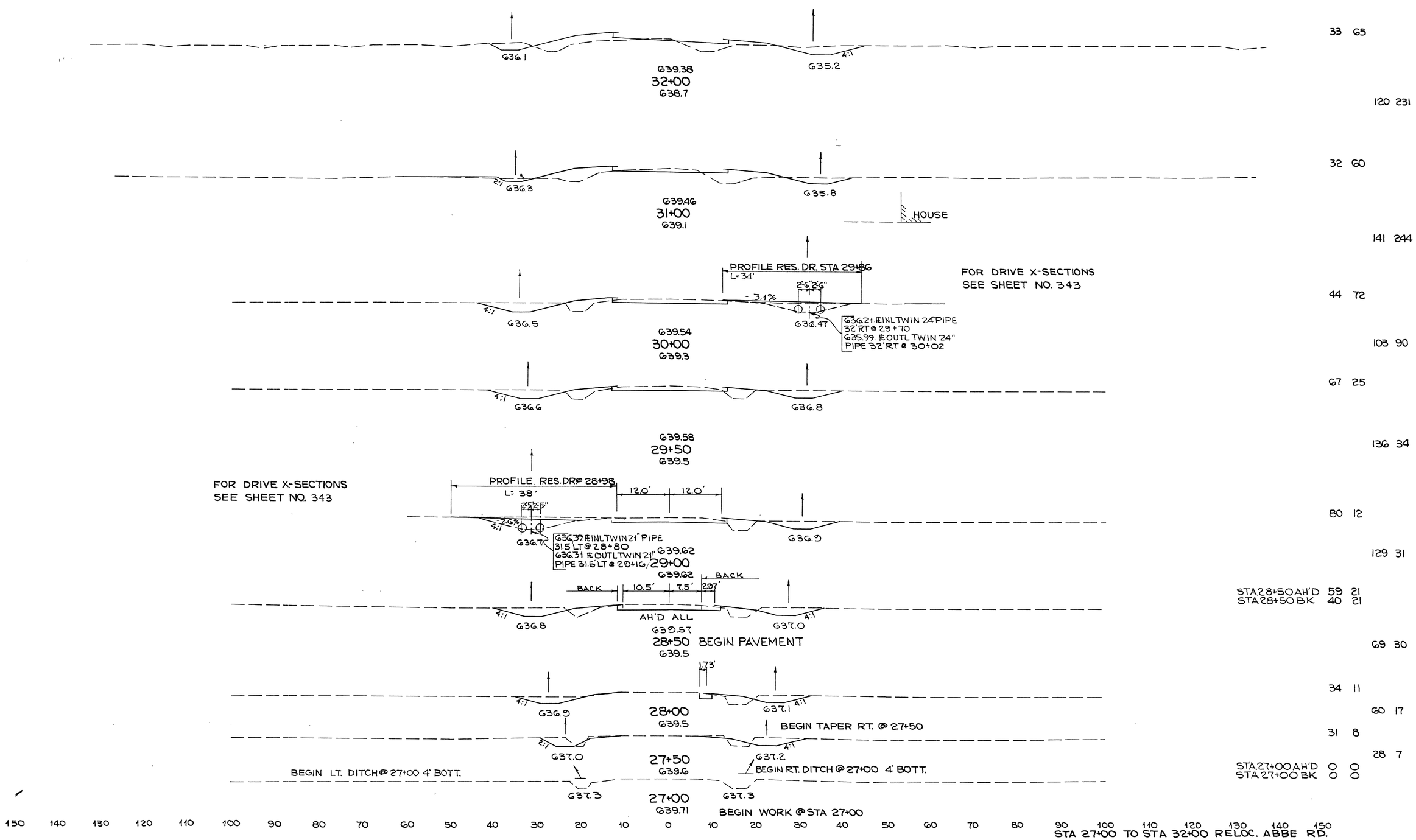
RELOC. ABBE RD. PAVEMENT QUANTITIES

REFERENCE NO.	SIDE	STATION FROM	STATION TO	304 AGGR. BASE 6" CU.YDS	310 SUBBASE 6" CU.YDS	402 ASPHAL. CONC. 1½" CU.YDS	404 ASPHAL. CONC. 1¼" CU.YDS	407 TACK COAT F GAL.	408 BITUM. PRIME COAT GAL.	605 AGGR. DRAINS LIN.FT.				
1-P	RT.	27+50	28+00	1.7	2.1	0.3	0.2		2.8					
2-P	RT.	28+00	28+50	3.1	3.6	0.7	0.5		6.3					
3-P	℄	28+40	28+50					0.3	1.9					
4-P	℄	28+50	39+00	492.9	511.3	118.7	97.0		1139.0	801				
5-P	℄	39+00	50+00	518.4	538.1	124.7	101.9		1197.0	830				
6-P	℄	50+00	53+17.93	150.1	156.0	36.1	29.4		346.2	215				
7-P	℄	57+25.81	61+00	176.7	183.6	42.4	34.7		407.5	232				
8-P	℄	61+00	65+54.09	213.3	221.0	51.4	42.1		493.6	316				
9-P	℄	65+54.09	65+79.09					0.7	5.0					
10-P	RT.	65+54.09	67+25	12.4	14.0	2.7	2.0		25.8					
TOTALS				1568.6	1629.7	377.0	301.8	1.0	3618.2	2394				



SEEDING	5,076	SQ.YDS.
EXCAVATION	909	CU.YDS.
EMBANKMENT	4,151	CU.YDS.

STA. G1+00 TO STA. 70+00, RELOC. ABBE RD.



33 65

120 231

32 60

141 244

44 72

103 90

67 25

136 34

80 12

129 31

STA 28+50 AH'D 59 21
STA 28+50 BK 40 21

69 30

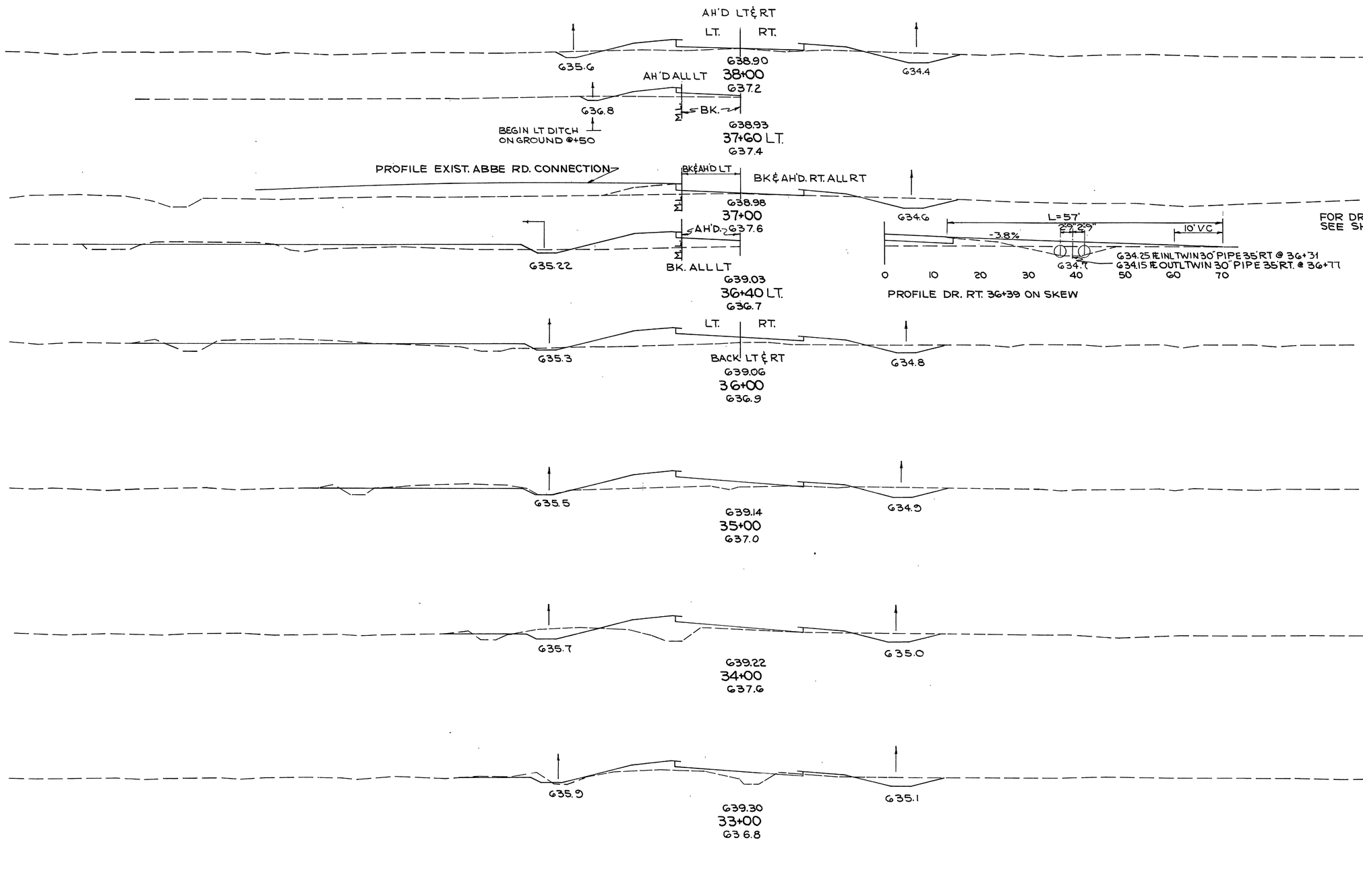
34 11

60 17

31 8

28 7

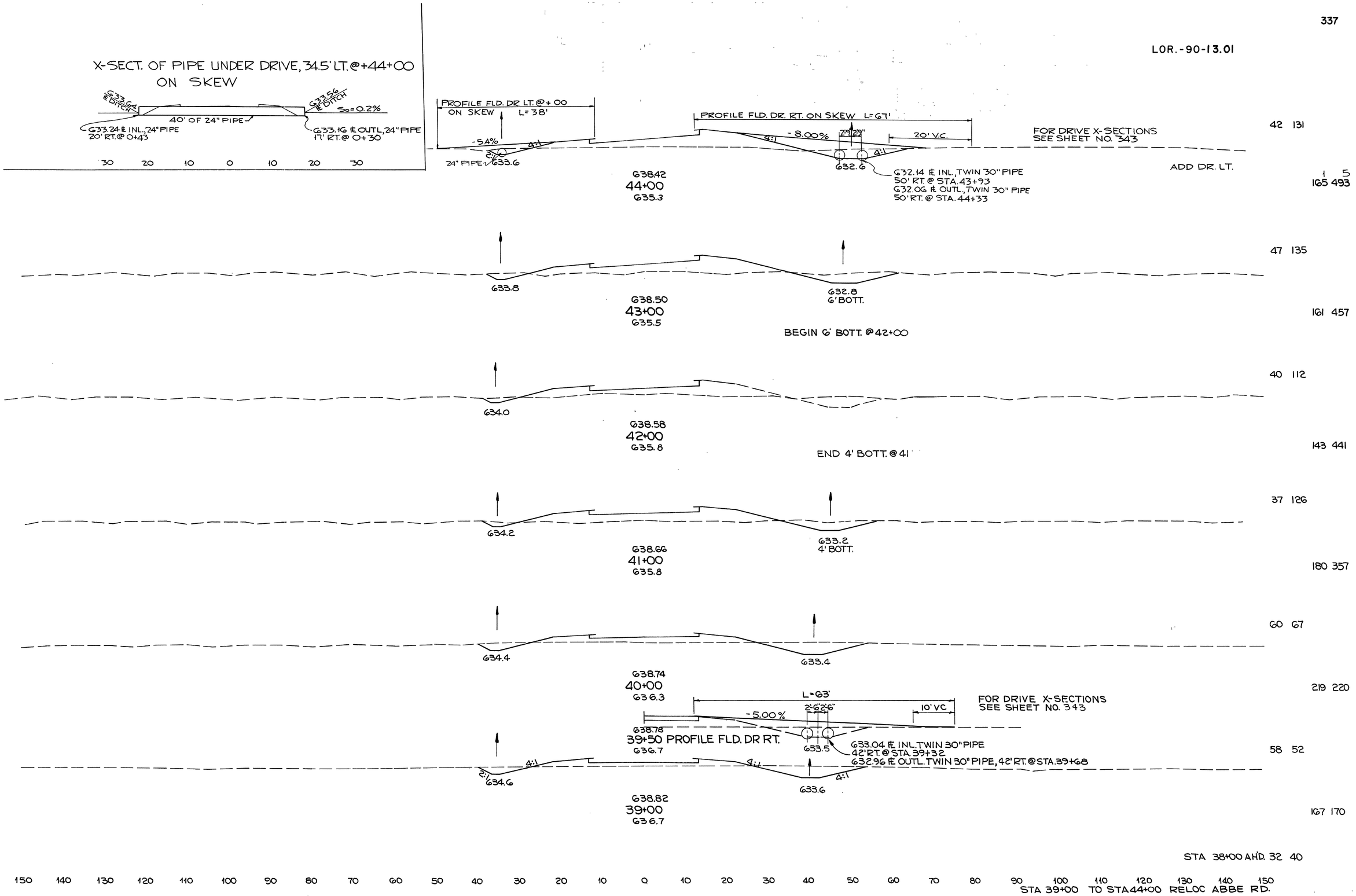
STA 27+00 AH'D 0 0
STA 27+00 BK 0 0

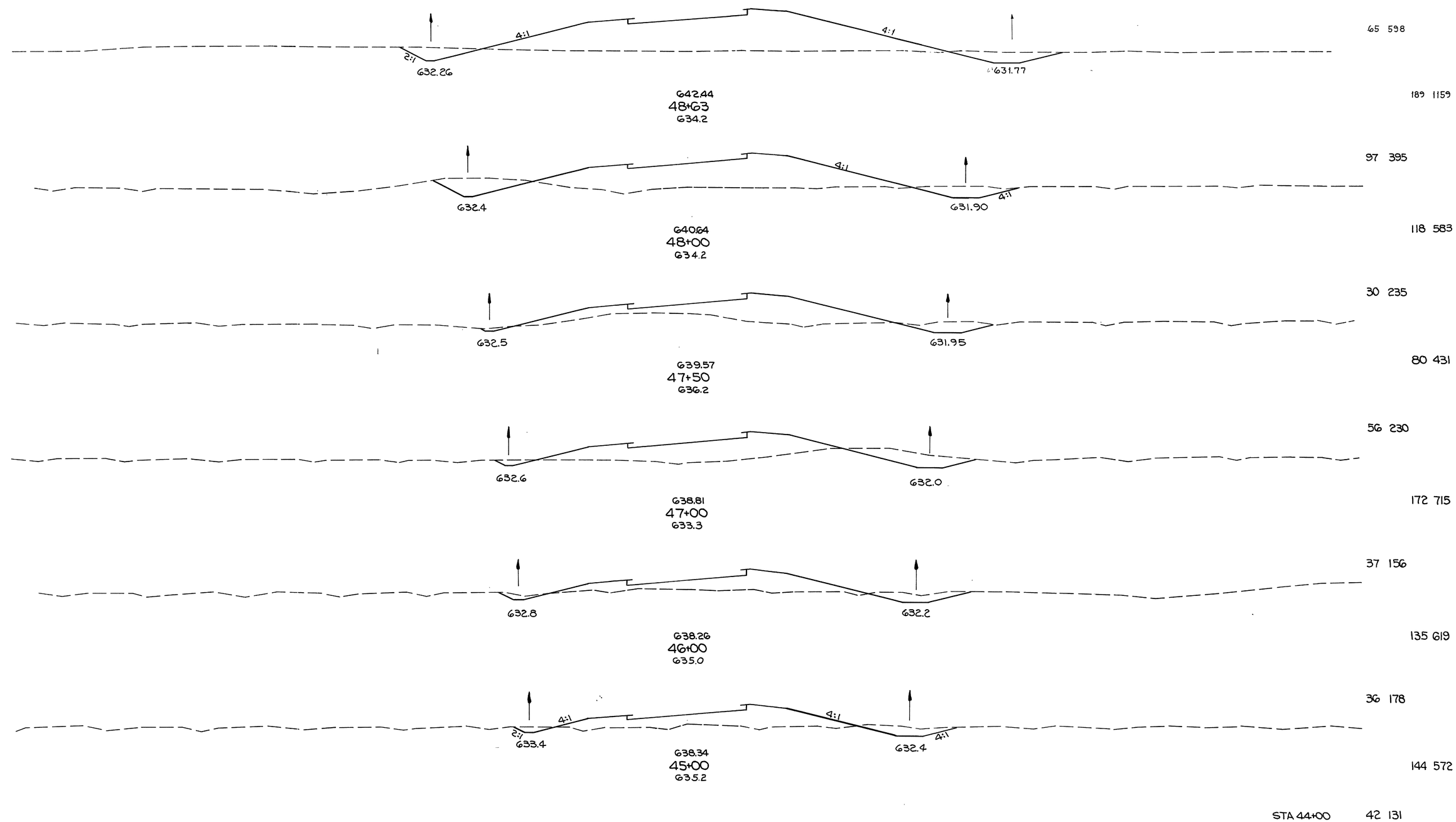


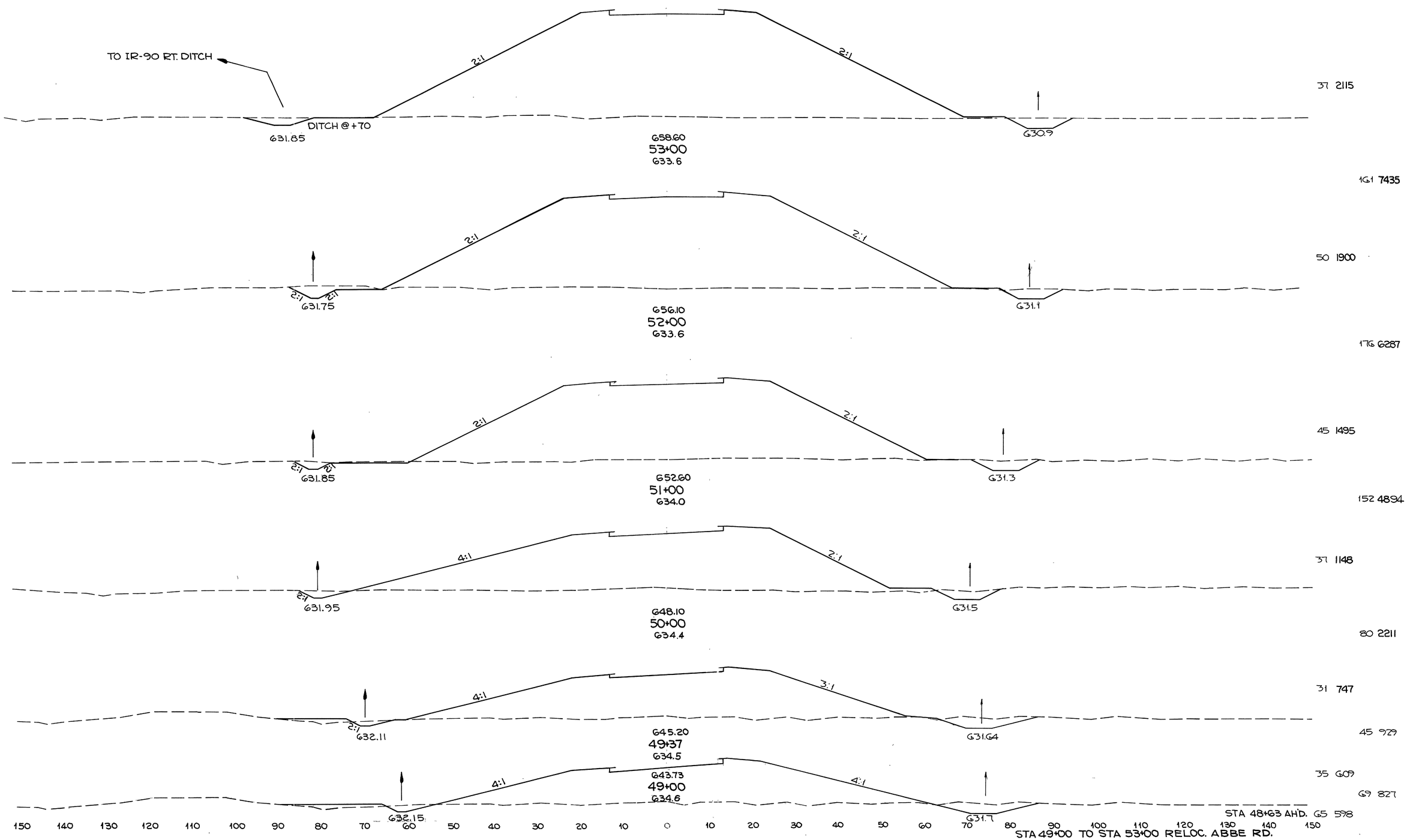
STA 38+00 AH'D	32	40		
STA 38+00 RT BK	24	14	93	43
STA 37+00 RT.	26	9	78	65
STA 36+00 RT AH'D	16	26		
STA 38+00 LT BK	8	26	9	36
STA 37+60 LT AH'D	4	23		
STA 37+60 LT BK	0	7	0	13
STA 37+00 LT	0	5	0	27
STA 36+40 LT AH'D	0	19		
STA 36+40 LT BK	15	126	33	175
STA 36+00 LT AH'D	30	110		
STA 36+00 BK.	46	134	170	409
			46	87
			167	304
			44	77
			137	237
			30	51
			117	215
STA 32+00	33	65		

FOR DRIVE X-SECTIONS
SEE SHEET NO. 343

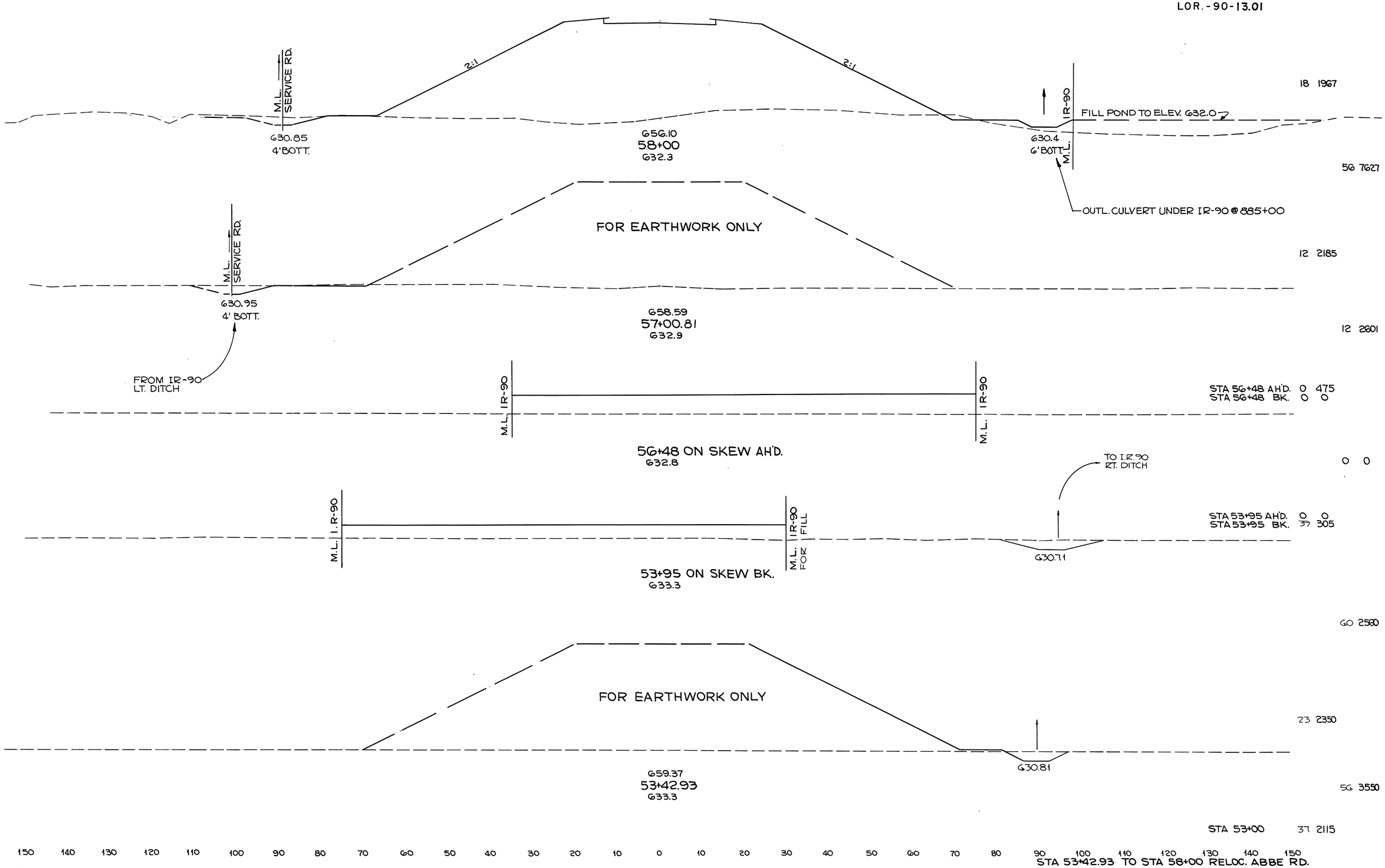
LOR.-90-13.01

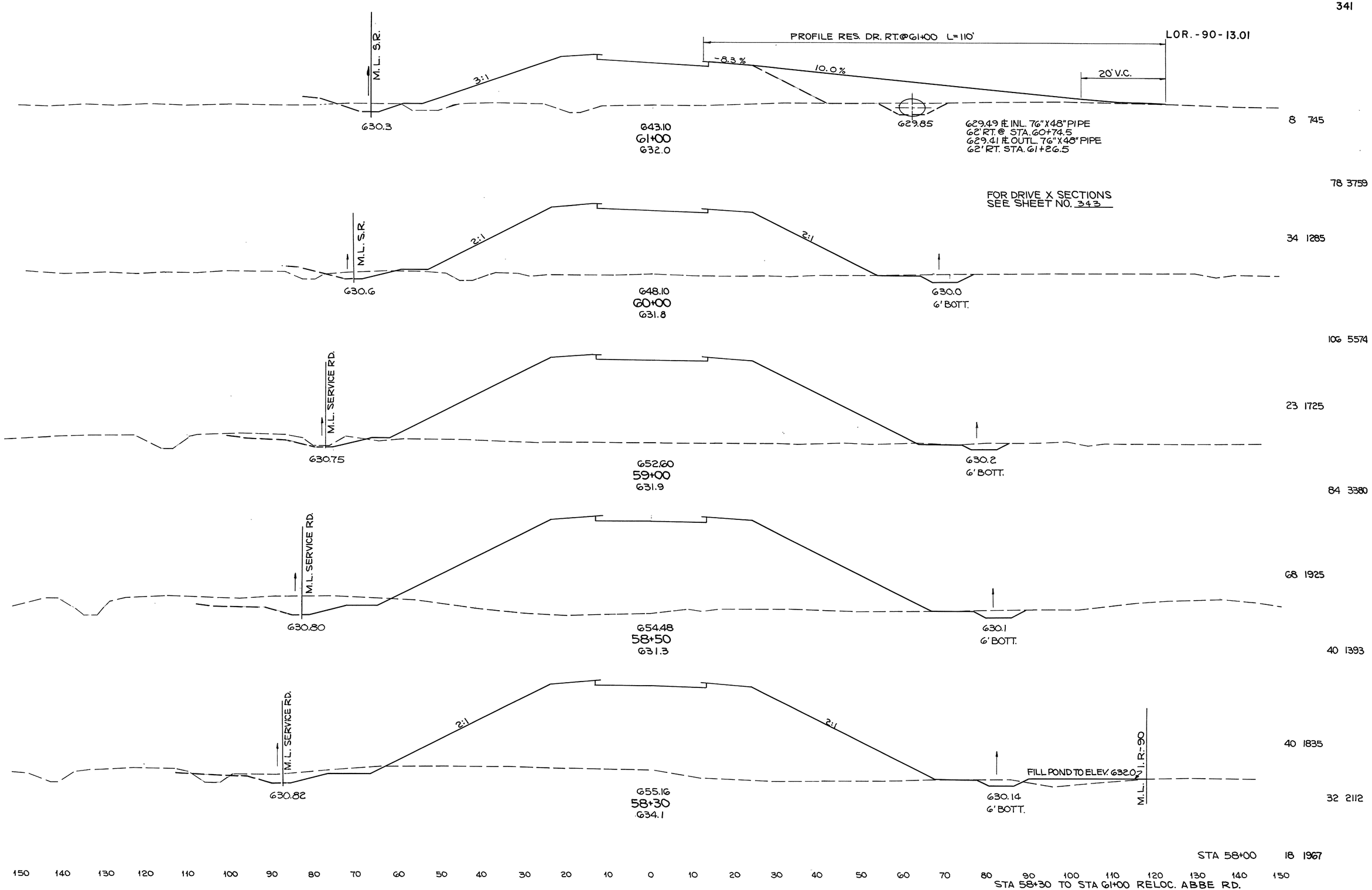

X-SECT. OF PIPE UNDER DRIVE, 34.5' LT. @ +44+00
ON SKEW
633.64 ℄ DITCH
633.56 ℄ DITCH
So=0.2%
40' OF 24" PIPE
633.24 ℄ INL., 24" PIPE
20' RT. @ 0+43
633.16 ℄ OUTL., 24" PIPE
17' RT. @ 0+30
30 20 10 0 10 20 30
PROFILE FLD. DR. LT. @ + 00
ON SKEW L=38'
-5.4%
4:1
2:1
24" PIPE
633.6
PROFILE FLD. DR. RT. ON SKEW L=67'
-8.00%
2'6" 2'6"
20' V.C.
4:1
632.6
632.14 ℄ INL., TWIN 30" PIPE
50' RT. @ STA. 43+93
632.06 ℄ OUTL., TWIN 30" PIPE
50' RT. @ STA. 44+33
FOR DRIVE X-SECTIONS
SEE SHEET NO. 343
ADD DR. LT.
638.42
44+00
635.3
633.8
638.50
43+00
635.5
632.8
6' BOTT.
BEGIN 6' BOTT. @ 42+00
634.0
638.58
42+00
635.8
END 4' BOTT. @ 41
634.2
638.66
41+00
635.8
633.2
4' BOTT.
634.4
638.74
40+00
636.3
633.4
L=63'
-5.00%
2'6" 2'6"
10' VC
FOR DRIVE X-SECTIONS
SEE SHEET NO. 343
638.78
39+50 PROFILE FLD. DR RT.
636.7
633.5
633.04 ℄ INL. TWIN 30" PIPE
42' RT. @ STA. 39+32
632.96 ℄ OUTL. TWIN 30" PIPE, 42' RT. @ STA. 39+68
4:1
2:1
634.6
633.6
638.82
39+00
636.7
42 131
1 5
165 493
47 135
161 457
40 112
143 441
37 126
180 357
60 67
219 220
58 52
167 170
STA 38+00 AHD. 32 40
150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150
STA 39+00 TO STA 44+00 RELOC ABBE RD.


4:1
2:1
632.26
4:1
631.77
65 598
642.44
48+63
634.2
189 1159
4:1
632.4
4:1
631.90
97 395
640.64
48+00
634.2
118 583
632.5
631.95
30 235
639.57
47+50
636.2
80 431
632.6
632.0
56 230
638.81
47+00
633.3
172 715
632.8
632.2
37 156
638.26
46+00
635.0
135 619
4:1
2:1
633.4
4:1
632.4
4:1
36 178
638.34
45+00
635.2
144 572
STA 44+00
42 131
150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150
STA 45+00 TO STA 48+63 RELOC. ABBE RD.


TO IR-90 RT. DITCH
2:1
2:1
DITCH @ +70
631.85
658.60
53+00
633.6
630.9
37 2115
1G1 7435
2:1
2:1
2:1
2:1
631.75
656.10
52+00
633.6
631.1
50 1900
176 6287
2:1
2:1
2:1
2:1
631.85
652.60
51+00
634.0
631.3
45 1495
152 4894
4:1
2:1
2:1
631.95
648.10
50+00
634.4
631.5
37 1148
80 2211
4:1
3:1
2:1
632.11
645.20
49+37
634.5
631.64
31 747
45 929
4:1
4:1
632.15
643.73
49+00
634.6
631.7
35 609
69 827
65 598
STA 48+63 AH'D.
150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150
STA 49+00 TO STA 53+00 RELOC. ABBE RD.

LOR.-90-13.01


2:1
2:1
M.L. SERVICE RD.
630.85
4'BOTT.
656.10
58+00
632.3
I.R-90
FILL POND TO ELEV. 632.0
630.4
6'BOTT.
M.L.
OUTL. CULVERT UNDER IR-90 @ 885+00
FOR EARTHWORK ONLY
M.L. SERVICE RD.
630.95
4' BOTT.
658.59
57+00.81
632.9
FROM IR-90
LT. DITCH
M.L. IR-90
M.L. IR-90
56+48 ON SKEW AH'D.
632.8
TO I.R.90
RT. DITCH
M.L. I.R-90
IR-90 FILL
M.L. FOR
630.71
53+95 ON SKEW BK.
633.3
FOR EARTHWORK ONLY
630.81
659.37
53+42.93
633.3
18 1967
56 7627
12 2185
12 2801
STA 56+48 AH'D. 0 475
STA 56+48 BK. 0 0
0 0
STA 53+95 AH'D. 0 0
STA 53+95 BK. 37 305
60 2580
23 2350
56 3550
STA 53+00 37 2115
150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150
STA 53+42.93 TO STA 58+00 RELOC. ABBE RD.

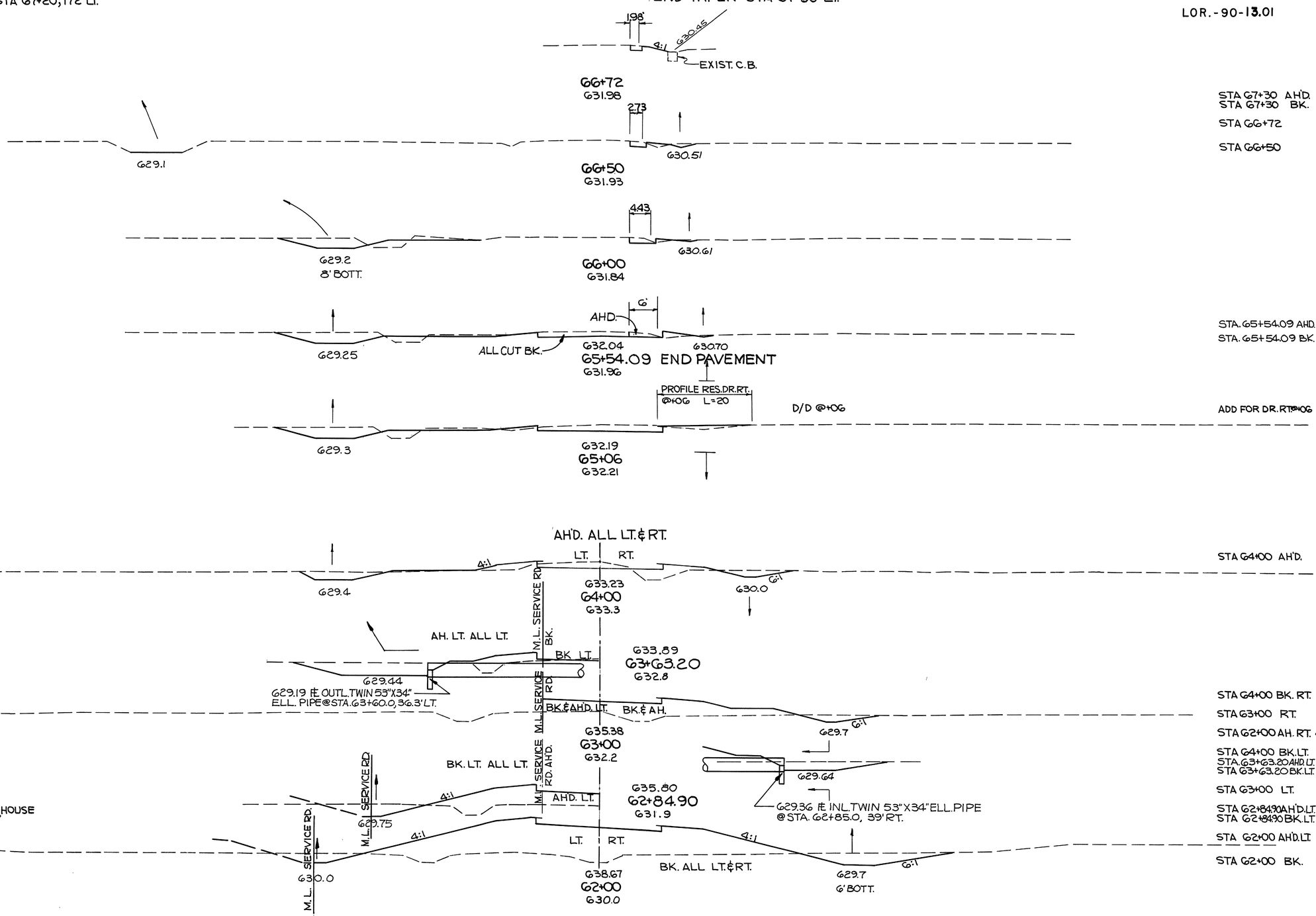

PROFILE RES. DR. RT.@61+00 L=110'
LOR.-90-13.01
-8.3 %
10.0 %
20' V.C.
M.L. S.R.
3:1
630.3
643.10
61+00
632.0
629.85
629.49 ℄ INL. 76"X48" PIPE
62' RT. @ STA. 60+74.5
629.41 ℄ OUTL. 76"X48" PIPE
62' RT. STA. 61+26.5
8 745
78 3759
FOR DRIVE X SECTIONS
SEE SHEET NO. 343
M.L. S.R.
2:1
2:1
630.6
648.10
60+00
631.8
630.0
6' BOTT.
34 1285
106 5574
M.L. SERVICE RD.
630.75
652.60
59+00
631.9
630.2
6' BOTT.
23 1725
84 3380
M.L. SERVICE RD.
630.80
654.48
58+50
631.3
630.1
6' BOTT.
68 1925
40 1393
M.L. SERVICE RD.
2:1
2:1
630.82
655.16
58+30
634.1
630.14
6' BOTT.
FILL POND TO ELEV. 632.0
M.L. L.R.-90
40 1835
32 2112
STA 58+00
18 1967
150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150
STA 58+30 TO STA 61+00 RELOC. ABBE RD.

LOR.-90-13.01

END CHANNEL CLEAN OUT
STA 67+20; 172' LT.

END WORK
STA 67+30.00

END TAPER STA 67+30 LT.



STA 62+00 TO STA 67+25 RELOC. ABBE RD.

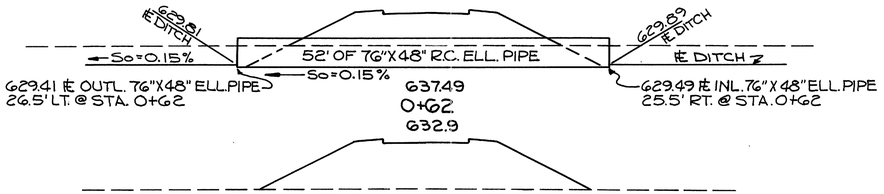
STA 67+30 AH'D.	0	0		
STA 67+30 BK.	0	0	2	0
STA 66+72	2	0	3	1
STA 66+50	6	2		
			46	12
	44	11		
			80	21
STA. 65+54.09 AH'D.	50	14		
STA. 65+54.09 BK.	69	14		
			128	32
ADD FOR DR. RT. @ 06			0	2
	75	22		
			253	128
STA 64+00 AH'D.	54	43		
STA 64+00 BK. RT.	18	30	61	250
STA 63+00 RT.	15	105	106	515
STA 62+00 AH. RT.	42	173		
STA 64+00 BK. LT.	36	13	70	30
STA. 63+63.20 AH'D. LT.	67	31		
STA 63+63.20 BK. LT.	1	1		
STA 63+00 LT.	0	30	1	36
STA 62+84.90 AH'D. LT.	0	34	0	18
STA 62+84.90 BK. LT.	17	102		
STA 62+00 AH'D. LT.	12	270	46	585
STA 62+00 BK.	54	445		
			115	2204
ADD DR. @ 61+00 RT.			0	317
STA 61+00	8	745		

LOR.-90-13.01

	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
STA 1+02 AH'D.	0	0		
STA 1+02 BK.	0	0		
			0	104
STA 0+24 AH'D.	0	0		
STA 0+24 BK.	0	0		
STA 0+90 AH'D.	0	0		
STA 0+90 BK.	0	0		
			2	0
STA 0+76 AH'D.	7	2		
STA 0+76 BK.	13	2		
			18	15
STA 0+49	23	28		
			6	19
STA 0+22 AH'D.	0	0		
STA 0+22 BK.	0	0		
STA 0+65 AH'D.	0	0		
STA 0+65 BK.	0	0		
			0	5
			0	14
STA 0+22 AH'D.	0	0		
STA 0+22 BK.	0	0		

END DRIVE @ STA 1+22

"0" SECT. @ STA 1+02



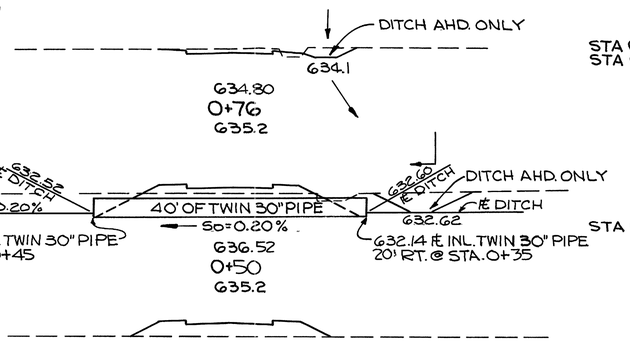
639.49
0+42
632.5

"0" SECT @ STA 0+24

RES. DRIVE @ STA 61+00 RELOC. ABBE RD.

END DRIVE @ STA 0+76

END DITCH @ STA. 0+90



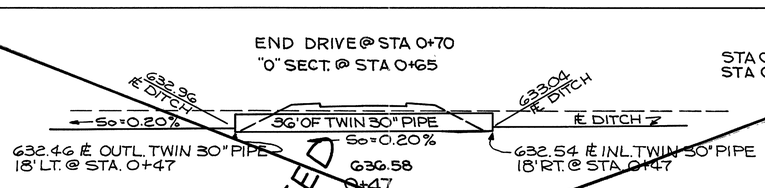
637.70
0+36
635.2

"0" SECT. @ STA 0+22

FLD. DRIVE RT. @ STA 44+20 RELOC. ABBE RD.

END DRIVE @ STA 0+70

"0" SECT. @ STA 0+65



DELETED

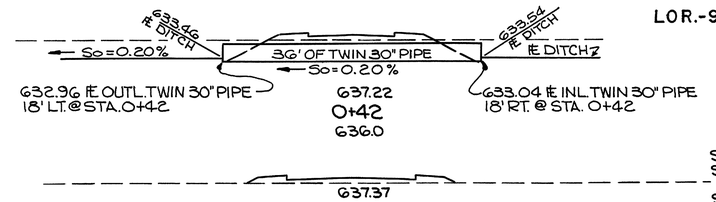
637.54
0+35
635.0

"0" SECT. @ STA 0+22

FLD. DRIVE RT. @ STA 42+00 RELOC. ABBE RD.

END DRIVE @ STA 0+75

"0" SECT. @ 0+65



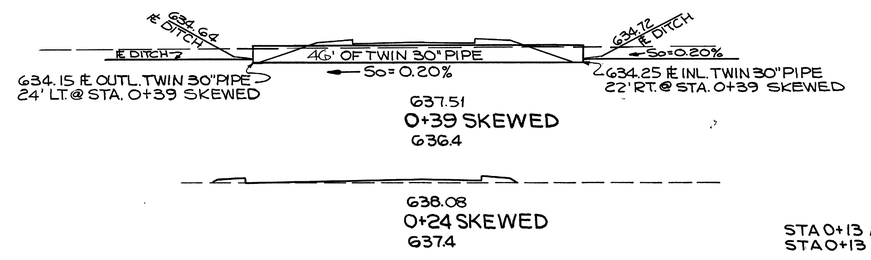
637.37
0+29
636.0

"0" SECT. @ STA 0+22

FLD. DRIVE RT. @ STA 39+50 RELOC. ABBE RD.

END DRIVE @ STA 0+70

"0" SECT. @ 0+60

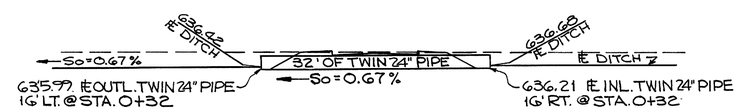


"0" SECT. @ STA 0+13

FLD. DRIVE RT. @ STA 36+39 RELOC. ABBE RD.

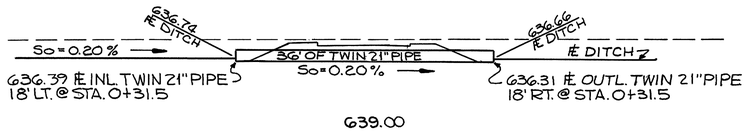
END DRIVE @ STA 0+60

"0" SECT. @ 0+50



639.05
0+22
638.7

RES. DRIVE RT. @ STA 29+86 RELOC. ABBE RD.



NO ADDITIONAL EARTH-WORK REQ'D. FOR THIS DRIVE.

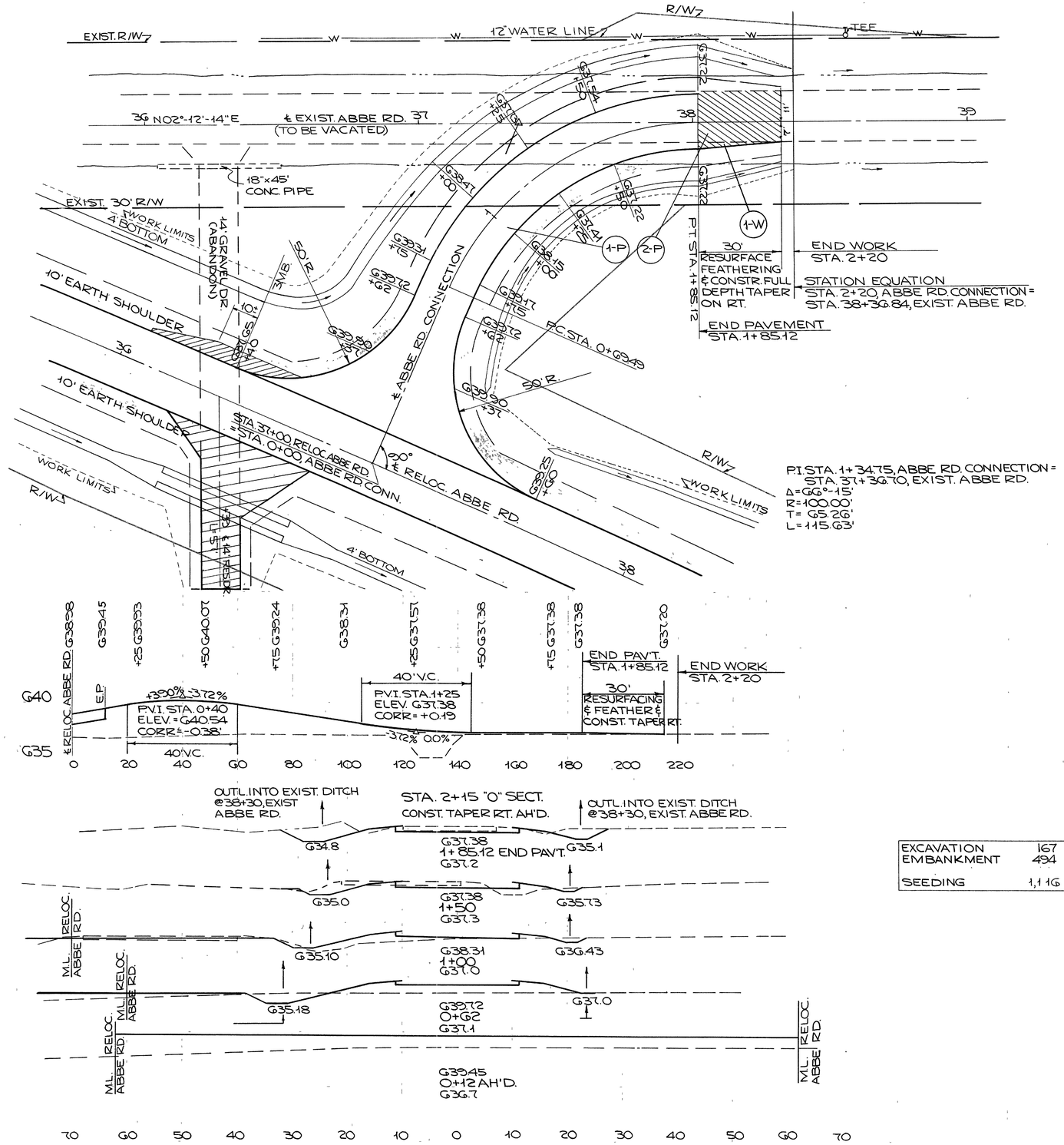
RES. DRIVE LT. @ STA 28+98 RELOC. ABBE RD.

	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
STA 0+65 AH'D.	0	0		
STA 0+65 BK.	0	0		
			0	6
STA 0+42	0	15		
			0	10
STA 0+29	0	25		
			0	3
STA 0+22 AH'D.	0	0		
STA 0+22 BK.	0	0		
STA 0+60 AH'D.	0	0		
STA 0+60 BK.	0	0		
			0	11
			0	28
			0	9
			0	11
			0	2
STA 0+13 AH'D.	0	0		
STA 0+13 BK.	0	0		
STA 0+50 AH'D.	0	0		
STA 0+50 BK.	0	0		
			0	1
			0	2
			1	1
STA 0+22 AH'D.	4	1		
STA 0+22 BK.	0	0		
			0	0
			0	0

50 40 30 20 10 0 10 20 30 40 50 70 60 50 40 30 20 10 0 10 20 30 40 50 60

DRIVE X-SECTS. FOR RELOC. ABBE RD.

LOR.-90-13.01



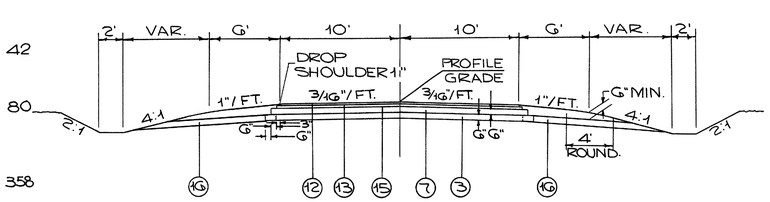
REFERENCE NO.	SIDE	STATION FROM	STATION TO	304 AGGR. BASE G" CU.YDS.	402 ASPHAL. CONC. (70-85) 1½" CU.YDS.	605 AGGR. GATE DRAIN LIN.FT.	310 SUBBASE G" CU.YDS.	408 BITUM. PRIME COAT GAL.	407 TACK COAT GAL.	404 ASPHAL. CONC. (70-85) 1¼" F CU.YDS.			
1-P	℄	0+12	1+85.12	89.6	21.5	96	93.3	206.1		17.5			
2-P	℄	1+85.12	2+15.12						6.0		1.8		
1-W	RT.	1+85.12	2+15.12	1.3	0.3		1.6	2.5		0.2			
TOTALS				90.9	21.8	96	94.9	208.6	6.0	17.7	1.8		

B.M. BOAT SPIKE IN ROOT, 16" W.CHY. 18' RT. STA. 38+14, EXIST. ABBE RD.
ELEV. = 637.200

	END AREA CUT	END AREA FILL	CU. YDS. CUT	CU. YDS. FILL
STA 2+15	0	0		
			32	2
STA 1+85.12	58	4		
			61	12
STA 1+50	36	14		
			38	42
STA 1+00	5	31		
			17	80
STA 0+62	20	83		
			19	358
STA 0+12 AH	0	305		
TOTAL			167	494

EXCAVATION	167	C.Y.
EMBANKMENT	494	C.Y.
SEEDING	1,116	S.Y.

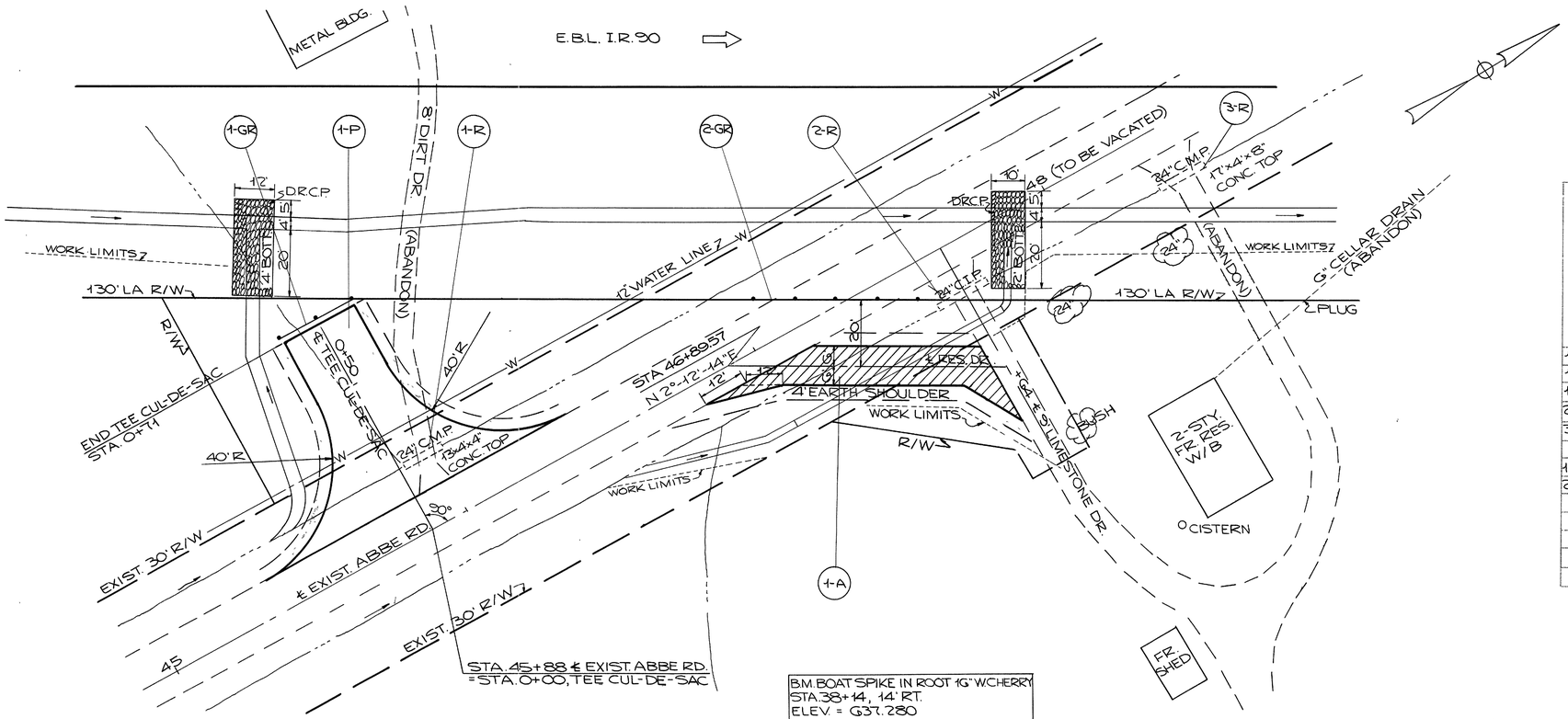
TYPICAL SECTION ABBE RD. CONNECTION
TYPE 401



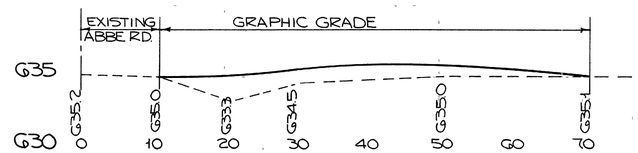
③	310 SUBBASE	THICKNESS AS SHOWN
⑦	304 AGGREGATE BASE	THICKNESS AS SHOWN
⑫	404 1¼" ASPHALT CONCRETE (70-85)	
⑬	402 1½" ASPHALT CONCRETE (70-85)	
⑮	408 BITUMINOUS PRIME COAT, SEC. 702.09 RT.-2 OR RT.-3 APPLIED AT THE RATE OF 0.4 GAL. PER SQ.YD.	
⑯	605 AGGREGATE DRAINS	

CONNECTION DETAIL BETWEEN EXIST. & RELOC. ABBE RD.

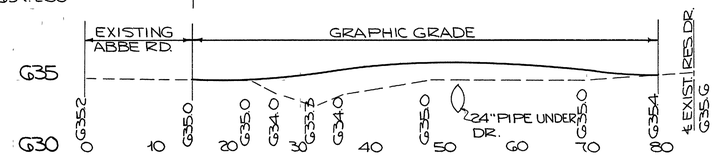
LOR.-90-13.01



REFERENCE NO.	SIDE	STATION FROM	STATION TO	304 AGGR. BASE 5" CU.YDS.	202 PIPE REMOVED 15" & OVER LIN.FT.	603 CONDUIT TYPE D 24" LIN.FT.	606 GUARD RAIL TYPE 4 LIN.FT.	408 BITUM. PRIME COAT GAL.	404 ASPHAL. CONC. (70-85) 2" SQ.YDS.	202 EXIST. PAV'T. REMOV. & DISPOS. OF SQ.YDS.
1-P	℄	0+11	0+71	32.8				94.5	13.1	
1-A	RT.	46+79	47+59.5	13.6		72		39.2	5.5	
1-R	LT.	46+00			13					6
2-R	RT.	47+64			17					
3-R	RT.	48+40			17					8
1-GR	LT. & RT.	0+73					25			
2-GR	LT. & RT.	47+32					50			
TOTALS				46.4	47	72	75	133.7	18.6	14

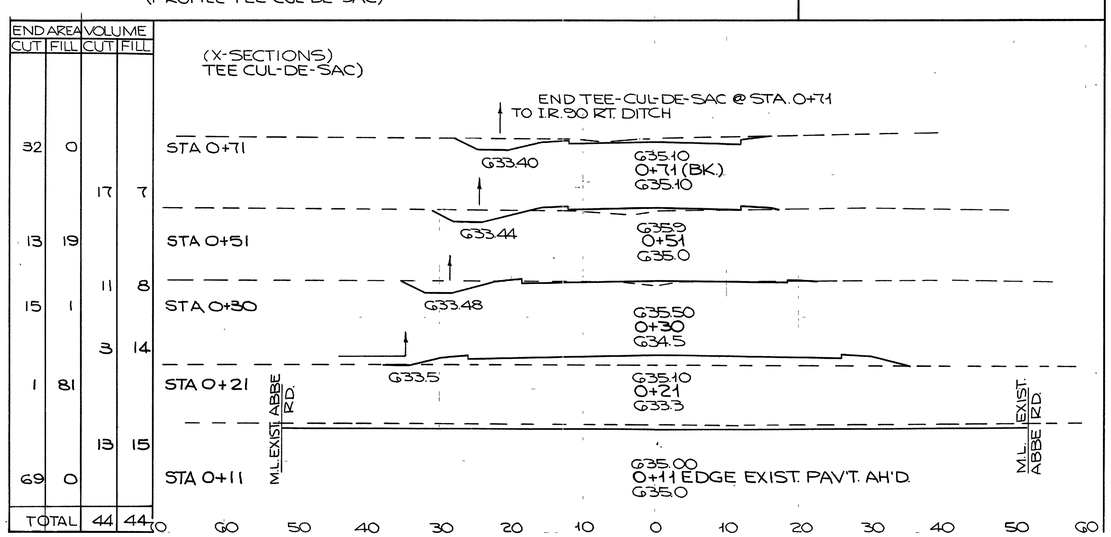


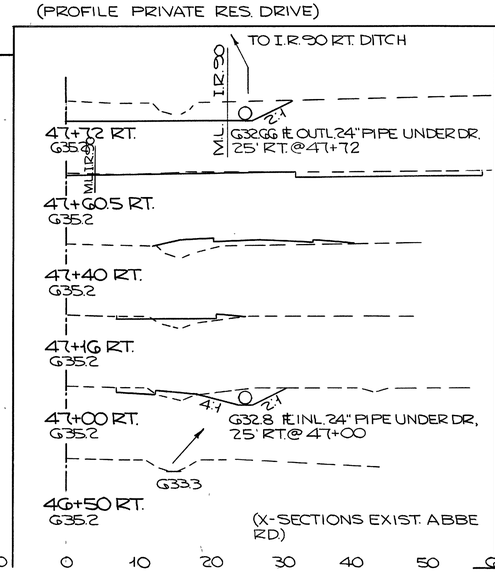
(PROFILE TEE CUL-DE-SAC)



(PROFILE PRIVATE RES. DRIVE)

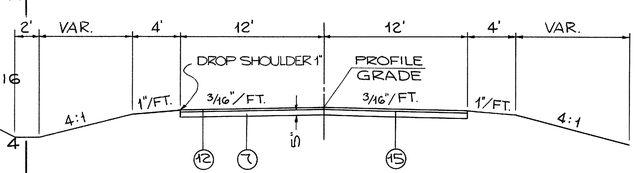
END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
32	0		
		17	7
13	19		
		11	8
15	1		
		3	14
1	81		
		13	15
69	0		
TOTAL		44	44





END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
24	0		
		5	2
0	10		
		0	14
0	27		
		1	16
2	9		
		6	4
19	4		
		18	4
0	0		
TOTAL		30	40

SEEDING	890	SQ.YDS.
EXCAVATION	74	CU.YDS.
EMBANKMENT	84	CU.YDS.



TYPICAL SECTION, TEE CUL-DE-SAC

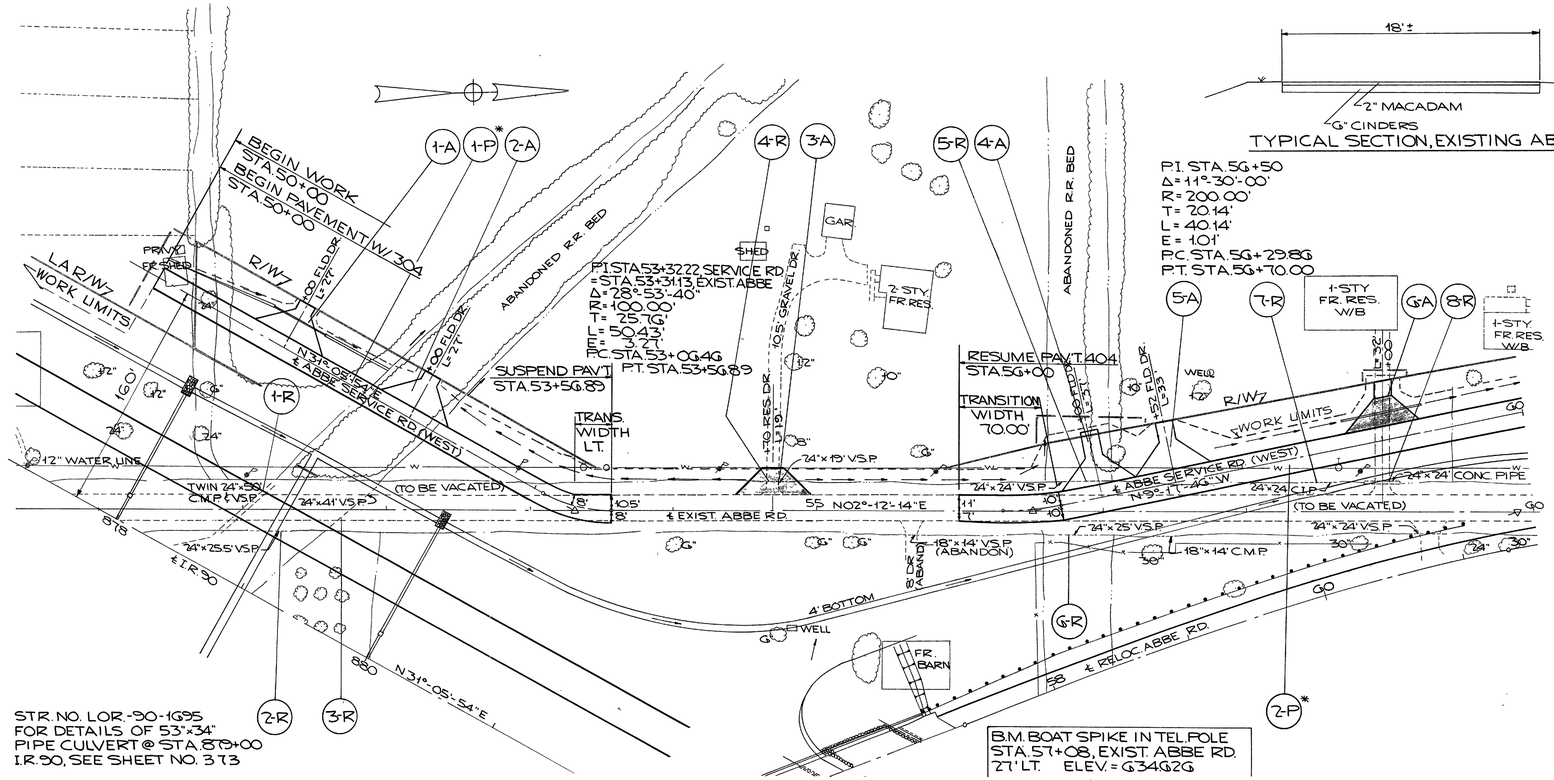
7 304, AGGREGATE BASE (THICKNESS AS SHOWN)

12 404, 2" ASPHALT CONCRETE (70-85)

15 408, BITUMINOUS PRIME COAT, SEC. 702.09; RT-2 OR RT-3 APPLIED AT THE RATE OF 0.4 GAL./S.Y.

STA. 45+00 TO STA. 48+00, EXISTING ABBE RD.
EXISTING ABBE RD. TEE-CUL-DE-SAC

LOR.-90-13.01



TYPICAL SECTION, EXISTING ABBE RD.

*1-P & 2-P, FOR PAVEMENT QUANTITIES, SEE SHEET NO. 352

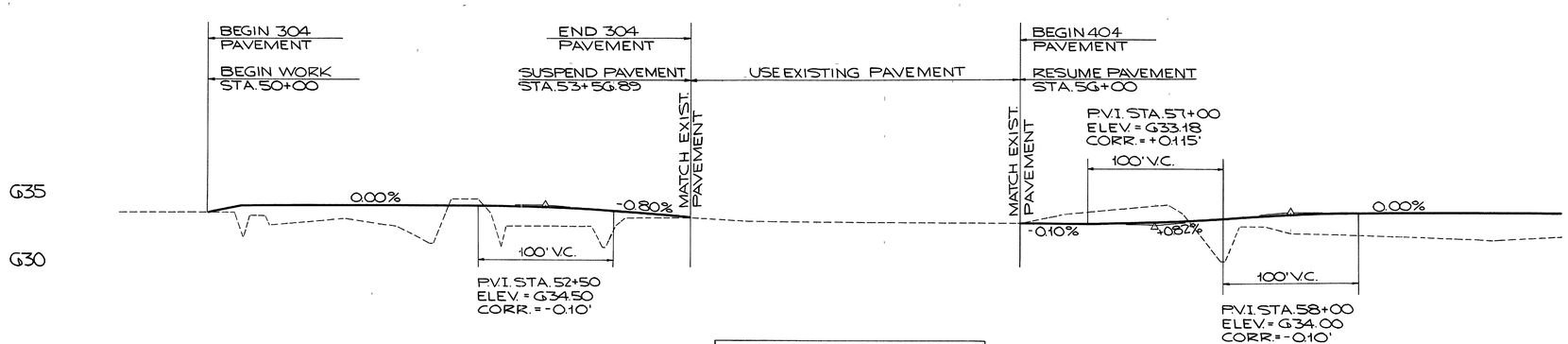
REFERENCE NO.	SIDE	STATION FROM	STATION TO	603 CONDUIT TYPE D 12" LIN. FT.	411 STABIL. CRUSHED AGGR. 6" CU.YDS.	304 AGGR. BASE 5" CU.YDS.	304 AGGR. BASE 6" CU.YDS.	202 REMOV. OF PIPE OVER 15" LIN. FT.	408 BITUM. PRIME COAT GAL.	404 ASPHAL. CONC. (70-85) 2" CU.YD.				
1-A	LT.	51+00		40			134							
2-A	LT.	52+00					134							
3-A	LT.	54+70				9.9			28.4	4.0				
4-A	LT.	57+00					156							
5-A	LT.	57+52					14.7							
6-A	LT.	59+00			2.7	9.9			28.4	4.0				
1-R	RT.	51+30						100						
2-R	RT.	51+55						26						
3-R	RT.	51+95						41						
4-R	LT.	54+70						19						
5-R	LT.	56+90						24						
6-R	RT.	56+80						25						
7-R	RT.	58+50						24						
8-R	RT.	59+00						24						
		TOTALS		40	2.7	19.8	57.1	283	56.8	8.0				

STR. NO. LOR.-90-1695
FOR DETAILS OF 53"x34"
PIPE CULVERT @ STA.879+00
I.R.90, SEE SHEET NO. 373

B.M. BOAT SPIKE IN TEL. POLE
STA. 57+08, EXIST. ABBE RD.
27' LT. ELEV. = 634.62

G34.0 G34.50 G34.50 G34.50 G34.50 G34.50 G34.48 G34.40 G34.28 G34.10 G33.90 G33.70 G33.65 G33.28 G33.26 G33.23 G33.23 G33.29 G33.40 G33.59 G33.77 G33.90 G33.97 G34.00 G34.00 G34.00 G34.00

+56.89



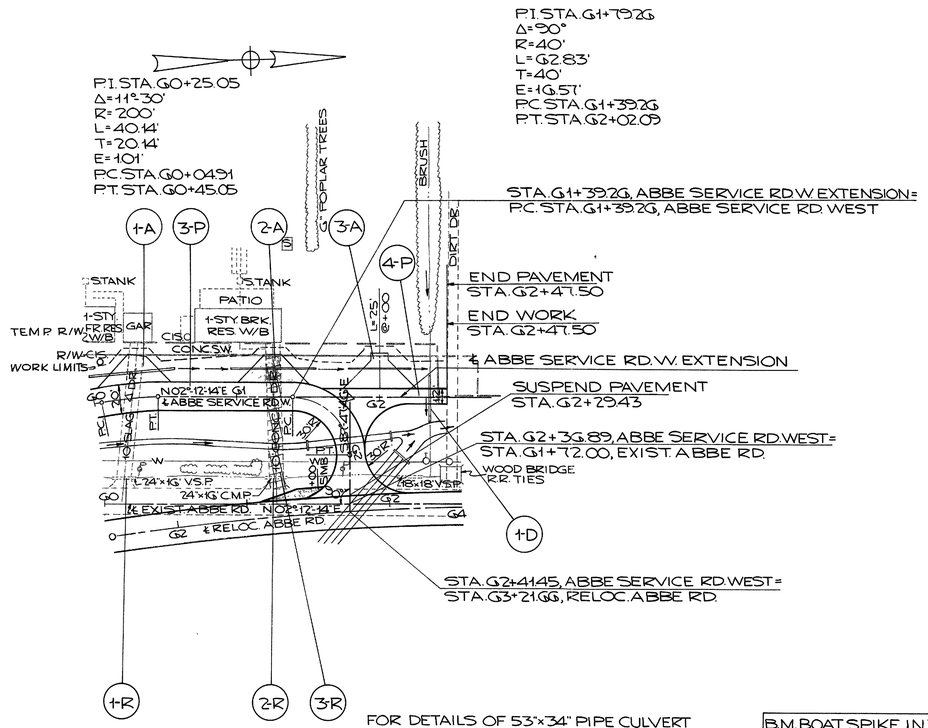
SEEDING	6,914	SQ.YDS.
EXCAVATION	1,123	CU.YDS.
EMBANKMENT	937	CU.YDS.

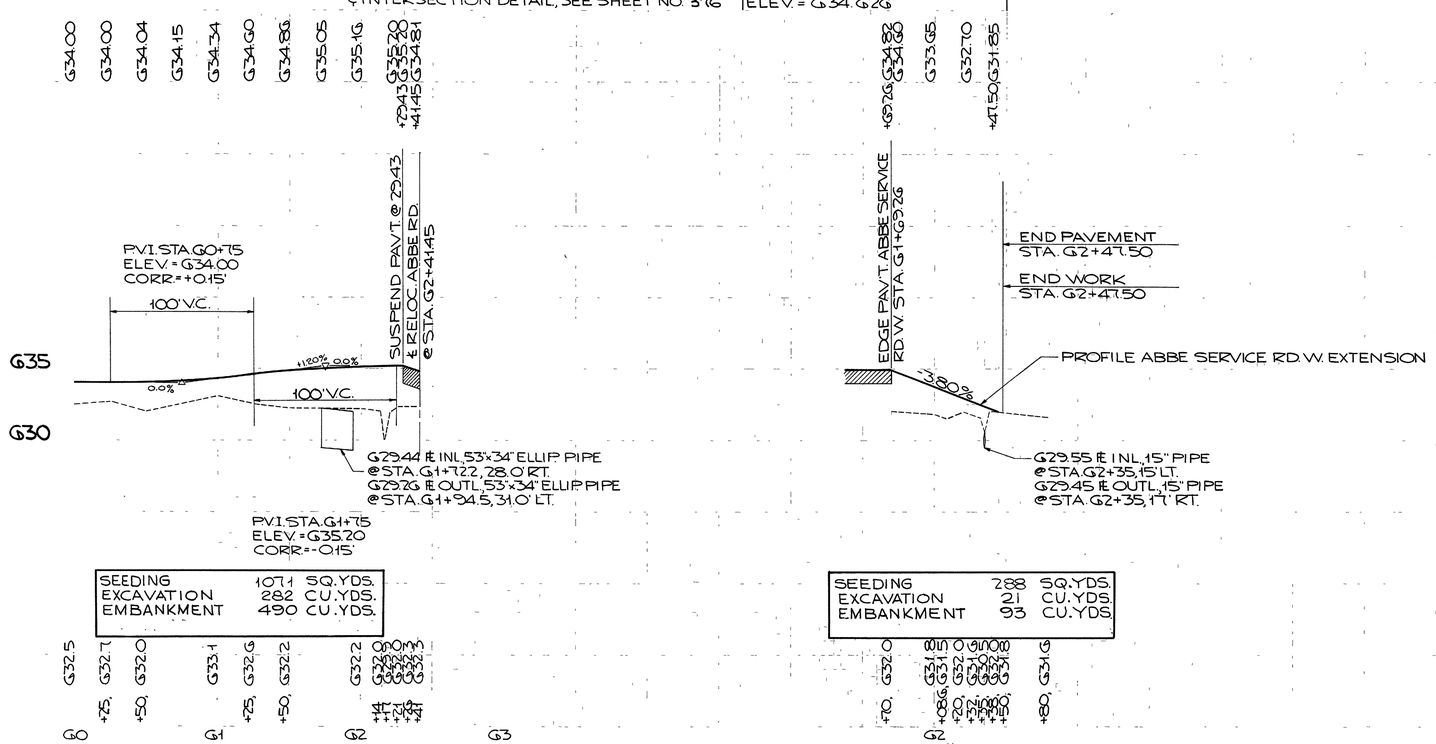
G34.0 G34.0 G34.0 G34.0 G33.5 G33.0 G32.9 G31.7 G35.0 G35.0 G34.0 G33.0 G33.0 G31.0 G33.6 +56.89, G33.65 G33.46 G33.38 G33.28 +30.53, G33.80 G34.65 G34.0 G30.4 G33.0 G33.0 G32.5 G32.3 G32.2 G32.0 G32.5

+07 +30 +42 +45 +40 +60 +65 +80 +08 +18 +20 +84 +92 +01 +08 +08 +20 +62 +80 +60 +48

50 51 52 53 54 55 56 57 58 59 60

STA. 50+00 TO STA. 60+00, ABBE SERVICE RD. (WEST)



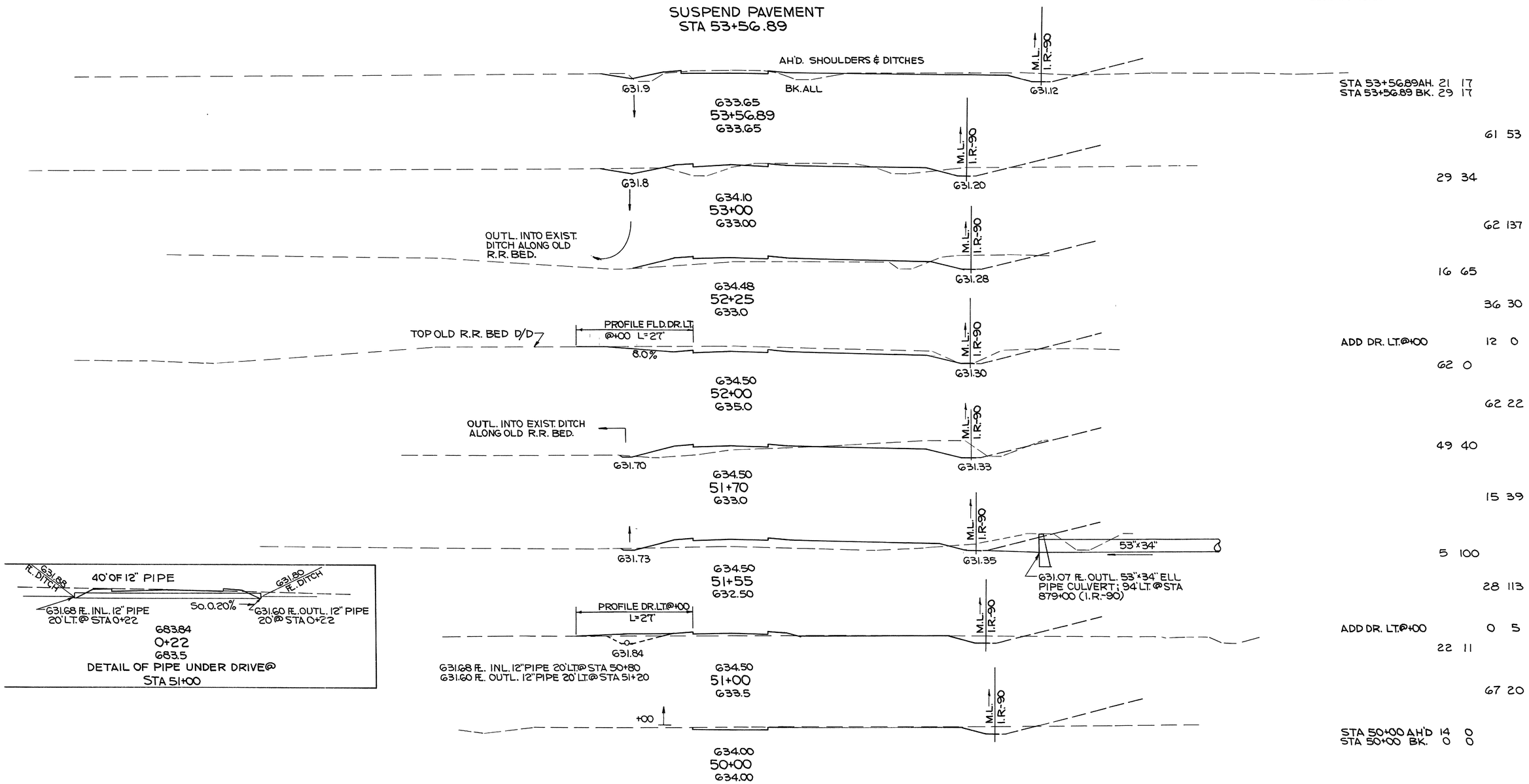


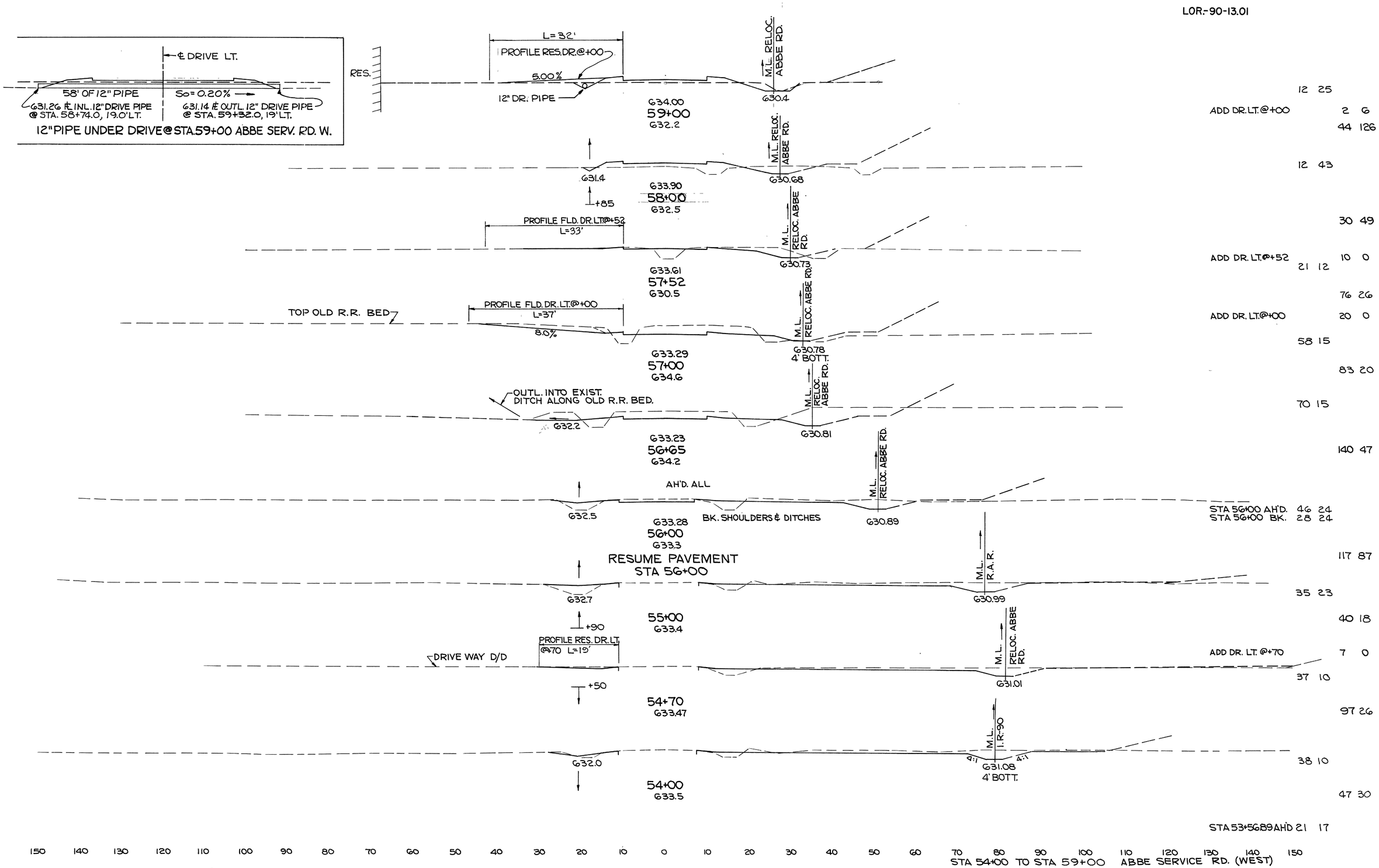
REFERENCE NO.	SIDE	STATION FROM	STATION TO	452 PLAIN PORT. CEMENT CONC. PAV'T. 7" SQ.YDS.	304 AGGR. BASE 5" CU.YDS.	304 AGGR. BASE 6" CU.YDS.	408 BITUM. PRIME COAT GAL.	404 ASPHAL. CONC. (70-85) 2" CU.YDS.		603 CONDUIT TYPE D 12" LIN.FT.	603 CONDUIT TYPE A-B 15" LIN.FT.	202 REMOVAL OF PIPE OVER 15" LIN.FT.	202 EXIST. PAV'T. REMOV. & DISPOS. OF (CONC.) SQ.YDS.	
1-A	LT.	60+26			9.9		28.4	4.0		60				
2-A	LT.	61+26		7.1						60				
3-A	LT.	62+00				13.0				44				
1-R	RT.	60+20										16		
2-R	RT.	61+26										16		
3-R	LT.&RT.	61+26											105	
1-D	℄	62+35									32			
TOTALS				7.1	9.9	13.0	28.4	4.0		164	32	32	105	

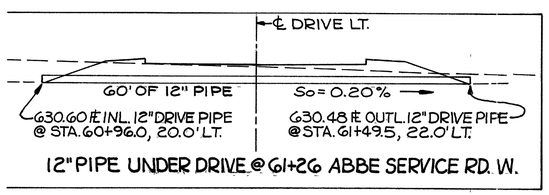
REFERENCE NO.	SIDE	STATION FROM	STATION TO	304 AGGR. BASE 5" CU.YDS.	304 AGGR. BASE 6" CU.YDS.	310 SUBBASE 4" CU.YDS.	605 AGGR. DRAIN LIN.FT.	408 BITUM. PRIME COAT GAL.	404 ASPHAL. CONC. (70-85) 2" CU.YDS.		616 CALCIUM CHLOR. TONS			
1-P	℄	50+00	53+56.89		106.4						0.3			
2-P	℄	56+00	60+00	128.5		107.8	160	352.4	49.0					
3-P	℄	60+00	62+29.43	80.6		67.5	80	221.2	30.7					
4-P	℄	61+69.26	62+47.5		23.4						0.1			
TOTALS				209.1	129.8	175.3	240	573.6	79.7		0.4			

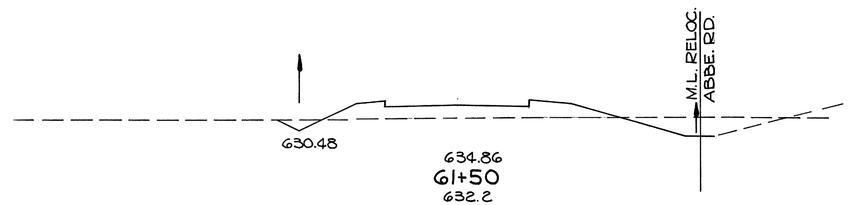
STA. 60+00 TO STA. 62+41.45, ABBE SERVICE RD. (WEST)

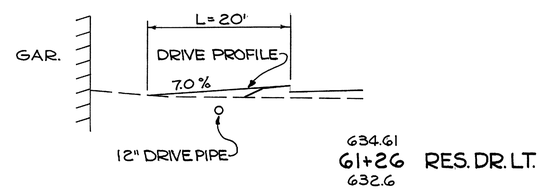
LOR.-90-13.01

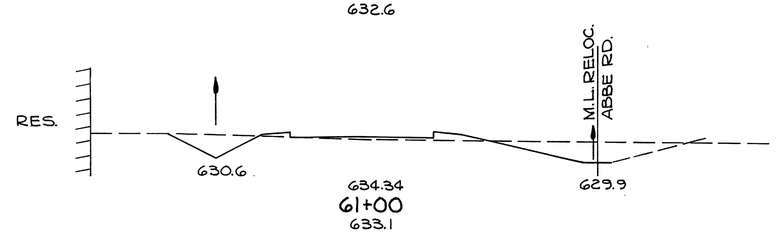

SUSPEND PAVEMENT
STA 53+56.89
AH'D. SHOULDERS & DITCHES
BK. ALL
631.9
633.65
53+56.89
633.65
631.12
M.L.
I.R.-90
STA 53+56.89AH. 21 17
STA 53+56.89 BK. 29 17
61 53
631.8
634.10
53+00
633.00
631.20
29 34
OUTL. INTO EXIST. DITCH ALONG OLD R.R. BED.
62 137
631.28
16 65
634.48
52+25
633.0
36 30
TOP OLD R.R. BED D/D
PROFILE FL.D.DR.LT.
@+00 L=27'
8.0%
ADD DR. LT.@+00
12 0
631.30
62 0
634.50
52+00
635.0
62 22
OUTL. INTO EXIST. DITCH ALONG OLD R.R. BED.
631.70
631.33
49 40
634.50
51+70
633.0
15 39
631.73
631.35
53"x34"
5 100
634.50
51+55
632.50
631.07 FL. OUTL. 53"x34" ELL PIPE CULVERT; 94' LT. @ STA 879+00 (I.R.-90)
28 113
PROFILE DR.LT.@+00
L=27'
631.84
ADD DR. LT.@+00
0 5
22 11
631.68 FL. INL. 12" PIPE 20' LT. @ STA 50+80
631.60 FL. OUTL. 12" PIPE 20' LT. @ STA 51+20
634.50
51+00
633.5
67 20
+00
STA 50+00 A.H'D 14 0
STA 50+00 BK. 0 0
634.00
50+00
634.00
BEGIN PAVEMENT STA. 50+00
BEGIN WORK STA. 50+00
631.68 FL. DITCH
40' OF 12" PIPE
631.80 FL. DITCH
631.68 FL. INL. 12" PIPE 20' LT. @ STA 0+22
S=0.20%
631.60 FL. OUTL. 12" PIPE 20' @ STA 0+22
683.84
0+22
683.5
DETAIL OF PIPE UNDER DRIVE @ STA 51+00
150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150
STA 50+00 TO STA 53+56.89 ABBE SERVICE RD. (WEST)

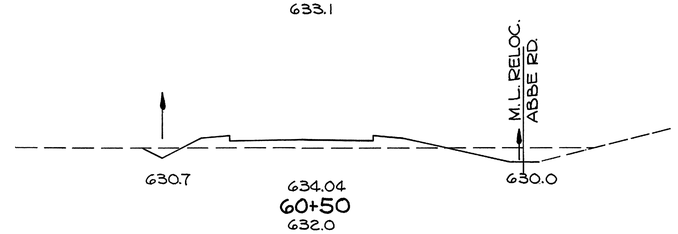

℄ DRIVE LT.
58' OF 12" PIPE
So=0.20%
631.26 ℄ INL. 12" DRIVE PIPE @ STA. 58+74.0, 19.0' LT.
631.14 ℄ OUTL. 12" DRIVE PIPE @ STA. 59+32.0, 19' LT.
12" PIPE UNDER DRIVE @ STA. 59+00 ABBE SERV. RD. W.
RES.
L=32'
PROFILE RES. DR. @ +00
5.00%
12" DR. PIPE
634.00
59+00
632.2
630.4
M.L. RELOC. ABBE RD.
ADD DR. LT. @ +00
12 25
2 6
44 126
631.4
633.90
58+00
632.5
630.68
+85
12 43
PROFILE FLD. DR. LT. @ +52
L=33'
30 49
ADD DR. LT. @ +52
21 12
10 0
633.61
57+52
630.5
630.7
76 26
TOP OLD R.R. BED
PROFILE FLD. DR. LT. @ +00
L=37'
8.0%
ADD DR. LT. @ +00
20 0
633.29
57+00
634.6
630.78
4' BOTT.
58 15
83 20
OUTL. INTO EXIST. DITCH ALONG OLD R.R. BED.
632.2
70 15
633.23
56+65
634.2
630.81
140 47
AH'D. ALL
632.5
633.28
56+00
633.3
BK. SHOULDERS & DITCHES
630.89
STA 56+00 AH'D. 46 24
STA 56+00 BK. 28 24
RESUME PAVEMENT
STA 56+00
117 87
632.7
630.99
35 23
55+00
633.4
+90
40 18
PROFILE RES. DR. LT. @ +70 L=19'
DRIVE WAY D/D
ADD DR. LT. @ +70
7 0
+50
631.01
37 10
54+70
633.47
97 26
632.0
631.08
4' BOTT.
38 10
54+00
633.5
47 30
STA 53+56.89 AH'D 21 17
150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150
STA 54+00 TO STA 59+00 ABBE SERVICE RD. (WEST)

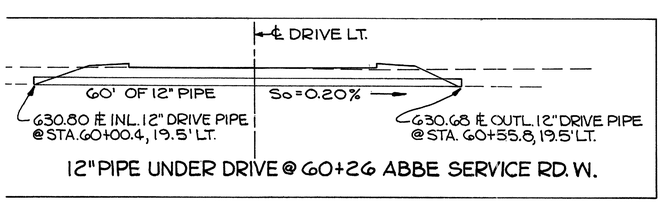


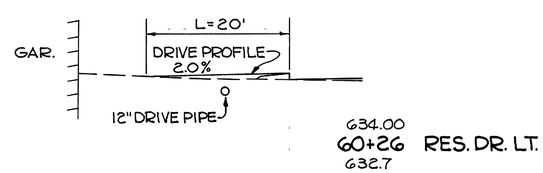


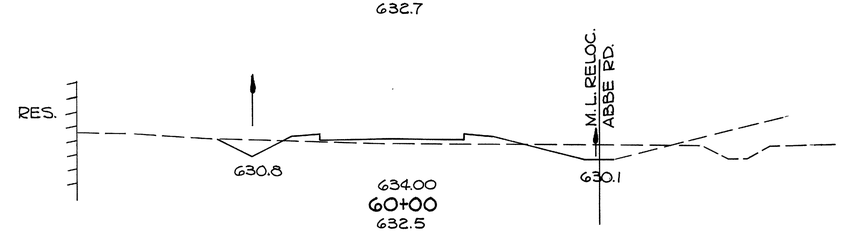












22 60

61 65

ADD FOR DR. @ + 26 1 5

44 10

106 44

16 37

37 53

ADD FOR DR. @ + 26 2 3

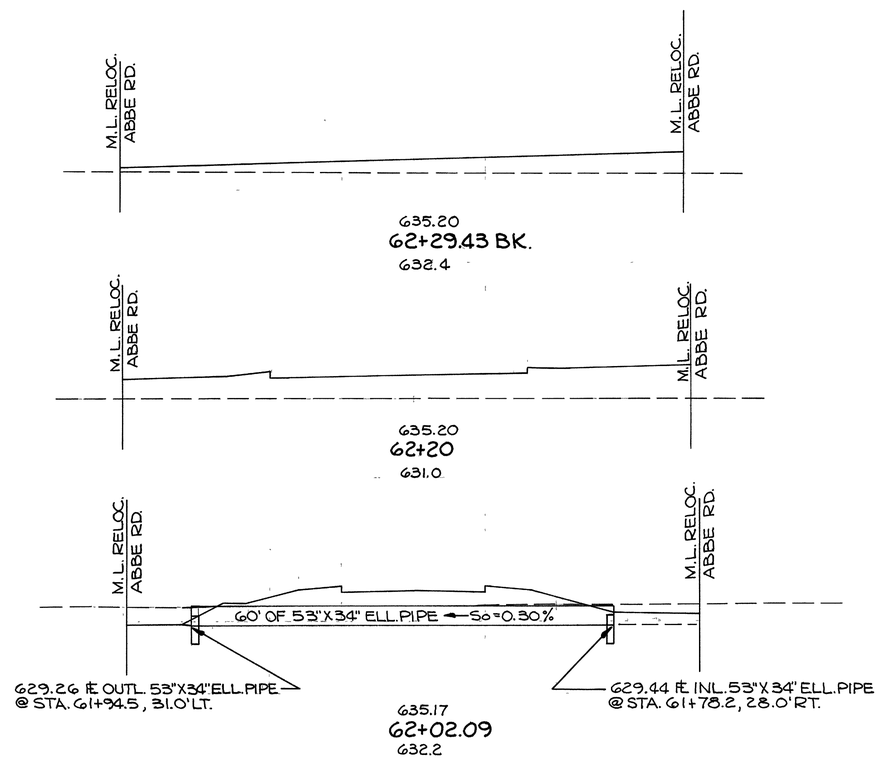
24 20

67 83

STA. 59+00 12 25

150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

STA. 60+00 TO STA. 61+50 ABBE SERVICE RD. (WEST)



STA. 62+29.43 AHD. 0 0
STA. 62+29.43 BK. 0 130

0 69

0 265

14 115

41 81

61 136

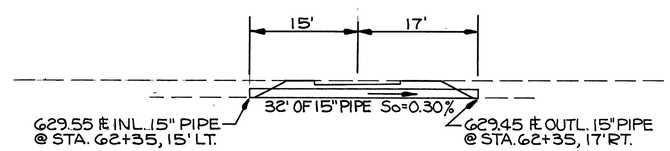
STA. 61+50 22 60

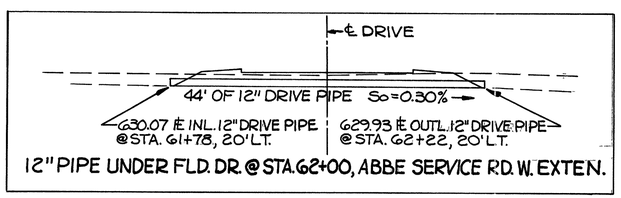
150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

STA. 62+02.09 TO STA. 62+29.43 ABBE SERVICE RD. (WEST)

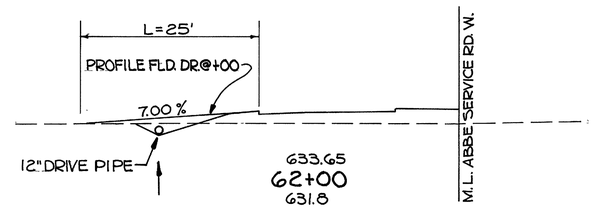
END WORK STA. 62+47.50

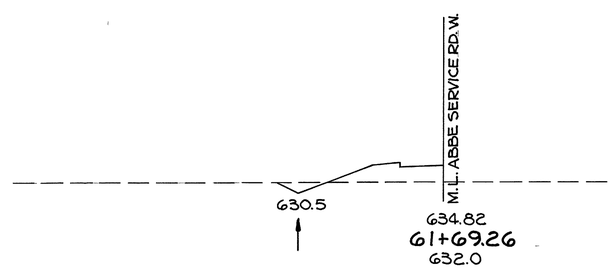
END PAVEMENT STA. 62+47.50





12" PIPE UNDER FLD. DR. @ STA. 62+00, ABBE SERVICE RD. W. EXTEN.





"O" SECTION
@ STA. 61+59

STA. 62+47.50 AHD.	0	0
STA. 62+47.50 BK.	6	0
	11	39
	7	45
ADD FOR DR. LT. @ 1+00	1	5
	8	43
	5	30
	1	6
	0	0

150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

STA. 61+59 TO STA. 62+47.50 ABBE SERVICE RD. (WEST) EXTENSION

SUPERELEVATION TABLES

RELOC. ABBE ROAD SUPERELEVATION TABLE
STA. 28+94.11 TO STA. 65+54.09

STATION	LEFT EDGE ELEV.	ADD TO OR DEDUCT FROM	℄ & P.G.	ADD TO OR DEDUCT FROM	RIGHT EDGE ELEV.
28+94.11	639.43	-0.19	639.62	-0.19	639.43
29+00	639.45	-0.17	639.62	↑	639.43
+25	639.49	-0.11	639.60		639.41
+50	639.53	-0.05	639.58		639.39
+69.11	639.56	0.00	639.56		639.37
+75	639.57	+0.01	639.56		639.37
30+00	639.62	+0.08	639.54		639.35
+25	639.66	+0.14	639.52	↓	639.33
+44.11	639.69	+0.19	639.50	-0.19	639.31
+50	639.70	+0.20	639.50	-0.20	639.30
+75	639.74	+0.26	639.48	-0.26	639.22
31+00	639.79	+0.33	639.46	-0.33	639.13
+25	639.83	+0.39	639.44	-0.39	639.05
+50	639.87	+0.45	639.42	-0.45	638.97
+75	639.91	+0.51	639.40	-0.51	638.89
32+00	639.96	+0.58	639.38	-0.58	638.80
+25	640.00	+0.64	639.36	-0.64	638.72
+50	640.04	+0.70	639.34	-0.70	638.64
+75	640.08	+0.76	639.32	-0.76	638.56
33+00	640.13	+0.83	639.30	-0.83	638.47
+25	640.17	+0.89	639.28	-0.89	638.39
+50	640.21	+0.95	639.26	-0.95	638.31
+69.11	640.24	+1.00	639.24	-1.00	638.24
+75	640.24	↑	639.24	↑	638.24
34+00	640.22		639.22		638.22
+25	640.20		639.20		638.20
+50	640.18		639.18		638.18
+75	640.16	↓	639.16	↓	638.16
+87	640.15	+1.00	639.15	-1.00	638.15
35+00	640.11	+0.97	639.14	-0.97	638.17
+25	640.03	+0.91	639.12	-0.91	638.21
+50	639.94	+0.84	639.10	-0.84	638.26
+75	639.86	+0.78	639.08	-0.78	638.30
36+00	639.78	+0.72	639.06	-0.72	638.34
+25	639.70	+0.66	639.04	-0.66	638.38
+50	639.61	+0.59	639.02	-0.59	638.43
+75	639.53	+0.53	639.00	-0.53	638.47
37+00	639.45	+0.47	638.98	-0.47	638.51
+25	639.37	+0.41	638.96	-0.41	638.55
+50	639.28	+0.34	638.94	-0.34	638.60
+75	639.20	+0.28	638.92	-0.28	638.64
38+00	639.12	+0.22	638.90	-0.22	638.68
+12	639.08	+0.19	638.89	-0.19	638.70
+25	639.04	+0.16	638.88	-0.19	638.69
+50	638.95	+0.09	638.86	-0.19	638.67
+75	638.87	+0.03	638.84	-0.19	638.65
+87	638.83	0.00	638.83	-0.19	638.64
39+00	638.79	-0.03	638.82	-0.16	638.66
+25	638.72	-0.08	638.80	-0.11	638.69
+50	638.65	-0.13	638.78	-0.06	639.72
+75	638.58	-0.18	638.76	-0.01	638.75
+80.46	638.51	-0.19	638.76	0.00	638.76
40+00	638.55	↑	638.74	+0.05	638.79
+25	638.53		638.72	+0.11	638.83
+50	638.51	↓	638.70	+0.17	638.87
+55.46	638.51	-0.19	638.70	+0.19	638.89
+75	638.44	-0.24	638.68	+0.24	638.92
41+00	638.36	-0.30	638.66	+0.30	638.96
+25	638.28	-0.36	638.64	+0.36	639.00
+50	638.20	-0.42	638.62	+0.42	639.04
+75	638.11	-0.49	638.60	+0.49	639.09
42+00	638.03	-0.55	638.58	+0.55	639.13
+25	637.95	-0.61	638.56	+0.61	639.17
+50	637.87	-0.67	638.54	+0.67	639.21
+75	637.78	-0.74	638.52	+0.74	639.26
43+00	637.70	-0.80	638.50	+0.80	639.30
+25	637.62	-0.86	638.48	+0.86	639.34
+50	637.54	-0.92	638.46	+0.92	639.38
+75	637.45	-0.99	638.44	+0.99	639.43
+80.46	637.44	-1.00	638.44	+1.00	639.44

RELOC. ABBE ROAD SUPERELEVATION TABLE
STA. 28+94.11 TO STA. 65+54.09

STATION	LEFT EDGE ELEV.	ADD TO OR DEDUCT FROM	℄ & P.G.	ADD TO OR DEDUCT FROM	RIGHT EDGE ELEV.
44+00	637.42	-1.00	638.42	+1.00	639.42
+25	637.40	↑	638.40	↑	639.40
+50	637.38		638.38		639.38
+75	637.36		638.36		639.36
45+00	637.34		638.34		639.34
+25	637.32		638.32		639.32
+50	637.30		638.30		639.30
+75	637.28		638.28		639.28
46+00	637.26		638.26		639.26
+25	637.28		638.28		639.28
+50	637.38		638.38		639.38
+75	637.56		638.56		639.56
47+00	637.81		638.81		639.81
+25	638.15		639.15		640.15
+50	638.57		639.57		640.57
+75	639.06		640.06		641.06
48+00	639.64		640.64		641.64
+25	640.29	↓	641.29	↓	642.29
+45.56	640.89	-1.00	641.89	+1.00	642.89
+50	641.04	-0.99	642.03	+0.99	643.02
+75	641.91	-0.93	642.84	+0.93	643.77
49+00	642.87	-0.86	643.73	+0.86	644.59
+20.46	643.71	-0.81	644.52	+0.81	645.33
+25	643.91	-0.80	644.71	+0.80	645.51
+50	645.02	-0.74	645.76	+0.74	646.50
+75	646.21	-0.68	646.89	+0.68	647.57
50+00	647.49	-0.61	648.10	+0.61	648.71
+25	648.77	-0.55	649.32	+0.55	649.87
+50	649.99	-0.49	650.48	+0.49	650.97
+75	651.14	-0.43	651.57	+0.43	652.00
51+00	652.24	-0.36	652.60	+0.36	652.96
+25	653.27	-0.30	653.57	+0.30	653.87
+50	654.24	-0.24	654.48	+0.24	654.72
+70.46	654.98	-0.19	655.17	+0.19	655.36
+75	655.13	↑	655.32	+0.18	655.50
52+00	655.91		656.10	+0.11	656.21
+25	656.63		656.82	+0.05	656.87
+45.46	657.17		657.36	0.00	657.36
+50	657.29		657.48	-0.01	657.47
+75	657.88		658.07	-0.07	658.00
53+00	658.41	↓	658.60	-0.14	658.46
+20.46	658.80	-0.19	658.99	-0.19	658.80
57+31.98	657.72	-0.19	657.91	-0.19	657.72
+50	657.34	-0.14	657.48	↑	657.29
+75	656.74	-0.08	656.82		656.63
58+00	656.08	-0.02	656.10		655.91
+06.98	655.89	0.00	655.89		655.70
+25	655.37	+0.05	655.32		655.13
+50	654.59	+0.11	654.48		654.29
+75	653.74	+0.17	653.57	↓	653.38
+81.98	653.49	+0.19	653.30	-0.19	653.11
59+00	652.83	+0.23	652.60	-0.23	652.37
+25	651.87	+0.30	651.57	-0.30	651.27
+50	650.84	+0.36	650.48	-0.36	650.12
+75	649.74	+0.42	649.32	-0.42	648.90
60+00	648.58	+0.48	648.10	-0.48	647.62
+25	647.40	+0.55	646.85	-0.55	646.30
+50	646.21	+0.61	645.60	-0.61	644.99
+75	645.02	+0.67	644.35	-0.67	643.68
61+00	643.83	+0.73	643.10	-0.73	642.37
+25	642.69	+0.80	641.89	-0.80	641.09
+31.98	642.37	+0.81	641.56	-0.81	640.75
+43.03	641.90	+0.84	641.06	-0.84	640.22
+50	641.56	+0.82	640.74	-0.82	639.92
+54.09	641.38	+0.81	640.57	-0.81	639.76
+75	640.43	+0.76	639.67	-0.76	638.91
62+00	639.37	+0.70	638.67	-0.70	637.97
+25	638.38	+0.64	637.74	-0.64	637.10
+50	637.45	+0.57	636.88	-0.57	636.31
+75	636.61	+0.51	636.10	-0.51	635.59

RELOC. ABBE ROAD SUPERELEVATION TABLE
STA. 28+94.11 TO STA. 65+54.09

STATION	LEFT EDGE ELEV.	ADD TO OR DEDUCT FROM	℄ & P.G.	ADD TO OR DEDUCT FROM	RIGHT EDGE ELEV.
63+00	635.83	+0.45	635.38	-0.45	634.93
+25	635.13	+0.39	634.74	-0.39	634.35
+50	634.48	+0.32	634.16	-0.32	633.84
+75	633.92	+0.26	633.66	-0.26	633.40
64+00	633.43	+0.20	633.23	-0.20	633.03
+04.09	633.35	+0.19	633.16	-0.19	632.97
+25	633.00	+0.13	632.87	↑	632.68
+50	632.65	+0.07	632.58		632.39
+75	632.38	+0.01	632.37		632.18
+19.09	632.33	0.00	632.33		632.14
65+00	632.17	-0.05	632.22		632.03
+25	632.01	-0.11	632.12		631.93
+50	631.87	-0.18	632.05	↓	631.86
+54.09	631.85	-0.19	632.04	-0.19	631.85

ABBE SERVICE ROAD (EAST) SUPERELEVATION TABLE
STA. 76+95.86 TO STA. 84+52.15

STATION	LEFT EDGE ELEV.	ADD TO OR DEDUCT FROM	℄ & P.G.	ADD TO OR DEDUCT FROM	RIGHT EDGE ELEV.
76+95.86	645.58	0.00	645.58	0.00	645.58
+97.88	645.63	-0.01	645.64	+0.01	645.65
77+00	645.66	-0.01	645.67	+0.01	645.68
+25	645.83	-0.07	645.90	+0.07	645.97
+50	645.48	-0.14	645.62	+0.14	645.76
+75	644.83	-0.20	645.03	+0.20	645.23
+85.37	644.54	-0.22	644.76	+0.22	644.98
+95.86	644.22	-0.25	644.47	+0.17	644.64
78+00	644.10	↑	644.35	+0.15	644.50
+25	643.53		643.58	+0.03	644.61
+30.12	643.15		643.40	0.00	643.40
+50	642.46		642.71	-0.05	642.66
+75	641.49		641.74	-0.11	641.63
79+00	640.43		640.68	-0.17	640.51
+25	639.28	↓	639.53	-0.24	639.29
+30.12	639.03	-0.25	639.28	-0.25	639.03
80+77.62	634.98	-0.25	635.23	-0.25	634.98
81+00	634.92	-0.19	635.11	↑	634.86
+25	635.00	-0.13	635.13		634.88
+50	635.16	-0.07	635.23		634.98
+75	635.32	-0.01	635.33		635.08
+77.62	635.34	0.00	635.34		635.09
82+00	635.54	+0.11	635.43		635.18
+25	635.77	+0.24	635.53		635.28
+27.62	635.79	+0.25	635.54		635.29
+50	635.88		635.63		635.38
+75	635.98	↓	635.73		635.48
83+00	636.08		635.83		635.58
+02.15	636.09	+0.25	635.84		635.59
+25	636.07	+0.14	635.93		635.68
+50	636.04	+0.01	636.03		635.78
+52.15	636.04	0.00	636.04		635.79
+75	636.07	-0.06	636.13		635.88
84+00	636.11	-0.12	636.23		635.98
+25	636.14	-0.18	636.32		636.07
+50	636.12	-0.25	636.37	↓	636.12
+52.15	636.13	-0.25	636.38	-0.25	636.13

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

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LOR.-90-13.01

SIDEROAD SUMMARY OF TABLES

	FROM SHEET NO.	202 PIPE REMOVED 15" AND UNDER	202 PIPE REMOVED OVER 15"	202 EXIST STRUCTURES REMOVED	202 CATCH BASINS REMOVED	202 EXIST PAVEMENT REMOVED AND DISPOSED OF	202 EXIST SIDEWALK REMOVED AND DISPOSED OF	203 EXCAVATION NOT INCLUDING EMBANKMENT CONSTRUCTION	203 EMBANKMENT	302 ASPHALT CONCRETE (TO-BS)	304 AGGREGATE BASE	310 SUBBASE	402 ASPHALT CONCRETE (TO-BS)	404 ASPHALT CONCRETE (TO-BS)	407 TACK COAT	408 BITUMINOUS PRIME COAT	409 SEAL COAT FOR STABILIZED BERMS	411 STABILIZED CRUSHED AGGREGATE	411 STABILIZED CRUSHED AGGREGATE (CRUSHED LIMESTONE)	452 PLAIN PORTLAND CEMENT CONCRETE PAVEMENT 7"	601 DUMPED ROCK CHANNEL PROTECTION	602 CONCRETE MASONRY	603 CONDUIT TYPE A WITH CLASS B BEDDING 15"	603 CONDUIT TYPE B WITH CLASS B BEDDING 18"	603 CONDUIT TYPE C WITH CLASS B BEDDING 15"	603 CONDUIT TYPE C WITH CLASS B BEDDING 18"	603 CONDUIT TYPE D 12"	603 CONDUIT TYPE D 15"	603 CONDUIT TYPE D 18"	603 CONDUIT TYPE D 24"	FROM SHEET NO.
		LIN. FT.		LUMP	EACH	SQ.YD.	SQ.FT.	CU.YD.		CU.YD.					GAL.		SQ.YD.	CU.YD.		SQ.YD.	CU.YD.	CU.YD.	LIN. FT.								
I-90-1(40)01																															
WEST RIVER RD.																															
36+00 TO 47+00	310							3,089	46																						310
47+00 TO 58+00	311	175						16,313	449		539.7	307.6	213.0	127.0	9.0	1,300.0		22.5			74	0.6		200		250			58		310
																								110		97					311
FORD RD.																															
44+00 TO 55+00	319	465						965	1,596		150.5	106.3	36.0	30.4	5.8	345.3						0.3			50					319
S.R. 301 (GULF RD.)																															
118+00 TO 129+00	323				1			768	4,499	236.6	902.3	541.0	115.9	108.6		1,554.6	833.9		59	118.1	15						108	28	44		323
129+00 TO 140+00	324		114		2		305	1,356	5,693												38			47		29					324
S.R. 301 TEMPORARY RD.	329																														329
RELOCATED ABBE RD.																															
25+00 TO 28+00	330							88	24																						330
28+00 TO 39+00	331		75	LUMP		7		1,610	2,405		46.8			18.8		134.8			9.5												331
39+00 TO 50+00	332		22					1927	10,072									61.5													332
50+00 TO 61+00	333							636	51,172		26.6	28.4		10.6		76.4															333
61+00 TO 70+00	334			LUMP				909	4,151		1585.2	1,629.7	377.0	315.5	6.9	3,665.9															334
ABBE RD. CONNECTION	344							167	494		90.9	94.9	21.8	19.5	6.0	208.6															344
ABBE RD. TEE CUL-DE-SAC	345		47			14		74	84		46.4			18.6		133.7														72	345
ABBE SERVICE RD. WEST																															
50+00 TO 60+00	351		283					1,123	937		76.9			80		56.8		2.7									40				351
60+00 TO 62+41.45	352		32			105		303	583		361.8	175.3		83.7		602.0				7.1					32		164				352
TOTAL I-90-1(40)01		640	573	LUMP	3	126	305	29,388	82,205	236.6	3827.1	2883.2	763.7	740.7	27.7	8078.1	833.9	86.7	68.5	125.2	127	0.9	32	357	50	316	312	28	102	72	

NOTE: 409 SEAL COAT IS TAKEN TO CALCULATIONS AND BROKEN DOWN INTO COVER AGGREGATE AND BITUMINOUS MATERIAL

SIDEROAD SUMMARY OF TABLES (CON'T.)

	FROM SHEET NO.	603 CONDUIT TYPE D 707.01 OR 707.02 21"	24"	30"	706.02 OR 706.08 30"	706.04 CLASS HE II 76x48"	F 6"	8"	10"	12"	604 CATCH BASINS STANDARD NO. 2-2A	2-2B	SIDE DITCH 7	MANHOLES STANDARD NO. 1	605 AGGREGATE DRAINS	606 GUARD RAIL TYPE 4	611 REINFORCED CONCRETE, T=13" APPROACH SLABS	615 TEMPORARY ROADS	CLASS B TEMPORARY PAVEMENT	616 CALCIUM CHLORIDE	621 EDGE LINES 4"	LANE LINES AND CENTER LINES 6"	BARRIER LINES 4"	657 RIP-RAP FOR TREE PROTECTION	659 SEEDING AND MULCHING	660 SODDING	SPECIAL DRILLED WELLS ABANDONED	CLEANING AND DISPOSAL OF SEPTIC TANKS	FROM SHEET NO.
		LIN. FT.									EACH				LIN.FT.	LIN.FT.	SQ.YD.	LUMP	SQ.YD.	TON	MILES			SQ.YDS.			EACH		
I-90-1(40)01																													
	310							10	8			4												4	2,811	72			310
	311										1	2			390	150.0									8,506	572			311
	319									20			1		74	325									2,405	98			319
	323						16								765						0.530	0.102	0.133		9,869	215			323
	324										2			1		400	176.4								9,474			3	324
	329																	LUMP	4,172										329
	330																								425				330
	331	72	64	92																					9,615				331
	332		40		152											72									11439				332
	333					52	10									1,390.5	174.2								14,076		2		333
	334														2,394										5,076				334
	344														96										1,116				344
	345															75									890				345
	351																								6,914				351
	352														240					0.4					1,359				352
TOTAL I-90-1(40)01		72	104	92	152	52	26	10	8	20	3	6	1	1	3,959	2412.5	350.6	LUMP	4,172	0.4	0.530	0.102	0.133	4	83976	957	2	3	

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

LOR.-90-13.01

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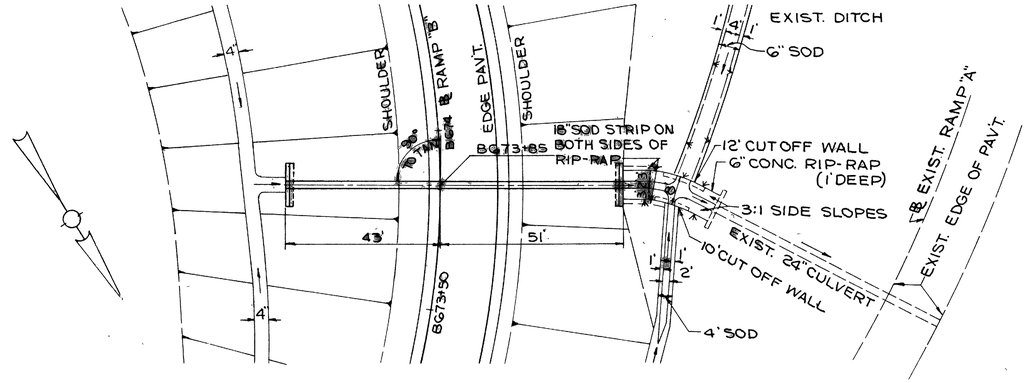
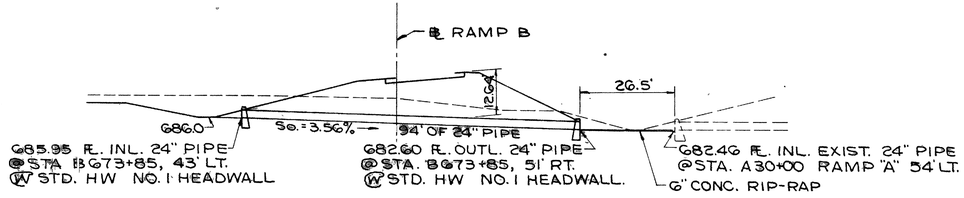


PLAN

SCALE

0 10 20 30 40



SECTION

CULVERT DATA

TYPE: 24" CONDUIT TYPE A-B 706.02 CLASS III OR 706.08

SIZE: 24"x94'

SKEW: NONE.

WORK REQ: CONSTRUCT 24" PIPE CULVERT WITH STD. HW NO. 1 HEADWALLS RT. & LT. AS PER PLAN.

ESTIMATED QUANTITIES

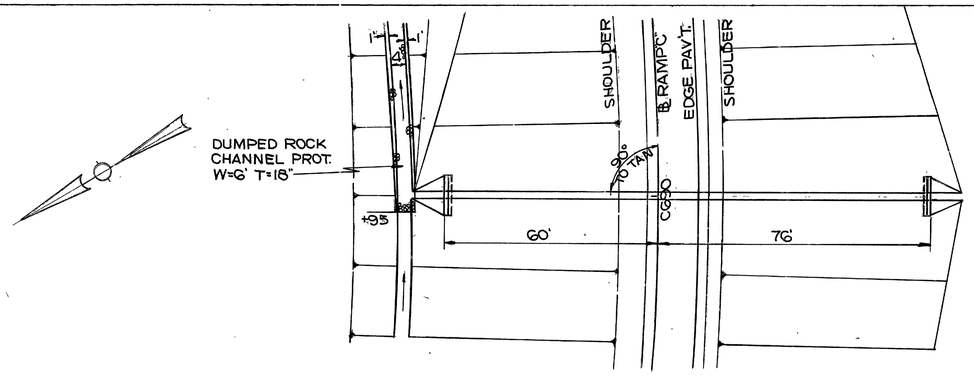
603:	24" CONDUIT TYPE A-B 706.02 CLASS III OR 706.08	94 LIN. FT.
602:	CONCRETE MASONRY	6.6 CU. YDS.
601:	CONCRETE RIP-RAP 6" REINF. SLAB.	25 SQ. YDS.
660:	SODDING.	13 SQ. YDS.

RAMP "B"

CULVERT STA. B673+85

AREA = 3 ACS

Q50 = 8.1 CFS



PLAN

SCALE

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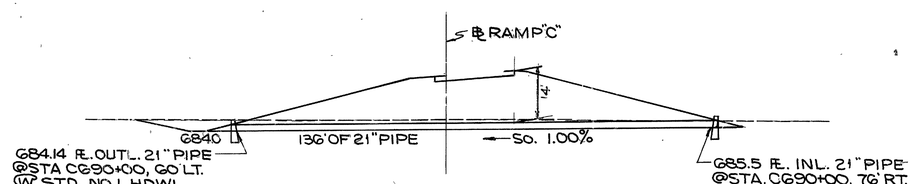

SECTION

CULVERT DATA

TYPE: 21" CONDUIT TYPE A-B 706.02 CLASS III OR 706.08

SIZE: 21"x136'

SKEW: NONE.

WORK REQ: CONSTRUCT 21" PIPE CULVERT WITH STD. HW NO. 1 HEADWALL RT. & LT. AS PER PLAN.

ESTIMATED QUANTITIES

603:	21" CONDUIT TYPE A-B 706.02 CLASS III OR 706.08	136 LIN. FT.
602:	CONCRETE MASONRY	5.6 CU. YDS.
660:	SODDING	4 SQ. YDS.

RAMP "C"

CULVERT STA. C690+00

AREA = 3 ACS

Q50 = 16.5 CFS

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

LOR.-90-13.01

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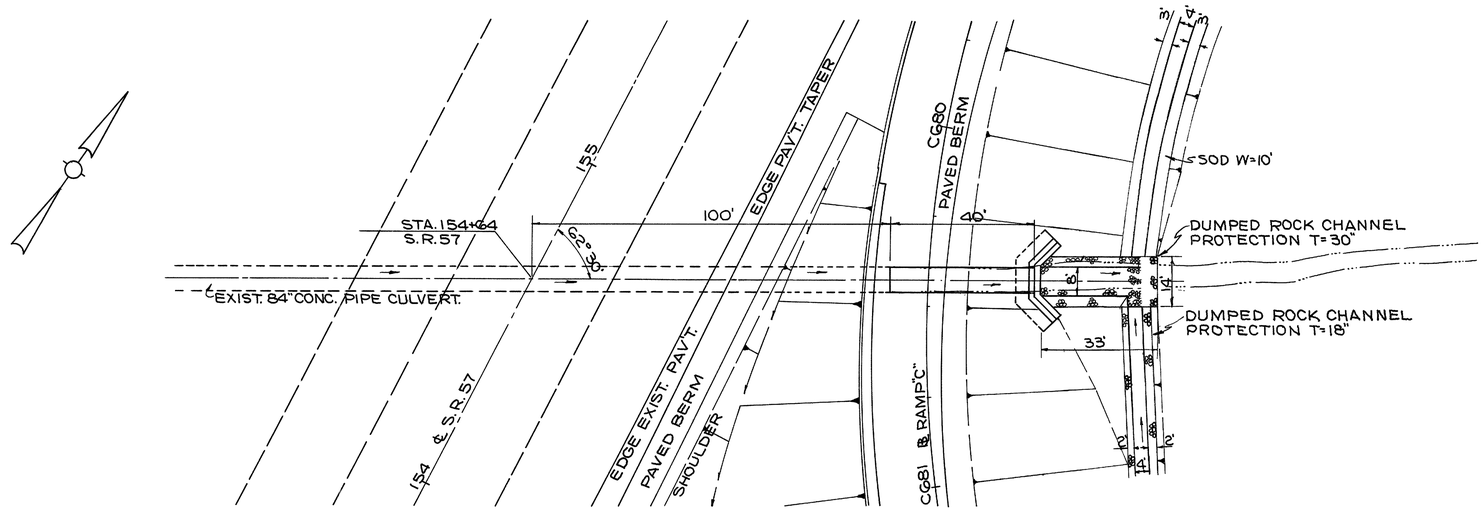

PLAN

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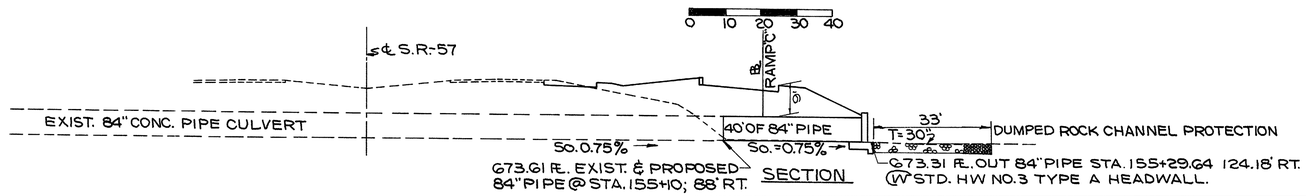


SECTION

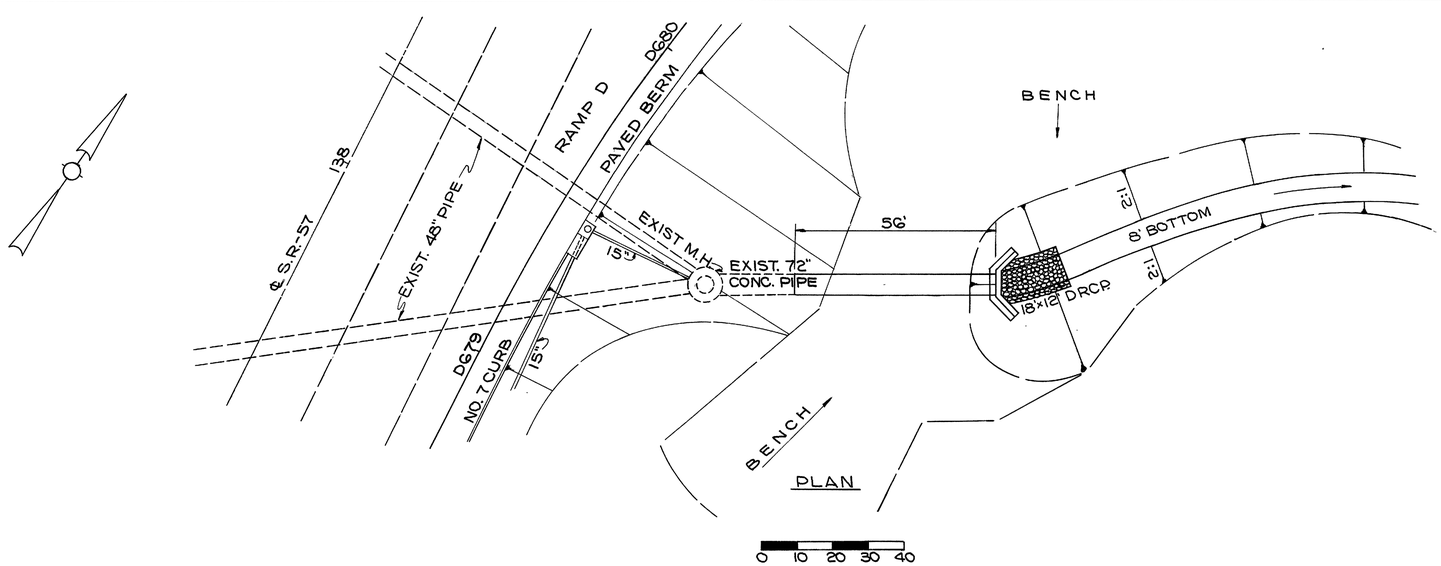
CULVERT DATA

TYPE: 84" CONDUIT TYPE A-B 706.02
SIZE: 84" x 40'
SKEW: 27°-30' R.F.
WORK REQ: EXTEND EXISTING 84" CONCRETE PIPE CULVERT AND CONSTRUCT STD. HW NO. 3 TYPE "A" HEADWALL ON RT. END.

ESTIMATED QUANTITIES

603:	84" CONDUIT TYPE A-B 706.02	40 LIN. FT.
602:	CONCRETE MASONRY	23.7 CU. YDS.
601:	DUMPED ROCK CHANNEL PROTECTION	43 CU. YDS.
660:	SODDING	5 SQ. YDS.

SR-57
CULVERT STA. 154+64
AREA = 260 ACS
Q50 = 237 CFS
STRUC. NO. LOR.-57-0293



PLAN

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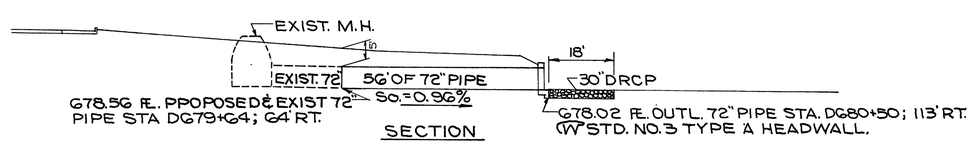


SECTION

CULVERT DATA

TYPE: 72" CONDUIT TYPE A-B 706.02
SIZE: 72" x 56'
SKEW: NONE
WORK REQ: EXTEND EXISTING 72" CONCRETE PIPE CULVERT AND CONSTRUCT STD. HW-NO. 3 TYPE A HEADWALL ON RT. END.

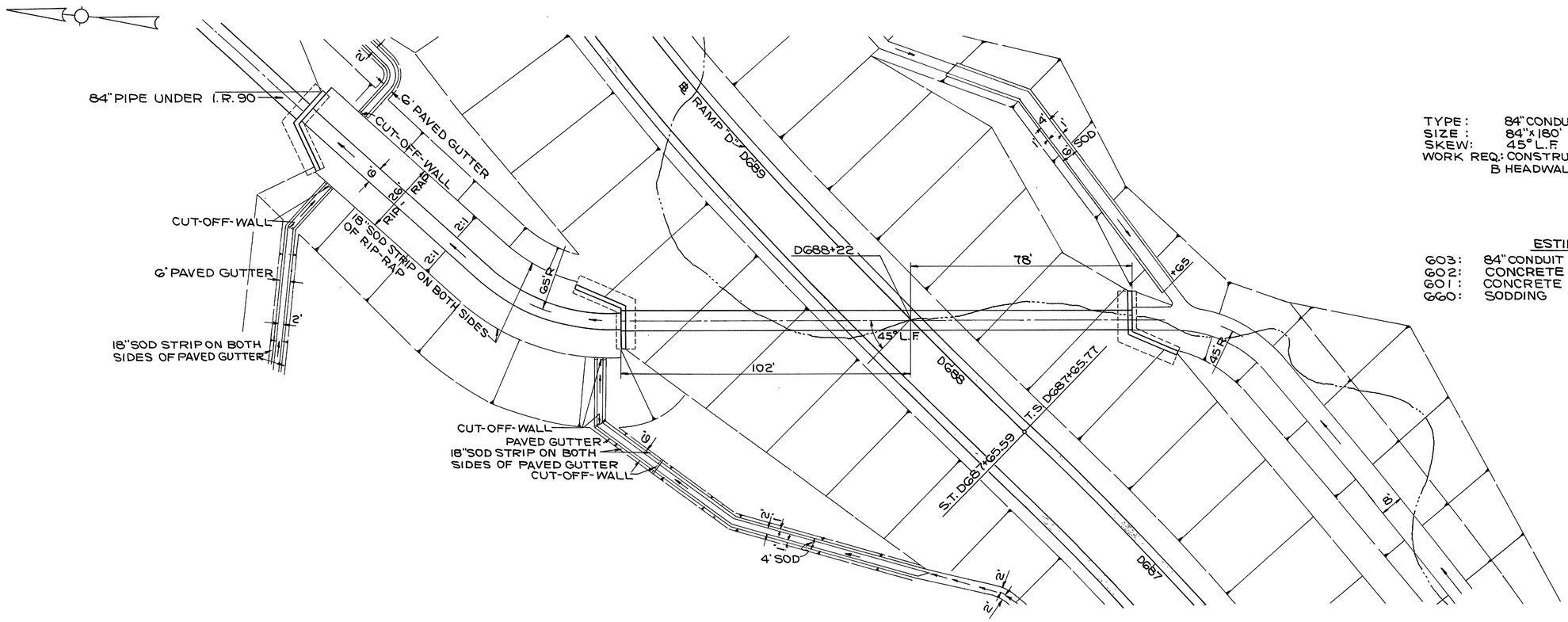
ESTIMATED QUANTITIES.

603:	72" CONDUIT TYPE A-B 706.02	56 LIN. FT.
602:	CONCRETE MASONRY	19.6 CU. YDS.
601:	DUMPED ROCK CHANNEL PROTECTION	20 CU. YDS.
660:	SODDING	4 SQ. YDS.

RAMP D
CULVERT D679+64 TO D680+05
AREA = 370 ACS
Q50 = 262 CFS

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

LOR.-90-13.01



CULVERT DATA

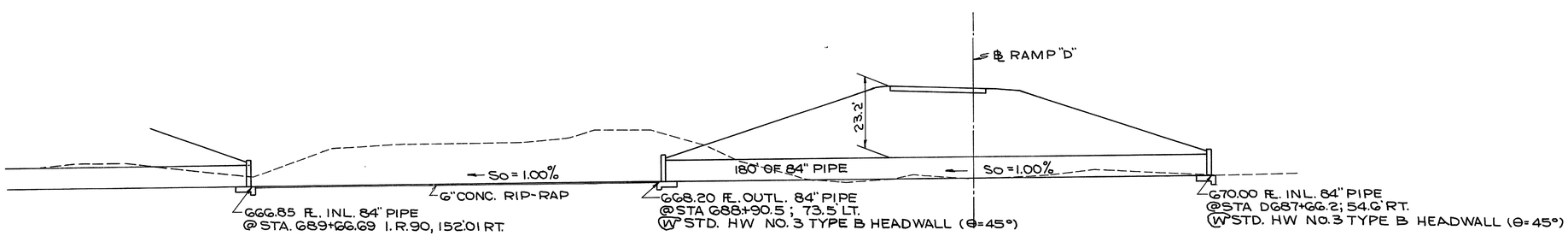
TYPE: 84" CONDUIT TYPE A-B 707.03 (10-8 GAGE)
SIZE: 84" x 180'
SKEW: 45° L.F.
WORK REQ.: CONSTRUCT 84" PIPE CULVERT WITH STD. HW-NO. 3 TYPE B HEADWALLS (Ø=45°) RT. & LT. AS PER PLAN.

ESTIMATED QUANTITIES

603:	84" CONDUIT TYPE A-B 707.03 (10-8 GAGE)	180 LIN. FT.
602:	CONCRETE MASONRY	55.8 CU. YDS.
601:	CONCRETE RIP-RAP 6" REINFORCED SLAB	406 SQ. YDS.
660:	SODDING	51 SQ. YDS.

PLAN

0 10 20 30 40
SCALE



SECTION

RAMP "D"
CULVERT STA. D688+22
AREA = 373 ACS
Q50 = 262 CFS

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

LOR.-90-13.01

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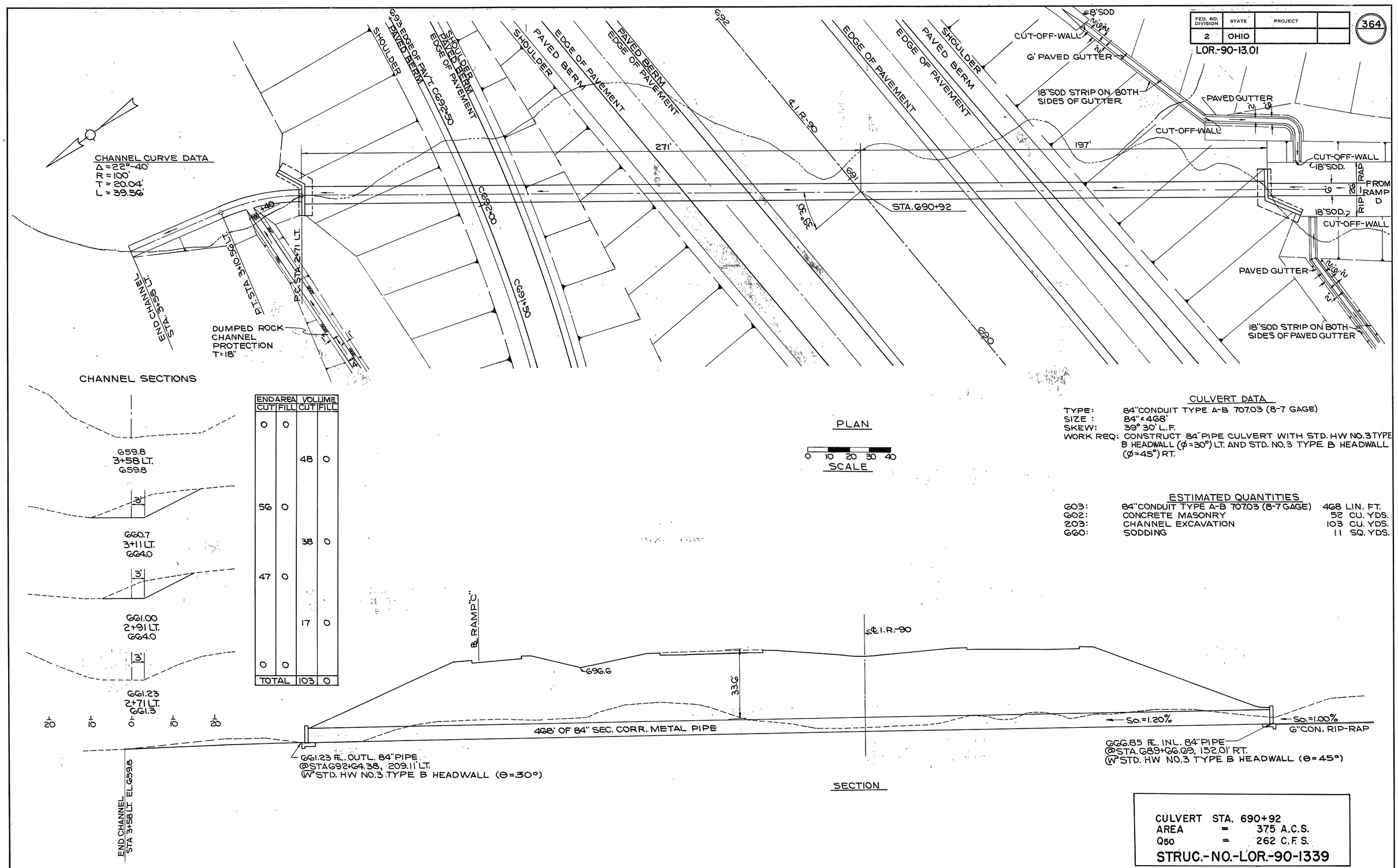

END AREA		VOLUME	
CUT	FILL	CUT	FILL
0	0		
		48	0
56	0		
		38	0
47	0		
		17	0
0	0		
TOTAL		103	0

CULVERT DATA

TYPE: 84" CONDUIT TYPE A-B 707.03 (8-7 GAGE)
SIZE: 84" x 4G8'
SKEW: 39° 30' L.F.
WORK REQ: CONSTRUCT 84" PIPE CULVERT WITH STD. HW NO.3 TYPE B HEADWALL (φ=30°) LT. AND STD. NO.3 TYPE B HEADWALL (φ=45°) RT.

ESTIMATED QUANTITIES

G03:	84" CONDUIT TYPE A-B 707.03 (8-7 GAGE)	4G8 LIN. FT.
G02:	CONCRETE MASONRY	52 CU. YDS.
203:	CHANNEL EXCAVATION	103 CU. YDS.
GGO:	SODDING	11 SQ. YDS.

CULVERT STA. 690+92
AREA = 375 A.C.S.
Q50 = 262 C.F.S.

STRUC.-NO.-LOR.-90-1339

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

LOR.-90-13.01

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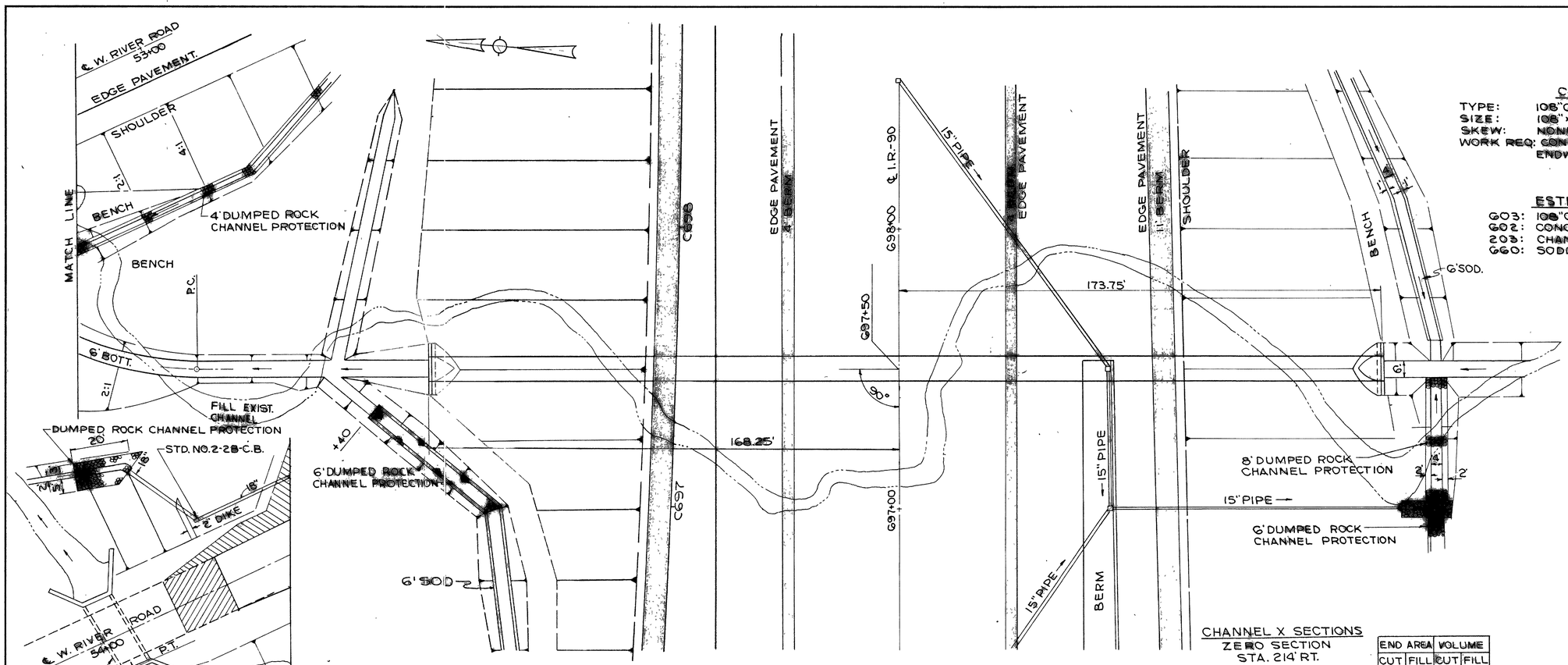


CULVERT DATA

TYPE: 108" CONDUIT TYPE A-B 707.03 (7-5 GAGE)
SIZE: 108" × 342
SKEW: NONE
WORK REQ: CONSTRUCT 108" PIPE CULVERT WITH STD. SP-53 ENDWALLS RT. & LT. AS PER PLAN.

ESTIMATED QUANTITIES

603:	108" CONDUIT TYPE A-B	707.03 (7-5 GAGE)	342 LIN. FT
602:	CONCRETE MASONRY		14.7 CU. YDS.
203:	CHANNEL EXCAVATION		39 CU. YDS.
660:	SODDING		10 SQ. YDS.

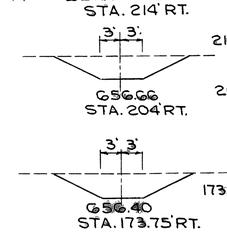
PLAN

0 10 20 30 40
SCALE

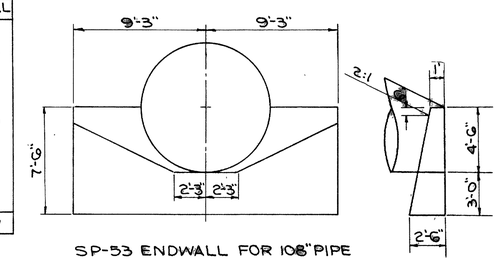
NOTE: EARTHWORK & CHANNEL X-SECTIONS FOR LEFT END ARE SHOWN ON W. RIVER RD. X-SECTIONS.

CHANNEL X SECTIONS

ZERO SECTION
STA. 214' RT.



	END AREA		VOLUME	
	CUT	FILL	CUT	FILL
214' RT.	0	0		
			6	0
204' RT.	29	0		
			33	0
173.75' RT.	29	0		
TOTAL			39	0

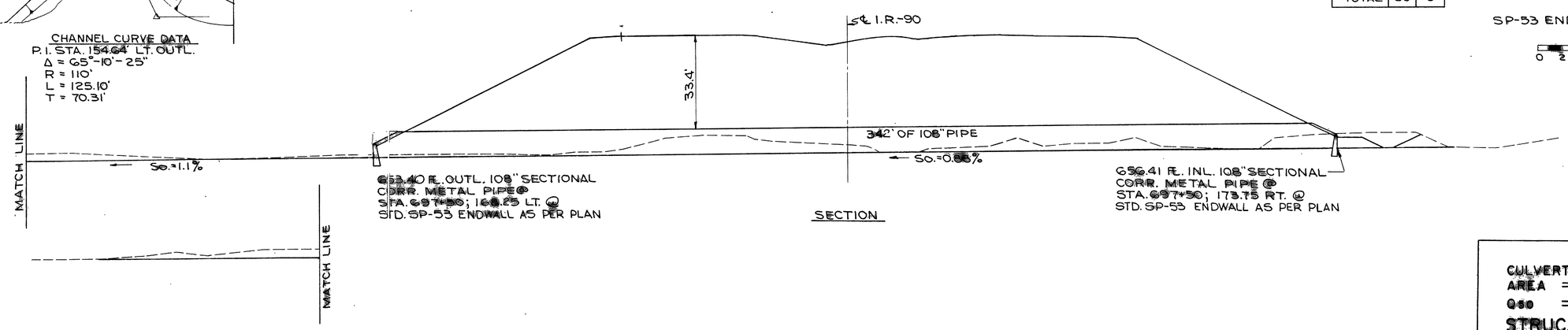


SP-53 ENDWALL FOR 108" PIPE

0 2 4 6 8 10
SCALE

CHANNEL CURVE DATA

P.I. STA. 154.64' LT. OUTL.
Δ = 65°-10'-25"
R = 110'
L = 125.10'
T = 70.31'



SECTION

CULVERT STA. 697+50
AREA = 1383 ACS
Q50 = 581 CFS
STRUC. NO. LOR-90-1352

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

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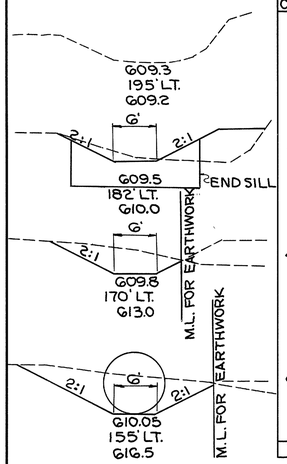
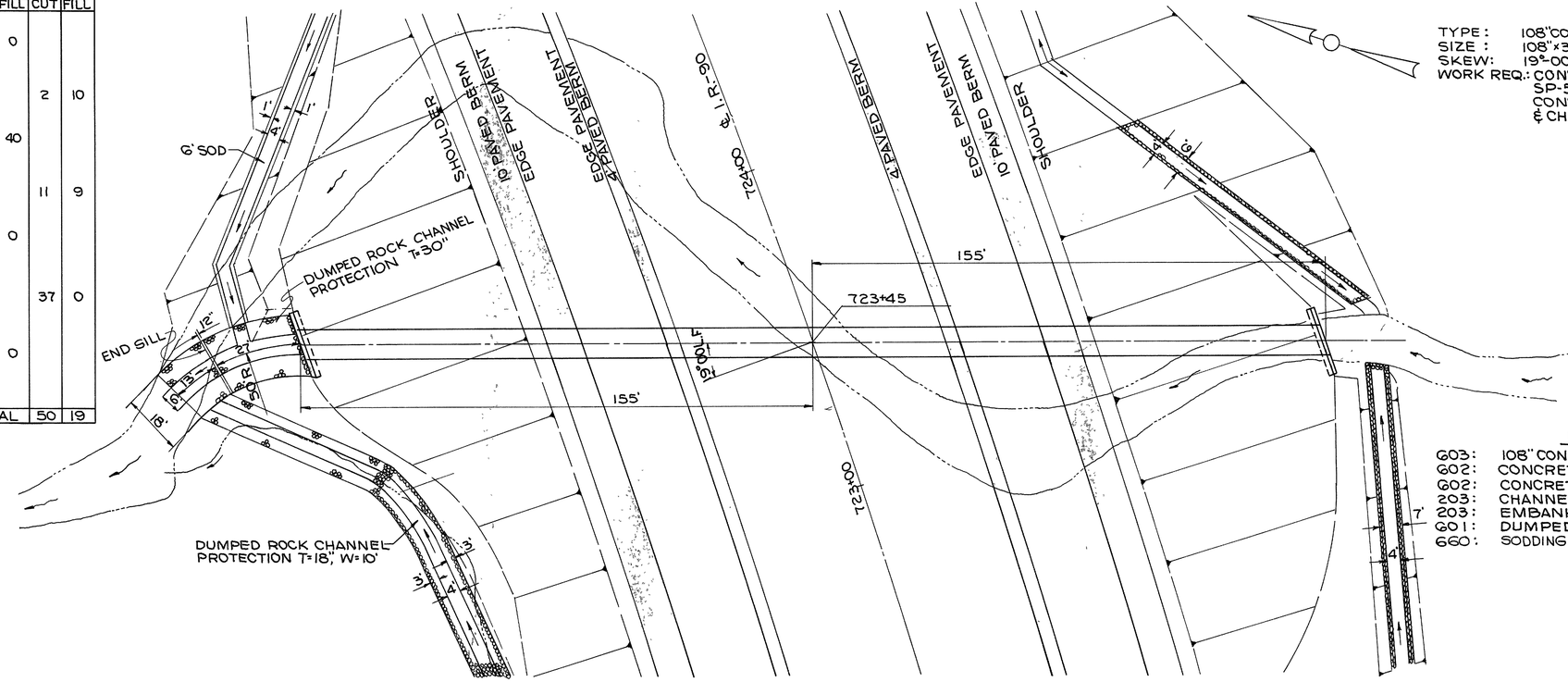
CHANNEL SECTIONS



END AREA		CU. YDS.	
CUT	FILL	CUT	FILL
0	0		
		2	10
9	40		
		11	9
40	0		
		37	0
94	0		
TOTAL		50	19



PLAN

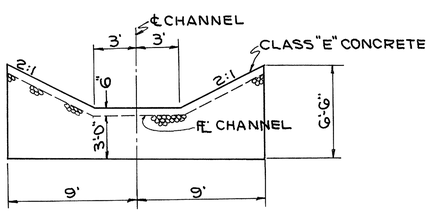
0 10 20 30 40
SCALE

CULVERT DATA

TYPE: 108" CONDUIT TYPE A-B 707.03 (7-5 GAGE)
SIZE: 108"×310"
SKEW: 19°-00' L.F.
WORK REQ.: CONSTRUCT 108" PIPE CULVERT WITH STD. SP-53 ENDWALLS RT. & LT. AS PER PLAN. CONSTRUCT END SILL 182' LT. ALONG ℄ CULVERT & CHANNEL AS PER DETAIL THIS SHEET.

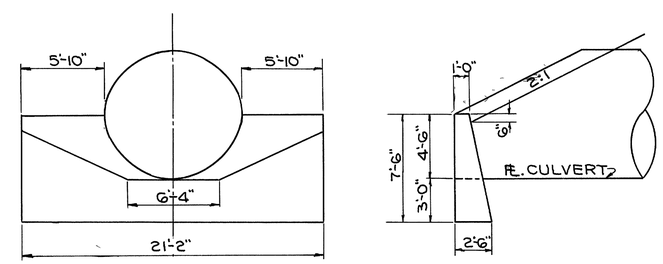
ESTIMATED QUANTITIES

603:	108" CONDUIT TYPE A-B 707.03 (7-5 GAGE)	310 LIN. FT.
602:	CONCRETE MASONRY (ENDWALLS)	10.0 CU. YDS.
602:	CONCRETE MASONRY (END SILL)	3 CU. YDS.
203:	CHANNEL EXCAVATION	50 CU. YDS.
203:	EMBANKMENT	19 CU. YDS.
601:	DUMPED ROCK CHANNEL PROTECTION	70 CU. YDS.
660:	SODDING	8 SQ. YDS.



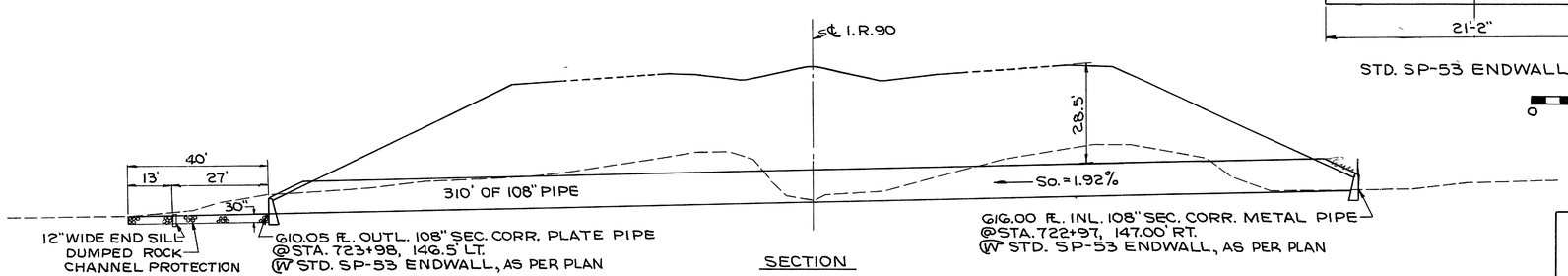
DETAIL OF "12" END SILL

0 5 10
SCALE



STD. SP-53 ENDWALL FOR 108" SEC. CORR. METAL PIPE

0 5 10
SCALE



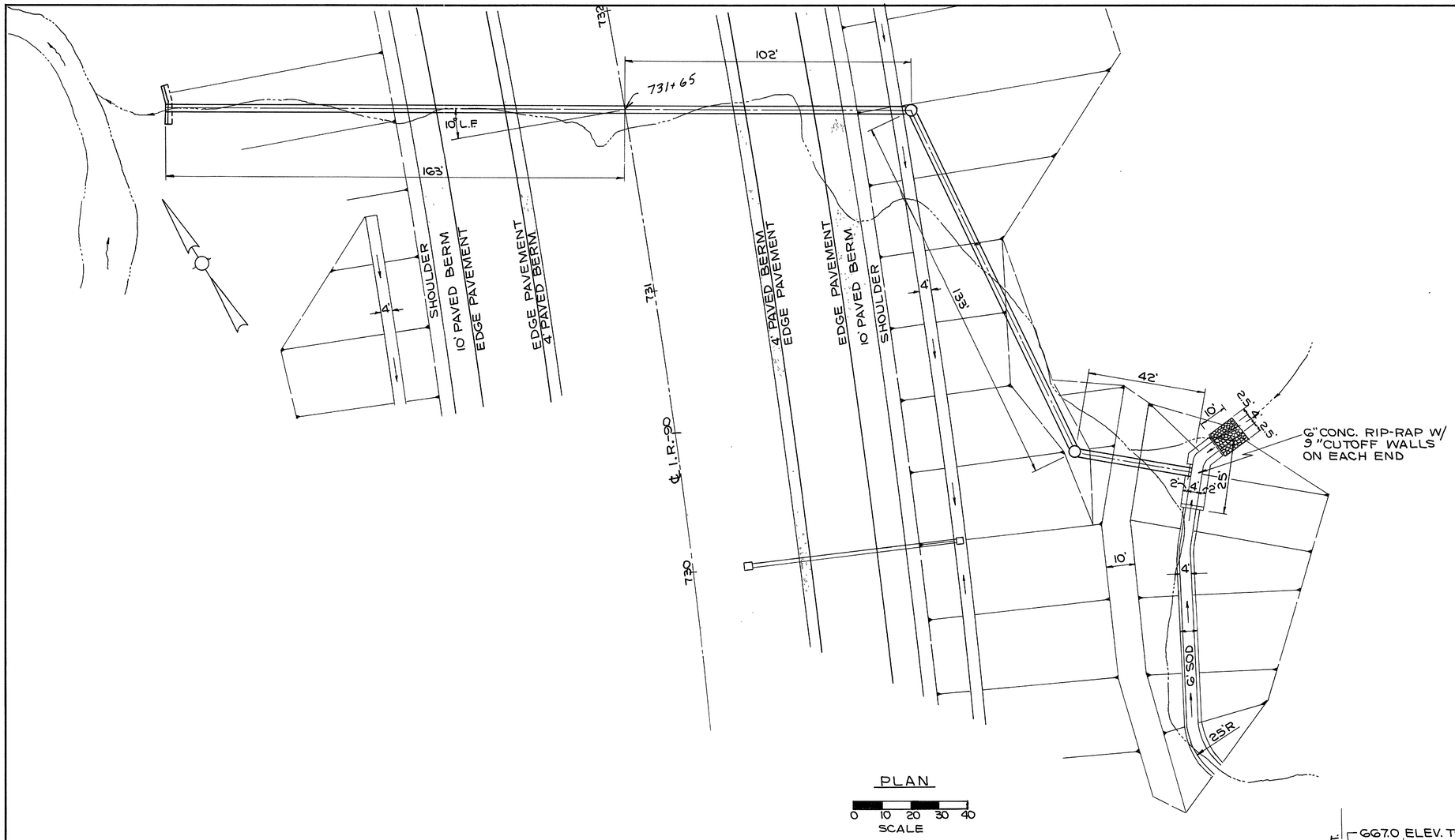
SECTION

CULVERT STA. 723+45
AREA = 1433 ACS
Q50 = 745 CFS

STRUC. NO. LOR.-90-1400

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

LOR.-90-13.01

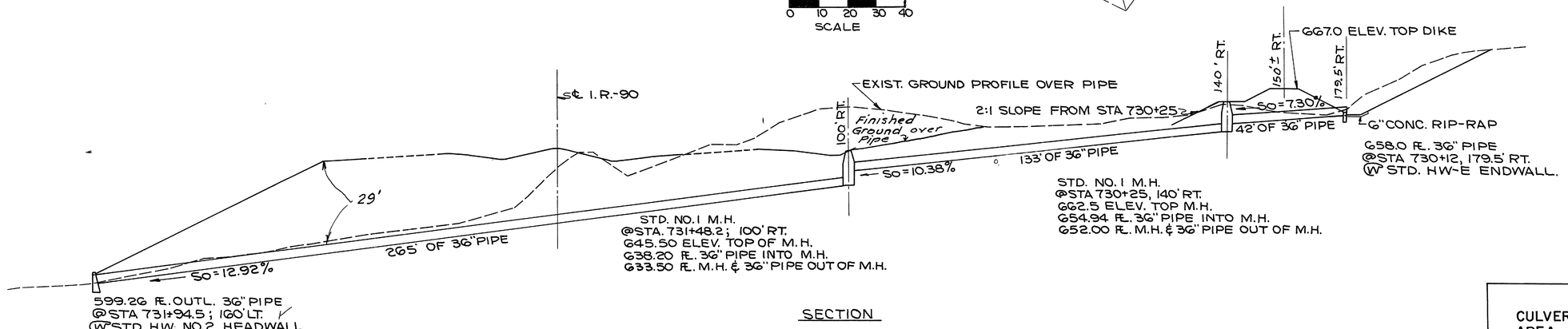


CULVERT DATA

TYPE: 36" CONDUIT TYPE A-B 707.05 (10 GAGE)
36" CONDUIT TYPE C-B
SIZE: 36" × 440'
SKEW: 10° L.F.
WORK REQ: CONSTRUCT 36" PIPE CULVERT WITH STD. NO. 1 MANHOLES, STD. HW. NO. 2 HEADWALL ON LT. AND STD. HW-E ENDWALL ON RT. AS PER PLAN. CONSTRUCT 10' WIDE DIKE ON RT. AS SHOWN TO CLOSE OFF FLOW OF WATER THROUGH RAVINE AND FORCE FLOW THROUGH THE CULVERT. MINIMUM ELEVATION TOP OF DIKE 667.0.

ESTIMATED QUANTITIES

603:	36" CONDUIT TYPE A-B 707.05 (10 GAGE)	265 LIN.FT
603:	36" CONDUIT TYPE C-B	175 LIN.FT
602:	CONCRETE MASONRY	6 CU.YDS
604:	STD. NO. 1 MANHOLE	2 EACH
601:	DUMPED ROCK CHANNEL PROTECTION	6 CU.YDS
601:	CONCRETE RIP-RAP 6" REINFORCED SLAB	66 SQ.YDS
660:	SODDING	25 SQ.YDS



SECTION

CULVERT STA. 731+65
AREA = 52 ACS
Q50 = 73 CFS

STRUC. NO. LOR-90-1416

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

LOR.-90-13.01

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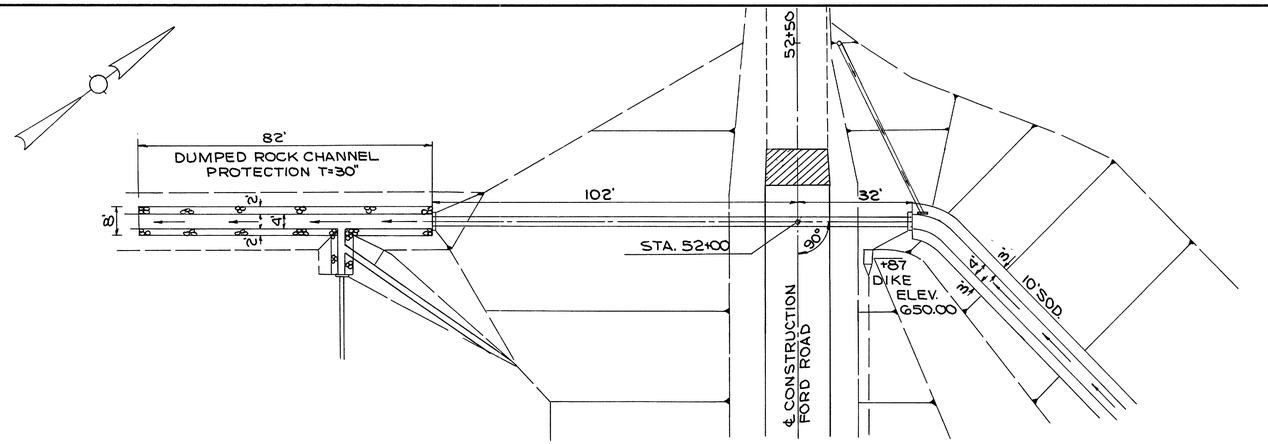
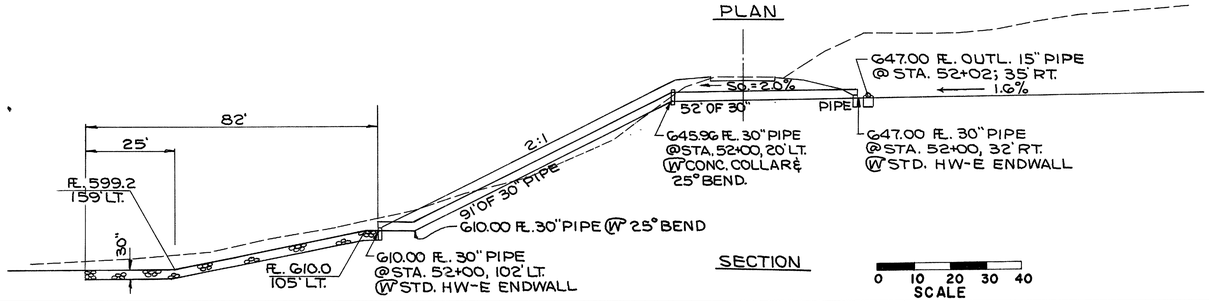


PLAN



SECTION

CULVERT DATA

TYPE: 30" CONDUIT TYPE A-B 706.02 OR 706.08
30" CONDUIT TYPE F.

SIZE: 30" x 52'-0"
30" x 91'-0"

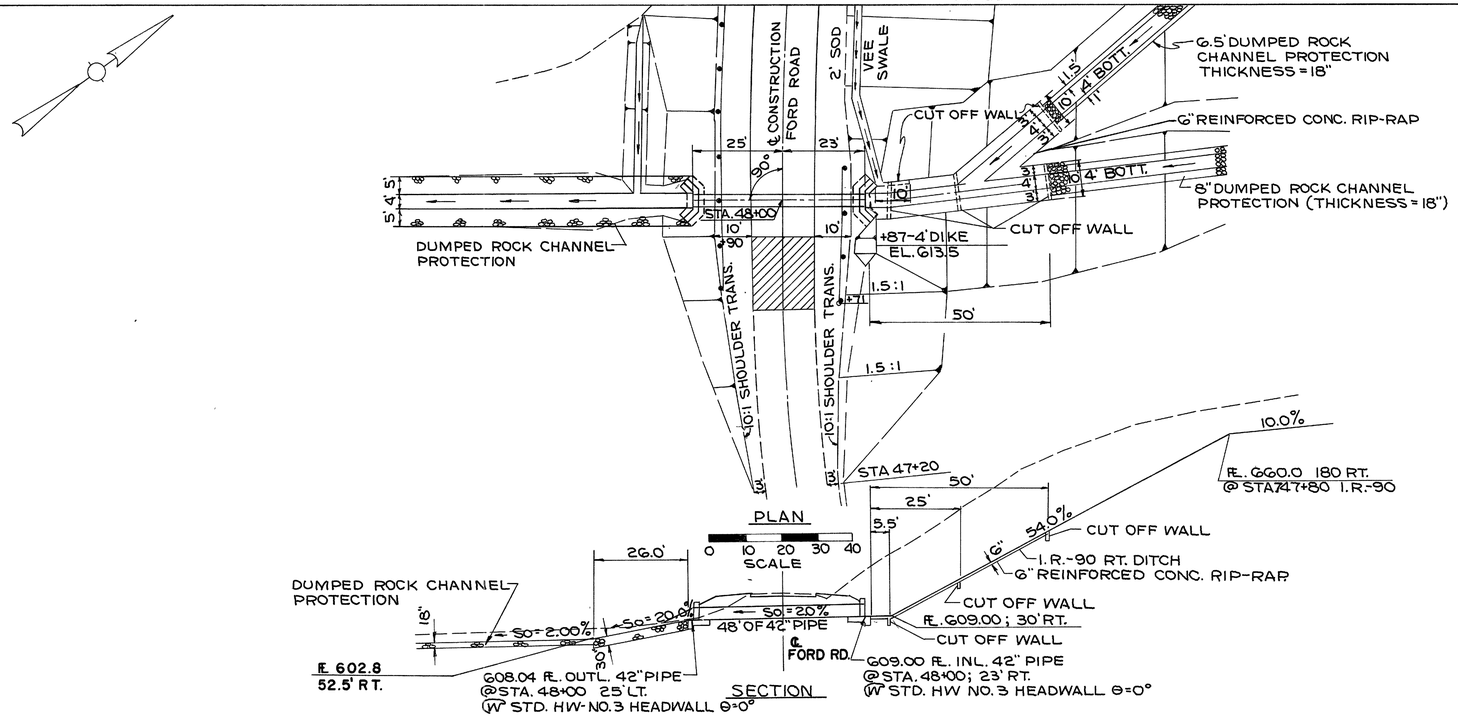
SKEW: NONE:

WORK REQ.: CONSTRUCT 30" PIPE CULVERT WITH TWO 25° BENDS. PLACE A CONCRETE COLLAR AT THE JUNCTION OF THE TYPE A-B CONDUIT AND THE TYPE F CONDUIT. USE STD. HW-E ENDWALLS RT. & LT. AS PER PLAN.

ESTIMATED QUANTITIES

603:	30" CONDUIT TYPE A-B 706.02 OR 706.08	52 LIN. FT.
603:	30" CONDUIT TYPE F	91 LIN. FT.
602:	CONCRETE MASONRY	1.02 CU. YDS.
603:	PIPE SPECIAL, 30"-25° BEND TYPE F	2 EACH
601:	DUMPED ROCK CHANNEL PROTECTION	64 CU. YDS.
660:	SODDING.	2 SQ. YDS.

FORD ROAD
CULVERT STA. 52+00
AREA = 22 ACS
Q10 = 28.9 CFS



PLAN

SECTION

CULVERT DATA

TYPE: 42" CONDUIT TYPE A-B 706.02
SIZE: 42" x 48'-0"
SKEW: NONE.
WORK REQ.: CONSTRUCT 42" PIPE CULVERT WITH STD. NO. 3 HEADWALLS RT. & LT. AS PER PLAN.

ESTIMATED QUANITIES

603:	42" CONDUIT TYPE A-B 706.02	48 LIN. FT.
602:	CONCRETE MASONRY	13.4 CU. YDS.
601:	CONCRETE RIP-RAP 6" REINFORCED SLAB.	59.4 SQ. YDS.
601:	DUMPED ROCK CHANNEL PROTECTION (T=30")	37 CU. YDS.
660:	SODDINNG	5 SQ. YDS.

FORD ROAD
CULVERT STA. 48+00
AREA = 78 ACS
Q10 = 66 CFS

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

LOR.-90-13.01

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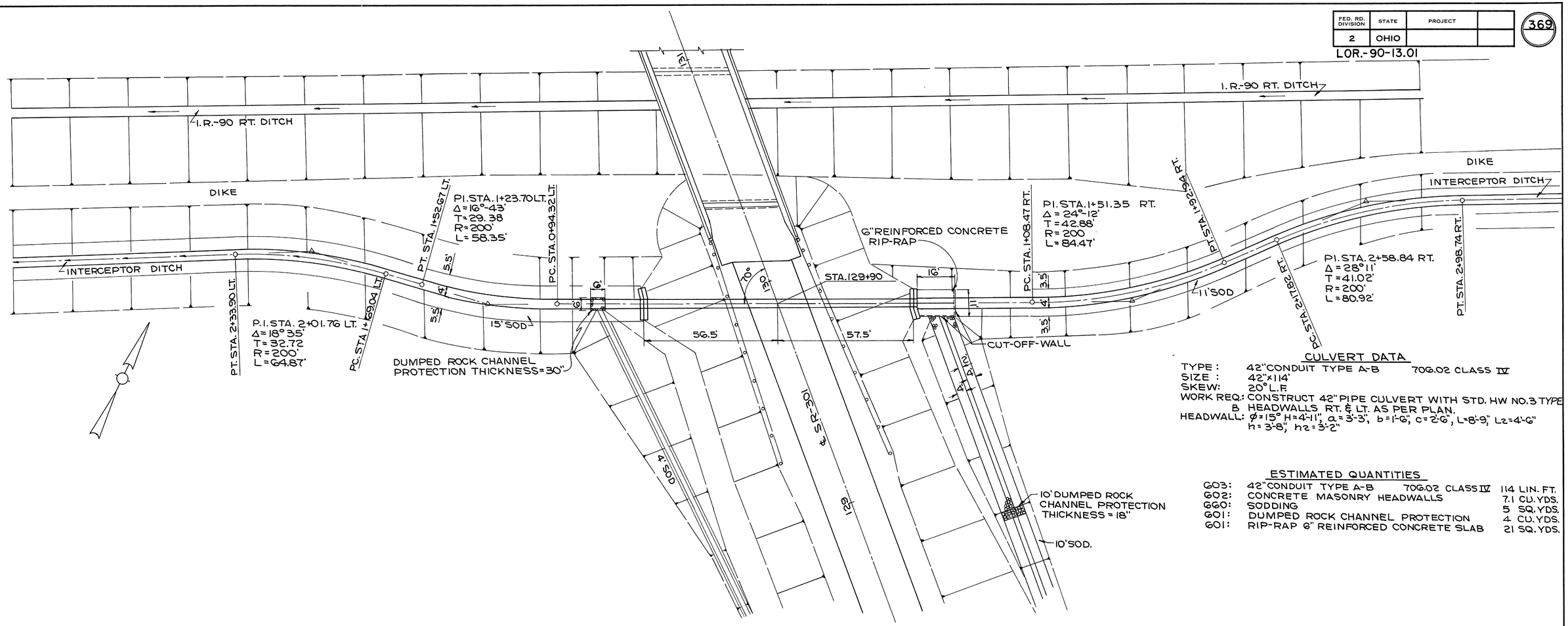
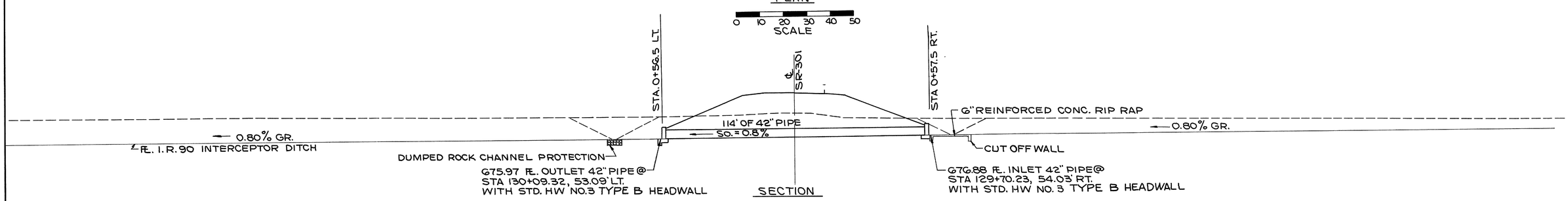


PLAN

0 10 20 30 40 50
SCALE



SECTION

CULVERT DATA

TYPE: 42" CONDUIT TYPE A-B 706.02 CLASS IV
SIZE: 42"×114'
SKEW: 20° L.F.
WORK REQ.: CONSTRUCT 42" PIPE CULVERT WITH STD. HW NO.3 TYPE B HEADWALLS RT. & LT. AS PER PLAN.
HEADWALL: ϕ=15° H=4'-11", a=3'-3", b=1'-6", c=2'-6", L=8'-9", L2=4'-6" h=3'-8", h2=3'-2"

ESTIMATED QUANTITIES

603:	42" CONDUIT TYPE A-B 706.02 CLASS IV	114 LIN. FT.
602:	CONCRETE MASONRY HEADWALLS	7.1 CU. YDS.
660:	SODDING	5 SQ. YDS.
601:	DUMPED ROCK CHANNEL PROTECTION	4 CU. YDS.
601:	RIP-RAP 6" REINFORCED CONCRETE SLAB	21 SQ. YDS.

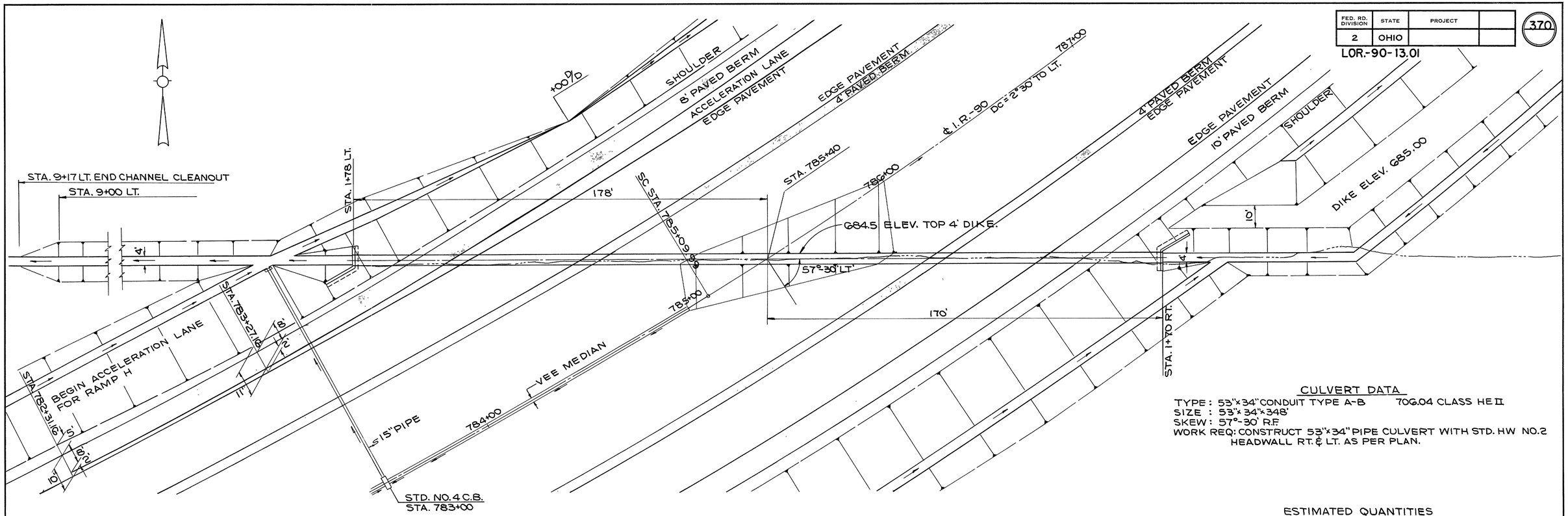
S.R.-301
CULVERT STA. 129+90
AREA = 54 ACS
Q50 = 73 CFS

STRUC. NO. LOR-301-0246

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

370

LOR.-90-13.01



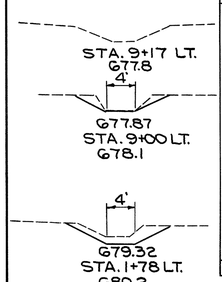
CULVERT DATA

TYPE : 53"x34" CONDUIT TYPE A-B 706.04 CLASS HE II
SIZE : 53"x34"x348'
SKEW : 57°-30' R.F.
WORK REQ: CONSTRUCT 53"x34" PIPE CULVERT WITH STD. HW NO.2 HEADWALL RT. & LT. AS PER PLAN.

ESTIMATED QUANTITIES

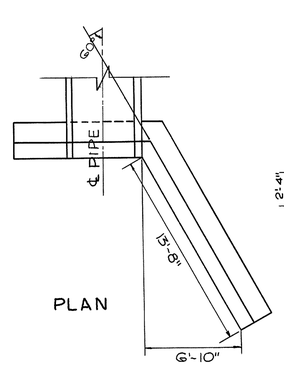
603: 53"x34" CONDUIT TYPE A-B	706.04 CLASS HE II	348 LIN. FT.
602: CONCRETE MASONRY.		18.7 CU. YDS.
660: SODDING.		8 SQ. YDS.
203: CHANNEL EXCAVATION		296 CU. YDS.

CHANNEL SECTIONS

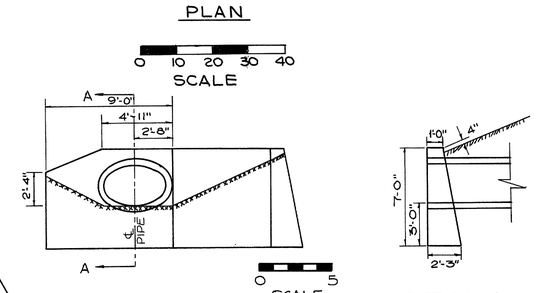


END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
0	0	2	0
6	0		
		294	0
16	0		
TOTAL		296	0

PLAN



PLAN

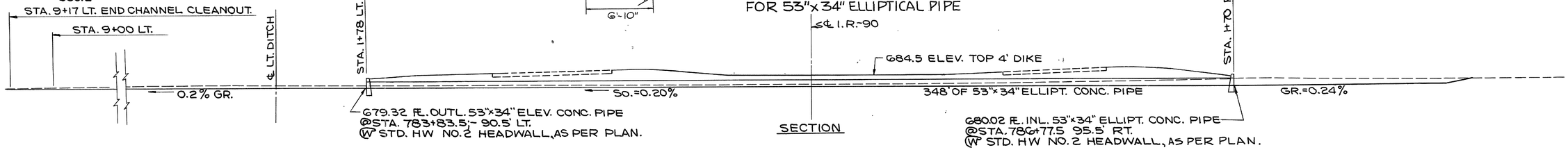


ELEVATION

SECTION A-A

DETAILS OF STD. NO. 2 HEADWALL (MODIFIED) FOR 53"x34" ELLIPTICAL PIPE

NOTE: FOR HEADWALL DETAILS NOT SHOWN SEE STANDARD CONSTRUCTION DRAWING HW-2



SECTION

CULVERT STA. 785+40
AREA = 53 ACS
Q50 = 75.5 C.F.S.

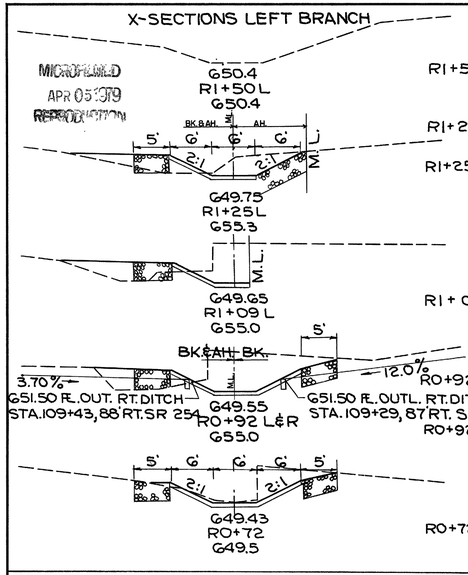
STRUC. NO. LOR.-90-15.18

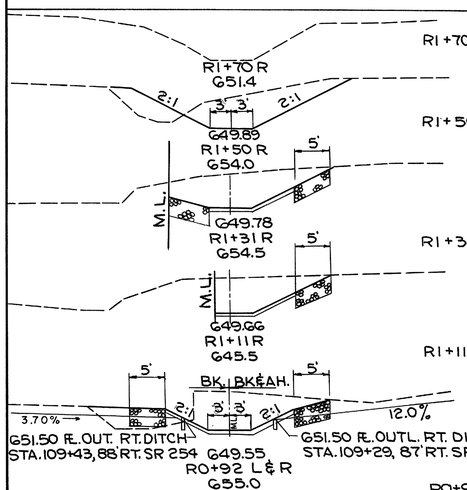
FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

LOR.-90-13.01

MICROFILMED APR 05 1979 REPRODUCTION

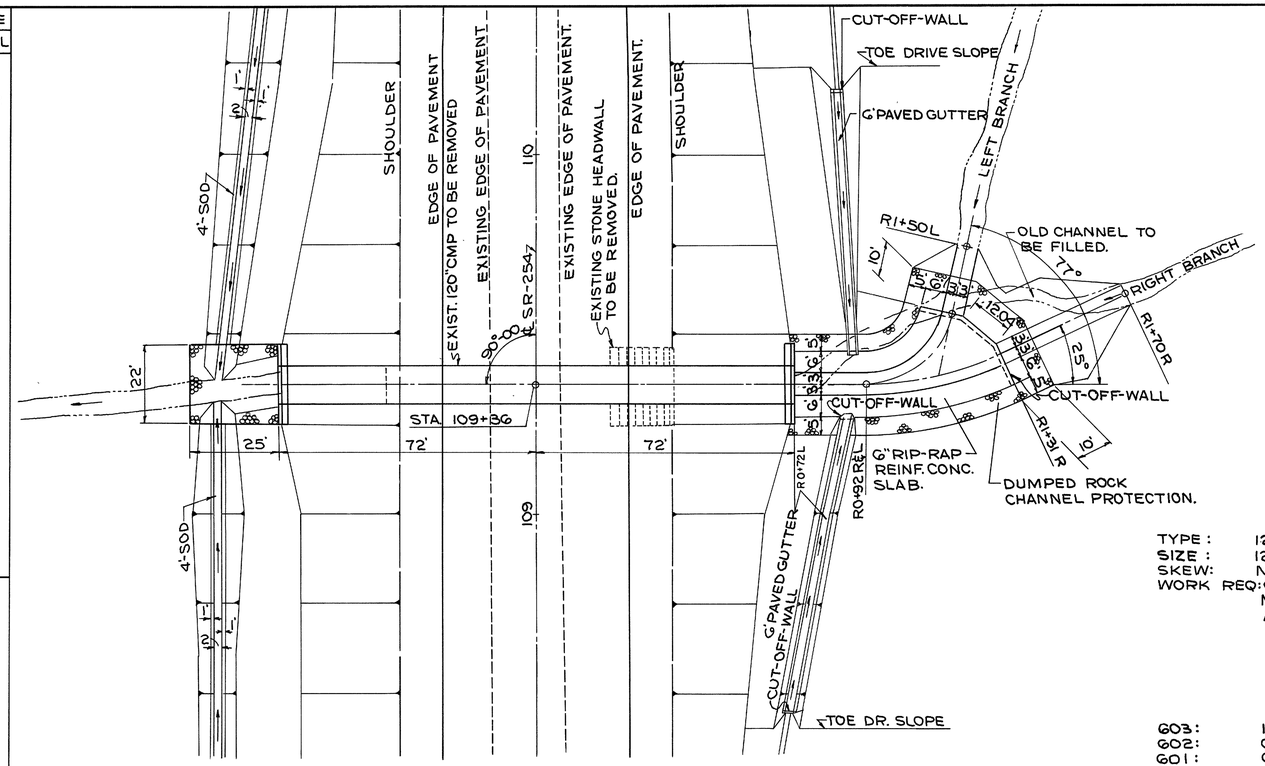
X-SECTIONS LEFT BRANCH





X-SECTIONS ~ RIGHT BRANCH

	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
R1+50 L	0	0		
			12	12
R1+25 L AH.	25	25		
R1+25 L BK	5	25		
			10	17
R1+09 L	28	32		
			16	18
R0+92 L AH.	23	25		
R0+92 L BK.	63	25		
			34	10
R0+72 L	30	1		
R1+70 R	0	0		
			11	5
R1+50 R	70	25		
			53	5
R1+31 R	80	0		
			50	0
R1+11 R	54	0		
			3	0
R0+92 R AH.	40	0		
		TOTAL	219	67



PLAN

0 10 20 30 40 50
SCALE

CULVERT DATA

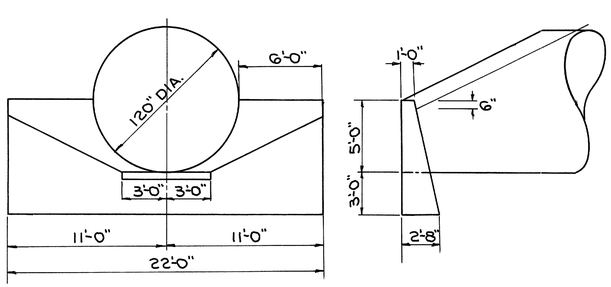
TYPE : 120" CONDUIT TYPE A-B 707.03 (8-7 GAGE)
SIZE : 120" x 144"
SKEW: NONE
WORK REQ: CONSTRUCT 120' SECTIONAL PLATE CORRUGATED METAL PIPE WITH STD. SP-53 ENDWALLS RT. & LT. AS PER PLAN.

100% STATE PARTICIPATION

ESTIMATED QUANTITIES

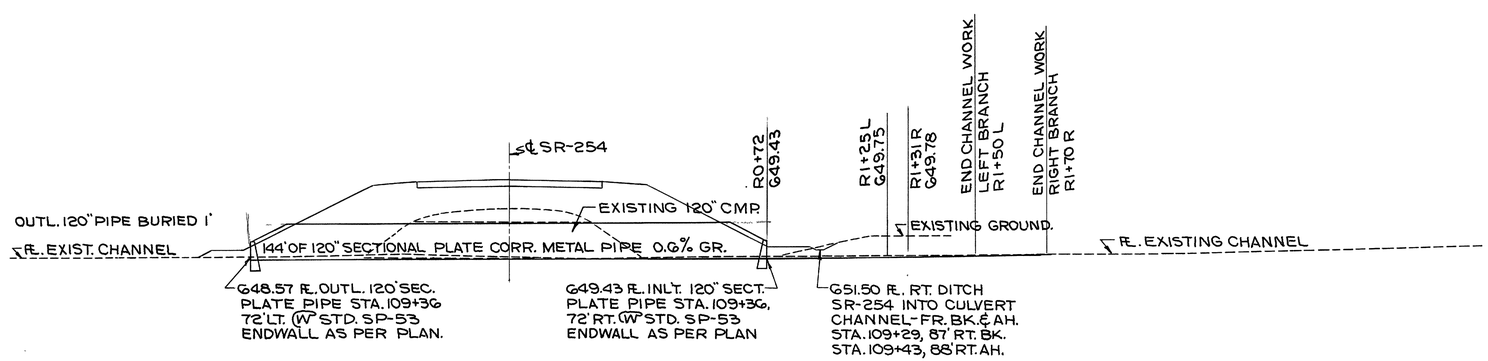
603:	120" CONDUIT TYPE A-B 707.03 (8-7 GAGE)	144 LIN. FT.
602:	CONCRETE MASONRY	19.5 CU. YDS.
601:	CONCRETE RIP-RAP 6" REINFORCED SLAB	137.5 SQ. YDS.
601:	DUMPED ROCK CHANNEL PROTECTION	14.7 CU. YDS.
660:	SODDING	8 SQ. YDS.
203:	EMBANKMENT	67 CU. YDS.
203:	CHANNEL EXCAVATION	219 CU. YDS.
202:	PORTIONS OF EXIST. STRUCTURE REMOVED (STONE)	22 CU. YDS.

SP-53 ENDWALL DETAIL FOR
120" SECTIONAL PLATE CORRUGATED METAL PIPE



END VIEW SIDE VIEW

0 5 10
SCALE



SECTION

S.R. 254
CULVERT STA. 109+36
AREA = 1500 ACS
Q25 = 528 C.F.S.

STRUC. NO. LOR.-254-0207

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

LOR.-90-13.01

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RAILROAD BRIDGE STRUCTURE DATA

TYPE: SINGLE SPAN STEEL BEAM WITH OPEN DECK AND REINFORCED CONCRETE ABUTMENT.

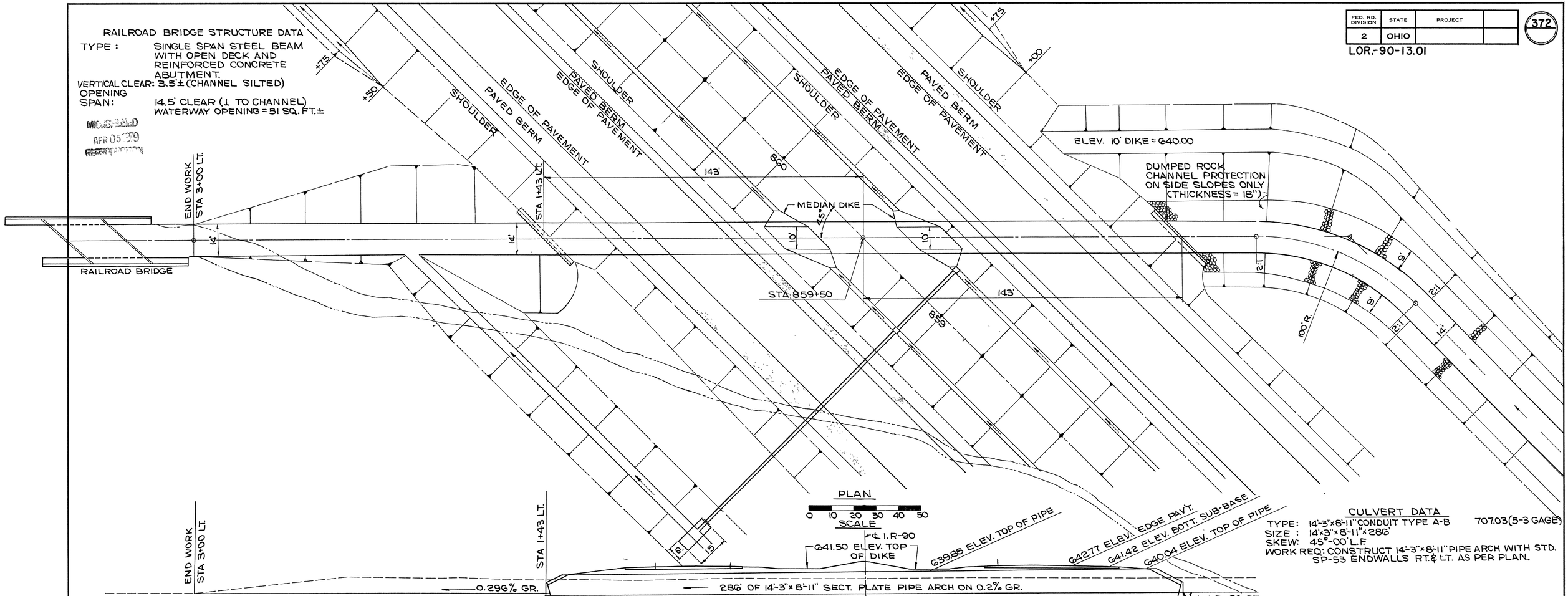
VERTICAL CLEAR: 3.5'± (CHANNEL SILTED)

OPENING

SPAN: 14.5' CLEAR (⊥ TO CHANNEL)

WATERWAY OPENING = 51 SQ. FT.±

MICROFILMED
APR 05 1979
REPRODUCTION



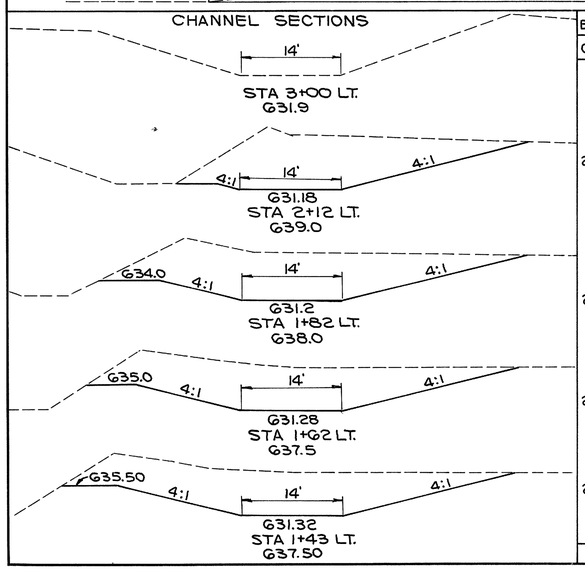
CULVERT DATA

TYPE: 14'-3" × 8'-11" CONDUIT TYPE A-B 707.03 (5-3 GAGE)
SIZE: 14'-3" × 8'-11" × 286'
SKEW: 45°-00' L.F.
WORK REQ: CONSTRUCT 14'-3" × 8'-11" PIPE ARCH WITH STD. SP-53 ENDWALLS RT. & LT. AS PER PLAN.

ESTIMATED QUANTITIES

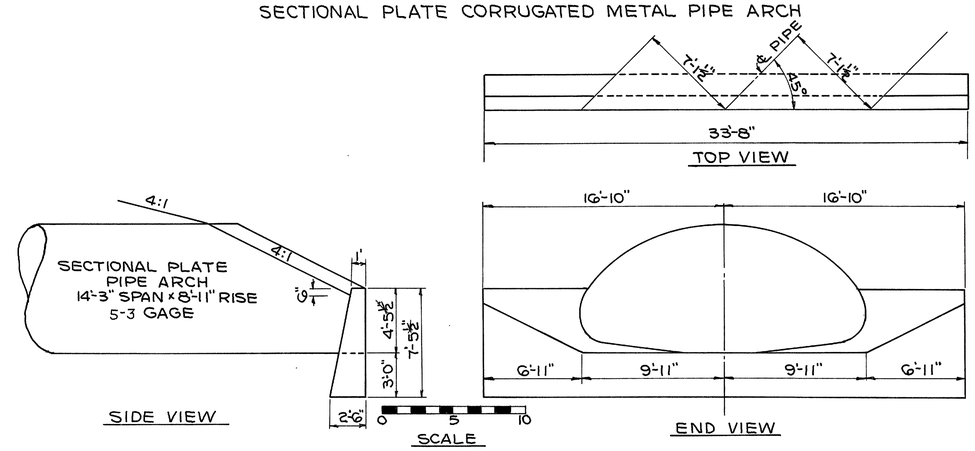
G03:	14'-3" × 8'-11" CONDUIT TYPE A-B (5-3 GAGE)	707.03	286 LIN. FT.
G02:	CONCRETE MASONRY		234 CU. YDS.
G60:	SODDING.		12 SQ. YDS.
203:	CHANNEL EXCAVATION		1079 CU. YDS.

CHANNEL SECTIONS



END AREA		VOLUME	
CUT	FILL	CUT	FILL
0	0		
		398	0
244	0		
		290	0
278	0		
		201	0
265	0		
		190	0
275	0		
TOTAL		1019	0

SP-53 ENDWALL DETAIL FOR 14'-3" SPAN × 8'-11" RISE SECTIONAL PLATE CORRUGATED METAL PIPE ARCH



CULVERT STA 859+50
AREA = 1642 ACS
Q50 = 600 CFS

STRUC. NO. LOR.-90-1658

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

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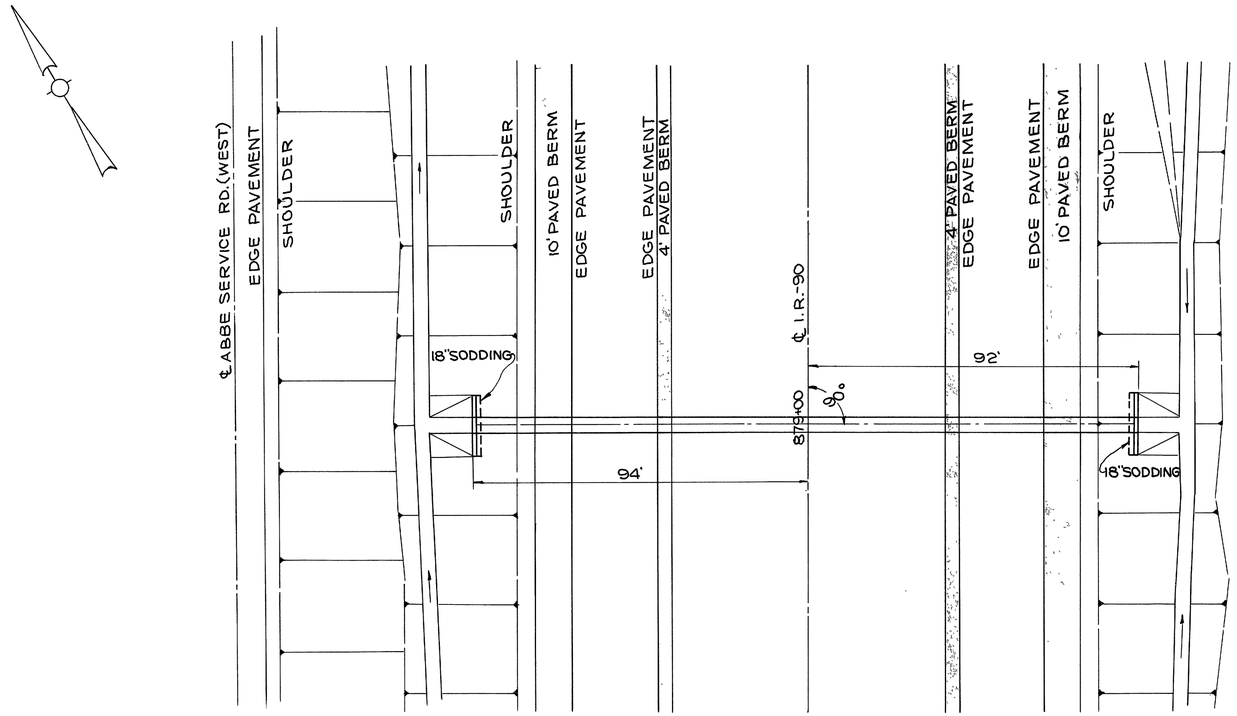
LOR.-90-13.01



PLAN

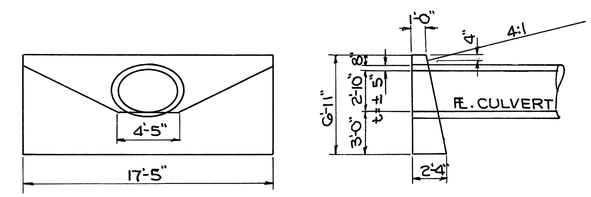
0 10 20 30 40
SCALE

CULVERT DATA

TYPE: 53"x34" CONDUIT TYPE A-B 706.04 CLASS HE II
SIZE: 53x34" x 186'
SKEW: NONE.
WORK REQ.: CONSTRUCT 53"x34" ELLIPTICAL PIPE WITH STD. NO. 1 HEADWALLS RT. & LT. AS PER PLAN.

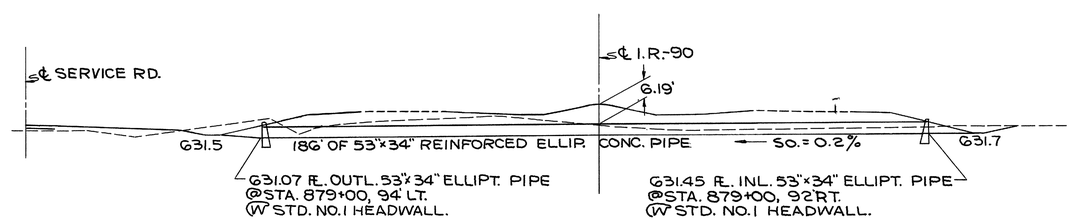
ESTIMATED QUANTITIES

603:	53"x34" CONDUIT TYPE A-B CLASS HE II	706.04	186 LIN. FT.
602:	CONCRETE MASONRY		7.6 CU. YDS.
660:	SODDING		3 SQ. YDS.



STD. NO. 1 HEADWALL FOR 53"x34" ELLIPTICAL PIPE

0 2 4 6 8 10



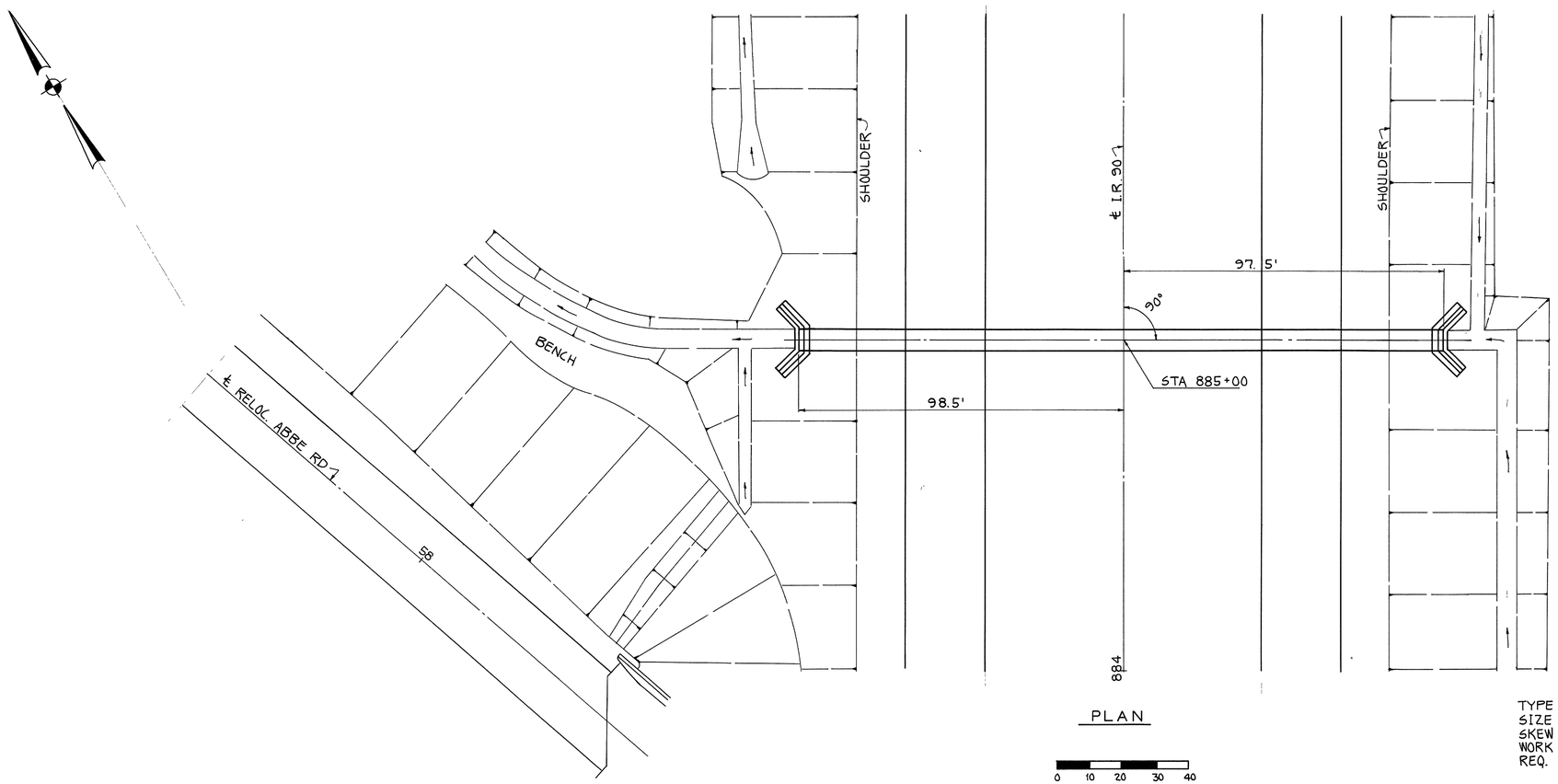
SECTION

CULVERT STA. 879+00
AREA = 52 ACS
Q50 = 48.4 CFS
STRUC. NO. LOR-90-1695

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

374

LOR - 90 - 13.01



PLAN

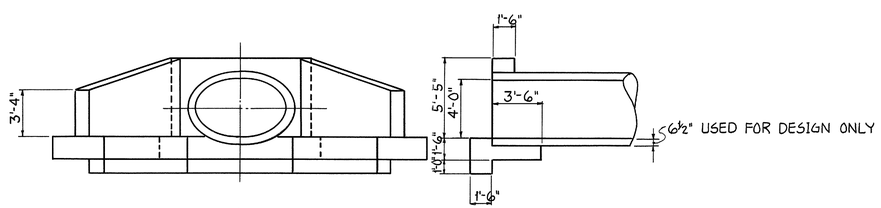
0 10 20 30 40
SCALE

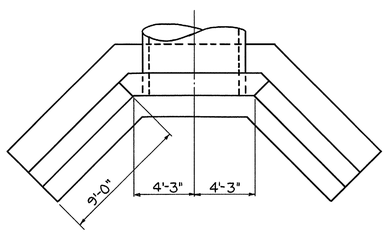
CULVERT DATA
STA 885+00 I.R. 90

TYPE : 76" × 48" CONDUIT TYPE A-B 706.04 CLASS HE II
SIZE : 76" × 48" × 196'
SKEW : NONE
WORK REQ. : CONSTRUCT 76" × 48" ELLIPTICAL PIPE WITH STD. NO. 3 MODIFIED HEADWALLS RT. & LT. AS PER PLAN.

ESTIMATED QUANTITIES
STA. 885+00 I.R. 90

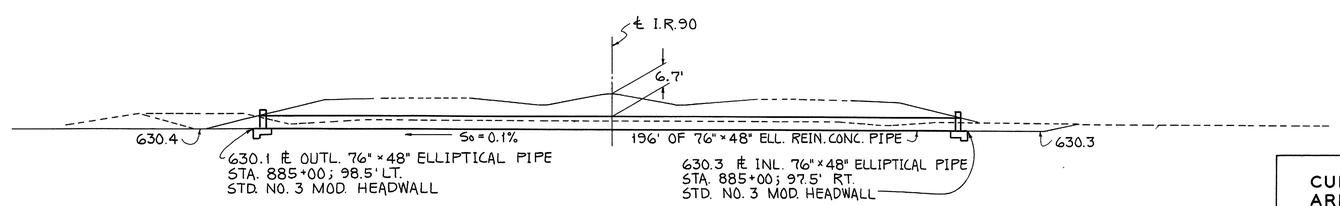
603 :	76" × 48" CONDUIT TYPE A-B 706.04 CLASS HE II	196	LIN. FT.
602 :	CONCRETE MASONRY	15.2	CU. YDS.
660 :	SODDING	10	SQ. YDS.





STD. NO. 3 MODIFIED HEADWALL FOR 76" × 48" ELLIPTICAL PIPE

0 2 4 6 8 10
SCALE



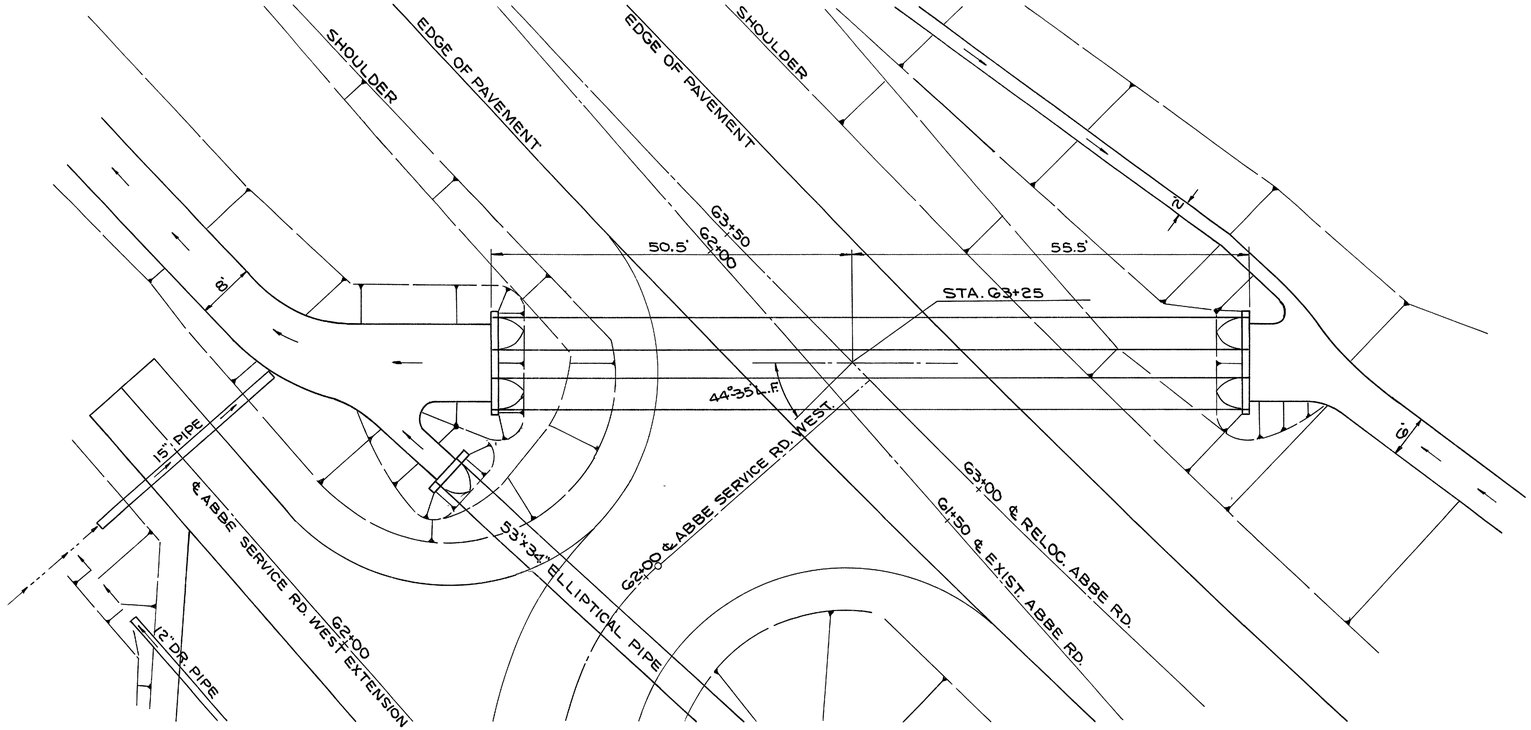
SECTION

CULVERT STA 885+00
AREA = 66 ACS.
Q50 = 58 CFS.
STRUC. NO. LOR. 90-1707

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

LOR.-90-13.01

375



PLAN

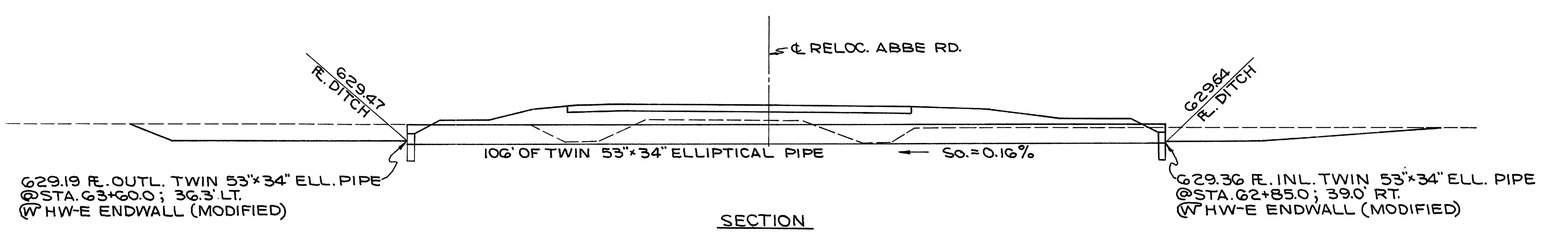
0 10 20 30 40
SCALE

CULVERT DATA

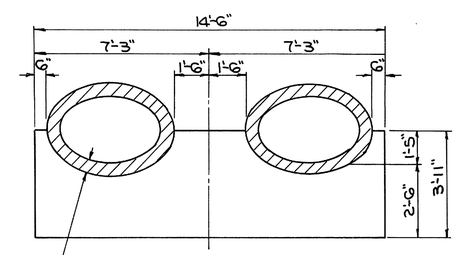
TYPE	TWIN 53"x34" CONDUIT TYPE A-B 706.04 CLASS HE II
SIZE	TWIN 53"x34" x 106'
SKEW	44°-35' L.F.
WORK REQ.	CONSTRUCT TWIN 53"x34" ELLIPTICAL PIPE WITH HW-E ENDWALLS (MODIFIED) RT. & LT. AS PER PLAN.

ESTIMATED QUANTITIES

603	53"x34" CONDUIT TYPE A-B 706.04 CLASS HE II	212 LIN. FT.
602	CONCRETE MASONRY	3.1 CU. YDS.
660	SODDING	8 SQ. YDS.



SECTION



DETAIL HW-E ENDWALL (MODIFIED)

0 2 4
SCALE

RELOC. ABBE RD.
CULVERT STA. 63+25
AREA = 75 ACS
Q10 = 44 CFS

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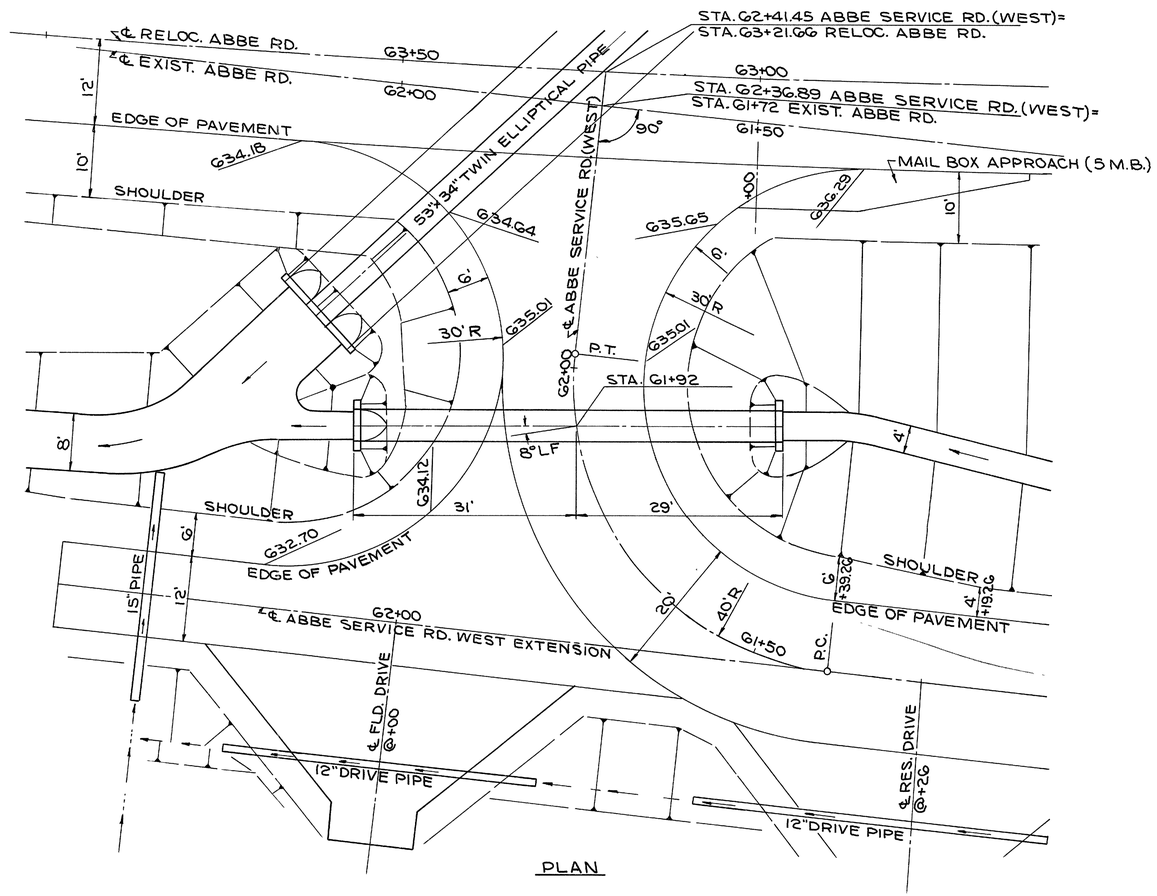


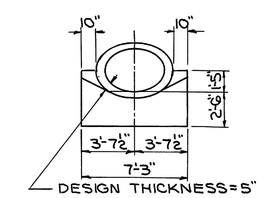
PLAN

CULVERT DATA

TYPE: 53"x34" CONDUIT TYPE A-B 706.04 CLASS HE II
SIZE: 53"x34"x60'
SKEW: 8° L.F.
WORK REQ: CONSTRUCT 53"x34" ELLIPTICAL PIPE WITH HW-E ENDWALL (MODIFIED) RT. & LT. AS PER PLAN.

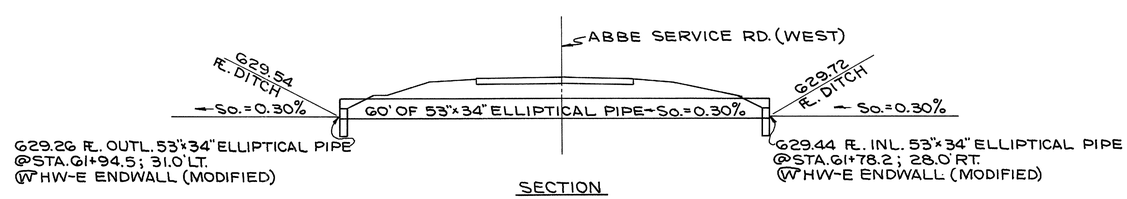
ESTIMATED QUANTITIES

603:	53"x34" CONDUIT TYPE A-B 706.04 CLASS HE II	60 LIN. FT.
602:	CONCRETE MASONRY	1.52 CU. YDS.
660:	SODDING	4 SQ. YDS.



DETAIL HW-E ENDWALL (MODIFIED)

0 2 4 6
SCALE



SECTION

ABBE SERVICE RD. WEST
CULVERT STA. 61+92
AREA = 61 ACS
Q10 = 38.5 C.F.S.

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SUMMARY OF TABLES FOR CULVERTS

	FROM SHEET NO.	202 PORTIONS OF EXIST. STRUCTURE REMOVED	203 EXCAVATION NOT INCLUDING EMBANKMENT CONSTRUCTION	203 EMBANKMENT	601 DUMPED ROCK CHANNEL PROTECTION	601 RIP-RAP USING 6" REINFORCED CONC. SLAB AS PER PLAN	602 CONCRETE MASONRY	603 CONDUIT TYPE A WITH CLASS B BEDDING: 706.02 CLASS III 21"	706.02 CLASS III 42"	706.02 CLASS III 84"	706.02 CLASS III OR 706.08 24"	706.02 CLASS IV 42"	706.02 CLASS IV 72"	706.02 OR 706.08 30"	706.04 CLASS HE II 53"x34"	706.04 CLASS HE II 76"x48"	707.03 8-7 GAGE 84"	707.03 10-8 GAGE 84"	707.03 7-5 GAGE 108"	707.03 8-7 GAGE 120"	707.03 5-3 GAGE 14'-3"x8'-11"	707.05 10 GAGE 36"	36" CONDUIT TYPE C WITH CLASS B BEDDING	30" CONDUIT TYPE F	604 STD. NO.1 MANHOLE	660 SODDING	FROM SHEET NO.
		LUMP	CU.YD.				CU.YD.	LIN. FT.																	EACH	SQ.YD.	
I-90-1 (40) 01																											
RAMP B, STA. B673+85	361					25.0	6.6	13.6 OR 706.03			9.4															1.3	361
RAMP C, STA. C690+00	361						5.6																			0.4	361
RAMP D, STA. D675+64 TO STA. D680+05	362				2.0		19.6						5.6													0.4	362
S.R. 57, STA. 154+64	362				4.3		23.7			4.0																0.5	362
RAMP D, STA. D688+22	363					406.0	55.8										18.0									5.1	363
I-90, STA. 690+92	364		10.3				52.0									46.8										1.1	364
I-90, STA. 697+50	365		3.9				14.7											34.2								1.0	365
I-90, STA. 723+45	366		5.0	1.9	7.0		13.0											31.0								0.8	366
I-90, STA. 731+65	367				6	66.0	6.0														26.5	17.5		2		2.5	367
FORD RD. STA. 48+00	368				3.7	59.4	13.4		4.8																	0.5	368
FORD RD. STA. 52+00	368				6.4		1.0							5.2									9.1			0.2	368
S.R. 301, STA. 129+90	369				4	21.0	7.1					11.4														0.5	369
I-90, STA. 785+40	370		29.6				18.7								34.8											0.8	370
I-90, STA. 859+50	372		10.9				23.4																				
I-90, STA. 879+00	373						7.6								18.6					28.6						1.2	372
I-90, STA. 885+00	374						15.2									19.6										0.3	373
RELOCATED ABBE RD. STA. 63+29	375						3.1								21.2											1.0	374
ABBE SERVICE RD. W. STA. 61+92	376						1.5								6.0											0.8	375
I-90-1 (40) 01 TOTAL			156.7	1.9	24.4	577.4	288.0	13.6	4.8	4.0	9.4	11.4	5.6	5.2	80.6	19.6	46.8	18.0	65.2		26.5	17.5	9.1	2		0.4	376
																										18.8	
100% STATE																											
S.R. 254, STA. 109+36	371	LUMP	21.9	6.1	14.7	137.5	19.5												14.4							0.8	371
100% STATE TOTAL		LUMP	21.9	6.1	14.7	137.5	19.5												14.4							0.8	
TOTAL THIS SHEET		LUMP	178.6	8.0	39.1	714.9	307.5	13.6	4.8	4.0	9.4	11.4	5.6	5.2	80.6	19.6	46.8	18.0	65.2	28.6	26.5	17.5	9.1	2		19.6	

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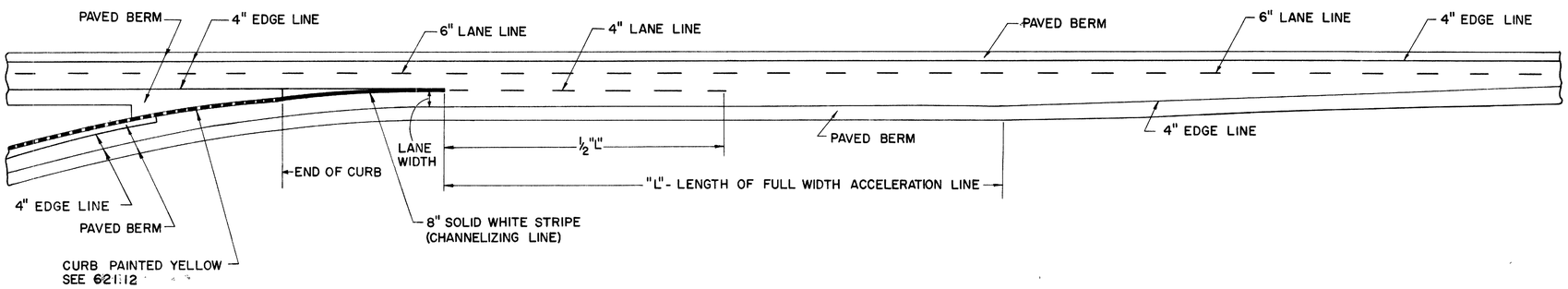
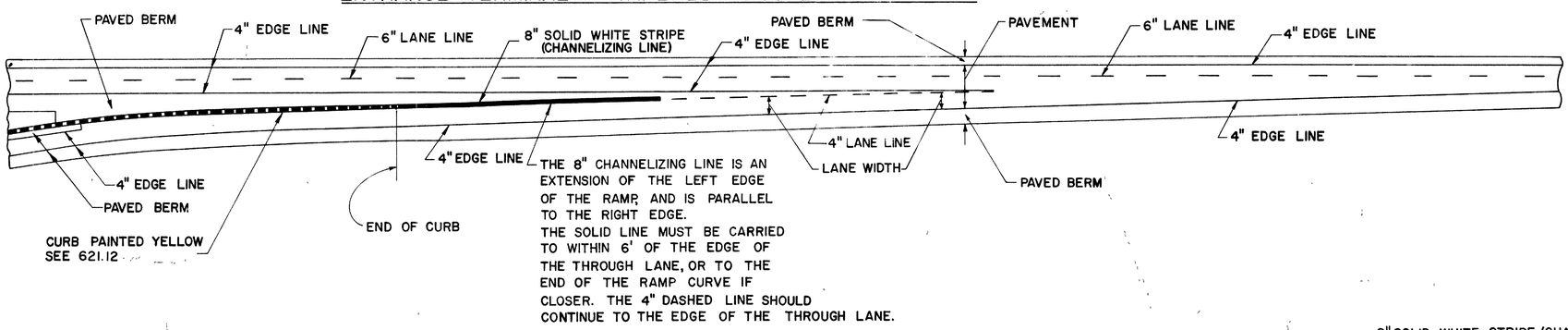
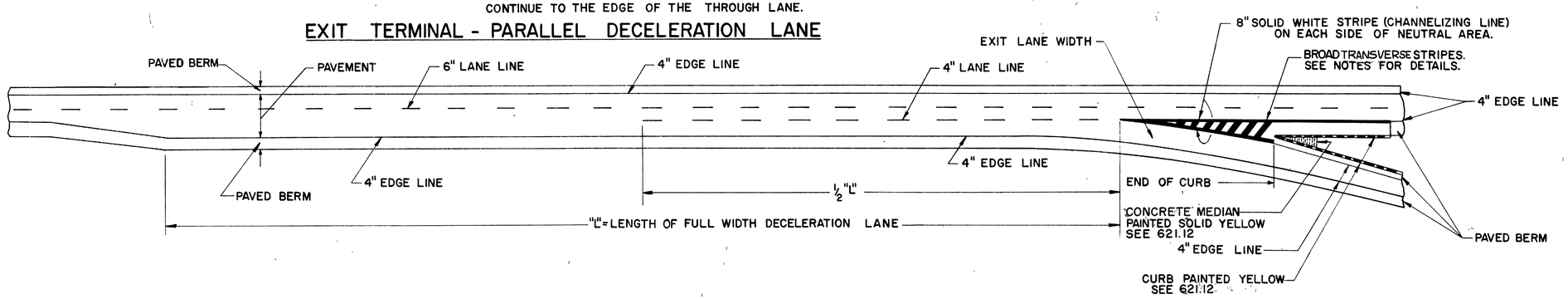
ENTRANCE TERMINAL - PARALLEL ACCELERATION LANE



ENTRANCE TERMINAL - TAPERED ACCELERATION LANE



EXIT TERMINAL - PARALLEL DECELERATION LANE



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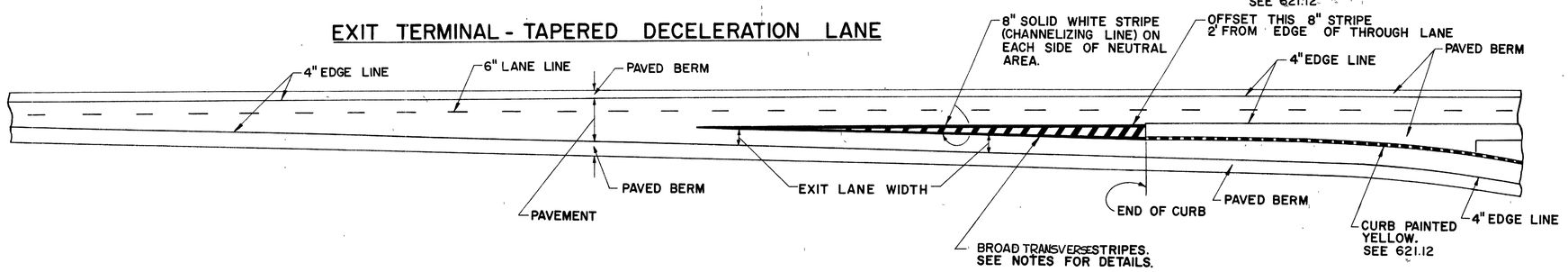

NOTES

EDGE LINES SHALL BE PLACED IN THE LOCATIONS AS SHOWN TO CONFORM TO 621 AND DEFINED IN 621.06

LANE LINES SHALL BE PLACED IN THE LOCATIONS AS SHOWN TO CONFORM TO 621 AND DEFINED IN 621.07

CHANNELIZING LINES SHALL BE CONTINUOUS WHITE BEADED STRIPES 8" IN WIDTH PLACED IN THE LOCATIONS AS SHOWN TO CONFORM TO 621 AND DEFINED IN 621.09

BROAD TRANSVERSE STRIPES IN EXIT RAMP MARKINGS SHALL BE 2' WIDE WHITE BEADED STRIPES SET AT A 45° ANGLE TO THE CENTER LINE OF THE THROUGH PAVEMENT AND SLANTED IN THE DIRECTION OF THE FLOW OF TRAFFIC ON SAID PAVEMENT. SPACE BETWEEN THE 2' DIAGONAL STRIPES SHALL BE 6' AS MEASURED PARALLEL TO THE CENTER LINE OF THE THROUGH PAVEMENT. PAINT ON THE DIAGONAL STRIPES SHALL BE APPLIED AT THE RATE OF ONE GALLON TO EACH 100 SQUARE FEET AND GLASS BEADS SHALL BE APPLIED AT THE RATE OF SIX POUNDS PER GALLON OF PAINT. DIAGONAL WHITE STRIPES SHALL BE PLACED BETWEEN THE TWO 8" WHITE CHANNELIZING LINES AT EXIT RAMPS AS SHOWN TO CONFORM TO 621 AND DESCRIBED IN 621.11

BUREAU OF TRAFFIC
OHIO DEPARTMENT OF HIGHWAYS

PAVEMENT MARKING | PM-1 | DATE 7-17-61 4-6-62

APPROVED Robert E. Lower
ENGINEER OF TRAFFIC

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

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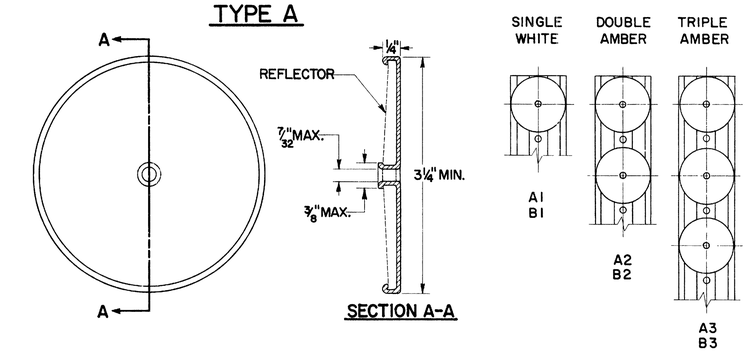
TYPE A



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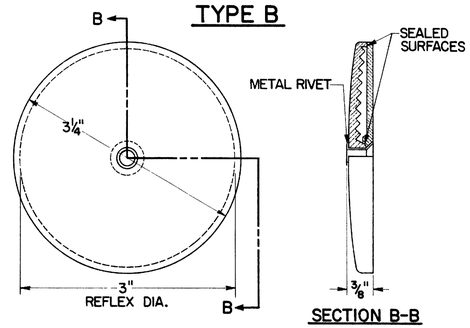
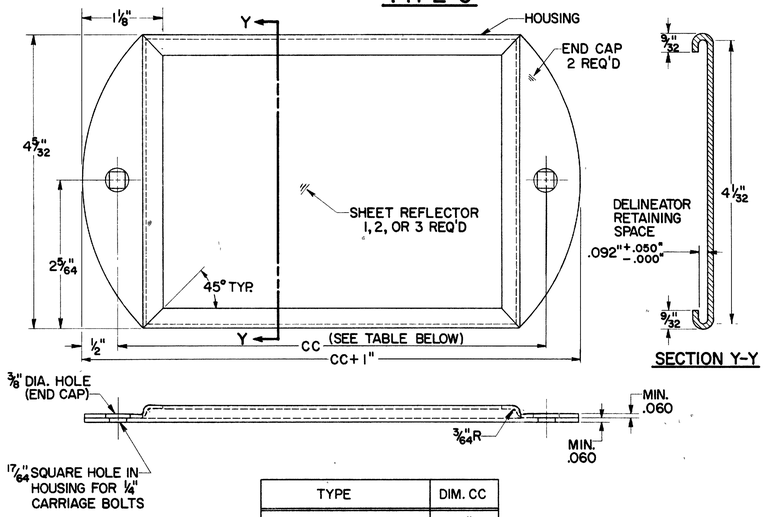
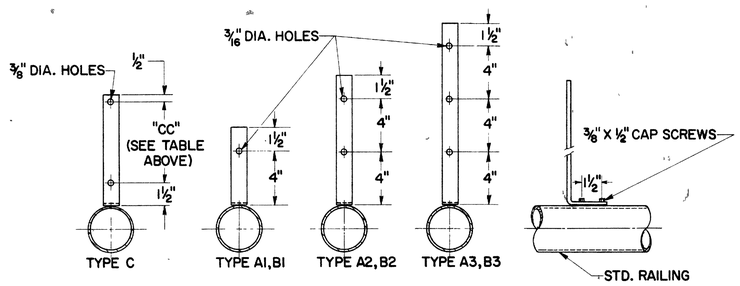


TYPE C

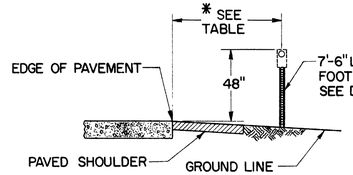


TYPE	DIM. CC
C1-SINGLE WHITE	6"
C2-DOUBLE AMBER	11"
C3-TRIPLE AMBER	16"

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



BRIDGE RAIL BRACKET

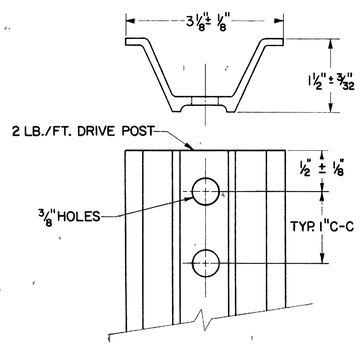


LATERAL PLACEMENT OF DELINEATORS

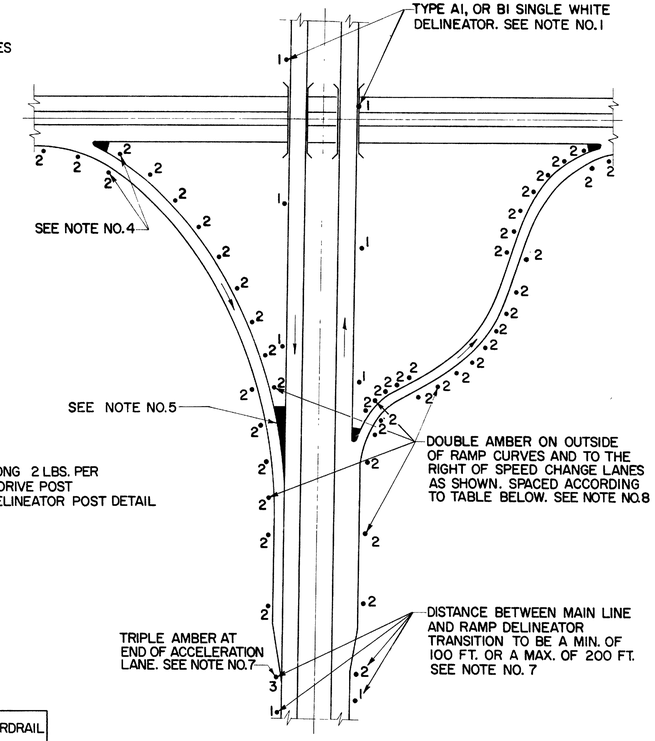
* TABLE

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

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



DELINEATOR POST



TYPICAL DELINEATOR PLACEMENT

DELINEATOR SPACING ON RAMP HORIZONTAL CURVES

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

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

NOTES

1. TYPE A1 OR B1 DELINEATORS ON THE RIGHT OF THE THROUGH ROADWAY ARE TO BE SPACED AT 200 FT. INTERVALS THROUGHOUT, REGARDLESS OF CURVES, BEGINNING AT STA. +00, +25, +50, OR +75.
2. DELINEATORS SHALL BE FURNISHED AND ERECTED IN ACCORDANCE WITH 620
3. PAYMENT FOR SUPPORTS (DRIVEPOST OR BRACKET) SHALL BE INCLUDED IN THE UNIT PRICE BID PER EACH FOR 620 DELINEATORS
4. WHEN CROSSING FROM LEFT TO RIGHT OR FROM RIGHT TO LEFT ON THE RAMPS THE DELINEATORS AT THE POINT OF CROSSOVER ARE TO BE AT THE SAME STATION ON EACH SIDE.
5. NO DELINEATORS ARE TO BE PLACED IN PAVED BERM
6. WHEN RADII OF CURVE ON RAMPS REQUIRE 100' SPACING THE DELINEATORS SHALL BE PLACED ON THE RIGHT IN RELATION TO THE FLOW OF TRAFFIC.
7. RAMP DELINEATOR AT END OF ACCELERATION & BEGINNING OF DECELERATION LANES TO BE A MAXIMUM OF 5' FROM POINT OF TANGENCY AT MAIN LINE.
8. ALL RAMP DELINEATORS SHALL BE PLACED TO THE NEAREST 5' INCREMENTS, SUCH AS +05, +10, +15, +20 AND SO ON.

BUREAU OF TRAFFIC
OHIO DEPARTMENT OF HIGHWAYS

DELINEATOR DETAILS

620

DATE 9-25-62 10-2-63

APPROVED Robert E. Lomer
ENGINEER OF TRAFFIC

DELINEATORS

620 DELINEATORS

REFERENCE	STATION TO STATION		SIDE	SPACING	A-1 POST	A-1 BRACKET	C-2 POST	C-2 BRACKET	C-3 POST	C-3 BRACKET
MAINLINE I-90-1(40)01	670+90		LT.		1					
	671+90		LT.						1	
	672+90	676+90	LT.	100			5			
	686+00	692+00	LT.	200	4					
	693+00		LT.		1					
	699+20	700+20	LT.	100				2		
	701+20	702+20	LT.	100			2			
	704+00	712+00	LT.	200	5					
	782+30		LT.						1	
	783+30	793+30	LT.	100			11			
	800+60	802+60	LT.	200	2					
	822+80	825+80	LT.	100			4			
	828+00	836+00	LT.	200	5					
	670+90	676+90	RT.	200	4					
	678+00		RT.		1					
	687+20	691+20	RT.	100			5			
	692+20		RT.						1	
	698+50		RT.				1			
	699+50	700+50	RT.	100				2		
	701+50	708+50	RT.	100			8			
	709+50		RT.						1	
	712+00		RT.		1					
	782+00	794+00	RT.	200	7					
	795+70	798+70	RT.	100			4			
	818+60		RT.		1					
	824+45	834+25	RT.	100			11			
	835+35		RT.						1	
	681+00	683+00	L&R	100				6		
	714+00	736+00	L&R	200	24					
	738+00	740+00	L&R	200		4				
	742+00	744+00	L&R	200	4					
	746+00		L&R			2				
	748+00	780+00	L&R	200	34					
	804+60	816+60	L&R	200	14					
	838+00	892+00	L&R	200	56					
S.R.57 I-90-1(40)01	139+35		L.T.						1	
	140+35	142+35	L.T.	100			3			
	150+50	152+50	L.T.	200	2					
	133+15	137+15	R.T.	100			5			
	140+50	142+50	R.T.	200	2					
	152+65	154+65	R.T.	100			3			
	155+65		R.T.						1	
	156+80	161+80	R.T.	100			6			
	162+85		R.T.						1	
	146+00	148+00	L&R	100			6			
	148+95		L&R				2			
RAMP B-SR 5/7 INTERCHANGE I-90-1(40)01	B666+90	B668+70	LT.	60			4			
	B669+30	B667+40	RT.	30			28			
	B678+00	B679+80	LT.	60			4			

REFERENCE	STATION TO STATION		SIDE	SPACING	A-1 POST	A-1 BRACKET	C-2 POST	C-2 BRACKET	C-3 POST	C-3 BRACKET
RAMP C-SR 57 INTERCHANGE I-90-1(40)01	C679+30	C680+20	LT	30			4			
	C680+50	C683+20	RT.	30			10			
	C683+50	C687+50	LT.	50			9			
	C688+20		RT.				1			
	C689+00	C692+50	RT.	50			8			
	C693+20	C698+20	LT.	100			6			
RAMP K-SR 57 INTERCHANGE I-90-1(40)01	X683+60	X686+00	LT.	60			5			
	X686+30	X694+40	RT.	30			28			
	X695+00	X696+80	LT.	60			4			
RAMP D-SR 57 INTERCHANGE I-90-1(40)01	D679+05	D679+65	RT.	60			2			
	D679+95	D680+55	RT.	30			3			
	D680+85	D682+95	LT.	30			8			
	D683+50		RT.				1			
	D684+20	D684+90	RT.	70			2			
	D685+30	D686+50	RT.	40			4			
	D687+20		RT.				1			
	D687+90	D690+00	LT.	70			4			
	D690+50	D693+00	LT.	50			6			
	D693+00	D694+00	RT.	50			2			
	D694+70		RT.				1			
	D695+50	D697+50	RT.	100			3			
RAMP E-SR 57 INTERCHANGE I-90-1(40)01	E684+20	E686+60	RT.	60			5			
	E686+90	E695+00	LT.	30			26			
	E695+00		LT.				1			
	E695+60	E697+40	RT.	60			4			
RAMP G-SR 57 INTERCHANGE I-90-1(40)01	G667+20	G669+00	RT.	60			4			
	G669+60	G678+00	LT.	30			29			
	G678+60	G680+40	RT.	60			4			
RAMP H-SR 254 INTERCHANGE I-90-1(40)01	H794+30	H796+30	LT.	100			3			
	H797+10	H798+10	LT.	50			3			
	H798+60	H802+10	RT.	50			8			
	H802+90	H803+90	RT.	100			2			
	H804+90	H806+90	LT.	100			3			
RAMP J-SR254 INTERCHANGE I-90-1(40)01	J807+70	J810+50	LT.	40			8			
	J811+20	J812+20	RT.	100			2			
	J813+00	J816+50	RT.	50			8			
	J817+00	J817+80	LT.	80			2			
	J818+80	J821+80	LT.	100			4			
RAMP N-SR 254 INTERCHANGE I-90-1(40)01	K812+50	K813+70	RT.	40			4			
	K814+40		RT.				1			
	K815+40		LT.				1			
	K816+20	K818+70	LT.	50			6			
	K819+20	K820+70	RT.	50			4			
	K821+45	K823+45	RT.	100			3			

REFERENCE	STATION TO STATION		SIDE	SPACING	A-1 POST	A-1 BRACKET	C-2 POST	C-2 BRACKET	C-3 POST	C-3 BRACKET
RAMP L-SR 254 INTERCHANGE I-90-1(40)01	L799+70	L804+70	RT.	100			6			
	L805+50	L806+30	LT.	80			2			
	L806+80	L807+80	LT.	50			3			
	L808+60	L809+40	LT.	80			2			
	L810+40	L811+10	RT.	70			2			
	L811+50	L813+10	RT.	40			5			
I-90-1(40)01 DELINEATOR TOTALS					168	6	379	10	8	

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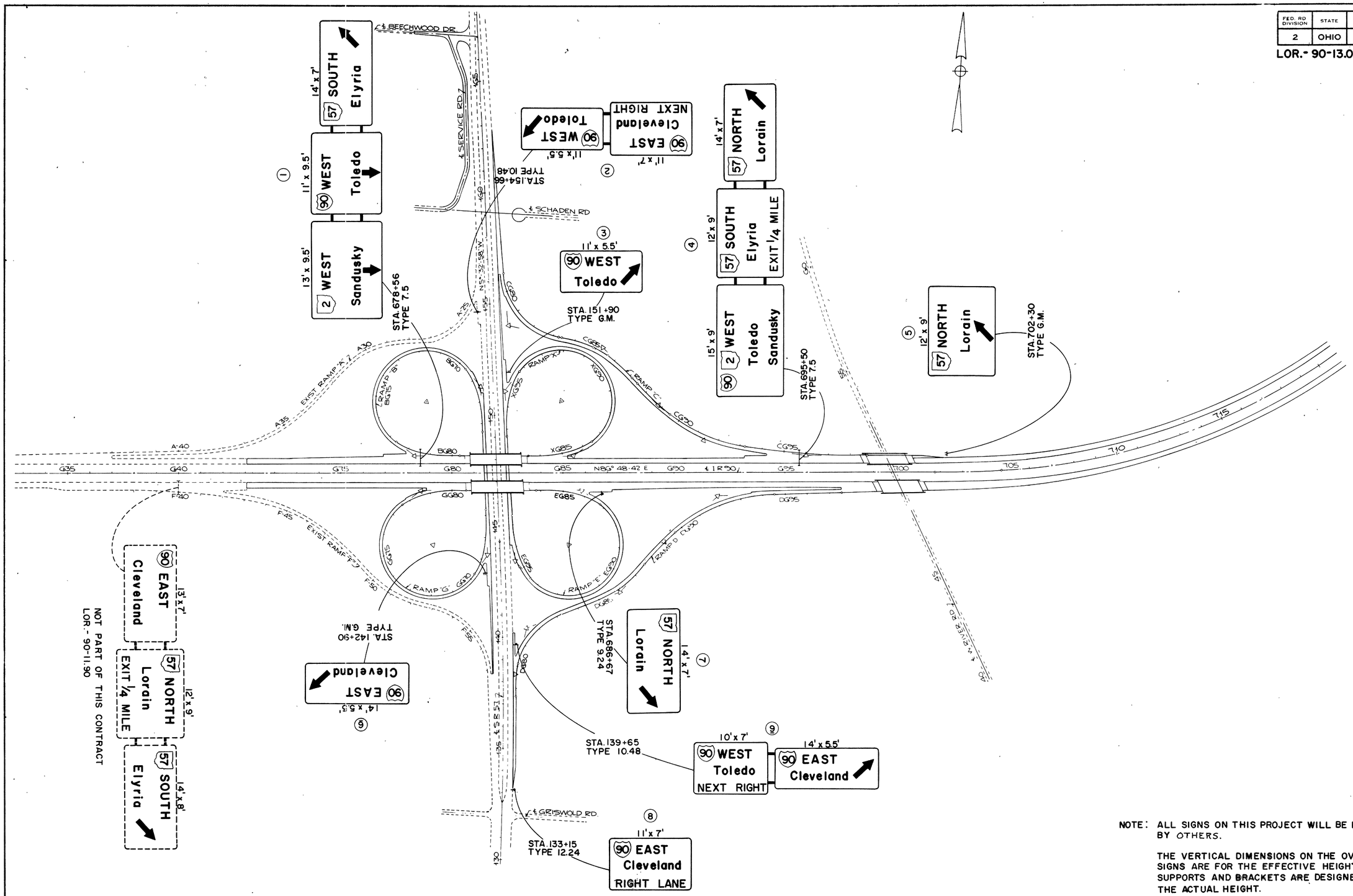

NOTE: ALL SIGNS ON THIS PROJECT WILL BE FURNISHED BY OTHERS.

THE VERTICAL DIMENSIONS ON THE OVERHEAD SIGNS ARE FOR THE EFFECTIVE HEIGHT. THE SUPPORTS AND BRACKETS ARE DESIGNED FOR THE ACTUAL HEIGHT.

SIGNING SCHEMATIC SHEET NO. 1 OF 4

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

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LOR.-90-13.01

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

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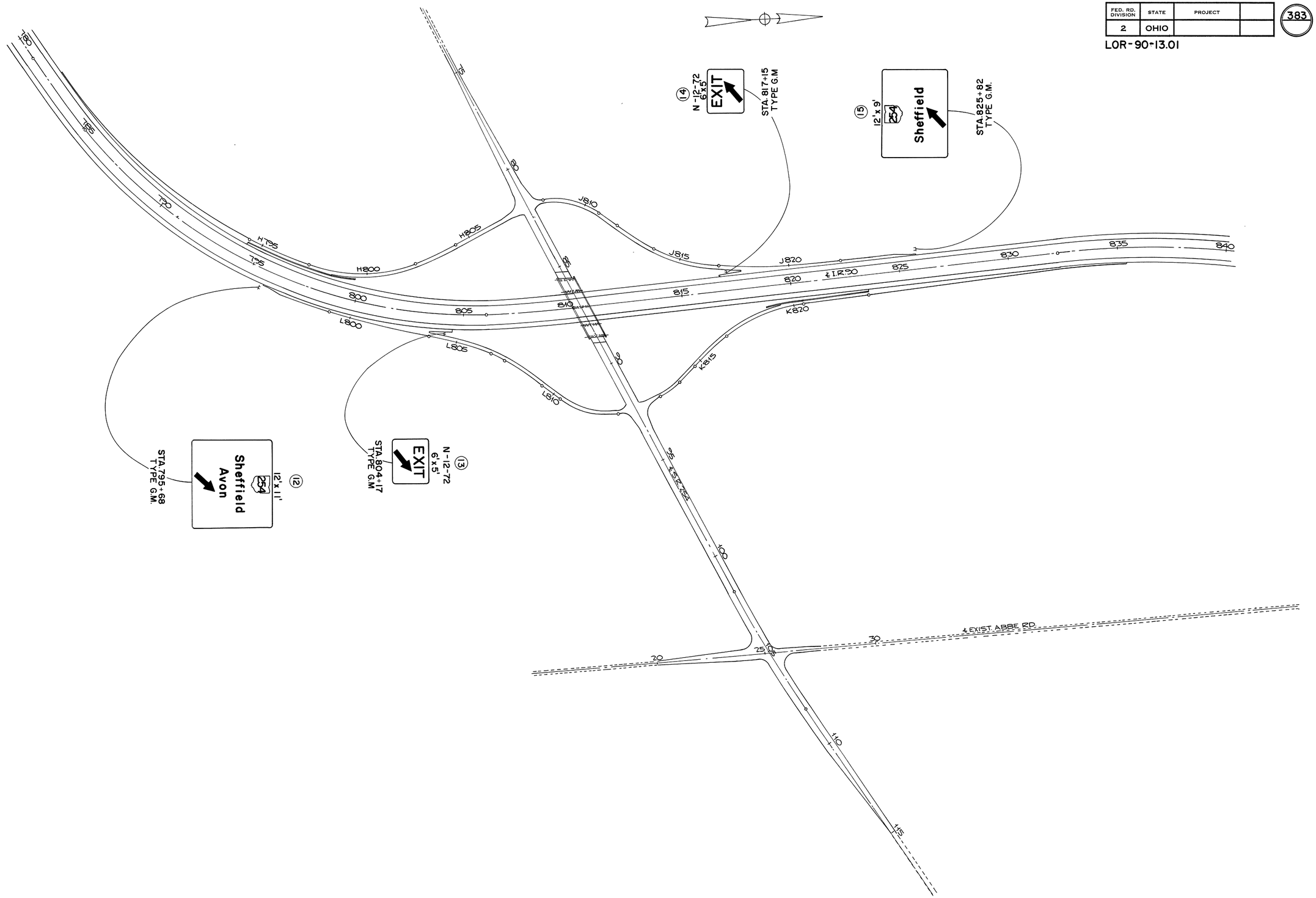
LOR-90-13.01



SIGNING SCHEMATIC SHEET NO. 3 OF 4

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

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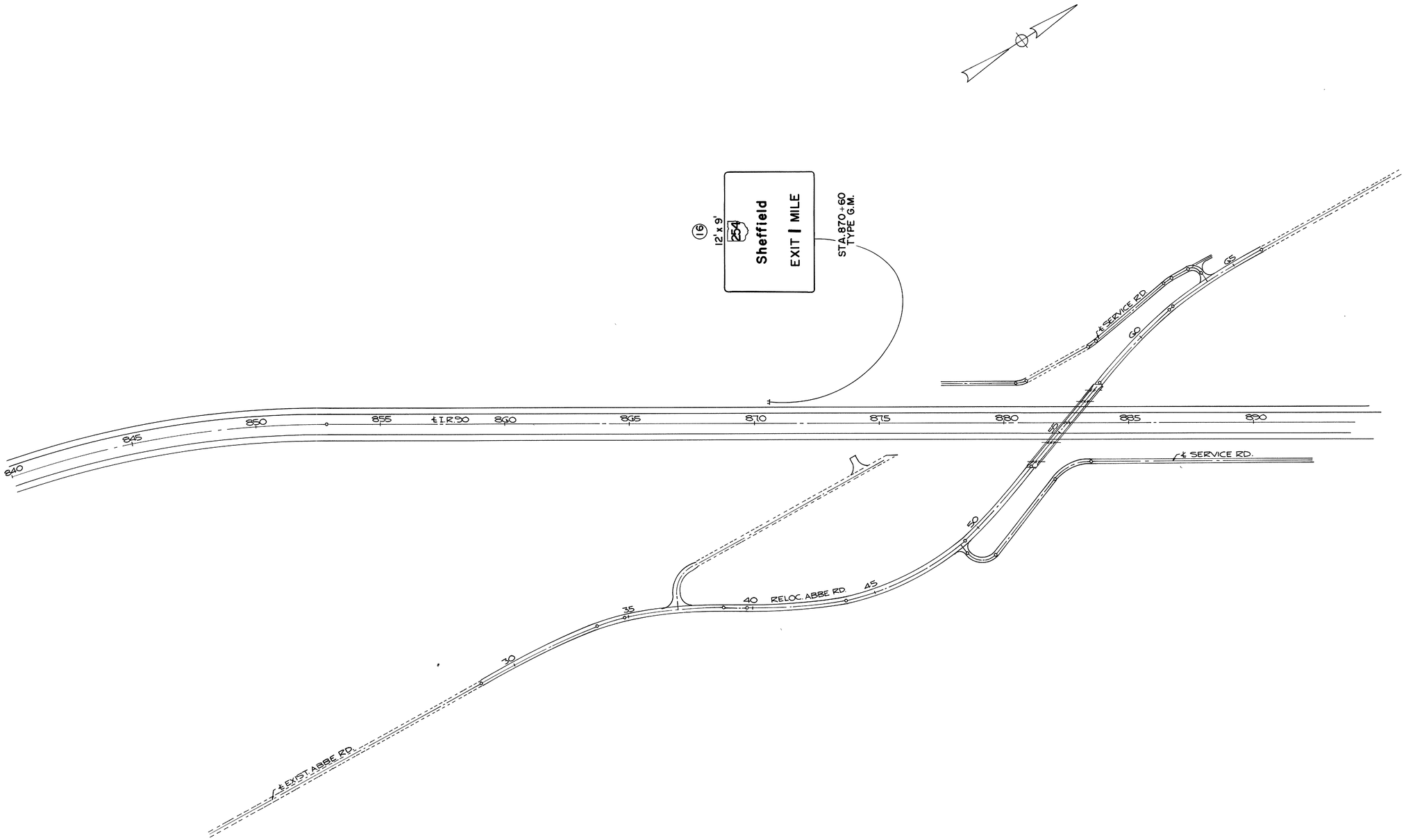
LOR.-90-13.01



SIGNING SCHEMATIC SHEET NO. 4 OF 4

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

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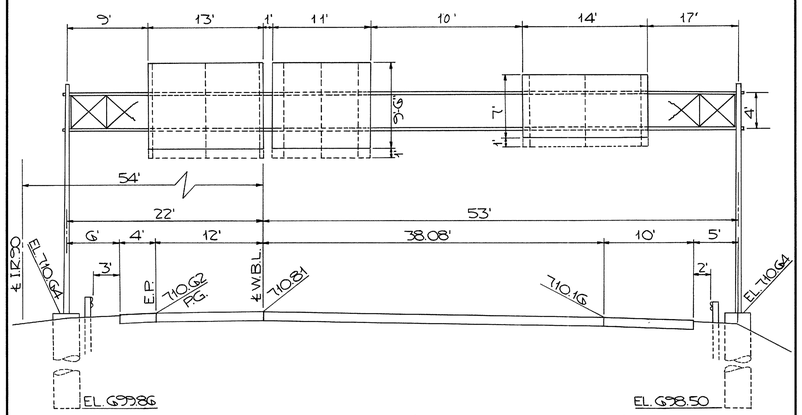
(1)



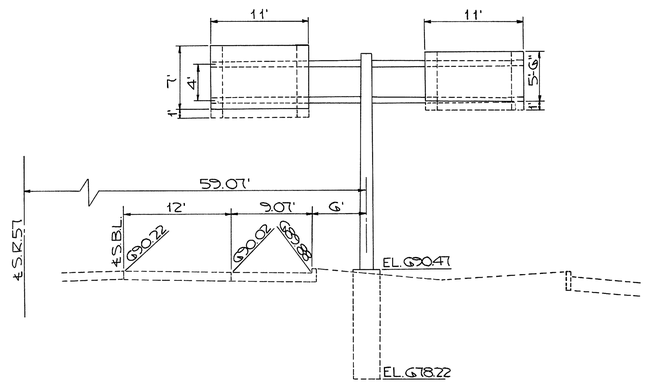
SIZE: 13' x 10'-6" = 136.5 SQ.FT.
NO. OF BRACKETS = 3
SPACING: 6"-2 at 72"-6"
HEIGHT: 10'-6"; TYPE Ya

SIZE: 11' x 10'-6" = 115.5 SQ.FT.
NO. OF BRACKETS = 3
SPACING: 16 3/8"-49 3/8"-50"-16 1/4"
HEIGHT: 10'-6"; TYPE Ya

SIZE: 14' x 8' = 112 SQ.FT.
NO. OF BRACKETS = 3
SPACING: 8 5/8"-2 at 75 3/8"-8 5/8"
HEIGHT: 8'-0"; TYPE Xa

STA. 678+56, I.R. 90 W.B.L.
TYPE 7.5, DESIGN-2; 75' SPAN

(2)

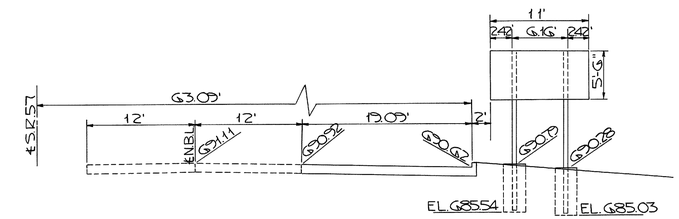


SIZE: 11' x 8' = 88 SQ.FT.
NO. OF BRACKETS = 2
SPACING: 16 3/8"-99 3/8"-16 1/4"
HEIGHT: 8'-0"; TYPE Ys

SIZE: 11' x 6'-6" = 71.5 SQ.FT.
NO. OF BRACKETS = 2
SPACING: 16 3/8"-99 3/8"-16 1/4"
HEIGHT: 6'-6"; TYPE Ys

STA. 154+66, S.R. 57 S.B.L.
TYPE 10.48, DESIGN-4; 16' ARMS

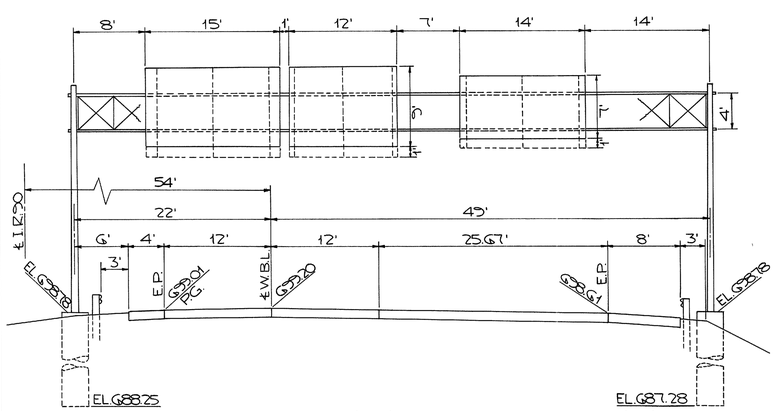
(3)



SIZE: 11' x 5'-6" = 60.5' SQ.FT.

STA. 151+90, S.R. 57 N.B.L.
GROUND MOUNTED; 10B11.5

(4)



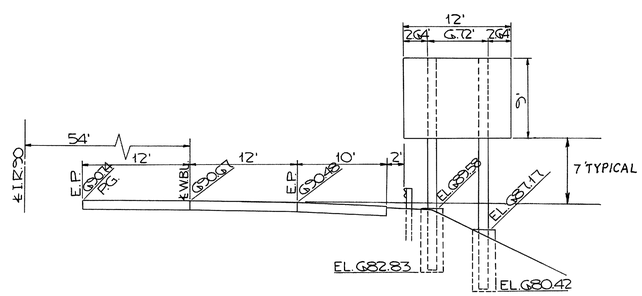
SIZE: 15' x 10' = 150 SQ.FT.
NO. OF BRACKETS = 3
SPACING: 14 5/8"-2 at 75 3/8"-14 5/8"
HEIGHT: 10'-0"; TYPE Ya

SIZE: 12' x 10' = 120 SQ.FT.
NO. OF BRACKETS = 3
SPACING: 6"-2 at 66"-6"
HEIGHT: 10'-0"; TYPE Ya

SIZE: 14' x 8' = 112 SQ.FT.
NO. OF BRACKETS = 3
SPACING: 8 5/8"-2 at 75 3/8"-8 5/8"
HEIGHT: 8'-0"; TYPE Xa

STA. 695+50, I.R. 90 W.B.L.
TYPE 7.5, DESIGN-2; 71' SPAN

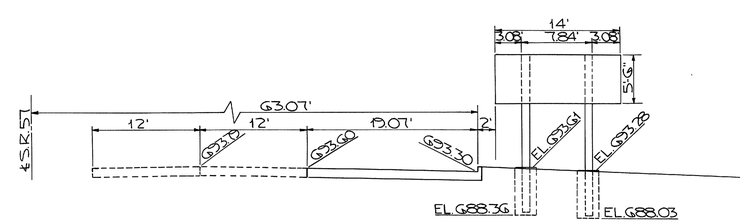
(5)



SIZE: 12' x 9' = 108 SQ.FT.

STA. 702+30, I.R. 90 W.B.L.
GROUND MOUNTED, 12B22

(6)



SIZE: 14' x 5'-6" = 77 SQ.FT.

STA. 142+90, S.R. 57 S.B.L.
GROUND MOUNTED, 10B11.5

SIGNING DETAILS

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

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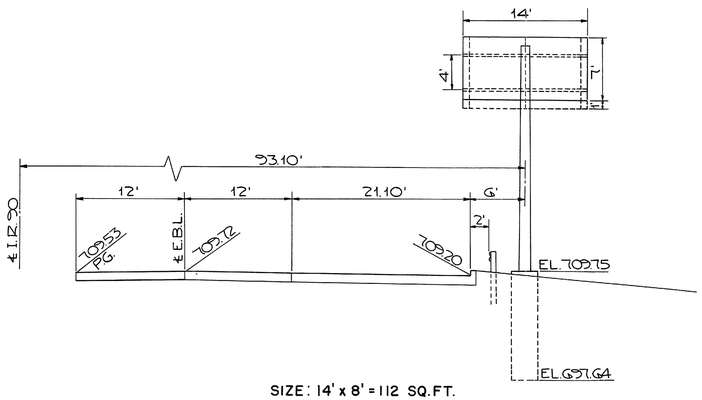
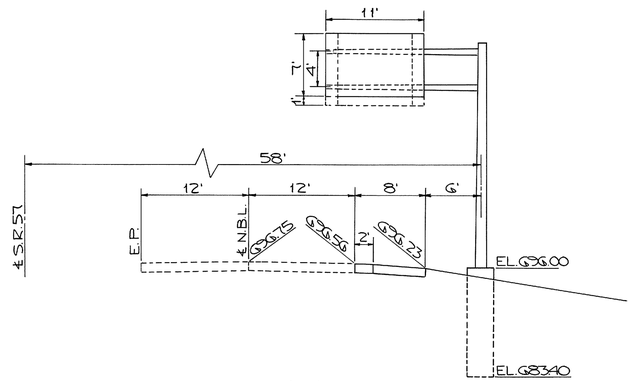


SIZE: 14' x 8' = 112 SQ.FT.
NO. OF BRACKETS = 3
SPACING: 8 5/8" - 2 at 75 3/8" - 8 5/8"
HEIGHT: 8'-0"; TYPE Xs

STA. 686+67, I.R. 90 E.B.L.
TYPE 9.24, DESIGN-2; 7' ARMS

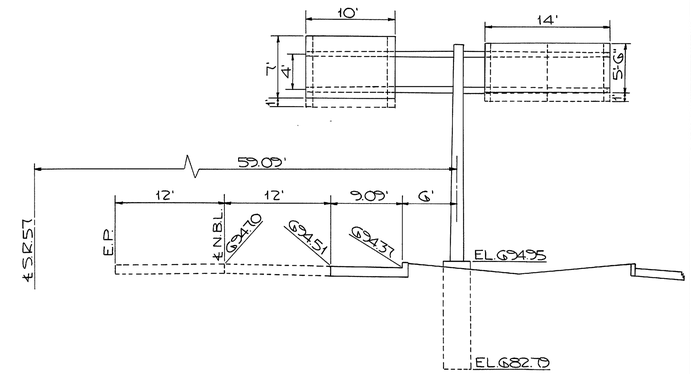
(8)



SIZE: 11' x 8' = 88 SQ.FT.
NO. OF BRACKETS = 2
SPACING: 16 3/8" - 99 3/8" - 16 1/4"
HEIGHT: 8'-0"; TYPE Ys

STA. 133+15, S.R.57 N.B.L.
TYPE 12.24, DESIGN-3; 16' ARMS

(9)

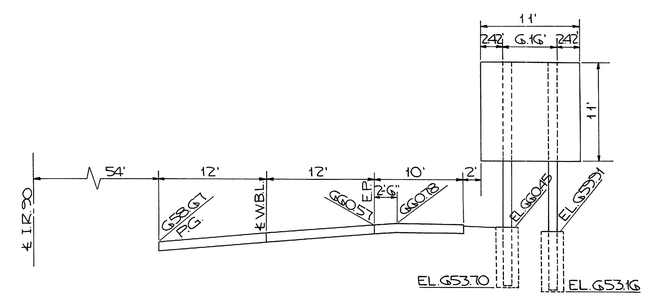


SIZE: 10' x 8' = 80 SQ.FT.
NO. OF BRACKETS = 2
SPACING: 10 3/8" - 99 3/8" - 10 1/4"
HEIGHT: 8'-0"; TYPE Ys

SIZE: 14' x 6'-6" = 91 SQ.FT.
NO. OF BRACKETS = 3
SPACING: 8 5/8" - 2 at 75 3/8" - 8 5/8"
HEIGHT: 6'-6"; TYPE Xs

STA. 139+65, S.R.57 N.B.L.
TYPE 10.48, DESIGN-4; 16' ARMS

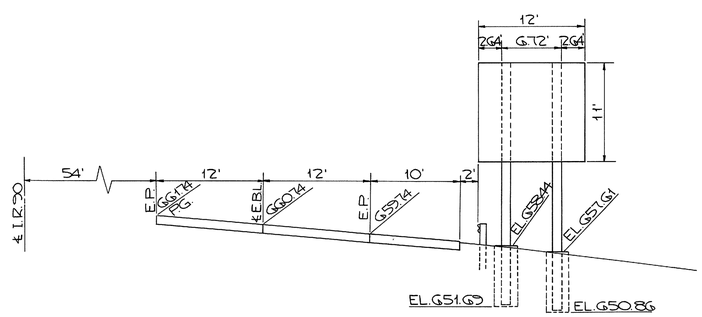
(10)



SIZE: 11' x 11' = 121 SQ.FT.

STA. 747+30, I.R.90 W.B.L.
GROUND MOUNTED 12B22

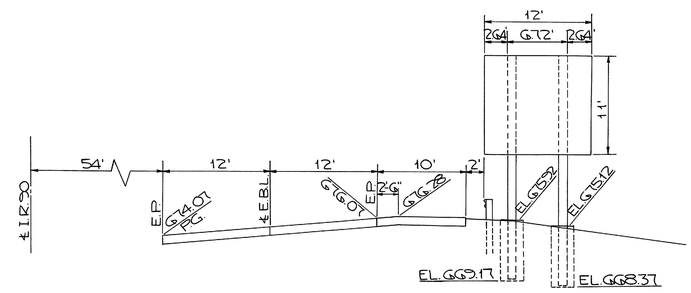
(11)



SIZE: 12' x 11' = 132 SQ.FT.

STA. 750+75, I.R.90 E.B.L.
GROUND MOUNTED 12B22

(12)



SIZE: 12' x 11' = 132 SQ.FT.

STA. 795+68, I.R.90 E.B.L.
GROUND MOUNTED 12B22

SIGNING DETAILS

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

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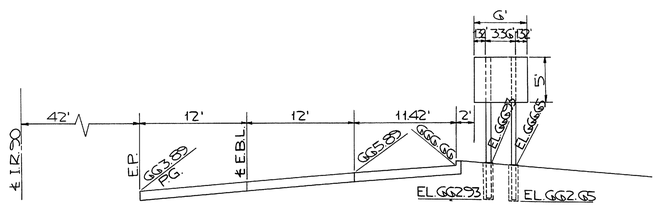
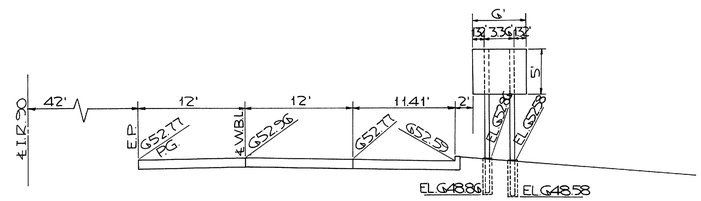
(13)



SIZE: 6' X 5' = 30 SQ. FT.

STA. 804+17, I.R. 90 E.B.L.
GROUND MOUNTED; 6B8.5

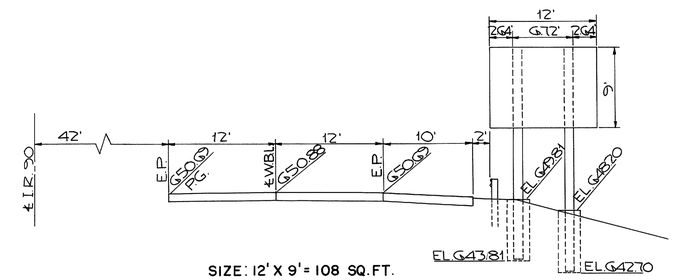
(14)



SIZE: 6' X 5' = 30 SQ. FT.

STA. 817+15, I.R. 90 W.B.L.
GROUND MOUNTED; 6B8.5

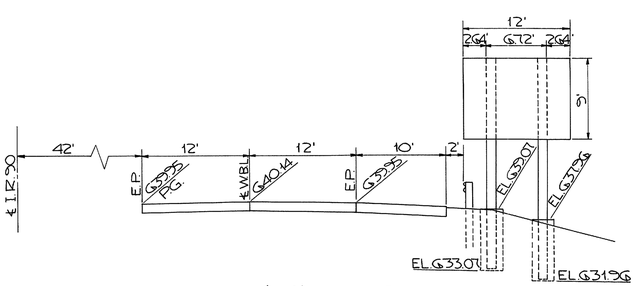
(15)



SIZE: 12' X 9' = 108 SQ. FT.

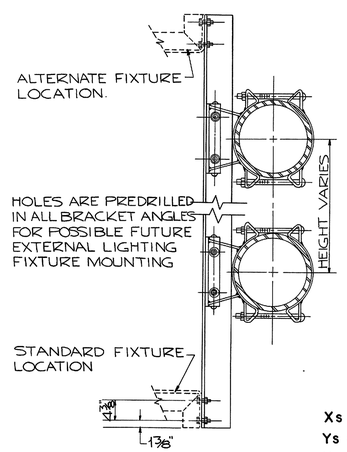
STA. 825+82, I.R. 90 W.B.L.
GROUND MOUNTED; 10B17

(16)



SIZE: 12' X 9' = 108 SQ. FT.

STA. 870+60, I.R. 90 W.B.L.
GROUND MOUNTED; 10B17

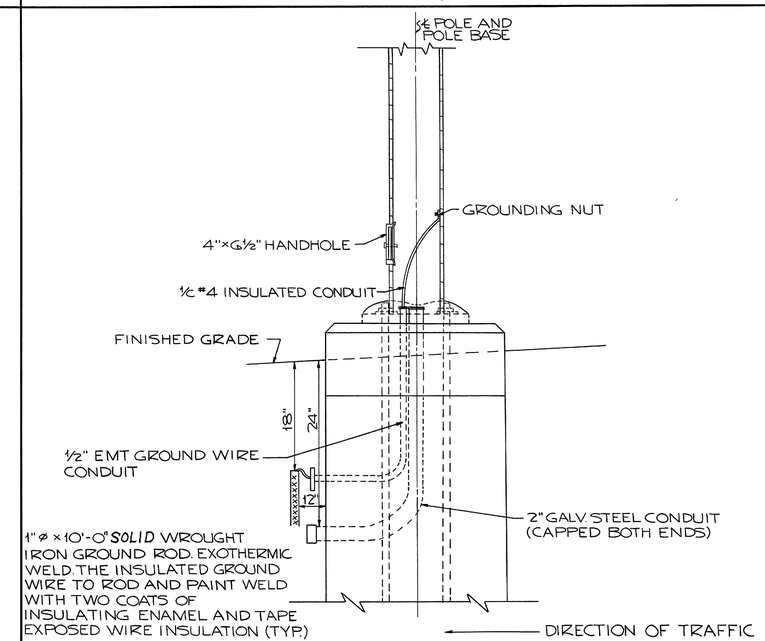


1 1/16" HOLES (TYP.) FOR MOUNTING LIGHTING FIXTURE (4 HOLE IN EACH VERTICAL MEMBERS.)

BRACKET LEGEND

Xs = 3 1/2" x 2 1/2" x 5/16" - L at 6.1 LB. STEEL
Ys = 4" x 3 1/16" x 1/4" - Z at 8.2 LB. STEEL
Xa = 3" x 2 11/16" x 1/4" - Z at 2.33 LB. ALUM.
Ya = 4" x 2 21/32" x 3/16" - I at 2.69 LB. ALUM.

DETAIL OF SINGLE SIGN BRACKET



CONNECTION AT OVERHEAD SIGN SUPPORT

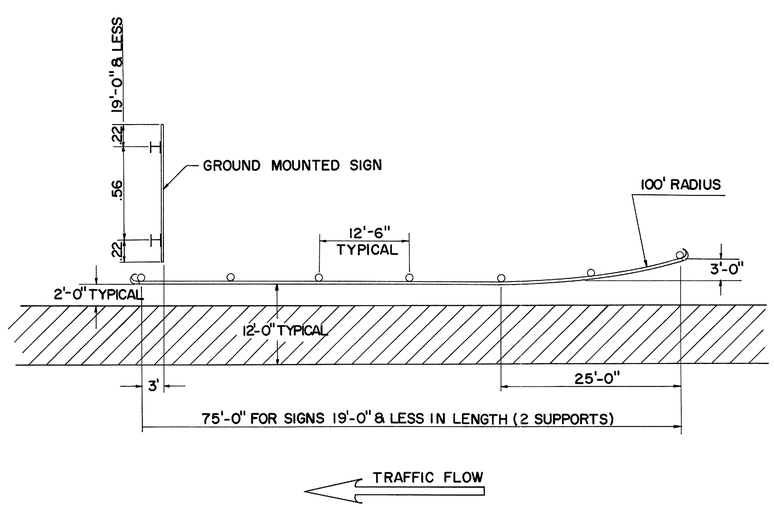
SIGNING DETAILS

TRAFFIC CONTROL QUANTITIES (SIGNING)

SIGN NUMBER	STATION	LOCATION	816 OVERHEAD SIGN SUPPORTS TYPE 7.5 DESIGN 2 SPAN 71'	9.24 DESIGN 2 SPAN 75'	10.48 DESIGN 4 ARM 7'	12.24 DESIGN 3 ARM 16'	16'		816 STRUCTURAL SUPPORTS STEEL BEAM TYPE 6B8.5	10B11.5	10B17	12B22	625 GROUND ROD UNIT	CONCRETE FOR SIGN FOUNDATIONS CLASS C OVER-HEAD	GROUND MOUNTED	815 SIGN ERECTION GUIDE TYPE OVER-HEAD	815 SIGN ERECTION GUIDE TYPE GROUND MOUNTED	606 GUARD RAIL TYPE 4	606 GUARD RAIL TYPE 4 AS PER PLAN
			EACH						LIN. FT.			EACH	CU. YD.		SQ. FT.	SQ. FT.	LIN. FT.	LIN. FT.
1	678+56	IR-90		1								1	10.4		364.0			50
2	154+66	SR57				1						1	3.3		160.0			
3	151+90	SR57							36.2					1.9		61.0		
4	695+50	I.R-90	1									1	10.0		382.0			50
5	702+30	I.R-90									49.6			2.5		108.0		
6	142+90	SR57							35.7					1.9		77.0		
7	686+67	I.R-90			1							1	3.3		112.0			50
8	133+15	SR57					1					1	3.4		88.0			
9	139+65	SR57				1						1	3.3		171.0			
10	747+30	I.R-90									50.2			2.5		121.0		
11	750+75	I.R-90									54.4			2.5		132.0	75	
12	795+68	I.R-90									50.5			2.5		132.0	75	
13	804+17	I.R-90						31.2						0.2		30.0		
14	817+15	I.R-90						32.0						0.2		30.0		
15	825+82	I.R-90								46.8				2.2		108.0	75	
16	870+60	I.R-90								46.8				2.2		108.0	75	
TOTALS			1	1	1	2	1	63.2	71.9	93.6	204.7	6	33.7	18.6	1277.0	907.0	300	150

THE BUREAU OF TRAFFIC, 450 EAST TOWN STREET, COLUMBUS, OHIO, SIXTY (60) CALENDAR DAYS PRIOR TO THE START OF ANY SCHEDULED ERECTION WORK. THE SCHEDULE SHALL INCLUDE PROPOSED DATES, TIME, SIGN NUMBERS AND DELIVERY POINT.

THE PRICE BID PER SQUARE FOOT FOR 815 SIGN ERECTION AS PER PLAN, SHALL INCLUDE ALL NECESSARY EQUIPMENT, MANPOWER AND TOOLS TO ERECT THE SIGNS NOTED. ALL SIGN MATERIAL AND ACCESSORIES WILL BE FURNISHED AND TRANSPORTED TO A DESIGNATED DELIVERY POINT, ON OR NEAR THE SUBJECT PROJECT BY OTHERS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE HANDLING AND STORAGE OF THE SIGN PANELS AND ACCESSORIES FROM THE TIME OF ARRIVAL AT THE DELIVERY POINT.



GUARD RAIL PROTECTION FOR GROUND MOUNTED SIGN

TRAFFIC CONTROL NOTES (SIGNING)

CERTIFICATION AND APPROVAL OF SIGN SUPPORT ITEMS

THE CONTRACTOR SHALL SUBMIT THROUGH PROPER CHANNELS THE DRAWINGS, INFORMATION OR SAMPLES AS REQUIRED BELOW:

A. SIX (6) COPIES OF THE FOLLOWING:
SHOP DRAWING AND MATERIAL LIST FOR APPROVAL FOR
1) OVERHEAD SIGN SUPPORTS
2) CATALOG CUTS, DESCRIPTIONS OR SAMPLES OF FABRICATORS STANDARD ITEMS AS SHOWN IN PLANS OR THEIR EQUAL, FOR APPROVAL.

B. CERTIFICATION OR SAMPLES FOR ALL MATERIALS WHICH HAVE BEEN APPROVED UNDER ITEM (A) SHALL BE IN POSSESSION OF THE CONTRACTOR PRIOR TO ANY PURCHASE OR INSTALLATION.

816 STRUCTURAL SUPPORTS STEEL BEAM (TYPE) AS PER PLAN

THE STRUCTURAL STEEL BEAM SUPPORTS SHALL BE GALVANIZED (AFTER PUNCHING) IN ACCORDANCE WITH ASTM A-123. ALL BOLTS, NUTS, PLAIN AND LOCK WASHERS SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A-153.

QUANTITIES FOR 816 STRUCTURAL SUPPORTS STEEL BEAM (TYPE), AS PER PLAN, APPEARING IN THE QUANTITY TABLE ARE APPROXIMATE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING EXACT SUPPORT LENGTHS PRIOR TO FABRICATION AND GALVANIZING OF SUPPORTS. PAYMENT SHALL BE AT THE CONTRACT UNIT PRICE BID PER LINEAL FOOT, WHICH PRICE AND PAYMENT SHALL INCLUDE ALL COSTS IN CONNECTION WITH THE EMBEDMENT OF THE SUPPORTS.

THE COST OF THE CONCRETE USED FOR EMBEDMENT SHALL BE A SEPARATE PAY ITEM.

816 OVERHEAD SIGN SUPPORTS, BY TYPE, AS PER PLAN

ALL COMPONENT PARTS OF THE OVERHEAD SIGN SUPPORTS SHALL BE STEEL, EXCEPT FOR THE TRUSS AND COMPONENTS FOR THE NUMBER SEVEN (7) SERIES WHICH SHALL BE ALUMINUM. FOR SPECIFIC DETAILS AND MATERIALS SEE SHEET NUMBERS 389 THRU 392.

PAYMENT FOR THIS ITEM SHALL BE MADE AT THE CONTRACT UNIT PRICE BID FOR EACH OVERHEAD SIGN SUPPORT, BY TYPE, AS PER PLAN, INSTALLED IN PLACE AND ACCEPTED, WHICH PRICE SHALL BE FULL COMPENSATION FOR FURNISHING ALL ANCHOR BOLTS (FOR INSTALLATION UNDER 816 CONCRETE SIGN SUPPORT FOUNDATIONS) AND FOR FURNISHING AND INSTALLING EACH OVERHEAD SIGN SUPPORT STRUCTURE SHOWN ON SHEET NUMBERS 385 THRU 387, INCLUDING SIGN BRACKETS AND ALL COMPONENT PARTS NECESSARY TO MAKE A COMPLETE WORKABLE INSTALLATION READY FOR SIGN ERECTION. FOR BRACKET DETAIL SEE SHEET NO. 387.

ERECTION OF THESE SUPPORTS SHALL BE ACCOMPLISHED IN A MANNER MEETING THE REQUIREMENTS OF SUPPLEMENTAL SPECIFICATION 816.

816 CONCRETE FOR SIGN SUPPORT FOUNDATIONS, AS PER PLAN

PAYMENT FOR THIS ITEM SHALL BE PER CUBIC YARD BASED ON APPROVED PLAN DIMENSIONS OR DIMENSIONS AS MODIFIED BY THE ENGINEER IN LIEU OF PLAN QUANTITIES AS SPECIFIED IN THE SUPPLEMENTAL SPECIFICATION 816.

PAYMENT FOR FURNISHING AND INSTALLING REINFORCING STEEL SHALL BE INCLUDED IN THE UNIT PRICE BID PER CUBIC YARD OF CONCRETE FOR OVERHEAD SIGN SUPPORT FOUNDATIONS IN LIEU OF BEING A SEPARATE PAY ITEM AS CALLED FOR IN SUPPLEMENTAL SPECIFICATION 816.

PAYMENT FOR FURNISHING AND INSTALLING THE 2-INCH STEEL CONDUIT ELLS AND 1/2 INCH EMT GROUNDWIRE CONDUIT SHALL BE INCLUDED IN THIS ITEM.

FOUNDATIONS SHALL BE CONSTRUCTED IN THE MANNER CALLED FOR UNDER SUPPLEMENTAL SPECIFICATION 816. CONCRETE SHALL BE CLASS C.

625 GROUND ROD UNIT

THIS ITEM OF WORK SHALL CONSIST OF FURNISHING AND INSTALLING GROUND ROD AND WIRE AS DETAILED AND SPECIFIED ON SHEET NUMBER 387 BASIS OF PAYMENT FOR THIS ITEM SHALL BE AT CONTRACT UNIT PRICE PER EACH, WHICH SHALL INCLUDE ALL LABOR, TOOLS, MATERIALS AND EQUIPMENT REQUIRED FOR THE COMPLETE ITEM WORK.

815 SIGN ERECTION GUIDE TYPE, AS PER PLAN

THE CONTRACTOR SHALL ERECT SIGN PANELS FURNISHED BY OTHERS AS NOTED ON THE SCHEMATIC SIGNING LAYOUT SHEETS 381 THRU 384. THE PANELS SHALL BE MOUNTED ON THE BRACKETS OR BEAM SUPPORTS PROVIDED IN THE PLANS.

A SCHEDULE FOR SIGN ERECTION SHALL BE SUBMITTED TO THE DIVISION TRAFFIC ENGINEER AND *

*CONTINUED LEFT COLUMN

FED. RD. DIVISION	STATE	PROJECT		389
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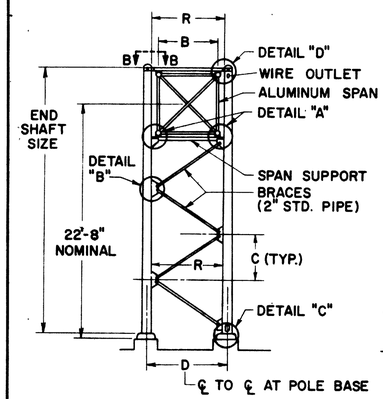
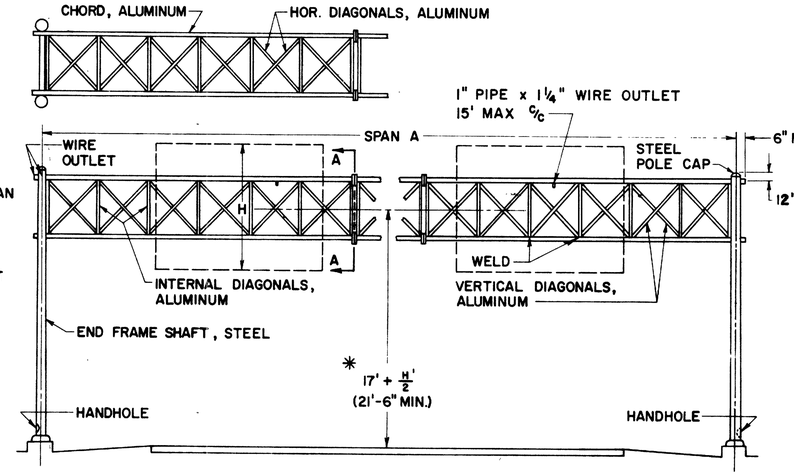
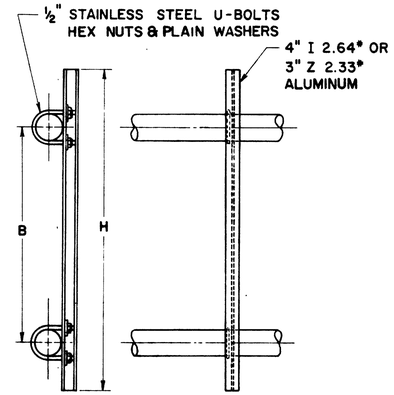
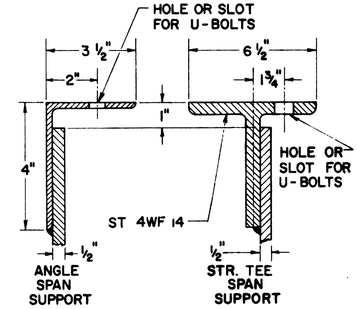


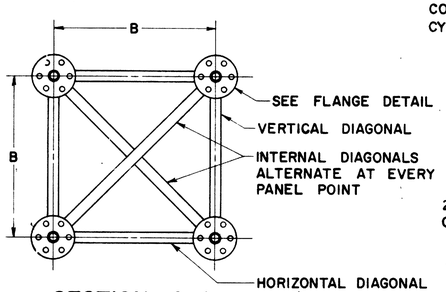




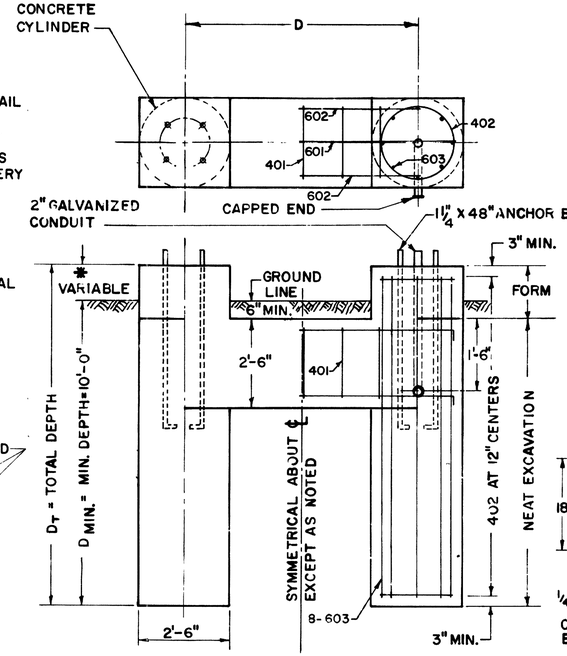
SIGN BRACKET



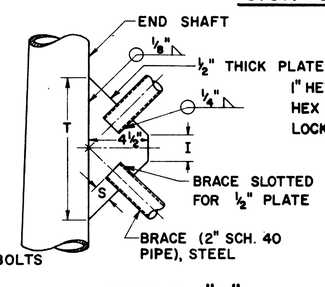
SECTION D-D



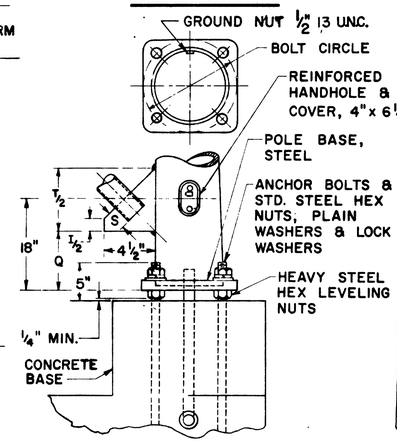
SECTION A-A



FOUNDATION DETAIL
(RIGHT HAND SHOWN — LEFT HAND OPPOSITE)

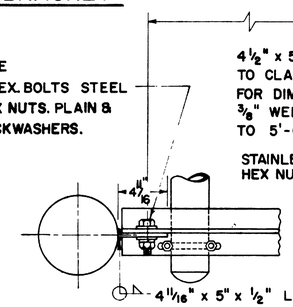


DETAIL "B"

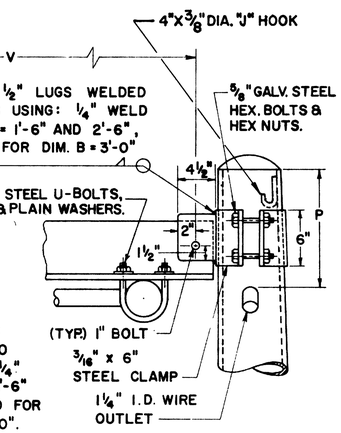


DETAIL "C"

POLE BASE DETAIL

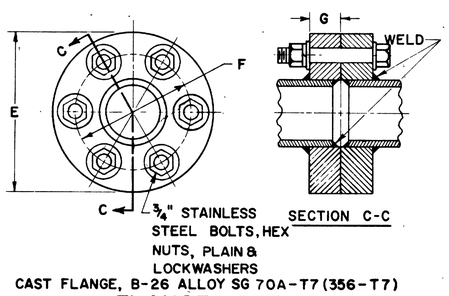


VIEW B-B

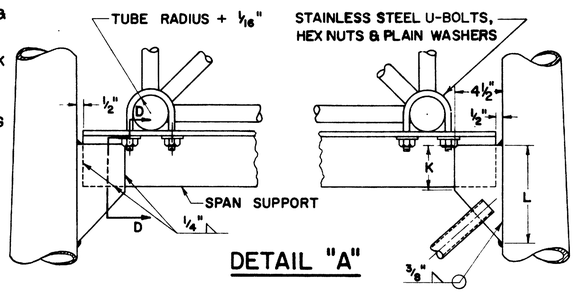


DETAIL "D"

UPPER SPAN SUPPORT (ALTERNATE METHODS)



FLANGE DETAIL



DETAIL "A"

LOWER SPAN SUPPORT

NOTES

MATERIALS

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

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

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

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

FABRICATION

THE ENTIRE STEEL END FRAME SHALL BE HOT DIP GALVANIZED IN ACCORDANCE WITH SEC. 7.1.02

MAXIMUM LENGTH OF SPAN SECTIONS IS 30 FT.

ERECTION

USE A MINIMUM OF 1" CAMBER IN SPAN TRUSS MEMBER FOR A 50' SPAN; ADD ¼" OF CAMBER FOR EACH 5' OF INCREASE IN SPAN OVER 50'.

PAYMENT

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

SOILS

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

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

REINFORCING STEEL

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

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

***FOUNDATION ELEVATION**

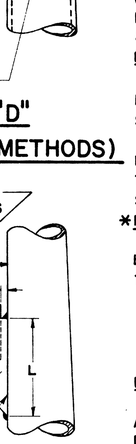
ELEVATION OF TOPS OF FOUNDATIONS SHALL BE BUILT UP SO THAT 17' CLEARANCE IS MAINTAINED OVER THE ENTIRE WIDTH OF PAVEMENT AND SHOULDERS.

DESIGN

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

DESIGN NO.	SPAN A	B	C	D	E	END SHAFT	BRACE LENGTH	F	G	I	K	L	P	Q	R	S	T	U BOLTS	V	BOLT CIRCLE	SPAN SUPPORT SECTION D-D	CHORDS	HORIZONTAL AND INTERNAL DIAGONAL	VERTICAL DIAGONAL
1	50' THRU 70'	3'-0"	4'-11¾"	4'-5"	9¼"	8"X4.5"X25'-0", 3GA	5'-10 7/16"	7 7/16"	1⅜"	3½"	4¾"	8"	12"	6⅝"	3'-9"	1½"	10"	⅝"	3'-3⅝"	11"	SPLIT TEE 3'-8"	4¾"X.188"	1.900"X.145"	1.660"X.140"
2	71' THRU 80'	4'-0"	4'-10¼"	5'-7"	9¼"	8"X6.22"X25'-6", 3GA	6'-7⅛"	7 7/16"	1⅜"	⅝"	4⅜"	7¾"	12"	6¼"	4'-11"	1½"	9½"	⅝"	4'-5⅝"	11"	SPLIT TEE 4'-10"	4¾"X.188"	2" X .188"	1.900"X.145"
3	81' THRU 86'	4'-0"	4'-10¼"	5'-7"	11"	8"X6.22"X25'-6", 3GA	6'-7⅛"	8½"	1½"	⅝"	4⅜"	7¾"	12"	6¼"	4'-11"	1½"	9½"	⅝"	4'-5⅝"	11"	SPLIT TEE 4'-10"	5½"X.250"	2" X .188"	1.900"X.145"
4	86' THRU 110'	5'-0"	4'-8½"	6'-7"	11"	8"X6.18"X26'-0", 3GA	7'-3¼"	8½"	1½"	—	3½"	7¾"	12"	7¼"	5'-11"	1¾"	11¼"	¾"	5'-5⅝"	11"	SPLIT TEE 5'-10"	5½"X.250"	2½"X.188"	2½"X.188"

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



BUREAU OF TRAFFIC
OHIO DEPARTMENT OF HIGHWAYS

OVERHEAD SIGN SUPPORTS

816 No. 7.5

DATE 5-2-62 7-25-62 4-29-64

APPROVED Robert E. Comer
ENGINEER OF TRAFFIC

500 SQ. FT. SIGN AREA — OVERHEAD SIGN SUPPORT, 816 NO. 7.5

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

LOR.-90-13.01

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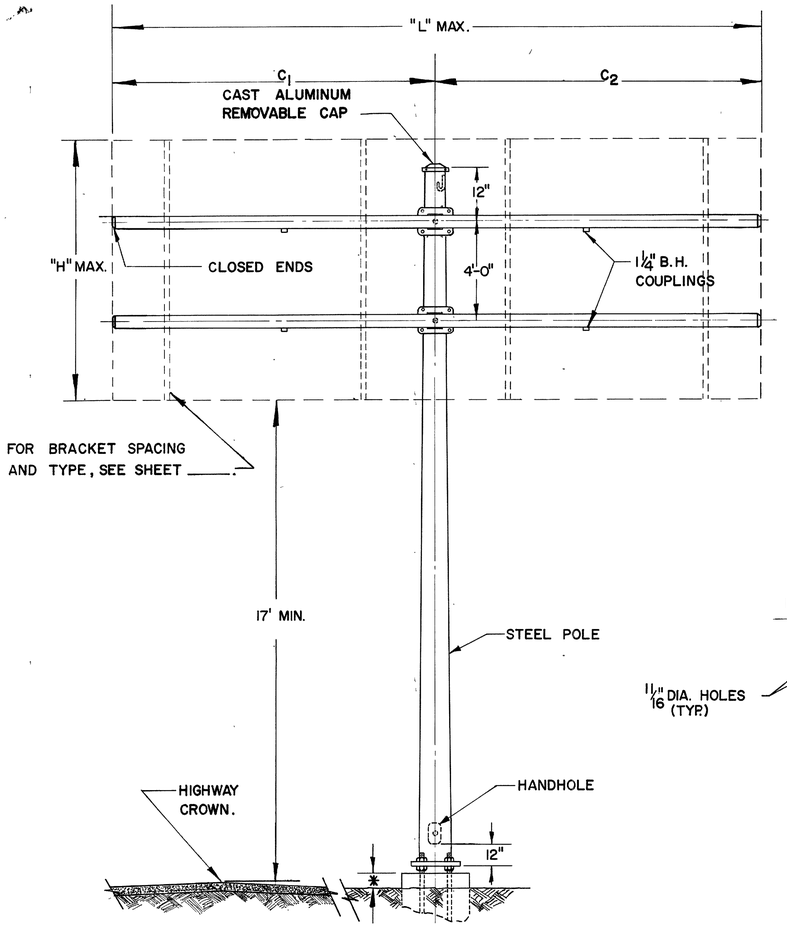
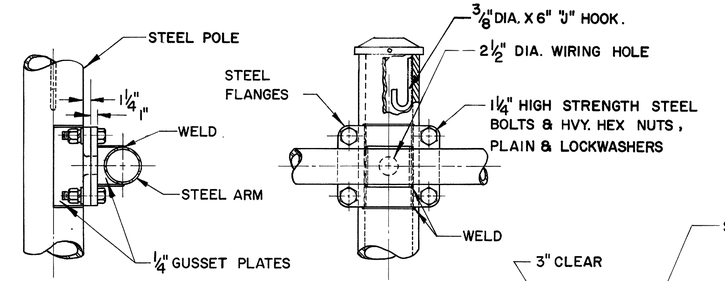
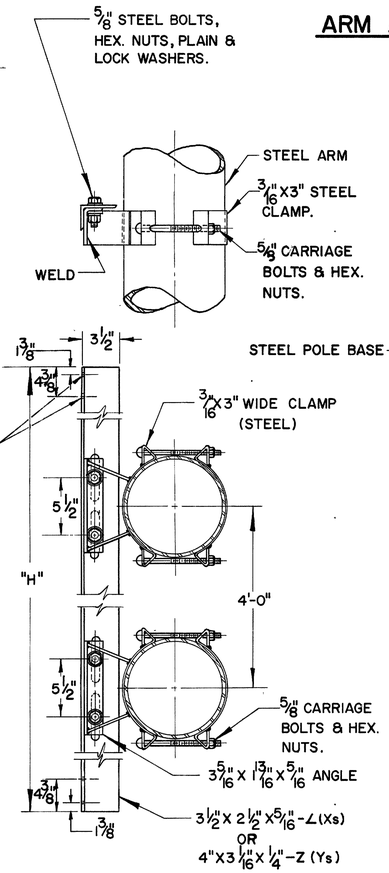
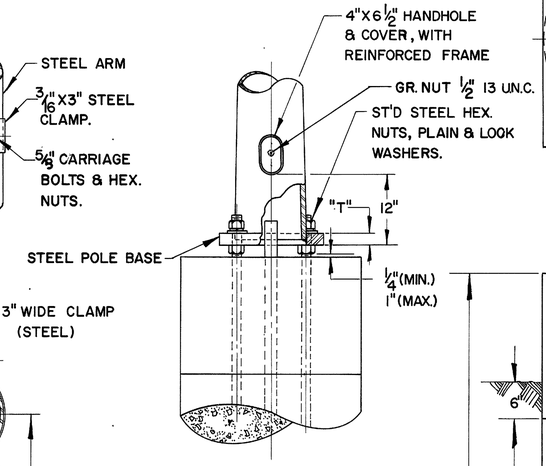


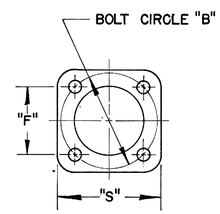


ARM ATTACHMENT DETAIL

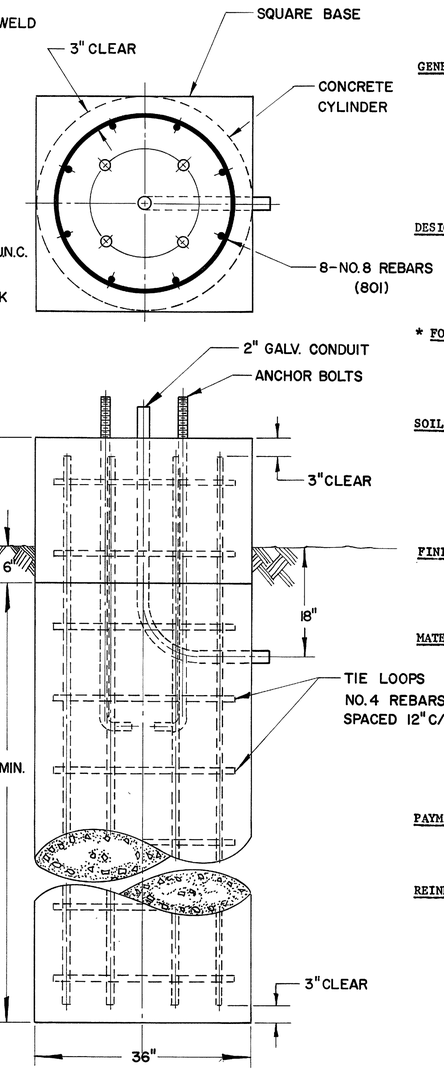


SIGN ATTACHMENT DETAIL





POLE DETAIL



FOUNDATION DETAIL

NOTES

GENERAL

MAXIMUM SIGN AREAS AND ARM LENGTHS SHOWN IN TABLE, ARE FOR BALANCED DESIGN ($C_1 = C_2$).

FOR UNBALANCED DESIGN ($C_1 \gtrless C_2$), THE PRODUCT OF THE ACTUAL SIGN AREA (C_1 H or C_2 H) TIMES 1/2 OF ACTUAL ARM (1/2 C_1 or 1/2 C_2) SHALL BE LESS THAN THE PRODUCT OF 45% OF MAXIMUM SIGN AREA TIMES 1/2 MAX ARM FOR BALANCED DESIGN. (0.45 H $2C_1$ $1/2C_1$ or 0.45 H $2C_2$ $1/2C_2$)

DESIGN

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

*** FOUNDATION**

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

SOILS

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

FINISH

ALL STRUCTURAL PORTIONS OF THE SIGN SUPPORTS, SIGN BRACKETS, HARDWARE AND CONDUIT SHALL BE HOT DIPPED GALVANIZED IN ACCORDANCE WITH 711.02 (EXCEPT AS OTHER WISE SHOWN).

MATERIALS

ALL MATERIALS TO BE FURNISHED SHALL BE IN ACCORDANCE WITH 711.02 WITH THE FOLLOWING ADDITIONS:

TAPERED TUBES SHALL BE STEEL, SAE 1015 AND COLD ROLLED TO OBTAIN A MINIMUM YIELD STRENGTH OF 48,000PSI.
STEEL PIPE: 4" DIAMETER AND UNDER SHALL BE STEEL-ASTM-A120
OVER 4" DIAMETER SHALL BE ASTM-A53, GRADE B
ANCHOR BOLTS SHALL BE HIGH STRENGTH STEEL ASTM-A107, GRADE C-1035
HIGH STRENGTH CLAMPS SHALL BE STEEL-ASTM-A242

PAYMENT FOR CONDUIT

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

REINFORCING STEEL

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

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

DESIGN	POLE SIZE (STD.)	MAX. ARM SIZE	MAX. SIGN LENGTH "L"	MAX. SIGN AREA	B	F	P	S	T	ANCHOR BOLTS	"D" MIN.
1.	3GA. 14"X10.78"X23'	4" SCH.40 12'-0"	24'-0"	120 SQ FT	20"	14⅛"	7"	20½"	2"	1¾" X 90"	9'
2.	3GA. 16.5"X13"X 25'	4"SCH.40 9"-0"	18'-0"	180 SQ FT	23½"	16⅝"	8"	24½"	2"	2" X 96"	11'
3.	3GA. 16.5" X13.28"X25'	6"SCH.40 12'-0"	24'-0"	180 SQ FT	23½"	16⅝"	8"	24½"	2"	2" X 96"	11'
4.	0GA. 18" X 14.5"X25'	6"SCH. 40 12'-0"	24'-0"	240 SQ FT	25½"	18"	9"	26½"	2½"	2¼"X96"	13'

REINFORCEMENT SCHEDULE				
MARK	NO.	LEN.	TYPE	
402	12"c/c	8'-6"	103	2'-6" 103
801	8	D_T-6"	STR.	

BUREAU OF TRAFFIC
OHIO DEPARTMENT OF HIGHWAYS

OVERHEAD SIGN SUPPORT	816 No.9.24	DATE 6-17-64

APPROVED _____
ENGINEER OF TRAFFIC

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

391

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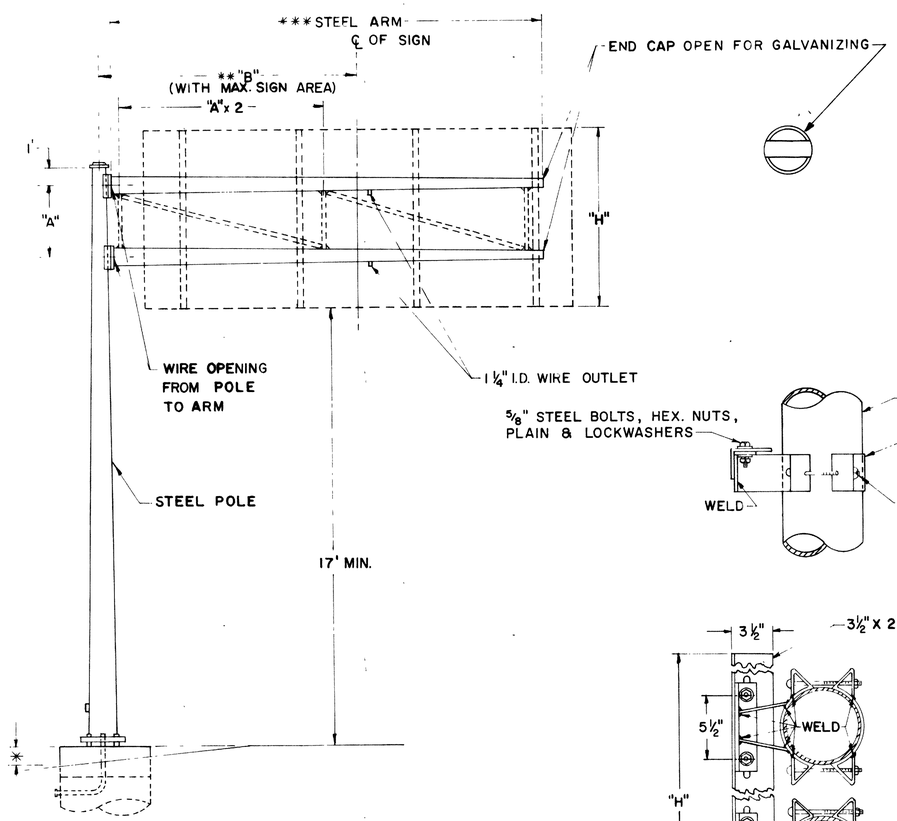
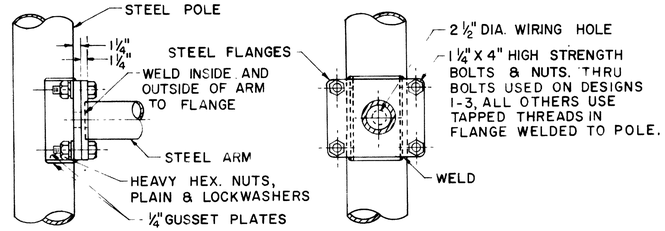
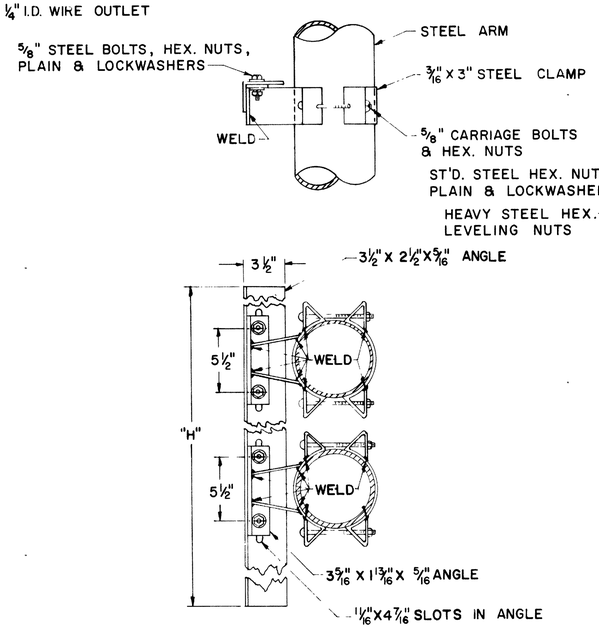
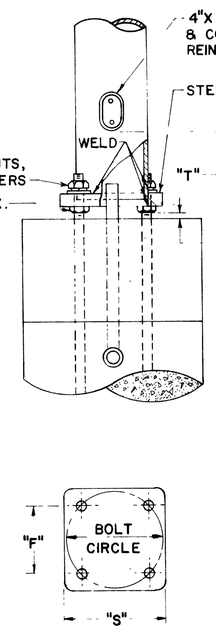




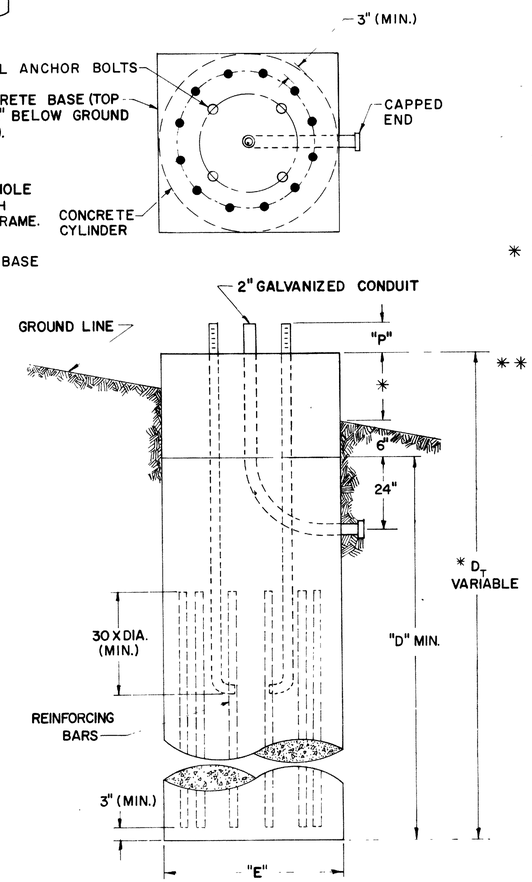
ARM ATTACHMENT



SIGN ATTACHMENT DETAIL



POLE DETAIL



FOUNDATION DETAIL

NOTES

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

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

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

*** ARMS 20' LONG OR LONGER ARE TO BE TRUSS TYPE WITH 3" X 3" X 3/8" ANGLES WELDED TO GUSSET PLATES.

MATERIAL- STEEL POLE BASES, FLANGES, AND END CAPS SHALL CONFORM TO THE REQUIREMENTS OF ASTM SPECIFICATION A 30 GRADE B. HIGH STRENGTH STEEL BOLTS SHALL CONFORM TO ASTM SPECIFICATION A193 GRADE B7 AFTER FABRICATION TAPERED POLES AND ARMS SHALL HAVE A MINIMUM YIELD STRENGTH OF 48,000 PSI.

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

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

DESIGN

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

DESIGN NO.	POLE SIZE	*** ARM SIZE	DIM A	DIM ** B	DIM "D" MIN.	DIM F	DIM F	DIM P	DIM S	DIM T	BOLT CIRCLE	ANCHOR BOLT SIZE	MAX SIGN AREA	REINF. BARS SIZE	REINF. BARS NO.
1	3 Ga, 12" X 8.78" X 23'-0"	7Ga, 6.9" X 4.66" X 16'-0"	4'	12'	9'	3'-0"	11 5/16"	7 3/4"	17"	2"	16"	1 3/4" X 90"	80	3/4"	12
2	3 Ga, 12" X 8.78" X 23'-0"	7 Ga, 8" X 5.2" X 20'-0"	4'	16'	9'	3'-0"	11 5/16"	7 3/4"	17"	2"	16"	1 3/4" X 90"	80	3/4"	12
3	3 Ga, 15" X 11.5" X 25'-0"	7 Ga, 8.3" X 6.06" X 16'-0"	4'	12'	11'	3'-0"	15 1/2"	8 3/8"	23"	2"	22"	2" X 96"	120	1"	12
4	3 Ga, 16" X 12.5" X 25'-0"	3 Ga, 9.2" X 6.40" X 20'-0"	4'	16'	11'	3'-0"	16 5/8"	8 3/8"	24 1/2"	2"	23 1/2"	2" X 96"	120	1"	12
5	0 Ga, 18" X 14.36" X 26'-0"	7 Ga, 11" X 7.92" X 22'-0"	6'	14'	13'	3'-0"	18"	9 3/8"	26 1/2"	2 1/2"	25 1/2"	2 1/4" X 120"	180	1 1/8"	12
6	0 Ga, 18" X 14.36" X 26'-0"	7 Ga, 12.5" X 8.86" X 26'-0"	6'	18'	13'	3'-0"	18"	9 3/8"	26 1/2"	2 1/2"	25 1/2"	2 1/4" X 120"	180	1 1/8"	12
7	2 PLY 7 Ga, 18" X 14.36" X 26'-0"	7 Ga, 12.5" X 9.14" X 24'-0"	6'	14'	15'	3'-0"	18"	9 3/4"	26 1/2"	2 1/2"	25 1/2"	2 1/2" X 144"	240	1 1/4"	12
8	2 PLY 1/4", 18" X 14.36" X 26'-0"	3 Ga, 12.5" X 8.58" X 28'-0"	6'	18'	15'	3'-0"	18"	11 1/4"	26 1/2"	3"	25 1/2"	3" X 144"	240	1 1/4"	12

BUREAU OF TRAFFIC
OHIO DEPARTMENT OF HIGHWAYS

OVERHEAD SIGN SUPPORT

816 No. 12.24

DATE 8-18-61 4-11-62

APPROVED Robert E. Comer
ENGINEER OF TRAFFIC

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

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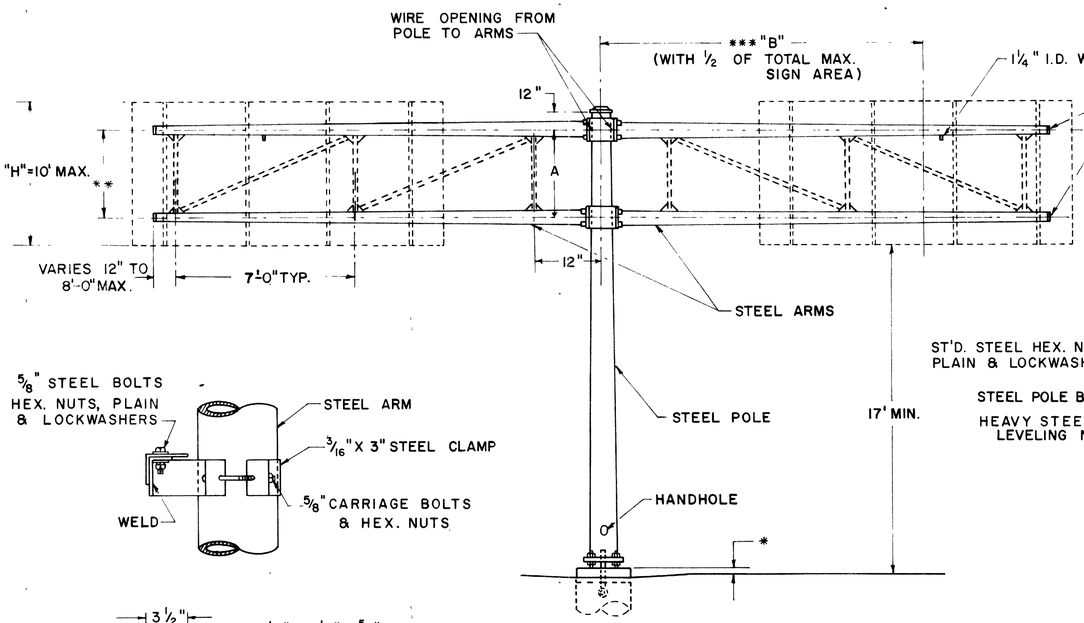
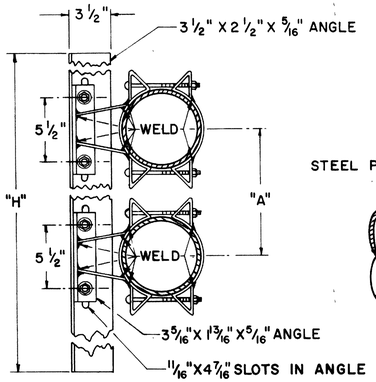
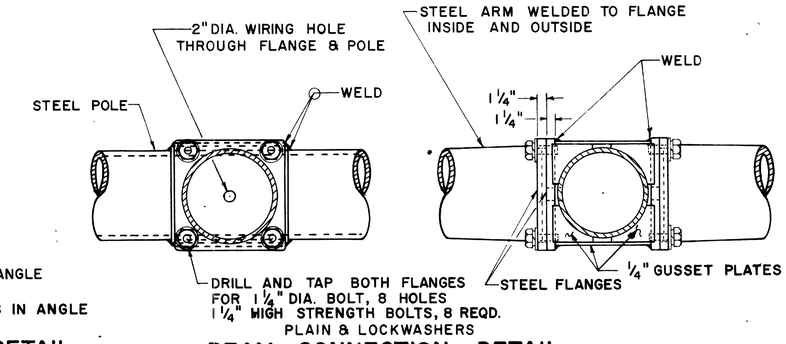




SIGN ATTACHMENT DETAIL



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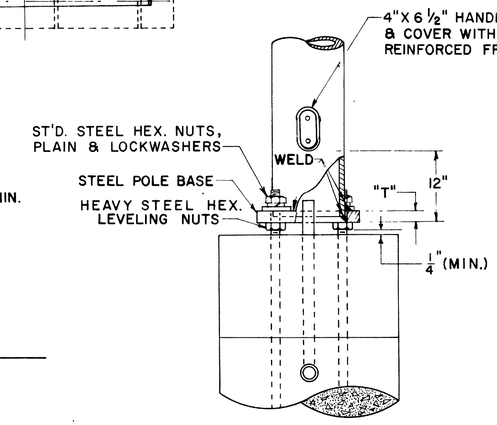
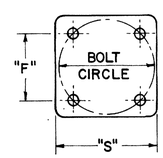
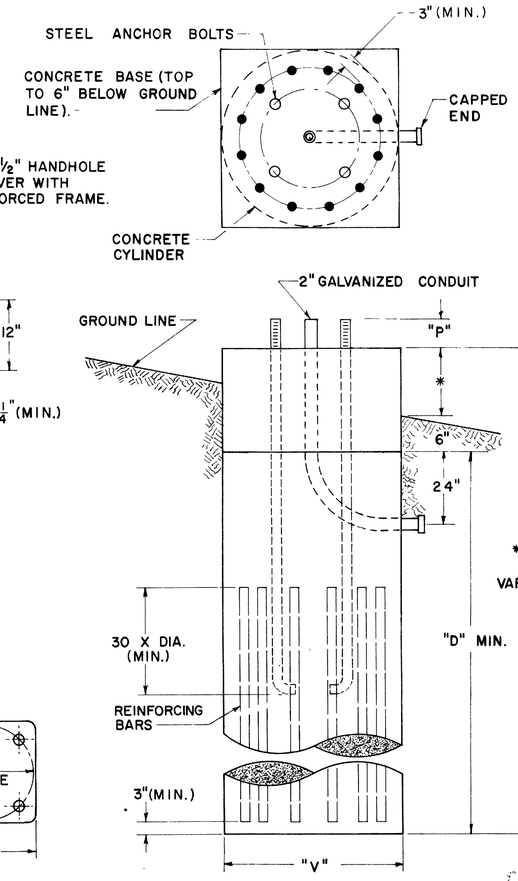




POLE DETAIL



FOUNDATION DETAIL

DESIGN NO.	POLE SIZE	* * ARM SIZE	DIM. A	DIM. *** B	DIM. "D" MIN.	DIM. F	DIM. P	DIM. S	DIM. T	BOLT CIRCLE	ANCHOR BOLT SIZE	DIM. V	MAX SIGN AREA	REINF. BARS SIZE	REINF. BARS NO.
1	3ga. 18"X14.64"X 24'-0"	7ga., 5.7"X 4.02"X 12'-0"	4'	8'	9'	18"	8 3/8"	26 1/2"	2"	25 1/2"	2" X 96"	3'-0"	160	3/4"	12
2	3ga. 18"X14.64"X24'-0"	7ga., 6.9"X4.66"X 16'-0"	4'	12'	9'	18"	8 3/8"	26 1/2"	2"	25 1/2"	2" X 96"	3'-0"	160	3/4"	12
3	0ga., 18" X 14.64" X 24'-0"	7ga., 7.5"X 5.82"X 12'-0"	4'	8'	11'	18"	9 3/8"	26 1/2"	2 1/2"	25 1/2"	2 1/4" X 108"	3'-0"	240	1"	12
4	0ga., 18"X 14.64"X 24'-0"	7ga., 8.3"X 6.06"X 16'-0"	4'	12'	11'	18"	9 3/8"	26 1/2"	2 1/2"	25 1/2"	2 1/4" X108"	3'-0"	240	1"	12
5	0ga., 18"X 14.64"X 24'-0"	7ga., 10"X 7.2 "X 20'-0	4'	16'	11'	18"	9 3/8"	26 1/2"	2 1/2"	25 1/2"	2 1/4" X108"	3'-0"	220	1"	12
6	2 ply 3ga., 18"X 14.5"X 25'-0"	7ga., 10"X 7.48" X 18'-0"	6'	10'	14'	18"	11 1/4"	26 1/2"	3'	25 1/2"	3" X 144"	3'-0"	360	1 1/8"	12
7	2 ply 3ga., 18"X14.5"X 25'-0"	7ga., 11"X 7.92" X 22'-0"	6'	14'	14'	18"	11 1/4"	26 1/2"	3'	25 1/2"	3" X144"	3'-0"	360	1 1/8"	12
8	2ply 0ga., 18"X 14.5" X 25'-0"	7ga., 12.5"X9.14"X 24'-0"	6'	14'	17'	18"	11 1/4"	26 1/2"	3"	25 1/2"	3" X 168"	3'-0"	480	1 1/4"	12
9	2ply 0ga., 18"X 14.5" X 25'-0"	3ga., 12.5"X 8.58"X 28'-0"	6'	18'	17'	18"	11 1/4"	26 1/2"	3"	25 1/2"	3" X 168"	3'-0"	480	1 1/4"	12

NOTES

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

*FOUNDATION - THE TOP ELEVATION OF ALL FOUNDATIONS SHALL BE BUILT UP 1'-0" ABOVE THE HIGHWAY CROWN.

**ERECTION - ARMS 20' AND OVER IN LENGTH SHALL BE TRUSS TYPE USING 3" X 3" X 3/8" ANGLES WELDED TO GUSSET PLATES WITH THE INSIDE EDGES OF THE ARMS PARALLEL.

***VALUES OF "B" MAY BE EXCEEDED PROVIDED THE PRODUCT OF ACTUAL SIGN AREA TIMES THE DISTANCE FROM ℄ OF POLE TO ℄ OF SIGN DOES NOT EXCEED THE PRODUCT OF "B" TIMES 1/2 THE MAX. SIGN AREA.

GENERAL - THE MAX. SIGN AREA ON EACH SIDE OF THE POLE EQUALS 1/2 THE MAX. TOTAL AREA IN THE CHART.

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

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

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

DESIGN

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

BUREAU OF TRAFFIC
OHIO DEPARTMENT OF HIGHWAYS

OVERHEAD SIGN SUPPORT

816 No. 10.48

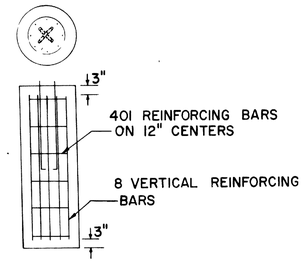
DATE 11-2-61 1-18-62 3-30-62 4-18-62 5-19-64

APPROVED Robert E. Conner
ENGINEER OF TRAFFIC

FED. RD DIVISION	STATE	PROJECT	
2	OHIO		

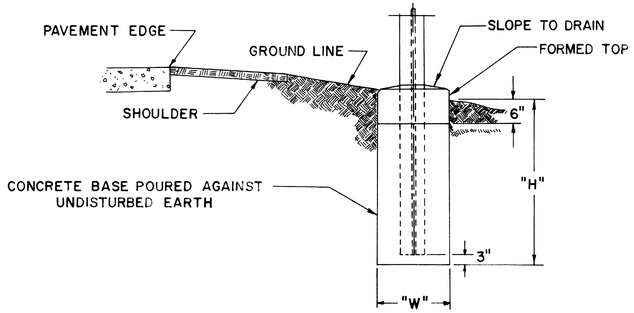
LOR.-90-13.01

BEAM SIZE	ANCHOR BOLTS DIA.	ANCHOR BOLTS LENGTH	BASE PLATE	HOLE SIZE	DIM. M	DIM. N	DIM. P	WELD SIZE	DIM. H	DIM. W	CU. YDS. FOR 2 POST	MARK	TYPE	NO.	LENGTH	WEIGHT FOR 1 POST
10 B 11.5	3/4"	3'-0"	7/8"x6"x18"	7/8"	3 1/2"	14"	3 1/2"	1/4"	5.25'	2'-6"	1.9	401	101	6	7'-6"	45
												402	STR.	8	5'-0"	
10 B 17	1"	3'-6"	7/8"x6"x18"	1 1/8"	3 3/4"	14"	4 1/4"	1/4"	6.0'	2'-6"	2.2	401	101	7	7'-6"	52
												403	STR.	8	5'-9"	
12 B 22	1"	4'-0"	1"x9"x19"	1 1/8"	5 1/2"	15"	4 1/4"	1/4"	6.75'	2'-6"	2.5	401	101	8	7'-6"	61
												404	STR.	8	7'-0"	
12 WF 27	1 1/4"	4'-0"	1"x9"x19"	1 3/8"	5 1/2"	15"	5 1/4"	1/4"	8.0'	2'-6"	2.9	401	101	9	7'-6"	94
												501	STR.	8	8'-0"	
14 WF 30	1 1/4"	4'-0"	1"x11"x20"	1 3/8"	7 1/2"	16"	5 1/4"	5/16"	8.25'	2'-6"	3.0	401	101	10	7'-6"	101
												502	STR.	8	8'-6"	
14 WF 34	1 1/4"	4'-0"	1"x12"x22"	1 3/8"	9"	18"	5 1/4"	5/16"	9.0'	2'-6"	3.3	401	101	10	7'-6"	103
												503	STR.	8	8'-9"	
16 WF 36	1 1/2"	5'-0"	1 1/4"x14"x23"	1 5/8"	10"	19"	6"	5/16"	9.75'	2'-6"	3.5	401	101	11	7'-6"	145
												601	STR.	8	9'-3"	
16 WF 40	1 1/2"	5'-6"	1 1/4"x14"x24"	1 5/8"	10"	20"	6"	5/16"	10.0'	2'-6"	3.6	401	101	11	7'-6"	148
												602	STR.	8	9'-6"	
16 WF 45	1 1/2"	6'-0"	1 1/4"x14"x24"	1 5/8"	10"	20"	6"	5/16"	10.5'	2'-6"	3.8	401	101	11	7'-6"	155
												603	STR.	8	10'-0"	
18 WF 50	1 3/4"	7'-6"	1 1/2"x14"x26"	1 7/8"	10"	22"	6 3/4"	5/16"	11.5'	2'-6"	4.2	401	101	12	7'-6"	164
												604	STR.	8	10'-6"	

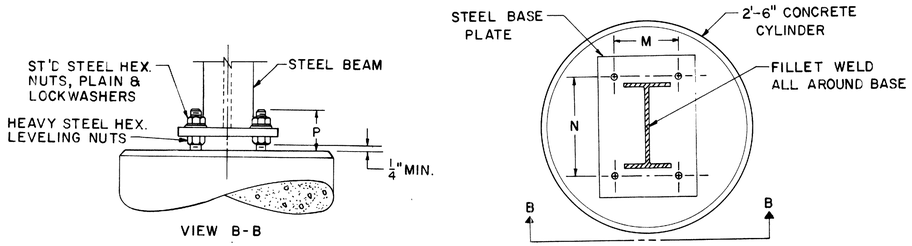


REINFORCING FOR ALTERNATE ANCHOR BASE

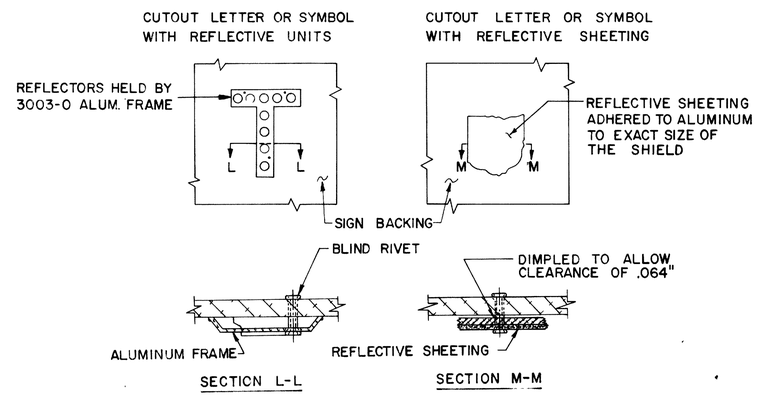
BEAM SIZE	DIM. W	DIM. H	CU. YDS. CONC. 2 POST
4# POST	1'-0"	4.0'	0.2
4# BEAM	1'-0"	4.0'	0.2
6# BEAM	1'-0"	4.0'	0.2
8# BEAM	1'-0"	4.0'	0.2
10 B 11.5	2'-6"	5.25'	1.9
10 B 17	2'-6"	6.0'	2.2
12 B 22	2'-6"	6.75'	2.5
12 WF 27	2'-6"	8.0'	2.9
14 WF 30	2'-6"	8.25'	3.0
14 WF 34	2'-6"	9.0'	3.3
16 WF 36	2'-6"	9.75'	3.5
16 WF 40	2'-6"	10.0'	3.6
16 WF 45	2'-6"	10.5'	3.8
18 WF 50	2'-6"	11.5'	4.2



FOUNDATION DETAILS FOR EMBEDDED POSTS AND BEAMS



ALTERNATE ANCHOR BASE DETAILS



DEMOUNTABLE LETTERS & SYMBOLS

NOTES

PLAN QUANTITIES FOR POSTS AND STRUCTURAL SUPPORTS ARE BASED UPON THE "FOUNDATION DETAILS FOR EMBEDDED POSTS AND BEAMS".

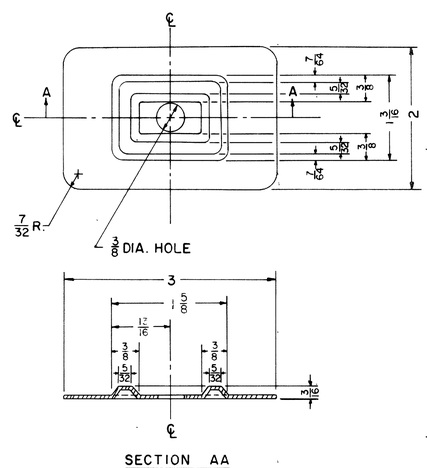
IF THE CONTRACTOR ELECTS TO USE THE METHOD SHOWN FOR "ALTERNATE ANCHOR BASE DETAILS", THE PLAN QUANTITY OF EMBEDDED BEAM ONLY WILL BE ALLOWED IN EXCHANGE AND FULL PAYMENT FOR THE BASE PLATE, ANCHOR BOLTS AND REINFORCING STEEL.

WHERE ANCHOR BASES ARE USED, THE BEAM SIZE SHALL DETERMINE THE ANCHOR BOLT AND BASE PLATE SIZE.

DEMOUNTABLE UNITS SHALL BE ATTACHED TO THE ALUMINUM PANELS WITH ALUMINUM BLIND RIVETS. CARE SHALL BE TAKEN TO INSURE THAT ALL SEGMENTS OF EACH LETTER OR SYMBOL ARE SECURELY AFFIXED TO THE BACKING. LETTERS CONTAINING REFLECTIVE UNITS SHALL BE FASTENED IN ACCORDANCE WITH MANUFACTURERS SPECIFICATIONS.

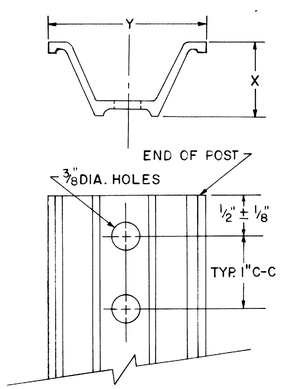
DEMOUNTABLE SHEILDS SHALL BE AFFIXED TO THE BACKING UTILIZING 5/16" TRUSS HEAD BOLTS, PLAIN AND LOCKWASHERS FOR HOLE LOCATION DETAILS SEE SHEET NO. N/A.

IN LIEU OF THE .040" THICK FRAME SPECIFIED IN SUPPLEMENTAL SPECIFICATION 815.08, THE FRAMES FOR THE REFLECTIVE UNITS IN THE SIGN OUTLINES ONLY, MAY BE .032" THICK ALUMINUM. (A.S.T.M. B209GS11A-T6)



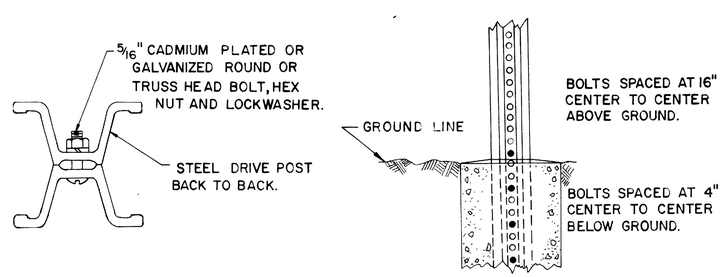
NOTE:
THE PLATE IS SYMMETRICAL ABOUT EITHER CENTERLINE.
METAL SHALL BE 16 GAUGE STEEL.
ALL DIMENSIONS ARE IN INCHES.

BEARING PLATE DETAIL



WEIGHT PER FOOT	X ± 3/32"	Y ± 1/8"
2.00 #	1 15/32"	3 1/16"
3.00 #	1 7/8"	3 1/2"
4.00 #	2"	3 5/8"

DRIVE POST DETAILS



4#, 6# & 8# BEAM DETAILS

BUREAU OF TRAFFIC
OHIO DEPARTMENT OF HIGHWAYS

MISCELLANEOUS SIGNING ITEMS

MS I

DATE 10-29-63 8-19-64 10-13-65

APPROVED Fred C. Talbot
ENGINEER OF TRAFFIC

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

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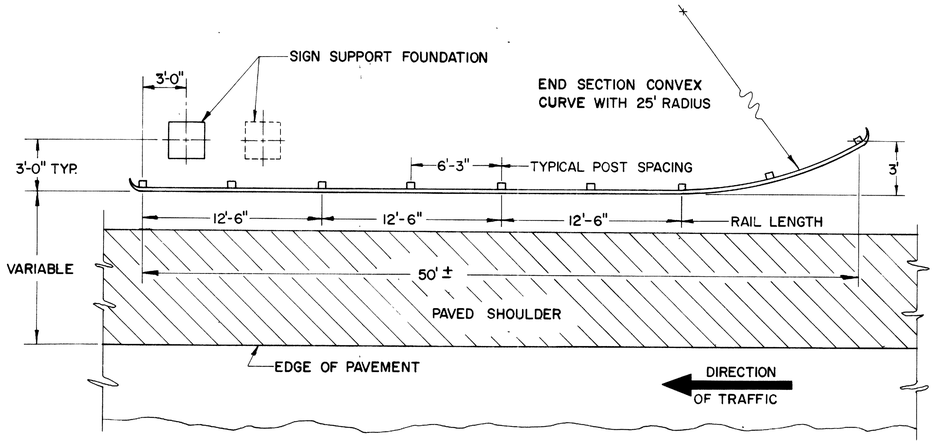
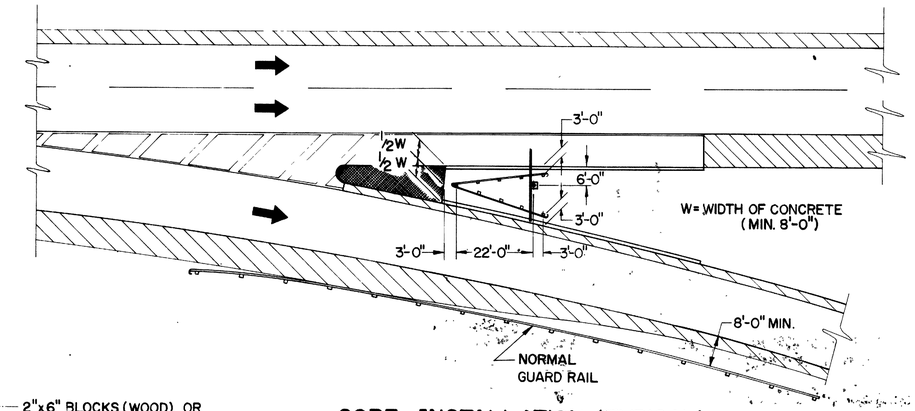
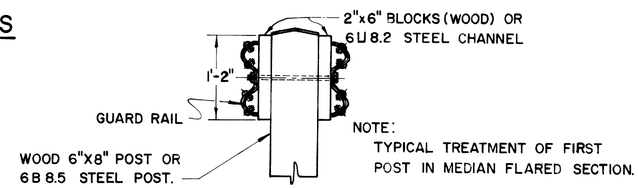


GUARD RAIL DETAILS

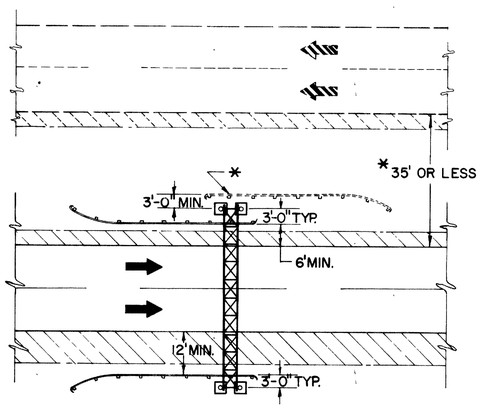


GORE INSTALLATION (TYPICAL)

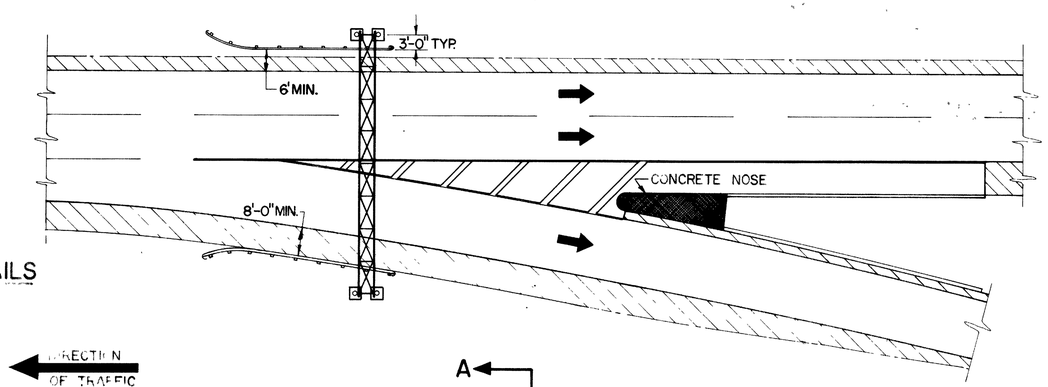


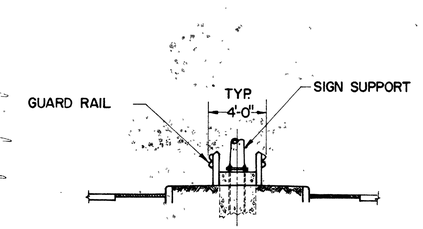
NOTE:
TYPICAL TREATMENT OF FIRST POST IN MEDIAN FLARED SECTION.

SECTION B-B

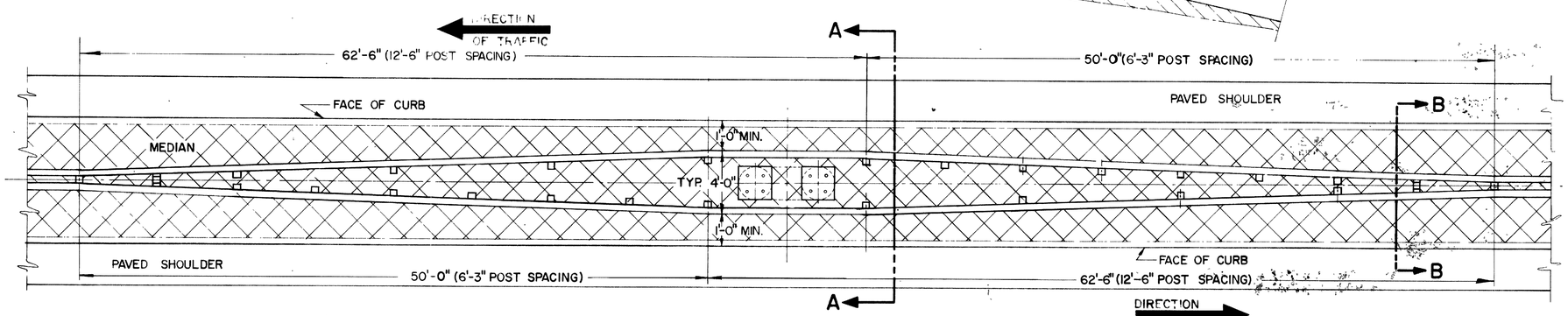


GUARD RAIL DETAILS
(SPAN TYPE)





SECTION A-A



MEDIAN GUARDRAIL DETAILS

NOTES

GENERAL

PROTECTIVE GUARD RAIL FOR OVERHEAD SIGN STRUCTURES SHALL CONFORM TO ITEM 606 AND STANDARD CONSTRUCTION DRAWING GR. 1 AND 2A.

A MIN. OF 50' OF GUARDRAIL IS REQUIRED USING 6'-3" POST SPACING. WHEN 12'-6" POST SPACING IS SPECIFIED, THE MINIMUM GUARD RAIL LENGTH SHALL BE 75'.

WHERE THE PROPOSED GUARD RAIL FLARES, IT SHALL BE CONSTRUCTED OF GUARD RAIL ELEMENTS WHICH HAVE BEEN FABRICATED TO FIT.

IN CASES WHERE NO RADII HAS BEEN SPECIFIED OR THE FABRICATED ELEMENTS DO NOT FIT THE CONDITIONS, THE TWO END POSTS OF THE FLARED SECTION SHALL BE ENCASED IN A MINIMUM THICKNESS OF 4" OF CLASS "E" CONCRETE FOR THE FULL DEPTH OF OF THE POST BELOW THE GROUND LINE. PAYMENT FOR ENCASEMENT, IF REQUIRED, SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THE GUARD RAIL.

ALL GUARD RAIL SHALL HAVE APPROPRIATE TERMINAL SECTIONS. FOR DETAILS SEE GR. 2A THE GORE INSTALLATIONS NOSE SECTION SHALL BE A BARRIER TERMINAL TYPE MOUNTED ON A SINGLE POST.

DESIGN

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

BUREAU OF TRAFFIC
OHIO DEPARTMENT OF HIGHWAYS

GUARD RAIL DETAILS FOR OVERHEAD SIGN SUPPORTS	GR-7	DATE 3-10-65 6-1-65 9-10-65 11-8-65
APPROVED Fred C. Taylor ENGINEER OF TRAFFIC		

GUARD RAIL DETAILS FOR OVERHEAD SIGN SUPPORTS, GR.-7

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

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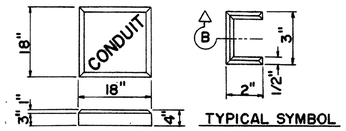
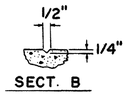


CONCRETE MARKER

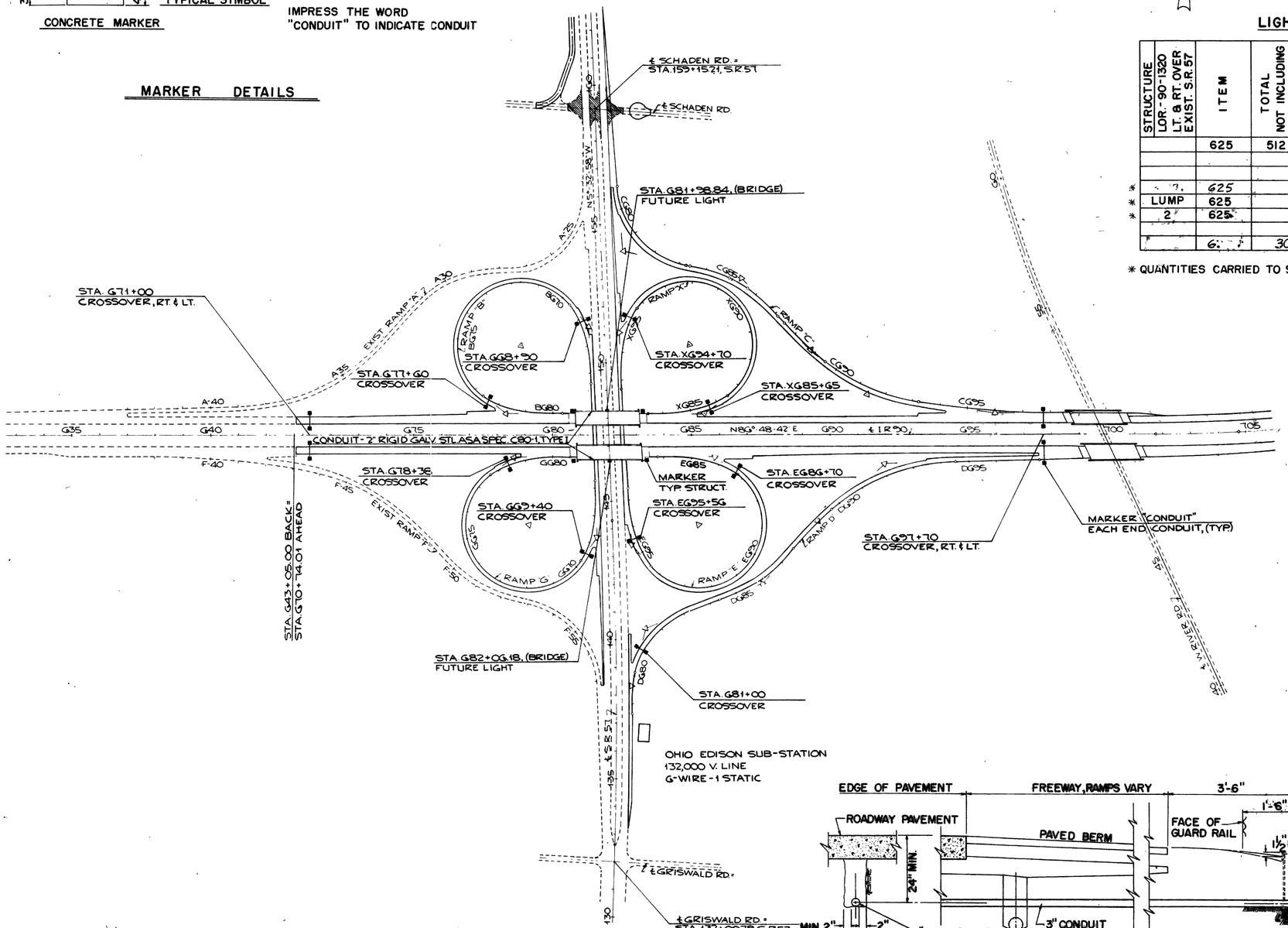
TYPICAL SYMBOL



SECT. B

IMPRESS THE WORD "CONDUIT" TO INDICATE CONDUIT

MARKER DETAILS



LIGHTING SUMMARY (FOR FUTURE LIGHTING)

	STRUCTURE LOR.-90-1320 LT. & RT. OVER EXIST. S.R. 57	ITEM	TOTAL NOT INCLUDING STRUCTURES	UNIT	DESCRIPTION
		625	512	LIN.FT.	3" CONDUIT, RIGID FERROUS METAL, 713.04, TYPE II OR TYPE III.
*	[illegible]	625		LIN.FT.	2" CONDUIT, RIGID FERROUS METAL, 713.04, TYPE II OR TYPE III. IN BRIDGE
*	LUMP	625		LUMP	BRIDGE GROUNDING SYSTEM
*	2	625		SET (4)	LIGHT POLE ANCHOR RODS FOR BRIDGES (L) 1"X40"
		6[illegible]	30	EACH	[illegible] MARKED "CONDUIT"

* QUANTITIES CARRIED TO STR. NO. LOR-90-1320

GENERAL NOTES

THE CONTRACTOR SHALL COMPLY WITH ALL THE REQUIREMENTS OF SECTION 625 OF THE CONSTRUCTION AND MATERIAL SPECIFICATIONS OF THE STATE OF OHIO, DATED JANUARY 1, 1965.

FUTURE LIGHTING FOR STRUCTURES: QUANTITIES FOR CONDUIT, GROUND SYSTEM, ANCHOR BOLTS, FOR FUTURE LIGHTING SHALL BE INCLUDED WITH THE STRUCTURE LIGHTING QUANTITIES. BRIDGE LIGHTING DETAILS SHEET NOS. 406, 410 & 411.

LIGHTING QUANTITIES FOR BRIDGES APPEAR ON THIS SHEET AS ITEMIZED QUANTITIES ONLY.

CROSSOVER CONDUIT: SHALL BE 3" AS SHOWN AND LOCATED ON THE PLANS. THE CONDUIT SHALL COMPLY WITH ITEM 713.04 OF THE CONSTRUCTION AND MATERIAL SPECIFICATIONS FOR ALLOY STEEL OR WROUGHT IRON, RESPECTIVELY. THE CONDUIT SHALL CONTAIN A NO. 10 PULL WIRE AND CAPPED EACH END.

PAYMENT: SHALL BE MADE AT THE CONTRACT UNIT PRICE BID PER LINEAL FOOT OF THE SIZE AND TYPE SPECIFIED AND ACCEPTED, MEASURED HORIZONTALLY ALONG THE CENTERLINE OF THE CONDUIT. THE CONDUIT SHALL EXTEND A DISTANCE OF 3.5 FEET BEYOND THE PAVED BERM ON EITHER SIDE OF THE FREEWAY OR RAMP, WHICH PAYMENT SHALL BE FULL COMPENSATION FOR FURNISHING AND INSTALLING THE CONDUIT, EXCAVATION, BACKFILLING, COMPACTION, FILLINGS, CAPS, DISPOSAL OF WASTES, PULL WIRES AND ALL INCIDENTALS REQUIRED.

CONDUIT ON STRUCTURES: SHALL CONFORM TO ITEMS 625.13 AND 713.04 OF THE CONSTRUCTION AND MATERIAL SPECIFICATIONS AND AS SHOWN AND DETAILED ON THE PLANS, TYPE II OR III. [illegible] SHALL CONTAIN NO.10 PULL WIRE AND CAPPED AT EACH END.

PAYMENT: SHALL BE MADE AT THE CONTRACT UNIT PRICE BID PER LINEAL FOOT OF THE SIZE AND TYPE SPECIFIED AND ACCEPTED, MEASURED ALONG THE CENTERLINE FROM START TO TERMINATION, WHICH PRICE SHALL BE FULL COMPENSATION FOR FURNISHING AND INSTALLING THE CONDUIT, FITTING, COUPLINGS, ELLS, CAPS, DRAINS, PULL WIRES, CLAMPS AND ALL INCIDENTALS REQUIRED.

STRUCTURE GROUNDS: SHALL CONFORM TO ITEM 625.20 OF THE CONSTRUCTION AND MATERIAL SPECIFICATIONS.

MARKERS: CONCRETE MARKERS SHALL CONFORM TO ITEM 625.16 OF THE CONSTRUCTION AND MATERIAL SPECIFICATIONS AND AS DETAILED ON THE PLANS. MARKERS SHALL BE LOCATED AS SHOWN ON THE PLANS AND ADDITIONAL MARKERS AS AUTHORIZED OR ORDERED BY THE ENGINEER.

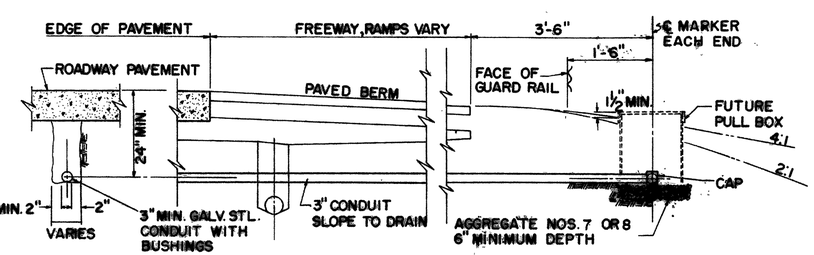
PAYMENT: SHALL BE MADE AT THE CONTRACT UNIT PRICE BID FOR EACH MARKER INSTALLED AND ACCEPTED.

ANCHOR BOLTS

FOUR HIGH GRADE STEEL ANCHOR BOLTS FITTED WITH HEX NUTS SHALL BE FURNISHED FOR EACH LIGHT POLE. EACH ANCHOR BOLT SHALL HAVE AN "L" BEND AT THE BOTTOM & BE THREADED AT THE TOP END. THREADED ENDS & NUTS SHALL BE GALVANIZED AS PER ASTM A-153 WITH GALV. EXTENDING 1" TO 4" BEYOND THREADS. ANCHOR BOLTS SHALL CONFORM TO ASTM A-107, GRADE 1035 SPECIAL QUALITY, AND SHALL CONFORM WITH THE FOLLOWING MIN. REQUIREMENTS: BOLT STOCK SHALL CONFORM WITH ASTM A-29 & NOMINAL BAR SIZE SHALL EQUAL NOMINAL BOLT SIZE.

SIZE	YEILD P.S.I.	ULTIMATE P.S.I.
3/4" THRU 1 1/2"	46000	67000
1 3/4" THRU 4"	42000	63000

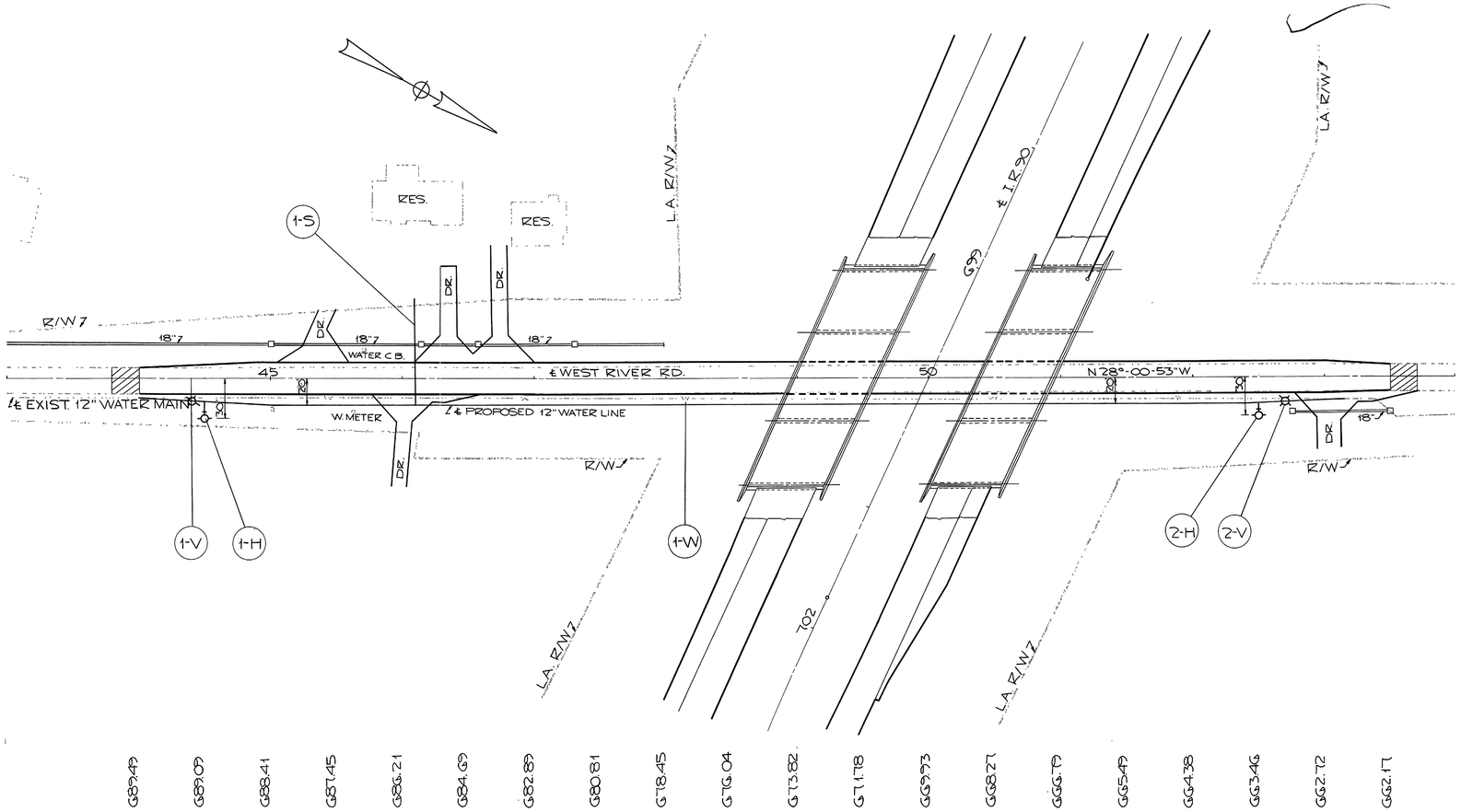
ON STRUCTURES ANCHOR BOLTS MUST EXTEND DOWN INTO THE FIRST POUR OF THE DECK. BOLTS 1 1/4" IN DIA. OR LARGER MUST BE "U" BOLTS EXTENDING INTO THE FIRST POUR. SEE BRIDGE DETAIL SHEET NO. 411



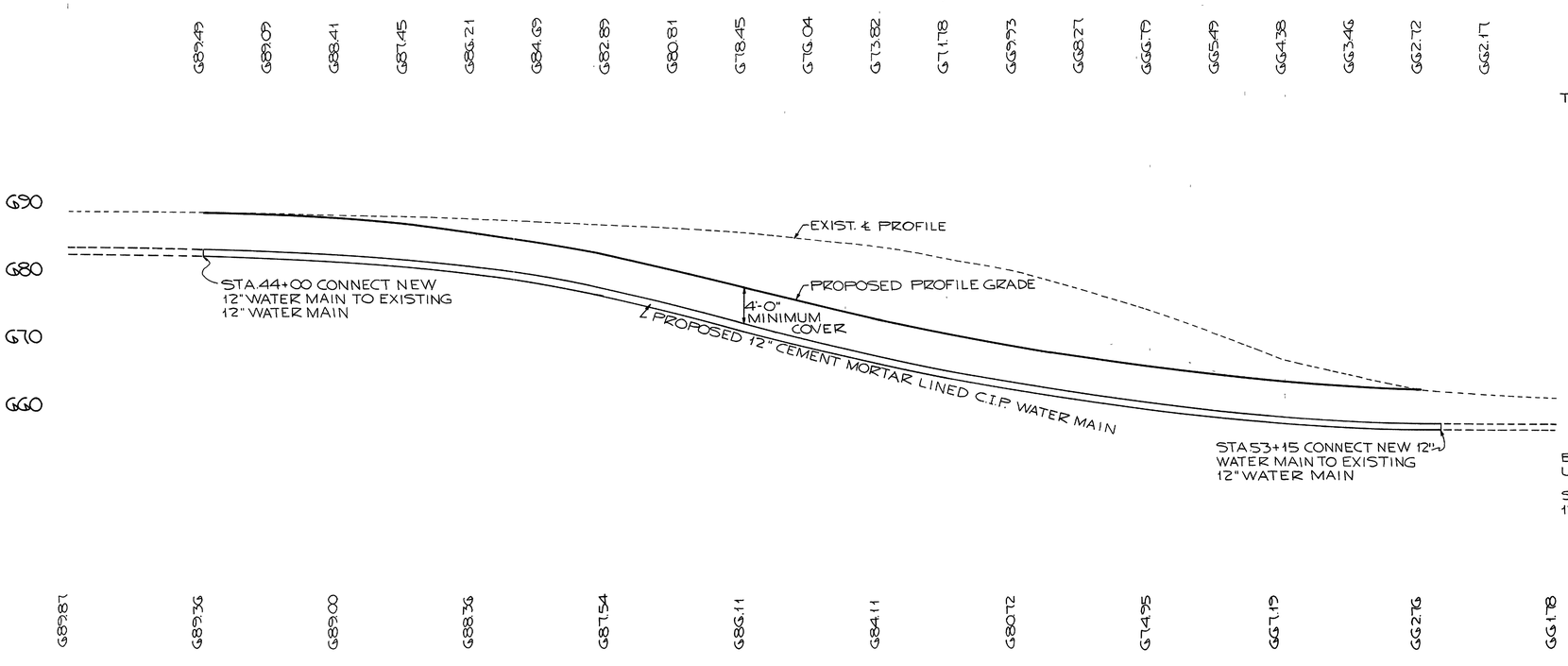
TYPICAL CONDUIT CROSSOVER DETAIL

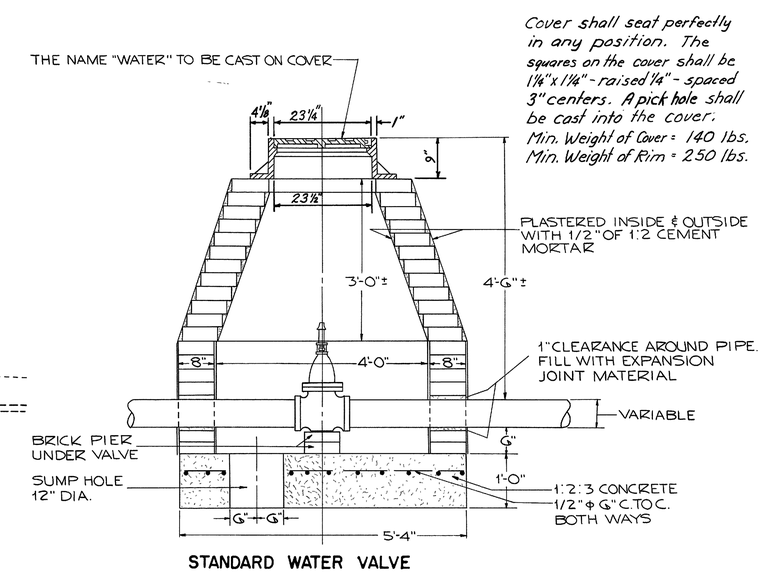
CROSSOVER CONDUIT AND DETAILS FOR FUTURE LIGHTING

LOR-90-13.01



REFERENCE	SIDE	STATION FROM	STATION TO	558.14 12" CEMENT MORTAR LINED C.I.P. 150 LBS. PRESSURE LIN.FT.	12" VALVE WITH VALVE WELL EACH	6" HYDRANT REMOVED AND RESET EACH	6" VALVE WITH VALVE BOX EACH	12"x6" TEE EACH	6" C.I.P. 150 LBS. PRESSURE LIN.FT.	3/4" COPPER SERVICE LINE LIN.FT.
1-W	RT.	44+00	53+15	915						
1-H	RT.	44+50				1	1	1	10	
1-V	RT.	44+40			1					
1-S	LT.	46+10								80
2-H	RT.	52+50				1	1	1	10	
2-V	RT.	52+70			1					
TOTALS				915	2	2	2	2	20	80





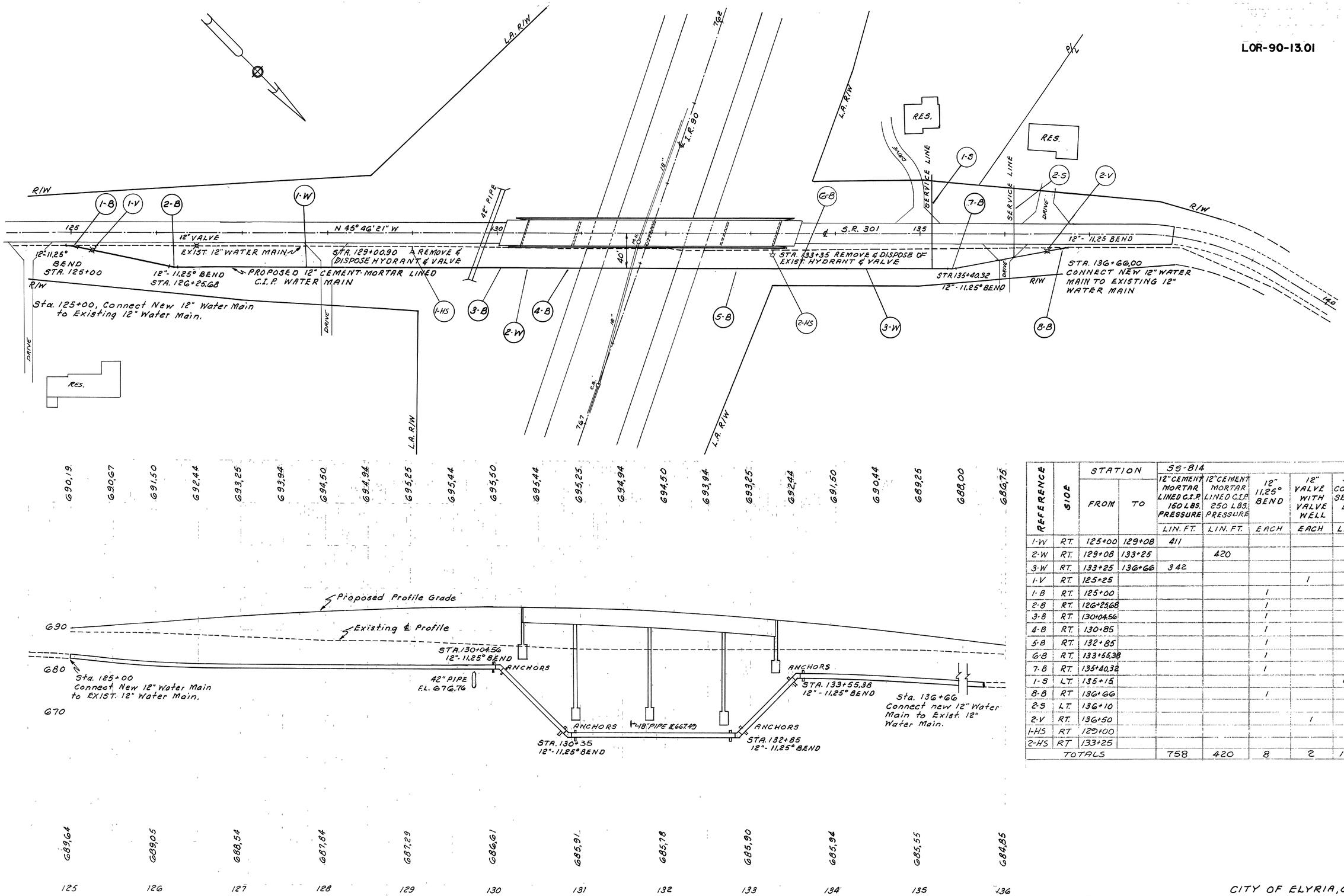
STANDARD WATER VALVE WELL WITH COVER
SCALE: 3/4" = 1'
CITY OF ELYRIA, OHIO

Rev. 4-12-'66

CITY OF ELYRIA, OHIO

STA.44+00 TO STA.53+15, WEST RIVER ROAD, WATER MAIN

LOR-90-13.01

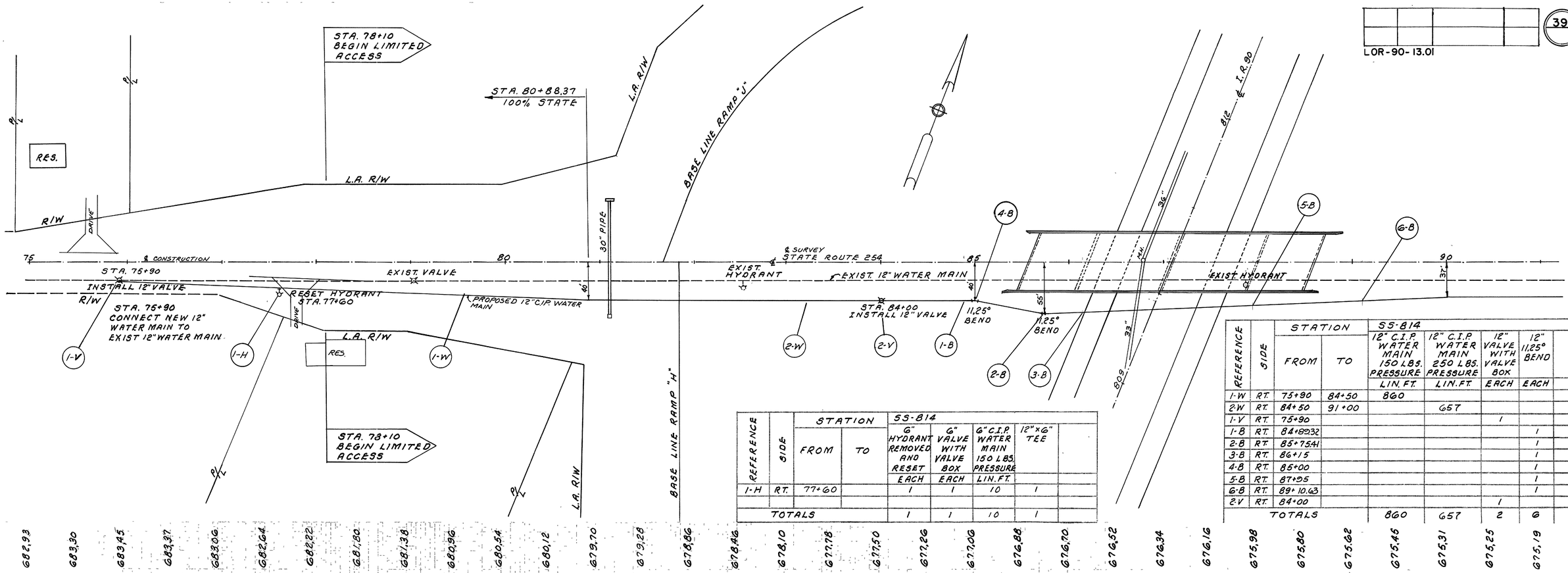


REFERENCE	SIDE	STATION FROM	STATION TO	SS-814 12" CEMENT MORTAR LINED C.I.P. 160 LBS. PRESSURE	12" CEMENT MORTAR LINED C.I.P. 250 LBS. PRESSURE	12" 11.25° BEND	12" VALVE WITH VALVE WELL	3/4" COPPER SERVICE LINE	6" HYDRANT REMOVED & DISPOSED OF
				LIN. FT.	LIN. FT.	EACH	EACH	LIN. FT.	EACH
1-W	RT.	125+00	129+08	411					
2-W	RT.	129+08	133+25		420				
3-W	RT.	133+25	136+66	342					
1-V	RT.	125+25					1		
1-B	RT.	125+00				1			
2-B	RT.	126+25.68				1			
3-B	RT.	130+04.56				1			
4-B	RT.	130+85				1			
5-B	RT.	132+85				1			
6-B	RT.	133+55.38				1			
7-B	RT.	135+40.32				1			
1-S	LT.	135+15						110	
8-B	RT.	136+66				1			
2-S	LT.	136+10						84	
2-V	RT.	136+50					1		
1-HS	RT.	129+00							1
2-HS	RT.	133+25							1
TOTALS				758	420	8	2	194	2

CITY OF ELYRIA, OHIO

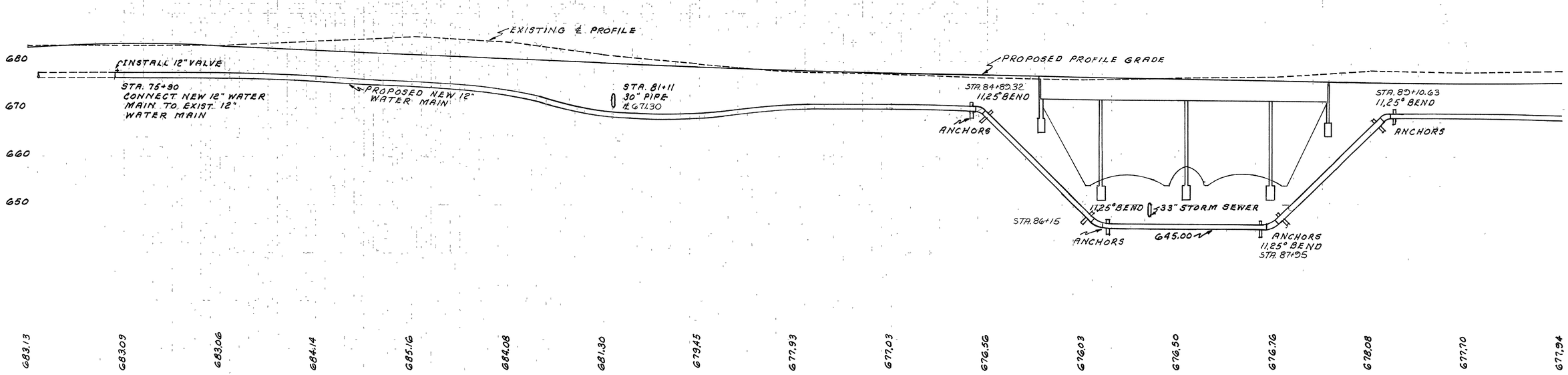
STA. 125+00 TO STA. 136+65.90, S.R. 301, WATER MAIN

LOR-90-13.01



REFERENCE	SIDE	STATION FROM	STATION TO	SS-814 6" HYDRANT REMOVED AND RESET EACH	6" VALVE WITH VALVE BOX EACH	6" C.I.P. WATER MAIN 150 LBS. PRESSURE LIN. FT.	12"x6" TEE	
1-H	RT.	77+60		1	1	10	1	
TOTALS				1	1	10	1	

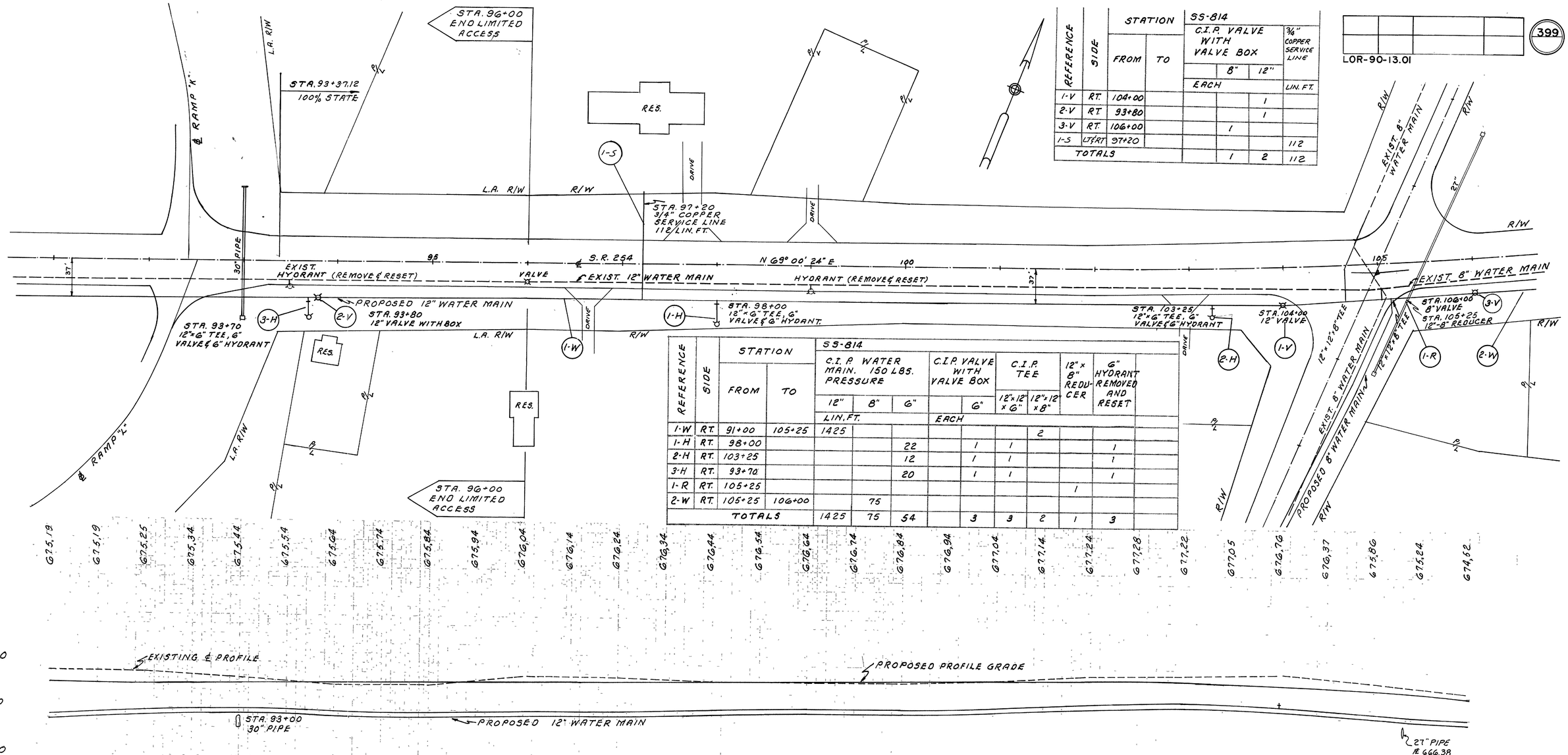
REFERENCE	SIDE	STATION FROM	STATION TO	SS-814 12" C.I.P. WATER MAIN 150 LBS. PRESSURE LIN. FT.	12" C.I.P. WATER MAIN 250 LBS. PRESSURE LIN. FT.	12" VALVE WITH VALVE BOX EACH	12" 11.25° BEND EACH	
1-W	RT.	75+90	84+50	860				
2-W	RT.	84+50	91+00		657			
1-V	RT.	75+90				1		
1-B	RT.	84+89.32					1	
2-B	RT.	85+75.41					1	
3-B	RT.	86+15					1	
4-B	RT.	85+00					1	
5-B	RT.	87+95					1	
6-B	RT.	89+10.63					1	
2-V	RT.	84+00				1		
TOTALS				860	657	2	6	



SHEFFIELD VILLAGE

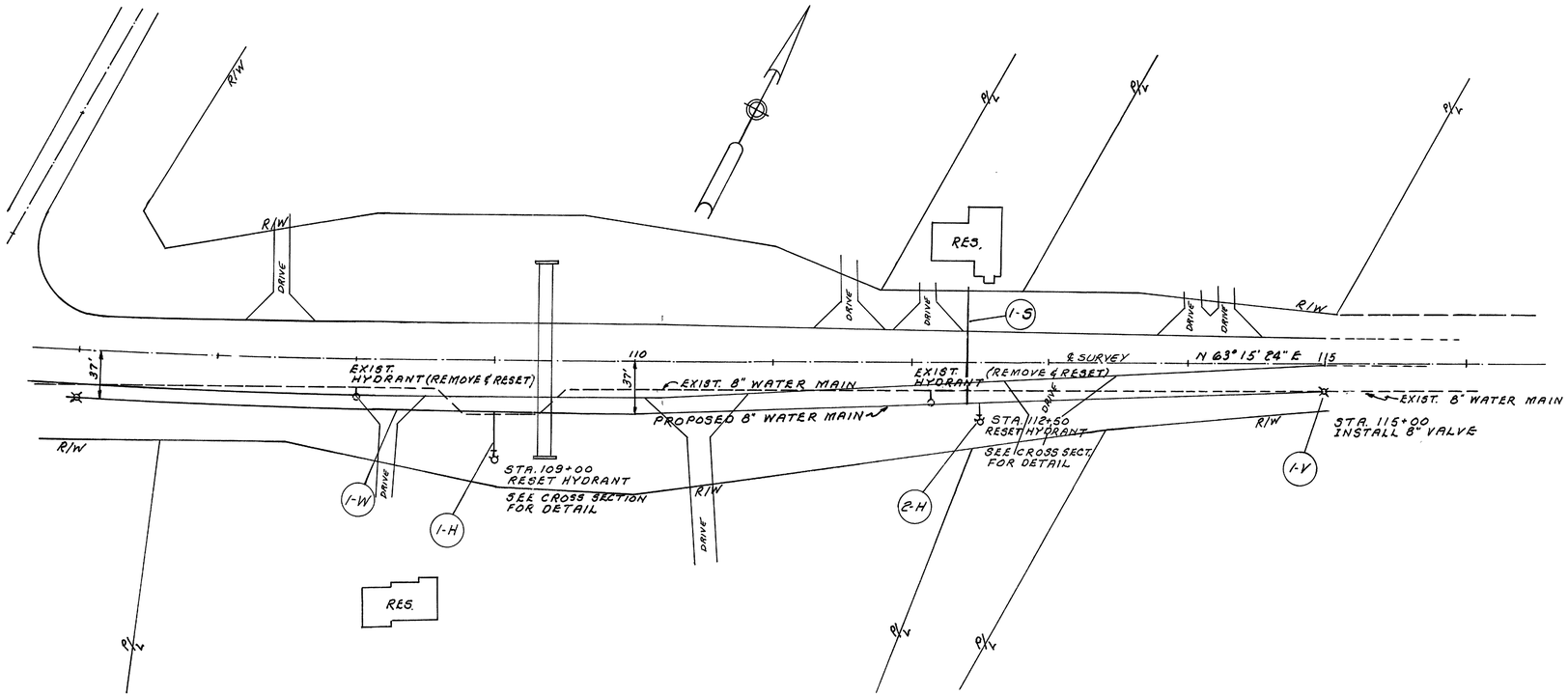
STA. 75+90 TO STA. 91+00 S.R. 254 WATER MAIN

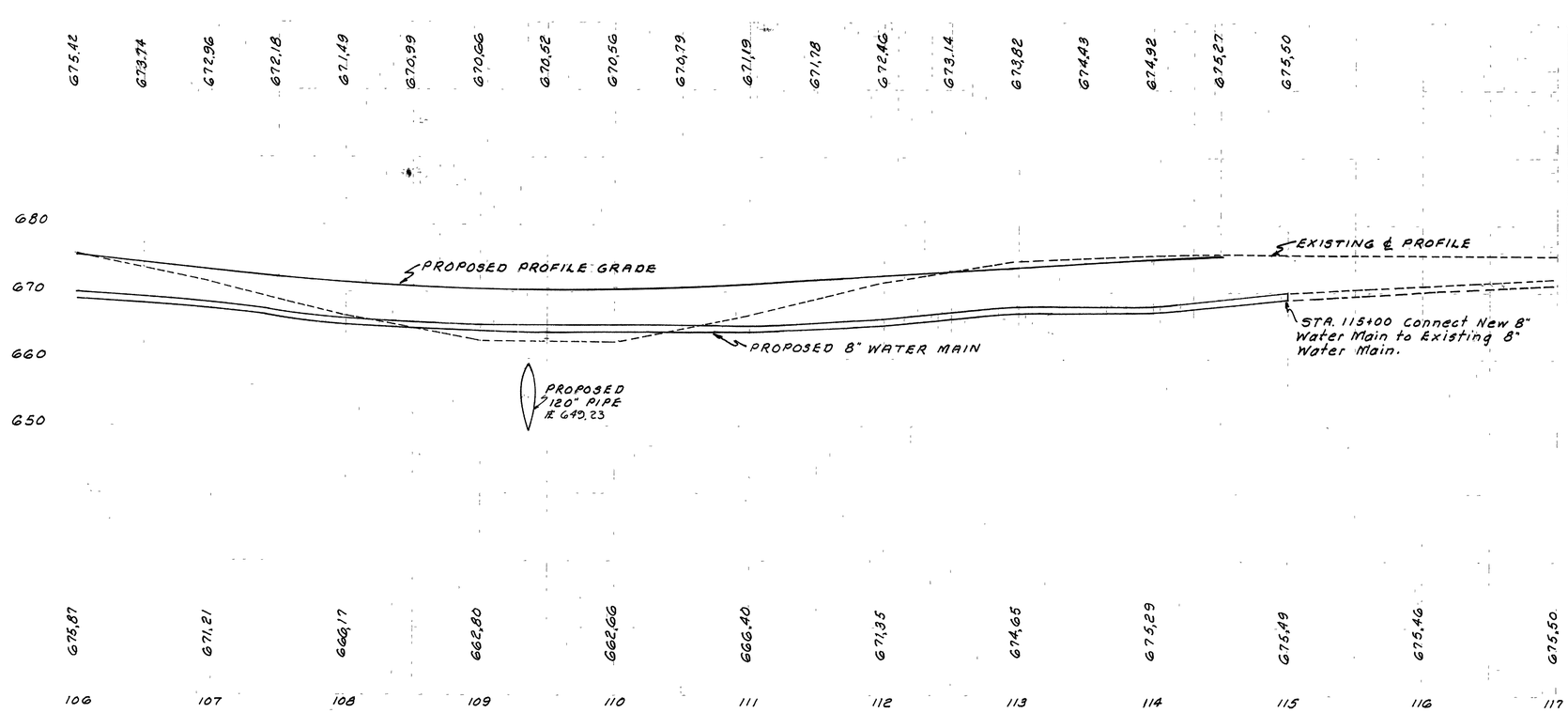
LOR-90-13.01



REFERENCE	SIDE	STATION FROM	STATION TO	SS-814 C.I.P. VALVE WITH VALVE BOX 8"	12"	3/4" COPPER SERVICE LINE
				EACH		LIN. FT.
1-V	RT.	104+00			1	
2-V	RT.	93+80			1	
3-V	RT.	106+00		1		
1-S	LT & RT	97+20				112
TOTALS				1	2	112

REFERENCE	SIDE	STATION FROM	STATION TO	SS-814 C.I.P. WATER MAIN. 150 LBS. PRESSURE 12"	8"	6"	C.I.P. VALVE WITH VALVE BOX	6"	C.I.P. TEE 12"×12"×6"	12"×12"×8"	12"×8" REDUCER	6" HYDRANT REMOVED AND RESET	
				LIN. FT.			EACH						
1-W	RT.	91+00	105+25	1425						2			
1-H	RT.	98+00				22		1	1			1	
2-H	RT.	103+25				12		1	1			1	
3-H	RT.	93+70				20		1	1			1	
1-R	RT.	105+25									1		
2-W	RT.	105+25	106+00		75								
TOTALS				1425	75	54		3	3	2	1	3	





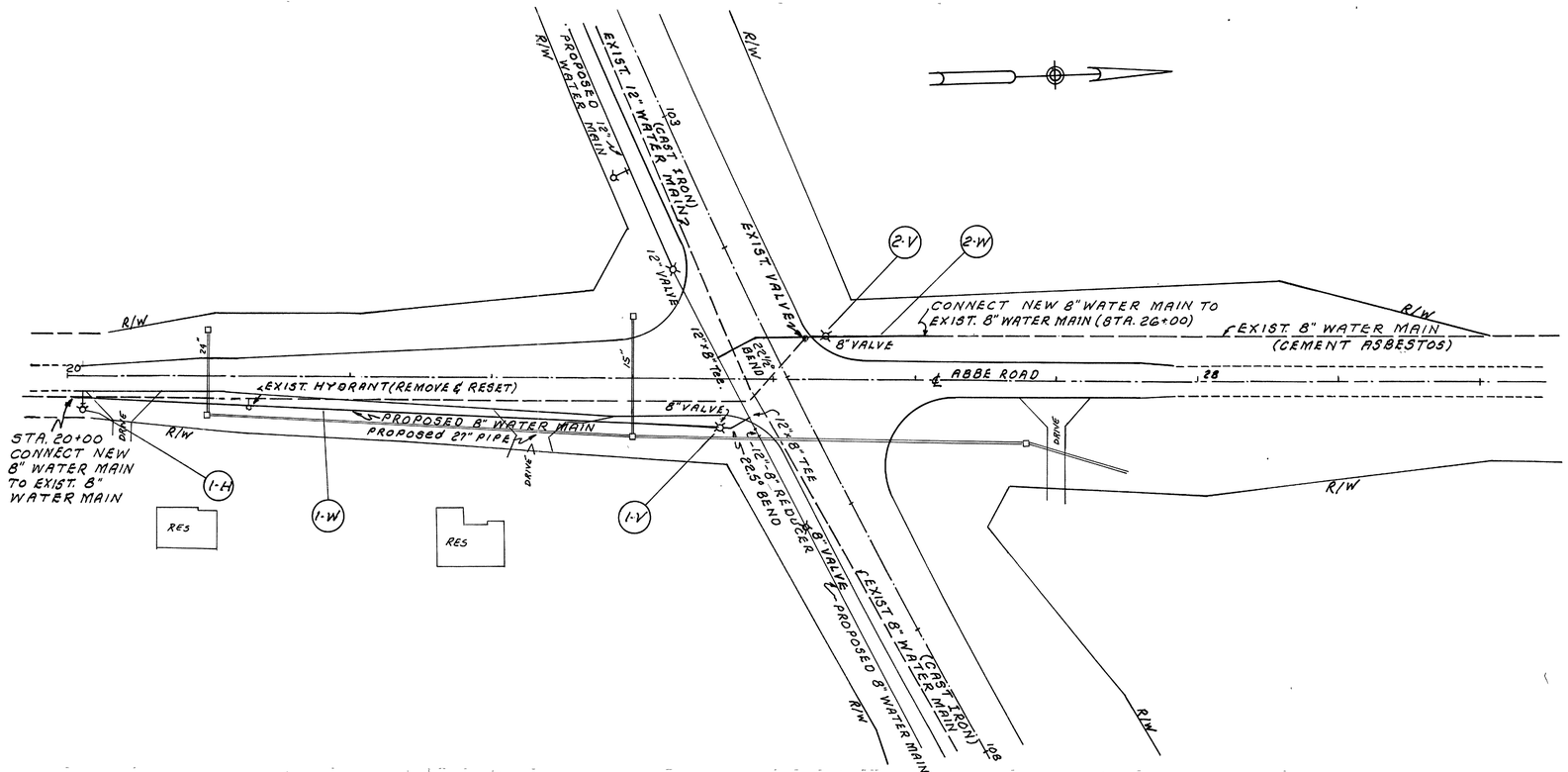
100% STATE

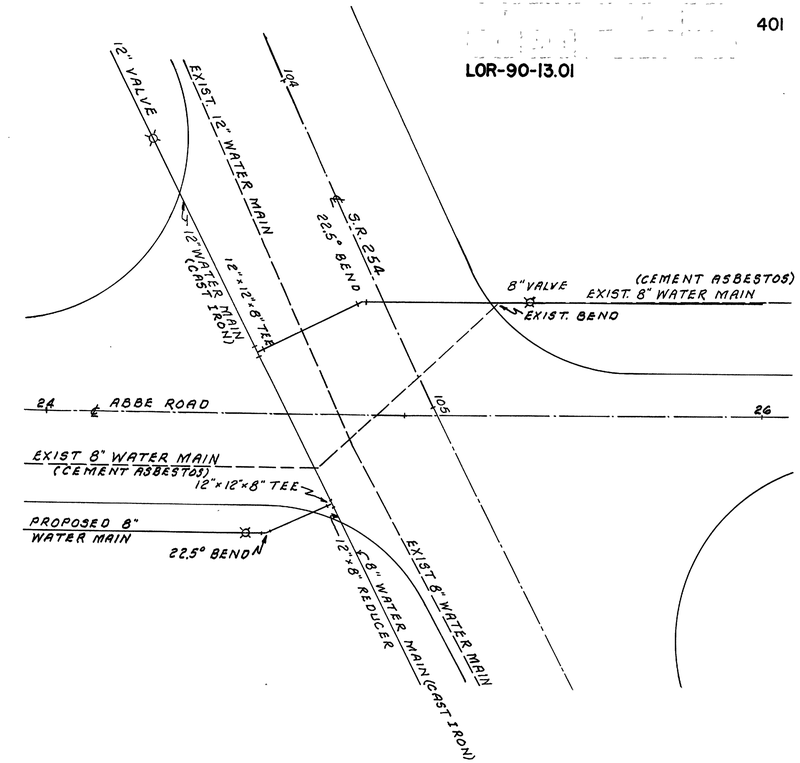
REFERENCE	SIDE	STATION FROM	STATION TO	SS-814 8" C.I.P. WATER MAIN 150 LBS. PRESSURE	6" C.I.P. WATER MAIN 150 LBS. PRESSURE	8"×6" TEE	8" VALVE WITH VALVE BOX	6" VALVE WITH VALVE BOX	6" HYDRANT REMOVED AND RESET	3/4" COPPER SERVICE LINE	6" BENDS 11¼°	6" BENDS 22½°
				LIN. FT.	LIN. FT.	EACH	EACH	EACH	EACH	LIN. FT.	EACH	
1-W	RT.	106+00	115+00	900								
1-H	RT.	109+00			35	1		1	1			1
2-H	RT.	112+50			14	1		1	1		1	
1-V	RT.	115+00					1					
1-S	LT	112+40								80		
		TOTALS		900	49	2	1	2	2	80	1	1

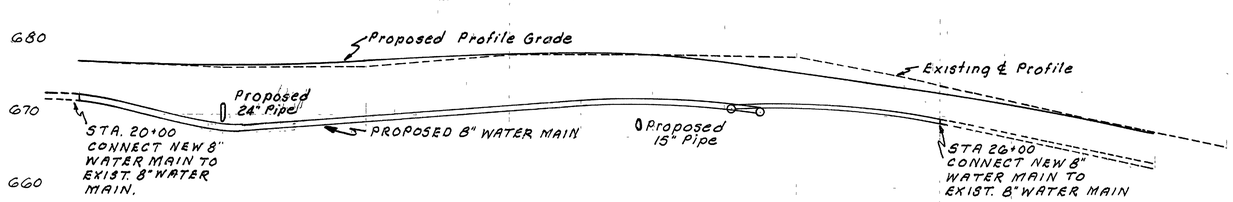
SHEFFIELD VILLAGE

STA. 106+00 TO STA. 115+00 S.R. 254 WATER MAIN

LOR-90-13.01





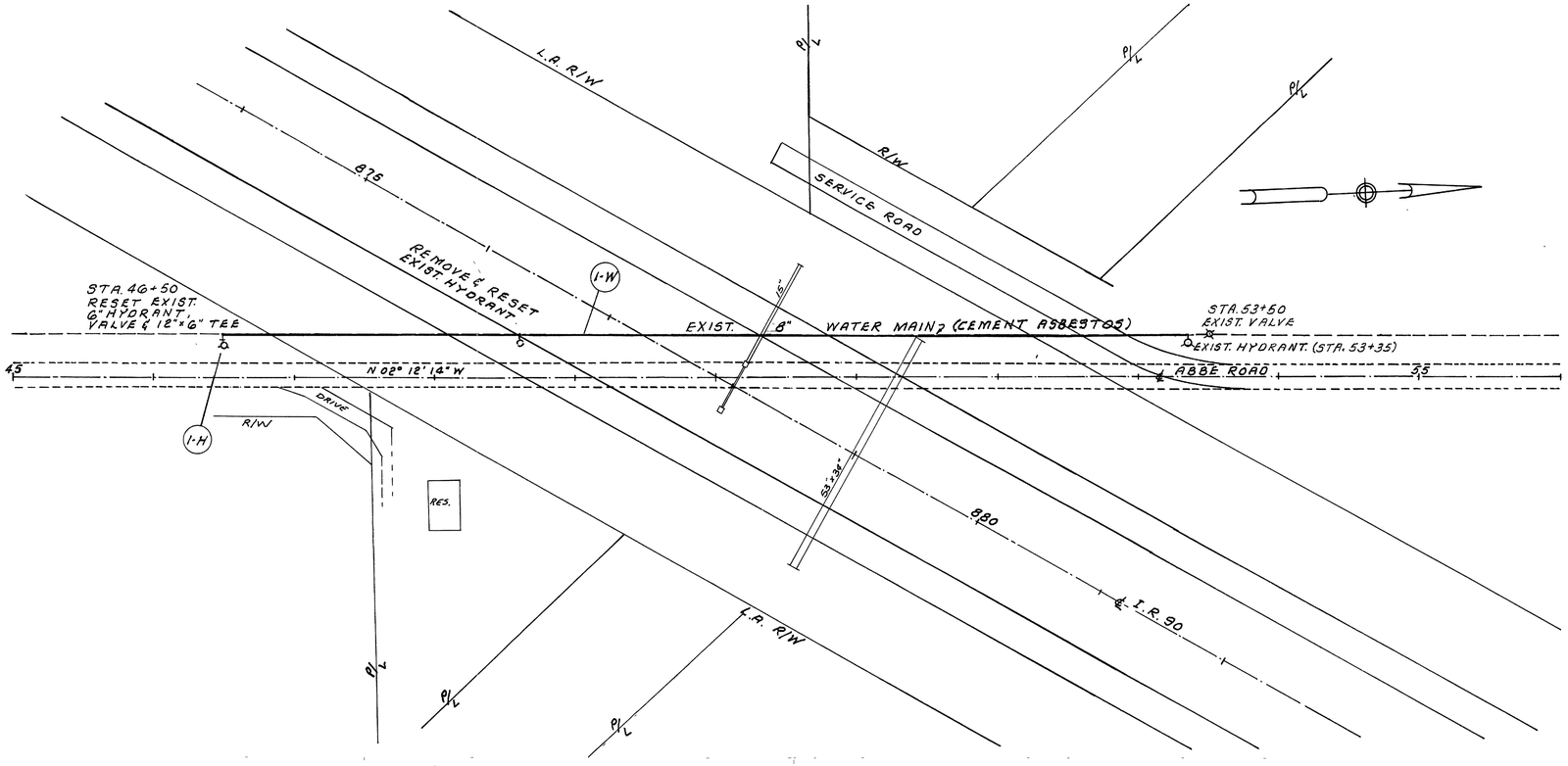


REFERENCE	SIDE	STATION FROM	STATION TO	SS-814 8" CEMENT ASBESTOS WATER MAIN 150 LBS.	6" C.I.P. WATER MAIN 150 LBS. PRESSURE	6" HYDRANT REMOVED AND RESET	8" C.I.P. VALVE WITH VALVE BOX	6" C.I.P. VALVE WITH VALVE BOX	8"x8"x6" TEE		C.I.P. BENDS	22½°
				LIN. FT.	LIN. FT.	EACH	EACH	EACH	EACH		EACH	
1-W	RT.	20+00	24+77	477								1
2-W	LT.	24+55	26+00	145								1
1-H	RT.	20+11			14	1		1	1			
1-V	RT.	24+57					1					
2-V	LT.	25+35					1					
TOTALS				622	14	1	2	1	1			2

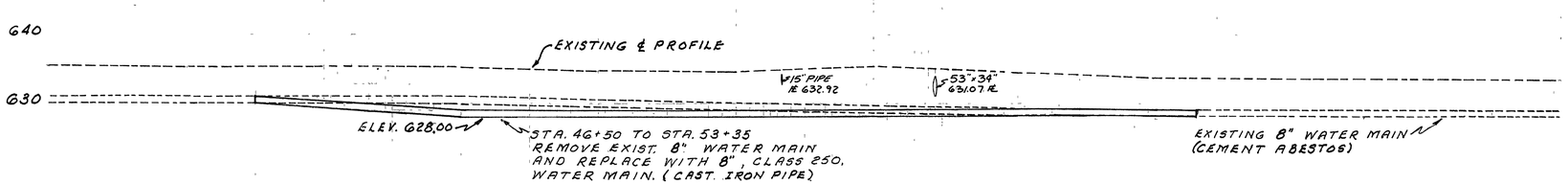
SHEFFIELD VILLAGE

STA. 20+00 TO STA. 27+00 ABBE ROAD INTERSECTION WITH S.R. 254, WATER MAIN

LOR-90-13.01



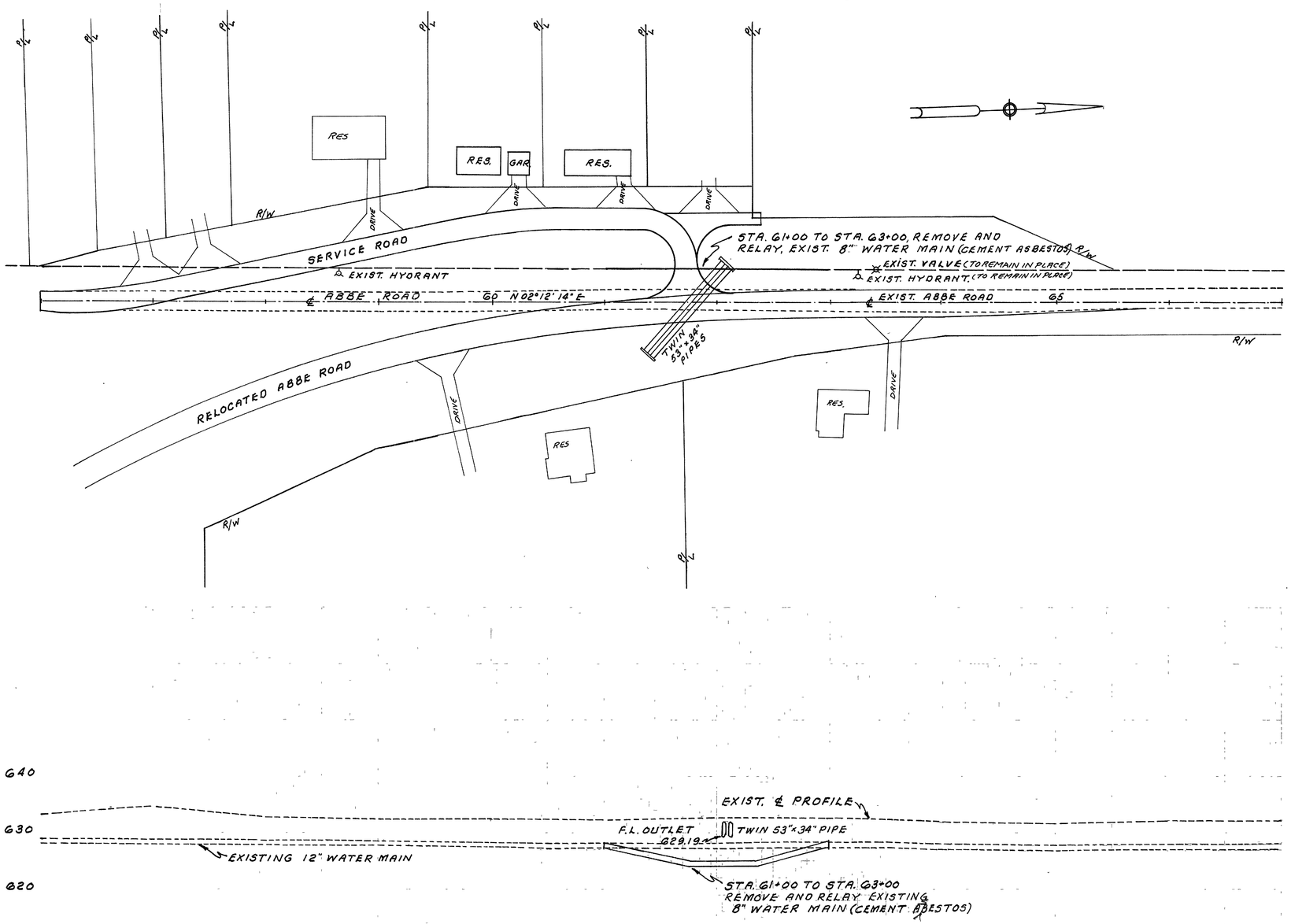
REFERENCE	SIDE	STATION FROM	STATION TO	SS-814 8" CAST IRON PIPE 250 LBS. PRESSURE	REMOVE & RESET EXIST. 6" HYDRANT	REMOVE & RESET EXIST. 6" VALVE & BOX	REMOVE & RESET EXIST. 12"x6" TEE	6" C.I.P. WATER MAIN REMOVED & RELAID
				LIN.FT.	EACH	EACH	EACH	LIN.FT.
1-H	LT.	46+50			1	1	1	10
1-W	LT.	46+50	53+35	685				
TOTALS				685	1	1	1	10



635.36	635.18	635.13	635.03	634.80	634.56	635.22	634.49	633.89	633.46	633.38	633.28
45	46	47	48	49	50	51	52	53	54	55	56

VILLAGE OF SHEFFIELD
STA. 43+00 TO STA. 56+00 ABBE ROAD, WATER MAIN

LOR-90-13.01



REFERENCE	SIDE	STATION FROM	STATION TO	SS-814 REMOVE & RELAY EXIST. 8" WATER MAIN LIN. FT.
1-W	LT	61+00	63+00	200
TOTAL				200

VILLAGE OF SHEFFIELD

STA. 56+00 TO STA. 67+00 ABBE ROAD WATER MAIN

SUMMARY OF QUANTITIES
WATER MAINS & FITTINGS
SS-814

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

LOR.-90-13.01

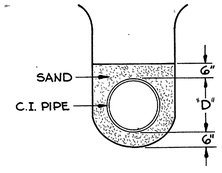
404

	C.I.P. WATER MAIN 12" CEMENT MORTAR LINED CLASS 150	C.I.P. WATER MAIN 12" CEMENT MORTAR LINED CLASS 250	C.I.P. WATER MAIN 12" CLASS 150	C.I.P. WATER MAIN 12" CLASS 250	C.I.P. WATER MAIN 8" CLASS 150	C.I.P. WATER MAIN 6" CLASS 150	12" VALVE CEM. MOR. LINED WITH VALVE WELL	12" VALVE WITH VALVE BOX	8" VALVE WITH VALVE BOX	6" VALVE WITH VALVE BOX	12"×6" TEE CEMENT MORTAR LINED	12"×8" TEE	12"×6" TEE	BENDS 12" 11¼° CEMENT MORTAR LINED	BENDS 12" 11¼°	BENDS 8" 22½°	BENDS 6" 11¼°	BENDS 6" 22½°	12"×8" REDUCER	6" HYDRANT REMOVED AND RESET	3/4" COPPER SERVICE LINE	12"×12"×6" TEE REMOVED AND RESET	6" VALVE & BOX REMOVED AND RESET	6" C.I.P. WATER MAIN REMOVED AND RELAID	8" CEMENT ASBESTOS WATER MAIN REMOVED AND RELAID	8"×6" TEE	8" CEMENT ASBESTOS WATER MAIN 150 LBS. PRESSURE		8" CAST IRON PIPE WATER MAIN 250 LBS. PRESSURE	6" HYDRANT REMOVED & DISPOSED OF
	LIN. FT.						EACH														LIN. FT.	EACH	EACH	LIN. FT.	LIN. FT.	EACH	LIN. FT.		LIN. FT.	EACH
CITY OF ELYRIA, WEST RIVER ROAD																														
	915					20	2			2	2								2	80										
CITY OF ELYRIA, S.R. 301																														
	758	420					2							8						194										2
SUB-TOTAL	1673	420				20	4			2	2			8						274										2
VILLAGE OF SHEFFIELD, S.R. 254																														
			362	657				1							6															
			237																											
VILLAGE OF SHEFFIELD, ABBE ROAD																														
																			1		1	1	10						685	
																								200						
SUB-TOTAL			599	657				1							6				1		1	1	10	200					685	
TOTALS FED. PARTICIPATION	1673	420	599	657		20	4	1		2	2			8	6				3	274	1	1	10	200					685	2
100% STATE																														
			498			10		1		1			1						1											
			1188		75	54		2	1	3		2	3					1	3	112										
					900	49			1	2							1	1	2	80						2				
						14			2	1						2			1							1	622			
TOTALS 100% STATE			1686		975	127		3	4	7		2	4			2	1	1	7	192						3	622			

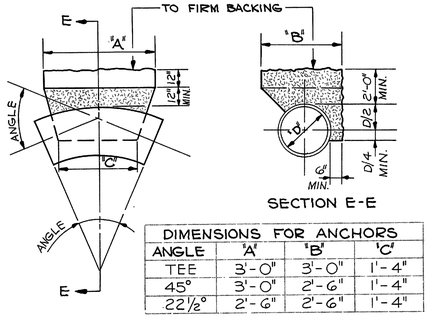
CODE Y-060

GENERAL SUMMARY - WATER LINES

ITEM NO.	I-90-(140)01	100% STATE	QUANTITY	UNIT	DESCRIPTION
814	20	127	147	LIN.FT.	6" CAST IRON PIPE, WATER MAIN (CLASS 150)
814		975	975	LIN.FT.	8" CAST IRON PIPE, WATER MAIN (CLASS 150)
814	685		685	LIN.FT.	8" CAST IRON PIPE, WATER MAIN (CLASS 250)
814		622	622	LIN.FT.	8" CEMENT ASBESTOS WATER MAIN (CLASS 150)
814	599	1686	2285	LIN.FT.	12" CAST IRON PIPE, WATER MAIN (CLASS 150)
814	657		657	LIN.FT.	12" CAST IRON PIPE, WATER MAIN (CLASS 250)
814	1673		1673	LIN.FT.	12" CAST IRON PIPE, WATER MAIN, CEMENT MORTAR LINED (CLASS 150)
814	420		420	LIN.FT.	12" CAST IRON PIPE, WATER MAIN, CEMENT MORTAR LINED (CLASS 250)
"	200		200	LIN.FT.	8" CEMENT ASBESTOS WATER MAIN, REMOVED & RELAID.
"	10		10	LIN.FT.	6" CAST IRON PIPE, WATER MAIN, REMOVED & RELAID.
"	274	192	466	LIN.FT.	3/4" COPPER SERVICE LINE
"	2	7	9	EACH	6" VALVE WITH VALVE BOX
"		4	4	EACH	8" VALVE WITH VALVE BOX
"	1	3	4	EACH	12" VALVE WITH VALVE BOX
"	4		4	EACH	12" VALVE, CEMENT MORTAR LINED, WITH VALVE WELL
"	1		1	EACH	6" VALVE & VALVE BOX, REMOVED & RESET
"		4	4	EACH	12"×6" TEE, Cast Iron, Class 250
"	2		2	EACH	12"×6" TEE, CEMENT MORTAR LINED, Class 250
"	1		1	EACH	12"×6" TEE, REMOVED & RESET
"		2	2	EACH	12"×8" TEE, Cast Iron, Class 250
"		3	3	EACH	8"×6" TEE, Cast Iron, Class 250
"		1	1	EACH	12"-8" REDUCER, Cast Iron, Class 250
"		1	1	EACH	6" 11¼° BEND, Cast Iron, Class 250
"		1	1	EACH	6" 22½° BEND, Cast Iron, Class 250
"		2	2	EACH	8" 22½° BEND, Cement Asbestos, Class 250
"	6		6	EACH	12" 11¼° BEND, Cast Iron, Class 250
"	8		8	EACH	12" 11¼° BEND, CEMENT MORTAR LINED, Class 250
"	3	7	10	EACH	6" HYDRANT, REMOVED & RESET
"	2		2	EACH	6" HYDRANT, REMOVED & DISPOSED OF



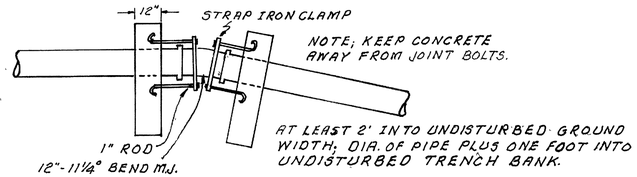
TYPICAL BEDDING DETAIL
NO SCALE



SECTION E-E

DIMENSIONS FOR ANCHORS			
ANGLE	'A'	'B'	'C'
TEE	3'-0"	3'-0"	1'-4"
45°	3'-0"	2'-6"	1'-4"
22½°	2'-6"	2'-6"	1'-4"

DETAIL OF CONCRETE ANCHORS — ITEM 2 —
NO SCALE



VERTICAL CONC. ANCHORS

GENERAL NOTES FOR WATER MAINS & FITTINGS

ALL NEW WATER PIPE AND FITTING SHALL BE OF THE TYPE AS SHOWN ON THE PLANS AND SHALL CONFORM TO SPECIFICATIONS AS A A-21.6, A-21.4, AND AWWA, C-400-53T AND FEDERAL SPECIFICATIONS WW-P421a AND SS-P-351a. JOINTS SHALL BE MADE AND WATER MAINS SHALL BE LAID IN CONFORMANCE WITH REQUIREMENTS OF SUPPLEMENTAL SPECIFICATIONS 814. THESE ITEMS SHALL INCLUDE THE FURNISHING AND PLACING OF SAND BEDDING, AS PER PLAN. CONCRETE REACTION BLOCKING SHALL BE USED AT ALL HYDRANTS AND AT ALL PIPE BENDS, TEES AND AT OTHER LOCATIONS, SHOWN ON PLANS. THE COST OF SAND BEDDING AND REACTION BLOCKING SHALL BE INCLUDED FOR PAYMENT IN THE UNIT PRICE BID FOR WATER MAINS AND FITTINGS.

CITY OF ELYRIA

PUSH TYPE JOINT PIPE

ALL PIPE USED IN THE CITY OF ELYRIA SHALL BE FURNISHED WITH JOINTS COMMONLY KNOWN AS "BELL-TITE", "TITE-ON", "FAST-TITE" OR APPROVED EQUAL. THE PIPE SHALL BE FOR THE WORKING PRESSURE, AS SHOWN ON THE PLANS.

CEMENT MORTAR LINING

ALL 12" AND LARGER "CAST IRON PIPE" & "FITTINGS", USED IN THE CITY OF ELYRIA SHALL HAVE A CEMENT MORTAR LINING IN ACCORDANCE WITH THE "AMERICAN STANDARD SPECIFICATIONS FOR CEMENT MORTAR LINING FOR "CAST IRON PIPE" AND FITTINGS", DESIGNATION ASA, A-21.4 AND AWWA, C-104.

VALVES

ALL VALVES USED IN THE CITY OF ELYRIA SHALL BE "RENSSELAER", "DARLING" OR APPROVED EQUAL. VALVES, 12" AND LARGER ARE TO BE PLACED IN A "VALVE WELL" AS PER PLAN. COST OF THE "VALVE WELL" TO BE INCLUDED IN UNIT PRICE BID FOR FOR "VALVE WITH VALVE WELL".

PRESSURE TESTING

TIME OF "PRESSURE TESTING", "DISINFECTION" AND CONNECTING OF NEW WATER MAINS TO EXISTING WATER MAINS SHALL BE DETERMINED BY THE ENGINEER OF THE CITY OF ELYRIA, OHIO.

BOLTS

ALL BOLTS USED WITH "MECHANICAL JOINT FITTINGS", SHALL BE CADIUM PLATED.

HYDRANTS & FITTING, REMOVED FOR STORAGE

HYDRANTS, 6" VALVES AND VALVE BOXES, REMOVED FOR STORAGE ARE TO BECOME THE PROPERTY OF THE CITY OF ELYRIA, OHIO.

SHEFFIELD VILLAGE

PUSH TYPE JOINT PIPE

ALL PIPE USED IN "SHEFFIELD VILLAGE" SHALL BE FURNISHED WITH JOINTS COMMONLY KNOWN AS "BELL-TITE", "TITE-ON", "FAST-TITE" OR APPROVED EQUAL. THE PIPE SHALL BE DESIGNED FOR THE WORKING PRESSURE, AS SHOWN ON THE PLANS.

CEMENT ASBESTOS PIPE

CEMENT ASBESTOS PIPE SHALL BE IN ACCORDANCE WITH SPECIFICATIONS DESIGNATED AS AWWA, C-400-53T AND FEDERAL SPECIFICATION SS-P-351a.

PRESSURE TESTING

TIME OF "PRESSURE TESTING", "DISINFECTION" AND CONNECTING NEW WATER MAINS TO EXISTING WATER MAINS SHALL BE DETERMINED BY THE SUPERINTENDENT OF THE WATER DEPARTMENT, VILLAGE OF SHEFFIELD, OHIO

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

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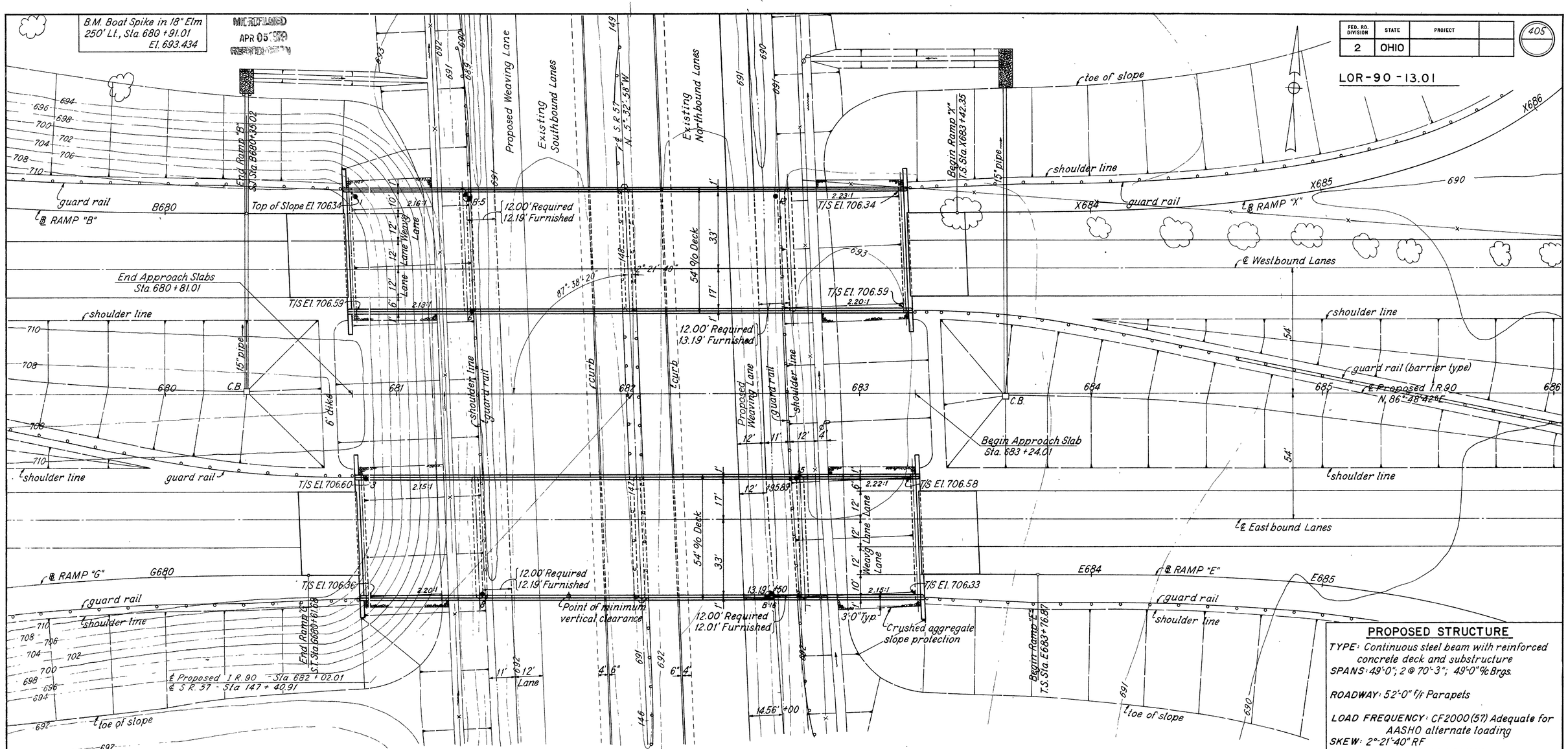

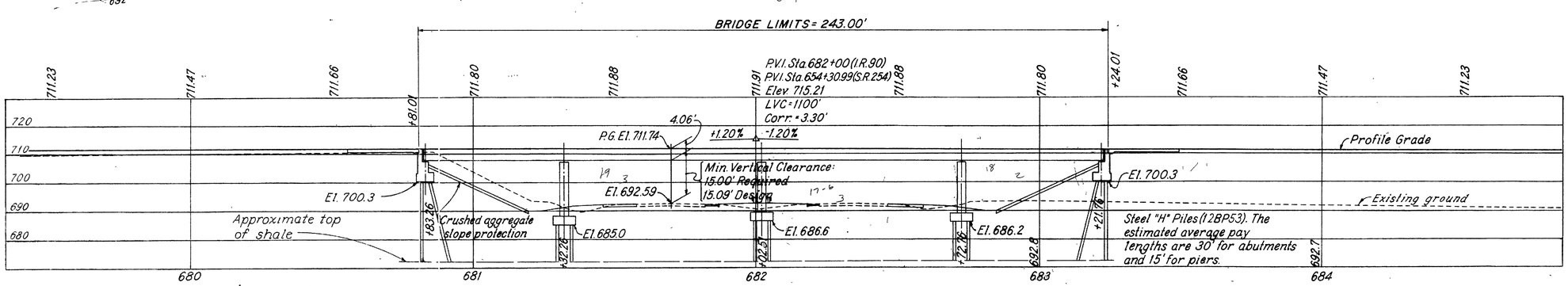

PROPOSED STRUCTURE

TYPE: Continuous steel beam with reinforced concrete deck and substructure
SPANS: 49'-0"; 2 @ 70'-3"; 49'-0" ℄ Brgs.

ROADWAY: 52'-0" f/f Parapets

LOAD FREQUENCY: CF2000 (57) Adequate for AASHO alternate loading
SKEW: 2°-21'-40" RF
APPROACH SLABS: AS-1-54 (25' long)
WEARING SURFACE: 1" monolithic concrete
ALIGNMENT: Tangent
AVERAGE DAILY TRAFFIC: I.R.90 = 41,830
S.R.57 = 40,120 (1989)

FOUNDATION INVESTIGATION LEGEND

◔ - Indicates core boring location
• - Indicates rod sounding location

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Consulting Engineers
MANSFIELD, OHIO

SITE PLAN

BRIDGE NO. LOR-90-1320 L&R
OVER S.R. 57

LORAIN COUNTY — I.R. 90

STA. 680 + 81.01 TO STA. 683 + 24.01

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
RAK	Bob	UL	JPG			

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FED RD DIVISION	STATE	PROJECT	
2	OHIO		

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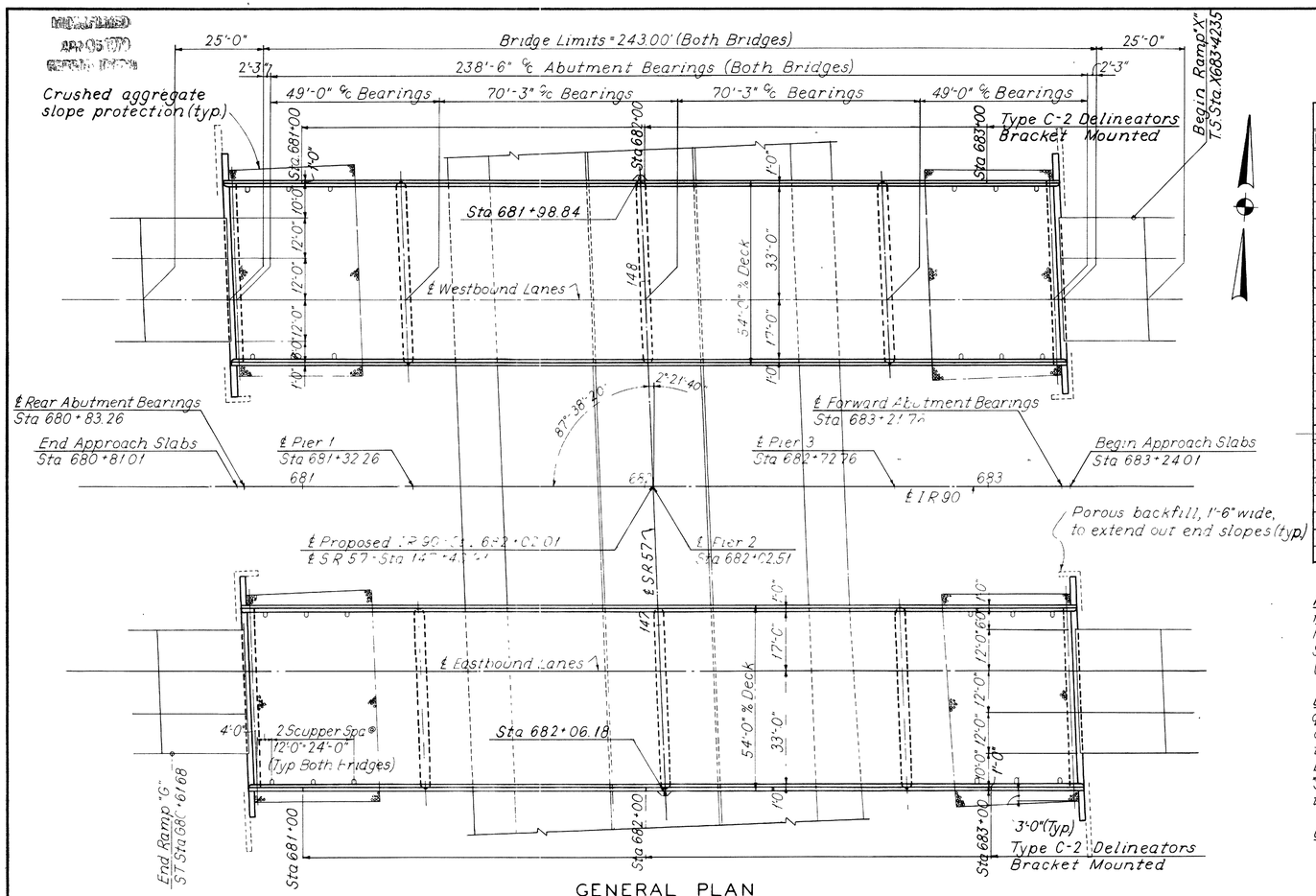
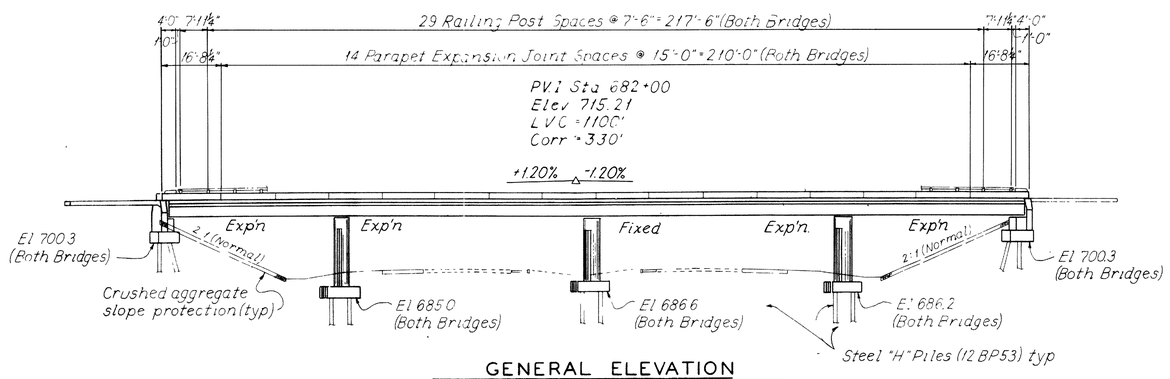


GENERAL PLAN



GENERAL ELEVATION

ESTIMATED QUANTITIES - 2 BRIDGES

ITEM	TOTAL	UNIT	DESCRIPTION	SUPER	ABUTS	PIERS	GEN'L		
503	806	Cu.Yds.	Unclassified excavation		434	372			
505	Lump	Sum	First test pile				Lump		
507	2880	Lin.Ft.	Steel Piles (12 BP53)		1440	1440			
509	295,457	Lbs.	Reinforcing steel	225,372	19,444	50,641			
511	787	Cu.Yds.	Class "C" concrete, superstructure	787					
511	212	Cu.Yds.	Class "C" concrete, piers above footings			212			
511	128	Cu.Yds.	Class "E" concrete, pier footings			128			
511	385	Cu.Yds.	Class "E" concrete, abutments		385				
513	634,826	Lbs.	Structural steel	634,826					
514	634,826	Lbs.	Field painting of structural steel	634,826					
517	973.50	Lin.Ft.	Bridge railing, Type 1	973.50					
518	24	Each	Scuppers, including supports	24					
518	87	Cu.Yds.	Porous Backfill		87				
518	217.67	Lin.Ft.	6" Helical Perforated C.M.P., 707.06, including specials		217.67				
518	165.33	Lin.Ft.	6" Helical C.M.P., 707.06, non-perforated		165.33				
601	1,074	Sq.Yds.	Crushed aggregate slope protection				1,074		
625			Electric lighting system, see sheet 395						
808	787	Each	Water-reducing, set-retarding admixture	787					
825	3,162	Sq.Yds.	Concrete surface treatment				3,162		
828	200	Lin.Ft.	Joint sealer	200					

GENERAL NOTES

REFERENCE shall be made to Standard Drawings SD-1-65 Sheets 1, 2 and 3 (dated 11-8-65), BR-1-65 Sheet 1 of 2 (dated 11-24-65) FSB-1-62 (revised 1-15-63), AS-1-54 (revised 8-10-65) to Supplemental Specifications 808 (dated 7-14-65), 811 (dated 3-29-65), 825 (dated 4-22-65) and 828 (dated 7-21-65).

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 thereof, except strength of bolted field splices, which conform to Art No. 1.631 of the AASHO Standard Specifications for Highway Bridges" dated 1961, together with current revisions thereof.

UNIT STRESSES:

Design Loading - CF 2000 (57)
Concrete Class "C" - basic unit stress 1,333 p.s.i.
Concrete Class "E" - basic unit stress 1,133 p.s.i.
Structural Steel - ASTM A36 - basic unit stress 20,000 p.s.i.
Reinforcing Steel - ASTM A15, A16, A160 deformed, intermediate or hard grade - basic unit stress 20,000 p.s.i. except spiral reinforcement may be plain structural grade with basic unit stress of 18,000 p.s.i.

PILES shall be driven with a hammer of not less than 11,000 ft lbs per blow to firm contact with shale. If the length of penetration is approximately equal to the depth to shale 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 the abutment piles
36 tons per pile using an 11,000 ft lb. hammer
35 tons per pile using an 15,000 ft lb hammer
For the piles for Piers 1 and 3
55 tons per pile using an 11,000 ft lb hammer
50 tons per pile using an 15,000 ft lb hammer
For the piles for Pier 2
75 tons per pile using an 11,000 ft lb hammer
80 tons per pile using an 15,000 ft lb hammer

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 38 tons per pile for the abutments, 35 tons per pile for Piers 1 and 3 piles, and 41 tons per pile for the Pier 2 piles.

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 will be held to a minimum.

EXCAVATION QUANTITY includes the removal of fill material required for the construction of the abutments and piers.

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

MAINTENANCE AND PROTECTION OF TRAFFIC: Two lanes of traffic shall be maintained at all times in each direction on S.R. 57, except during the construction of speed change lanes or other construction adjacent to the existing pavement. At such time one lane of traffic in each direction, by the use of 55 gallon drums painted yellow and weighted, placed on 12'-6" centers, shall be maintained. The Contractor shall safeguard the traveling public by providing platforms, nets or other suitable protection above the traveled lanes. A minimum vertical clearance of 13'-8" shall be provided at all times.

MACHINE FINISH: The concrete bridge deck shall be finished by the use of a finishing machine.

LIGHTING: For details of lighting blisters see Sheet 411

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MANSFIELD, OHIO.

GENERAL PLAN, GENERAL NOTES AND ESTIMATED QUANTITIES

BRIDGE NO. LOR-90-1320 L & R
OVER S.R. 57

LORAIN COUNTY — I.R. 90

STA. 680 + 81.01 TO STA. 683 + 24.01

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
RAK	LK	LK	JPG			

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REPRODUCTION

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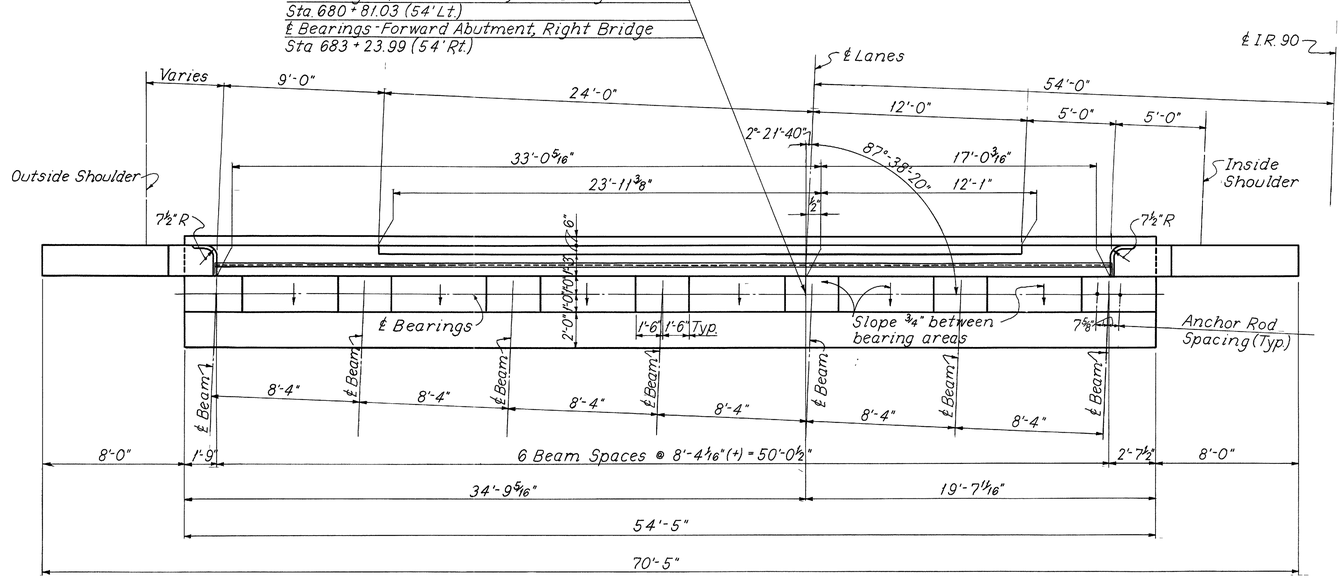
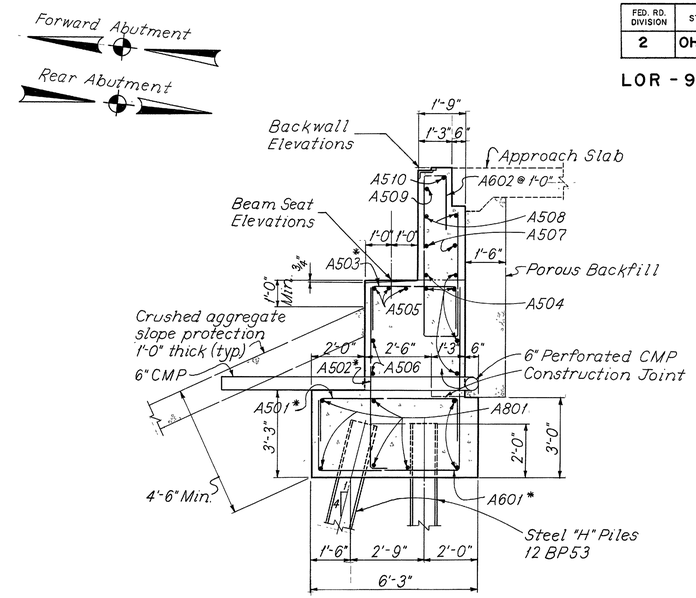
LOR - 90 - 13.01

℄ Bearings - Rear Abutment, Right Bridge
Sta. 680 + 85.49 (54' Rt.)
℄ Bearings - Forward Abutment, Left Bridge
Sta. 683 + 19.53 (54' Lt.)
℄ Bearings - Rear Abutment, Left Bridge
Sta. 680 + 81.03 (54' Lt.)
℄ Bearings - Forward Abutment, Right Bridge
Sta 683 + 23.99 (54' Rt.)

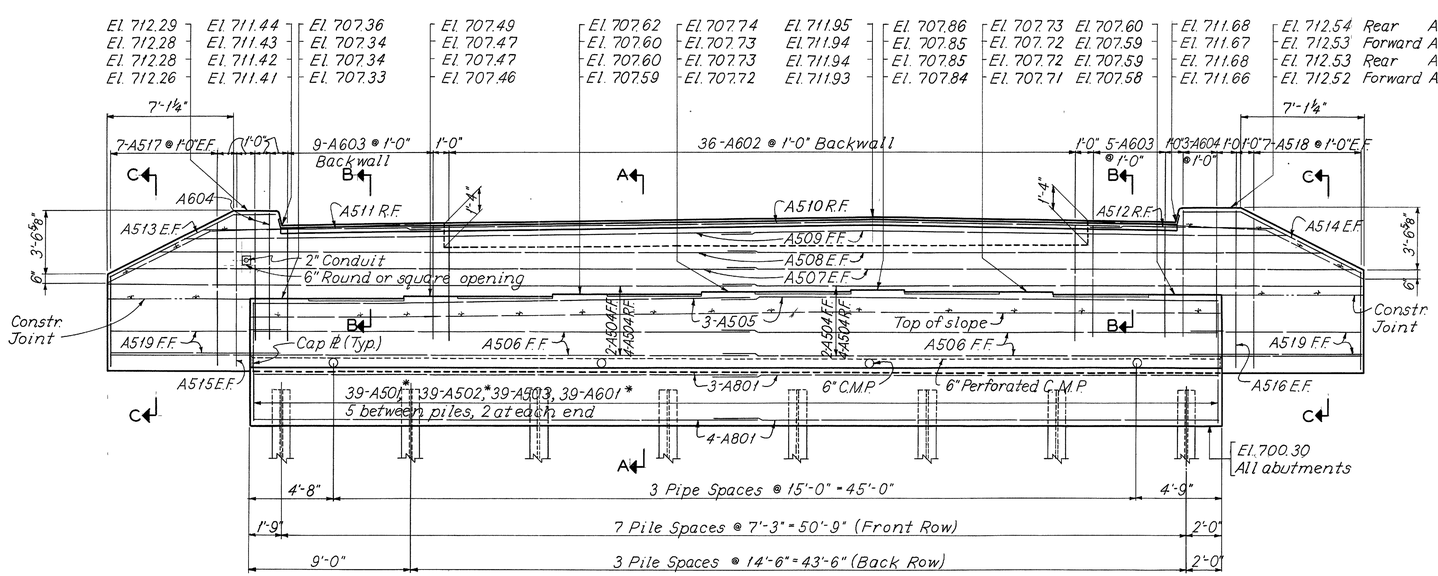


PLAN



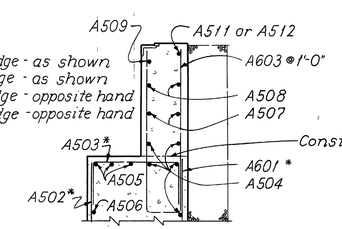
SECTION A-A

* Bars shall be equally spaced between piles at approximately 1'-6"

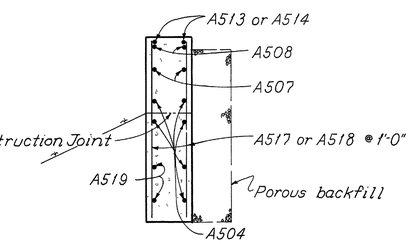


ELEVATION

Note: Rear Abutment Right Bridge and Forward Abutment Left Bridge shown
Rear Abutment Left Bridge and Forward Abutment Right Bridge opposite hand



SECTION B-B



SECTION C-C

NOTES

POROUS BACKFILL 1'-6" thick shall extend from the top of the footing upward to the underside of the approach slab and to the earth shoulders, and outward to the embankment slopes. Excavation therefor in excess of that required for construction of the abutment shall be considered as paid for in the bid price per cu.yd. paid for porous backfill.

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

ABUTMENT CONCRETE: All abutment concrete shall be Class "E"

NOTATION: F.F.-Front Face, R.F.-Rear Face, E.F.-Each Face

GENERAL NOTES: See Sheet 406

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Consulting Engineers
MANSFIELD, OHIO.

ABUTMENTS

BRIDGE NO. LOR-90-1320 L & R
OVER S.R. 57

LORAIN COUNTY — I.R. 90

STA. 680 + 81.01 TO STA. 683 + 24.01

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
RAK	RAK	LK	JPG			

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

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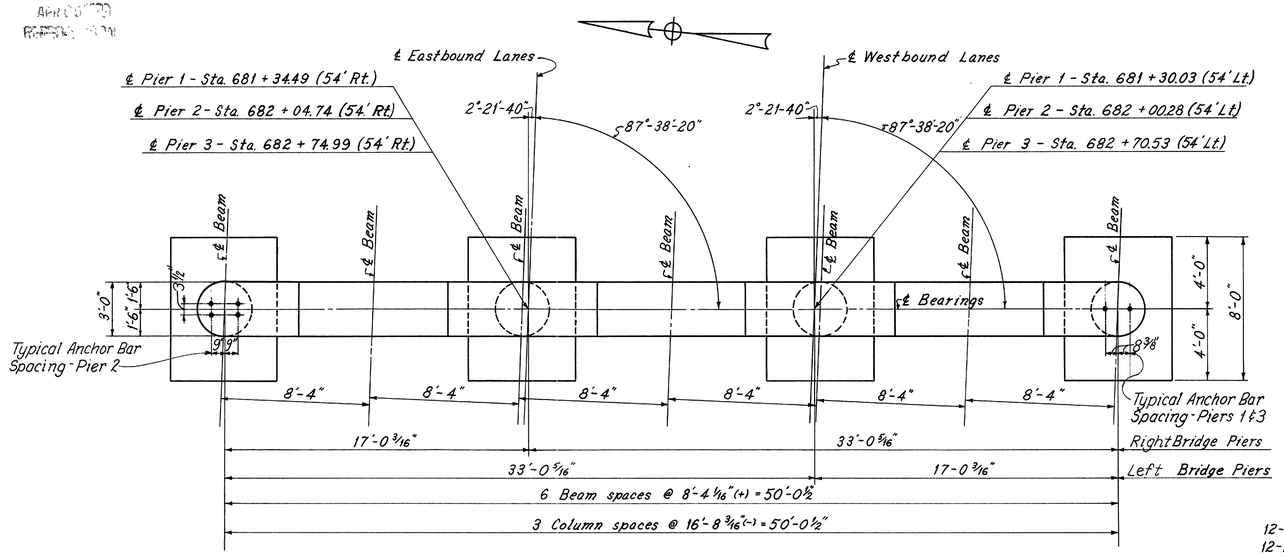
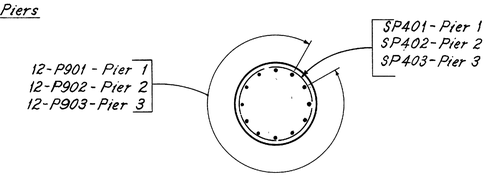
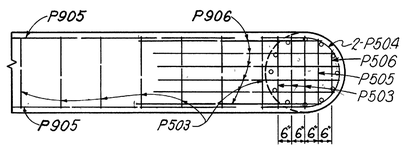
LOR-90-13.01



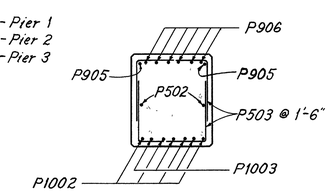
PLAN



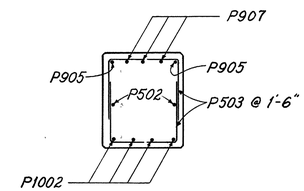
SECTION A-A



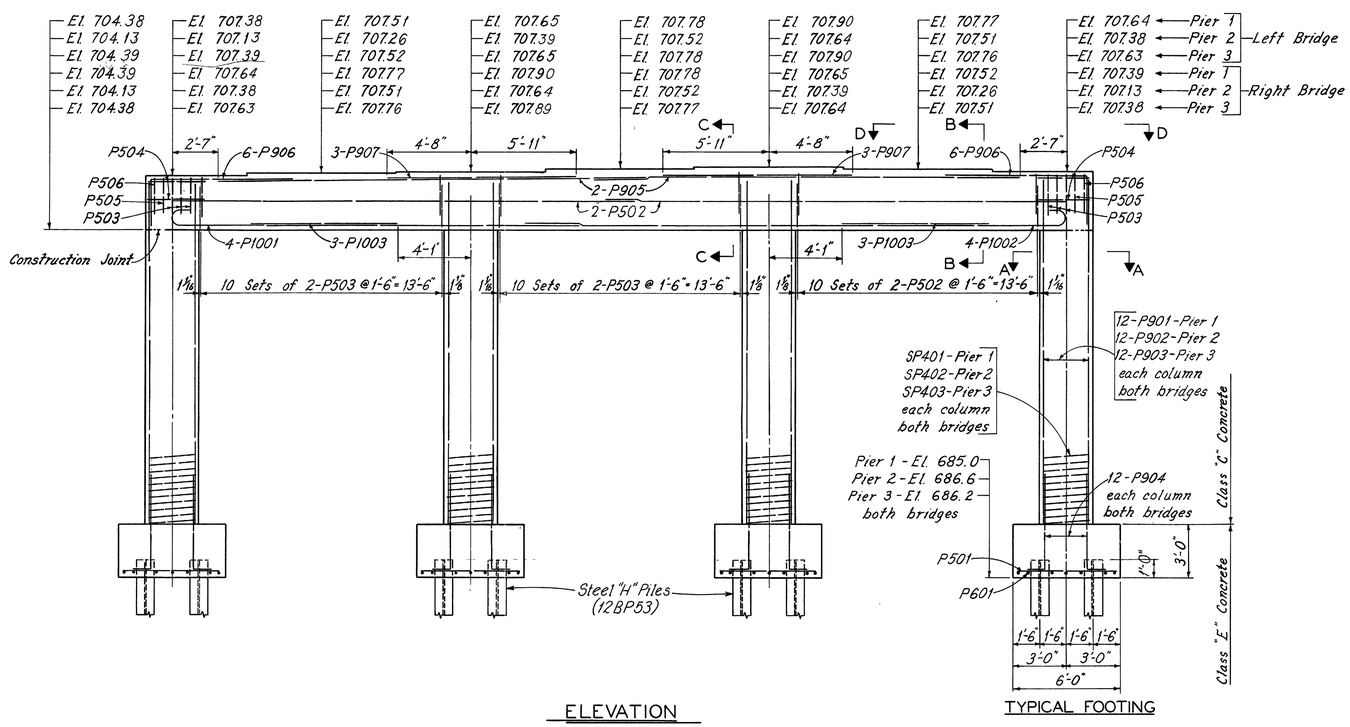
SECTION D-D



SECTION B-B

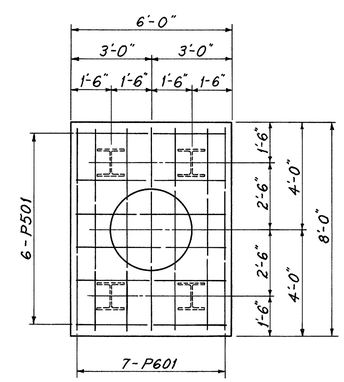


SECTION C-C



ELEVATION

TYPICAL FOOTING



PLAN OF TYPICAL FOOTING

NOTES:

CONCRETE: All concrete for pier footings shall be Class "E." All concrete for piers above footings shall be Class "C."

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

GENERAL NOTES: See sheet 4.06

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PIERS

BRIDGE NO. LOR-90-1320 L&R
OVER S.R. 57

LORAIN COUNTY — I.R. 90

STA. 680 + 81.01 TO STA. 683 + 24.01

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
RAK	RAK	PCB	JPG			

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FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

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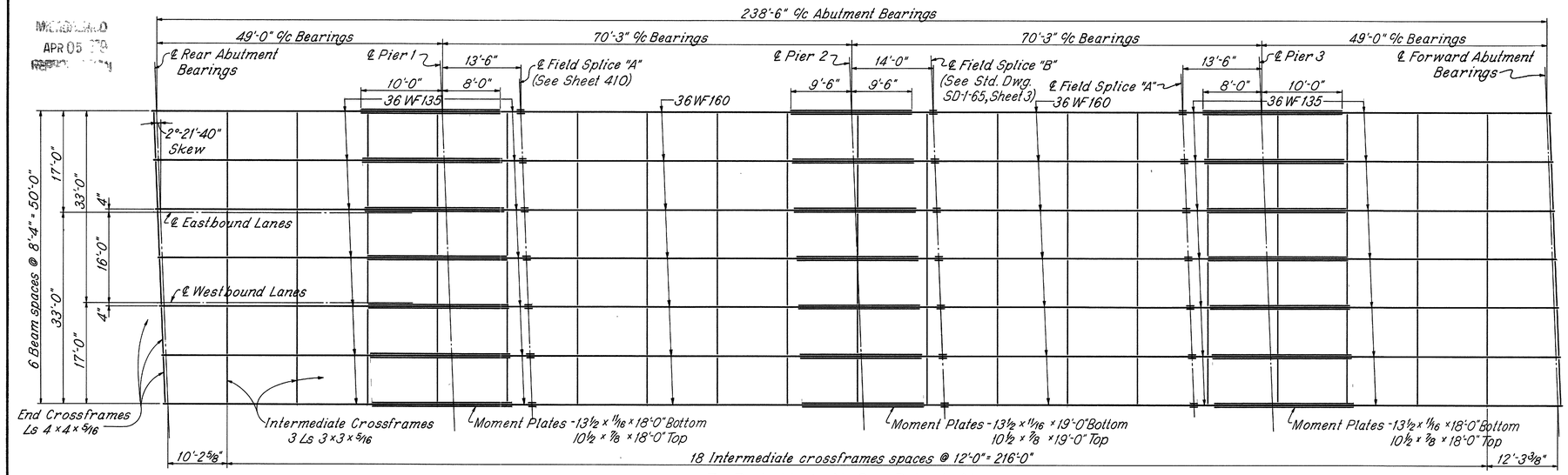


F R A M I N G P L A N

NOTES

END CROSSFRAMES, END DAMS, CURB PLATES, SCUPPERS, MOMENT PLATES AND BOLTED BEAM SPLICE DETAILS: See Std. Dwg. SD-1-65, Sheets 1, 2 and 3.

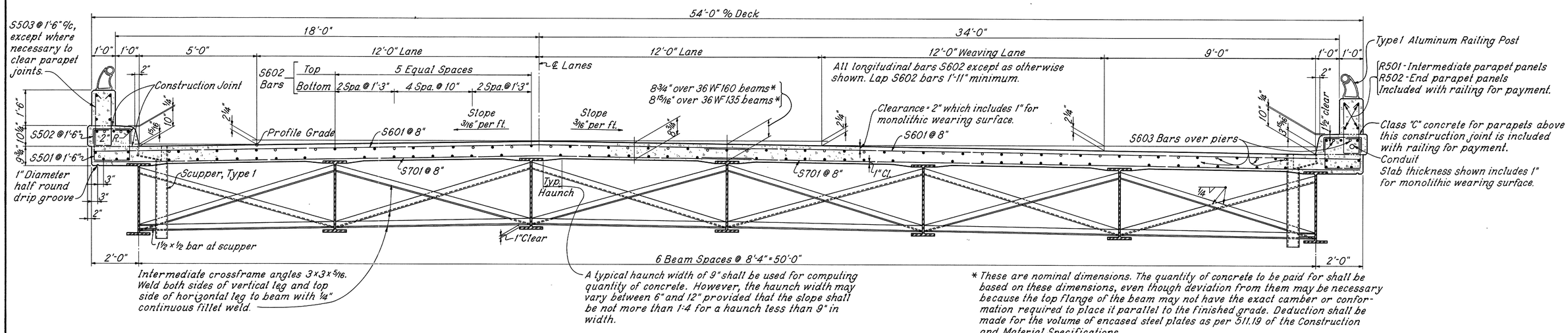
CONCRETE: All superstructure concrete shall be Class "C".

RAILING: See Std. Dwg. BR-1-65, Sheet 1 of 2.

BEARINGS: See Std. Dwg. FSB-1-62 for the following:
E-100 Abutments
E-200 Piers 1 and 3
F-200 Pier 2

RAILING POST, PARAPET EXPANSION JOINT AND SCUPPER SPACING: See Sheet 406.

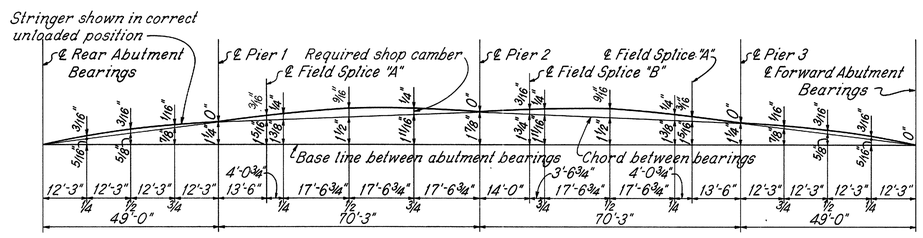
GENERAL NOTES: See Sheet 406.



* These are nominal dimensions. The quantity of concrete to be paid for shall be based on these dimensions, even though deviation from them 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. Deduction shall be made for the volume of encased steel plates as per 511.19 of the Construction and Material Specifications.

T R A N S V E R S E S E C T I O N

Right Bridge shown
Left Bridge opposite hand



B E A M B L O C K I N G D I A G R A M

Locations are at ends, quarter points, or midpoints of spans except as noted.

CAMBERING of beams is required in accordance with the following table:

DEFLECTION & CAMBER - INTERIOR & FASCIA BEAMS

	END SPANS				MIDDLE SPANS			
SPAN POINT	¼	½	¾	FIELD SPL. "A"	¼	½	¾	FIELD SPL. "B" *
Deflection due to weight of steel	0	0	0	0	0	1/16	0	0
Deflection due to remaining dead load	1/8	1/8	0	1/16	1/8	5/16	1/8	1/16
Adjustment required for vertical curve	1/16	1/16	1/16	1/8	1/8	3/16	1/8	1/8
Required shop camber	3/16	3/16	1/16	3/16	1/4	9/16	1/4	3/16

* - Span 3 only.

Note: Deflections and camber symmetrical about ℄ Pier 2 except field splice "B".

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MANSFIELD, OHIO.

SUPERSTRUCTURE - 1
BRIDGE NO. LOR-90-1320 L & R OVER S.R. 57

LORAIN COUNTY — I.R. 90

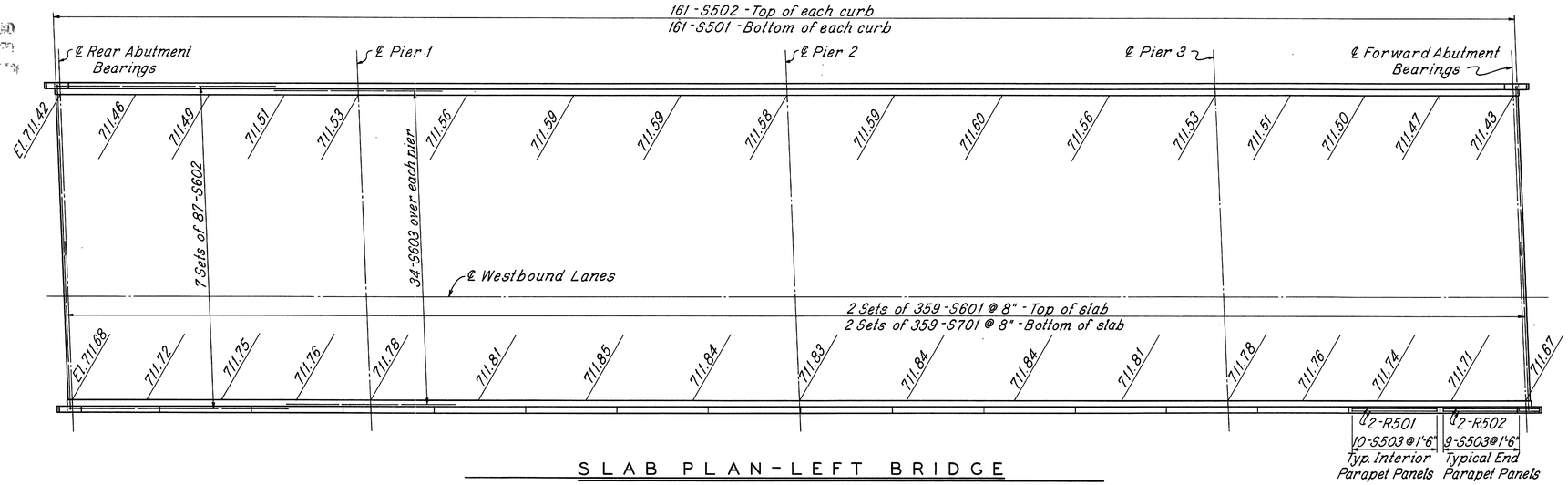
STA. 680 + 81.01 TO STA. 683 + 24.01

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
RAK	Bob	UL	JPG			

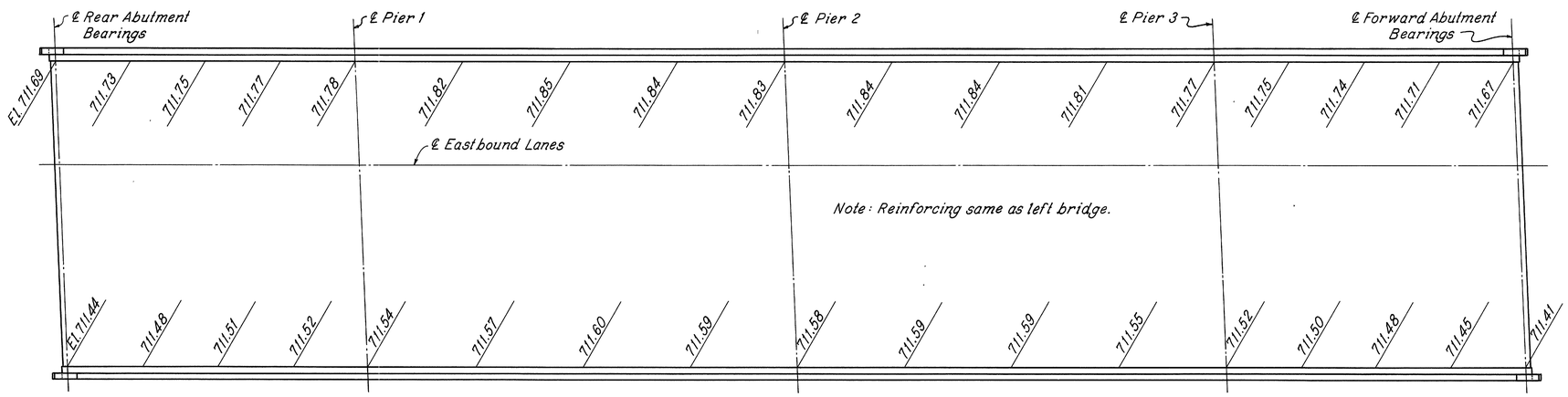
FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

410

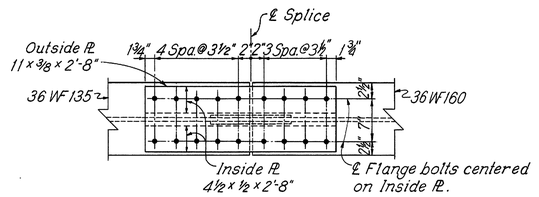
LOR-90-13.01



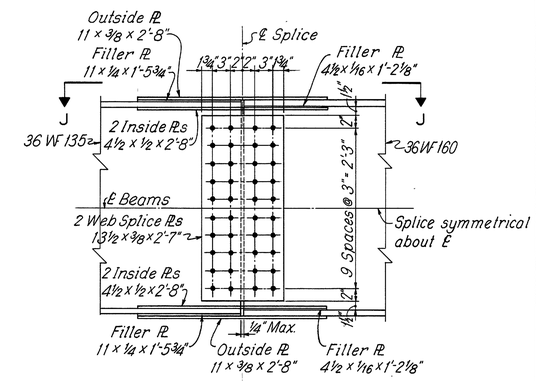
SLAB PLAN - LEFT BRIDGE



SLAB PLAN - RIGHT BRIDGE

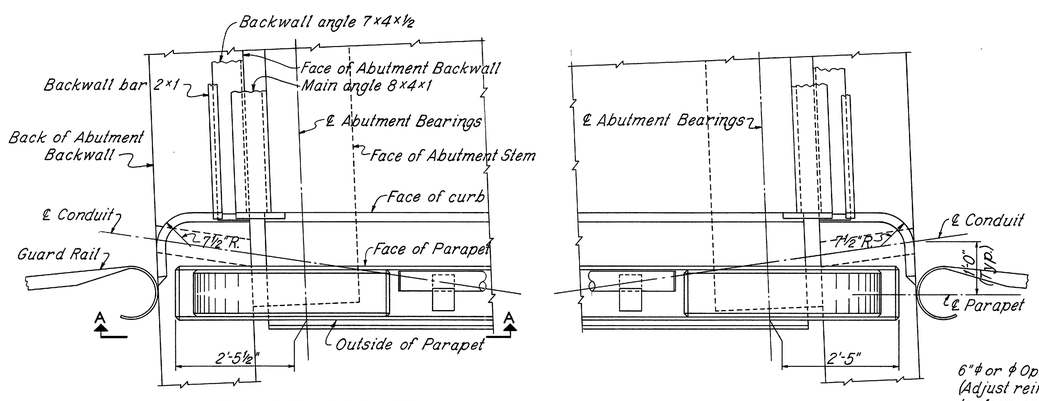


VIEW J-J



BOLTED FIELD SPLICE "A" DETAIL

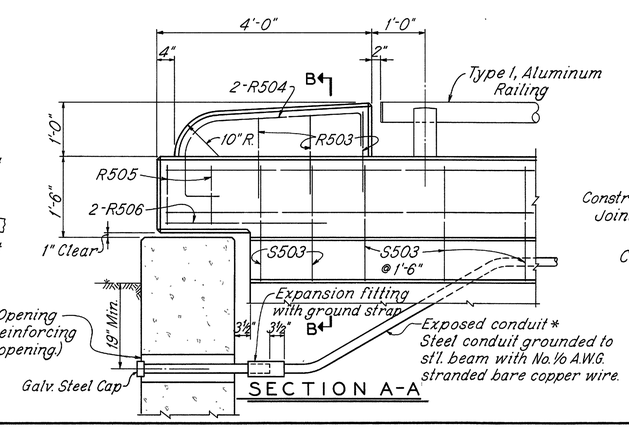
For Bolted Field Splice "B" and for details not shown see Std. Dwg. SD-1-65, Sheet 3.



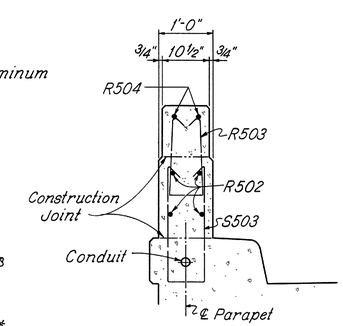
OBTUSE CORNERS

ACUTE CORNERS

CORNER DETAILS



SECTION A-A



SECTION B-B

NOTE: Elevations shown on Slab Plans are at deck level at face of curbs and are those which are required before the deck concrete is placed. These points are located at ends, quarter points, and midpoints of each span.

*EXPOSED CONDUIT: Where the conduit is wholly or largely exposed, conduit shall be in accordance with 713.04 Type II or III

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Consulting Engineers
MANSFIELD, OHIO.

SUPERSTRUCTURE - 2

BRIDGE NO. LOR-90-1320 L & R OVER S.R. 57

LORAIN COUNTY I.R. 90

STA. 680 + 81.01 TO STA. 683 + 24.01

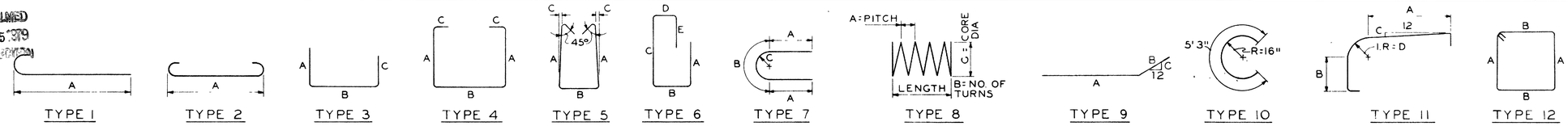
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
RAK	Bob	UL	JPG			

MICROFILMED
APR 05 1979
REPRODUCIBLE

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

411

LOR-90-13.01



ABUTMENTS

MARK	NO	LENGTH	TYPE	A	B	C	D	E	WEIGHT
A501	156	9'-2"	3	1'-7"	5'-3"	1'-7"			*
A502	156	7'-1"	3	6'-7"	7½"	0			*
A503	156	7'-0"	3	1'-11"	3'-5"	1'-11"			1139
A504	48	35'-10"	Str.						1794
A505	24	27'-10"	Str.						698
A506	16	31'-2"	3	27'-10"	3'-5"	0			520
A507	16	35'-2"	Str.						587
A508	16	33'-5"	Str.						558
A509	8	31'-8"	Str.						264
A510	4	39'-6"	Str.						165
A511	4	13'-3"	Str.						55
A512	4	10'-2"	Str.						42
A513	8	9'-11"	9	7'-9"	2'-3"	6 5/16"			83
A514	8	10'-7"	9	7'-7"	3'-1"	6 5/16"			88
A515	4	8'-7"	Str.						35
A516	4	8'-10"	Str.						37
A517	56	Varies	Str.	5'-0" to 8'-0" Vary 8 each by 6"					380
A518	56	Varies	Str.	5'-3" to 8'-3" Vary 8 each by 6"					394
A519	16	9'-7"	Str.						160
A601	156	14'-2"	3	6'-7"	5'-3"	2'-8"			3319
A602	144	15'-2"	6	4'-11"	1'-5"	6'-7"	11"	2'-0"	3280
A603	56	13'-10"	3	6'-4"	1'-5"	6'-4"			1164
A604	20	15'-3"	3	7'-1"	1'-5"	7'-1"			458
A801	56	28'-3"	Str.						4224
						Total Weight			19,444

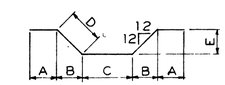
PIERS

MARK	NO.	LENGTH	TYPE	A	B	C	D	E	WEIGHT
P501	144	5'-6"	Str.						826
P502	24	25'-10"	Str.						647
P503	396	6'-11"	3	2'-3"	2'-8"	2'-3"			2857
P504	24	7'-4"	7	1'-7"	4'-2"	1'-4"			185
P505	12	6'-5"	3	2'-1"	2'-6"	2'-1"			80
P506	12	5'-10"	3	2'-1"	1'-11"	2'-1"			73
P601	168	8'-10"	2	7'-6"					2229
P901	96	19'-3"	Str.						6283
P902	96	17'-4"	Str.						5658
P903	96	18'-0"	Str.						5875
P904	288	6'-6"	3	5'-6"	1'-3"	0			6365
P905	24	23'-11"	Str.						1952
P906	72	9'-4"	3	2'-10"	6'-9"	0			2285
P907	36	10'-7"	Str.						1295
P1001	24	24'-2"	1	22'-9"					2496
P1002	24	31'-11"	1	30'-6"					3296
P1003	36	8'-3"	Str.						1278
SP401	8	16'-5"	8	4½"	47	32"			2463
SP402	8	14'-6"	8	4½"	42	32"			2197
SP403	8	15'-2"	8	4½"	44	32"			2301
						Total Weight			50,641

SUPERSTRUCTURE

MARK	NO	LENGTH	TYPE	A	B	C	D	E	WEIGHT
R501	224	14'-8"	Str.						*
R502	32	16'-4"	Str.						*
R503	24	4'-2"	5	1'-6"	6½"				*
R504	16	5'-4"	11	2'-8½"	9"	¾"	7⅜"		*
R505	16	3'-5"	5	1'-1"	8"				*
R506	16	3'-0"	Str.						*
S501	644	4'-11"	4	1'-4"	1'-6"	7½"			3302
S502	644	2'-6"	3	7½"	1'-6"	7½"			1679
S503	648	5'-7"	5	2'-2"	8"				3774
S601	1436	27'-10"	Str.						60,033
S602	1218	35'-11"	Str.						65,707
S603	204	28'-0"	Str.						8579
S701	1436	28'-0"	Str.						82,185
L501	8	7'-9"	13	1'-7"	1'-4"	1'-2"	1'-10"	1'-4"	65
L502	4	5'-0"	3	1'-3"	2'-9"	1'-3"			21
L503	4	6'-6"	3	2'-0"	2'-9"	2'-0"			27
						Total Weight			225,372

*These railing bars are included in Item 517 for payment



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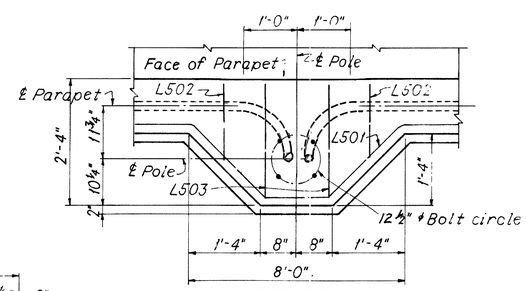
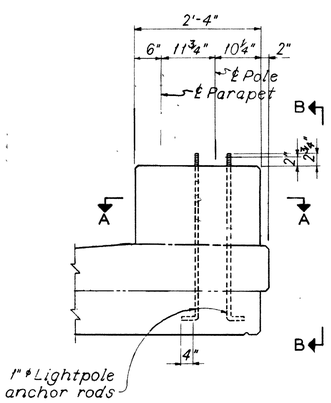
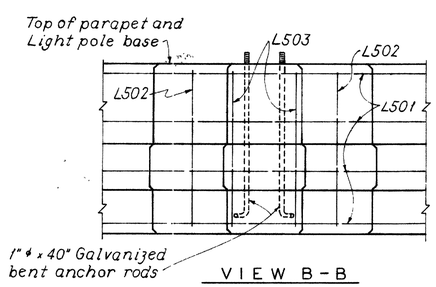


SECTION A-A

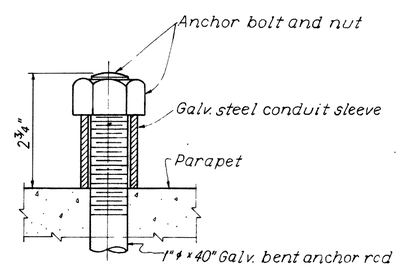




VIEW B-B

LIGHTING POLE BASE DETAILS

REPLACEMENT BARS			
MARK	NUMBER	LENGTH	TYPE
RE400	1	5'-3"	10
RE500	2	5'-7"	Str.
RE600	8	5'-11"	Str.
RE700	5	6'-2"	Str.
RE800	1	6'-6"	Str.
RE900	2	6'-10"	Str.
RE1000	1	7'-2"	Str.



COVER FOR ANCHOR BARS

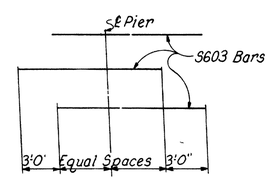


DIAGRAM SHOWING STAGGER OF S603 BARS OVER PIERS

NOTES

BAR SIZE: is indicated on the bar mark. The first digit where three digits are used and the first two digits where four are used, indicate the bar size number. For example A501 is a No.5 size bar and P1001 is a No.10 size bar.

SPIRAL REINFORCING BARS: The "Length" shown in the steel list for the spiral bars is the distance from the top of the footing to the bottom of the cap. The "No. of Turns" shown is the "Length" divided by the pitch, plus 3 turns (total number of closed coils), expressed as the nearest whole number. Spiral reinforcing bars shall not have deformations but shall in other respects conform to Item 509. 1½ closed coils shall be provided at the ends of each spiral unit. Four steel channel, tee or angle spacers, weighing approximately 0.68 lb. per lin. ft. of spacer, shall be equally spaced along the periphery of the coil. The number of pounds of these spacers, based on 0.68 lb. per lin. ft. will be paid for as reinforcing steel and is included in the tabulated quantity of spiral bars.

BRIDGE LIGHTING NOTES: See Roadway lighting notes sheet 395

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Consulting Engineers
MANSFIELD, OHIO.

REINFORCING STEEL
BRIDGE NO. LOR-90-1320 L&R OVER S.R. 57

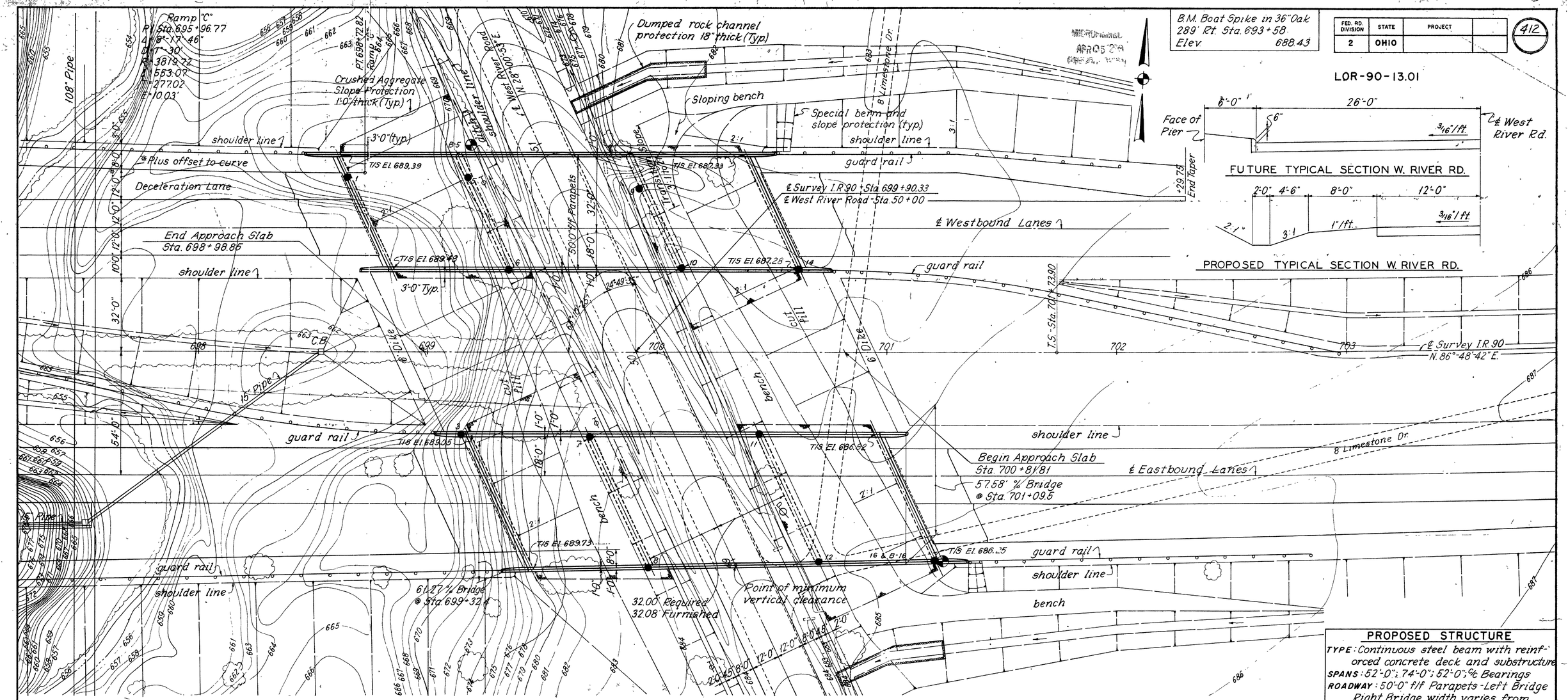
LORAIN COUNTY I.R. 90

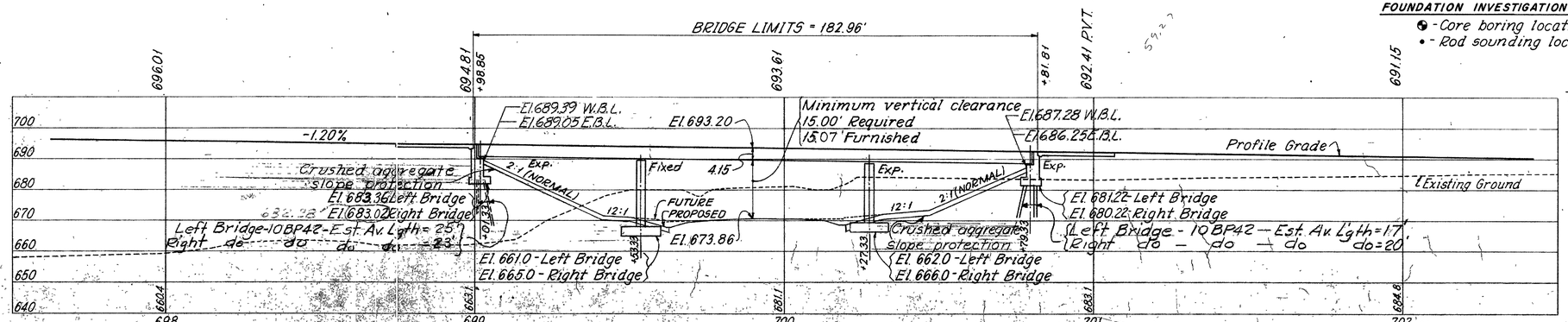
STA. 680+81.01 TO STA. 683+24.01

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
RAK	Jim	JS	JPG			

B.M. Boat Spike in 36" Oak 289' Rt. Sta. 693+58 Elev 688.43	FED. RD. DIVISION	STATE	PROJECT		412
	2	OHIO			

LOR-90-13.01





FOUNDATION INVESTIGATION LEGEND

- Core boring location
- Rod sounding location

PROPOSED STRUCTURE

TYPE: Continuous steel beam with reinforced concrete deck and substructure
SPANS: 52'-0"; 74'-0"; 52'-0"; % Bearings
ROADWAY: 50'-0" f/f Parapets - Left Bridge
Right Bridge width varies from 59.27' to 55.58' f/f Parapets
LOAD FREQUENCY: CF 2000 (57) Adequate for AASHO Alternate Loading
SKEW: 24°-49'-35" R.F.
APPROACH SLABS: AS-1-54 (25' long)
WEARING SURFACE: 1" monolithic concrete
ALIGNMENT: Tangent
AVERAGE DAILY TRAFFIC: 910 (1959) 2000 1989 (W. River Rd); 41,370 (1989) I.R. 90

SHAFFER, PARRETT AND ASSOCIATES
Consulting Engineers
MANSFIELD, OHIO.

SITE PLAN

BRIDGE NO. LOR-90-1355 L & R OVER WEST RIVER ROAD

LORAIN COUNTY I.R. 90

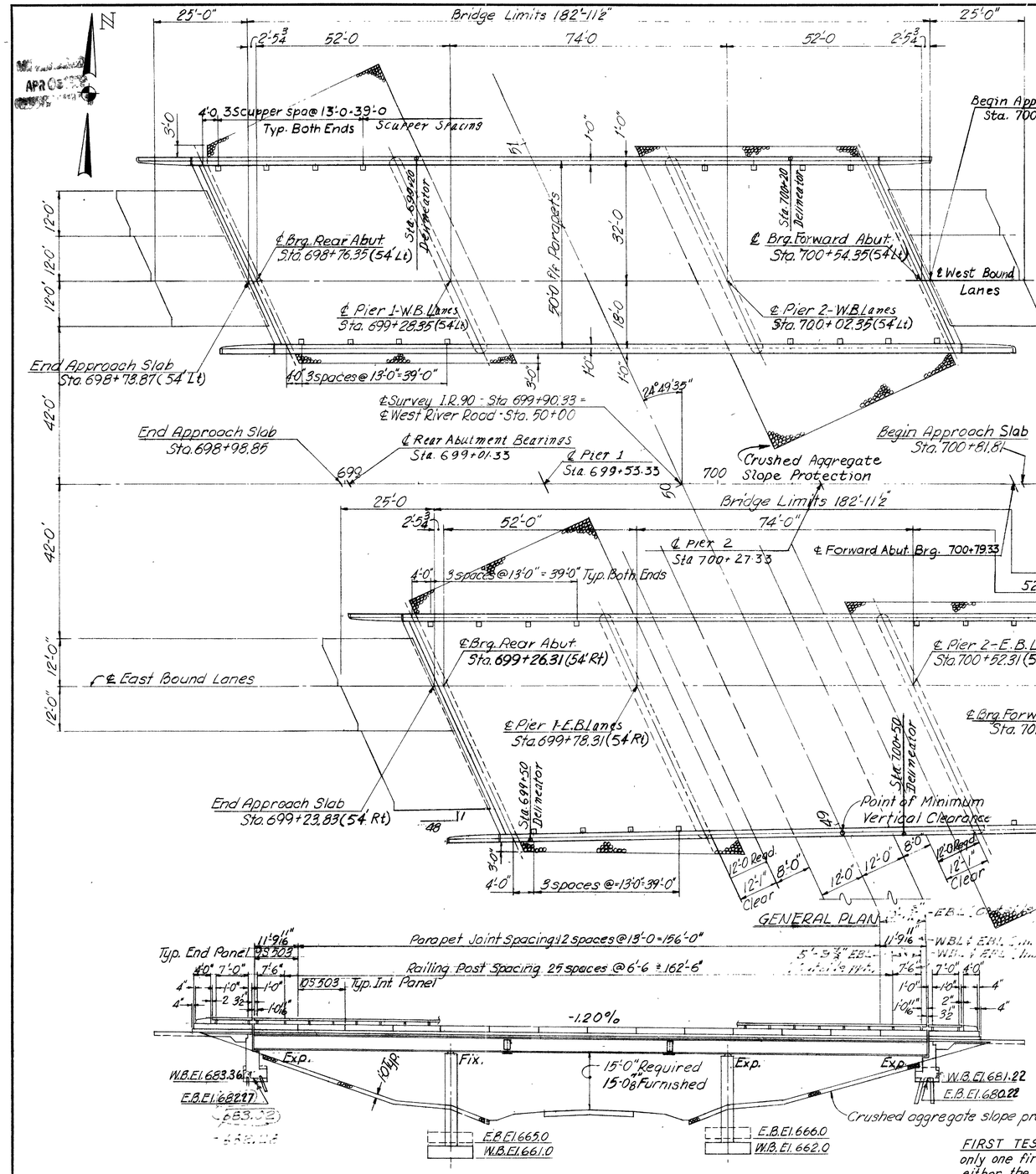
STA. 698+98.85 TO STA. 700+81.81

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
RAK	LK	LK				

FED. RD. DIVISION	STATE	PROJECT	

413

LOR-90-13.01



ELEVATION

ITEM	L. BRIDGE W.B.L	R. BRIDGE E.B.L	TOTAL	UNIT	ESTIMATED QUANTITIES (2 BRIDGES)	W.B.L SUPER	W.B.L ABUT.	W.B.L PIERS	W.B.L GEN'L	E.B.L SUPER	E.B.L ABUT	E.B.L PIERS	E.B.L GEN'L
503	568	613	1181	Cu.Yds.	Unclassified Excavation		568				613		
503	8	67	75	Cu.Yds.	Shale Excavation			8				67	
505	122,753	142,789	Lump	Sum	First Test pile (10 BP42)				LUMP				
507	602	733	1335	Lin.Ft.	Steel Piles (10 BP 42)	81,046	602			100,553	733		
509	114,948	146,829	261,777	lbs.	Reinforcing steel	73240	14625	27083		104,592	13874	28363	
511	297	332	629	Cu.Yds.	Class "C" Concrete, Superstructure	297				332			
511	84	83	167	Cu.Yds.	Class "C" Concrete, Piers above footings			84				83	
511	43	57	100	Cu.Yds.	Class "E" Concrete, Pier footings			43				57	
511	228	254	482	Cu.Yds.	Class "E" Concrete, Abutments		228				254		
513	242,660	282008	524,668	lbs.	Structural Steel	242660				282008			
514	242,660	282,008	524,668	lbs.	Field painting of Structural Steel	242660				282008			
	387.57	386.47	774.04			359.24				358.14			
517	396	396	792	Lin.Ft.	Bridge Railing type 1	396				396			
518	16	16	32	Each	Scuppers (Including supports)	16				16			
518	46	57	103	Cu.Yds.	Porous Backfill		46				57		
518	100	117	217	Lin.Ft.	6"ϕ Perforated Helical C.M.P. (707.06) includ. Specials		100				117		
518	80	115	195	Lin.Ft.	6"ϕ Helical C.M.P. (707.06) Non-Perforated		80				115		
601	962	1,114	2076	Sq.Yds.	Crushed Aggregate slope protection				962				1114
808	297	332	629	Each	Water-Reducing, Set-Retarding Admixture	297				332			
825	1167	1334	2501	Sq.Yds.	Concrete surface treatment	1167				1334			
828	106	126	232	Lin.Ft.	Joint sealer				106				126

GENERAL NOTES

REFERENCE: shall be made to Standard Drawings SD-1-65 sheets 1, 2 & 3 dated 11-8-65, RB-1-55 revised 2-2-59, BR-1-65 revised 11-24-65, AS-1-54 revised 8-10-65 and to supplemental specifications 808 dated 7-14-65, 811 revised 3-29-65, 825 dated 4-22-65, 828 dated 7-21-65

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 thereof except strength of splice is based on Article 1.6.31 of the A.A.S.H.O. "Standard Specifications for Highway Bridges" dated 1961, together with current revisions thereof.

DESIGN LOADING: CF 2000 (57)

DESIGN UNIT STRESSES:

Structural Steel A.S.T.M. A-36 — 20,000 psi bending; 12,000 psi shear

High Strength bolts A.S.T.M. A-325 — 19,500 psi shear; 40,000 psi bearing

CONCRETE CLASS C 1333 psi

CONCRETE CLASS E 1133 psi

REINFORCING STEEL: A.S.T.M. A15, A16 or A160 Deformed, Intermediate or Hard Grade basic unit stress 20,000 psi. Spiral reinforcing need not be deformed & shall conform to A.S.T.M. A15.

MACHINE FINISH: The concrete bridge deck shall be finished by using a finishing machine.

EXCAVATION QUANTITY: includes the removal of the fill material required for construction of abutments and piers.

PILES: Shall be driven with a hammer of not less than 11,000 ft.lb per blow to firm contact with shale. If the length of penetration is approximately equal to the depth of shale according to Bridge foundation investigation report, the firm contact shall be considered as attained when the capacity according to formula in SEC 507.05 is not less than the following value for a pile hammer of the indicated energy rating:

E.B. Bridge - 54 Tons per pile using a 11,000 ft lb Hammer
W.B. do - 50 do do do
E.B. do - 47 do 15,000 ft lb do
W.B. do - (51) do do do

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 3.5 tons per pile

FOUNDATION BEARING PRESSURE: All Abutments are on piles. Pier footings are designed for a maximum bearing pressure of 5.0 tons per Sq. Ft.

FIRST TEST PILE: Payment will be made for only one first test pile. It may be driven for either the Left or Right Bridge.

LEGEND: EAST BOUND LANES - E.B.L.
WEST Do Do - W.B.L.

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Consulting Engineers
MANSFIELD, OHIO.

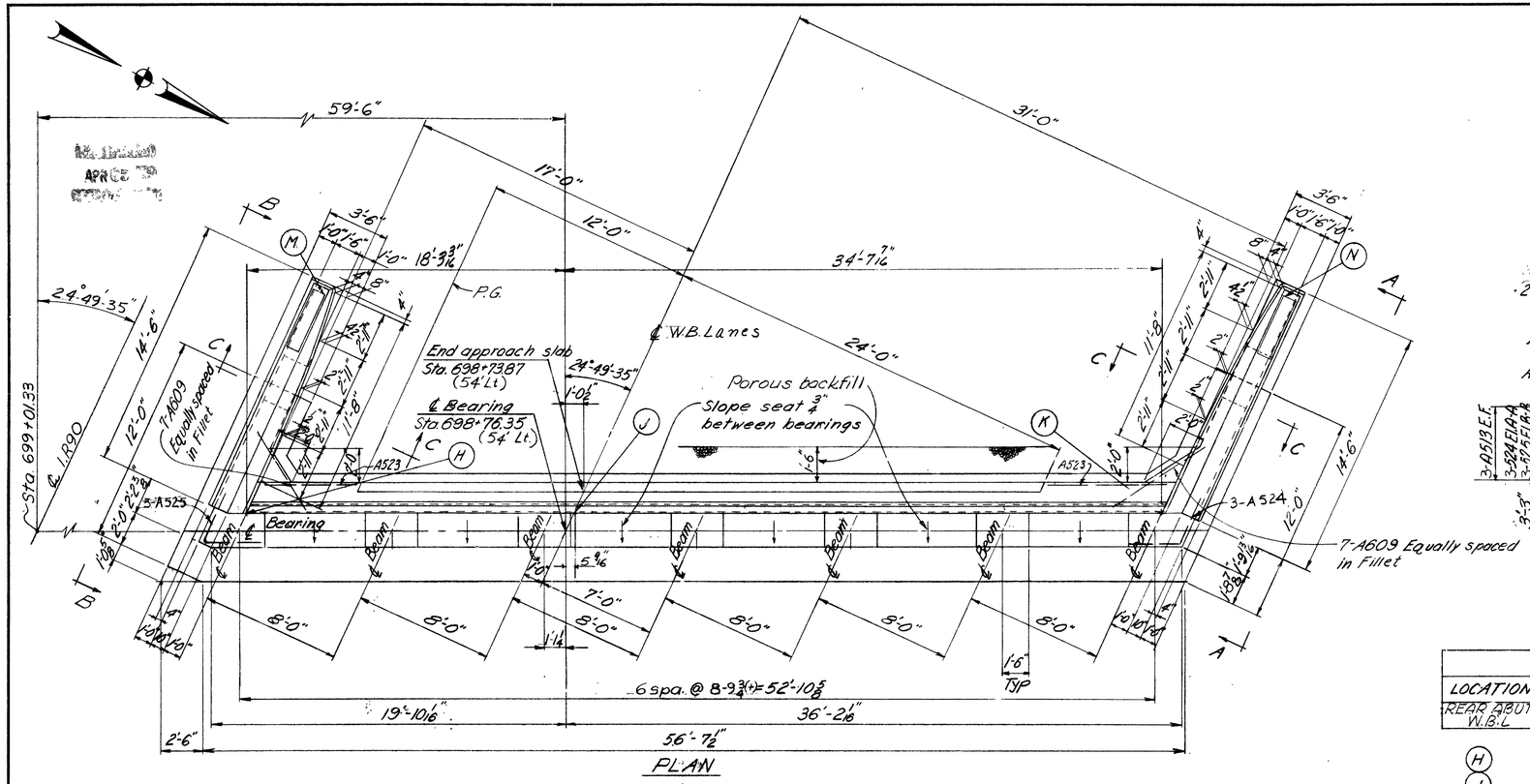
GENERAL PLAN, ELEVATION, NOTES & ESTIMATED QUANTITIES
BRIDGE No. LOR-90-1355 L & R
OVER WEST RIVER ROAD
LORAIN COUNTY
STA. 698+98.85 TO STA. 700+81.81

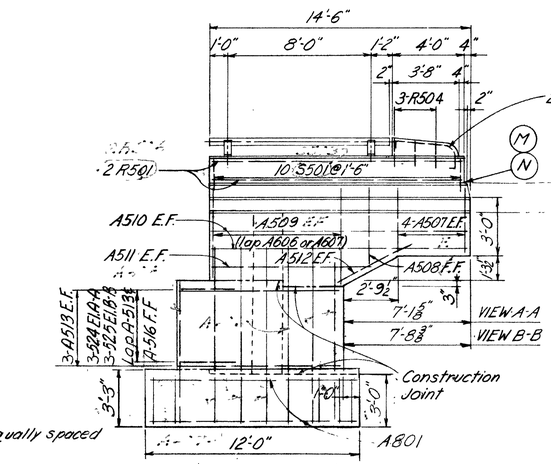
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
GCD	GCD		SCT	W.S.R.		

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

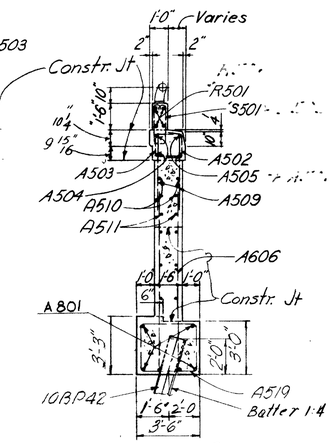
414

LOR-90-13.01



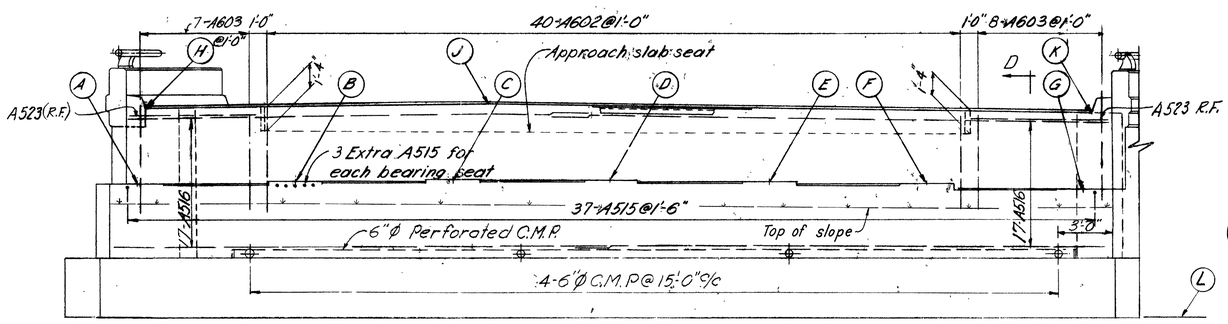


ELEVATION A-A SHOWN
ELEVATION B-B OPP. HAND

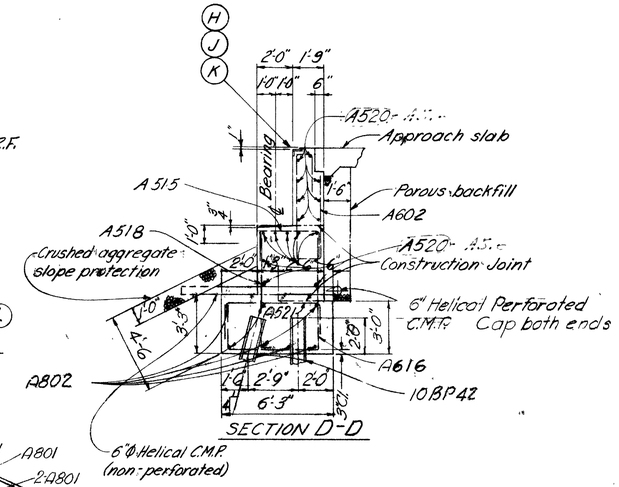


SECTION C-C

TABLE OF ELEVATIONS													
LOCATION	A	B	C	D	E	F	G	H	J	K	L	M	N
REAR ABUT. W.B.L.	690.39	690.56	690.72	690.68	690.59	690.51	690.43	694.93	695.29	694.98	683.36	695.54	695.93



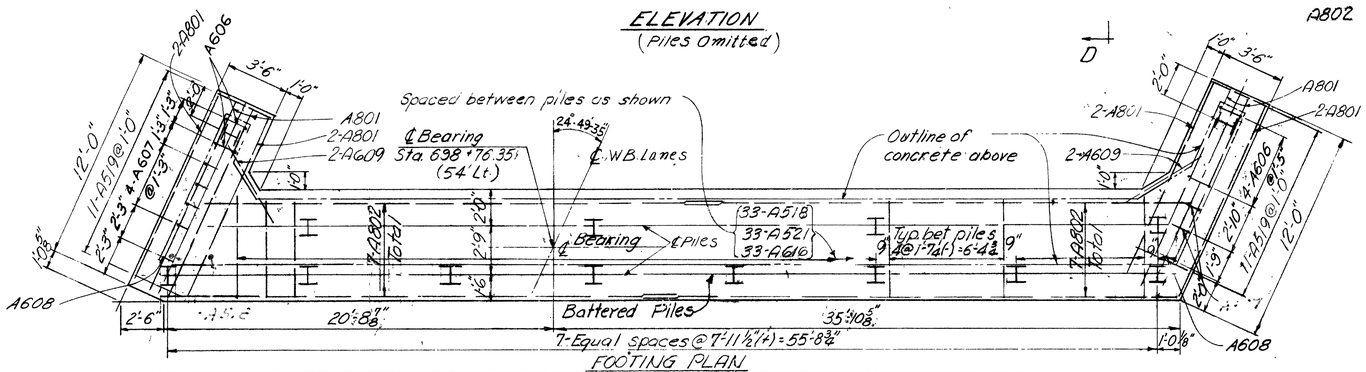
ELEVATION
(Piles Omitted)



SECTION D-D

LEGEND
R.F. — Rear Face
F.F. — Front Face
E.F. — Each Face

See Sheet 415 for Abut. Notes
For wing wall curbs see sheet 415



FOOTING PLAN

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

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Consulting Engineers
MANSFIELD, OHIO.

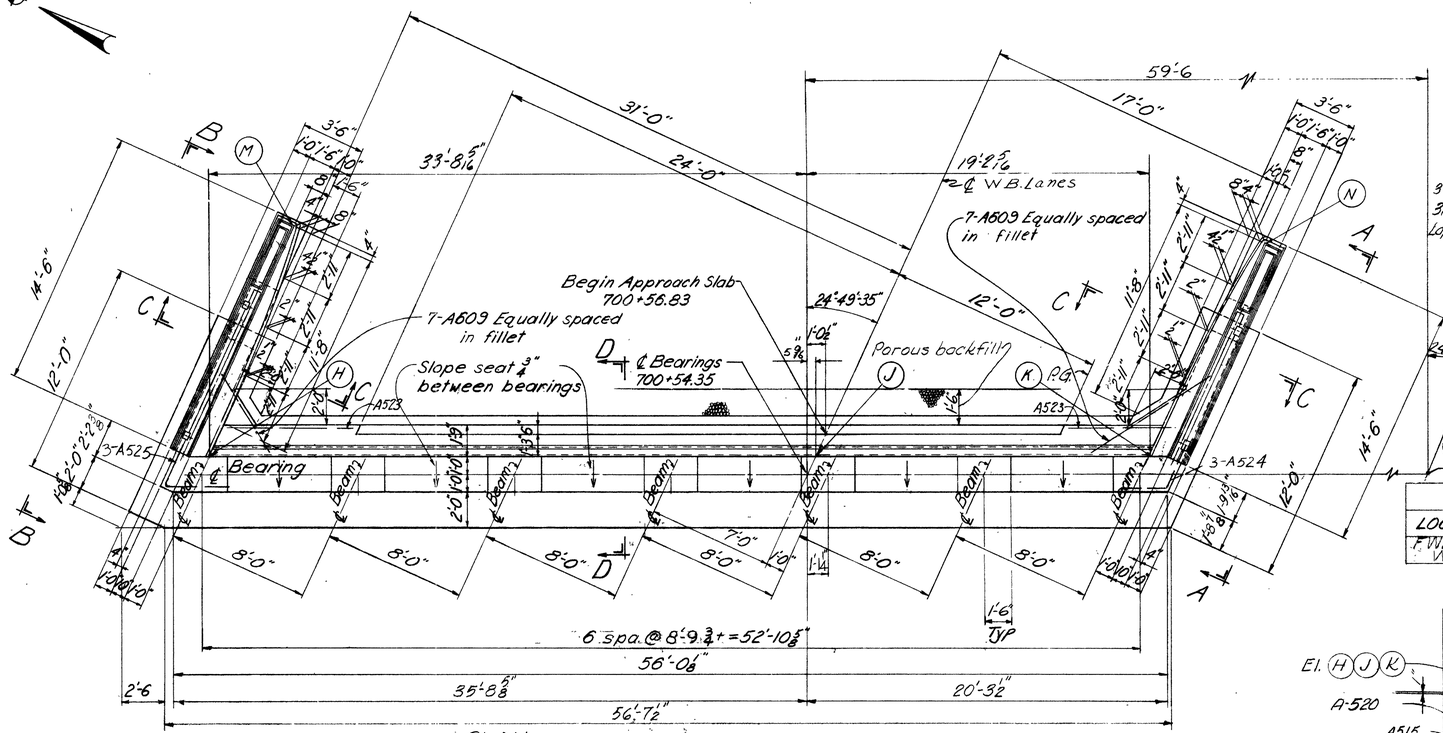
REAR ABUTMENT W.B.L. DETAILS
BRIDGE NO. LOR-90-1355 4/R
OVER WEST RIVER ROAD
LORAIN COUNTY

STA. 698+98.85 TO STA. 700+81.81

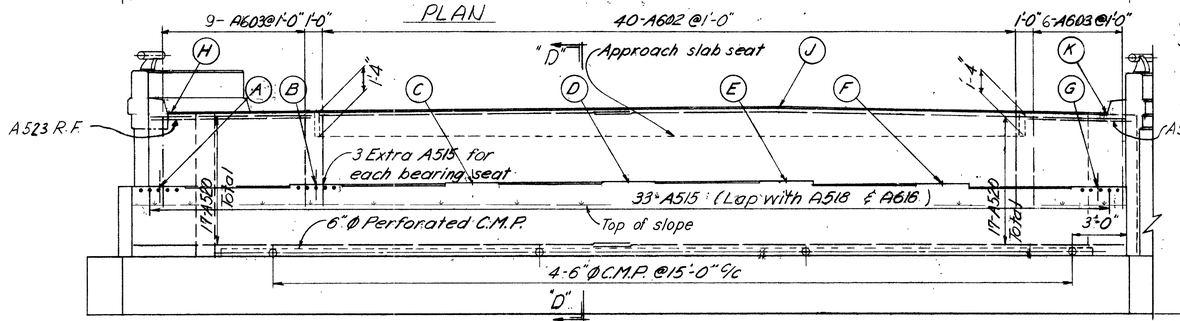
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
W.C.C.	W.C.C.		SCT	H.S.R.	2/3/60	

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

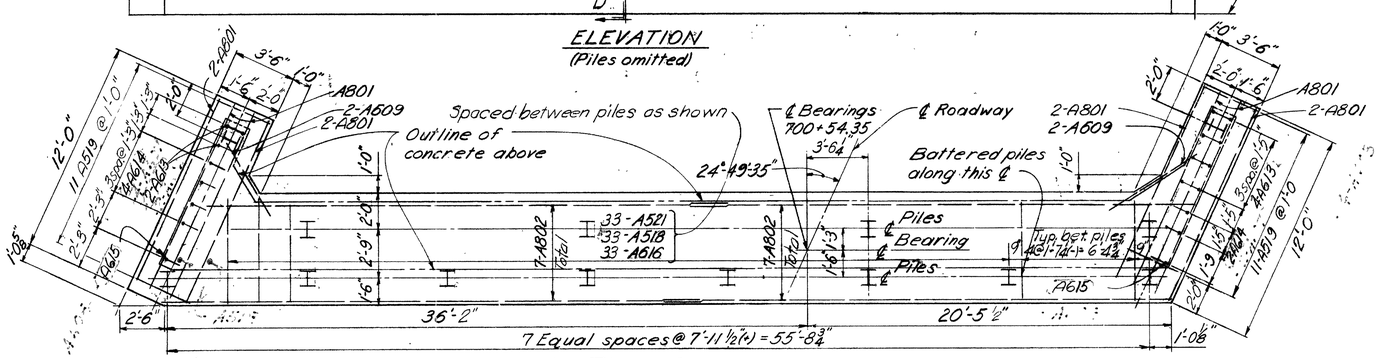
415



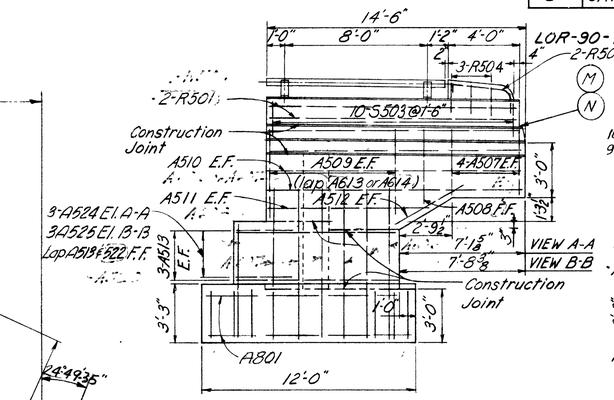
PLAN



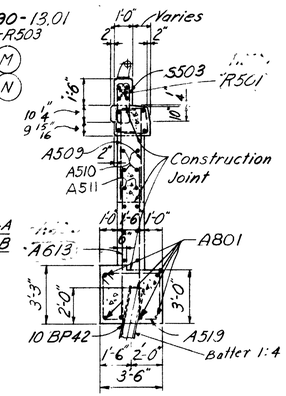
ELEVATION
(Piles omitted)



FOOTING PLAN

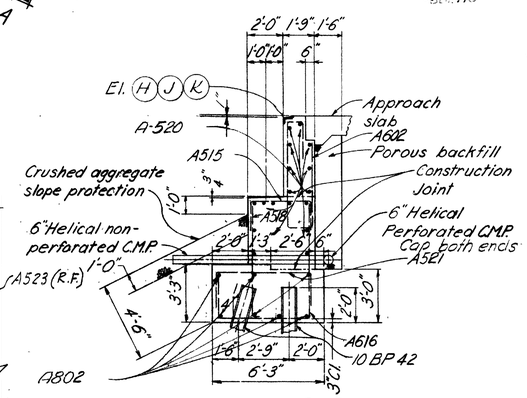


ELEVATION A-A SHOWN
ELEVATION B-B OPP. HAND



SECTION C-C

TABLE OF ELEVATIONS													
LOCATION	A	B	C	D	E	F	G	H	J	K	L	M	N
F.W.D. ABUT. W.B.L.	688.30	688.38	689.46	688.54	688.59	688.45	688.25	692.78	692.85	692.74	681.22	693.50	693.45

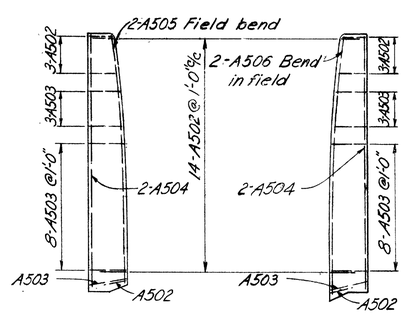


SECTION D-D

NOTES

CONCRETE: All abutment concrete shall be class "E" except parapets, which shall be class "C."

POROUS BACKFILL: 1'-6" thick, shall extend up to the underside of the approach slab and for the full length of the abutment. Excavation therefore, in excess of that required for construction of the abutment, shall be considered as paid for in the bid price per cu. yd. of porous backfill.



WINGWALL CURB PLAN
Typ. for all Abutments

LEGEND
R.F. — Rear Face
F.F. — Front Face
E.F. — Each Face

SHAFFER, PARRETT AND ASSOCIATES
Consulting Engineers
MANSFIELD, OHIO.

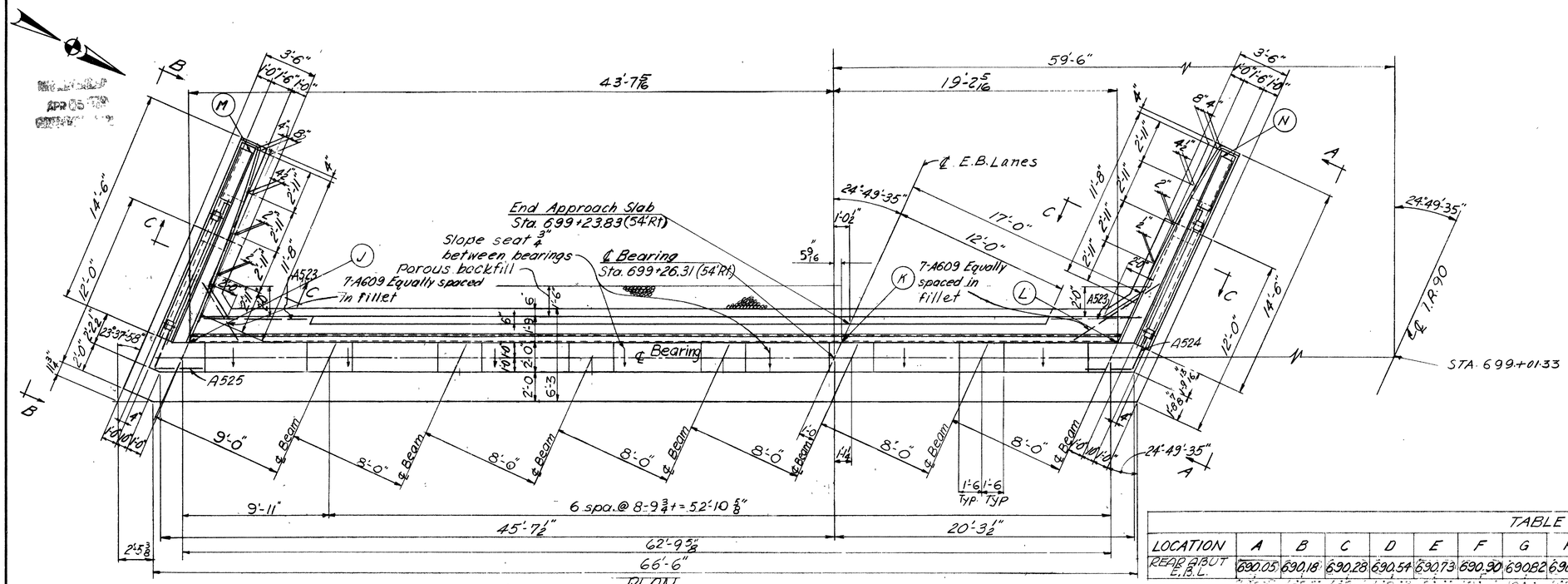
FORWARD ABUTMENT — W.B.L. DETAILS
BRIDGE NO. LOR-90-1355 L/R
OVER WEST RIVER ROAD
LORAIN COUNTY
STA. 698+98.85 TO STA. 700+81.81

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
W.C.C.	W.C.C.		H.S.R.	SCT	7/3/62	

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

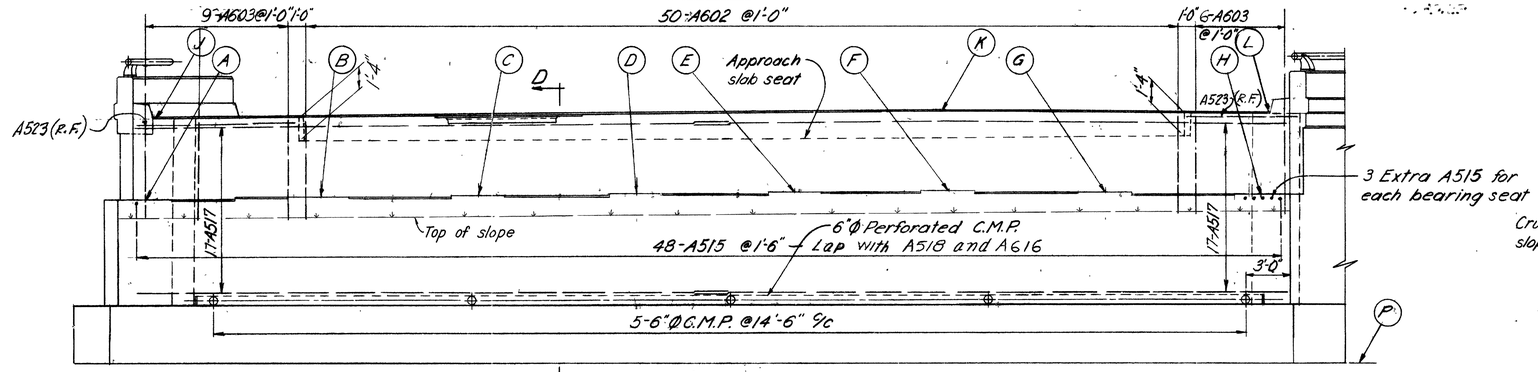
416

LOR-90-13.01

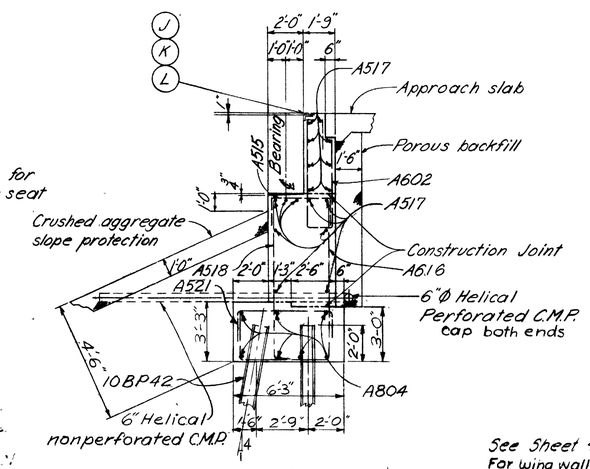


PLAN

TABLE OF ELEVATIONS														
LOCATION	A	B	C	D	E	F	G	H	J	K	L	M	N	P
REAR ABUT E.B.L.	690.05	690.18	690.28	690.54	690.73	690.90	690.82	690.73	694.52	694.68	693.85	694.70	694.70	683.02



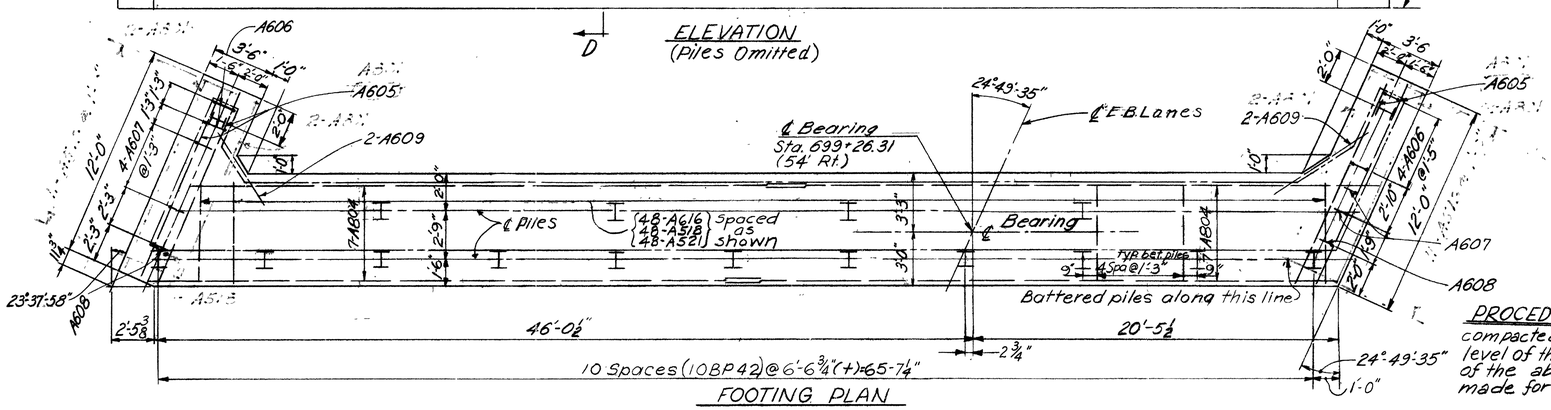
ELEVATION
(Piles Omitted)



SECTION D-D

LEGEND
R.F. — Rear Face
F.F. — Front Face
E.F. — Each Face

See Sheet 415 for Abutment Notes. For wing wall curbs and Elevation A-A, Elevation B-B, & Section C-C See Sheet 415



FOOTING PLAN

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

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MANSFIELD, OHIO.

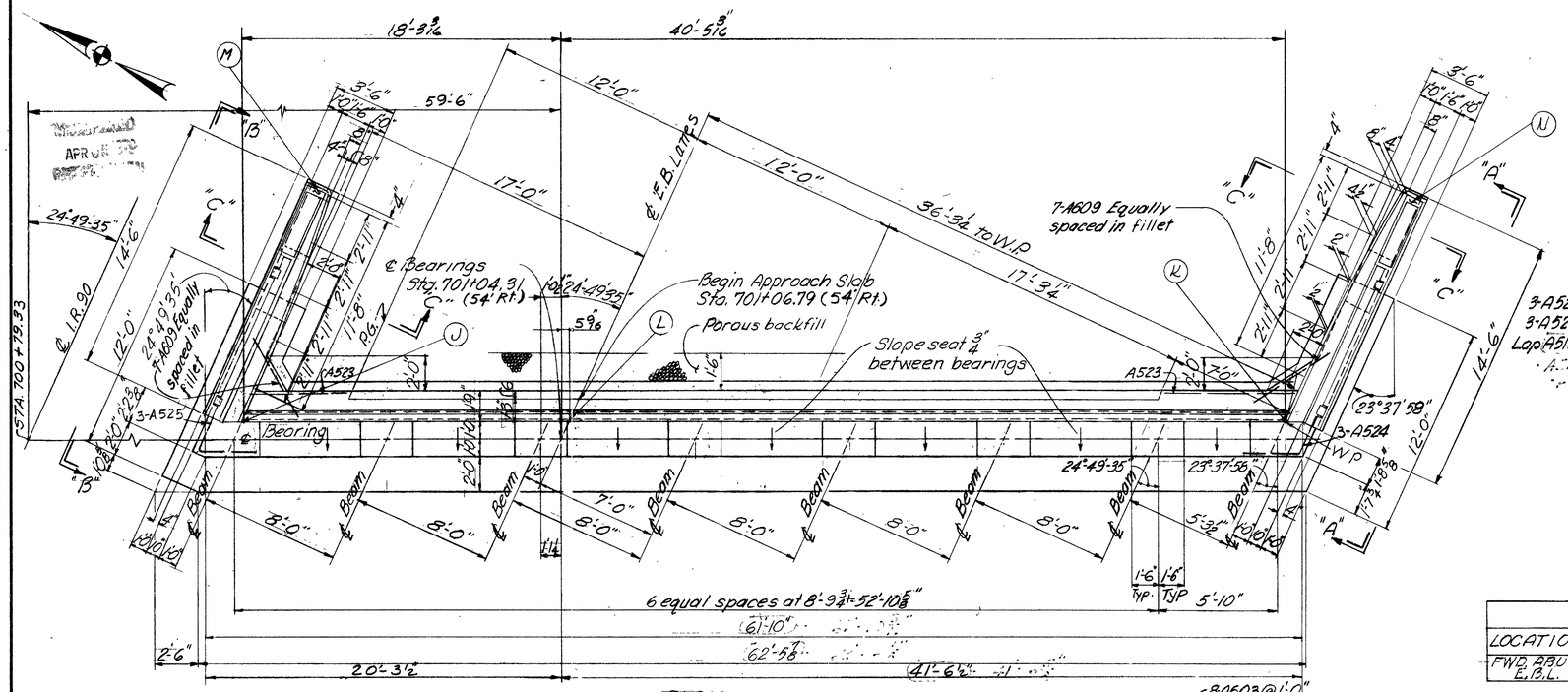
REAR ABUTMENT E.B.L. DETAILS
BRIDGE NO. LOR-90-1355 L & R
OVER WEST RIVER RD.
LORAIN COUNTY

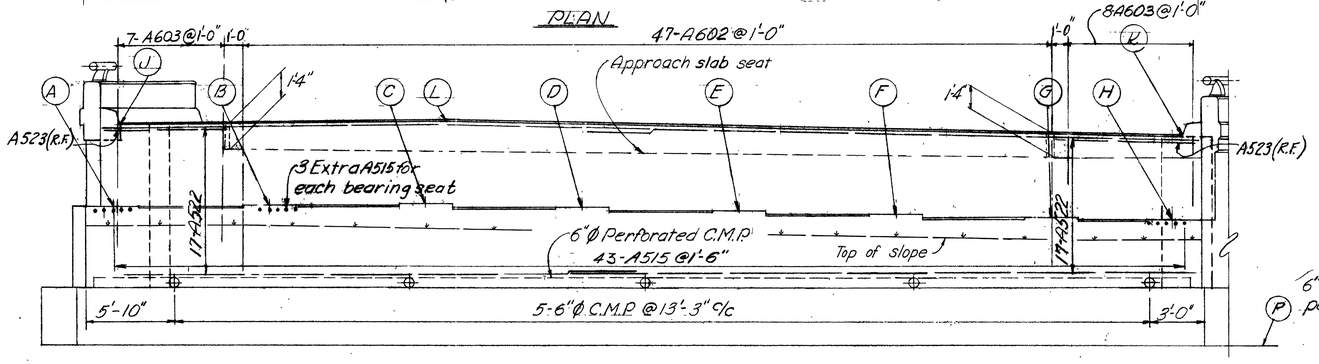
STA. 698+98.85 TO STA. 700+81.81

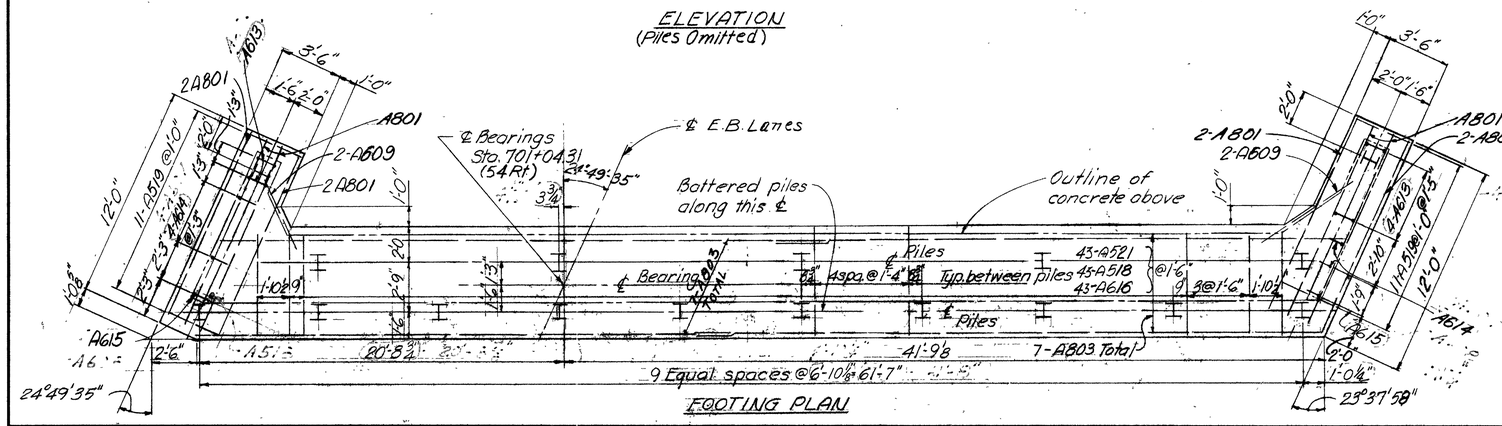
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
W.C.C.	W.C.C.		SCT	H.S.P.	2/1/66	

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

417







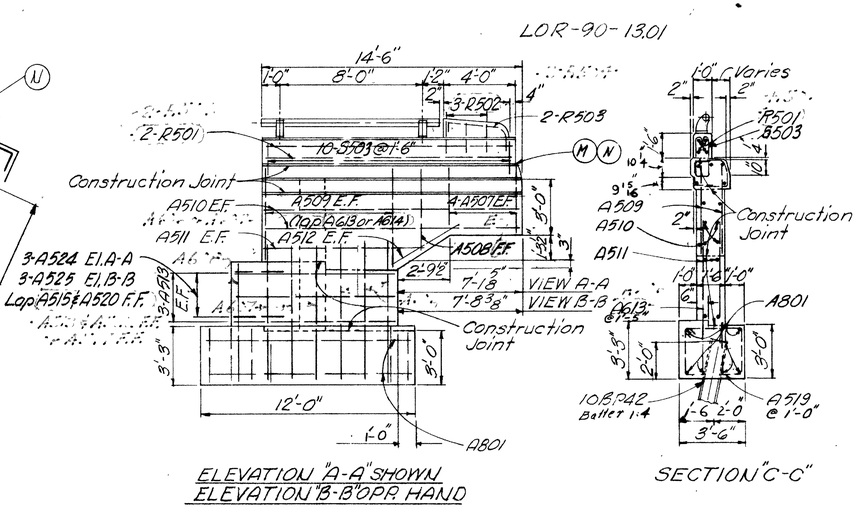
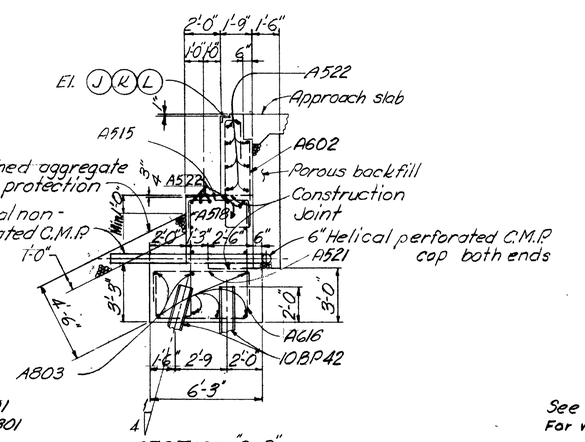


TABLE OF ELEVATIONS														
LOCATION	A	B	C	D	E	F	G	H	J	K	L	M	N	P
FWD. ABUT. E.B.L.	687.84	687.92	688.00	687.87	687.70	687.53	687.36	687.25	692.37	691.76	692.53	693.05	692.44	680.22



LEGEND
R.F. — Rear Face
F.F. — Front Face
E.F. — Each Face

See Sheet 415 for Notes
For wing wall curbs see sheet 415

SHAFFER, PARRETT AND ASSOCIATES
Consulting Engineers
MANSFIELD, OHIO.

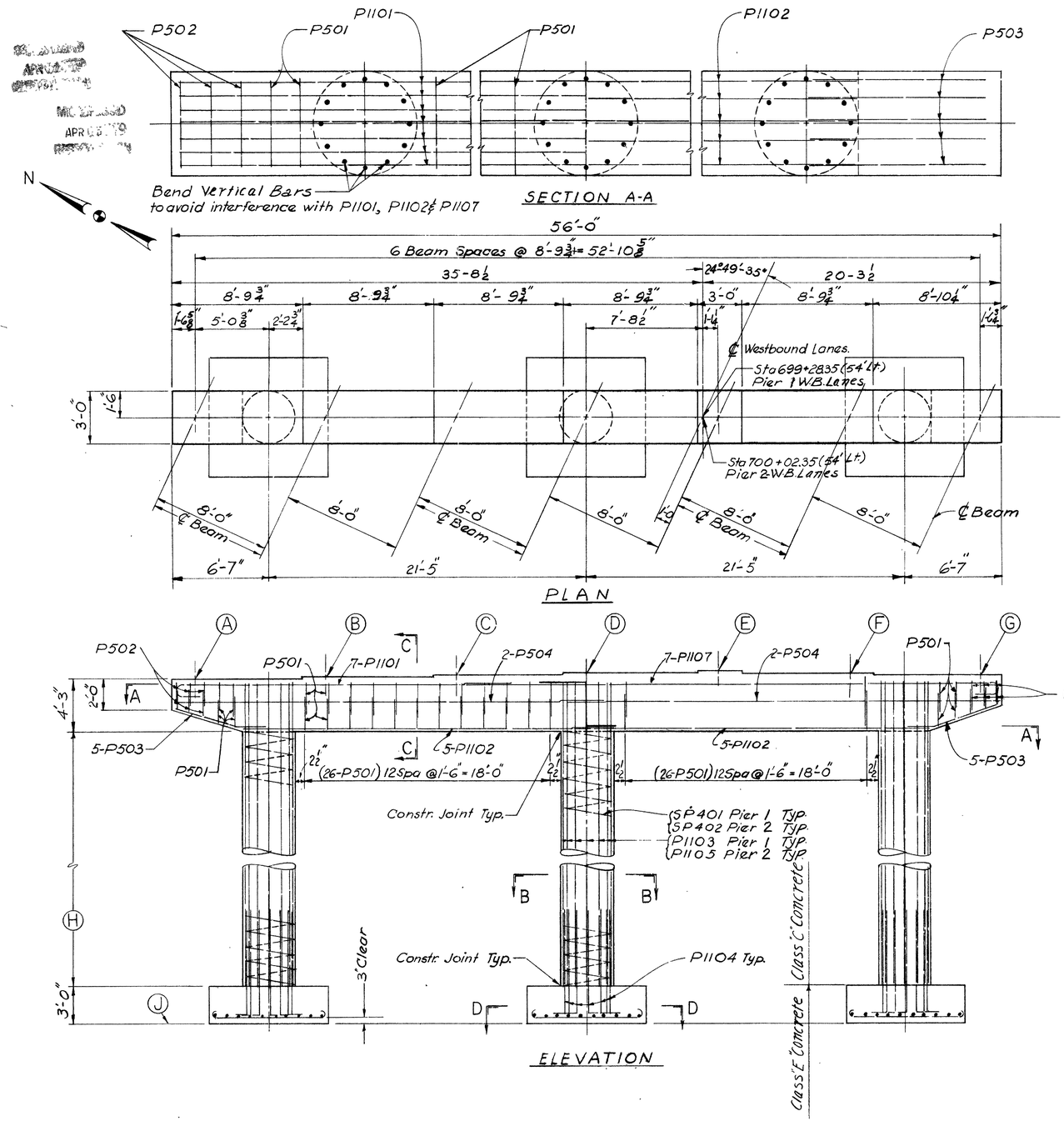
FORWARD ABUTMENT - E.B.L. DETAILS
BRIDGE NO. LOR-90-1355 L & R
OVER WEST RIVER ROAD
LORAIN COUNTY
STA. 698+98.85 TO STA. 700+81.81

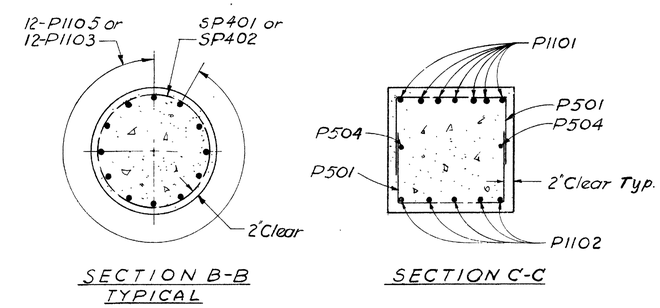
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
G.C.D.	G.C.D.		H.S.P.	SCT	2/4/66	

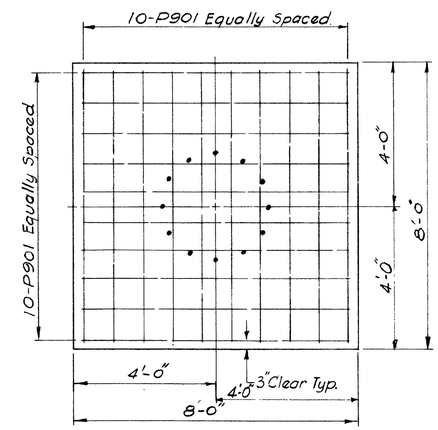
FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

418

LOR-90-13.01







NOTES:

CONCRETE: All concrete for pier footings shall be Class "E" and all concrete above pier footings shall be Class "C."

BRIDGE SEAT REINFORCING: Special care shall be taken in placing reinforcing steel in the vicinity of the bridge seat of Pier No. 1 so as to avoid interference with the drilling of anchor-bolt holes

FOOTINGS shall extend a minimum of 3" into undisturbed Shale or to the elevation shown, whichever is lower.

TABLE OF ELEVATIONS AND DIMENSIONS

	A	B	C	D	E	F	G	H	J
PIER #1 W.B.L.	689.30	689.39	689.46	689.55	689.59	689.43	689.26	21.01	661.00
PIER #2 W.B.L.	688.42	688.49	688.58	688.66	688.70	688.54	688.37	19.02	662.00

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MANSFIELD, OHIO.

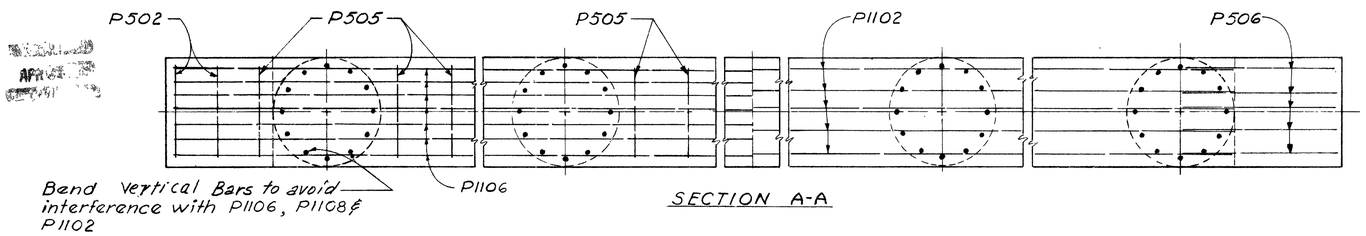
PIER DETAILS - W.B.L. #1 & #2
BRIDGE NO. LOR 90 1355 L&R
OVER WEST RIVER ROAD
LORAIN COUNTY
STA. 698+98.85 TO STA. 700+81.81

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
H.S.R.	AK		SCT	H.S.R.	2/96	

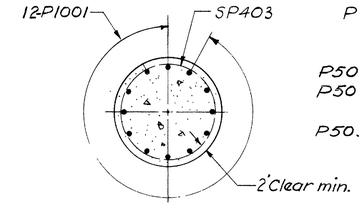
FED. RD. DIVISION	STATE	PROJECT	

419

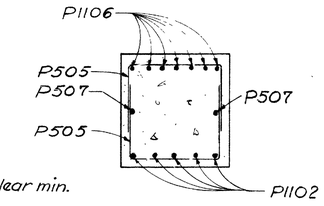
LOR-90-13.01



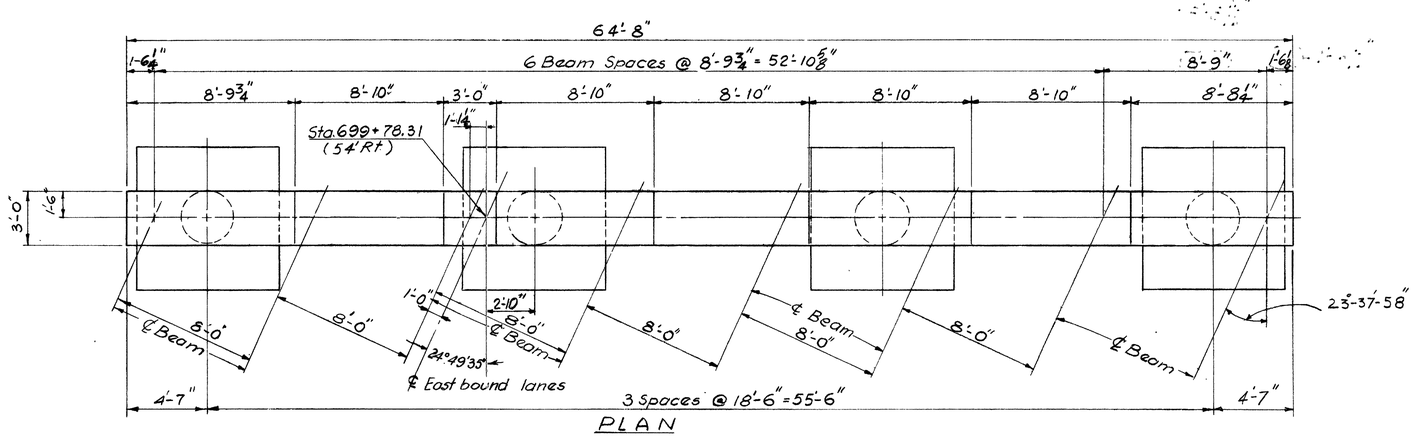
SECTION A-A



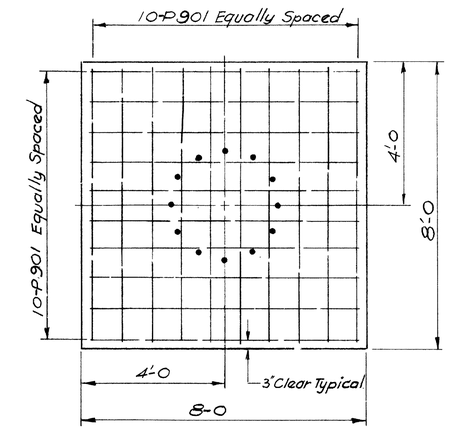
SECTION B-B
TYPICAL



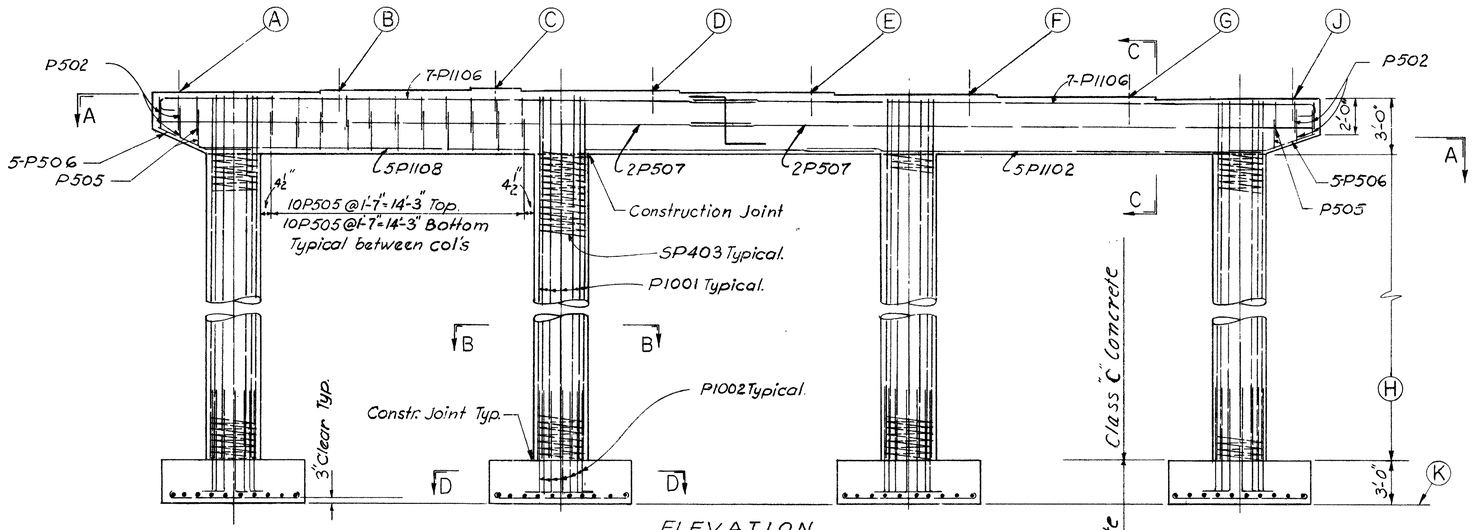
SECTION C-C



PLAN



SECTION D-D
TYPICAL



ELEVATION

See Sheet 418 for Pier Notes

TABLE OF ELEVATIONS AND DIMENSIONS

	A	B	C	D	E	F	G	J	H	K
PIER #1 E.B.L.	688.85	688.93	689.02	688.84	688.66	688.48	688.30	688.19	17.19	665.00
	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

SHAFFER, PARRETT AND ASSOCIATES
Consulting Engineers
MANSFIELD, OHIO.

PIER DETAILS-E.B.L. #1
BRIDGE NO. LOR-90-1355 L&R
OVER WEST RIVER ROAD

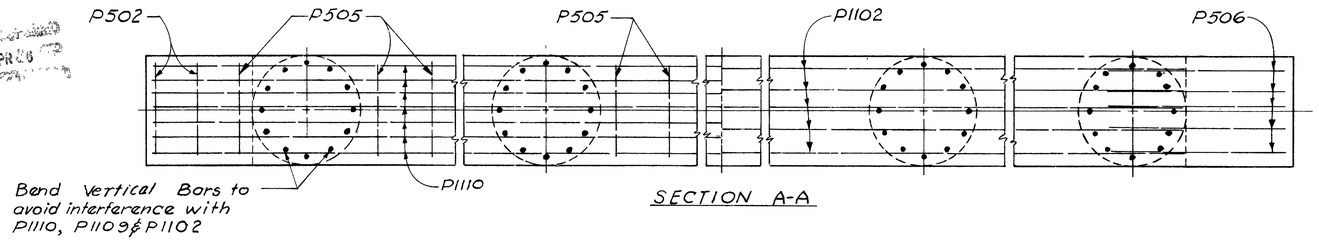
LORAIN COUNTY
STA. 698+98.85 TO STA. 700+81.81

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
AK	AK		SCT	H.S.R.	2/9/96	

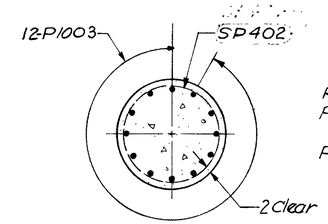
FED. RD. DIVISION	STATE	PROJECT	

420

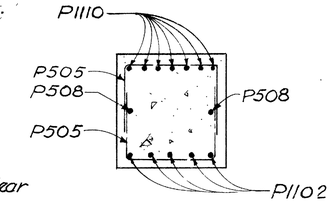
LOR-90-13.01



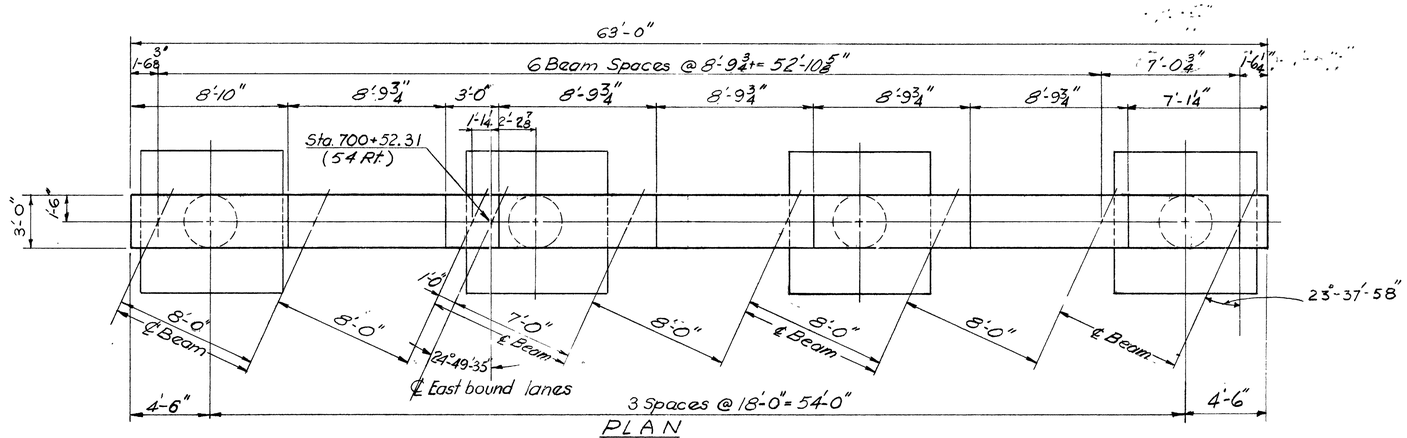
SECTION A-A



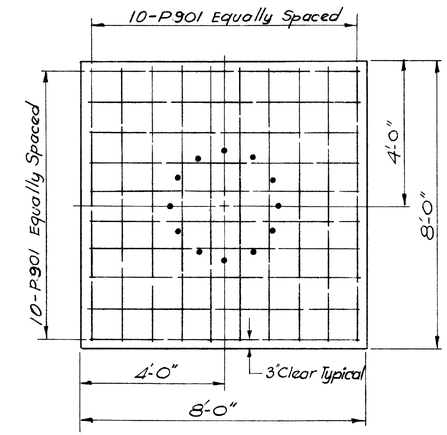
SECTION B-B
TYPICAL



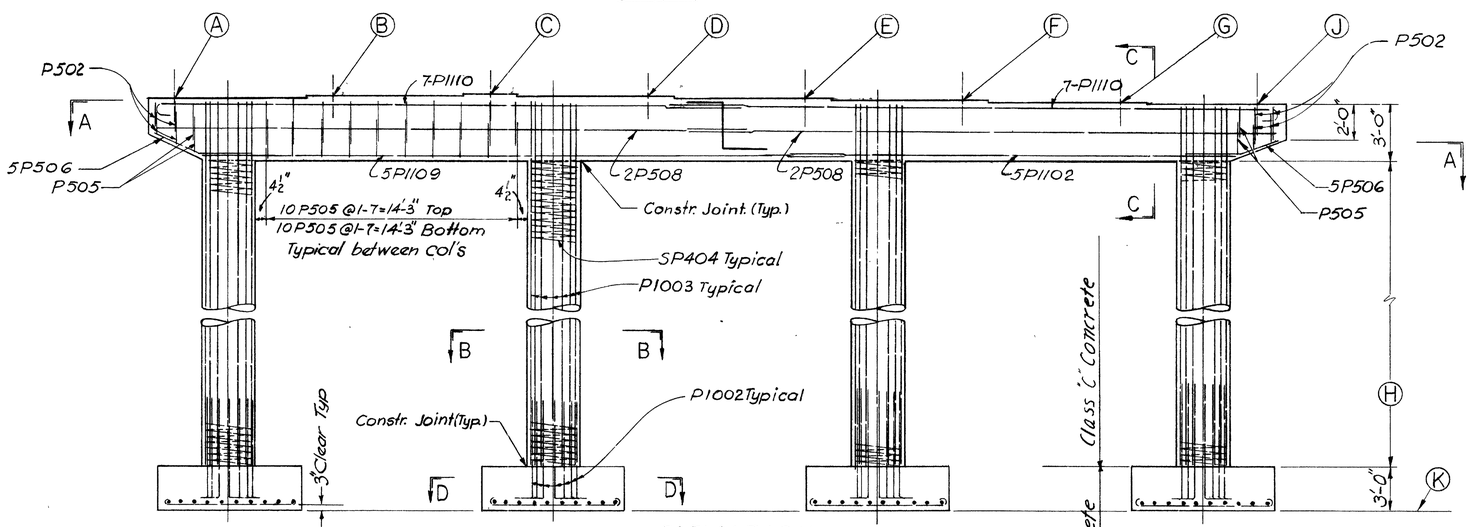
SECTION C-C



PLAN



SECTION D-D



ELEVATION

See Sheet 418 for Pier Notes

TABLE OF ELEVATIONS AND DIMENSIONS

	Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ	Ⓕ	Ⓖ	Ⓙ	Ⓗ	Ⓚ
PIER 2 E	687.96	688.04	688.13	687.95	687.77	687.59	687.41	687.34	15.34'	666.00

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Consulting Engineers
MANSFIELD, OHIO.

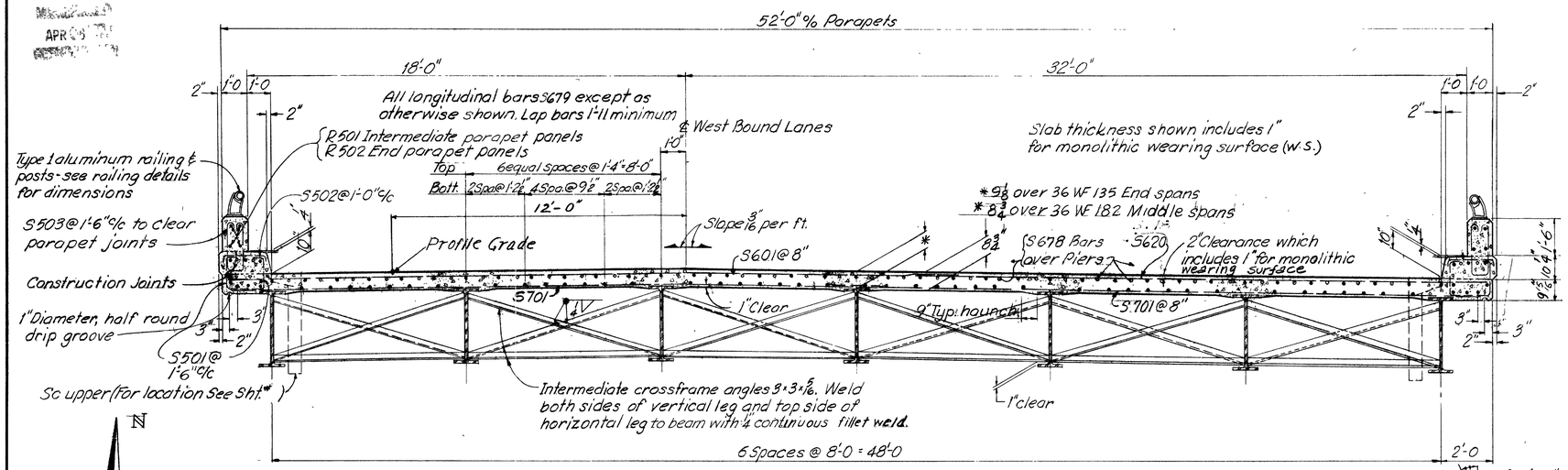
PIER DETAILS - E.B.L. #2
BRIDGE NO. LOR-90-1355 L&R
OVER WEST RIVER ROAD
LORAIN COUNTY
STA. 698+98.85 TO STA. 700+81.81

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
AK	AK		SCT	H.S.R.	2/96	

FED. RD. DIVISION	STATE	PROJECT	

421

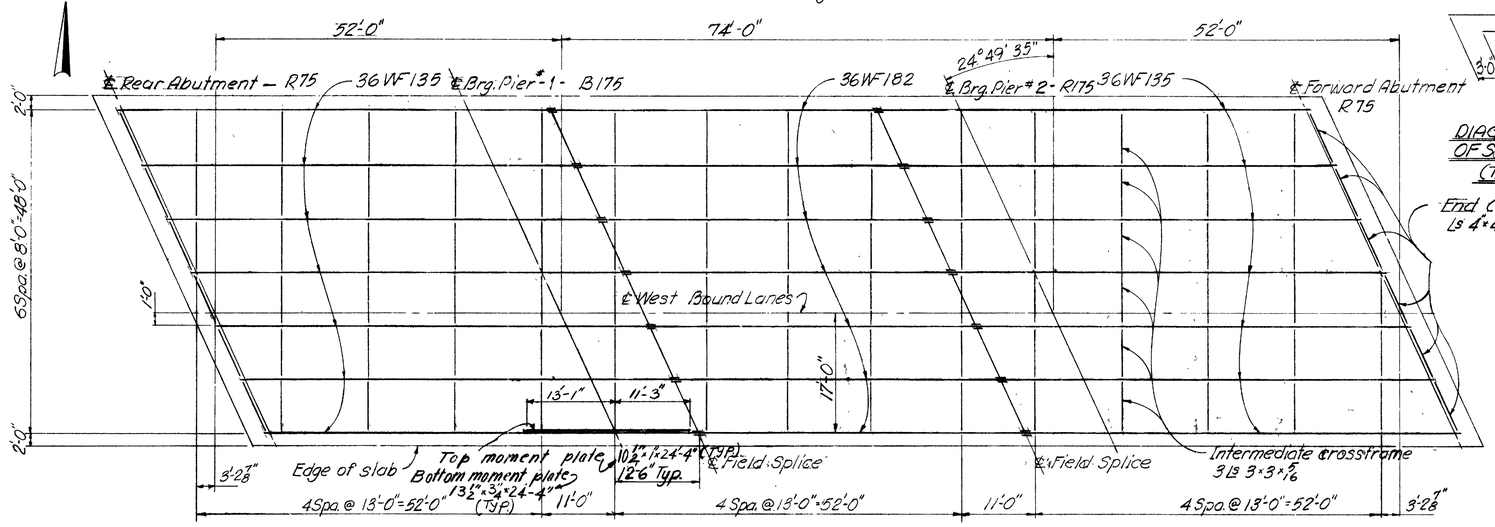
LOR-90-13.01



TRANSVERSE SECTION
(Looking West)

A typical 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.

*DECK SLAB DEPTH - The distance shown from top of deck slab to top of steel beam is the nominal 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. Deduction shall be made for volume of encased steel plates as per Sec. 511.19 of the Construction & Material Specifications.



STEEL FRAMING PLAN
W.B. LANES

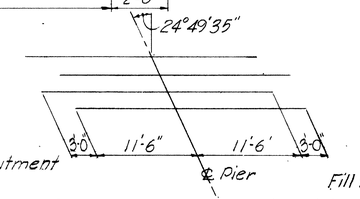
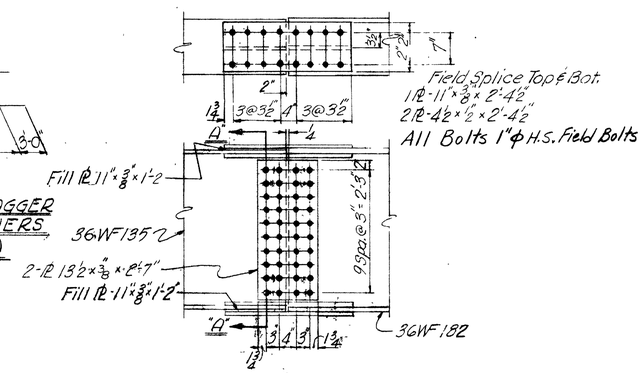


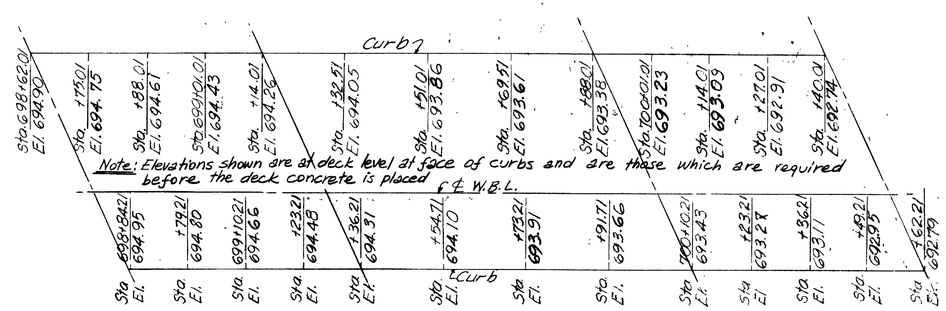
DIAGRAM SHOWING STAGGER OF S678 BARS OVER PIERS
(Typ. for E.B.L & W.B.L.)



FIELD SPLICE FOR E.B. & W.B. LANES

Note: Work this sheet with Sheet 422

DEFLECTION & CAMBER FOR E.B. & W.B. LANES							
	END SPANS			CENTER SPAN			
	¼ Point A	Center Point B	¾ Point C	¼ Point A	Center Point B	¾ Point C	Splice Point D
Deflection due to weight of steel	—	1/16	—	—	1/16	—	—
Deflection due to remaining dead load	1/8"	5/8"	1/8"	1/8"	1/2"	1/8"	1/16
Adjustment required for vertical curve	—	—	—	—	—	—	—
Required Shop Camber	1/8"	7/16"	1/8"	1/8"	9/16"	1/8"	1/16"



Note: Elevations shown are at deck level at face of curbs and are those which are required before the deck concrete is placed

DECK ELEVATIONS W.B. LANES
(at curb line)

SHAFFER, PARRETT AND ASSOCIATES
Consulting Engineers
MANSFIELD, OHIO.

SUPER STRUCTURE DETAILS
BRIDGE No LOR-90-1855 L&R
OVER WEST RIVER ROAD

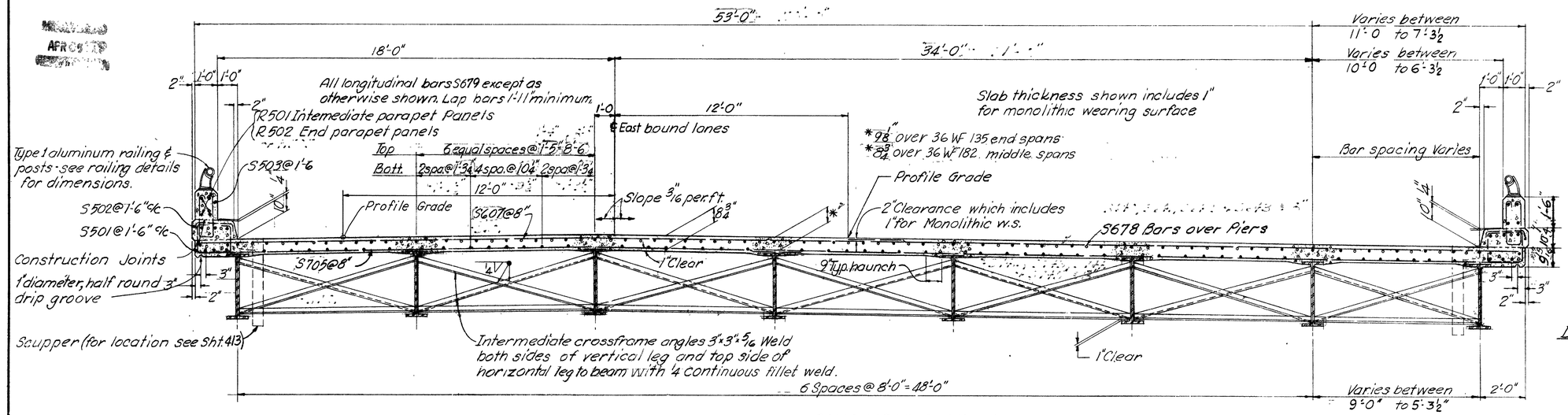
LORAIN COUNTY
STA 698+98.85 TO STA 700+81.81

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
GCD	G.C.D		SCT	H.S.L	7/94	

FED. RD. DIVISION	STATE	PROJECT	

422

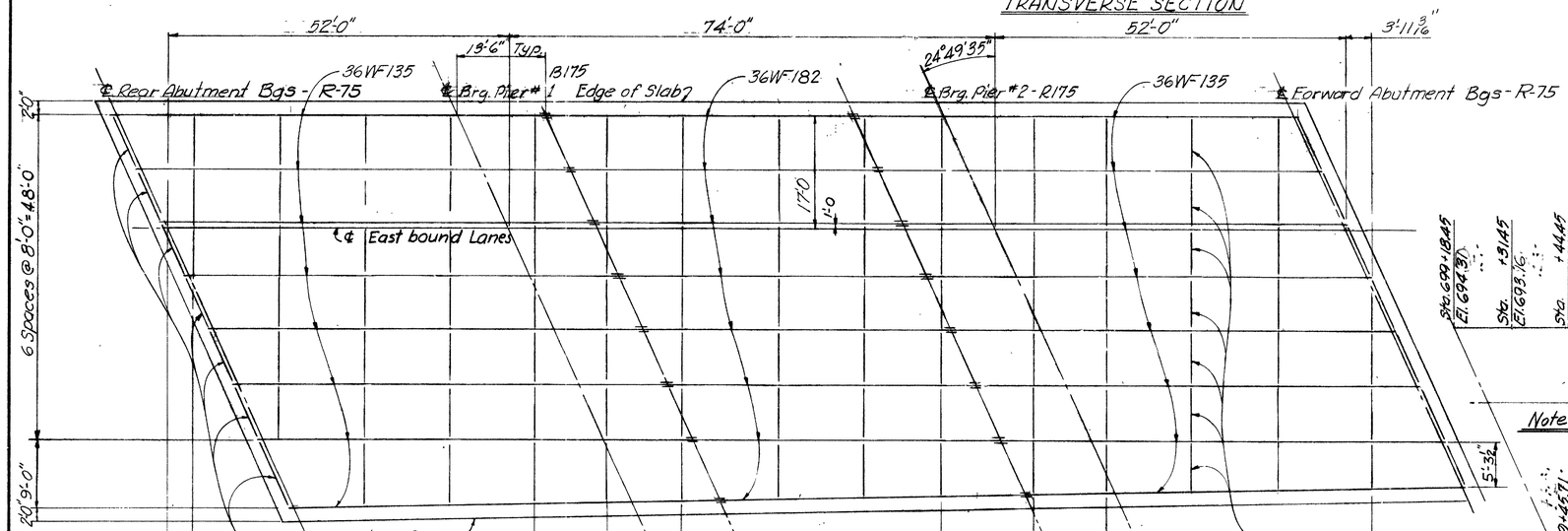
LOR-90-13.01

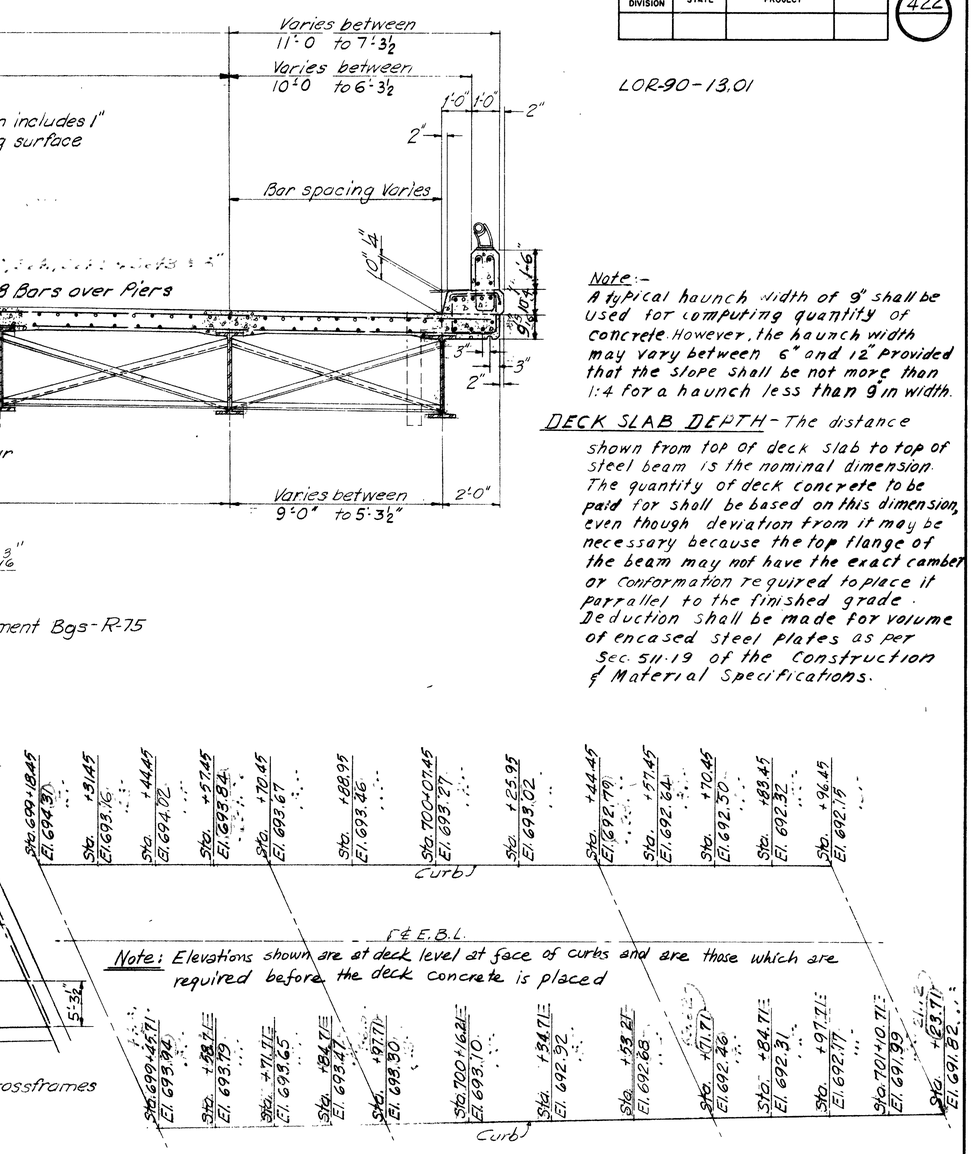


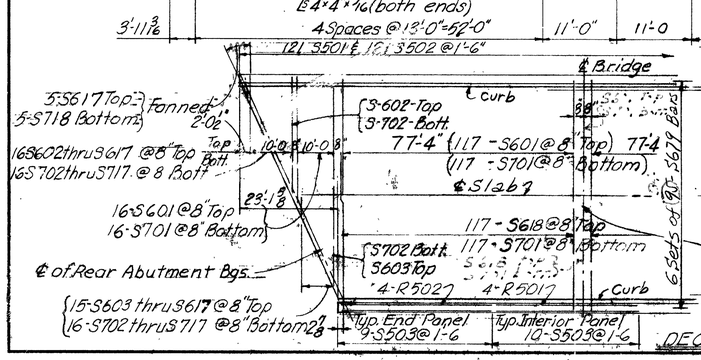
TRANSVERSE SECTION

Note:- A typical 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.

DECK SLAB DEPTH - The distance shown from top of deck slab to top of steel beam is the nominal 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. Deduction shall be made for volume of encased steel plates as per Sec. 511.19 of the Construction & Material Specifications.



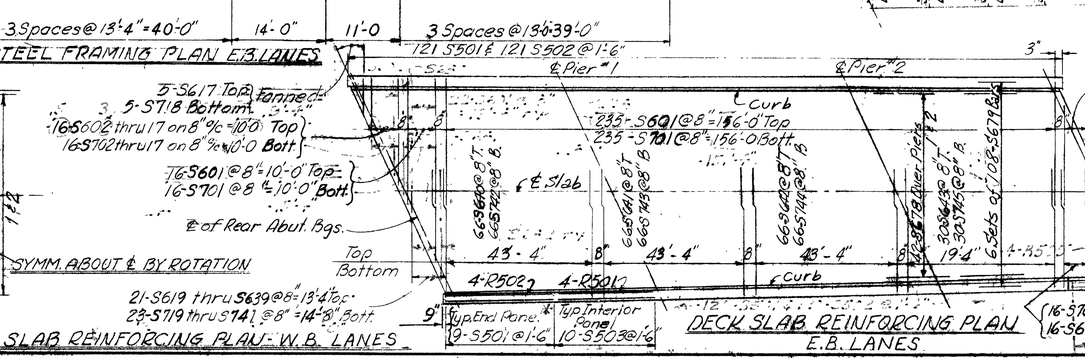




DECK SLAB REINFORCING PLAN - W.B. LANES

STEEL FRAMING PLAN E.B. LANES

SYMM. ABOUT ℄ BY ROTATION



DECK SLAB REINFORCING PLAN E.B. LANES

DECK ELEV. AT CURB LINE E.B. LANES

NOTE: Work this sheet with sheet 421

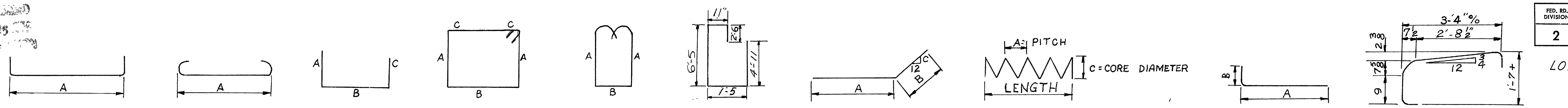
* Exact Right Forward Panel

SHAFFER, PARRETT AND ASSOCIATES
Consulting Engineers
MANSFIELD, OHIO.

SUPER STRUCTURE DETAILS
BRIDGE No LOR-90-1355 L & R
OVER WEST RIVER ROAD
LORAIN COUNTY
STA 698+98.85 TO STA 700+81.81

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
G.C.D.	G.C.D.		S.C.T.	H.S.R.	3/96	

MICROFILMED APR 05 [illegible]

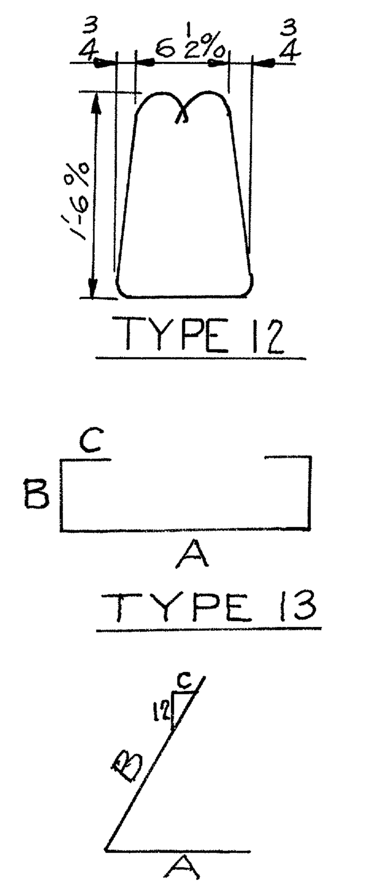


TYPE 1 TYPE 2 TYPE 3 TYPE 4 TYPE 5 TYPE 6 TYPE 8 TYPE 9 TYPE 10 TYPE 7

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

422A

LOR-90-13.01



TYPE 12 TYPE 13 TYPE 11

ABUTMENTS

MARK	NO. E.B.L.	NO. W.B.L.	TOTAL NO.	LENGTH	TYPE	A	B	C	WEIGHT E.B.L.	WEIGHT W.B.L.	TOTAL WEIGHT
A801	12	1	32	11'-1	STR.				474	474	948
A802		14	28	29'-7	STR.					2210	2210
A803	14		14	32'-2	STR.				1201		1201
A804		14	14	34'-2	STR.					1276	1276
A601		8	8	29'-3	STR.					351	351
A602	96	80	176	15'-4	6				2211	1843	4054
A603	19	20	39	13'-10	3	6'-5	1'-5	6'-5	403	407	810
A605	4	4	8	11'-8	STR				70	70	140
A606	6	6	12	20'-5	3	9'-10	1'-2	9'-10	184	184	368
A607	6	6	12	10'-9	10	9'-10	1'-0½		97	97	194
A608	2	2	4	8'-7	10	7'-9	1'-0½		26	26	52
A609	36	36	72	5'-0	STR.				271	271	542
A610	8		8	34'-2	STR				410		410
A613	6	6	12	18'-0	3	8'-7	1'-2	8'-7	162	162	324
A614	6	6	12	9'-5	10	8'-7	1'-0½		85	85	170
A615	2	2	4	7'-4	10	6'-6	1'-0½		22	22	44
A616	71	66	155	13'-6	3	6'-6	5'-5	2'-0	1643	1501	3144
A502	72	72	144	2'-6	3	8"	1'-4	8"	188	188	376
A503	48	48	96	3'-0	3	1'-0	1'-4	1'-0	150	150	300
A504	8	8	16	14'-0	STR.				117	117	234
A505	4	4	8	13'-6	STR.				57	57	114
A506	4	4	8	14'-6	STR.				61	61	122
A507	32	32	64	3'-6	STR.				117	117	234
A508	4	4	8	4'-2	STR.				17	17	34
A509	48	48	96	4'-10	STR.				242	242	484
A510	16	16	32	14'-2	STR.				236	236	472
A511	8	8	16	7'-10	STR.				65	65	130
A512	8	8	16	3'-9	STR.				32	31	63
A513	28	28	56	8'-8	STR.				253	253	506
A515	131	112	243	7'-2	3	2'-0	3'-5	2'-0	979	837	1816
A516		38	38	28'-10	STR.					1143	1143
A517	38		38	33'-6	STR.				1327		1327
A518	71	66	156	7'-3	10	6'-6	10¼"		680	500	1180
A519	22	22	44	12'-2	4	3'-2	2'-7		279	279	558
A520		34	34	28'-10	STR.					722	722
A521	41	33	74	9'-3	3	2'-0	5'-5	2'-0	395	319	714
A522	34		34	31'-3	STR.				1108		1108
A523	4	4	8	7'-0	STR.				29	29	58
A524	7	7	14	3'-11	8	2'-0	2'-0	5½	29	28	57
A525	7	7	14	3'-11	11	2'-0	2'-0	5½	28	29	57
S503	40	40	80	5'-5	5	2'-2	8"		226	226	452
					TOTAL WEIGHT				13,874	14625	28,499

SUPERSTRUCTURE

MARK	NO. E.B.L.	NO. W.B.L.	TOTAL NO.	LENGTH	TYPE	A	B	C	WEIGHT E.B.L.	WEIGHT W.B.L.	TOTAL WEIGHT
S701	251	502	753	[illegible]	STR.				13810	27618	41428
S702 thru S717	64		64	3'-3¾ to 25'-6	STR. 1-5¾	increment			1887		1887
S718	10		10	4'-3	STR.				88		88
S719 thru S741	23		1ea.	2'-0½ to 34'-7	STR. 1-5¾	increment			863		863
S742	30		30	34'-10	STR.				4699		4699
S743	66		66	34'-0	STR.				4587		4587
S744	66		66	33'-3	STR.				4487		4487
S745	66		66	32'-5	STR.				1987		1987
S746 thru S761	16		1ea.	3'-3¾ to 25'-6	STR. 1-5¾	increment			472		472
S762	16		16	31'-6	STR.				1030		1030
S763 thru. S779	17		1ea.	6'-10 to 30'-0	STR. 1-5¾	increment			640		640
S601	266	251	517	28'-9	STR.				11487	10839	22,326
S602	2	1	3	25'-0	STR.				75	38	113
S603 thru. S617	60	30	90	2'-10½ to 23'-7	STR. 1'-5¾	increment			1194	598	1792
S617	10	10	20	2'-10½	STR.				43	43	86
S618	234		234	(24'-0)	STR.				8435	3721	8435
S619 thru S639	21		1ea.	2'-1 to 31'-6	STR. 1-5¾	increment			530		530
S640	66		66	33'-11	STR.				3361		3361
S641	66		66	33'-0	STR.				3271		3271
S642	66		66	32'-1	STR.				3180		3180
S643	30		30	31'-2	STR.				1404		1404
S644 thru S659	16		1ea.	5'-1 to 27'-3¼	STR. 1-5¾	increment			389		389
S660	16		16	29'-3	STR.				730		730
S661 thru. S677	17		1ea.	6'-10 to 30'-0	STR. 1-5¾	increment			470		470
S678	36	84	120	26'-0	STR.				1406	3280	4686
S679	648	580	1228	31'-9	STR.				30902	27659	58561
S501	242	242	484	4'-6	13	1'-7			1136	1136	227[illegible]
S502	242	242	484	2'-1	1	1'-7			526	526	105[illegible]
S503	266	266	532	5'-5	5	2'-2			1503	1503	3005
R504	12	12	24	4'-2	12						*
R501	96	96	192	12'-8	STR.						*
R502	16	16	32	11'-6	STR.						*
R503	8	8	16	5'-4	7						*
						TOTAL WEIGHT			104,592	73,240	177,832

* Included with railing for payment

111,532 31,045 181,537

PIERS

MARK	NO. E.B.L.	NO. W.B.L.	TOTAL NO.	LENGTH	TYPE	A	B	C	WEIGHT EBL	WEIGHT W.B.L.	TOTAL WEIGHT
P1101		14	14	24'-1	12	22'-6				1790	1790
P1102	10	20	30	24'-8	STR.				1311	2622	3933
P1103		36	36	25'-0	STR.					4877	4877
P1104		72	72	7'-5	10	2'-0	5'-8			2837	2837
P1105		36	36	23'-0	STR.					4495	4495
P1106	14		14	35'-6	12	33'-11			2641		2641
P1107		14	14	38'-4	12	36'-8				2853	2853
P1108	5		5	37'-4	STR.				994		994
P1109	5		5	35'-10	STR.				951		951
P1110	14		14	34'-8	10	33'-1			2577		2577
P1001	48		48	20'-0	STR.				4128		4128
P1002	96		96	7'-6	10	1'-10	5'-11		2857		2857
P1003	48		48	18'-2	STR.				3749		3749
P901	160	120	280	10'-0	2	7'-6			5440	4080	9520
P501		120	120	6'-5	3	2'-6				803	803
P502	16	24	40	5'-9	3	1'-8			96	144	240
P503		20	20	7'-2	8	5'-7				149	149
P504		8	8	28'-9	STR.					240	240
P505	128		128	6'-4	3	1'-11	2'-8	1'-11	846		846
P506	20		20	4'-8	8	3'-1	1'-7	3⅞	97		97
P507	4		4	33'-0	STR.				138		138
P508	4		4	32'-1	STR.				138		138
SP401		3	3	21'-0	9	4½"	59	2'-8		1146	1146
SP402		3	3	19'-0	9	4½"	54	2'-8		1047	1047
SP403	4		4	17'-2	9	4½"	49	2'-8	1264		1264
SP404	4		4	15'-4	9	4½"	44	2'-8	1136		1136
						TOTAL WEIGHT			28363	27,083	55,446

BAR SIZE is indicated in the bar mark. The first digit where three digits are used and the first two digits where four are used, indicate the bar size number. For example, A506. is a No. 5 size bar and P1008 is a No. 10 size bar.

SPIRAL REINFORCING BARS: The "Length" shown in the steel list for the spiral bars is the distance from the top of the footing to the bottom of the cap. The No. of turns shown is the "Length" divided by the pitch, plus 3 turns (total number of closed coils), expressed as the nearest whole number. Spiral reinforcing bars shall not have deformations but shall in other respects conform to item 509. 1/2 closed coils shall be provided at the ends of each spiral unit. Four steel channel, tee or angle spacers, weighing approximately 0.68 lb. per lin. ft. of spacer, shall be provided for each spiral unit. They shall be equally spaced along the periphery of the coil. The number of pounds of these spacers, based on 0.68 lb. per lin. ft. will be paid for as reinforcing steel and is included in the tabulated quantity of spiral bars.

REPLACEMENT BARS		
MARK	LENGTH	NO.
RE1101	7'-7	5
RE1001	7'-3	1
RE901	6'-10	1
RE801	6'-6	1
RE701	6'-3	3
RE601	5'-11	8
RE501	5'-7	1
RE401	5'-3	1

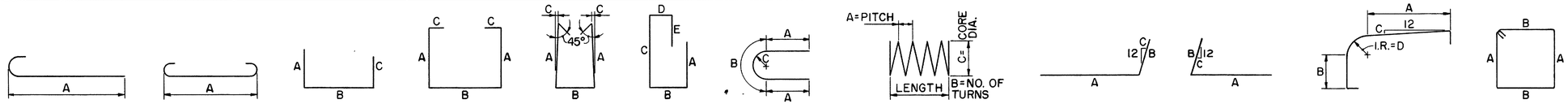
This sheet is superseded by sheet No. 422-B [illegible]

SHAFFER, PARRETT AND ASSOCIATES
Consulting Engineers
MANSFIELD OHIO

REINFORCING STEEL
BRIDGE No. LOR-90-1355 L&R
OVER WEST RIVER ROAD
LORAIN COUNTY

STA. 698+98.85 TO STA. 700+81.81

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
	R.B.R. G.C.D.	R.B.R. G.C.D.	SCT	[illegible]	3/3/66	6-29-[illegible]



FED RD DIVISION	STATE	PROJECT	
2	OHIO		

LOR-90-13.01

422

ABUTMENTS

MARK	NUMBER L. BRIDGE	NUMBER R. BRIDGE	NUMBER TOTAL	LENGTH	TYPE	A	B	C	D	E	WEIGHT L. BRIDGE	WEIGHT R. BRIDGE	WEIGHT TOTAL
R503	8	8	16	5'-4"	11	2'-8½"	9"	¾"	7⅝"		*	*	*
R504	12	12	24	4'-2"	5	1'-6"	8"	¾"			*	*	*
R506	16	16	32	13'-10"	Str.						*	*	*
S503	40	40	80	5'-7"	5	2'-2"	8"	0			233	233	466
A502	72	72	144	2'-5"	3	8"	1'-4"	8"			181	181	362
A503	48	48	96	3'-1"	3	1'-0"	1'-4"	1'-0"			154	154	308
A504	8	8	16	14'-0"	Str.						117	117	234
A505	4	4	8	13'-6"	Str.						57	57	114
A506	4	4	8	14'-6"	Str.						61	61	122
A507	32	32	64	3'-6"	Str.						117	117	234
A508	8	8	16	4'-2"	Str.						35	35	70
A509	48	48	96	4'-10"	Str.						242	242	484
A510	16	16	32	14'-2"	Str.						236	236	472
A511	8	8	16	7'-10"	Str.						65	65	130
A512	8	8	16	3'-9"	Str.						31	32	63
A513	24	24	48	8'-8"	Str.						217	217	434
A515	112	139	251	7'-2"	3	2'-0"	3'-5"	2'-0"			837	1039	1876
A516	34		34	28'-10"	Str.						1022		1022
A517		34	34	33'-6"	Str.							1188	1188
A518	70	93	163	7'-0"	3	6'-6"	7½"	0			511	680	1191
A519	44	44	88	12'-0"	12	3'-2"	2'-7"				551	551	1102
A520	34		34	28'-10"	Str.						1022		1022
A521	66	91	157	9'-2"	3	2'-0"	5'-5"	2'-0"			631	870	1501
A522		34	34	31'-3"	Str.							1108	1108
A523	4	4	8	7'-0"	Str.						29	29	58
A524	6	6	12	3'-11"	9	2'-0"	2'-0"	5½"			25	25	50
A525	6	6	12	3'-10"	10	2'-0"	2'-0"	5½"			24	24	48
A602	80	97	177	15'-4"	6	4'-11"	1'-5"	6'-9"	11"	2'-6"	1843	2234	4077
A603	30	30	60	13'-11"	3	6'-5"	1'-5"	6'-5"			627	627	1254
A606	12	12	24	17'-10"	3	8'-6"	1'-2"	8'-6"			321	321	642
A607	12	12	24	9'-2"	3	8'-6"	10"	0			165	165	330
A608	4	4	8	7'-3"	3	6'-7"	10"	0			44	44	88
A609	36	36	72	5'-0"	Str.						271	271	542
A616	66	91	157	13'-7"	3	2'-0"	5'-5"	6'-6"			1347	1857	3204
A801	24	24	48	11'-1"	Str.						710	710	1420
A802	28		28	29'-7"	Str.						2210		2210
A803		14	14	32'-2"	Str.							1201	1201
A804		14	14	34'-2"	Str.							1276	1276
									Total Weight		13,936	15,967	29,903

SUPERSTRUCTURE

MARK	NUMBER L. BRIDGE	NUMBER R. BRIDGE	NUMBER TOTAL	LENGTH	TYPE	A	B	C	D	E	WEIGHT L. BRIDGE	WEIGHT R. BRIDGE	WEIGHT TOTAL
R501	96	96	192	12'-8"	Str.						*	*	*
R502	16	12	28	11'-6"	Str.						*	*	*
R505		4	4	9'-9"	Str.						*	*	*
S501	242	241	483	4'-11"	4	1'-4"	1'-6"	7½"			1241	1236	2477
S502	242	241	483	2'-6"	3	7½"	1'-6"	7½"			631	628	1259
S503	276	275	551	5'-7"	5	2'-2"	8"	0			1607	1601	3208
S601	251	250	501	28'-9"	Str.						10,839	10,796	21,635
S602	2	1	3	25'-0"	Str.						75	38	113
S603-S617	60	15	75	Varies	Str.	23'-7" to 3'-3¾"; 1'-5 5/16" increment					1212	303	1515
S618	235		235	24'-10"	Str.						8707		8707
S619-S639		21	21	Varies	Str.	2'-1" to 30'-11"; 1'-5 5/16" increment						520	520
S640		66	66	33'-11"	Str.							3361	3361
S641		66	66	33'-0"	Str.							3271	3271
S642		66	66	32'-1"	Str.							3180	3180
S643		30	30	31'-2"	Str.							1404	1404
S644-S659		16	16	Varies	Str.	5'-1" to 27'-3¼"; 1'-5 5/16" increment						389	389
S660		16	16	30'-6"	Str.							733	733
S661-S677		17	17	Varies	Str.	9'-3" to 32'-5"; 1'-5 5/16" increment						470	470
S678	72	84	156	26'-0"	Str.						2812	3280	6092
S679	564	636	1200	31'-6"	Str.						26,885	30,091	56,776
S680		1	1	26'-6"	Str.							40	40
S681		1	1	28'-0"	Str.							42	42
S682		1	1	32'-4"	Str.							49	49
S683		5	5	7'-6"	Str.							56	56
S701	502	252	754	26'-11"	Str.						27,618	13,864	41,482
S702-S717	64	16	80	Varies	Str.	3'-3¾" to 25'-0"; 1'-5 5/16" increment					1852	463	2315
S719-S740		22	22	Varies	Str.	5'-2" to 35'-5"; 1'-5 5/16" increment						912	912
S742		66	66	36'-0"	Str.							4857	4857
S743		66	66	35'-0"	Str.							4722	4722
S744		66	66	34'-0"	Str.							4587	4587
S745		30	30	33'-7"	Str.							2059	2059
S746-S761		16	16	Varies	Str.	3'-3¾" to 25'-6"; 1'-5 5/16" increment						472	472
S762		16	16	32'-9"	Str.							1071	1071
S763-S779		17	17	Varies	Str.	9'-3" to 32'-5"; 1'-5 5/16" increment						724	724
S780		5	5	7'-6"	Str.							77	77
									Total Weight		83,279	95,296	178,575

* Included with railing for payment.

PIERS

MARK	NUMBER L. BRIDGE	NUMBER R. BRIDGE	NUMBER TOTAL	LENGTH	TYPE	A	B	C	D	E	WEIGHT L. BRIDGE	WEIGHT R. BRIDGE	WEIGHT TOTAL
P501	120		120	7'-11"	3	2'-9"	2'-8"	2'-9"			991		991
P502	24	16	40	5'-9"	3	1'-8"	2'-8"	1'-8"			144	96	240
P503	20		20	7'-2"	9	5'-7"	1'-7"	5 5/16"			149		149
P504	8		8	28'-9"	Str.						240		240
P505		128	128	6'-9"	3	2'-2"	2'-8"	2'-2"				901	901
P506		20	20	4'-8"	9	3'-1"	1'-7"	3 7/16"				97	97
P507		4	4	33'-0"	Str.							138	138
P508		4	4	32'-1"	Str.							134	134
P901	120	160	280	10'-0"	2	7'-6"					4080	5440	9520
P1001		48	48	20'-0"	Str.							4128	4128
P1002		96	96	6'-11"	3	5'-10"	1'-4½"	0				2857	2857
P1003		48	48	18'-2"	Str.							3749	3749
P1101	14		14	24'-1"	1	22'-6"					1790		1790
P1102	20	10	30	24'-8"	Str.						2622	1311	3933
P1103	36		36	25'-0"	Str.						4782		4782
P1104	72		72	7'-4"	3	6'-2"	1'-5½"	0			2805		2805
P1105	36		36	23'-3"	Str.						4447		4447
P1106		14	14	35'-6"	1	33'-11"						2641	2641
P1107	14		14	38'-3"	1	36'-8"					2845		2845
P1108		5	5	37'-4"	Str.							994	994
P1109		5	5	35'-10"	Str.							951	951
P1110		14	14	34'-8"	1	33'-1"						2577	2577
SP401	3		3	21'-0"	8	4½"	59	2'-8"			1146		1146
SP402	3		3	19'-2"	8	4½"	54	2'-8"			1047		1047
SP403		4	4	17'-2"	8	4½"	49	2'-8"				1264	1264
SP404		4	4	15'-4"	8	4½"	44	2'-8"				1136	1136
									Total Weight		27,088	28,414	55,502

NOTES:

BAR SIZE is indicated in the bar mark. The first digit where three digits are used, and the first two digits where four are used indicate the bar size number. For example: A506 is a No.5 size bar and P1102 is a No.11 size bar.

SPIRAL REINFORCING BARS: The "Length" shown in the steel list for the spiral bars is the distance from the top of the footing to the bottom of the pier cap. The "No. of Turns" shown is the "Length" divided by the pitch, plus 3 turns (total number of closed coils) expressed as nearest whole number. Spiral reinforcing bars shall not have deformations but shall in other respects conform to Item 509. 1½ closed coils shall be provided at the ends of each spiral unit. Four steel channel, tee or angle spacers, weighing approximately 0.68 lbs. per lin. ft. of spacers, shall be provided for each spiral unit. They shall be equally spaced along the pheriphery of the coil. The number of pounds of these spacers, based on 0.68 lbs. per lin. ft. will be paid for as reinforcing steel and is included in the tabulated quantity of spiral bars.

REPLACEMENT BARS

MARK	NO.	LENGTH
RE401	1	5'-3"
RE501	2	5'-7"
RE601	5	5'-11"
RE701	5	6'-3"
RE801	1	6'-6"
RE901	1	6'-10"
RE1001	2	7'-3"
RE1101	2	7'-7"

SHAFFER, PARRETT AND ASSOCIATES
Consulting Engineers
MANSFIELD, OHIO.

REINFORCING STEEL

BRIDGE NO. LOR-90-1355 L & R
OVER WEST RIVER ROAD

LORAIN COUNTY — I.R. 90

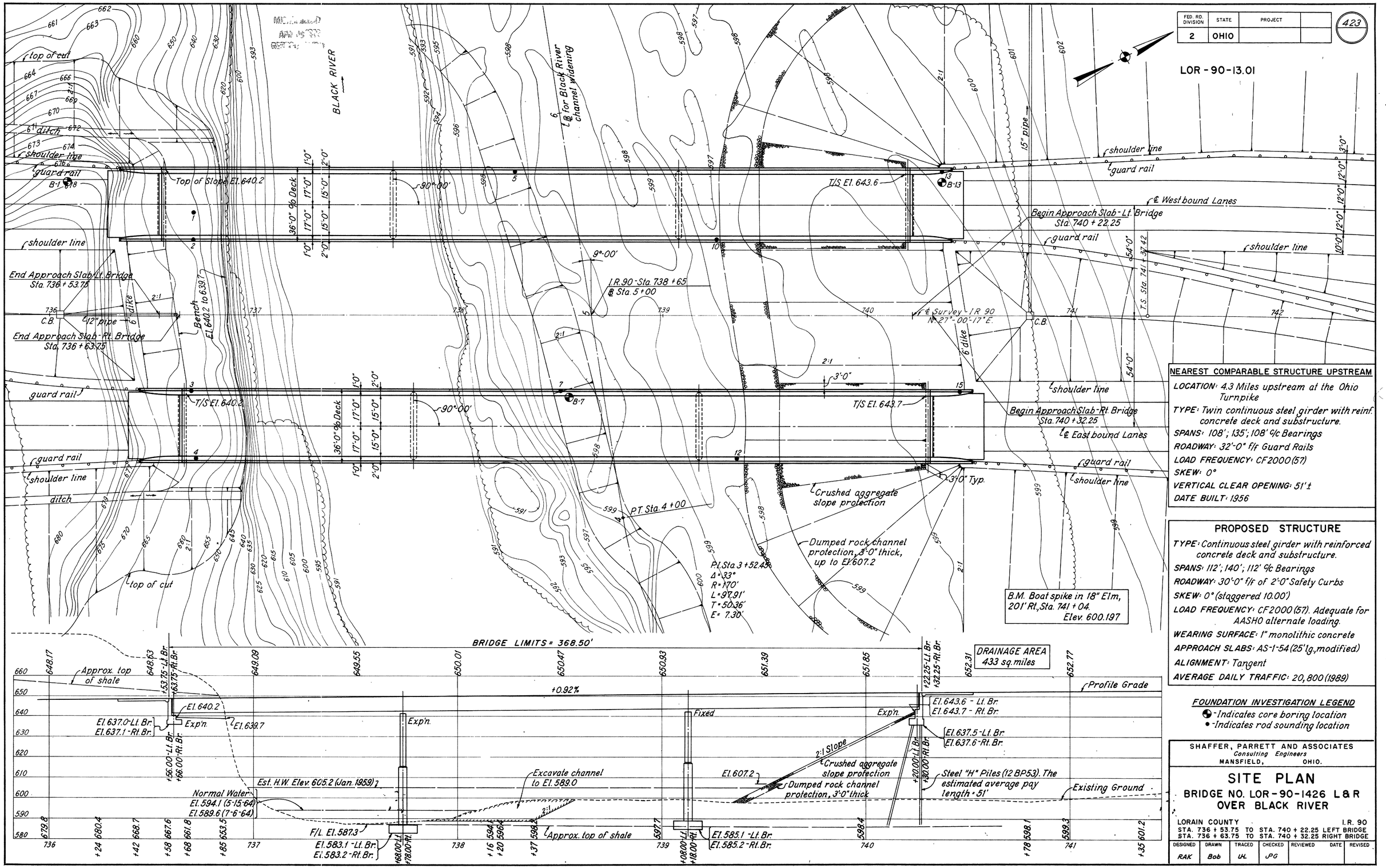
STA. 698 + 98.85 TO STA. 700 + 81.81

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
	RAK	UL				10-27-66

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

423

LOR - 90 - 13.01



NEAREST COMPARABLE STRUCTURE UPSTREAM

LOCATION: 4.3 Miles upstream at the Ohio Turnpike

TYPE: Twin continuous steel girder with reinf. concrete deck and substructure.

SPANS: 108'; 135'; 108' ℄/c Bearings

ROADWAY: 32'-0" f/f Guard Rails

LOAD FREQUENCY: CF2000 (57)

SKEW: 0°

VERTICAL CLEAR OPENING: 51' ±

DATE BUILT: 1956

PROPOSED STRUCTURE

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

SPANS: 112'; 140'; 112' ℄/c Bearings

ROADWAY: 30'-0" f/f of 2'-0" Safety Curbs

SKEW: 0° (staggered 10.00')

LOAD FREQUENCY: CF2000 (57). Adequate for AASHO alternate loading.

WEARING SURFACE: 1" monolithic concrete

APPROACH SLABS: AS-1-54 (25' lg., modified)

ALIGNMENT: Tangent

AVERAGE DAILY TRAFFIC: 20,800 (1989)

FOUNDATION INVESTIGATION LEGEND

◐ - Indicates core boring location

• - Indicates rod sounding location

SHAFFER, PARRETT AND ASSOCIATES
Consulting Engineers
MANSFIELD, OHIO.

SITE PLAN

BRIDGE NO. LOR-90-1426 L & R OVER BLACK RIVER

LORAIN COUNTY — I.R. 90

STA. 736 + 53.75 TO STA. 740 + 22.25 LEFT BRIDGE

STA. 736 + 63.75 TO STA. 740 + 32.25 RIGHT BRIDGE

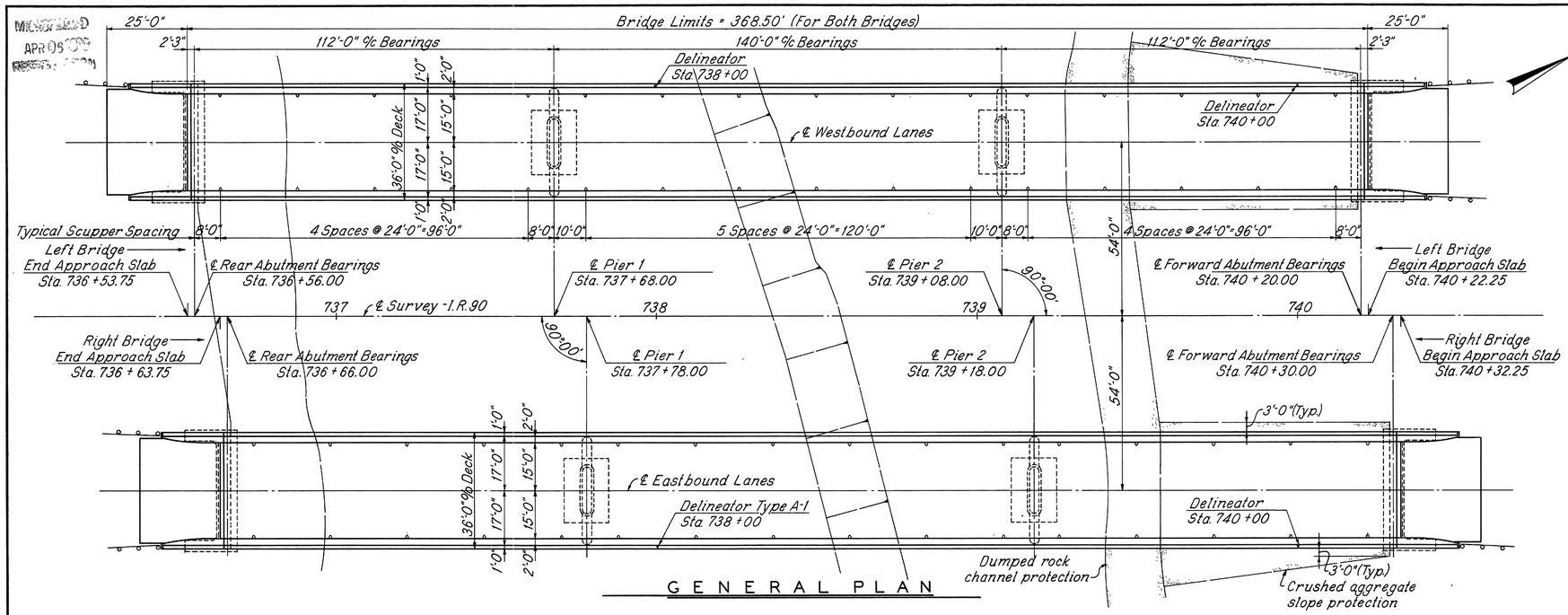
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
RAK	Bob	JL	JPG			

MICROFILMED
APR 05 '09

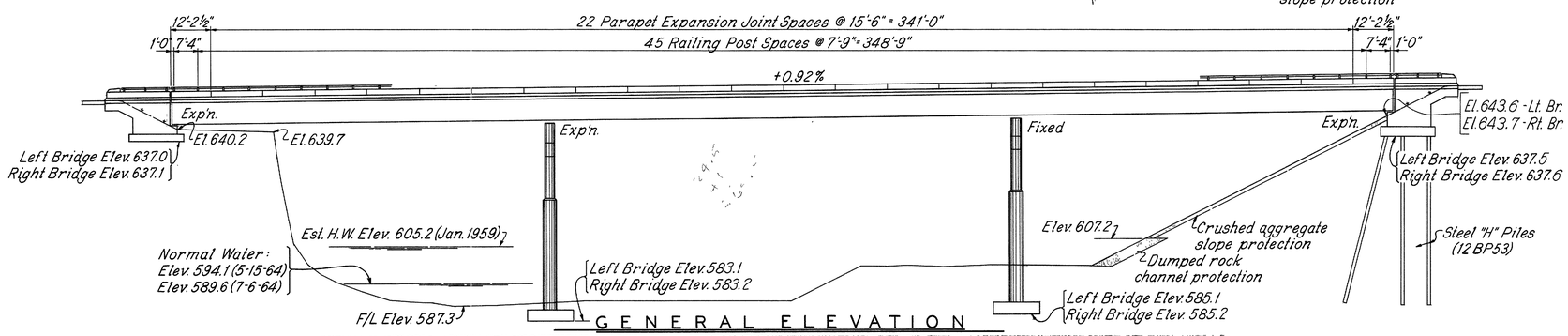
FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

424

LOR-90-13.01



GENERAL PLAN



GENERAL ELEVATION

ESTIMATED QUANTITIES-2 BRIDGES

ITEM	TOTAL	UNIT	DESCRIPTION	SUPER.	ABUTS.	PIERS	GEN'L
503	623	Cu.Yds.	Unclassified Excavation		245	378	
503	235	Cu.Yds.	Shale Excavation		142	93	
503	Lump	Sum	Cofferdams, Cribs and Sheeting				Lump
505	Lump	Sum	First Test Pile				Lump
507	1224	Lin.Ft.	Steel Piles, 12 BP53		1224		
509	302,729	Lbs.	Reinforcing Steel	233,040	22,067	47,622	
511	868	Cu.Yds.	Class "C" Concrete, Superstructure	868			
511	489	Cu.Yds.	Class "C" Concrete, Piers above Footings			489	
511	145	Cu.Yds.	Class "E" Concrete, Pier Footings			145	
511	325	Cu.Yds.	Class "E" Concrete, Abutments		325		
513	1,085,962	Lbs.	Structural Steel	1,085,962			
514	1,085,962	Lbs.	Field Painting of Structural Steel	1,085,962			
517	1615.00	Lin.Ft.	Bridge Railing Type 1	1461.67	153.33		
518	62	Cu.Yds.	Porous Backfill		62		
518	64	Each	Scuppers, including supports	64			
518	78.0	Lin.Ft.	6" Helical CMP, 707.06, Non perforated		78.0		
518	114.0	Lin.Ft.	6" Helical Perforated CMP, 707.06, including specials		114.0		
601	1038	Cu.Yds.	Dumped Rock Channel Protection				1038
601	802	Sq.Yds.	Crushed Aggregate Slope Protection				802
808	868	Each	Water-reducing, Set-retarding Admixture	868			
825	3738	Sq.Yds.	Concrete Surface Treatment				3738
828	120	Lin.Ft.	Joint Sealer	120			

GENERAL NOTES

REFERENCE shall be made to Standard Drawings SD-1-65, Sheets 1, 2 and 3 of 3 (dated 11-8-65); BR-1-65, Sheet 1 of 2 (dated 11-24-65); FSB-1-62 (revised 1-15-63); AS-1-54 (revised 8-10-65) and to Supplemental Specifications 808 (dated 7-14-65), 811 (dated 3-29-65), 825 (dated 4-22-65) and 828 (dated 7-21-65).

DESIGN SPECIFICATIONS: These structures conform 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 thereof; except bolted field splices, which conform to Article No. 1.6.31 of the AASHO "Standard Specifications for Highway Bridges", dated 1961, together with current revisions thereof.

UNIT STRESSES: Design Loading: CF2000(57)
Concrete, Class "C" - basic unit stress 1,333 p.s.i.
Concrete, Class "E" - basic unit stress 1,133 p.s.i.
Structural Steel - ASTM A36 - basic unit stress 20,000 p.s.i.

Reinforcing Steel - ASTM A15, A16, A160 deformed intermediate or hard grade - basic unit stress 20,000 p.s.i.

EXCAVATION QUANTITY for the rear abutments includes removal of material bounded on the bottom by the bottom plane of the footing, on the sides by the front, rear and side faces of the footing, and on the top by the finished bench in front of the abutment and by the finished subgrade elevation behind the abutment.

EXCAVATION QUANTITY for the forward abutments includes removal of fill material required for construction of the abutments.

FORWARD ABUTMENT PILES shall be driven with a hammer of not less than 11,000 ft. lbs. per blow to firm contact with shale. If the length of penetration is approximately equal to the depth of shale 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 the following value for pile hammer of the indicated energy rating:
55 tons per pile using an 11,000 ft. lb. hammer
50 tons per pile using a 15,000 ft. lb. or greater hammer
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 49 tons per pile.

FOUNDATION BEARING PRESSURE: Rear Abutment footings are designed for a maximum bearing pressure of 2.3 tons per sq. ft. Pier footings are designed for a maximum bearing pressure of 6.3 tons per sq. ft.

FOOTINGS for piers and rear abutments shall extend a minimum of 3" into undisturbed shale or to the elevations shown, whichever is lower.

MACHINE FINISH: The concrete bridge deck shall be finished by the use of a finishing machine.

PROCEDURE: The embankment shall be placed and compacted up to the finished spill-thru slope and to the level of the subgrade for a distance of 200 feet ahead of the forward abutments for a period of 90 days, after which excavation shall be made for the forward abutments.

SHAFFER, PARRETT AND ASSOCIATES
Consulting Engineers
MANSFIELD, OHIO.

GENERAL PLAN, GENERAL NOTES AND ESTIMATED QUANTITIES
BRIDGE NO. LOR-90-1426 L & R
OVER BLACK RIVER

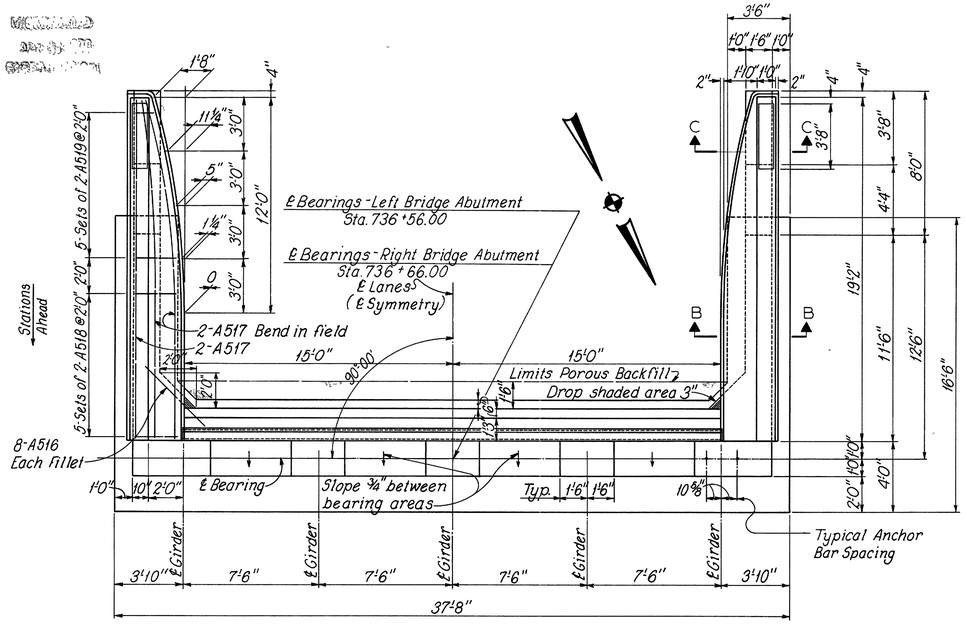
LORAIN COUNTY I.R. 90
STA. 736 + 53.75 TO STA. 740 + 22.25 LEFT BRIDGE
STA. 736 + 63.75 TO STA. 740 + 32.25 RIGHT BRIDGE

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
RAK	RHU	UL	JPG			

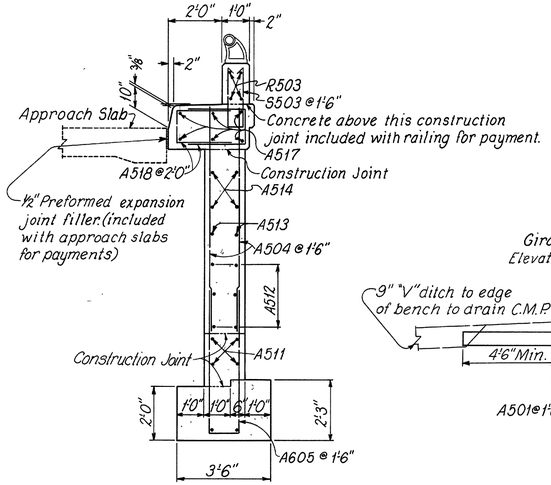
FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

425

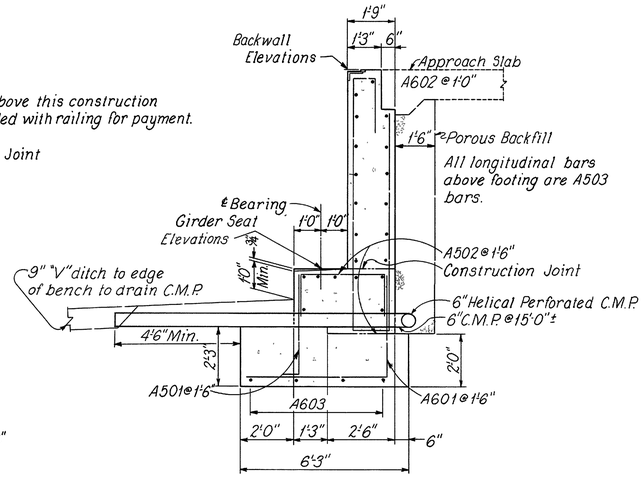
LOR-90-13.01



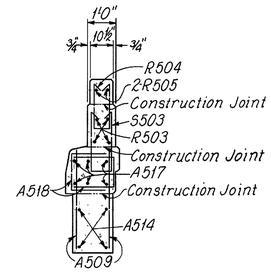
PLAN



SECTION B-B



SECTION A-A



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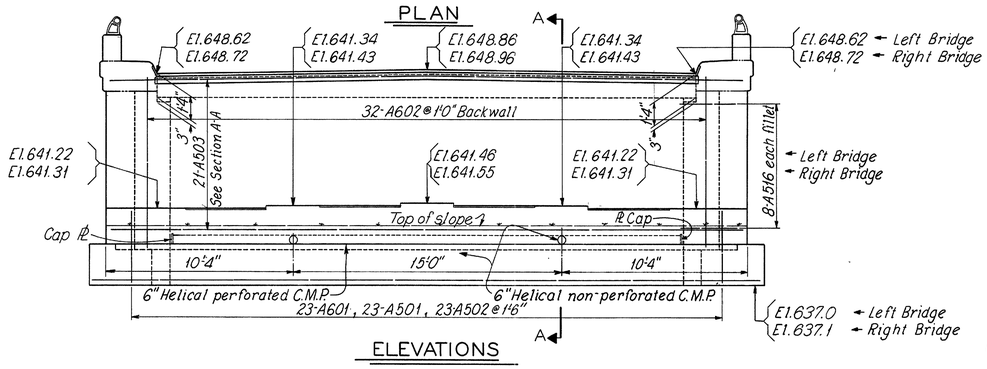
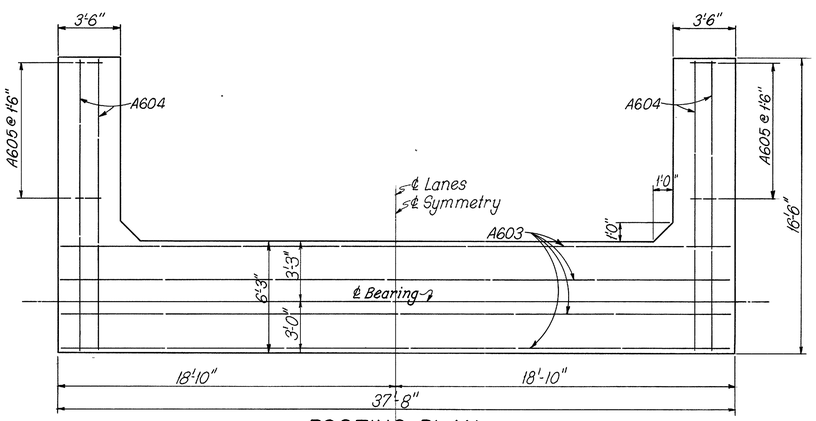
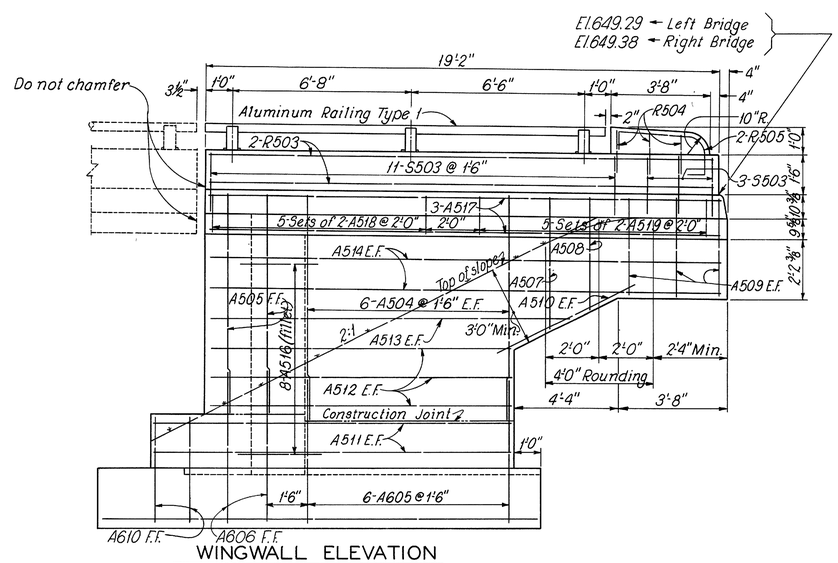


ELEVATIONS



FOOTING PLAN



WINGWALL ELEVATION

NOTES

CONCRETE: All abutment concrete shall be Class "E" except parapets, which shall be Class "C".

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

POROUS BACKFILL, 1'-6" thick, shall extend upward to the approach slab and paved shoulders for the full length of the abutment. Excavation therefor, in excess of that required for construction of the abutment, shall be considered as paid for in the bid price per cu. yd. paid for porous backfill.

NOTATION: F.F. Front Face
R.F. Rear Face
E.F. Each Face

GENERAL NOTES: See Sheet 424.

SHAFFER, PARRETT AND ASSOCIATES
Consulting Engineers
MANSFIELD, OHIO.

REAR ABUTMENTS

BRIDGE NO. LOR-90-1426 L&R OVER BLACK RIVER

LORAIN COUNTY I.R. 90

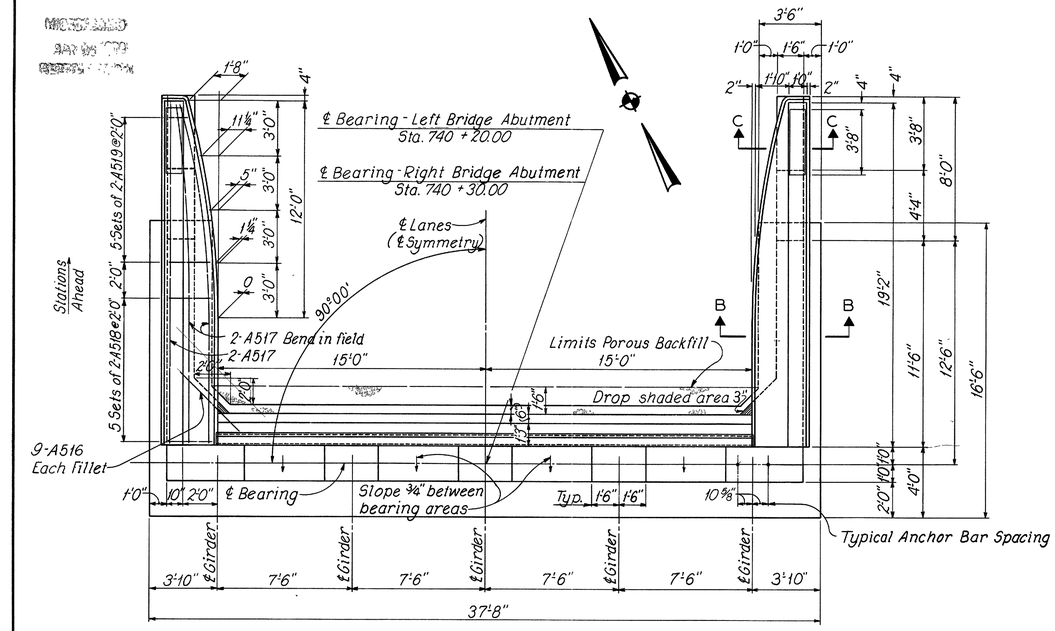
STA. 736 + 53.75 TO STA. 740 + 22.25 LEFT BRIDGE
STA. 735 + 63.75 TO STA. 740 + 32.25 RIGHT BRIDGE

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
RAK	Bob	JS	JPG			

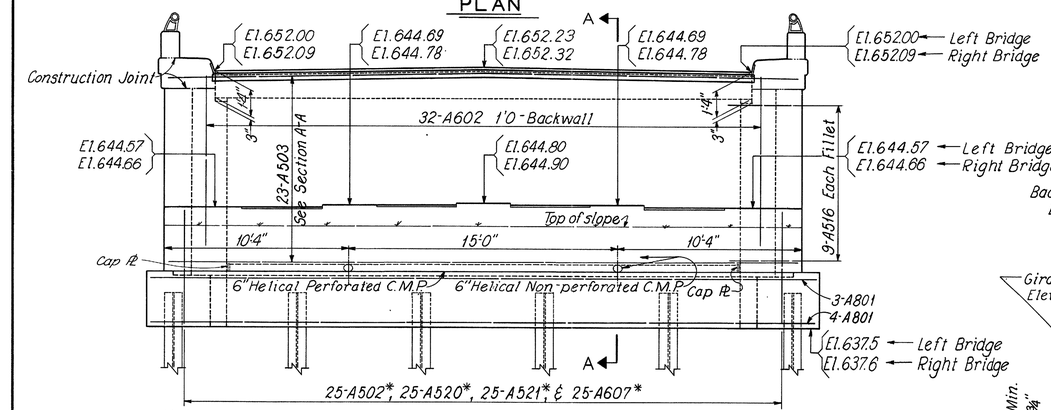
FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

426

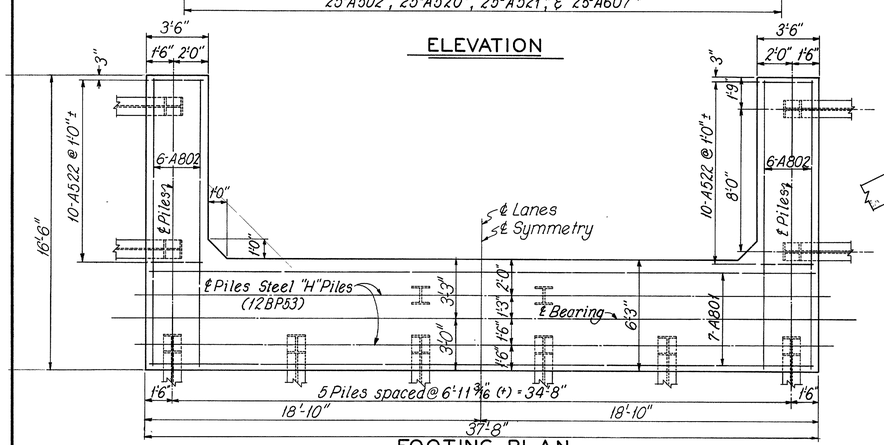
LOR-90-13.01



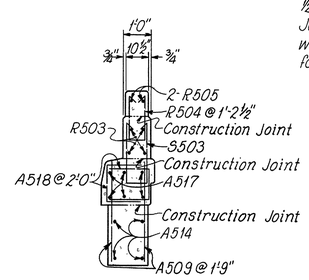
PLAN



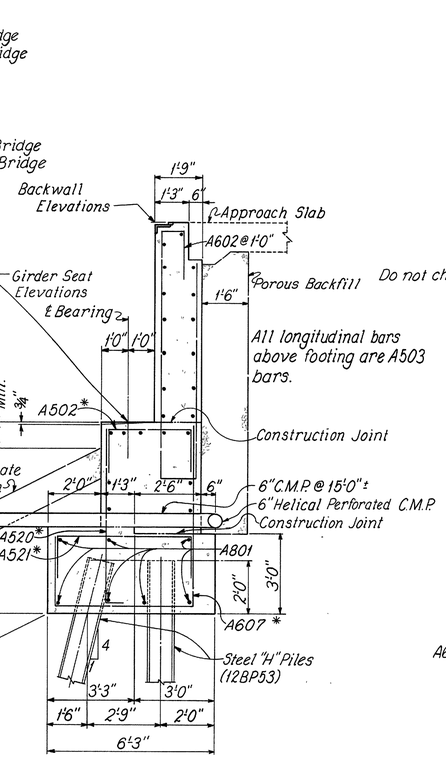
ELEVATION



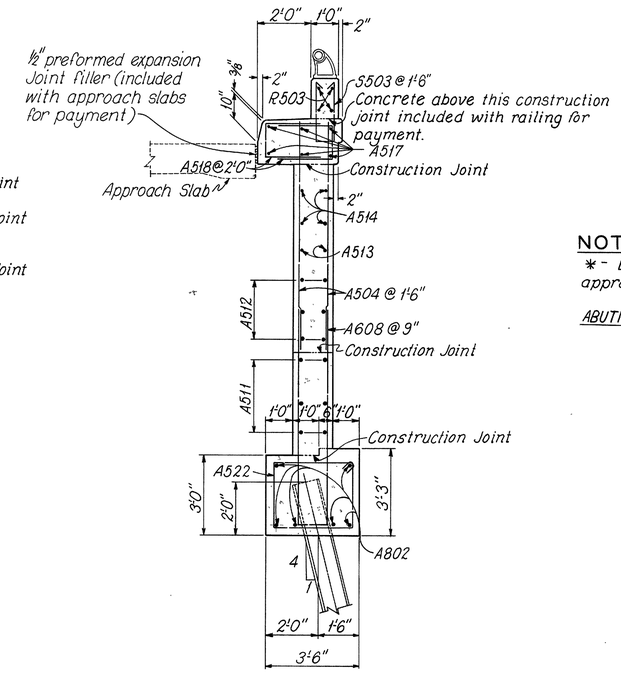
FOOTING PLAN



SECTION C-C



SECTION A-A

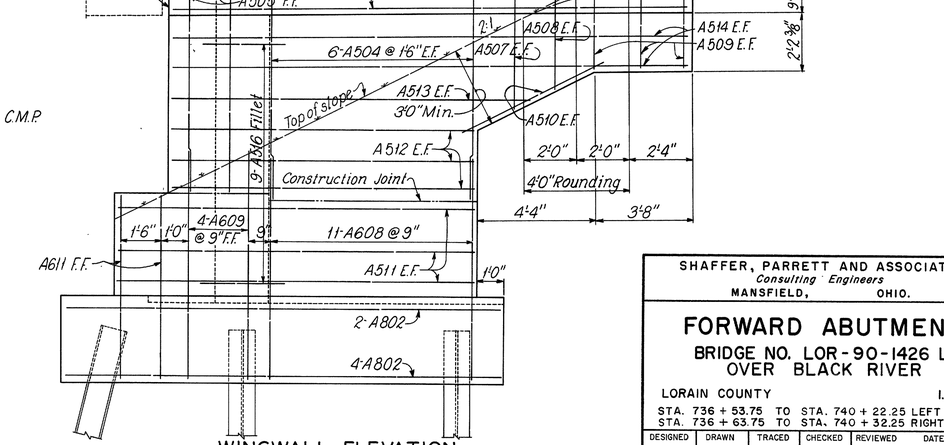


SECTION B-B

NOTES

* - Bars shall be equally spaced between piles at approximately 1'-6" ℄c.

ABUTMENT NOTES: See Sheet 425.



WINGWALL ELEVATION

SHAFFER, PARRETT AND ASSOCIATES
Consulting Engineers
MANSFIELD, OHIO.

FORWARD ABUTMENTS

BRIDGE NO. LOR-90-1426 L&R OVER BLACK RIVER

LORAIN COUNTY — I.R. 90

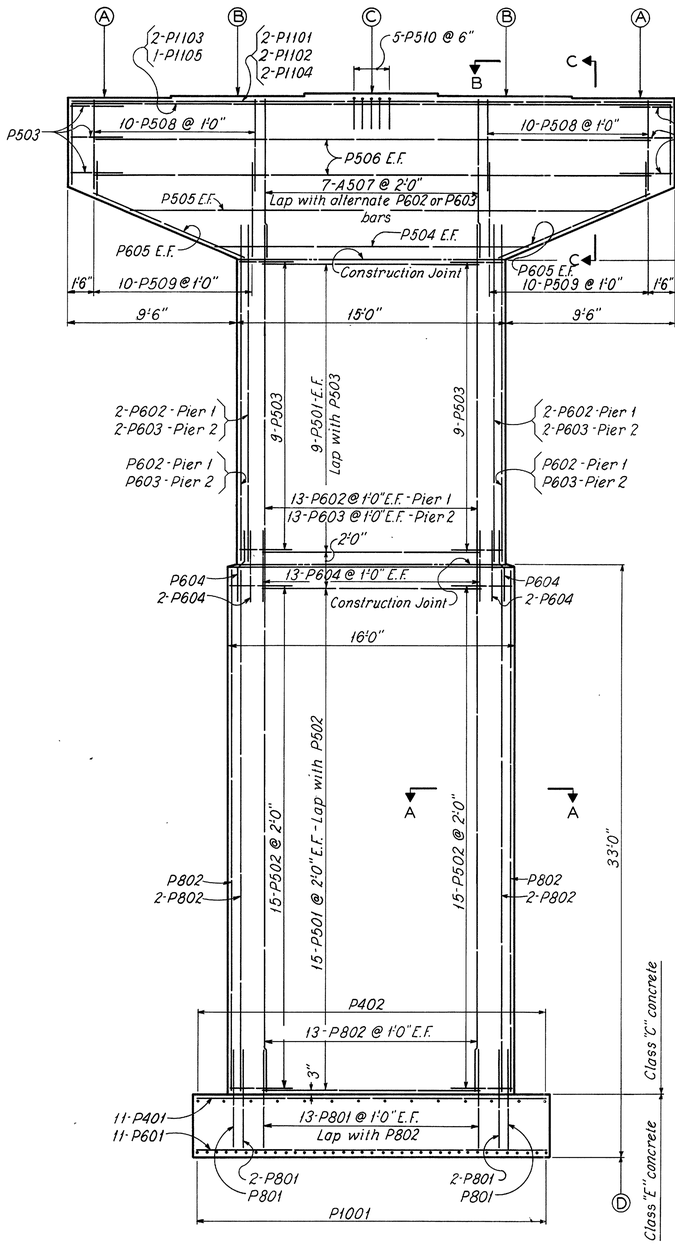
STA. 736 + 53.75 TO STA. 740 + 22.25 LEFT BRIDGE
STA. 736 + 63.75 TO STA. 740 + 32.25 RIGHT BRIDGE

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
RAK	Bob	JS	JPG			

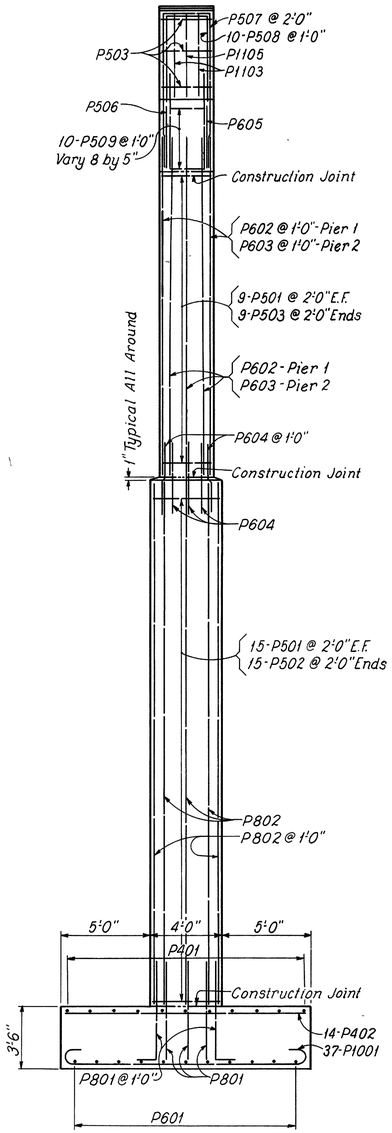
MICROFILMED
APR 05 ...

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

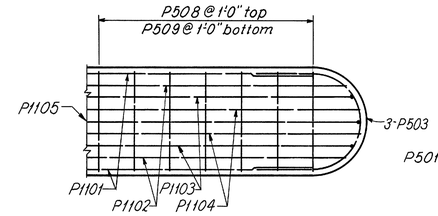
LOR-90-13.01



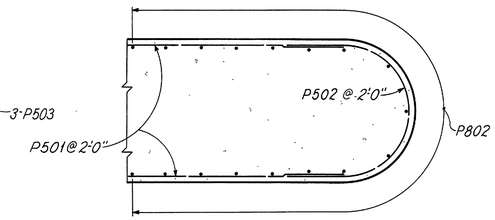
ELEVATION



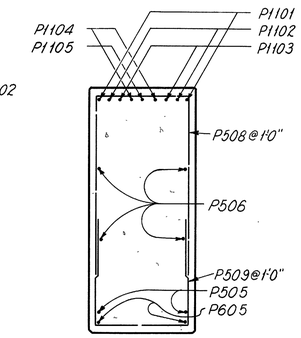
END VIEW



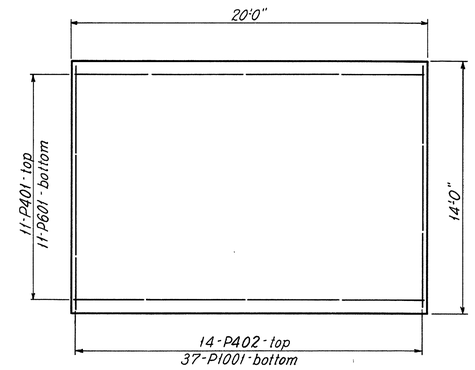
VIEW B-B



SECTION A-A



SECTION C-C



FOOTING PLAN

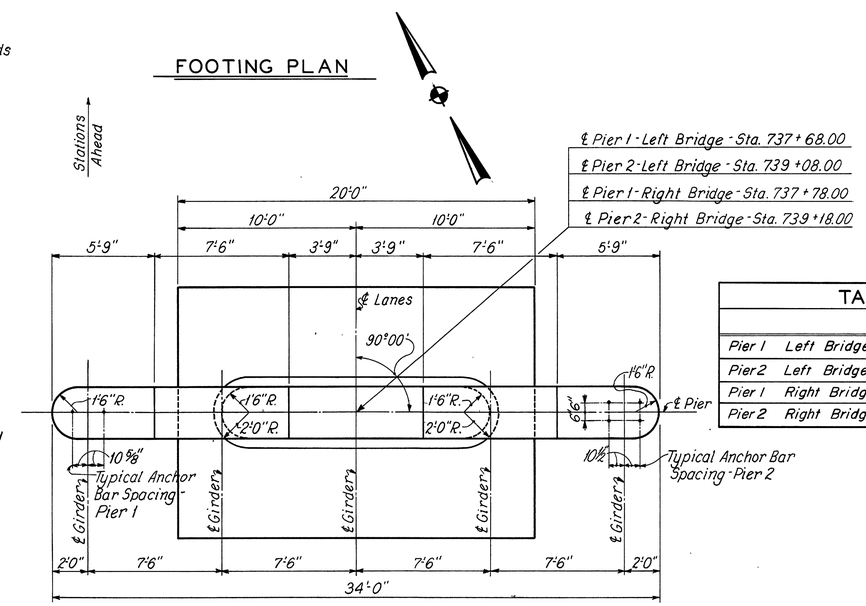
NOTES

CONCRETE: All concrete for pier footing shall be Class "E." All concrete for piers above footing shall be Class "C."

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

NOTATION: E.F. - Each Face.

GENERAL NOTES: See Sheet 424.



PLAN

TABLE OF ELEVATIONS

		Ⓐ	Ⓑ	Ⓒ	Ⓓ
Pier 1	Left Bridge	642.13	642.24	642.36	583.09
Pier 2	Left Bridge	643.04	643.16	643.27	585.09
Pier 1	Right Bridge	642.22	642.34	642.45	583.19
Pier 2	Right Bridge	643.13	643.25	643.37	585.19

SHAFFER, PARRETT AND ASSOCIATES
Consulting Engineers
MANSFIELD, OHIO.

PIERS

BRIDGE NO. LOR-90-1426 L&R
OVER BLACK RIVER

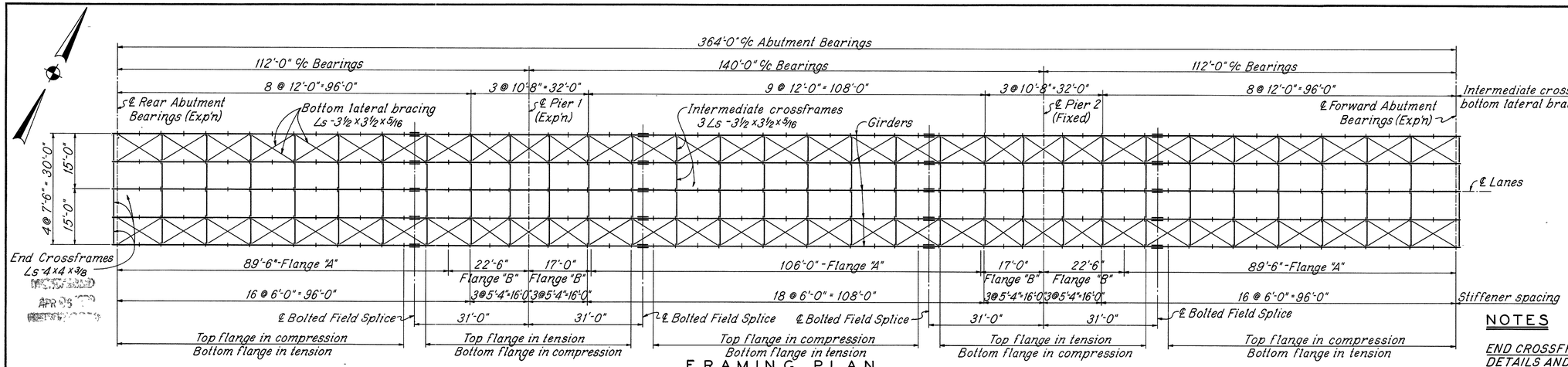
LORAIN COUNTY I.R. 90
STA. 756 + 53.75 TO STA. 740 + 22.25 LEFT BRIDGE
STA. 738 + 63.75 TO STA. 740 + 32.25 RIGHT BRIDGE

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
RAK	Bob	JS	JPG			

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

428

LOR-90-13.01



FRAMING PLAN

Typical for both bridges

GIRDER MATERIALS	
Web	74 × 7/16
Flange "A"	18 × 7/8
Flange "B"	18 × 1 5/8
Intermediate stiffeners	7 × 7/16
End stiffeners	7 × 7/16
Pier stiffeners	9 × 5/8

NOTES

END CROSSFRAMES, END DAMS, SCUPPERS, CURB PLATE DETAILS AND BOLTED FIELD SPLICE NOTES: See Std. Dwg. SD-1-65, Sheets 1, 2 and 3. Use 4×4×3/8 angles in place of 4×4×5/16 angles in end crossframes.

BEARINGS: See Std. Dwg. FSB-1-62 for the following: E-150 for Abutments; E-350 for Pier 1; F-350 for Pier 2.

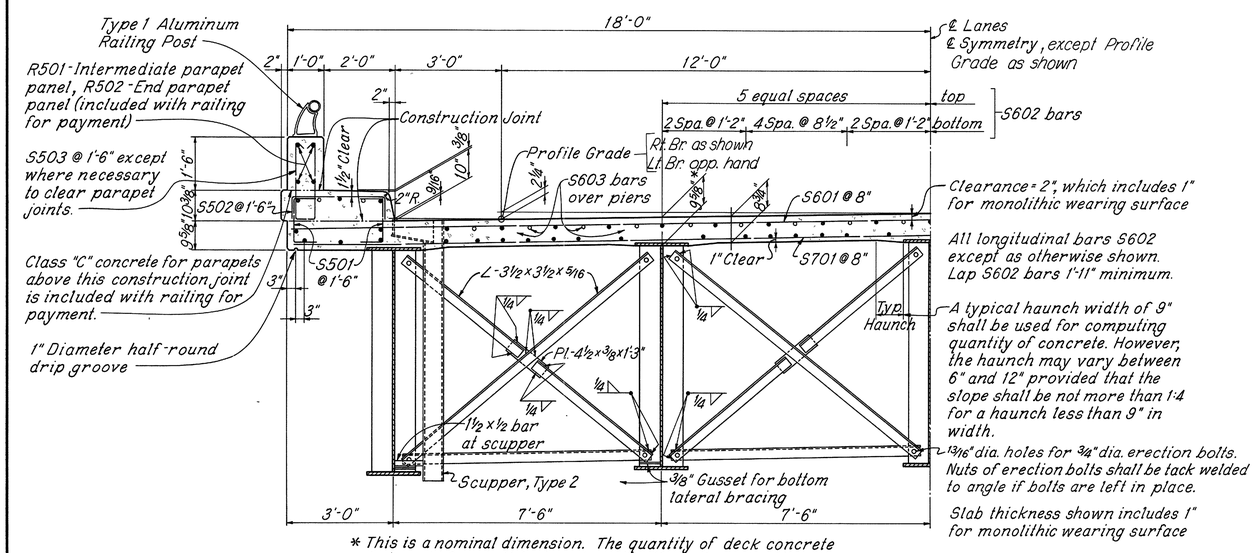
RAILING: See Std. Dwg. BR-1-65, Sheet 1 of 2.

CONCRETE: All superstructure concrete shall be Class "C"

RAILING POST, PARAPET EXPANSION JOINT AND SCUPPER SPACING: See Sheet 424

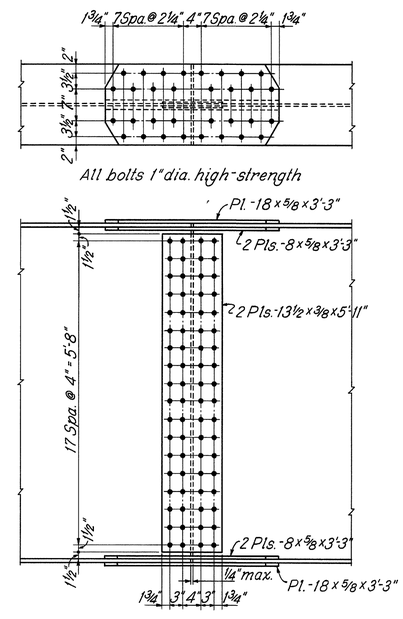
ERECTION PROCEDURE: The Contractor shall submit to the Director, for approval, three (3) prints showing his proposed erection procedure for the plate girders.

GENERAL NOTES: See Sheet 424.

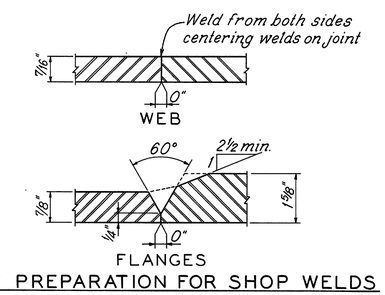


* This is a nominal dimension. The quantity of deck concrete to be paid for shall be based on this dimension, even though deviation from it may be necessary because the top flange of the girder may not have the exact camber or conformation required to place it parallel to the finished grade. Deduction shall be made for the volume of encased steel plates as per 511.19 of the Construction and Material Specifications.

HALF TRANSVERSE SECTION



TYPICAL BOLTED FIELD SPLICE



JOINT PREPARATION FOR SHOP WELDS

All full penetration welds shall be back-gouged and welded after welding far side. Grind welds flush parallel to length of plate.

CAMBERING of girders is required in accordance with the following table:

DEFLECTION AND CAMBER - INTERIOR AND FASCIA GIRDERS										
	END SPANS						MIDDLE SPANS			
SPAN POINT →	1/6	1/3	1/2	2/3	SPLICE	5/6	1/6	SPLICE	1/3	1/2
Deflection due to weight of steel	1/8"	3/16"	3/16"	1/8"	1/16"	0	0	1/16"	3/16"	1/4"
Deflection due to remaining dead load	1/2"	5/8"	5/8"	7/16"	5/16"	1/8"	3/16"	5/16"	1/2"	5/8"
Required shop camber	5/8"	13/16"	13/16"	9/16"	3/8"	1/8"	3/16"	3/8"	11/16"	7/8"

Note: Deflection and camber symmetrical about center of middle span except field splice ahead of Pier 2.

SHAFFER, PARRETT AND ASSOCIATES
Consulting Engineers
MANSFIELD, OHIO.

SUPERSTRUCTURE - 1

BRIDGE NO. LOR-90-1426 L & R
OVER BLACK RIVER

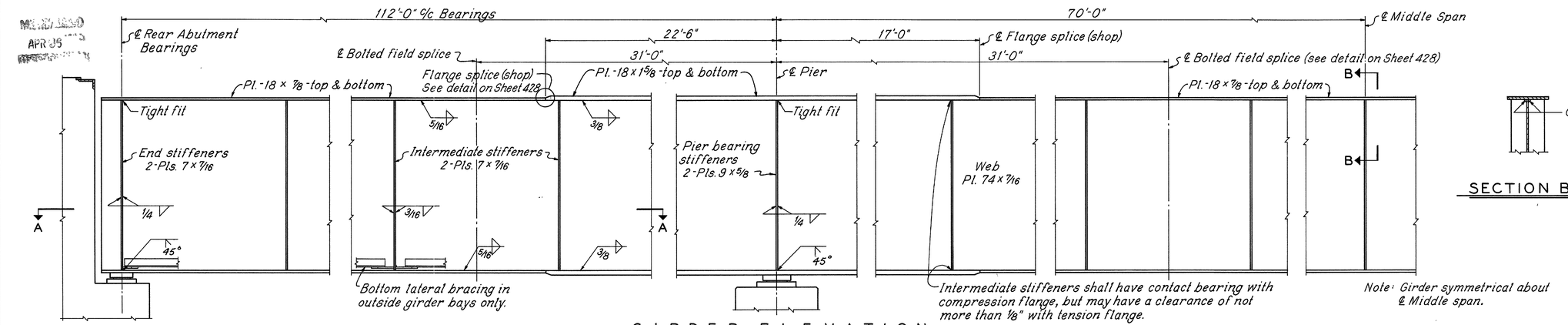
LORAIN COUNTY I.R. 90
STA. 736 + 53.75 TO STA. 740 + 22.25 LEFT BRIDGE
STA. 736 + 63.75 TO STA. 740 + 32.25 RIGHT BRIDGE

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
RAK	Bob	UL	JPG			

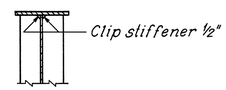
FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

LOR-90-13.01

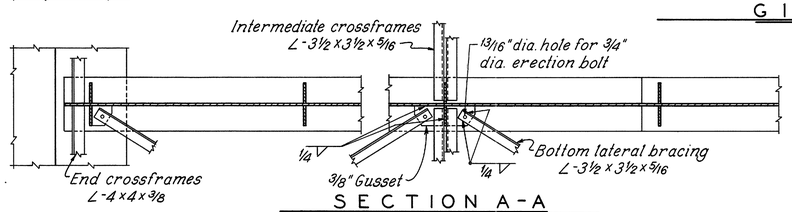
429



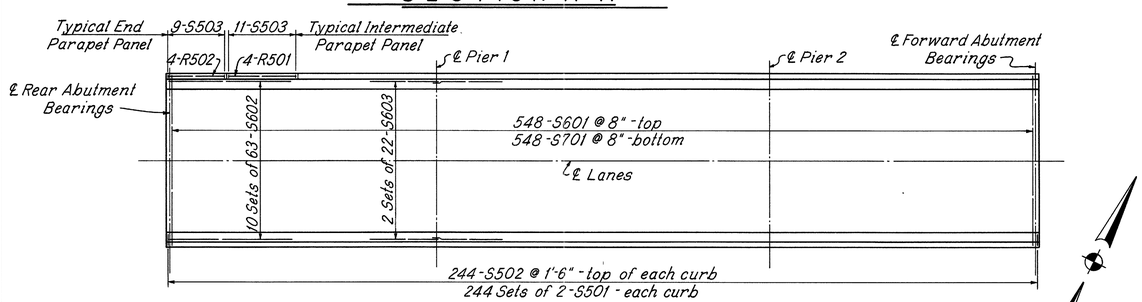
GIRDER ELEVATION



SECTION B-B

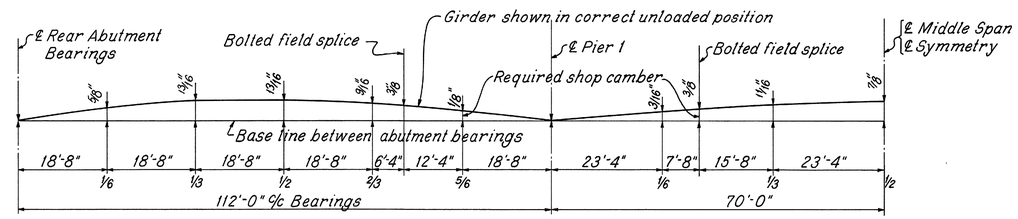


SECTION A-A



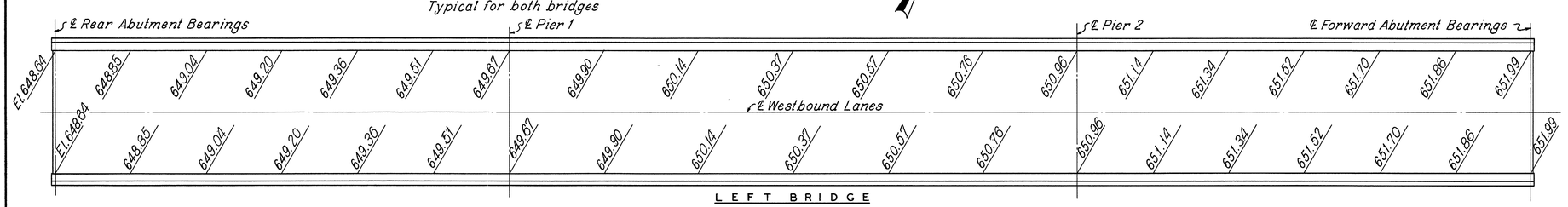
SLAB PLAN

Typical for both bridges

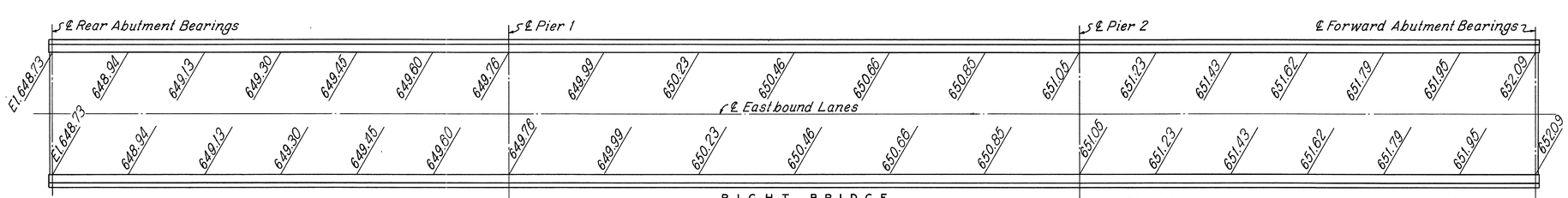


GIRDER LAYOUT DIAGRAM

Note: Locations are at ends and sixth points of each span except as noted. (Typical for all girders)



LEFT BRIDGE



RIGHT BRIDGE

DECK ELEVATIONS

Note: Elevations shown are at deck level at face of curbs and are those which are required before the deck concrete is placed. These points are located at ends and sixth points of each span.

SHAFFER, PARRETT AND ASSOCIATES
Consulting Engineers
MANSFIELD, OHIO.

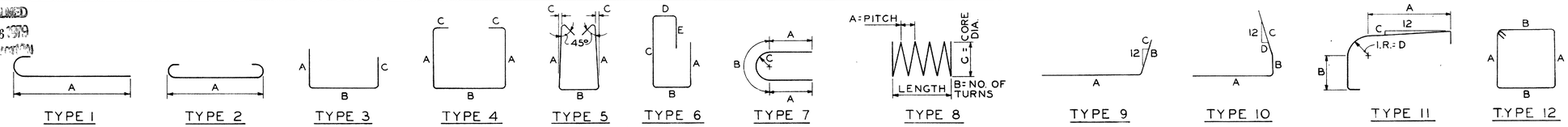
SUPERSTRUCTURE - 2

BRIDGE NO. LOR-90-1426 L & R OVER BLACK RIVER

LORAIN COUNTY I.R. 90
STA. 736 + 53.75 TO STA. 740 + 22.25 LEFT BRIDGE
STA. 736 + 63.75 TO STA. 740 + 32.25 RIGHT BRIDGE

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
RAK	Bob	UL	JPG			

MICROFILMED
APR 06 1979
REGISTRATION



FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

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LOR-90-13.01

ABUTMENTS

MARK	NO.	LENGTH	TYPE	A	B	C	D	E	WEIGHT
R503	32	18'-10"	Str.						*
R504	24	4'-2"	5	1'-6"	8"	3/4"			*
R505	16	5'-4"	11	2'-8 1/2"	9"	3/4"	7 3/8"		*
S503	112	5'-7"	5	2'-2"	8"	0			652
A501	46	4'-4"	3	3'-10"	7 1/2"	0			208
A502	96	6'-8"	3	1'-9"	3'-5"	1'-9"			668
A503	88	35'-4"	Str.						3243
A504	96	8'-4"	Str.						834
A505	16	8'-2"	Str.						136
A507	16	4'-9"	Str.						78
A508	16	4'-0"	Str.						68
A509	48	3'-6"	Str.						176
A510	16	5'-9"	Str.						98
A511	32	13'-2"	Str.						440
A512	48	11'-2"	Str.						560
A513	16	13'-4"	Str.						222
A514	32	19'-0"	Str.						634
A516	68	5'-0"	Str.						355
A517	48	18'-10"	Str.						942
A518	80	5'-3"	3	2'-1"	1'-4"	2'-1"			438
A519	80	(2)	3	(1)	1'-4"	(1)			340
A520	50	7'-2"	3	6'-8"	7 1/2"	0			374
A521	50	8'-2"	3	1'-7"	5'-3"	1'-7"			426
A522	40	11'-8"	12	2'-7"	3'-0"				488
A601	46	8'-11"	3	5'-3"	3'-10"	0			616
A602	128	21'-1"	6	8'-0"	1'-5"	9'-5"	11"	2'-0"	4054
A603	8	37'-2"	Str.						447
A604	8	16'-0"	Str.						192
A605	24	11'-4"	3	5'-3"	1'-2"	5'-3"			409
A606	8	6'-2"	3	5'-6"	10"	0			74
A607	50	14'-3"	3	2'-8"	5'-3"	6'-8"			1070
A608	44	17'-2"	3	8'-2"	1'-2"	8'-2"			1135
A609	16	9'-1"	3	8'-5"	10"	0			218
A610	8	3'-9"	Str.						45
A611	4	6'-7"	Str.						40
A801	14	37'-2"	Str.						1389
A802	24	16'-0"	Str.						1025
							Total Weight		22,067

(1) 2'-0" to 1'-0". Vary 8 each by 3".
(2) 5'-1" to 3'-1". Vary 8 each by 6".
* These railing bars are included in Item 517 for payment.

PIERS

MARK	NO.	LENGTH	TYPE	A	B	C	D	E	WEIGHT
P401	44	19'-6"	Str.						573
P402	56	13'-6"	Str.						505
P501	192	12'-0"	Str.						2403
P502	120	8'-11"	7	1'-7"	5'-9"	1'-10"			1116
P503	96	7'-4"	7	1'-7"	4'-2"	1'-4"			734
P504	8	17'-6"	Str.						146
P505	8	27'-0"	Str.						225
P506	16	31'-0"	Str.						517
P507	28	20'-1"	3	8'-10"	2'-8"	8'-10"			587
P508	80	12'-5"	3	5'-0"	2'-8"	5'-0"			1036
P509	80	(2)	3	(1)	2'-8"	(1)			820
P510	20	5'-7"	3	1'-7"	2'-8"	1'-7"			116
P601	44	19'-6"	Str.						1289
P602	128	19'-0"	Str.						3652
P603	128	17'-11"	Str.						3445
P604	128	4'-0"	Str.						769
P605	16	9'-3"	Str.						222
P801	128	6'-7"	3	5'-8"	1'-1"	0			2250
P802	128	29'-3"	Str.						9996
P1001	148	16'-4"	2	13'-6"					10,402
P1101	8	31'-0"	Str.						1318
P1102	8	32'-9"	Str.						1392
P1103	8	42'-0"	3	4'-8"	33'-2"	4'-8"			1785
P1104	8	33'-6"	Str.						1424
P1105	4	42'-4"	3	4'-8"	33'-6"	4'-8"			900
							Total Weight		47,622

(1) 5'-7" to 1'-10". Vary 8 each by 5".
(2) 13'-7" to 6'-1". Vary 8 each by 10".

SUPERSTRUCTURE

MARK	NO.	LENGTH	TYPE	A	B	C	D	E	WEIGHT
R501	352	15'-2"	Str.						*
R502	32	11'-10"	Str.						*
S501	1952	2'-4"	3	7 1/2"	1'-4"	7 1/2"			4751
S502	976	3'-6"	3	7 1/2"	2'-6"	7 1/2"			3563
S503	1040	5'-7"	5	2'-2"	8				6056
S601	1096	35'-8"	Str.						58,714
S602	1260	38'-3"	Str.						72,389
S603	176	29'-0"	Str.						7,666
S701	1096	35'-8"	Str.						79,901
							Total Weight		233,040

NOTES

BAR SIZE: is indicated in the bar mark. The first digit where three digits are used, and the first two digits where four are used, indicate the bar size number. For example A501 is a No. 5 size bar and P1101 is a No 11 size bar.

REPLACEMENT BARS		
MARK	NUMBER	LENGTH
RE400	1	5'-3"
RE500	3	5'-7"
RE600	8	5'-11"
RE700	4	6'-2"
RE800	1	6'-6"
RE1000	1	7'-2"
RE1100	1	7'-6"

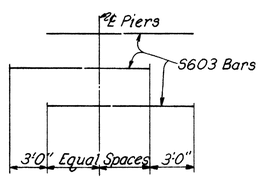

DIAGRAM SHOWING STAGGER OF S603 BARS OVER PIERS

SHAFFER, PARRETT AND ASSOCIATES
Consulting Engineers
MANSFIELD, OHIO.

REINFORCING STEEL
BRIDGE NO. LOR-90-1426 L&R OVER BLACK RIVER

LORAIN COUNTY I.R. 90
STA. 736 + 53.75 TO STA. 740 + 22.25 LEFT BRIDGE
STA. 736 + 63.75 TO STA. 740 + 32.25 RIGHT BRIDGE

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
RAK	JIM	JS	JPG			

FED RD DIVISION	STATE	PROJECT	
2	OHIO		

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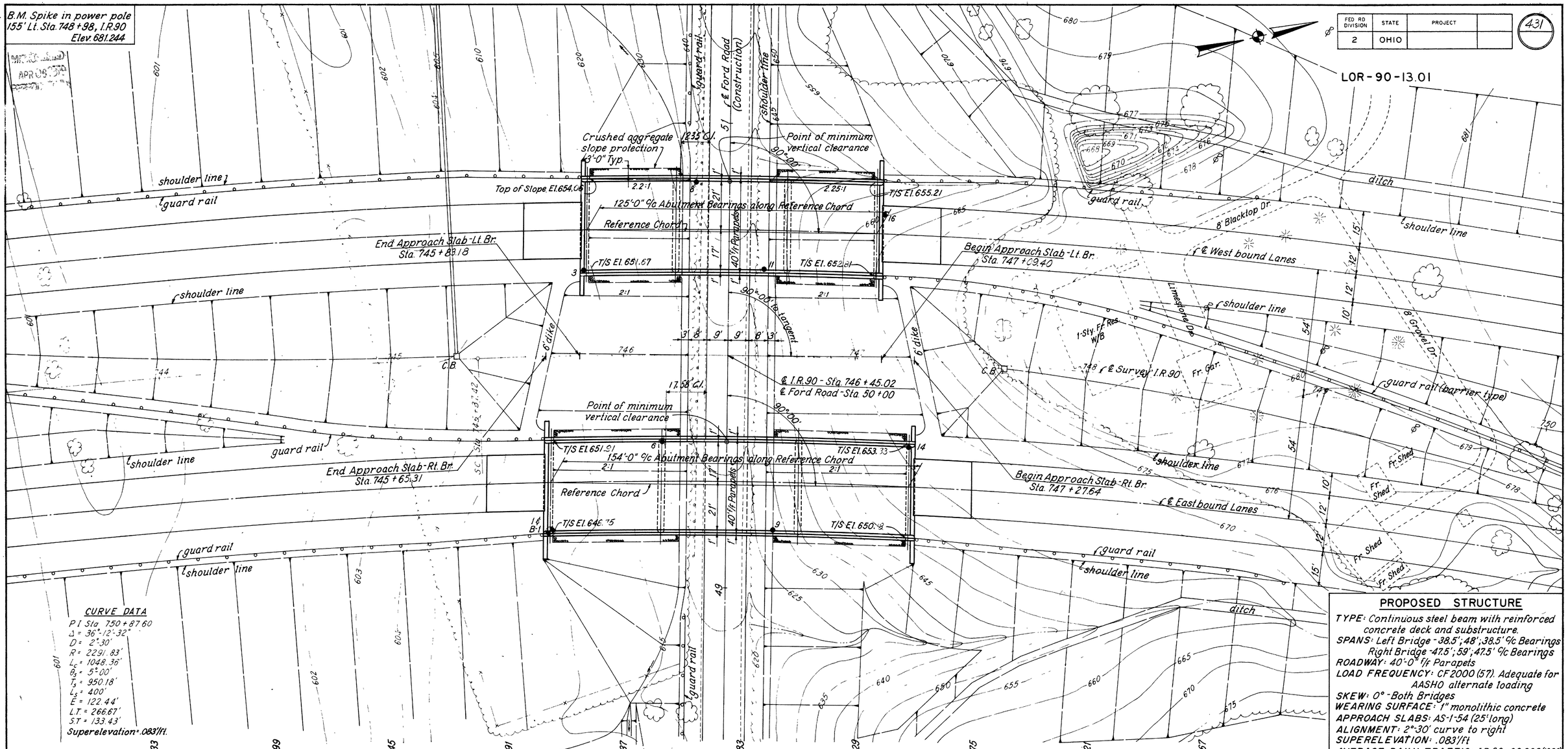
LOR-90-13.01

B.M. Spike in power pole
155' Lt. Sta. 748+98, I.R.90
Elev. 681.244

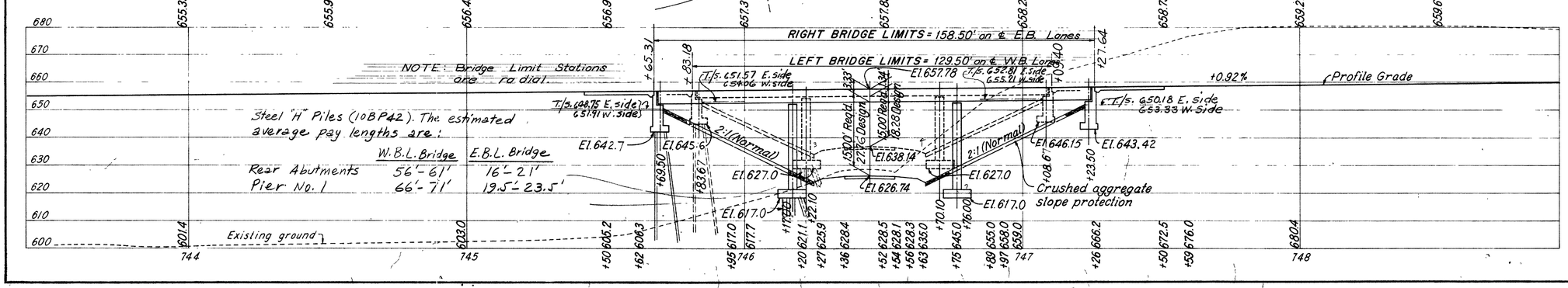


CURVE DATA

P.I. Sta. 750+87.60
$\Delta = 36°-12'-32''$
$D = 2°30'$
$R = 2291.83'$
$L_c = 1048.36'$
$\theta_s = 5°00'$
$T_s = 950.18'$
$L_s = 400'$
$E = 122.44'$
L.T. = 266.67'
S.T. = 133.43'
Superelevation = .083'/ft.

PROPOSED STRUCTURE

TYPE: Continuous steel beam with reinforced concrete deck and substructure.
SPANS: Left Bridge - 38.5'; 48'; 38.5' c/c Bearings
Right Bridge - 47.5'; 59'; 47.5' c/c Bearings
ROADWAY: 40'-0" f/f Parapets
LOAD FREQUENCY: CF2000 (57). Adequate for AASHO alternate loading
SKEW: 0° - Both Bridges
WEARING SURFACE: 1" monolithic concrete
APPROACH SLABS: AS-1-54 (25' long)
ALIGNMENT: 2°-30' curve to right
SUPERELEVATION: .083'/ft
AVERAGE DAILY TRAFFIC: I.R.90 - 20,800 (1989)
Ford Road - 540 (1959); 1188 (1989)



FOUNDATION INVESTIGATION LEGEND

⊕ - Indicates core boring location.
• - Indicates rod sounding location.

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MANSFIELD, OHIO.

SITE PLAN

BRIDGE NO. LOR-90-1443 L & R OVER FORD ROAD

LORAIN COUNTY I.R. 90

STA. 745 + 83.18 TO STA. 747 + 09.40 W.B.L. BRIDGE
STA. 745 + 65.31 TO STA. 747 + 27.64 E.B.L. BRIDGE

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
RAK	RHU	LH				

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

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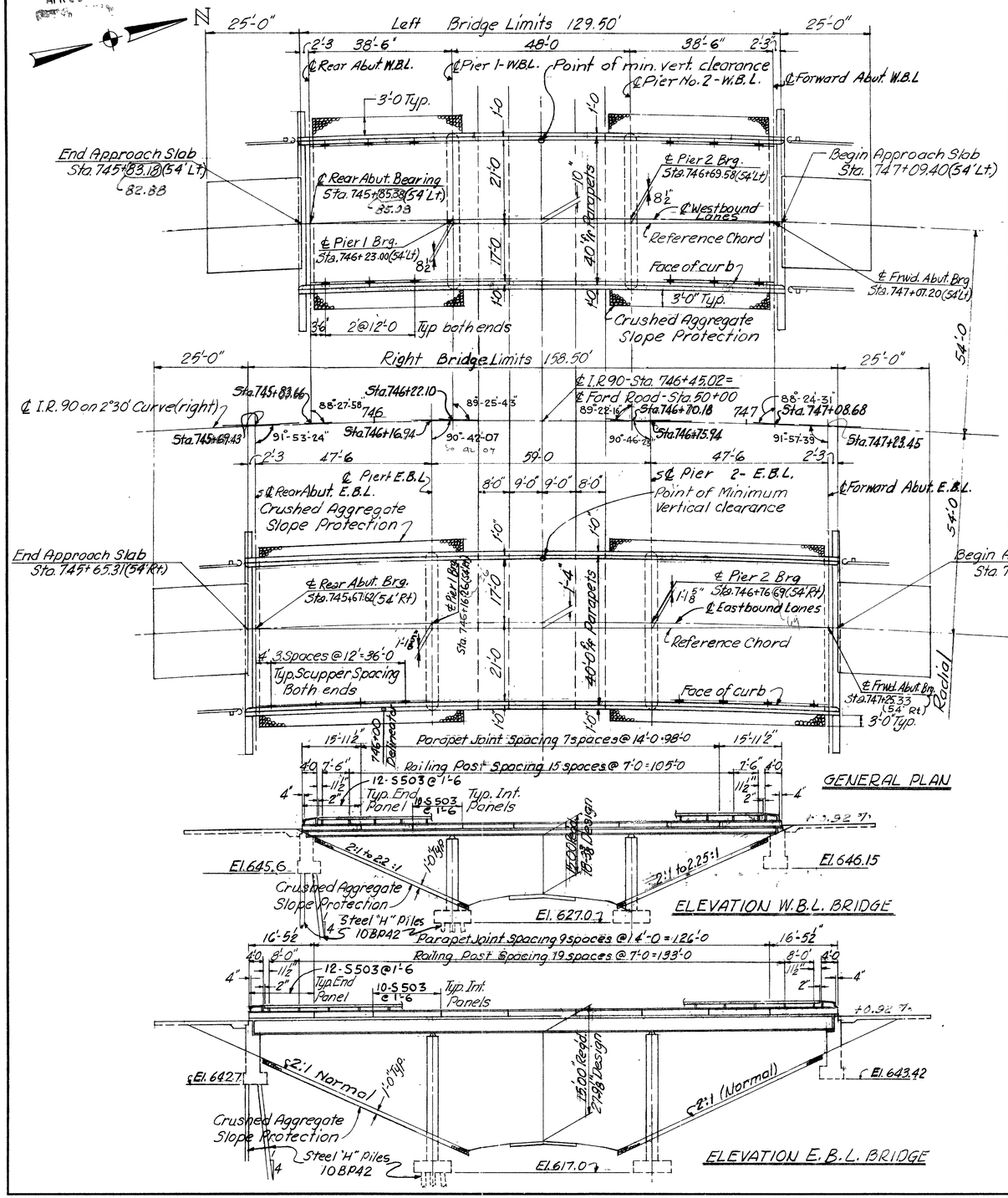
LOR-90-13.01



ESTIMATED QUANITIES (2 BRIDGES)

ITEM	W.B.L	E.B.L	TOTAL	UNIT	DESCRIPTION	W.B.L. SUPER.	W.B.L. ABUT.	W.B.L. PIERS	W.B.L. GEN'L	E.B.L. SUPER	E.B.L. ABUT.	E.B.L. PIERS	E.B.L. GEN'L
503	337	362	699	Cu.Yds.	Unclassified Excavation		287	50			312	50	
503	49	83	132	Cu.Yds.	Shale Excavation		27	22			58	25	
505			Lump	Sum.	First Test Pile 10BP42				LUMP				
507	1672	527	2199	Lin.Ft.	Steel Piles 10BP42		644	1028			204	323	
509	63,543	98,581	162,124	lbs.	Reinforcing Steel	36,542	8006	18995		67,589	8916	22076	
	76,819	91,998	168,817			45,312	8556	18,515		64,242	9450	22,477	
511	176	215	391	Cu.Yds.	Class "C" Concrete, Superstructure	176				215			
511	61	71	132	Cu.Yds.	Class "C" Concrete, Piers above footings			61				71	
511	50	50	100	Cu.Yds.	Class "E" Concrete, Pier footings			50				50	
511	176	184	360	Cu.Yds.	Class "E" Concrete, Abutments		176				184		
513	112055	157,745	269,800	lbs.	Structural Steel	112055				157745			
514	112,055	157,745	269,800	lbs.	Field painting of Structural Steel	112055				157745			
517	260	317	577	Lin.Ft.	Bridge Railing Type 1	260				317			
518	12	16	28	Each	Scuppers (Including supports)	12				16			
518	50	50	100	Cu.Yds.	Porous Backfill		50				50		
518	86	86	172	Lin.Ft.	6" ϕ Perforated Helical C.M.P (707.06) including Spec'ls		86				86		
518	96	96	192	Lin.Ft.	6" ϕ Helical C.M.P. (707.06) Non-Perforated		96				96		
601	536	680	1216	Sq.Yds.	Crushed Aggregate Slope protection				536				680
808	176	215	391	Each	Water Reducing, Set Retarding Admixture	176				215			
825	694	841	1535	Sq.Yds.	Concrete Surface Treatment	694				841			
828	76	76	152	Lin.Ft.	Joint Sealer				76				76

GENERAL NOTES

REFERENCE: shall be made to Standard Drawings SD-1-65 sheets 1, 2 & 3 (dated 11-8-65) AS-1-54 (revised 8-10-65), RB-1-55 (revised 2-2-59), BR-1-65, Sheet 1 of 2 (revised 11-24-65) Supplemental Specifications 808 (dated 7-14-65) 811 (revised 3-29-65), 825 (dated 4-22-65) and 828 (dated 7-21-65).

DESIGN SPECIFICATIONS: This Structure conforms to the requirements of "Design Specifications for Highway Structures" of the State of Ohio, Deparment of Highways, dated 9-1-57, together with current revisions thereof, except; strength of splice is based on Article 1.6.31 of the A.A.S.H.O. "Standard Specifications for Highway Bridges" dated 1961, together with current revisions thereof.

DESIGN LOADING: C.F. 2000 (57)

DESIGN UNIT STRESSES:

Structural Steel A.S.T.M. A-36: 20,000 psi bending; 12,000 psi shear

High Strength bolts A.S.T.M. A-325: 15,500 psi shear; 40,000 psi bearing

CONCRETE CLASS C 1333 psi

CONCRETE CLASS E 1133 psi

REINFORCING STEEL: A.S.T.M. A15, A16 or A160 Deformed, Intermediate or Hard Grade, basic unit stress 20,000 psi. Spiral reinforcing need not be deformed and shall conform to A.S.T.M. A15.

MACHINE FINISH: The concrete bridge deck may be finished by the use of a finishing machine.

FOUNDATION BEARING PRESSURE: Forward Abutment footings are designed for a maximum bearing pressure of 1.5 tons per sq. ft. Pier 2 footings are designed for a maximum bearing pressure of 3.1 tons per sq. ft.

FIRST TEST PILE: Payment will be made for only one first test pile. It may be driven for either the E.B.L. or the W.B.L.

LEGEND: E.B.L. (East Bound Lanes)
W.B.L. (West Bound Lanes)

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

PILES: Shall be driven with a hammer of not less than 11,000 ft-Lb per blow to firm contact with shale. If the length of penetration is approximately equal to the depth to shale according to the bridge foundation investigation report, the firm contact shall be considered as attained when the capacity according to the formula in SEC. 507.05 is not less than the following value for a pile hammer of the indicated energy rating:

For Pier 1 Piles:

E.B.L. 48, W.B.L. 34 } tons per pile using an 11,000 ft. lb. hammer.

E.B.L. 41, W.B.L. 28 } tons per pile using a 15,000 ft. lb. or greater hammer.

For Rear Abutment Piles:

E.B.L. 52, W.B.L. 42 } Tons per pile using an 11,000 ft. lb hammer

E.B.L. 45, W.B.L. 34 } Tons per pile using an 15,000 ft. lb or greater hammer

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 30 Tons - Pier 1 W.B.L. Bridge, & 35 Tons - Pier 1 E.B.L. Bridge, & 35 Tons - R. Abut. W.B.L. Bridge, & 35 Tons - R. Abut. E.B.L. Bridge

SHAFFER, PARRETT AND ASSOCIATES
Consulting Engineers
MANSFIELD, OHIO.

GENERAL PLAN, ELEVATION, NOTES & ESTIMATED QUANTITIES
BRIDGE No. LOR-90-1443 L & R
OVER FORD ROAD
LORAIN COUNTY - 82.88
STA. 745+83.18 TO STA. 747+09.40 W.B.L. BRIDGE
STA. 745+65.31 TO STA. 747+27.64 E.B.L. BRIDGE

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
G.C.D.	G.C.D.		SCT	H.S.R	1/14/66	7-22-66

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

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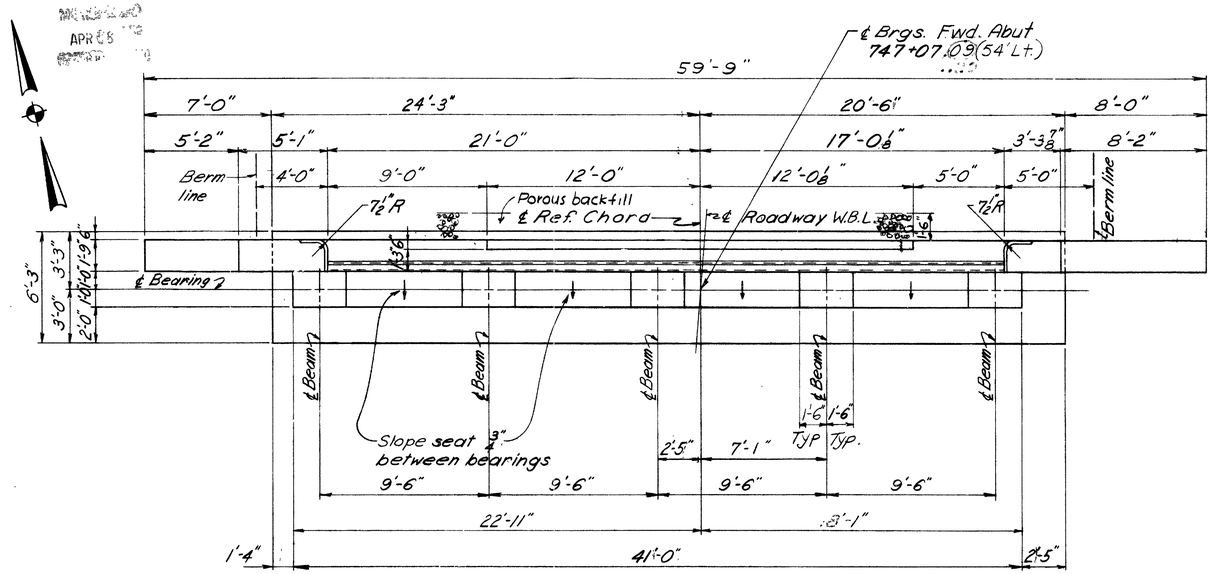
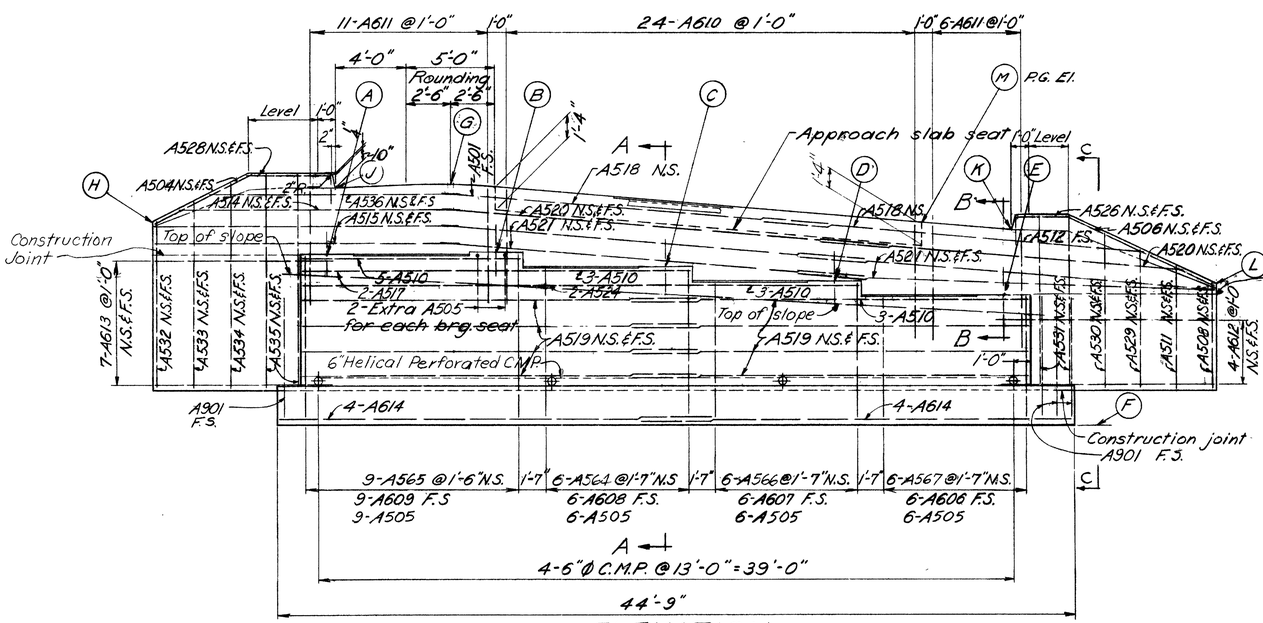
LOR-90-13.01



PLAN



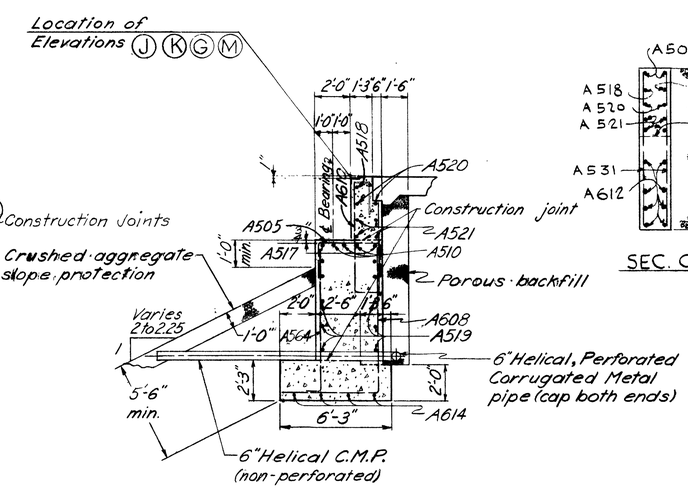
ELEVATION

NOTES

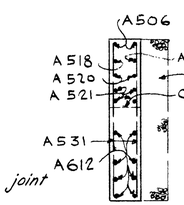
CONCRETE: All abutment concrete shall be class "E"

POROUS BACKFILL, 1'-6" thick, full length of abutment and shall extend up to the underside of the approach slab and to the finished ground line. Excavation therefore, in excess of that required for construction of the abutment, shall be considered as paid for in the bid price per cu. yd. paid for porous backfill.

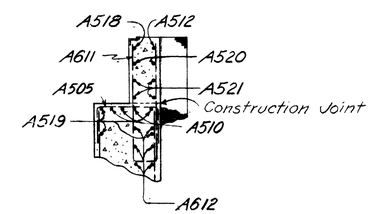
NOTATION: N.S. = Near side
F.S. = Far side



SECTION A-A



SEC. C-C



SECTION B-B

TABLE OF ELEVATIONS

LOCATION	A	B	C	D	E	F	G	H	J	K	L	M
FWD. ABUT. W.B.L.	656.19	656.16	655.38	654.59	653.80	646.15	660.64	658.65	660.46	658.11	654.80	658.33
	(.17) -.11	-.11	-.02	-.03	-.74		-.49		-.37	-.35		-.07

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Consulting Engineers
MANSFIELD, OHIO.

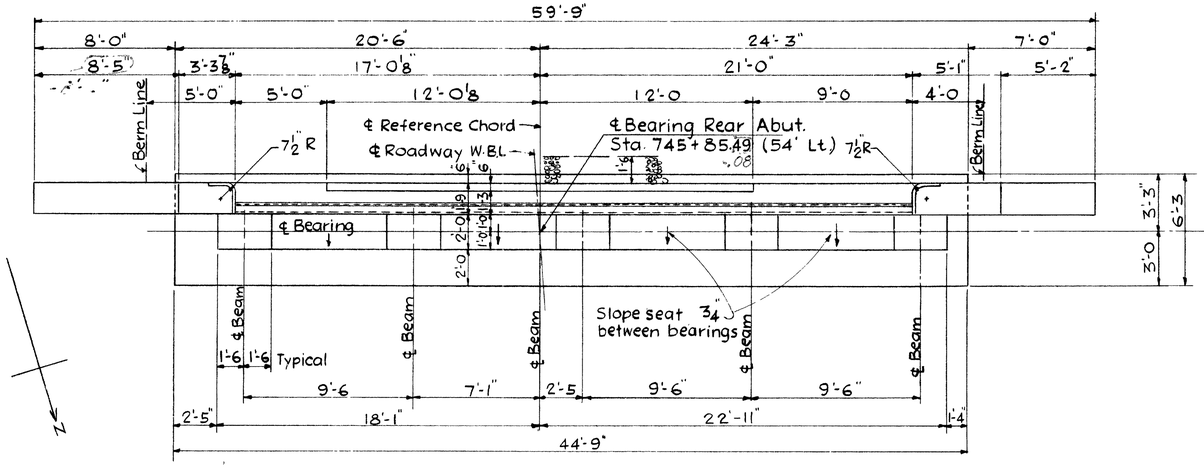
FWD. ABUTMENT DETAILS W.B.L.
BRIDGE NO. LOR-90-1443"R
OVER FORD ROAD
LORAIN COUNTY
STA. 745+83.18 TO STA. 747+09.40

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
W.C.C.	W.C.C.		H.S.R.	SCT	1/24/96	

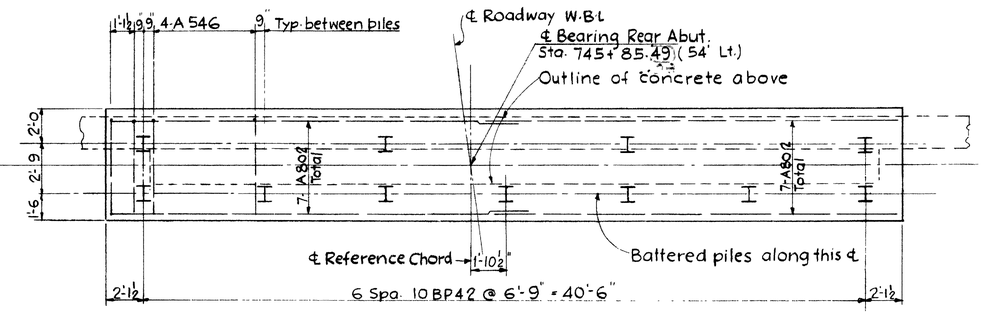
FED. RD. DIVISION	STATE	PROJECT	

433A

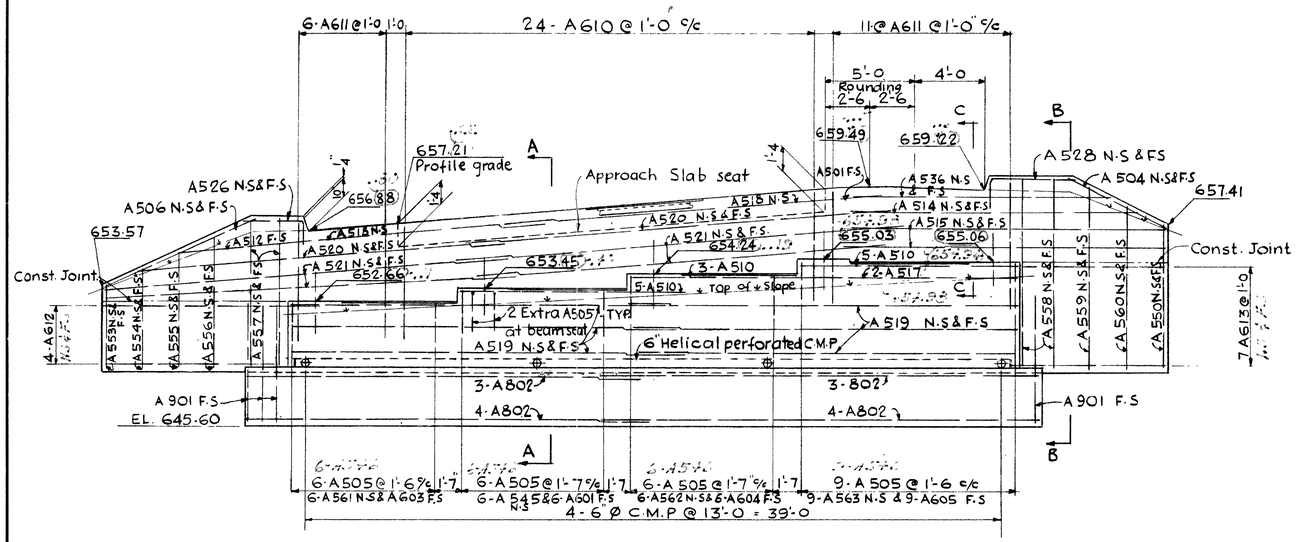
LOR.-90-13.01



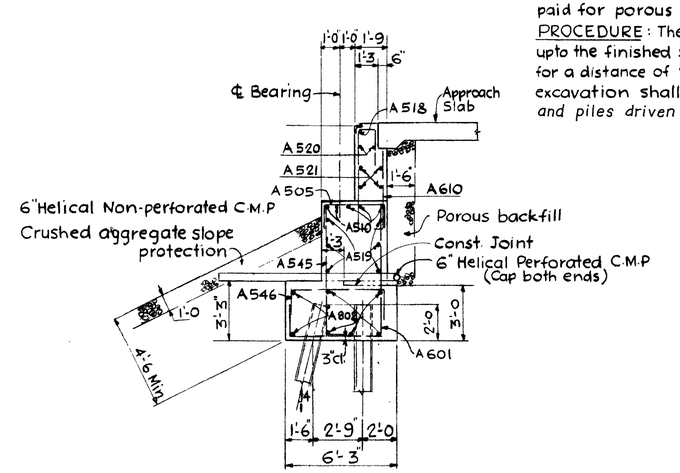
PLAN



FOOTING PLAN



ELEVATION
(PILES OMITTED)



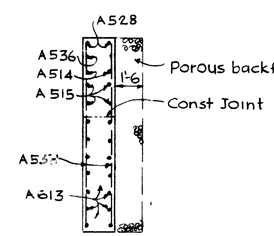
SECTION A-A

NOTES

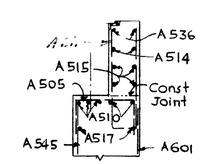
CONCRETE: All abutment concrete shall be class 'E'

POROUS BACK FILL, 1'-6 thick, full length of abutment and shall extend upto the underside of the approach slab and to the finished ground line. Excavation therefor, in excess of that required for construction of the abutment, shall be considered as paid for in the bid price per cu.yd. paid for porous backfill.

PROCEDURE: The embankment shall be placed and compacted upto the finished spill-thru slope and to the level of the sub-grade for a distance of 200 ft. back of the rear abutments after which excavation shall be made for the rear abutments and Pier 1 and piles driven.



SECTION B-B



SECTION C-C

SHAFFER, PARRETT AND ASSOCIATES
Consulting Engineers
MANSFIELD, OHIO.

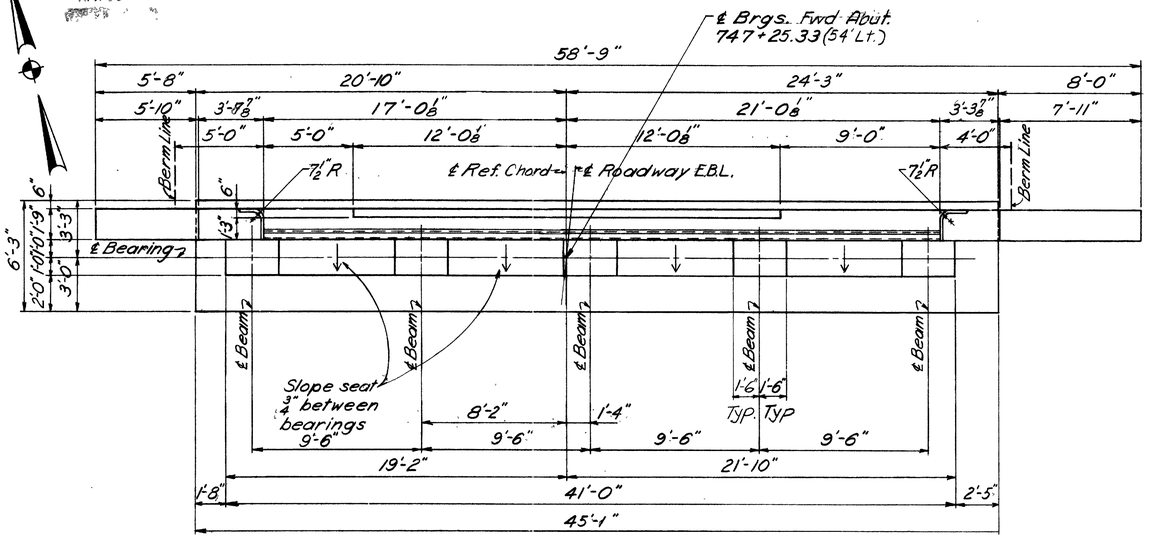
REAR ABUTMENT DETAILS W.B.L
BRIDGE No. LOR-90-1443 L R
OVER FORD ROAD
LORAIN COUNTY
STA. 745+83.18 TO STA. 747+09.40

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
W.C.C	W.C.C		H.S.R	SCT		

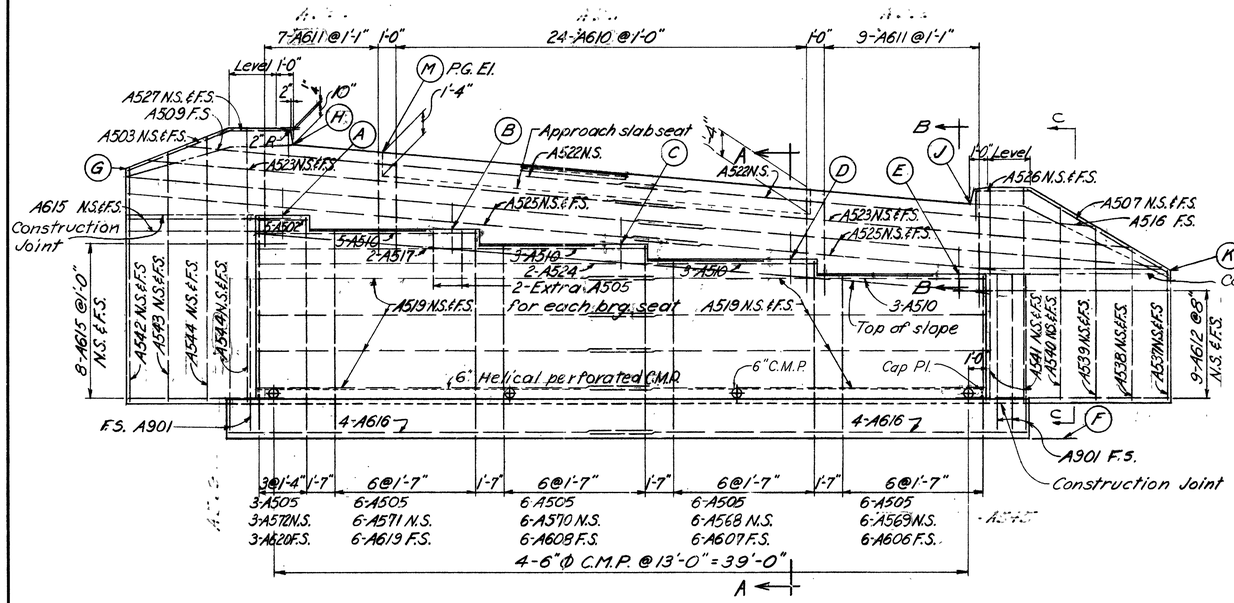
FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

434

LOR-90-13.01

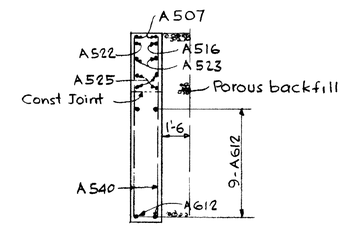


PLAN

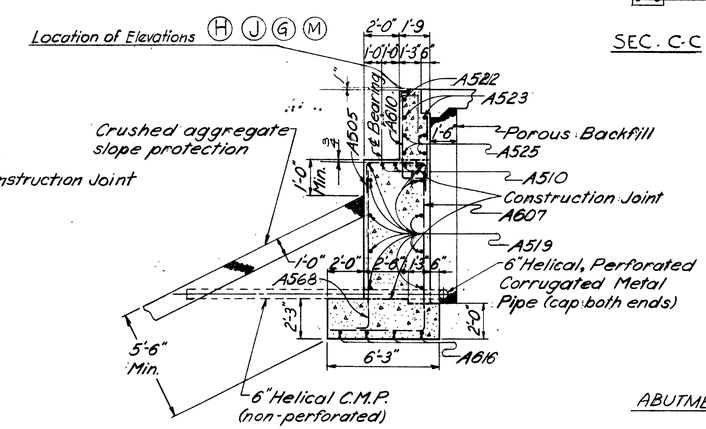


ELEVATION

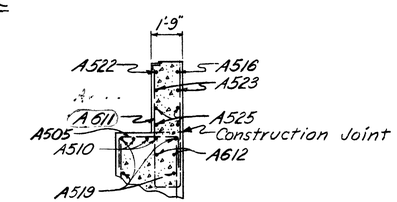
FWD. ABUTMENT SHOWN



SEC. C-C



SECTION A-A



SECTION B-B

ABUTMENT NOTES: SEE SHEET # 433

TABLE OF ELEVATIONS

Location	A	B	C	D	E	F	G	H	J	K	M
FWD. ABUT. E.B.L.	654.35	653.56	652.77	651.99	651.21	643.42	657.71	659.01	655.85	651.93	658.52

SHAFFER, PARRETT AND ASSOCIATES
Consulting Engineers
MANSFIELD, OHIO.

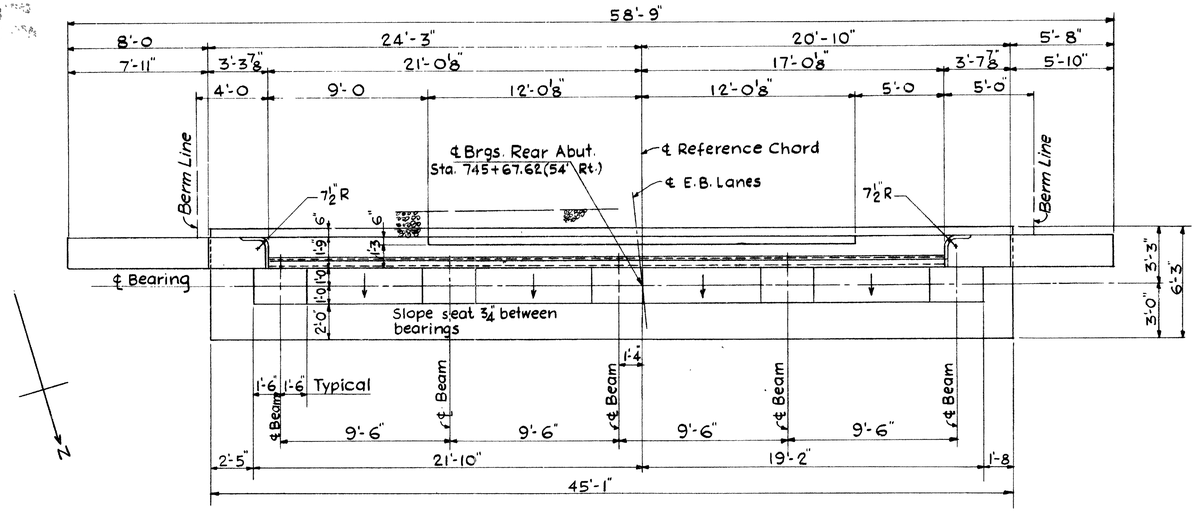
FWD. ABUTMENT DETAILS E.B.L.
BRIDGE NO. LOR-90-1443 L & R
OVER FORD ROAD
LORAIN COUNTY
STA. 745+65.31 TO STA. 747+27.64

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
W.C.C.	W.C.C.		H.S.R.	SCT	1/2/66	

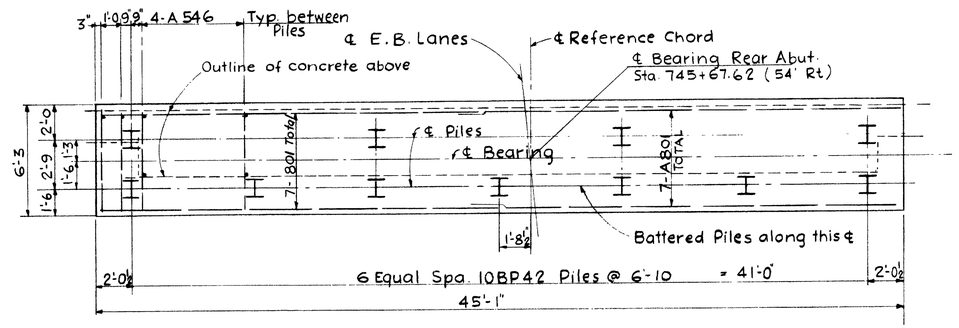
FED. RD. DIVISION	STATE	PROJECT	

434A

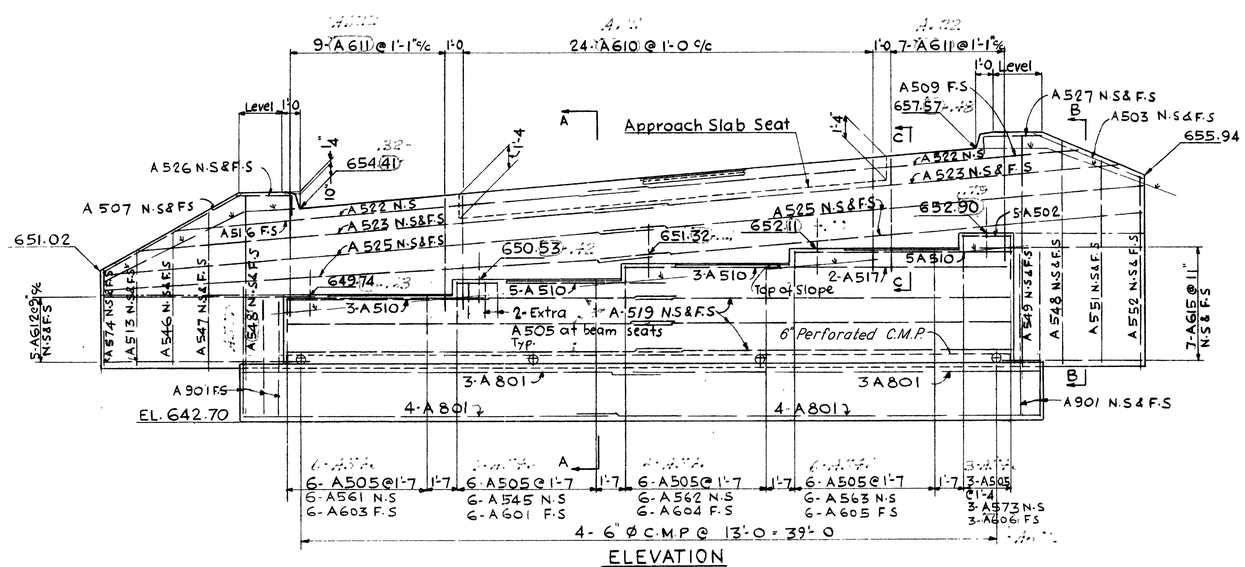
LOR.-90-13.01



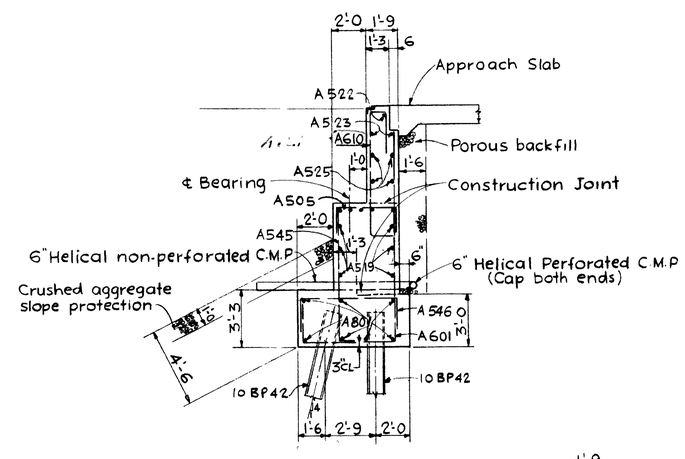
PLAN



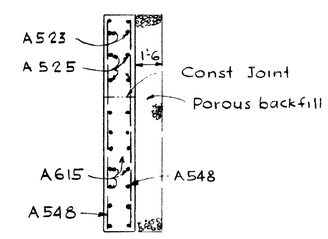
FOOTING PLAN



ELEVATION
(PILES OMITTED)

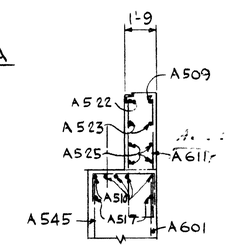


SECTION A-A



SECTION B-B

For Abutment Notes see sheet # 433A



SECTION C-C

SHAFFER, PARRETT AND ASSOCIATES
Consulting Engineers
MANSFIELD, OHIO.

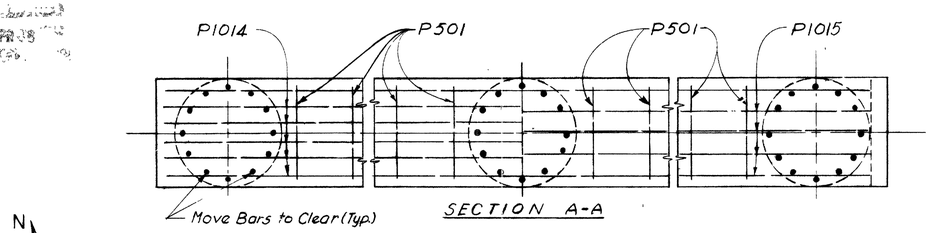
REAR ABUTMENT DETAILS E.B.L
BRIDGE No LOR-90-1443 L/R
OVER FORD ROAD
LORAIN COUNTY
STA. 745+65.31 TO STA 747+27.64

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
W.C.C	N.C.C		H.S.R	S.C.T		

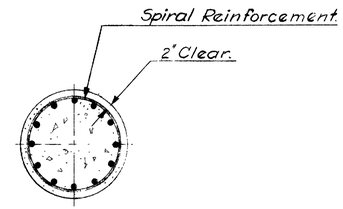
FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

435

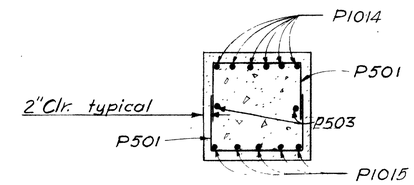
LOR-90-13.01



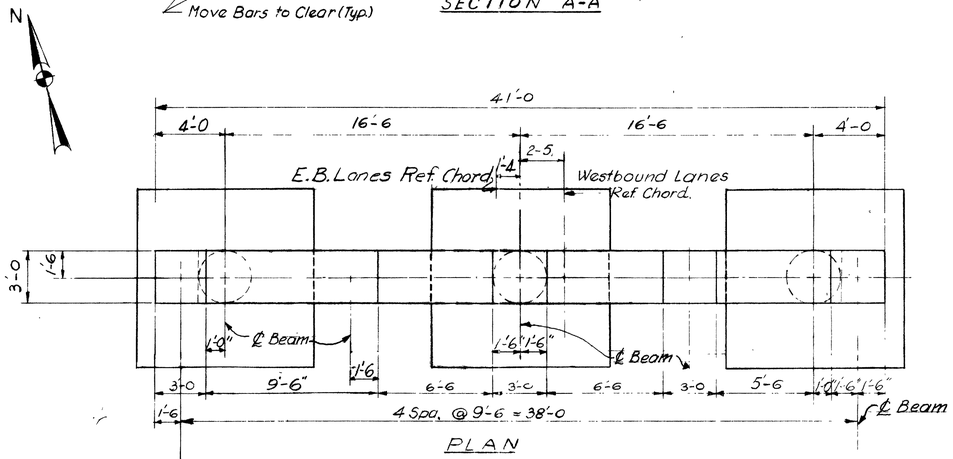
SECTION A-A



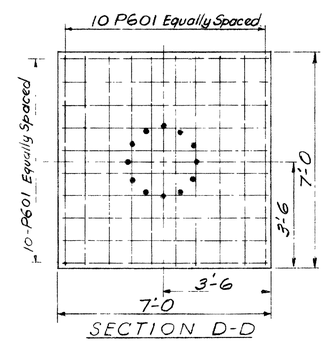
SECTION B-B
TYPICAL



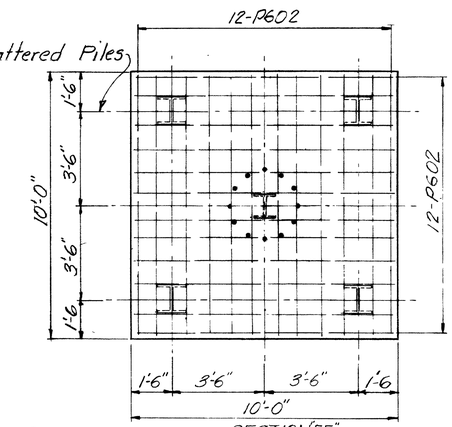
SECTION C-C



PLAN



SECTION D-D



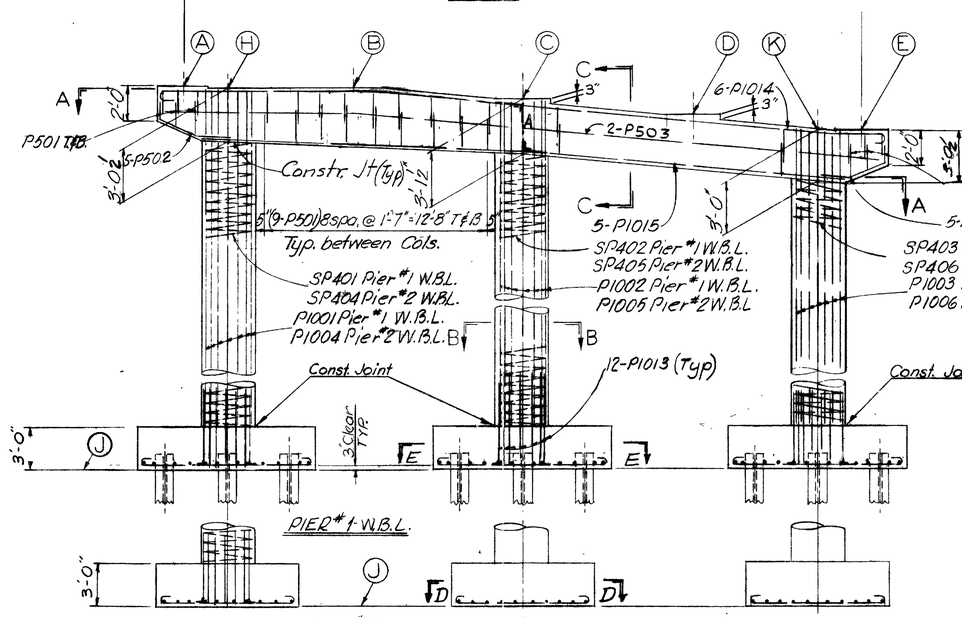
SECTION E-E

NOTES:

CONCRETE: All concrete for pier footings shall be Class "E" & all concrete above pier footing shall be Class "C."

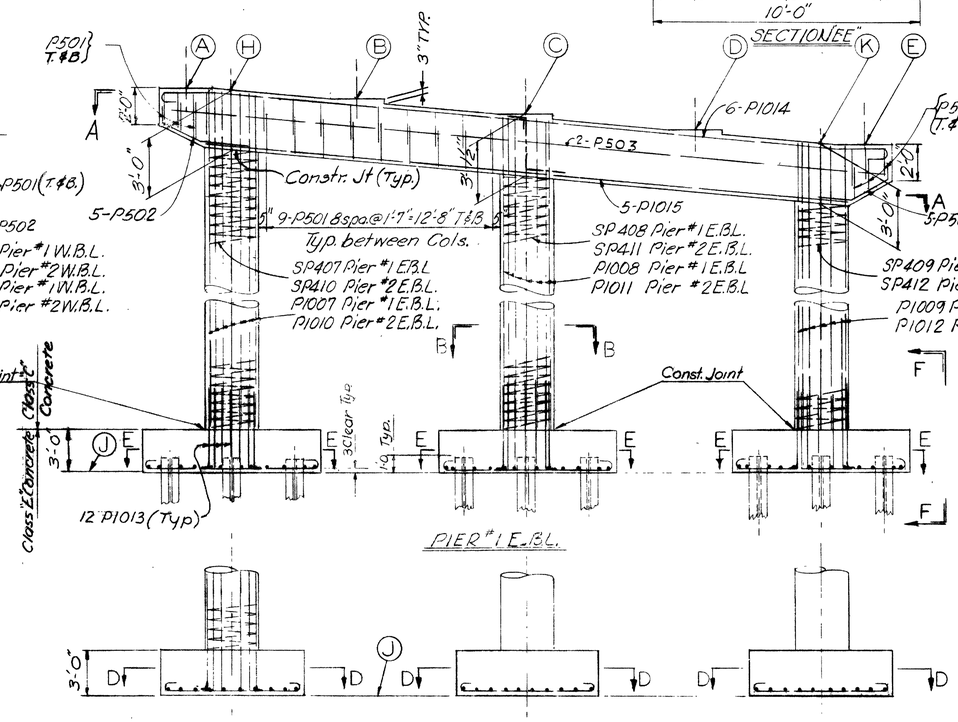
BRIDGE SEAT REINFORCING: Special care shall be taken in placing reinforcing steel in the vicinity of the bridge seat of pier 1 so as to avoid interference with the drilling of anchor bolt holes.

FOOTINGS: shall extend a minimum of 3" into undisturbed shale or to the elevation shown, whichever is lower.



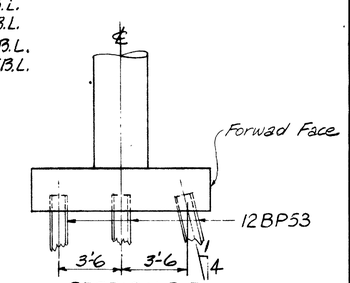
PIER #1 W.B.L.

PIER #2 W.B.L. PART NOT SHOWN SAME AS PIER #1 W.B.L.



PIER #1 E.B.L.

PIER #2 E.B.L. PART NOT SHOWN SAME AS PIER #1 E.B.L.



SECTION F-F

TABLE OF ELEVATIONS

	A	B	C	D	E	H	J	K
Pier #1 - W.B.L.	655.00	654.99	654.20	653.41	652.62	655.05	627.00	652.71
Pier #2 - W.B.L.	655.46	655.44	654.65	653.86	653.08	656.50	627.00	653.76
Pier #1 - E.B.L.	652.62	651.82	651.03	650.24	649.45	651.88	617.00	649.53
Pier #2 - E.B.L.	653.16	652.31	651.58	650.78	649.99	652.44	617.00	650.07

SHAFFER, PARRETT AND ASSOCIATES
Consulting Engineers
MANSFIELD, OHIO

PIERS
BRIDGE NO. LOR-90-1443 L&R
OVER FORD ROAD
LORAIN COUNTY, OHIO
STA. 745+83.18 TO STA. 747+03.40 W.B.L. Bridge
STA. 745+65.31 TO STA. 747+27.64 E.B. Bridge

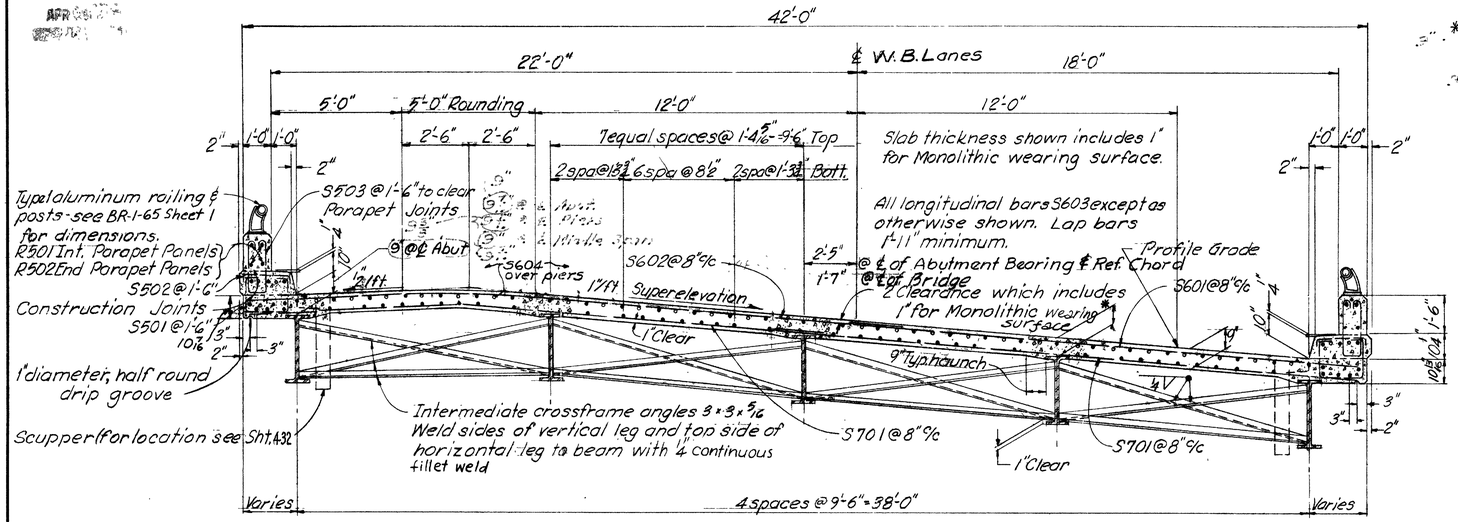
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
SCI	AK		SCT	H.S.R.	1/26/96	

HILLS CO.—156—4-61

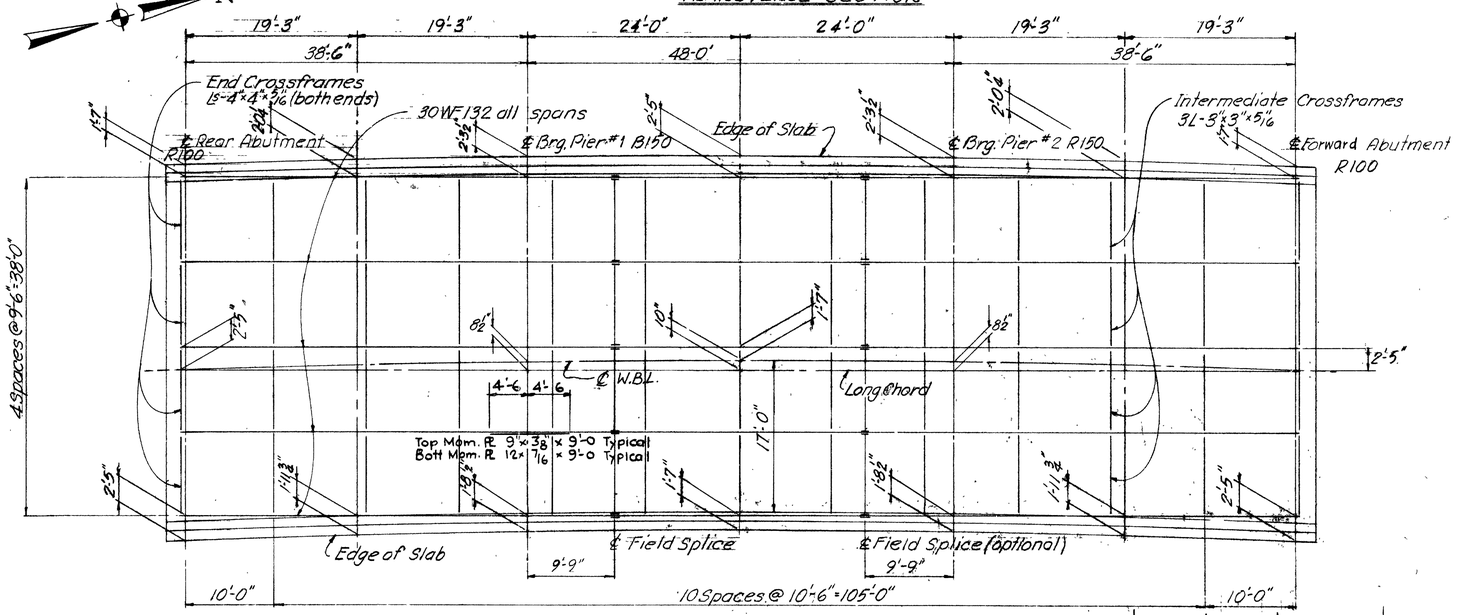
FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

436

LOR-90-13.01



TRANSVERSE SECTION



STEEL FRAMING PLAN

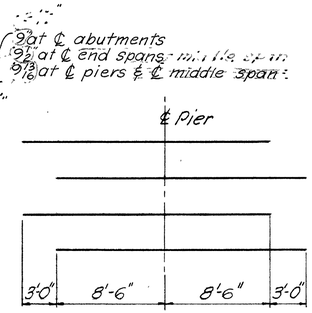
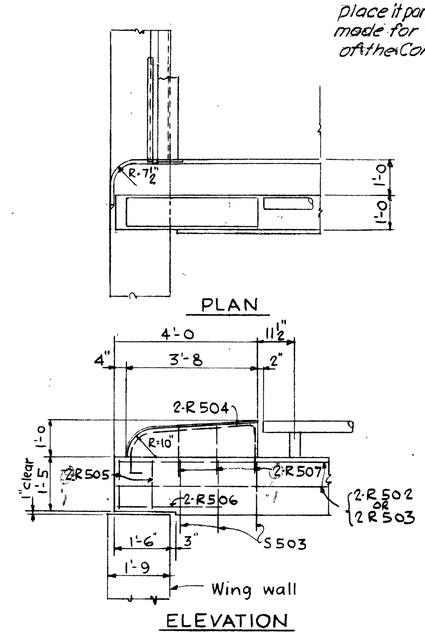


DIAGRAM SHOWING STAGGER OF S604 BARS OVER PIERS

A typical 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 not be more than 1:4 for a haunch less than 9" in width.

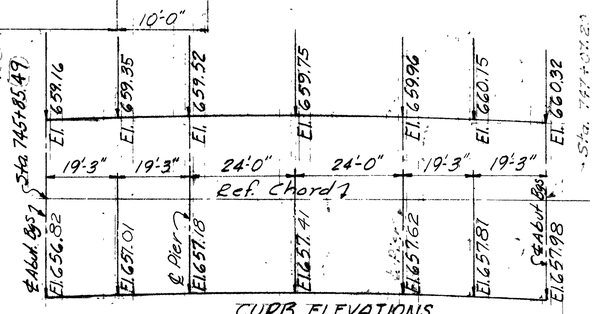
* DECK SLAB DEPTH - The distance shown from top of deck slab to top of steel beam is the nominal dimension. The quantity of deck concrete to be paid for shall be based on this dimension, even though deviation from it may be necessary because the top flange of the beam may not have the exact camber or conformation required to place it parallel to the finished grade. Deduction shall be made for volume of encased steel plates as per Sec. 511.19 of the Construction & Material Specifications.



TYPICAL BRIDGE CORNER DETAIL SHOWING CONCRETE END POSTS

DEFLECTION & CAMBER

	END SPAN			CENTER SPAN			
	1/4 Point A	Center Point B	3/4 Point C	1/4 Point A	Center Point B	3/4 Point C	Splice Point D
Deflection due to weight of steel	—	—	—	—	—	—	—
Deflection due to remaining dead load	—	1/8"	—	—	1/8"	—	—
Adjustment required for vertical curve	—	—	—	—	—	—	—
Required Shop Camber	—	1/8	—	—	1/8	—	—



CURB ELEVATIONS

Note: Elevations shown are at deck level at face of curbs and are those which are required before the deck concrete is placed.

SHAFFER, PARRETT AND ASSOCIATES
Consulting Engineers
MANSFIELD, OHIO.

SUPER-STRUCTURE DETAILS W.B.L.
BRIDGE No. LOR-90-1443 (2) & R
OVER FORD ROAD

LORAIN COUNTY
STA. 745+83.18 TO STA. 747+09.40

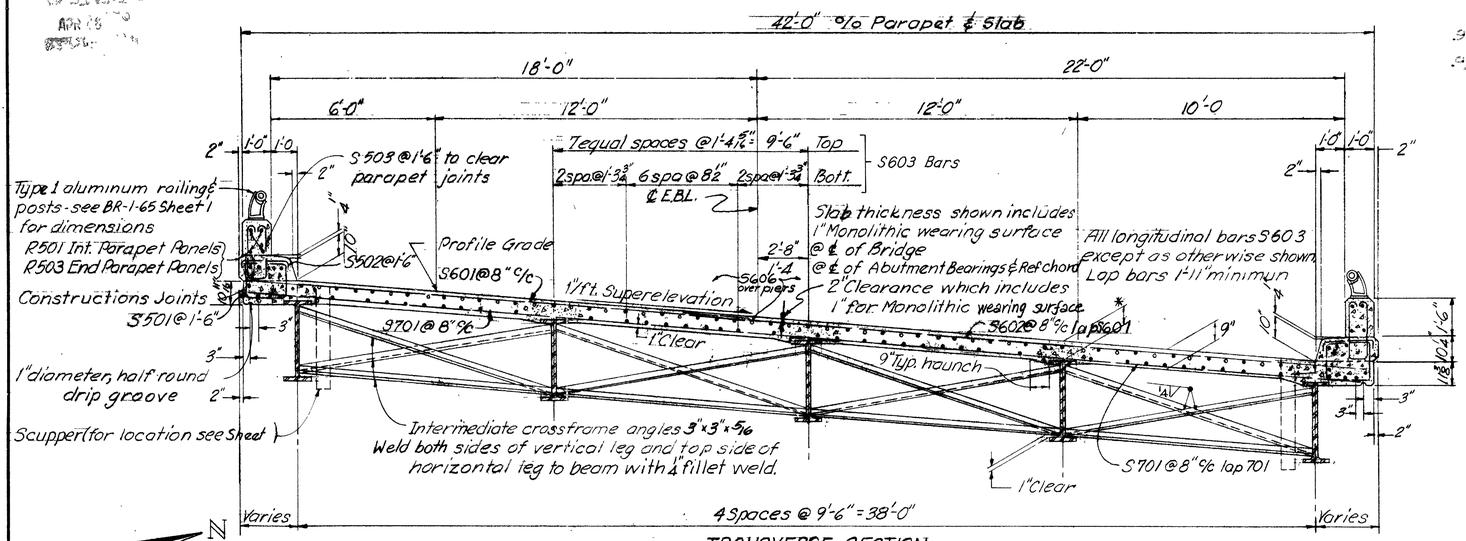
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
G.C.D.	G.C.D.		SCT	H.S.R.	1/7/62	

2316-D1

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

437

LOR-90-13.01



TRANSVERSE SECTION

9" at ℄ abutment
9 1/16" at ℄ end spans - middle span
10 3/8" at ℄ piers & ℄ middle span

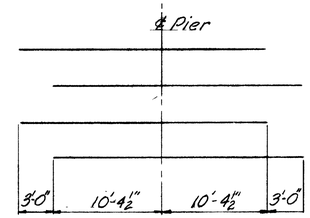
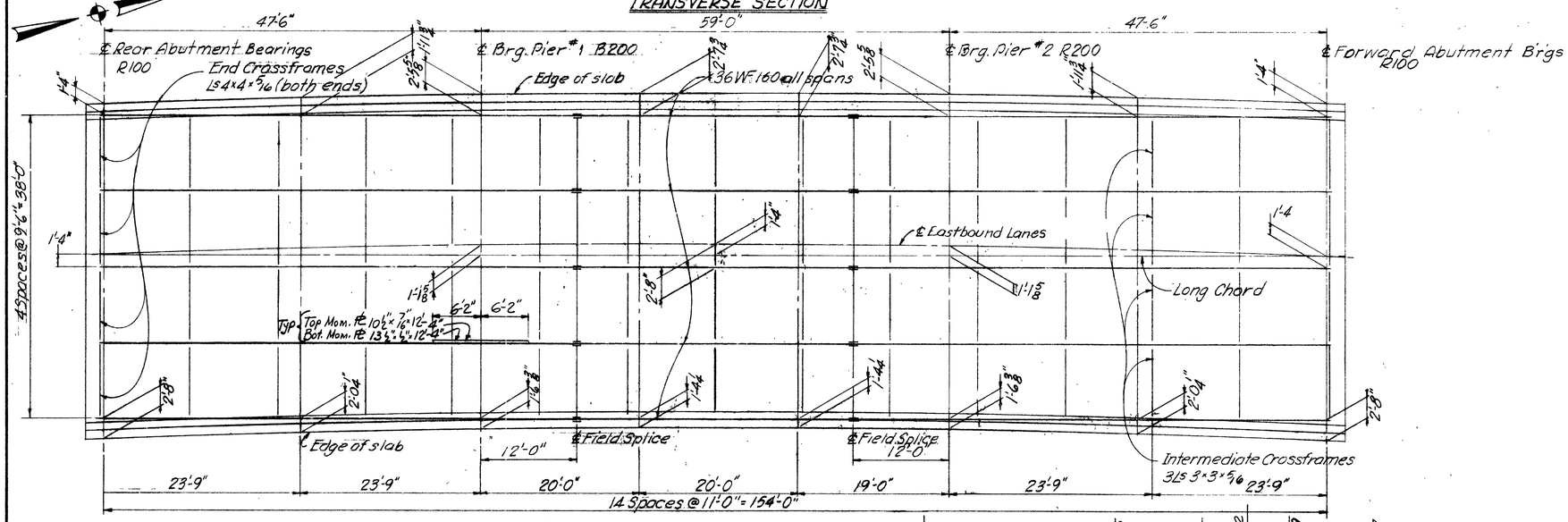


DIAGRAM SHOWING STAGGER OF S606 BARS OVER PIERS

A typical 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.

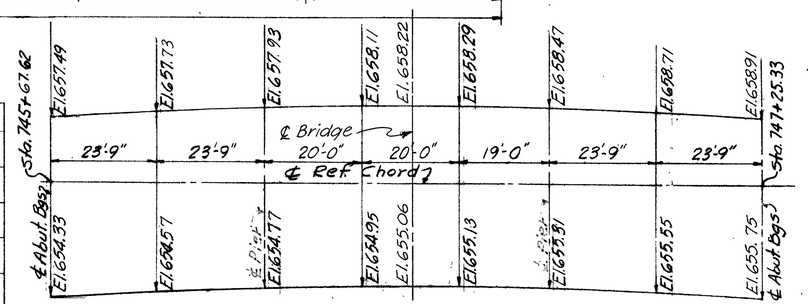
* DECK SLAB DEPTH - The distance shown from top of deck slab to top of steel beam is the nominal dimension. The quantity of deck concrete to be paid for shall be based on this dimension, even though deviation from it may be necessary because the top flange of the beam may not have the exact camber or conformation required to place it parallel to the finished grade. Deduction shall be made for volume of encased steel plates as per Sec. 511.19 of the Construction & Material Specifications.



STEEL FRAMING PLAN

Note: For Details of Bridge Corners See Sheet 436

DEFLECTION & CAMBER	END SPAN			CENTER SPAN			
	1/4 Point A	Center Point B	3/4 Point C	1/4 Point A	Center Point B	3/4 Point C	Splice Point D
Deflection due to weight of steel	—	—	—	—	—	—	—
Deflection due to remaining dead load	—	3/16	—	—	1/4	—	—
Adjustment required for vertical curve	—	—	—	—	—	—	—
Required Shop Camber	—	3/16	—	—	1/4	—	—



CURB ELEVATIONS

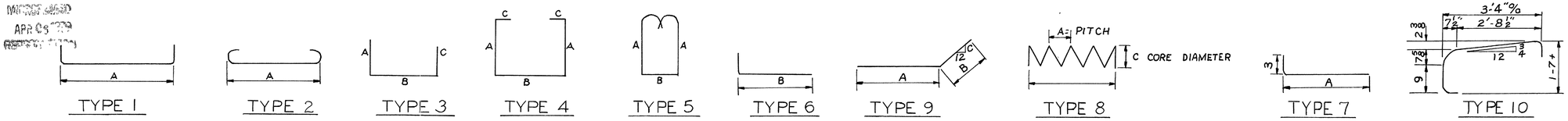
Note: Elevations shown are at the deck level at the ℄ of curbs and are those which are required before the deck concrete is poured.

SHAFFER, PARRETT AND ASSOCIATES
Consulting Engineers
MANSFIELD, OHIO.

SUPER STRUCTURE DETAILS E.B.L.
BRIDGE No LOR-90-1443 X & R
OVER FORD ROAD
LORAIN COUNTY
STA. 745+65.31 TO STA. 747+27.64

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
G.C.Q.	G.C.D.		SCT	H.S.R.	1/17/64	

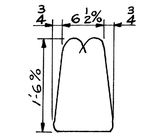
APR 05 1979



FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

437A

LOR-90-13.01



MARK	NO. E.B.L.	NO. W.B.L.	TOTAL NO.	ABUTMENTS LENGTH	TYPE	A	B	C	WEIGHT E.B.L.	WEIGHT W.B.L.	TOTAL WEIGHT
A901	10	8	18	9'-5	6		8'-0		320	256	576
A801	14		14	23'-2	STR				865		865
A802		14	14	23'-4	STR.					822	822
A601	6	6	12								
A602	12	12	24	8'-1	6	7'-2			146	146	292
A603	6	6	12	8'-11	6	8'-0			81	80	161
A604	6	6	12	9'-8	6	8'-9			88	88	176
A605	6	9	15	10'-5	6	9'-6			77	154	231
A606	9	6	15	12'-3	7	7'-2	5'-4		221	221	442
A607	6	6	12	13'-1	7	8'-0	5'-4		118	118	236
A608	6	6	12	13'-11	7	8'-9	5'-4		126	126	252
A609		9	9	14'-7	7	9'-6	5'-4			197	197
A610	48	48	96	13'-7	3	6'-4	1'-5	5'-0	980	980	1960
A611	32	34	66	12'-3	3	6'-4	1'-5	6'-4	589	626	1215
A612	36	16	52	12'-2	STR.				655	296	951
A613		28	28	10'-2	STR.					428	428
A614		8	8	23'-2	STR.					207	207
A615	40		40	9'-4	STR.				560		560
A616	8		8	23'-4	STR.				279		279
A617	12		12	10'-7	6	9'-8			191		191
A618	6		6	11'-4	6	10'-5			102		102
A619	6		6	17'-11	7	9'-8	5'-4		162		162
A620	3		3	20'-1	7	10'-5	5'-4		91		91
A501		2	2	2'-10	6	8'-0				34	34
A502	5		5	2'-8	STR.				15		15
A503	4		4	6'-0	STR.				25		25
A504		4	4	5'-7	STR.					24	24
A505	74	74	148	7'-2	3	2'-0	3'-6	2'-0			1107
A506		4	4	8'-10	STR.					37	37
A507	4		4	12'-5	STR.				52		52
A508		2	2	6'-2	STR.					13	13
A509	2		2	12'-0	STR.				25		25
A510	28	28	56	12'-6	STR.				365	365	730
A511		2	2	7'-2	STR.					15	15
A512		2	2	14'-2	STR.					30	30
A513	2		2	6'-4	STR.				13		13
A514		4	4	16'-0	STR.					67	67
A515		8	8	17'-1	STR.					143	143
A516	2		2	18'-0	STR.				38		38
A517	4	4	8	21'-8	STR.				91	91	182
A518		4	4	20'-6	STR.					86	86
A519	32	32	64	21'-4	STR.				704	704	1408
A520		8	8	21'-6	STR.					177	177
A521		16	16	22'-6	STR.					376	376
A522	4		4	23'-10	STR.				100		100
A523	8		8	27'-0	STR.				226		226
A524	4	4	8	31'-2	STR.				130	130	260
A525	16		16	30'-2	STR.				504		504
A526	4	4	8	5'-2	7	3'-3	2'-0		23	23	46
A527	4		4	8'-6	STR.				36		36
A528		4	4	5'-8	7	3'-9	2'-0			24	24
A529		2	2	8'-2	STR.					17	17
A530		2	2	9'-2	STR.					19	19
A531		4	4	10'-4	STR.					43	43
A532		2	2	10'-1	STR.					21	21
A533		2	2	11'-1	STR.					23	23
A534		2	2	12'-1	STR.					25	25
A535		4	4	12'-8	STR.					53	53
A536		2	2	14'-3	STR.					30	30
A537	2		2	6'-8	STR.				14		14
A538	2		2	7'-8	STR.				16		16
A539	2		2	8'-9	STR.				18		18
A540	2		2	9'-9	STR.				20		20
A541	4		4	10'-10	STR.				45		45

MARK	NO. E.B.L.	NO. W.B.L.	TOTAL NO.	ABUTMENTS LENGTH	TYPE	A	B	C	WEIGHT E.B.L.	WEIGHT W.B.L.	TOTAL WEIGHT
A542	2		2	11'-6	STR.				24		24
A543	2		2	12'-6	STR.				26		26
A544	4		4	13'-6	STR.				56		56
A545	6	6	12	8'-0	6.		7'-3		47	47	94
A546	2		2	7'-5	STR.				15		15
A547	2		2	8'-6	STR.				18		18
A548	4		4	12'-3	STR.				52		52
A549	2		2	12'-11	STR.				27		27
A550		2	2	8'-1	STR.					24	24
A551	2		2	11'-4	STR.				22		22
A552	2		2	10'-5	STR.				22		22
A553		2	2	4'-9	STR.					10	10
A554		2	2	5'-7	STR.					12	12
A555		2	2	6'-7	STR.					14	14
A556		2	2	7-6	STR.					16	16
A557		4	4	8'-2	STR.					34	34
A558		4	4	10'-7	STR.					44	44
A559		2	2	10'-3	STR.					21	21
A560		2	2	9'-2	STR.					19	19
A561	6	6	12	7'-3	6		6'-9		42	42	84
A562	6	6	12	9'-2	6		8'-5		54	54	108
A563	6	9	15	9'-7"	6		8'-10		57	85	142
A564		6	6	9-6	6		8'-9			59	59
A565		9	9	10-3	6		9'-6			96	96
A566		6	6	8-8	6		7'-11			54	54
A567		6	6	7-11	6		7'-2			49	49
A568	6		6	8-10	6		8'-1		55		55
A569	6		6	8-0	6		7'-3		50		50
A570	6		6	9-5	6		8'-8		58		58
A571	6		6	10-5	6		9'-8		65		65
A572	3		3	11-2	6		10'-5		34		34
A573	3		3	10'-5	6		9'-8		31		31
A574	2		2	5-3	STR.					11	11
						TOTAL WEIGHT			8,916	8,006	16,922

MARK	NO. E.B.L.	NO. W.B.L.	TOTAL NO.	PIERS LENGTH	TYPE	A	B	C	WEIGHT E.B.L.	WEIGHT W.B.L.	TOTAL WEIGHT
P1001		12	12	24'-9	STR.					1277	1277
P1002		12	12	24'-0	STR.					1265	1265
P1003		12	12	22'-5	STR.					1157	1157
P1004		12	12	25'-2	STR.					1299	1299
P1005		12	12	24'-5	STR.					1260	1260
P1006		12	12	22'-11	STR.					1183	1183
P1007	12		12	31'-6	STR.				1708		1708
P1008	12		12	30'-1	STR.				1613		1613
P1009	12		12	29'-3	STR.				1536		1536
P1010	12		12	32'-1	STR.				1682		1682
P1011	12		12	31'-4	STR.				1643		1643
P1012	12		12	29'-10	STR.				1540		1540
P1013	72	72	144	7'-6	6		5'-4		2452	2453	4905
P1014	12	12	24	43'-6	2	40'-8			2246	2246	4492
P1015	10	10	20	35'-8	STR.				1534	1535	3069
P601	60	60	120	9'-8	2	7'-6			871	871	1742
P602	72	72	144	11'-8	2	9'-6			1262	1262	2524
P501	96	96	192	6'-1	3	1'-10	2'-8	1'-10	609	609	1218
P502	20	20	40	4'-0	9	2'-6	1'-6	4¾	84	83	167
P503	4	4	1	40'-6	STR.				169	169	338
SP401		1	1	22'-0	8	4½	62	2'-8		402	402
SP402		1	1	21'-3	8	4½	60	2'-8		389	389
SP403		1	1	19'-9	8	4½	56	2'-8		363	363
SP404		1	1	22'-5	8	4½	63	2'-8		408	408
SP405		1	1	21'-8	8	4½	61	2'-8		395	395
SP406		1	1	20'-2	8	4½	57	2'-8		369	369
SP407	1		1	28'-10	8	4½	82	2'-8	531		531
SP408	1		1	28'-0	8	4½	80	2'-8	517		517
SP409	1		1	26'-7	8	4½	78	2'-8	503		503
SP410	1		1	29'-5	8	4½	86	2'-8	543		543
SP411	1		1	28'-6	8	4½	82	2'-8	529		529
SP412	1		1	27'-2	8	4½	78	2'-8	504		504
						TOTAL WEIGHTS			22,076	18,995	41,071

MARK	NO. E.B.L.	NO. W.B.L.	TOTAL NO.	SUPERSTRUCTURE LENGTH	TYPE	A	B	C	WEIGHT E.B.L.	WEIGHT W.B.L.	TOTAL WEIGHT
S701	468	190	658	22'-0	STR.				21,045	8,544	29,589
S601	238	195	433	19'-0	STR.				6792	5565	12,357
S602	238	195	433	25'-0	STR.				8937	7322	16,259
S603	405	324	729	33'-0	STR.				25,442	10,692	36,134
S604		64	64	20-0	STR.					1923	1,923
S60	64		64	23'-9"	STR.				2283		2283
S501	228	184	412	4'-11"	3	1'-4	1'-6"	1'-4	1169	944	2113
S502	228	184	412	2'-6"	1	1'-6			594	480	1074
S503	228	184	412	5'-7"	5	2'-2	8"		1327	1072	2399
R501	64	64	128	13'-8	STR.						*
R502	8	8	16	15'-7	STR.						*
R503	24	24	48	16'-1	STR.						*
R504	8	8	16	5'-4	10						*
R505	16	16	32	3'-5	5						*
R506	8	8	16	3'-0	STR.						*
R507	24	24	48	4'-2	11						*
*	INCLUDED WITH RAILING FOR PAYMENT										
					TOTAL WEIGHTS				67,589	36,542	104,131

BAR SIZE is indicated in the bar mark. The first digit where three digits are used and the first two digits where four are used, indicate the bar size number. For example, A506 is a No. 5 size bar and P1008 is a No. 10 size bar.

SPIRAL REINFORCING BARS: The "Length" shown in the steel list for the spiral bars is the distance from the top of the footing to the bottom of the cap. The No. of turns shown is the "Length" divided by the pitch, plus 3 turns (total number of closed coils), expressed as the nearest whole number. Spiral reinforcing bars shall not have deformations but shall in other respects conform to item 509. 1½ closed coils shall be provided at the ends of each spiral unit. Four steel channel, tee or angle spacers, weighing approximately 0.68 lb. per lin. ft. of spacer, shall be provided for each spiral unit. They shall be equally spaced along the periphery of the coil. The number of pounds of these spacers, based on 0.68 lb. per lin. ft. will be paid for as reinforcing steel and is included in the tabulated quantity of spiral bars.

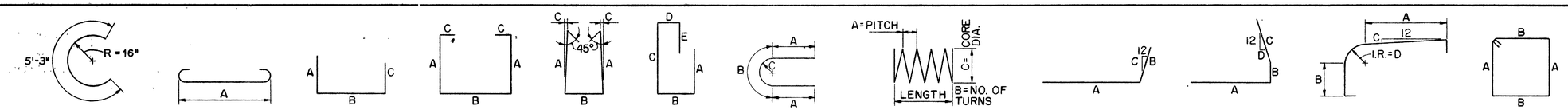
REPLACEMENT BARS		
MARK	LENGTH	NO.
RE401	5'-3	1
RE501	5'-7	1
RE601	5'-11	4
RE701	6'-3	2
RE801	6'-6	1
RE901	6'-10	1
RE1001	7'-3	2

SHAFFER, PARRETT AND ASSOCIATES
Consulting Engineers
MANSFIELD, OHIO.

REINFORCING STEEL
BRIDGE No. LOR-90-1443 L & R
OVER FORD ROAD
LORAIN COUNTY
STA. 745+83.18 TO STA. 747+09.40 W.B.L
STA. 745+65.31 TO STA. 747+27.64 E.B.L

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
	RBR	RBR	SCT	HLR	3/5/69	

HILLS CO.—150—4-61



TYPE 1 TYPE 2 TYPE 3 TYPE 4 TYPE 5 TYPE 6 TYPE 7 TYPE 8 TYPE 9 TYPE 10 TYPE 11 TYPE 12

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

4378

LOR - 90 - 13.01

ABUTMENTS

MARK	NUMBER L.BRIDGE	NUMBER R.BRIDGE	NUMBER TOTAL	LENGTH	TYPE	A	B	C	D	E	WEIGHT L.BRIDGE	WEIGHT R.BRIDGE	WEIGHT TOTAL
A501	2		2	27'-2"	Str.						57		57
A502		10	10	2'-8"	Str							28	28
A503		4	4	6'-0"	Str.							25	25
A504	4		4	5'-7"	Str						23		23
A505	74	74	148	7'-2"	3	2'-0"	3'-5"	2'-0"			553	553	1106
A506	4		4	8'-10"	Str.						37		37
A507		5	5	9'-0"	Str.							47	47
A508	2		2	6'-2"	Str.						13		13
A509		2	2	10'-9"	Str.							22	22
A510	27	30	57	12'-2"	Str.						343	381	724
A511	2		2	7'-2"	Str.						15		15
A512	2		2	12'-2"	Str.						25		25
A513		2	2	6'-0"	Str.							13	13
A514	4		4	16'-7"	Str.						69		69
A515	8		8	17'-9"	Str.						148		148
A516		2	2	15'-9"	Str.							33	33
A517	4	4	8	21'-8"	Str.						90	90	180
A518	4		4	20'-6"	Str.						86		86
A519	28	28	56	21'-2"	Str.						618	618	1236
A520	8		8	21'-6"	Str.						179		179
A521	16		16	22'-6"	Str.						375		375
A522		4	4	26'-0"	Str.							108	108
A523		8	8	28'-2"	Str.							235	235
A524	2	2	4	31'-2"	Str.						65	65	130
A525		16	16	30'-2"	Str.							503	503
A526	4	4	8	4'-10"	3	3'-0"	2'-0"	0			20	20	40
A527		4	4	5'-2"	3	3'-4"	2'-0"	0				22	22
A528	4		4	6'-8"	3	4'-10"	2'-0"	0			28		28
A529	2		2	8'-2"	Str						17		17
A530	2		2	9'-2"	Str.						19		19
A531	4		4	10'-4"	Str.						43		43
A532	2		2	10'-1"	Str.						21		21
A533	2		2	11'-1"	Str.						23		23
A534	2		2	12'-1"	Str.						25		25
A535	4		4	12'-8"	Str.						53		53
A536	4		4	14'-3"	Str.						59		59
A537		2	2	6'-3"	Str.							13	13
A538		2	2	7'-5"	Str.							15	15
A539		2	2	8'-6"	Str.							18	18
A540		2	2	9'-7"	Str.							20	20
A541		4	4	10'-10"	Str.							45	45
A542		2	2	12'-0"	Str.							25	25
A543		2	2	12'-6"	Str.							26	26
A544		2	2	13'-6"	Str.							28	28
A545	6	12	18	7'-9"	3	7'-3"	7½"	0			48	97	145
A546	27	27	54	8'-3"	3	1'-7"	5'-4"	1'-7"			232	232	464
A547		2	2	7'-11"	Str.							17	17
A548		2	2	11'-7"	Str.							24	24
A549		2	2	12'-3"	Str.							26	26
A550	2		2	8'-5"	Str.						18		18
A551		2	2	10'-9"	Str.							22	22
A552		2	2	9'-11"	Str.							21	21
A553	2		2	4'-9"	Str.						10		10
A554	2		2	5'-7"	Str.						12		12
A555	2		2	6'-7"	Str						14		14
A556	2		2	7'-6"	Str.						16		16
A557	4		4	8'-8"	Str.						36		36
A558	4		4	11'-0"	Str.						46		46
A559	2		2	10'-5"	Str.						22		22
A560	2		2	9'-5"	Str.						20		20
A561	6	6	12	6'-11"	3	6'-5"	7½"	0			43	43	86
A562	6	6	12	8'-6"	3	8'-0"	7½"	0			53	53	106
A563	9	6	15	9'-2"	3	8'-8"	7½"	0			86	57	143
A564	6		6	9'-3"	3	8'-9"	7½"	0			58		58
A565	9		9	10'-0"	3	9'-6"	7½"	0			94		94
A566	6		6	8'-5"	3	7'-11"	7½"	0			53		53
A567	6		6	7'-8"	3	7'-2"	7½"	0			48		48

ABUTMENTS

MARK	NUMBER L.BRIDGE	NUMBER R.BRIDGE	NUMBER TOTAL	LENGTH	TYPE	A	B	C	D	E	WEIGHT L.BRIDGE	WEIGHT R.BRIDGE	WEIGHT TOTAL
A568		6	6	8'-7"	3	8'-1"	7½"	0				54	54
A569		2	2	14'-1"	Str.							29	29
A570		6	6	9'-4"	3	8'-10"	7½"	0				58	58
A571		6	6	10'-2"	3	9'-8"	7½"	0				64	64
A572		3	3	10'-11"	3	10'-5"	7½"	0				34	34
A573		3	3	10'-2"	3	9'-8"	7½	0				32	32
A574		2	2	5'-1"	Str.							11	11
A601	6	6	12	15'-1"	3	2'-9"	5'-4"	7'-4"			136	136	272
A602		3	3	17'-5"	3	2'-9"	5'-4"	9'-8"				78	78
A603	6	6	12	14'-4"	3	2'-9"	5'-4"	6'-7"			129	129	258
A604	6	6	12	15'-11"	3	2'-9"	5'-4"	8'-2"			143	143	286
A605	9	6	15	16'-7"	3	2'-9"	5'-4"	8'-10"			224	149	373
A606	6	6	12	12'-4"	3	5'-4"	7'-2"	0			111	111	222
A607	6	6	12	13'-2"	3	5'-4"	8'-0"	0			119	119	238
A608	6	6	12	13'-11"	3	5'-4"	8'-9"	0			125	125	250
A609	9		9	14'-8"	3	5'-4"	9'-6"	0			198		198
A610	48		48	15'-0"	6	5'-0"	1'-5"	6'-4"	11"	2'-0"	1081		1081
A611	34		34	13'-9"	3	6'-4"	1'-5"	6'-4"			702		702
A612	16	28	44	12'-2"	Str.						292	512	804
A613	28		28	10'-2"	Str.						428		428
A614	8		8	23'-2"	Str.						278		278
A615		32	32	9'-4"	Str							449	449
A616		8	8	23'-4"	Str.							280	280
A617	Not	used											
A618	Not	used											
A619		6	6	13'-10"	3	5'-4"	9'-8"	0				125	125
A620		3	3	15'-7"	3	5'-4"	10'-5"	0				70	70
A621		48	48	17'-3"	6	6'-1"	1'-5"	7'-5"	11"	2'-0"		1244	1244
A622		32	32	15'-11"	3	7'-5"	1'-5"	7'-5"				765	765
A801		14	14	23'-9"	Str.							888	888
A802	14		14	23'-4"	Str.						872		872
A901	8	10	18	9'-0"	3	1'-3"	8'-0"	0			245	306	551
						Abutment		Total			8996	9456	18,452

SUPERSTRUCTURE

R501	56	72	128	13'-8"	Str								*
R502	16		16	15'-7"	Str.								*
R503		16	16	16'-1"	Str.								*
R504	8	8	16	5'-4"	11	2'-8½"	9"	¾	7⅜"				*
R505	8	8	16	3'-5"	5	1'-1"	8"	0					*
R506	8	8	16	3'-0"	Str.								*
R507	12	12	24	4'-2"	5	1'-6"	8"	¾					*
S501	174	214	388	4'-11"	4	1'-4"	1'-6"	7½"			892	1097	1989
S502	174	214	388	2'-6"	3	7½"	1'-6"	7½"			454	558	1012
S503	180	228	408	5'-7"	5	2'-2"	8"	0			1048	1328	2376
S601	190	234	424	19'-0"	Str.						5422	6678	12,100
S602	190	234	424	24'-7"	Str.						7016	8640	15,656
S603	316	395	711	33'-0"	Str.						15,663	19,579	35,242
S604	60		60	19'-3"	Str.						1735		1735
S605		60	60	23'-9"	Str.							2140	2140
S701	380	468	848	22'-0"	Str.						17,088	21,045	38,133
						Superstructure		Total			49,318	61,065	110,383

* - These railing bars are included with Item 517 for payment.

PIERS

MARK	NUMBER L.BRIDGE	NUMBER R.BRIDGE	NUMBER TOTAL	LENGTH	TYPE	A	B	C	D	E	WEIGHT L.BRIDGE	WEIGHT R.BRIDGE	WEIGHT TOTAL
P501	72	72	144	6'-7"	3	2'-1"	2'-8"	2'-1"			494	494	988
P502	20	20	40	4'-0"	9	1'-6"	2'-6"	4¾			83	83	166
P503	4	4	8	40'-8"	Str.						170	170	340
P504	24	24	48	5'-7"	3	1'-7"	2'-8"	1'-7"			140	140	280
P601	60	60	120	7'-10"	2	6'-6"					706	706	1412
P602	72	72	144	10'-10"	2	9'-6					1172	1172	2344
P1001	12		12	24'-11"	Str.						1287		1287
P1002	12		12	24'-1"	Str						1244		1244
P1003	12		12	22'-7"	Str.						1166		1166
P1004	12		12	25'-4"	Str.						1308		1308
P1005	12		12	24'-6"	Str.						1265		1265
P1006	12		12	23'-0"	Str.						1188		1188
P1007		12	12	32'-2"	Str.							1661	1661
P1008		12	12	30'-10"	Str.							1592	1592
P1009		12	12	29'-5"	Str.							1519	1519
P1010		12	12	33'-10"	Str.							1747	1747
P1011		12	12	31'-6"	Str.							1627	1627
P1012		12	12	30'-0"	Str.							1549	1549
P1013	72	72	144	6'-11"	3	5'-10"	1'-4½"	0			2143	2143	4286
P1014	12	12	24	43'-6"	2	40'-8"					2246	2246	4492
P1015	10	10	20	35'-8"	Str.						1535	1535	3070
SP401	1		1	22'-0"	8	4½"	62	2'-8"			407		407
SP402	1		1	21'-2"	8	4½"	60	2'-8"			396		396
SP403	1		1	19'-9"	8	4½"	56	2'-8"			367		367
SP404	1		1	22'-5"	8	4½"	63	2'-8"			414		414
SP405	1		1	21'-7"	8	4½"	61	2'-8"			400		400
SP406	1		1	20'-2"	8	4½"	57	2'-8"			374		374
SP407		1	1	29'-4"	8	4½"	81	2'-8"				533	533
SP408		1	1	28'-0"	8	4½"	78	2'-8"				513	513
SP409		1	1	26'-7"	8	4½"	74	2'-8"				487	487
SP410		1	1	30'-0"	8	4½"	83	2'-8"				546	546
SP411		1	1	28'-6"	8	4½"	79	2'-8"				520	520
SP412		1	1	27'-2"	8	4½	75	2'-8"				494	494
								Pier Total			18,505	21,477	39,982

NOTES:

BAR SIZE is indicated in the bar mark. The first digit where three digits are used, and the first two digits where four are used indicate the bar size number. For example: A506 is a No.5 size bar and P1102 is a No. 11 size bar.

SPIRAL REINFORCING BARS: The "Length" shown in the steel list for the spiral bars is the distance from the top of the footing to the bottom of the pier cap. The "No. of Turns" shown is the "Length" divided by the pitch, plus 3 turns (total number of closed coils) expressed as nearest whole number. Spiral reinforcing bars shall not have deformations but shall in other respects conform to Item 509. 1½ closed coils shall be provided at the ends of each spiral unit. Four steel channel, tee or angle spacers, weighing approximately 0.68 lbs. per lin. ft. of spacers, shall be provided for each spiral unit. They shall be equally spaced along the pheriphery of the coil. The number of pounds of these spacers, based on 0.68 lbs. per lin. ft. will be paid for as reinforcing steel and is included in the tabulated quantity of spiral bars.

This sheet supersedes sheet No. 4378A. 11-29-73

REPLACEMENT BARS

MARK	LENGTH	NO.	TYPE
RE 400	5'-3"	1	1
RE 500	5'-7".	1	Str.
RE 600	5'-11"	4	Str.
RE 700	6'-2"	2	Str.
RE 800	6'-6"	1	Str.
RE 900	6'-10"	1	Str.
RE 1000	7'-2"	2	Str.

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REINFORCING STEEL

BRIDGE NO. LOR - 90 - 1443 L&R
OVER FORD ROAD
LORAIN COUNTY

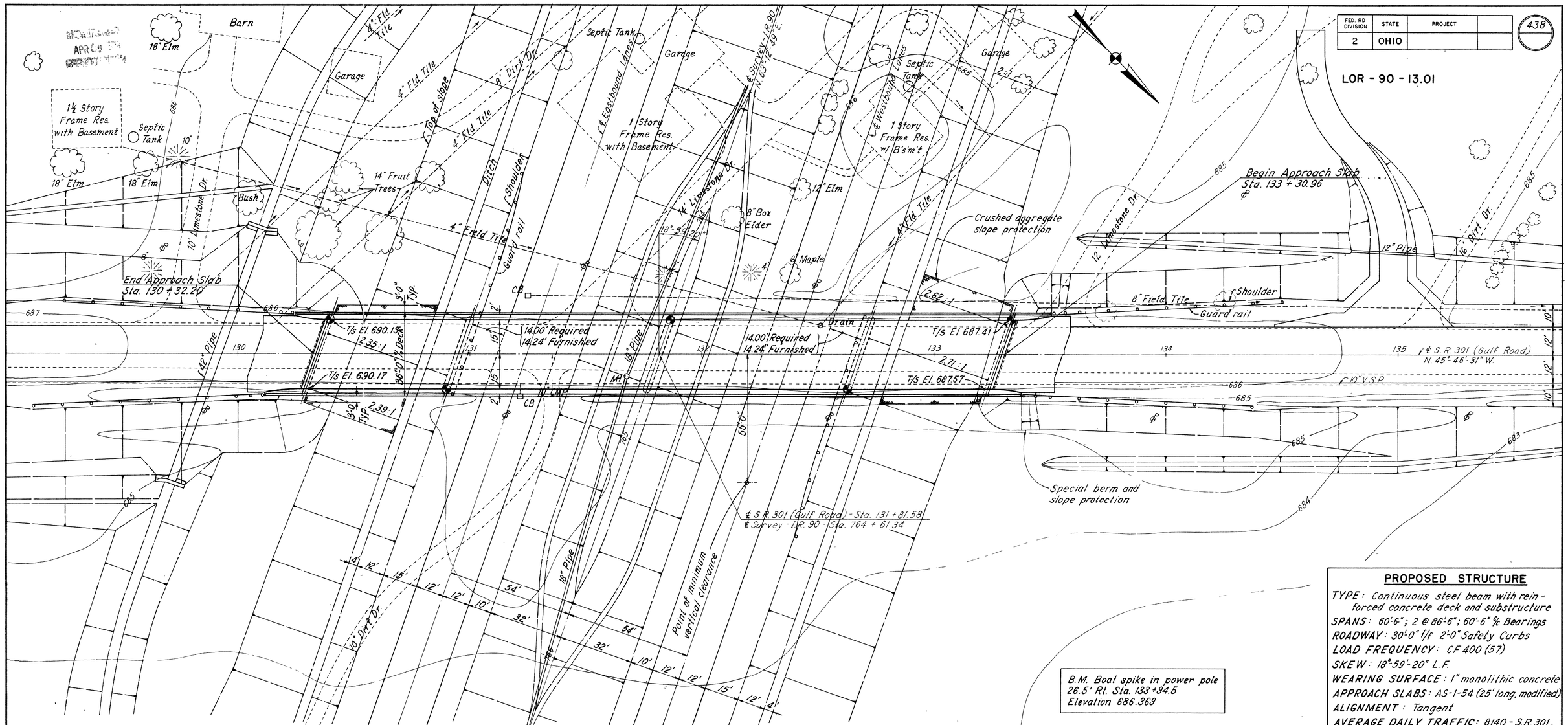
STA. 745 + 83.18 TO STA. 747 + 09.40 W.B.L.
STA. 745 + 65.31 TO STA. 747 + 27.64 E.B.L.

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
RAK	RAK	RAK				

FED. RD DIVISION	STATE	PROJECT	
2	OHIO		

438

LOR - 90 - 13.01



PROPOSED STRUCTURE

TYPE: Continuous steel beam with reinforced concrete deck and substructure
SPANS: 60'-6"; 2 @ 86'-6"; 60'-6" ℄ Bearings
ROADWAY: 30'-0" f/f 2'-0" Safety Curbs
LOAD FREQUENCY: CF 400 (57)
SKEW: 18°-59'-20" L.F.
WEARING SURFACE: 1" monolithic concrete
APPROACH SLABS: AS-1-54 (25' long, modified)
ALIGNMENT: Tangent
AVERAGE DAILY TRAFFIC: 8140 - S.R. 301, 20,800 - I.R. 90 (1989)

FOUNDATION INVESTIGATION LEGEND
◐ - Core boring location
• - Rod sounding location

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SITE PLAN

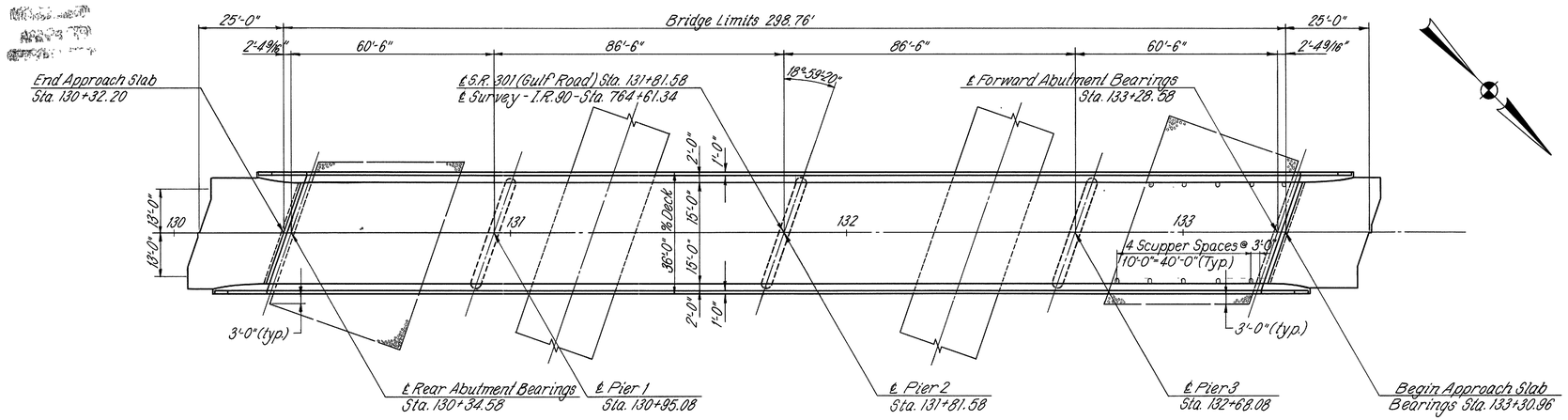
BRIDGE NO. LOR-90-1478
UNDER S.R. 301 (GULF ROAD)
LORAIN COUNTY I.R. 90
STA. 764 + 60.89

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED.
RAK		RAK	JPG			

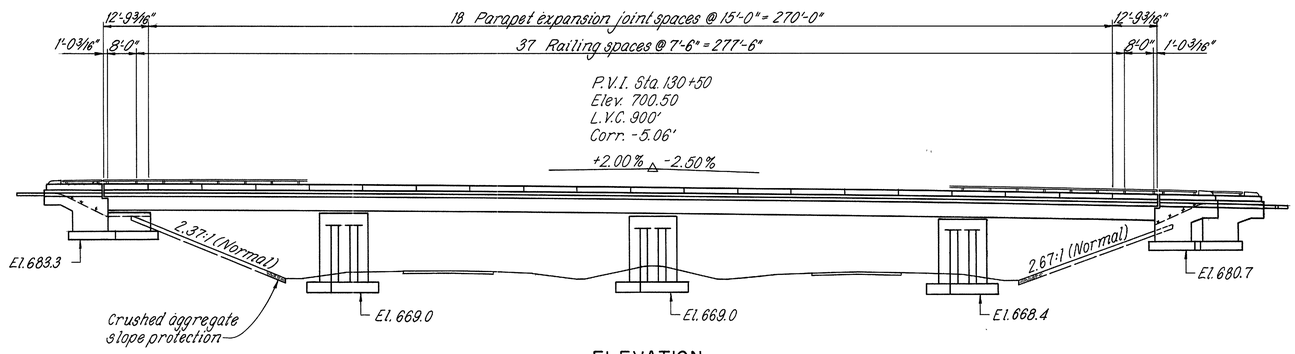
FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

439

LOR-90-13.01



GENERAL PLAN



ELEVATION

GENERAL NOTES

REFERENCE shall be made to Standard Drawings SD-1-65 Sheets 1, 2 and 3 (dated 11-8-65) BR-1-65, Sheet 1 of 2 (dated 11-24-65), FSB-1-62 (revised 1-15-63), AS-1-54 (revised 8-10-65) and to Supplemental Specification 808 (dated 7-14-65), 811 (dated 3-29-65), 825 (dated 4-22-65) and 828 (dated 7-21-65).

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 thereof, except strength of splices, which conform to Art. 1.6.31 of the AASHO "Standard Specifications for Highway Bridges" dated 1961, together with current revisions thereof.

UNIT STRESSES: Design Loading CF 400 (57)
Concrete Class "C" basic unit stress 1,333 p.s.i.
Concrete Class "E" basic unit stress 1,133 p.s.i.
Structural Steel ASTM A36 - basic unit stress 20,000 p.s.i.

Reinforcing Steel ASTM A15, A16, A160, deformed, intermediate or hard grade - basic unit stress 20,000 p.s.i. except spiral reinforcement may be plain structural grade with basic unit stress of 18,000 p.s.i.

FOUNDATION BEARING PRESSURE: Abutment footings are designed for a maximum bearing pressure of 2.3 tons per square foot. Pier footings are designed for a maximum bearing pressure of 1.9 tons per square foot.

MACHINE FINISH: The concrete bridge deck shall be finished by the use of a finishing machine.

UTILITY LINES: All expense involved in relocating the affected utility lines shall be borne by the owners. The Contractor and owners are required to cooperate by arranging their work in such a manner that inconvenience to either will be held to a minimum.

PROCEDURE: Material under the rear abutment shall be excavated to El. 680.0. This excavation shall be carried in the roadway quantities and the fill will be included with the fill for embankments. The embankment shall be placed and compacted up to the finished spill-thru slope and to the level of the subgrade, after which excavation shall be made for the abutments.

ESTIMATED QUANTITIES

ITEM	TOTAL	UNIT	DESCRIPTION	SUPER.	ABUTS.	PIERS	GEN'L		
503	480	Cu. Yds.	Unclassified excavation		220	260			
509	126,105	Lbs.	Reinforcing steel	88,615	7820	29670			
511	338	Cu. Yds.	Class "C" concrete, superstructure	338					
511	72	Cu. Yds.	Class "C" concrete, piers above footings			72			
511	99	Cu. Yds.	Class "E" concrete, pier footings			99			
511	158	Cu. Yds.	Class "E" concrete, abutments		158				
513	320,023	Lbs.	Structural steel	320,023					
514	320,023	Lbs.	Field painting of structural steel	320,023					
517	649.76	Lin. Ft.	Bridge Railing type 1	591.06	58.70				
518	60.83	Lin. Ft.	6" Helical perforated CMP, 707.06,		60.83				
			including specials						
518	78.50	Lin. Ft.	6" Helical CMP, 707.06, non-perforated		78.50				
518	33	Cu. Yds.	Porous backfill		33				
518	10	Each	Scuppers, including supports	10					
601	476	Sq. Yds.	Crushed aggregate slope protection				476		
808	338	Each	Water-reducing, set-retarding admixture	338					
825	1376	Sq. Yds.	Concrete surface treatment				1376		
828	63	Lin. Ft.	Joint sealer	63					

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GENERAL PLAN, GENERAL NOTES AND ESTIMATED QUANTITIES

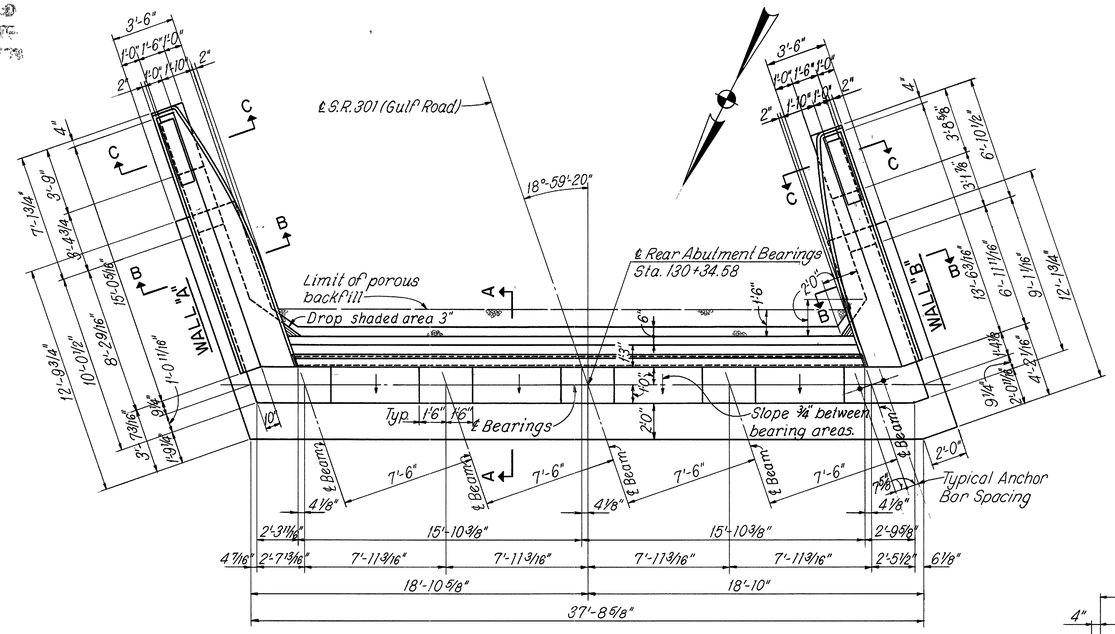
BRIDGE NO. LOR-90-1478
UNDER S.R. 301 (GULF ROAD)
LORAIN COUNTY I.R. 90
STA. 764+60.89

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
RAK	RWH	RWH	JPG			

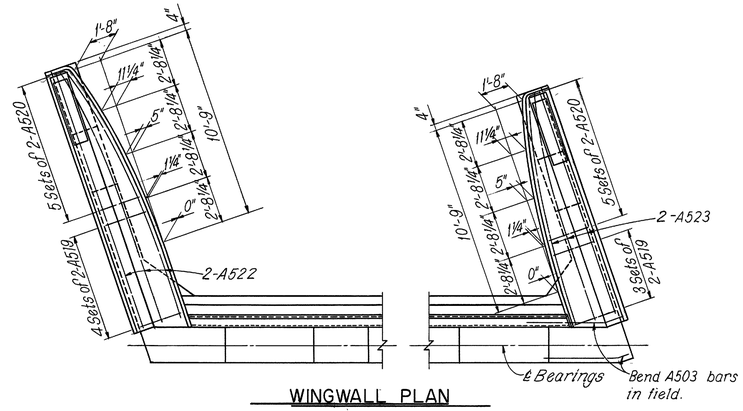
FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

440

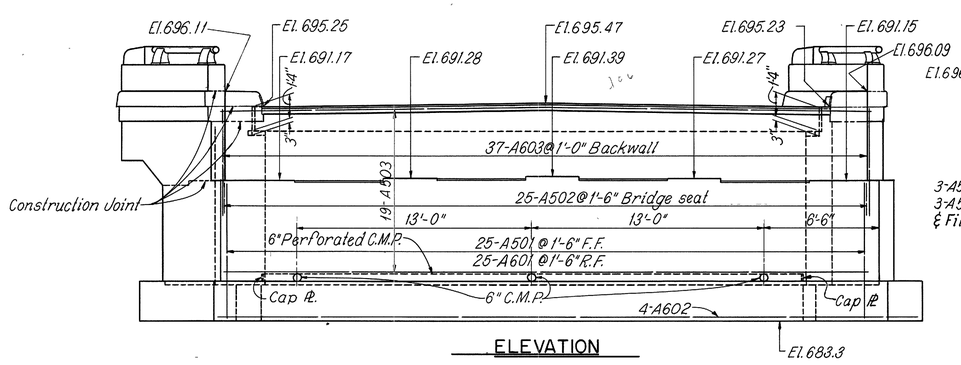
LOR-90-13.01



PLAN



WINGWALL PLAN



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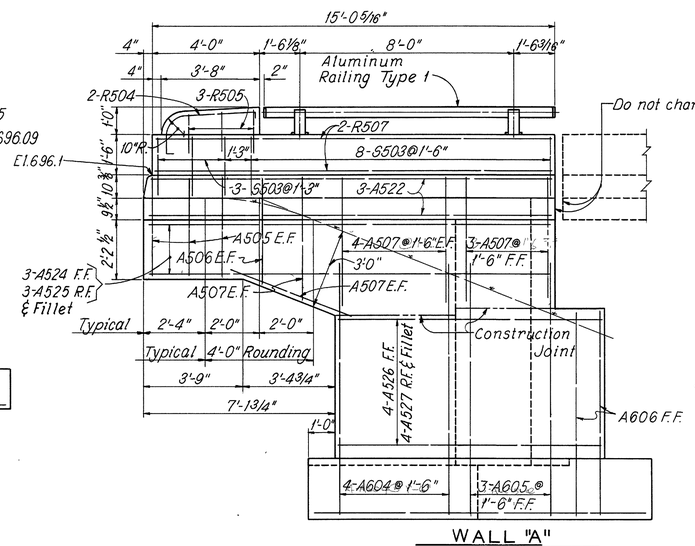

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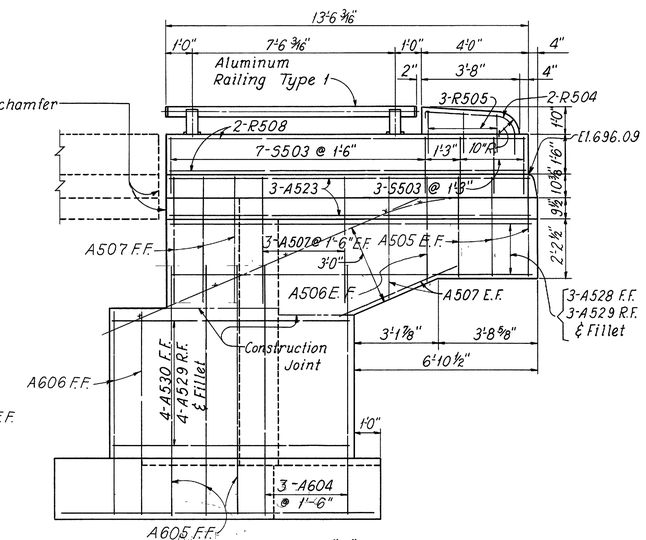

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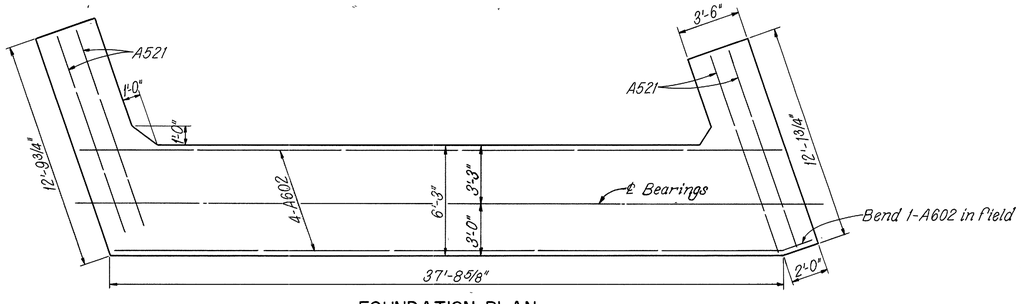

FOUNDATION PLAN

NOTES

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

CONCRETE: All abutment concrete shall be Class "E" except parapets, which shall be Class "C."

POROUS BACKFILL 1'-6" thick, shall extend upward to the approach slab and paved shoulders for the full length of the abutment. Excavation therefor, in excess of that required for construction of the abutment, shall be considered as paid for in the bid price per cu. yd. paid for porous backfill.

NOTATION: F.F. Front Face
R.F. Rear Face
E.F. Each Face

GENERAL NOTES: See Sheet 439

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REAR ABUTMENT

BRIDGE NO. LOR-90-1478
UNDER S.R. 301 (GULF ROAD)
LORAIN COUNTY I.R. 90

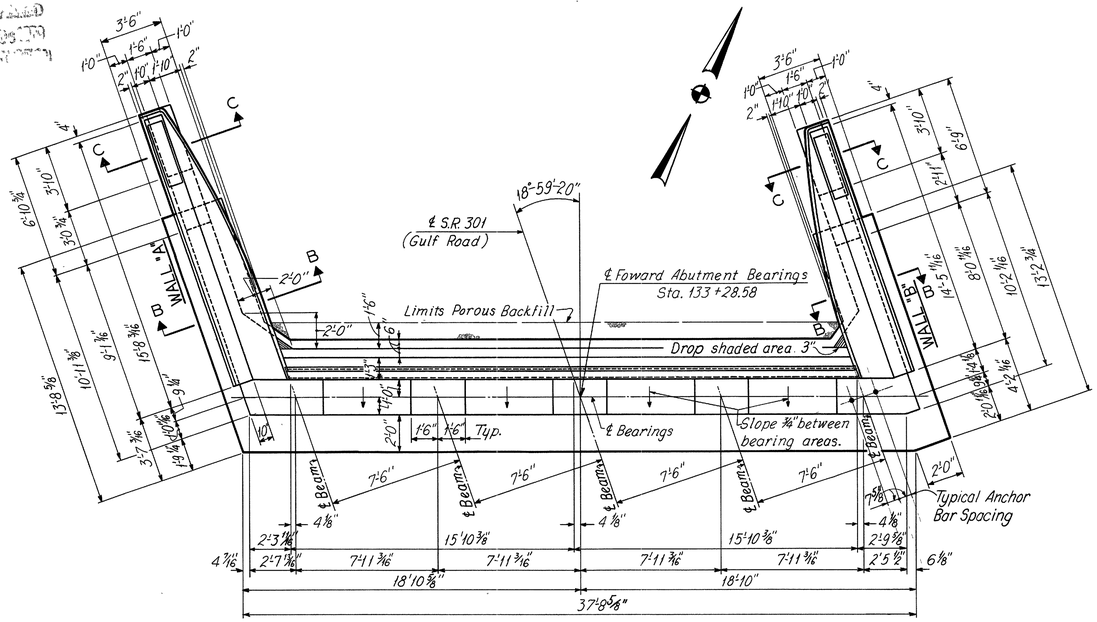
STA. 764+60.89

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
RAK	LK	R.W.	JPG			

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

441

LOR - 90 - 13.01



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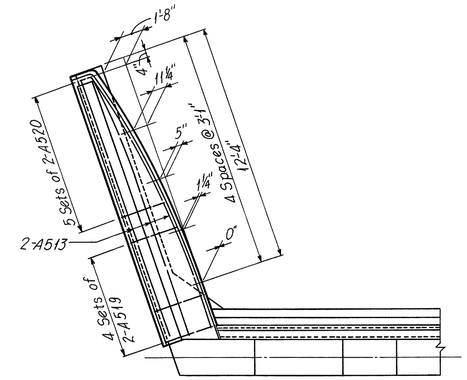
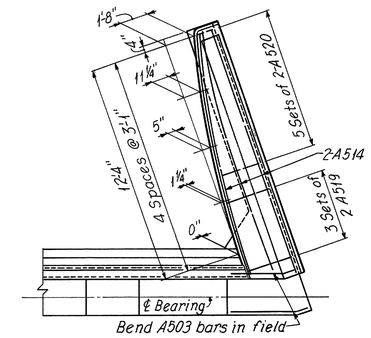
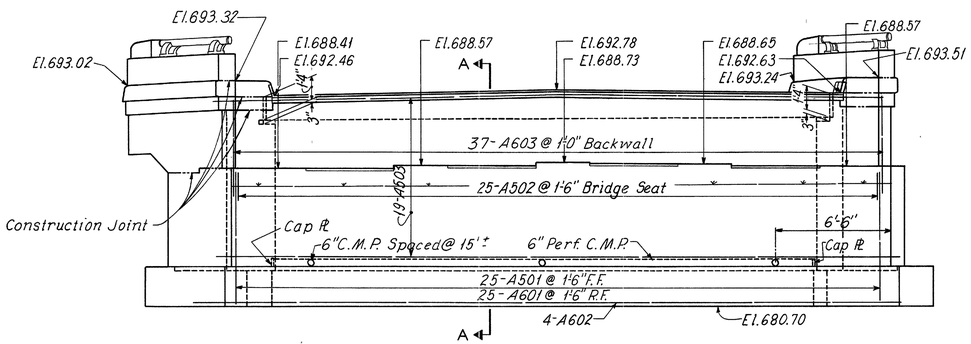




WINGWALL PLAN



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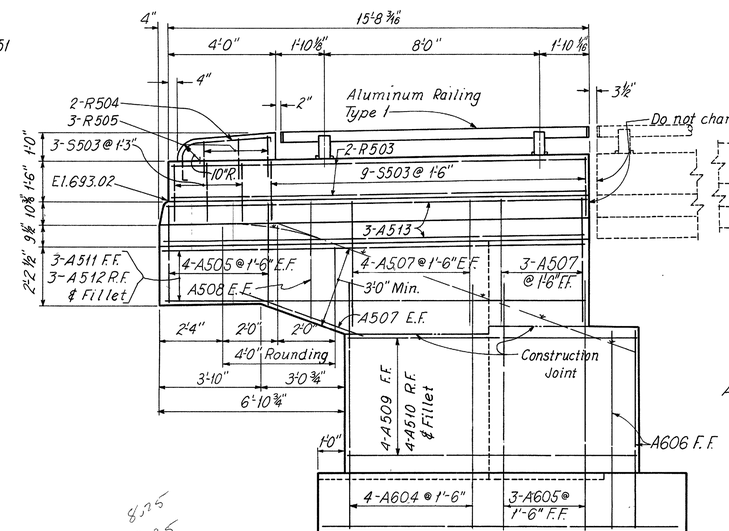

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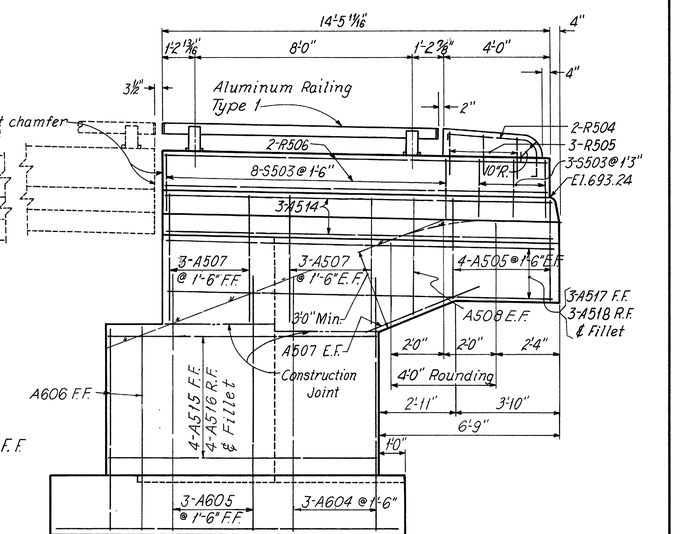

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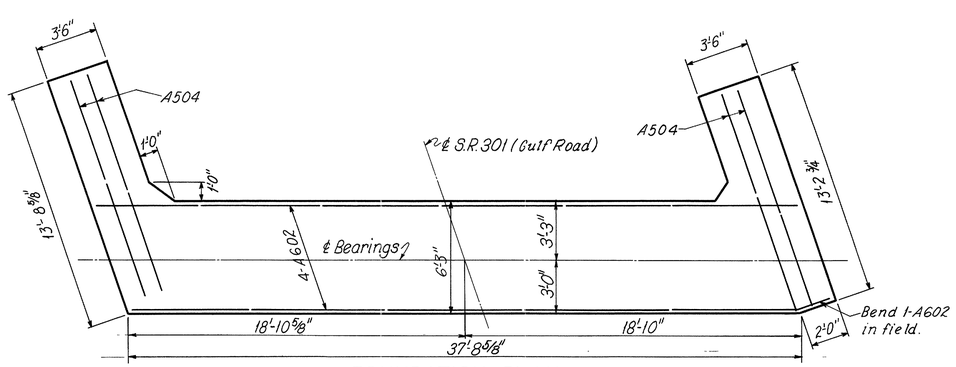

FOUNDATION PLAN

ABUTMENT NOTES: See Sheet 440

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MANSFIELD, OHIO.

FORWARD ABUTMENT

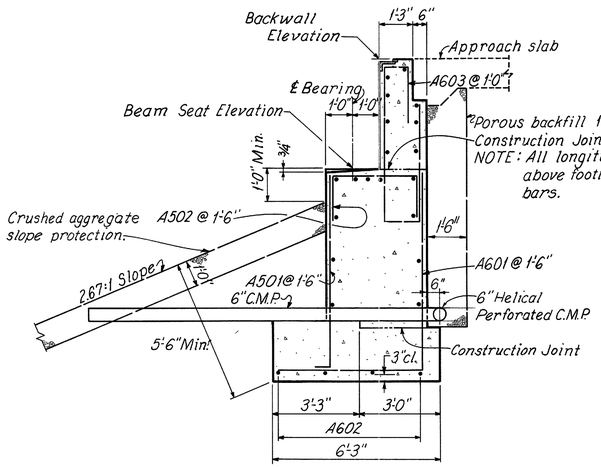
BRIDGE NO. LOR-90-1478
UNDER S.R. 301 (GULF ROAD)
LORAIN COUNTY I.R. 90

STA. 764 + 60.89

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
RAK	LK	JS	JPG			

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

LOR-90-13.01



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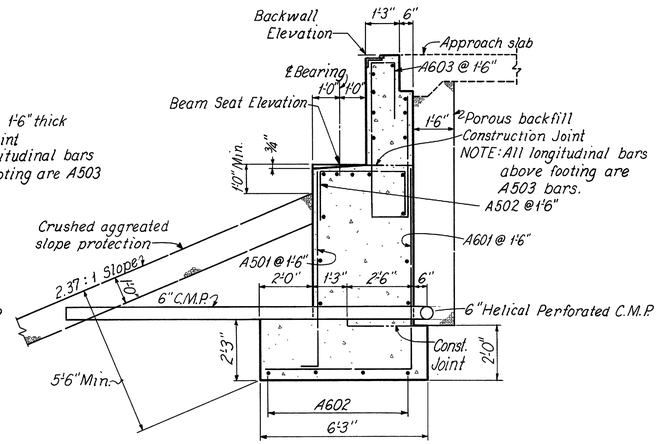
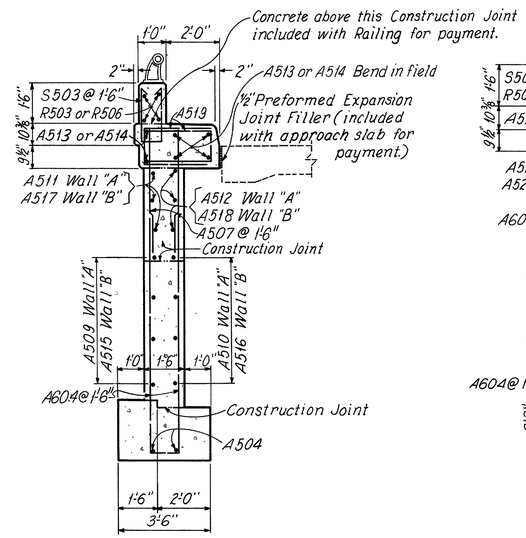


REAR ABUTMENT

SECTION A-A



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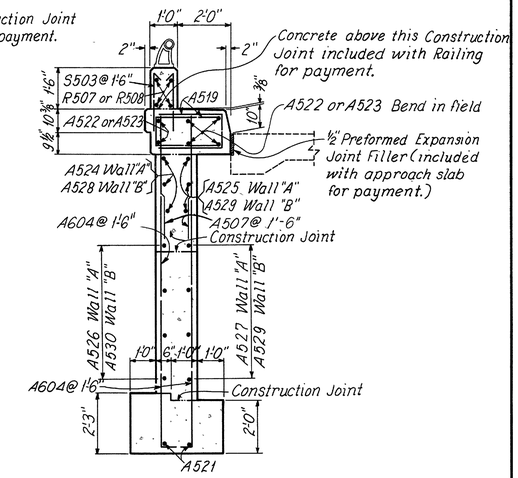

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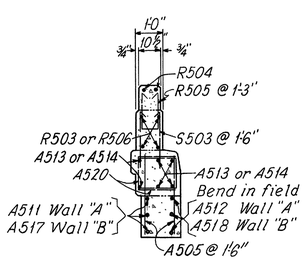
SECTION B-B



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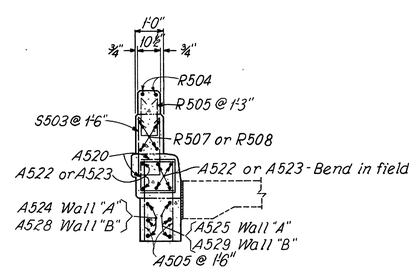

REAR ABUTMENT

SECTION C-C

ABUTMENT NOTES: See Sheet 440

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ABUTMENT DETAILS

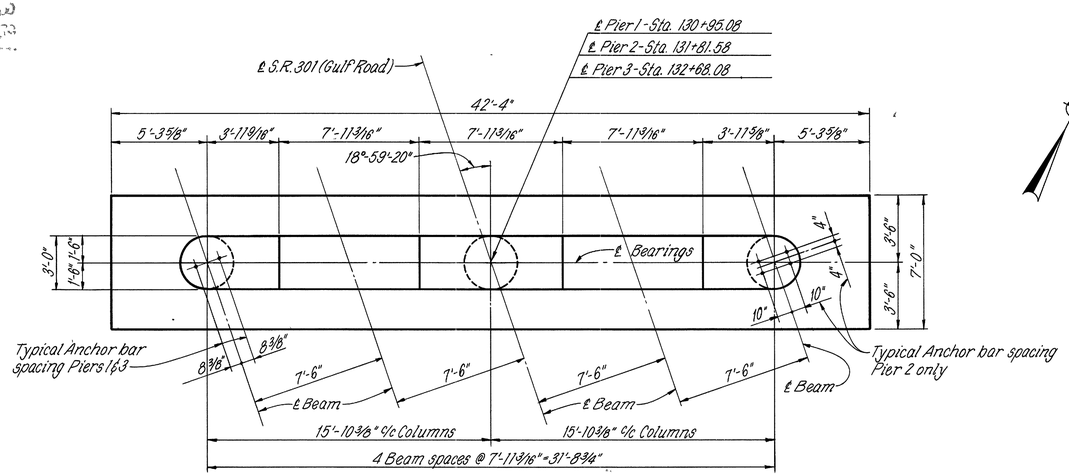
BRIDGE NO. LOR-90-1478
UNDER S.R. 301 (GULF ROAD)
LORAIN COUNTY I.R. 90
STA. 764 + 60.89

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
RAK	LK	JS	JPG			

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

4.43

LOR-90-13.01



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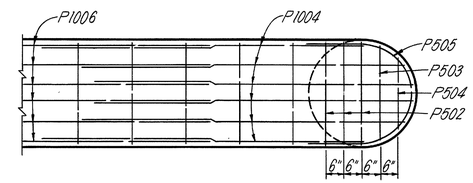
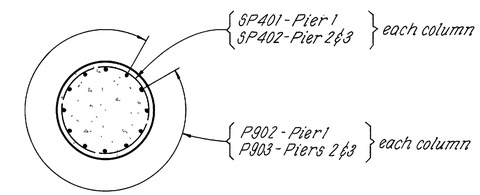


VIEW E-E



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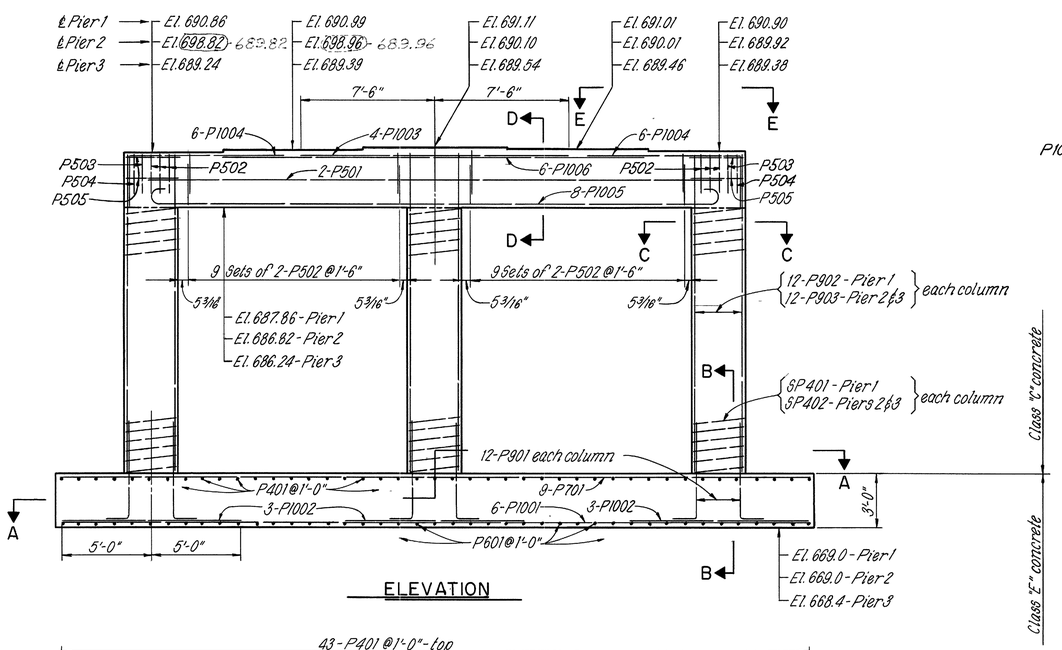

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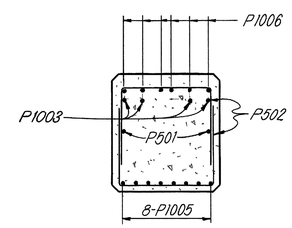

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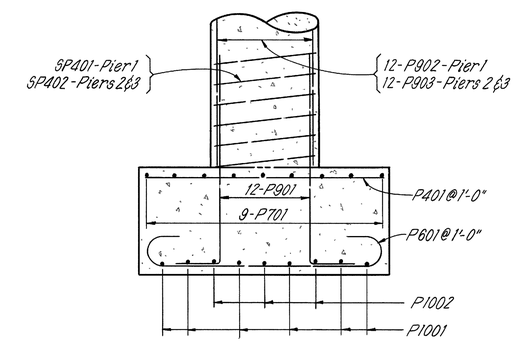
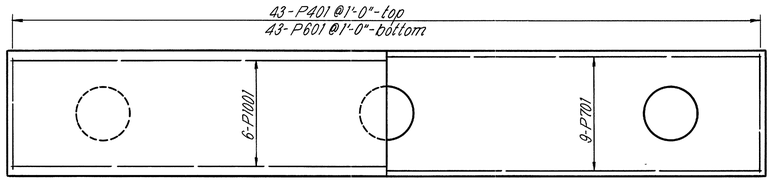


SECTION B-B



BOTTOM REINFORCING

TOP REINFORCING

SECTION A-A

NOTES:

CONCRETE: All concrete for pier footings shall be Class "E". All concrete for piers above footings shall be Class "C".

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

GENERAL NOTES: See Sheet 4.39

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Consulting Engineers
MANSFIELD, OHIO.

PIERS

BRIDGE NO. LOR-90-1478
UNDER S.R. 301 (GULF ROAD)
LORAIN COUNTY I.R. 90

STA. 764+60.89

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
RAK	RAK	RWH	JPG			3-25-60

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

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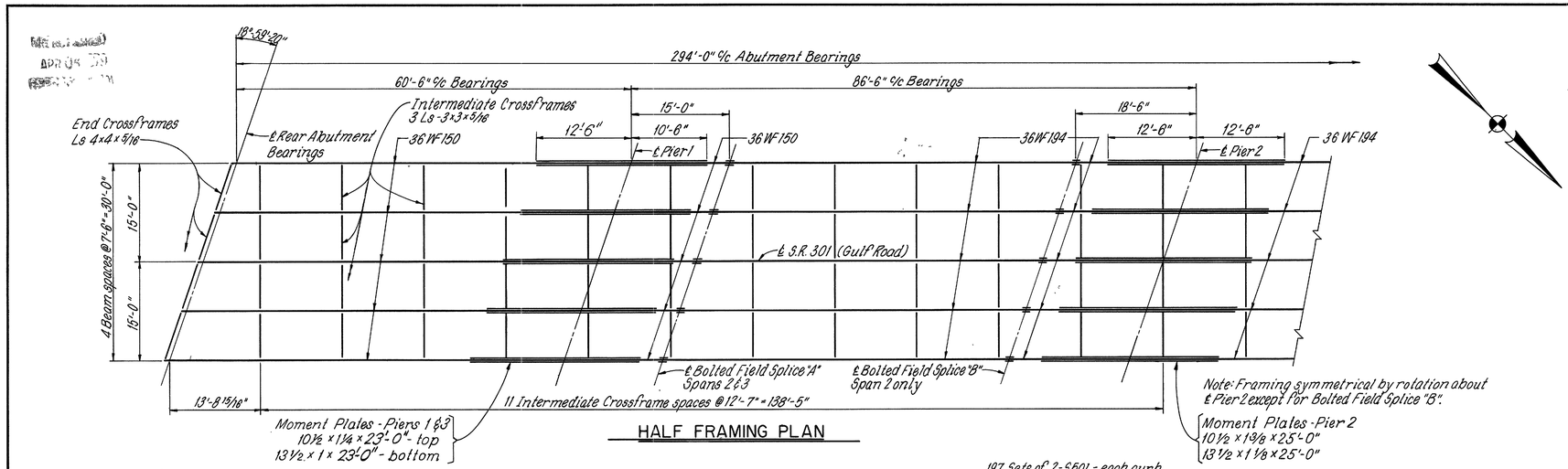
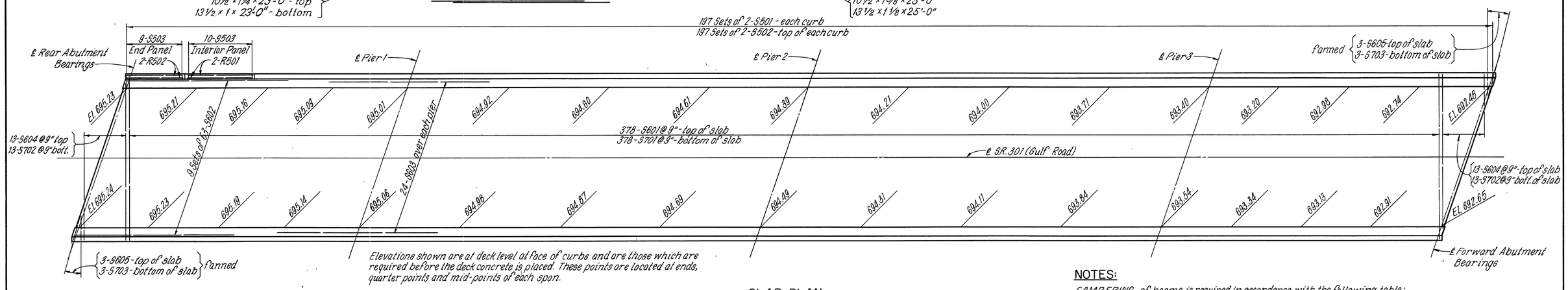
LOR-90-13.01

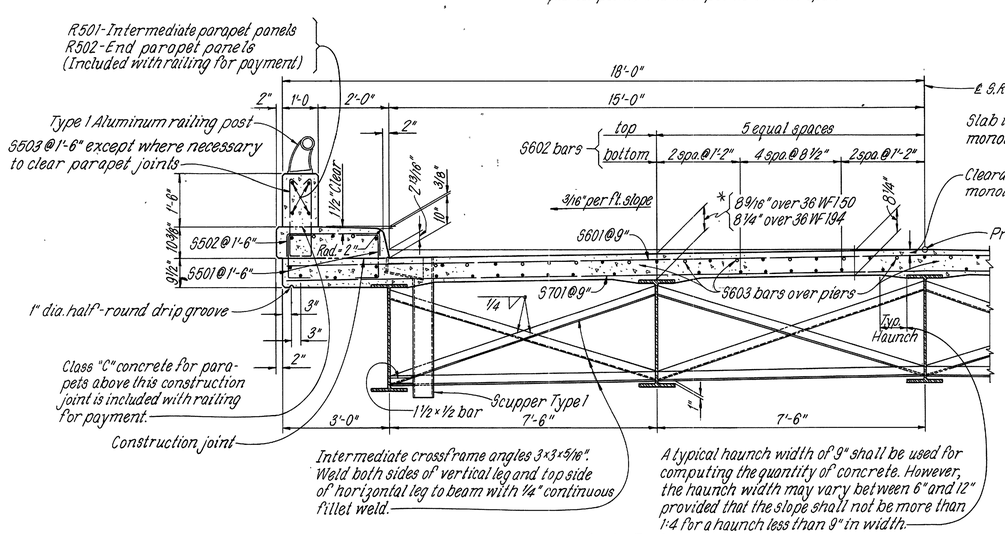


HALF FRAMING PLAN



Elevations shown are at deck level at face of curbs and are those which are required before the deck concrete is placed. These points are located at ends, quarter points and mid-points of each span.

SLAB PLAN



Slab thickness shown includes 1" for monolithic wearing surface.

Clearance = 2", which includes 1" for monolithic wearing surface.

All longitudinal bars S602 except as otherwise shown. Lap S602 bars 1'-11" minimum.

Intermediate crossframe angles 3x3x5/16". Weld both sides of vertical leg and top side of horizontal leg to beam with 1/4" continuous fillet weld.

A typical haunch width of 9" shall be used for computing the quantity of concrete. However, the haunch width may vary between 6" and 12" provided that the slope shall not be more than 1:4 for a haunch less than 9" in width.

HALF TRANSVERSE SECTION

*- These are nominal dimensions. The quantity of concrete to be paid for shall be based on these dimensions, even though deviation from them 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. Deduction shall be made for the volume of encased steel plates as per 511.19 of the Construction and Material Specifications.

NOTES:

CAMBERING of beams is required in accordance with the following table:

DEFLECTION AND CAMBER

Span Point →	END SPANS 1/4	1/2	3/4	MIDDLE SPANS SPLICE "A"	1/4	1/2	3/4	** SPLICE "B"
Deflection due to weight of steel	0	1/16"	0	1/16"	1/16"	1/8"	1/16"	1/16"
Deflection due to remaining dead load	3/16"	3/16"	1/8"	3/16"	5/16"	5/8"	5/16"	1/4"
Adjustment required for vertical curve	3/16"	1/4"	3/16"	5/16"	7/16"	9/16"	7/16"	3/8"
Required shop camber	3/8"	1/2"	5/16"	9/16"	13/16"	1 5/16"	13/16"	11/16"

BOLTED FIELD SPLICES, MOMENT PLATE WELDING, END CROSSFRAMES, END DAMS, SCUPPERS AND CURB PLATE DETAILS: See Std. Dwg. SD-1-65, Sheets 1, 2 and 3.

RAILING: See Std. Dwg. BR-1-65, Sheet 1 of 2.
BEARINGS: See Std. Dwg. FSB-1-62 for the following: E-100 Abutments; E-200 Piers 1 & 3; F-250 Pier 2.

RAILING POST, PARAPET EXPANSION JOINT AND SCUPPER SPACING: See Sheet 439
GENERAL NOTES: See Sheet 439
BEAM LAYOUT DIAGRAM: See Sheet 445
**- Span 2 only
CONCRETE: All superstructure concrete shall class "C."
BOLTED FIELD SPLICE: See Sheet 445

SHAFFER, PARRETT AND ASSOCIATES
Consulting Engineers
MANSFIELD, OHIO.

SUPERSTRUCTURE

BRIDGE NO. LOR-90-1478
UNDER S.R. 301 (GULF ROAD)
LORAIN COUNTY I.R. 90
STA. 764+60.89

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
RAK	RAK	RWH	JPG			

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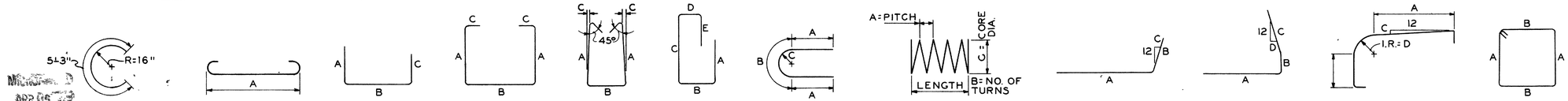

TYPE 1 TYPE 2 TYPE 3 TYPE 4 TYPE 5 TYPE 6 TYPE 7 TYPE 8 TYPE 9 TYPE 10 TYPE 11 TYPE 12

FED RD DIVISION	STATE	PROJECT	
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ABUTMENTS

MARK	NO.	LENGTH	TYPE	A	B	C	D	E	WEIGHT
A501	50	7'9"	3	7'3"	7½	0			404
A502	50	6'4"	3	1'7"	3'5"	1'7"			330
A503	38	37'5"	Str.						1,483
A504	4	12'8"	Str.						53
A505	28	3'6"	Str.						102
A506	4	3'-9"	Str.						17
A507	52	4'7"	Str.						249
A508	4	4'-3"	Str.						18
A509	4	12'	9	10'8"	1'7"	4⅛"			50
A510	4	7'11"	9	4'3"	3'9"	1'4¾"			33
A511	3	1 '0"	9	15'6"	1'7"	4⅛"			53
A512	3	15'8"	9	12'0"	3'9"	1'4¾"			49
A513	6	15'6"	Str.						97
A514	6	14'1"	Str						88
A515	4	12'0"	10	9'10"	8"	1'7"	4⅛"		50
A516	4	6'10"	9	3'9"	3'2"	8¾"			29
A517	3	16'6"	10	14'6"	8"	1'7"	4⅛"		52
A518	3	13'7"	9	10'6"	3'2"	8¾"			43
A519	28	5'8"	3	2'4"	1'3"	2'4"			165
A520	40	Varies	3	8" to 2'4" Vary 10 each by 5"					63
A521	4	11'7"	Str.						48
A522	6	14'8"	Str.						92
A523	6	13'2"	Str						82
A524	3	16'4"	9	14'10"	1'7"	4⅛"			51
A525	3	14'9"	9	11'5"	3'5"	1'-4¾"			46
A526	4	11'2"	9	9'8"	1'7"	4⅛"			47
A527	4	7'8"	9	4'4"	3'5"	1'4¾"			32
A528	3	15'7"	10	13'6"	8"	1'7"	1'4¾"		49
A529	7	5'0"	9	2'7"	2'6"	1'4¾"			37
A530	4	10'9"	10	8'8"	8"	1'7"	1'4¾"		45
A601	50	12'6"	3	7'3"	5'5"	0			939
A602	8	39'3"	Str.						472
A603	74	13'11"	6	4'4"	1'5"	5'9"	11"	2'0"	1,547
A604	14	18'11"	3	9'0"	1'2"	9'0"			398
A605	12	9'0"	Str						162
A606	8	7'-5"	Str.						89
R503	4	15'4"	Str.						*
R504	8	5'4"	11	2'8½"	9"	¾"			*
R505	12	4'2"	5	1'6"	8"				*
R506	4	14'1"	Str.						*
R507	4	14'8"	Str.						*
R508	4	13'2"	Str						*
S503	44	5'7"	5	2'2"	8"				256
						TOTAL WEIGHT			7820

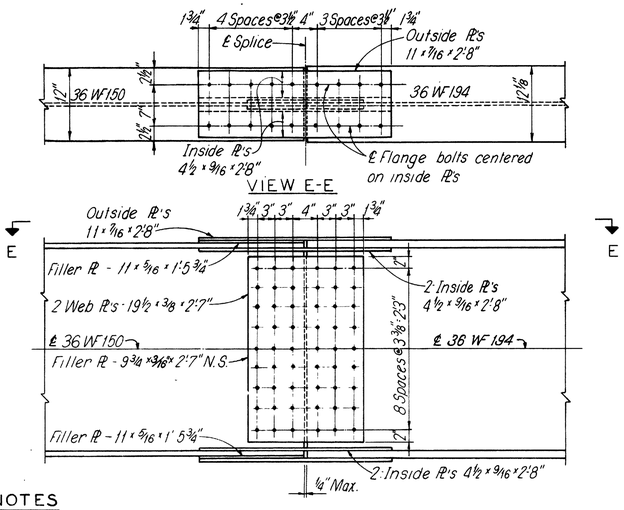
* These bars are included in Item 517 for payment.

PIERS

MARK	NO.	LENGTH	TYPE	A	B	C	D	E	WEIGHT
SP401	3	15'10"	8	4½"	45	32"			885
SP402	6	14'10"	8	4½"	43	32"			1,686
P401	129	6'6"	Str.						560
P501	6	31'8"	Str						198
P502	126	6'9"	3	2'2"	2'8"	2'2"			887
P503	6	6'7"	3	2'2"	2'6"	2'2"			41
P504	6	6'0"	3	2'2"	1'11"	2'2"			38
P505	12	7'4"	7	1'7"	4'2"	1'7"			91
P601	129	7'10"	2	6'6"					1,518
P701	27	41'10"	Str.						2,309
P901	108	6'6"	3	5'6"	1'3"	0			2,387
P902	36	18'8"	Str						2,285
P903	72	17'8"	Str.						4,325
P1001	18	41'10"	Str						3,240
P1002	27	10'0"	Str.						1,162
P1003	12	15'0"	Str.						775
P1004	36	11'4"	3	8'9"	2'10"	0			1,756
P1005	24	34'7"	2	31'9"					3,571
P1006	18	25'3"	Str.						1,956
						TOTAL WEIGHT			29,670

SUPERSTRUCTURE

MARK	NO.	LENGTH	TYPE	A	B	C	D	E	WEIGHT
R501	144	14'8"	Str.						*
R502	16	12'5"	Str.						*
S501	788	2'4"	3	7½"	1'4"	7½"			1,918
S502	394	3'6"	3	7½"	2'6"	7½"			1,438
S503	396	5'7"	5	2'2"	8"				2,306
S601	378	35'8"	Str.						20,250
S602	567	34'6"	Str.						29,381
S603	72	34'7"	Str.						3,740
S604	26	Varies	Str.	33'-9½" to 7'-7⅜" Vary 2 each by 2'-2⅛"					809
S605	6	5'5"	Str.						49
S701	378	35'8"	Str.						27,557
S702	26	Varies	Str.	33'-9½" to 7'-7⅜" Vary 2 each by 2'-2⅛"					1,101
S703	6	5'5"	Str.						66
						TOTAL WEIGHT			88,615



NOTES

BAR SIZE: is indicated in the bar mark. The first digit where three digits are used, and the first two digits where four are used, indicate the bar size number. For example A501 is a No. 5 size bar and P1001 is a No. 10 size bar.

SPIRAL REINFORCING BARS: The "Length" shown in the steel list for the spiral bars is the distance from the top of the footing to the bottom of the cap. The "No. of Turns" shown is the "Length" divided by the pitch, plus 3 turns (total number of closed coils), expressed as the nearest whole number. Spiral reinforcing bars shall not have deformations but shall in other respects conform to Item 509. 1½ closed coils shall be provided at the ends of each spiral unit. Four steel channel, tee or angle spacers, weighing approximately 0.68 lb. per lin. ft. of spacer, shall be provided for each spiral unit. They shall be equally spaced along the periphery of the coil. The number of pounds of these spacers, based on 0.68 lb. per lin. ft. will be paid for as reinforcing steel and is included in the tabulated quantity of spiral bars.

REPLACEMENT BARS

MARK	NUMBER	LENGTH	TYPE
RE400	1	5'3"	1
RE500	1	5'7"	Str.
RE600	3	5'11"	Str.
RE700	2	6'2"	Str.
RE900	1	6'10"	Str.
RE1000	1	7'2"	Str.

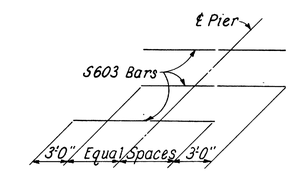
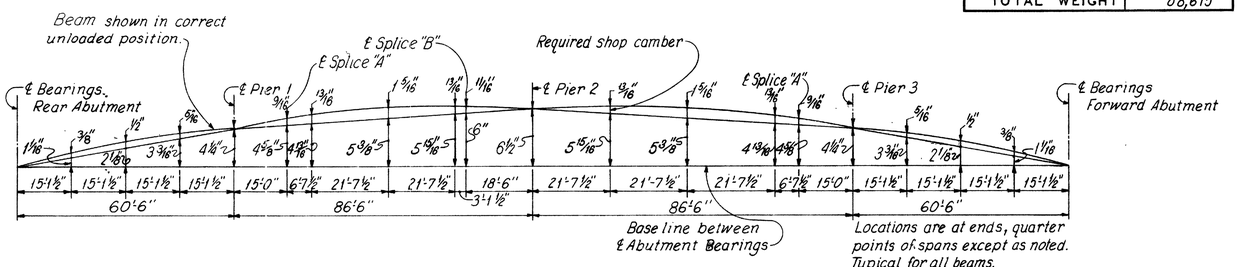


DIAGRAM SHOWING STAGGER OF S603 BARS OVER PIERS



BEAM LAYOUT DIAGRAM

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REINFORCING STEEL
BRIDGE NO. LOR-90-1478
UNDER S.R. 301 (GULF ROAD)

LORAIN COUNTY I.R. 90

STA. 764 + 60.89

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
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2	OHIO		

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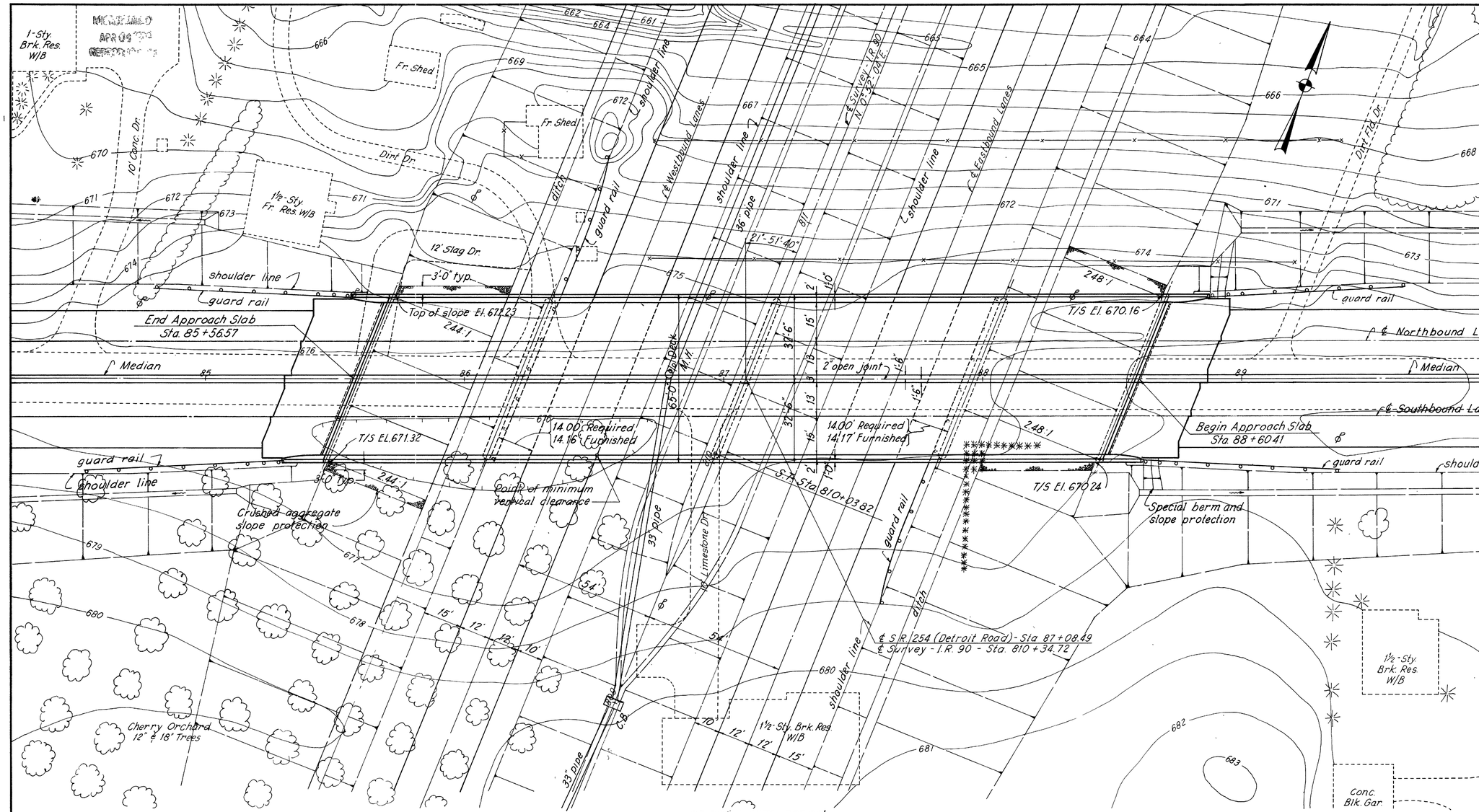

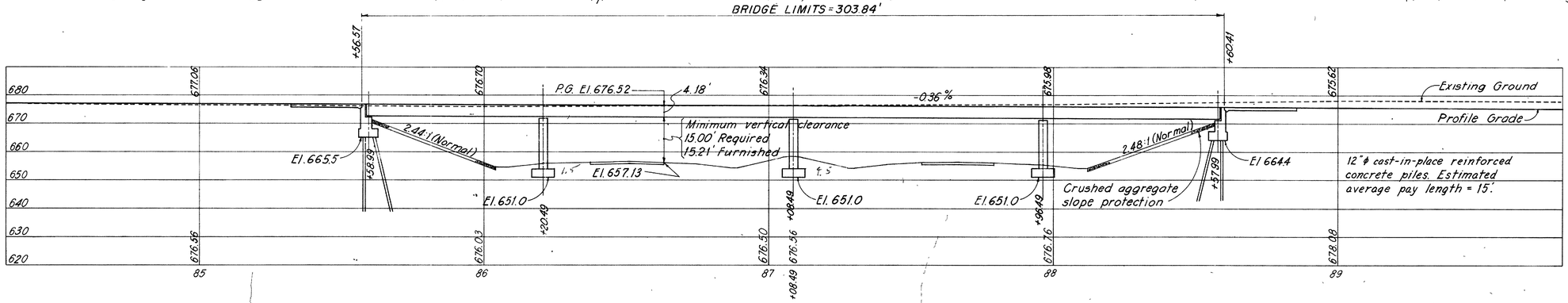

PROPOSED STRUCTURE

TYPE Continuous steel beam with reinforced concrete deck and substructure

SPANS: 61.5'; 2@88'; 61.5' ℄ Bearings

ROADWAY. 59'-0" f/f of 2'-0" Safety Curbs with 3'-0" Raised Median.

LOAD FREQUENCY: CF 400 (57).

SKEW: 21°-51'-40" L.F.

WEARING SURFACE: 1" monolithic concrete.

APPROACH SLABS: AS-1-54 (25' long, modified)

ALIGNMENT: Tangent.

AVERAGE DAILY TRAFFIC 3420 (1975) S.R. 254; 18,400 (1975) I.R. 90

FOUNDATION INVESTIGATION LEGEND

⊕ - Core boring location
• - Rod sounding location

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SITE PLAN

BRIDGE NO. LOR-90-1565
UNDER S.R. 254 (DETROIT ROAD)

LORAIN COUNTY I.R. 90

STA 810+21.37

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
R.A.K.	BOB	J.P.G.	JPG			

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

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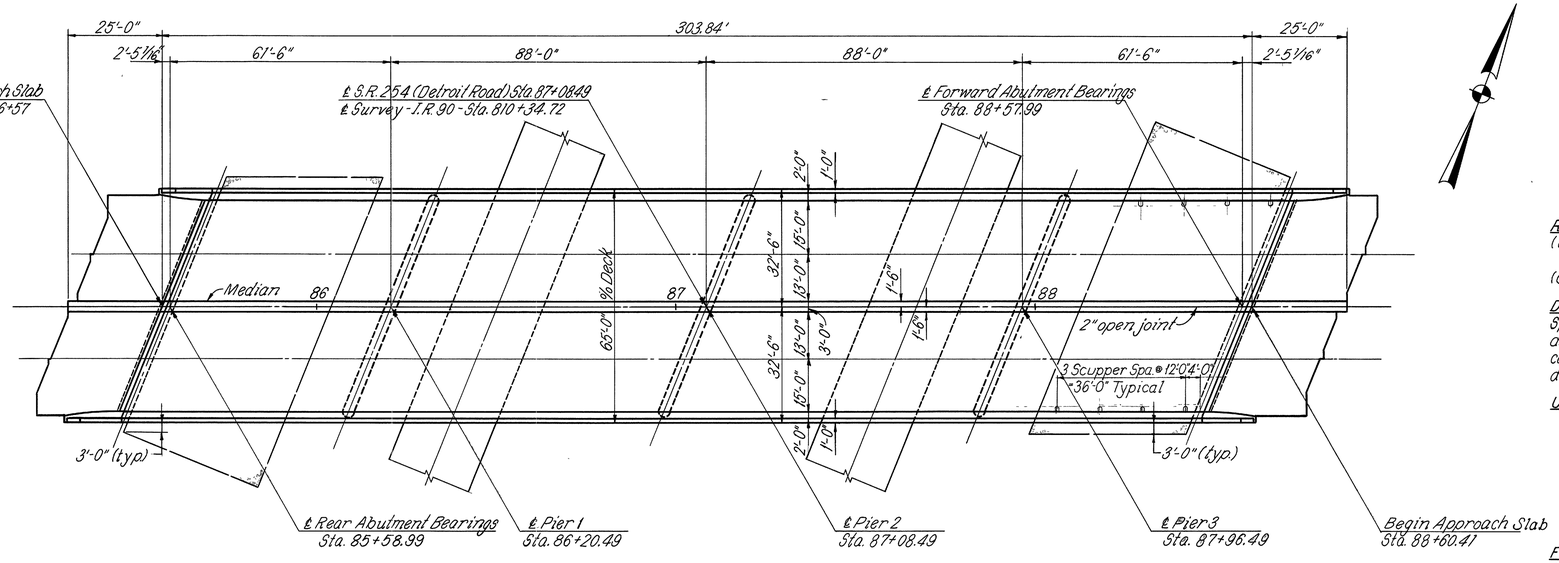
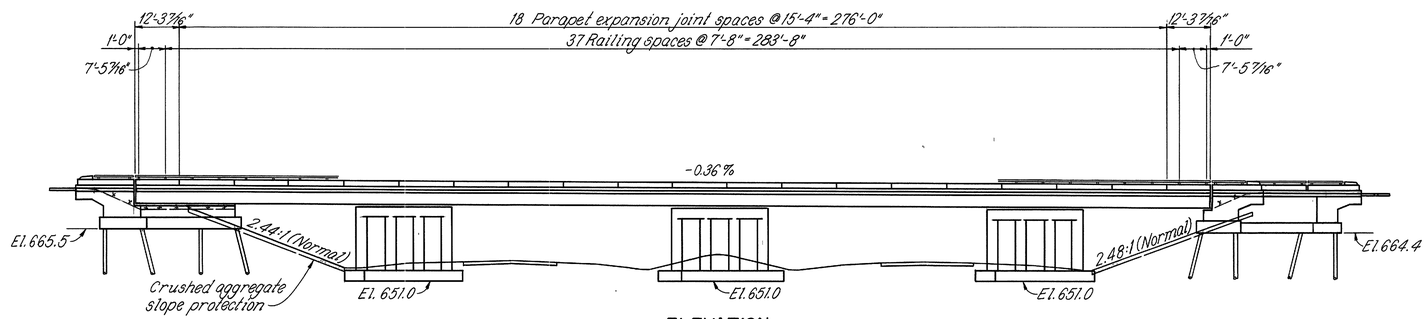


GENERAL PLAN



ELEVATION

ESTIMATED QUANTITIES

ITEM	TOTAL	UNIT	DESCRIPTION	SUPER.	ABUTS.	PIERS	GEN'L
503	676	Cu. Yds.	Unclassified excavation		298	378	
505	Lump	Sum	First test pile				Lump
507	510	Lin. Ft.	12" Cast-in-place reinforced concrete piles		510		
509	223,471	Lbs.	Reinforcing steel	161,413	16,445	45,613	
511	612	Cu. Yds.	Class "C" concrete, superstructure	612			
511	128	Cu. Yds.	Class "C" concrete, piers above footings			128	
511	157	Cu. Yds.	Class "E" concrete, pier footings			157	
511	245	Cu. Yds.	Class "E" concrete, abutments		245		
512	14	Lin. Ft.	Premolded sealing strip		14		
513	600,262	Lbs.	Structural steel	600,262			
514	600,262	Lbs.	Field painting of structural steel	600,262			
517	660.70	Lin. Ft.	Bridge Railing type 1	601.14	59.56		
518	91.25	Lin. Ft.	6" Helical CMP, 707.06, non-perforated		91.25		
518	124.50	Lin. Ft.	6" Perforated helical CMP, 707.06, including specials		124.50		
518	49	Cu. Yds.	Porous backfill		49		
518	8	Each	Scuppers, including supports	8			
601	763	Sq. Yds.	Crushed aggregate slope protection				763
808	612	Each	Water-reducing, set-retarding admixture	612			
825	2394	Sq. Yds.	Concrete surface treatment				2394
828	121	Lin. Ft.	Joint sealer	121			

GENERAL NOTES

REFERENCE shall be made to Standard Drawings SD-1-65, Sheets 1, 2 & 3 (dated 11-8-65), BR-1-65, Sheet 1 of 2 (dated 11-24-65), FSB-1-62 (revised 1-15-63), AS-1-54 (revised 8-10-65) and to Supplemental Specification 808 (dated 7-14-65), 811 (dated 3-29-65), 825 (dated 4-22-65) and 828 (dated 7-21-65).

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 thereof, except strength of splices, which conform to Art. 1.6.31 of the AASHO "Standard Specifications for Highway Bridges" dated 1961, together with current revisions thereof.

UNIT STRESSES: Design Loading CF 400 (57)
Concrete Class "C" basic unit stress 1,333 p.s.i.
Concrete Class "E" basic unit stress 1,133 p.s.i.
Structural Steel ASTM A36 - basic unit stress 20,000 p.s.i.

Reinforcing Steel ASTM A15, A16, A160, deformed, intermediate or hard grade - basic unit stress 20,000 p.s.i. except spiral reinforcement may be plain structural grade with basic unit stress of 18,000 p.s.i.

FOUNDATION BEARING PRESSURE: Pier footings are designed for a maximum bearing pressure of 2.0 tons per square foot.

PILES for abutments shall be driven to a minimum bearing capacity of 42 tons per pile.

MACHINE FINISH: The concrete bridge deck shall be finished by the use of a finishing machine.

UTILITY LINES: All expense involved in relocating the affected utility lines shall be borne by the owners. The Contractor and owners are required to cooperate by arranging their work in such a manner that inconvenience to either will be held to a minimum.

SHAFFER, PARRETT AND ASSOCIATES
Consulting Engineers
MANSFIELD, OHIO.

GENERAL PLAN, GENERAL NOTES AND ESTIMATED QUANTITIES

BRIDGE NO. LOR-90-1565
UNDER S.R. 254 (DETROIT ROAD)
LORAIN COUNTY I.R. 90
STA. 810 + 21.37

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
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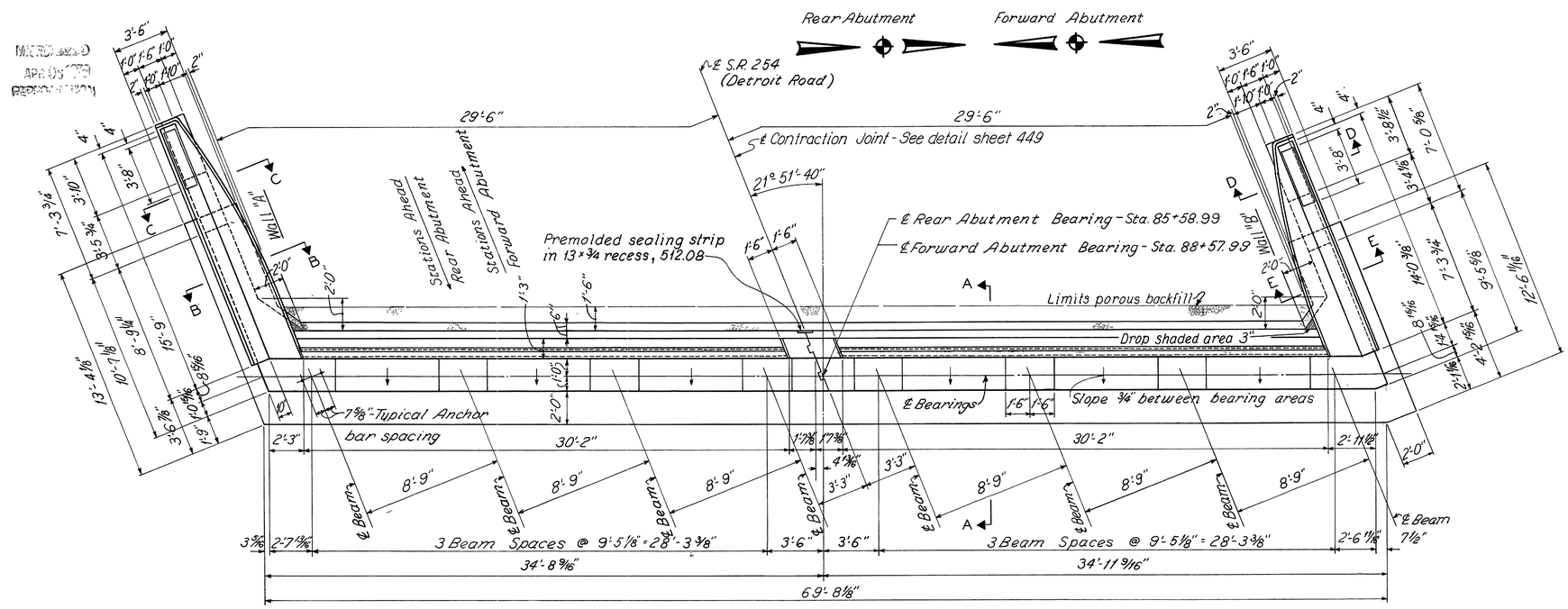
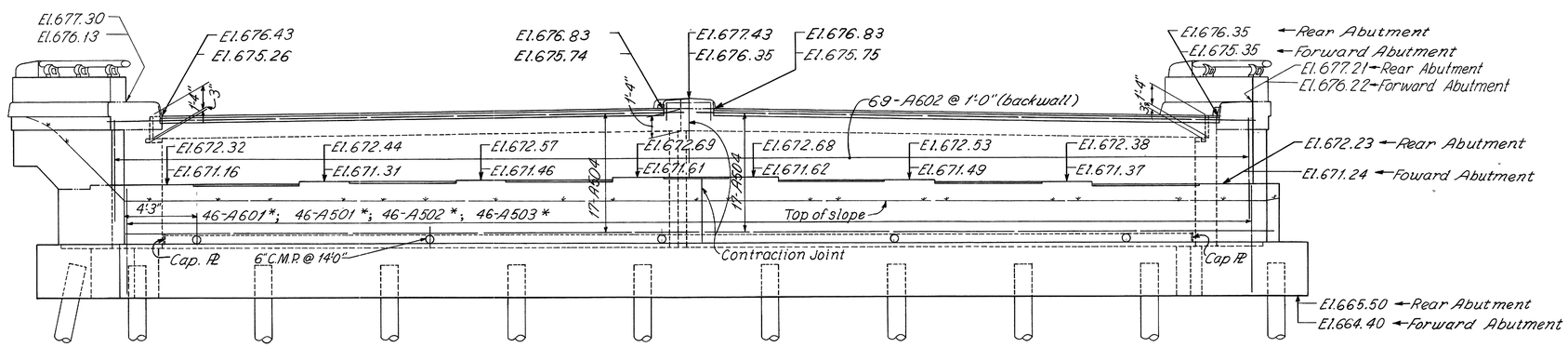
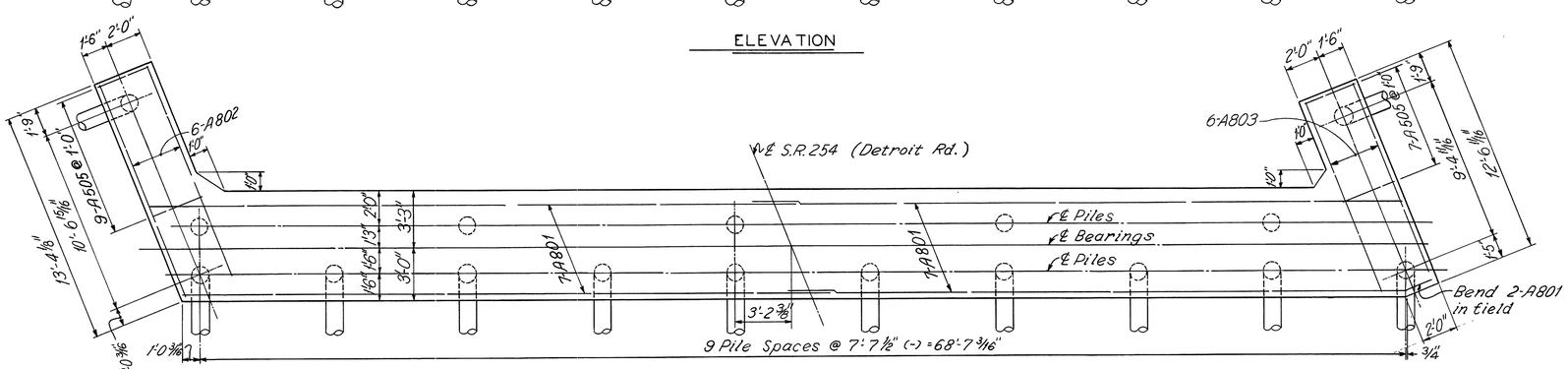


PLAN

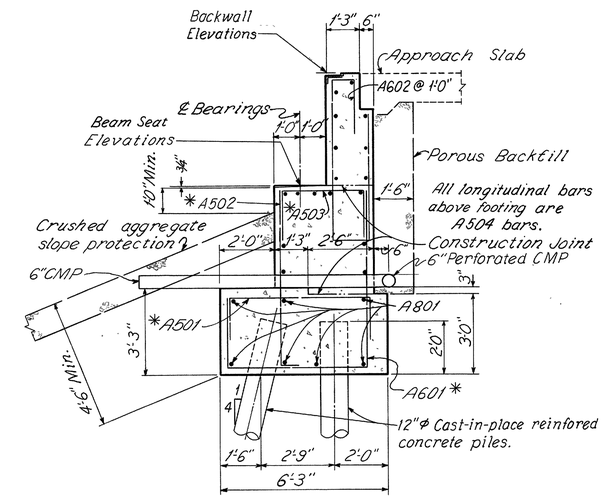


ELEVATION



FOOTING PLAN

* Bars shall be equally spaced between piles at approximately 1'-6" ℄.



SECTION A-A

NOTES:

CONCRETE: All abutment concrete shall be Class "E" except parapets, which shall be Class "C."

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

POROUS BACKFILL, 1'-6" thick, shall extend upward to the approach slab and paved shoulders for the full length of the abutment. Excavation therefor, in excess of that required for construction of the abutment, shall be considered as paid for in the bid price per cu. yd. paid for porous backfill.

NOTATION: F.F.-Front Face; R.F.-Rear Face; E.F.-Each Face.

GENERAL NOTES: See Sheet 447

SHAFFER, PARRETT AND ASSOCIATES
Consulting Engineers
MANSFIELD, OHIO.

ABUTMENTS-1

BRIDGE NO. LOR-90-1565
UNDER S.R. 254 (DETROIT ROAD)
LORAIN COUNTY I.R. 90

STA. 810 + 21.37

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
R.A.K.	Bob	J.S.	JPG			

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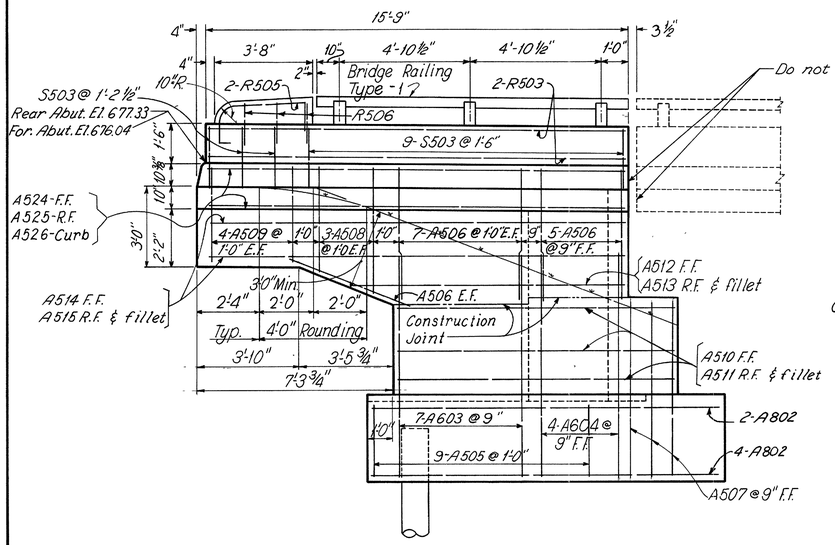
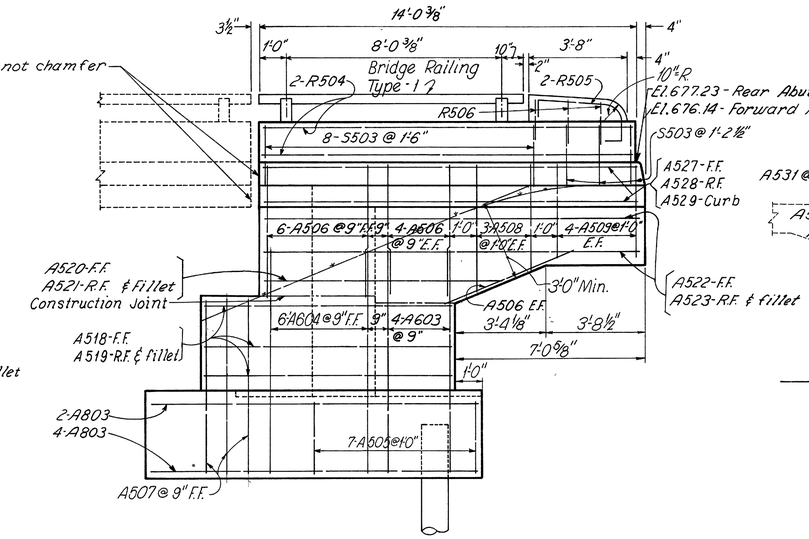


WALL A



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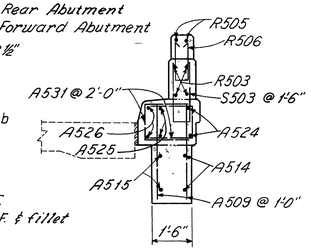
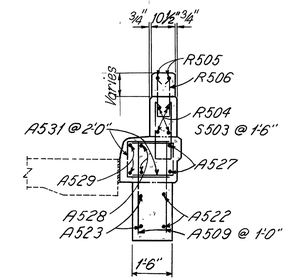
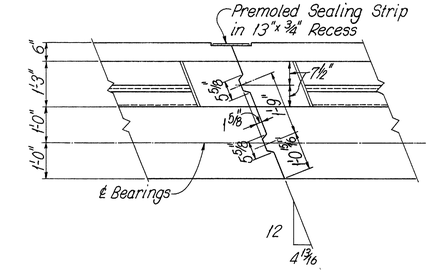


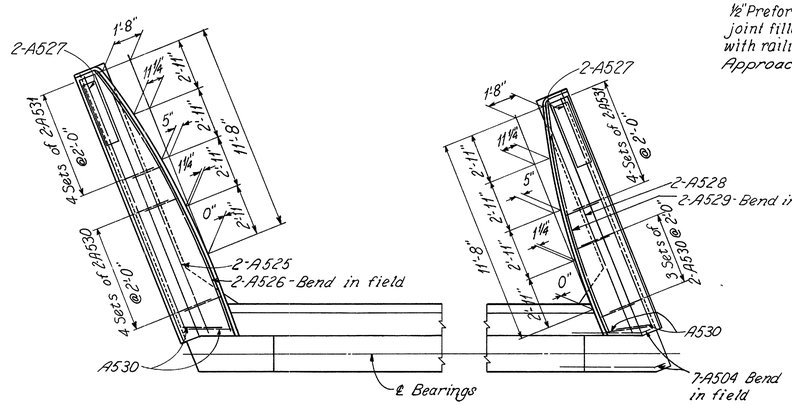
SECTION C-C



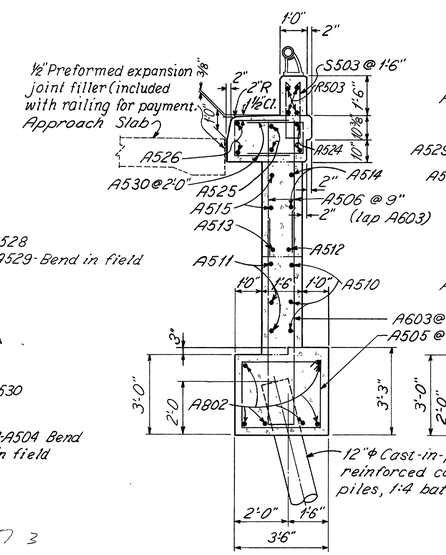
SECTION D-D



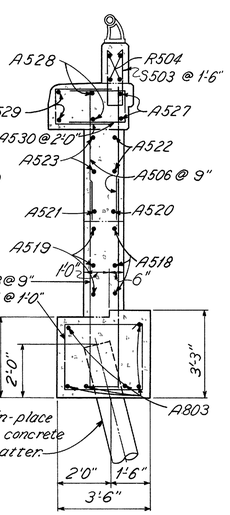
DETAIL CONTRACTION JOINT



WINGWALL PLAN



SECTION B-B



SECTION E-E

ABUTMENT NOTES: See Sheet 448

SHAFFER, PARRETT AND ASSOCIATES
Consulting Engineers
MANSFIELD, OHIO.

ABUTMENTS-2

BRIDGE NO. LOR-90-1565
UNDER S.R. 254 (DETROIT ROAD)
LORAIN COUNTY I.R. 90

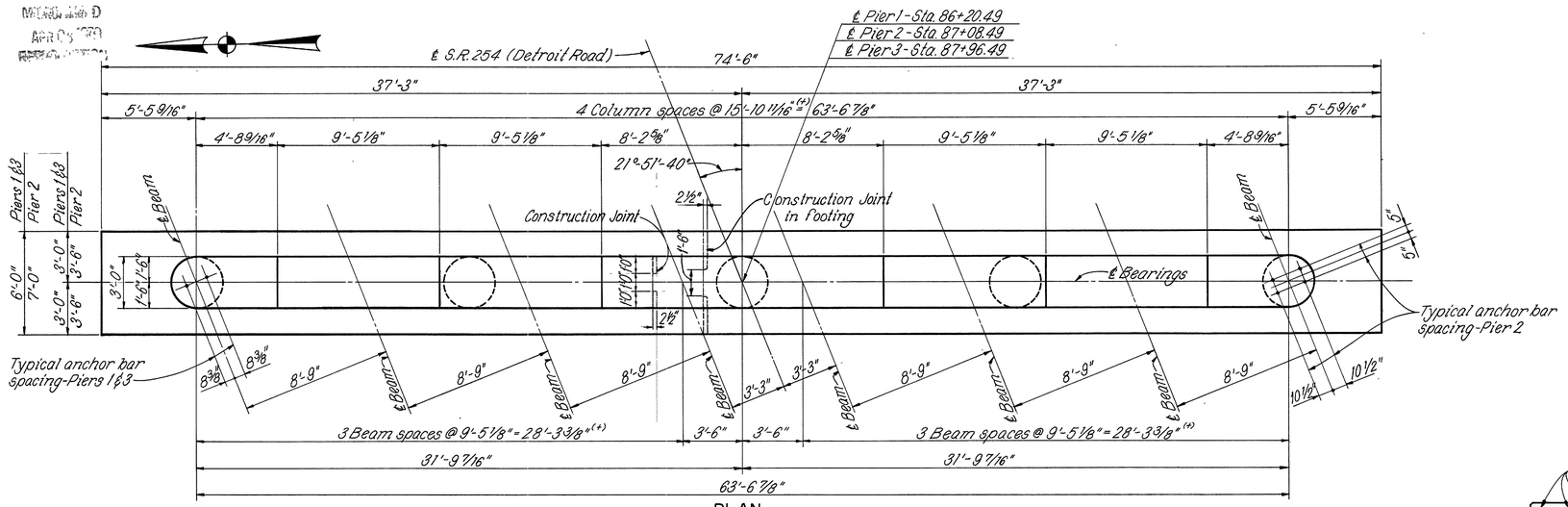
STA. 810+21.37

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
RAK.	Bob	J.S.	JPG			

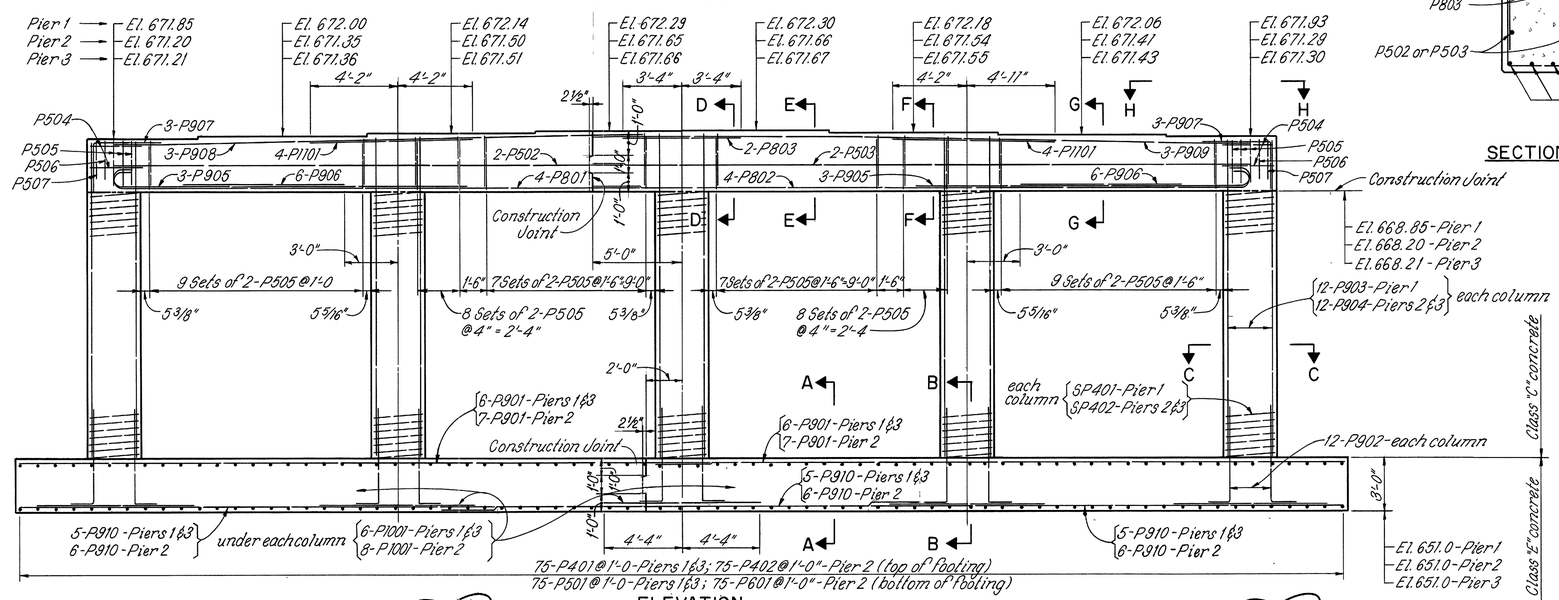
FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

450

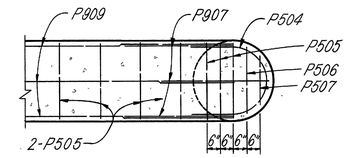
LOR-90-13.01



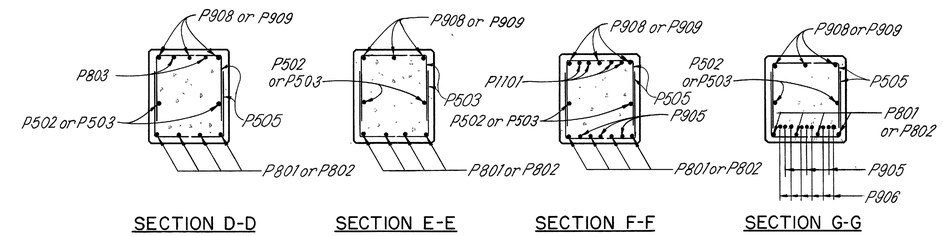
PLAN



ELEVATION



VIEW H-H



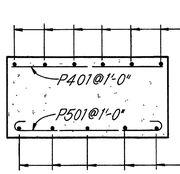
SECTION D-D SECTION E-E SECTION F-F SECTION G-G

NOTES:

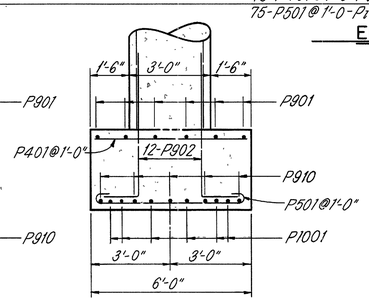
CONCRETE: All concrete for pier footings shall be Class "E". All concrete for piers above footings shall be Class "C".

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

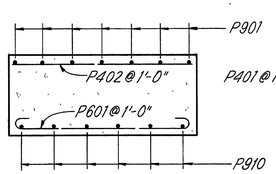
GENERAL NOTES: See Sheet 447



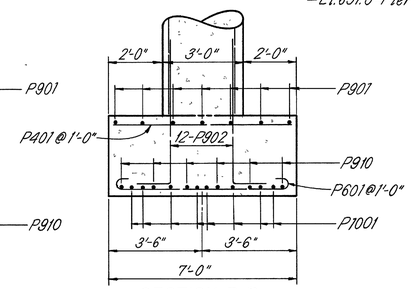
SECTION A-A
PIERS 1 & 3



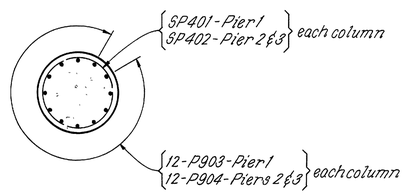
SECTION B-B
PIERS 1 & 3



SECTION A-A
PIER 2



SECTION B-B
PIER 2



SECTION C-C

SHAFFER, PARRETT AND ASSOCIATES
Consulting Engineers
MANSFIELD, OHIO.

PIERS

BRIDGE NO. LOR-90-1565
UNDER S.R. 254 (DETROIT ROAD)

LORAIN COUNTY I.R. 90

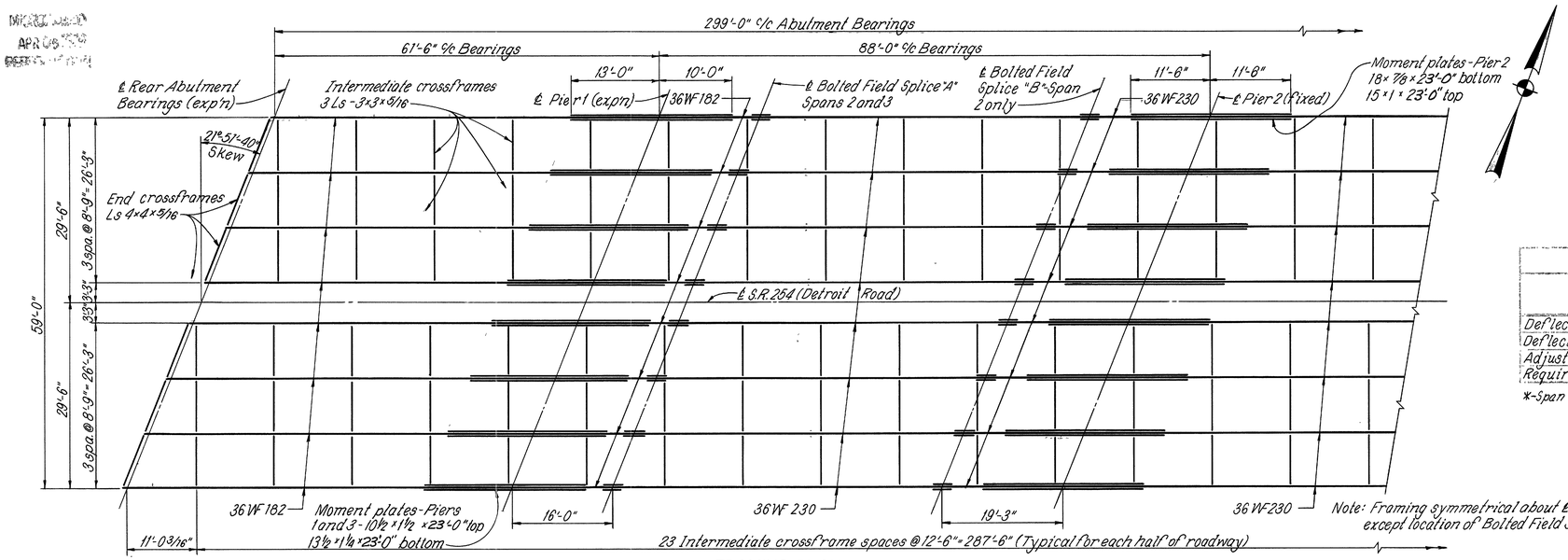
STA. 810 + 21.37

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
RAK	RAK	RWH	JPG			

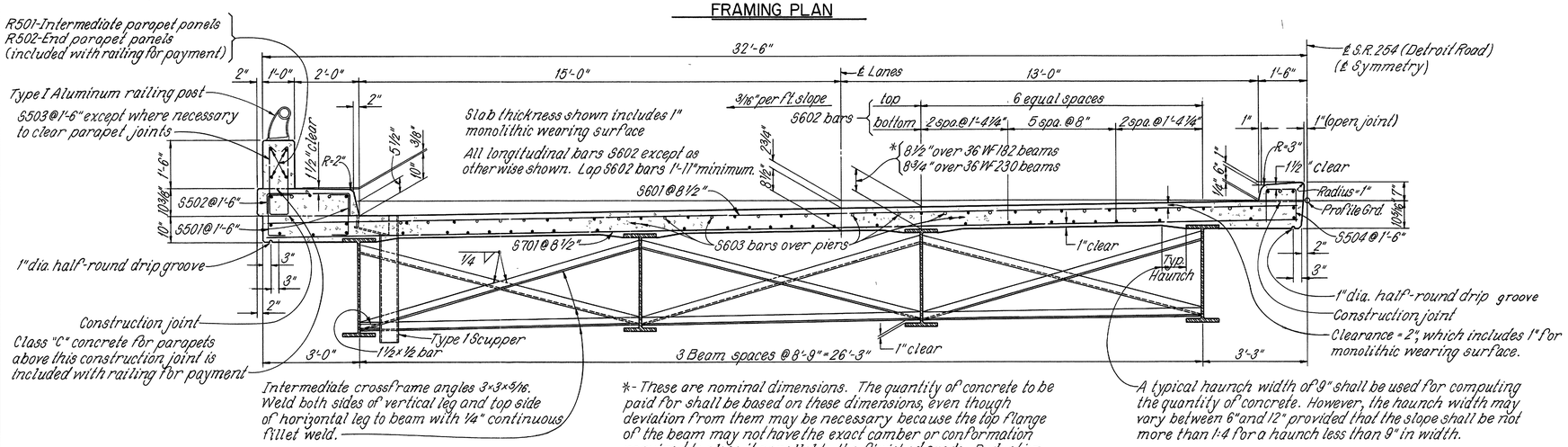
FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

451

LOR-90-13.01



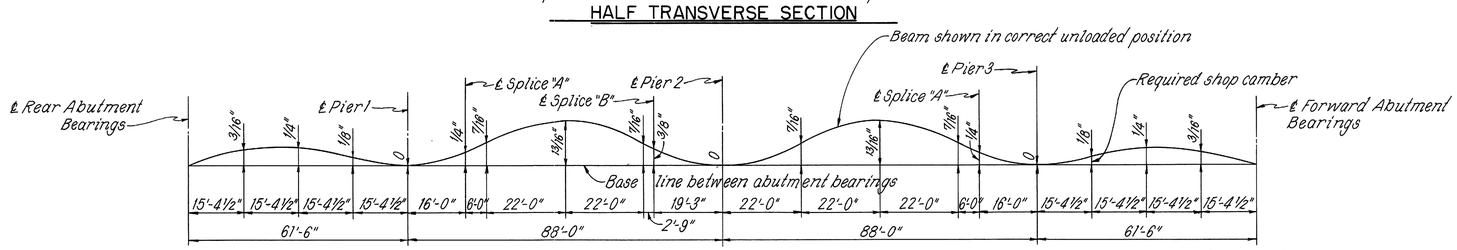
FRAMING PLAN



*- These are nominal dimensions. The quantity of concrete to be paid for shall be based on these dimensions, even though deviation from them 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. Deduction shall be made for the volume of encased steel plates as per 511.19 of the Construction and Material Specifications.

A typical haunch width of 9" shall be used for computing the 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.

HALF TRANSVERSE SECTION



BEAM LAYOUT DIAGRAM

Note: Locations are at ends, quarter points and midpoints of spans except as noted (Typical for all beams).

NOTES:

CAMBERING of beams is required in accordance with the following table:

DEFLECTION AND CAMBER

	END SPANS			MIDDLE SPANS				
¼ Points →	¼	½	¾	SPLICE "A"	¼	½	¾	SPLICE "B"
Deflection due to weight of steel	0	1/16"	0	1/16"	1/8"	3/16"	1/8"	1/8"
Deflection due to remaining dead load	3/16"	3/16"	1/8"	3/16"	5/16"	5/8"	5/16"	1/4"
Adjustment required for vertical curve	0	0	0	0	0	0	0	0
Required shop camber	3/16"	1/4"	1/8"	1/4"	7/16"	13/16"	7/16"	3/8"

*-Span 2 only

BOLTED BEAM SPLICES, MOMENT PLATE WELDING, END CROSSFRAMES, END DAMS, SCUPPERS, AND CURB PLATE DETAILS: See Std. Dwg. SD-1-65, Sheets 1, 2 and 3.

RAILING: See Std. Dwg. BR-1-65, Sheet 1 of 2.

BEARINGS: See Std. Dwg. FSB-1-62 for the following: E-100 Abutments, E-250 Piers 1 and 3, F-300 Pier 2

CONCRETE: All superstructure concrete shall be Class "C".

RAILING POST, PARAPET EXPANSION JOINT AND SCUPPER SPACING: See sheet 447

GENERAL NOTES: See sheet 447

BOLTED BEAM SPLICE DETAIL: See Std. Dwg. SD-1-65 sheet 3 of 3 and sheet 452

SHAFFER, PARRETT AND ASSOCIATES
Consulting Engineers
MANSFIELD, OHIO.

SUPERSTRUCTURE-1

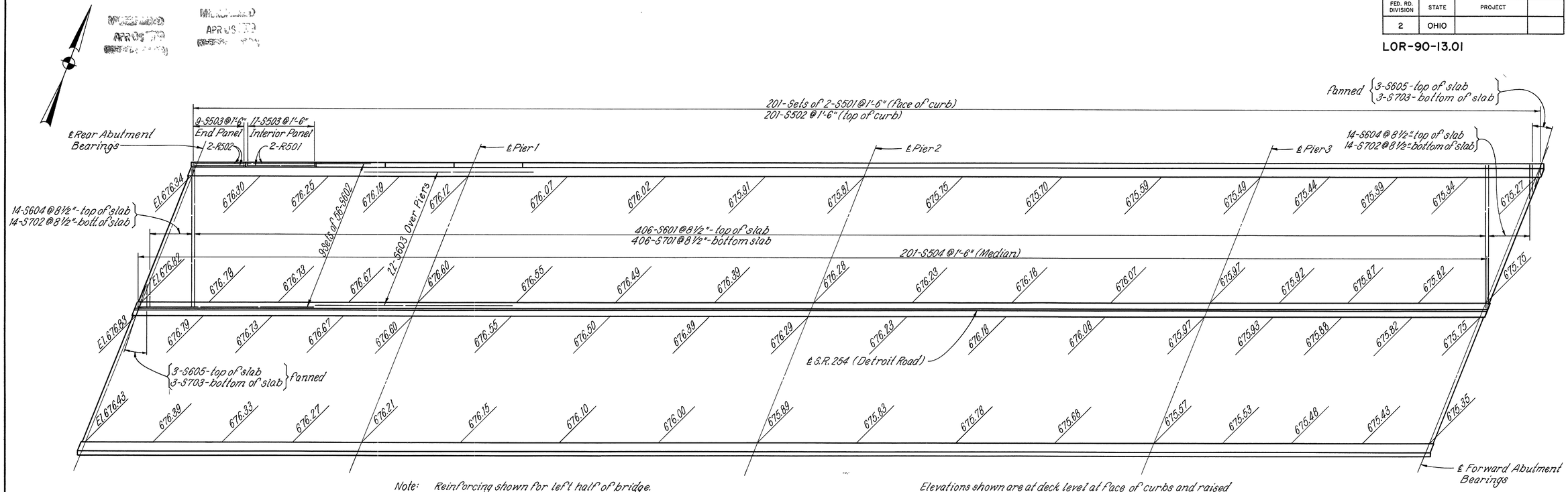
BRIDGE NO. LOR-90-1565
UNDER S.R. 254 (DETROIT ROAD)
LORAIN COUNTY — I.R. 90
STA. 810 + 21.37

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
RAK	RAK	RWH	JPG			

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

452

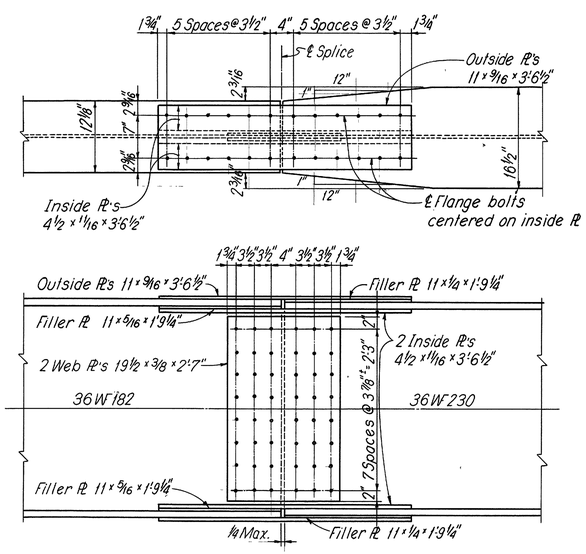
LOR-90-13.01



Note: Reinforcing shown for left half of bridge. Reinforcing for right half of bridge symmetrical about ℄ S.R. 254 (Detroit Road).

Elevations shown are at deck level at face of curbs and raised median, and are those which are required before the concrete deck is placed. These points are located at ends, quarter points and midpoints of each span.

SLAB PLAN



BEAM SPLICE DETAIL

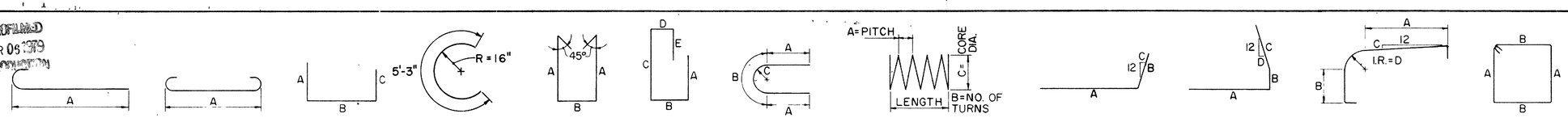
SHAFFER, PARRETT AND ASSOCIATES
Consulting Engineers
MANSFIELD, OHIO.

SUPERSTRUCTURE-2

BRIDGE NO. LOR-90-1565
UNDER S.R. 254 (DETROIT ROAD)
LORAIN COUNTY I.R. 90
STA. 810 + 21.37

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
RAK	RAK	RWH	JPG			

MICROFILMED
APR 05 1979
REPRODUCTION



TYPE 1 TYPE 2 TYPE 3 TYPE 4 TYPE 5 TYPE 6 TYPE 7 TYPE 8 TYPE 9 TYPE 10 TYPE 11 TYPE 12

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

453

LOR-90-13.01

ABUTMENTS

MARK	NO.	LENGTH	TYPE	A	B	C	D	E	WEIGHT
R503	8	15'-5"	Str.						*
R504	8	13'-8"	Str.						*
R505	8	5'-4"	11	2'-8½"	9"	¾"	7-⅜"		*
R506	12	4'-2"	5	1'-6"	8"				*
S503	46	5'-7"	5	2'-2"	8				268
A501	92	8'-2"	3	1'-7"	5'-3"	1'-7"			784
A502	92	6'-10"	3	6'-4"	7½"	0			656
A503	92	7'-0"	3	1'-11"	3'-5"	1'-11"			672
A504	68	34'-5"	Str.						2440
A505	32	11'-10"	12	2'-7"	3'-0"				395
A506	74	4'-9"	Str.						367
A507	12	6'-4"	Str.						79
A508	24	Varies	Str.	4'-6" to 3'-9" Vary 8 each by 3"					103
A509	32	3'-6"	Str.						117
A510	6	11'-9"	9	10'-3"	1'-7"	4 9/16"			74
A511	6	9'-9"	9	4'-11"	4'-11"	8"			61
A512	2	11'-2"	9	9'-8"	1'-7"	4 13/16"			23
A513	2	11'-4"	9	6'-6"	4'-11"	8"			24
A514	4	16'-11"	9	15'-5"	1'-7"	4 13/16"			71
A515	4	14'-6"	9	12'-3"	2'-4"	8"			60
A518	6	9'-6"	10	9'-1"	7"	1'-0"	4 13/16"		59
A519	6	6'-11"	9	2'-11"	4'-1"	7¾"			43
A520	2	10'-1"	10	8'-8"	7"	1'-0"	4 13/16"		21
A521	2	8'-8"	9	4'-8"	4'-1"	7¾"			18
A522	4	15'-5"	10	14'-0"	7"	1'-0"	4 13/16"		64
A523	4	11'-6"	9	10'-0"	1'-7"	7¾"			48
A524	4	15'-3"	Str.						64
A525	4	14'-0"	Str.						58
A526	4	16'-7"	Str.						69
A527	4	13'-9"	Str.						57
A528	4	11'-9"	Str.						49
A529	4	13'-4"	Str.						56
A530	36	5'-3"	3	2'-1"	1'-4"	2'-1"			192
A531	32	②	3	①	1'-4"	①			120
A601	92	13'-10"	3	6'-4"	5'-3"	2'-7"			1912
A602	138	14'-6"	6	4'-8"	1'-5"	6'-0"	11"	2'-0"	3006
A603	22	17'-6"	3	8'-4"	1'-2"	8'-4"			578
A604	20	9'-4"	3	8'-4"	1'-2"	0			280
A801	28	36'-11"	Str.						2760
A802	12	12'-10"	Str.						411
A803	12	11'-6"	Str.						386
							TOTAL		16,450

① 1'-9" to 9". Vary 8 each by 4".
② 4'-7" to 2'-7". Vary 8 each by 8"

PIERS

MARK	NO.	LENGTH	TYPE	A	B	C	D	E	WEIGHT
SP401	5	14'-10"	8	4½"	43	2'-8"			1405
SP402	10	14'-2"	8	4½"	41	2'-8"			2680
P401	150	5'-6"	Str.						351
P402	75	6'-6"	Str.						326
P501	150	6'-8"	2	5'-6"					1043
P502	6	28'-5"	Str.						178
P503	6	36'-9"	Str.						230
P504	12	7'-4"	7	1'-7"	4'-2"	1'-4"			92
P505	306	7'-3"	3	2'-5"	2'-8"	2'-5"			2314
P506	6	6'-7"	3	2'-2"	2'-6"	2'-2"			41
P507	6	6'-0"	3	2'-2"	1'-11"	2'-2"			38
P601	75	7'-10"	2	6'-6"					882
P801	12	30'-9"	1	29'-8"					985
P802	12	37'-10"	1	36'-9"					1212
P803	6	6'-8"	Str.						107
P901	38	38'-5"	Str.						4963
P902	180	6'-7"	3	5'-7"	1'-3"	0			4029
P903	60	17'-8"	Str.						3604
P904	120	17'-0"	Str.						6936
P905	18	20'-0"	1	18'-9"					1224
P906	36	9'-1"	Str.						1112
P907	18	6'-7"	3	4'-0"	2'-10"	0			403
P908	9	29'-8"	Str.						908
P909	9	36'-9"	Str.						1125
P910	48	26'-7"	Str.						4338
P1001	100	8'-8"	Str.						3729
P1101	24	9'-1"	Str.						1158
							TOTAL		45,613

* - These railing bars are included in Item 517 for payment.

SUPERSTRUCTURE

MARK	NO.	LENGTH	TYPE	A	B	C	D	E	WEIGHT
R501	144	15'-0"	Str.						*
R502	16	12'-0"	Str.						*
S501	804	2'-4"	3	7½"	1'-4"	7½"			1957
S502	402	3'-6"	3	7½"	2'-6"	7½"			1465
S503	432	5'-7"	5	2'-2"	8"				2471
S504	402	2'-9"	3	1'-0"	7'-0"	1'-0"			1153
S601	812	32'-0"	Str.						39,028
S602	1008	35'-1"	Str.						53,117
S603	132	35'-3"	Str.						6989
S604	56	Varies	Str.	30'-11" to 7'-11½". Vary 4 each by 1'-9 3/16"					1635
S605	12	6'-2"	Str.						111
S701	812	32'-0"	Str.						53,111
S702	56	Varies	Str.	30'-11" to 7'-11½". Vary 4 each by 1'-9 3/16"					225
S703	12	6'-2"	Str.						151
							TOTAL		161,413

NOTES:

BAR SIZE is indicated in the bar mark. The first digit where three digits are used, and the first two digits where four are used, indicate the bar size number. For example A501 is a No. 5 size bar and P1101 is a No. 11 size bar.

SPIRAL REINFORCING BARS: The "Length" shown in the steel list for the spiral bars is the distance from the top of the footing to the bottom of the cap. The "No. of Turns" shown is the "length" divided by the pitch, plus 3 turns (total number of closed coils), expressed as the nearest whole number. Spiral reinforcing bars shall not have deformations but shall in other respects conform to Item 509. 1½ closed coils shall be provided at the end of each spiral unit. Four steel channel, tee or angle spacers, weighing approximately 0.68 lb. per lin. ft. of spacer, shall be provided for each spiral unit. They shall be equally spaced along the periphery of the coil. The number of pounds of these spacers, based on 0.68 lb. per lin. ft. will be paid for as reinforcing steel and is included in the tabulated quantity of spiral bars.

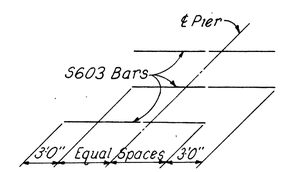


DIAGRAM SHOWING STAGGER OF S603 BARS OVER PIERS

REPLACEMENT BARS

MARK	NUMBER	LENGTH	TYPE
RE400	1	5'-3"	4
RE500	1	5'-7"	Str.
RE600	6	5'-11"	Str.
RE700	3	6'-2"	Str.
RE800	1	6'-6"	Str.
RE900	2	6'-10"	Str.
RE1000	1	7'-"	Str.
RE1100	1	7'-"	Str.

SHAFFER, PARRETT AND ASSOCIATES
Consulting Engineers
MANSFIELD, OHIO.

REINFORCING STEEL
BRIDGE NO. LOR-90-1565
UNDER S.R. 254 (DETROIT ROAD)

LORAIN COUNTY I.R. 90

STA. 810 + 21.37

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
R.A.K.	BOB	J.S.	JPG			

FED. RD DIVISION	STATE	PROJECT	
2	OHIO		

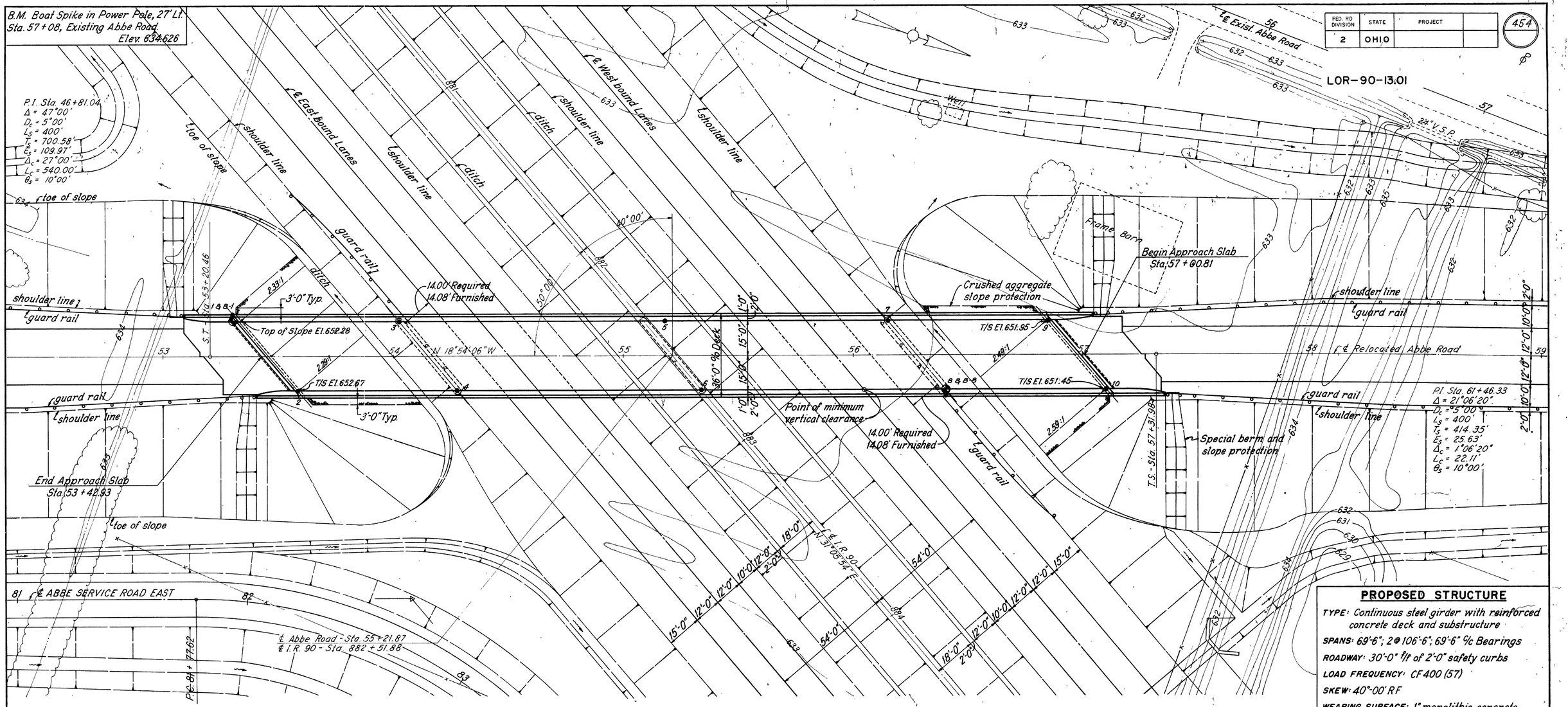
454

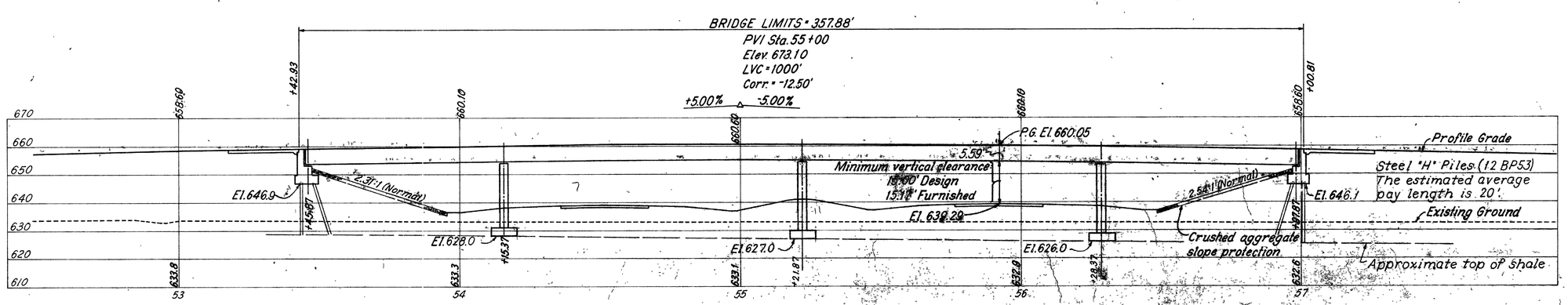
LOR-90-13.01

B.M. Boat Spike in Power Pole, 27' Lt. Sta. 57 + 08, Existing Abbe Road. Elev. 634.626

P.I. Sta. 46 + 81.04
$\Delta = 47°00'$
$D_c = 5°00'$
$L_s = 400'$
$T_s = 700.58'$
$E_s = 109.97'$
$\Delta_c = 27°00'$
$L_c = 540.00'$
$\theta_s = 10°00'$

P.I. Sta. 61 + 46.33
$\Delta = 21°06'20''$
$D_c = 5°00'$
$L_s = 400'$
$T_s = 414.35'$
$E_s = 25.63'$
$\Delta_c = 1°06'20''$
$L_c = 22.11'$
$\theta_s = 10°00'$





PROPOSED STRUCTURE

TYPE: Continuous steel girder with reinforced concrete deck and substructure

SPANS: 69'-6"; 2@106'-6"; 69'-6" ℄ Bearings

ROADWAY: 30'-0" f/f of 2'-0" safety curbs

LOAD FREQUENCY: CF400 (57)

SKEW: 40°-00' RF

WEARING SURFACE: 1" monolithic concrete

APPROACH SLABS: AS-1-54 (25' long, modified)

ALIGNMENT: Tangent

AVERAGE DAILY TRAFFIC: 3800 (1989) Abbe Road; 24,660 I.R. 90 (1989)

FOUNDATION INVESTIGATION LEGEND

◉ - Core boring location
• - Rod sounding location

SHAFFER, PARRETT AND ASSOCIATES
Consulting Engineers
MANSFIELD, OHIO.

SITE PLAN

BRIDGE NO. LOR-90-1700 UNDER ABBE ROAD

LORAIN COUNTY — I.R. 90

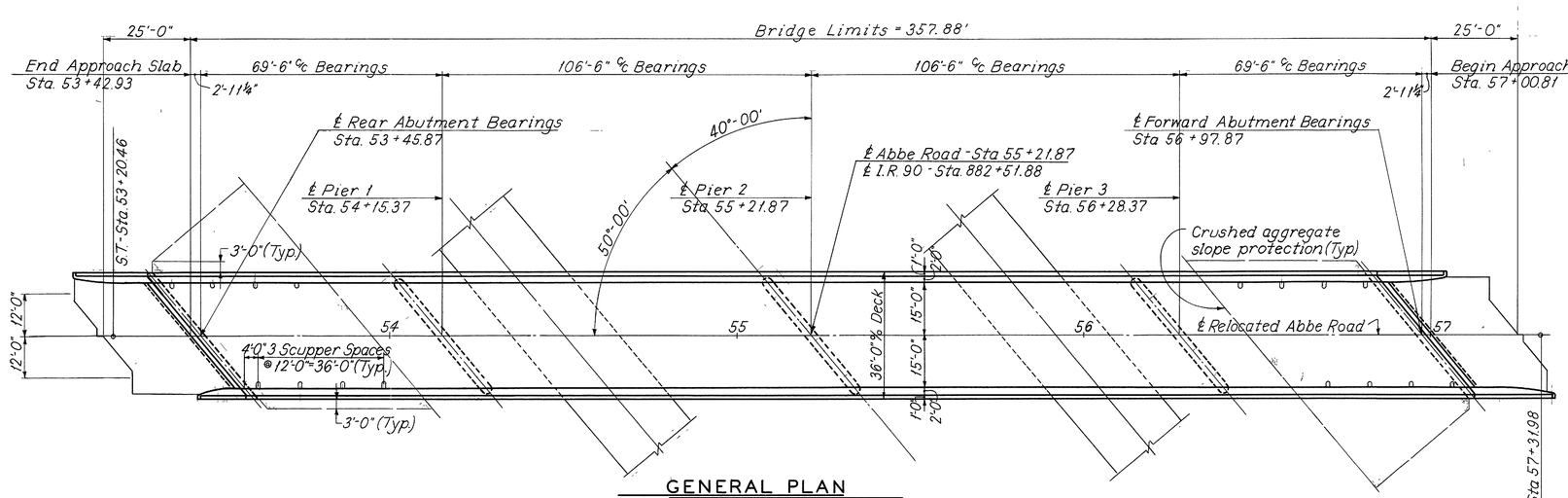
STA. 881 + 83.07

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
RAK	Bob	UL	JPB			

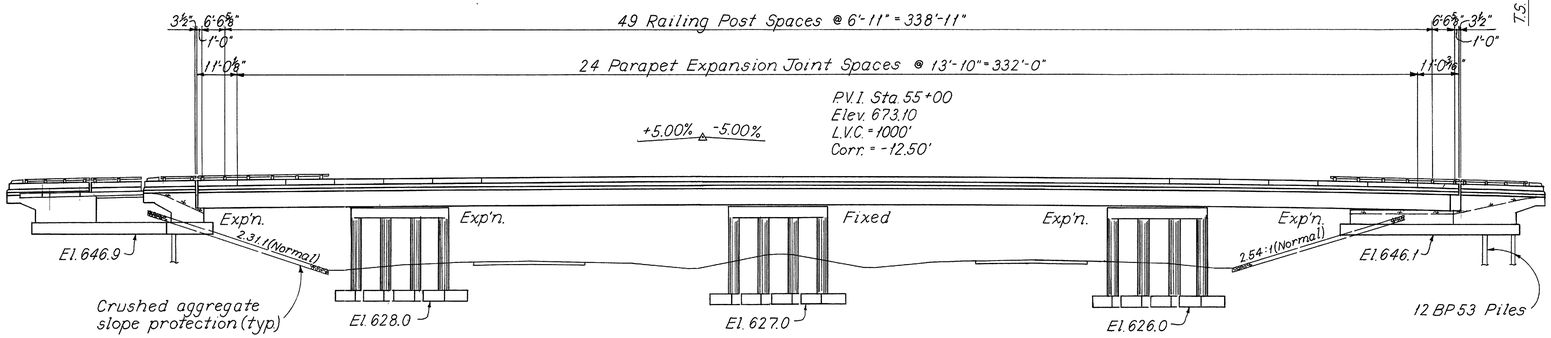
FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

455

LOR - 90 - 13.01



GENERAL PLAN



GENERAL ELEVATION

GENERAL NOTES

REFERENCE shall be made to Std. Dwg. SD-1-65, Sheet 1, 2 and 3 (dated 11-8-65), BR-1-65 (dated 11-24-65) Sheet 1 of 2, FSB-1-62 (revised 1-15-63), AS-1-54 (revised 8-10-65) to Supplemental Specifications 808 (dated 7-14-65), 811 (dated 3-29-65), 825 (dated 4-22-65) and 828 (dated 7-21-65).

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 thereof, except strength of bolted field splices, which conform to Art. 1.6.31 of the AASHO "Standard Specifications for Highway Bridges" dated 1961 together with current revisions thereof.

UNIT STRESSES:

Design Loading: CF 400 (57)
Concrete, Class "C" - basic unit stress 1,333 p.s.i.
Concrete, Class "E" - basic unit stress 1,133 p.s.i.
Structural Steel - ASTM A36 - basic unit stress 20,000 p.s.i.

Reinforcing Steel - ASTM A15, A16, A160 deformed intermediate or hard grade - basic unit stress 20,000 p.s.i. except spiral reinforcement may be plain structural grade with basic unit stress of 18,000 p.s.i.

ABUTMENT PILES shall be driven to a minimum bearing capacity of 42 tons.

FOUNDATION BEARING PRESSURE: Pier footings are designed for a maximum bearing pressure of 4.3 tons per sq. ft.

MACHINE FINISH: The concrete bridge deck shall be finished by the use of a finishing machine.

PIER FOOTINGS shall extend a minimum of 3" into undisturbed rock or to the elevation shown, whichever is lower.

EXCAVATION QUANTITY includes the removal of fill material required for construction of the abutments and piers.

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

ESTIMATED QUANTITIES

ITEM	TOTAL	UNIT	DESCRIPTION	SUPER	ABUTS	PIERS	GEN'L		
503	774	Cu. Yds.	Unclassified excavation		124	650			
505	Lump	Sum	First test pile				Lump		
507	520	Lin. Ft.	Steel H piles (12 BP 53)		520				
509	162,945	Lbs.	Reinforcing steel	106,304	14,377	42,264			
511	403	Cu. Yds.	Class "C" concrete, superstructure	403					
511	109	Cu. Yds.	Class "C" concrete, piers above footings			109			
511	108	Cu. Yds.	Class "E" concrete, pier footings			108			
511	200	Cu. Yds.	Class "E" concrete, abutments		200				
513	369,489	Lbs.	Structural steel	369,489					
514	369,489	Lbs.	Field painting of structural steel	369,489					
517	781.89	Lin. Ft.	Bridge Railing, Type 1	708.06	73.83				
518	38	Cu. Yds.	Porous Backfill		38				
518	16	Each	Scuppers, including supports	16					
518	80	Lin. Ft.	6" Helical perforated C.M.P. 707.06 including specials		80				
518	63	Lin. Ft.	6" Helical C.M.P. 707.06 non-perforated		63				
601	648	Sq. Yds.	Crushed aggregate slope protection				648		
808	403	Each	Water-reducing set retarding admixture	403					
825	1774	Sq. Yds	Concrete surface treatment				1774		
828	79	Lin. Ft.	Joint sealer	79					

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Consulting Engineers
MANSFIELD, OHIO.

GENERAL PLAN, GENERAL NOTES AND ESTIMATED QUANTITIES
BRIDGE NO. LOR-90-1700
UNDER ABBE ROAD

LORAIN COUNTY I.R. 90

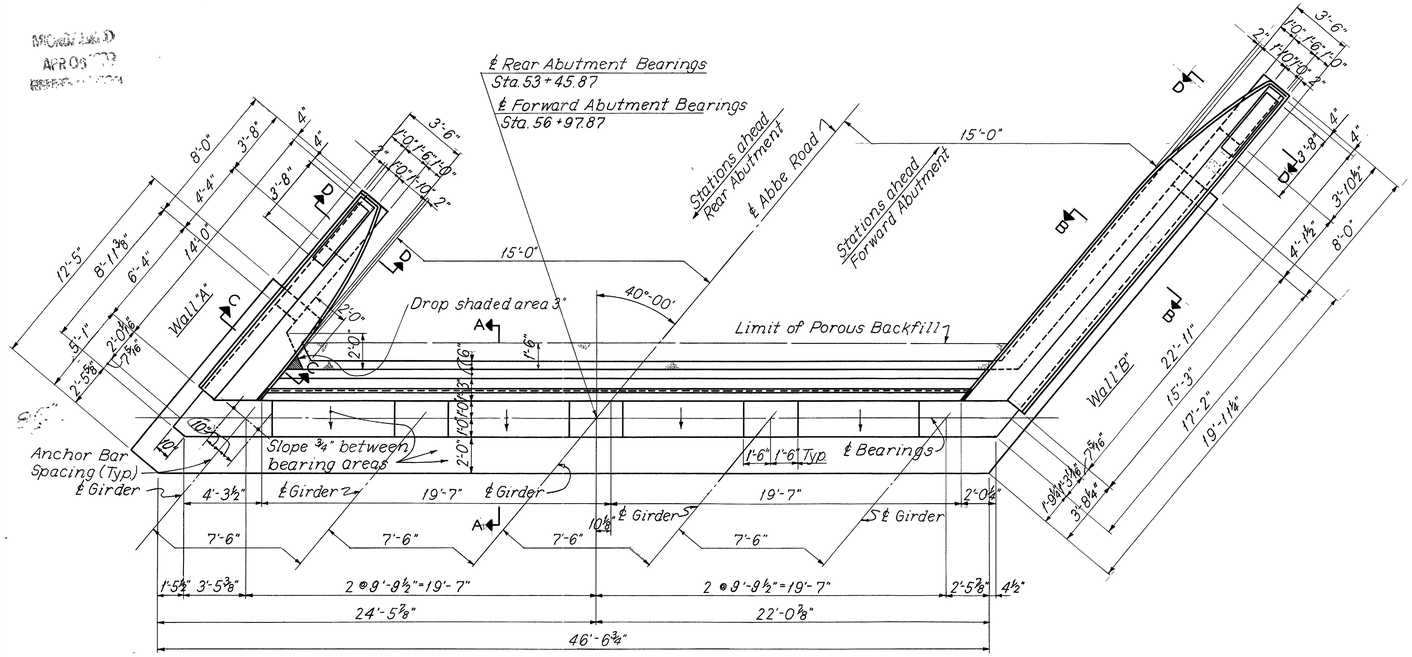
STA 881 + 83.07

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
RAK	LK	LK	JPG			

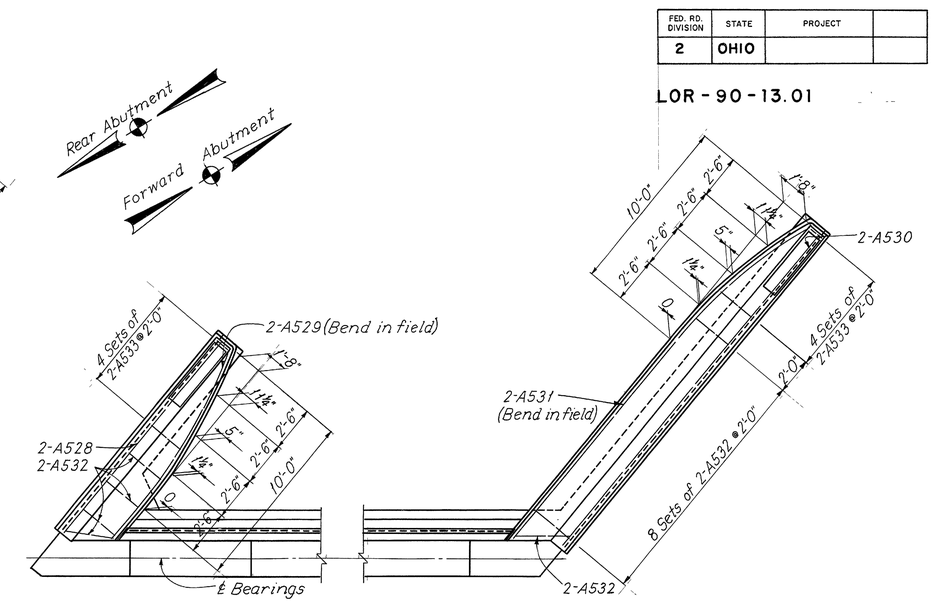
FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

456

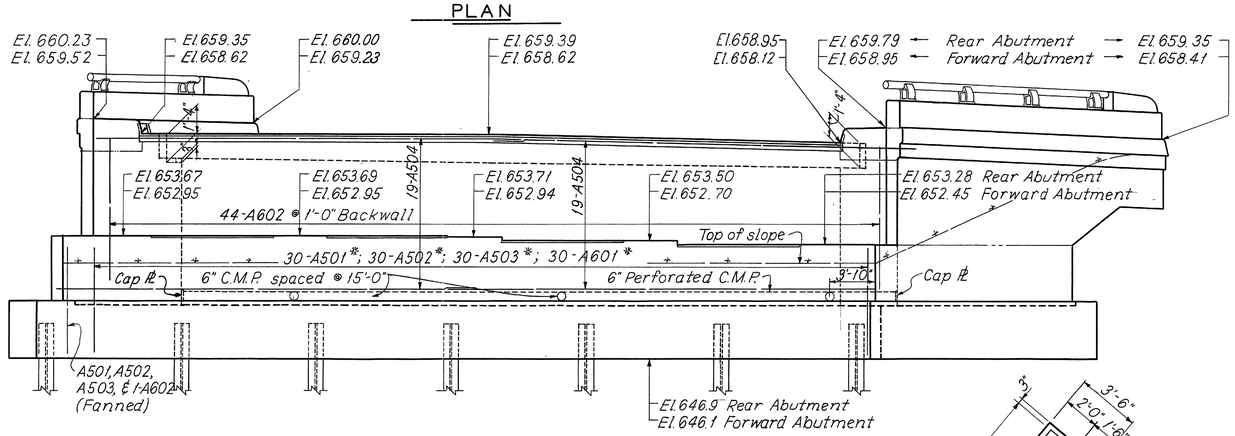
LOR - 90 - 13.01



PLAN

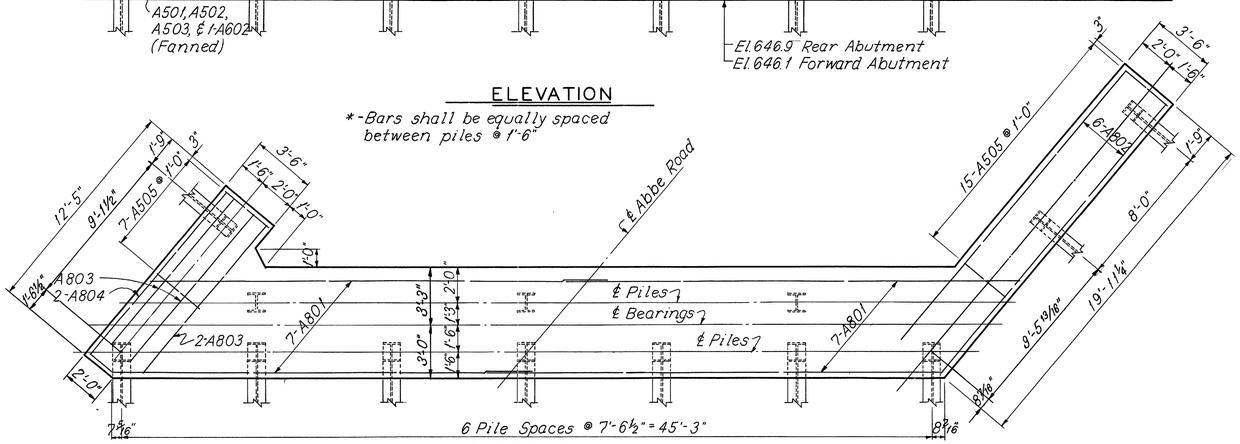


WINGWALL PLAN



ELEVATION

*-Bars shall be equally spaced between piles @ 1'-6"



FOOTING PLAN

NOTES:

CONCRETE: All abutment concrete shall be Class "E" except parapets, which shall be Class "C."

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

POROUS BACKFILL, 1'-6" thick, shall extend upward to the approach slab for the full length of the abutment. Excavation therefor, in excess of that required for construction of the abutment, shall be considered as paid for in the bid price per cu yd. paid for porous backfill.

NOTATION: F.F.-Front Face, R.F.-Rear Face, E.F.-Each Face

GENERAL NOTES: See Sheet 455

SHAFFER, PARRETT AND ASSOCIATES
Consulting Engineers
MANSFIELD, OHIO.

ABUTMENTS - 1

BRIDGE NO. LOR-90-1700
UNDER ABBE ROAD

LORAIN COUNTY — I.R. 90

STA. 881 + 83.07

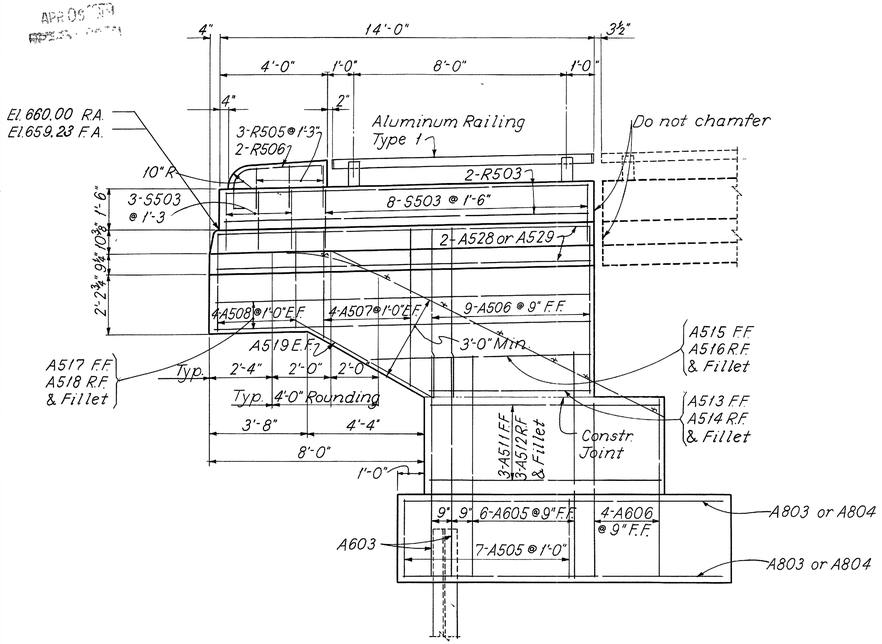
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
RAK	RAK	LK	JPG			12-7-94

MICROFILMED
APR 09 '99

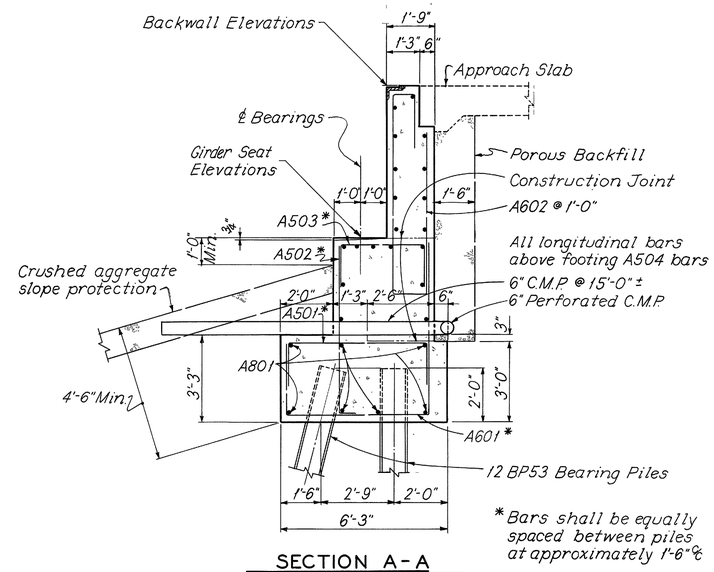
FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

457

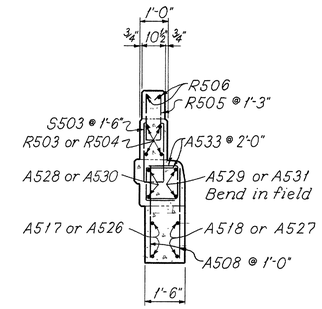
LOR-90-13.01



WALL A



SECTION A-A



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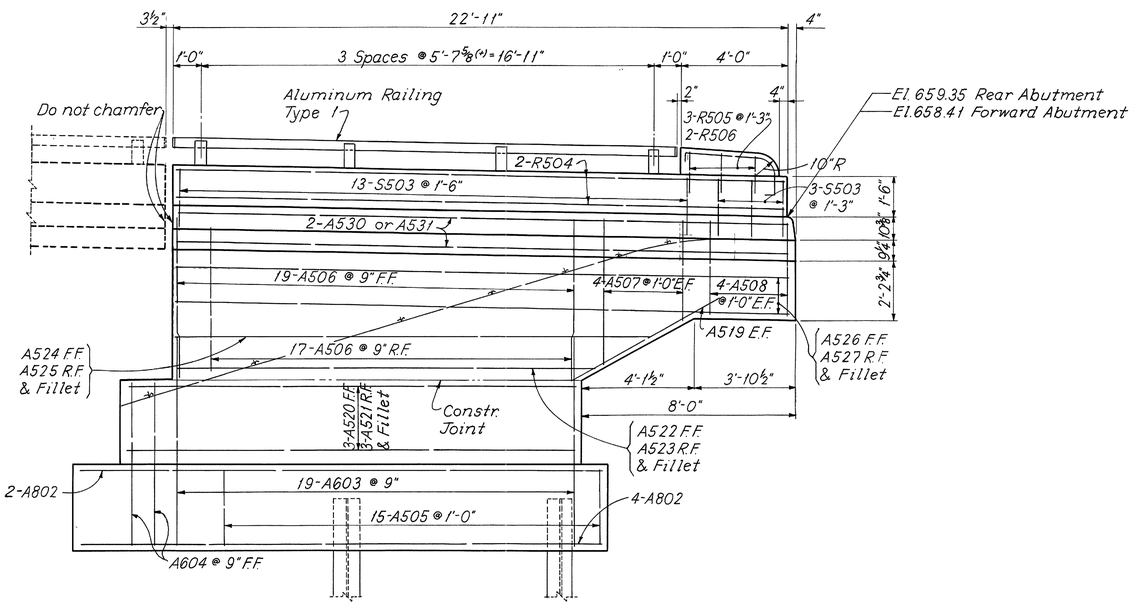
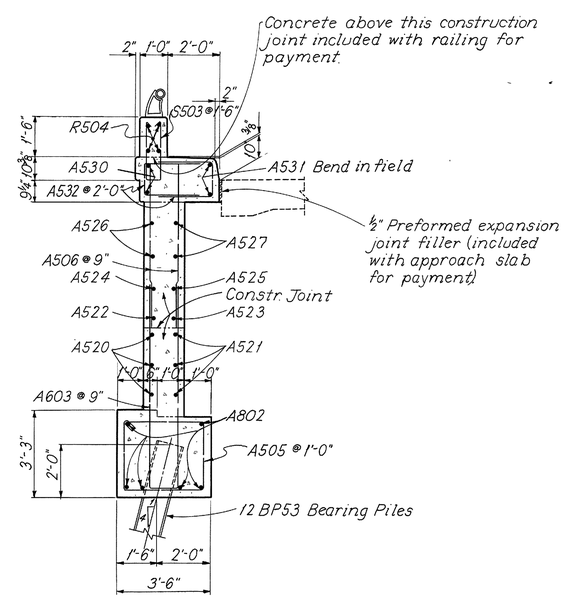


WALL B



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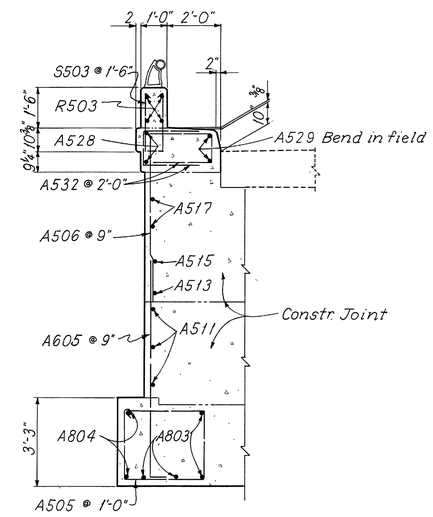


SECTION C-C

ABUTMENT NOTES: See Sheet 456

SHAFFER, PARRETT AND ASSOCIATES
Consulting Engineers
MANSFIELD, OHIO.

ABUTMENTS - 2

BRIDGE NO. LOR-90-1700
UNDER ABBE ROAD

LORAIN COUNTY — I.R. 90

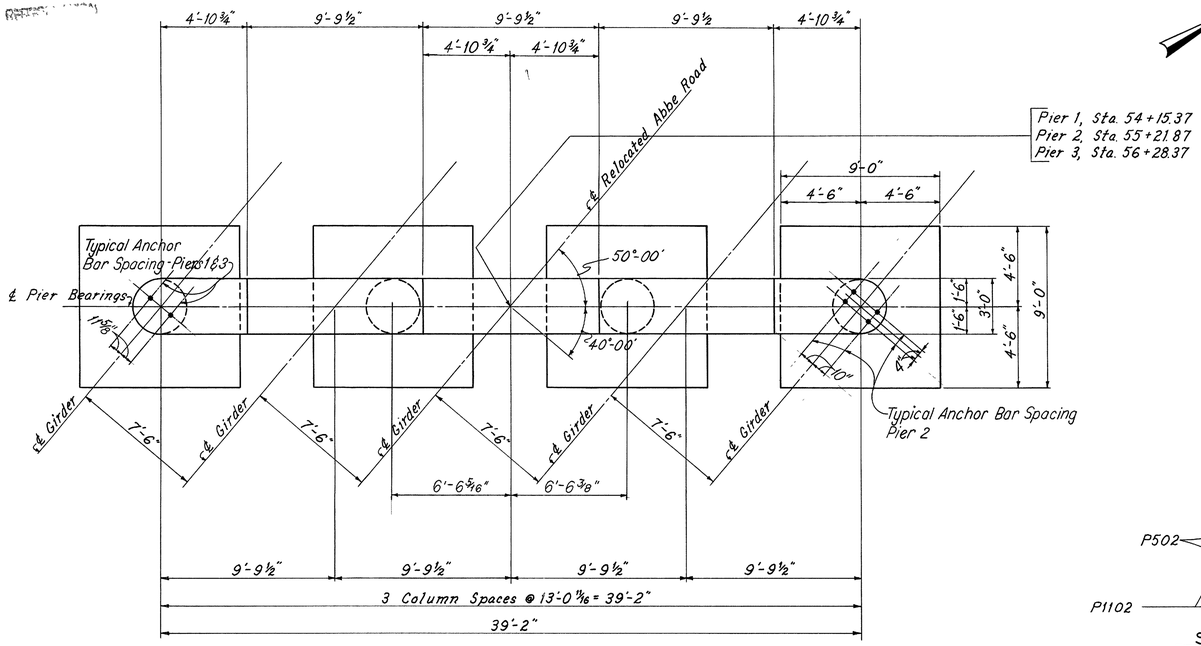
STA. 881 + 83.07

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
RAK	RAK	LK	JPG			

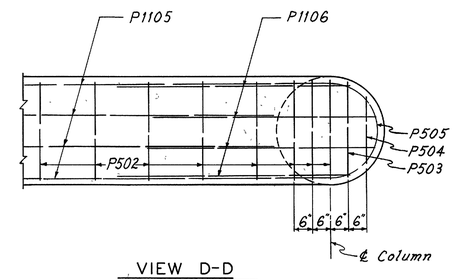
FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

458

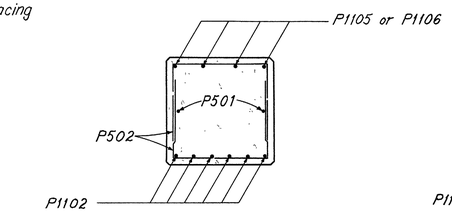
LOR-90-13.01



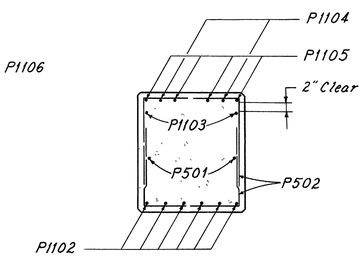
PLAN



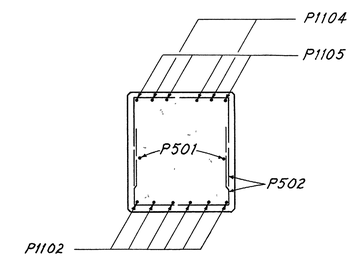
VIEW D-D



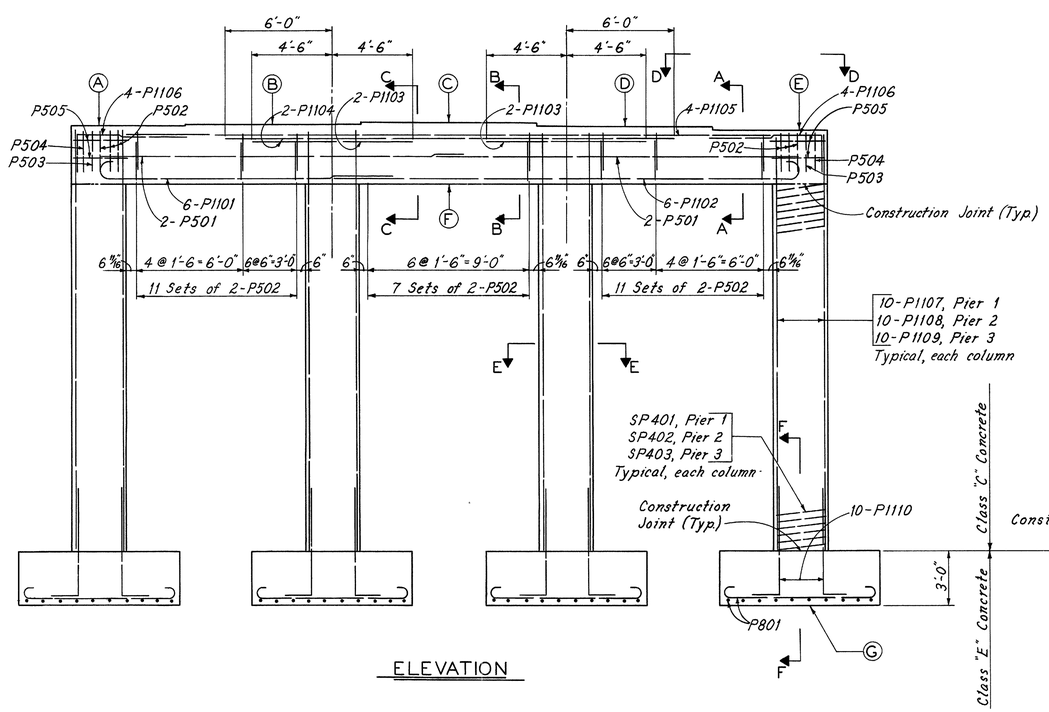
SECTION A-A



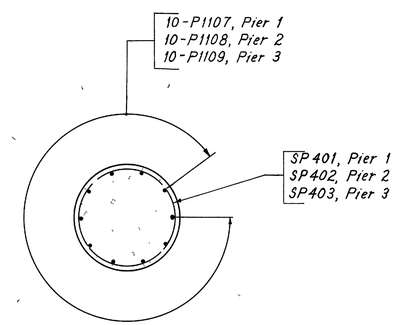
SECTION B-B



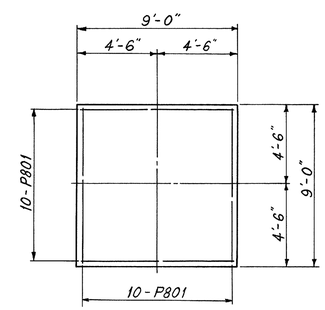
SECTION C-C



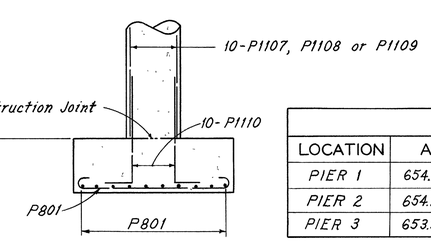
ELEVATION



SECTION E-E



PLAN OF TYPICAL FOOTING



SECTION F-F

NOTES:

CONCRETE: All concrete for pier footings shall be Class "E" and all concrete above pier footings shall be Class "C."

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

FOUNDATION BEARING PRESSURE: Pier footings are designed for a maximum bearing pressure of 4.32 Tons per. sq. ft.

GENERAL NOTES: See sheet 455

TABLE OF ELEVATIONS

LOCATION	A	B	C	D	E	F	G
PIER 1	654.10	654.28	654.45	654.38	654.31	651.10	628.00
PIER 2	654.24	654.35	654.45	654.32	654.18	651.18	627.00
PIER 3	653.90	653.95	653.98	653.78	653.58	650.58	626.00

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Consulting Engineers
MANSFIELD, OHIO.

PIERS

BRIDGE NO. LOR-90-1700 UNDER ABBE ROAD

LORAIN COUNTY — I.R. 90

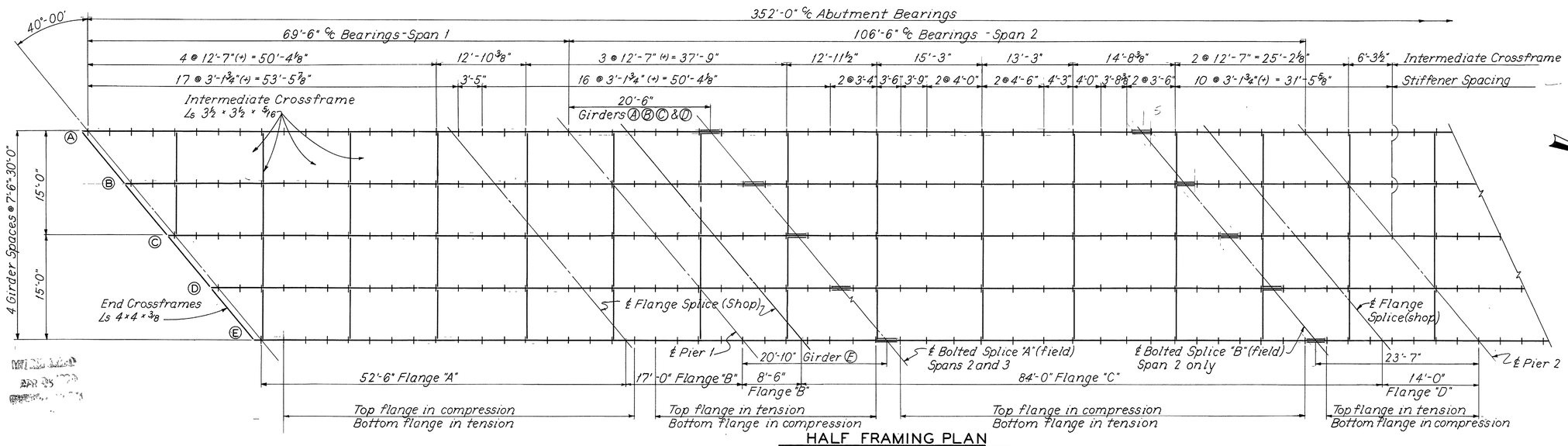
STA. 881+83.07

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
DGC	DGC	PCB	JPG			

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

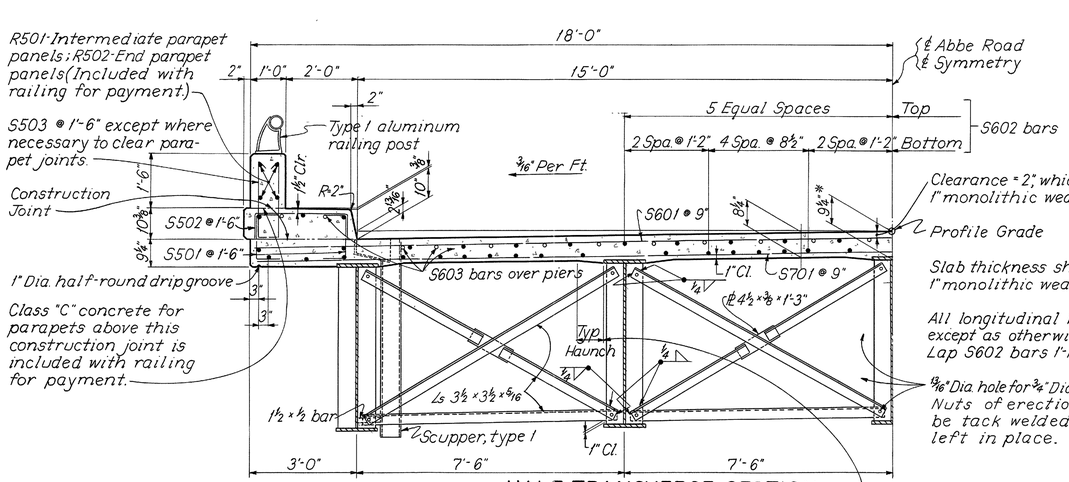
459

LOR - 90 - 13.01



HALF FRAMING PLAN

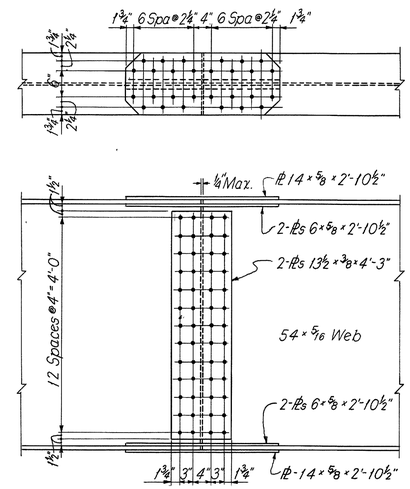
GIRDER MATERIALS	
Web	54 × 5/16
Flange "A"	14 × ⅝
Flange "B"	20 × 1
Flange "C"	14 × 1
Flange "D"	20 × 1¼
Intermediate stiffeners:	
with 14" flanges	6 × ⅜
with 20" flanges	7 × 7/16
End stiffeners	6 × ⅜
Pier Bearing stiffeners	7 × ⅝



HALF TRANSVERSE SECTION

*This is a nominal dimension. The quantity of 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 girder may not have the exact camber or conformation required to place it parallel to the finished grade. Deduction shall be made for the volume of encased steel plates as per 511.19 of the Construction and Material Specifications.

A typical haunch width of 9" shall be used for computing the 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.



TYPICAL FIELD SPLICE "A & B"

All bolts 1" Dia. high-strength

All full penetration welds shall be back gouged and welded after welding far side. Grind welds flush parallel to length of plate.

NOTES:

END CROSSFRAMES, END DAMS, SCUPPERS AND CURB PLATE DETAILS: See Std. Dwg. SD-1-65 Sheets 1 and 2. Use 4 × 4 × ⅜ angles in place of 4 × 4 × 5/16 angles for end crossframes.

RAILING: See Std. Dwg. BR-1-65, Sheet 1 of 2

CONCRETE: All superstructure concrete shall be Class "C."

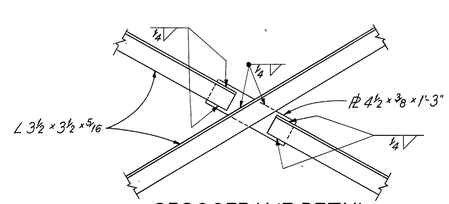
BOLTED FIELD SPLICE NOTES: See Std. Dwg. SD-1-65, Sheet 3

RAILING POST, PARAPET EXPANSION JOINT AND SCUPPER SPACING: See Sheet 455

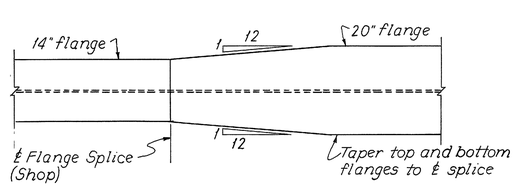
ERECTION PROCEDURE: The Contractor shall submit to the Director, for approval, three (3) prints showing his proposed erection procedure for the plate girders.

GENERAL NOTES: See Sheet 455

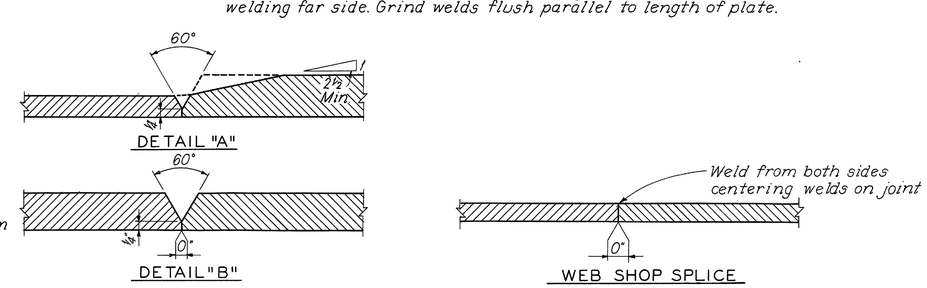
BEARINGS: See Std. Dwg. FSB-1-62 for the following: E100 Abutments; E250 Pier 1 & 3; F250 Pier 2.



CROSSFRAME DETAIL



FLANGE TAPER DETAIL



JOINT PREPRATION FOR SHOP WELDS

SHAFFER, PARRETT AND ASSOCIATES
Consulting Engineers
MANSFIELD, OHIO.

SUPERSTRUCTURE-1

BRIDGE NO. LOR-90-1700
UNDER ABBE ROAD

LORAIN COUNTY I.R. 90

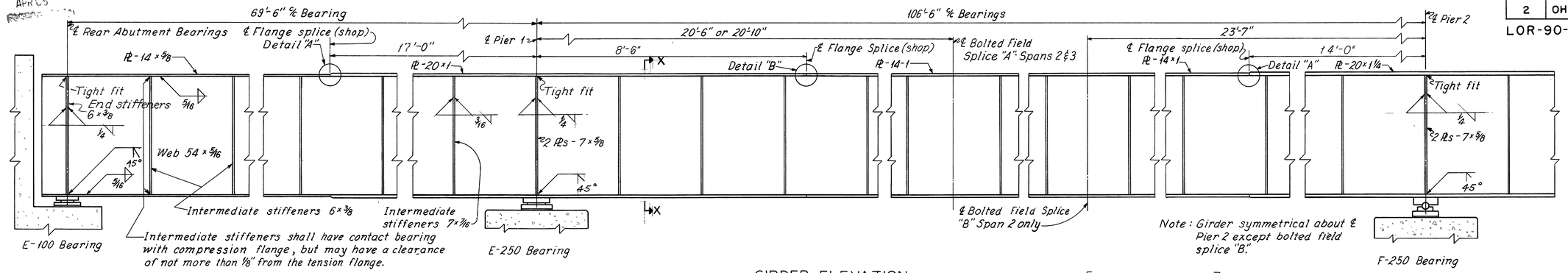
STA. 881 + 83.07

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
RAK	RAK	LK	JPG			

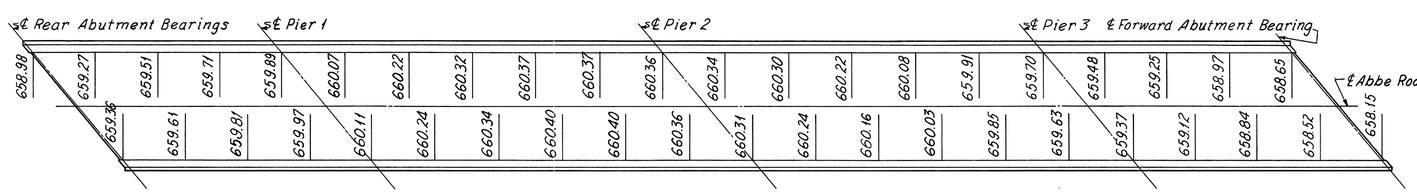
FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

460

LOR-90-13.01

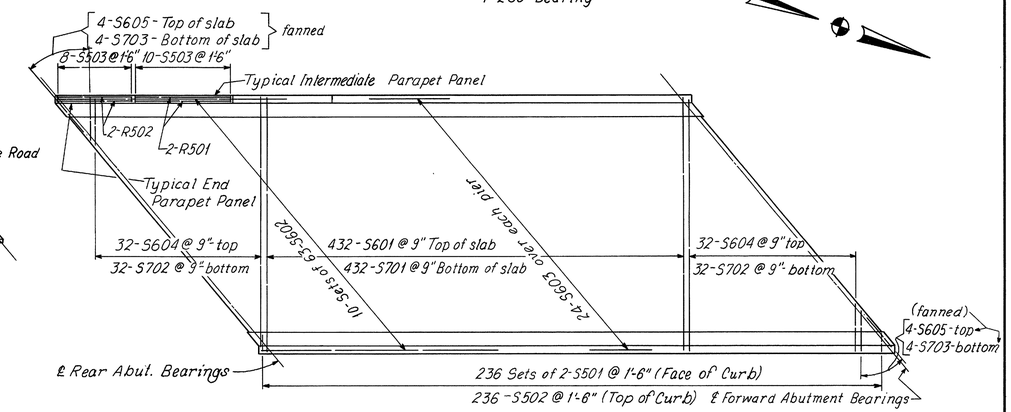


GIRDER ELEVATION



Note: Elevations shown are at deck level at face of curbs and are those which are required before the deck concrete is placed. These points are located at quarter points of end spans and sixth points of middle spans.

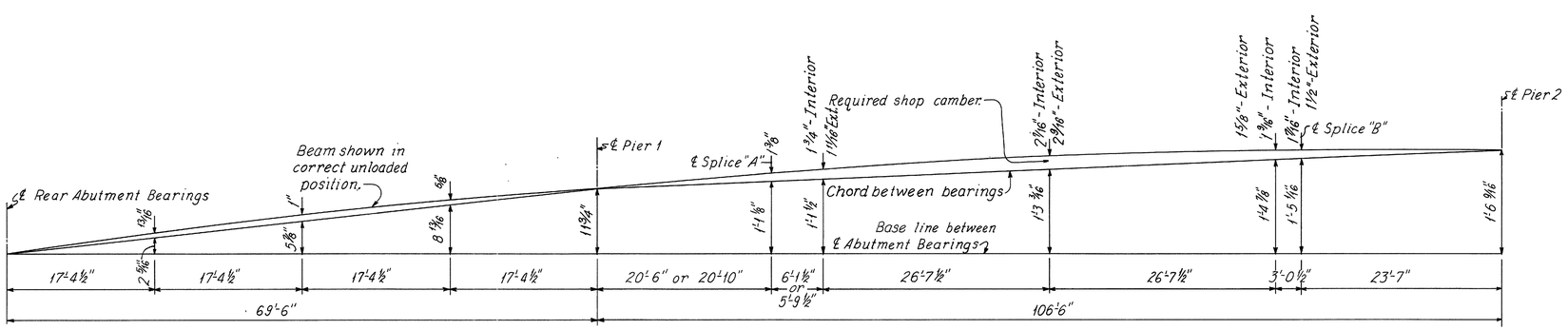
DECK ELEVATIONS



SLAB PLAN

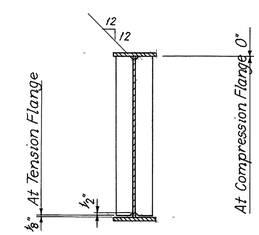
CAMBERING of girders is required in accordance with the following table:

DEFLECTION AND CAMBER																
	INTERIOR GIRDERS								EXTERIOR GIRDERS							
	END SPANS			MIDDLE SPANS					END SPANS			MIDDLE SPANS				
Span Point →	1/4	1/2	3/4	Spl. "A"	1/4	1/2	3/4	Spl. "B"	1/4	1/2	3/4	Spl. "A"	1/4	1/2	3/4	Spl. "B"
Deflection due to weight of steel	1/16	1/16	0	1/16	1/16	1/4	1/16	1/16	1/16	1/16	0	1/16	1/16	1/4	1/16	1/16
Deflection due to remaining dead load	3/16	3/16	1/16	1/4	7/16	1/2	1/4	3/16	3/16	3/16	1/16	1/4	3/8	5/8	5/16	1/4
Adjustment required for vertical curve	9/16	3/4	9/16	1 1/16	1 1/4	1 11/16	1 1/4	1 3/16	9/16	3/4	9/16	1 1/16	1 1/4	1 11/16	1 1/4	1 3/16
Required shop camber	13/16	1	5/8	1 3/8	1 3/4	2 7/16	1 9/16	1 7/16	13/16	1	5/8	1 3/8	1 11/16	2 9/16	1 5/8	1 1/2



Note: Diagram symmetrical about ℄ Pier 2 except for "Splice "B."

HALF GIRDER LAYOUT DIAGRAM



SECTION X-X

SHAFFER, PARRETT AND ASSOCIATES
Consulting Engineers
MANSFIELD, OHIO.

SUPERSTRUCTURE-2

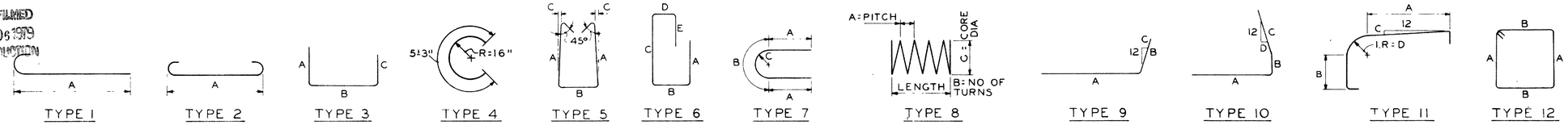
BRIDGE NO. LOR-90-1700
UNDER ABBE ROAD

LORAIN COUNTY — I.R. 90

STA. 881 + 83.07

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
RAK	Bob	JS	JPB			

MICROFILMED
APR 06 1979
REPRODUCTION



TYPE 1 TYPE 2 TYPE 3 TYPE 4 TYPE 5 TYPE 6 TYPE 7 TYPE 8 TYPE 9 TYPE 10 TYPE 11 TYPE 12

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

461

LOR-90-13.01

ABUTMENTS

MARK	NO	LENGTH	TYPE	A	B	C	D	E	WEIGHT
R503	8	13'-8"	Str.						✻
R504	8	22'-7"	Str.						✻
R505	12	4'-2"	5	1'-6"	8"				✻
R506	8	5'-4"	11	2'-8½"	9"	¾"	7⅜"		✻
S503	54	5'-7"	5	2'-2"	8"				314
A501	62	8'-2"	3	1'-7"	5'-3"	1'-7"			528
A502	62	6'-5"	3	7½"	5'-11"	0			415
A503	62	7'-4"	3	2'-1"	3'-5"	2'-1"			474
A504	76	23'-10"	Str.						1889
A505	44	11'-10"	12	2'-7"	3'-0"				547
A506	90	5'-11"	Str.						565
A507	32	Varies	Str.	3'-6" to 5'-3" Vary 8 each by 7"					146
A508	32	3'-6"	Str.						117
A511	6	10'-0"	10	8'-7"	6"	1'-1"	10 1/16"		63
A512	6	4'-8"	9	10"	3'-11"	5 3/16"			29
A513	2	7'-7"	10	6'-2"	6"	1'-1"	10 1/16"		16
A514	2	4'-10"	9	12"	3'-11"	5 3/16"			10
A515	2	9'-8"	10	8'-3"	6"	1'-1"	10 1/16"		20
A516	2	7'-0"	9	3'-2"	3'-11"	5 3/16"			15
A517	4	15'-3"	10	13'-10"	6"	1'-1"	10 1/16"		64
A518	4	12'-7"	9	8'-9"	3'-11"	5 3/16"			52
A519	8	6'-0"	Str.						50
A520	6	18'-4"	9	16'-10"	1'-7"	10 1/16"			115
A521	6	14'-11"	9	13'-5"	1'-7"	10 1/16"			93
A522	2	16'-11"	9	15'-5"	1'-7"	10 1/16"			35
A523	2	16'-1"	9	14'-7"	1'-7"	10 1/16"			34
A524	2	19'-1"	9	17'-7"	1'-7"	10 1/16"			40
A525	2	18'-3"	9	16'-9"	1'-7"	10 1/16"			38
A526	4	23'-7"	9	22'-1"	1'-7"	10 1/16"			98
A527	4	22'-9"	9	21'-3"	1'-7"	10 1/16"			95
A528	4	13'-11"	Str.						58
A529	4	12'-5"	Str.						52
A530	4	22'-10"	Str.						95
A531	4	24'-3"	Str.						101
A532	52	5'-2"	3	2'-1"	1'-3"	2'-1"			280
A533	32	(2)	3	(1)	1'-3"	(1)			128
A601	62	13'-6"	3	2'-8"	5'-3"	5'-11"			1257
A602	88	17'-5"	6	6'-1"	1'-5"	7'-8"	11"	2'-0"	2302
A603	42	17'-1"	3	8'-2"	1'-2"	8'-2"			1078
A604	4	6'-7"	3	5'-11"	10"	0			40
A605	12	8'-10"	3	8'-2"	10"	0			159
A606	8	7'-0"	3	6'-4"	10"	0			84
A801	28	25'-6"	Str.						1906
A802	12	19'-7"	Str.						627
A803	8	10'-10"	Str.						231
A804	4	11'-11"	Str.						127
						TOTAL WEIGHT			14,377

(1) 1'-11" to 11". Vary 8 each by 4".
(2) 4'-10" to 2'-10". Vary 8 each by 8".

PIERS

MARK	NO	LENGTH	TYPE	A	B	C	D	E	WEIGHT
P501	12	20'-5"	Str.						256
P502	192	7'-3"	3	2'-5"	2'-8"	2'-5"			1452
P503	6	7'-7"	3	2'-8"	2'-6"	2'-8"			47
P504	6	6'-11"	3	2'-8"	1'-10"	2'-8"			43
P505	12	7'-4"	7	1'-7"	4'-2"	1'-4"			92
P801	240	10'-8"	2	8'-6"					6835
P1101	18	18'-1"	1	16'-6"					1729
P1102	18	27'-7"	1	26'-0"					2638
P1103	12	9'-0"	Str.						574
P1104	6	25'-1"	Str.						800
P1105	12	36'-2"	Str.						2306
P1106	24	8'-9"	3	6'-3"	2'-10"	0			1116
P1107	40	22'-10"	Str.						4853
P1108	40	23'-11"	Str.						5083
P1109	40	24'-4"	Str.						5171
P1110	120	7'-3"	3	6'-1"	1'-5½"	0			4622
SP401	4	20'-1"	8	4½"	57	32"			1500
SP402	4	21'-2"	8	4½"	59	32"			1546
SP403	4	21'-7"	8	4½"	61	32"			1601
						TOTAL WEIGHT			42,264

✻ - These railing bars are included in Item 517 for payment

SUPERSTUCTURE

MARK	NO	LENGTH	TYPE	A	B	C	D	E	WEIGHT
R501	192	13'-6"	Str.						✻
R502	16	10'-8"	Str.						✻
S501	944	2'-4"	3	7½"	1'-4"	7½"			2297
S502	472	3'-6"	3	7½"	2'-6"	7½"			1723
S503	512	5'-7"	5	2'-2"	8"				2982
S601	432	35'-8"	Str.						23,143
S602	630	37'-1"	Str.						35,090
S603	72	42'-6"	Str.						4596
S604	64	Varies	Str.	7'-3" to 35'-0"		Vary 2 each by 10 3/16"			2036
S605	8	6'-4"	Str.						76
S701	432	35'-8"	Str.						31,494
S702	64	Varies	Str.	7'-3" to 35'-0"		Vary 2 each by 10 3/16"			2763
S703	8	6'-4"	Str.						104
						TOTAL WEIGHT			106,304

NOTES:

BAR SIZE is indicated in the bar mark. The first digit where three digits are used, and the first two digits where four are used, indicate the bar size number. For example A501 is a No. 5 size bar and P1101 is a No. 11 size bar.

SPIRAL REINFORING BARS: The "Length" shown in the steel list for the spiral bars is the distance from the top of the footing to the bottom of the cap. The "No. of Turns" shown is the "Length" divided by the pitch, plus 3 turns (total number of closed coils), expressed as the nearest whole number. Spiral reinforcing bars shall not have deformations but shall in other respects conform to Item 509. 1½ closed coils shall be provided at the ends of each spiral unit. Four steel channel, tee or angle spacers, weighing approximately 0.68 lb. per lin. ft. of spacer, shall be provided for each spiral unit. They shall be equally spaced along the periphery of the coil. The number of pounds of these spacers, based on 0.68 lb. per lin. ft. will be paid for as reinforcing steel and is included in the tabulated quantity of spiral bars.

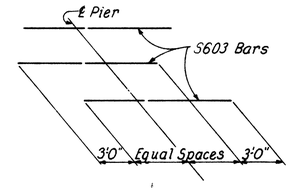


DIAGRAM SHOWING STAGGER OF S603 BARS OVER PIERS

REPLACEMENT BARS

MARK	NUMBER	LENGTH	TYPE
RE400	1	5'-3"	4
RE500	1	5'-7"	Str.
RE600	4	5'-11"	Str.
RE700	2	6'-2"	Str.
RE800	1	6'-6"	Str.
RE1100	2	7'-6"	Str.

SHAFFER, PARRETT AND ASSOCIATES
Consulting Engineers
MANSFIELD, OHIO.

REINFORCING STEEL
BRIDGE NO. LOR-90-1700
UNDER ABBE ROAD

LORAIN COUNTY I.R. 90

STA. 881 + 83.07

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
RAK	Jim	JS	JPG			

688121

688121 Vol 24 Page 51

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

LOR. - 90 - 13.01
LIMITED ACCESS

CENTERLINE SURVEY PLAT

DEPARTMENT OF HIGHWAYS

LOR.-90-13.01

LORAIN COUNTY

ELYRIA & SHEFFIELD TOWNSHIPS

T-6N R-17W CITY OF ELYRIA T-7N R-17W

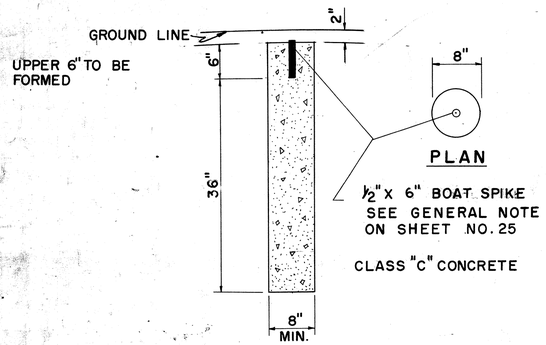
VILLAGE OF SHEFFIELD

0 400 800 1200 1600

SCALE IN FEET

LIMITED ACCESS

THIS IMPROVEMENT HAS BEEN DECLARED A LIMITED ACCESS HIGHWAY BY ACTION OF THE DIRECTOR OF HIGHWAYS AND RECORDED IN VOLUME 47 PAGE 582 OF THE DIRECTOR'S JOURNAL PURSUANT TO LAW



SECTION

DETAIL OF CENTERLINE REFERENCE MONUMENT

NOTE: MONUMENTS TO BE PLACED BY CONTRACTOR

MONUMENT SYMBOL

℄ REFERENCE MONUMENT ●

MONUMENT ASSEMBLY ■
(AS PER STANDARD DRAWING (MC-1))

QUANTITIES

℄ REFERENCE MONUMENTS	37
MONUMENT ASSEMBLIES	25

NOTE: MONUMENT ASSEMBLIES AS SHOWN ON STANDARD CONSTRUCTION DRAWING MC-1 (REV. 6-1-65) OF THE OHIO DEPARTMENT OF HIGHWAYS ARE TO BE PLACED AFTER THE LEVELING COURSE AND PRIOR TO PLACING, THE SURFACE COURSE OF 404 PAVEMENT.

THE CENTERLINE REFERENCE MONUMENTS, AS PER PLAN, ARE TO BE PLACED AFTER CONSTRUCTION IN THE VICINITY OF THE MONUMENTS IS COMPLETED.

THE PLACING OF THE MONUMENTS SHALL BE UNDER THE DIRECTION OF THE ENGINEER AND ANY ALTERATIONS SHALL BE NOTED AND THE RIGHT OF WAY ENGINEER, DIVISION 3, OHIO DEPARTMENT OF HIGHWAYS, SHALL BE NOTIFIED OF THE NEW LOCATION.

℄ REFERENCE MONUMENTS

QUAN.	STATION	LOCATION	REMARKS
1	684 + 00	℄ SURVEY	P.O.T.
1	693 + 00	℄ SURVEY	P.O.T.
1	701 + 73.90	℄ SURVEY	T.S
1	704 + 73.90	℄ SURVEY	S.C.
1	711 + 50	℄ SURVEY	P.O.C.
1	718 + 00	℄ SURVEY	P.O.C.
1	725 + 00	℄ SURVEY	P.O.C.
2	731 + 64.25	℄ SURVEY	C.S.
1	734 + 64.25	℄ SURVEY	S.T.
1	742 + 70.76	℄ SURVEY	P.C.
1	745 + 37.45	℄ SURVEY	P.C.C.
1	751 + 50	℄ SURVEY	P.O.C.
1	755 + 85.81	℄ SURVEY	P.C.C.
1	758 + 52.50	℄ SURVEY	P.T.
1	765 + 00	℄ SURVEY	P.O.T.
1	774 + 00	℄ SURVEY	P.O.T.
1	782 + 43.33	℄ SURVEY	P.C.
1	785 + 10.02	℄ SURVEY	P.C.C.
1	792 + 00	℄ SURVEY	P.O.C.
1	799 + 00	℄ SURVEY	P.O.C.
1	806 + 03.85	℄ SURVEY	P.C.C.
2	808 + 70.54	OFFSET	P.T.
1	817 + 00	℄ SURVEY	P.O.T.
1	824 + 50	℄ SURVEY	P.O.T.
1	832 + 22.73	℄ SURVEY	P.C.
1	838 + 00	℄ SURVEY	P.O.C.
1	843 + 00	℄ SURVEY	P.O.C.
1	848 + 00	℄ SURVEY	P.O.C.
1	852 + 83.90	℄ SURVEY	P.T.
1	860 + 00	℄ SURVEY	P.O.T.
1	868 + 00	℄ SURVEY	P.O.T.
1	876 + 00	℄ SURVEY	P.O.T.
1	884 + 00	℄ SURVEY	P.O.T.
1	892 + 00	℄ SURVEY	P.O.T.
	EXISTING ABBE ROAD		
1	36+00	℄ SURVEY	P.O.T.

℄ REFERENCE MONUMENTS

QUAN.	STATION	LOCATION	REMARKS
	MONUMENT ASSEMBLIES		
	WEST RIVER ROAD		
1	45 + 00	℄ SURVEY	P.O.T.
1	53 + 00	℄ SURVEY	P.O.T.
	STATE ROUTE 301		
1	128 + 00	℄ SURVEY	P.O.T.
1	135 + 00	℄ SURVEY	P.O.T.
	STATE ROUTE 254		
1	74 + 05	℄ SURVEY	P.O.T.
1	77 + 92	℄ SURVEY	P.I.
1	85 + 00	℄ SURVEY	P.O.T.
1	92 + 00	℄ SURVEY	P.O.T.
1	101 + 86.19	℄ SURVEY	P.C.
1	104 + 99.00	℄ SURVEY	P.I.
1	108 + 11.19	℄ SURVEY	P.T.
1	113 + 64.90	℄ SURVEY	P.I.
	RELOCATED ABBE ROAD		
1	31 + 02.48	℄ SURVEY	P.C.
1	33 + 69.24	℄ SURVEY	P.C.C.
1	34 + 87.16	℄ SURVEY	P.C.C.
1	37 + 53.92	℄ SURVEY	P.T.
1	41 + 13.83	℄ SURVEY	P.C.
1	43 + 80.59	℄ SURVEY	P.C.C.
1	49 + 20.59	℄ SURVEY	P.C.C.
1	51 + 87.35	℄ SURVEY	P.T.
1	58 + 65.35	℄ SURVEY	P.C.
1	61 + 32.11	℄ SURVEY	P.C.C.
1	61 + 54.22	℄ SURVEY	P.C.C.
1	64 + 20.98	℄ SURVEY	P.T.
	EXISTING ABBE ROAD		
1	56+50	℄ SURVEY	P.O.T.

104 + 98.69

I HEREBY CERTIFY THAT THIS PLAT IS A TRUE DELINEATION OF A SURVEY MADE FOR THE OHIO DEPARTMENT OF HIGHWAYS IN 1964

Meredith P. Lichtenwalter
MEREDITH P. LICHTENWALTER
REGISTERED SURVEYOR NO. 4162

RECEIVED April 8, 1966 AT 9:51 am
RECORDED April 8 1966
PLAT BOOK 24 PAGE 51-51a
SIGNED Leta B. Mitchell RECORDER, LORAIN COUNTY
FEE $8.64
APPROVED
SIGNED D.H. Cimmer P.E. NO. 26400
DATE 2-25-66 DIVISION DEPUTY DIRECTOR
DIV. NO. 3

Completed 2-18-66

688121

CENTER LINE SURVEY PLAT

LOR-90-13.01

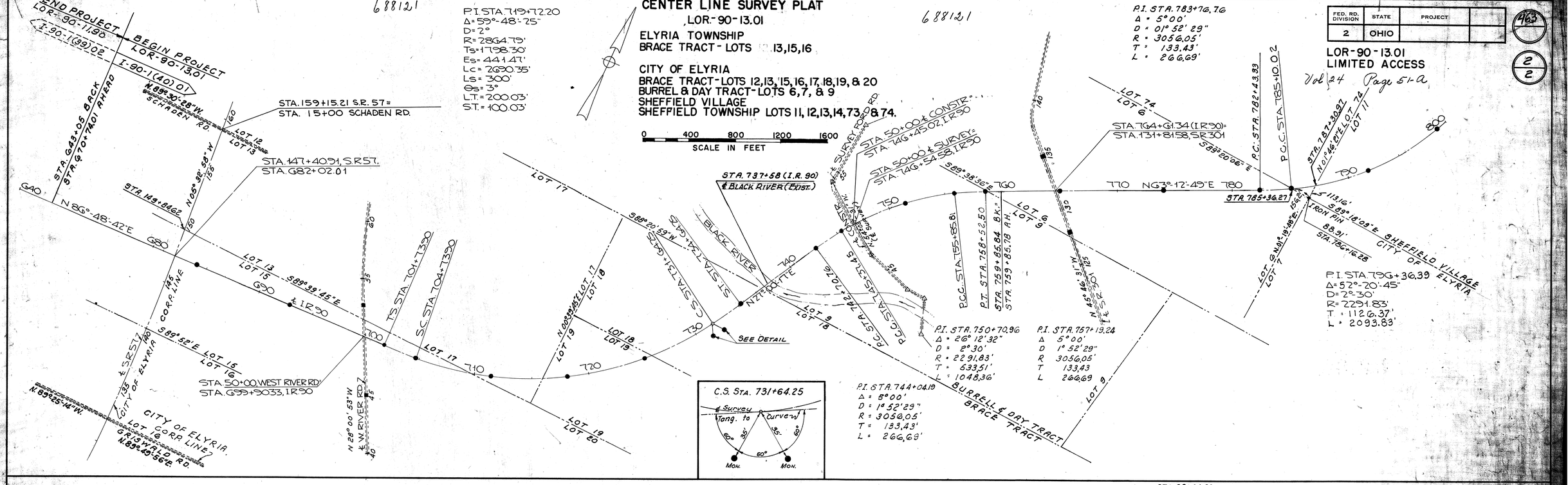
ELYRIA TOWNSHIP
BRACE TRACT - LOTS 13,15,16

CITY OF ELYRIA
BRACE TRACT - LOTS 12,13,15,16,17,18,19, & 20
BURREL & DAY TRACT - LOTS 6,7, & 9
SHEFFIELD VILLAGE
SHEFFIELD TOWNSHIP LOTS 11, 12,13,14,73, & 74.

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

LOR-90-13.01
LIMITED ACCESS

Vol 24 Page 51-a



I HEREBY CERTIFY THAT THIS PLAT IS A TRUE DELINEATION OF A SURVEY MADE FOR THE OHIO DEPARTMENT OF HIGHWAYS IN 1964

Meredith P. Lichtenwalter
MEREDITH P. LICHTENWALTER
REGISTERED SURVEYOR NO. 4162

RECEIVED April 8, 1966 AT 9:51 am
RECORDED April 8, 1966
PLAT BOOK 24 PAGE 51-51-a
SIGNED Leota B. Mitchell RECORDER

Completed 2-

LOR-90-13.01 2/2

CENTERLINE SURVEY PLAT

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO	I-90-1(40)01	

464

LOR.-90-13.01
LIMITED ACCESS
I-90-1(66)

1/36

SUMMARY OF ADDITIONAL RIGHT OF WAY REQUIRED

TOTAL NUMBER OF OWNERS = 90

(L) = LANDLOCKED
(C) = CALCULATED DEED AREA

NUMBER OF OWNERS WITH STRUCTURES = 24

PARCEL NO.	OWNER	RECORDED BOOK	RECORDED PAGE	DEED AREA	TO BE ACQ'D. LAND	TO BE ACQ'D. BLDG	RESIDUE LEFT	RESIDUE RIGHT	PRO	SHEET NO.	REMARKS	TYPE FUNDS
*												
10-WL	THE LEHMAN-JOHNSON COMPANY	517	273	12.98(C)	11.45	NO		0.77(L)	0.76	6,7 & 9	12.98 Ac. CALC., 11.70 Ac. DEED	I
10-T					0.07					6	CHANNEL	I
10-T1					0.02					6	SLOPE EASEMENT	I
11-WL	THE OHIO EDISON COMPANY	243	2	12.49	1.15	NO			0.69	6		I & S
11-X		388	126		0.79					6	CHANNEL	I
11-T		487	325		0.08					6	SLOPE EASEMENT	I
11-S		615	82		0.08					6	SEWER EASEMENT	I
11-WD					0.11					6		S
12-WL	MYRON WUDORSKI	496	65	19.00	7.24	NO	9.86		1.92	7,8 & 9		I
12-WD		467	142		0.02				0.07	7,8		
12-T					0.03					7	SLOPE EASEMENT	
11 5A	Ohio Edison Company									6	Water Line Relocation	
13-WL	SIDNEY SHIVAK	753	518	11.16	7.38	YES	3.09		0.48	9,10 & 25		
13-WD		188	376		0.21					10 & 25		
13-X					0.26					10 & 25		
13-T					0.02					10	REMOVE FR. BARN	
13-Y					0.03					9		
14-WL	JONAS & RDALIA MAURUKAS	700	720	13.52	3.85	NO		9.42	0.14	9,10 & 25		
14-WD					0.11					25		
14-T					0.01					25	SLOPE EASEMENT	
14-T1		361	518		0.08					10	SLOPE EASEMENT	
15-WL	RUSSELL C. & ANNA MABEL MATSON	360	18	1.55	1.43	NO	NONE	NONE	0.12	10 & 25		
		409	87				0.13					
16-WD	LUIE B. MORSE	723	294	0.23	0.05		0.13	NONE	0.05	10 & 25		
17-WD	GENEVIEVE PARAMORE	470	80	1.14	0.06	NO	1.02		0.06	10 & 25		
17-T					0.07					25	SLOPE EASEMENT	
18-WD	GEORGE D. HURLBUT	431	432	2.88	0.06	NO	2.63		0.19	25		
		264	117									
19-WD	VIRGIE RICHARDS	841	80	32.05	0.04	NO		31.78	0.23	25		I
19-T					0.02					25	DRIVEWAY	
20-WL	ELMER HUME INC.	864	128	101.45	15.70	YES	80.23(L)	5.01	0.38	10,11 & 25		
20-WD					0.13					25		
20-T					0.01					11	REMOVE SHED	
20-T1					0.08					10	REMOVE RESIDENCE	
21-WD	ROBERT D. & MARGARET P. CHOATE	591	416	10.31	0.21	NO		9.69	0.41	10 & 25		
21-T					0.09					10	SLOPE EASEMENT	
22-WL	THEODORE D. JURCZYNSKI	568	367	53.14	8.08	NO	3.44(L)	41.36	0.26	11 & 12		
22-X					0.09					12	CHANNEL	
22-Y					0.22					12	CHANNEL	
23 LA	BOARD OF PARK COMMISSIONERS, LORAIN	890	76	222.24	12.67	NO	111.20	92.83	5.54	12 & 13		
23 X	COUNTY METROPOLITAN PARK DISTRICT	912	255		0.09					12	CHANNEL	
24	NOT USED											
25-WL	CHARLES W. BUCK	501	307	1.00(C)	0.31	YES	0.45		0.24	13	1.00 Ac. CALC., 0.76 Ac. DEED	
25-T					450 S.F.					13	REMOVE SHED	
26-WL	GEORGE S. & ETHEL CHAMBERS	436	140	16.53	6.04	YES	7.39	2.20	0.80	13 & 14		
		727	224									
27-WL	JENNIE WIND	312	591	35.93	4.07	NO	0.01(L)	31.18	1.07	14 & 26		
27-WD					0.28					26		
28-WL	PERCY L. & MILDRED CHAMBERS	205	262									
28A-WL	RAY T.P. & MARY SHURLEY	243	540	4.15	3.22	YES	0.78(L)		0.15	14		
29-WL	LESTER P. & VIRGINIA M. NORRIS	902	537	4.16	0.29		3.87			14		
29-WD		800	709	3.62	0.21	NO	3.09		0.20	14 & 26		
29-T					0.12					14 & 26		
					0.06					26	DRIVEWAY	
30-WL	HOWARD & JESSIE CARRICK	326	579	1.22	1.07	YES	NONE	NONE	0.15	14 & 26		I
		623	260									

PARCEL NO.	OWNER	RECORDED BOOK	RECORDED PAGE	DEED AREA	TO BE ACQ'D. LAND	TO BE ACQ'D. BLDG	RESIDUE LEFT	RESIDUE RIGHT	PRO	SHEET NO.	REMARKS	TYPE FUNDS
31-WD	BETTY J. GERHART	699	232	8.30	0.04	NO	7.64		0.62	27		I
		785	200									
32-WL	AUGUST & JOSEPHINE PIAZZA	321	588	46.70	6.41	NO	2.84	35.93	1.07	14 & 15		
32-WD					0.23					26		
32-WD-1					0.22					26 & 27		
32-T					0.32					26	TEMP. ROADWAY	
32-T1					0.62					26 & 27	TEMP. ROADWAY	
32-T2					0.11					15	WORK AGREEMENT	
33-WD	HELEN E. FIRE ET AL	790	68	2.53	0.06	NO	2.41		0.06	27		
34-WD	WILLIAM E. & NORMA JOHNSON	721	385	1.35	0.24	NO		0.88	0.23	26		
34-T					0.40					26	TEMP. ROADWAY	I
35-T3					0.25					15 & 16		
35-WL	WADE H. JOHNSON & PARK W. JOHNSON	750	650	31.26	7.13	NO	18.74	5.02(L)	0.36	15 & 16		
35-WD		879	465		0.01					27		
35-T					0.01					15	WORK AGREEMENT	
35-T1					0.01					15	WORK AGREEMENT	
35-T2					0.07					15	WORK AGREEMENT	
36-WD	MICHAEL B. & HAZEL L. RATH	617	220	13.12	0.03	NO		12.14	0.95	26		
36-T					0.08					26	TEMP. ROADWAY	
37-WL	ANTHONY A. SLIMAN ET AL	742	644	43.48	0.15	NO		42.79	0.54	16		
38-WL	EUGENE L. & PATRICIA RIEGELSBERGER	864	232	10.71	0.03	NO	10.56		0.12	16		
38-T		862	652		0.16					15 & 16		
		651	131									
** 39-WL	WILLIAM B. & MARIA J. SPIERINGS	846	501	18.43	1.30	NO	16.46		0.64	16		I
39-WD					0.03					28		S
40-A-WL	JOHN P. LEYEN	856	288	0.57	0.05	NO		0.31	0.09	28		S
40-A-WD					0.02	NO				28		S
40-A-T					0.02					28	DRIVEWAY	S
40-WL	DAVID R. & FLORENCE L. HAWLEY	794	303	16.14**	4.54	NO	10.38	0.77(L)	0.16	16	**+ 20 FT. EASEMENT	I
40-WL-1					0.26	YES				28		I & S
40-WL-2					0.03	NO				28		I
40-T					0.07					28	REMOVE RESIDENCE	S
41-WL	JOHN J. & HELEN C. IVAN	730	341	20.50	13.57	YES	0.94(L)	5.63(L)	0.36	16,17 & 28		I
41-T					0.01					16		
42-WL	PAUL & ELIZABETH BUTTI	298	322	33.71	5.96	YES		27.64(L)	0.11	17 & 29		
42-T					0.13					17	SLOPE EASEMENT	I
42-T-1					0.01					17	WORK AGREEMENT	
42-T-2					0.08					17	REMOVE SHED & METAL BLDG.	
43-WL	LOUIS E. BUTTI	695	610	1.19	1.07	YES	NONE	NONE	0.12	17 & 29		
44-WL	WILLIAM & IRENE BUTTI	695	612	0.98	0.85	YES	NONE	NONE	0.13	17 & 29		I
45-WL	FRANCIS M. & EDITH H. BEDOR	745	351	0.69	0.43	YES	0.18(L)	NONE	0.08	17 & 28		I & S
		299	585									
46-WL	THOMAS F. & FRANCES K. DUNNIGAN	662	573	0.69	0.61	YES	NONE	NONE	0.08	17 & 28		I
47-WL	ELMER ROBERT & MARY LOU URIG	662	570	1.16	1.07	YES	NONE	NONE	0.09	17 & 28		I
48-WL	ALFRED C. & EVELYN M. MOHR	328	424	14.00	13.65	YES	NONE	NONE	0.35	17,18,28 & 29		I
49-WD	JOHN PAUL LASKIN	663	264	0.83	0.03	NO	0.71		0.09	28		S
49-T					0.04					28	DRIVEWAY	S
50-WL	LEONA J. BRYDEN	754	497	12.00	3.21	NO		8.46(L)	0.33	18 & 29		I & S
50-T		782	422		0.11					29	TEMP. ROADWAY	I
51-WL	ALEX & IRENE C. BUTTI	695	614	1.12	0.74	YES		0.22(L)	0.16	29		I & S
52-WL	ARTHUR D. & LEONA J. BRYDEN	267	146	0.37	0.07	YES		0.24(L)	0.06	29		S
53-WL	ROSELLA & VICTOR J. GORNALL	754	317	24.69	0.13	NO		22.60	1.21	29		
53-WD		754	493		0.48					29 & 30		
53-WD-1					0.10					30		
53-T					0.08					29	DRIVEWAY	S
53-WD-2					0.17							
54-WL	Y. S. & COLISTA M. RIDA	853	312	9.66	0.19	NO	8.83		0.43	29		
54-T					0.01					29	DRIVEWAY	
54-T1					0.17					29	TEMP. ROADWAY	I
54-WD					0.21					29		S
55-WD	WILLIAM L. & ANTOINETTE KANE	841	175	2.34	0.10	NO	2.24		NONE	29		S
55-T		841	173		0.01					29	DRIVEWAY	S

Added 11 5A 4-30-74 9-20-73 Changed 23WL to 23 LA (Per J.E.C.) 6/13/68 Rev. Funds Par. 50T & 54T-1

* ADDED AT END OF SUMMARY 7/26/67 Added Par. 53-WD-2 (J.R.Y.) 3/5/68 Rev. Par. 23WL (J.R.Y.)

SEE SHEET No. 6 FOR B.P.R. PARTICIPATION 7-5-66 2-2-69 Deleted 23T4 & 23T2

LOR-190-13.01 1/36

SUMMARY OF ADDITIONAL RIGHT OF WAY

DEC 17 1965

SUMMARY OF ADDITIONAL RIGHT OF WAY REQUIRED

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO	I-90-1(40)01	

465

LOR.-90-13.01
LIMITED ACCESS
I-90-1(66)

2/36

(L) = LANDLOCKED
(C) = CALCULATED DEED AREA

PARCEL NO.	OWNER	RECORDED BOOK	RECORDED PAGE	DEED AREA	TO BE ACQ'D. LAND	TO BE ACQ'D. BLDG	RESIDUE LEFT	RESIDUE RIGHT	PRO.	SHEET NO.	REMARKS	TYPE FUNDS
56-WD	PHILLIPS PETROLEUM COMPANY	905	558	0.72	0.20	NO.		0.22	0.26	30		S
56-WD-1					0.04							
57-WD	THE STANDARD OIL COMPANY	799	294	0.82	0.18	YES.		0.43	0.21	30		
57-T					0.09					30	REMOVE RESIDENCE	
58-WD	MARY SCHWEDA	454	297	1.62	0.29	NO.		1.11	0.22	30		
58-T		470	302		0.02						DRIVEWAY	
58-X					0.04						CHANNEL	
59-WD	EDWARD B. AND LEONA F. BROWN	457	117	13.99	1.07	YES	11.56		1.36	30		
59-T		399	483		0.04					30	REMOVE RESIDENCE	
60-WD	MICHAEL AND ESTELLE KOTRADI	603	62	2.16	0.05	NO.		2.03	0.08	30		
61-WD	LEE J. AND GERALDINE S. TOWNSEND	682	382	1.23	0.03	NO.		1.12	0.08	30		
61-T					0.04							S
62-WD	LEE J. TOWNSEND	452	283	1.24	0.02	NO.		1.14	0.08	30		
62-T					0.05					30		
63-WD	PETER AND SHIRLEY KARASEVIC	554	283	2.00	0.04	NO	1.88		0.08	30		
64-WD	VIOLET SCHODITSCH	895	506	6.27	0.06	YES	6.03		0.18	30		
64-T		44	94		0.06					30	REMOVE RESIDENCE	
64-T-1					0.01					30	DRIVEWAY	
65-WD	THOMAS E. AND MARY M. WOLFE	625	141	1.97	0.05	NO.		1.85	0.07	30		
66-WD	CHARLES AND ALICE DECHANT	456	305	31.19	0.03	NO.		30.31*	0.85	30	*RESIDUE LEFT & RIGHT	
67-WD	EDMUND B. AND WILDA L. PETERSEN	561	494	23.11	0.36	NO.		22.51	0.24	30		
67-T					0.07					30	DRIVEWAY	
67-X					0.08					30	CHANNEL	S
68-WL	ELIZABETH LASKIN	760	447	63.20	2.13	NO.	42.68	14.56	1.13	18 & 28		I & S
68-WD		218	142		0.18	NO				28		S
68-T					0.20					28	TEMPORARY ROADWAY	I
68-WL-1					2.52	NO				18 & 19		I
68-X					0.53					18 & 19	CHANNEL	I
68-Y					0.54					18 & 19	CHANNEL	I
68-A-WD	JUNE M. WARNER	852	585	9.93	0.69	NO	8.34		0.90	30		S
69-WL	LILLIAN SCHMITZ	312	38	16.62	1.98	NO.	5.48(L)	9.16	NONE	19		I
69-X					0.42					19	CHANNEL	
69-Y					0.40					19	CHANNEL	
70-WL	ARTHUR J. DECHANT	312	37	42.50	4.19	NO.	9.45(L)	28.31	0.55	19		
70-X					1.04					19	CHANNEL	
70-Y					1.03					19	CHANNEL	
71-WL	ALEX HORVATH	829	254	61.22	13.51	NO.	4.19(L)	43.43	NONE	19, 20 & 21		
71-WD		822	32		0.09					32		
71-X					1.56					19, 20 & 21	CHANNEL	
71-Y					2.40					19, 20 & 21	CHANNEL	
71-T					0.02					21	DRAINAGE EASEMENT	
*	OUT OF ORDER											
72-WL	BERTHA SCHNEIDER	656	327	65.15	8.24	YES	3.45	50.01	1.34	21 & 22		I
72-WD		831	656		0.02	NO				32		
72-WD-1					0.02	NO				22		
72-WD-2					1.81	NO				32 & 33		
72-WD-3					0.16	NO				33		
72-WD-4					0.10	NO				22	TURNAROUND	
72-T					0.01					32	DRIVE	
72-T1					0.04					33	DRIVE	
72-T2					0.06	YES				22	REMOVE SHED	
73	HAROLD J. ARONSON AND FRANK J. NARDINI	686	437	0.71					0.04	23 & 33	NO R/W NEEDED	
74-1	THE LORAIN AND WEST VIRGINIA RAILWAY COMPANY	137	53	16.75	0.07	NO	16.53		0.003	22		
74-2					0.15	NO				22		
74-T					0.06					21		
* 71A-WL	ALEX HORVATH (FEE)	1022	319	3.36	0.36	NO		3.00	NONE	21 & 32		
71A-T	JOHN KLEIN (E.C.)				165 S.F.					21 & 32		I

PARCEL NO.	OWNER	RECORDED BOOK	RECORDED PAGE	DEED AREA	TO BE ACQ'D. LAND	TO BE ACQ'D. BLDG	RESIDUE LEFT	RESIDUE RIGHT	PRO.	SHEET NO.	REMARKS	TYPE FUNDS
75-WL	THE LAKE ERIE AND PITTSBURGH RAILWAY COMPANY	93	455	—	0.41	NO	—	—	0.20	22		I
75-WD					0.50	NO				33		
75-WD-1					0.15	NO				22		
75-T					0.04					33	SLOPE	
75A-WU	MAJOR H. & LONNIE JENNINGS	864	222	1.395	1.395	YES	-0-			35 A		
* 75B-WU	LEROY & CECILIA JUNGBLUTH	454	301	23.12	1.02	NO	22.10			35 A		
76-WL	THEODORE A. AND CATHERINA ANN SCHMITZ	199	516	11.35	0.50			0.31	0.21	22 & 23		
76-WL-1					0.18	NO		0.57		22		
76-WD					1.71	NO		7.87		33		
76-T					0.01					33	SLOPE	
76-T1					0.02					33	DRIVE	
76-WD1					0.22					33	ADDED 12-20-66	
77-WL	ANTHONY AND ESTHER GILLES, ANNA GILLES LIFE EST.	556	451	1.51	0.03*		1.17		0.27	23	*ALREADY IN EXIST. R/W	
77-WD					0.06					23	SERVICE ROAD	
78-WL	THE CEICO COMPANY	293	386	4.08	0.42	NO			0.08	23		
78-WD					0.29	NO				23 & 34		
					0.02					34	DRIVE	
79-WL	THOMAS J. AND ANN RAKOVAN	462	455	51.55	3.40	YES	2.47	17.76	0.64	23		
79-WL-1					3.11	NO		22.25		23		
79-WD					0.21	NO				23 & 33		
79-WD-1					0.66	YES				23		
79-WD-2					1.05	YES				34		
79-WD-3					0.12					33	ADDED 12-20-66	
79-T					0.04					34	DRIVE	I
80-WL	FRED WINTER ET AL	810	558	34.73	4.58	NO	8.55	21.14	0.38	23 & 24		
80-WD					0.08	NO				34		
81-WD	RAYMOND DECHANT	460	121	23.71	0.30	NO		23.11	0.30	32		
81-T					0.01					32	DRIVE	
82-WD	ANTHONY PALUMBO	804	148	22.69	1.11		0.18	21.11	0.24	32		
82-T					0.02					32	DRIVE	
83-WD	THE CLEVELAND ELECTRIC ILLUMINATING COMPANY	207	284	5.40	0.28	NO	0.31	4.74	0.07	32		
83-T					0.02					32	DRIVE	
84-WD	RAYMOND AND AGNES DECHANT	829	242	8.63	0.07			8.32	0.24	32		
85-WD	JAMES EDWARD AND OPAL PEARL LILLY	833	185	2.46	0.23	NO	2.11		0.12	34		
85-T					0.01					34	DRIVEWAY	
86-WD	ROBERT W. AND LORENE SANDRA PORTER	886	41	1.70	0.17	NO	1.46		0.07	34		
86-T					0.01					34	SLOPE	
87-WD	WILLIAM AND ANNA SCHMIDT STEM	583	321	1.76	0.16	NO	1.54		0.06	34		
87-T					0.02					34	SLOPE	
88-WD	SUSANNA E. KUHN	667	288	0.63	0.15	NO	0.42		0.06	34		
88-T				59.83*	0.02		56.79*		2.36*	34	SLOPE	
89-WD	ALEX HORVATH	887	169	59.83*	0.28	NO	56.79*		2.36*	34	*PLUS 3 LOTS	
89-T					0.02					34	DRIVEWAY	
89-X					0.15					34	CHANNEL	
90-WD	MYRTLE S. LEVIN, TRUSTEE	752	204	0.71	0.05	NO	0.62		0.04	34		
90-T					0.01					34	SLOPE	
* 75C-WU	GEORGE & BETTY MISLINSKI	865	136	45.80	0.53	NO	45.27			35 A		
		476, 653	516, 268									
* 38-A-T	EUGENE L. AND PATRICIA M. RIEGELSBERGER	805	460	11.33	0.14	NO	11.08		0.25	15	CHANNEL	I
* 38-B-T	W.A. WALTER INC.			8.48	0.06	NO	8.44		0.04	15	CHANNEL	I
* 5-WD	MILTON P. AND ETHEL R. BRINE	686	443	25,100 S.F.	2,640 S.F.	NO	22,460 S.F.		NONE	8 & 35	LOTS 1, 2, 3, 4 BLK. 23; PT. LOTS 1 & 2 BLK. 24, BROOKSIDE FARMS ALLOT.	S
5-AT	" " " " " "				1290					8 & 35	Slope, ditch & Culvert.	S
* 6-WD	KENNETH W. HEISLER	851	132	56,275 S.F.	4,110 S.F.	NO	52,165 S.F.		NONE	8 & 35	LOTS 1 THRU 8 BLK. 2; PT. LOTS 1 THRU 4 BLK. 1, BROOKSIDE FARMS ALLOT.	S
* 6-T		798	658		1,450 S.F.					8 & 35	SLOPE & DRIVE	S
* 7	GERALD A. READY ET AL	615	554		NONE						NO R/W NEEDED	I
* 8-WL	ERMA KOVACH	813, 866	160, 48	109,320 S.F.	24,50 S.F.	YES		96,360 S.F.	96,70 S.F.	8 & 35	LOTS 11, 12, 13 POLES SUBDN. LOTS 13, 14 INTERURBAN ALLOT.	I
* 8-WD		410, 557	153, 555		840 S.F.					8 & 35		
* 8-T					910 S.F.					8 & 35		I
* 9-WL	C.E. DOANE	106	426	6,990 S.F.	1,570 S.F.	NO		2,550 S.F.	1,930 S.F.	8 & 35	LOT 10 POLES SUBDN.	
* 9-WD					940 S.F.	NO				8 & 35		
* 8-T-1	ERMA KOVACH				1,735 S.F.	NO				8 & 35	LOT 12 POLES SUBDN. REMOVE RESIDENCE	I

4-4-68 Added Par. 75A-WU, 75B-WU, 75C-WU (J.R.Y.) 7/26/67 Added Par. 56-WD-1 (J.R.Y.) 8/28/67 Rev. Area Par. 56WD-1 & 58X (J.R.Y.) 2/21/68 Rev. Par. 62WD & Added 61-T & 62-T (J.R.Y.)
6-19-68 Rev. Fund on Par 68T & F.

SUMMARY OF ADDITIONAL RIGHT OF WAY

DEC 17 1965

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

466

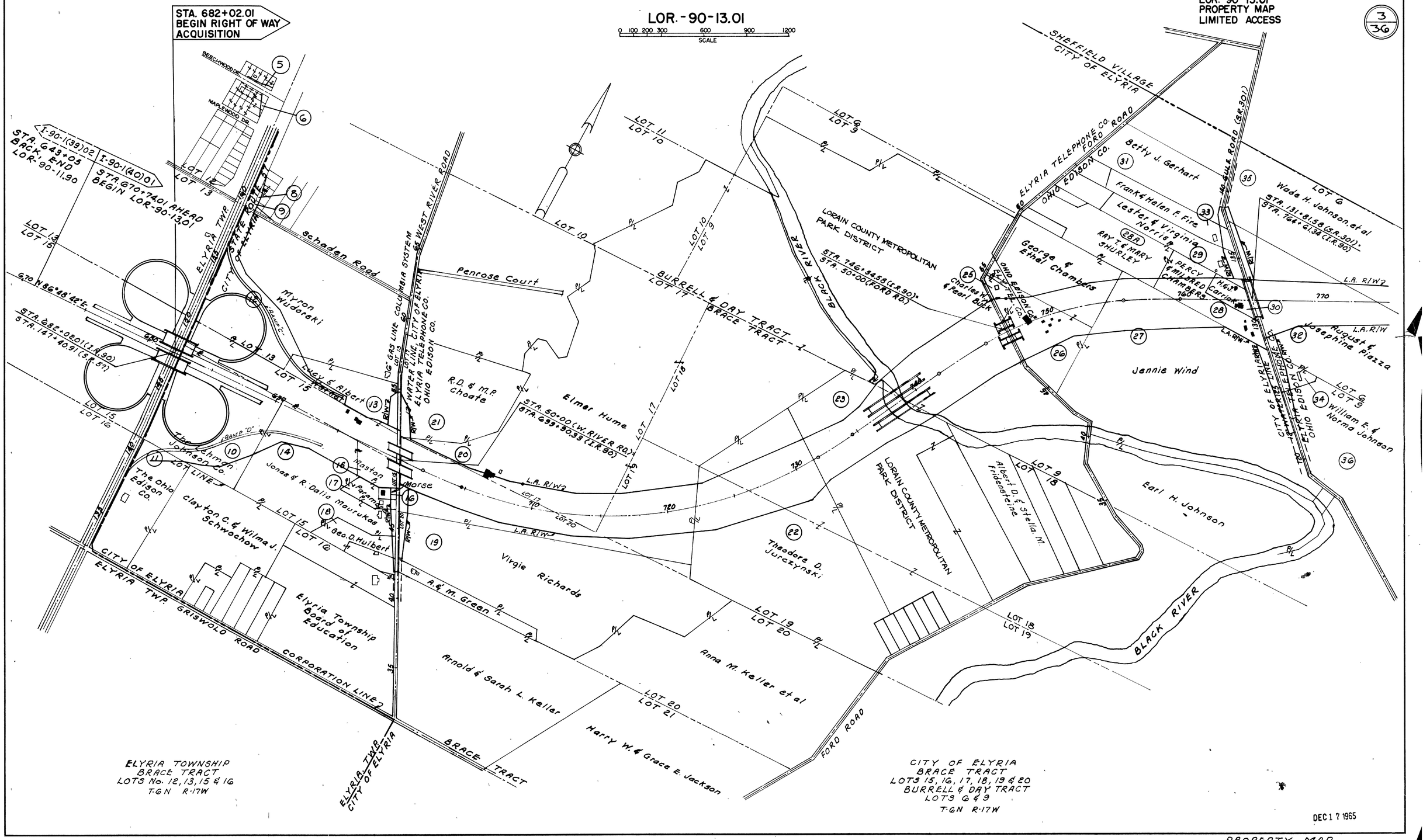
LOR.-90-13.01
PROPERTY MAP
LIMITED ACCESS

3/36

PROPERTY MAP

LOR.-90-13.01

0 100 200 300 600 900 1200
SCALE



DEC 17 1965

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

467

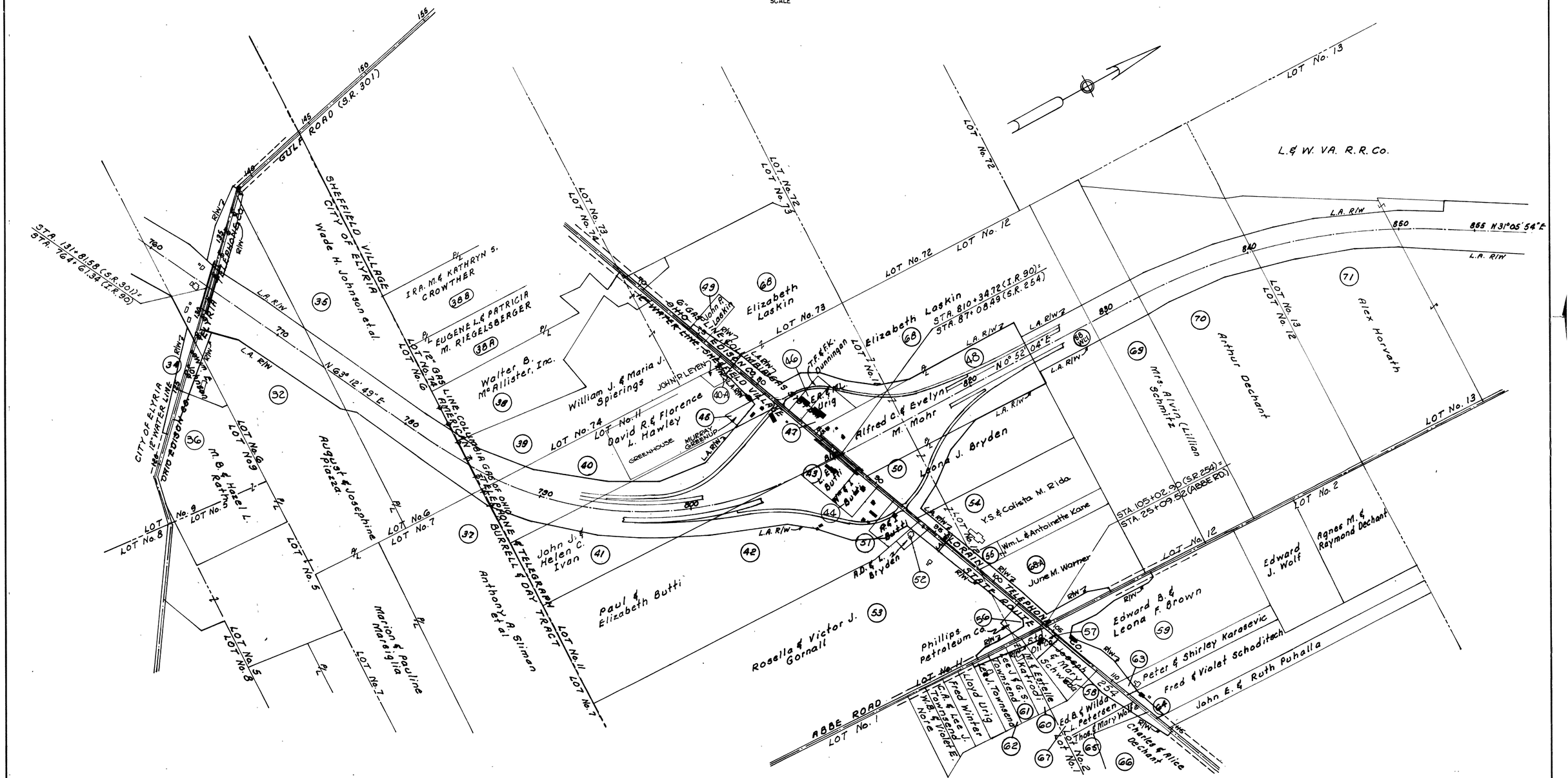
LOR.-90-13.01
PROPERTY MAP
LIMITED ACCESS

4/36

PROPERTY MAP

LOR.-90-13.01

0 300 600 900 1200
SCALE



DEC 1 7 1965

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

468

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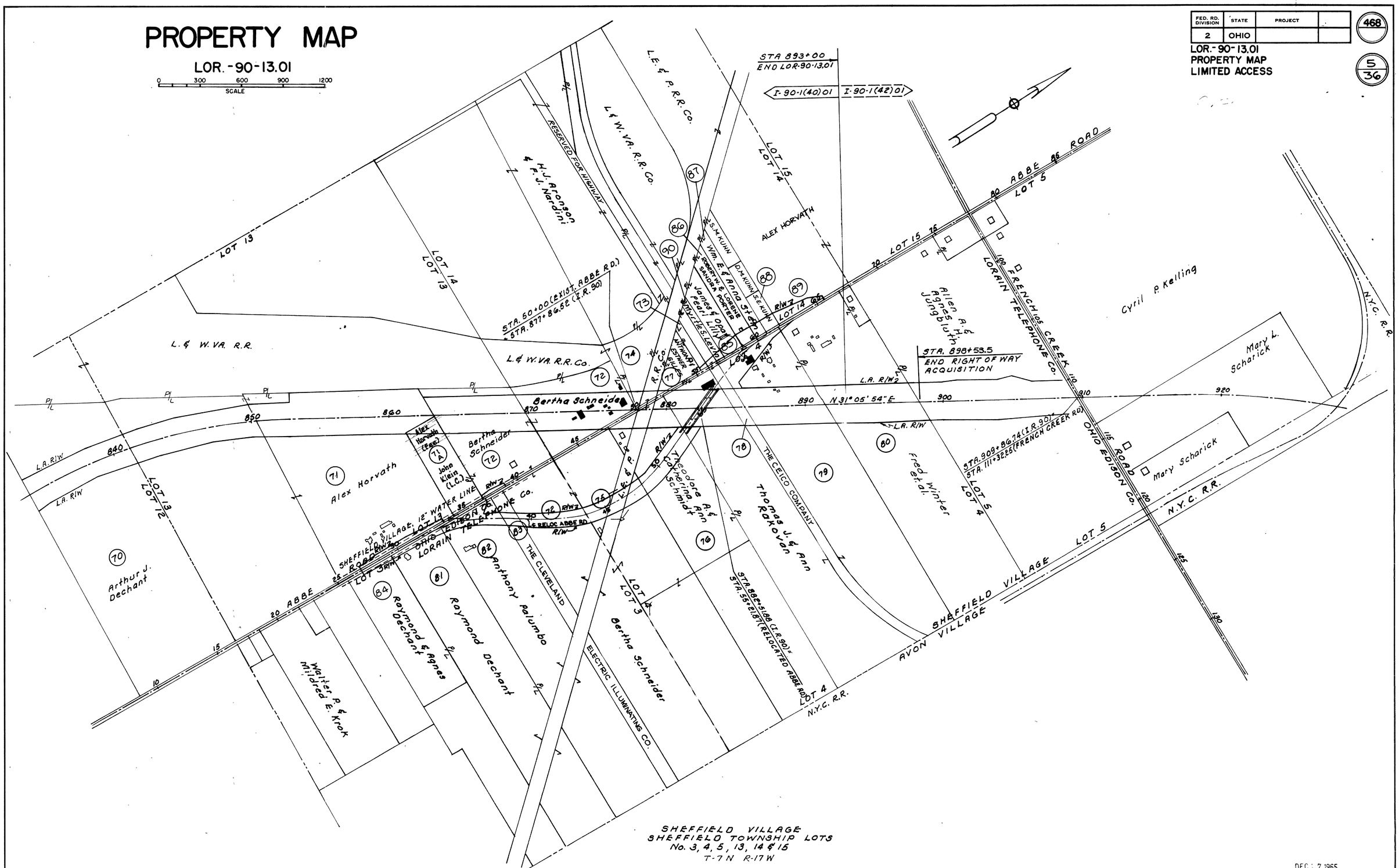
LOR.-90-13.01
PROPERTY MAP
LIMITED ACCESS

PROPERTY MAP

LOR.-90-13.01

0 300 600 900 1200
SCALE



DEC 7 1965

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO	I-90-1(40)01	

469

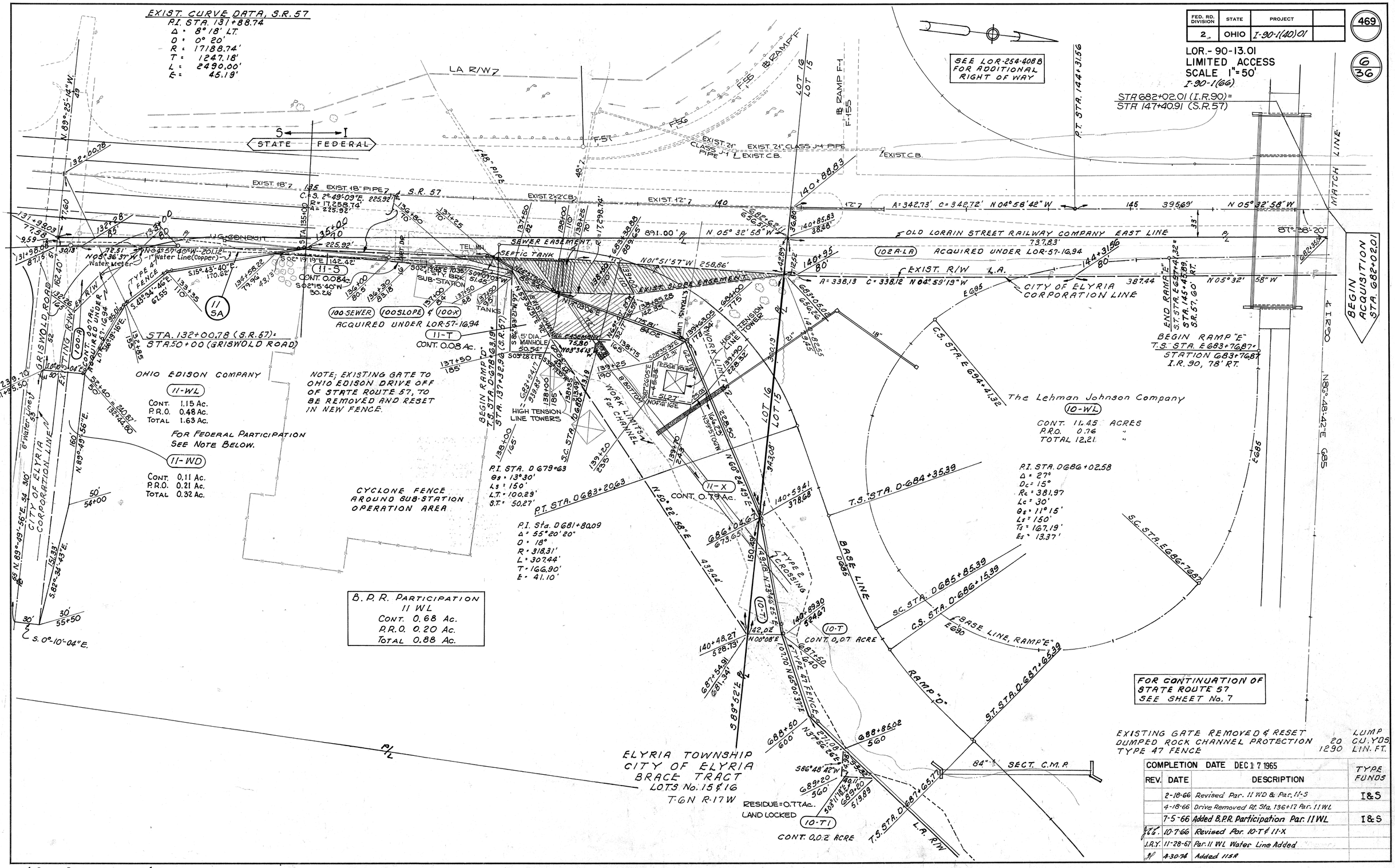
6/36

LOR.- 90-13.01
LIMITED ACCESS
SCALE 1" = 50'
I-90-1(66)

EXIST. CURVE DATA, S.R. 57
P.I. STA. 131+88.74
Δ = 8° 18' LT.
D = 0° 20'
R = 17188.74'
T = 1247.18'
L = 2490.00'
E = 45.19'

STA 682+02.01 (I.R.90) = STA 147+40.91 (S.R.57)

BEGIN ACQUISITION STA. 682+02.01



B.P.R. PARTICIPATION
11 WL
CONT. 0.68 Ac.
P.R.O. 0.20 Ac.
TOTAL 0.88 Ac.

EXISTING GATE REMOVED & RESET		
DUMPED ROCK CHANNEL PROTECTION	20	LUMP CU. YDS
TYPE 47 FENCE	1290	LIN. FT.

COMPLETION DATE DEC 17 1965

REV.	DATE	DESCRIPTION	TYPE FUNDS
	2-18-66	Revised Par. 11 WD & Par. 11-S	I&S
	4-18-66	Drive Removed Rt. Sta. 136+17 Par. 11 WL	
	7-5-66	Added B.P.R. Participation Par. 11 WL	I&S
J.E.C.	10-7-66	Revised Par. 10-T & 11-X	
J.R.Y.	11-28-67	Par. 11 WL Water Line Added	
	4-30-74	Added 11 SA	

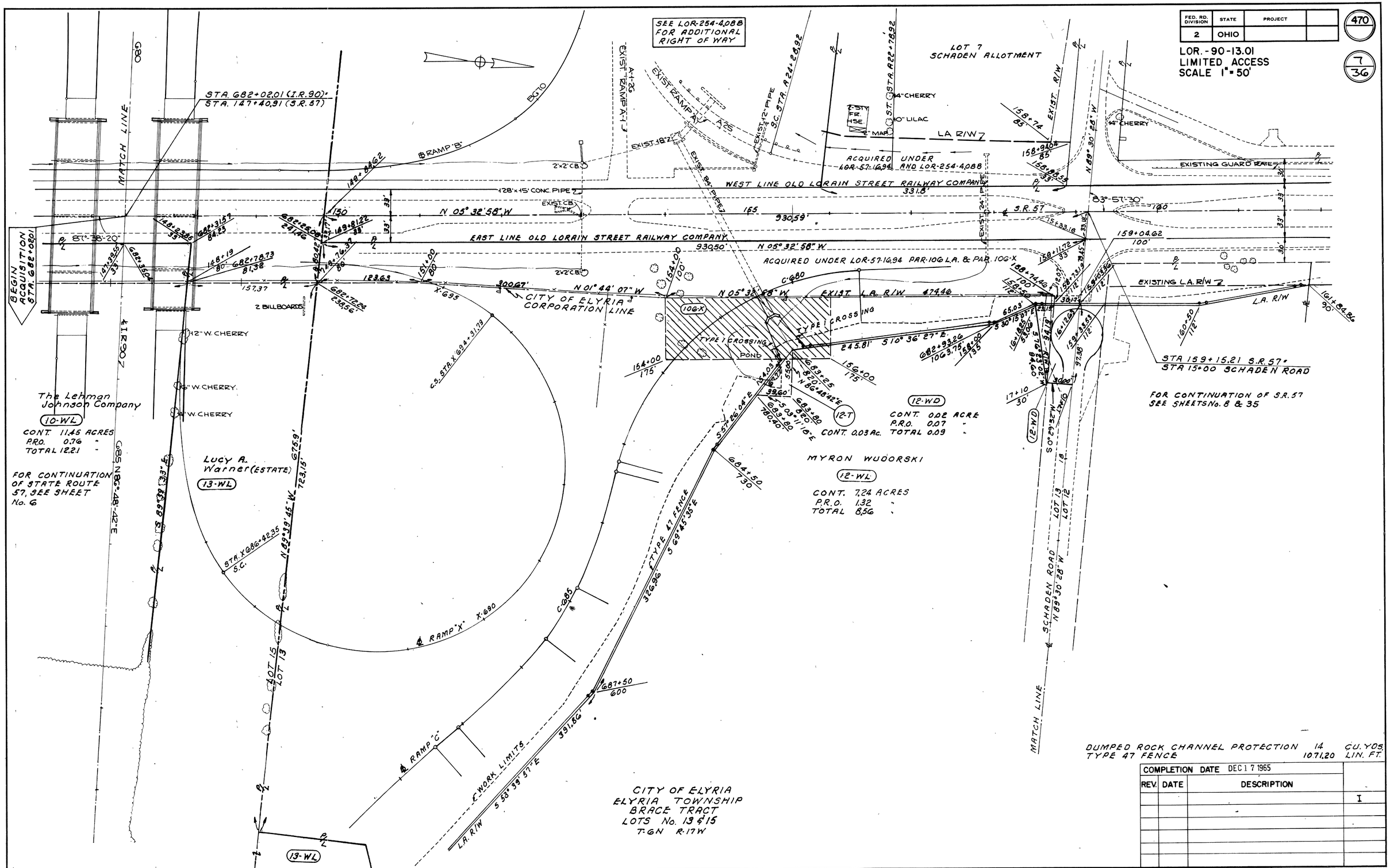
RIGHT OF WAY, STA. 132+00 TO STA. 147+00, S.R. 57

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

470

7/36

LOR.-90-13.01
LIMITED ACCESS
SCALE 1" = 50'



DUMPED ROCK CHANNEL PROTECTION 14 CU. YDS.
TYPE 47 FENCE 10.7.1.20 LIN. FT.

COMPLETION DATE DEC 1 7 1965

REV.	DATE	DESCRIPTION	
			I

LOR-190-13.01 7/36

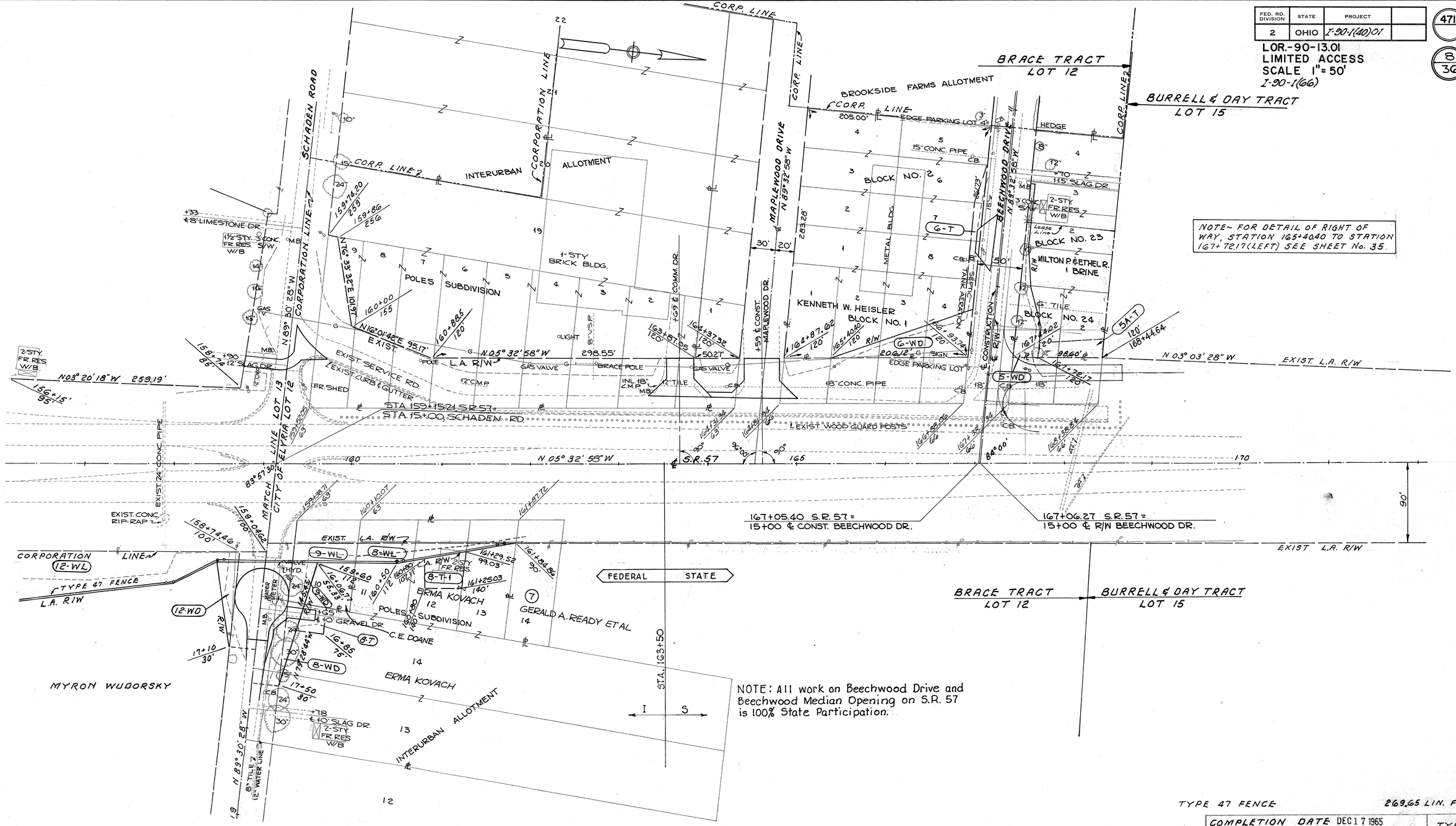
RIGHT OF WAY, STA. 147+00 TO STA. 162+00, S.R. 57

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO	I-90-1(40)01	

471

8/36

LOR.-90-13.01
LIMITED ACCESS
SCALE 1" = 50'
I-90-1(66)



NOTE~ FOR DETAIL OF RIGHT OF WAY, STATION 165+40.40 TO STATION 167+72.17 (LEFT) SEE SHEET No. 35.

NOTE: All work on Beechwood Drive and Beechwood Median Opening on S.R. 57 is 100% State Participation.

NOTE~ FOR DETAIL OF RIGHT OF WAY STA. 159+15.21 TO STA. 162+00 (RIGHT) SEE SHEET No. 35

ELYRIA TOWNSHIP
CITY OF ELYRIA
BRACE TRACT
LOT 12
T-6N R-17W

TYPE 47 FENCE 269.65 LIN. FT.

COMPLETION DATE DEC 17 1965

REV.	DATE	DESCRIPTION	TYPE FUNDS
			I & S
	9-18-68	Added Parcels; 5A-WD, 5A-T, & 5B-T. L.V.C.	
	9-18-68	Changed distance on Ex. R/W-LA line, Parcel 5A-WD from 70.45' to 72.47'. L.V.C.	

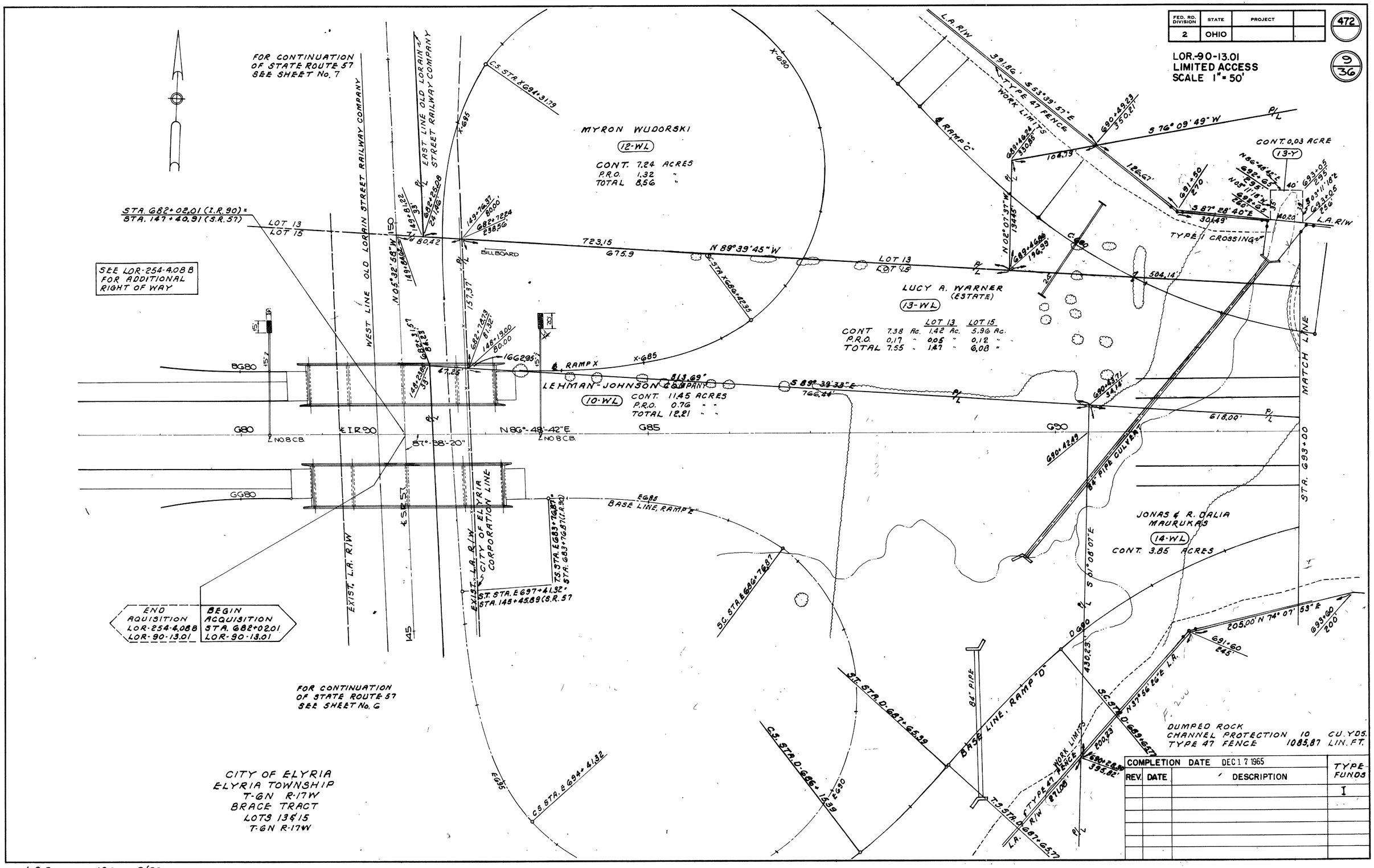
RIGHT OF WAY, STA. 157+00 TO STA. 170+00, S.R. 57

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

472

9/36

LOR.-90-13.01
LIMITED ACCESS
SCALE 1" = 50'



COMPLETION DATE DEC 17 1965			TYPE FUNDS
REV.	DATE	DESCRIPTION	
			I

RIGHT OF WAY STA. G78+00 TO STA. G93+00

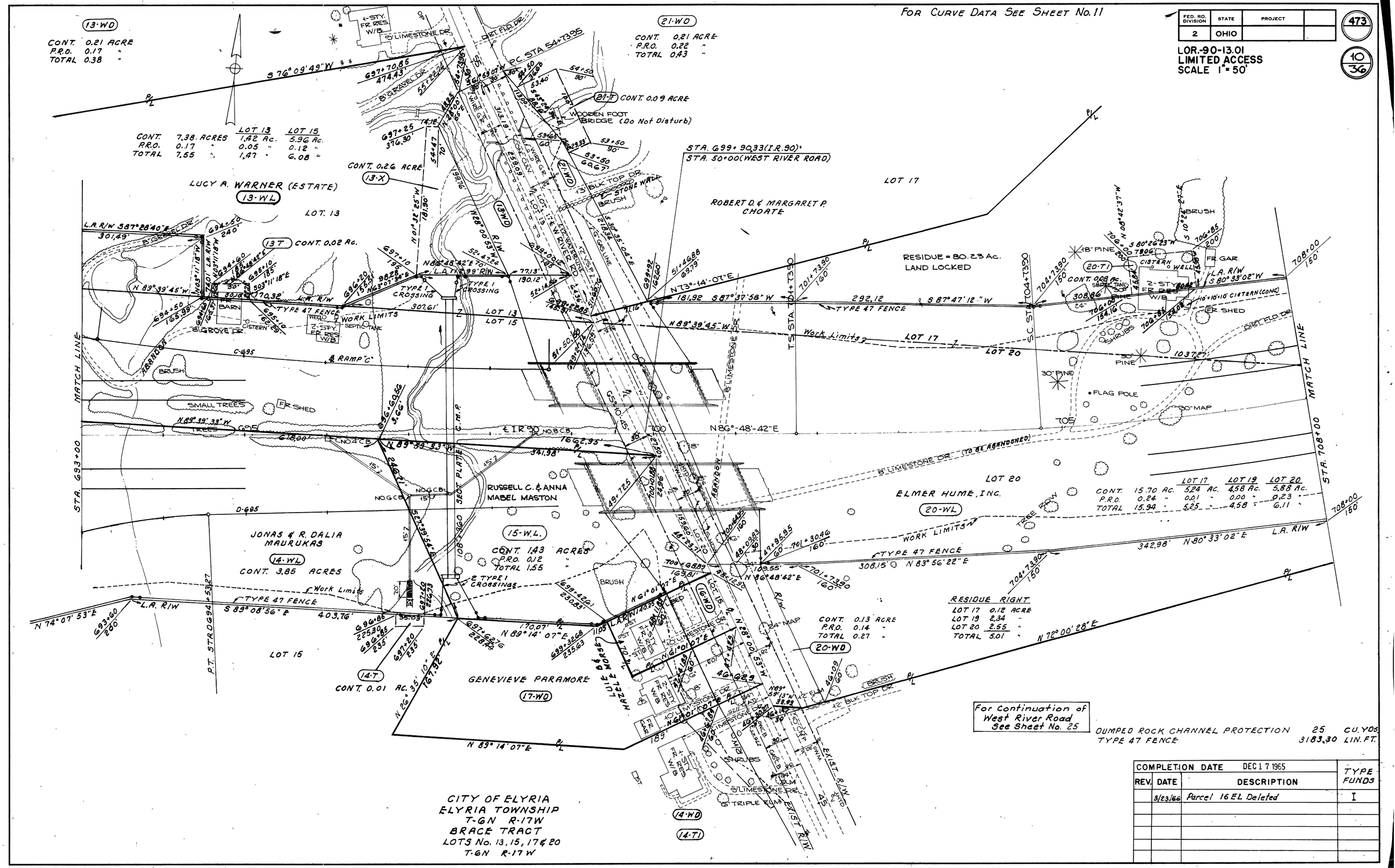
FOR CURVE DATA SEE SHEET No. 11

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

473

10/36

LOR.-90-13.01
LIMITED ACCESS
SCALE 1" = 50'



COMPLETION DATE DEC 17 1965			TYPE FUNDS
REV.	DATE	DESCRIPTION	
	3/23/66	Parcel 16EL Deleted	I

RIGHT OF WAY STA. 693+00 TO STA. 708+00

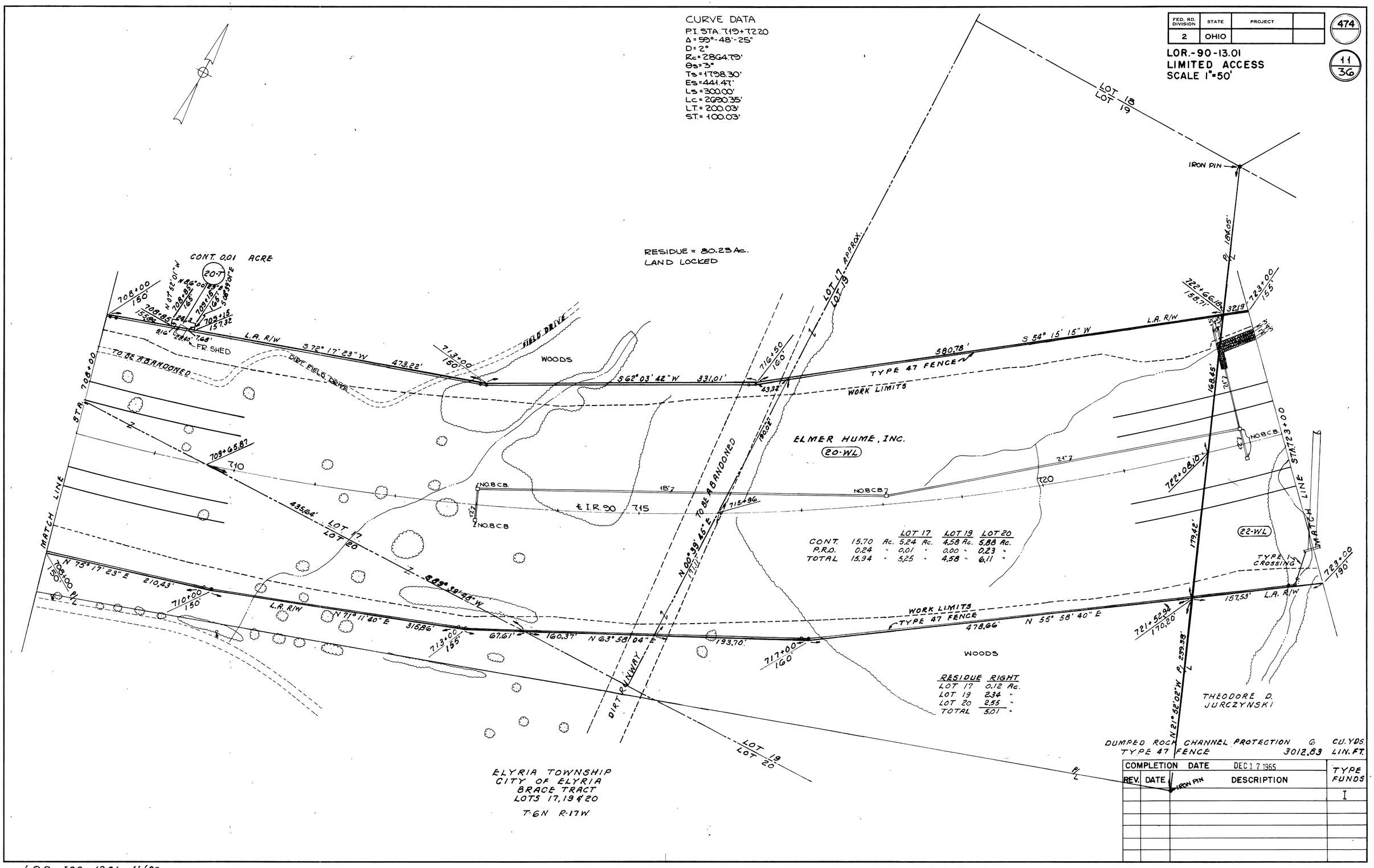
FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

474

11/36

LOR.-90-13.01
LIMITED ACCESS
SCALE 1"=50'

CURVE DATA
P.I. STA. 719+72.20
Δ = 59°-48'-25"
D = 2°
Rc = 2864.79'
θs = 3°
Ts = 1758.30'
Es = 441.47'
Ls = 300.00'
Lc = 2680.35'
L.T. = 200.03'
S.T. = 100.03'



RESIDUE = 80.23 Ac.
LAND LOCKED

		LOT 17	LOT 19	LOT 20
CONT.	15.70 Ac.	5.24 Ac.	4.58 Ac.	5.88 Ac.
P.R.O.	0.24 "	0.01 "	0.00 "	0.23 "
TOTAL	15.94 "	5.25 "	4.58 "	6.11 "

RESIDUE	RIGHT
LOT 17	0.12 Ac.
LOT 19	2.34 "
LOT 20	2.55 "
TOTAL	5.01 "

DUMPED ROCK CHANNEL PROTECTION	6	CU. YDS.
TYPE 47 FENCE	3012.83	LIN. FT.

COMPLETION DATE DEC 1 7 1965

REV.	DATE	DESCRIPTION	TYPE FUNDS
			I

LOR-190-13.01 11/36

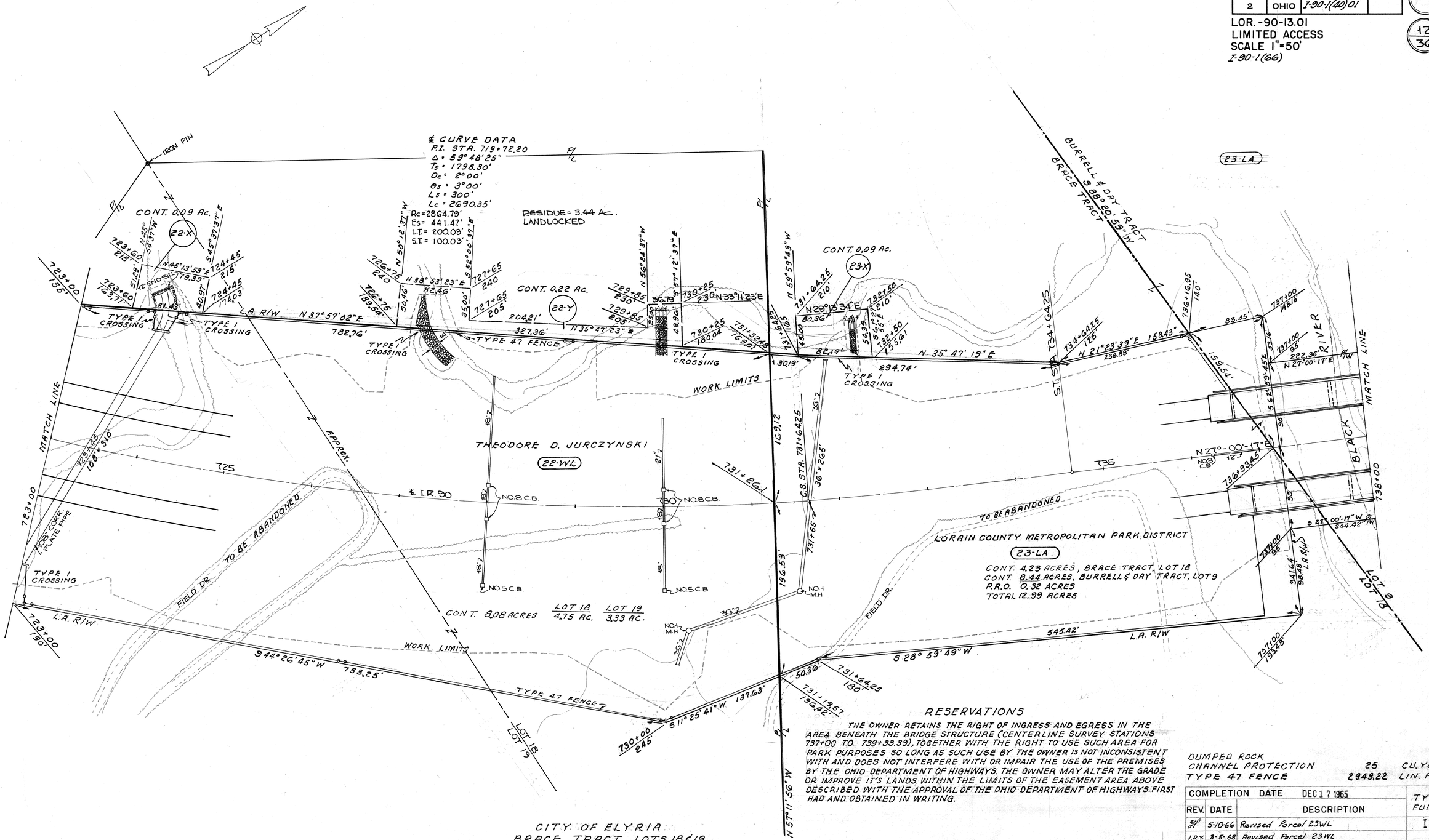
RIGHT OF WAY STA. 708+00 TO STA. 723+00

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO	I-90-1(40)01	

475

12/36

LOR.-90-13.01
LIMITED ACCESS
SCALE 1"=50'
I-90-1(66)



RESERVATIONS

THE OWNER RETAINS THE RIGHT OF INGRESS AND EGRESS IN THE AREA BENEATH THE BRIDGE STRUCTURE (CENTERLINE SURVEY STATIONS 737+00 TO 739+33.39), TOGETHER WITH THE RIGHT TO USE SUCH AREA FOR PARK PURPOSES SO LONG AS SUCH USE BY THE OWNER IS NOT INCONSISTENT WITH AND DOES NOT INTERFERE WITH OR IMPAIR THE USE OF THE PREMISES BY THE OHIO DEPARTMENT OF HIGHWAYS. THE OWNER MAY ALTER THE GRADE OR IMPROVE IT'S LANDS WITHIN THE LIMITS OF THE EASEMENT AREA ABOVE DESCRIBED WITH THE APPROVAL OF THE OHIO DEPARTMENT OF HIGHWAYS FIRST HAD AND OBTAINED IN WRITING.

DUMPED ROCK CHANNEL PROTECTION	25	CU. YDS.
TYPE 47 FENCE	2943.22	LIN. FT.

COMPLETION DATE DEC 17 1965

REV.	DATE	DESCRIPTION	TYPE FUNDS
	5-10-66	Revised Parcel 23WL	I
J.R.Y.	3-5-68	Revised Parcel 23WL	
	2-6-69	Deleted Par. 23T1 & Par 23T2	
	9-20-13	Changed 23WL to 23LA (Per J.E.C.)	

CITY OF ELYRIA
BRACE TRACT, LOTS 18 & 19
BURRELL & DAY TRACT, LOT 9
T-6 N R-17 W

RIGHT OF WAY STA. 723+00 TO STA. 738+00

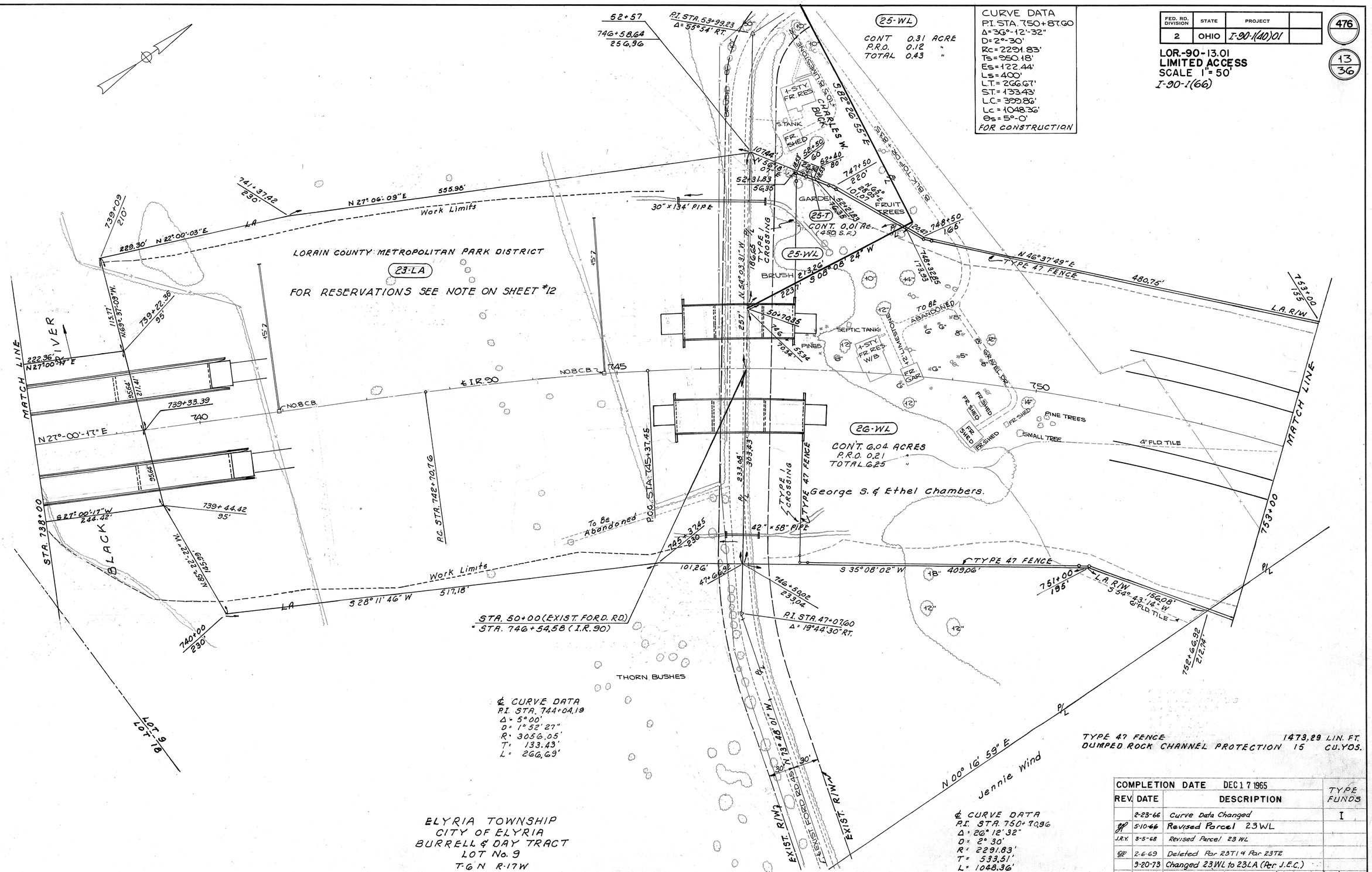
FED. RD. DIVISION	STATE	PROJECT	
2	OHIO	I-90-1(40)01	

476

13/36

LOR.-90-13.01
LIMITED ACCESS
SCALE 1" = 50'
I-90-1(66)

CURVE DATA
P.I. STA. 750+87.60
Δ = 36°-12'-32"
D = 2°-30'
Rc = 2291.83'
Ts = 950.18'
Es = 122.44'
Ls = 400'
L.T. = 266.67'
S.T. = 133.43'
L.C. = 399.86'
Lc = 1048.36'
θs = 5°-0'
FOR CONSTRUCTION



TYPE 47 FENCE 1473.29 LIN. FT.
DUMPED ROCK CHANNEL PROTECTION 15 CU.YDS.

ELYRIA TOWNSHIP
CITY OF ELYRIA
BURRELL & DAY TRACT
LOT No. 9
T-6 N R-17 W

COMPLETION DATE DEC 17 1965

REV.	DATE	DESCRIPTION	TYPE FUNDS
	2-23-66	Curve Data Changed	I
	5-10-66	Revised Parcel 23 WL	
J.R.Y.	3-5-68	Revised Parcel 23 WL	
	2-6-69	Deleted Par 23T1 & Par 23T2	
	9-20-73	Changed 23WL to 23LA (Per J.E.C.)	

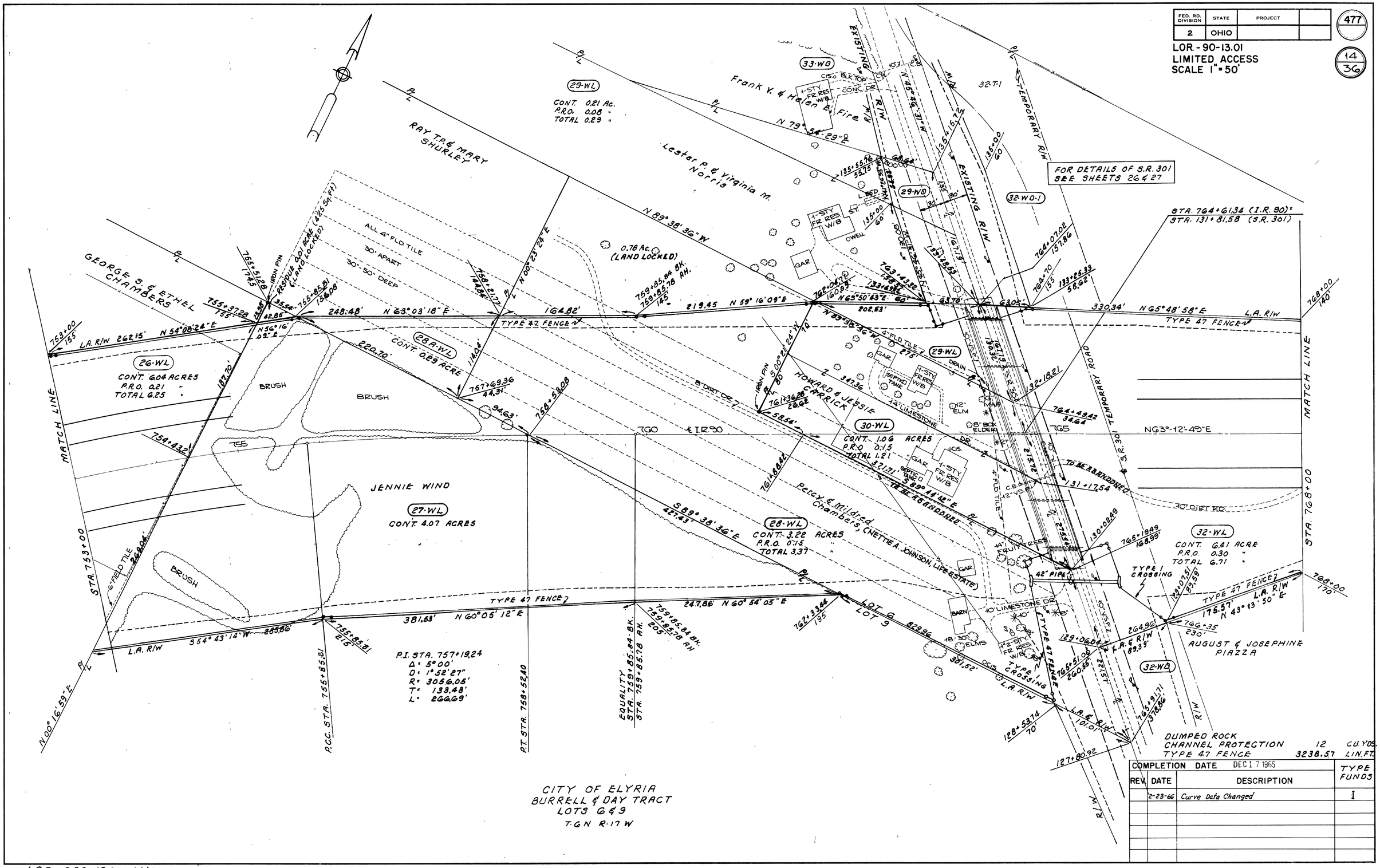
RIGHT OF WAY STA. 738+00 TO STA. 753+00

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

477

14/36

LOR.-90-13.01
LIMITED ACCESS
SCALE 1" = 50'



DUMPED ROCK CHANNEL PROTECTION	12	CU. YDS.
TYPE 47 FENCE	3238.57	LIN. FT.

COMPLETION DATE DEC 17 1965

REV.	DATE	DESCRIPTION	TYPE FUNDS
	2-23-66	Curve Data Changed	I

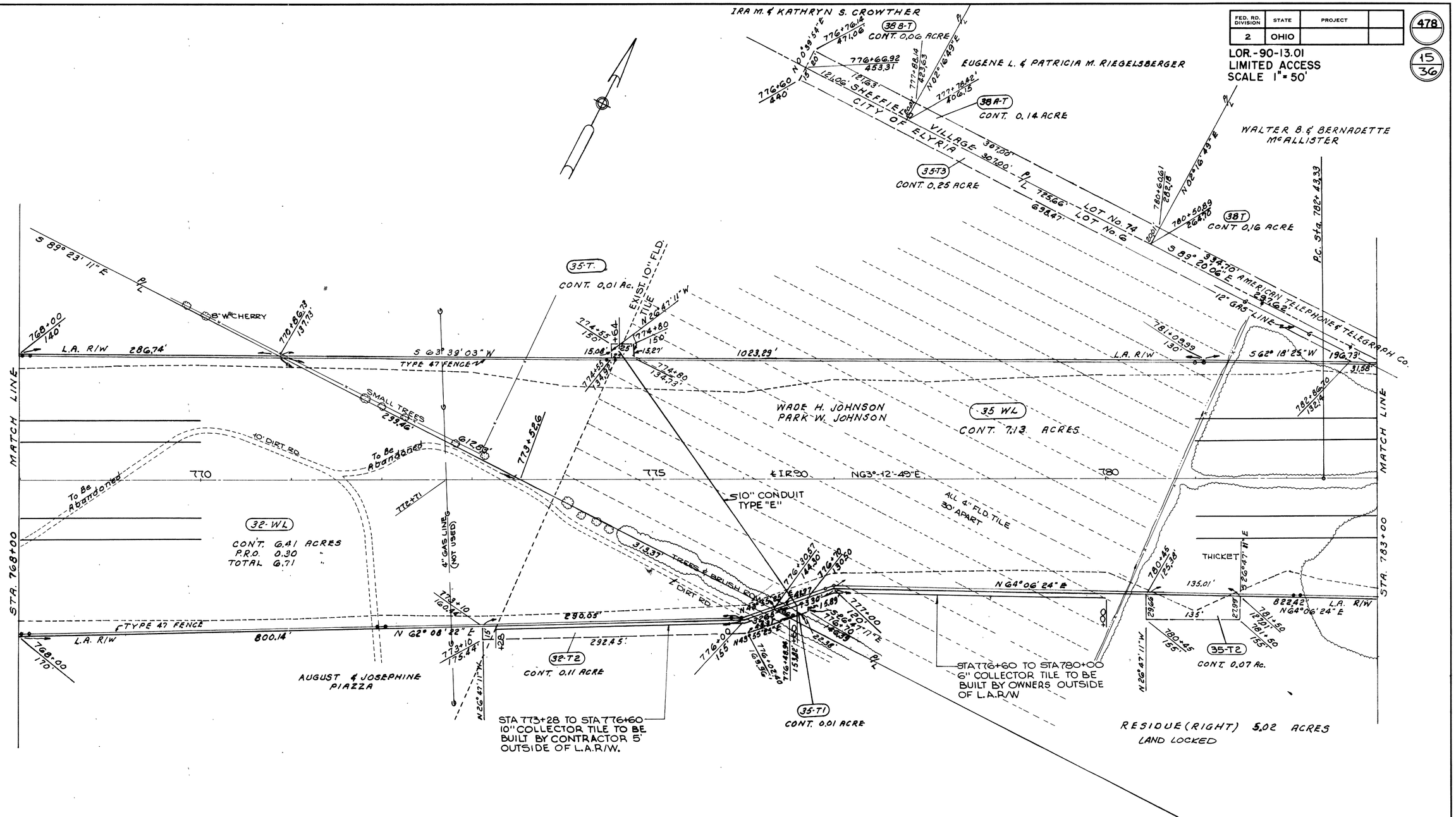
RIGHT OF WAY STA. 753+00 TO STA. 768+00

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

478

15/36

LOR.-90-13.01
LIMITED ACCESS
SCALE 1" = 50'



TYPE 47 FENCE 3019.90 LIN. FT.

COMPLETION DATE DEC 17 1965			TYPE FUNDS
REV.	DATE	DESCRIPTION	
			I

CITY OF ELYRIA
BURRELL & DAY TRACT
LOT No. 6
T-6 N R-17 W

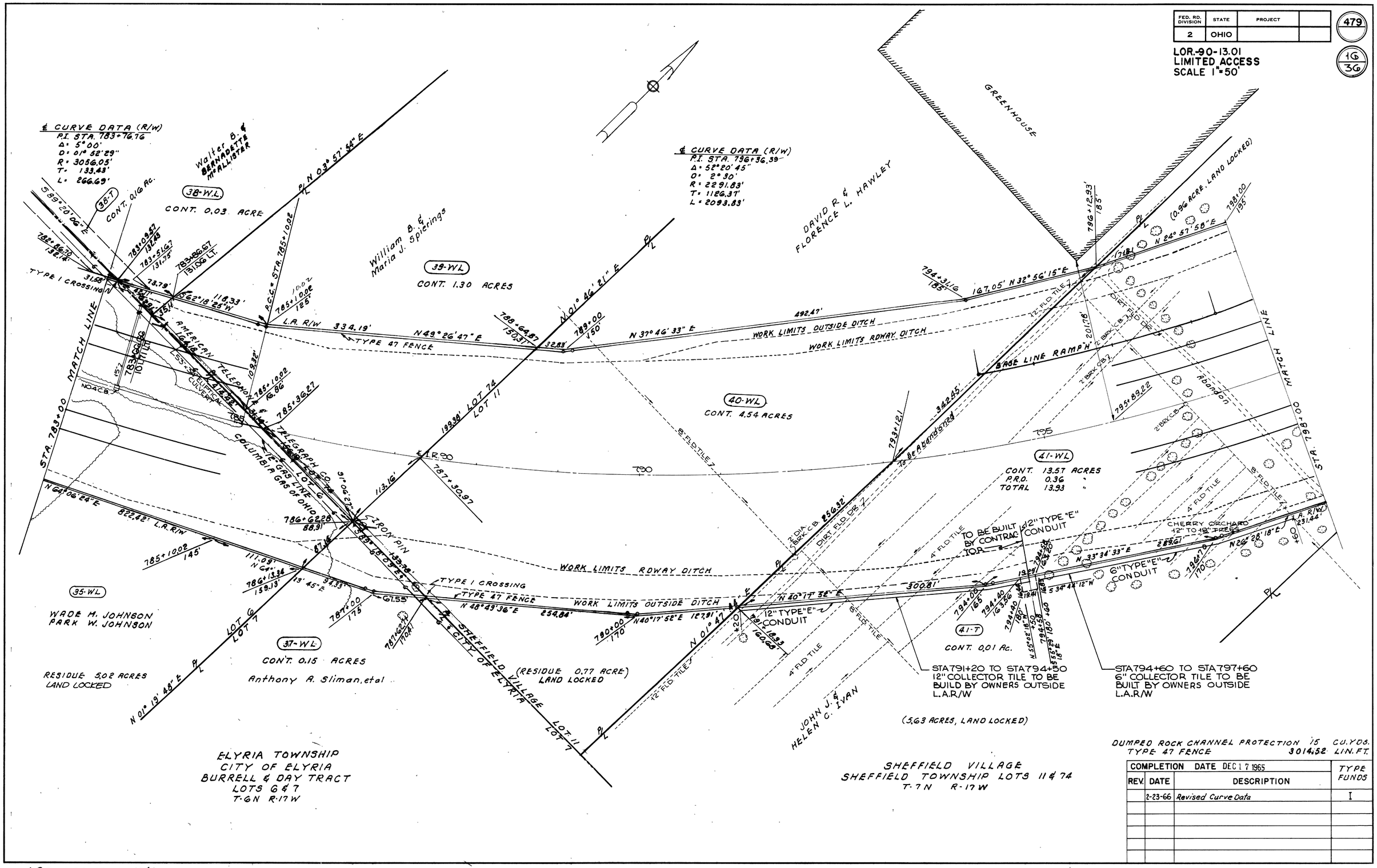
RIGHT OF WAY STA. 768+00 TO STA. 783+00

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

479

16/36

LOR.-90-13.01
LIMITED ACCESS
SCALE 1" = 50'



DUMPED ROCK CHANNEL PROTECTION 15 CU.YDS.
TYPE 47 FENCE 3014.52 LIN.FT.

COMPLETION DATE DEC 17 1965

REV.	DATE	DESCRIPTION	TYPE FUNDS
	2-23-66	Revised Curve Data	I

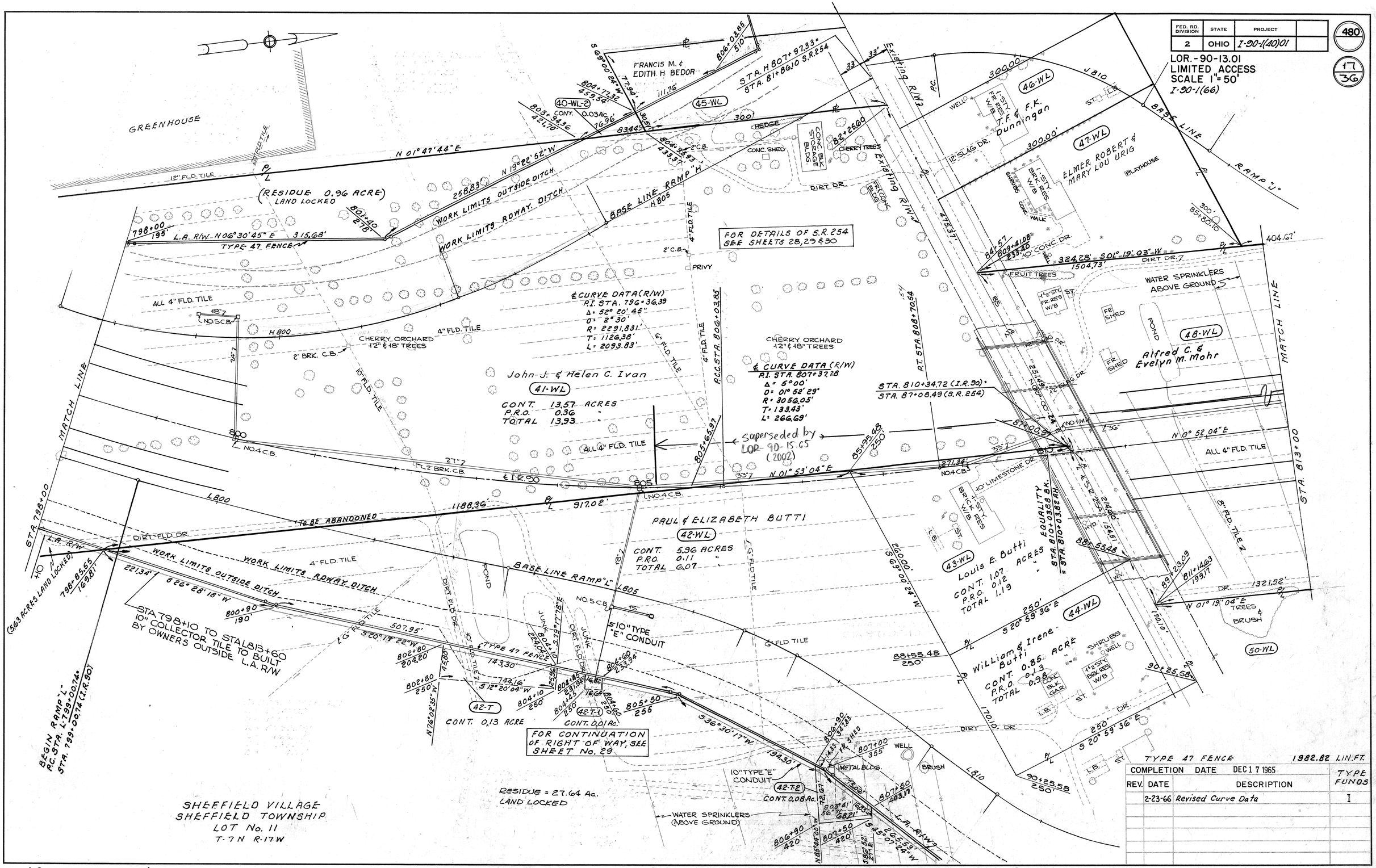
RIGHT OF WAY STA. 783+00 TO STA. 798+00

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO	I-90-1(40)01	

480

17/36

LOR.-90-13.01
LIMITED ACCESS
SCALE 1" = 50'
I-90-1(66)



TYPE 47 FENCE 1982.82 LIN. FT.

COMPLETION DATE DEC 17 1965

REV.	DATE	DESCRIPTION	TYPE FUNDS
	2-23-66	Revised Curve Data	I

LOR-I 90-13.01 17/36

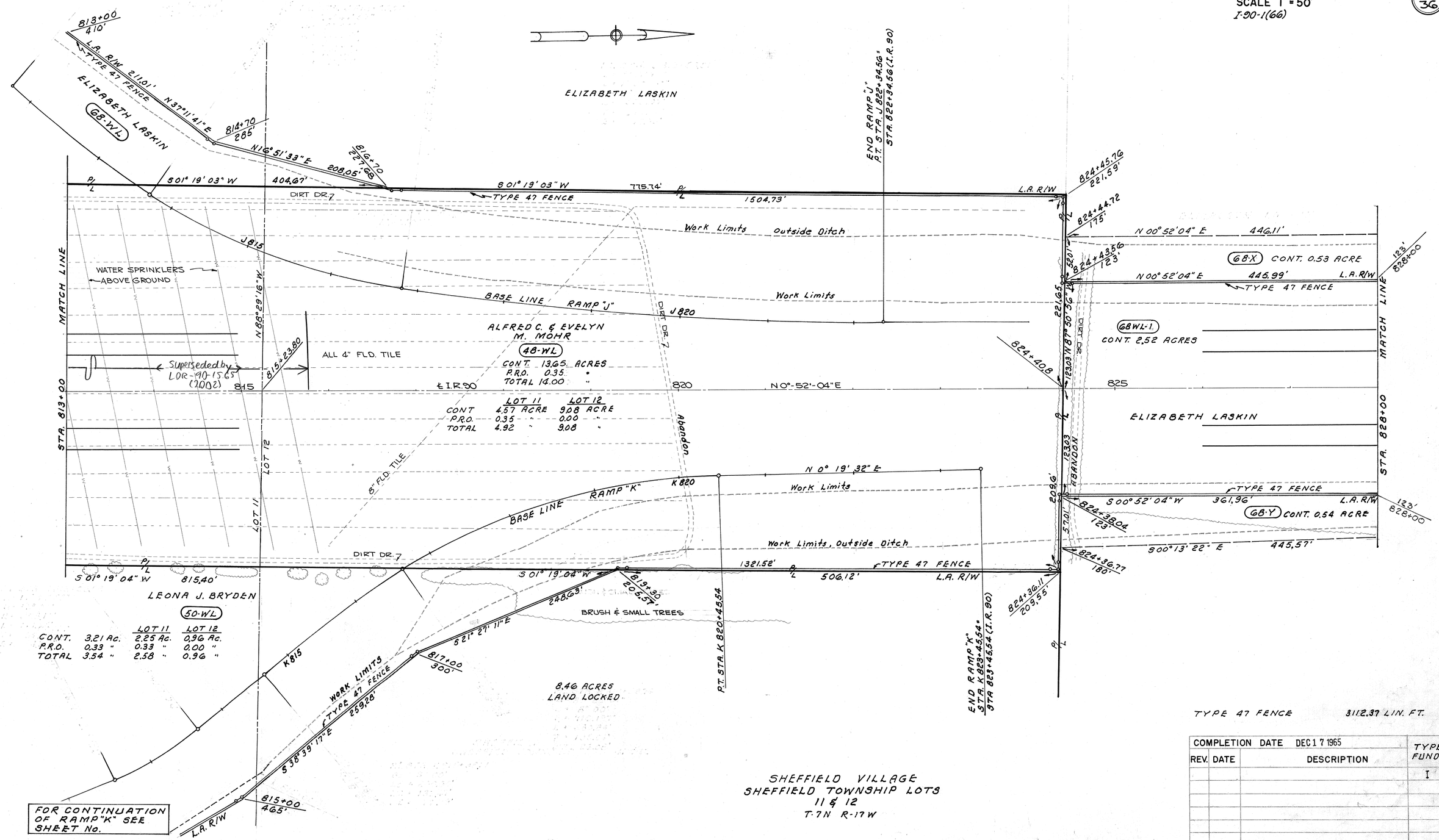
RIGHT OF WAY STA. 798+00 TO STA. 813+00

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO	I-90-1(40)01	

481

18/36

LOR.-90-13.01
LIMITED ACCESS
SCALE 1" = 50'
I-90-1(66)



TYPE 47 FENCE 3112.37 LIN. FT.

SHEFFIELD VILLAGE
SHEFFIELD TOWNSHIP LOTS
11 & 12
T-7N R-17W

COMPLETION DATE DEC 17 1965			
REV.	DATE	DESCRIPTION	TYPE FUNDS
			I

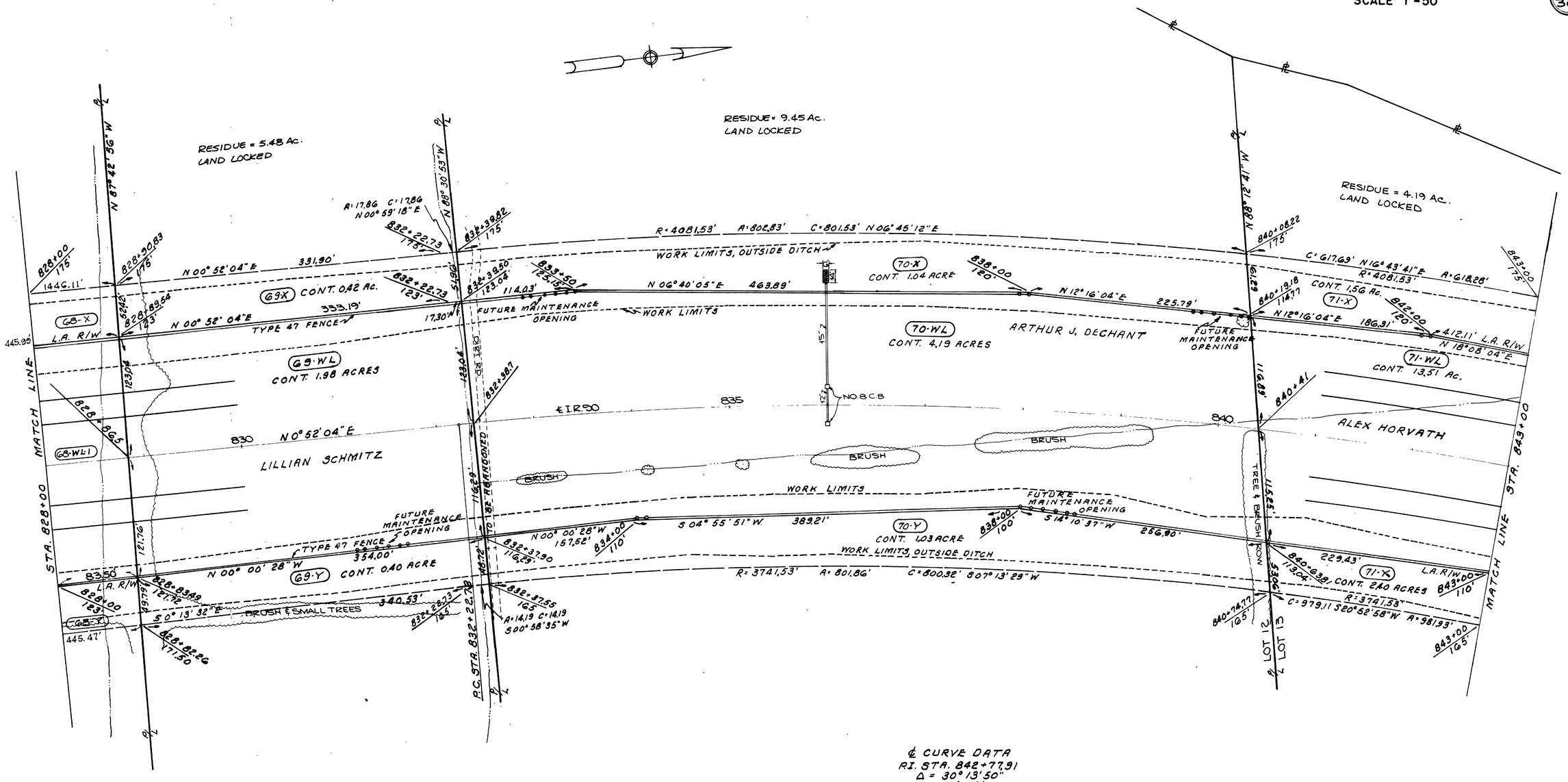
RIGHT OF WAY STA. 813+00 TO STA. 828+00

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

482

LOR.-90-13.01
LIMITED ACCESS
SCALE 1" = 50'

19/36



℄ CURVE DATA
P.I. STA. 842+77.91
Δ = 30°13'50"
D = 1°28'
R = 3906.53'
T = 1055.18'
L = 2061.17'
E = 140.00'

TYPE 47 FENCE 3003.61 LIN FT.

SHEFFIELD VILLAGE
SHEFFIELD TOWNSHIP, LOT 12 & 13
T-7N R-17W

COMPLETION DATE DEC 17 1965			TYPE FUNDS
REV.	DATE	DESCRIPTION	
	2-23-66	Parcel 71-WL Revised	I

LOR-I 90-13.01 19/36

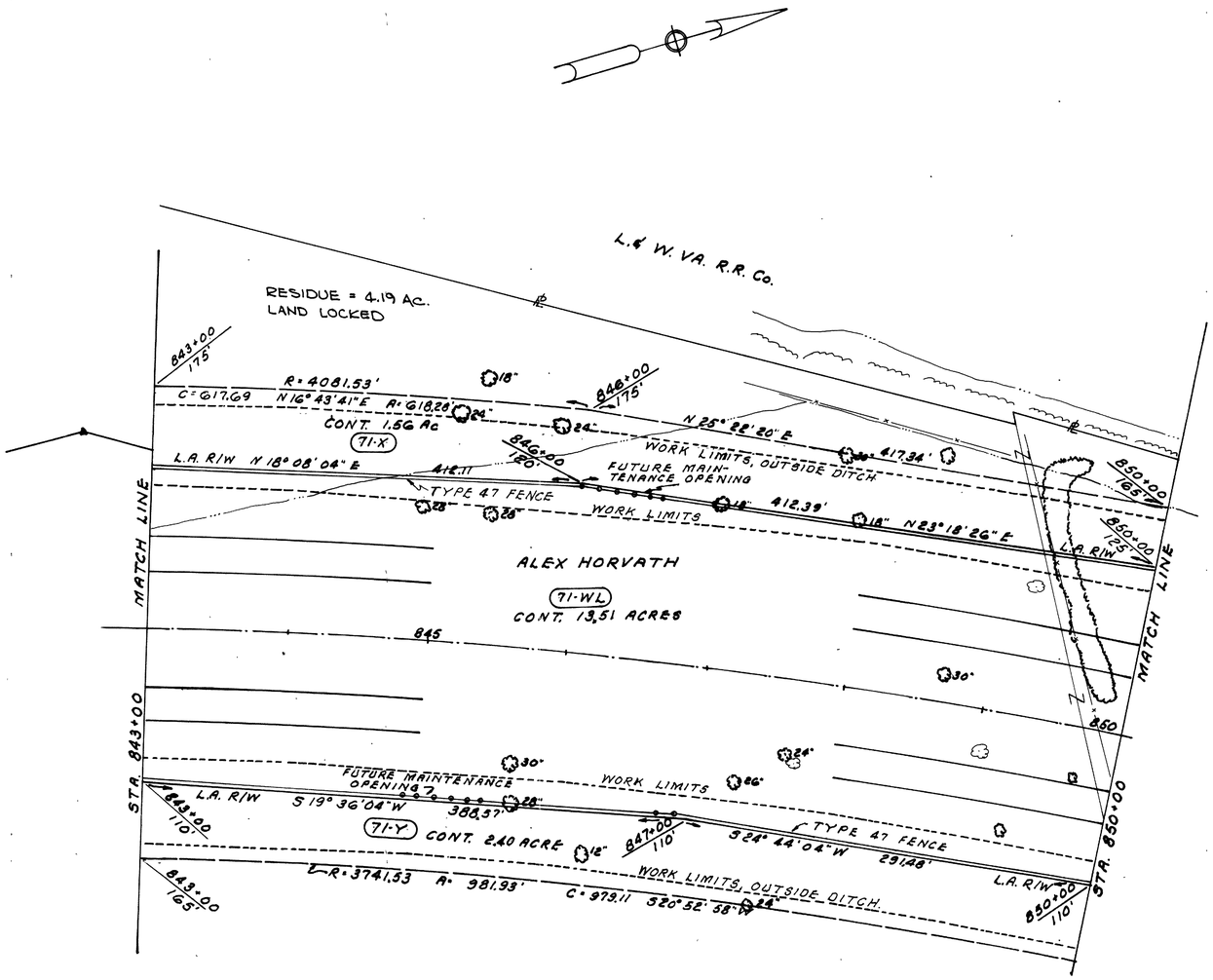
RIGHT OF WAY STA. 828+00 TO STA. 843+00

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

483

LOR.-90-13.01
LIMITED ACCESS
SCALE 1" = 50'

20/36



℄ CURVE DATA
P.I. STA. 842+77.91
Δ = 30° 13' 50"
D = 1° 28'
R = 3906.53'
T = 1055.18'
L = 2061.17'
E = 140'

TYPE 47 FENCE 1402 LIN.FT.

SHEFFIELD VILLAGE
SHEFFIELD TOWNSHIP LOTS
12 & 13
T-7 N R-17 W

COMPLETION DATE			TYPE FUNDS
REV.	DATE	DESCRIPTION	
	2-23-66	Revised Parcel 71-WL	I

DEC 17 1965

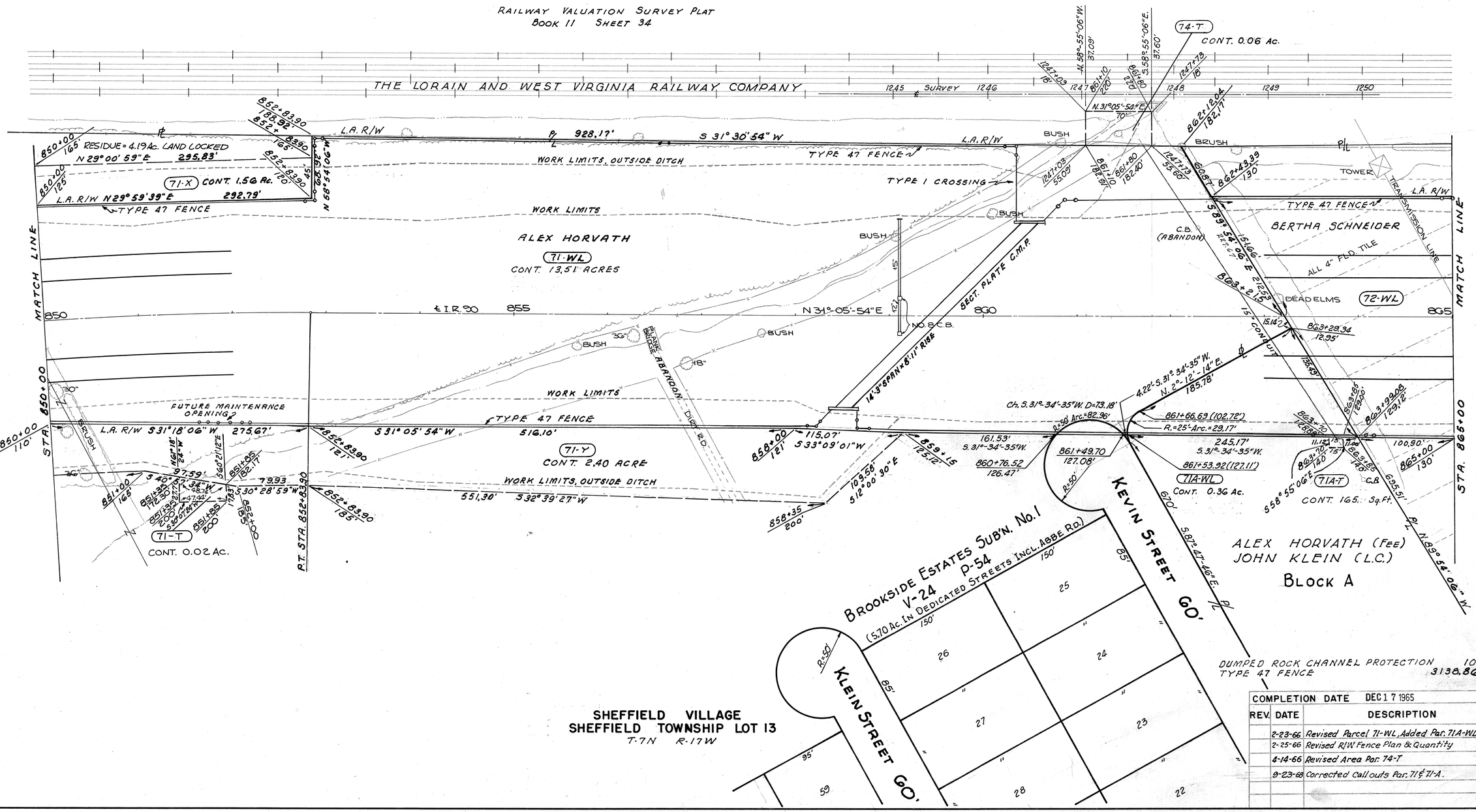
RIGHT OF WAY STA. 843+00 TO STA. 850+00

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO	I-90-1(40)01	

484

21/36

LOR.-90-13.01
LIMITED ACCESS
SCALE 1" = 50'
I-90-1(66)



DUMPED ROCK CHANNEL PROTECTION 10 CU. YDS.
TYPE 47 FENCE 3138.86 LIN. FT.

COMPLETION DATE DEC 1 7 1965

REV.	DATE	DESCRIPTION	TYPE FUNDS
	2-23-66	Revised Parcel 71-WL, Added Par. 71A-WL	I
	2-25-66	Revised R/W Fence Plan & Quantity	
	4-14-66	Revised Area Par. 74-T	
	9-23-68	Corrected Call outs Par. 71 & 71-A.	

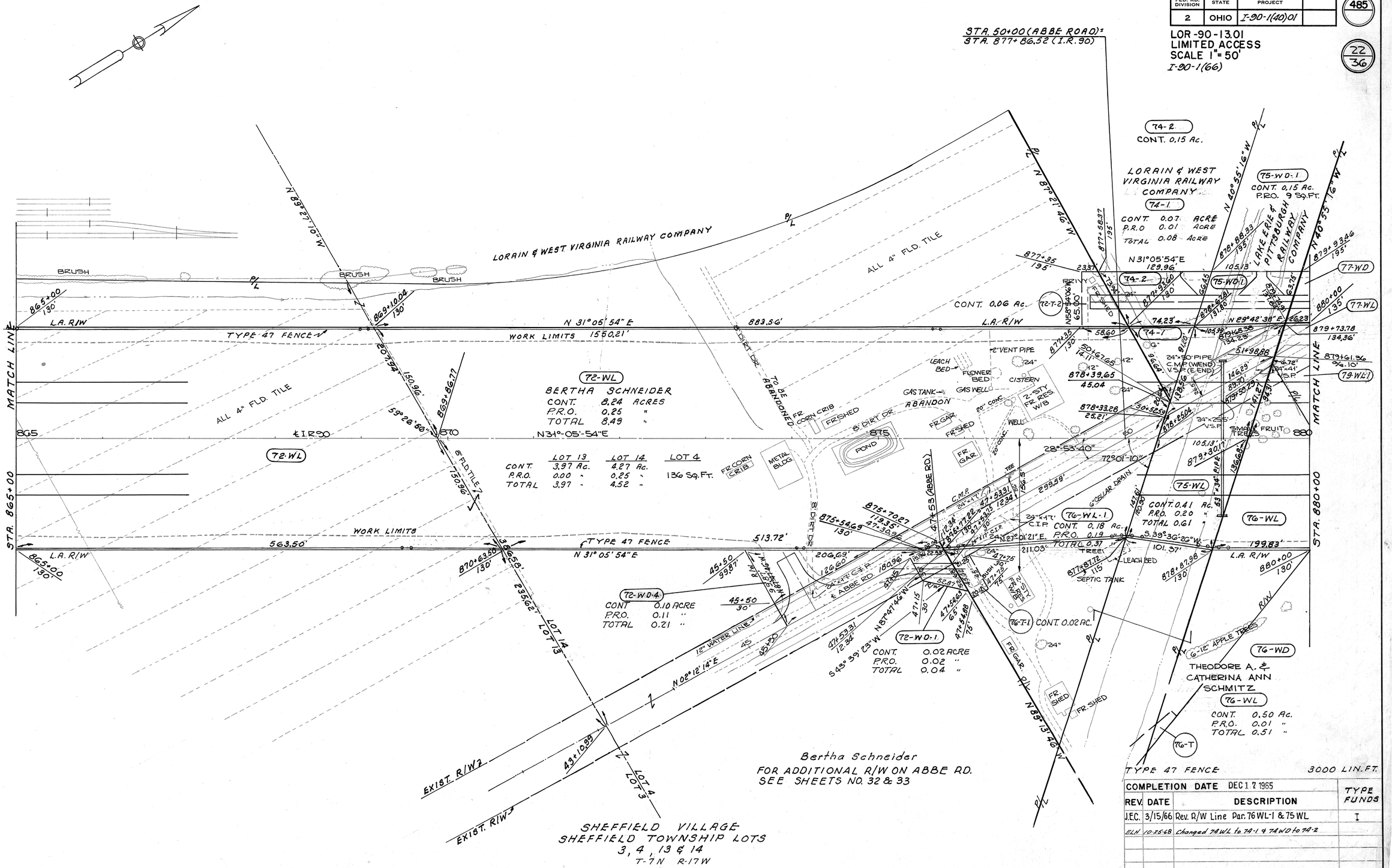
RIGHT OF WAY STA. 850+00 TO STA. 865+00

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO	I-90-1(40)01	

485

22/36

LOR-90-13.01
LIMITED ACCESS
SCALE 1" = 50'
I-90-1(66)



TYPE 47 FENCE 3000 LIN. FT.

COMPLETION DATE DEC 17 1965

REV.	DATE	DESCRIPTION	TYPE FUNDS
J.E.C.	3/15/66	Rev. R/W Line Par. 76 WL-1 & 75 WL	I
ELH	10-25-68	Changed 74 WL to 74-1 & 74 WD to 74-2	

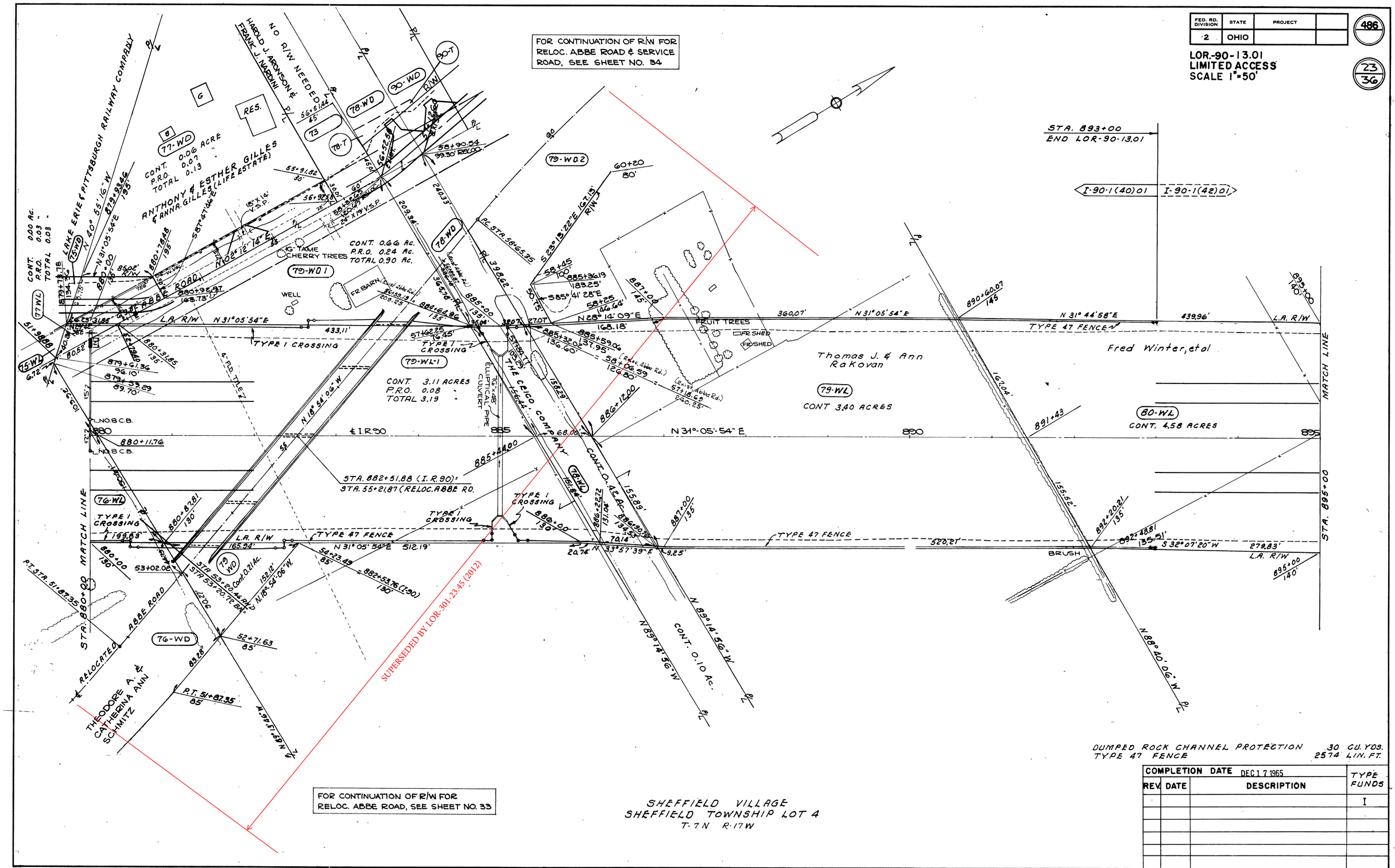
RIGHT OF WAY STA. 865+00 TO STA. 880+00

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

486

23/36

LOR.-90-13.01
LIMITED ACCESS
SCALE 1"=50'



SHEFFIELD VILLAGE
SHEFFIELD TOWNSHIP LOT 4
T-7N R-17W

DUMPED ROCK CHANNEL PROTECTION 30 CU. YDS.
TYPE 47 FENCE 2574 LIN. FT.

COMPLETION DATE DEC 17 1965

REV.	DATE	DESCRIPTION	TYPE FUNDS
			I

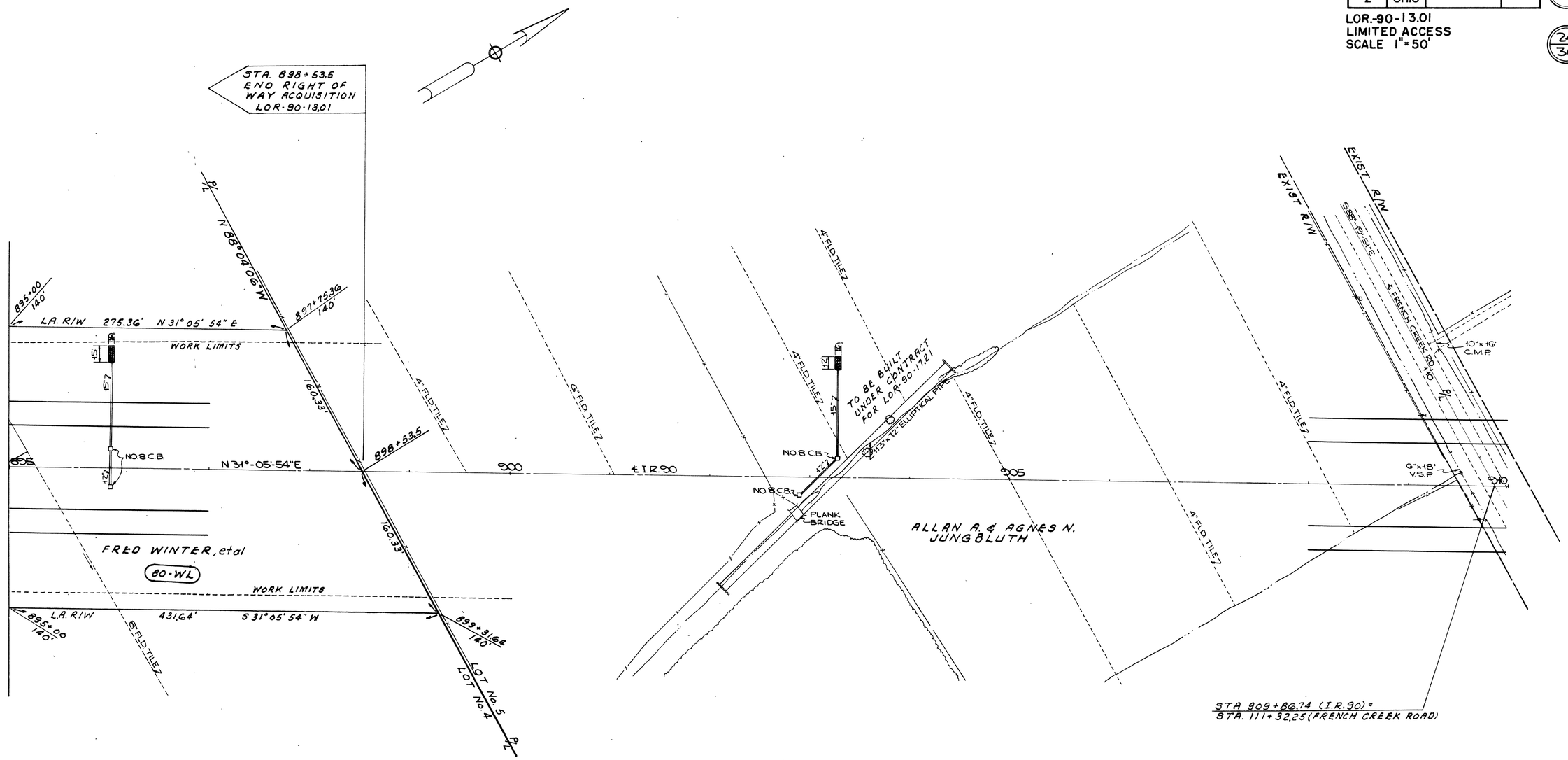
RIGHT OF WAY STA. 880+00 TO STA. 895+00

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

487

LOR.-90-13.01
LIMITED ACCESS
SCALE 1" = 50'

24/36



SHEFFIELD VILLAGE
SHEFFIELD TOWNSHIP LOTS
4 & 5
T-7 N R-17 W

COMPLETION DATE DEC 17 1965			TYPE FUNDS
REV.	DATE	DESCRIPTION	
			I

LOR-190-13.01 24/36

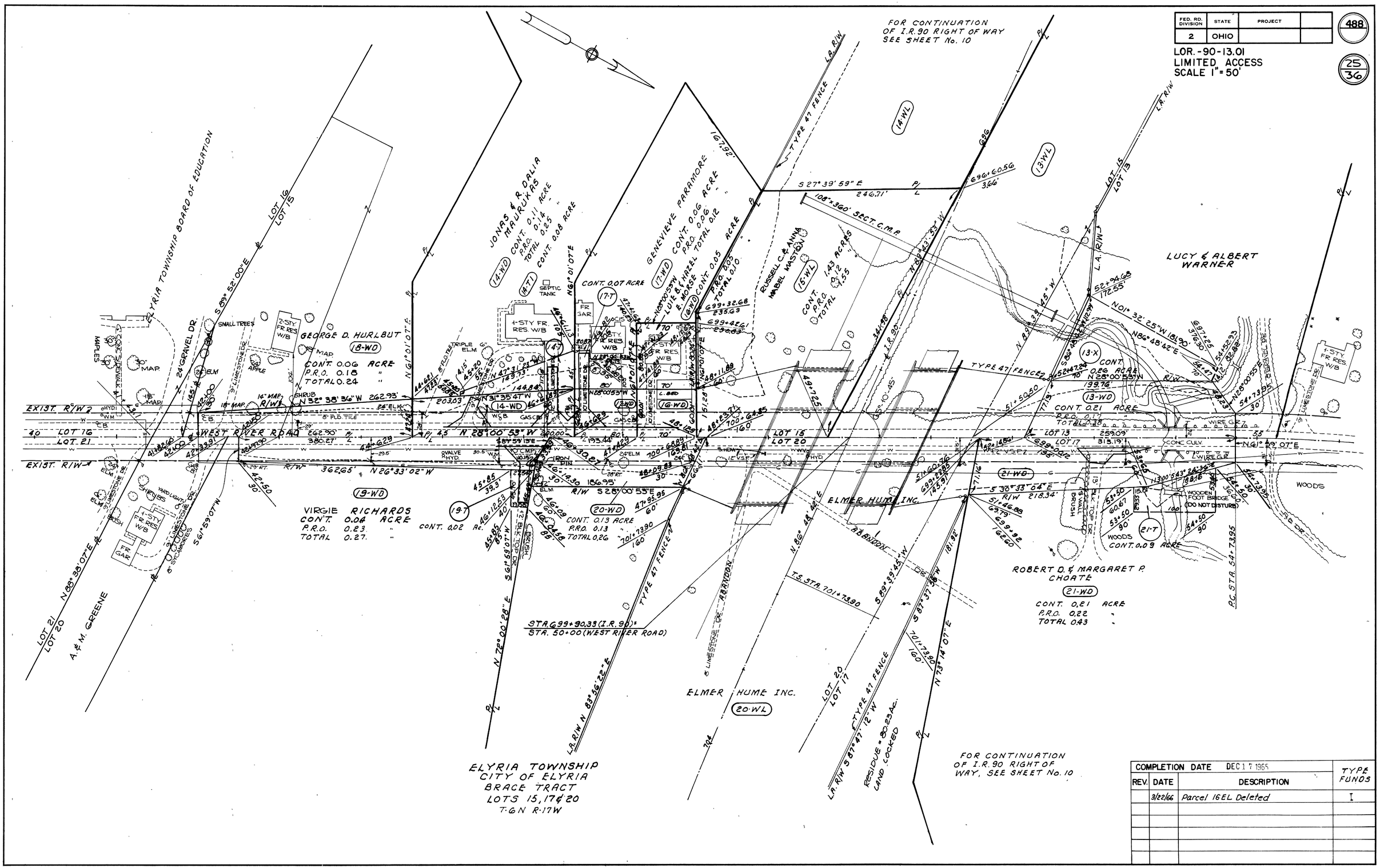
RIGHT OF WAY STA. 895+00 TO STA. 910+00

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

488

25/36

LOR.-90-13.01
LIMITED ACCESS
SCALE 1" = 50'



COMPLETION DATE DEC 1 7 1965

REV.	DATE	DESCRIPTION	TYPE FUNDS
	3/22/66	Parcel 16EL Deleted	I

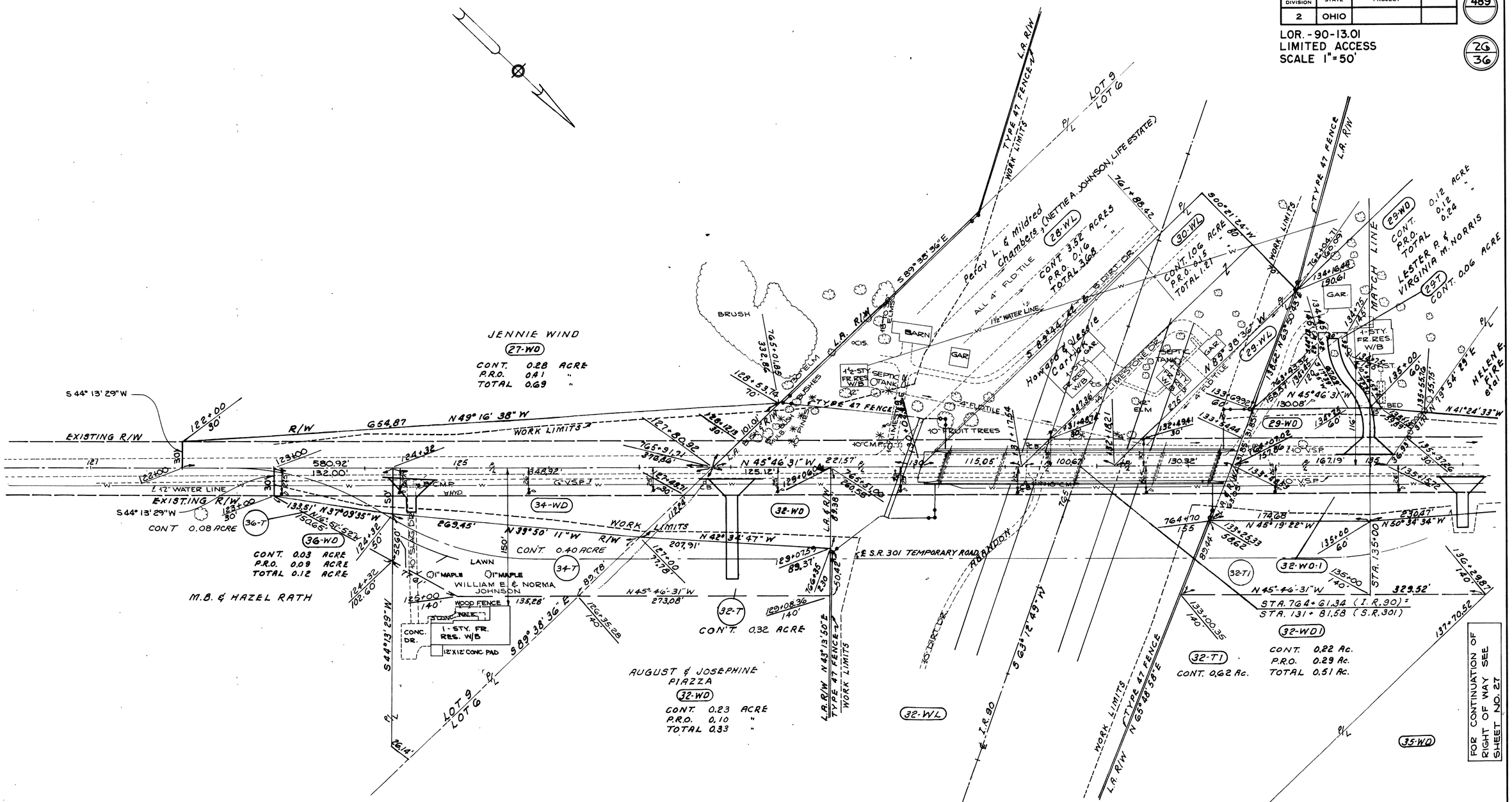
RIGHT OF WAY, STA. 40+00 TO STA. 55+00, W. RIVER RD.

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

489

LOR.-90-13.01
LIMITED ACCESS
SCALE 1" = 50'

26/36



COMPLETION DATE DEC 17 1965			TYPE FUNDS
REV.	DATE	DESCRIPTION	
			I

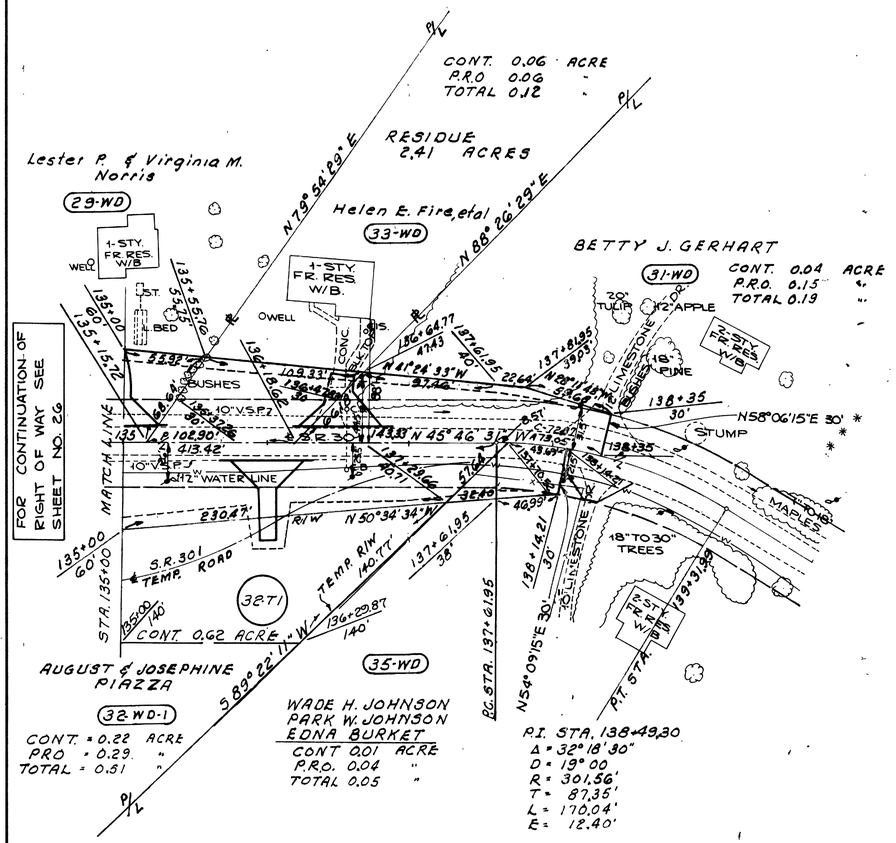
RIGHT OF WAY, STA. 121+00 TO STA. 136+00, S.R. 301

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

490

LOR.-90-13.01
LIMITED ACCESS
SCALE 1" = 50'

27/36



ELYRIA TOWNSHIP
CITY OF ELYRIA
BURRELL & DAY TRACT
LOT 6
T 6-N R 17-W

COMPLETION DATE DEC 17 1962			TYPE FUNDS
REV.	DATE	DESCRIPTION	
			I

RIGHT OF WAY, STA. 135+00 TO STA. 140+00, S.R. 301

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO	I-90-1(40)01	

491

28/36

LOR.-90-13.01
LIMITED ACCESS
SCALE 1" = 50'

I-90-1(66)

FOR CONTINUATION OF RIGHT OF WAY SEE SHEET No. 18

PAR.		FUNDS I	FUNDS S
68 WL	CONT.	1.77 Ac.	0.36 Ac.
	P.R.O.	0.13 Ac.	0.21 Ac.
	TOTAL	1.90 Ac.	0.57 Ac.
68-T	CONT.	0.20 Ac.	

	LOT 73	LOT 11
CONT.	0.18 Ac.	0.17 Ac.
P.R.O.	0.16 Ac.	0.15 Ac.
TOTAL	0.34 Ac.	0.32 Ac.

	LOT 11	LOT 12
CONT.	0.01 Ac.	0.02 Ac.
P.R.O.	0.01 "	0.01 "
TOTAL	0.02 Ac.	0.03 Ac.

	LOT 73	LOT 11	LOT 12
CONT.	2.13 Ac.	0.01 Ac.	2.05 Ac.	0.07 Ac.
P.R.O.	0.34 Ac.	0.00 Ac.	0.34 Ac.	0.00 Ac.
TOTAL	2.47 Ac.	0.01 Ac.	2.39 Ac.	0.07 Ac.

	LOT 11	LOT 12
CONT.	4.57 Ac.	9.08 Ac.
P.R.O.	0.35 "	0.00 "
TOTAL	4.92 "	9.08 "

STA. 78+10.00
BEGIN LIMITED ACCESS
RIGHT OF WAY, LEFT

STA. 78+10.00
BEGIN LIMITED ACCESS
RIGHT OF WAY, RIGHT

P.I. STA. 77+91.83
Δ = 0°-40'-00" LT.

STA. 810+34.72 (I.R. 90)
STA. 87+08.49 (S.R. 254)

STA. H 807+97.33*
STA. 81+86.10 (S.R. 254)

I-90 470.79 LIN. FT.
100% STATE 556.74 LIN. FT.
TYPE 47 FENCE TOTAL 1027.53 LIN. FT.

PAR.		FUNDS I	FUNDS S
40 WL-1	CONT.	0.01 Ac.	0.25 Ac.
	P.R.O.	0.02 Ac.	0.14 Ac.
	TOTAL	0.03 Ac.	0.39 Ac.
45 WL	CONT.	0.43 Ac.	175 S.F.
	P.R.O.	0.08 Ac.	0.0
	TOTAL	0.51 Ac.	175 S.F.

SHEFFIELD VILLAGE
SHEFFIELD TOWNSHIP LOTS
11, 73 & 74
T-7N R-17W

FOR CONTINUATION OF RIGHT OF WAY SEE SHEET No. 17

COMPLETION DATE DEC 1 7 1965

REV.	DATE	DESCRIPTION	TYPE FUNDS
	2-23-66	Par. 68-WL & Par. 68-WD Areas Revised.	I & S
	10-7-66	Removed 45 EL Designation.	
	6-13-68	Funding on Par. 68T	

LOR-I90-13.01 28/36

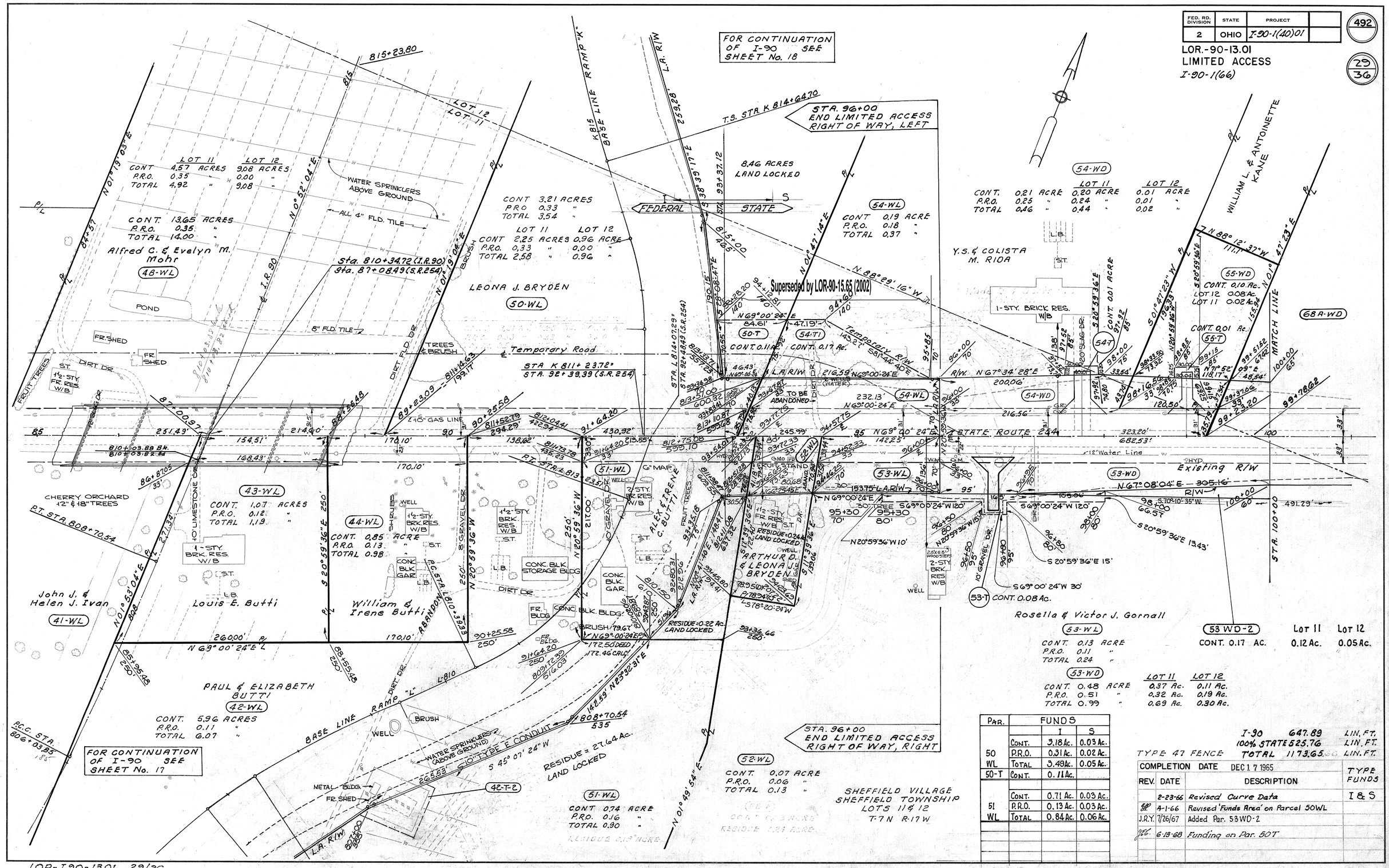
RIGHT OF WAY, STA. 72+00 TO STA. 87+00, S.R. 254

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO	I-90-1(40)01	

492

29/36

LOR.-90-13.01
LIMITED ACCESS
I-90-1(66)



PAR.	FUNDS	I	S
50 WL	CONT.	3.18 Ac.	0.03 Ac.
	P.R.O.	0.31 Ac.	0.02 Ac.
	TOTAL	3.49 Ac.	0.05 Ac.
50-T	CONT.	0.11 Ac.	
51 WL	CONT.	0.71 Ac.	0.03 Ac.
	P.R.O.	0.13 Ac.	0.03 Ac.
	TOTAL	0.84 Ac.	0.06 Ac.

I-90	647.89	LIN. FT.
100% STATE	525.76	LIN. FT.
TYPE 47 FENCE TOTAL	1173.65	LIN. FT.

COMPLETION DATE DEC 1 7 1965

REV.	DATE	DESCRIPTION	TYPE FUNDS
	2-23-66	Revised Curve Data	I & S
SP	4-1-66	Revised 'Funds Area' on Parcel 50WL	
J.R.Y.	7/26/67	Added Par. 53WD-2	
JCB	6-13-68	Funding on Par. 50T	

RIGHT OF WAY, STA. 85+00 TO STA. 100+00, S.R. 254

LOR-I 90-13.01 30/36

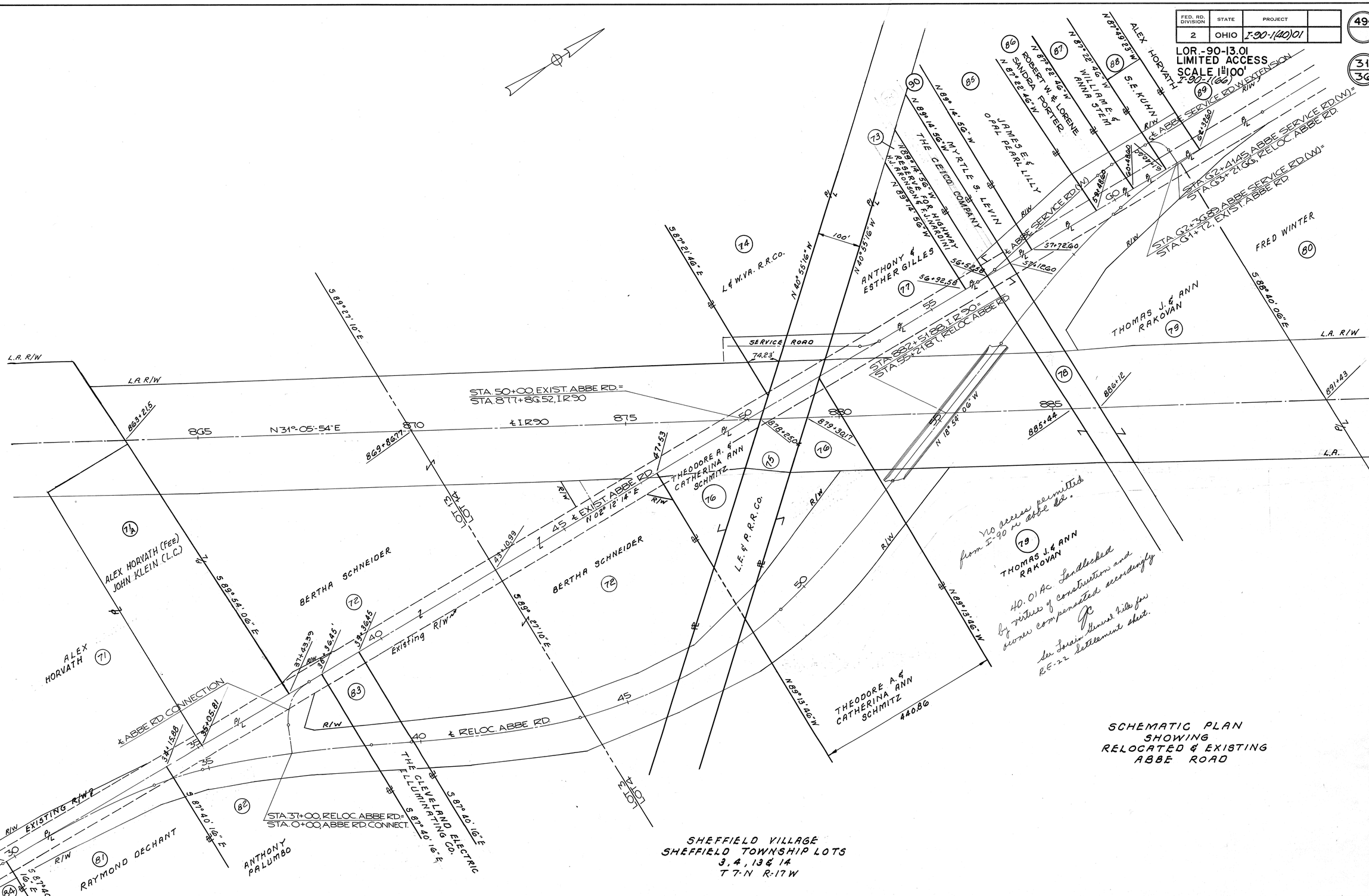
RIGHT OF WAY, STA. 100+00 TO STA. 115+00, S.R. 254

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO	I-90-1(40)01	

494

31/36

LOR.-90-13.01
LIMITED ACCESS
SCALE 1" = 100'



LOR-I90-13.01 31/36

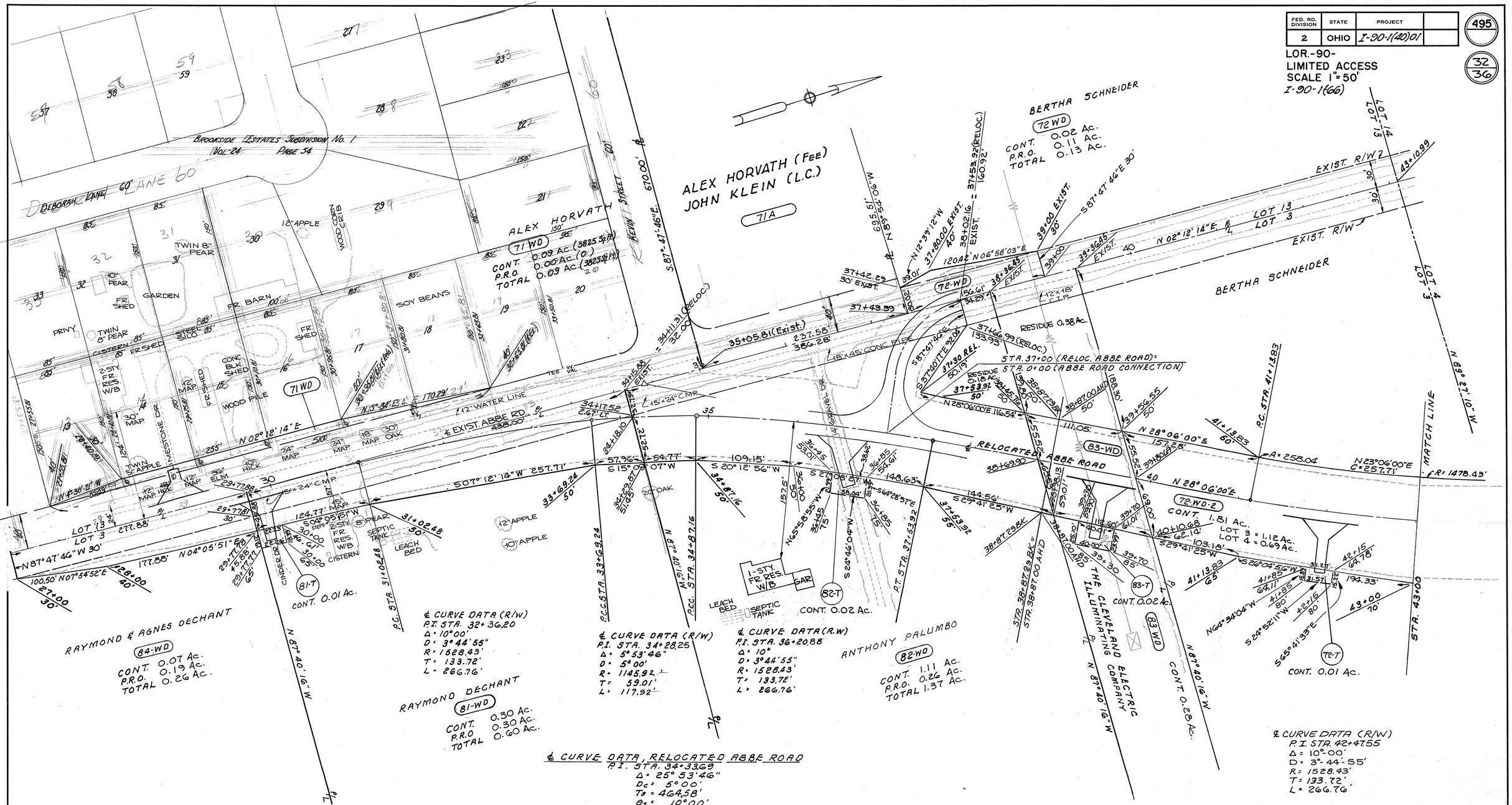
DEC 17 1965

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO	I-90-1(40)01	

495

32/36

LOR.-90-
LIMITED ACCESS
SCALE 1" = 50'
I-90-1(66)



SHEFFIELD VILLAGE
SHEFFIELD TOWNSHIP LOTS 3 & 13
T-7 N R-17 W

COMPLETION DATE DEC 17 1965			TYPE FUNDS
REV.	DATE	DESCRIPTION	
	2-23-66	Curve Data Revised	I
J.R.Y.	9-23-68	Revised Par 71 WD	

LOR-I90-13.01 32/36

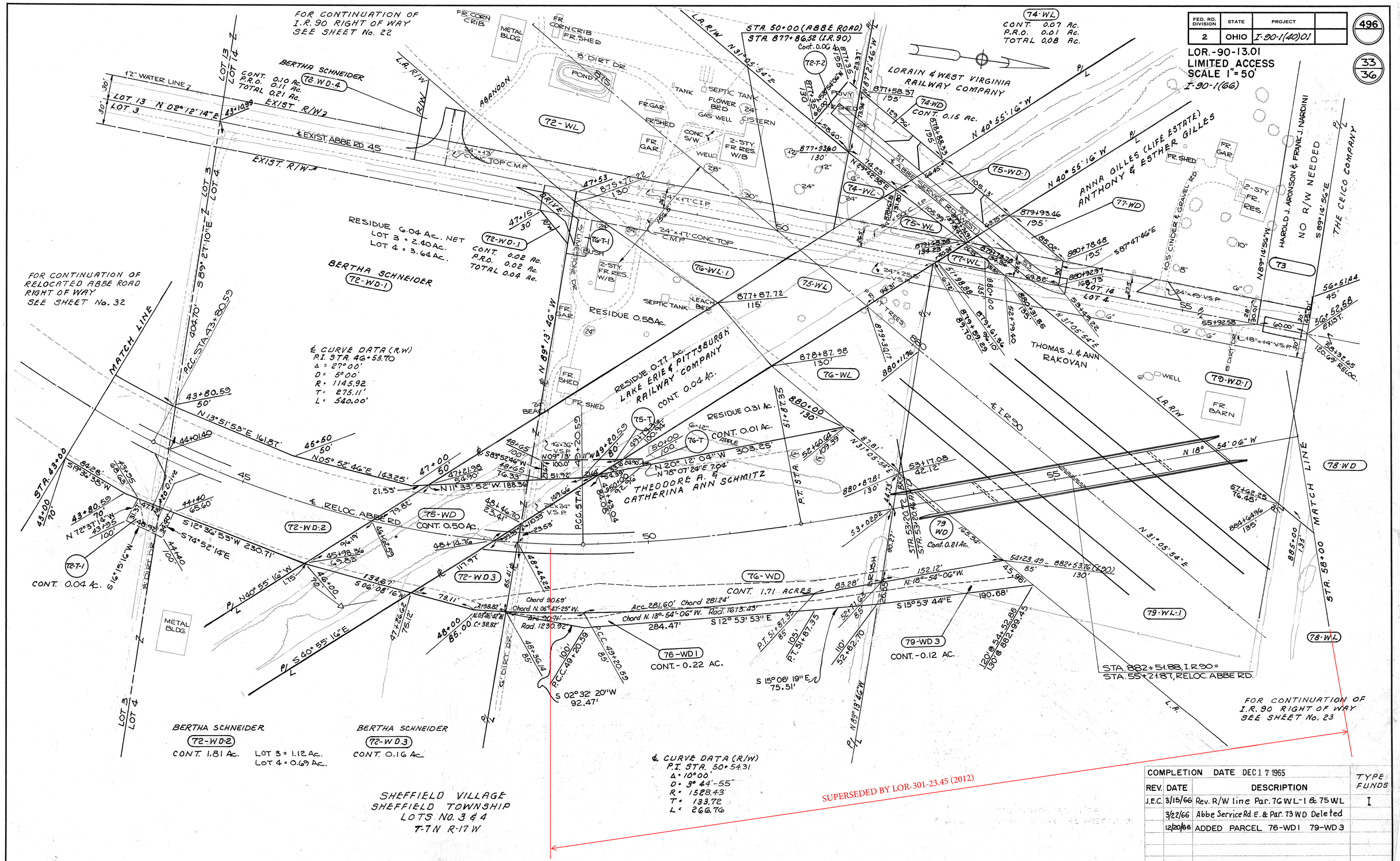
RIGHT OF WAY, STA. 28+00 TO STA. 43+00, RELOC. ABBE RD.

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO	I-90-1(40)01	

496

33/36

LOR.-90-13.01
LIMITED ACCESS
SCALE 1" = 50'
I-90-1(66)



COMPLETION DATE DEC 17 1965			TYPE FUNDS
REV.	DATE	DESCRIPTION	
J.E.C.	3/15/66	Rev. R/W line Par. 76WL-1 & 75WL	I
	3/22/66	Abbe Service Rd. E. & Par. 73WD Deleted	
	12/20/66	ADDED PARCEL 76-WD1 79-WD3	

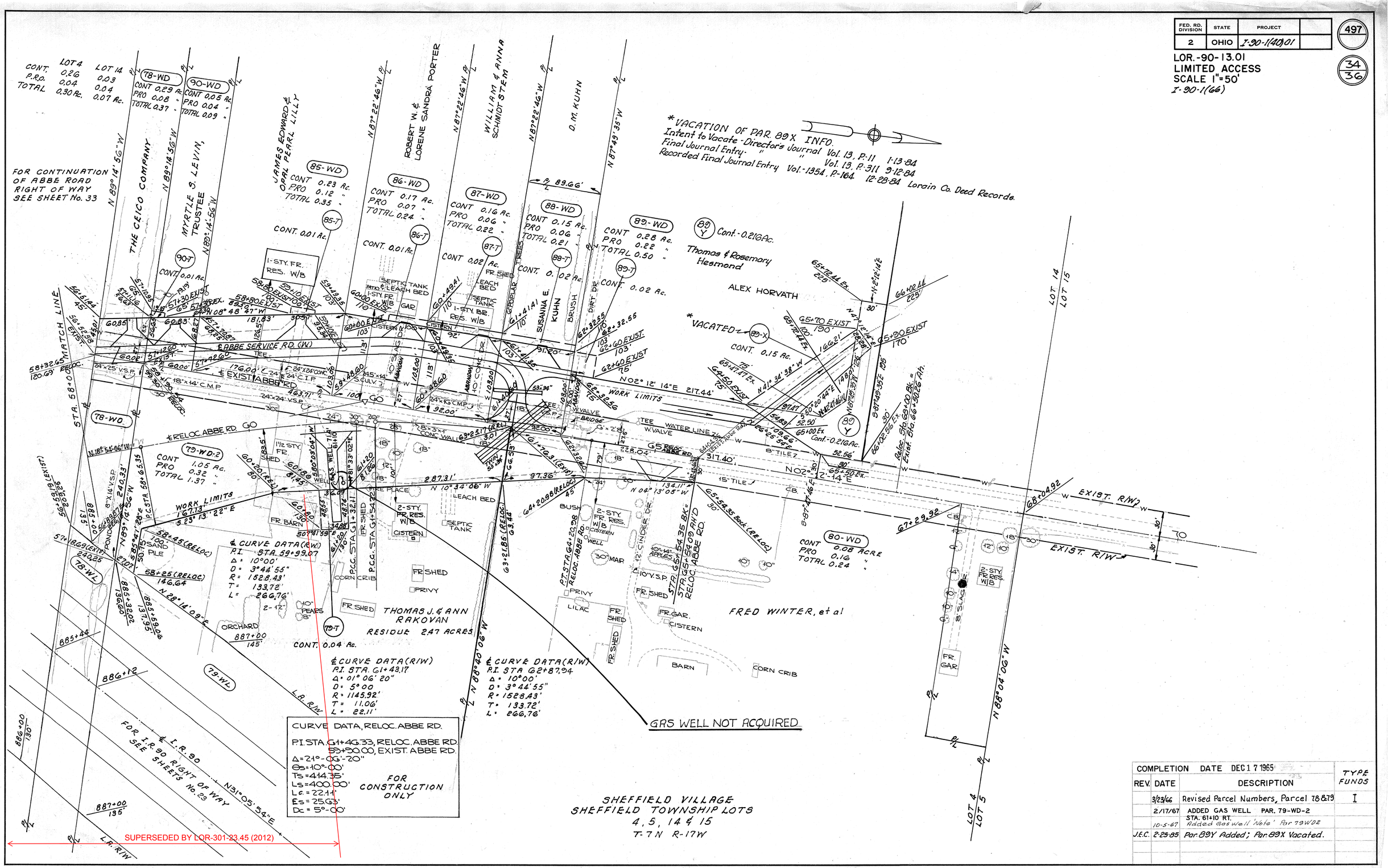
RIGHT OF WAY STA. 43+00 TO STA. 58+00 RELOC. ABBE ROAD

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO	I-90-1(140)01	

497

34/36

LOR.-90-13.01
LIMITED ACCESS
SCALE 1"=50'
I-90-1(66)



COMPLETION DATE DEC 17 1965			
REV.	DATE	DESCRIPTION	TYPE FUNDS
	3/23/66	Revised Parcel Numbers, Parcel 78 & 79	I
	2/17/67	ADDED GAS WELL PAR. 79-WD-2 STA. 61+10 RT.	
	10-5-67	Added Gas Well 'Note' Par 79W02	
J.E.C.	2-25-85	Par. 89Y Added; Par. 89X Vacated.	

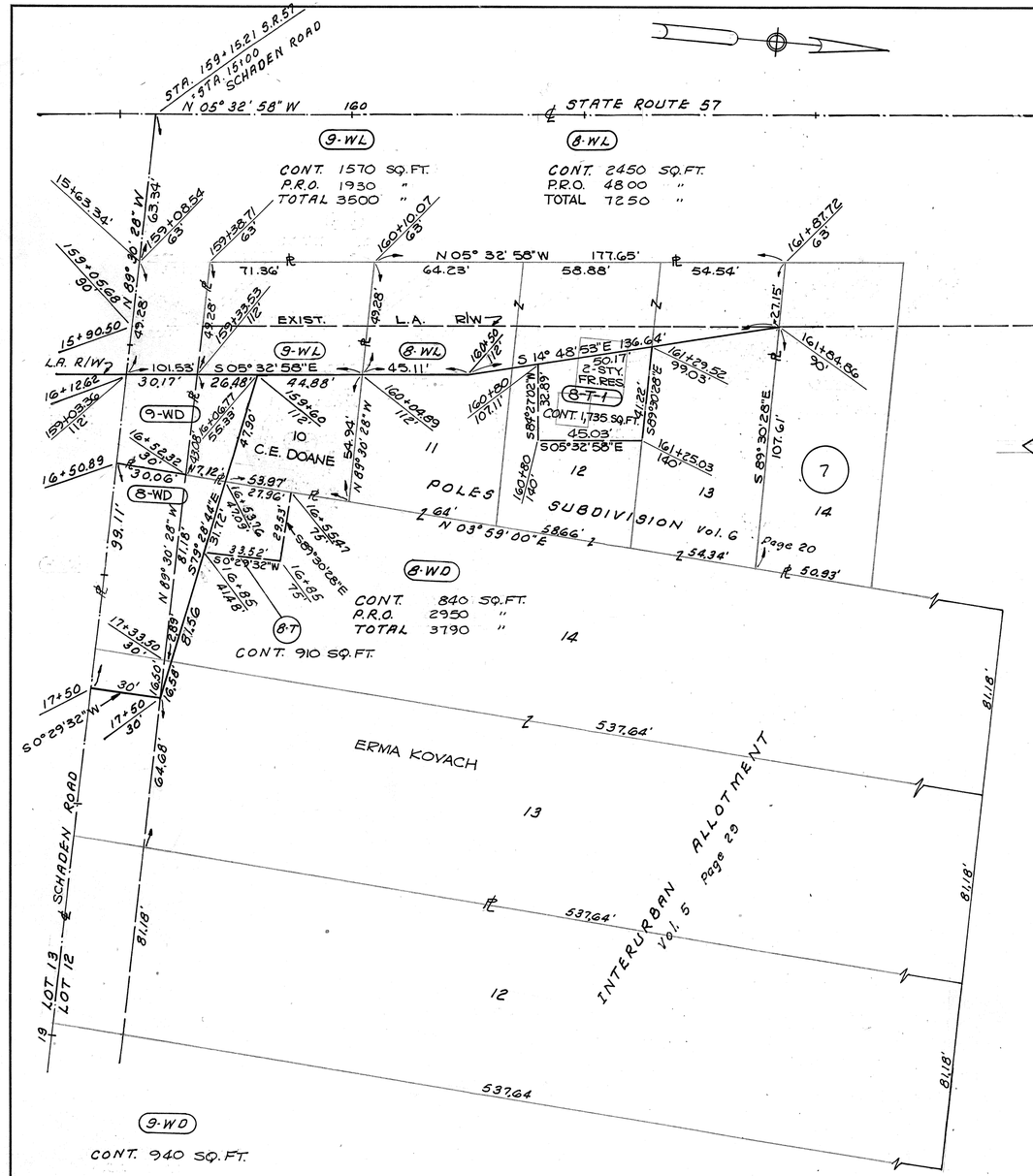
RIGHT OF WAY, STA. 58+00 TO STA. 70+00, ABBE ROAD

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO	I-90-1(40)01	

498

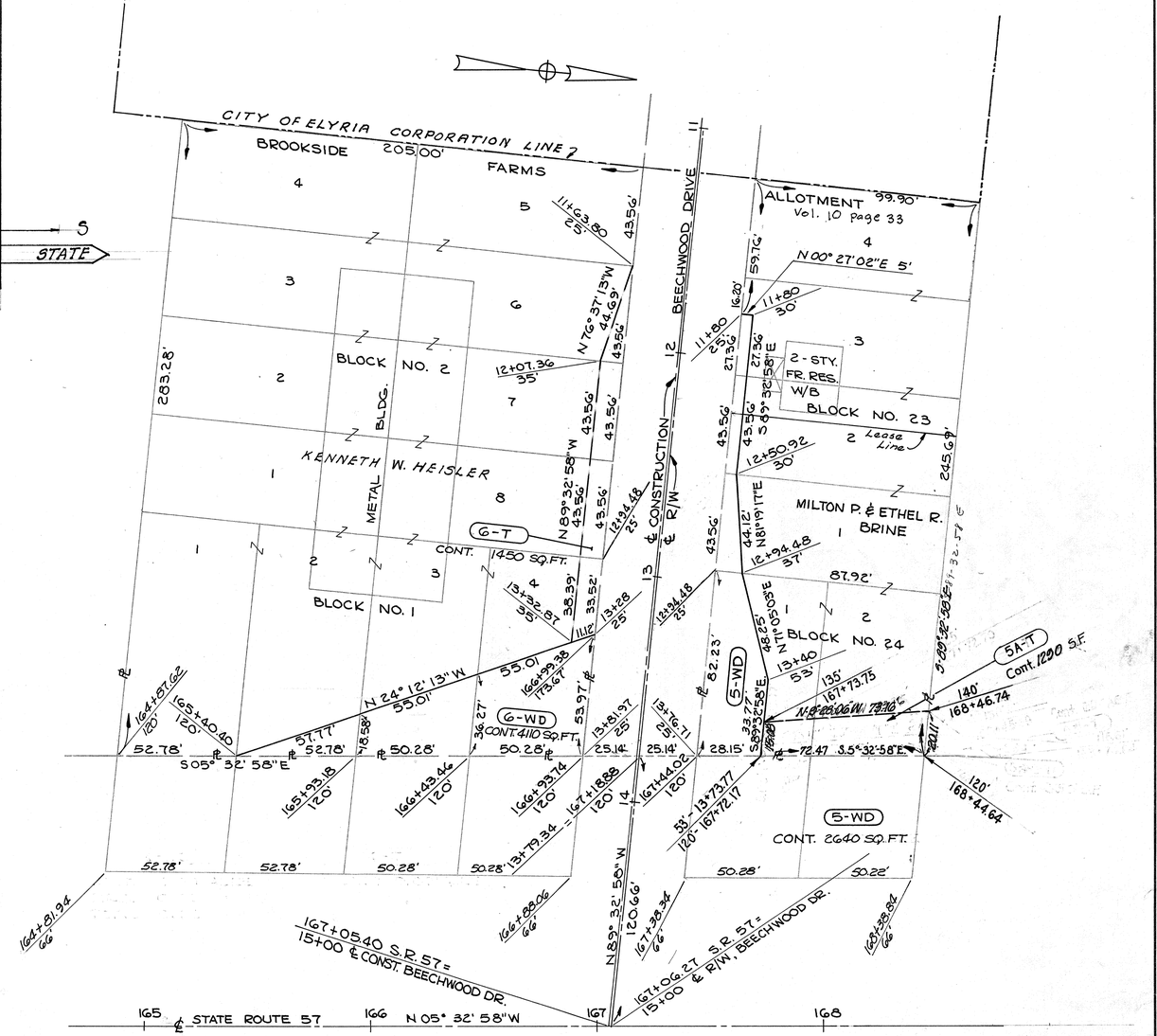
35/36

LOR.-90-13.01
LIMITED ACCESS
SCALE 1" = 30'
I-90-1(66)



DETAIL OF RIGHT OF WAY
STA. 159+1521 TO STA. 162+00

ELYRIA TOWNSHIP
CITY OF ELYRIA
BRACE TRACT
LOT 12
T-6N R-17W



DETAIL OF RIGHT OF WAY
STA. 165+40.40 TO STA. 167+72.17

ELYRIA TOWNSHIP
BRACE TRACT
LOT 12
T-6N R-17W

COMPLETION DATE DEC 17 1965

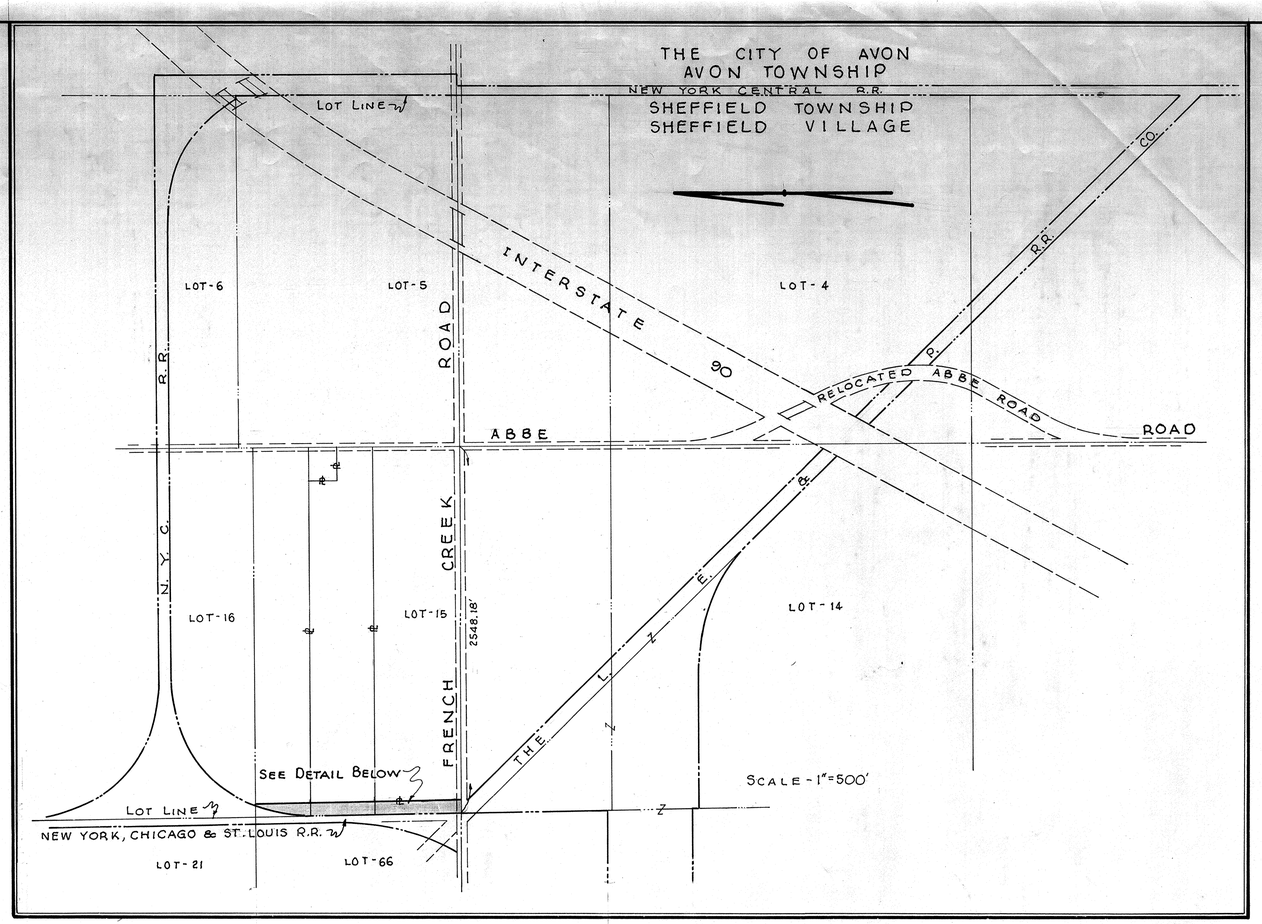
REV.	DATE	DESCRIPTION	TYPE FUNDS
			I & S
	9-18-68	Added Parcels 5A-WD, 5A-T, & 5B-T. L.V.C.	
	9-18-68	Changed distance on Ex. R/W-LA line, Parcel 5A-WD from 10.45' to 12.47'. L.V.C.	
	12-10-68	Removed Par. 5-AWD & increased 5-AT.	

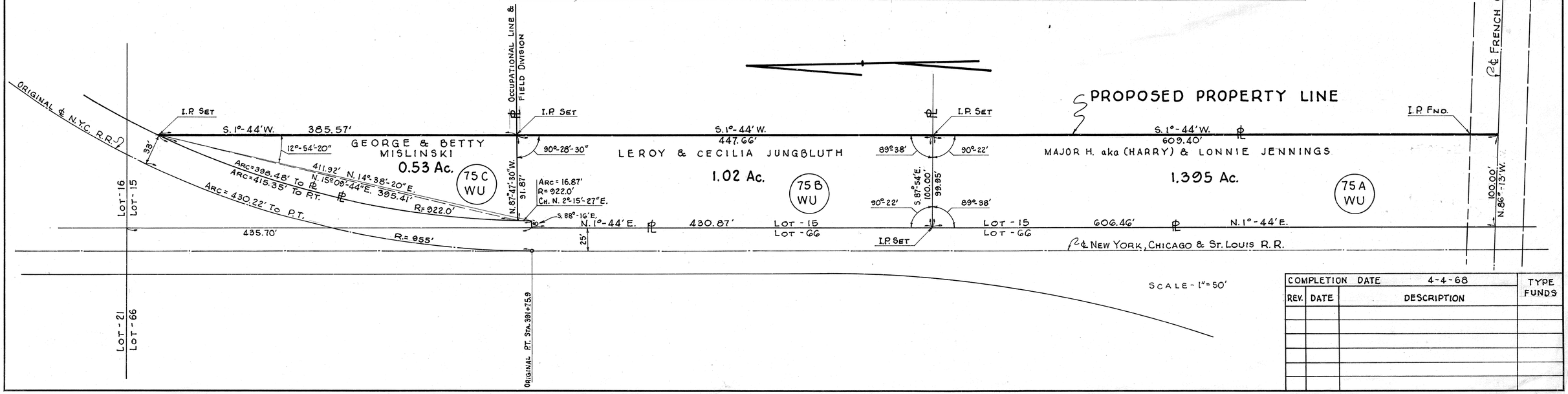
FED. RD. DIVISION	STATE	PROJECT	
2	OHIO	I-90-1(40)01	

LORAIN COUNTY
LOR-90-13.01
R/W I-90-1(66)

35A / 36

PLAT OF PROPOSED PROPERTY TO BE ACQUIRED FOR THE LAKE ERIE & PITTSBURG RAILWAY COMPANY





COMPLETION DATE 4-4-68			TYPE FUNDS
REV.	DATE	DESCRIPTION	

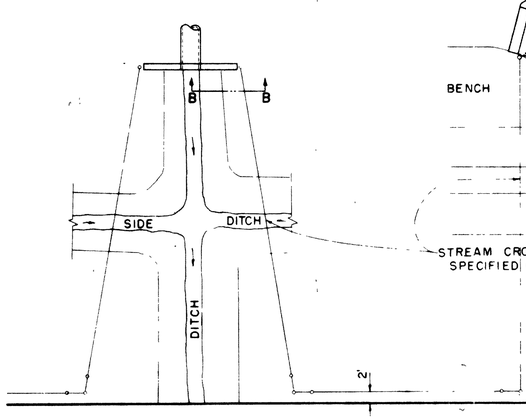
FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

LOR.-90-13.01

FENCE ARRANGEMENT AT PIPE CULVERTS

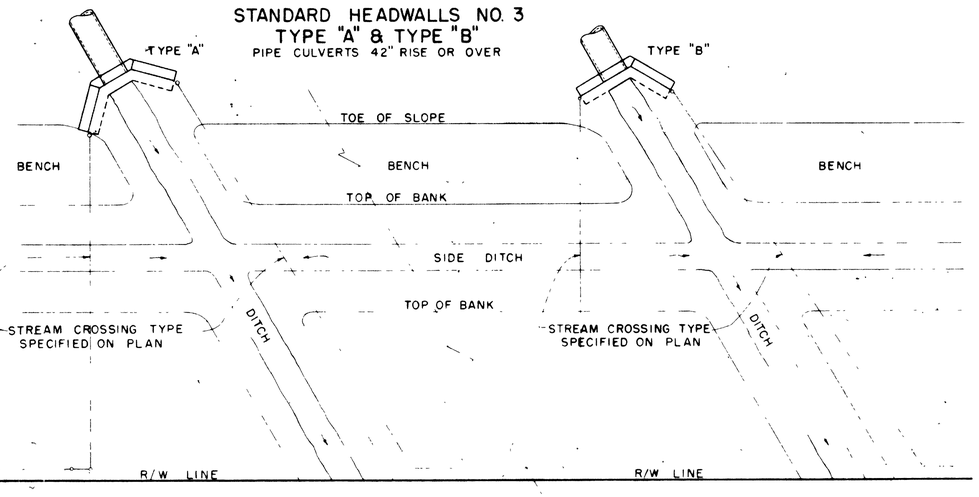
TYPE "E" & SP-53 HEADWALLS

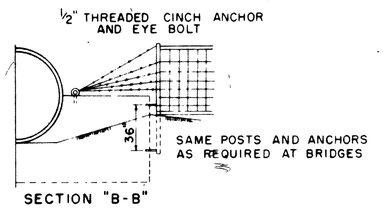
PIPE CULVERTS 42" RISE OR OVER

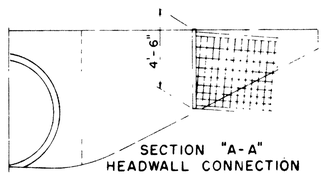


STANDARD HEADWALLS NO. 3 TYPE "A" & TYPE "B"

PIPE CULVERTS 42" RISE OR OVER







PROVIDE SAME POSTS AND ANCHORS AS FOR CONNECTION TO ABUTMENTS LOCATE AT POINT OF 54" CLEARANCE

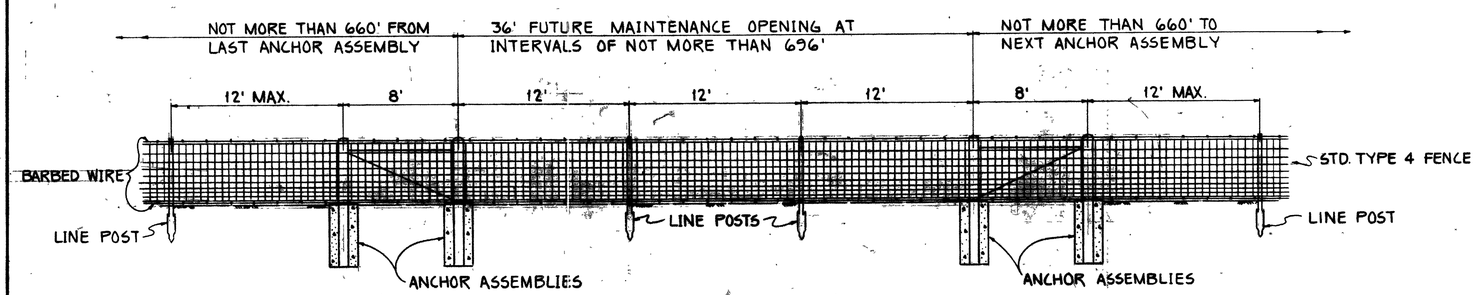
FOR ADDITIONAL DETAILS SEE STANDARD DRAWINGS

R/W FENCE LEGEND

- INTERMEDIATE ANCHOR POST ASSEMBLY (I.A.P.A.)
- CORNER POST ASSEMBLY (C.P.A.)
- END POST ASSEMBLY (E.P.A.)

RIGHT OF WAY FENCE SUMMARY								GATE REMOVED & RESET EACH
STATION	LIN. FT	TYPE	END POST ASSEMBLY	COR. POST ASSEMBLY	INTERMEDIATE ANCHOR POST	DUMPED ROCK CU. YDS.	SHEET NO.	
STATE ROUTE 57								
132+00 TO 147+00	1290.00	47	3	6	3	20	6	1
147+00 TO 159+15.21	1071.20	47		2	4	14	7	
159+15.21 TO 162+00	269.65	47			2		8	
I.R. 90								
678+00 TO 693+00	1085.87	47		4		10	9	
693+00 TO 708+00	3183.30	47		11	3	25	10	
708+00 TO 723+00	3012.83	47		1	6	6	11	
723+00 TO 738+00	2949.22	47		6	5	25	12	
738+00 TO 753+00	1473.29	47		2	3	15	13	
753+00 TO 768+00	3238.57	47		7	6	12	14	
768+00 TO 783+00	3019.90	47			7		15	
783+00 TO 798+00	3014.52	47			7	15	16	
798+00 TO 813+00	1982.82	47		1	5		17	
813+00 TO 828+00	3112.37	47		4	5		18	
828+00 TO 843+00	3003.61	47			11		19	
843+00 TO 850+00	1402.00	47			5		20	
850+00 TO 865+00	3138.86	47	8	16 6	5 5	10	21	
865+00 TO 880+00	3000.00	47		3	5 8		22	
880+00 TO 895+00	2574.00	47	2	7		30	23	
STATE ROUTE 254								
*78+10 TO 80+88.37	556.74	47	2		2		28	
80+88.37 TO 85+00	470.79	47		1	2		28	
91+00 TO 93+37.12	647.89	47		2	2		29	
*93+37.12 TO 96+00	525.76	47	2				29	
TOTAL 100% STATE	1082.50	47	4	6	2			
TOTAL I-90-1(40)01	42,930.69	47	5	63	90	182		1

*100% STATE 42935.69



FUTURE MAINTENANCE OPENING

AT LOCATIONS WHERE CHANNELS ARE LOCATED IN CHANNEL EASEMENTS AND FENCING IS PROVIDED BETWEEN THE CHANNEL AND A FREEWAY, AT LEAST ONE MAINTENANCE OPENING SHALL BE PROVIDED AS INDICATED ABOVE, AND OTHERS AT INTERVALS OF 696 FEET IN THE LENGTH OF THE PARALLEL CHANNEL EXCEEDS 1800 FEET.

SEE STANDARD CONSTRUCTION DRAWING NO. F-4 FOR DETAILS OF ANCHOR ASSEMBLIES

RIGHT OF WAY FENCE DETAILS AND SUMMARY SHEET

TE-95
400-1-63

GENERAL INFORMATION

INTRODUCTION

The project consists of the construction of 3.2 miles of IR 90, beginning 1100 feet west of SR 57, 1 mile south of SR 254, extending northeastward, and terminating 0.7 mile east of SR 301, 0.5 mile north of SR 254.

Proposed grade indicates cuts, maximum 32 feet in depth; fill embankments, maximum 52 feet in height.

GEOLOGY OF THE PROJECT

The project is located on the flat, glaciated Lake Plain, in an area being incised by the Black River and traversed by beach ridges of old Lake Warren. Shallow to moderately deep lacustrine and beach deposits overlie shale and indurated clay, of Lower Mississippian and Upper Devonian ages.

EXPLORATION

Exploratory borings were made by means of truck-mountec mechanical soil auger, hand auger (in areas of difficult access), and rotary-type drill rig, during August, September, and October, 1964.

INVESTIGATIONAL FINDINGS

Materials occurring immediately below proposed grade consist predominantly of silt clays (A-6a), having moisture contents generally below the plastic range, as well as shale and indurated clay bedrock.

Bedrock is anticipated in the excavations in the following areas:

Stations 714+00 to 719+00 - Shale and indurated clay at grade and in the ditches and lower portions of the backslopes.

Stations 719+00 to 723+00 - Shale and indurated clay at grade and in the ditches and backslopes.

Stations 723+75 to 724+25 - Shale in the right ditch; shale and indurated clay in the lower portions of the right backslope.

Stations 724+25 to 725+25 - Shale at right grade and in the right ditch and lower and mid-portions of the right backslope.

Stations 725+25 to 726+75 - Shale at both grades and in the ditches and lower and mid-portions of both backslopes.

Stations 726+75 to 727+15 - Shale at both grades and in the right ditch and lower and mid-portions of the right backslope.

Stations 727+15 to 728+15 - Shale at right grade and in the right ditch and lower and mid-portions of the right backslope.

Stations 728+15 to 729+40 - Shale at both grades and in the right ditch and lower and mid-portions of the right backslope.

Stations 729+40 to 731+30 - Shale at both grades and in both ditch and backslopes.

Stations 731+30 to 732+25 - Shale at right grade and in the right ditch and backslope.

Stations 732+25 to 736+60 - Shale at both grades and in the ditches and lower and mid-portions of the backslopes.

Stations 746+00 to 747+25 - Shale in the left ditch and lower portion of the left backslope.

Stations 747+25 to 748+50 - Shale at left grade and in the left ditch and lower portions of the left backslope.

Stations 748+50 to 752+00 - Shale at both grades and in the ditches and lower portions of the backslopes.

Stations 752+00 to 756+00 - Shale in the right ditch.

Frost susceptible sandy silt was encountered within three feet below proposed grade at station 797+00.

(CONTINUED ON RIGHT SIDE OF SHEET)

LEGEND FOR PROJECT AVERAGE RESULTS OF TESTS-- 116 SAMPLES TESTED

DESCRIPTION	H.R.B. CLASS	OHIO CLASS	% AGG	% C SAND	% F SAND	% SILT	% CLAY	LIQUID LIMIT	PLASTICITY INDEX	WATER CONTENT	SAMPLES TESTED
Gravel with sand	A-1-b(0)	A-1-b	48	26	10	9	7	NP	NP	4	2
Coarse and fine sand	-------	A-3a	4	13	65	9	9	NP	NP	19	5
Sandy silt	A-4(5)	A-4a	20	9	11	36	24	26	4	17	6
Silt	A-4(8)	A-4b	0	2	11	54	33	26	7	20	11
Silt and clay	A-6(9)	A-6a	5	5	8	36	46	31	12	16	64
Silty clay	A-6(11)	A-6b	0	2	4	43	51	40	17	18	5
Elastic clay	A-7-5(10)	A-7-5	0	3	2	38	57	44	14	20	1
Clay	A-7-6(13)	A-7-6	0	2	6	35	57	46	20	21	7
Weathered indurated clay			VISUAL CLASSIFICATION								7
Weathered shale			VISUAL CLASSIFICATION								1
Shale			VISUAL CLASSIFICATION								7
Various other materials			VISUAL CLASSIFICATION								-

Sod and/or Topsoil =X'= Approximate depth.

Berm material.

Auger boring - plan view.

Auger boring plotted to vertical scale only.

Core boring - plan view

Core boring plotted to vertical scale only.

Water content nearly equal to or greater than liquid limit.

Indicates a non-plastic material with a high water content.

W Free water.

B Indicates broken rock interval.

NOTE: Figures beside borings indicate water content in percent, e.g. 15

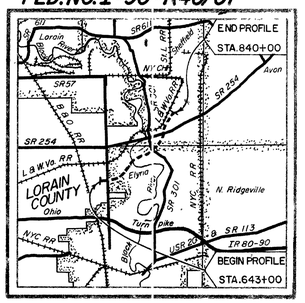
SOIL PROFILE
LORAIN COUNTY
LOR- 90-13.01

1/33

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, NOR IT IS NOT TO BE CONSTRUED AS A PART OF THE PLANS GOVERNING CONSTRUCTION OF THE PROJECT.

FED. NO. I-90-1(40) 01



LOCATION MAP

Recon-W.C.J.-8/3/64 To 8/5/64
Drilling-Auger-C.M.C., T.R.S
8/17/64 to 8/20/64 and 10/7/64
Core-T.R.S.
11/3/64 to 11/5/64
Drafting-R.E.L., A.F. 11/19/64

GENERAL INFORMATION *(CONTINUED)*

Embankment foundation materials comprise silts (A-4b) and silt clays (A-6a), having moisture contents generally in the lower portions of, or below the plastic range, with occasional sandy silts and clays.

Wet materials were encountered at stations 673+00, 740+12, and 742+00 (also organic).

SUMMARY OF SOIL TEST DATA

NOTE: NP shown in Liquid Limit and Plasticity Index columns indicates that the material is non-plastic.
*Denotes sample taken at or near grade.

STATION & OFFSET		DEPTH FROM-TO	% AGG.	% C.S.	% F.S.	% SILT	% CLAY	L.L.	P.I.	% W.C.	SHTL CLASS.
673+00	CL	0.6-5.0	0	0	4	45	51	38	16	17	A-6b
		5.0-9.0	0	0	1	49	50	29	11	28	A-6a
		9.0-13.0	0	0	0	54	46	25	6	25	A-4b
680+00	CL	0.6-4.0	0	1	1	46	52	39	12	17	A-6a
		4.0-9.0	0	1	3	57	39	28	9	18	A-4b
		9.0-14.0	0	5	11	51	33	21	4	17	A-4b
		14.0-18.0	0	7	13	40	40	24	11	13	A-6a
688+00	65'Lt	0.6-5.0	0	0	2	51	47	34	13	17	A-6a
		5.0-8.0	0	1	3	54	42	29	9	25	A-4b
		8.0-13.0	21	5	7	34	33	25	11	14	A-6a
		13.0-17.0	0	6	10	38	46	27	11	14	A-6a
		17.0-20.0	Red Broken Clay Shale							7	Visual
691+00	CL	2.0-5.0	14	7	4	40	35	34	11	17	A-6a
695+00	CL	0.6-4.0	0	6	18	39	37	29	11	12	A-6a
		4.0-9.0	0	5	11	42	42	31	11	16	A-6a
		9.0-15.0	0	7	7	40	46	27	11	15	A-6a
697+75	CL	0.4-3.0	Reddish-Brown Silt and Clay					29	13	13	A-6a
		3.0-3.5	Brown Broken Clay Shale							13	Visual
699+80	CL	0.6-5.0	0	7	11	38	44	31	11	14	A-6a
		5.0-9.0	0	8	11	39	42	29	11	15	A-6a
		9.0-11.0	0	3	3	48	46	34	14	13	A-6a
703+20	CL	0.6-4.0	0	1	1	44	53	40	17	17	A-6b*
		4.0-6.0	0	3	7	36	54	31	11	21	A-6a
709+00	CL	0.6-6.0	0	1	1	39	59	45	24	17	A-7-6
		6.0-10.0	0	2	4	41	53	39	14	18	A-6a
		10.0-13.0	0	6	10	38	46	33	14	16	A-6a *
		13.0-16.0	0	6	10	42	42	27	11	14	A-6a *
		16.0-21.0	0	1	0	13	86	52	23	24	A-7-6
713+00	CL	0.0-6.0	0	6	8	36	50	43	20	20	A-7-6
		6.0-11.0	0	2	3	31	64	34	15	14	A-6a
		11.0-16.0	0	7	13	31	59	27	11	13	A-6a *
		16.0-18.5	Red Weathered Indurated Clay							10	Visual *
717+00	CL	0.6-4.0	0	5	10	44	41	29	11	11	A-6a
		4.0-9.0	0	5	10	35	50	33	13	14	A-6a
		9.0-14.5	16	5	8	29	42	34	14	14	A-6a
		14.5-15.5	Brownish-Gray Broken Clay Shale							9	Visual
721+50	103'Lt	0.0-3.0	Brown Broken Clay Shale							-	Visual *
721+50	CL	0.0-4.0	Brown Weathered Indurated Clay							9	Visual
721+50	95'Rt	0.0-3.0	Brown Weathered Indurated Clay							11	Visual
724+00	CL	0.3-2.0	Dark-Gray Broken Carbonaceous Shale							9	Visual
725+20	95'Rt	0.0-6.0	0	5	12	29	54	27	11	14	A-6a
		6.0-11.0	16	5	4	35	40	34	13	17	A-6a
		11.0-16.0	0	7	10	36	47	35	14	15	A-6a
		16.0-21.0	19	6	9	33	33	34	15	10	A-6a
		21.0-24.0	Red Broken Clay Shale							8	Visual
725+75	CL	0.0-5.0	0	6	10	32	52	34	12	12	A-6a
		5.0-10.0	14	6	8	35	37	31	11	14	A-6a
		10.0-15.0	17	7	9	35	32	25	6	11	A-4a
		15.0-19.0	17	5	8	33	37	25	6	13	A-4a
		19.0-25.0	Gray Weathered Indurated Clay							9	Visual
730+00	CL	0.6-5.0	0	4	9	39	48	36	15	23	A-6a
		5.0-9.0	0	8	8	41	43	32	11	14	A-6a
		9.0-13.0	22	8	8	33	29	29	11	12	A-6a
		13.0-17.0	10	6	7	38	39	27	11	12	A-6a
732+50	95'Lt	0.0-5.0	Brown Weathered Indurated Clay							12	Visual
735+85	CL	0.6-5.0	62	13	9	9	7	23	4	8	A-1-b
		5.0-10.0	22	8	10	26	34	29	11	13	A-6a
		10.0-13.0	16	5	8	30	41	28	11	13	A-6a
740+12	CL	0.6-4.0	0	1	21	51	27	24	4	17	A-4b
		4.0-9.0	0	1	21	52	26	26	6	24	A-4b
		9.0-11.0	49	8	2	29	12	28	6	17	A-4a
743+00	CL	0.4-3.0	0	3	11	53	33	26	7	13	A-4b
		3.0-9.0	0	1	11	57	31	23	7	17	A-4b
		9.0-13.0	0	1	16	59	24	26	7	25	A-4b
		13.0-18.0	0	2	17	48	33	41	15	30	A-7-6
		18.0-20.0	42	9	8	26	15	30	2	25	A-4a
749+70	CL	0.6-4.0	0	1	0	30	69	39	12	20	A-6a
		4.0-9.0	0	2	11	46	41	26	11	18	A-6a
		9.0-14.0	16	6	9	30	39	30	11	15	A-6a
		14.0-18.0	15	5	8	33	39	29	11	14	A-6a
		18.0-20.0	Grayish-Brown Weathered Indurated Clay							10	Visual *
753+50	CL	0.0-5.0	0	0	1	36	63	41	19	18	A-7-6
		5.0-10.0	0	1	2	46	51	34	13	18	A-6a
		10.0-16.0	0	7	11	30	52	32	13	16	A-6a
		16.0-20.0	15	5	9	29	42	27	11	16	A-6a *
		20.0-22.0	Gray Weathered Shale							9	Visual *
		22.0-24.0	Gray Weathered Indurated Clay							10	Visual
758+00	CL	0.6-5.0	0	3	2	38	51	44	14	20	A-7-5
		5.0-10.0	0	0	0	45	55	37	11	20	A-6a
		10.0-15.0	18	4	9	33	36	27	11	15	A-6a
		15.0-21.0	0	10	12	38	40	28	11	15	A-6a *
766+00	CL	0.6-5.0	0	2	1	37	60	38	12	21	A-6a
		5.0-9.0	0	0	0	48	52	39	15	16	A-6a *
		9.0-14.0	17	5	8	33	37	27	11	14	A-6a *
		14.0-18.0	0	6	10	39	45	28	11	16	A-6a
773+35	CL	0.6-5.0	0	4	3	44	49	40	17	21	A-6b *
		5.0-11.0	0	1	2	42	55	36	15	22	A-6a
781+00	CL	0.6-5.0	0	3	7	38	52	37	14	17	A-6a
		5.0-9.0	0	5	10	47	38	39	14	29	A-6a
		9.0-12.0	17	1	3	21	58	28	11	15	A-6a
789+00	CL	0.6-5.0	0	4	9	41	46	40	18	17	A-6b *
		5.0-8.0	0	1	4	39	56	40	16	21	A-6b
		8.0-10.0	0	6	19	44	31	22	5	14	A-4a
797+00	CL	0.6-5.0	0	1	32	58	9	31	9	19	A-4b
		5.0-10.0	0	23	17	45	14	NP	NP	23	A-4a *
		10.0-14.0	0	7	2	45	46	28	11	23	A-6a *
804+00	CL	0.5-5.0	35	39	10	9	7	NP	NP	5	A-1-b
		5.0-9.0	0	2	87	5	6	NP	NP	24	A-3a
		9.0-14.0	0	6	80	5	9	NP	NP	24	A-3a
		14.0-19.0	13	6	10	34	37	26	11	16	A-6a *
		19.0-23.0	0	11	19	29	41	25	11	16	A-6a *
		23.0-27.0	0	6	11	34	49	31	12	15	A-6a
810+00	20'Lt	0.6-3.0	0	29	39	21	11	NP	NP	6	A-3a
		3.0-9.0	22	23	42	5	8	NP	NP	19	A-3a
		9.0-12.0	0	7	75	7	11	NP	NP	21	A-3a
		12.0-17.0	0	7	13	41	39	36	11	16	A-6a
		17.0-21.0	0	9	13	37	41	27	11	16	A-6a *
812+00	CL	0.6-3.0	0	7	12	39	42	31	11	13	A-6a
		3.0-8.0	0	5	5	43	47	30	12	14	A-6a *
		8.0-13.0	20	4	9	35	32	36	11	12	A-6a *
		13.0-17.0	0	8	9	38	45	37	11	13	A-6a
820+00	CL	0.6-3.0	0	8	14	50	28	35	8	14	A-4b
		3.0-6.5	11	6	10	41	32	36	11	12	A-6a
		6.5-8.5	Gray Broken Carbonaceous Shale							7	Visual
828+00	CL	0.6-3.0	0	1	13	32	54	48	23	22	A-7-6
		3.0-5.0	Dark-Gray Broken Carbonaceous Shale							7	Visual
832+25	CL	0.6-5.0	0	2	4	51	43	45	19	19	A-7-6
		5.0-10.0	Dark-Gray Broken Carbonaceous Shale							-	Visual

SOIL PROFILE
LORAIN COUNTY
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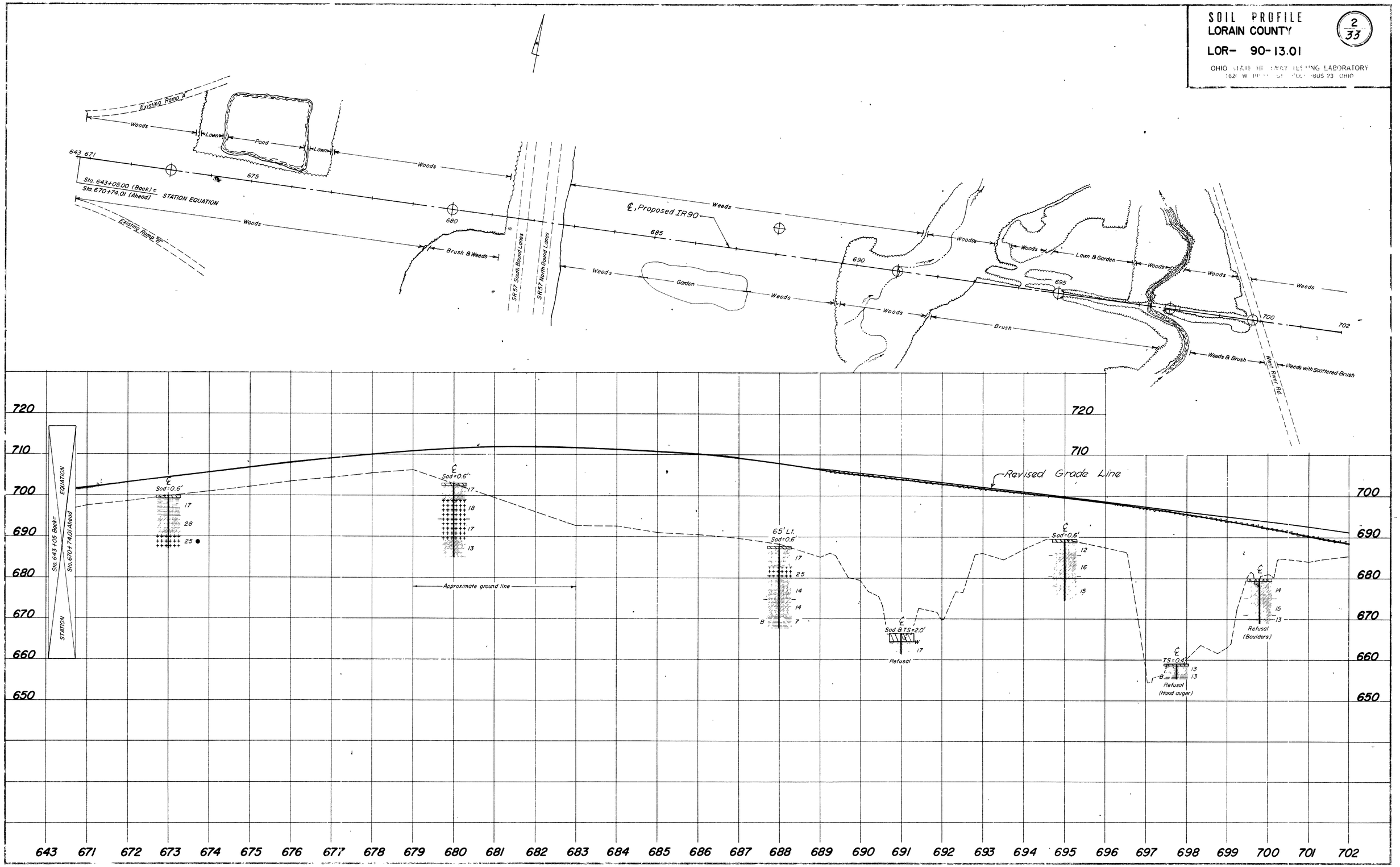
OHIO STATE HIGHWAY TESTING LABORATORY
1620 W. BROAD ST. COLUMBUS 23, OHIO



SOIL PROFILE
LORAIN COUNTY
LOR- 90-13.01

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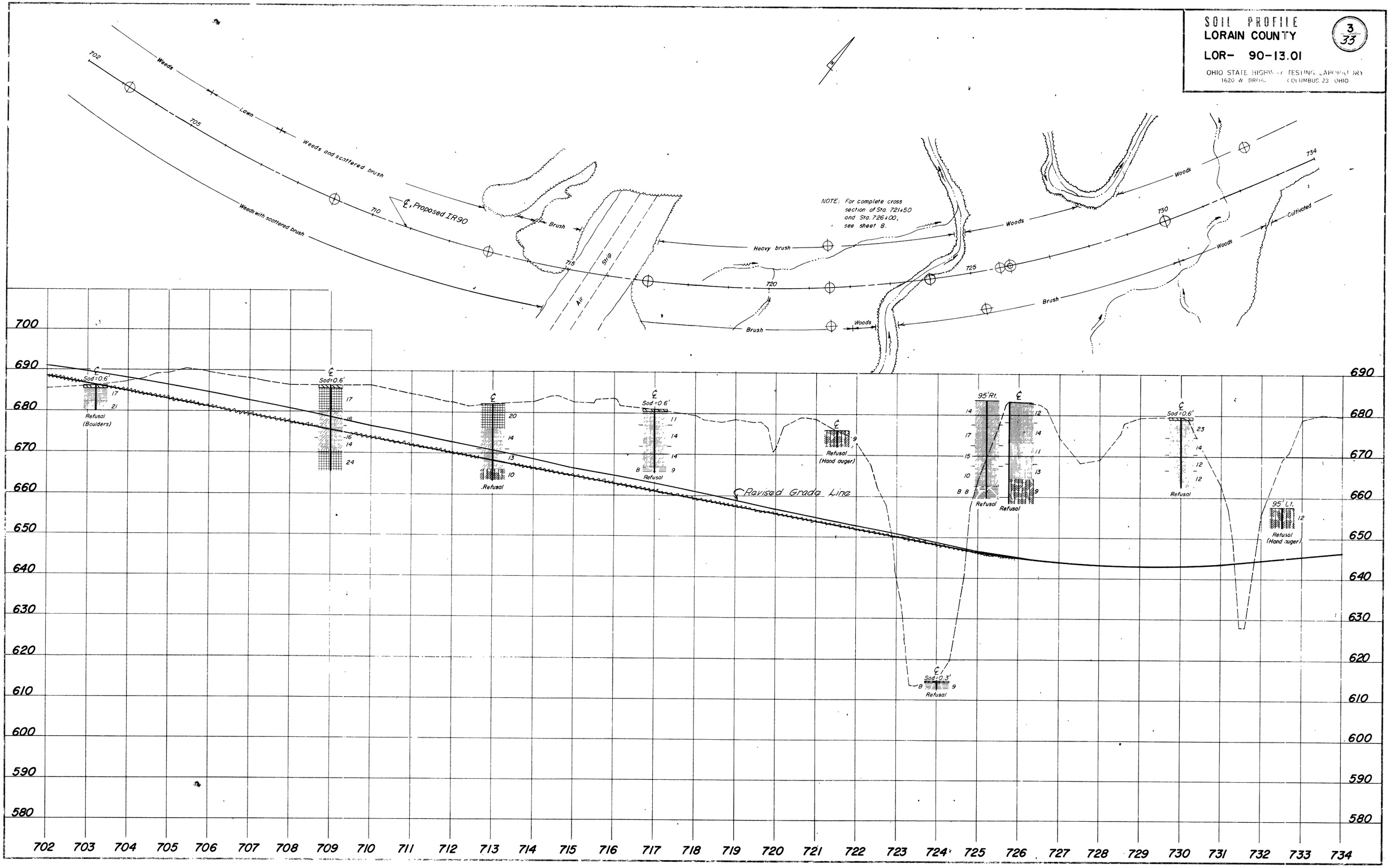
OHIO STATE HIGHWAY TESTING LABORATORY
1620 W. BROAD COLUMBUS 23 OHIO



SOIL PROFILE
LORAIN COUNTY
LOR- 90-13.01

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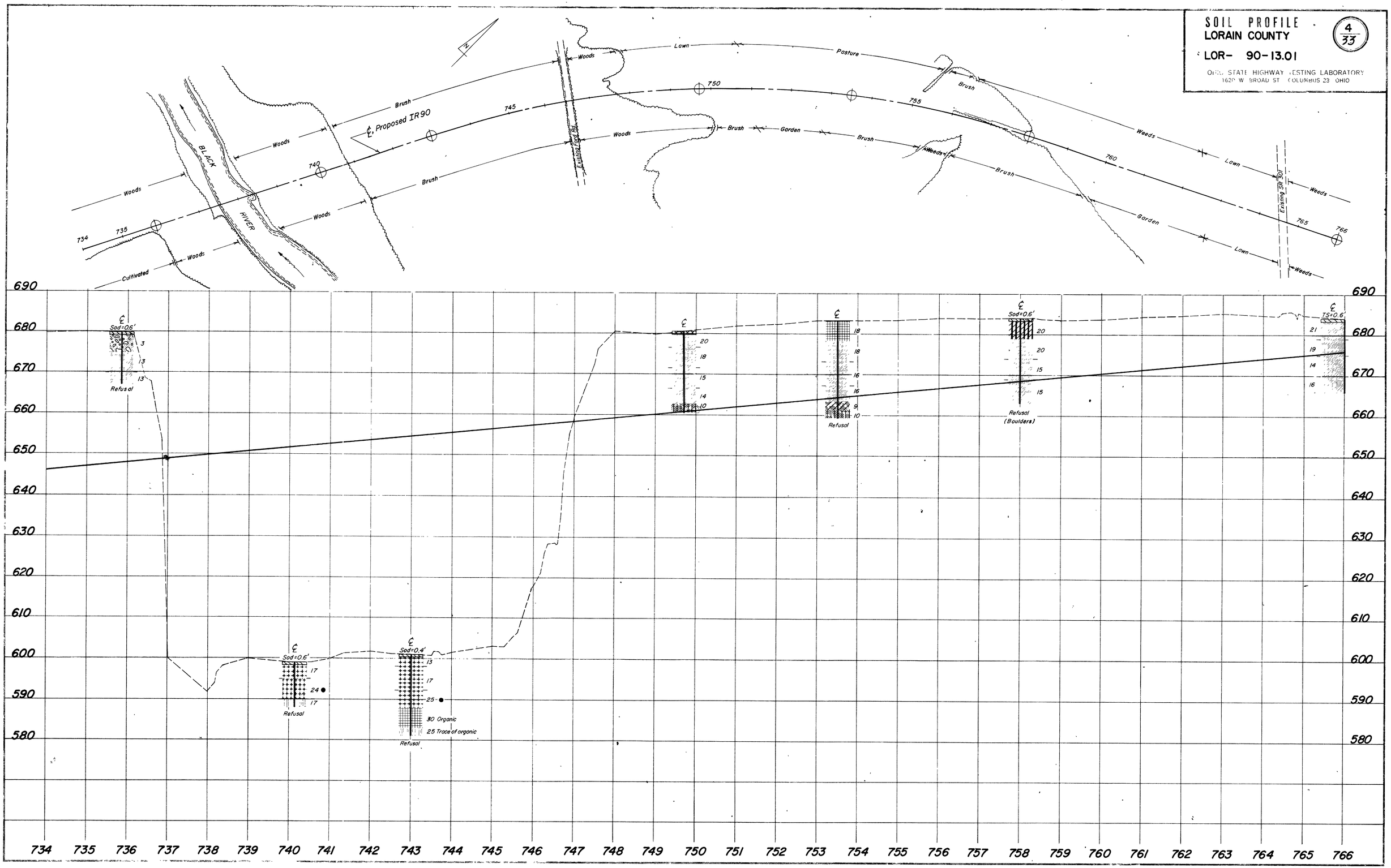
OHIO STATE HIGHWAY TESTING LABORATORY
1620 W BROAD ST COLUMBUS 23 OHIO



SOIL PROFILE
LORAIN COUNTY

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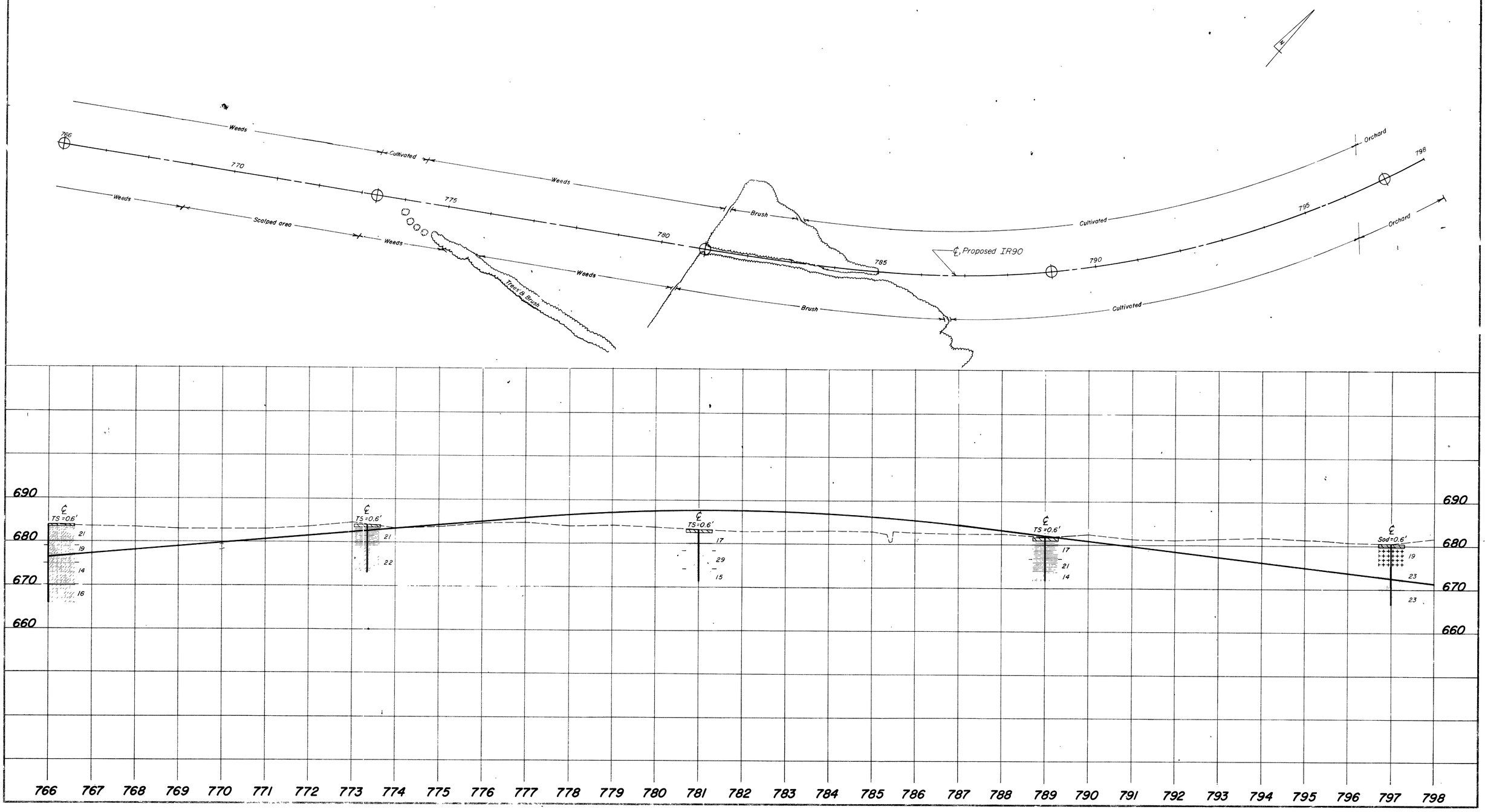
LOR- 90-13.01

OHIO STATE HIGHWAY TESTING LABORATORY
1620 W. BROAD ST. COLUMBUS 22, OHIO



SOIL PROFILE
LORAIN COUNTY
LOR- 90- 13.01

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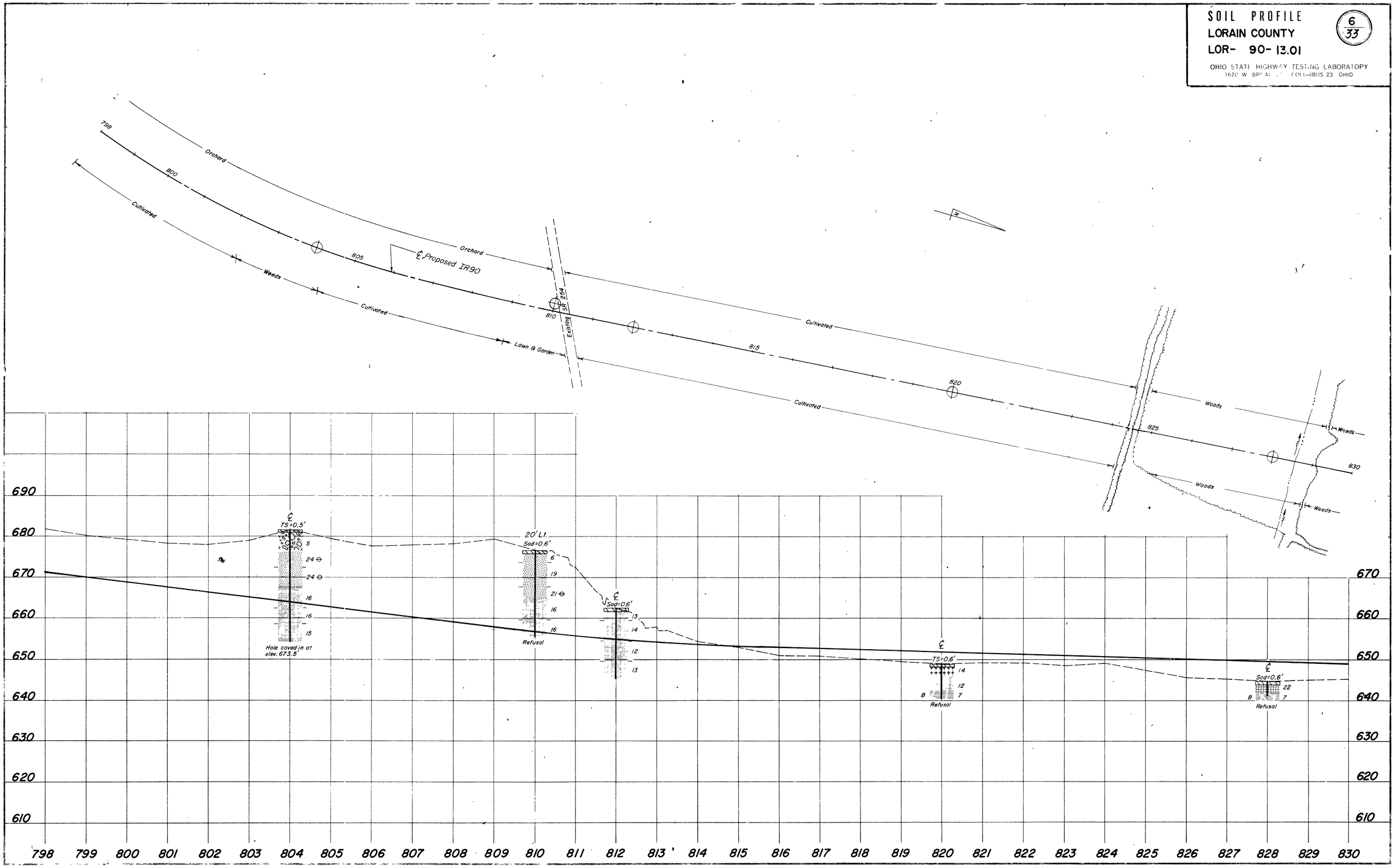
OHIO STATE HIGHWAY TESTING LABORATORY
1620 W. BRO[illegible] COLUMBUS 23 OHIO



SOIL PROFILE

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OHIO STATE HIGHWAY TESTING LABORATORY
1620 W. BROAD ST. COLUMBUS 23, OHIO

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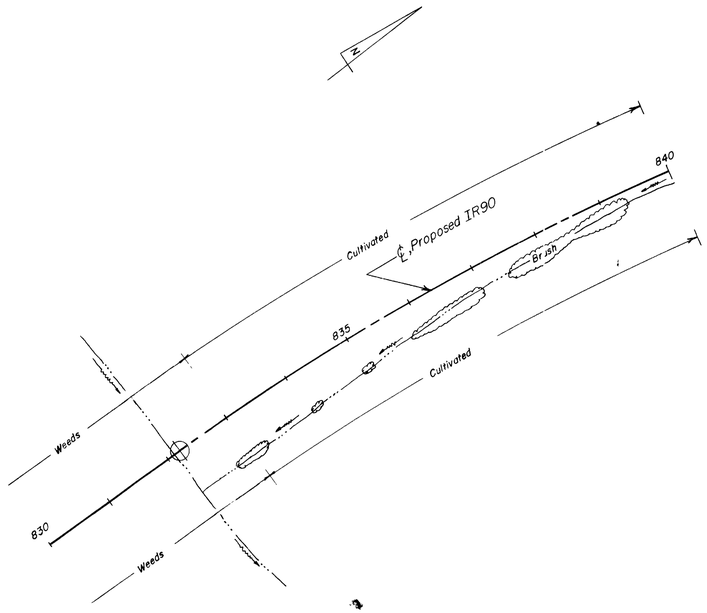

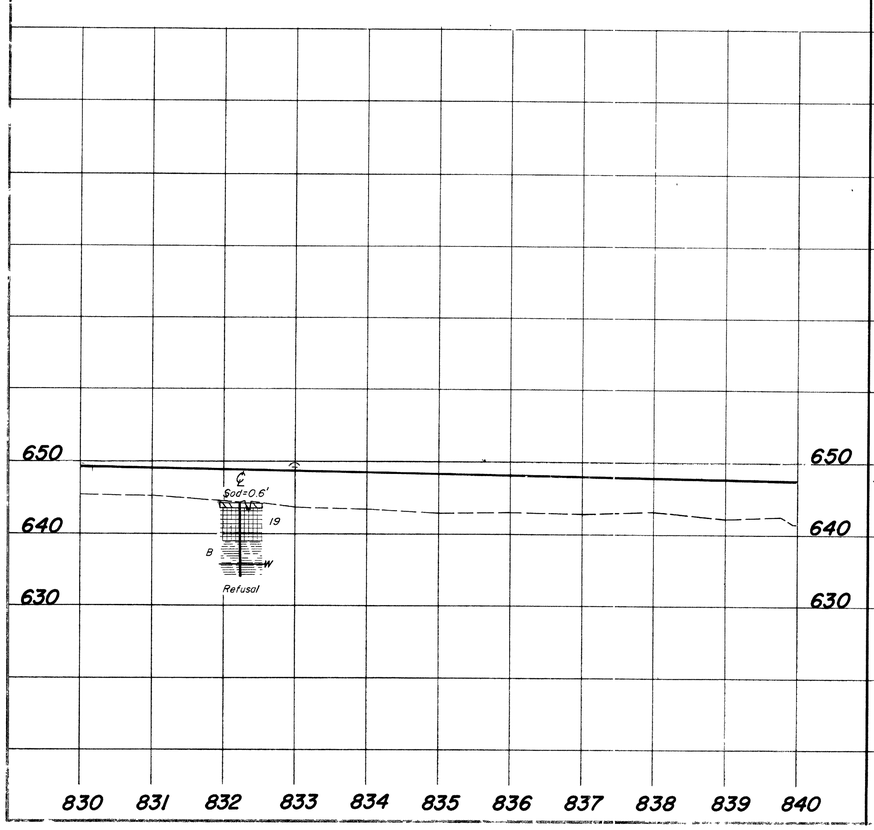

SOIL PROFILE
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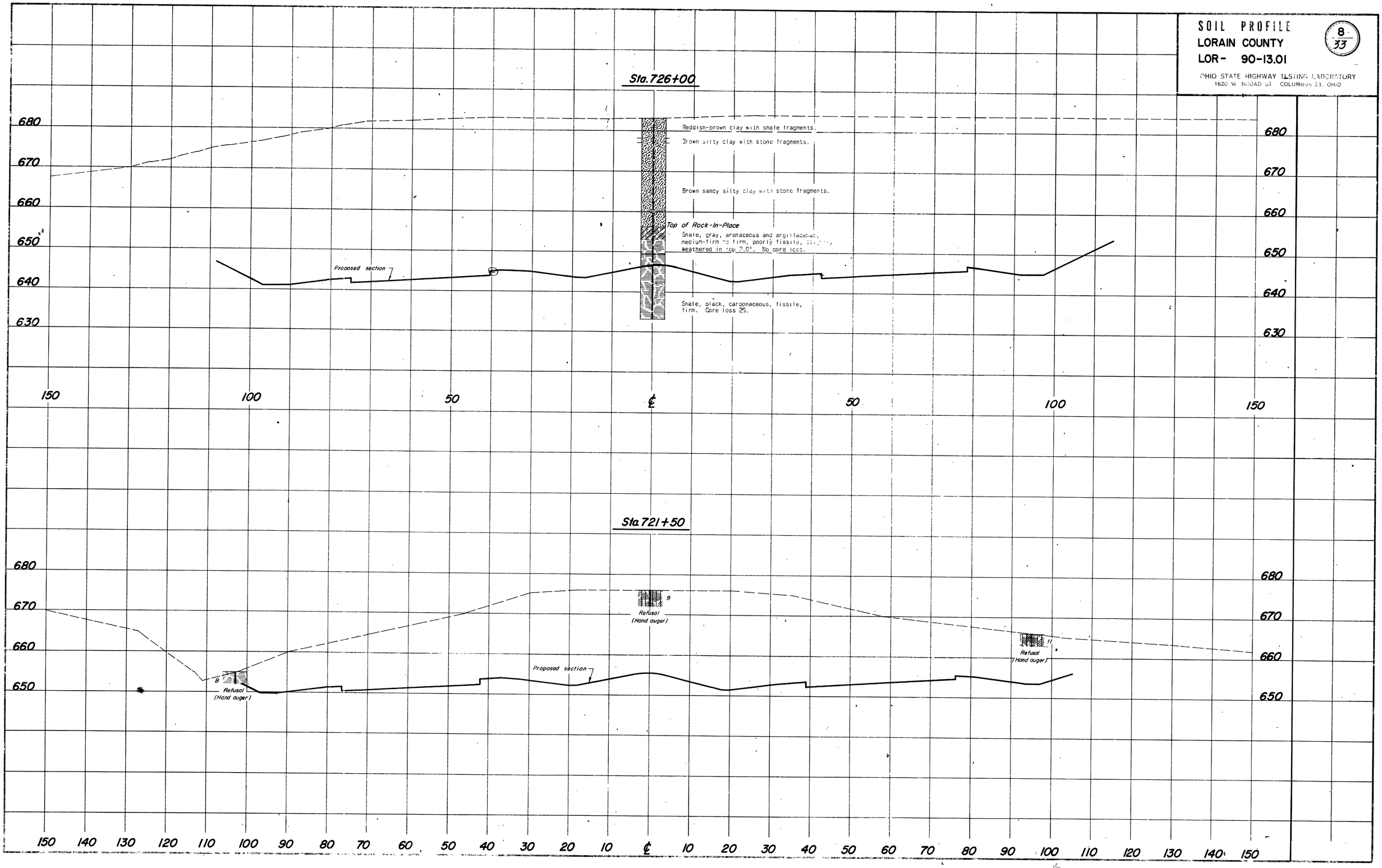
OHIO STATE HIGHWAY TESTING LABORATORY
1620 W. BROAD ST. COLUMBUS 23, OHIO



TE-85
400-1-63

GENERAL INFORMATION

INTRODUCTION

The project consists of the construction of 3.9 miles of IR 90, beginning 0.7 mile east of SR 301, 0.5 mile north of SR 254, extending northeastward, and terminating 0.7 mile west of SR 76, 0.8 mile north of SR 254.

Proposed grade indicates fill embankment, maximum 32 feet, but generally less than 12 feet in height.

GEOLOGY OF THE PROJECT

The alignment traverses the flat, glaciated Lake Plain, where shallow to thin lacustrine and glacial deposits overlie shale and indurated clay bedrock, of Upper Devonian age.

EXPLORATION

Exploratory borings were made by means of truck-mounted soil auger, and hand auger (in areas of difficult access), between August 20 and 25, 1964.

INVESTIGATIONAL FINDINGS

Materials in the embankment foundation consist predominantly of silt clays (A-6a) and clays (A-7-6), having moisture contents generally below the plastic range.

Elastic clays (A-7-5) were encountered in the embankment foundation at-surface, at stations 878+60, 1034+35, and 1040+50.

LEGEND FOR PROJECT AVERAGE RESULTS OF TESTS— 59 SAMPLES TESTED

DESCRIPTION	H.R.B. CLASS	OHIO CLASS	% AGG	% C SAND	% F SAND	% SILT	% CLAY	LIQUID LIMIT	PLASTICITY INDEX	WATER CONTENT	SAMPLES TESTED
Stone fragments with sand and silt	A-2-4(0)	A-2-4	47	6	14	21	12	22	2	9	2
Sandy silt	A-4(3)	A-4a	10	8	34	27	21	NP	NP	13	3
Silt	A-4(8)	A-4b	0	2	11	52	35	31	9	23	1
Silt and clay	A-6(9)	A-6a	7	4	9	36	44	33	12	16	12
Silty clay	A-6(10)	A-6b	0	2	9	37	52	40	16	20	2
Elastic clay	A-7-5(11)	A-7-5	0	1	2	40	57	47	15	26	3
Clay	A-7-6(14)	A-7-6	3	3	6	36	52	46	21	20	14
Weathered indurated clay			VISUAL CLASSIFICATION								12
Weathered shale			VISUAL CLASSIFICATION								5
Shale			VISUAL CLASSIFICATION								4
Various other materials			VISUAL CLASSIFICATION								-

Sod or Topsoil =X= Approximate depth.

Berm material.

Auger boring - plan view.

Auger boring plotted to vertical scale only.

B Indicates broken rock interval.

NOTE: Figures beside borings indicate water content in percent. e.g. 15

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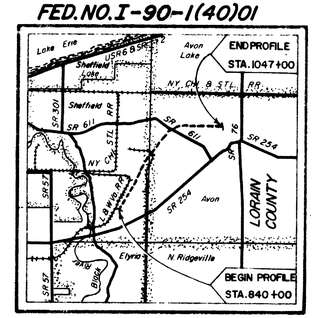
OHIO STATE HIGHWAY TESTING LABORATORY
1620 W. BROAD ST. COLUMBUS 23, OHIO

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-90-1(40)01



LOCATION MAP

Recon-W.C.J. - 8-3-64 To 8-7-64
Drillers - Auger-C.M.C., T.R.S. - 8-20-64 To 8-25-64
Drafting - R.E.L. 10-19-64

SUMMARY OF SOIL TEST DATA

NOTE: NP shown in Liquid Limit and Plasticity Index columns indicates that the material is non-plastic.

STATION & OFFSET		DEPTH FROM-TO	% AGG.	% C.S.	% F.S.	% SILT	% CLAY	L.L.	P.I.	% W.C.	SHTL CLASS.
840+60	CL	0.6-5.0	0	1	3	39	57	48	24	17	A-7-6
		5.0-8.5	Dark-Gray Broken Carbonaceous Shale							11	Visual
848+00	CL	0.6-5.0	0	1	4	40	55	52	25	22	A-7-6
		5.0-8.0	Gray Weathered Shale							8	Visual
856+00	CL	0.6-3.5	0	3	6	44	47	47	20	20	A-7-6
863+00	CL	0.6-4.5	0	1	6	48	45	42	16	19	A-7-6
873+00	CL	0.6-5.5	0	2	9	45	44	39	12	17	A-6a
		5.5-10.5	Gray Weathered Shale							10	Visual
878+80	CL	0.6-3.0	0	2	3	47	48	46	13	21	A-7-5
		3.0-7.0	15	8	10	37	27	29	8	15	A-4a
		7.0-12.0	Gray weathered Indurated Clay							7	Visual
885+70	CL	0.6-3.0	[illegible]	3	10	46	41	45	18	21	A-7-6
		3.0-7.0	0	4	2	54	40	41	18	19	A-7-6
		7.0-10.5	Gray Weathered Shale							10	Visual
894+85	CL	0.6-6.0	0	[illegible]	8	37	53	37	14	16	A-6a
		6.0-11.5	Dark-Gray Broken Carbonaceous Shale							9	Visual
902+64	CL	0.6-4.0	0	[illegible]	8	39	49	41	16	20	A-7-6
		4.0-7.0	0	[illegible]	11	52	35	31	9	23	A-4b
		7.0-9.0	Dark-Gray Weathered Siliceous Shale							7	Visual
910+04	CL	0.6-4.0	0	4	9	40	47	35	12	22	A-6a
		4.0-7.0	0	7	14	39	40	28	11	16	A-6a
		7.0-10.0	Gray Weathered Siliceous Shale							12	Visual
918+00	CL	0.6-4.0	0	1	3	36	60	40	14	16	A-6a
		4.0-8.0	Dark-Gray Broken Clay Shale							10	Visual
		8.0-11.0	Dark-Gray Broken Clay Shale							10	Visual
924+50	CL	0.6-4.0	0	2	8	35	55	44	20	16	A-7-6
		4.0-6.5	Brown Silty Sand and Stone Fragments							-	Visual
		6.5-9.0	Gray Weathered Indurated Clay							8	Visual
932+00	CL	0.6-4.0	0	4	9	27	60	43	19	17	A-7-6
		4.0-6.0	0	1	0	15	84	46	22	30	A-7-6
		6.0-7.0	51	2	12	22	13	22	4	10	A-2-4
937+20	CL	0.6-5.0	0	2	8	30	60	40	20	22	A-6b
		5.0-8.0	13	13	31	24	19	NP	NP	11	A-4a
		8.0-10.5	43	9	17	21	10	NP	NP	8	A-2-4
947+20	CL	0.4-4.5	9	2	7	32	50	52	25	21	A-7-6
950+00	CL	0.4-4.0	0	2	7	24	67	46	22	23	A-7-6
958+00	CL	0.4-3.5	33	3	6	21	37	43	19	19	A-7-6
966+00	CL	0.5-4.5	0	6	2	49	43	51	28	21	A-7-6
973+50	CL	0.0-5.0	0	3	59	20	18	NP	NP	12	A-4a
		5.0-8.5	17	9	12	29	33	25	11	12	A-6a
981+00	CL	0.0-5.5	15	6	9	30	40	31	11	13	A-6a
988+00	CL	0.0-5.0	0	7	10	39	44	31	11	14	A-6a
		5.0-7.0	Reddish-Brown Weathered Indurated Clay							9	Visual
		7.0-9.0	Gray Weathered Indurated Clay							11	Visual
997+00	CL	0.0-5.0	0	4	9	40	47	30	11	13	A-6a
		5.0-8.5	Gray Weathered Indurated Clay							7	Visual
1003+00	CL	0.0-6.0	19	4	8	34	35	30	11	14	A-6a
		6.0-11.0	Gray Weathered Indurated Clay							10	Visual
1007+00	CL	0.0-6.0	0	3	5	45	47	39	17	16	A-6b
		6.0-11.0	Gray Weathered Indurated Clay							7	Visual
1019+00	CL	0.0-5.0	17	3	5	37	38	36	11	20	A-6a
		5.0-9.0	Gray Weathered Indurated Clay							6	Visual
1027+35	150'Lt	0.0-5.0	14	5	10	29	42	35	13	21	A-6a
		5.0-8.0	Gray Weathered Indurated Clay							9	Visual
		8.0-9.0	Gray Weathered Indurated Clay							11	Visual
1034+25	CL	0.8-5.0	0	0	2	36	62	44	12	30	A-7-5
		5.0-8.0	Gray Weathered Indurated Clay							8	Visual
1040+50	CL	0.0-5.0	0	0	1	37	62	50	19	26	A-7-5
		5.0-6.5	Gray Weathered Indurated Clay							13	Visual

SOIL PROFILE
LORAIN COUNTY
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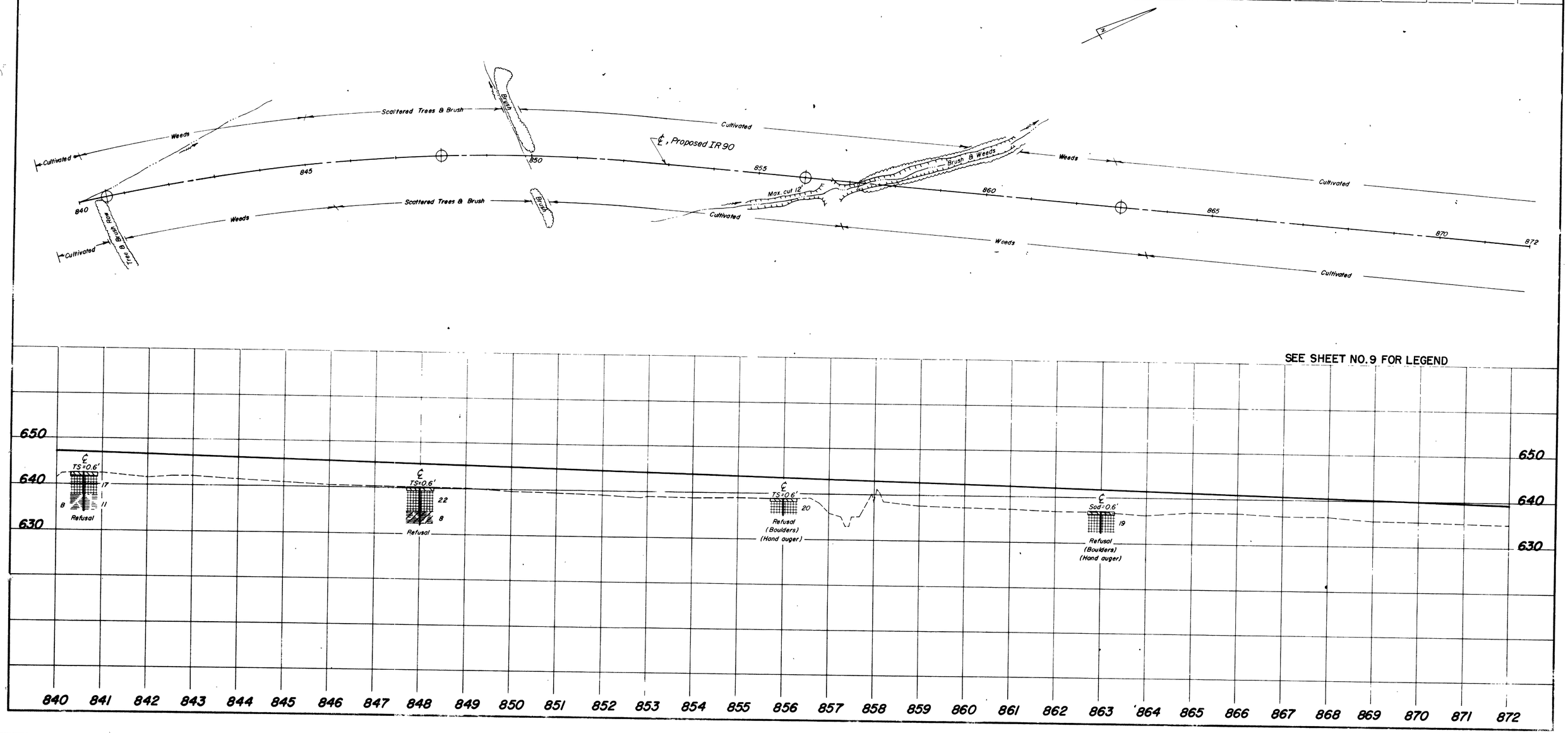
OHIO STATE HIGHWAY TESTING LABORATORY
620 W. BROAD ST. COLUMBUS, OHIO



SOIL PROFILE
LORAIN COUNTY
LOR- 90-13.01

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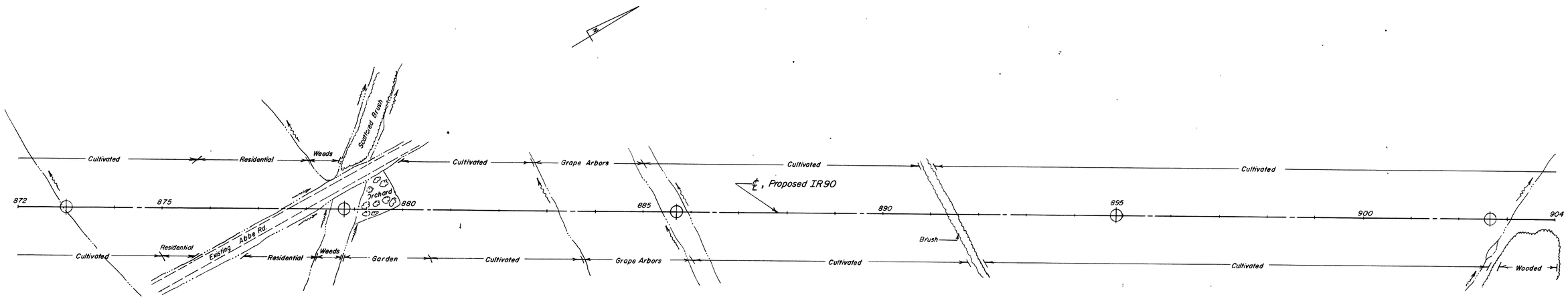
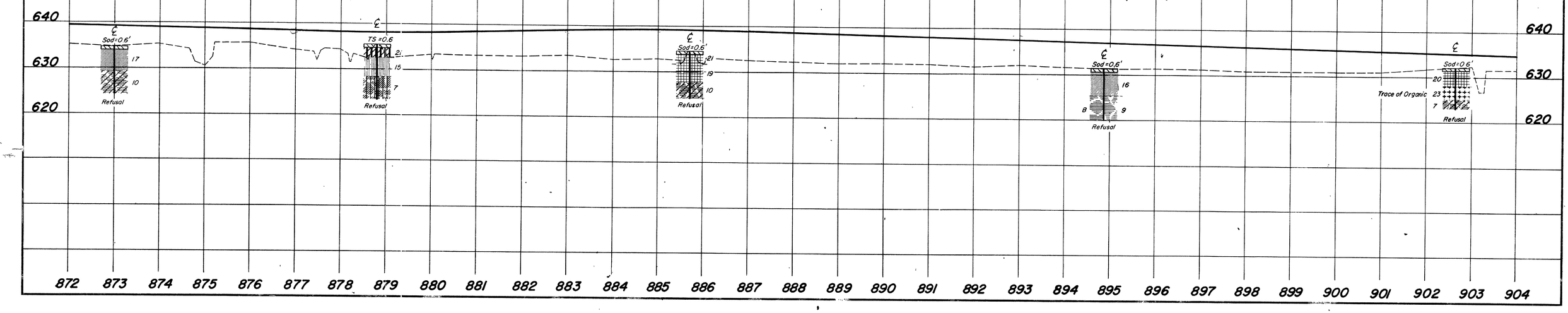
OHIO STATE HIGHWAY TESTING LABORATORY
1620 W BROAD ST COLUMBUS 23, OHIO



SEE SHEET NO.9 FOR LEGEND



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GEOLOGY AND CONDITIONS OF THE SITE

The structure site is located on the relatively flat glaciated Lake Plain, in an area where lacustrine and beach deposits, overlie shale bedrock, of Lower Mississippian and Upper Devonian age.

EXPLORATION

The exploration consisted of two drive sample-core borings and six drive rod penetration tests, made between November 5 and 10, 1964.

INVESTIGATIONAL FINDINGS

The borings disclosed that relatively flat-lying shale bedrock surface, encountered at 18 and 20-foot depths, elevation 672 feet, is overlain by dense to very dense gravelly sandy silt. The borings were terminated 10 and 11 feet below bedrock surface, at elevation 662 feet.

Rod soundings met rapid increase in penetration resistance with increase in depth and were terminated upon encounter with near-refusal and refusal to penetration at 19 and 23-foot depths, elevations 689 and 672 feet, considered to be in very dense silt in the vicinity of the rear abutment, and on or slightly below bedrock surface at the pier and forward abutment areas, as revealed by the borings.

No free water was observed in any of the rod sounding holes.

LEGEND

- Auger Boring Location - Plan View.
- Press and/or Drive Sample and/or Core Boring Location - Plan View.
- Drive Rod Penetration Resistance Sounding: Location - Plan View.
- Capped Pile
- Footing
- Footing on Pile
- Top of Rock
- Horizontal Bar on Boring Log Indicates the Depth the Sample Was Taken.
- X/Y — Figures Beside the Boring Log in Profile Indicate the Number of Blows For Standard Penetration Test. X = Number of Blows for First 6 Inches. Y = Number of Blows for Second 6 Inches.
- Drive Rod Penetration Resistance Sounding Log - Profile.
- Casing
- Resistance "R" < 10,000 lbs.
- Resistance "R" ≥ 10,000 lbs.
- Z — Indicates Final Measurement of Penetration, in Inches.
- W — Indicates Free Water Elevation.
- Indicates Static Water Elevation.

SYMBOLS OF ROCK TYPES

- Coal
- Weathered 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.

Particle Size Definitions

Boulders	8"	Cobbles	3"	Gravel	2.0mm (No. 10 sieve)	Coarse Sand	0.42mm (No. 40 sieve)	Fine Sand	0.074mm (No. 200 sieve)	Silt	0.005mm	Clay

LOG OF BORING

Date Started 11-9-64
Date Completed 11-10-64
Boring No. B-5
Sampler Type SS Dia. 1 3/8"
Casing Length Dia.
Station & Offset 681+31, 85' Lt (REAR PIER)
Water Elev.
Surface Elev. 690.0'

Elev.	Depth	Std. Pen. (N)	Rec. ft.	Loss ft.	Description	Sample No.	Agg. %	C.S. %	F.S. %	Silt %	Clay %	LL	PL	W	Class
690.0	0														
	2														
	4														
685.0	6	7/10			Brown Clayey Silt	1	0	0	1	49	50	28	8	28	
682.5	8	3/5			Gray Sandy Silt	2	0	6	17	37	40	21	5	16	
680.0	10	5/7			No Sample Recovered - Gray Sandy Silt		V	I	S	U	A	L			
677.5	12														
	14	7/13			Gray Gravelly Silt	3	23	5	8	27	37	27	10	16	
675.0	16	10/14			Gray Gravelly Silt	4	23	6	8	21	42	29	9	16	
672.5	18				TOP OF ROCK										
	20														
	22		4.1	0.9	Shale, reddish-brown, argillaceous, fissile, medium-firm, jointed and broken with many clay seams, moderately weathered. Core loss 9%.										
	24														
	26		5.5	0.0											
661.5	28				BOTTOM OF BORING										

LOG OF BORING

Date Started 11-5-64
Date Completed 11-6-64
Boring No. B-16
Sampler Type SS Dia. 1 3/8"
Casing Length 15' Dia. 3 1/2"
Station & Offset 682+61, 07' Rt (FORWARD PIER)
Water Elev.
Surface Elev. 692.3'

Elev.	Depth	Std. Pen. (N)	Rec. ft.	Loss ft.	Description	Sample No.	Agg. %	C.S. %	F.S. %	Silt %	Clay %	LL	PL	W	Class
692.3	0														
	2														
	4														
687.3	6	5/6			Brown and Gray Silt	1	0	1	3	51	45	26	5	27	
684.8	8	5/8			Brown and Gray Gravelly Silt	2	15	4	4	34	43	27	7	40	
682.3	10	8/10			Brown and Gray Gravelly Sandy Silt	3	16	6	12	31	35	25	5	15	
679.8	12														
	14	10/15			Gray Gravelly Sandy Silt	4	17	7	13	30	33	23	6	17	
677.3	16				No Sample Recovered - Gray Gravelly Sandy Silt		V	I	S	U	A	L			
674.8	18	16/25			Gray Gravelly Sandy Silt	5	16	7	10	21	46	30	10	15	
672.3	20	50*(0.3')			Grayish-Red Silty Clay with Trace of Shale Fragments	6	V	I	S	U	A	L		11	
672.0					TOP OF ROCK										
	22														
	24		4.9	0.1	Clay shale, reddish-brown, fissile, medium-firm, jointed and broken intervals, slightly weathered. Core loss 3%.										
	26														
	28		4.5	0.5											
662.3	30				BOTTOM OF BORING										

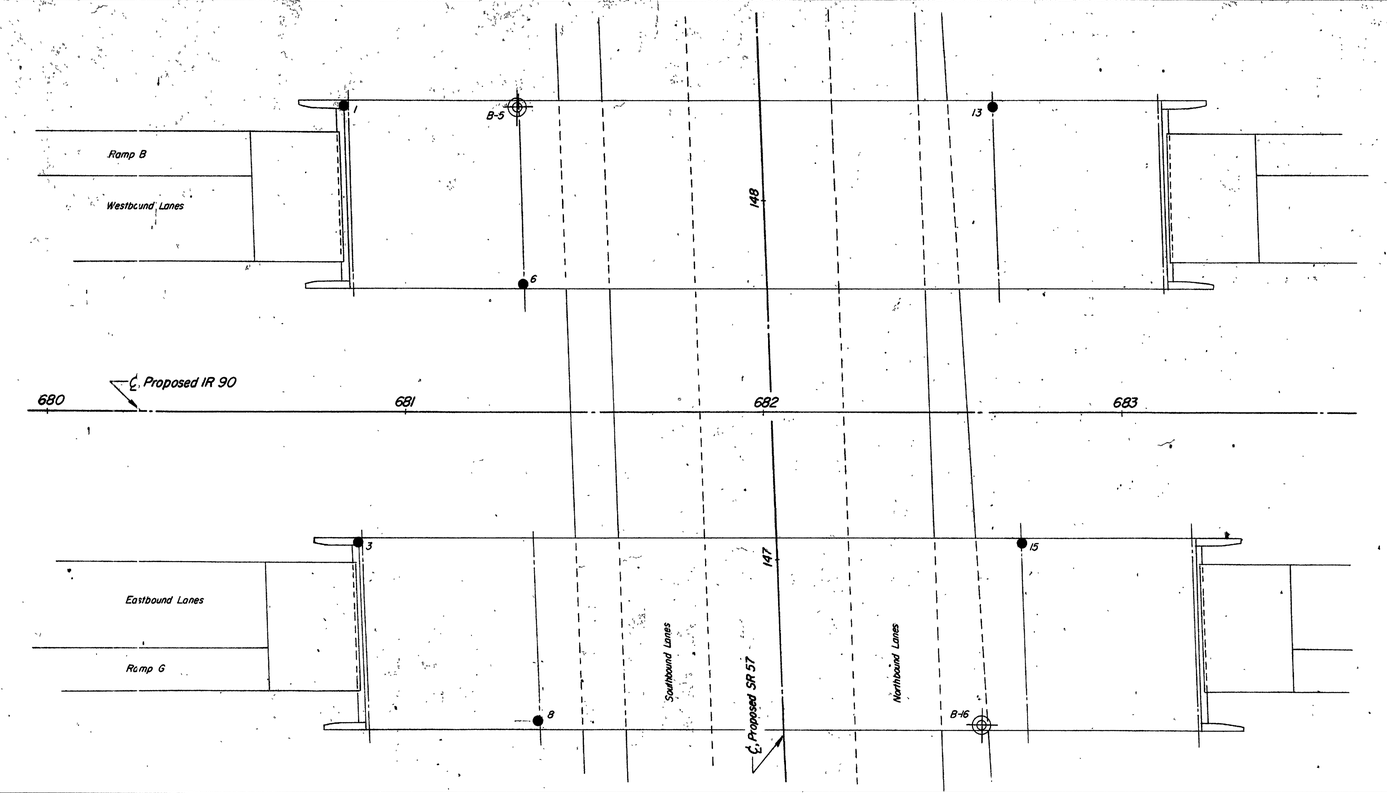
*REFUSAL

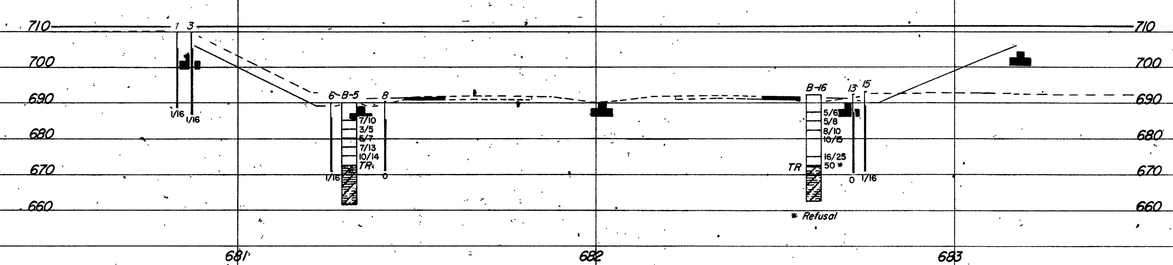
NOTE: Information shown by this subsurface investigation was obtained solely for the use in establishing design controls for the project. The State of Ohio does not guarantee the accuracy of this data and it is not to be construed as a part of the plans governing construction of the project.

OHIO STATE HIGHWAY
TESTING LABORATORY
1620 WEST BROAD STREET, COLUMBUS 23, OHIO

STRUCTURE FOUNDATION INVESTIGATION
BRIDGE NO. LOR-IR90-1320 L/R
OVER SR 57
SEC. LOR-IR90-13.01

CHECKED BY	REVIEWED BY	DATE
R.H.P.	R.D.R.	11/24/64





SCALE: 1" = 20'

OHIO STATE HIGHWAY
TESTING LABORATORY
1620 WEST BROAD ST., COLUMBUS 23, OHIO

STRUCTURE FOUNDATION INVESTIGATION
BRIDGE NO. LOR-IR90-1320 L/R
OVER SR 57
SEC. LOR-IR90-13.01

PLAN AND PROFILE

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R.L.C.	R.H.P.	R.D.R.	11/24/64

TC 114
1000-11-64

APR 09

14/33

LOR-IR90-13.01 3/3

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 680+83, 85' LT REAR ABUTMENT
Surface Elev. 710.0 Water Elev. DRY
Piling _____
Hammer _____
Formula _____
Reference _____
Rod Condition GOOD

Test Location No. 3
Station & Offset 680+81, 36' RT REAR ABUTMENT
Surface Elev. 710.0 Water Elev. DRY
Piling _____
Hammer _____
Formula _____
Reference _____
Rod Condition GOOD

Test Location No. 6
Station & Offset 681+33, 36' LT REAR PIER
Surface Elev. 690.0 Water Elev. DRY
Piling _____
Hammer _____
Formula _____
Reference _____
Rod Condition GOOD

Test Location No. 8
Station & Offset 681+37, 86' RT REAR PIER
Surface Elev. 690.4 Water Elev. DRY
Piling _____
Hammer _____
Formula _____
Reference _____
Rod Condition GOOD

Test Location No. 13
Station & Offset 682+64, 85' LT FORWARD PIER
Surface Elev. 692.3 Water Elev. DRY
Piling _____
Hammer _____
Formula _____
Reference _____
Rod Condition GOOD

Test Location No. 15
Station & Offset 682+72, 36' RT FORWARD PIER
Surface Elev. 693.1 Water Elev. DRY
Piling _____
Hammer _____
Formula _____
Reference _____
Rod Condition GOOD

OHIO STATE HIGHWAY TESTING LABORATORY
1620 WEST BROAD ST. COLUMBUS 23, OHIO

STRUCTURE FOUNDATION INVESTIGATION
BRIDGE NO. LOR-IR90-1320 L/R
OVER SR 57
SEC. LOR-IR90-13.01

DRIVE ROD PENETRATION RESISTANCE DATA

PLOTTED BY	CHECKED BY	REVIEWED BY	DATE
R.C.	R.H.P.	R.D.R.	11/24/64

APR 09
APR 9
APR 9

GEOLOGY AND OBSERVATIONS OF THE SITE

The structure site is located on the relatively flat glaciated Lake Plain, in an area where lacustrine and beach deposits overlie shale bedrock, of Lower Mississippian and Upper Devonian ages.

EXPLORATION

The exploration consisted of two drive sample-core borings and twelve drive rod penetration tests, made between November 5 and 11, 1964.

INVESTIGATIONAL FINDINGS

The borings disclosed that relatively flat-lying shale bedrock surface, encountered at 8 and 21 feet below ground surface, elevations 665 and 663 feet, is overlain by dense to very dense clayey, sandy silt and stiff clay. The borings were terminated 15 and 17 feet below bedrock surface, at elevations 653 and 647 feet.

Rod soundings met rapid increase in penetration resistance with increase in depth and were terminated upon encounter with near-refusal and refusal to penetration at 7 and 15-foot depths, elevations 670 and 660 feet, considered to be on or slightly below bedrock surface at the rear portion of the structure site, and above bedrock surface in the forward portion, as revealed by the borings.

No free water was observed in any of the rod sounding holes.

If it is the intention to found the rear and center piers on bedrock, it is considered advisable that the open excavation 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 weathered shale bedrock indicates a crushing strength on the order of 100 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.
- 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

GENERAL INFORMATION

Drive Rod Penetration Sounding Tests

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

Drive Sample Borings — Drive-Press Sample Borings

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

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

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

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

Particle Size Definitions

Boulders	8" Cobbles	3" Gravel	2.0mm (No. 10 sieve) Coarse Sand	0.42mm (No. 40 sieve) Fine Sand	0.074mm (No. 200 sieve) Silt	0.005mm Clay

LOG OF BORING

Date Started 11-10-64
Date Completed 11-11-64
Boring No. B-5
Sample Type SS Dia. 1 3/8"
Casing Length — Dia. —
Station & Offset 692+18, 90' Lt (REAR PIER)
Water Elev. —
Surface Elev. 672.4'

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.	Class
672.4	0														
669.9	2														
	4	8/12			Reddish-Brown Sandy Gravelly Clay	1	28	9	9	25	29	33	11	18	
667.4	6	9/13			Reddish-Brownish-Gray Silty Clay	2	0	5	3	44	48	41	17	20	
664.9	8				TOP OF ROCK										
662.4	10				Reddish-broken clayey shale										
	12		3.6	1.4											
	14														
	16				Shale, reddish-brown to gray, argillaceous, fissile, medium-firm, jointed, broken, and slightly weathered. Core loss 9%.										
	18		5.0	0.0											
	20														
	22		5.0	0.0											
647.4	24														

BOTTOM OF BORING

LOG OF BORING

Date Started 11-5-64
Date Completed 11-6-64
Boring No. B-16
Sampler Type SS Dia. 1 3/8"
Casing Length — Dia. 3 1/2"
Station & Offset 701+22, 90' Rt (FORWARD ABUTMENT)
Water Elev. —
Surface Elev. 684.3'

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.	Class
684.3	0														
	2														
	4														
679.3	6	10/15			Brown and Gray Silt and Clay	1	0	4	10	34	52	32	11	17	
676.8	8	14/22			Brown and Gray Sandy Silt	2	0	8	12	32	48	29	8	16	
674.3	10	13/24			Brown Sandy Clay	3	0	14	11	26	49	32	12	17	
671.8	12	19/34			Brown Sandy Clay	4	0	14	12	28	46	33	11	19	
669.3	14	18/26			Red Clayey Silt	5	0	0	1	47	52	33	10	13	
666.8	16	30/34			Red Clayey Silt	6	0	0	0	44	56	33	9	11	
664.3	18	23/30			Red Silt with Shale Fragments	7	54	0	1	23	22	31	7	9	
662.8	20				TOP OF ROCK										
	22														
	24		4.8	0.2											
	26				Clay shale, reddish-brown, poorly-fissile, soft to medium-firm, jointed and broken, slightly weathered. Core loss 2%.										
	28														
	30		5.0	0.0											
652.8															

BOTTOM OF BORING

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OHIO STATE HIGHWAY
TESTING LABORATORY
1620 WEST BROAD STREET, COLUMBUS 23, OHIO

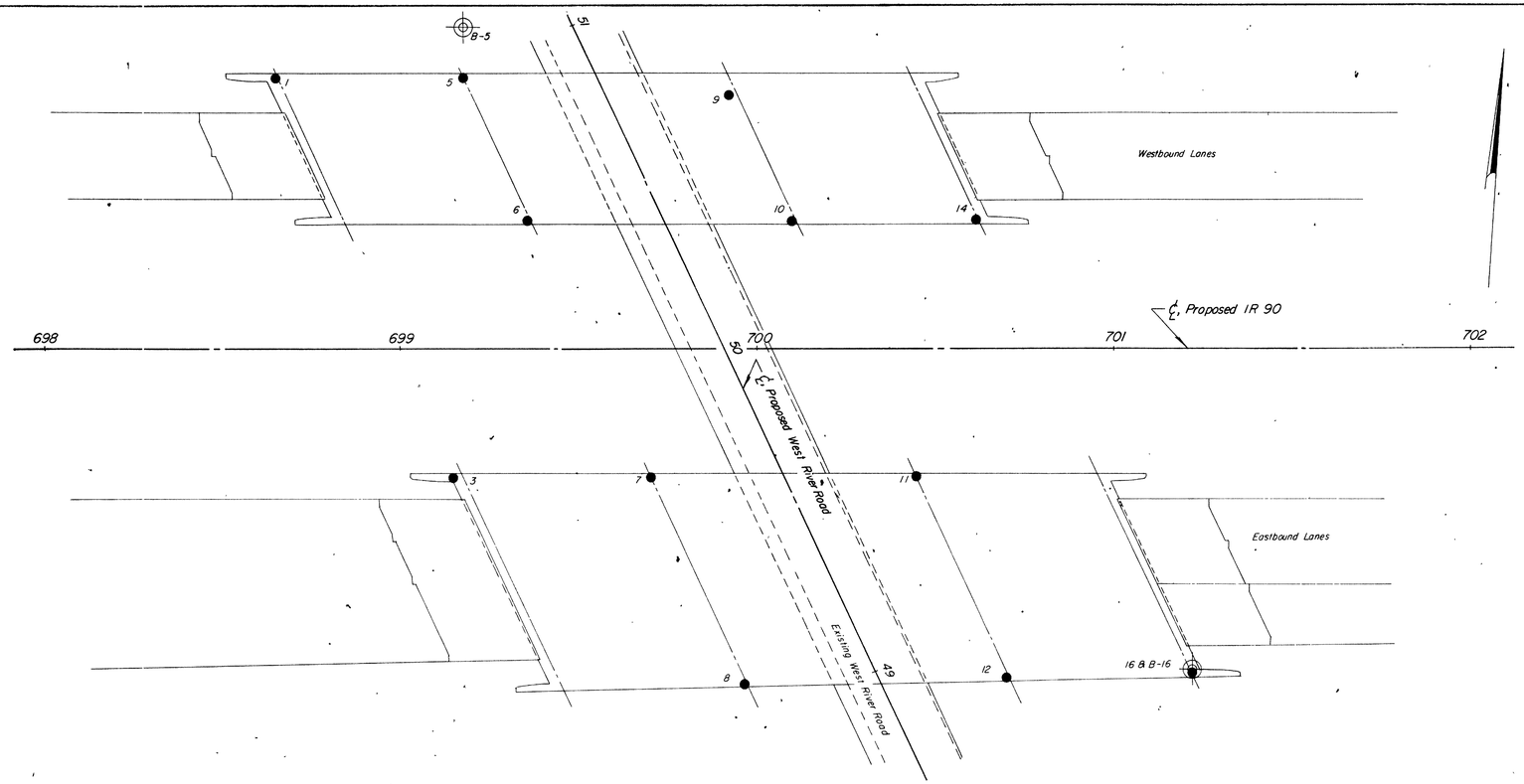
STRUCTURE FOUNDATION INVESTIGATION
BRIDGE NO. LOR-1R90-1355 L/R
OVER WEST RIVER ROAD
SEC. LOR-1R90-13.01

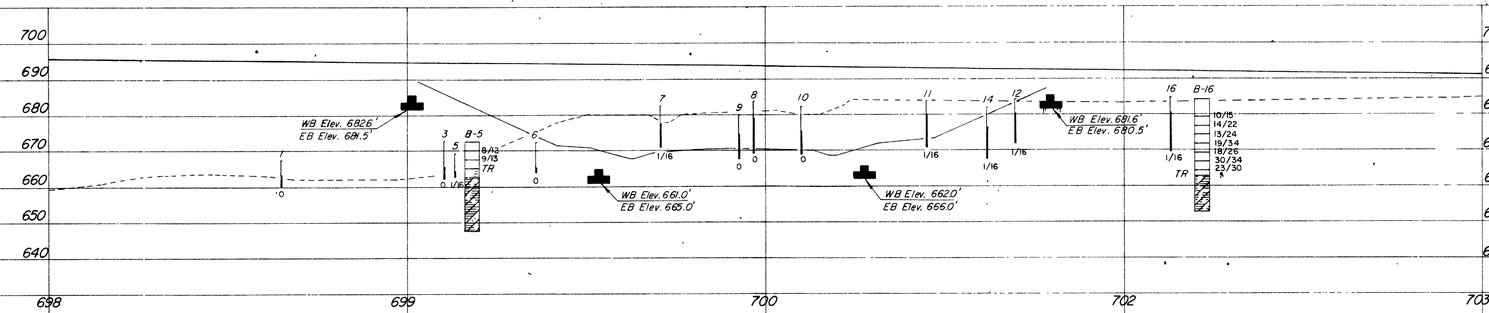
CHECKED BY	REVIEWED BY	DATE
R.H.P.	R.D.R.	11/30/64

APR

LOR-IR90-13.01

16/33





SCALE: 1" = 20'

OHIO STATE HIGHWAY
TESTING LABORATORY
1620 WEST BROAD ST., COLUMBUS 23, OHIO

STRUCTURE FOUNDATION INVESTIGATION
BRIDGE NO. LOR-IR90-1355 L/R
OVER WEST RIVER ROAD
SEC. LOR-IR90-13.01

PLAN AND PROFILE

DRAWN BY	CHECKED BY	REVIEWED BY	DATE
R.L.C.	R.H.P.	R.D.R.	11/30/64

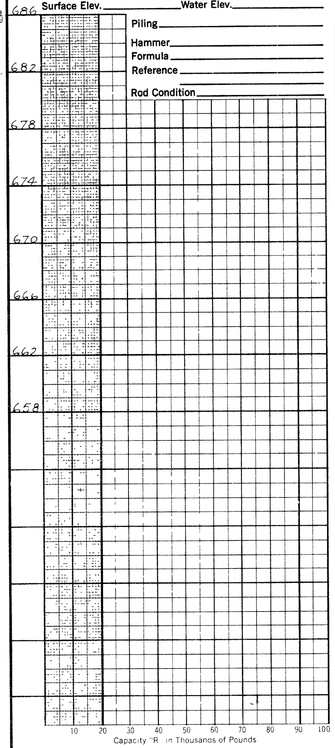
TE-115
500-1-64

APPROVED

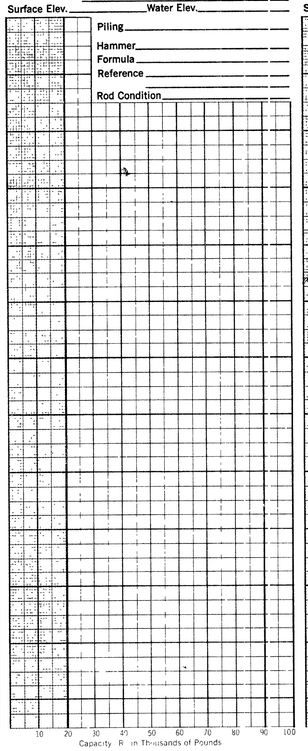
17/33

LOR-IR90-13.01 3/3

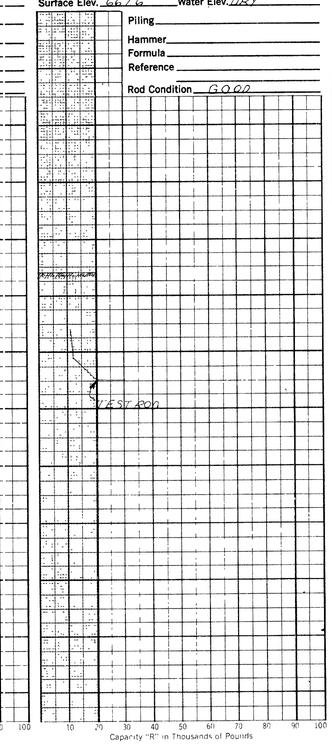
Test Location No. ____
Station & Offset ____
Surface Elev. ____ Water Elev. ____
Piling ____
Hammer ____
Formula ____
Reference ____
Rod Condition ____



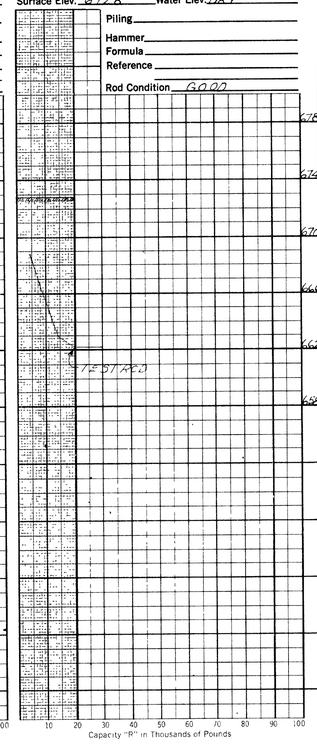
Test Location No. ____
Station & Offset ____
Surface Elev. ____ Water Elev. ____
Piling ____
Hammer ____
Formula ____
Reference ____
Rod Condition ____



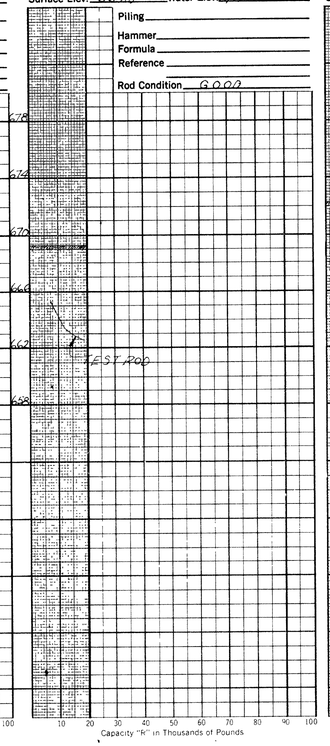
Test Location No. 1
Station & Offset 698+65, 76' LT
REAR ABUTMENT
Surface Elev. 667.6 Water Elev. DRY
Piling ____
Hammer ____
Formula ____
Reference ____
Rod Condition GOOD



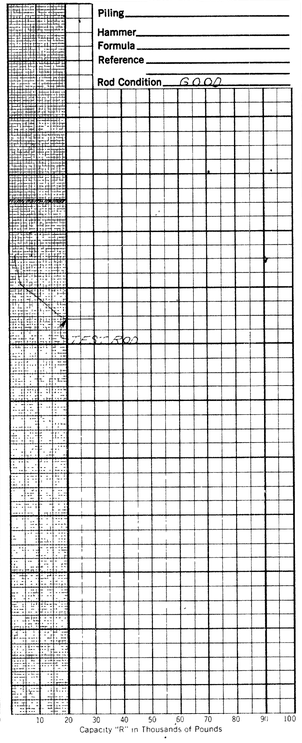
Test Location No. 3
Station & Offset 699+15, 36' RT
REAR ABUTMENT
Surface Elev. 672.8 Water Elev. DRY
Piling ____
Hammer ____
Formula ____
Reference ____
Rod Condition GOOD



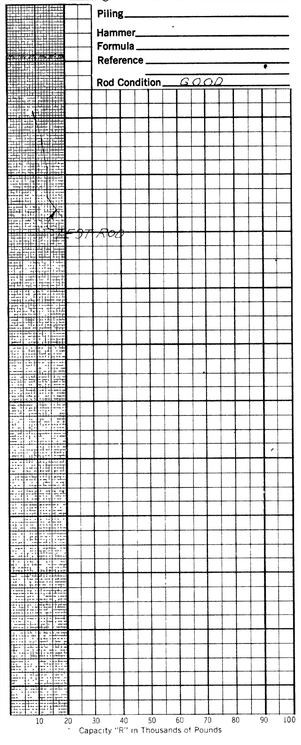
Test Location No. 5
Station & Offset 699+18, 76' LT
REAR PIER
Surface Elev. 669.3 Water Elev. DRY
Piling ____
Hammer ____
Formula ____
Reference ____
Rod Condition GOOD



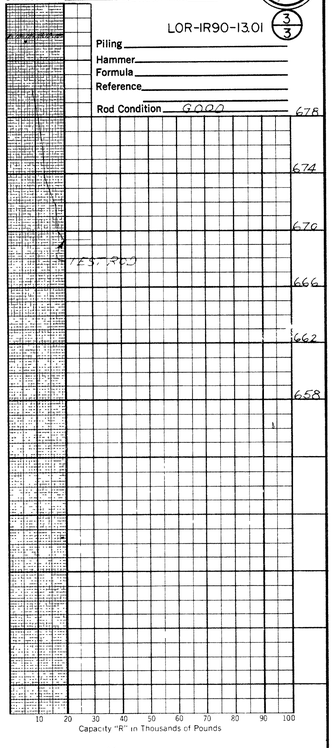
Test Location No. 6
Station & Offset 699+36, 36' LT
REAR PIER
Surface Elev. 672.3 Water Elev. DRY
Piling ____
Hammer ____
Formula ____
Reference ____
Rod Condition GOOD



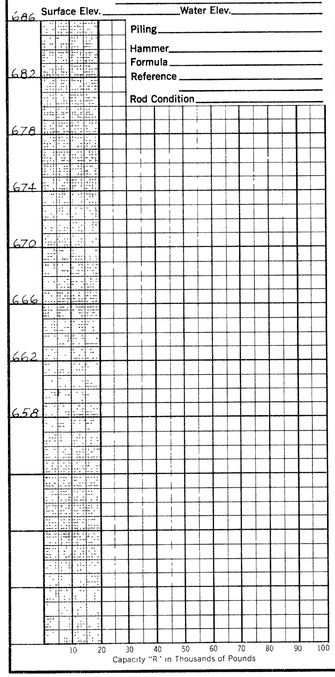
Test Location No. 7
Station & Offset 699+71, 36' RT
REAR PIER
Surface Elev. 682.6 Water Elev. DRY
Piling ____
Hammer ____
Formula ____
Reference ____
Rod Condition GOOD



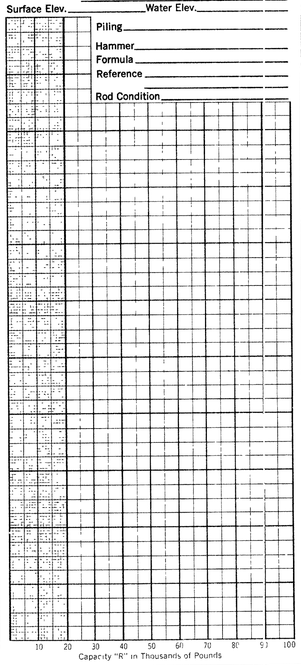
Test Location No. 8
Station & Offset 699+97, 94' RT
REAR PIER
Surface Elev. 683.3 Water Elev. DRY
Piling ____
Hammer ____
Formula ____
Reference ____
Rod Condition GOOD



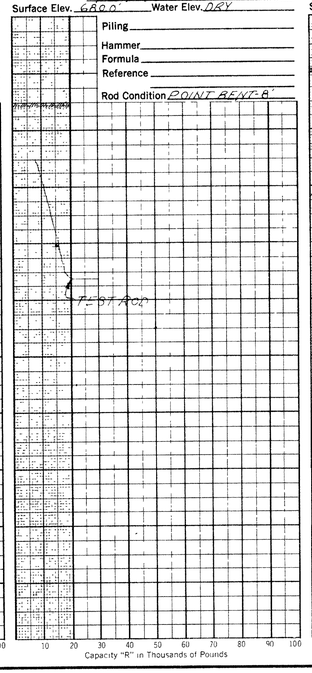
Test Location No. ____
Station & Offset ____
Surface Elev. ____ Water Elev. ____
Piling ____
Hammer ____
Formula ____
Reference ____
Rod Condition ____



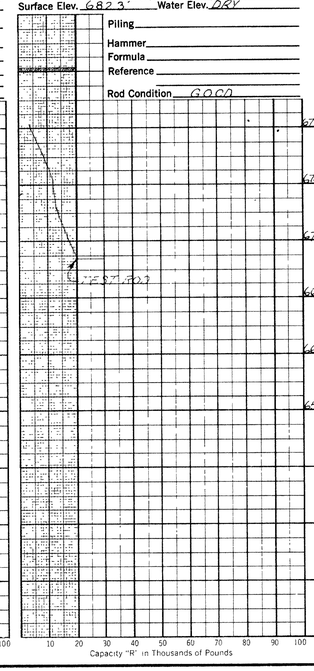
Test Location No. ____
Station & Offset ____
Surface Elev. ____ Water Elev. ____
Piling ____
Hammer ____
Formula ____
Reference ____
Rod Condition ____



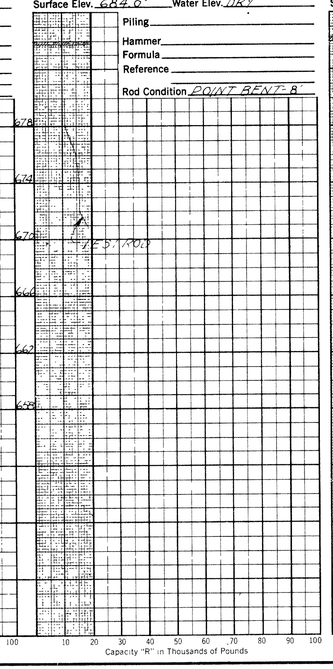
Test Location No. 9
Station & Offset 699+93, 71' LT
FORWARD PIER
Surface Elev. 680.0 Water Elev. DRY
Piling ____
Hammer ____
Formula ____
Reference ____
Rod Condition POINT BENT-8'



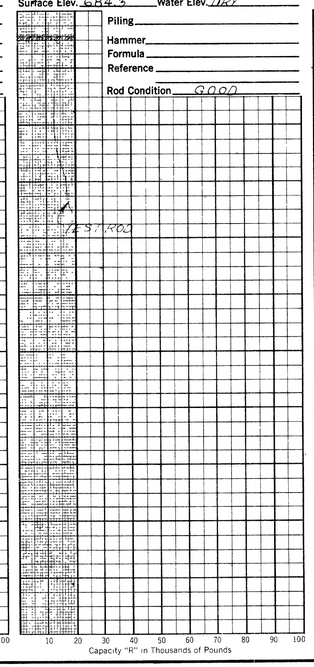
Test Location No. 10
Station & Offset 700+10, 36' LT
FORWARD PIER
Surface Elev. 682.3 Water Elev. DRY
Piling ____
Hammer ____
Formula ____
Reference ____
Rod Condition GOOD



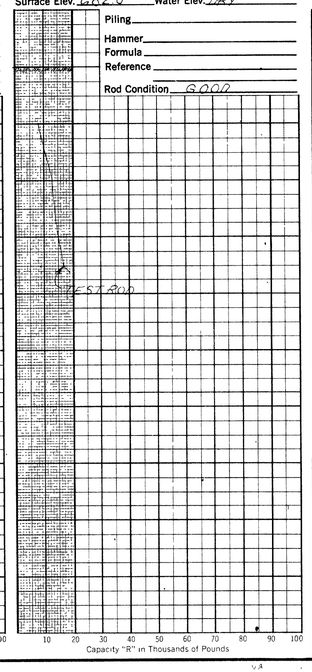
Test Location No. 11
Station & Offset 700+45, 36' RT
FORWARD PIER
Surface Elev. 684.0 Water Elev. DRY
Piling ____
Hammer ____
Formula ____
Reference ____
Rod Condition POINT BENT-8'



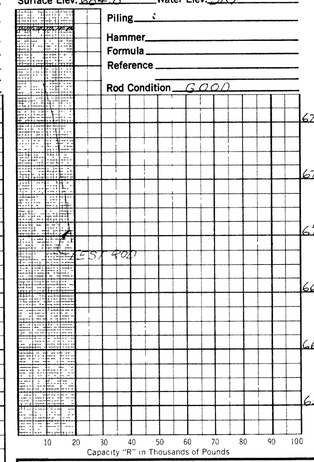
Test Location No. 12
Station & Offset 700+70, 92' RT
FORWARD PIER
Surface Elev. 684.3 Water Elev. DRY
Piling ____
Hammer ____
Formula ____
Reference ____
Rod Condition GOOD



Test Location No. 14
Station & Offset 700+62, 36' LT
FORWARD ABUTMENT
Surface Elev. 682.0 Water Elev. DRY
Piling ____
Hammer ____
Formula ____
Reference ____
Rod Condition GOOD



Test Location No. 16
Station & Offset 701+22, 91' RT
FORWARD ABUTMENT
Surface Elev. 684.8 Water Elev. DRY
Piling ____
Hammer ____
Formula ____
Reference ____
Rod Condition GOOD



OHIO STATE HIGHWAY TESTING LABORATORY
1620 WEST BROAD ST. COLUMBUS 23, OHIO

STRUCTURE FOUNDATION INVESTIGATION
BRIDGE NO. LOR-IR90-1355 L/R
OVER WEST RIVER ROAD
SEC. LOR-IR90-13.01

DRIVE ROD PENETRATION RESISTANCE DATA

PLOTTED BY	CHECKED BY	REVIEWED BY	DATE
R.C.	R.H.P.	R.D.R.	11/30/64

RECEIVED
APR 9

GEOLOGY AND OBSERVATIONS OF THE SITE

The structure site is located on the west valley wall and flood plain of Black River, in an area where lacustrine and beach deposits overlie shale bedrock, of Lower Mississippian and Upper Devonian ages.

EXPLORATION

The exploration consisted of three drive sample-core borings and ten drive rod penetration tests, made between November 11 and 17, 1964.

INVESTIGATIONAL FINDINGS

The borings disclosed that relatively flat-lying shale bedrock surface, encountered at 21 feet below ground surface, elevation 657 feet in the vicinity of the rear abutment location, is overlain by dense to very dense gravelly silt and stiff clay. Relatively flat-lying bedrock surface was encountered in the vicinity of the rear and forward piers and forward abutment at elevations 587 and 586 feet, 12-foot depths.

Rod soundings met rapid increase in penetration resistance with increase in depth and were terminated upon encounter with refusal to penetration at 4 to 13-foot depths, elevations 653 to 651 feet at the rear abutment, and elevations 587 to 586 feet in the rear and forward pier and forward abutment location, considered to be on or slightly below bedrock surface, as revealed by the borings.

No free water was observed in any of the rod sounding holes.

If it is the intention to found the rear abutment and the piers on bedrock, it is considered advisable that the open excavation 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 shale bedrock indicates a crushing strength on the order of 150 tons per square foot.

LEGEND

Symbol	Meaning
⊕	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
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.
	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

Symbol	Rock Type	Symbol	Rock Type
	Coal		Weathered Sandstone
	Weathered Indurated Clay		Sandstone
	Indurated Clay		Leached Dolomite
	Weathered Shale		Dolomite
	Shale		Leached Limestone
			Limestone

GENERAL INFORMATION

Drive Rod Penetration Sounding Tests

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

Drive Sample Borings - Drive-Press Sample Borings

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

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

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

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

Particle Size Definitions

Boulders	8"	Cobbles	3"	Gravel	2.0 mm (No. 10 sieve)	Coarse Sand	0.42 mm (No. 40 sieve)	Fine Sand	0.074 mm (No. 200 sieve)	Silt	0.005 mm	Clay

LOG OF BORING

Date Started 11-11-64 Sampler Type SS Dia 1 3/8" Water Elev. ____
Date Completed 11-13-64 Casing Length ____ Dia ____
Boring No. B-1 Station & Offset 736+10, 65' Lt (REAR ABUTMENT) Surface Elev. 677.6'

Elev.	Depth	Std Pen (N)	Rec ft	Loss ft	Description	Sample No.	% Agg	% CS	% FS	% Silt	% Clay	LL	PL	W	SHT Class
677.6	0														
672.6	6	7/9			Brown and Gray Silt and Clay	1	0	4	5	36	55	34	12	18	
667.6	10	11/16			Brown and Gray Silty Clay	2	0	6	11	30	53	39	16	18	
662.6	16	29/32			Gray Gravelly Silt	3	V	I	S	U	A L	30	10	13	
657.6	20	19/38			Gray Silt with Stone Fragments	4	28	4	5	29	34	PL=	17	12	
656.6	22				TOP OF ROCK										
	24		1.5	2.5	Shale, gray, arenaceous, soft to firm, poorly fissile, with clay seams, jointed, broken, and slightly weathered. Core loss 30%.*										
	28		4.6	0.4											
645.1	32		4.6	0.4											
	38		4.6	0.4											
	42		4.8	0.2	Shale, black, carbonaceous, fissile, medium-firm, slightly jointed. Core loss 1%.										
	48		5.0	0.0											
627.6	50				BOTTOM OF BORING										

*High core loss partially due to mechanical difficulties.

LOG OF BORING

Date Started 11-16-64 Sampler Type SS Dia 1 3/8" Water Elev. ____
Date Completed 11-16-64 Casing Length ____ Dia ____
Boring No. B-7 Station & Offset 738+54, 40' Rt (REAR PIER) Surface Elev. 598.0'

Elev.	Depth	Std Pen (N)	Rec ft	Loss ft	Description	Sample No.	% Agg	% CS	% FS	% Silt	% Clay	LL	PL	W	SHT Class
598.0	0														
593.0	6	4/3			Brown Sandy Silt, Trace of Roots	1	0	0	34	36	30	NP	NP	21	
588.0	10	5/5			Gray Silty Sand and Stone Fragments	2	36	14	11	20	19	26	6	20	
585.5	12				TOP OF ROCK										
	14		0.7	1.3											
	18		4.7	0.3	Shale, dark gray, slightly carbonaceous, fissile, firm, moderately weathered in top 2.5'. Core loss 5%.										
	24		5.0	0.0											
573.0					BOTTOM OF BORING										

LOG OF BORING

Date Started 11-16-64 Sampler Type SS Dia 1 3/8" Water Elev. ____
Date Completed 11-17-64 Casing Length ____ Dia ____
Boring No. B-13 Station & Offset 740+36, 65' Lt (FORWARD ABUTMENT) Surface Elev. 598.8'

Elev.	Depth	Std Pen (N)	Rec ft	Loss ft	Description	Sample No.	% Agg	% CS	% FS	% Silt	% Clay	LL	PL	W	SHT Class
598.8	0														
596.3	4	4/5			Brown Sandy Silt	1	0	0	24	48	28	25	5	21	
593.8	6	6/7			Brown and Gray Sandy Silt	2	0	0	24	48	28	NP	NP	22	
591.3	8	3/4			Brown and Gray Silt	3	0	0	14	58	28	NP	NP	26	
588.8	10	3/5			Gray Silty Sandy Gravel	4	32	11	19	24	14	25	4	29	
586.8	12				TOP OF ROCK										
	16		4.7	0.3	Shale, black, carbonaceous, fissile, firm, slightly broken and weathered in top 3.0'. Core loss 3%.										
	20		5.0	0.0											
575.8	22				BOTTOM OF BORING										

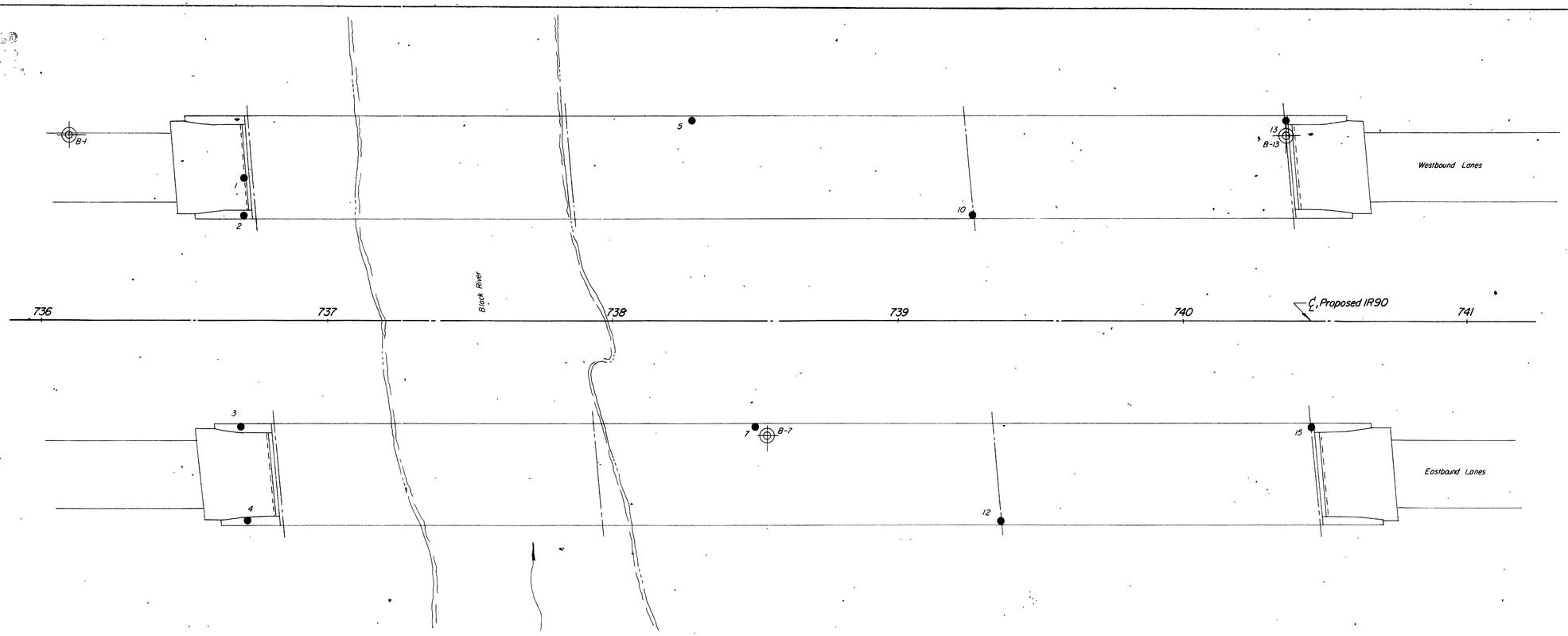
NOTE. Information shown by this subsurface investigation was obtained solely for the use in establishing design controls for the project. The State of Ohio does not guarantee the accuracy of this data and it is not to be construed as a part of the plans governing construction of the project.

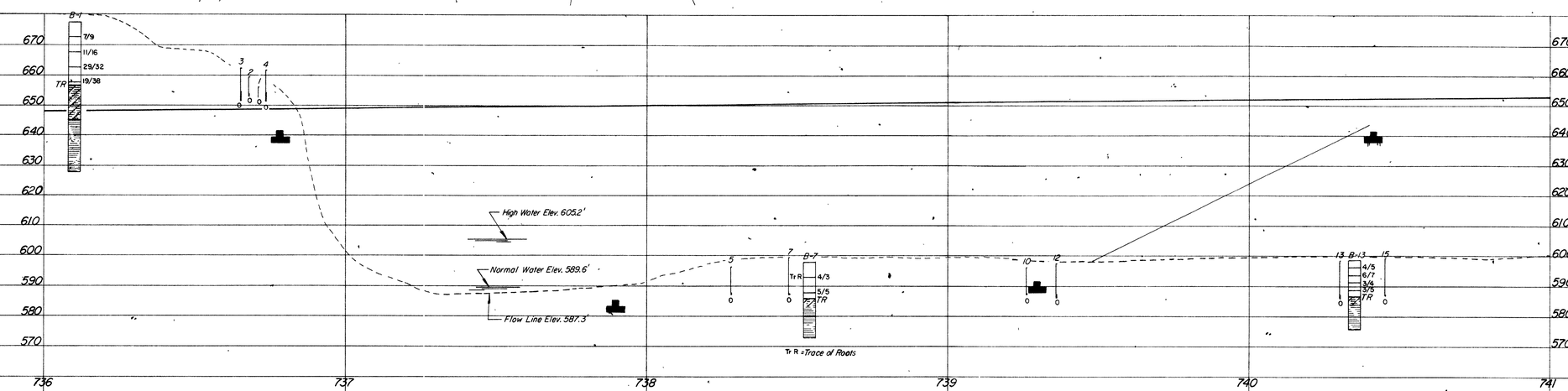
OHIO STATE HIGHWAY
TESTING LABORATORY
1620 WEST BROAD STREET, COLUMBUS 23, OHIO

STRUCTURE FOUNDATION INVESTIGATION
BRIDGE NO. LOR-IR90-1426 L/R
OVER BLACK RIVER
SEC. LOR-IR90-13.01

CHECKED BY	REVIEWED BY	DATE
R.H.P.	R.D.R.	12/3/64

APR 09





SCALE: 1" = 20'

OHIO STATE HIGHWAY
TESTING LABORATORY
1620 WEST BROAD ST., COLUMBUS 23, OHIO

STRUCTURE FOUNDATION INVESTIGATION
BRIDGE NO. LOR-IR90-1426 L/R
OVER BLACK RIVER
SEC. LOR-IR90-13.01

PLAN AND PROFILE

DRAWN BY	CHECKED BY	REVIEWED BY	DATE
R.L.C.	R.H.P.	R.D.R.	12/3/64

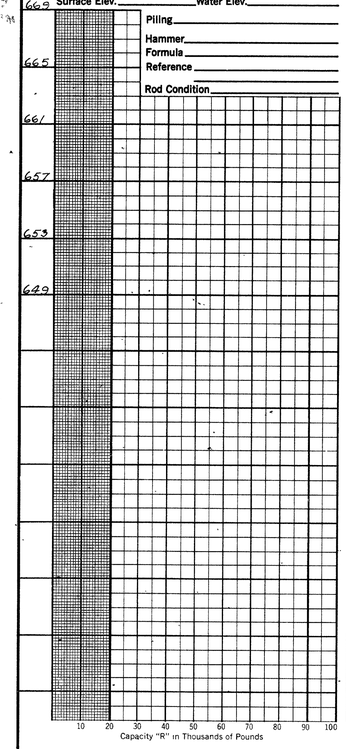
TE-118
500-1-64

RECEIVED
APR 09 '19

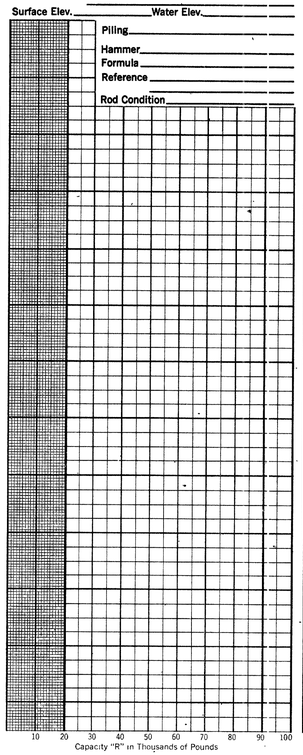
20/33

LOR-IR90-13.01 3/3

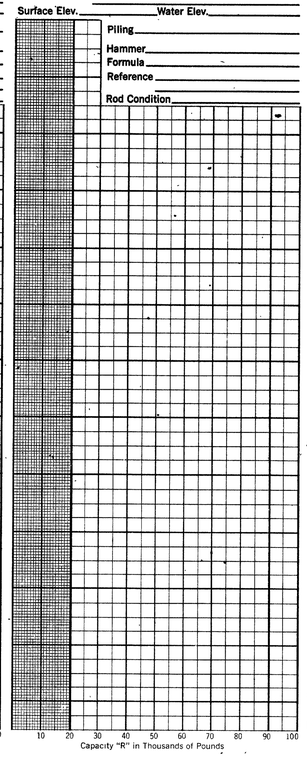
Test Location No. ____
Station & Offset ____
Surface Elev. ____ Water Elev. ____
Piling ____
Hammer ____
Formula ____
Reference ____
Rod Condition ____



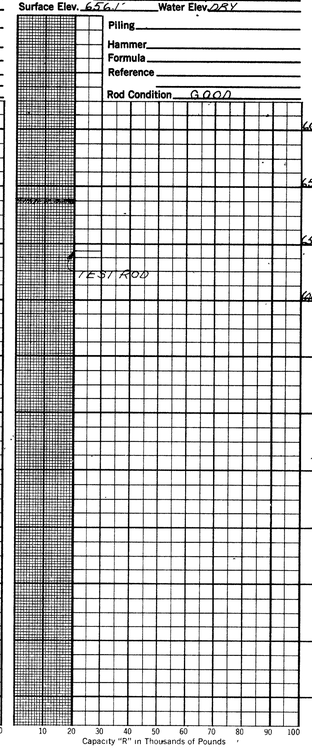
Test Location No. ____
Station & Offset ____
Surface Elev. ____ Water Elev. ____
Piling ____
Hammer ____
Formula ____
Reference ____
Rod Condition ____



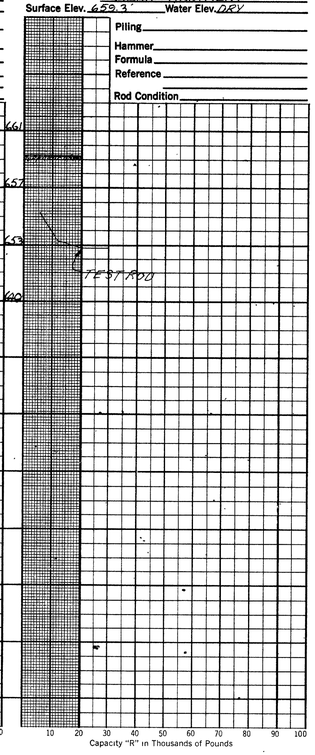
Test Location No. ____
Station & Offset ____
Surface Elev. ____ Water Elev. ____
Piling ____
Hammer ____
Formula ____
Reference ____
Rod Condition ____



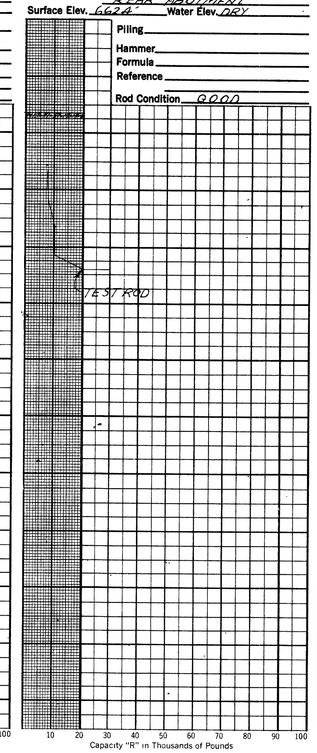
Test Location No. 1
Station & Offset 736+71, 50' LT
REAR ABUTMENT
Surface Elev. 656.1' Water Elev. DRY
Piling ____
Hammer ____
Formula ____
Reference ____
Rod Condition GOOD



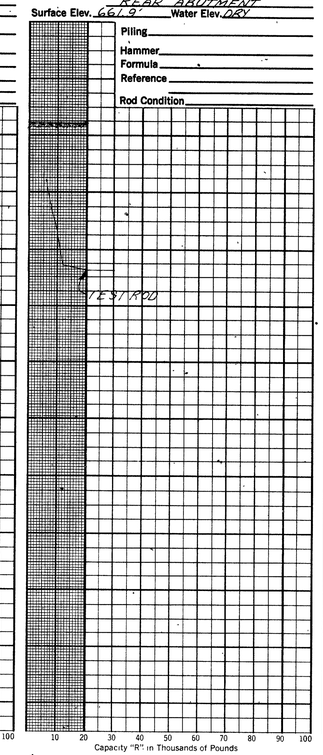
Test Location No. 2
Station & Offset 736+71, 37' LT
REAR ABUTMENT
Surface Elev. 659.3' Water Elev. DRY
Piling ____
Hammer ____
Formula ____
Reference ____
Rod Condition ____



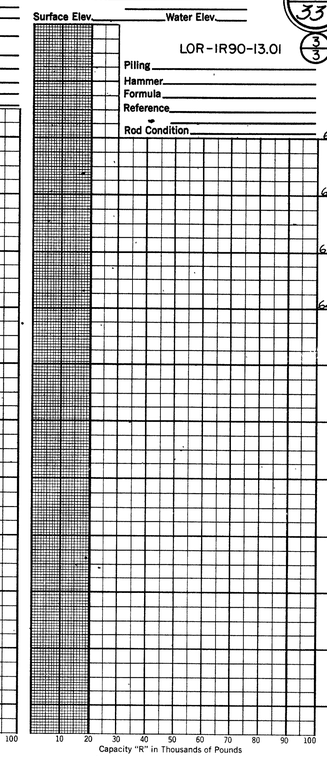
Test Location No. 3
Station & Offset 736+70, 37' RT
REAR ABUTMENT
Surface Elev. 662.4' Water Elev. DRY
Piling ____
Hammer ____
Formula ____
Reference ____
Rod Condition GOOD



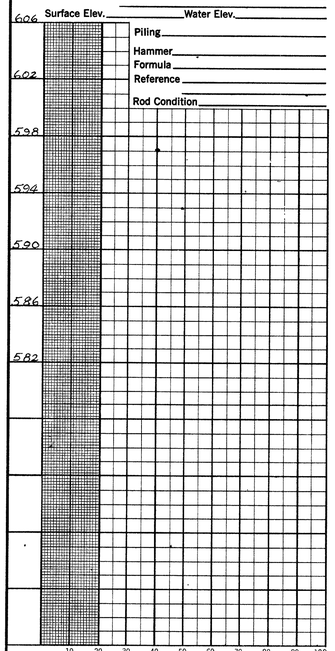
Test Location No. 4
Station & Offset 736+72, 70' RT
REAR ABUTMENT
Surface Elev. 661.9' Water Elev. DRY
Piling ____
Hammer ____
Formula ____
Reference ____
Rod Condition ____



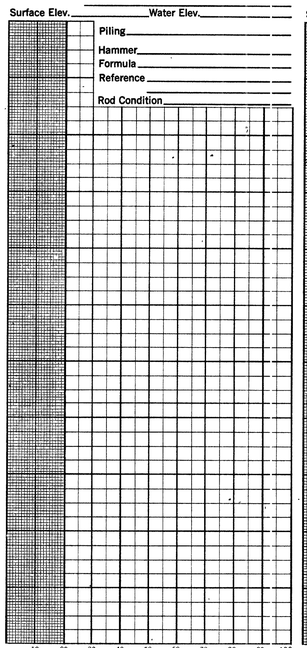
Test Location No. ____
Station & Offset ____
Surface Elev. ____ Water Elev. ____
Piling ____
Hammer ____
Formula ____
Reference ____
Rod Condition ____



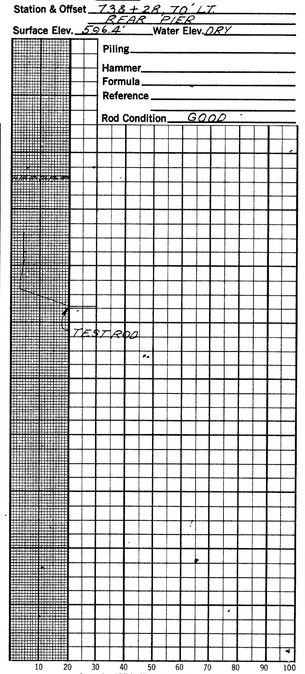
Test Location No. ____
Station & Offset ____
Surface Elev. ____ Water Elev. ____
Piling ____
Hammer ____
Formula ____
Reference ____
Rod Condition ____



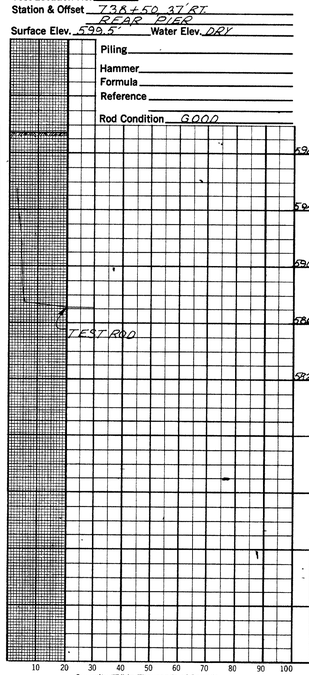
Test Location No. ____
Station & Offset ____
Surface Elev. ____ Water Elev. ____
Piling ____
Hammer ____
Formula ____
Reference ____
Rod Condition ____



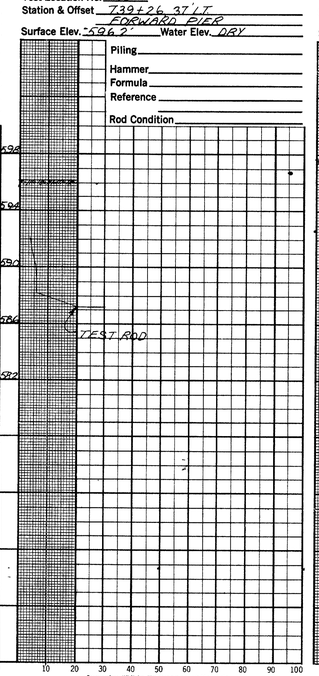
Test Location No. 5
Station & Offset 738+28, 70' LT
REAR PIER
Surface Elev. 596.4' Water Elev. DRY
Piling ____
Hammer ____
Formula ____
Reference ____
Rod Condition GOOD



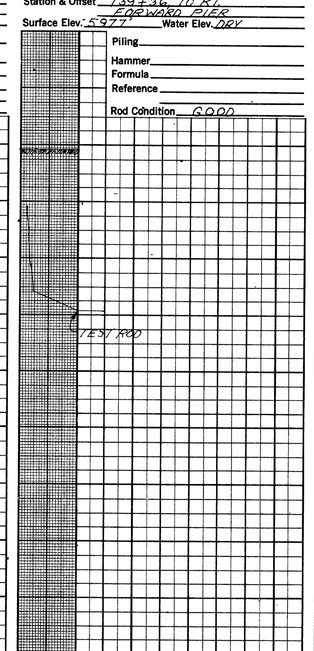
Test Location No. 7
Station & Offset 738+50, 37' RT
REAR PIER
Surface Elev. 599.5' Water Elev. DRY
Piling ____
Hammer ____
Formula ____
Reference ____
Rod Condition GOOD



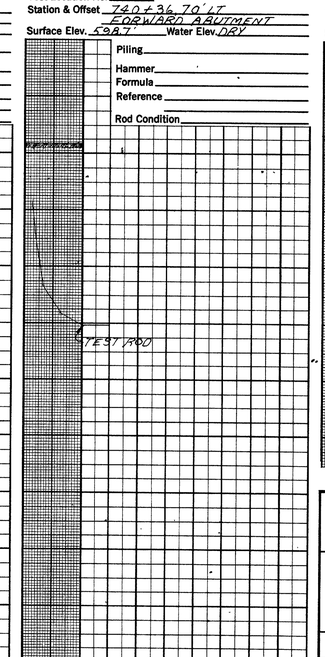
Test Location No. 10
Station & Offset 739+26, 37' LT
FORWARD PIER
Surface Elev. 596.0' Water Elev. DRY
Piling ____
Hammer ____
Formula ____
Reference ____
Rod Condition ____



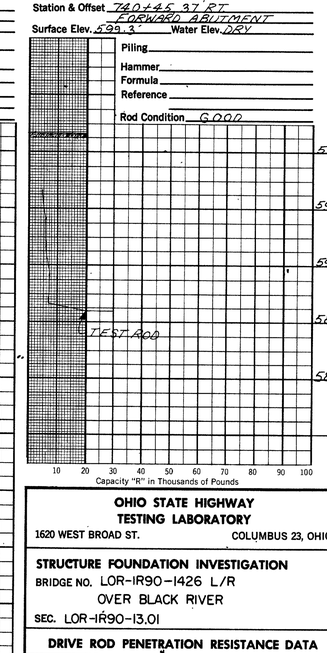
Test Location No. 12
Station & Offset 739+36, 70' RT
FORWARD PIER
Surface Elev. 597.7' Water Elev. DRY
Piling ____
Hammer ____
Formula ____
Reference ____
Rod Condition GOOD



Test Location No. 13
Station & Offset 740+36, 70' LT
FORWARD ABUTMENT
Surface Elev. 598.7' Water Elev. DRY
Piling ____
Hammer ____
Formula ____
Reference ____
Rod Condition ____



Test Location No. 15
Station & Offset 740+45, 37' RT
FORWARD ABUTMENT
Surface Elev. 599.3' Water Elev. DRY
Piling ____
Hammer ____
Formula ____
Reference ____
Rod Condition GOOD



OHIO STATE HIGHWAY TESTING LABORATORY
1620 WEST BROAD ST. COLUMBUS 23, OHIO

STRUCTURE FOUNDATION INVESTIGATION
BRIDGE NO. LOR-IR90-1426 L/R
OVER BLACK RIVER
SEC. LOR-IR90-13.01

DRIVE ROD PENETRATION RESISTANCE DATA

PLOTTED BY	CHECKED BY	REVIEWED BY	DATE
R.C.	R.H.P.	R.D.R.	12/3/64

APR 19

GEOLOGY OF THE SITE

The structure site is located on the steep north valley wall of Black River, in an area where lacustrine and beach deposits overlie shale bedrock, of Lower Mississippian and Upper Devonian ages.

EXPLORATION

The exploration consisted of two drive sample-core borings, made on May 5 and 6, 1965, and eight drive rod penetration tests, made between March 22 and 27, 1965.

INVESTIGATIONAL FINDINGS

The borings disclosed that medium-stiff and hard sandy silty clays, some containing organic material, and some dense clayey silts, overlie sloping bedrock surface, encountered 28 and 30 feet below ground surface, elevation 577 feet in the rear portion of the structure site, and elevation 650 feet in the forward portion. Boring B-1, was terminated 10 feet below bedrock surface, at elevation 567 feet. Boring B-16 was terminated 43 feet below bedrock surface, elevation 608 feet.

Rod soundings met rapid increase in penetration resistance with increase in depth and were terminated upon encounter with near-refusal and abrupt refusal to penetration at 5 to 31-foot depths, elevations 649 to 578 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.

If it is the intention to found the forward 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. It is further suggested that the area of the footing contact not be subjected to prolonged atmospheric exposure, and that the excavation be kept drained at all times, due particularly to the fact that while this shale bedrock is generally firm in place, it is susceptible to disintegration upon exposure to the atmosphere and water.

Unconfined compression tests on similar shale bedrock indicates a crushing strength on the order of 100 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
- 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

GENERAL INFORMATION

Drive Rod Penetration Sounding Tests

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

Drive Sample Borings - Drive-Press Sample Borings

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

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

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

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

Particle Size Definitions

Boulders	8"	Cobbles	3"	Gravel	2.0mm (No. 10 sieve)	Coarse Sand	42mm (No. 40 sieve)	Fine Sand	.074mm (No. 200 sieve)	Silt	.005mm	Clay

NOTE: [illegible] the use of these [illegible] guarantee the accuracy [illegible]

OHIO DEPARTMENT OF HIGHWAYS
TESTING LABORATORY
1620 WEST BROAD STREET, COLUMBUS 23, OHIO

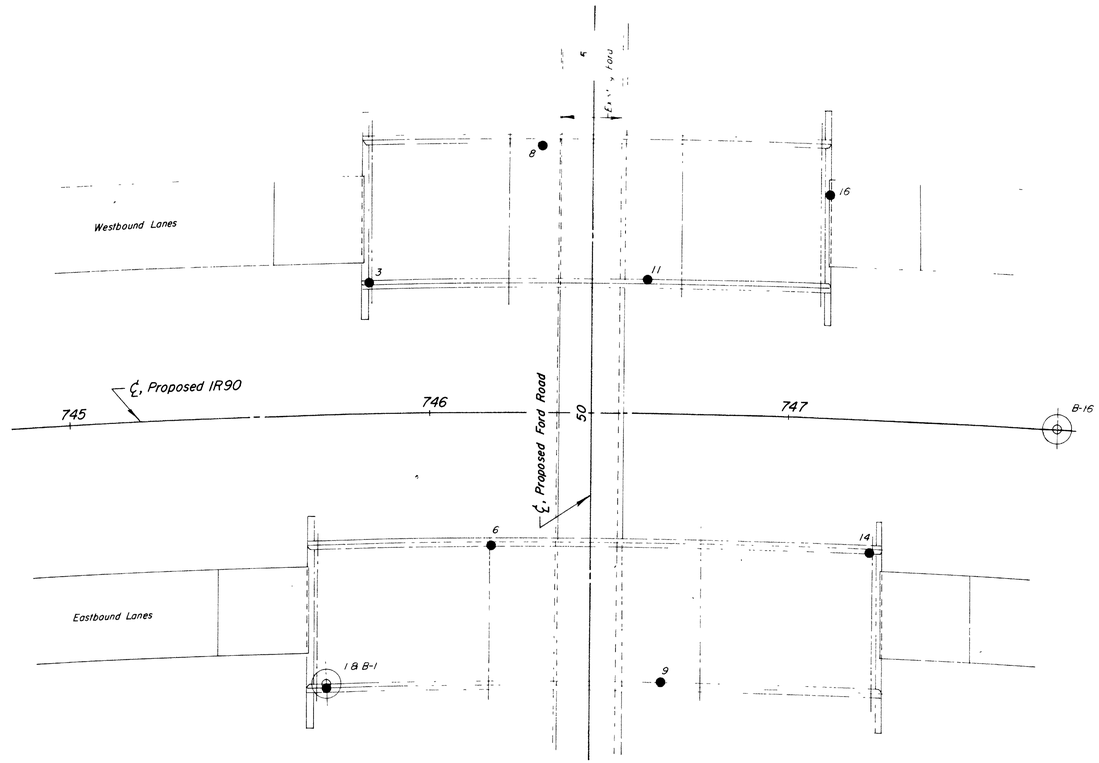
STRUCTURE FOUNDATION INVESTIGATION
BRIDGE NO. LOR-IR90-1443 L/R
OVER FORD ROAD
SEC LOR-IR90-13.01

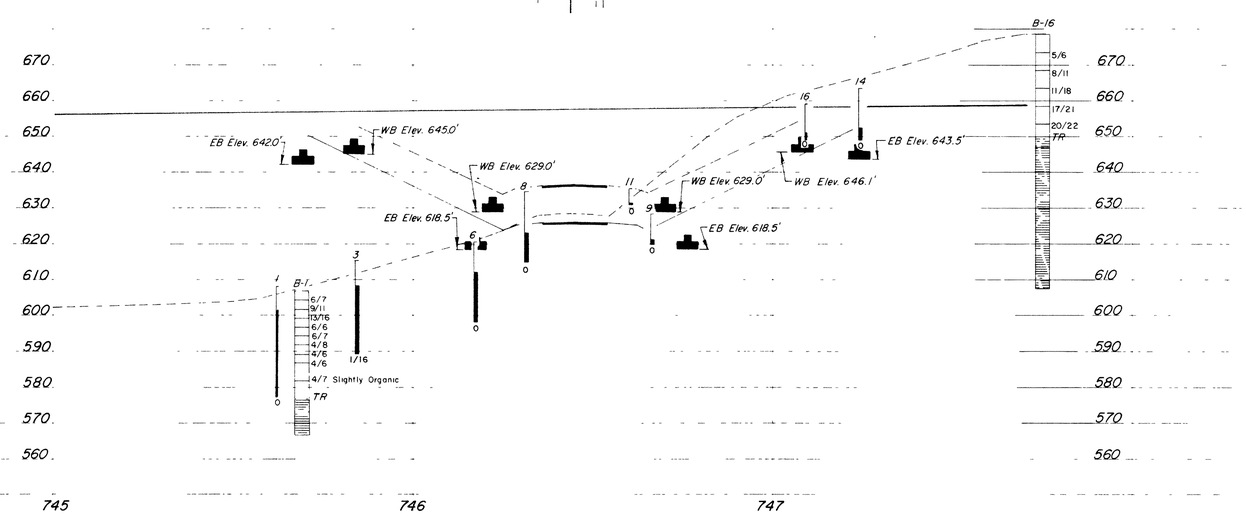
CHECKED BY	REVIEWED BY	DATE
L.N.L.	R.D.R.	6/7/65

APR 09

LOR-IR90-13.01

22/33 2/4





SCALE: 1" = 20'

OHIO DEPARTMENT OF HIGHWAYS
TESTING LABORATORY
1620 WEST BROAD STREET COLUMBUS 23 OHIO

STRUCTURE FOUNDATION INVESTIGATION
BRIDGE NO LOR-IR90-1443 L/R
OVER FORD ROAD
SEC LOR-IR90-13.01

PLAN AND PROFILE

DRAWN BY	CHECKED BY	REVIEWED BY	DATE
R.L.C.	L.N.L.	R.D.R.	6/7/65

APR 9

LOG OF BORING

Date Started 5-5-65 | Sampler Type SS | Dia 1 3/8" | Water Elev.
Date Completed 5-5-65 | Casing: Length | Dia
Boring No. B-1 | Station & Offset 745+69, 75' Rt (REAR ABUTMENT) | Surface Elev. 606.9'

Elev.	Depth	Std. Pen. (N)	Rec. ft.	Loss ft.	Description	Sample No.	% Agg.	% C.S.	% F.S.	% Silt	% Clay	L.L.	P.I.	W.C.	SHTL Class.
606.9	0														
604.4	2														
	4	6/7			Brown and Gray Silty Clay	1	0	4	9	43	44	40	17	20	
601.9	6	9/11			Brownish-Gray Silty Clay	2	0	2	8	46	44	37	16	18	
599.4	8	13/16			Brownish-Gray Silty Clay	3	0	4	6	43	47	37	18	16	
596.9	10	6/6			Brown and Gray Clay	4	0	3	3	45	49	43	21	25	
594.4	12	6/7			Brownish-Gray Silty Clay	5	0	0	7	52	41	38	18	23	
591.5	14	4/8			Brownish-Gray Clayey Silt	6	0	1	6	54	39	30	10	20	
589.4	16	4/6			Brown and Gray Silt and Clay	7	0	0	5	51	44	34	15	20	
586.9	18	4/6			Brown and Gray Clayey Silt	8	0	0	7	55	38	30	10	26	
	20														
	22														
581.9	24														
	26	4/7			Gray Sandy Clay, Slightly Organic	9	0	4	23	42	31	30	11	24	
	28														
576.9	30				TOP OF ROCK										
	32		4.9	0.1	Shale, black, carbonaceous, sub-fissile, medium-firm, slightly jointed. Core loss 2%.										
	34														
	36														
	38		4.9	0.1											
566.9	40				BOTTOM OF BORING										

LOG OF BORING

Date Started 5-5-65 | Sampler Type SS | Dia 1 3/8" | Water Elev.
Date Completed 5-6-65 | Casing: Length | Dia
Boring No. B-16 | Station & Offset 747+75, CL (FORWARD ABUTMENT) | Surface Elev. 678.5'

Elev.	Depth	Std. Pen. (N)	Rec. ft.	Loss ft.	Description	Sample No.	% Agg.	% C.S.	% F.S.	% Silt	% Clay	L.L.	P.I.	W.C.	SHTL Class.
678.5	0														
	2														
673.5	4														
	6	5/6			Brownish-Gray Silt and Clay	1	5	6	7	32	50	36	14	22	
	8														
668.5	10														
	12	8/11			Brownish-Gray Sandy Clay	2	8	7	7	33	45	29	11	10	
	14														
663.5	16	11/18			Brown Sandy Clay	3	9	6	12	39	34	30	11	26	
	18														
658.5	20														
	22	17/21			Brown Clayey Silt	4	6	5	7	39	43	31	10	15	
	24														
653.5	26	20/22			Brown Silt and Clay	5	0	8	10	36	46	33	14	16	
650.0	28				TOP OF ROCK										
	30				Shale, gray, arenaceous, medium-firm, sub-fissile. No core loss.										
647.0	32														
	34		5.9	0.1											
	36														
	38														
	40		9.7	0.3											
	42														
	44														
	46														
	48														
	50				Shale, black, carbonaceous, medium-firm, fissile, slightly jointed. Core loss 1%.										
	52		10.0	0.0											
	54														
	56														
	58														
	60														
	62		10.0	0.0											
	64														
	66														
	68														
	70		6.0	0.0											
607.5					BOTTOM OF BORING										

OHIO DEPARTMENT OF HIGHWAYS
TESTING LABORATORY
1620 WEST BROAD STREET COLUMBUS 23 OHIO

STRUCTURE FOUNDATION INVESTIGATION
BRIDGE NO LOR-1R90-1443 L/R
OVER FORD ROAD
SEC LOR-1R90-13.01

BORING DATA

TYPED BY	CHECKED BY	REVIEWED BY	DATE
B.J.R.	R.C.	R.D.R.	6/7/65

TE-114
1000-11-64

APR 9

24/33

4/4

LOR-IR90-13.01

Test Location No. 1
Station & Offset 745+69.75' RT
REAR ABUTMENT
Surface Elev. 668.1 Water Elev. DRY-Hole Open
Piling
Hammer
Formula
Reference
Rod Condition GOOD
TEST ROD

Test Location No. 3
Station & Offset 746+18.25' RT
Surface Elev. 653 Water Elev. DRY-Hole Open
Piling
Hammer
Formula
Reference
Rod Condition GOOD
TEST ROD

Test Location No. 6
Station & Offset 746+17.37' RT
REAR PIER
Surface Elev. [illegible] Water Elev. DRY-Hole Open
Piling
Hammer
Formula
Reference
Rod Condition GOOD
TEST ROD

Test Location No. 8
Station & Offset 746+31.74' LT
REAR PIER
Surface Elev. 634.7 Water Elev. DRY-Hole Open
Piling
Hammer
Formula
Reference
Rod Condition GOOD
TEST ROD

Test Location No. 9
Station & Offset 746+[illegible] 7[illegible]
FORWARD [illegible]
Surface Elev. 628.4 Water Elev. DRY-Hole Open
Piling
Hammer
Formula
Reference
Rod Condition GOOD
TEST ROD

Test Location No. 11
Station & Offset 746+[illegible]
FORWARD [illegible]
Surface Elev. [illegible] Water Elev. [illegible]
Piling
Hammer
Formula
Reference
Rod Condition GOOD
TEST ROD

Test Location No. 14
Station & Offset 747+24.37' RT
FORWARD ABUTMENT
Surface Elev. 663.5 Water Elev. DRY-Hole Open
Piling
Hammer
Formula
Reference
Rod Condition GOOD
TEST ROD

Test Location No. 16
Station & Offset 747+09.62' LT
FORWARD ABUTMENT
Surface Elev. 659.1 Water Elev. DRY-Hole open
Piling
Hammer
Formula
Reference
Rod Condition GOOD
TEST ROD

Capacity "R" in Thousands of Pounds

OHIO STATE HIGHWAY TESTING LABORATORY
1620 WEST BROAD ST. COLUMBUS 23, OHIO

STRUCTURE FOUNDATION INVESTIGATION
BRIDGE NO. LOR-IR90-1443 L/R
OVER FORD ROAD
SEC. LOR-IR90-13.01

DRIVE ROD PENETRATION RESISTANCE DATA

PLOTTED BY	CHECKED BY	REVIEWED BY	DATE
R.C.	L.N.L.	R.D.R.	6/7/65

APR 29

GEOLOGY AND OBSERVATIONS OF THE SITE

The structure site is located on the relatively flat glaciated Lake Plain, in an area where lacustrine and beach deposits overlie shale bedrock, of Lower Mississippian and Upper Devonian ages.

EXPLORATION

The exploration consisted of two drive sample-core borings and five drive rod penetration tests, made between November 11 and 18, 1964.

INVESTIGATIONAL FINDINGS

The borings disclosed that relatively flat-lying shale bedrock surface, encountered at 30 feet below ground surface, elevation 654 feet, is overlain by dense to very dense clayey, sandy silt and stiff clay. The borings were terminated 10 feet below bedrock surface, at elevation 644 feet.

Rod soundings met rapid increase in penetration resistance with increase in depth and were terminated upon encounter with near-refusal to penetration at 23 and 29-foot depths, elevations 661 and 659 feet, considered to be above bedrock surface, as revealed by the borings.

Free water was encountered in rod sounding hole number 1 at elevation 664 feet.

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 Location
- Footing
- Footing on Pile
- TR Top of Rock
- Horizontal Bar on Boring Log Indicates the Depth the Sample Was Taken.
- X/Y Figures Beside the Boring Log in Profile Indicate the Number of Blows For Standard Penetration Test.
  X = Number of Blows for First 6 Inches.
  Y = Number of Blows for Second 6 Inches.
- Drive Rod Penetration Resistance Sounding Log - Profile.
- Casing
- Resistance "R" < 10,000 lbs.
- Resistance "R" ≥ 10,000 lbs.
- Z Indicates Final Measurement of Penetration, in Inches.
- W Indicates Free Water Elevation.
- Indicates Static Water Elevation.

SYMBOLS OF ROCK TYPES

- Coal
- Weathered 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.

Particle Size Definitions

Boulders	8" Cobbles	3" Gravel	2.0mm Coarse Sand	0.42mm Fine Sand	0.074mm Silt	0.005mm Clay
			No. 10 sieve	No. 40 sieve	No. 200 sieve	

LOG OF BORING

Date Started 11-11-64 | Sampler Type SS | Dia. 1 3/8" | Water Elev.
Date Completed 11-13-64 | Casing: Length | Dia.
Boring No. B-1 | Station & Offset 130+24, 32' Rt (REAR ABUTMENT) | Surface Elev. 684.2'

Elev.	Depth	Std. Pen. (N)	Rec. ft.	Loss ft.	Description	Sample No.	% Agg	% C.S.	% F.S.	% Silt	% Clay	L.L.	P.I.	W.C.	SHT. Class.
684.2	0														
681.7	2–4	8/11			Brown and Gray Silty Clay	1	0	0	2	35	63	46	17	29	
679.2	4–6	10/15			Brownish-Gray Silt and Clay	2	0	0	1	47	52	40	14	25	
676.7	6–8	11/13			Brown and Gray Clayey Silt	3	0	0	1	62	37	37	10	23	
674.2	8–10	8/11			Brownish-Gray Silt and Clay	4	0	0	1	35	64	37	11	30	
671.7	10–12	6/9			Gray Silt and Clay	5	0	4	9	33	54	32	12	15	
669.2	12–14	10/15			Gray Silt and Clay	6	0	0	1	39	60	38	12	25	
666.7	14–16	11/14			Gray Clayey Silt	7	0	8	10	37	45	28	8	17	
664.2	16–18	13/26			Gray Silt and Clay	8	0	7	11	35	47	31	12	16	
659.2	18–20														
656.7	20–22	23/30			Gray Sandy Silt	9	0	10	12	40	38	25	6	13	
	22–24		4.5	0.0	Gray Clayey Silt with Stone Fragments.										
654.2	24–26				TOP OF ROCK										
	26–28		4.2	0.8	Shale, black, carbonaceous, fissile, firm, slightly broken intervals. Core loss 8%.										
	28–30														
	30–32		5.0	0.0											
644.2	32–34				BOTTOM OF BORING										

LOG OF BORING

Date Started 11-17-64 | Sampler Type SS | Dia. 1 3/8" | Water Elev.
Date Completed 11-18-64 | Casing: Length | Dia.
Boring No. B-8 | Station & Offset 132+79, 33' Lt (FORWARD PIER) | Surface Elev. 684.2'

Elev.	Depth	Std. Pen. (N)	Rec. ft.	Loss ft.	Description	Sample No.	% Agg	% C.S.	% F.S.	% Silt	% Clay	L.L.	P.I.	W.C.	SHT. Class.
684.2	0														
679.2	2–4	14/36			Brown Sandy Gravelly Clay	1	34	15	3	17	31	PL=	22	25	
676.7	4–6	12/15			Brown Silty Clay	2	0	4	2	29	65	38	16	24	
674.2	6–8	14/16			Brown Sandy Clay, Trace of Roots	3	0	22	4	22	52	38	17	29	
671.7	8–10	9/18			Gray Gravelly Clay	4	29	7	8	24	32	28	11	21	
669.2	10–12	9/17			Gray Gravelly Silt	5	42	5	7	17	29	28	10	18	
666.7	12–14	12/30			Gray Sandy Gravelly Silt	6	27	9	9	20	35	28	10	19	
664.2	14–16	13/37			Gray Clay with Stone Fragments	7	34	5	7	21	33	29	11	15	
659.2	16–18														
	18–20		1.7	3.3	Brown Silty Clay with Shale Boulders.										
653.7	20–22				TOP OF ROCK										
	22–24		3.9	1.1	Shale, black, carbonaceous, fissile, firm, broken and jointed. Core loss 1%.										
	24–26														
	26–28		4.4	0.6											
644.2	28–30				BOTTOM OF BORING										

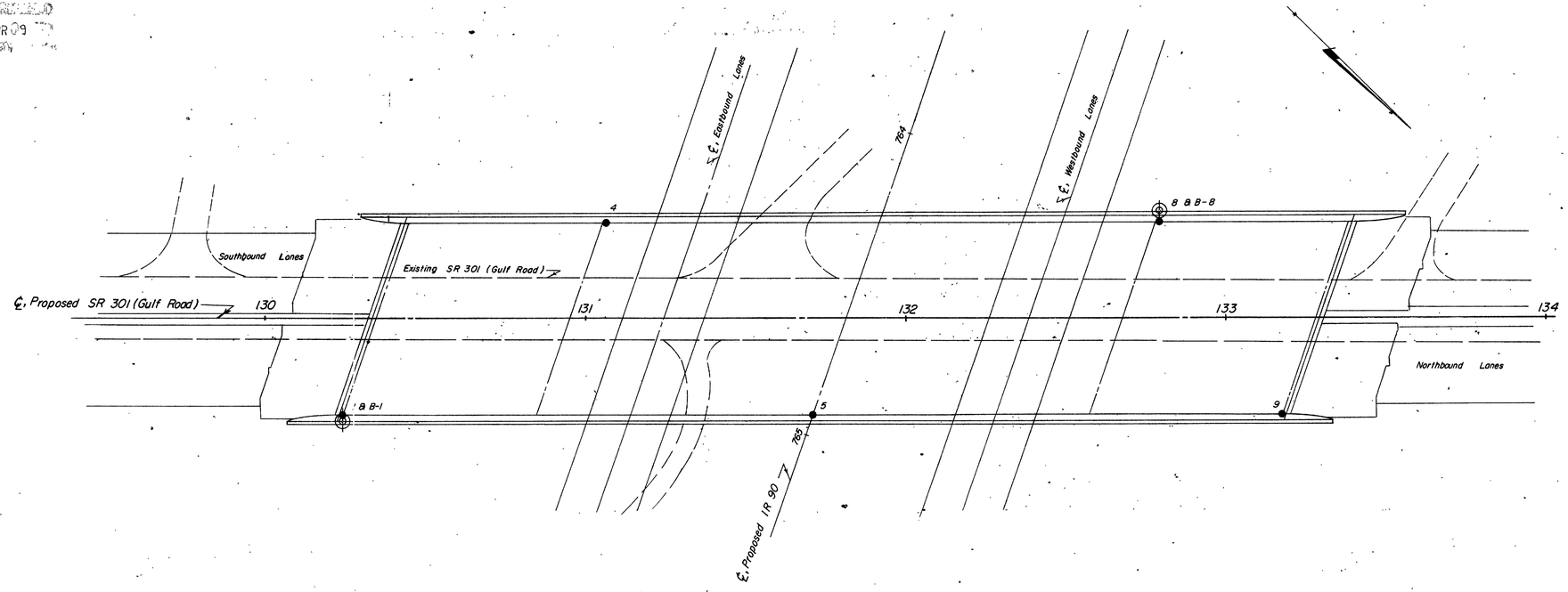
NOTE: Information shown by this subsurface investigation was obtained solely for the use in establishing design controls for the project. The State of Ohio does not guarantee the accuracy of this data and it is not to be construed as a part of the plans governing construction of the project.

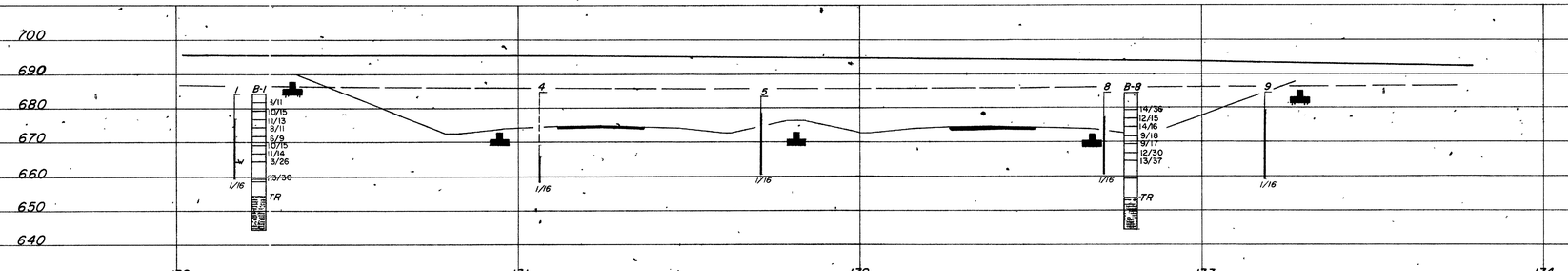
OHIO STATE HIGHWAY
TESTING LABORATORY
1620 WEST BROAD STREET, COLUMBUS 23, OHIO

STRUCTURE FOUNDATION INVESTIGATION
BRIDGE NO. LOR-IR 90-1478
UNDER SR 301 (GULF ROAD)
SEC. LOR-IR90-13.01

CHECKED BY	REVIEWED BY	DATE
L.N.L.	R.D.R.	12/3/64

APR 09





SCALE: 1"=20'

OHIO STATE HIGHWAY
TESTING LABORATORY
1620 WEST BROAD ST., COLUMBUS 23, OHIO

STRUCTURE FOUNDATION INVESTIGATION
BRIDGE NO. LOR-IR 90-1478
UNDER SR 301 (GULF ROAD)
SEC. LOR-IR 90-13.01

PLAN AND PROFILE

DRAWN BY	CHECKED BY	REVIEWED BY	DATE
R.L.F.	L.N.L.	R.D.R.	12/3/64

TS-114
1000-1-64

APR 29 '72

27/33

LOR-IR 90-13.01

3/3

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 ____

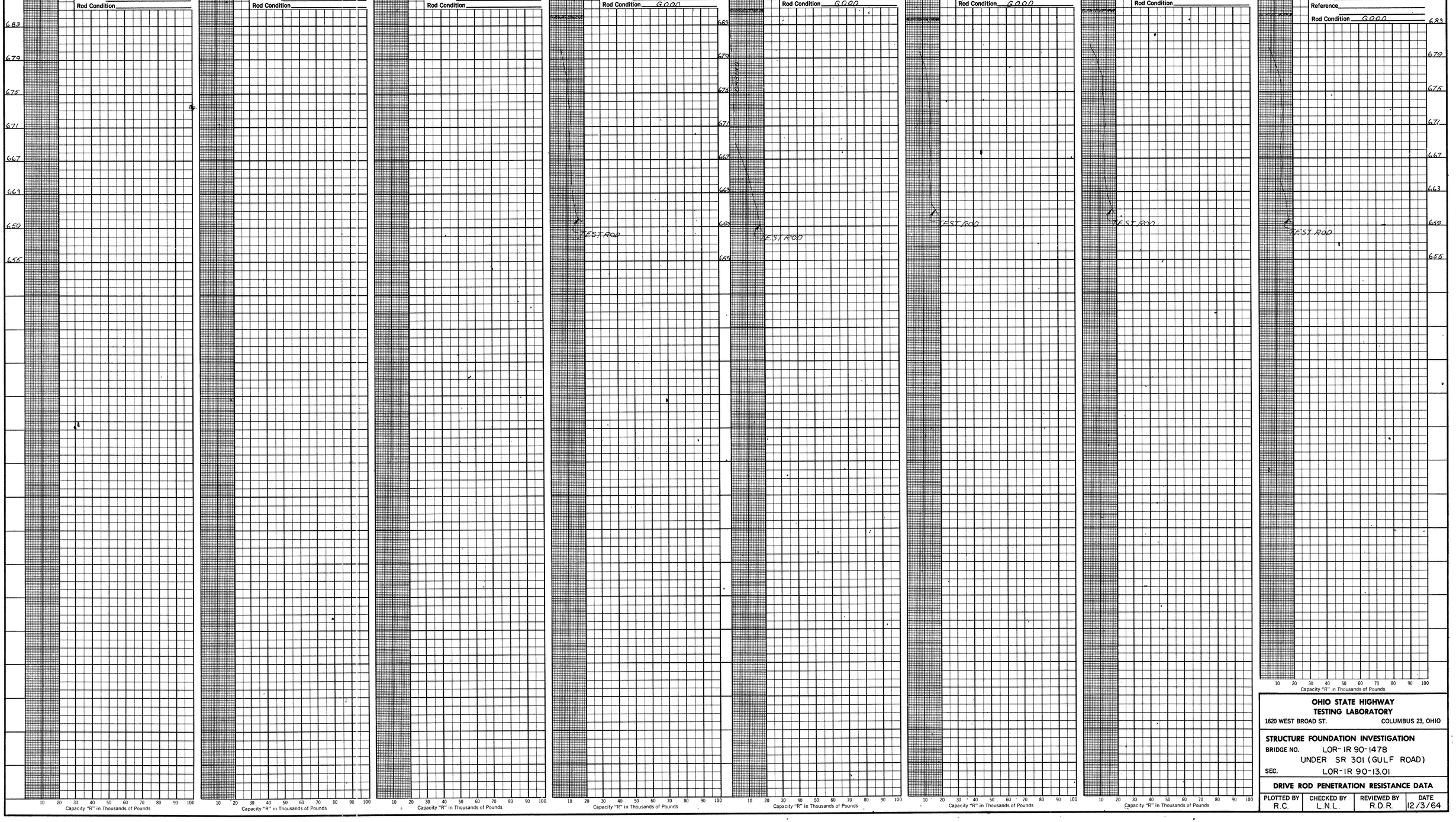
Test Location No. 1
Station & Offset 130+24 30' RT REAR ABUTMENT
Surface Elev. 684.2' Water Elev. 664.2'
Piling ____
Hammer ____
Formula ____
Reference ____
Rod Condition GOOD

Test Location No. 4
Station & Offset 131+06 30' LT REAR PIER
Surface Elev. 684.9' Water Elev. DRY
Piling ____
Hammer ____
Formula ____
Reference ____
Rod Condition GOOD

Test Location No. 5
Station & Offset 131+71 30' RT CENTER PIER
Surface Elev. 683.7' Water Elev. DRY
Piling ____
Hammer ____
Formula ____
Reference ____
Rod Condition GOOD

Test Location No. 8
Station & Offset 132+79 30' LT FORWARD PIER
Surface Elev. 684.8' Water Elev. DRY
Piling ____
Hammer ____
Formula ____
Reference ____
Rod Condition ____

Test Location No. 9
Station & Offset 133+18 30' RT FORWARD ABUTMENT
Surface Elev. 684.2' Water Elev. DRY
Piling ____
Hammer ____
Formula ____
Reference ____
Rod Condition GOOD



OHIO STATE HIGHWAY TESTING LABORATORY
1620 WEST BROAD ST. COLUMBUS 23, OHIO

STRUCTURE FOUNDATION INVESTIGATION
BRIDGE NO. LOR-IR 90-1478
UNDER SR 301 (GULF ROAD)
SEC. LOR-IR 90-13.01

DRIVE ROD PENETRATION RESISTANCE DATA

PLOTTED BY	CHECKED BY	REVIEWED BY	DATE
R.C.	L.N.L.	R.D.R.	12/3/64

APR 29 1965

GEOLOGY AND OBSERVATIONS OF THE SITE

The structure site is located on the relatively flat glaciated Lake Plain, in an area where lacustrine and beach deposits overlie shale bedrock, of Lower Mississippian and Upper Devonian ages.

EXPLORATION

The exploration consisted of two drive sample-core borings and five drive rod penetration tests, made between November 11 and 19, 1964.

INVESTIGATIONAL FINDINGS

The borings disclosed that relatively flat-lying shale bedrock surface, encountered at 32 and 35 feet below ground surface, elevations 641 and 643 feet, is overlain by dense to extremely dense gravels, sands, gravelly silt, and stiff clay. The borings were terminated 10 feet below bedrock surface, at elevations 633 and 631 feet.

Rod soundings met rapid increase in penetration resistance with increase in depth and were terminated upon encounter with near-refusal to penetration at 26 and 27-foot depths, elevations 652 and 651 feet, considered to be above bedrock surface, in very dense gravelly silt, as revealed by the borings.

Free water was encountered in the rod sounding holes between elevations 668 and 661 feet.

LEGEND

- Auger Boring Location - Plan View.
- Press and/or Drive Sample and/or Core Boring Location - Plan View.
- Drive Rod Penetration Resistance Sounding Location - Plan View.
- Capped Pile
- Footing
- Footing on Pile
- TR — Top of Rock
- Horizontal Bar on Boring Log Indicates the Depth the Sample Was Taken.
- X/Y — Figures Beside the Boring Log in Profile Indicate the Number of Blows For Standard Penetration Test. X = Number of Blows for First 6 Inches. Y = Number of Blows for Second 6 Inches.
- Drive Rod Penetration Resistance Sounding Log - Profile.
- Casing
- Resistance "R" < 10,000 lbs.
- Resistance "R" > 10,000 lbs.
- Z — Indicates Final Measurement of Penetration, in Inches.
- W — Indicates Free Water Elevation.
- Indicates Static Water Elevation.

SYMBOLS OF ROCK TYPES

- Coal
- Weathered 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.

Particle Size Definitions

Boulders	8" Cobbles	3" Gravel	2.0mm (No. 10 sieve) Coarse Sand	0.42mm (No. 40 sieve) Fine Sand	0.074mm (No. 200 sieve) Silt	0.005mm Clay

LOG OF BORING

Date Started 11-12-64
Date Completed 11-17-64
Boring No. B-1
Sample Type SS Dia 1 3/8"
Casing Length 15' Dia 3 1/2"
Station & Offset 85+44, 29' Rt (REAR ABUTMENT)
Water Elev —
Surface Elev 676.1'

Elev	Depth	Blows Per 6 IN.	Rec Ft.	Loss Ft.	Description	Sample No.	Physical Characteristics Agg.	C.S.	F.S.	Silt	Clay	PL	LL	HT Class
676.1	0													
	2													
671.1	4													
	6	3/5			Brown Silty Sand	1	0	51	20	-2 9-		NP	NP	19
	8													
666.1	10													
	12	4/6			Brown Sand	2	0	25	65	-1 0-		NP	NP	22
	14													
661.1	16	10/11			Gray Gravelly Clay	3	29	6	1	27	37	29	12	21
658.6	18	12/14			Gray Gravelly Silt	4	32	4	7	22	35	26	3	13
656.1	20	10/12			Gray Gravelly Silt	5	30	2	8	23	37	26	9	16
653.6	22	21/29			Gray Gravelly Silt	6	26	7	1	39	27	22	6	9
651.1	24													
	26	50/*			Gray Sandy Gravelly Silt	7	26	9	12	28	25	22	5	11
648.6	28	50/*			Dark-Gray Silty Sandy Gravel	8	46	16	10	15	13	NP	NP	11
646.1	30	50* (0.3')			Dark-Gray Silty Sand and Shale Fragments	9	62	10	8	7	13	FL=	21	10
	32													
	34													
641.1					TOP OF ROCK									
	36		4.8	0.2										
	38													
	40													
	42		5.0	0.0	Shale, black, carbonaceous, fissile, firm. Core loss 2%.									
	44													
631.1					BOTTOM OF BORING									

*REFUSAL

LOG OF BORING

Date Started 11-18-64
Date Completed 11-19-64
Boring No. B-8
Sampler Type SS Dia 1 3/8"
Casing Length 15' Dia 3 1/2"
Station & Offset 88+11, 19' Lt (FORWARD PIER)
Water Elev —
Surface Elev 675.0'

Elev	Depth	Blows Per 6 IN.	Rec Ft.	Loss Ft.	Description	Sample No.	Physical Characteristics Agg.	C.S.	F.S.	Silt	Clay	PL	LL	HT Class
675.0	0													
	2													
670.0	4													
	6	5/4			Brown Sand	1	V	I	S	U	A	L		
	8													
665.0	10													
	12	5/9			Brown and Gray Gravelly Clay	2	V	I	S	U	A	L	33	12	22
	14													
660.0	16	50* (0.8')			Gray Sandy Gravelly Silt	3	26	7	9	21	37	29	10	15
	18													
655.0	20	12/19			Gray Gravelly Silt	4	23	6	7	22	42	30	10	16
	22													
650.0	24													
	26	50/*			Gray Sandy Gravelly Silt	5	24	7	12	32	25	22	5	10
	28													
645.0	30	50* (0.7')			Gray Sandy Silt and Stone Fragments	6	V	I	S	U	A	L	24	5	11
643.0	32				TOP OF ROCK										
	34		2.7	0.3											
	36				Shale, black, carbonaceous, fissile, firm, badly broken intervals, with few thin clay seams. Core loss 33%.**										
	38		4.0	1.0										
	40													
633.0	42		0.0	2.0										
					BOTTOM OF BORING									

**High core loss partially due to mechanical difficulties.

*REFUSAL

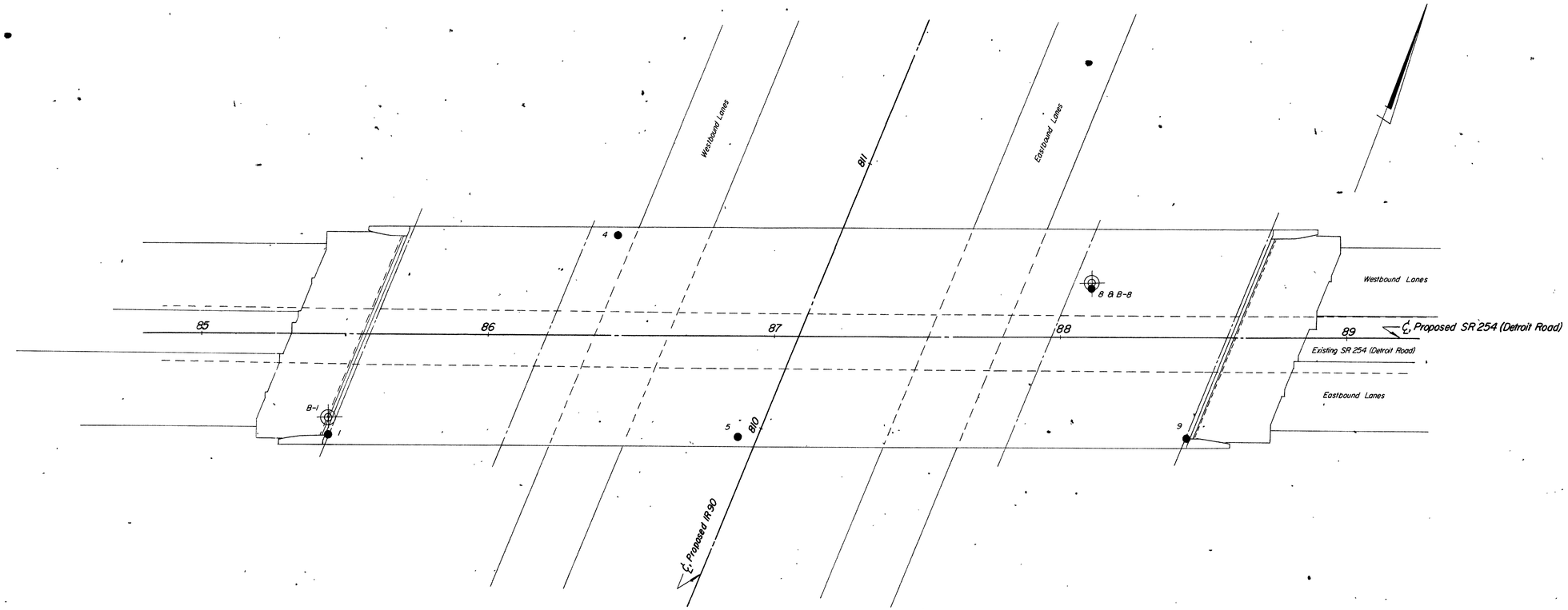
NOTE: Information shown by this subsurface investigation was obtained solely for the use in establishing design controls for the project. The State of Ohio does not guarantee the accuracy of this data and it is not to be construed as a part of the plans governing construction of the project.

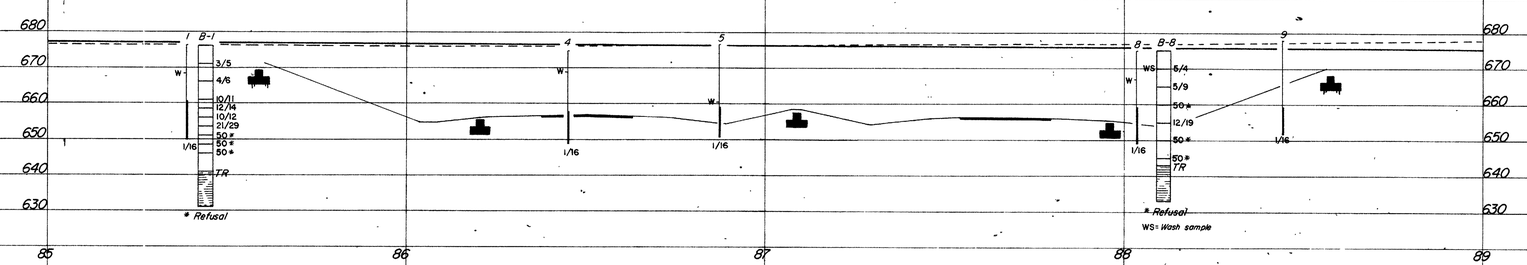
OHIO STATE HIGHWAY
TESTING LABORATORY
1620 WEST BROAD STREET, COLUMBUS 23, OHIO

STRUCTURE FOUNDATION INVESTIGATION
BRIDGE NO. LOR-IR90-1565
UNDER SR 254 (DETROIT ROAD)
SEC. LOR-IR90-13.01

CHECKED BY	REVIEWED BY	DATE
L.N.L.	R.D.R.	12/7/64

APR 09





SCALE: 1" = 20'

OHIO STATE HIGHWAY TESTING LABORATORY
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STRUCTURE FOUNDATION INVESTIGATION
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PLAN AND PROFILE

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TE-114
1000-1-64

MICROFILMED
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30/33

LOR-IR90-13.01

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 ____

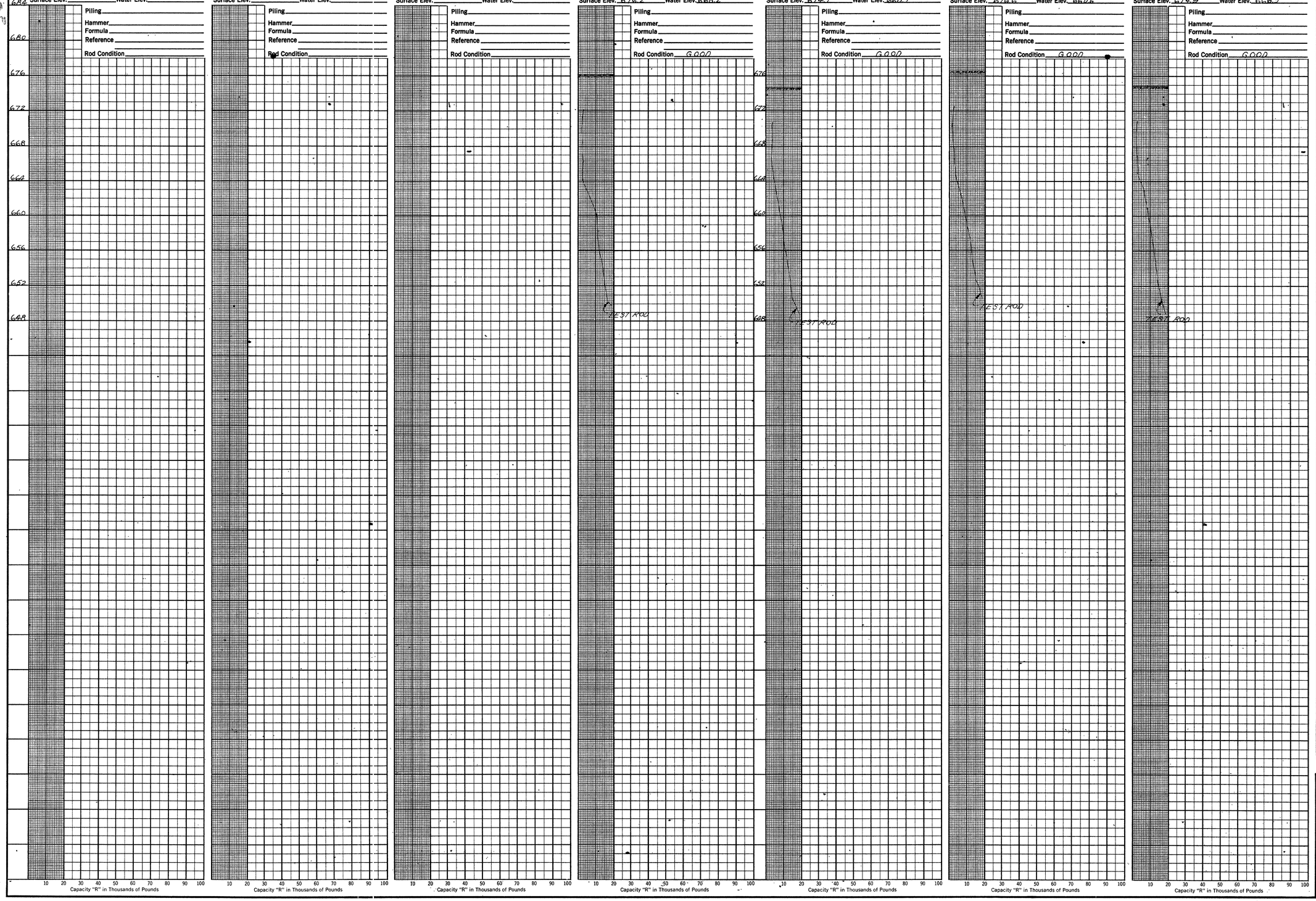
Test Location No. 1
Station & Offset R5+44 35' RT
REAR ABUTMENT
Surface Elev. 676.2' Water Elev. 668.2'
Piling ____
Hammer ____
Formula ____
Reference ____
Rod Condition GOOD

Test Location No. 4
Station & Offset R6+45 35' LT
REAR PIER
Surface Elev. 674.7' Water Elev. 668.7'
Piling ____
Hammer ____
Formula ____
Reference ____
Rod Condition GOOD

Test Location No. 5
Station & Offset R6+87 35' RT
CENTER PIER
Surface Elev. 676.6' Water Elev. 660.6'
Piling ____
Hammer ____
Formula ____
Reference ____
Rod Condition GOOD

Test Location No. 8
Station & Offset R8+11 17' LT
FORWARD PIER
Surface Elev. 674.9 Water Elev. 666.9'
Piling ____
Hammer ____
Formula ____
Reference ____
Rod Condition GOOD

Test Location No. 9
Station & Offset R8+44 35' RT
FORWARD ABUTMENT
Surface Elev. 677.8' Water Elev. ____
Piling ____
Hammer ____
Formula ____
Reference ____
Rod Condition GOOD



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1620 WEST BROAD ST. COLUMBUS 23, OHIO

STRUCTURE FOUNDATION INVESTIGATION
BRIDGE NO. LOR-IR90-1565
UNDER SR 254 (DETROIT ROAD)
SEC. LOR-IR90-13.01

DRIVE ROD PENETRATION RESISTANCE DATA

PLOTTED BY	CHECKED BY	REVIEWED BY	DATE
R.C.	L.N.L.	R.D.R.	12/7/64

APR 29

GEOLOGY OF THE SITE

The structure site is located on the relatively flat glaciated Lake Plain, in an area where lacustrine and beach deposits overlie shale bedrock, of Lower Mississippian and Upper Devonian ages.

EXPLORATION

The exploration consisted of two drive sample-core borings, made on November 19 and December 2, 1962, and ten drive rod penetration tests, made between November 13 and 17, 1964.

INVESTIGATIONAL FINDINGS

The borings disclosed that relatively flat-lying shale bedrock surface, encountered at 5 and 7 feet below ground surface, elevations 628 and 626 feet, is overlain by very dense silt and stiff clay containing a trace of organic. The borings were terminated at 13 and 15 feet below bedrock surface, at elevation 613 feet.

Rod soundings met rapid increase in penetration resistance with increase in depth and were terminated upon encounter with near-refusal to penetration at 6 and 11-foot depths, elevations 625 and 623 feet, considered to be on or slightly below bedrock surface, as revealed by the borings.

No free water was observed in any of the rod sounding holes.

LEGEND

- Auger Boring Location - Plan View.
- Press and/or Drive Sample and/or Core Boring Location - Plan View.
- Drive Rod Penetration Resistance Sounding Location - Plan View
- Capped Pile
- Footing
- Footing on Pile
- TR — Top of Rock
- Horizontal Bar on Boring Log Indicates the Depth the Sample Was Taken.
- X/Y — Figures Beside the Boring Log in Profile Indicate the Number of Blows For Standard Penetration Test.
  X = Number of Blows for First 6 Inches.
  Y = Number of Blows for Second 6 Inches.
- Drive Rod Penetration Resistance Sounding Log - Profile.
- Casing
- Resistance "R" < 10,000 lbs.
- Resistance "R" > 10,000 lbs.
- Z — Indicates Final Measurement of Penetration, in Inches.
- W — Indicates Free Water Elevation.
- Indicates Static Water Elevation.

SYMBOLS OF ROCK TYPES

- Coal
- Weathered 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.

Particle Size Definitions

Boulders	8" Cobbles	3" Gravel (2.0mm, No. 10 sieve)	Coarse Sand (0.42mm, No. 40 sieve)	Fine Sand (0.074mm, No. 200 sieve)	Silt (0.005mm)	Clay

LOG OF BORING

Date Started 12-2-64 — Sampler Type SS — Dia 1 3/8"
Date Completed 12-2-64 — Casing Length — Dia
Boring No. B-1 — Station & Offset 53+30, 15' Lt (REAR ABUTMENT)
Water Elev. — Surface Elev. 633.0'

Elev.	Depth	Std. Pen. (N)	Rec. ft.	Loss ft.	Description	Sample No.	% Agg.	% C.S.	% F.S.	% Silt	% Clay	L.L.	P.I.	W.C.	AHTO Class
633.0	0														
630.5	2														
	4	15/17			Brown Sandy Gravelly Silt	1	41	7	9	20	23	27	7	21	
628.0	6				TOP OF ROCK										
	8		1.4	3.6											
	10														
	12				Shale, black, carbonaceous, fissile, medium-firm, broken with many thick clay seams in top 9.0'. Core loss 20%.										
	14		4.4	0.6											
	16														
	18		5.0	0.0											
613.0	20				BOTTOM OF BORING										

LOG OF BORING

Date Started 11-19-64 — Sampler Type SS — Dia 1 3/8"
Date Completed 11-19-64 — Casing Length — Dia
Boring No. B-8 — Station & Offset 56+40, 15' Rt (FORWARD PIER)
Water Elev. — Surface Elev. 633.0'

Elev.	Depth	Std. Pen. (N)	Rec. ft.	Loss ft.	Description	Sample No.	% Agg.	% C.S.	% F.S.	% Silt	% Clay	L.L.	P.I.	W.C.	AHTO Class
633.0	0														
630.5	2														
	4	9/12			Dark Grayish-Brown Silt and Clay, Trace of Organic	1	0	3	8	51	38	35	11	29	
628.0	6	14/37			Brown and Gray Silt with Stone Fragments	2	45	8	7	18	22	30	7	25	
626.0	8				TOP OF ROCK										
	10		0.8	2.2											
	12				Shale, black, carbonaceous, fissile, medium-firm, broken with few thin clay seams in top 8.0'. Core loss 22%.										
	14		4.3	0.7											
	16														
	18		5.0	0.0											
613.0	20				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 STATE HIGHWAY
TESTING LABORATORY
1620 WEST BROAD STREET, COLUMBUS 23, OHIO

STRUCTURE FOUNDATION INVESTIGATION
BRIDGE NO. LOR-IR90-1700
UNDER ABBE ROAD
SEC. LOR-IR90-13.01

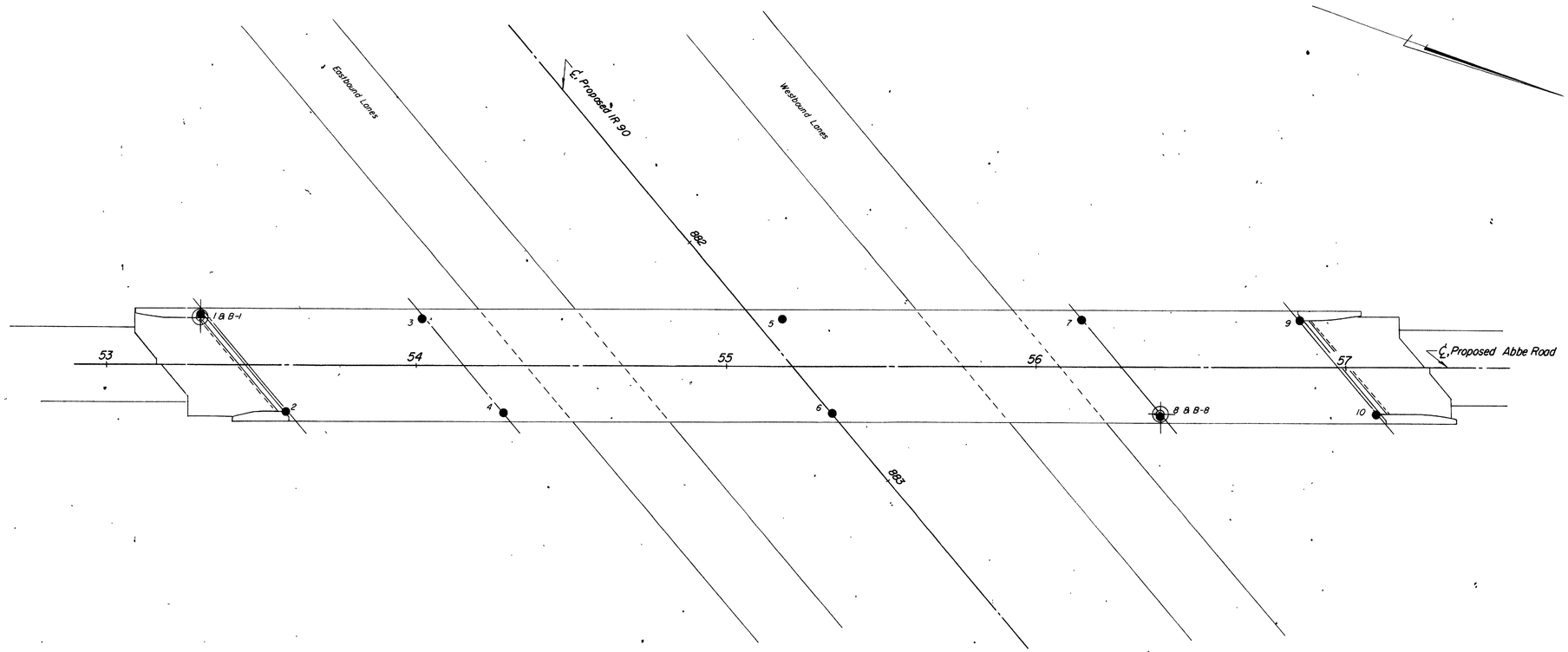
CHECKED BY	REVIEWED BY	DATE
L. N. L.	R. D. R.	12/15/64

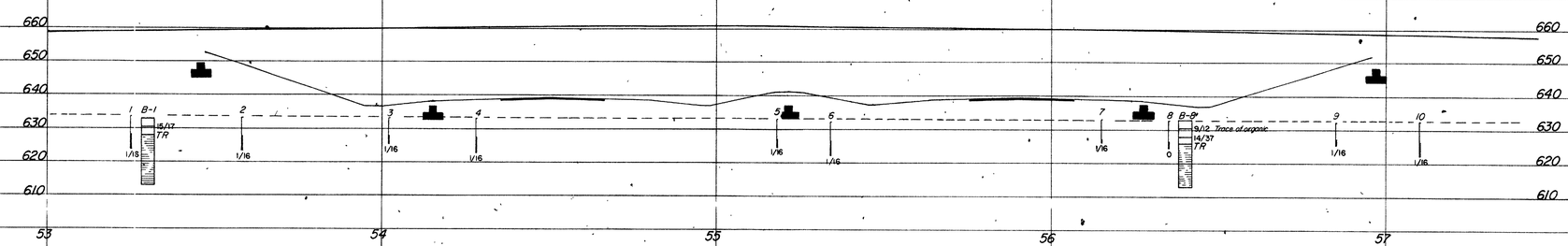
APR 09

LOR-IR90-13.01

32/33

2/3





SCALE: 1" = 20'

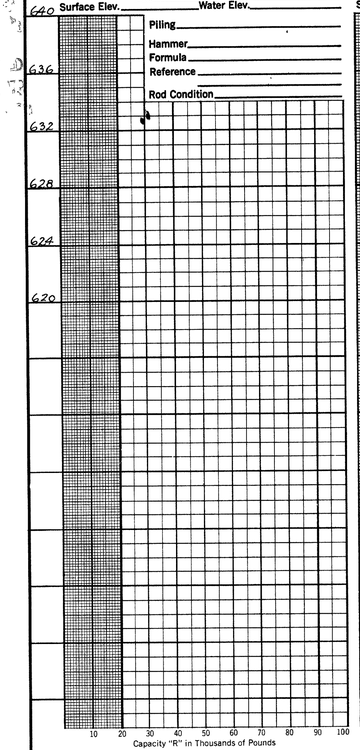
OHIO STATE HIGHWAY TESTING LABORATORY 1620 WEST BROAD ST., COLUMBUS 23, OHIO			
STRUCTURE FOUNDATION INVESTIGATION BRIDGE NO. LOR-IR90-1700 UNDER ABBE ROAD SEC. LOR-IR90-13.01			
PLAN AND PROFILE			
DRAWN BY R. L. C.	CHECKED BY L. N. L.	REVIEWED BY R. D. R.	DATE 12/15/64

TC-115
300-1-64

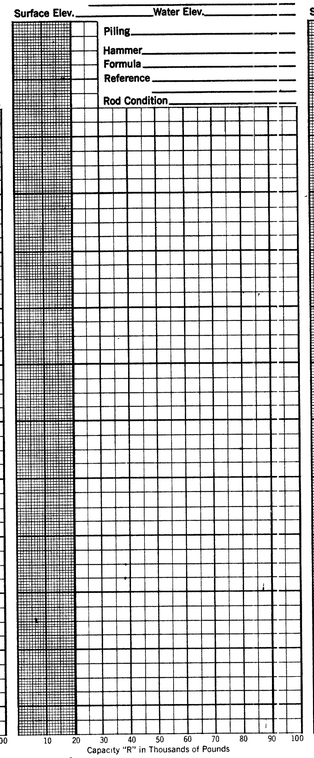
33/33

LOR-IR90-13.01 3/3

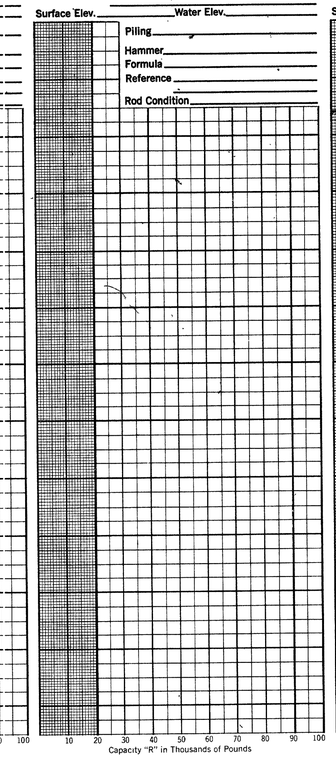
Test Location No. ____
Station & Offset ____
Surface Elev. ____ Water Elev. ____
Piling ____
Hammer ____
Formula ____
Reference ____
Rod Condition ____



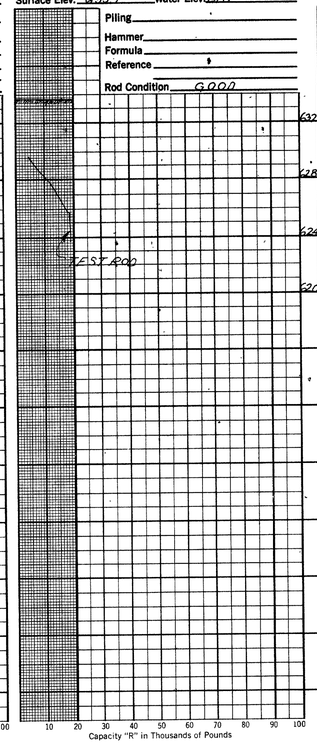
Test Location No. ____
Station & Offset ____
Surface Elev. ____ Water Elev. ____
Piling ____
Hammer ____
Formula ____
Reference ____
Rod Condition ____



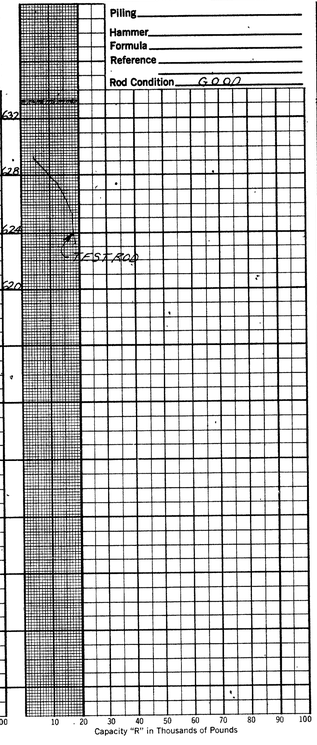
Test Location No. ____
Station & Offset ____
Surface Elev. ____ Water Elev. ____
Piling ____
Hammer ____
Formula ____
Reference ____
Rod Condition ____



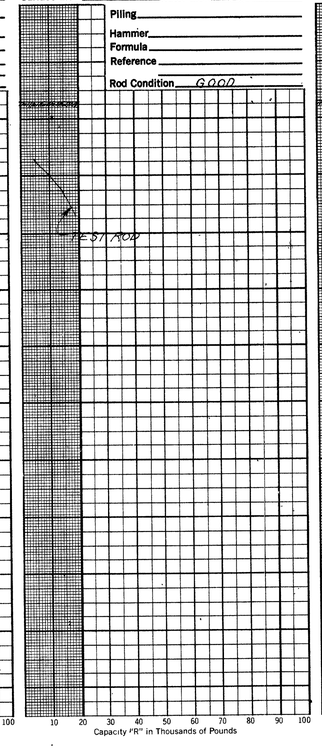
Test Location No. 1
Station & Offset 53+30, 16' LT
REAR ABUTMENT
Surface Elev. 633.7' Water Elev. DRY
Piling ____
Hammer ____
Formula ____
Reference ____
Rod Condition GOOD



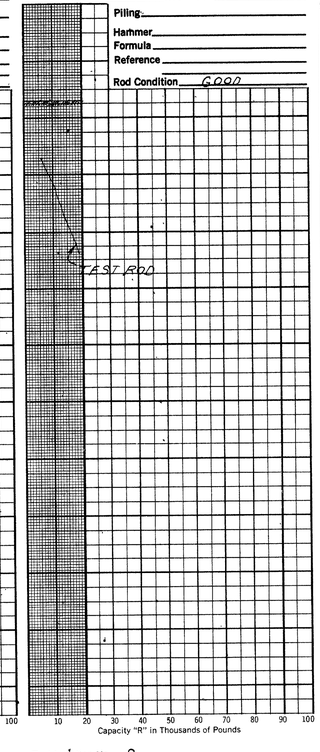
Test Location No. 2
Station & Offset 53+58, 15' RT
REAR ABUTMENT
Surface Elev. 633.3 Water Elev. DRY
Piling ____
Hammer ____
Formula ____
Reference ____
Rod Condition GOOD



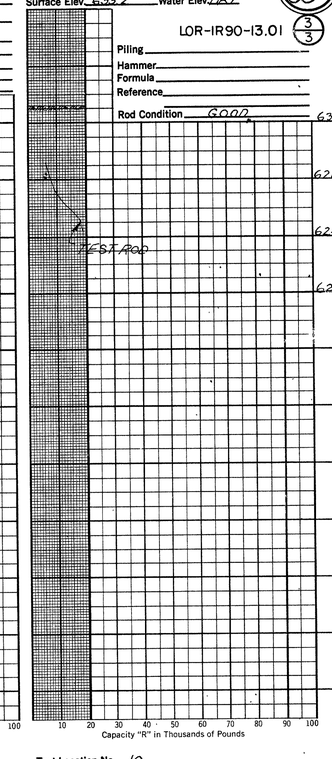
Test Location No. 3
Station & Offset 54+02, 15' LT
REAR PIER
Surface Elev. 633.2' Water Elev. DRY
Piling ____
Hammer ____
Formula ____
Reference ____
Rod Condition GOOD



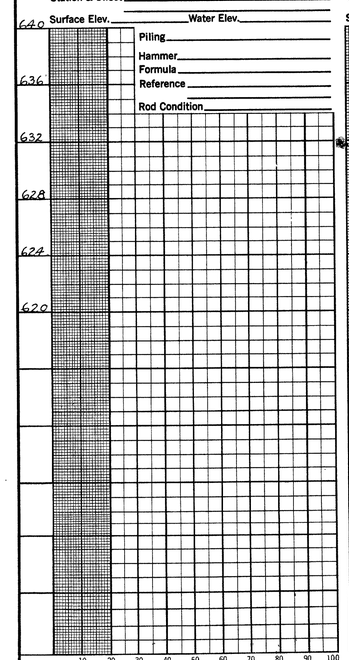
Test Location No. 4
Station & Offset 54+28, 15' RT
REAR PIER
Surface Elev. 633.2' Water Elev. DRY
Piling ____
Hammer ____
Formula ____
Reference ____
Rod Condition GOOD



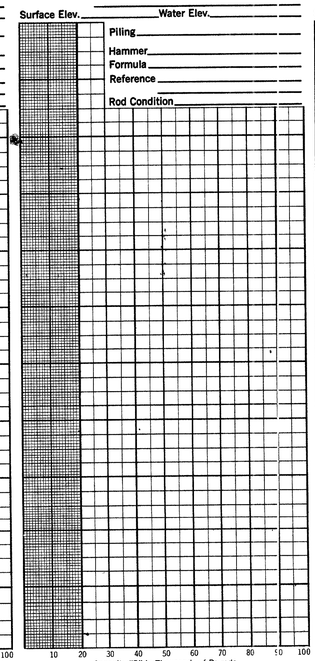
Test Location No. 5
Station & Offset 55+18, 15' LT
CENTER PIER
Surface Elev. 633.2' Water Elev. DRY
Piling ____
Hammer ____
Formula ____
Reference ____
Rod Condition GOOD



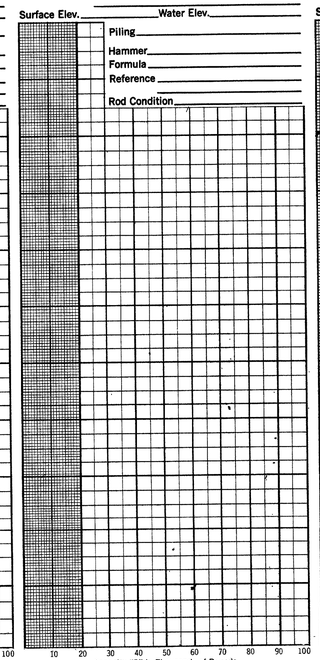
Test Location No. ____
Station & Offset ____
Surface Elev. ____ Water Elev. ____
Piling ____
Hammer ____
Formula ____
Reference ____
Rod Condition ____



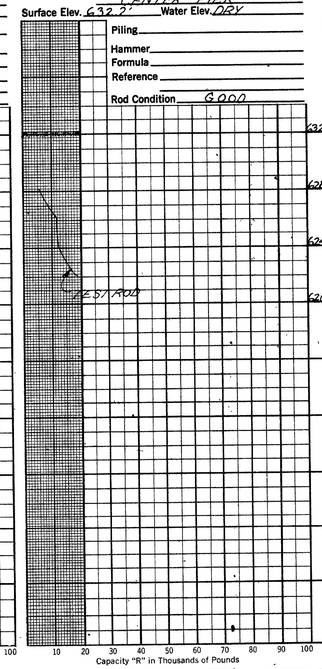
Test Location No. ____
Station & Offset ____
Surface Elev. ____ Water Elev. ____
Piling ____
Hammer ____
Formula ____
Reference ____
Rod Condition ____



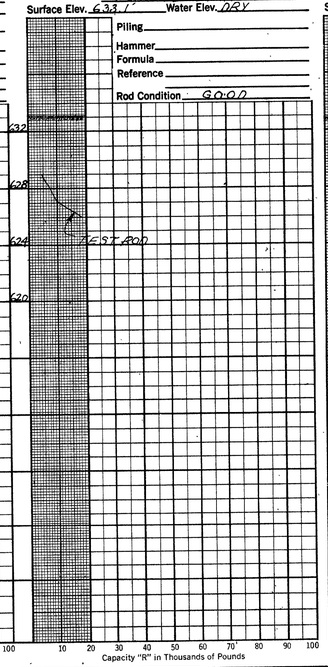
Test Location No. ____
Station & Offset ____
Surface Elev. ____ Water Elev. ____
Piling ____
Hammer ____
Formula ____
Reference ____
Rod Condition ____



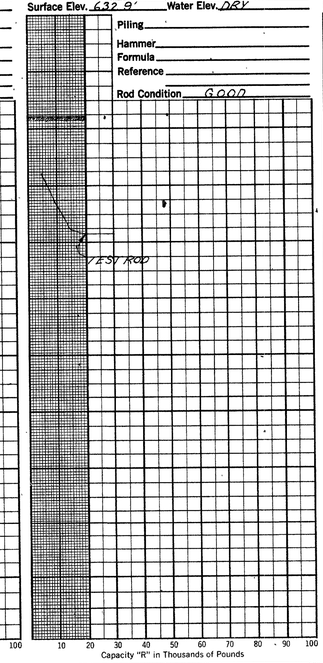
Test Location No. 6
Station & Offset 55+34, 15' RT
CENTER PIER
Surface Elev. 632.7' Water Elev. DRY
Piling ____
Hammer ____
Formula ____
Reference ____
Rod Condition GOOD



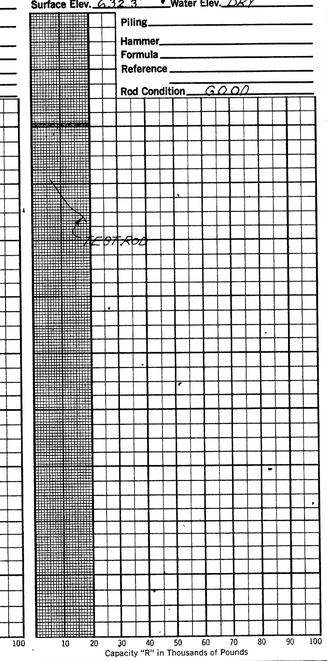
Test Location No. 7
Station & Offset 56+15, 15' LT
FORWARD PIER
Surface Elev. 633.1' Water Elev. DRY
Piling ____
Hammer ____
Formula ____
Reference ____
Rod Condition GOOD



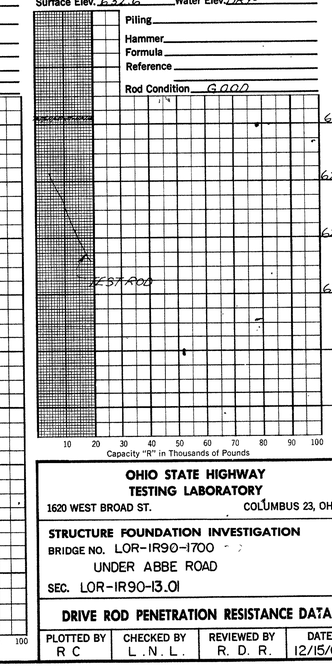
Test Location No. 8
Station & Offset 56+40, 16' RT
FORWARD PIER
Surface Elev. 632.9' Water Elev. DRY
Piling ____
Hammer ____
Formula ____
Reference ____
Rod Condition GOOD



Test Location No. 9
Station & Offset 56+85, 15' LT
FORWARD ABUTMENT
Surface Elev. 632.3' Water Elev. DRY
Piling ____
Hammer ____
Formula ____
Reference ____
Rod Condition GOOD



Test Location No. 10
Station & Offset 57+10, 15' RT
FORWARD ABUTMENT
Surface Elev. 632.6 Water Elev. DRY
Piling ____
Hammer ____
Formula ____
Reference ____
Rod Condition GOOD



OHIO STATE HIGHWAY TESTING LABORATORY
1620 WEST BROAD ST. COLUMBUS 23, OHIO

STRUCTURE FOUNDATION INVESTIGATION
BRIDGE NO. LOR-IR90-1700
UNDER ABBE ROAD
SEC. LOR-IR90-13.01

DRIVE ROD PENETRATION RESISTANCE DATA

PLOTTED BY	CHECKED BY	REVIEWED BY	DATE
R C	L. N. L.	R. D. R.	12/15/64