

STATE OF OHIO
DEPARTMENT OF HIGHWAYS

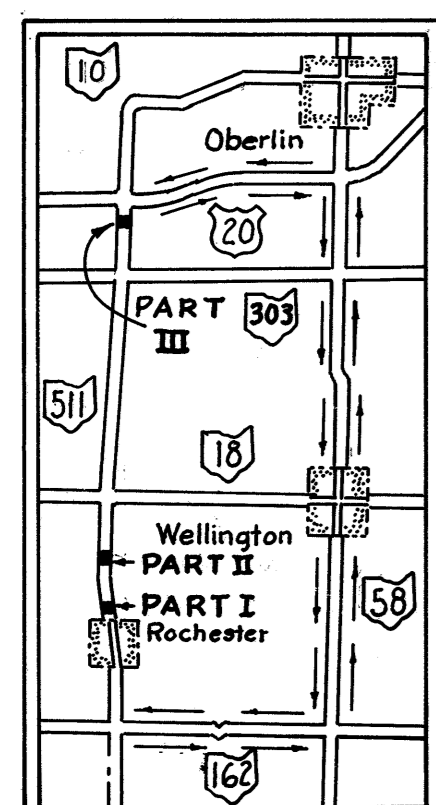
LOR-511-5.83
LORAIN COUNTY
BRIGHTON TOWNSHIP

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO	STATE	1 31

LORAIN COUNTY
LOR-511-5.83
PART II

FOR PART I AND PART III
SEE LOR-511-(4.65) (13.08)

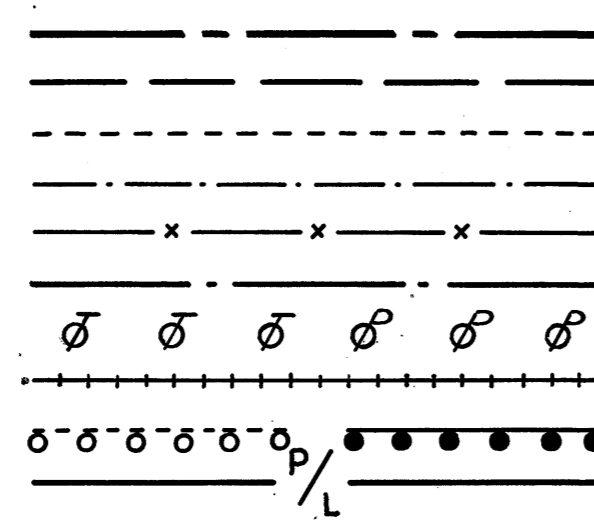
JAN 21 1964
GROUND PHOTOLAP



DETOUR MAP

CONVENTIONAL SIGNS

- COUNTY LINE
- TOWNSHIP LINE
- SECTION LINE
- CORPORATION LINE
- FENCE LINE
- CENTER LINE
- POLE LINE (TELEPHONE & POWER)
- RAILROAD
- GUARD RAIL (EXISTING & PROPOSED)
- PROPERTY LINE
- RIGHT OF WAY



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LINE DATA

	PROJECT	WORK
BEGIN	STA. 308+00	STA. 307+50
END	STA. 344+00	STA. 344+50
GROSS LENGTH	3600 LIN. FT.	3700 LIN. FT.
NO ADDITIONS OR DEDUCTIONS		
NET LENGTH	3600 LIN. FT.	3700 LIN. FT.
	OR 0.681 MILE	OR 0.700 MILE
TOTAL LENGTH OF PROJECT - PARTS 1,2+3	650 LIN. FT. + 3600 LIN. FT. + 665 LIN. FT. = 4915 LIN. FT. OR 9.30 MI.	
TOTAL LENGTH OF WORK - PARTS 1,2+3	925 LIN. FT. + 3700 LIN. FT. + 800 LIN. FT. = 5425 LIN. FT. OR 1.027 MI.	



LOCATION MAP

Scale of Miles
1 in. = 1 mi.

PORTION TO BE IMPROVED	
STATE HIGHWAYS	
OTHER ROADS	
DETOUR	

SCALES

PLAN	1" = 50'
PROFILE HORIZONTAL	1" = 50'
PROFILE VERTICAL	1" = 5'
CROSS SECTIONS	1" = 5'
OTHER SHEETS AS SHOWN	

1959 SPECIFICATIONS

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 require the closing of the highway to traffic and that detours will be provided as indicated on the plans.

- Approved E. S. Salen
Date 10-28-60 Division Deputy Director
- Approved F. E. Hooper
Date 12-23-60 Deputy Director of Planning and Programming
- Approved D. H. Overman
Date 11-28-60 Engineer of Bridges
- Approved W. L. Munson
Date 12-9-60 Engineer of Location and Design
- Approved C. W. McCaughey
Date 12-12-60 Deputy Director of Design and Construction
- Approved J. A. Berry
Date 12-23-60 First Assistant Director
- Approved E. S. Preston
Date 12-23-60 Director of Highways

FILE No	LORAIN COUNTY	LOR-511-5.83
DATE OF LETTING		
CONTRACT No		

SUPPLEMENTAL PRINTS OF STANDARD CONSTRUCTION DRAWINGS			
DR-1	1-3-55	L-3-A	4-1-50
G-7.07	6-1-56	RI-1	7-15-58
I-1,2,3,4+5	4-24-58	S-27 P.C. 3	2-20-45
I-8 I. No. 1	3-2-59	S-27 P.C. 4	1-4-54
I-15 No. 1	5-21-59	T-35	1-2-56
I-15 No. 4	12-1-54	HW-C	7-15-57
I-15 No. 2-A	8-17-60	AS-1-54	12-1-54
L-1	4-1-50	P-1-54	2-2-59
L-3	4-1-50	CSB-1-55 Jh+2	2-2-59

SUPPLEMENTAL SPECIFICATIONS	
S-101	12-2-59
S-105	8-12-60

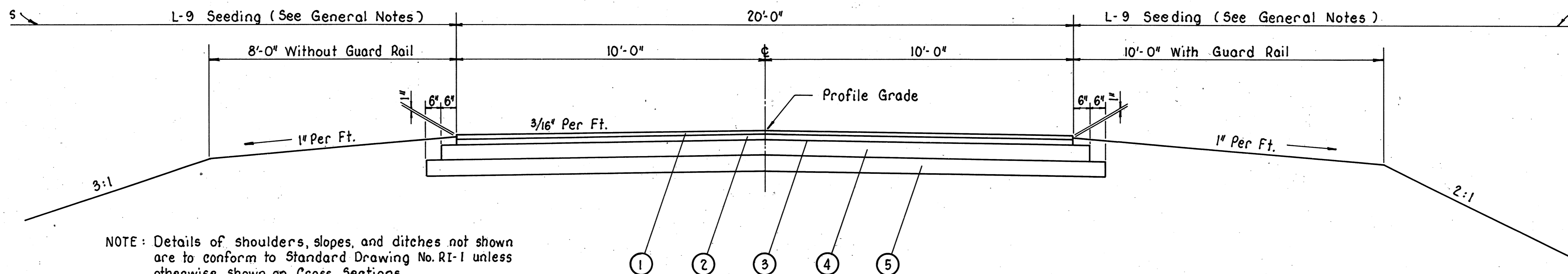
JAN 21 1964
GROUND PHOTOLAP

TYPICAL SECTION TYPE T-35 ON B-19

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

2
31

LOR-511-583
PART-II

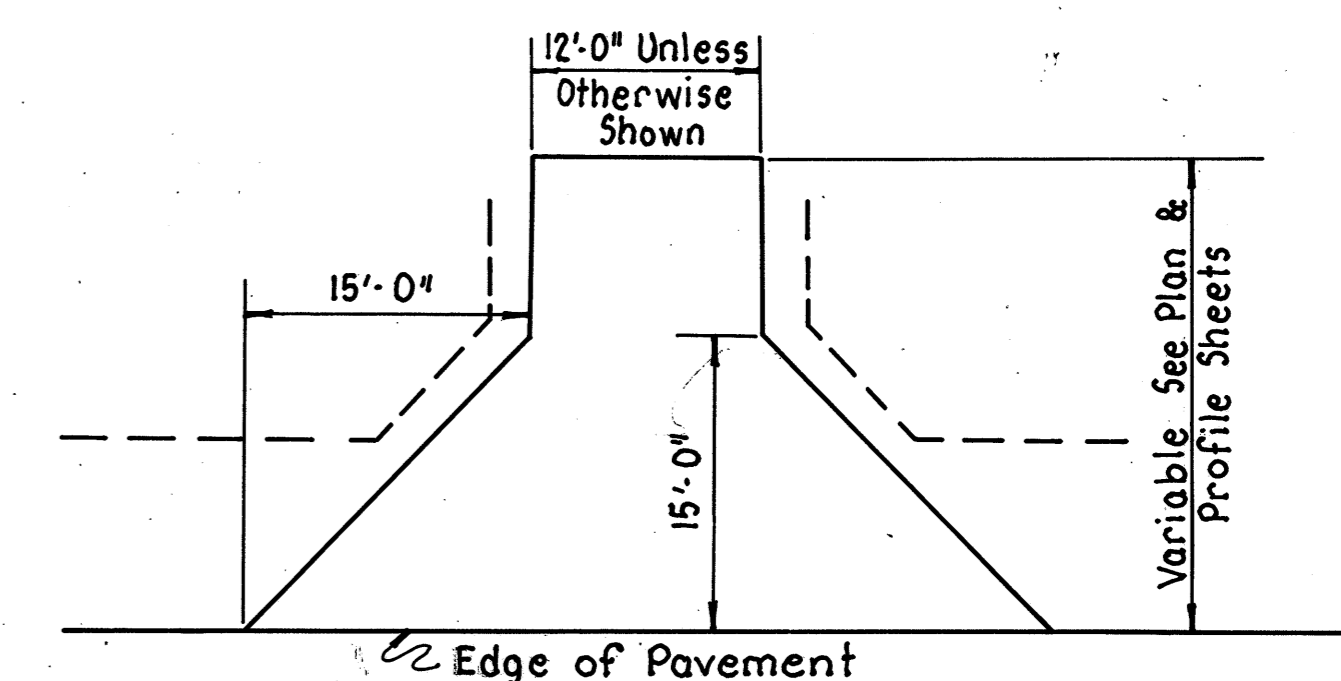


NOTE: Details of shoulders, slopes, and ditches not shown are to conform to Standard Drawing No. RI-1 unless otherwise shown on Cross Sections.

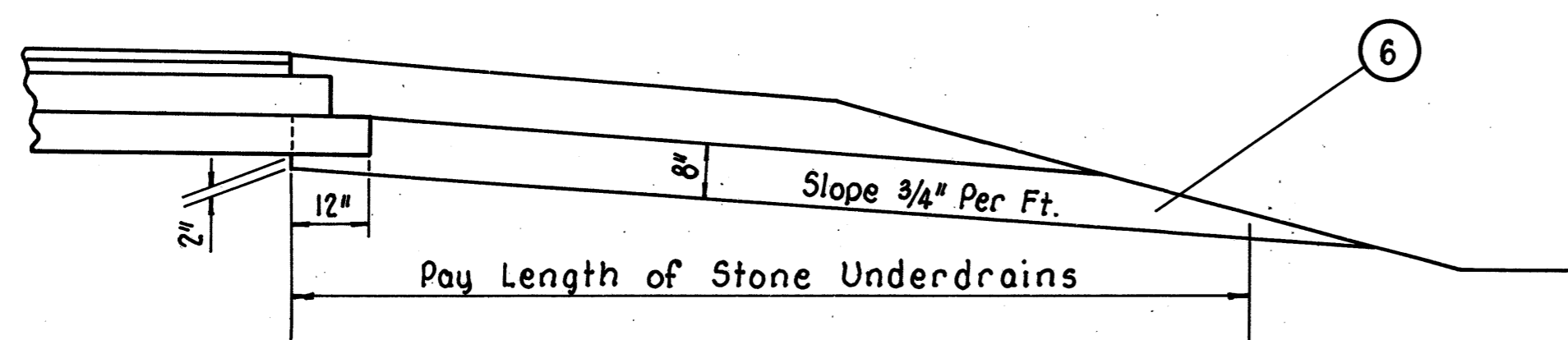
Sta. 308+00 To Sta. 325+45.82 = 1745.82 Lin. Ft.
Sta. 327+84.18 To Sta. 344+00 = 1615.82 Lin. Ft.
Total = 3361.64 Lin. Ft.

* Thicknesses shown are "designed" thicknesses as described in Sections T-35.01 and B-35.01.

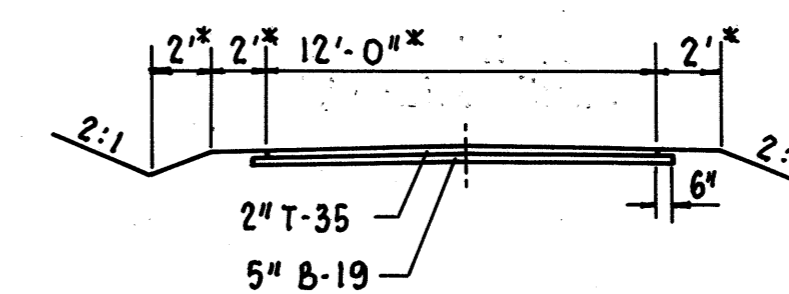
- ① *T-35 1 1/4" Asphaltic Concrete Surface Course Type "C" (85-100)
- ② *B-35 1 3/4" Asphaltic Concrete Leveling Course (85-100)
- ③ T-30 Bituminous Prime Coat Sec. M-5.7, RT-2 or RT-3 applied at the rate of 0.40 Gal. per Sq. Yd.
- ④ B-19 6" Aggregate Base Course
- ⑤ I-22 6" Subbase
- ⑥ I-9 Stone Underdrains No. 2 (Located as directed by the Engineer)



TYPICAL DRIVE PLAN

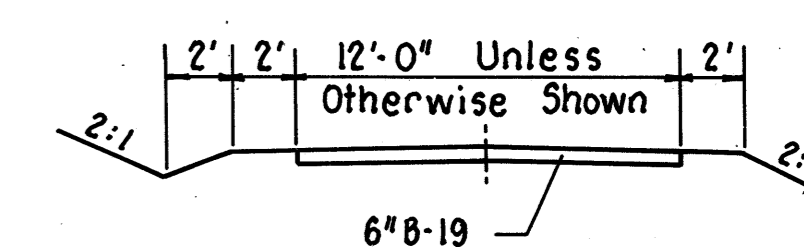


DETAIL OF I-9 STONE UNDERDRAINS No. 2



TYPICAL DRIVE SECTION T-35 ON B-19

* Unless Otherwise Shown



TYPICAL AGGREGATE DRIVE

GENERAL NOTES

DESIGN SPEED: 50 Miles per hour.

FIELD OFFICE: The Contractor shall provide a suitable Field Office in accordance with Sec. 5-0.01(b) having a minimum floor area of 300 Sq. Ft. The Contractor shall have a telephone installed and maintained during the construction of this project. This Field Office shall serve Part I and Part II of this project.

UTILITIES: Any and all work required for the adjustment of Public or Private Utilities shall be done by and at the expense of their respective owners.

SUBGRADE COMPACTION: Subgrade under drives shall be compacted for a depth of six (6) inches to the density requirements of Table III, Sec. E-1.09. Payment for Subgrade Compaction as specified above shall be included in the unit price bid for Item E-1, Roadway Excavation.

MAINTAINING LOCAL TRAFFIC: The following estimated quantities are included in the General Summary for Maintaining Local Traffic as Directed by the Engineer.

- 75 Cu.Yds. T-10, Traffic Compacted Surface Course for Maintaining Local Traffic.
- 1.5 Ton M-10, Calcium Chloride Furnished and Applied for Maintaining Local Traffic.

MAILBOX APPROACHES as per Standard Drawing DR-1 shall be constructed at the approximate location of existing mailboxes. Where feasible, mailbox approaches shall be combined with driveways, using 12 feet between mailbox and center of driveway. The following estimated quantities are furnished for mailbox approaches.

- 5 Cu.Yd. T-35 2" Asphaltic Concrete Surface Course
- 13 Cu.Yd. B-19 5" Aggregate Base Course

SANITARY: No drains, either existing or proposed, carrying domestic waste shall be connected to any portion of the proposed drainage system of this project.

CALCULATIONS: All calculations are on file in the Division Office

PLACING SOD IN DITCHES: All sod placed in ditches shall be laid with the long edges perpendicular to the flow line of the ditch. Successive strips shall be neatly matched and all joints staggered or broken. The sod shall be staked securely with stakes placed on maximum two (2) foot centers in rows not more than two (2) feet apart. Stakes in adjacent rows shall be staggered. The stakes shall be wood from 1/2" x 3/4" x 12" to 1" x 1" x 24", as required to hold the sod and shall be driven flush with the top of the sod.

I-9 STONE UNDERDRAINS NO. 2: A quantity of Stone Underdrains No. 2, to be used as directed by the Engineer, has been estimated on this project at approximately 50 ft. intervals on each side. The Contractor shall grade, finish, seed, and mulch the slopes so as not to impede the free drainage of the Stone Underdrains.

REMOVAL OF TREES AND STUMPS shall be paid for by a Lump Sum bid. The number of trees and stumps shown in the following table is for estimating purposes only. Sizes under 12" are not listed. The State does not guarantee the accuracy of the table.

SIZE	12"-18"	18"-24"	24"-30"	30"-36"	36"-42"	42"-48"	Over 48"
TREES	42	13	18	6	3	2	1
STUMPS	3	0	0	0	0	0	0

SEEDING: Quantities for seeding are calculated for the soil areas to the work limits as shown on the cross sections by the symbol . Areas to be seeded or sodded shall be fertilized using a commercial fertilizer having a formula of 12-12-12 and seeded with the following mixture: 75% Kentucky 31 Fescue, 20% Kentucky Bluegrass and 5% Alsike Clover.

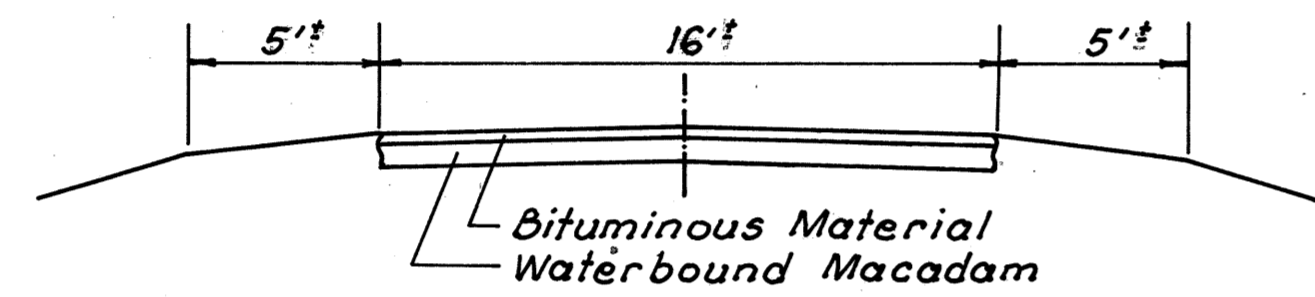
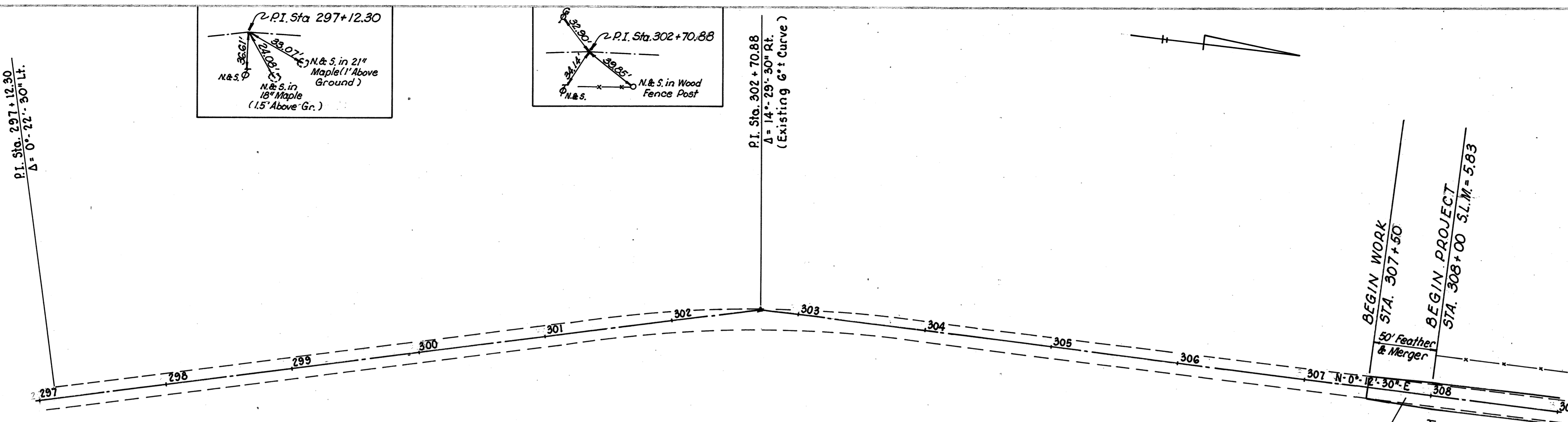
CONSTRUCTION SCHEDULE: It is intended that the Contractor schedule his work in a manner that will permit the existing structure and portions of the existing pavement to be left in place for use by local traffic for as long a period of time as is possible.

GENERAL SUMMARY

LOR-511-5.83
PART-II

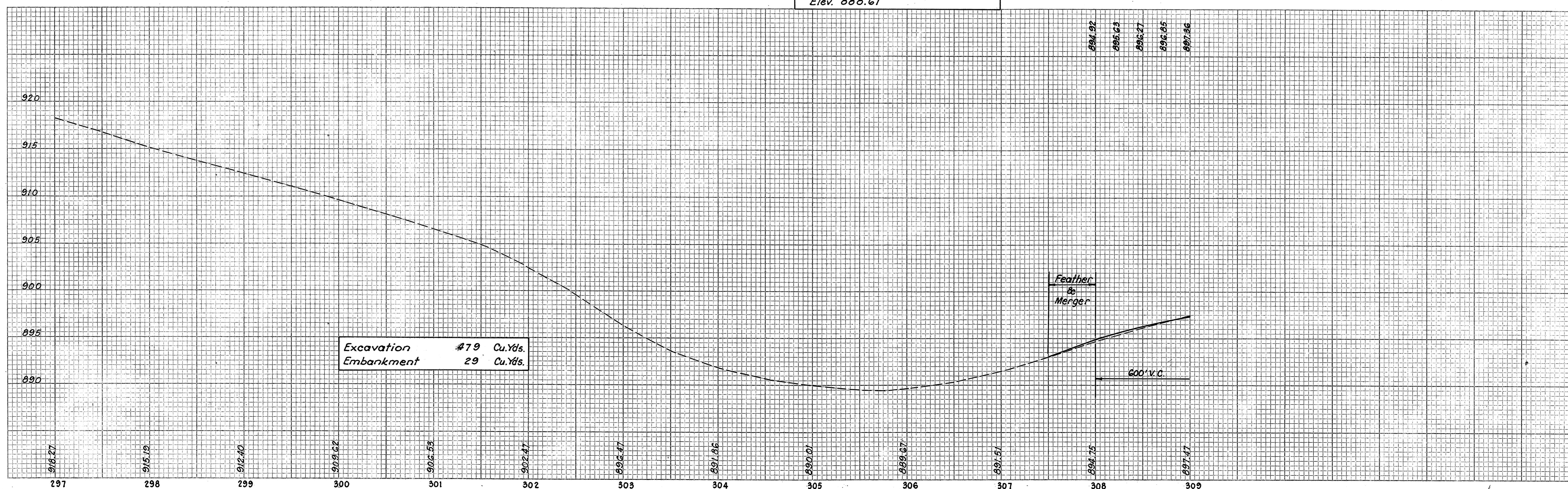
CALC.	G. NOTES	4	5	6	7	8	ITEM	QUANT.	UNIT	DESCRIPTION	QUANT.	TOTAL QUANT.
PART 2												
ROADWAY												
		479	6263	4553	14,081	187	E-1	25,563	Cu. Yds.	Roadway Excavation, Method A, As per Plan	2,786	28,349
		29	720	13,333	4,431	651	E-1	19,164	Cu. Yds.	Embankment Method A	3,514	22,678
7582							E-1	7582	Sq. Yds.	Compacted Subgrade	3,351	10,433
	Lump						E-9	Lump		Removal of Trees and Stumps	Lump	Lump
130							E-11	130	M. Gal.	Water	25	155
		75					T-10	75	Cu. Yds.	Traffic Compacted Surface Course for Maintaining Local Traffic	362	437
		1.5					M-10	1.5	Tons	Furnishing and Applying Calcium Chloride for Maint. Local Traffic	7.2	8.7
				623.28	175		I-15	798.28	Lin. Ft.	Guard Rail. Steel Beam Standard Type (Deep)	828.08	1623.36
				542	211		I-15	753	Lin. Ft.	Guard Rail Removed and Disposed of		753
				22			I-15	22	Each	Wood Guard Rail Posts Without Rail		22
30,100							L-9	30,100	Sq. Yds.	Seeding and Protecting, As per Plan	9,440	39,540
2.71							L-9	2.71	Tons	Commercial Fertilizer (12-12-12)	0.86	3.57
			529		547		L-10	1076	Sq. Yds.	Sodding, As per Plan		1076
							S-24	Lump	Lump	Removal of one garage and one tool shed, Parcel No. 5 of Part 2	Lump	Lump
							S-24	Lump	Lump	Removal of one frame garage, Parcel No. 6 of Part 2	Lump	Lump
DRAINAGE												
			11		512		E-2	523	Cu. Yds.	Excavation for Structures	20	543
					25		E-3	25	Cu. Yds.	Channel Excavation		25
					106		E-12	106	Lin. Ft.	Pipe Removed, 15" and Under		106
			1.4		50		S-1	6.4	Cu. Yds.	Concrete for Structures, Class "E"	0.5	6.9
			9		44		S-4	53	Lbs.	Reinforcing Steel	940	993
							S-1		Cuyd.	Concrete for Structures Class "C"	25	25
			4.3				S-22	4.3	Cu. Yds.	Removal of Portions of Existing Structure		4.3
			3				S-23	3	Lin. Ft.	Dowel Holes	11	14
							S-24	Lump	Lump	Removal of Existing Structures	Lump	Lump
							S-27		Lin. Ft.	65"x40" Corrugated metal arch for roadway Culvert M-6.4 (d)(i)	22	22
			60		60		S-27	120	Lin. Ft.	24" Pipe for Roadway Culverts		120
					144		S-27	144	Lin. Ft.	42" Pipe for Roadway Culverts, Sec. M-6.6(c) or M-6.4(d)		144
							I-2		Lin. Ft.	12" Class A Storm Sewer	423	423
					100		I-2	100	Lin. Ft.	12" Class A Storm Sewer Under Pavement or Approaches	96	96
							I-2	100	Lin. Ft.	15" Storm Sewers Sec. M-6.4(c)		100
			60	46	68		I-1	174	Lin. Ft.	12" Pipe for Driveways, Sec M-6.4(a)		174
					24	100	I-3	124	Lin. Ft.	10" Roadway Drainage		124
					104		I-3	104	Lin. Ft.	12" Roadway Drainage		104
					20		I-3	20	Lin. Ft.	10" Roadway Drainage under Pavement or Approaches		20
					20		I-3	20	Lin. Ft.	12" Roadway Drainage under Pavement or Approaches		20
							I-8	1	Each	Standard No. 2 Catch Basins	3	3
					1		I-8	1	Each	Standard No. 1 Side Ditch Inlet		1
1434							I-9	1434	Lin. Ft.	Stone Underdrains No. 2	744	2,178
				1	34		I-10	35	Cu. Yds.	Dumped Rock Channel Protection	11	46
PAVEMENT												
1307	13	2	38	72	85	2	B-19	1519	Cu. Yds.	Aggregate Base Course	644	2,163
364		1				1	B-35	366	Cu. Yds.	Asphaltic Concrete Leveling Course (85-100)	152	518
							T-30		Gal.	Bituminous Tack Coat: Sec. M-5.5, M-5.2 or RC-3, as per Sec. M-5.2	22	22
2988		5				5	T-30	2988	Gal.	Bituminous Prime Coat: Sec. M-5.7, RT-2 or RT-3	1293	4,291
260	5	3	13	19	26	3	T-35	329	Cu. Yds.	Asphaltic Concrete Surface Course, Type "C" (85-100)	140	469
				111			I-7	111	Sq. Yds.	Reinforced Concrete Approach Slabs (T-13")	222	333
1369		3				3	I-22	1375	Cu. Yds.	Subbase	575	1,950
STRUCTURES OVER 20 FT. SPAN												
Part 2 Quantities for Bridge LOR 511-0819 see sheet# 29												
Part 1 Quantities for Bridge LOR 511-0470 see sheet# 17												
Part 3 Quantities for Bridge LOR 511-1315 see sheet# 22												

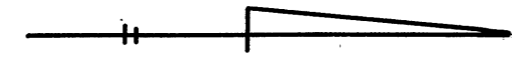
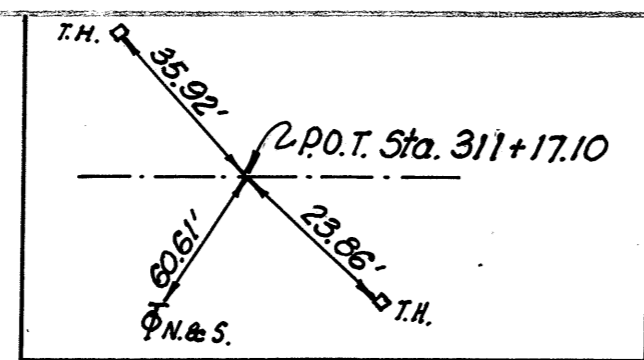
Ref. No.	Station	T-35 Asph. Conc. Surface Course Cu.Yds.	B-35 Asph. Conc. Leveling Course Cu.Yds.	T-30 Bitum. Prime Coat Gal.	B-19 Aggr. Base Course Cu.Yds. 6"	I-22 Subbase Cu.Yds. 6"
I-P	307+50 - 308+00	2.6	1.3	5	1.9	2.8
Totals		2.6	1.3	5	1.9	2.8



TYPICAL SECTION OF ADJOINING PAVEMENT

B.M. Painted Square on S. End Headwall
Lt. Sta. 306+20, Opposite Jones Rd.
Elev. 888.61

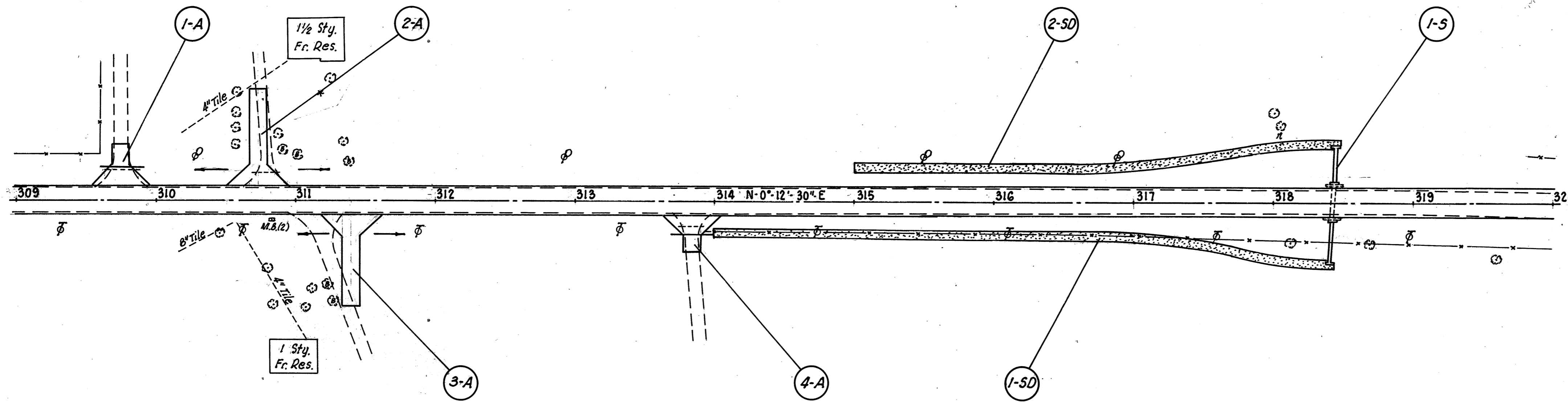




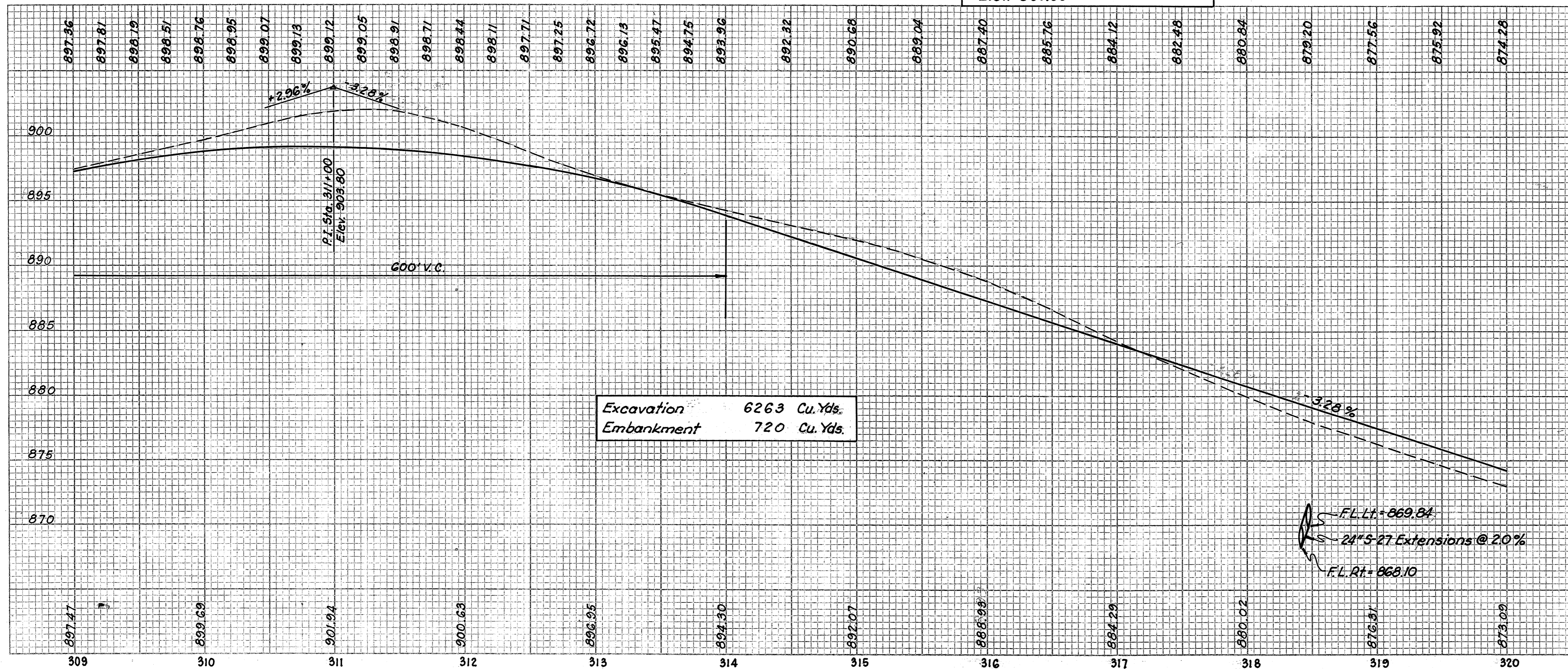
1-5 Structure No. LOR-511-0603
 Sta. 318+44; Existing 2'-3" x 2'-3" Conc. Box
 Proposed: 24" Pipe Extensions 28' Lt. & 32' Rt.
 @ 6° L.F. Skew. Use Concrete Collars & S-27
 RC-4 Endwalls. Remove top 3' of existing walls.
 Drainage Area = 10 Ac. Cover @ \bar{c} = 8.4'

FED. RD. DIVISION	STATE	PROJECT
2	OHIO	

LOR-511-5.83
 PART-II



B.M. Spike in root N. Side 34" Elm
 100' Rt. Sta. 316+63
 Elev. 891.95

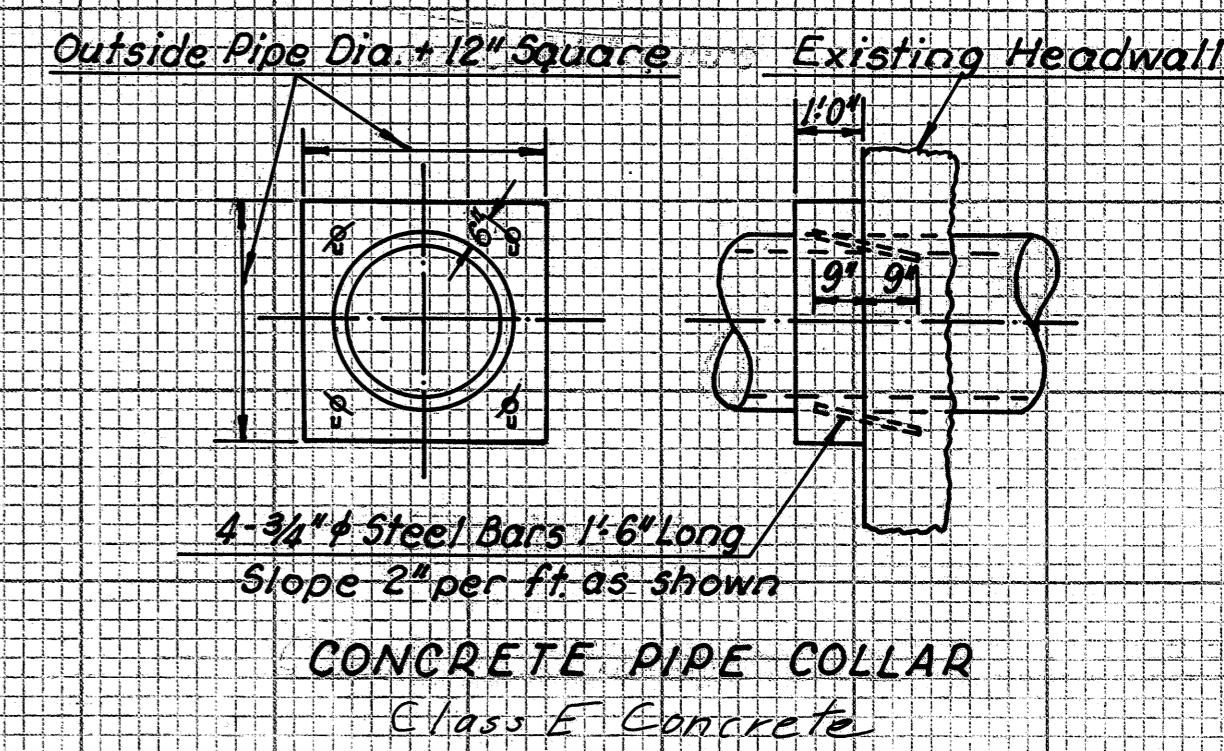


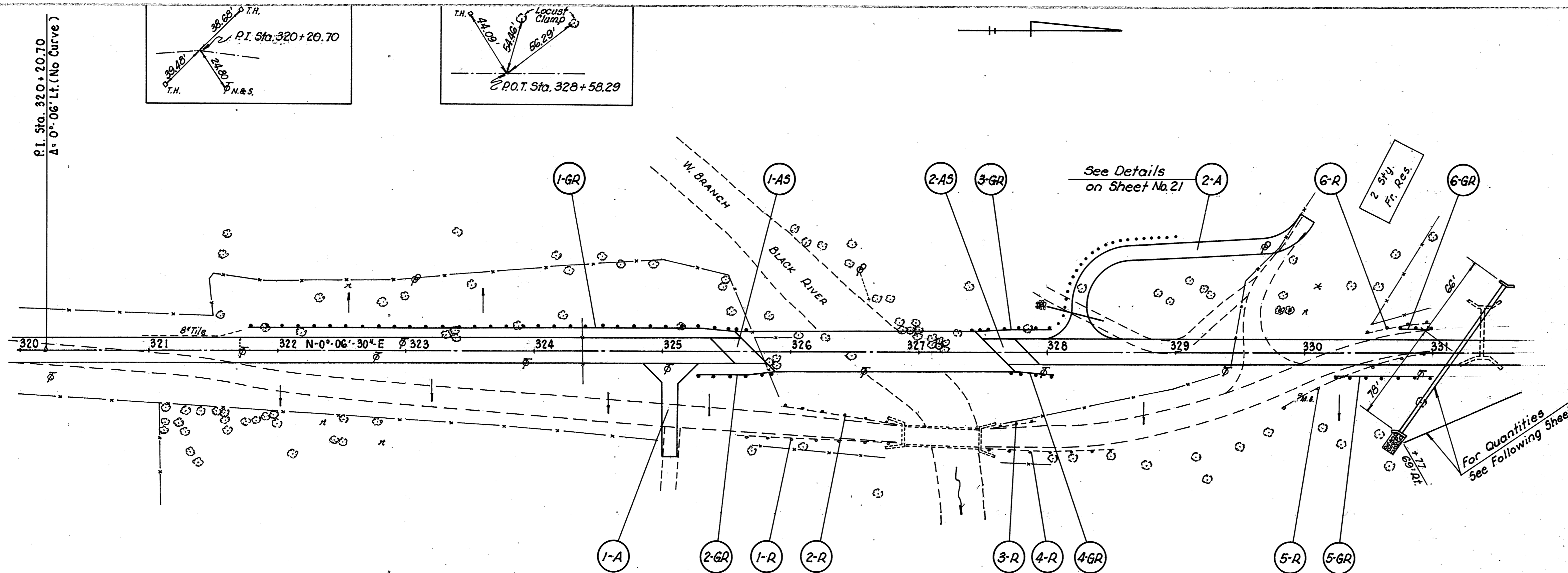
Excavation 6263 Cu. Yds.
 Embankment 720 Cu. Yds.

F.L. Lt. = 869.84
 24" S-27 Extensions @ 20%
 F.L. Rt. = 868.10

Ref. No.	Station	T-35 Asph. Conc. Surface Course Cu. Yds. 2"	B-19 Aggr. Base Course Cu. Yds. 5" & 6"	I-1 Drive Pipe Lin. Ft. 12"	S-1 Conc. For Struct. Class "E" Cu. Yds. As Per Plan	S-22 Remov. Portion of Exist. Struct. Cu. Yds.	S-23 Dowel Holes Lin. Ft.	S-4 Reinf. Steel Pounds	E-2 Struct. Excav. Cu. Yds.	L-10 Sodding Excav. Sq. Yds.	S-27 Rd'way Culvert Lin. Ft. 24"
1-A	309+75 Lt. L=30'		10.8	30							
2-A	310+72 Lt. L=70'	6.5	17.7								
3-A	311+40 Rt. L=65'	6.1		30							
4-A	313+78 Rt. L=25'		9.7								
1-S	318+44				14	4.3*	3	9	11		60
1-50	313+99-318+44 Rt.									297	
2-50	315+00-318+48 Lt.									232	
Totals		12.6	38.2	60	14	4.3	3	9	11	529	60

* Includes removal of existing 3" pipe railing.

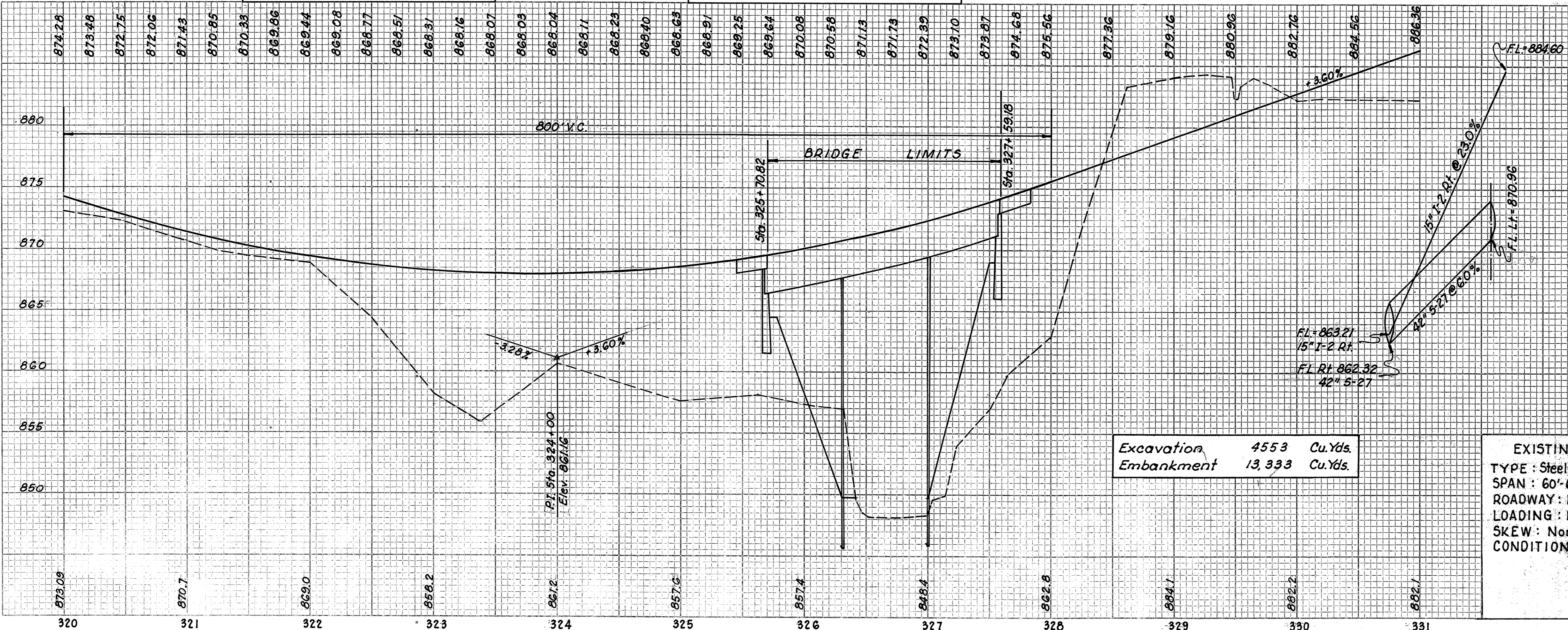




B.M. Spike in root S. Side 18" Cherry
61' Rt. Sta. 321+10
Elev. 870.77

B.M. (U.S.G.S.) Bronze Plate set in Stone
Wing Wall S.E. Side Br. LOR-511-0619
Elev. 865.395

NOTE: The old roadway shall be plowed, harrowed, and dragged to a smooth grade, the old ditches filled, and the entire area sloped to drain and left in a neat condition ready for seeding. Payment for this work shall be included in the unit price bid for Item E-1 Roadway Excavation. Seeding shall be measured and paid for in accordance with Item L-9.



Excavation 4553 Cu.Yds.
Embankment 13,333 Cu.Yds.

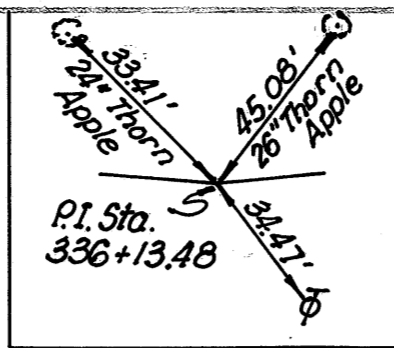
EXISTING BRIDGE DATA
TYPE: Steel Low Truss on Masonry Abut.
SPAN: 60'-6"
ROADWAY: 14'-8"
LOADING: No Load Reduction
SKEW: None
CONDITION: Fair

PROPOSED STRUCTURE
TYPE: 3-Span Cont. Steel Beam Superstructure on Spill-Through Abutments & Solid "T" Type Piers.
SPANS: 56'-70'-56'
ROADWAY: 32'-0" F/F Guard Rails
SKEW: 45° R.F.
LOADING: CF 130 (57)
SURFACE: 3/4" Monolithic Concrete
ALIGNMENT: Tangent

Ref. No.	Station	T-35 Asph. Conc. Surface Course Cu.Yds.	B-19 Aggregate Base Course Cu.Yds.	I-15 Guard Rail Lin.Ft.	I-15 Steel Removal & Disp. Deep Of *	I-15 Posts Without Guard Rail Each	I-1 Drive Pipe Lin.Ft.	I-10 Dump. Rock Chann. Pr. of Cu.Yds.	I-7 Appr. Slabs T=13" Sq.Yds.
1-A	325+06 Rt. L=72'								
2-A	328+25 Lt. L=235'	19.1	51.3			22	46		
1-A5	325+45.82 - 325+70.82				377.70			55.5	
2-A5	327+59.16 - 327+64.16				58.84			55.5	
1-GR	321+77.12 - 325+54.82 Lt.				58.94				
2-GR	325+27.98 - 325+86.82 Rt.				27.80				
3-GR	327+45.18 - 328+02.12 Lt.				75.0				
4-GR	327+75.18 - 328+02.98 Rt.				25.0				
5-GR	330+25 - 331+00 Rt.								
6-GR	330+75 - 331+00 Lt.								
1-R	325+56 - 326+85 Rt.			129					
2-R	325+94 - 326+86 Rt.			92					
3-R	327+50 - 327+91 Rt.			41					
4-R	327+48.5 - 328+53.5 Rt.			105					
5-R	329+84 - 331+00 Rt.			124					
6-R	330+49 - 331+00 Lt.			51					
Totals		19.1	71.5	673.28	542	22	46		111.0

* Existing Guard Rail is tension type Steel Plate on wooden posts.

2-5 Structure No. LOR-511-0627 Sta. 331+20
 Existing 2'6" x 3'0" Conc. Box Culvert @ Sta. 331+40+
 Shall be removed. Proposed: 42" x 144" 5-27 Culvert Pipe
 on 35° L.F. Skew. See Endwall Details on Sheet 8.
 Place I-10 Dumped Rock at outlet end as shown in
 conjunction with Endwall Details shown on Sheet No. 8.
 Drainage Area = 40 Ac. Cover @ 4 = 16.6'

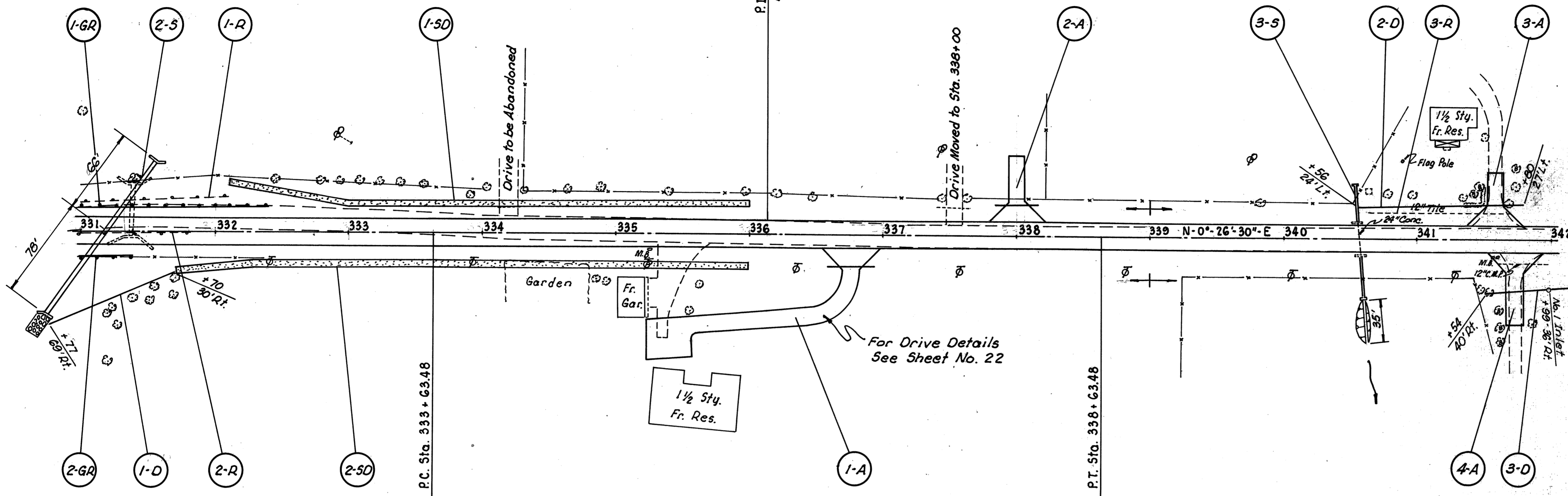


CURVE DATA
 P.I. Sta. 336+13.48
 $\Delta = 0^\circ 20' \text{ Rt.}$
 $D = 0^\circ 04'$
 $T = 250'$
 $L = 500'$
 $E = 0.36'$

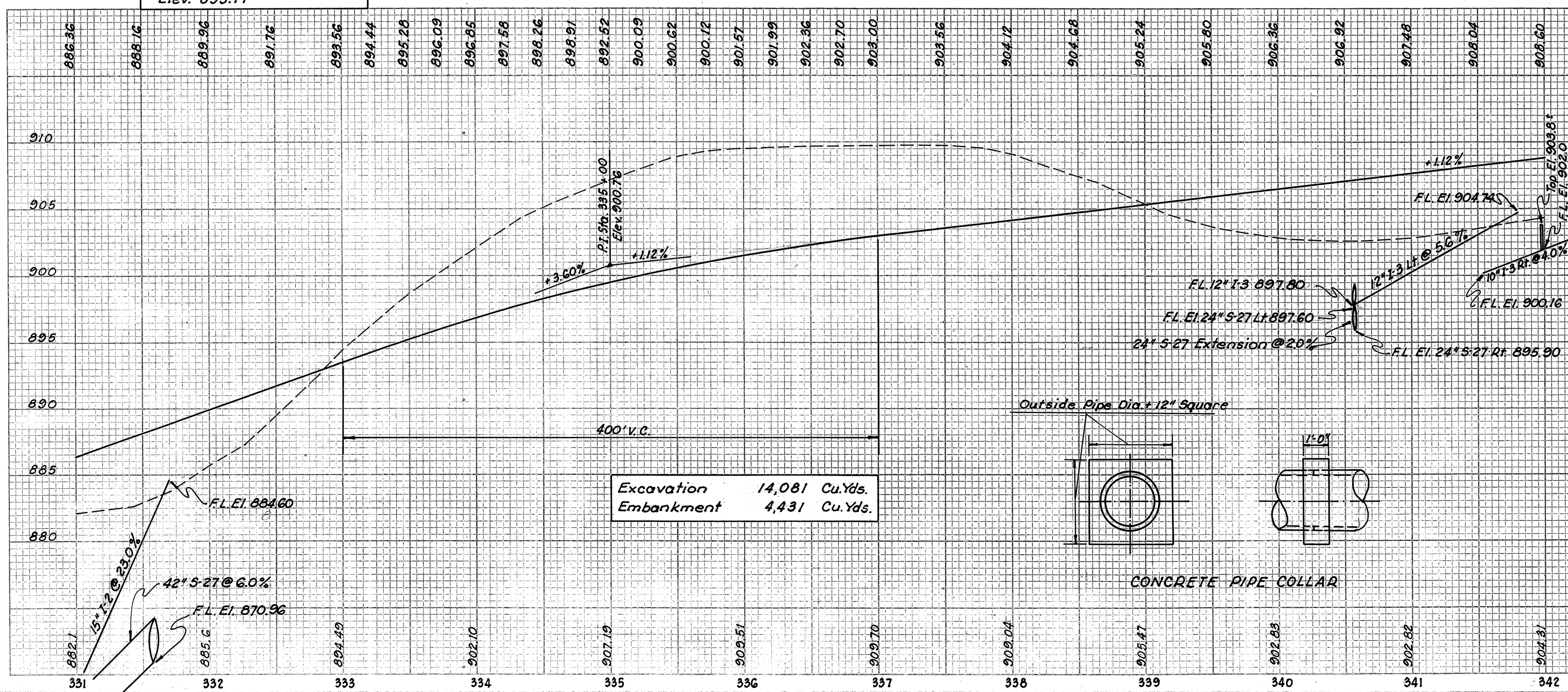
3-5 Structure No. LOR-511-0645 Sta. 340+57
 Existing 24" C.I.P. Proposed: Remove Existing Stone Headwalls
 and extend with 28" x 24" 5-27 on Lt. & 32" x 24" 5-27 on Rt. @ 6°
 R.F. Skew. Use Concrete Collars and 5-27 RC-4 Endwalls. Excavate
 Channel on Rt. as shown with 2 Ft. bottom; 2:1 Side Slopes; 0.4% Gr.
 Drainage Area = 6 Ac. Cover @ 4 = 8.2'

FED. RD. DIVISION	STATE	PROJECT
2	OHIO	

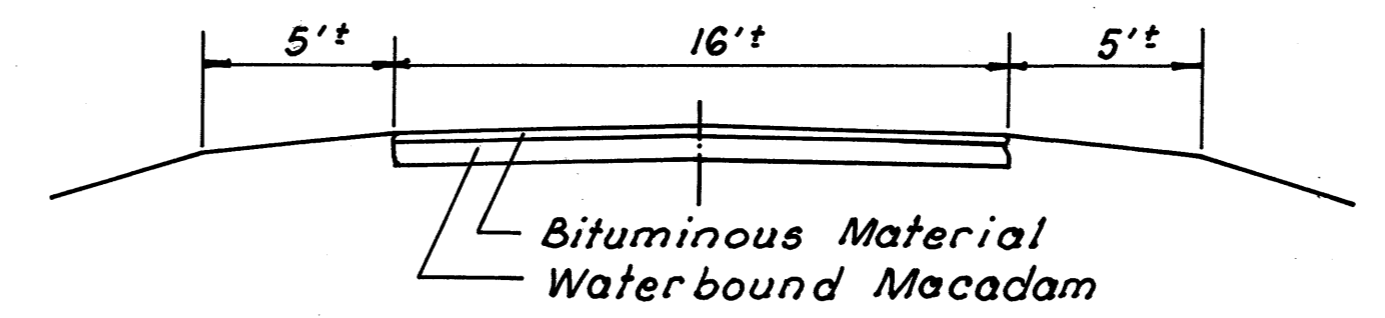
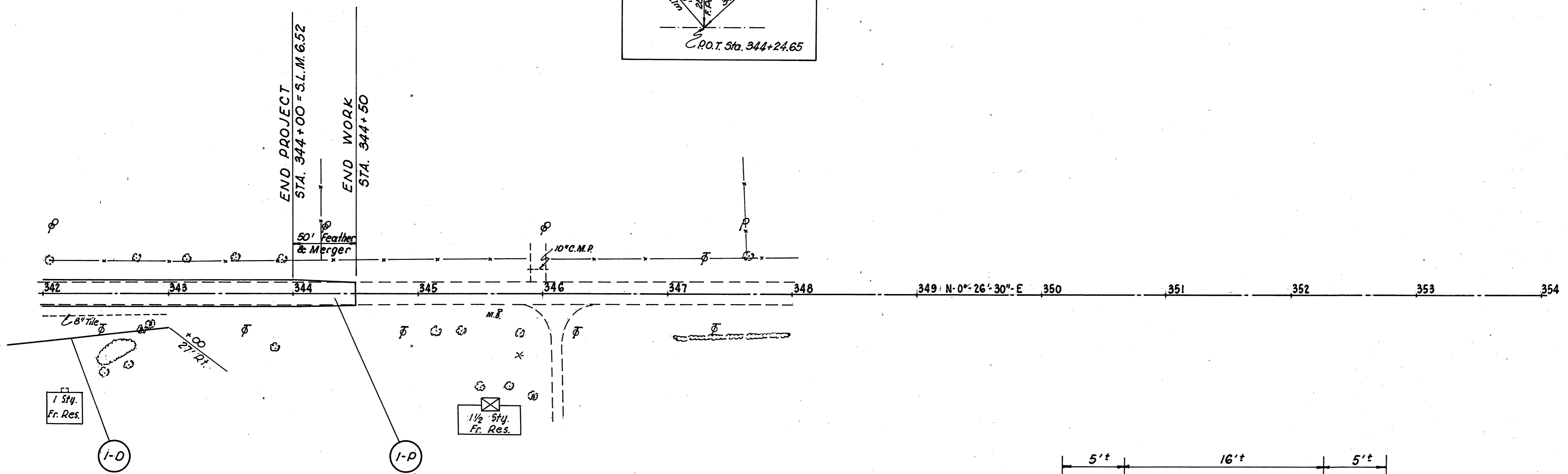
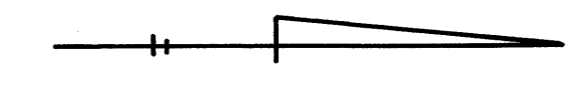
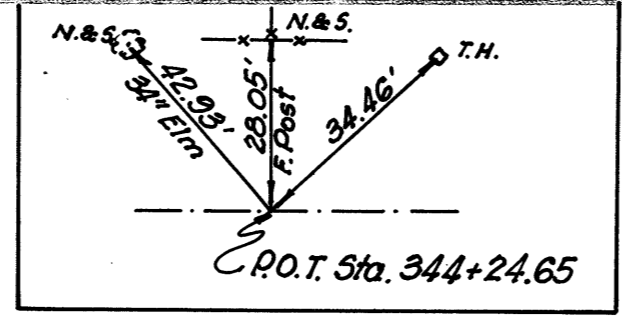
LOR-511-5.83
 PART-II



B.M. Spike in root 15" Maple
 100' Lt. Sta. 331+50
 Elev. 893.77



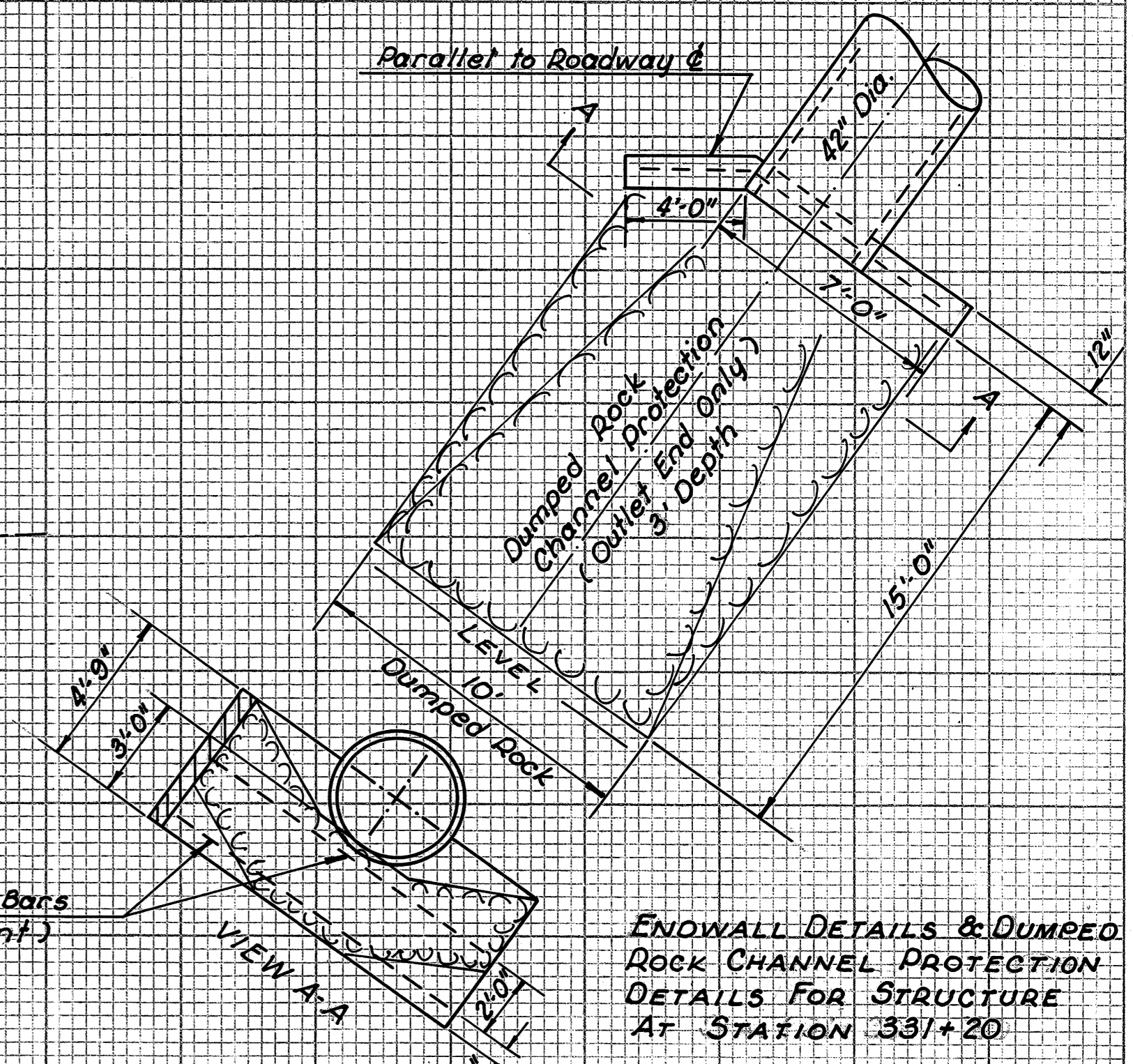
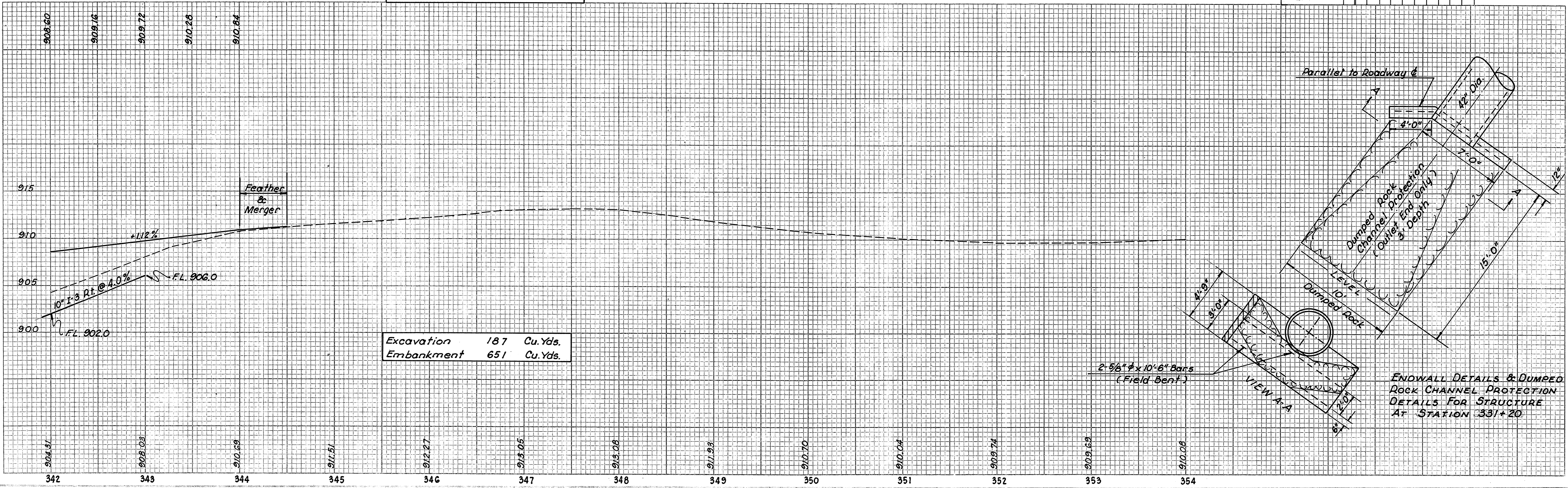
Ref. No.	Station	T-35 Asph. Conc. Surface Course Cu.Yds.	B-19 Aggr. Base Course Cu.Yds.	I-1 Pipe Drives Lin.Ft.	I-15 Guard Rail Lin.Ft.	I-2 Storm Sewers Lin.Ft.	I-3 Roadway Drainage Lin.Ft.	I-8 No. 1 Inlet Each	E-12 Pipe Removal Under Lin.Ft.	S-27 Pipe For Rdwy. Culv. Lin.Ft.	S-1 Conc. For Struct. Cu.Yds.	S-4 Reinf. Steel Lbs.	E-2 Excav. For Struct. Cu.Yds.	E-3 Chann. Excav. Cu.Yds.	I-10 Dump. Dock Chann. Prot. Cu.Yds.	L-10 Sodding 6' Wide Chann. Sq.Yds.	S-24 Removal of Struct. Lump	S-24 Removal of Gr. Lump
1-A	336+75 Rt.			36														
2-A	338+00 Lt. L=50'		15.3	.32														
3-A	341+59.5 Lt. L=40'		11.6															
4-A	341+73 Rt. L=50'		13.6															
1-R	331+00 - 332+11 Lt.				111													
2-R	331+00 - 332+00 Rt.				100				106									
3-R	340+64 - 341+70 Lt.																	
1-GR	331+00 - 332+37.5 Lt.					137.5												
2-GR	331+00 - 332+37.5 Rt.					37.5												
1-D	330+77 - 331+70 Rt.																	
2-D	340+56 - 341+80 Lt.																	
3-D	341+54 - 342+00 Rt.																	
2-5	331+20																	
3-5	340+57 *																	
1-5D	332+10 - 336+00 Lt.																	
2-5D	331+70 - 336+00 Rt.																	
Totals		26.2	65.4	68	211	175	100	24	104	20	20	44	490	5	34			
																260	287	
																		547
																		Lump



TYPICAL SECTION OF ADJOINING PAVEMENT

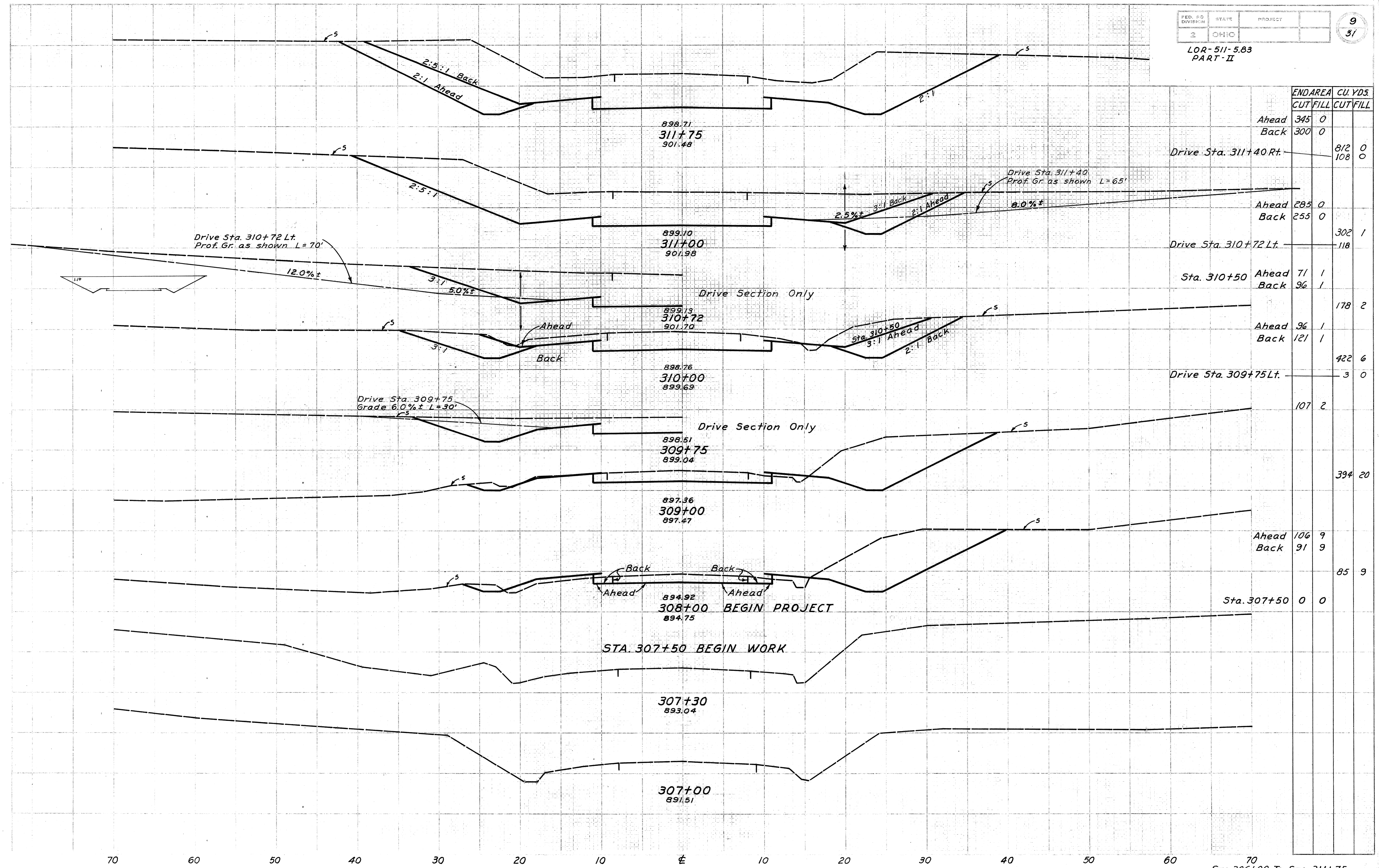
B.M. Spike in P.P., 53.5' Lt. Sta. 346+01.5
Elev. 912.12

Ref. No.	Station	T-35 Asph. Conc. Surface Course Cu. Yds.	B-19 Aggr. Base Course Cu. Yds.	T-30 Bitum. Prime Coat Gal.	T-22 Subbase Cu. Yds.	B-35 Asph. Conc. Leveling Course Cu. Yds.	I-3 Rd. w/ Drain. Lin. Ft.
I-P	344+00 - 344+50	2.6	1.9	5	2.8	1.5	
I-O	342+00 - 343+00 Rt.						100
	Totals	2.6	1.9	5	2.8	1.3	100



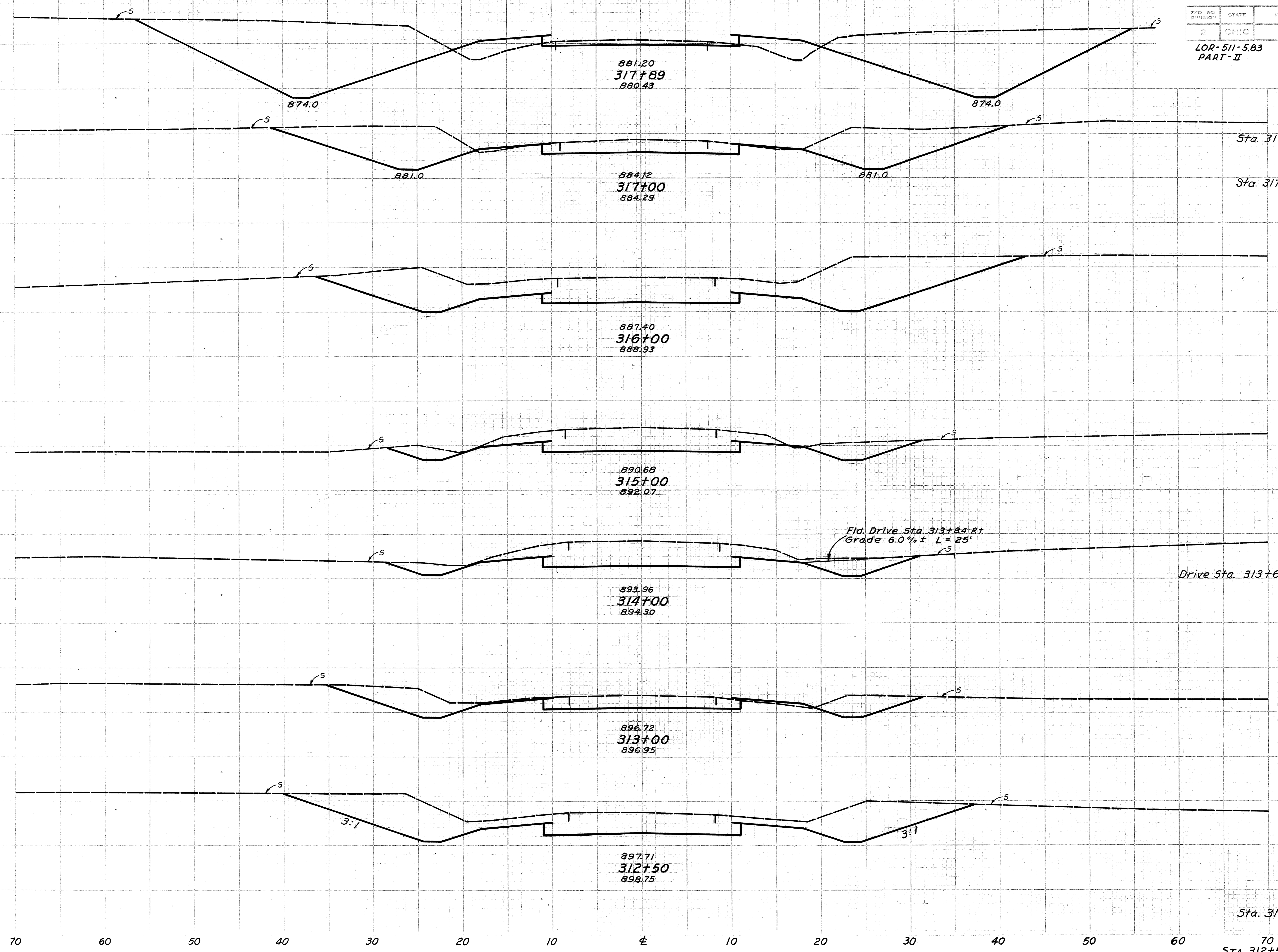
ENDWALL DETAILS & DUMPED ROCK CHANNEL PROTECTION DETAILS FOR STRUCTURE AT STATION 331+20

LOR-511-5.83
PART-II



	END AREA	CU. YDS.
	CUT	FILL
Ahead	345	0
Back	300	0
Drive Sta. 311+40 Rt.	8/2	0
	108	0
Ahead	285	0
Back	255	0
Drive Sta. 310+72 Lt.	302	1
	118	
Sta. 310+50	Ahead 71	1
	Back 96	1
		178
Ahead	96	1
Back	121	1
		422
Drive Sta. 309+75 Lt.	3	0
	107	2
		394
		20
Ahead	106	9
Back	91	9
		85
Sta. 307+50	0	0

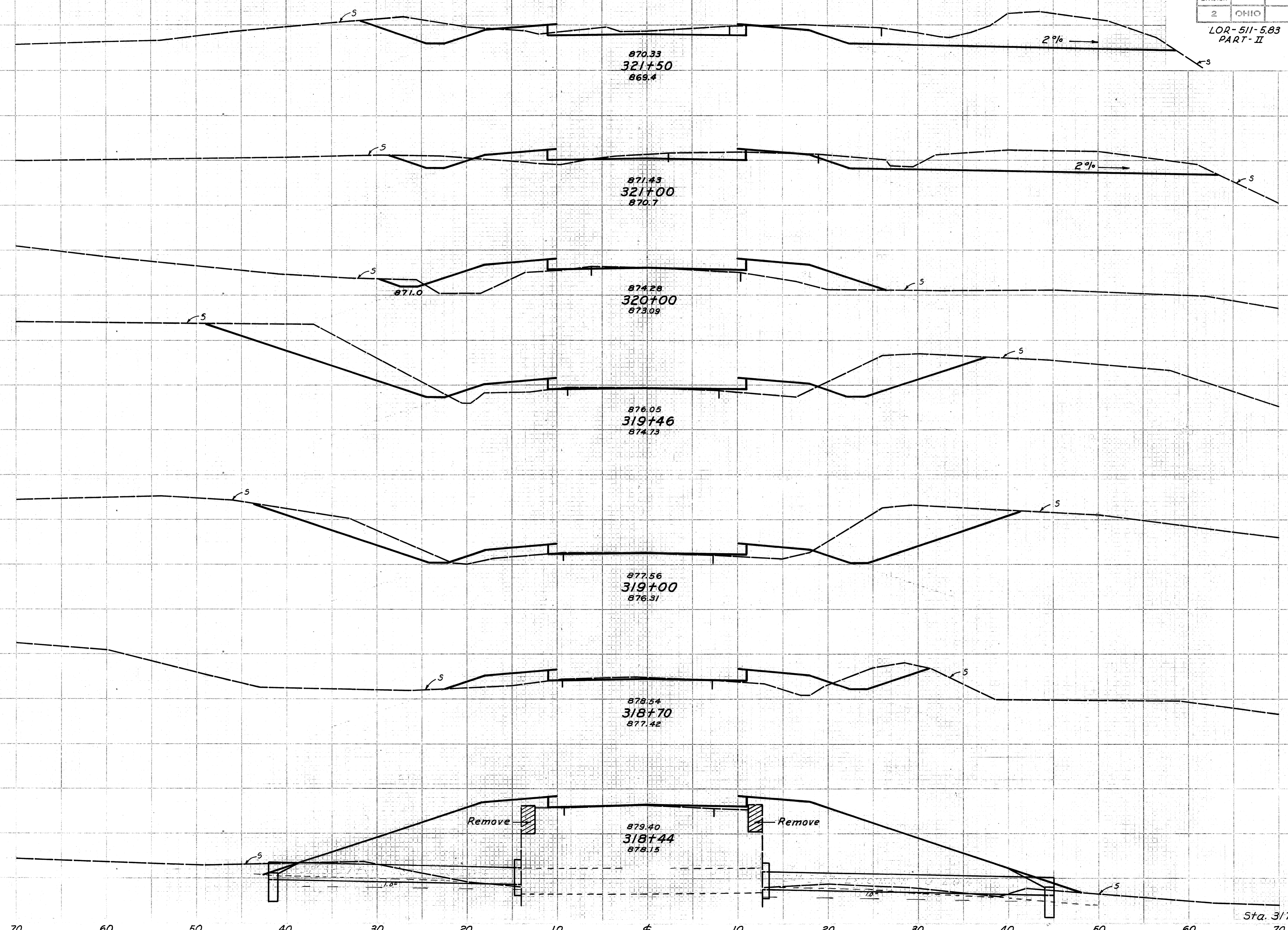
LOR-511-5.83
PART-II



Sta.	END AREA		CU. YDS.	
	CUT	FILL	CUT	FILL
Sta. 317+89	336	28		
			824	48
Sta. 317+00	164	1		
			720	2
			225	0
				574
			85	0
				324
			90	0
Drive Sta. 313+84 Rt.				2
				289
			66	1
				212
			163	0
				706
Sta. 311+75	345	0		

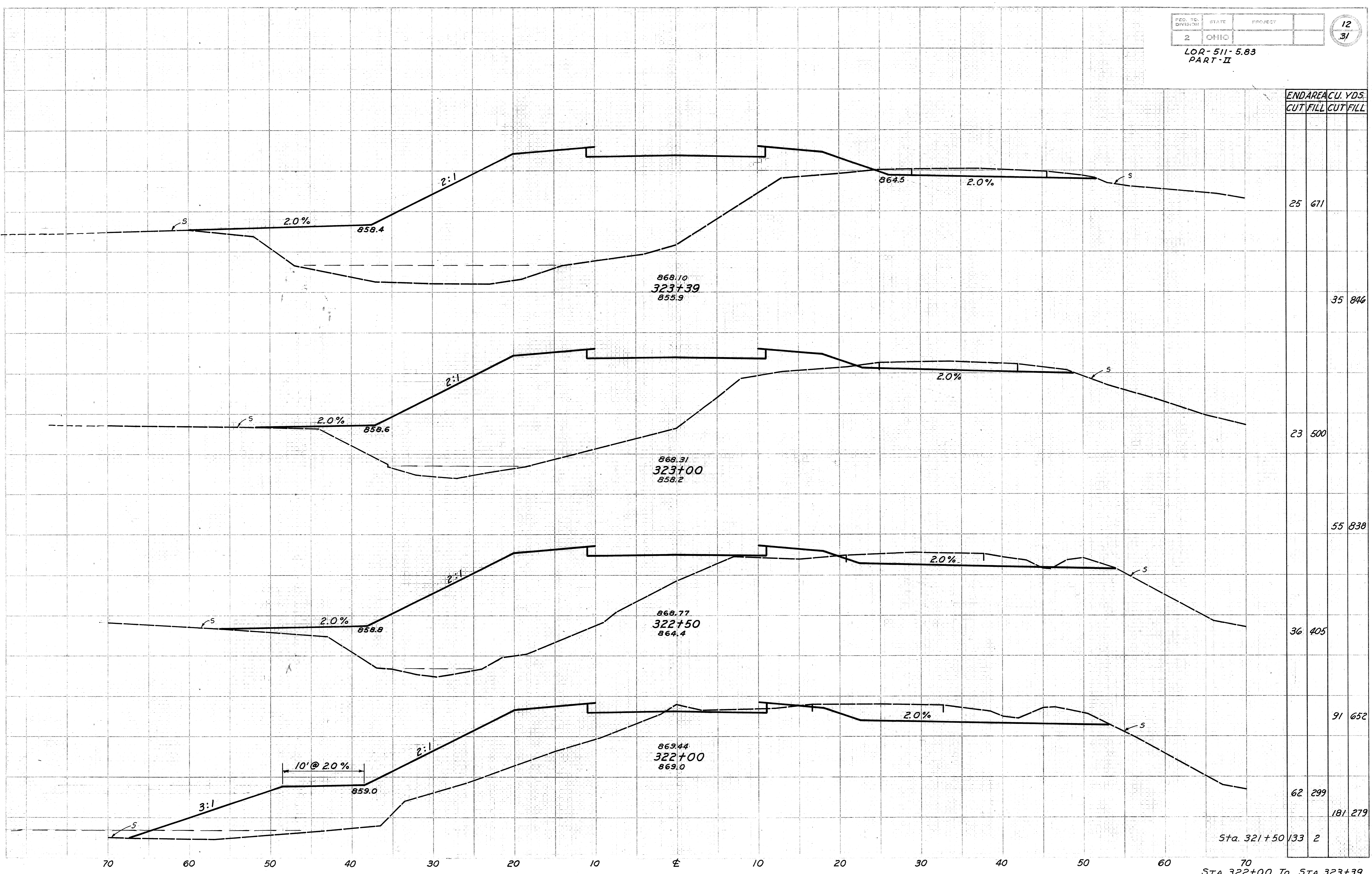
STA. 312+50 TO STA. 317+89

LOR-511-5.83
PART-II

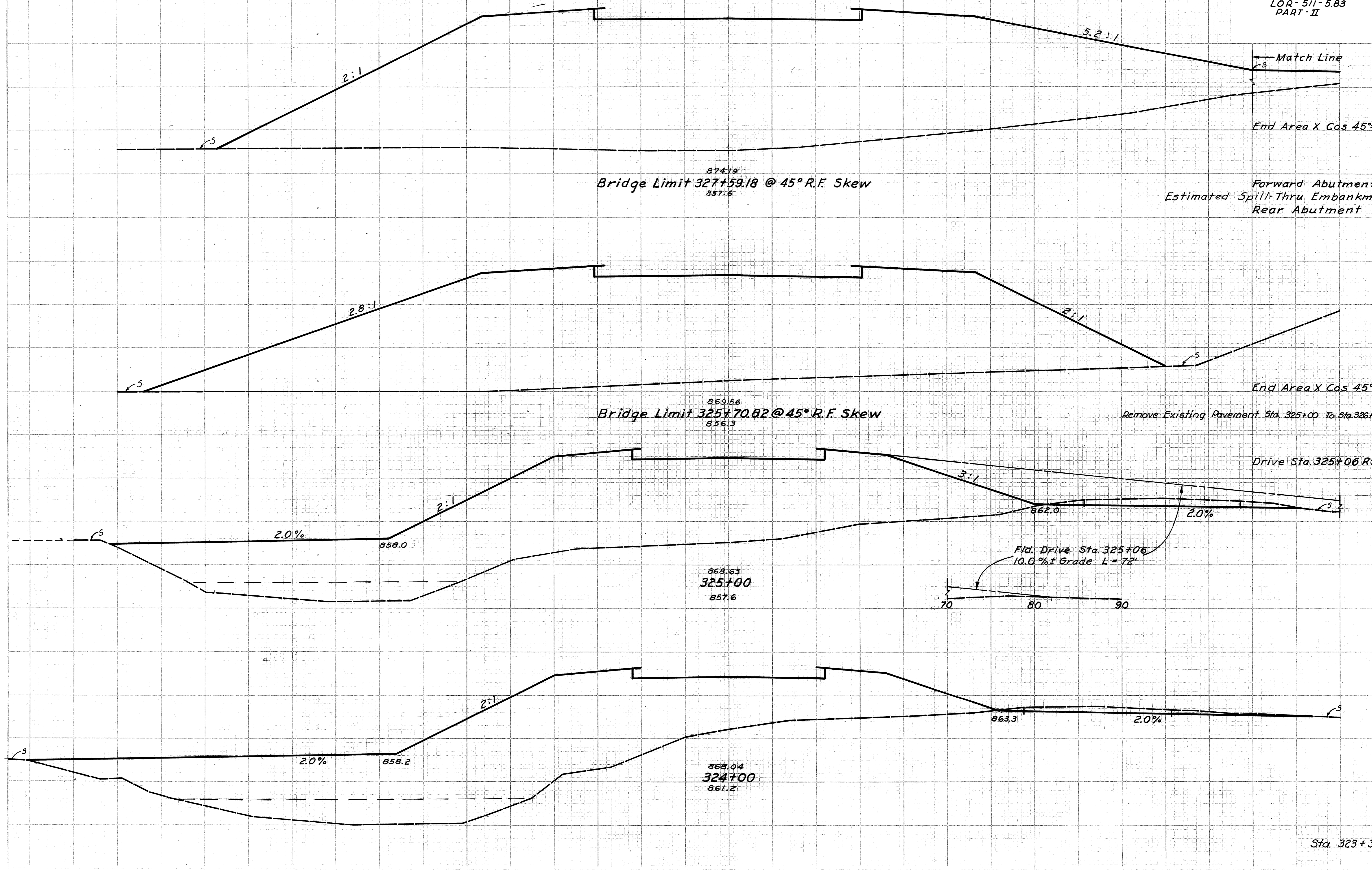


END AREA		CU. YDS.	
CUT	FILL	CUT	FILL
133	2		
		209	10
92	9		
		174	115
2	53		
		97	77
95	24		
		162	36
95	18		
		61	24
15	26		
		7	167
0	320		
		342	354
336	28		

Sta. 317+89
70
STA. 318+44 TO STA. 321+50



END AREA	CU. YDS.	
	CUT	FILL
25	671	
		35 846
23	500	
		55 838
36	405	
		91 652
62	299	
		181 279
Sta. 321+50		133 2



874.19
857.6
Bridge Limit 327+59.18 @ 45° R.F. Skew

869.56
856.3
Bridge Limit 325+70.82 @ 45° R.F. Skew

868.63
325+00
857.6

868.04
324+00
861.2

Match Line

End Area X Cos 45° = 0 960

Forward Abutment ————— 708
Estimated Spill-Thru Embankment
Rear Abutment ————— 306

End Area X Cos 45° = 0 785

Remove Existing Pavement Sta. 325+00 To Sta. 326+85 Rt. — 123 0
25 2074

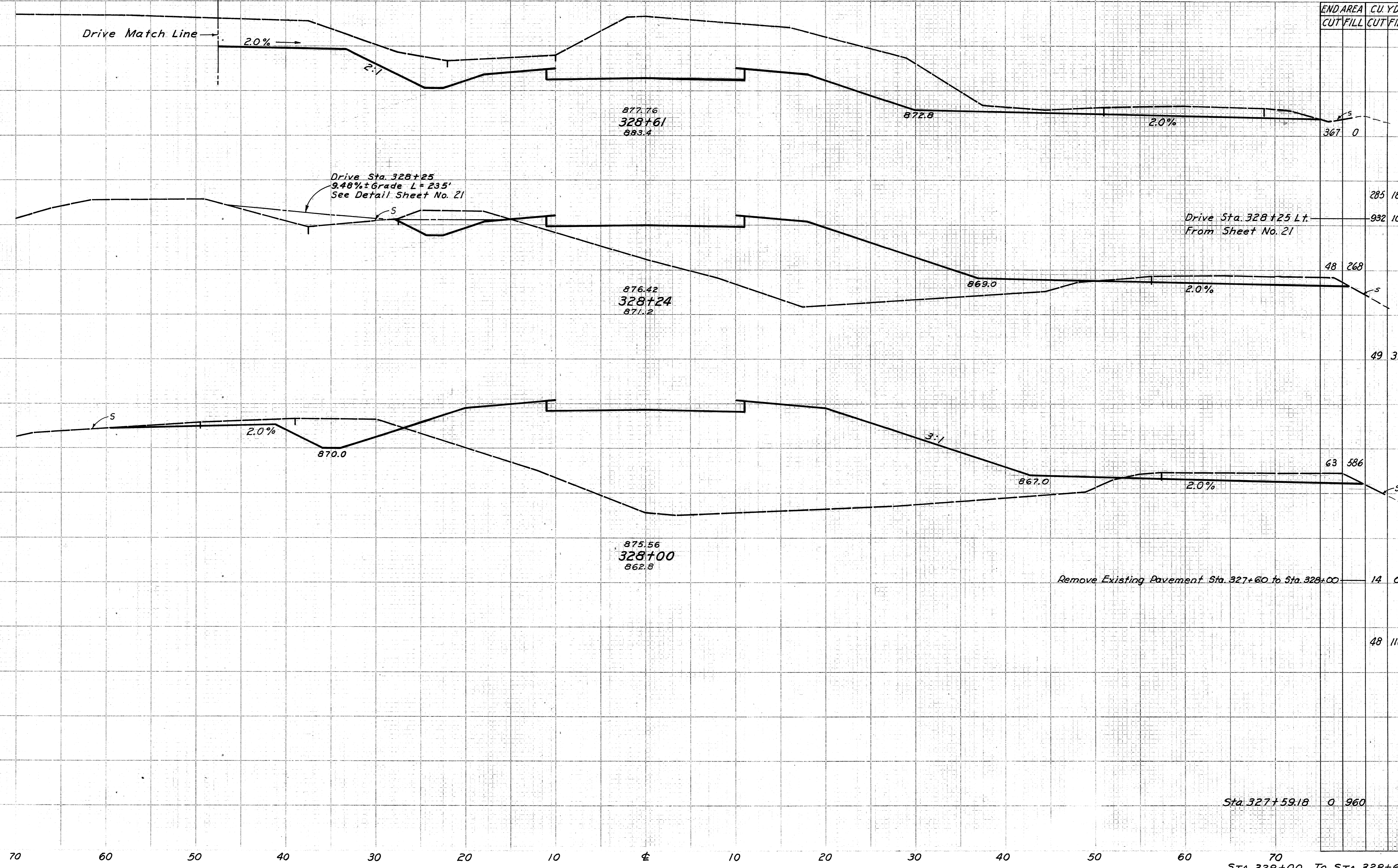
Drive Sta. 325+06 Rt. ————— 1 113

Fld. Drive Sta. 325+06
10.0%± Grade L = 72'

END AREA	CU. YDS.
CUT	FILL
0	960
0	785
123	0
25	2074
1	113
19	796
63	2872
15	755
45	1611
25	671

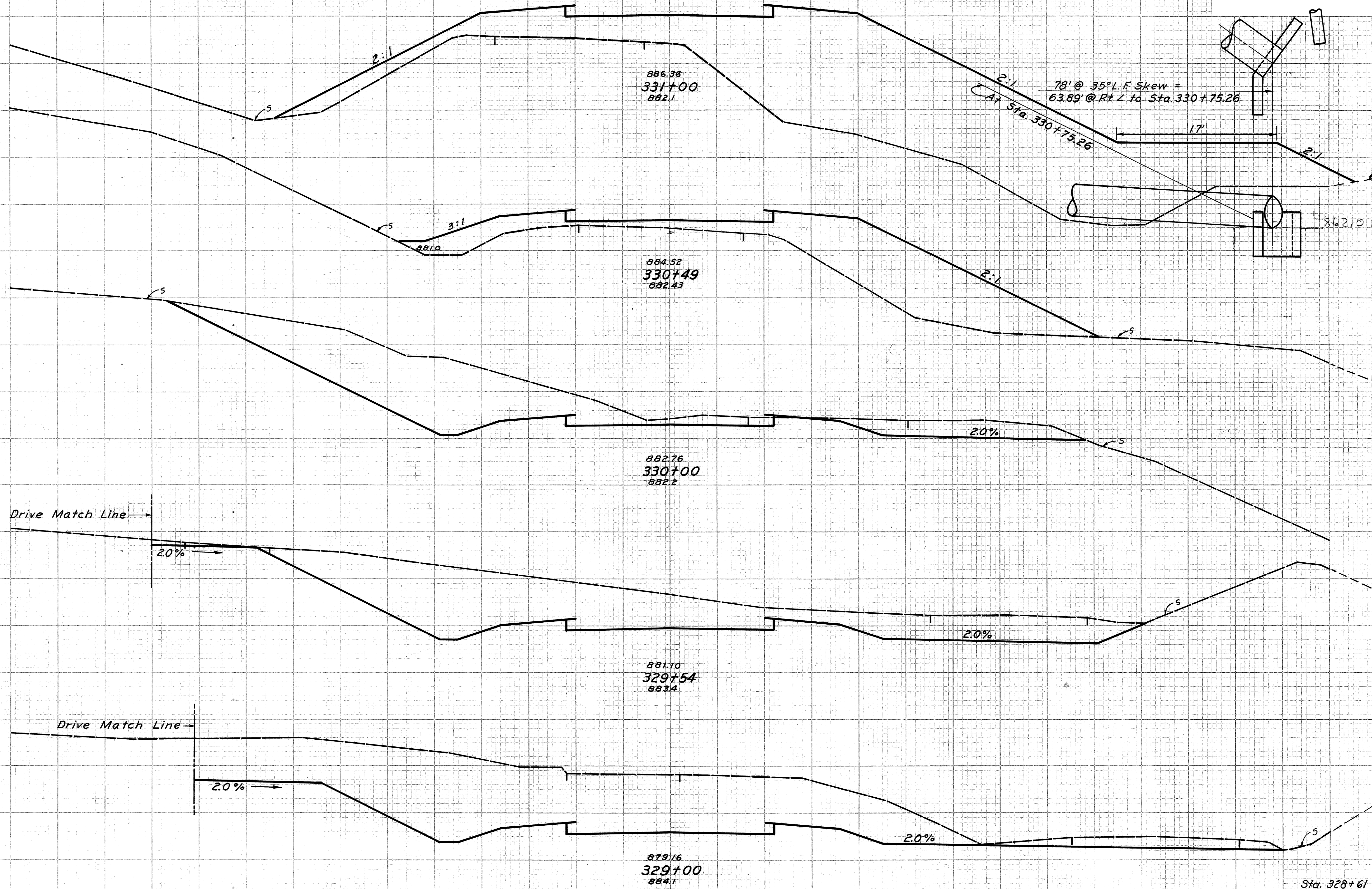
Sta. 323+39 25 671

STA. 324+00 To STA. 327+59.18



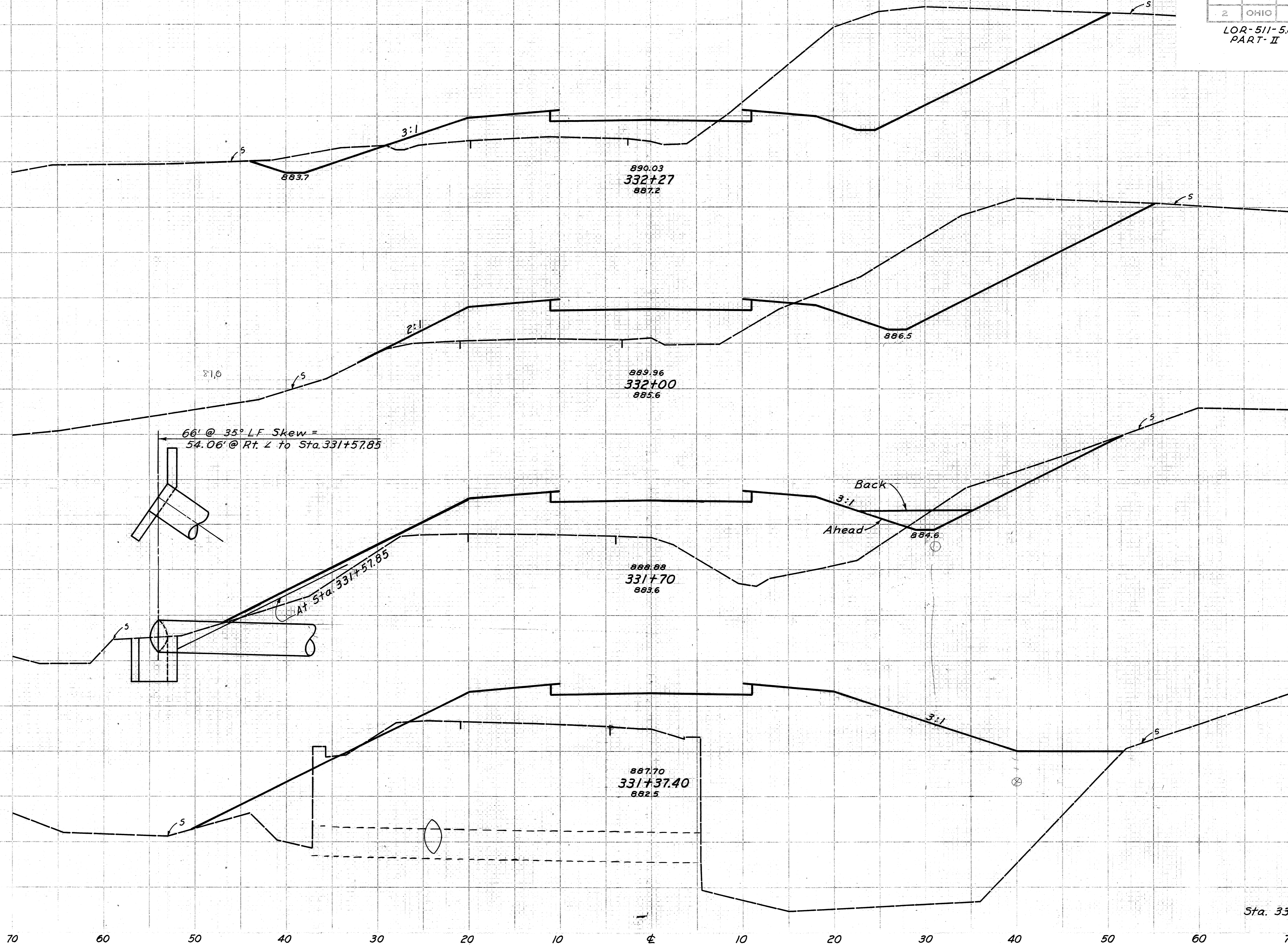
70 60 50 40 30 20 10 0 10 20 30 40 50 60 70
STA. 328+00 To STA. 328+61

LOR-511-5.83
PART-II



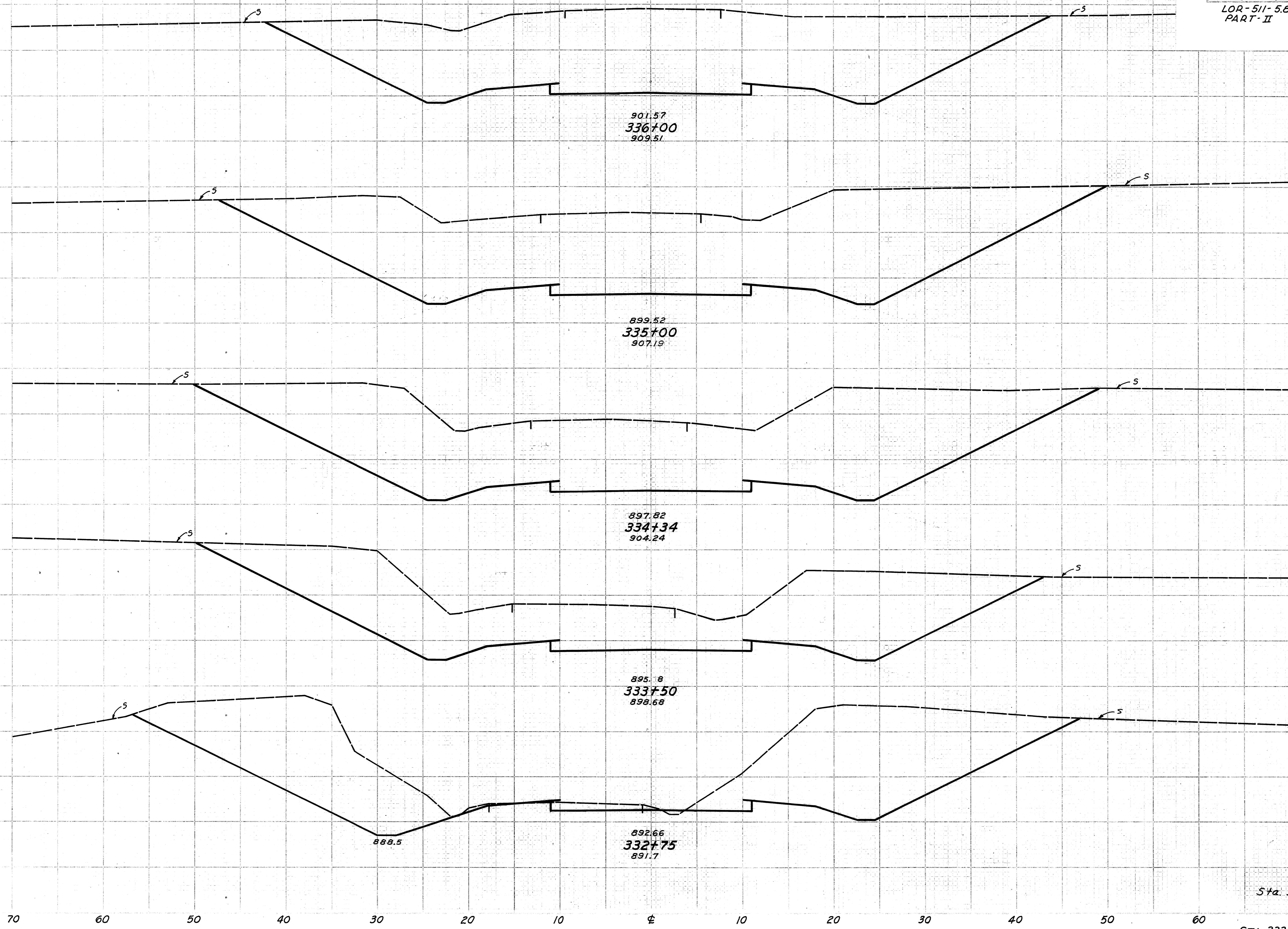
END AREA	CU. YDS.
CUT	FILL
0	711
0	878
0	219
243	199
268	0
514	0
335	0
838	0
503	0
628	0
367	0

LOR-511-5.83
PART-II



END AREA		CU. YDS.	
CUT	FILL	CUT	FILL
304	78		
		266	104
228	131		
		148	244
Ahead	38	308	
Back	30	315	
		21	784
4	983		
		3	1173
Sta. 331+00	0	711	

LOR-511-5.83
PART-II



END AREA	CU. YDS.
CUT	FILL
606	0
	2489
738	0
	1766
707	0
	1874
498	0
	1435
535	1
	746
	304
	78

901.57
336+00
909.51

899.52
335+00
907.19

897.82
334+34
904.24

895.18
333+50
898.68

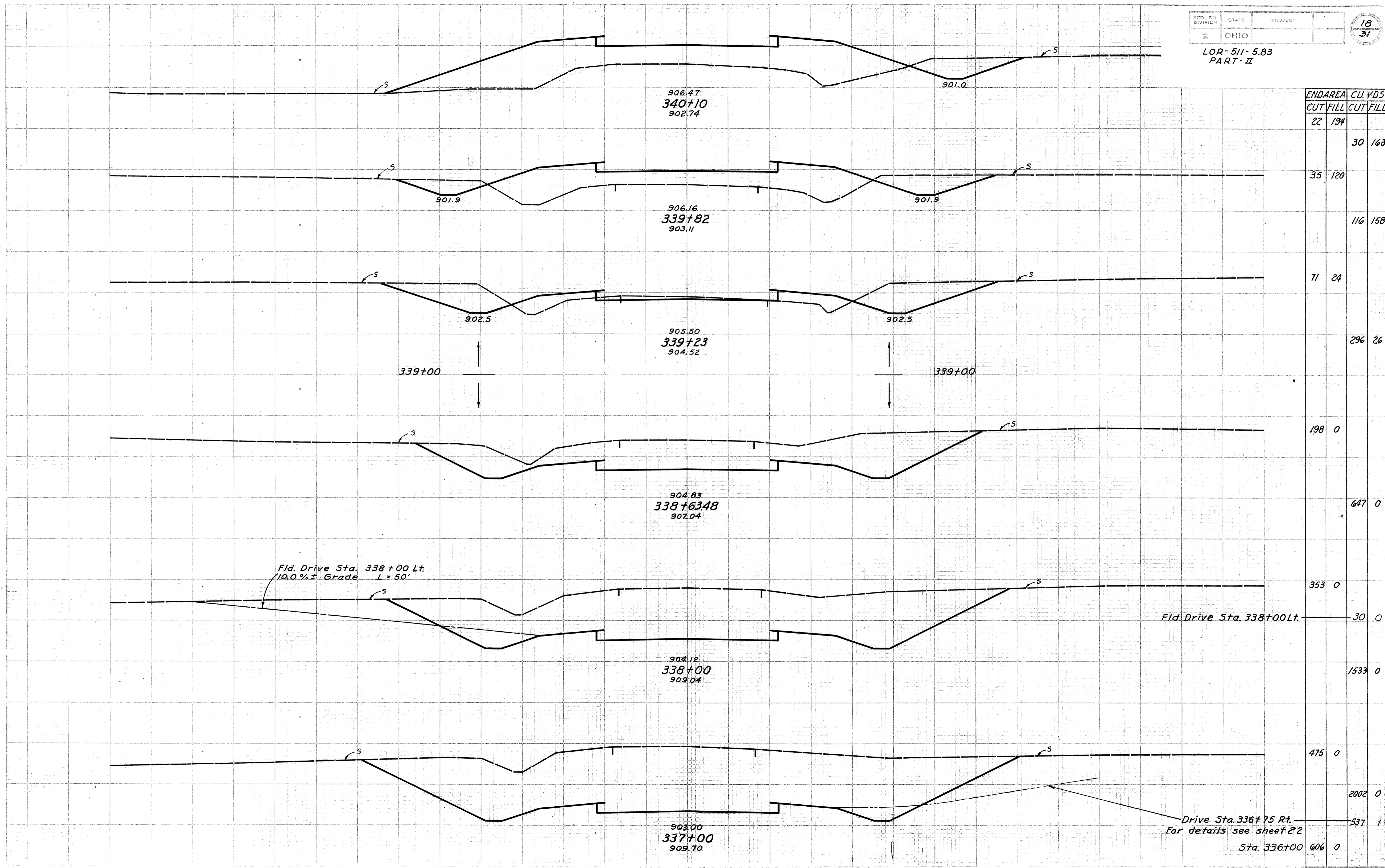
892.66
332+75
891.17

888.5

Sta. 332+27 304 78

STA 332+75 To STA. 336+00

LOR-511-5.83
PART-II



END AREA		CU. YDS.	
CUT	FILL	CUT	FILL
22	194		
		30	163
35	120		
		116	158
71	24		
		296	26
198	0		
		647	0
353	0		
		30	0
		1533	0
475	0		
		2002	0
		537	1
		606	0

Fid. Drive Sta. 338+00 Lt.
10.0%± Grade L=50'

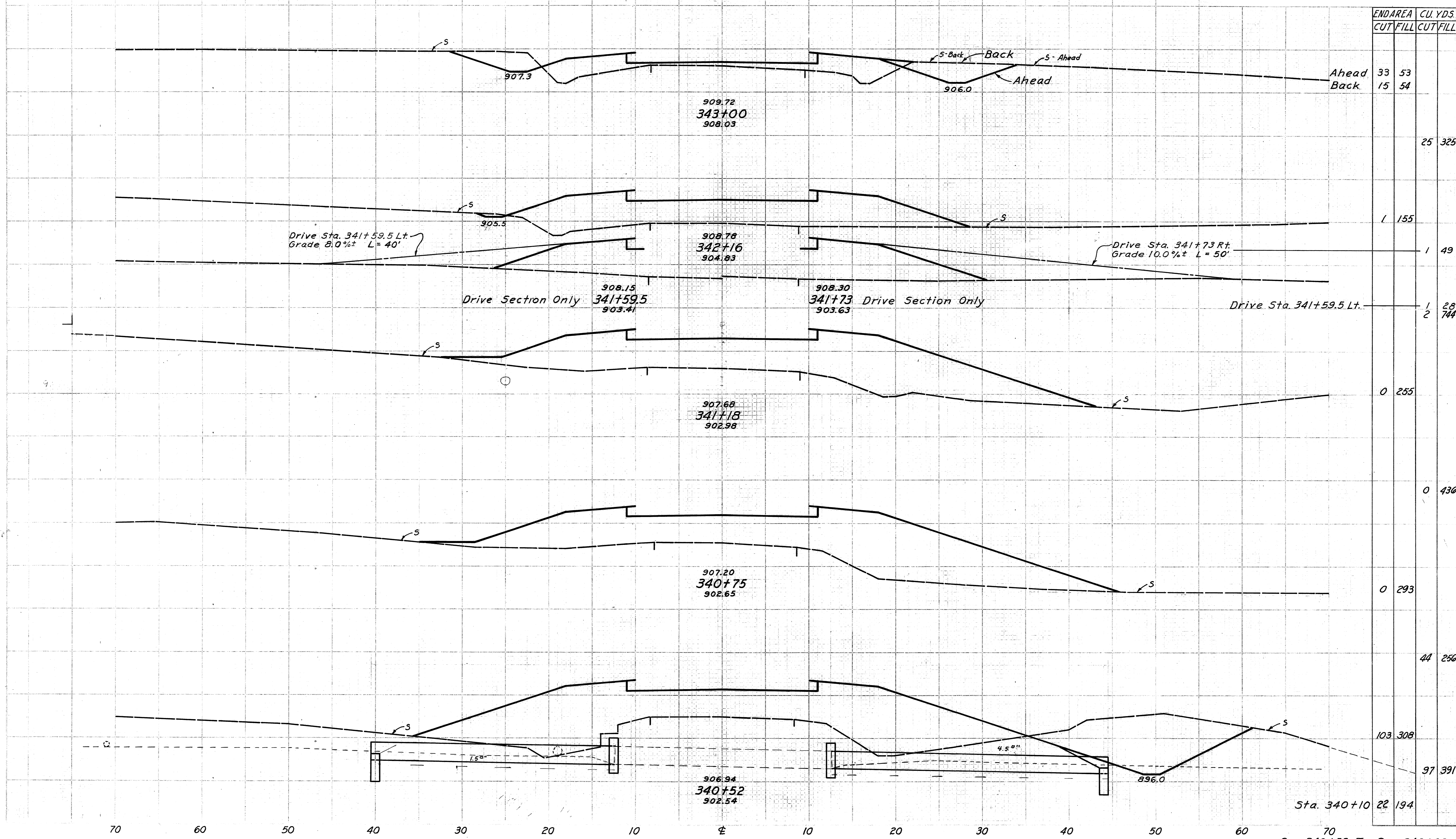
Fid. Drive Sta. 338+00 Lt.

Drive Sta. 336+75 Rt.
For details see sheet 22

Sta. 336+00

STA. 337+00 To STA. 340+10

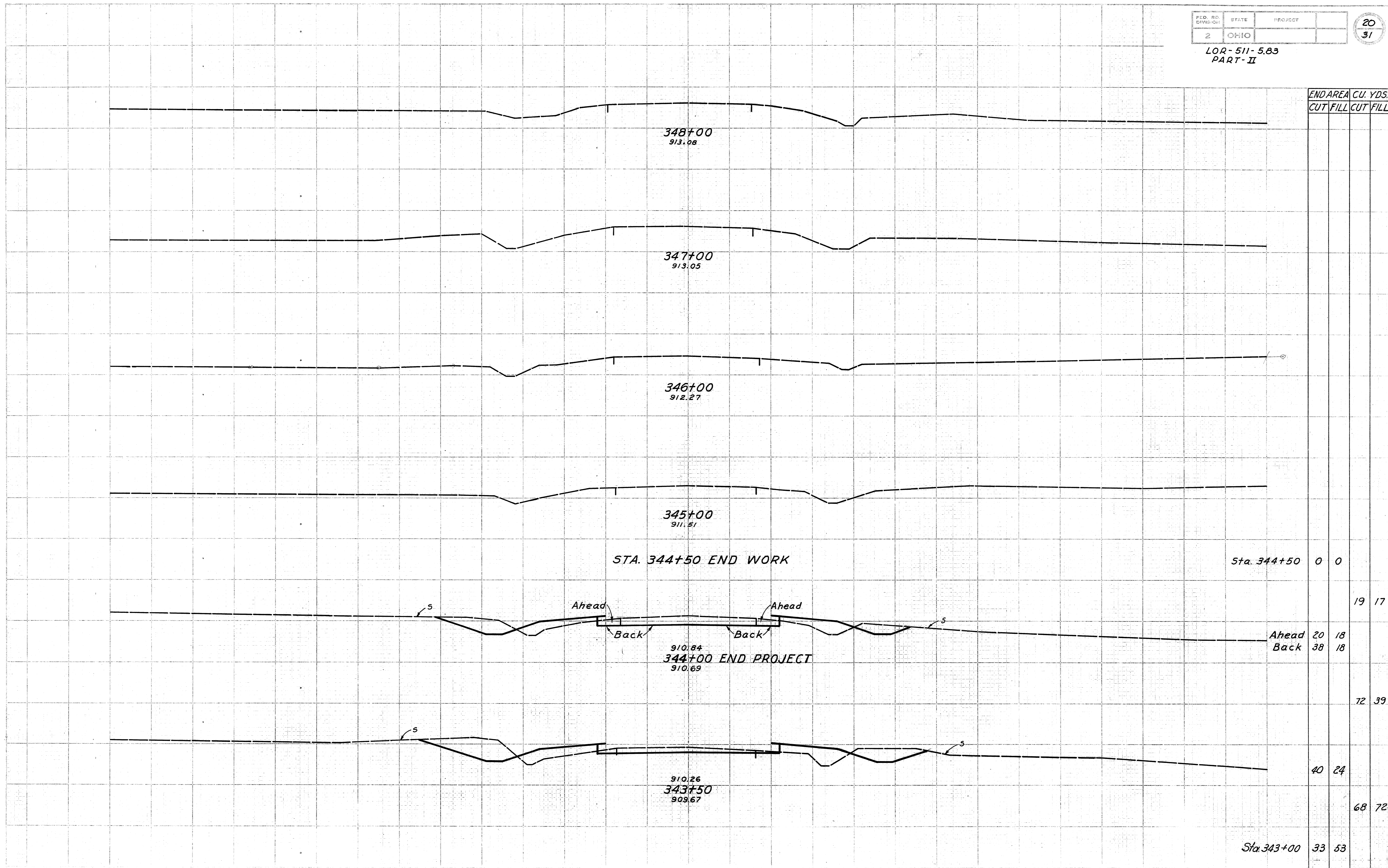
LOR-511-5.83
PART-II



END AREA	CU. YDS.	
	CUT	FILL
Ahead	33	53
Back	15	54
		25 325
	1	155
	1	49
	1	28
	2	744
	0	255
		0 436
	0	293
		44 256
	103	308
	97	391
Sta. 340+10	22	194

STA 340+52 TO STA 343+00

LOR-511-5.83
PART-II

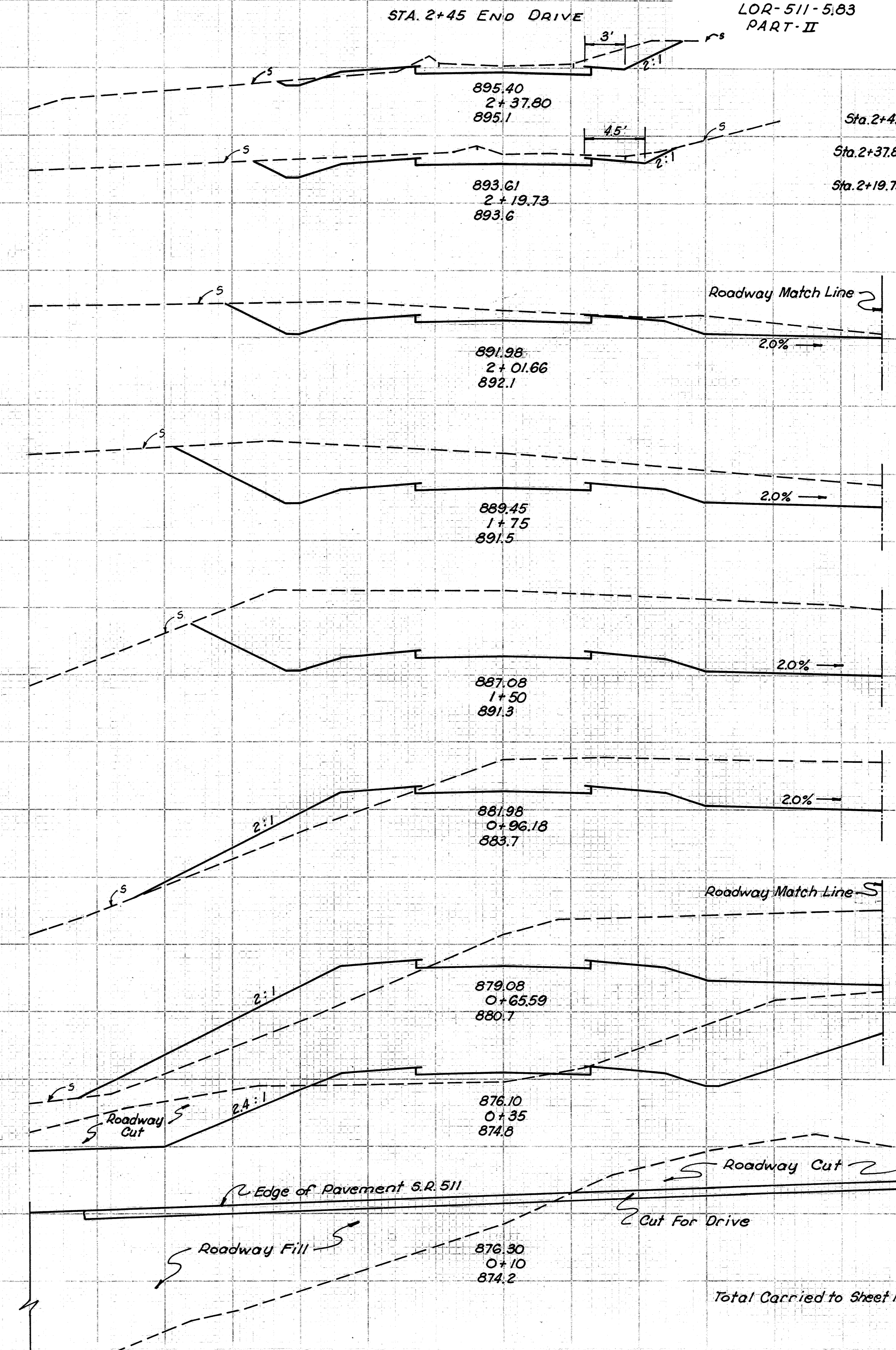
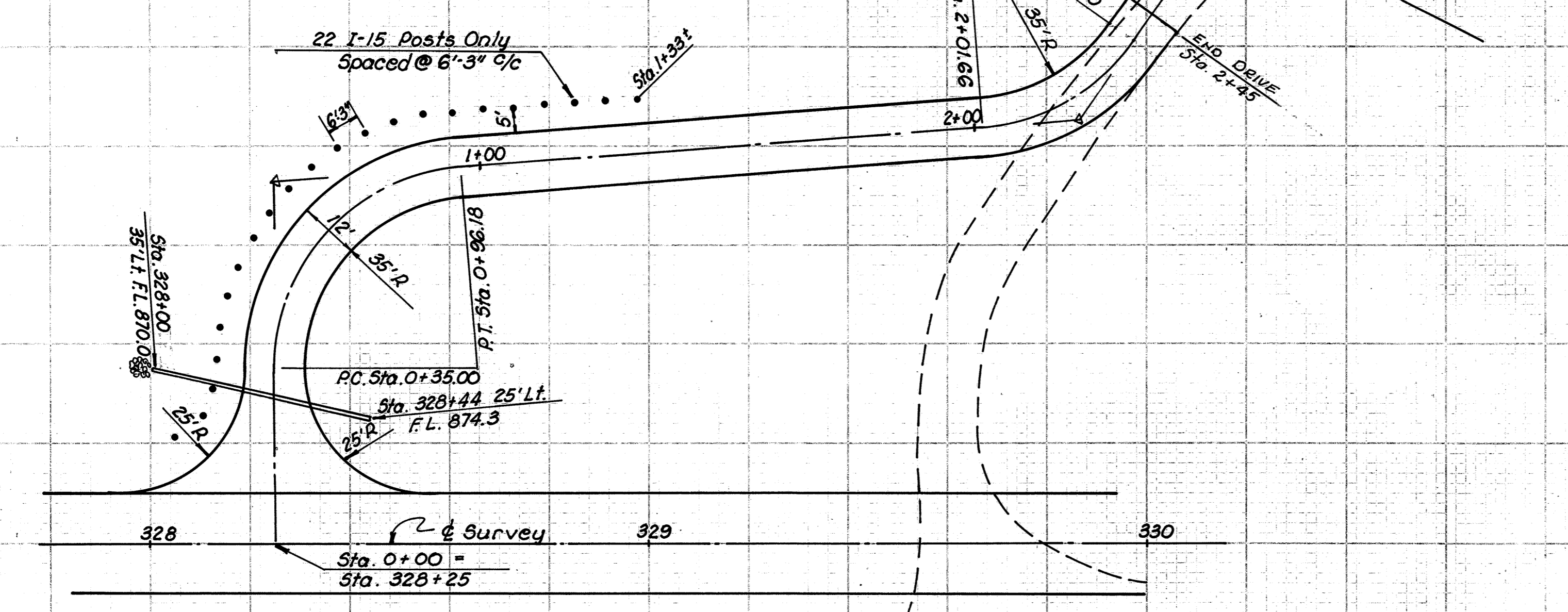


END AREA	CU. YDS.	
	CUT	FILL
Sta. 344+50	0	0
Ahead	20	18
Back	38	18
	72	39
	40	24
	68	72
Sta. 343+00	33	53

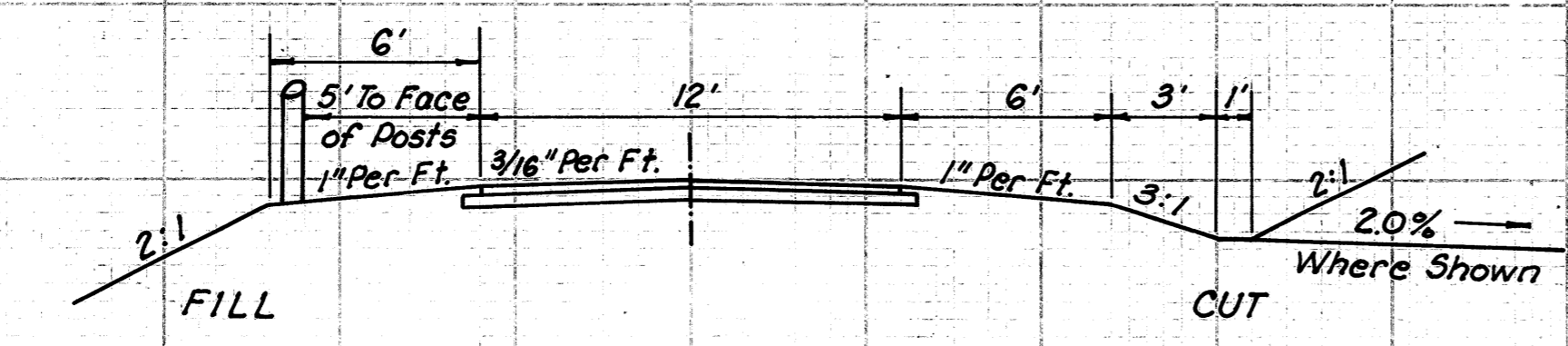
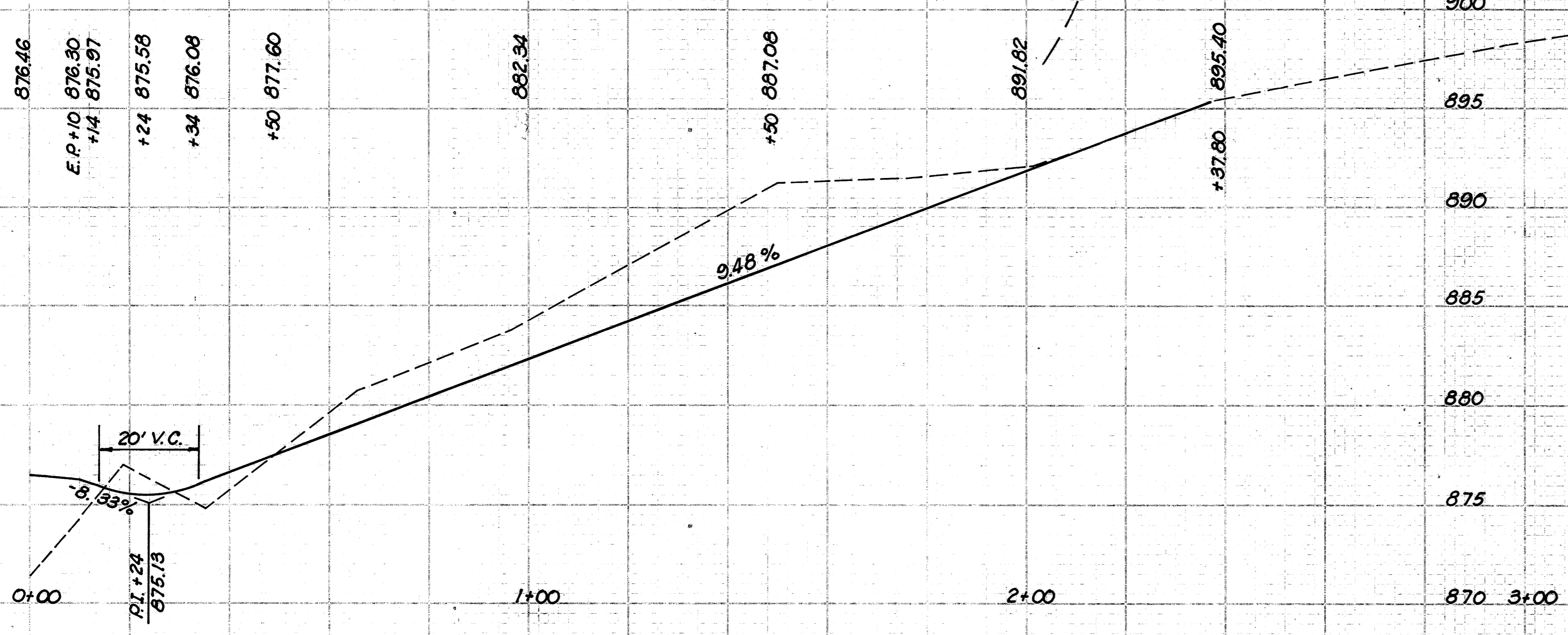
CURVE DATA
 P.I. = Sta. 0+72.90
 $\Delta = 85^{\circ}30' \text{ Rt.}$
 $R = 41.00'$
 $T = 37.90'$
 $L = 61.18'$

CURVE DATA
 P.I. = Sta. 2+21.00
 $\Delta = 50^{\circ}30' \text{ Lt.}$
 $R = 41.00'$
 $T = 19.34'$
 $L = 36.14'$

P.I. Sta. 2+96.00
 $\Delta = 14^{\circ}49' \text{ Rt.}$



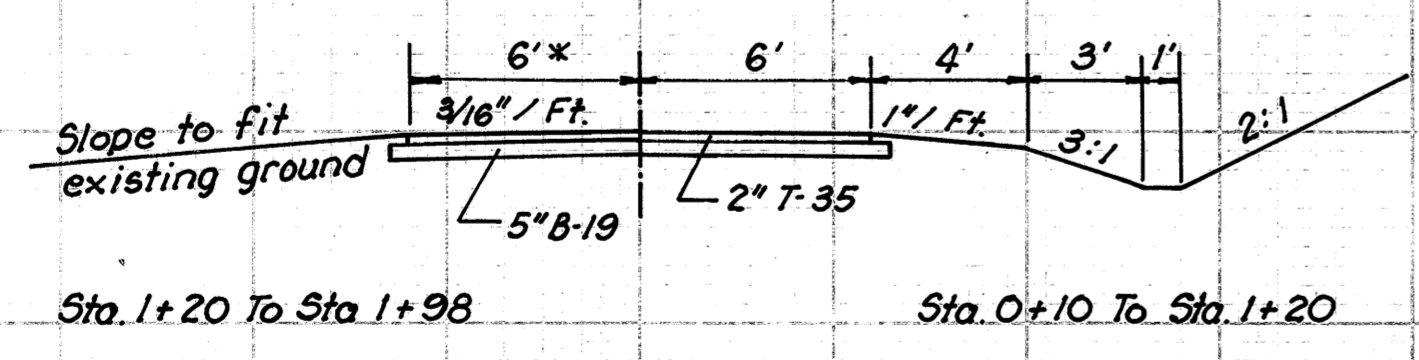
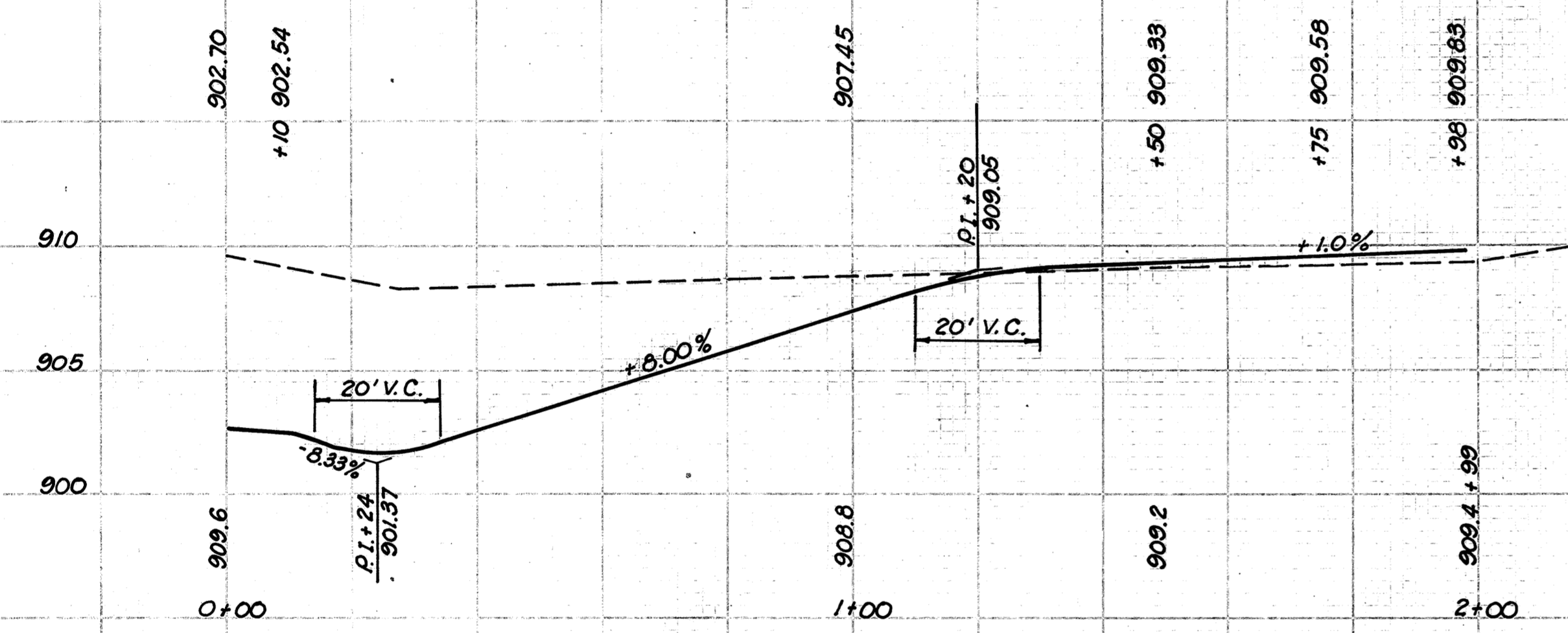
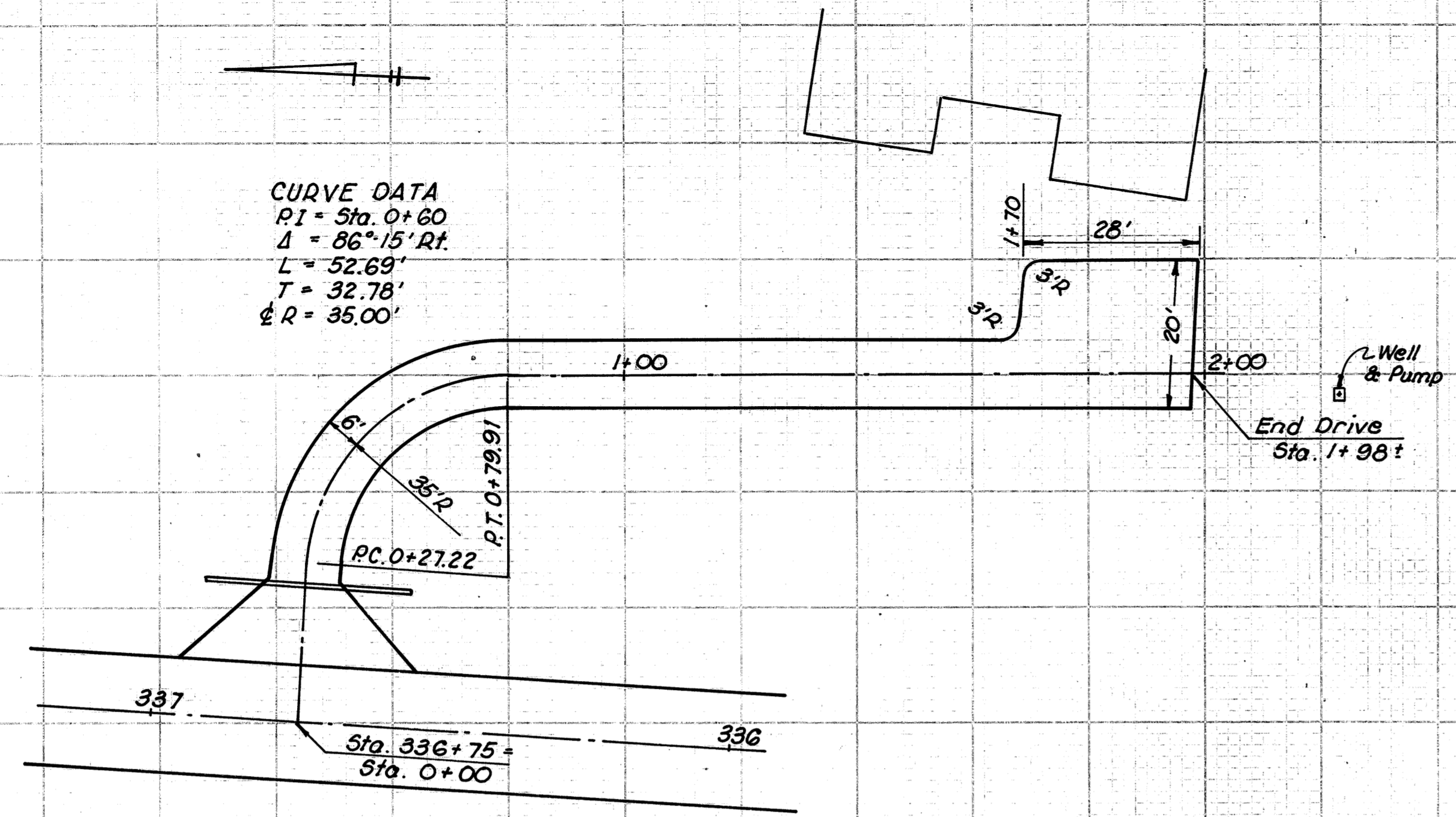
Sta.	END AREA		Cu.Yds.	
	CUT	FILL	CUT	FILL
Sta. 2+45	8	0	4	0
Sta. 2+37.80	20	2	15	1
Sta. 2+19.73	25	0		
			23	0
			45	0
			86	0
			129	0
			173	0
			244	0
			338	19
			95	19
			129	39
			133	40
			80	13
			43	6
			12	0
Total Carried to Sheet 14			932	100



TYPICAL DRIVE SECTION
 STA. 328+25

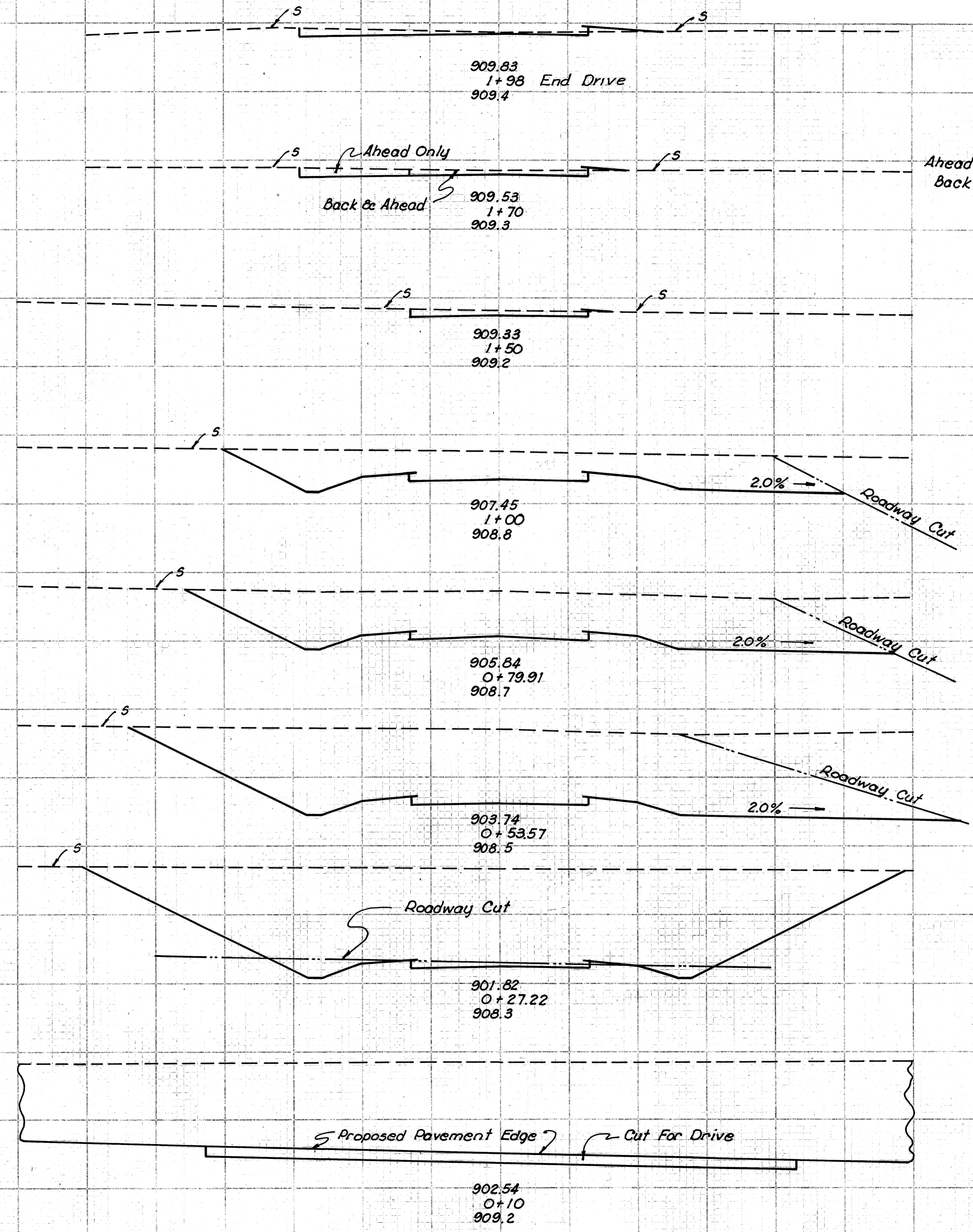
LOR-511-5.83
PART-II

CURVE DATA
 P.I. = Sta. 0+60
 $\Delta = 86^{\circ}15' RT.$
 $L = 52.69'$
 $T = 32.78'$
 $R = 35.00'$



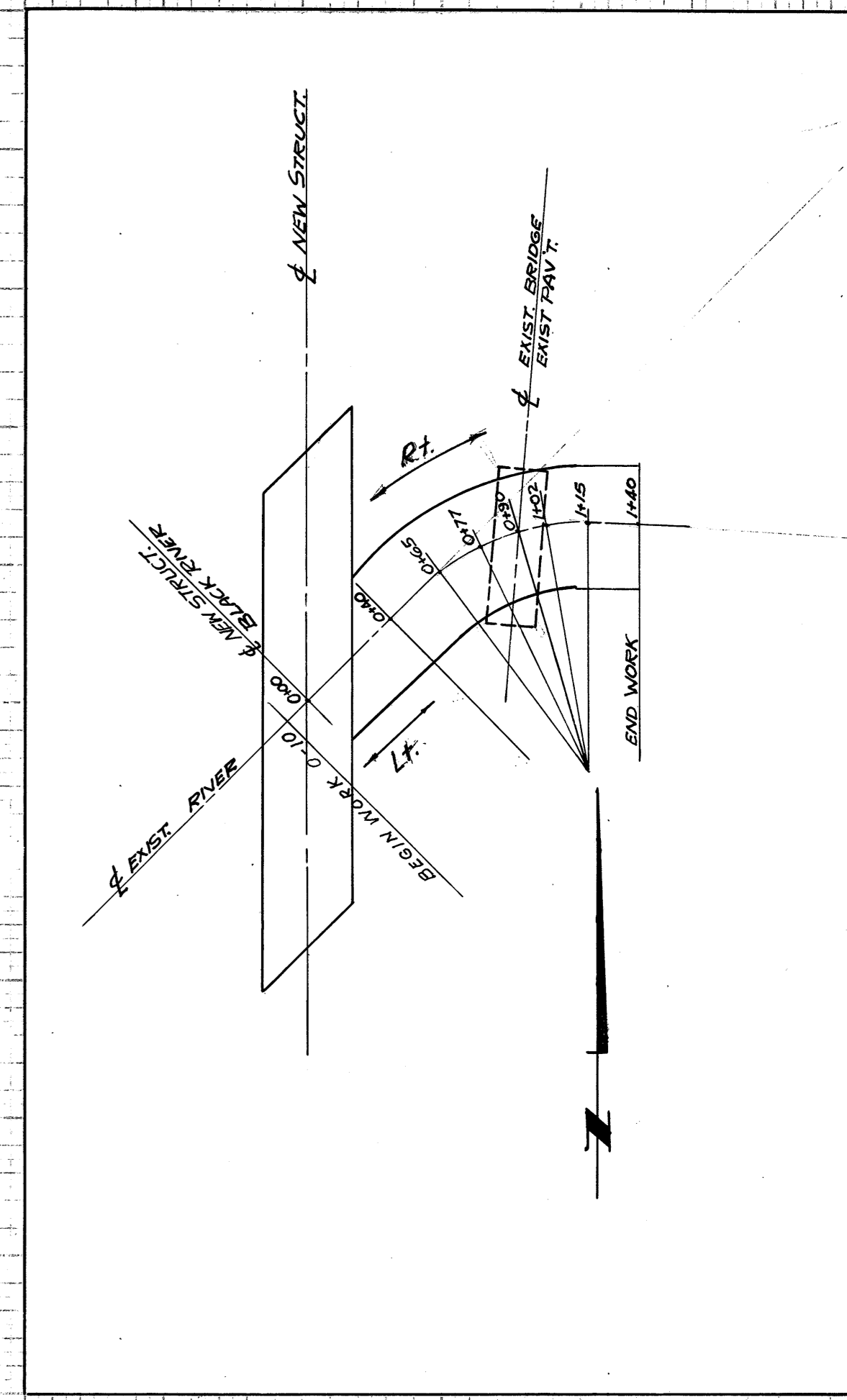
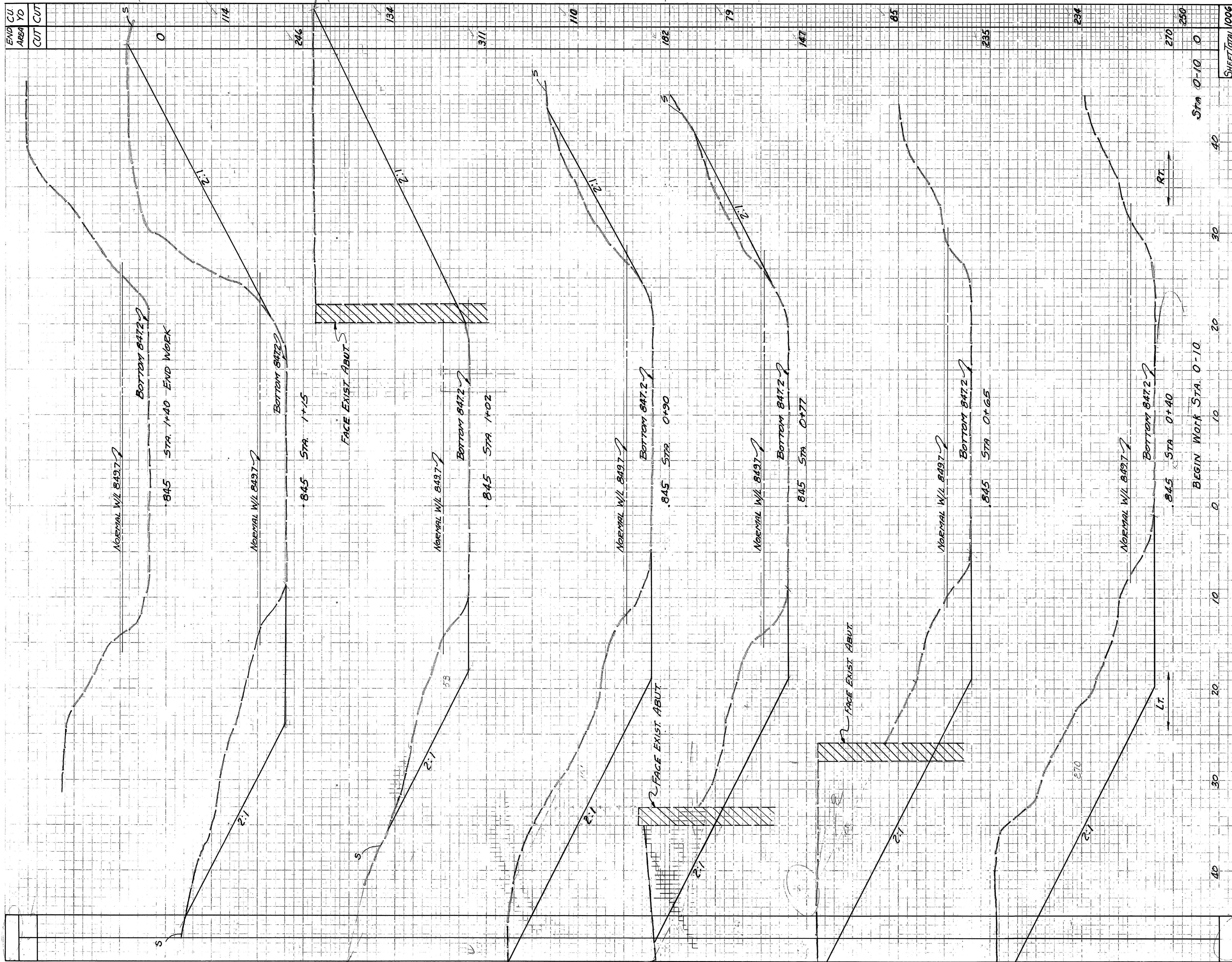
* 14' wide as shown in plan, Sta. 1+70 to 1+98

TYPICAL DRIVE SECTION
STA. 336+75



END AREA	Cu. Yds.	
	CUT	FILL
5	1	
		8
10	0	
6	0	
		4
6	0	
		90
91	0	
		92
155	0	
		198
250	0	
		130
16	0	
		15
30	0	
		537

Total Carried to Sheet 1B



CHANNEL DETAIL & CROSS SECTION

END CUT	CUT
CU	CUT
AB64	
YD	

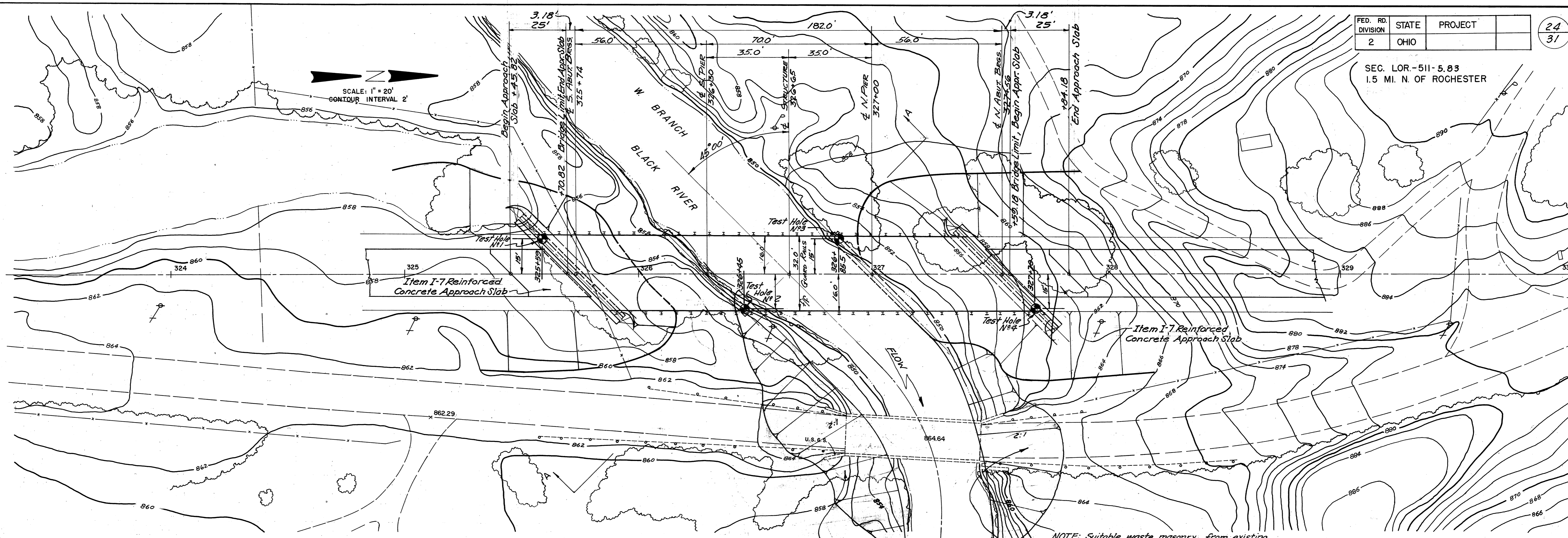
FED. RD. DIVISION	STATE	PROJECT
2	OHIO	

LOR-511-5.83

23
31

SHEET TOTAL 1006

SEC. LOR.-511-5.83
1.5 MI. N. OF ROCHESTER



NOTE: See Sheet No. 29 for Log of Soil Borings.

UTILITIES
LOR-MED. RURAL ELECTRIC CO. WELLINGTON, O.
WELLINGTON TELEPHONE CO. WELLINGTON, O.

SITE BENCH MARK
U.S.G.S.-B.M.-STD. TABLET IN SE. STONE WINGWALL OF EXISTING BRIDGE.
ELEV. 865.395

EXISTING BRIDGE DATA
TYPE: STEEL LOW TRUSS ON MASONRY ABUTMENTS
SPAN: 60'-6"
ROADWAY: 14'-8"
LOADING: NO LOAD REDUCTION
SKEW: NONE
CONDITION: FAIR

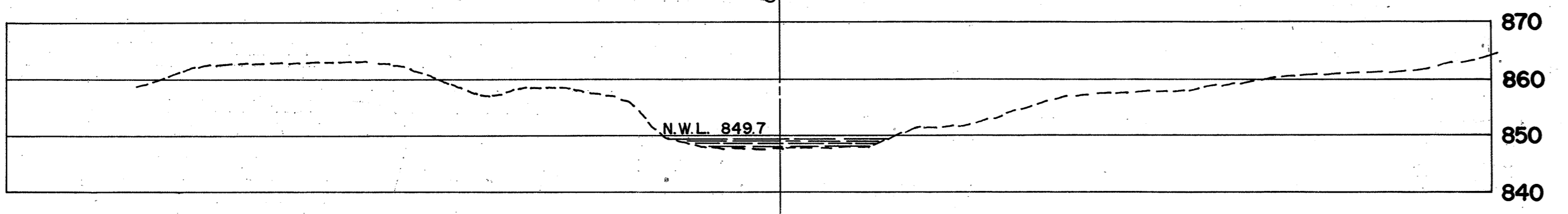
DRAINAGE AREA = 29.8 SQ. MI.

PROPOSED STRUCTURE
TYPE: 3 SPAN CONTINUOUS STEEL BEAM SUPERSTRUCTURE ON SPILL THROUGH ABUTMENTS & SOLID "T" TYPE PIERS.
SPAN: 56'-70'-56'
ROADWAY: 32'-0" F/F GUARD RAILS
SKEW: 45°
LOADING: CF 130 (57)
SURFACE: 3/4" MONOLITHIC CONCRETE
APPROACH SLAB: A5-1-54 (25' LONG)
ALIGNMENT: TANGENT

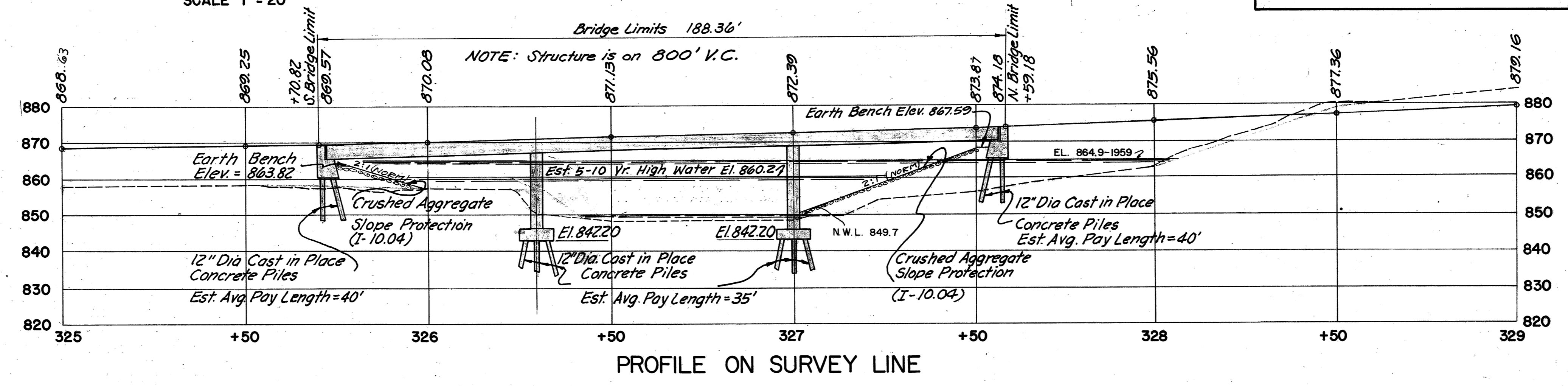
T. C. BIEBESHEIMER ENGINEERING CO.
CIVIL ENGINEERS AND SURVEYORS
TOLEDO, OHIO MONROE, MICHIGAN

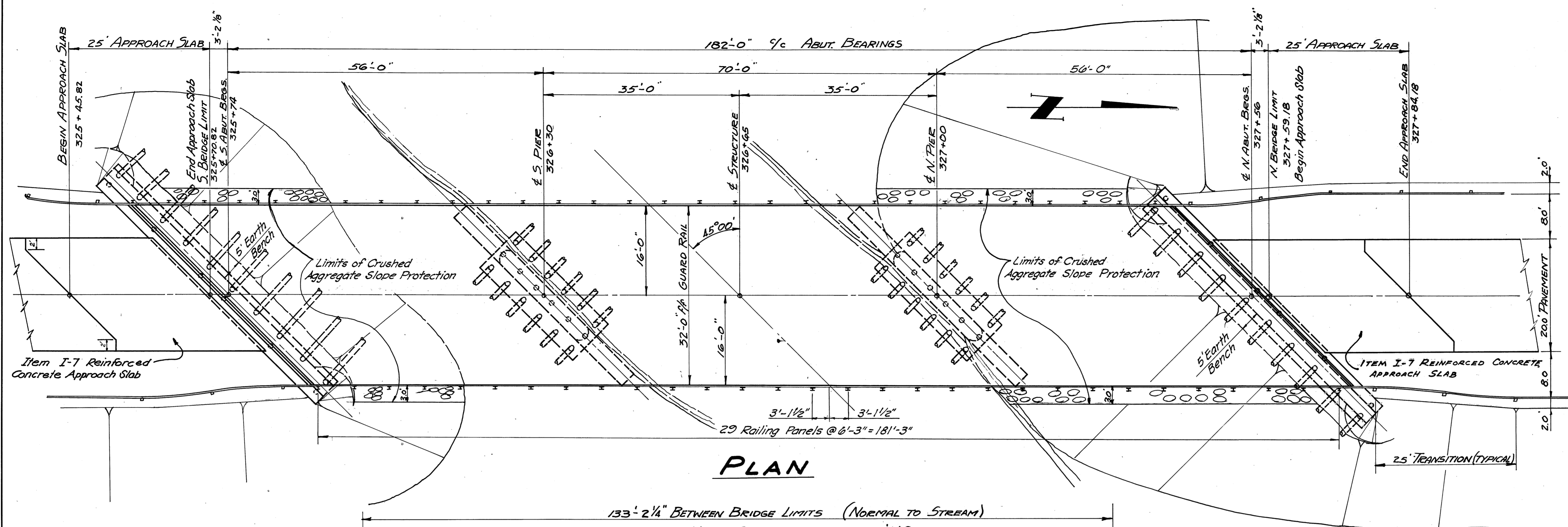
SITE PLAN
BRIDGE NO. LOR-511-0619
OVER W. BRANCH BLACK RIVER
LORAIN COUNTY
SEC. LOR.-511-5.83 STA. 325+70.82
327+59.18

DESIGN	TRACED	CHECKED	REVIEWED	DATE	REVISED
D.C.C.	J.D.	D.C.C.			

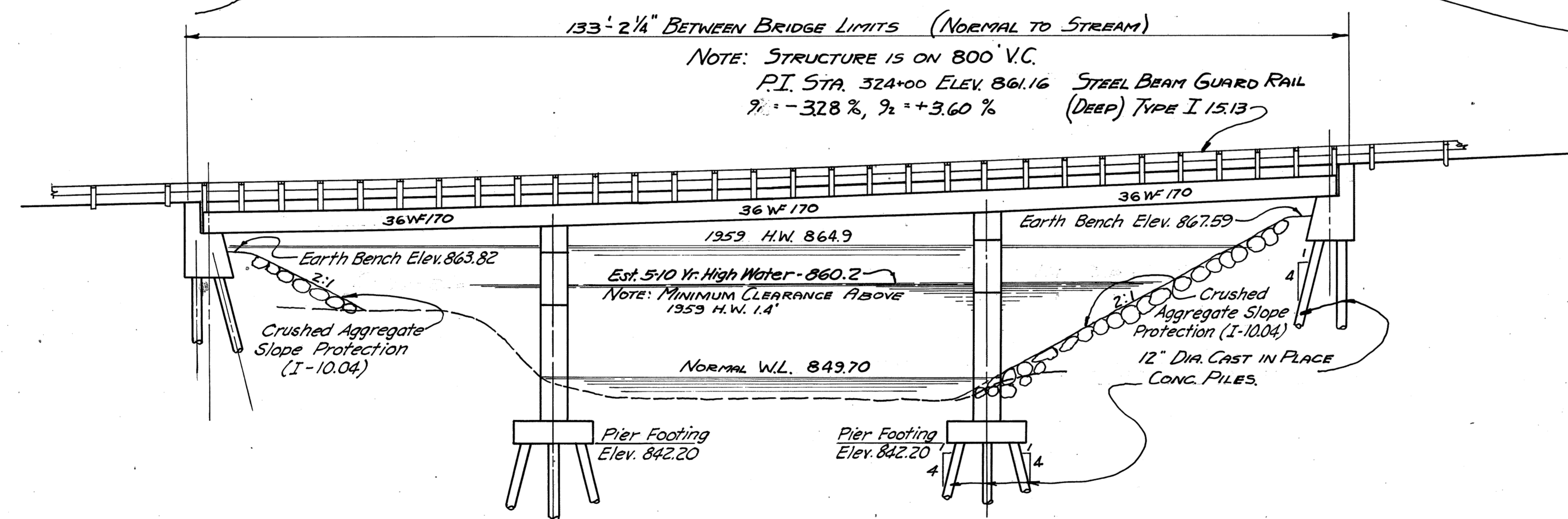


STREAM CROSS SECTION A-A
SCALE 1" = 20'





PLAN



ELEVATION NORMAL TO STREAM

GENERAL NOTES FOR STRUCTURE

REFERENCE: Shall be made to sheets 1 and 2 of Standard Drawing CSB-1-55, revised 2-2-59, and to Supplemental Specification No. S-101 dated 12-2-59.

REMOVAL OF EXISTING STRUCTURE: When no longer needed to maintain traffic, existing structure shall be removed and disposed of as provided by Sec. 5-24, except for the 12" I-beam joists which shall be carefully removed and piled along the right-of-way, near the site, for disposal by the State's forces.

Suitable waste masonry may be placed as bank protection in the vicinity of the existing north abutment, as directed by the Engineer. Placement of such waste masonry shall be included in the lump sum bid for Item S-24 "Removal of Existing Structure".

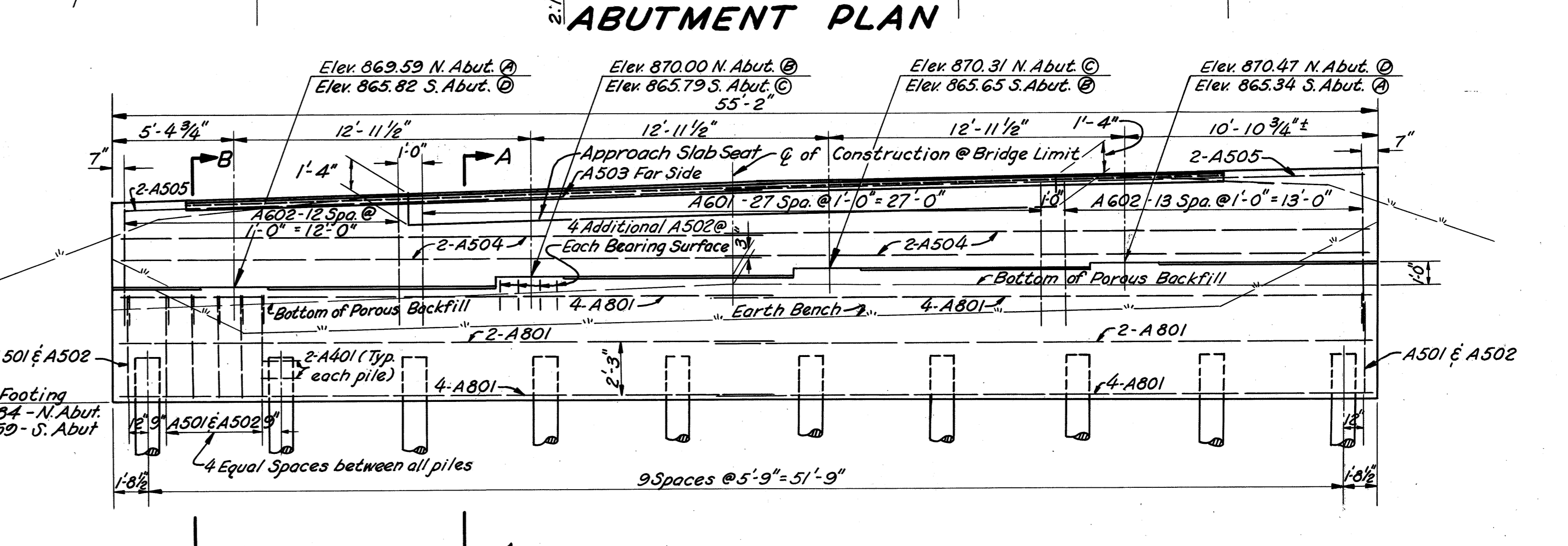
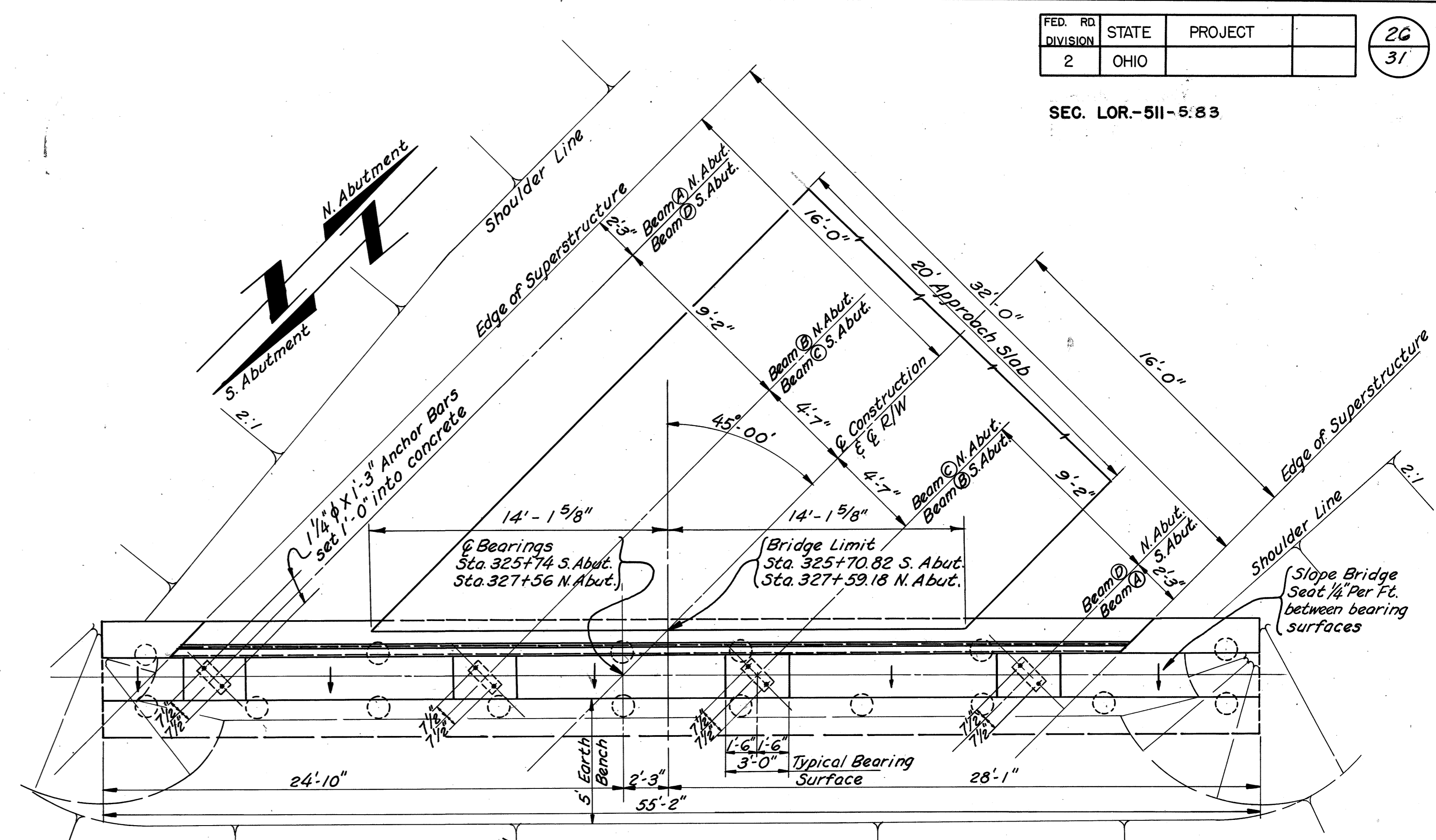
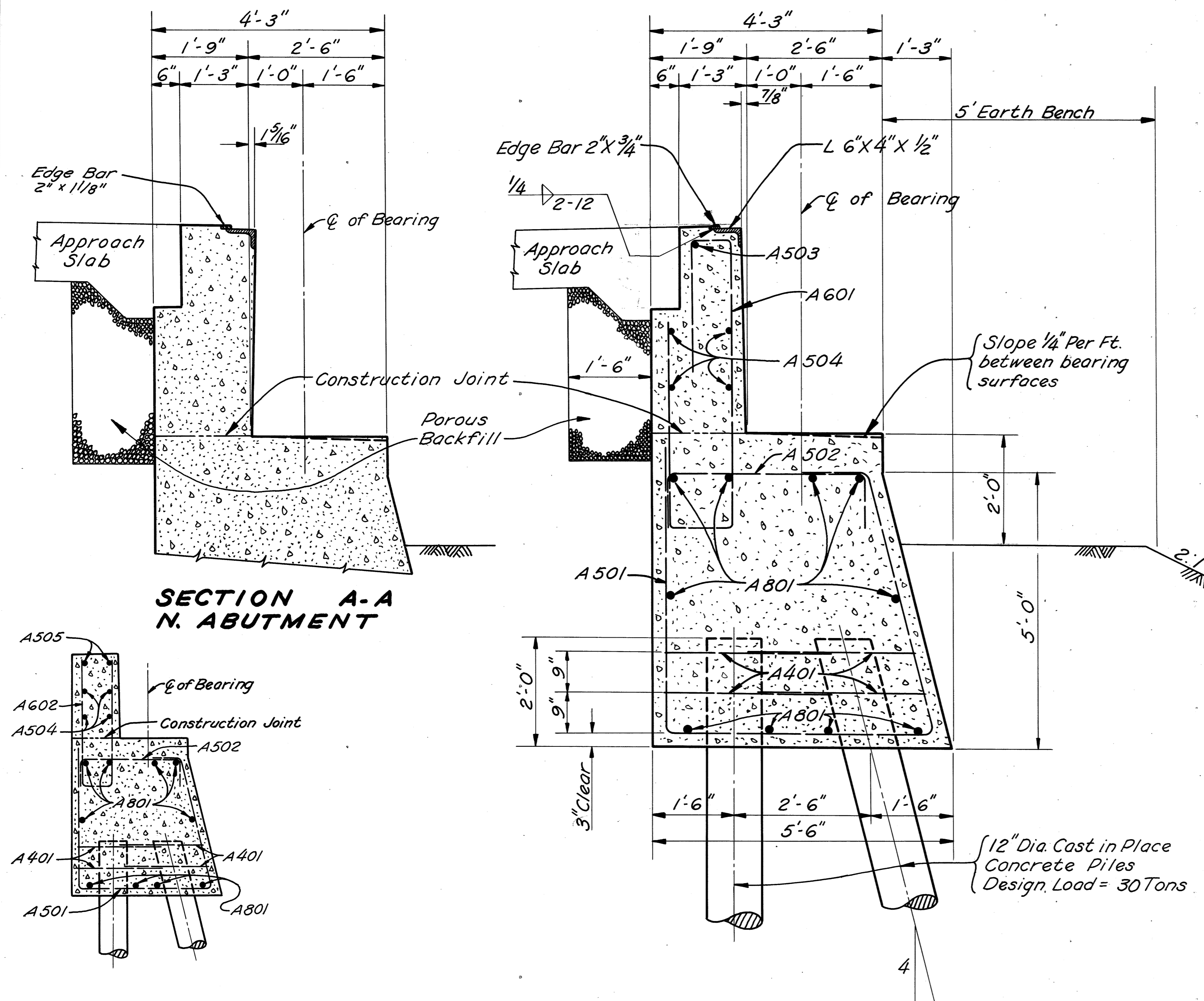
EXCAVATION QUANTITY: Includes the removal of fill material between the top of the earth bench and the bottom of the abutment cross beam.

PILES: Shall be driven to a minimum bearing capacity of 30 tons for the abutments and 35 tons for the piers.

STEEL: See Proposal regarding A-373 Steel.

T. C. BIEBESHEIMER ENGINEERING CO. CIVIL ENGINEERS AND SURVEYORS TOLEDO, OHIO MONROE, MICHIGAN					
GENERAL PLAN & ELEVATION					
BRIDGE NO. LOR.-511-0619					
STA 325+70.82 327+59.18					
DESIGN	TRACED	CHECKED	REVIEWED	DATE	REVISED
D.C.C.	J	D.C.C.			

SEC. LOR.-511-5.83



NOTES

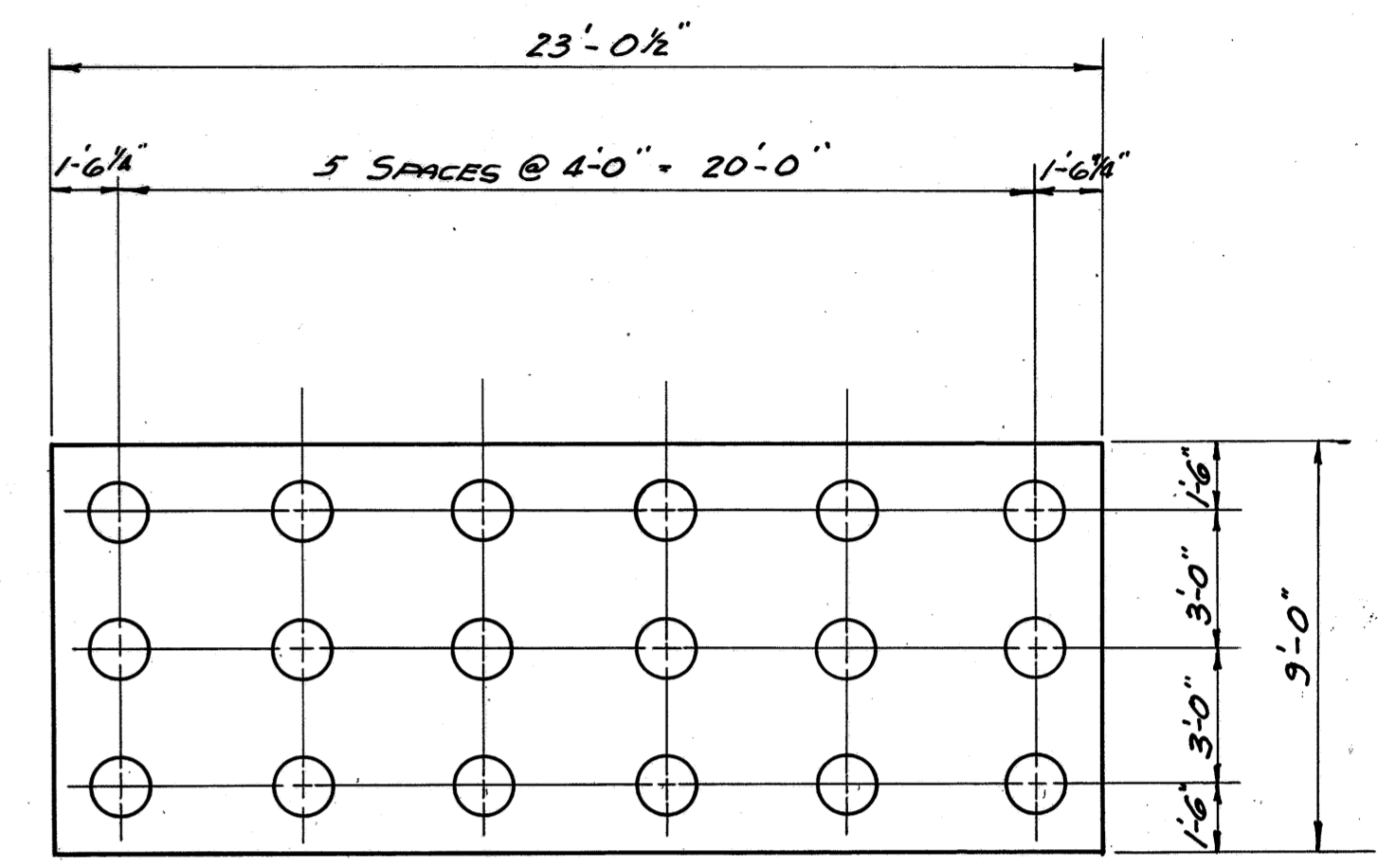
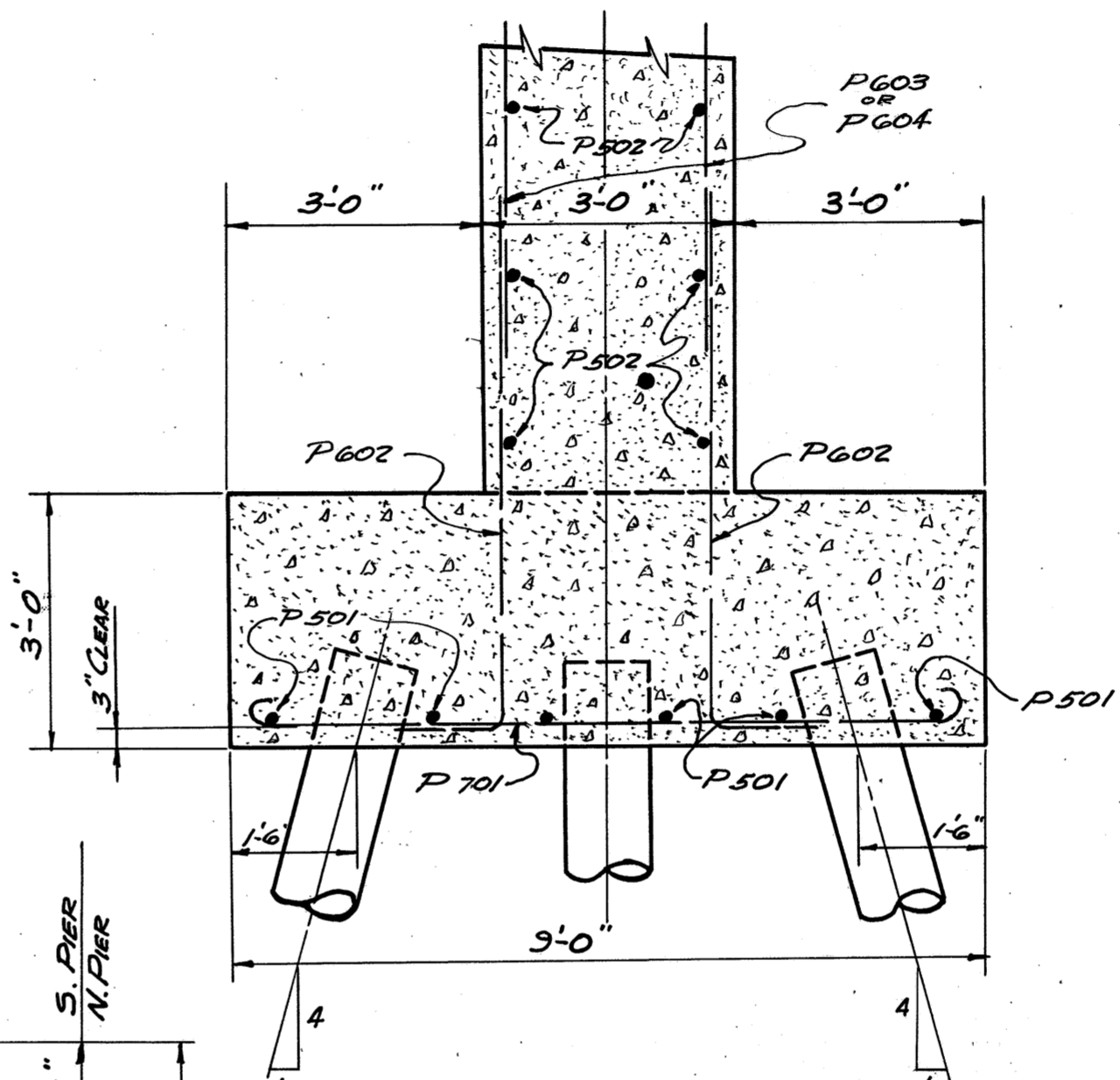
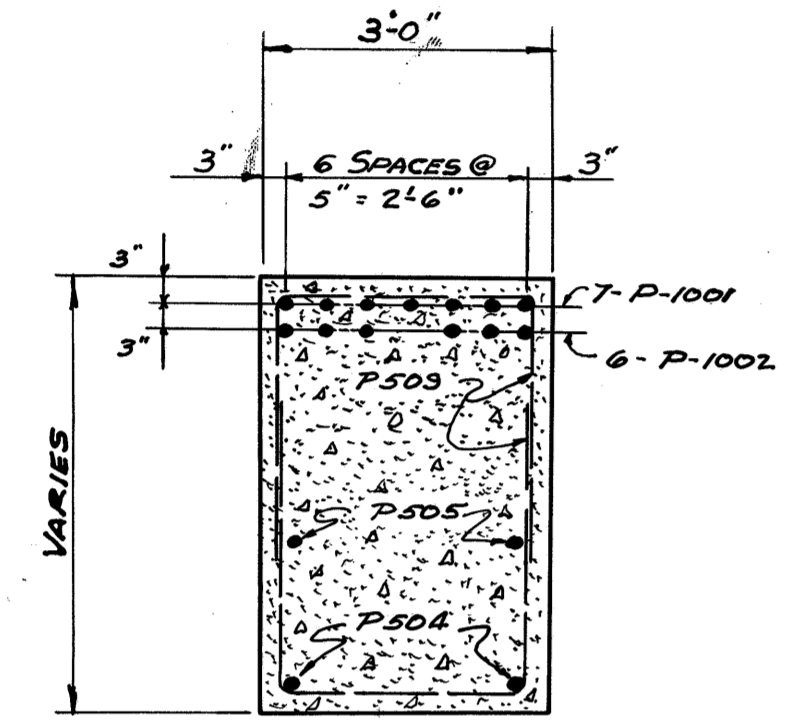
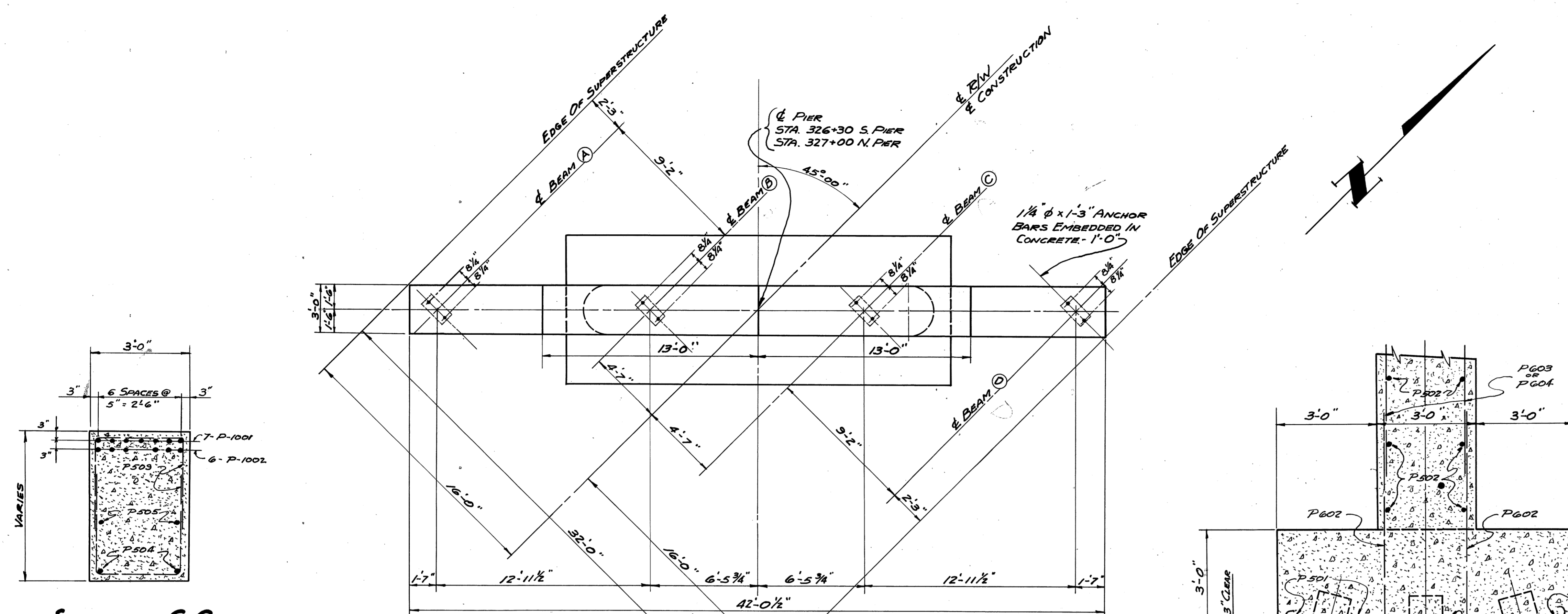
- (1) Concrete shall not be placed above bridge seat construction joint until after steel superstructure is erected. Steel end finish shall be used as a template for top of backwall.
- (2) See Standard Drawing CSB-1-55, Sheet 2 for further details pertaining to 2" edge bar and 6" x 4" L at top of backwall.
- (3) Porous Backfill: shall extend upwards to the approach slab and to the surface of the earth shoulders, and outward to the surface of the embankment slopes. Excavation therefore, in excess of that required for the construction of the abutment, shall be considered as paid for in the bid price per cu. yd. paid for porous backfill.
- (4) Procedure: The embankment shall be placed and compacted to the level of the earth bench, after which excavation shall be made for the abutments and the piles driven.
- (5) Reinforcing Bars: in the bridge seat shall be placed with care to avoid interference with the bearing anchor bars.

T.C. BIEBESHEIMER ENGINEERING CO.
CIVIL ENGINEERS AND SURVEYORS
TOLEDO, OHIO MONROE, MICHIGAN

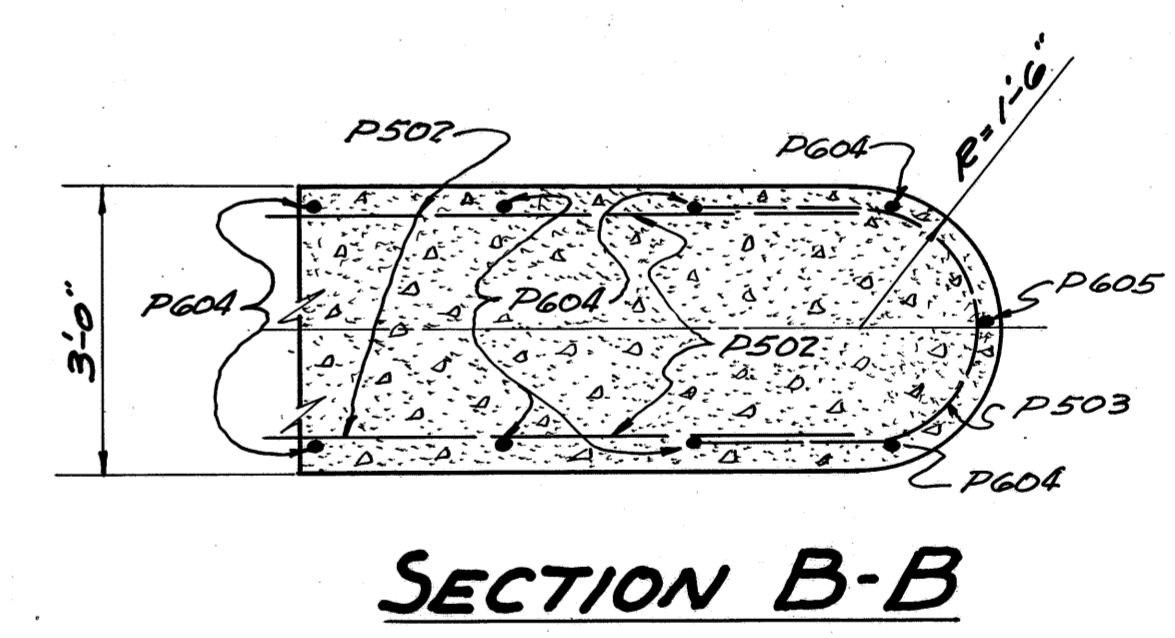
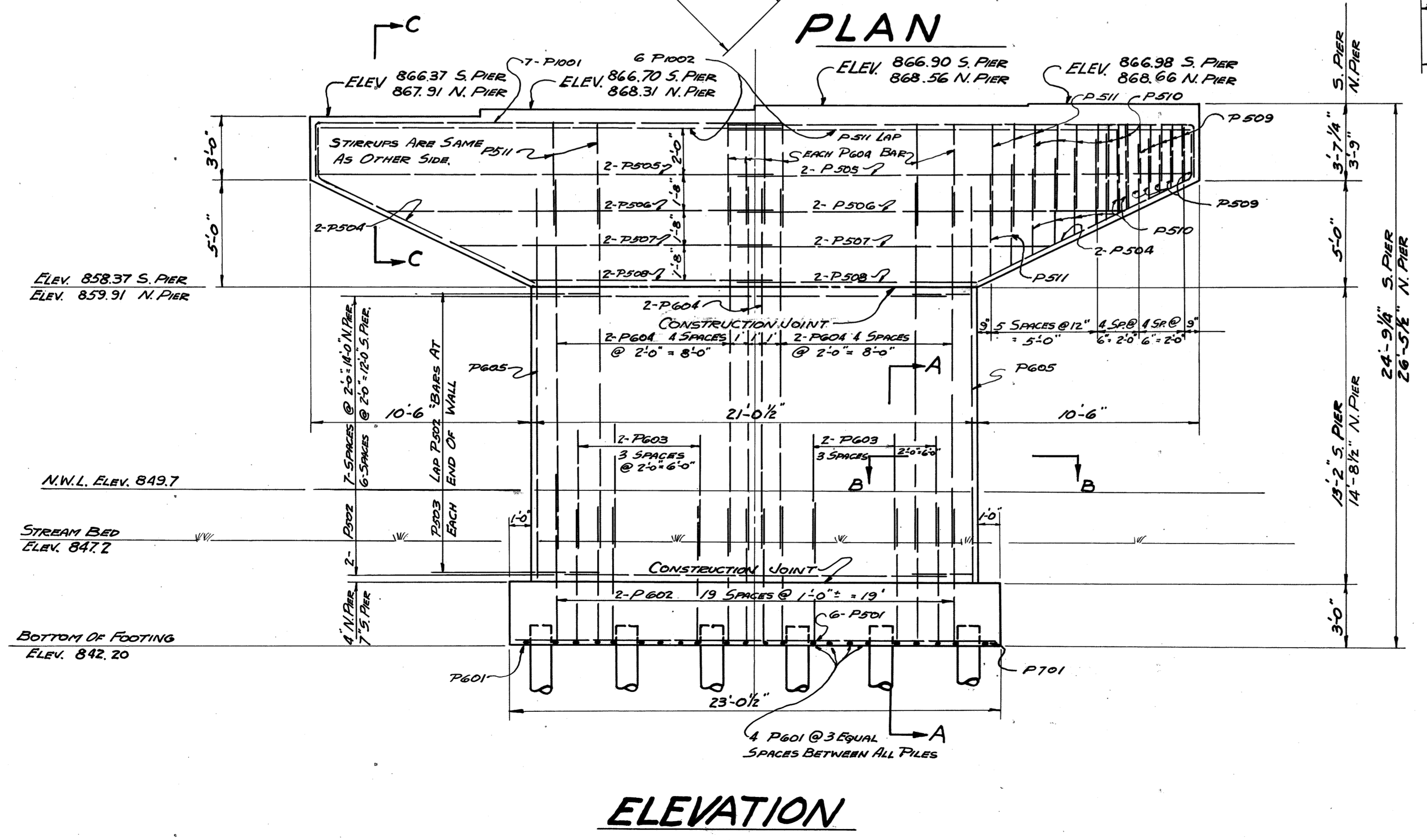
ABUTMENT DETAILS
BRIDGE NO. LOR.-511-0619

DESIGN	TRACED	CHECKED	REVIEWED	DATE	REVISED
D.C.C.	JMB	D.C.C.			

SEC. LOR-511-5.83

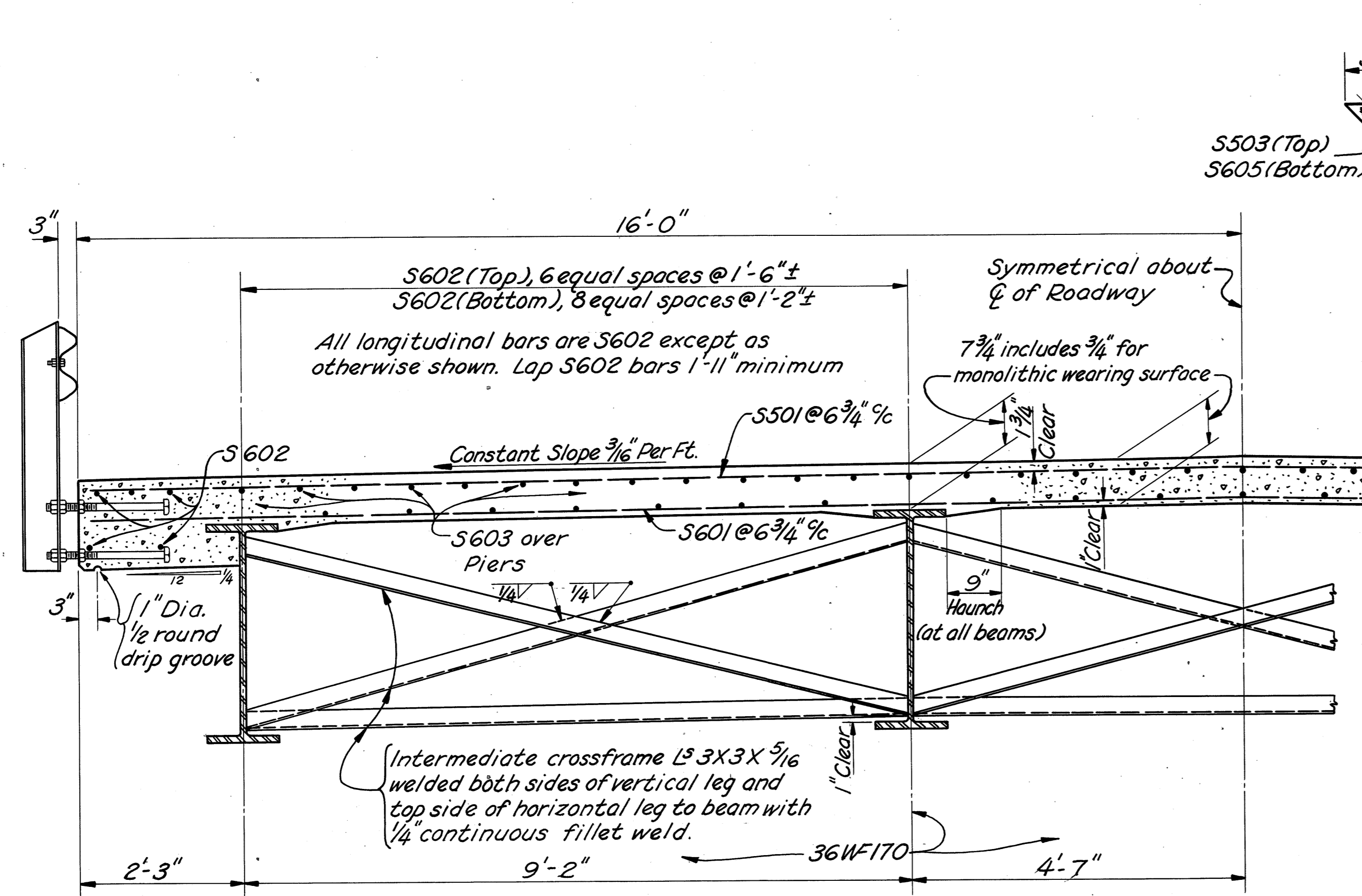


NOTE: SEE SHEET No. 29 FOR REINFORCING STEEL SCHEDULE.

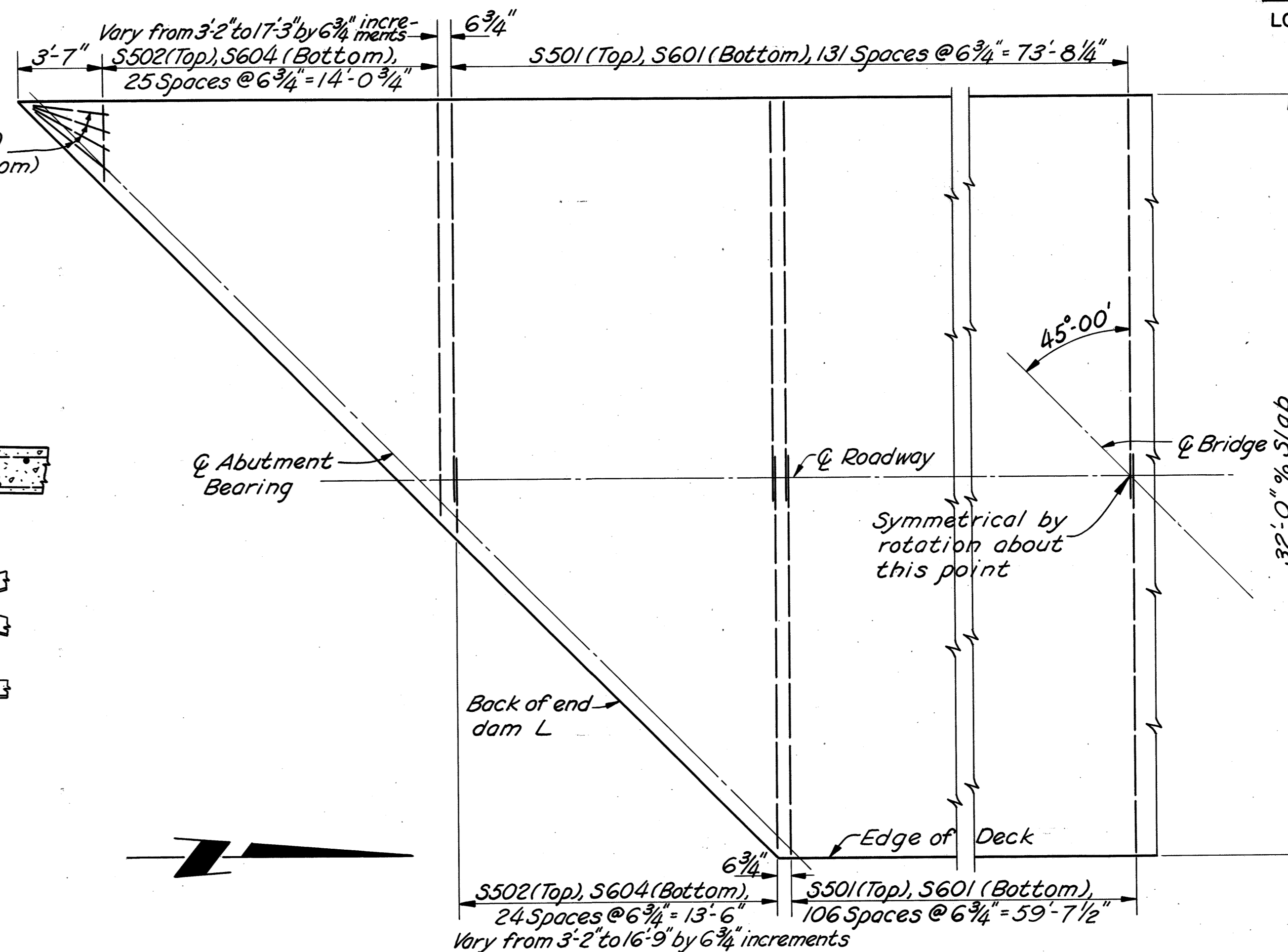


- PIER NOTES:**
- DESIGN LOAD ON PILES IS 35 TONS.
 - CONCRETE SHALL BE CLASS "C"
 - PILES SHALL BE 12" DIA. CAST-IN-PLACE CONCRETE
 - REINFORCING BARS IN THE BRIDGE SEAT SHALL BE PLACED WITH CARE TO AVOID INTERFERENCE WITH THE BEARING ANCHOR BARS

T.G. BIEBESHEIMER ENGINEERING CO. CIVIL ENGINEERS AND SURVEYORS TOLEDO, OHIO MONROE, MICHIGAN				
PIER DETAILS				
BRIDGE NO. LOR-511-0619				
DESIGN D.C.C.	TRACED C.F.	CHECKED D.C.C.	REVIEWED	DATE REVISED

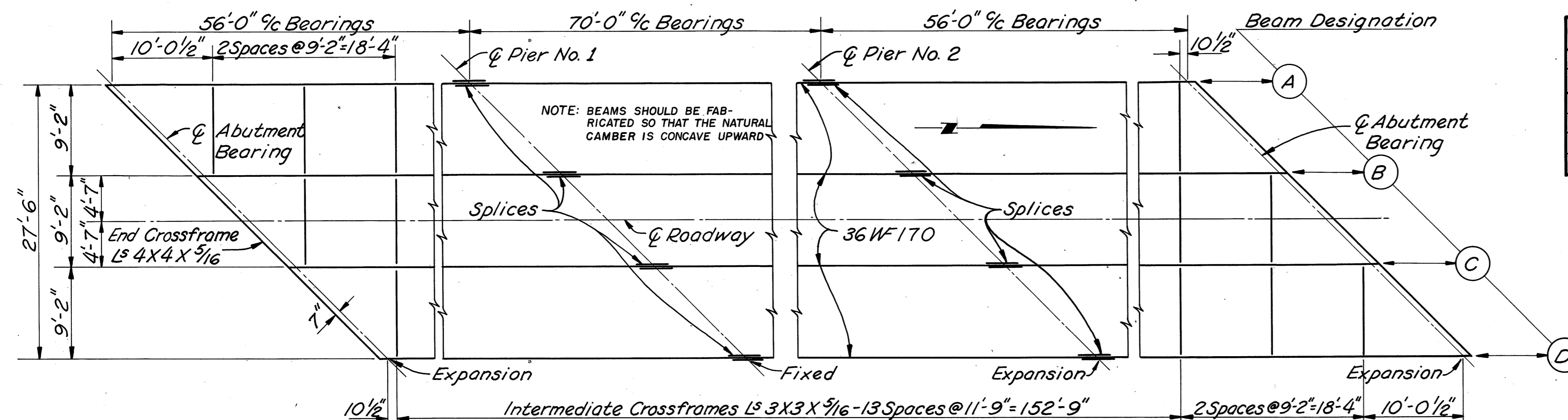


TRANSVERSE HALF SECTION



PART PLAN OF SUPERSTRUCTURE
SHOWING PLACEMENT OF TRANSVERSE STEEL

PAINTING: AFTER ERECTION AND AFTER THE SHOP COAT HAS BEEN CLEANED AND, WHERE NECESSARY, REPAINTED IN ACCORDANCE WITH SEC. S-8.04, AN ADDITIONAL COAT OF THE SAME PAINT AS USED IN THE SHOP SHALL BE APPLIED OVER THE OUTSIDE FACE OF THE OUTSIDE STEEL BEAMS AND OVER ALL SIDES OF THE BOTTOM FLANGES.



STEEL FRAMING PLAN

BEAM SPLICE WELDING PROCEDURE

- (1) Raise the abutment end of the beams $1/8$ ".
- (2) Butt-weld the beam flanges and web, using the following sequence: make two passes on each flange, then two on the web; repeat, using one pass at each location, until welds are complete.
- (3) Weld the bottom and top moment plates.
- (4) Lower the beam ends to final position.

NOTE: The plate at the fixed bearings and the upper plate at the expansion bearings shall be beveled to provide horizontal bearings.

CAMBER						
LOCATION	Outside Beam		Inside Beam			
SPAN	No 1	No 2	No 3	No 1	No 2	No 3
Total D.L. Deflection	+1/4"	+1/4"	+1/4"	+3/8"	+3/8"	+3/8"
Curvature due to Rd. Grade	-3/8"	-1"	-1/2"	-3/8"	-1"	-1/2"
Total Curvature	-1/8"	-3/4"	-1/4"	0	-5/8"	-1/8"
REQUIRED CAMBER	0	-3/4"	0	0	-3/4"	0

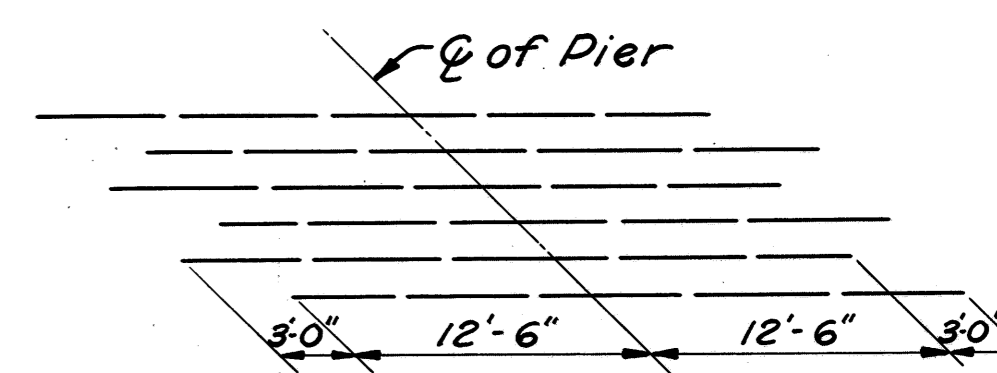


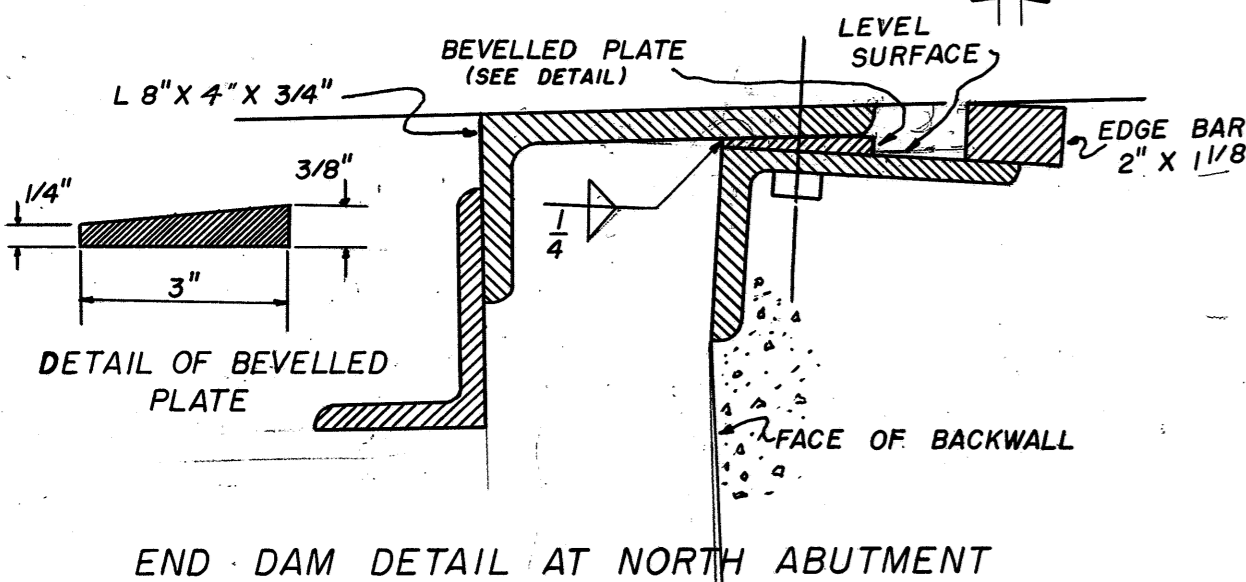
DIAGRAM SHOWING STAGGER OF S603 BARS OVER PIERS

NOTES

- For the following Details see Sheets 1 and 2 of Standard Drawings CSB-1-55:
- (1) Bearing plate details.
 - (2) Beam splice details.
 - (3) End Crossframe details.
 - (4) End dam details and welded butt joint in superstructure end dam.
 - (5) Railing, post and post anchor details.

Beam Splice Moment Plates:
Top Plate $10 1/2 \times 7/16 \times 12'-11"$
Bottom Plate $13 1/2 \times 1/2 \times 12'-11"$

FOR ADDITIONAL NOTES SEE GENERAL PLAN AND ELEVATION SHEET NO. 25.



END DAM DETAIL AT NORTH ABUTMENT

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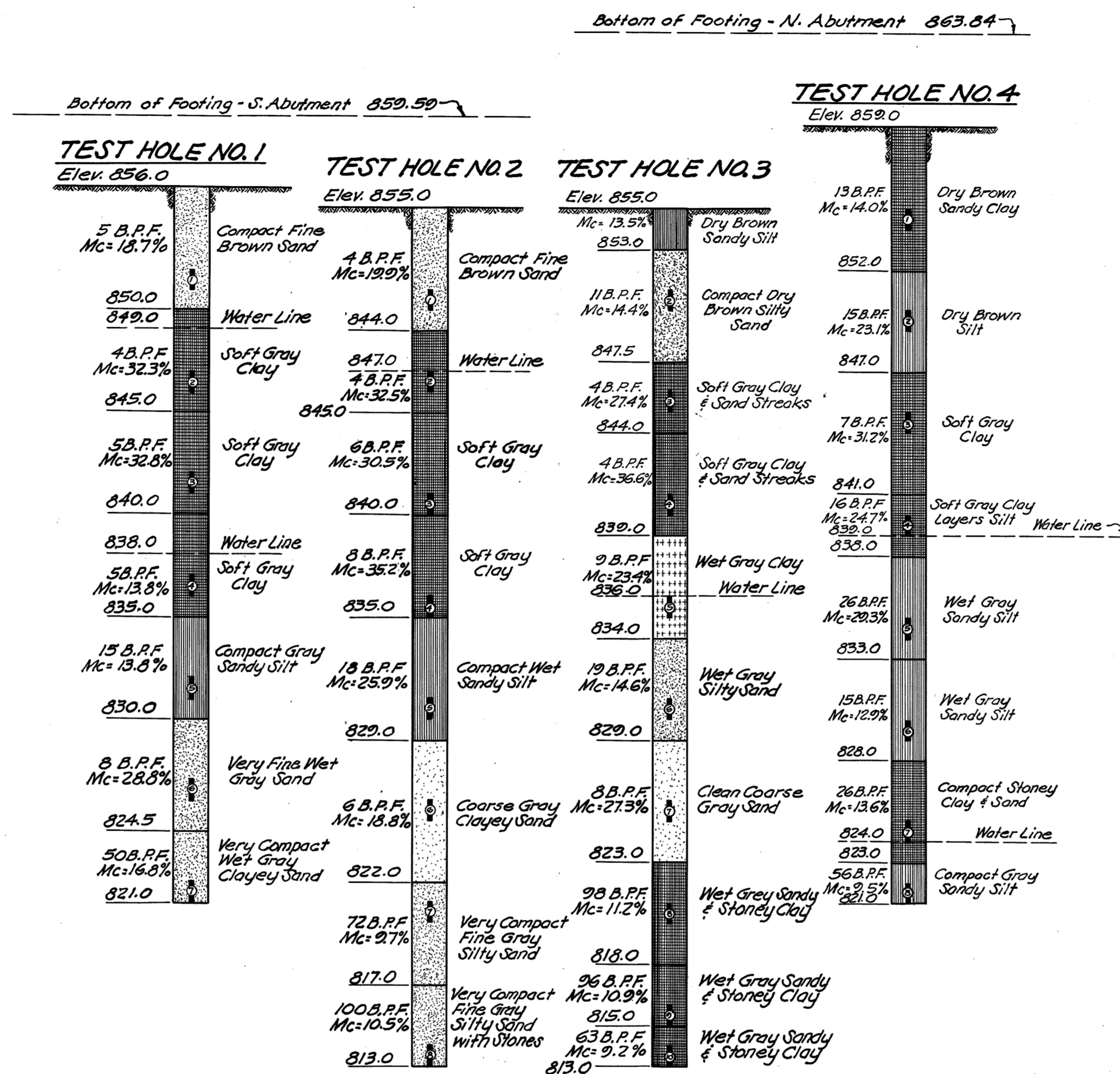
SUPERSTRUCTURE DETAILS

BRIDGE NO. LOR.-511-0619

DESIGN	TRACED	CHECKED	REVIEWED	DATE	REVISED
D.C.C.	J.M.B.	D.C.C.			

REINFORCING STEEL SCHEDULE					
MARK	NO.	SIZE	LENGTH	WEIGHT	SHAPE
ABUTMENTS					
A401	80	4	7'-10"	419	B
A501	76	5	16'-5"	1301	B
A502	108	5	5'-11"	667	B
A503	2	5	27'-0"	56	S
A504	16	5	28'-3"	471	S
A505	8	5	13'-0"	108	S
A601	56	6	13'-10"	1161	B
A602	54	6	10'-9"	872	B
A801	40	8	28'-8"	3062	S
PIERS					
P501	12	5	22'-6"	282	S
P502	30	5	18'-0"	563	S
P503	30	5	7'-2"	224	B
P504	8	5	13'-6"	113	B
P505	8	5	21'-6"	179	S
P506	8	5	18'-6"	154	S
P507	8	5	15'-0"	125	S
P508	8	5	11'-6"	96	S
P509	40	5	8'-4"	348	B
P510	56	5	10'-10"	633	B
P511	40	5	12'-6"	522	B
P602	80	6	7'-8"	922	B
P603	32	6	5'-6"	264	S
P604	48	6	17'-3"	1244	S
P605	4	6	18'-6"	111	S
P701	44	7	9'-10"	884	B
P1001	28	10	24'-9"	2982	B
P1002	24	10	22'-0"	2272	S
SUPERSTRUCTURE					
S501	478	5	16'-9"	8351	S
S502	Two series of 26	5	3'-2" to 17'-3"	554	S
S503	8	5	3'-9"	31	S
S601	478	6	16'-9"	12,026	S
S602	240	6	38'-3"	13,788	S
S603	40	6	28'-0"	1,682	S
S604	Two series of 26	6	3'-2" to 17'-3"	798	S
S605	8	6	3'-9"	45	S
TOTAL WEIGHT				58,578	LBS.
REPLACEMENT BARS					
R401	1	4	7'-10"		B
R501	1	5	5'-7"		S
R601	1	6	5'-11"		S
R801	1	8	6'-6"		S
R1001	1	10	7'-2"		S

NOTE: Bar size is indicated by Bar Mark. - The first digit where 3 digits are used. For example A501 is a number 5 size bar. "%" means "Out to Out".



REPLACEMENT BARS: IF REINFORCING BARS ARE FABRICATED FROM STOCK WHICH HAS PREVIOUSLY BEEN TESTED AND APPROVED BY THE OHIO HIGHWAY TESTING LABORATORY, TEST SAMPLES AS PROVIDED IN SECTION S-4.02 NEED NOT BE FURNISHED AND REPLACEMENT BARS WILL NOT BE REQUIRED.

STRUCTURE OVER 20' SPAN			
ITEM	DESCRIPTION	UNIT	QUANT.
E-2	Excavation for Structure, Unclassified	C.Y.	200
E-2	Cofferdams, Cribbs & Sheeting	Lump	Sum
E-3	Channel Excavation	C.Y.	1006
S-1	Concrete, Class "E" for Abutments	C.Y.	143
S-1	Concrete, Class "E" for Pier Footings	C.Y.	46
S-1	Concrete, Class "C" for Pier Walls	C.Y.	129
S-1	Concrete, Class "C" for Superstructure	C.Y.	161
S-4	Reinforcing Steel	Lbs.	58,578
S-7	Structural Steel	Lbs.	146,019
S-8	Field Painting Structural Steel as per plan	Lbs.	146,019
S-14	Railing (Type I-15.13 W/Galvanized Steel Posts & Bolts)	Lin. Ft.	376.72
S-16	First Test Pile	Lump	Sum
S-18	12" Cast in Place reinforced concrete piles	Lin. Ft.	2540
S-24	Removal of Existing Structure.	Lump	Sum
S-29	Porous Backfill	C.Y.	28
I-10	Crushed Aggregate Slope Protection	Sq. Yd.	390

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CIVIL ENGINEERS AND SURVEYORS
TOLEDO, OHIO MONROE, MICHIGAN

ESTIMATED QUANTITIES & STEEL SCHEDULE
BRIDGE NO. LOR.-511-0619

STA. 325+70.82
327+59.18

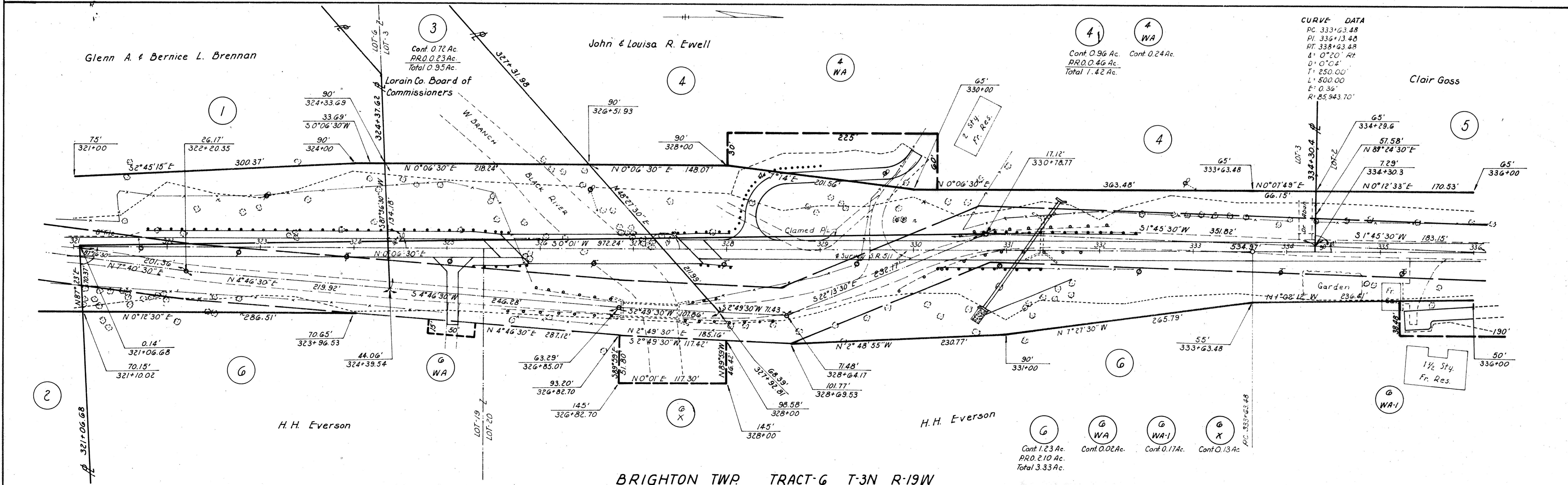
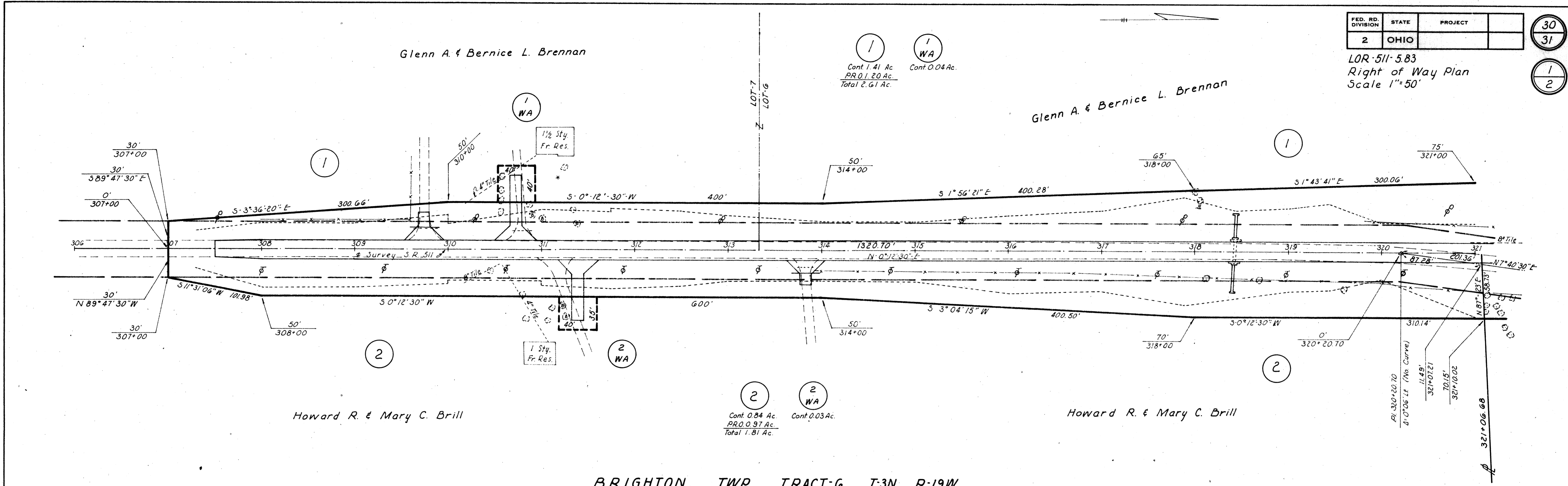
DESIGN	TRACED	CHECKED	REVIEWED	DATE	REVISED
D.C.C.	D.W.	D.C.C.			

FED. RD. DIVISION	STATE	PROJECT
2	OHIO	

30
31

LOR-511-5.83
Right of Way Plan
Scale 1"=50'

1
2



FED. RD. DIVISION	STATE	PROJECT
2	OHIO	

31
31
2
2

LOR-511-583
Right of Way Plan
Scale 1"=50'

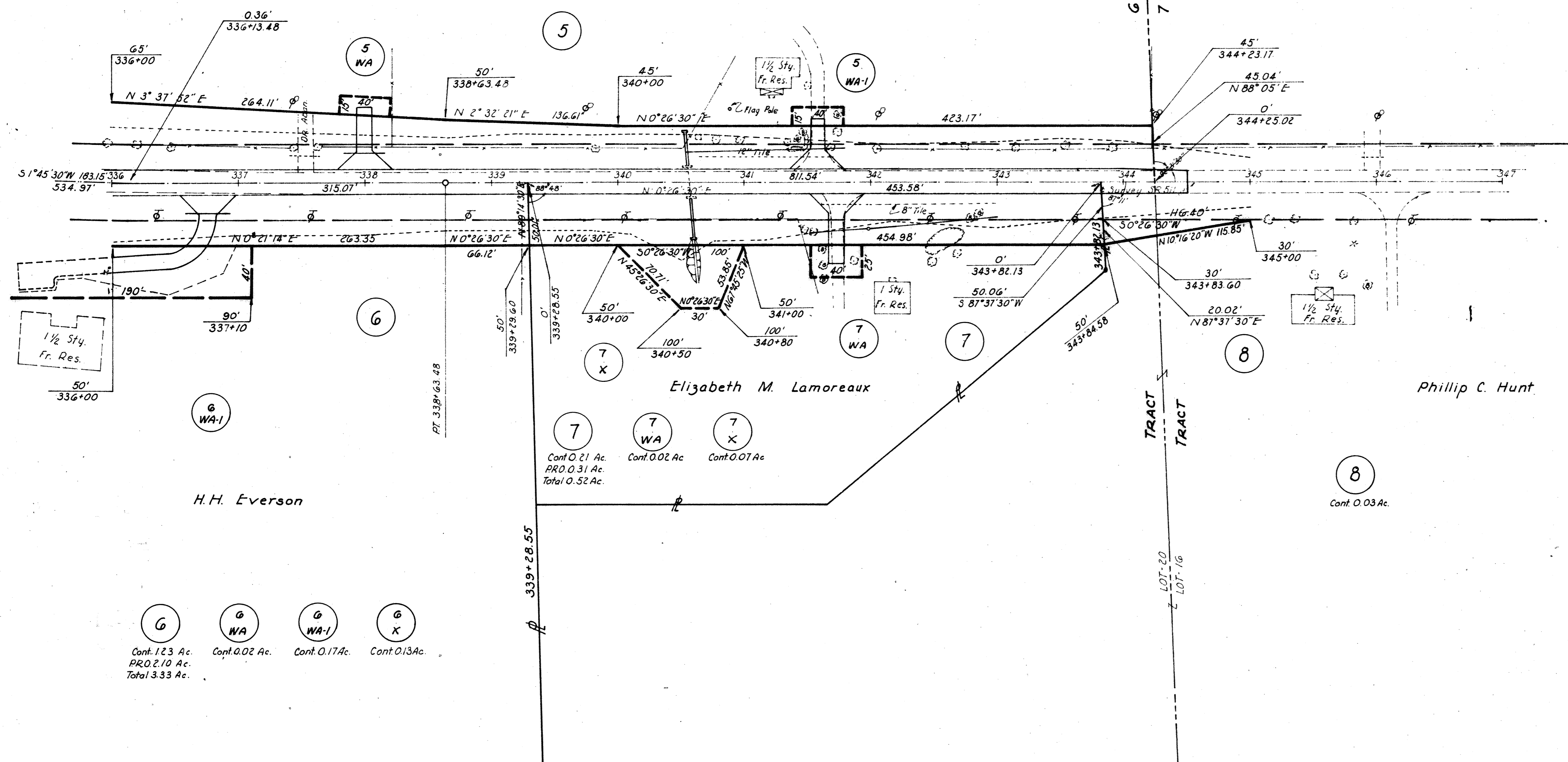
CURVE DATA
 PC 333+63.48
 PI 336+13.42
 PT 338+63.48
 Δ: 0°20' Rt
 D: 0°04'
 T: 250.00'
 L: 500.00'
 E: 0.36'
 R: 85,943.70

5
Cont 0.49 Ac.
PRD 0.68 Ac.
Total 1.17 Ac.

5 WA
Cont 0.01 Ac.

5 WA-1
Cont 0.01 Ac.

Clair Goss



6
Cont 1.23 Ac.
PRD 2.10 Ac.
Total 3.33 Ac.

6 WA
Cont 0.02 Ac.

6 WA-1
Cont 0.17 Ac.

6 X
Cont 0.13 Ac.

H.H. Everson

7
Cont 0.21 Ac.
PRD 0.31 Ac.
Total 0.52 Ac.

7 WA
Cont 0.02 Ac.

7 X
Cont 0.07 Ac.

Elizabeth M. Lamoreaux

8
Cont 0.03 Ac.

Phillip C. Hunt

BRIGHTON TWP T3N R19W