

FED. RD. DIST. NO.	STATE	FED. AID PROJECT	FISCAL YEAR
10	OHIO		

S.H. (I.C.H.) 288 SEC. P.
LORAIN CO.

State to pay 100 to 18'
State + County 50-50 on 2'

STATE OF OHIO
DEPARTMENT OF HIGHWAYS AND PUBLIC WORKS
DIVISION OF HIGHWAYS

MILAN ~ ELYRIA ROAD

STATE HIGHWAY (I.C.H.) No 288 SEC. P PET. No 6315
LORAIN COUNTY
HENRIETTA & RUSSIA TWS. JULY 1927.

18% Total Est. to be 50-50 - (2' widening) \$ 111,900
Culverts + Bridges 2' on each.
Insurance + Eng. Contn.
Payment 2' in middle

INDEX

Title Page	p. 1
Typical Cross Section	p. 2-2A
Plans and Profile	p. 3-8
Cross Sections	p. 9-18
Structural Plans	p. 19-20
Summary Sheet	p. 21

The Standard Specifications of the State Highway Department of Ohio in force on date of contract will govern this improvement.

I hereby approve these plans and declare the making of this improvement will not require the closing to traffic of the highway if the concrete type be constructed. If the Bit Mac. type be constructed the road shall be closed to traffic and detours will be furnished as shown on the plans and estimates.

Approved: C. T. Bings
Date, 8-9-27 RESIDENT DISTRICT DEPUTY

Approved: J. S. Brindley
Date, 8/19/27 RESIDENT DIVISION DEPUTY

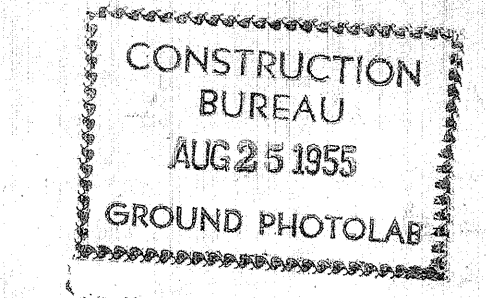
Approved: Robt. Heigler
Date, 4/29/29 FIRST ASST. DIRECTOR CHIEF ENGINEER

Approved: Robt. N. Ward
Date, 4/29/29 STATE HIGHWAY DIRECTOR

Approved: Amel. [Signature]
Date, 4-24-29 DEPUTY DIRECTOR

Approved: _____
Date, _____ DEPUTY DIRECTOR

Approved: _____
Date, _____ DEPUTY DIRECTOR



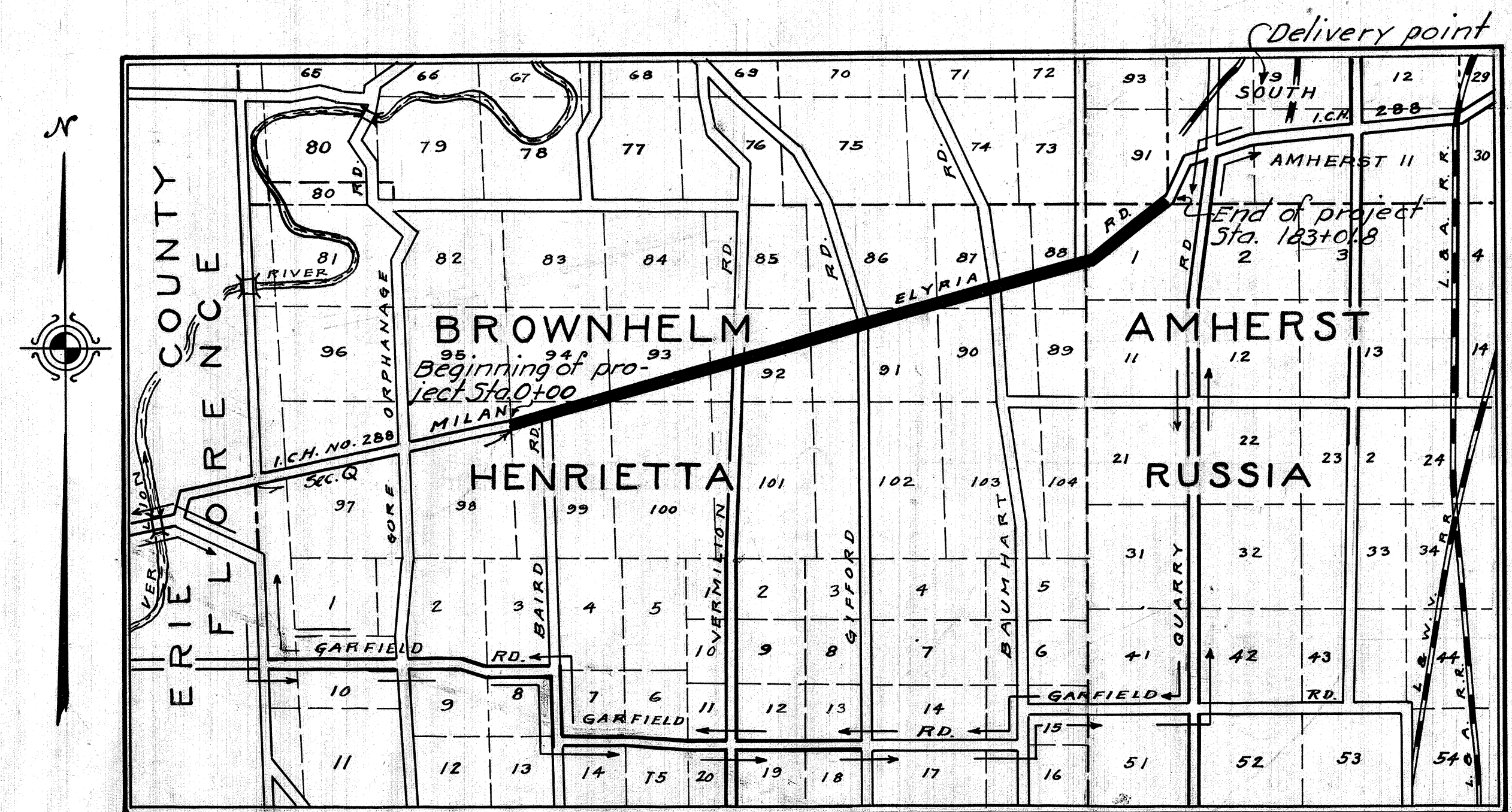
CONVENTIONAL SIGNS

- State line
- County line
- Township line
- Section line
- Property line not fenced
- Center line
- City or Village line
- Fence
- Telephone or Telegraph
- Steam railroad
- Electric line
- Drain pipe new
- Drain pipe old
- Guard rail

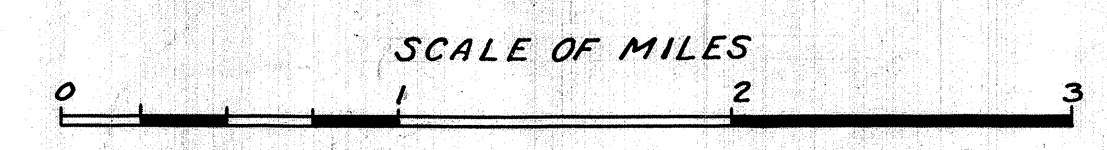
We, the Commissioners of Lorain County hereby approve these plans and certify that the right-of-way 66 feet wide is available for the construction, maintenance and repair of the above highway.

George Rhoads
W. B. Richmond
C. D. Murray

Date: 8-10-27 County Commissioners.



LOCATION PLAN



PORTION TO BE IMPROVED
DETOURS SHOWN THUS
IMPROVED ROADS

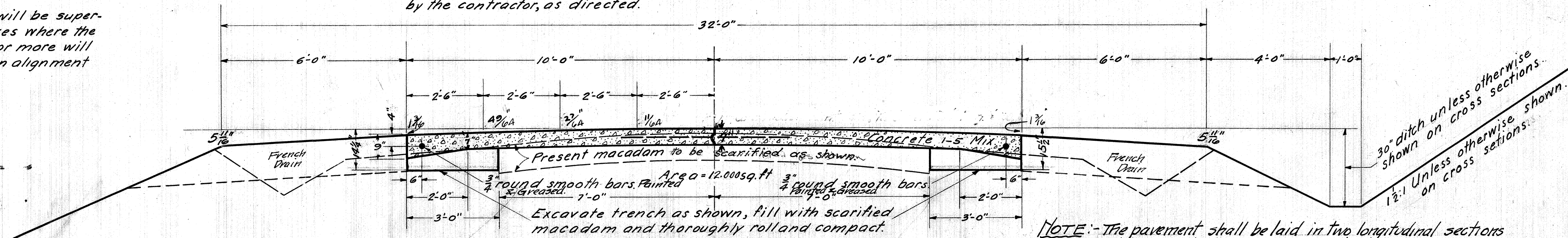
SCALES
Plan 1" = 100'
Profile (Vertical) 1" = 10'
Profile (Horizontal) 1" = 100'
Cross Sections 1" = 5'

FED. RD. DIST. NO.	STATE	FED. AID PROJECT	FISCAL YEAR
10	OHIO		1927

S.H. (I.C.H.) 288 SEC. P.
LORAIN CO.

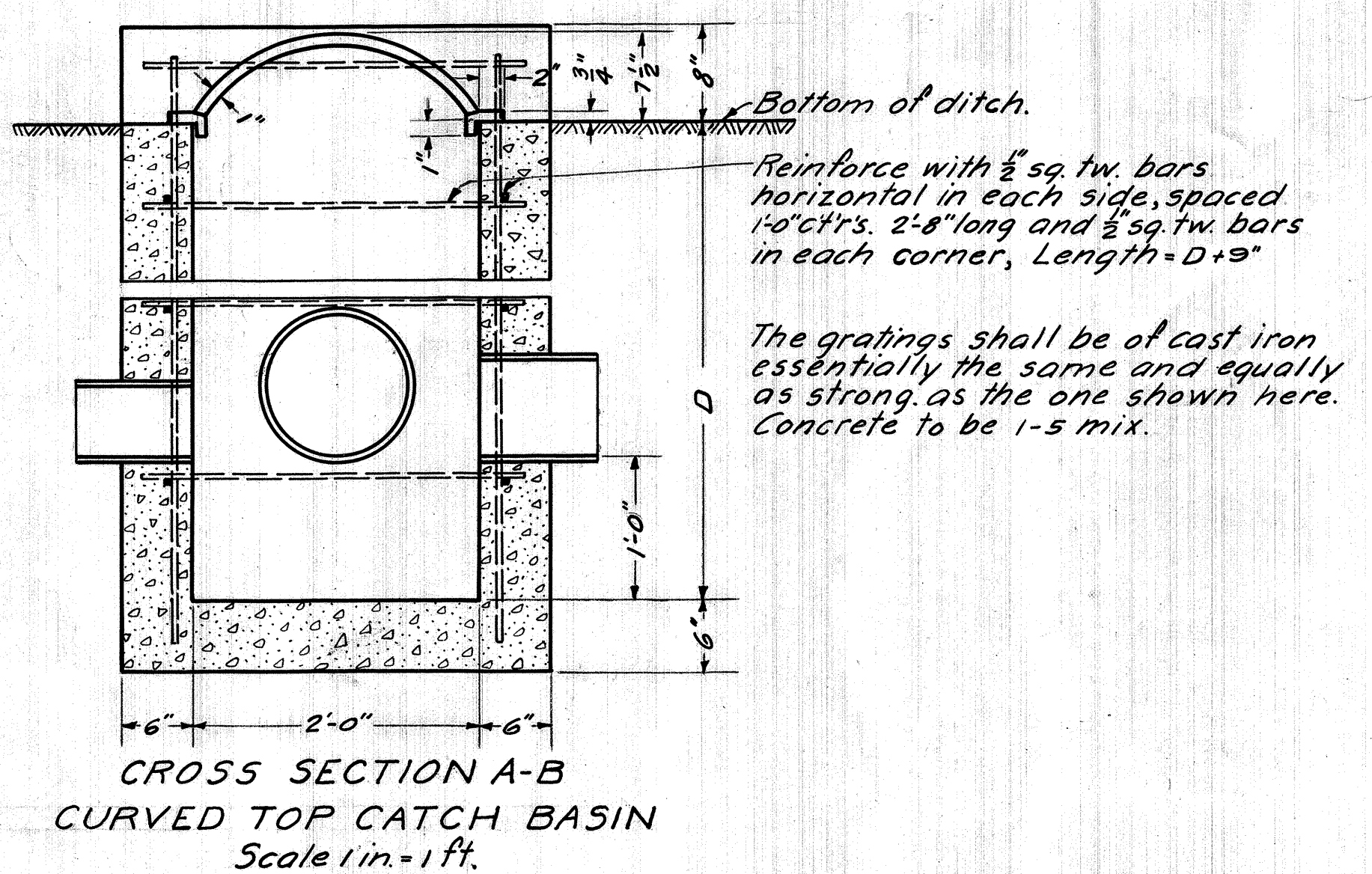
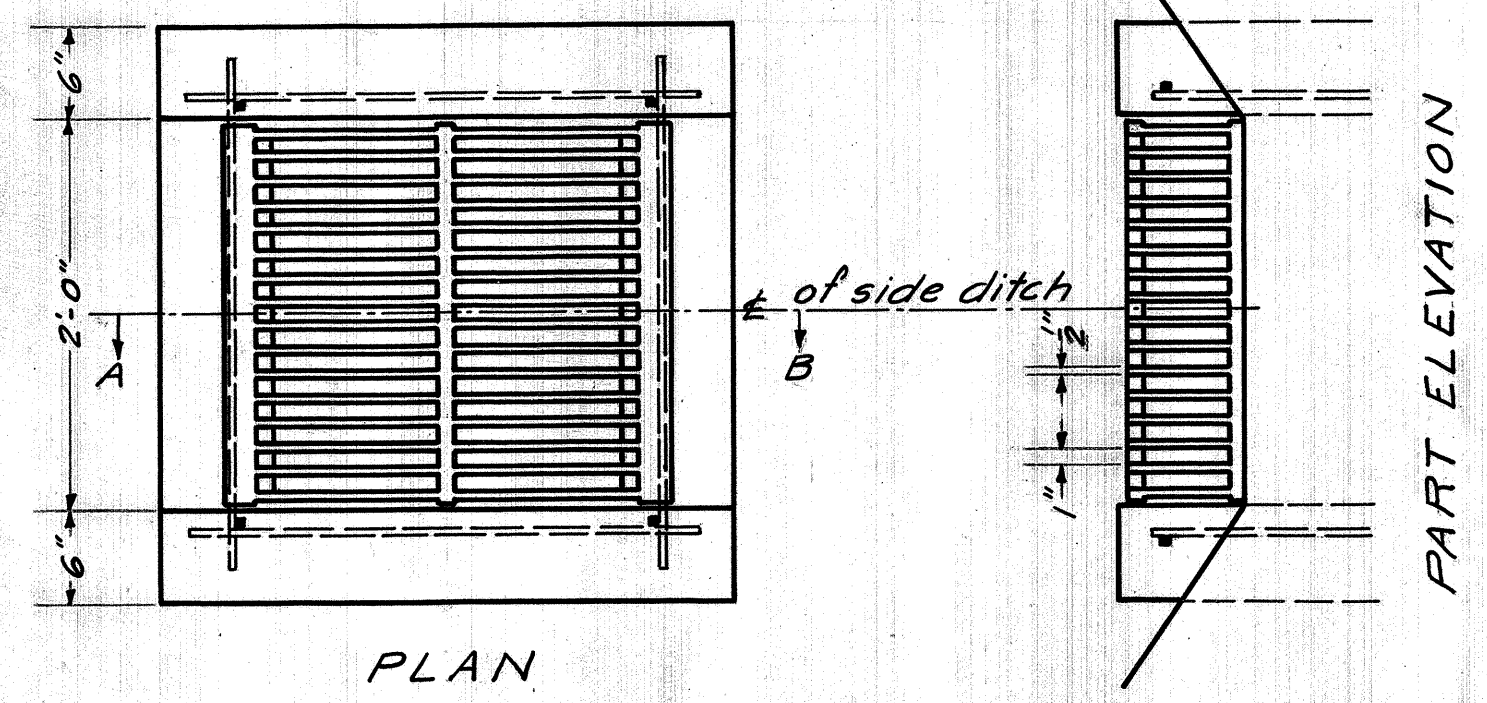
Note: All excavated materials shall be so distributed along the road as to make the shoulders the minimum widths shown on the cross sections.
All excess excavated materials shall be used to uniformly widen the shoulders on the fills on both sides, as directed.
The shoulders, slopes and ditches shall be cut and trimmed to the dimensions shown on the cross sections.
All present guard rail necessary to be moved shall be taken down and neatly stored by the contractor, as directed.

Note: Pavement on all curves will be super-elevated and on all curves where the degree of curvature is 5° or more will be widened. See tables on alignment sheets.

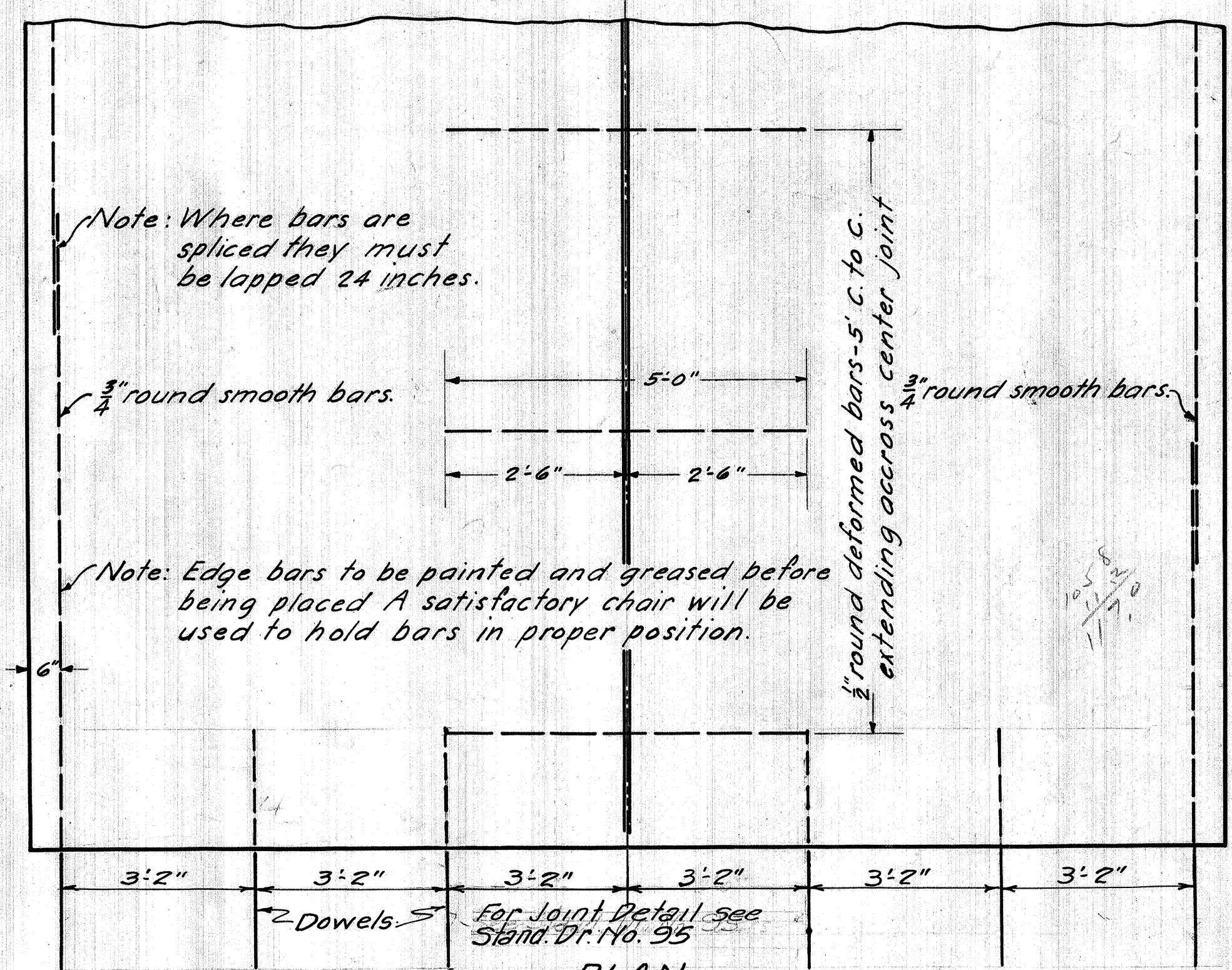


TYPE-C
TYPICAL CROSS SECTION
TO CONFORM TO STD. DR. NO. 98 or 100.
TRANSVERSE JOINTS ACCORDING TO STD. DR. NO. 95.

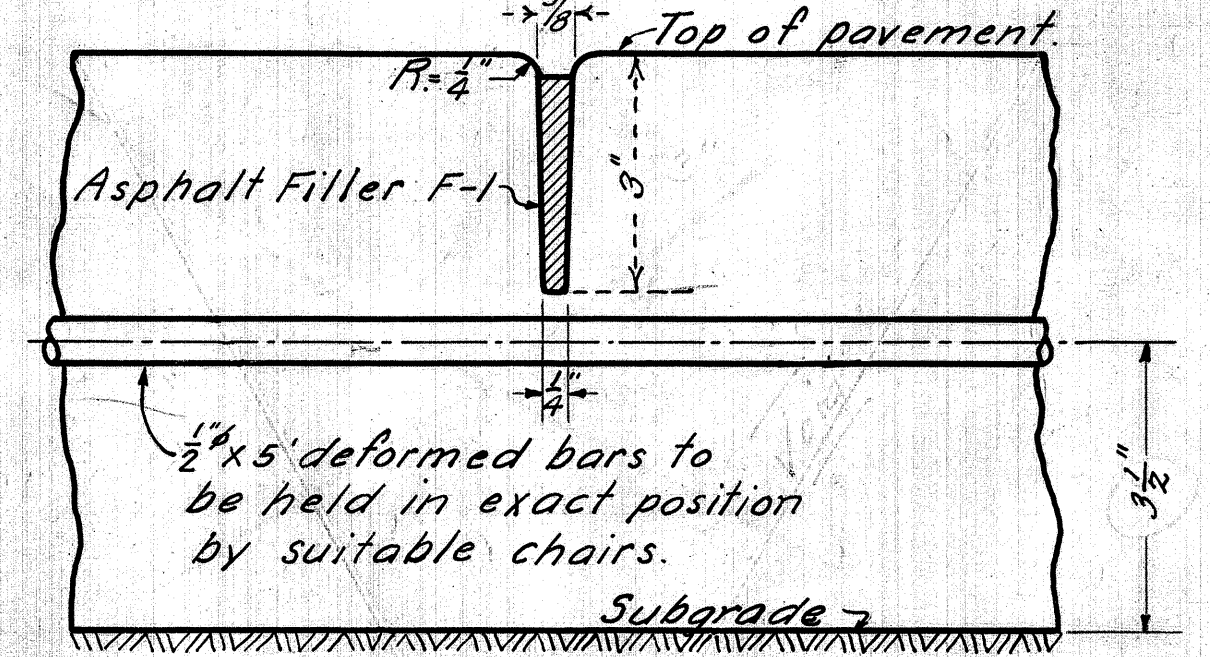
NOTE: - The pavement shall be laid in two longitudinal sections with a joint at the crown as indicated.
The contractor shall maintain traffic on one half the road while the other half is being built and shall provide adequate protection to the pavement against traffic. Also provide flagmen and watchmen, day and night (24 hours) during entire course of construction.
All of same to be included in the unit price bid for "Erecting and maintaining lights, signs, barricades, flagmen and watchmen"



DETAIL OF CONCRETE
BASE OVER TRENCHES Type C
Sta. 43+69 & 133+75

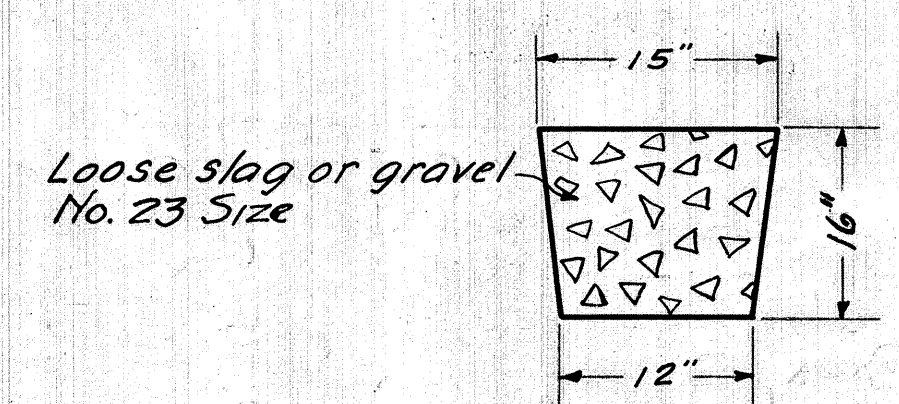


Sleeved dowel transverse expansion and contraction joints to be placed at every 40' interval.
See Standard Drawing No. 95



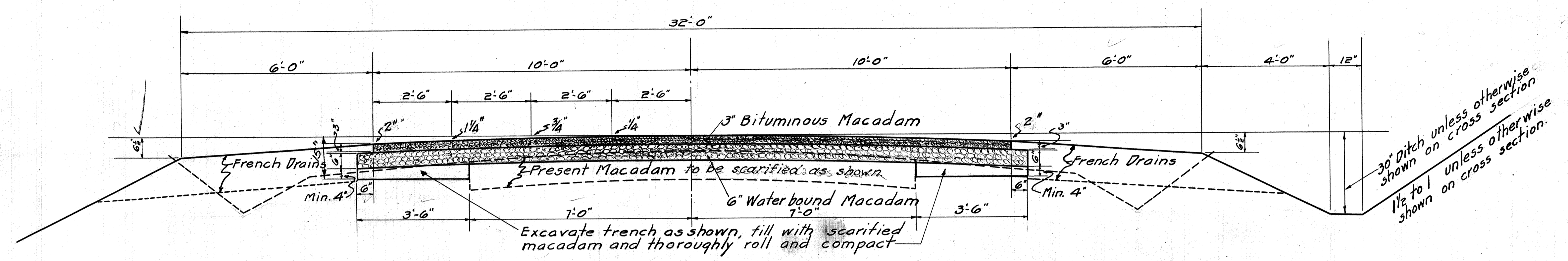
DETAIL OF LONGITUDINAL JOINT DWG. No 98
ALTERNATE " " DWG. No 100

Description: This joint shall be formed by impressing a device or bar into the newly deposited concrete before initial setting. The device or bar shall be removed as soon as the concrete is in such condition as to preclude distortion or injury to the concrete. The groove thus formed shall be on the center line of the pavement and of the dimension shown on the plan. After the joint is formed it must be protected from dirt and foreign matter until the filler is placed. The joint shall be filled to within one quarter inch of the top with Asphalt Filler F-1. The asphalt filler shall be handled in such a manner that it will be confined to the joint and in no wise mar the surface of the pavement.



French drains not more than 200 ft. apart - both sides = 183 x 7' Long = 1281 Lin. Ft.

TYPICAL SECTION
TYPE - M-ST



TEST HOLES
PRESENT MACADAM

STATION	LOCATION	DEPTH SURF MACADAM	DEPTH-BASE SANDSTONE	TOTAL DEPTH
0+00	5'-L	4"	7 1/2"	11 1/2"
5+00	C	4 1/2"	9 1/2"	14"
10+00	5'-R	5 3/4"	14"	19"
15+00	5'-L	3 1/2"	9 1/2"	13"
20+00	C	4 1/2"	7 1/2"	11 3/4"
25+00	5'-R	4 1/4"	8 1/2"	12 3/4"
30+00	5'-L	4"	13"	17"
35+00	C	3 1/2"	7 1/2"	11"
40+00	5'-R	4 1/2"	7"	11 1/2"
45+00	5'-L	4 1/2"	7 1/2"	11 1/2"
50+00	C	3 1/2"	7"	10 1/2"
55+00	5'-R	4 1/2"	9 1/4"	13 3/4"
60+00	5'-L	4 1/2"	6 1/2"	11"
65+00	C	5 1/2"	6"	11 1/2"
70+00	5'-R	5 1/2"	7 1/2"	13"
75+00	5'-L	4 1/2"	7 1/2"	12 1/2"
80+00	C	5"	5 1/2"	10 1/2"
85+00	5'-R	4"	5 3/4"	9 3/4"
90+00	5'-L	3 3/4"	7 3/4"	11 1/2"
95+00	C	5"	10"	15"
100+00	5'-R	5"	10"	15"
105+00	5'-L	4 1/4"	9"	13 1/4"
110+00	C	4"	5 1/2"	9 1/2"
115+00	5'-R	4 1/4"	7"	11 1/2"
120+00	5'-L	3 1/2"	6 1/4"	9 3/4"
125+00	C	4 3/4"	4 3/4"	9 1/2"
130+00	5'-R	6"	6"	12"
135+00	5'-L	6"	6 1/2"	12 1/2"
140+00	C	5 1/4"	7 1/4"	12 1/2"
145+00	5'-R	4 1/2"	6 1/2"	11"
150+00	5'-L	5"	7"	12"
155+00	C	4"	6"	10"
160+00	5'-R	4 1/4"	7 1/4"	11 1/2"
165+00	5'-L	5 1/2"	6 1/2"	11 1/2"
170+00	C	4 1/4"	6 1/2"	10 3/4"
175+00	5'-R	6"	8"	14"
180+00	5'-L	5 3/4"	6 3/4"	10 1/2"

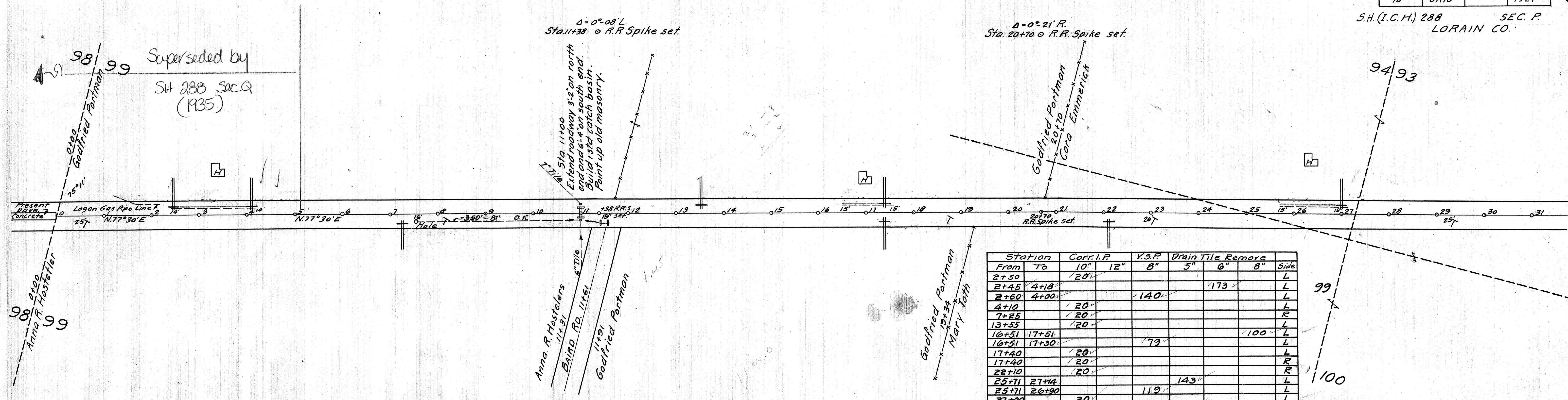
Note:- Present Macadam Pavement to be scarified and spread to a width of 21'-0" with Min. Depth of 4" and to crown as shown. The same to be thoroughly rolled and compacted.

Note: Grade for Type M-ST is 3" above grade shown on profile and cross-section sheets.

Excavation For Type "M-ST"
 Total Roadway Excavation for Type "C" = 10,712.1 Cu.Yds.
 Grade raised 2" for Type M-ST shoulders 1 1/4"
 Deduct Shoulders, Slopes and Ditches
 in Cut = 224,400 Sq.Ft x 0.0989 = 27 = - 822.0 "
 Deduct difference in reshaped macadam sub-grade shoulder. (All in Cut)
 Approx. (6.0 x 10) - (1.0 x 2) = 0.45 Sq.Ft. less Cut area = - 271.1 "
 18 301.8 Lin. Ft x 0.4 = 72.72 = - 727.2 "
 Total Roadway Exc. Type M-ST = 9619.0 "

Total Roadway Embankment + 25% for Type "C" = 11,781.0 Cu.Yds.
 Add Shoulders, Slopes, in Fill
 (276,200 Sq.Ft. x 0.0989 = 27) x 125% = + 4,266.6 "
 Total Net Embankment + 25% Shrink = 13,047.6 Cu.Yds
 Total Net Borrow, Type M-ST = 3,426.6 "

	Roadway Exc.	Borrow
Total Exc.	9619.0 ✓	3426.6 ✓
18% County-State	1731.4 ✓	616.8 ✓
All State	7887.6 ✓	2809.8 ✓



Station	Corr. I.P.	V.S.P.	Drain Tile Remove	Side
From To	10" 12"	8"	5" 6" 8"	
2+50	20"			L
2+45 4+18			173	L
2+60 4+00		140		L
4+10	20"			L
7+25	20"			R
13+55	20"			L
16+51 17+51			100	L
16+51 17+30		79		L
17+40	20"			L
17+40	20"			R
22+10	20"			R
25+71 27+14			143	L
25+71 26+90		119		L
27+00	20"			L

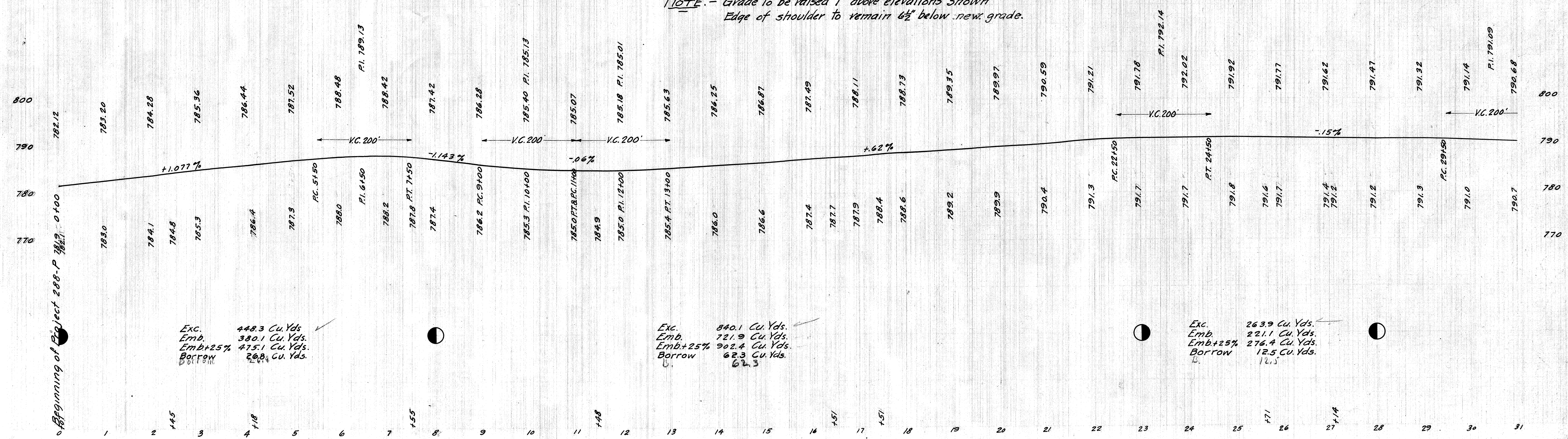
Note: Grade line shown is crown of old macadam.

B.M. Sta. 3+35
x On stepping stone-L
Elev. 786.53

B.M. Sta. 11+00
x On N.W. corner cul.
Elev. 785.59

B.M. Sta. 27+75
R.R. Spike in pole-R.
Elev. 791.44

NOTE:- Grade to be raised 1" above elevations shown
Edge of shoulder to remain 6 1/2" below new grade.



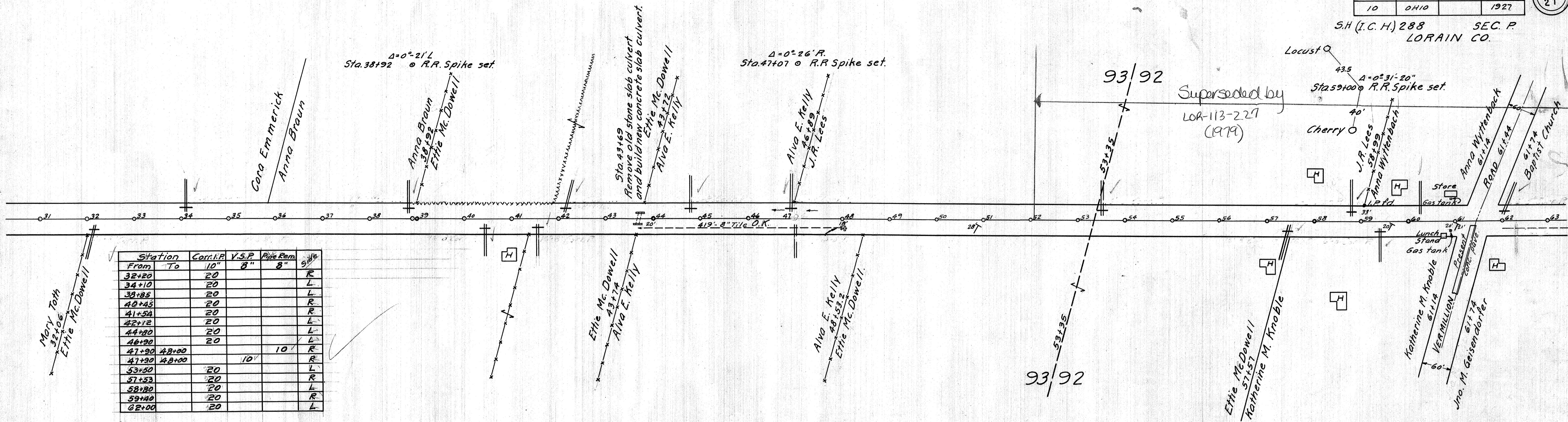
Exc. 448.3 Cu. Yds.
Emb. 380.1 Cu. Yds.
Emb+25% 475.1 Cu. Yds.
Borrow 268.4 Cu. Yds.

Exc. 840.1 Cu. Yds.
Emb. 721.9 Cu. Yds.
Emb+25% 902.4 Cu. Yds.
Borrow 62.3 Cu. Yds.

Exc. 263.9 Cu. Yds.
Emb. 221.1 Cu. Yds.
Emb+25% 276.4 Cu. Yds.
Borrow 12.5 Cu. Yds.

Beginning of Project 288-P 282.2 - 0+00

S.H. (I.C.H.) 288 SEC. P.
LORAIN CO.

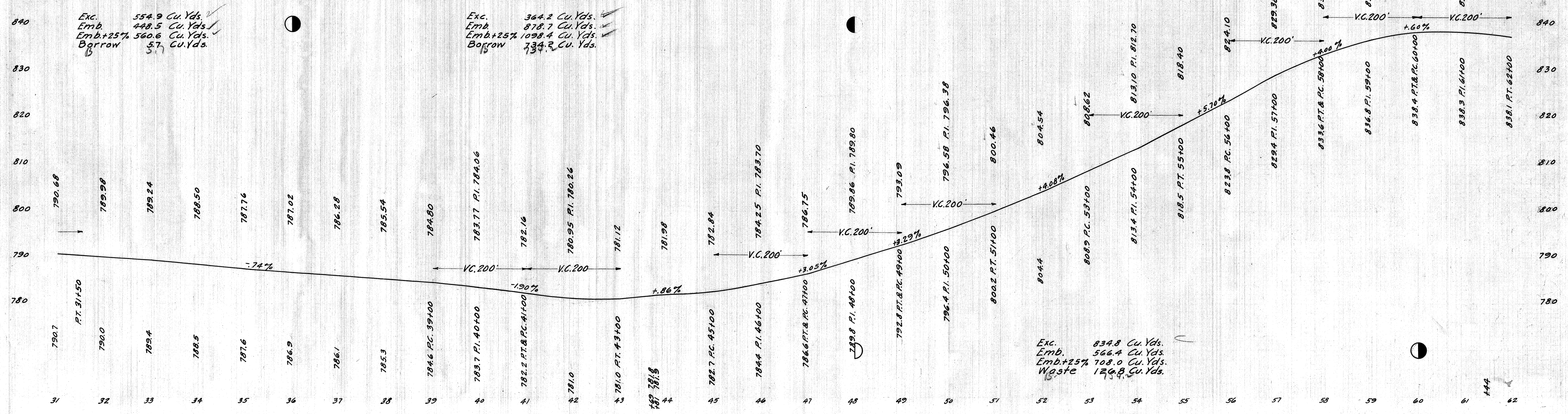


Station	Corr. P.	V.S.P.	Pipe Rem.	Side
From To	10'	8"	8"	
32+20	20			R
34+10	20			L
38+85	20			L
40+45	20			R
41+54	20			R
42+12	20			L
44+20	20			L
46+20	20			L
47+20	48+00	10'	10'	R
47+20	48+00	10'		R
53+50	20			L
57+53	20			R
58+20	20			L
59+20	20			R
62+00	20			L

B.M. Sta 34+35
Staples in Maple - L
Elev. 788.86

B.M. Sta. 50+80
R.R. Spike in pole - R.
Elev. 799.55

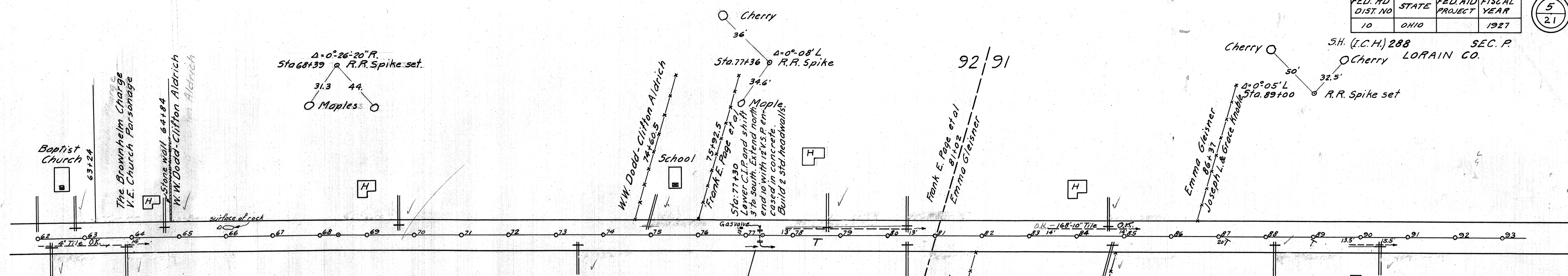
B.M. Sta. 60+15
x Onstone in root of maple - L
Elev. 839.24



FED. RD DIST. NO	STATE	FED. AID PROJECT	FISCAL YEAR
10	OHIO		1927

5
21

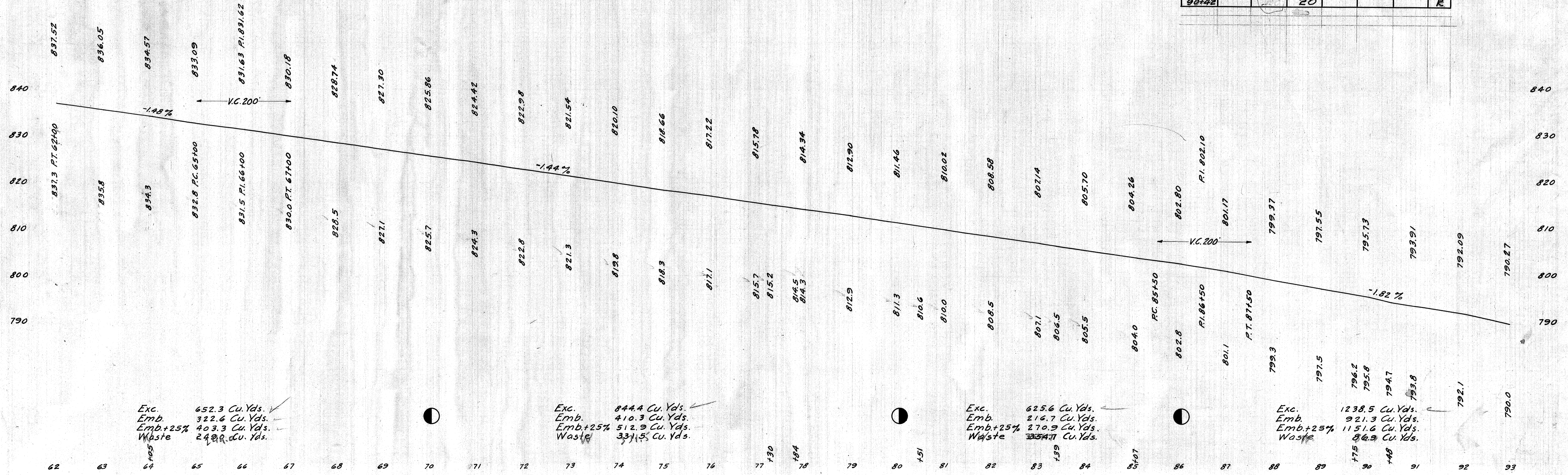
S.H. (I.C.H.) 288 SEC. P
LORAIN CO.



Station	Corr. I.P.	V.S.P.	Pipe Rem'd	g
From To	10" 12" 8"	8" 10"	5"	
62+30	20			R
62+80	20			L
63+30	20			R
64+70	20			L
69+70	20			L
73+46		20		R
74+20		20		R
77+84 80+51			267 26	L
77+84 78+65		81		L
78+75	20			L
78+85 80+30		145		L
80+40	20			L
80+40	20			R
84+65	20			L
84+75	20			R
88+20	20			R
89+75 90+48		57	73	R
89+75 90+32				R
90+42	20			R

B.M. Sta. 65+25
Staples in maple - R.
Elev. 833.66

B.M. Sta. 75+00
x On pump stone - L
Elev. 819.58

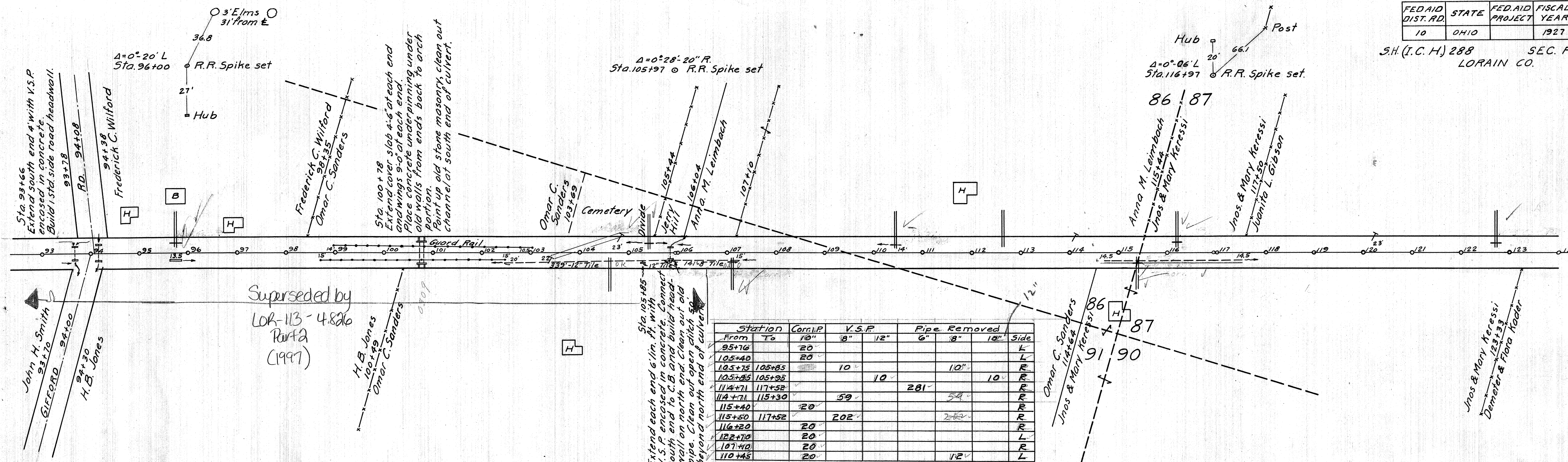


Exc. 652.3 Cu. Yds.
Emb. 322.6 Cu. Yds.
Emb.+25% 403.3 Cu. Yds.
Waste 249.9 Cu. Yds.

Exc. 844.4 Cu. Yds.
Emb. 410.3 Cu. Yds.
Emb.+25% 512.9 Cu. Yds.
Waste 337.5 Cu. Yds.

Exc. 625.6 Cu. Yds.
Emb. 216.7 Cu. Yds.
Emb.+25% 270.9 Cu. Yds.
Waste 334.7 Cu. Yds.

Exc. 1238.5 Cu. Yds.
Emb. 921.3 Cu. Yds.
Emb.+25% 1151.6 Cu. Yds.
Waste 86.9 Cu. Yds.

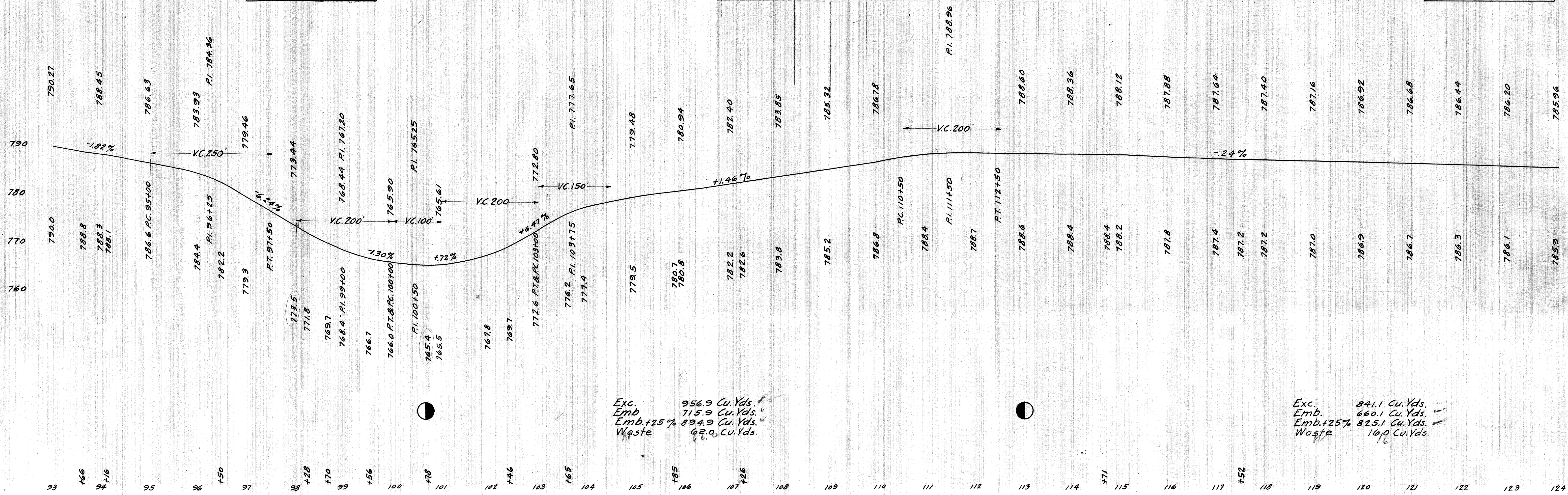


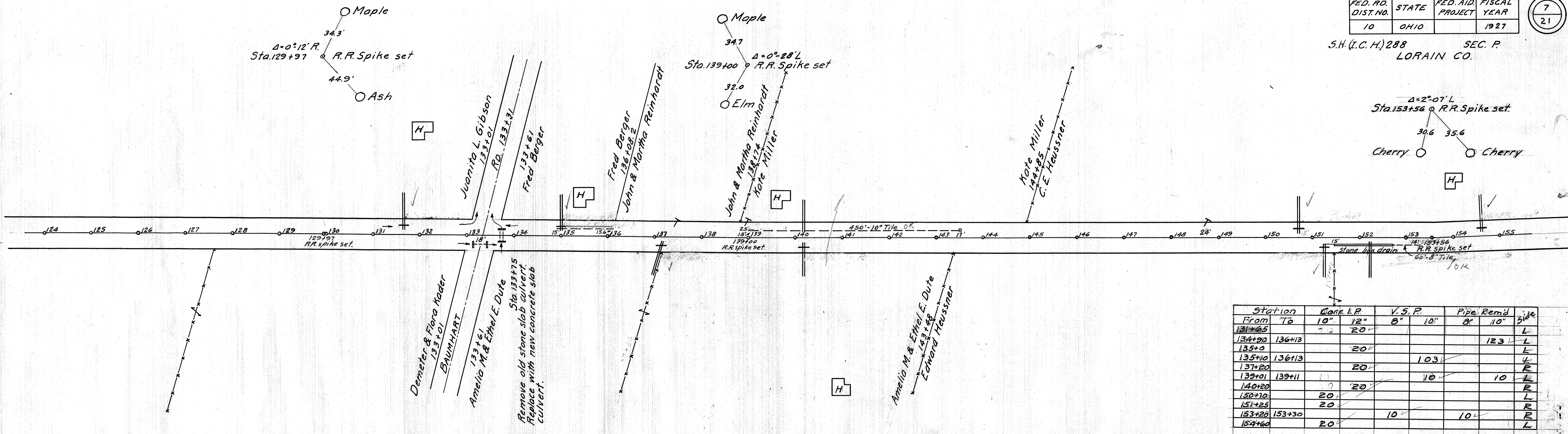
Station	Corr. P.	V.S.P.	Pipe Removed	Side		
From 95+70	To 20	8"	12"	6"	8"	Side
105+40	20					L
105+75	105+85	10		10"		R
105+95	105+95		10		10"	R
114+71	117+52		281"			R
114+71	115+30	39		54"		R
115+40	20					R
115+50	117+52	202		282"		R
116+20	20					R
122+70	20					L
127+40	20					R
110+45	20			12"		L

Superseded by
 LOR-113-4826
 Part 2
 (1997)

B.M. Sta. 98+15
 R.R. Spike Pole - R.
 Elev. 773.01

B.M. Sta. 122+29
 R.R. Spike Pole - L
 Elev. 786.63

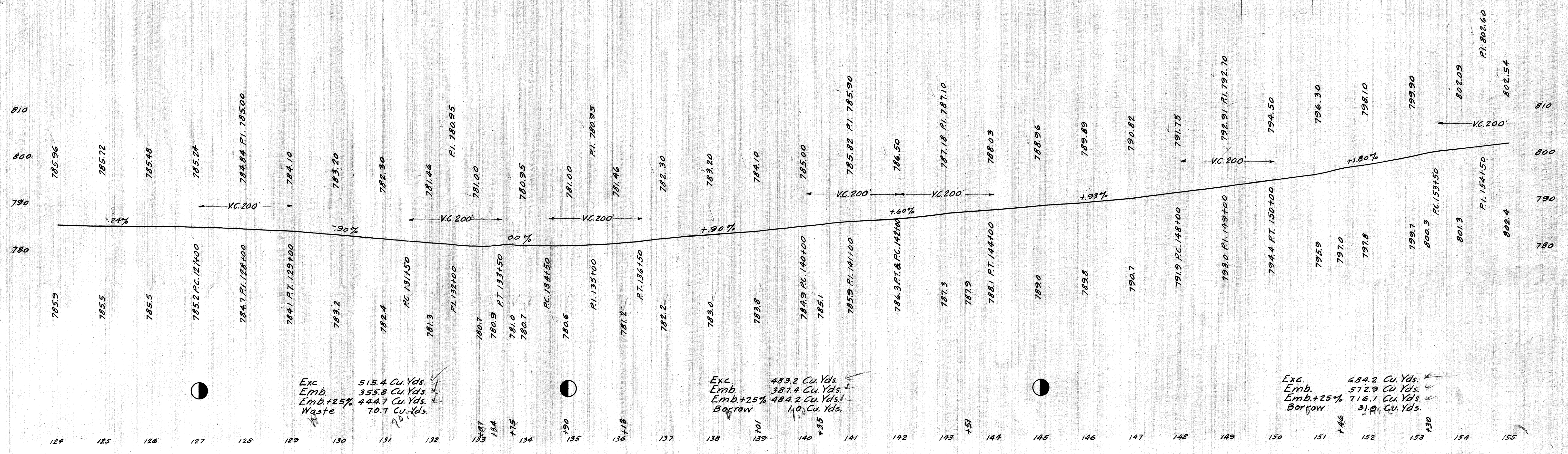


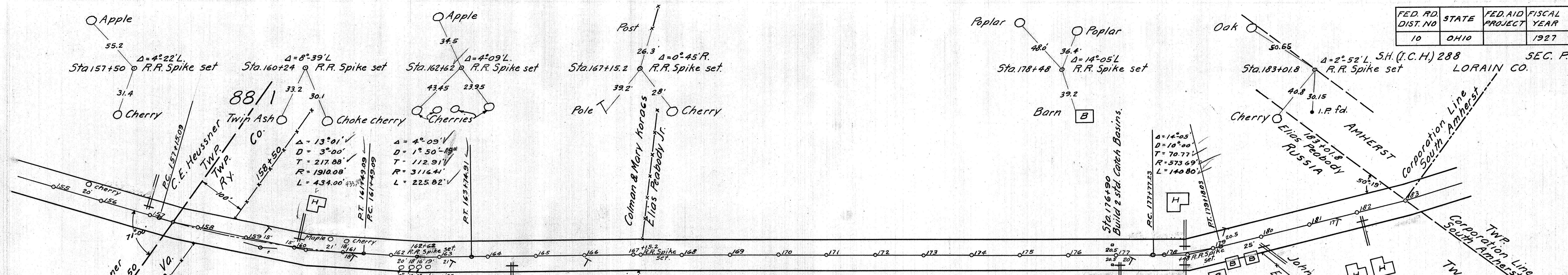


Station	Class. I.P.	V.S.P.	Pipe Remd	Side
From To	10"	12"	8"	10"
131+65		20'		123
134+90	136+13			L
135+0		20'		L
135+10	136+13		103'	L
137+20		20'		R
139+01	139+11		10'	L
140+20		20'		R
150+10		20'		L
151+25		20'		R
153+20	153+30		10'	R
154+60		20'		L

B.M. Sta. 139+65
x On walk on L.
Elev. 784.72

B.M. Sta. 147+55
Staples in Elm-L
Elev. 791.25





Left		Right			
Edge of Pave.	Width	Station	Grade Elev.	Width	Edge of Pave.
802.43	10	156+15.09	802.60	10	802.43
802.43	10	+25	802.60	10	802.48
802.43	10	+50	802.60	10	802.60
802.43	10	+65.09	802.60	10	802.67
802.43	10	+75	802.60	10	802.72
802.43	10	157+00	802.60	10	802.84
802.45	10	RC.+15.09	802.62	10	802.93
802.46	10	+25	802.63	10	802.99
802.53	10	+50	802.70	10	803.18
802.61	10	+65.09	802.78	10	803.33
802.66	10	+75	802.83	10	803.38
802.73	10	158+00	803.00	10	803.45
803.06	10	+25	803.23	10	803.78
803.33	10	+50	803.50	10	804.05
803.66	10	+75	803.83	10	804.38
804.03	10	159+00	804.20	10	804.75
804.41	10	+25	804.58	10	805.13
804.76	10	+50	804.93	10	805.48
805.06	10	+75	805.23	10	805.78
805.33	10	160+00	805.50	10	806.05
805.56	10	+25	805.73	10	806.28
805.72	10	PI.+45	805.89	10	806.44
805.76	10	+50	805.93	10	806.48
805.91	10	+75	806.08	10	806.63
806.03	10	161+00	806.20	10	806.75
806.13	10	+25	806.30	10	806.85
806.23	10	+49.89	806.40	10	806.95
806.33	10	+75	806.50	10	807.05
806.43	10	162+00	806.60	10	807.15
806.53	10	+25	806.70	10	807.25
806.63	10	+50	806.80	10	807.35
806.73	10	+75	806.90	10	807.45
806.83	10	163+00	807.00	10	807.55

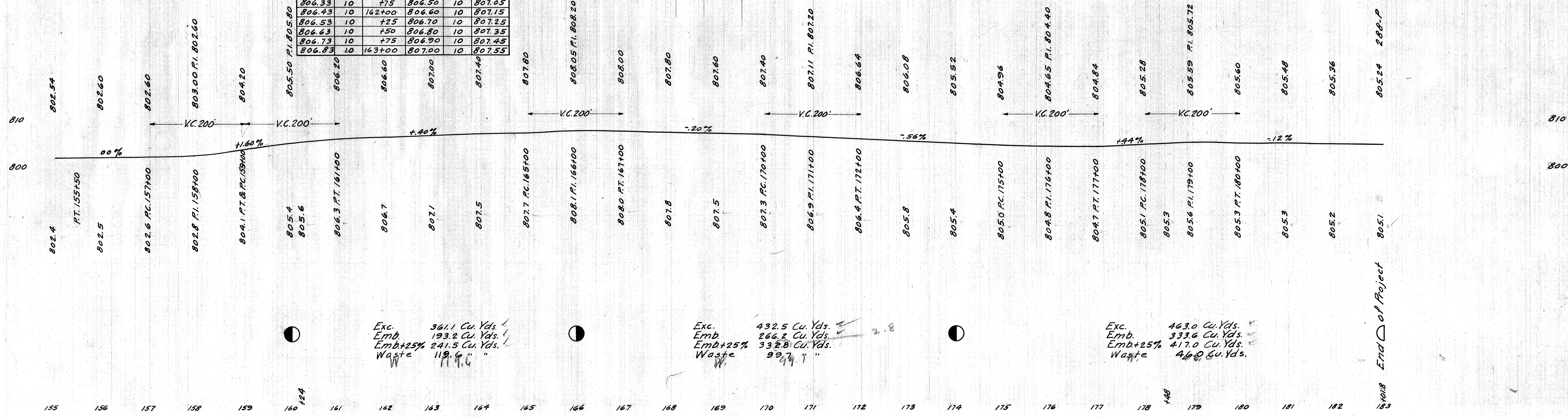
Left		Right			
Edge of Pave.	Width	Station	Grade Elev.	Width	Edge of Pave.
806.93		163+25	807.10		807.65
807.03		+50	807.20		807.63
807.13		+74.91	807.30		807.61
807.23		164+00	807.40		807.59
807.33		+25	807.50		807.57
807.43		+50	807.60		807.55
807.53		+75	807.70		807.53

Station	Corr. LP	5' 100
156+96	20	L
164+05	20	L
164+50	20	R
177+10	20	R
178+45	20	R
178+45	20	L
179+80	20	R
182+05	20	R

Left		Right			
Edge of Pave.	Width	Station	Grade Elev.	Width	Edge of Pave.
804.60	10	176+71.23	804.77	10	804.60
804.67	10.08	177+00	804.84	10	804.91
804.78	10.33	+25	804.95	10	805.29
804.79	10.36	+27.23	804.96	10	805.32
804.89	10.78	+50	805.06	10	805.66
805.00	11.44	+75	805.17	10	806.03
805.01	11.51	RC.+77.23	805.18	10	806.05
805.11	12.11	178+00	805.28	10	806.40
805.21	12.41	+25	805.38	10	806.76
805.22	12.42	+27.23	805.39	10	806.80
805.29	12.42	PI.+48	805.46	10	806.87
805.30	12.42	+50	805.47	10	806.88
805.33	12.42	+68.03	805.50	10	806.91
805.37	12.38	+75	805.54	10	806.88
805.42	12.02	179+00	805.59	10	806.66
805.45	11.51	RT.+18.03	805.62	10	806.50
805.46	11.29	+25	805.63	10	806.44
805.48	10.68	+50	805.65	10	806.20
805.48	10.36	+68.03	805.65	10	806.01
805.49	10.27	+75	805.66	10	805.95
805.43	10.05	180+00	805.60	10	805.62
805.40	10.00	+18.03	805.57	10	805.40

B.M. Sta. 173+88
R.R. Spike in Pole - R.
Elev. 805.10

B.M. Sta. 182+70
Staples in Oak - L
Elev. 806.28



Exc. 361.1 Cu. Yds.
Emb. 193.2 Cu. Yds.
Emb.+25% 241.5 Cu. Yds.
Waste 119.6 "

Exc. 432.5 Cu. Yds.
Emb. 266.2 Cu. Yds.
Emb.+25% 332.8 Cu. Yds.
Waste 99.7 "

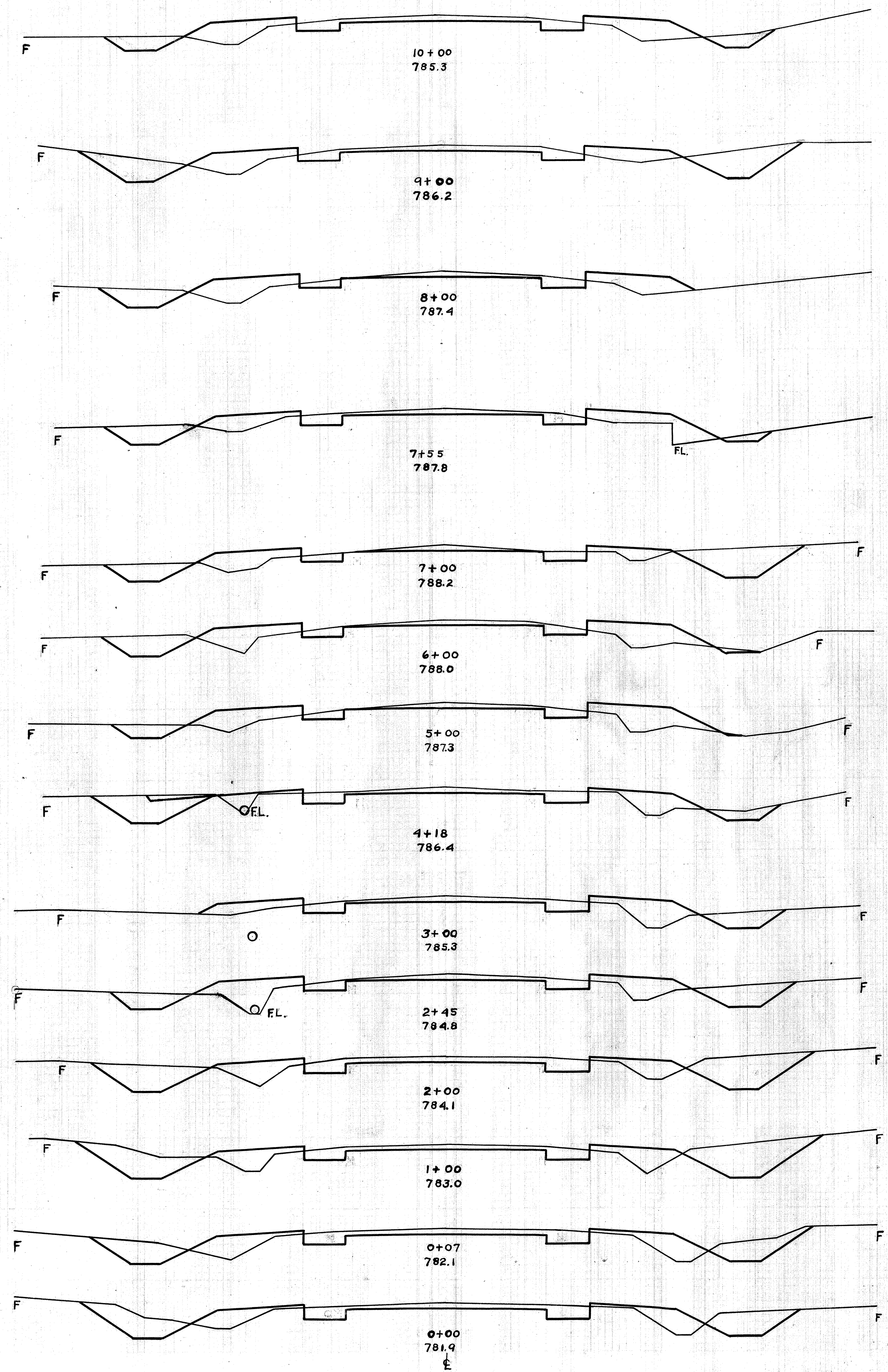
Exc. 463.0 Cu. Yds.
Emb. 333.6 Cu. Yds.
Emb.+25% 417.0 Cu. Yds.
Waste 46.0 Cu. Yds.

END OF PROJECT 183+01.8

FED RD DIST NO	STATE	FED AID PROJECT	FISCAL YEAR
10	OHIO		

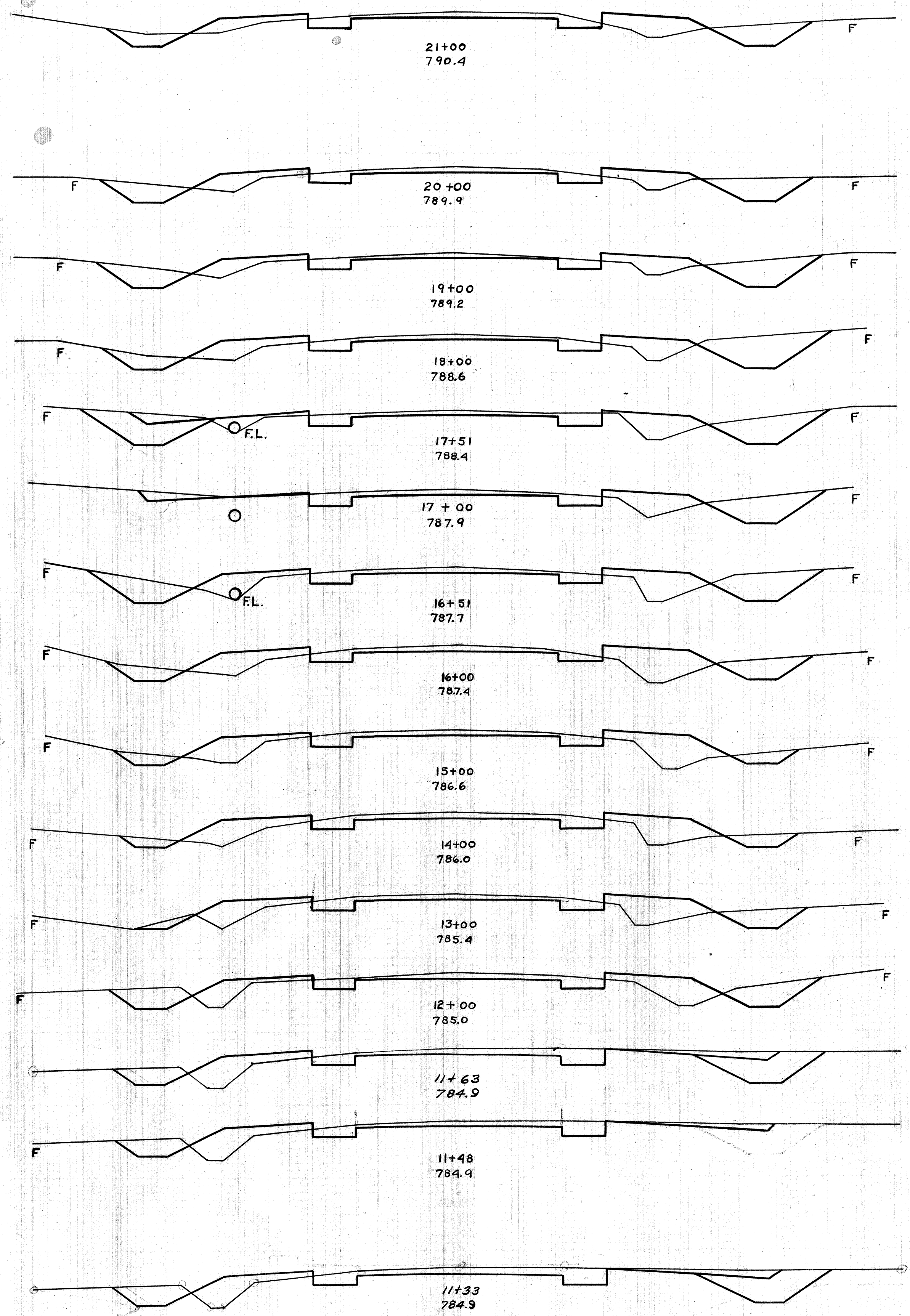
9
21

S.H. (I.C.H.) 288 SEC. P
LORAIN CO



End Area	Cu. Yds.	
	Cut	Fill
70.2	62.8	
72.1	16.5	
32.4	56.5	
10.3	14.0	
37.6	52.4	
10.0	14.3	
15.9	21.3	
9.1	11.3	
30.0	21.5	
20.4	9.8	
53.5	46.5	
11.1	15.3	
31.9	62.6	
6.1	18.5	
34.6	41.7	
16.7	9.0	
7.2	7.3	
32.1	48.3	
2.5	14.8	
17.6	26.6	
9.8	11.3	
13.8	14.6	
34.9	20.6	
28.1	10.1	
106.7	41.0	
29.5	12.5	
85.7	45.7	
20.3	14.0	
5.4	3.4	
21.1	12.3	

Exc 448.3 Cu. Yds
Emb 380.1 " "
Emb + 25% 475.1 " "
Borrow 26.8 " "



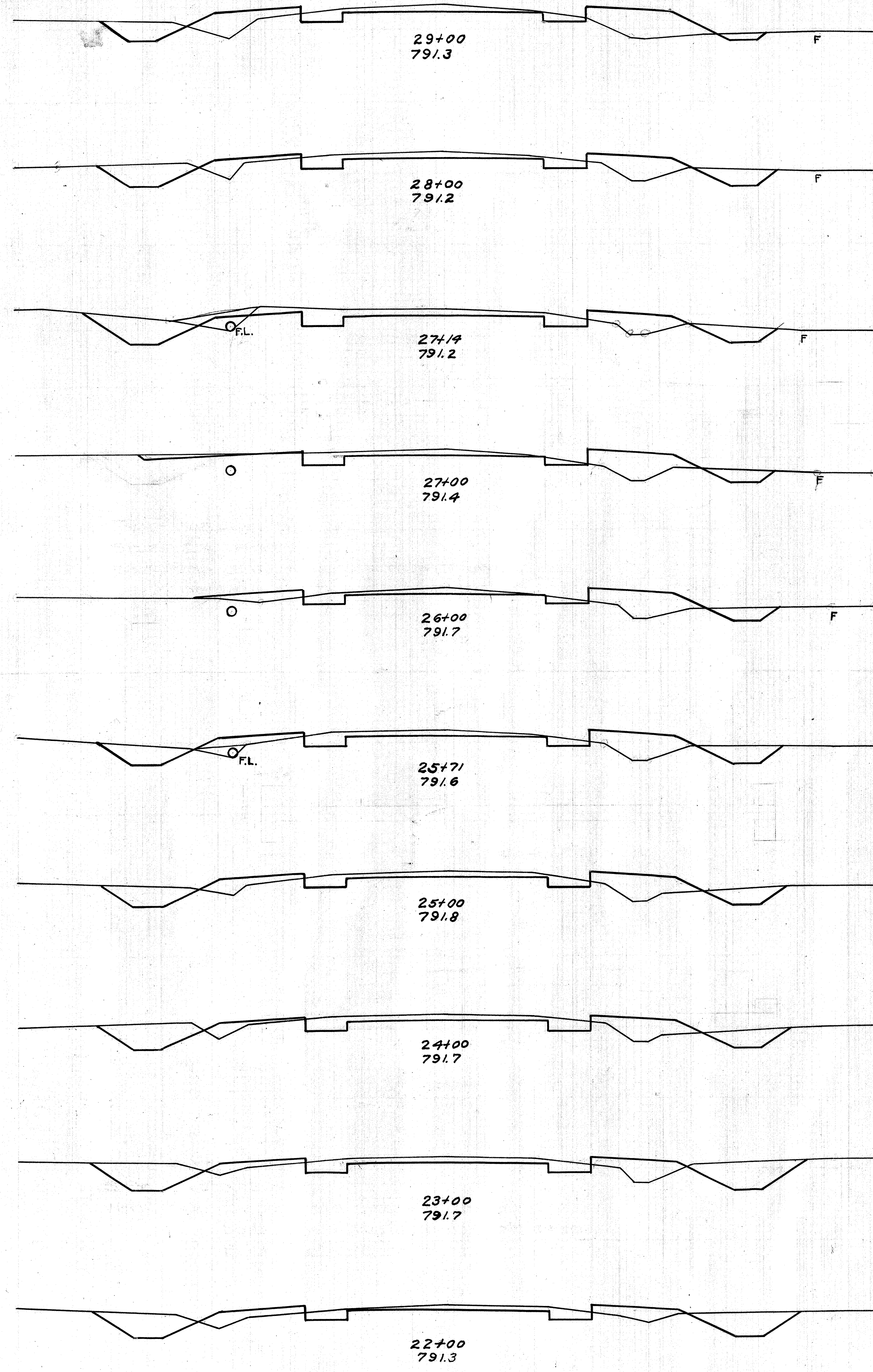
End Area	Cu. Yds.	
	Cut	Fill
14.3	11.8	
		59.1 40.9
17.6	10.3	
		70.0 36.3
20.2	9.3	
		76.9 35.9
21.3	10.1	
		44.8 17.9
28.1	9.6	
15.1	7.6	
		31.4 13.6
17.1	6.8	
		29.2 16.9
15.1	11.8	
22.9	14.1	
		33.7 30.3
12.8	18.0	
		40.9 66.9
9.3	18.1	
		30.4 69.6
7.1	19.5	
		32.2 66.7
10.3	16.5	
		53.9 59.3
18.8	15.5	
		2.75 16.8
21.3	9.0	
10.3	9.0	
		5.7 5.0
10.3	9.0	
21.3	9.0	

Exc 840.1 Cu. Yds
Emb 721.9 " "
Emb + 25% 902.4 " "
Borrow 62.8 " "

FED RD DIST NO	STATE	FED AID PROJECT	FISCAL YEAR
10	OHIO		

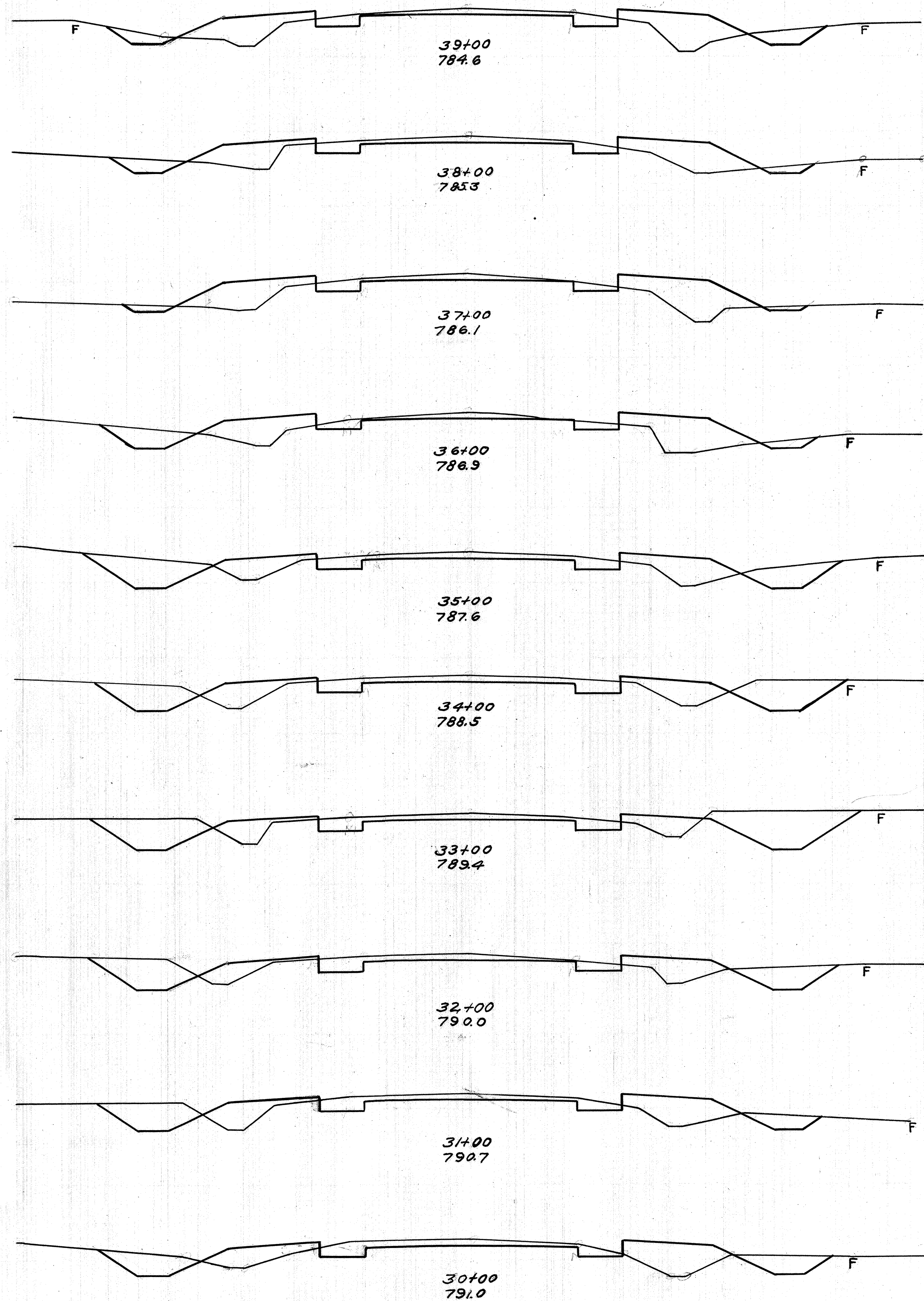
10
21

S.H. (I.C.H.) 288 SEC. P
LORAIN CO



End Area		Cu. Yds.	
Cut	Fill	Cut	Fill
9.3	20.0		452.61
15.1	13.0		55.0 37.1
19.4	10.1	With ditch	
9.9	7.3	" tile	
		4.5	3.8
7.6	7.5		
		2.52	39.8
6.0	14.0		
		7.4	15.1
7.8	14.0	With tile	
13.8	15.0	" ditch	
		36.0	38.6
13.6	14.3		
		5.91	47.8
18.3	11.5		
		76.7	38.9
23.1	9.5		
		8.71	32.4
24.1	8.0		
		7.1	36.7

Exc 263.9 Cu Yds
Emb 22.1 " "
Emb +25% 27.64 " "
Borrow 12.5 " "



End Area		Cu. Yds.	
Cut	Fill	Cut	Fill
7.1	24.0		287.833
8.4	21.0		25.0 83.8
		5.1	24.0
		29.1	81.5
10.6	2.00		
		57.8	63.9
20.6	14.5		
		82.2	52.8
23.8	14.0		
		103.1	43.5
31.9	9.5		
		95.9	42.2
19.9	13.3		
		66.3	53.9
15.9	15.8		
		58.3	61.7
15.6	17.5		
		46.1	69.4

Exc 554.9 Cu Yds
Emb 448.5 " "
Emb +25% 560.6 " "
Borrow 5.7 " "