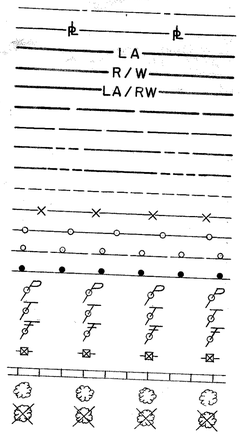
CONVENTIONAL SIGNS

CENTER LINE
PROPERTY LINE
R/W WITH LIMITED ACCESS
R/W WITHOUT LIMITED ACCESS
LIMITED ACCESS AND R/W LINE
CHANNEL CHANGE OR WORK AGREEMENT
EXISTING R/W
COUNTY LINE
TOWNSHIP LINE
CONSTRUCTION LIMITS
EXISTING FENCE LINES
R/W FENCE
EXISTING GUARD RAIL
PROPOSED GUARD RAIL
POWER POLES
TELEPHONE POLES
TELEGRAPH POLES
HIGH VOLTAGE TRANSMISSION LINE
RAILROAD TRACKS
TREES AND STUMPS
TREES AND STUMPS (TO BE REMOVED).



INDEX

LINE DATA

"I" PORTION				IG PORTION	
BEGIN	270+55.06	SUSPEND	380+00.00	BEGIN	339+50.00
SUSPEND	339+50.00	RESUME	410+00.00	SUSPEND	370+00.00
RESUME	370+00.00	END	412+42.00	RESUME	380+00.00
				END	410+00.00

NET LENGTH PROJECT "I" PORTION 8136.94 L.F. or 1.541 Mi. IG PORTION 6050.00 L.F. or 1.145 Mi.
TOTAL LENGTH PROJECT "I-IG" 14,186.94 LIN. FT. OR 2.686 MILES

ADD FOR APPROACHES

			"I" PORTION
SOUTH APPROACH	STA. 269+93 TO 270+55.06	=	62.06 L.F.
ROBERTS ROAD	STA. 9+35 TO 47+25	=	3,790.00 L.F.
WILSON ROAD	STA. 9+00 TO 25+67.80	=	1,667.80 L.F.
SCIOTO DARBY CREEK ROAD	STA. 7+00 TO 12+50	=	550.00 L.F.
NORTH APPROACH	STA. 412+42 TO 413+23	=	81.00 L.F.
			6,150.86 L.F.

NET LENGTH WORK "I" PORTION 14,287.80 LIN. FT. OR 2.706 MILES
NET LENGTH WORK "IG" PORTION 6,050.00 LIN. FT. OR 1.145 MILES
TOTAL LENGTH WORK "I-IG" 20,337.80 LIN. FT. OR 3.851 MILES

PLANS PREPARED BY
BURGESS & NIPLE CONSULTING ENGINEERS
2015 WEST FIFTH AVENUE, COLUMBUS, OHIO
FOR THE STATE OF OHIO
RECOMMENDED FOR APPROVAL
Robert H. Tippett

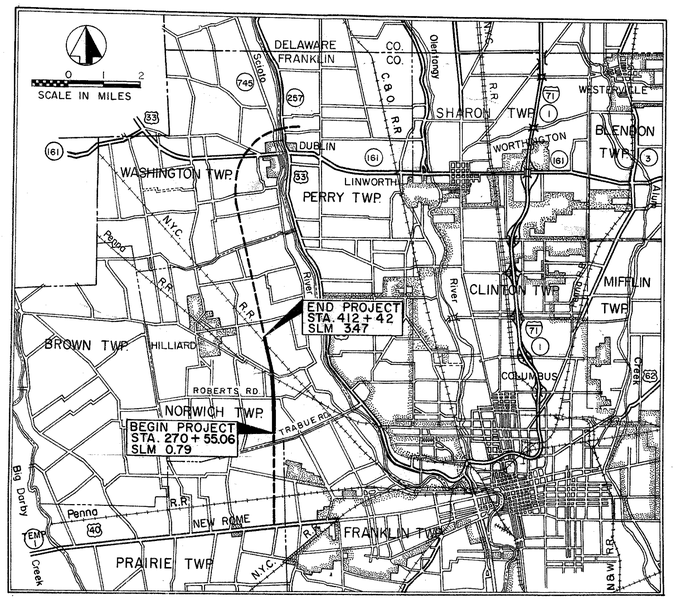
File No	FRANKLIN COUNTY FRA-270-0.79 N
	Date of Letting
	Contract No.

STATE OF OHIO
DEPARTMENT OF HIGHWAYS

FRA-270-0.79N

GRADE SEPARATIONS WITH THE PENNSYLVANIA RAILROAD COMPANY AND NEW YORK CENTRAL RAILROAD COMPANY

NORWICH TOWNSHIP
FRANKLIN COUNTY



LOCATION MAP

Delivery Point HILLIARD - PENNA R.R.
Average haul from siding 3.6 miles

Portion to be improved
State Roads
Other Roads

I-IG-270-5(2)92

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO	I-IG-270-5(2)92	

1/227

FRANKLIN COUNTY
FRA-270-0.79 N

1965 SPECIFICATION

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 the plans and estimates.

APPROVED DATE 8-17-65 — DIVISION DEPUTY DIRECTOR
APPROVED DATE 11-2-65 — ENGINEER OF BRIDGES
APPROVED DATE 12-22-65 — ENGINEER OF LOCATION AND DESIGN
APPROVED DATE 12-22-65 — DEPUTY DIRECTOR OF DESIGN AND CONSTRUCTION
APPROVED DATE 1-3-66 — DEPUTY DIRECTOR OF RIGHT OF WAY
APPROVED DATE 1-3-66 — DEPUTY DIRECTOR OF PLANNING AND PROGRAMMING
APPROVED DATE _____ — FIRST ASSISTANT DIRECTOR
APPROVED DATE 1/4/66 — DIRECTOR OF HIGHWAYS

Sheet Nos. 186, 199, 203 & 204 revised 1-24-67

Sheet Nos. 139 & 140
Revised 2-7-67 C.E.H.

Sheets No. 189, 190 & 199. Revised As-Built 3-13-70
R.F.J.

SCALES IN FEET

PLAN	=	0 50
PROFILE HORIZONTAL	=	0 50
PROFILE VERTICAL	=	0 5
CROSS SECTIONS	=	0 10

STANDARD CONSTRUCTION DRAWINGS

								SUPPLEMENTAL SPECIFICATIONS	
BP-1	6-1-65	F-3	6-1-65	MH-1A	8-1-66	BR-1-65	2-1-65		
BP-2	6-1-65	FACI-1	6-1-65	GR-1	6-1-65	FSB-1-62	1-15-63	816	8-6-65
BP-3	6-1-65	FACI-2	6-1-65	GR-2A	9-1-65	SD-1-63 (SHTS. 2, 3, & 4)	11-12-63	801	9-2-65
BP-4	6-1-65	HW-1	6-1-65	L-1	6-1-65	SD-2-64	11-25-64	806	3-3-66
BP-5	6-1-65	HW-3	6-1-65	GR-5B	6-1-65	RB-1-55	2-2-59	808	2-7-66
BP-6	6-1-65	HW-E	6-1-65	GR-6	6-1-65	AS-1-54	8-10-65	811	3-29-65
BP-7	1-1-66	CB 2-2-A & B	6-1-65			SP-53	6-30-61	815	8-6-65
MC-1	6-1-65	CB-4	6-1-65			SB-1-64 (SHTS. 1 & 2)	8-25-64		
MC-3	5-1-66	CB-6	6-1-65						
MC-4	6-1-65	CB-8	6-1-65						
MC-5	6-1-65	I-2	6-1-65						
MC-6	6-1-65	I-2A	6-1-65						
F-2	6-1-65	MH-1	6-1-65						

DEPARTMENT OF COMMERCE
BUREAU OF PUBLIC ROADS

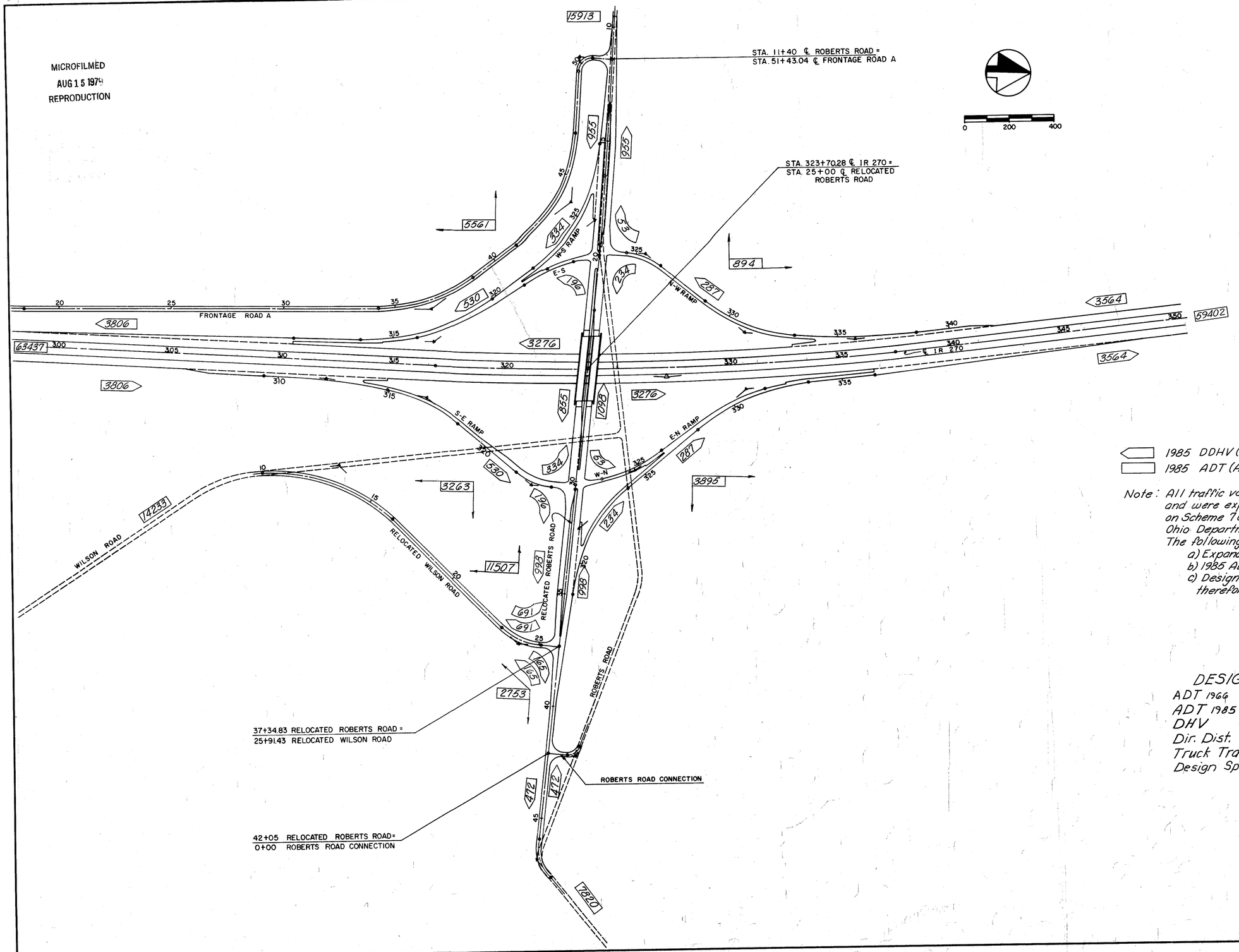
APPROVED _____
DIVISION ENGINEER DATE

Rev. 10-3-'66

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO	I-IG-270-5(2)92	

1A
227

FRANKLIN COUNTY
FRA-270-0.79N



LEGEND

1985 DDHV (Directional Design Hourly Volume)
1985 ADT (Average Daily Traffic- both directions)

Note: All traffic volumes based on 1985 traffic assignments and were expanded from 1980 traffic assignments based on Scheme 7 of the Proposed Expressway System (Map 15) Ohio Department of Highways (Jan. 1964).
The following factors were used:
a) Expanded 5% for trucks
b) 1985 ADT is 118% of 1980 design year
c) Design Hourly Volume (DHV) equals 10% ADT
therefore 21,685 x 1.18 x 0.10 x 0.60 = 1625

DESIGN DESIGNATION

ADT 1964	26,500
ADT 1985	59,402
DHV	6,240
Dir. Dist.	60%
Truck Traffic	5%
Design Speed	70mph

Rev. 10-3-66

TRAFFIC PLAN

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

2/227

FRANKLIN COUNTY
FRA-270-0.79 N

0 300 600

WALCUTT ROAD

NORWICH TWP.
PRAIRIE TWP.

TRABUE ROAD

END PROJECT	BEGIN PROJECT
FRA-270-0.00 S&N	FRA-270-0.79 N
I-270-4(3)	SLM 0.79
	STA. 270+55.06

I-IG-270-5(2)92

ROBERTS ROAD

323+70.28 ℄ IR 270 =
25+00 ℄ RELOCATED ROBERTS ROAD

353+62.34 ℄ IR 270 =
20+00 PENN R.R.

354+40.62 ℄ IR 270 =
10+00 ℄ SCIOTO DARBY ROAD

395+04.52 ℄ IR 270 =
20+00 ℄ NYC R.R.

LEAP ROAD

SCIOTO DARBY CREEK ROAD

MILLIKEN ROAD

END PROJECT	BEGIN PROJECT
FRA-270-0.79 N	FRA-270-3.47 N
SLM 3.47	I-270-5(3)95
STA. 412+42	

I-IG-270-5(2)92

HILLIARD CEMETERY ROAD

℄ CROSSOVER STA. 285+00

STA. 9+10

FRA-270-0133 L&R

STA. 51+25.96 F.A.C.I. SIGN

BEGIN WORK STA. 9+35

FRA-270-0205 L&R

P.C. 317+02.24

FRONTAGE ROAD A

℄ TEMPORARY ROAD

P.T. 337+53.13

FRA-270-0233 L&R

℄ CROSSOVER STA. 374+75

FRA-270-0310 L&R

P.C. 416+68.04

P.T. 431+83.35

PRAIRIE TWP.
FRANKLIN TWP.

℄ IR 270 — N 1°59'53" E

BEGIN WORK STA. 7+00

N 7°34'22" W

END WORK STA. 12+50

BEGIN WORK STA. 269+93

NORWICH TWP.
FRANKLIN TWP.

BEGIN WORK STA. 9+00

TURN-AROUND

RELOCATED WILSON ROAD

END WORK STA. 25+67.80

ROBERTS ROAD CONNECTION

F.A.C.I. SIGN

END WORK STA. 47+25

WILSON ROAD

PENNSYLVANIA RAILROAD

NEW YORK CENTRAL RAILROAD

END WORK STA. 413+23

SMILEY ROAD

DUBLIN ROAD

CURVE DATA
P.I. 327 + 30.08

D = 0° 28'
Δ = 9° 34'15"
R = 12,277.67'
T = 1,027.84'
E = 42.95'
L = 2,050.89'

BEGIN IG SECTION STA. 339+50

SUSPEND IG SECTION STA. 370+00

RESUME IG SECTION STA. 380+00

END IG SECTION STA. 410+00

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

3
227

FRANKLIN COUNTY
FRA-270-0.79N

0 200 400

END PROJECT	BEGIN PROJECT
FRA-270-0.00S&N	FRA-270-0.79N
	SLM 0.79
I-270-4(3)	STA. 270+55.06

I-IG-270-5(2)92

℄ CROSSOVER
STA. 285+00

NORWICH TWP.
PRAIRIE TWP.

TRABUE ROAD

PRAIRIE TWP.
FRANKLIN TWP.

NORWICH TWP.
FRANKLIN TWP.

BEGIN WORK
STA. 269+93

CURVE DATA
P.I. 327+30.08
D = 0° 28'
Δ = 9° 34' 15"
R = 12,277.67'
T = 1,027.84'
E = 42.95'
L = 2,050.89'

240 250 260 270 280 290 300 310 320 330 340

N 1°59'53" E

STA. 9+10

FRA-270-0133 L&R

FRONTAGE ROAD A

FRA-270-0205 L&R

P.C. 317+02.24

P.T. 337+53.13

F.A.C.I. SIGN

STA. 11+40 ℄ ROBERTS ROAD
STA. 51+43.04 FRONTAGE ROAD A

STA. 51+25.96

323+70.28 ℄ IR 270 =
25+00 ℄ RELOCATED ROBERTS ROAD

ROBERTS ROAD

MILLIKEN ROAD

BEGIN WORK
STA. 9+35

PC 16+47.99
PI 19+44.16
PT 22+40.23

℄ TEMPORARY ROAD

S-E
W-N
E-N
W-S
E-S
N-W

TURN-AROUND

BEGIN WORK
STA. 9+00

RELOCATED WILSON ROAD

WILSON ROAD

END WORK STA. 25+67.80

37+34.83 RELOCATED ROBERTS ROAD =
25+91.43 RELOCATED WILSON ROAD

42+05 RELOCATED ROBERTS ROAD =
0+00 ROBERTS ROAD CONNECTION

ROBERTS ROAD CONNECTION

F.A.C.I. SIGN

PC 45+94.71
PI 46+53.20
PT 47+09.79

END WORK STA. 47+25

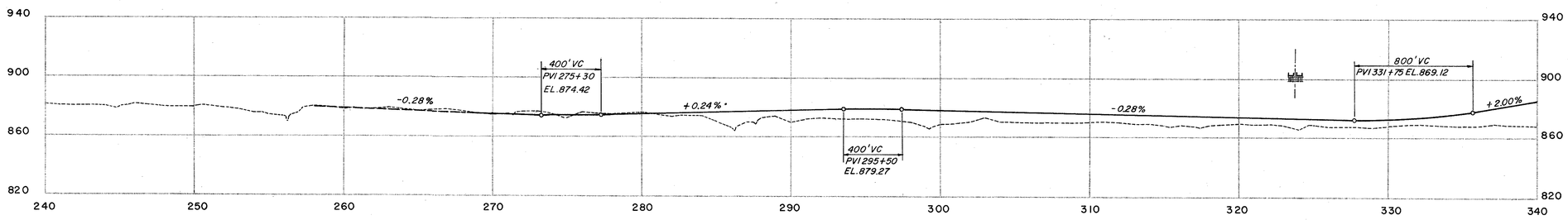
See Sh. # 4

Match Line

BEGIN IG SECTION
STA. 339+50

ROBERTS ROAD
CURVE DATA
PI 19+44.16
Δ = 2° 33' 59"
D = 0° 26' 00"
R = 13,222.10'
T = 296.17'
L = 592.24'

ROBERTS ROAD
CURVE DATA
PI 46+53.20
Δ = 25° 19' 00"
D = 22° 00'
R = 260.44'
T = 58.49'
L = 115.08'



SCHEMATIC PLAN AND P

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

4
227

FRANKLIN COUNTY
FRA-270-0.79N

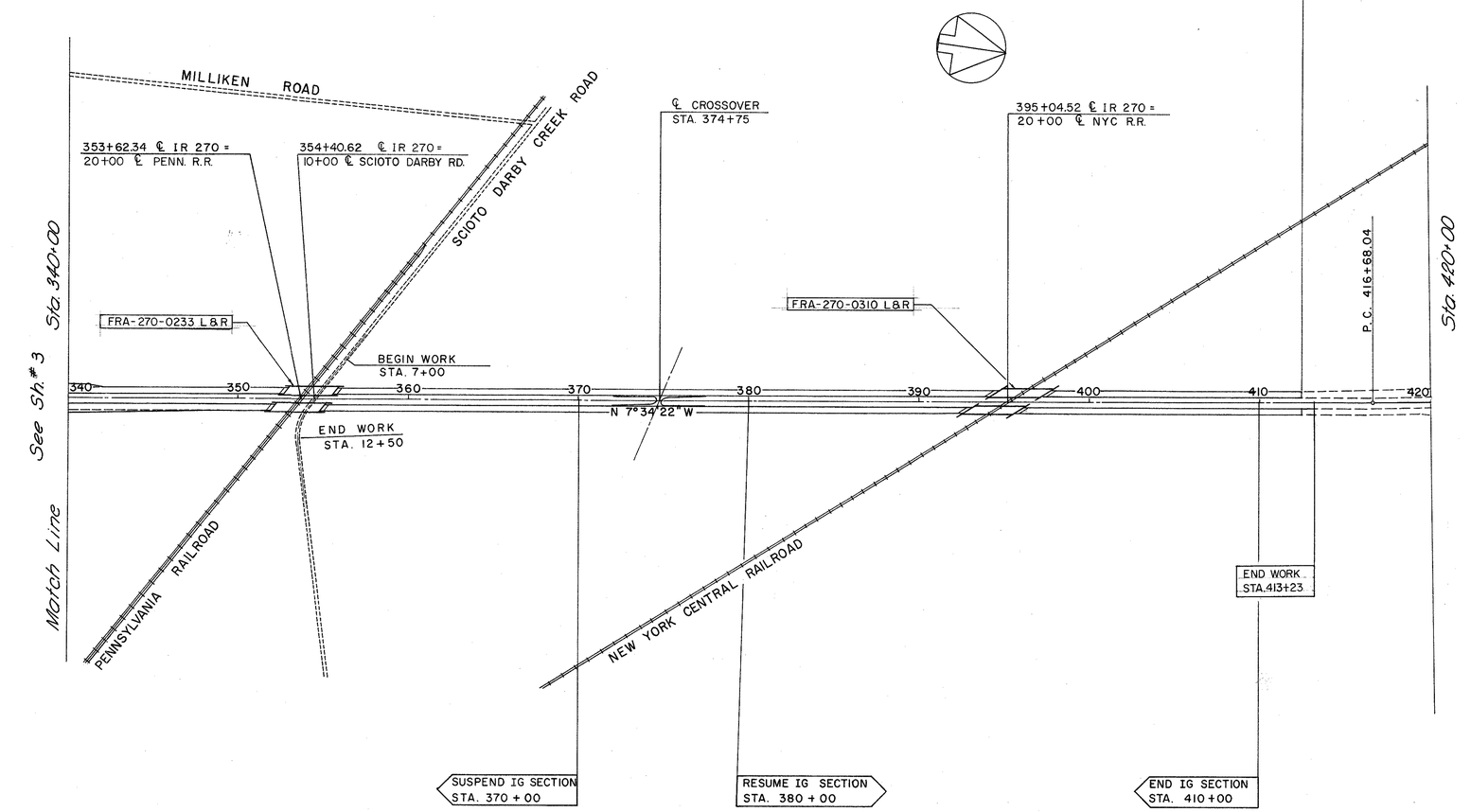
0 200 400

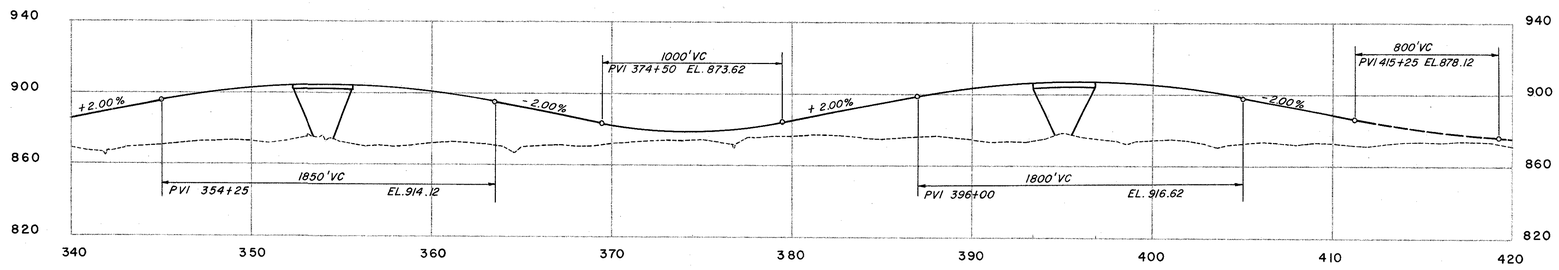
END PROJECT
FRA-270-0.79 N
SLM 3.47
STA. 412+42

BEGIN PROJECT
FRA-270-3.47 N

I-270-5(3) 95

I-IG-270-5(2) 92





FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

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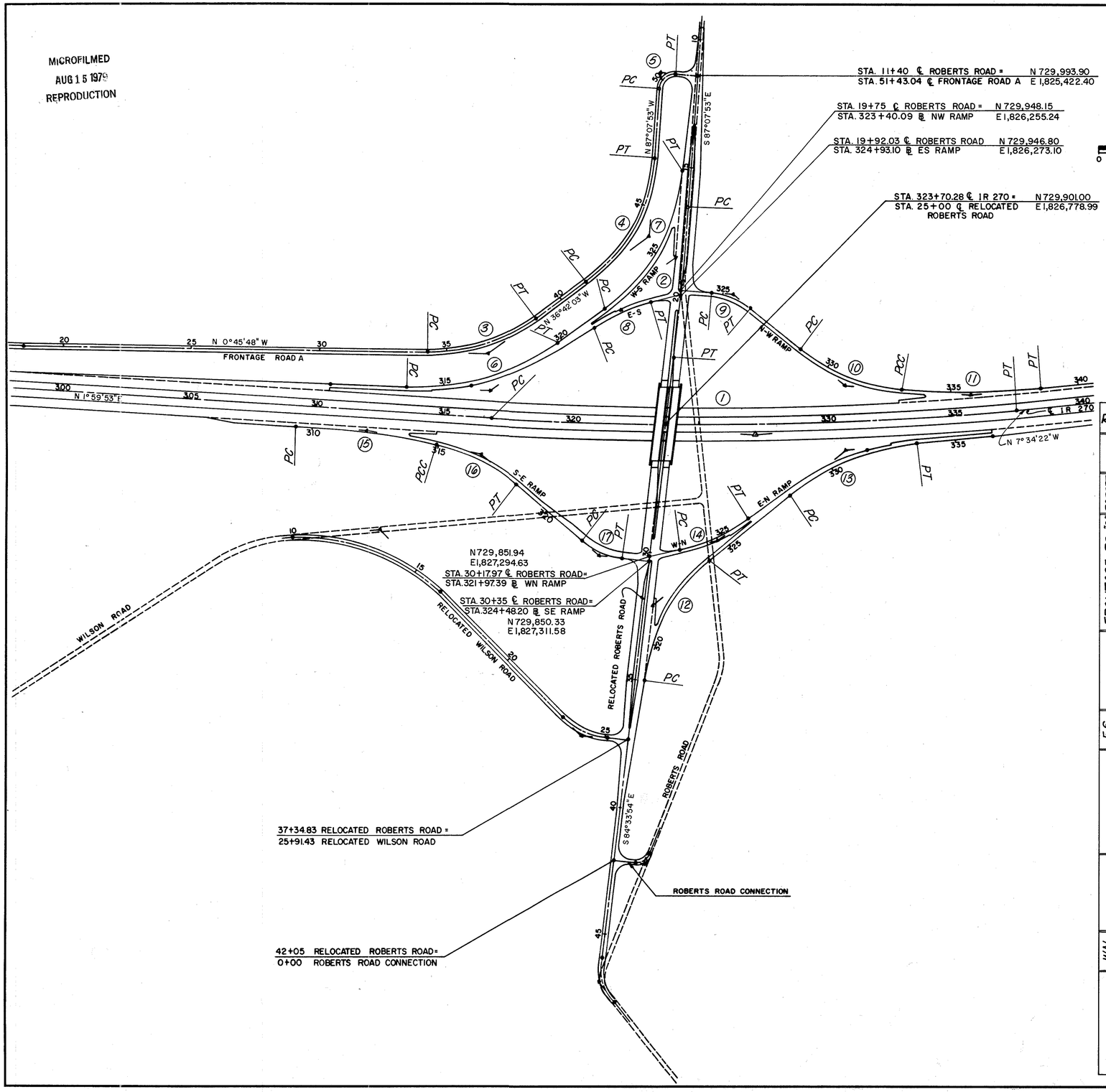
FRANKLIN COUNTY
FRA-270-0.79N



RAMP LAYOUT OFFSETS

ROAD	STATION	STATION ON BASE LINE	OFFSET FROM BASE LINE
FRONT ROAD	PI 36+60.91	316+58.59 ℄ IR 270	251.70' Lt.
WS RAMP	PI 317+77.18	316+77.05 ℄ IR 270	104.06' Lt.
	PI 325+43.44	18+53.84 ℄ Roberts Rd.	34.40' Rt.
NW RAMP	PI 330+97.22	330+80.37 ℄ IR 270	143.06' Lt.
	PI 335+80.41	335+78.01 ℄ IR 270	76.76' Lt.
EN RAMP	PI 321+38.62	32+07.14 ℄ Roberts Rd.	36.00' Lt.
	PI 330+84.19	330+73.67 ℄ IR 270	109.71' Rt.
SE RAMP	PI 312+02.85	312+02.85 ℄ IR 270	78.00' Rt.
	PI 316+58.29	316+54.46 ℄ IR 270	144.05' Rt.

ROAD	CURVE NO.	STATION	CURVE DATA D	Δ	T	L	R	COORDINATES NORTH	EAST
IR 270		PC 317+02.24						729,233.05	1,826,773.87
	1	PI 327+30.08	0°28'00"	9°34'15"	1027.84'	2050.89'	12,277.67'	730,260.26	1,826,809.71
		PT 337+53.13						731,279.13	1,826,674.25
ROBERTS ROAD		PC 16+47.99						729,968.48	1,825,929.75
	2	PI 19+44.16	0°26'00"	2°33'59"	296.17'	592.24'	13,222.10'	729,953.66	1,826,225.55
		PT 22+40.23						729,925.61	1,826,520.39
FRONTAGE RD. 'A'		PC 34+28.63						728,965.95	1,826,523.89
	3	PI 36+60.91	8°00'00"	35°56'15"	232.28'	449.22'	716.20'	729,198.20	1,826,520.80
		PT 38+77.85						729,384.42	1,826,381.98
		PC 41+16.03						729,575.39	1,826,239.64
	4	PI 44+15.81	9°00'00"	50°25'50"	299.78'	560.34'	636.62'	729,815.75	1,826,060.48
		PT 46+76.37						729,830.73	1,825,761.08
		PC 49+62.79						729,845.08	1,825,475.02
	5	PI 50+22.79	95°29'35"	90°00'00"	60.00'	94.25'	60.00'	729,848.09	1,825,415.09
		PT 50+57.04						729,908.00	1,825,418.09
WS RAMP		PC 313+50.00						728,884.35	1,826,664.40
	6	PI 317+77.18	6°00'00"	37°49'32"	327.18'	630.43'	954.93'	729,211.50	1,826,668.99
		PT 319+80.43						729,472.73	1,826,471.99
		PC 322+08.64						729,654.94	1,826,334.58
	7	PI 325+43.44	8°00'00"	50°06'37"	334.81'	626.38'	716.20'	729,922.25	1,826,132.99
		PT 328+35.01						729,939.01	1,825,798.60
ES RAMP		PC 321+29.70						729,612.39	1,826,409.26
	8	PI 322+52.58	8°00'00"	19°28'17"	122.88'	243.39'	716.20'	729,712.91	1,826,338.58
		PT 323+73.10						729,831.24	1,826,305.45
NW RAMP		PC 324+56.31						730,064.05	1,826,263.92
	9	PI 325+42.83	19°05'55"	32°10'30"	86.52'	168.47'	300.00'	730,150.33	1,826,270.39
		PT 326+24.78						730,219.91	1,826,321.81
		PC 328+74.52						730,420.78	1,826,470.22
	10	PI 330+97.22	8°00'00"	34°24'00"	221.70'	430.00'	716.20'	730,599.08	1,826,601.97
		PCC 333+04.52						730,820.64	1,826,609.94
	11	PI 335+80.41	1°45'00"	9°38'00"	275.89'	550.48'	3274.04'	731,096.35	1,826,619.86
		PT 338+55.00						731,369.83	1,826,583.51
EN RAMP		PC 318+48.17						729,842.35	1,827,775.50
	12	PI 321+38.62	8°00'00"	44°08'59"	290.45'	551.87'	716.20'	729,869.86	1,827,486.36
		PT 324+00.04						730,091.00	1,827,298.05
		PC 328+02.92						730,397.74	1,827,036.86
	13	PI 330+84.19	6°00'00"	32°49'29"	281.28'	547.08'	954.93'	730,611.89	1,826,854.50
		PT 333+50.00						730,890.70	1,826,817.34
WN RAMP		PC 323+17.39						729,968.09	1,827,264.46
	14	PI 324+69.24	8°00'00"	23°56'28"	151.85'	299.26'	716.20'	730,115.06	1,827,226.27
		PT 326+16.66						730,233.88	1,827,131.73
SE RAMP		PC 309+25.00						728,453.56	1,826,824.72
	15	PI 312+02.85	1°30'00"	8°19'15"	277.85'	554.72'	3819.72'	728,731.24	1,826,834.41
		PCC 314+79.72						729,004.60	1,826,884.18
	16	PI 316+58.29	8°00'00"	28°00'00"	178.57'	350.00'	716.20'	729,180.28	1,826,916.17
		PT 318+29.72						729,320.38	1,827,026.89
		PC 321+70.75						729,587.94	1,827,238.35
	17	PI 322+59.28	19°05'55"	32°53'02"	88.53'	172.18'	300.00'	729,657.40	1,827,29[illegible]
		PT 323+42.93						729,745.53	1,827,30[illegible]

GEOMETRIC LAYOUT-ROBERTS ROAD INTERCH[illegible]

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

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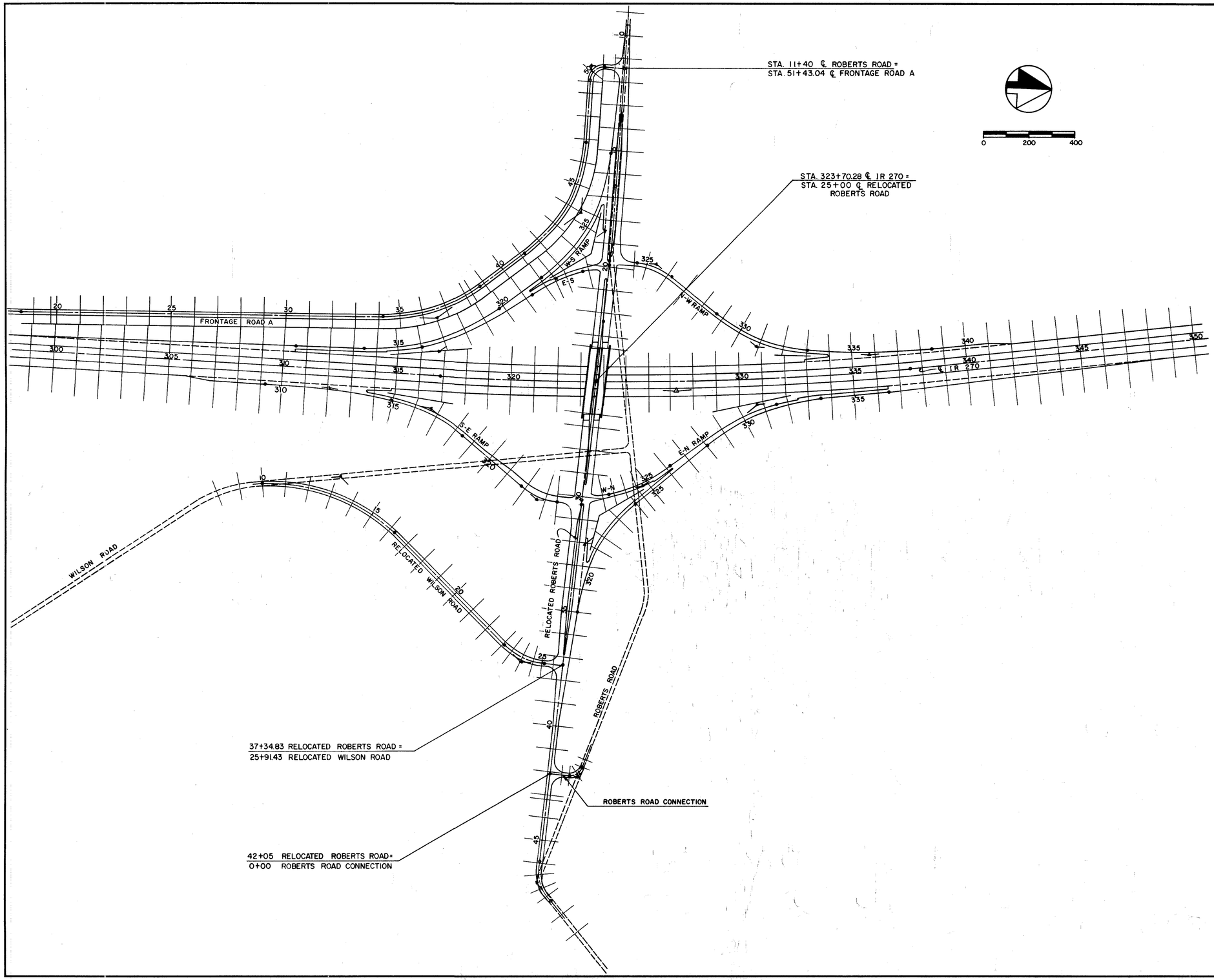
FRANKLIN COUNTY
FRA-270-0.79N



CROSS SECTION LAYOUT

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

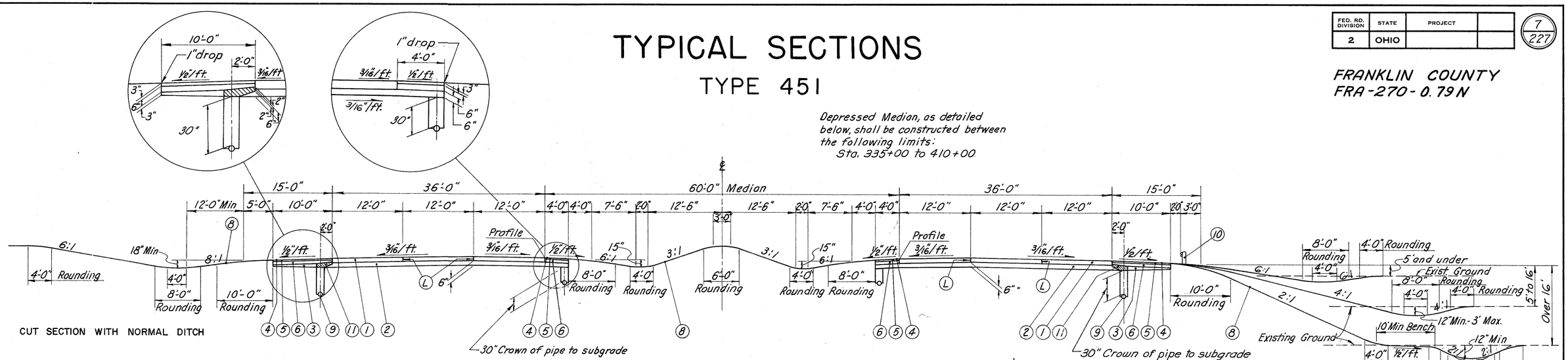
7
227

FRANKLIN COUNTY
FRA-270-0.79N

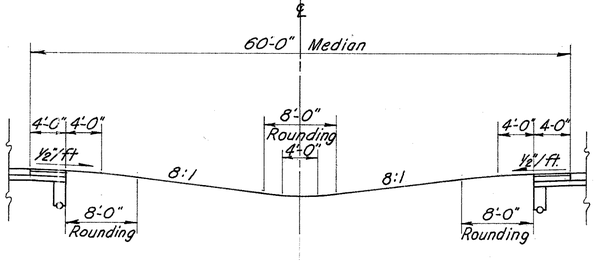
TYPICAL SECTIONS

TYPE 451

Depressed Median, as detailed below, shall be constructed between the following limits:
Sta. 335+00 to 410+00



I.R.-270
Sta. 270+55.06 to 412+42
Approach Slabs and Bridges:
Sta. 298+98.36 to 299+66.64
Sta. 352+28.15 to 355+71.20 S.B. & 355+74.45 N.B.
Sta. 393+41.47 to 396+89.99



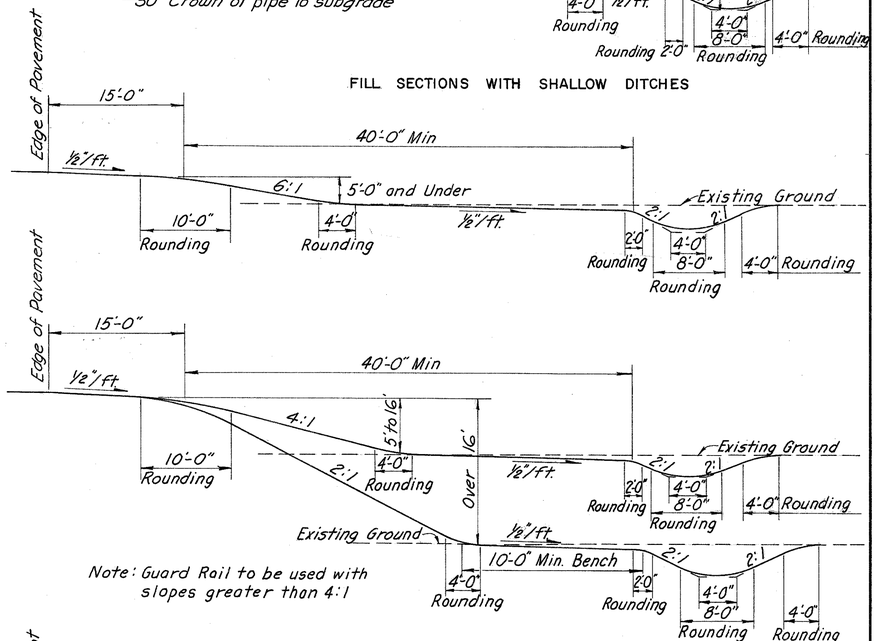
DEPRESSED MEDIAN DETAIL
Sta. 335+00 to 410+00

LEGEND

(1)	Item 451	9" Reinforced Portland Cement Concrete Pavement
(2)	Item 310	Subbase, Grading "A" or "B"
(3)	Item 310	Subbase, Regular Grading
(4)	Item 409	Seal Coat using 0.008 Cu. Yd. seal coat cover Aggregate (No.8) per Sq. Yd. and 0.25 Gal. seal coat bituminous material per sq. yd. (See note in Proposal)
(5)	Item 301	3" Bituminous Aggregate Base (Item 302, 402 or 55-806 Material may be used in construction of this course— See note in Proposal)
(6)	Item 304	Aggregate Base
(8)	Item 659	Seeding and Mulching
(9)	Item 605	6" Pipe Underdrain
(10)	Item 606	Guard Rail, Type 4
(11)	Item Special	Drainage Connection, using No.8 aggregate (See note in Proposal)
(L)		Standard Longitudinal Joint

Sequence of operations: (1) install pipe underdrain on outside shoulder. Installation of shallow underdrain in median may be deferred until Item 451 is placed, (2) Place subbase out to outside edge of underdrain or to one foot beyond edge of pavement where no underdrain is present (3) construct Item 451 (4) remove subbase and any contaminated backfill over drain and replace with No 8 aggregate as shown by (11)(5) complete shoulder construction.

For treatment of shoulders, slopes, and ditches, See Std. Drawing MC-1.



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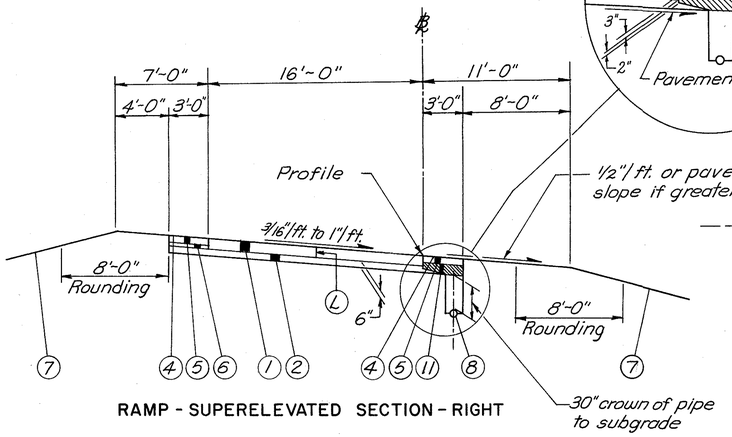
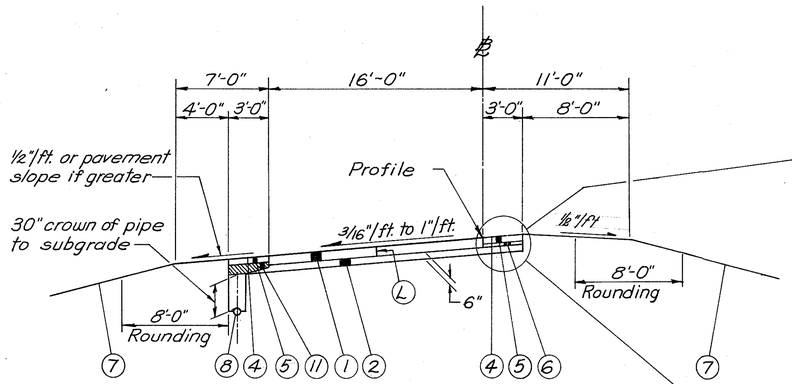
TYPICAL SECTIONS

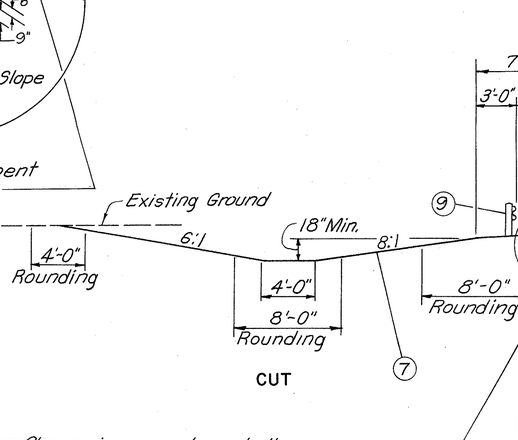
TYPE 451



RAMP - SUPERELEVATED SECTION - RIGHT



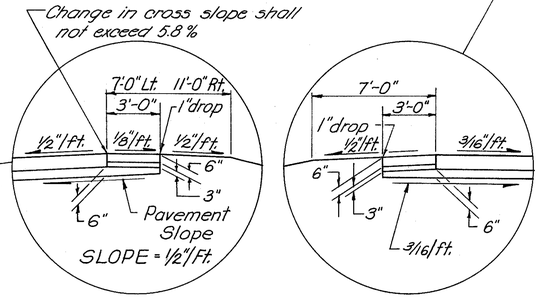
RAMP - SUPERELEVATED SECTION - LEFT

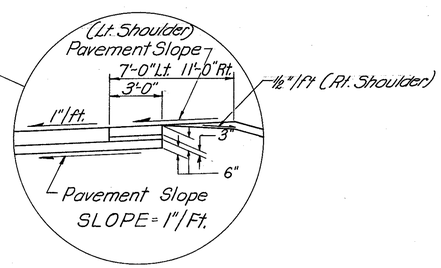


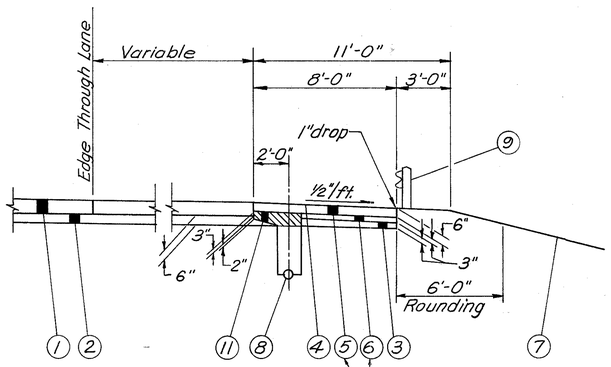
CUT

RAMP - NORMAL TANGENT SECTION

FILL







SPEED CHANGE LANE

See Pavement Details for limits of 3" and 6" courses.

LEGEND

①	Item 451	9" Reinforced Portland Cement Concrete Pavement.
②	Item 310	Subbase, Grading "A" or "B"
③	Item 310	Subbase, Regular Grading.
④	Item 409	Seal Coat using 0.008 Cu. Yd. seal coat cover aggregate (No. 8) and 0.25 gal. seal coat bituminous material per Sq. Yd (See note in Proposal).
⑤	Item 301	6" Bituminous Aggregate Base (Item 302, 402 or 5380G material may be used in construction of this course.-See note in Proposal).
⑥	Item 304	3" Aggregate Base
⑦	Item 659	Seeding and Mulching
⑧	Item 605	6" Pipe Underdrain
⑨	Item 606	Guard Rail, Type 4
⑪	Item	Special Drainage Connection, using No 8 aggregate. (See note in Proposal).
Ⓛ		Standard Longitudinal Joint.

NOTES:
For sequence of operations, See Sheet 7.
For treatment of shoulders, slopes, and ditches, See Standard Drawing MC-1.

Left and right side of ramps is in reference to direction of travel instead of direction of stationing.

TYPICAL SECTIONS
TYPE 404

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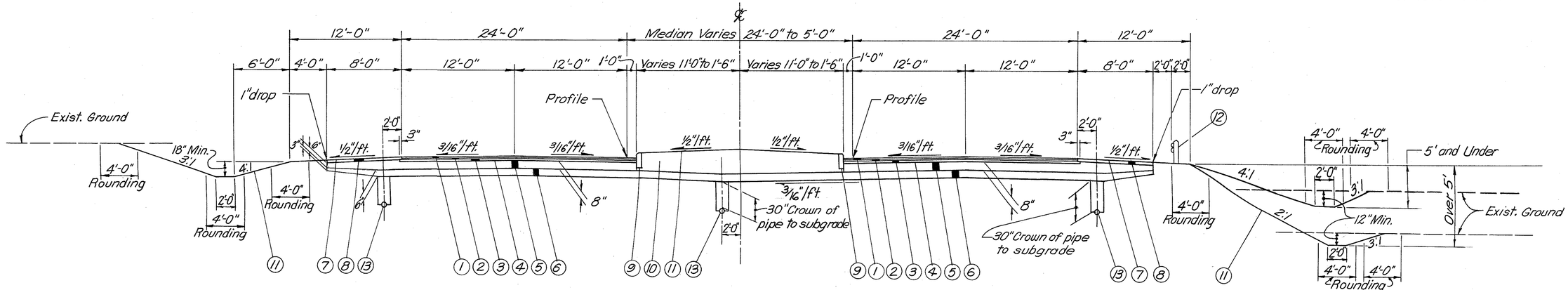
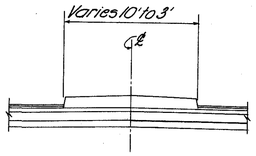


CUT

ROBERTS ROAD
Sta. 13+28.48 to 36+85
Approach Slabs & Bridges
Sta. 23+32.73 to 26+67.26

FILL

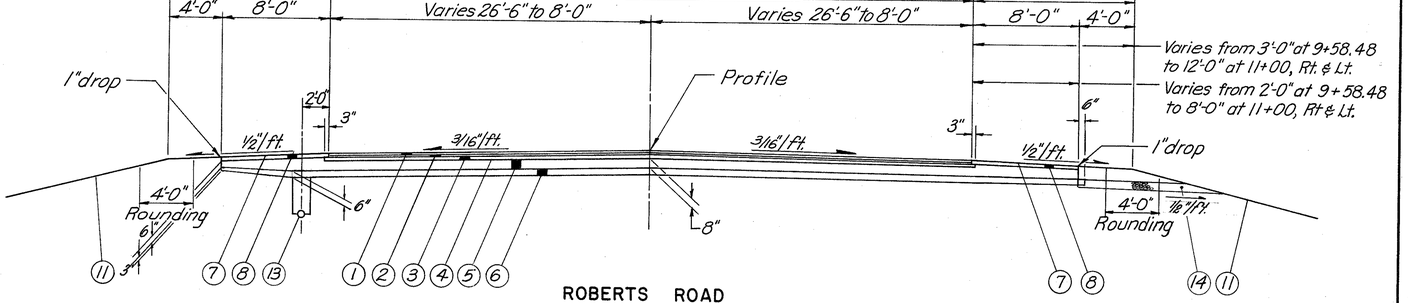


CONCRETE MEDIAN
Sta. 13+28.48 to 13+98.48
Sta. 36+16 to 36+85

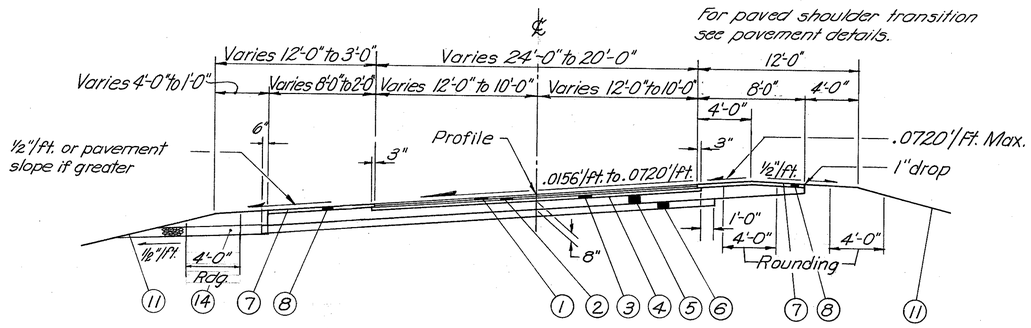
LEGEND

①	Item	404	1¼" Asphalt Concrete (70-85)
②	Item	402	1¼" Asphalt Concrete (70-85)
③	Item	302	3" Asphalt Concrete (70-85)
④	Item	408	Bituminous Prime Coat, 702.09, RT-2 or RT-3, applied at the rate of 0.4 gal. per Sq. Yd.
⑤	Item	304	Aggregate Base
⑥	Item	310	6" Subbase, Regular Grading
⑦	Item	409	Seal Coat, using 0.008 Cu. Yd. seal coat cover aggregate (No. 8) per Sq. Yd. and 0.25 gal. seal coat bituminous material per Sq. Yd. (See note in Proposal).
⑧	Item	301	3" Bituminous Aggregate Base (Item 302, 402 or SS 806 material may be used in construction of this course - See note in Proposal).
⑨	Item	609	Standard Type 6 Concrete Curb
⑩			Embankment
⑪	Item	659	Seeding and Mulching
⑫	Item	606	Guard Rail, Type 4
⑬	Item	605	6" Pipe Underdrain
⑭	Item	605	Aggregate Drains

For treatment of shoulders, slopes, and ditches, See Standard Drawing MC-1.



ROBERTS ROAD
Sta. 9+58.48 to 13+28.48
Sta. 36+85 to 44+25



ROBERTS ROAD
Sta. 44+25 to 47+09.79

TYPICAL SECTIONS

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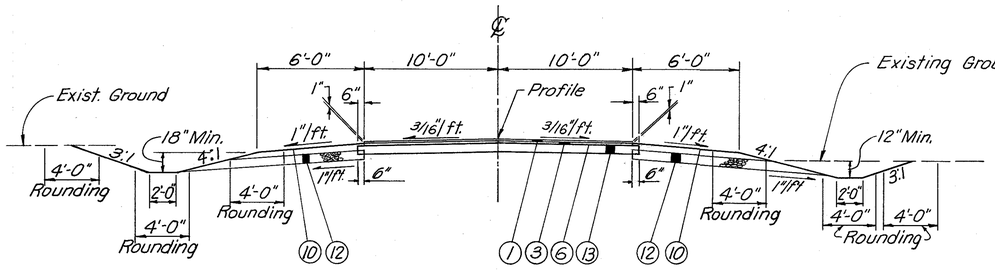
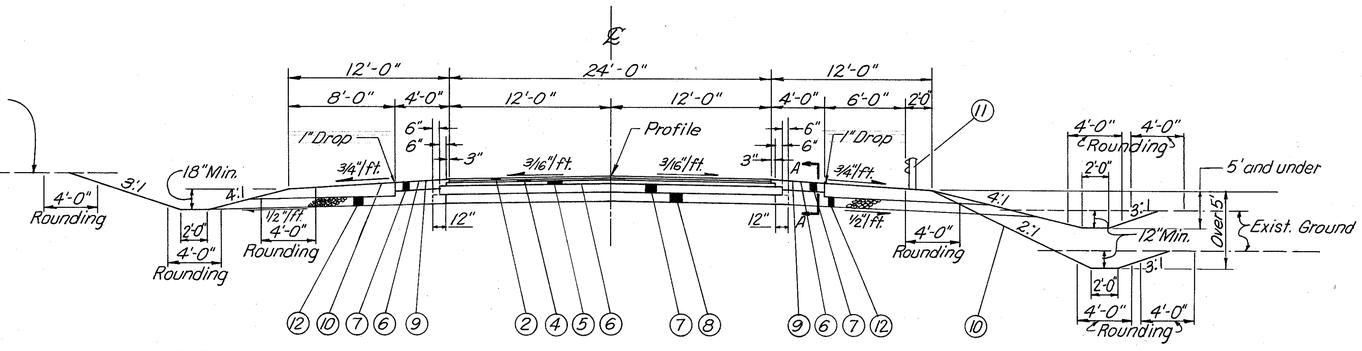


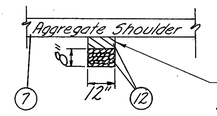
CUT FILL

ROBERTS ROAD CONNECTION
Sta. 0+12 to 1+64.17



CUT FILL

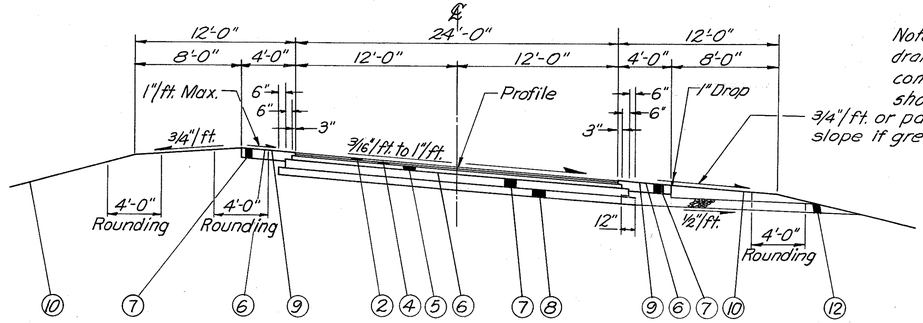
WILSON ROAD TANGENT SECTION
Sta. 18+78.36 to 21+97.27
Sta. 25+11.24 to 25+67.80



SECTION A-A

Additional material shall be included in the unit price bid for Aggregate Drains.

Note: In lieu of 605.05, the aggregate drains may be constructed before completion of the aggregate shoulder.



WILSON ROAD SUPERELEVATED SECTION
Sta. 9+99.98 to 18+78.36
Sta. 21+97.27 to 25+11.24

LEGEND

①	Item	404	1" Asphalt Concrete (85-100)
②	Item	404	1¼" Asphalt Concrete (70-85)
③	Item	402	1" Asphalt Concrete (85-100)
④	Item	402	1¼" Asphalt Concrete (70-85)
⑤	Item	302	3" Asphalt Concrete (70-85)
⑥	Item	408	Bituminous Prime Coat, 702.09, RT-2 or RT-3, applied at the rate of 0.4 gal. per Sq. Yd.
⑦	Item	304	8" Aggregate Base
⑧	Item	310	6" Subbase, Regular Grading
⑨	Item	409	Seal Coat using 0.008 Cu. Yd. seal coat cover aggregate (No. 8) per Sq. Yd. and 0.30 gal. 702.09, RT-8 or RT-9, or 702.05, RC-3 seal coat bituminous material per Sq. Yd.
⑩	Item	659	Seeding and Mulching
⑪	Item	606	Guard Rail, Type 4
⑫	Item	605	Aggregate Drains
⑬	Item	304	9" Aggregate Base

For treatment of shoulders, slopes, and ditches, See Standard Drawing MC-1.

TYPICAL SECTIONS

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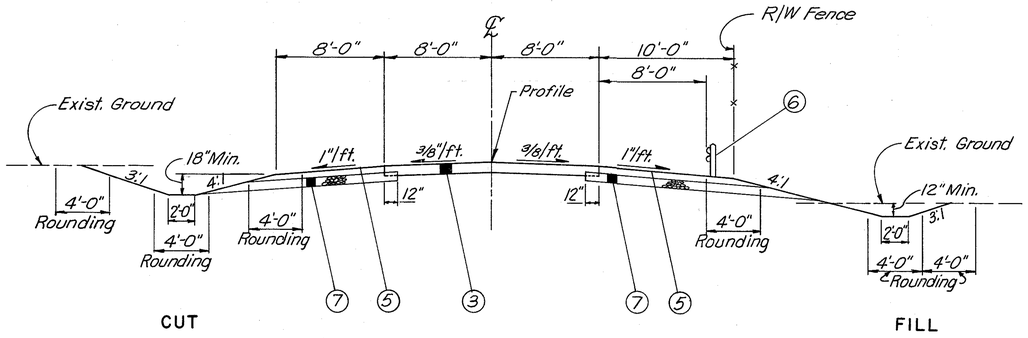
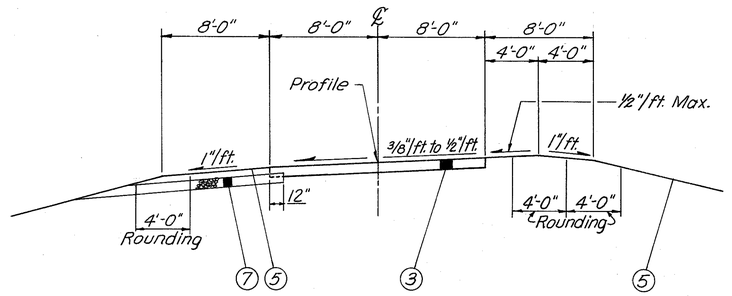


FRONTAGE ROAD A - TANGENT SECTION
Sta. 9+10 to 32+84.99
Sta. 48+20.01 to 50+73.00
Approach Slabs & Bridge
Sta. 19+39.25 to 20+12.87

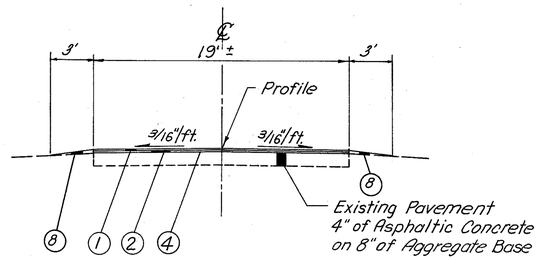


FRONTAGE ROAD A - SUPERELEVATED SECTION
Sta. 32+84.99 to 48+20.01

LEGEND

①	Item	404	1¼" Asphalt Concrete (70-85)
②	Item	402	1¼" Asphalt Concrete (70-85)
③	Item	304	9" Aggregate Base
④	Item	407	Tack Coat, 702.04, MS-2 or RS-1, or 702.05, RC-70 or RC-250, as per 407.02, applied at the rate of 0.10 gal per Sq. Yd.
⑤	Item	659	Seeding and Mulching
⑥	Item	606	Guard Rail, Type 4
⑦	Item	605	Aggregate Drains
⑧	Item	304	Aggregate Base

For treatment of shoulders, slopes, and ditches, See Standard Drawing MC-1.



SCIOTO-DARBY CREEK ROAD
Sta. 7+00 to 12+50

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DESIGN SPEED

The geometrics for this project have been planned for a design speed of 70 miles per hour.

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.

All of the above is included in the lump sum price bid for field office.

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 makes no guarantees as to their accuracy or completeness.

UTILITY OWNERSHIP

The Columbus & Southern Ohio Electric Company
215 North Front Street, Columbus, Ohio.
Attn: W.R. Henry

The Ohio Fuel Gas Company
99 North Front Street, Columbus, Ohio
Attn: R.C. Heid

The Ohio Bell Telephone Company
111 North Front Street, Columbus, Ohio
Attn: John Ludden

City of Hilliard
City Building, Hilliard, Ohio

Inland Corporation (Standard Oil Co. of Ohio)
Midland Building. 101 Prospect Ave., Cleveland, Ohio

ELEVATION DATUM

All elevations are based on USGS datum.

HORIZONTAL CONTROL

All horizontal control points are based on the State Plane Coordinate System. All coordinates on the grid are at mean sea level.

CONSTRUCTION LAYOUT STAKES

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

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. These quantities shall not be ordered until specifically authorized by the Engineer.

FEDERAL AID CONSTRUCTION IDENTIFICATION SIGNS

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

1. Roberts Road - Sta. 9+25 Rt.
2. Roberts Road - Sta. 47+25 Lt.

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

PAVEMENT REMOVAL OUTSIDE NORMAL CONSTRUCTION LIMITS

After the existing pavement as indicated on the plans has been removed, 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 pavement removal, Item 202. Seeding shall be measured and paid for in accordance with Item 659.

REMOVAL OF TREES AND STUMPS

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

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

	I SECTION		IG SECTION	
SIZES	No. TREES	No. STUMPS	No. TREES	No. STUMPS
12"-24"	151	14	20	2
24"-36"	15	1	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.

ITEM 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 Item 203.

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 3 feet 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 Item 202.02

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.

ITEM 203 PROOF ROLLING

An estimated quantity for this item has been provided in the General Summary for use in proof rolling of subgrade on the mainline and ramp pavements and paved shoulders in accordance with S.S.801. Proof Rolling will not be required where rock or shale occurs in subgrade and in areas where subbase has been thickened to replace frost susceptible silts or to replace other unsuitable subgrade material as determined by the Engineer.

Estimated Quantities (to General Summary)

I Section 80 Hours
IG Section 30 Hours

CENTERLINE REFERENCE MONUMENTS, AS PER PLAN

Monuments shall be constructed of Class "C" Concrete, cast-in-place in a circular hole eight (8) inches in diameter and forty-four (44) inches in depth. Top of concrete shall be finished at a depth of two (2) inches below ground level and the upper six (6) inch portion of the concrete shall be formed. One-half (1/2) inch steel rods six (6) inches long shall be embedded in the wet concrete, as directed by the Engineer, to mark the centerline and station.

AGGREGATE DRAINS

Aggregate drains shall be placed at fifty (50) foot intervals on each side of normal crowned sections and at twenty-five (25) foot intervals on the low side only of superelevated sections, except where "Item 605 Pipe Underdrains" have been provided.

SPECIAL DITCHES

For ditch elevations which are not typical, see cross sections.

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CONNECTIONS TO EXISTING PIPE

At places where the plans provide for proposed drainage pipe to be connected to existing pipes, 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. The cost of this operation shall be included in the unit price bid for the pertinent pipe item.

MAINTENANCE OF SEWER FLOWS

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

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 Item 603, Type "B" Conduits. The new conduits shall be one size larger than the existing.

Existing collectors and isolated farm drains which are encountered above the elevation of the roadway ditches shall be outletted into the roadway ditch. 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 Type "E" Conduits 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:

Item 603	6" Conduits, Type E	100	l.f.
Item 603	8" Conduits, Type E	100	l.f.
Item 603	10" Conduits, Type E	100	l.f.
Item 603	8" Conduits, Type F	20	l.f.
Item 603	10" Conduits, Type F	20	l.f.
Item 603	6" Conduits, Type B, with Class B Bedding	400	l.f.
Item 603	12" Conduits, Type B, with Class B Bedding	400	l.f.
Item 601	Crushed Aggregate Slope Protection	10	s.y.
Item 604	2-2-B Catch Basin, Modified as per plan	2	each

The material listed above shall not be ordered until specifically authorized by the Project Engineer.

2-2-B CATCH BASINS, MODIFIED AS PER PLAN

All 2-2-B Catch Basins, modified as per plan, shall be modified by the use of a 3/8" solid steel plate in place of the grate. Catch Basins will be approximately four feet deep.

No. 1 MANHOLES, MODIFIED AS PER PLAN

All No. 1 Manholes, modified as per plan, shall be made watertight by plastering the outside with cement mortar 1/2" thick. Mortar used shall be composed of one part Portland cement, five parts sand, and one part slaked lime putty. The cost of plastering shall be included in the unit price bid for Manholes.

SANITARY FLOW INTO HIGHWAY DRAINAGE SYSTEMS LIMITED ACCESS AREAS

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."

MANHOLES, INLETS, AND CATCH BASINS

It shall be the Contractor's responsibility to construct the inlets and catch basins so that they are oriented correctly and conform in elevation with the ditches and gutters that they are intended to serve.

The top elevation shown on the plans is the top of casting elevation for manholes, normal flow line elevation in ditches for catch basins, and normal gutter elevation for curb inlets.

Stationing and distance right and left to manholes and catch basins is to the center of the manhole or catch basin. The stationing point on Standard No. 2-A-6 to 2-A-14 Paved Shoulder Inlets is at the face of curb at a point 2 feet from the downstream end of the inlet.

All Standard No. 2-A-6 to 2-A-14 Paved Shoulder Inlets shall be modified using the concrete apron as detailed on Standard Construction Drawing I-2. Payment for aprons shall be included in the unit price bid for the Paved Shoulder Inlets.

ITEM 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 no more than 10% of the material shall pass a No. 200 sieve after all operations of placing and compacting have been completed.

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 Drawing BP-4.

DRIVEWAYS

Field drives shall be paved with six inches of item 304. All driveways shall be type 2 as shown on Standard Construction Drawing BP-6.

DUST CONTROL

A quantity of calcium chloride and water is provided for use for dust control as directed by the Engineer.

Item 616	Calcium Chloride	— 25 tons
Item 616	Water	— 100 M. Gal.

MAINTENANCE OF TRAFFIC ITEMS

The following quantities have been included in the General Summary for use in maintaining private drives, ingress and egress, local traffic, and intersections as directed by the Engineer.

Item 616	Calcium Chloride for Maintaining Traffic	— 5 tons.
Item 410	Traffic Compacted Surface Course, Type A or B	150 c.y.
Item 404	Asphalt Concrete or Bituminous Pre-Mixed Surface for Maintaining Traffic	— 15 c.y.

MAINTAINING TRAFFIC

Wilson Road

Two-way traffic shall be maintained at all times by use of either the existing pavement or the proposed pavement. Existing Wilson Road shall not be closed to traffic until Relocated Wilson Road, Relocated Roberts Road east of Relocated Wilson Road, and Roberts Road Connection are completed. One-way traffic will be permitted, in the vicinity of Sta. 9+00 on Relocated Wilson Road, for minimum periods of time consistent with the requirements of the specifications for protection of completed asphalt concrete courses.

Roberts Road

Two-way traffic shall be maintained at all times by use of either the existing pavement, the proposed pavement, or Item 615 Temporary Road using Class B pavement, except that one-way traffic will be permitted, in the vicinity of Sta. 10+00, for minimum periods of time consistent with the requirements of the specifications for protection of completed asphalt concrete courses.

Scioto-Darby Creek Road

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

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SEEDING

(a) IR 270 and Limited Access Area on Roberts Road

Quantities for seeding are calculated for the soil areas between the right-of-way fence lines, between the right-of-way lines in unfenced areas, and within the work limits for areas outside the right-of-way lines covered by temporary, channel, or drainage easements.

(b) Non-Limited Access Area on Roberts Road and Wilson Road

Quantities for seeding are calculated for the soil areas between lines ten feet 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 from the work limits.

(c) Frontage Road "A"

Quantities for seeding are calculated for the soil areas between the work limits, as shown on the cross sections.

FERTILIZER

All areas to be seeded, sodded, or covered with jute matting shall have commercial fertilizer (12-12-12) applied at the rate of 20 pounds per 1,000 square feet.

SEEDING FORMULA

The following seed mixtures shall, in lieu of the mixtures listed in 659.09, be used throughout the limits of this project:

All slopes 2:1 or steeper
- 60 % Ky 31 Fescue (Festuca arundinacea Ky 31)
- 25 % Ky Bluegrass (Poa pratensis)
- 15 % Hairy Vetch (Vicia vellosa)

All other areas to be seeded
- 45 % Pennlawn Fescue (Festuca arubra Pennlawn)
- 40 % Ky Bluegrass (Poa pratensis)
- 5 % Alsike Clover (Trifolium hubridum)
- 10 % Red Top (Agrostis alba)

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

GENERAL SUMMARY

FRANKLIN COUNTY
FRA - 270 - 0.79 N

SHEET NUMBER																																		IG Penna. RR		IG NYC RR		ITEM	QUANTITY					UNIT	DESCRIPTION
																																							CODE Y005		CODE 7221		TOTAL		
12	13	18	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	50	51	52	53	67	68	105	106	136	205	224	Y005	7221	Y005	7221		I SECTION	IG SECTION	I SECTION	IG SECTION			
																																													ROADWAY
Lump																																			Lump		Lump	201			Lump	Lump	Lump	Lump	Clearing and Grubbing
				Lump																Lump																		202			Lump		Lump	Lump	Existing Structures Removed
			300								74											40													74			202			340	74	414	L.F.	Pipe Removed, 24" and under
				29																84																		202			113		113	L.F.	Pipe Removed, over 24"
																						530	526		806		250											202			2112		2112	S.Y.	Existing Pavement Removed and Disposed of
		116,006																																✓	6,412		8,369	203			101,225	14,781	116,006	C.Y.	Excavation Including Embankment Construction, as per plan
		1716,102																																	640,479		616,500	203			459,123	1,256,979	1,716,102	C.Y.	Borrow
		210,377																																	29,201		29,909	203			151,267	59,110	210,377	S.Y.	Subgrade Preparation
		9325																																	3,266		3,140	203			2919	6406	9325	M.Gal.	Water
110																																			15		15	203			80	30	110	Hours	Proof Rolling
	15																																					404			15		15	C.Y.	Asphalt Concrete or an Approved Bituminous Premixed Surface Course for Maintaining Traffic
	150																																					410			150		150	C.Y.	Traffic Compacted Surface, Type "A" or "B"
																																23			3		3	604			17	6	23	Ea.	Centerline Reference Monuments, as per plan
					447.76	155		300	313.5	2000	1572	1714.5		1394	1621	2000	210			1300	700														5131.50		5225	606			3371.26	10,356.50	13,727.76	L.F.	Guard Rail, Type 4
											200				200																				200		200	606				400	400	L.F.	Guard Rail, Type 4 Barrier Design
						50	100		100				100																									606			350		350	L.F.	Guard Rail, Type 4, Mod. as per plan
																				8					5													606			13		13	Ea.	Guard Posts
																																	32,222		6390		6820	607			19,012	13,210	32,222	L.F.	Fence, Type 47
																			1667																			615			1667		1667	S.Y.	Class "B", Temporary Pavement
																			Lump																			615			Lump		Lump	Lump	Temporary Road
	100																																					616			100		100	M.Gal.	Water
	30																																					616			30		30	Tons	Calcium Chloride
																															145				21		30	620			94	51	145	Ea.	Delineators, Type A-1, Post Mounted, Mono-Directional
																															166				12			620			154	12	166	Ea.	Delineators, Type C-2, Post Mounted, Mono-Directional
																															2				1			620			1	1	2	Ea.	Delineators, Type C-3, Post Mounted, Mono-Directional
																															10				4		2	620			4	6	10	Ea.	Delineators, Type A-1, Bracket Mounted, Mono-Directional
																															1							620			1		1	Ea.	Delineators, Type C-2, Bracket Mounted, Mono-Directional
																															15.35				2.36		2.27	621			10.72	4.63	15.35	Miles	4" Edge Lines
																															11.75				2.31		2.27	621			7.17	4.58	11.75	Miles	6" Lane Lines
																															0.78				0.05			621			0.73	0.05	0.78	Mile	4" Lane Lines and Center Lines
																															1520							621			1520		1520	L.F.	4" Barrier Lines
																															2742							621			2742		2742	L.F.	8" Channelizing Lines
																															Lump							621			Lump		Lump	Lump	24" Stop Lines
																															Lump							621			Lump		Lump	Lump	Broad Transverse Stripes
																															Lump							621			Lump		Lump	Lump	Curb and Island Marking
																							77	75	70	95												656			317		317	M.S.F.	Roadside Cleanup
		43																																6.5		6.5		659	30	13			43	Tons	Commercial Fertilizer (12-12-12)
		457,679																																67,798		67,485		659	322,396	135,283			457,679	S.Y.	Seeding and Mulching, as per plan
			2	2		4	2	2	2	2		2	2	2		2			4	4	4			2	2				30	13				6		4		660	73	10			83	S.Y.	Sodding
											229									129														229				660	129	229			358	S.Y.	Sodding for Special Berm and Slope Protection, as per plan
			781	613	555	500	250	500	1035	982	356	893	297	218		547		35	829		1107	135		2228	519			570						2334		765		667	9851	3099			12,950	S.Y.	Jute Matting
											1								1																1			Special			1	1	2	Ea.	Cleaning and Disposal of Septic Tank

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

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FRANKLIN COUNTY
FRA-270-0.79N

GENERAL SUMMARY

SHEET NUMBER	IG Penna. R.R. 7221	IG N.Y.C. R.R. 7221	ITEM	QUANTITY CODE 7221 I SECTION	QUANTITY CODE 7221 IG SECTION	QUANTITY TOTAL	UNIT	DESCRIPTION
								DRAINAGE
29: 1	1		202		1	1	Ea.	Catch Basin Removed
33: 1		1	202		1	1	Ea.	Manhole Removed
88: Lump			503	Lump		Lump	Lump	Cofferdams, Cribs, and Sheeting
86: 412; 88: 855; 94: 1120; 98: 518	1470		503	1435	1470	2905	C.Y.	Excavation for Structures
86: 38676; 88: 57294; 94: 42421; 98: 59072	258,067		509	139,398	258,067	397465	Lbs.	Reinforcing Steel
86: 281; 94: 829; 98: 964	1523		511	551	1523	2074	C.Y.	Concrete for Structures, Class "C"
88: 166			511	166		166	C.Y.	Class "C" Concrete, Superstructure
88: 387			511	387		387	C.Y.	Class "E" Concrete, Abutments above Footings
88: 330			511	330		330	C.Y.	Class "E" Concrete, Footings
88: 34			512	34		34	L.F.	Waterproofing, Premolded Sealing Strip
88: 32			516	32		32	S.F.	½" Premolded Expansion Joint Filler (AASHO M-153)
88: 67			516	67		67	S.F.	1" Premolded Expansion Joint Filler (AASHO M-153)
88: 93.50			517	93.50		93.50	L.F.	Railing (Bridge Railing, Type 1)
88: 310			518	310		310	C.Y.	Porous Backfill
88: 12			518	12		12	Ea.	Scupper

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

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FRANKLIN COUNTY
FRA-270-0.79N

GENERAL SUMMARY

SHEET NUMBER																																			IG Penna. R.R.		IG N.Y.C. R.R.		Y060	ITEM	QUANTITY					UNIT	DESCRIPTION
																																									Y005		CODE 7221		TOTAL		
13	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	50	51	52	53	68	86	88	94	98	102	103	104	105	106	Y005	7221	Y005	7221	I 100% STATE		I	IG	I SECTION	IG SECTION			
																																															DRAINAGE (Continued)
								8		9																									17					601		17			17	L.F.	Standard Type 1-4 Paved Gutter, Mod. as per plan.
10	2	4		4	2	2	4			2	2	2		4			4		4			4	2												2		6			601	44	8			52	S.Y.	Crushed Aggregate Slope Protection
	56							1		1		1		1			31	2				14				219	58	40	72	36	21		20	14	94		38			601	455	132			587	C.Y.	Dumped Rock Channel Protection
																										195														601	195				195	S.Y.	Riprap Using 6" Reinforced Concrete Slab, As per plan
	0.30	0.26		0.52	0.26	0.30	0.26	0.26		0.26	0.30	0.26		0.26			0.52	0.52	0.52			0.26	0.26			32.40				33.20	13.20	16.00	2.00	7.34		0.52		33.72		602			75.22	34.24	109.46	C.Y.	Concrete Masonry
																																	13.04							602			13.04		13.04	C.Y.	Concrete Masonry, Class "E."
											330																												330	603					330	L.F.	30" Sanitary Conduit, Type A, 706.02 Class IV with Class B bedding and with Compression Type joints, As per plan
																															94									603			94		94	L.F.	21" Conduit, Type A 706.02 or 706.08 with Class B Bedding
																															124	114	80							603			318		318	L.F.	24" Conduit, Type A 706.02 or 706.08 with Class B Bedding
																																		60						603			60		60	L.F.	30" Conduit, Type A 706.02 or 706.08 with Class B Bedding
																																74								603			74		74	L.F.	33" Conduit, Type A 706.02 or 706.08 with Class B Bedding
																																	78							603			78		78	L.F.	36" Conduit, Type A 706.02 or 706.08 with Class B Bedding
																																		56						603			56		56	L.F.	54" Conduit, Type A 706.02 with Class B Bedding
																										268														603			268		268	L.F.	72" Conduit, Type A Class III 706.02 with Class B Bedding
																														290								290		603				290	290	L.F.	72" Conduit, Type A Class V 706.02 with Class B Bedding
																																		52						603			52		52	L.F.	42"×27" Conduit, Type A Class HE-II 706.04 with Class B Bedding
																																	268							603			268		268	L.F.	91"×58" Conduit, Type A Class HE-II 706.04 with Class B Bedding
400	44					43											151		124		33			24																603			819		819	L.F.	6" Conduit, Type B with Class B Bedding
400		40																																						603			440		440	L.F.	12" Conduit, Type B with Class B Bedding
		124		196	94		128	92		84	76	85		87			193	94	161			125	116													176		172		603			1307	348	1655	L.F.	15" Conduit, Type B with Class B Bedding
	114					94					100																													603			308		308	L.F.	18" Conduit, Type B with Class B Bedding
	54		204	54	27	54											182	14	85																					603			674		674	L.F.	12" Conduit, Type C with Class B Bedding
	200					200																																		603			400		400	L.F.	15" Conduit, Type C with Class B Bedding
			36													36									36															603			108		108	L.F.	12" Conduit, Type D
																									72															603			72		72	L.F.	15" Conduit, Type D
																	36																							603			36		36	L.F.	18" Conduit, Type D
100			784	636																																				603			1520		1520	L.F.	6" Conduit, Type E
100												556	697																									1253		603			100	1253	1353	L.F.	8" Conduit, Type E
100																																								603			100		100	L.F.	10" Conduit, Type E
	60	110	50	80	100	60	40	40		40	140	40		60			50	40	60		50	100	60	20												80		100		603			1020	180	1200	L.F.	6" Conduit, Type F
20												10																										10		603			20	10	30	L.F.	8" Conduit, Type F
20										10																										10				603			20	10	30	L.F.	10" Conduit, Type F
								44		43		52		49				65																		87		101		603			65	188	253	L.F.	15" Conduit, Type F
																						1	1																	604			2		2	Ea.	Standard No. 2-2-A Catch Basins
2			1	1								1	2																									3		604			4	3	7	Ea.	Standard No. 2-2-B Catch Basins, Mod. as per plan.
			2				1	1		1	2	1		1																						2		2		604			5	4	9	Ea.	Standard No. 4 Catch Basins
																	1		1																					604			2		2	Ea.	Standard No. 6 Catch Basins
	4	2	1	4	2	4																																		604			17		17	Ea.	Standard No. 8 Catch Basins
																	5																							604			5		5	Ea.	Standard No. 2-A-6 Inlets, Mod. as per plan.
																	1		2																					604			3		3	Ea.	Standard No. 2-A-8 Inlets, Mod. as per plan.
																		2	1																					604			3		3	Ea.	Standard No. 2-A-10 Inlets, Mod. as per plan.
																		2																						604			2		2	Ea.	Standard No. 2-A-12 Inlets, Mod. as per plan.
																			1																					604			1		1	Ea.	Standard No. 2-A-14 Inlet, Mod. as per plan.
	3839	4010	3975	4013	3606	4030	3551	4101	2745	4104	4013	4110	2750	4121	984	80	2094	1983	2121		1473	2247	2229	1504												11,150		10,981		605			45,552	22,131	67,683	L.F.	6" Shallow Pipe Underdrain
		34	763	1014													319			382		1083			1113															605			4708		4708	L.F.	Aggregate Drains
																											47.24													517			47.24		47.24	L.F.	Guard Rail Type 4 with Galvanized Steel Posts and Bolts
																											166													808			166		166	Ea.	Water-reducing, Set-retarding, Admixture
																																						Y060									
													480																									480		603					480	L.F.	24" Conduit, Type B Class V 706.02 with Class B Bedding, Sanitary
													2																									2		604					2	Ea.	Standard No. 1 Manholes, Mod. as per plan

GENERAL SUMMARY

GENERAL SUMMARY

FRANKLIN COUNTY
FRA-270- 0.79 N

SHEET NUMBER I G Penna. R.R.	SHEET NUMBER I G N.Y.C. R.R.	12	13	18	23	24	37	52	67	68	R/W	ITEM	QUANTITY CODE 7221 I SECTION	QUANTITY CODE 7221 I G SECTION	TOTAL	UNIT	DESCRIPTION
7221	7221																PAVEMENT
589	690			4887								301	3608	1279	4887	C.Y.	Bituminous Aggregate Base, as per plan.
				1866								302	1866		1866	C.Y.	Asphalt Concrete (70-85)
1,143	1,338			15139	15	12	25	13	14	22		304	12,759	2481	15,240	C.Y.	Aggregate Base
4,295	4,260			25481								310	16,926	8555	25,481	C.Y.	Subbase, Grading "A" or "B", as per plan.
389	490			7450								310	6571	879	7450	C.Y.	Subbase
				838								402	838		838	C.Y.	Asphalt Concrete (70-85)
				19								402	19		19	C.Y.	Asphalt Concrete (85-100)
				838								404	838		838	C.Y.	Asphalt Concrete (70 - 85)
				19								404	19		19	C.Y.	Asphalt Concrete (85 -100)
				143								407	143		143	Gal.	Tack Coat, 702.04, MS-2 or RS-1, or 702.05, RC-70 or RC-250, as per Plan.
				9853								408	9853		9853	Gal.	Bituminous Prime Coat, 702.09, RT-2 or RT-3.
54	65			414								409	295	119	414	C.Y.	Seal Coat Cover Aggregate No. 8
1,769	2,076			12776								409	8931	3845	12,776	Gal.	Seal Coat Bituminous Material, as per plan.
				418								409	418		418	Gal.	Seal Coat Bituminous Material; 702.09, RT-8 or RT-9, or 702.05, RC-3
21,642	21,212			127233								451	84,379	42,854	127,233	S.Y.	Reinforced Portland Cement Concrete Pavement 9"
				4044								609	4044		4044	L.F.	Concrete Curb, Standard Type 6
				359								609	359		359	L.F.	Concrete Curb, Standard Type 7
				1006								609	1006		1006	L.F.	Concrete Curb, Standard Type 8
488	400			1691								611	803	888	1691	S.Y.	Reinforced Concrete Approach Slabs, as per plan. (T = 13")
				195								612	195		195	S.Y.	Concrete Median
190	238			1681								Special	1253	428	1681	C.Y.	Drainage Connection Using No. 8 Aggregate, as per plan
6	7			77								304	64	113	77	M.Gals.	Water
																	REMOVAL OF BUILDINGS
											Lump	202	Lump		Lump	Lump	Removal of one 1½-Story Frame Residence, One Concrete Block 2-Story Shed, Five Frame Chicken Houses, Three Metal Corn Cribs, Two Concrete Block and Frame Barns, Two Frame Silos, One Frame Outhouse, Two Frame Sheds, Parcel 107WL
											Lump	202	Lump		Lump	Lump	Removal of one Frame Barn and one Frame Shed. Parcel 109WL
Lump											Lump	202		Lump	Lump	Lump	Removal of one 2 Story Frame Residence, Five Frame Sheds, Parcel 114 WL
																	SIGNING AND LIGHTING
																	Signing and Signlighting For Quantities See Sheet 123
																	Lighting For Quantities See Sheet 140
																	STRUCTURES OVER 20 FT SPAN
																	FRA-270-0205 L & R For Quantities See Sheet 184
																	FRA-270-0233 L & R For Quantities See Sheet 190
																	FRA-270-0310 L & R For Quantities See Sheet 199
Lump	Lump		Lump									614	Lump	Lump	Lump	Lump	Maintaining Traffic
Lump	Lump	Lump											Lump	Lump	Lump	Lump	Construction Layout Stakes
Lump	Lump	Lump											Lump	Lump	Lump	Lump	Field Office

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

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FRANKLIN COUNTY
FRA-270 -0.79N

EARTHWORK AND SEEDING QUANTITIES

LOCATION FROM	LOCATION TO	EXCAVATION C.Y.	EMBANKMENT C.Y.	EMBANKMENT +15% C.Y.	SEEDING & MULCHING
I R 270					
264+00	270+00	26	10	12	
270+00	280+00	17,252	1,308	1,504	15,798
280+00	290+00	6,537	27,359	31,463	16,517
290+00	300+00	1,315	48,261	55,500	12,962
300+00	310+00	3,812	42,767	49,182	15,888
310+00	320+00	11,418	29,745	34,207	17,450
320+00	330+00	3,148	12,919	14,857	9,754
330+00	339+50	2,658	48,516	55,793	14,560
339+50	340+00	• 155	• 6,606	• 7,597	• 1,064
340+00	350+00	• 1,820	• 195,308	• 224,604	• 22,327
350+00	360+00	• 1,250	• 199,996	• 229,995	• 20,714
360+00	370+00	• 3,187	• 160,604	• 184,695	• 23,693
370+00	380+00	2,599	39,526	45,455	19,500
380+00	390+00	• 4,858	• 139,327	• 160,226	• 23,689
390+00	400+00	• 780	• 211,182	• 242,859	• 20,375
400+00	410+00	• 2,731	• 192,856	• 221,784	• 23,421
410+00	420+00	441	31,616	36,358	5,227
Wilson Rd		4,292	1,973	2,269	13,479
Frontage Rd "A"		11,265	8,263	9,502	29,446
Scioto-Darby Cr. Rd			32	37	189
WS Ramp		6,570	11,500	13,225	22,854
ES Ramp		72	3,379	3,886	1,530
NW Ramp		3,412	5,357	6,161	22,594
EN Ramp		3,568	22,416	25,778	24,940
WN Ramp		90	6,939	7,980	1,953
SE Ramp		8,900	18,492	21,266	29,339
Roberts Rd		13,847	126,881	145,913	48,416
IG Penna RR		6,412	562,514	646,891	67,798
IG NYC RR		8,369	543,365	624,869	67,485
TOTAL I SECTION		101,225	487,259	560,348	322,396
TOTAL IG SECTION		14,781	1,105,879	1,271,760	135,283
GRAND TOTAL		116,006	1,593,138	1,832,108	457,679

ITEM 203 - BORROW

I Section
Embankment plus 15% = 560,348 C.Y.
Excavation = 101,225 C.Y.
459,123 C.Y.

IG Section
Embankment plus 15% = 1,271,760 C.Y.
Excavation = 14,781 C.Y.
1,256,979 C.Y.

ITEM 203 - WATER

I Section
Embankment plus 15% = 560,348 C.Y.
Item 310 = 23,497 C.Y.
583,845 C.Y.
583,845 C.Y. x 0.005 = 2,919 M.Gal.

IG Section
Embankment plus 15% = 1,271,760 C.Y.
Item 310 = 9,434 C.Y.
1,281,194 C.Y.
1,281,194 C.Y. x 0.005 = 6,406 M.Gal.

ITEM 304 - WATER

I Section
Item 304 Aggregate Base = 12,746 C.Y.
12,759 C.Y. x 0.005 = 64 M.Gal.

IG Section
Item 304 Aggregate Base = 2,494 C.Y.
2,481 C.Y. x 0.005 = 13 M.Gal.

ITEM 659 COMMERCIAL FERTILIZER

I Section
Seeding and Mulching = 322,396 S.Y.
Sodding = 202 S.Y.
Jute Matting = 9,851 S.Y.
332,449 S.Y.
332,449 S.Y. x 0.00009 = 30 Tons

IG Section
Seeding and Mulching = 135,283 S.Y.
Sodding = 239 S.Y.
Jute Matting = 3,099 S.Y.
138,621 S.Y.
138,621 S.Y. x 0.00009 = 13 Tons

PAVEMENT QUANTITIES

LOCATION	203 Subgrade Preparation S.Y.	301 Bit. Agg. Base C.Y.	302 Asphalt Concrete C.Y.	304 Agg. Base C.Y.	310 Subbase "A" or "B" C.Y.	310 Subbase C.Y.	402 Asph. Conc. (70-85) C.Y.	402 Asph. Conc. (85-100) C.Y.	404 Asph. Conc. (70-85) C.Y.	404 Asph. Conc. (85-100) C.Y.	407 Tack Coat Gal.	408 Prime Coat Gal.	409 Seal Coat Agg. C.Y.	409 Seal Coat Bit. Material Gal.	409 Seal Coat Bit. Material Gal.	451 Reinforced Concrete S.Y.	609 Curb Type 6 L.F.	609 Curb Type 7 L.F.	609 Curb Type 8 L.F.	611 Approach Slabs S.Y.	612 Concrete Median S.Y.	Special Drainage Connection C.Y.
Main Line																						
270+55.06 to 339+50	72,085	1,426		2,772	10,663	916							140	4,281		54,574				413		446
339+50 to 352+28.15	• 12,893	• 222		• 433	• 1,961	• 128							• 19	• 668		• 10,225						• 63
352+28.15 to 355+74.45	• 488				• 82															• 488		
355+71.20 to 370+00	• 15,820	• 367		• 710	• 2,252	• 261							• 35	• 1,101		• 11,417						• 127
370+00 to 380+00	11,110	260		502	1,579	184							26	778		8,000						90
380+00 to 393+41.47	• 14,928	• 349		• 677	• 2,122	• 248							• 33	• 1,051		• 10,732						• 120
393+41.47 to 396+89.99	• 400				• 67															• 400		
396+89.99 to 410+00	• 14,581	• 341		• 661	• 2,071	• 242							• 32	• 1,025		• 10,480						• 118
410+00 to 412+42	2,690	62		122	383	44							6	188		1,936						22
Roberts Road																						
9+35 to 9+58.48							2		2		5											
9+58.48 to 23+32.73 & 26+67.26 to 47+09.79	21,980	396	1,428	4,965		4,028	588		588			6,858	39	1,201			3,460				103	
23+32.73 to 26+67.26	334					56														334		
Wilson Road																						
9+00 to 9+99.98			2	5		4	10		10		22											
9+99.98 to 25+67.80	4,299		367	1,370		788	166		166			2,380	11		418							
Roberts Road Conn.	460			120				12		12		191										
Frontage Road "A"	7,598			1,818				7		7		99								56		
Scioto-Darby Road				13			45		45		116											
WS Ramp	8,514	441	35	358	1,095	219	14		14			165	26	763		4,988	164	94	403		16	197
ES Ramp	801	29		5	128								1	44		610		71	104			23
NW Ramp	5,517	241		76	831	58							8	362		4,061	132				28	119
EN Ramp	8,436	417	34	331	1,100	216	13		13			160	22	723		5,167	164	94	386		17	211
WN Ramp	926	36		7	149								1	52		695		100	113			27
SE Ramp	5,811	242		76	880	58							9	363		4,348	124				31	118
Cross Over 285+00	353	29		59	59								3	88								
Cross Over 374+75	353	29		59	59								3	88								
IG Penna. RR	29,201	589		1143	4295	389							54	1769		21,642				488		190
IG NYC RR	29,909	690		1338	4260	490							65	2076		21,212				400		238
TOTAL I SECTION	151,267	3,608	1,866	12,658	16,926	6,571	838	19	838	19	143	9,853	295	8,931	418	84,379	4,044	359	1,006	803	195	1,253
TOTAL IG SECTION	59,110	1,279		2,481	8,555	879							119	3,845		42,854				888		428
GRAND TOTAL	210,377	4,887	1,866	15,139	25,481	7,450	838	19	838	19	143	9,853	414	12,776	418	127,233	4,044	359	1,006	1,691	195	1,681

SUB SUMMARY OF QUANTITIES

FED. AID DIVISION	STATE	PROJECT	
2	OHIO		

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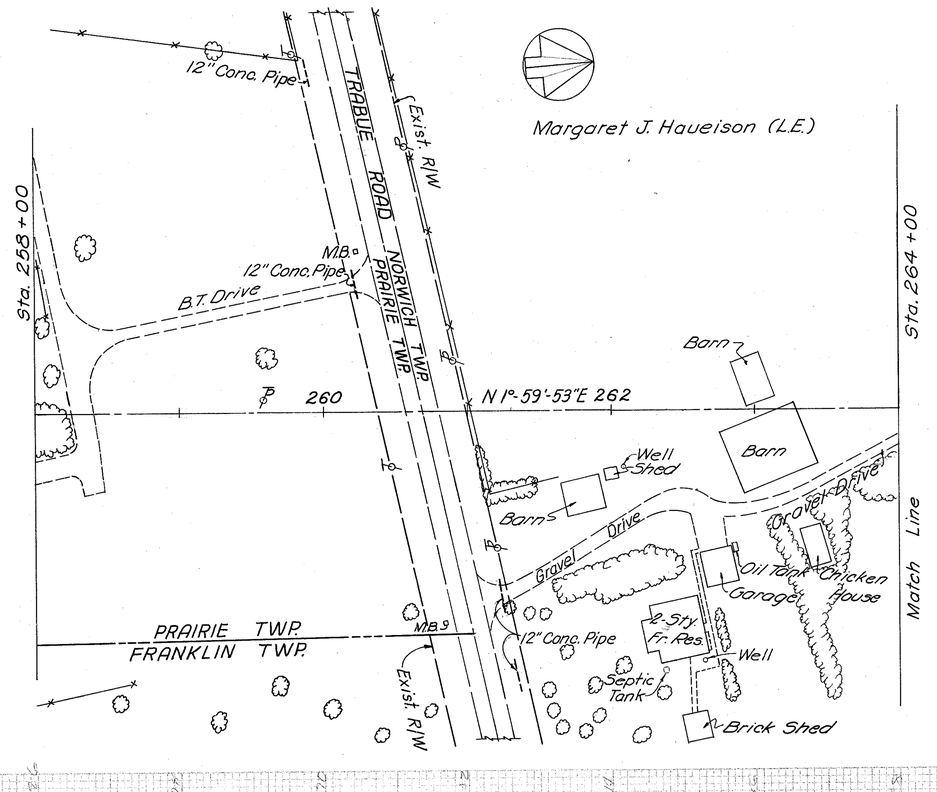
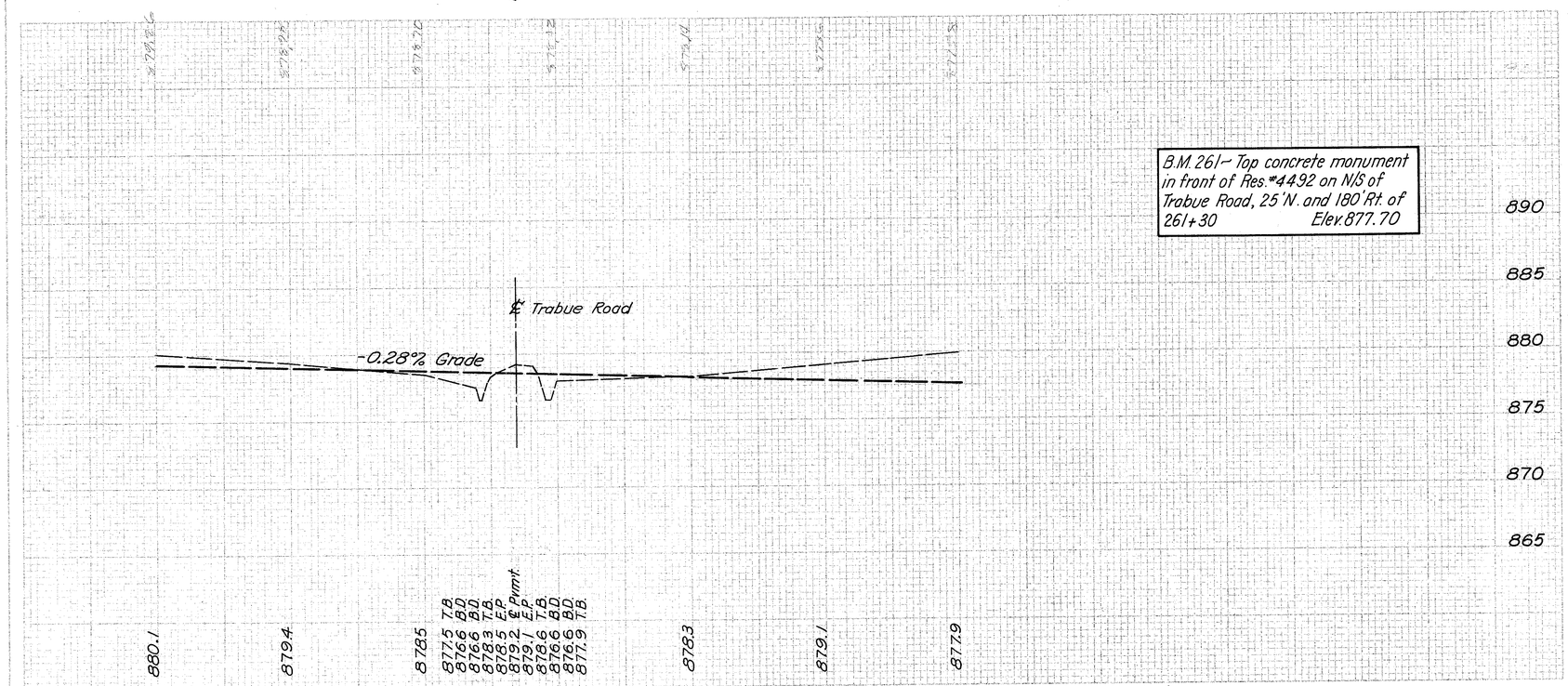
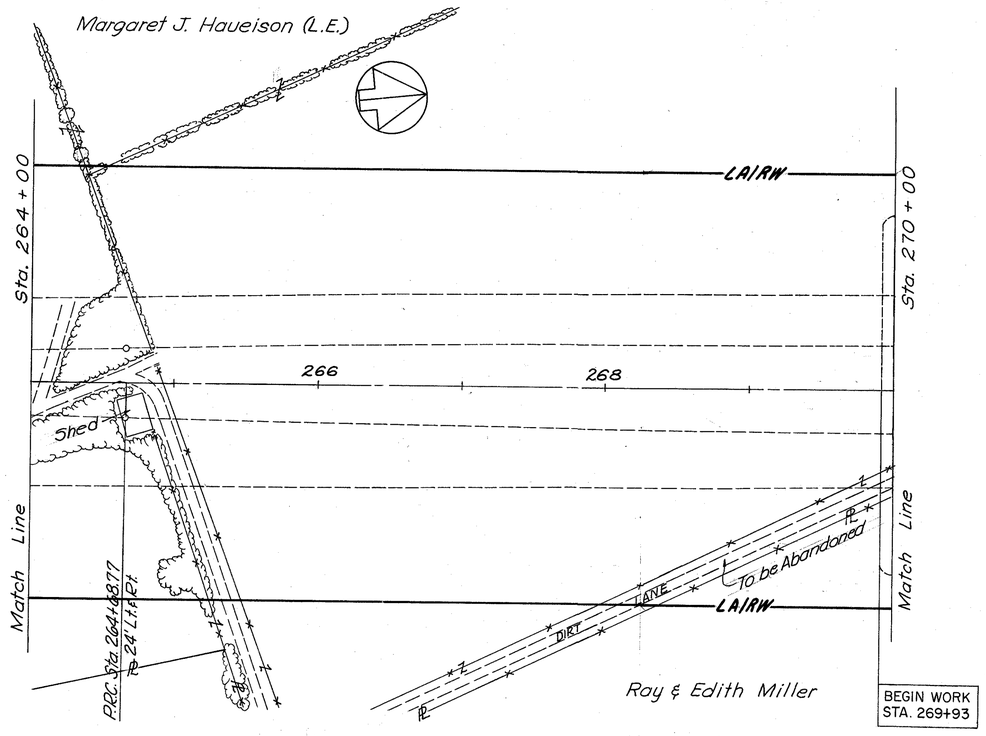
227

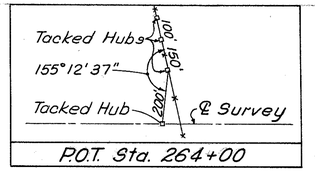
FRANKLIN COUNTY
FRA-270-0.79N





258+00 TO 264+00





FED. RD. DIVISION	STATE	PROJECT		
2	OHIO			

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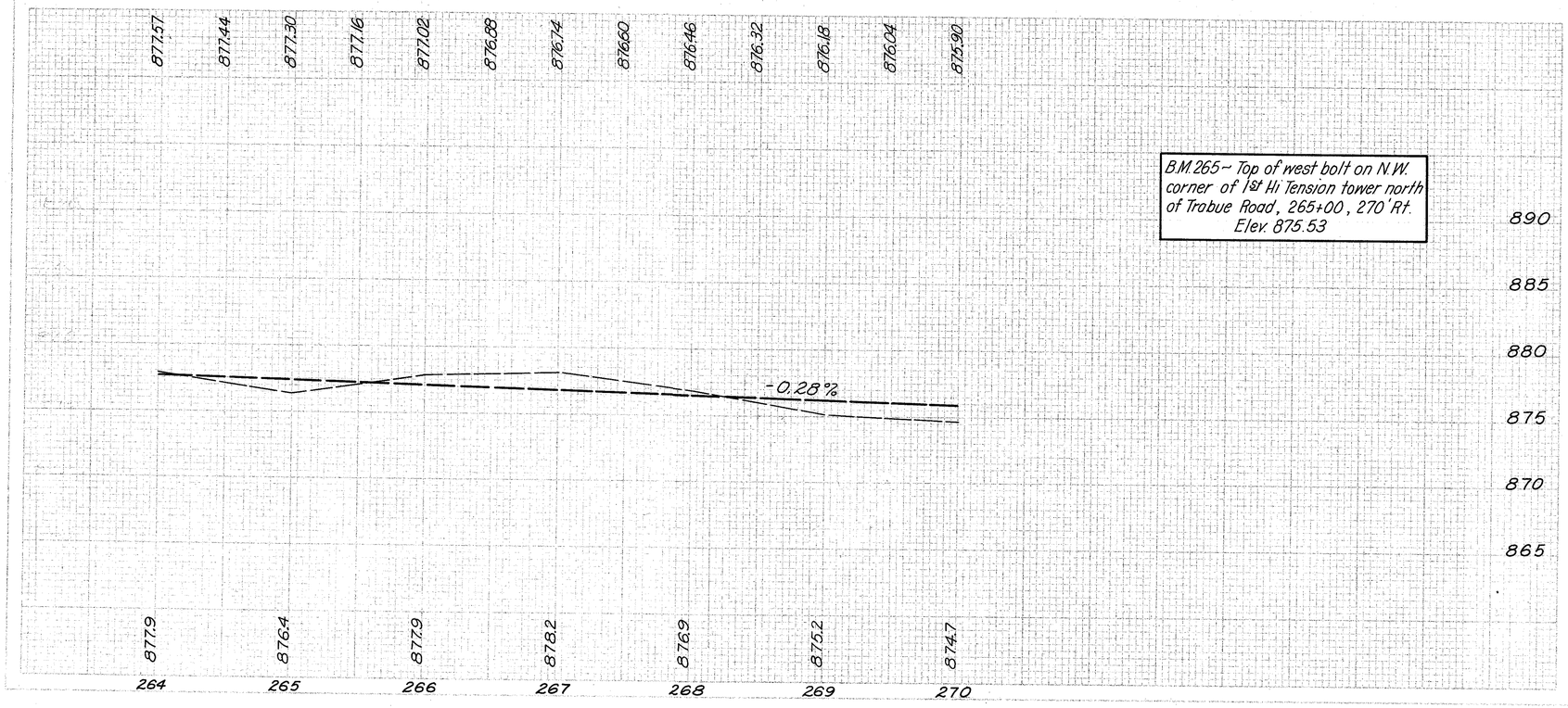
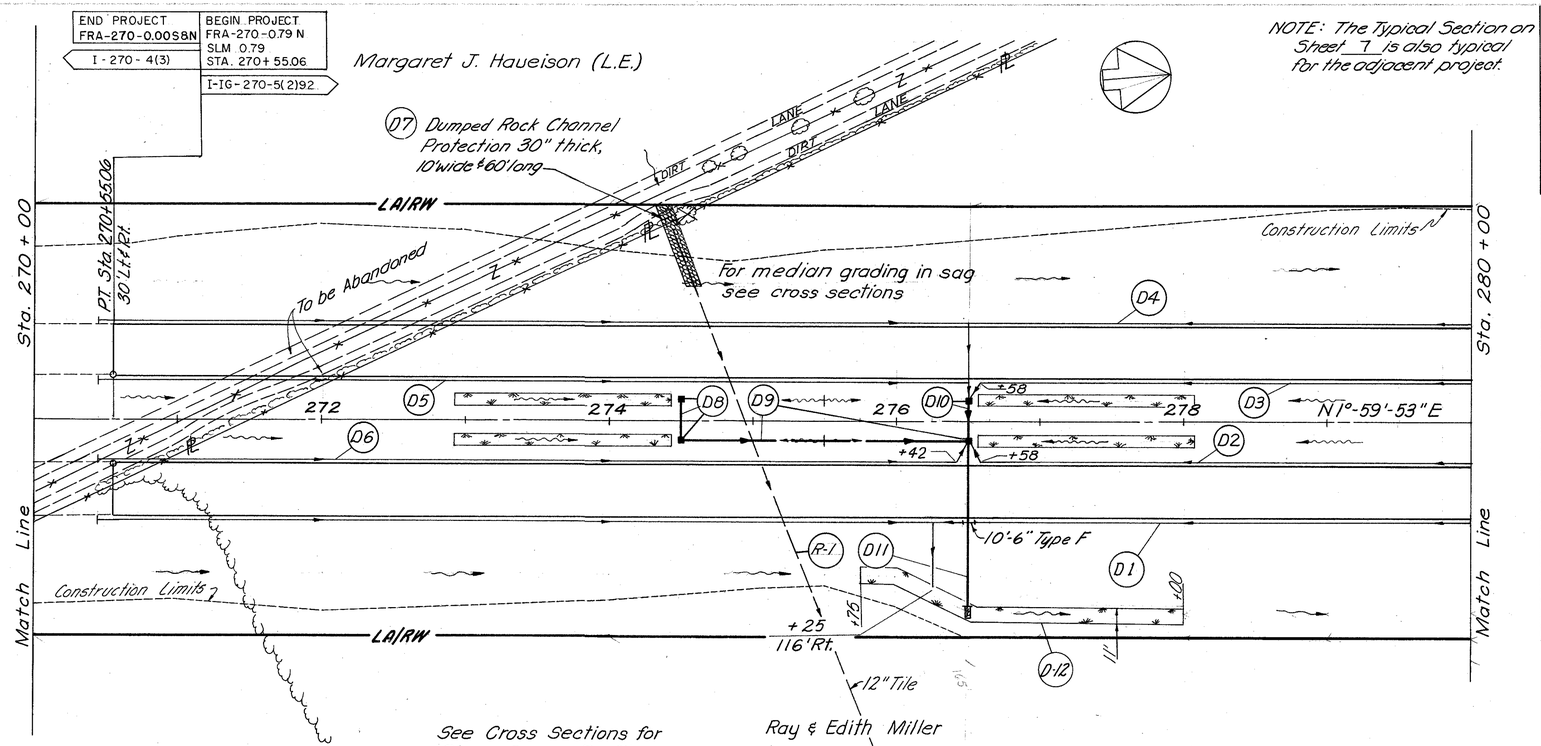
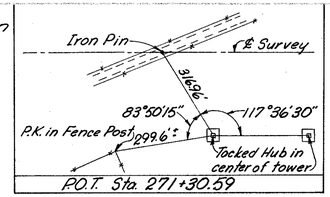
FRANKLIN COUNTY
FRA-270-0.79N



END PROJECT	BEGIN PROJECT
FRA-270-0.00 S&N	FRA-270-0.79 N
	SLM 0.79
I-270-4(3)	STA. 270+55.06
	I-IG-270-5(2)92



NOTE: The Typical Section on Sheet 7 is also typical for the adjacent project.



FED. AID DIVISION	STATE	PROJECT		
2	OHIO			

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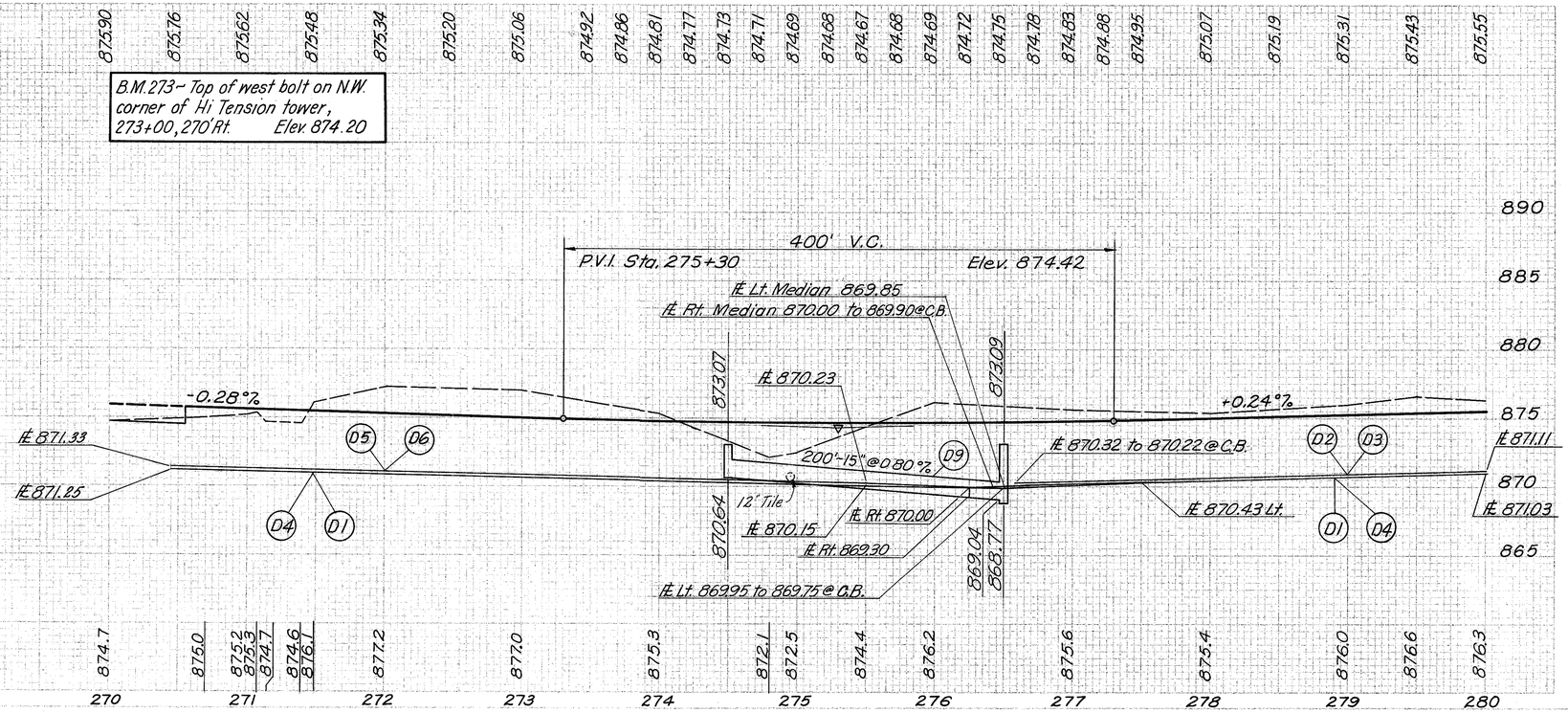
FRANKLIN COUNTY
FRA-270-0.79N

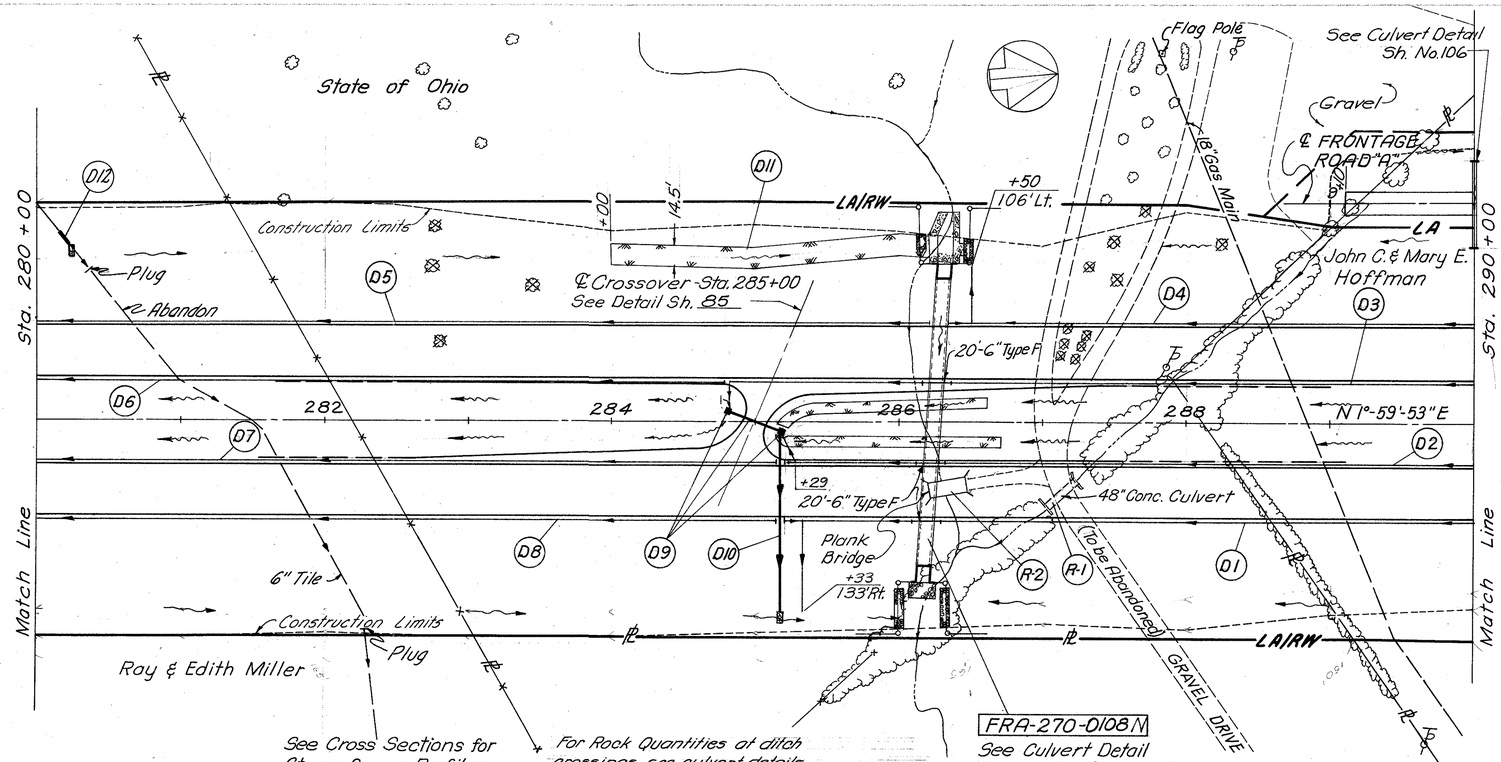
DRAINAGE		603					605	601	602			604	601	660	667	
		18" Type B	6" Type B	15" Type C	12" Type C	6" Type F	6" Pipe Underdrain	Dumped Rock	Concrete Masonry	6" Special for Type B Conduit	6" Special for Pipe Underdrain	No 8 Catch Basin	Crushed Aggregate	Sodding	Jute Matting	
CODE	LOCATION	L.F	L.F	L.F	L.F	L.F	L.F	C.Y	C.Y	Ea.	Ea.	Ea.	S.Y.	S.Y.	S.Y.	
D-1	270+45 to 280+00 Rt.					20	983				1					
D-2	276+58 to 280+00 Rt.					10	347				1					
D-3	276+58 to 280+00 Lt.					10	347				1					
D-4	270+45 to 280+00 Lt.		44			10	955			2						
D-5	270+45 to 276+50 Lt.						605									
D-6	270+45 to 276+42 Rt.					10	602				1					
D-7	274+50 Lt.							56								
D-8	274+50, 13.5' Lt. to 13.5' Rt.				27							2			250	
D-9	274+50, 13.5' Rt. to 276+50,	13.5' Rt.	200									1			125	
D-10	276+50, 13.5' Lt. to 13.5' Rt.				27							1			125	
D-11	276+50, 13.5' Rt. to 128' Rt.	114							0.30				2	2		
D-12	275+75 to 278+00 Rt.														281	
TOTAL		114	44	200	54	60	3838	56	0.30	2	4	4	2	2	781	

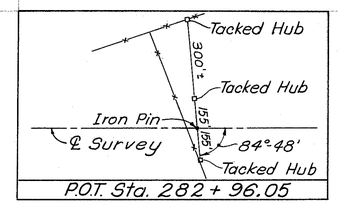
ROADWAY		202	
		Pipe Removed 24" & Under	
CODE	LOCATION	L.F.	
R1	274+95 Rt. & Lt.	300	
TOTALS		300	

B.M. 273 - Top of west bolt on N.W. corner of Hi Tension tower, 273+00, 270' Rt. Elev. 874.20



270+00 TO 280+00





FED. AID DIVISION	STATE	PROJECT		22 / 227
2	OHIO			

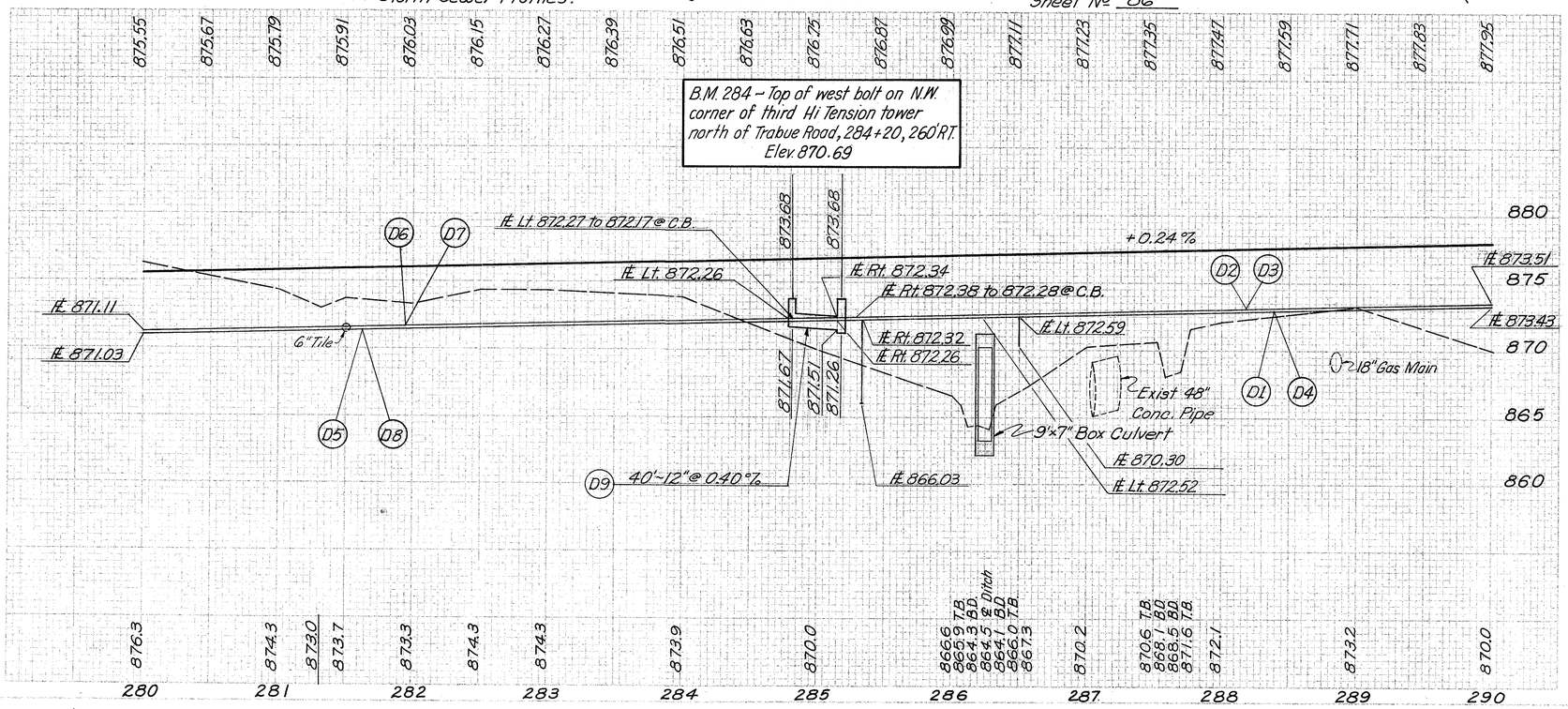
FRANKLIN COUNTY
FRA-270-0.79 N

DRAINAGE

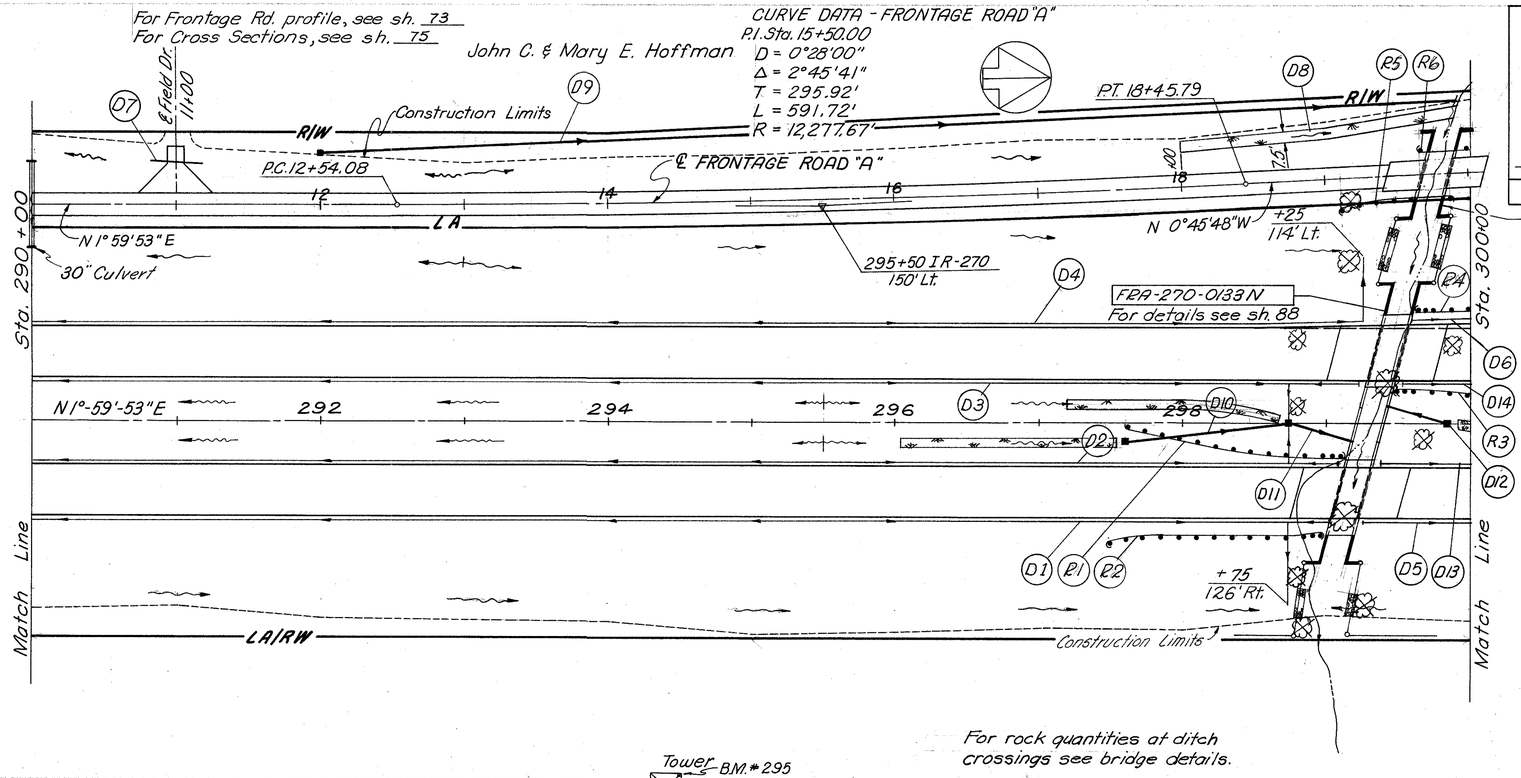
CODE	LOCATION	603 15" Type B L.F.	603 12" Type B L.F.	603 6" Type F L.F.	605 6" Pipe Underdrain L.F.	605 Aggregate Drains L.F.	602 Concrete Masonry C.Y.	604 6" Specials for Pipe Underdrain Ea.	604 No 8 Catch Basin Ea.	601 Crushed Aggregate S.Y.	660 Sodding S.Y.	667 Jute Matting S.Y.
D-1	285+22 to 290+00, Rt.			30	513			1				
D-2	285+22 to 290+00, Rt.			30	470			1				
D-3	284+82 to 290+00, Lt.			30	507			1				
D-4	286+35 to 290+00, Lt.			10	393			1				
D-5	280+00 to 286+21, Lt.				621							
D-6	280+00 to 284+78, Lt.				478							
D-7	280+00 to 285+14, Rt.				514							
D-8	280+00 to 285+14, Rt.				514							
D-9	284+82, 8'Lt. to 285+18, 8'Rt.	40						2				250
D-10	285+18, 8'Rt to 1.32' Rt.	124					0.26		2	2		
D-11	284+00 to 286+25, Lt.											363
	9+25 to 9+75 Frontage Rd.					34						
D-12	280+20 Lt.			10					2			
TOTAL		124	40	110	4010	34	0.26	4	2	4	2	613

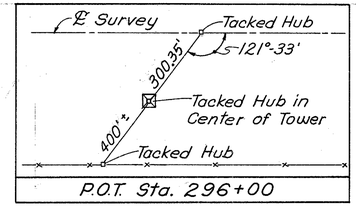
ROADWAY

CODE	LOCATION	202 Pipe Removed over 24" LIN. FT.	202 Existing Structure Removed LUMP
R1	287+15 Rt.	29	
R2	286+30 Rt.		lump
TOTAL		29	Lump



280+00 TO 290+00





FED. ROAD DIVISION	STATE	PROJECT		
2	OHIO			

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FRANKLIN COUNTY
FRA-270-0.79N

DRAINAGE

CODE	LOCATION	605 6" Pipe Underdrain LF	603 6" Type F LF	603 6"" Specials for Pipe Underdrain Ea.	603 12" Type O LF	605 Aggregate Drains LF	667 Jute Matting S.Y.	603 6" Type E LF	604 No. 2-2'-8 Catch Basin Ea.	604 No.4 Catch Basin Ea.	604 No.8 Catch Basin Ea.	603 12" Type C LF
D-1	290+00 to 298+95 Rt.	943	10	1								
D-2	290+00 to 299+05 Rt.	923	10	1								
D-3	290+00 to 299+20 Lt.	938	10	1								
D-4	290+00 to 299+25 Lt.	961	10	1								
D-5	299+30 to 300+00 Rt.	70										
D-6	299+65 to 300+00 Lt.	35										
D-7	11+00 Lt, Frontage Rd.				36							
	10+00 to 20+00 Frontage Rd.					763						
D-8	18+00 to 19+80 Lt. Frontage Rd.						150					
D-9	12+00.35' Lt. to 19+94.50' Lt. Frontage Rd.		10					784	1			
D-10	297+60.13.5 Rt. to 298+75, ℄						125				1	116
D-11	298+75, ℄ to 299+17						140			1		44
D-12	299+44 to 299+85, ℄						140			1		44
D-13	299+40 to 300+00 Rt.	60										
D-14	299+55 to 300+00 Lt.	45										
TOTAL		3975	50	4	36	763	555	784	1	2	1	204

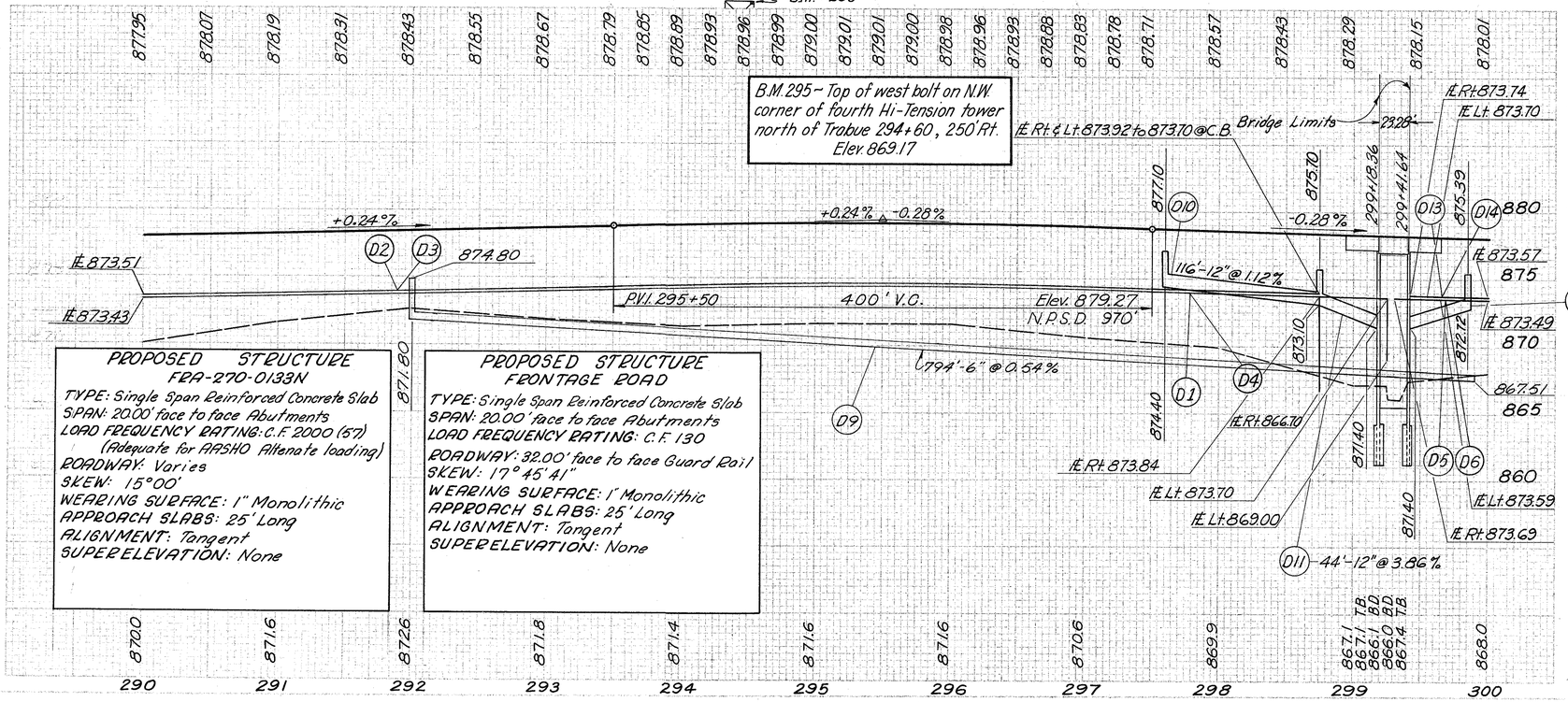
For rock quantities at ditch crossings see bridge details.

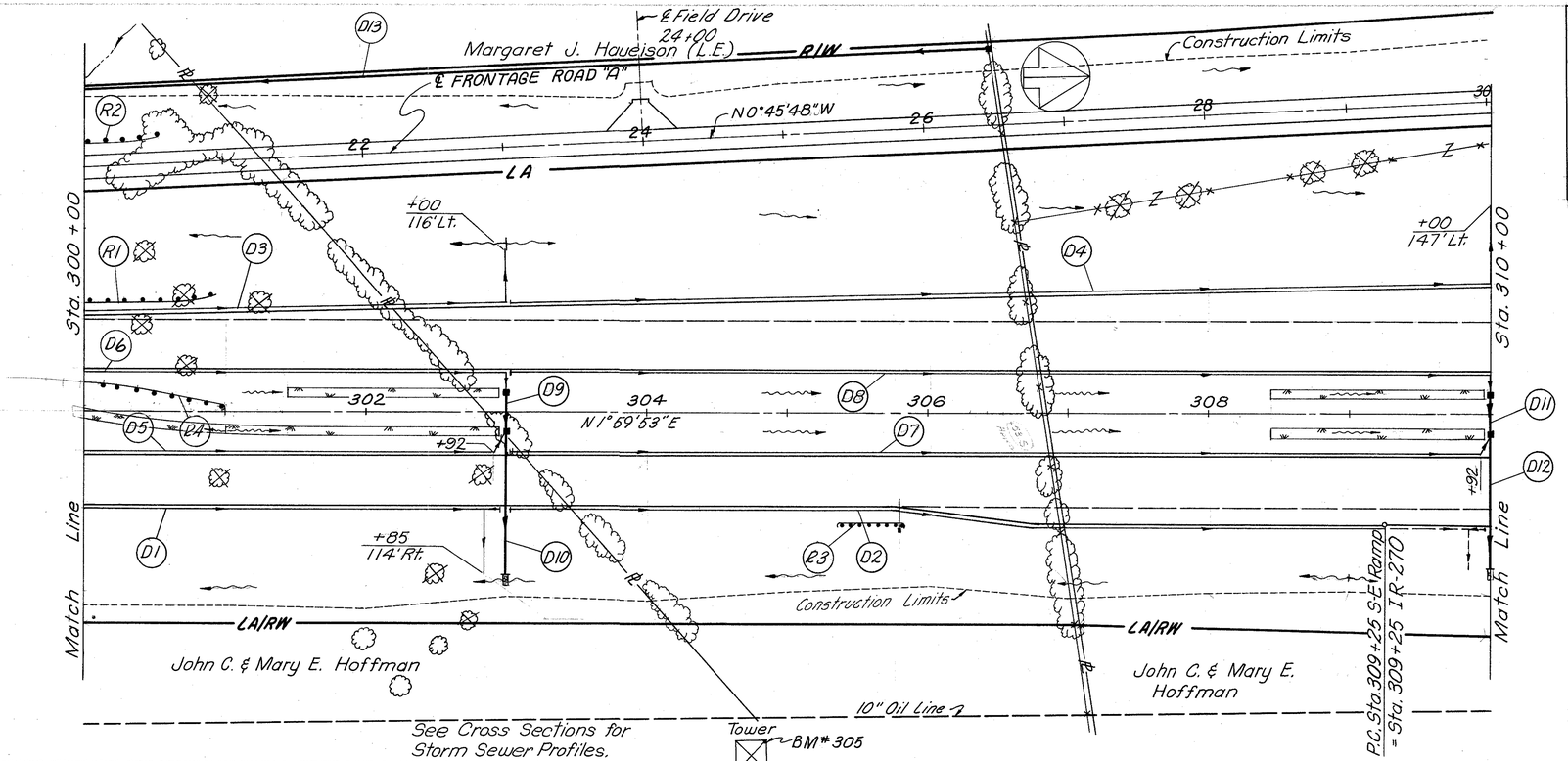
ROADWAY

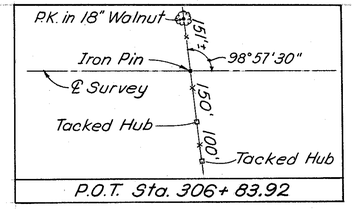
CODE	LOCATION	606 Guard Rail Std. Type L.F.	
R1	297+60 to 299+10	150	
R2	297+46 to 298+96	150	
R3	299+50 to 300+00	50	
R4	299+64 to 300+00	36'	
R5	19+11 to 19+86 Frontage Rd.	51.38	
R6	19+66 to 20+00 Frontage Rd.	10.38	
TOTAL		447.76	

DRIVEWAYS

LOCATION	304 Aggregate Base C.Y.
11+00 Frontage Road	15







FED. NO. DIVISION	STATE	PROJECT		
2	OHIO			

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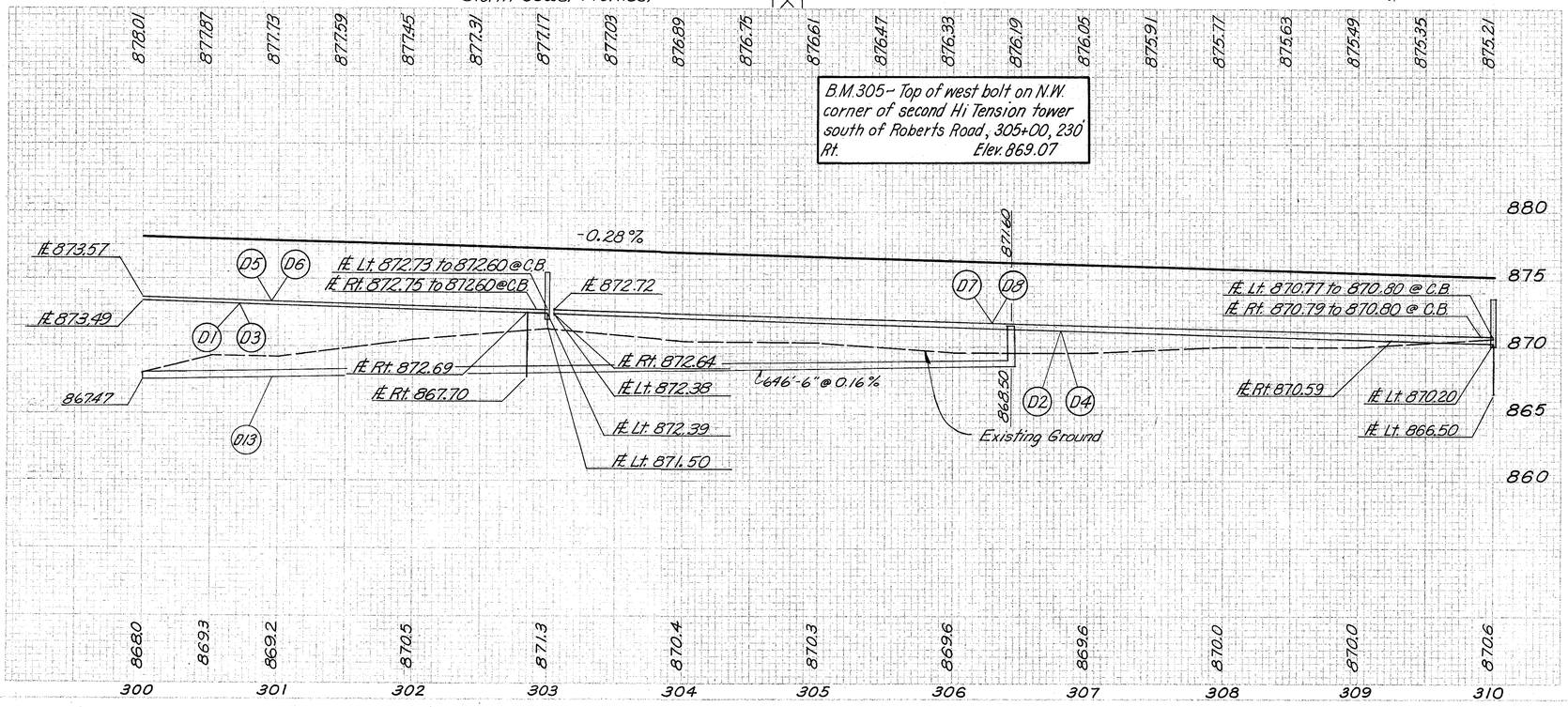
FRANKLIN COUNTY
FRA-270-0.79N

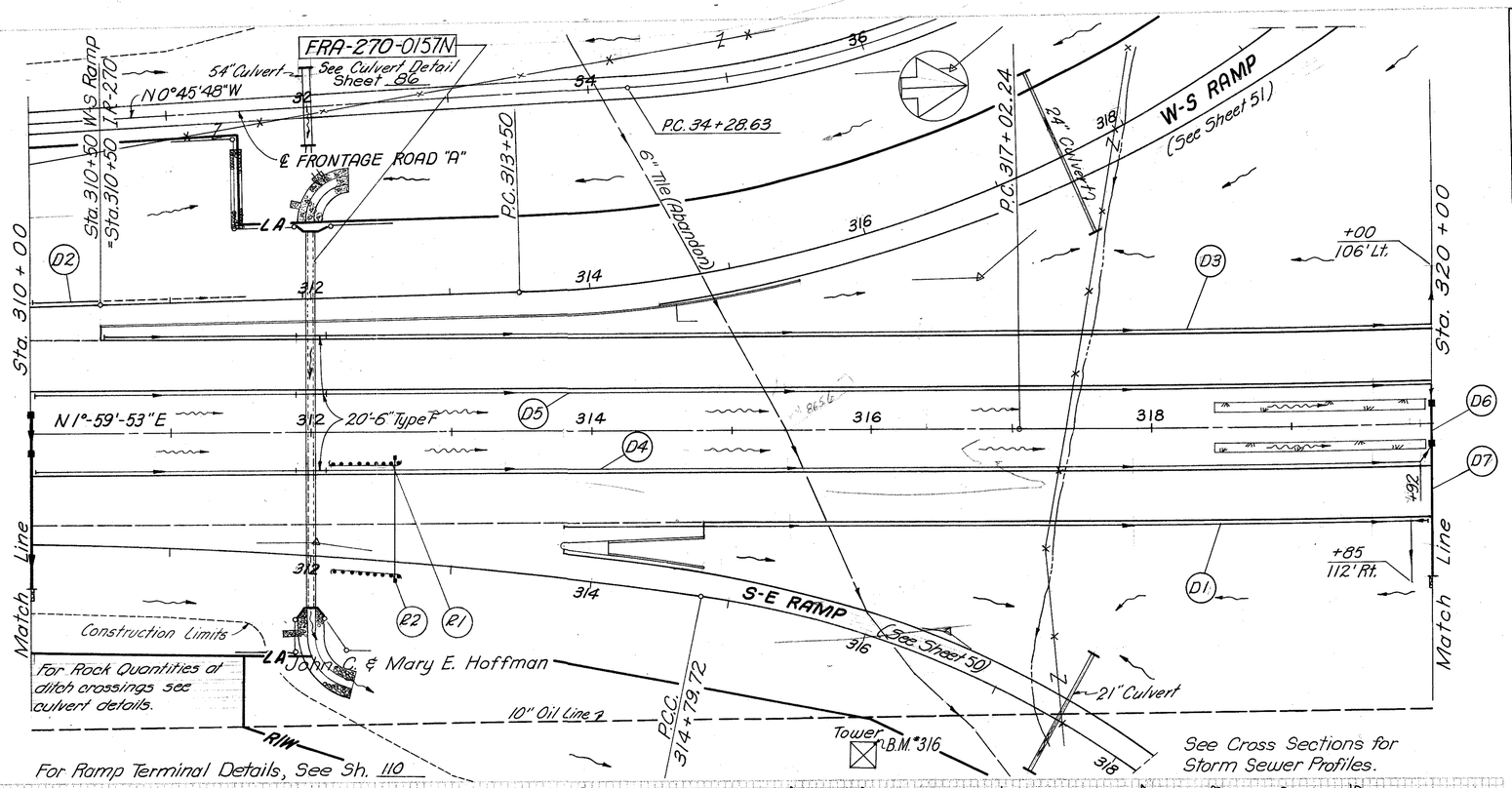
DRAINAGE		603				605		601	602	604	660	667	605	604
		15" Type B	12" Type C	6" Type F	6" Type E	6" Pipe Underdrain	6" Special for Pipe Underdrain	Crushed Aggregate	Concrete Masonry	No 8 Catch Basin	Sodding	Jute Matting	Aggregate Drains	No. 2-2.8 Catch Basin
CODE	LOCATION	L.F.	L.F.	L.F.	L.F.	L.F.	Ea.	S.Y.	C.Y.	Ea.	S.Y.	S.Y.	L.F.	Ea.
D1	300+00 to 302+96 Rt.			10		332	1							
D2	303+04 to 309+25 Rt.					621								
D3	300+00 to 303+00 Lt.			10		331	1							
D4	303+04 to 310+00 Lt.			10		740	1							
D5	300+00 to 302+92 Rt.			10		297	1							
D6	300+00 to 303+00 Lt.			10		300	1							
D7	303+04 to 309+92 Rt.			10		693	1							
D8	303+04 to 310+00 Lt.			10		699	1							
D9	303+00, 13.5' Lt. to 13.5' Rt.		27							2		250		
D10	303+00, 13.5' Rt. to 114.5' Rt.	101						2	0.26		2			
D11	310+00, 13.5' Lt. to 13.5' Rt.		27							2		250		
D12	310+00 13.5' Rt. to 109' Rt.	95						2	0.26		2			
	20+25 to 30+00 Frontage	Rd.											1014	
D13	20+04 to 26+50, 55' Lt. Frontage Rd.			10	636									1
TOTAL		196	54	80	636	4013	7	4	0.52	4	4	500	1014	1

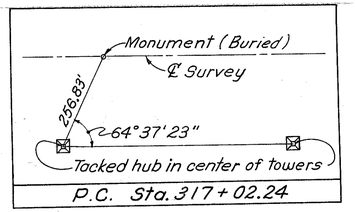
ROADWAY		606	606
		Guard Rail Std. Type	Guard Rail (Mod.)
CODE	LOCATION	L.F.	L.F.
R1	300+00 to 301+14 Lt.	14	
R2	20+00 to 20+41 Lt. Front Rd.	41	
R3	305+33 to 305+83 Rt.		50
R4	300+00 to 301+00 Lt.	100	
TOTAL		155	50

DRIVEWAY	304
	Aggregate Base
LOCATION	C.Y.
24+00 Frontage Road	12



300+00 TO 310+00



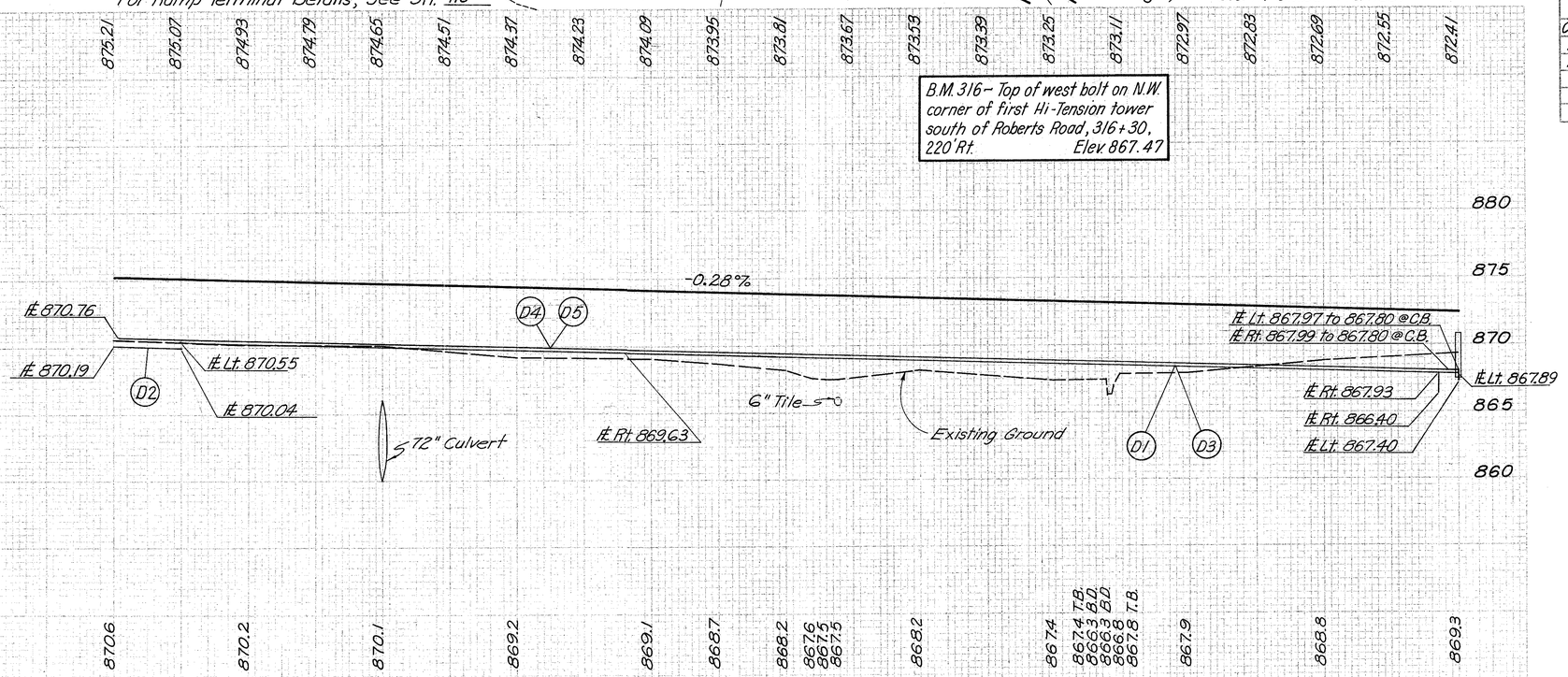


FED. RD. DIVISION	STATE	PROJECT		25 / 227
2	OHIO			

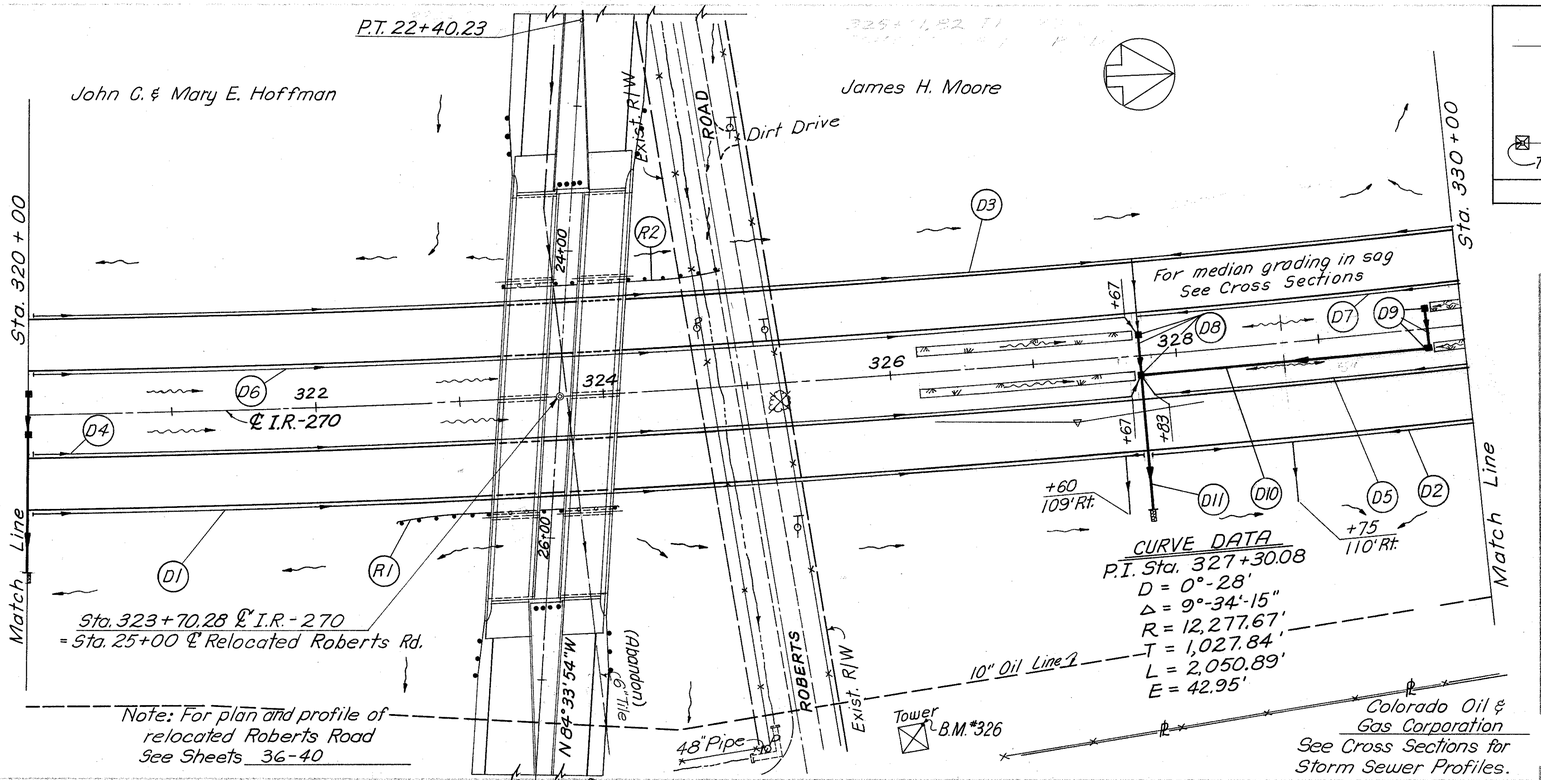
FRANKLIN COUNTY
FRA-270-0.79N

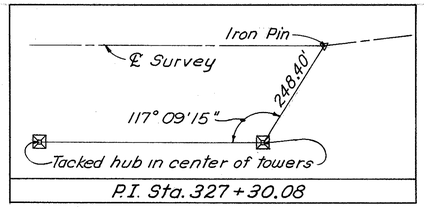
DRAINAGE		603			605		601	602	604	660	667	
		15" Type B	12" Type C	6" Type F	6" Pipe Underdrain	6" Special For Pipe Underdrain	Crushed Aggregate	Concrete Masonry	No. 8 Catch Basin	Sodding	Jute Matting	
CODE	LOCATION	L.F.	L.F.	L.F.	L.F.	Ea.	S.Y.	C.Y.	Ea.	S.Y.	S.Y.	
D1	313+80 to 319+96 Rt.			10	650	1						
D2	310+04 to 310+50 Lt.				46							
D3	310+50 to 320+00 Lt.			30	958	1						
D4	310+04 to 319+92 Rt.			30	973	1						
D5	310+04 to 320+00 Lt.			30	979	1						
D6	320+00, 13.5' Lt. to 135 Rt.		27						2		250	
D7	320+00, 13.5' Rt. to 1075 Rt.	94					2	0.26		2		
TOTAL		94	27	100	3606	4	2	0.26	2	2	250	

ROADWAY		606	
		Guard Rail (Mod.)	
CODE	LOCATION	L.F.	
R1	312+13 to 312+63 Rt.	50	
R2	312+13 to 312+63 Rt. SE Ramp	50	
TOTAL		100	



310+00 TO 320+00





NEW CONSTR.	STATE	PROJECT
2	OHIO	

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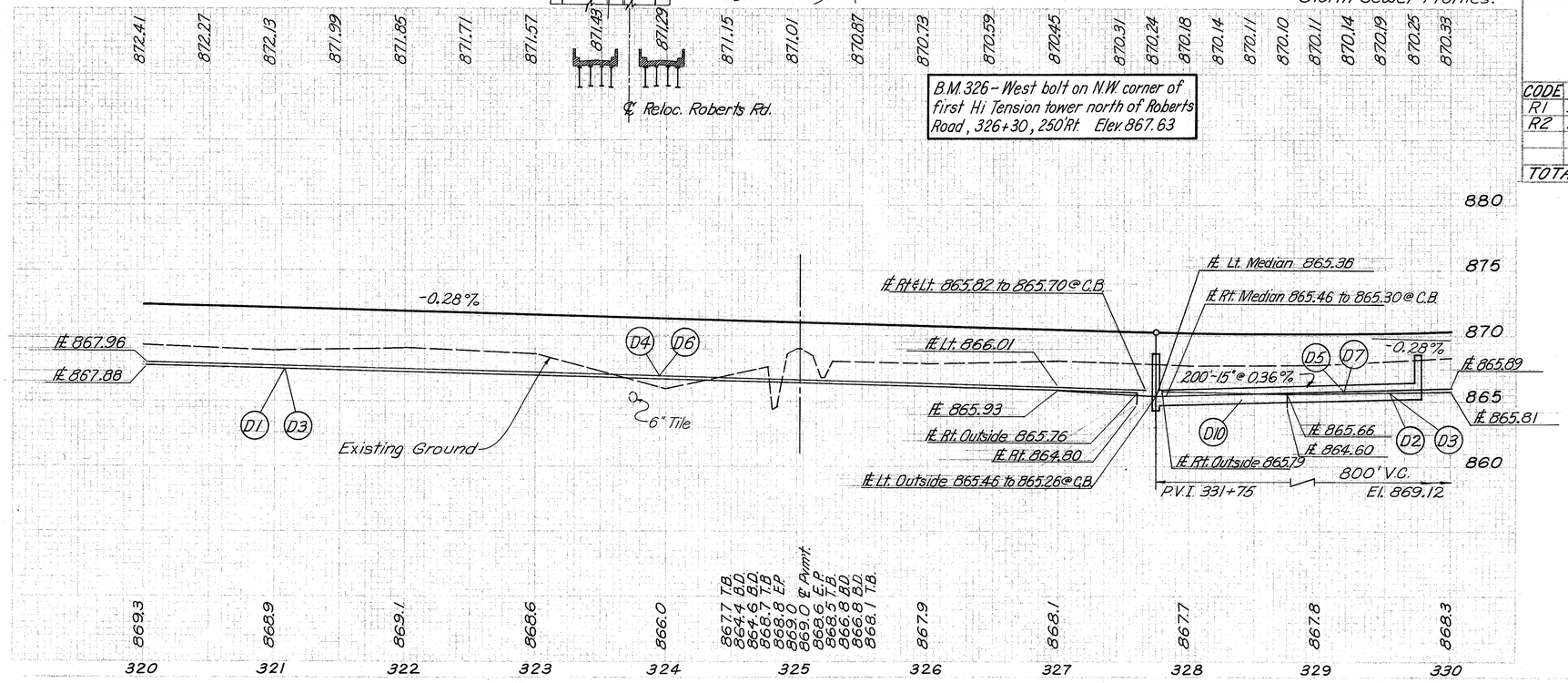
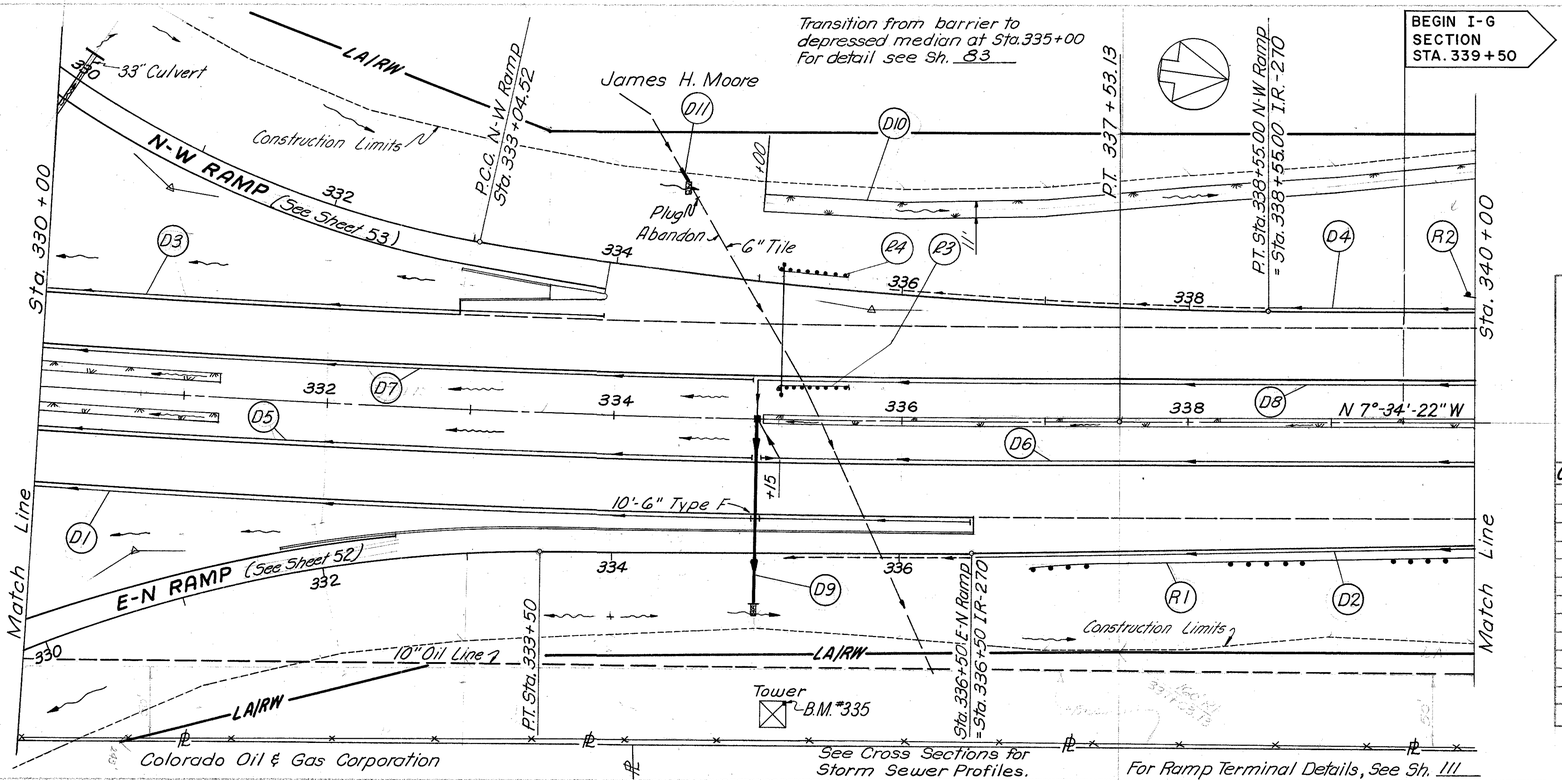
FRANKLIN COUNTY
FRA-270-0.79 N

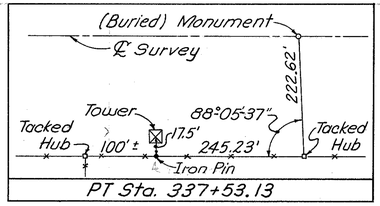
DRAINAGE		603					605			601	602	604	660	667
		6" Type B	18" Type B	12" Type C	15" Type C	6" Type F	6" Pipe Underdrain	6" Special for Type B Conduit	6" Special for Pipe Underdrain	Crushed Aggregate	Concrete Masonry	No. 8 Catch Basin	Sodding	Jute Matting
CODE	LOCATION	L.F.	L.F.	L.F.	L.F.	L.F.	L.F.	Ea.	Ea.	S.Y.	C.Y.	Ea.	S.Y.	S.Y.
D1	320+04 to 327+71 Rt.					10	798		1					
D2	327+79 to 330+00 Rt.					10	253		1					
D3	320+04 to 330+00 Lt.	43				10	996	2						
D4	320+04 to 327+67 Rt.					10	768		1					
D5	327+83 to 330+00 Rt.					10	222		1					
D6	320+04 to 327+67 Lt.					10	768		1					
D7	327+75 to 330+00 Lt.						225							
D8	327+75, 13.5' Lt to 13.5' Rt.			27								2		250
D9	329+75, 13.5' Lt to 13.5' Rt.			27								2		250
D10	327+75 to 329+75, 13.5' Rt.				200									
D11	327+75, 13.5' Rt. to 107' Rt.		94							2	0.30		2	
TOTAL		43	94	54	200	60	4030	2	5	2	0.30	4	2	500

ROADWAY		606 Guard Rail Std. Type
CODE	LOCATION	L.F.
R1	322+55 to 324+05 Rt.	150
R2	323+35 to 324+85 Lt.	150
TOTAL		300



320+00 TO 330+00





PROJ. NO. DIVISION	STATE	PROJECT		
2	OHIO			

27
227

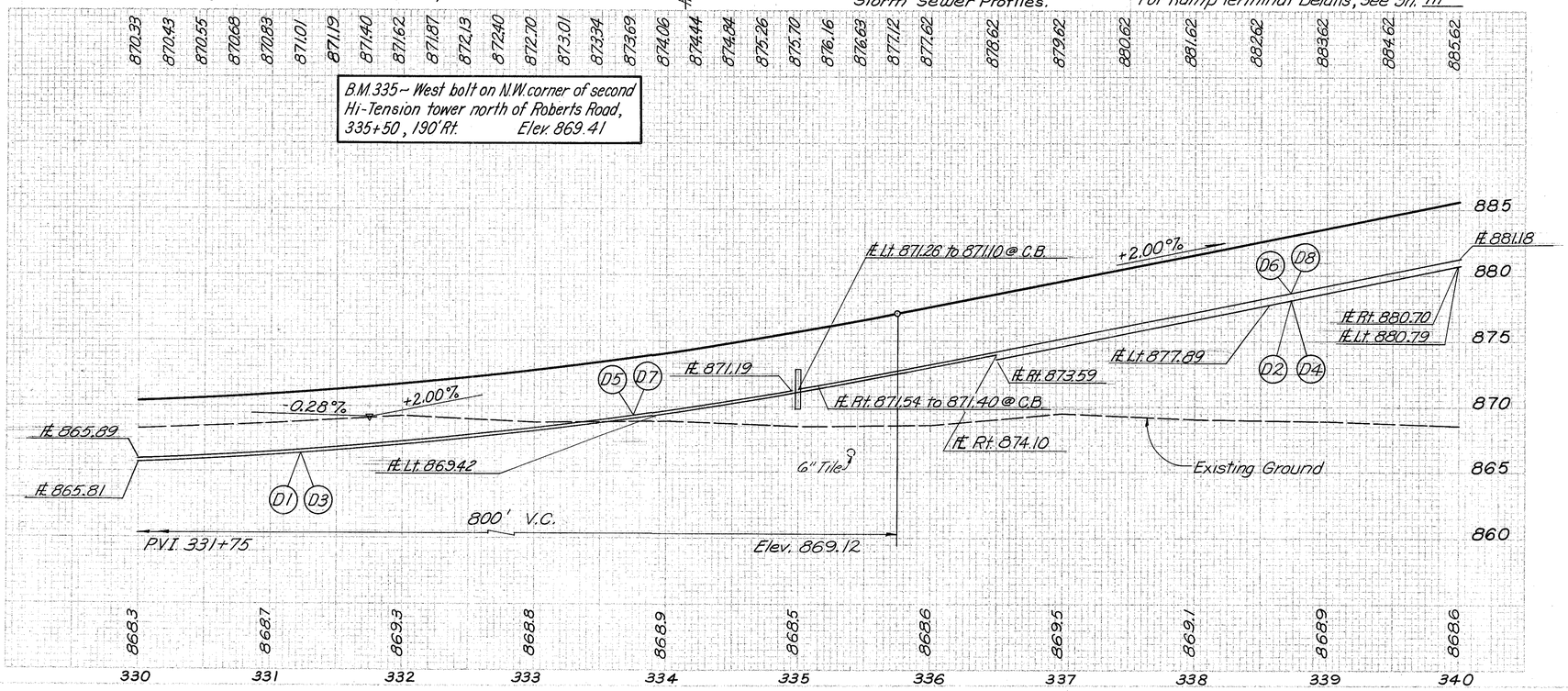
FRANKLIN COUNTY
FRA-270-0.79N

DRAINAGE

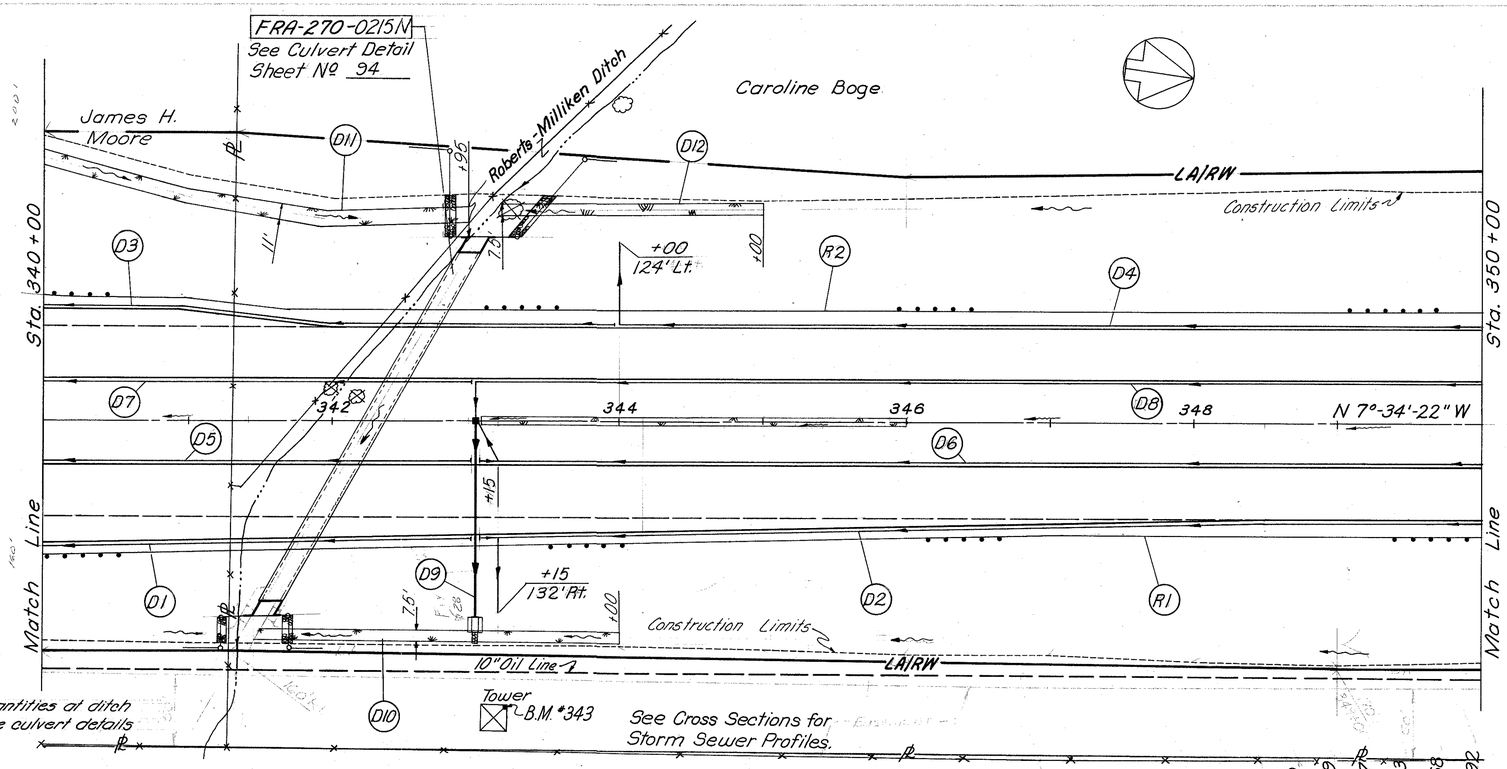
		I SECTION										IG SECTION		
		603	605		601	602	604	660	667			605	667	
CODE	LOCATION	15" Type B L.F.	6" Type F L.F.	6" Pipe Underdrain L.F.	6" Special for Pipe Underdrain Ea.	Crushed Aggregate S.Y.	Concrete Masonry C.Y.	No. 4 Catch Basin Ea.	Sodding S.Y.	Jute Matting S.Y.		6" Pipe Underdrain L.F.	Jute Matting S.Y.	
D1	330+00 to 336+50 Rt.		10	640										
D2	336+50 to 340+00 Rt.			300								50		
D3	330+00 to 333+92 Lt.			392										
D4	338+55 to 340+00 Lt.			95								50		
D5	330+00 to 334+96 Rt.			496										
D6	335+04 to 340+00 Rt.		10	466	1							50		
D7	330+00 to 334+96 Lt.			496										
D8	335+00 to 340+00 Lt.		10	466	1							50		
D9	335+00, ℄ to 128' Rt.	128				2	0.26	1	2	383			42	
D10	335+00 to 340+00 Lt.									549			61	
D11	334+45 Lt.		10			2								
TOTAL		128	40	3351	2	4	0.26	1	2	932		200	103	

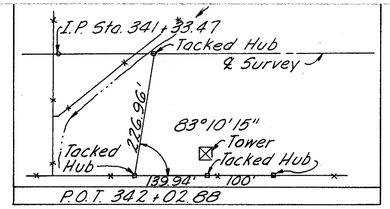
ROADWAY

		I SECTION		IG SECTION	
		606	606	606	
CODE	LOCATION	Guard Rail Std. Type L.F.	Guard Rail (Mod.) L.F.	Guard Rail Std. Type L.F.	
R1	336+91.50 to 340+00 Rt.	258.5		50	
R2	339+95 to 340+00 Lt.			5	
D3	335+12 to 335+62 Lt.		50		
D4	335+12 to 335+62 Lt. N.W. Ramp		50		
TOTAL		258.5	100	55	



330+00 TO 340+00



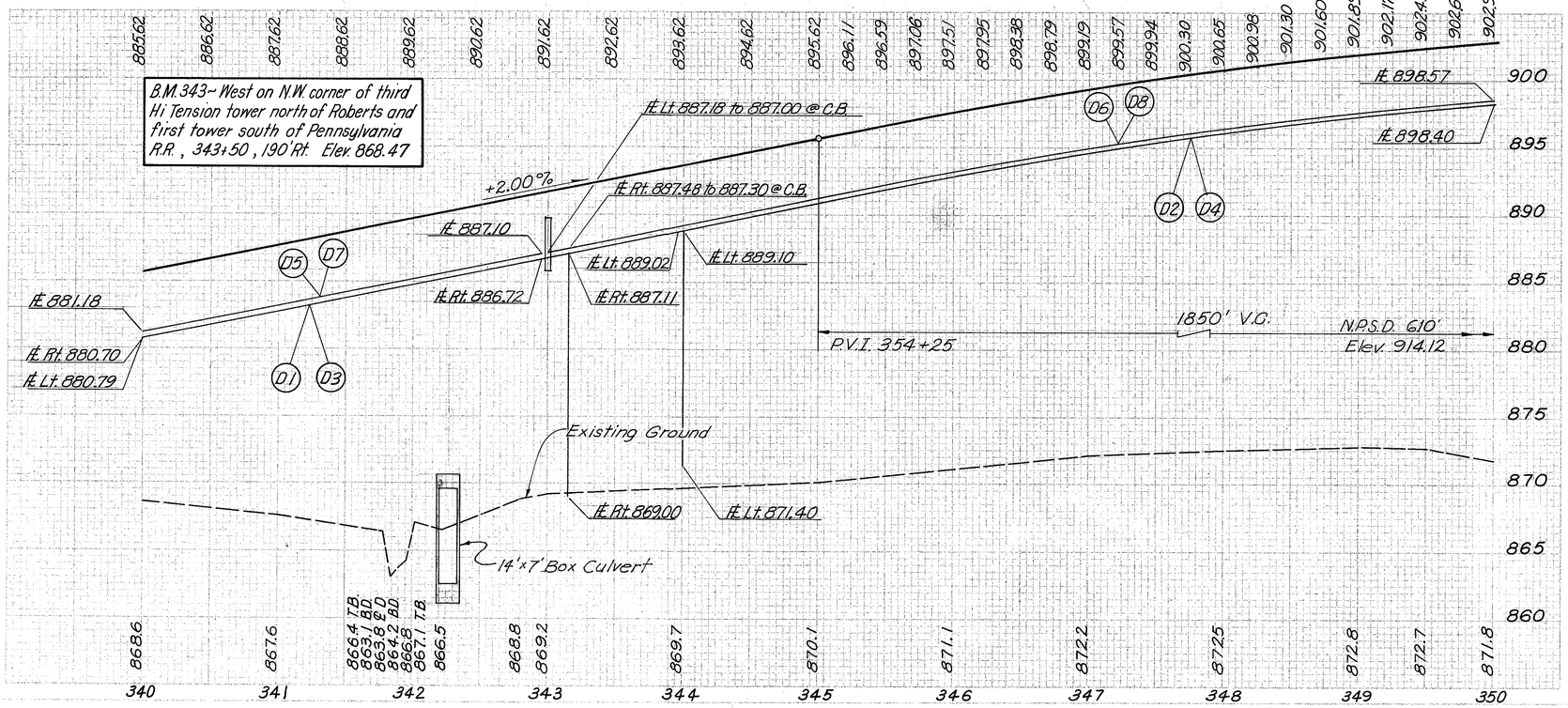


REV. DIST. DIVISION	STATE	PROJECT			28
2	OHIO				227

FRANKLIN COUNTY
FRA-270-0.79N

DRAINAGE		603			605			601		602	604	660	667	
		15" Type B	6" Type F	15" Type F	6" Pipe Underdrain	6" Special for Pipe Underdrain	15" Special for Type F Conduit	Dumped Rock	Paved Gutter	Concrete Masonry	No. 4 Catch Basin	Sodding	Jute Matting	
CODE	LOCATION	L.F.	L.F.	L.F.	L.F.	Ea.	Ea.	C.Y.	L.F.	C.Y.	Ea.	S.Y.	S.Y.	
D1	340+00 to 342+96 Rt.				296									
D2	343+04 to 350+00 Rt.		10		739	1								
D3	340+00 to 343+96 Lt.				396									
D4	344+00 to 350+00 Lt.		10		646	1								
D5	340+00 to 342+96 Rt.				296									
D6	343+04 to 350+00 Rt.		10		716	1								
D7	340+00 to 342+96 Lt.				296									
D8	343+00 to 350+00 Lt.		10		716	1								
D9	343+00, ℄ to 136' Rt.	92		44			2	1	8	0.26	1	2	259	
D10	341+48 to 344+00 Rt.												210	
D11	340+00 to 342+95 Lt.												361	
D12	343+18 to 345+00 Lt.												152	
TOTAL		92	40	44	4101	4	2	1	8	0.26	1	2	982	

ROADWAY		606	
		Guard Rail Std. Type	
CODE	LOCATION	L.F.	
R1	340+00 to 350+00 Rt.	1000	
R2	340+00 to 350+00 Lt.	1000	
TOTAL		2000	



340+00 TO 350+00

See Cross Sections for Storm Sewer Profiles For Profile of Scioto Darby Creek Road, See Sh. 74

Sta. 353+62.34 ℄ I.R-270 = Sta. 20+00 ℄ Penn. R.R.

BEGIN WORK STA. 7+00

Caroline Boge

10+00 ℄ Scioto Darby = 354+40.62 ℄ I.R.270

See Culvert Detail Sheet No. 106

Tacked Hub
267.34' Tracks
Iron Pin
℄ Survey
Penn. RR
237.22'
335.2'
Tacked hub in center of tower
127° 47' 15"
P.K. in Pole

POT Sta. 353+97.17

For quantity see sheet 106

CURVE DATA
P.I. Sta. 11+80.75
Δ = 45°30'45"
D = 24°00'
T = 99.73'
L = 188.94'
R = 238.73'

END WORK STA. 12+50

Sta. 350+00 — Match Line — Sta. 360+00

LAIRW

Construction Limits

RAILROAD

Hilliard

Twin 24" Concrete Culverts

SCIOTO-DARBY CREEK ROAD

Exist. R/W

Signal Base

PENNSYLVANIA

Columbus

Mile Post № 7 Sta. 32+25.5

B.M. 353 Tower

P.T. 12+69.96

P.C. 10+81.00

51°19'

51°00'

N 7°-34'-22" W

352 354 356 358

Sign

M.I. Boxes

Septic Tank

2-Sty Fr. Res.

Barn

Barn

Shed

Shed

Drilled Well

Cistern

Gravel Drive

Abandon

8" Tile

10" Oil Line

Hazel M. Schnug

Edge of Gravel Drive

12" Conc. Culvert

869.3

10" Oil Line

Bridge Limit Sta. 352+53.15

℄ 900.07 Rt.

296.30'

℄ 900.24

℄ 900.37 Rt.

℄ 900.28 Lt.

℄ 898.57

℄ 898.40

Rt. ℄ 899.75

℄ 900.18

℄ 900.27

℄ 900.00 Lt.

℄ 896.95

℄ 896.78

Bridge Limits
Sta. 355+49.45 N.B.
Sta. 355+46.20 S.B.

1850' V.C.

PVI 354+25

N.P.S.D. 610
Elev. 914.12

Existing Ground

8" Tile

B.M. 353 – Top of west bolt on N.W. corner of Hi Tension tower located between Pennsylvania R.R. and Scioto Darby Road, 353+20, 190' Rt.
Elev. 874.47

902.92 903.14 903.35 903.55 903.73 903.90 904.05 904.19 904.32 904.44 904.54 904.63 904.70 904.76 904.81 904.84 904.86 904.87 904.86 904.84 904.81 904.76 904.70 904.63 904.54 904.44 904.32 904.19 904.05 903.90 903.73 903.55 903.35 903.14 902.92 902.68 902.43 902.17 901.89 901.60 901.30

905 900 895 890 885 880 875 870 865

871.8 871.1 873.4 874.8 874.9 877.1 875.2 876.6 875.2 875.8 875.5 874.2 874.0 874.4 874.9 874.4 874.4 873.3 872.4 870.9 869.9 870.9 869.9 870.7 872.1

E.P. E. Pav't. E.P.

350 351 352 353 354 355 356 357 358 359 360

350+00 TO 360+00

IR-270 OVER SCIOTO DARBY CREEK RD. AND PENNSYLVANIA R.R.

PROPOSED STRUCTURE FRA-270-0233 L&R.

TYPE: 4 Span Continuous Steel Beam with Reinforced Concrete Deck and Substructure.
SPAN: 65.00'-81.25'-78.50'-62.50' (So. Bound)
65.00'-81.25'-84.75'-59.50' (No. Bound)
LOAD FREQUENCY RATING: C.F. = 2000 (57) (Adequate for AASHO Alternate Loading.)
ROADWAY: 42'-0" f-f, 2'-0" Safety Curbs
SKEW: 39°-00' L.F.
WEARING SURFACE: 1" Monolithic
APPROACH SLABS: Special (25' long).
ALIGNMENT: Tangent
SUPERELEVATION: None

FED. ROAD SECTION	STATE	PROJECT			29
2	OHIO				227

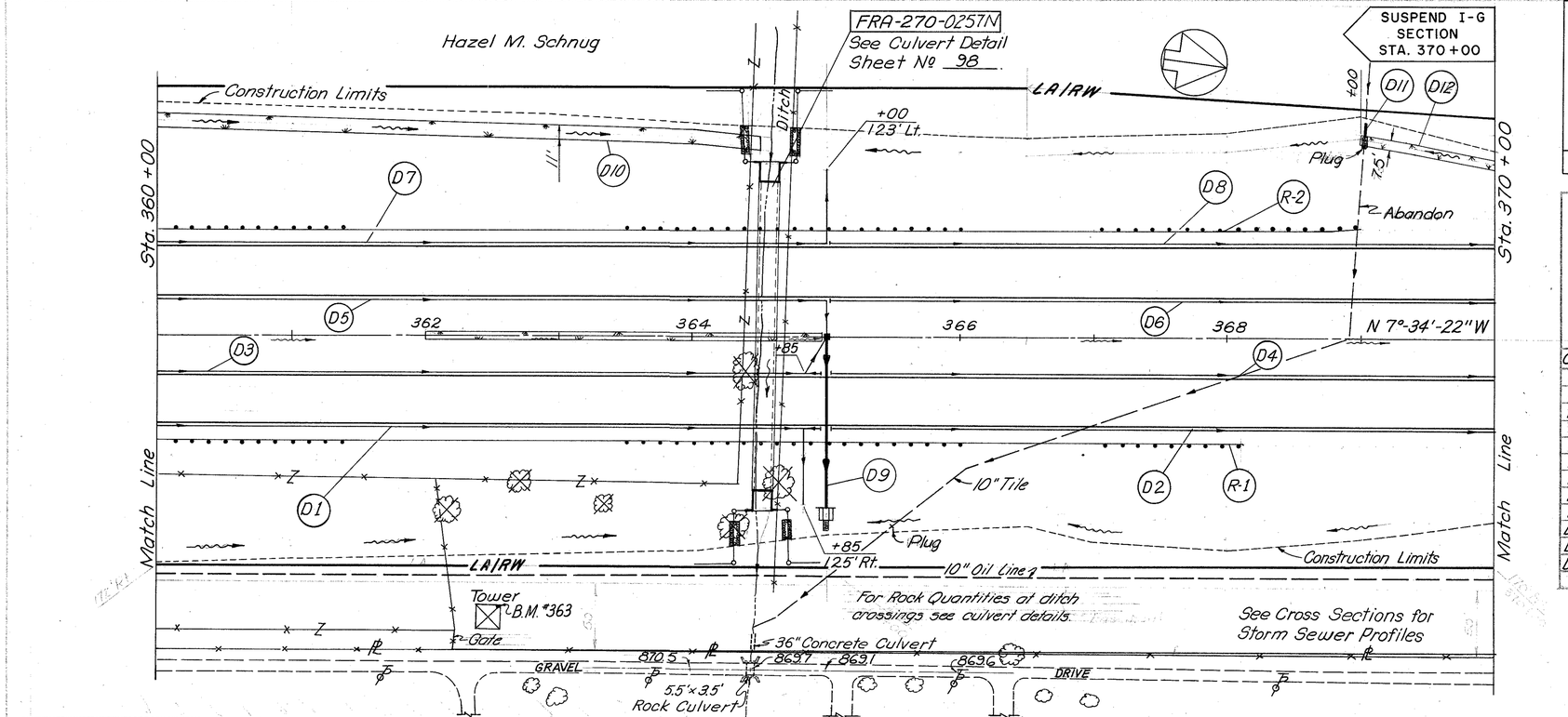
FRANKLIN COUNTY
FRA-270-0.79 N

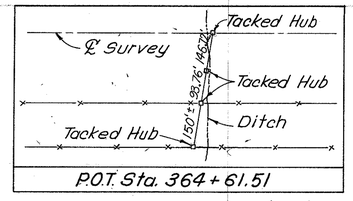
DRAINAGE

CODE	LOCATION	605 6" Pipe Underdrain L.F.	202 Catch Basin Removed Ea.	660 Special Sodding S.Y.	667 Jute Matting S.Y.
D1	350+00 to 351+90 Rt.	190			
D3	355+10 to 360+00 Rt.	490			
D4	350+00 to 352+20 Rt.	220			
D6	355+40 to 360+00 Rt.	460			
D7	350+00 to 352+65 Lt.	265			
D9	355+75 to 360+00 Lt.	425			
D10	350+00 to 353+00 Lt.	300			
D12	356+05 to 360+00 Lt.	395			
D15	354+60 Lt.		1		
D16	351+80 to 356+10 Rt & Lt.			229	
D17	356+08 to 360+00 Lt.				356
TOTAL		2145	1	229	356

ROADWAY

CODE	LOCATION	202 Pipe Removed 24"℄ Under Lin. Ft.	606 Guard Rail Std. Type Lin. Ft.	606 Guard Rail Barrier Type Lin. Ft.	SPECIAL Disposal of Septic Tank Each
R1	350+20 to 352+22 Median		112.5	100	
R2	355+81 to 357+70 Median		112.5	100	
R3	350+00 to 351+79 Rt.		179		
R4	355+07 to 360+00 Rt.		493		
R5	350+00 to 352+95 Lt.		295		
R6	356+20 to 360+00 Lt.		380		
R7	355+45 Lt.	74			
R8	354+15 Rt.				1
TOTAL		74	1572	200	1





FED. AID PROJECT	STATE	PROJECT		
2	OHIO			

30
227

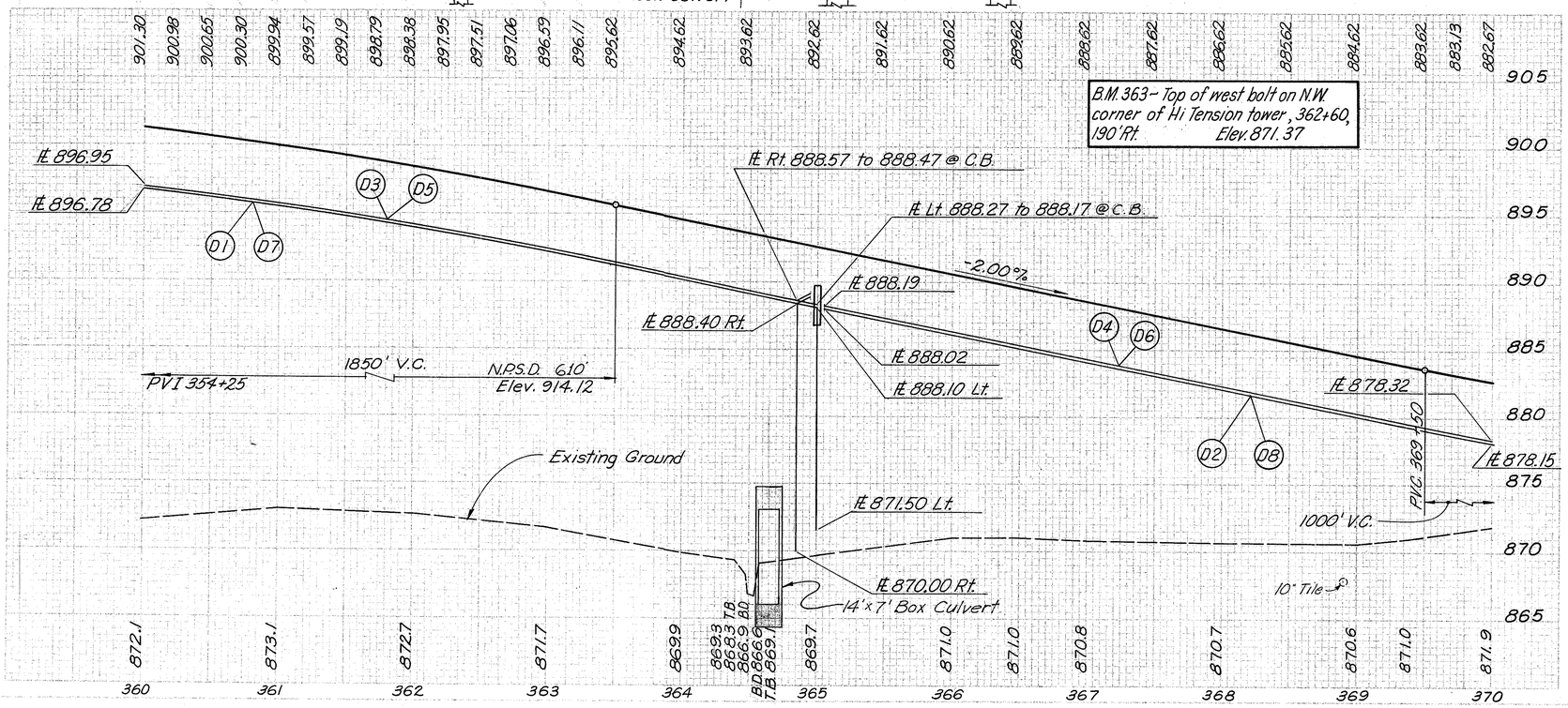
FRANKLIN COUNTY
FRA-270-0.79 N

DRAINAGE

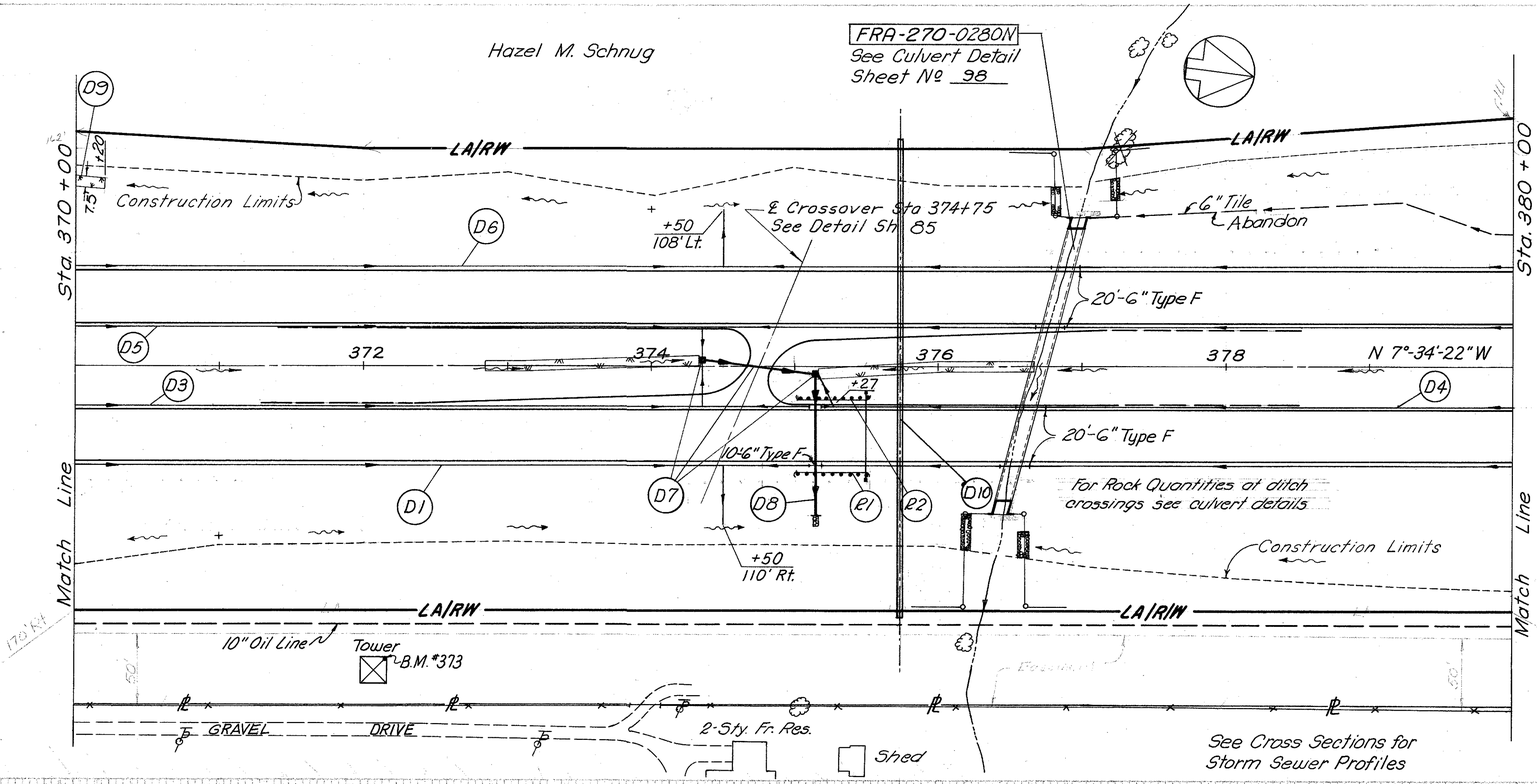
CODE	LOCATION	603 15" Type F	603 6" Type F	603 10" Type F	605 6" Pipe Underdrain	603 15" Type B	601 Dumped Rock	602 Concrete Masonry	603 15" Specials for Type F Conduit	604 6" Specials for Pipe Underdrain	604 Catch Basin No 4	601 Crushed Aggregate	660 Paved Gutter	667 Seeding	667 Jute Matting
		L.F.	L.F.	L.F.	L.F.	L.F.	C.Y.	C.Y.	Ea.	Ea.	Ea.	S.Y.	L.F.	S.Y.	S.Y.
D1	360+00 to 364+96 Rt.		10		543					1					
D2	365+04 to 370+00 Rt.				496										
D3	360+00 to 364+96 Lt.		10		516					1					
D4	365+04 to 370+00 Rt.				496										
D5	360+00 to 365+00 Lt.		10		516					1					
D6	365+04 to 370+00 Lt.				496										
D7	360+00 to 365+00 Lt.		10		545					1					
D8	365+04 to 370+00 Lt.				496										
D9	365+00, ℄ to 127' Rt.	43				84	1	0.26	2		1		9	2	259
D10	360+00 to 364+50 Lt.														551
D11	369+00 Lt.			10								2			
D12	369+00 to 370+00 Lt.														83
TOTAL		43	40	10	4104	84	1	0.26	2	4	1	2	9	2	693

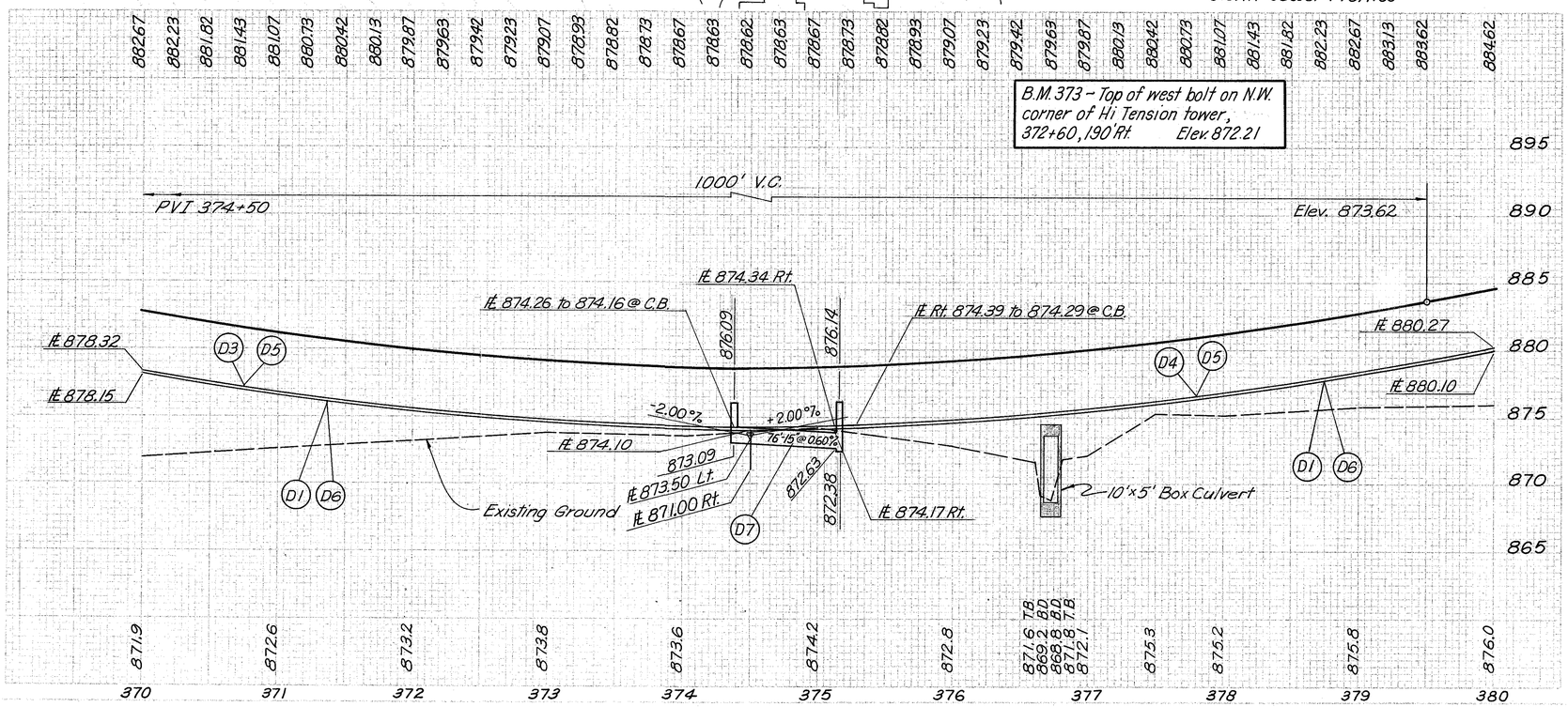
ROADWAY

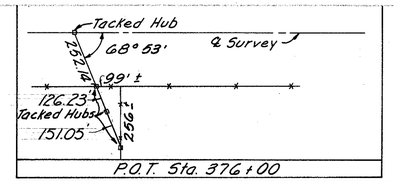
CODE	LOCATION	606 Guard Rail Std. Type Lin. Ft.	
R1	360+00 to 368+07 Rt.	807	
R2	360+00 to 369+07.5 Lt.	907.5	
TOTAL		1714.5	



360+00 TO 370+00







FED. RD. DIVISION	STATE	PROJECT		
2	OHIO			

31
227

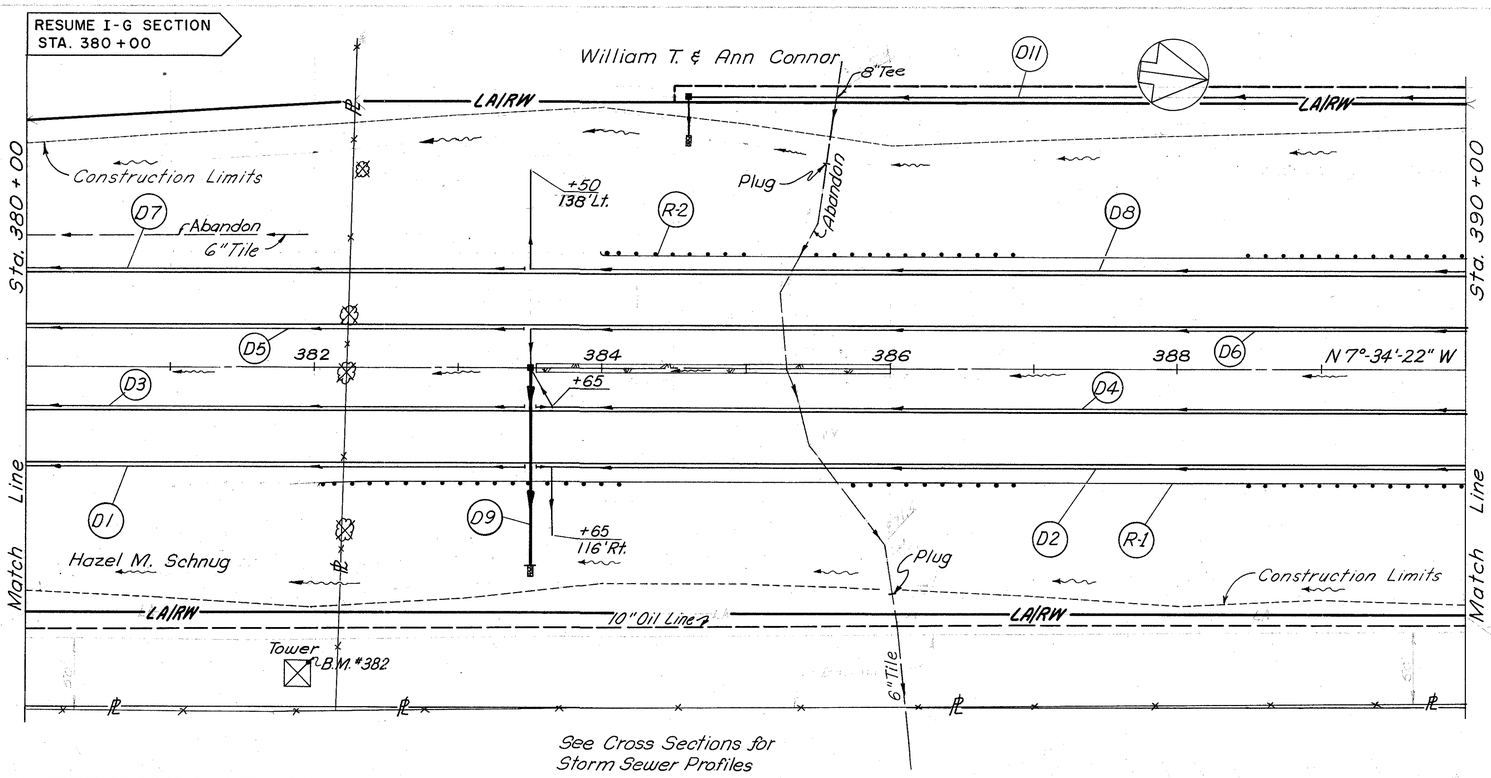
FRANKLIN COUNTY
FRA-270-0.79N

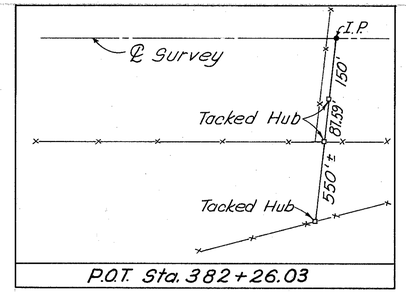
DRAINAGE		603	603	605	603		602	604	601	660	667	
		6" Type F	30" Type A 706.02 Cl. IV, Cl "B" bed. (Sanitary)	6" Pipe Underdrain	15" Type B	18" Type B	6" Specials for Pipe Underdrain	Concrete Masonry	N24 Catch Basin	Crushed Aggregate	Sodding	Jute Matting	
CODE	LOCATION	L.F.		L.F.	L.F.	L.F.	Ea.	C.Y.	Ea.	S.Y.	S.Y.	S.Y.	
D1	370+00 to 380+00 Rt.	40		1002			1						
D3	370+00 to 375+09 Rt.	10		528			1						
D4	375+17 to 380+00 Rt.	30		480			1						
D5	370+00 to 380+00 Lt.	30		993			1						
D6	370+00 to 380+00 Lt.	30		1010			1						
D7	374+37.3' Lt to 375+13.3' Rt.				76				2			280	
D8	375+13.3' to 103' Rt.					100		0.30		2	2		
D9	370+00 to 370+20 Lt.											17	
D10	375+75 Lt & Rt.		330*										
TOTAL		140	330	4013	76	100	5	0.30	2	2	2	297	

* 100% State Participation, Code Y060

ROADWAY		606	
		Guard Rail (Mod.)	
CODE	LOCATION	L.F.	
R1	375+03 to 375+53 Rt.	50	
R2	375+03 to 375+53 Rt.	50	
TOTAL		100	

370+00 TO 380+00





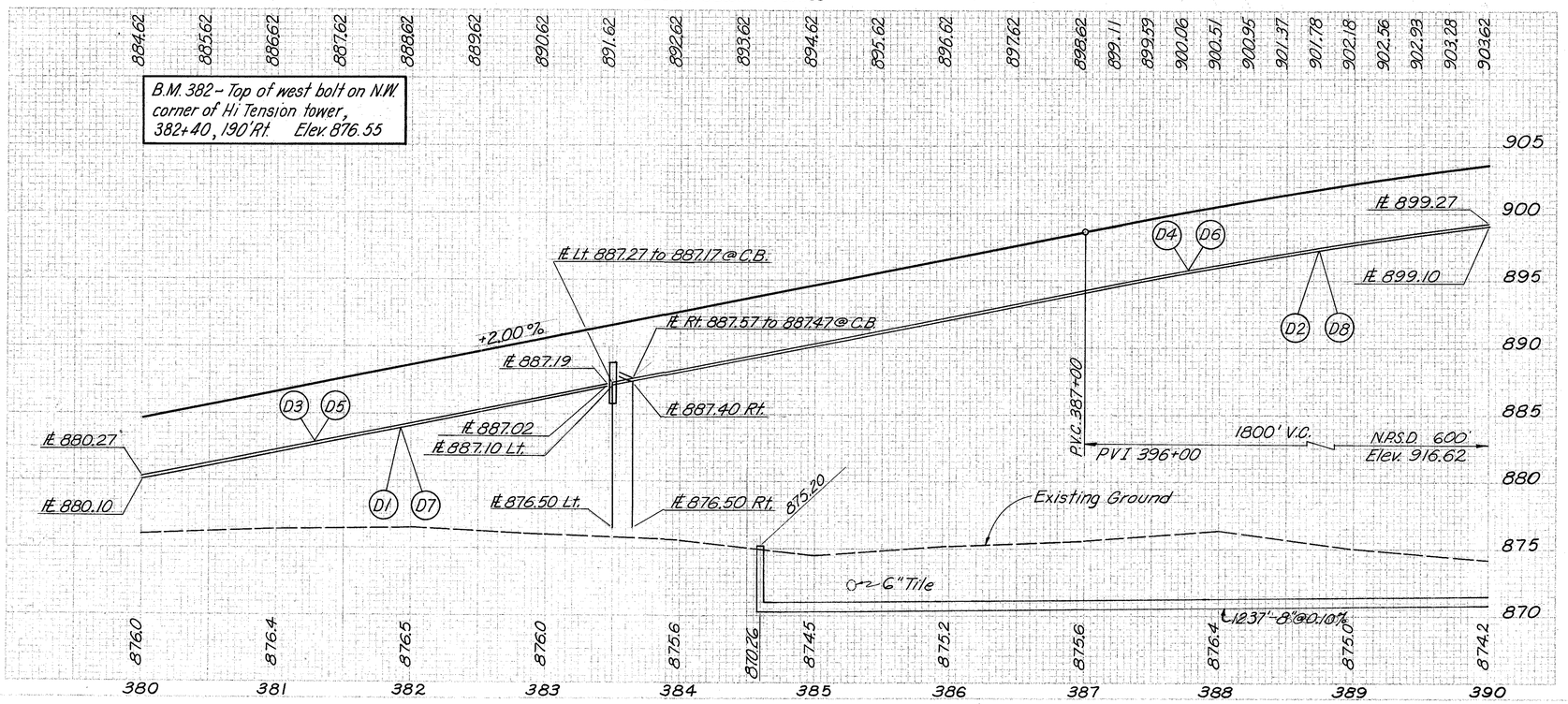
STATE	PROJECT		
OHIO			

32
227

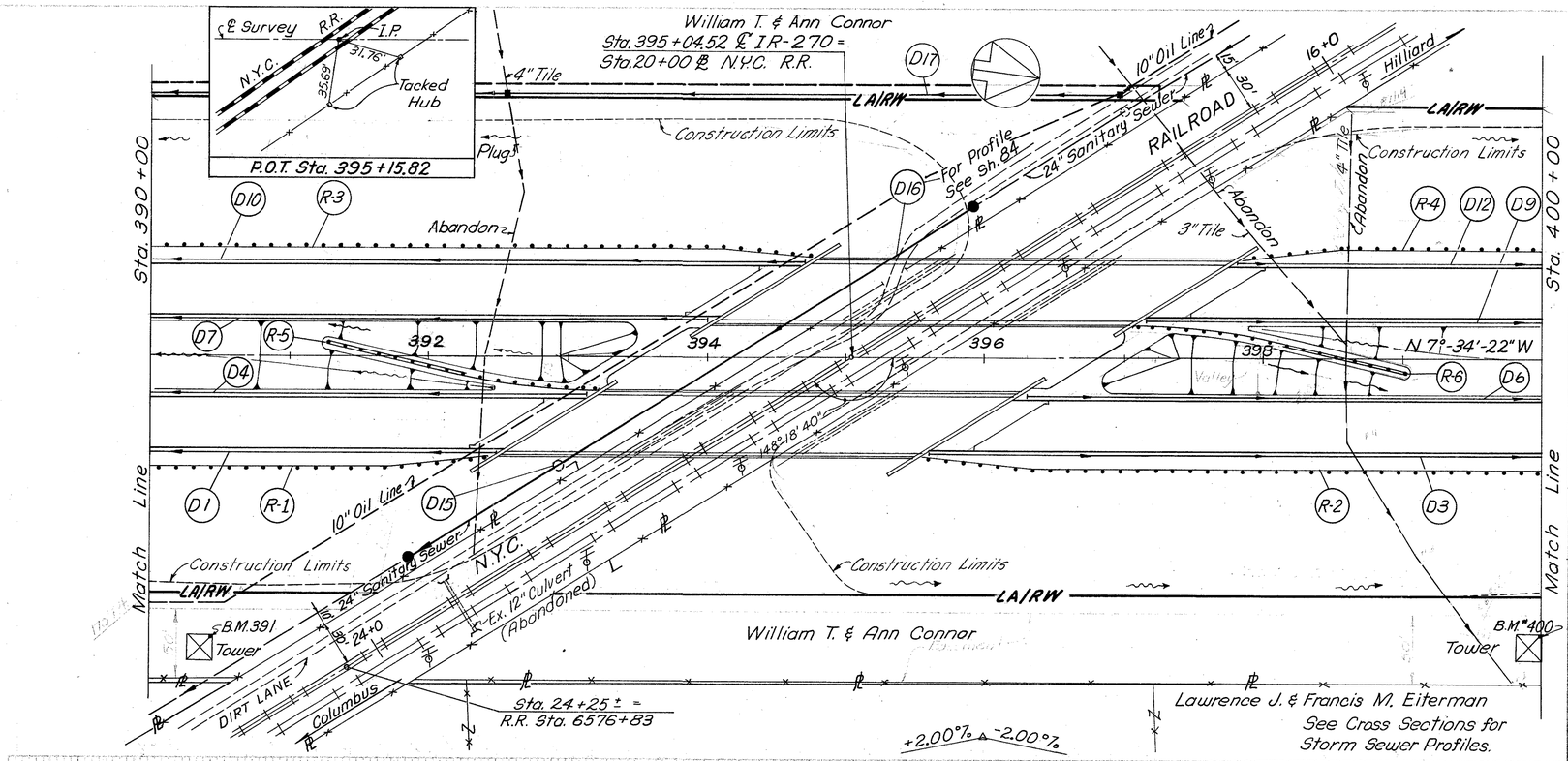
FRANKLIN COUNTY
FRA-270-0.79 N

DRAINAGE		603			605	603		602			604	601	660	667	601	604
		15" Type F	6" Type F	8" Type F	6" Pipe Underdrain	15" Type B	8" Type E	Concrete Masonry	15" Specials for Type F Conduit	6" Specials for Pipe Underdrain	No.4 Catch Basin	Crushed Aggregate	Sodding	Jute Matting	Dumped Rock	No. 2-2'-8 Catch Basin
CODE	LOCATION	L.F.	L.F.	L.F.	L.F.	L.F.	L.F.	C.Y.	Ea.	Ea.	Ea.	S.Y.	S.Y.	S.Y.	C.Y.	Ea.
D1	380+00 to 383+46 Rt.				346											
D2	383+54 to 390+00 Rt.		10		684					1						
D3	380+00 to 383+46 Rt.				346											
D4	383+54 to 390+00 Rt.		10		666					1						
D5	380+00 to 383+46 Lt.				346											
D6	383+50 to 390+00 Lt.		10		666					1						
D7	380+00 to 383+46 Lt.				346											
D8	383+50 to 390+00 Lt.		10		710					1						
D9	383+50, ℄ to 137' Rt.	52				85		0.26	2		1		2	218	1	
D11	384+60 to 390+00, 188 Lt.			10			556					2				1
TOTAL		52	40	10	4110	85	556	0.26	2	4	1	2	2	218	1	1

ROADWAY		606
		Guard Rail Std. Type
CODE	LOCATION	Lin. Ft.
R1	382+03 to 390+00 Rt.	797
R2	384+03 to 390+00 Lt.	597
TOTAL		1394



380+00 TO 390+00



IR-270 OVER NEW YORK CENTRAL RAILROAD

PROPOSED STRUCTURE FRA-270-0310L&R.

TYPE: 3 Span Continuous Plate Girder with Reinforced Concrete Deck and Substructure.
SPAN: 88.00'-113.00'-88.00'
LOAD FREQUENCY RATING: CF-2000 (57) Adequate for AASHO Alternate Loading

ROADWAY: 42'-0" f/f 2'-0" Safety Curbs
SKEW: 58°18'40" L.F.
WEARING SURFACE: 1" Monolithic
APPROACH SLABS: AS-1-54 (25' long)
ALIGNMENT: Tangent
SUPERELEVATION: None

DIST. NO.	STATE	PROJECT		33
2	OHIO			227

FRANKLIN COUNTY
FRA-270-0.79N

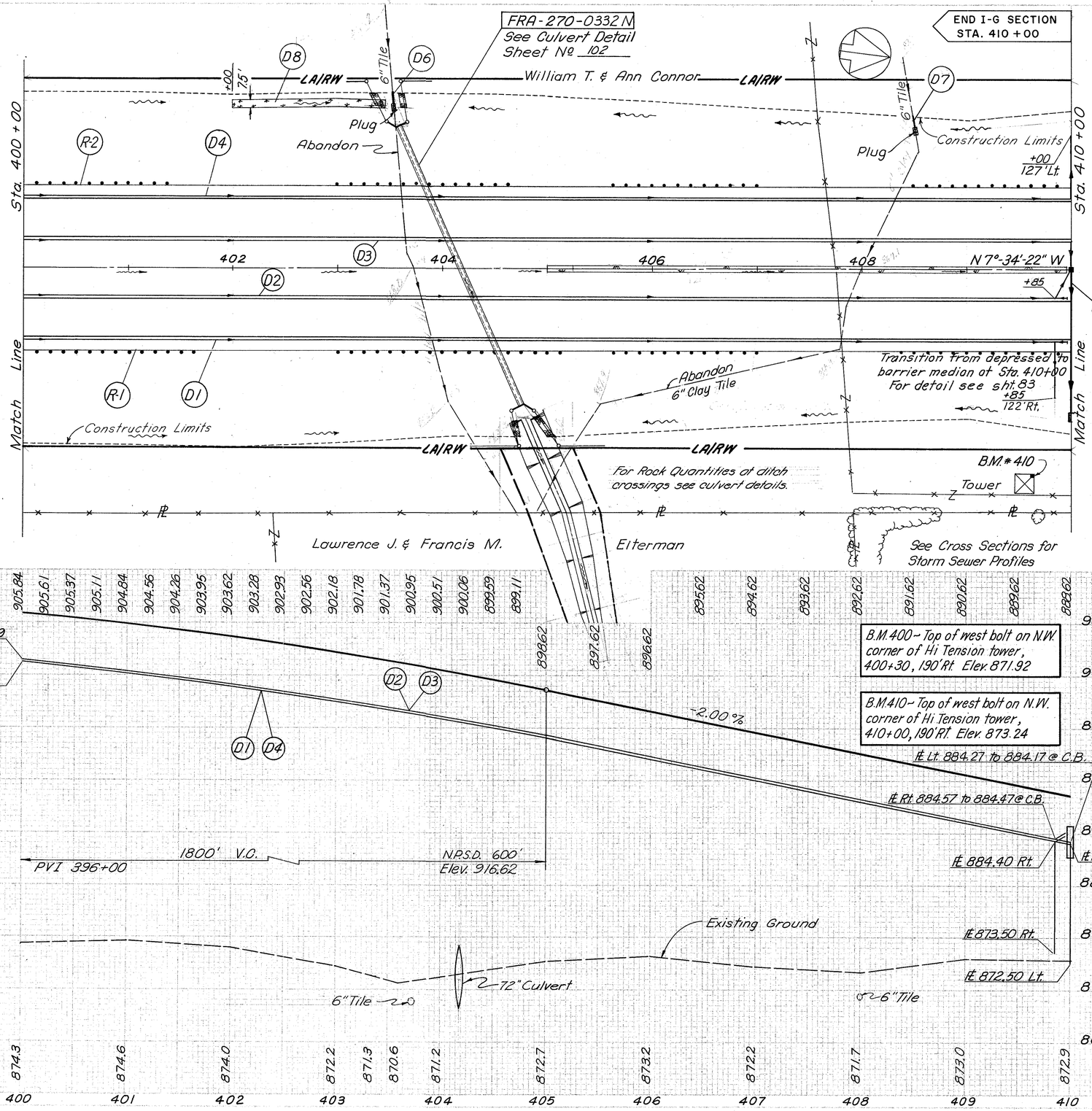
DRAINAGE

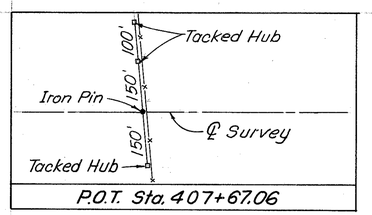
CODE	LOCATION	605 6" Pipe Underdrain L.F.	603 8" Type L 24" Type B (706.02 Class V) L.F.	603 L.F.	604 No. 1 Manhole Ea.	202 604 Manhole Removed No. 2-2.8 Catch Basin Ea.	202 604 Ea.
D1	390+00 to 392+50 Rt.	250					
D3	395+60 to 400+00 Rt.	440					
D4	390+00 to 393+15 Rt.	315					
D6	396+30 to 400+00 Rt.	370					
D7	390+00 to 394+00 Lt.	400					
D9	397+15 to 400+00 Lt.	285					
D10	390+00 to 394+70 Lt.	470					
D12	397+80 to 400+00 Lt.	220					
D15	392+95 Rt.					1	
D16	391+86.145 Rt. to 395+94.109 Lt.			480	2		
D17	390+00 to 396+97.188 Lt.			697		2	
TOTAL		2760	697	480	2	1	2

ROADWAY

CODE	LOCATION	606 Guard Rail Std. Type Lin. Ft.	606 Guard Rail Barrier Type Lin. Ft.	
R1	390+00 to 392+53 Rt.	253		
R2	395+52 to 400+00 Rt.	448		
R3	390+00 to 394+78 Lt.	478		
R4	397+83 to 400+00 Lt.	217		
R5	391+25 to 393+23 Median	112.5	100	
R6	397+08 to 399+00 Median	112.5	100	
TOTAL		1621	200	

390+00 TO 400+00





FED. ROAD DIVISION	STATE	PROJECT		34
2	OHIO			227

FRANKLIN COUNTY
FRA-270- 0.79 N

DRAINAGE

CODE	LOCATION	603 15" Type F L.F.	603 6" Type F L.F.	605 6" Pipe Underdrain L.F.	603 15" Type B L.F.	602 Concrete Masonry C.Y.	602 15" Specials for Type F Conduit Ea.	602 6" Specials for Pipe Underdrain Ea.	604 No 4 Catch Basin Ea.	601 Crushed Aggregate S.Y.	660 Sodding S.Y.	667 Jute Matting S.Y.	601 Dumped Rock C.Y.
D1	400+00 to 409+96 Rt.		10	1040				1					
D2	400+00 to 409+96 Rt.		10	1016				1					
D3	400+00 to 410+00 Lt.		10	1016				1					
D4	400+00 to 410+00 Lt.		10	1049				1					
D5	410+00, ℄ to 136' Rt.	49			87	0.26	2		1		2	425	1
D6	403+53 Lt.		10							2			
D7	408+49 Lt.		10							2			
D8	402+00 to 403+45 Lt.											122	
TOTAL		49	60	4121	87	0.26	2	4	1	4	2	547	1

ROADWAY

CODE	LOCATION	606 Guard Rail Std. Type Lin. Ft.	
R1	400+00 to 410+00 Rt.	1000	
R2	400+00 to 410+00 Lt.	1000	
TOTAL		2000	

400+00 TO 410+00

FED. ROAD DIVISION	STATE	PROJECT		
2	OHIO			

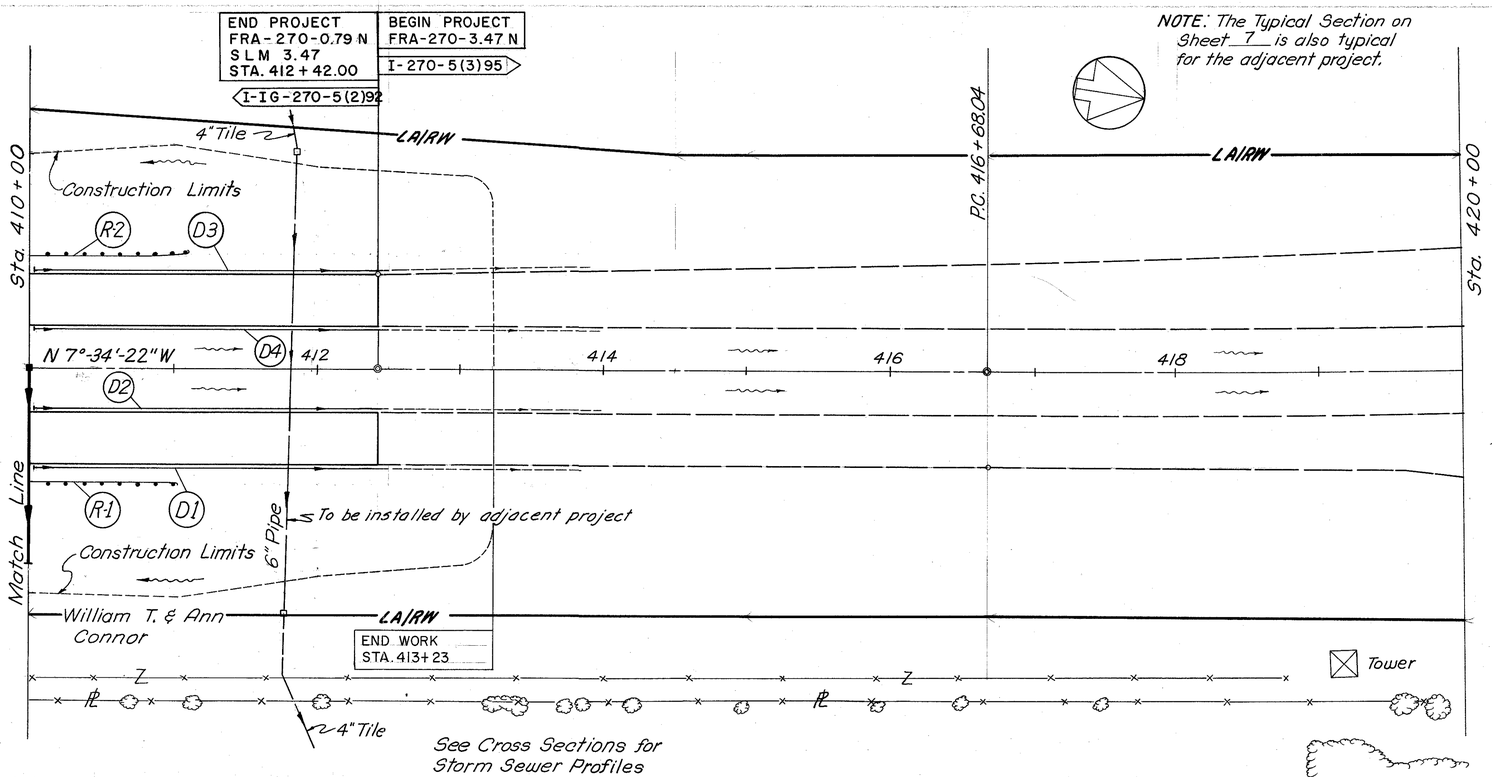
35
227

FRANKLIN COUNTY
FRA-270-0.79N

END PROJECT
FRA-270-0.79 N
S L M 3.47
STA. 412+42.00
I-IG-270-5(2)92

BEGIN PROJECT
FRA-270-3.47 N
I-270-5(3)95

NOTE: The Typical Section on Sheet 7 is also typical for the adjacent project.

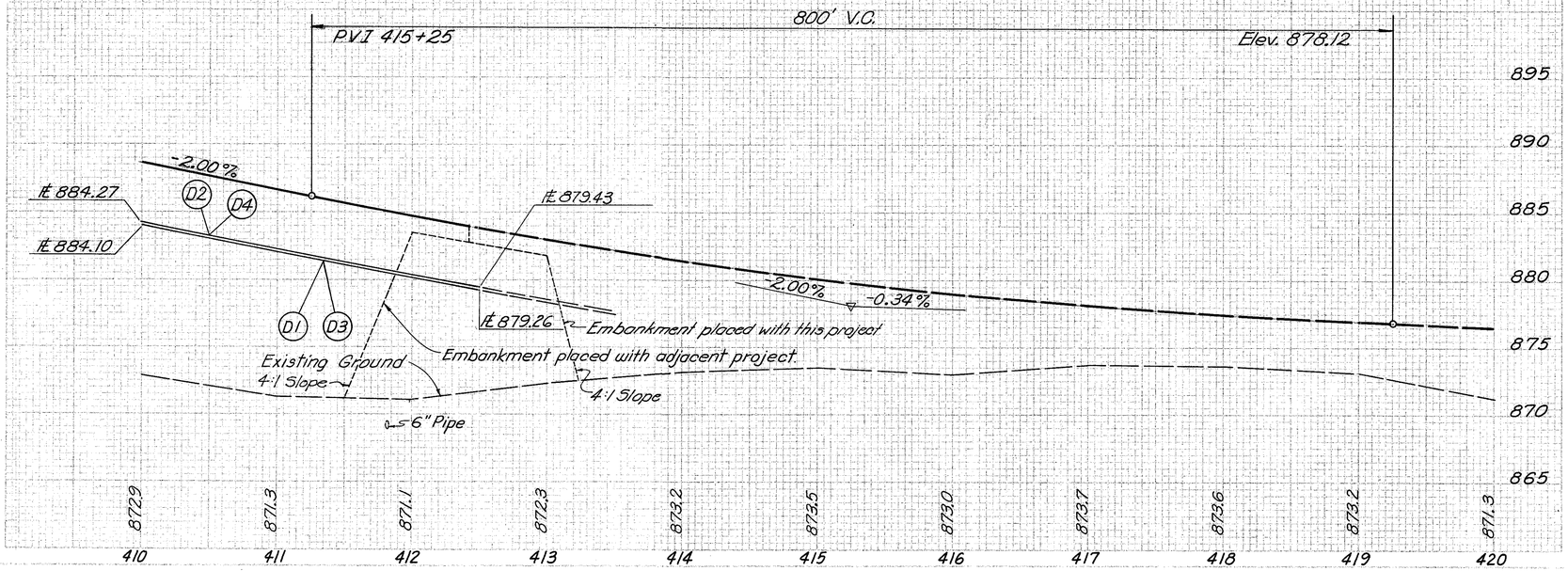


DRAINAGE		605			
		6" Pipe Underdrain			
CODE	LOCATION	LF			
D1	410+04 to 412+50 Rt.	246			
D2	410+04 to 412+50 Rt.	246			
D3	410+04 to 412+50 Lt.	246			
D4	410+04 to 412+50 Lt.	246			
TOTAL		984			

ROADWAY		606	
		Guard Rail Std. Type	
CODE	LOCATION	Lin. Ft.	
R1	410+00 to 411+02 Rt.	102	
R2	410+00 to 411+08 Lt.	108	
TOTAL		210	

888.62 887.62 886.62 886.12 885.63 885.15 884.68 884.22 883.84 883.78 883.36 882.94 882.54 882.15 881.78 881.41 881.06 880.73 880.41 880.10 879.80 879.52 879.25 878.99 878.74 878.51 878.30 878.09 877.90 877.72 877.56 877.40 877.26 877.14 877.03 876.93 876.84

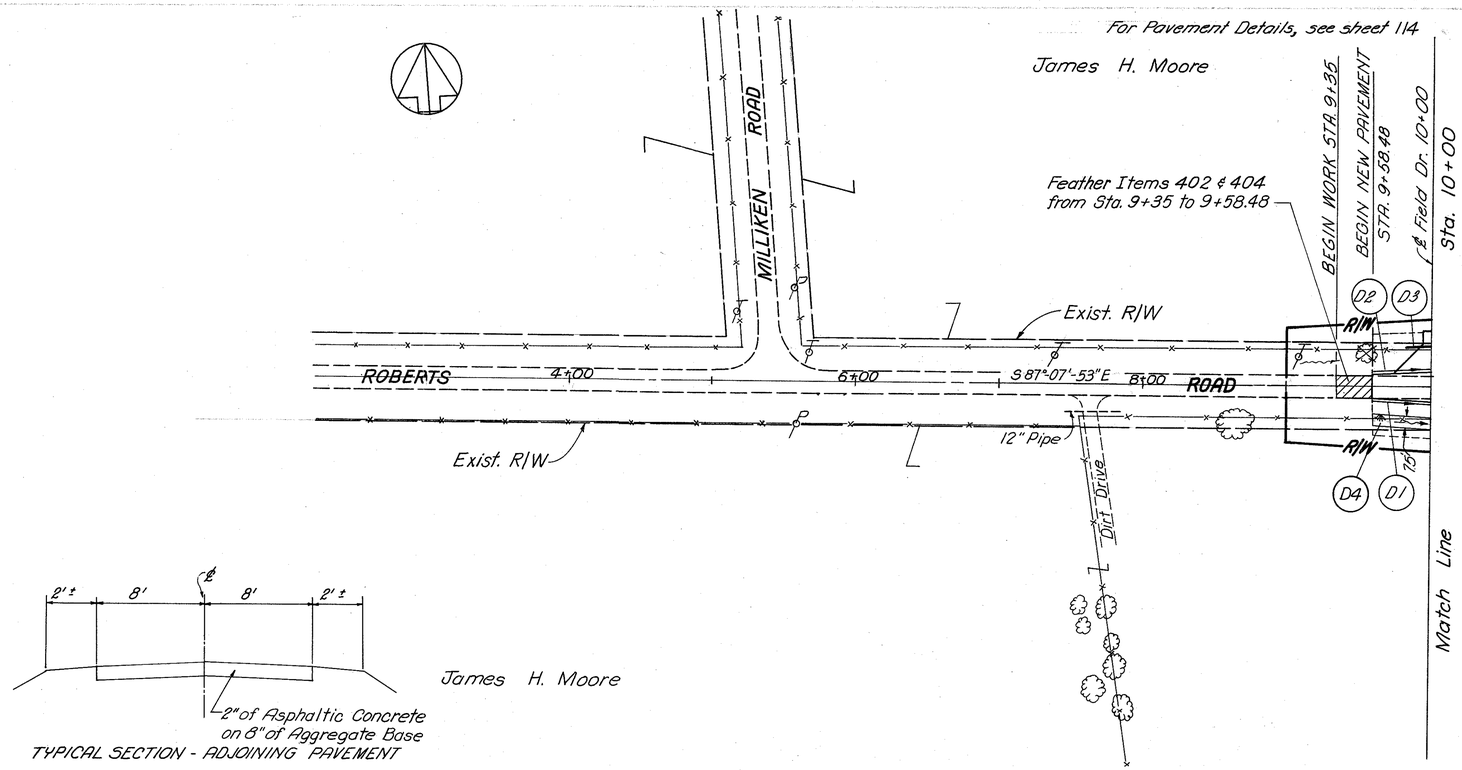
+42



872.9 871.3 871.1 872.3 873.2 873.5 873.0 873.7 873.6 873.2 871.3

410 411 412 413 414 415 416 417 418 419 420

410+00 TO 420+00

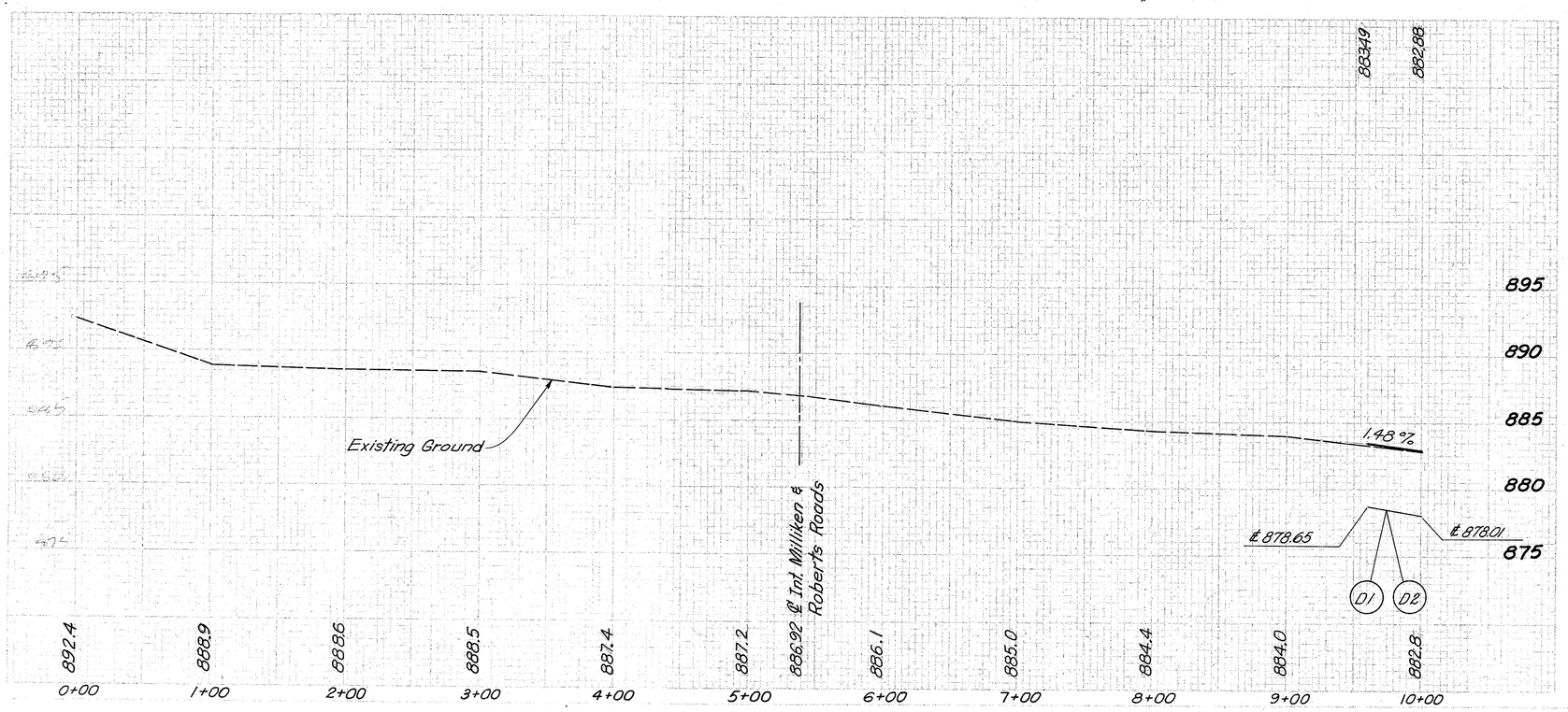


TYPICAL SECTION - ADJOINING PAVEMENT

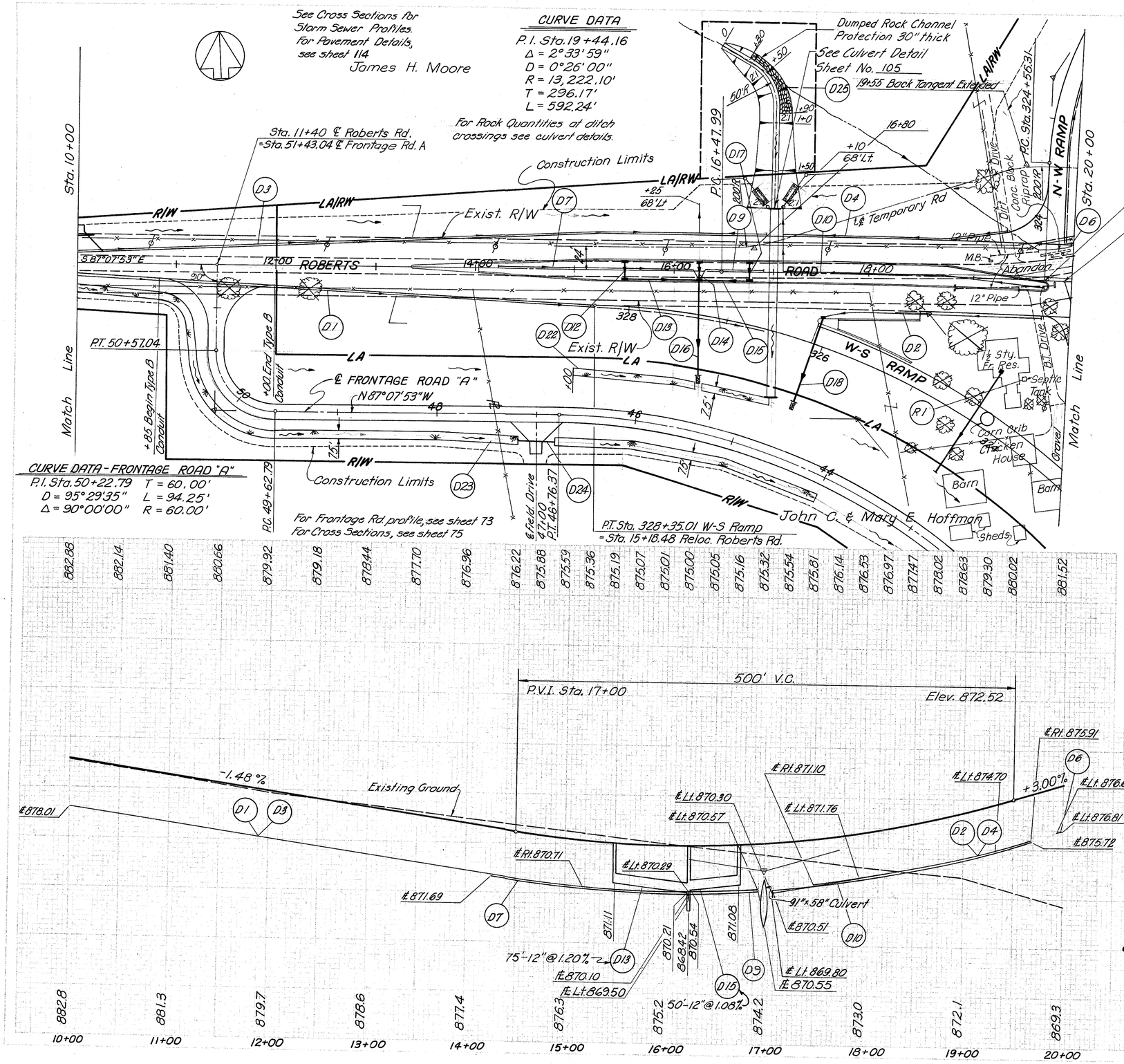
DRAINAGE		603 12" Type D	605 6" Pipe Underdrain	667 Jute Matting		
CODE	LOCATION	L.F.	L.F.	S.Y.		
D1	9+60 to 10+00 Rt.		40			
D2	9+60 to 10+00 Lt.		40			
D3	10+00 Lt.	36				
D4	9+58 to 10+00 Rt.			35		
TOTAL		36	80	35		

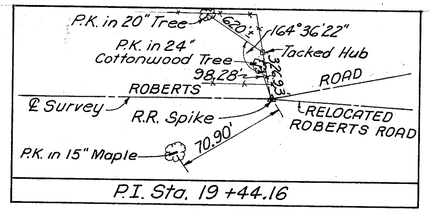
FED. RD. DIVISION	STATE	PROJECT		SHEET NO.
2	OHIO			36 227

FRANKLIN COUNTY
FRA-270-0.79N



ROBERTS ROAD 0+00 TO 10+00





FED. ROAD DIVISION	STATE	PROJECT	
2	OHIO		

37
227

FRANKLIN COUNTY
FRA-270-0.79N

DRAINAGE		603				605			602	604		660	601	667	605	601
		6" Type B	15" Type B	12" Type C	6" Type F	18" Type D	6" Pipe Underdrain	6" Specials for Type B Conduit	6" Specials for Pipe Underdrain	Concrete Masonry	No. 6 Catch Basin	No. 2-A-6 Inlet	No. 2-A-8 Inlet	Sodding	Crushed Aggregate	Jute Matting	Aggregate Drains	Dumped Rock
CODE	LOCATION	L.F.	L.F.	L.F.	L.F.	L.F.	L.F.	Ea.	Ea.	C.Y.	Ea.	Ea.	Ea.	S.Y.	S.Y.	S.Y.	L.F.	C.Y.
D1	10+00 to 15+18 Rt	115					403											
D2	17+50 to 19+70 Rt				10		210											
D3	10+00 to 16+94 Lt				10		714		1									
D4	17+10 to 19+33 Lt				10		243	1										
D6	19+93 to 20+00 Lt						7		1									
D7	14+25 to 16+25 Median				10		196		1									
D9	16+25 to 16+90 Median				10		61		1									
D10	17+10 to 19+70 Median	36					260	1										
D12	15+50, 11 Lt. to 11' Rt.			19								2						
D13	15+50 to 16+25 Median			75														
D14	16+25, 11' Lt. to 11' Rt.			19								2						
D15	16+25 to 16+75 Median			50														
D16	16+25, 11' Rt. to 110' Rt.	101								0.26				2	2			
D17	16+75, 11' Lt. to 11' Rt.			19								1	1					
D18	17+50, 46' Rt. to 17+22, 133' Rt.	92								0.26	1			2	2			
D22	15+00 to 16+96 Rt.															161		
D23	10+00 to 44+00 Rt. Front Rd.															668		
D24	47+00 Lt. Frontage Rd.				36													
	46+50 to 51+00 Frontage Rd.																319	
D25	17+00 Lt.																	31
TOTAL		151	193	132	50	36	2094	2	4	0.52	1	5	1	4	4	829	319	31

ROADWAY		SPECIAL	615	615
		Disposal of Septic Tank	Temporary Road	Class "B" Temporary Pavement
CODE	LOCATION	Ea.	Lump	S.Y.
R1	19+55 Rt.	1		
	16+50 to 24+00 Lt		Lump	1667
TOTAL		1	Lump	1667

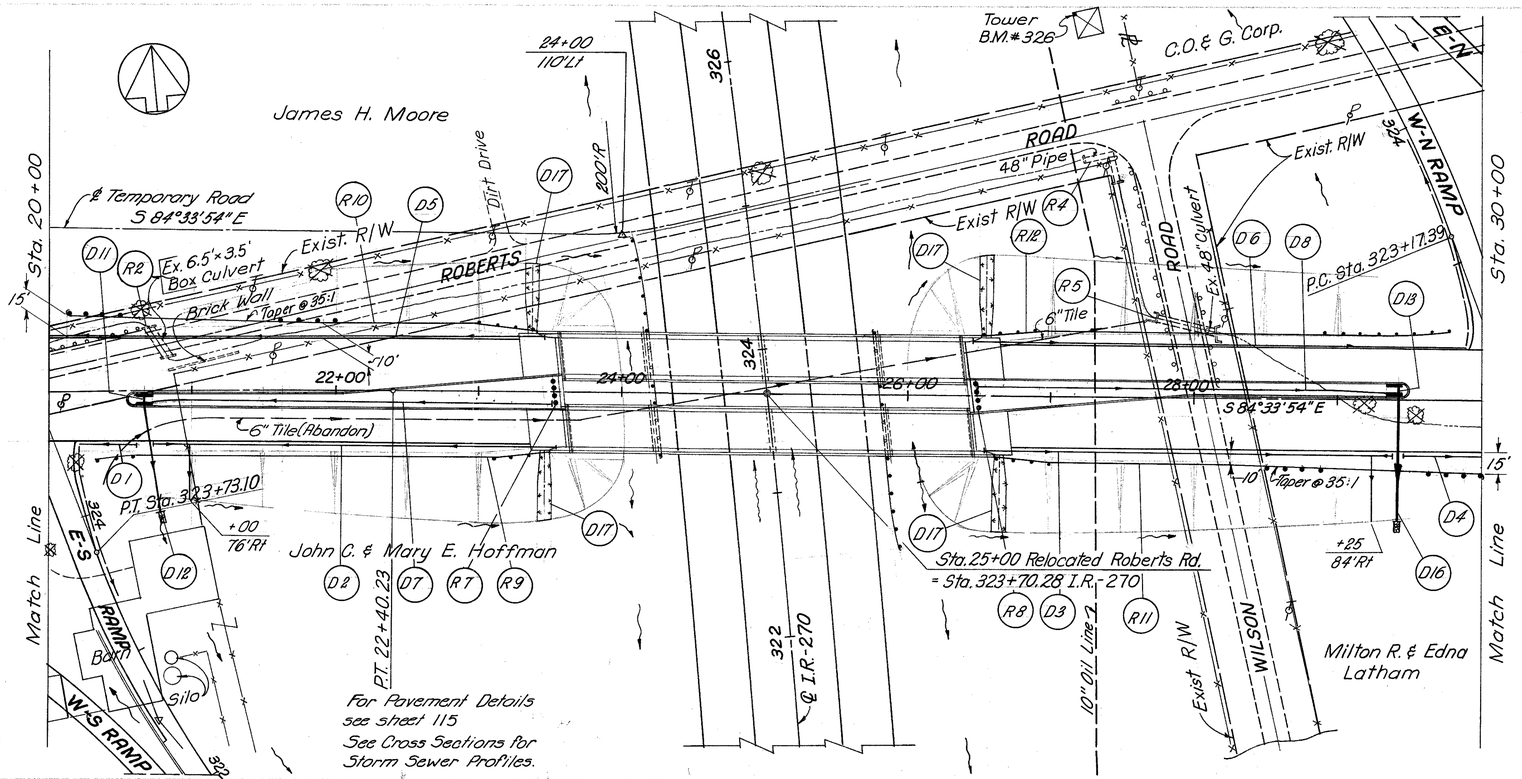
DRIVEWAY	304 Aggregate Base	
LOCATION	C.Y.	
10+00 Lt. Roberts Road	10	
47+00 Lt. Frontage Road	15	
TOTAL	25	

FRANKLIN COUNTY
FRA-270 - 0.79N

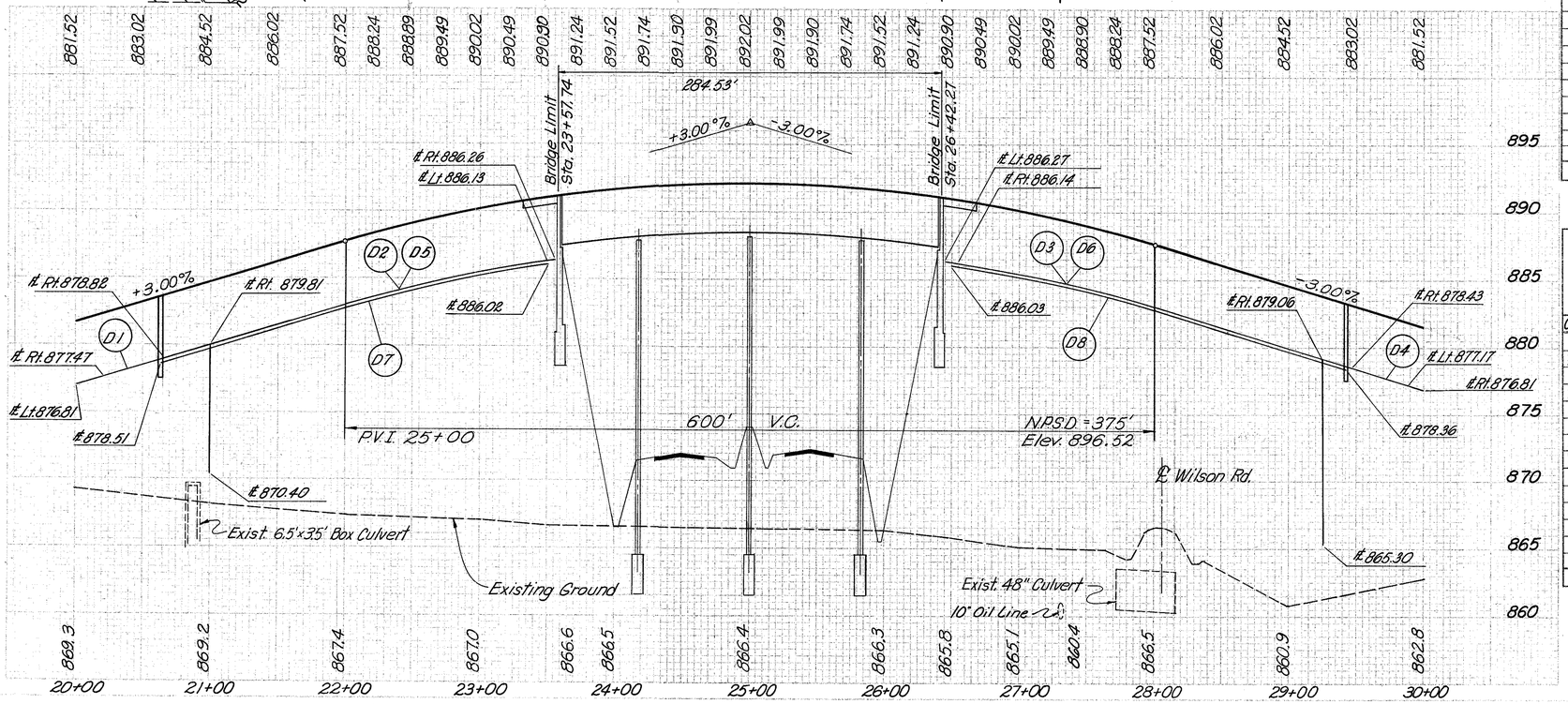
I R-270 UNDER ROBERTS ROAD
PROPOSED STRUCTURE FRA-270-0205 L&R.

TYPE: 4 Span Continuous Steel Beam with reinforced concrete deck and substructure.
SPAN: 57.75'-62.25'-62.25'-57.75'
LOAD FREQUENCY RATING: C.F. = 400 (57).

ROADWAY: 28'-0" f/f 2'-0" Safey Curbs
SKEW: 6°-33'-16" R.F.
WEARING SURFACE: 1" Monolithic
APPROACH SLABS: Special (25' long)
ALIGNMENT: tangent
SUPERELEVATION: None



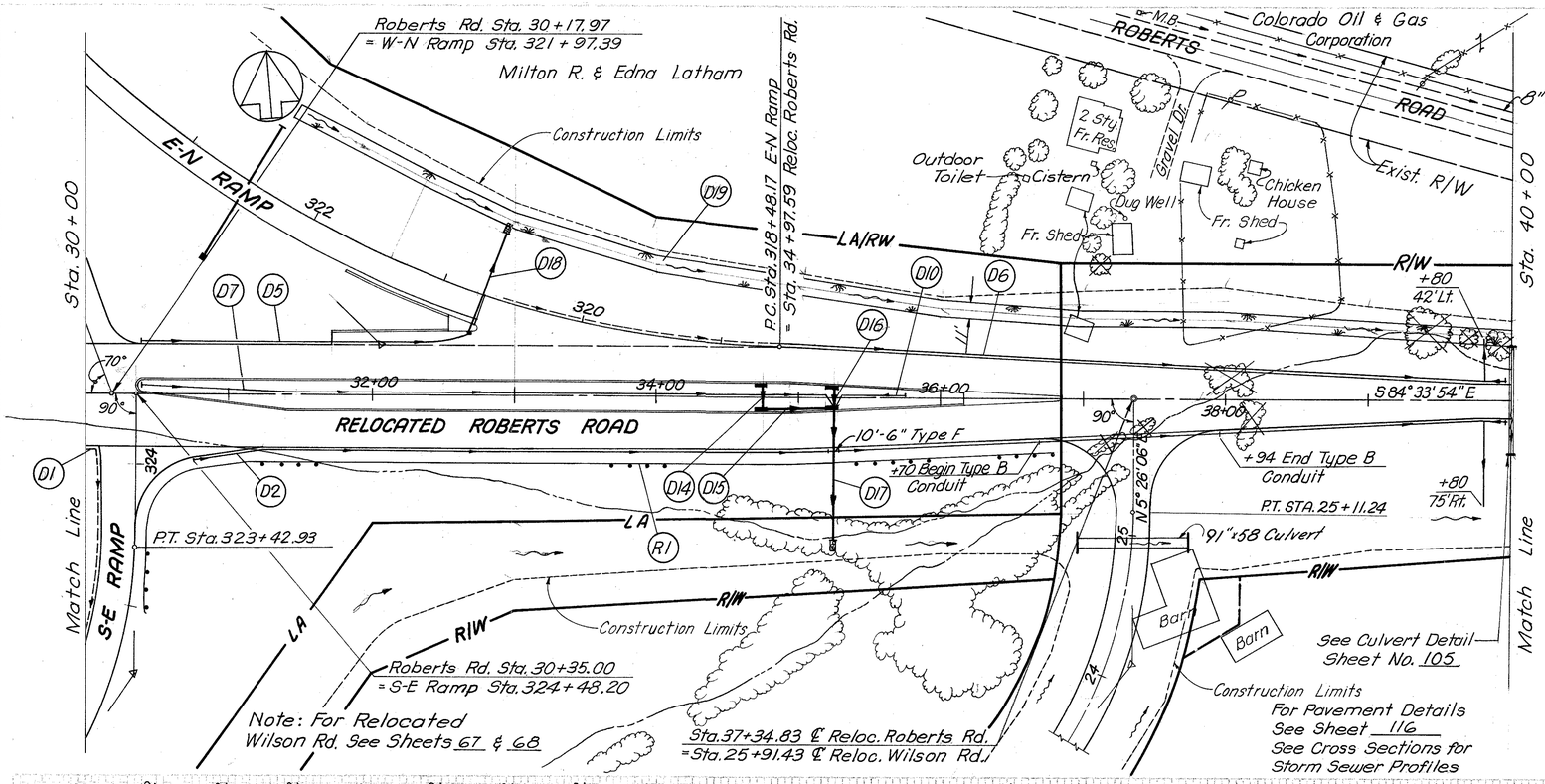
DRAINAGE		603			605				601	602	604	660			
		15" Type B	12" Type C	6" Type F	15" Type F	6" Pipe Underdrain	6" Special for Pipe Underdrain	15" Special for Type F Conduit	Dumped Rock	Concrete Masonry	No 2-A-12 Inlet	No 2-A-10 Inlet	Special Sodding	Sodding	
CODE	LOCATION	L.F.	L.F.	L.F.	L.F.	L.F.	Ea	Ea	C.Y.	C.Y.	Ea	Ea	S.Y.	S.Y.	
D1	20+22 to 20+67 Rt					45	1								
D2	20+75 to 23+56 Rt			10		309	1								
D3	26+53 to 29+38 Rt			10		321	1								
D4	29+46 to 30+00 Rt					54									
D5	20+00 to 23+47 Lt					347									
D6	26+44 to 29+88 Lt					344	1								
D7	20+63 to 23+52 Median			10		279									
D8	26+48 to 29+42 Median			10		284									
D11	20+63, 1'Rt to 11'Rt		7								1	1			
D12	20+63, 11'Rt to 20+77, 84'Rt	41			30		2	1	0.26					2	
D13	29+42 11'Lt to 1'Lt		7								1	1			
D16	29+42, 1'Lt to 85'Rt	53			35		2	1	0.26					2	
D17	23+35 to 26+65 Rt & Lt												129		
TOTAL		94	14	40	65	983	4	4	2	0.52	2	2	129	4	

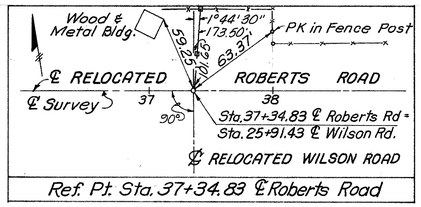


ROADWAY		606		202	202	606
		Guard Rail Std. Type		Pipe Removed over 24"	Existing Structure Removed	Guard Posts
CODE	LOCATION	L.F.		L.F.	LUMP	Ea.
R2	20+78 Lt				Lump	
R4	27+40 Lt.			40		
R5	27+73 to 28+15 Lt.			44		
R7	23+52 Median					4
R8	26+48 Median					4
R9	20+345 to 23+47 Rt.	312.5				
R10	20+11 to 23+36 Lt	325				
R11	26+63 to 30+00.5 Rt.	337.5				
R12	26+53 to 29+78 Lt.	325				
TOTALS		1300		84	Lump	8

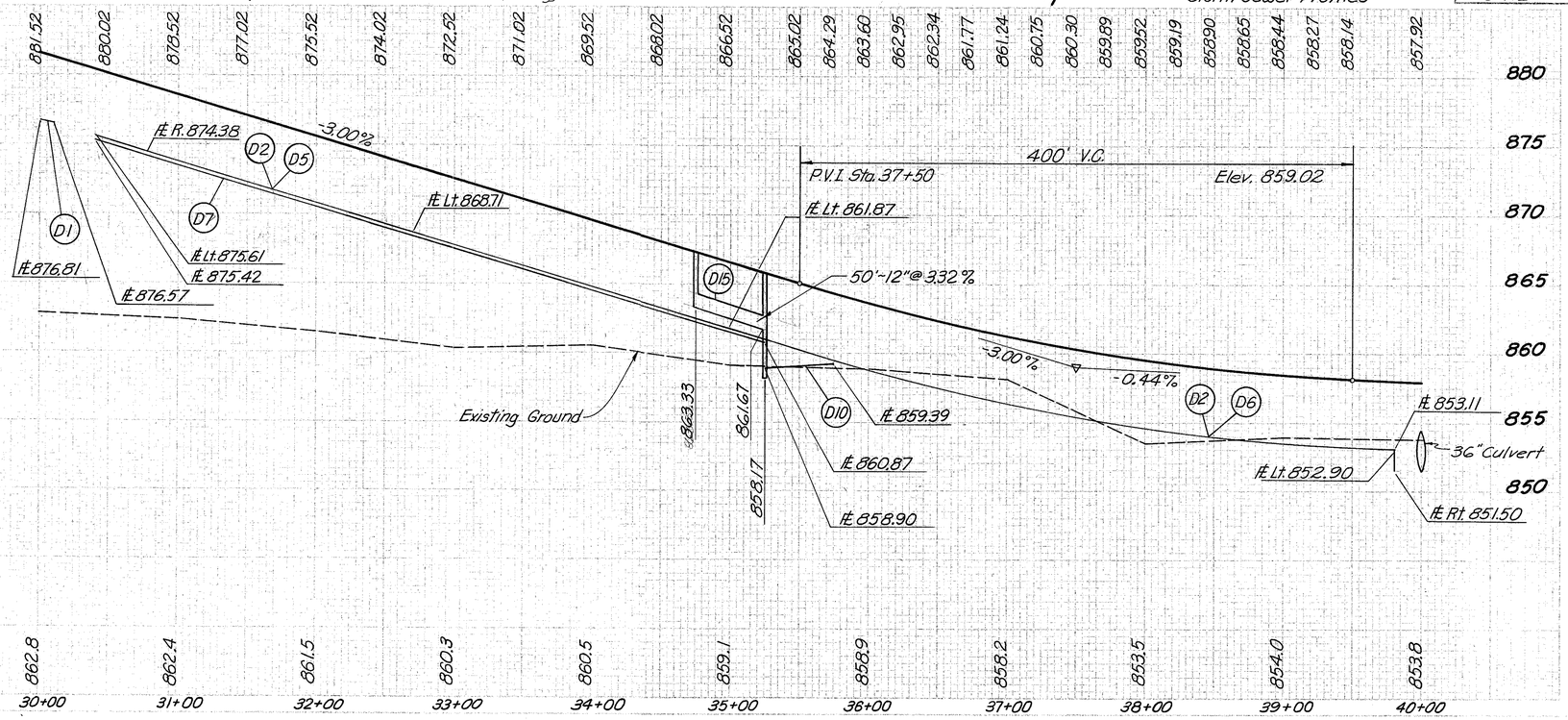
ROBERTS ROAD 20+00 TO 30+00

FRANKLIN COUNTY
FRA-270-0.79 N





DRAINAGE		603				605		601	602	604			660	667	604			
		6" Type B	15" Type B	12" Type C	6" Type F	6" Pipe Underdrain	6" Specials for Pipe Underdrain	Crushed Aggregate	Concrete Masonry	No.6 Catch Basin	No.2A-10 Inlet	No.2A-8 Inlet	Sodding	Jute Matting	No.2-A-14 Inlet			
CODE	LOCATION	L.F.	L.F.	L.F.	L.F.	L.F.	Ea.	S.Y.	C.Y.	Ea.	Ea.	Ea.	S.Y.	S.Y.	Ea.			
D1	30+00 to 30+08 Rt.					8	1											
D2	30+77 to 39+95 Rt.	124			20	835	1											
D5	30+40 to 32+70 Lt.				10	220												
D6	34+98 to 39+95 Lt.				10	515	1											
D7	30+40 to 35+25 Median				10	481	1											
D10	35+25 to 35+75 Median				10	46	1											
D14	34+75, 11' Lt. to 11' Rt.			19							1				1			
D15	34+75 to 35+25 Median			50														
D16	35+25, 9' Lt. to 9' Rt.			16								2						
D17	35+25, 9' Rt. to 99' Rt.		90					2	0.26				2					
D18	32+70, 46' Lt. to 32+92, 113' Lt.		71					2	0.26	1			2					
D19	31+48 to 40+00 Lt.													1107				
TOTAL		124	161	85	60	212	5	4	0.52	1	1	2	4	1107	1			



ROADWAY		606	
		Guard Rail Std. Type	
CODE	LOCATION	LIN. FT.	
R1	323+00 S-E Ramp to 36+66 Rt.	700	
TOTAL		700	

ROBERTS ROAD 30+00 TO 40+00

FRANKLIN COUNTY
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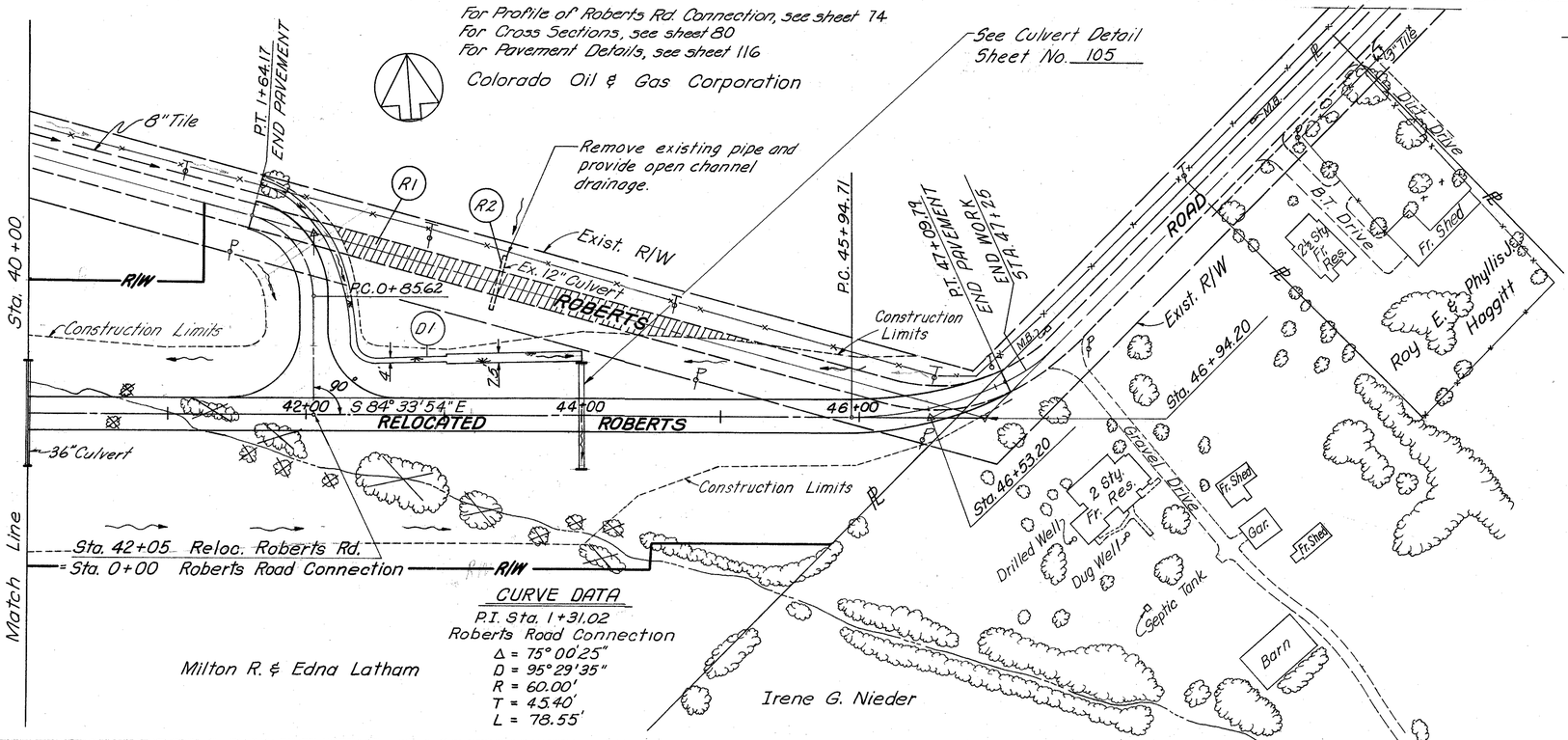
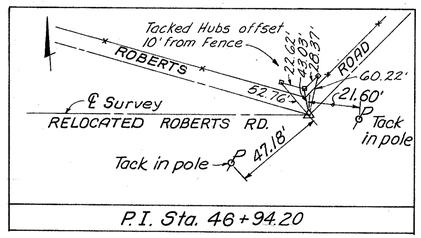


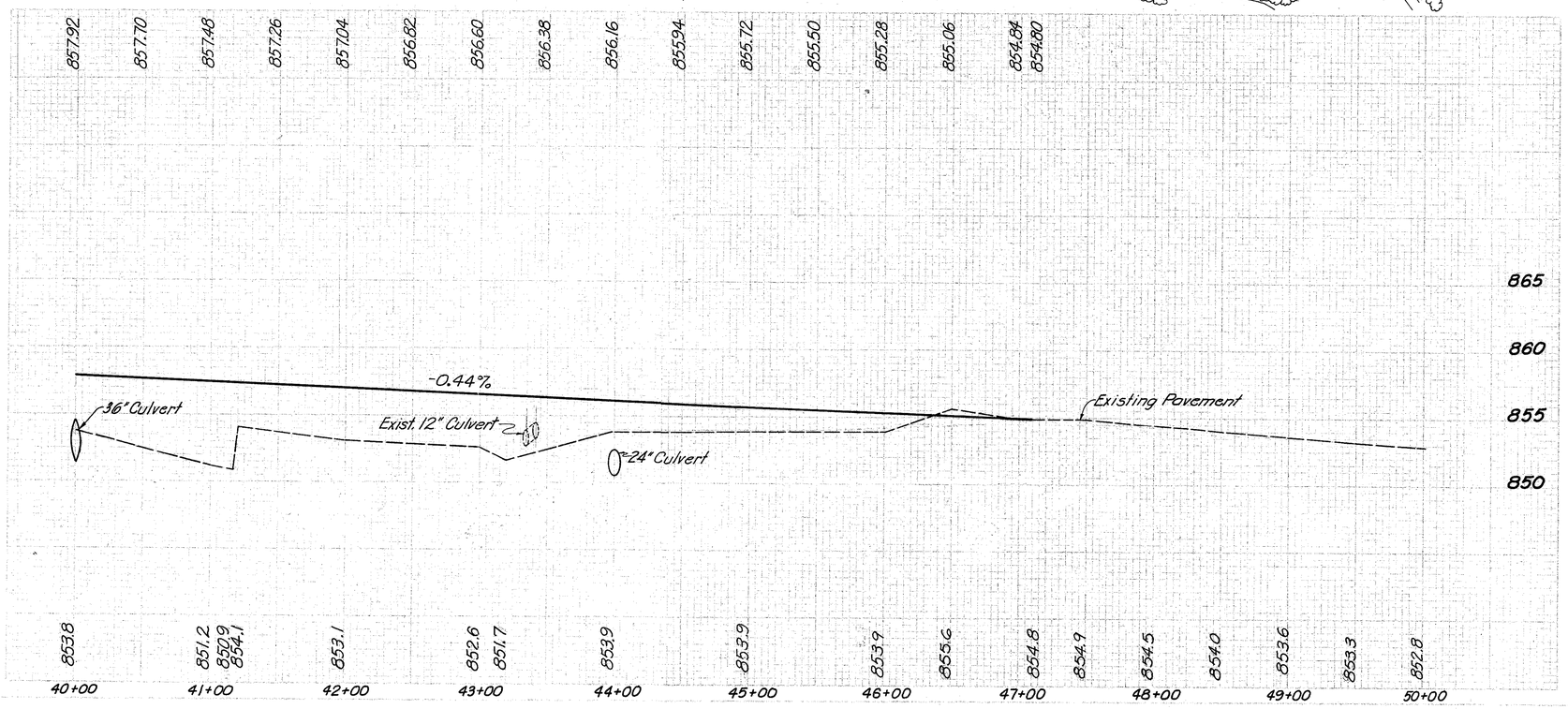
CURVE DATA
P.I. Sta. 1+31.02
Roberts Road Connection
Δ = 75° 00' 25"
D = 95° 29' 35"
R = 60.00'
T = 45.40'
L = 78.55'

CURVE DATA
P.I. Sta. 46+53.20
Δ = 25° 19' 00"
D = 22° 00'
R = 260.44'
T = 58.49'
L = 115.08'



DRAINAGE			605		667	
			Aggregate Drains		Jute Matting	
CODE	LOCATION		L.F.		S.Y.	
D-1	41+67 Lt. to 44+00 Lt.				135	
	0+50 to 1+50 Roberts Rd. Conn.		70			
	40+25 to 46+50		312			
TOTAL			382		135	

ROADWAY		202	202
		Pavement Removed	Pipe Removed 24" ℄ Under
CODE	LOCATION	S.Y.	L.F.
R1	42+20 to 45+30 Lt.	530	
R2	43+40 Lt.		40
TOTALS		530	40



ROBERTS ROAD 40+00 TO 50+00

FRANKLIN COUNTY
FRA-270 - 0.79 N

110 1233 112 48 594 59 700 67 155 0

880 870 890 880 890 880 890 880 890 880 890 880

Sta 12+00 Ahead
Sta 12+00 Back

Sta. 9+58.48

BEGIN GRADING STA. 9+58.48

876.10 877.70 879.10 879.50 882.88 884.0 884.4 885.0

13+00 878.6
12+00 879.7
11+00 881.3
10+00 882.8
9+00 884.0
8+00 884.4
7+00 885.0

878.44 879.92 881.40

Drive @ 10+00
3.00%

0.24 881.87
0.02 882.41
0.00 882.50

872.00 873.00 860.00

Match Frontage Rd X-Section

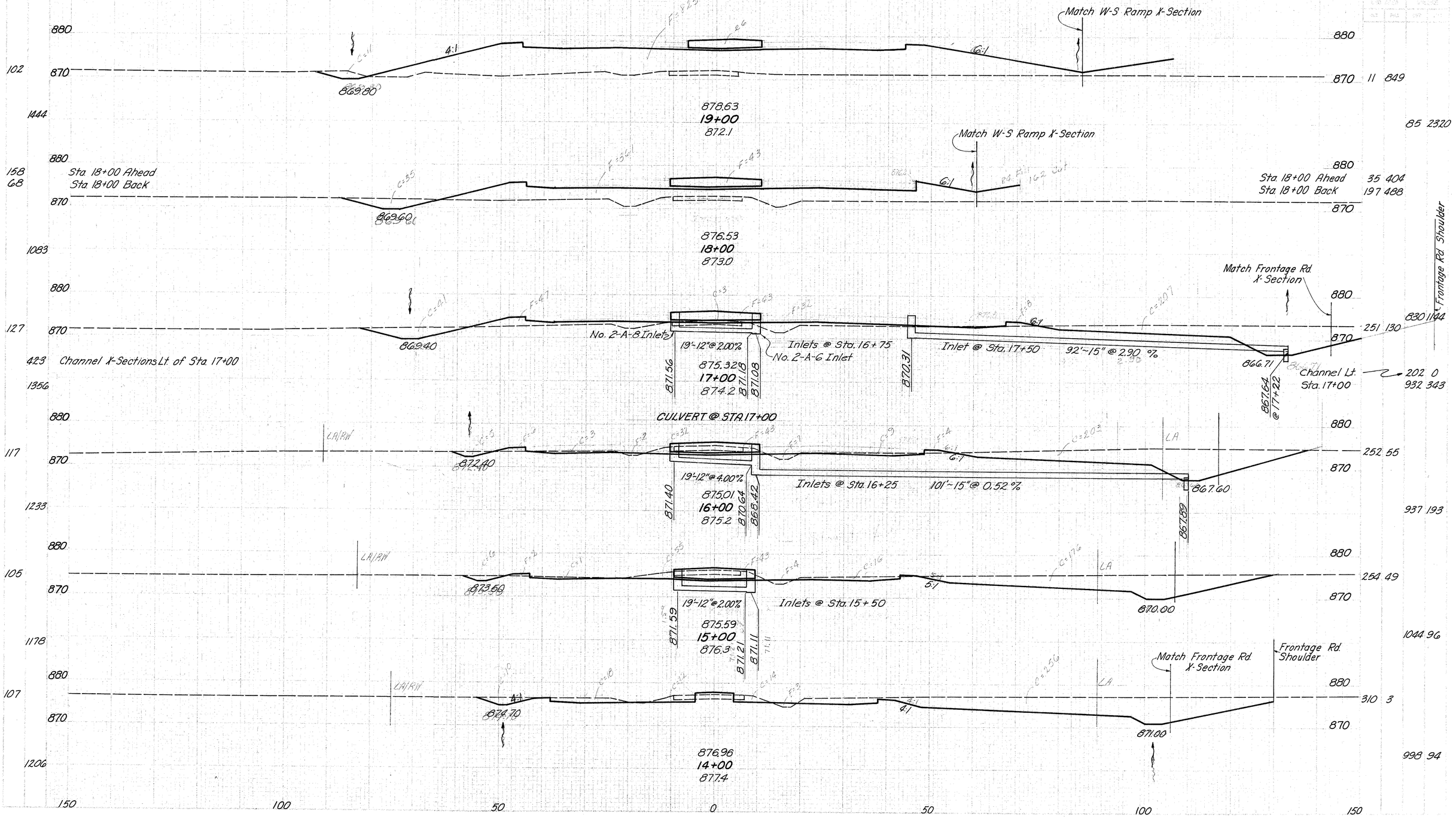
Frontage Rd
Shoulder

Sta. 13+00 229 48
893 93
12+00 Ahead 253 2
12+00 Back 64 2
243 37
67 18
281 59
85 14
65 11
Sta. 9+58.48 0 0

150 100 50 0 50 100 150

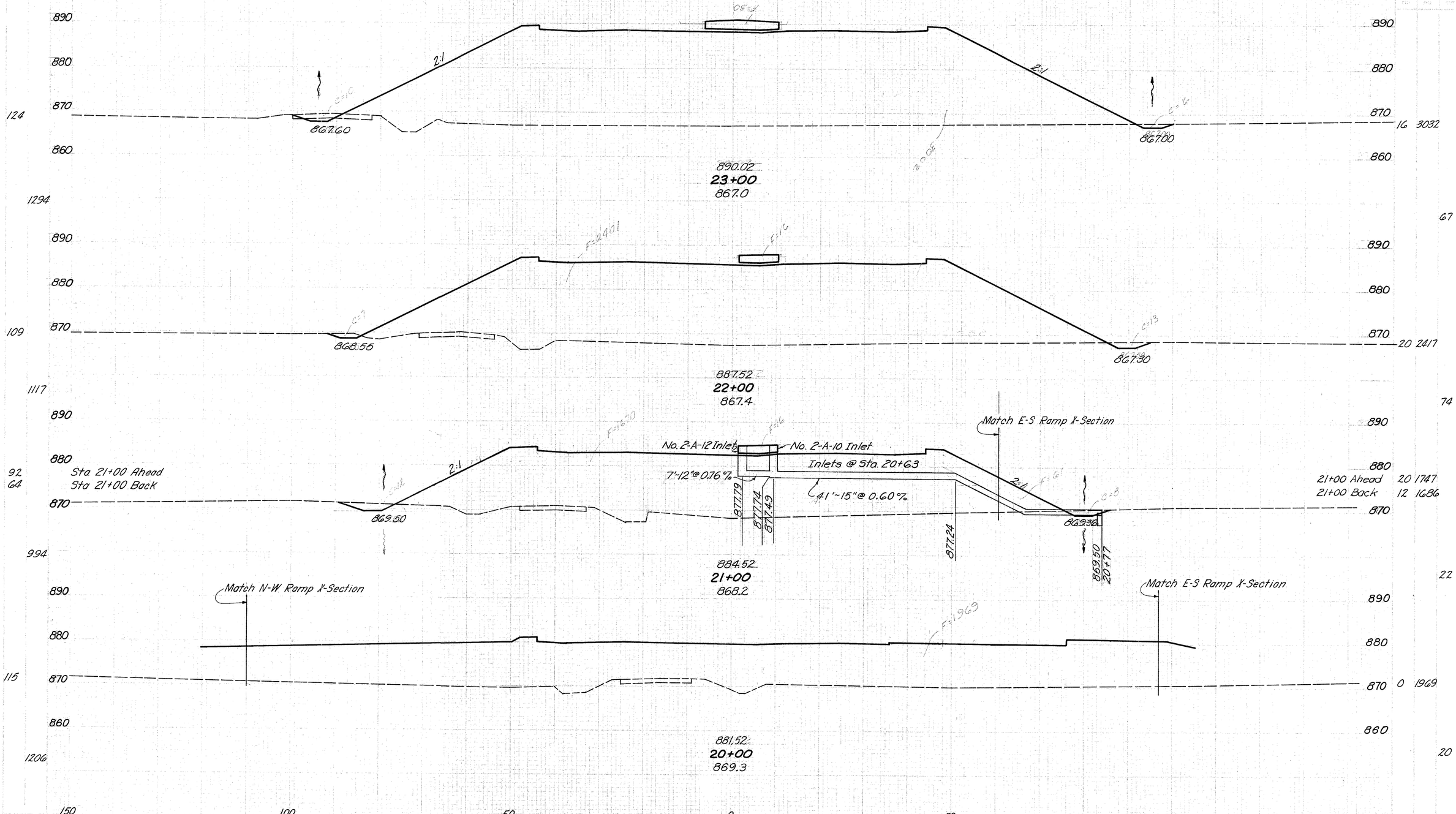
ROBERTS ROAD - 7+00 TO 13+00

FRANKLIN COUNTY
FRA-270-0.79 N



ROBERTS ROAD 14+00 TO 19+00

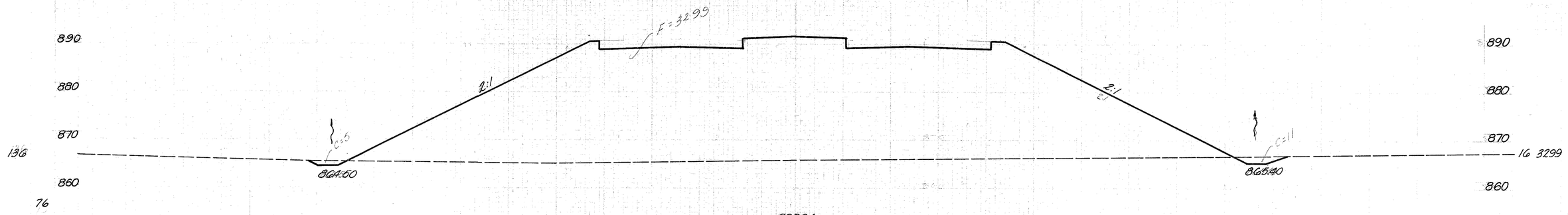
FRANKLIN COUNTY
FRA-270 - 0.79 N



ROBERTS ROAD 20+00 TO 23+00

44
227

FRANKLIN COUNTY
FRA-270-0.79 N



136 Sta. 26+42

604 Sta. 26+02 to Sta. 26+42

BRIDGE LIMIT STA. 26+42.27

Sta. 26+42 16 3299

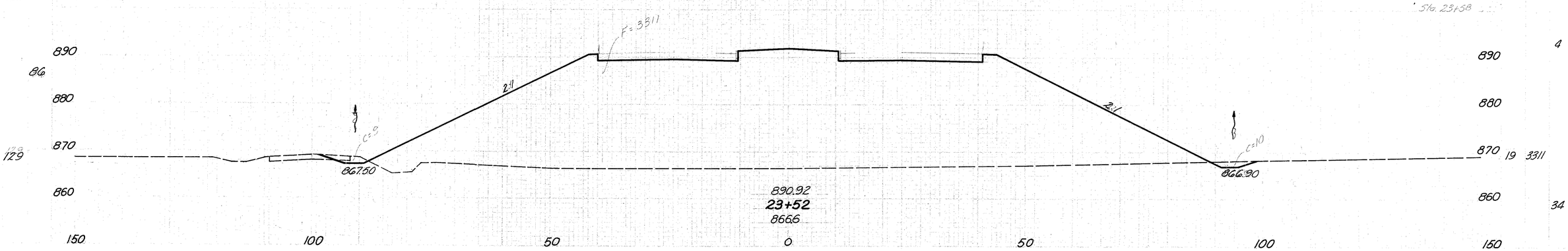
12 2623

Sta. 26+02 0 242

645 Sta. 23+58 to Sta. 24+03

129 Sta. 23+58

BRIDGE LIMIT STA. 23+57.74



Sta. 24+03 0 238

16 2957

Sta. 23+58 19 3311

4 736

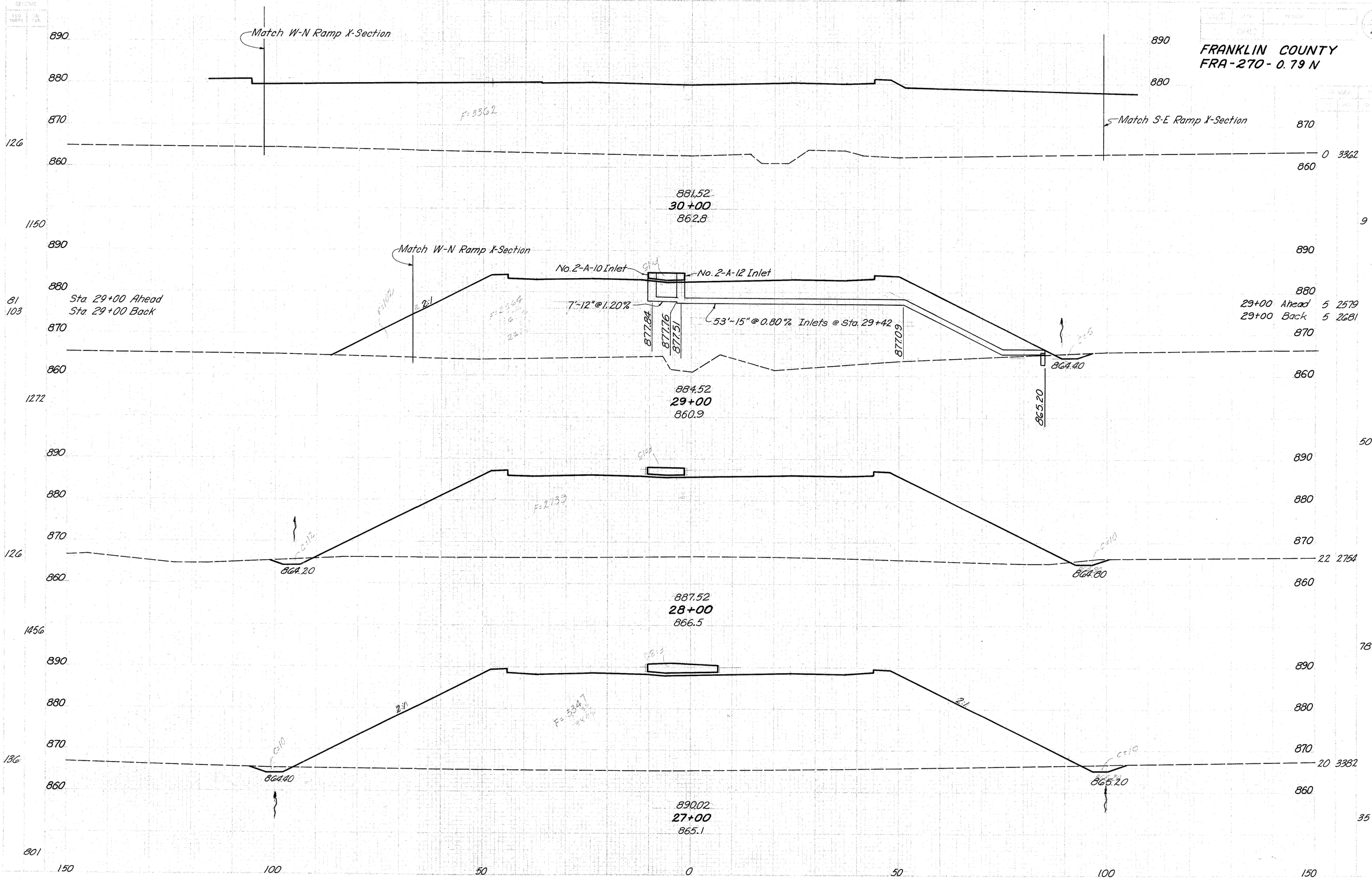
19 3311

34 6108

ROBERTS ROAD 23+52 TO 26+47

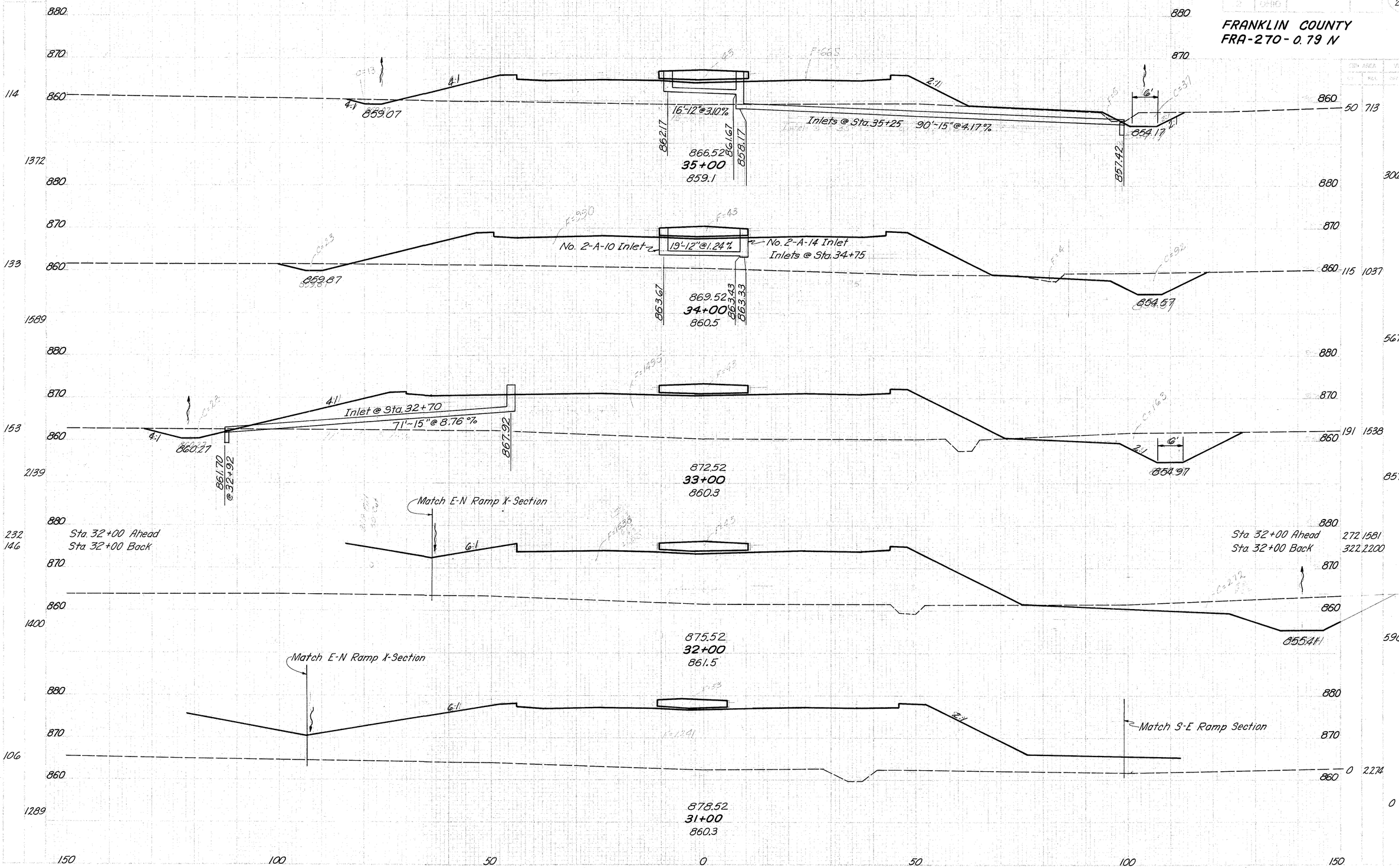
3 611

FRANKLIN COUNTY
FRA-270-0.79 N



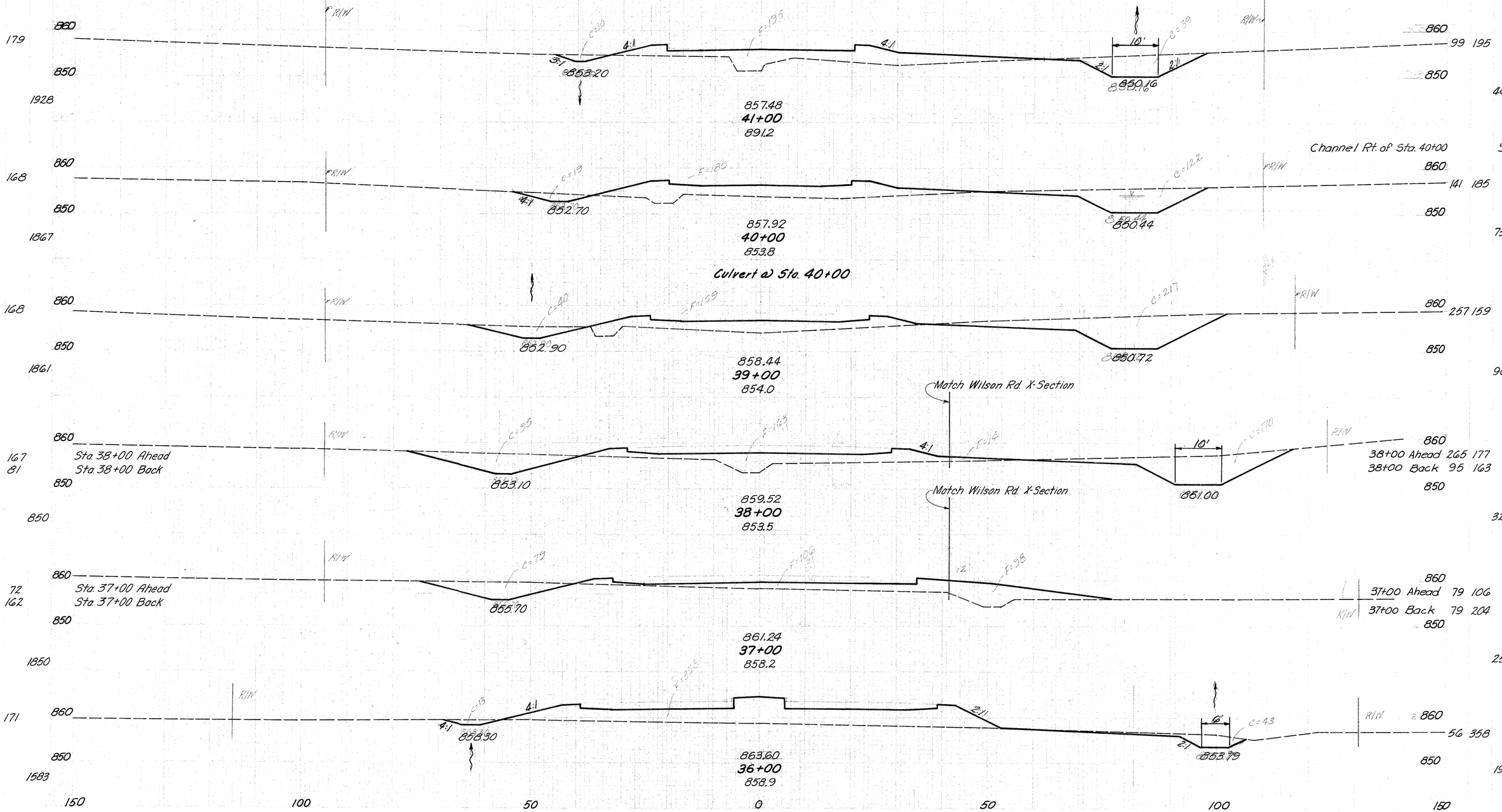
ROBERTS ROAD 27+00 TO 30+00

FRANKLIN COUNTY
FRA-270-0.79 N



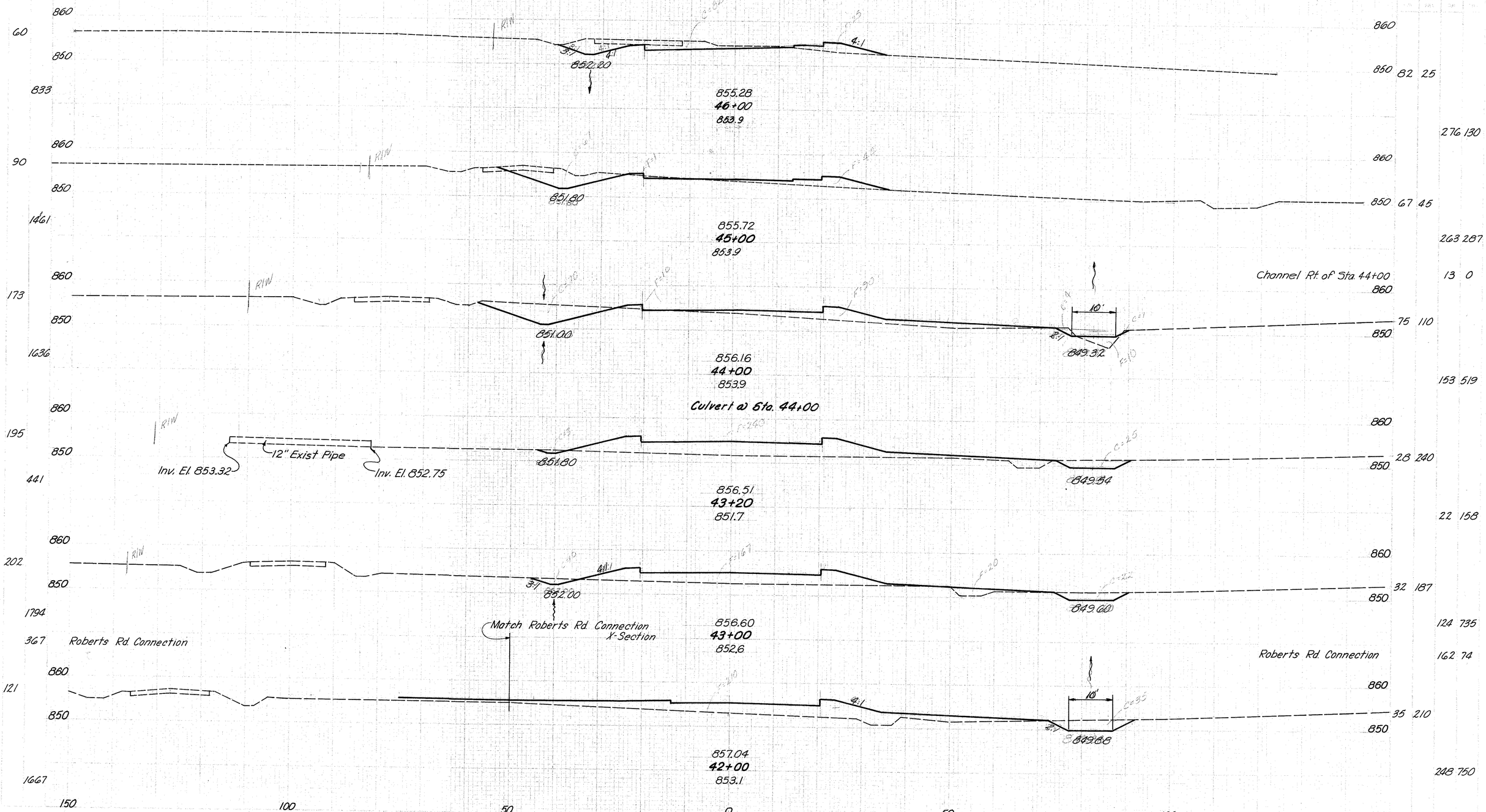
ROBERTS ROAD 31+00 TO 35+00

FRANKLIN COUNTY
FRA-270-0.79 N



ROBERTS ROAD 36+00 TO 41+00

FRANKLIN COUNTY
FRA-270-0.79 N



ROBERTS ROAD 43+00 TO 46+00

100 50 0 50 100

49
227

FRANKLIN COUNTY
FRA-270-0.79 N

860
850

49+00
863.6

860
850

48+00
854.5

860
850

47+50
854.9
END GRADING 47+25

Sta. 47+25

860
850

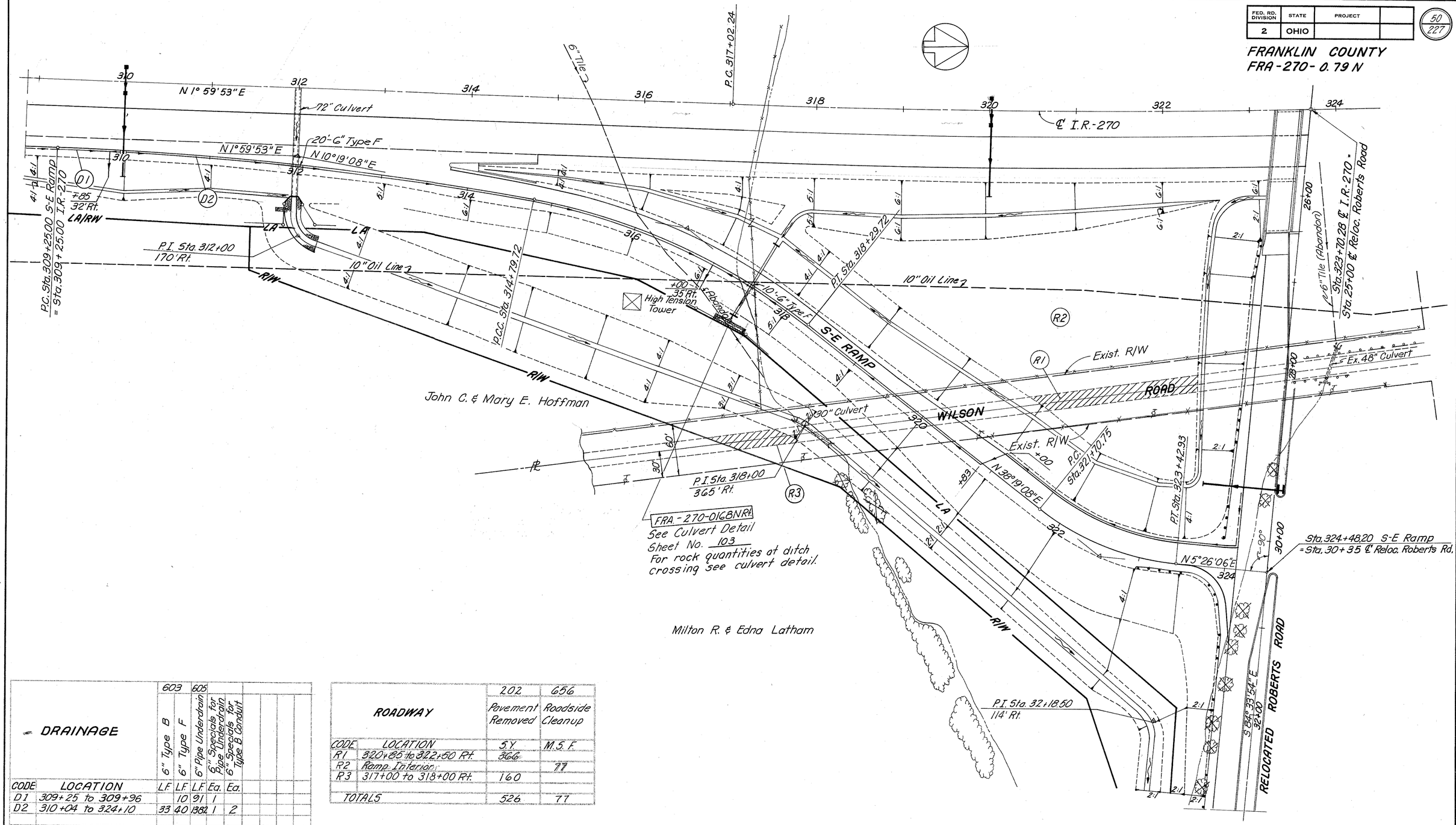
Sta. 47+25

860
850

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

50
227

FRANKLIN COUNTY
FRA-270-0.79 N



DRAINAGE		603	603	605							
		6" Type B	6" Type F	6" Pipe Underdrain	6" Specials for Pipe Underdrain	6" Specials for Type B Conduit					
CODE	LOCATION	L.F.	L.F.	L.F.	Ea.	Ea.					
D1	309+25 to 309+96		10	91	1						
D2	310+04 to 324+10	33	40	1382	1	2					
TOTAL		33	50	1473	2	2					

ROADWAY		202	656
		Pavement Removed	Roadside Cleanup
CODE	LOCATION	S.Y.	M.S.F.
R1	320+85 to 322+50 Rt.	366	
R2	Ramp Interior		77
R3	317+00 to 318+00 Rt.	160	
TOTALS		526	77

For ramp profile, see sheet 54
For ramp cross sections, see sheet 56
For pavement details, see sheet 117

S-E RAMP — ROBERTS ROAD INTERCHANGE

DRAINAGE

CODE	LOCATION	LF	LF	LF	Ea.	S.Y.	C.Y.	Ea.	S.Y.	S.Y.	L.F.	C.Y.
		603 15" Type B	603 6" Type F	605 6" Pipe Underdrain	605 6" Specials for Pipe Underdrain	601 Crushed Aggregate	602 Concrete Masonry	604 No. 2-2-A Catch Basin	660 Sodding	667 Jute Matting	605 Aggregate Drains	601 Dumped Rock
D1	321+30 to 324+48 E-S		10	345	1							
D2	310+50 to 324+25 W-S.		50	1462	2							
D5	324+36 to 326+04 W-S		10	222	1							
D6	326+60 to 328+35 W-S		20	218	1							
D7	324+32 W-S, 57' Rt. to 68' Lt.	125				2	0.26	1	2			
	30+25 to 46+25 Frontage Rd.										1083	
D8	33+85 Lt. Frontage Rd.		10			2						
D9	31+00 to 44+00 Front. Rd.									1784		
D10	315+00 to 319+00 Rt. W-S									333		
D11	322+92 to 325+24 Rt. W-S									111		
D12	319+30 Lt. W-S.											14
	TOTAL	125	100	2247	5	4	0.26	1	2	2228	1083	14

ROADWAY

CODE	LOCATION	656 Roadside Cleanup M.S.F.
R1	Ramp Interior.	75
	TOTALS	75

For storm sewer profiles, see cross sections
For ramp profiles, see sheet 55
For ramp cross sections, see sheet 59-61
For pavement details, see sheet 118
For Frontage Rd. profile, see sheets 73 & 74
For Frontage Rd. cross sections, see sheets 75-79

FRONTAGE ROAD "A"

CURVE DATA
PI Sta. 36+60.91
D = 8°00'00"
Δ = 35°56'15"
T = 232.28'
L = 449.22'
R = 716.20'

CURVE DATA
PI Sta. 44+15.81
D = 9°00'00"
Δ = 50°25'50"
T = 299.78'
L = 560.34'
R = 636.62'

FED. RD. DIVISION 2 | STATE OHIO | PROJECT

51 / 227

FRANKLIN COUNTY
FRA-270-0.79N

P.T. Sta. 328+35.01 W-S Ramp = Sta. 15+18.48 Roberts Rd.

P.C. 16+47.99

91"x58" (Culvert

LA/RW

John C. & Mary E. Hoffman

Sheds

Shed

Barn

Corn Crib

Chicken House

1½ St. Fr. Res.

Septic Tank

Gravel

Dirt Drive

Ex. 12" Pipe (Abandon)

Ex. 12" Pipe

Conc. Block Riprap

Sta. 324+93.10 E-S Ramp = Sta. 19+92.03 Reloc. Roberts Rd.

6.5'x3.5' Box Culvert

Exist. R/W

James H. Moore

P.T. 22+40.23

Sta. 323+70.28 ℄ I.R.-270 = Sta. 25+00 ℄ Reloc. Roberts Road

Dirt Drive

Abandon

Exist. R/W

RELOCATED ROBERTS ROAD

ROBERT'S ROAD

22+00 Brick Wall

6" Tile

FRA-270-0168 NL

See Culvert Details Sheet No. 103

D-12 Dumped Rock Channel Protection - 30" thick & 10' wide

P.C. Sta. 319+89.43

P.T. Sta. 319+77.85

P.C. Sta. 322+08.64

P.C. Sta. 34+28.63

P.C. Sta. 321+29.70 E-S Ramp = Sta. 321+29.70 W-S Ramp

E-S RAMP N15°38'26"W

W-S RAMP

℄ FRONTAGE ROAD "A"

N0°45'48"W

N0°48'16"E

N1°59'53"E

N36°42'03"W

N37°01'16"W

N35°06'43"W

N87°01'53"W

S87°01'53"E

S84°39'54"E

See Culvert Detail Sh. No. 94

Plug

72" Pipe Culvert

72" Culvert

20'-6" Type F

10'-6" Type F

Sta. 310+50 Nose W-S Ramp = Sta. 310+50 ℄ I.R.-270

P.C. 317+02.24

℄ I.R.-270

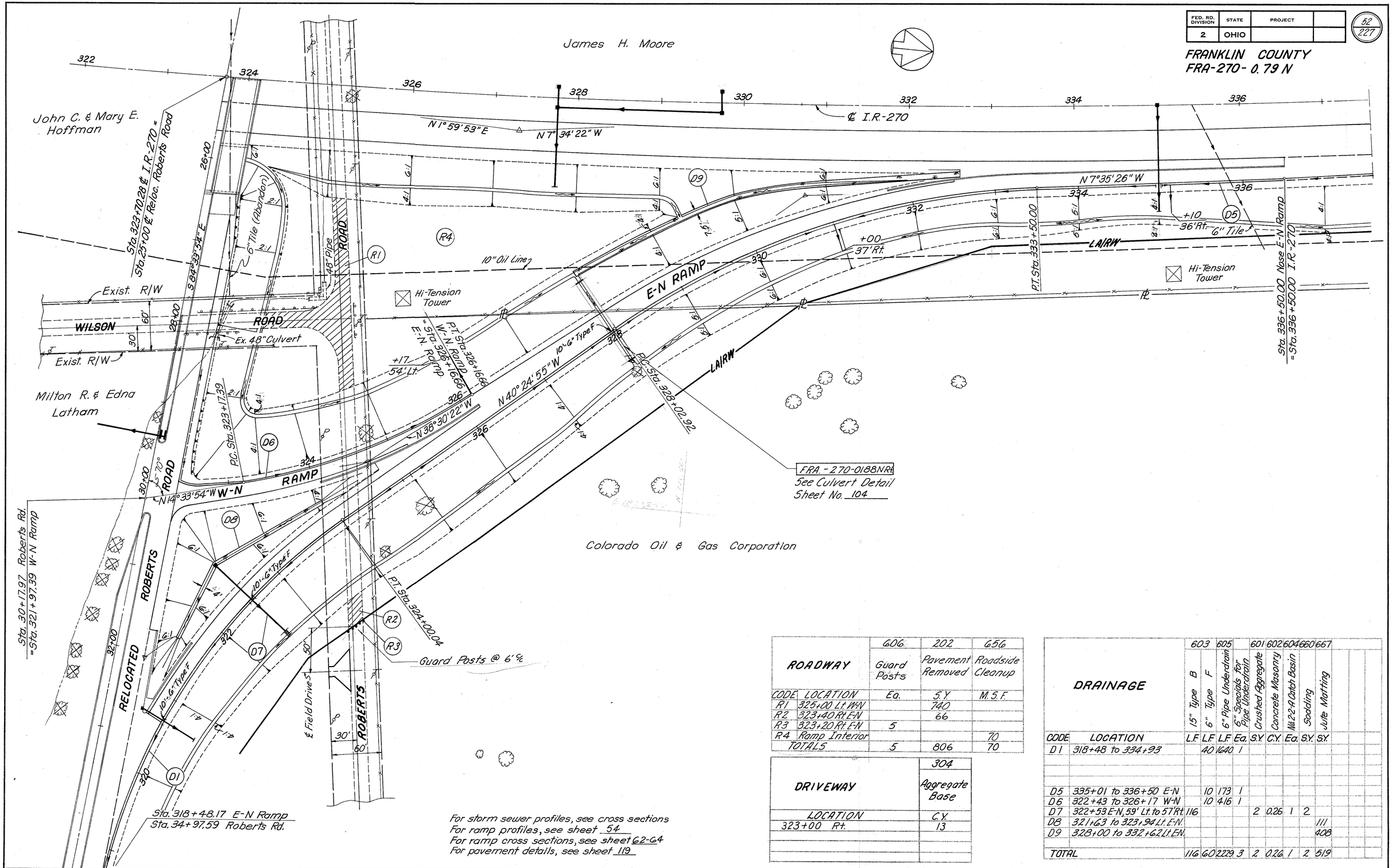
D1 D2 D5 D6 D7 D8 D9 D10 D11 R1

W-S & E-S RAMPS ROBERTS ROAD INTERCHANGE

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

52
227

FRANKLIN COUNTY
FRA-270-0.79 N



ROADWAY	606 Guard Posts	202 Pavement Removed	656 Roadside Cleanup
CODE LOCATION	Ea.	S.Y.	M.S.F.
R1 325+00 Lt. W-N		740	
R2 323+40 Rt. E-N		66	
R3 323+20 Rt. E-N	5		
R4 Ramp Interior			70
TOTALS	5	806	70

DRIVEWAY	304 Aggregate Base
LOCATION	C.Y.
323+00 Rt.	13

DRAINAGE	603 B 15" Type	603 F 6" Type	605 6" Pipe Underdrain	605 Specials for Pipe Underdrain	601 Crushed Aggregate	602 Concrete Masonry	604 Ma22-A Catch Basin	660 Seeding	667 Jute Matting
CODE LOCATION	L.F.	L.F.	L.F.	Ea.	S.Y.	C.Y.	Ea.	S.Y.	S.Y.
D1 318+48 to 334+93		40	1640	1					
D5 335+01 to 336+50 E-N		10	173	1					
D6 322+43 to 326+17 W-N		10	416	1					
D7 322+53 E-N, 59' Lt. to 57' Rt.	116				2	0.26	1	2	
D8 321+63 to 323+94 Lt. E-N									111
D9 328+00 to 332+62 Lt. E-N									408
TOTAL	116	60	2229	3	2	0.26	1	2	619

For storm sewer profiles, see cross sections
For ramp profiles, see sheet 54
For ramp cross sections, see sheet 62-64
For pavement details, see sheet 119

E-N & W-N RAMPS ROBERTS ROAD INTERCHANGE

FED. RD. DIVISION	STATE	PROJECT		
2	OHIO			

53
227

FRANKLIN COUNTY
FRA-270-0.79 N

ROADWAY		656		
		Roadside Cleanup		
CODE	LOCATION	M.S.F.		
R1	Ramp Interior	95		
TOTALS		95		

DRAINAGE		603	605									
		6" Type B	6" Type F	6" Pipe Underdrain	6" Specials for Pipe Underdrain	6" Specials for Type B Conduit						
CODE	LOCATION	L.F.	L.F.	L.F.	Ea.	Ea.						
D1	323+78 to 329+95	24	10	613	1	2						
D2	330+05 to 338+55		10	891	1							
TOTAL		24	20	1504	2	2						

John C. & Mary E Hoffman

James H. Moore

9'-58" Culvert

Ex. 12" Pipe Abandon

Abandon Ex. 12" Pipe

Corn Crib

Chicken House

1½ Sty. Fr. Res.

Septic Tank

B.T. Drive

Gravel

Barn

Dirt Drive

Conc. Block Riprap

Ex. 6.5'x3.5' Box Culvert

Brick Wall

Sta. 323+40.09 W-W Ramp
= Sta. 19+75.00 Roberts Rd.

P.C. Sta. 324+56.31

P.T. Sta. 326+24.78

N 4°17'08" E

N-W RAMP

N 36°27'38" E

LA/RW

P.C. Sta. 328+74.52

FRA-270-0191N Lt.
See Culvert Detail
Sheet No. 104

P.C. Sta. 333+04.52

P.T. Sta. 338+55.00 N-W Ramp
= Sta. 338+55.00 I.R.-270

N 2°03'38" E

N 7°34'22" W

6" Tile

P.T. 22+40.23

6" Tile (Abandon)

ROBERTS ROAD

Dirt Drive

Sta. 323+70.28 ℄ I.R.-270
= Sta. 25+00 ℄ Reloc. Roberts Road

24+00

26+00 RELOCATED

S 84°33'54" E

Exist. R/W

ROBERTS

80'

60'

℄ I.R.-270

P.T. 337+53.13

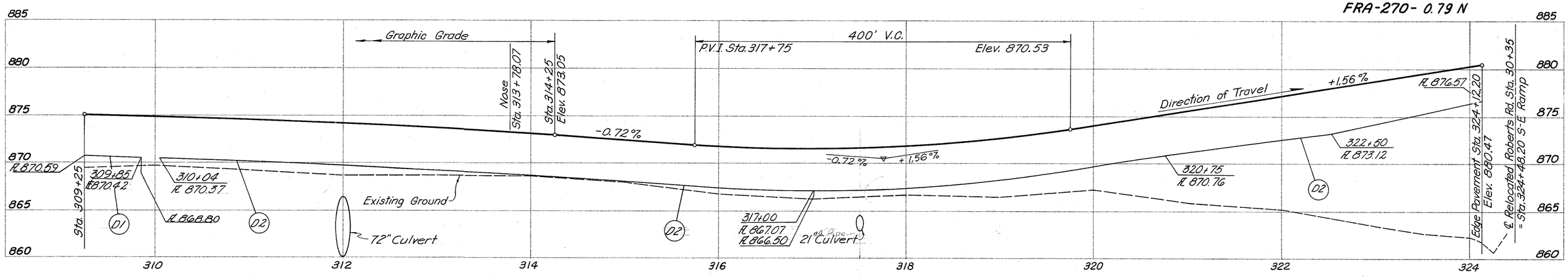
For ramp profile, see sheet 55
For ramp cross sections, see sheet G5
For pavement details, see sheet 120

N-W RAMP ROBERTS ROAD INTERCHANGE

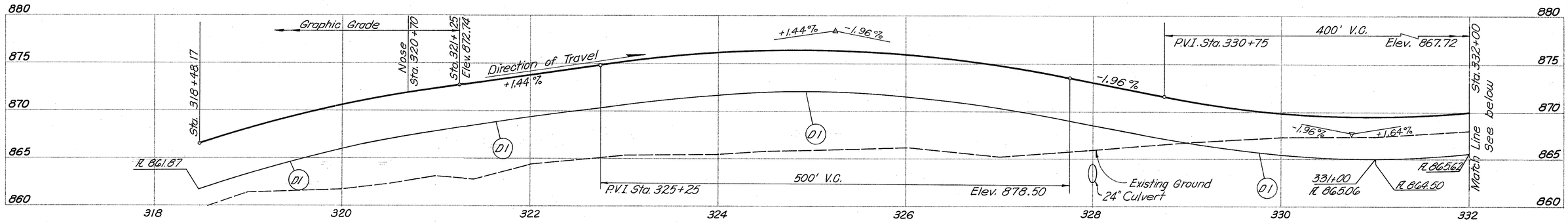
FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

54
227

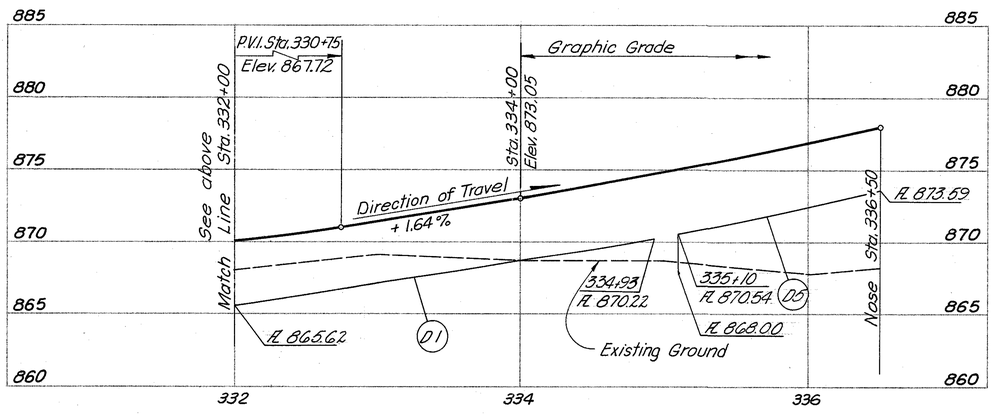
FRANKLIN COUNTY
FRA-270- 0.79 N



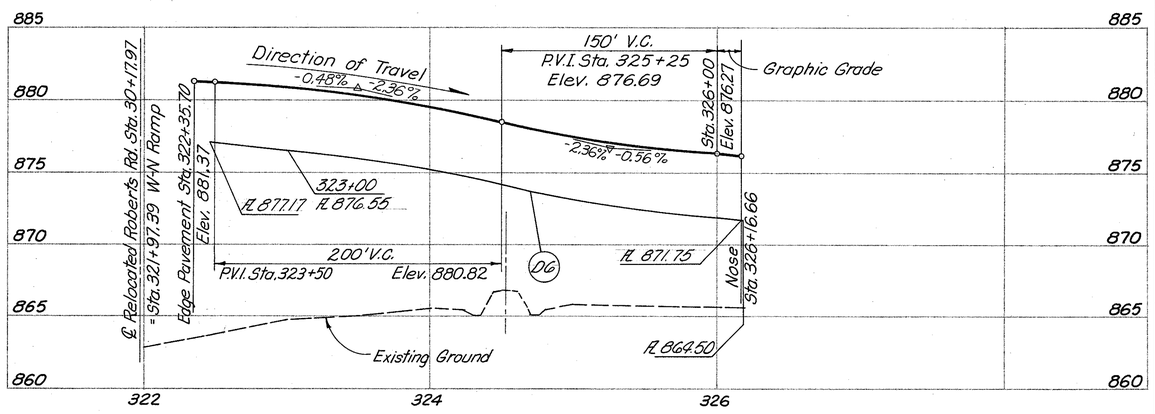
S-E RAMP



E-N RAMP



E-N RAMP (Cont.)



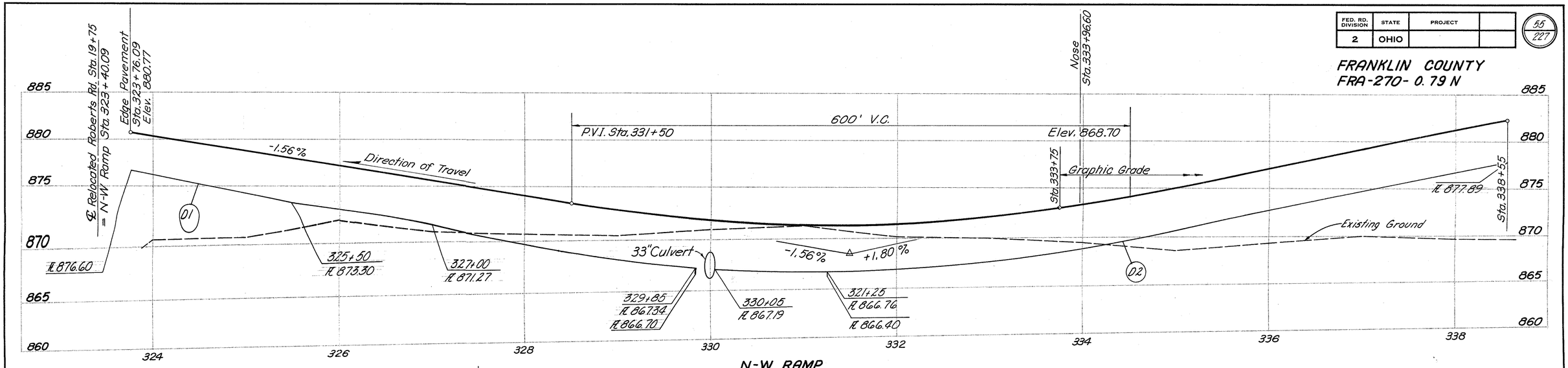
W-N RAMP

E-N, W-N & S-E RAMP PROFILES

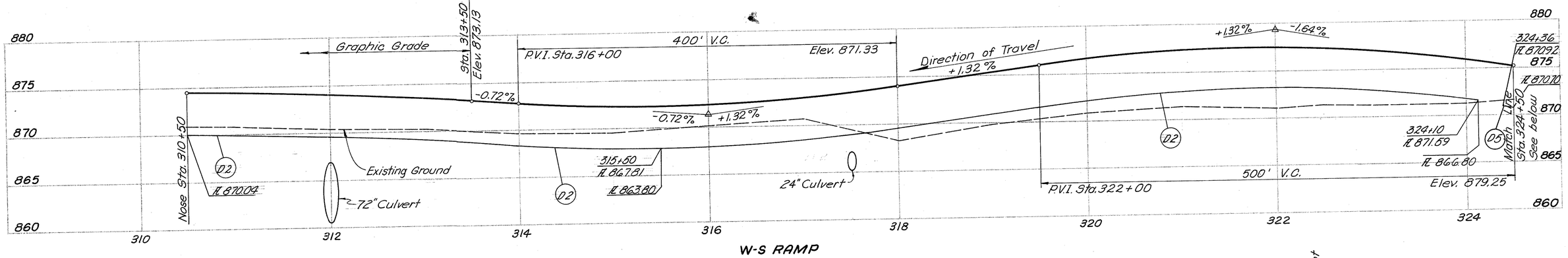
FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

55
227

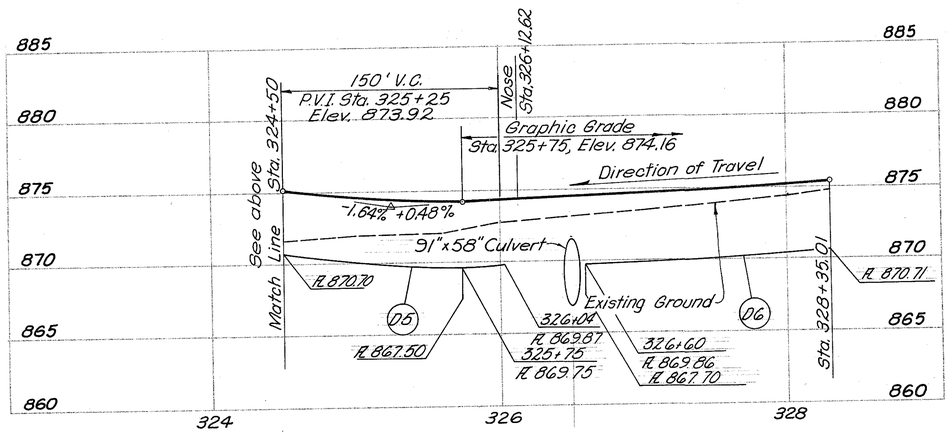
FRANKLIN COUNTY
FRA-270- 0.79 N



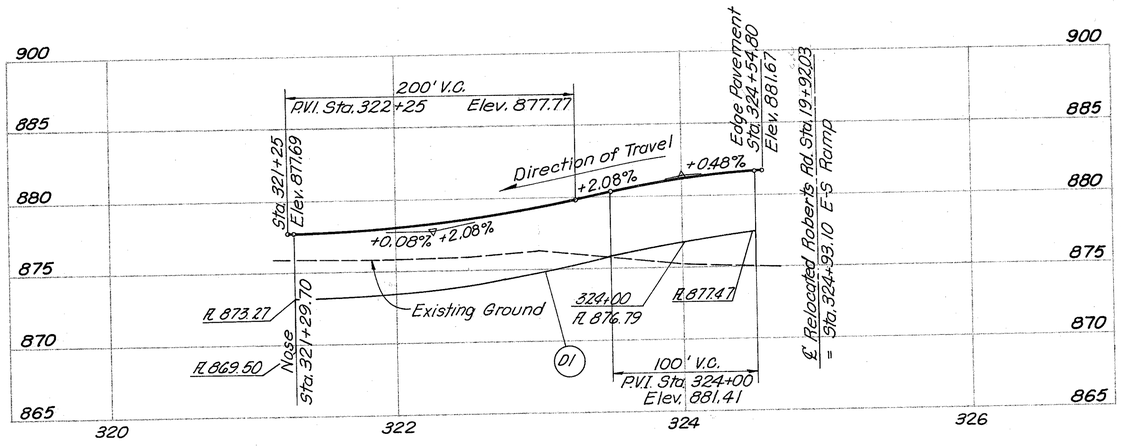
N-W RAMP



W-S RAMP



W-S RAMP (Con't.)



E-S RAMP

N-W, W-S & E-S RAMP PROFILES

56
227

FRANKLIN COUNTY
FRA-270-0.79 N

200 150 100

870
860

209
870
860
2528
4:1 4:1 4:1
C=93 F=3.5
863.40
872.64
319+00
℄ Exist. Wilson Rd.
C=3.6
6'
30" Ex. Culvert
2:1 2:1 2:1
857.39
870
860
289 309
1219 1063

246
870
860
2628
C=1.2 F=1.65
863.20
871.79
318+00
5:1
3:1 3:1
857.79
℄
870
860
369 265
1367 1065

Match I R 270 X-Section
Culvert @ Sta. 317+50

237
870
860
2583
4:1 6:1
C=1.5 F=2.5
864.30
871.52
317+00
4:1 4:1
858.43
870
860
369 310
1359 1115

228
870
860
2428
F=2.32
871.81
316+00
858.44
870
860
365 292
1382 957

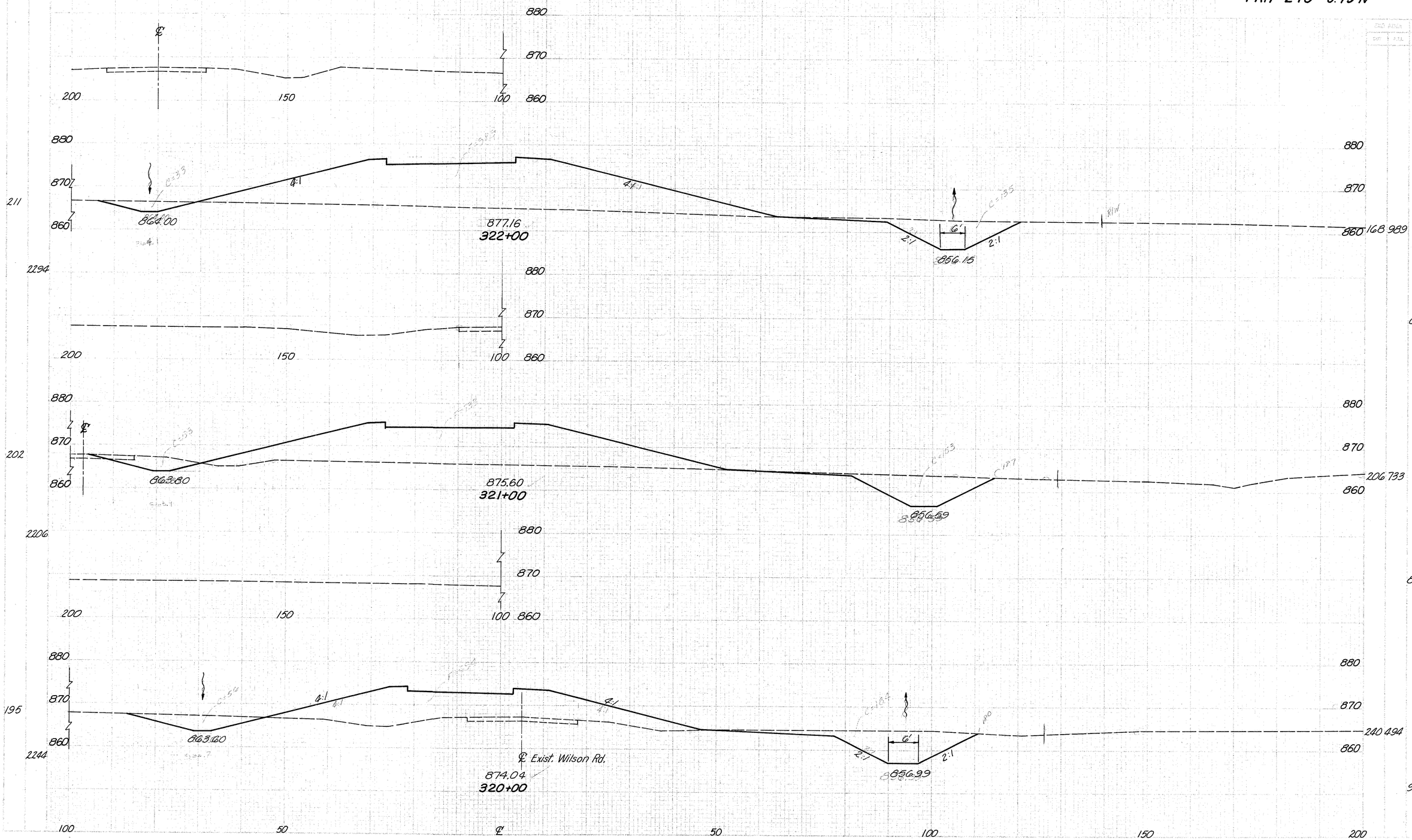
Match I R 270 X-Section

209
870
860
4:1 6:1
F=2.65
872.51
315+00
6'
4:1 4:1
858.78
870
860
381 225

100 50 ℄ 50 100 150 200

S-E RAMP 315+00 TO 319+00

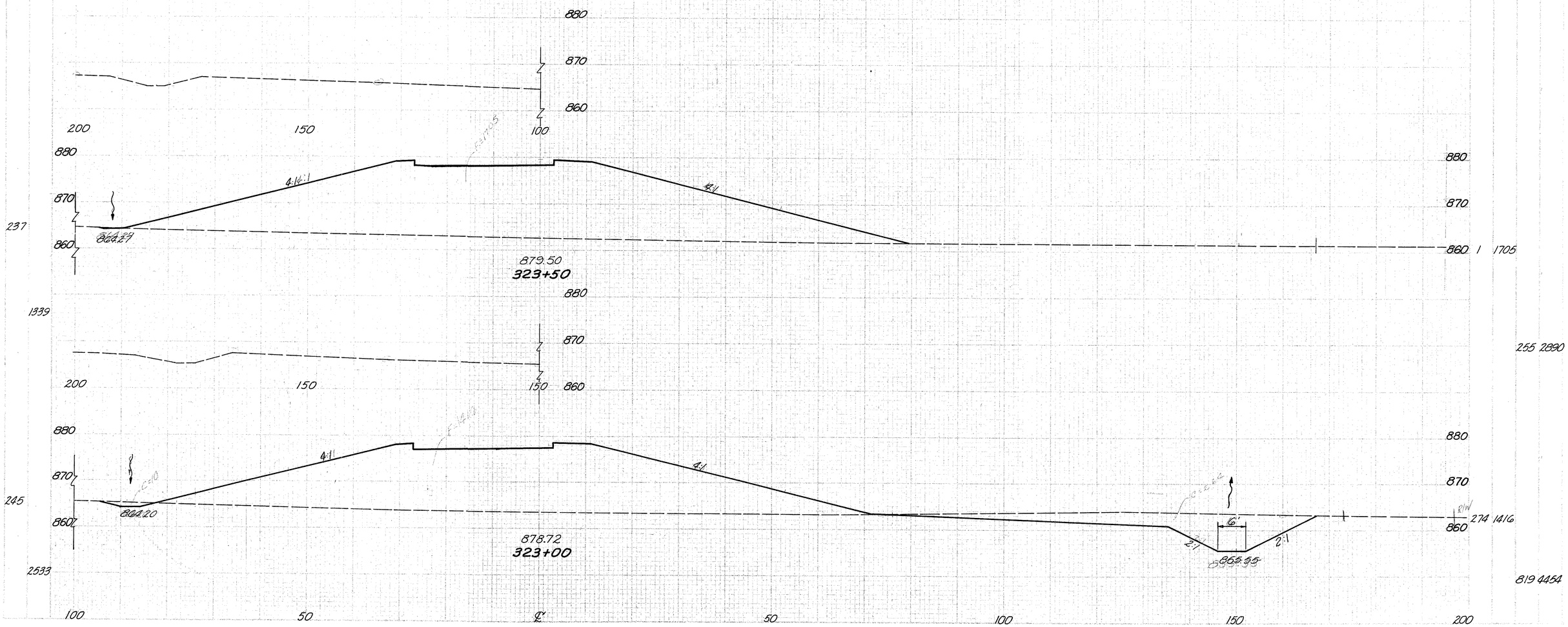
FRANKLIN COUNTY
FRA-270-0.79 N



S-E RAMP 320+00 TO 322+00

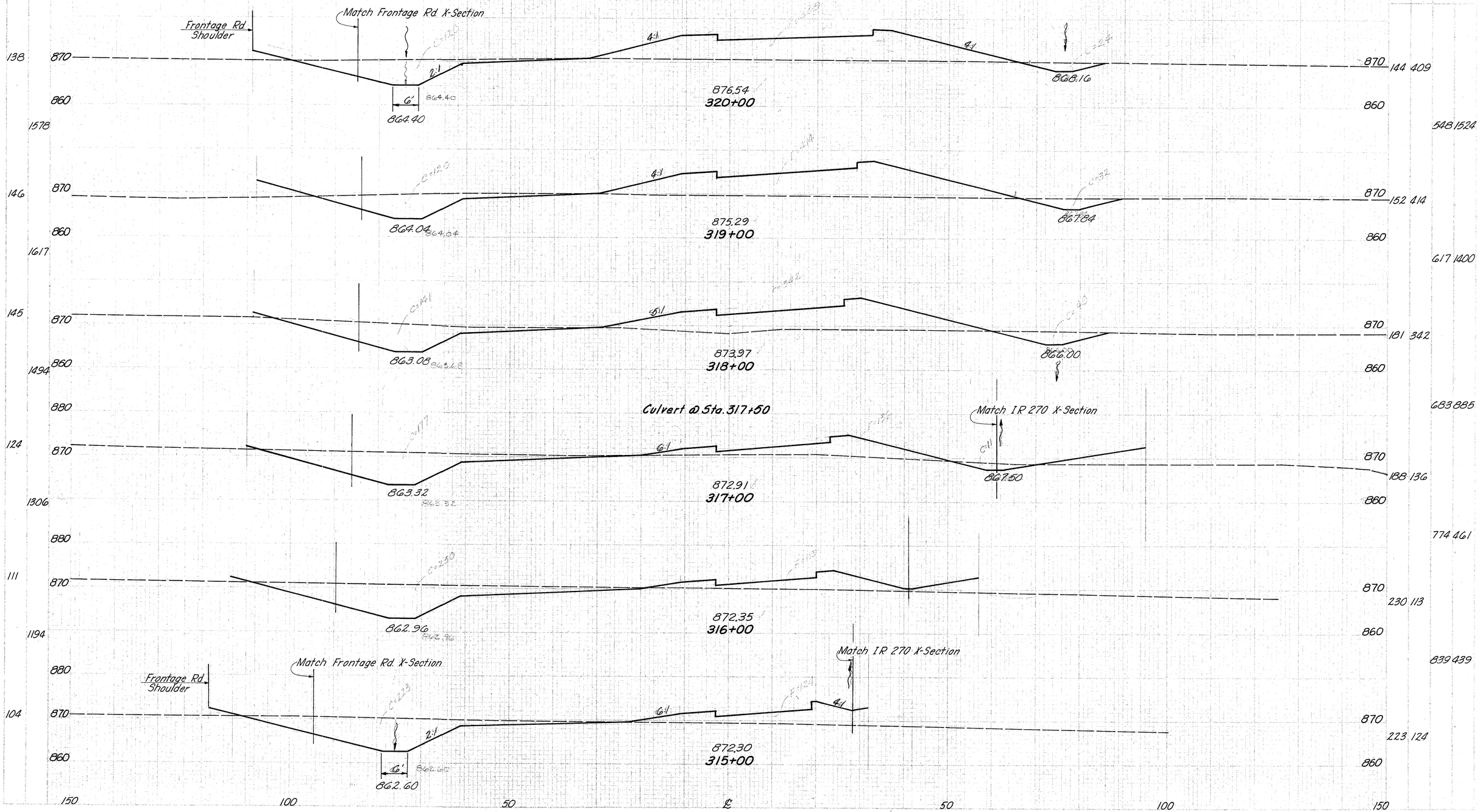
FRANKLIN COUNTY
FRA-270-0.79 N

8,556 Interior of S.E. Quadrant outside the limits of earthwork



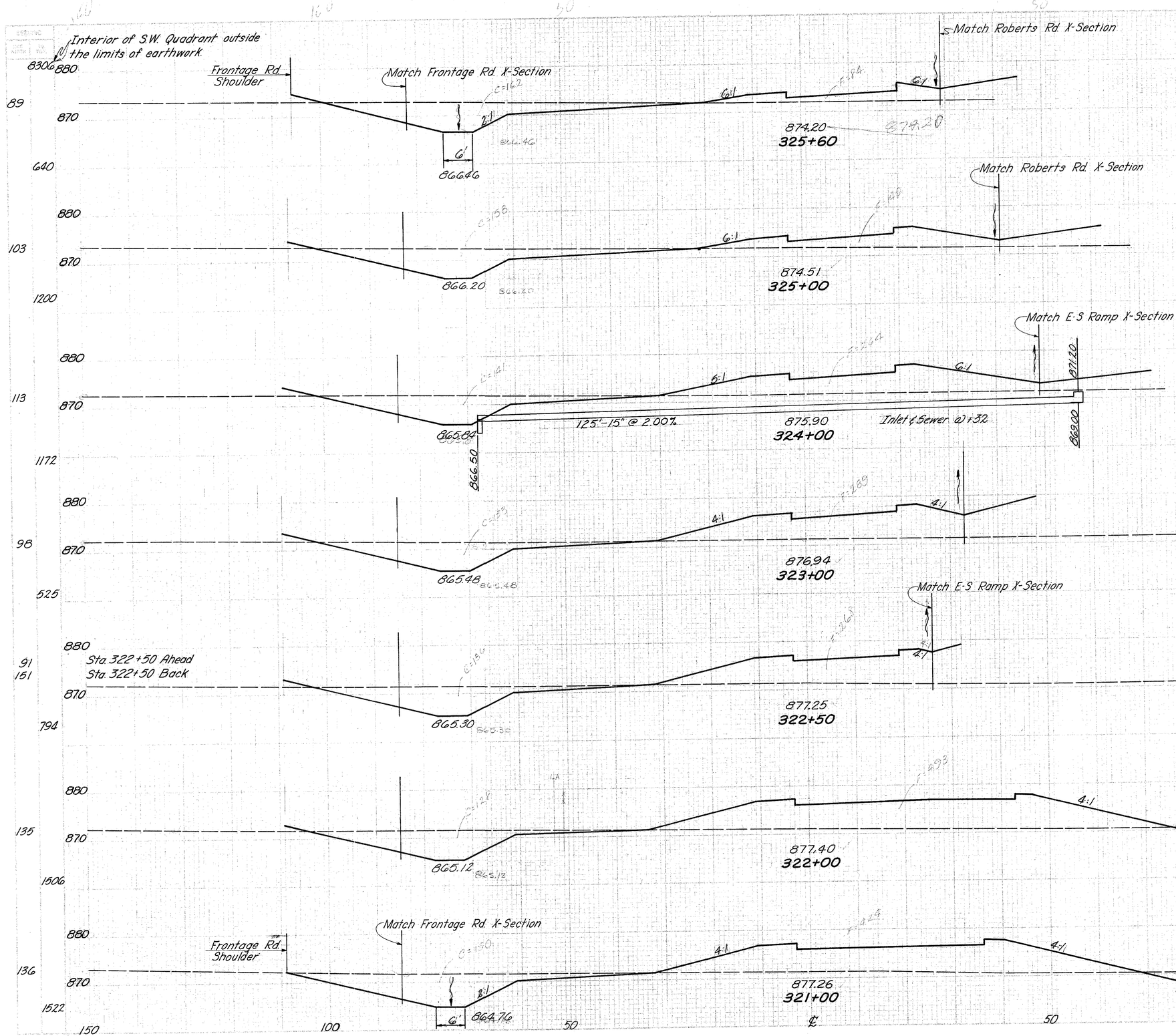
S-E RAMP 323+00 TO 323+50

FRANKLIN COUNTY
FRA-270-0.79 N

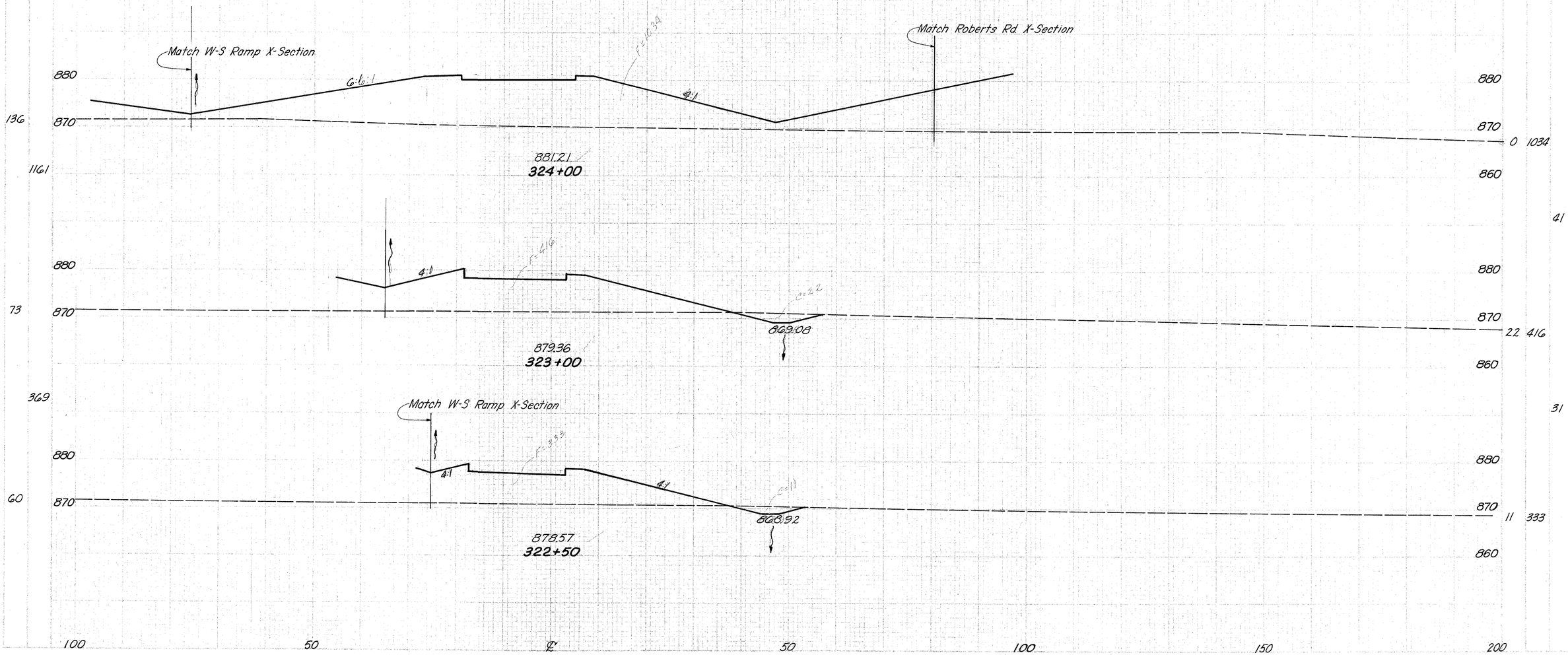


W-S RAMP 315+00 TO 320+00

FRANKLIN COUNTY
FRA-270-0.79 N



FRANKLIN COUNTY
FRA-270-0.79N



E-S RAMP 322+50 TO 324+00

62
227

FRANKLIN COUNTY
FRA-270-0.79N

Sta. 324+50 Ahead
Sta. 324+50 Back

Match W-N Ramp X-Section

876.42
325+00

876.38
324+50

876.17
324+00

875.24
323+00

872.96
321+40

Match Roberts Rd. X-Section

873.82
322+00

℄ Exist Roberts Rd.

Inlet & Sewer @ 1+53

116'-15" @ 5.20%

863.72 | 861.80 | 861.70 | 862.60 | 861.20 | 860.80 | 861.97 | 860.55

126 1127 | 196 2291 | 86 1347 | 71 587 | 114 1131 | 52 635 | 241 2478 | 78 703 | 228 2537 | 45 667 | 106 1429 | 50 619

E-N RAMP 321+40 TO 325+00

FRANKLIN COUNTY
FRA-270-0.79 N

7722 Interior of N.E. Quadrant outside the limits of earthwork

Match I R 270 X-Section

870.02
332+00

869.51
331+00

Match I R 270 X-Section

869.89
330+00

871.18
329+00

873.11
328+00

Culvert @ Sta. 328+00

874.88
327+00

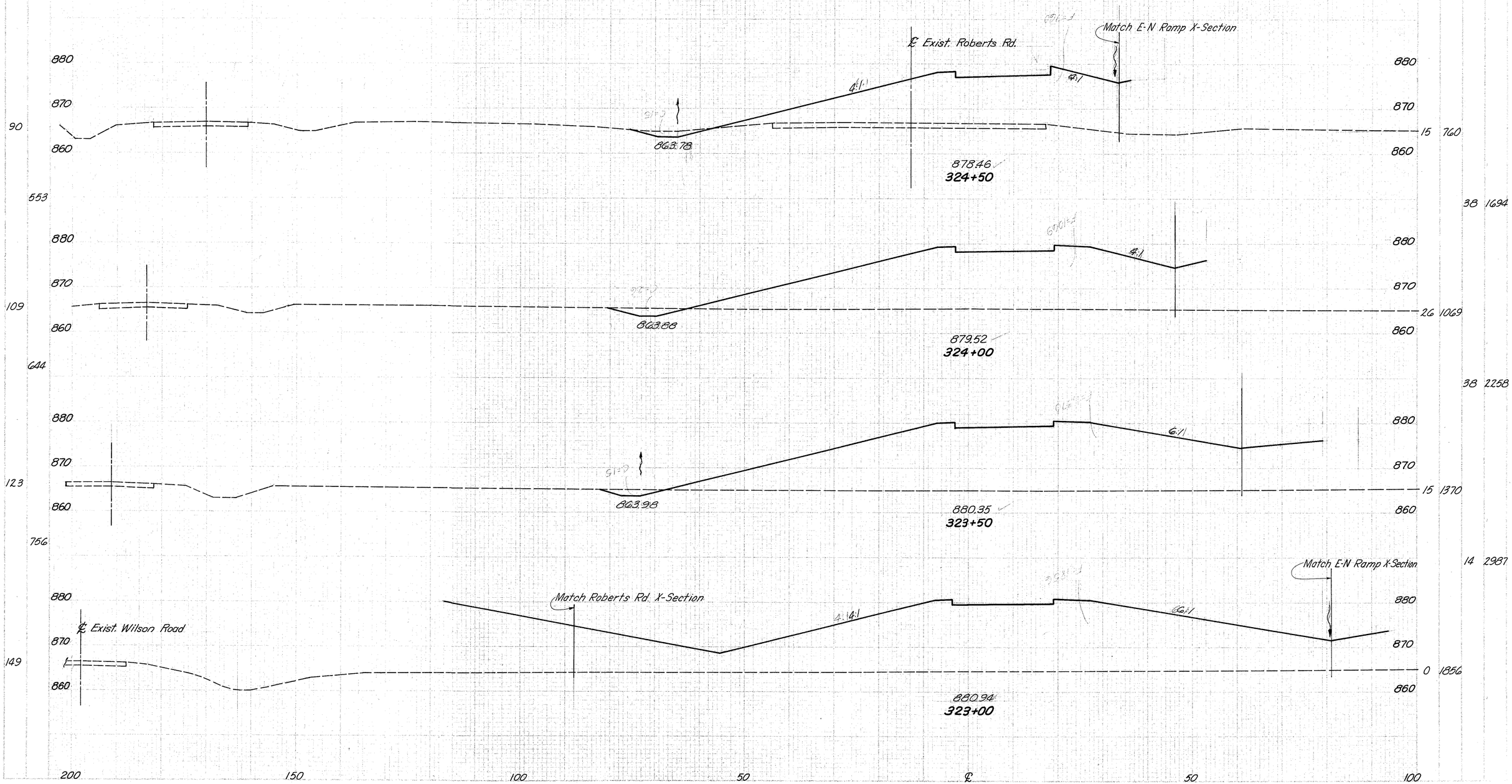
875.99
326+00

E-N RAMP 326+00 TO 332+00

SEC. NO.	STATE	YEAR	
2	OHIO		

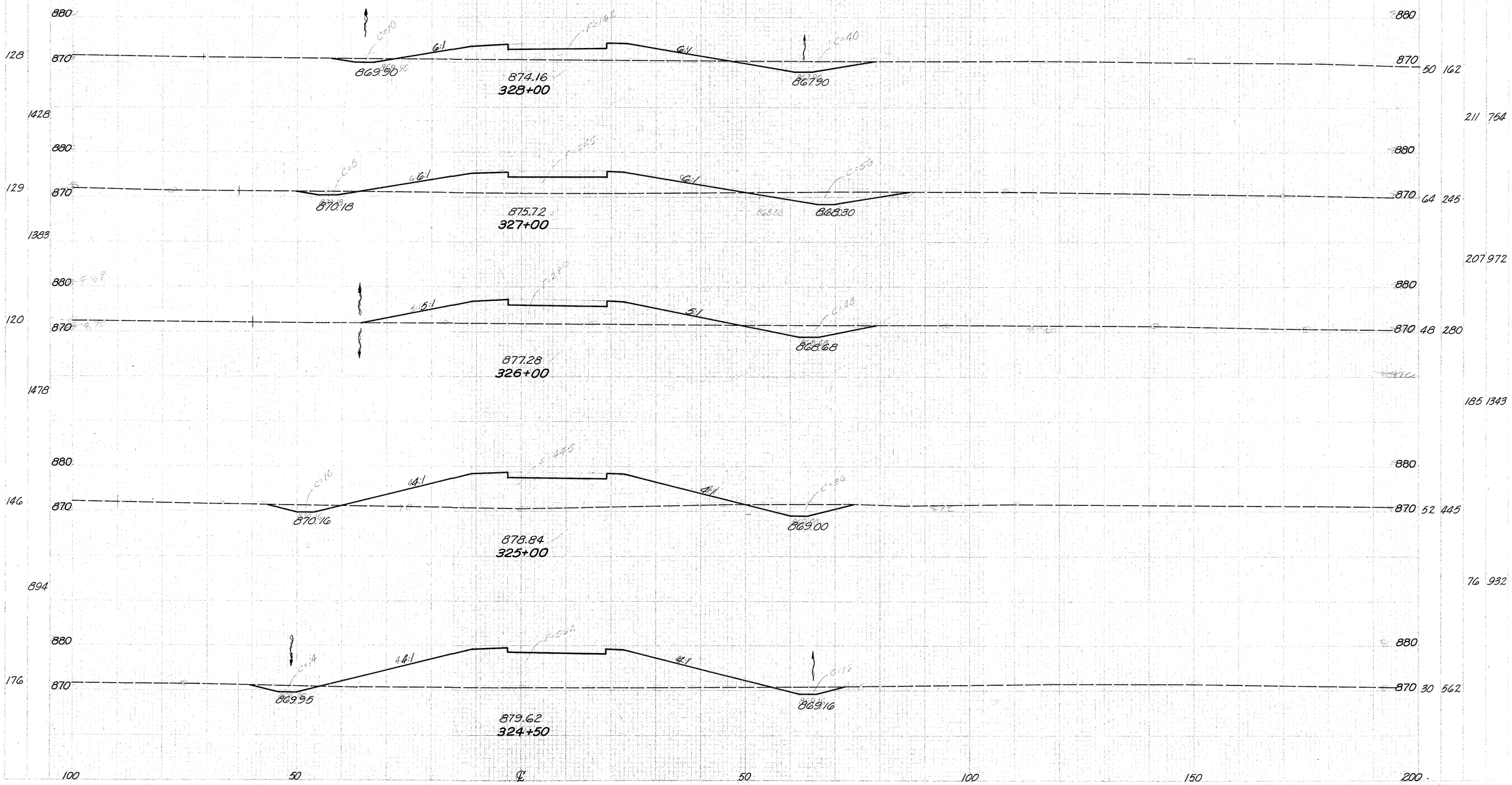
64
227

FRANKLIN COUNTY
FRA-270-0.79N



W-N RAMP 323+00 TO 324+50

FRANKLIN COUNTY
FRA-270-0.79 N



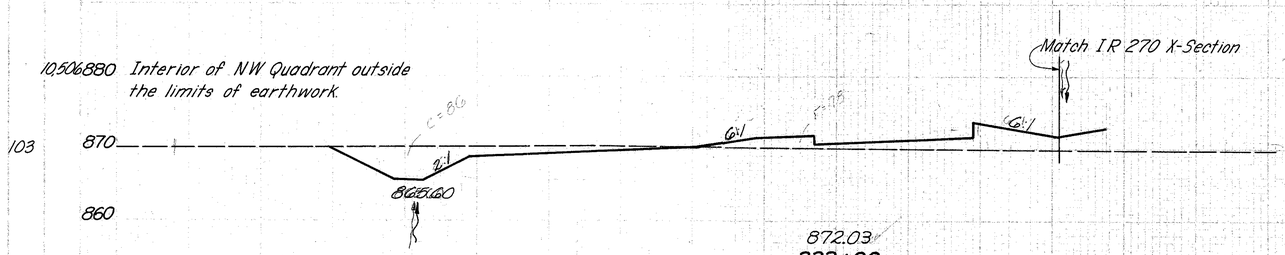
N-W RAMP 324+50 TO 328+00

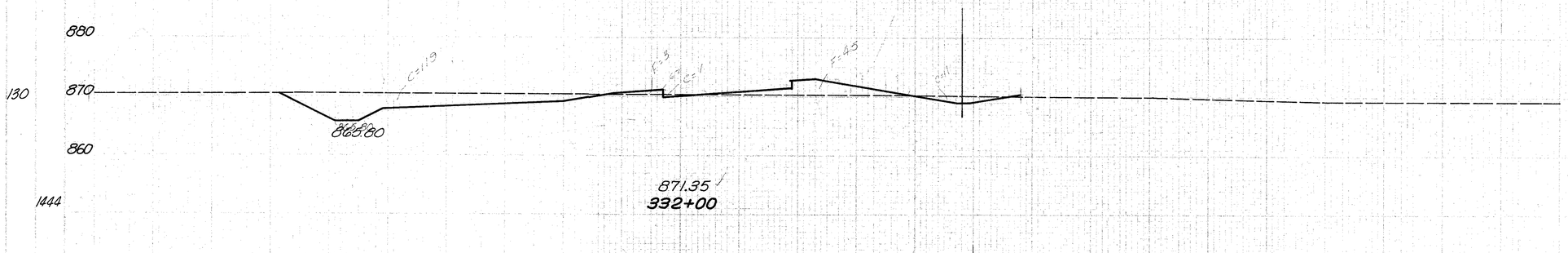
50

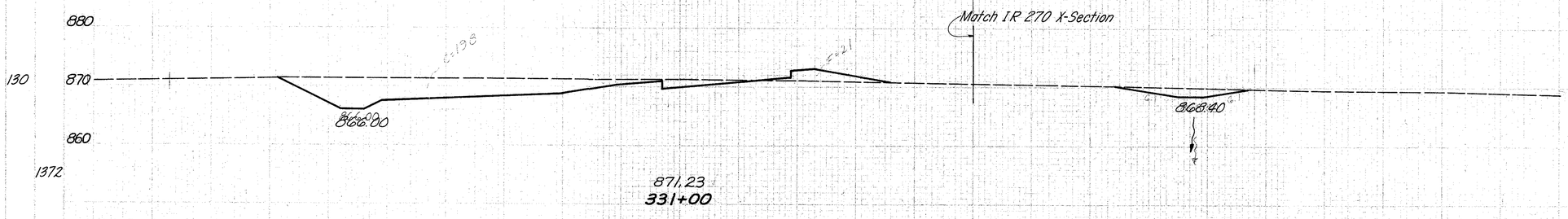
FEDERAL AID PROJECT	STATE	COUNTY		66 227
2	OHIO			

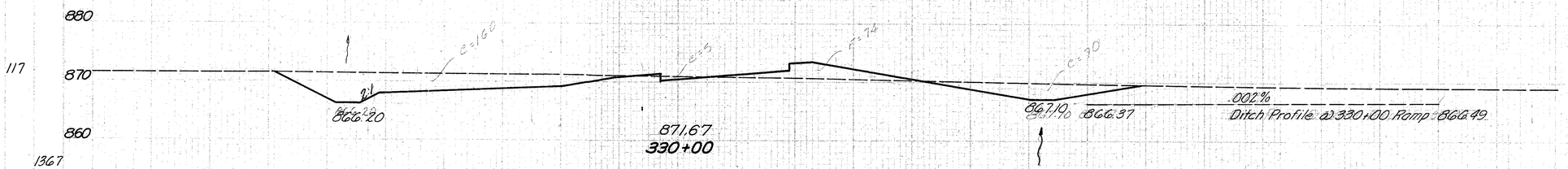
FRANKLIN COUNTY
FRA-270-0.79 N

10.506880 Interior of NW Quadrant outside the limits of earthwork.

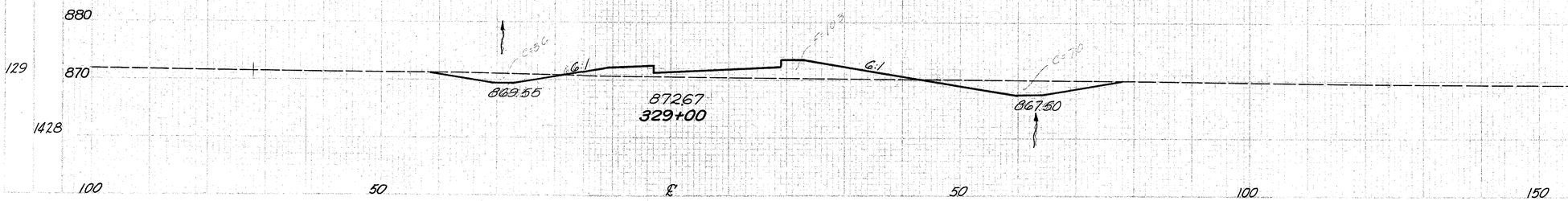




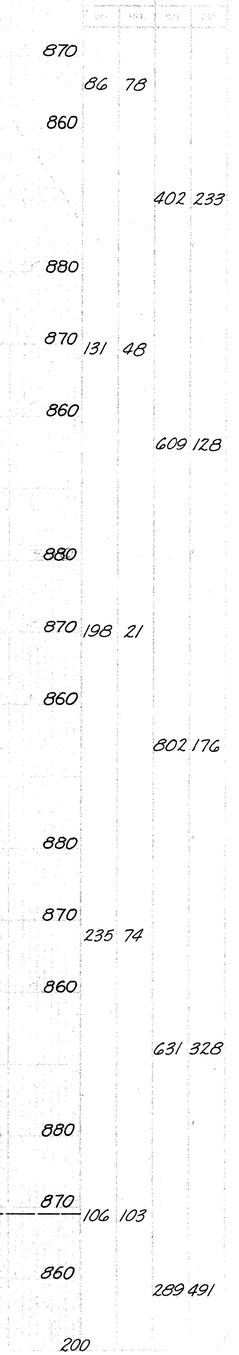




Culvert @ Sta. 330+00



100 50 ℄ 50 100 150

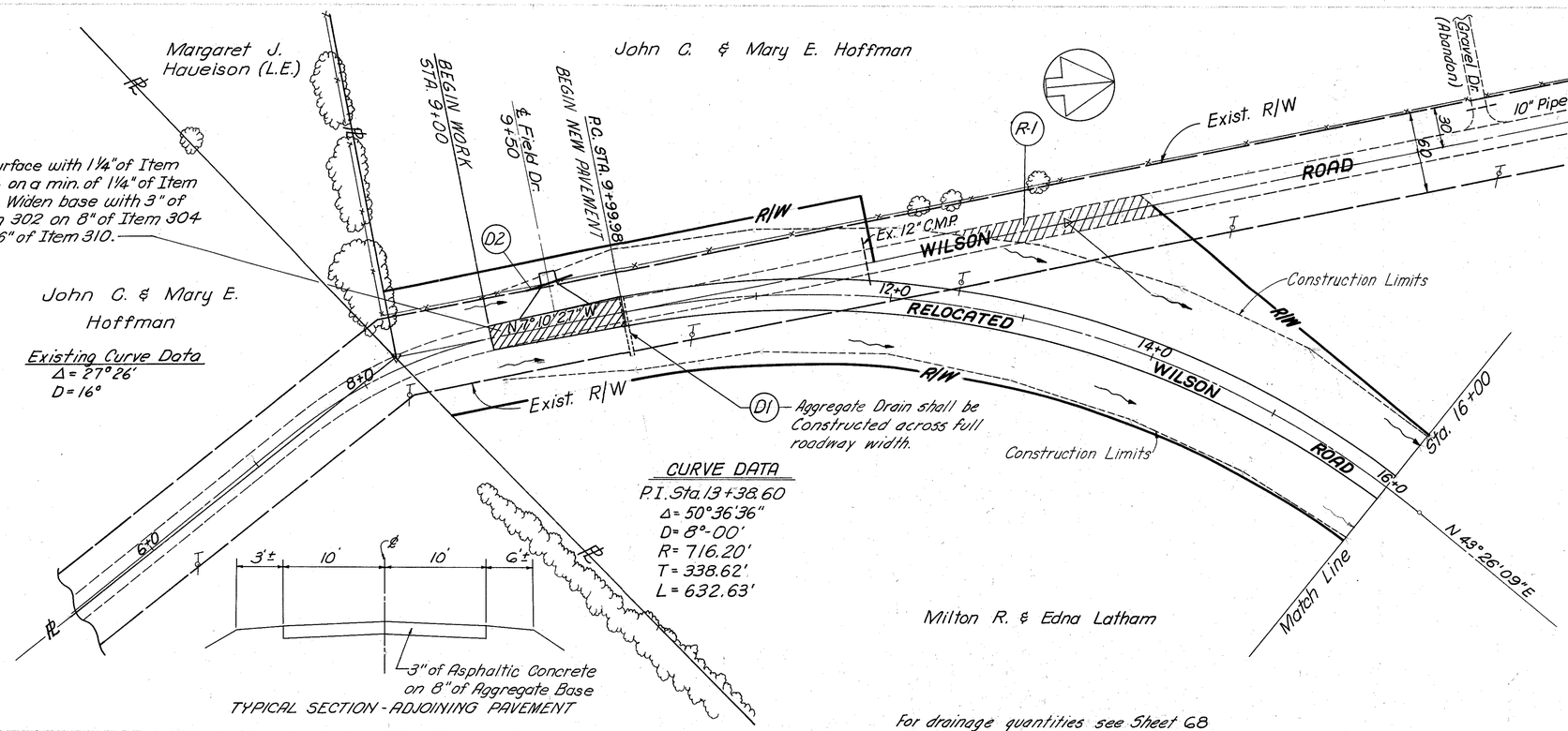


N-W RAMP 329+00 TO 333+00

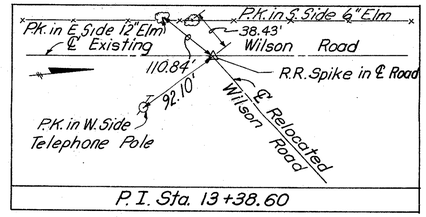
FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

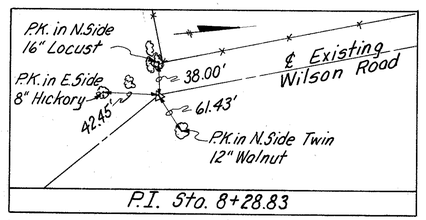
67
227

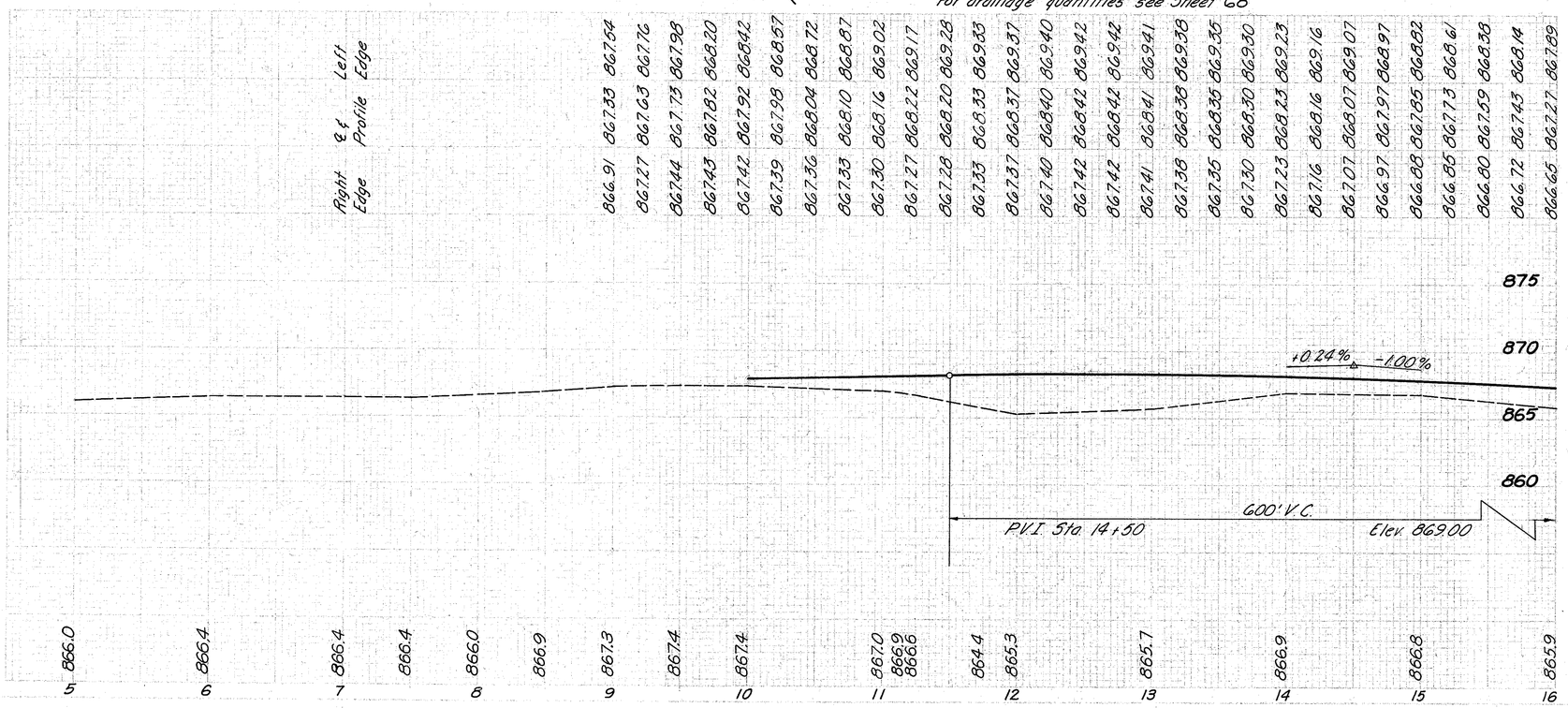
FRANKLIN COUNTY
FRA-270-0.79 N



For drainage quantities see Sheet 68







DRIVEWAYS	304 Aggregate Base	
LOCATION	C.Y.	
9+50 Lt.	14	

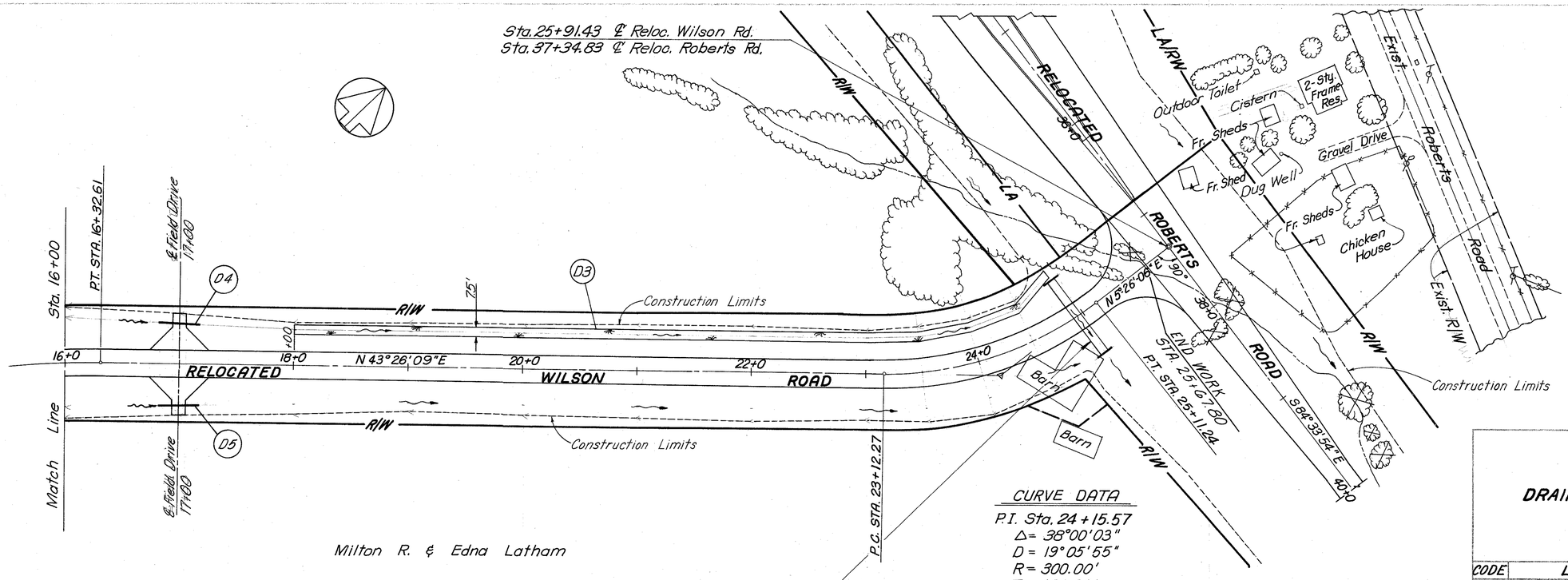
ROADWAY		202 Pavement Removed	
CODE	LOCATION	S.Y.	
R1	Existing Wilson Road	250	
TOTALS		250	

RELOCATED WILSON ROAD 5+00 TO 16+00

FED. ROAD DIVISION	STATE	PROJECT		
2	OHIO			

68
227

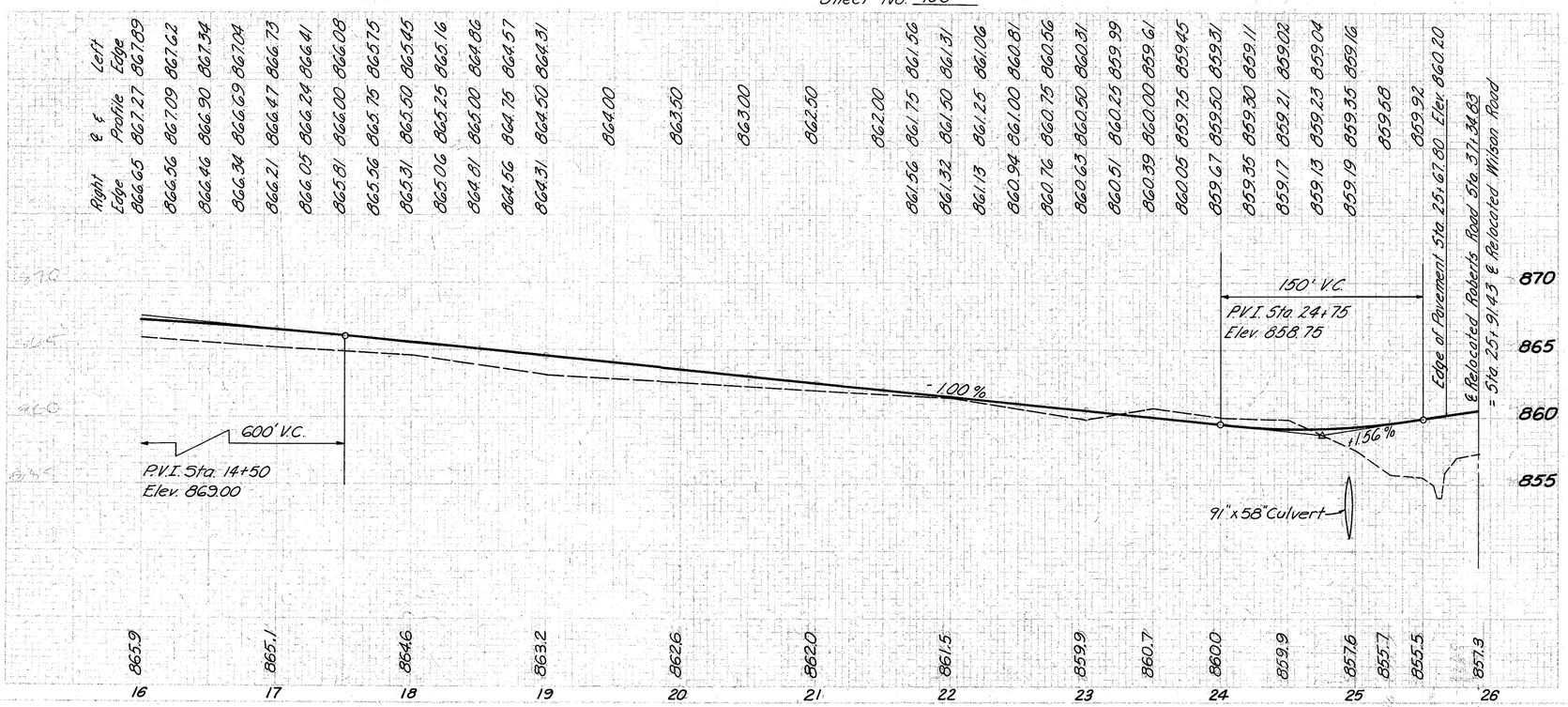
FRANKLIN COUNTY
FRA-270-0.79N



CURVE DATA
P.I. Sta. 24+15.57
Δ = 38°00'03"
D = 19°05'55"
R = 300.00'
T = 103.30'
L = 198.97'

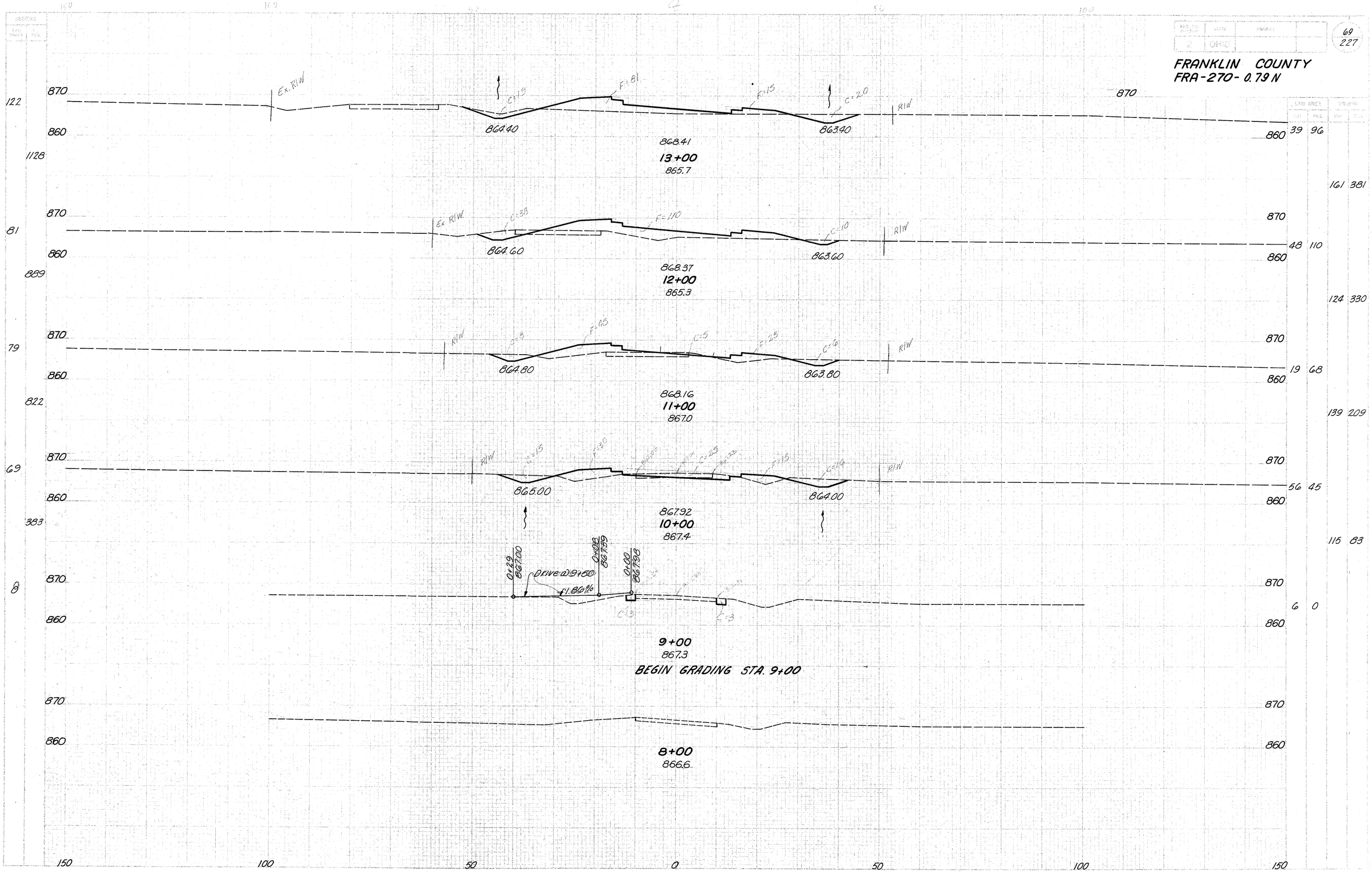
DRAINAGE		603	605	667	603	
		12" Type D	Aggregate Drains	Jute Matting	15" Type D	
CODE	LOCATION	L.F.	L.F.	S.Y.	L.F.	
D1	10+00 Rt & Lt.		45			
D2	9+50 Lt.	36				
D3	18+00 to 24+83 Lt.			570		
	10+25 to 25+25 Rt. & Lt.		1068			
D4	17+00 Lt.				36	
D5	17+00 Rt.				36	
TOTAL		36	1113	570	72	

DRIVEWAYS		304 Aggregate Base	
	LOCATION	C.Y.	
	17+00 Rt.	11	
	17+00 Lt.	11	
	TOTALS	22	



RELOCATED WILSON ROAD 16+00 TO 25+91.43

FRANKLIN COUNTY
FRA-270-0.79N



RELOCATED WILSON ROAD 8+00 TO 13+00

FRANKLIN COUNTY
FRA-270-0.79 N

50 50

END AREA | VOLUMES
CUT FILL | CUM CUM

870 / 860 — 65 — 722
C=5 F=2 C=14 F=2 C=3
864.50
19+00
863.2
870 / 860 — 22 4 — 117 17

870 / 860 — 65 — 744
C=6 F=3 C=21 F=2 C=12 RIW
865.50 862.40
18+00
864.6
870 / 860 — 41 5 — 143 44

870 / 860 — 69 — 772
0+32 865.50 — Drive @ 17+00 — 3.15% — 0+12 866.18 — 0+04 866.63 — 0+00 866.73 — RIW
0+00 866.21 — 0+12 865.46 — 0+33 864.60 — Drive @ 17+00 — 4.10% — RIW
863.60 862.60
866.47
17+00
865.1
870 / 860 — 36 19 — 172 96

870 / 860 — 70 — 861
RIW — C=10 F=8 — C=5 F=5 C=33 — RIW
863.80 862.80
867.27
16+00
865.9
870 / 860 — 57 33 — 293 107

870 / 860 — 85 — 1106
RIW — C=37 F=25 C=15 C=49 — RIW
864.00 863.00
867.85
15+00
866.8
870 / 860 — 101 25 — 350 126

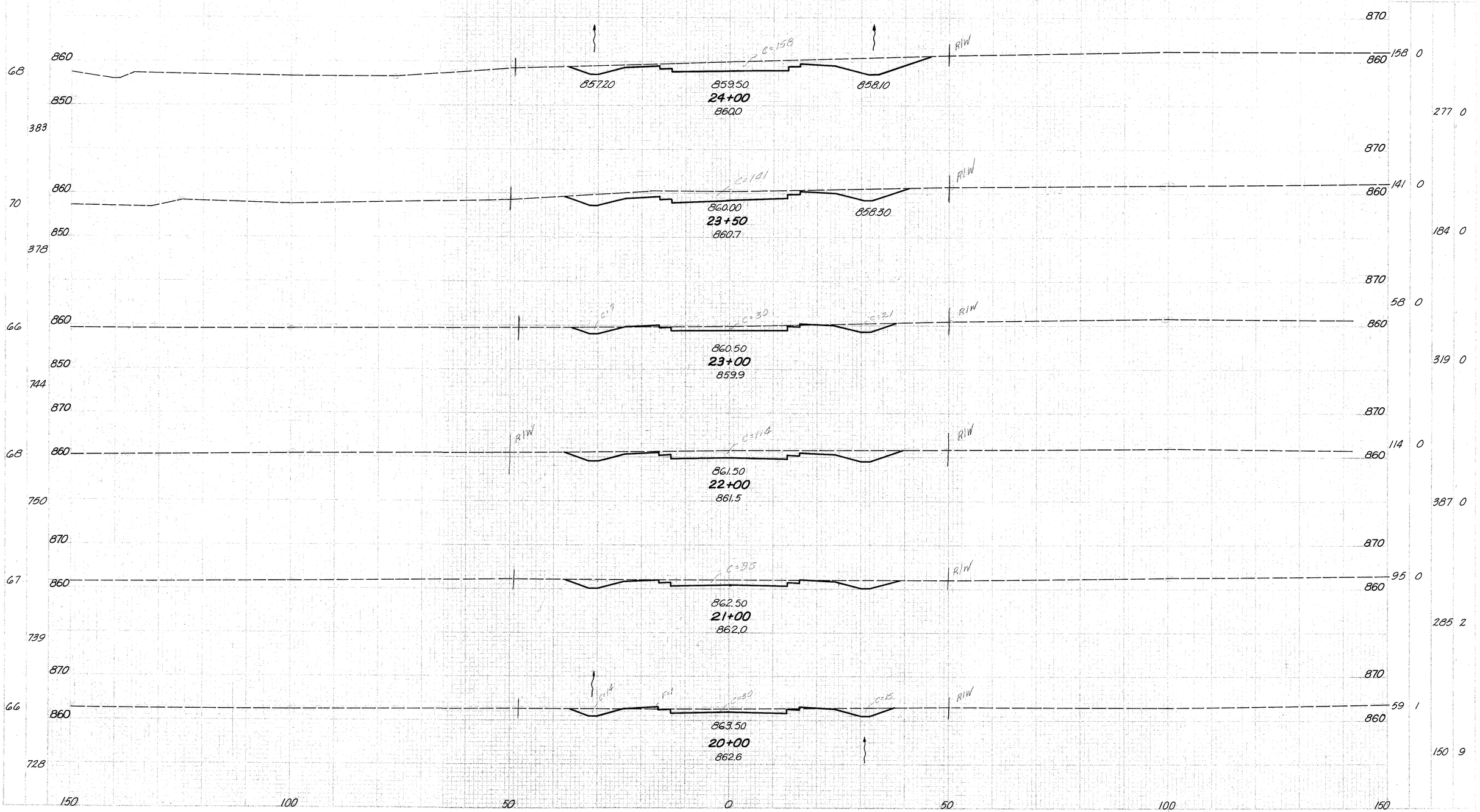
870 / 860 — 114 — 1311
RIW — C=37 F=43 C=7 C=44 — RIW
864.20 863.20
868.23
14+00
866.9
870 / 860 — 88 43 — 235 257

150 100 50 0 50 100 150

RELOCATED WILSON ROAD 14+00 TO 19+00

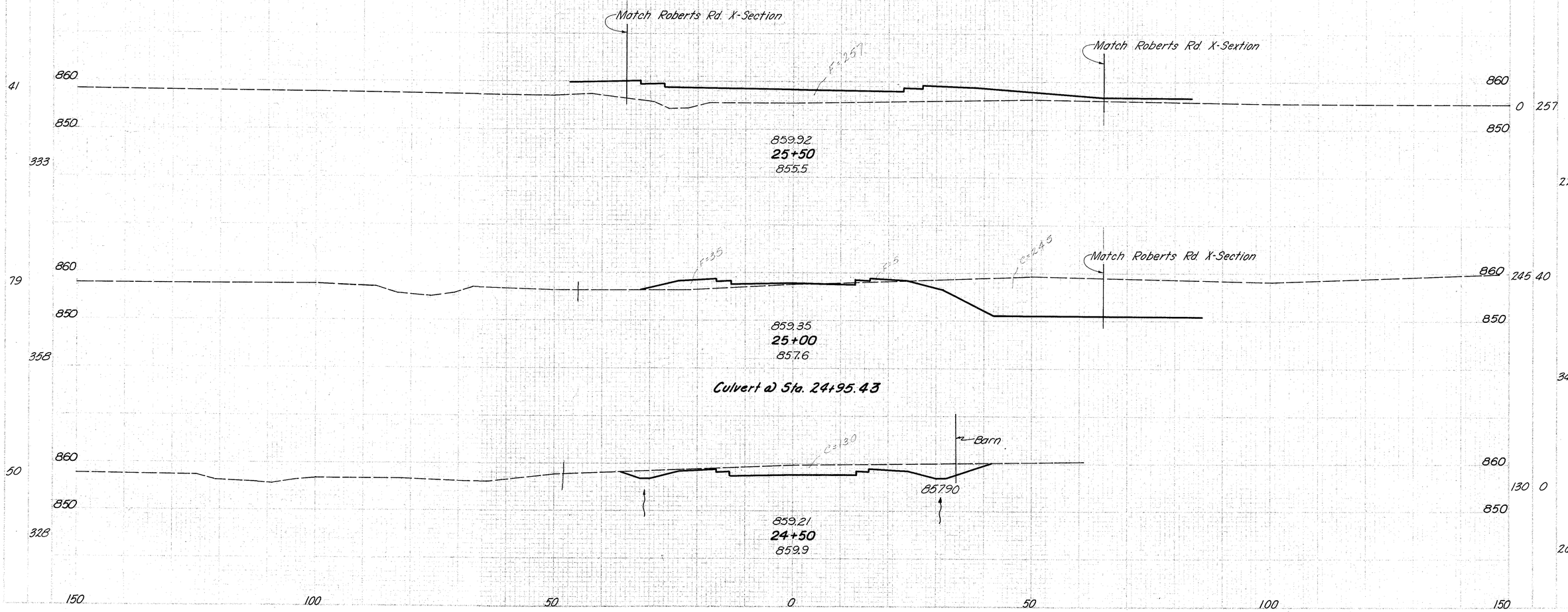
71
227

FRANKLIN COUNTY
FRA-270-0.79 N



RELOCATED WILSON ROAD 20+00 TO 24+00

FRANKLIN COUNTY
FRA-270-0.79N

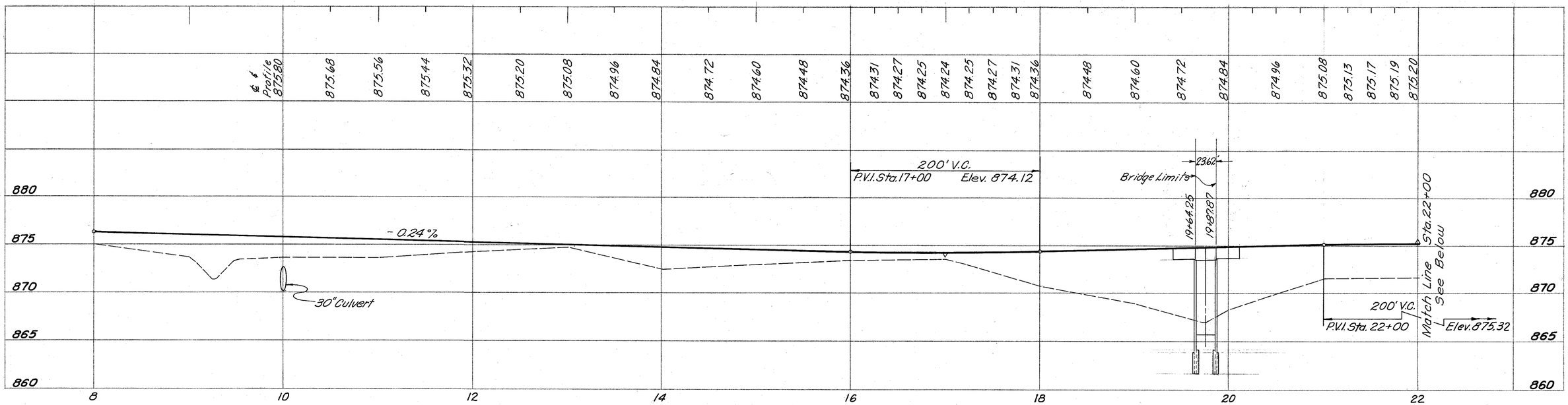


RELOCATED WILSON ROAD 24+50 TO 25+50

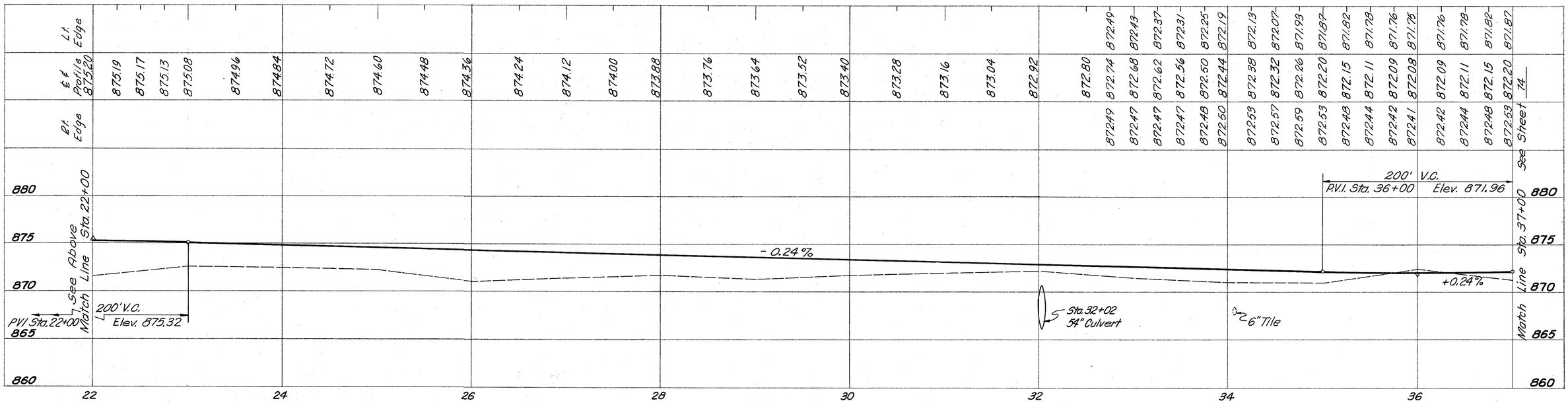
FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

73
227

FRANKLIN COUNTY
FRA-270-0.79 N



FRONTAGE ROAD "A"



FRONTAGE ROAD "A"

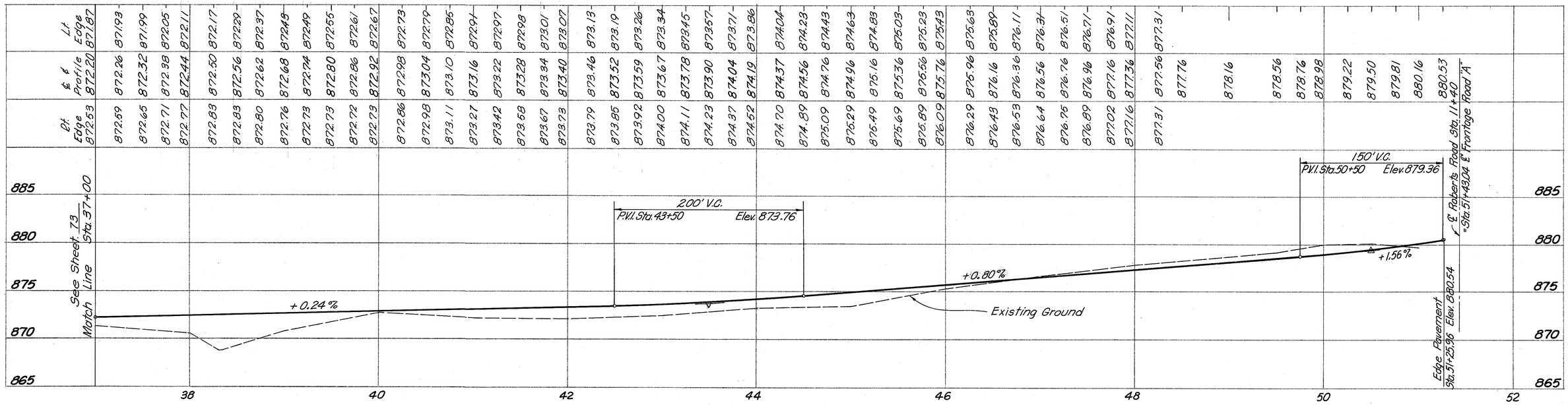
FRONTAGE ROAD "A" PROFILE

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

74
227

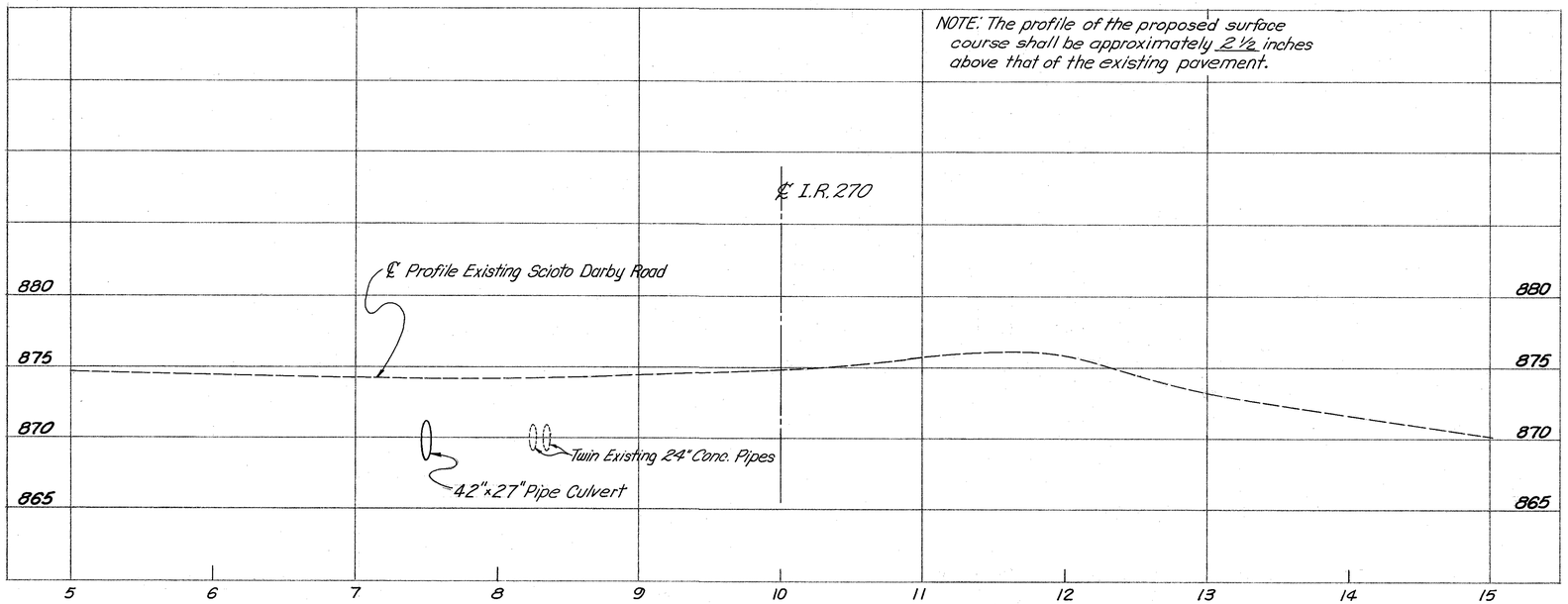
FRANKLIN COUNTY
FRA-270-0.79 N

Sta.	Lt. Edge	℄ & Profile	Rt. Edge
See Sheet 73 Match Line Sta. 37+00			
38	872.59	872.26	871.93
	872.65	872.32	871.99
	872.71	872.38	872.05
	872.77	872.44	872.11
39	872.83	872.50	872.17
	872.83	872.56	872.29
	872.80	872.62	872.37
	872.76	872.68	872.43
	872.73	872.74	872.49
	872.73	872.80	872.55
	872.72	872.86	872.61
	872.73	872.92	872.67
40	872.86	872.98	872.73
	872.98	873.04	872.79
	873.11	873.10	872.85
	873.27	873.16	872.91
	873.42	873.22	872.97
	873.58	873.28	872.98
	873.67	873.34	873.01
	873.73	873.40	873.07
41	873.79	873.46	873.13
	873.85	873.52	873.19
	873.92	873.59	873.26
	874.00	873.67	873.34
	874.11	873.78	873.45
	874.23	873.90	873.57
	874.37	874.04	873.71
	874.52	874.19	873.86
42	874.70	874.37	874.04
	874.89	874.56	874.23
	875.09	874.76	874.43
	875.29	874.96	874.63
	875.49	875.16	874.83
	875.69	875.36	875.03
	875.89	875.56	875.23
	876.09	875.76	875.43
43	876.29	875.96	875.63
	876.43	876.16	875.89
	876.53	876.36	876.11
	876.64	876.56	876.31
	876.75	876.76	876.51
	876.89	876.96	876.71
	877.02	877.16	876.91
	877.16	877.36	877.11
44	877.31	877.56	877.31
		877.76	
45		878.16	
46		878.56	
		878.76	
		878.98	
47		879.22	
		879.50	
		879.81	
48		880.16	
		880.53	



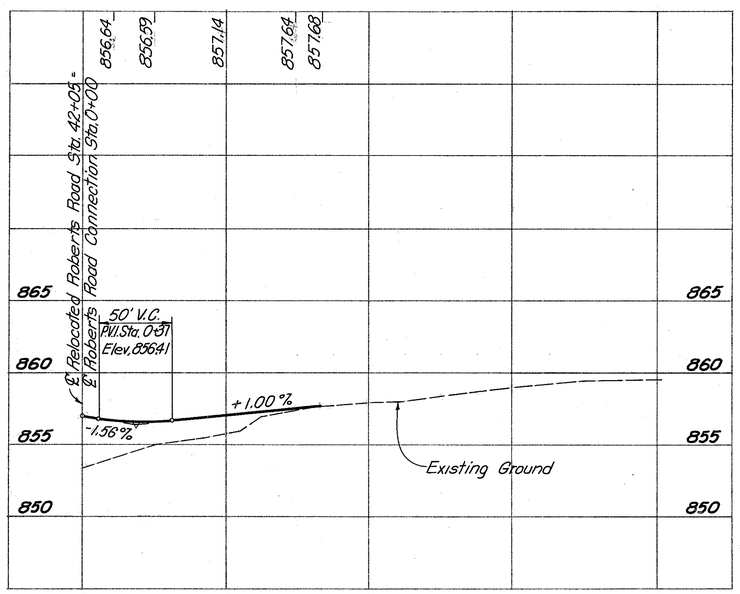
FRONTAGE ROAD "A"

NOTE: The profile of the proposed surface course shall be approximately 2½ inches above that of the existing pavement.



PROFILE SCIOTO DARBY ROAD

Sta.	
℄ Relocated Roberts Road Sta. 42+05 = ℄ Roberts Road Connection Sta. 0+00	
0	856.64
	856.59
1	857.14
2	857.64
	857.68
3	
4	



PROFILE ROBERTS ROAD CONNECTION

FRONTAGE ROAD "A" PROFILE

SHEET NO.	TOTAL SHEETS	ROUTE

75
227

FRANKLIN COUNTY
FRA-270-0.79 N

	END AREA		VOLUME		SEEDING	
	CUT	FILL	CUT	FILL	END WIDTH	SQ. YDS.
57						
667					60	
	45	6				
63			169	111	60	
761					57	
	46	54				
74			259	204	57	
569					55	
	94	56			617	
54			203	253		
	28	96			56	
					594	
					51	
					600	

12+00

875.32

880 / 870

Match I.R 270 X-Section

C=3.3 C=2 F=2 F=4 C=2.5

872.46

Var. Var.

11+00

875.56

880 / 870

0.32 874.30 — Drive @ 11+00 r 1.42% — 0.08 874.64 — 0.00 875.31

3:1

871.76

F=5.4 C=2.1

10+00

875.80

880 / 870

Match I.R 270 X-Section

C=6.6 F=5.6 C=2.6

2:1 3:1

870.16 870.16

Var. Var.

Culvert @ Sta. 10+00

9+00

Sta. 9+10 Sta. 9+10

DO NOT INK

880 / 870

C=4 F=9.6 C=2.4

8+00

880 / 870

60 40 20 ℄ 20 40 60

17+00

874.24

880 / 870

Match I.R 270 X-Section

C=3.3 C=2 F=3 C=3.3

871.24

Var.

71 3

228 24

16+00

874.36

880 / 870

C=1.6 F=5 F=5 C=3.5

871.48

52 10

167 81

15+00

874.60

880 / 870

C=2.4 F=3.4 C=2.4

871.72

38 34

107 172

14+00

874.84

880 / 870

C=2.4 F=5.9 C=2.4

871.96

20 59

124 109

13+00

875.08

880 / 870

Match I.R 270 X-Section

C=2.2 C=1.8 C=7 C=2.2

873.16

Var.

47 0

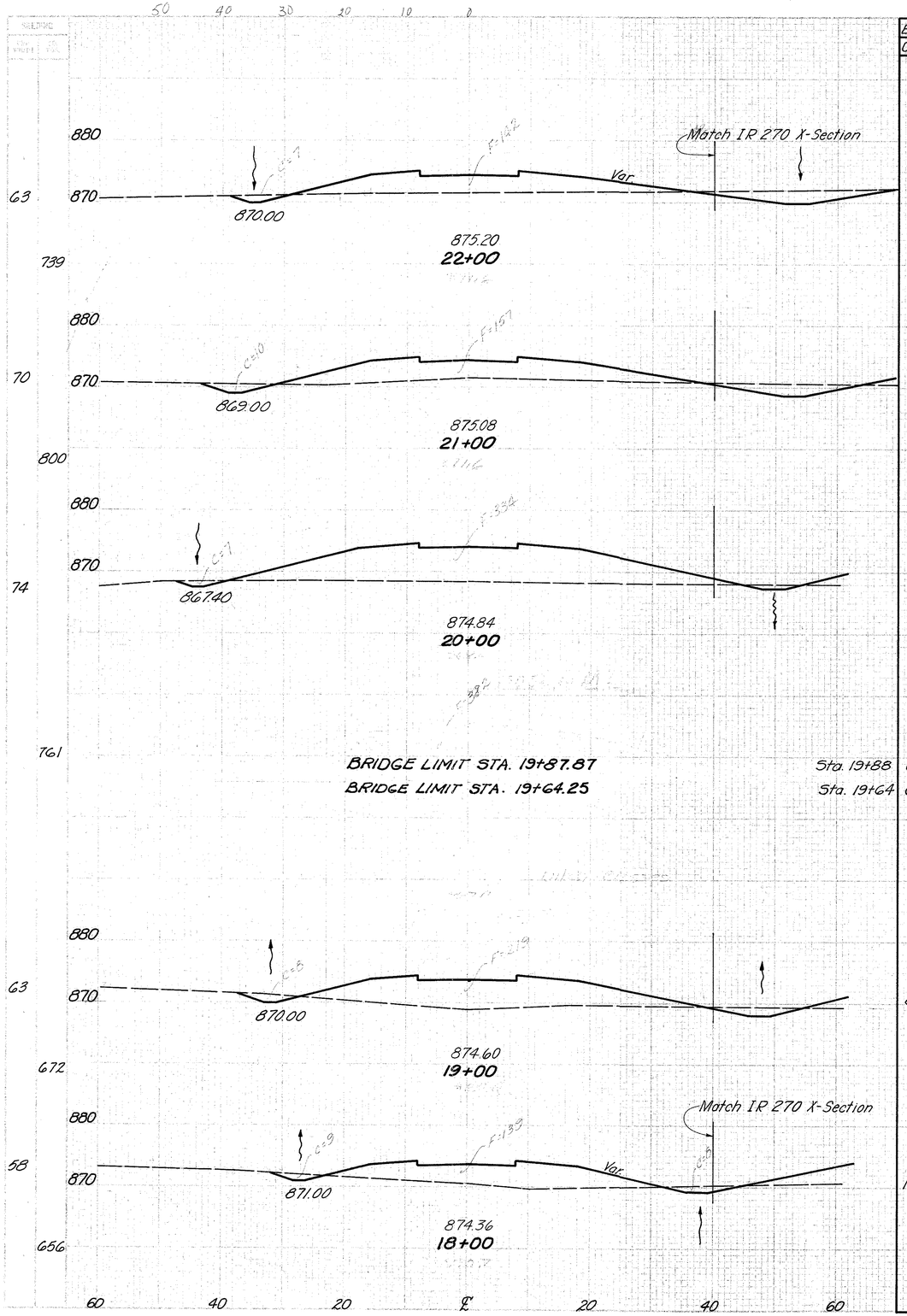
170 11

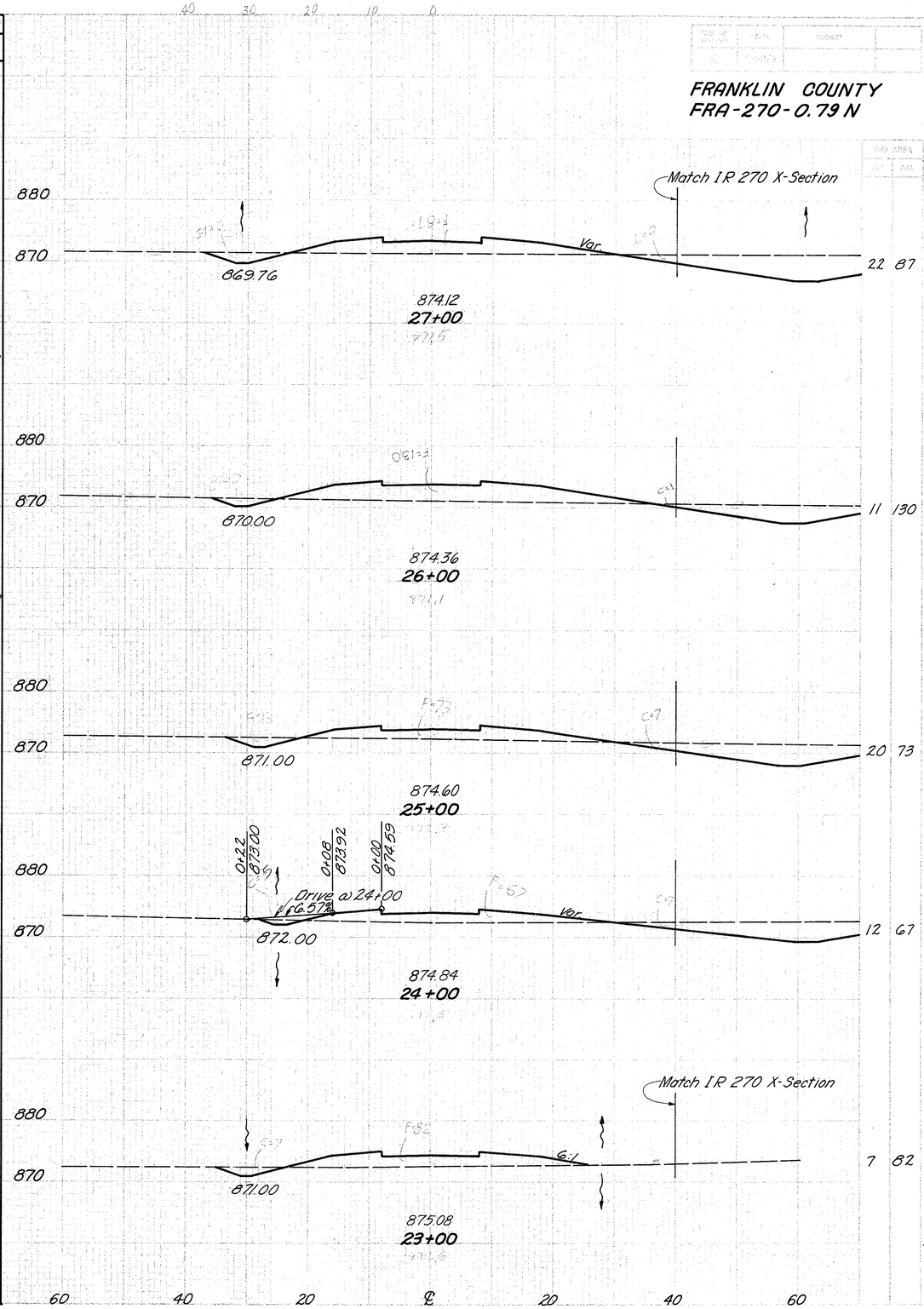
60 40 20 ℄ 20 40 60

FRONTAGE ROAD "A" STA 8+00 TO 17+00

FRANKLIN COUNTY
FRA-270-0.79 N

	END AREA		VOLUME		SEEDING	
	CUT	FILL	CUT	FILL	END WIDTH	SQ. YDS.
Sta. 19+88	0	382				
Sta. 19+64	0	382				
BRIDGE LIMIT STA. 19+87.87						
BRIDGE LIMIT STA. 19+64.25						
18+00	7	139	17	139	61.7	59
			163	263		678
19+00	8	219	46	663	61.7	59
			9	712		617
20+00	7	334	2	159	61.7	59
			31	909		667
21+00	10	157	31	554	61.7	59
						683
22+00	7	142			61.2	
						739
23+00						26 415
	7	82				59 259
24+00						35 276
	12	67				
25+00						59 259
	20	73				
26+00						57 376
	11	130				
27+00						61 402
	22	87				





FRONTAGE ROAD "A" STA 18+00 TO 27+00

FRANKLIN COUNTY
FRA-270-0.79 N

	END AREA		VOLUME		SEEDING	
	CUT	FILL	CUT	FILL	END WIDTH	SQ. YDS.
32+00	278	0			73	
			659	26		828
31+00	78	14			76	
			259	93		839
30+00	62	36			75	
			169	185		828
29+00	29	64			74	
			104	230		850
28+00	27	60			79	
			91	272		933
37+00	138	12				596 30
36+00	184	4				580 59
35+00	129	28				396 131
34+00	85	43				443 109
33+00	154	16				800 30

Match I.R 270 X-Section

880 / 870 / 883 / 89

866.18

872.92
32+00

Culvert @ Sta. 32+01.79

880 / 870 / 761 / 70

868.80

873.16
31+00

880 / 870 / 722 / 67

869.04

873.40
30+00

880 / 870 / 706 / 63

869.28

873.64
29+00

Match I.R 270 X-Section

880 / 870 / 700 / 64

869.52

873.88
28+00

60 40 20 ℄ 20 40 60

880 / 870 / 860

867.60

872.20
37+00

Match W-S Ramp X-Section

880 / 870 / 860

867.40

872.08
36+00

Match W-S Ramp X-Section

880 / 870 / 860

867.20

872.20
35+00

Match I.R 270 X-Section

880 / 870 / 860

867.00

872.44
34+00

6" Tile crosses ℄ at Sta. 34+07

Match I.R 270 X-Section

880 / 870

866.80

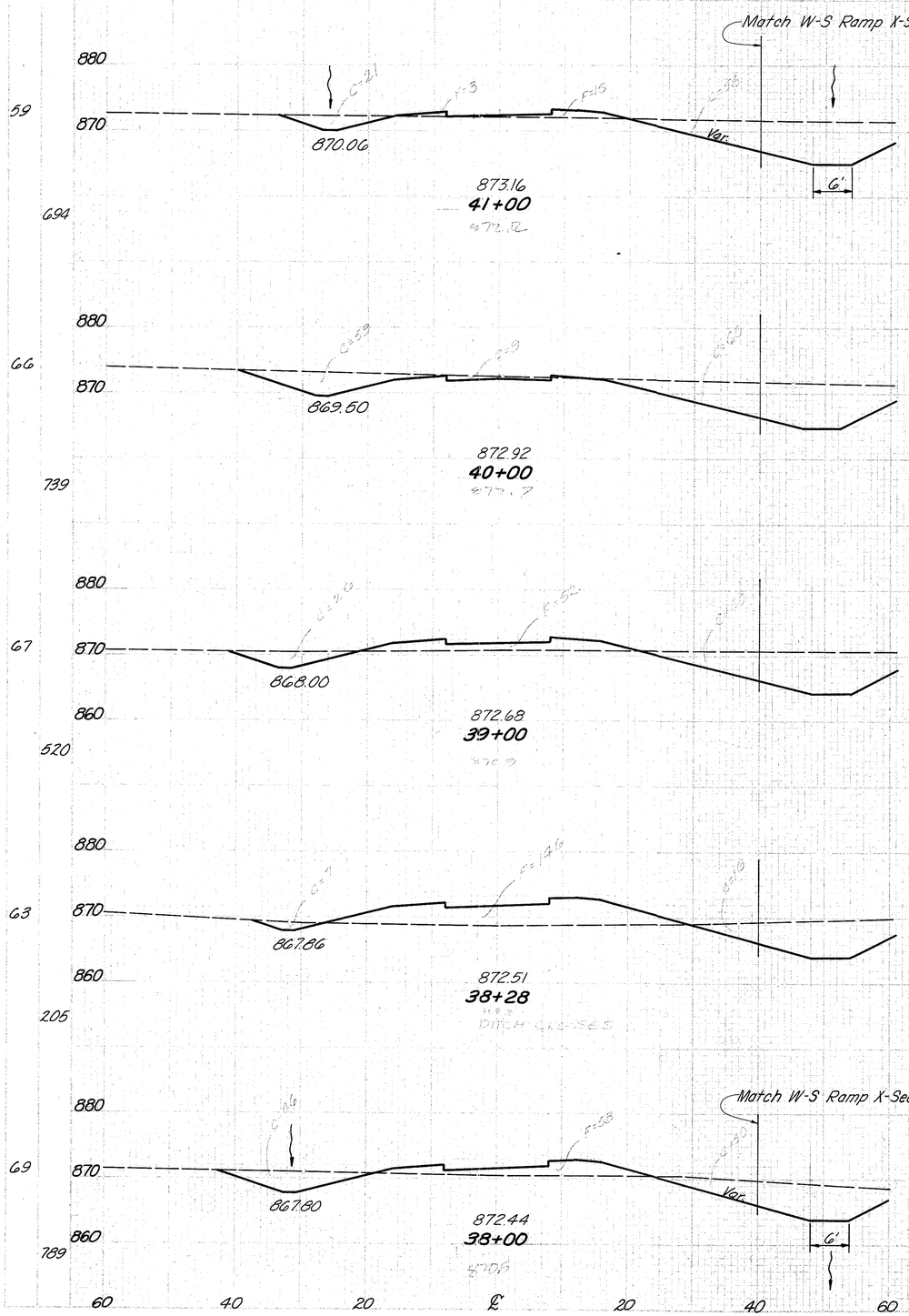
872.68
33+00

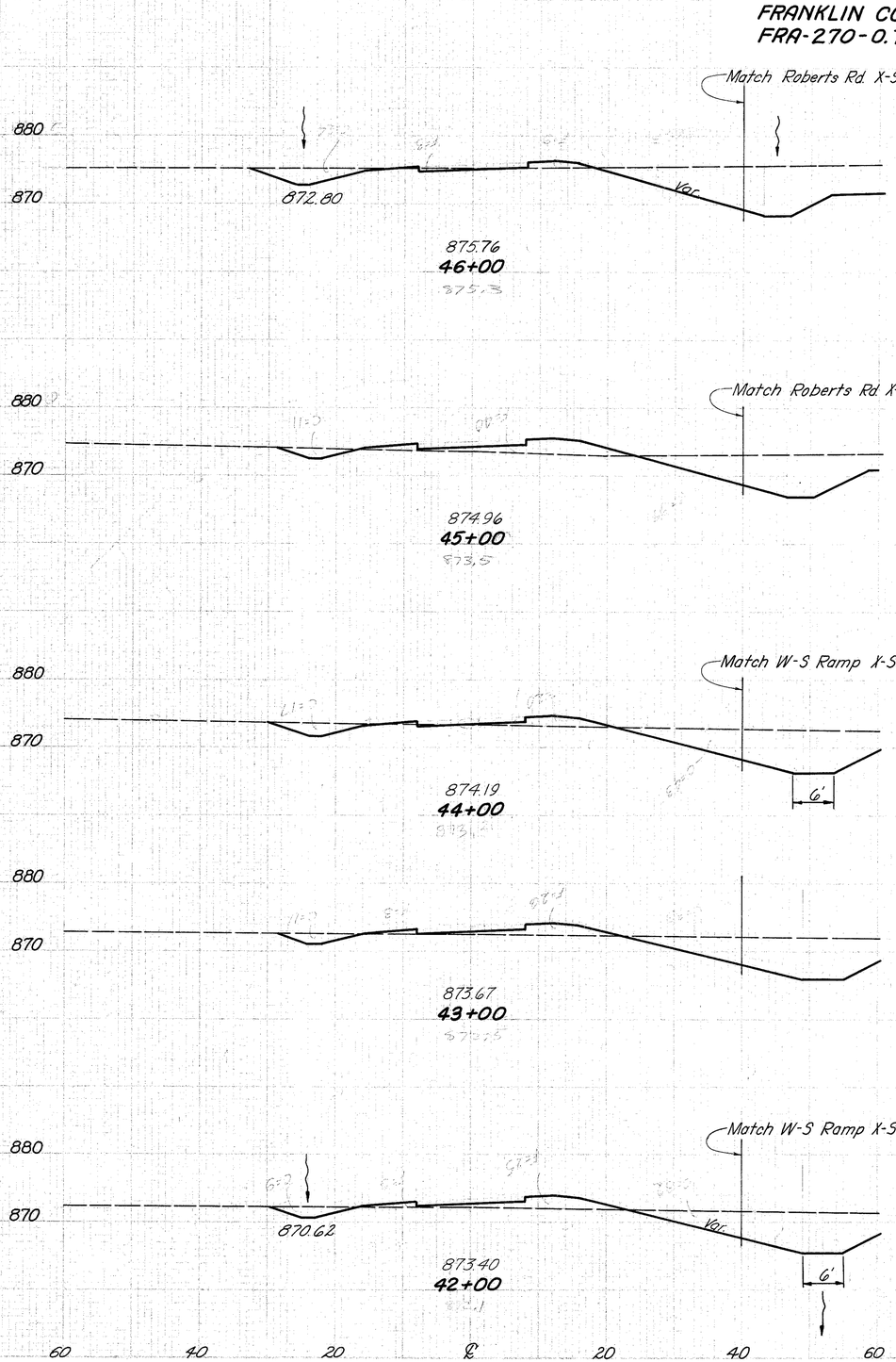
60 40 20 ℄ 20 40 60

FRONTAGE ROAD "A" STA. 28+00 TO 37+00

FRANKLIN COUNTY
FRA-270-0.79 N

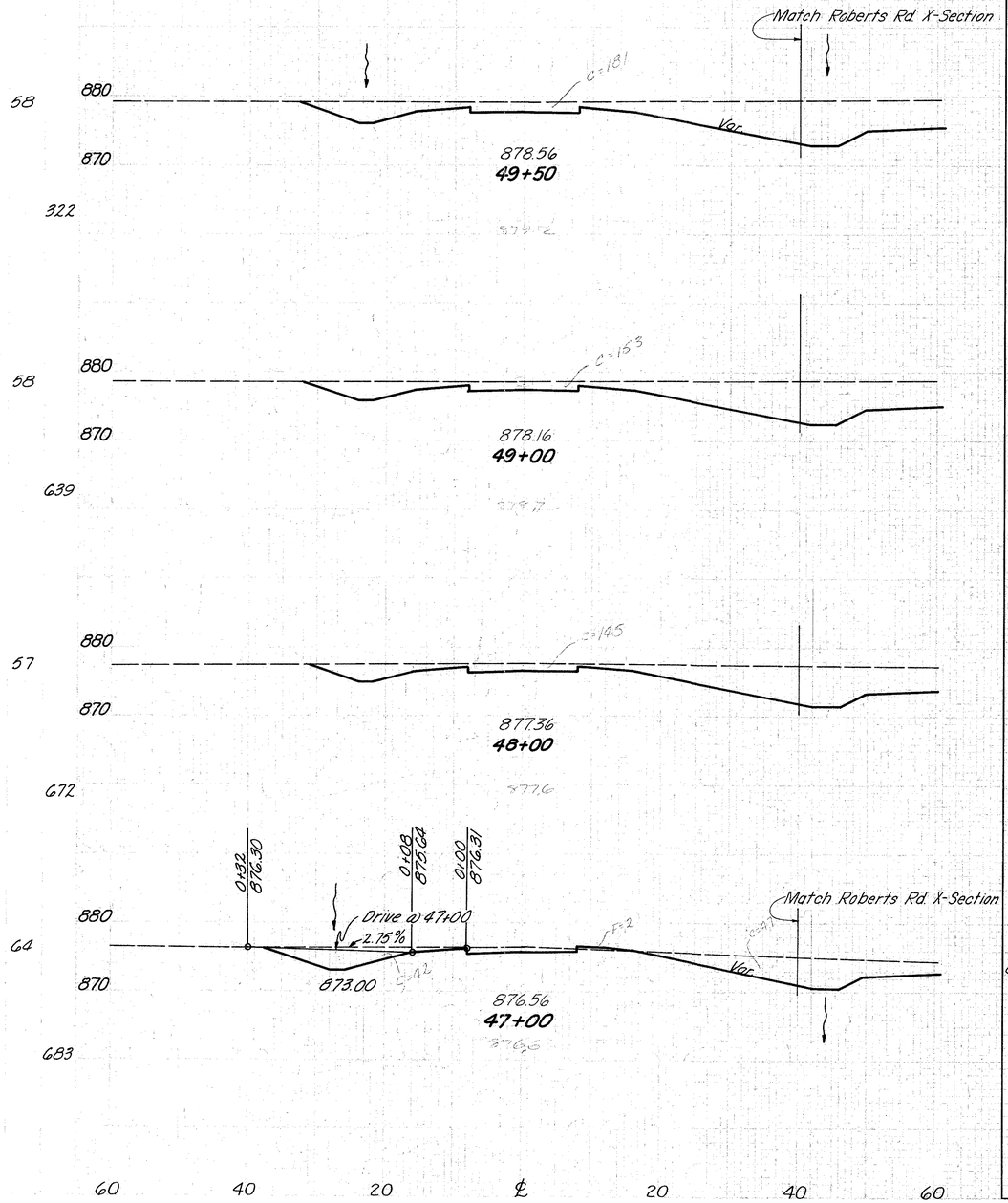
END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL	SEEDING END WIDTH	SEEDING SQ. YDS.
79	18			59	
		383	33		
				628	
128	0			54	
		359	96		
				606	
66	52			55	
		119	264	606	
23	146			54	
		51	103	606	
76	53			55	
		396	120	633	



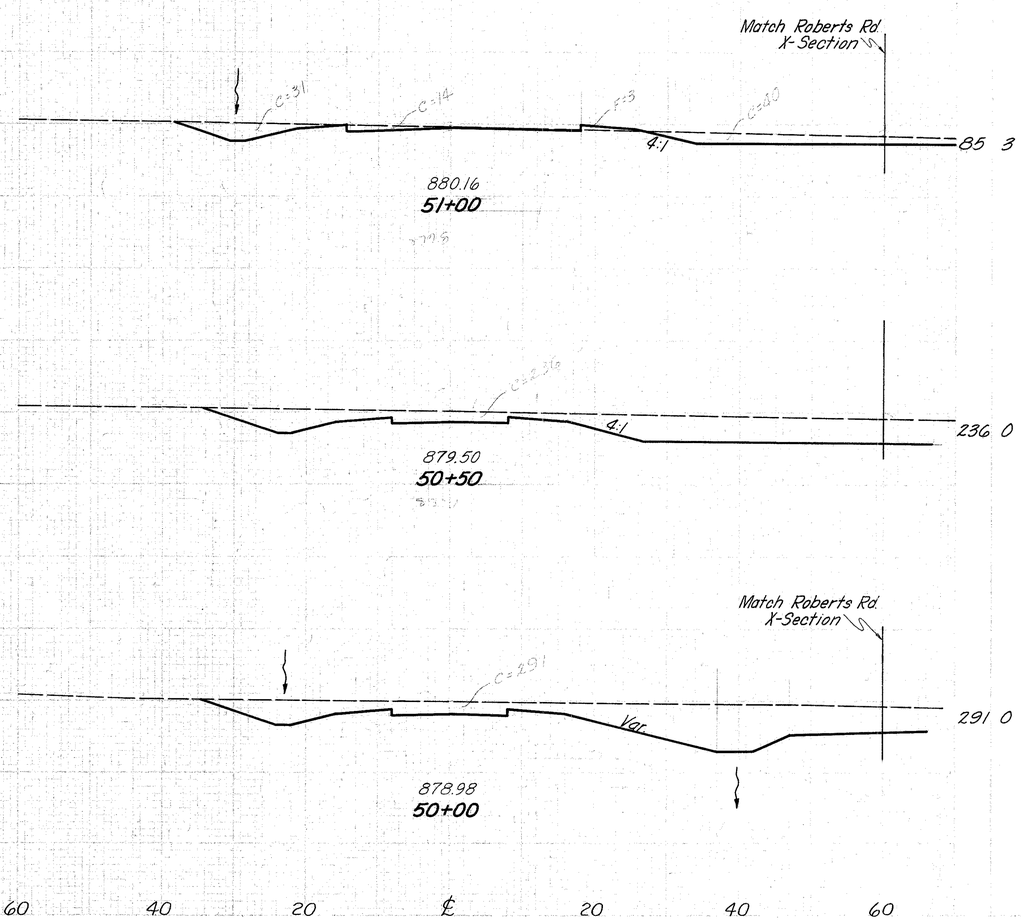


FRONTAGE ROAD "A" STA. 38+00 TO 46+00

FRANKLIN COUNTY
FRA-270-0.79N

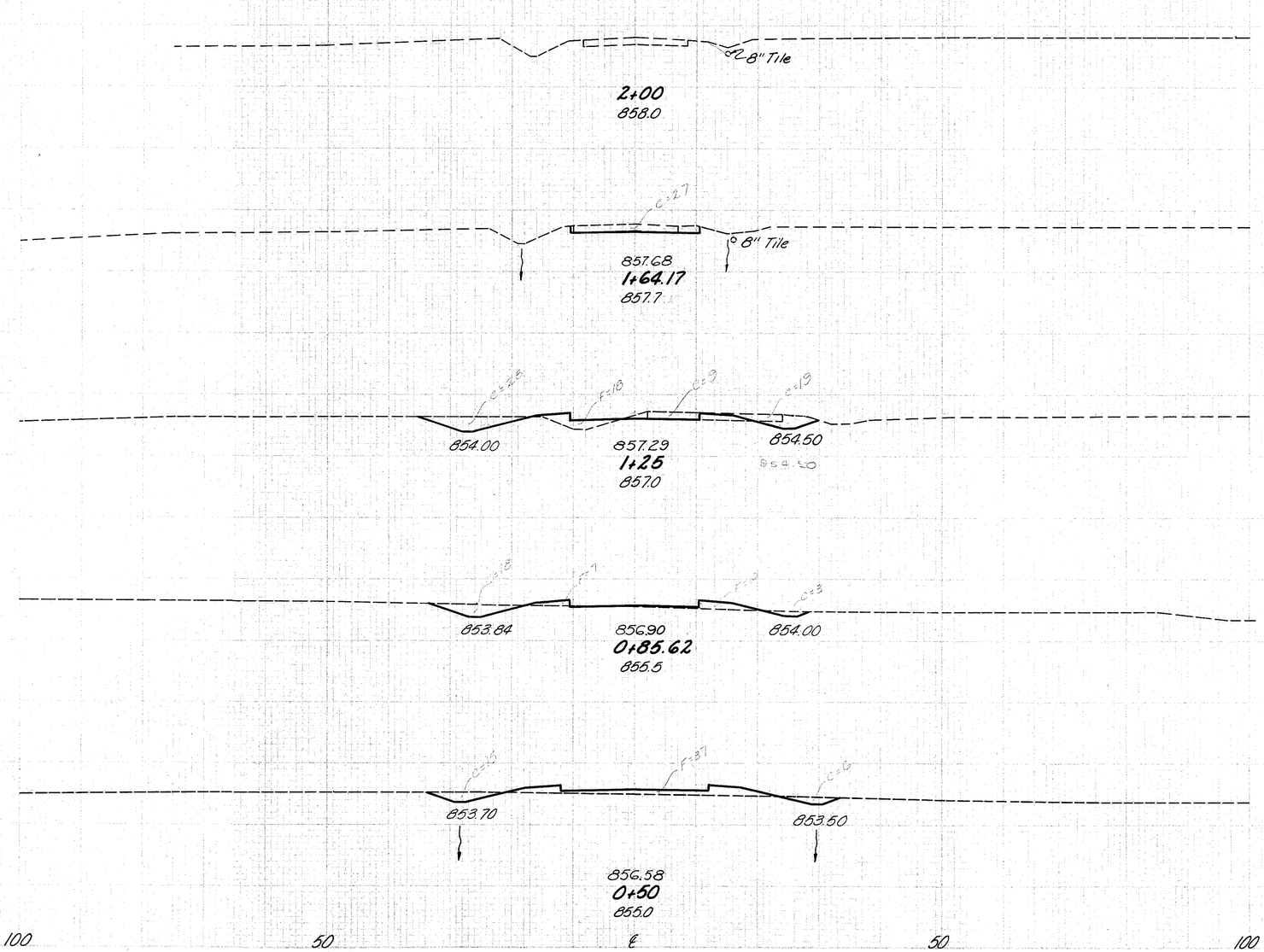


END AREA		VOLUME		SEEDING	
CUT	FILL	CUT	FILL	END WIDTH	SQ. YDS.
181	0				
		309	0		
153	0			67	
		552	0		406
145	0			79	
		433	4		447
89	2			82	
		335	26		389



FRONTAGE ROAD "A" STA. 47+00 TO 51+00

FRANKLIN COUNTY
FRA-270-0.79 N



0
94
43
188
43
85
0

ROBERTS ROAD CONNECTION

FRANKLIN COUNTY
FRA-270-0.79N

SCIOTO DARBY RD. 5+00 TO 9+00

FRANKLIN COUNTY
FRA-270 - 0.79 N

880
870

13+00
873.2

880
870

12+50
874.6

880
870

12+00
875.9

House

880
870

11+50
876.1

880
870

11+00
875.7

880
870

872.00

10+00
874.9

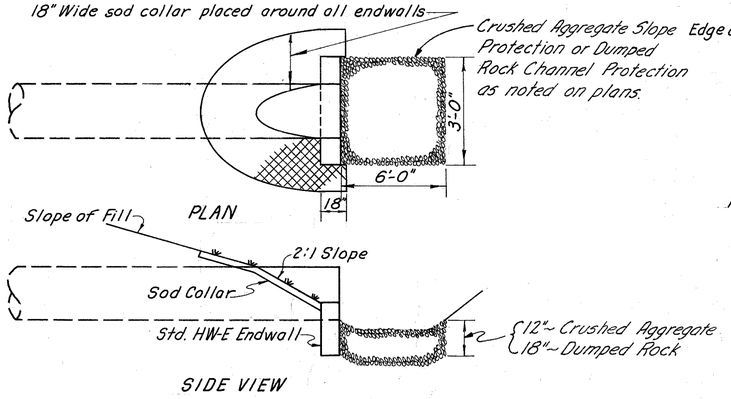
150 100 50 ℄ 50 100 150

SCIOTO DARBY RD 10+00 TO 13+00

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

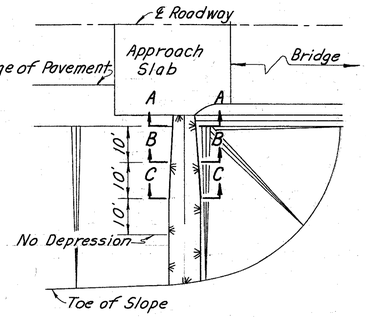
83
227

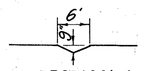
FRANKLIN COUNTY
FRA-270- 0.79N



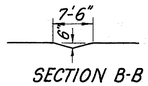
DETAIL OF PROTECTION AT ENDWALLS

Note: A pad of crushed aggregate slope protection as detailed above shall be placed at the outlet of all field tile discharging into ditches.

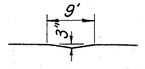




SECTION A-A



SECTION B-B



SECTION C-C

Prior to placement of sod in 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 spaced at four foot intervals and alternated in rows four feet apart.

Stakes shall be 1"x1"x8" wood stakes and shall be perpendicular to the ground and flush with the finished grade.

The fence shall be straight line poultry fence or equivalent with strand width of four feet having a two inch mesh and all wires No. 20 gage.

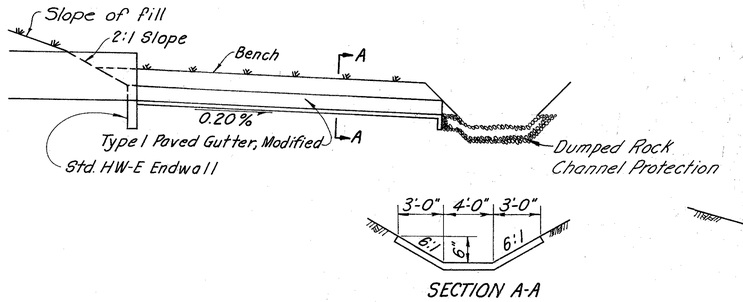
The strands of fencing shall be fastened together at twelve inch intervals by means of hog rings.

The fencing shall be secured to the wood stakes by metal staples.

Sod shall be laid in accordance with the Construction and Material Specifications Section 660.06.

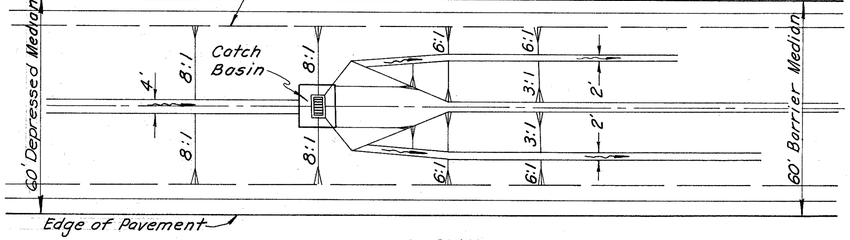
Payment for all of the above shall be included in the unit price bid for "Item 660, Sodding for Special Berm and Slope Protection."

SODDING FOR SPECIAL BERM AND SLOPE PROTECTION

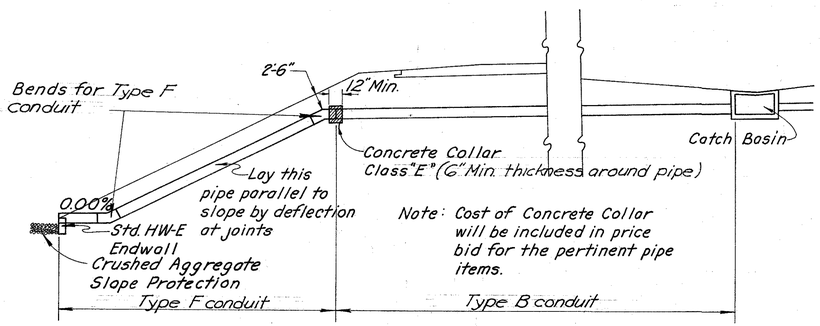


DETAIL OF STORM SEWER OUTLET ON BENCH

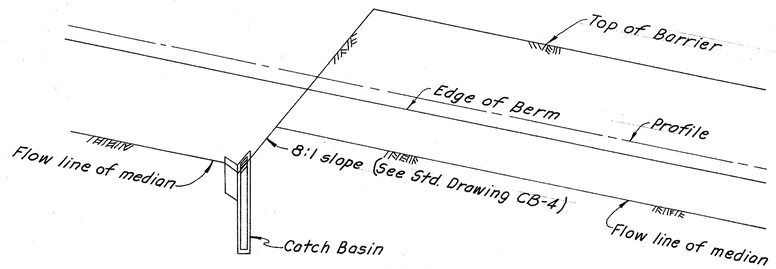
JUTE MATTING DETAIL
OUTSIDE DITCHES



PLAN



MEDIAN OUTLET DETAIL IN HIGH FILL



PROFILE

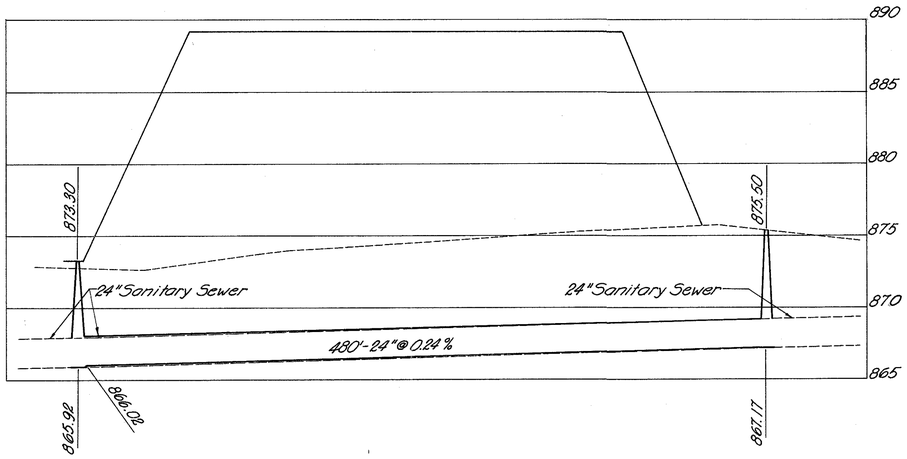
MEDIAN TRANSITION DETAIL
Sta. 335+00
Sta. 410+00

DRAINAGE DETAILS

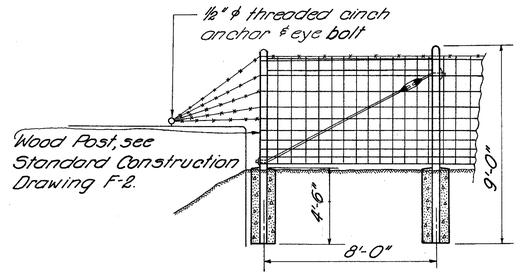
FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

84
227

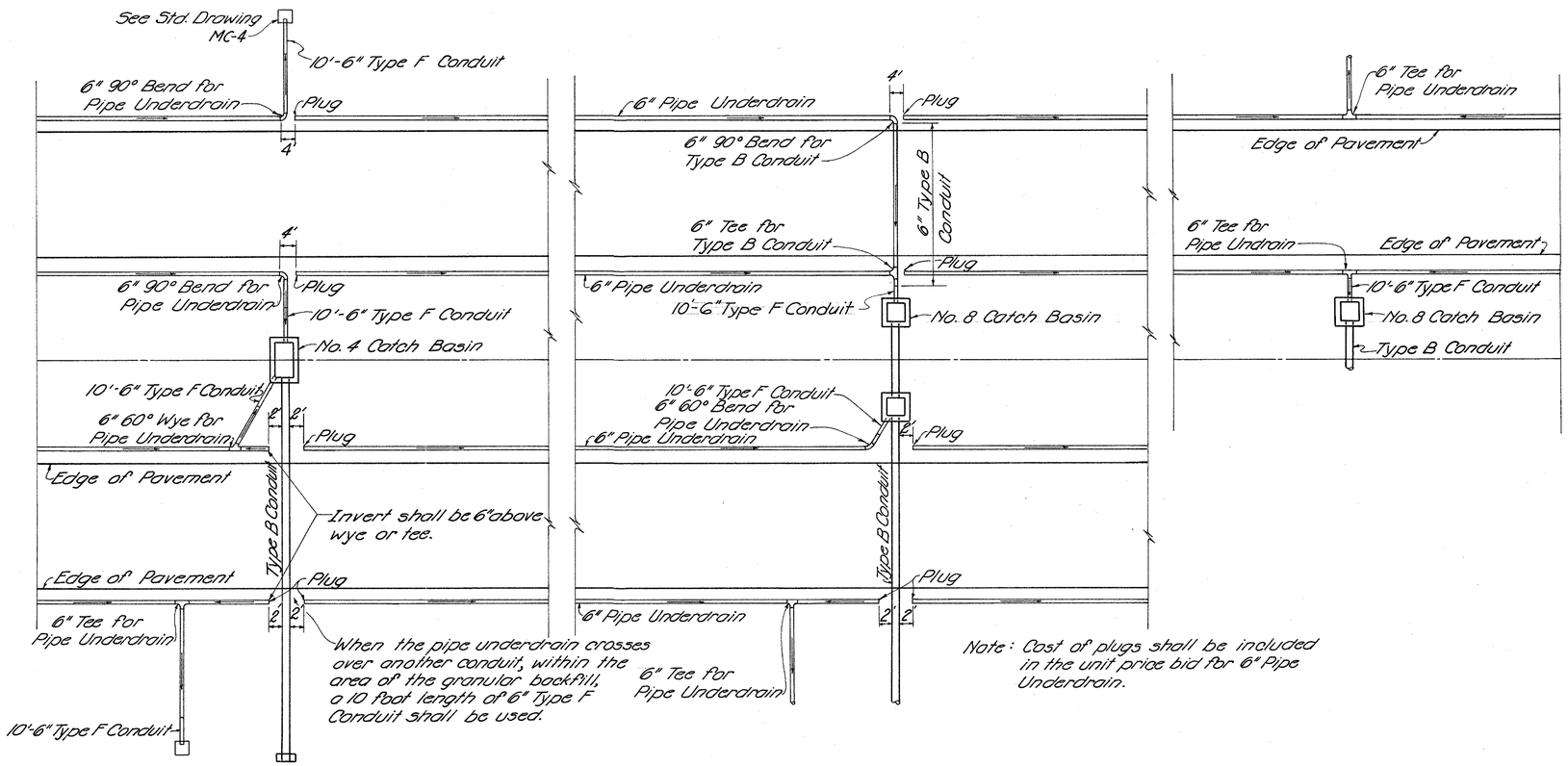
FRANKLIN COUNTY
FRA-270-0.79N



SANITARY SEWER PROFILE
Sta. 394+17



HEADWALL FENCE CONNECTION



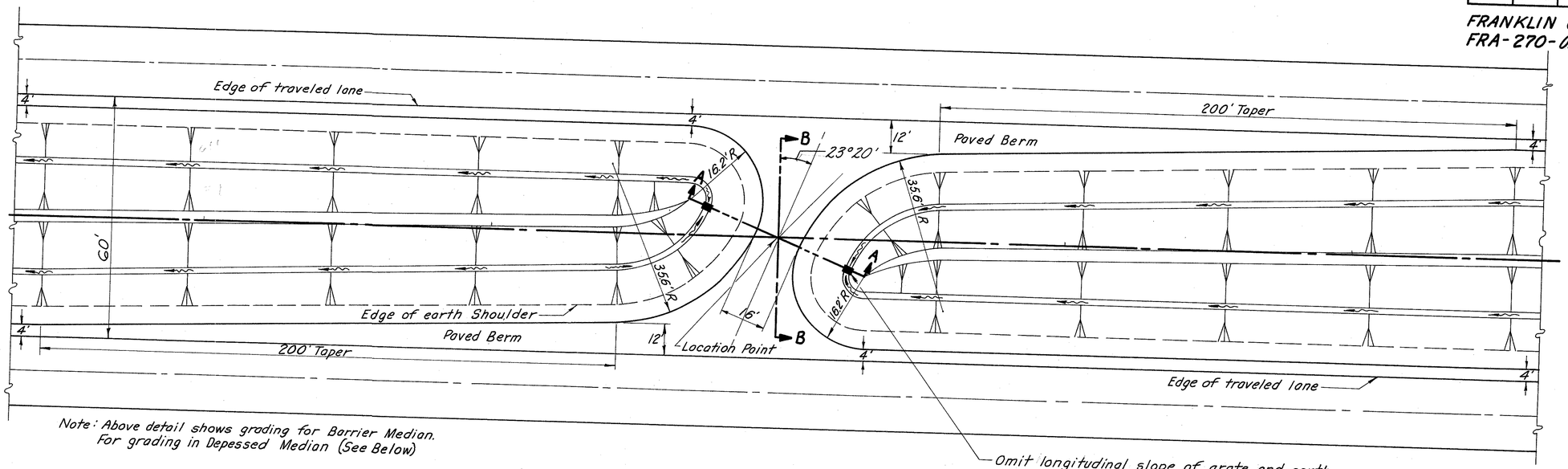
PIPE UNDERDRAIN DETAILS

DRAINAGE DETAILS

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

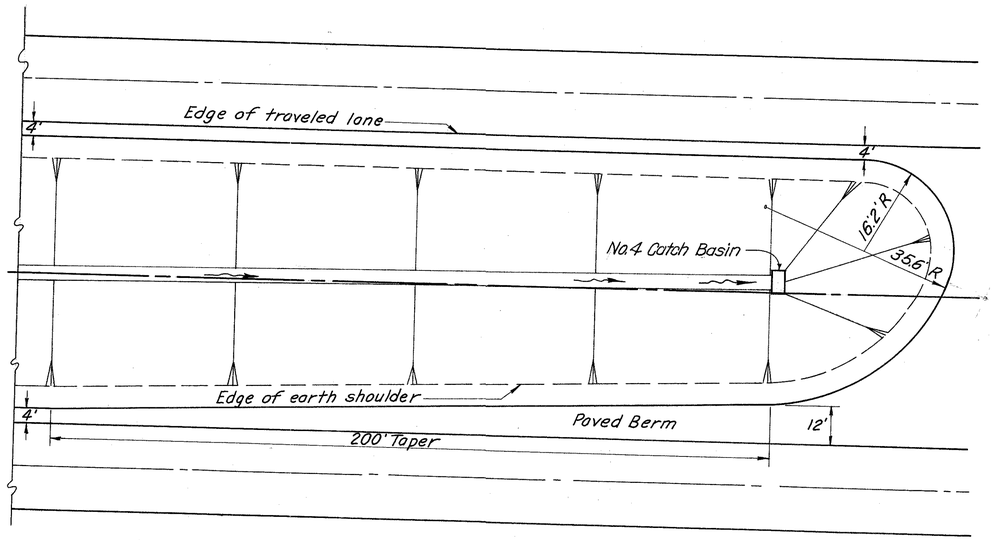
85
227

FRANKLIN COUNTY
FRA-270-0.79N

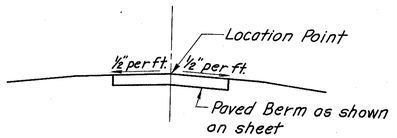


Note: Above detail shows grading for Barrier Median. For grading in Depessed Median (See Below)

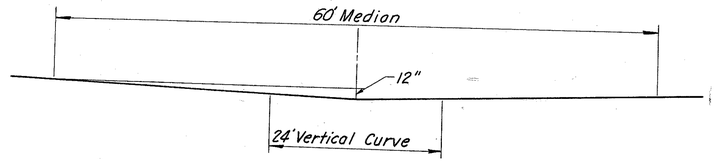
MEDIAN CROSSOVER DETAIL
STA. 285+00



DEPRESSED MEDIAN DETAIL
STA. 374+75



SECTION A-A

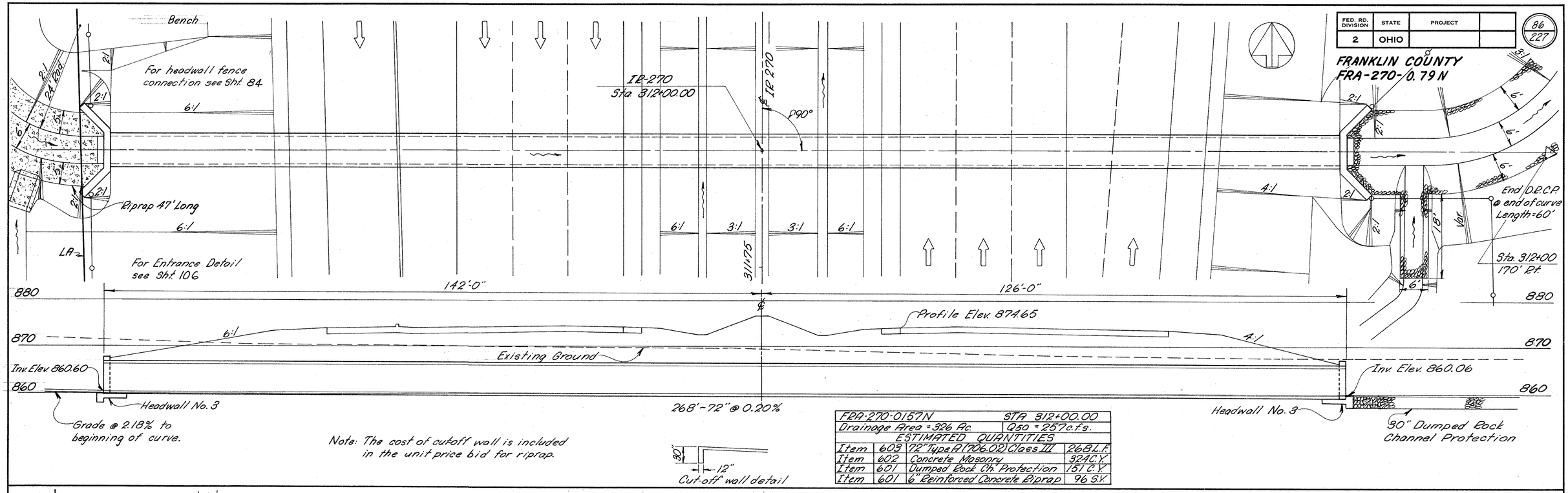


SECTION B-B

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

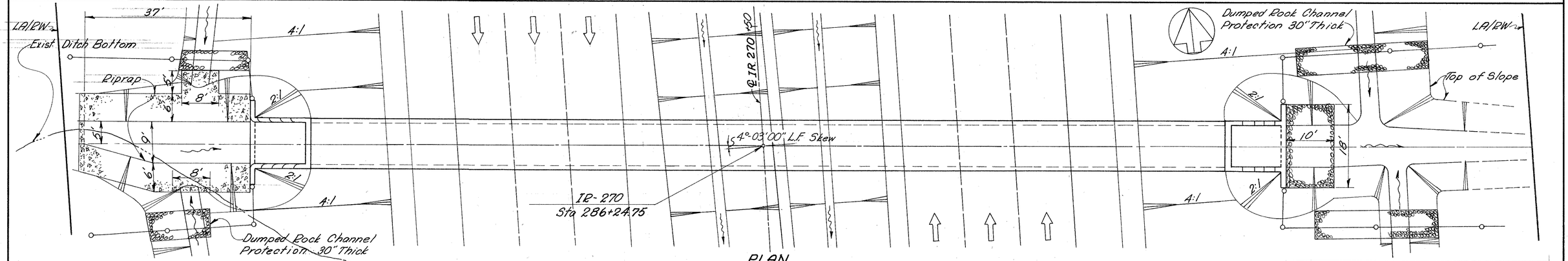
86
227

FRANKLIN COUNTY
FRA-270-0.79 N



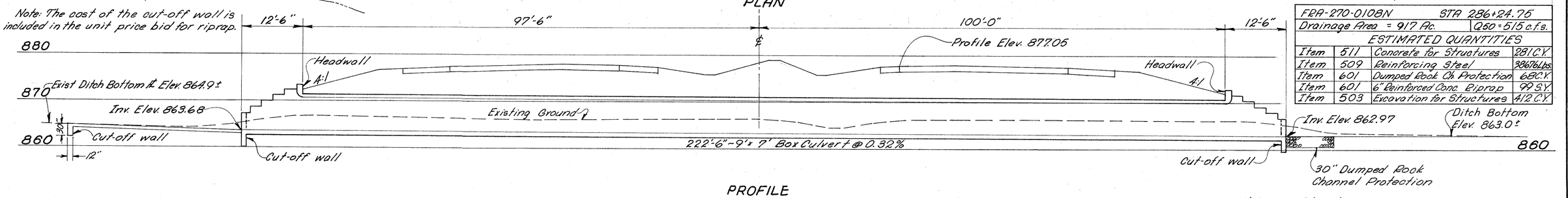
Note: The cost of cutoff wall is included in the unit price bid for riprap.

FRA-270-0157N		STA 312+00.00	
Drainage Area = 326 Ac.		Q50 = 257 c.f.s.	
ESTIMATED QUANTITIES			
Item	603	72" Type A (706.02) Class III	268 L.F.
Item	602	Concrete Masonry	32 A C.Y.
Item	601	Dumped Rock Ch. Protection	151 C.Y.
Item	601	6" Reinforced Concrete Riprap	96 S.Y.



PLAN

Note: The cost of the cut-off wall is included in the unit price bid for riprap.



PROFILE

FRA-270-0108N		STA 286+24.75	
Drainage Area = 917 Ac.		Q50 = 515 c.f.s.	
ESTIMATED QUANTITIES			
Item	511	Concrete for Structures	281 C.Y.
Item	509	Reinforcing Steel	38676 Lbs.
Item	601	Dumped Rock Ch. Protection	68 C.Y.
Item	601	6" Reinforced Conc. Riprap	99 S.Y.
Item	503	Excavation for Structures	412 C.Y.

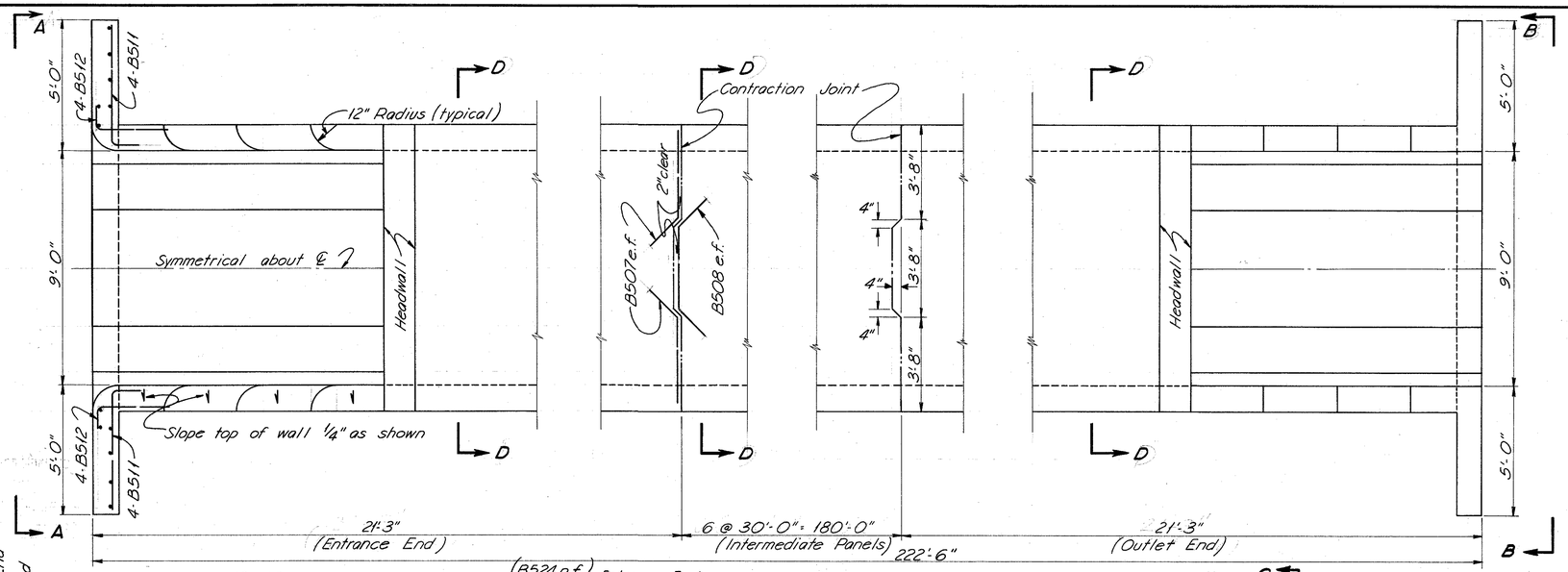
Note: For Structure Details see Sht. 87
For Headwall fence connection see Sht. 84

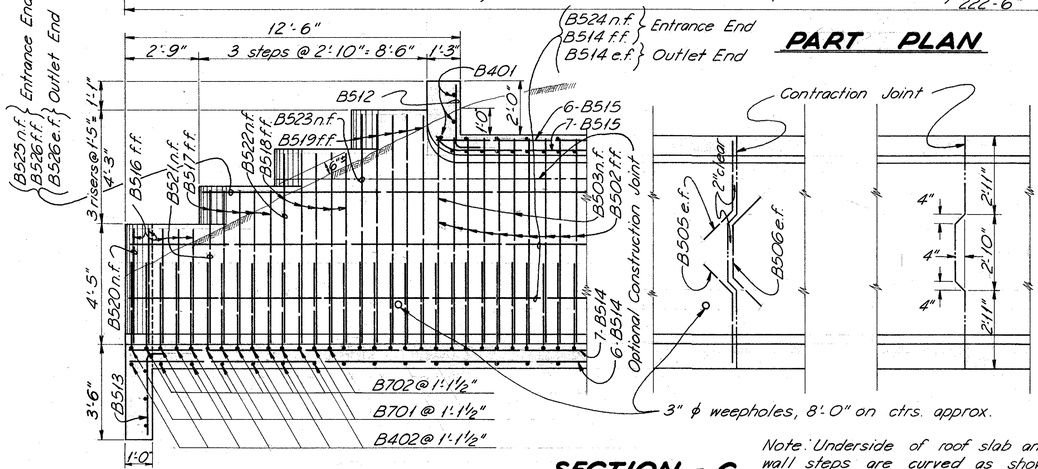
CULVERT DETAIL

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

87
227

FRANKLIN COUNTY
FRA-270-0.79 N.

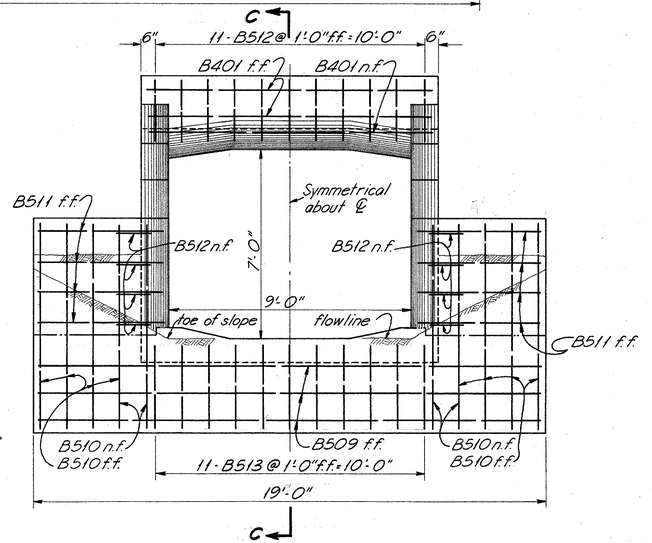




PART PLAN

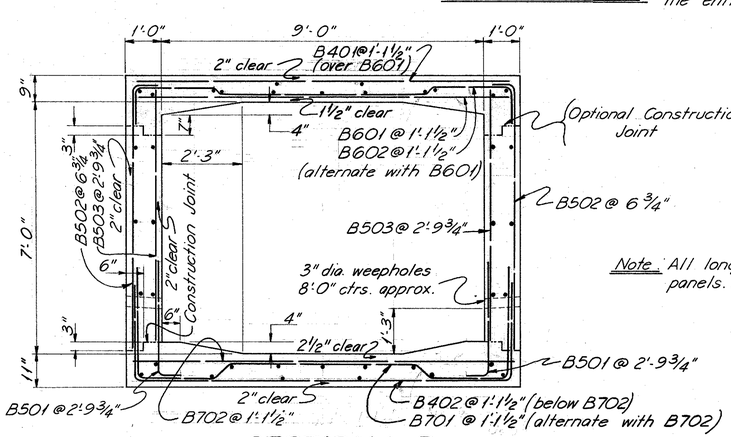
SECTION - C

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



END VIEW - A

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

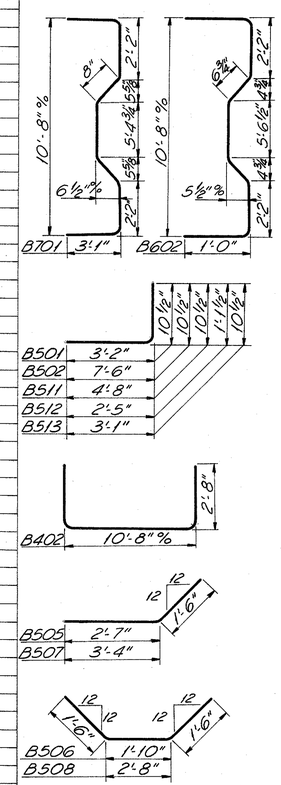


SECTION - D

Note: All longitudinal bars B504 in intermediate panels. For end panels see Section-C.

REINFORCING STEEL LIST

Mark	No.	Length	Weight	Shape	Bend Diagrams
B701	194	16'-10"	6,675	B	
B702	198	10'-6"	4,249	S	
B601	178	10'-6"	2,807	S	
B602	172	12'-8"	3,272	B	
B501	164	3'-11"	670	B	
B502	712	8'-3"	6187	B	
B503	148	7'-0"	1,081	S	
B504	228	29'-8"	7,055	S	
B505	56	4'-1"	238	B	
B506	28	4'-10"	141	B	
B507	56	4'-10"	282	B	
B508	28	5'-8"	165	B	
B509	6	18'-8"	117	S	
B510	24	7'-7"	190	S	
B511	16	5'-5"	90	B	
B512	38	3'-5"	135	B	
B513	22	3'-10"	88	B	
B514	38	20'-7"	816	S	
B515	26	9'-2"	249	S	
B516	20	4'-2"	87	S	
B517	20	5'-7"	116	S	
B518	20	7'-0"	146	S	
B519	20	8'-5"	176	S	
B520	4	3'-11"	16	S	
B521	4	5'-4"	22	S	
B522	4	6'-9"	28	S	
B523	4	8'-2"	34	S	
B524	4	19'-10"	83	S	
B525	2	17'-1"	36	S	
B526	6	17'-10"	112	S	
B401	184	10'-6"	1290	S	
B402	198	15'-9"	2083	B	



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

CONCRETE shall be Class "C".

BAR SIZE is indicated in the bar mark. The first digit where three digits are used, and the first two digits where four are used, indicate the bar size number. For example, B701 is a No. 7 size bar.

DESIGN DATA:
Concrete Class "C" - basic unit stress 1333 p.s.i.
Reinforcing Steel - AST.M A15, A16, A160, Deformed, Intermediate or Hard Grade. Basic unit stress 20,000 psi.

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

BURGESS & NIPLE CONSULTING ENGINEERS
COLUMBUS 12, OHIO

BOX CULVERT DETAILS DRAINAGE STRUCTURE FRA-270-0108 N.

FRANKLIN COUNTY STA. 286+24.75

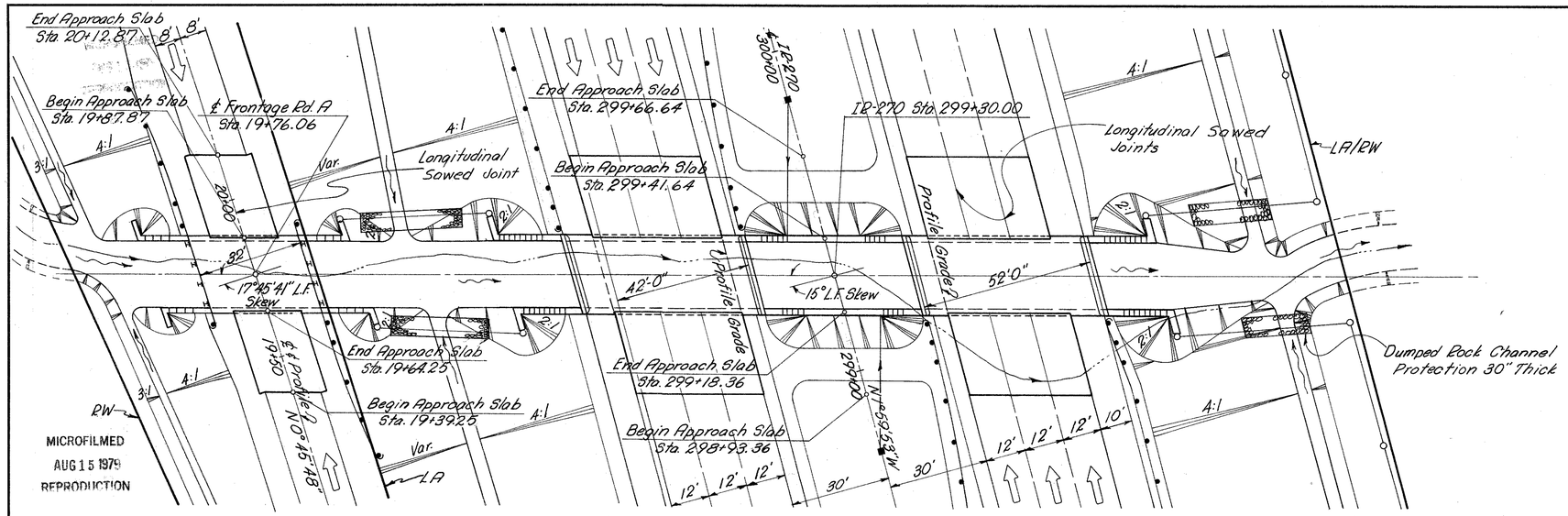
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
D.W.	D.W.			DWR 6-7-65	

Total Conc. 238
Total Steel 13,016
Total Exc. Cu. Yds. 412

FED. RD. DIVISION	STATE	PROJECT		
2	OHIO			

88
227

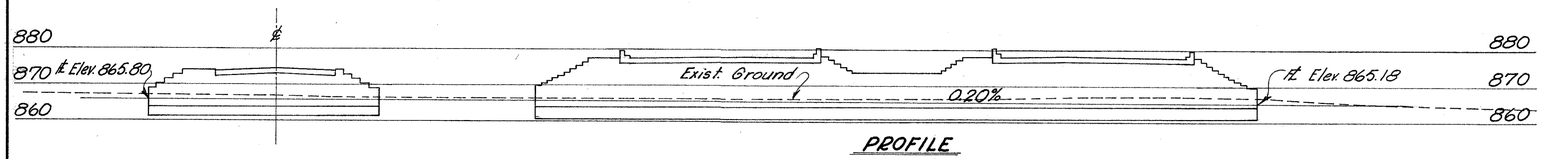
FRANKLIN COUNTY
FRA-270-0.79N



For structure details see shts. 93

PLAN

For headwall fence connection see sht. 84
For stucture details see shts. 89-92



PROFILE

Frontage Road A Sta. 19+76.06
Drainage Area 7.40 Ac. Q10 = 31.8 c.f.s.

ESTIMATED QUANTITIES

Item No.	Total	Unit	Description	Super.	Abut.	General
503	Lump	sum	Cofferdams, cribs, and sheeting		Lump	
503	155	cu. yds.	Excavation for structures, unclassified		155	
509	10,764	lbs.	Reinforcing steel	7,084	3,680	
511	37	cu. yds.	Class "C" concrete, superstructure	37		
511	77	cu. yds.	Class "E" concrete, abuts. above footings		77	
511	50	cu. yds.	Class "E" concrete, footings		50	
516	10	sq. ft.	½" preformed expansion joint filler (AASHO M-153)		10	
518	60.	cu. yds.	Porous backfill		50	
517	47.24	lin. ft.	Guard Rail (Type 4) with galvanized steel posts and bolts.	47.24		
808	37	each	Water-reducing, set-retarding admixture	37		

FRA-270-0133N Sta. 299+02.00
Drainage Area 7.40 Ac. Q50 = 44.5 c.f.s.

ESTIMATED QUANTITIES

Item No.	Total	Unit	Description	Super.	Abut.	General
503	Lump	sum	Cofferdams, cribs, and sheeting			Lump
503	700	cu. yds.	Excavation for structures, unclassified		700	
509	46,532	lbs.	Reinforcing steel	27,227	19,305	
511	129	cu. yds.	Class "C" concrete, superstructure	129		
511	310	cu. yds.	Class "E" concrete, abuts. above footings		310	
511	280	cu. yds.	Class "E" concrete, footings		280	
512	34	lin. ft.	Waterproofing, premolded sealing strip		34	
516	22	sq. ft.	½" preformed expansion joint filler (AASHO M-153)	22		
516	67	sq. ft.	1" " " " " "	"	67	
517	93.50	lin. ft.	Railing (Bridge railing, Type 1)	93.50		
518	250	cu. yds.	Porous backfill		250	
518	12	each	Scuppers	12		
601	58	cu. yds.	Dumped rock channel protection			58
808	129	each	Water-reducing, set-retarding admixture	129		

PROPOSED STRUCTURE
FRA-270-0133N

TYPE: Single Span Reinforced Concrete Slab
SPAN: 20.00' face to face Abutments
LOAD FREQUENCY RATING: C.F. 2000 (57) (Adequate for AASHO Alternate Loading)
ROADWAY: Varies
SKEW: 15°00' L.F.
WEARING SURFACE: 1" Monolithic
APPROACH SLABS: 25' Long
ALIGNMENT: Tangent
SUPERELEVATION: None

PROPOSED STRUCTURE
FRONTAGE ROAD

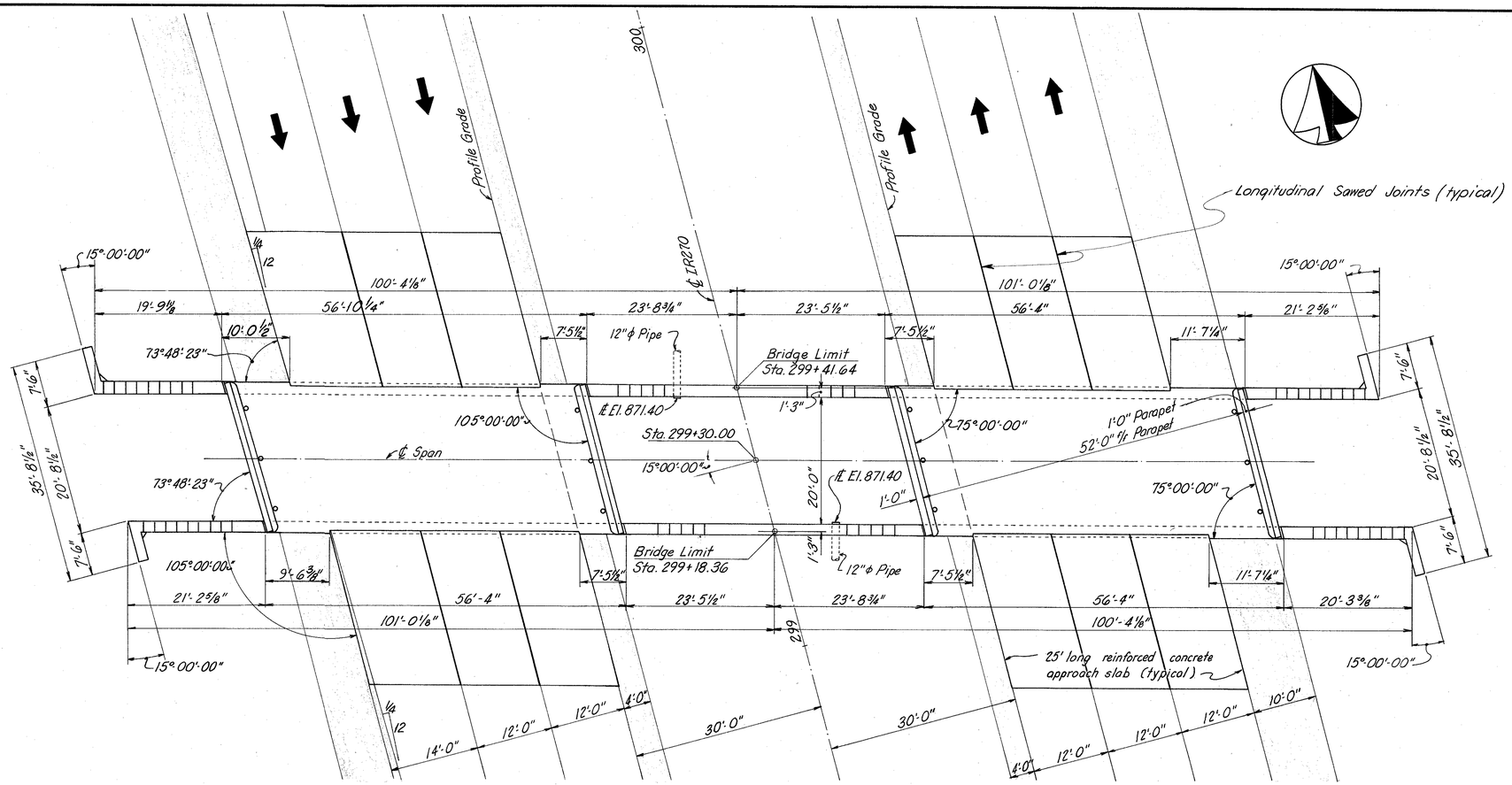
TYPE: Single Span Reinforced Concrete Slab
SPAN: 20.00' face to face Abutments
LOAD FREQUENCY RATING: C.F. 130

ROADWAY: 32.00' face to face Guard Rail
SKEW: 17°45'41" L.F.
WEARING SURFACE: 1" Monolithic
APPROACH SLABS: 25' Long
ALIGNMENT: Tangent
SUPERELEVATION: None

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

89
227

FRANKLIN COUNTY
FRA-270-0.79 N.



GENERAL PLAN

REFERENCE shall be made to Standard Drawings: BP-3 dated 6-1-65
AS-1-54 revised 7-5-62
SB-1-64 dated 8-25-64, sheets 1 & 2
BR-1-65 dated 2-1-65
and to Supplemental Specification 808 dated 7-14-65.

ADDITIONAL NOTES AND DETAILS: For additional notes and details see Standard Construction Drawing SB-1-64, sheets 1 and 2.

PROFILE: For profile elevations see sheets 23 & 108

LONGITUDINAL SAWED JOINTS shall conform to the details shown on Standard Construction Drawing BP-3 dated 6-1-65.

LEGEND
n.f. = near face.
f.f. = far face.
e.f. = each face.
n.s. = near side.
f.s. = far side.

BURGESS & NIPLE CONSULTING ENGINEERS
COLUMBUS 12, OHIO

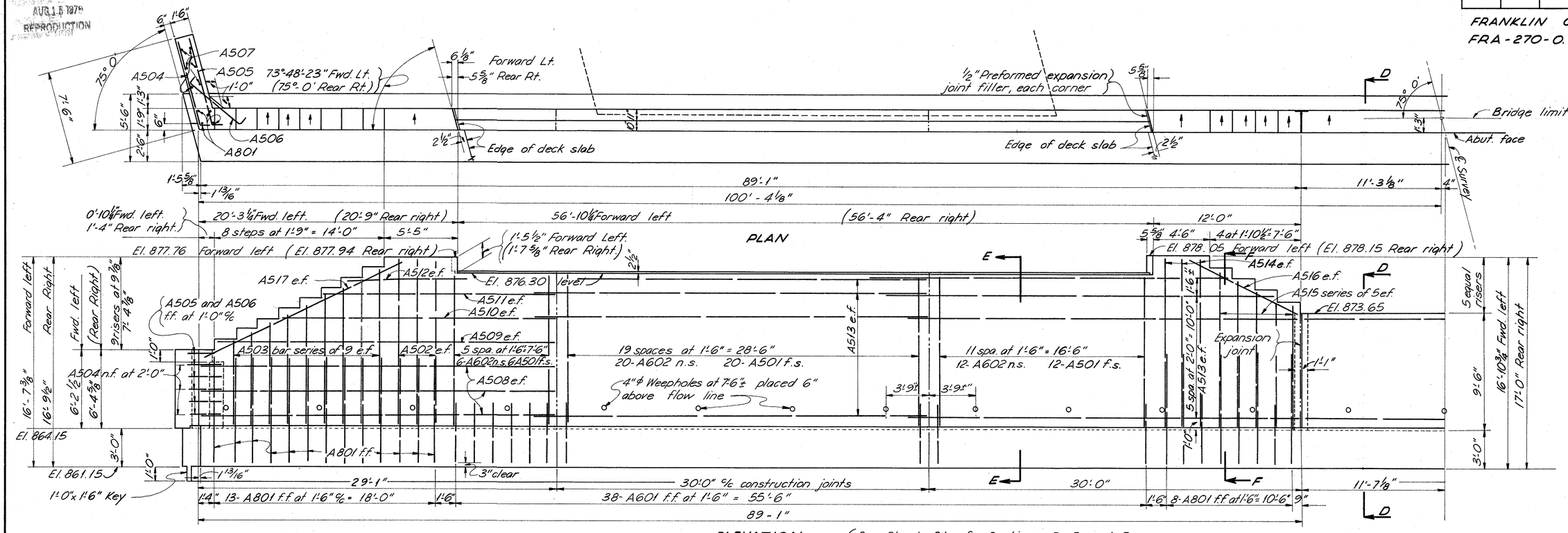
GENERAL PLAN
GENERAL NOTES
I.R. 270
BR. Nº FRA-270-0133 N. L.R.
STA. 299+18.36
FRANKLIN COUNTY 299+41.64

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
KED	WCR		DWJ	WCR 9-27-65	

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

90
227

FRANKLIN COUNTY
FRA-270-0.79 N.



ELEVATION (See Sheet 91 for Sections D, E and F

BURGESS & NIPLE CONSULTING ENGINEERS
COLUMBUS 12, OHIO

FORWARD LEFT & REAR RIGHT ABUTMENTS
I.R. 270
BR. Nº FRA-270-0133 N. L&R
STA. 299+18.36
FRANKLIN COUNTY 299+41.64

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
KED	KED	D.W.	MJJ	WOR 7-27-65	

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

91
227

FRANKLIN COUNTY
FRA-270-0.79 N.

PLAN

℄ Survey I.R. 270
Bridge Limit
75°-0'
15°
Edge of approach slab
75°-0' Fwd. Rt.
73°48'23" Rear Lt.
6 1/8" Rear Lt.
5 5/8" Fwd. Rt.
Edge of deck slab
2 1/2"
4"
11'-11 1/8"
12'-0"
4 at 1'-7 1/4" = 6'-7"
5'-5"
100'-8 1/8"
56'-4"
El. 878.08 Fwd right (El. 878.11 Rear Left)
5 equal steps
El. 873.65
El. 864.15
El. 861.15
16'-11 1/2" Rear Left
16'-11 7/8" Fwd Right
9'-6"
12'-6"
3'-0"
D
H
Expansion joint
E
Level bridge seat El. 876.36
22"
1'-5 1/8" Rear Lt.
1'-6 7/8" Fwd Rt.
4'-6"
20'-9" Fwd Rt. 20'-8 1/2" Rear Lt.
8 steps at 1'-9" = 14'-0"
1'-2 1/4"
2:3" Fwd. Rt.
2:2 1/2" Rear Lt.
El. 877.87 Fwd. Rt. (877.82 Rear Left)
F
Reinforcing same as for Rear Right Abutment except as shown at right wing.
3'-0"
3'-0"
{ 5~A603 at 1'-0" ℄ centered under joint }
2" clear
3" clear
5~A603
11'-7 7/8"
30'-0"
30'-0" ℄ construction joints
29'-1"
1'-6"
6"
G
7'-6"
75°-00"
A507
3~A518 at 2'-0" ℄
6~A519 at 1'-0" ℄
6~A520 at 1'-0" ℄
A801
9 risers at 9 7/8" = 7'-4 7/8"
Fwd Rt.
Rear Left
Rear Right
Forward Right
Rear Left
9'-3 3/8"
9'-3 3/8"
16'-8 3/8"
16'-8"
3"
3'-0"
El. 861.15

℄ Survey IR 270
Bridge Limit Sta. 299+41.64 Fwd. Abut
Bridge Limit Sta. 299+18.36 Rear Abut
15°-0'
4"
6"
15"
23'-2 1/4" f/f. risers
RETAINING WALL PLAN
4 1/8"
15 spaces at 1'-6" = 22'-6"
4 1/8"
16~A521 n.f. 16~A522 f.f.
A520 e.f.
El. 873.65
12" Dia. Pipe
El. El. 871.40
A523 e.f.
A521 n.f. & A522 f.f.
A528 e.f.
H
H
D
9" A spa at 2'-0" = 8'-0"
9'-3"
3"
3'-0"
16~A601 f.f. at 1'-6" ℄ = 22'-6"
El. 861.15
1'-0"
RETAINING WALL ELEVATION

E
ELEVATION
1'-3"
Bridge limit
10" 11"
12 1/2"
Premolded sealing strip in 13"x 3/4" recess (top of footing to 1'-0" below top of wall)
1" Preformed expansion joint filler (full height)
SECTION H
A513
Porous backfill full length abutment and retaining wall
1'-6"
A513 at 2'-0" ℄ e.f.
A602 at 1'-6"
A501 at 1'-6" lap A601
Flow Line
9"
6"
Construction joint
El. 864.15
4'-0"
3'-3"
A601 at 1'-6"
1'-0"
3'-0"
El. 861.15
3" clear
2'-6"
1'-6"
1'-6"
5'-6"
SECTION E
1/4" slope
A801 at 1'-6"
2'-6"
1'-9"
1'-3"
5'-6"
SECTION F

1'-9"
El. 873.65
A521 n.f.
A522 f.f.
A 523
9'-3"
A601 at 1'-6"
A603 at 1'-0"
5'-6"
SECTION D

1'-6"
1'-6"
1'-0"
6~A505 f.f. at 1'-0" Rear Rt. Abut
6~A519 f.f. at 1'-0" Fwd Rt. Abut
3~A504 n.f. at 2'-0" Rear Rt. Abut.
3~A518 n.f. at 2'-0" Fwd Rt. Abut.
A507 e.f.
El. 864.15
2~A801
VIEW G-G

BURGESS & NIPLE	CONSULTING ENGINEERS
COLUMBUS 12, OHIO	

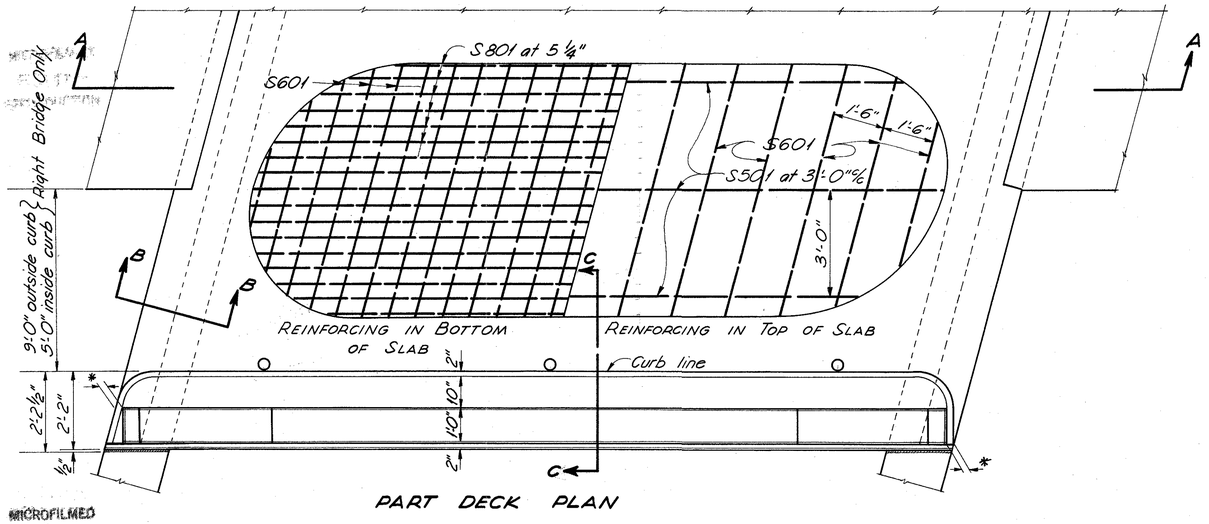
FORWARD RIGHT & REAR LEFT ABUTMENTS ~ TYPICAL SECTIONS
I.R. 270
BR. Nº FRA-270-0133 N. L & R
STA. 299+18.36
FRANKLIN COUNTY
299+41.64

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
KED	KED			W.S.R. 7-27-65	

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

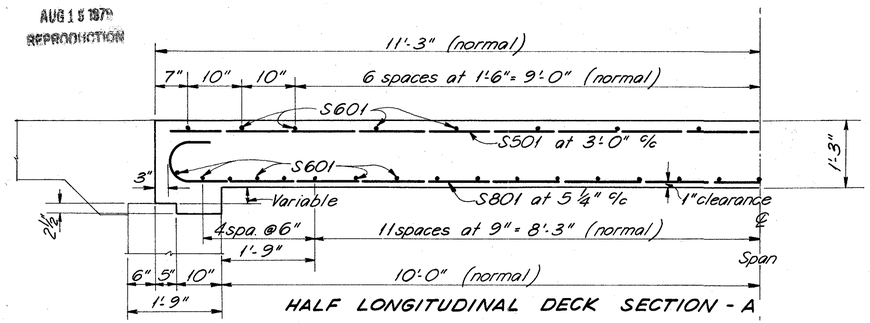
92
227

FRANKLIN COUNTY
FRA-270-0.79 N.

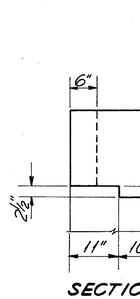


PART DECK PLAN

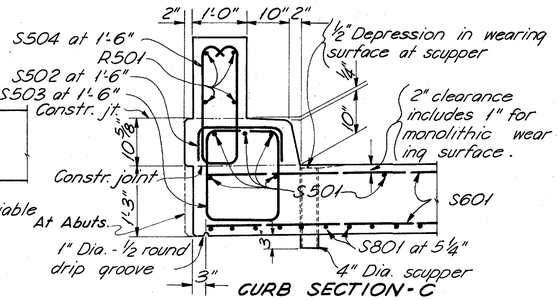
* Equal Dimension



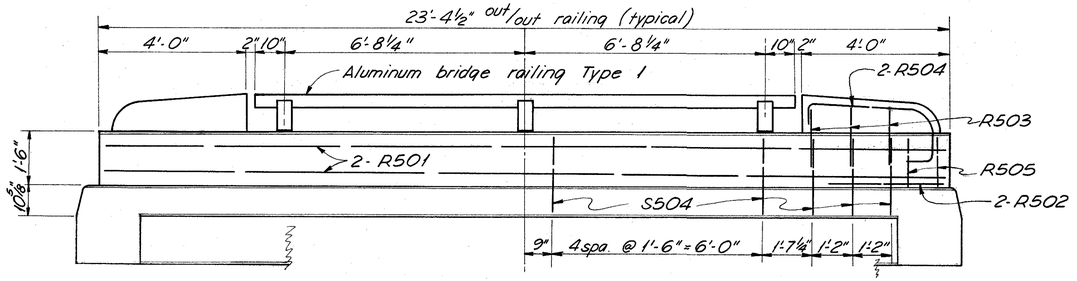
HALF LONGITUDINAL DECK SECTION - A



SECTION - B



CURB SECTION - C

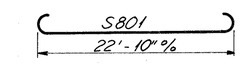


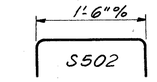
ELEVATION OF RAILING

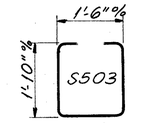
REINFORCING STEEL LIST

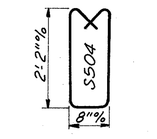
Mark	No.	Length	Weight	Shape
SUPERSTRUCTURE				
S801	246	25'-0"	16,421	B
S601	200	28'-9"	8637	S
S501	52	22'-9"	1234	S
S502	64	2'-6"	167	B
S503	64	5'-11"	395	B
S504	64	5'-7"	373	B
ABUTMENTS				
A801	100	9'-8"	2581	B
A601	184	5'-1"	1,405	B
A602	152	11'-9"	2,683	S
A603	120	6'-0"	1,081	S
A501	152	12'-0"	2683	S
A502	24	13'-2"	330	S
A503	~~8 Sets~~ 6	~~6'-9"~~ 12'-5"	720	S, 8½" incr.
A504	6	7'-8"	48	B
A505	12	8'-0"	100	B
A506	12	6'-3"	78	B
A507	24	5'-10"	146	S
A508	24	28'-9"	720	S
A509	8	27'-5"	229	S
A510	8	22'-2"	185	S
A511	8	18'-8"	156	S
A512	8	16'-9"	140	S
A513	112	31'-6"	3680	S
A514	24	13'-6"	338	S
A515	~~8 Sets~~ 6	~~9'-7"~~ 12'-5"	459	S, 8½" incr.
A516	8	10'-0"	83	S
A517	8	17'-0"	142	S
A518	6	7'-8"	48	B
A519	12	7'-4"	92	B
A520	16	5'-3"	88	B
A521	32	9'-1"	303	S
A522	32	9'-4"	312	S
A523	20	22'-9"	475	S
RAILING				
R501	16	23'-0"	Included	S
R502	16	3'-0"	with	S
R503	24	4'-2"	railing	B*
R504	16	5'-4"	for	B*
R505	16	3'-5"	payment	B*
REPLACEMENT BARS				
RE801	1	6'-6"		S
RE601	1	5'-11"		S
RE501	1	5'-7"		S

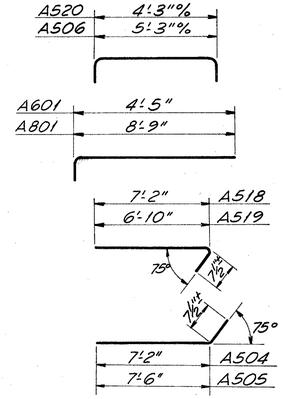
Bending Diagrams











* See Standard Drawing BR-1-65

BURGESS & NIPLE CONSULTING ENGINEERS
COLUMBUS 12, OHIO

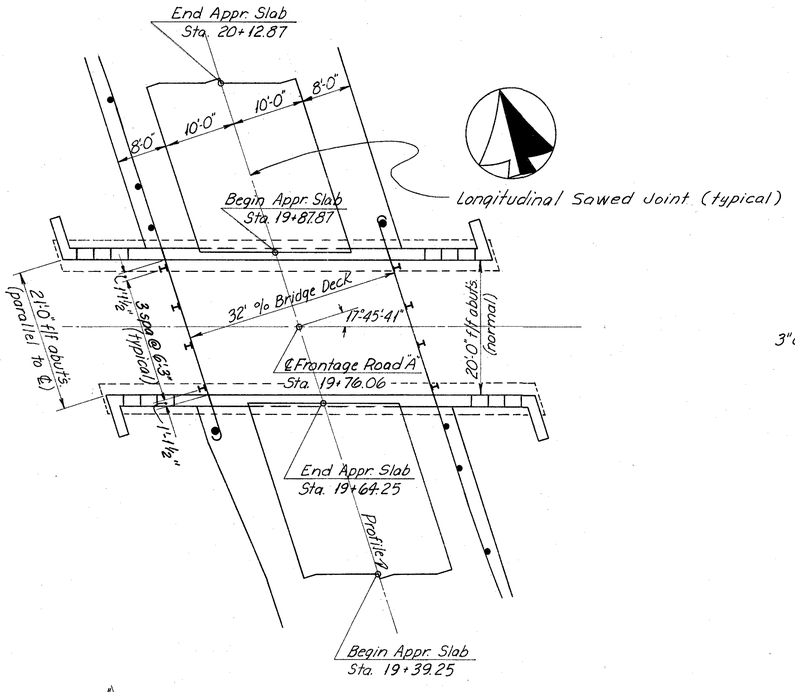
RAILING & DECK SLAB DETAILS
REINFORCING STEEL LIST
I.R. 270
BR. NO. FRA-270-0133 N L&R
STA. 299 + 18.36
FRANKLIN COUNTY 299 + 41.64

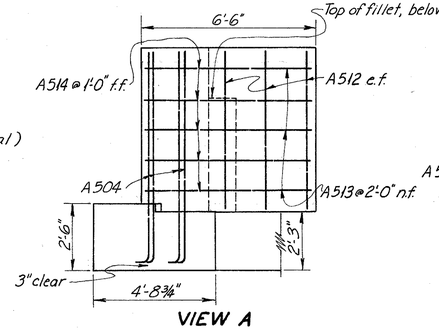
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
KED	KED D.N.	D.W.	D.W.	W&R 7-27-65	

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

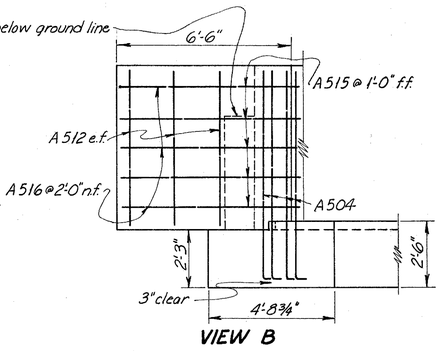
93
227

FRANKLIN COUNTY
FRA - 270 - 0.79 N.





VIEW A



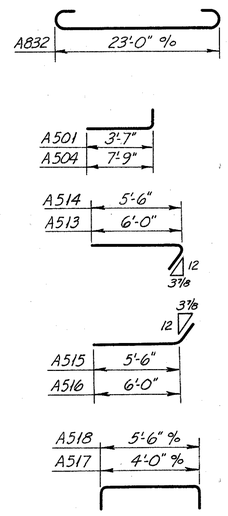
VIEW B

ELEVATION TABLE		
Elevation	Rear Abutment	Forward Abutment
"A"	874.49	874.57
"B"	874.52	874.55
"C"	861.71	861.71

REINFORCING STEEL LIST

Mark	No.	Length	Weight	Shape
SUPERSTRUCTURE				
A832	66	25'-2"	4435	B
B601	48	33'-1"	2385	S
C501	11	23'-0"	264	S
ABUTMENTS				
A501	44	4'-1"	187	B
A502	44	9'-1"	417	S
A503	44	8'-7"	394	S
A504	48	8'-3"	413	B
A505	6	6'-10"	43	S
A506	6	8'-0"	50	S
A507	6	9'-2"	57	S
A508	14	10'-4"	151	S
A509	24	31'-3"	782	S
A510	8	26'-10"	224	S
A511	8	24'-6"	204	S
A512	24	5'-6"	138	S
A513	6	6'-6"	41	B
A514	10	6'-0"	63	B
A515	10	6'-0"	63	B
A516	6	6'-6"	41	B
A517	10	5'-0"	52	B
A518	10	6'-6"	68	B
A519	14	10'-1"	147	S
A520	6	8'-11"	56	S
A521	6	7'-9"	48	S
A522	6	6'-7"	41	S
REPLACEMENT BARS				
RE801	1	6'-6"		S
RE601	1	5'-11"		S
RE501	1	5'-7"		S

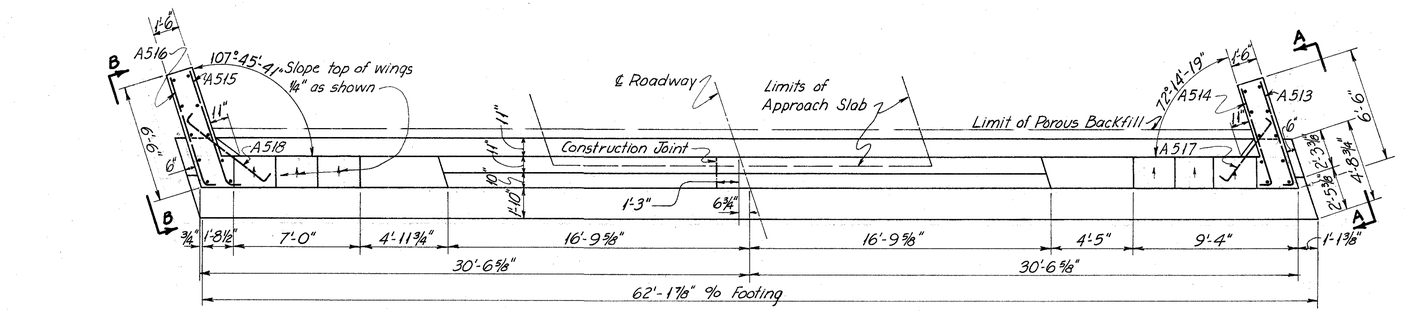
Bending Diagrams



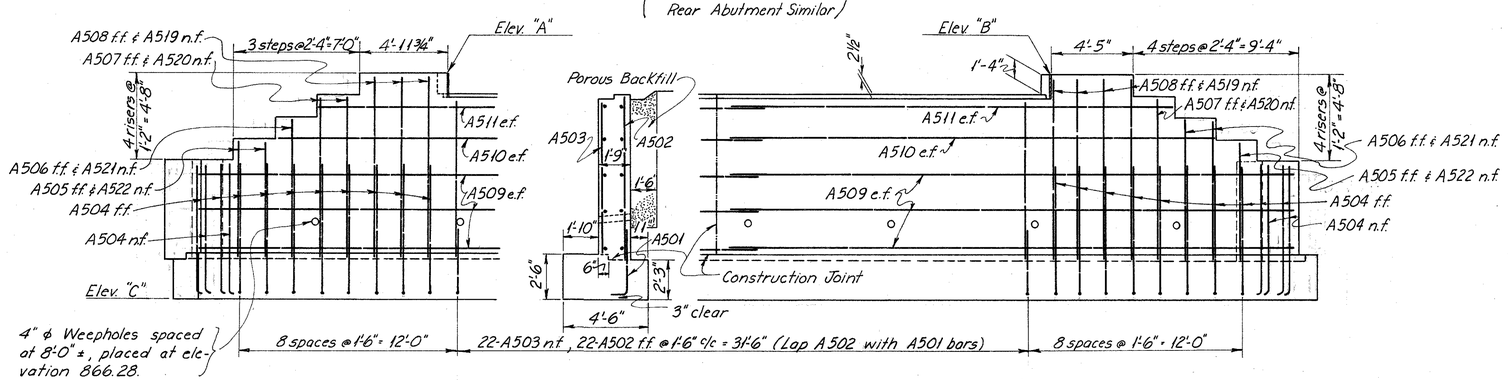
REFERENCE: Reference shall be made to Standard Drawings: BP-3 dated 6-1-65
AS-1-54 revised 7-5-62
SB-1-64 dated 8-25-64, sheets 1&2 and to Supplemental Specification 808 dated 7-14-65.

ADDITIONAL NOTES AND DETAILS: For additional notes and details see Standard Construction Drawing SB-1-64, sheets 1 and 2.

LONGITUDINAL SAWED JOINTS shall conform to the details shown on Standard Construction Drawing BP-3 dated 6-1-65
NOTE: Slab thickness shall be 14½" which includes 1" for monolithic wearing surface.



PLAN
(Forward Abutment Shown
Rear Abutment Similar)



ELEVATION

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

BURGESS & NIPLE CONSULTING ENGINEERS
COLUMBUS 12, OHIO

DRAINAGE STRUCTURE
FRONTAGE ROAD A

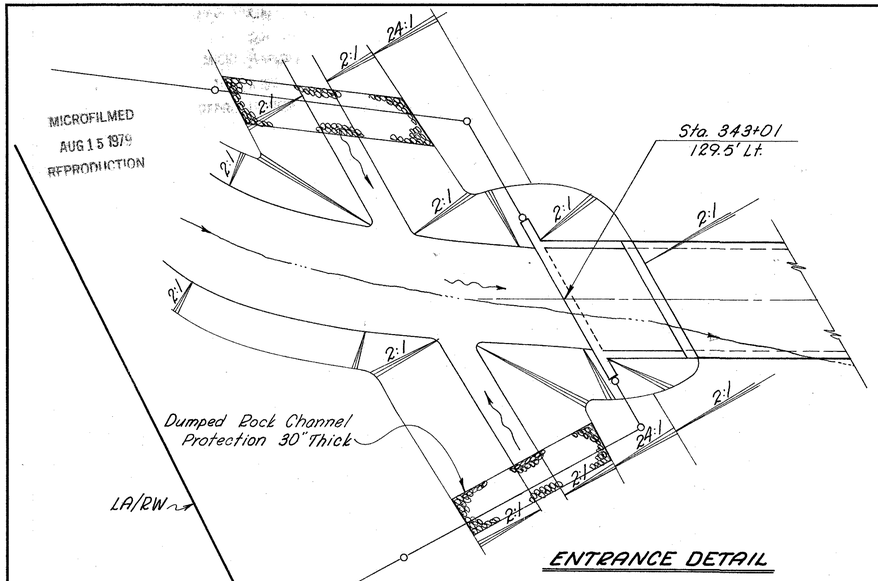
FRANKLIN COUNTY STA. 19+76.06

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
RWJ	RWJ		D.W.	EMR 7-27-65	

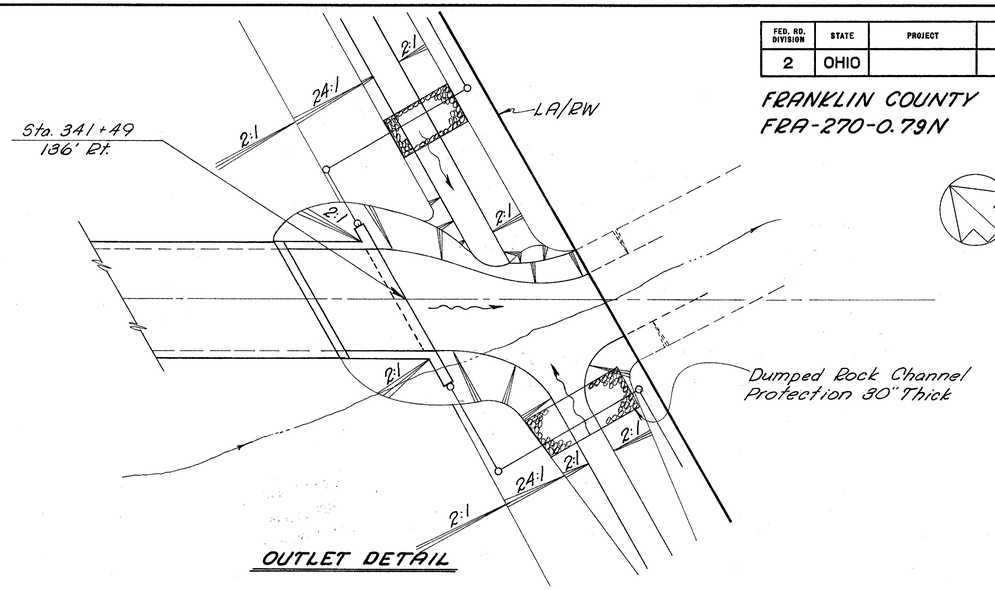
FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

94
227

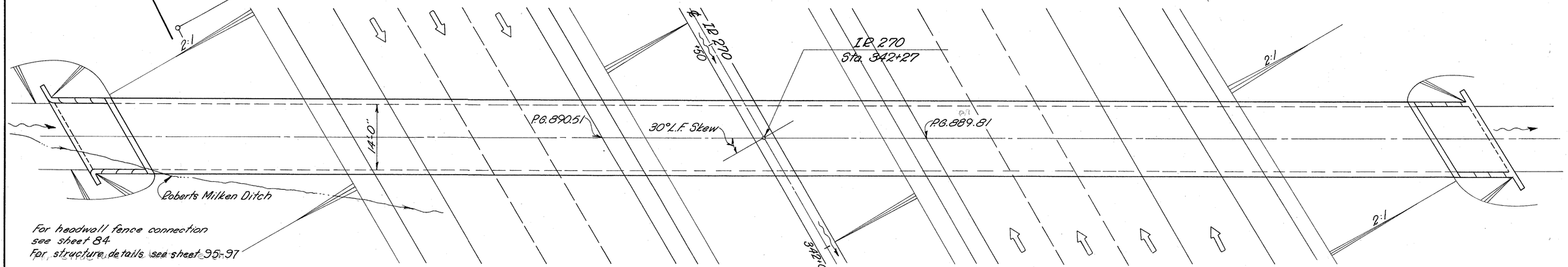
FRANKLIN COUNTY
FRA-270-0.79N



ENTRANCE DETAIL



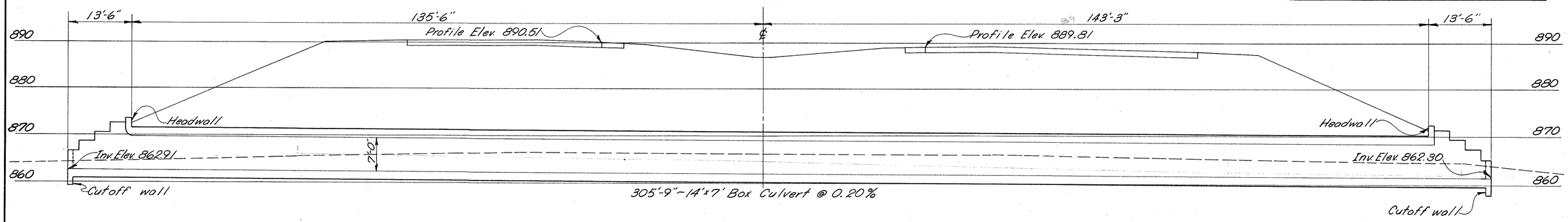
OUTLET DETAIL



FRA-270-0215N STA 342+27.00	
Drainage Area = 520 Ac.	Q50 = 346 c.f.s.

ESTIMATED QUANTITIES

Item	511	Concrete for Structures	829 C.Y.
Item	509	Reinforcing Steel	142,421 lbs.
Item	503	Excavation for Structures	1120 C.Y.
Item	601	Dumped Rock Ch. Protection	40 C.Y.

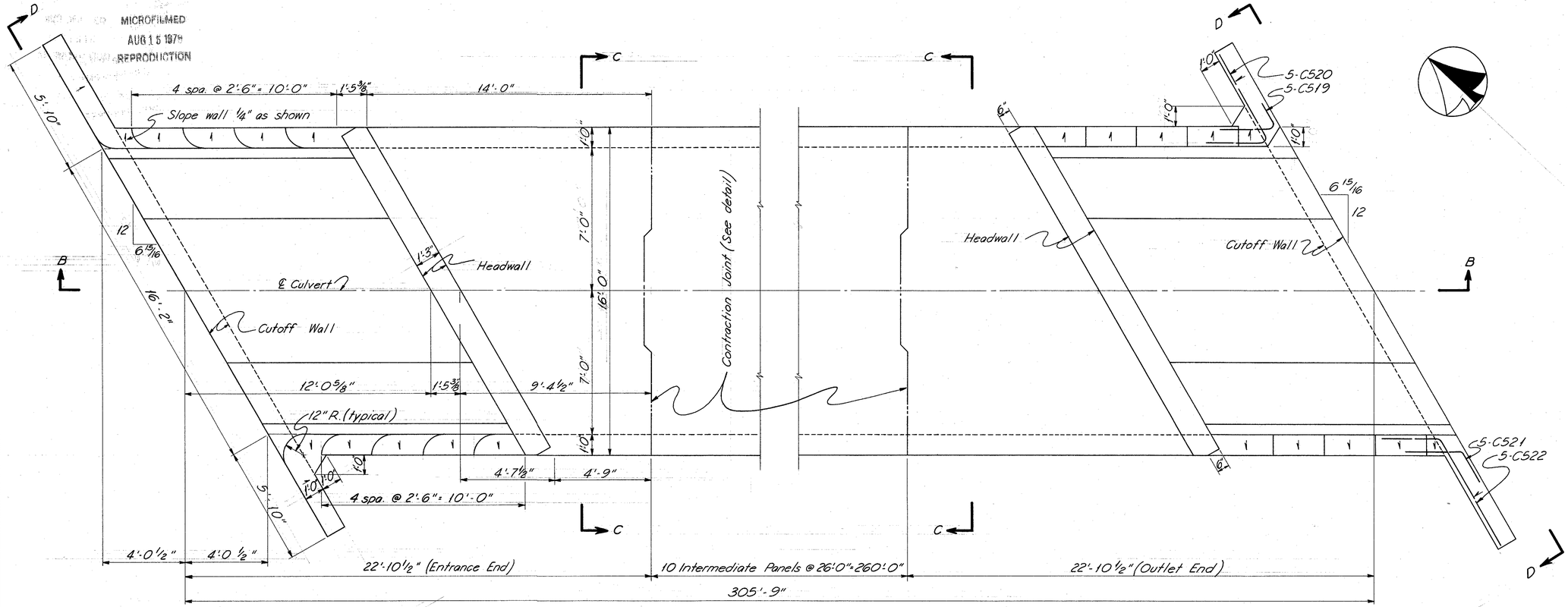


CULVERT DETAILS

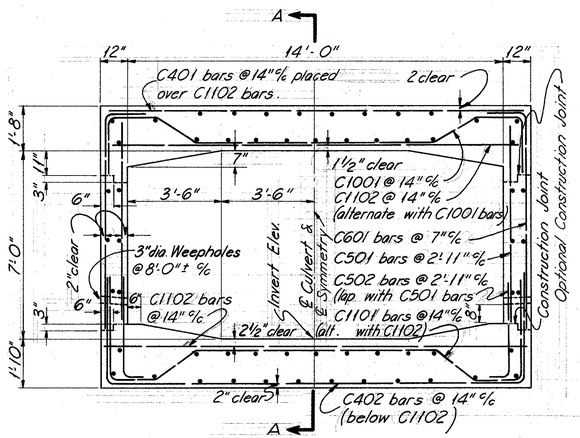
FED ROAD DIV. NO.	STATE	FED. AID PROJ. NO.	TYPE FUNDS
2	OHIO		

95
227

FRANKLIN COUNTY
FRA-270-0.79 N.

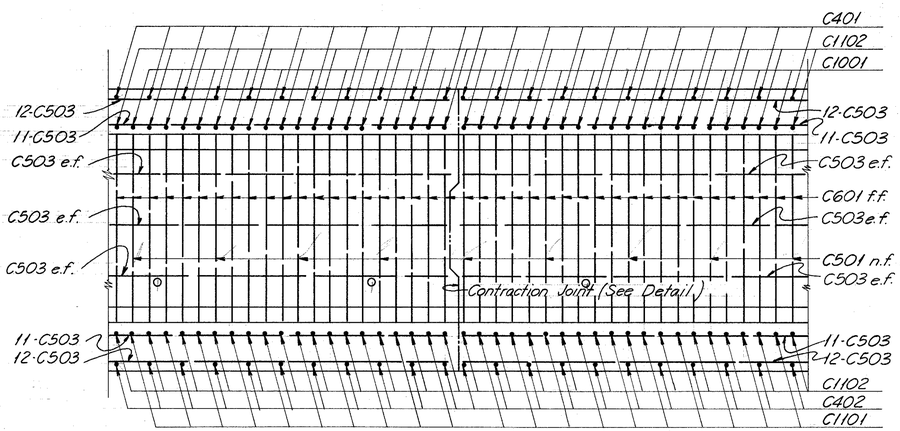


PLAN

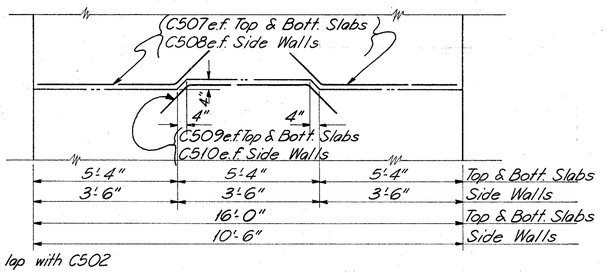


Note: All longitudinal bars C503

TYPICAL SECTION - INTERMEDIATE PANEL



SECTION - A



CONTRACTION JOINT DETAIL

BURGESS & NIPLE	CONSULTING ENGINEERS
COLUMBUS 12, OHIO	

BOX CULVERT DETAILS
DRAINAGE STRUCTURE
NO. FRA-270-0215 N.

FRANKLIN COUNTY STA. 342 + 27.00

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
D.W.	D.W.		KED	WGR 6-29-65	

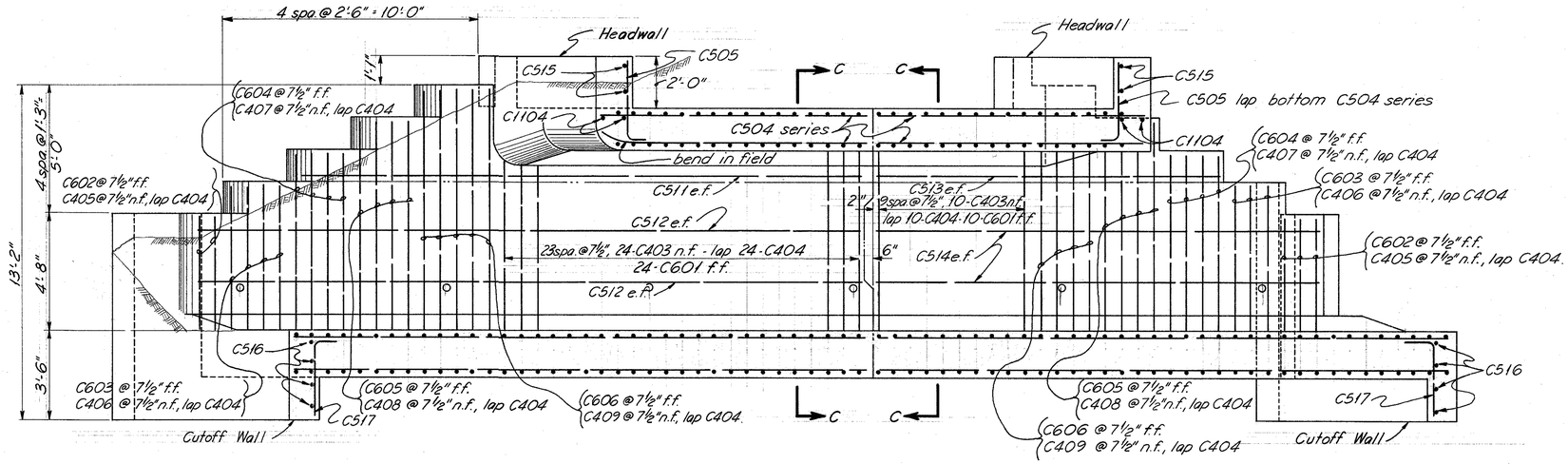
1/3

Conc. 229 Cu. Yd.
Re-Inf. 142,421 lbs.
Excavation 1120 Cu. Yd.

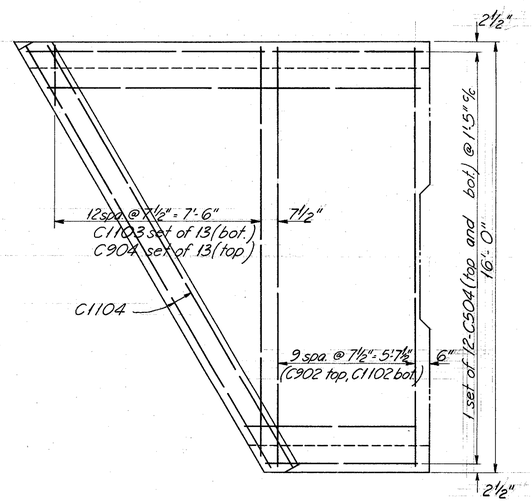
FED. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.	TYPE FUNDS
2	OHIO		

96
227

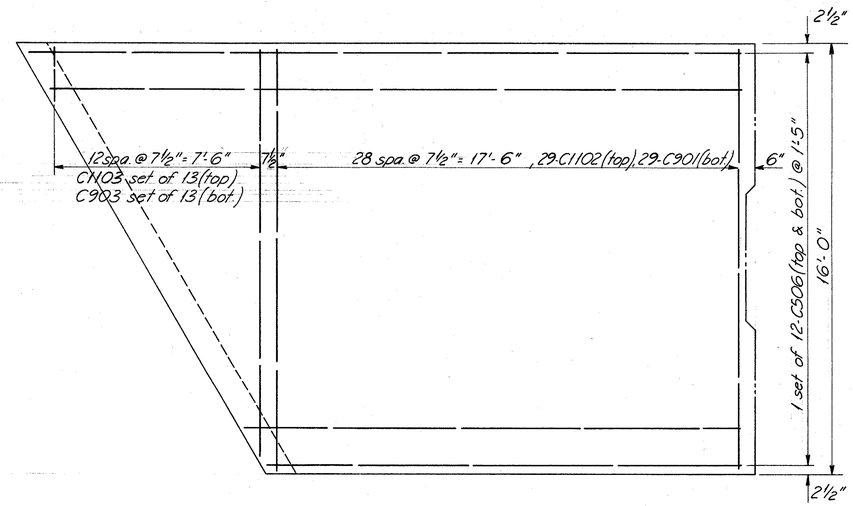
FRANKLIN COUNTY
FRA-270-0.79 N.



SECTION - B
(End Panels Only, Shown)



PLAN OF TOP SLAB
(end panels only)



PLAN OF BOTTOM SLAB
(end panels only)

BURGESS & NIPLE CONSULTING ENGINEERS
COLUMBUS 12, OHIO

2/3

BOX CULVERT DETAILS
DRAINAGE STRUCTURE
NO. FRA-270-0215 N.

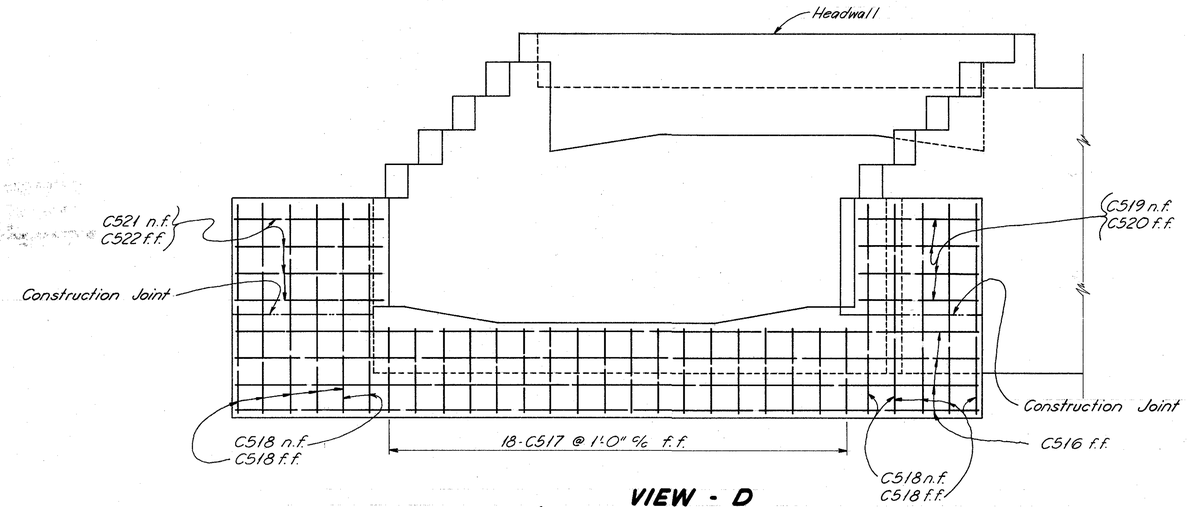
FRANKLIN COUNTY STA. 342+27.00

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
D.W.	D.W.		KED	WER 6-29-05	

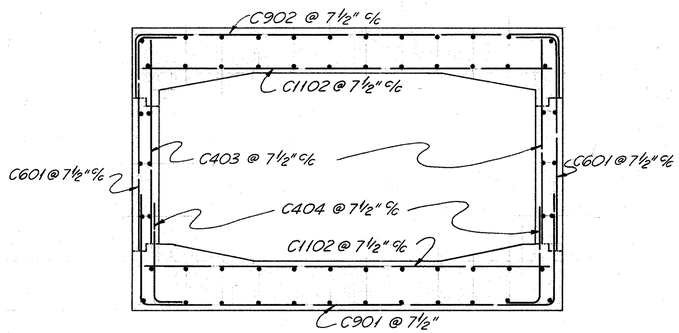
FED. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.	TYPE FUNDS
2	OHIO		

97
227

FRANKLIN COUNTY
FRA-270-0.79 N.



VIEW - D
(Outlet End Shown, Entrance End is similar except for rounding.)



SECTION - C
(For details not shown see Typical Section - Intermediate Panel)

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

CONCRETE *shall be class "C".*

BAR SIZE *is indicated in the bar mark. The first digit where three digits are used and the first two digits where four are used, indicate the bar size number. For example, C901 is a No. 9 size bar and C1001 is a No. 10 size bar.*

DESIGN DATA :
Concrete Class "C" - basic unit stress 1333 psi.
Reinforcing Steel - ASTM A15, A16, A160, Deformed, Intermediate or Hard Grade. Basic unit stress 20,000 p.s.i.

For location and site plan see sheet

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

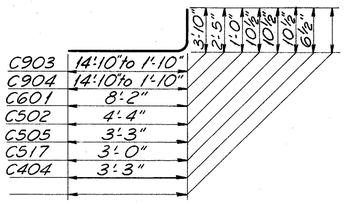
REINFORCING STEEL LIST

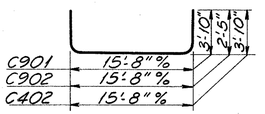
Mark	No.	Length	Weight	Shape
C1101	220	24'-9"	28,929	B
C1102	518	15'-6"	42,658	S
C1103	4 Sets / 13	14'-10" / 1'-10"	2,302	S, 13" inc.
C1104	4	18'-0"	383	S
C1001	210	19'-3"	17,395	B
C901	58	22'-10"	4,503	B
C902	20	20'-0"	1,360	B
C903	2 Sets / 13	18'-5" / 5'-5"	1,053	B, 13" inc.
C904	2 Sets / 13	17'-0" / 4'-0"	928	B, 13" inc.
C601	948	9'-0"	12,815	B
C602	10	4'-2"	63	S
C603	14	5'-5"	114	S
C604	16	6'-8"	160	S
C605	16	7'-11"	190	S
C606	18	9'-2"	248	S
C501	180	7'-9"	1455	S
C502	180	5'-1"	954	B
C503	580	25'-8"	15,527	S
C504	4 Sets / 12	14'-8" / 6'-6"	508	S, 10" inc.
C505	24	4'-0"	100	B
C506	4 Sets / 12	26'-8" / 17'-6"	1106	S, 10" inc.
C507	88	6'-5"	589	B
C508	88	4'-7"	421	B
C509	44	7'-2"	329	B
C510	44	5'-4"	245	B
C511	4	22'-0"	92	S
C512	8	26'-2"	218	S
C513	4	12'-10"	54	S
C514	8	16'-11"	141	S
C515	4	17'-9"	74	S
C516	8	27'-6"	229	S
C517	36	3'-9"	141	B
C518	26	7'-10"	212	S
C519	8	5'-0"	42	B
C520	8	7'-8"	64	B
C521	8	5'-0"	42	B
C522	8	9'-0"	75	B
C401	220	15'-6"	2278	S
C402	220	23'-1"	3392	B
C403	68	7'-9"	352	S
C404	142	3'-8"	348	B
C405	10	3'-11"	26	S
C406	14	5'-2"	48	S
C407	16	6'-5"	69	S
C408	16	7'-8"	82	S
C409	18	8'-11"	107	S

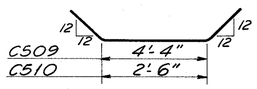
REPLACEMENT BARS

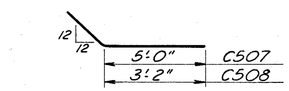
RE1101	4	7'-6"		S
RE1001	1	7'-2"		S
RE901	1	6'-10"		S
RE601	1	5'-11"		S
RE501	2	5'-7"		S
RE401	1	5'-3"		S

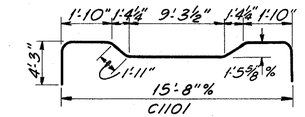
Bending Diagram

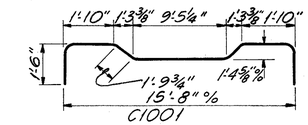


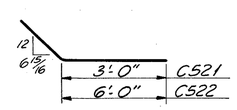


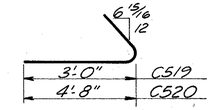












BURGESS & NIPLE **CONSULTING ENGINEERS**
COLUMBUS 12, OHIO

BOX CULVERT DETAILS DRAINAGE STRUCTURE NO. FRA-270-0215 N.

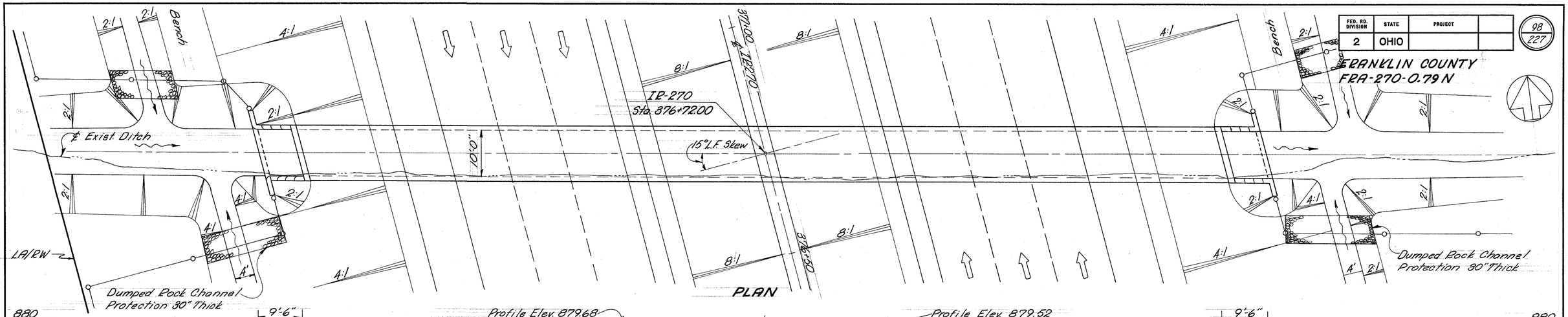
FRANKLIN COUNTY STA. 342.27.00

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
D.W.	D.W.		KED	W.C.R. 6-29-65	

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

98
227

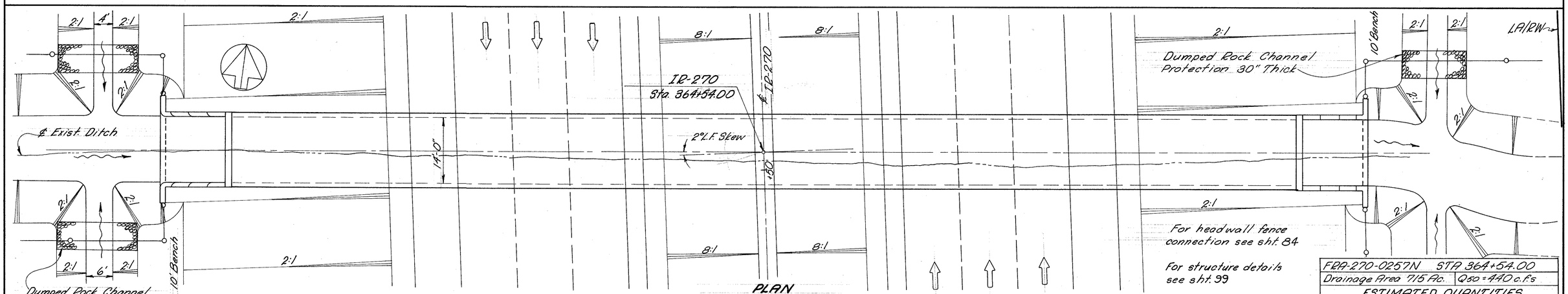
FRANKLIN COUNTY
FRA-270-0.79 N



Note: 0.00% grade from outlet to LA line.

FRA-270-0280N STA 376+72.00			
Drainage Area 343 Ac.		Q50 = 264 c.f.s.	
ESTIMATED QUANTITIES			
Item	511	Concrete for Structures	270 C.Y.
Item	509	Reinforcing Steel	43426 Lb.
Item	503	Excavation for Structures	168 C.Y.
Item	601	Dumped Rock Ch. Protection	34 C.Y.

Note: For structure details see sht. 100 & 101
For headwall fence connection see sht. 84



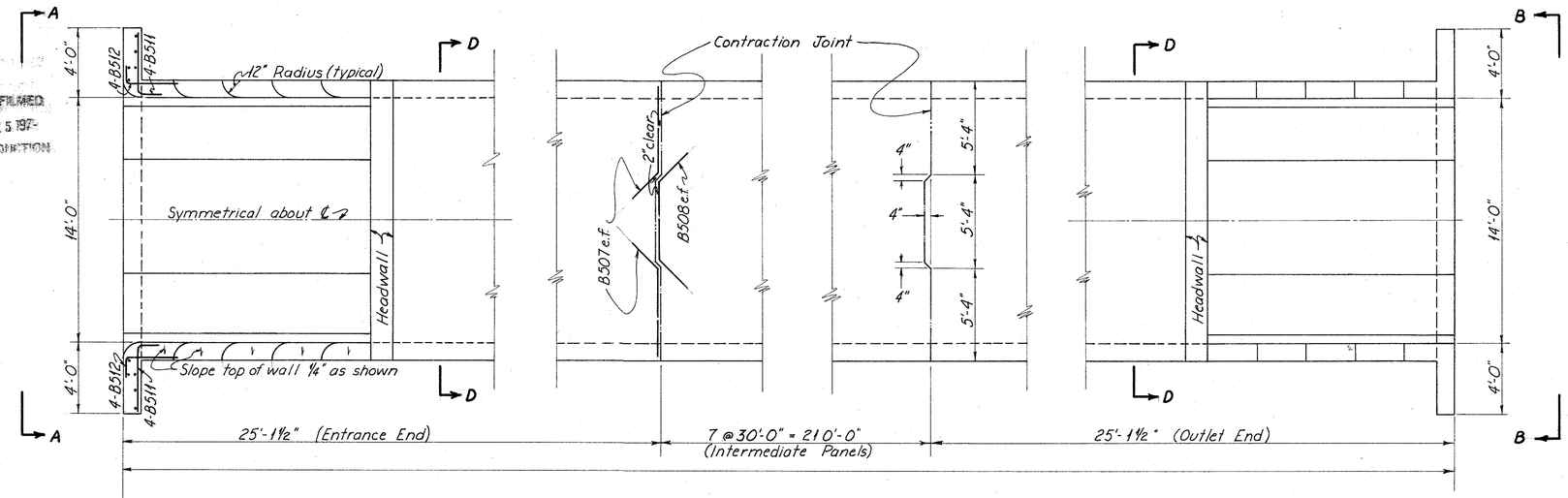
FRA-270-0257N STA 364+54.00			
Drainage Area 7.15 Ac.		Q50 = 440 c.f.s	
ESTIMATED QUANTITIES			
Item	511	Concrete for Structures	694 C.Y.
Item	509	Reinforcing Steel	115646 Lb.
Item	503	Excavation for Structures	350 C.Y.
Item	601	Dumped Rock Ch. Protection	38 C.Y.

CULVERT DETAILS

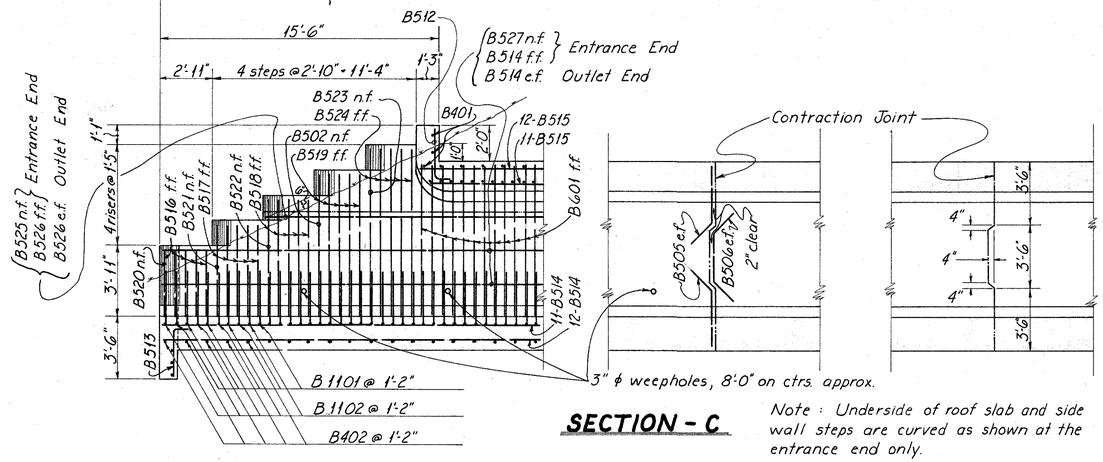
FED. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.	TYPE FUNDS
2	OHIO		

99
227

FRANKLIN COUNTY
FRA - 270 - 0.79 N.

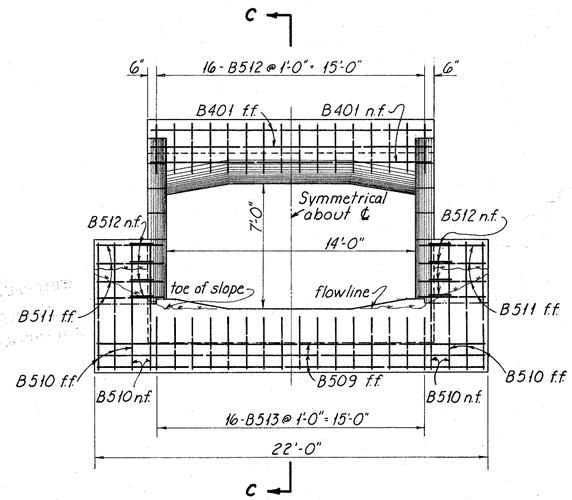


PART PLAN



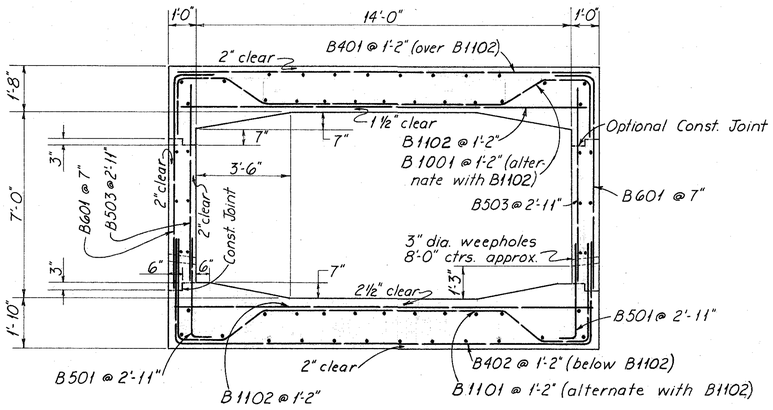
SECTION - C

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



END VIEW - A

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



SECTION - D

Note : All longitudinal bars B504 in intermediate panels. For end panels see Section-C.

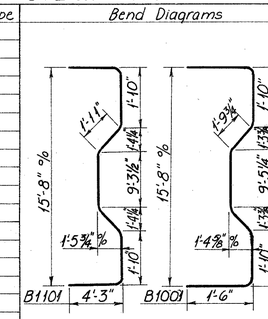
REINFORCING STEEL LIST

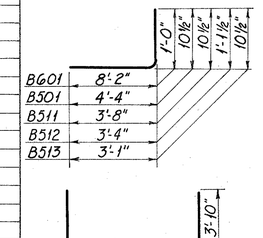
Mark	No.	Length	Weight	Shape
B1101	226	24'-9"	2,718	B
B1102	408	15'-6"	3,599	S
B1001	200	19'-3"	1,567	B
B601	790	9'-0"	0,679	B
B501	190	5'-1"	1,007	B
B502	4	7'-5"	31	S
B503	154	7'-9"	1,245	S
B504	406	2'-3"-8"	12,563	S
B505	64	4'-8"	312	B
B506	32	5'-5"	181	B
B507	64	6'-6"	434	B
B508	32	7'-3"	242	B
B509	6	21'-8"	136	S
B510	20	7'-1"	148	S
B511	16	4'-5"	74	B
B512	48	4'-4"	217	B
B513	32	3'-10"	128	S
B514	58	24'-5"	1,477	S
B515	46	9'-9"	468	S
B516	20	3'-5"	71	S
B517	20	4'-10"	101	S
B518	20	6'-3"	130	S
B519	20	7'-8"	160	S
B520	4	3'-2"	13	S
B521	4	4'-7"	19	S
B522	4	6'-0"	25	S
B523	4	8'-10"	37	S
B524	20	9'-1"	189	S
B525	2	18'-6"	39	S
B526	6	19'-0"	119	S
B527	4	23'-11"	100	S
B401	197	15'-6"	2,040	S
B402	219	23'-1"	3,377	B

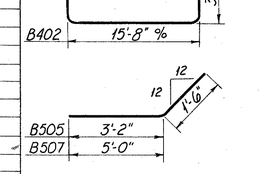
REPLACEMENT BARS

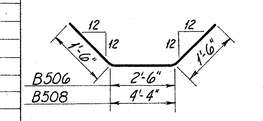
RE1101	4	7'-6"	S
RE1001	1	7'-2"	S
RE601	1	5'-11"	S
RE501	1	5'-7"	S
RE401	1	5'-3"	S

Bend Diagrams









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

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

CONCRETE shall be Class "C".

BAR SIZE is indicated in the bar mark. The first digit where three digits are used, and the first two digits where four are used, indicate the bar size number. For example, B701 is a No. 7 size bar and B1101 is a No. 11 size bar.

DESIGN DATA:
Concrete Class "C" - basic unit stress 1333 p.s.i.
Reinforcing Steel - ASTM A 15, A 16, A 160, Deformed, Intermediate or Hard Grade. Basic unit stress 20,000 p.s.i.

BURGESS & NIPLE CONSULTING ENGINEERS
COLUMBUS 12, OHIO

BOX CULVERT DETAILS
DRAINAGE STRUCTURE
FRA-270-0257 N.

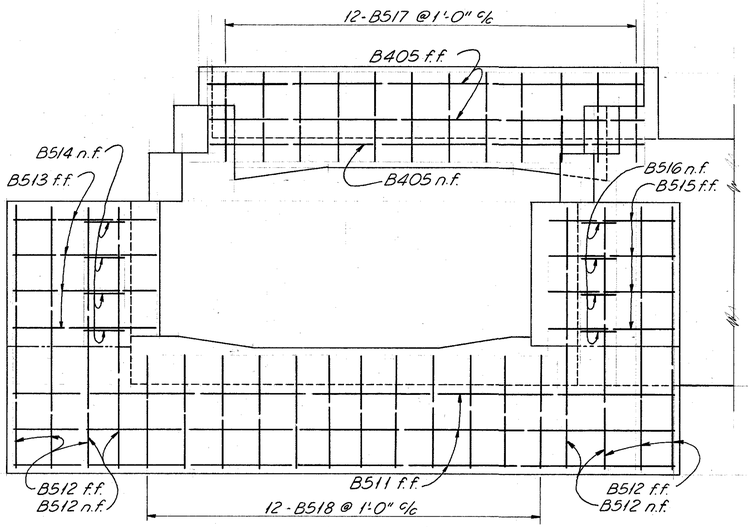
FRANKLIN COUNTY STA. 364+58.00

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
D.W.J.	A.W.S.		D.W.	WER 6-22-65	

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

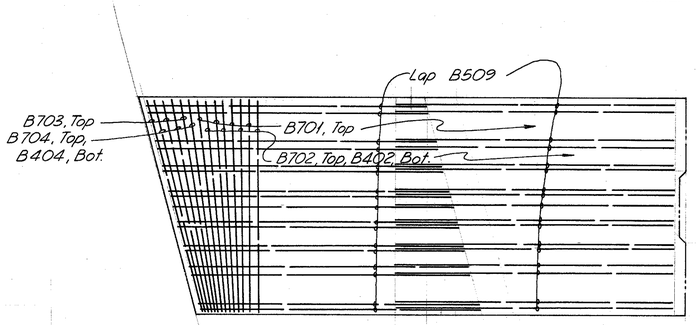
100
227

FRANKLIN COUNTY
FRA-270-0.79 N.

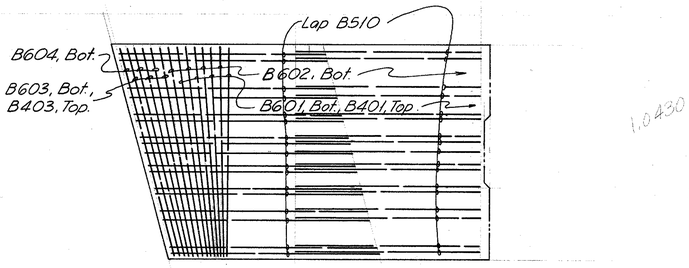


END VIEW - C

(View-B similar except underside of roof slab and side wall steps are curved.)



BOTTOM SLAB PLAN



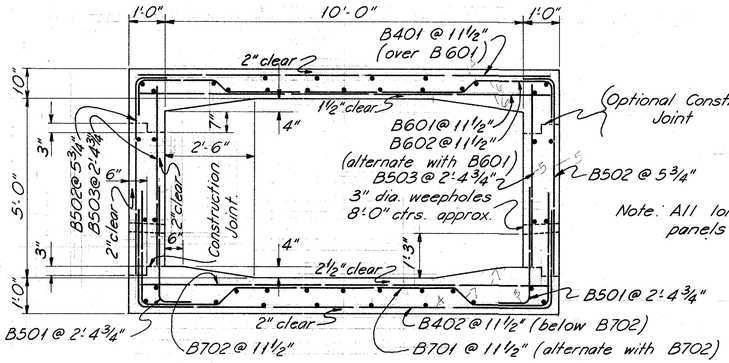
TOP SLAB PLAN

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

CONCRETE shall be class "C".

BAR SIZE is indicated in the bar mark. The first digit where three digits are used, indicates the bar size number. For example B701 is a No 7 size bar.

DESIGN DATA:
Concrete Class "C" - basic unit stress 1333 p.s.i.
Reinforcing Steel - ASTM A15, A16, A160, Deformed, Intermediate or Hard Grade. Basic unit stress 20,000 p.s.i.

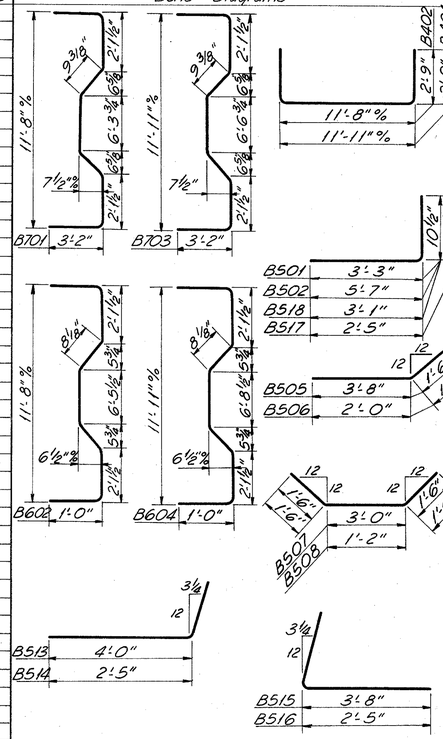


SECTION - D

REINFORCING STEEL LIST

Mark	No.	Length	Weight	Shape
B701	220	18'-1"	8,132	B
B702	214	11'-6"	5030	S
B703	6	18'-4"	225	B
B704	6	11'-9"	144	S
B601	200	11'-6"	3,455	S
B602	194	13'-9"	4,007	B
B603	6	11'-9"	106	S
B604	6	14'-0"	126	B
B501	184	4'-0"	768	B
B502	820	6'-4"	5,417	B
B503	170	5'-3"	931	S
B504	252	25'-8"	6,746	S
B505	56	5'-2"	302	B
B506	56	3'-6"	204	B
B507	28	6'-0"	175	B
B508	28	4'-2"	122	B
B509	68	15'-9"	1117	S
B510	68	11'-8"	827	S
B511	6	18'-4"	115	S
B512	20	7'-3"	151	S
B513	8	5'-0"	42	B
B514	8	3'-5"	29	B
B515	8	4'-8"	39	B
B516	8	3'-5"	29	B
B517	24	3'-5	86	B
B518	24	3'-10"	96	B
B519	6	29'-9"	186	S
B520	2	29'-0"	60	S
B521	6	26'-7"	166	S
B522	2	26'-1"	54	S
B523	22	3'-10"	88	S
B524	4	3'-7"	15	S
B525	20	5'-2"	108	S
B526	4	4'-11"	21	S
B527	24	6'-6"	168	S
B528	4	6'-3"	26	S
B401	200	11'-6"	1536	S
B402	214	16'-11"	2418	B
B403	6	11'-9"	47	S
B404	6	17'-2"	69	B
B405	6	11'-11"	48	S

Bend Diagrams



Total 13-steel 43,426 lbs
Total Concrete 270 C.Yds.
Total Excavation 168 C.Yds.

BURGESS & NIPLE	CONSULTING ENGINEERS
COLUMBUS 12, OHIO	

BOX CULVERT DETAILS
DRAINAGE STRUCTURE
FRA-270-0280 N.

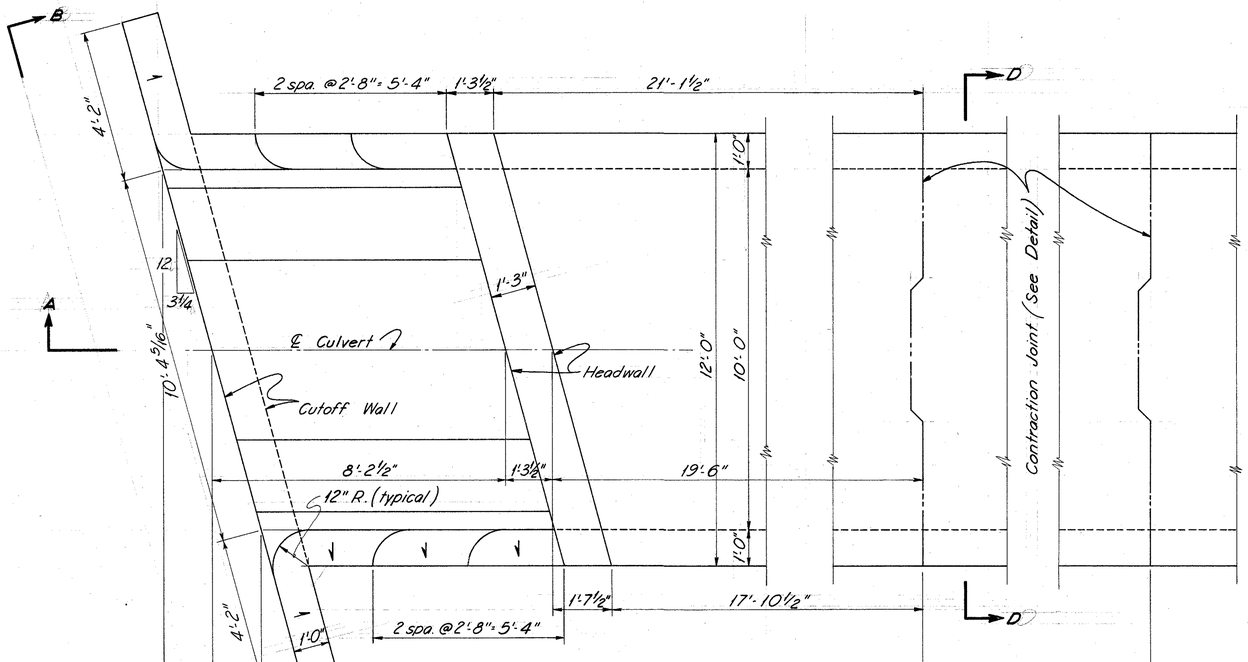
FRANKLIN COUNTY 376+72.00

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
D.W.	D.W.		DWS	WCR 6-22-05	

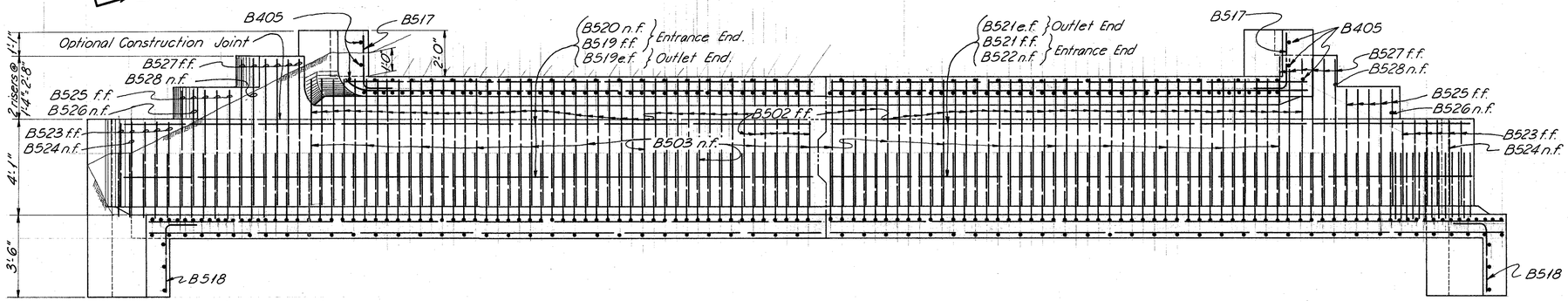
FED. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.	TYPE FUNDS
2	OHIO		

101
227

FRANKLIN COUNTY
FRA-270 - 0.79 N.

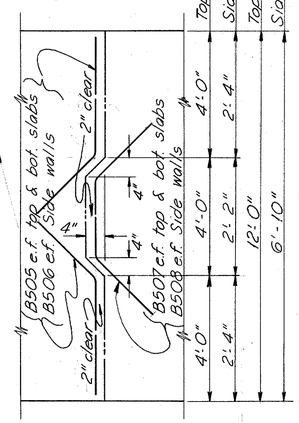


PLAN



SECTION - A

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



CONTRACTION JOINT DETAILS

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

BURGESS & NIPLE CONSULTING ENGINEERS
COLUMBUS 12, OHIO

BOX CULVERT DETAILS
DRAINAGE STRUCTURE
FRA-270- 0280 N.

FRANKLIN COUNTY STA - 376 + 72.00

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
DW	DW		DWS	WCR 6-22-65	

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

102
227

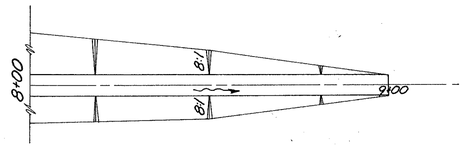
FRANKLIN COUNTY
FRA-270-0.79 N

FRA-270-0332N STA 404+17.92
Drainage Area 180 Ac. Q50 = 170 c.f.s.

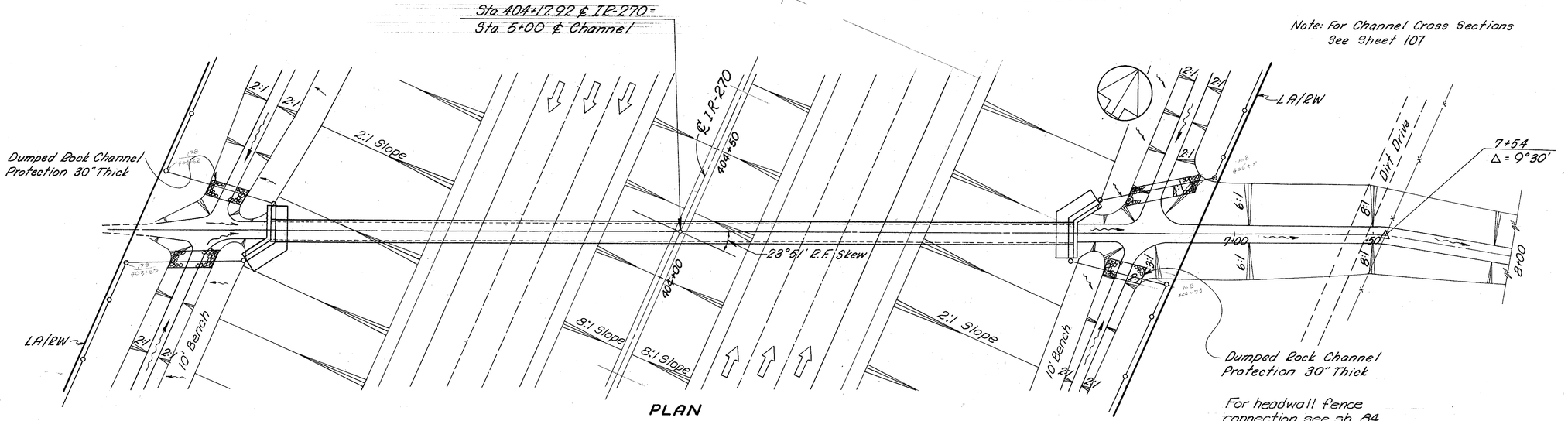
ESTIMATED QUANTITIES

Item	603	72" Type A (706.02) Class V	290 L.F.
Item	602	Concrete Masonry	33.2 C.Y.
Item	601	Dumped Rock Channel Protection	36 C.Y.

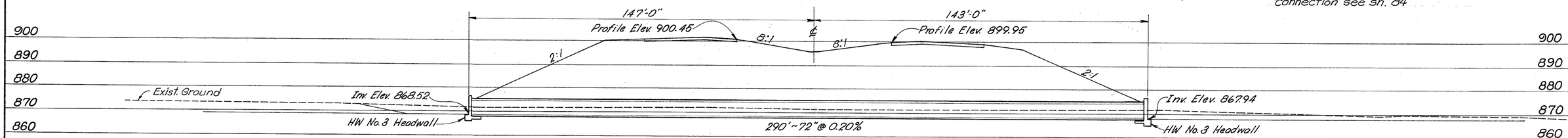
Note: Quantities shown are for headwalls with a skew of 30°



Note: For Channel Cross Sections See Sheet 107



PLAN



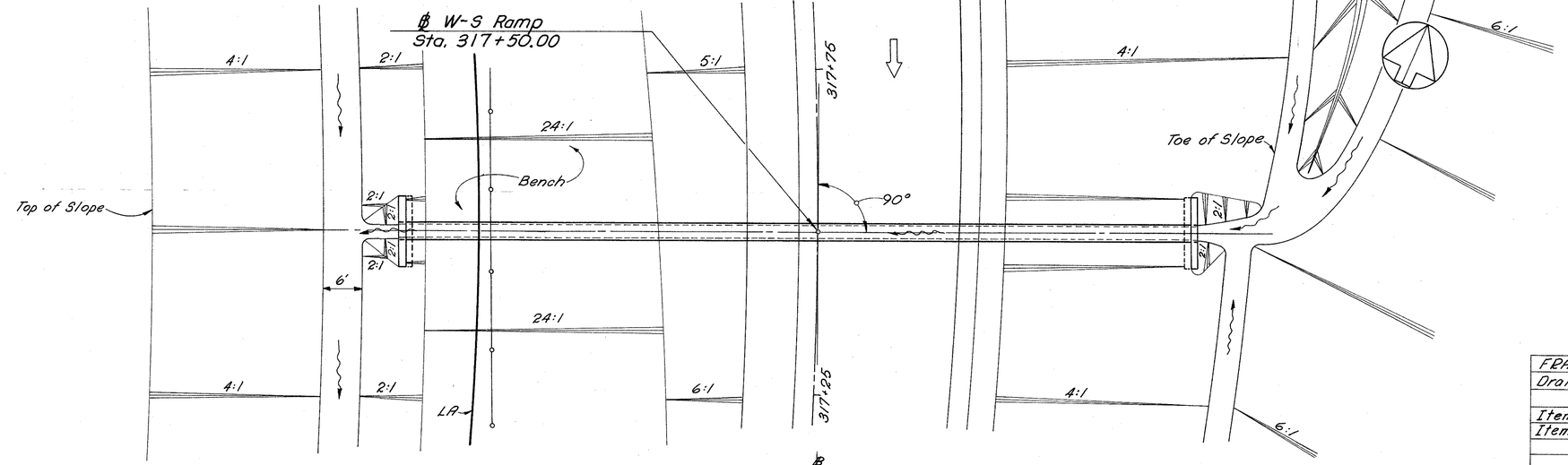
PROFILE

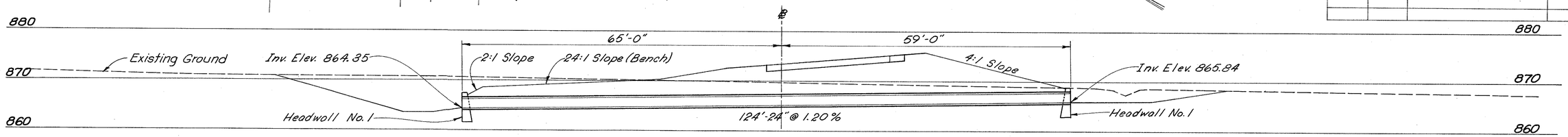
CULVERT DETAIL

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

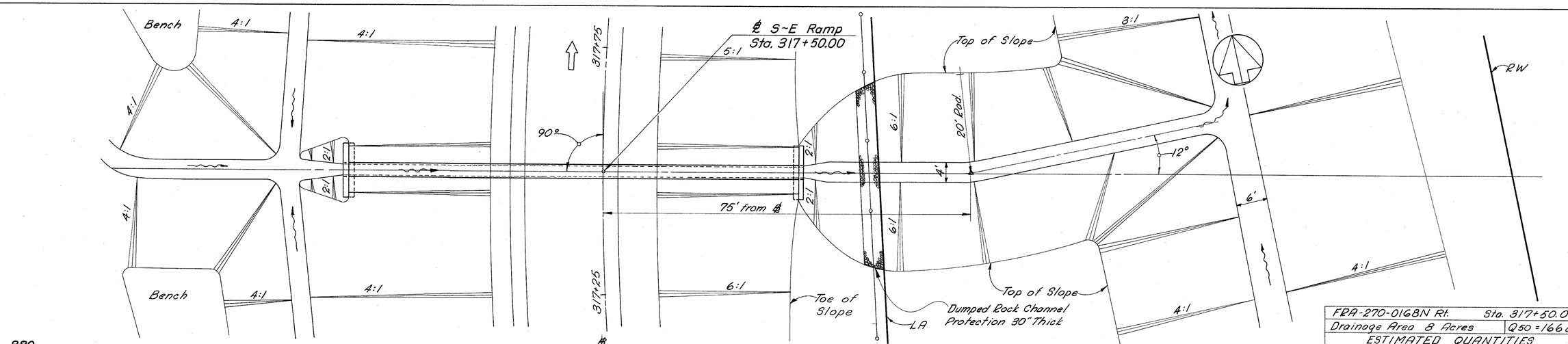
103
227

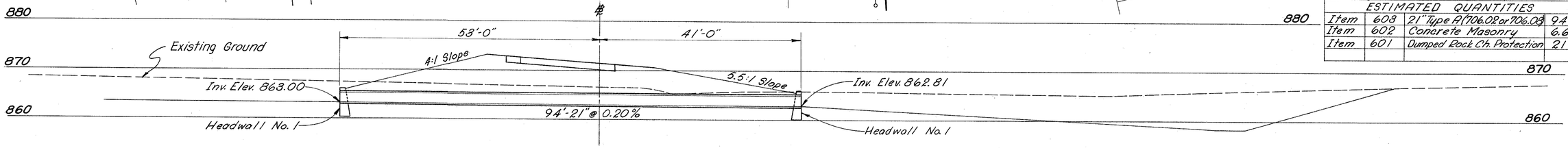
FRANKLIN COUNTY
FRA-270-0.79 N





FRA-270-0.16 BN Lt.	Sta. 317+50.00	
Drainage Area 5.8 Acres		Q50 = 13.8 c.f.s.
ESTIMATED QUANTITIES		
Item 603	24" Type A (706.02 or 706.03)	124 L.F.
Item 602	Concrete Masonry	6.6 C.Y.



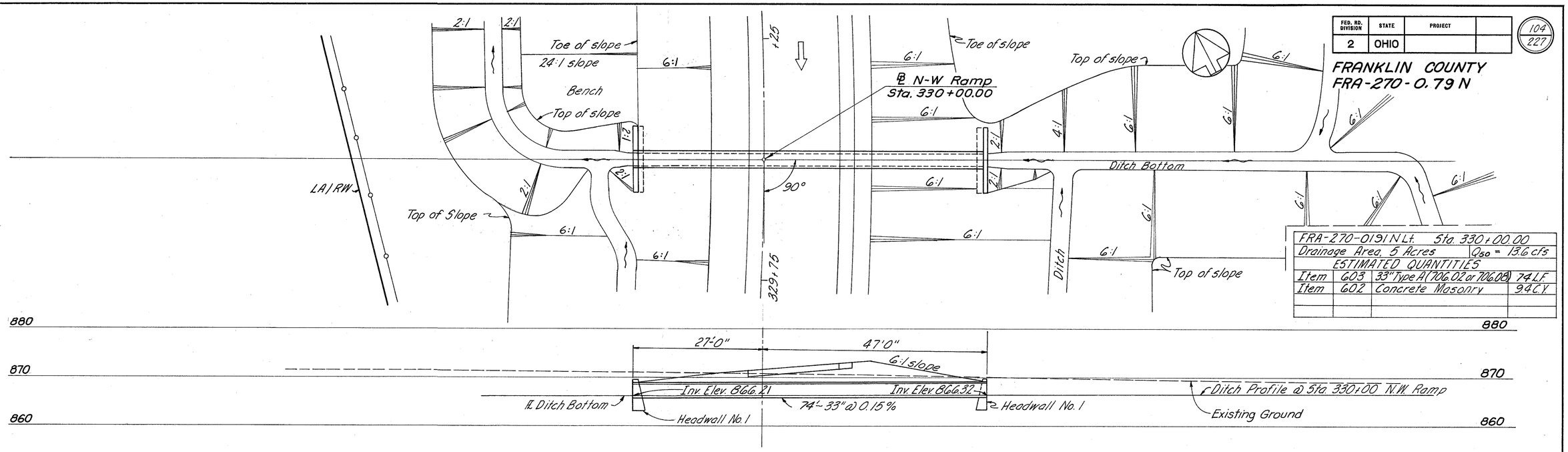


FRA-270-0.16 BN Rt.	Sta. 317+50.00	
Drainage Area 8 Acres		Q50 = 16.6 c.f.s.
ESTIMATED QUANTITIES		
Item 603	21" Type A (706.02 or 706.03)	94 L.F.
Item 602	Concrete Masonry	6.6 C.Y.
Item 601	Dumped Rock Ch. Protection	21 C.Y.

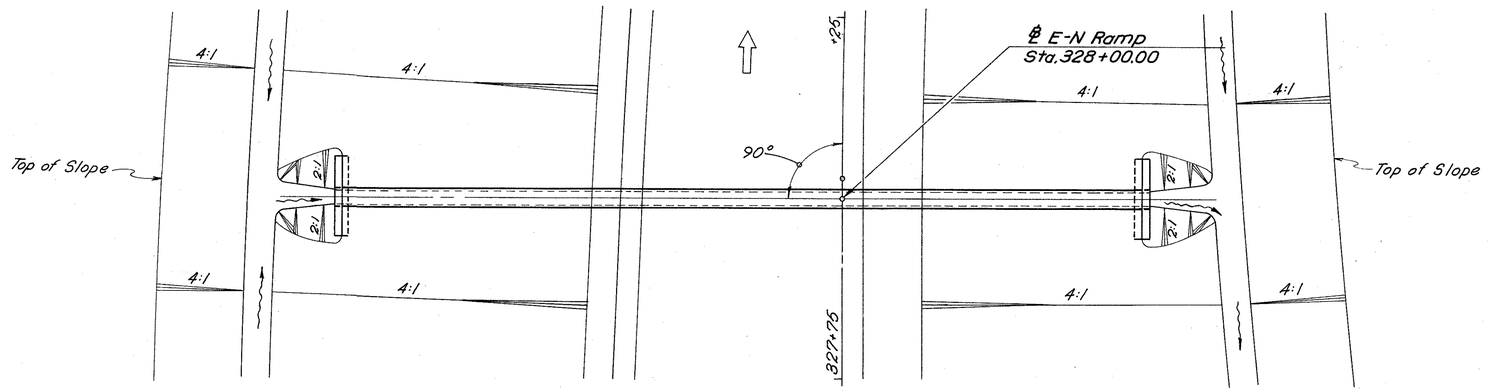
FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

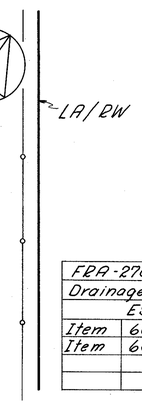
104
227

FRANKLIN COUNTY
FRA-270-0.79 N



FRA-270-0191 N Lt. Sta. 330+00.00			
Drainage Area 5 Acres		Q_{50} = 13.6 cfs	
ESTIMATED QUANTITIES			
Item	603	33" Type A (706.02 or 706.08)	74 L.F.
Item	602	Concrete Masonry	9.4 C.Y.





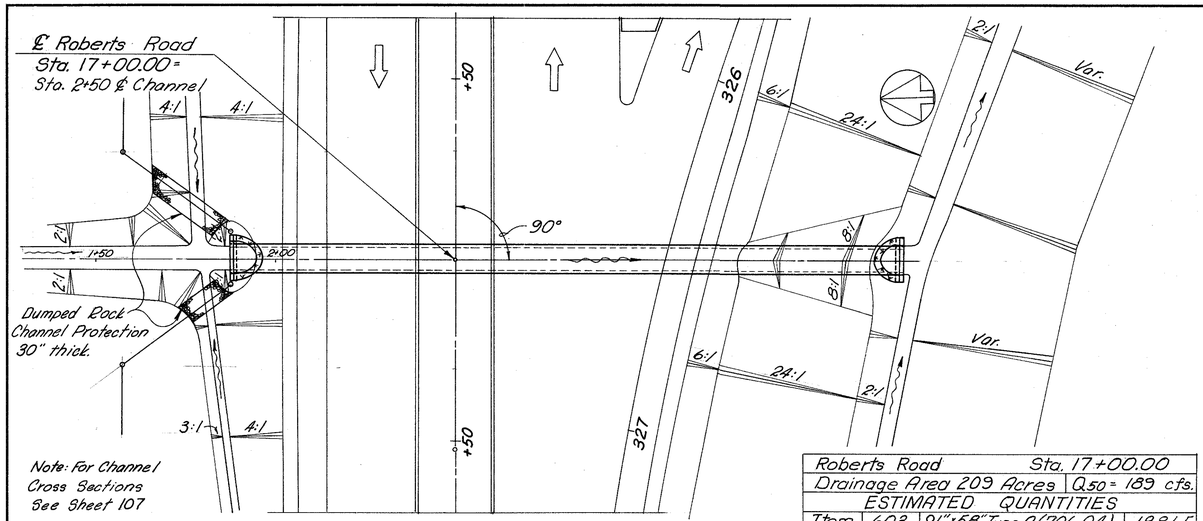
FRA-270-0188 N Rt. Sta. 328+00.00			
Drainage Area 8 Acres		Q_{50} = 17.1 cfs	
ESTIMATED QUANTITIES			
Item	603	24" Type A (706.02 or 706.08)	114 L.F.
Item	602	Concrete Masonry	6.6 C.Y.

CULVERT DETAIL

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

105/227

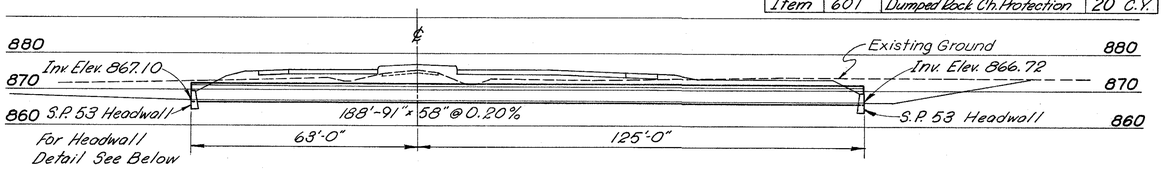
FRANKLIN COUNTY
FRA-270-0.79 N

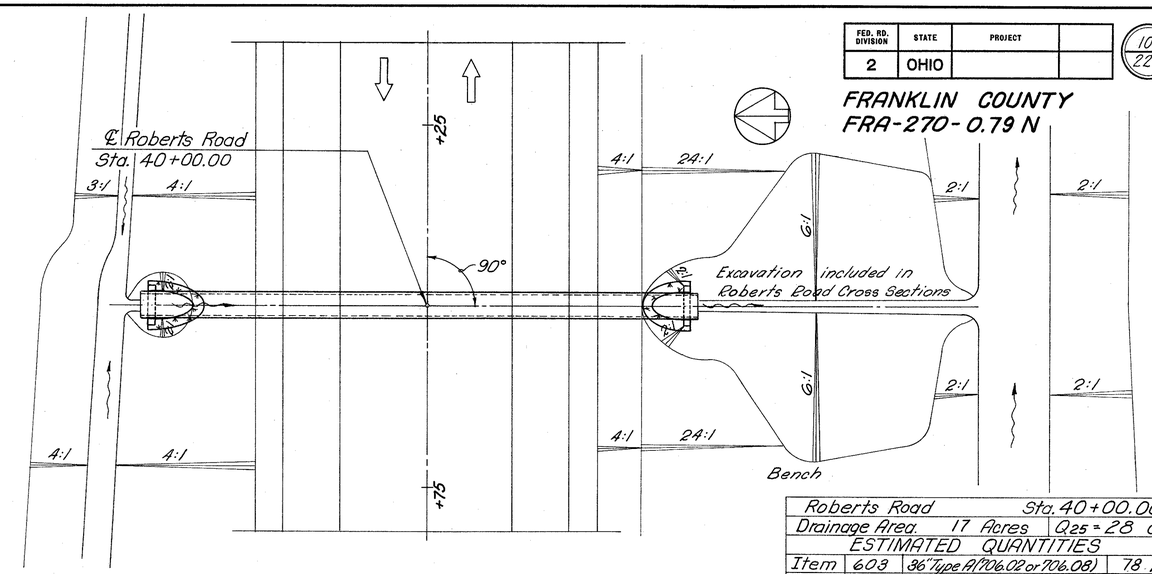


Note: For Channel Cross Sections See Sheet 107

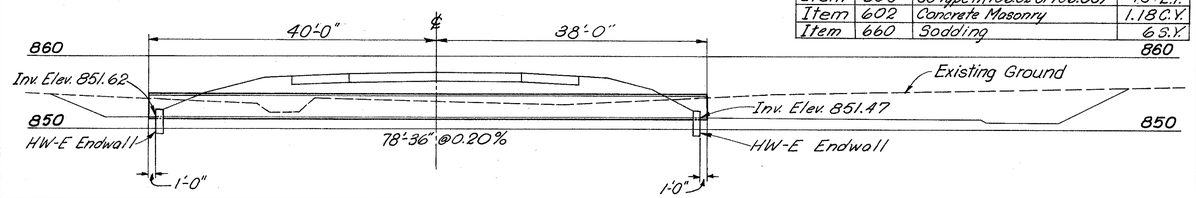
For headwall fence connection see sh. 84

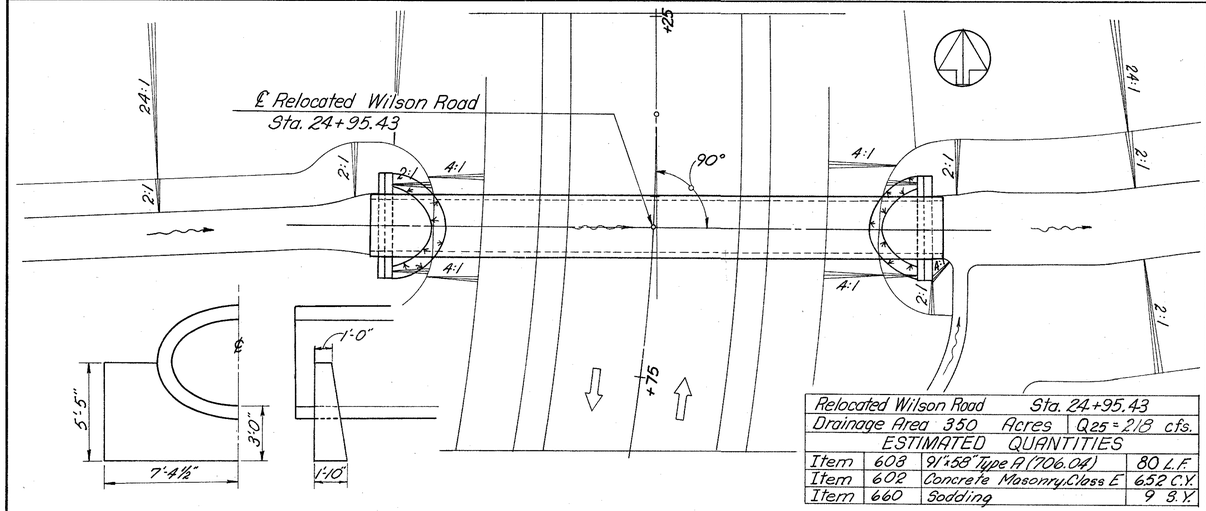
Roberts Road		Sta. 17+00.00	
Drainage Area 209 Acres		Q_{50} = 189 c.f.s.	
ESTIMATED QUANTITIES			
Item	603	91"x58" Type A (706.04)	188 L.F.
Item	602	Concrete Masonry, Class E	6.52 C.Y.
Item	660	Sodding	9 S.Y.
Item	601	Dumped Rock Ch. Protection	20 C.Y.





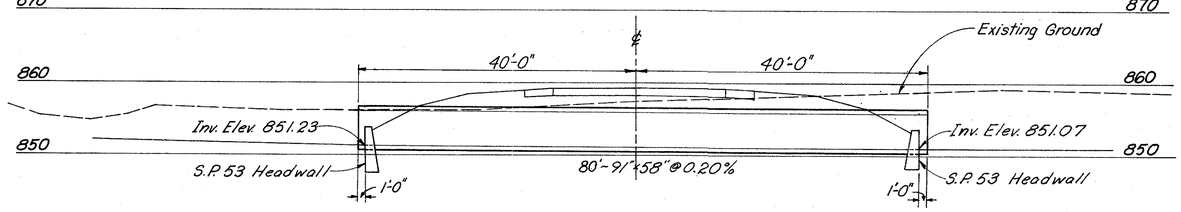
Roberts Road		Sta. 40+00.00	
Drainage Area 17 Acres		Q_{25} = 28 c.f.s.	
ESTIMATED QUANTITIES			
Item	603	36" Type A (706.02 or 706.08)	78 L.F.
Item	602	Concrete Masonry	1.18 C.Y.
Item	660	Sodding	6 S.Y.

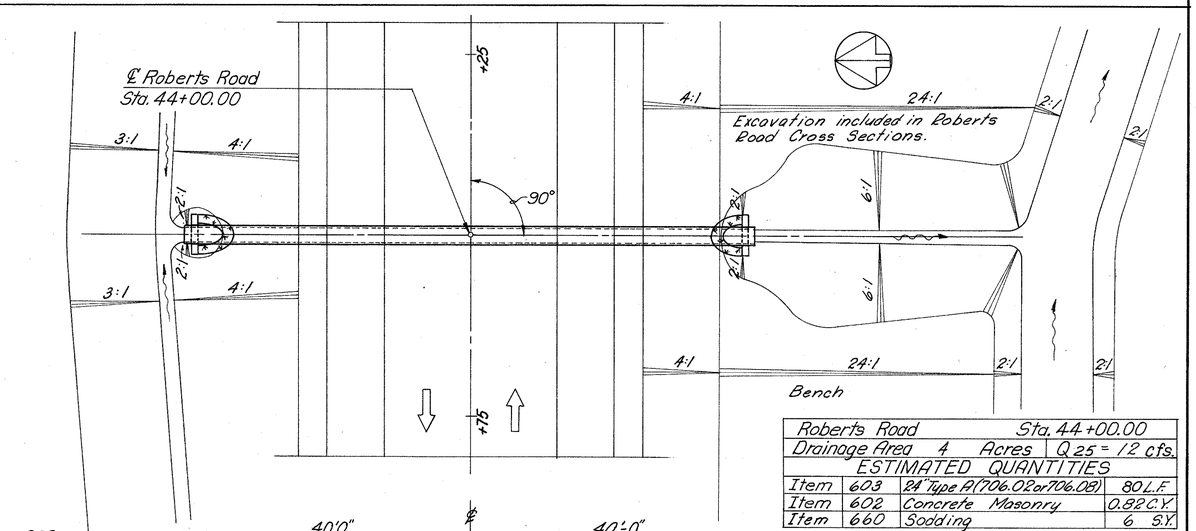




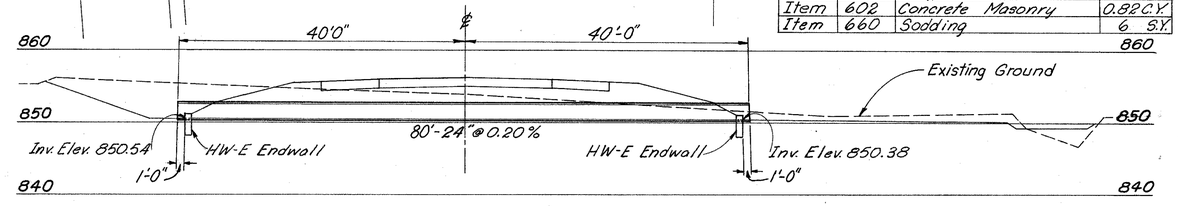
S.P. 53 HEADWALL DETAIL

Relocated Wilson Road		Sta. 24+95.43	
Drainage Area 350 Acres		Q_{25} = 218 c.f.s.	
ESTIMATED QUANTITIES			
Item	603	91"x58" Type A (706.04)	80 L.F.
Item	602	Concrete Masonry, Class E	6.52 C.Y.
Item	660	Sodding	9 S.Y.





Roberts Road		Sta. 44+00.00	
Drainage Area 4 Acres		Q_{25} = 12 c.f.s.	
ESTIMATED QUANTITIES			
Item	603	24" Type A (706.02 or 706.08)	80 L.F.
Item	602	Concrete Masonry	0.82 C.Y.
Item	660	Sodding	6 S.Y.



FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

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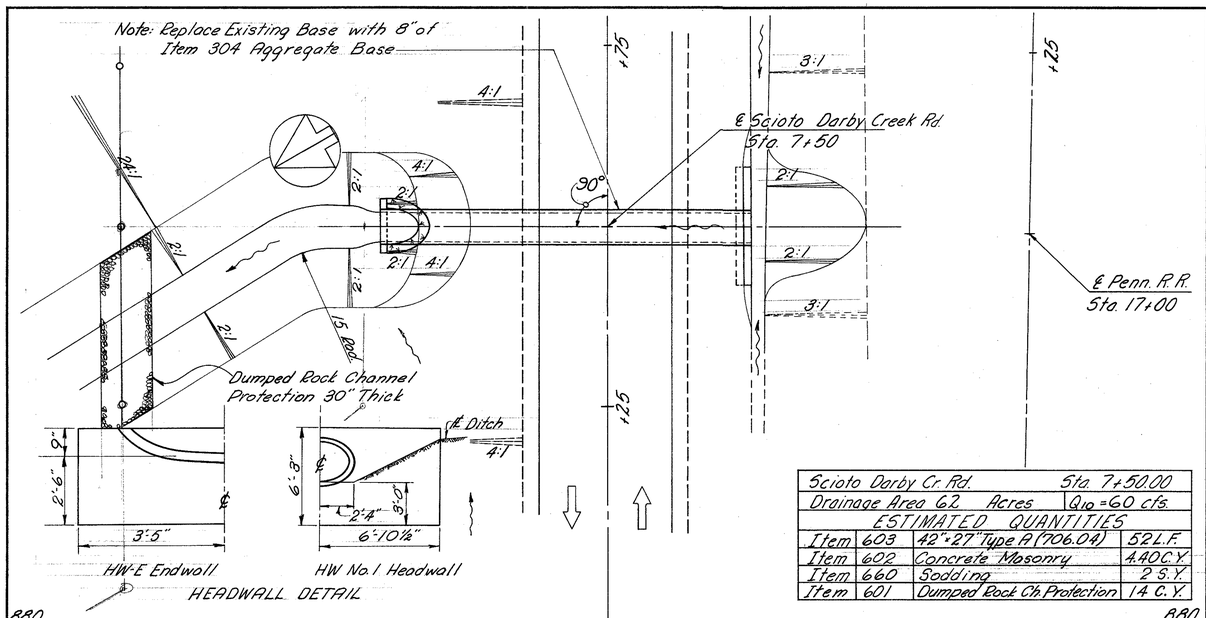
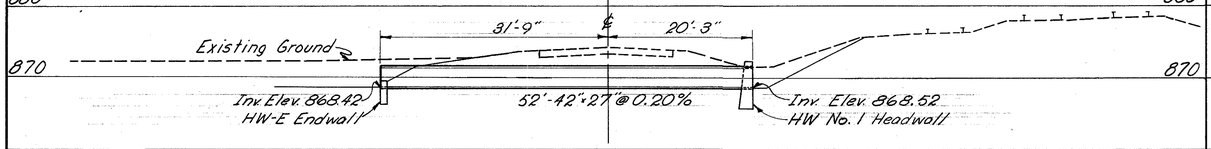
FRANKLIN COUNTY
FRA-270.0.79N

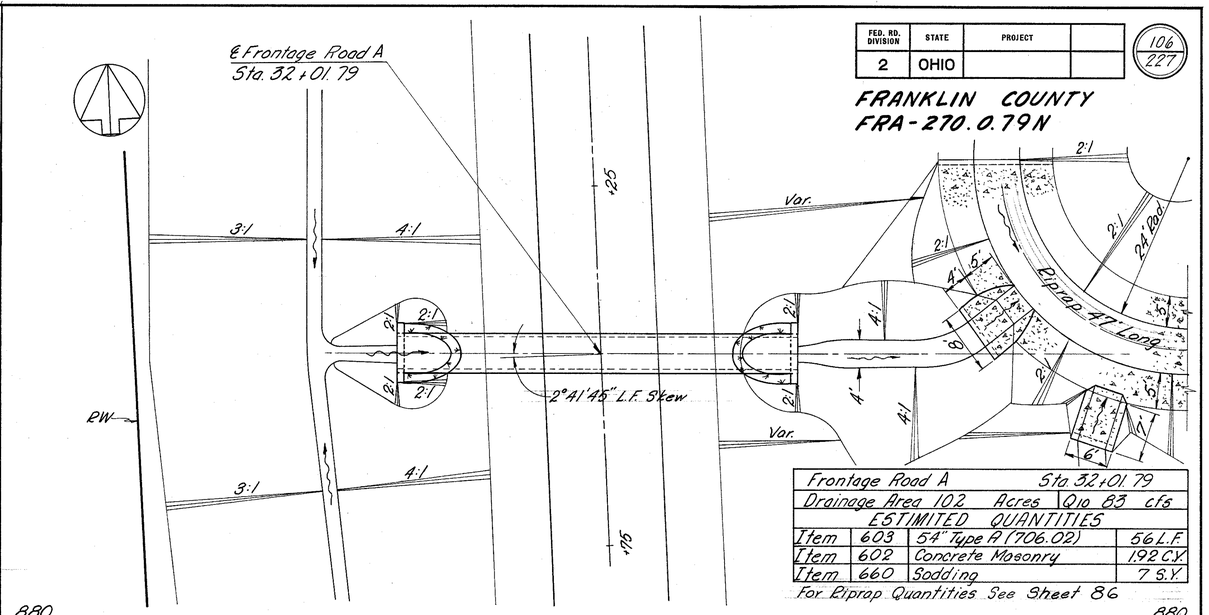
Note: Replace Existing Base with 8" of Item 304 Aggregate Base



HEADWALL DETAIL

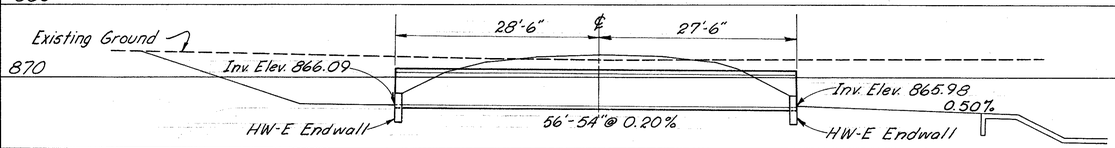
Scioto Darby Cr. Rd.		Sta. 7+50.00	
Drainage Area 6.2 Acres		Q10 = 60 cfs	
ESTIMATED QUANTITIES			
Item	603	42"+27" Type A (706.04)	52 L.F.
Item	602	Concrete Masonry	4.40 C.Y.
Item	660	Sodding	2 S.Y.
Item	601	Dumped Rock Ch. Protection	14 C.Y.

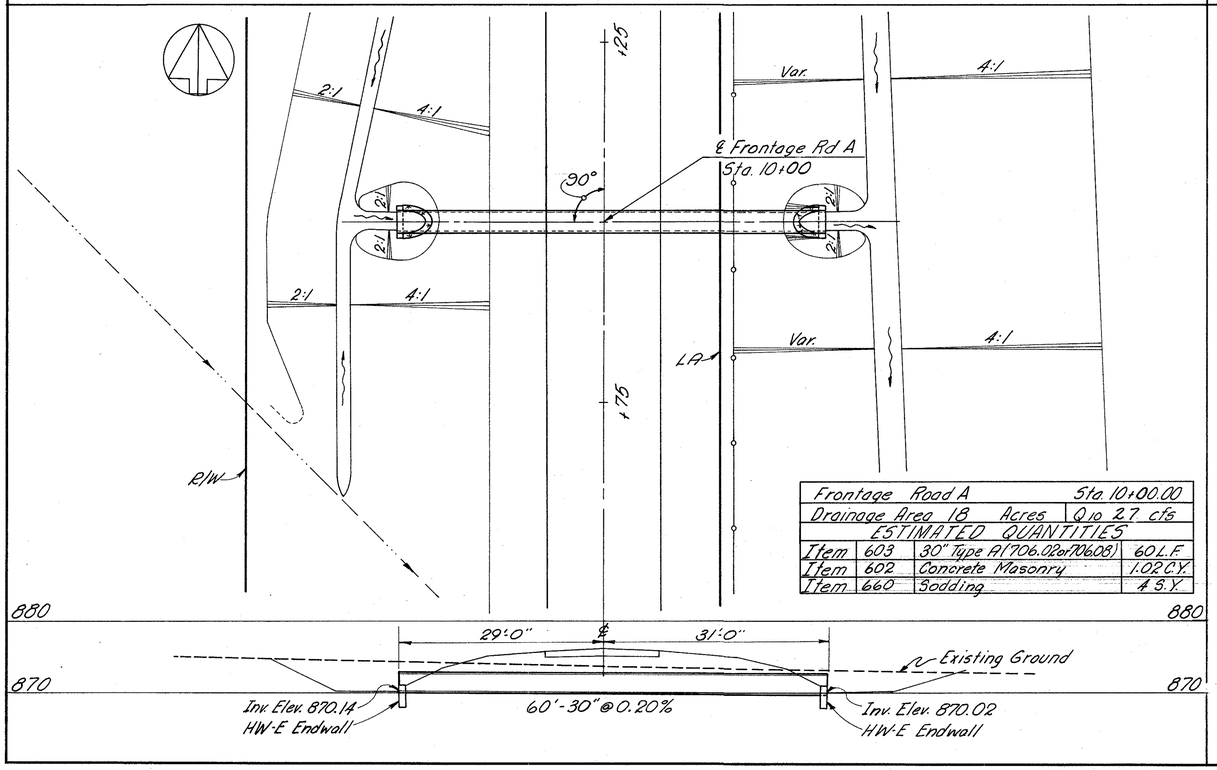




Frontage Road A		Sta. 32+01.79	
Drainage Area 10.2 Acres		Q10 83 cfs	
ESTIMITED QUANTITIES			
Item	603	54" Type A (706.02)	56 L.F.
Item	602	Concrete Masonry	1.92 C.Y.
Item	660	Sodding	7 S.Y.

For Riprap Quantities See Sheet 86



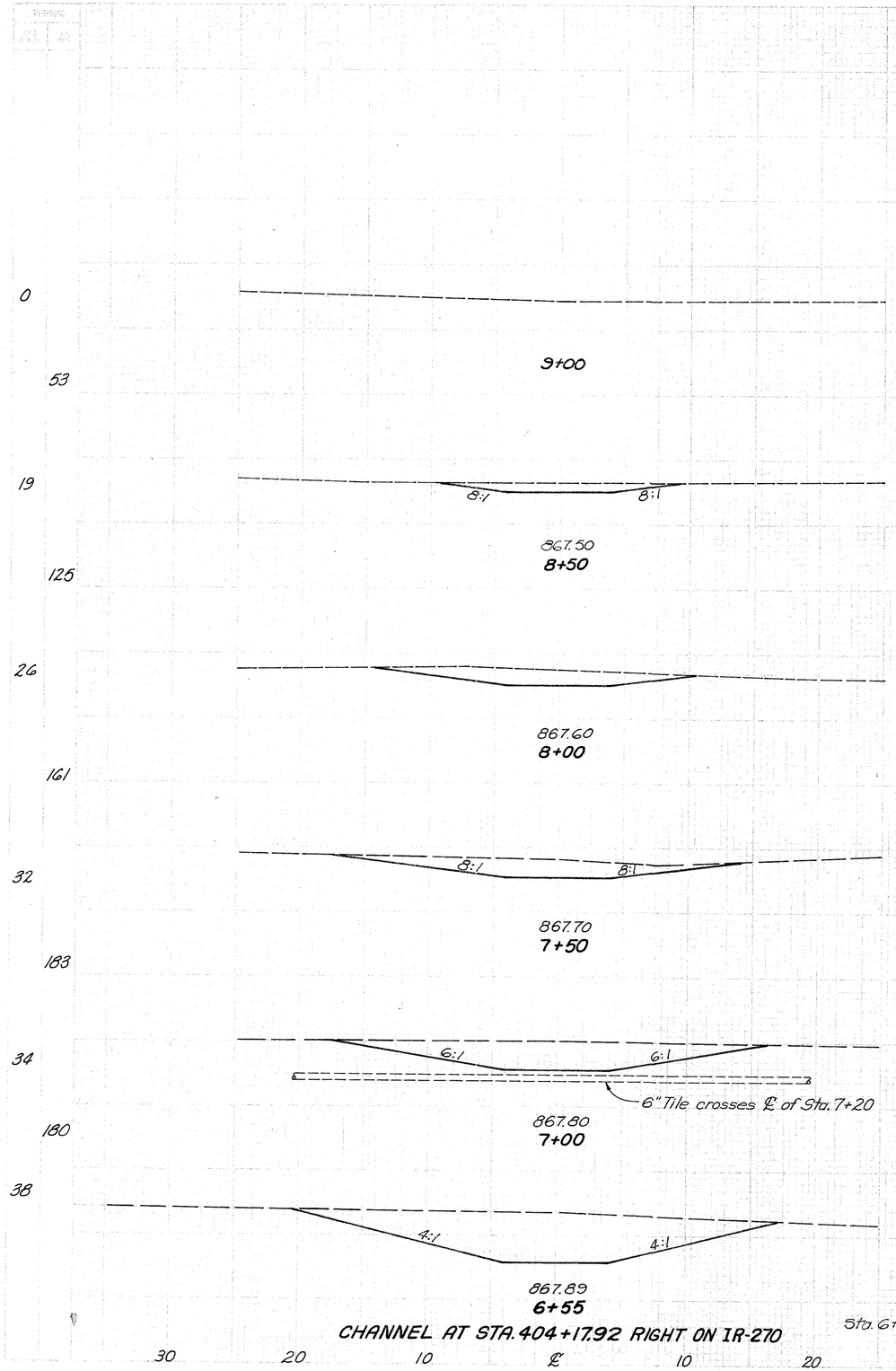


Frontage Road A		Sta. 10+00.00	
Drainage Area 18 Acres		Q10 27 cfs	
ESTIMATED QUANTITIES			
Item	603	30" Type A (706.02 or 706.03)	60 L.F.
Item	602	Concrete Masonry	1.02 C.Y.
Item	660	Sodding	4 S.Y.

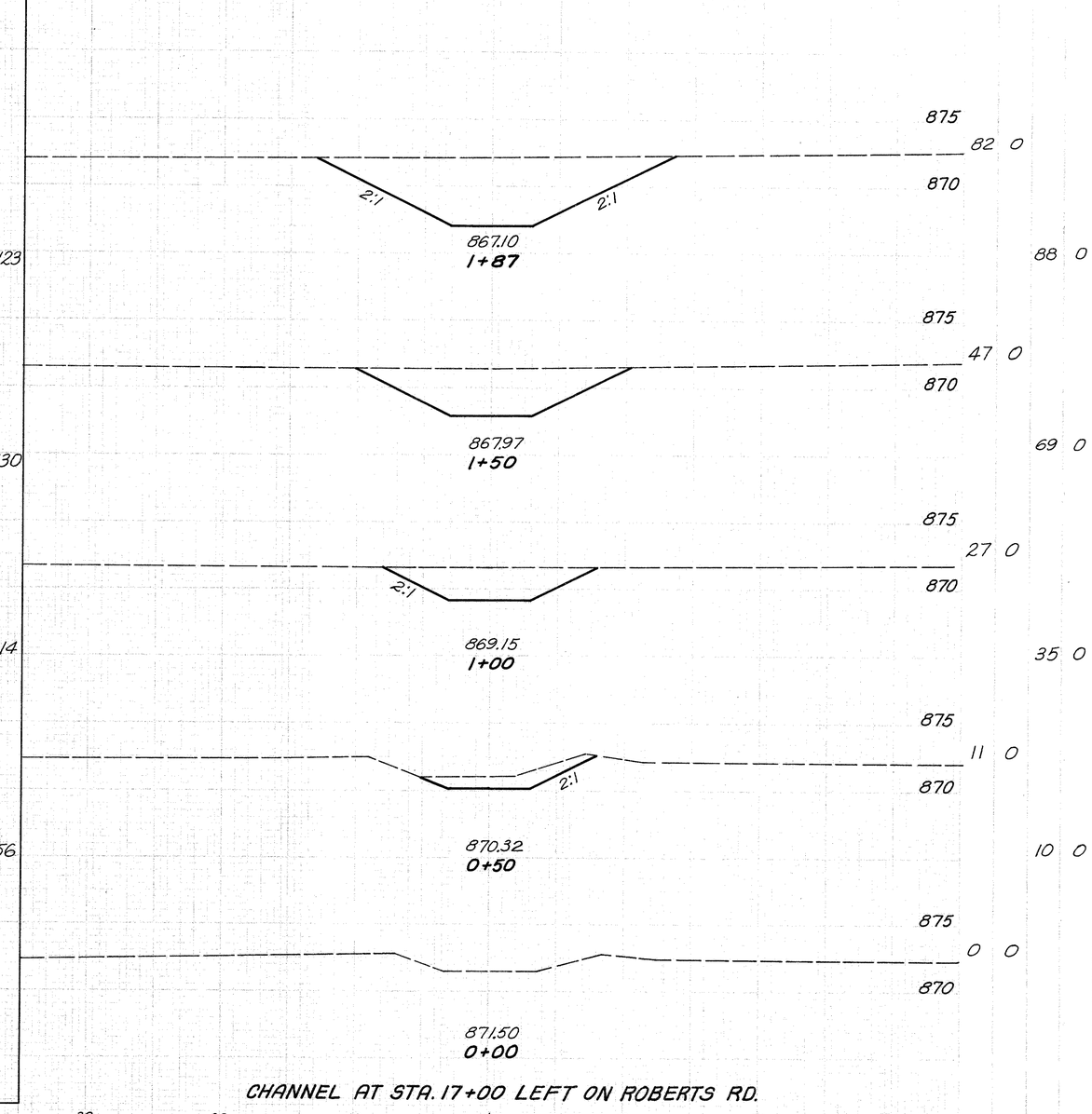
CULVERT DETAILS

FRANKLIN COUNTY
FRA-270- 0.79 N

END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL	SEEDING END WIDTH	SEEDING SQ. YDS.
0	0				
		9	0		
10	0			34	
					123
20	0			26	
		28	0		
26	0			21	
		70	0		
48	0			20	
		113	0		
88	0			0	
		39	0		
88	0				



CHANNEL AT STA. 404+17.92 RIGHT ON IR-270



CHANNEL AT STA. 17+00 LEFT ON ROBERTS RD.

FRANKLIN COUNTY

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

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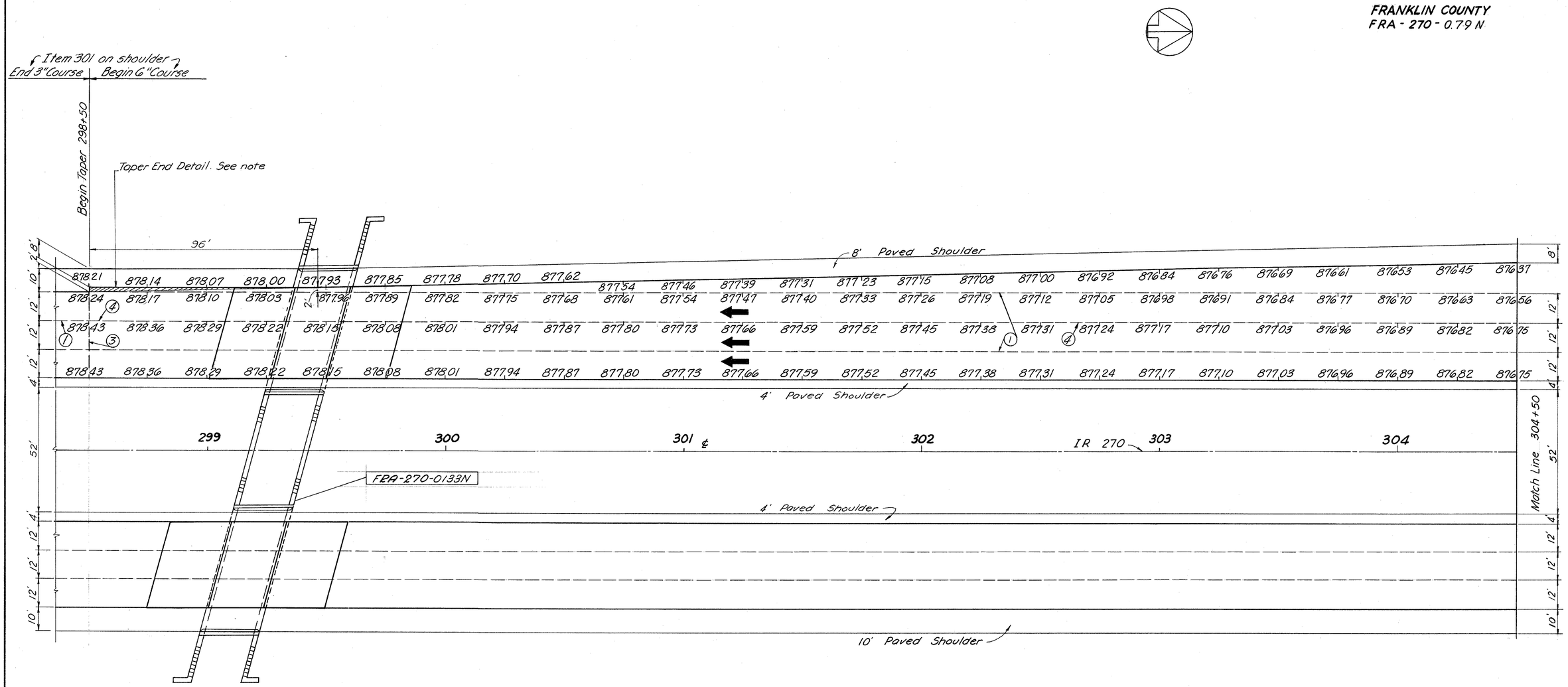
FRANKLIN COUNTY
FRA - 270 - 0.79 N



Note: Taper End Details
The shaded area shall be constructed of concrete pavement to an elevation one half inch lower than the adjacent pavement and surfaced with Item 409 Seal Coat.
The shaded area shall be paid for as full depth concrete pavement and the seal coat shall be paid for as Item 409.

JOINT LEGEND
① Standard Longitudinal Joint
② Standard Expansion Joint
③ Standard Contraction Joint
④ Key Joint Without Tiebars

PAVEMENT DETAILS

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

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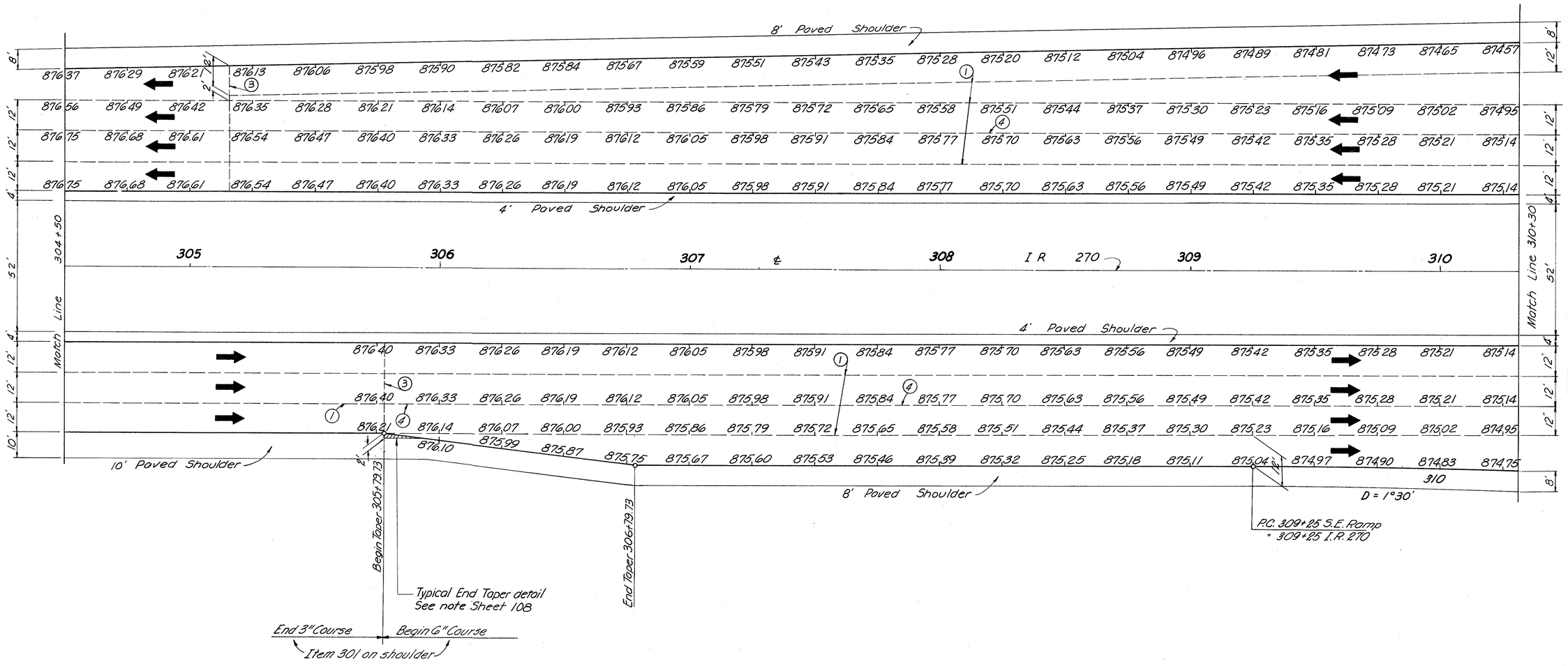
FRANKLIN COUNTY
FRA-270-0.79 N



JOINT LEGEND

1. Standard Longitudinal Joint
2. Standard Expansion Joint
3. Standard Contraction Joint
4. Key Joint Without Tiebars

PAVEMENT DETAILS

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

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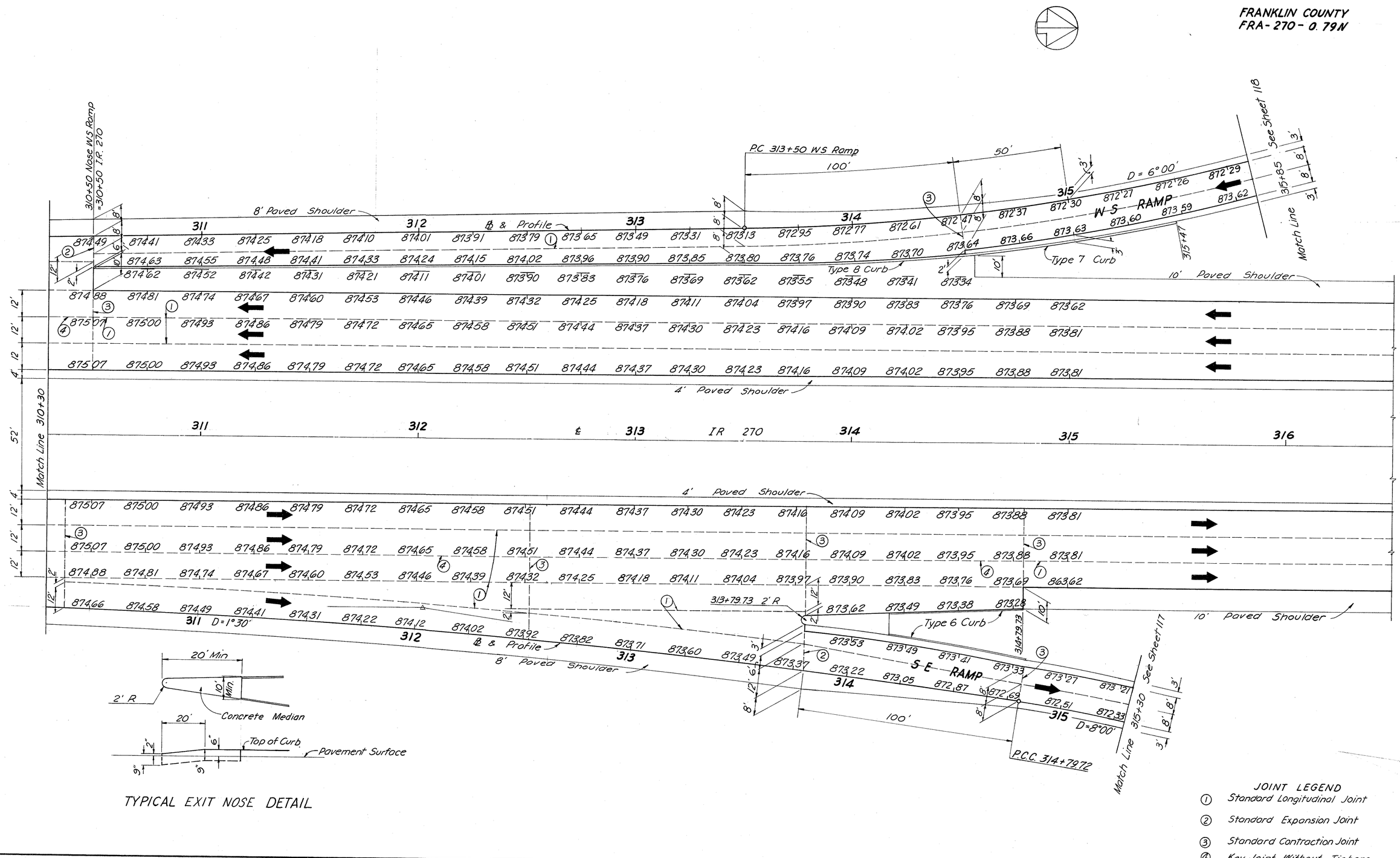
FRANKLIN COUNTY
FRA-270-0.79N



TYPICAL EXIT NOSE DETAIL

JOINT LEGEND
① Standard Longitudinal Joint
② Standard Expansion Joint
③ Standard Contraction Joint
④ Key Joint Without Tiebars

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

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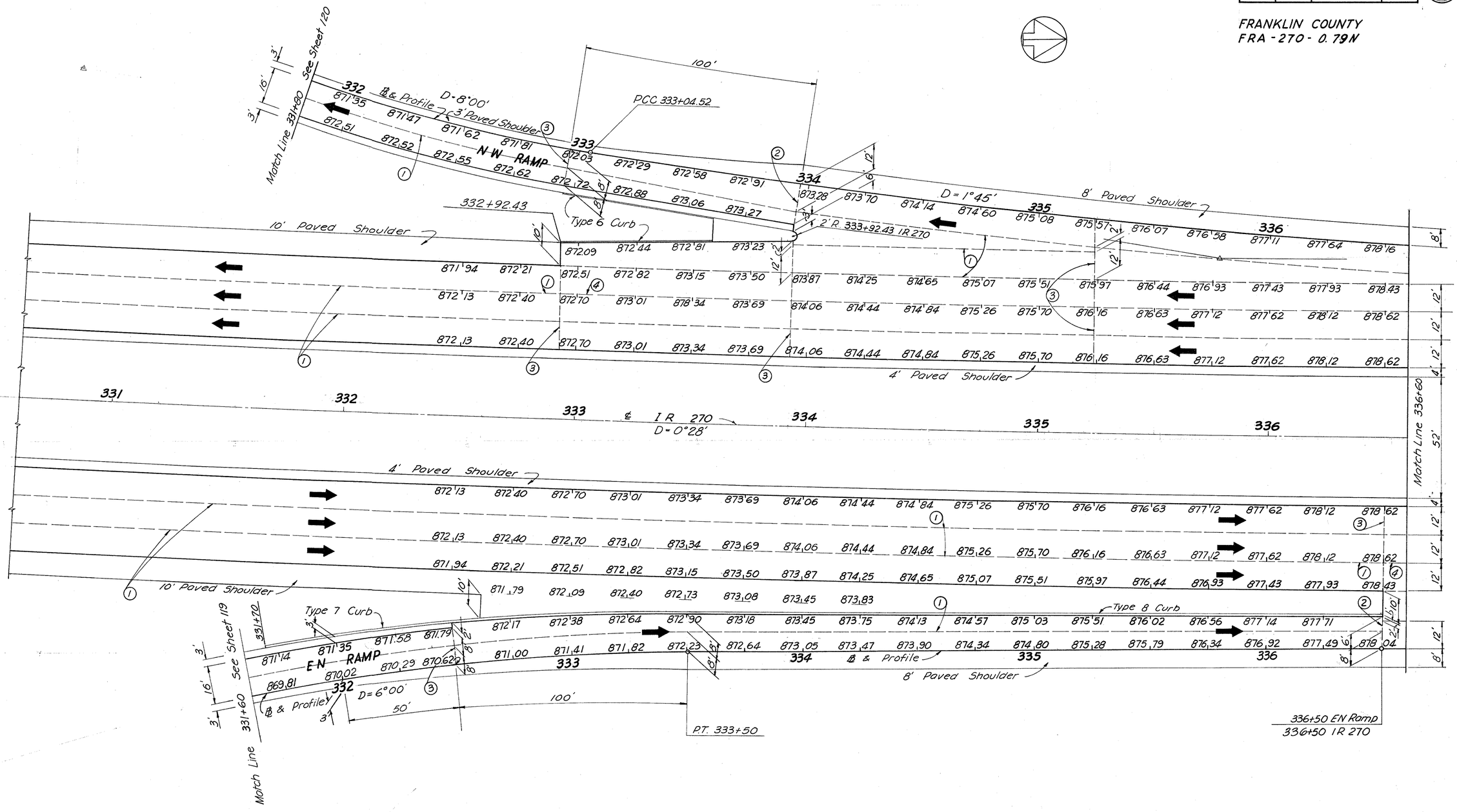
FRANKLIN COUNTY
FRA-270-0.79N

For exit nose detail. See Sheet 110



JOINT LEGEND

① Standard Longitudinal Joint

② Standard Expansion Joint

③ Standard Contraction Joint

④ Key Joint Without Tie bars

PAVEMENT DETAILS

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

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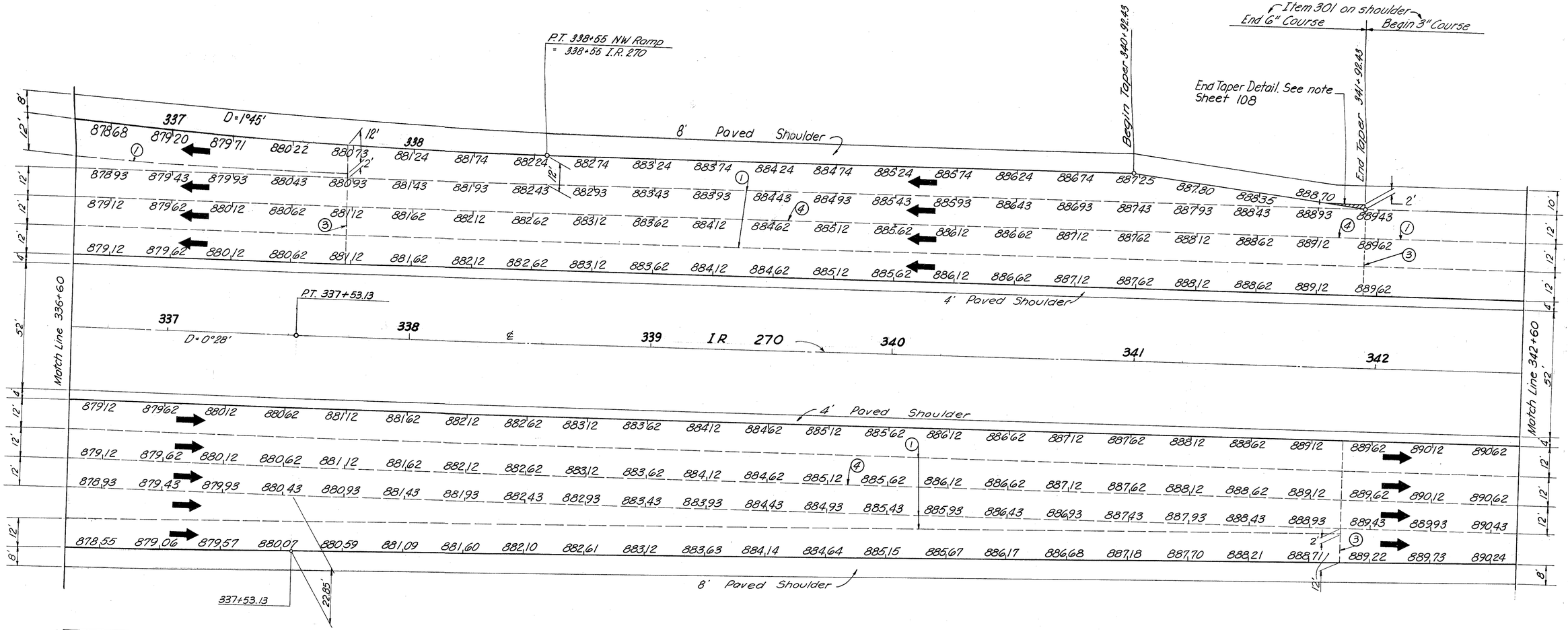
FRANKLIN COUNTY
FRA-270-0.79N



EN RAMP	
SPEED CHANGE LANE WIDTH	
STATION	WIDTH
336 + 50	25.00
+ 75	24.48
337 + 00	23.96
+50	22.92
+53.13	22.85

JOINT LEGEND
① Standard Longitudinal Joint
② Standard Expansion Joint
③ Standard Construction Joint

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

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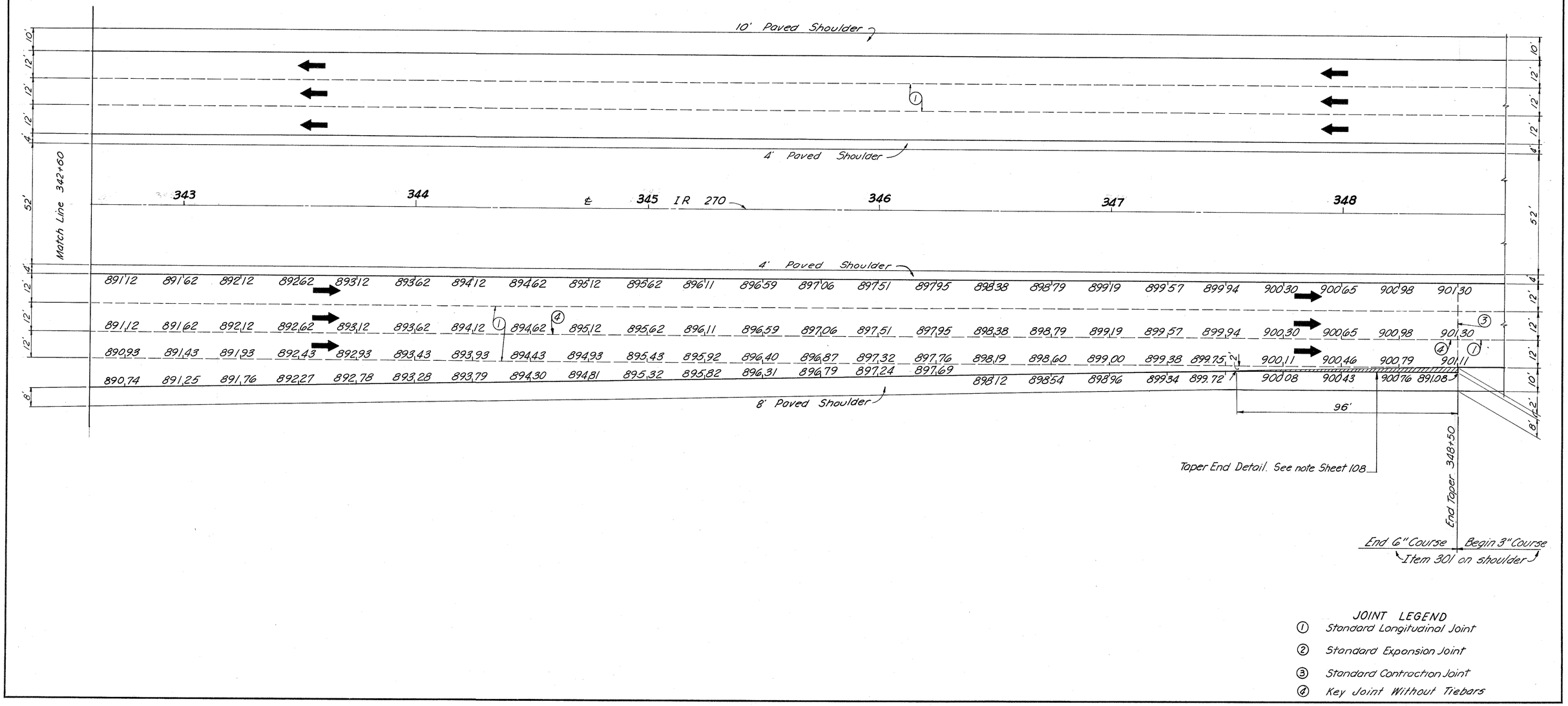
FRANKLIN COUNTY
FRA - 270 - 0.79 N



JOINT LEGEND

① Standard Longitudinal Joint

② Standard Expansion Joint

③ Standard Contraction Joint

④ Key Joint Without Tiebars

PAVEMENT DETAILS

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

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FRANKLIN COUNTY
FRA-270-0.79N

11+40.00 ℄ Roberts Rd.
51+43.04 Frontage Rd A

End Taper 11+00
Rt & Lt

8' Paved Shoulder

9+58.48

8' 8' 2'

2%

9 10 11 12 13 14 15

883.36 883.49 883.11 883.25 882.72 882.88 882.34 882.51 881.94 882.14 881.56 881.77 881.17 881.40 880.78 881.03 880.39 880.66 880.00 880.29 879.61 879.92 879.22 879.55 878.83 879.18 878.43 878.81 878.06 878.46 878.11 878.07 877.69 877.70 877.32 877.33 877.02 877.21 876.71 876.90 876.40 876.59 876.09 876.28 875.81 876.00 875.59 875.78

15+00

Match Line

90°

13+28.48 R=18°

8' Paved Shoulder

Concrete Median

Note: The approach pavement on Frontage Road "A" shall be the same as shown on sheet 10 for Roberts Road Connection.

10+84.50
881.41

880.53 25' 50' R 879.99 25' 879.61
50+78.80

END AGGREGATE PAVEMENT

51' 880.16

879.96 25' 50' R 879.90

12+00.50
879.60

8' 8'

50+73.00
879.53

P.C. 324+56.31

3' 8' 8' 3'

Match Line 324+56.31 See Sheet 120

879.62 879.43

324+33.37
879.88

Int. Roberts Rd. 19+75
= 323+40.09 N W Ramp

50' R 880.05 25' 879.93

880.01 880.05 880.40 880.66

324 N W RAMP

323+86.93

Int. Roberts Rd. 19+92.03
= 324+93.10 E S Ramp

50' R

Taper End Detail. See Note Sheet 108

18+70

18+83.34

19+33.20
879.40

878.61 879.19

2' 2' 2' 12' 18' 12'

877.47 878.02 878.63 879.30 880.02 880.77 881.52

15+00

15 16 ℄ RELOCATED 17 ROBERTS 18 ROAD 19 20

877.47 878.02 878.63 878.55 879.18 879.86 880.58 881.33 882.08 882.83 883.57 884.32

20+67.80

90°

19+70 R=5'

70°

R=5' 20+60

20+40.77

8' 12' 12' 12' 8'

21+00

Match Line

10' 13' 24' 10'

875.59 875.36 875.19 875.07 875.01 875.00 875.05 875.16 875.32 875.54 875.81 876.14 876.53 876.97 877.47 878.02 878.63 879.30 880.02 880.77 881.52 882.27 883.02 883.77

875.59 875.36 875.18 875.55

Match Line

875.15 328 875.00 874.88 874.78 874.70 874.62 874.53 874.42 874.30 326 874.20 874.22 874.32

℄ & Profile

8' Paved Shoulder

327

D = 8°00'

Flexible Pavement

Rigid Pavement

100'

For Exit Nose detail. See sheet 110

P.T. Ramp 328+35.01
= Roberts Rd 15+18.48
End Taper Right & Left

Roberts Rd 17+44.70 R=2'

875.16 875.41 875.76 876.16 876.62

10' 12' 6' 10' 8'

875.04 875.05 875.20 875.34 875.17 875.56 875.31

Type 6 Curb

W-S RAMP

18+44.70

Match Line 325+05 See Sheet 118

19+70.50

880.02 880.77 881.52 882.27

882.18

8' Paved Shoulder

Taper End Detail. See Note Sheet 108

2' 25' R 881.65

881.08

324+43.08

50' R

324+25.07
881.54

E S RAMP

881.19 881.47 881.81

3' Paved Shoulder

881.18

Match Line 324+00 See Sheet 118

8' 18' 3'

JOINT LEGEND
① Standard Longitudinal Joint
② Standard Expansion Joint
③ Standard Contraction Joint

PAVEMENT DETAILS

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

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FRANKLIN COUNTY
FRA - 270 - 0.79 N

FRA-270-0205

8' Paved Shoulder

8' Paved Shoulder

8' Paved Shoulder

8' Paved Shoulder

Match Line 21+00

Match Line 23+00

884.52 885.27 886.02 886.77 887.52 888.24 888.89 889.49 890.02 890.49

884.32 885.07 ℄ 885.82 886.57 22 887.32 888.05 888.73 889.37 889.93 890.44

22+06.47 Begin Taper

PT 22+40.23

23 RELOCATED

27 ROBERTS

End Taper 27+93.53

28 ROAD

890.44 889.93 889.37 888.73 888.05 887.32 886.57 885.82 885.07 884.32

890.49 890.02 889.49 888.90 888.24 887.52 886.77 886.02 885.27 884.52

See Sheet 119

See Sheet 119

Match Line 323+20

P.C. 323+17.39

323+05.19

323

880.94

881.01

W-N RAMP

881.18

322+65.19

322+47.38

50' R

881.53

881.79

881.16

881.30

880.86

880.69

25' R

Int. Roberts 30+17.97
= 321+97.39 WN Ramp

Taper End detail. See note sheet 108

Int. Roberts Rood 30+35
= 324+48.20 SE Ramp

8' Paved Shoulder

882.27 881.52 880.77 880.02

30+39.40

877.02 876.27 875.52 874.77 874.02 873.27 872.52 871.77 871.02 870.27 869.52 868.77 868.02 867.27 866.52

Match Line 29+00

29+45 R=5'

30

880.58

R=5' 30+40

31 ℄ RELOCATED

32 ROBERTS

33 ROAD

34

35

Match Line 35+10

883.77 883.02 882.27 881.52 880.77 880.02

884.32 883.57 882.83 882.08 881.33 70°

29+42.57

90° 879.64 879.14 878.44 877.73 31+40

884.52 883.77 883.02 882.27 881.52 880.77 880.02 879.27 878.52 877.77 877.02

29+61.00

31+27.10

878.45

867.27 866.52

867.46 866.71

867.27 866.52

50' R

324

880.28

880.08

879.89

879.50

879.24

SE RAMP

324+01.20

Taper End detail. See note sheet 108

30+77.10
879.08

879.60

879.73

50' R

323+54.82

879.57

℄ & Profile

PT 323+42.93

Match Line 323+42.93
See Sheet 117

8' Paved Shoulder

Rigid Pavement

Flexible Pavement

100'

See Sheet 119

321+80

Match Line

873.46

874.49

874.16

874.35

E-N RAMP

873.10

873.70

873.87

873.24

873.38

872.74

872.38

872.05

872.80

321

For Exit Nose Detail
see Sheet 110

D=8°00'

31+72.82

Type 6 Curb

R=2' 32+72.82

872.92

871.67 871.20 870.65 870.07 869.48 868.82

320

319

PC 318+48.17 E-N Ramp
= 34+97.59 Roberts Rd
(Begin Taper)

868.10 867.38

875.94 875.17 874.40 873.63

JOINT LEGEND

① Standard Longitudinal Joint

② Standard Expansion Joint

③ Standard Contraction Joint

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

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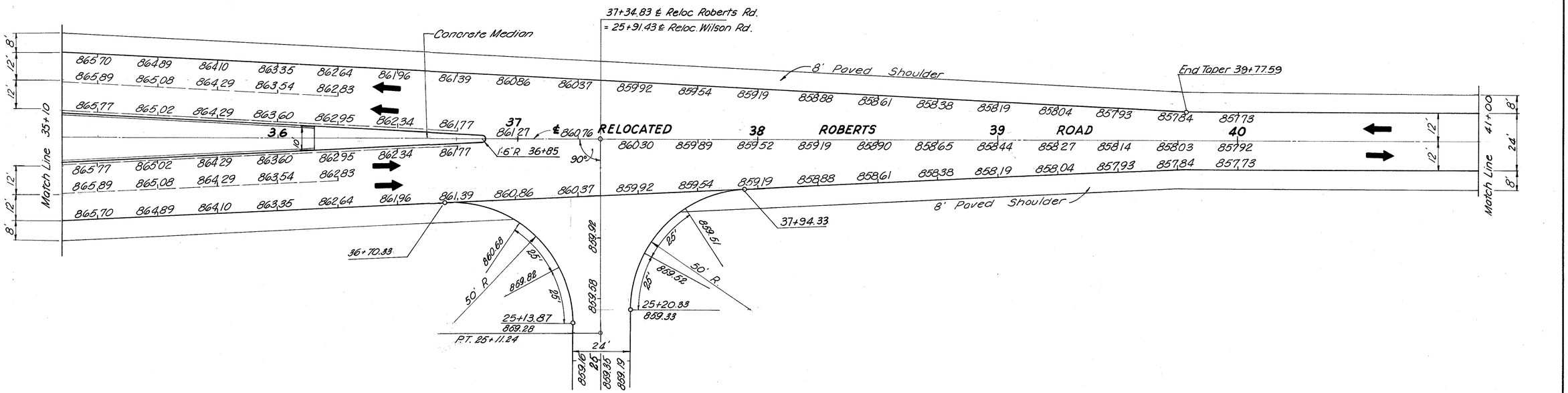
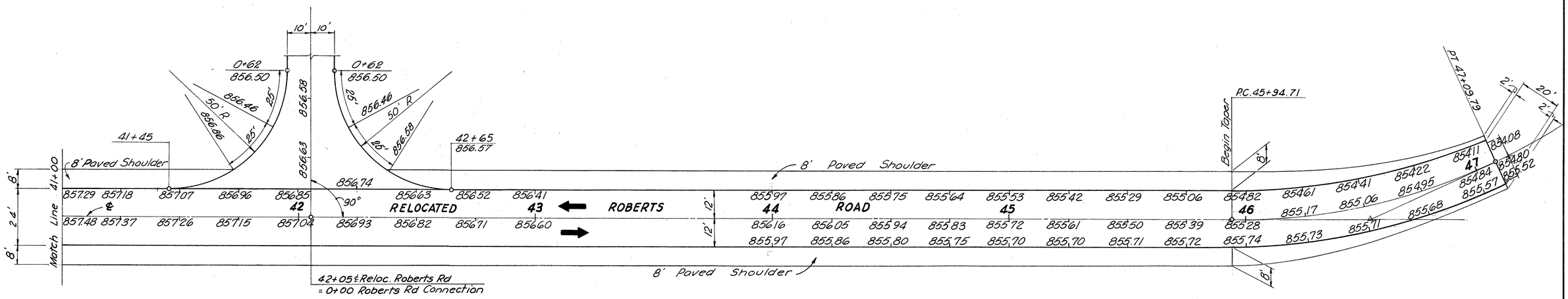
FRANKLIN COUNTY
FRA-270-0.79N





PAVEMENT DETAILS

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

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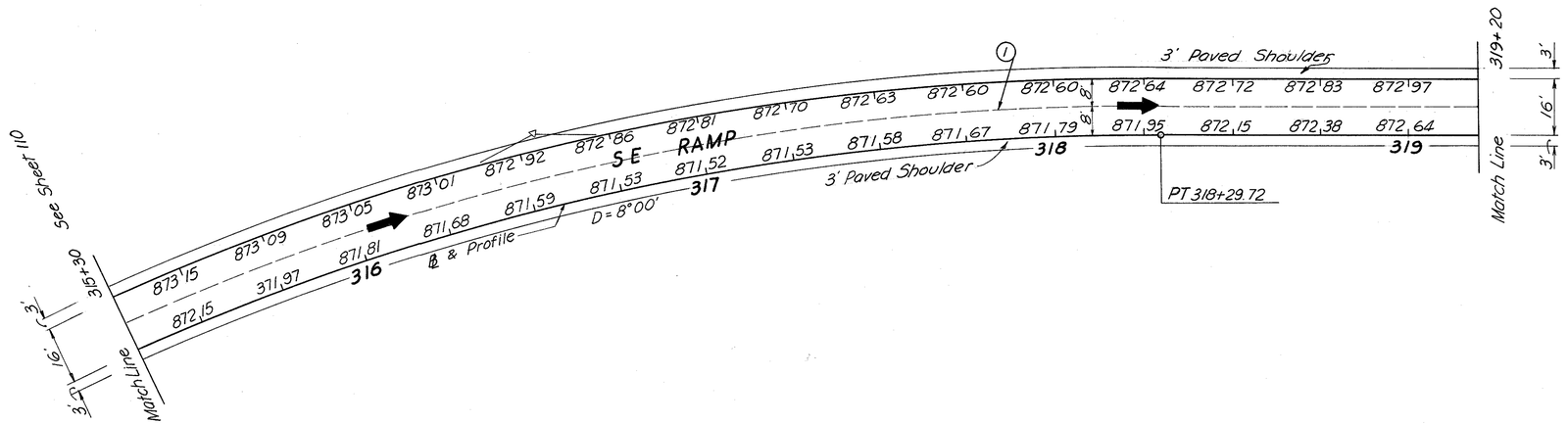
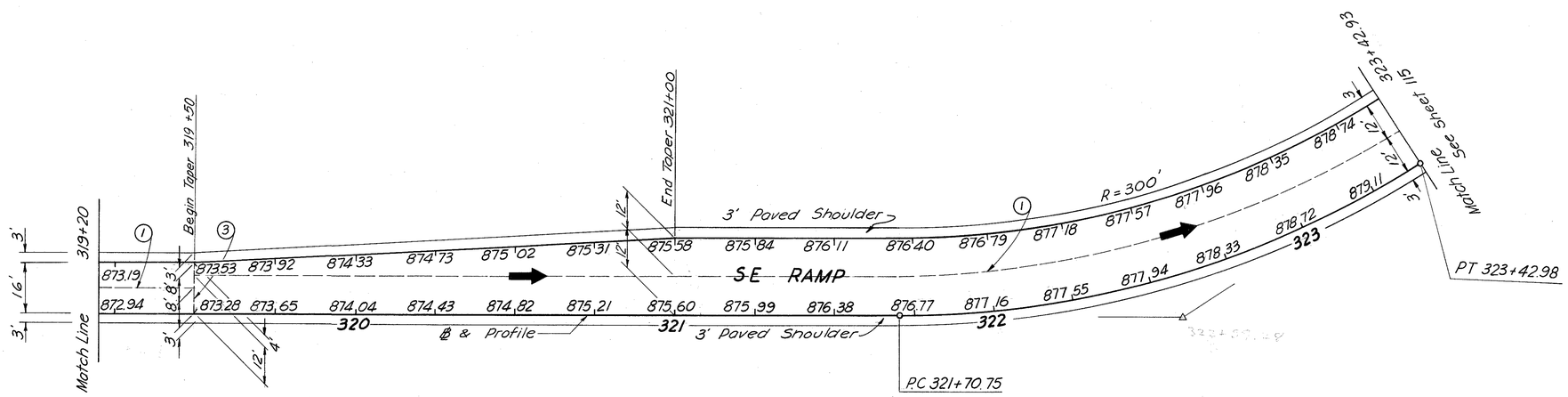
FRANKLIN COUNTY
FRA-270-0.79N





JOINT LEGEND
① Standard Longitudinal Joint
② Standard Expansion Joint
③ Standard Contraction Joint

PAVEMENT DETAILS

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

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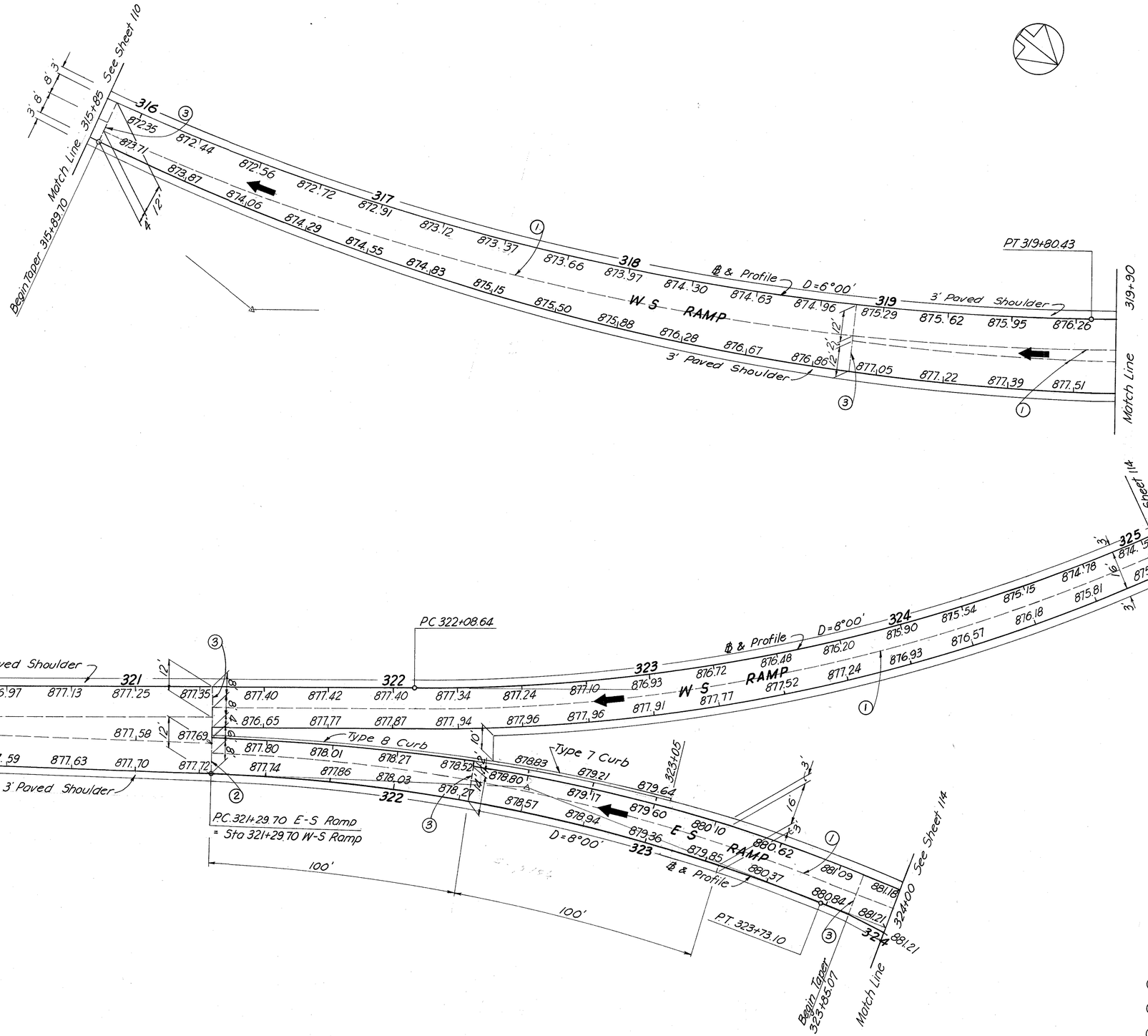
FRANKLIN COUNTY
FRA-270- 0.79N



W S RAMP	
RAMP STATION	WIDTH TRANSITION WIDTH
315+89.70	16.00
316+00	16.34
+25	17.18
+50	18.01
+75	18.84
317+00	19.68
+25	20.51
+50	21.34
+75	22.18
318+00	23.01
+25	23.84
+50	24.67
+75	25.51
319+00	26.34
+25	27.17
+50	28.01
+75	28.84
+80.43	29.02

JOINT LEGEND
① Standard Longitudinal Joint
② Standard Expansion Joint
③ Standard Contraction Joint

PAVEMENT DETAILS

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

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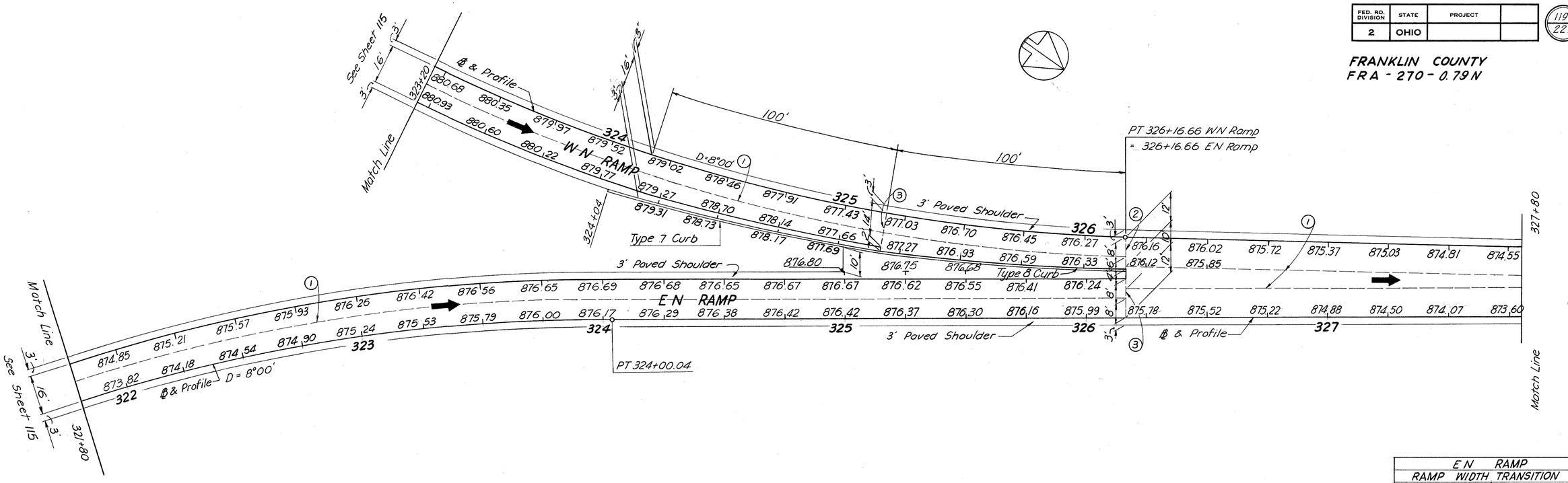
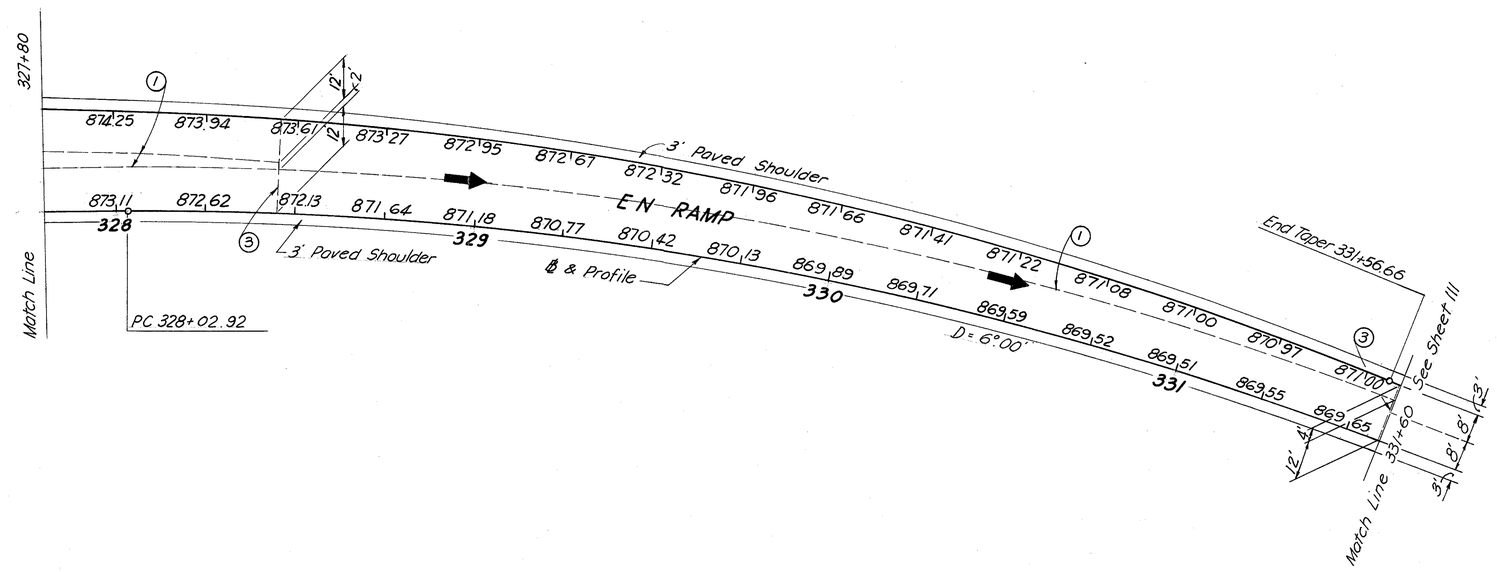
FRANKLIN COUNTY
FRA - 270 - 0.79N





E N RAMP	
RAMP WIDTH TRANSITION	
STATION	WIDTH
328 + 02.92	27.79
328 + 25	27.05
+50	26.22
+75	25.39
329 +00	24.55
+25	22.89
+75	22.06
330 +00	21.22
+25	20.39
+50	19.56
+75	18.72
331 +00	17.89
+25	17.06
+50	16.22
+56.66	16.00

JOINT LEGEND
① Standard Longitudinal Joint
② Standard Expansion Joint
③ Standard Contraction Joint

PAVEMENT DETAILS

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

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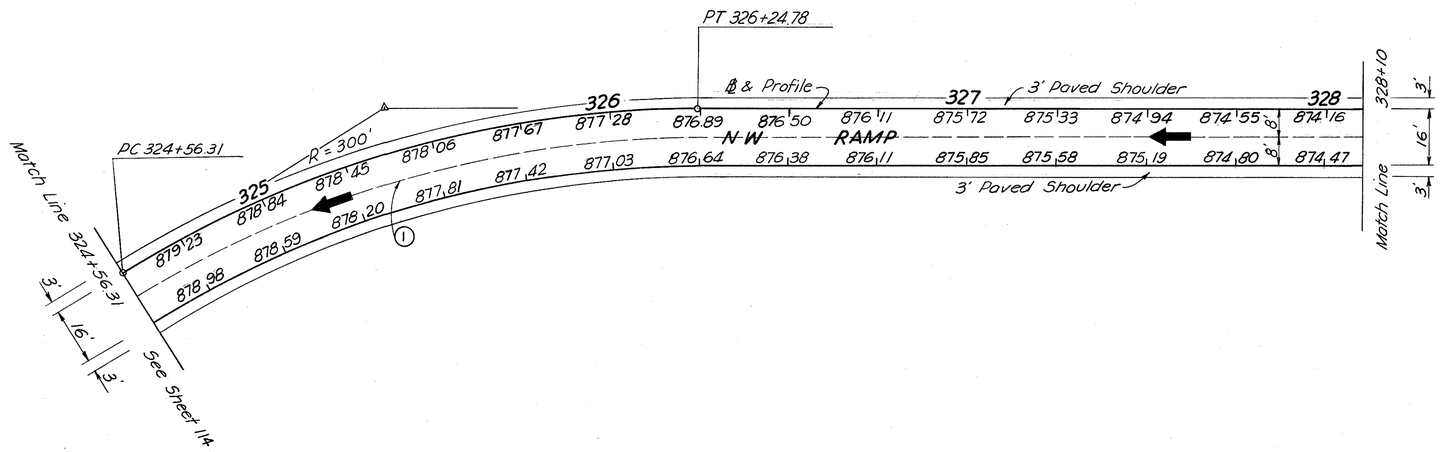

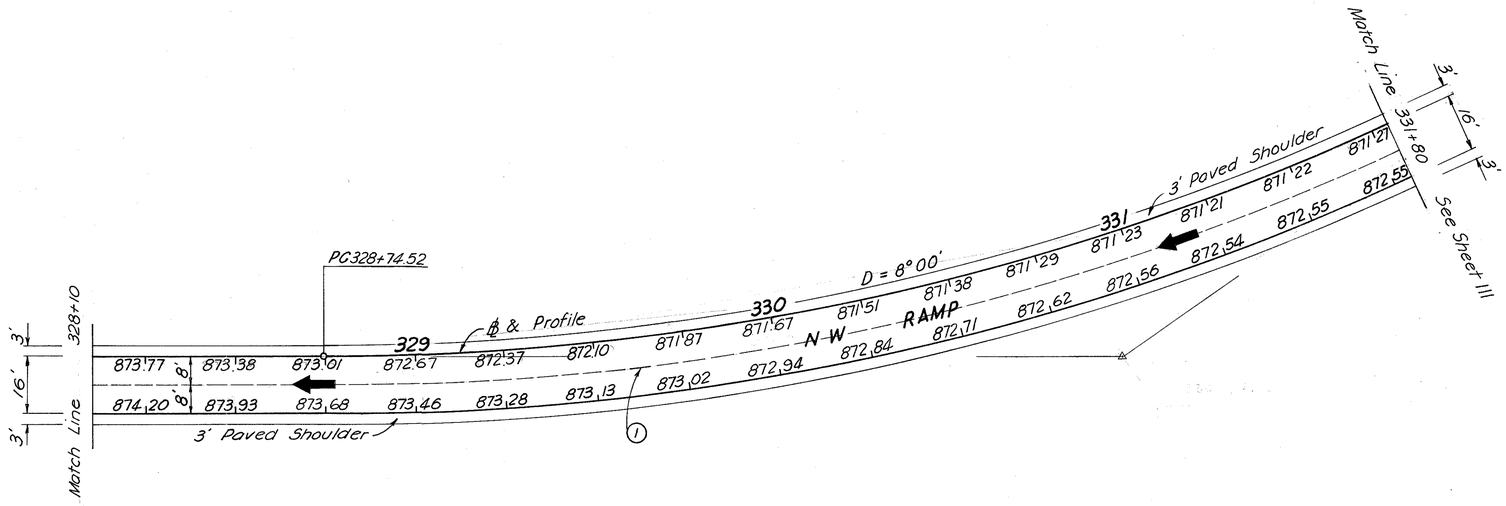

JOINT LEGEND
① Standard Longitudinal Joint
② Standard Expansion Joint
③ Standard Contraction Joint

PAVEMENT DETAILS

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SIGNING NOTES

MATERIALS - GENERAL

Materials to be furnished may be specified in the plans by a given manufacturer's catalog number or type. This is for descriptive purposes only and the Contractor may assume that approved equal materials may be furnished.

816 STRUCTURAL SUPPORTS STEEL BEAM (TYPE)

The structural steel beam supports shall be galvanized after punching in accordance with ASTM A-123.

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

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

816 OVERHEAD SIGN SUPPORT, BY TYPE

All component parts of the overhead sign supports shall be steel, except for the truss and components for the number 7 series which shall be aluminum.

Cost of furnishing and installing the fixture support arm, length "G," with mounting holes and hardware, see Sheets EI-1 and EI-2, shall be included in the contract unit price bid for overhead sign supports.

Modifying supplemental specification 816 switch enclosure mounting brackets, including mounting bolts and drilled holes, shall be furnished and installed under payment or Item 816 Overhead Sign Support Structures at the contract price per "Overhead Sign Support, by Type, as per Plan."

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 Item 816 "Concrete for Overhead Sign Support Foundations"), and for furnishing and installing each overhead sign support structure shown on the signing plan, including fixture support arms, switch enclosure mounting bracket, sign brackets, and all component parts necessary to make a complete workable installation ready for sign erection, installation of disconnect switch and enclosure, ground rod and wire connections, and sign wiring.

Erection of these supports shall be accomplished in a manner meeting the requirements of Supplemental Specification Number 816

816 CONCRETE FOR SIGN SUPPORT FOUNDATIONS, BY TYPE

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 Supplemental Specification 816.

Payment for installation only of the 2 inch galvanized steel conduit ells and the ½ inch EMT ground wire conduit will be included in this item. Payment for furnishing this conduit is included under "Sign Service, as per Plan" and Sign Support Ground Rod and Wire Connection as per Plan."

Foundations shall be constructed in the manner called for under Supplemental Specification 816 Concrete shall be Class "C."

816 SIGN ERECTION, BY TYPE

The Contractor shall erect sign panels furnished by others as noted on the signing plan. 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 Engineer, Bureau of Traffic, 450 East Town Street, Columbus, Ohio, 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 "Item 816, Sign Erection by Type, 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.

ITEM 606 GUARD RAIL, TYPE 4, AS PER PLAN

Guard Rail, Type 4, as per plan, shall have the posts spaced at intervals of 6'-3".

ELECTRICAL - GENERAL

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

All material, workmanship, and construction methods, except as modified herein, shall conform to the general requirements of the State of Ohio, Department of Highways, Construction and Materials Specifications, January 1, 1965.

ITEM 625 SIGN SERVICE

This item will consist of the completion of the electrical system and components connecting from the Esna connectors in the pull box (included within the roadway lighting quantities) to the primary side of the disconnect switch.

Work will include the furnishing of the 2 inch galvanized steel conduit ells to be installed under Item "816 Concrete for Sign Support Foundations, by Type, as per Plan" and the furnishing and installing, including trenching and backfilling, of the 2 inch galvanized "steel conduit and couplings from the pull box to the sign support foundation

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

Basis of payment shall be at the contract unit price per each installation. Which price shall include all material, labor, equipment, and incidentals necessary to finish the complete item of work.

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

The basis for payment for this item shall be on a unit bid per each basis, furnished, installed, complete, and accepted.

The item shall include furnishing of a 30 Amp. 600 volt fused disconnect switch of type and make as indicated on sheet ES-3A and shall be mounted in a NEMA (4) stainless steel enclosure Type "Y" or Z" and attached to each sign support by means of a mounting bracket as described in detail on the above sheet.

ITEM 625 TRANSFORMER, BY TYPE

This item of work shall consist of furnishing and installing transformers as detailed and specified on sheet ES-3A.

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

ITEM 625 BALLAST, BY TYPE

This item of work shall consist of furnishing all ballast, types A through D, as detailed and specified on sheet EI-2.

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

ITEM 625 LIGHT FIXTURE WITH LAMP, BY TYPE AND SIZE

This item of work shall consist of furnishing all light fixtures and lamps, types and sizes as specified on sheet EI-2.

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

ITEM 625 SIGN SUPPORT GROUND ROD AND WIRE CONNECTION

This item of work shall consist of furnishing and installing ground rod and wire as detailed and specified on sheet ES-3A. Also included will be the cost of furnishing the ½ inch EMT ground wire conduit for installation under Item I-129 "Concrete for Sign Support Foundations."

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

ITEM 625 SIGNS WIRED, COMPLETE

This item shall consist of the furnishing and/or installation of the Electrical Sign Lighting System Components for each Illuminated Sign.

Work shall include installation of light fixtures and ballasts, and furnishing and installation of all rigid and flexible conduit, condulets, junction boxes, wire, fasteners, hardware, and all other items required to energize the sign lighting system. See details on sheets EI-1 & 2, ES-3A.

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

The cost of furnishing and installing wire and necessary fasteners from the disconnect switch to the signs, or between signs within sign support members, shall be incidental to the cost of various items included in this item of work.

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

WIRE AND CABLE

Wire and cable installation shall conform to Section 625 of the construction and material specifications and shall be of the sizes and types shown on the plans.

Wire and cable installed in conduit on or within sign structures shall be #12 RHW, 600 volt standard copper wire.

Cable installed under ground leading from the pullbox to the disconnect switch shall be number 12, single conductor, seven strand FAA Specification L-824 Type A, 600 volt direct burial wire.

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SIGNING NOTES

INSPECTION AND TESTING OF SIGN LIGHTING

The Contractor shall furnish all equipment necessary to demonstrate to the Engineer that all circuits are free from short circuits and unspecified grounds, and are properly connected and operable before acceptance. This demonstration shall include a meggaring test to show that all conductors are clear of grounds and that the resistance at the ground is not more than 25 OHMS. Voltage and Amperage tests shall be made at the sign support switch.

Payment for these tests shall be considered a subsidiary work item, included in the unit price bid for the respective items tested.

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

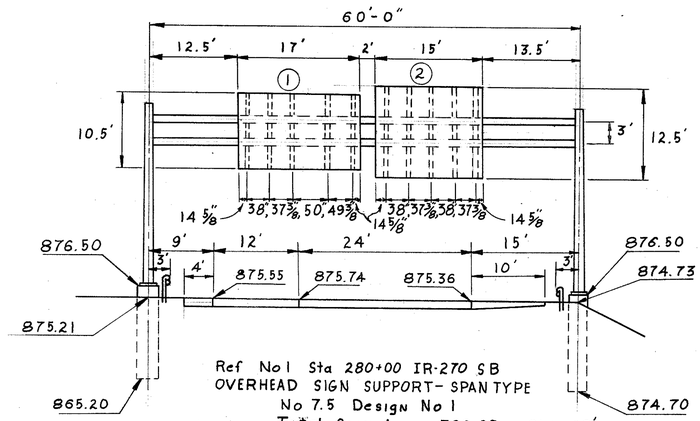
During the test period, adjustments to fixture aiming angles shall be made as directed by the Engineer to obtain maximum uniformity in sign illumination.

CERTIFICATION AND APPROVAL OF SIGN SUPPORTS AND LIGHTING ITEMS

The Contractor shall submit through proper channels the drawings. Information or samples as required below:

(A) Six (6) copies of the following:
Shop drawings and material lists for approval for
1. Overhead sign supports.
2. Sign lighting details.
3. Catalog cuts, descriptions or samples of fabricator's standard items as shown in the plans or their equal for approval.

(B) Certifications or samples for all materials which have been approved above under Item (A) shall be in possession of the Contractor prior to any purchase or installation.



Ref No 1 Sta 280+00 IR-270 SB
OVERHEAD SIGN SUPPORT - SPAN TYPE
No 7.5 Design No 1
Total Sign Area 366 S.F. Span 60'

(1) 5, 10'-6" Type-Ya Brackets

(2) 5, 12'-6" Type-Ya Brackets

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GEN. SUMMARY ~ SIGNING

I G 7221 Penna.	I G 7221 N.Y.C.	ITEM	QUANTITIES CODE 7221 I	QUANTITIES CODE 7221 I G	TOTAL	UNIT	DESCRIPTION
105	90	815	1352	195	1547	SQ.FT.	Sign Erection Extrusheet Overhead
	66	815	202	66	268	SQ.FT.	Sign Erection Extrusheet Ground Mtd.
		815	353	—	353	SQ.FT.	Sign Erection Flat Sheet
		816	61	—	61	LF	Steel Drive Post 2# per ft.
		816	211	—	211	LF	Steel Drive Post 4# per ft.
		816	333	—	333	LF	Structural Supports 8# Beam
		816	35	—	35	LF	Structural Supports, Steel Beam 6B 8.5
	38	816	35	38	73	LF	Structural Supports, Steel Beam 10B 11.5
		816	2	—	2	ea	Overhead Sign Supports No. 7.5 Des. 1, 60' Span
		816	1	—	1	ea	Overhead Sign Supports No. 7.5 Des. 3, 83' Span
		816	1	—	1	ea	Overhead Sign Supports No. 7.6 Des. 4, 83' Span
1	1	816	1	2	3	ea	Overhead Sign Supports No. 12.24 Des. 4, 20' Arms
	1.9	816	8.7	1.9	10.6	C.Y.	Concrete for Grnd. Mtd. Sign Support Foundations
3.2	3.2	816	27.6	6.4	34.0	C.Y.	Concrete for Overhead Sign Support Foundations
1		625	3	1	4	ea	Sign Service as per plan
1		625	4	1	5	ea	Sign Support Ground Rod & Wire Connection
1		625	1	1	2	ea	30 Ampere Disconnect Switch w/Enclosure Type Y
		625	3	—	3	ea	30 Ampere Disconnect Switch w/Enclosure Type Z
1		625	1	1	2	ea	0.5 KVA 480/120 Volt Transformer
		625	2	—	2	ea	1.5 KVA 480/120 Volt Transformer
		625	1	—	1	ea	2.0 KVA 480/120 Volt Transformer
1		625	3	1	4	ea	Sign Ballasts Type B
		625	1	—	1	ea	Sign Ballasts Type C
		625	6	—	6	ea	Sign Ballasts Type D
2		625	6	2	8	ea	72" Lighting Fixtures with HO Lamps
		625	10	—	10	ea	72" Lighting Fixtures with SHO Lamps
		625	3	—	3	ea	96" Lighting Fixtures with SHO Lamps
1		625	10	1	11	ea	Signs Wired Complete as per plan

ITEM 625 ~ SIGN LIGHTING

REFERENCE NUMBER	STATION	Light Fixture/Lamp T12/cw/sho LENGTH 72	Light Fixture/Lamp T12/cw/sho LENGTH 96	Light Fixture/Lamp T12/cw/sho 72	Light Fixture/Lamp T12/cw/sho 96	Sign Ballast TYPE B	Sign Ballast TYPE C	Sign Ballast TYPE D	480/120 Volt Transformer KVA 0.5	480/120 Volt Transformer KVA 1.5	480/120 Volt Transformer KVA 2.0	Disconnect Switch TYPE Y	Disconnect Switch TYPE Z	Sign Support Ground Rod & Wire Connection	Signs Wired Complete as per plan	Sign Service as per plan
		Ea.	Ea.	Ea.	Ea.	Ea.	Ea.	Ea.	Ea.	Ea.	Ea.	Ea.	Ea.	Ea.	Ea.	Ea.
1	208+00	3	1					2		1			1	1	2	
2	305+80 Rt.			2		1			1			1		1	1	1
3	312+60 Rt.	4	1	2		1	1	2			1		1	1	4	1
4	335+15 Lt.	3	1	2		1		2		1			1	1	3	1
5	341+92 Lt.			•2		•1			•1			•1		•1	•1	•1
Total I Section		10	3	6		3	1	6	1	2	1	1	3	4	10	3
Total I-G Section•				•2		•1.			•1			•1		•1	•1	•1
GRAND TOTAL		10	3	8		4	1	6	2	2	1	2	3	5	11	4

ITEM 816 DIRECTIONAL GUIDE SIGNS

REFERENCE NUMBER	STATION	GROUND MOUNTED DIMENSIONS ~ AS SHOWN ON ELEVATION VIEW L Ft.	H Ft.	AREA S.F.	E Elev.	F_1 Ft.	F_2 Ft.	P_1 Ft.	P_3 Ft.	D Ft.	T Ft.	Sign Erection (Gross Area) S.F.	8lb. Steel Beam as per plan L.F.	Structural Support Steel Beam 6B 8.5 L.F.	Structural Support Steel Beam 10B 11.5 L.F.	Concrete for Sign Support Foundations C.Y.	OVERHEAD Sign Erection (Gross Area) S.F.	Sign Support No. 7.5 Design No. 1 Span = 60' Ea.	Sign Support No. 7.5 Design No. 3 Span = 83' Ea.	Sign Support No. 7.6 Design No. 4 Span = 83' Ea.	Sign Support No. 12.24 Design No. 4 20' Arm	Concrete for Sign Support Foundations (as per plan)
1	280+00																	1				
2	305+80 Rt.																105				1	3.2
3	312+60 Rt.																476			1		8.7
7	375+50 Rt.																340	1				7.9
8	392+42 Lt.	11	6	66	906.20	.43	.61	2.4	6.2	5.3	2.5	•66			•38	•1.9						
6	386+75 Lt.																•90				•1	•3.2
5	341+92 Lt.																•105				•1	•3.2
4	335+15 Lt.																431		1			7.8
	Roberts Rd.																					
16	10+45 Rt.	8	2.5	20	882.02	.19	1.29	1.7	4.6	4.0	1.0	20	29			0.2						
17	14+45 Rt.	11	4	44	876.15	.35	1.70	2.4	6.2	5.3	2.5	44			35	1.9						
18	17+75 Rt.	8	2.5	20	876.76	*	*	1.7	4.6	4.0	1.0	20	27			0.2						
20	31+27 Rt.	8	2	16	877.71	.32	2.48	1.7	4.6	4.0	1.0	16	30			0.2						
10	39+75 Lt.	8	2.5	20	857.84	.32	1.42	1.7	4.6	4.0	1.0	20	29			0.2						
11	35+75 Lt.	10	4	40	864.10	.34	1.74	2.2	5.6	4.0	1.0	40		35		0.2						
12	32+50 Lt.	8	2.5	20	873.63	*	*	1.7	4.6	4.0	1.0	20	28			0.2						
14	18+83 Lt.	11	2	22	878.26	.35	1.90	2.4	6.2	4.0	1.0	22	29			0.2						
	TOTAL I SECTION											202	172	35	35	3.3	1352	2	1	1	1	27.6
	TOTAL I-G SECTION •											•66			•38	•1.9	•195				•2	•6.4
	GRAND TOTAL											268	172	35	73	5.2	1547	2	1	1	3	34.0

*Top of Concrete Foundation to be 3 to 6 inches above the ground.

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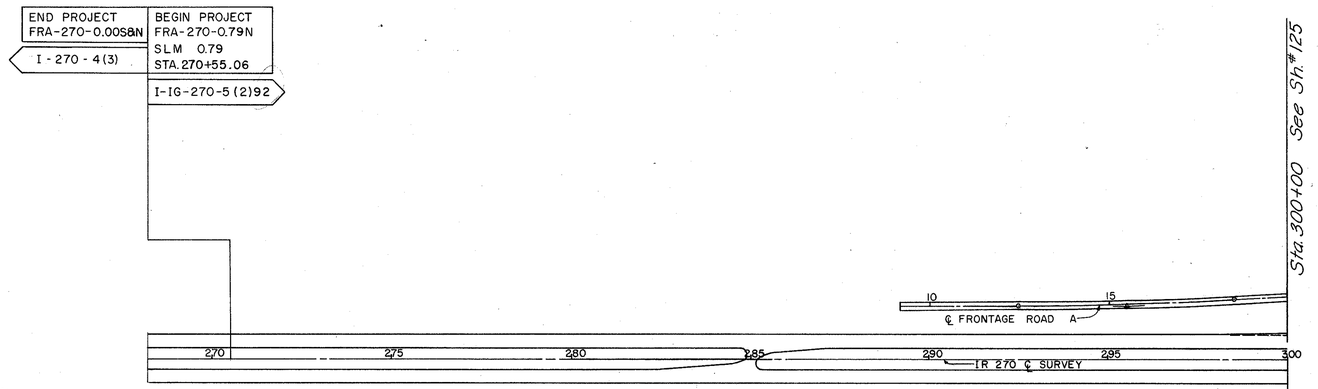
ITEM 816 REGULATORY, WARNING, & ROUTE SIGNS

SIGN REF. NO.	SIGN CODE NO.	SIGN LOCATION	SIGN AREA	SIGN SUPPORT 2 lb. Steel Drive Post	SIGN SUPPORT 4 lb. Steel Drive Post	SIGN SUPPORT 8 lb. Steel Beam	Concrete for Sign Support Foundations
			S.F.	L.F.	L.F.	L.F.	C.Y.
2	R-1-48	323+85 R, SE Ramp	16			14	0.2
3	R-1-48	323+85 L, SE Ramp	16			14	0.2
4	R-41-36	323+85 R, SE Ramp	9	Mounted on No. 2			
5	R-41-36	323+85 L, SE Ramp	9	Mounted on No. 3			
6	W-49-30	323+00 R, EN Ramp	7			15	0.2
7	R-2-36	326+15 L, WN Ramp	5			15	0.2
8	W-49-48	331+50 R, Main Line	16			15	0.2
11	R-1-48	324+05 L, NW Ramp	16			14	0.2
12	R-1-48	324+05 R, NW Ramp	16			14	0.2
13	R-41-36	324+05 L, NW Ramp	9	Mounted on No. 11			
14	R-41-36	324+05 R, NW Ramp	9	Mounted on No. 12			
15	W-49-30	324+30 L, WS Ramp	7			15	0.2
16	R-2-60	321+30 R, ES Ramp	11			15	0.2
17	W-49-48	315+50 L, Main Line	16			15	0.2
19	M-9A	7+45 R, Roberts Rd.	6		13		0.2
20	W-58-36	9+25 R, " "	9		13		0.2
21	M-9A	10+45 R, " "	8	7	Mtd. on Guide Sign #16		
22	R-37-24	13+28 ℄, " "	5		13		0.2
23	M-9A	17+75 R, " "	8	7	Mtd. on Guide Sign #18		
24	M-9A	20+50 R, " "	8		13		0.2
25	R-40-30	21+60 ℄, " "	9		14		0.2
27	M-9A	31+27 R, " "	8	7	Mtd. on Guide Sign #20		
28	W-53-36	32+85 ℄, " "	9		13		0.2
29	W-53-36	32+85 R, " "	9		13		0.2
30	M-9A	42+75 L, " "	6		13		0.2
31	W-58-36	40+85 L, " "	9		13		0.2
32	R-40-30	36+85 ℄, " "	9		14		0.2
33	M-9A	32+50 L, " "	8	7	Mtd. on Guide Sign #12		
34	M-9A	29+50 L, " "	16	19	15		0.2
35	R-40-30	29+45 ℄, " "	9		14		0.2
37	M-9A	18+83 L, " "	8	7	Mtd. on Guide Sign # 1A		
38	M-9A	18+83 L, " "	8	7	Mtd. on Guide Sign #14		
39	W-53-36	17+25 ℄, " "	9		13		0.2
40	W-53-36	17+25 L, Roberts Rd.	9		13		0.2
41	R-1-30	25+60 R, Wilson Rd.	7		13		0.2
42	R-1-30	0+30 L, Roberts Rd.	7		13		0.2
43	R-1-30	51+05 R, Frontage Rd. A	7		13		0.2
TOTAL I SECTION			353	61	211	161	5.4
GRAND TOTAL			353	61	211	161	5.4



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REGULATORY, WARNING AND ROUTE SIGN PLAN

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0 200 400

STA. 11+40 ℄ ROBERTS ROAD =
STA. 51+43.04 ℄ FRONTAGE ROAD A

STA. 323+70.28 ℄ IR 270 =
STA. 25+00 ℄ RELOCATED ROBERTS ROAD

STA. 354+40.62 IR 270

STA. 353+62.34 IR 270

FRA-270-0233 L&R

FRA-270-0205 L&R

37+34.83 RELOCATED ROBERTS ROAD =
25+91.43 RELOCATED WILSON ROAD

42+05 RELOCATED ROBERTS ROAD =
0+00 ROBERTS ROAD CONNECTION

Sta. 300+00 See Sh. #124

Sta 364+00 See Sh #126

Match Line

Match Line

FRONTAGE ROAD A

W-S RAMP

S-E RAMP

E-S

E-N RAMP

N-W RAMP

W-N

RELOCATED WILSON ROAD

WILSON ROAD

RELOCATED ROBERTS ROAD

ROBERTS ROAD

ROBERTS ROAD CONNECTION

PENNSYLVANIA R.R.

SCIOTO DARBY ROAD

℄ IR 270

MERGING TRAFFIC

DIVIDED HIGHWAY AHEAD

KEEP RIGHT

YIELD

STOP

DO NOT ENTER

RIGHT LANE ENDS

DIVIDED HIGHWAY KEEP RIGHT

TO SOUTH 70 270

NORTH 270

JCT 270

TO 70

DIVIDED HIGHWAY KEEP RIGHT

KEEP RIGHT

REGULATORY, WARNING, AND ROUTE SIGN PLAN

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0 200 400

END PROJECT	BEGIN PROJECT
FRA-270-0.79 N	FRA-270-3.47 N
SLM 3.47	I-270-5(3) 95
STA. 412+42	

I-1G-270-5(2)92

Sta. 364+00 See Sh #125

STA. 395+04.52 ℄ IR 270

NEW YORK CENTRAL R.R.

365 370 375 380 385 390 400 405 410

IR 270 ℄ SURVEY

Match Line

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STA. 11+40 ℄ ROBERTS ROAD =
STA. 51+43.04 ℄ FRONTAGE ROAD A

STA. 323+70.28 ℄ IR 270 =
STA. 25+00 ℄ RELOCATED ROBERTS ROAD

37+34.83 RELOCATED ROBERTS ROAD =
25+91.43 RELOCATED WILSON ROAD

42+05 RELOCATED ROBERTS ROAD =
0+00 ROBERTS ROAD CONNECTION

FRA-270-0205 L&R

ROBERTS ROAD CONNECTION

FRONTAGE ROAD A

RELOCATED WILSON ROAD

RELOCATED ROBERTS ROAD

ROBERTS ROAD

WILSON ROAD

W-S RAMP

S-E RAMP

E-S

N-W RAMP

W-N

E-N RAMP

℄ IR 270

0 200 400

1 — Columbus Springfield (270) 15'×11.5'
Grove City (270) 17'×9.5'

2 — Roberts Rd. 15'×6'

3 — Dublin (270) 17'×9'-6"
Upper Arlington Hilliard EXITS 2 MI. 21'×8'-6"
Roberts Rd. 14'×6'

4 — Roberts Rd. 14'×6'
Columbus Springfield (70) JCT 2 MILE 15'×11'
Grove City (270) 17'×8'

5 — Roberts Rd. 15'×6'

6 — Roberts Rd. EXIT 1 MILE 15'×6'

7 — Dublin (270) 17'×9'-6"
Upper Arlington Hilliard EXITS ONLY 21'×8'-6"

8 — I-70 3 Obetz 18 11'×6'

10 — SOUTH (270) NORTH 8'×2'-6"

11 — Grove City 8 / Dublin 7 10'×4'

12 — SOUTH (270) NORTH 8'×2'-6"

14 — Grove City 8 11'×2'

16 — NORTH (270) SOUTH 8'×2'-6"

17 — Dublin 7 / Grove City 8 11'×4'

18 — NORTH (270) SOUTH 8'×2'-6"

20 — Dublin 7 8'×2'

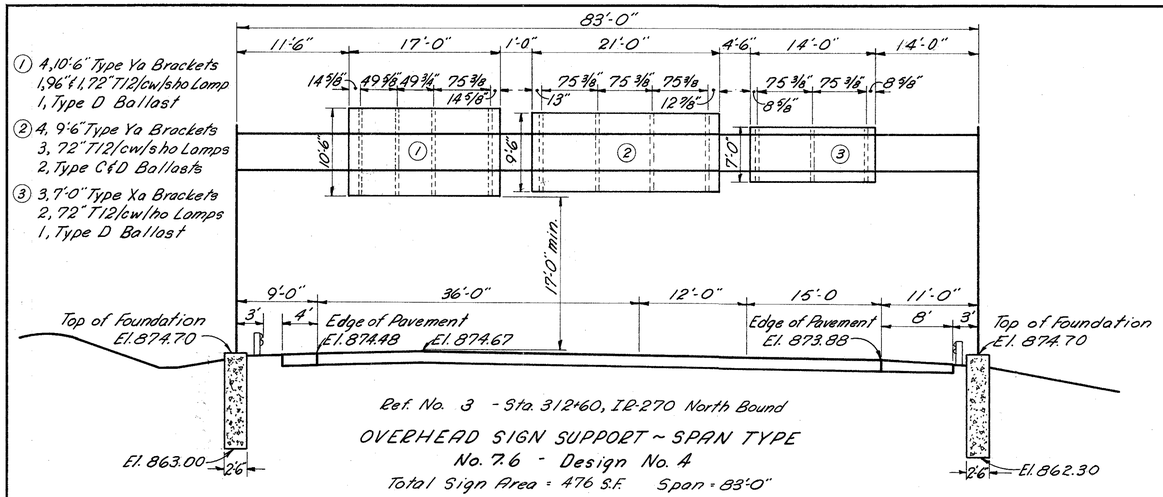
DIRECTIONAL GUIDE SIGN PLAN

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

128
227

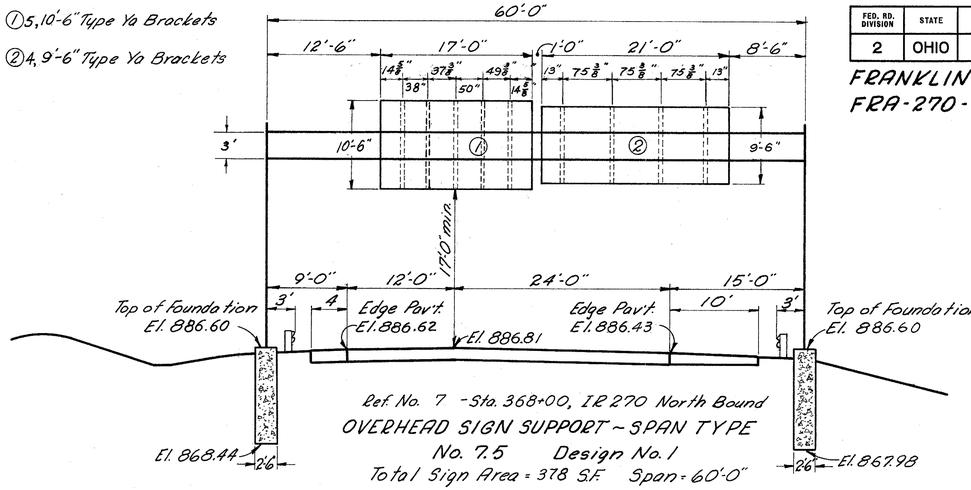
FRANKLIN COUNTY
FRA-270-0.79N

① 4, 10'-6" Type Ya Brackets
1, 96"ℓ, 1, 72" T12/cw/sho Lamp
1, Type D Ballast
② 4, 9'-6" Type Ya Brackets
3, 72" T12/cw/sho Lamps
2, Type C&D Ballasts
③ 3, 7'-0" Type Xa Brackets
2, 72" T12/cw/ho Lamps
1, Type D Ballast



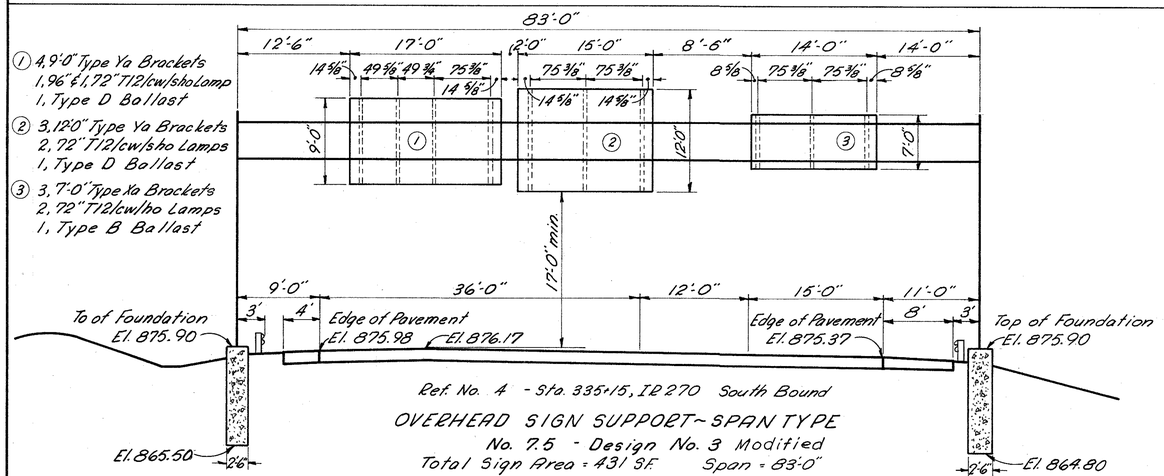
Ref. No. 3 - Sta. 312+60, IR-270 North Bound
OVERHEAD SIGN SUPPORT ~ SPAN TYPE
No. 7.6 - Design No. 4
Total Sign Area = 476 S.F. Span = 83'-0"

① 5, 10'-6" Type Ya Brackets
② 4, 9'-6" Type Ya Brackets



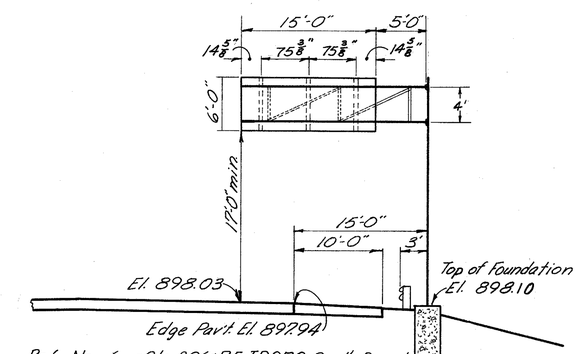
Ref. No. 7 - Sta. 368+00, IR 270 North Bound
OVERHEAD SIGN SUPPORT ~ SPAN TYPE
No. 7.5 Design No. 1
Total Sign Area = 378 S.F. Span = 60'-0"

① 4, 9'-0" Type Ya Brackets
1, 96"ℓ, 1, 72" T12/cw/sho Lamp
1, Type D Ballast
② 3, 120" Type Ya Brackets
2, 72" T12/cw/sho Lamps
1, Type D Ballast
③ 3, 7'-0" Type Xa Brackets
2, 72" T12/cw/ho Lamps
1, Type B Ballast



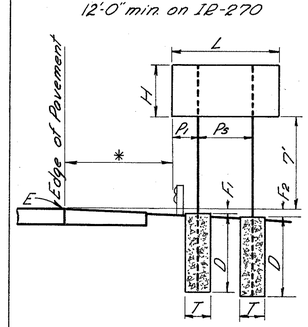
Ref. No. 4 - Sta. 335+15, IR 270 South Bound
OVERHEAD SIGN SUPPORT ~ SPAN TYPE
No. 7.5 - Design No. 3 Modified
Total Sign Area = 431 S.F. Span = 83'-0"
End Shaft = 26'6"

3, 6'-0" Type Ys Brackets



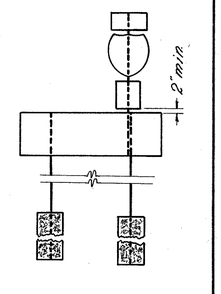
Ref. No. 6 - Sta. 386+75, IR 270 South Bound
OVERHEAD SIGN SUPPORT ~ CANTILEVER TYPE
No. 12.24 - Design No. 4
Total Sign Area = 90 S.F. 20'-0" Arm

* 10'-0" min. on Roberts Rd. & Speed Change Lanes
12'-0" min. on IR-270



Directional Guide Signs
Ground Mounted

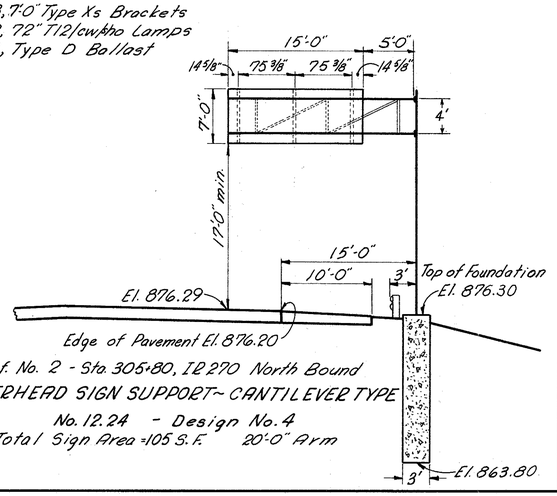
Ref. Nos. 10, 11, 12, 14, 16, 17, 18, 20.



Route Signs
Mounted on Directional Guide Signs

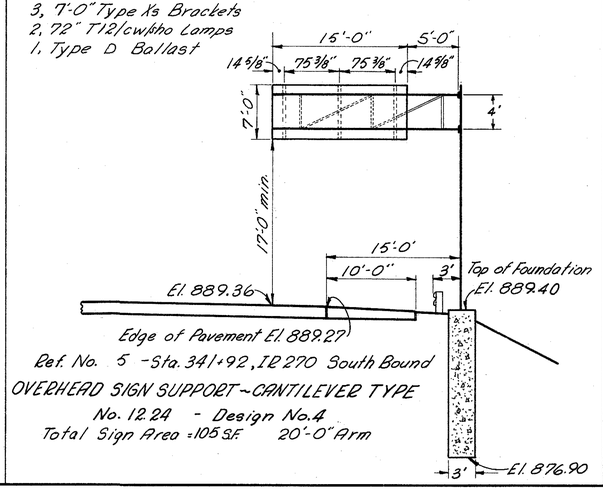
Ref. Nos. 21, 23, 27, 33, 37, 38

3, 7'-0" Type Xs Brackets
2, 72" T12/cw/ho Lamps
1, Type D Ballast



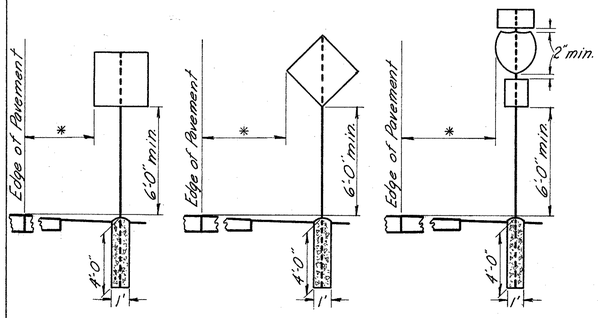
Ref. No. 2 - Sta 305+80, IR 270 North Bound
OVERHEAD SIGN SUPPORT ~ CANTILEVER TYPE
No. 12.24 - Design No. 4
Total Sign Area = 105 S.F. 20'-0" Arm

3, 7'-0" Type Xs Brackets
2, 72" T12/cw/ho Lamps
1, Type D Ballast



Ref. No. 5 - Sta. 341+92, IR 270 South Bound
OVERHEAD SIGN SUPPORT ~ CANTILEVER TYPE
No. 12.24 - Design No. 4
Total Sign Area = 105 S.F. 20'-0" Arm

* 8'-0" min. on Ramps
10'-0" min. on Roberts Rd. & Speed Change Lanes
12'-0" min. on IR 270

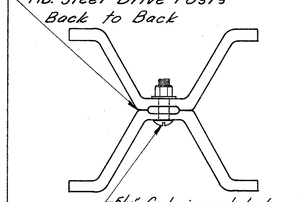


Regulatory Signs
Ref. Nos. 2-5, 7, 9, 11-14, 16, 18, 22, 25, 26, 32, 35, 36, 41

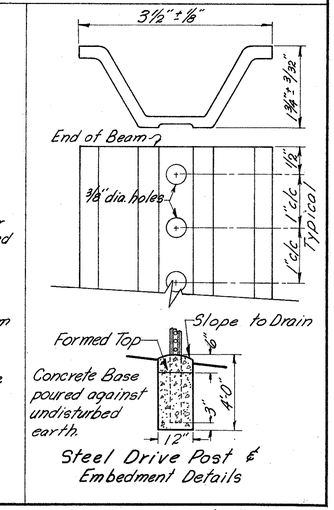
Warning Signs
Ref. Nos. 1, 6, 8, 10, 15, 17, 20, 28, 29, 31, 39, 40

Route Signs
Ref. Nos. 19, 24, 30, 34

4 lb. Steel Drive Posts
Back to Back



8 lb. Steel Beam Details

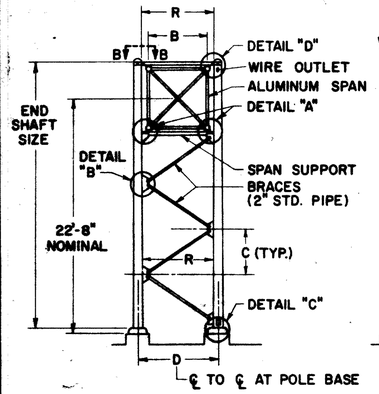


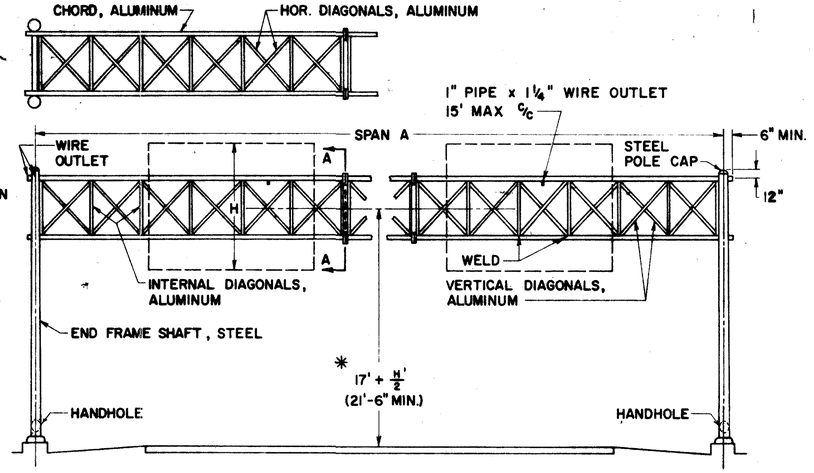
Steel Drive Post & Embedment Details

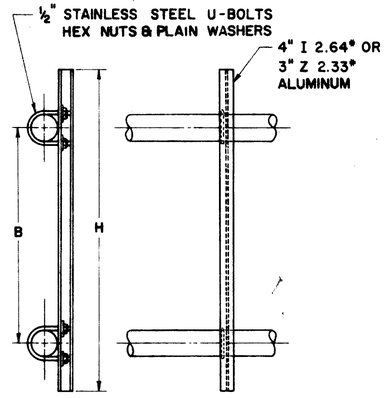
SIGN ELEVATIONS & DETAILS

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

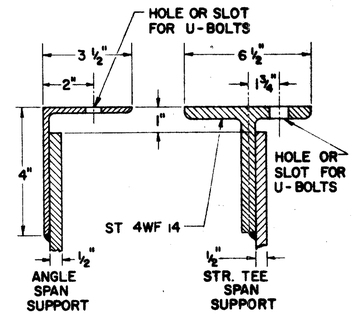
FRANKLIN COUNTY
FRA-270-0.79 N







SIGN BRACKET



SECTION D-D

NOTES

MATERIALS

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

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

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

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

FABRICATION

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

MAXIMUM LENGTH OF SPAN SECTIONS IS 30 FT.

ERECTION

USE A MINIMUM OF 1" CAMBER IN SPAN TRUSS MEMBER FOR A 50' SPAN; ADD ⅛" OF CAMBER FOR EACH 5' OF INCREASE IN SPAN OVER 50'.

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.

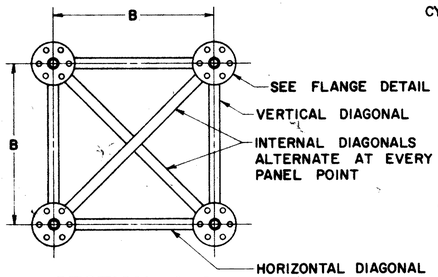
BAR SIZE IS INDICATED IN THE BAR MARK. THE FIRST DIGIT WHERE THREE DIGITS ARE USED AND THE FIRST TWO DIGITS WHERE FOUR ARE USED, INDICATE THE BAR SIZE NUMBER.

***FOUNDATION ELEVATION**

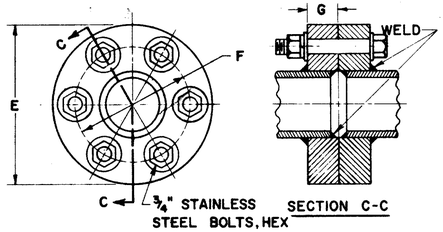
ELEVATION OF TOPS OF FOUNDATIONS SHALL BE BUILT UP SO THAT 17' CLEARANCE IS MAINTAINED OVER THE ENTIRE WIDTH OF PAVEMENT AND SHOULDERS.

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.

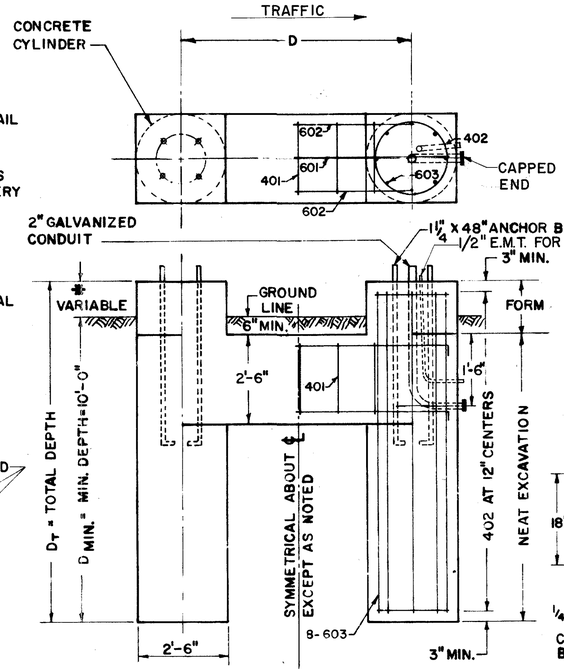


SECTION A-A

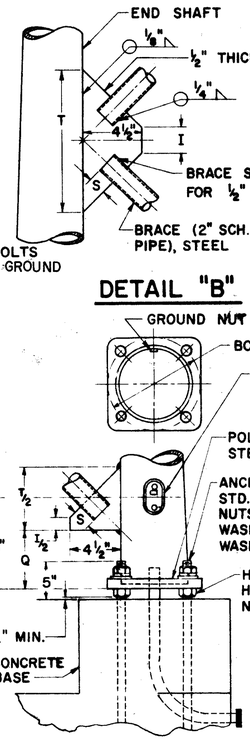


CAST FLANGE, B-26 ALLOY SG 70A-T7 (356-T7)

FLANGE DETAIL



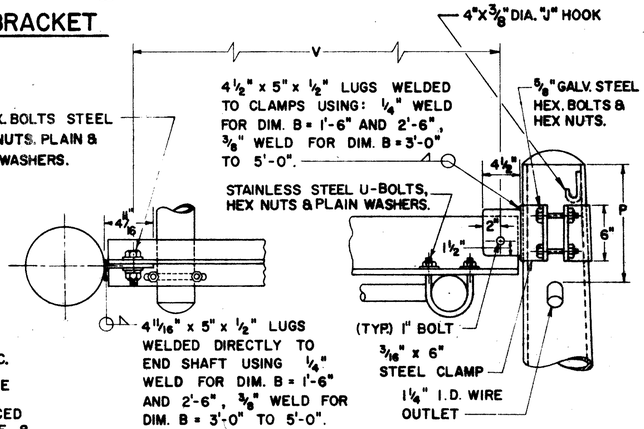
FOUNDATION DETAIL
(RIGHT HAND SHOWN — LEFT HAND OPPOSITE)



DETAIL "B"

DETAIL "C"

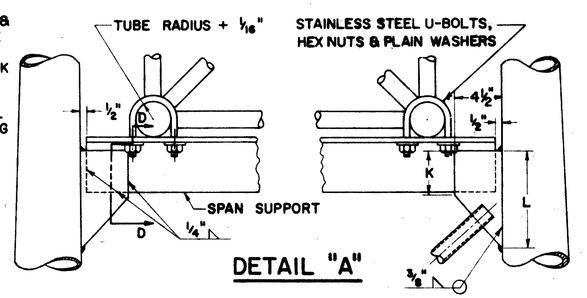
POLE BASE DETAIL



VIEW B-B

DETAIL "D"

UPPER SPAN SUPPORT (ALTERNATE METHODS)

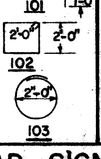


DETAIL "A"

LOWER SPAN SUPPORT

DESIGN NO.	SPAN A	B	C	D	E	END SHAFT	BRACE LENGTH	F	G	I	K	L	P	Q	R	S	T	U BOLTS	V	BOLT CIRCLE	SPAN SUPPORT SECTION D-D	CHORDS	HORIZONTAL AND INTERNAL DIAGONAL	VERTICAL DIAGONAL
1	50' THRU 70'	3'-0"	4'-11¾"	4'-5"	9¼"	8"X4.5"X25'-0",3GA	5'-10 3/16"	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+ — 6"	STR.



BUREAU OF TRAFFIC
OHIO DEPARTMENT OF HIGHWAYS

OVERHEAD SIGN SUPPORTS | 816 No. 7.5

DATE 8-2-66 7-25-68 4-29-94

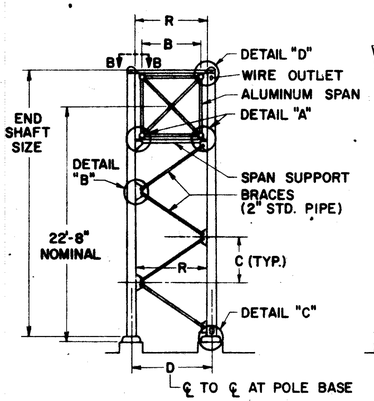
APPROVED Robert L. Comer
ENGINEER OF TRAFFIC

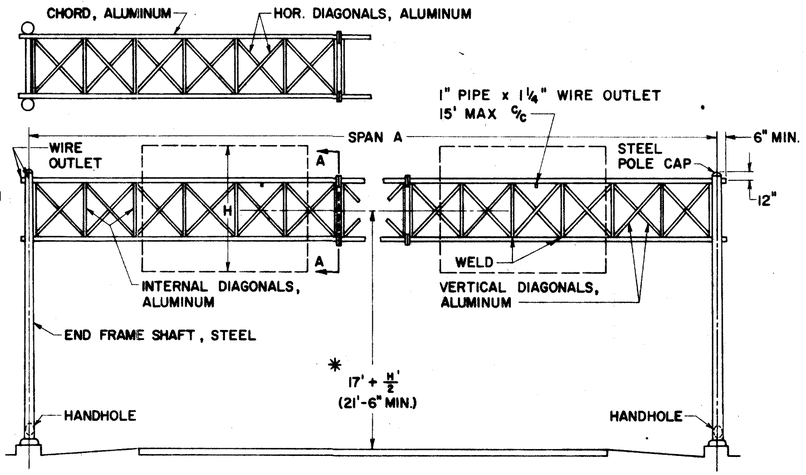
500 SQ. FT. SIGN AREA — OVERHEAD SIGN SUPPORT, 816 NO. 7.5

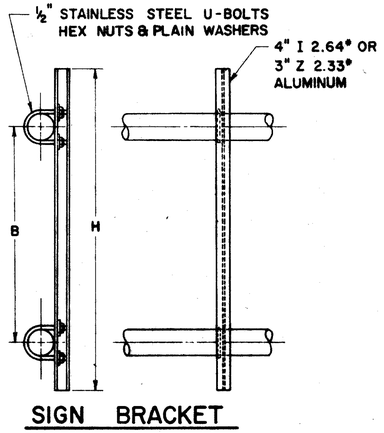
FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

130
227

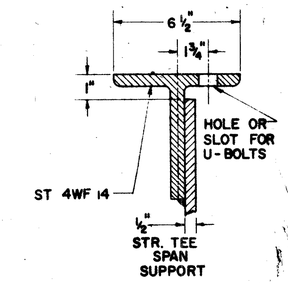
FRANKLIN COUNTY
FRA-270-0.79N







SIGN BRACKET



SECTION D-D

NOTES

MATERIALS

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

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

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

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

FABRICATION

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

MAXIMUM LENGTH OF SPAN SECTIONS IS 30 FT.

ERECTION

USE A MINIMUM OF 1" CAMBER IN SPAN TRUSS MEMBER FOR A 50' SPAN; ADD ¼" OF CAMBER FOR EACH 5' OF INCREASE IN SPAN OVER 50'.

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.

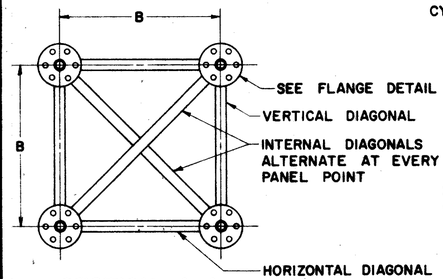
BAR SIZE IS INDICATED IN THE BAR MARK. THE FIRST DIGIT WHERE THREE DIGITS ARE USED AND THE FIRST TWO DIGITS WHERE FOUR DIGITS ARE USED, INDICATE THE BAR SIZE NUMBER.

*FOUNDATION ELEVATION

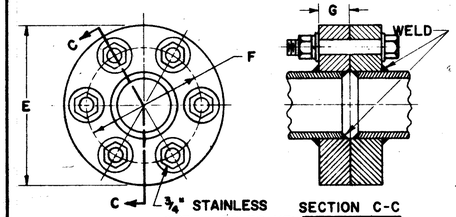
ELEVATION OF TOPS OF FOUNDATIONS SHALL BE BUILT UP SO THAT 17' CLEARANCE IS MAINTAINED OVER THE ENTIRE WIDTH OF THE PAVEMENT AND SHOULDERS.

DESIGN

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

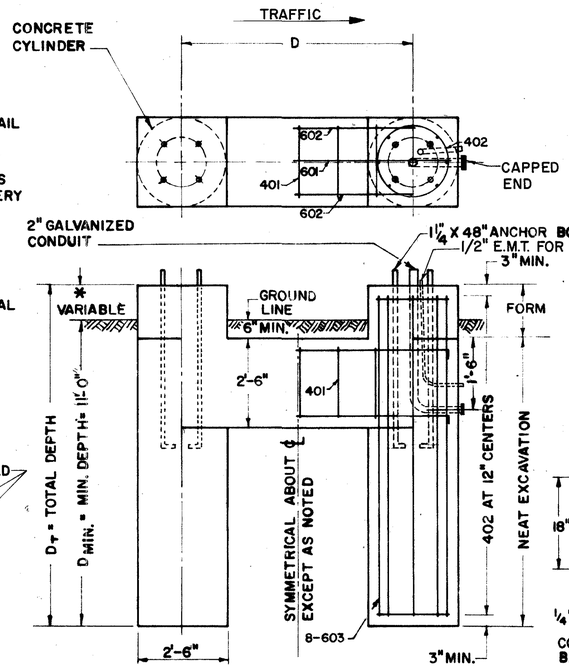


SECTION A-A



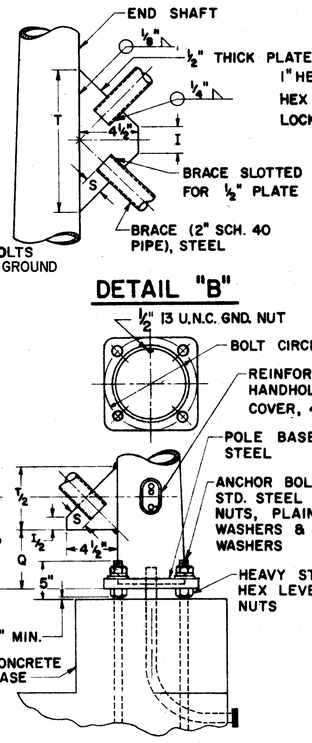
CAST FLANGE, B-26 ALLOY SG 70A-T7 (356-T7)

FLANGE DETAIL



FOUNDATION DETAIL

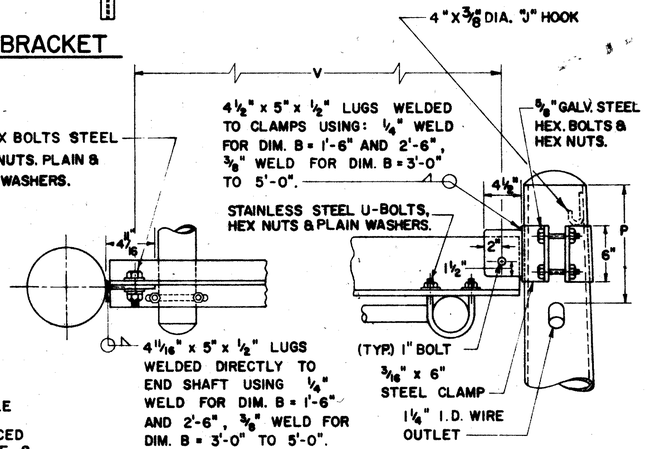
(RIGHT HAND SHOWN — LEFT HAND OPPOSITE)



DETAIL "B"

DETAIL "C"

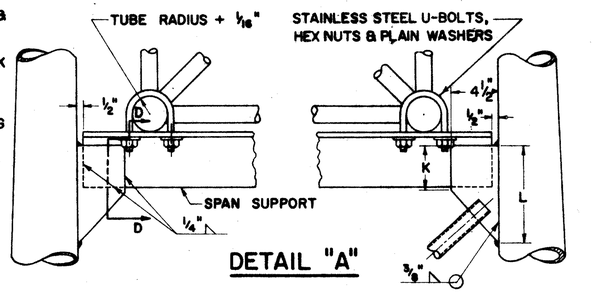
POLE BASE DETAIL



VIEW B-B

DETAIL "D"

UPPER SPAN SUPPORT (ALTERNATE METHODS)

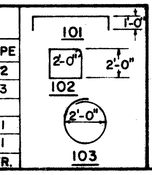


DETAIL "A"

LOWER SPAN SUPPORT

DESIGN NO.	SPAN A	B	C	D	E	END SHAFT	BRACE LENGTH	F	G	I	K	L	P	Q	R	S	T	U BOLTS	V	BOLT CIRCLE	SPAN SUPPORT SECTION D-D	CHORDS	HORIZONTAL AND INTERNAL DIAGONAL	VERTICAL DIAGONAL
1.	50' thru 65'	3'-0"	4'-11¾"	4'-5"	9¼"	8"X4.5 X25'-0",3GA	5'-10 13/16"	7 7/16"	1⅞"	3½"	4¾"	8"	12"	6⅝"	3'-9"	1½"	10"	⅝"	3'-3⅝"	11"	Split Tee 3'-8"	4¾" X .188"	2" X .188"	1.660" X .140"
2.	70' thru 75'	4'-0"	4'-10¼"	5'-7"	9¼"	8"X6.22X25'-6",3GA	6'-7⅛"	7 7/16"	1⅞"	⅝"	4¾"	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.	76' thru 80'	4'-0"	4'-10¼"	5'-7"	11"	8"X6.22X25'-6",3GA	6'-7⅛"	8½"	1½"	⅝"	4¾"	7¾"	12"	6¼"	4'-11"	1½"	9½"	⅝"	4'-5⅝"	11"	Split Tee 4'-10"	5½" X .250	2½" X .188"	1.900" X .145"
4.	81' thru 110'	5'-0"	4'-6½"	6'-7"	11"	8"X6.18 X26'-0",3GA	7'-3¼"	8½"	1½"	—	3⅛"	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+ -6"	STR.



BUREAU OF TRAFFIC
OHIO DEPARTMENT OF HIGHWAYS

OVERHEAD SIGN SUPPORTS	816 No.7.6	DATE 5-6-64 5-5-64

APPROVED _____ ENGINEER OF TRAFFIC

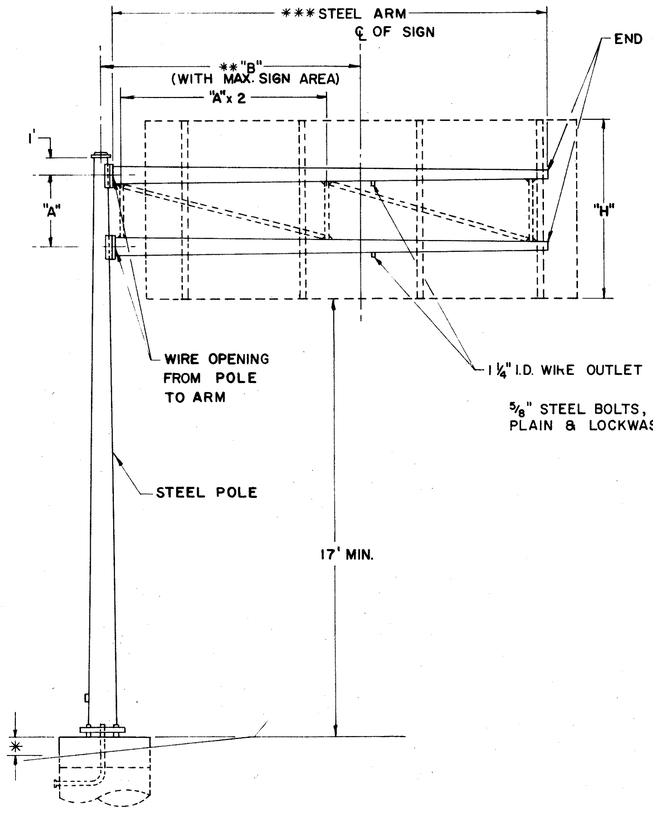
600 SQ. FT. SIGN AREA

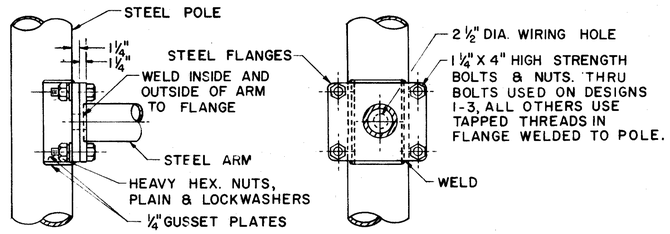
OVERHEAD SIGN SUPPORT, 816 NO.7.6

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

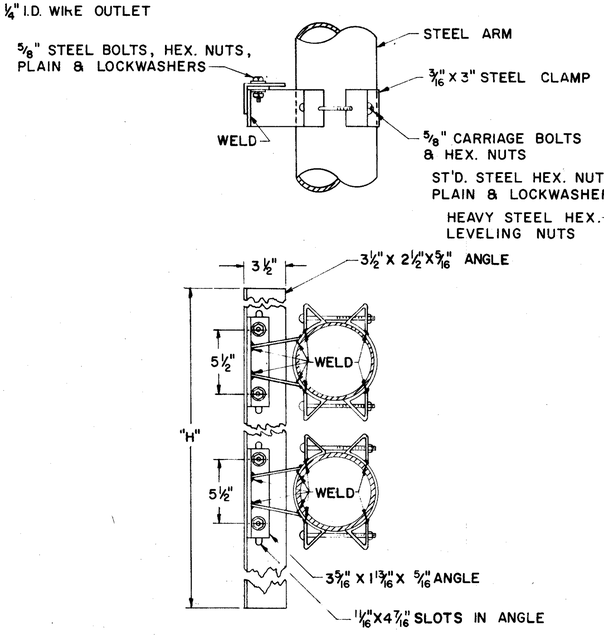
131/227

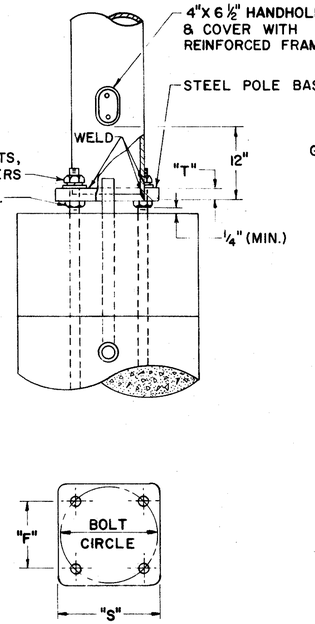
FRANKLIN COUNTY
FRA-270-0.79 N



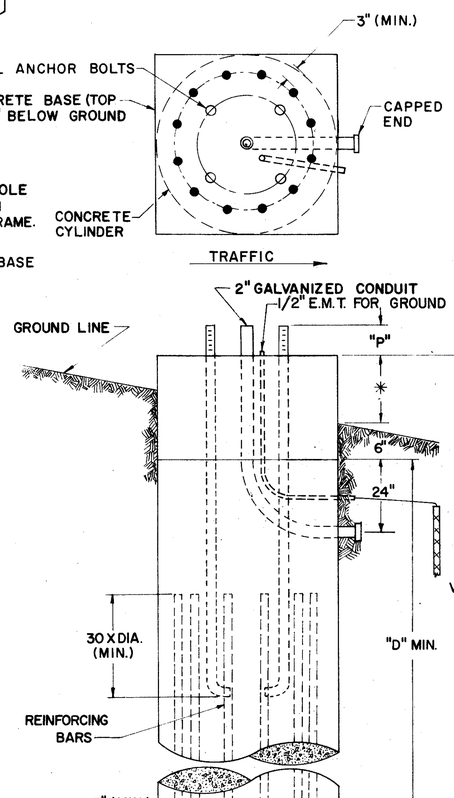


ARM ATTACHMENT





POLE DETAIL



FOUNDATION DETAIL

SIGN ATTACHMENT DETAIL

DESIGN NO.	POLE SIZE	*** ARM SIZE	DIM A	DIM ** B	DIM "D" MIN.	DIM F	DIM F	DIM P	DIM S	DIM T	BOLT CIRCLE	ANCHOR BOLT SIZE	MAX SIGN AREA	REINF. BARS SIZE	REINF. BARS NO.
1	3 Ga, 12" X 8.78" X 23'-0"	7Ga, 6.9" X 4.66" X16'-0"	4'	12'	9'	3'-0"	11 5/16"	7¾"	17"	2"	16"	1¾" X 90"	80	¾"	12
2	3 Ga, 12" X 8.78" X 23'-0"	7 Ga, 8" X 5.2" X 20'-0"	4'	16'	9'	3'-0"	11 5/16"	7¾"	17"	2"	16"	1¾" X 90"	80	¾"	12
3	3 Ga, 15" X 11.5" X 25'-0"	7 Ga, 8.3" X 6.06" X 16'-0"	4'	12'	11'	3'-0"	15½"	8⅜"	23"	2"	22"	2" X 96"	120	1"	12
4	3 Ga, 16" X 12.5" X 25'-0"	3 Ga, 9.2" X 6.40" X 20'-0"	4'	16'	11'	3'-0"	16⅝"	8⅜"	24½"	2"	23½"	2" X 96"	120	1"	12
5	0 Ga, 18" X 14.36" X 26'-0"	7 Ga, 11" X 7.92" X 22'-0"	6'	14'	13'	3'-0"	18"	9⅜"	26½"	2½"	25½"	2¼" X 120"	180	1⅛"	12
6	0 Ga, 18" X 14.36" X 26'-0"	7 Ga, 12.5" X 8.86" X 26'-0"	6'	18'	13'	3'-0"	18"	9⅜"	26½"	2½"	25½"	2¼" X 120"	180	1⅛"	12
7	2 PLY 7 Ga, 18" X 14.36" X 26'-0"	7 Ga, 12.5" X 9.14" X 24'-0"	6'	14'	15'	3'-0"	18"	9¾"	26½"	2½"	25½"	2½" X 144"	240	1¼"	12
8	2 PLY ¼", 18" X 14.36" X 26'-0"	3 Ga, 12.5" X 8.58" X 28'-0"	6'	18'	15'	3'-0"	18"	11¼"	26½"	3"	25½"	3" X 144"	240	1¼"	12

NOTES

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

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

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

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

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

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

REINFORCING STEEL - REINFORCING STEEL AS SHOWN IN TABLE SHALL BE INSTALLED WHEN "D_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.

BUREAU OF TRAFFIC
OHIO DEPARTMENT OF HIGHWAYS

OVERHEAD SIGN SUPPORT — 816 No. 12.24

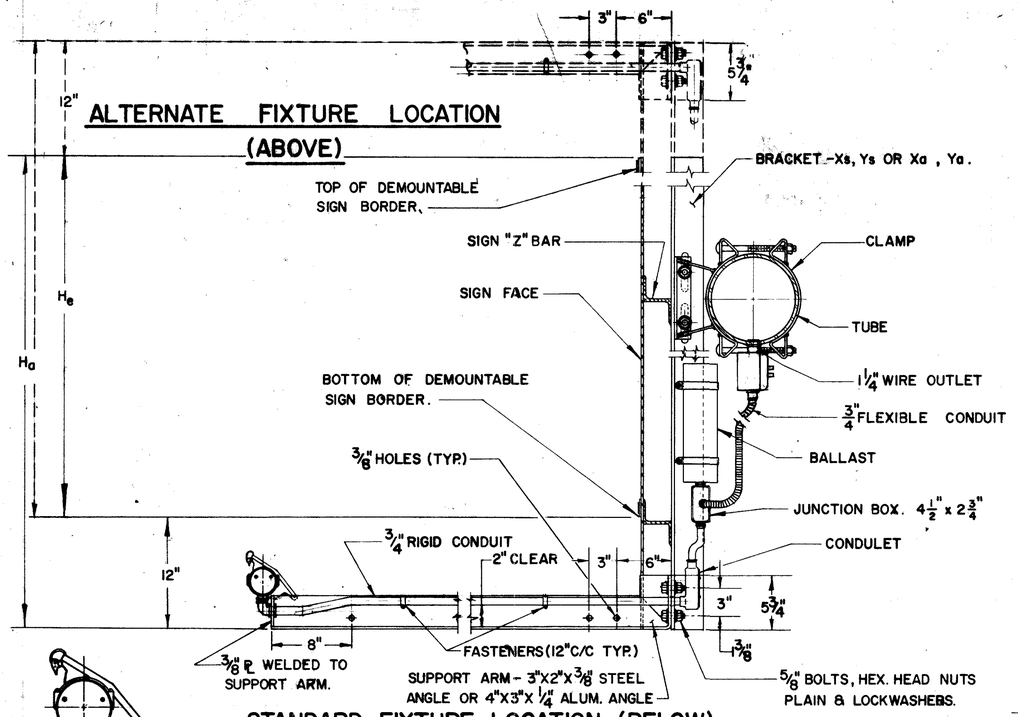
DATE 8-18-61 4-11-62

APPROVED Robert E. Conner
ENGINEER OF TRAFFIC

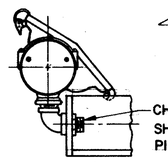
OVERHEAD SIGN SUPPORT 816 No. 12.24

FRANKLIN COUNTY
FRA-270-0.79N

ALTERNATE FIXTURE LOCATION (ABOVE)



STANDARD FIXTURE LOCATION (BELOW)



FIXTURE CONNECTION WHERE WIRING CONDUIT IS NOT NEEDED.

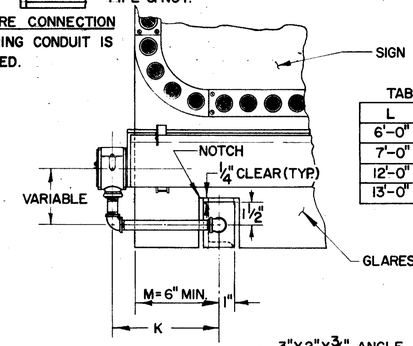


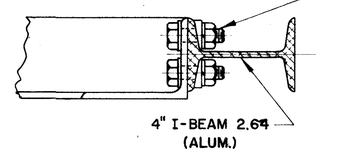
TABLE III.

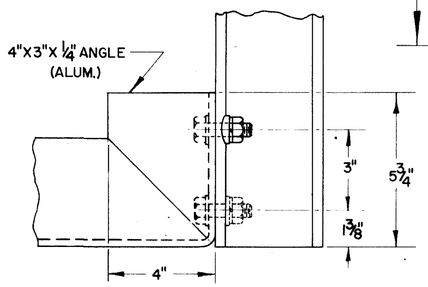
L	K
6'-0"	7 11/16"
7'-0"	1 11/16"
12'-0"	9 3/16"
13'-0"	3 3/16"

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

DETAIL A.

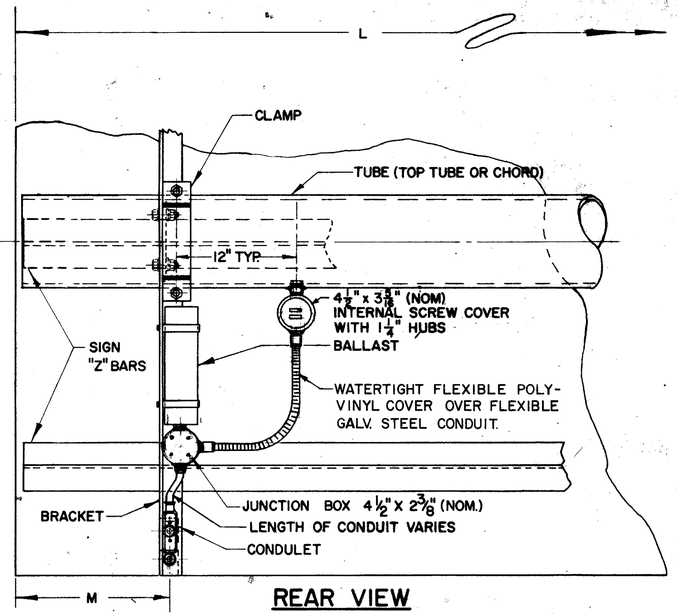
½" BOLT, STAINLESS STEEL, TAPERED WASHERS & LOCKWASHERS



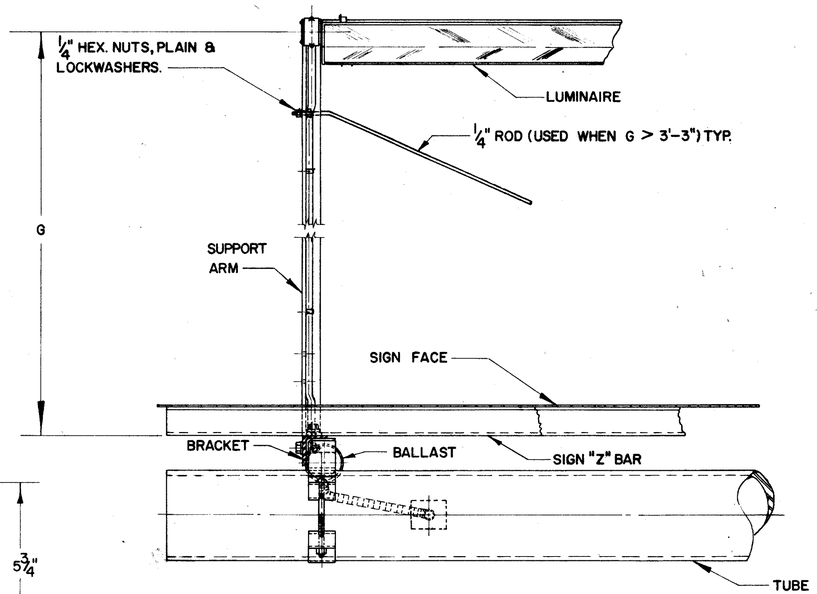


FOR SUPPORTS 7.2-7.6

DETAIL B.



REAR VIEW



TOP VIEW

FABRICATION — ALL STRUCTURAL COMPONENTS SHOWN ON THIS SHEET SHALL CONFORM TO SUPPLEMENT SPECIFICATIONS I-129.

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

TABLE I

"L" SIGN LENGTH		FIXTURES 75	NUMBER OF 99	"M" EDGE DISTANCE A LT.	A RT.	B LT.	B RT.	
A	B							
6'-0"	7'-0"	1		6"	6"	6"	6"	1
8'-0"	9'-0"	1		10 3/8"	10 1/8"	16 3/8"	16 1/8"	1
10'-0"	11'-0"		1	10 3/8"	10 1/8"	16 3/8"	16 1/8"	1
12'-0"	13'-0"	2		6"	6"	6"	6"	1
14'-0"	15'-0"	2		8 3/8"	8 3/8"	14 3/8"	14 3/8"	1
16'-0"	17'-0"	1	1	8 3/8"	8 3/8"	14 3/8"	14 3/8"	1
18'-0"	19'-0"		2	8 3/8"	8 3/8"	14 3/8"	14 3/8"	1
20'-0"	21'-0"	3		7"	6 7/8"	13	12 7/8"	2
22'-0"	23'-0"	2	1	7"	6 7/8"	13	12 7/8"	2
24'-0"	25'-0"	1	2	7"	6 7/8"	13	12 7/8"	2
26'-0"	27'-0"		3	7"	6 7/8"	13	12 7/8"	2

Part Number Shown Under "L" Are Actual Fixture Lengths for Mounting Purposes. 75 and 99 Respectively Indicate Designation for Different Manufacturers.

M= Distance from edge of sign to ℄ of notch, min. 6". When the length of the sign minus 1'-0" is less than the sum of the actual fixture lengths, an offset is used. For additional details see detail A and table III.

TABLE II

MAX. BRACKET SPACING FOR EXTERNALLY ILLUMINATED SIGNS

ACTUAL SIGN HEIGHT "Ha"	SUPPORT TYPES: 9.12, 11.08, 13.2, 7.2 — SINGLE TUBE, DOUBLE TUBE LESS 36" C/C	9.24, 10.48, 12.24, 14.5, 15.8, 7.2 & 7.3 — DOUBLE TUBE C/C 36"-42"	C/C 44"-84"
	MAXIMUM BRACKET SPACING		
to 5'-0"	6'-4" with X, 8'-4" with Y	8'-4" with X	8'-4" with X
5'-6" to 8'-0"	6'-4" with Y	4'-2" with X, 6'-4" with Y	6'-4" with X, 8'-4" with Y
8'-6" to 10'-0"	3'-2" with X, 4'-2" with Y	6'-4" with Y	6'-4" with Y
10'-6" to 12'-0"	———	4'-2" with Y	6'-4" with Y
12'-6" to 14'-0"	———	3'-2" with Y	3'-2" with Y

Ha= ACTUAL SIGN HEIGHT
He= EFFECTIVE SIGN HEIGHT
BRACKET SIZE: Xs = 3½" X 2½" X 5/16" — L @ 6.1 LB. STEEL } 9.12, 10.48, 11.08
Ys = 4" X 3 13/16" X ¼" — Z @ 8.2 LB. STEEL } 12.24, 14.5, 15.8
Xa = 3" X 2 1/16" X ¼" — Z @ 2.33 LB. ALUM. } 7.2 Thru 7.6
Ya = 4" X 2 29/32" X 3/16" — I @ 2.64 LB. ALUM.

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

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

BUREAU OF TRAFFIC
OHIO DEPARTMENT OF HIGHWAYS

STRUCTURAL DETAILS FOR EXTERNALLY ILLUMINATED SIGNS

EI-1

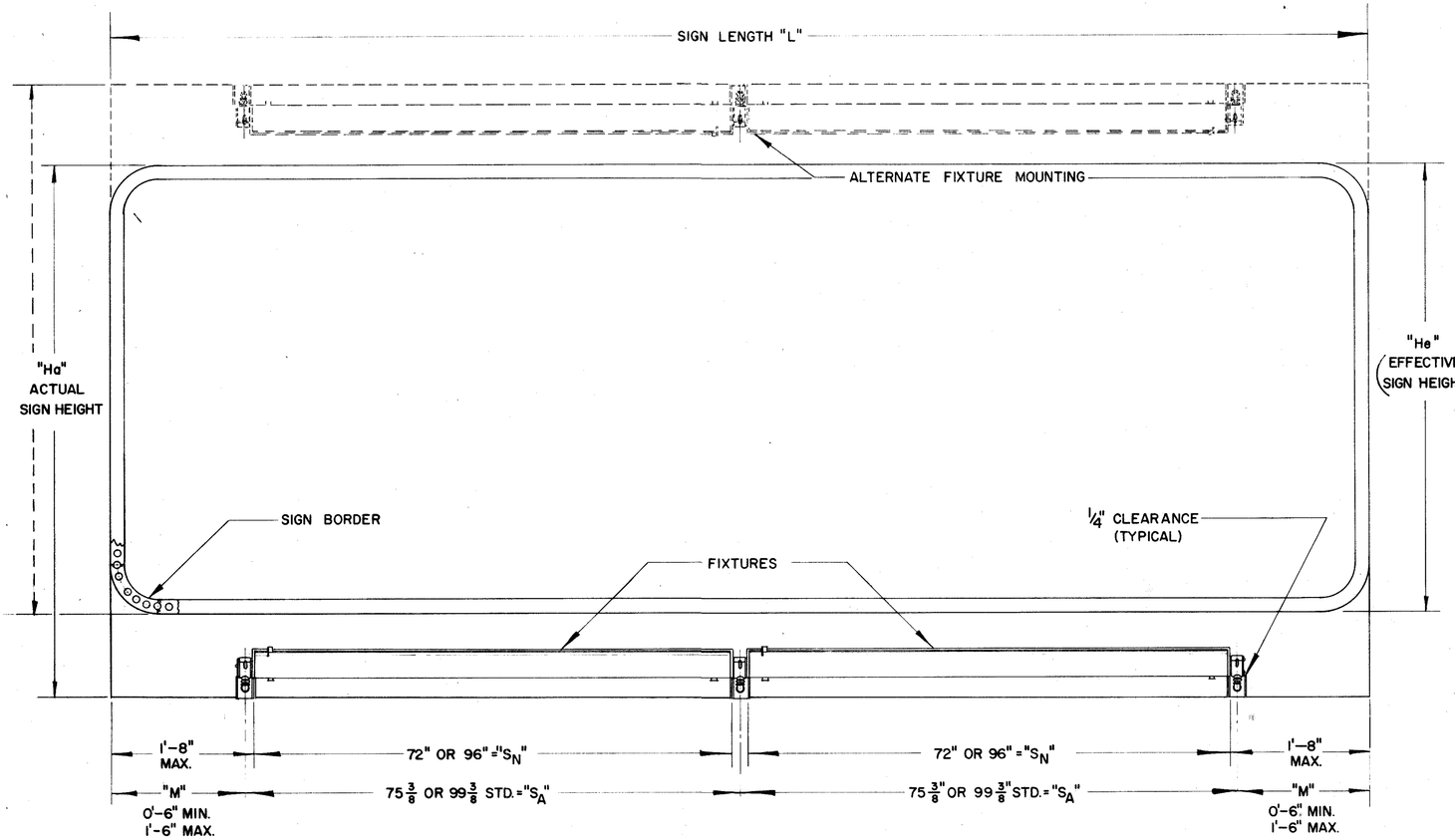
APPROVED Fred C Talbot
ENGINEER OF TRAFFIC

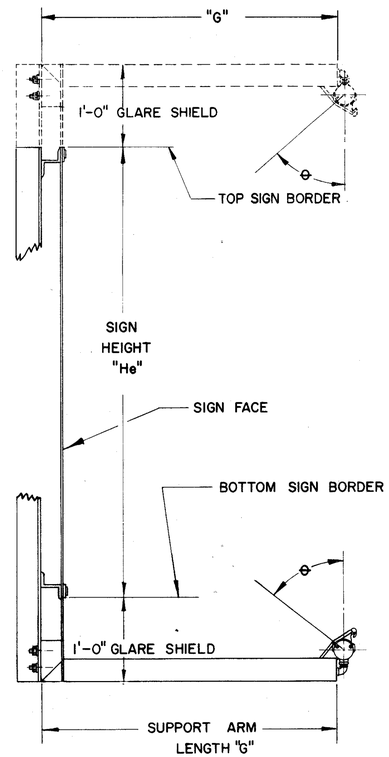
STRUCTURAL DETAILS FOR EXTERNALLY ILLUMINATED SIGNS

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

133
227

FRANKLIN COUNTY
FRA-270-0.79 N





SIGN LIGHTING NOTES

SIGN ILLUMINATION

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

LAMPS

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

LAMP FIXTURES

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

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

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

BALLASTS

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

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

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

BALLASTS

TYPE	MANUFACTURERS		WATTAGE
	G.E.	JEFFERSON	
A	GG 3583	257-151	190
B	GG 3535	257-171	250
C	GG 3585	257-231	250
D	GG 3588	257-181	425

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

BUREAU OF TRAFFIC
OHIO DEPARTMENT OF HIGHWAYS

ELECTRICAL DETAILS FOR EXTERNALLY ILLUMINATED SIGNS

EI-2

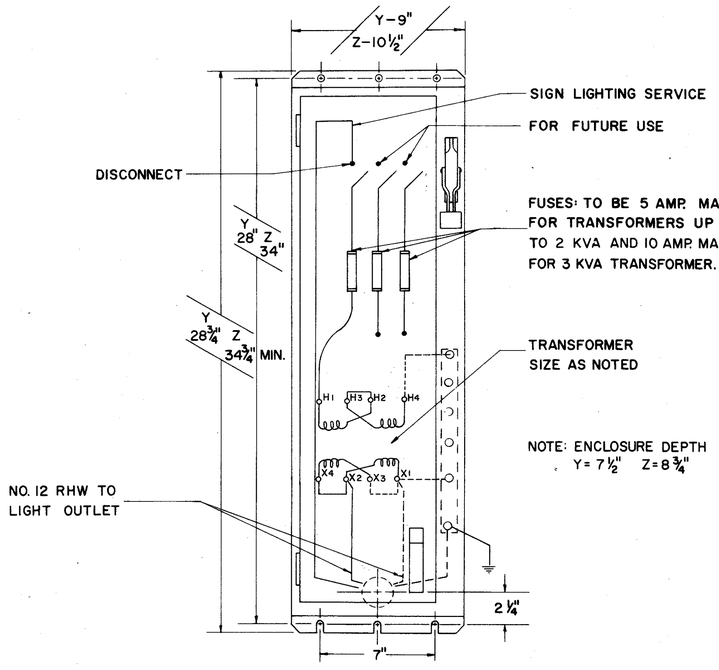
DATE 10-31-63 5-6-64 10-29-64

APPROVED Fred C Talbot
ENGINEER OF TRAFFIC

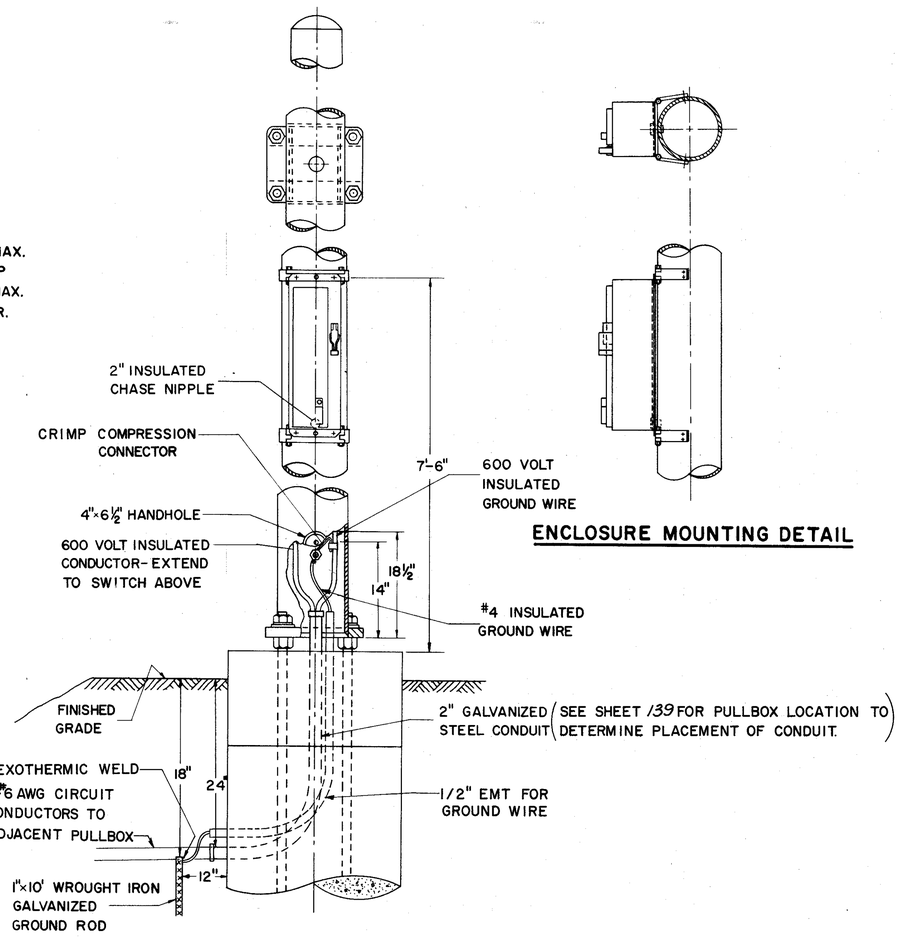
FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

134
227

FRANKLIN COUNTY
FRA-270-0.79N

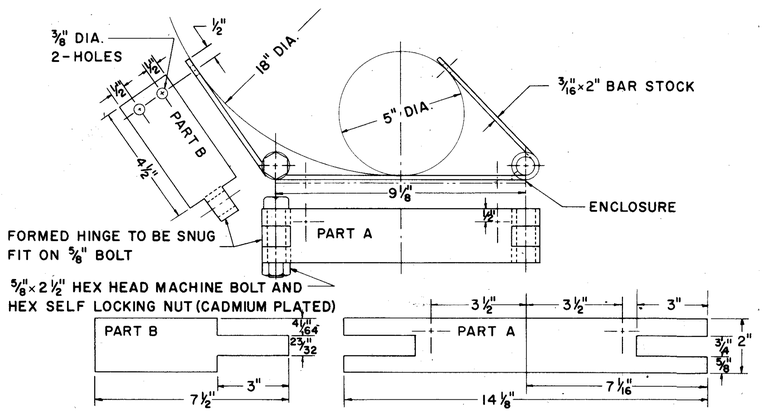


TYPICAL ENCLOSURE DETAIL
480 VOLT SIGN LIGHTING SERVICE

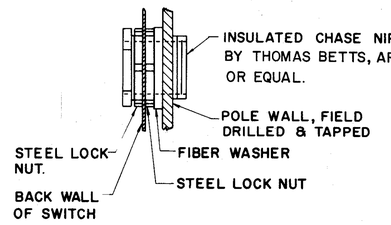


SIGN SUPPORT DETAIL FOR ILLUMINATED SIGNS

ENCLOSURE MOUNTING DETAIL



ENCLOSURE MOUNTING BRACKET



CHASE NIPPLE ASSEMBLY DETAIL

TRANSFORMERS

TYPE	MANUFACTURERS G.E.	MANUFACTURERS JEFFERSON	OUTPUT K.V.A.	SWITCH TRANSFORMER ENCLOSURE
I	9T51Y7	244-241	.25	Y
II	9T51Y8	244-251	.50	Y
III	9T51Y9	244-261	.75	Y
IV	9T51Y10	244-401	1.00	Z
V	9T51Y11	244-411	1.50	Z
VI	9T51Y12	244-421	2.00	Z
VII	9T51Y13	244-431	3.00	Z

NOTES

GENERAL

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

SERVICE

ELECTRIC SERVICE SHALL ENTER THROUGH A 2" GALVANIZED RIGID STEEL CONDUIT INSTALLED IN STRUCTURE FOUNDATION AS PER DETAIL. SIGN SERVICE OR CIRCUITRY SHALL BE CONTROLLED AS REQUIRED BY THE SYSTEM DESIGN AT THE PRIMARY SOURCE.

SERVICE CONDUCTORS SHALL BE THE SIZE AND TYPE AS SPECIFIED.

COMBINATION SWITCH AND TRANSFORMER

(TYPE Y OR Z ENCLOSURE REQUIRED AS PER SCHEDULE ON THIS SHEET)

THIS COMBINATION SHALL BE A 30 OR 60 AMPERE 600 VOLT SWITCH WITH A .25 TO 3.0 KVA TRANSFORMER. THE COMBINATION AND ENCLOSURE SHALL BE AS SQUARE D CLASS 9421, COLUMBUS ELECTRIC WORKS CLASS 101, PANALS INCORPORATED-CLASS 9400, OR APPROVED EQUAL.

TRANSFORMER

THE TRANSFORMER SHALL BE DRY TYPE SINGLE FACE 240/480 VOLT PRIMARY 120/240 VOLT SECONDARY, THE TYPE AND CAPACITY AS SPECIFIED IN DETAILED SCHEDULE ON THIS SHEET.

ENCLOSURE

THE ENCLOSURE SHALL BE NEMA #4 WATER TIGHT .063 GAGE STAINLESS STEEL AISI 302-303. A DISCONNECT HANDLE SHALL BE FLANGE MOUNTED AND CAPABLE OF BEING LOCKED IN EITHER POSITION. THE ENCLOSURE SHALL BE EQUIPPED WITH A DOOR LOCKING MECHANISM WITH A DEFEATER THAT NECESSITATES TWO HANDS TO OPERATE MECHANISM WITH THE SWITCH IN OFF POSITION. SPACE FOR A 2" INSULATED CHASE NIPPLE SHALL BE PROVIDED APPROXIMATELY 2¼" ABOVE THE CENTER LINE OF THE LOWER MOUNTING SLOT. THIS ENCLOSURE AND STRUCTURE SHALL BE FIELD DRILLED AND TAPPED FOR THE REQUIRED NIPPLE AS SHOWN ON THE DETAIL ON THIS SHEET.

THIS ENCLOSURE SHALL BE FLANGE MOUNTED ON BRACKETS WITH 5/16-18×¾" HEX HEAD CADMIUM PLATED MACHINE BOLTS. ENCLOSURES SHALL BE TYPE Y OR Z AS SPECIFIED AND DIMENSIONED ON THIS SHEET.

ENCLOSURE MOUNTING BRACKET

THE ENCLOSURE MOUNTING BRACKET SHALL BE FABRICATED THEN GALVANIZED BEFORE ASSEMBLY. THE BRACKET SHALL BE FIELD MOUNTED WITH 5/16 HEX HEAD SELF TAPPING CADMIUM PLATED SCREWS. THE SIGN SUPPORT SHALL BE FIELD DRILLED, AS PER DETAIL.

WIRE AND CABLE

ALL WIRE AND CABLE UP TO AND INCLUDING #4 SHALL COMPLY WITH FAA TYPE A SPECIFICATIONS. #2 OR LARGER WIRE OR CABLE SHALL BE G.E. 58006 OR ANACONDA AP-10711, OR EQUAL. ALL WIRE AND CABLE SHALL BE 600 VOLT.

GROUNDING

EACH SIGN SUPPORT OR STRUCTURE SHALL BE GROUNDED WITH A #4 RUBBER INSULATION AND NEOPRENE JACKETED CONDUCTOR. THE GROUNDING CONDUCTOR SHALL BE CONNECTED TO THE SWITCH THEN TO THE COMPRESSION CONNECTOR IN THE SIGN SUPPORT THEN TO A 1"×10' GALVANIZED WROUGHT IRON GROUND ROD. GROUND CONDUCTOR SHALL BE EXOTHERMICALLY WELDED TO GROUND ROD AND THEN TAPED WITH PLASTIC ELECTRICAL TAPE AT EACH EXPOSED PORTION OF CONDUCTOR. THE WELDED CONNECTION AND TAPED PORTION SHALL BE PAINTED 2 COATS OF INSULATING ENAMAL.

BUREAU OF TRAFFIC
OHIO DEPARTMENT OF HIGHWAYS

ELECTRICAL SIGN SERVICE DETAILS 480 VOLT SYSTEM

ES-3A

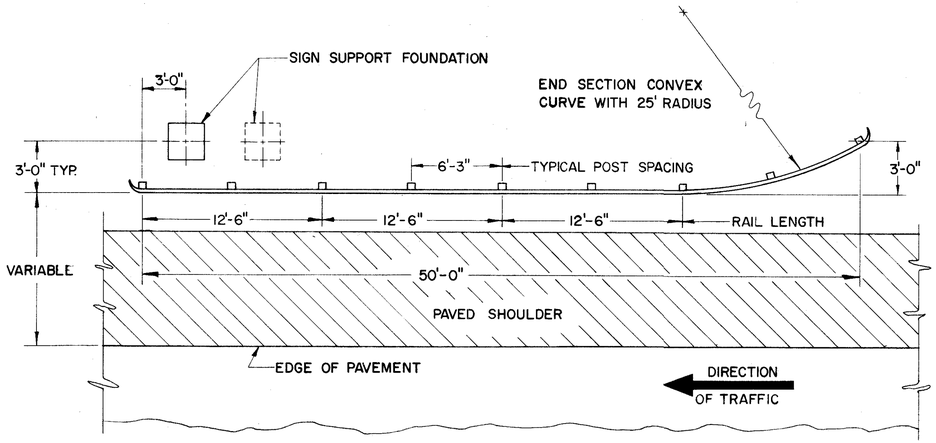
DATE 6-18-64

APPROVED _____
ENGINEER OF TRAFFIC

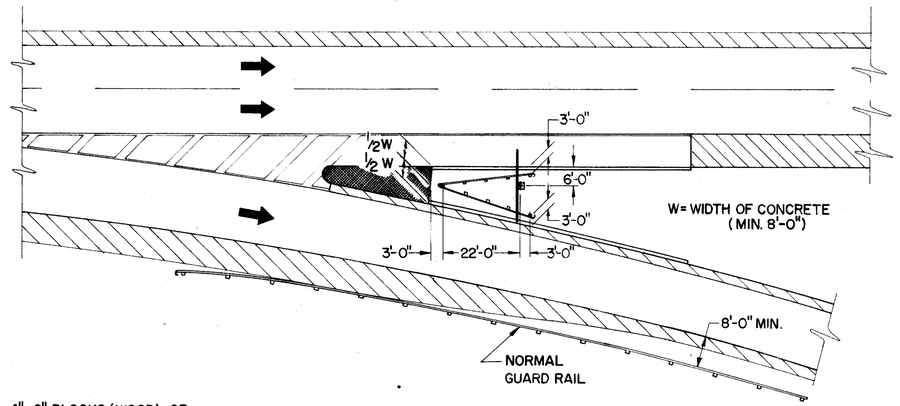
FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

135/227

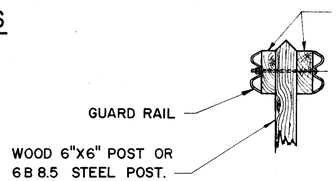
FRANKLIN COUNTY
FRA-270-0.79N



GUARD RAIL DETAILS

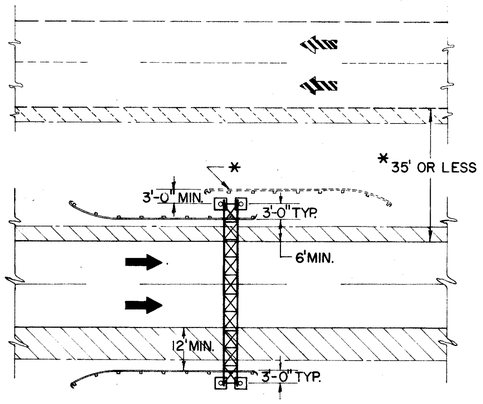


GORE INSTALLATION (TYPICAL)

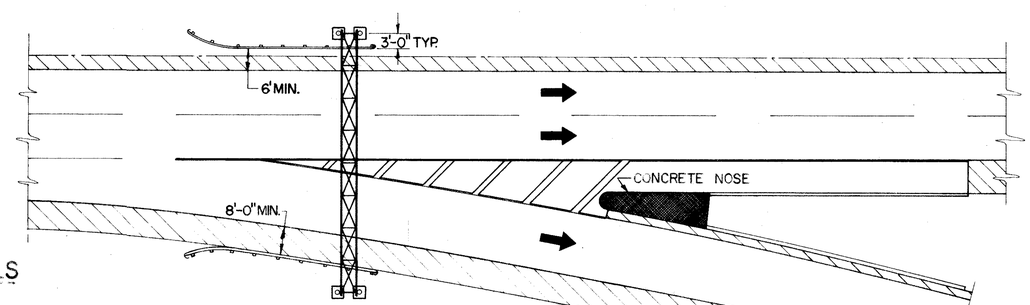


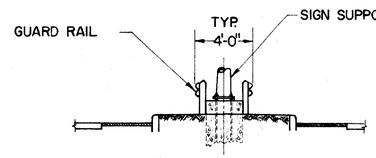
NOTE:
TYPICAL TREATMENT OF FIRST POST IN MEDIAN FLARED SECTION.

SECTION B-B

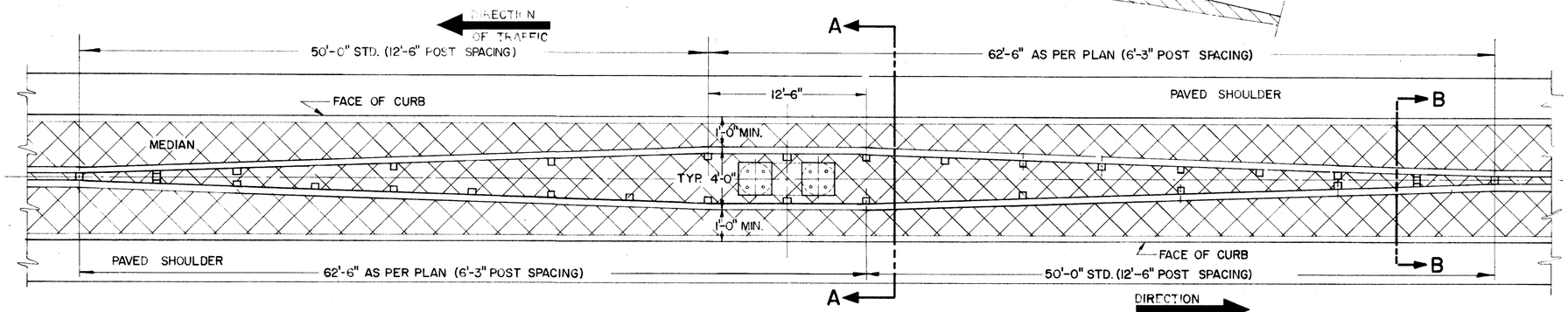


GUARD RAIL DETAILS
(SPAN TYPE)





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. NO. 1 & 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. NO. 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. NO. 7	DATE 3-10-65 6-1-65

APPROVED Fred C. Hatch
ENGINEER OF TRAFFIC

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

136/227

FRANKLIN COUNTY
FRA-270-0.79N

ITEM 620 ~ DELINEATORS

ROAD	STATION BEGIN	STATION END	SIDE	L.F.	SPACING	A-1 Post	A-1 Bkt.	C-2 Post	C-3 Post	C-2 Bkt.
IR 270	268+75	304+75	R	3600	200'	19				
IR 270	269+50	297+50	L	2800	200'	15				
IR 270	314+50	332+50	R	1800	200'	10				
IR 270	314+75	332+75	L	1800	200'	10				
IR 270	344+00	352+00	L	800	200'	• 5				
IR 270	350+00		R			• 1				
IR 270	352+00	354+00	R	200	200'		• 2			
IR 270	354+00	356+00	L	200	200'		• 2			
IR 270	356+00	370+00	R	1400	200'	• 8				
IR 270	358+00	370+00	L	1200	200'	• 7				
IR 270	372+00	378+00	L&R	600	200'	8				
IR 270	380+00	392+00	R	1200	200'	• 7				
IR 270	380+00	394+00	L	1400	200'	• 8				
IR 270	394+00		R				• 1			
IR 270	396+00		L				• 1			
IR 270	396+00	410+00	R	1400	200'	• 8				
IR 270	398+00	410+00	L	1200	200'	• 7				
Roberts Rd.	10+00	14+00	R	400	200'	3				
Roberts Rd.	10+50	22+50	L	1200	200'	7				
Roberts Rd.	17+75	21+75	R	400	200'	3				
Roberts Rd.	23+75	25+75	R	200	200'		2			
Roberts Rd.	24+50	26+50	L	200	200'		2			
Roberts Rd.	27+75	45+75	R	1800	200'	10				
Roberts Rd.	28+50	32+50	L	400	200'	3				
Roberts Rd.	37+00	47+00	L	1000	200'	6				
SE Ramp	305+80	314+80	R	900	100'			10		
SE Ramp	314+80	318+30	L	350	50'			8		
SE Ramp	318+30	321+30	R	300	100'			4		
SE Ramp	321+90	323+70	R	180	30'			7		
WS Ramp	298+50		L						1	
WS Ramp	299+50	313+50	L	1400	100'			14		1
WS Ramp	314+10	314+70	L	60	60'			2		
WS Ramp	314+70	319+50	R	480	60'			9		
WS Ramp	319+50	322+50	L	300	100'			4		
WS Ramp	322+50	325+50	R	300	50'			7		
WS Ramp	325+50	328+50	L	300	50'			7		
ES Ramp	320+50	322+50	R	200	50'			5		
ES Ramp	322+50	324+50	L	200	50'			5		
NW Ramp	324+20	326+30	L	210	30'			8		
NW Ramp	326+90	328+90	L	200	100'			3		
NW Ramp	328+90	332+90	R	400	50'			9		
NW Ramp	332+90	338+90	L	600	100'			7		
NW Ramp	339+90	341+90	L	200	100'			• 3		
EN Ramp	318+50	321+50	R	300	50'			7		
EN Ramp	321+50	324+50	L	300	50'			7		
EN Ramp	324+50	327+50	R	300	100'			4		
EN Ramp	327+50	332+30	L	480	60'			9		
EN Ramp	332+30	333+50	R	120	60'			3		
EN Ramp	334+50	338+50	R	400	100'			5		
EN Ramp	339+50	347+50	R	800	100'			• 9		
EN Ramp	348+50		R						• 1	
WN Ramp	322+50	325+00	R	250	50'			6		
WN Ramp	325+00	326+50	L	150	50'			4		
TOTAL I SECTION						94	4	154	1	1
TOTAL I-G SECTION •						•51	• 6	• 12	• 1	
GRAND TOTAL						145	10	166	2	1

ITEM 621 ~ PAVEMENT MARKING

ROAD	BEGIN STATION	END STATION	SIDE	L.F.	No. LINES	4" Edge Lines L.F.	6" Lane Lines L.F.
IR 270	268+25	339+50	L&R	7125	4	28500	28500
IR 270	339+50	370+00	L&R	3050	4	•12200	•12200
IR 270	370+00	380+00	L&R	1000	4	4000	4000
IR 270	380+00	410+00	L&R	3000	4	•12000	•12000
IR 270	410+00	412+50	L&R	250	4	1000	1000
Roberts Rd.	9+58	10+82	R	76	1	76	
Roberts Rd.	9+58	18+83	L	925	1	925	
Roberts Rd.	12+02	19+70	R	768	1	768	
Roberts Rd.	13+28	19+70	L&R	642	2	1284	1284
Roberts Rd.	19+90	29+90	L	1000	1	1000	
Roberts Rd.	20+20	30+10	R	990	1	990	
Roberts Rd.	20+60	29+45	L&R	885	2	1770	1770
Roberts Rd.	30+39	41+45	L	1106	1	1106	
Roberts Rd.	30+40	36+85	L&R	645	2	1290	1290
Roberts Rd.	31+27	36+70	R	543	1	543	
Roberts Rd.	37+94	47+10	R	916	1	916	
Roberts Rd.	42+65	47+10	L	445	1	445	
SE Ramp	313+80	324+10	L&R	1030	2	2060	
WS Ramp	305+16	314+50	L	934	1	934	
WS Ramp	314+50	326+15	L&R	1165	2	2330	
WS Ramp	320+15	321+30	16'R	115	1	115	
ES Ramp	321+30	322+30	R	100	1	100	
ES Ramp	322+30	324+60	L&R	230	2	460	
NW Ramp	323+75	333+95	L&R	1020	2	2040	
EN Ramp	320+70	332+50	L&R	1180	2	2360	
EN Ramp	332+50	339+50	R	700	1	700	
EN Ramp	339+50	341+88	R	238	1	• 238	
EN Ramp	326+16	327+25	16'L	109	1	109	
WN Ramp	322+35	325+15	L&R	280	2	560	
WN Ramp	325+15	326+15	L	100	1	100	
TOTAL I SECTION						L.F. 56581	37844
						Miles 10.72	7.17
TOTAL IG SECTION •						L.F. •24438	•24200
						Miles • 4.63	• 4.58
GRAND TOTAL						L.F. 81019	62044
						Miles 15.35	11.75

ROAD	BEGIN STATION	END STATION	SIDE	L.F.	No. LINES	4" Lane Lines & Center Lines L.F.	4" Barrier Lines L.F.	8" Channelizing Lines L.F.	24" Stop Lines Lump	Broad Transverse Stripes Lump	Curb & Island Markings Lump
IR 270	305+16	308+00	L	284	1	284					
IR 270	309+10	311+35	R	225	1	225					
IR 270	311+35	314+80	R	345	1			345			
IR 270	332+92	336+40	L	348	1			348			
IR 270	336+40	338+18	L	176	1	176					
IR 270	339+50	341+88	R	238	1	• 238					
IR 270	339+00	339+50	R	50	1	50					
Roberts Rd.	8+58	13+28	℄	470	2		940				
Roberts Rd.	13+28		Nose								Lump
Roberts Rd.	16+80	18+44	R	164	1			164			
Roberts Rd.	19+76		Nose								Lump
Roberts Rd.	20+60		Nose								Lump
Roberts Rd.	20+60	22+06	L	146	1			146			
Roberts Rd.	27+93	29+42	R	149	1			149			
Roberts Rd.	29+45		Nose								Lump
Roberts Rd.	30+40		Nose								Lump
Roberts Rd.	31+72	33+40	L	168	1			168			
Roberts Rd.	36+85		Nose								Lump
Roberts Rd.	37+85	40+75	℄	290	2		580				
Roberts Rd.	40+75	47+10	℄	635	1	635					
Roberts Rd. Conn.	0+12	1+65	℄	153	1	153					
Wilson Rd.	10+00	25+70	℄	1570	1	1570					
Darby Creek Rd.	7+00	12+50	℄	550	1	550					
SE Ramp	311+35	313+80	L	245	1			245		Lump	
SE Ramp	313+80		Nose								Lump
SE Ramp	321+00	324+10	℄	310	1			310	Lump		
WS Ramp	308+00	310+50	L	250	1			250		Lump	
WS Ramp	326+12		Nose								Lump
WS Ramp	326+12	326+71	R	59	1			59			
ES Ramp	320+15	321+30	L	115	1	115					
ES Ramp	321+30	322+30	L								Lump
NW Ramp	323+75								Lump		
NW Ramp	333+92		Nose								Lump
NW Ramp	333+92	336+40	R	248	1			248			
EN Ramp	320+08	320+68	L	60	1			60			
EN Ramp	320+68		Nose								Lump
EN Ramp	336+50	339+00	L	250	1			250			
WN Ramp	324+04	326+16	R								Lump
WN Ramp	326+16	327+25	R	109	1	109					
TOTAL I SECTION						L.F. 3867	1520	2742			
						Miles .73					
TOTAL I-G SECTION •						L.F. • 238					
						Miles • .05					
GRAND TOTAL						L.F. 4105	1520	2742			
						Miles 0.78			Lump	Lump	Lump

Description	Lin. Ft.	L.F. of Paint	Miles
6" Lane Lines (I)	37844 x .375 =	14132	2.69
6" Lane Lines (IG)	24200 x .375 =	9075	1.72
4" Lane & Center Lines (I)	3867 x .375 =	1450	0.27
4" Lane & Center Lines (I-G)	238 x .375 =	89	0.02

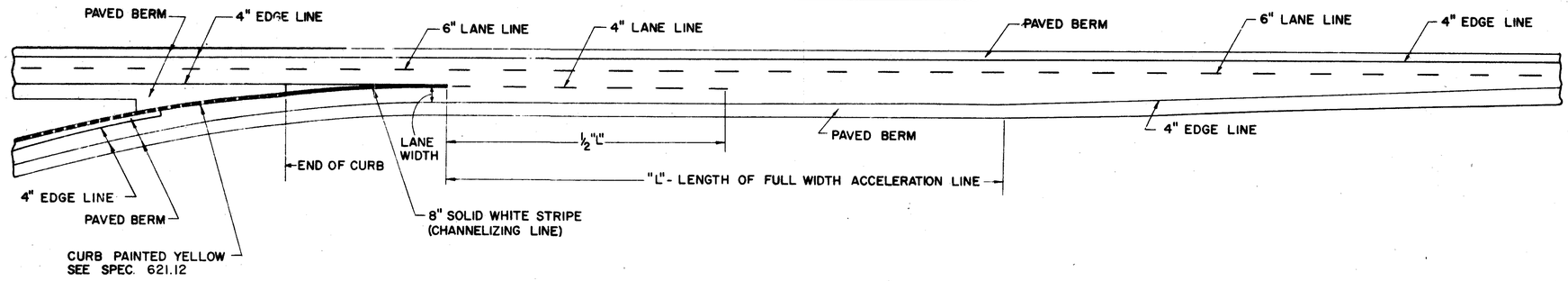
TRAFFIC CONTROL QUANTITIES

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

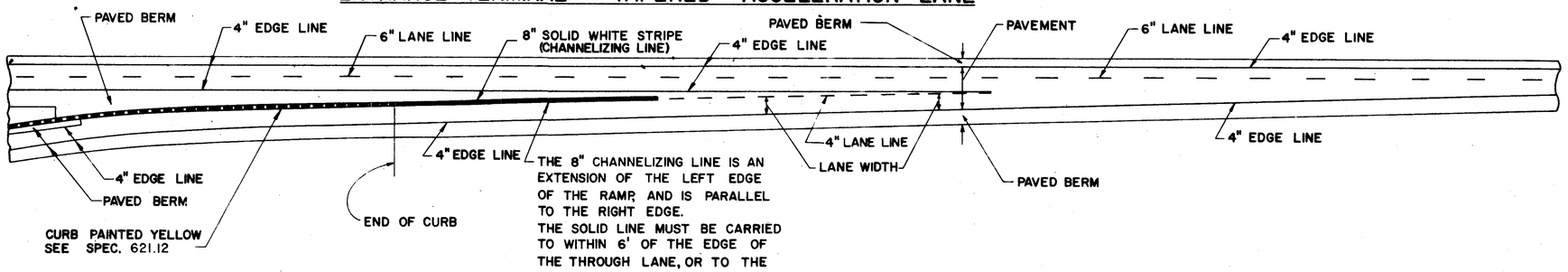
137
227

FRANKLIN COUNTY
FRA-270-0.79N

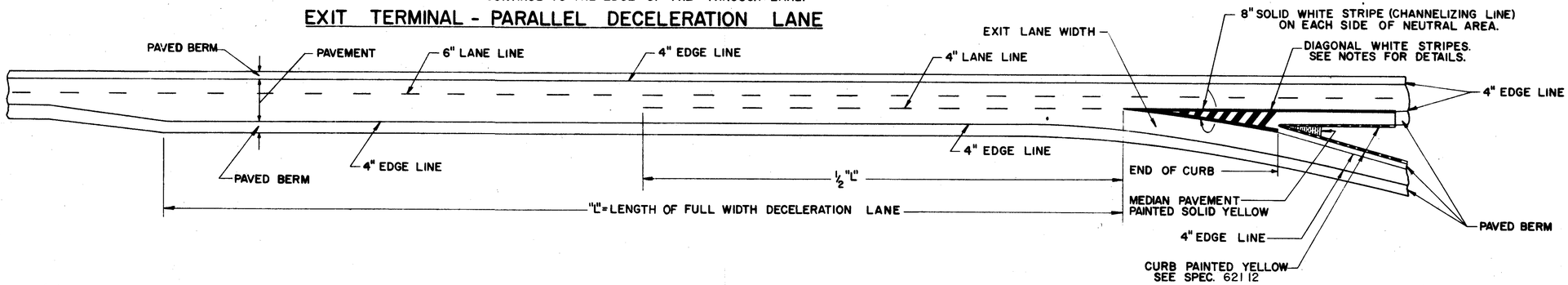
ENTRANCE TERMINAL - PARALLEL ACCELERATION LANE



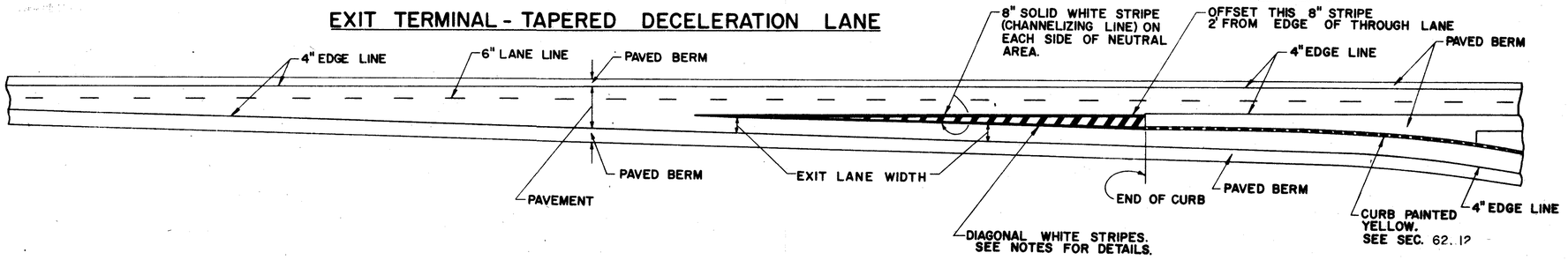
ENTRANCE TERMINAL - TAPERED ACCELERATION LANE



EXIT TERMINAL - PARALLEL DECELERATION LANE



EXIT TERMINAL - TAPERED DECELERATION LANE



NOTES

EDGE LINES SHALL BE PLACED IN THE LOCATIONS AS SHOWN TO CONFORM TO SECTION 621.06

LANE LINES SHALL BE PLACED IN THE LOCATIONS AS SHOWN TO CONFORM TO SECTION 621.07

CHANNELIZING LINES SHALL BE CONTINUOUS WHITE BEADED STRIPES 8" IN WIDTH PLACED IN THE LOCATIONS AS SHOWN TO CONFORM TO SECTION 621.09

DIAGONAL 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 SECTION 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

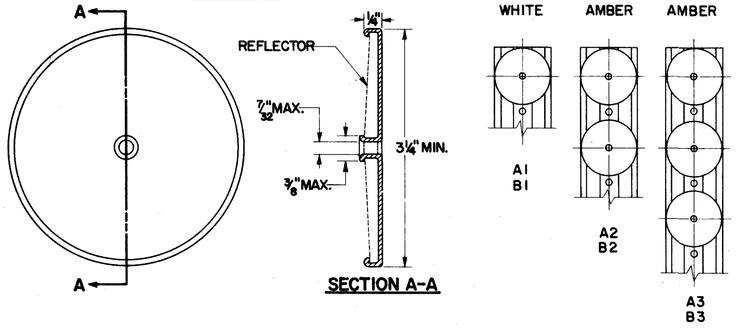
PAVEMENT MARKING DETAILS

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

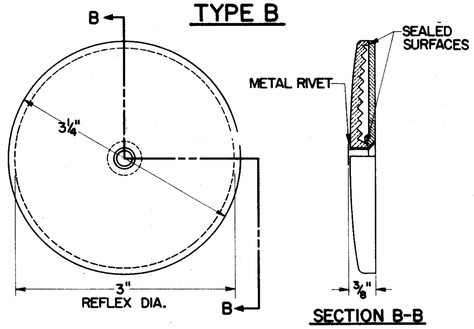
138
227

FRANKLIN-COUNTY
FRA-270-0.79N

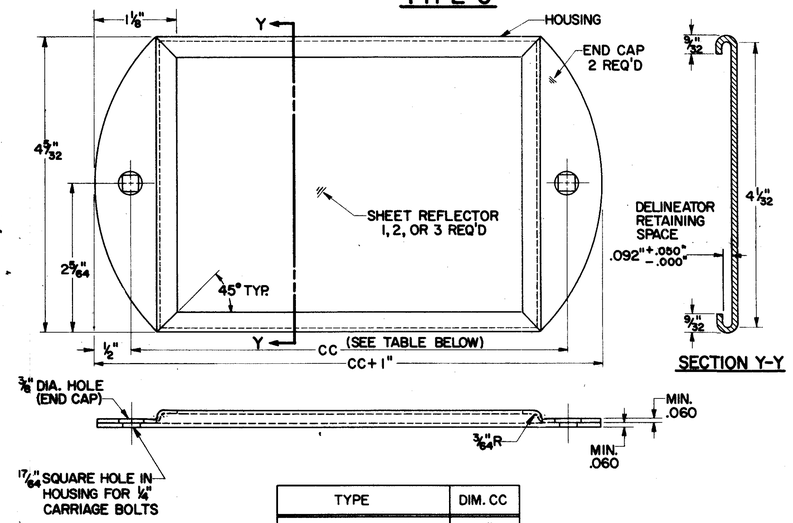
TYPE A



TYPE B



TYPE C



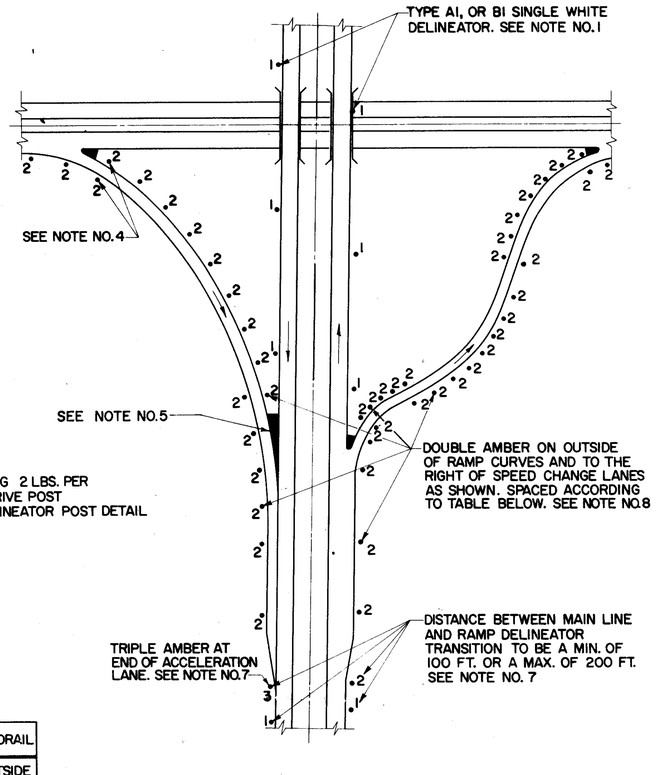
TYPE	DIM. CC
C1-SINGLE WHITE	6"
C2-DOUBLE AMBER	11"
C3-TRIPLE AMBER	16"

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.



TYPICAL DELINEATOR PLACEMENT

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.

3. PAYMENT FOR SUPPORTS (DRIVEPOST OR BRACKET) SHALL BE INCLUDED IN THE UNIT PRICE BID PER EACH FOR "ITEM 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.

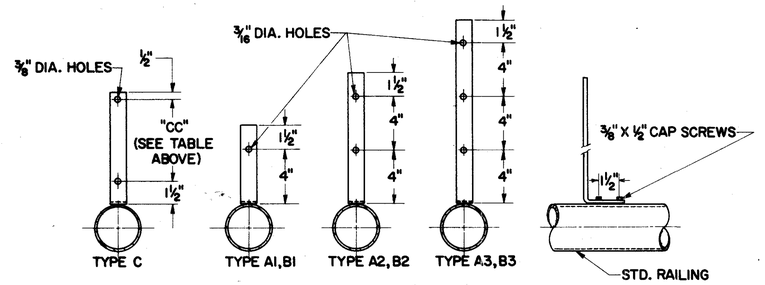
8. ALL RAMP DELINEATORS SHALL BE PLACED TO THE NEAREST 5' INCREMENTS, SUCH AS +05, +10, +15. +20 AND SO ON.

DELINEATOR SPACING ON RAMP HORIZONTAL CURVES

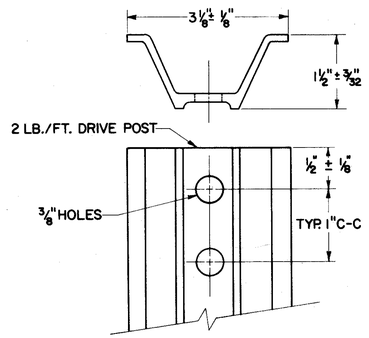
RADII, FT. FROM	RADII, FT. TO	SPACING ON CURVE	* TRANSITION SPACING	
TANGENT	1,801	100'	100'	100'
1,800	1,401	80'	100'	100'
1,400	1,001	70'	100'	100'
1,000	751	60'	100'	100'
750	551	50'	80'	100'
550	326	40'	70'	100'
325	———	30'	60'	100'

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

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



BRIDGE RAIL BRACKET



DELINEATOR POST

BUREAU OF TRAFFIC
OHIO DEPARTMENT OF HIGHWAYS

DELINEATOR DETAILS	620	DATE 9-25-62 10-2-63

APPROVED Robert E. Comer
ENGINEER OF TRAFFIC

DELINEATOR DETAILS

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

GENERAL LIGHTING NOTES

1. All methods, materials, and workmanship shall conform to Items 713 & 625 and other applicable sections of the 1965 Construction and Material Specifications.

2. Items on structures will be bid and paid for under the associated structure.

3. Conduit Markers shall be installed over each conduit that does not terminate in a pullbox.

4. Illuminated Signs - Under Roadway Items the contractor shall install a pullbox adjacent to each sign and provide connector kits. Extension and connection of circuits into the sign structure will be done under the Signing Items.

5. Anchor Bolts - Four high grade steel anchor bolts fitted with hex nuts shall be furnished for each standard. Each anchor bolt shall have an "L" bend at the bottom end and be threaded at the top end. Threaded ends and nuts shall be galvanized in accordance with ASTM A-153 with galvanizing extending 1" to 4" beyond threads. Anchor bolts shall conform to ASTM A-107, Grade 1035 Special Quality, and shall have a minimum yield strength of 46,000 p.s.i. Bolt stock shall conform with ASTM Spec. A-29 and nominal bar size shall equal nominal bolt size.

6. Duct-Cable shall be as per 625.15 except minimum size Duct shall be 1½" I.D.

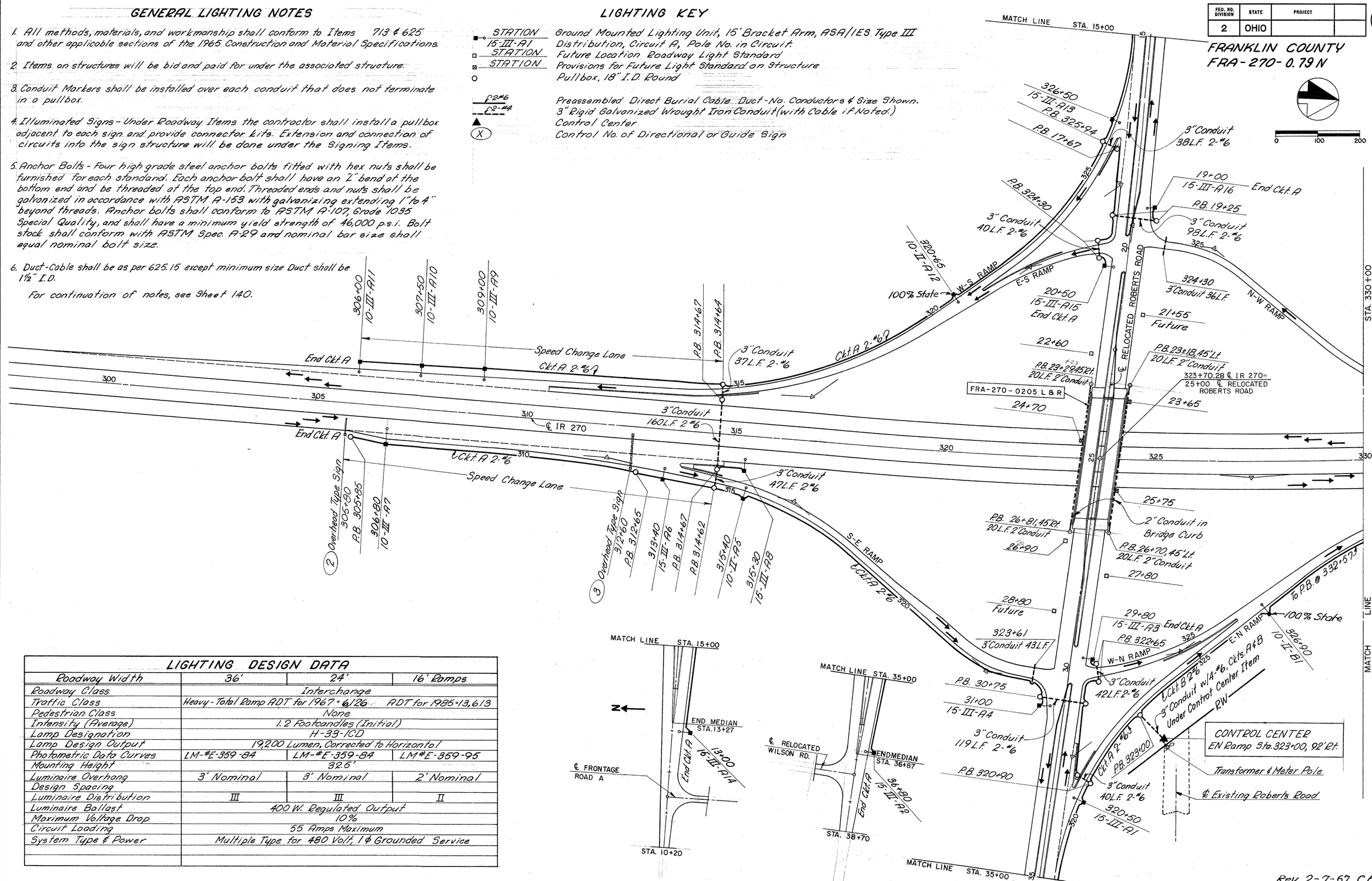
For continuation of notes, see Sheet 140.

LIGHTING KEY

- STATION / 15-III-A1 — Ground Mounted Lighting Unit, 15' Bracket Arm, ASA/IES Type III. Distribution, Circuit A, Pole No. in Circuit.
- STATION — Future Location Roadway Light Standard
- STATION — Provisions for Future Light Standard on Structure
- Pullbox, 18" I.D. Round
- 2#6 / 2-#4 — Preassembled Direct Burial Cable Duct - No. Conductors & Size Shown. 3" Rigid Galvanized Wrought Iron Conduit (with Cable if Noted.)
- Control Center
- (X) — Control No. of Directional or Guide Sign

LIGHTING DESIGN DATA

Roadway Width	36'	24'	16' Ramps
Roadway Class	Interchange		
Traffic Class	Heavy - Total Ramp ADT for 1967 = 6,126 ADT for 1985=13,613		
Pedestrian Class	None		
Intensity (Average)	1.2 Footcandles (Initial)		
Lamp Designation	H-33-1CD		
Lamp Design Output	19,200 Lumen, Corrected to Horizontal		
Photometric Data Curves	LM-#E-359-84	LM-#E-359-84	LM#E-359-95
Mounting Height	32.5'		
Luminaire Overhang	3' Nominal	3' Nominal	2' Nominal
Design Spacing			
Luminaire Distribution	III	III	II
Luminaire Ballast	400 W. Regulated Output		
Maximum Voltage Drop	10%		
Circuit Loading	55 Amps Maximum		
System Type & Power	Multiple Type for 480 Volt, 1 ϕ Grounded Service		



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LIGHTING PLAN

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

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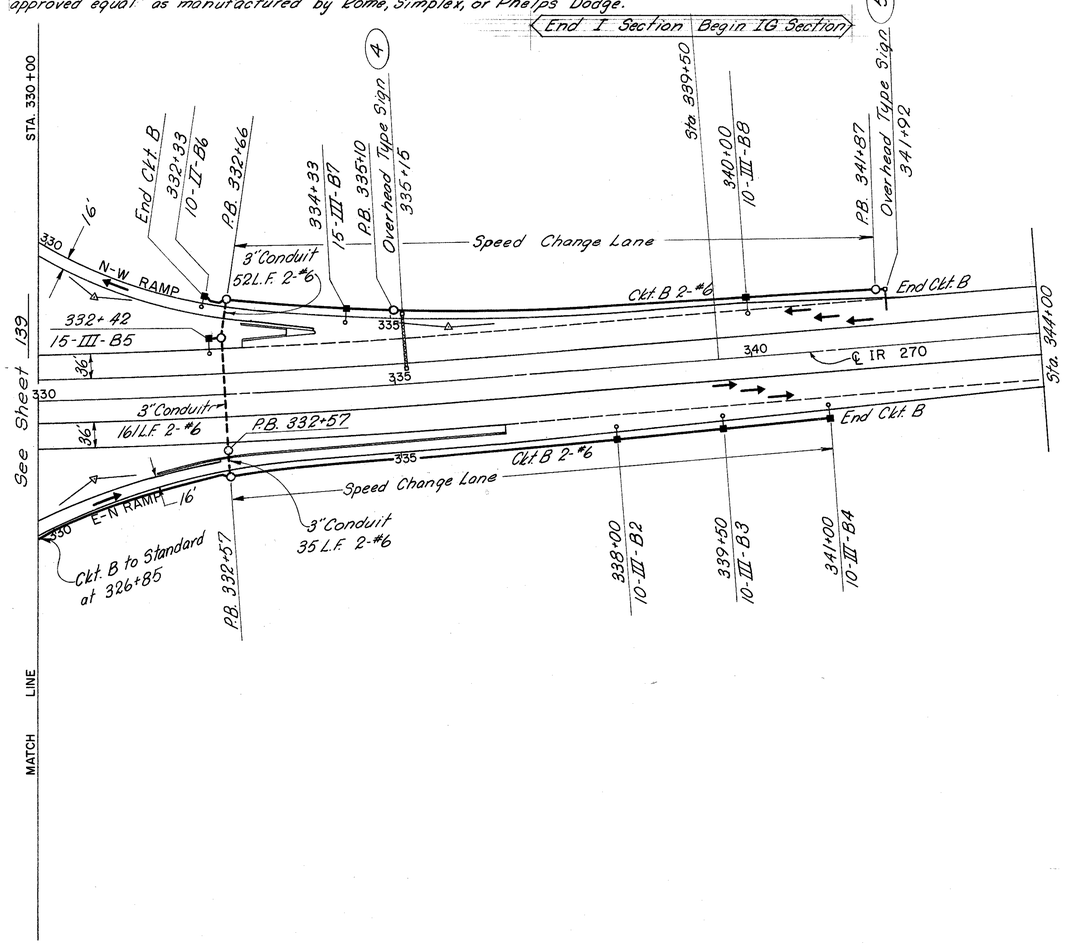
General Notes-continued from Sheet 139.

7. Electrical power will be furnished by Columbus & Southern Ohio Electric Co. 215 N. Front St., Columbus, Ohio.

8. Light Poles: a) Bid Items, as shown & detailed, are for light poles w/shafts of circular transverse section.
b) Alternate bid items are for light poles w/shafts of tranverse section other than circular. Specify configuration bid.
c) All shafts throughout the project shall have the same transverse sectional configuration.
d) Bracket arms as per Section 713.01-6(a), shall conform to ASTM A53 Schedule 40; an alternate conforming specification is ASTM A-36.
e) Pole Hardware shall be stainless steel, galvanized steel or everdur.

9. Lamps shall be as specified and shall be Westinghouse Lifeguard, Sylvania Banner Line, General Electric Bonus Line or approved equal.

10. Electrical Cable, including pole wiring, shall be as per 713.02 except insulation shall be cross-linked filled polyethylene insulated, rated for 600 volts w/insulation thickness of 30 mils for #10 AWG cable & 45 mils for #8, 6, 4, or 2 AWG. Cable shall be General Electric Co. SI-59063 or approved equal as manufactured by Rome, Simplex, or Phelps Dodge.



0 100 200

LIGHTING SUMMARY

BRIDGES FR1-270 0.20/0.48	ITEM	ROADWAY 7221 Sht. 139 I-Section Normal	100% State	Sht. 140 I-Section	IG-Section (Penna. R.R.)	TOTAL I-SECTION	GRAND TOTAL	UNIT	DESCRIPTION
									32'-6" Light Pole with 15'-0" Bracket Design 11A15B32.5,
	625	10		2		12	12	Ea.	Circular Shaft.
									32'-6" Light Pole with 10'-0" Bracket Design 11A10B32.5,
	625	5 ~~7~~	2	2	3	9	12	Ea.	Circular Shaft.
	625	16 ~~18~~	2	4	2	22	24	Ea.	Light Pole Foundation
	625	1 ~~3~~	2	1		4	4	Ea.	Luminaire Type II-400 Watt
	625	14		3	3	17	20	Ea.	Luminaire Type III-400 Watt
	625	16 ~~18~~	2	4	2	22	24	Ea.	Mercury Vapor Lamp-400 Watt (H-33-1CD)
	625	16 ~~18~~	2	4	2	22	24	Ea.	Ground Rod Unit
	625	23		5	1	28	29	Ea.	Pull Box-Round 18" I.D. (Type II Cover)
	625	8				8	8	Ea.	Marker.
	625	4603		330		4933	4933	L.F.	Trench Type "A" for other than Speed Change Lane (2'0")
	625	1741		1384	380	3125	3505	L.F.	Trench Type "B" for Speed Change Lane (4'6")
638	625							L.F.	Conduit 2" Rigid Galvanized Steel (Structure Only)
	625	700		248		948	948	L.F.	Conduit 3" Rigid Galvanized Wrought Iron or Alloy Steel
	625	80				80	80	L.F.	Conduit 2" Rigid Galvanized Wrought Iron or Alloy Steel
	625	801		556		1357	1357	L.F.	Circuit Cable-2 No 6-½ Direct Burial-600 Volt
	625	~~1800~~ 1600	200	400	200	2200	2400	L.F.	Pole & Bracket Cable - ½ No. 10
	625	6705		1790	396	8040	8436	L.F.	Duct Cable - Preassembled ½-#6 AWG Conductors
	625	8				8	8	Ea.	Cable Connector Type I
	625	16 ~~18~~	2	4	2	22	24	Ea.	Cable Connector Type II
	625	16 ~~18~~	2	4	2	22	24	Ea.	Cable Connector Type III
	625	30		10	2	40	42	Ea.	Cable Connector Type IV
	625	1				1	1	Ea.	Control Center & Transformer Pole Circuits
2	625							Ea.	Bridge Structure Grounding System
3	625							Set	Light Pole Anchor Bolts for Structures (Set)
	625	Lump	Lump	Lump	Lump	Lump	Lump	Lump	Circuit & Lighting Standard Identification
						ALTERNATE BID ITEMS			
	625	10		2		12	12	Ea.	32'-6" Light Pole w/15' Bracket Design 11A15B32.5, other than Circular Shaft.
	625	5 ~~7~~	2	2	3	9	12	Ea.	32'6 Light Pole w/10' Bracket Design 11A10B32.5, other than Circular Shaft.

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LIGHTING PLAN

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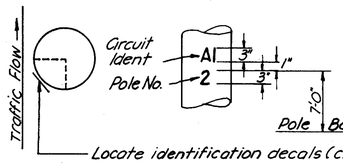
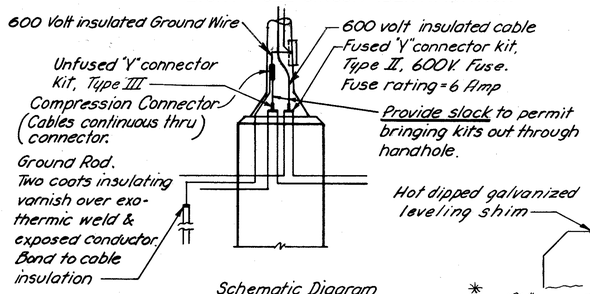
Decals shall be adhesive type with silver white reflective characters on a reflective green background, with circuit and pole numbers as scheduled on lighting plan sheets



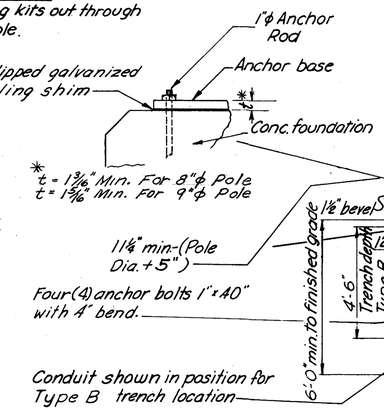
Locate identification decals (circuit & pole Nos) in this area & approximately seven feet (7'-0") above pole base
Reflective letters & numbers (Specification Mil-R-13689 A) Series "B" Type letters & numbers with spacing per A.A.S.H.O specifications

LIGHT POLE CIRCUIT IDENTIFICATION

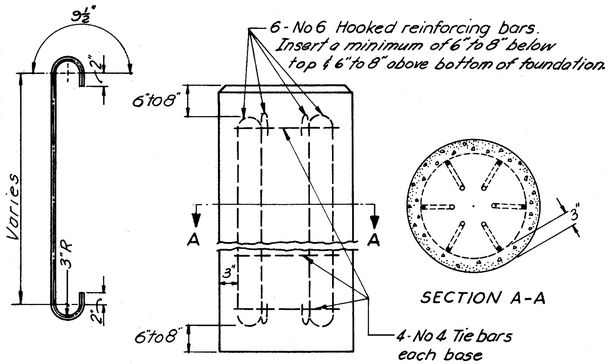


Schematic Diagram for 480 Volt Multiple Circuit

ELECTRICAL WIRING AT LIGHT POLE

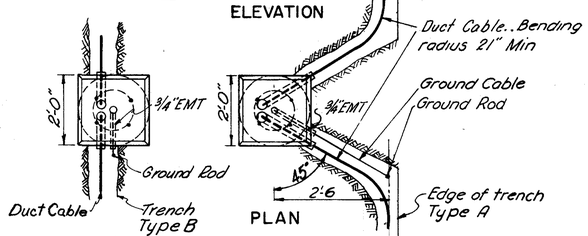


ELEVATION

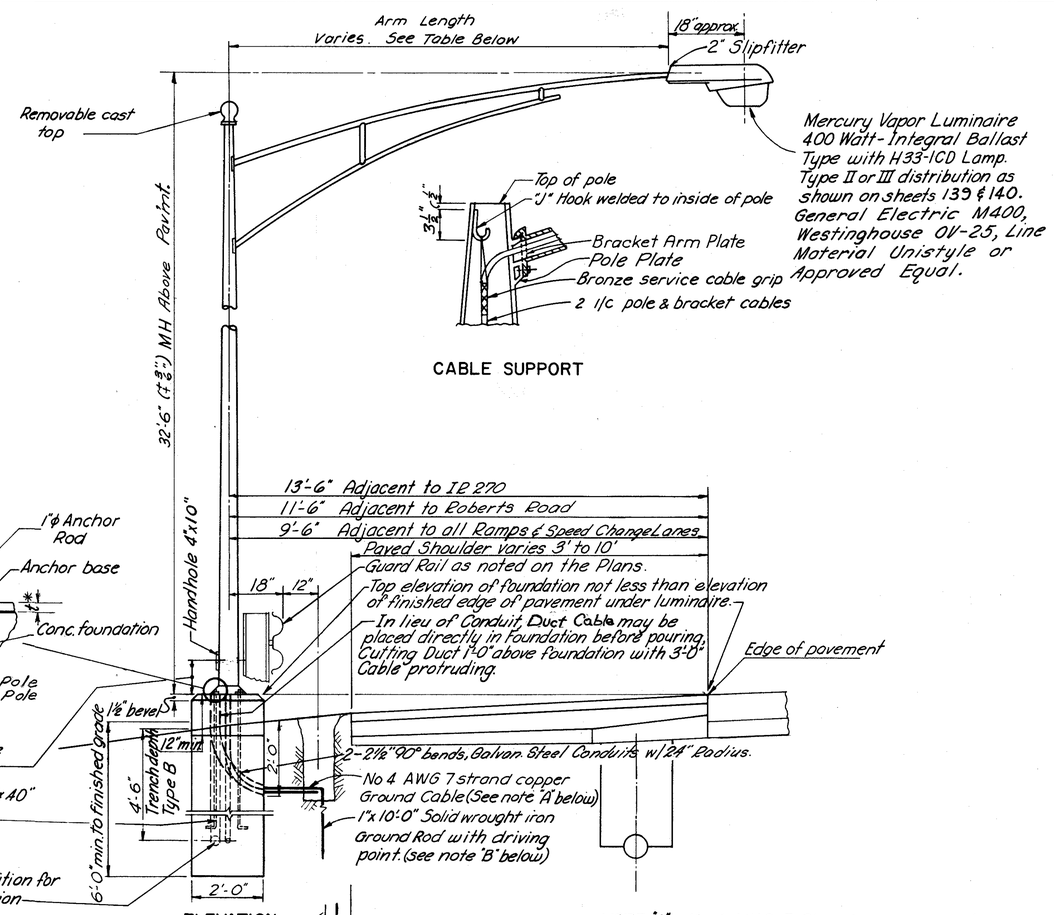


SECTION A-A

REINFORCING BARS (FOUNDATION)



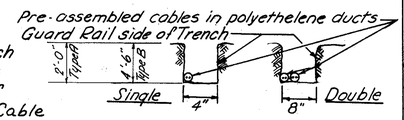
LIGHT POLE & FOUNDATION DETAILS



NOTE "A": No. 4 A.W.G. 7 Strand copper ground cable. Exothermic weld cable to ground rod, run through 3/4" EMT conduit and connect to ground hole in pole with H.D. galvanized steel bolt & washer.

NOTE "B": 1"x 10'-0" solid wrought iron ground rod in cable trench outside light pole foundation, install vertically. If a ground resistance of 25 ohms maximum is not obtained either additional rods shall be driven 10'-0" apart (Maximum of 5 additional rods) or sectional rods may be employed to obtain the specified low resistance ground at greater depth. Rods shall be connected in parallel to grounding hole. Top of ground rod to be within 20" of trench Top.

NOTE: Keep Duct Cable on side of trench away from Guard Rail and in trench as straight as possible. Increase width of trench to accommodate extra Duct Cable as required.
Back fill in accordance with 625.12



TYPICAL DUCT-CABLE TRENCH

MECHANICAL PROPERTIES FOR 11GA. ANCHOR BASE LIGHT STANDARDS

Design No.	Pole Size (11Ga.)	Anchor Bolt Dia. Bolt Circle	Anchor Bolt Proj'n. above Found'n	Max. Arm Length	Mounting Height Above Pav't.	Elastic Def'l. Rate In. Per 100 lb.	At 2/3 of Yield Stress Load 18" Down From top Lb.	At 2/3 of Yield Stress Total Def'l Inches	At 2/3 of Yield Stress Perm. Set Inches	At Yield Stress Load 18" Down From top Lb.	At Yield Stress Total Def'l. Inches	At Yield Stress Perm. Set Inches
11A10B30	8.0"x422"x27'-0"	11.0"	2 5/8"	12'-0"	30'-0"	2.37	568	13.96	.50	852	22.71	2.52
11A10B32.5	8.0"x387"x29'-6"	11.0"	2 5/8"	10'-0"	32'-6"	3.32	517	17.66	.50	776	28.84	3.08
11A15B32.5	9.0"x489"x29'-6"	12.5"	3"	15'-0"	32'-6"	2.16	659	14.73	.50	989	24.00	2.64
11A0B15	6.5"x44"x15'-0"	9.5"	2 1/8"	None	15'-0"	0.56	699	4.41	.50	1049	6.96	1.09

LIGHTING DETAILS - DISTRIBUTION

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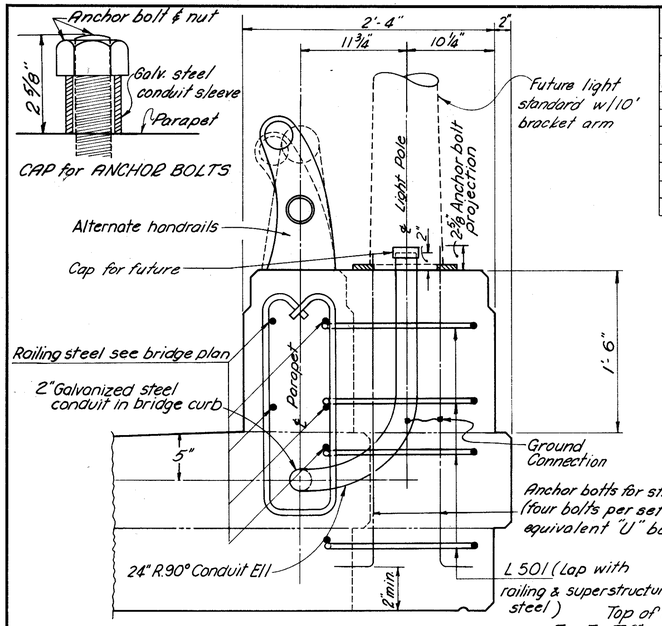


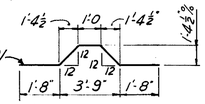
CAP for ANCHOR BOLTS

SECTION A-A

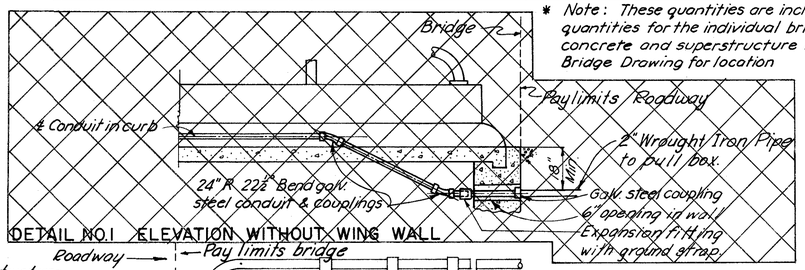
*BRIDGE LAMP STANDARD REINFORCING STEEL & ESTIMATED QUANTITIES

TOTAL per LAMP STANDARD					FRA-270-0.79N						TOTAL to BRIDGE SUMMARY					
511 Conc. C.Y.	509 Rein. Steel Mark	No.	Length Ft.	Wt. lb.	511 Conc. C.Y.	509 No. Units	509 Wt. lb.	511 Conc. C.Y.	509 No. Units	509 Wt. lb.	511 Conc. C.Y.	509 Rein. Steel Mark	No.	Length Ft.	Wt. lb.	List Shp
	L501	4	7'-7"	32		12	96					L501	12	7'-7"	96	
	L502	4	2'-9"	11		12	33					L502	12	2'-9"	33	
0.50					1.5						1.5					

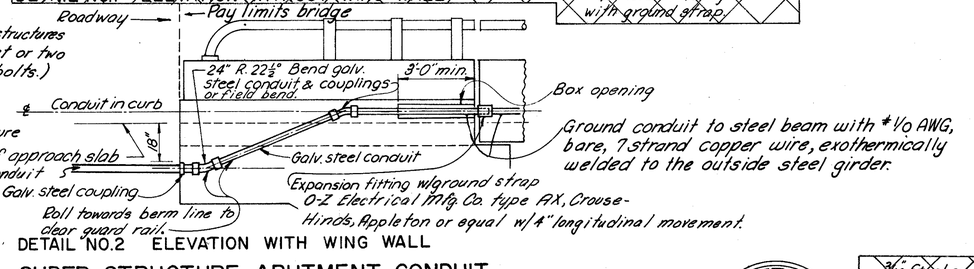
BENDING DIAGRAM



* Note: These quantities are included in the estimated quantities for the individual bridges as superstructure concrete and superstructure reinforcing steel. See Bridge Drawing for location

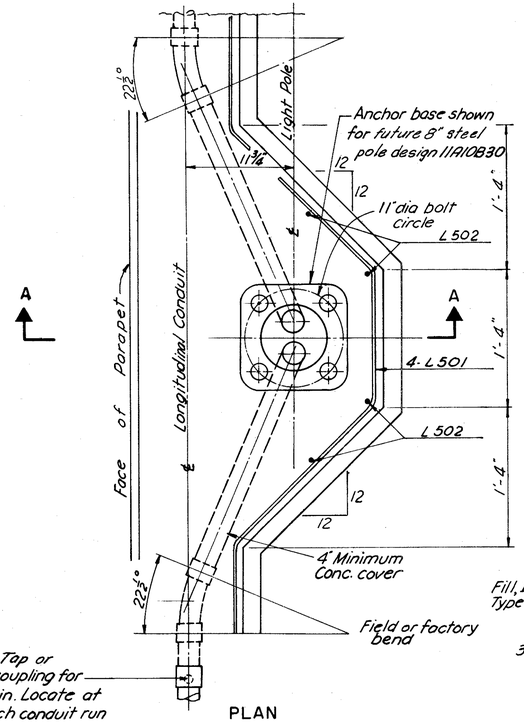


DETAIL NO.1 ELEVATION WITHOUT WING WALL



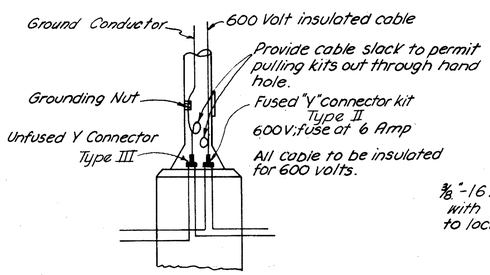
DETAIL NO.2 ELEVATION WITH WING WALL

SUPER STRUCTURE ABUTMENT CONDUIT



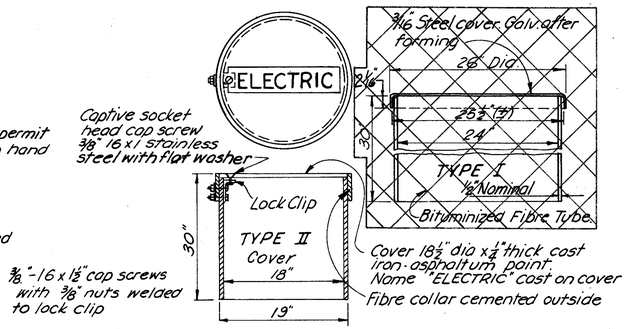
PLAN

LIGHT POLE SUPPORT ON STRUCTURE



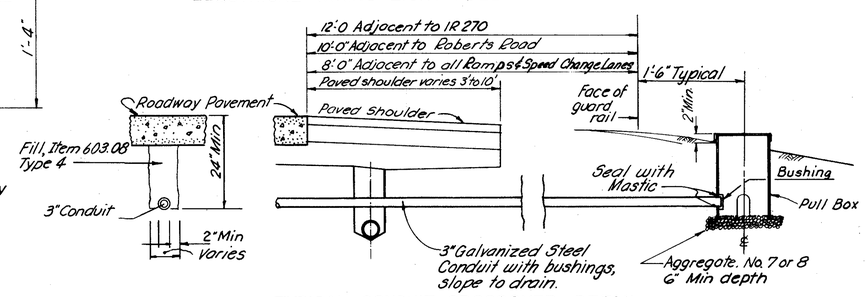
Schematic diagram for 480 volt multiple circuit

STRUCTURE MOUNTED ELECTRICAL WIRING LIGHT POLE

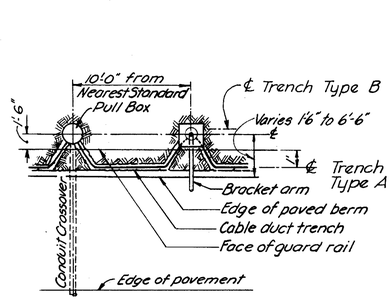


Bituminous Fibre Reinforced. Federal General Services Spec - WC - 581

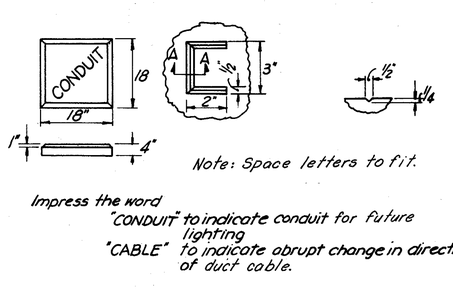
PULL BOX DETAILS



TYPICAL CONDUIT CROSSOVER DETAIL



PULL BOX & CABLE DUCT LOCATIONS



Note: Space letters to fit.

Impress the word "CONDUIT" to indicate conduit for future lighting

"CABLE" to indicate abrupt change in direction of duct cable.

MARKER DETAILS

NOTES:

STRUCTURE ELECTRICAL GROUND SYSTEM

Furnish and install No 1/0, 7 strand, soft annealled, bare copper cable for the structure grounding system.

Provide a 25 ft. length of cable looped under the pier footing, in as large a diameter loop as possible, and separate from the concrete with two (2) layers of tar paper. Extend cable (in one continuous length) through top of pier cap with lead of sufficient length to exothermic weld upper end of cable to outside girder or beam of super-structure.

LIGHT POLE GROUND Provide No. 1/0 AWG 7 Strand, soft annealed bare copper cable exothermic weld end of cable to a light pole anchor rod & exothermic weld the other end to the top flange of outside girder or beam of the super-structure.

CONDUIT SYSTEM GROUND Provide No. 1/0 AWG 7 strand soft annealed bare copper cable, exothermic weld one end of the cable to the conduit & exothermic weld the other end of the cable to the grounded light pole anchor rod or the outside girder or beam of the super-structure. Furnish and install straps across all expansion fittings or where electrical continuity of metal conduit is interrupted.

LIGHTING DETAILS - DISTRIBUTION

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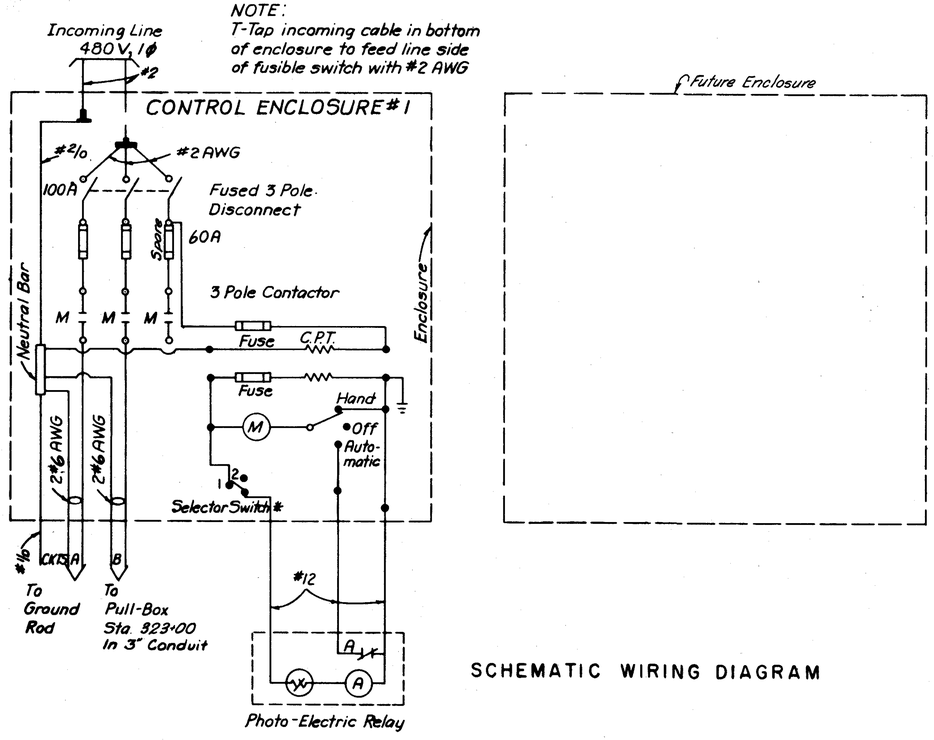
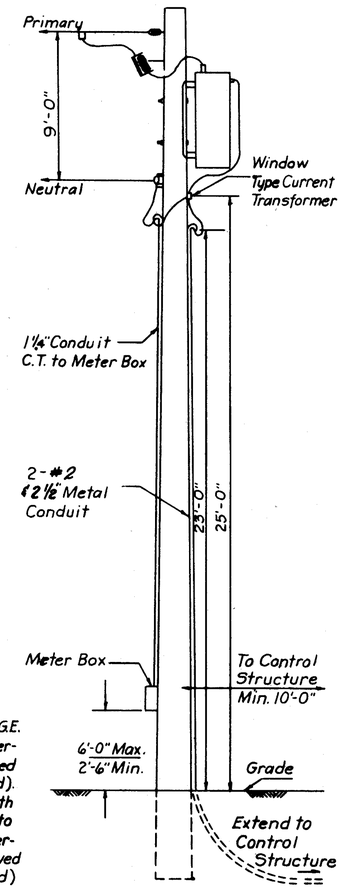
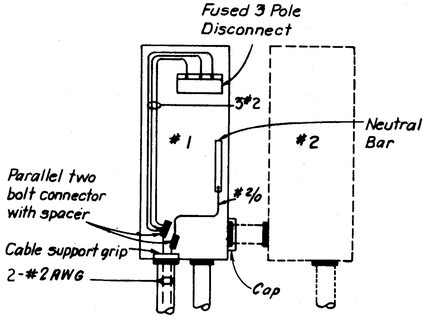


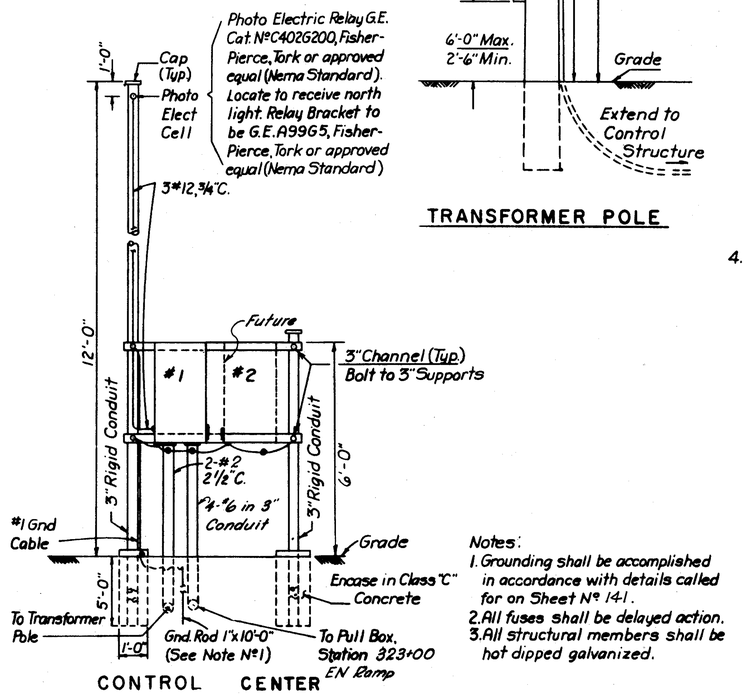
SCHEMATIC WIRING DIAGRAM



TRANSFORMER POLE



DETAIL OF FEED LINE CONNECTION



CONTROL CENTER

Notes:
1. Grounding shall be accomplished in accordance with details called for on Sheet No 141.
2. All fuses shall be delayed action.
3. All structural members shall be hot dipped galvanized.

NOTES

1. POWER SOURCE
Power will be supplied by the Columbus & Southern Ohio Electric Company. The Transformer Pole will be located at approximately 400 ft. East of Exist. Wilson Road on Exist. Roberts Road.

2. TRANSFORMER POLE
The Electric Company will furnish and install Transformer Pole, including the Transformer, and provide the window type current Transformer and meter box for installation by the Contractor. The Electric Company will furnish and install the wire connecting the meter to the Current Transformer. The Contractor will furnish and install the 1¼" and 2½" Conduit shown on the Pole. The 2½" Conduit shall extend down the pole to the Control Center. In the 2½" Conduit furnish and install two #2 AWG wires leading from the Control Structure thru the weatherhead leaving 3'-0" of free cable above the weatherhead for connection to the Transformer by the Electric Company.

3. LIGHT CONTROLLER
Light Controller is to be a combination across the line Magnetic Contactor, Square "D" Class 8903 & Type W939FA629A, Columbus Electric Works, General Electric, or approved equal with following features:-
(A) Each Enclosure shall Contain:
1-100 Amp, 3-Pole Fusible Disconnect with interchangeable Fuse Clips.
1-100 Amp. 3-Pole Magnetic Contactor.
1-Control Power Transformer, Size 3 (500 V.A.), 480/120V. with 3 Amp. Fuse.
1-Hand-off-Automatic Switch, inside each Enclosure
1-Insulated Solid Neutral Bar capable of accepting 1 #6, 4 #2 and 2 #12 Conductors.
(B) A screwdriver is necessary for entrance into the Enclosure.
(C) The Disconnect Handle shall be mounted so as to remain with the housing when the door is opened.
(D) The Disconnect shall have provision for padlocking in either the "ON" or "OFF" position.
(E) The Disconnect cannot be turned on unless the door is completely closed and sealed.
(F) The door may not be opened normally when the disconnect is "ON". Provision shall be made for opening the door intentionally while the Disconnect is "ON".
(G) The Enclosure must be Stainless Steel NEMA-4 with ⅜" mounting holes in each of the top and bottom flanges with no conduit holes.

4. The Contract Lump Sum price bid for Item 625 Control Center & Transformer Pole Circuits shall be full compensation for furnishing all materials and performing all labor indicated for the Contractor in Item 2 above; furnishing all materials and equipment shown on the Detailed Drawing for the Control Center and called for in Item 3 above; for furnishing and installing all conduit and cable required to connect the Control Center to the Transformer Pole and to the Pull Box shown on Sheet No 139, Station 323+00 EN Lamp and for furnishing and installing all incidentals necessary to make a complete workable installation. Pullbox included with Roadway Item.

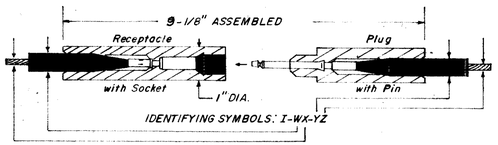
* 1-Two position Selector Switch Enclosure (One Unit Only).
1-Set of Cable Lugs required-See Wiring Diagram.

LIGHTING DETAILS-CONTROL STRUCTURE

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

144
227

FRANKLIN COUNTY
FRA-270-0.79N



TO IDENTIFY THE PROPER KIT FOR AN INSTALLATION, SELECT FROM THE TABLES BELOW THE SYMBOLS WHICH COINCIDE WITH THE REQUIREMENTS and SUBSTITUTE FOR (W,X) and (Y,Z) RESPECTIVELY.

EXAMPLE

IF THE INSTALLATION REQUIRES A RECEPTACLE FOR NO. 6 STRANDED CONDUCTOR and A CABLE DIA. OF .660" and A PLUG FOR NO. 8 SOLID CONDUCTOR and A CABLE DIA. OF .460", THE KIT NO. IS I-F3-E6.

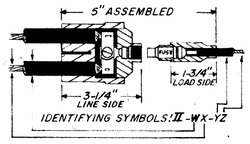
CONDUCTOR SIZE AWG NO.		SYMBOL FOR X and Z
Concentric Stranded	Solid	
10, 12	8, 10	6
8	6	4
6	4	3
4	–	2

CABLE DIA.		SYMBOL FOR W and Y
MIN.	MAX.	
.195"	.260"	B*
.250"	.330"	C*
.320"	.430"	D*
.420"	.585"	E
.575"	.785"	F
.775"	.985"	G
.975"	1.125"	H

DIAMETERS VARY ALONG CABLE LENGTHS. TAKE SEVERAL MEASUREMENTS. SELECT A TIGHT FIT RATHER THAN A LOOSE ONE.

* MOLDED RUBBER ADAPTERS ARE A PART OF THESE KITS FOR SMALL DIA. CABLE.

TYPE I
INLINE SELF LOCKING CONNECTOR KIT FOR PULL BOX INSTALLATION.



FOR LIGHT AT END OF A CIRCUIT, PLUG ONE OPENING WITH INSULATED PLUG HAVING SAME DIAMETER AS CABLE.
ANY STANDARD MIDGET, FERRULE TYPE, FUSE MAY BE USED IN THIS CONNECTOR. A FUSE CAPABLE OF INTERRUPTING THE SHORT CIRCUIT CAPACITY OF THE SUPPLY CIRCUIT MUST BE USED.

(X) CONDUCTOR SIZE (X) AWG NO.		SYMBOL FOR X	(Z) CONDUCTOR SIZE (Z) AWG NO.		SYMBOL FOR X
Concentric Stranded	Solid		Concentric Stranded	Solid	
–	8	6	14, 16	12, 14	8
8	6	4	10, 12	8, 10	6
6	4	3	8	6	4
4	–	2	6	4	3
2	–	1			
1	–	0			
1/0	–	10			
2/0	–	20			

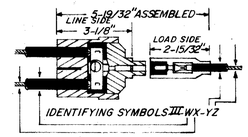
(W) CABLE DIA. (W)		SYMBOL FOR X
MIN.	MAX.	
.250"	.330"	C
.320"	.380"	DA
.370"	.430"	DB
.420"	.505"	EA
.495"	.585"	EB
.575"	.685"	FA
.675"	.785"	FB

(Y) CABLE DIA. (Y)		SYMBOL FOR Y
MIN.	MAX.	
.120"	.160"	S
.155"	.205"	A
.195"	.260"	B
.250"	.330"	C
.320"	.430"	D

DIAMETERS VARY ALONG CABLE LENGTHS. TAKE SEVERAL MEASUREMENTS. SELECT A TIGHT FIT RATHER THAN A LOOSE ONE.

DIAMETERS VARY ALONG CABLE LENGTHS. TAKE SEVERAL MEASUREMENTS. SELECT A TIGHT FIT RATHER THAN A LOOSE ONE.

TYPE II
FUSED "Y" CONNECTOR KIT FOR POLE BASE INSTALLATION.



FOR LIGHT AT END OF A CIRCUIT, PLUG ONE OPENING WITH INSULATED PLUG HAVING SAME DIAMETER. TO IDENTIFY THE PROPER KIT FOR AN INSTALLATION, SELECT FROM THE TABLES BELOW THE SYMBOLS WHICH COINCIDE WITH THE REQUIREMENTS and SUBSTITUTE FOR (W,X) and (Y,Z) RESPECTIVELY.

EXAMPLE

IF THE LINE SIDE CABLES ARE NO. 2 STRANDED CONDUCTOR WITH AN OUTSIDE DIAMETER OF .54", and THE LOAD SIDE CABLE IS NO. 12 STRANDED CONDUCTOR WITH AN OUTSIDE DIAMETER OF .29", THE KIT NO. IS 3-EB1-C6.

(X) CONDUCTOR SIZE(X) AWG NO.		SYMBOL FOR X	(Z) CONDUCTOR SIZE (Z) AWG NO.		SYMBOL FOR X
Concentric Stranded	Solid		Concentric Stranded	Solid	
–	8	6	14, 16	12, 14	8
8	6	4	10, 12	8, 10	6
6	4	3	8	6	4
4	–	2	6	4	3
2	–	1			
1	–	0			
1/0	–	10			
	–				

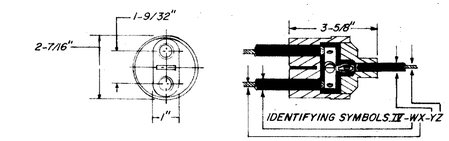
(W) CABLE DIA. (W)		SYMBOL FOR W
MIN.	MAX.	
.250"	.330"	C
.320"	.380"	DA
.370"	.430"	DB
.420"	.505"	EA
.495"	.585"	EB
.575"	.685"	FA
.675"	.785"	FB

(Y) CABLE DIA. (Y)		SYMBOL FOR Y
MIN.	MAX.	
.120"	.160"	S
.155"	.205"	A
.195"	.260"	B
.250"	.330"	C
.320"	.430"	D

DIAMETERS VARY ALONG CABLE LENGTHS. TAKE SEVERAL MEASUREMENTS. SELECT A TIGHT FIT RATHER THAN A LOOSE ONE.

DIAMETERS VARY ALONG CABLE LENGTHS. TAKE SEVERAL MEASUREMENTS. SELECT A TIGHT FIT RATHER THAN A LOOSE ONE.

TYPE III
UNFUSED "Y" CONNECTOR KIT FOR POLE BASE INSTALLATION.



TO IDENTIFY THE PROPER KIT FOR AN INSTALLATION, SELECT FROM THE TABLES BELOW THE SYMBOLS WHICH COINCIDE WITH THE REQUIREMENTS and SUBSTITUTE FOR (W,X) and (Y,Z) RESPECTIVELY.

EXAMPLE

IF THE TWIN CABLES ARE NO. 2 STRANDED CONDUCTOR WITH AN OUTSIDE DIA. OF .54" and THE SINGLE CABLE IS NO. STRANDED CONDUCTOR WITH AN OUTSIDE DIA. OF .29", THE KIT NO. IS 4-EB1-C6.

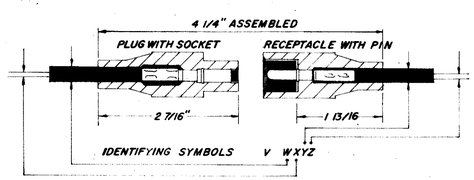
(X) CONDUCTOR SIZE(X) AWG NO.		SYMBOL FOR X	(Z) CONDUCTOR SIZE (Z) AWG NO.		SYMBOL FOR Z
Concentric Stranded	Solid		Concentric Stranded	Solid	
–	8	6	14, 16	12, 16	8
8	6	4	10, 12	8, 10	6
6	4	3	8	6	4
4	–	2	6	4	3
2	–	1	4	–	2
1	–	0	2	–	1
1/0	–	10	1	–	0
2/0	–	20			

(W) CABLE DIA. (W)		SYMBOL FOR W
MIN.	MAX.	
.250"	.330"	C
.320"	.380"	DA
.370"	.430"	DB
.420"	.505"	EA
.495"	.585"	EB
.575"	.685"	FA
.675"	.785"	FB

(Y) CABLE DIA. (Y)		SYMBOL FOR Y
MIN.	MAX.	
.155"	.205"	A
.195"	.260"	B
.250"	.330"	C
.320"	.430"	D
.420"	.585"	E
.575"	.785"	F

DIAMETERS VARY ALONG CABLE LENGTHS. TAKE SEVERAL MEASUREMENTS. SELECT A TIGHT FIT RATHER THAN A LOOSE ONE.

TYPE IV
UNFUSED "Y" CONNECTOR KIT FOR PULL BOX INSTALLATION



TO IDENTIFY THE PROPER KIT FOR AN INSTALLATION, SELECT FROM THE TABLES BELOW THE SYMBOLS WHICH COINCIDE WITH THE REQUIREMENTS AND SUBSTITUTE FOR (W,X) AND (Y,Z) RESPECTIVELY.

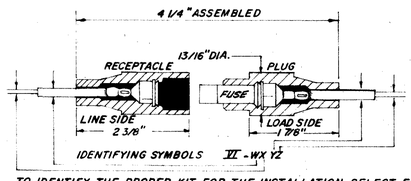
EXAMPLE: IF THE INSTALLATION REQUIRES A PLUG FOR NO. 8 STRANDED CONDUCTOR AND A CABLE DIAMETER OF .38" AND A RECEPTACLE FOR NO. 14 STRAND CONDUCTOR AND A CABLE DIAMETER OF .27", THE KIT NO. IS V-D4-C8.

Conductor Size AWG		Symbol for X and Z
Concentric Strd.	Solid	
14, 16	12, 14	8
10, 12	8, 10	6
8	6	4
6	4	3

Cable Diameter		Symbol for W and Y
MIN.	MAX.	
.155"	.205	A
.195	.260	B
.250	.330	C
.320	.430	D

DIAMETERS VARY ALONG CABLE LENGTHS. TAKE SEVERAL MEASUREMENTS. SELECT A TIGHT FIT RATHER THAN A LOOSE ONE.

TYPE V
UNFUSED INLINE CONNECTOR KIT FOR JUNCTION BOX INSTALLATION.



TO IDENTIFY THE PROPER KIT FOR THE INSTALLATION, SELECT FROM THE THE SYMBOLS WHICH COINCIDE WITH THE REQUIREMENTS AND SUBSTITUTE FOR (W,X) and (Y,Z) RESPECTIVELY.

EXAMPLE: IF THE INSTALLATION REQUIRES A RECEPTACLE FOR THE LINE SIDE FOR NO. 6 STRANDED CONDUCTOR AND A CABLE DIAMETER OF .42" AND A PLUG FOR THE FUSE FOR THE LOAD SIDE FOR NO. 12 STRANDED CONDUCTOR AND A CABLE DIAMETER OF .29", THE KIT NO. IS VI-D3-C6.

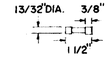
Conductor Size AWG		Symbol for X and Z
Concentric Strd.	Solid	
14, 16	12, 14	8
10, 12	8, 10	6
8	6	4
6	4	3

Cable Diameter		Symbol for Y and W
MIN.	MAX.	
.120"	.160"	S
.155	.205	A
.195	.260	B
.250	.330	C
.320	.430	D

DIAMETERS VARY ALONG CABLE LENGTHS. TAKE SEVERAL MEASUREMENTS. SELECT A TIGHT FIT RATHER THAN A LOOSE ONE.

TYPE VI
FUSED INLINE CONNECTOR KIT FOR JUNCTION BOX INSTALLATION.

MIDGET SIZE FUSE

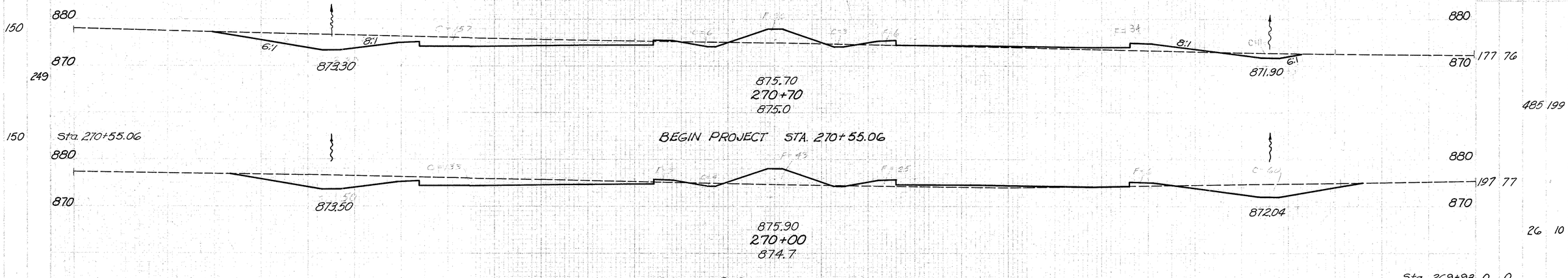


MIDGET FUSES ARE AVAILABLE IN THE FOLLOWING CAPACITIES:
600 VOLTS OR LESS, 1/10 TO 30 AMPS.
ANY STANDARD MIDGET, FERRULE TYPE FUSE, (EXCEPT GLASS TUBE) MAY BE USED IN THIS CONNECTOR.
A FUSE CAPABLE OF INTERRUPTING THE SHORT CIRCUIT CAPACITY OF THE SUPPLY CIRCUIT MUST BE USED.

ORIGINAL

145
227

FRANKLIN COUNTY
FRA-270-0.79 N



ORIGINAL

146
227

FRANKLIN COUNTY
FRA-270-0.79N

SEEDING

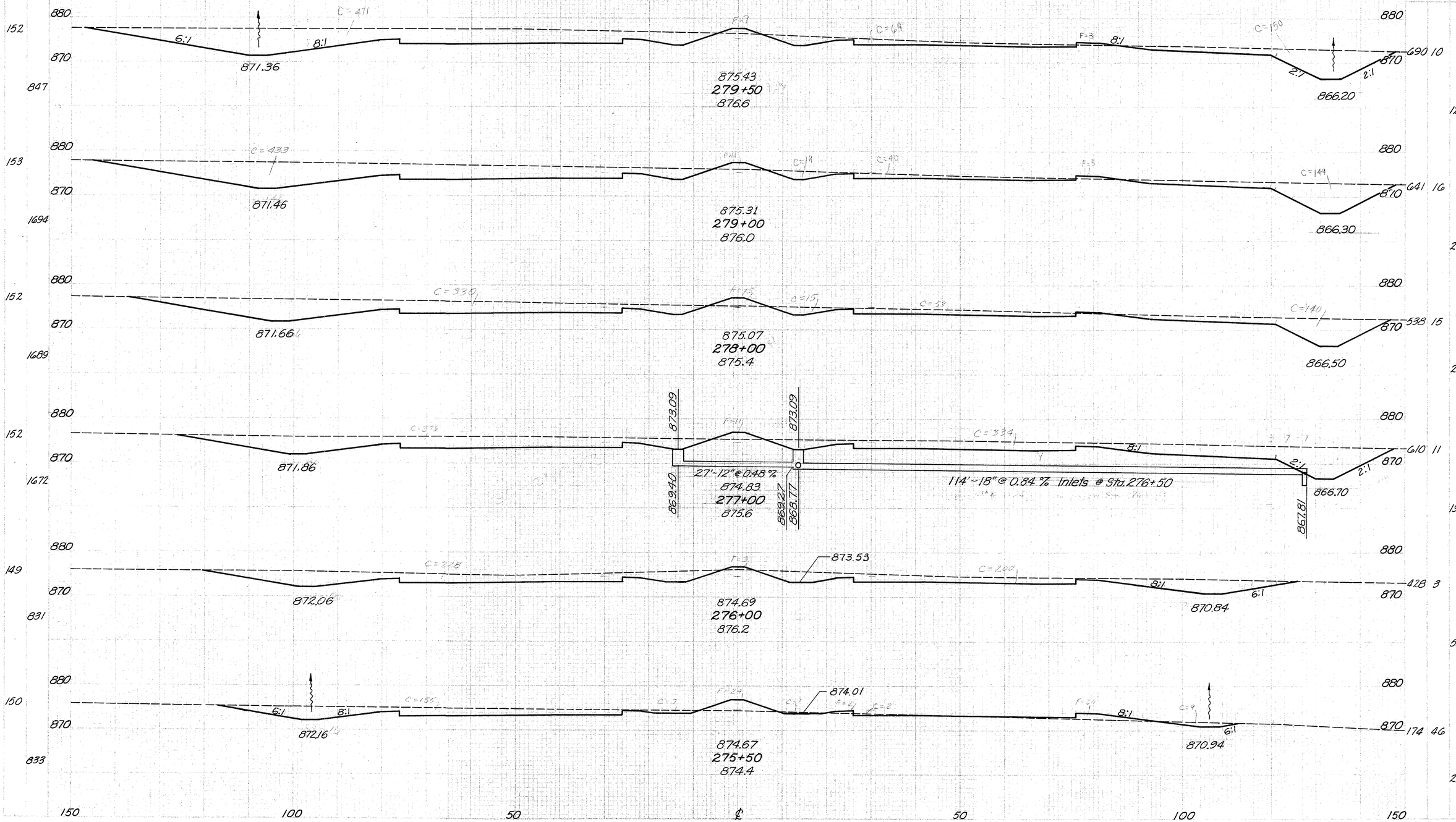
END POINTS	INT. AREA

SHEET NO.	STATE	PROJECT	
15	OHIO		

147
227

FRANKLIN COUNTY
FRA-270-0.79N

CROSS SECTION AREA		VOLUME	
CUT	FILL	CUT	FILL

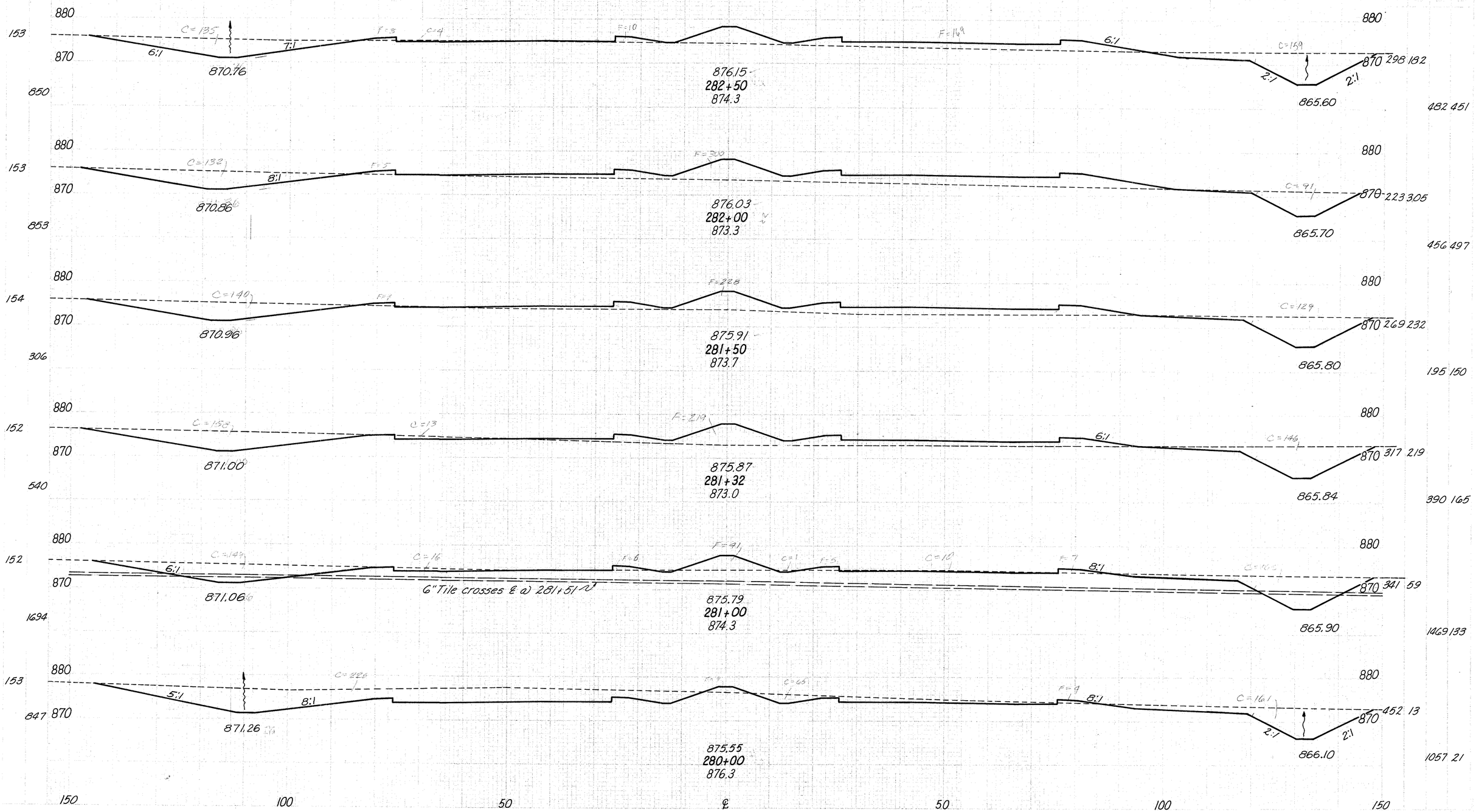


275+50 TO 279+50

ORIGINAL

148
227

FRANKLIN COUNTY
FRA - 270 - 0.79 N



280+00 TO 282+50

ORIGINAL

149
227

FRANKLIN COUNTY
FRA-270-0.79 N

880
870
152
1694
C=13
4:1
4:1
869.60
F=830
877.47
288+00
872.1
4:1
C=98
867.00
4:1
880
870-218 830
476 3932

880
870
152
1700
C=12
869.40
F=1293
877.23
287+00
870.2
C=27
865.40
880
870
39 1293

Culvert @ Sta. 286+24.75

880
870
153
1694
C=11
4:1
4:1
866.68
F=1942
876.99
286+00
866.6
C=19
2:1
2:1
864.50
880
870
30 1942
128 5991
291 5383

880
870
152
1689
C=53
5:1
5:1
869.14
F=965
873.68
876.75
285+00
870.0
871.26
124'~15" @ 4.40% Inlet @ Sta. 285+18
865.80
865.10
4:1
C=34
880
870
127 965
531 2656

880
870
152
1689
C=43
6:1
6:1
870.46
F=429
876.51
284+00
873.9
5:1
5:1
C=117
865.30
880
870
160 469
794 1300

880
870
152
847
C=116
6:1
6:1
870.66
F=5
F=229
876.27
283+00
874.3
6:1
C=153
2:1
2:1
865.50
880
870
269 233
525 384

150 100 50 ℄ 50 100 150

283+00 TO 288+00

100

150
228

FRANKLIN COUNTY
FRA-270-0.79 N

Frontage Rd Shoulder

Match Frontage Rd X-Section

111 | 1228

880 / 870

5:1

871.10

F=1318

878.89
294+00
871.4

4:1

C=29

867.10 4:1
867.10

880 / 870 — 29 1318

120 4417

110 | 1222

880 / 870

6:1

C=8

872.50

F=1067

878.67
293+00
871.8

C=28

867.40
867.40

880 / 870 — 36 1067

131 3858

110 | 1228

880 / 870

6:1

C=7

872.00

F=1016

878.43
292+00
872.6

C=28

867.70
867.70

880 / 870 — 35 1016

96 4004

111 | 1233

880 / 870

5:1

C=4

871.00

F=1196

878.19
291+00
871.6

C=8

868.00
868.00

880 / 870 — 17 1146

102 4313

111 | 1367

Frontage Rd Shoulder

Match Frontage Rd X-Section

880 / 870

4:1

C=11

870.00

F=1183

877.95
290+00
870.0

C=27

868.30

880 / 870 — 38 1183

233 3485

135 | 1594

880 / 870

4:1

C=16

868.80

F=699

877.71
289+00
873.2

4:1

C=32

868.60

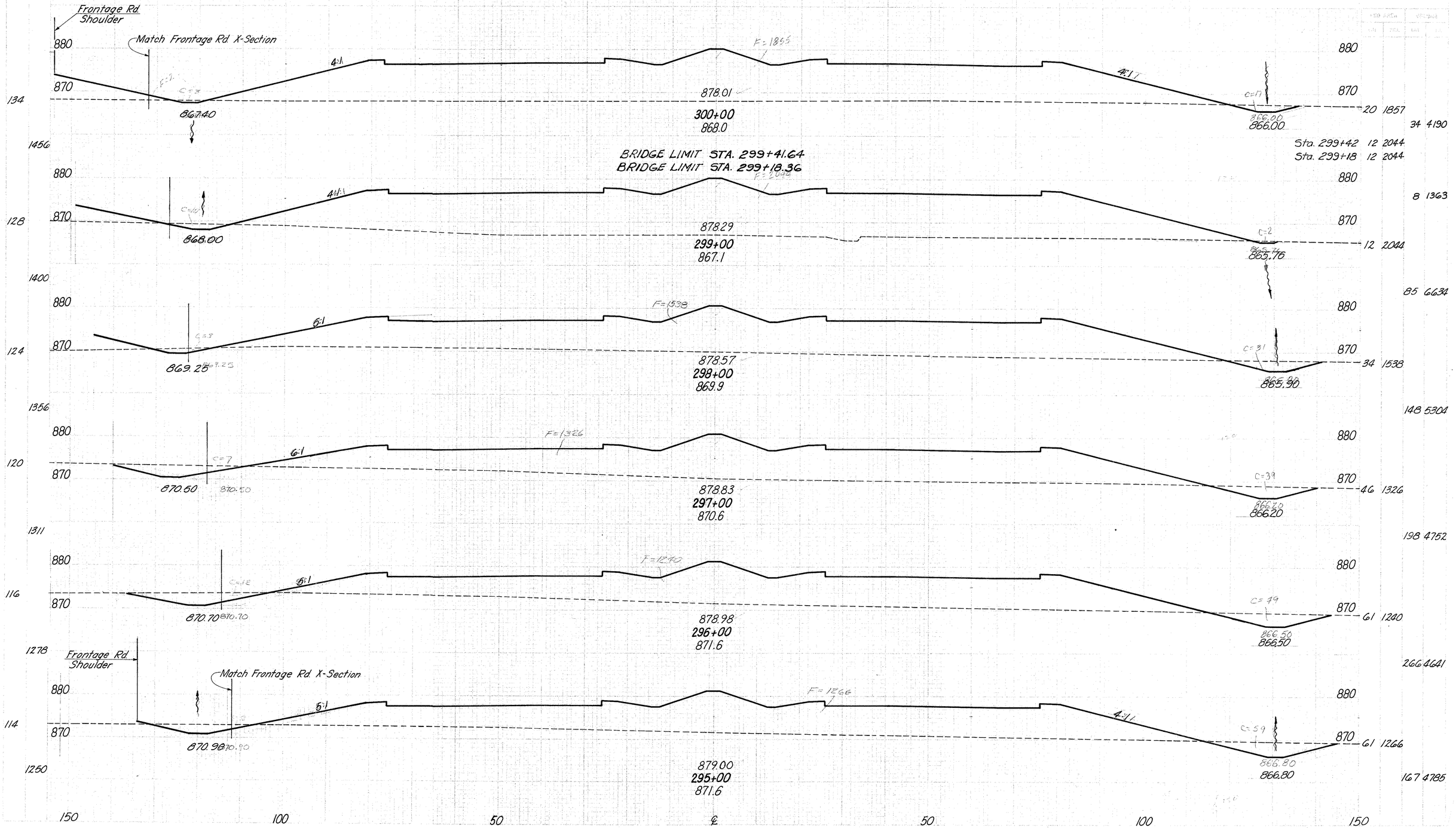
880 / 870 — 88 699

567 2832

150 100 50 ℄ 50 100 150

289+00 TO 294+00

FRANKLIN COUNTY
FRA-270-0.79 N



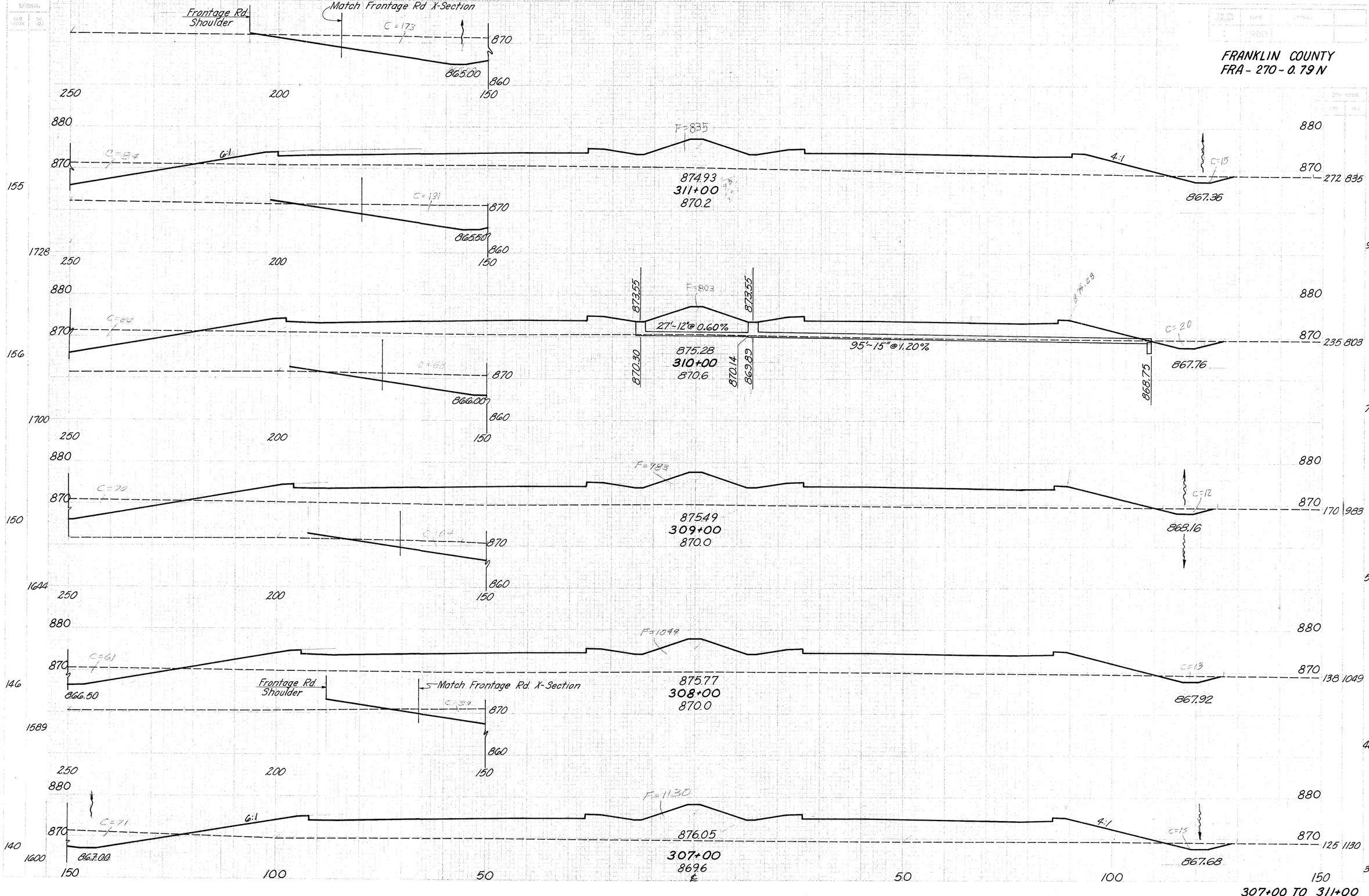
FRANKLIN COUNTY
FRA - 270 - 0.79 N

Frontage Rd Shoulder
Match Frontage Rd. X-Section
200 150 C=18 870 860
880 870 C=5 6:1 867.50 C=13 870 860 200 150
148 1639
E=1194 876.33 306+00 869.6
880 870 C=7 4:1 867.44 867.44 80 1194
346 4415
147 1611
200 150 C=23 870 868.00 Match Frontage Rd. X-Section C=2 870 860
E=1190 876.61 305+00 870.3
880 870 C=16 867.20 867.20 107 1190
402 4130
143 1567
200 150 C=15 870 869.50 870 860
E=1040 876.89 304+00 870.4
880 870 C=33 866.96 866.96 110 1040
237 3904
139 1533
Match Frontage Rd X-Section
200 150 6:1 870 870 860
875.51 875.51 E=1068 27'-12" @ 1.00 % 101-15" @ 2.20 %
870.52 870.25 870.00
877.17 303+00 871.3
880 870 C=18 866.72 867.78 18 1068
196 4061
137 1511
200 150 C=24 6:1 869.80 Frontage Rd Shoulder 870 860
E=1125 877.45 302+00 870.5
880 870 C=44 866.48 866.48 88 1125
2854 746
135 1494
Match Frontage Rd. X-Section
200 150 C=40 5:1 868.60 868.60
E=1438 877.73 301+00 869.2
880 870 C=26 4:1 866.24 866.24 66 1438
159 6102
150 100 50 50 100 150

301+00 TO 306+00

153
227

FRANKLIN COUNTY
FRA - 270 - 0.79 N



FRANKLIN COUNTY
FRA - 270 - 0.79 N

23
331

880
Sta. 315+00 Ahead
Sta. 315+00 Back
870
860

Match W-S Ramp X-Section
6:1
F=833
Match S-E Ramp X-Section
4:1
861.30
6" Tile crosses ℄ @ Sta. 315+38

880
Sta. 315+00 Ahead 0 833
Sta. 315+00 Back 6041182
870
860

Frontage Rd
Shoulder
Match Frontage Rd. X-Section
C=240
3294
870
860
862.24
6'
250
200
150

873.81
315+00
868.2
860
150
850

C=397
4:1
4:1
6'
859.07
200
250

23303993

880
870
860
C=17
6:1
F=974
6:1
654 974
262

2856
C=367
870
860
861.88
250
200
150

874.09
314+00
869.1
860
150
850

C=405
4:1
4:1
859.50
200
250

24893452

880
870
860
C=19
F=895
6:1
690 890
252

2561
Frontage Rd
Shoulder
Match Frontage Rd X-Section
C=274
870
860
861.52
6'
250
200
150

874.37
313+00
869.2
C=300
6'
4:1
4:1
860
860.00
150
850
200
250

24593174

880
870
860
C=29
6:1
F=824
4:1
C=35
4:1
638 824
209

2022
150
100
50

Culvert @ Sta. 312+00
874.65
312+00
870.1
℄

50
100
150

1685 3072

312+00 TO 315+00

FRANKLIN COUNTY
FRA-270-0.79 N

100

870 860 150 150 250 200 200 250

108 870 860 C=137 6:1 867.10 F=348 6:1 C=87 866.20 870 860 124 348

872.13
321+00
868.9

1294 870 860 200 150 860 594 1265

125 870 860 C=50 866.90 870.75 870.75 F=335 27'-12"@0.50% 867.30 867.16 866.91 94'-15"@0.60% C=147 866.35 866.40 870 860 197 336

872.41
320+00
869.3

1417 683 1561

130 870 860 C=55 866.70 F=305 6:1 C=137 865.20 870 860 172 508

872.69
319+00
868.8

1350 496 2482

113 870 860 C=28 6:1 866.50 F=832 5:6:1 C=68 865.00 870 860 96 832

872.97
318+00
867.9

1122 257 3059

CULVERT @ STA 317+50
ditch elev. 866.40
Match W-S Ramp X-Section
Match S-E Ramp X-Section

89 870 860 4:1 C=37 F=220 4:1 4:1 870 860 43 820

733

873.25
317+00
867.4

80 2952

43 870 860 6:1 F=174 4:1 870 860 0 774

367

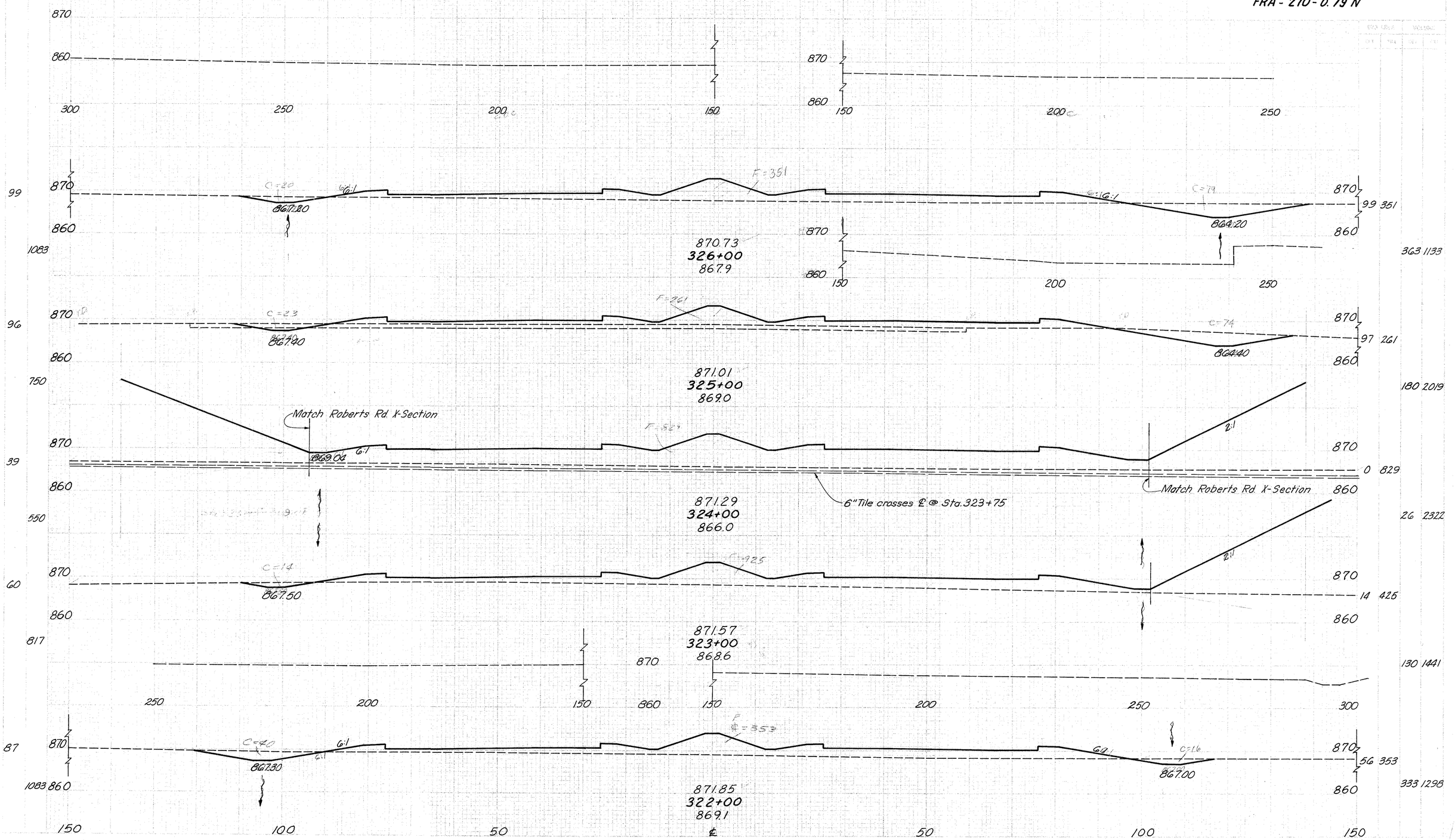
873.53
316+00
868.2

0 2967

150 100 50 ℄ 50 100 150

316+00 TO 324+00

FRANKLIN COUNTY
FRA - 270 - 0.79 N



FRANKLIN COUNTY
FRA - 270 - 0.79N

Match N-W Ramp X-Section

126 28 | 870 | Sta 332+00 Ahead / Sta 332+00 Back | 860 | 444

868.80

F=240

Match E-N Ramp X-Section

870 | 860 | Sta 332+00 Ahead 82 316 / Sta 332+00 Back 7 244 | 93 832

871.62
332+00
869.3

52 | 870 | 860 | 628

868.40

F=205

870 | 860 | 43 205 | 170 730

870.83
331+00
868.7

61 | 870 | 860 | 872

868.00

868.59 | 868.59 | Inlets @ Sta. 329+75 | 27'-12" @ 0.52% | 865.74 | 865.60 | 865.35

870.33
330+00
868.3

Match E-N Ramp X-Section

870 | 860 | 49 189 | 300 594

865.00

96 | 870 | 860 | 1100

866.40

869.20

870.11
329+00
867.8

869.44

870.10
328+75

870 | 860 | 113 132 | 444 739

863.60

102 | 870 | 860 | 1111

866.80

868.58 | 868.58 | 868.77 | 27'-12" @ 0.52% | Inlets @ Sta. 327+75 | 94'-18" @ 0.40% | 865.02 | 864.38 | 864.38 | 864.00

870.18
328+00
867.7

870 | 860 | 127 267 | 415 976

863.80

200 | 150

98 | 870 | 860 | 1094

867.00

868.79

870.45
327+00
868.1

870 | 860 | 97 260 | 363 1132

864.00

150 | 100 | 50 | ℄ | 50 | 100 | 150

327+00 TO 332+00

158
227

FRANKLIN COUNTY
FRA-270-0.79N

C=18
870
860
200
150

880
870
C=52
4:1
860
F=1792
865.00
173
1867
877.62
336+00
868.6
880
870
C=8
866.70
860
78 1792 RIN
2595815

C=34
870
866.20
860
200
150

880
870
C=12
6:1 5:1
860
872.79
F=1348
869.81
880
Sta. 335+00 Forward G2 1348
Sta. 335+00 Back G2 1421
4:1
C=18
870
860
867.10
868.08
163
6"Tile crosses ℄ @ Sta. 335+41
128'-15" @ 1.40 %
875.70
335+00
868.5
2611400 RIN

C=57
870
865.40
860
200
150
1744

880
870
C=4
6:1
860
F=935
880
C=13
870
867.50
860
79 955 R/W
151
874.06
334+00
868.9
1683
394 2798

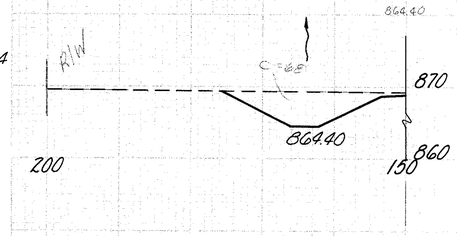
Match N-W Ramp X-Section
152
72
Sta. 333+00 Ahead
Sta. 333+00 Back
870
860
1100
F=475
872.70
333+00
868.8
870
C=6
860
150
200
Sta. 333+00 Ahead
Sta. 333+00 Back
48 478
870
C=12
866.15
860
241 1470

150 100 50 ℄ 50 100 150

333+00 TO 336+00

FRANKLIN COUNTY
FRA - 270 - 0.79 N

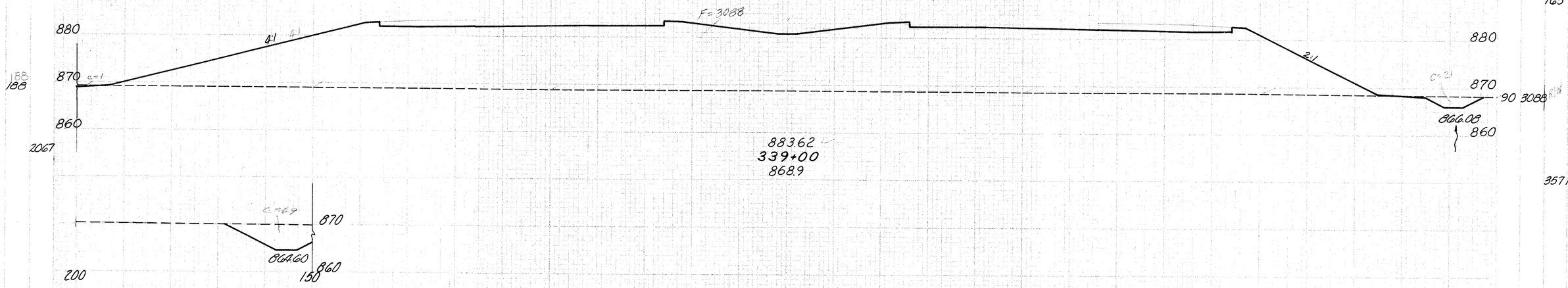
188 1063 Sta. 339+50



BEGIN IG SECTION 339+50

Sta. 339+50 BG 3408

163 6016

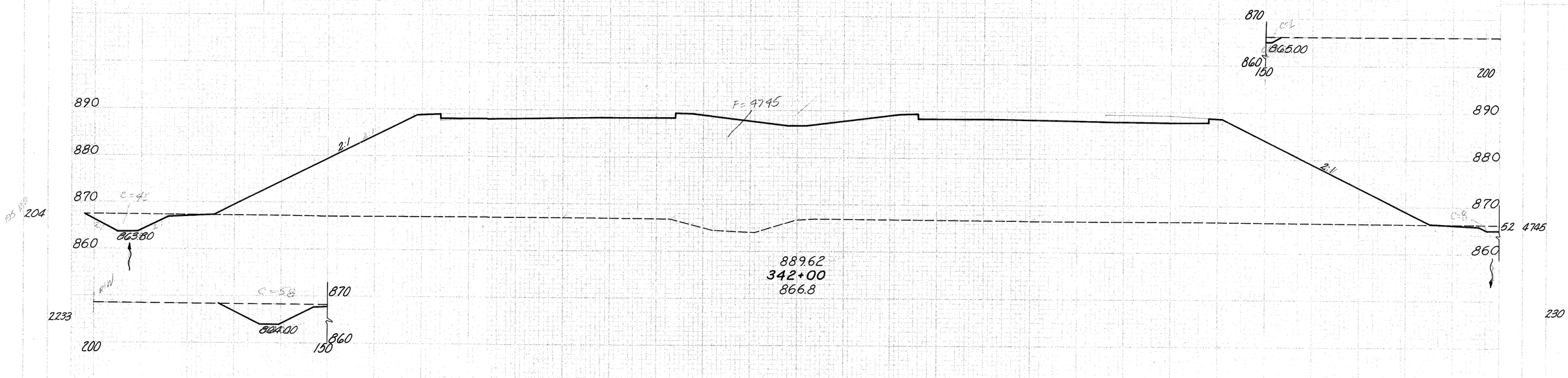


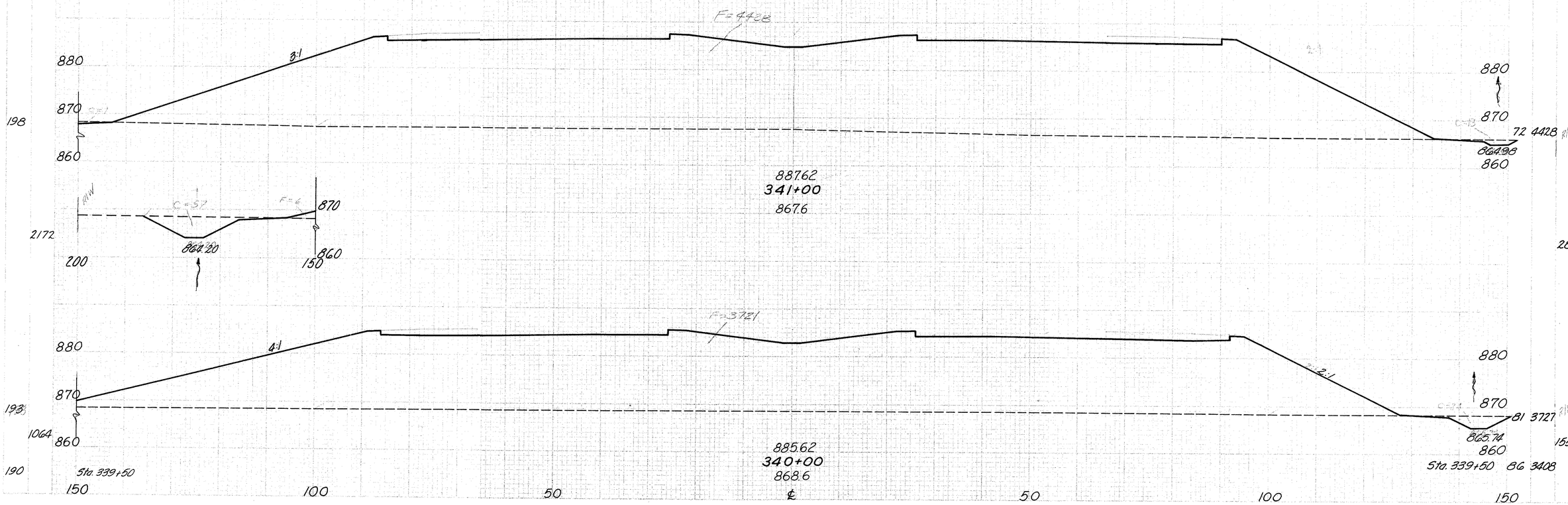
357 10,530

337+00 TO 339+00

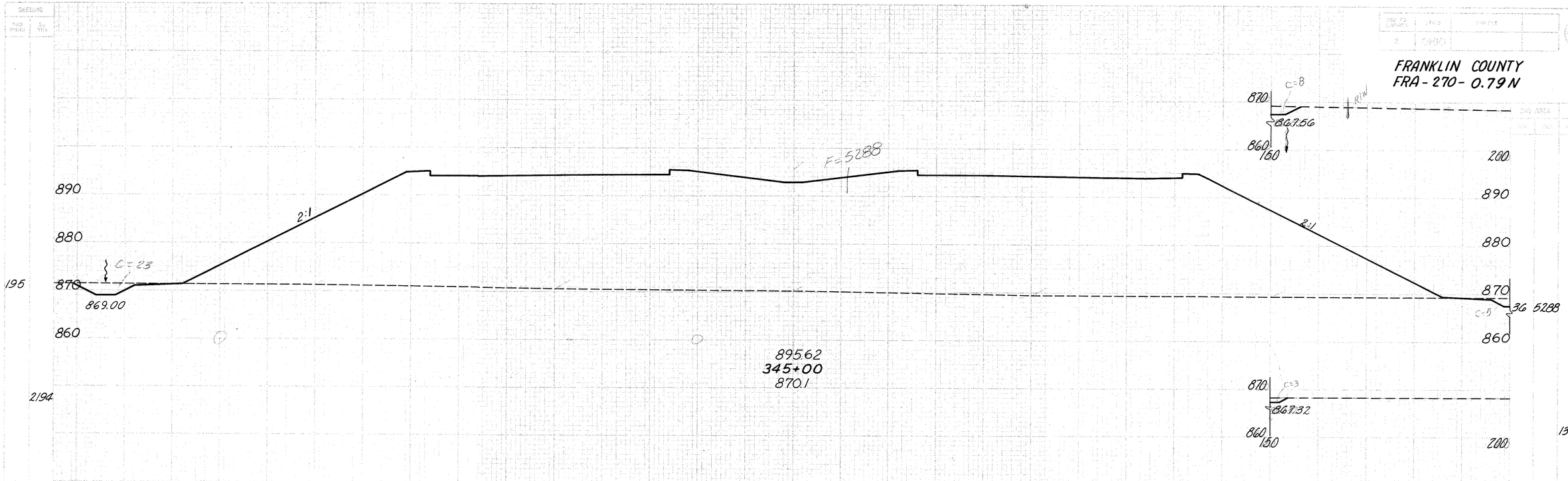
FRANKLIN COUNTY
FRA - 270 - 0.79N

Culvert @ Sta. 342+27

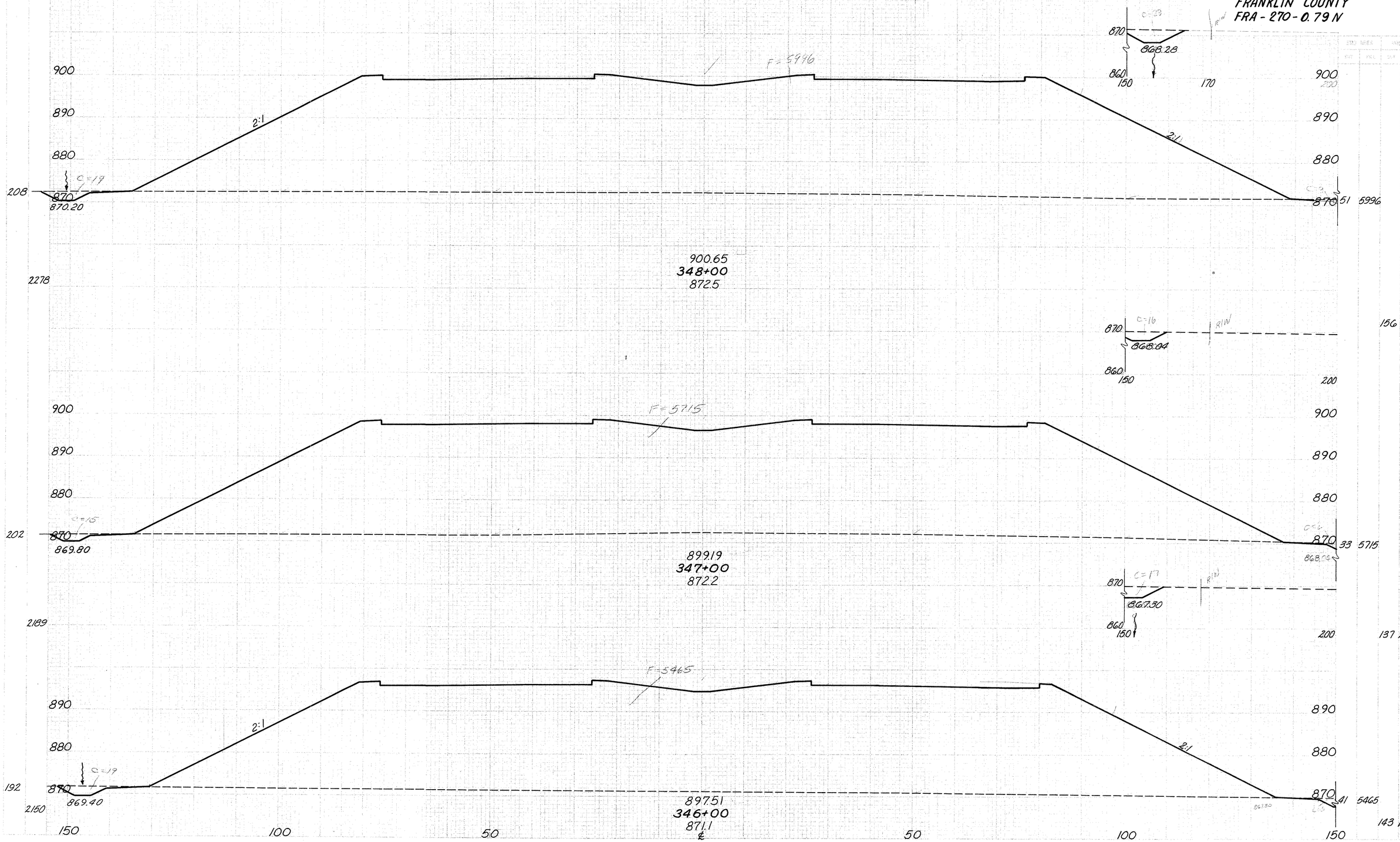




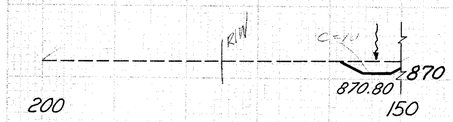
FRANKLIN COUNTY
FRA-270-0.79N

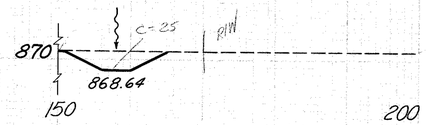


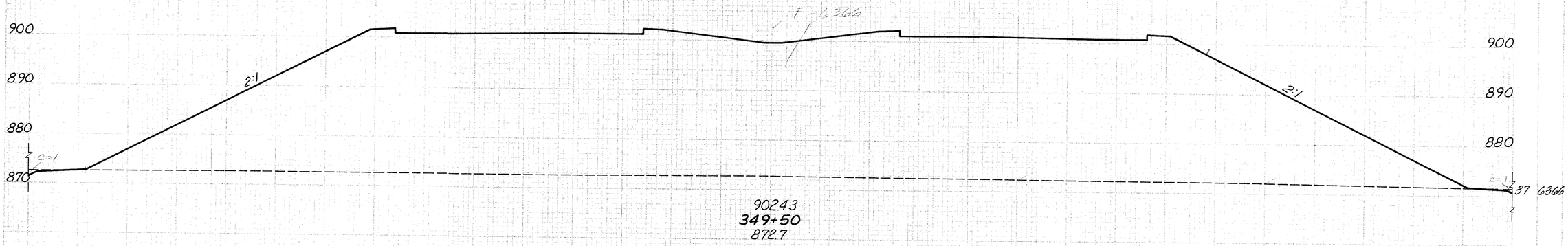
FRANKLIN COUNTY
FRA - 270 - 0.79 N

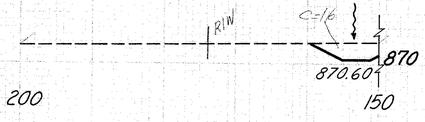


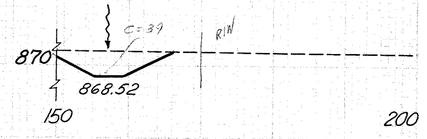
FRANKLIN COUNTY
FRA - 270 - 0.79 N

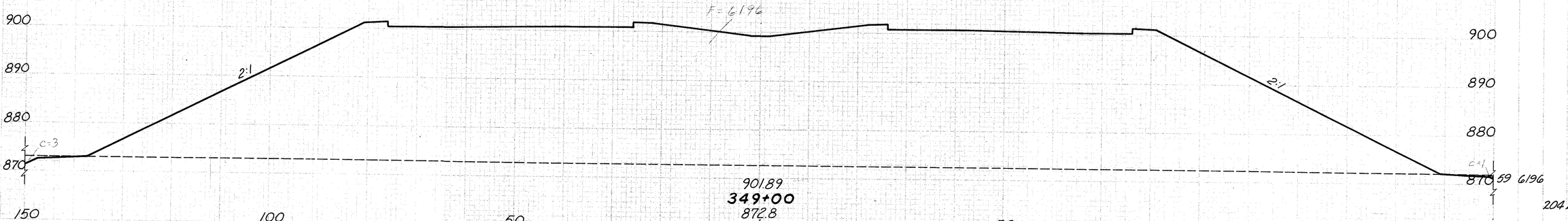








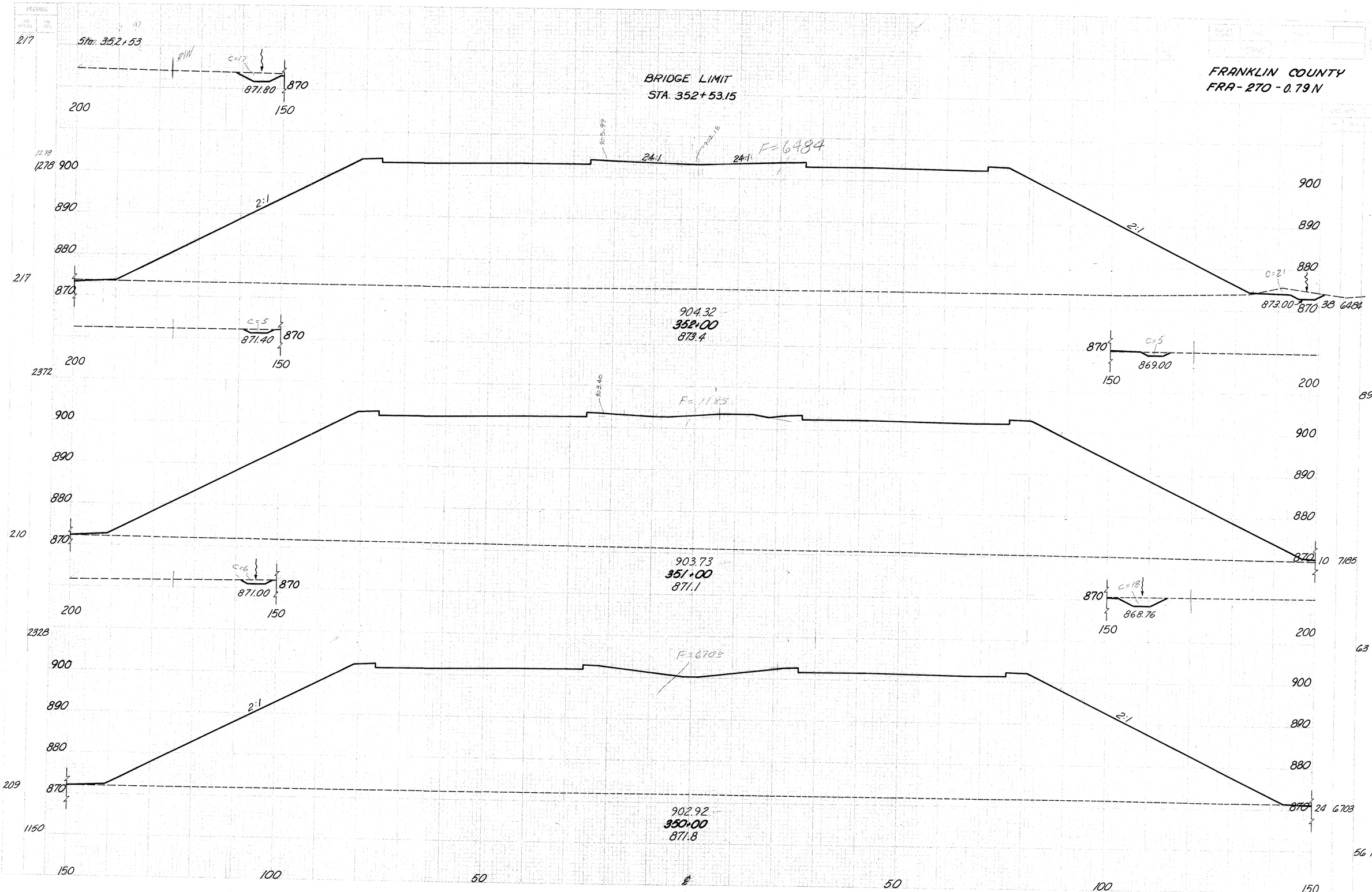




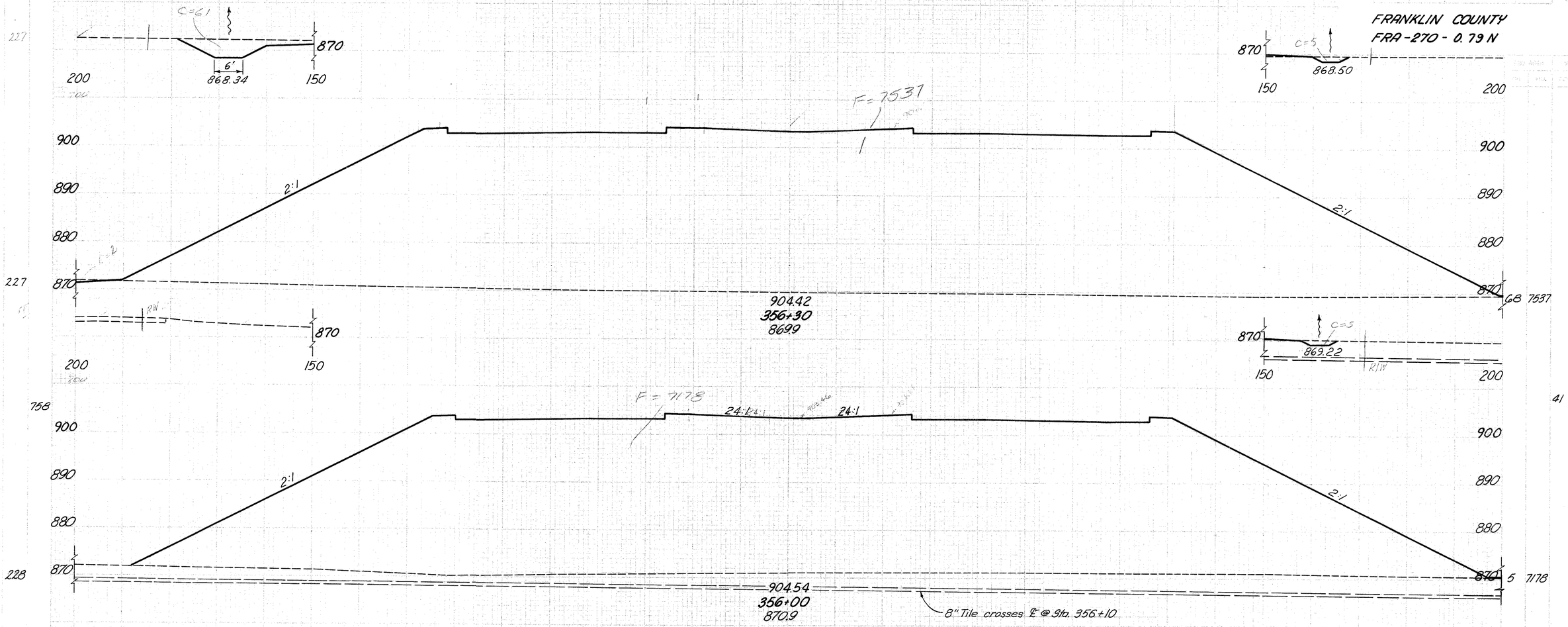
164
227

FRANKLIN COUNTY
FRA-270-0.79N

BRIDGE LIMIT
STA. 352+53.15



FRANKLIN COUNTY
FRA-270 - 0.79 N



227 758 228

41 8174

1,343

228 Sta. 355+47

1,773 Sta. 354+77 to 355+47

1664 Sta. 352+53 to 353+22

BRIDGE LIMITS
STA. 355+49.45 & 355+46.20

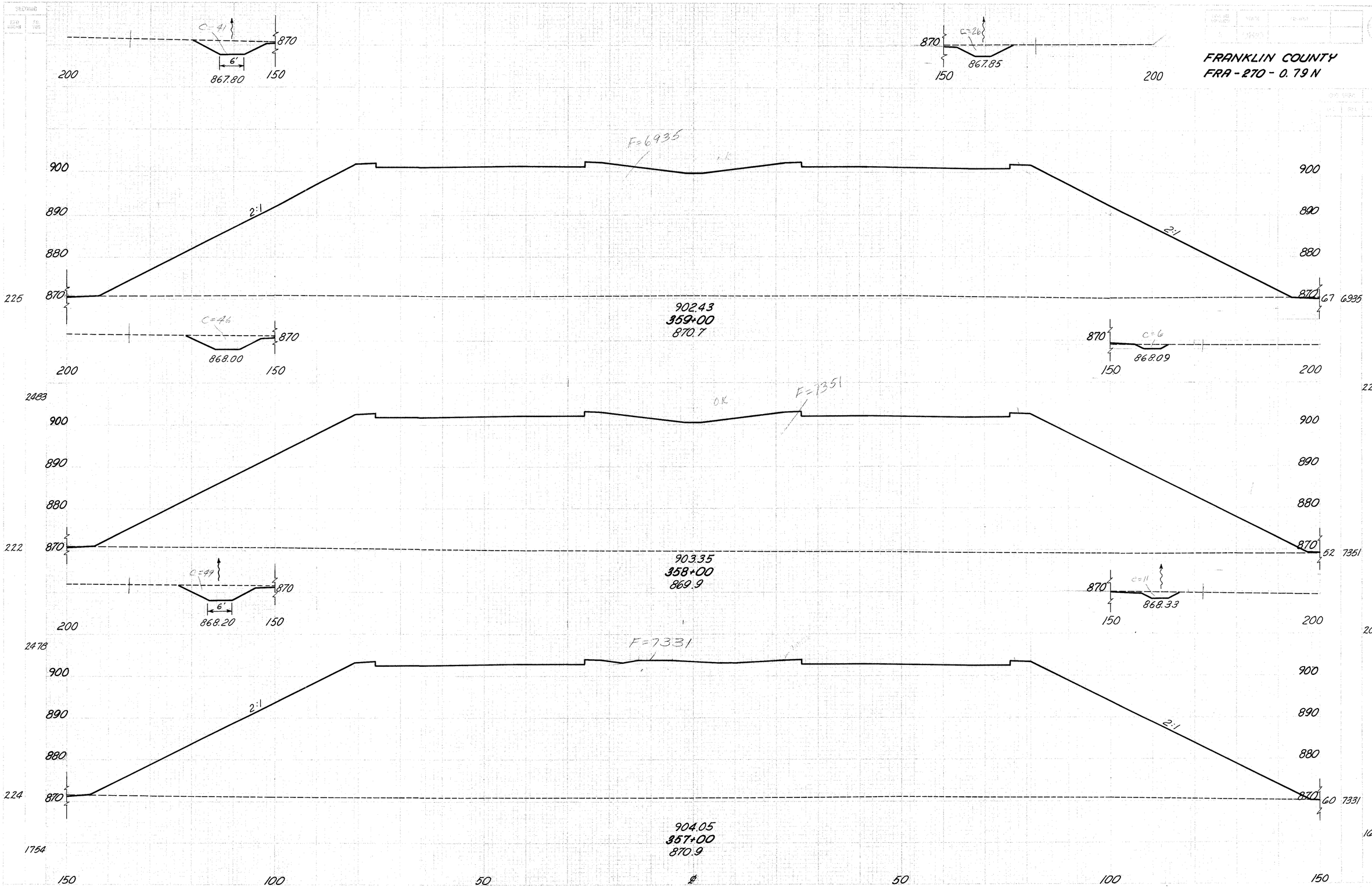
Sta. 355+47	5	7178	
	6	9305	
Toe of slope Sta. 354+77	0	0	
Toe of slope Sta. 353+14	0	0	
	43	7324	
Sta. 352+53	38	6484	
	75	12,728	
	10	14,090	

150 100 50 ℄ 50 100 150

356+00 TO 356+30

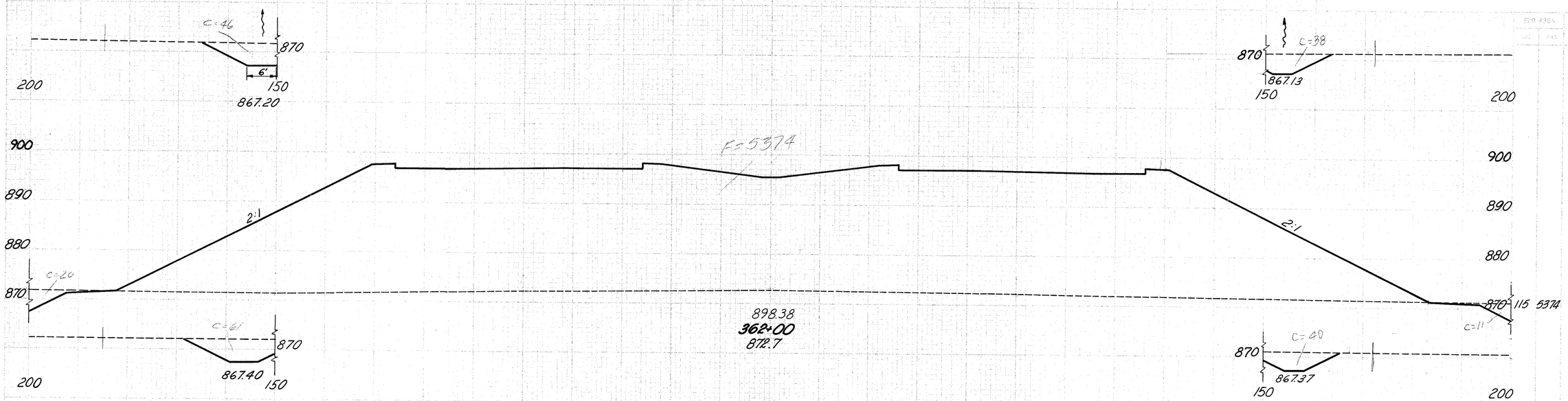
166
227

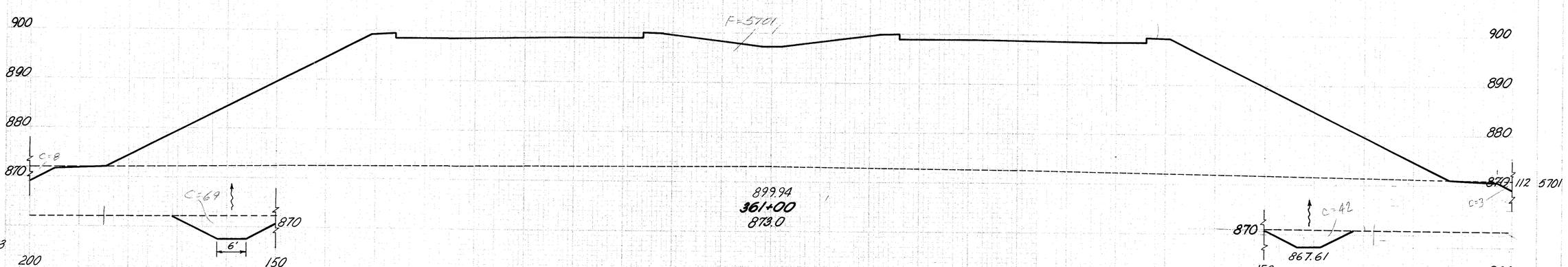
FRANKLIN COUNTY
FRA-270-0.79 N

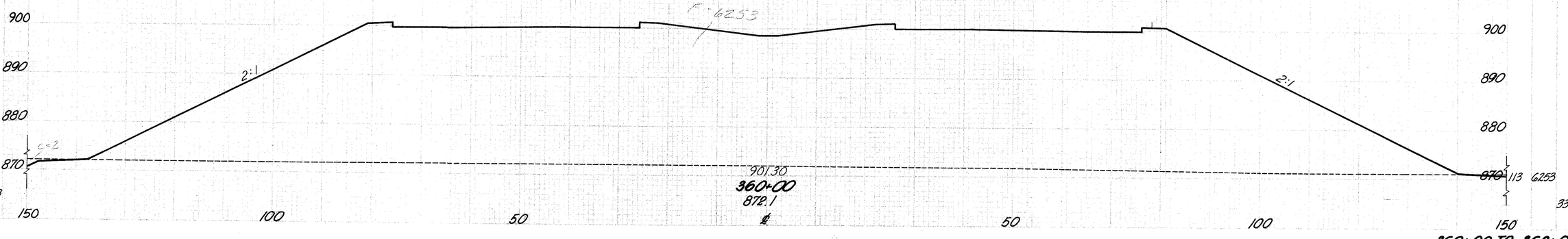


357+00 TO 359+00

FRANKLIN COUNTY
FRA-270 - 0.79 N



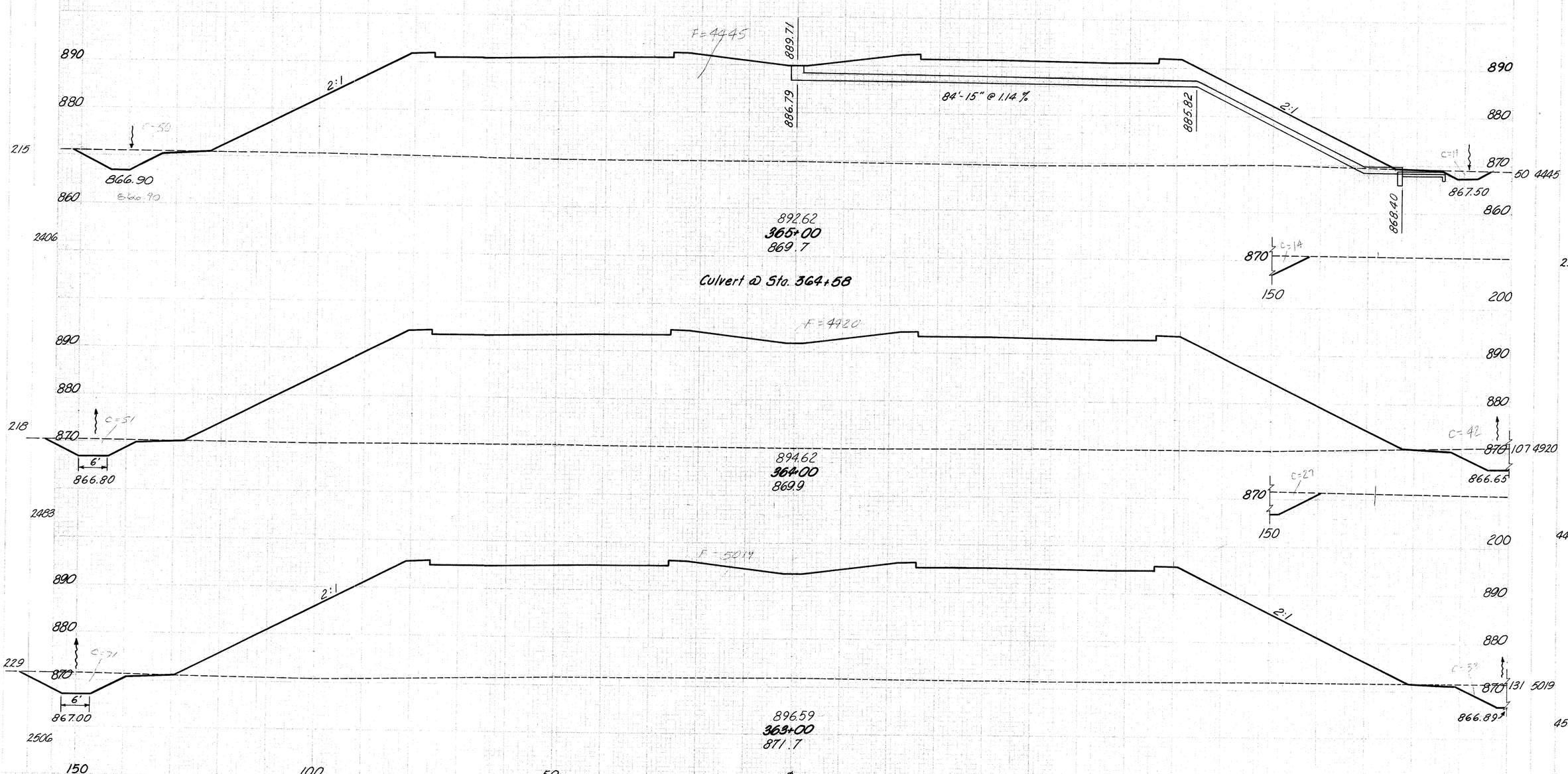




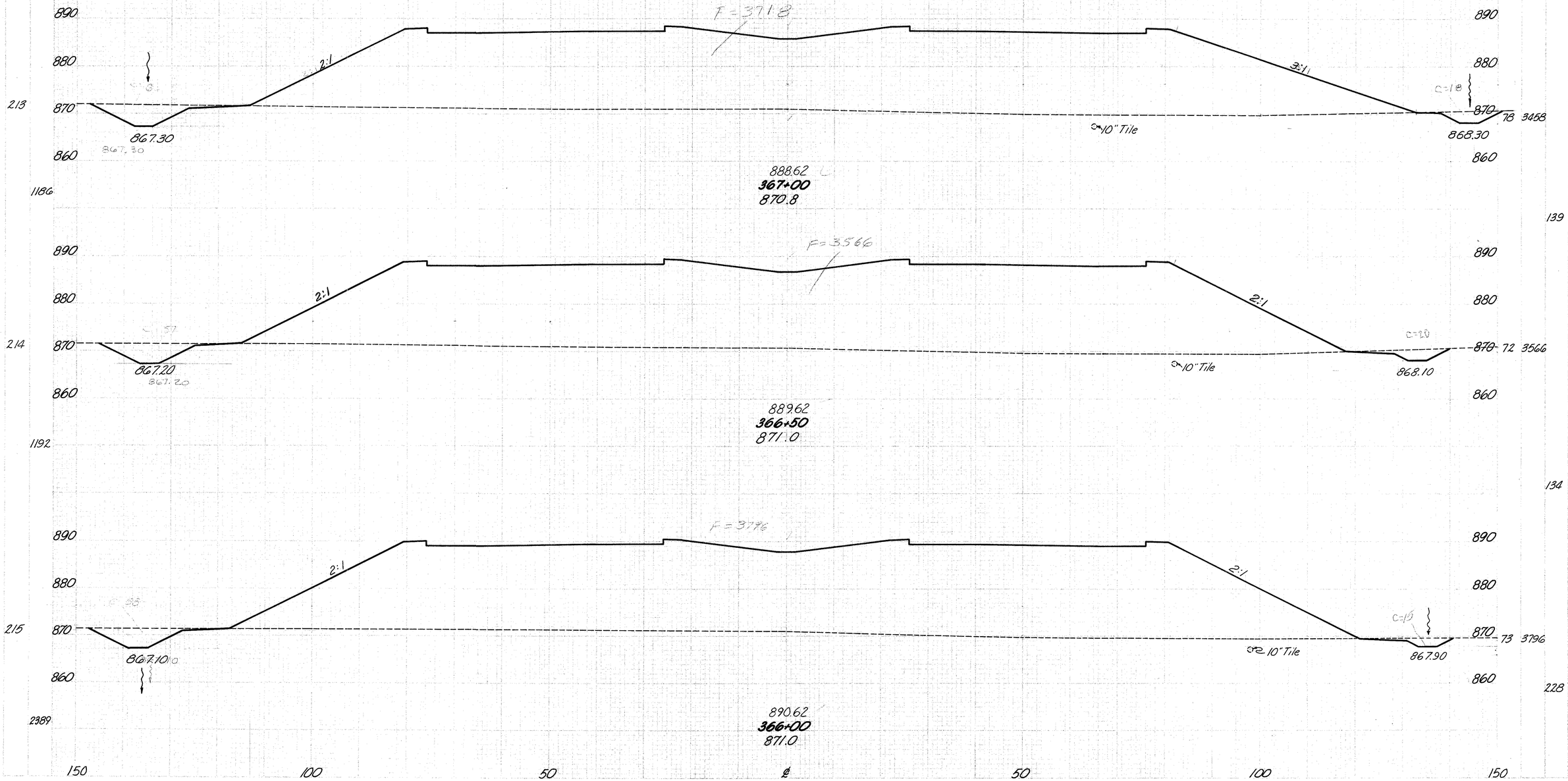
2483

420 20,510

FRANKLIN COUNTY
FRA-270-0.79 N



FRANKLIN COUNTY
FRA-270 - 0.79 N

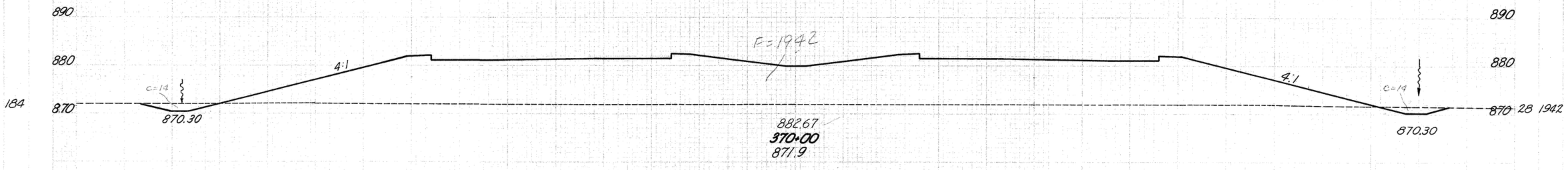


366+00 TO 367+00

170
227

FRANKLIN COUNTY
FRA-270-0.79N

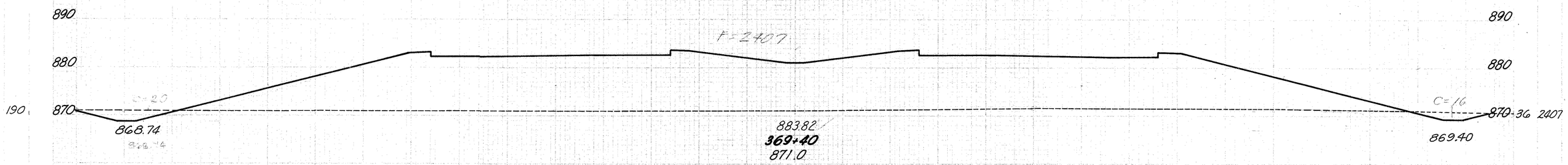
SUSPEND IG SECTION 370+00



184

1247

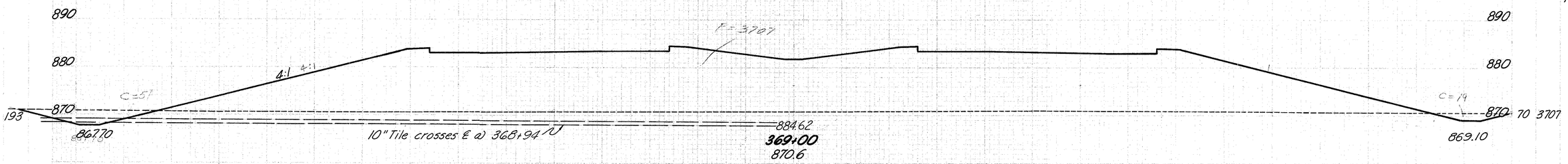
71 4832



190

851

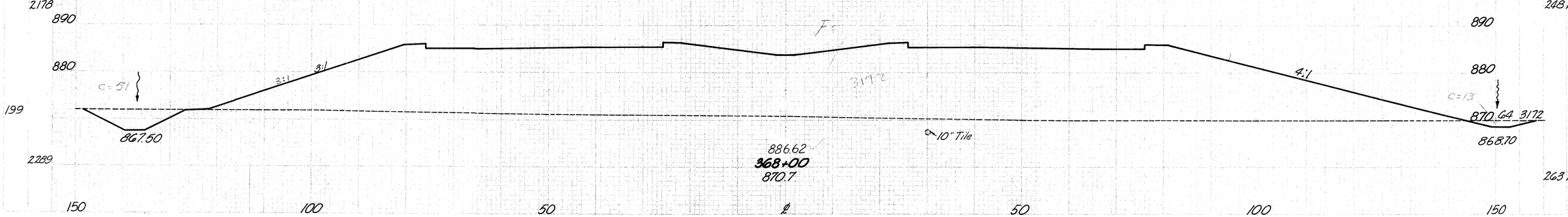
79 4529



193

2178

248 12,739



199

2289

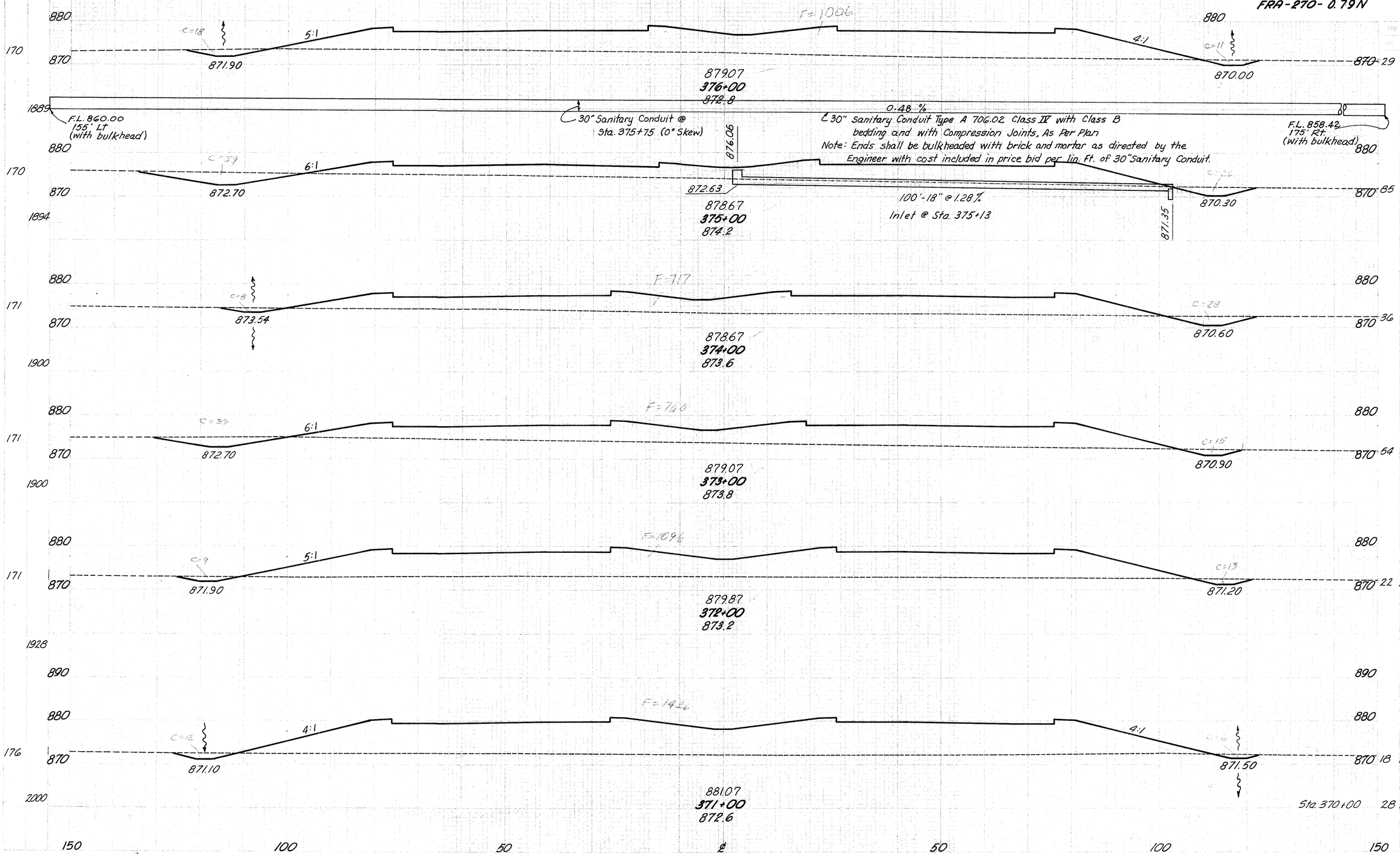
263 12,278

150 100 50 ℄ 50 100 150

368+00 TO 370+00

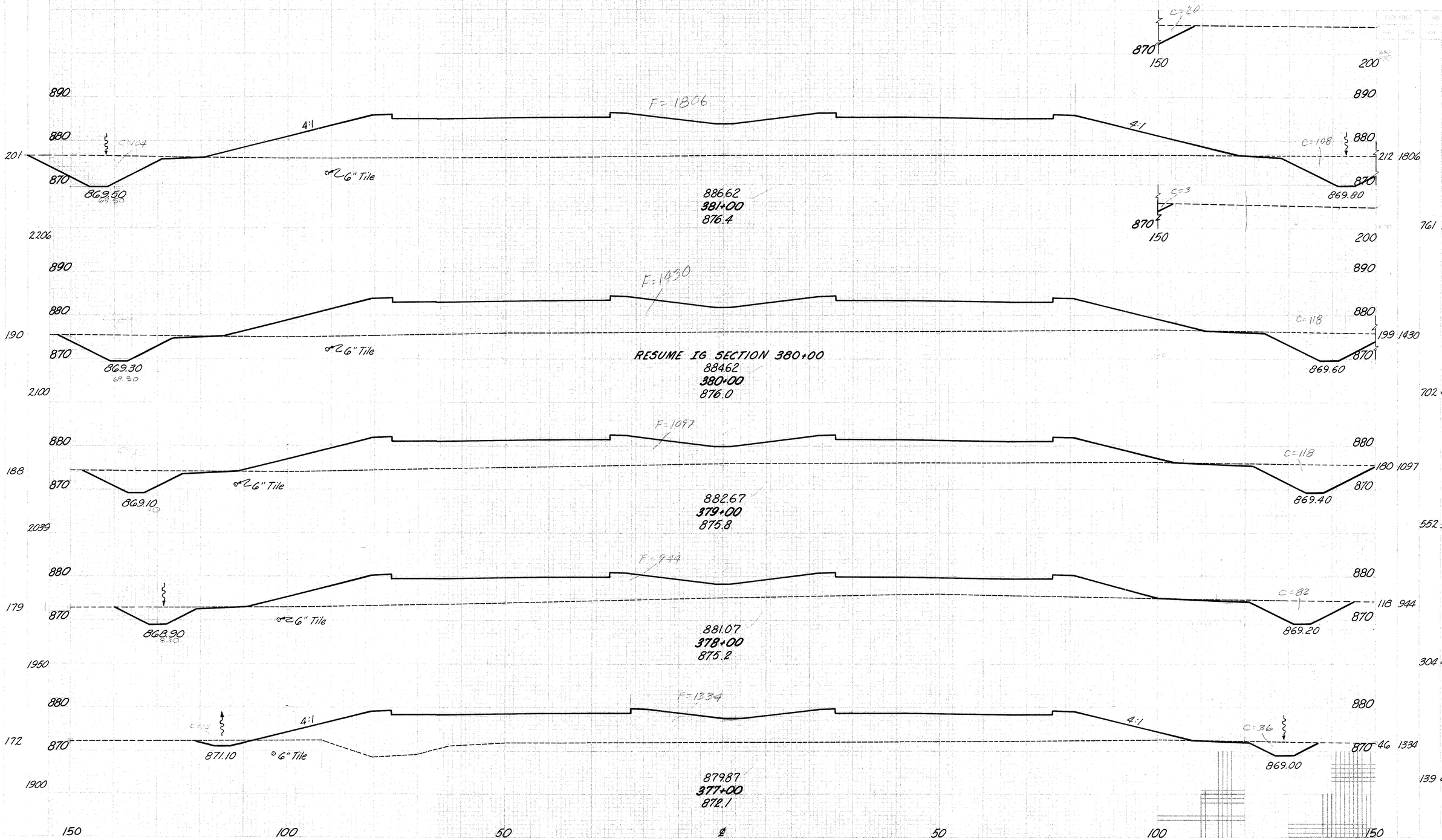
Culvert @ Sta. 376+72

FRANKLIN COUNTY
FRA-270- 0.79N

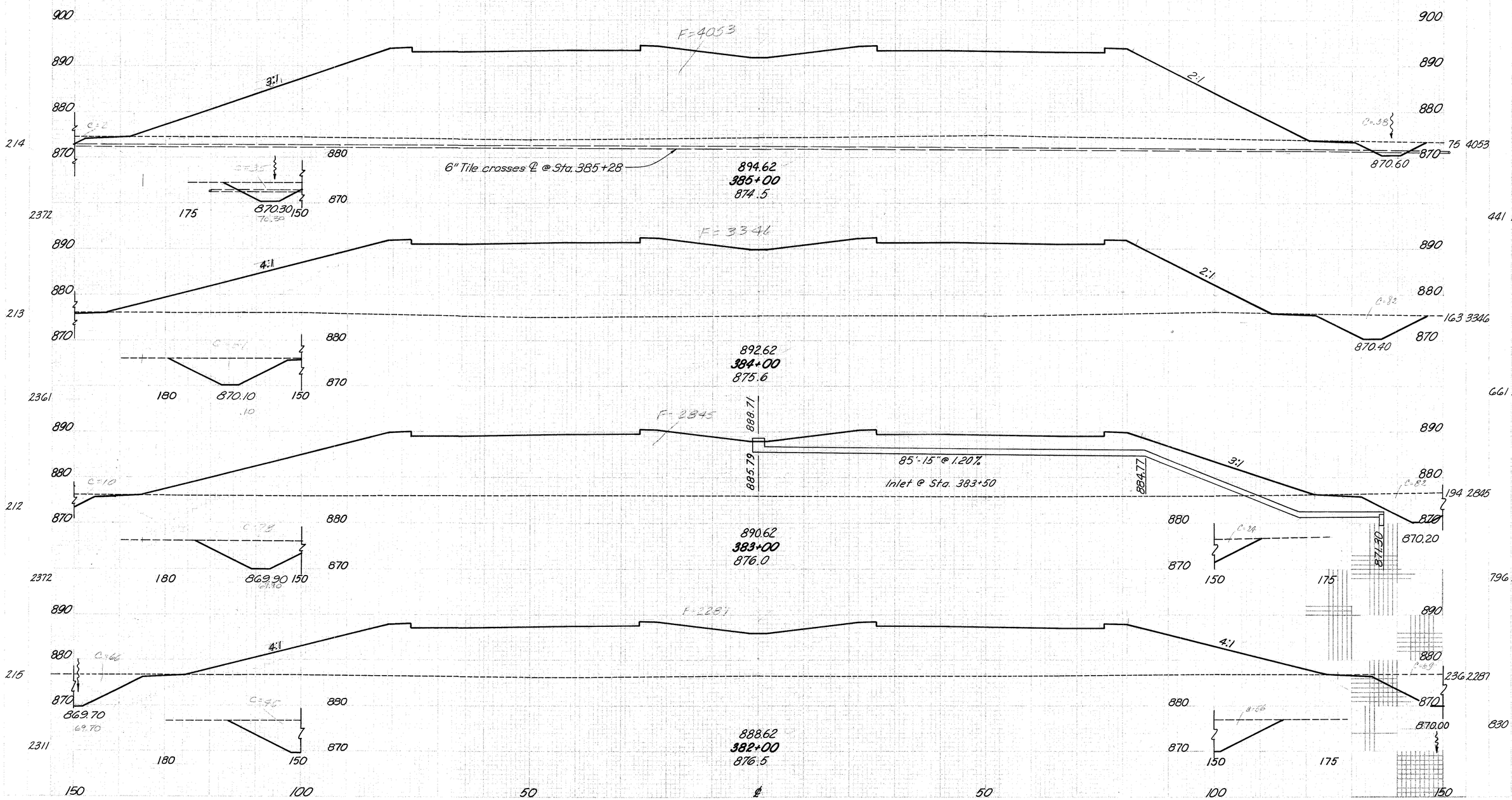


371+00 TO 376+00

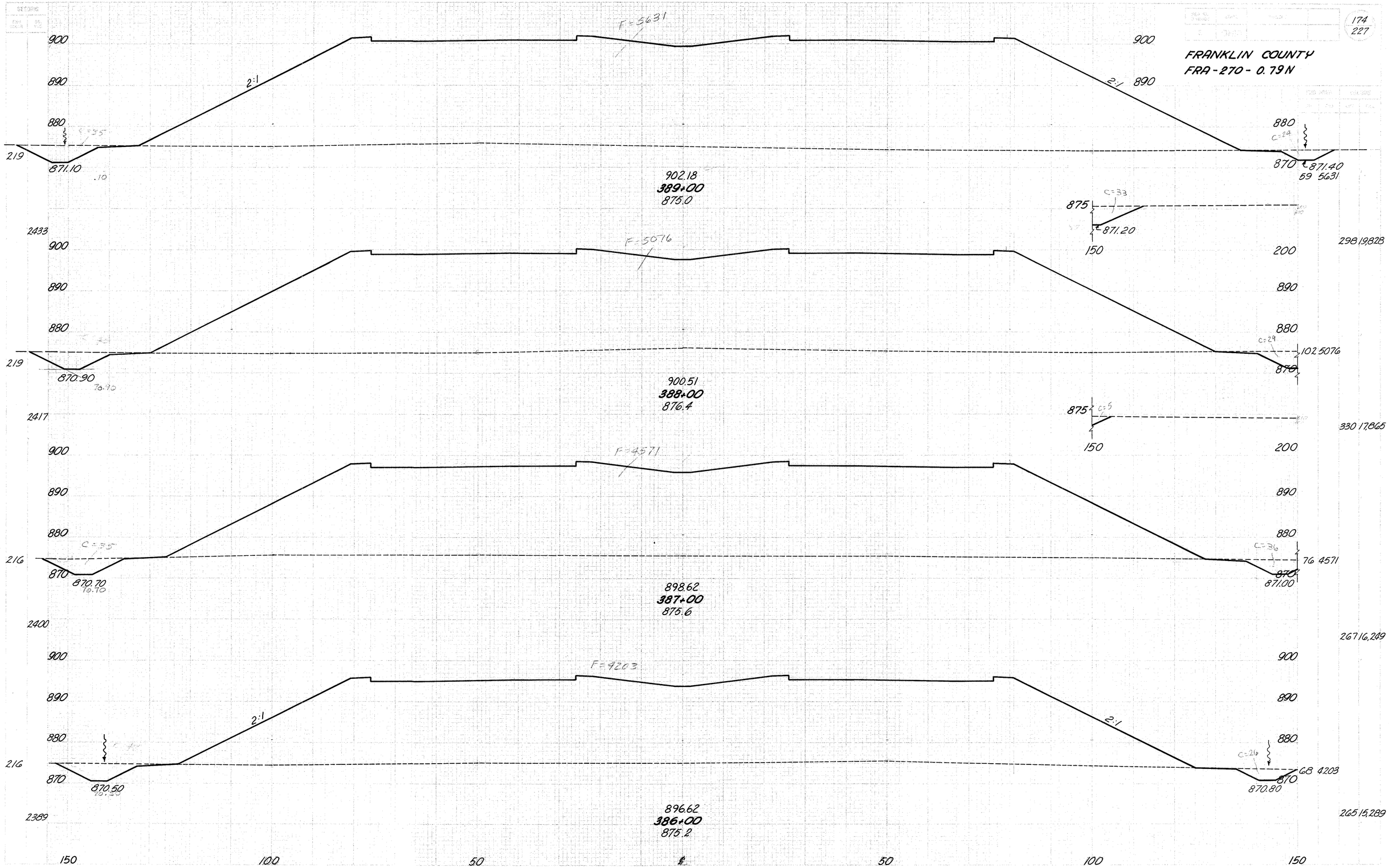
FRANKLIN COUNTY
FRA-270 - 0.79 N



FRANKLIN COUNTY
FRA-270-0.79N



FRANKLIN COUNTY
FRA-270-0.79N



BRIDGE LIMIT STA. 393+66.47

FRANKLIN COUNTY
FRA-270-0.79N

Sta 393+66

201 | 200 | 150 | 870 | 871.70 | 1.70 | 870

870 | 872.00 | 150 | 200

3707

900 / 890 / 880 / 870

2:1 | 2:1

F=1038

Tie of Slope Limits Sta.
Toe of Slope Sta.

201 | 870 | 4" Tile crosses ℄ @ 392+38 | 905.84 | 392+00 | 873.6 | 870 | 17 | 7034

2339 | 200 | 150 | 870 | 871.50 | 1.50 | 870

870 | 871.80 | 150 | 200

126 25360

900 / 890 / 880 / 870

F=666C

220 | 870 | 904.84 | 391+00 | 873.6 | 870 | 51 | 6660

2433 | 200 | 150 | 870 | 871.30 | 1.30 | 870

870 | 871.60 | 150 | 200

194 23,758

900 / 890 / 880 / 870

F=6169

218 | 870 | 903.62 | 390+00 | 874.2 | 870 | 54 | 6169

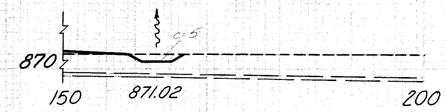
2428

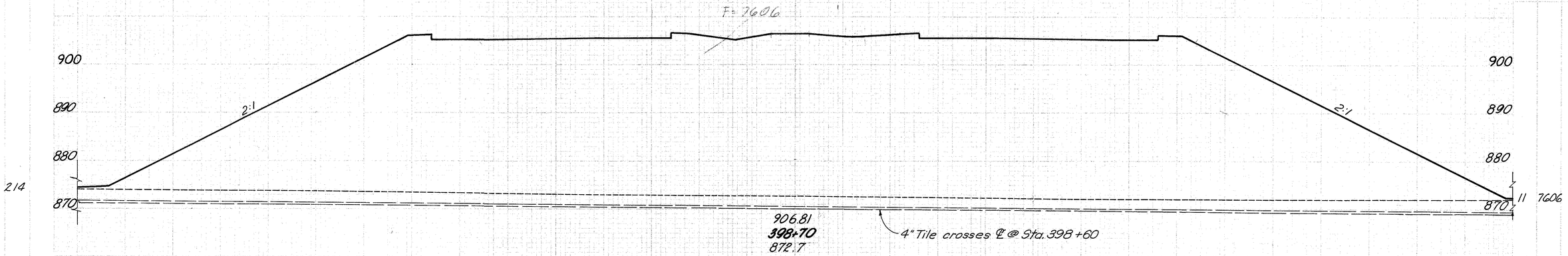
209 21,852

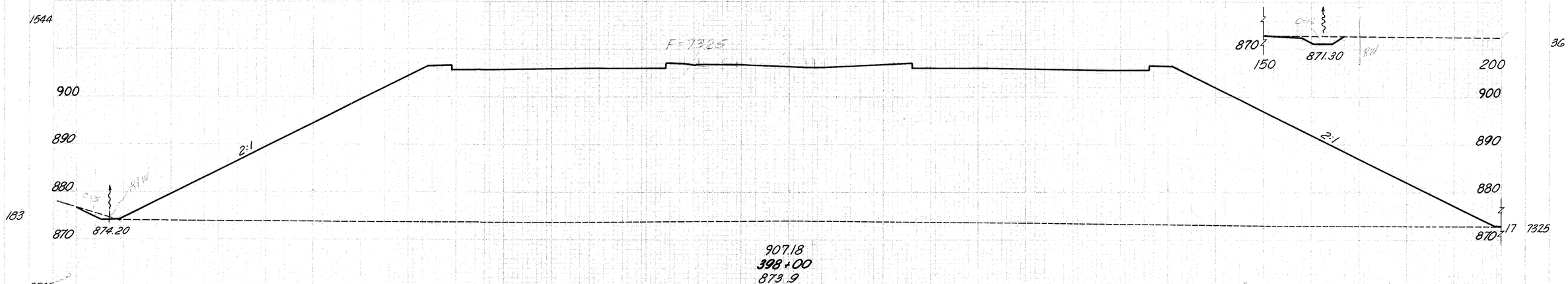
150 | 100 | 50 | ℄ | 50 | 100 | 150

390+00 TO 392+00

FRANKLIN COUNTY
FRA-270 - 0.79 N







BRIDGE LIMIT STA. 396+64.99

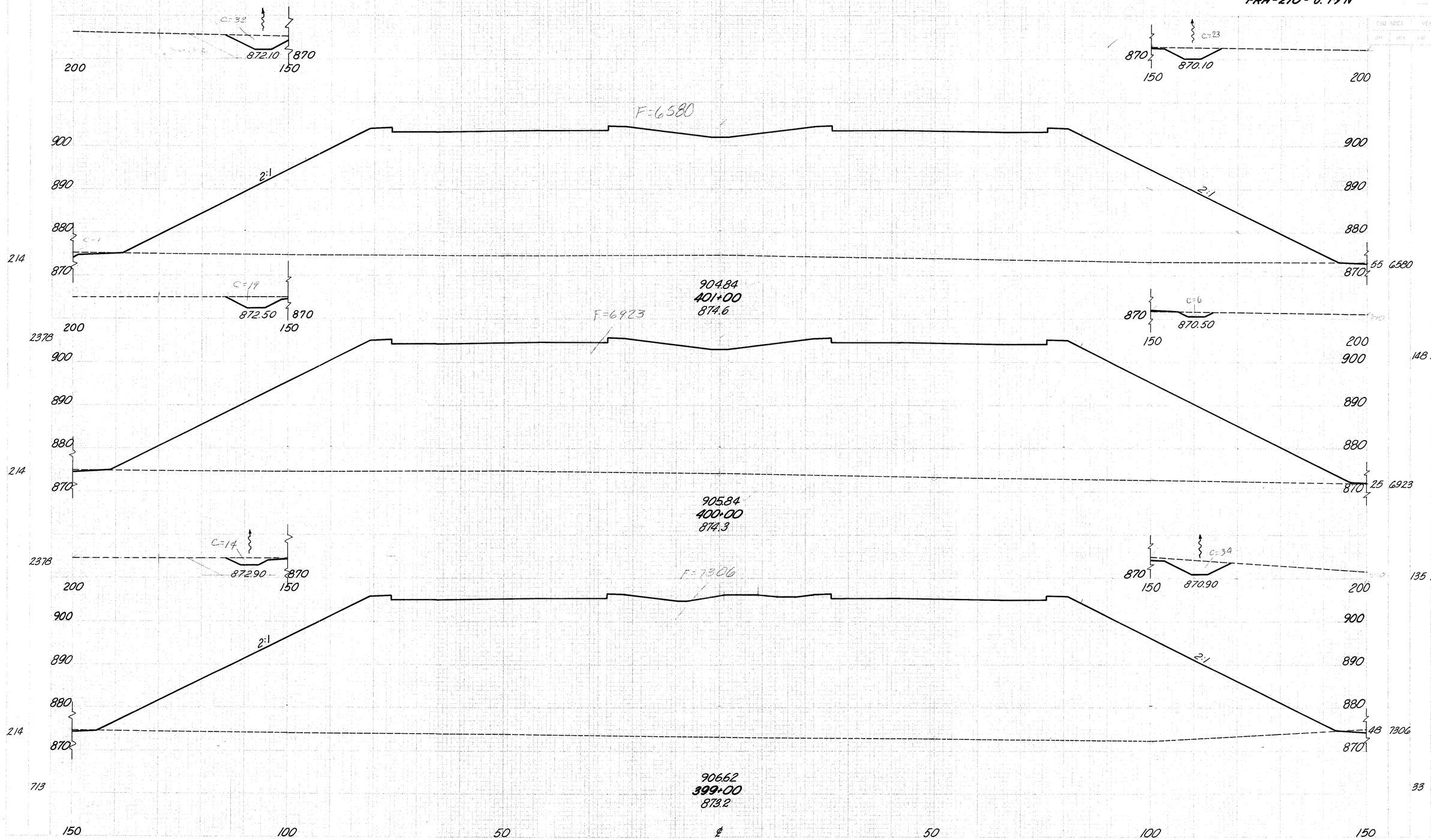
183	Sta. 396+65			
2216	Sta. 395+56 to 396+65			
2300	Sta. 393+66 to 394+69			

Sta. 396+65	17	7325	
			34 14.786
Toe of slope 395+56	0	0	
Toe of slope 394+69	0	0	
			32 13.417
Sta. 393+66	17	7034	
			105 43.246

150 100 50 ℄ 50 100 150

398+00 TO 398+70

FRANKLIN COUNTY
FRA-270 - 0.79 N



148 25.006

FRANKLIN COUNTY
FRA-270-0.79N

178
227

213
C=20
870
868.62 150
900
890
880
200
2:1
C=3
870
C=22
870
869.00 150
200
F=6461
901.21
403+60
870.6
900
890
2:1
880
C=15
870
869.06
38 6461
C=24
870
869.16
150
200
900
39 5973

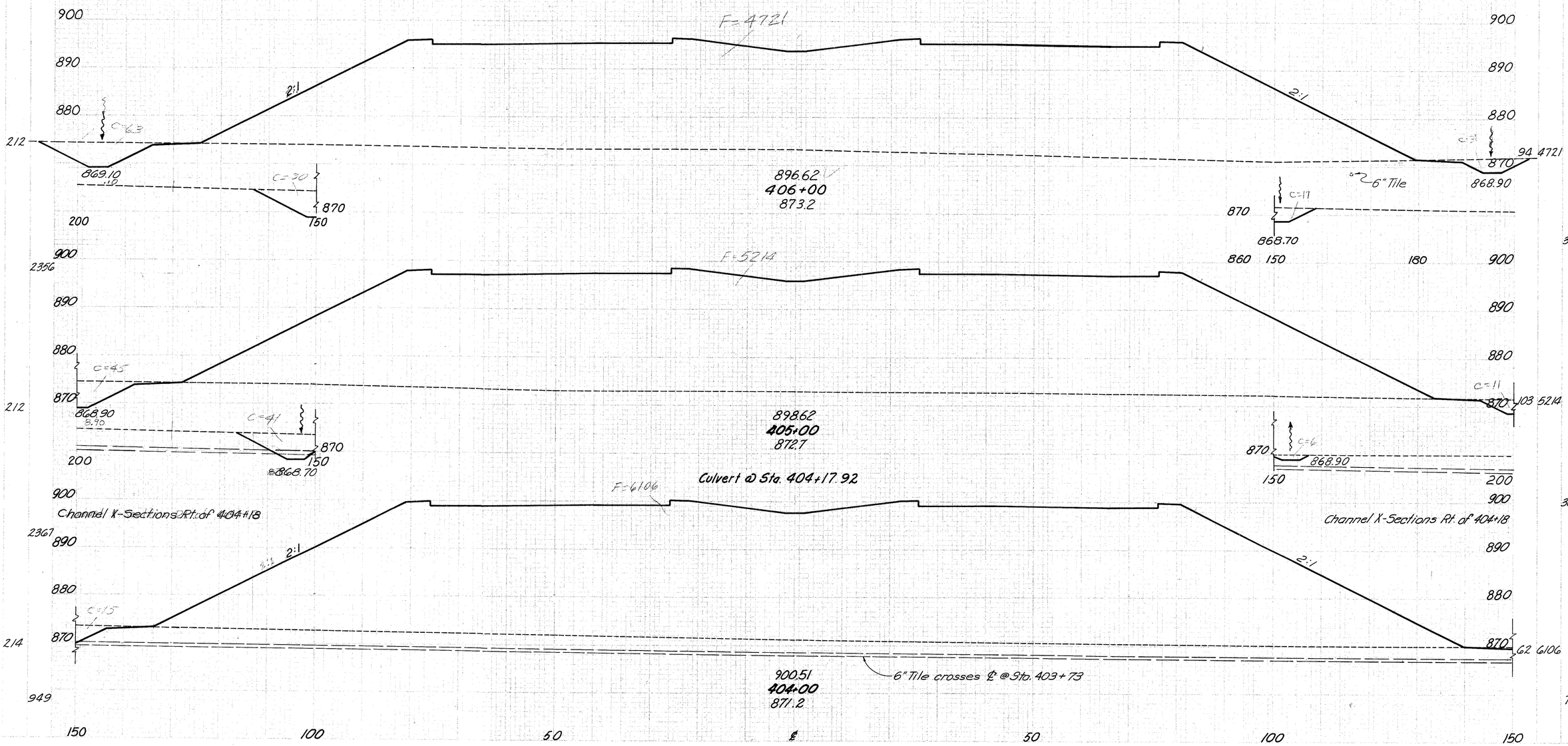
592
900
890
880
213
C=1
870
C=24
870
869.70 150
200
F=6440
901.62
403+35
871.3
870 47 6440
C=26
870
869.30
150
200
900

830
900
890
880
214
C=2
870
C=22
870
871.70 150
200
F=6404
902.18
403+00
872.2
200
900
890
880
870 52 6404
C=41
870
869.70
150
200
900

2383
900
890
880
215
C=1
870
2383
F=6366
903.62
402+00
874.0
200
900
890
880
2:1
870 64 6366
64 8324
215 23649
220 23975

150 100 50 ℄ 50 100 150

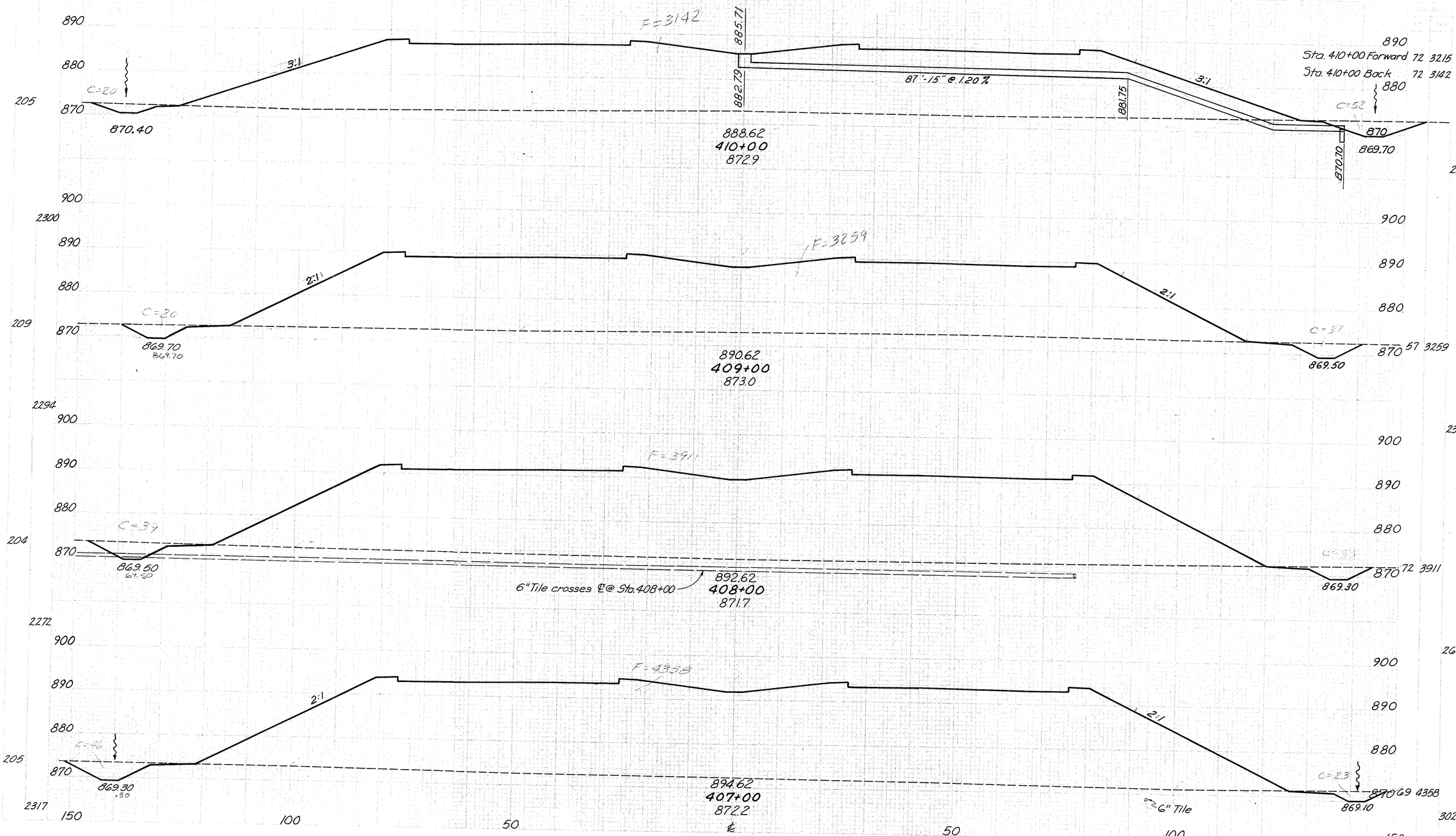
FRANKLIN COUNTY
FRA-270 - 0.79 N



END IG SECTION 410+00

180
227

FRANKLIN COUNTY
FRA - 270 - 0.79N

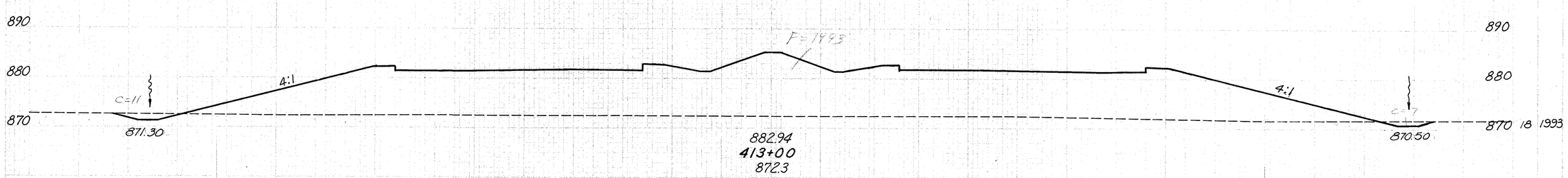


181
227

FRANKLIN COUNTY
FRA - 270 - 0.79N

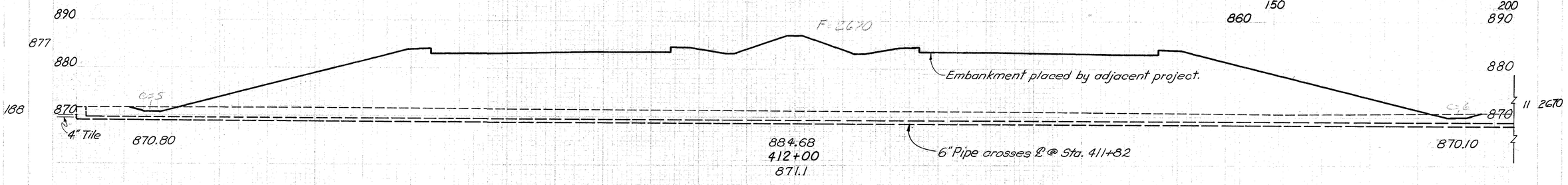
END GRADING STA. 413+23

Sta. 413+23 0 0



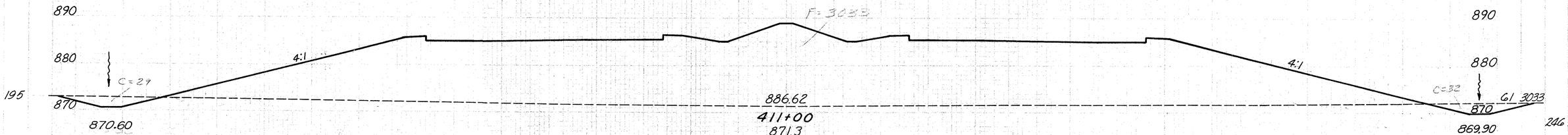
188 Sta. 412+42

END PROJECT STA. 412+42



2128

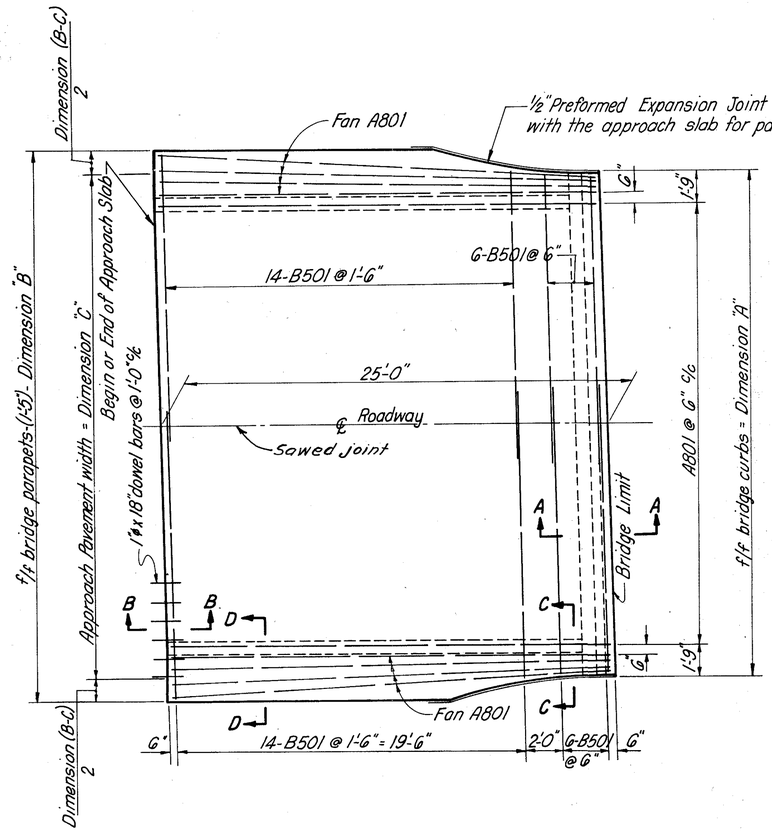
133 10561

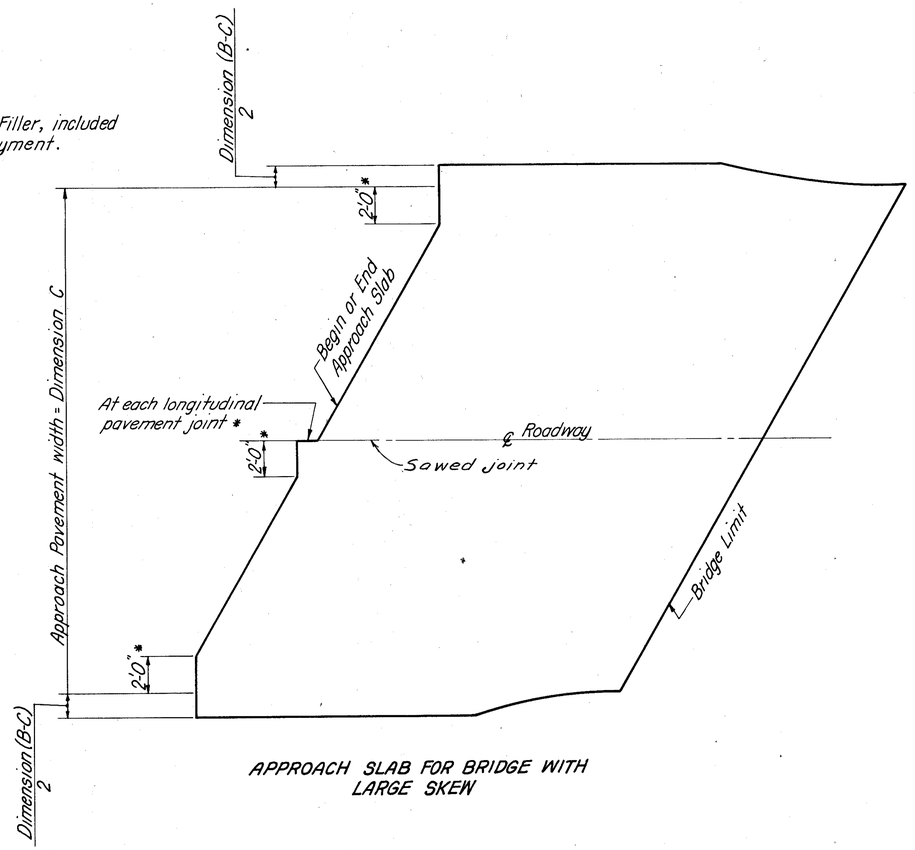


FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

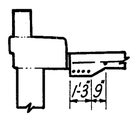
182
227

FRANKLIN COUNTY
FRA - 270 - 0.79 N.

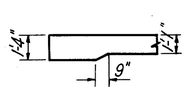




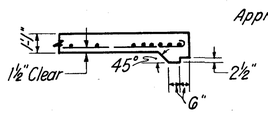
APPROACH SLAB FOR BRIDGE WITH LARGE SKEW



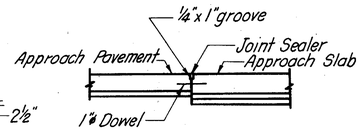
SECTION-C



SECTION-D



SECTION-A



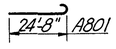
SECTION-B

* 2'-0" for skews larger than 15°
0'-0" for skews 15° or less.

NOTE: Place additional A-bars in flared areas by maintaining the standard spacing along the wide end of the slab and fanning the bars in toward the bridge as directed by the engineer.

NOTE: For additional details see standard drawing AS-1-54.

APPROACH SLAB					
REINFORCING STEEL LIST					QUANTITY
Mark	No.	Length		Shape	Conc. Sq. Yds.
A801	①	25'-7"		B	③
B501	40	②		S	
1"ø dowels	④	1'-6"		S	



Quantities shown above are for one approach slab only.

① = $12\left[\frac{"A"-3.5}{6}\right]+9$

② = $\left[\frac{"B"}{2}+.7917\right](\text{Sec }\theta)-.167$

③ = $\left[\frac{25("B")}{9}\right]-2$

④ = C

Dimensions "A", "B", & "C" to be in feet
θ = Angle of Skew

BURGESS & NIPLE – CONSULTING ENGINEERS
COLUMBUS 12, OHIO

SPECIAL APPROACH SLABS

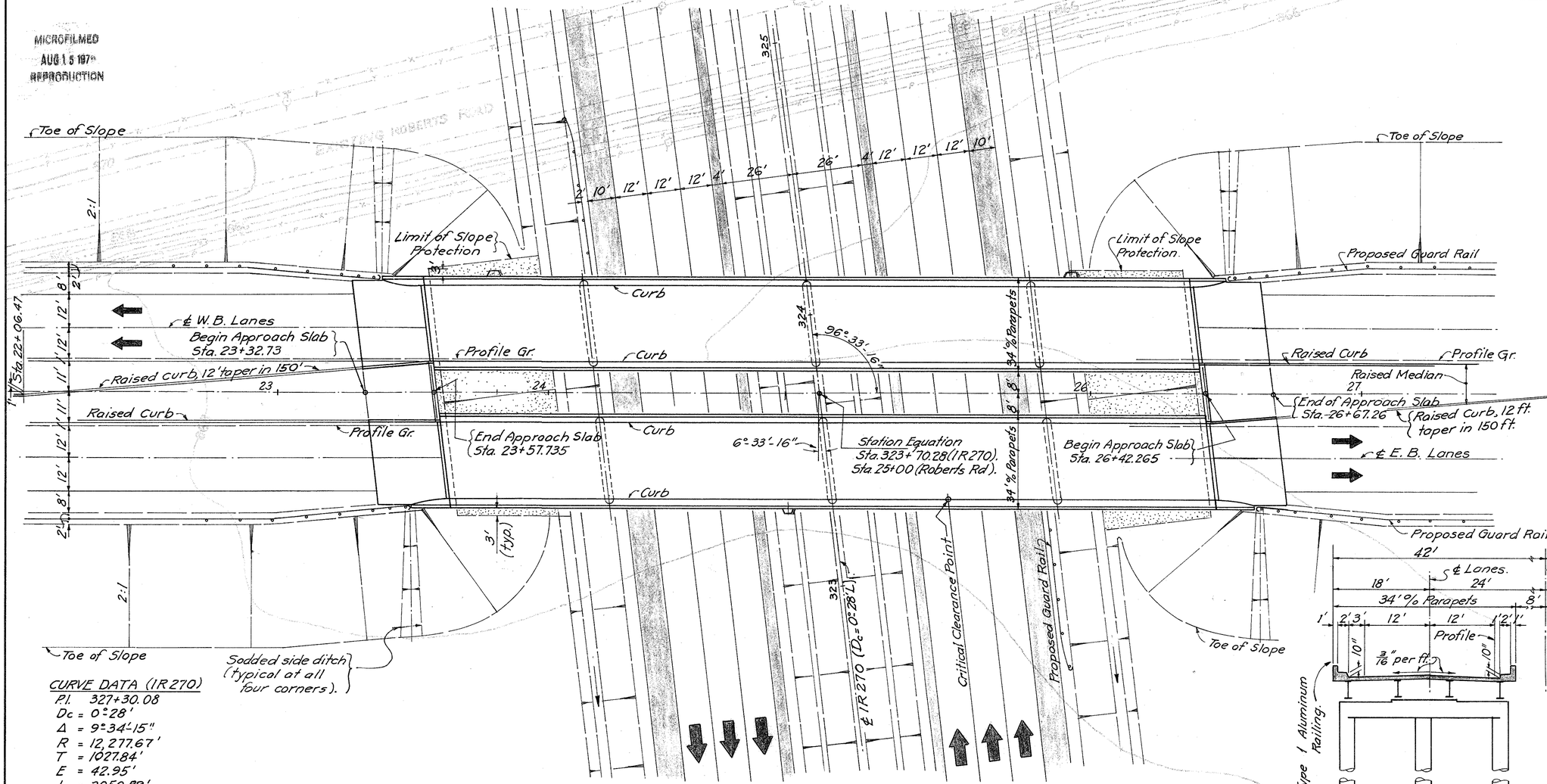
FRANKLIN COUNTY

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

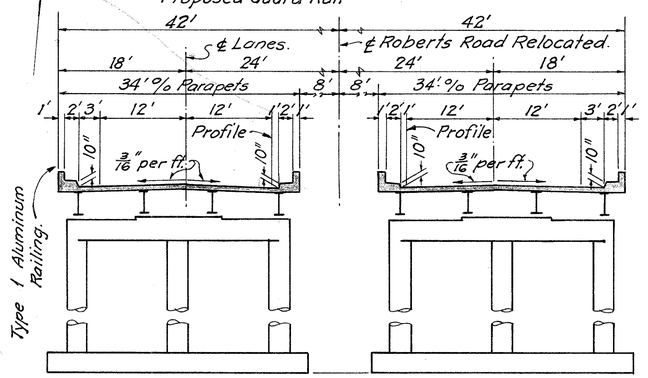
183/227

FRANKLIN COUNTY
FRA-270-0.79 N



CURVE DATA (IR 270)
P.I. 327+30.08
Dc = 0°-28'
Δ = 9°-34'-15"
R = 12,277.67'
T = 1027.84'
E = 42.95'
L = 2050.89'

PLAN



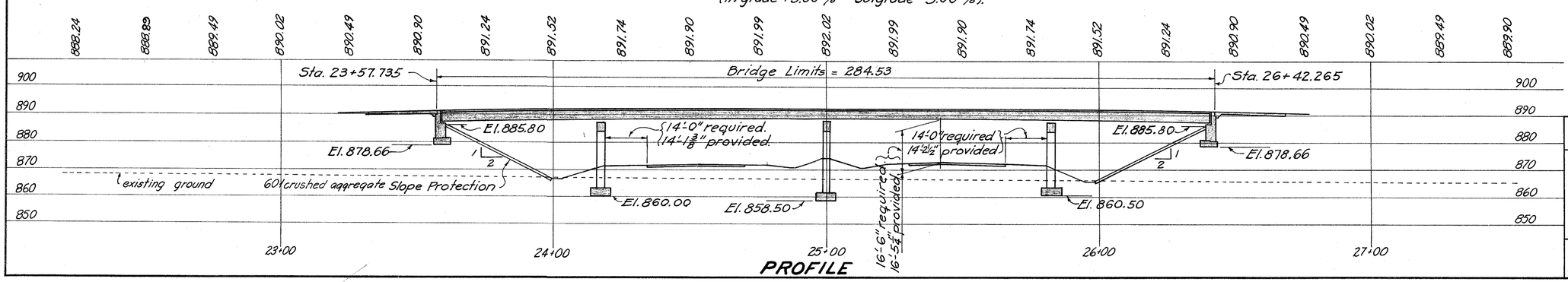
SECTION

PROPOSED STRUCTURE

TYPE: 4 span continuous steel beam with reinforced concrete deck and substructure.
SPAN: 57.75'-82.25'-82.25'-57.75'
LOAD FREQUENCY RATING: CF_r 400 (57).
ROADWAY: 28'-0" f/f 2'-0" safety curbs

SKEW: 6°-33'-16" R.F.
WEARING SURFACE: 1" Monolithic.
ALIGNMENT: tangent.
APPROACH SLABS: Special (25' long).
SUPERELEVATION: none.

600' V.C. P.V.I. Sta. 25+00 Elev. 896.52
(in grade +3.00 % outgrade -3.00 %).



PROFILE

Roberts Rd. 1985 ADT = 15,913
IR 270 1985 ADT = 63,437

BURGESS & NIPLE — CONSULTING ENGINEERS
COLUMBUS 12, OHIO 1/5

SITE PLAN
BR. NO. FRA-270-0205 L&R
IR 270 UNDER ROBERTS ROAD

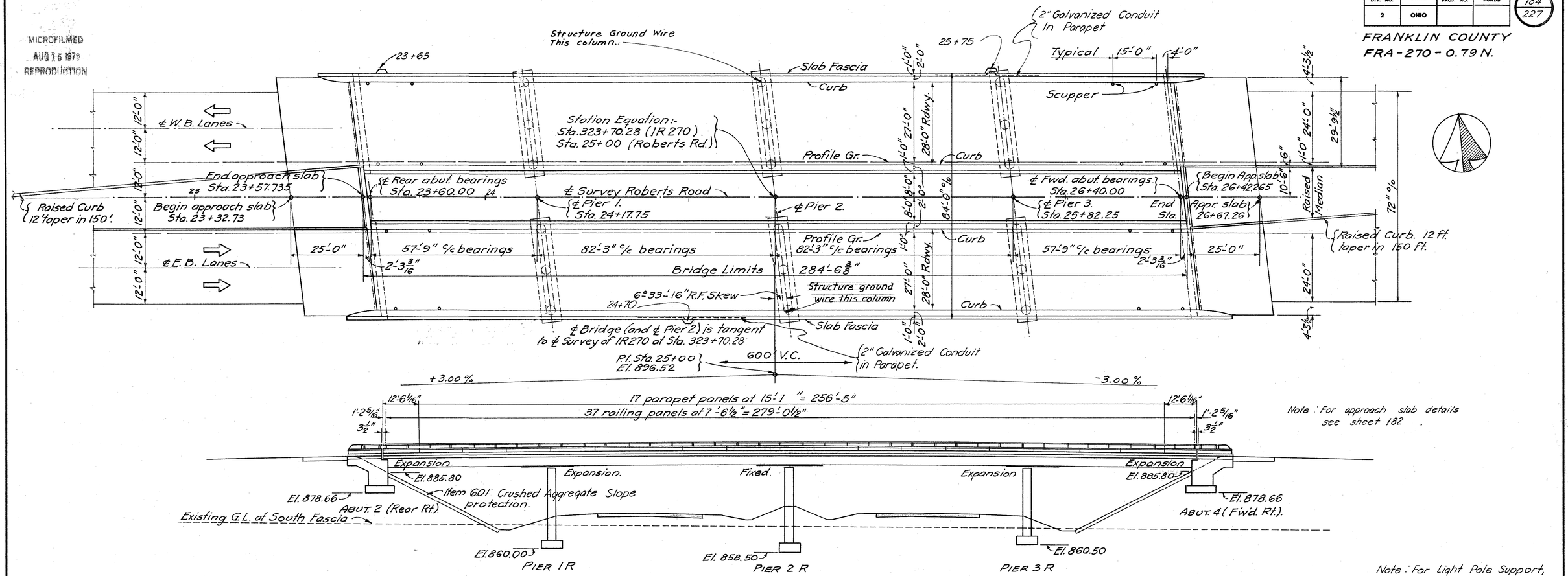
SCALE: 1" = 20' STA. 323+70.28
FRANKLIN COUNTY

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
WER	GEW	KED	DWT KED	WER 3-24-65	

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

184
227

FRANKLIN COUNTY
FRA-270-0.79 N.



Note: For approach slab details see sheet 182.

Note: For Light Pole Support, Conduit & Grounding Details See Sht. 142

GENERAL PLAN AND ELEVATION

BR. NO. FRA-270-0205 L&R **ESTIMATED QUANTITIES**

Item	Total	Unit	Description	Super.	Abuts.	Piers	Gen'l.	AD Revised As-Built	
503	1034	Cu.Yd.	Unclassified Excavation.		452	582			
511	633	Cu.Yd.	Class "C" Concrete, Superstructure.	633					
511	162	Cu.Yd.	Class "C" Concrete, Piers above footings.			162			
511	200	Cu.Yd.	Class "E" Concrete, Abutment Walls.		200				
511	274	Cu.Yd.	Class "E" Concrete, Footings.		92	182			
512	13	Sq.Yd.	Type "B" Waterproofing.		13				
509	240,715	Lbs.	Reinforcing Steel	163,395	14,699	62,621			
513	581,000	Lbs.	Structural Steel	581,000					
514	581,000	Lbs.	Field Painting of Structural Steel	581,000					
516	77	Sq.Ft.	1" Preformed Expansion Joint Filler. (AASHO M-153)		77				
517	1174.62	Lin.Ft.	Railing (Type "1")	1128.00	46.62				
518	75	Cu.Yd.	Porous Backfill		75				
518	120	Lin.Ft.	6" Helical C.M.P. 707.06 non-perforated.		120				
518	134	Lin.Ft.	6" Perforated helical C.M.P. 707.06 including specials.		134				
518	16	Each	Scuppers, including supports.	16					
601	945	Sq.Yd.	Crushed Aggregate Slope Protection				945		
808	633	Each	Water-Reducing, Set-Retarding Admixture	633				C-22 -633	

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.

DESIGN LOADING: CF 400 (57).

DESIGN DATA:
Concrete Class "C" - basic unit stress 1333 psi.
Concrete Class "E" - basic unit stress 1133 psi.
Structural Steel - ASTM A36 - basic unit stress 20,000 psi.

Reinforcing Steel - ASTM A15, A16, A160, Deformed, Intermediate or Hard Grade. Basic unit stress 20,000 psi. Except spiral reinforcement may be plain, Structural Grade with basic unit stress of 18,000 psi.

REFERENCE shall be made to Standard Drawings BR-1-65 dated 2-1-65, FSB-1-62 rev. 1-15-63, SD-1-63 sheets 2, 3, and 4 dated 11-12-63, SD-2-64 dated 11-25-64, RB-1-55 rev. 2-2-59, BP-3-65 dated 6-1-65, and to Supplemental Specifications 808 dated 7-14-65, and 811 dated 3-29-65.

Note: For electrical quantities see sheet 140.

EXCAVATION QUANTITY includes the removal of fill material required for construction of the abutments.

UTILITY LINES: All expense in relocating 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.

BURGESS & NIPLE CONSULTING ENGINEERS
COLUMBUS 12, OHIO
2/5

GENERAL PLAN & ELEVATION
NOTES & ESTIMATED QUANTITIES
BRIDGE No. FRA-270-0205 L & R
IR-270 UNDER ROBERTS ROAD
FRANKLIN COUNTY. STA. 323+70.28

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
KED	KED	KED	DWT	WER 3-24-65	

3-12-26 AD Revised As-Built

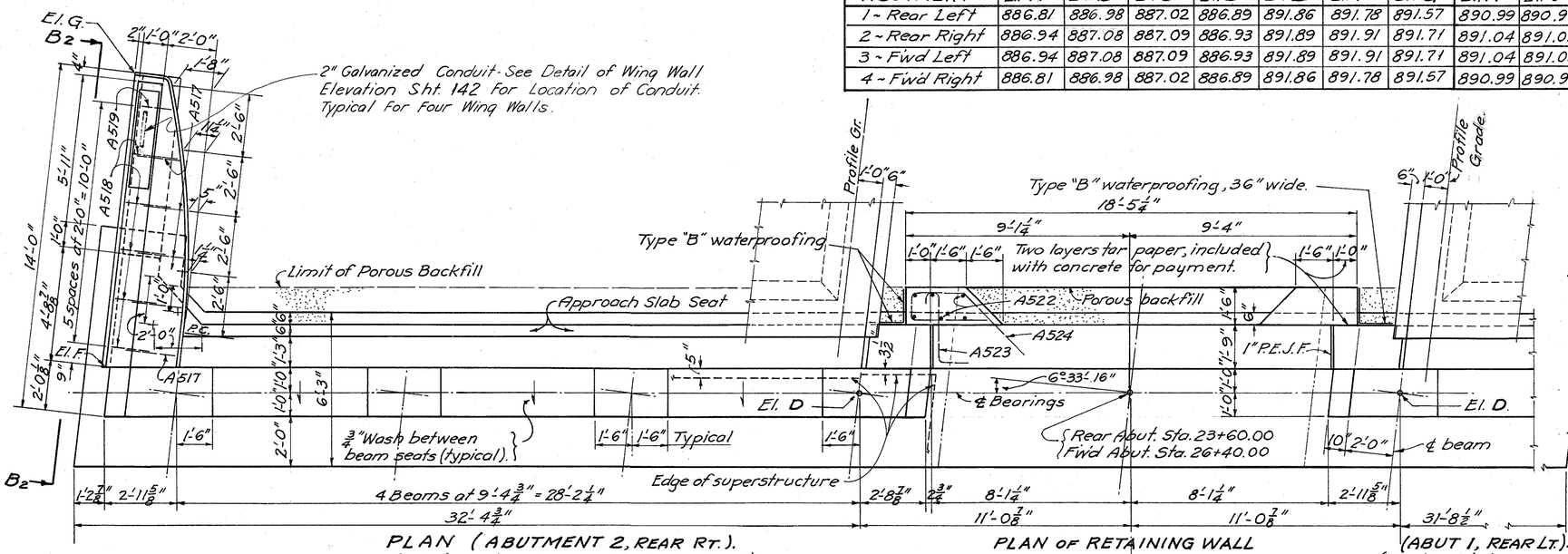
FED. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.	TYPE FUNDS
2	OHIO		

185
227

FRANKLIN COUNTY
FRA-270-0.79N

TABLE of ABUTMENT ELEVATIONS

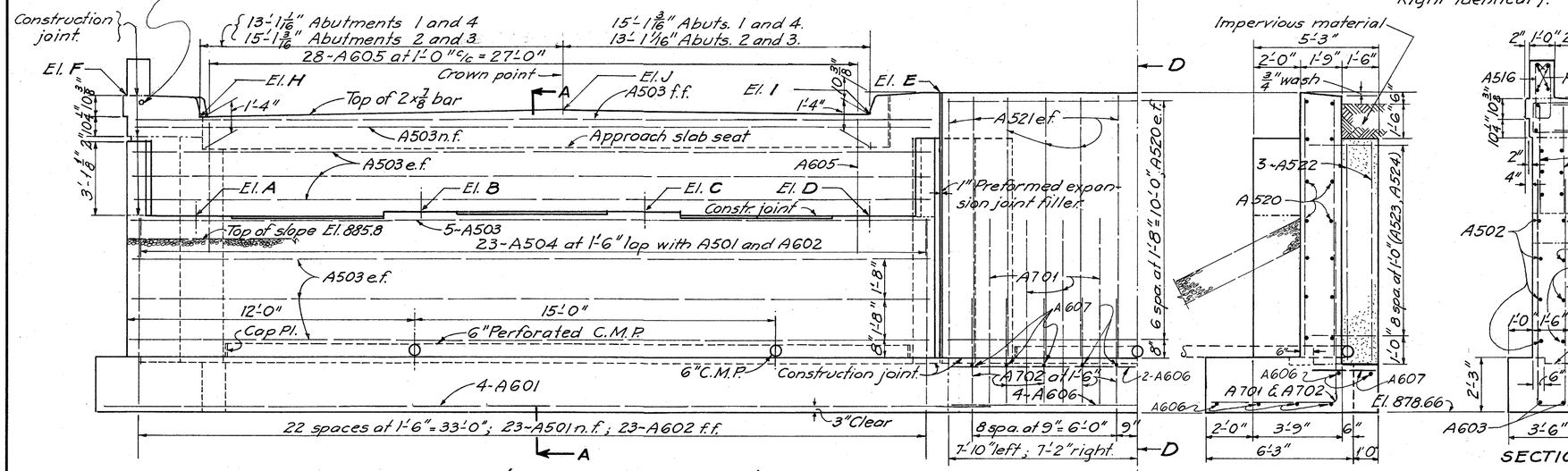
ABUTMENT	El. A	El. B	El. C	El. D	El. E	El. F	El. G	El. H	El. I	El. J
1 - Rear Left	886.81	886.98	887.02	886.89	891.86	891.78	891.57	890.99	890.93	891.17
2 - Rear Right	886.94	887.08	887.09	886.93	891.89	891.91	891.71	891.04	891.03	891.25
3 - Fwd Left	886.94	887.08	887.09	886.93	891.89	891.91	891.71	891.04	891.03	891.25
4 - Fwd Right	886.81	886.98	887.02	886.89	891.86	891.78	891.57	890.99	890.93	891.17



PLAN (ABUTMENT 2, REAR RT.).
(Abutment 3, Forward Left identical).

PLAN OF RETAINING WALL

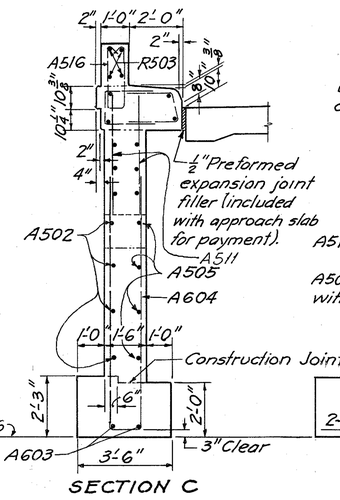
(ABUT 1, REAR LT.).
(Abutment 4, Forward Right identical).



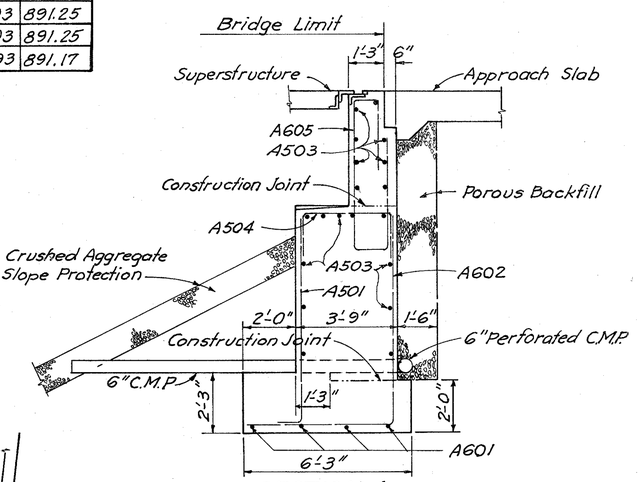
ELEVATION (ABUTMENT 2 REAR RT.).

HALF ELEV. RETAINING WALL

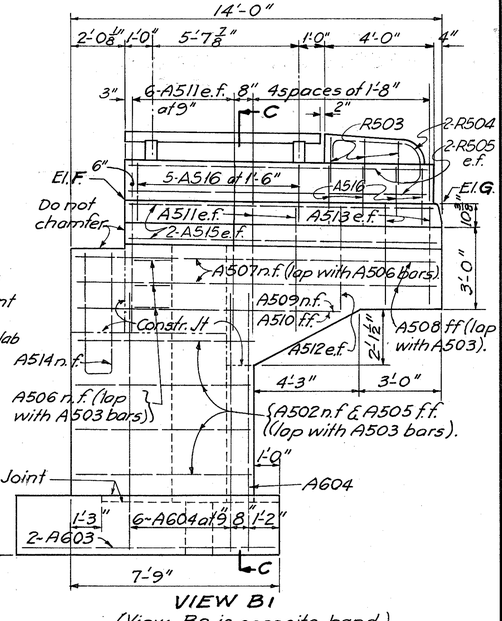
SECTION D



SECTION C



SECTION A



VIEW B1
(View B2 is opposite hand).

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 for a minimum period of 30 days, after which excavation shall be made for the abutments.

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: Abutment footings are designed for a maximum bearing pressure of 1.90 tons per square foot.

BURGESS & NIPLE CONSULTING ENGINEERS
COLUMBUS 12, OHIO
3/5

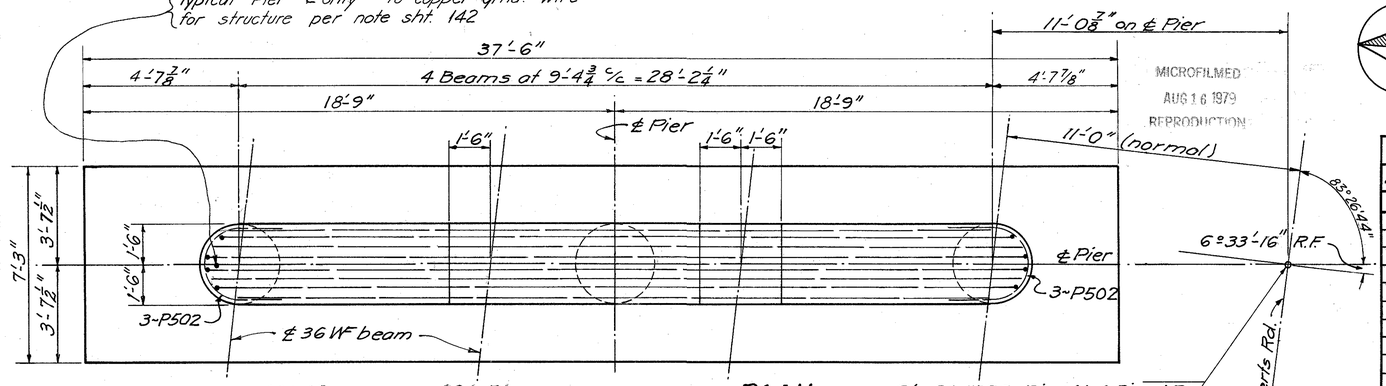
ABUTMENT DETAILS

BRIDGE No. FRA. 270-0205 L & R.
IR 270 UNDER ROBERTS ROAD
FRANKLIN COUNTY STA. 323+70.28

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
KED	KED	KED	DWT	WAR 3-24-65	

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

FRANKLIN COUNTY
FRA-270-0.79 N

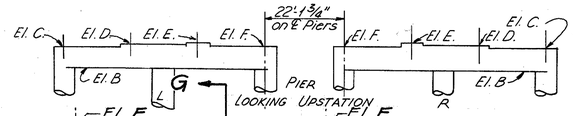


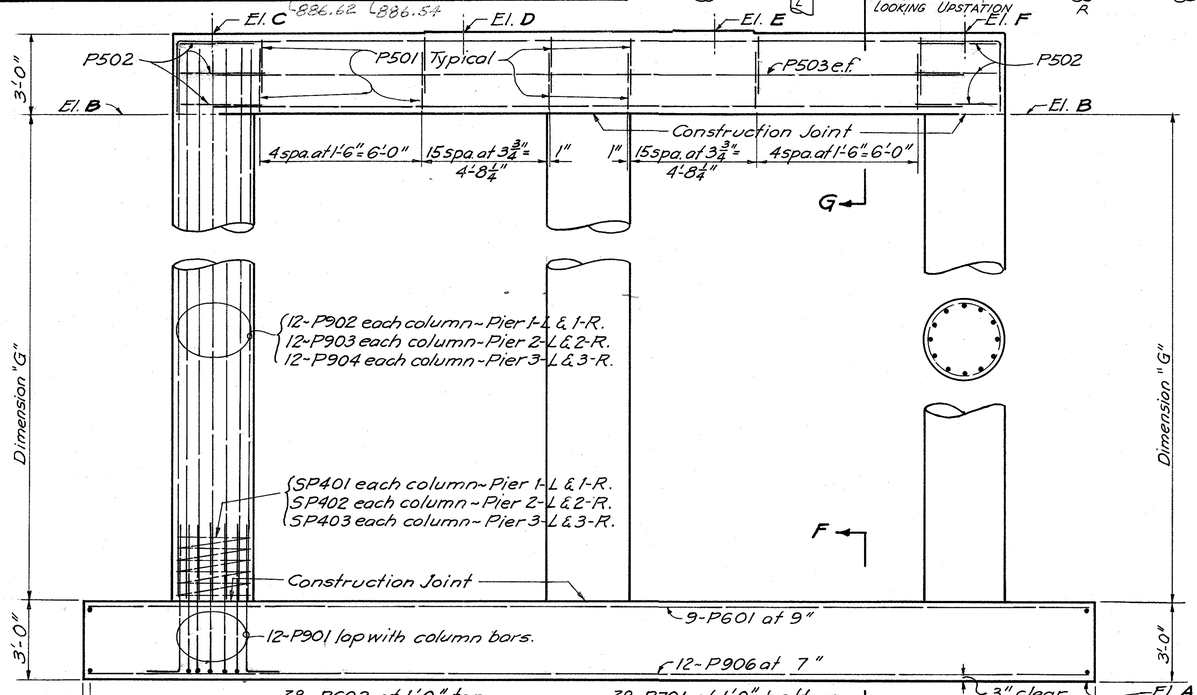
PIER	El. A	El. B	El. C	El. D	El. E	El. F	Dimen. G
			886.62		886.54		
1-L	860.00	883.39	886.39	887.55	886.58	886.45	20'-4 5/8"
1-R	860.00	883.46	886.47	887.60	886.60	886.46	20'-5 1/2"
2-L	858.50	884.43	887.43	887.57	887.60	887.46	22'-11 1/8"
2-R	858.50	884.43	887.43	887.57	887.60	887.46	22'-11 1/8"
3-L	860.50	883.46	886.47	887.60	886.60	886.46	19'-11 1/2"
3-R	860.50	883.39	886.39	887.55	886.58	886.45	19'-10 5/8"

PLAN

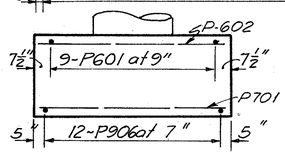
PIER 1-L, 2-L OR 3-L. (Piers 1-R, 2-R OR 3-R are opposite hand).

Sta. 24+17.75, Pier 1L & Pier 1R.
Sta. 25+00.00, Pier 2L & Pier 2R.
Sta. 25+82.25, Pier 3L & Pier 3R.





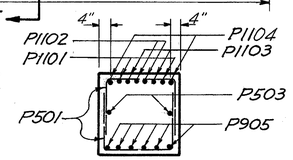
ELEVATION (Looking Up Station).



SECTION F

FOUNDATION BEARING PRESSURE: Pier footings are designed for a maximum bearing pressure of 2.80 TSF.

BRIDGE SEAT REINFORCING: Special care shall be taken in placing reinforcing steel in the vicinity of the bridge seat so as to avoid interefereence with the drilling of anchor holes.

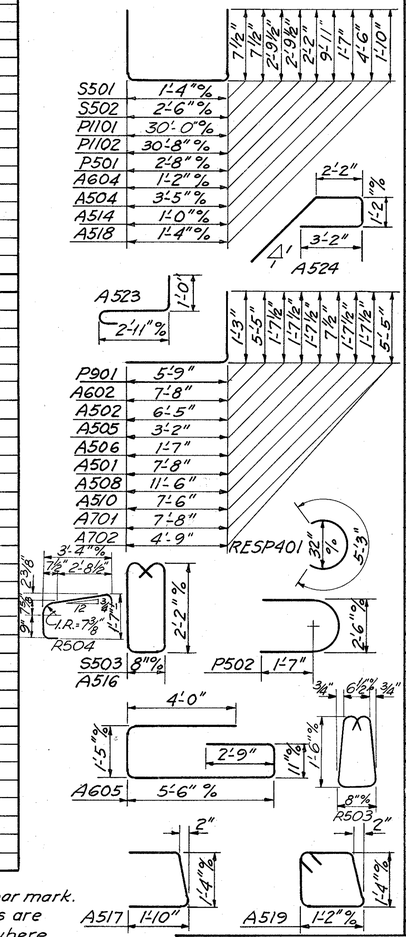


SECTION G

REINFORCING STEEL LIST

Mark	No.	Length	Weight	Shape
SUPERSTRUCTURE				
S701	796	33'-10"	55,047	S
S601	796	33'-10"	40,450	S
S602	912	36'-11"	50,570	S
S603	132	33'-0"	6,543	S
S501	1504	2'-4"	3,660	B
S502	752	3'-6"	2,745	B
S503	752	5'-7"	4,380	B
PIERS				
P1101	12	35'-0"	2,231	B
P1102	12	35'-8"	2,274	B
P1103	12	30'-8"	1,955	S
P1104	12	28'-2"	1,796	S
P901	216	6'-9"	4,957	B
P902	72	23'-0"	5,630	S
P903	72	25'-6"	6,242	S
P904	72	22'-6"	5,508	S
P905	36	28'-2"	3,448	S
P906	72	37'-2"	9,098	S
P701	228	6'-11"	3,223	S
P601	54	37'-2"	3,015	S
P602	228	6'-11"	2,369	S
P501	480	6'-9"	3,379	B
P502	36	7'-0"	263	B
P503	12	28'-0"	350	S

Bending Diagrams



Mark	No.	Length	Weight	Shape
ABUTMENTS				
A601	16	37'-6"	901	S
A602	92	12'-11"	1,784	B
A603	8	9'-4"	112	S
A604	28	20'-8"	869	B
A605	112	13'-11"	2,341	B
A606	12	14'-8"	264	S
A607	20	4'-0"	120	S
A501	92	8'-2"	784	B
A502	16	7'-11"	132	B
A503	76	33'-6"	2,655	S
A504	92	6'-4"	608	B
A505	16	4'-8"	78	B
A506	12	3'-1"	39	B
A507	8	13'-6"	113	S
A508	8	13'-0"	109	B
A509	4	10'-0"	42	S
A510	4	9'-0"	38	B
A511	64	4'-8"	312	S
A512	8	4'-0"	33	S
A513	16	3'-6"	58	S
A514	4	9'-9"	41	B
A515	16	11'-6"	192	S
A516	36	5'-7"	210	B
A517	20	4'-7"	96	B
A518	20	4'-9"	99	B
A519	4	5'-4"	22	B
A520	28	15'-11"	465	S
A521	48	10'-9"	538	S
A522	24	8'-9"	219	S
A523	36	4'-5"	166	B
A524	36	10'-0"	375	B
A701	18	12'-11"	475	B
A702	20	10'-0"	409	B
RAILING				
R501	240	14'-9"	Included	S
R502	32	12'-2"	With	S
R503	12	4'-2"	Railing	B
R504	8	5'-4"	For	B
R505	16	11'-3"	Payment	S
REPLACEMENT BARS				
RE1101	1	7'-6"		S
RE901	2	6'-10"		S
RE701	3	6'-2"		S
RE601	6	5'-11"		S
RE501	2	5'-7"		S
RESP401	1	5'-3"		B

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, S701 is a No. 7 size bar and P1101 is a No. 11 size.

SPIRAL REINFORCING BARS

The "Length" shown in the steel list for the spirol bars is the length of the spiral along the axis of the spirol. The "No. of Turns" shown is the length divided by the pitch, plus 3 turns (total number of closed coils). Spiral reinforcing bars shall not have deformations but shall in other respects conform to Item 509 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 lbs. per lin. ft., will be paid for as reinforcing steel and is included in the tabulated quantity of spiral bars.

SPIRALS

Mark	No.	Size	Core Dia.	Length	Pitch	Turns	Spacer	Weight
SP401	6	1/2"ϕ	32"	20'3"	4 1/2"	57	4	2,216
SP402	6	1/2"ϕ	32"	22'-10 1/2"	4 1/2"	64	4	2,490
SP403	6	1/2"ϕ	32"	19'-10 1/2"	4 1/2"	56	4	2,177

BURGESS & NIPLE — CONSULTING ENGINEERS
COLUMBUS 12, OHIO — 4/5

PIER DETAILS AND REINFORCING STEEL LIST

BRIDGE No. FRA-270-0205 L. & R.

IR-270 UNDER ROBERTS RD.

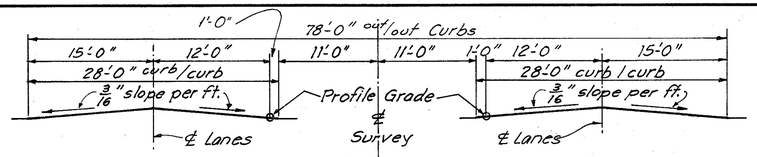
FRANKLIN COUNTY STA. 323+70.28

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
KED	KED	KED	DWT	WEP 2-24-65	1-26-67

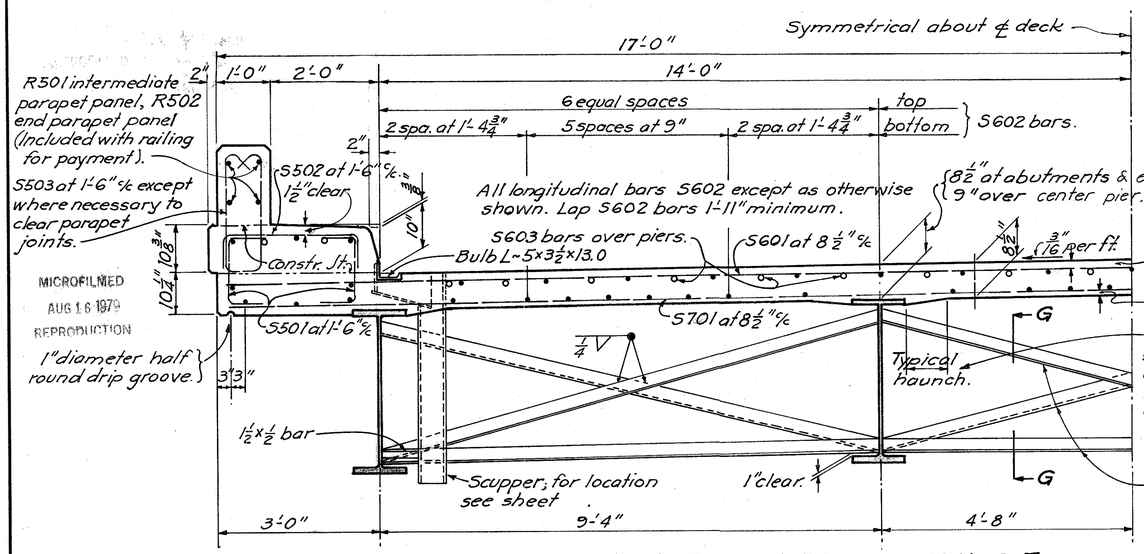
FED. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.	TYPE FUNDS
2	OHIO		

187 / 227

FRANKLIN COUNTY
FRA-270-0.79 N.



CROWN DIAGRAM



HALF TRANSVERSE SECTION E-E

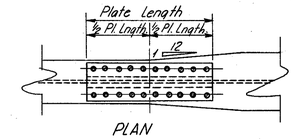
S701 and S601 bars shall be placed parallel to ℄ pier and abutment bearings.

RAILING shall be aluminum with concrete parapet, Type "1" Standard Drawing No. BR-1-65

CONCRETE shall be Class "C", fc = 1333 psi.

MACHINE FINISH: The concrete bridge decks shall be finished by the use of a finishing machine.

SLAB Thickness shown includes 1" for monolithic wearing surface.

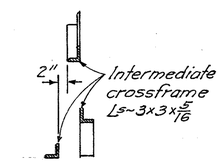


PLAN

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.

DECK PLACING PROCEDURE: In placing the deck concrete, construction joints will be permitted, parallel to the transverse reinforcing steel and near the middle of any span. Because of the flow of curing water from the surface of previously-placed concrete, the sequence of pours shall be upgrade, starting at the lowest point or points in the grade line.

FOR DETAILS OF	See
End dam & End Crossframe	Std. Drwg. SD-1-63, Sh. 2.
Scuppers (Type-1)	Std. Drwg. SD-1-63, Sh. 3.
Curb Plates	Std. Drwg. SD-1-63, Sh. 4.
Bearings	Std. Drwg. FSB-1-62.
Railing & Parapet	Std. Drwg. BR-1-65.
Bulb Angle Gutter	Std. Drwg. SD-1-63 Sh. 3.
Bolted Beam Splice	Std. Drwg. SD-2-64.
Rockers R-225	Std. Drwg. RB-1-55



SECTION G

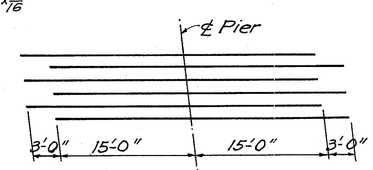
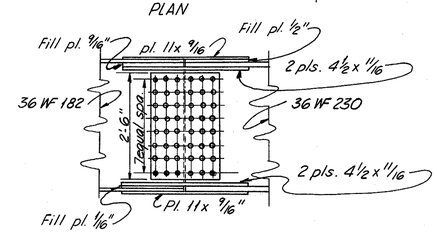


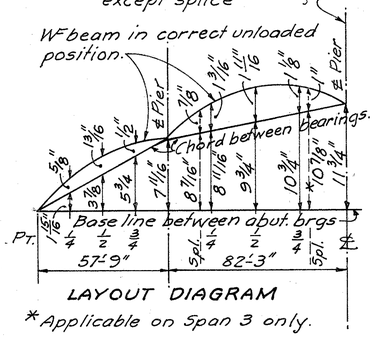
DIAGRAM SHOWING STAGGER OF S603 BARS OVER PIERS.

DEFLECTION AND CAMBER (IN INCHES).

	SPAN 1 (AND 4).				SPAN 2 (AND 3).			
	1/4 Pt.	1/2 Pt.	3/4 Pt.	Splice	1/4 Pt.	1/2 Pt.	Splice	3/4 Pt.
Weight of Steel	.052	.059	.020	.058	.085	.137	.061	.072
Remaining Dead Load	.214	.238	.080	.236	.344	.556	.246	.293
Vertical Curve	.376	.500	.376	.605	.761	1.014	.700	.761
Total	.642	.797	.476	.899	1.190	1.707	1.007	1.126
Camber Required	5/8"	13/16"	1/2"	7/8"	1/16"	1 11/16"	*1"	1 1/8"

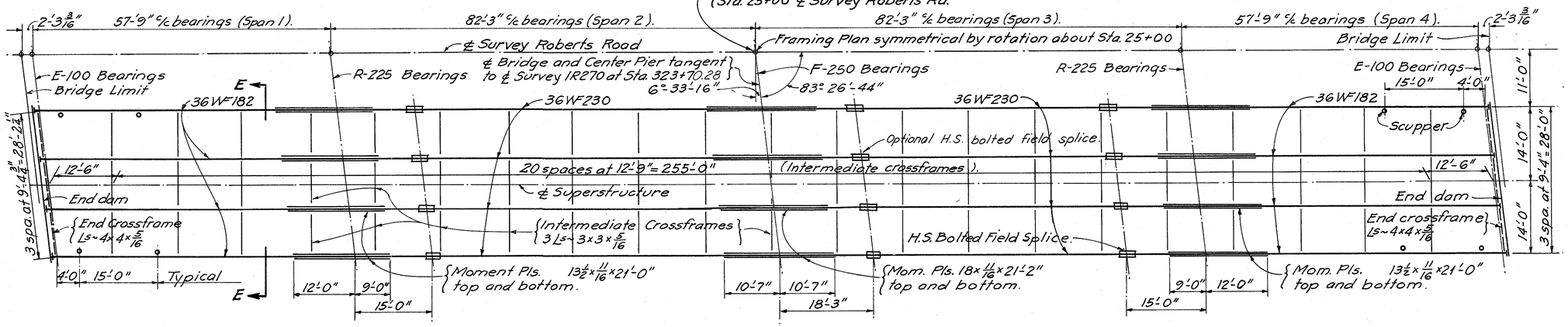


H.S. BOLTED BEAM SPLICE DETAILS



LAYOUT DIAGRAM

*Applicable on Span 3 only.



HALF PLAN of STRUCTURAL STEEL FRAMING (E.B. LANE BRIDGE SHOWN).

BURGESS & NIPLE CONSULTING ENGINEERS
COLUMBUS 12, OHIO
5/5

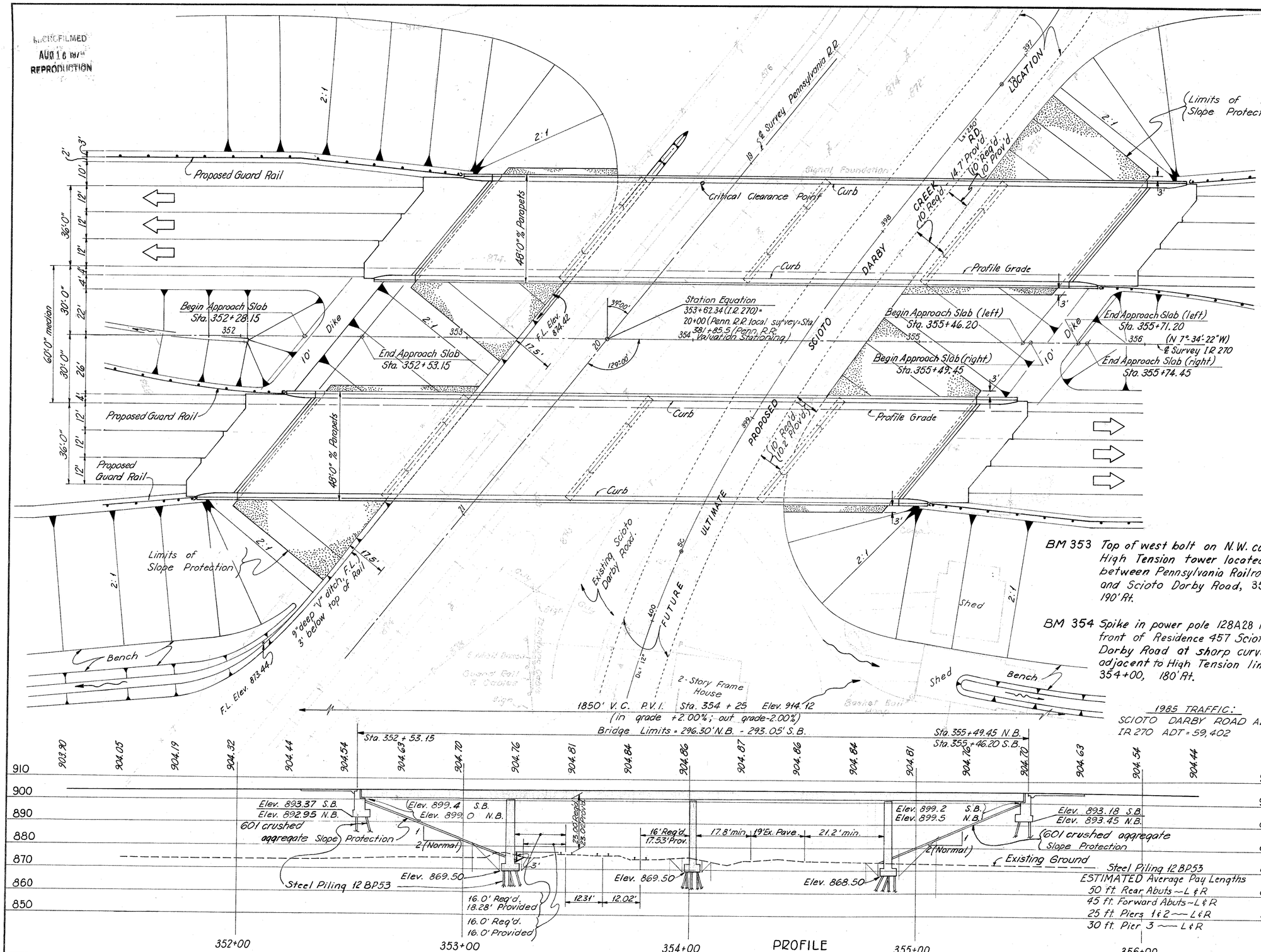
SUPERSTRUCTURE DETAILS
BRIDGE NO. FRA-270-0205 L. & R.
IR 270 UNDER ROBERTS ROAD
FRANKLIN COUNTY STA. 323+70.28

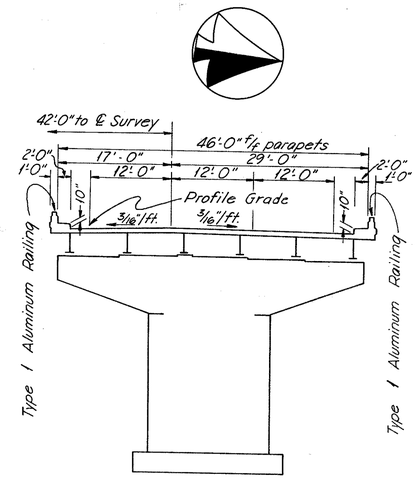
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
KED	KED	KED	DWT	W&R 2-24-65	

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

188
227

FRANKLIN COUNTY
FRA-270-0.79 N.





TYPICAL HALF SECTION

BM 353 Top of west bolt on N.W. corner of High Tension tower located between Pennsylvania Railroad and Scioto Darby Road, 353+20 190' Rt.

BM 354 Spike in power pole 128A28 in front of Residence 457 Scioto Darby Road at sharp curve and adjacent to High Tension lines, 354+00, 180' Rt.

PROPOSED STRUCTURE

TYPE: 4 Span Continuous Steel Beam with Reinforced Concrete Deck and Substructure.
SPAN: 65.00-81.25-78.50-62.50 (S.B.)
65.00-81.25-84.75-59.50 (N.B.)
LOAD FREQUENCY RATING: C.F. 2000(57) (Adequate for AASHO Alternate Loading.)
ROADWAY: 42'0" f/f, 2'0" Safety Curbs.
SKEW: 39°-00' L.F.
WEARING SURFACE: 1" Monolithic.
APPROACH SLABS: Special (25' long).
ALIGNMENT: Tangent.
SUPERELEVATION: None.

1985 TRAFFIC:

SCIOTO DARBY ROAD ADT: 2071
IR 270 ADT = 59,402

BURGESS & NIPLE — CONSULTING ENGINEERS
COLUMBUS 12, OHIO

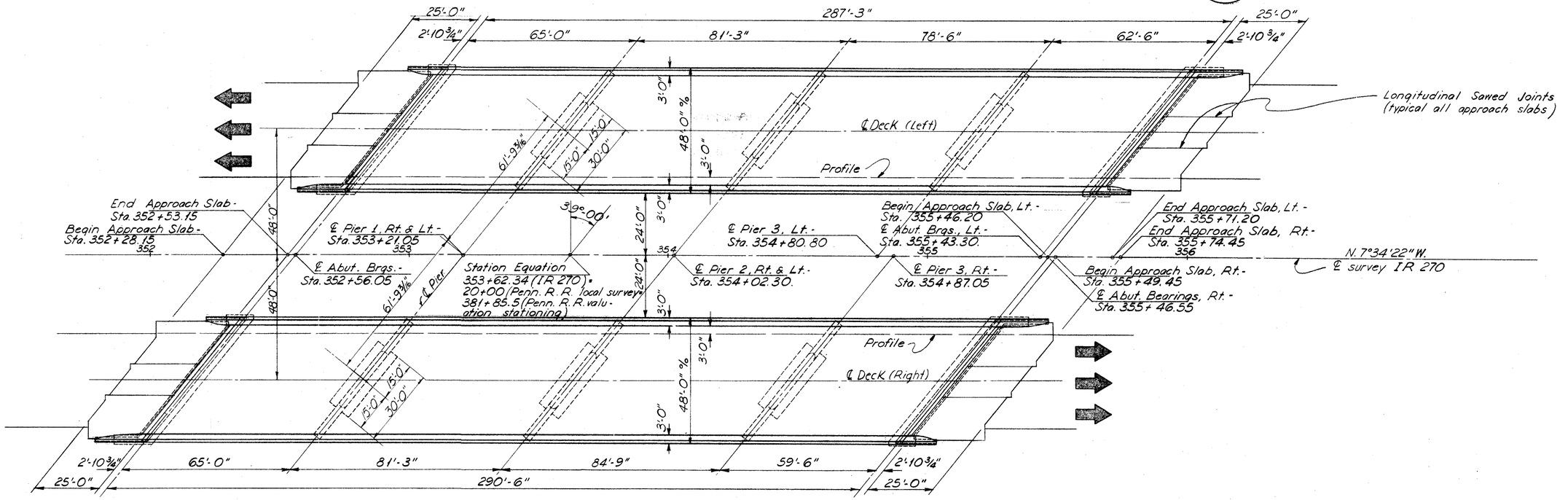
SITE PLAN
BR. NO. FRA-270-0233 L&R.
I R-270 OVER SCIOTO DARBY CREEK RD. AND PENNSYLVANIA R.R.
SCALE: 1" = 20'
FRANKLIN COUNTY
STA. 352 + 53.15
355 + 49.45

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
WER	EPM CEG	CEH	D.W.T.	WER	6-3-65	

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

189
227

FRANKLIN COUNTY
FRA-270-0.79 N.

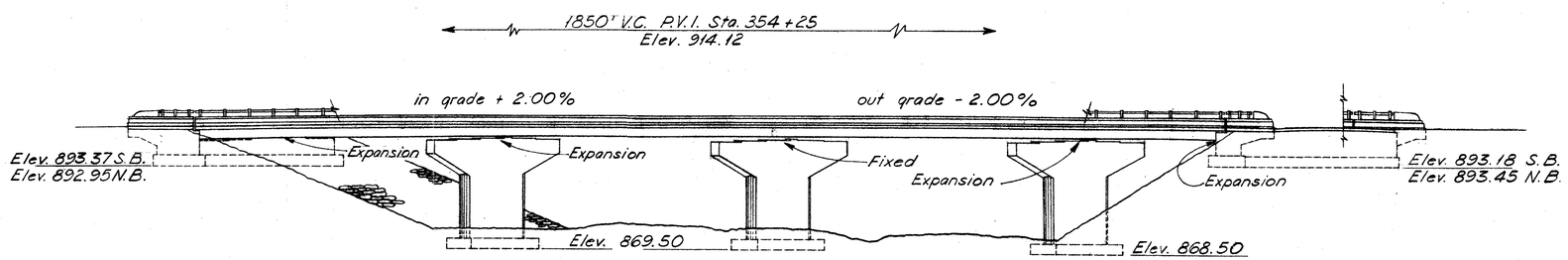


GENERAL PLAN

NOTE: For Aluminum Railing & Conc. Parapet Details see sheet 190

For location of Scuppers see sheet 195

Longitudinal Sawed Joints in the Approach Slabs shall conform to details shown on Standard Construction Drawing BP-3 dated 6-1-65



GENERAL ELEVATION

(Right Bridge Shown)
Piling Not Shown

BURGESS & NIPLE CONSULTING ENGINEERS
COLUMBUS 12, OHIO

6/9

GENERAL PLAN
BR. NO. FRA-270-0233 L. & R.
I.R.-270 OVER
SCIOTO DARBY CREEK RD.
AND PENNSYLVANIA R.R.
STA. 352+53.15
FRANKLIN COUNTY 355+49.45

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
D.W.T.	D.W.		K.E.D.	W.E.R. 8-3-65	

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

190
227

FRANKLIN COUNTY
FRA-270-0.79 N.

Br. No. Fra. 270-0233 L&R - ESTIMATED QUANTITIES -

Item No.	Total	Unit	Description	Super.	Abut.	Piers	Gen'l.	Revised As-Built	
503	Lump	Sum	Cofferdams, cribs & sheeting				Lump		
503	1110	Cu. Yd.	Unclassified excavation.		620	490			
511	890	Cu. Yd.	Class "C" concrete, superstructure	890					
511	645	Cu. Yd.	Class "C" concrete, piers above footings			645			
511	249	Cu. Yd.	Class "E" concrete, abutments above footings		249				
511	395	Cu. Yd.	Class "E" concrete, footings.		205	190			
512	26	lin. ft.	Waterproofing, premolded sealing strip		26				
509	388,802	lbs.	Reinforcing Steel	260,624	29,304	98,874			
513	950,000	lbs.	Structural Steel	950,000					
514	950,000	lbs.	Field painting of structural steel.	950,000					
517	1289.83	lin. ft.	Railing (Type 1.)	1165.83	124.00				
505	Lump	Sum	First Test Pile				Lump		
506	Lump	Sum	First Test Pile load				Lump	C-11 Lump	
506	1	each	Subsequent Pile Test Load				1	C-11 1	
507	7010	lin. ft.	Steel Piles, 12BP53		2850	4160		C-22 1,297	5,713
518	86	Cu. Yd.	Porous backfill		86				
518	200	lin. ft.	6" perforated helical C.M.P. 707.06 incl. specials.		200				
518	90	lin. ft.	6" helical C.M.P. 707.06 non perforated.		90			C-11	101
518	24	each	Scuppers, including supports	24					
601	2,220	Sq. Yd.	Crushed aggregate slope protection.		2,220				
808	890	each	Water-reducing, set-retarding admixture	890				C-24 890	

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.

REFERENCE shall be made to Standard Drawings:

SD-1-63 dated 11-12-63, sht. 2, 3 & 4.
BP-3 dated 6-1-65
BR-1-65 dated 2-1-65,

and to Supplemental Specifications 808 dated 7-14-65, 811 dated 3-29-65.

DESIGN DATA:
Design Loading-CF 2000 (57)
Concrete Class "C" basic unit stress 1,333 psi.
Concrete Class "E" basic unit stress 1,133 psi.
Structural Steel - ASTM A36 basic unit stress 20,000 psi

Reinforcing Steel - ASTM A15, A16, A160, Deformed, Intermediate or Hard Grade. Basic unit stress 20,000 psi except spiral reinforcement may be plain, Structural Grade with basic unit stress of 18,000 psi.

RAILROAD AERIAL LINES will be relocated by the railroad. The Contractor shall use all precautions necessary to see that the lines are not disturbed during the construction stage and shall cooperate with the railroad in the relocation of these lines. The cost of the relocation shall be included in the railroad force account work.

CONSTRUCTION CLEARANCE of 20' vertically above the top of the railroad rails and 8 horizontally from the center of tracks shall be maintained at all times.
EXCAVATION QUANTITY includes the removal of till material required for the construction of the abutments and piers.

MACHINE FINISH: The concrete bridge deck shall be finished by the use of a finishing machine.

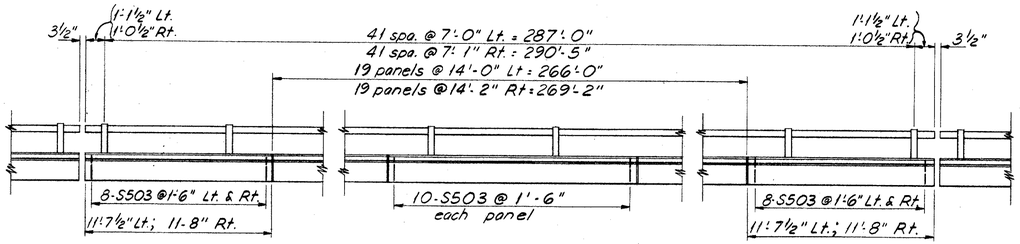
UTILITY LINES: All expense involved in relocating the affected utility lines shall be borne by the owners. The Contractor and owners are requested to cooperate by arranging their work in such a manner that inconvenience to either will be held to a minimum.

PROCEDURE: The embankment shall be placed and compacted up to the finished spill-thru slope and to the level of the sub-grade for a distance of 200 feet back of the abutments before excavation is made for piers 1 & 3. After a 30 day waiting period, excavation shall be made for the abutments.

SHEETING AND BRACING: Before construction is started, eight sets of prints showing details of the sheeting and bracing to be used for excavation adjacent to the railroad tracks shall be submitted to the Director for approval by the Department of Highways and by the Railroad Company.

ALIGNING RAILROAD TRACKS: After the Contractor has completed all excavation and backfill adjacent to the railroad tracks in compliance with Sec. 503.04 and 503.09 of the Construction and Material Specifications, subject to the Supervision of the Railroad Company, nothing in Sec. 503.04, 503.09 or 108.04 of the Specifications shall be construed to hold the Contractor liable for aligning and resurfacing the railroad tracks.

PILES: All piles for the abutments and piers shall be driven to a minimum bearing capacity of 50 ton per pile.



RAILING & PARAPET DETAIL

BURGESS & NIPLE CONSULTING ENGINEERS
COLUMBUS 12, OHIO
3/9

GENERAL NOTES, ESTIMATED QUANTITIES & RAILING DETAIL
BR. NO. FRA-270-0233 L & R
IR 270 OVER SCIOTO DARBY CREEK
ROAD & PENNSYLVANIA R.R.
STA. 352+53.15
FRANKLIN COUNTY 355+49.45

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
D.W.T.	D.W.		K.E.D.	11/GR 5-13-65	

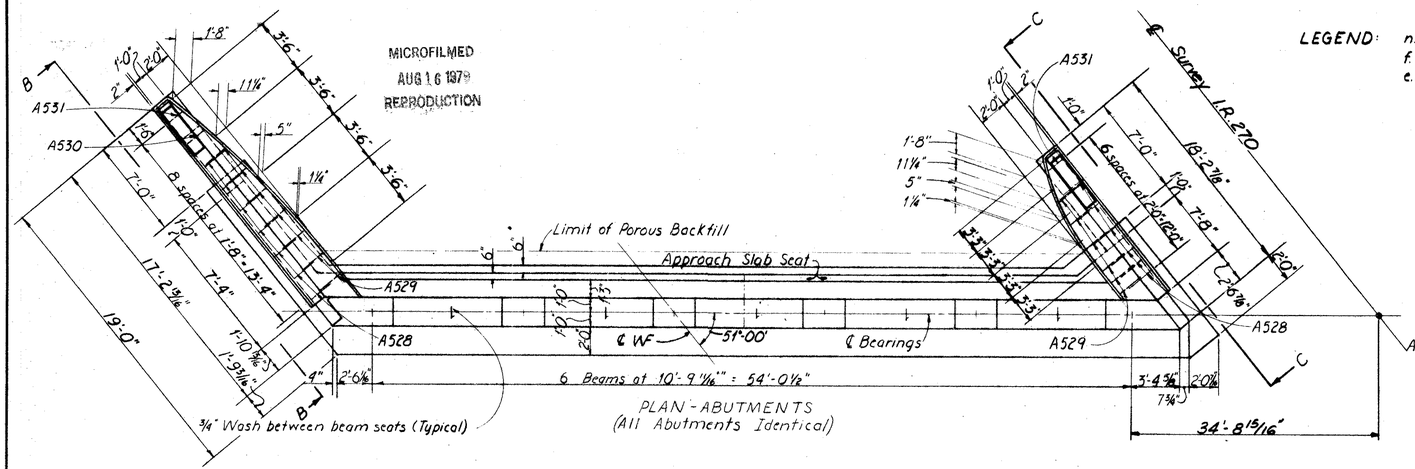
3-18-70 Revised As-Built G.R.J.

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

191
227

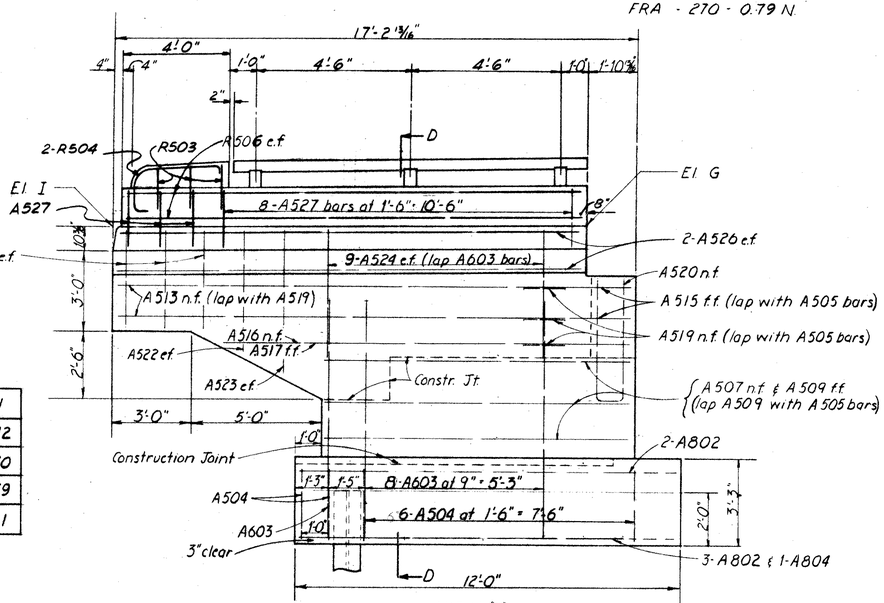
FRANKLIN COUNTY
FRA - 270 - 0.79 N.

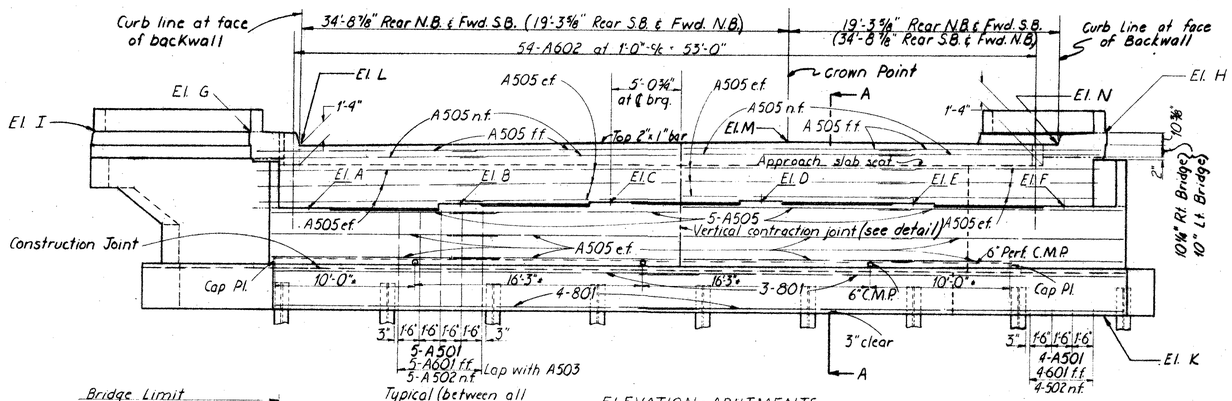
LEGEND: n.f. = near face
f.f. = far face
e.f. = each face



PLAN - ABUTMENTS
(All Abutments Identical)

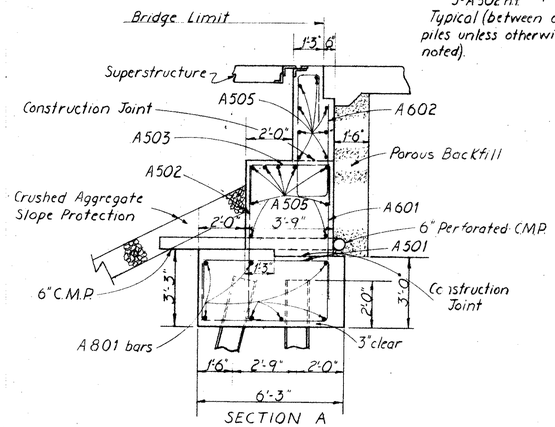
ABUTMENT	℄ Brg. Station	El. A	El. B	El. C	El. D	El. E	El. F	El. G.	El. H	El. I	El. J.	El. K	El. L	El. M	El. N
REAR RIGHT	352+56.05	899.98	900.14	900.30	900.46	900.42	900.32	904.95	905.29	904.86	905.23	892.95	904.08	904.60	904.42
REAR LEFT	352+56.05	900.50	900.65	900.74	900.63	900.52	900.40	905.45	905.36	905.39	905.32	893.37	904.58	904.86	904.50
FORWARD RIGHT	355+46.55	900.60	900.75	900.84	900.72	900.60	900.48	905.58	905.45	905.54	905.43	893.45	904.71	904.98	904.59
FORWARD LEFT	355+43.30	900.21	900.37	900.53	900.68	900.63	900.52	905.17	905.47	905.10	905.43	893.18	904.30	904.80	904.61



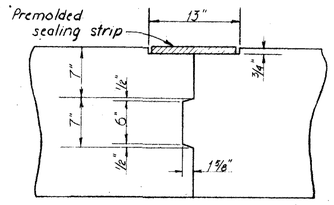


Typical (between all piles unless otherwise noted).

ELEVATION - ABUTMENTS
(All abutments identical except as noted.



SECTION A

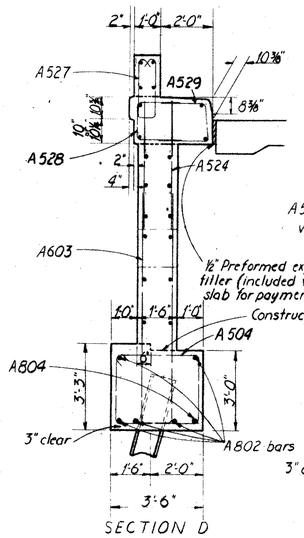


DETAIL OF VERTICAL CONTRACTION JOINT

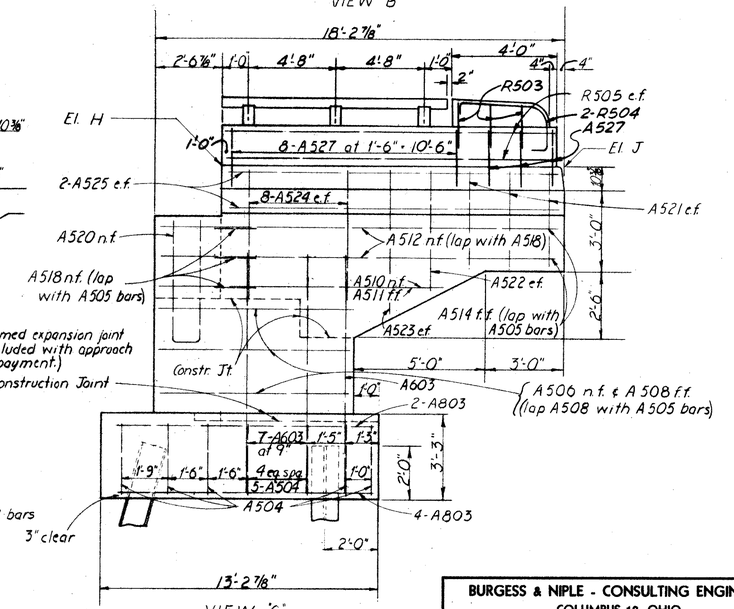
POROUS BACKFILL: Porous backfill, 1'-6" thick, shall extend upward to the underside of the approach slab and outward to the backs of the wingwalls.

PILES: See sheet 193 for piling layout.

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.



SECTION D



VIEW 'C'

BURGESS & NIPLE - CONSULTING ENGINEERS 4/9
COLUMBUS 12, OHIO

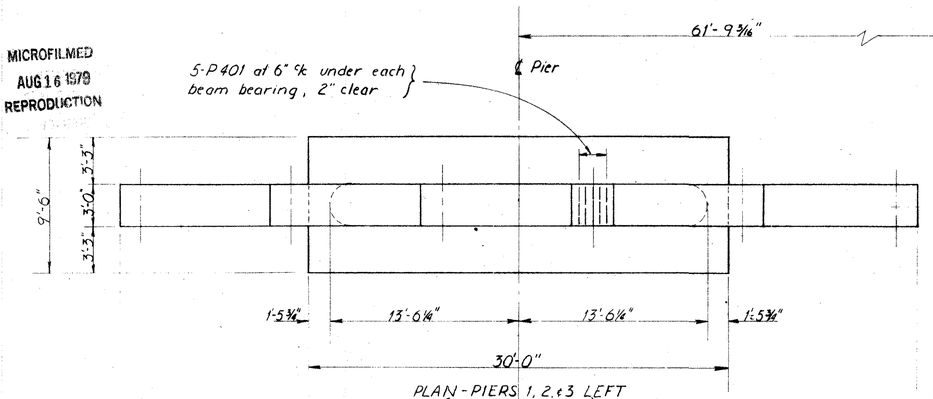
ABUTMENT DETAILS
BRIDGE NO. FRA-270-0233 L & R
IR 270 OVER SCIOTO DARBY CREEK RD.
AND PENNSYLVANIA R.R.
FRANKLIN COUNTY
Sta. 352+53.15
355+49.45

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
D.W.T.	D.W.T.		K.E.D.	W.C.L. 8-3-65	

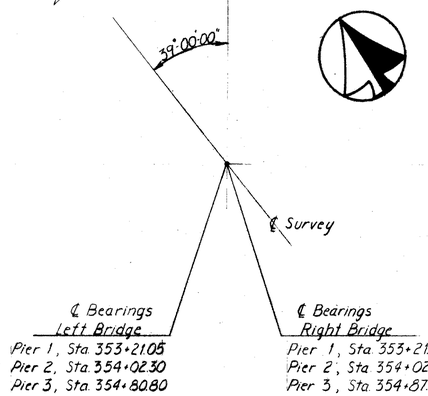
FED. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.	TYPE FUNDS
2	OHIO		

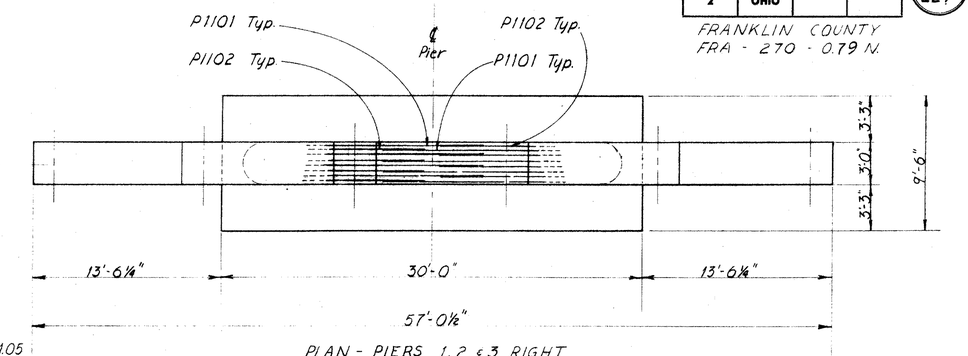
192
227

FRANKLIN COUNTY
FRA - 270 - 0.79 N.



PLAN - PIERS 1, 2, & 3 LEFT
(Looking Up-Station)

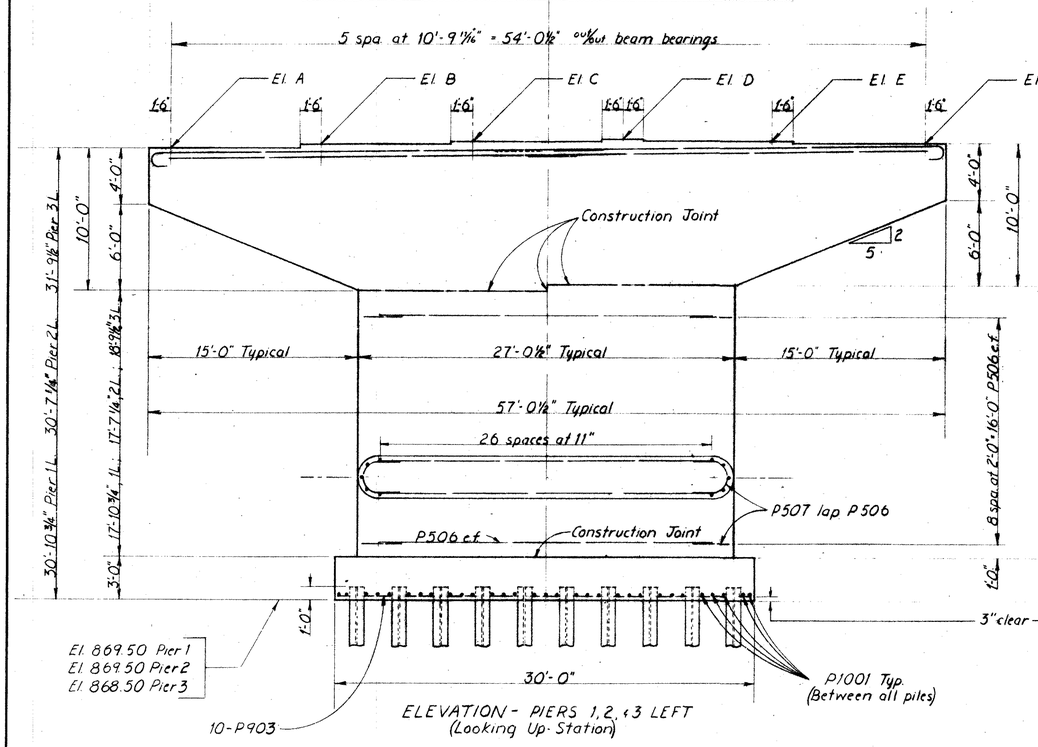




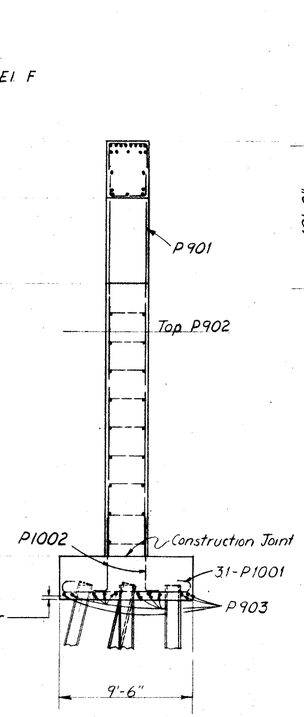
PLAN - PIERS 1, 2, & 3 RIGHT
(Looking Up-Station)

	El. A	El. B	El. C	El. D	El. E	El. F
Pier 1	900.40	900.52	900.64	900.77	900.88	900.54
Pier 2	900.10	900.23	900.37	900.50	900.43	900.30
Pier 3	900.29	900.44	900.58	900.73	900.66	900.55

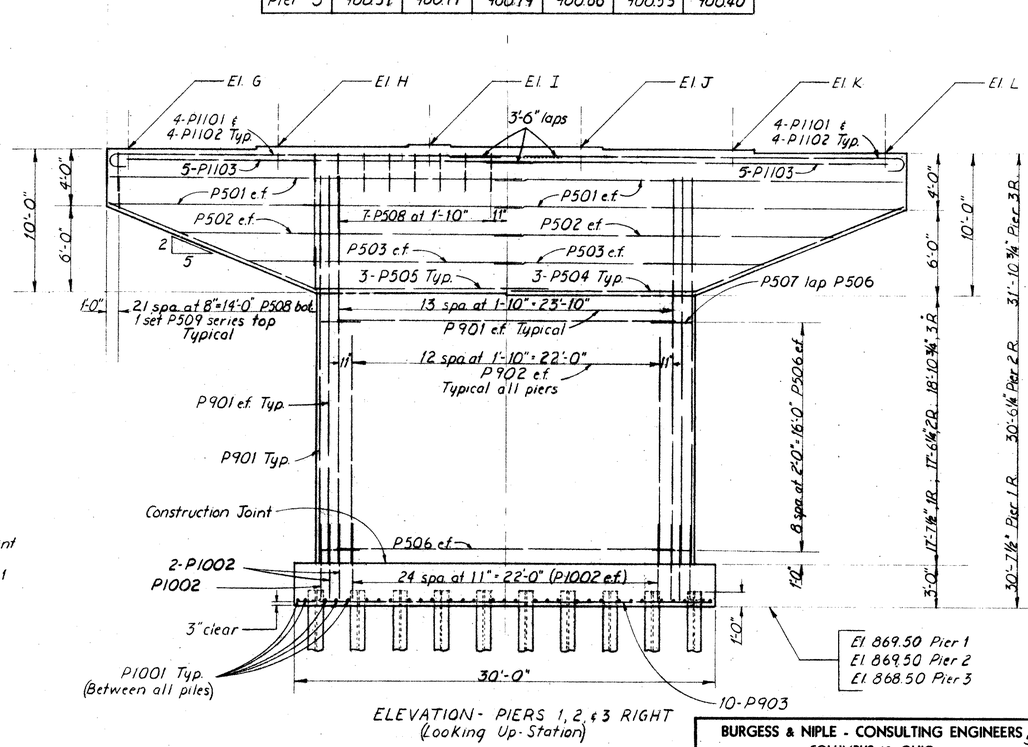
	El. G	El. H	El. I	El. J	El. K	El. L
Pier 1	900.42	900.53	900.59	900.43	900.28	900.13
Pier 2	900.26	900.38	900.45	900.31	900.17	900.02
Pier 3	900.51	900.71	900.79	900.66	900.53	900.40



ELEVATION - PIERS 1, 2, & 3 LEFT
(Looking Up-Station)



END VIEW (TYPICAL)



ELEVATION - PIERS 1, 2, & 3 RIGHT
(Looking Up-Station)

NOTE: See sheet 193 for piling layout.

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

BURGESS & NIPLE - CONSULTING ENGINEERS 5/9
COLUMBUS 12, OHIO

PIERS

BRIDGE NO. FRA.-270-0233 L & R
IR 270 OVER SCIOTO DARBY CREEK RD. AND PENNSYLVANIA R. R.
Sta. 352+53.15
355+49.45
FRANKLIN COUNTY

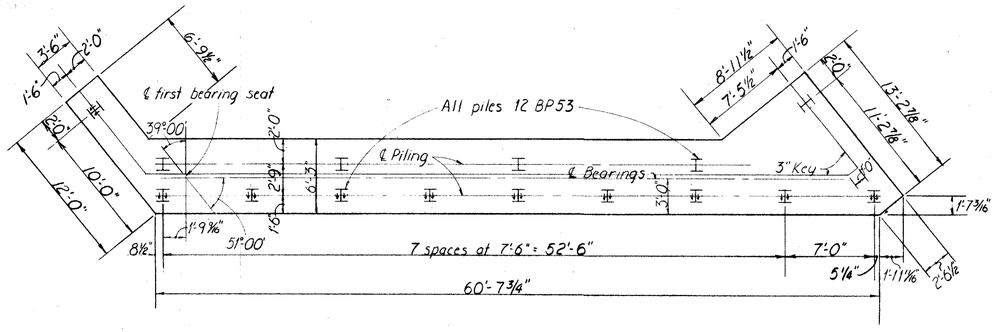
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
D.W.T.	D.W.T.		KED	WCR 8-3-65	

BAR SIZE is indicated in the bar mark. The first digit where three digits are used and the first two digits where four digits are used indicate the bar size number. For example A801 is a no.8 size bar and P1101 is a no.11 size bar.

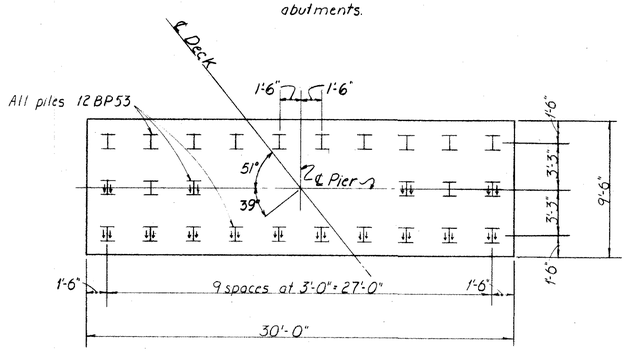
FED. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.	TYPE FUNDS
2	OHIO		

193
227

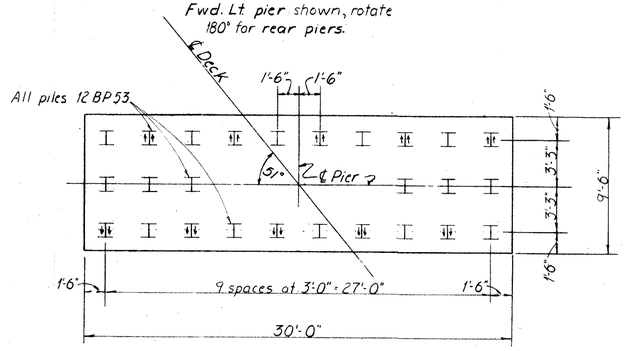
FRANKLIN COUNTY
FRA. - 270 - 0.79 N



PILING PLAN FOR ABUTMENTS
Lt ℄ Rt Identical
Fwd. Lt abutment shown, rotate 180° for rear abutments.



PILING PLAN END PIERS
Lt ℄ Rt Identical
Fwd. Lt pier shown, rotate 180° for rear piers.



PILING PLAN FOR CENTER PIERS
(Both Lt ℄ Rt Identical)

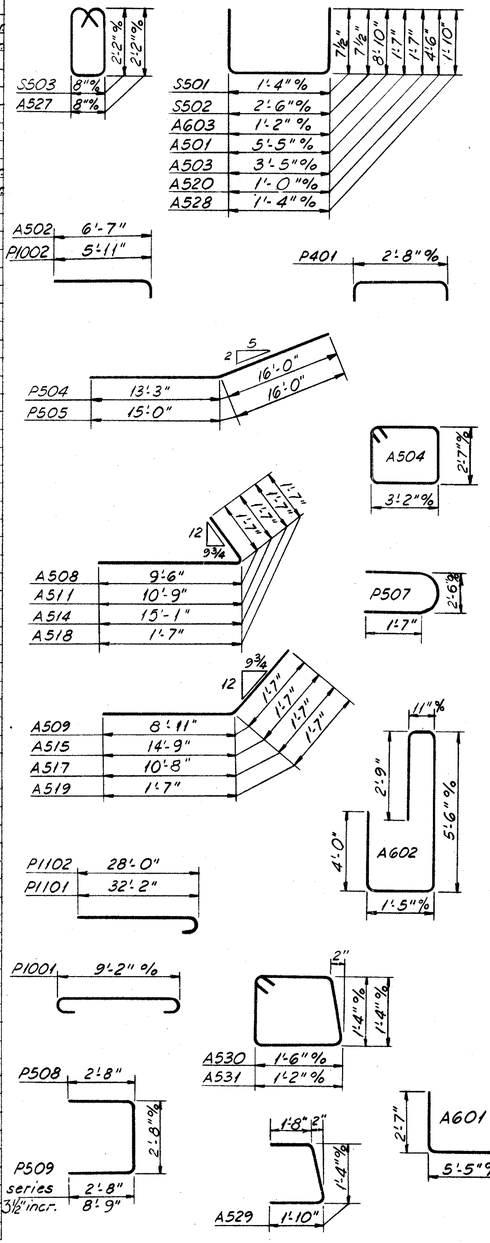
LEGEND:
⫛ = Batter pile 1:4 in the direction of the arrows. (all other piles not so designated shall be vertical).

See GENERAL PLAN for location of pier footings from ℄ survey IR270.

REINFORCING STEEL LIST

Mark	No.	Length	Weight	Shp.
SUPERSTRUCTURE				
S701	847	20'-9"	35,924	S
S702	4 sets 22	10'-3" 27'-9"	3,418	⅜"o/inc
S703	4 sets 28	6'-10" 29'-4"	4,140	⅜"o/inc
S704	4 sets 7	6'-0"	343	S
S705	759	29'-2"	45,249	S
S601	1606	24'-10"	59,903	S
S602	1456	35'-0"	76,542	S
S603	222	33'-0"	11,004	S
S604	4 sets 22	6'-0" 23'-6"	1,950	⅜"o/inc
S605	4 sets 28	6'-10" 29'-4"	3,042	⅜"o/inc
S606	4 sets 7	6'-0"	252	S
S607	182	27'-3"	7,449	S
S501	1552	2'-4"	3,777	B
S502	776	3'-6"	2,833	B
S503	824	5'-7"	4,798	B
ABUTMENTS				
A801	56	33'-0"	4,934	S
A802	20	11'-8"	623	S
A803	24	12'-6"	801	S
A804	4	8'-0"	85	S
A601	156	14'-3"	3,339	B
A602	216	13'-11"	4,515	B
A603	68	18'-6"	1,890	B
A501	156	8'-4"	1,356	B
A502	156	7'-1"	1,153	B
A503	156	6'-4"	1,030	B
A504	68	12'-0"	851	B
A505	272	16'-6"	4,681	S
A506	12	9'-11"	124	S
A507	12	8'-11"	112	S
A508	12	10'-11"	137	B
A509	12	10'-5"	130	B
A510	4	13'-6"	56	S
A511	4	12'-2"	51	B
A512	8	17'-10"	149	S
A513	8	16'-10"	140	S
A514	8	16'-6"	138	B
A515	8	16'-3"	136	B
A516	4	12'-9"	53	S
A517	4	12'-2"	51	B
A518	12	3'-0"	38	B
A519	12	3'-1"	39	B
A520	8	9'-9"	81	B
A521	48	3'-6"	175	S
A522	16	4'-6"	75	S
A523	16	5'-6"	92	S
A524	136	4'-9"	674	S
A525	16	15'-4"	256	S
A526	16	15'-0"	250	S
A527	88	5'-7"	512	B
A528	52	4'-9"	258	B
A529	52	4'-7"	249	B
A530	4	6'-0"	25	B
A531	8	5'-4"	45	B

BENDING DIAGRAMS



Mark	No.	Length	Weight	Shp.
PIERS				
P1101	48	33'-9"	8,607	B
P1102	48	29'-7"	7,544	B
P1103	96	29'-0"	14,791	S
P1001	186	12'-0"	9,604	B
P1002	360	7'-0"	10,844	B
P901	204	27'-0"	18,727	S
P902	156	16'-0"	8,486	S
P903	60	29'-8"	6,052	S
P501	48	29'-3"	1,464	S
P502	24	24'-3"	607	S
P503	24	19'-3"	482	S
P504	18	29'-3"	549	B
P505	18	31'-0"	582	B
P506	108	24'-0"	2,703	S
P507	108	7'-0"	789	B
P508	348	7'-9" 5/16	2,813	B
P509	2 sets 22	7'-9" 19'-11"	3,809	B
P401	180	3'-6"	421	B
RAILINGS				
R501	304	13'-8"	Included	S
R502	32	11'-4"	with	S
R503	24	4'-2"	Railing	B*
R504	16	5'-4"	for	B*
R505	16	15'-0"	payment	S
R506	16	14'-8"		S
REPLACEMENT BARS				
RE1101	2	7'-6"		S
RE1001	2	7'-2"		S
RE901	2	6'-10"		S
RE701	5	6'-2"		S
RE601	9	5'-11"		S
RE501	2	5'-7"		S
RE401	1	5'-3"		S

* See BR-1-65 for details

BURGESS & NIPLE — CONSULTING ENGINEERS
COLUMBUS 12, OHIO

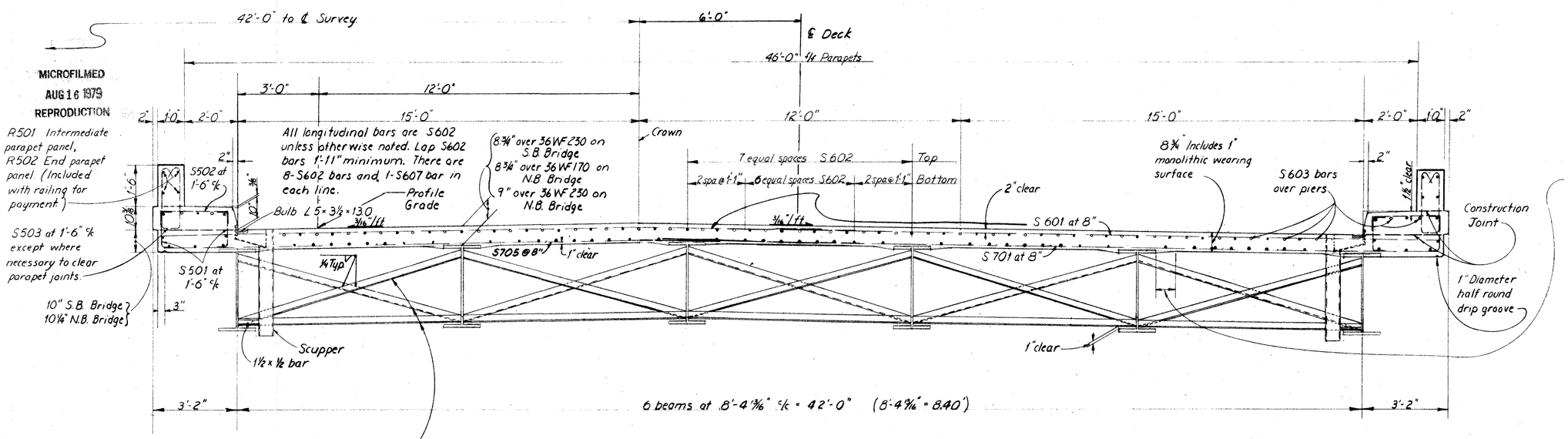
REINFORCING STEEL LIST AND PILING LAYOUT
BRIDGE NO. FRA-270-0233 L & R.
IR 270 OVER SCIOTO DARBY CREEK RD. AND PENNSYLVANIA R.R.
FRANKLIN COUNTY
Sta. 352+53.15
355+49.45

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
D.W.T.	D.W.T. D.W.		K.E.D.	W.E.R. 8-3-65	

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

194
227

FRANKLIN COUNTY
FRA - 270 - 0.79 N.



Intermediate crossframe angles 3 × 3 × ⅜. Weld both sides of vertical leg and top side of horizontal leg to beam with ¼" continuous fillet weld.

TYPICAL SECTION
(North bound bridge looking up-station shown. South bound bridge identical except as noted.

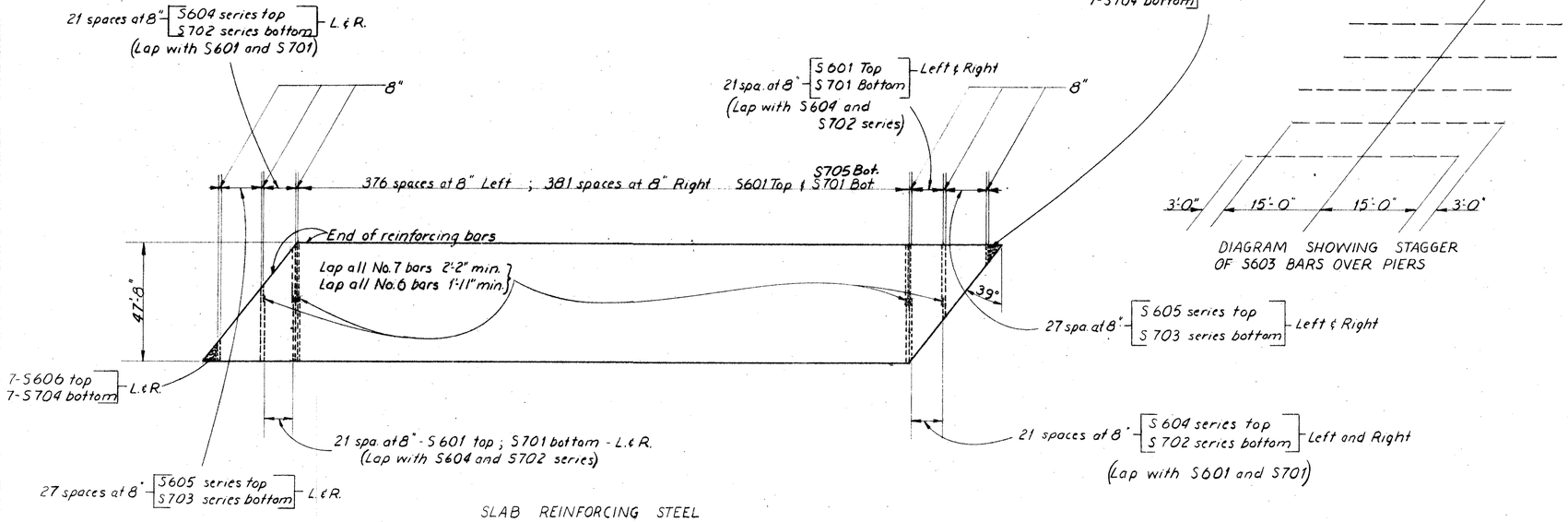
CONCRETE : Concrete shall be Class "C" - f_c = 1333 psi.

RAILING : Railing shall be aluminum with concrete parapet, Type 1 - Standard Drawing BR-1-65

DECK PLACING PROCEDURE : In placing the deck concrete, construction joints will be permitted parallel to the transverse reinforcing steel and near the middle of any span. Because of the flow of curing water from the surface of previously - placed deck concrete, the sequence of pours shall be upgrade, starting at the lowest point or points in the grade line.

MACHINE FINISH : The concrete bridge decks shall be finished by the use of a finishing machine.

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.



SLAB REINFORCING STEEL

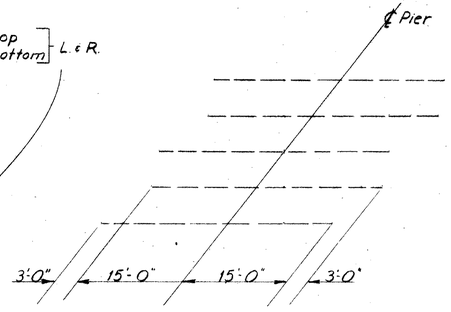


DIAGRAM SHOWING STAGGER OF S603 BARS OVER PIERS

BURGESS & NIPLE - CONSULTING ENGINEERS 7/9
COLUMBUS 12, OHIO

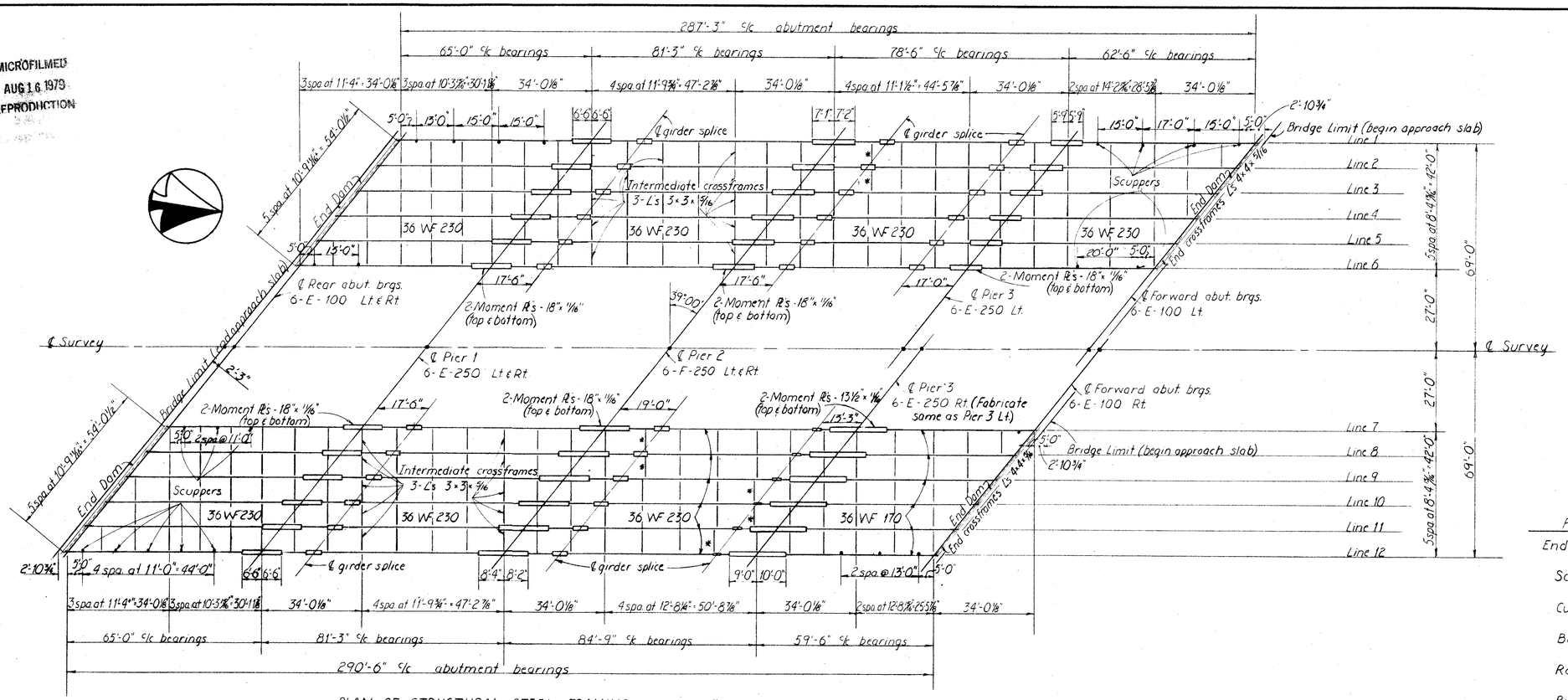
SUPERSTRUCTURE DETAILS
BRIDGE NO. FRA-270-0233 L & R
I R 270 OVER SCIOTO DARBY CREEK RD. AND PENNSYLVANIA R. R.
FRANKLIN COUNTY Sta. 352+53.15 355+49.45

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
DWT	DWT		KED	WCR 8/3/65	

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

195
227

FRANKLIN COUNTY
FRA - 270 - 0.79 N



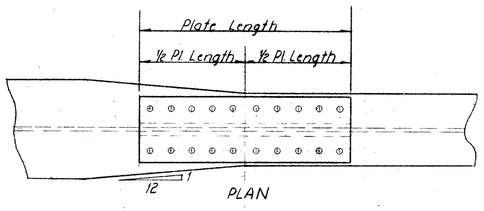
PLAN OF STRUCTURAL STEEL FRAMING

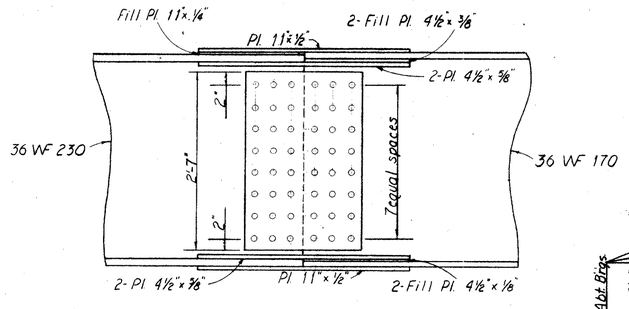
* Shift crossframes to clear web splice.

℄ BEARING	STATION
Left Rear Abutment	352 + 56.05
Right Rear Abutment	352 + 56.05
Left Pier 1	353 + 21.05
Right Pier 1	353 + 21.05
Left Pier 2	354 + 02.30
Right Pier 2	354 + 02.30
Left Pier 3	354 + 80.80
Right Pier 3	354 + 87.05
Left Forward Abutment	355 + 43.30
Right Forward Abutment	355 + 46.55

FOR DETAILS OF	See Standard Drwg.
End Dam & End Crossframes	SD-1-63, Sh. 2
Scuppers (Type 2)	SD-1-63, Sh. 3
Curb Plates	SD-1-63, Sh. 4
Bearings	FSB-1-62
Railing & Parapet	BR-1-65
Bulb Angle Gutter	SD-1-63, Sh. 3
Bolted Beam Splice	SD-2-64

NOTE: See sheet 196 for Bulb Angle Gutter Setting Elevations.

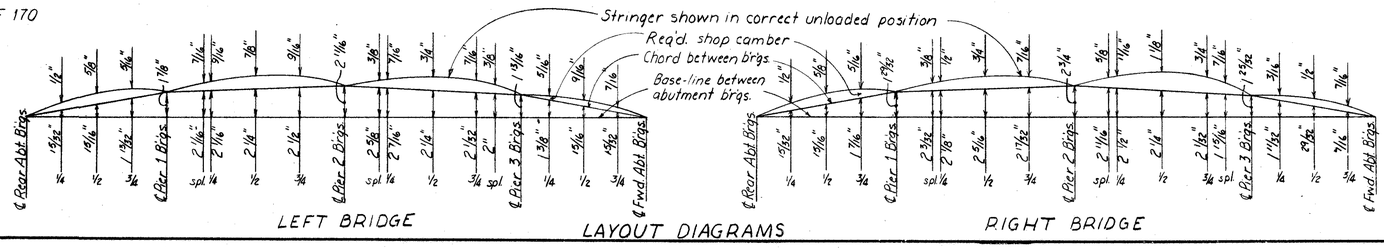




H.S. BOLTED BEAM SPLICE DETAIL

DEFLECTION AND CAMBER TABLE (in inches)

	LEFT BRIDGE															RIGHT BRIDGE														
	Span 1			Span 2				Span 3					Span 4			Span 1			Span 2				Span 3					Span 4		
	¼ pt.	½ pt.	¾ pt.	splice	¼ pt.	½ pt.	¾ pt.	splice	¼ pt.	½ pt.	¾ pt.	splice	¼ pt.	½ pt.	¾ pt.	¼ pt.	½ pt.	¾ pt.	splice	¼ pt.	½ pt.	¾ pt.	splice	¼ pt.	½ pt.	¾ pt.	splice	¼ pt.	½ pt.	¾ pt.
Deflection due to wt. of steel	.0754	.0897	.0396	.0561	.0690	.1234	.0695	.0433	.0515	.0984	.0556	.0457	.0353	.0785	.0655	.0782	.0943	.0436	.0479	.0592	.1049	.0516	.0835	.0962	.1714	.1053	.0611	.0222	.0699	.0632
Deflection due to remaining D.L.	.3256	.3876	.1710	.2424	.2979	.5333	.3003	.1869	.2224	.4252	.2402	.1976	.1527	.3389	.2830	.3378	.4074	.1881	.2070	.2560	.4530	.2229	.3607	.4158	.7405	.4549	.2638	.0958	.3020	.2730
Adjustment for vertical curve	.0960	.1320	.0960	.1440	.1680	.2160	.1680	.1440	.1560	.2040	.1560	.1440	.0960	.1320	.0960	.0960	.1320	.0960	.1440	.1680	.2160	.1680	.1560	.1680	.2280	.1680	.1200	.0960	.1200	.0960
Sum	.4970	.6093	.3066	.4425	.5349	.8727	.5378	.3142	.4299	.7276	.4518	.3873	.2840	.5494	.4445	.5120	.6337	.3277	.3989	.4832	.7739	.4425	.6002	.6800	1.1399	.7282	.4449	.2140	.4919	.4322
Required shop camber	½"	⅝"	5/16"	7/16"	9/16"	⅞"	9/16"	3/8"	7/16"	¾"	7/16"	3/8"	5/16"	9/16"	7/16"	½"	⅝"	5/16"	3/8"	½"	¾"	7/16"	5/8"	1 1/16"	1⅛"	¾"	7/16"	3/16"	½"	7/16"



LAYOUT DIAGRAMS

BURGESS & NIPLE — CONSULTING ENGINEERS
COLUMBUS 12, OHIO

9/9

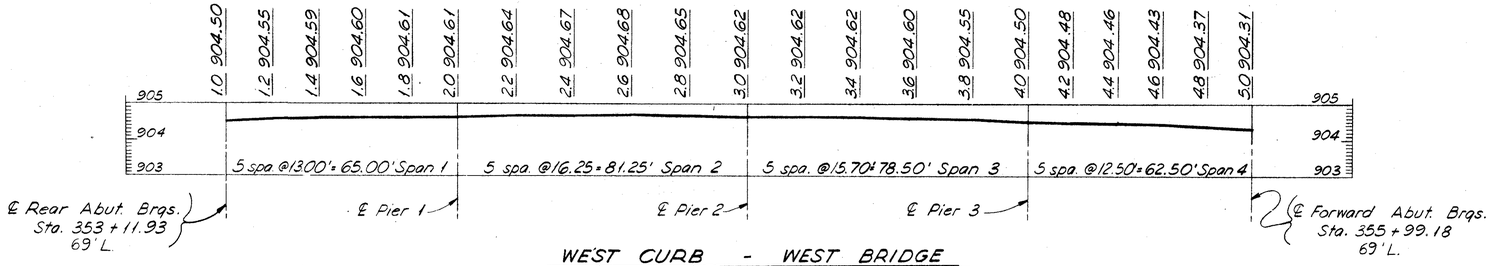
STRUCTURAL STEEL FRAMING PLAN AND GIRDER DETAILS
BRIDGE NO FRA-270-0233 L & R
IR 270 OVER SCIOTO DARBY CREEK RD. AND PENNSYLVANIA R.R
FRANKLIN COUNTY
Sta. 352+53.15
355+49.45

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
D.W.T.	D.W.T.		K.E.D.	W.C.R. 8/3/65	

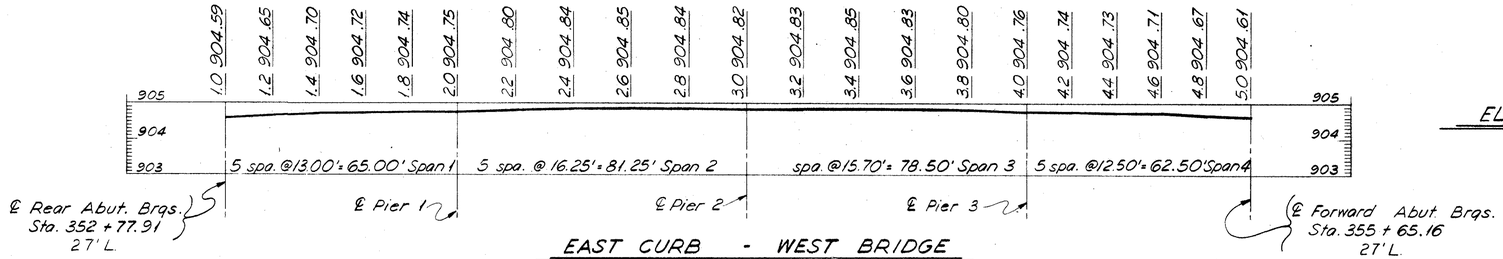
FED. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.	TYPE FUNDS
2	OHIO		

196
227

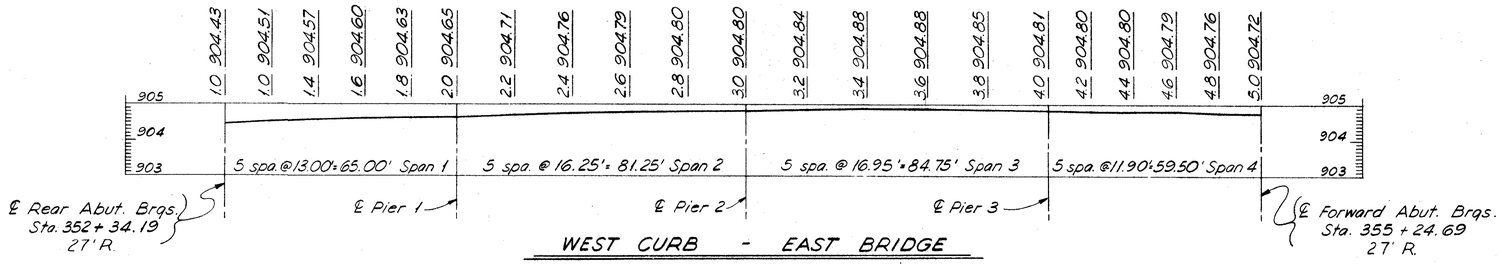
FRANKLIN COUNTY
FRA-270-0.79 N.



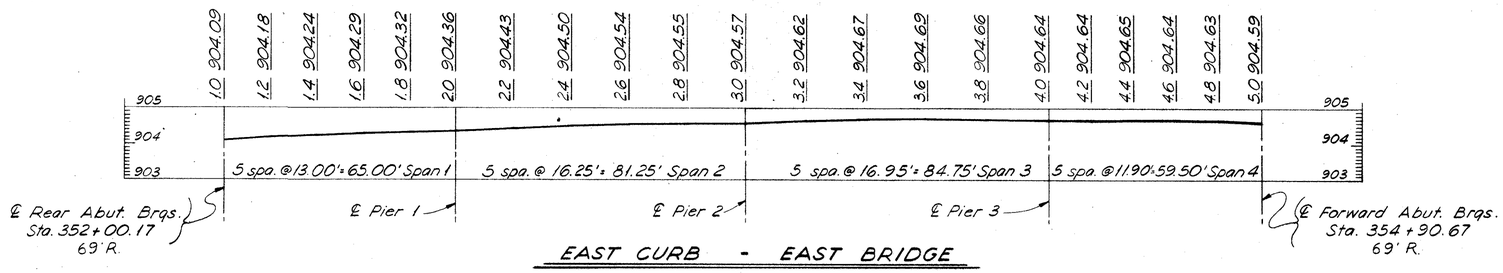
WEST CURB - WEST BRIDGE



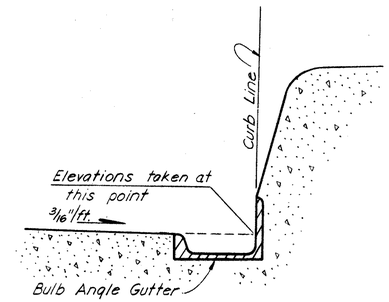
EAST CURB - WEST BRIDGE



WEST CURB - EAST BRIDGE



EAST CURB - EAST BRIDGE



ELEVATION POINT DETAIL

BURGESS & NIPLE **CONSULTING ENGINEERS**
COLUMBUS 12, OHIO

9/9

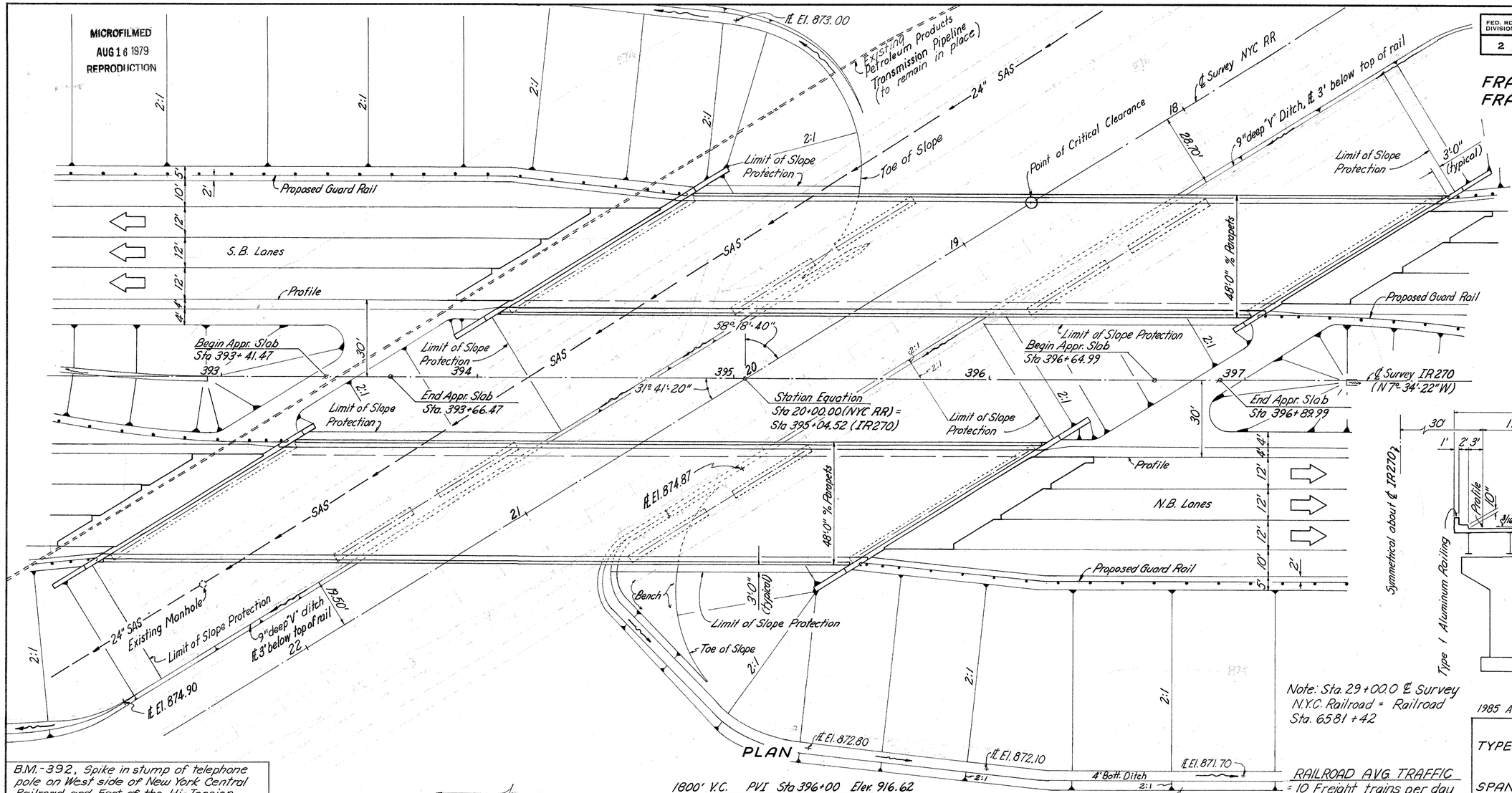
BULB ANGLE GUTTER
SETTING ELEVATIONS
BR. NO. FRA-270-0233 L & R
IR 270 OVER SCIOTO DARBY
CREEK ROAD & PENNSYLVANIA R.R.
FRANKLIN COUNTY
STA 352+53.15
355+49.45

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
D.W.T.	D.W.		K.E.D.	W.R. 8-3-65	

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

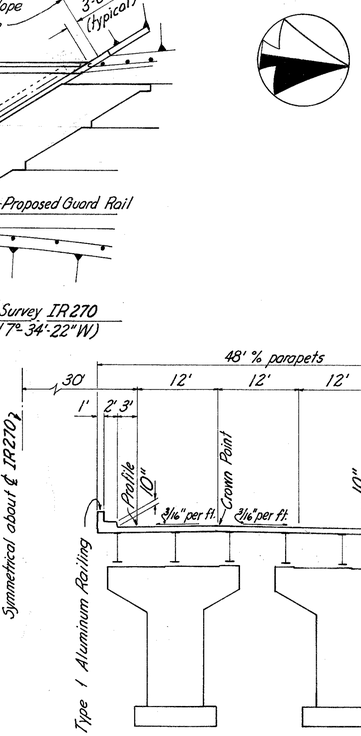
197
227

FRANKLIN COUNTY
FRA-270-0.79N.



PLAN

Note: Sta. 29+00.0 ℄ Survey N.Y.C. Railroad = Railroad Sta. 6581+42



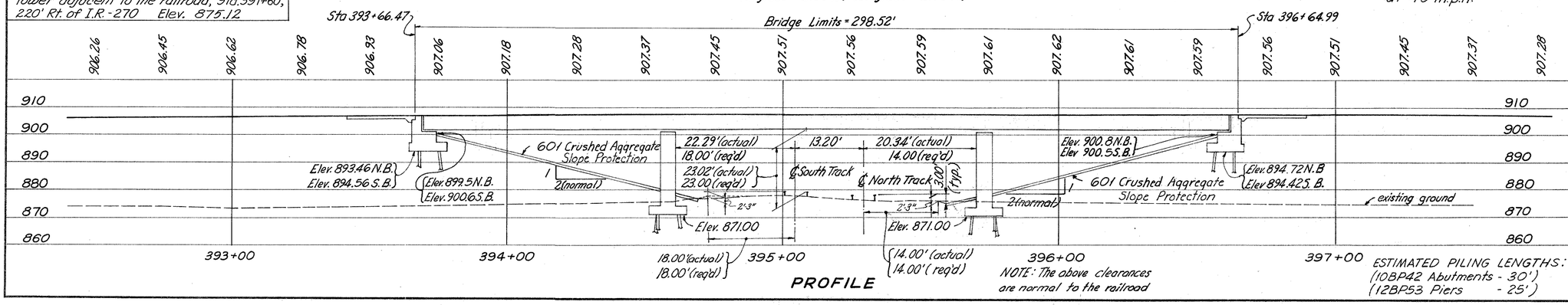
HALF SECTION

1985 ADT = 59,402 (IR270 Design Traffic)

B.M.-392, Spike in stump of telephone pole on West side of New York Central Railroad and East of the Hi-Tension tower adjacent to the railroad, Sta. 391+60, 220' Rt. of I.R.-270 Elev. 875.12

1800' V.C. PVI Sta 396+00 Elev. 916.62
(in grade +2.00%; out grade -2.00%)

RAILROAD AVG. TRAFFIC
= 10 Freight trains per day at 40 m.p.h.



PROFILE

NOTE: The above clearances are normal to the railroad

ESTIMATED PILING LENGTHS:
(10BP42 Abutments - 30')
(12BP53 Piers - 25')

PROPOSED STRUCTURE

TYPE: 3 Span Continuous Plate Girder with Reinforced Concrete Deck and Substructure
SPAN: 88.00-113.00-88.00
LOAD FREQUENCY RATING: CF=2000(57)
Adequate for AASHO Alternate Loading
ROADWAY: 42'0" f/f 2'0" safety curbs
SKEW: 58°-18'-40" L.F.
WEARING SURFACE: 1" Monolithic
APPROACH SLABS: AS-1-54 (25' long)
ALIGNMENT: Tangent
SUPERELEVATION: None

BURGESS & NIPLE — CONSULTING ENGINEERS
COLUMBUS 12, OHIO

1/8

SITE PLAN

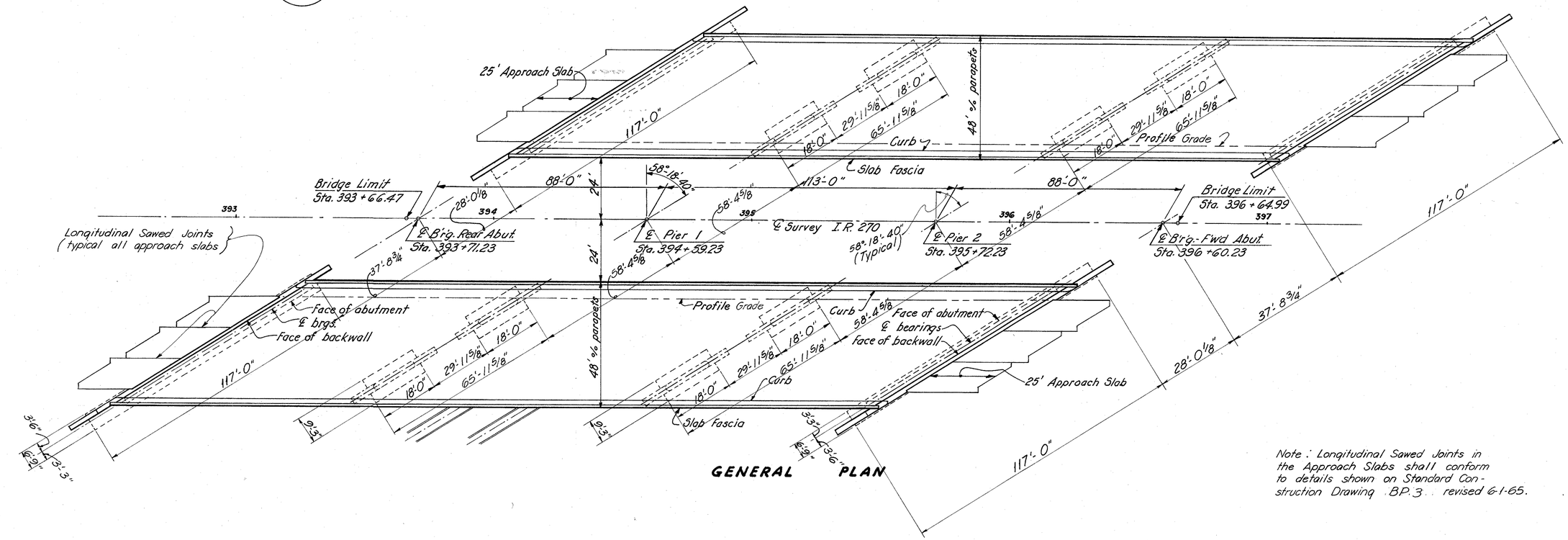
BRIDGE NO. FRA-270-0310 L&R
IR-270 over
NEW YORK CENTRAL RAILROAD
SCALE: 1" = 20'
FRANKLIN COUNTY
STA. 393+66.47
396+64.99

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
WR	C.E.G.	C.E.G.	D.W.T.	WRR 5-18-65	

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

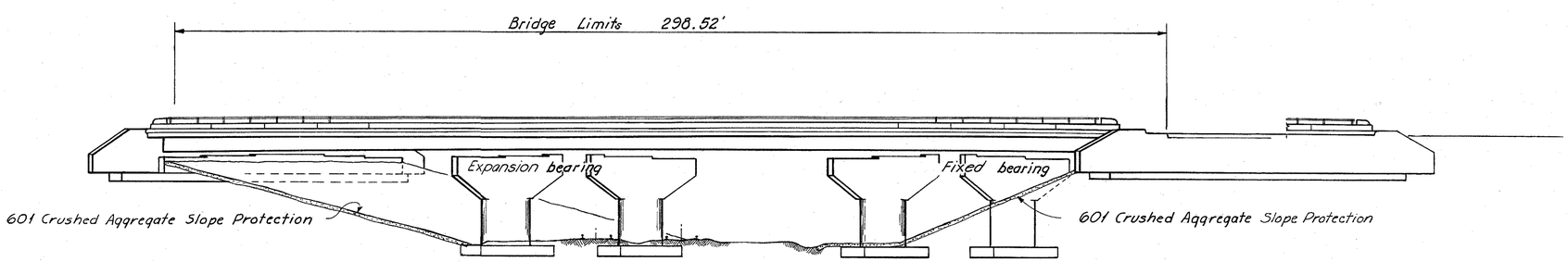
198
227

FRANKLIN COUNTY
FRA-270-0.79N.



GENERAL PLAN

Note: Longitudinal Sawed Joints in the Approach Slabs shall conform to details shown on Standard Construction Drawing BP.3.. revised 6-1-65.



GENERAL ELEVATION

Right Bridge Shown — Left Bridge Similar
(piling not shown)

BURGESS & NIPLE **CONSULTING ENGINEERS**
COLUMBUS 12, OHIO

2/8

GENERAL PLAN AND ELEVATION

BRIDGE No. FRA 270-0310 L & R

IR-270 over
NEW YORK CENTRAL RAILROAD

393+66.97
FRANKLIN COUNTY STA. 396+64.99

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
WBR	GEW		D.W.T.	WCR 5-18-65	

ALL-STATE BLUE-PRINT, CO'S. O. *6008

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

199
227

FRANKLIN COUNTY
FRA-270-0.79N.

BR. Nº FRA-270-0310 L&R ESTIMATED QUANTITIES

Item Nº	Total	Unit	Description	Super.	Abut.	Piers	Gen'l.	Remarks & Detail	
503	Lump	Sum	Cofferdams, cribs & sheeting				Lump		
503	1553	Cu.Yd.	Unclassified Excavation		1140	413		C-2X 195	1,748
505	Lump	Sum	First test pile				Lump		
506	Lump	Sum	First pile test load				Lump	C-1 Lump	—
506	1	each	Subsequent pile test load				1	C-1-1.0A	—
507	3360	lin.ft.	Steel Piles 10BP42		3360			C-2X 276	2,884
507	2800	lin.ft.	Steel Piles 12BP53			2800		C-2X 380	2,320
	381,831			265,035					
509	365,794	lb.	Reinforcing Steel	249,058	42,364	74,372			
511	901	Cu.Yd.	Class "C" Concrete, Superstructure	901					
511	460	Cu.Yd.	Class "C" Concrete, Piers above footings			460			
511	447	Cu.Yd.	Class "E" Concrete, Abutment Walls		447				
511	521	Cu.Yd.	Class "E" Concrete, Footings		373	148			
512	160	Sq.ft.	Premolded sealing strip		160				
513	928,000	lb.	Structural Steel	928,000					
514	928,000	lb.	Field painting of Structural Steel	928,000					
516	70	Sq.ft.	1" preformed expansion joint filler (AASHO M-153)		70			C-2X 34	104
517	1180.83	lin.ft.	Railing (Type 1)	1180.83					
518	170	Cu.Yd.	Porous backfill		170				
518	336	lin.ft.	6" perforated helical C.M.P. 707.06 incl. specials		336				
518	216	lin.ft.	6" helical C.M.P. 707.06 non-perforated		216				
518	28	each	Scupper, including supports	28					
601	3550	Sq.Yd.	Crushed Aggregate Slope Protection		3550				
808	901	each	Water reducing-set retarding admixture	901				C-2X 397	

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.

REFERENCE shall be made to Standard Drawings:
SD-1-63 dated 11-12-63, sht. 2, 3 & 4.
BP 3. revised 6-1-65
BR-1-65 dated 2-1-65,

and to Supplemental Specifications 808 dated 7-14-65, 811 dated 3-29-65.

DESIGN DATA.
Design Loading - C.F. 2000 (57)
Concrete Class "C" basic unit stress 1,333 psi.
Concrete Class "E" basic unit stress 1,133 psi.
Structural Steel - ASTM A36 - basic unit stress 20,000 psi. (ASTM A7 and A373 steel not permitted except for piles)
Reinforcing Steel - ASTM A15, A16, A160, Deformed, Intermediate or Hard Grade. Basic unit stress 20,000 psi.

RAILROAD AERIAL LINES will be relocated by the railroad. The Contractor shall use all precautions necessary to see that the lines are not disturbed during the construction stage and shall cooperate with the railroad in the relocation of these lines. The cost of the relocation shall be included in the railroad force account work.

CONSTRUCTION CLEARANCE of 20' vertically above the top of the railroad rails and 8' horizontally from the center of tracks shall maintained at all times.

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 requested to cooperate by arranging their work in such a manner that inconvenience to either will be held to a minimum.

PROCEDURE. The embankment shall be placed and compacted up to the finished spill-thru slope and to the level of the sub-grade for a distance of 200 feet back of the abutments, after which excavation may be made for the piers. After a 30 day waiting period excavation may be made for the abutments.

EXCAVATION QUANTITY includes the removal of fill material required for construction of the abutments and piers

PILES shall be driven to a minimum bearing capacity of 37 tons per pile for the abutments and 49 tons per pile for the piers.

SHEETING AND BRACING. Before construction is started, eight sets of prints showing details of the sheeting and bracing to be used for excavation adjacent to the railroad tracks shall be submitted to the Director for approval by the Department of Highways and by the Railroad Company.

ALIGNING RAILROAD TRACKS:
After the Contractor has completed all excavation and backfill adjacent to the railroad tracks in compliance with Sec. 503.04 and 503.09 of the Construction and Material Specifications, subject to the Supervision of the Railroad Company, nothing in Sec. 503.04, 503.09 or 108.04 of the Specifications shall be construed to hold the Contractor liable for aligning and resurfacing the railroad tracks.

BURGESS & NIPLE CONSULTING ENGINEERS
COLUMBUS 12, OHIO

3/8

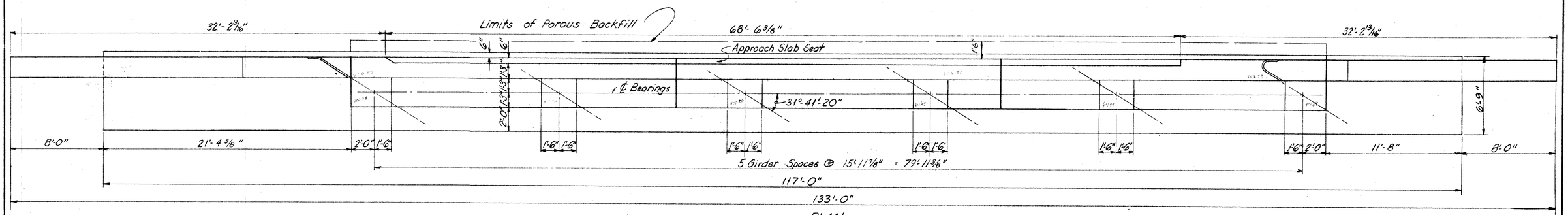
GENERAL NOTES & ESTIMATED QUANTITIES
BR. NO. FRA-270-0310 L&R
IR-270 OVER
NEW YORK CENTRAL RAILROAD
FRANKLIN COUNTY
STA. 393+66.47
396+64.99

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
W.A.R.	D.W.		D.W.T.	W.A.R. 5-13-65	1-26-67

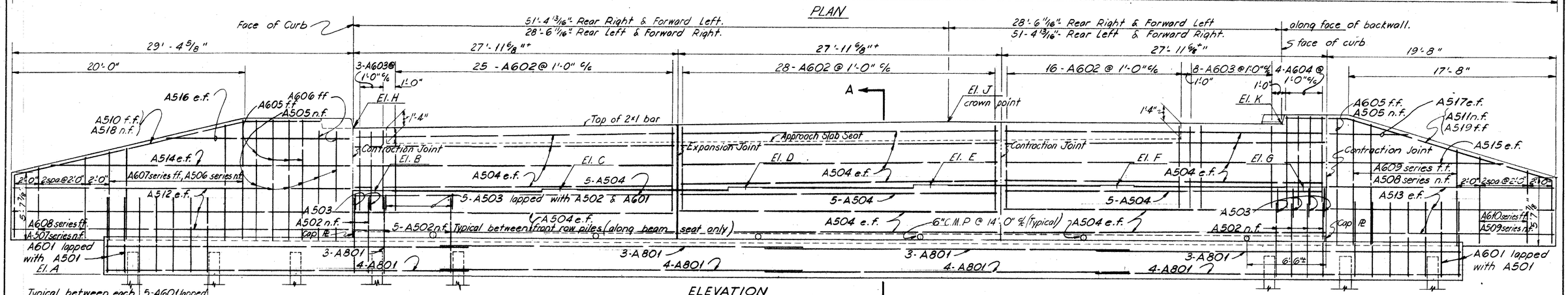
FED ROAD DIV. NO.	STATE	FED. AID PROJ. NO.	TYPE FUNDS
2	OHIO		

200
227

FRANKLIN COUNTY
FRA-270-0.79N



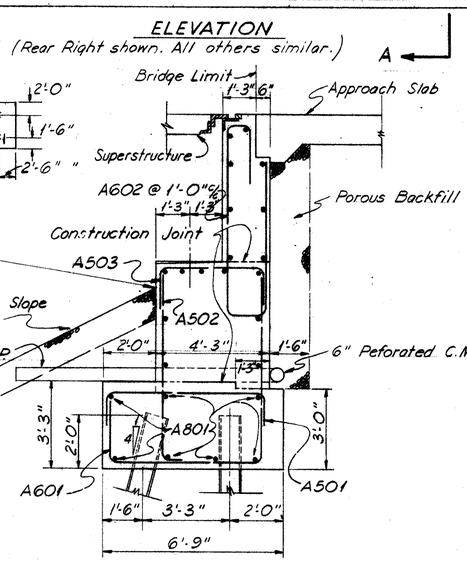
PLAN



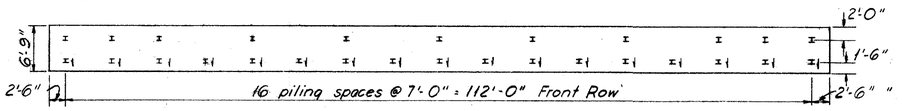
Typical between each 5-A601 lapped front row pile except with 5-A501 where otherwise shown.

ELEVATION

(Rear Right shown. All others similar.)

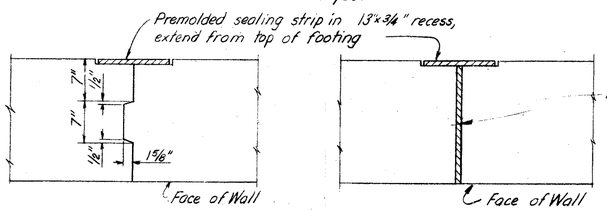


SECTION-A

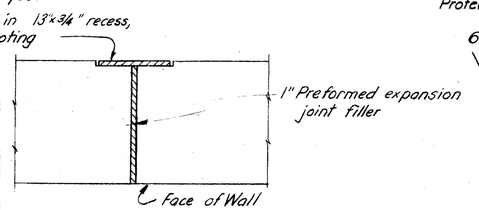


PILING LAYOUT

(All abutment piles 10BP42)
Batter Front Row 1:4
Back Row Layout as shown.
See Sheet 198 for foundation layout.



CONTRACTION JOINT DETAIL



EXPANSION JOINT DETAIL

TABLE OF ELEVATIONS

Elevation	A	B	C	D	E	F	G	H	J	K
Right Rear Abutment	893.46	900.74	900.98	901.20	901.43	901.44	901.39	906.07	906.81	906.79
Left Rear Abutment	894.56	901.84	902.02	902.15	902.06	901.97	901.88	907.18	907.51	907.22
Right Forward Abutment	894.72	902.22	902.35	902.42	902.29	902.15	902.00	907.57	907.81	907.36
Left Forward Abutment	894.42	901.70	901.88	902.06	902.23	902.20	902.10	907.04	907.62	907.45

BURGESS & NIPLE - CONSULTING ENGINEERS
COLUMBUS 12, OHIO

4/8

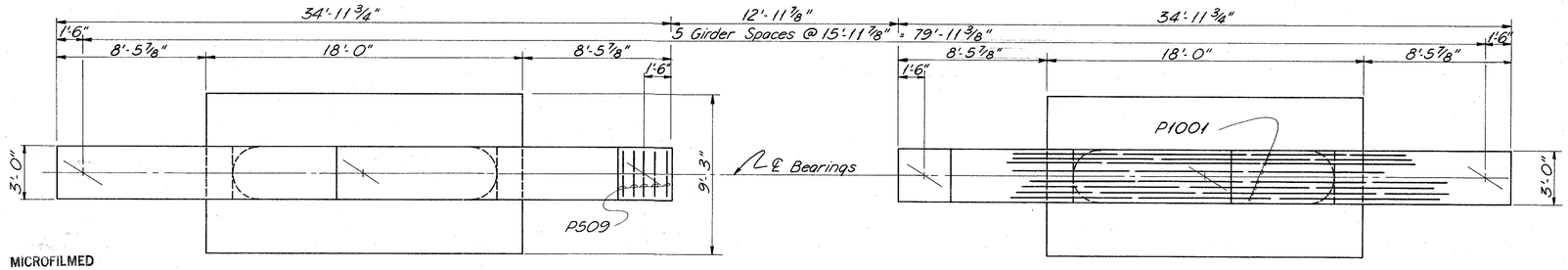
ABUTMENT DETAILS
BR. NO. FRA-270-0310 L&R.
I.R. 270 OVER
NEW YORK CENTRAL RAILROAD
Sta. 393+66.47
FRANKLIN COUNTY. 396+64.99

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
WBR	D.W. WCR		D.W.T.	WBR 5-13-65	

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

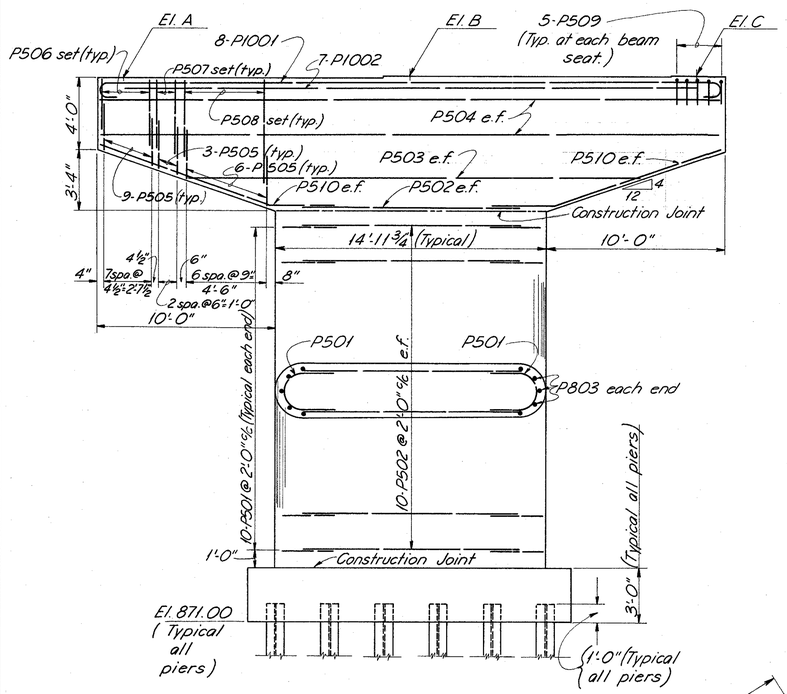
201
227

FRANKLIN COUNTY
FRA-270-0.79 N.

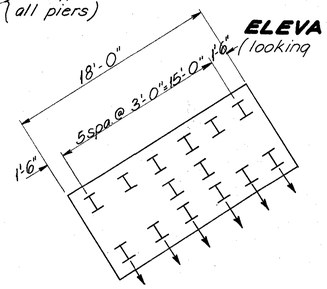


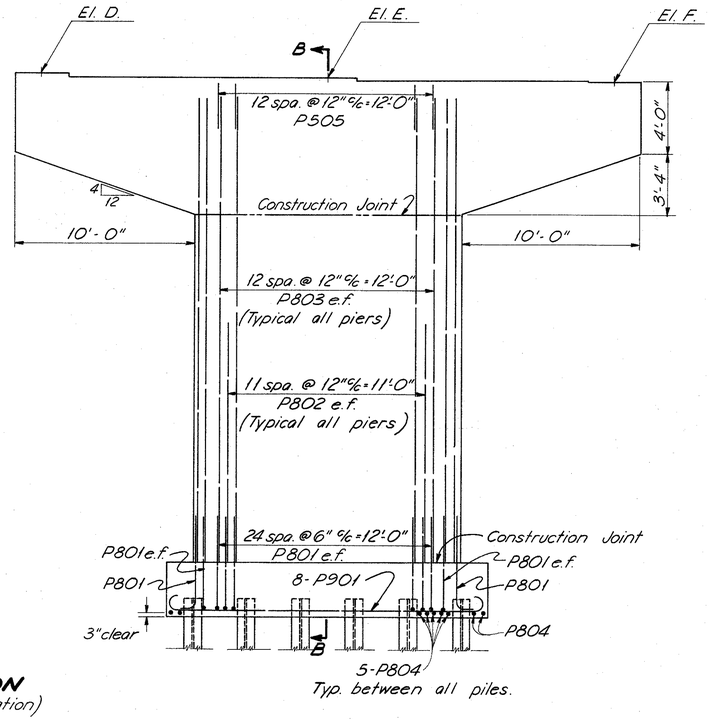
-PLAN-

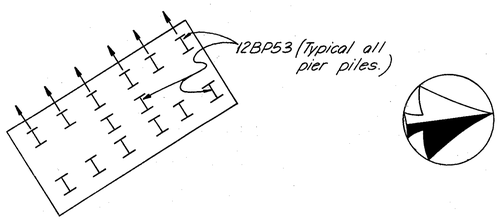
TABLE OF ELEVATIONS						
Elevation	A	B	C	D	E	F
Pier-1-Right	901.71	901.78	901.79	901.59	901.39	901.19
Pier-1-Left	901.89	902.01	902.12	902.24	902.14	901.98
Pier-2-Right	901.65	901.76	901.81	901.64	901.48	901.30
Pier-2-Left	901.44	901.60	901.75	901.89	901.83	901.71

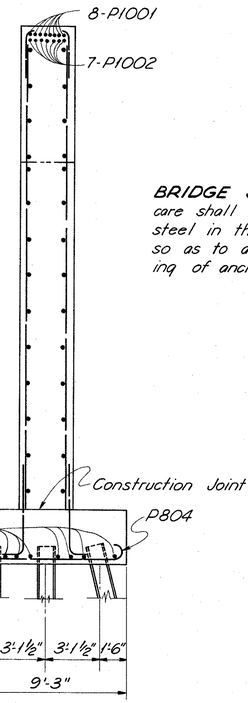


ELEVATION (looking upstation)









SECTION - B

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.*

See sheet 198 for foundation layout.

PIER PILING LAYOUT

(½ of one bridge shown. Batter all piles shown with an arrow 1:4 in the direction of the arrow. All other piles shall be vertical.)

BURGESS & NIPLE CONSULTING ENGINEERS
COLUMBUS 12, OHIO

PIER DETAILS
BR. NO. FRA.-270-0310 L&R
IR 270 OVER
NEW YORK CENTRAL RAILROAD

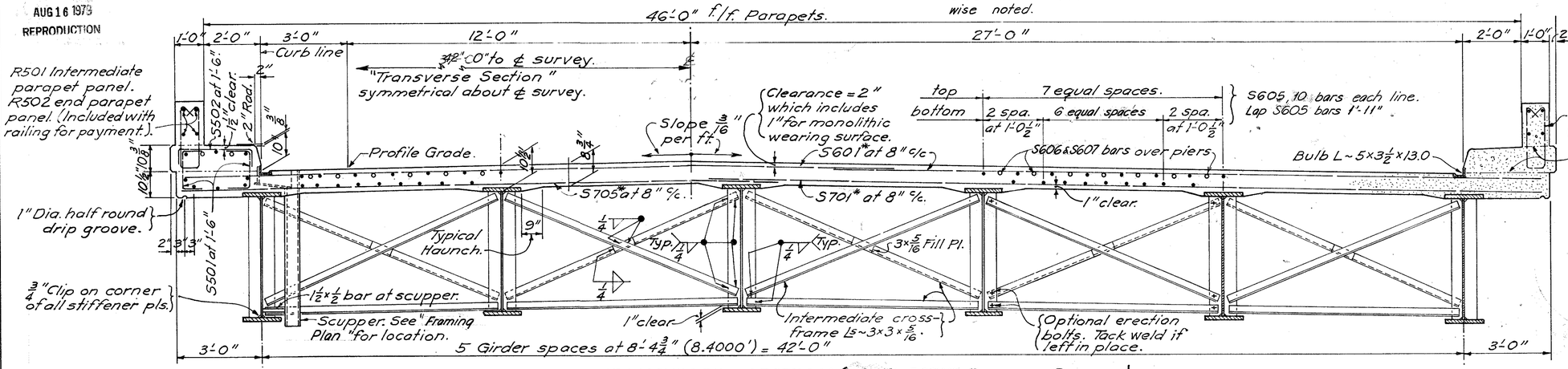
FRANKLIN COUNTY
STA. 393+66.47
396+64.99

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
WAR	DW	DW	D.W.T.	WAR 5-13-65	

516

FRANKLIN COUNTY
FRA-270-0.79N

Note: All longitudinal bars S605 unless otherwise noted.



TRANSVERSE SECTION (NORTH BOUND BRIDGE SHOWN).

* See plan of Deck Reinforcing.

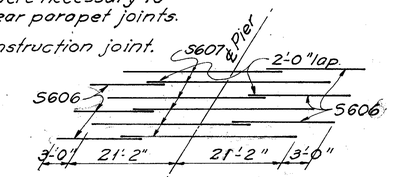
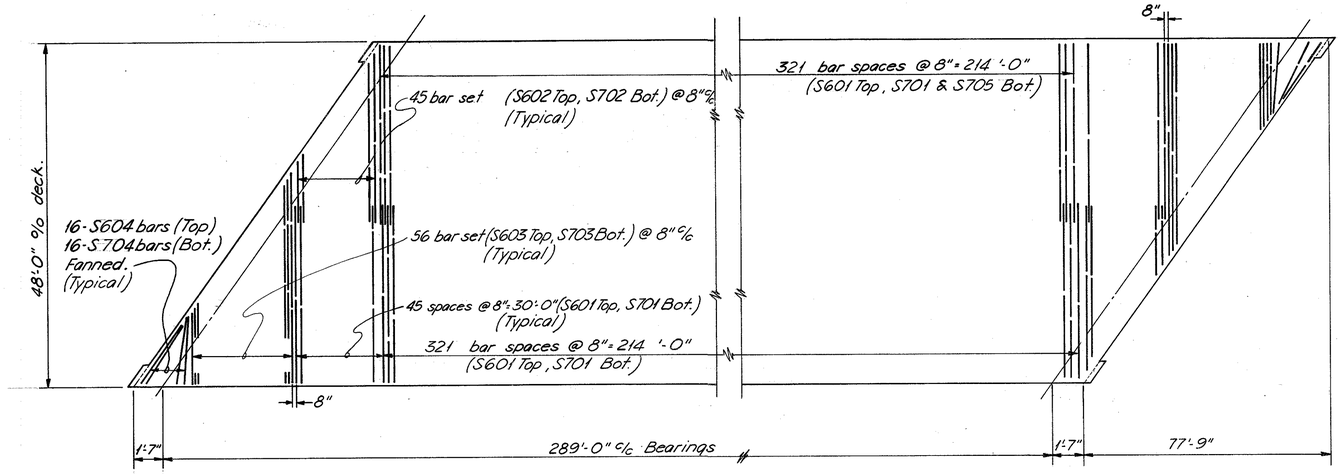
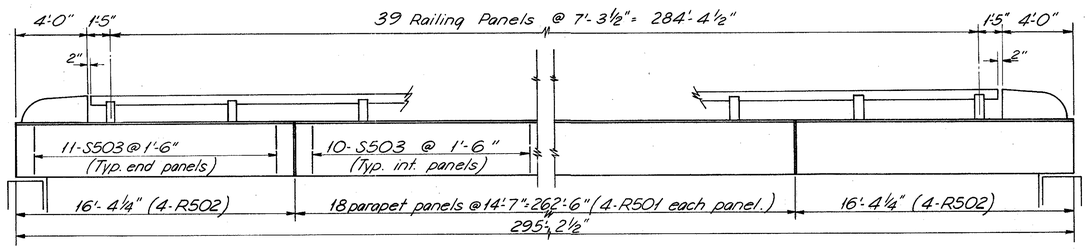


DIAGRAM SHOWING STAGGER OF S606 & S607 BARS OVER PIERS.



PLAN - DECK REINFORCING



RAILING & PARAPET ELEVATION

Note: For additional railing details see Standard Drawing BR-1-65.

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 4:1 for a haunch less than 9" in width.

RAILING shall be aluminum with concrete parapet, Type 1 Standard Drawing No. BR-1-65.

CONCRETE shall be class "C". f_c = 1333 psi.

MACHINE FINISH: The concrete bridge deck shall be finished by the use of a finishing machine.

SLAB THICKNESS shown includes 1" for monolithic wearing surface.

DECK SLAB DEPTH: The distance shown from top of deck slab to top of girder web plate 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 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 Sec. 511.19 of the Construction and Material Specifications.

DECK PLACING PROCEDURE:
In placing the deck concrete, construction joints will be permitted parallel to the transverse reinforcing steel and near the middle of any span. Because of the flow of curing water from the surface of previously-placed deck concrete, the sequence of pours shall be upgrade, starting at the lowest point or points in the grade line.

FOR DETAILS of	See
Girder Splices.	Sheet No. 203
End Dam & End Crossframe.	Std. Drwg. SD-1-63, sh. 2.
Scuppers (Type-2).	Std. Drwg. SD-1-63, sh. 3.
Curb Plates.	Std. Drwg. SD-1-63, sh. 4.
Bearings.	Std. Drwg. FSB-1-62.
Railing and Parapet.	Std. Drwg. BR-1-65.
Bulb Angle Gutter.	Std. Drwg. SD-1-63, sh. 3.

DECK SLAB DE ...t: The distance ... slab to ... of ...

BURGESS & NIPLE - CONSULTING ENGINEERS
COLUMBUS 12, OHIO

SUPERSTRUCTURE DETAILS
BR. NO. FRA-270-0310 L & R.
IR 270 OVER
NEW YORK CENTRAL RAILROAD
393+66.47
FRANKLIN COUNTY STA 396+64.99

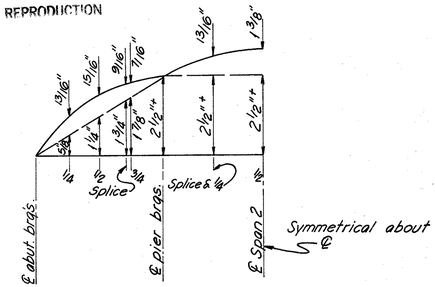
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
W&R	D.W.		D.W.T.	W&R 3-18-65	

6/8

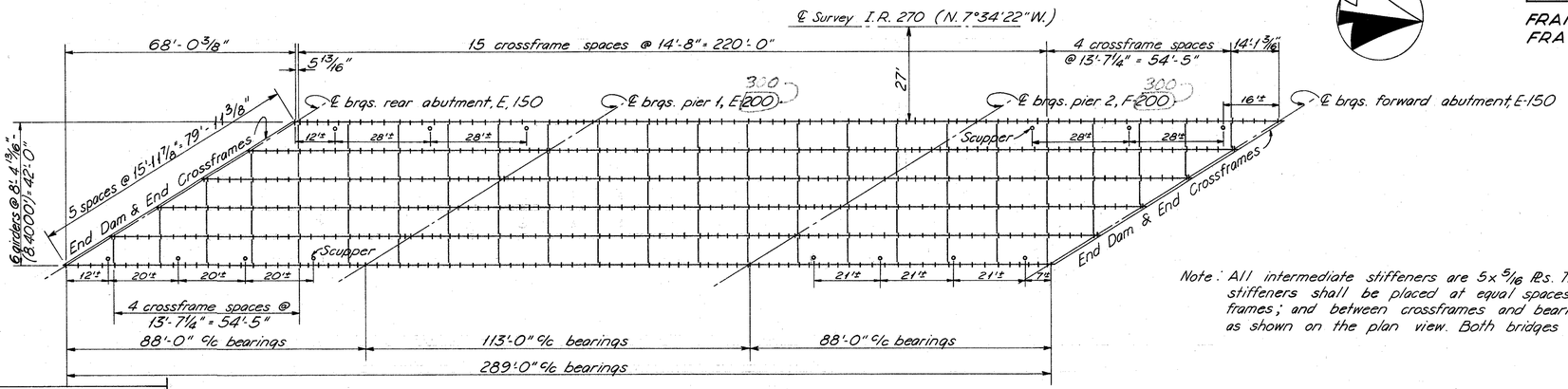
FED. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.	TYPE FUNDS
2	OHIO		

203
227

FRANKLIN COUNTY
FRA-270-0.79 N.



LAYOUT DIAGRAM



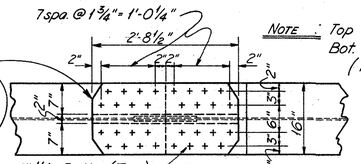
Note: All intermediate stiffeners are 5x 5/16 Pls. The intermediate stiffeners shall be placed at equal spaces between crossframes; and between crossframes and bearing stiffeners as shown on the plan view. Both bridges are similar.

— STRUCTURAL STEEL FRAMING PLAN —

DEFLECTION & CAMBER (in inches)

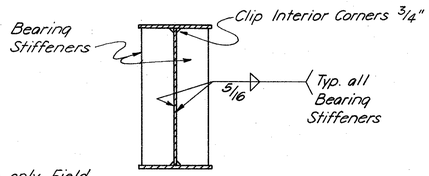
Description	Span 1				Span 2	
	1/4	1/2	splice	3/4	spl. & 1/4	1/2
Deflection due to weight of steel	.120	.137	.072	.053	.100	.188
Deflection due to remaining dead load	.484	.549	.288	.210	.401	.754
Adjustment required for vertical curve	.193	.258	.217	.193	.319	.426
Total computed camber	.797	.944	.577	.456	.820	1.368
Required shop camber	13/16"	15/16"	9/16"	7/16"	13/16"	1 3/8"

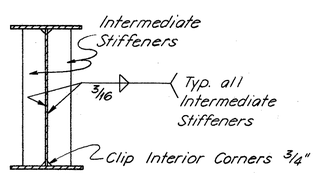
℄ Span 2
(Deflection and Camber symmetrical about ℄)



NOTE: Top plates 11/16" thick. Bot. plates 7/8" thick. (Typ. all splices)

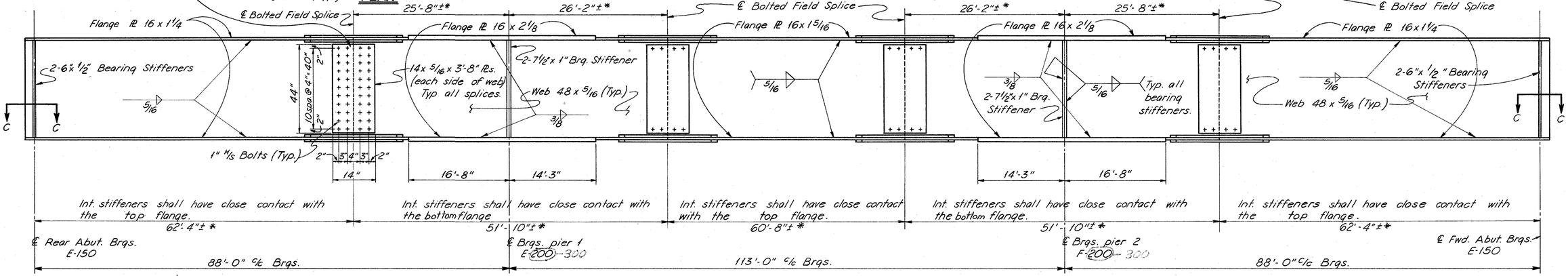
— BOLTED FIELD SPLICE —



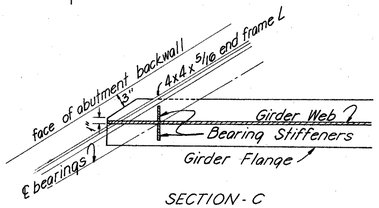


— BEARING & INTERMEDIATE STIFFENER DETAILS —

*These dimensions are approximate only. Field Splices shall be located to clear crossframes and intermediate stiffeners.



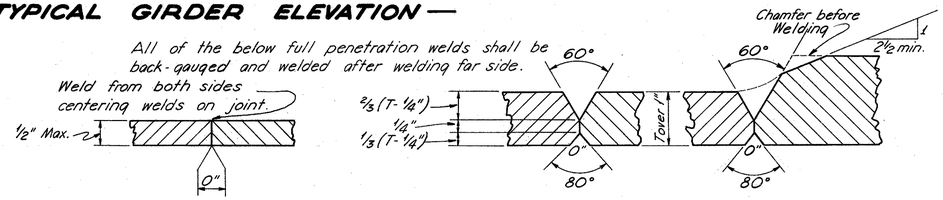
— TYPICAL GIRDER ELEVATION —



SECTION - C

Note: Butt welds on beam and girder flange plates shall be ground flush, the finish grinding being parallel to the direction of stress.

All of the below full penetration welds shall be back-gauged and welded after welding far side.



— JOINT PREPARATION FOR SUBMERGED ARC WELDMENTS —

7/8

BURGESS & NIPLE CONSULTING ENGINEERS
COLUMBUS 12, OHIO

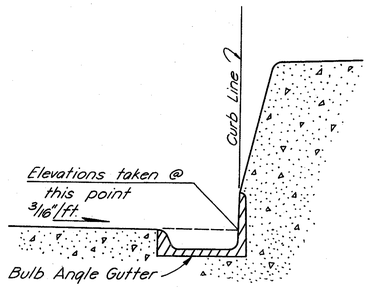
GIRDER & FRAMING PLAN
BR. NO. FRA-270-0310L&R
IR 270 OVER
NEW YORK CENTRAL RAILROAD
STA. 393+66.47
396+64.99
FRANKLIN COUNTY

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
W&R	D.W.	D.W.	D.W.T.	W&R 5-18-65	1-25-67

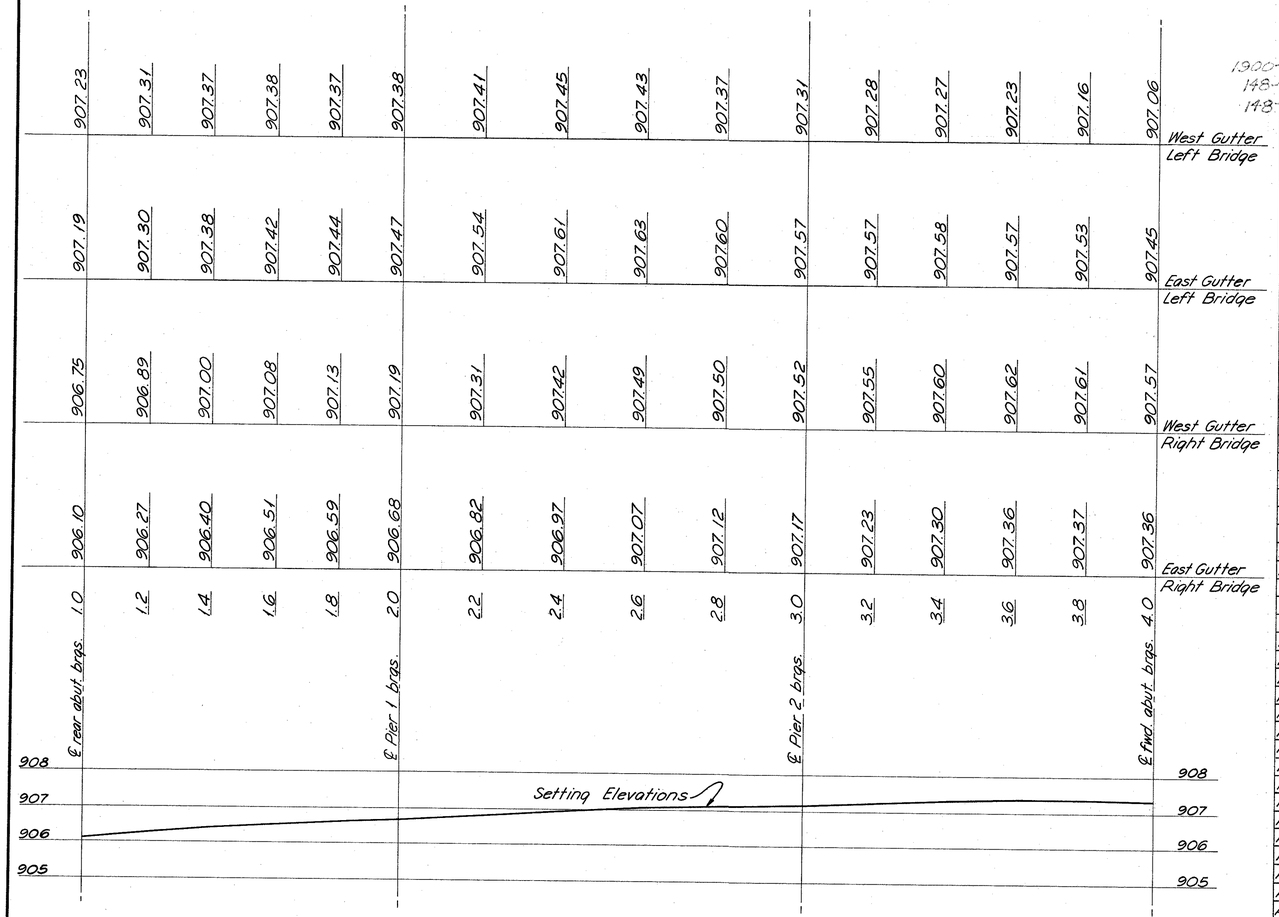
FED. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.	TYPE FUNDS
2	OHIO		

204
227

FRANKLIN COUNTY
FRA-270-0.79 N.



ELEVATION POINT DETAIL

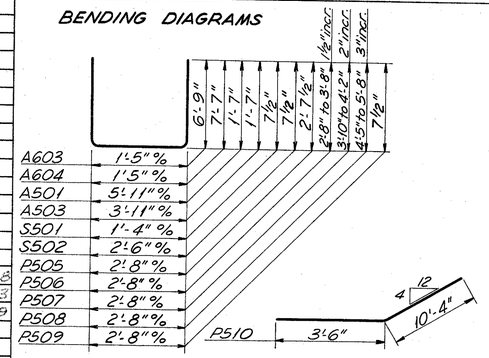


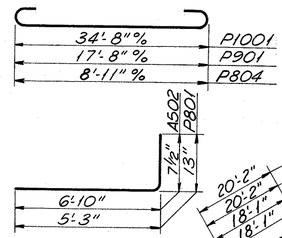
BULB ANGLE GUTTER SETTING ELEVATIONS

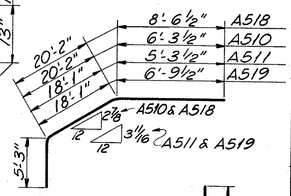
REINFORCING STEEL LIST

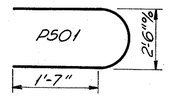
Mark	No.	Length	Weight	Shape	Incr.
SUPERSTRUCTURE					
S701	824	20'-9"	34,948	S	
S702	4 Sets @ 45 / 5 @ 56	28'11" / 6'-0"	7,266	S	5"
S703	4 Sets @ 45 / 5 @ 56	28'11" / 6'-0"	7,993	S	5"
S704	64	6'-0"	785	S	
S705	644	29'-1"	38,283	S	
S601	1468	24'-10"	54,756	S	
S602	4 Sets @ 45	24'8" / 6'-4"	4,191	S	5"
S603	4 Sets @ 56	28'11" / 6'-0"	5,874	S	5"
S604	64	6'-0"	577	S	
S605	(1580) 1900	31'-0"	73,568	S	88,448
S606	(132) 148	17'-4"	3,437	S	3833
S607	(132) 148	30'-0"	5,948	S	6669
S501	1552	2'-4"	3,777	B	
S502	808	3'-6"	2,950	B	
S503	808	5'-7"	4,705	B	
ABUTMENTS					
A801	112	31'-3"	9,345	S	
A601	336	15'-0"	7570	B	
A602	276	16'-3"	6736	B	
A603	44	14'-7"	964	B	
A604	16	16'-3"	391	B	
A605	20	10'-3"	308	S	
A606	8	9'-5"	113	S	
A607	4 Sets @ 9 / 3	10'-3" / 7'-3"	473	S	4½"
A608	4 Sets @ 3	6'-9" / 5'-9"	113	S	6"
A609	4 Sets @ 7 / 3	10'-3" / 7'-9"	379	S	5"
A610	4 Sets @ 3	7'-0" / 6'-0"	117	S	6"
A501	336	8'-10"	3,096	B	
A502	244	7'-4"	1,866	B	
A503	244	6'-10"	1,739	B	
A504	204	27'-8"	5,887	S	
A505	28	10'-0"	292	S	
A506	4 Sets @ 9 / 3	10'-0" / 7'-0"	319	S	4½"
A507	4 Sets @ 3	6'-9" / 5'-9"	78	S	6"
A508	4 Sets @ 7 / 3	10'-0" / 7'-6"	256	S	5"
A509	4 Sets @ 3	7'-0" / 6'-0"	81	S	6"
A510	4	31'-7"	132	B	
A511	4	28'-6"	119	B	
A512	24	29'-0"	726	S	
A513	24	19'-3"	482	S	
A514	8	25'-9"	215	S	
A515	8	14'-4"	120	S	
A516	8	15'-8"	131	S	
A517	8	6'-0"	50	S	
A518	4	33'-10"	141	B	
A519	4	30'-0"	125	B	

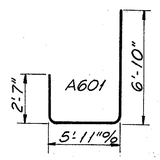
BENDING DIAGRAMS

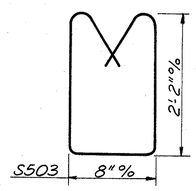


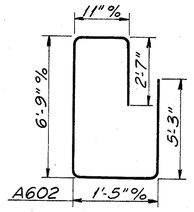












Mark	No.	Length	Weight	Shape	Incr.
PIERS					
P1001	64	37'-6"	10,327	B	
P1002	56	32'-0"	7,711	S	
P901	72	20'-2"	4,937	B	
P801	448	6'-2"	7376	B	
P802	192	13'-3"	6,792	S	
P803	256	26'-9"	18,284	S	
P804	232	11'-1"	6,865	B	
P501	160	7'-0"	1,168	B	
P502	176	12'-0"	2,203	S	
P503	16	24'-8"	412	S	
P504	32	34'-8"	1,157	S	
P505	392	7'-8"	3,135	B	
P506	16 Sets @ 9	7'9" / 9'9"	1,314	B	3"
P507	16 Sets @ 3	10'1" / 10'9"	521	B	4"
P508	16 Sets @ 6	11'3" / 13'9"	1252	B	6"
P509	120	3'-8"	459	B	
P510	32	13'-9"	459	B	
RAILING					
R 501	288	14'-0"	To be included with railing for payment	S	
R502	32	16'-2"		S	
*R503	24	4'-2"		B	
*R504	16	5'-4"		B	
*R505	16	3'-5"		B	
*R506	16	3'-0"		S	
REPLACEMENT BARS					
RE1001	1	7'-2"		S	
RE901	1	6'-10"		S	
RE801	2	6'-6"		S	
RE701	5	6'-2"		S	
RE601	9	5'-11"		S	
RE501	2	5'-7"		S	

* See BR-1-65 for details

8/8

BURGESS & NIPLE LIMITED — CONSULTING ENGINEERS
COLUMBUS 12, OHIO

REINFORCING STEEL LIST & GUTTER ELEVATIONS
BR. NO. FRA-270-0310 L&R
IR 270 OVER
NEW YORK CENTRAL RAILROAD
STA. 393 + 66.47
FRANKLIN COUNTY 396 + 64.99

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
W.E.R.	D.W.		D.W.T.	W.E.R. 5-13-65	1-26-67

CENTER LINE SURVEY PLAT

INTERSTATE ROUTE 270 SEC. 0.74 N

FRANKLIN COUNTY, OHIO

VIRGINIA MILITARY DISTRICT SURVEYS

3316, 544, 5232 & 5241, 287, 547, & 3001

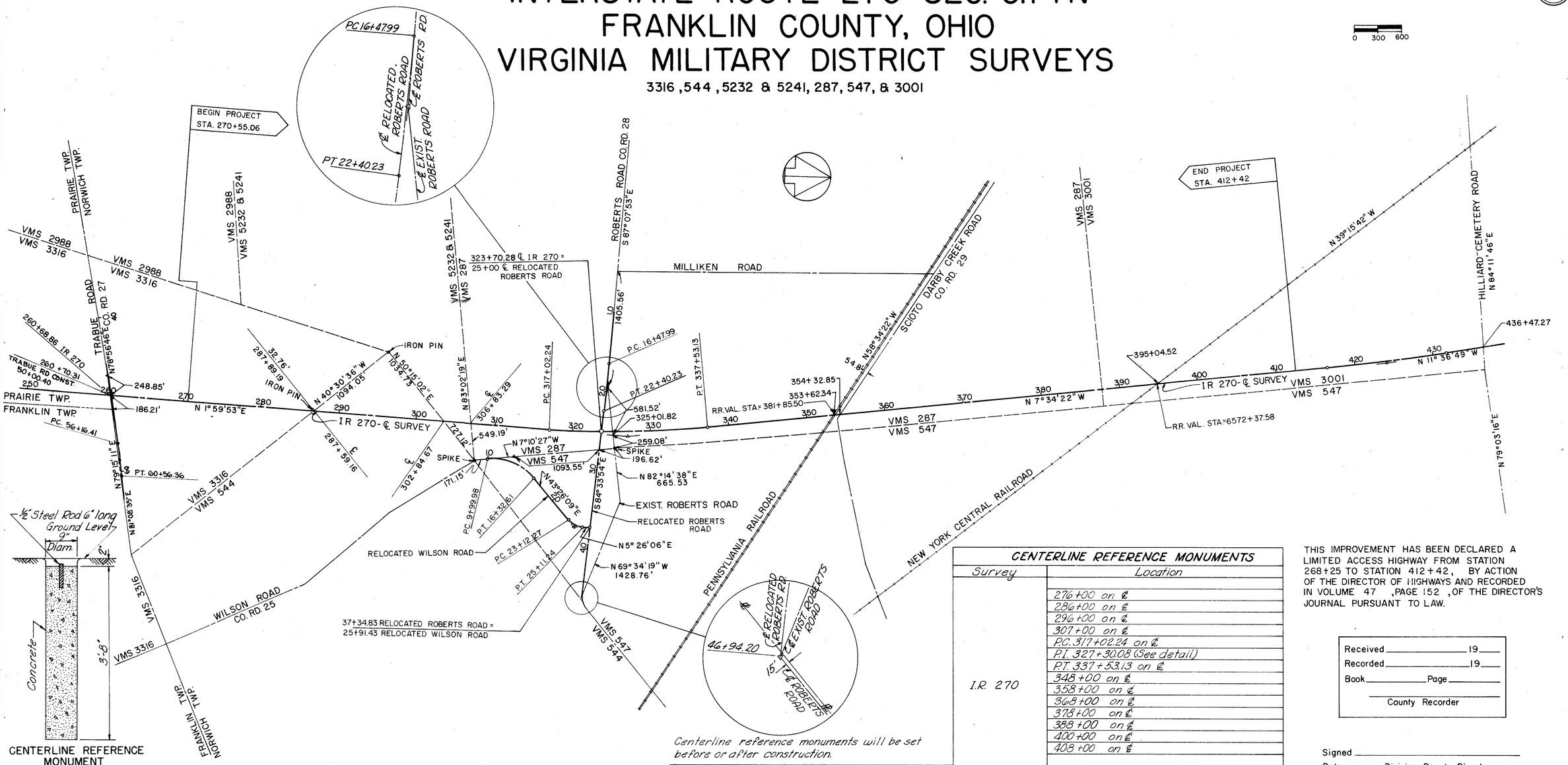
FED. RD. DIVISION	STATE	PROJECT	
2	OHIO	I-IG-270-5(2)92	

205/227

FRANKLIN COUNTY
FRA 270-0.79N

1/23

0 300 600

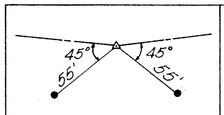


½" Steel Rod 6" long
Ground Level
9" Diam.
2"
Concrete
3'-6"

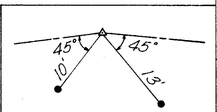
CENTERLINE REFERENCE MONUMENT

CURVE DATA IR 270 P.I. 327+30.08	CURVE DATA WILSON ROAD P.I. 13+38.60	CURVE DATA WILSON ROAD P.I. 24+15.57	CURVE DATA ROBERTS ROAD P.I. 19+44.16
D = 0° 28' 00"	D = 8° 00' 00"	D = 19° 05' 55"	D = 0° 26' 00"
Δ = 9° 34' 15"	Δ = 50° 36' 36"	Δ = 38° 00' 03"	Δ = 2° 33' 59"
R = 12,277.67'	R = 716.20'	R = 300.00'	R = 13,222.10'
T = 1,027.84'	T = 338.62'	T = 103.30'	T = 296.17'
E = 42.95'	L = 632.63'	L = 198.97'	L = 592.24'
L = 2,050.89'			

Centerline reference monuments will be set before or after construction.



P.I. 327+30.08 Back = 327+25.29 Ahead ℄ IR 270



P.I. 19+44.16 Back = 19+44.06 Ahead ℄ Roberts Road

CENTERLINE REFERENCE MONUMENTS

Survey	Location
I.R. 270	276+00 on ℄
	286+00 on ℄
	296+00 on ℄
	307+00 on ℄
	P.C. 317+02.24 on ℄
	P.I. 327+30.08 (See detail)
	P.T. 337+53.13 on ℄
	348+00 on ℄
	358+00 on ℄
	368+00 on ℄
	378+00 on ℄
	388+00 on ℄
	400+00 on ℄
	408+00 on ℄
Relocated Roberts Road	P.I. 19+44.16 (See detail)
	23+00 on ℄
	27+00 on ℄
	36+00 on ℄
Relocated Wilson Road	P.I. 13+38.60 on ℄
	P.C. 23+12.27, 22' Right & Left

THIS IMPROVEMENT HAS BEEN DECLARED A LIMITED ACCESS HIGHWAY FROM STATION 268+25 TO STATION 412+42, BY ACTION OF THE DIRECTOR OF HIGHWAYS AND RECORDED IN VOLUME 47, PAGE 152, OF THE DIRECTOR'S JOURNAL PURSUANT TO LAW.

Received _____ 19____
Recorded _____ 19____
Book _____ Page _____
_____
County Recorder

Signed _____
Date _____ Division Deputy Director

I HEREBY CERTIFY THAT THIS PLAT IS A TRUE DELINEATION OF A SURVEY MADE FOR THE OHIO DEPARTMENT OF HIGHWAYS IN 1963

BY Robert A. Tippette
for Burgess & Niple
DATE July 30, 1965

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

206
227

FRANKLIN COUNTY

FRA-270-0.79 N

R/W PLANS
LIMITED ACCESS

2
23

SUMMARY OF ADDITIONAL RIGHT OF WAY REQUIRED

TOTAL NUMBER OF OWNERS 12

PARCEL NO.	OWNER	TYPE FUNDS	AUD. PCL.	DEED RECORD BOOK	DEED RECORD PAGE	DEED AREA	TO BE ACQUIRED LAND	TO BE ACQUIRED BLDGS	RESIDUE LEFT	RESIDUE RIGHT	SHEET NO.	REMARKS
103-WL	Clara Mae O'Brien &	I										
	Ellsie M. Russell											
	(Margaret J. Howeison, Life Est.)		85	1372	445	107.59	7.24	Yes	92.90	1.03(L.L.)	5,6	Excluding 0.21 Ac. in P.R.O.
103A-WL		I					3.04			1.30		
103A							0.93					
103B							0.18					Excluding 0.09 Ac. in P.R.O.
103C							0.45					Excluding 0.22 Ac. in P.R.O.
103-T							0.18					Build driveway
103-T1							0.05					Remove buildings
104-WL	Ray & Edith Miller	I	175	1610	202	78.84	7.35		1.89(L.L.)	68.69	5,6	
104							0.70					Excluding 0.21 Ac. in P.R.O.
104-T							0.02					Build driveway
105-WL	State of Ohio (Highways)	I	630	2557	43	19.64	4.35		15.29		6,7	Purchased as Pcl. No. 107.2-WL (Fra. 200-0.42)
105-T			2987				0.08					from The American Italian Golf Ass'n.
												105-T to construct frontage road.
106-WL	John C. & Mary E. Hoffman	I	1011	1573	284	42.29	9.61		7.18	23.62	7,8	
106							1.88					
107-WL	John C. & Mary E. Hoffman	I	218	1199	601	57.07	22.21	Yes	20.86	6.44	8,9,10,	Excluding 1.43 Ac. in P.R.O.
107							5.71				21,23	
107A							0.17					Excluding 0.25 Ac. in P.R.O.
107-X							1.61					Excluding 0.11 Ac. in P.R.O.
107-T							0.03					Remove Sheds
108	Not Required											
109-WL	Milton R. & Edna Latham	I	1000	938	184	42.59	6.53	Yes	17.70	9.79	9,22,23	Excluding 0.71 Ac. in P.R.O.
109							7.06					Excluding 0.80 Ac. in P.R.O.
109-X							1.25					Excluding 0.09 Ac. in P.R.O.
109-T							0.08					Remove Barn
110-WL	Colorado Oil & Gas Corporation	I	1161	2459	630	72.91	2.10			70.56	9,11,22	Excluding 0.25 Ac. in P.R.O.
111-WL	James H. Moore	I&IG	171	2196	441	308.00	19.68		28.4.12	1.41(L.L.)	9,10,11,12	Excluding 1.22 Ac. P.R.O. (1.54 Ac. in IG)
111							1.16				13,21	Excluding 0.41 Ac. in P.R.O.
111-X							0.42					

P.R.O. indicates present road occupied. (L.L.) indicates residual lands that are landlocked.

PARCEL NO.	OWNER	TYPE FUNDS	AUD. PCL.	DEED RECORD BOOK	DEED RECORD PAGE	DEED AREA	TO BE ACQUIRED LAND	TO BE ACQUIRED BLDGS	RESIDUE LEFT	RESIDUE RIGHT	SHEET NO.	REMARKS
112-WL	Caroline Boge	IG	124	682	516	106.26	9.38		95.44	1.44(L.L.)	13,14	
113 Aerial	The Pennsylvania Railroad	IG	163	520	421	1.50	0.49				14,15	
113A							0.01					368 S.F.
113B							0.01					368 S.F.
113C							0.01					368 S.F.
113D							0.01					368 S.F.
113-SL							0.11					
113A-SL							0.20					
114-WL	Hazel M. Schnug	I&IG	215	2224	619	41.00	21.60	Yes	14.95	4.13	14,16,17	Excluding 0.32 Ac. in P.R.O.
114-T							0.02					Remove Residential Building
												(14.47 Ac. in IG
115 Aerial	The New York Central Railroad	IG	228	247	445	1.87	0.50				18,19	
115A												225 S.F.
115B												225 S.F.
115C												225 S.F.
115D												225 S.F.
115E												293 S.F.
115F												293 S.F.
115G												293 S.F.
115H												293 S.F.
115-SL							0.22					
115A-SL							0.10					
116-Y	Lawence J. & Francis M. Eiterman	IG	1033	761	143	156.25	0.19				156.25	20
				980	75							

COMPLETION DATE : Aug. 2, 1965

REV.	DATE	DESCRIPTION
1	8-9-65	Parcels 103-WL, 103B, 103C, 103-T
		103-T1 & 104 added

PROPERTY MAP

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

207
227

FRANKLIN COUNTY
FRA-270-0.79 N

R/W PLANS 3/23
LIMITED ACCESS

0 300 600

WALCUTT ROAD
LEAP ROAD
PRAIRIE TWP.
NORWICH TWP.
TRABUE ROAD
CO. RD. 27
CO. RD. 28
ROBERTS ROAD
SCIOTO DARBY CREEK ROAD
CO. RD. 29
HILLIARD CEMETERY ROAD
MILLIKEN ROAD
WILSON ROAD
CO. RD. 25
SMILEY ROAD
DUBLIN ROAD
PENNSYLVANIA RAILROAD
NEW YORK CENTRAL RAILROAD
RELOCATED WILSON RD.
ROBERTS ROAD CONNECTION

END PROJECT FRA-270-0.00S&N
BEGIN PROJECT FRA-270-0.79 N
SLM 0.79
STA. 270+55.06
I-270-4(3)
I-IG-270-5(2)92

END PROJECT FRA-270-0.79N
SLM 3.47
STA. 412+42
BEGIN PROJECT FRA-270-3.47 N
I-270-5(3) 95
I-IG-270-5(2)92

323+70.28 ℄ IR 270 = 25+00 ℄ RELOCATED ROBERTS ROAD

11+40 ROBERTS RD. 51+43.04 FRONTAGE RD. A

37+34.83 RELOCATED ROBERTS ROAD = 25+91.43 RELOCATED WILSON ROAD

BEGIN R/W ACQUISITION
FRA-270-3.47N
STA. 382+17.51

END R/W ACQUISITION
FRA.-270-0.74 N
STA. 405+75

VMS 2988
VMS 3316
VMS 5232
VMS 5241
VMS 287
VMS 3001
VMS 547
VMS 544

Ellsie M. Russell & Clara Mae O'Brien [Margaret J. Hauelson (L.E.)] 107.59 Ac.
James H. Moore 308.00 Ac.
Caroline Boge 106.26 Ac.
Hazel M. Schnug 41.00 Ac.
William T. & B. Ann Connor 112.12 Ac.
John C. & Mary E. Hoffman 57.07 Ac.
State of Ohio 19.64 Ac.
Land locked 1.39 Ac.
Roy & Edith Miller 78.84 Ac.
John C. & Mary E. Hoffman 42.29 Ac.
The American Italian Golf Association 153.84 Ac.
W.E. & D.A. Hoffman 2 Ac.
G.W. Keny 2 Ac.
Milton R. Latham 12.47 Ac.
Milton R. & Edna Latham 42.59 Ac.
Colorado Oil & Gas Corp. 72.91 Ac.
Roy E. & Phyllis J. Haggit 0.79 3 Ac.
Irene G. Nieder 4.794 Ac.
G.W. & W.T. Holbrook 3.992 Ac.
Land locked 1.44 Ac. Marble Cliff Quarries
Col. Southern Ohio Elec. 0.74 Ac.
Lawrence J. & Francis M. Eiterman 156.25 Ac.
High Voltage Transmission Lines
10" Oil Line
24" Sanitary Sewer

CURVE DATA
P.I. 327 + 30.08
D = 0°28'
Δ = 9°34'15"
R = 12,277.67'
T = 1,027.84'
E = 42.95'
L = 2,050.89'

NOTE: L.L. indicates residual lands that are landlocked
V.M.S. indicates Virginia Military Survey

UTILITIES

The Columbus & Southern Ohio Electric Co.
215 N. Front St., Columbus, Ohio
(Mr. J.H. Inskeep)

The Ohio Fuel Gas Co.
99 N. Front St., Columbus, Ohio
(Mr. P.C. Held)

The Ohio Bell Telephone Co.
111 North Front St., Columbus, Ohio
(Mr. John Ludden)

City of Hilliard
City Building Hilliard, Ohio

Inland Corporation (Standard Oil Co. of Ohio)
Midland Bldg. 101 Prospect Ave., Cleveland, Ohio

PROPERTY MAP

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

208/227

FRANKLIN COUNTY
FRA-270-0.79N

R/W PLANS
LIMITED ACCESS

4/23

STA 11+40 ℄ ROBERTS ROAD =
STA 51+43.04 ℄ FRONTAGE ROAD A

STA 323+70.28 ℄ IR 270 =
STA 25+00 ℄ RELOCATED ROBERTS ROAD

0 200 400

21

James H. Moore

Margaret J. Haueison (L.E.)

(103)

(107)

John C. & Mary E. Hoffman

10

12

(111)

Caroline Boge

(112)

13

FRONTAGE ROAD A

W-S RAMP

E-S

N-W RAMP

℄ IR 270

8

(106)

9

S-E RAMP

E-N RAMP

John C. & Mary E. Hoffman

11

W-N

(109)

Milton R. & Edna Latham

23

WILSON ROAD

RELOCATED WILSON ROAD

RELOCATED ROBERTS ROAD

(110)

Colorado Oil & Gas Corp.

Marble Cliff Quarries

22

ROBERTS ROAD

ROBERTS ROAD CONNECTION

37+34.83 RELOCATED ROBERTS ROAD =
25+91.43 RELOCATED WILSON ROAD

42+05 RELOCATED ROBERTS ROAD =
0+00 ROBERTS ROAD CONNECTION

R/W INDEX - ROBERTS ROAD INTERCHANGE

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

209
227

FRANKLIN COUNTY
FRA-270 - 0.79 N

R/W PLANS 5/23

LIMITED ACCESS

0 50

PRAIRIE & NORWICH TWPS.
V.M.S. 3316

NORWICH TWP. / PRAIRIE TWP.

N 23°27'51" W 75.00' L 45+14.99

76.79' Trees & Brush

190.00' L 45+35.00

77.11' L 45+45.00

200.00' L 45+85.00

103 T 0.18 Ac.

82.76' L 46+25.00

0.06' to ℄ Constr. Sta. 45+31.49

30' 6

N 74°54'38" E

Existing R/W

30.0' Rt.

R/W 355.50'

N 78°56'36" E 219.72'

TRABUE

P.I. & R/W

29.5' Lt.

Twin 36" Culvert

Dirt Lane

Ruin Conc.

Slab floor

Block Shed

B.T. Drive

S 79°15'11" W 95.06'

12" Conc. Pipe

48

Net 0.45 Ac.
P.R.O. 0.22 Ac.

103 C

29.5' Rt.

100.00' 48+69.61

150.00' 261+40.00

103.25'

102.65'

N 01°59'33" E LA/RW

Construction Limits

℄ Constr. 48+46.42 - 0.59'

M.B.

S 79°15'11" W 12" Conc. Pipe

℄ Constr.

29.0' Rt.

CLARA MAE O'BRIEN
ELLSIE M. RUSSELL
[MARGARET J. HAUEISON. (L.E.)]

N 01°59'33" E LA/RW 1433.44

Sta. 255+00

Sta. 270+00

103 WL

Barn

256 258 260 262 264 266 N 1°-59'-53" E 268 270

Septic Tank

Slab Floor

℄ IR 270 - ℄ Survey

29.0' Lt.

℄ IR 270 Sta. 260+68.86
℄ R/W Trabue Road

℄ IR 270 Sta. 260+70.31
℄ Constr. Trabue Road
Sta. 50+00.40

Drilled Well

Net 7.24 Ac.
P.R.O. 0.21 Ac.

Barn

Shed

103 W-L

Shed

29.4' Rt.

Gravel Drive

100.00' 51+71.51

Chicken House

Oil Tank

165.00' L 51+92.64

Garage

Construction Limits

℄ Existing R/W

301.58'

24.00'

51+55.00

12" Conc. Pipe

M.B.

12" Conc. Pipe

Bar. Res.

LA/RW 730.82' S 01°59'53" W 1.03 Ac. Land Locked

103 B

Drilled Well

Septic Tank

103 T1 0.05 Ac.

Maple

Oil Tank

165.00' L 52+22.03

52+20.00

Brick Shed

Clump of 5 Trees

N 83°02'53" E 107.31'

Columbus & Southern Ohio Electric Company Easement Vol. 1858, pg. 9

Tower

I.P.

50'

RAY & EDITH MILLER

Columbus & Southern Ohio Electric Company Easement Vol. 1912, pg. 521

Dirt Lane (To be Abandoned)

104 WL

702.09'

N 23°17'53" E 768.00'

Match Line

PRAIRIE TWP. / FRANKLIN TWP.

Begin R/W Acquisition Sta. 60+68.86

32.

N 78°56'36" E 130.21'

12" Conc. Pipe

S 79°15'11" W 351.15'

M.B.

Existing R/W

407'

S 79°15'11" W 297.43'

FRANKLIN TWP. / NORWICH TWP.

Septic Tank

GLENN E. & A. M. PETERSON

1074 C-T

130.00' L 54+45.30

129.74' L 54+60.00

145.00' L 54+60.00

104 T 0.02 Ac.

N 23°24'11" W 137.15'

Net 0.70 Ac.
P.R.O. 0.21 Ac.

S 23°24'11" E 125.42' L 298.40'

R/W

54+77.77

Match Line 55+00
See Insert

104

224.20' 265+70.80

CURVE DATA
D = 0°30'
Δ = 2°11'59"
R = 11,459.16'
T = 220.00'
L = 439.95'

Sta. 55+00

145.00

55+05.00

104 T 0.02 Ac.

RAY & EDITH MILLER

128.94' 55+05.00

125.42' L 57+42.30

N 79°57'24" E R/W 298.40'

Shell Oil Co. High Pressure Pipeline

1071 C

℄ Combined Drive No. 4

104 Net 0.70 Ac.
P.R.O. 0.21 Ac.

133.37'

S 23°21'11" E

PI 58+36.41

Match Line

TRABUE RD. ℄ constr.

N 78°56'36" E 56 58 N 81°08'35" E

S 79°15'11" W 297.43

Exist. ℄ R/W

4.65'

12" Conc. Pipe 12" Conc. Pipe

PC. 56+16.41

I Funds

COMPLETION DATE: Aug. 2, 1965

REV.	DATE	DESCRIPTION
1	8-9-65	Parcels 103-WL, 103B, 1036, 103-T
		103-T1 & 104 added. also 104-T

RIGHT OF WAY 255 TO 270

For Fence Quantities see sheet 20

FRANKLIN COUNTY. NORWICH TWP.
V.M.S. 3316

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

210 / 227

FRANKLIN COUNTY
FRA - 270 - 0.79 N

R/W PLANS
LIMITED ACCESS

6 / 23

0 50

END PROJECT	BEGIN PROJECT
FRA 270+0.00 S&N	FRA-270-0.79 N
	SLM 0.79
I - 270 - 4(3)	STA. 270+55.06
	I-IG-270-5(2)92

CLARA MAY O'BRIEN
ELLSIE M. RUSSELL
[MARGARET J. HAUEISON. (L.E.)]

397.62'
279+92.31
I.P.
284.94'
S 62° 20' 28" W
579.51'
Dirt Lane
S 23° 17' 53" E
150.00
274+68.37
148'
270+55
N 01° 59' 33" E
LA/RW
Construction Limits
1433.44'
Type 47 Fence
664.93'
N 01° 59' 33" E
(Landlocked 1.89 Ac.)
STATE OF OHIO
(Purchased as Parcel No.1078-WL of Project No. FRA-200-0.40 from the American Italian Golf Association.)
160.00'
281+33.30
LA/RW
666.70'
Sta. 270+00
Sta. 285+00
103 WL
7.24 Acres
0.21Ac. P.R.O.
To be Abandoned
351.04'
S 23° 17' 53" E
351.04'
12" Tile
6" Tile
172.61'
105 WL
4.35 Acres
271+50.99
365.22'
282+18.71'
N 1° 59' 53" E
270
272
274
276
278
280
282
284
IR 270 - ℄ Survey
351.04'
702.09
Match Line
104 WL
7.35 Acres
Construction Limits
Type 47 Fence
LA/RW
1470.51'
S 01° 59' 53" W
LA/RW
614.81'
148'
270+55
150.00
283+04.12
Match Line
THE AMERICAN-ITALIAN GOLF ASSOCIATION
RAY & EDITH MILLER
10" Oil Line
10" Oil Line
25'
Inland Corporation Easement Vol. 2571, pg. 335
30'
Tower
Tower
501'
Columbus & Southern Ohio Electric Company Easement Vol. 1912, pg. 521
V.M.S. 3316
V.M.S. 544

I Funds

COMPLETION DATE : Aug. 2, 1965

REV.	DATE	DESCRIPTION
1	8-9-65	Parcel 103-WL completed.

RIGHT OF WAY. 270 TO 285

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

211 / 22

FRANKLIN COUNTY

FRA-270-0.79 N

R/W PLANS 7/23

LIMITED ACCESS

0 60

FRANKLIN COUNTY. NORWICH TWP.
V.M.S. 3316 & 544

STATE OF OHIO
(Purchased as Parcel No. 1072-WL of Project No. FRA-200-0.40 from The American Italian Golf Association)

1-Sty Block Bldg.

Flag Pole

846.54' to Iron Pin @ N.E. Cor. Property
℄ N 40° 30' 36" W

V.M.S. 3316
V.M.S. 544

JOHN C. & MARY E. HOFFMAN

FRA-270-0.108 N
9'x7' Box Culvert
Sta. 286+24.75

148' 286+15
150' 286+50
666.70'
N 01° 59' 33" E

℄ A/RW

Sta 285+00

Type 1 Ditch Crossing

N 11° 07' 14" E 100.92'

150.00' 288+00
142.09' 288+49.27
200.00' 289+12.45
200.00' 289+71.65
Gravel
105-7
℄ P 97.66

℄ R/W
N 01° 59' 53" E 428.35

30" Culvert

Construction Limits

℄ L A
N 01° 59' 53" E 354.44'

134.00' 288+99.64
132' 289+00
149.82' 289+00
148' 288+00
287+59.19 ℄ P
76 R
℄ P
40 287+83
287+22

134.00' 292+54.08
132' 292+54
Type 47 Fence

200.00' 294+00

℄ R/W
N 0° 51' 50" W 676.86'

106 1.88 Acres

℄ Frontage Road "A"

150' 19+10

℄ R/W

℄ L A
chord = 592.44' N 00° 37' 02" E
R = 12293.67'

FRA-270-0.133 N

148.28' 298+46.35
146.3' 298+46
S 00° 15' 48" E 300.17'
20
154' 19+87
Type 1 Ditch Crossing

Sta 300+00

286
290 N 1°-59'-53" E 292 294 296 298 300
℄ T.R 270 - ℄ Survey

Plank Bridge

183.95' S 56° 37' 42" W 244.13'

48" Conc. Culvert

105 WL 4.35 Acres

148' 286+00
148' 286+34
℄ P
℄ R
℄ 14.81'
Type 1 Ditch Crossing

10" Dia. Abandoned Private Drive (Gravel)

150.00' 289+18.93

Easement Vol. 1571, Pg. 448

18" Gas Main (Ohio Fuel Gas Co.)

106 WL 9.61 Acres

Construction Limits

℄ L A/RW
S 01° 59' 53" W 1499.61'

Type 47 Fence

℄ L A/RW

148' 298+96
148' 299+14
Type 1 Ditch Crossing

Match Line

Match Line

10" Oil Line

Inland Corporation Easement Vol. 2584 pg. 173

THE AMERICAN ITALIAN GOLF ASSOCIATION

Columbus & Southern Ohio Electric Company Easement Vol. 1898, pg. 461

Columbus & Southern Ohio Electric Company Easement Vol. 1898, pg. 260

Tower

Inland Corporation Easement Vol. 2571, pg. 318

50'
30'
30'

I Funds

COMPLETION DATE: Aug. 2, 1965

REV.	DATE	DESCRIPTION

RIGHT OF WAY. 285 TO 300

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

212/227

FRANKLIN COUNTY

FRA-270-0.79N

R/W PLANS 8/23

LIMITED ACCESS

0 50

FRANKLIN COUNTY. NORWICH TWP.
V.M.S. 544, 5232 & 5241, & 287

CLARA MAE O'BRIEN
ELLSIE M. RUSSELL
[MARGARET J. HAUEISON. (L.E.)]

JOHN C. & MARY E. HOFFMAN

233.80'
300+76.02

N 0°51'52" W R/W

676.86'

Construction Limits

℄ Frontage Road "A"

106 1.88 Acres

20

162.43'
301+39.72

95.57'

293.71'
S 00°45'48" E

LA

N 0°45'48" W 514.66'

Type 47 Fence

Sta 300+00

103A 0.98 Acres

24

26

262.10'
306+41.97

75.80'

87.22'
306+53.78

N 0°51'52" W 158.22'

270.00
308+00

N 01°48'58" W R/W 751.66'

107 5.71 Acres

28

30

32

54" Culvert

496.80' LA

℄

N 0°45'48" W

201.2'
311+48

211.16'
311+50

S 88°00'07" E

65.06'

Type 1 Ditch Crossing

198.87'

LA

144.1'
311+48

146.10'
311+50

N 0°48'16" E

Sta 312+00

FRA-270-0.157N
72" Culvert
Sta. 312+00

W-5 RAMP

189.59'

N 83°02'19" E

℄ 306+89.29

341.38'

151.66'

103A WL 3.04 Acres

N 50°15'02" E 211.70'

℄ 302+84.67

418.15'

300 302 304 306 308 310 N 1°-59'-53" E 312

IR 270 - ℄ Survey

107 WL 22.21 Acres
1.43 Acres in P.R.O.

106 WL 9.61 Acres

201.05'

148'
307+07

Type 1 Ditch Crossing

Construction Limits

Match Line

1499.61'

LA/RW

S 1°59'53" W

Type 47 Fence

LA/RW 288.40'

S 03°17'27" W

LA/RW 443.17'

S 01°59'53" W
200.00'

LA

158'
311+50

150.00'
311+50

50.00'

107 X

1.61 Acres
0.11 Acres in P.R.O.

158'
311+90

150.00'
304+18.54

150.00'
307+06.94

10" Oil Line

N 88°00'07" W

RW

210.00'
311+50

588.08'

Inland Corporation Easement
Vol. 2577 pg. 645

50'

Tower

Columbus & Southern Ohio
Electric Company Easement

S 19°52'48" W

397.34' to S.E. Cor. Prop.

V.M.S. 5232 & 5241
V.M.S. 544

V.M.S. 287
V.M.S. 5232 & 5241

JOHN C. & MARY E. HOFFMAN

I Funds

COMPLETION DATE: Aug. 2, 1965

REV.	DATE	DESCRIPTION

RIGHT OF WAY. 300 TO 312

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

213/227

FRANKLIN COUNTY. NORWICH TWP.
V.M.S. 287 & 547

JOHN C. & MARY E. HOFFMAN

N 1°-59'-53" E

3/2 3/4 3/6 3/8 320 322 See Sheet 10 324 326

I.R. 270-℄ Survey

Sta. 25+00 Reloc. Roberts Rd. = Sta. 323+70.28 I.R.-270

℄ 324+97.94

FRANKLIN COUNTY
FRA-270-0.79N

R/W PLANS
LIMITED ACCESS
9/23
0 50

285.54' N82°14'38"E 640.84'

22.4' Lt.

FRA-270-0205 L & R

B.F.D.

325.64'+

Exist. R/W

JAMES H. MOORE
111/WL
19.68 Acres
1.22 Acres in P.R.O.

72" Culvert

3/2 3/4 3/6 3/8

S.01° 59' 53"W 200.00'

158' 3/2+35

160.00' 3/3+50

158' 3/3+50

S.12°12'07"W LA 254.02'

209' 3/6+00

PC 317+02.24

6" Tile

21" Culvert 10" Oil Line ?

107/WL 22.21 Acres
1.43 Acres in P.R.O.

CURVE DATA
P.I. Sta. 327+30.08
D = 0°-28'
Δ = 9°34'15"
R = 12,277.67'
T = 1,027.84'
L = 2,050.89'
E = 42.95'

80'

Columbus & Southern Ohio Electric Company Easement Vol. 1898, pg. 449

26.6' Rt.

Ex. 48" Pipe

Tower

V.M.S. 287
V.M.S. 547

283.93' 325+21.30

N07°23'49"W 553.83'

23.2' Lt.

30' Inland Corporation Easement Vol. 257, pg. 322

205.00' 316+00

S27°32'36"W 139.09'

3/8

107/X 1.61 Acres

Type I Ditch Crossing

265.00' 317+25

268' 317+25

163.88'

R/W S19°52'48"W 588.08'

Exist. R/W

305.69' 325+36.25

196.62'

R.R. Spike

Ex. 48" Culvert

S7°10'21"E 504.64'

701.27'

28+05.64

27.3 Rt.

Sta. 312+00

Gravel Drive

105.76' 313+67.29

330.58' 317+20.44

Ex. 30" Culvert 366.26' 318+49.05

340

29.0' Rt.

28.0' Rt.

S-E RAMP

S40°39'43"W LA

10" Pipe

145.64'

142.07'

28.7' Rt.

435.00' 318+40

378.56' WILSON ROAD CO. RD. 25

29.3' Rt.

29.0' Rt.

V.M.S. 287
V.M.S. 547

30'

Exist. R/W

R/W

RELOCATED WILSON ROAD

13 14 15 16 17

109/X 7.06 Acres 0.80 Acres

Construction Limits

Future Maintenance Opening See Detail Below

492.70'

Type #7 Fence

109/WL 6.53 Acres 0.71 Acres

S40°39'43"W LA 376.42' 1.25 Acres 0.08 Acres in P.R.O.

R/W

189.76' 32+00

S13°45'03"W 107.03'

90.00' 32+00

150.00' 33+00

N85°43'27"W 448.93'

88' 32+00

RELOCATED ROBERTS ROAD

S 8°33'54" E

322

692.77' 325+15.38

W-N RAMP

324

326

Sta. 327+00

Match Line

2.10 Acres
0.25 Acres in P.R.O.

110/WL

368.37'

344

23.8' Lt.

Type #7 Fence S41°03'16"E 665.00'

COLORADO OIL & GAS CORPORATION

E-N RAMP

228' 31+70

60'

30'

276.99' 311+21.56

166.19'

230.00' 31+70

S40°01'38"E 252.83'

Construction Limits

Exist. R/W

CO. RD. 28 ROBERTS ROAD

23.8' Lt.

26.2' Rt.

Match Line

Sta. 33+00

See Sheet 22

See Sheet 23 for Relocated Wilson Road

MILTON R. & EDNA LATHAM

P.B. N43°26'09"E

P.T. STA. 16+32.61

Construction Limits

R/W

R/W

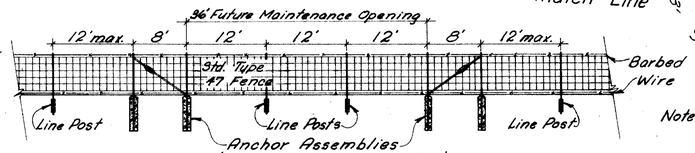
Match Line

26.5' Rt.

324

322

324



Detail - Future Maintenance Opening

Note: Cost of maintenance opening shall be included in the unit price bid for fence.

I Funds

COMPLETION DATE : Aug. 2, 1965

REV.	DATE	DESCRIPTION

RIGHT OF WAY 3/2 TO 327 RT

FRANKLIN COUNTY. NORWICH TWP.
V.M.S. 287

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

214 / 227

FRANKLIN COUNTY
FRA-270-0.79N

10 / 23

RIW PLANS
LIMITED ACCESS

0 50

CURVE DATA

Relocated Roberts Road
P.I. Sta. 19+44.16
Δ = 2° 33' 59"
D = 0° 26' 00"
R = 13,222.10'
T = 296.17'
L = 592.24'

CURVE DATA

P.I. Sta. 327+30.08
D = 0°-28'
Δ = 9°-34'-15"
R = 12,277.67'
T = 1,027.84'
L = 2,050.89'
E = 42.95'

Match Line Sta. 312+00

Match Line

See Sheet 21

Sta. 16+00

Match Line Sta. 327+00

91.69' 16+25
N 02° 52' 07" E 158.41'
93' 16+70 250.00' 16+25
119.80'
653.47'

P.C. 16+47.99

91' ± 38' Culvert 17+00

Exist. R/W

S 87° 07' 53" E 551.25'

L/A R/W

0.48 Acres

97' 17+30

S 36° 57' 34" E 250.00' 17+43

S 03° 16' 49" W 149.24'

22.5' Lt.

Type I Ditch Crossing

N 88° 27' 22" E

P.I. 19+44.16

Construction Limits

100.76' 17+43

110.00' 18+50

635.66' Lt. 325+58.10

N 34° 26' 22" E 108' 18+50

Type 47 Fence

L/A R/W 330.29'

Dirt Drive 25.0' Lt.

Gore Block Riprap

N-W RAMP

6.5'x3.5' Box Culvert

20.5' Lt.

JAMES H. MOORE

111 WL 19.68 Acres 1.22 Acres in P.R.O.

ROBERTS CO. RD. 28

N 82° 14' 38" E 535.36'

Exist. R/W

30' 60'

840.84'

22' Lt.

Dirt Drive

107 WL 22.21 Acres 1.43 Acres in P.R.O.

S 84° 33' 52" E

6" Tile

RELOCATED ROBERTS ROAD

P.T. 22+40.23

FRA-270-0805 L & R

26' Rt.

22.0

28' Rt.

003 Acres

107 T

255.00' 17+50

N 70° 26' 18" W R/W 206.75'

314.00' 17+83.00

303.98' 18+26.70

174.66'

Shed

N 62° 08' 34" W L/A

326

350.00' 19+00

N 52° 24' 53" W

Shed

Barn

Corn Crib

R 863.20'

42

Chicken House

324

Corn Crib

1½ Sty Fr. Res.

Septic Tank

B.T. Drive

Gravel

Barn

489.00' chord = 561.12'

320+90.72

487'

320+91

29.4' Rt.

20.0'

12" Pipe

324+36.74 552.31'

20' Elm

12" M.B.

Barn E-S RAMP

324

322

Corn Crib

Silo

Brick Wall

Z

430.00' 318+00

323.57'

R/W N 35° 56' 20" W

Road "A" 40

℄ Frontage Road "A"

107

5.71 Acres

349.62' 319+03.62

N 37° 01' 16" W 228.21'

320.00' 315+50

N 22° 07' 01" W 270.15'

Construction Limits

38

751.66'

R/W N 01° 48' 58" W

36

54" Culvert

L/A

W-S RAMP

320

341.76' 319+04

24" Culvert

318

chord = 584.68' N 18° 06' 29" W

R = 901.93'

150.24' 313+48.83

N 0° 48' 16" E L/A 198.87'

6" Tile

Type 47 Fence

316

148.22' 313+49

72" Culvert

314

PC 317+02.24

312 N 1° -59' -53" E 314 316 318 320 I.R. 270 - ℄ Survey 322 324 326

See Sheet 9

℄ 324+97.94

JOHN C. & MARY E. HOFFMAN

Sta. 25+00 Relocated Roberts Road
= Sta. 323+70.28 I.R.-270

I Funds

COMPLETION DATE : Aug. 2, 1965

REV.	DATE	DESCRIPTION

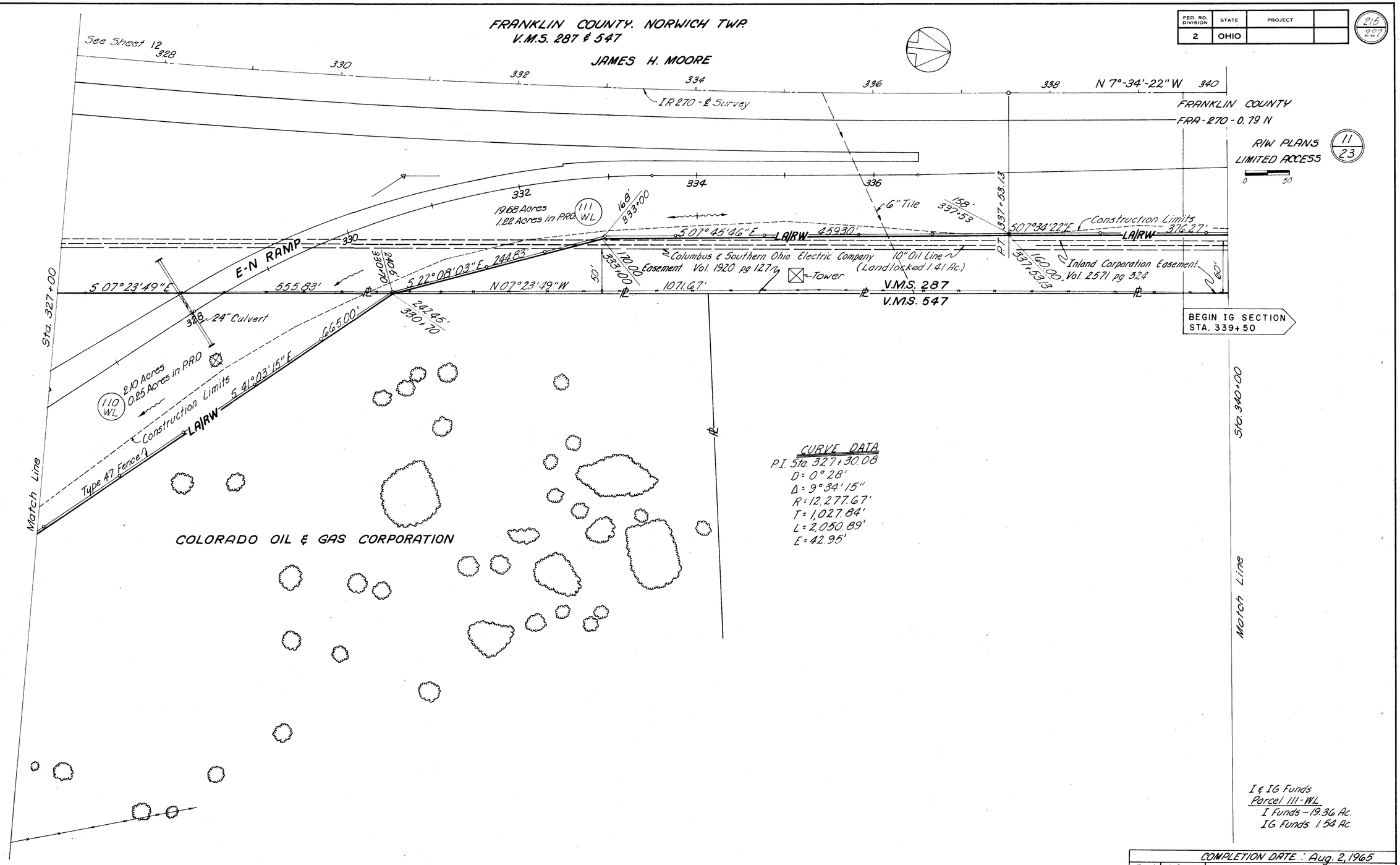
RIGHT OF WAY 312 TO 327 LT.

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

215
227

FRANKLIN COUNTY. NORWICH TWP.
V.M.S. 287 & 547

JAMES H. MOORE



CURVE DATA
P.I. Sta. 327+30.08
D = 0°28'
Δ = 9°34'15"
R = 12,277.67'
T = 1,027.84'
L = 2,050.89'
E = 42.95'

I & IG Funds
Parcel 111-WL
I Funds - 19.36 Ac.
IG Funds 1.54 Ac.

COMPLETION DATE : Aug. 2, 1965

REV.	DATE	DESCRIPTION

RIGHT OF WAY 327 TO 340 RT.

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

216
227

FRANKLIN COUNTY

F.R.A - 270 - 0.79 N

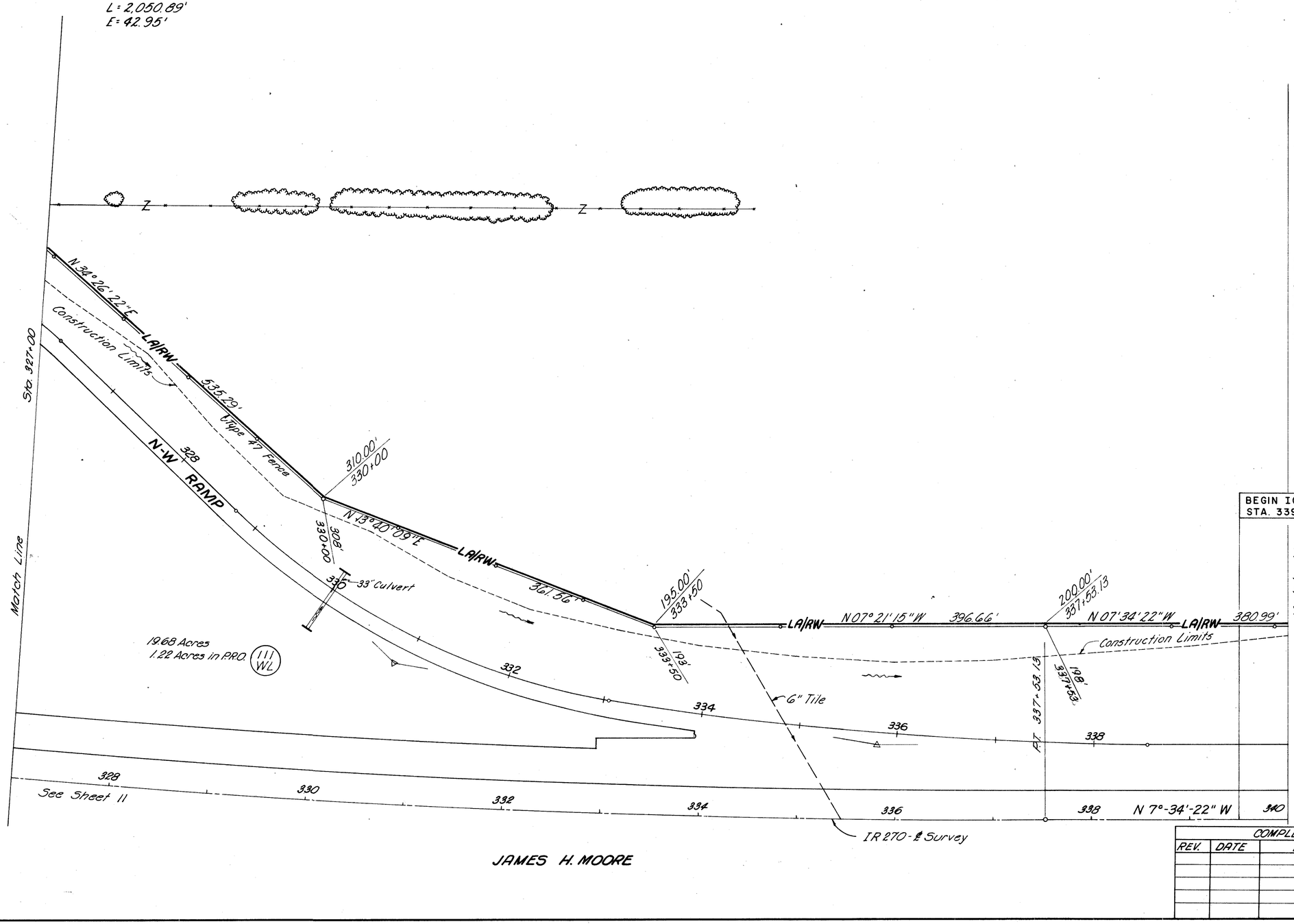
R/W PLANS 12/23

LIMITED ACCESS

0 50

FRANKLIN COUNTY. NORWICH TWP.
V.M.S. 287

CURVE DATA
P.I. Sta. 327+30.08
D = 0° 28'
Δ = 9° 34' 15"
R = 12,277.67'
T = 1,027.84'
L = 2,050.89'
E = 42.95'



JAMES H. MOORE

COMPLETION DATE : Aug. 2, 1965		
REV.	DATE	DESCRIPTION

RIGHT OF WAY 327 TO 340 LT.

FRANKLIN COUNTY. NORWICH TWP.
V.M.S. 287 & 547

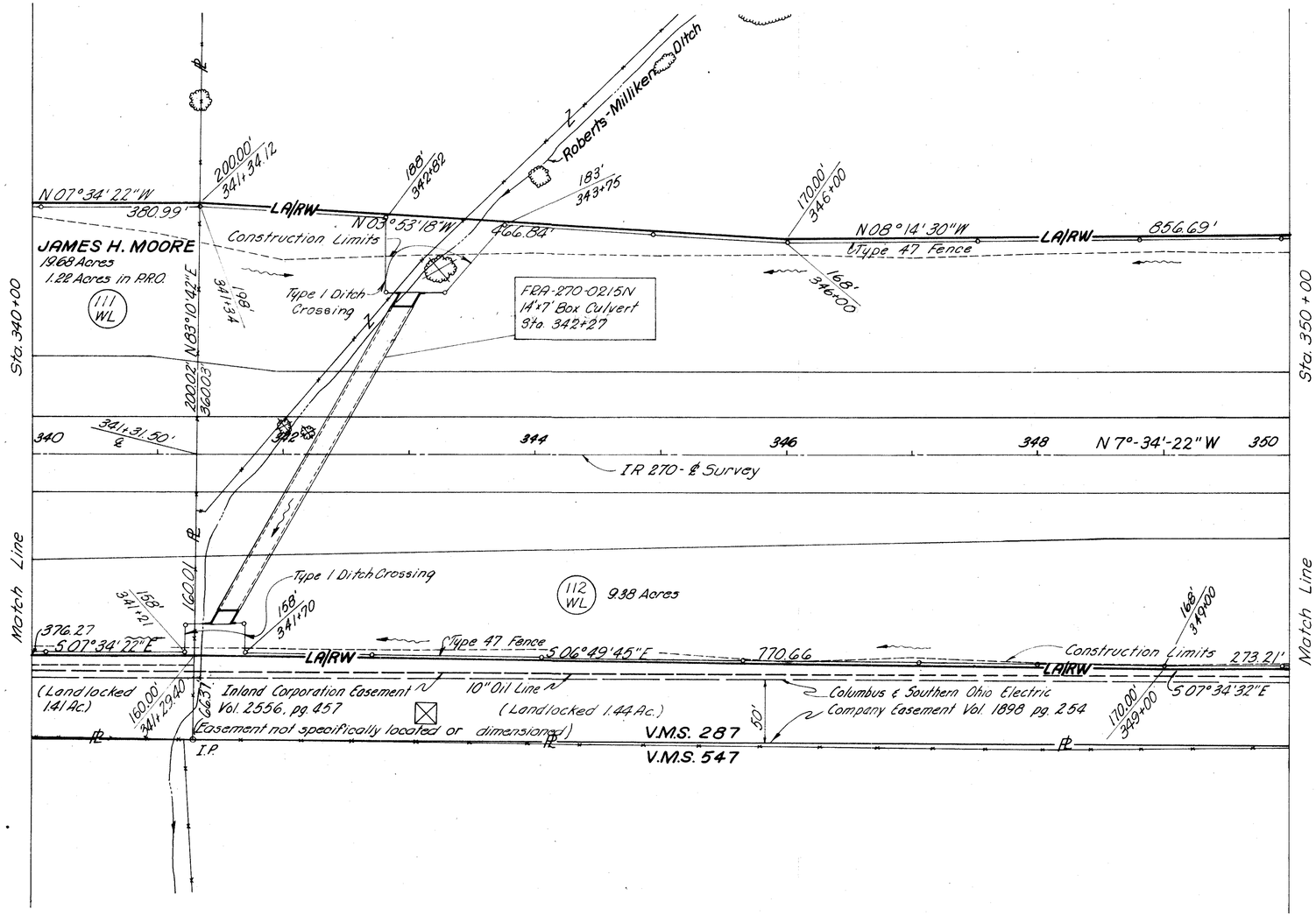
FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

217/227

FRANKLIN COUNTY
FRA - 270 - 0.79 N

R/W PLANS 13/23
LIMITED ACCESS
0 50

CAROLINE BOGE



IG Funds

COMPLETION DATE: Aug. 2, 1965		
REV.	DATE	DESCRIPTION

RIGHT OF WAY 340 TO 350

FRANKLIN COUNTY. NORWICH TWP.
V.M.S. 287 & 547

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

218 / 227

FRANKLIN COUNTY
FRA - 270 - 0.79 N

R/W PLANS 14/23
LIMITED ACCESS
0 50

CAROLINE BOGE

HAZEL M. SCHNUG

For detail of railroad easements see sheet 15

353+62.34 ℄ IR 270 = ℄ PENN. R.R. Val. Sta. 381+85.5

Type 47 Fence — LA/RW — N 08°14'30" W 856.69' — LA/RW

Construction Limits

177' 353+98

Sta. 350+00

0.01 Acres — 113 A

0.49 Acres

0.11 Acres — 113 -5L

0.86 Acres — 112 WL

0.01 Acres — 113 B

Match Line

S 07°34'22" E 273.21'

(Land locked 1.44 Ac.)

V.M.S. 287
V.M.S. 547

PENNSYLVANIA RAILROAD

Columbus

Mile Post No. 7 Sta. 32+25.5

Hilliard

SCIOTO-DARBY CREEK ROAD CO. RD. 29

30' Exist. R/W

180.00' 354+56.63

N 58°34'22" W 386

354

231.62'

Signal Base

113 A -5L

0.80 Acres

FRA-270-0233 L & R

Type I Ditch Crossing

238.00'

418.41'

113 D

0.01 Acres

354+32.86

113 C

0.01 Acres

2-4" Elm

353+87.45

56.07'

16" Elm

20" Elm

140.18'

353+57.95

10" Elm

18" Pine

Born

Born

Shed

172.00' 354+40

Septic

14" Elm

2-Sty.

Sign

Drilled Well

Cistern

Grape Arbor

Drive

Cedar

Brush

Tower

172.00' 352+99.16

352+40.20'

Shed

1-Sty. Fr. Res.

Gravel Drive

Foundation

228.89' 352+67.03

60'

30'

Exist. R/W

114 T

185.00' 356+21.26

N 07°34'22" W 1067.34'

42"x27" Culvert

14" Tree

12" Tree

Twin 24" Conc. Pipe

356+86

183'

Type I Ditch Crossing

FRA-270-0257 N
14'x7' Box Culvert
Sta. 364+54

183' 364+38

Type I Ditch Crossing

183' 364+78

Sta. 365+00

IR 270 - ℄ Survey

N 7°-34'-22" W

2160 Acres
0.32 Acres in PRO
114 WL

Shed

Z

Construction Limits

170' 364+80

170' 364+70

170' 365+00

172.00' 365+00

Match Line

S 07°34'22" E

Type 47 Fence

LA/RW

1200.04'

10" Oil Line

Columbus & Southern Ohio Electric Company Easement Vol. 1898, pg. 458

Inland Corporation Easement Vol. 2567 pg. 494

60'

12" Concrete Culvert

Gate

Tower

Type I Ditch Crossing

36" Concrete Culvert

10" Tile

V.M.S. 287
V.M.S. 547

Private Drive (Gravel)

Gravel Dr.

Gravel Drive

Gar.

1-Sty. Fr. Res.

5.5'x3.5' Rock Culvert

2-Sty. Fr. Res.

Shed

350 352 354 356 358 360 362 364

IG Funds

COMPLETION DATE : Aug. 2, 1965

REV.	DATE	DESCRIPTION

RIGHT OF WAY 350 TO 365

FRANKLIN COUNTY NORWICH TWP.
V.M.S. 287 & 547

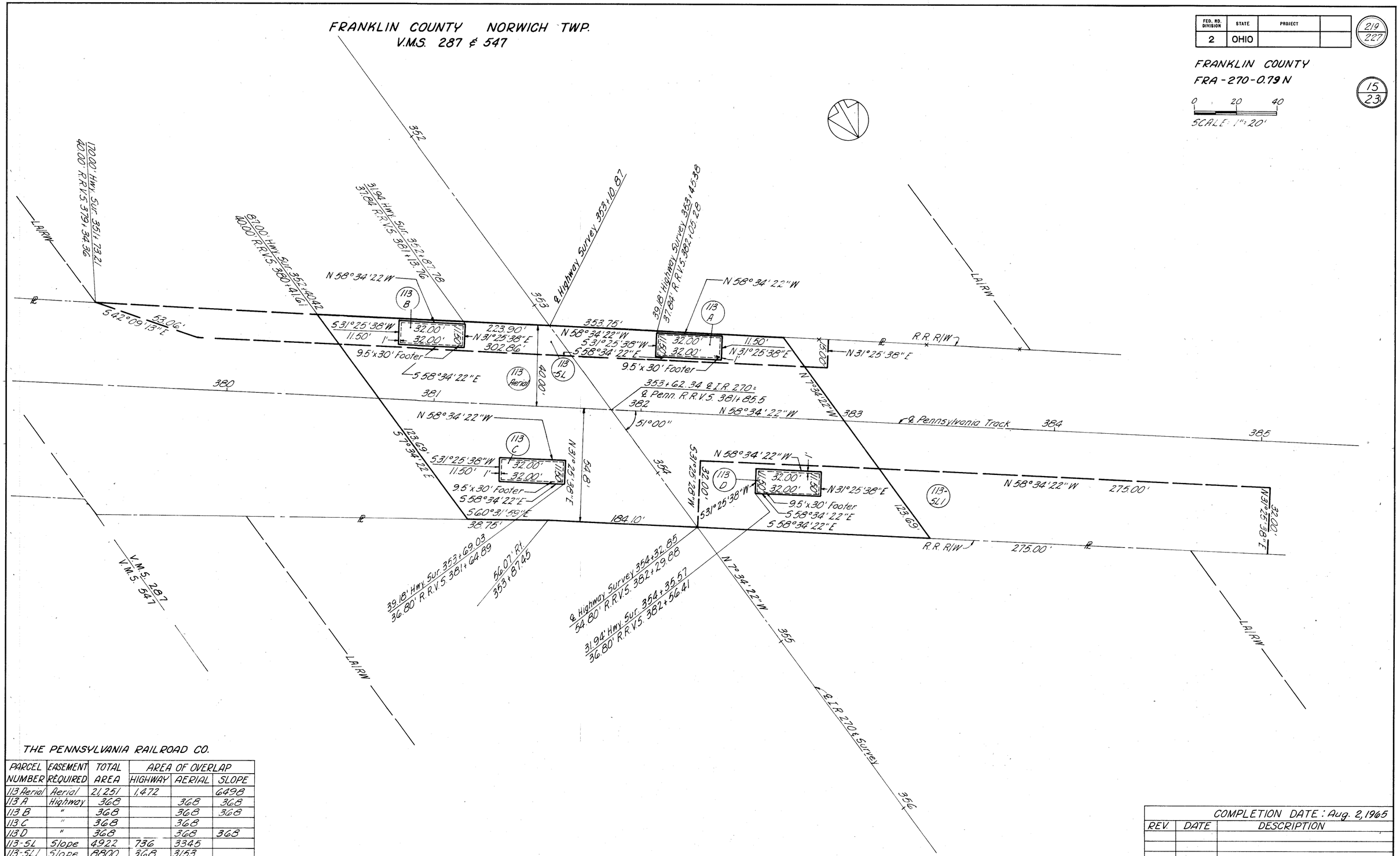
FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

219 / 227

FRANKLIN COUNTY
FRA-270-0.79 N

15 / 23

0 20 40
SCALE: 1"=20'



THE PENNSYLVANIA RAILROAD CO.

PARCEL NUMBER	EASEMENT REQUIRED	TOTAL AREA	AREA OF OVERLAP		
			HIGHWAY	AERIAL	SLOPE
113 Aerial	Aerial	21,251	1,472		6498
113 A	Highway	368		368	368
113 B	"	368		368	368
113 C	"	368		368	
113 D	"	368		368	368
113-SL	Slope	4922	736	3345	
113-SL1	Slope	8800	368	3153	

COMPLETION DATE: Aug. 2, 1965

REV.	DATE	DESCRIPTION

RIGHT OF WAY - PENNSYLVANIA R.R.

FRANKLIN COUNTY. NORWICH TWP.
V.M.S. 287 & 547

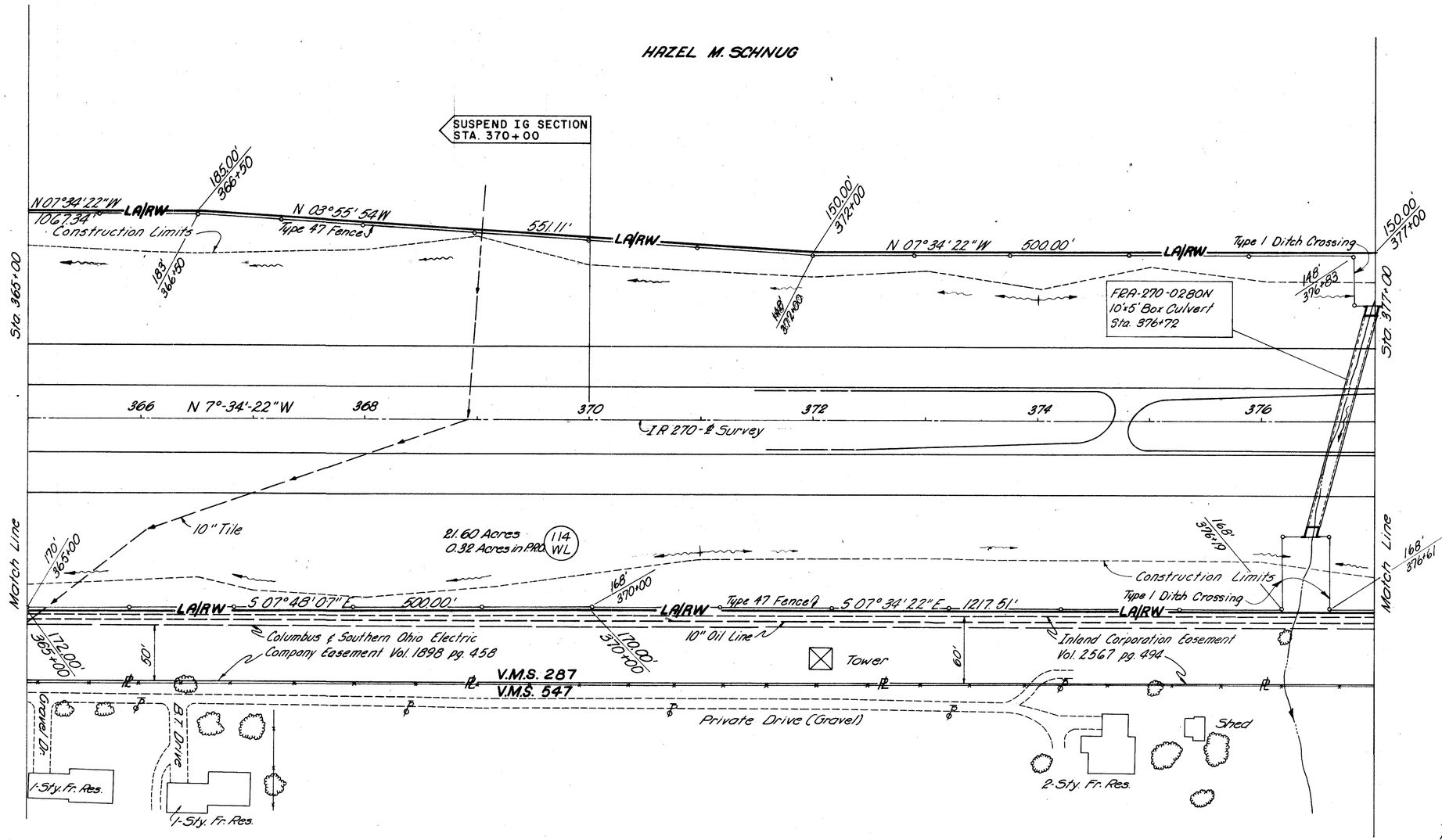
FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

220/227

FRANKLIN COUNTY
FRA-270-0.79N

R/W PLANS 16/23
LIMITED ACCESS

0 50



I & IG Funds
Parcel 114 WL
I Funds – 7.45 Ac.
IG Funds – 14.47 Ac.

COMPLETION DATE: Aug. 2, 1965

REV.	DATE	DESCRIPTION

RIGHT OF WAY. 365 TO 377

FRANKLIN COUNTY. NORWICH TWP.
V.M.S. 287, 547, & 3001

NOTE: The Connor parcel acquired as a part of FRA-270-3.47N

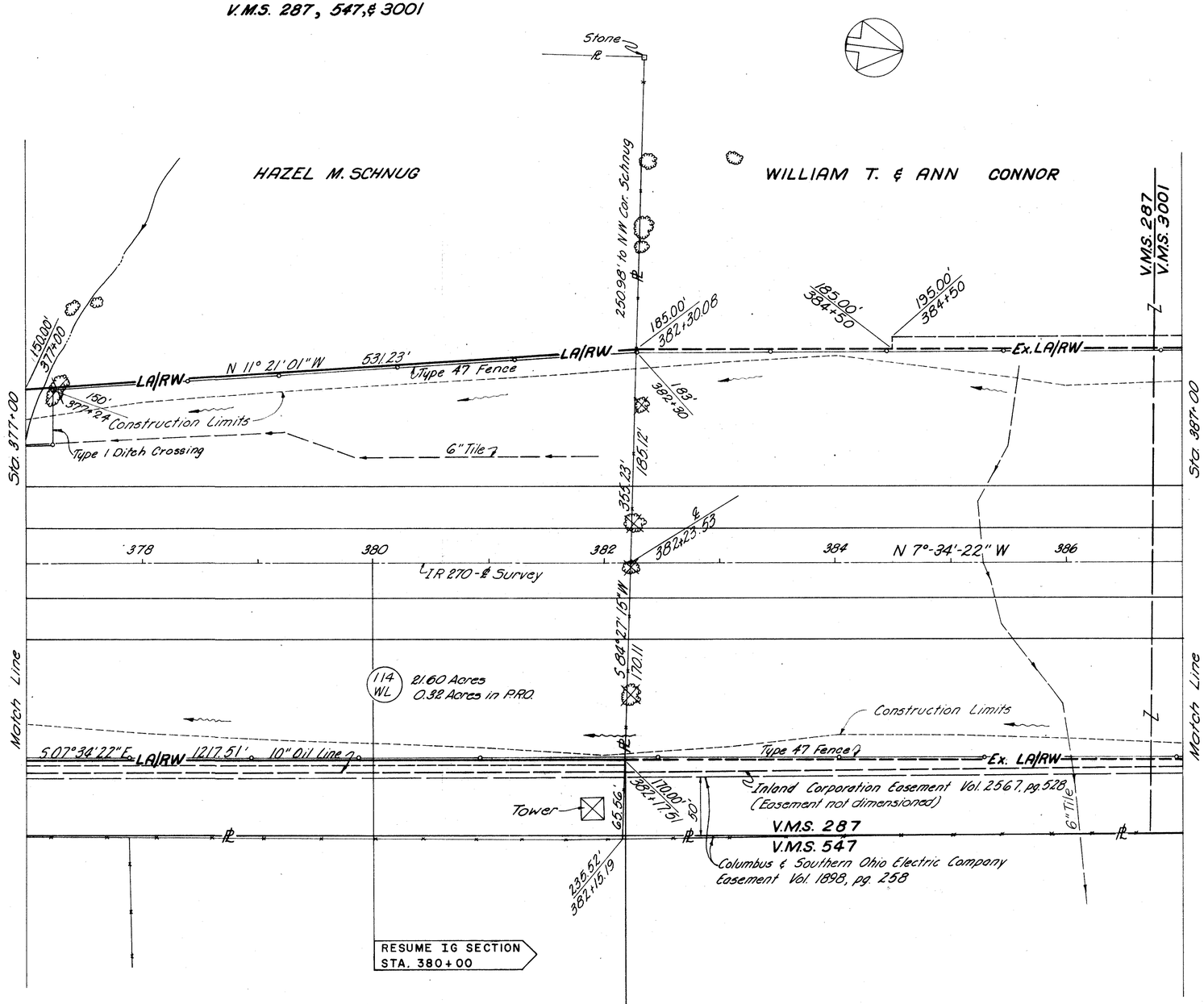
FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

221/227

FRANKLIN COUNTY
FRA-270-0.79N

R/W PLANS 17/23
LIMITED ACCESS

0 50



I & IG Funds - Parcel 114-WL
(See Sheet 16)

COMPLETION DATE: Aug. 2, 1965

REV.	DATE	DESCRIPTION

RIGHT OF WAY. 377 TO 387

FRANKLIN COUNTY. NORWICH TWP.
V.M.S. 547 & 3001

Note: The Connor parcel acquired as a part of FRA-270-3.47 N.

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

222/227

FRANKLIN COUNTY
FRA-270-0.79 N

18/23

R/W PLANS
LIMITED ACCESS
0 50

WILLIAM T. & ANN CONNOR

195.00' 397+25
185.00' 397+25
For Detail of Railroad Easement see sheet 19
185.00' 397+41.37
Vol. 2370, pg. 686 20' Permanent Easement
10" Oil Line
RAILROAD
6566
Hilliard
180.00' 398+58.91
183' 396+61
198' 399+55
Ex. LA/RW
Construction Limits
Type 47 Fence
395+04.52 ℄ I.R. 270 = ℄ N.Y.C. R.R. Val. Sta. 6572+37.58
24" Sanitary Sewer
N 39° 15' 42" W
6570
3" Tile
4" Tile
0.22 Acres
115 A
115 B
115 C
115 D
115 E
115 F
115 G
115 H
115-5L
115 Aerial
116 F
115A-5L
0.50 Acres
0.10 Acres
148°18'40"
FRA-270-0310 L & R
Sta. 387+00
Sta. 402+00
388 390 392 394 396 398 400 N 7° 34'-22" W 402
℄ I.R. 270-℄ Survey
Match Line
Match Line
168' 390+95
170.00' 391+26.32
Sewer
168' 398+97
Ex. 12" Conc. Culvert (Abandoned)
170.00' 392+31.97
6576
6578
Ex. LA/RW
Inland Corporation Easement Vol. 2567 pg. 528 (Easement not dimensioned)
10" Oil Line
Tower
V.M.S. 3001
V.M.S. 547
420' Permanent Easement
Dirt Lane
NEW YORK CENTRAL
Columbus
R.R. Val. Sta. 6576+83
50'
Columbus & Southern Ohio Electric Company Easement Vol. 1898 pg. 258
Type 47 Fence
Ex. LA/RW
4" Tile
Construction Limits
Tower
V.M.S. 3001
V.M.S. 547
LAWRENCE J. & FRANCIS M. EITERMAN

IG Funds

COMPLETION DATE: Aug 2, 1965

REV.	DATE	DESCRIPTION

RIGHT OF WAY 387 TO 402

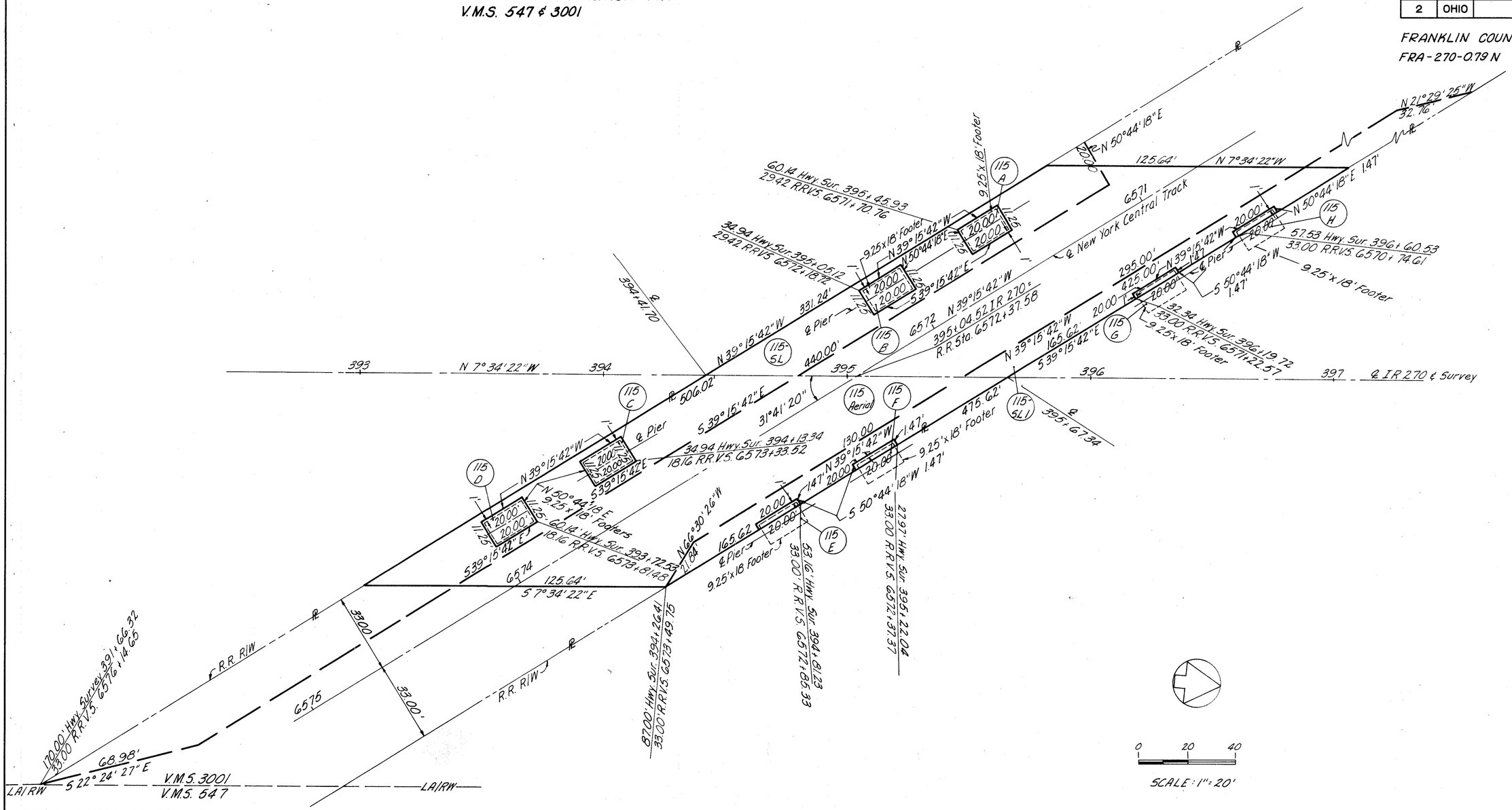
FRANKLIN COUNTY NORWICH TWP.
V.M.S. 547 & 3001

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

223/227

FRANKLIN COUNTY
FRA-270-0.79 N

19/23



THE NEW YORK CENTRAL RAILROAD CO.

PARCEL NUMBER	EASEMENT REQUIRED	TOTAL AREA	AREA OF OVERLAP		
			HIGHWAY	AERIAL	SLOPE
115 Aerial	Aerial	218625F	1016SF		9542 SF
115 A	Highway	225 SF		225SF	225 SF
115 B	"	225 SF		225SF	225 SF
115 C	"	225SF		225SF	225SF
115 D	"	225SF		225SF	225SF
115 E	"	29 SF		29SF	29SF
115 F	"	29SF		29SF	29SF
115 G	"	29SF		29SF	29SF
115 H	"	29SF		29SF	29SF
115-SL	Slope	9460SF	900SF	6238SF	
115-SL1	"	4503SF	116SF	3304SF	

COMPLETION DATE: Aug. 2, 1965		
REV.	DATE	DESCRIPTION

RIGHT OF WAY - NEW YORK CENTRAL R.R.

FRANKLIN COUNTY. NORWICH TWP.
V.M.S. 3001 & 547

Note: The Connor parcel acquired as a part of FRA-270-3.47 N

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

224/227

FRANKLIN COUNTY
FRA-270-0.79 N

R/W PLANS 20/23
LIMITED ACCESS
0 50

FENCE QUANTITIES

SHEET NUMBER																	ITEM	I SECTION	•IG SECTION	TOTAL	UNIT	DESCRIPTION
6	7	8	9	10	11		12		13	14	16		17		18	20	21	22						
2890	3183	2470	1690	2000	• 50	1995	• 50	1340	•2090	•3800	•1000	1340	•1400	650	•3825	•2195	484	800	770	607	19,012	13,210	32,222	L.F.	Fence, Type 47

END PROJECT
FRA-270-0.79 N
SLM 3.47
STA. 412+42

BEGIN PROJECT
FRA-270-3.47 N

I-270-5(3) 95

I-IG-270-5(2)92

WILLIAM T. & ANN CONNOR

Sta 402+00

Sta 415+00

Ex. LA/RW

℄ Construction Limits

Type 1 Ditch Crossing

FRA-270-0.332 N
72" Culvert
Sta. 404+17.92

404+03.47
178'

178'
403+62

6" Tile

℄ Type 47 Fence

180.00'
410+00

178'
410+00

162'
412+42

150.00'
414+50

Ex. LA/RW

402 404 406 408 410 412 414

N 7°-34'-22" W

℄ R 270-E Survey

Match Line

Type 1 Ditch Crossing

168'
404+73

168'
405+11

Ex. LA/RW

℄ Construction Limits

Type 47 Fence

168'
412+42

Ex. LA/RW

170.00'
404+56

170.00'
405+25

Columbus & Southern Ohio Electric Company Easement Vol. 1898 pg. 258

50'

Tower

4" Tile

V.M.S. 3001
V.M.S. 547

68.92'

N 07°43'13" W

230.77'
404+83.06

230.59'
405+51.98

116
Y

0.194 Acres

N 32°53'36" E
155.13'

S 76°20'36" W
172.88'

LAWRENCE J. & FRANCIS M. EITERMAN

S 23°31'05" E
36.40'

394.00'
405+40

394.00'
405+75

END R/W ACQUISITION
FRA-270-0.74 N
STA. 405+75

END IG SECTION
STA. 410+00

IG Funds

COMPLETION DATE: Aug. 2, 1965

REV.	DATE	DESCRIPTION

RIGHT OF WAY 402 TO 415

FRANKLIN COUNTY, NORWICH TWP.
V.M.S. 287

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

225/227

FRANKLIN COUNTY
FRA-270-0.79 N

R/W PLANS
LIMITED ACCESS

21/23

0 50

JAMES H. MOORE

JAMES H. MOORE

MILLIKEN ROAD

Sta. 11+40 ℄ Roberts Road
=Sta. 51+43.04 ℄ Frontage Road A

19.68 Acres
1.22 Acres in P.R.O.

Sta. 16+00

See Sheet 10

Match Line

4+10 ROBERTS

6+10 CO. RD. 28

8+10

10+10

12+10 ROAD

14+10

16+10

60'

30'

19.8' Lt.

19.5' Lt.

20.5' Lt.

21.0' Lt.

21.2' Lt.

20.0' Lt.

21.8' Lt.

40.00'
9+00

N 89°03'36"E

R/W

Exist. R/W

300.67'

60.00'
12+00

58'
12+00

N 88°37'02"E
653.47'

Type 47 Fence

111 WL

Construction Limits

744.16'

S 87°07'23"E
551.98'

192.18'

℄

13+92.18

328

12" Pipe

29' Rt.

Exist. R/W

Dirt Drive

N 02°52'07"E
800.00'

N 84°07'07"W

R/W

190.26'

40.00'
9+00

50.00'
10+90

N 02°52'07"E
146.00'

196.00'
10+90

N 87°07'53"W

R/W

338.65'

N 02°52'07"E
1490'

87'
12+00

89.00'
12+08.74

109.74'

N 87°07'53"W

208.74'

LA

Type 47 Fence

LA/RW

89.00'
15+18.48

22.21 Acres
1.43 Acres in P.R.O.

N 87°07'53"W
chord = 561.72'
S 62°04'34"E

107 WL

16+10

87'

90.53'

N 07°40'17"W
108.84'

111

1.16 Acres
0.41 Acres in P.R.O.

℄ Frontage Road 'A'

5.71 Acres

107

48

46

Construction Limits

121.35'

N 87°07'53"W

206.75'

N 10°26'18"W

196.00'
14+28.65

196.00'
15+50

JAMES H. MOORE

JAMES H. MOORE

JOHN C. &
MARY E. HOFFMAN

I Funds

COMPLETION DATE : Aug. 2, 1965

REV.	DATE	DESCRIPTION

RELOCATED ROBERTS ROAD RIGHT OF WAY 9+60 TO 16+00

FRANKLIN COUNTY. NORWICH TWP.
V.M.S. 547 & 544

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

226
227

FRANKLIN COUNTY
FRA-270-0.79N

R/W PLANS
LIMITED ACCESS
22
23

0 50

COLORADO OIL & GAS CORPORATION

MILTON R. & EDNA LATHAM

Sta. 33+00

Match Line
See Sheet 9

N82°14'38"E
24.5' Lt.
8" Tile
18.5' Lt.
26.5' Rt.
Exist. R/W
29.1' Rt.
ROBERTS
M.B.
CO. RD. 28
18.3' Lt.
18.8' Lt.
29.0' Rt.
Cistern
Outdoor Toilet
2 Sty. Fr. Res.
Dug Well
Gravel Dr.
Fr. Sheds
Chicken House
Fr. Sheds
95.00'
36+84.83
S 60°01'38"E
252.83'
Sta. 31+34.83 ℄ Reloc. Roberts Rd.
Sta. 25+91.43 ℄ Reloc. Wilson Rd.
S 18°33'09"E
LA/RW
Type 47 Fence
42.86' 47'
125.00'
34+00
Construction Limits
109 WL
6.53 Acres
0.71 Acres in P.R.O.
320
8" Scrub Tree
R/W
440.17'
S 84°33'54"E
N 05°26'06"E
57.44'
Fr. Shed
10" Apple
Clump of 5 Scrub Elms, 2" to 6."
RELOCATED
S 84°33'54"E
ROBERTS
ROAD
Ex. 12" Culvert
572.02'
N 69°33'19"W
28.4' Rt.
19.2' Lt.
Exist. R/W
19.0' Lt.
19.9' Lt.
21.6' Lt.
P.I. ℄ Construction
℄ Construction
200' Lt.
3" Tile
N 49°57'13"E
20.5' Rt.
Sta. 46+94.20
℄ R/W
Curve
P.I.
Drive
2 Sty. Fr. Res.
Fr. Shed
Gar.
Drilled Well
Dug Well
Septic Tank
Barn
27.3' Rt.
℄ 131.59'
4.46 Lt.
46+77.55
46+94.20
20.7' Rt.
90.00'
45+85.93
44+50
110.00'
40+00
36" Culvert
7.06 Acres
0.80 Acres in P.R.O.
109
24" Culvert
5 05°26'06"W
20.00'
N 84°33'54"W
135.93'
N 84°33'54"W 450.00' R/W
Sta. 42+05 Reloc. Roberts Road
= Sta. 0+00 Roberts Road Connection
91"x58" Culvert
P.T. 25+11.24
123.07'
38+10
R/W
218.57'
N 88°30'01"W
Construction Limits
N 88°19'17"W
38.60'
R/W
150.00'
33+00
N 85°43'27"W
1.25 Acres
0.09 Acres in P.R.O.
109 X
484.93'
LA
80.19'
36+84.83
125.00'
37+81.98
S 10°35'52"W
chord 44.99'
36+80.18
Type 47 Fence
80.2'
36+85
LA
S 05°26'06"E
175.9'
80.19'
N 5°26'06"W
Barn
Barn
109 T
0.08 Acres
156.00'
38+1.10
25'
50.00'
23+12.27
R: 250'
N 24°26'10"E chord: 164.79'
179.60'
37+70.42
S 28°06'50"W
R: 350'
P.C. 23+12.27
N 43°26'00"E
R/W
97.08'
N 43°26'09"E 22
RELOCATED WILSON ROAD
679.66'
S 43°26'09"W
R/W
50.00'
23+12.27
Match Line
See Sheet 23
Sta. 21+00

MILTON R. & EDNA LATHAM

IRENE G. NIEDER

V.M.S. 547
V.M.S. 544
S 49°33'36"W

CURVE DATA
P.I. Sta. 24+15.57 Reloc. Wilson Road
Δ = 38°00'03"
D = 19°05'55"
R = 300.00'
T = 103.30'
L = 198.97'

I Funds

COMPLETION DATE: Aug. 2, 1965		
REV.	DATE	DESCRIPTION

RELOCATED ROBERTS ROAD RIGHT OF WAY 33+00 TO 48+00

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

227
227

FRANKLIN COUNTY
FRA-270-0.79 N

R/W PLANS
LIMITED ACCESS

23
23

0 50

FRANKLIN COUNTY. NORWICH TWP.
V.M.S. 5232 & 5241, 287, 547, & 544.

CLARA MAE O'BRIEN
ELLSIE M. RUSSELL
[MARGARET J. HAUEISON (L.E.)]

JOHN C. & MARY E. HOFFMAN

JOHN C. & MARY E. HOFFMAN

MILTON R. & EDNA LATHAM

V.M.S. 5232 & 5241
V.M.S. 287
V.M.S. 5232 & 5241
V.M.S. 544
V.M.S. 547
V.M.S. 544

S 83°02'19" W
50.00'
8+29.02
310' Lt.
RW 170.96
N 7°10'27" W 362.02'
107A
PC STA. 9+99.98
50.00'
9+99.98
0.17 Acres
0.25 Acres in P.R.O.
191.06' R/W
73.46'
11+75
N 82°49'33" E
50.00'
25.05' Rt.
11+86.89
Ex. 12" C.M.P.
WILSON ROAD
28.5' Rt.
105.76'
13+67.29
Exist. R/W
Gravel Drive
10" Pipe
60'
30'
V.M.S. 287
V.M.S. 547
8+28.83
N 7°10'27" W
362.21'
574.48'
Spike
Exist. R/W
138.35'
S 07°10'27" E
27.8' Rt.
59.60'
50.00'
8+61.63
50.00'
9+99.98
28.5' Rt.
Chord: 369.53'
R/W
R=666.20'
5.18°07'53"
109
7.06 Acres
0.80 Acres in P.R.O.
14
16
P.T. STA 16+32.61
50.00'
16+32.61
CO. RD. 25
27.8' Rt.
S 49°33'36" W
Construction Limits
977.08'
R/W
N 43°26'09" E
RELOCATED
18
WILSON
ROAD
20
N 43°26'09" E
Sta. 21+00
Construction Limits
R/W
S 43°26'09" W 679.66'
Match Line
See Sheet 22

CURVE DATA
P.I Sta. 13+38.60
Δ = 50°36'36"
D = 8°00'
R = 716.20'
T = 338.62'
L = 632.63'

I Funds

COMPLETION DATE : Aug. 2, 1965		
REV.	DATE	DESCRIPTION

RELOCATED WILSON ROAD RIGHT OF WAY 10+00 TO 21+00

IL-95
400.1-63

GENERAL INFORMATION

INTRODUCTION

The project consists of the construction of 2.7 miles of IR 270, beginning approximately 700 feet north of Trabue Road and approximately 0.6 mile west of Wilson Road, extending northward, and terminating 0.3 mile north of the New York Central Railroad, 2500 feet south of Hilliard-Cemetery Road. Included in this report are soils profiles of the Roberts Road Interchange Ramps and Relocated Roberts Road.

Proposed grades indicate the following maximum cuts and fill embankments:

	CUTS (MAX.)	FILL EMBANKMENTS (MAX.)
IR 270	4'	35'
Reloc. Roberts Road	1'	26'
Ramp WS	1'	7'
Ramp NW	-	12'
Ramp SE	-	20'
Ramp EN	-	10'

GEOLOGY OF THE PROJECT

The alignment traverses a relatively flat portion of the glaciated Mississippi Valley Plain, where moderately deep to thin morainal deposits overlie limestone bedrock, of Devonian age.

EXPLORATION

Exploratory borings were made by means of truck-mounted mechanical soil auger and hand auger (in areas of difficult access), on March 23 and 24, and August 12 and 13, 1964. Included in this report is a log of a boring made for the structure foundation investigations on the project.

INVESTIGATIONAL FINDINGS

Materials occurring immediately below proposed grade and in the embankment foundation areas consist predominantly of sandy silts (A-4a), with silt clays (A-6a) and clays (A-7-6), generally having low moisture contents and moisture contents in the lower portion of the plastic range.

Frost susceptible sandy silts were encountered within three feet below proposed grade at Relocated Roberts Road Stations 10+00, 15+00, and 50+50.

Wet materials were encountered at Relocated Roberts Road Station 50+50 and Ramp SE Station 320+30.

Material containing organic matter was encountered at station 317+60.

LEGEND FOR PROJECT AVERAGE RESULTS OF TESTS — 94 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	49	21	13	12	5	NP	NP	13	2
Sandy silt	A-4(4)	A-4a	21	9	13	33	24	22	6	13	58
Silt and clay	A-6(7)	A-6a	18	6	11	35	30	22	12	19	13
Silty clay	A-6(11)	A-6b	9	4	11	35	41	37	17	23	5
Clay	A-7-6(15)	A-7-6	12	3	9	32	44	47	25	27	16
Various other materials											

VISUAL CLASSIFICATION

Sod and/or Topsoil='X'= Approximate depth.

Berm material.

Auger boring - plan view.

Drive sample boring - plan view

NOTE: Figures beside borings indicate water content in percent. e.g. *15*

Auger boring plotted to vertical scale only.

Drive sample boring plotted to vertical scale only.

Water content nearly equal to or greater than liquid limit.

Free water.

Number of blows for "Standard Penetration" test.
X=number of blows for first 6 inches.
Y=number of blows for second 6 inches.

SOIL PROFILE

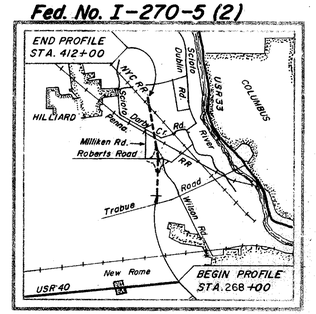
I
20

FRANKLIN COUNTY
FRA-IR270-0.79N

OHIO STATE HIGHWAY TESTING LABORATORY
1620 W. BROAD ST. COLUMBUS, OHIO

NOTE: INFORMATION SHOWN ON THIS HIGHWAY SOILS 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-270-5 (2)



LOCATION MAP

Recon — W.E.S. 1/7/64

Drilling — C.M.C. — A.J.P. — B.D.L.

3/23/64 and 3/24/64

8/12/64 and 8/13/64

Drafting — R.L.M. — 10/20/64

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.
270+95	CL	0.5-4.5	4	2	9	33	52	47	27	27	A-7-6 *
275+00	CL	0.5-3.0	5	2	7	30	56	49	29	25	A-7-6 *
		3.0-5.0	33	7	11	25	24	25	9	17	A-4a
283+00	CL	0.6-5.5	5	4	11	29	51	44	23	24	A-7-6 *
285+50	50'Rt	0.6-5.0	15	4	11	33	37	28	11	16	A-6a
		5.0-9.0	17	7	18	30	28	20	4	10	A-4a
		9.0-13.0	9	7	14	35	35	22	8	10	A-4a
286+50	CL	0.5-4.0	4	5	13	34	44	36	16	23	A-6b
		4.0-8.0	23	9	18	26	24	20	6	16	A-4a
295+00	CL	0.6-3.5	28	5	12	28	27	30	11	17	A-6a
299+40	CL	0.3-3.0	32	7	12	27	22	33	13	19	A-6a
305+00	CL	0.5-2.5	5	3	7	34	51	47	24	31	A-7-6
		2.5-4.5	48	4	6	20	22	41	19	33	A-7-6
310+00	CL	0.6-4.0	12	5	10	25	48	50	28	25	A-7-6
317+60	CL	0.6-3.0	7	4	10	31	48	49	26	29	A-7-6
		3.0-5.5	34	2	7	25	32	45	25	37	A-7-6
324+90	CL	0.0-2.0	0	1	5	48	46	57	37	23	A-7-6 *
		2.0-6.0	24	6	15	32	23	22	6	16	A-4a
330+00	CL	0.6-4.0	0	5	17	34	44	38	19	30	A-6b *
335+00	CL	0.6-3.0	0	1	6	38	55	51	29	26	A-7-6
		3.0-6.0	14	6	12	35	33	31	12	20	A-6a
342+00	CL	0.6-3.0	15	13	22	25	25	35	14	21	A-6a
350+00	CL	0.6-3.0	24	4	4	29	39	43	22	26	A-7-6
354+14	CL	0.4-2.0	0	3	17	38	42	46	26	29	A-7-6
		2.0-5.5	42	8	5	28	17	28	10	19	A-4a
360+00	CL	0.6-4.0	17	3	9	27	44	47	27	26	A-7-6
		4.0-9.5	19	13	17	34	17	NP	NP	15	A-4a
364+70	CL	0.6-3.0	7	4	13	37	39	49	23	27	A-7-6
		3.0-8.0	20	11	14	32	23	25	8	15	A-4a
		8.0-14.0	15	9	13	33	30	23	7	11	A-4a
		14.0-26.0	16	8	15	33	28	21	6	11	A-4a

STATION & OFFSET		DEPTH FROM-TO	% AGG.	% C.S.	% F.S.	% SILT	% CLAY	L.L.	P.I.	% W.C.	SHTL CLASS.
370+00	CL	0.6-4.0	17	3	8	38	34	35	16	24	A-6b
		4.0-9.0	22	12	16	30	20	20	5	13	A-4a
		9.0-13.0	18	8	12	34	28	24	8	13	A-4a
		13.0-17.0	11	7	9	41	32	24	9	12	A-4a
376+50	CL	0.6-5.0	11	3	8	32	46	41	19	24	A-7-6
		5.0-7.0	14	10	15	33	28	32	6	12	A-4a
		7.0-11.0	14	7	12	35	32	22	7	9	A-4a
		11.0-15.0	13	6	12	36	33	23	6	10	A-4a
		15.0-20.0	17	5	7	40	31	23	7	10	A-4a
385+00	CL	0.5-4.0	0	2	10	40	48	48	25	24	A-7-6
		4.0-7.0	17	8	15	33	27	24	7	15	A-4a
		7.0-13.0	15	9	15	36	25	21	6	11	A-4a
		13.0-19.0	13	8	9	39	31	23	7	10	A-4a
390+00	CL	0.5-4.0	0	4	12	47	37	32	12	22	A-6a
		4.0-10.0	20	12	16	31	21	21	5	13	A-4a
		10.0-16.0	15	7	13	37	28	27	7	11	A-4a
		16.0-23.0	19	8	13	33	27	23	9	12	A-4a
393+50	CL	0.5-5.0	12	7	15	35	31	28	9	15	A-4a
		5.0-10.5	20	11	13	34	22	20	4	12	A-4a
		10.5-13.0	13	7	13	36	31	24	9	10	A-4a
401+00	85'Rt	0.5-5.0	34	4	7	23	32	34	15	19	A-6a
		5.0-9.5	14	10	20	35	21	19	5	12	A-4a
		9.5-15.0	7	8	15	39	31	23	7	11	A-4a
		15.0-20.0	22	6	11	28	33	22	6	12	A-4a
		20.0-25.0	21	8	13	31	27	22	7	13	A-4a
403+65	CL	0.4-4.0	24	7	14	37	18	25	7	17	A-4a
		4.0-7.0	46	9	8	23	14	20	5	10	A-4a
		7.0-12.0	17	9	13	34	27	23	7	12	A-4a
		12.0-17.0	18	9	14	33	26	23	7	12	A-4a
		17.0-22.0	12	8	9	44	27	23	8	12	A-4a
410+00	CL	0.4-5.0	11	6	12	41	30	28	11	18	A-6a
		5.0-8.0	29	11	14	29	17	21	6	11	A-4a
		8.0-12.0	23	12	16	31	18	19	6	11	A-4a

ROBERTS ROAD INTERCHANGE

Roberts Road

STATION & OFFSET		DEPTH FROM-TO	% AGG.	% C.S.	% F.S.	% SILT	% CLAY	L.L.	P.I.	% W.C.	SHTL CLASS.
5+00	12'Lt	0.3-5.0	23	10	10	33	24	31	12	19	A-6a *
		5.0-10.0	21	12	13	30	24	24	6	13	A-4a

STATION & OFFSET		DEPTH FROM-TO	% AGG.	% C.S.	% F.S.	% SILT	% CLAY	L.L.	P.I.	% W.C.	SHTL CLASS.
10+00	12'Rt	0.4-5.0	25	12	11	28	24	28	9	13	A-4a *
		5.0-8.0	18	6	9	37	30	27	11	18	A-6a
		8.0-10.0	52	21	10	11	6	NP	NP	12	A-1-b
15+00	15'Lt	0.3-6.0	20	7	15	38	20	21	5	15	A-4a *
		6.0-11.0	28	10	11	32	19	22	6	14	A-4a
19+15	17'Lt	0.3-7.0	32	8	12	27	21	25	9	13	A-4a
		7.0-12.0	17	5	16	36	26	22	8	10	A-4a
27+90	CL	0.3-4.0	0	4	14	43	39	37	18	22	A-6b
		4.0-12.0	16	10	10	41	23	24	8	12	A-4a
		12.0-17.0	19	9	13	34	25	24	8	9	A-4a
37+75	CL	0.3-6.0	31	7	12	30	20	26	8	13	A-4a
41+00	CL	0.2-4.0	Brown and Gray Sandy Clayey Silt and Stone Fragments								Visual
45+50	CL	0.4-5.0	22	7	8	34	29	34	11	17	A-6a *
		5.0-10.0	38	9	13	27	13	23	5	17	A-4a
50+50	10'Rt	0.3-5.0	20	10	12	36	22	21	5	19	A-4a *
		5.0-10.0	22	10	14	35	19	22	6	17	A-4a

Ramp W.S.

317+90	BL	0.3-6.0	33	7	7	35	18	27	9	11	A-4a
321+15	BL	0.3-5.0	25	10	14	32	19	21	6	12	A-4a
		5.0-11.0	26	10	20	28	16	19	5	10	A-4a

Ramp N.W.

328+00	BL	0.3-4.0	0	3	9	47	41	40	13	19	A-6a

Ramp S.E.

314+00	100'Lt	0.3-5.0	23	5	9	31	32	40	17	15	A-6b
320+30	BL	0.3-5.0	0	11	15	45	29	26	9	26	A-4a
		5.0-10.0	32	9	5	38	15	22	4	18	A-4a
		10.0-14.0	45	10	8	27	10	NP	NP	16	A-4a

Ramp E.N.

324+10	BL	0.4-5.0	28	8	11	33	20	24	5	10	A-4a
		5.0-10.0	28	14	15	30	13	20	5	14	A-4a

STATION & OFFSET		DEPTH FROM-TO	% AGG.	% C.S.	% F.S.	% SILT	% CLAY	L.L.	P.I.	% W.C.	SHTL CLASS.
330+35	BL	0.3-5.0	22	8	9	39	22	29	12	16	A-6a *
		5.0-8.0	46	21	15	13	5	NP	NP	13	A-1-b
		8.0 11.0	28	9	11	32	20	23	6	14	A-4a

DRIVE SAMPLE SOIL TEST DATA

Roberts Road

25+87	40 Rt	5.0-6.0	29	6	16	30	19	21	4	15	A-4a
		7.5-8.5	Brown Silty Sandy Gravel								Visual
		10.0-11.0	Brown Gravelly Sandy Silt								Visual
		12.5-13.5	24	8	15	36	17	20	5	10	A-4a
		15.0-16.0	43	7	10	24	16	22	6	9	A-4a
		17.5-18.5	30	14	17	26	13	19	4	11	A-4a
		20.0-21.0	30	9	11	33	17	22	4	12	A-4a
		22.5-23.5	41	10	9	25	15	22	5	12	A-4a
		25.0-26.0	Gray Sandy Silt					23	7	12	A-4a
		30.0-31.0	Gray Silty Sandy Gravel								Visual
		35.0-35.5	31	6	16	29	18	19	5	11	A-4a

SOIL PROFILE

2
20

FRANKLIN COUNTY
FRA-IR 270-0.79N

OHIO STATE HIGHWAY TESTING LABORATORY
1620 W BROAD ST COLUMBUS 23 OHIO

Borings from preceding project

N

FRA 270 0.79N

Cultivated — Residential — Residential — Grass — Weeds

℄, Proposed IR 270

Road

Trabue

243 245 250 255 260 265 270 275

Cultivated — Residential — Residential — Grass — Weeds

Approximate ground line

℄ TS=0.5' — 26 W — Refusal (Hand auger)

℄ TS=0.6' — 21 — 20 — Refusal (Hand auger)

℄ Sod=0.4' — 24 — Refusal (Boulders) (Hand auger)

10' Rt. Sod=0.5' — 24 — 25 — 12 — 12 — 12 — (Refusal)

℄ Sod=0.4' — 16 — 15 — 13 — 15 — Refusal (Boulders)

℄ TS=0.5' — W 27 — Refusal (Boulders) (Hand auger)

℄ Sod=0.5' — 25 — 17 — Refusal (Boulders) (Hand auger)

900 890 880 870 860 850

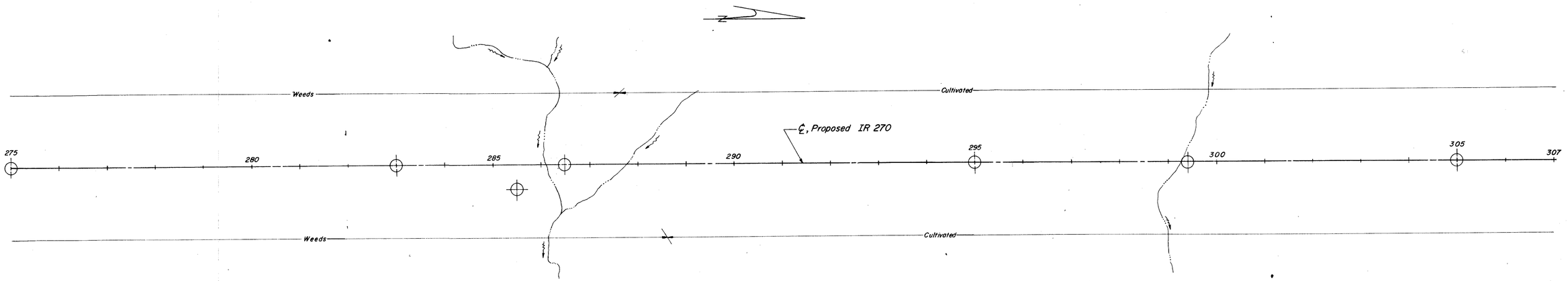
243 244 245 246 247 248 249 250 251 252 253 254 255 256 257 258 259 260 261 262 263 264 265 266 267 268 269 270 271 272 273 274 275

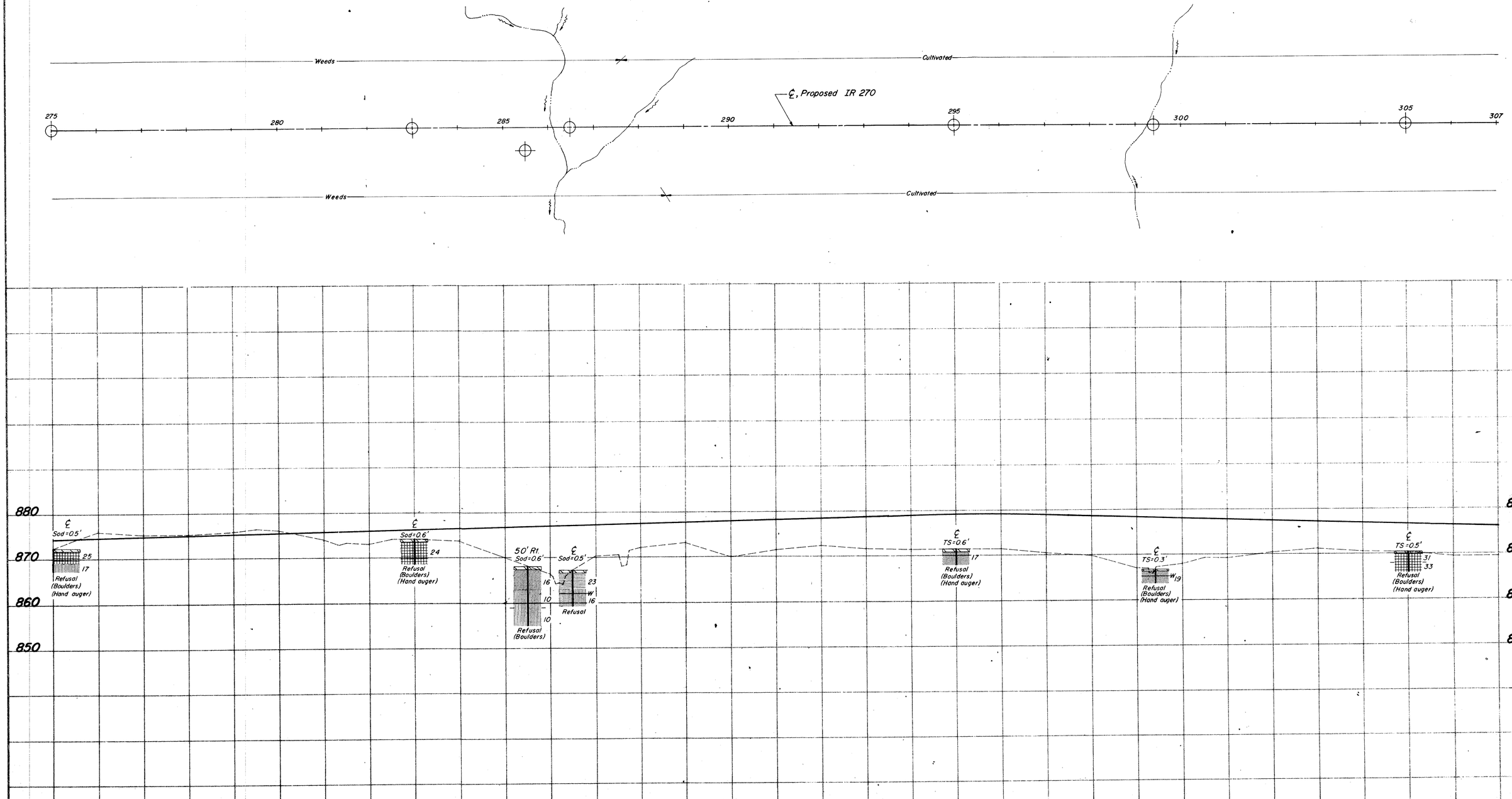
SOIL PROFILE

FRANKLIN COUNTY
FRA-IR 270-0.79N

OHIO STATE HIGHWAY TESTING LABORATORY
1620 W. BROAD ST. COLUMBUS 23, OHIO

3/20





SOIL PROFILE

4
20

FRANKLIN COUNTY
FRA-IR 270-0.79N

OHIO STATE HIGHWAY TESTING LABORATORY
1620 W. BROAD ST. COLUMBUS 23, OHIO

Cultivated
Cultivated
Cultivated
Cultivate
Cultivated
Cultivated
Cultivated
Cultivated

℄ Ramp W S
℄ Ramp N W
℄ Ramp S E
℄ Ramp E N

℄, Relocated Roberts Rd.
Roberts Rd.
Existing
℄, Proposed IR 270

Sta. 323+71, ℄, Proposed IR 270
Sta. 25+00, ℄, Relocated Roberts Rd.

Wilson Rd.

For complete plan view of Relocated Roberts Road Interchange, See sheet 8.

PROFILE INDEX

	SHEET
Roberts Rd.	9
Ramp W S	10
Ramp N W	10
Ramp S E	11
Ramp E N	11

Proposed grade, Reloc. Roberts Rd.

(Sta 314+00, 100' Lt. Ramp SE)

℄ Sod=0.6' — 25 — Refusal (Boulders) (Hand auger)

℄ TS=0.3' — 15 — Refusal (Boulders)

℄ TS=0.6' — 29 Trace of Organic — W 37 — Refusal (Boulders) (Hand auger)

℄ 23 — 16 — Refusal

℄ TS=0.6' — 30 — Refusal (Hand auger)

℄ TS=0.6' — 26 — W 20 — Refusal (Hand auger)

890
880
870
860

307 308 309 310 311 312 313 314 315 316 317 318 319 320 321 322 323 324 325 326

SOIL PROFILE

5
20

FRANKLIN COUNTY
FRA-IR 270-0.79 N

Cultivated

Cultivated

Cultivated

Railroad

Pennsylvania

Scalp Valley Creek Road

℄, Proposed IR 270

Lawn

Barn Yard

Cultivated

339 340 345 350 355 360 365 370 371

910 900 890 880 870 860 850 840

℄ TS=0.6'
21
Refusal (Hand auger)

℄ TS=0.6'
26
Refusal (Boulders) (Hand auger)

℄ Sod=0.4'
29
19
Refusal

℄ TS=0.6'
26
15
Refusal

℄ TS=0.6'
27
15
11
11

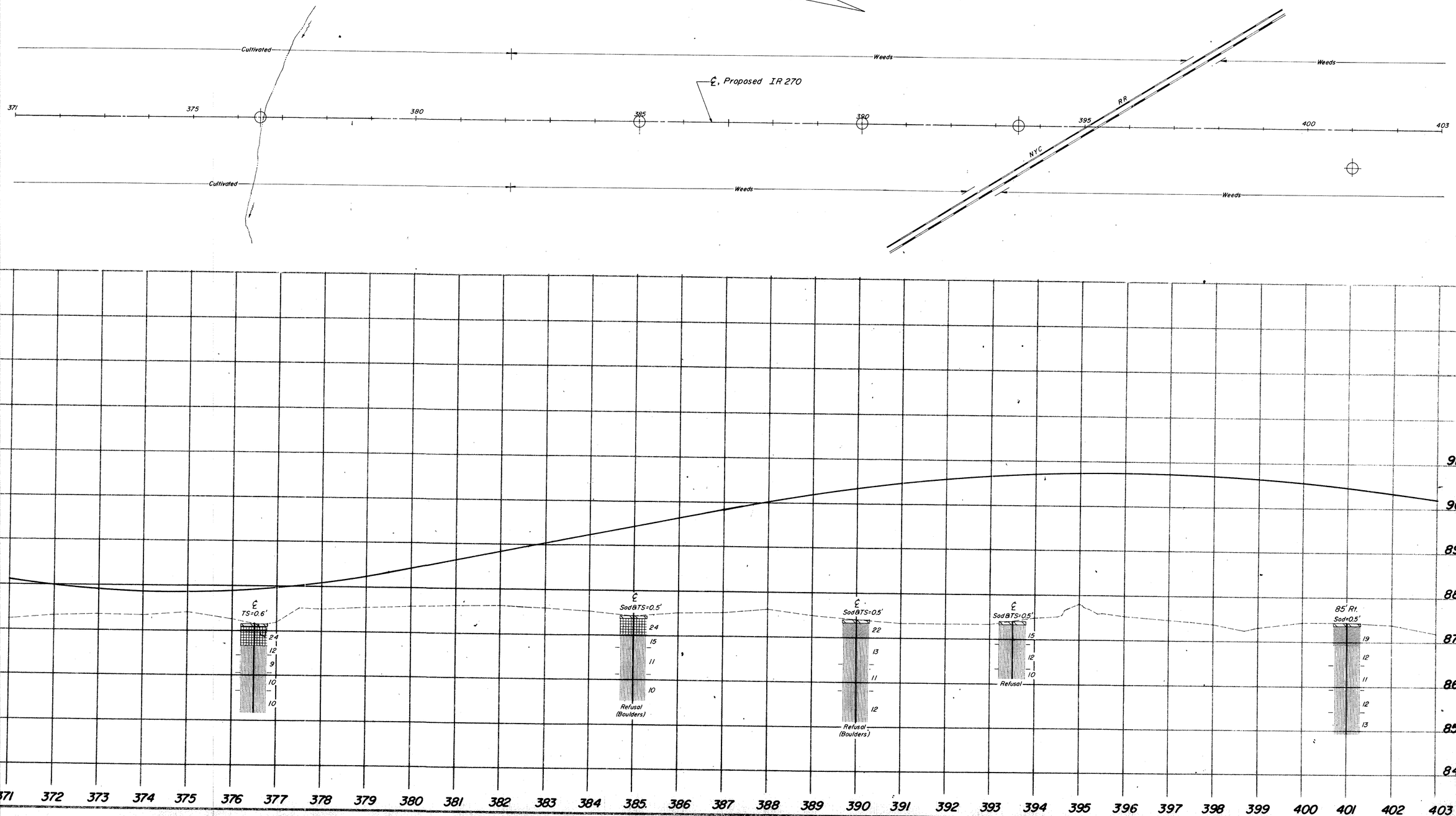
℄ TS=0.6'
24
13
13
12
Hole caved in at elev. 868.0'

SOIL PROFILE

FRANKLIN COUNTY
FRA-IR 270-0.79N

OHIO STATE HIGHWAY TESTING LABORATORY
1620 W. BROAD ST. COLUMBUS 23, OHIO

6
20

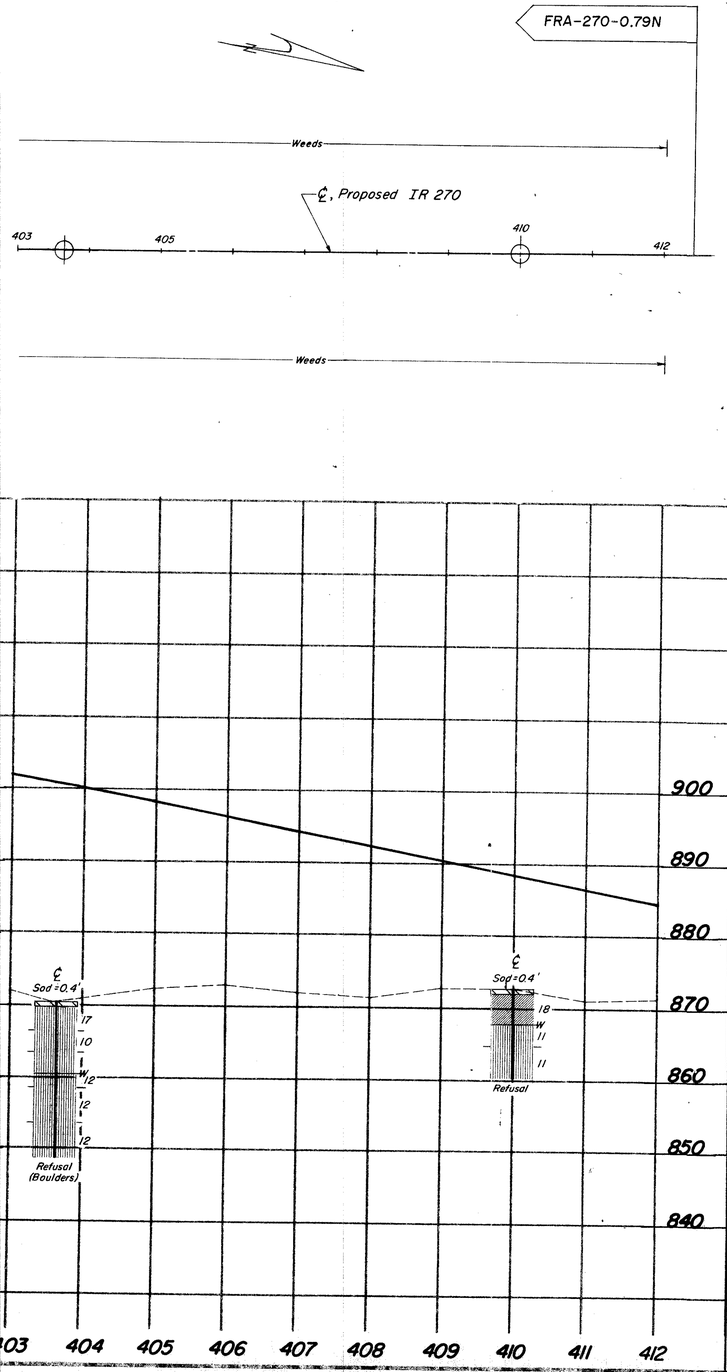


SOIL PROFILE

FRANKLIN COUNTY
FRA-IR 270-0.79N

OHIO STATE HIGHWAY TESTING LABORATORY
1620 W. BROAD ST. COLUMBUS 23, OHIO

7
20



TE-95
400.1-63

SOIL PROFILE

FRANKLIN COUNTY
FRA-IR 270-0.79 N

8
20

MATCH LINE A

℄, Relocated Roberts Rd.

℄, Ramp W S

℄, Ramp N W

℄, Proposed IR 270

℄, Ramp S E

℄, Ramp E N

℄, Relocated Roberts Rd.

Sta. 25+00, ℄, Relocated Roberts Road =
Sta. 323+71, ℄, Proposed IR 270

Roberts Rd.

Existing Roberts Rd.

Wilson Rd.

Existing Roberts Rd.

Millikan Rd.

MATCH LINE A

MATCH LINE B

MATCH LINE B

PROFILE INDEX

	SHEET
Roberts Rd.	9
Ramp W S	10
Ramp N W	10
Ramp S E	11
Ramp E N	11

SOIL PROFILE

9/20

FRANKLIN COUNTY
FRA-IR 270-0.79N

OHIO STATE HIGHWAY TESTING LABORATORY
1620 E. BROAD ST. COLUMBUS 23, OHIO

Relocated Roberts Rd.

12' Lt. TS -0.3'
19
13

12 Rt.
13
18
12

15' Lt.
15
W
14

17' Lt.
13
10

Proposed grade, IR 270

40' Rt.
Brown silty sandy gravel
Brown gravelly sandy silt
Gray silty sandy gravel
15
10
9
11
12
12
12
11
*=Refusal

℄
22
12
9
Refusal (Boulders)

Relocated Roberts Rd. Cont'd.

℄ TS=0.3'
13
Refusal (Boulders)

℄ TS=0.2'
Refusal (Hand auger)

Brown and gray sandy clayey silt and stone fragments

℄
17
17

10' Rt.
19
17

900 890 880 870 860 850 840 830

4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36

870 860 850 840

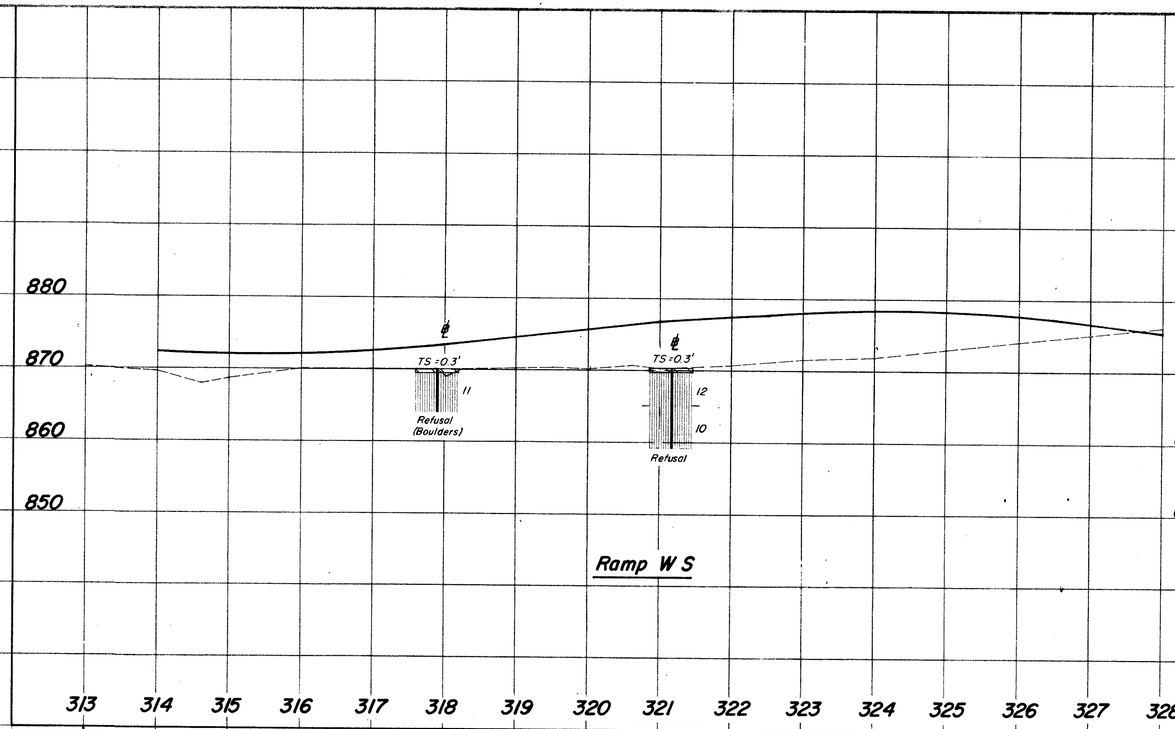
36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51

SOIL PROFILE

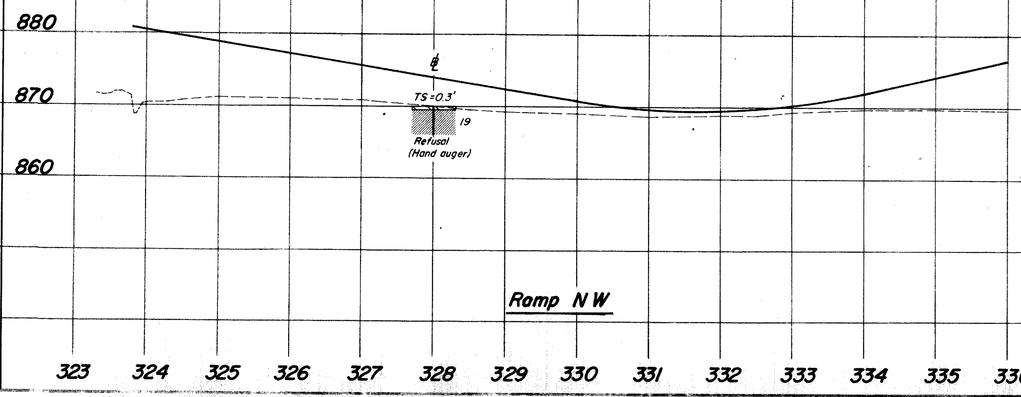
10/20

FRANKLIN COUNTY
FRA-IR 270-0.79 N

OHIO STATE HIGHWAY TESTING LABORATORY
1620 W BROAD ST COLUMBUS 23, OHIO



Ramp W S



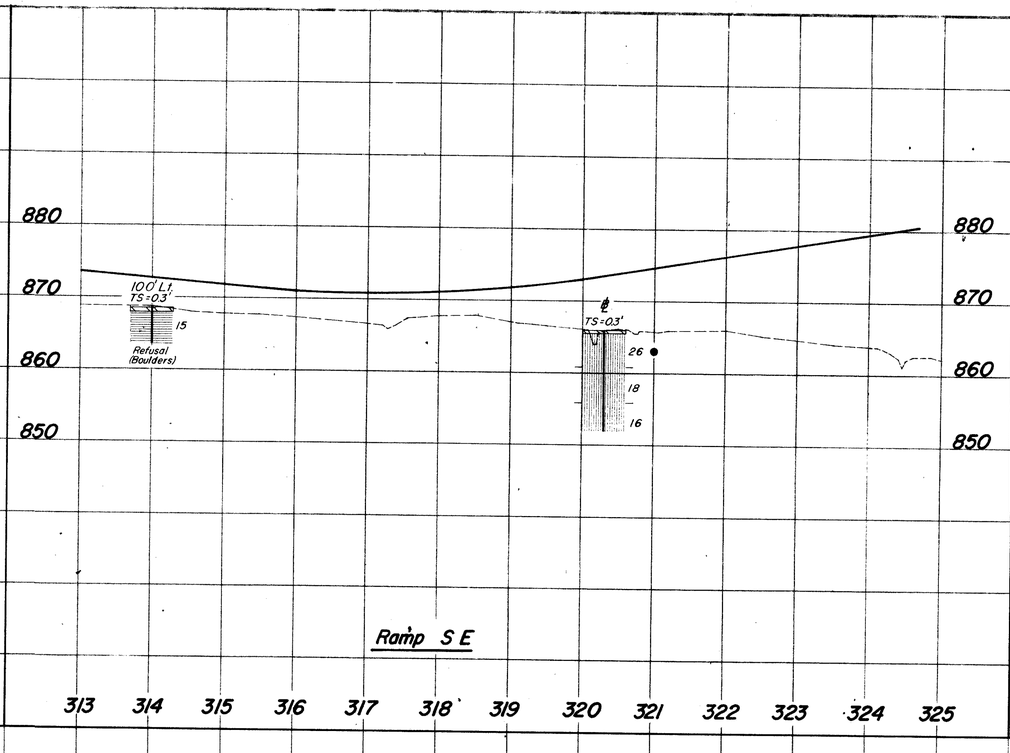
Ramp N W

SOIL PROFILE

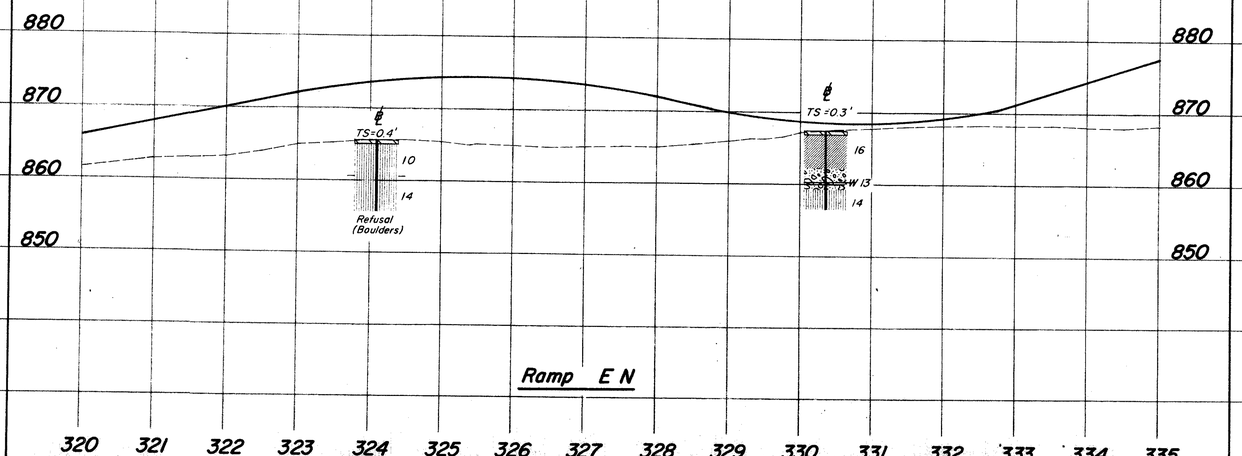
FRANKLIN COUNTY
FRA-IR 270-0.79 N

OHIO STATE HIGHWAY TESTING LABORATORY
1620 W. BROAD ST. COLUMBUS 23, OHIO

11
20



Ramp S E



Ramp E N

FRANKLIN COUNTY
FRA-IR 270-0.79N

GEOLOGY OF THE SITE

The structure site is located on the glaciated Mississippi Valley Plain, in an area where moderately deep glacial drift overlies shale and limestone bedrock, of Devonian age.

EXPLORATION

The exploration consisted of two drive sample borings and five drive rod penetration tests, made between August 6 and 13, 1964.

INVESTIGATIONAL FINDINGS

Borings encountered very dense to extremely dense intervals of sand, silt, gravel, and boulders. The borings were terminated at 31 and 35-foot depths, elevations 834 and 832 feet, after penetrating in excess of 30 feet of material requiring in excess of 30 blows per foot in the standard penetration test.

The rod soundings met with increasing resistance to penetration with increasing depth, and were terminated due to refusal to penetration at 12 to 16-foot depths, elevations 854 to 850 feet, on the basis of the borings, considered to be in the extremely dense glacial drift.

No free water was observed in the rod sounding holes.

No test penetrated to bedrock surface.

LEGEND

- Auger Boring Location - Plan View.
- Press and/or Drive Sample and/or Core Boring Location - Plan View.
- Drive Rod Penetration Resistance Sounding Location - Plan View.
- Capped Pile
- Footing
- Footing on Pile
- TR — Top of Rock
- Horizontal Bar on Boring Log Indicates the Depth the Sample Was Taken.
- X/Y — Figures Beside the Boring Log in Profile Indicate the Number of Blows For Standard Penetration Test. X = Number of Blows for First 6 Inches. Y = Number of Blows for Second 6 Inches.
- Drive Rod Penetration Resistance Sounding Log - Profile.
- Casing
- Resistance "R" < 10,000 lbs.
- Resistance "R" > 10,000 lbs.
- Z — Indicates Final Measurement of Penetration, in Inches.
- W — Indicates Free Water Elevation.
- Indicates Static Water Elevation.

SYMBOLS OF ROCK TYPES

- Coal
- Weathered 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 appear on separate enclosures.

At depths where materials are bouldery or gravelly to the extent that the sampler can not be driven, a wash sample is procured for visual classification, in order to determine the general character of the material. These samples are not considered sufficiently representative to warrant laboratory testing.

Particle Size Definitions

Boulders	Cobbles	Gravel	Coarse Sand	Fine Sand	Silt	Clay
8"	3"	2.0mm (No. 10 sieve)	0.42mm (No. 40 sieve)	0.074mm (No. 200 sieve)	0.005mm	

Date Started 8-13-64 — Sample Type SS 1 3/8" — Elev. 864.9'
Date Completed 8-17-64 — Casing Length 20' 3 1/2" — Station & Offset 23+54, 40' Lt (REAR ABUTMENT)
Boring No B-1

Elev.	Depth	Std. Pen. (N)	Rec. (ft.)	Loss (ft.)	Description	Sample No.	Wt.	Pen. 6"	Pen. 12"	Pen. 18"	Pen. 24"	Pen. 30"	Pen. 36"	Pen. 42"	Pen. 48"	Pen. 54"	Loss
864.9	0																
	2																
	4																
859.9	6	9/18			Brown Gravelly Sandy Silt	1		25	7	18	33	17	20	6	14		
857.4	8	12/23			Brown Gravelly Sandy Silt	2		24	10	15	33	18	22	5	13		
854.9	10	40/*			Brown and Gray Sandy Gravelly Silt	3		29	11	15	29	16	20	6	11		
852.4	12	46/*			Gray Gravelly Sandy Silt	4		20	10	16	36	18	20	6	22		
	14																
849.9	16	70/*			Gray Silty Sandy Gravel	5		V	I	S	U	A	L		12		
847.4	18	33/38			Gray Silty Sandy Gravel	6		V	I	S	U	A	L	23	8	14	
844.9	20	33/*			No Sample Recovered - Boulder												
842.4	22	38/*			Gray Sandy Gravelly Silt	7		28	8	11	31	22	24	9	9		
839.9	24	67/*			Gray Gravelly Sandy Silt	8		V	I	S	U	A	L	23	6	9	
	26																
	28																
834.9	30																
833.9	31	26/59			Gray Silty Sandy Gravel	9		V	I	S	U	A	L		12		

BOTTOM OF BORING
*REFUSAL

Date Started 8-12-64 — Sample Type SS 1 3/8" — Elev. 867.3'
Date Completed 8-13-64 — Casing Length 10' 3 1/2" — Station & Offset 25+77, 40' Rt (FORWARD PIER)
Boring No B-6

Elev.	Depth	Std. Pen. (N)	Rec. (ft.)	Loss (ft.)	Description	Sample No.	Wt.	Pen. 6"	Pen. 12"	Pen. 18"	Pen. 24"	Pen. 30"	Pen. 36"	Pen. 42"	Pen. 48"	Pen. 54"	Loss
867.3	0																
	2																
	4																
862.3	6	11/21			Brown Sandy Gravelly Silt	1		29	6	16	30	19	21	4	15		
859.8	8	21/27			Brown Silty Sandy Gravel	2		V	I	S	U	A	L	21	5	12	
857.3	10	30/*			Brown Gravelly Sandy Silt	3		V	I	S	U	A	L		11		
854.8	12	42/*			Brown Sandy Gravelly Silt	4		24	8	15	36	17	20	5	10		
852.3	14	19/39			Grey Sandy Gravelly Silt	5		43	7	10	24	16	22	6	9		
849.8	16	50/*			Gray and Brown Silty Gravelly Sand	6		30	14	17	26	13	19	4	11		
847.3	18	45/*			Gray Sandy Gravelly Silt	7		30	9	11	33	17	22	4	12		
844.8	20	45/*			Gray Silty Sandy Gravel	8		41	10	9	25	15	22	5	12		
842.3	22	52/*			Gray Gravelly Sandy Silt	9		V	I	S	U	A	L	23	7	12	
	24																
	26																
	28																
837.3	30	73/*			Gray Silty Sandy Gravel	10		V	I	S	U	A	L		7		
	32																
	34																
832.3	35	75/*			Gray Sandy Gravelly Silt	11		31	6	16	29	18	19	5	11		
831.8	36																

BOTTOM OF BORING
*REFUSAL

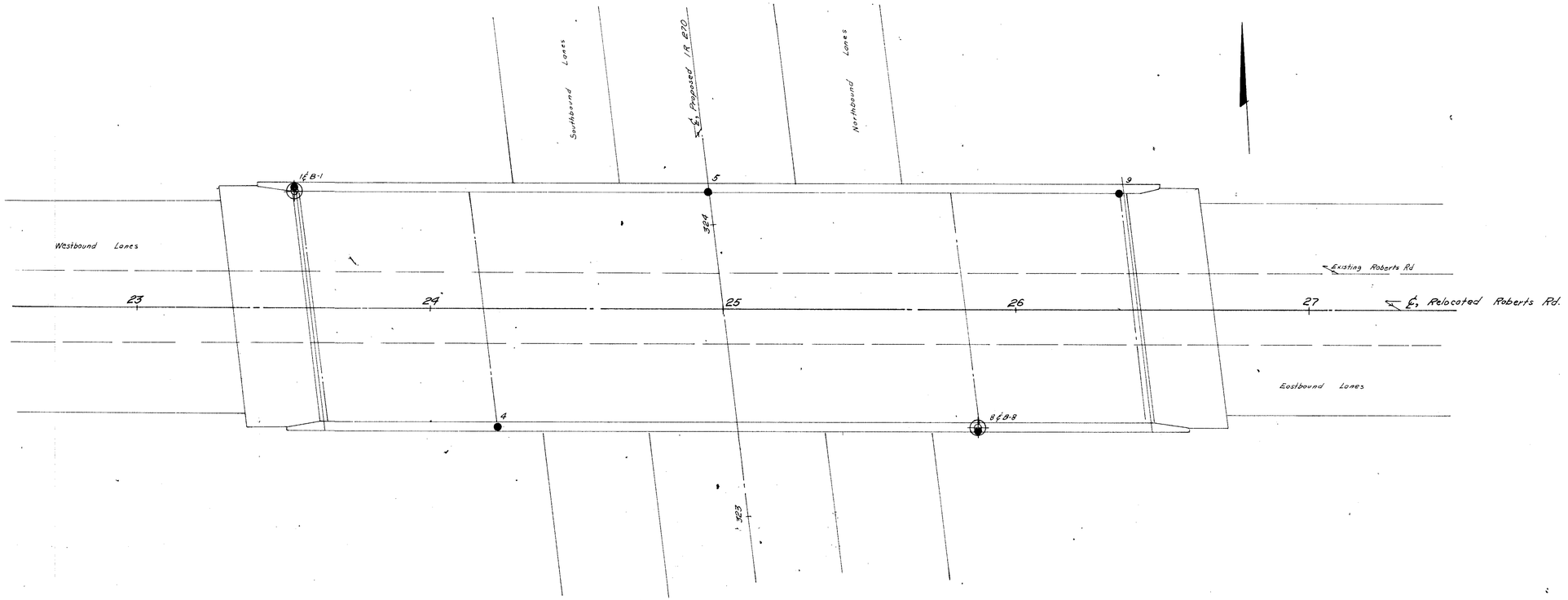
NOTE: Information shown by this subsurface investigation was obtained solely for the use in establishing design controls for the project. The State of Ohio does not guarantee the accuracy of this data and it is not to be construed as a part of the plans governing construction of the project.

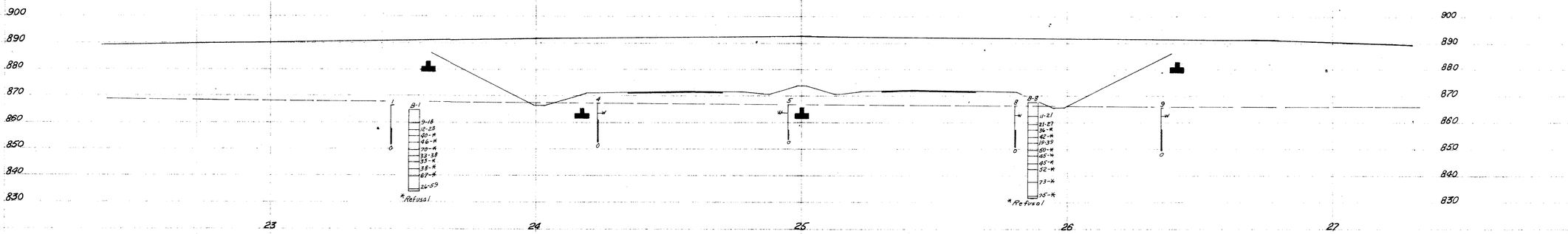
OHIO STATE HIGHWAY
TESTING LABORATORY
1620 WEST BROAD STREET, COLUMBUS 23, OHIO

STRUCTURE FOUNDATION INVESTIGATION
BRIDGE NO. FRA-IR 270-0205 L/R
UNDER ROBERTS ROAD
SEC. FRA-IR 270-0.79 N

CHECKED BY	REVIEWED BY	DATE
R.H.P.	R.D.R.	10/1/64

Big sheet folded
11





SCALE: 1" = 20'

OHIO STATE HIGHWAY TESTING LABORATORY			
1620 WEST BROAD ST., COLUMBUS 23, OHIO			
STRUCTURE FOUNDATION INVESTIGATION			
BRIDGE NO. FRA-IR 270-0205 L/R			
SEC. UNDER ROBERTS ROAD FRA-IR 270-0.79 N			
PLAN AND PROFILE			
DRAWN BY R.L.F.	CHECKED BY R.H.P.	REVIEWED BY R.D.R.	DATE 10/1/64

Test Location No. ____
Station & Offset ____
Surface Elev. ____ Water Elev. ____
Piling ____
Hammer ____
Formula ____
Reference ____
Rod Condition ____

879 875 871 867 863 859 855 851 847

10 20 30 40 50 60 70 80 90 100
Capacity "R" in Thousands of Pounds

Test Location No. ____
Station & Offset ____
Surface Elev. ____ Water Elev. ____
Piling ____
Hammer ____
Formula ____
Reference ____
Rod Condition ____

10 20 30 40 50 60 70 80 90 100
Capacity "R" in Thousands of Pounds

Test Location No. ____
Station & Offset ____
Surface Elev. ____ Water Elev. ____
Piling ____
Hammer ____
Formula ____
Reference ____
Rod Condition ____

10 20 30 40 50 60 70 80 90 100
Capacity "R" in Thousands of Pounds

Test Location No. 1
Station & Offset 23+54 41'LT
REAR ABUTMENT
Surface Elev. 866.6' Water Elev. DRY
Piling ____
Hammer ____
Formula ____
Reference ____
Rod Condition ____

TEST ROD

10 20 30 40 50 60 70 80 90 100
Capacity "R" in Thousands of Pounds

Test Location No. 4
Station & Offset 24+23 40'RT
REAR PIER
Surface Elev. 867.6' Water Elev. 863.6'
Piling ____
Hammer ____
Formula ____
Reference ____
Rod Condition POINT ROD BENT

TEST ROD

10 20 30 40 50 60 70 80 90 100
Capacity "R" in Thousands of Pounds

Test Location No. 5
Station & Offset 24+95 40'LT
CENTER PIER
Surface Elev. 866.2' Water Elev. 863.2'
Piling ____
Hammer ____
Formula ____
Reference ____
Rod Condition ____

TEST ROD

10 20 30 40 50 60 70 80 90 100
Capacity "R" in Thousands of Pounds

Test Location No. 8
Station & Offset 25+87 41'RT
FORWARD PIER
Surface Elev. 866.7' Water Elev. 862.7'
Piling ____
Hammer ____
Formula ____
Reference ____
Rod Condition ____

TEST ROD

10 20 30 40 50 60 70 80 90 100
Capacity "R" in Thousands of Pounds

Test Location No. 9
Station & Offset 26+35 40'LT
FORWARD ABUTMENT
Surface Elev. 865.2' Water Elev. 862.2'
Piling ____
Hammer ____
Formula ____
Reference ____
Rod Condition ____

FRA-IR 270-0.79 N

TEST ROD

875 871 867 863 859 855 851 847

10 20 30 40 50 60 70 80 90 100
Capacity "R" in Thousands of Pounds

OHIO STATE HIGHWAY TESTING LABORATORY
1620 WEST BROAD ST. COLUMBUS 23, OHIO

STRUCTURE FOUNDATION INVESTIGATION
BRIDGE NO. FRA-IR 270-0205 L/R
UNDER ROBERTS ROAD
SEC. FRA-IR 270-0.79 N

DRIVE ROD PENETRATION RESISTANCE DATA

PLOTTED BY	CHECKED BY	REVIEWED BY	DATE
R.C.	R.H.P.	R.D.R.	10/1/64

GEOLOGY OF THE SITE

The structure site is located on the glaciated Mississippi Valley Plain, in an area where moderately deep glacial drift overlies shale and limestone bedrock, of Devonian age.

EXPLORATION

The exploration consisted of two drive sample borings and eleven drive rod penetration tests, made between August 5 and 28, 1964.

INVESTIGATIONAL FINDINGS

Borings encountered very dense to extremely dense intervals of gravels, sands, and boulders. The borings were terminated at 36 and 51-foot depths, elevations 839 and 822 feet, after penetrating in excess of 30 feet of material requiring in excess of 30 blows per foot in the standard penetration test.

The rod soundings met with increasing resistance to penetration with increasing depth, and were terminated due to refusal or near-refusal to penetration at 12 to 24-foot depths, elevations 865 to 850 feet, on the basis of the borings, considered to be in the extremely dense glacial drift.

No free water was observed in the rod sounding holes.

No test penetrated to bedrock surface.

LEGEND

- Auger Boring Location - Plan View.
- Press and/or Drive Sample and/or Core Boring Location - Plan View.
- Drive Rod Penetration Resistance Sounding Location - Plan View.
- Capped Pile
- Footing
- Footing on Pile
- TR — Top of Rock
- Horizontal Bar on Boring Log Indicates the Depth the Sample Was Taken.
- X/Y — Figures Beside the Boring Log in Profile Indicate the Number of Blows For Standard Penetration Test. X = Number of Blows for First 6 Inches. Y = Number of Blows for Second 6 Inches.
- Drive Rod Penetration Resistance Sounding Log - Profile.
- Casing
- Resistance "R" < 10,000 lbs.
- Resistance "R" > 10,000 lbs.
- Z — Indicates Final Measurement of Penetration, in Inches.
- W — Indicates Free Water Elevation.
- Indicates Static Water Elevation.

SYMBOLS OF ROCK TYPES

- Coal
- Weathered Indurated Clay
- Indurated Clay
- Weathered Shale
- Shale
- Weathered Sandstone
- Sandstone
- Leached Dolomite
- Dolomite

GENERAL INFORMATION

Drive Rod Penetration Sounding Tests

Drive rod penetration resistance tests constitute driving a 1.315-inch diameter steel rod, with a 45° cone point, into the ground, using a 122-pound drop-hammer with a free fall of five feet. At one or two-foot depth intervals, a measurement is taken to determine the amount of penetration achieved in three hammer drops. This reading is converted to an empirical value for capacity "R", in thousands of pounds (which is a measure of both the point resistance and frictional resistance on the rod), by using charts prepared by the Ohio Department of Highways, Bureau of Bridges, on the basis of correlation study of rod penetration with past performance of pile driving. For interpretation, a graph is prepared by plotting the value "R" against the depth at which the reading was taken, and connecting the plotted points. The curve so obtained reflects the density of subsurface materials in a manner that can be readily compared with data from similar tests at other locations on the structure site. From this comparison, the overall uniformity of subsurface condition may be evaluated.

Drive Sample Borings - Drive - Press Sample Borings

Drive sample borings are made by means of a rotary-type drill rig, employing a 2" O.D., 1-3/8" I.D. sampler, at 2-1/2 and/or 5-foot depth intervals, driven by means of a 140-pound drop-hammer, with a free fall of 30 inches. The number of blows required to drive the sampler 12 inches is considered the standard penetration test.

Drive-press sample borings are made by means of a rotary-type drill rig, employing a 2" O.D., 1-3/8" I.D. drive sampler, and 3" O.D. thin-wall press sampler. The press sampler is advanced by continuous uniform pressure, applied by the drill rig.

The boring log sheets show a graphic plot of the information obtained, including depth and elevation of the sample, number of blows for the standard penetration tests in two 6-inch increments, depth of press samples, field sample number, sample description - based on laboratory tests and the Casagrande AC classification system - and gradation, plasticity, and moisture content determinations. Results of strength and consolidation testing appear on separate enclosures.

At depths where materials are bouldery or gravelly to the extent that the sampler can not be driven, a wash sample is procured for visual classification, in order to determine the general character of the material. These samples are not considered sufficiently representative to warrant laboratory testing.

Particle Size Definitions

Boulders	Cobbles	Gravel	Coarse Sand	Fine Sand	Silt	Clay
8"	3"	2.0mm (No. 10 sieve)	0.42mm (No. 40 sieve)	0.074mm (No. 200 sieve)	0.005mm	

Date Started 8-24-64 | Sampler Type SS 1 3/8" | Elev. 874.0'
Date Completed 8-25-64 | Casing Length 20' 3 1/2" | Sample No. 1
Boring No. B-1 | Station & Offset 352+08, 70' Rt (REAR ABUTMENT)

Elev	Depth	Std. Pen. (N)	Rec. ft.	Loss ft.	Description	Sample No.	Gravel %	Coarse Sand %	Fine Sand %	Silt %	Clay %	Liquid Limit %	Plastic Index %	Moisture Content %
874.0	0													
	2													
869.0	4													
	6	12/30			Brown Gravelly Sandy Silt	1	21	10	18	31	20	18	3	11
866.5	8	26/22			Brown Gravelly Sandy Silt	2	19	11	15	31	24	20	4	11
864.0	10	22/25			Brown and Gray Sandy Gravelly Silt	3	39	9	11	24	17	20	5	12
861.5	12	18/28			Gray Sandy Gravelly Silt	4	24	7	12	30	27	21	5	12
859.0	14	50* (0.7')			Brown Silty Gravel	5	47	6	8	22	17	22	6	11
856.5	16													
854.0	18													
	20	50* (0.4')			Gravelly Silty Sandy Gravel	6	45	8	8	22	17	NP	NP	13
851.5	22													
849.0	24	50* (0.7')			Gray Gravelly Silt	7	35	4	7	31	23	22	6	14
	26													
844.0	28													
	30	50* (0.7')			Gray Gravelly Sandy Silt	8	15	8	14	34	29	21	6	10
839.0	32													
838.6	34													
	36	50* (0.4')			Gray Sandy Gravelly Silt	9	41	8	9	22	20	25	9	14

BOTTOM OF BORING

*REFUSAL

Date Started 8-26-64 | Sampler Type SS 1 3/8" | Elev. 873.0'
Date Completed 8-26-64 | Casing Length 15' 3 1/2" | Sample No. 1
Boring No. B-15 | Station & Offset 354+97, 25' Lt (FORWARD PIER)

Elev	Depth	Std. Pen. (N)	Rec. ft.	Loss ft.	Description	Sample No.	Gravel %	Coarse Sand %	Fine Sand %	Silt %	Clay %	Liquid Limit %	Plastic Index %	Moisture Content %
873.0	0													
	2													
	4													
868.0	6	8/11			Brown and Gray Sandy Gravelly Silt	1	28	9	13	27	23	23	3	16
865.5	8	6/8			Brown Sandy Silt	2	0	5	19	47	29	NP	NP	28
863.0	10	10/17			Brown Gravelly Silt	3	45	4	10	26	15	NP	NP	12
860.5	12				No Sample Recovered - Boulder					V I S U A L				
858.0	14	50* (0.1')			No Sample Recovered- Boulder					V I S U A L				
855.5	16	50* (0.8')			Gray Gravelly Silt	4	47	5	7	20	21	23	6	19
853.0	18	50* (0.8')			Gray Silty Gravel	5	56	4	6	20	14	24	8	12
850.5	20	50* (0.6')			Gray Sandy Gravelly Silt	6	39	7	12	21	21	23	9	10
848.0	22	50* (0.7')			Gray Silty Sandy Gravel	7	46	6	11	20	17	21	7	9
	24													
	26													
843.0	28													
	30	50* (0.7')			Gray Clayey Silt	8	0	9	3	59	29	21	8	10
838.0	32													
	34													
	36	50/*			Gray Sandy Gravelly Silt	9	28	9	17	28	18	20	4	8
833.0	38													
	40	50* (0.4')			Gray Gravelly Sandy Silt	10	26	10	17	28	19	23	9	9
828.0	42	50* (0.3')			Gray Sandy Gravelly Clay	11	V	I	S	U	A	L	PL= 15	14
823.0														
822.0					Gray Sandy Gravelly Silt		V	I	S	U	A	L		

BOTTOM OF BORING

*REFUSAL

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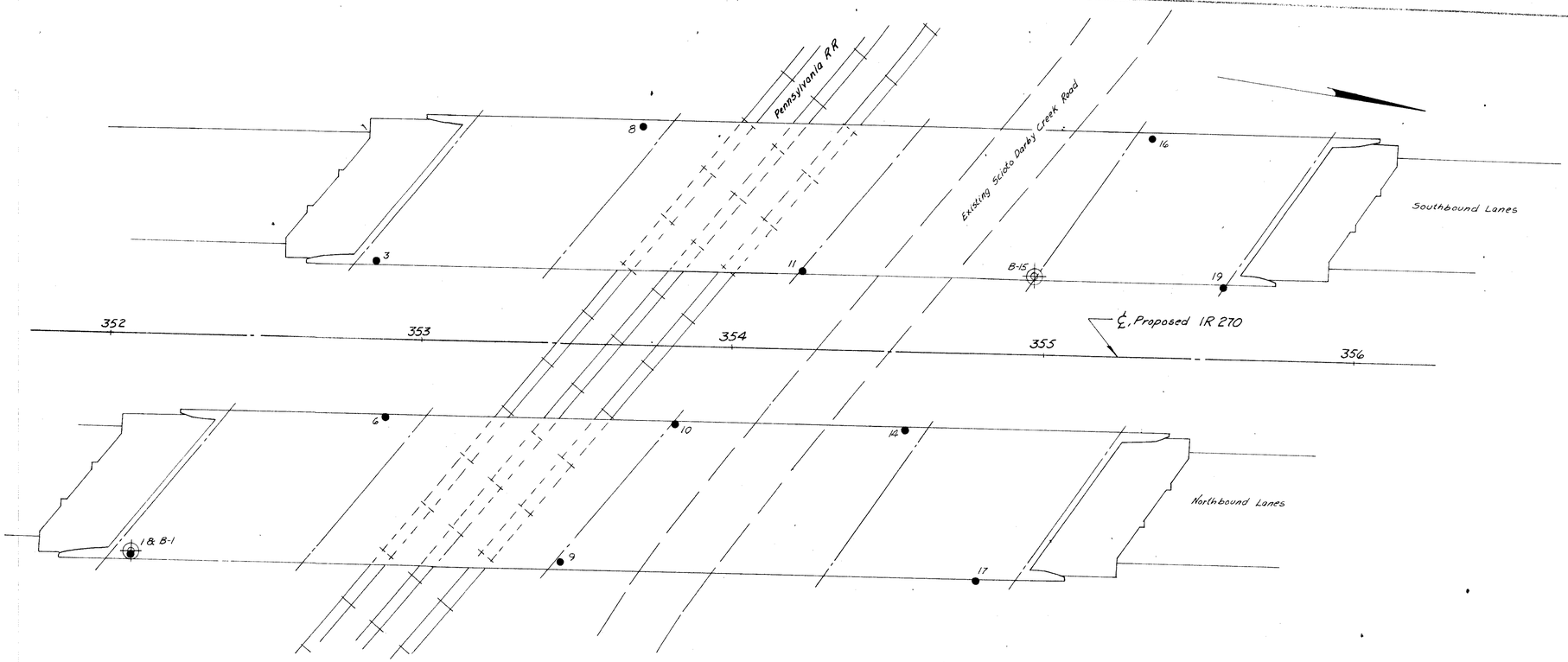
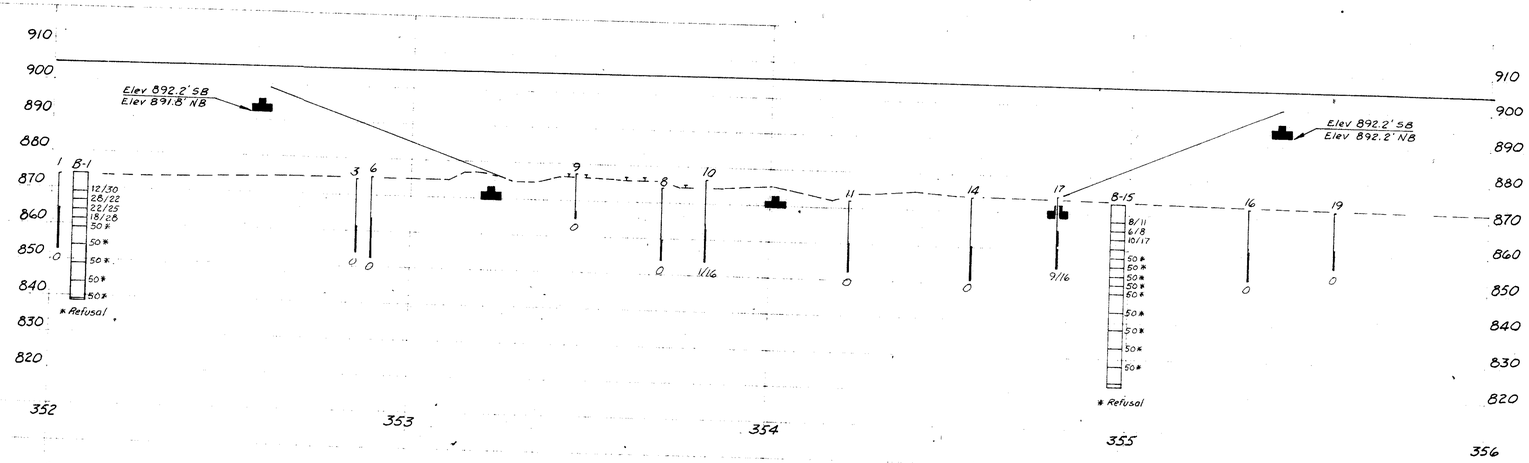
OHIO STATE HIGHWAY
TESTING LABORATORY
1620 WEST BROAD STREET, COLUMBUS 23, OHIO

STRUCTURE FOUNDATION INVESTIGATION
BRIDGE NO. FRA-IR270-0233 L/R
OVER SCIOTO DARBY CR RD & PENN RR
SEC. FRA-IR270-0.79N

CHECKED BY	REVIEWED BY	DATE
R.H.P.	R.D.R.	10/1/64





OHIO STATE HIGHWAY
TESTING LABORATORY
1620 WEST BROAD ST., COLUMBUS 23, OHIO

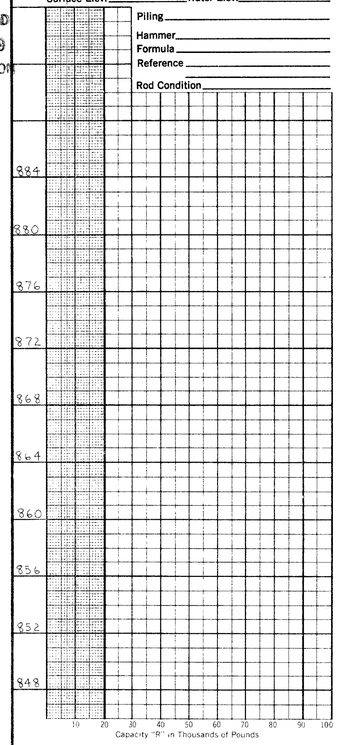
STRUCTURE FOUNDATION INVESTIGATION
BRIDGE NO. FRA-IR270-0233 L/R
OVER SCIOTO DARBY CR RD & PENN RR
SEC. FRA-IR270-0.79N

PLAN AND PROFILE

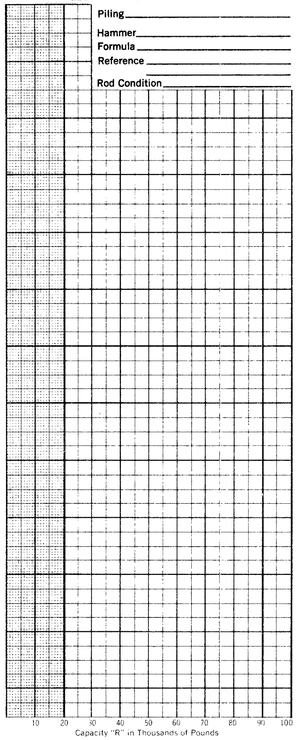
TE-115
500-1-64

FRA-IR270-0.79N (3/3)

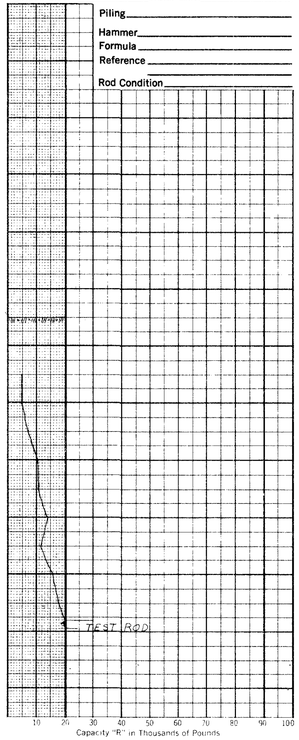
Test Location No. ____
Station & Offset ____
Surface Elev. ____ Water Elev. ____
Piling ____
Hammer ____
Formula ____
Reference ____
Rod Condition ____



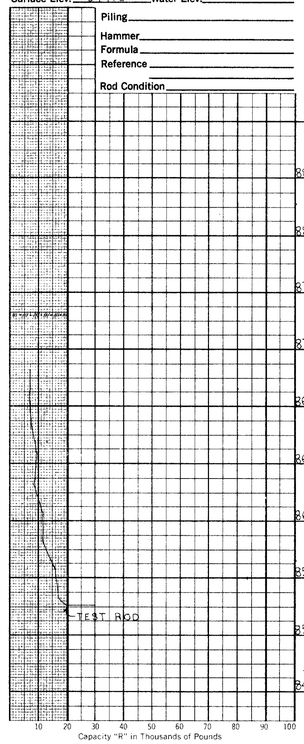
Test Location No. ____
Station & Offset ____
Surface Elev. ____ Water Elev. ____
Piling ____
Hammer ____
Formula ____
Reference ____
Rod Condition ____



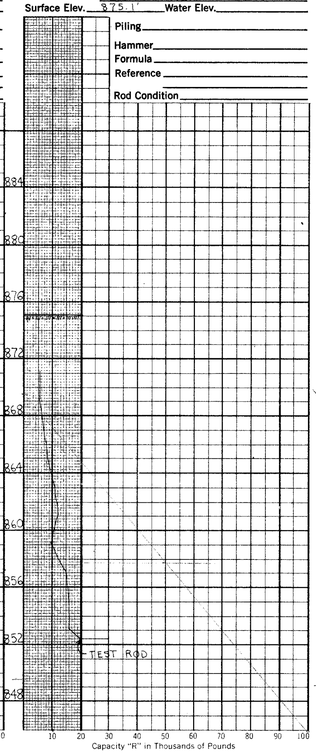
Test Location No. 1
Station & Offset 352+08, 71' Rt.
REAR ABUTMENT
Surface Elev. 874.0 Water Elev. ____
Piling ____
Hammer ____
Formula ____
Reference ____
Rod Condition ____



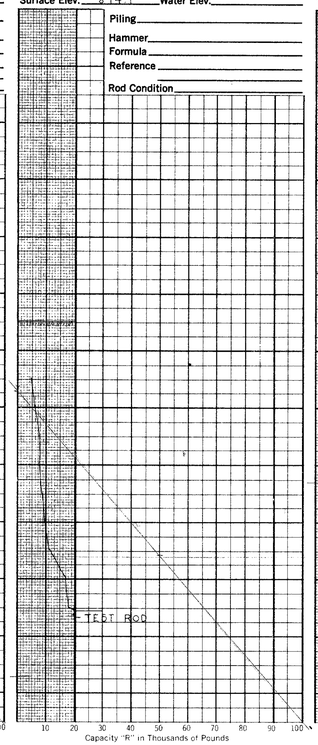
Test Location No. 3
Station & Offset 352+85, 25' Lt.
REAR ABUTMENT
Surface Elev. 874.6 Water Elev. ____
Piling ____
Hammer ____
Formula ____
Reference ____
Rod Condition ____



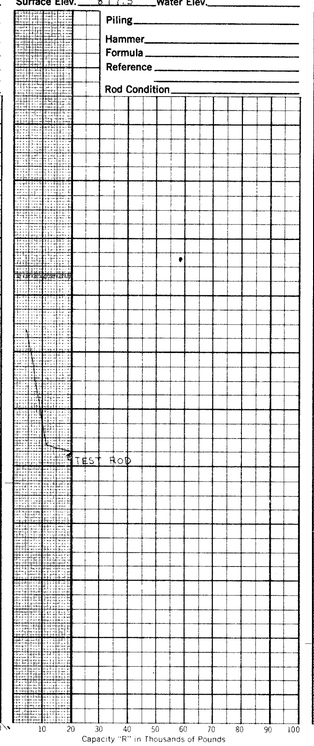
Test Location No. 6
Station & Offset 352+89, 25' Rt.
REAR PIER
Surface Elev. 875.1 Water Elev. ____
Piling ____
Hammer ____
Formula ____
Reference ____
Rod Condition ____



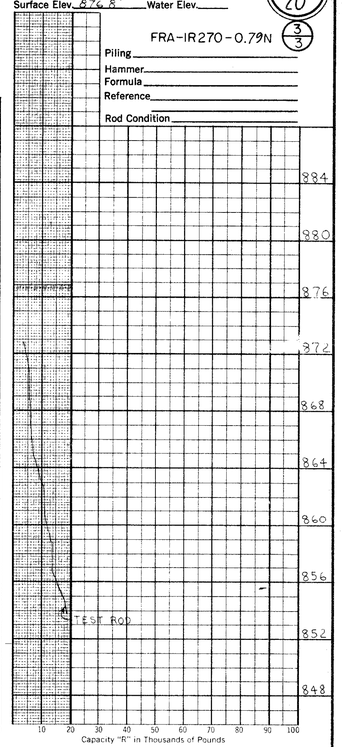
Test Location No. 8
Station & Offset 353+70, 70' Lt.
REAR PIER
Surface Elev. 874.1 Water Elev. ____
Piling ____
Hammer ____
Formula ____
Reference ____
Rod Condition ____



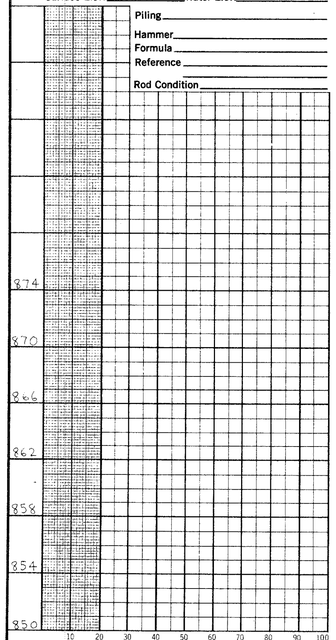
Test Location No. 9
Station & Offset 353+46, 70' Rt.
CENTER PIER
Surface Elev. 877.5 Water Elev. ____
Piling ____
Hammer ____
Formula ____
Reference ____
Rod Condition ____



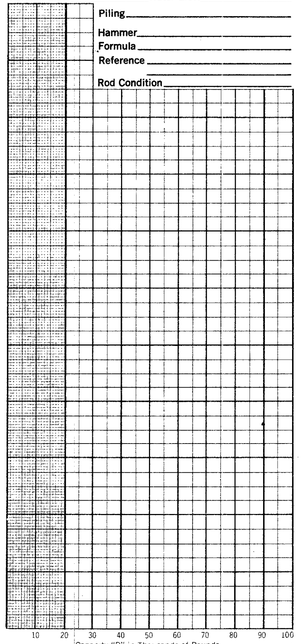
Test Location No. 10
Station & Offset 353+82, 25' Rt.
CENTER PIER
Surface Elev. 876.8 Water Elev. ____
Piling ____
Hammer ____
Formula ____
Reference ____
Rod Condition ____



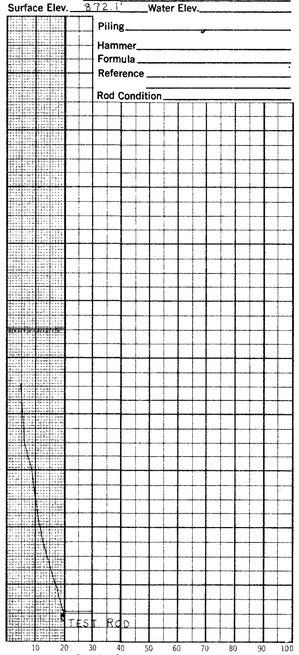
Test Location No. ____
Station & Offset ____
Surface Elev. ____ Water Elev. ____
Piling ____
Hammer ____
Formula ____
Reference ____
Rod Condition ____



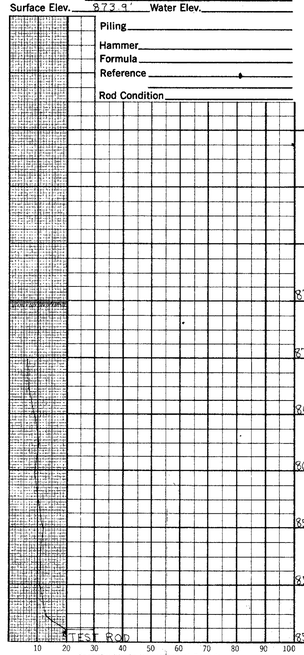
Test Location No. ____
Station & Offset ____
Surface Elev. ____ Water Elev. ____
Piling ____
Hammer ____
Formula ____
Reference ____
Rod Condition ____



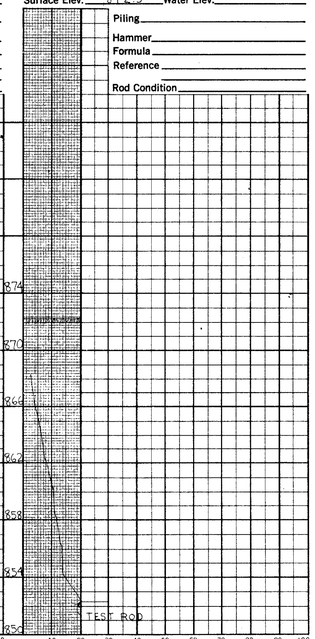
Test Location No. 11
Station & Offset 354+22, 25' Lt.
CENTER PIER
Surface Elev. 872.1' Water Elev. ____
Piling ____
Hammer ____
Formula ____
Reference ____
Rod Condition ____



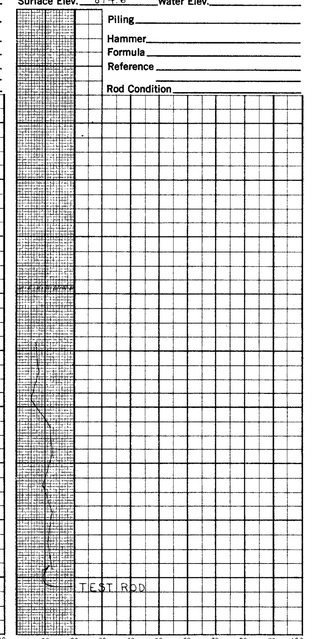
Test Location No. 14
Station & Offset 354+56, 25' Rt.
FORWARD PIER
Surface Elev. 873.9' Water Elev. ____
Piling ____
Hammer ____
Formula ____
Reference ____
Rod Condition ____



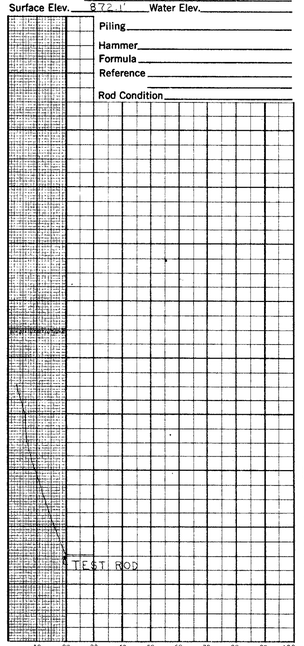
Test Location No. 16
Station & Offset 355+33, 70' Lt.
FORWARD PIER
Surface Elev. 872.3 Water Elev. ____
Piling ____
Hammer ____
Formula ____
Reference ____
Rod Condition ____



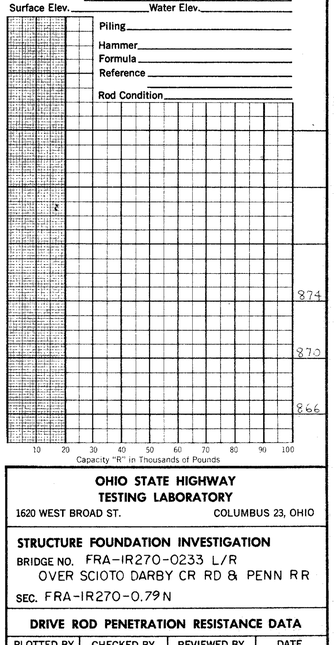
Test Location No. 17
Station & Offset 354+80, 73' Rt.
FORWARD ABUTMENT
Surface Elev. 874.6 Water Elev. ____
Piling ____
Hammer ____
Formula ____
Reference ____
Rod Condition ____



Test Location No. 19
Station & Offset 355+57, 23' Lt.
FORWARD ABUTMENT
Surface Elev. 872.1' Water Elev. ____
Piling ____
Hammer ____
Formula ____
Reference ____
Rod Condition ____



Test Location No. ____
Station & Offset ____
Surface Elev. ____ Water Elev. ____
Piling ____
Hammer ____
Formula ____
Reference ____
Rod Condition ____



OHIO STATE HIGHWAY TESTING LABORATORY
1620 WEST BROAD ST. COLUMBUS 23, OHIO

STRUCTURE FOUNDATION INVESTIGATION
BRIDGE NO. FRA-IR270-0233 L/R
OVER SCIOTO DARBY CR RD & PENN RR
SEC. FRA-IR270-0.79N

DRIVE ROD PENETRATION RESISTANCE DATA

PLOTTED BY	CHECKED BY	REVIEWED BY	DATE
L.N.L.	R.H.P.	R.D.R.	10/1/64

GEOLOGY OF THE SITE

The structure site is located on the glaciated Mississippi Valley Plain, in an area where moderately deep glacial drift overlies shale and limestone bedrock, of Devonian age.

EXPLORATION

The exploration consisted of two drive sample borings and eight drive rod penetration tests, made between August 3 and 11, 1964.

INVESTIGATIONAL FINDINGS

Borings encountered very dense to extremely dense intervals of sand, silt, gravel and boulders. The borings were terminated at 41 and 45-foot depths, elevations 832 and 830 feet, after penetrating in excess of 30 feet of material requiring in excess of 30 blows per foot in the standard penetration test.

The rod soundings met with increasing resistance to penetration with increasing depth, and were terminated due to refusal or near-refusal to penetration at 25 to 30-foot depths, elevations 847 to 842 feet, on the basis of the borings, considered to be in the extremely dense gravels.

No free water was observed in the rod sounding holes.

No test penetrated to bedrock surface.

LEGEND

- Auger Boring Location - Plan View.
- Press and/or Drive Sample and/or Core Boring Location - Plan View.
- Drive Rod Penetration Resistance Sounding Location - Plan View.
- Capped Pile
- Footing
- Footing on Pile
- TR — Top of Rock
- Horizontal Bar on Boring Log Indicates the Depth the Sample Was Taken.
- X/Y — Figures Beside the Boring Log in Profile Indicate the Number of Blows For Standard Penetration Test. X = Number of Blows for First 6 Inches. Y = Number of Blows for Second 6 Inches.
- Drive Rod Penetration Resistance Sounding Log - Profile.
- Casing
- Resistance "R" < 10,000 lbs.
- Resistance "R" > 10,000 lbs.
- Z — Indicates Final Measurement of Penetration, in Inches.
- W — Indicates Free Water Elevation.
- Indicates Static Water Elevation.

SYMBOLS OF ROCK TYPES

- Coal
- Weathered 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 conditions 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 appear on separate enclosures.

At depths where materials are bouldery or gravelly to the extent that the sampler can not be driven, a wash sample is procured for visual classification, in order to determine the general character of the material. These samples are not considered sufficiently representative to warrant laboratory testing.

Particle Size Definitions

Boulders	Cobbles	Gravel	Coarse Sand	Fine Sand	Silt	Clay
8"	3"	2.0mm	0.42mm	0.074mm	0.005mm	
		No. 10 sieve	No. 40 sieve	No. 200 sieve		

Date Started 8-11-64 Sampler Type SS 1 3/8"
Date Completed 8-11-64 Casing Weight 15' 3 1/2"
Boring No. B-1 Station & Offset 398+70, 74' Rt (REAR ABUTMENT) Surface Elev. 872.8'

Elev.	Depth	Std. Pen. (N)	Rec. ft.	Loss ft.	Description	No.	Moisture	Liquid Limit	Plastic Limit	Gravel	Coarse Sand	Fine Sand	Silt	Clay
872.8	0													
	2													
867.8	4													
	6	11/16			Brown Sandy Silty Clay	1	V I S U A L			37	20	31		
865.3	8	26/42			Brown Clayey Sandy Silt and Gravel	2	V I S U A L							12
860.8	10													
	12	31/37			Brown Sandy Silt	3	V I S U A L							10
860.3	12													
	14	33/41			Gray Sandy Silt	4	0 9 16 42 33 23			7				11
857.8	15	29/39			Gray Sandy Gravelly Silt	5	25 7 15 28 25 24			8				12
855.8	16	34/44			Gray Sandy Silt	6	0 11 11 46 32 24			9				13
852.8	20													
	22	19/30			Gray Sandy Gravelly Silt	7	36 7 10 27 20 25			9				14
847.8	24													
	26	36/50			Grayish-Red Sandy Gravelly Silt	8	25 9 13 31 22 26			9				12
842.8	28													
	30	35/55			Gray Gravelly Sandy Silt	9	19 10 13 34 24 25			10				12
837.8	32													
	34													
	36	39/51			Gray Sandy Silt	10	0 17 19 36 28 22			7				10
832.8	38													
831.8	40	44/57			Gray Silty Sandy Gravel	11	56 24 8 -1 2-			NP		NP		11
					BOTTOM OF BORING									

Date Started 8-6-64 Sampler Type SS 1 3/8"
Date Completed 8-10-64 Casing Weight 15' 3 1/2"
Boring No. B-16 Station & Offset 397+57, 69' Lt (FORWARD ABUTMENT) Surface Elev. 875.1'

Elev.	Depth	Std. Pen. (N)	Rec. ft.	Loss ft.	Description	No.	Moisture	Liquid Limit	Plastic Limit	Gravel	Coarse Sand	Fine Sand	Silt	Clay
875.1	0													
872.6	2													
870.1	4	30/26			Brown and Gray Sandy Silt	1	0 7 16 48 29			24		6		11
	6				Brown Sandy Gravelly Silt	2	31 10 12 30 17			20		6		7
867.6	8				No Sample Recovered - Sandy Silty Gravel	3	V I S U A L							
865.1	10	50/*			Brown Gravelly Sand	4	V I S U A L							27
	12													
860.1	14	50* (0.2')			Sandy Silty Gravel and Boulders	5	V I S U A L							
	16													
855.1	20	24/24			Gray Gravelly Sandy Silt	6	V I S U A L			25		9		10
	22													
850.1	24													
	26	19/21			Gray Sandy Silt	7	0 10 16 42 32			24		9		10
845.1	28	50* (0.8')			Gray Sandy Gravelly Silt	8	27 8 12 31 22			23		7		10
	32													
840.1	34													
	36	23/25			Gray Silty Sandy Gravel	9	50 30 9 -1 1-			NP		NP		10
835.1	38													
	40	50* (0.9')			Gray Gravelly Sandy Silt	10	16 8 16 37 23			22		6		11
830.1	42													
	44				BOTTOM OF BORING									

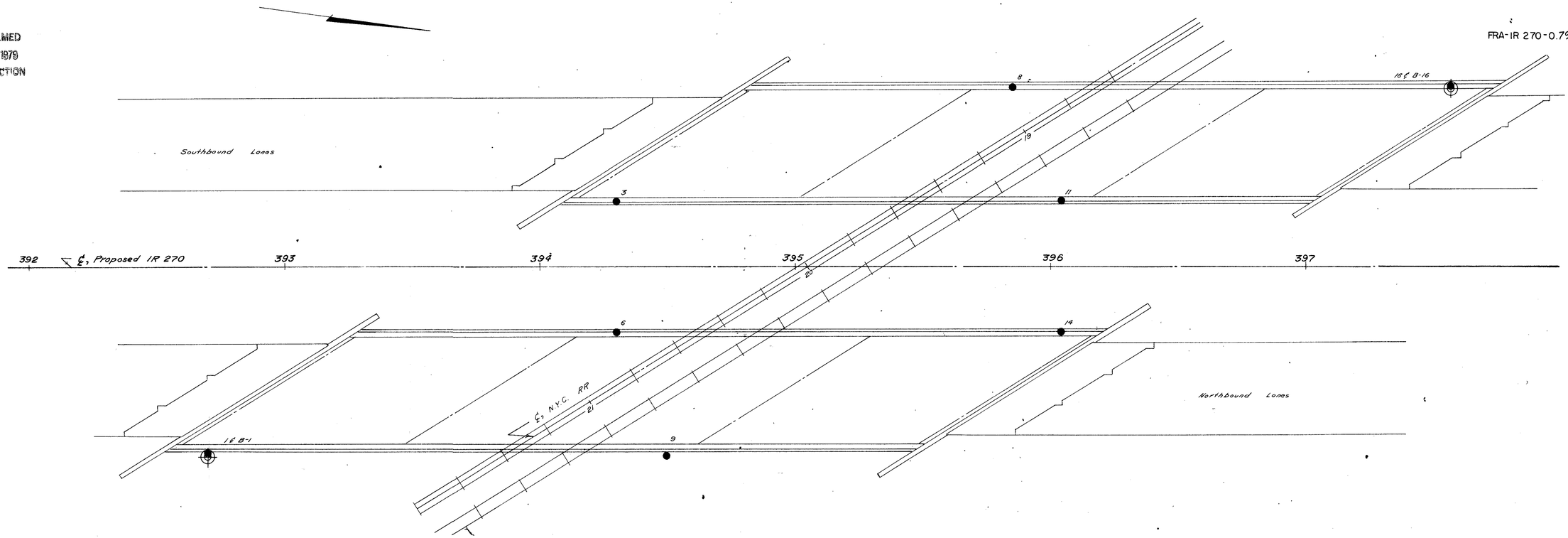
*REFUSAL

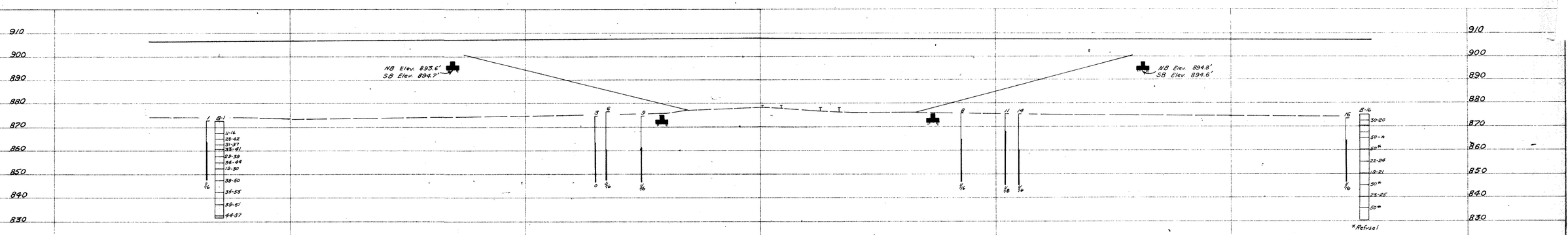
NOTE: Information shown by this subsurface investigation was obtained solely for the use in establishing design controls for the project. The State of Ohio does not guarantee the accuracy of this data and it is not to be construed as a part of the plans governing construction of the project.

OHIO STATE HIGHWAY
TESTING LABORATORY
1620 WEST BROAD STREET, COLUMBUS 23, OHIO

STRUCTURE FOUNDATION INVESTIGATION
BRIDGE NO. FRA-IR 270-0310 L&R
OVER NYC RR
SEC. FRA-IR 270-0.79N

CHECKED BY	REVIEWED BY	DATE
L.N.L.	R.D.R.	9/30/64





SCALE. 1" = 20'

OHIO STATE HIGHWAY
TESTING LABORATORY
1620 WEST BROAD ST., COLUMBUS 23, OHIO

STRUCTURE FOUNDATION INVESTIGATION
BRIDGE NO. FRA-IR 270-0310 L&R
OVER NYC RR
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PLAN AND PROFILE

DRAWN BY	CHECKED BY	REVIEWED BY	DATE
R.L.F.	L.N.L.	R.D.R.	9/30/64

TE-114
1200-1-64

20
20
3
3

FRA-IR 270-0.79N

Test Location No. 1
Station & Offset 392+70, 73' RT. REAR ABUTMENT
Surface Elev. 872.8 Water Elev.
Piling
Hammer
Formula
Reference
Rod Condition GOOD

Test Location No. 3
Station & Offset 394+30, 25' LT. REAR ABUTMENT
Surface Elev. 874.7 Water Elev.
Piling
Hammer
Formula
Reference
Rod Condition GOOD

Test Location No. 6
Station & Offset 394+30, 25' RT. REAR PIER
Surface Elev. 876.4 Water Elev.
Piling
Hammer
Formula
Reference
Rod Condition GOOD

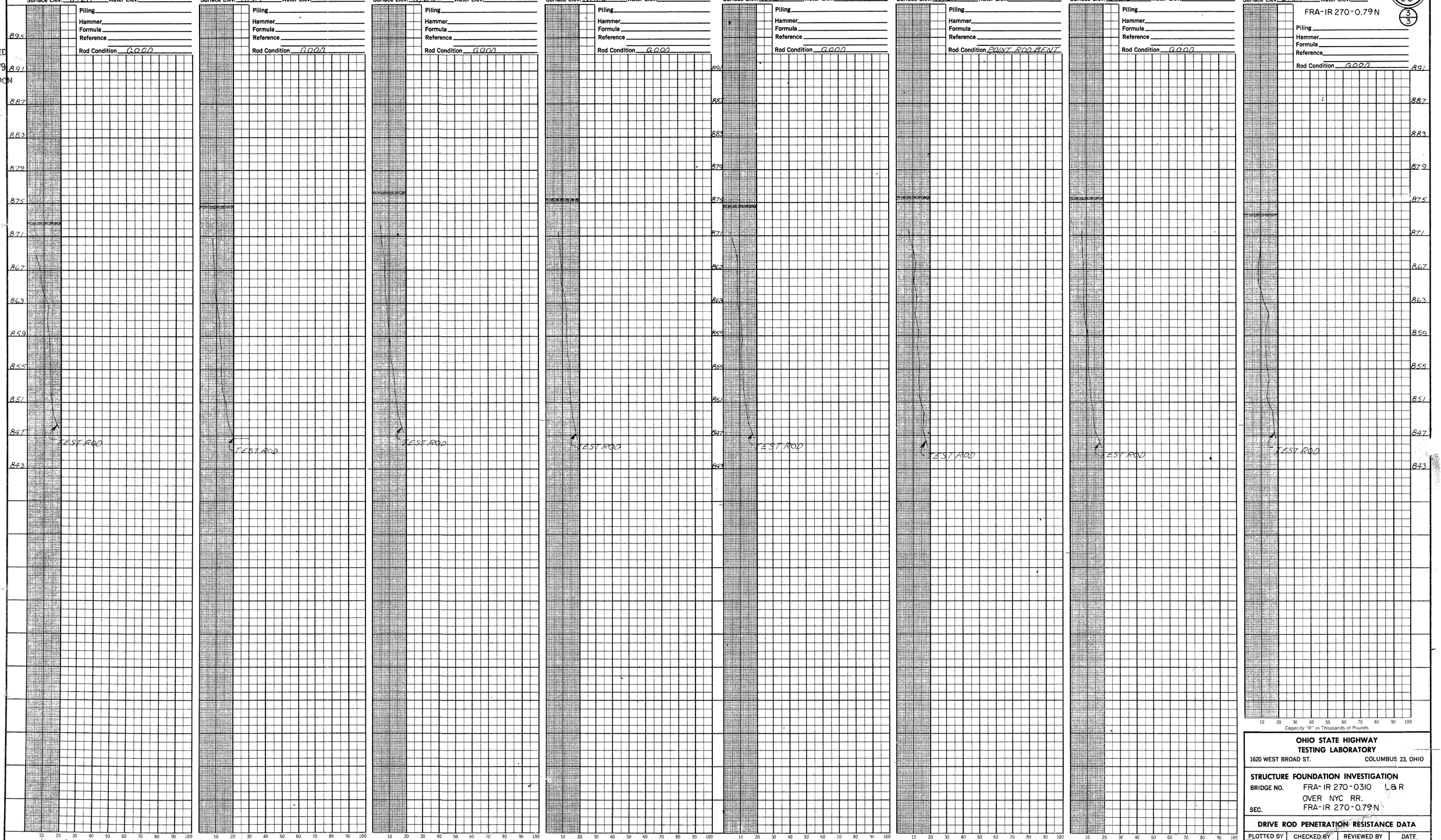
Test Location No. 8
Station & Offset 395+85, 70' LT. REAR PIER
Surface Elev. 875.5 Water Elev.
Piling
Hammer
Formula
Reference
Rod Condition GOOD

Test Location No. 9
Station & Offset 394+50, 74' RT. FORWARD PIER
Surface Elev. 874.7 Water Elev.
Piling
Hammer
Formula
Reference
Rod Condition GOOD

Test Location No. 11
Station & Offset 396+04, 25' LT. FORWARD PIER
Surface Elev. 875.7 Water Elev.
Piling
Hammer
Formula
Reference
Rod Condition POINT ROD BENT

Test Location No. 14
Station & Offset 396+04, 25' RT. FORWARD ABUTMENT
Surface Elev. 875.6 Water Elev.
Piling
Hammer
Formula
Reference
Rod Condition GOOD

Test Location No. 16
Station & Offset 397+57, 70' LT. FORWARD ABUTMENT
Surface Elev. 873.7 Water Elev.
Piling
Hammer
Formula
Reference
Rod Condition GOOD



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DRIVE ROD PENETRATION RESISTANCE DATA

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