

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
COLUMBUS - LANCASTER ROAD
S.H.-49 SEC'S. F, E-1, D-1 & D-2
FRANKLIN COUNTY
MARION, TRURO & MADISON TWP'S.

LINE DATA

Begin Project Sta. 0 + 39
End Project Sta. 338 + 79
Gross Length of Project =
No Additions
Deduct Station Equations -
(196 + 17.60 Back = 196 + 23.98 Ahead) 6.38 Lin. Ft.
(206 + 96.0 Back = 207 + 87.14 Ahead) 91.14 Lin. Ft.
Total Deductions
Net Length of Project =

33,840.00 Lin. Ft.

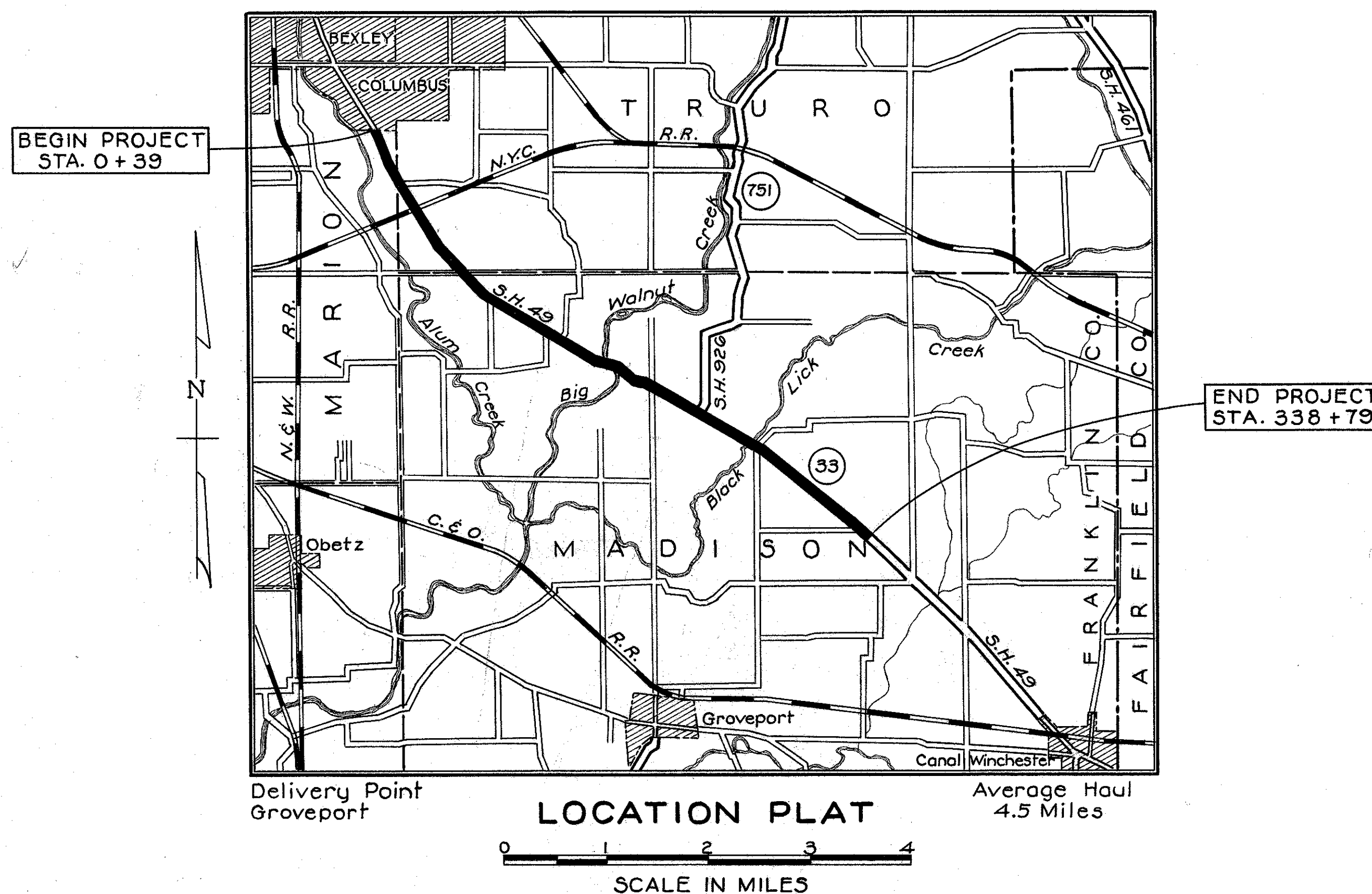
97.52 Lin. Ft.
33,742.48 Lin. Ft.
or 6.390 Miles

CONVENTIONAL SIGNS

COUNTY LINE
TOWNSHIP LINE
SECTION LINE
CENTER LINE
PROPERTY LINE
CITY OR VILLAGE LINE
FENCE LINE
STEAM RAILROAD
POLE LINE

INDEX OF SHEETS

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PORTION TO BE IMPROVED
STATE HIGHWAYS
COUNTY ROADS
PLAN
PROFILE VERTICAL
PROFILE HORIZONTAL

1" = 300'
1" = 30'
1" = 300'

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 necessary 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.

APPROVED Robert J. Werners
DATE 3-13-47 RESIDENT DIVISION DEPUTY DIRECTOR
APPROVED _____
DATE _____ CHIEF ENGR. BUREAU OF MAINTENANCE
APPROVED G. Hogue
DATE 3-25-47 CHIEF ENGR. BUREAU OF BRIDGES & R.R. CROSSINGS
APPROVED George J. Thompson
DATE 3-28-47 CHIEF ENGR. BUREAU OF LOCATION & DESIGN
APPROVED _____
DATE _____ FIRST ASS'T. DIRECTOR & CHIEF ENGINEER
APPROVED Murray D. Shaffer
DATE 3-28-47 DIRECTOR OF HIGHWAYS

CONSTRUCTION
BUREAU
APR 30 1956
GROUND PHOTOLAB

SUPPLEMENTAL
SPECIFICATIONS
None

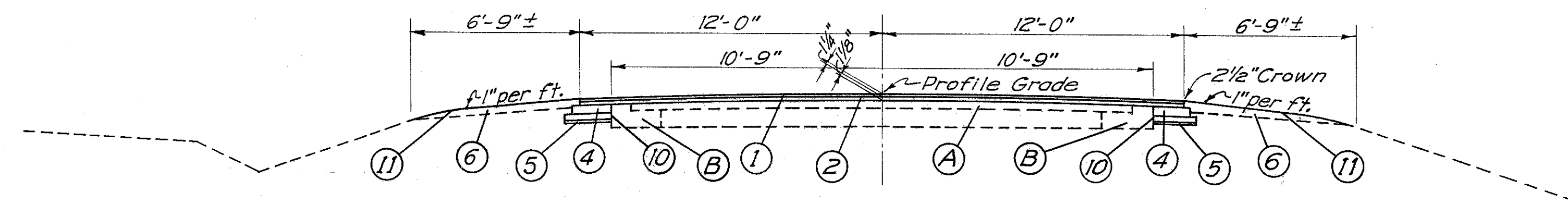
SUPPLEMENTAL PRINTS OF STANDARD CONSTRUCTION DRAWINGS

G-8.07	2-1-47	I-15 No 1	3-1-47
L-3	2-1-47	I-15 No 2	2-1-47

TYPE T-35

FED. RD. DIVISION	STATE	PROJECT	FISCAL YEAR
2	OHIO		1947

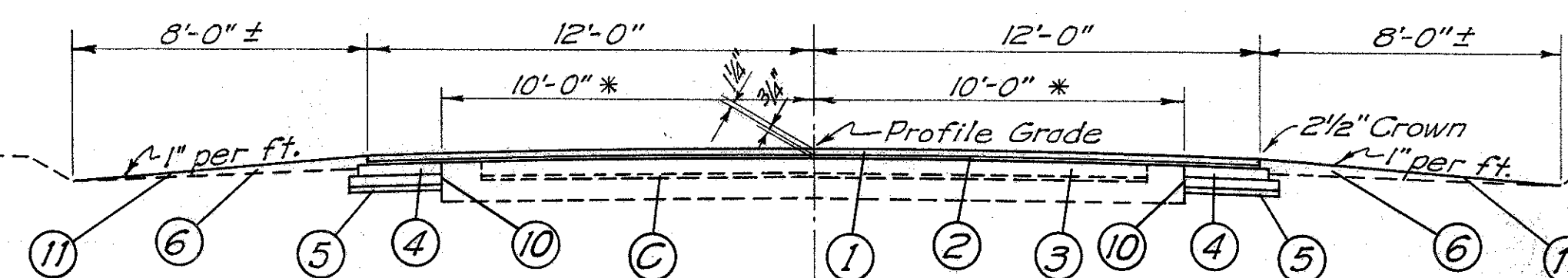
FRANKLIN COUNTY
S.H. 49-SEC. F, E-1, D-1 & D-2



LIMITING STATIONS		
STA. 0+39 TO STA. 42+46	=	4,207.00 LIN. FT.
STA. 53+46.3 TO STA. 173+50	=	12,003.70 LIN. FT.
STA. 207+87.14 TO STA. 265+00	=	5,712.86 LIN. FT.
STA. 266+35.0 TO STA. 338+79	=	7,244.00 LIN. FT.
TOTAL	=	29,167.56 LIN. FT.

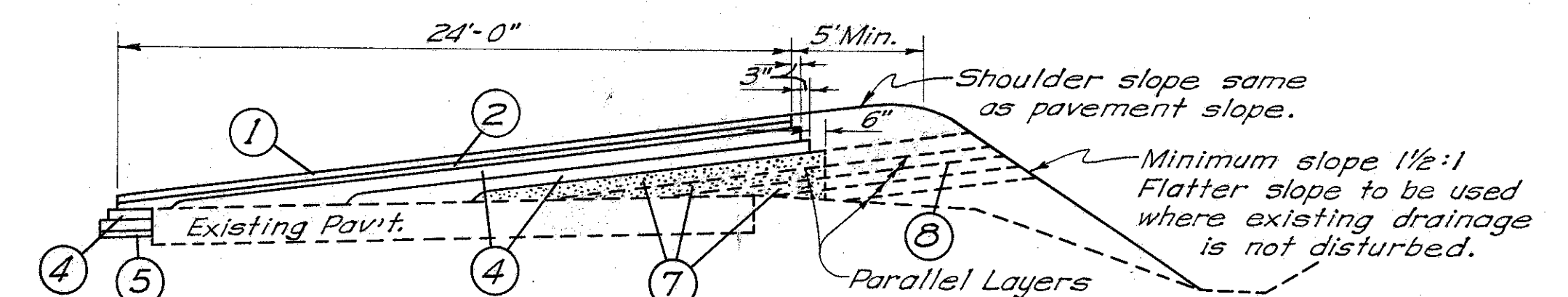
Note: Finish shoulders 1/2" below pavement edge except on high side of superelevated curves.

261+75
207+87
54



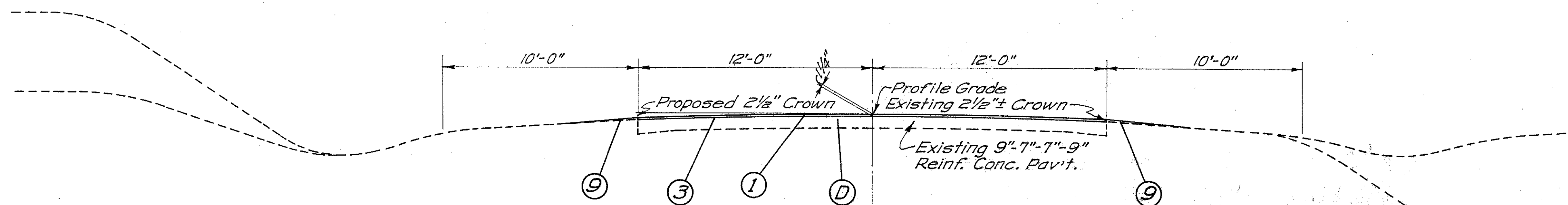
LIMITING STATIONS		
STA. 42+46 TO STA. 53+46.3	=	1,100.30 LIN. FT.
* Note: From Sta. 46+54.44 to Sta. 47+62.27	=	107.83 LIN. FT. 40' PAV'T.
Pav't. width 40' no widening base required.		
TOTAL	=	992.47 LIN. FT. 24' PAV'T.

- (A) Existing 8" Waterbound Macadam Base with 2"± Bituminous Concrete Surface (Existing Crown 1 1/2"±)
- (B) 8" Concrete Base with 9" x 1 3/4" Flush Curb.
- (C) Existing 6" Concrete Base, 3/4" sand cushion, 3" brick surface and 12" x 4 1/4" monolithic flush curb (Existing Crown 2 1/8"±)
- (D) Existing 9"-7"-7"-9" Reinforced Concrete Pavement.
- (1) 1 1/4" Asphaltic Concrete Surface Course (Type A) Item T-35
- (2) 3/4" Minimum Depth, Asphaltic Concrete Leveling Course Item B-35
- (3) Bituminous Tack Coat using 0.10 gal. per sq. yd. Sec. M-5.5 MS-1 Item T-30
- (4) 2-3" Asphaltic Concrete Leveling Course Item B-35
- (5) 1 1/4" Insulation Course Item I-19
- (6) Embankment or Borrow
- (7) Borrow, classified, using No. 7 screenings, Sec. M-2.7 or Item E-4
- (8) Borrow Sec. M-2.14 Item E-4
- (9) Side Approaches, Mail Box Turnouts & Berm Material Item I-17
- (10) Sealing only Item E-8
- (11) Seeding and Protecting, Type "A" Item L-9



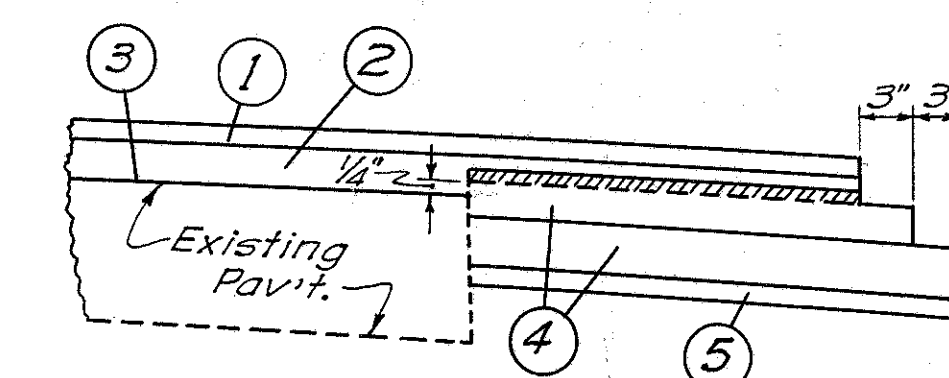
DETAIL OF ADDITIONAL SUPERELEVATION SECTION

Note: Aggregate and earth borrow shall be compacted in 3" maximum thickness layers. Adjacent layers of aggregate and earth placed parallel to the proposed surface of the new pavement shall be compacted to a point at least 24" beyond the edge of the aggregate before successive layers are placed thereon.



LIMITING STATIONS		
STA. 173+50 TO STA. 206+96	=	3,346.00 LIN. FT.
LESS STA. EQUATION	=	6.38 LIN. FT.
TOTAL	=	3,339.62 LIN. FT.

338+79
206+96
131 83



DETAIL OF EDGE CONSTRUCTION WITHOUT FORMS

Note: Where the 3" level course in the widened area would finish more than 1/4" above the edge of the existing pavement, that portion below the dashed line shall be placed and compacted in a separate operation. The hatched portion above the dashed line shall be placed simultaneously with the full width leveling course.

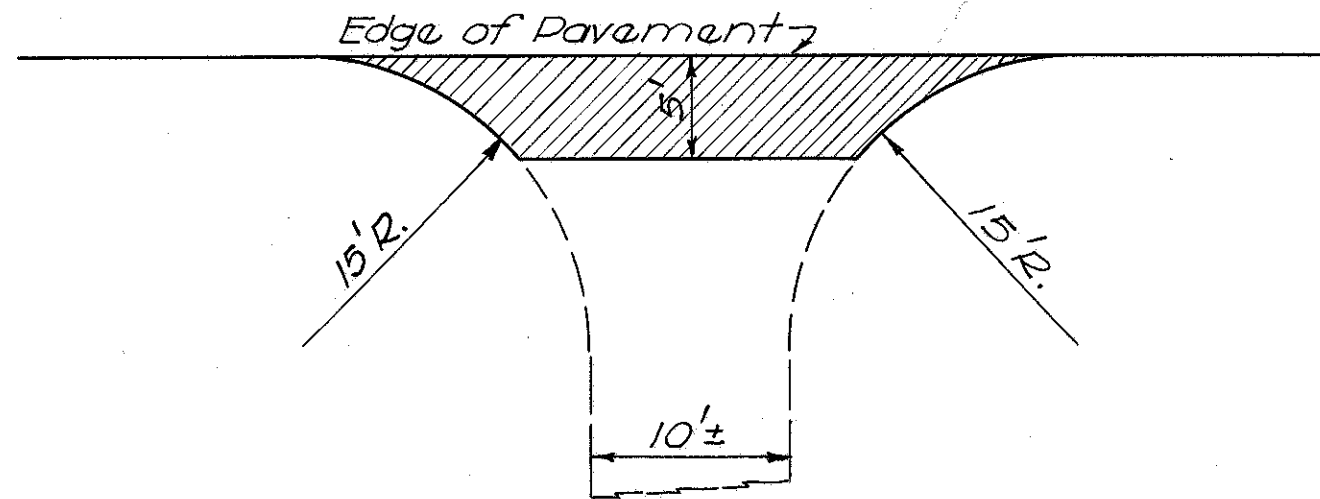
GENERAL NOTES.

TRAFFIC:~
Traffic shall be maintained at all times. The length of one way traffic zones shall be kept to a minimum consistant with the requirements of Sec. T-35.23.
The item of "Maintaining Traffic" shall include the furnishing, erecting, maintaining and removing of all lights, signs and barricades as per the requirements of Sec. -G-807.

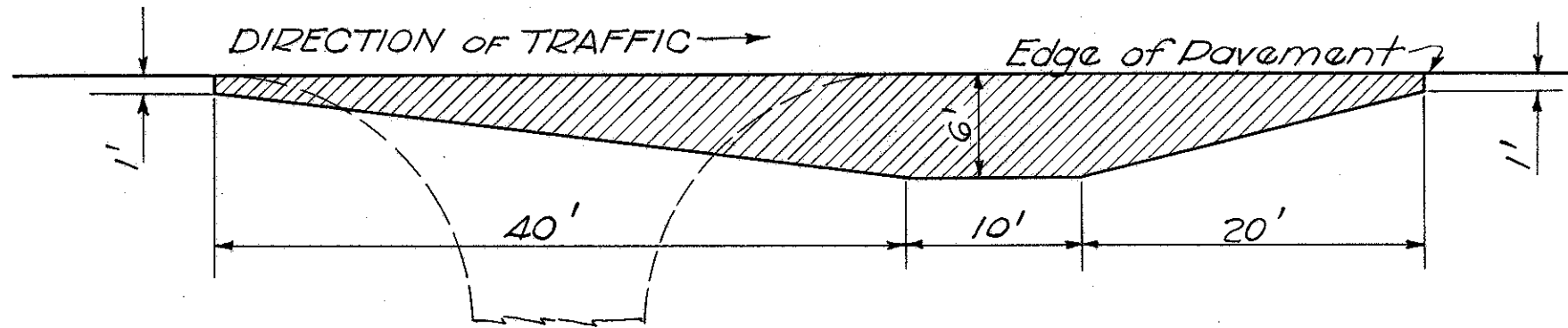
PROFILE:~
The profile of the proposed surface course shall be approximately 2 3/8, 2 & 1/4 inches above that of the existing pavements as indicated on the typical sections.

EARTHWORKS:~
Watering embankments, benching, density requirements and the removal of sod from the shoulder will not be required. However, Item E-1 and Item E-4 shall include the thorough compaction of embankment in layers not exceeding eight inches compacted thickness, and shall include any operations of grading necessary to finish the shoulders and slopes substantially to the lines indicated on the typical sections. No provisions of the specifications will be waived for embankment which supports any portion of the new pavement or forms.

FILLING MAJOR DEPRESSIONS:~
Major depressions in existing pavement shall be filled and compacted with bituminous concrete leveling material in advance of placing the regular leveling course. These depressions shall be filled in layers not to exceed 3 inches in depth when compacted.

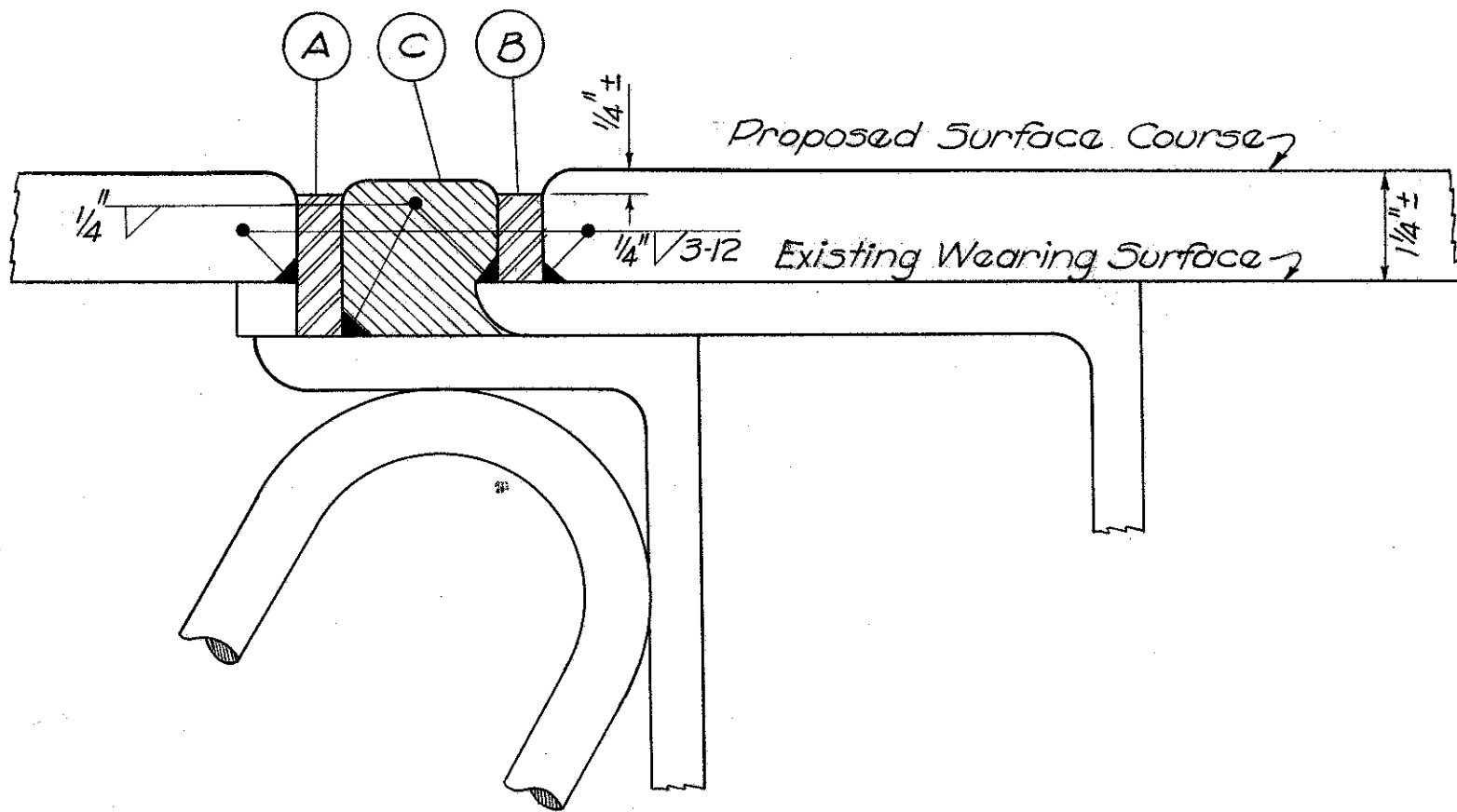


TYPICAL DRIVEWAY
ESTIMATED QUANTITIES
63 drives @ 1 cu. yd. each = 63 cu. yds I-17



Note:~
Where feasible drives will be combined with mail box approaches, in the manner shown, and the quantities will be adjusted by the Engineer.

TYPICAL MAIL BOX APPROACH.
ESTIMATED QUANTITIES.
30 Mail Box Approaches @ 2.5 cu. yds each = 75 Cu. Yds I-17



DETAIL OF STRUCTURAL EXPANSION JOINTS.
ESTIMATED QUANTITIES
60 lin. ft. of Item S-9.

- (A) 1/2" x 1 1/2" x 34'-2" Str. Steel Sec. M-7.4a. 2 Required.
- (B) 1/2" x 1" x 34'-2" Str. Steel Sec. M-7.4a. 2 Required.
- (C) F-1 Filler or similar bituminous material Sec. M-5.6.

FRANKLIN COUNTY
S.H. 49 SEC. F, E-1, D-1 & D-2

EXTRA PAVEMENT. "D"														
SHEET Nº	DEDUCT WIDENING	T-35 ASPHALTIC CONC. SURFACE COURSE TYPE "A"	¾" B-35 ASPHALTIC CONCRETE LEVELING COURSE	2-3" B-35 ASPHALTIC LEVELING COURSE	DEDUCT I-19 INSULATION COURSE	E-4 BORROW (CLASSIFIED)	E-4 BORROW	I-17 AGGREGATE	S-3 WATER- PROOFING, TYPE "C"	S-9 STRUCTURAL EXPANSION JOINT	E-1 EXCAVATION	E-8 REM. & DISPOSE OF EXIST. PAVT.	I-19 INSUL- ATION COURSE	
	LIN. FT.	SQ. YDS.	CU. YDS.	CU. YDS.	LIN. FT.	CU. YDS.	CU. YDS.	CU. YDS.	SQ. YDS.	LIN. FT.	CU. YDS.	SQ. YDS.	SQ. YDS.	
3								138		68				
5	58	35.6	20	167	450	40	180	5			25			
6	315	461.4	238	247	600	75	320	45			50	150	150	
7	154	240.3	50						756					
8	100	303.0	35.0											
9	157	425.0	80	140	500	40	300	9						
CAL.	764	1465.3	738	554	1550		800	197			75		150	
SUM.						155			756	68		150		

PAVEMENT CALCULATIONS.

T-35 1/4" ASPHALTIC CONCRETE SURFACE COURSE.
From Typical
Width=24' Length=(29,167.56+992.47+3339.62)= 33,499.65 Lin.Ft.
Width=40' Length= 107.83 Lin.Ft.

(24 x 33,499.65 ÷ 9) = 89,332.40 sq. yds.
(40 x 107.83 ÷ 9) = 479.24 sq. yds.
Add from table "P" = 1,465.30 sq. yds.
TOTAL 91,276.94 sq. yds.
(91,276.94 x 1/4) ÷ 36 = 3,169.34 cu. yds.
Leveling Sta. 173+50 to Sta. 206+96
(24 x 3,339.62 x 1/4) ÷ 9 x 36 = 61.84 cu. yds.
TOTALS 3231.18 Cu. Yds.

B-35 3/4" ASPHALTIC CONCRETE LEVELING COURSE.-
From Typical
Width=24' Length=(29,167.56+992.47)= 30,160.03 Lin. Ft.
Width=40' Length= 107.83 Lin. Ft.

(24 x 30,160.03 ÷ 9) = 80,426.74 sq. yds.
(40 x 107.83 ÷ 9) = 479.24 sq. yds.
TOTAL 80,905.98 sq. yds.
(80,905.98 x 3/4) ÷ 36 = 1,685.54 cu. yds.
Longitudinal & Crown Correction
(5.73 miles x 200) = 1,146.00 cu. yds.
Add from table "P" = 73.80 cu. yds.
TOTALS 2,905.34 Cu. Yds.

T-30 BITUMINOUS TACK COAT.
From Typical ~ Width=20' Length=992.47 Lin. Ft.
Width=40' Length= 107.83 Lin. Ft.
Width=24' Length=3339.62 Lin. Ft.

(20 x 992.47 ÷ 9) = 2,205.49 sq. yds.
(40 x 107.83 ÷ 9) = 479.24 sq. yds.
(24 x 3,339.62 ÷ 9) = 8,905.65 sq. yds.
TOTAL 11,590.38 sq. yds.
(11,590.38 x 0.10) = 1159 Gals.

B-35 ASPHALTIC CONCRETE LEVELING COURSE (2 @ 3")
From Typical
Width=17 1/2" Length=(29,167.56-784.0)= 28,383.56 Lin. Ft. Depth=6"
Width=21 1/2" Length= 992.47 Lin. Ft. Depth=6"

(2 x 1,625 x 28,383.56 x 6) ÷ (9 x 36) = 1,708.3 cu. yds.
(2 x 2,375 x 992.47 x 6) ÷ (9 x 36) = 87.3 cu. yds.
Add from table "P" = 554.0 cu. yds.
TOTAL 2,349.6 Cu. Yds.

I-19 1/4" INSULATION COURSE.-
From Typical
Width=1'9" Length=(2 x 29,167.56) - (784 + 1550) = 56,001.12 Lin. Ft.
Width=2'6" Length=(2 x 992.47) = 1,984.94 Lin. Ft.

(1.75 x 56,001.12) ÷ 9 = 10,889.1 sq. yds.
(2.50 x 1,984.94) ÷ 9 = 551.4 sq. yds.
Add from Table "P" = 150.0 sq. yds.
TOTAL 11,590.5 Sq. Yds.

E-1 ROADWAY EXCAVATION.
From I-19 calculation = 11,440.5 sq. yds.
From Typical Average depth = 8 inches.
(11,440.5 x 8) ÷ 36 = 2,542 cu. yds.
Add from table "P" = 75 cu. yds.
TOTAL 2617 Cu. Yds.

I-17 SIDE APPROACHES, MAIL BOX TURNOUTS & BERM MATERIAL.

From Typical ~
Width= 6' Length= 3,339.62 Lin. Ft.
(6 x 3,339.62 x 0.083) ÷ 27 = 61.6 cu. yds.
Add from table "P" = 197.0 cu. yds.
TOTAL 258.6 cu. yds.
(258.6 x 115 %) = 297.4 Cu. Yds.

E-4 BORROW
From Typical
Width=6'9" Length= 29,167.56 Lin. Ft. Average Depth=4"
Width=8'0" Length= 992.47 Lin. Ft. Average Depth=3"

(2 x 6.75 x 29,167.56 x 0.33) ÷ 27 = 4,812.6 cu. yds.
(2 x 8.00 x 992.47 x 0.25) ÷ 27 = 147.0 cu. yds.
4,959.6 cu. yds.
Deduct Roadway Excavation 2,617.0 cu. yds.
Add from table "P" 2,342.6 cu. yds.
TOTAL 800.0 cu. yds.
(3142.6 x 125 %) 3,928 Cu. Yds.

E-8 SEALING ONLY.

From Typical (29,167.56+992.47) = 30,160.03 Lin. Ft.
(30,160.03 x 2) = 60,320.06 Lin. Ft.

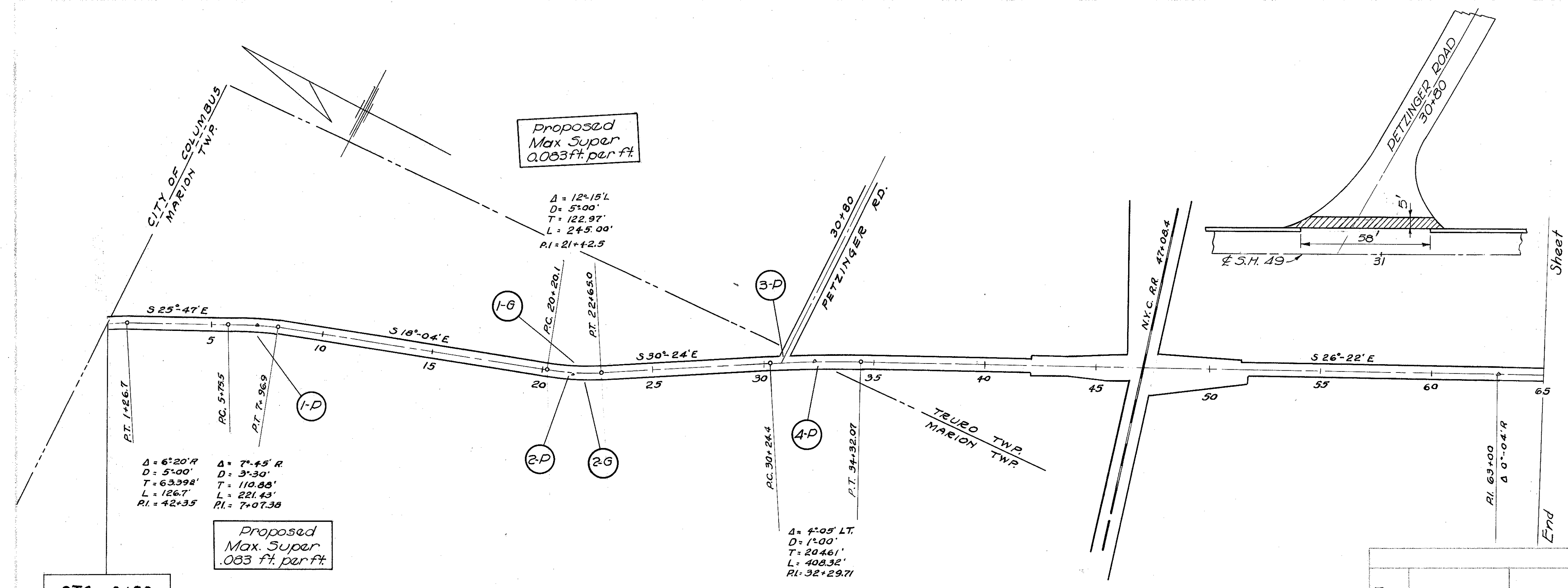
L-9 SEEDING AND PROTECTING, TYPE "A"
From Typical
Width=6'9" Length= 29,167.56 Lin. Ft.
Width=8'0" Length= 992.47 Lin. Ft.

(2 x 6.75 x 29,167.56) ÷ 9 = 43,751.3 sq. yds.
(2 x 8.00 x 992.47) ÷ 9 = 1,764.4 sq. yds.
TOTAL 45,515.7 sq. yds.
Deduct Drives & Intersections 2800.0 sq. yds.
TOTAL 42,715.7 sq. yds.

GENERAL SUMMARY

ITEM	QUANTITY	UNIT	DESCRIPTION
T-35	3231	Cu. Yds.	Asphaltic Concrete Surface Course Type A.
B-35	5255	Cu. Yds.	Asphaltic Concrete Leveling Course.
T-30	1159	Gals.	Bituminous Tack Coat Sec. M-5.5 M.S.-1.
E-8	150	Sq. Yds.	Removal and Disposal of existing pavement
I-19	11591	Sq. Yds.	1/4" Insulation Course.
E-1	2617	Cu. Yds.	Roadway Excavation.
E-4	3928	Cu. Yds.	Borrow
E-4	155	Cu. Yds.	Borrow Using N°7 Screenings Sec. M-2.7 or Sec. M-2.14.
I-17	297	Cu. Yds.	Side Approaches, Mail Box Turnouts & Berm Material.
S-9	68	Lin. Ft.	Structural Expansion Joints, as per plan.
I-15	445	Lin. Ft.	Guard Rail Removed and Rebuilt
E-8	60,320	Lin. Ft.	Sealing Only
L-9	42,716	Sq. Yds.	Seeding and Protecting, Type "A"
S-3	756	Sq. Yds.	Waterproofing - Type C

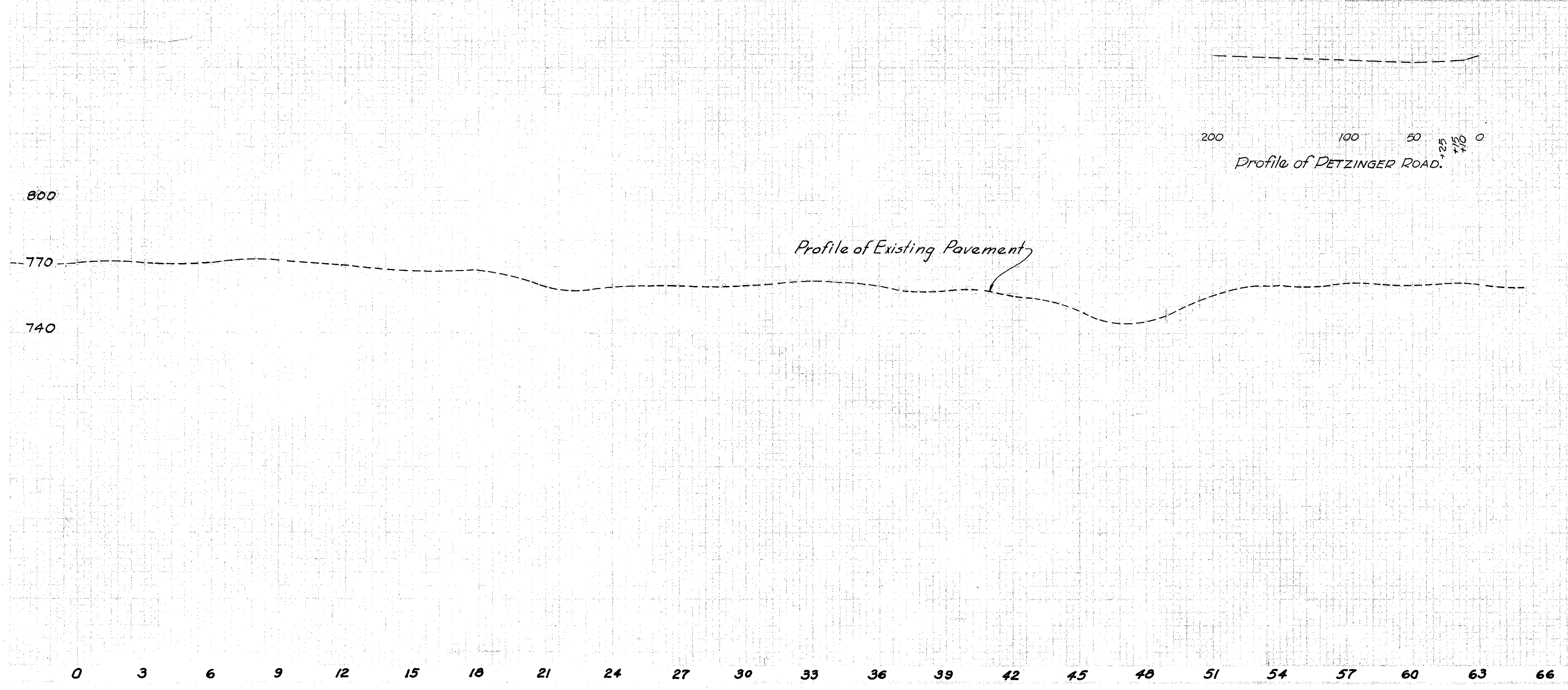
PAVEMENT CALCULATIONS & SUMMARY.

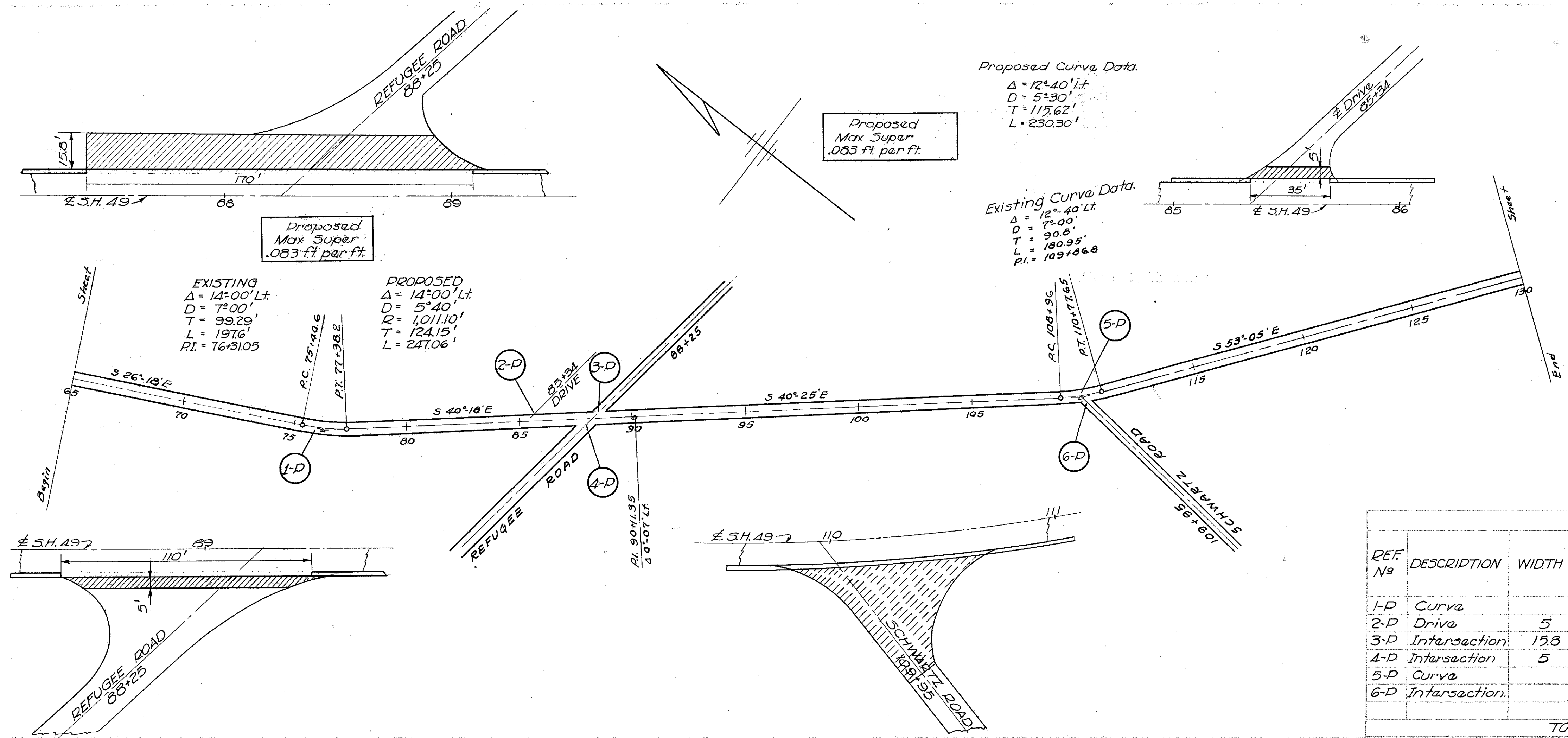


GUARD RAIL	
REF. No.	F-15 GUARD RAIL REMOVED & REBUILT LIN. FT.
1-G	235
2-G	210
TOTALS	445 *

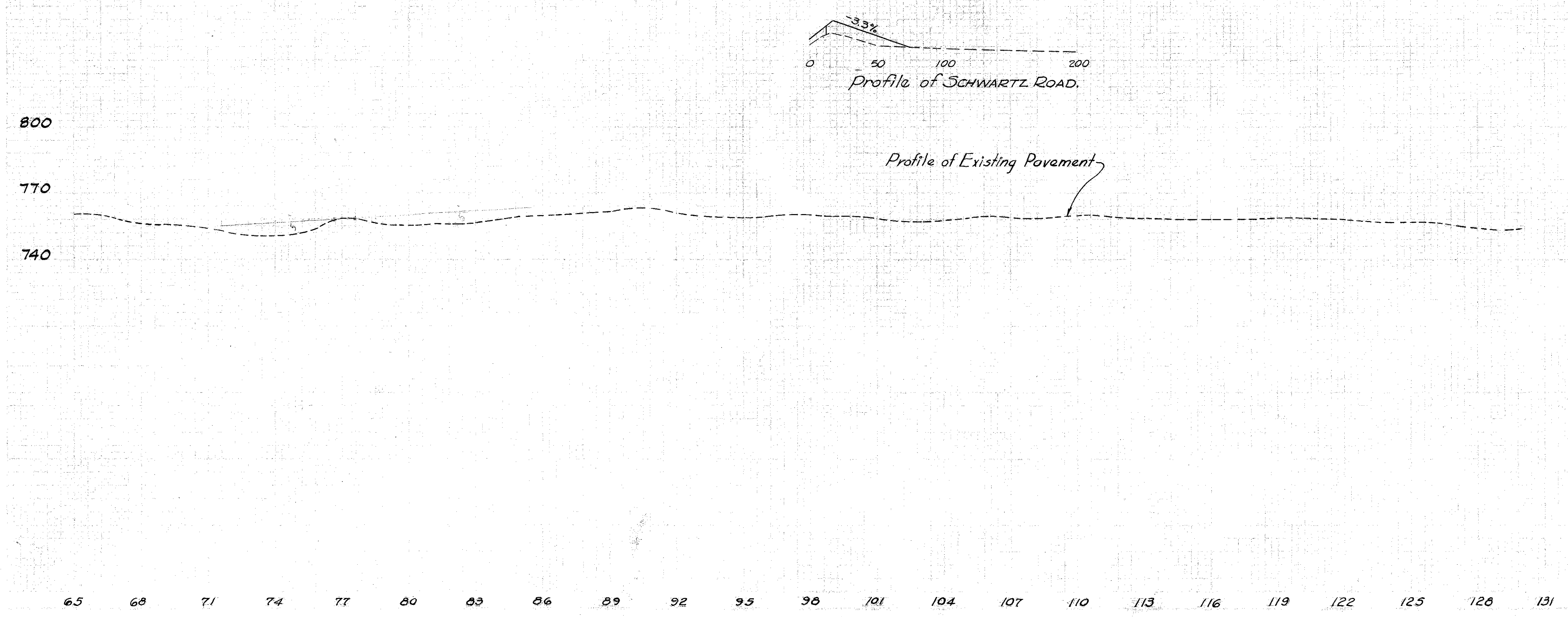
* To Summary.

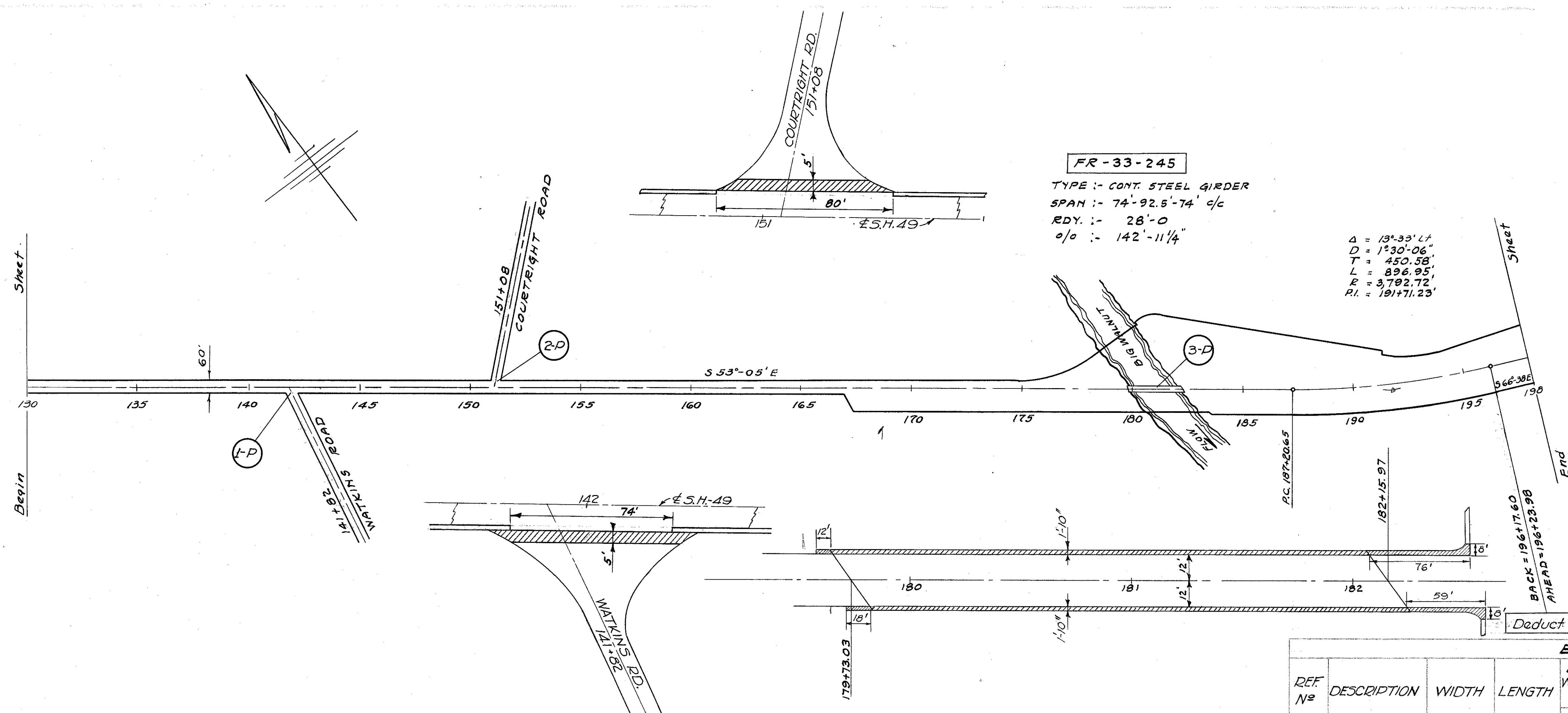
EXTRA PAVEMENT											
REF. No.	DESCRIPTION	WIDTH	LENGTH	DEDUCT	T-35	3/4" B-35	2-3" B-35	DEDUCT	E-4	E-4	I-17
				WIDENING	SURFACE	LEVELING	LEVELING	I-19	SCREENING	EARTH	AGGREGATE
				LIN. FT.	SQ. YDS.	CU. YDS.	CU. YDS.	LIN. FT.	CU. YDS.	CU. YDS.	CU. YDS.
1-D	Curve						92	200	30	130	5
2-D	Curve						40	250	10	50	
3-D	Intersection	5	64	58	35.6	2.0					25
4-D	Curve						35				
TOTALS.-				58	35.6	2.0	167	450	40	180	5



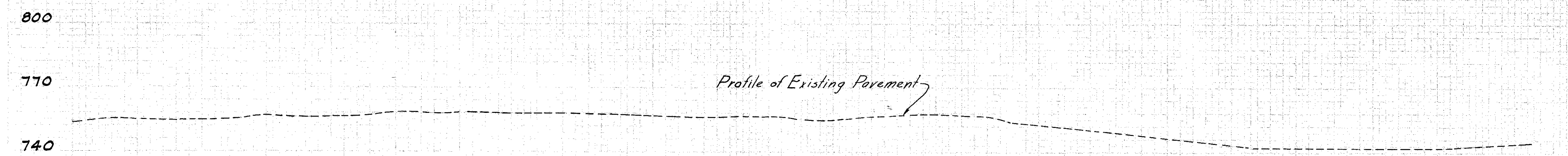


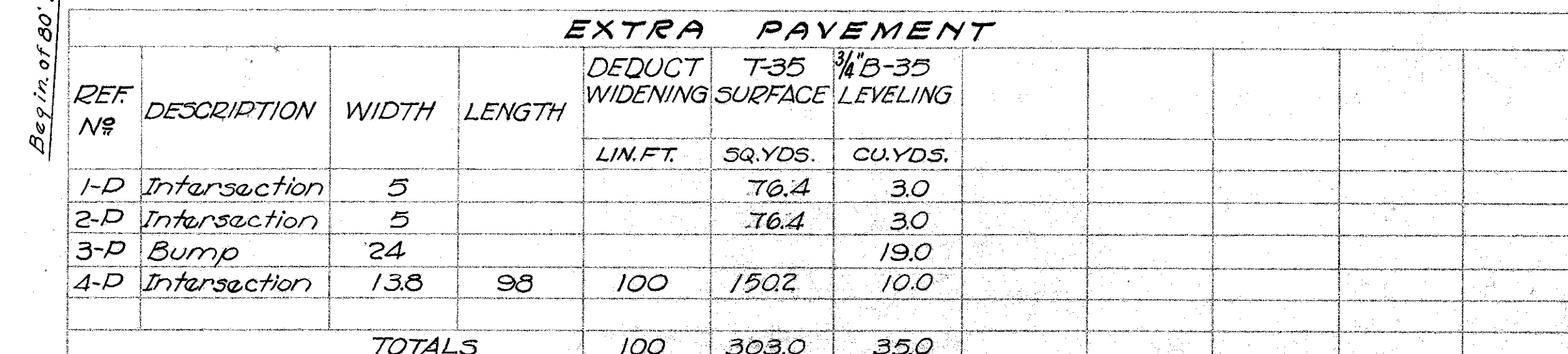
EXTRA PAVEMENT													
REF. No	DESCRIPTION	WIDTH	LENGTH	DEDUCT	T-35	3/4" B-35	2-3" B-35	DEDUCT	E-4	E-4	I-17	E-8	I-19
				WIDENING	SURFACE	LEVELING	LEVELING	I-19	SCREENING	EARTH	AGGREGATE	REM. & DISPOSE	INSUL. COURSE
				LIN. FT.	SQ. YDS.	CU. YDS.	CU. YDS.	LIN. FT.	CU. YDS.	CU. YDS.	CU. YDS.	SQ. YDS.	SQ. YDS.
1-D	Curve				52.7		135	250	35	170	50	5	150
2-D	Drive	5	34	35	18.9	1.0							
3-D	Intersection	15.8	162	170	284.4	19.0							
4-D	Intersection	5	102	110	56.7	3.8							
5-D	Curve				48.7		112	350	40	140	5		
6-D	Intersection									10	35		
TOTALS				315	461.4	23.8	247	600	75	320	50	45	150





REF No	DESCRIPTION	WIDTH	LENGTH	EXTRA PAYEMENT					5-3 WATER- PROOFING TYPE "C"	50 YDS.
				DEDUCT WIDENING	T-35 SURFACE	3/4" B-35 LEVELING				
1-P	Intersection	5	84	74	46.7	3.0				
2-P	Intersection	5	70	80	38.9	2.0				
3-P	Structure				154.7				756	
TOTALS				154	240.3	50			756	

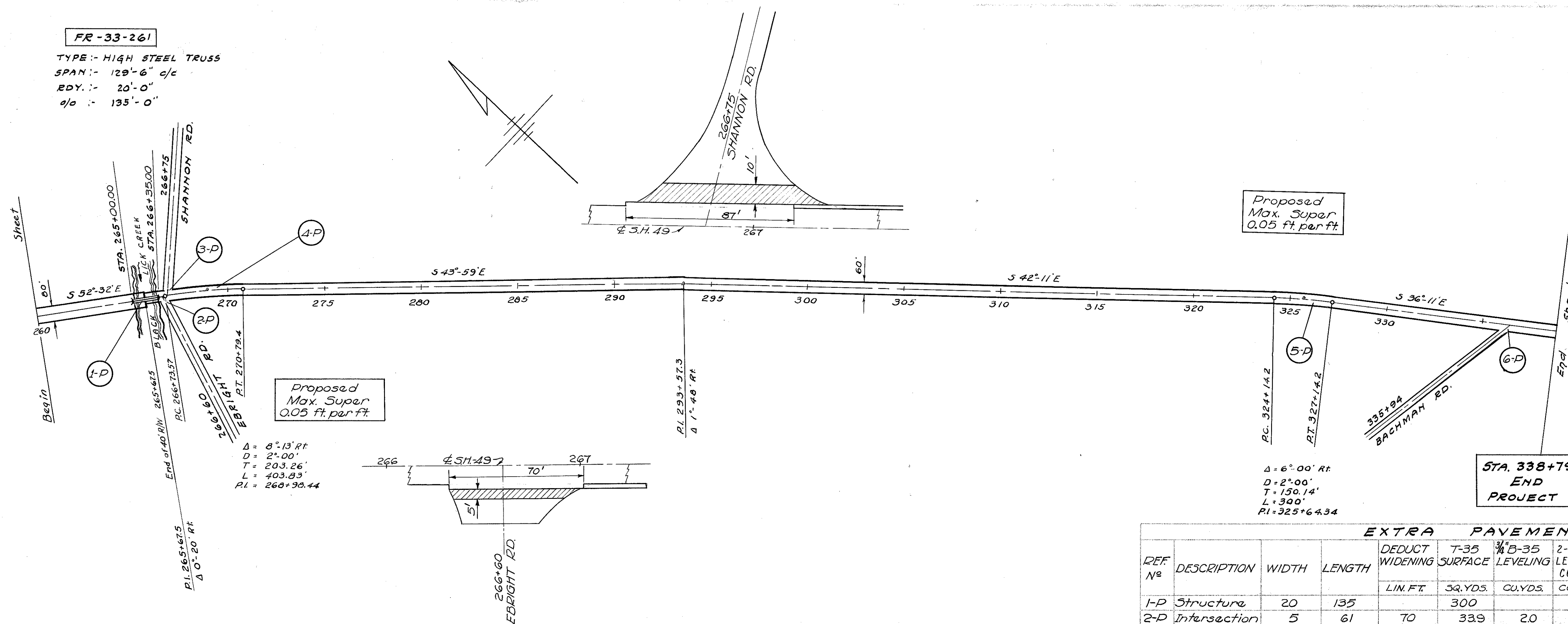




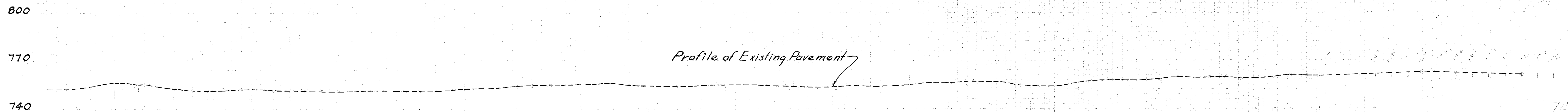
FR-33-261

TYPE: HIGH STEEL TRUSS
SPAN: 129'-6" c/c
EDY: 20'-0"
q/a: 135'-0"

DIVISION 2 OHIO 1947 9
FRANKLIN COUNTY
S.H. 49 SEC. F, E-1, D-1 & D-2



REF. No.	DESCRIPTION	WIDTH	LENGTH	EXTRA PAVEMENT							
				DEDUCT WIDENING	T-35 SURFACE	3/4" B-35 LEVELING	2-3" B-35 LEVELING COURSE	DEDUCT I-19	E-4 SCREENINGS	E-4 EARTH	I-17 AGGREGATE
				LIN. FT.	SQ. YDS.	CU. YDS.	CU. YDS.	LIN. FT.	CU. YDS.	CU. YDS.	CU. YDS.
1-P	Structure	20	135		300						
2-P	Intersection	5	61	70	339	2.0					
3-P	Intersection	10	82	87	91.1	6.0					
4-P	Curve						65	200	20	165	
5-P	Curve						75	300	20	135	5
6-P	Intersection	6	36								4
TOTALS				157	4250	80	140	500	40	300	9



260 263 266 269 272 275 278 281 284 287 290 293 296 299 302 305 308 311 314 317 320 323 326 329 332 335 338

STA. 260+00 to STA. 338+79