

STATE OF OHIO DEPARTMENT OF HIGHWAYS

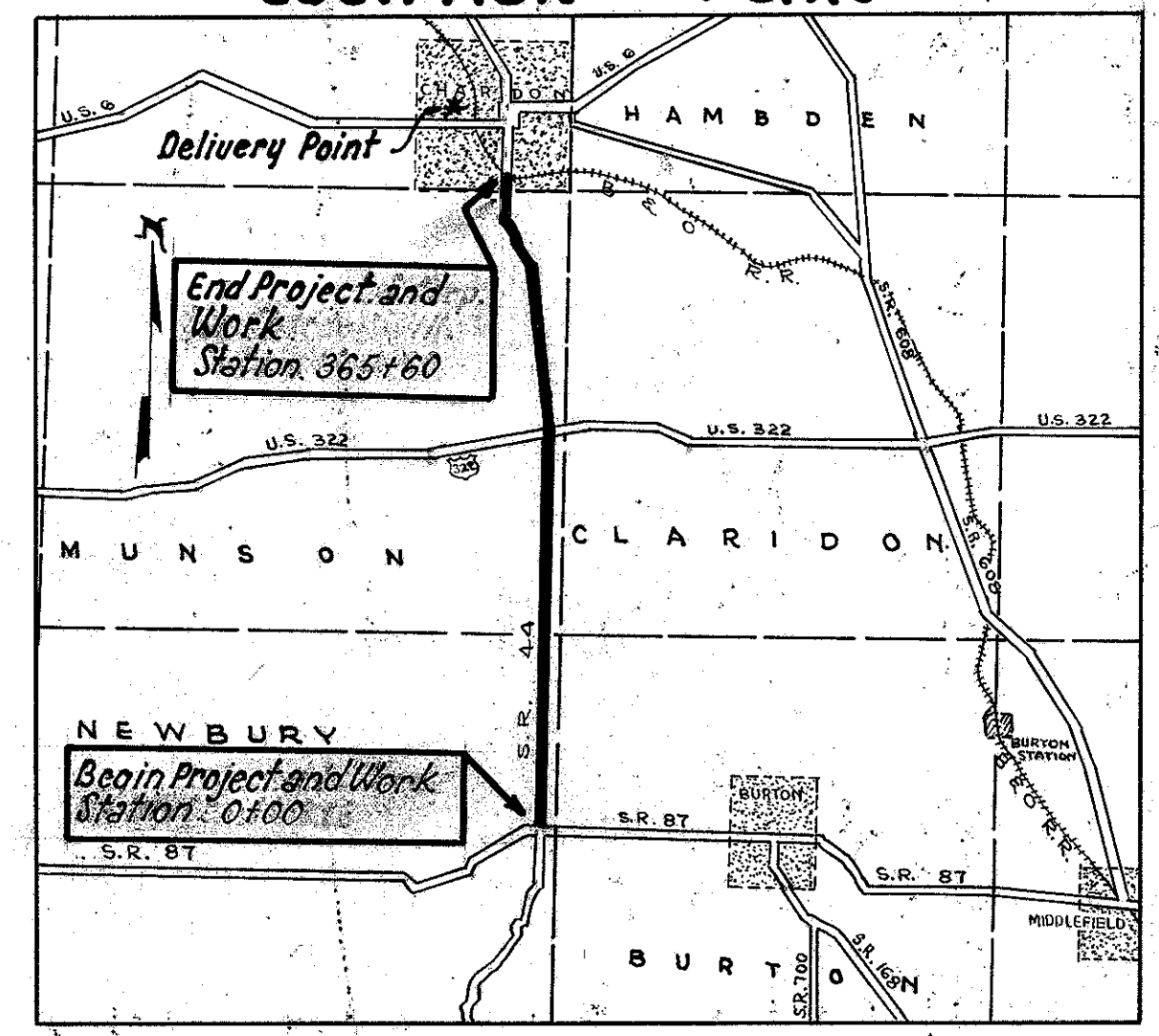
FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS	1 16
2	OHIO	H.I.F.	1951	

GEAUGA COUNTY
GEA-44-(8.88-15.86)

GEA-44 (8.88-15.86) NEWBURY & MUNSON TOWNSHIPS CHARDON VILLAGE GEAUGA COUNTY.

CONVENTIONAL	SIGNS
COUNTY _____	_____
TOWNSHIP _____	_____
CORPORATION _____	_____
CENTER _____	_____
STEAM RAILROAD _____	_____

LOCATION PLAN



SCALE
MILES

DELIVERY POINT B.&O. R.R. CHARDON OHIO. AVERAGE HAUL 5 MILES.

PORTION TO BE IMPROVED: **—————**
STATE HIGHWAYS: **—————**
OTHER ROAD: **- - - - -**

PLAN SCALES:
Plan 1" = 100'
Profile - Horizontal 1" = 100'
Profile - Vertical 1" = 10'

The Standard Specifications of the State of Ohio Department of Highways including changes and supplemental specifications listed in the proposal shall govern this improvement.

I hereby approve these plans and declare that the making of this improvement will not require the closing to traffic of the Highway and that provisions for the maintenance and safety of traffic will be as set forth on the plans and estimates.

The right of way for this improvement will be provided by the State of Ohio.

Approved: *Louis P. Drasler*
Date: _____ Division Deputy Director

Approved: _____
Date: _____ Chief Engineer, Bureau of Maintenance

Approved: *Richard Orth*
Date: 2-28-50 Chief Engineer, Bureau of Bridges & R. B. Crossings

Approved: *W. L. Williams*
Date: 2-28-50 Chief Engineer, Bureau of Location & Design

Approved: *J. J. Sullivan*
Date: 2-28-50 First Asst. Director, & Chief Engineer

Approved: *T. J. Kull*
Date: 2-28-50 Director of Highways

CONSTRUCTION BUREAU
APR 5 1956
GROUND PHOTOLAB

INDEX TO SHEETS

Title Sheet	Sheet No 1
Typical Section	Sheet No 2
Notes, Summary of Quantities, Pavement	
Calculations, & General Summary	Sheet No 3
Plan & Profile	Sheets No 4 to No 16

LINE DATA

RURAL
Begin Project & Work & Rural Station 0+00
End Rural Station 359+40
Gross Length Rural 35940 Lin. Ft.
Addition for equation 790.7 Lin. Ft.
Deduction Sta. 217+08 to Sta. 217+30 22.0 Lin. Ft.
Net Length of Rural 36708.7 Lin. Ft. or 6.952 Miles

MUNICIPAL
Begin Municipal Station 359+40
End Project & Work & Municipal Station 365+60
Gross & Net Length of Municipal 620 Lin. Ft. = .117 Miles

Total Length of Project & Work 37,328.7 Lin. Ft. = 7.069 Miles

STANDARD DRAWINGS.	
I-15 No 1	3/1/47

SUPPLEMENTAL SPECIFICATIONS.	
M-103.12	Rev. 1-20-50
31	6-13-49

FILE No.	GEAUGA COUNTY GEA-44-(8.88-15.86) Date of Letting _____ 194_____ Contract No. _____
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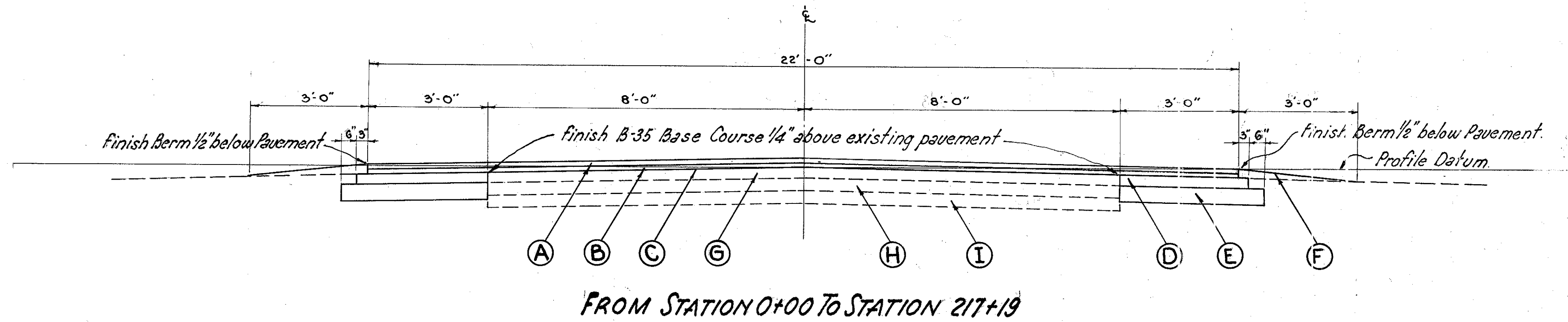
TYPICAL SECTION TYPE-T-35

Scale: $\frac{1}{2}'' = 1'-0''$

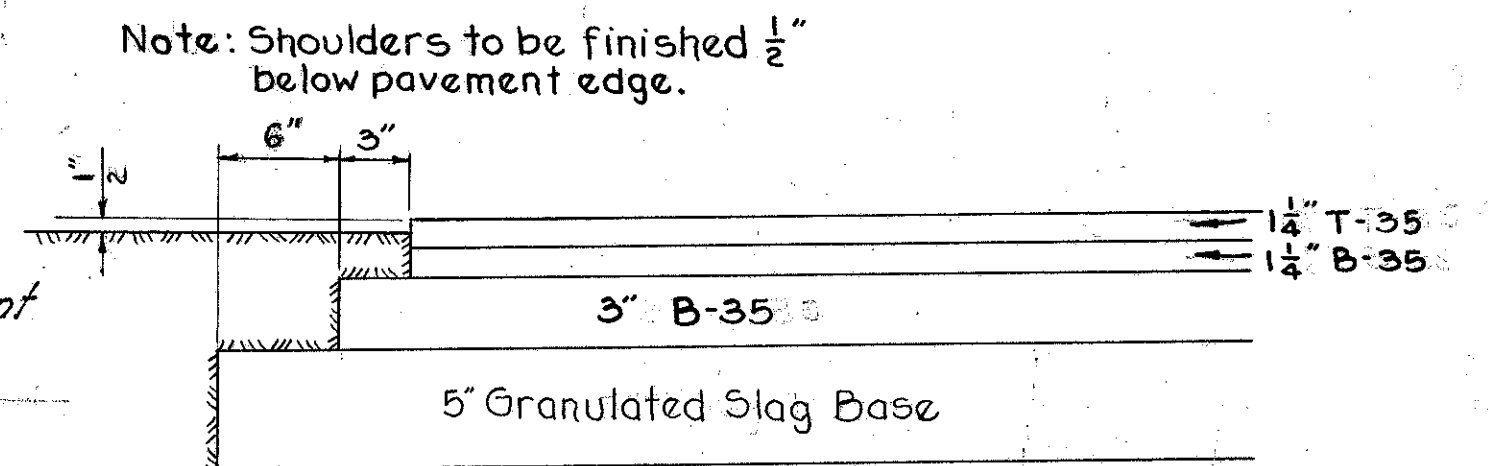
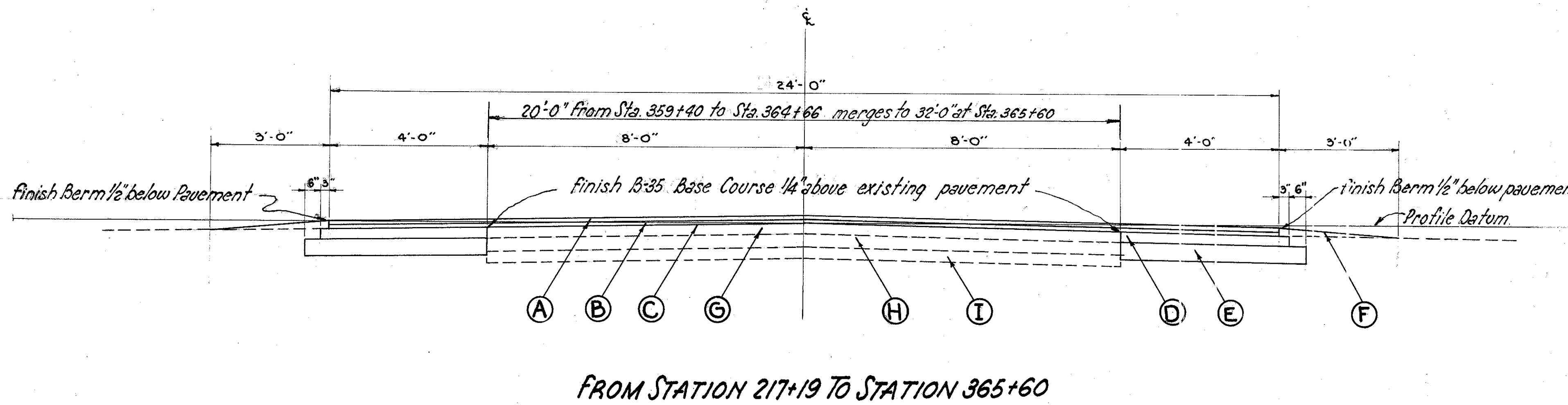
FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO	H.I.F.	1951

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2
16

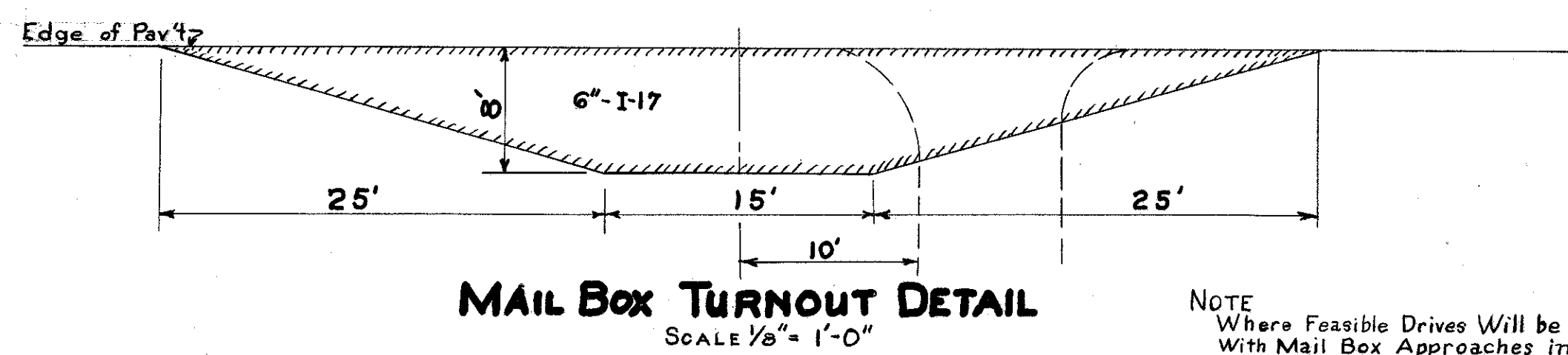
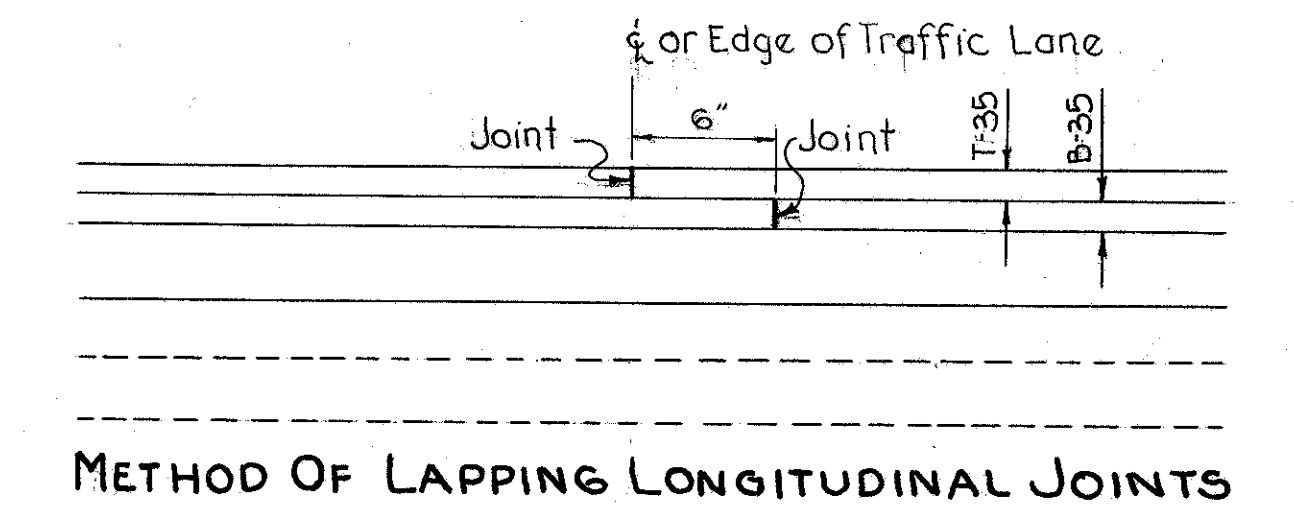
GEAUGA COUNTY
GEA. 44-(8.88-15.86)



- (A) T-35 $1\frac{1}{4}''$ Asphaltic Concrete Surface Course Type "A"
- (B) B-35 $1\frac{1}{4}''$ Asphaltic Concrete Leveling Course
- (C) T-30 Bituminous Tack Coat, Sec. M-5.5 M5-2 or 55-1
- (D) B-35 3" Asphaltic Concrete Base Course
- (E) Special 5" Granulated Slag Base Course Grade "B" Compacted (55 M-103.12)
- (F) Earth Fill
- (G) Existing 3" Bituminous Wearing Course
- (H) Existing 4" Water Bound Macadam Base Course
- (I) Existing 4" Water Bound Macadam Base Course



EDGE DETAIL
Scale $\frac{1}{2}'' = 1'-0''$



NOTE
Where Feasible Drives Will be Combined
With Mail Box Approaches in The
Manner Shown, Quantities Will be
Adjusted by The Engineer.

GENERAL NOTES

PROFILE-The profile of the proposed surface course shall be approximately 2 1/2" above profile grade as shown on Plan and Profile Sheets.

FILLING MAJOR DEPRESSIONS-Major depressions in existing pavement shall be filled and compacted with Asphaltic Concrete Leveling Material in advance of placing the regular Leveling Course. These depressions shall be filled in layers not to exceed three inches in depth when compacted.

TRAFFIC-Traffic shall be maintained at all times. The length of one way traffic zones shall be kept to a minimum consistent with the requirements of Sec. T-35.23. The Item of Maintaining Traffic shall include furnishing lights, all signs, barricades and watchmen according to the requirements of Sec. G-8.07 Barricades, Danger and Warning Signs to secure the flow of traffic twenty-four (24) hrs. daily.

GRANULATED SLAG BASE COURSE-The Granulated Slag Base Course shall be constructed in accordance with Sec. I-19.01 and Sec. I-19.03 of the General Specifications. The Yardage to be paid for shall be the number of Square Yards of Granulated Slag Base Course, as specified, in place, compacted and accepted.

I-17 SIDE APPROACHES, MAIL BOX TURNOUTS AND BERM MATERIAL-I-17.02 Material for drives & turnouts shall be limited to the use of air-cooled slag. In lieu of grading requirements the size shall be 80% No. 34 and 20% Screenings

EXCESS EXCAVATION-Excess excavation shall be used on the berms and to widen berms and slopes as shown on typical section or as directed by the engineer. Stone Headwalls on existing drives, encountered in the course of construction shall be removed and the cost shall be included in the unit price bid for roadway excavation Item E-1.

PAVEMENT CALCULATIONS

Line Data

Rural
Begin Project & Work Station 0+00
End Project & Work Station 359+40
Gross Length of Project & Work 359.40 Lin. Ft.
Plus for equation 790.7 Lin Ft
Net Length Project & Work 36730.7 Lin. Ft. = 6.956 Miles

Municipal
Begin Project & Work Station 359+40
End Project & Work Station 365+60
Gross & Net Length of Project & Work 620 Lin. Ft. = .117 Miles

Total Length of Project & Work - (Rural) 6.956 + (Municipal) .117 = 7.073 Miles

ASPHALTIC CONCRETE SURFACE COURSE ITEM T-35

Rural
Sta. 1+00 to Sta. 107+90.70 = 10,690.7 x 22 ÷ 9 = 26,132.82 Sq. Yds.
Sta. 100+00 to Sta. 211+25 = 11,125 x 22 ÷ 9 = 27,194.44 Sq. Yds.
Sta. 213+25 to Sta. 216+60 = 335 x 22 ÷ 9 = 818.89 Sq. Yds.
Sta. 217+75 to Sta. 359+40 = 14,165 x 24 ÷ 9 = 37,773.33 Sq. Yds.
Extra Area 1/4" Thickness 818 Sq. Yds.
Extra Area 1/4" Average Thickness 513.00 Sq. Yds.
Total 93,250.48 Sq. Yds.
93,250.48 x 125 ÷ 36 = 3237.86 + 15 Cu. Yds. for curve widening Use

Municipal
Sta. 359+40 to Sta. 364+66 = 526 x 24 ÷ 9 = 1,402.67 Sq. Yds.
Extra Area 1/4" Thickness 212 Sq. Yds.
Extra Area 1/4" Average Thickness 70 Sq. Yds.
Total 1,684.67 Sq. Yds.
1,684.67 ÷ 36 x 1.25 = 58.49 Cu. Yds. Use

Total - Rural 3,253 Cu. Yds. + Municipal 59 Cu. Yds. = 3,312 Cu. Yds.

ASPHALTIC CONCRETE LEVELING COURSE ITEM B-35

Rural
Sta. 1+00 to Sta. 107+90.70 = 10,690.7 x 22 ÷ 9 = 26,132.82 Sq. Yds.
Sta. 100+00 to Sta. 211+25 = 11,125 x 22 ÷ 9 = 27,194.44 Sq. Yds.
Sta. 213+25 to Sta. 216+60 = 335 x 22 ÷ 9 = 818.89 Sq. Yds.
Sta. 217+75 to Sta. 359+40 = 14,165 x 24 ÷ 9 = 37,773.33 Sq. Yds.
Extra Area 818.00 Sq. Yds.
Total 92,737.48 Sq. Yds.
92,737.48 ÷ 36 x 1.25 = 3220.05 + 15 Cu. Yds. for curve widening Use
125 Cu. Yds. per mile x 6.956 miles 869.50 Cu. Yds.
Total 4,104.55 Cu. Yds.

Municipal
Sta. 359+40 to Sta. 364+66 = 526 x 24 ÷ 9 = 1,402.67 Sq. Yds.
Extra Area 212.00 Sq. Yds.
Total 1,614.67 Sq. Yds.
1,614.67 ÷ 36 x 1.25 = 56.06 Cu. Yds. Use
125 Cu. Yds. per mile x .117 miles 14.63 Cu. Yds.
Total 70.69 Cu. Yds.

Total - Rural 4,105 Cu. Yds. + Municipal 71 Cu. Yds. = 4,176 Cu. Yds.

ASPHALTIC CONCRETE BASE COURSE ITEM B-35

Rural
Sta. 1+00 to Sta. 107+90.70 = 10,690.7 x 6.5 ÷ 9 = 7,721.06 Sq. Yds.
Sta. 100+00 to Sta. 211+25 = 11,125 x 6.5 ÷ 9 = 8,034.72 Sq. Yds.
Sta. 213+25 to Sta. 216+60 = 335 x 6.5 ÷ 9 = 241.94 Sq. Yds.
Sta. 217+75 to Sta. 359+40 = 14,165 x 8.5 ÷ 9 = 13,378.05 Sq. Yds.
Extra Area 143 Sq. Yds.
Total 29,518.77 Sq. Yds.
29,518.77 ÷ 36 x 3 = 2,459.89 Cu. Yds. Use

Municipal
Sta. 359+40 to Sta. 364+66 = 526 x 4.5 ÷ 9 = 263 Sq. Yds.
Extra Area 8 Sq. Yds.
Total 271 Sq. Yds.
271 Sq. Yds. ÷ 36 x 3 = 22.58 Cu. Yds. Use

Total - Rural 2,460 Cu. Yds. + Municipal 23 Cu. Yds. = 2,483 Cu. Yds.

5" GRANULATED SLAG (GRADE B) BASE COURSE (S.S.M. 103.12) ITEM SPECIAL

Rural
Sta. 1+00 to Sta. 107+90.70 = 10,690.7 x 7.5 ÷ 9 = 8,908.91 Sq. Yds.
Sta. 100+00 to Sta. 211+25 = 11,125 x 7.5 ÷ 9 = 9,270.83 Sq. Yds.
Sta. 213+25 to Sta. 216+60 = 335 x 7.5 ÷ 9 = 279.17 Sq. Yds.
Sta. 217+75 to Sta. 359+40 = 14,165 x 9.5 ÷ 9 = 14,951.94 Sq. Yds.
Extra Area 176 Sq. Yds.
Total 33,586.85 Sq. Yds. Use

GENERAL SUMMARY

Item	Total	Rural	Municipal	
No	Quant.	Unit	Quant.	Unit
E-1	9961	Cu. Yds.	9796	Cu. Yds.
I-15	96	Lin. Ft.	96	Lin. Ft.
I-17	756	Cu. Yds.	755	Cu. Yds.
7-35	3312	Cu. Yds.	3253	Cu. Yds.
B-35	4176	Cu. Yds.	4105	Cu. Yds.
E-35	2483	Cu. Yds.	2460	Cu. Yds.
Special	33918	Sq. Yds.	33587	Sq. Yds.
7-30	6668	Gals.	6530	Gals.

5" GRANULATED SLAG (GRADE B) BASE COURSE (S.S.M. 103.12) ITEM SPECIAL - CONT.

Municipal
Sta. 359+40 to Sta. 364+66 = 526 x 5.5 ÷ 9 = 321.44 Sq. Yds.
Extra Area 10 Sq. Yds.
Total 331.44 Sq. Yds.
Use 331 Sq. Yds.

Total - Rural 3,3587 Sq. Yds. + Municipal 331 Sq. Yds. = 33,918 Sq. Yds.

BITUMINOUS TACK COAT (0.10 Gallons per sq. yd.) ITEM T-30

Rural
Sta. 0+00 to Sta. 359+40 = 65,298 Sq. Yds. x 0.10 gal. = 6,529.8 Gals. Use 6530 Gals.
Municipal
Sta. 359+40 to Sta. 365+60 = 1378 Sq. Yds. x 0.10 gal. = 137.8 Gals. Use 138 Gals.

Total - Rural 6,530 Gallons + Municipal 138 Gallons = 6,668 Gals.

EXCAVATION ITEM E-1

Rural
Same as 5" Granulated Slag Base 33,587 Sq. Yds. ÷ 36 x 10.5 = 9,796.20 Cu. Yds. Use 9,796 Cu. Yds.

Municipal
Same as 5" Granulated Slag Base 565 Sq. Yds. ÷ 36 x 10.5 = 164.79 Cu. Yds. Use 165 Cu. Yds.

Total - Rural 9,796 Cu. Yds. + Municipal 165 Cu. Yds. = 9,961 Cu. Yds.

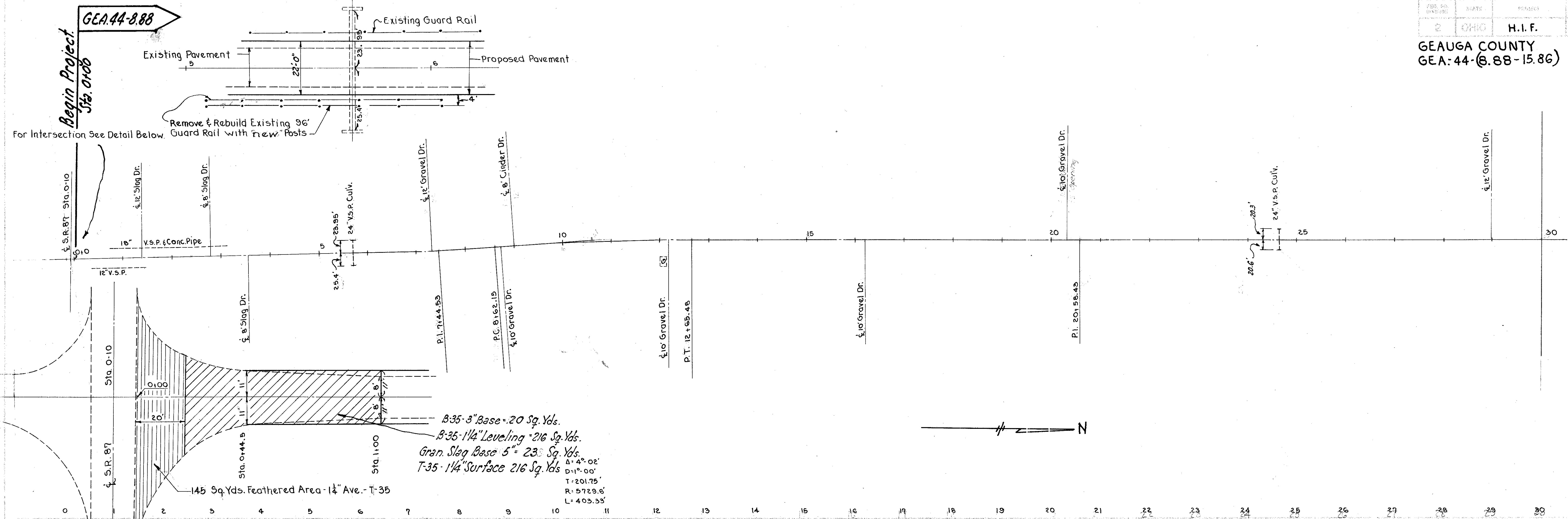
SIDE APPROACHES, MAIL BOX TURNOUTS & BERM MATERIALS (FOR DRIVES) (MAIL BOX APPROACH) ITEM I-17

Rural = 714 Cu. Yds. Mail Box Appr. & 41 Cu. Yds. for drives 755 Cu. Yds.
Municipal: for drives 1 Cu. Yds.
Total 756 Cu. Yds.

SUMMARY OF QUANTITIES

Sheet No	Asphaltic Concrete Surface Course 1/4" Thick (Item T-35)	Asphaltic Concrete Surface Course 1/4" Aven. Thick (Item T-35)	Asphaltic Concrete Leveling Course 1/4" Thick (Item B-35)	Asphaltic Concrete Base Course 3" Thick (Item B-35)	5" Granulated Slag Base Course (Special)	Rebuild Guardrail with new posts (Item I-15)
	Sq. Yds.	Sq. Yds.	Sq. Yds.	Sq. Yds.	Sq. Yds.	Lin. Ft.
4	216	145	216	20	23	96
11	602	255	602	123	153	
13		17				
15		96				
16	212	70	212	8	10	
Rural Total	818	513	818	143	176	96
Municipal Total	212	70	212	8	10	
Grand Total	1030	583	1030	151	186	96

GEAUGA COUNTY
GEA:44-(8.88-15.86)

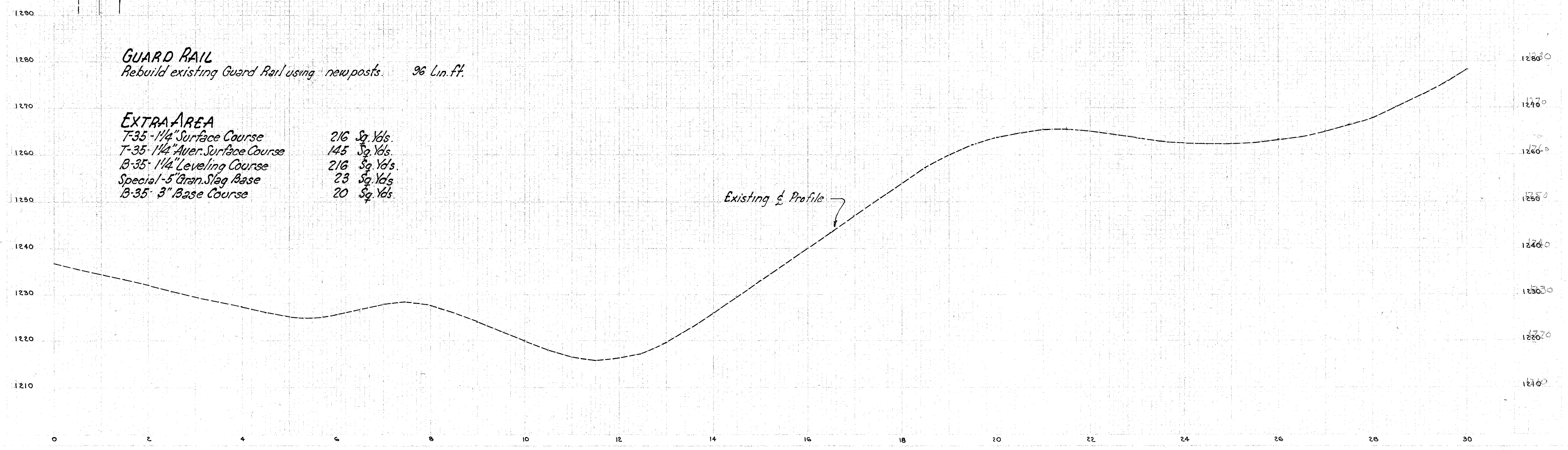


B-35-3" Base - 20 Sq. Yds.
 B-35-1 1/4" Leveling - 216 Sq. Yds.
 Gran. Slag Base 5" - 23 Sq. Yds.
 T-35-1 1/4" Surface 216 Sq. Yds.

GUARD RAIL
 Rebuild existing Guard Rail using new posts. 96 Lin. ft.

EXTRA AREA

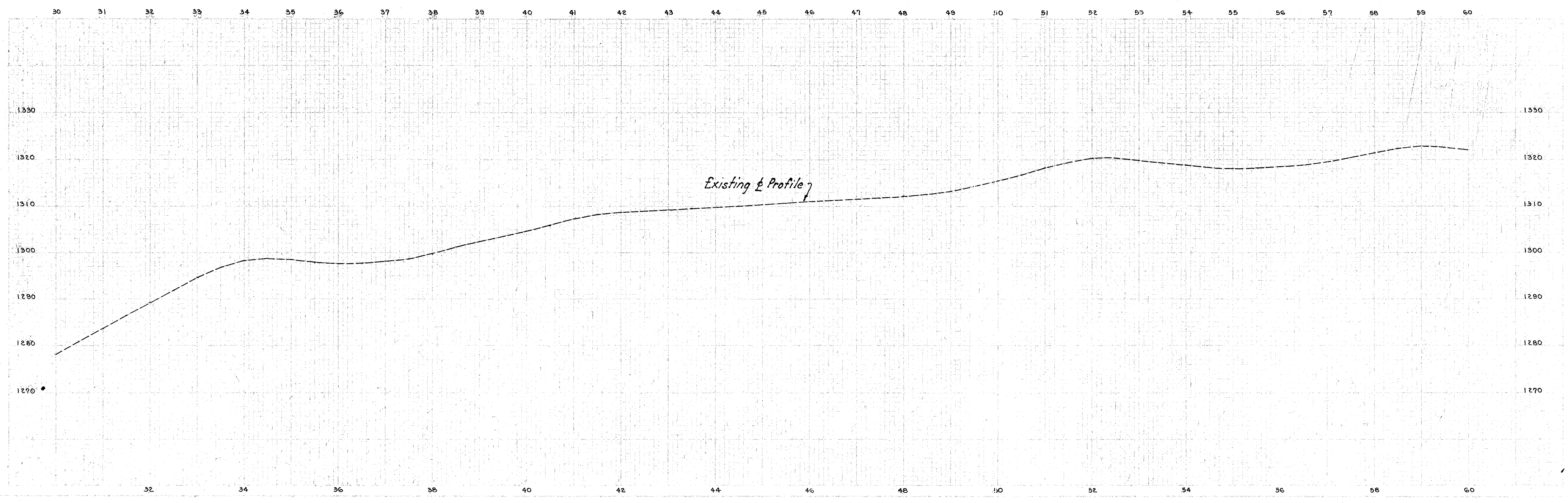
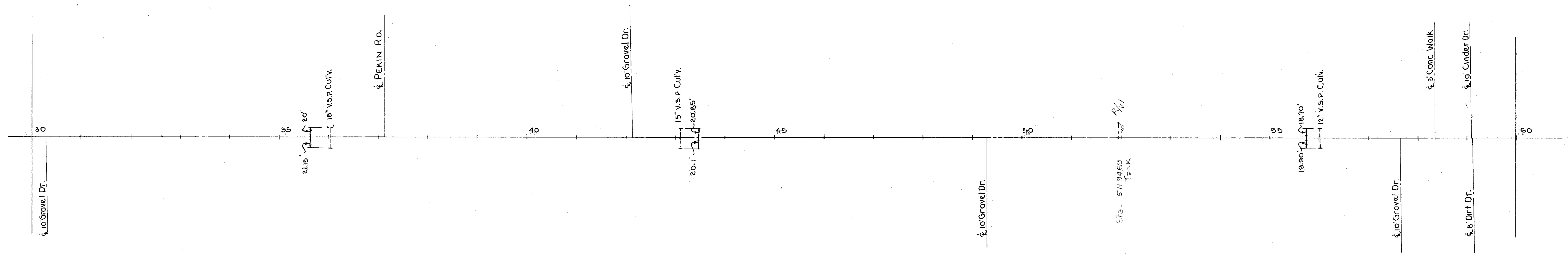
T-35-1 1/4" Surface Course	216 Sq. Yds.
T-35-1 1/4" Aver. Surface Course	145 Sq. Yds.
B-35-1 1/4" Leveling Course	216 Sq. Yds.
Special-5" Gran. Slag Base	23 Sq. Yds.
B-35-3" Base Course	20 Sq. Yds.



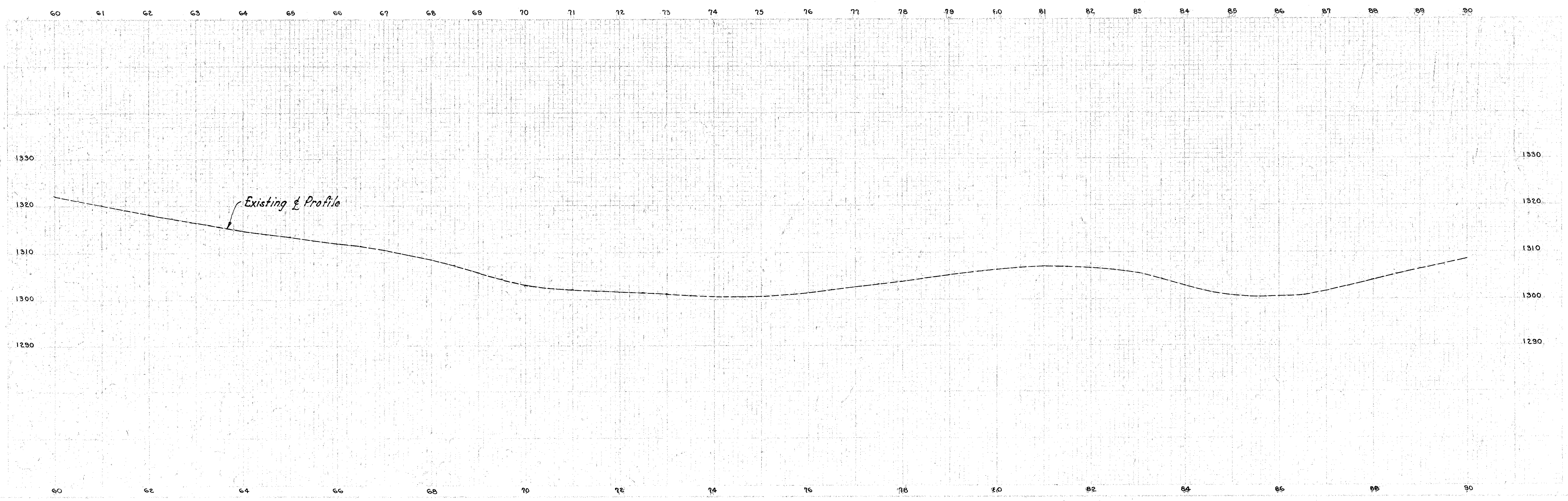
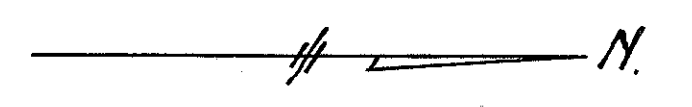
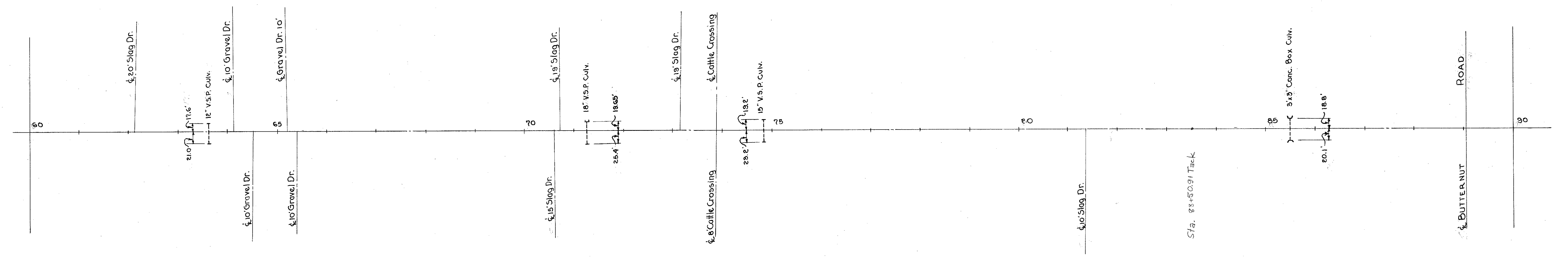
Sheet No.	Project	Date	Scale
2	H.I.F.	01/10	1951

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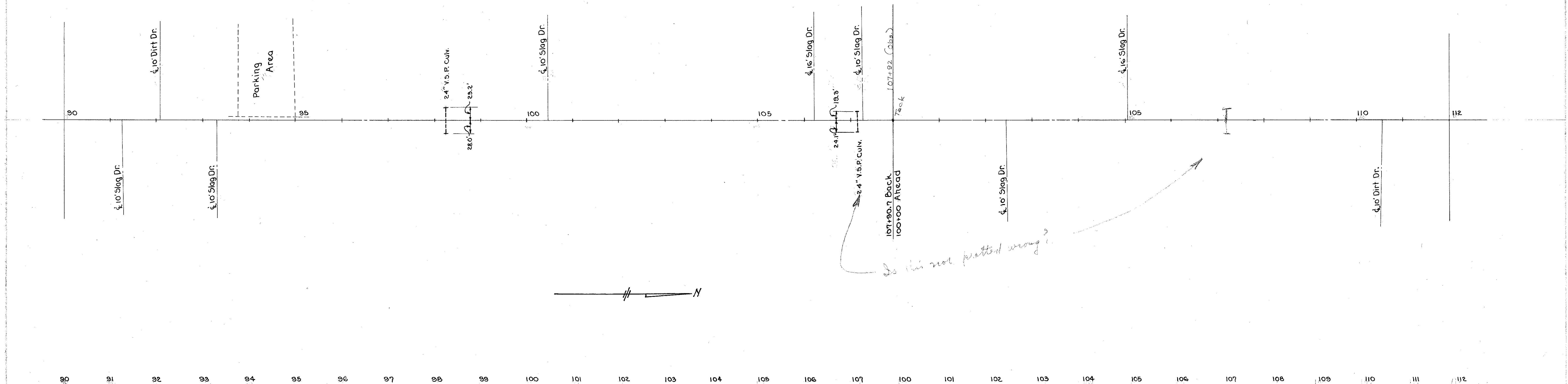
GEAUGA COUNTY
GEA.-44 (8.88-15.86)



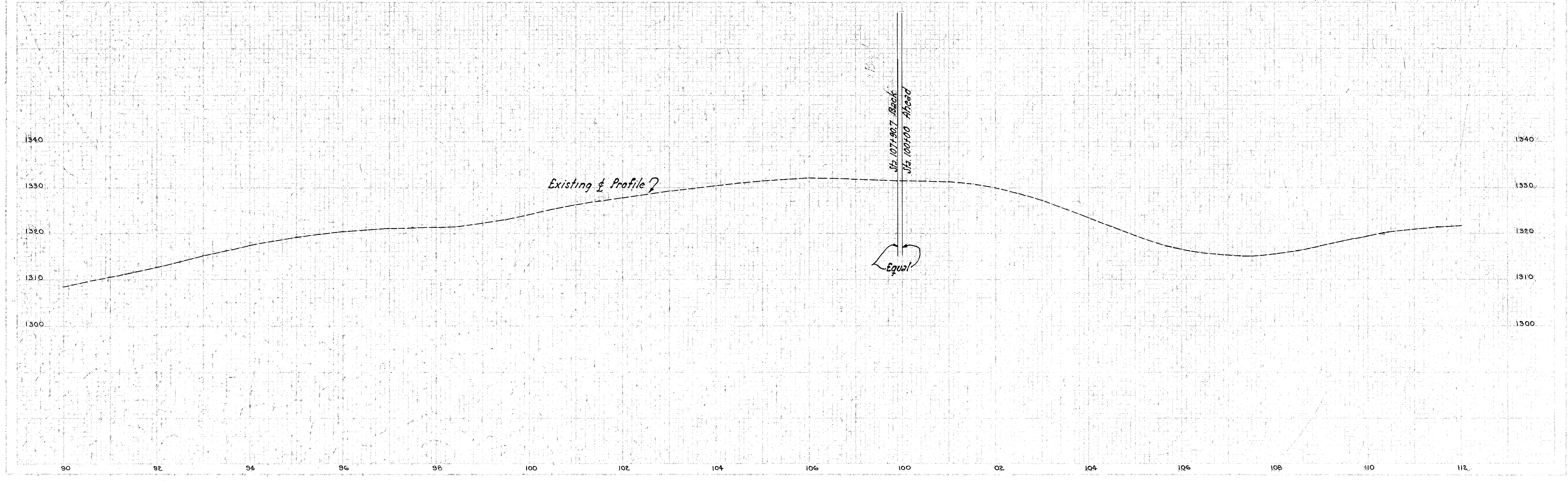
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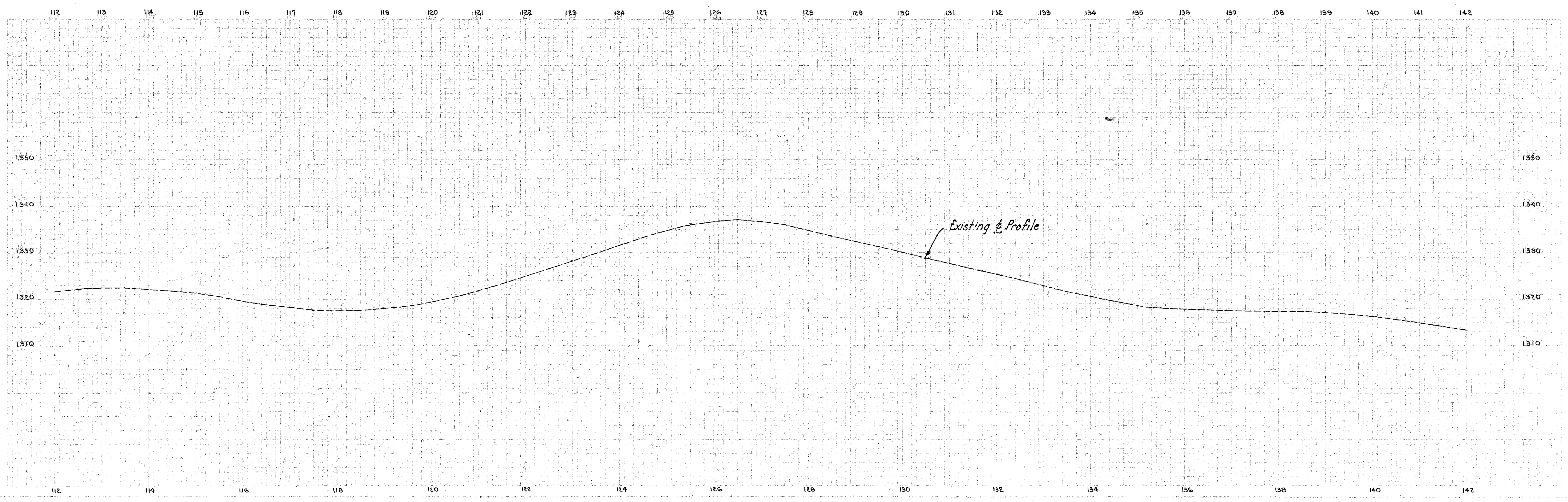
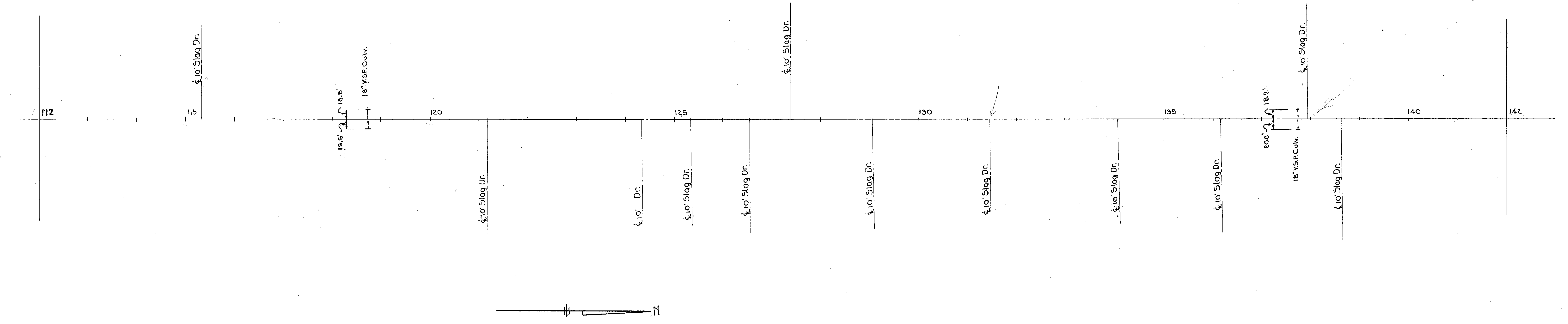
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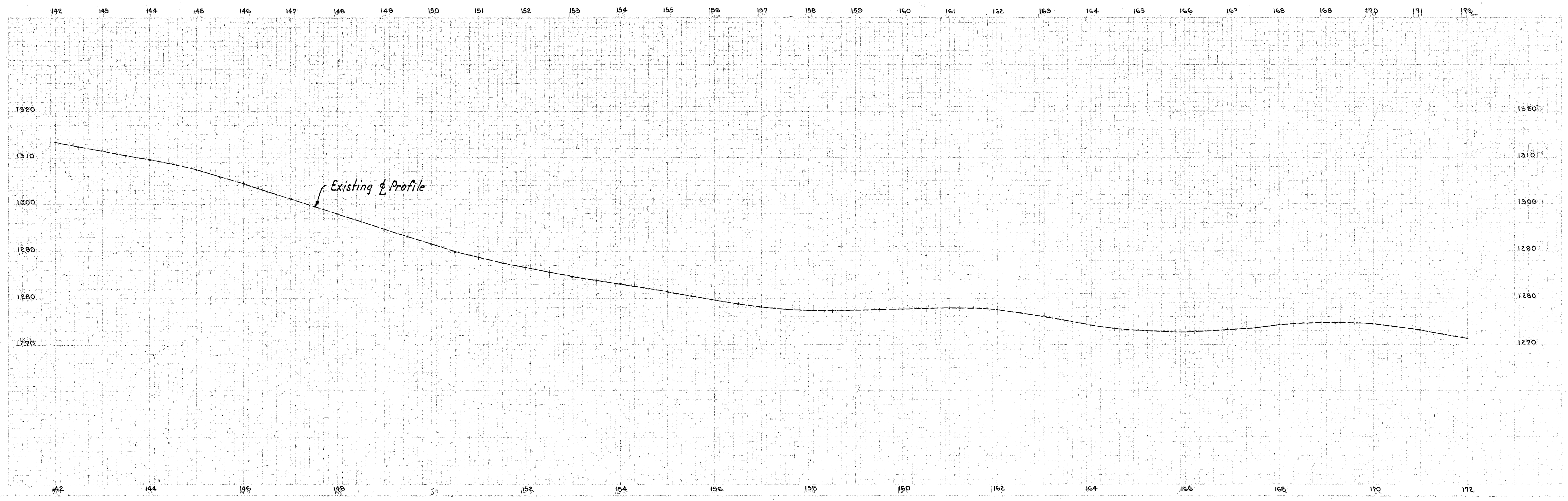
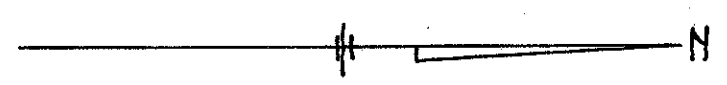
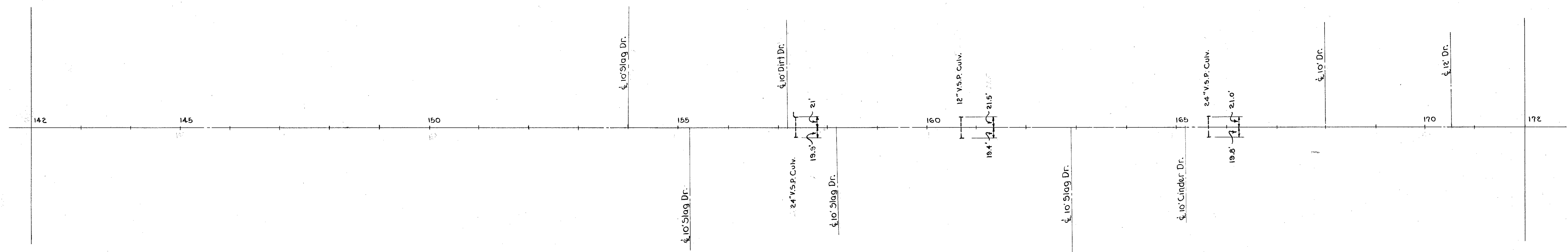
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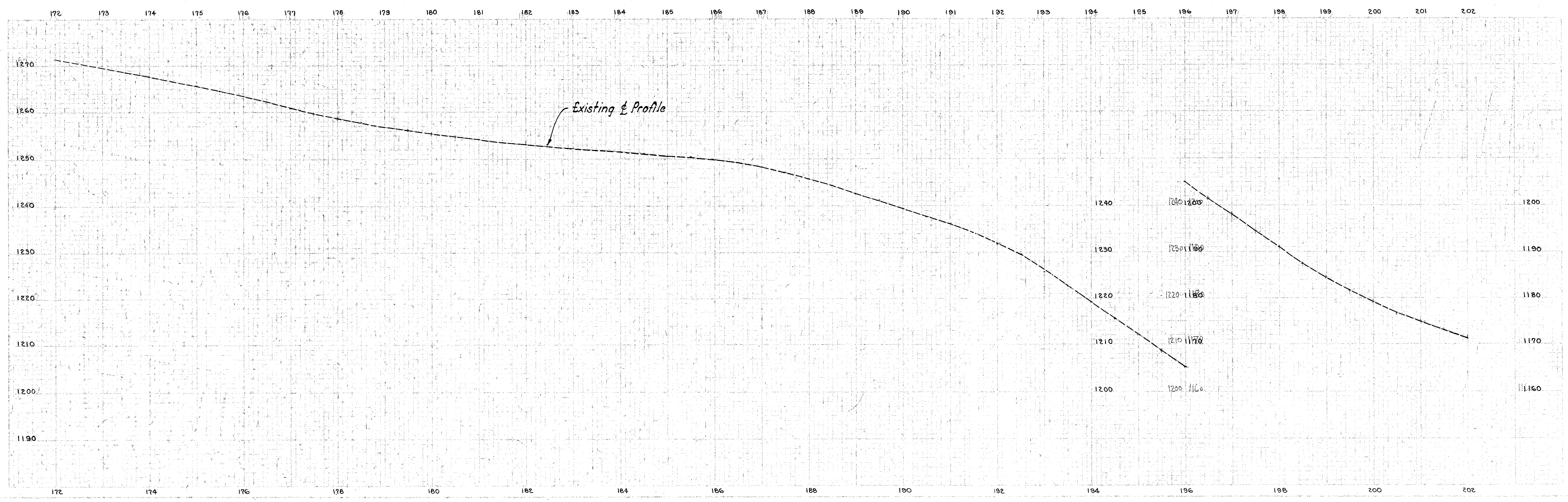
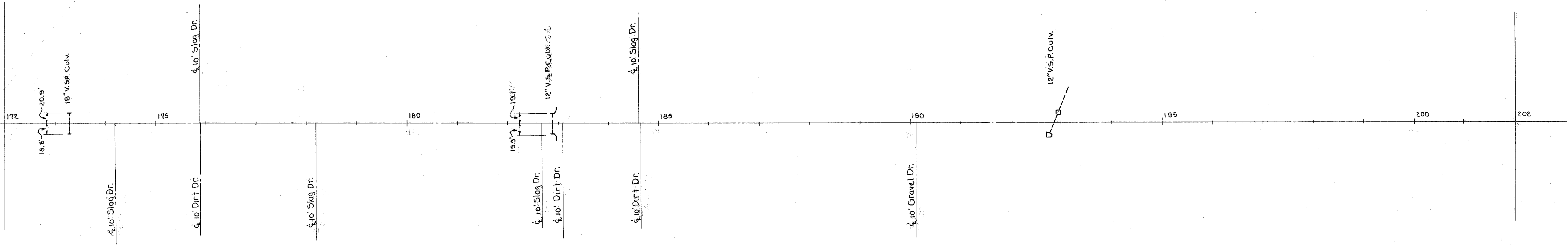
GEAUGA COUNTY
GEA.-44 (8.88-15.86)



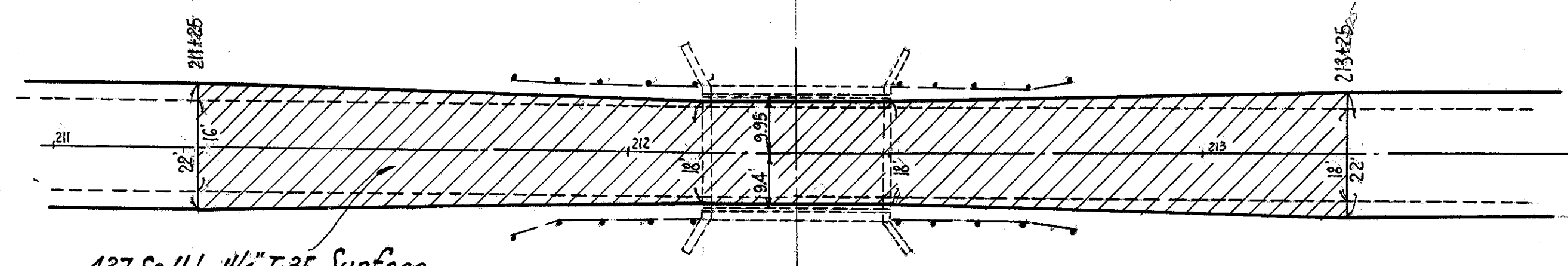
GEAUGA COUNTY
GEA. - 44 - (8.88 - 15.86)



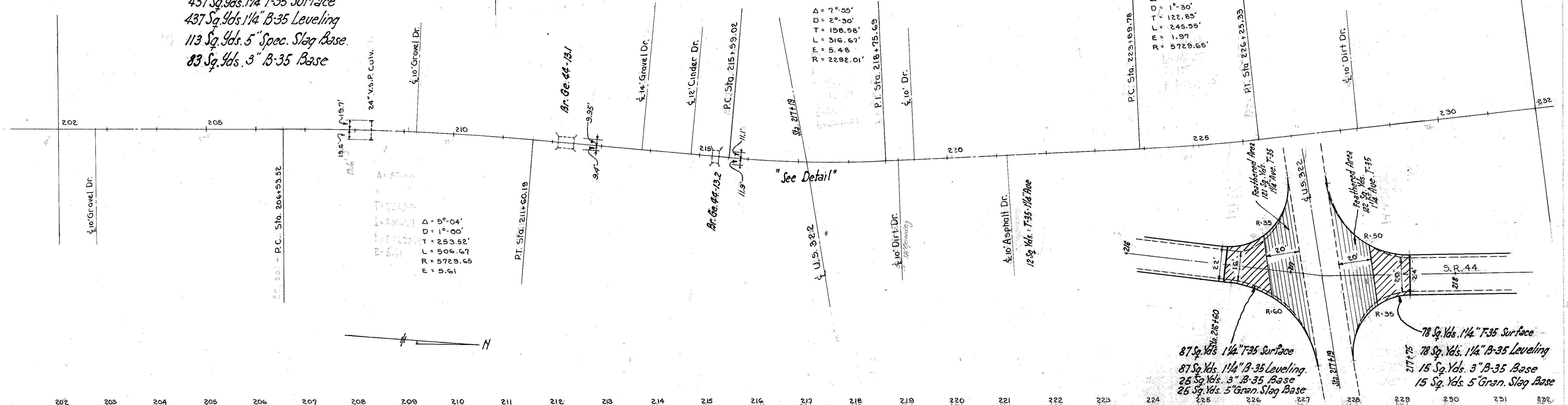
GEAUGA COUNTY
GEA.-44-(8.88-15.86)



GEAUGA COUNTY
GEA.-44-(8.88-15.86)



437 Sq. Yds. 1/4" T-35 Surface
437 Sq. Yds. 1/4" B-35 Leveling
113 Sq. Yds. 5" Spec. Slag Base
83 Sq. Yds. 3" B-35 Base



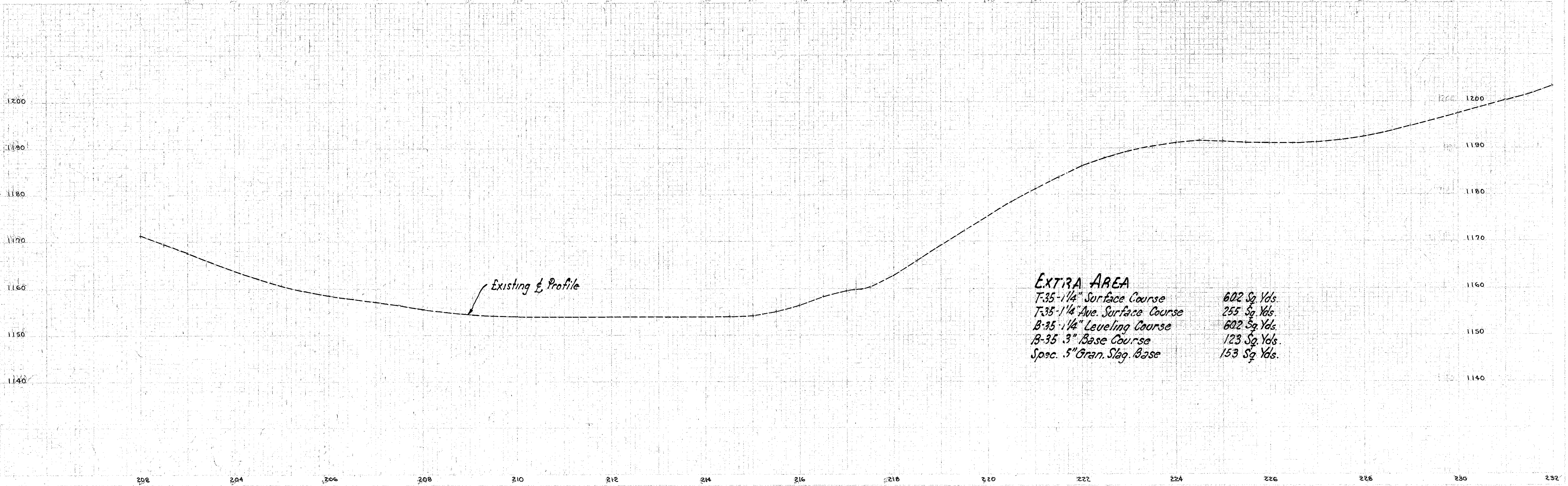
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 $R = 2292.01'$

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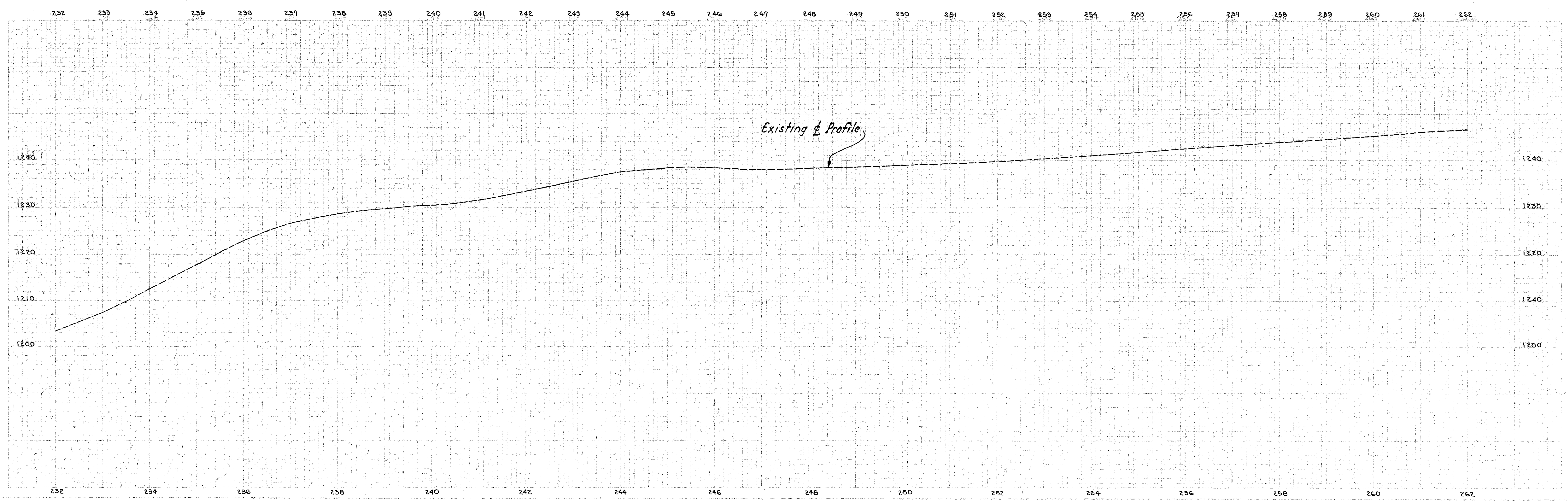
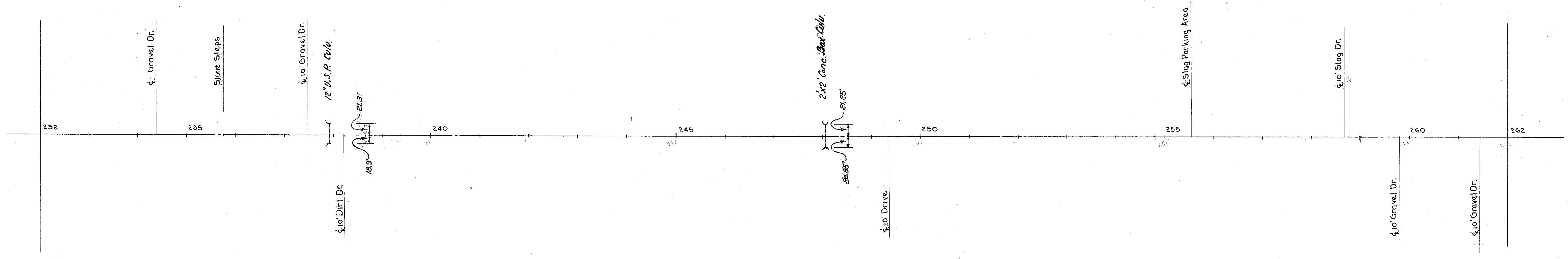
87 Sq. Yds. 1/4" T-35 Surface
87 Sq. Yds. 1/4" B-35 Leveling
25 Sq. Yds. 3" B-35 Base
25 Sq. Yds. 5" Gran. Slag Base

78 Sq. Yds. 1/4" T-35 Surface
78 Sq. Yds. 1/4" B-35 Leveling
15 Sq. Yds. 3" B-35 Base
15 Sq. Yds. 5" Gran. Slag Base



EXTRA AREA
T-35-1/4" Surface Course 602 Sq. Yds.
T-35-1/4" Ave. Surface Course 255 Sq. Yds.
B-35-1/4" Leveling Course 602 Sq. Yds.
B-35-3" Base Course 123 Sq. Yds.
Spec. 5" Gran. Slag Base 153 Sq. Yds.

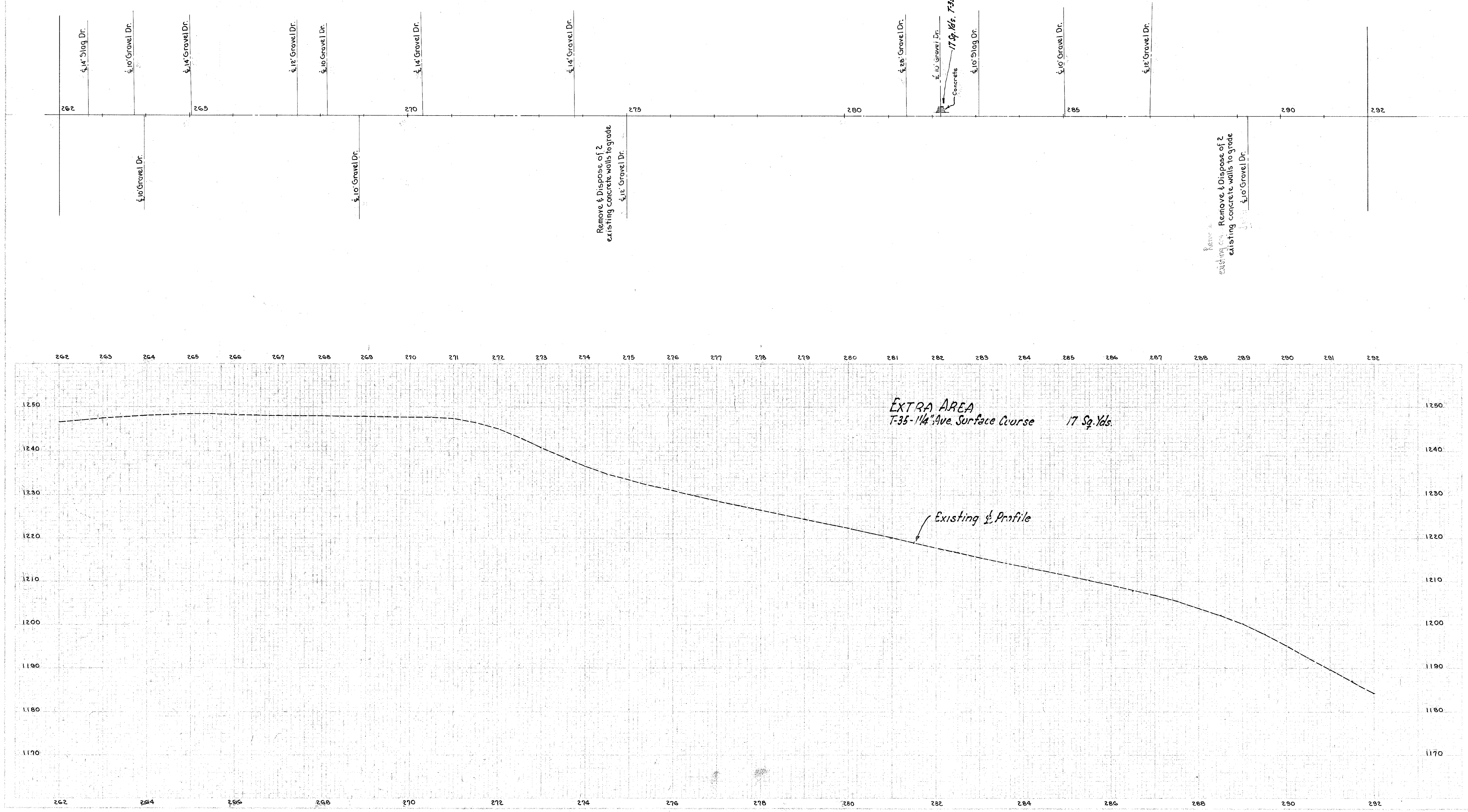
GEAUGA COUNTY
GEA-44-(8.88-15.86)



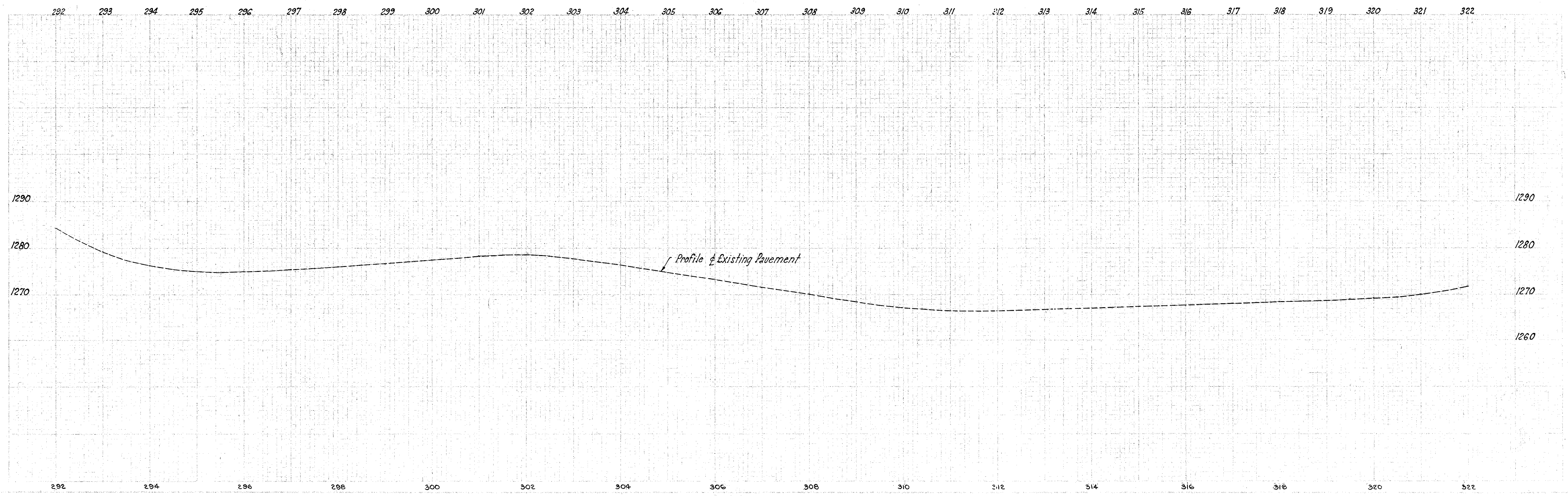
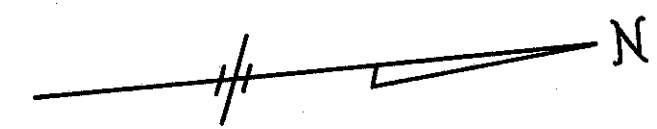
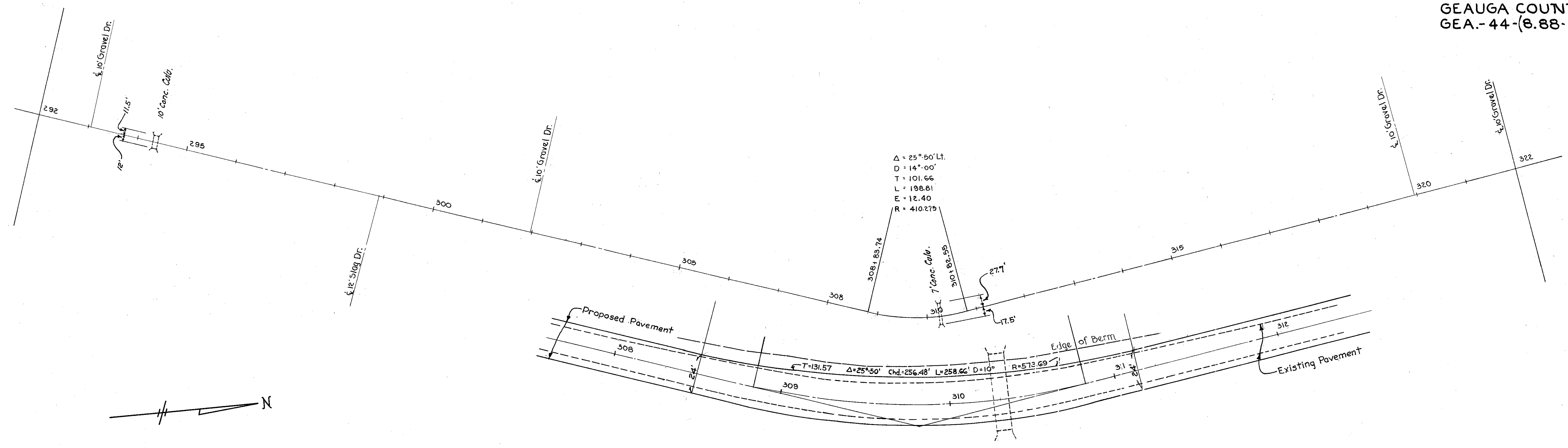
PER. NO.	DATE	PROJECT	SCALE
2	OHIO	H. I. F.	1951

13
16

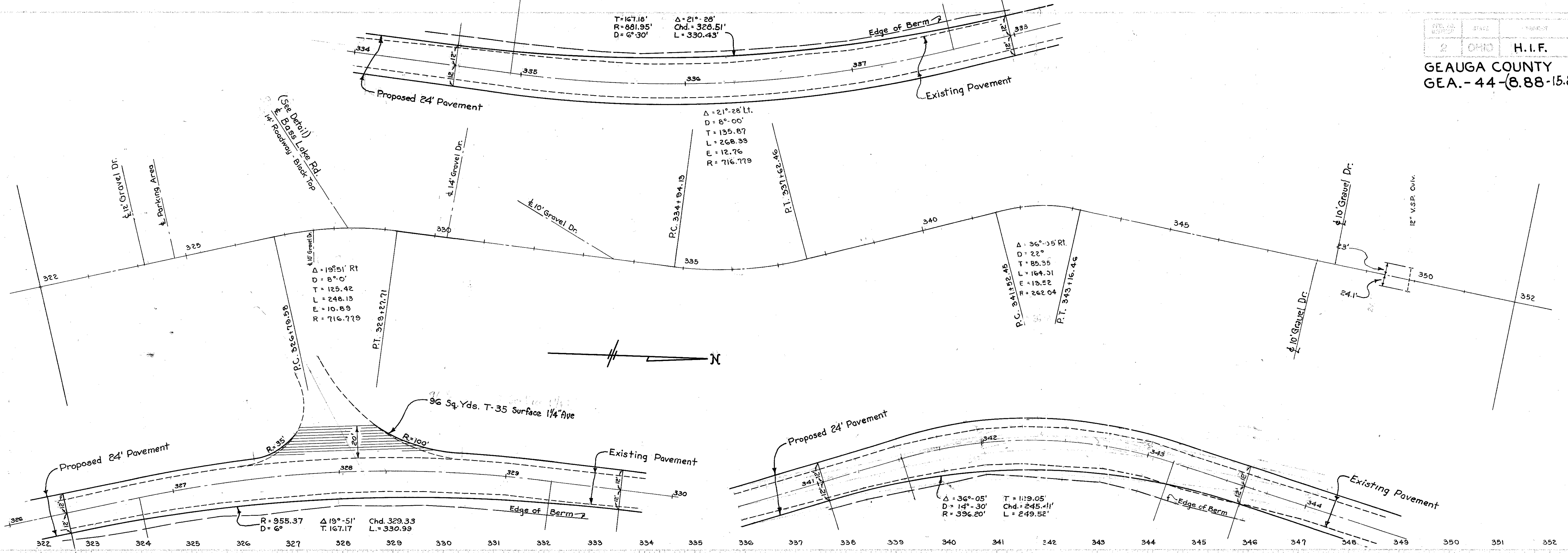
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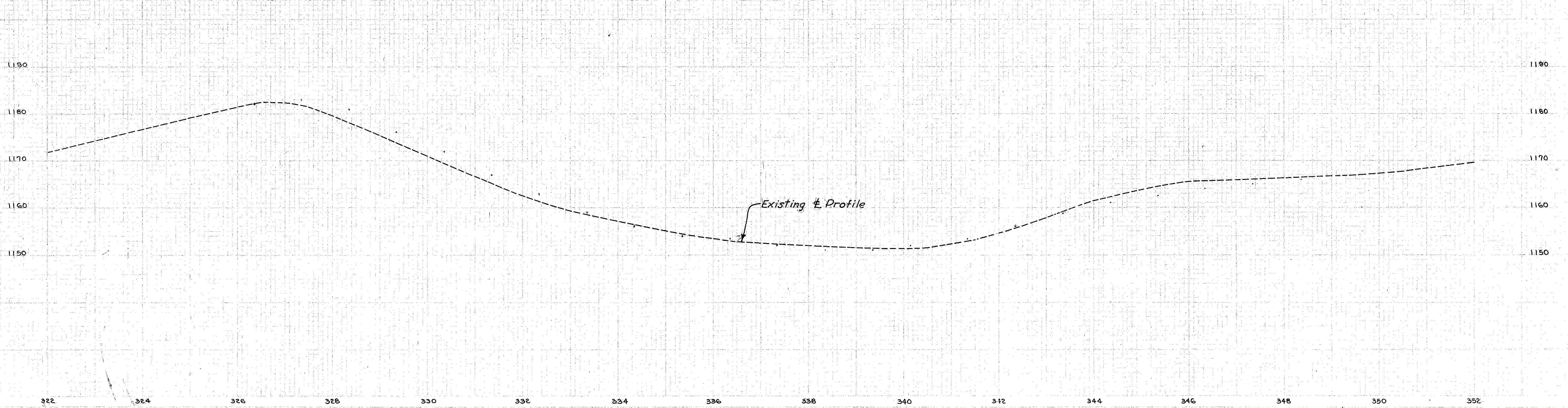
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GEA-44-(8.88-15.86)

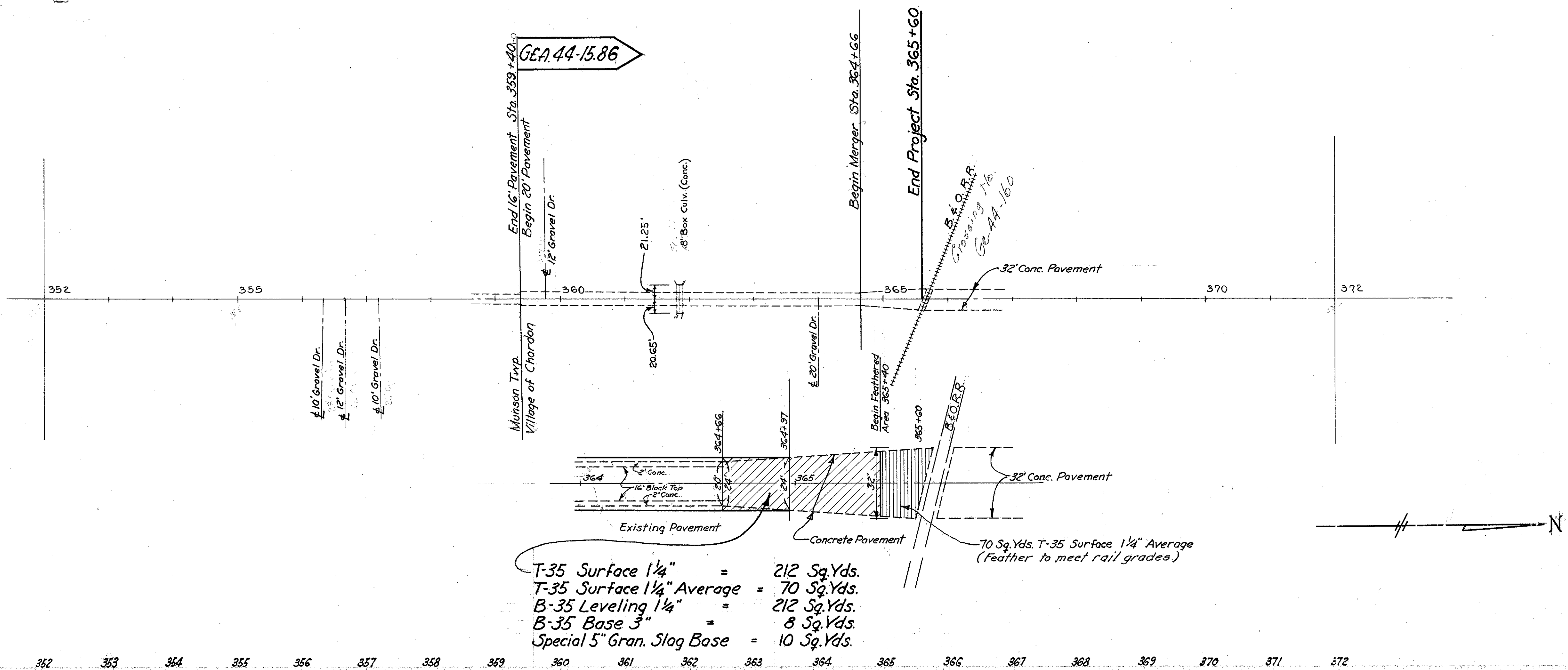


GEAUGA COUNTY
GEA.-44-(8.88-15.86)



EXTRA AREA
T-35 - 1/4 Ave. Surface Course 96 Sq. Yds.





T-35 Surface 1 1/4" = 212 Sq.Yds.
 T-35 Surface 1 1/4" Average = 70 Sq.Yds.
 B-35 Leveling 1 1/4" = 212 Sq.Yds.
 B-35 Base 3" = 8 Sq.Yds.
 Special 5" Gran. Slag Base = 10 Sq.Yds.

EXTRA AREA
 T-35 - Surface Course 1 1/4" = 212 Sq.Yds.
 T-35 - Surface Course 1 1/4" Aver. = 70 Sq.Yds.
 B-35 - Leveling Course 1 1/4" = 212 Sq.Yds.
 B-35 - Base Course 3" = 8 Sq.Yds.
 Special 5" Gran. Slag Base = 10 Sq.Yds.

