

CONVENTIONAL SIGNS & ABBREVIATIONS

STATE LINE	-----	EXCAVATION	.....E
COUNTY LINE	-----	EMBANKMENT	.....F
TOWNSHIP LINE	-----	OVERHAUL	.....H
SECTION LINE	-----	SURFACING	.....S
CITY, VILLAGE, OR BOROUGH	-----	GUARD RAIL	.....GR
FENCE LINE	-----	INTERSECTION ANGLE	.....A
RIGHT-OF-WAY LINE	-----	RADIUS	.....R
TRAVELLED WAY	-----	ELEVATION	.....EL
RAILROADS	-----	VERTICAL CURVE	.....VC
RETAINING WALL	-----	BENCH MARK	.....B.M.
BASE OR SURVEY LINE	-----	SECTIONAL CONCRETE CULVERT	.....P.C.
LEVEE	-----	CORRUGATED METAL CULVERT	.....C.M.
GRAVEL PIT	.....	CULVERT HAUL	.....P.L.H.
SAND PIT	.....	TON MILES	.....T.M.
CLAY PIT	.....	PLACE	.....P
ROCK QUARRY	.....	IN PLACE	.....Inp.
CULVERTS	.....	REPLACE	.....Rep.
PLAIN	.....	RIGHT	.....R
WITH FACE WALLS	.....	LEFT	.....L
WITH WING WALLS	.....	HAND DITCHING	.....H.D.
DROP INLET	.....	POINT OF CURVE	.....P.C.
POWER POLE LINE	.....	POINT OF TANGENT	.....P.T.
TELEPHONE OR TELEGRAPH LINE	.....	POINT OF INTERSECTION	.....P.I.
MARSH	.....	SPECIAL EXCAVATION	.....SE
HEDGE, BRUSH, OR THATCH	.....	SPECIAL PLOWING	.....SP.
GROUND ELEVATION	.....	TELEPHONE POLE	.....Tel.P.
GRADE ELEVATION	.....		

OFFICE OF COUNTY ENGINEER

RAMSEY COUNTY

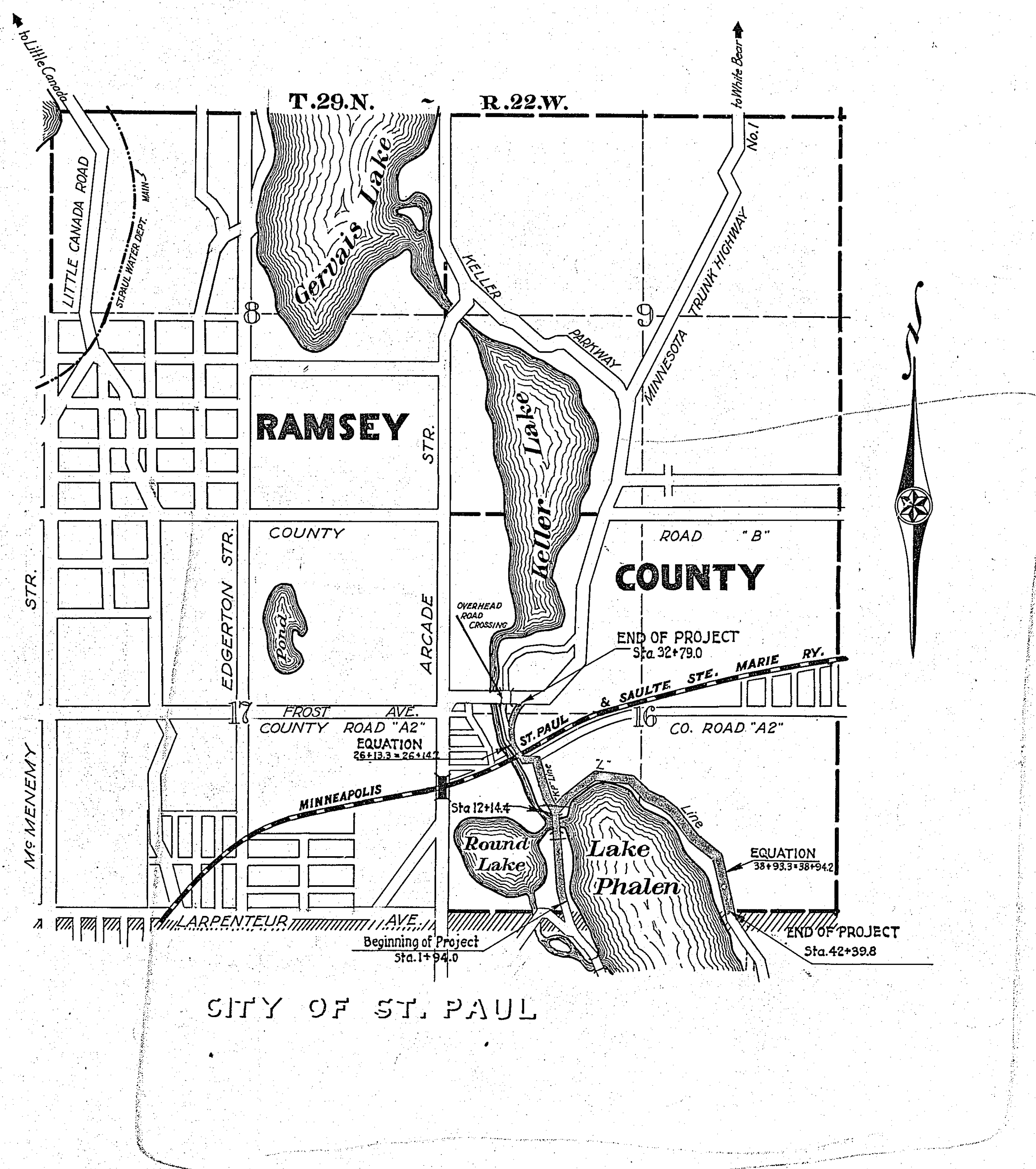
Plan and Profile of County Project No. 23-69

From a point 74.3 feet N. of the N. line of the W $\frac{1}{2}$  Sec. 21, T.29 R.22 To a point 1633.7 ft. W. of the S.E. Cor. of Sec. 16, T.29 N. R.22 W  
 ALSO  
 From Station 12+14.4 on the first line To a point on S.T.H. No. 1 approx. 776 ft. East of the W. line of Sec. 16, T.29 N. R.22 W

GROSS LENGTH..... 6107.3 FEET..... 1.16 MILES  
 LENGTH OF EXCEPTIONS..... FEET..... MILES  
 NET LENGTH..... 6107.3 FEET..... 1.16 MILES  
 PLAN, 1 Inch = 100 Feet  
 PROFILE, Horz. 1 Inch = 100 Feet. Vert. 1 Inch = 10 Feet  
 WORKING PLANS { Horz. 1 Inch = 100 Feet  
 { Vert. 1 Inch = 10 Feet  
 { Cross-Sections, 1 Inch = 5 Feet  
 LAYOUT  
 SCALE, 1 Inch = 1320 Feet

INDEX OF SHEETS

- Sheet No. 1. Title Sheet and Layout Map
- " No. 2. Typical Cross-Sections and Statement
- " No. 3. Plan and Profile, Sta. 1+13.7 to Sta. 42+39.8 "L"
- " No. 4. " " " " 12+14.4 " " 32+79.0 "KP"
- " No. 5 to 8 Cross Sections "L" line
- " No. 9 to 10 " " "KP" line
- " No. 11 " " "LKP" line
- " No. 12 & 13 Details



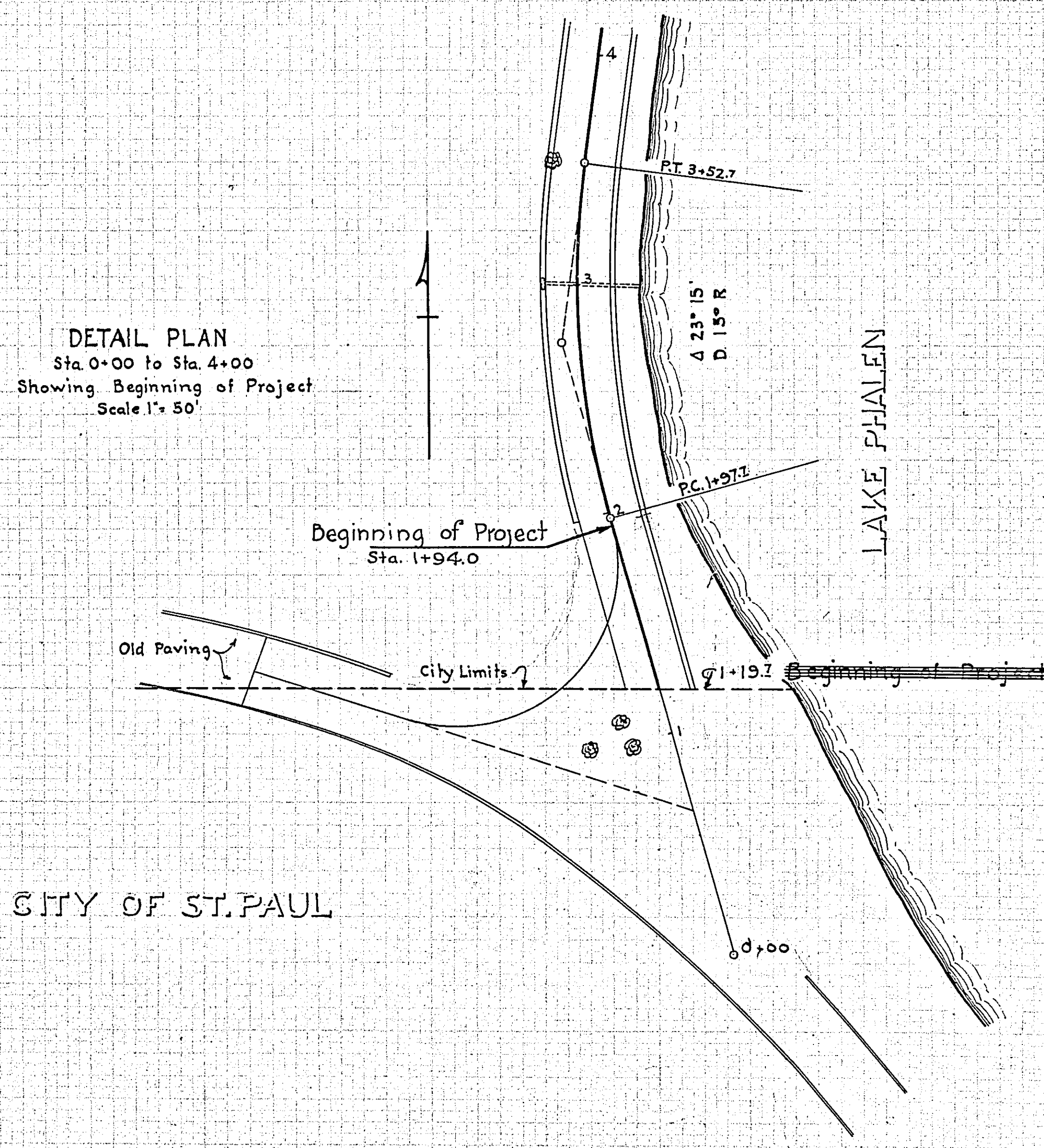
Date of Resolution for Preparation of Plans July 30, 1923  
 Planned by R. J. Nozelle DESIGNING HIGHWAY ENGINEER  
 Recommended for Approval E. Brigg CONSTRUCTION ENGINEER  
 Plans Approved and Recommended for Consideration Paul H. Coates COUNTY SURVEYOR  
 Approved by County Board \_\_\_\_\_ 19\_\_\_\_ CHAIRMAN OF COUNTY BOARD



JANBERG  
 VENTUR  
 ENGINEERS  
 1000 W. WASHINGTON  
 ST. PAUL, MINN. 55102

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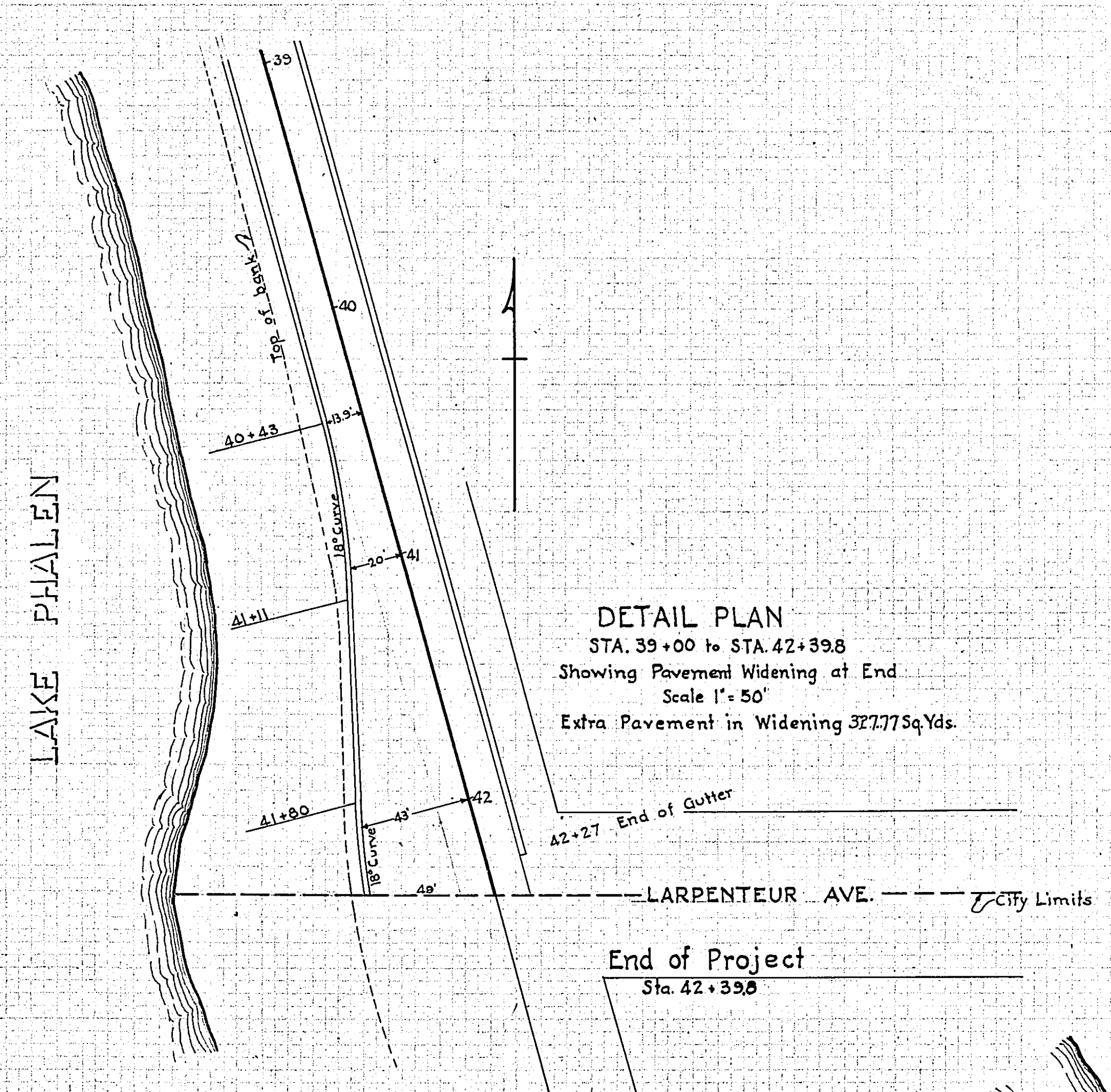
DETAIL PLAN  
 Sta. 0+00 to Sta. 4+00  
 Showing Beginning of Project  
 Scale 1" = 50'



LAKE PHALEN

LAKE PHALEN

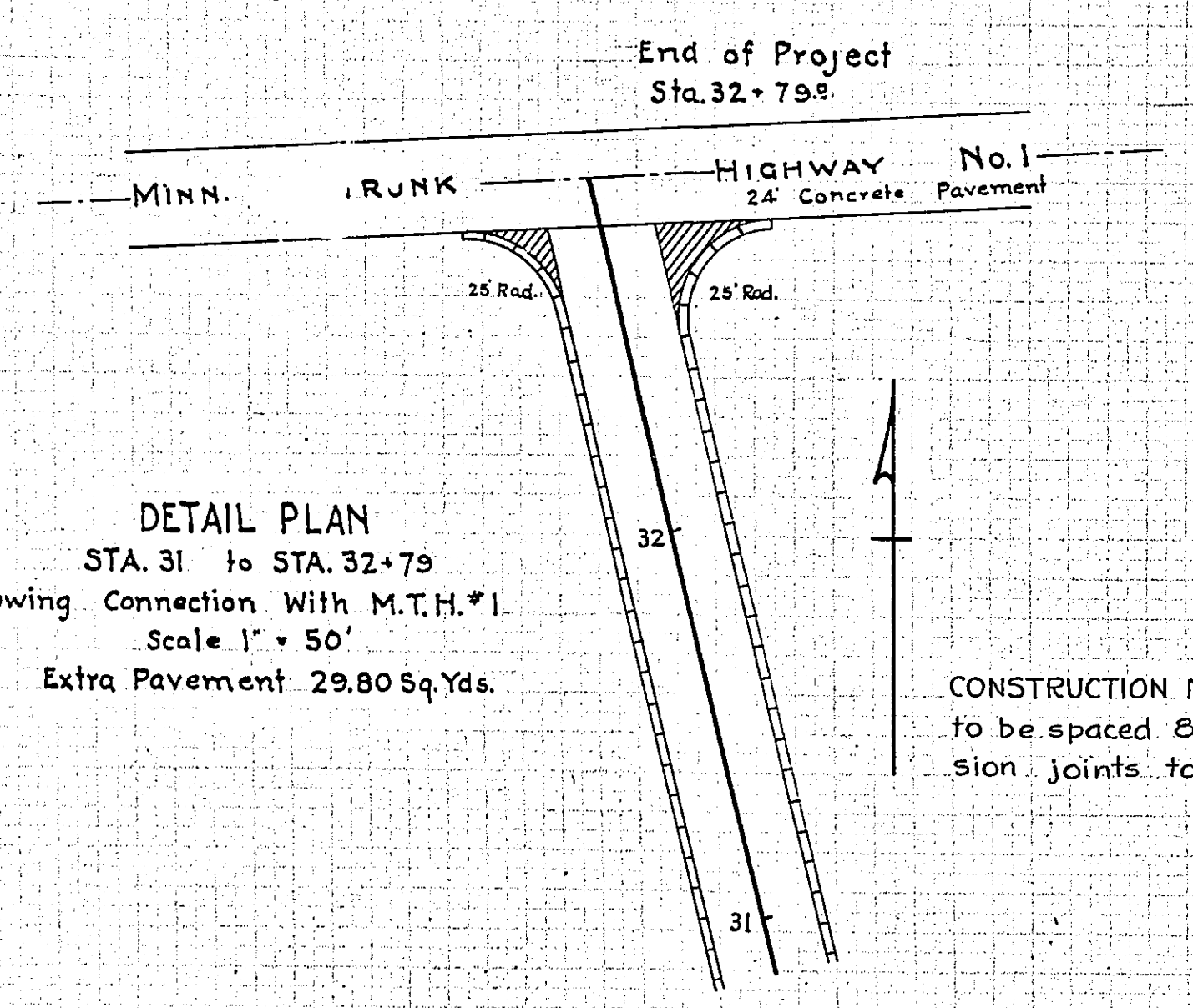
DETAIL PLAN  
 STA. 39+00 to STA. 42+39.8  
 Showing Pavement Widening at End  
 Scale 1" = 50'  
 Extra Pavement in Widening 32,177 Sq. Yds.



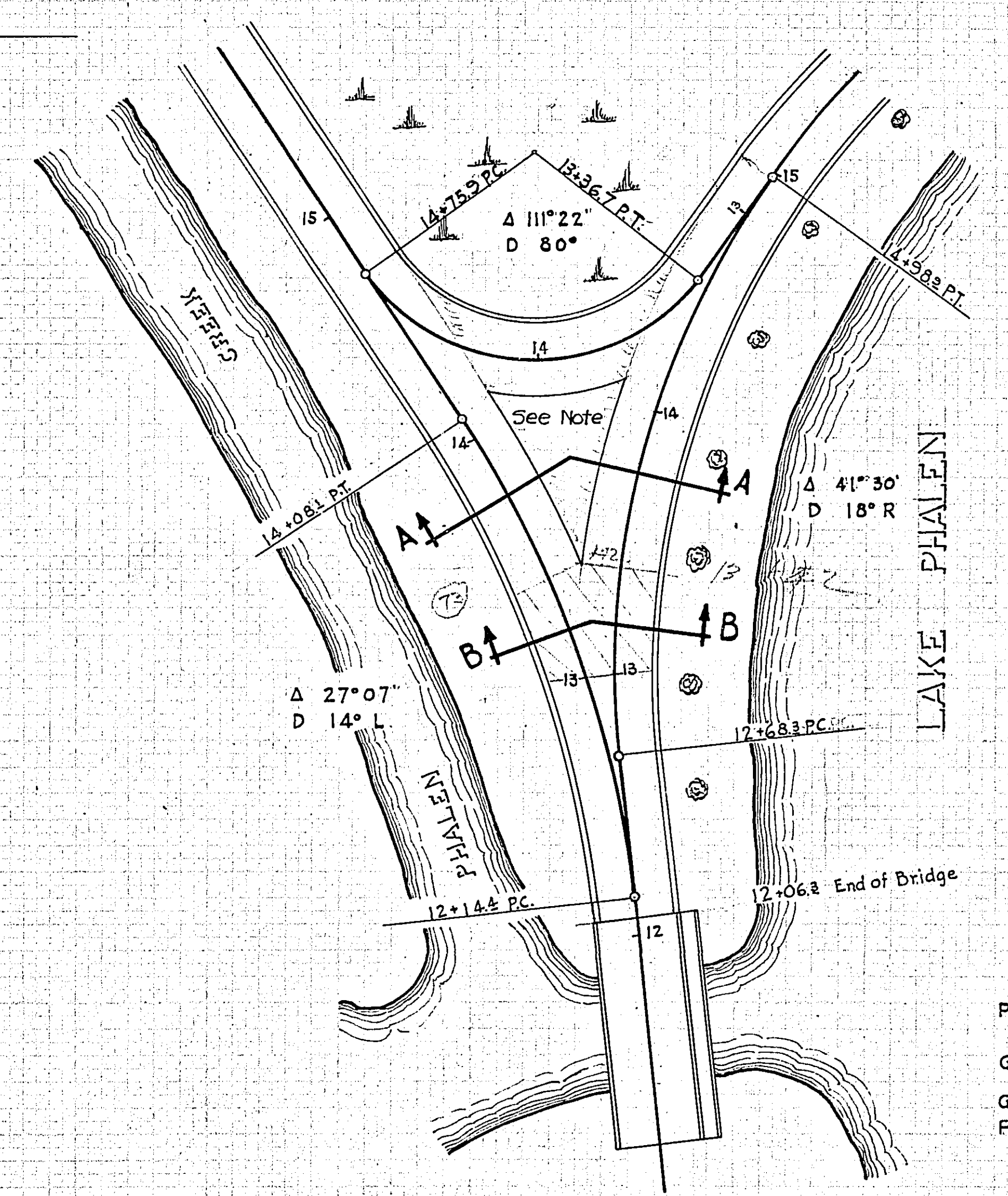
End of Project  
 Sta. 42+39.8

OFFICE OF COUNTY ENGINEER  
 RAMSEY CO. MINNESOTA  
**SPECIAL WIDENING DETAILS  
 & CONNECTIONS**  
 CO. PROJ. 23-69

DETAIL PLAN  
 STA. 31 to STA. 32+79  
 Showing Connection With M.T.H. #1  
 Scale 1" = 50'  
 Extra Pavement 29.80 Sq. Yds.



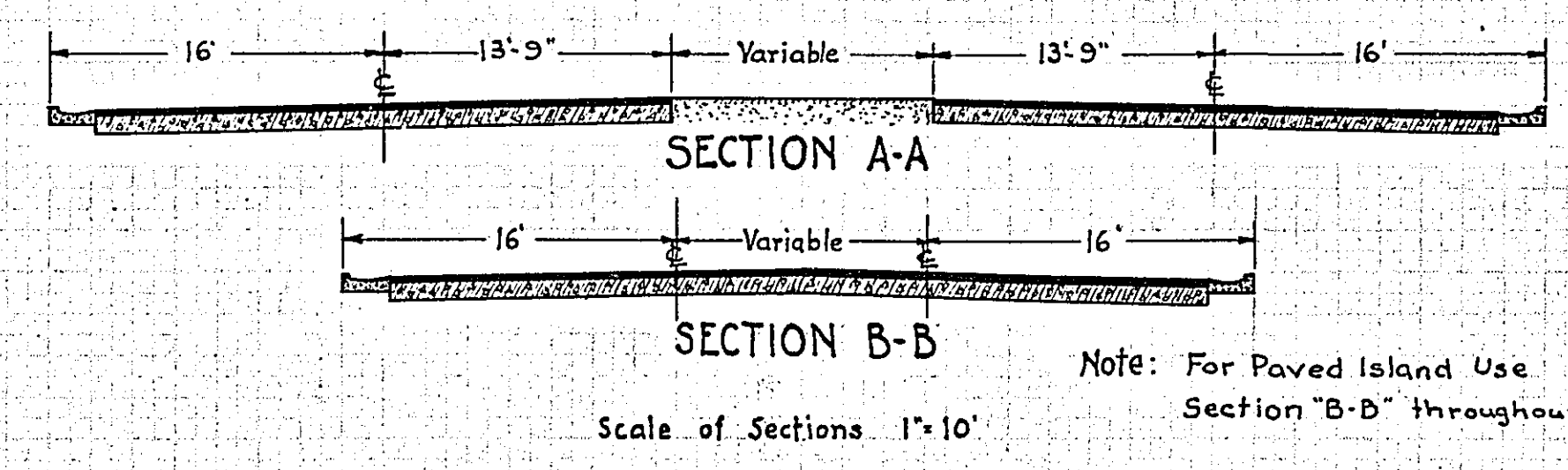
CONSTRUCTION NOTE: Construction joints to be spaced 8 feet apart; 1/2 inch expansion joints to be spaced 40 feet apart.



DETAIL PLAN  
 STA. 12 to STA. 15  
 Showing Connections  
 Scale 1" = 50'

Paving Quantities  
 Sta. 12+06.3 to Sta. 15+00

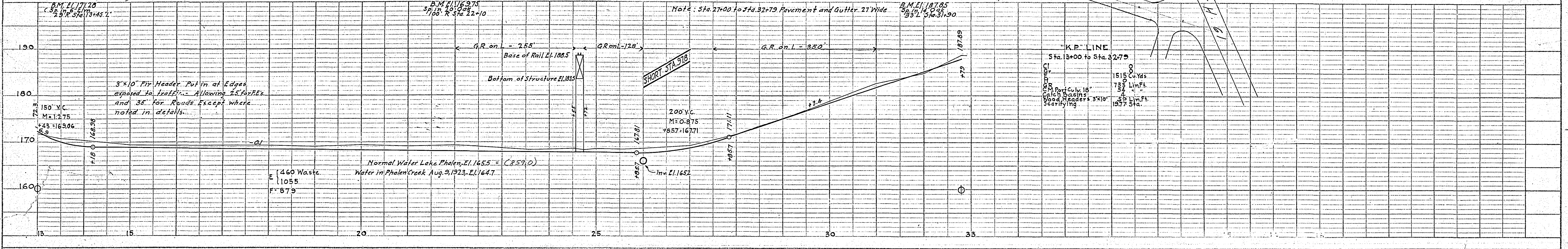
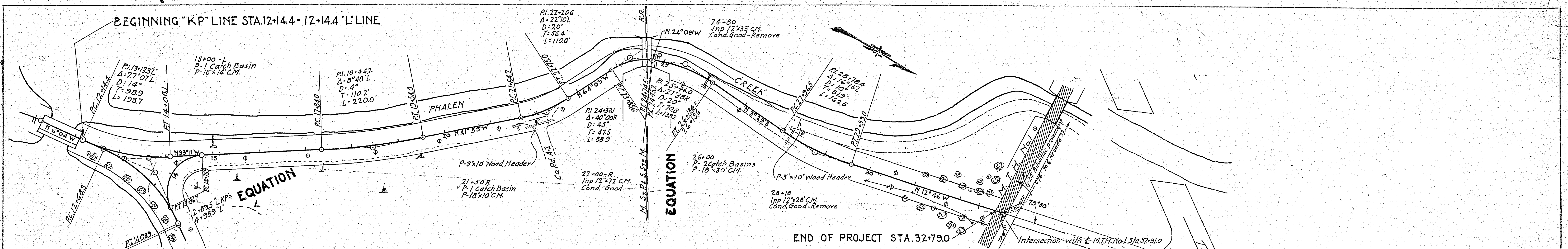
Paving 1235.40	1" Line	897.42	Sq. Yds.
	1 1/2" Line	337.98	"
	2" Line	244.45	"
Gutters 733.5	1" Line	273.7	Lin Ft.
	1 1/2" Line	298.1	"
Gravel Island		27	Cu. Yds.
Paved		164.11	Sq. Yds.



Note: For Paved Island Use Section 'B-B' throughout.



BEGINNING "KP" LINE STA. 12+14.4 - 12+14.4 "L" LINE



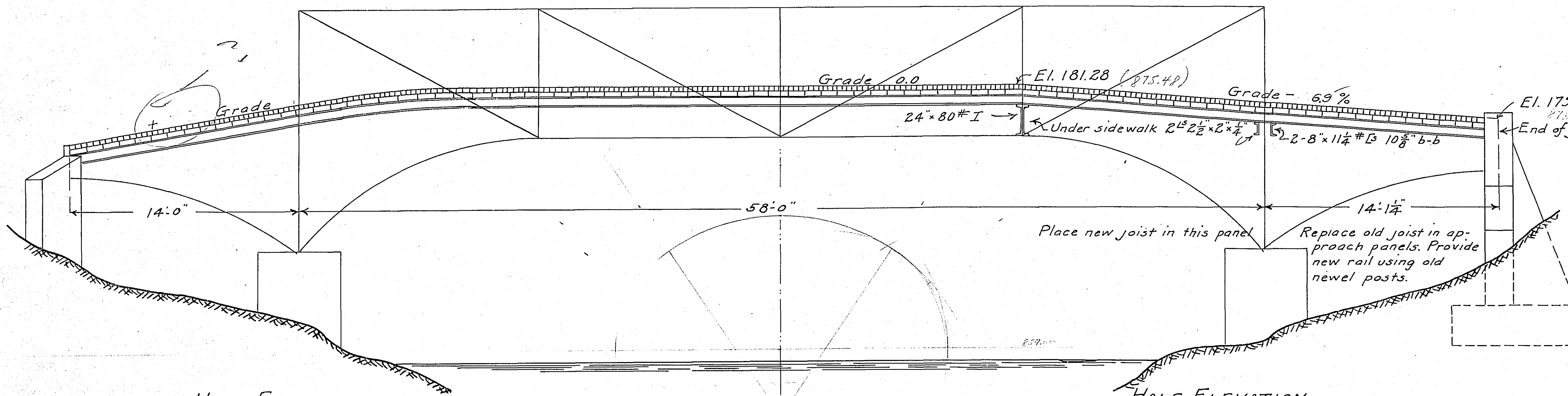
DATE	BY
SURVEYED	
NOTE BOOK	
ALIGNMENT CHECKED	
RT. OF WAY CHECKED	
NO.	
PLAN	

DATE	BY
SURVEYED	
NOTE BOOK	
GRADES CHECKED	
B.M.S. NOTED	
STRUCTURE ADJUSTS CHECKED	
NO.	
PROFILE	



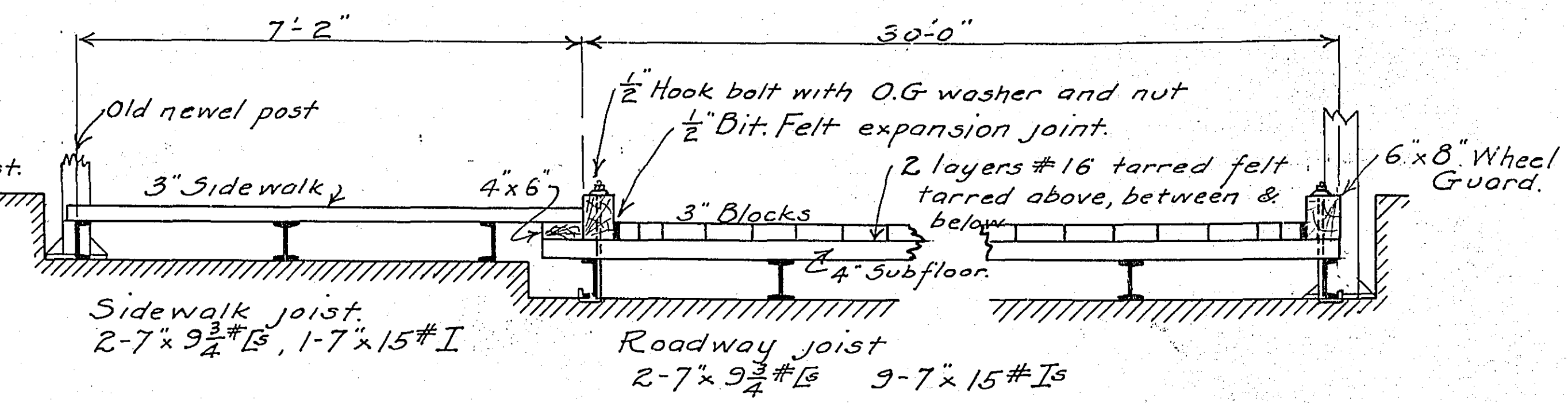




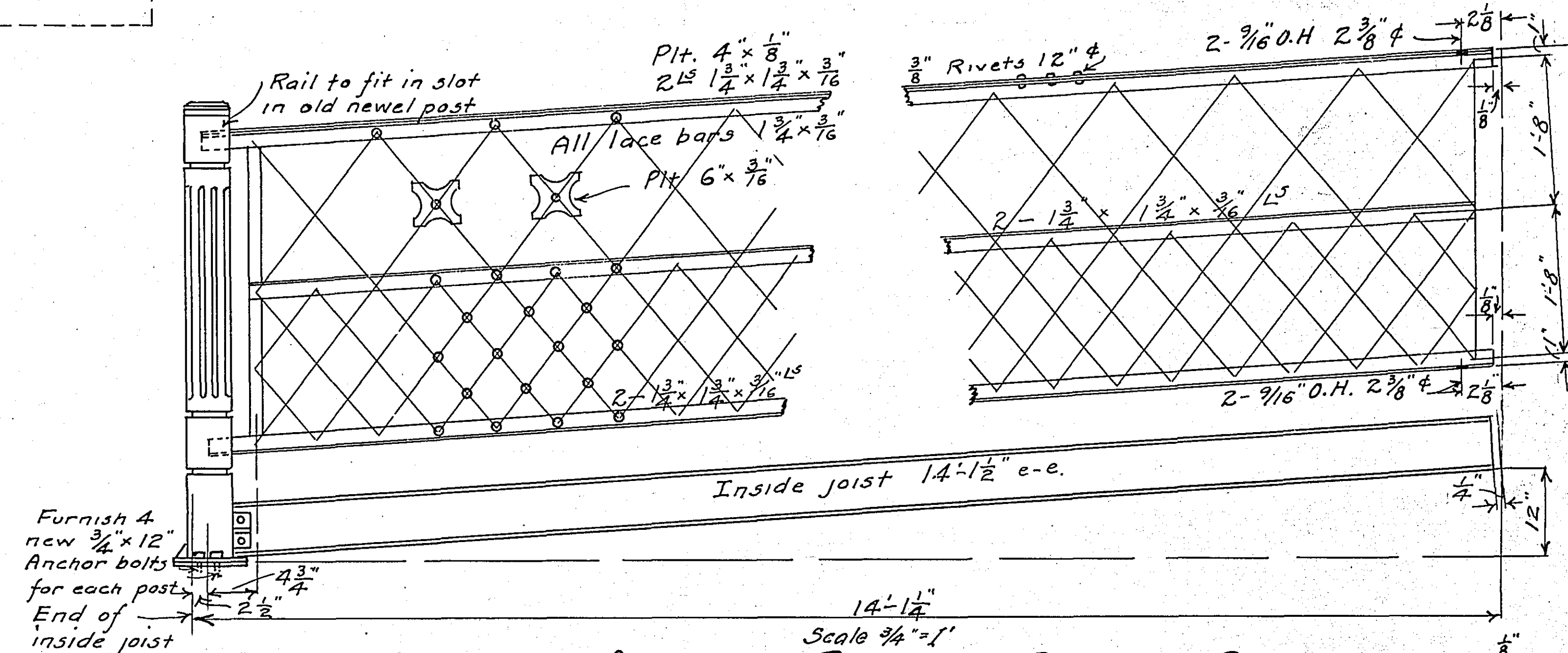


**HALF ELEVATION**  
SHOWING PRESENT STRUCTURE  
Symmetrical about  $\Phi$

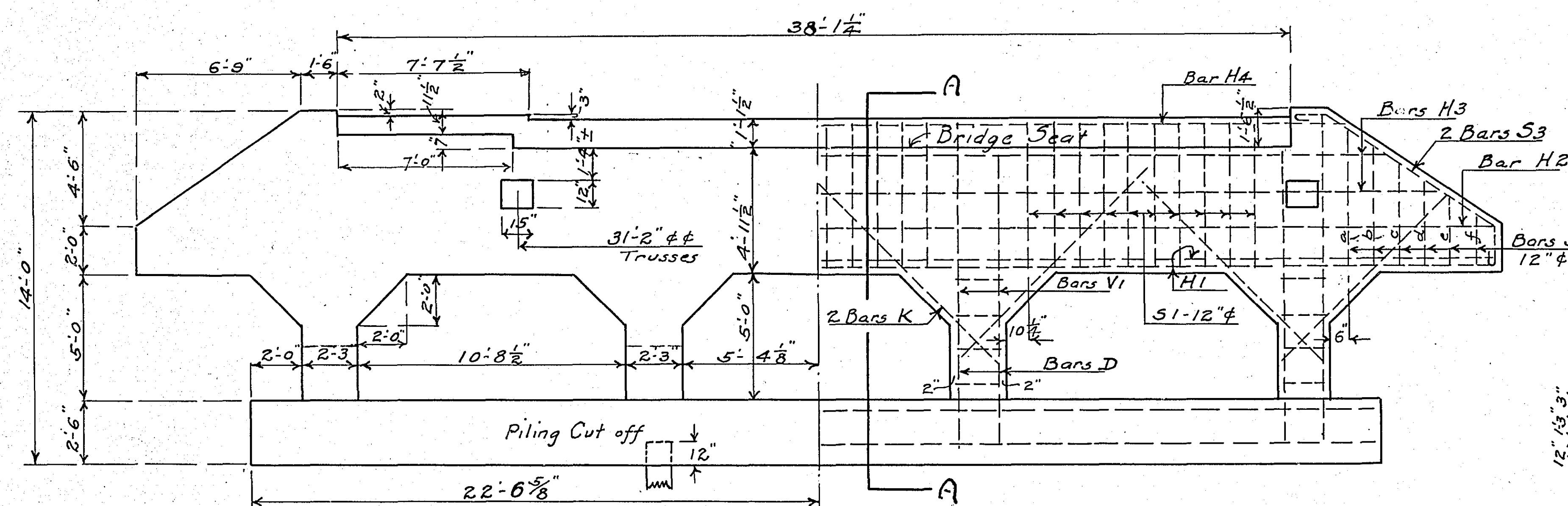
**HALF ELEVATION**  
SHOWING PROPOSED FLOOR GRADE.  
Symmetrical about  $\Phi$   
Scale  $\frac{1}{4}''=1'$



**SECTION OF ROADWAY**  
Scale  $\frac{1}{8}''=1'$

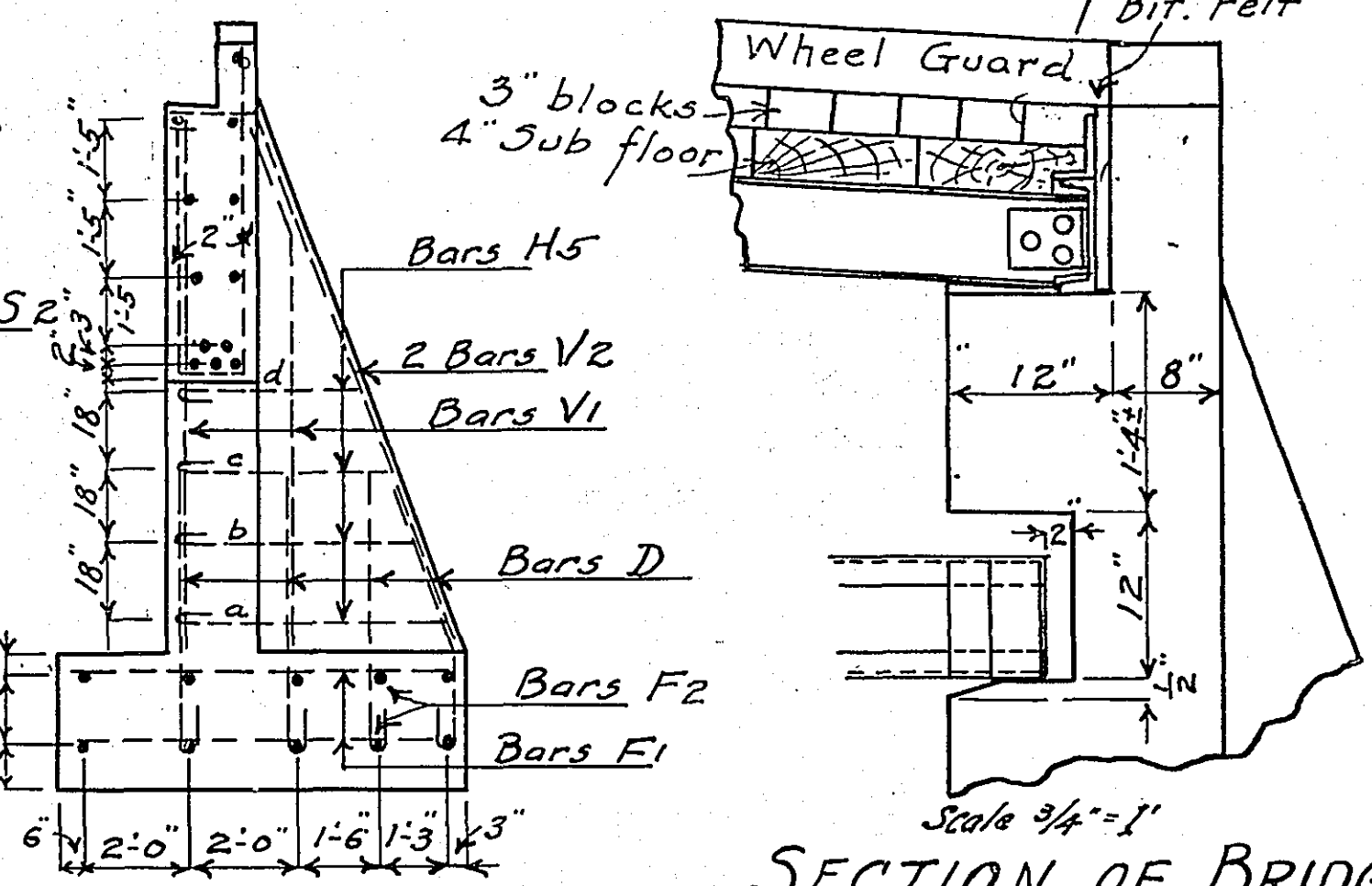


**APPROACH RAILING - ROADWAY SIDE**  
Scale  $\frac{1}{4}''=1'$



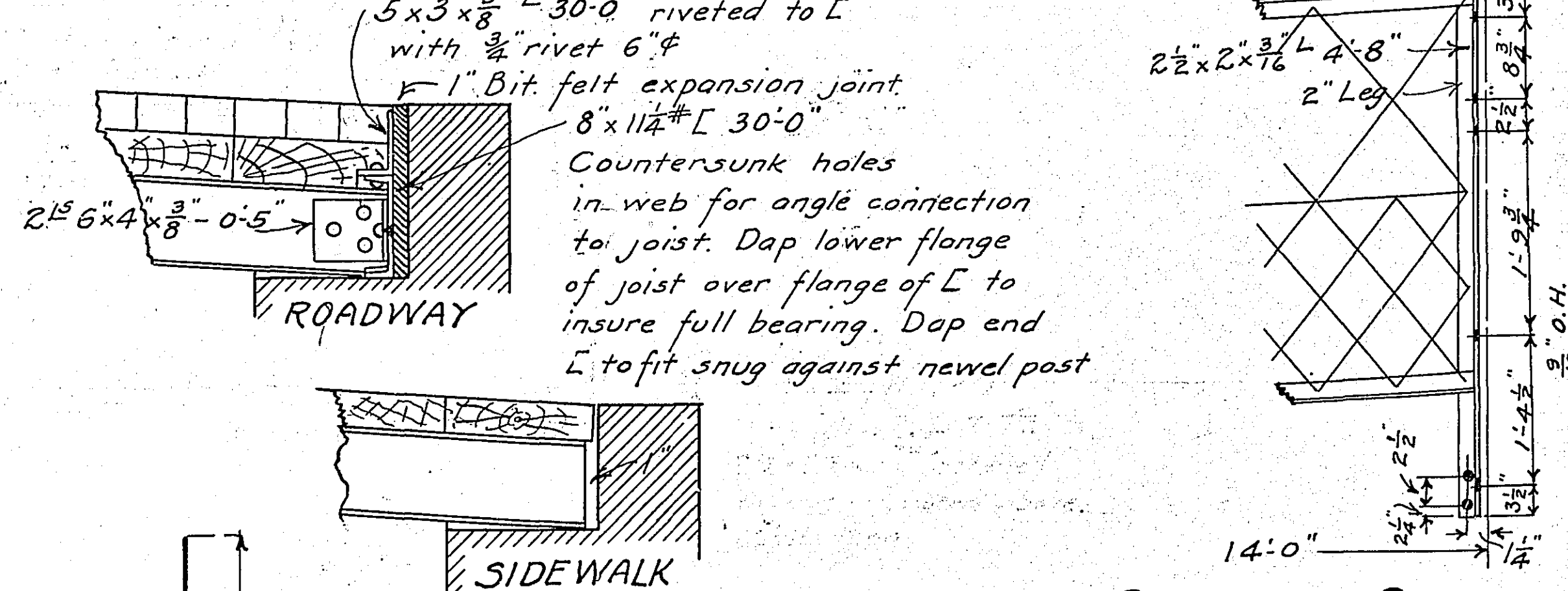
**HALF FRONT ELEVATION**  
Scale  $\frac{1}{4}''=1'$

**HALF ABUTMENT ELEVATION**  
SHOWING REINFORCING  
Abutment symmetrical about  $\Phi$  except as noted.  
Scale  $\frac{1}{4}''=1'$



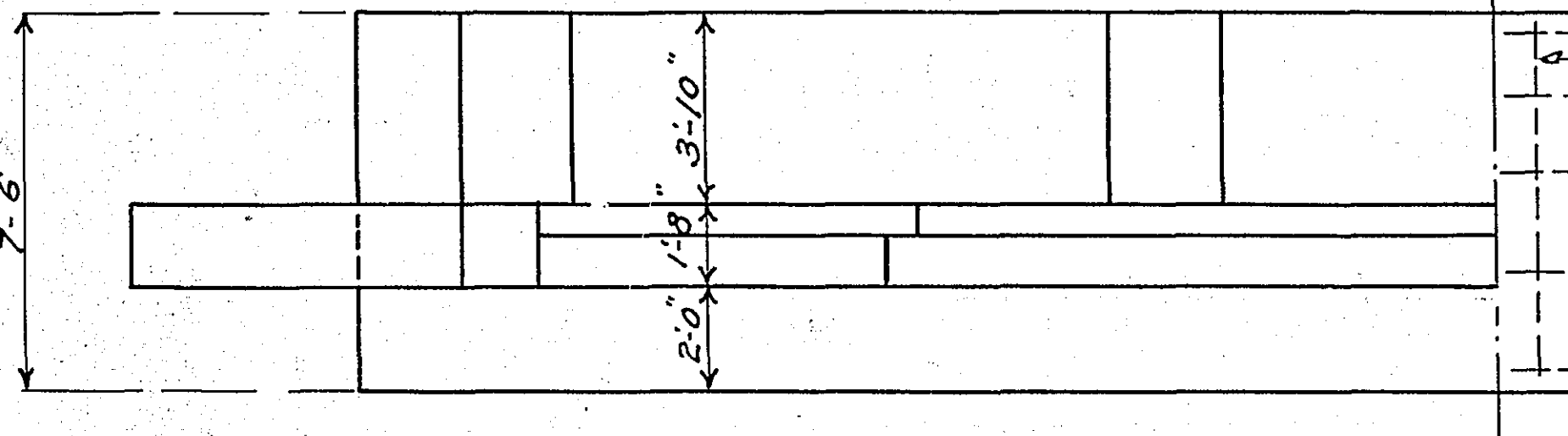
**SECTION A-A**  
Scale  $\frac{1}{4}''=1'$

**SECTION OF BRIDGE SEAT**  
SHOWING POCKET  
Scale  $\frac{1}{4}''=1'$   
Bevel Bridge Seat 12" wide under each joist.



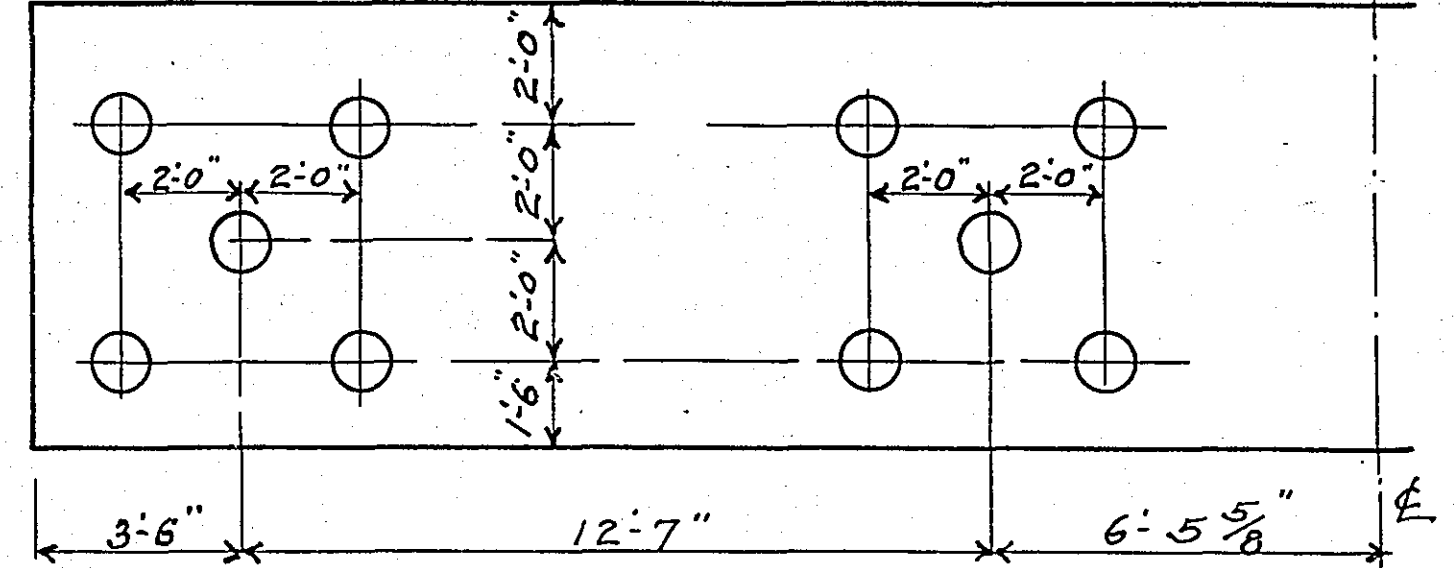
**EXPANSION DETAILS**  
At end of each approach.  
Scale  $1''=1'$

**SIDEWALK SIDE**  
Scale  $\frac{1}{4}''=1'$



**HALF TOP VIEW**

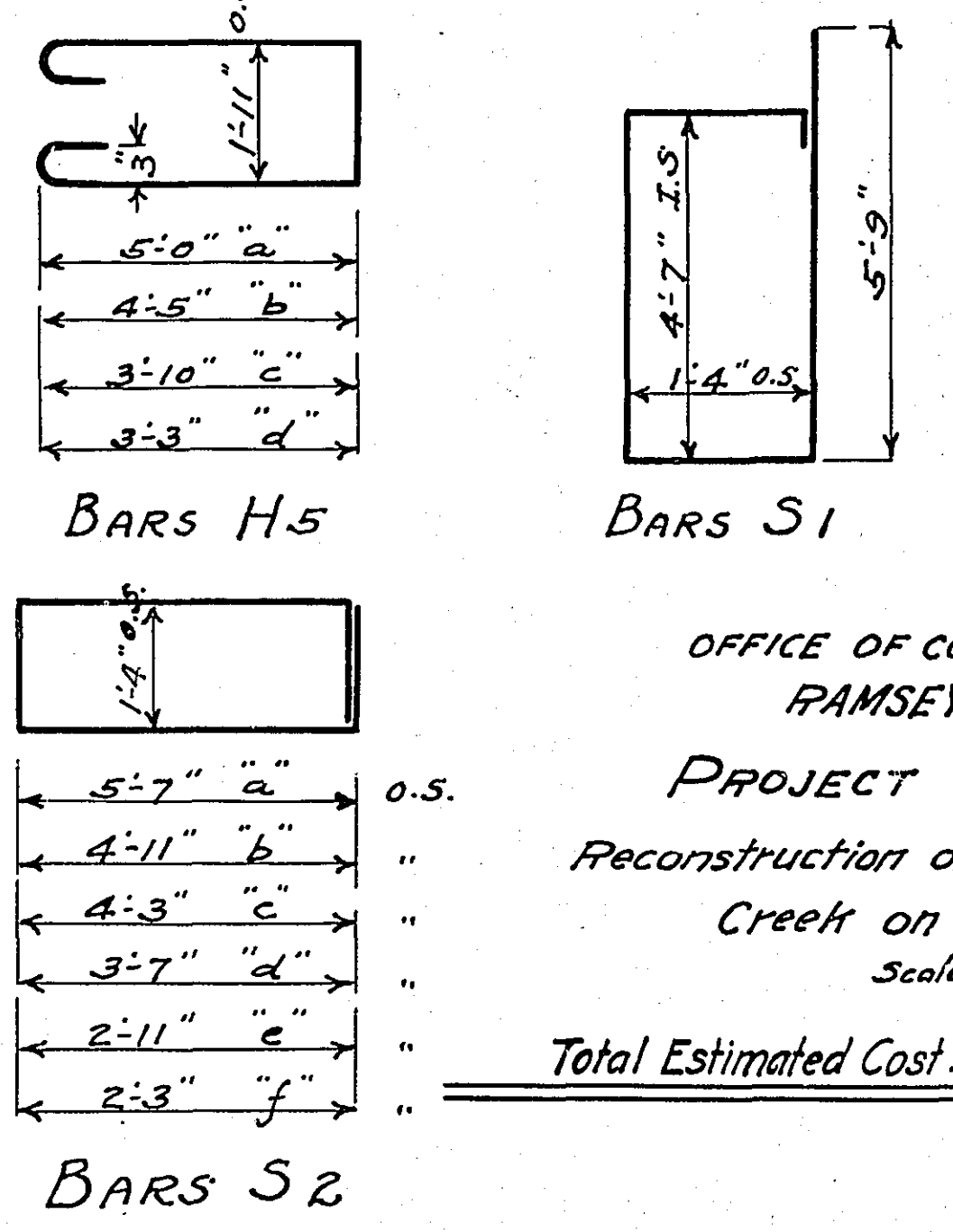
**HALF FOOTING PLAN**  
SHOWING REINFORCING  
Scale  $\frac{1}{4}''=1'$



**HALF PILING PLAN**  
Scale  $\frac{1}{4}''=1'$

Mark	Location	No.	Size	Length	Str.
F1	Footing - Trans.	120	3/4"	7'-0"	Str.
F2	" Long.	40	3/4"	23'-0"	"
D	Dowels	64	3/8"	6'-0"	Hook
VI	Columns - Vert.	32	3/4"	3'-6"	Str.
V2	Buttress - "	16	1"	12'-0"	Bend
H1	Beam - Horiz.	10	1"	21'-2"	Str.
"	"	10	1"	34'-0"	"
H2	"	8	1 1/2"	28'-0"	"
H3	"	16	1 1/2"	25'-6"	"
H4	Parapet	4	1 1/2"	22'-0"	"
H5	Buttress	16	3/4"	23'-4"	Bend
K	Knee Brace	32	3/4"	10'-6"	Str.
S1	Stirrups	60	3/4"	13'-2"	Bend
S2	" Cant.	12	3/4"	23'-0"	"
S3	Top Incline	8	3/4"	12'-3"	"

X Two bars cut and bent from each bar as billed.  
Total Concrete for two abutments 113.8 cu.yds.  
Total weight reinforcing " " 8077 lbs.



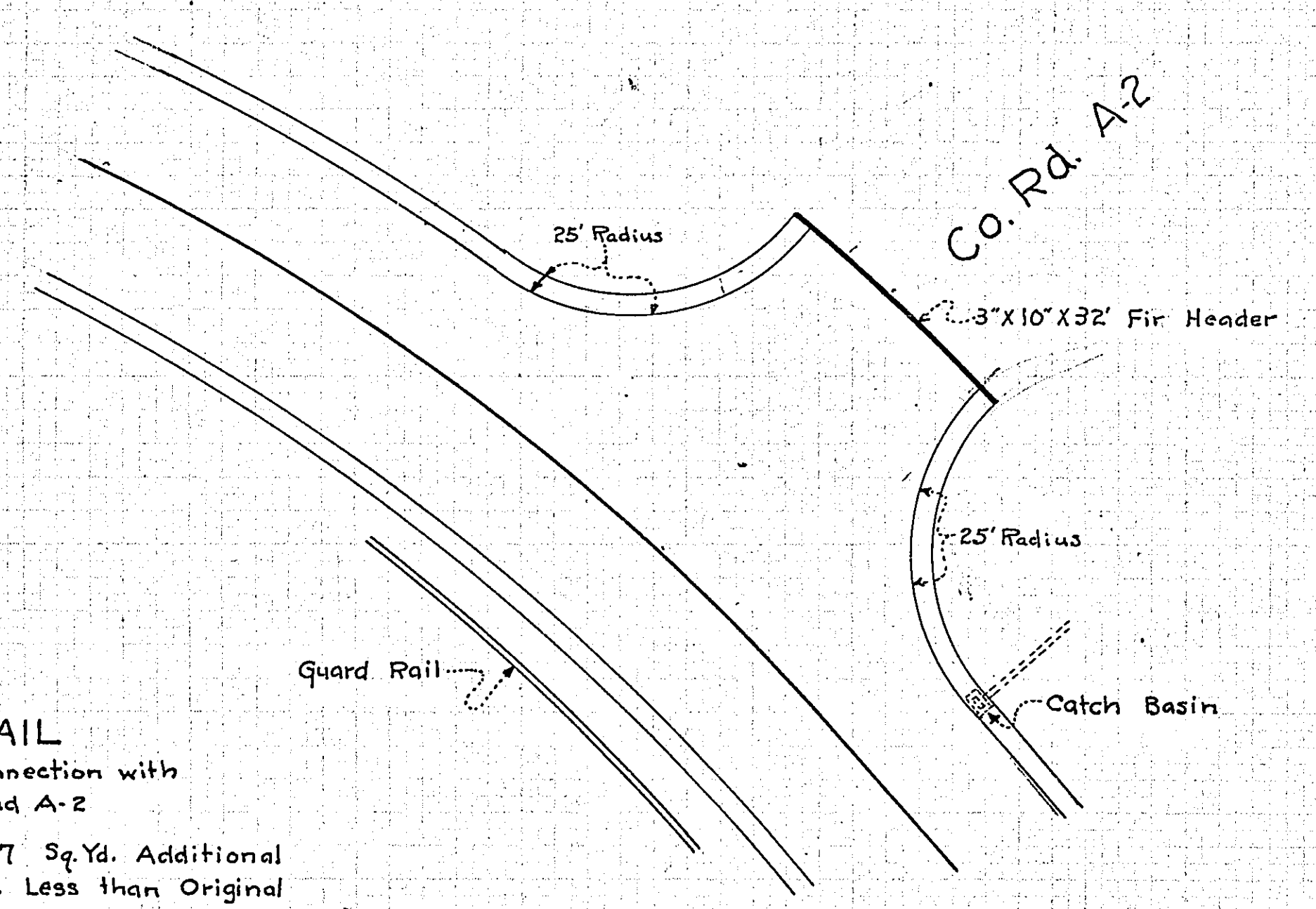
**BARS H5**  
**BARS S1**  
**BARS S2**

OFFICE OF COUNTY ENGINEER  
RAMSEY COUNTY  
PROJECT No. 23-69A  
Reconstruction of Bridge over Phalen  
Creek on Phalen Blvd.  
Scale as noted  
Total Estimated Cost ..... 4786.40

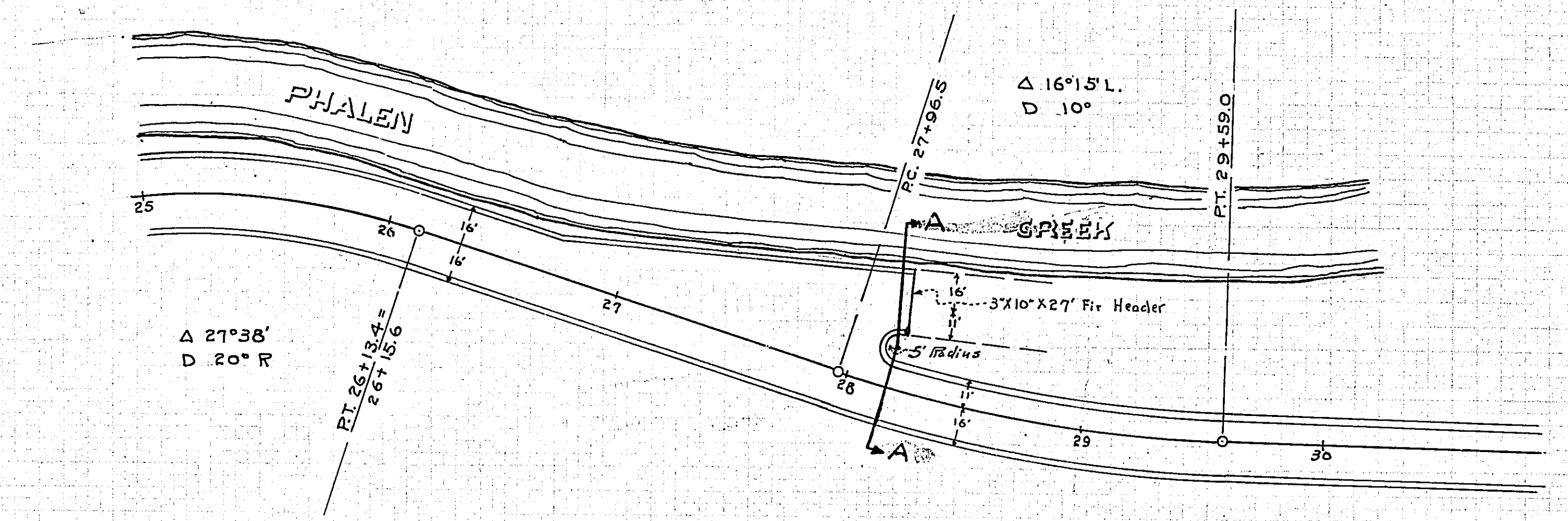
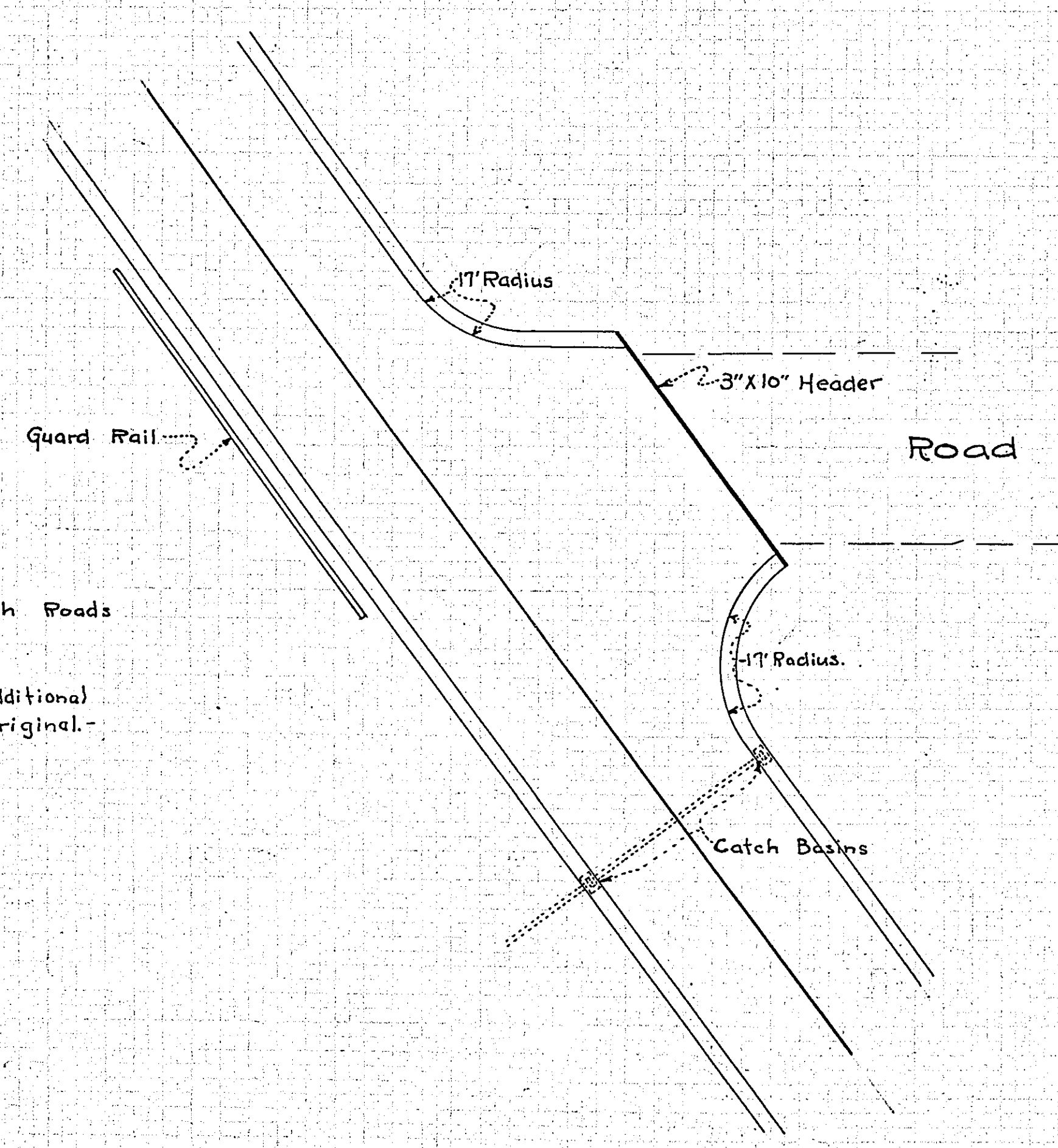
Date of Resolution for Preparation of Plans August, 1923  
Planned by Grant Montgomery  
DESIGNING ENGINEER  
Recommended for Approval E. Briggs  
STRUCTURAL ENGINEER  
Plans Approved and Recommended for Consideration Paul M. Coates  
COUNTY ENGINEER  
Approved by County Board 19 CHAIRMAN OF COUNTY BOARD



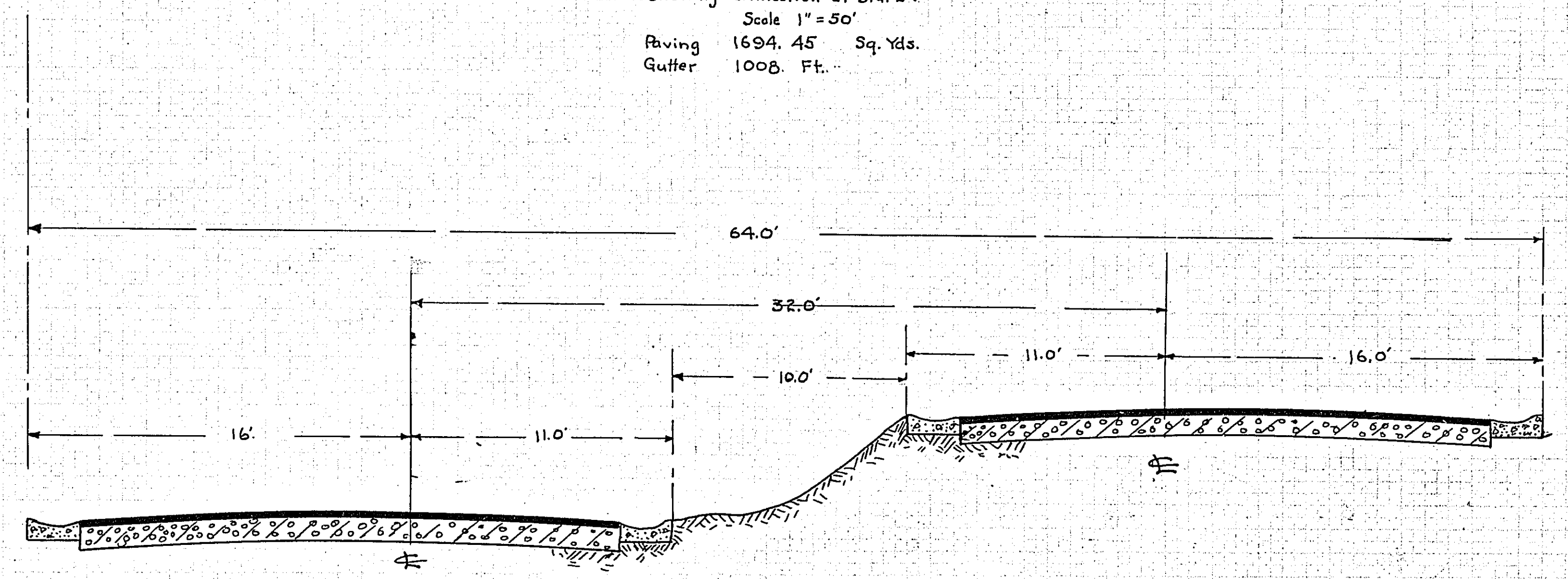
**DETAIL**  
 Showing Connection with  
 Co. Road A-2  
 Paving - 107.57 Sq. Yds. Additional  
 Gutter - 42 Ft. Less than Original  
 Scale 1" = 20'



**DETAIL**  
 Showing Connection with Roads  
 on 'L' Line  
 Scale 1" = 20'  
 Paving - 74.33' Sq. Yds. Additional  
 Gutter - 14' Less than Original.



**DETAIL PLAN**  
 STA. 25 to STA. 30 "KP"  
 Showing Connection at Sta. 27  
 Scale 1" = 50'  
 Paving 1694.45 Sq. Yds.  
 Gutter 1008. Ft.



SECTION A-A



