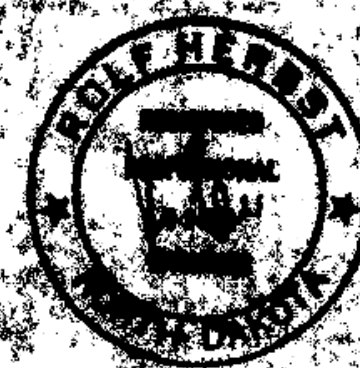


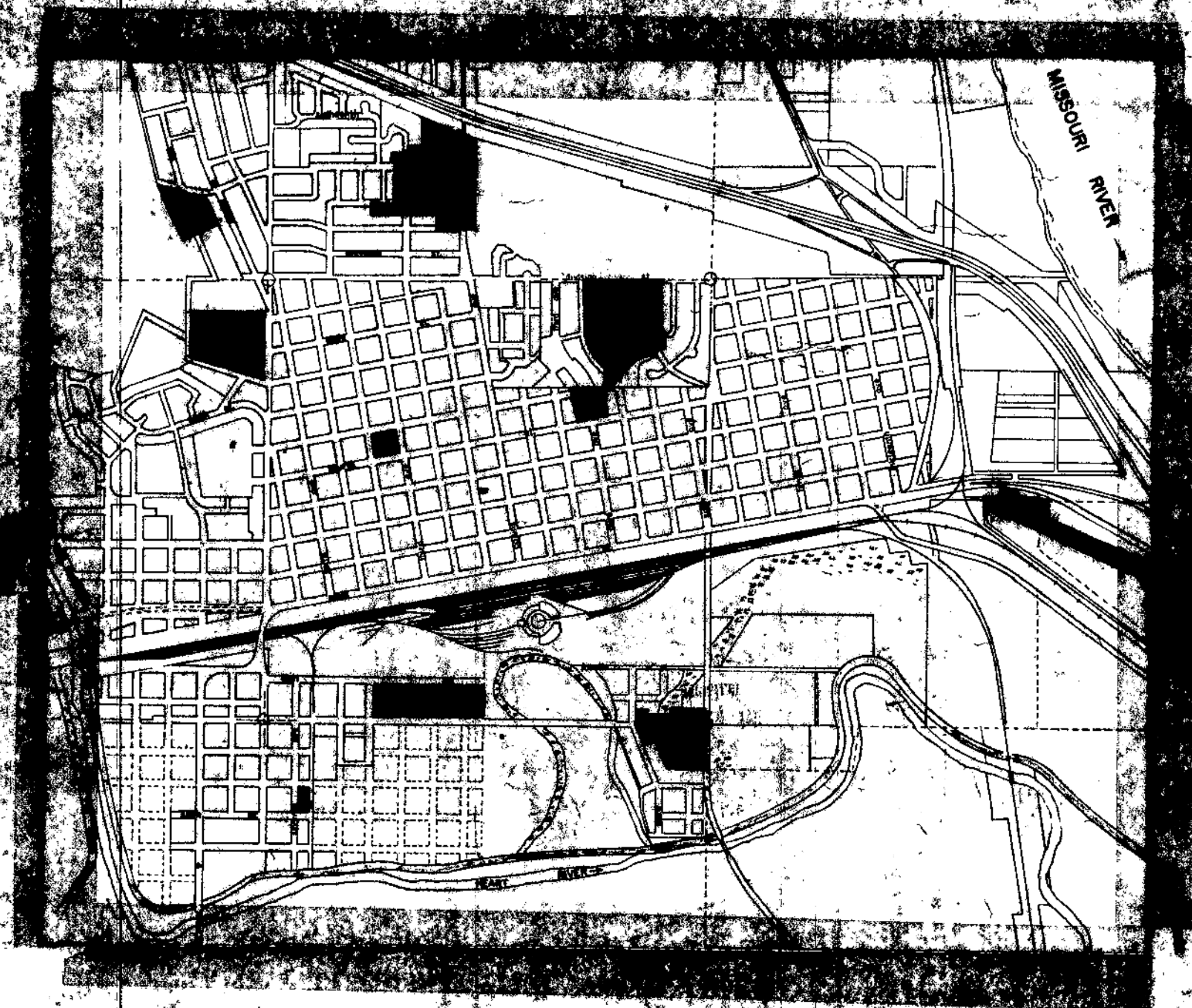
# STREET IMPROVEMENT DISTRICT NO. 52 MANDAN, NORTH DAKOTA

## INDEX

Sheet No. 1	Project and Waste Area Layout
Sheet No. 2	First Ave. NW Between Fourteenth St. NW to North Terminus Ninth Ave. NW Between Fourteenth St. NW to South Terminus Third Ave. NE Between Fourth St. NE and Fifth St. NE
Sheet No. 3	Second Ave. NW Between Thirteenth St. NW and Fourteenth St. NW Thirteenth St. NW Between Second Ave. NW and Collins Ave. Fourteenth St. NW Between Second Ave. NW and Collins Ave.
Sheet No. 4	Collins Ave. Between Twelfth St. NW and 1-94
Sheet No. 5	Fourth Ave. NE Between Sixth St. NE and Division St.
Sheet No. 6	Fifth Ave. NE Between Sixth St. NE and Division St.
Sheet No. 7	Sixth Ave. NE Between Sixth St. NE and Division St.
Sheet No. 8	Sixth St. NE Between John's Drive and Sixth Ave. NE
Sheet No. 9	Division St. Between John's Drive and Sixth Ave. NE
Sheet No. 10	Alley Blocks 9 and 12, Second Northern Pacific Add. Bismar Ave. Between Twin City Drive and Burlington Northern R/W
Sheet No. 11	Alley Blocks 10 and 11, Second Northern Pacific Add. First Ave. NW Between Thirteenth St. NW and Fourteenth St. NW Brave Ave. Between Seventh St. NW and Indian St.
Sheet No. 12	Central Junior High School, Block 53, Mandan Proper
Sheet No. 13	Mandan Public School District No. 1 Garage Parking Lot Mandan Senior High School Parking Lot
Sheet No. 14	Third St. SE Between Third Ave. SE and Sixth Ave. SE
Sheet No. 15	Twin City Drive East of Mandan
Sheet No. 16	Paving Details



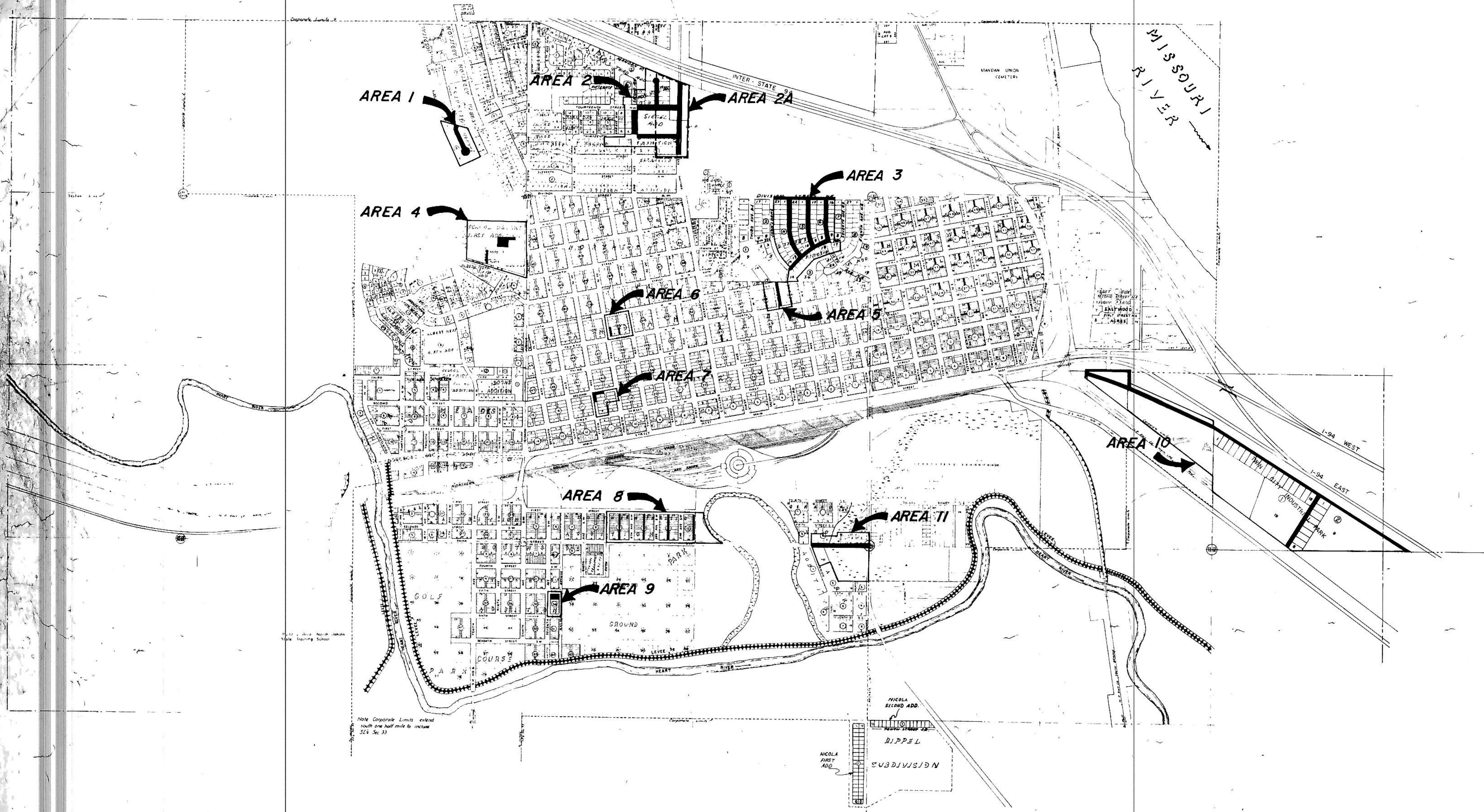
AS BUILT



JULY 1975

TOMAN ENGINEERING CO.  
CONSULTING ENGINEERS

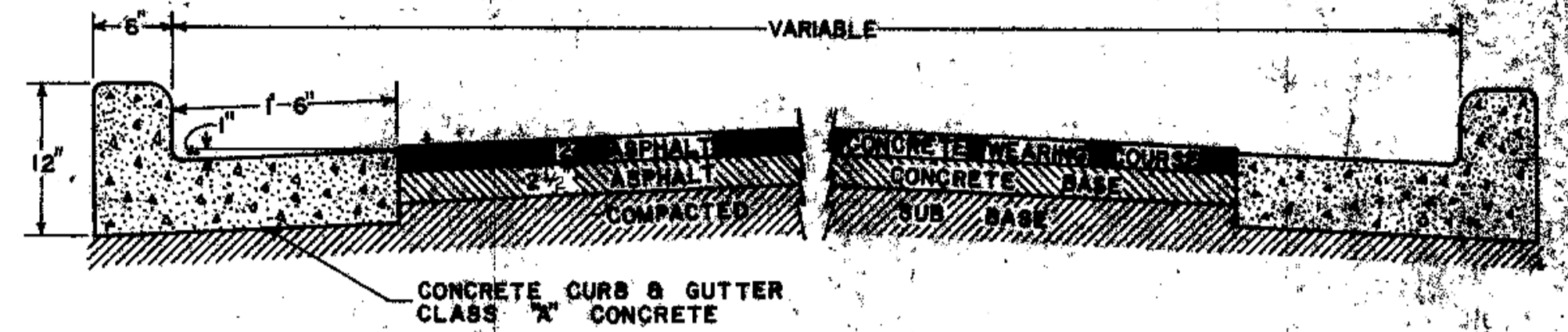
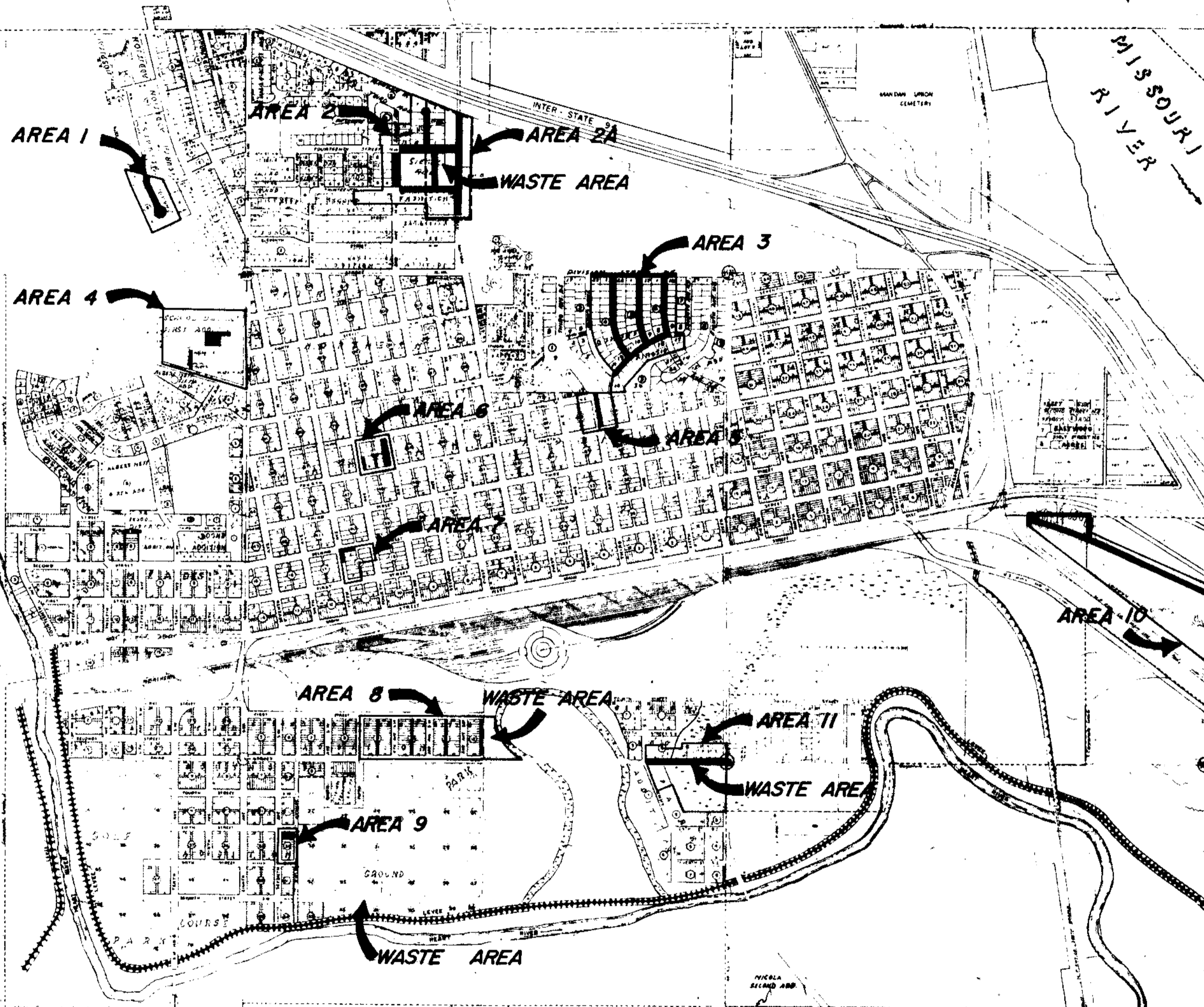
# CITY OF MANDAN, N. D.



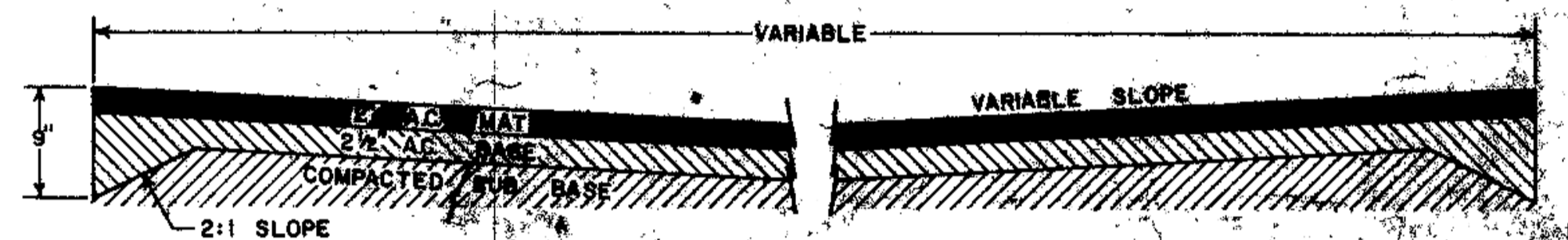
Note Corporate Limits extend south one half mile to include 324 Sec. 33

# STREET IMPROVEMENT DISTRICT NO. 52

# CITY OF MANDAN, N. D.



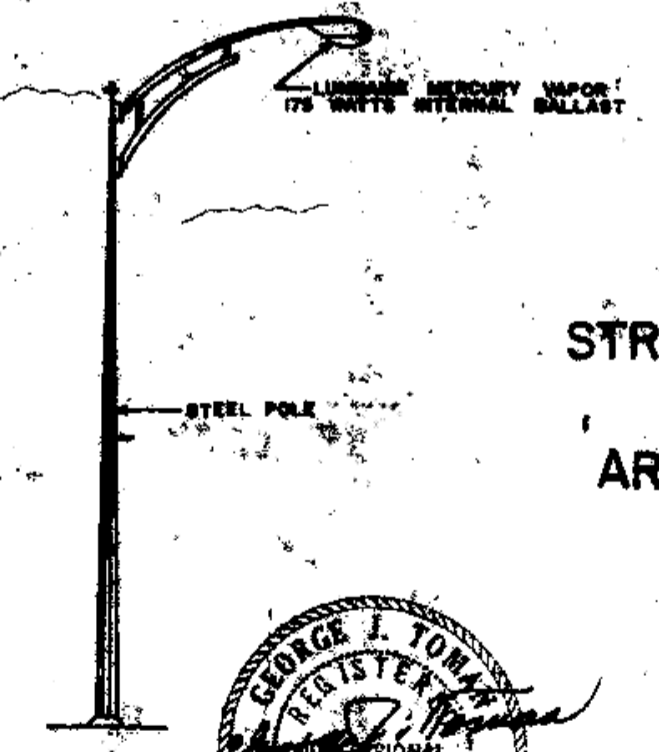
TYPICAL STREET SECTION  
AREAS 1,2,2A,3,4,5,6, & 11



TYPICAL ALLEY & STREET SECTION  
AREAS 8 & 10



TYPICAL OVERLAY SECTION  
AREAS 4 & 9



STREET LIGHT DETAIL  
AREAS 1,2,3,4,10, & 11



PLAN  
 SURVEYED, PLOTTED, CHECKED, NOTE BOOK NO.  
 BY DATE

PROFILE  
 SURVEYED, GRADES CHECKED, B.M. NOTED, STRUCTURE NOTATIONS CHWD, NOTE BOOK NO.  
 BY DATE

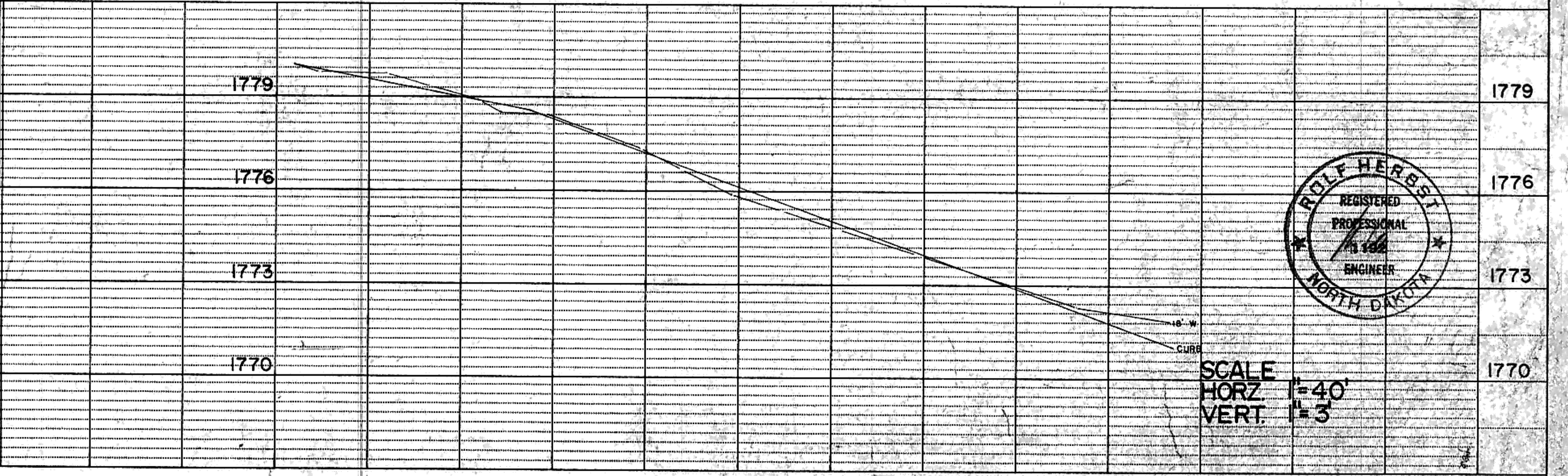
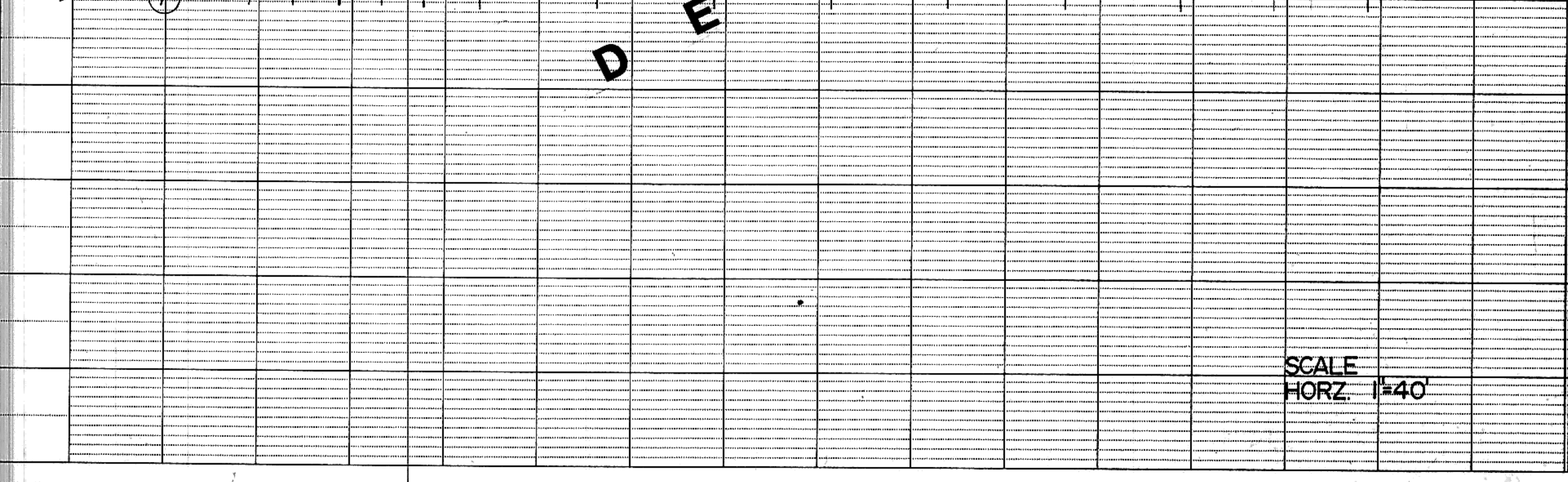
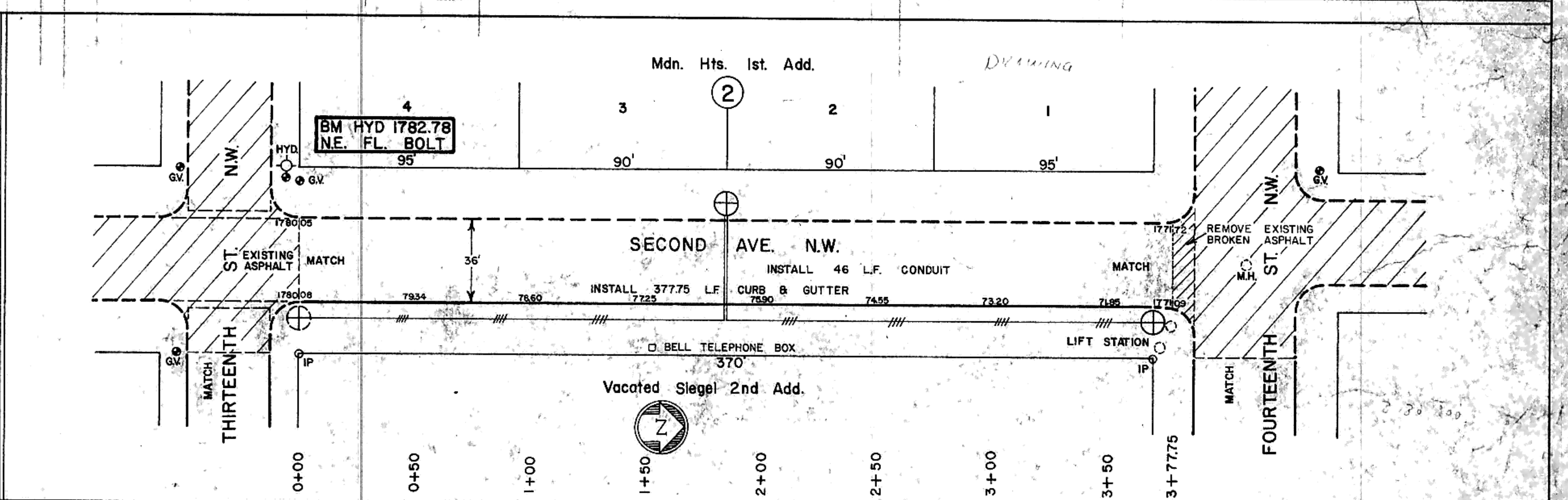
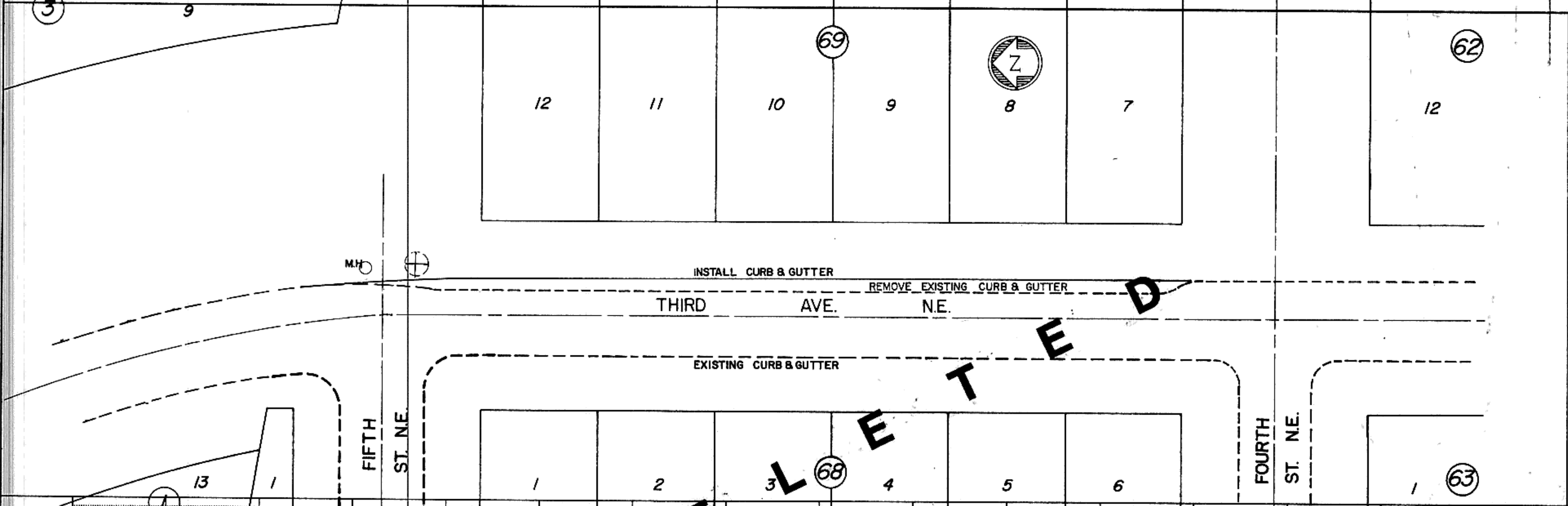
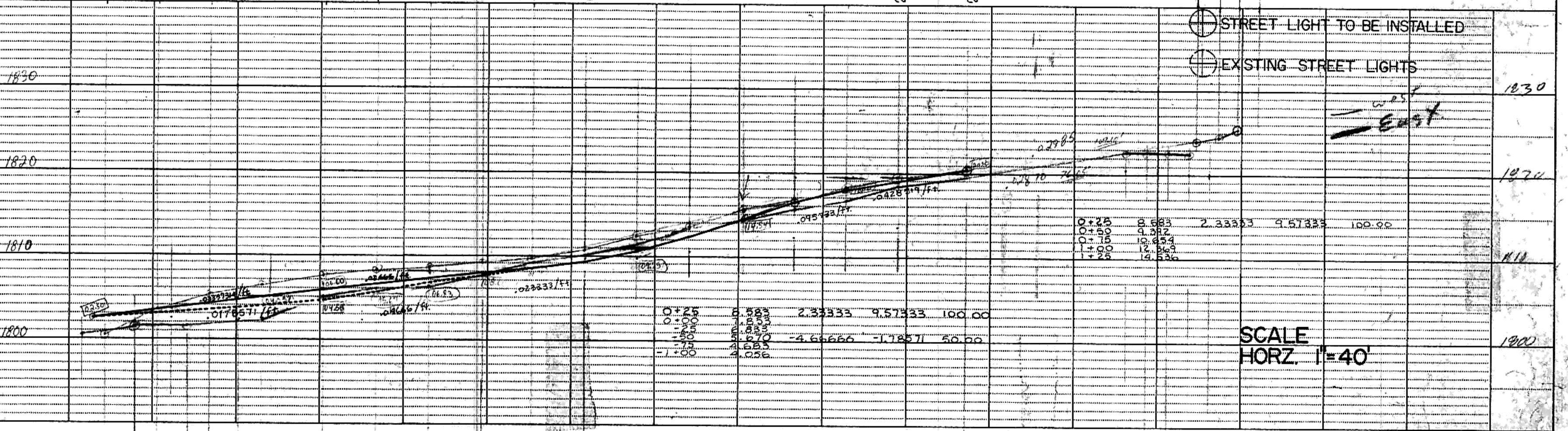
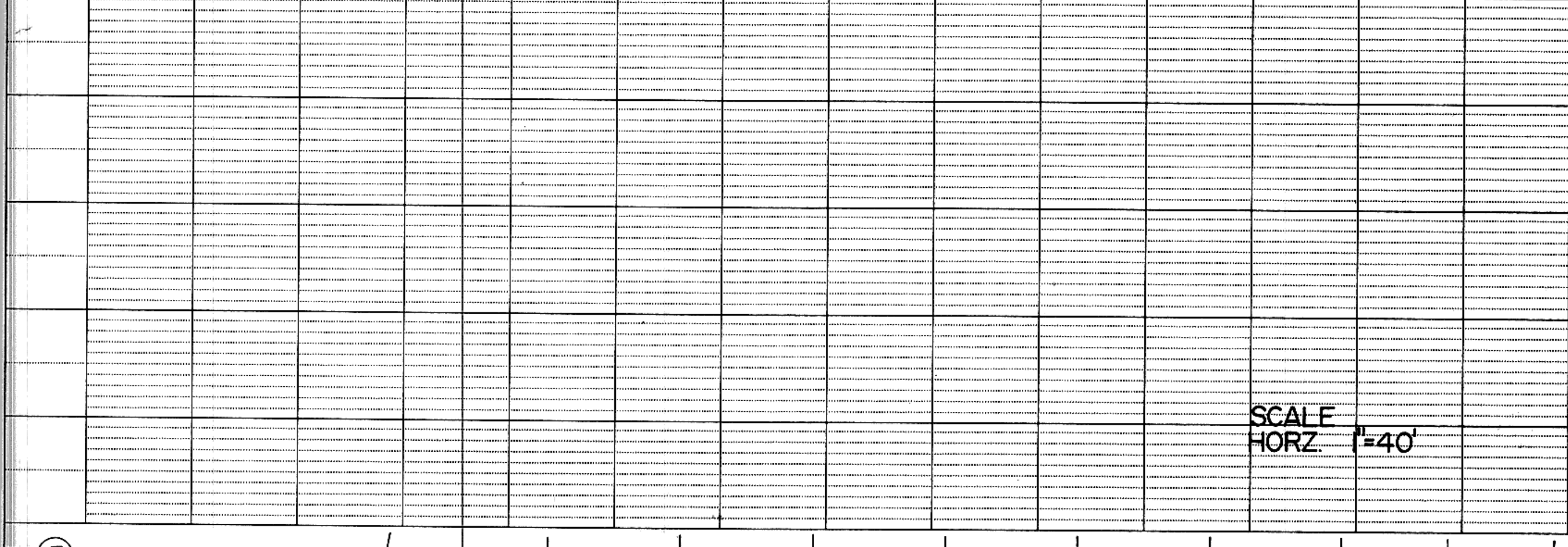
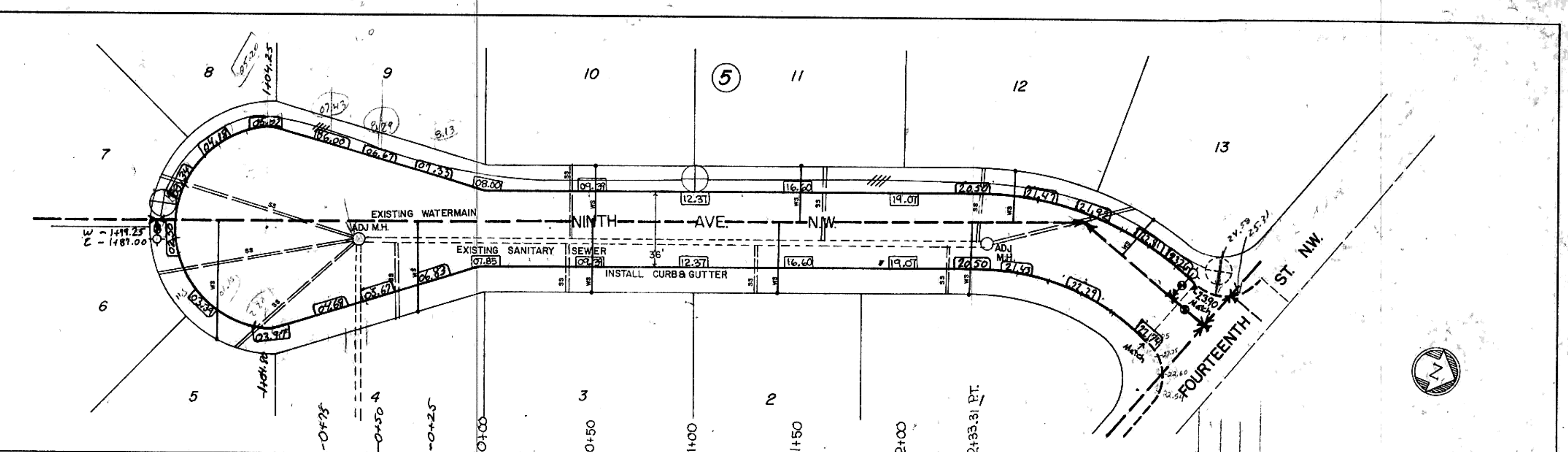
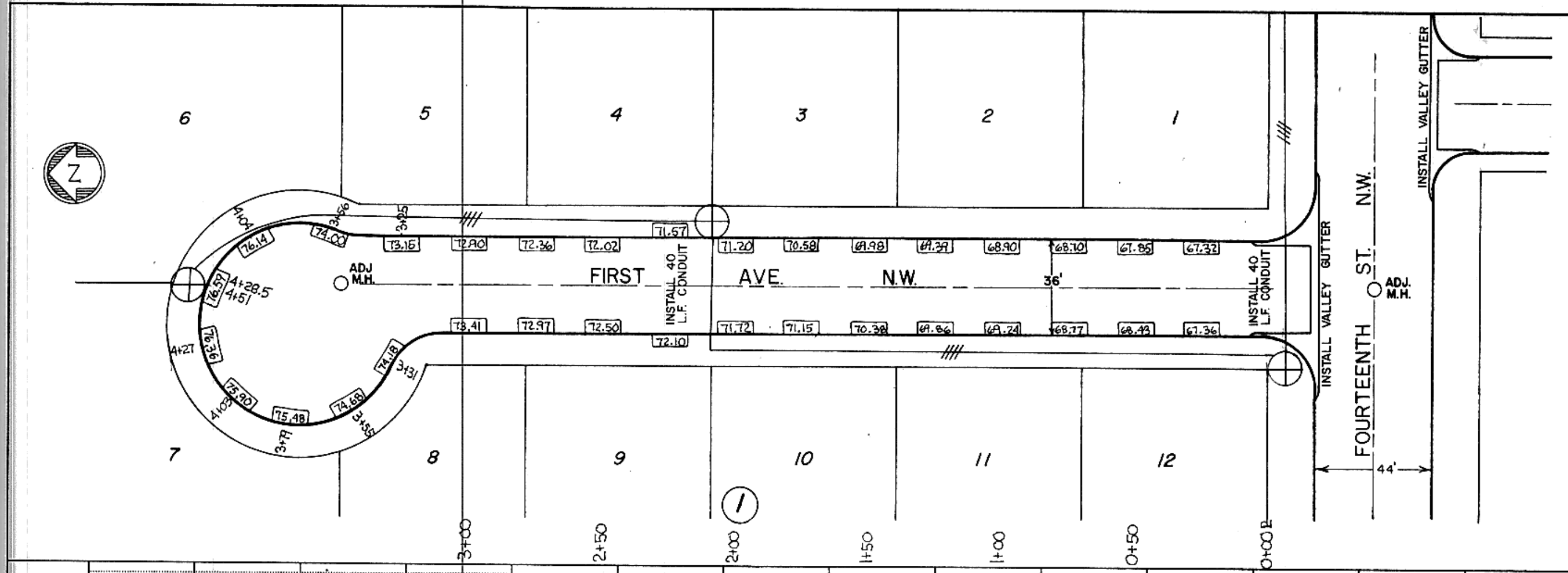
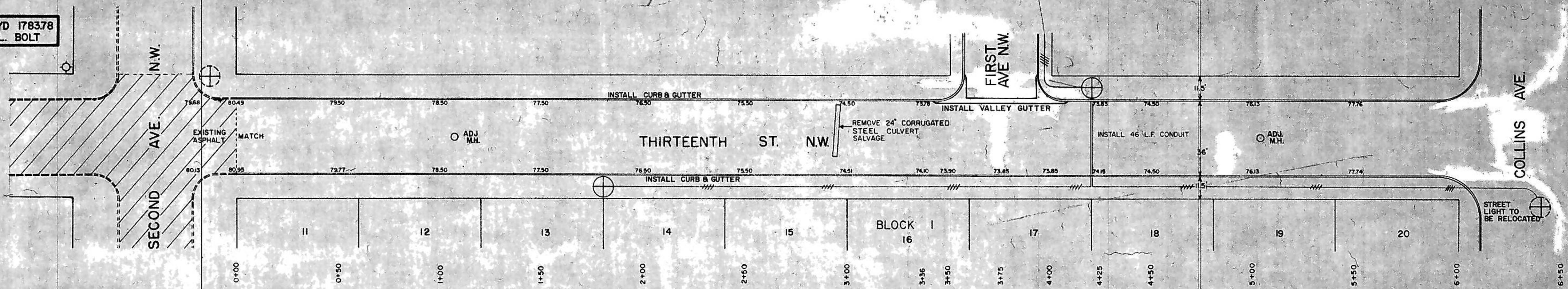


PLATE 2—DOUBLE PLAN AND PROFILE—DOTTED  
 NATIONAL TRACING PAPER DIVISION  
 I.P.P.A.L. CO., INC. INDIANAPOLIS, INDIANA

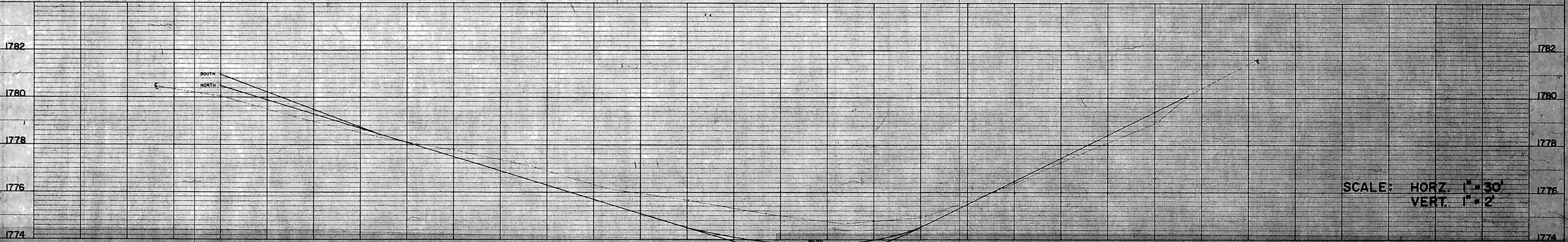


BM. HYD 178378  
N.E. FL. BOLT

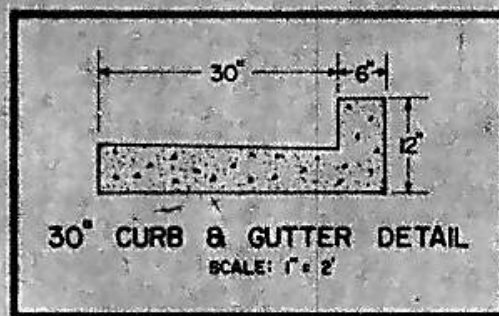
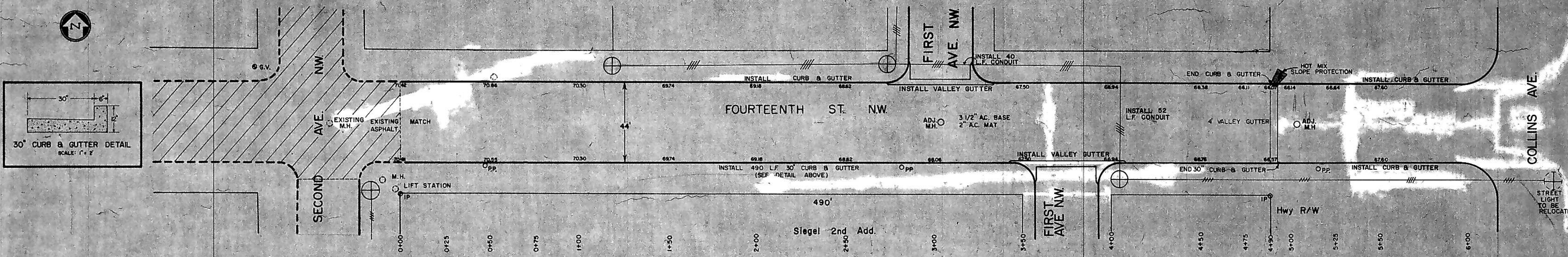


⊕ STREET LIGHT TO BE INSTALLED  
⊙ EXISTING STREET LIGHT

PLAN SURVEYED, PLOTTED, AND CHECKED BY: [blank]  
DATE: [blank]  
SCALE: [blank]

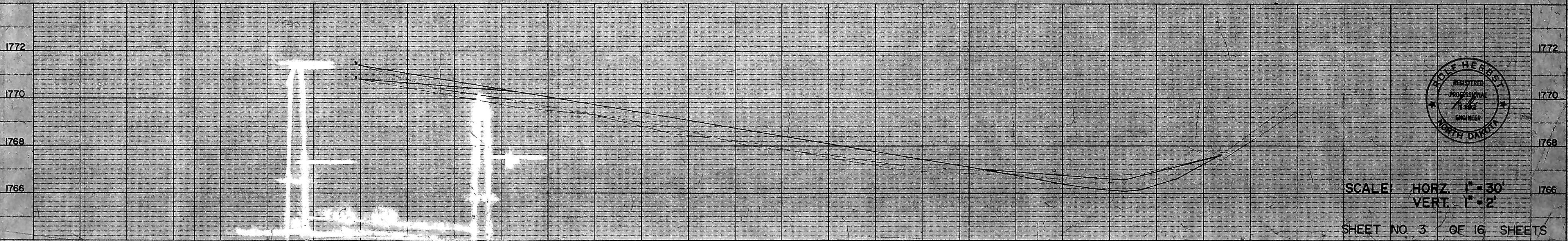


SCALE: HORZ. 1" = 30'  
VERT. 1" = 2'



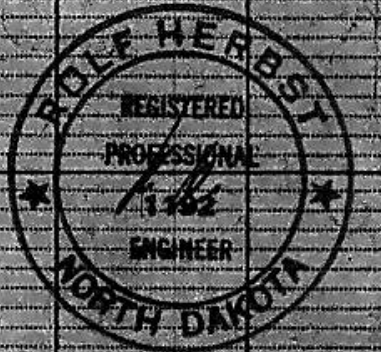
STREET LIGHT TO BE RELOCATED

PLAN SURVEYED, PLOTTED, AND CHECKED BY: [blank]  
DATE: [blank]  
SCALE: [blank]



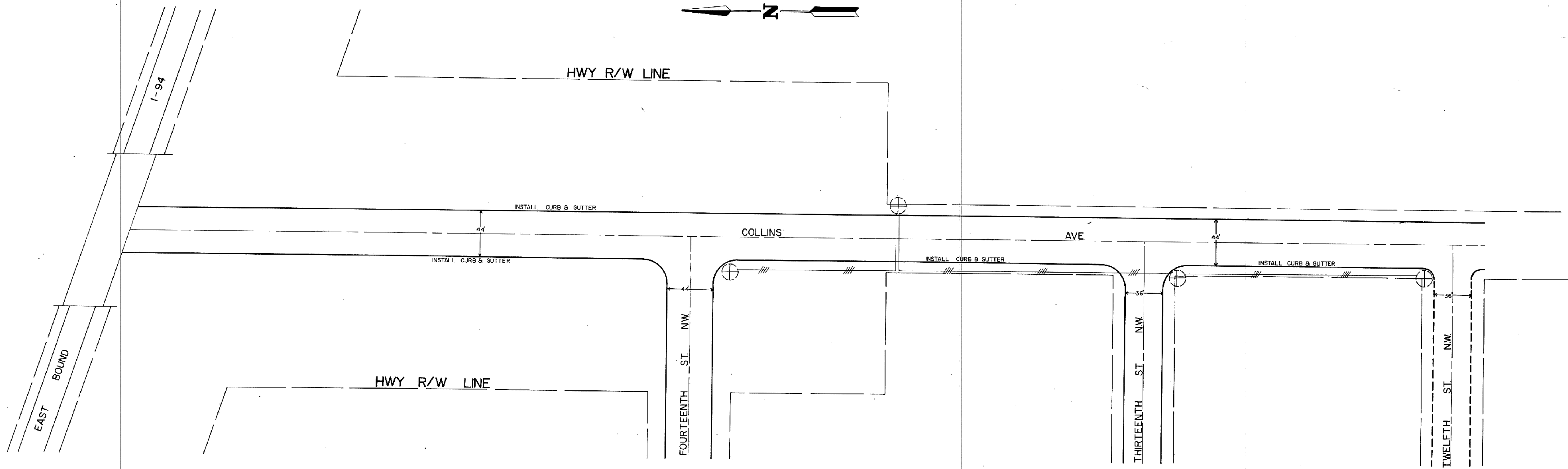
SCALE: HORZ. 1" = 30'  
VERT. 1" = 2'

SHEET NO. 3 OF 16 SHEETS



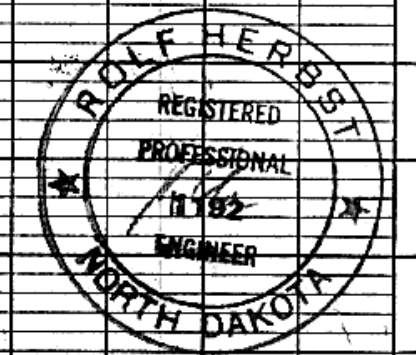
PLAN  
 SURVEYED \_\_\_\_\_  
 NOTE BOOK \_\_\_\_\_  
 ALIGNMENT CHECKED \_\_\_\_\_  
 RT. OF WAY CHECKED \_\_\_\_\_  
 NO. \_\_\_\_\_

PROFILE  
 SURVEYED \_\_\_\_\_  
 PLOTTED \_\_\_\_\_  
 GRADES CHECKED \_\_\_\_\_  
 STRUCTURE NOTATION \_\_\_\_\_  
 NO. \_\_\_\_\_



NOTE: COLLINS AVE. TO HAVE 3 1/2" BASE AND 2" MAT

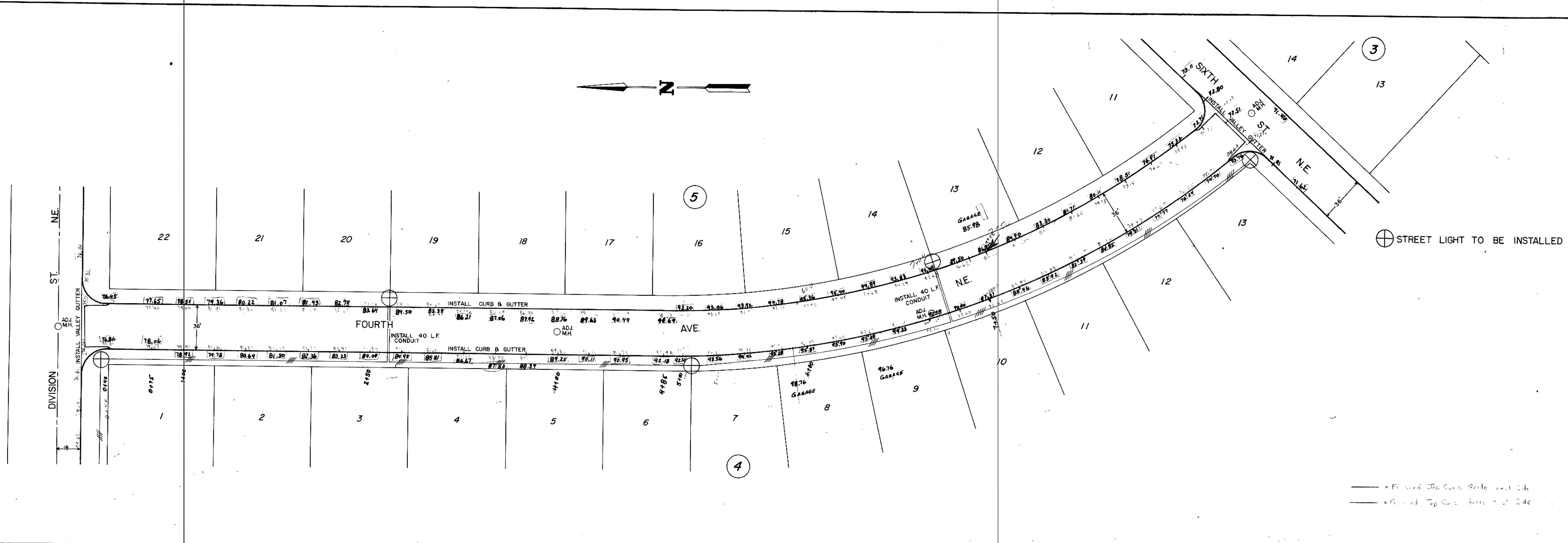
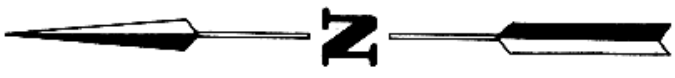
D E L E T E D



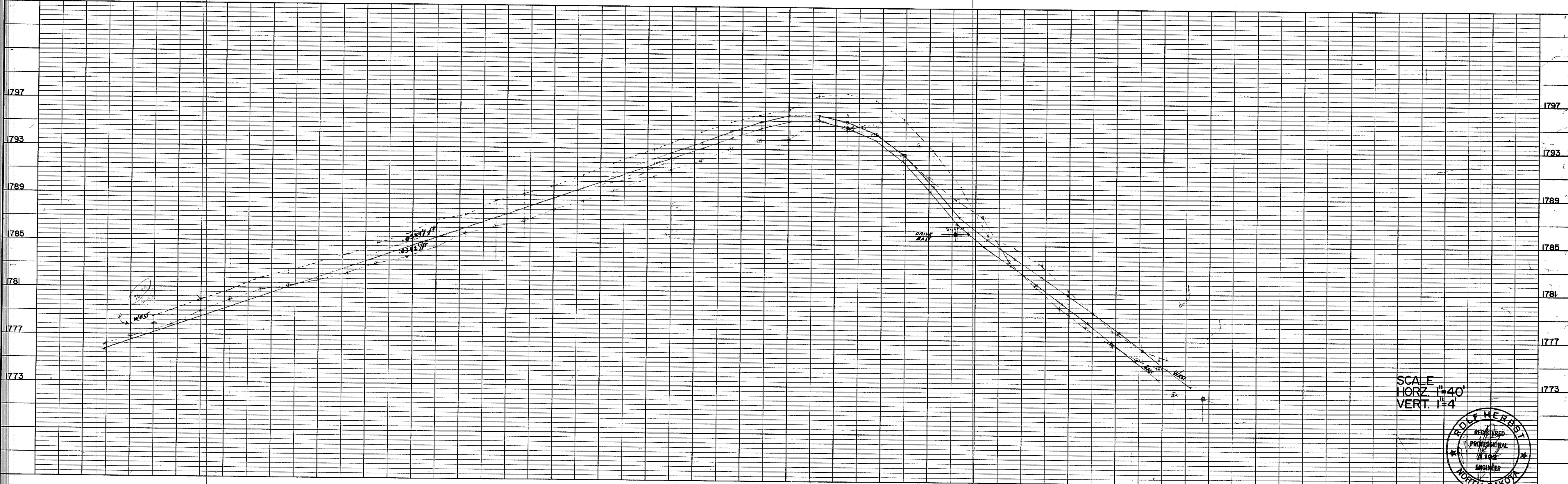
SCALE  
 HORZ. 1"=50'

PLAN  
 SURVEYED \_\_\_\_\_  
 PLOTTED \_\_\_\_\_  
 NOTE BOOK \_\_\_\_\_  
 NO. \_\_\_\_\_  
 BY \_\_\_\_\_  
 DATE \_\_\_\_\_  
 PLANNING CHECKED \_\_\_\_\_  
 RT. OF WAY CHECKED \_\_\_\_\_

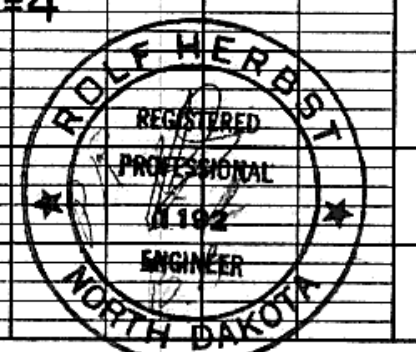
PROFILE  
 SURVEYED \_\_\_\_\_  
 PLOTTED \_\_\_\_\_  
 GRADES CHECKED \_\_\_\_\_  
 NO. \_\_\_\_\_  
 BY \_\_\_\_\_  
 DATE \_\_\_\_\_  
 STATIONING/VERTICALS CHECKED \_\_\_\_\_



— = Finish Top Curb Grade next Side  
 — = Finish Top Curb Street Side

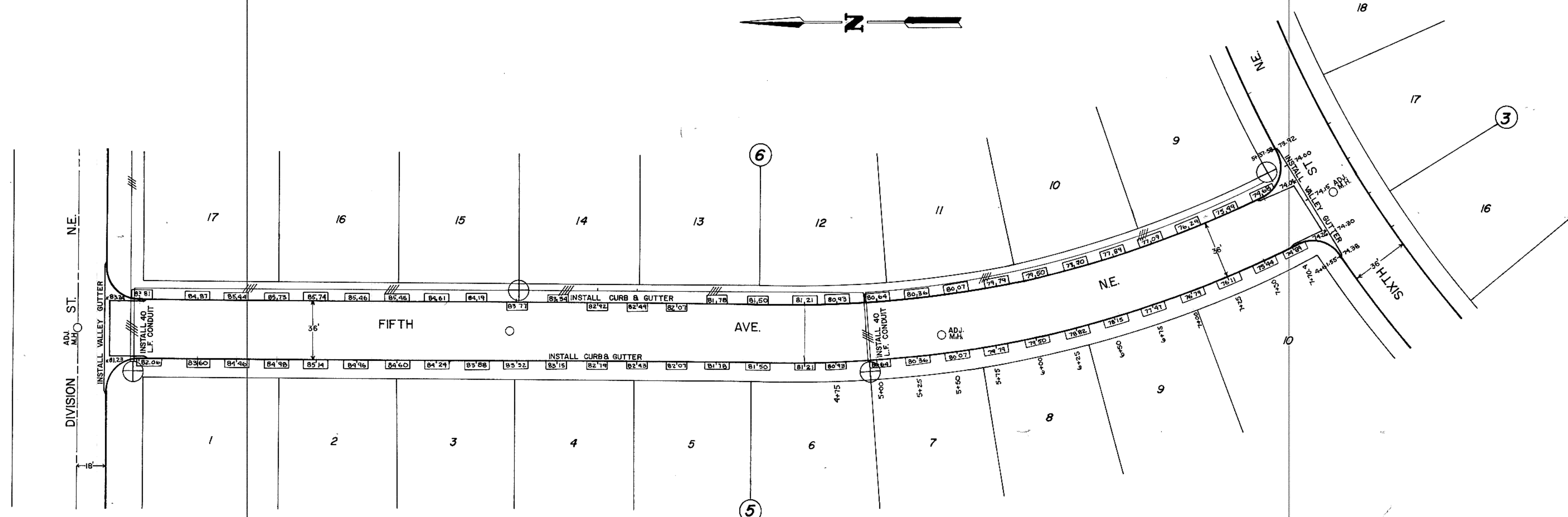


SCALE  
 HORZ. 1"=40'  
 VERT. 1"=4'

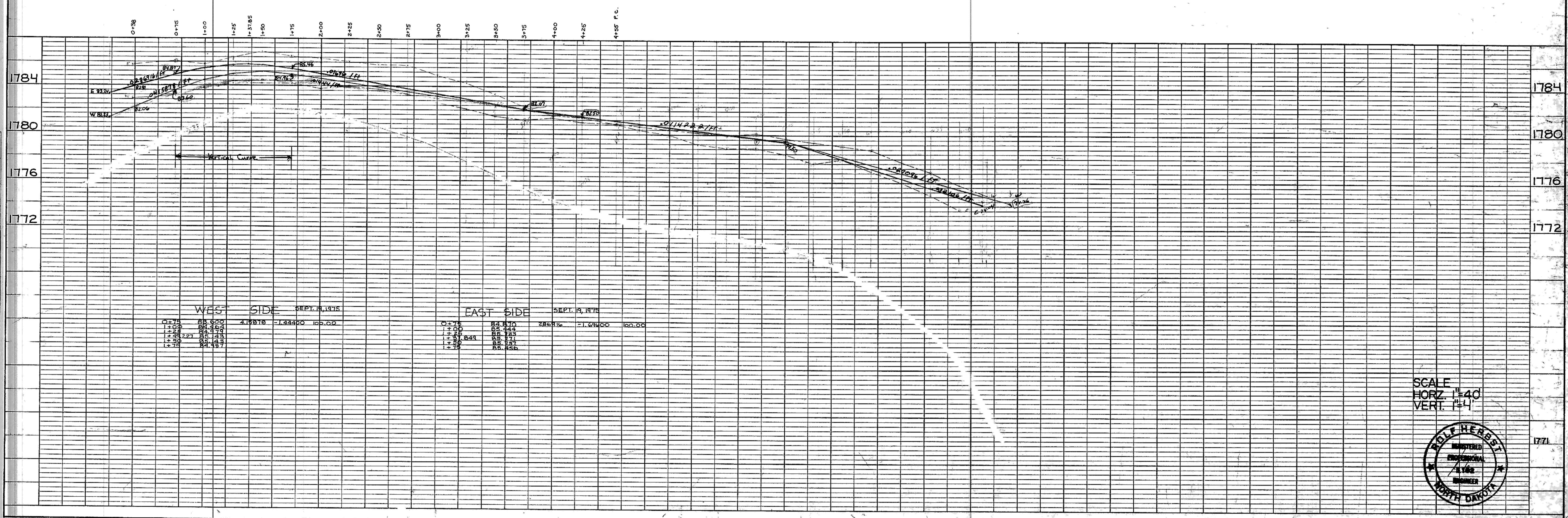


PLAN SURVEYED BY DATE  
 PLOTTED BY  
 NOTE BOOK NO. OF WAY CHECKED  
 NO. OF WAY CHECKED

PROFILE SURVEYED BY DATE  
 GRADES CHECKED BY M. NOTED  
 NO. OF WAY CHECKED



⊕ STREET LIGHTS TO BE INSTALLED



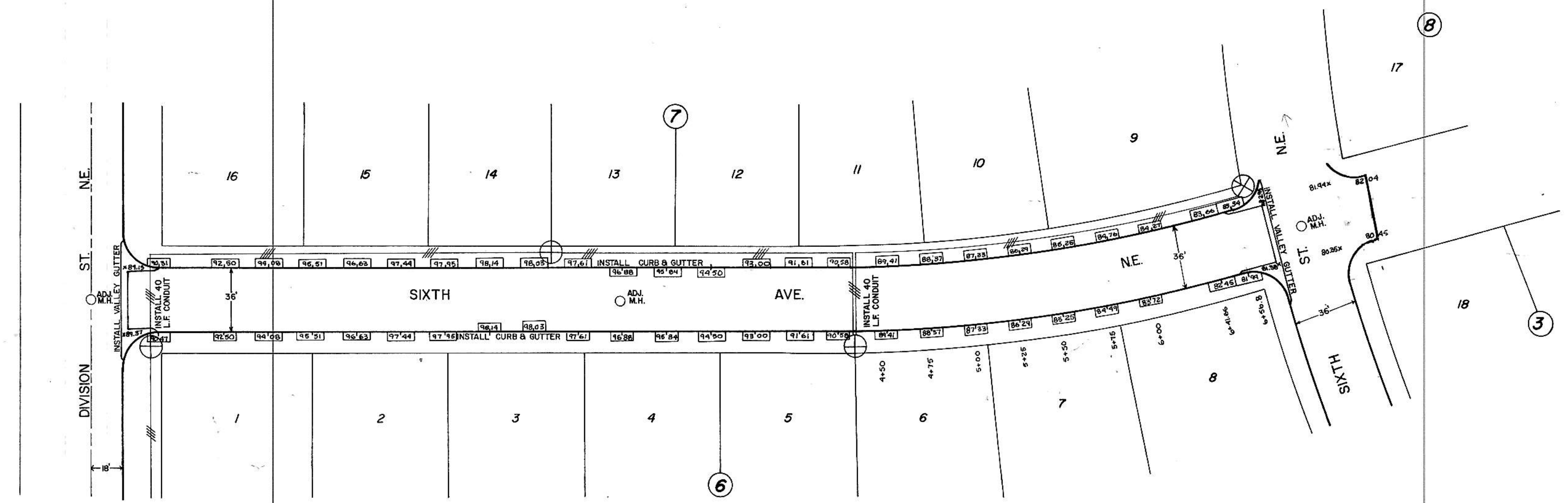
SCALE  
 HORZ. 1"=40'  
 VERT. 1"=4'



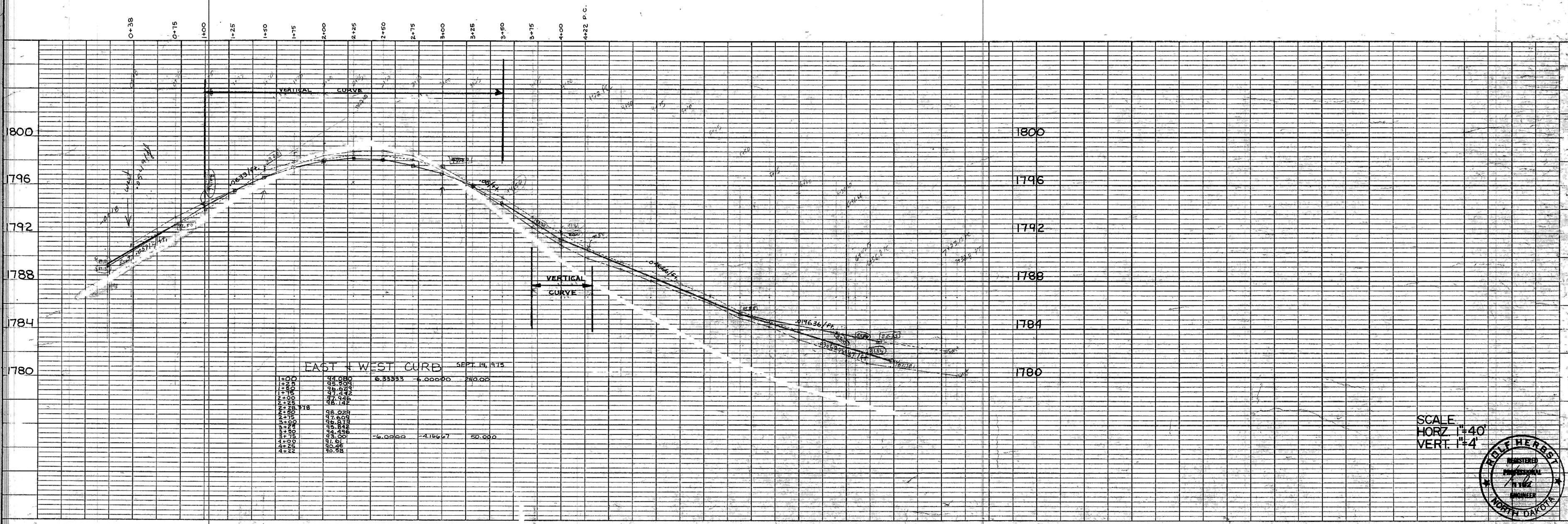


PLAN  
 SURVEYED \_\_\_\_\_  
 PLOTTED \_\_\_\_\_  
 NOTE BOOK \_\_\_\_\_  
 ALIGNMENT CHECKED \_\_\_\_\_  
 NO. \_\_\_\_\_  
 DATE \_\_\_\_\_  
 BY \_\_\_\_\_  
 DIVISION \_\_\_\_\_

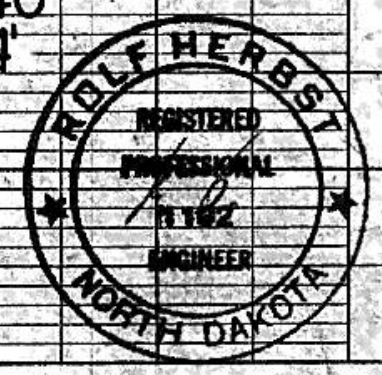
PROFILE  
 SURVEYED \_\_\_\_\_  
 PLOTTED \_\_\_\_\_  
 NOTE BOOK \_\_\_\_\_  
 GRADES CHECKED \_\_\_\_\_  
 NO. \_\_\_\_\_  
 DATE \_\_\_\_\_  
 BY \_\_\_\_\_  
 STRUCTURE: NOTATION CHK. \_\_\_\_\_



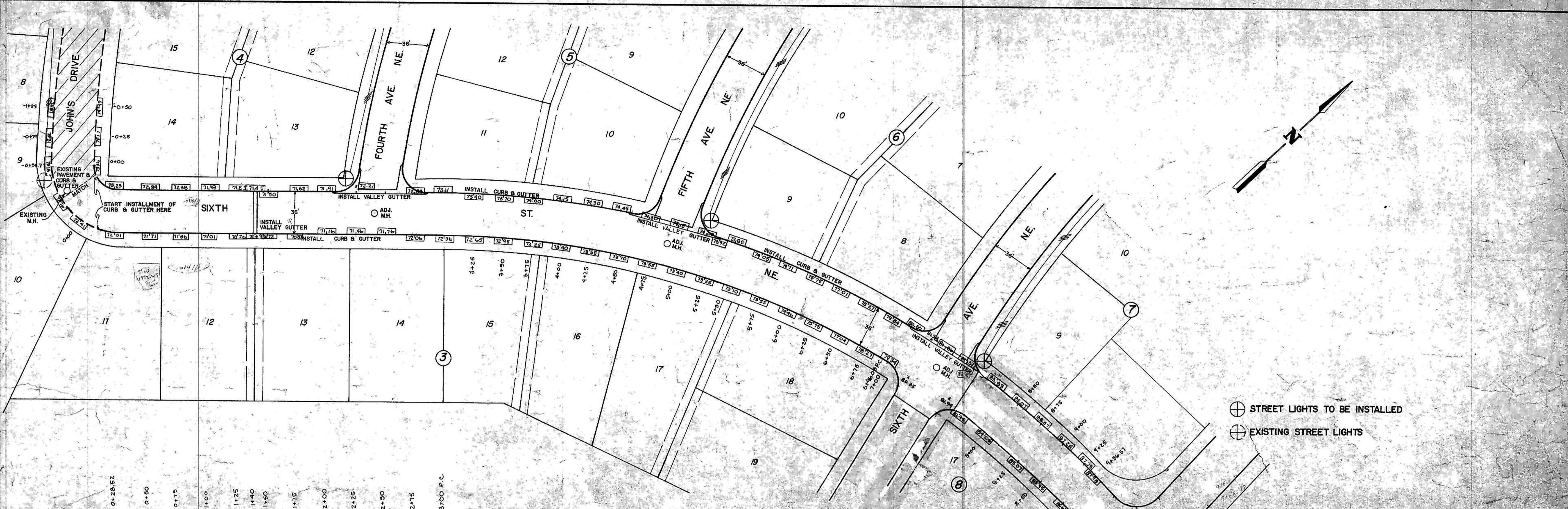
⊕ STREET LIGHTS TO BE INSTALLED



SCALE  
 HORZ 1"=40'  
 VERT. 1"=4'

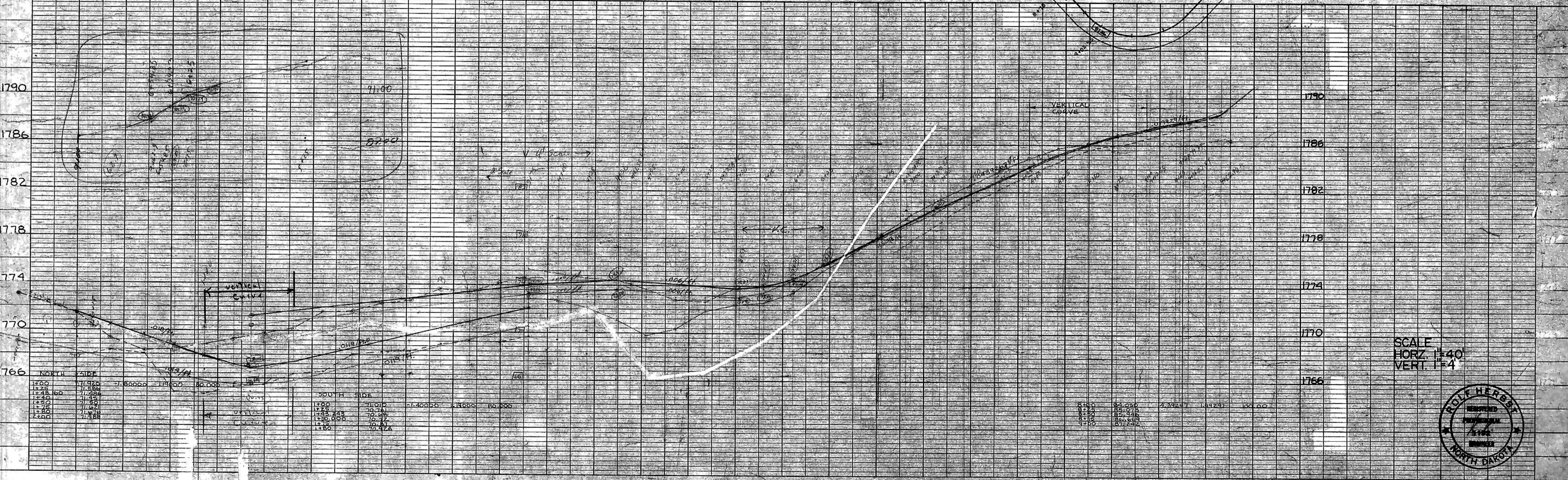


PLAN  
 SURVEYED BY: [blank]  
 DATE: [blank]  
 NOTE BOOK NO.: [blank]  
 ALIGNMENT CHECKED BY: [blank]  
 ST. OF WAY CHECKED BY: [blank]



⊕ STREET LIGHTS TO BE INSTALLED  
 ⊙ EXISTING STREET LIGHTS

PROFILE  
 SURVEYED BY: [blank]  
 DATE: [blank]  
 NOTE BOOK NO.: [blank]  
 GRADES CHECKED BY: [blank]  
 STRUCTURE NOTATIONS CHECKED BY: [blank]

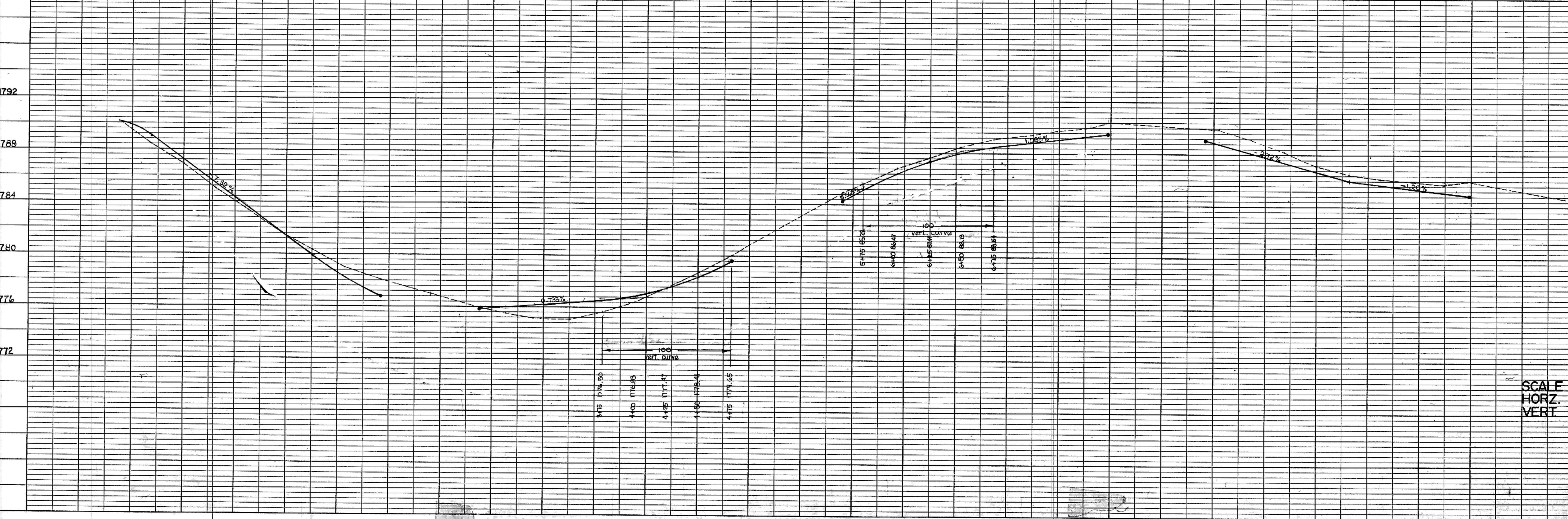
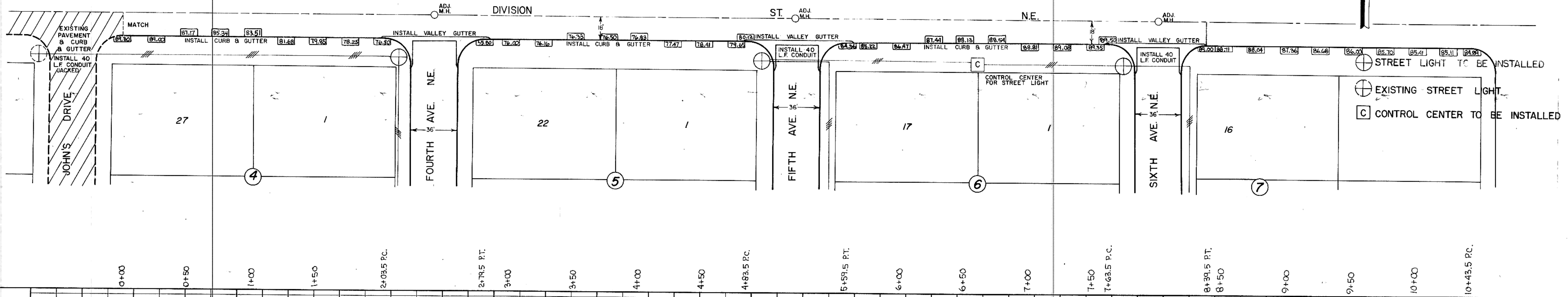


SCALE  
 HORZ. 1"=40'  
 VERT. 1"=4'

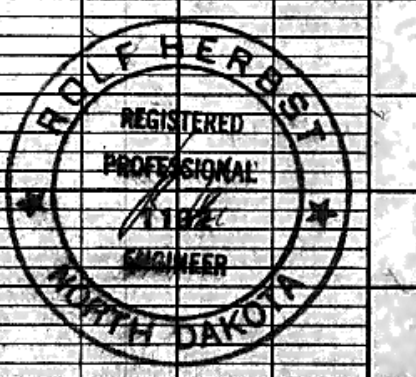


PLAN SURVEYED BY DATE  
 PLOTTED BY  
 NOTE BOOK NO. CHECKED BY  
 RT. OF WAY CHECKED BY

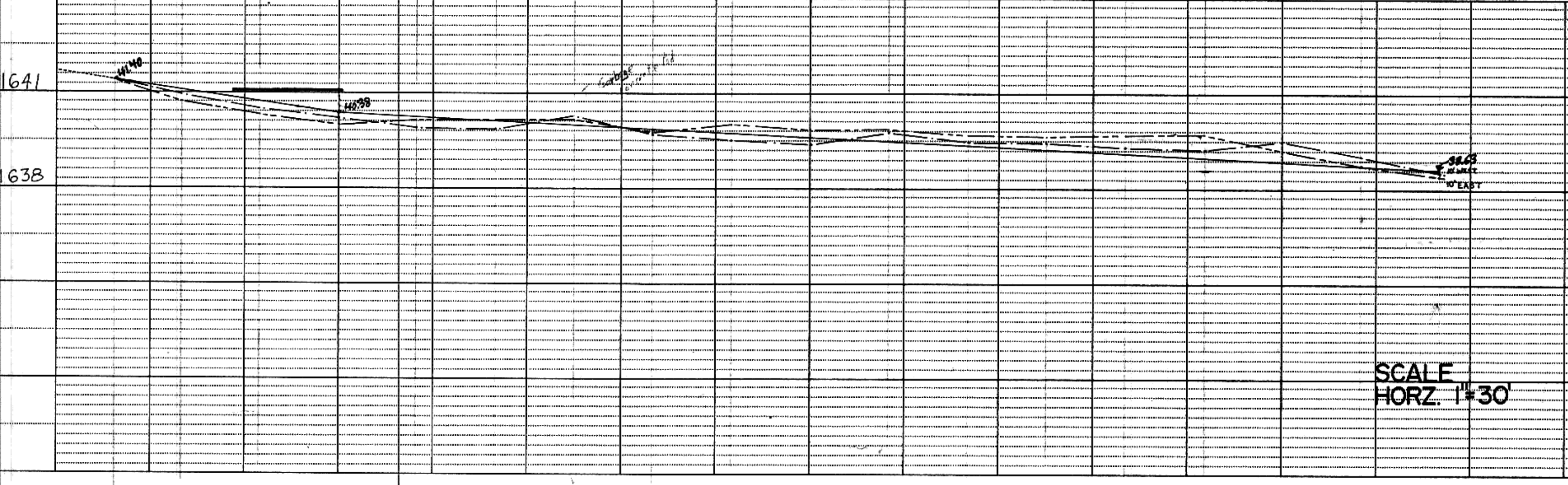
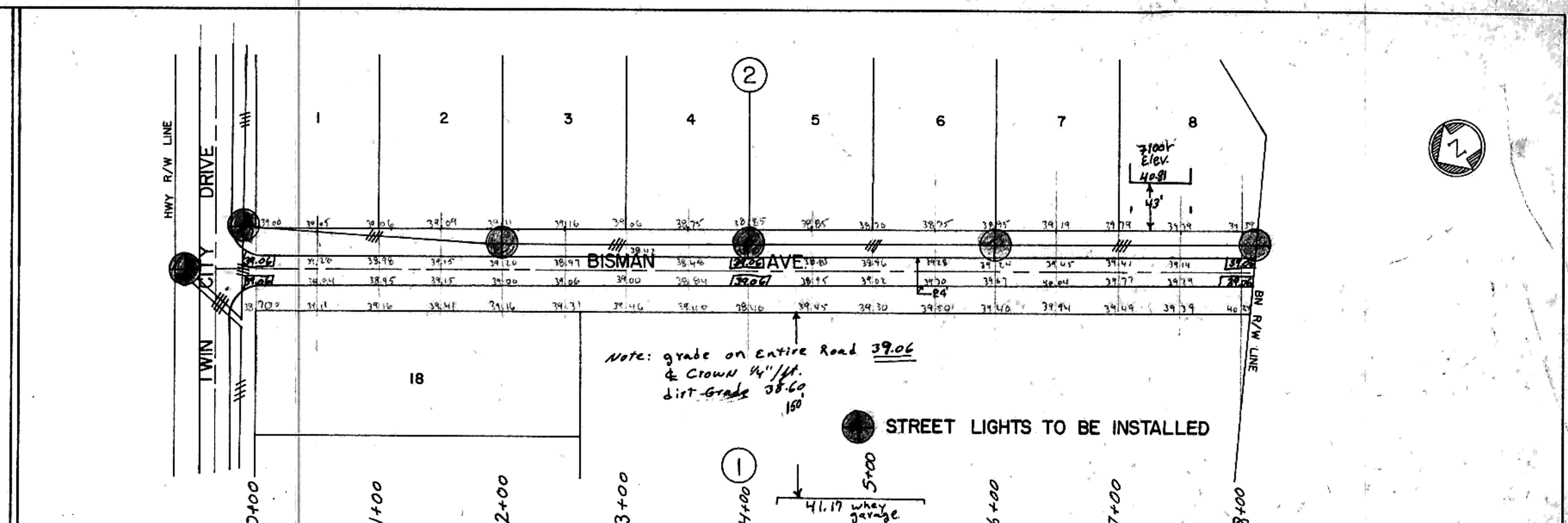
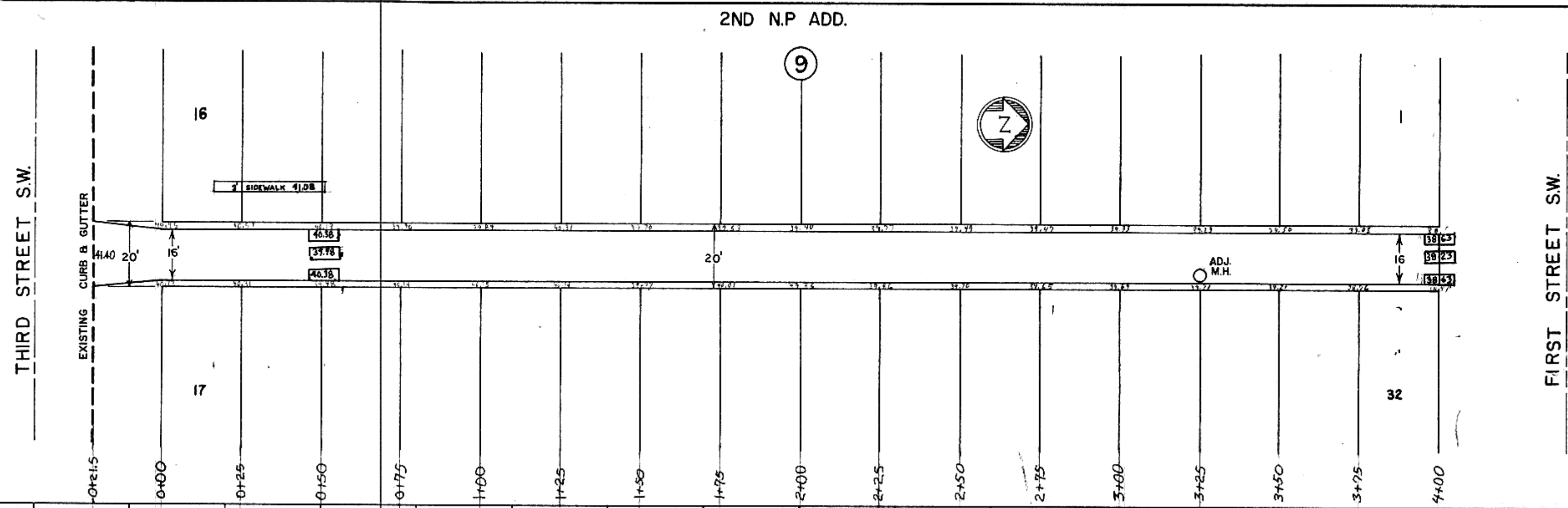
PROFILE SURVEYED BY DATE  
 PLOTTED BY  
 NOTE BOOK NO. CHECKED BY  
 STRUCTURE NOTATIONS CHECKED BY



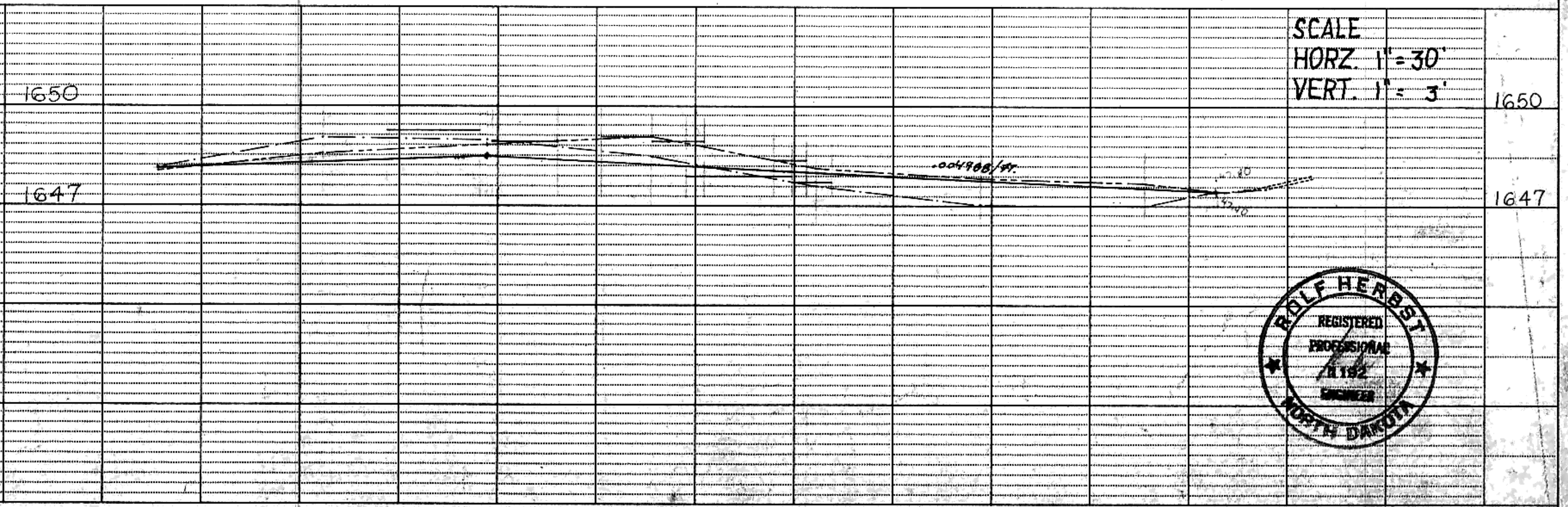
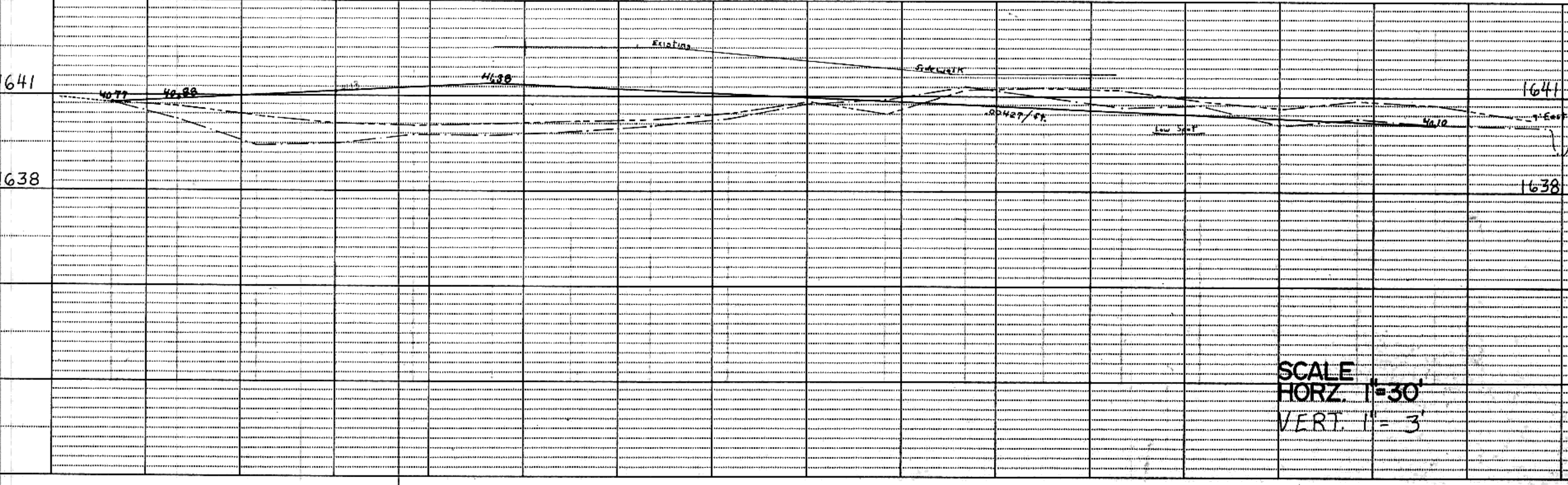
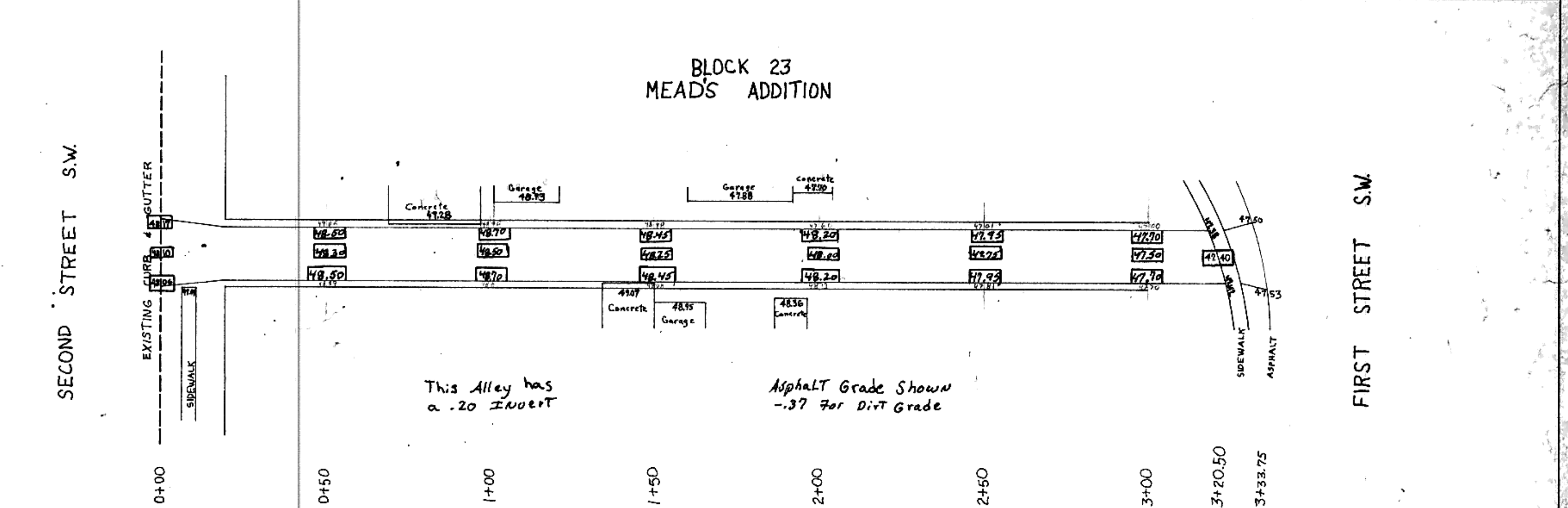
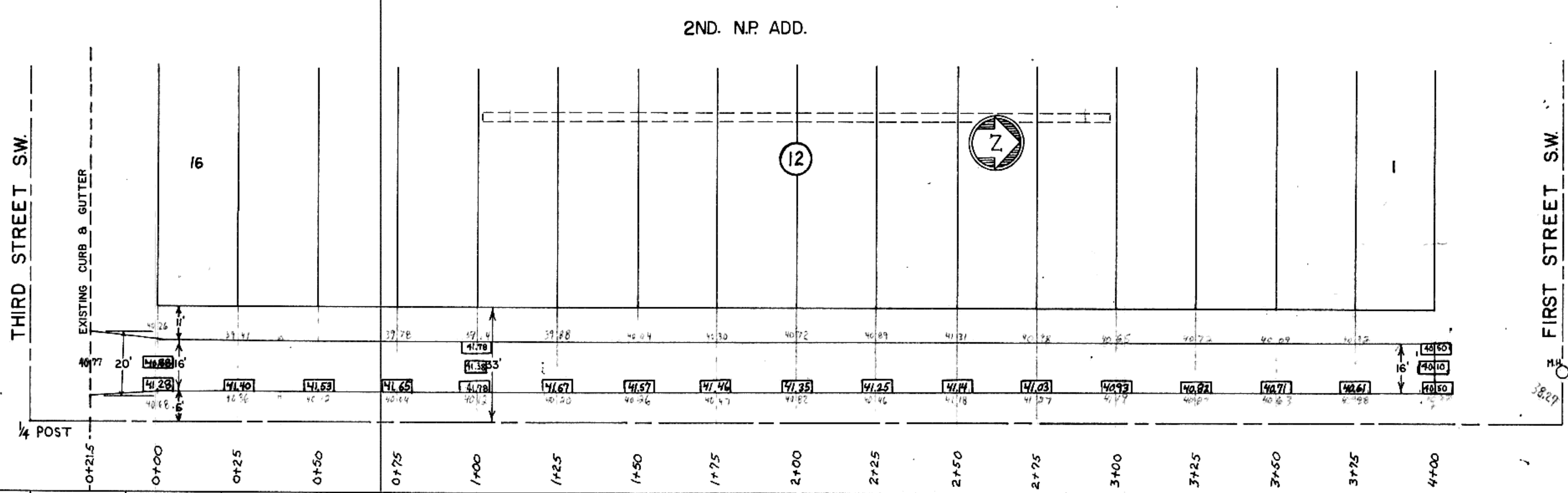
SCALE  
 HORZ. 1"=40'  
 VERT. 1"=4'



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

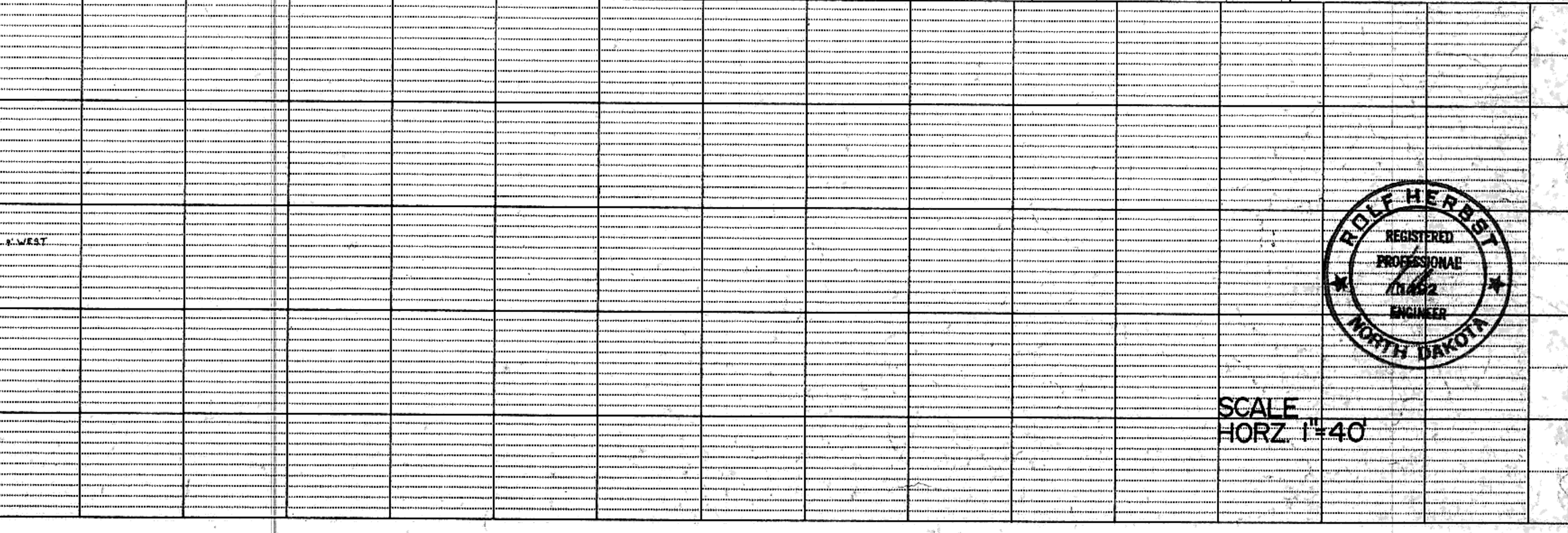
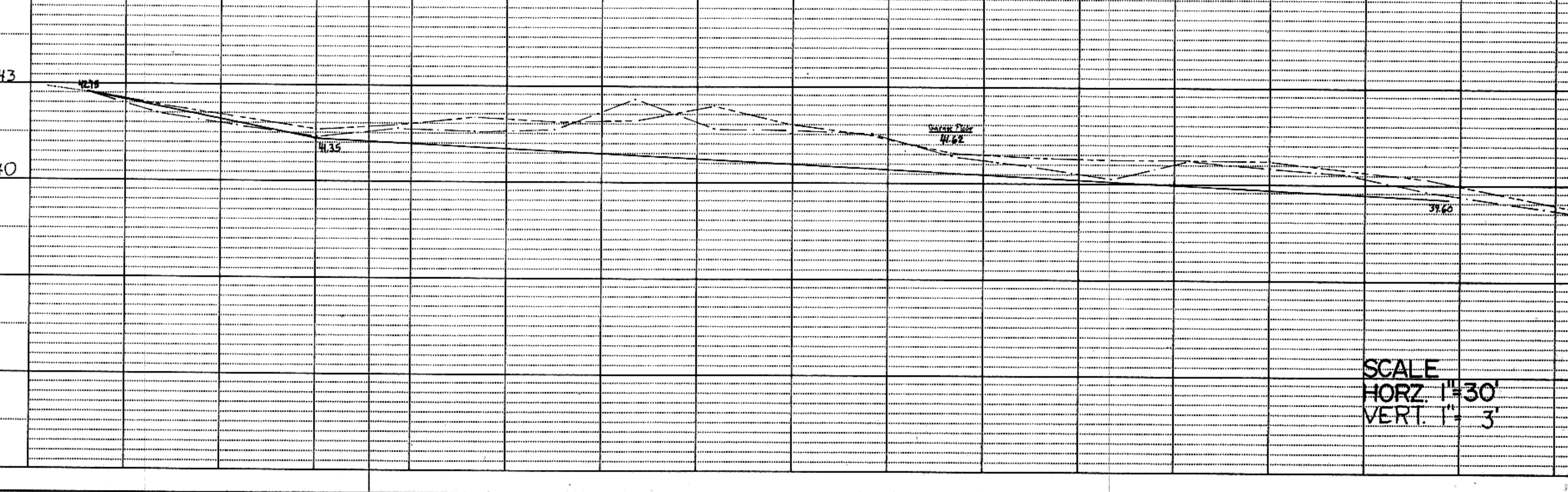
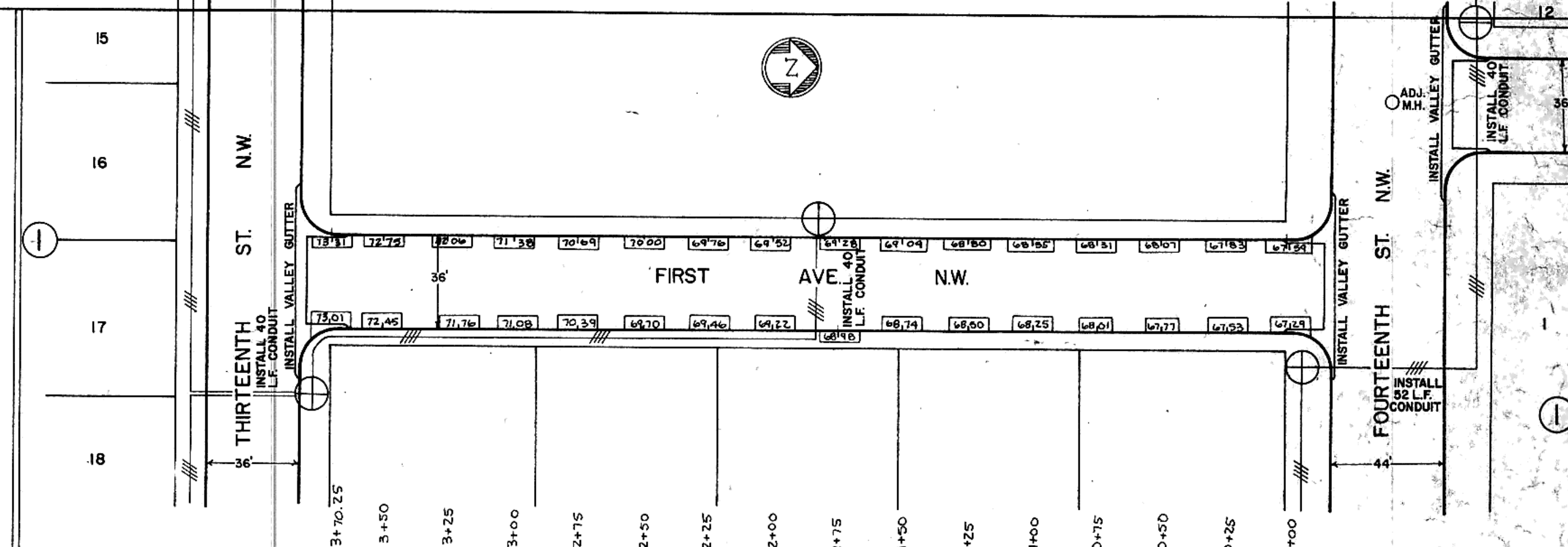
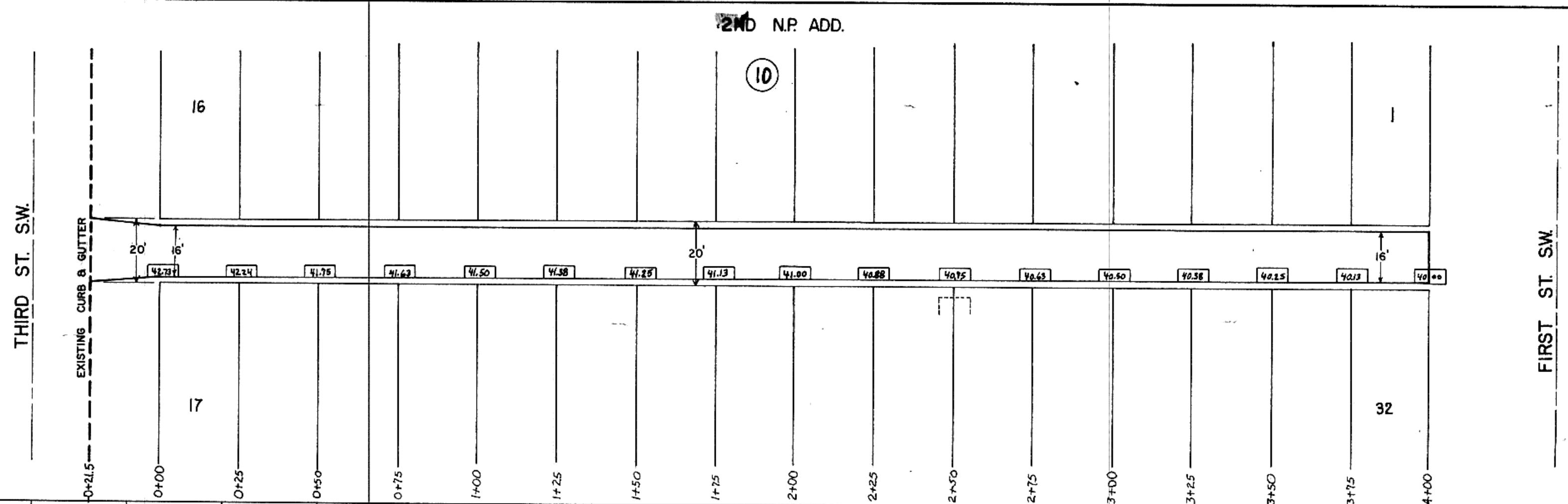
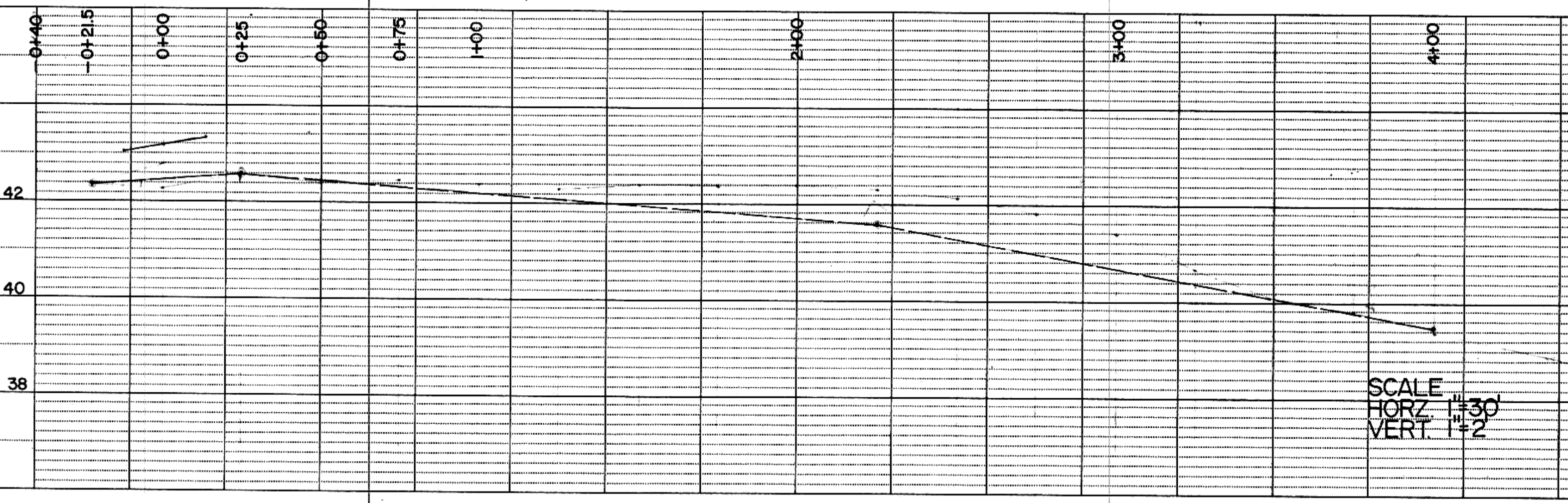
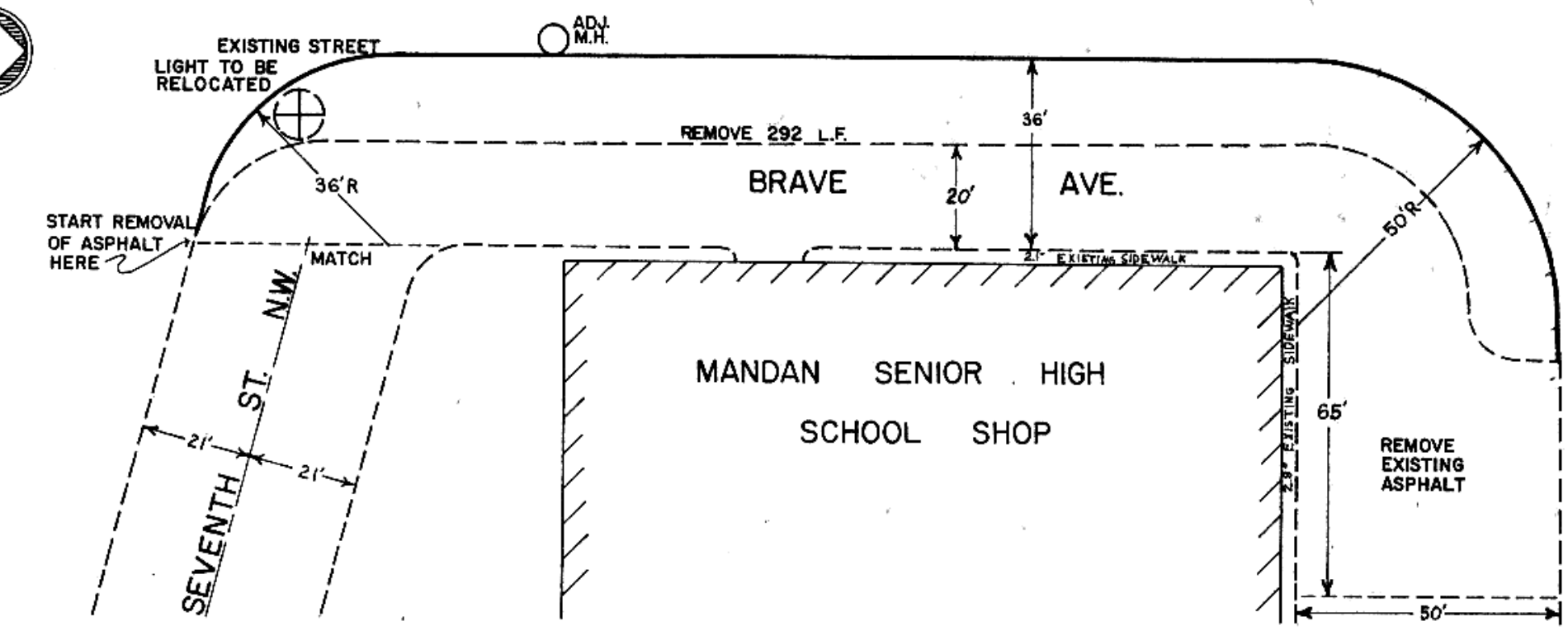
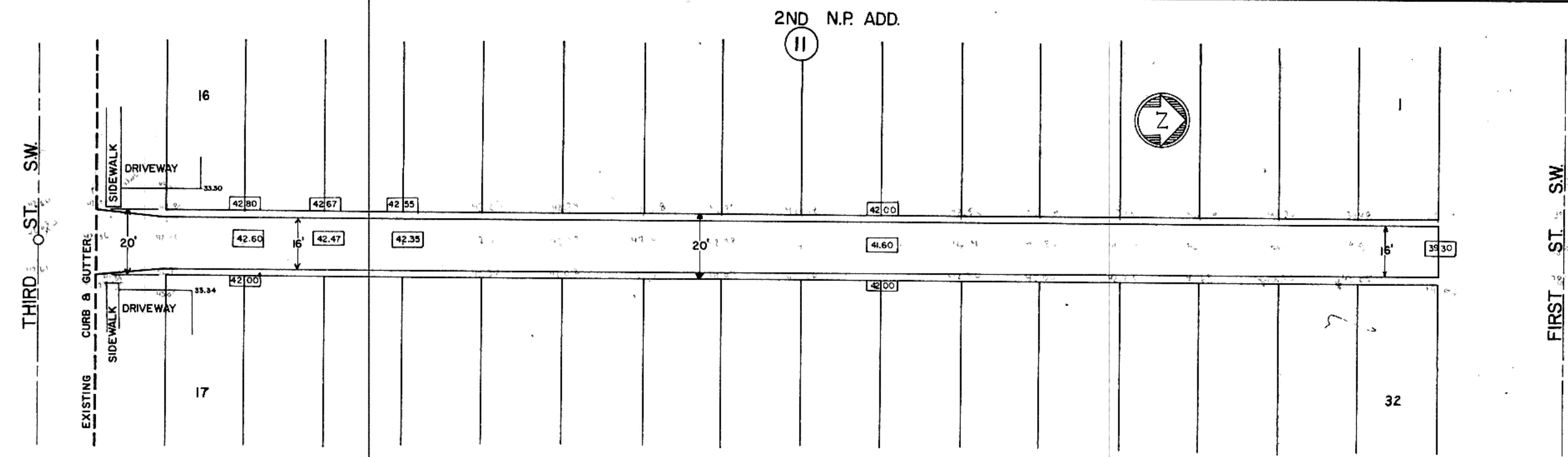


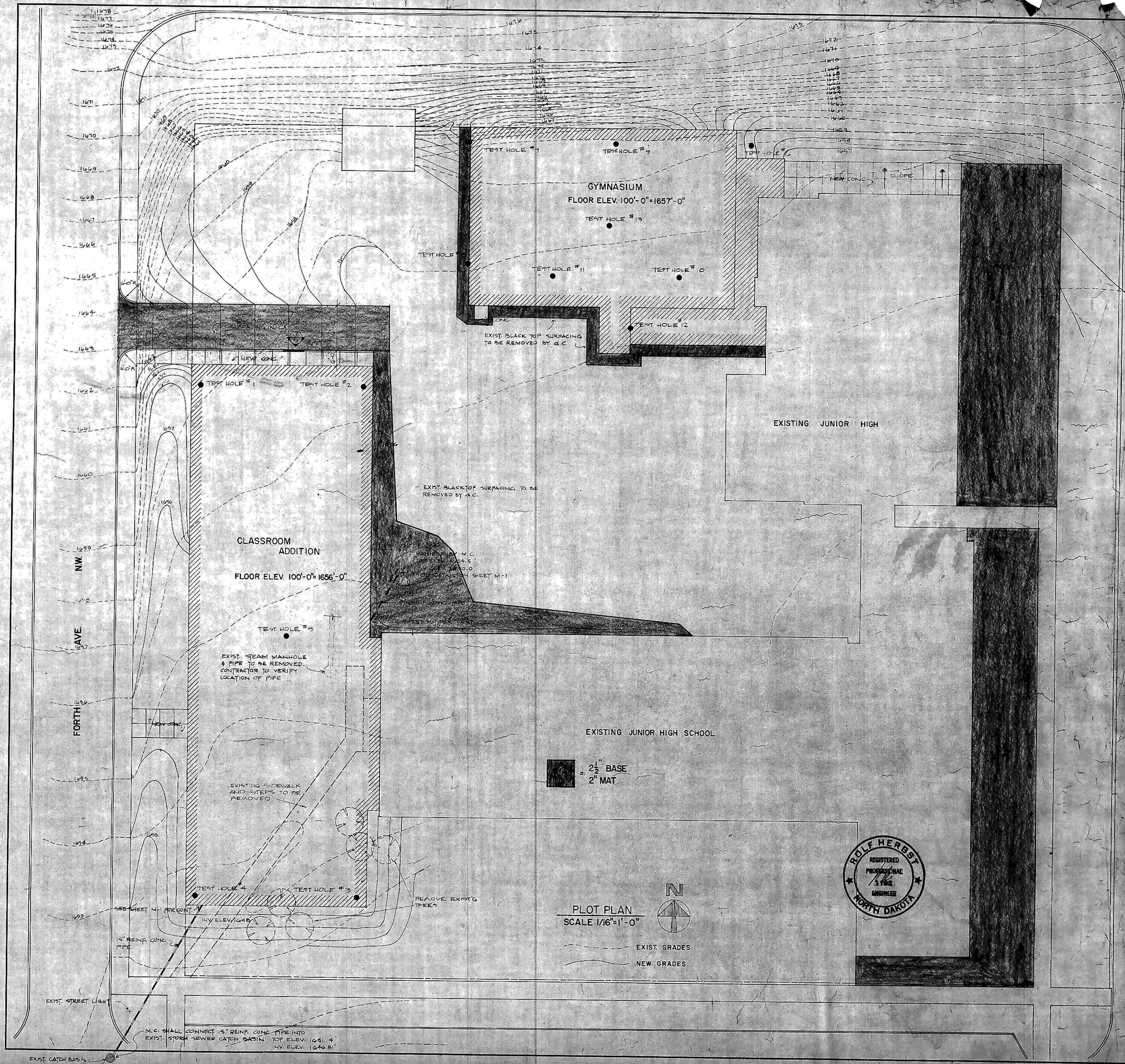
PROFILE  
 SURVEYED  
 GRADES CHECKED  
 B.M. NOTED  
 STRUCTURE INDICATING CHECKED  
 NOTE BOOK NO. \_\_\_\_\_  
 DATE \_\_\_\_\_



PLAN  
 SURVEYED, PLOTTED, CHECKED, RE-CHECKED  
 ALIGNMENT CHECKED  
 RE-OF-WAY CHECKED  
 NOTE BOOK NO.

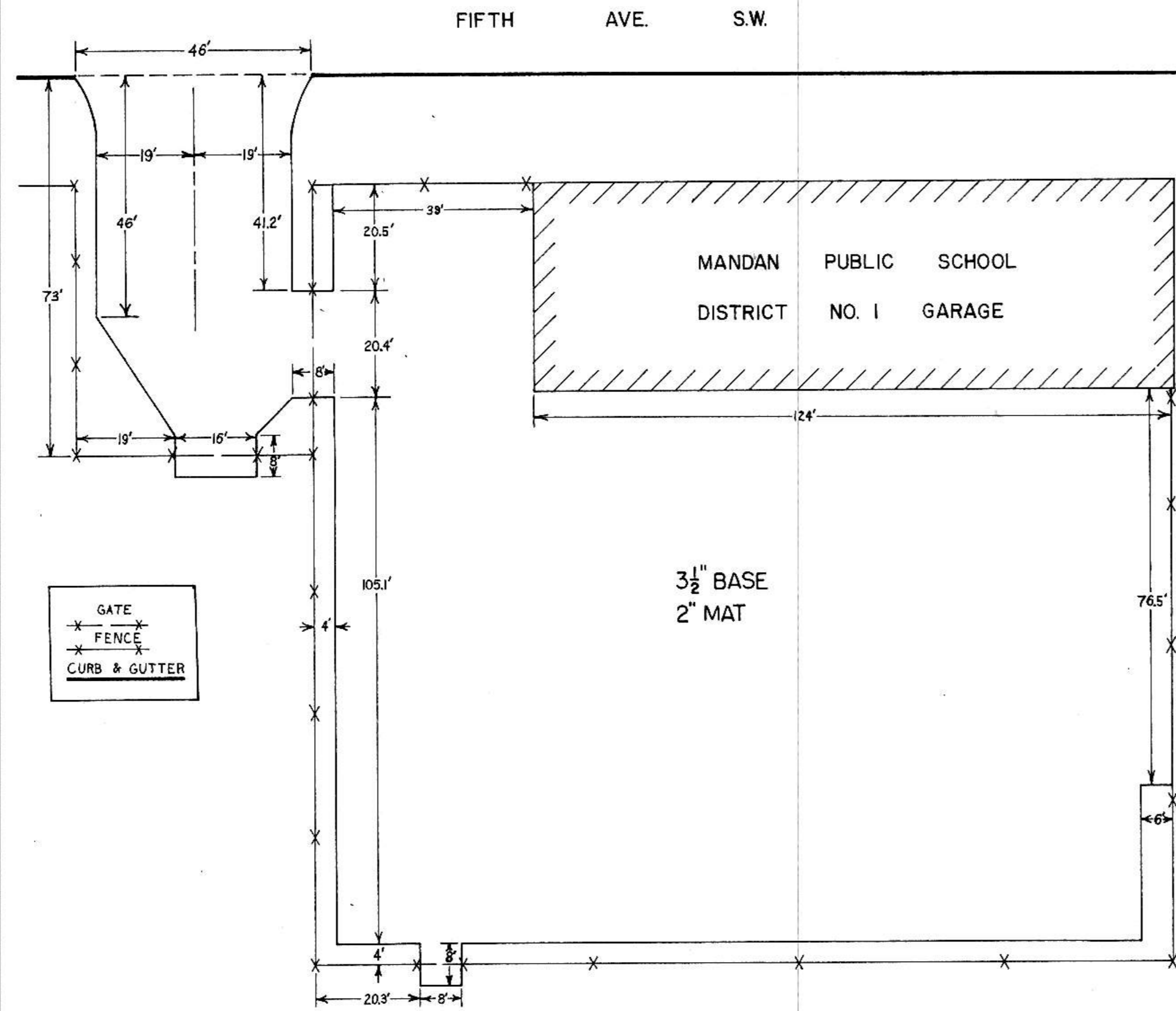
PROFILE  
 SURVEYED, PLOTTED, CHECKED, RE-CHECKED  
 GRADES CHECKED  
 STRUCTURE NOTATIONS CHECKED  
 NOTE BOOK NO.



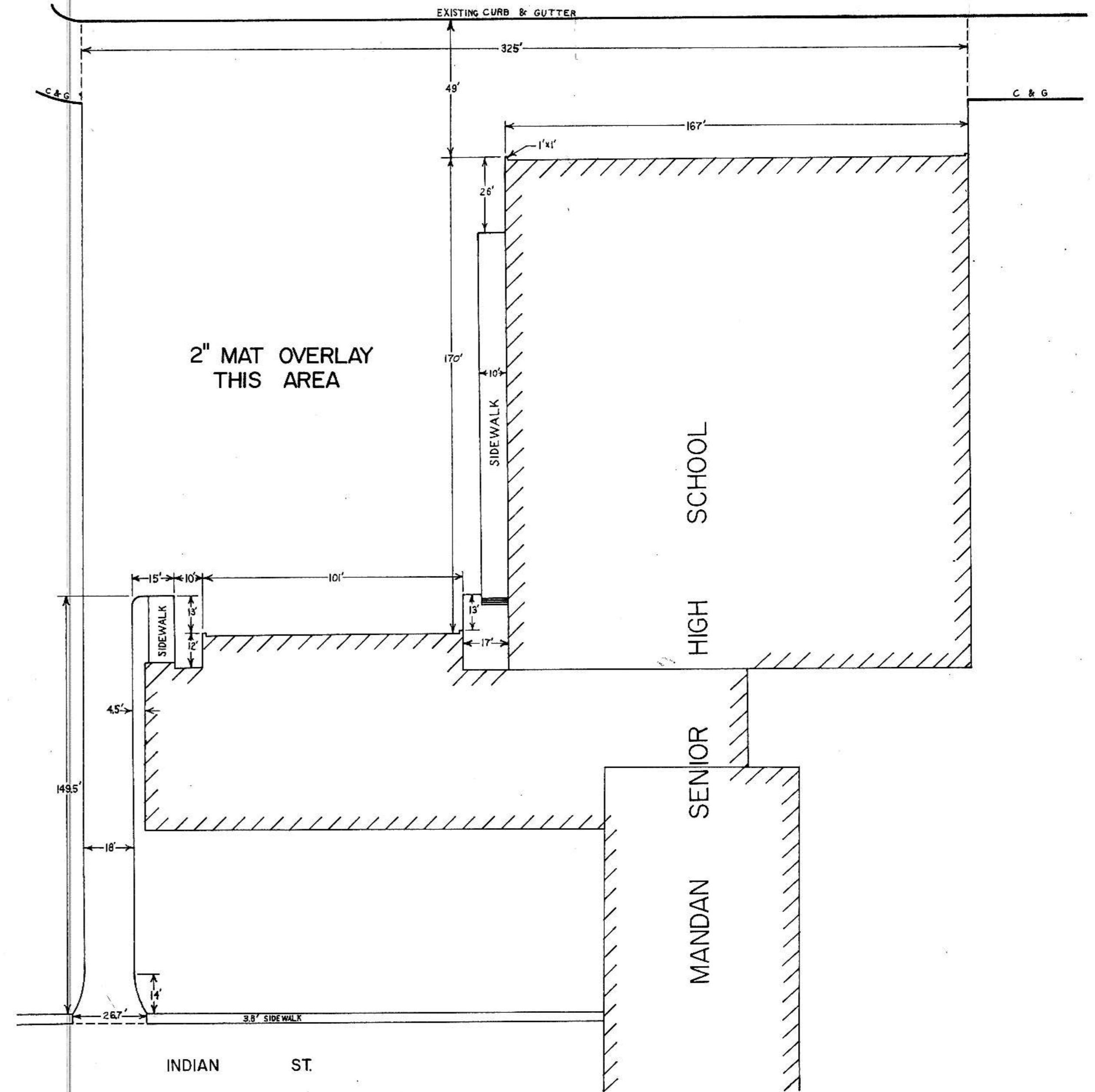
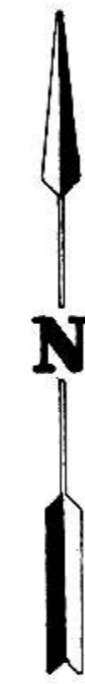


PLOT PLAN  
SCALE 1/16"=1'-0"

EXIST. GRADES  
NEW GRADES



SCALE 1"=20'

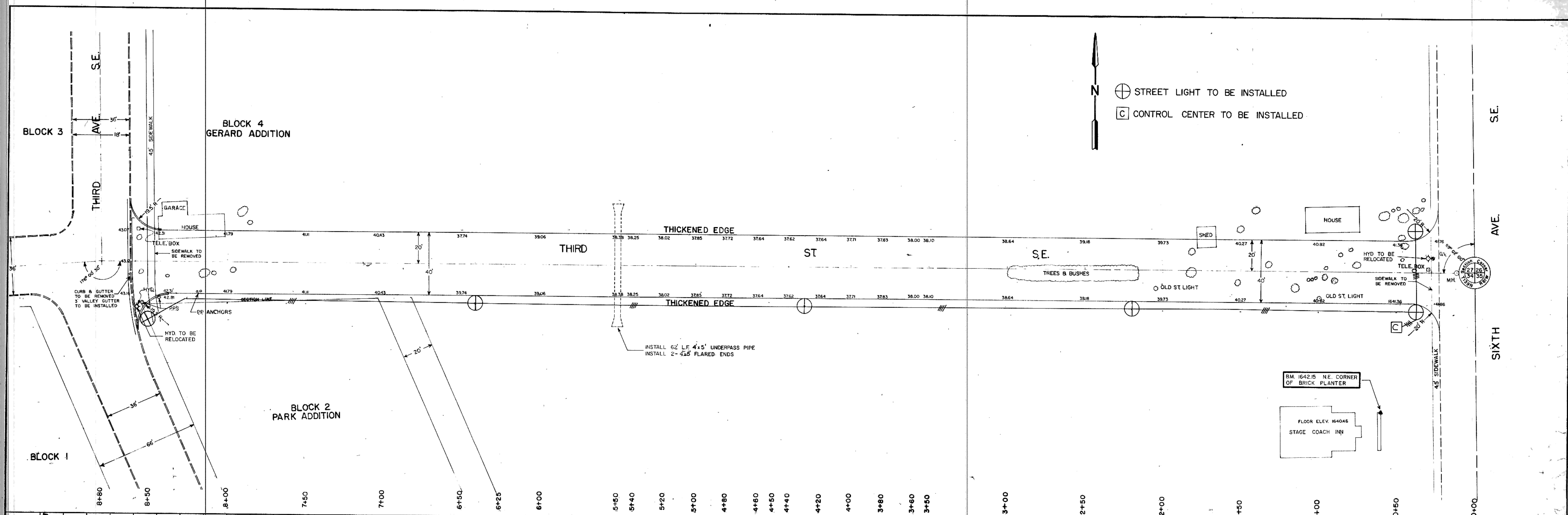


SCALE 1"=30'



PLAN SURVEYED, PLOTTED, ALIGNED, CHECKED, BY: DATE: NO. OF SHEETS CHECKED: NO. OF SHEETS ORDERED: NO.

PROFILE SURVEYED, PLOTTED, CHECKED, BY: DATE: NO. OF SHEETS CHECKED: NO. OF SHEETS ORDERED: NO.



N  
 STREET LIGHT TO BE INSTALLED  
 CONTROL CENTER TO BE INSTALLED

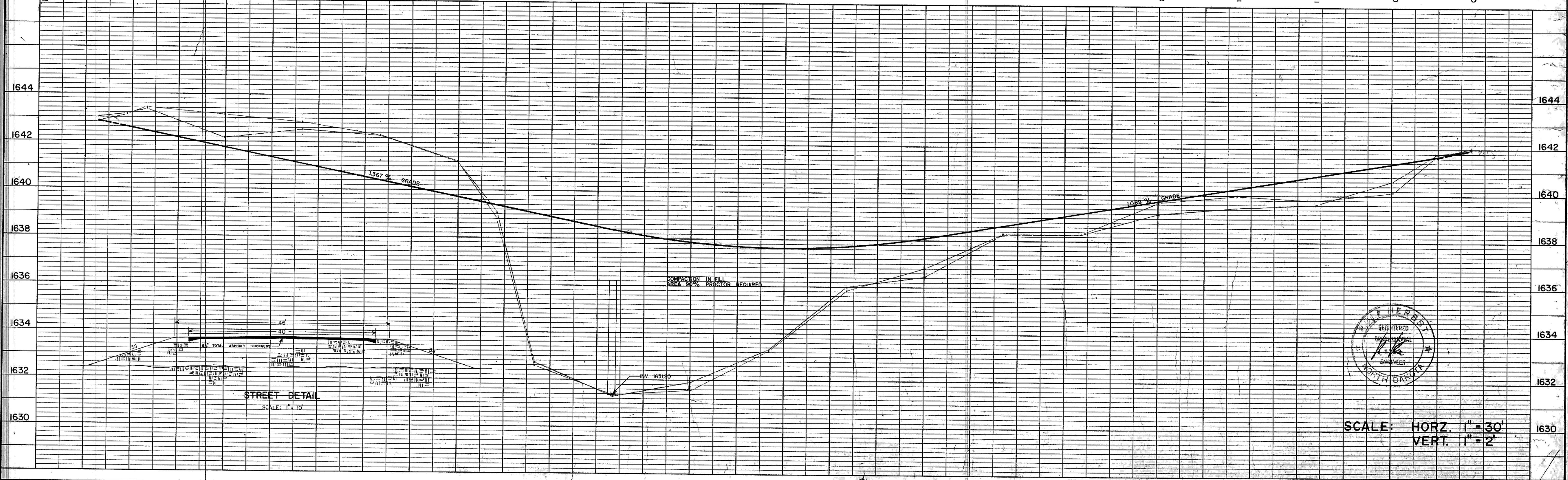


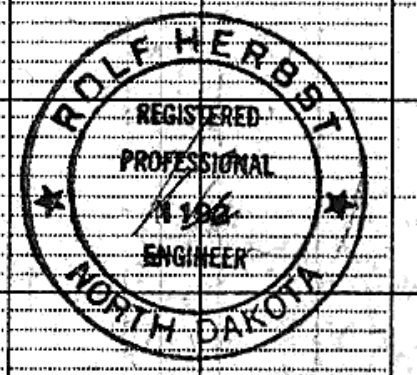
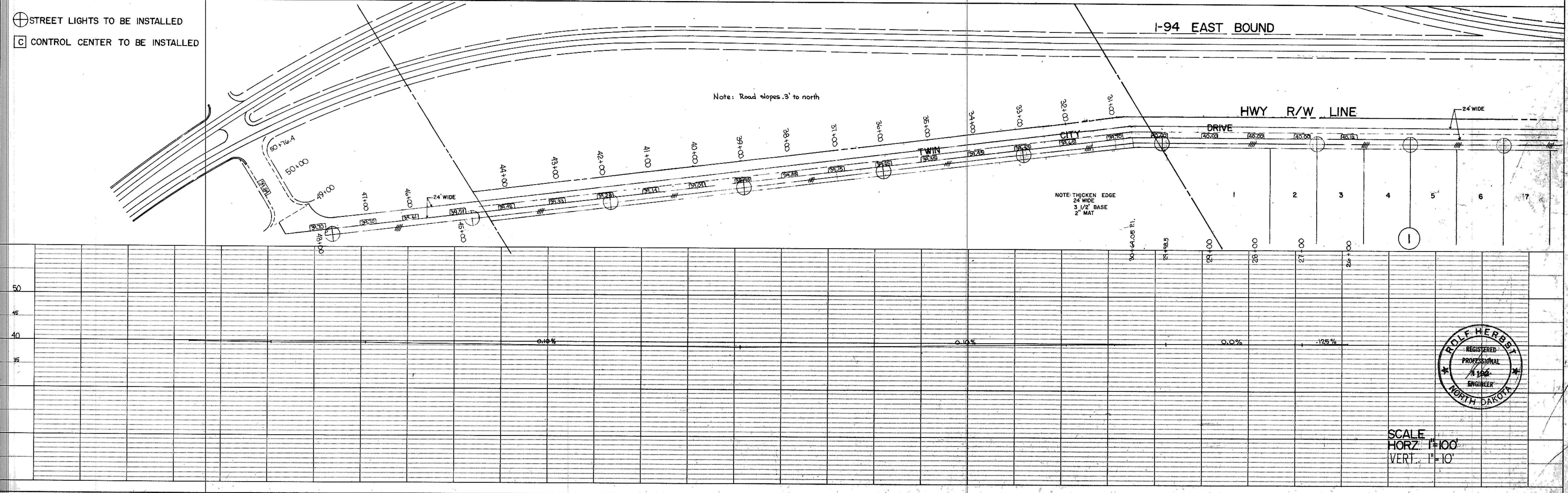
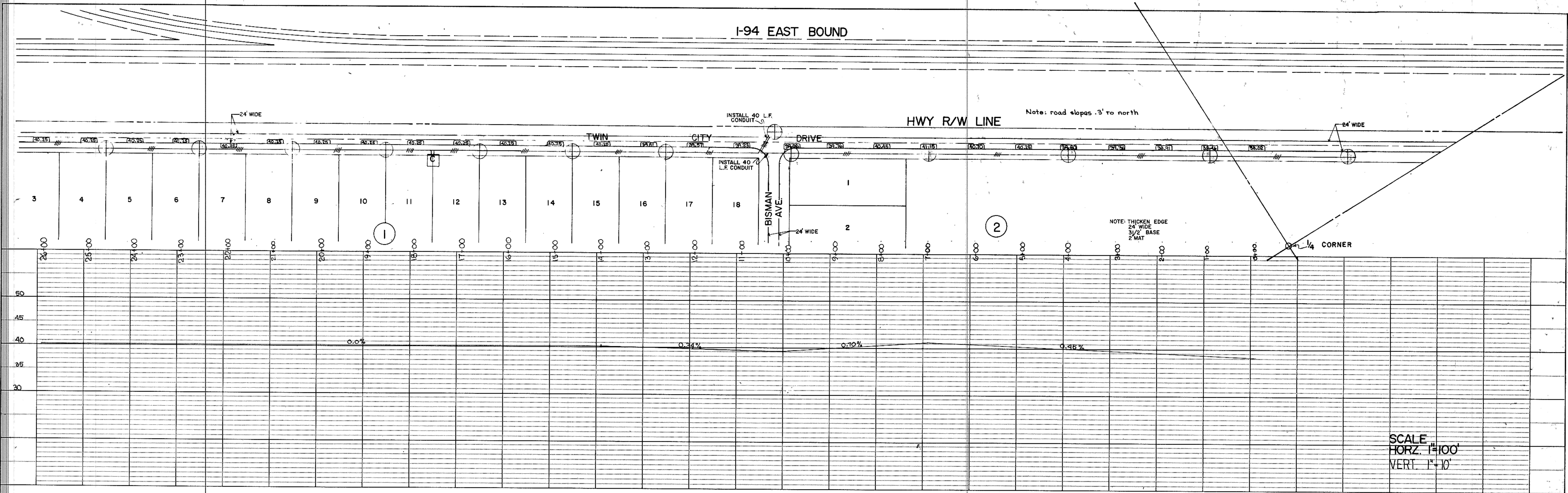
PLATE 1 - PLAN - PROFILE C. P. R. & E. STANDARD  
 KEUFFEL & ESSER CO., NEW YORK.  
 K & E Co. No. 347-1R ALBANY, N.Y. MADE IN U.S.A. 2409

SHEET NO. 14 OF 16 SHEETS

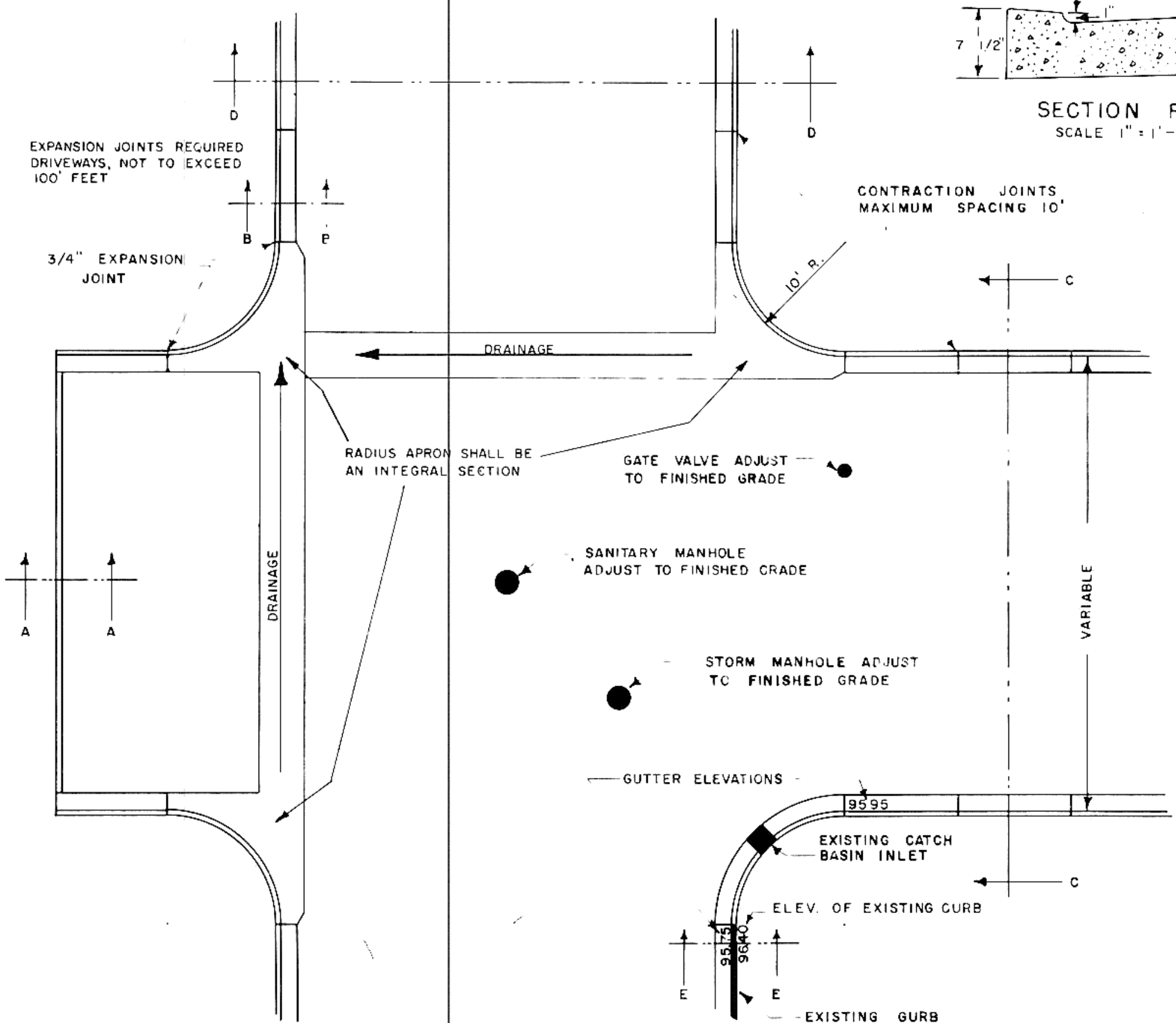


PLAN  
 SURVEYED  
 AL DOCUMENT CHECKED  
 RT. OF WAY CHECKED  
 NOTE BOOK NO.

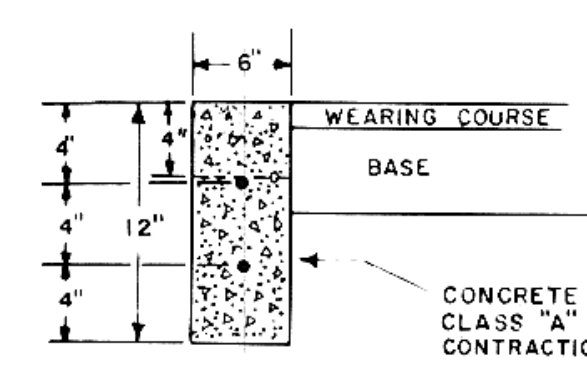
PROFILE  
 SURVEYED  
 GRADES CHECKED  
 B.M. NOTED  
 STRUCTURE NOTATIONS CHECKED  
 NOTE BOOK NO.



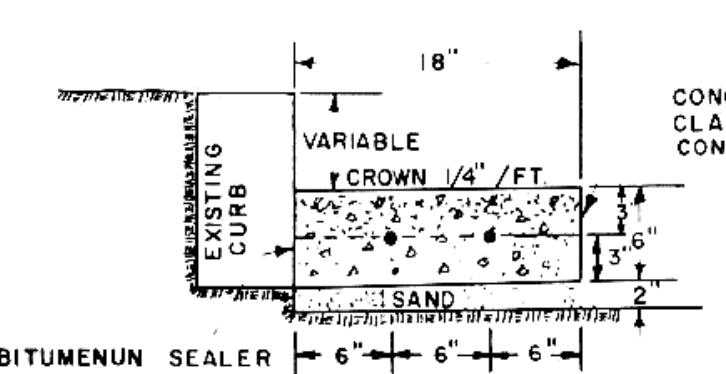
NOTE: INSTALL REINFORCED CONCRETE GUTTER AS SHOWN ON PLANS AND PROFILE. DRAINAGE MAY BE REQUIRED ACROSS ASPHALT SURFACING



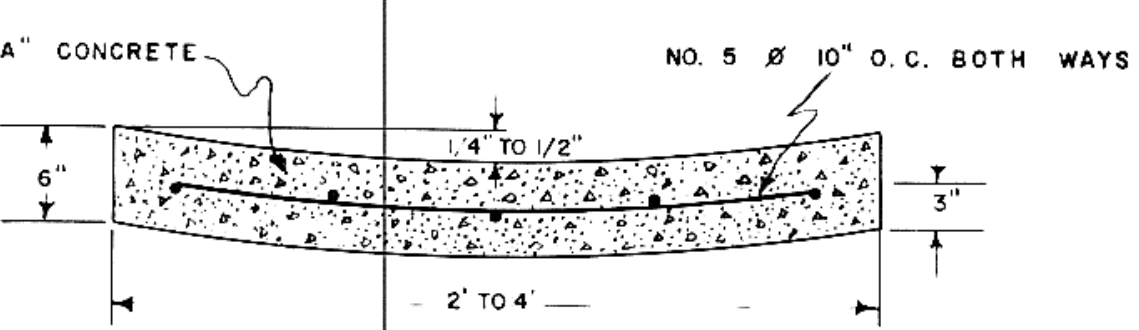
TYPICAL STREET INTERSECTION PLAN  
SCALE 1" = 10'



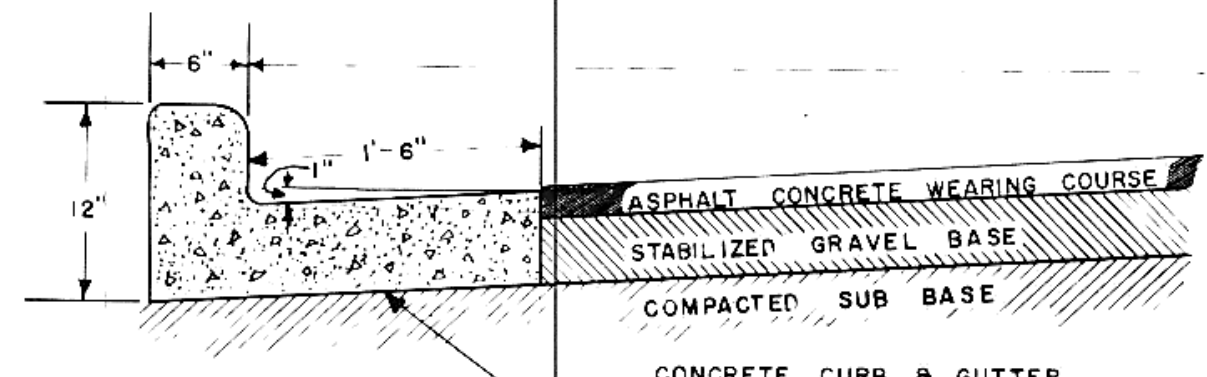
SECTION A-A  
SCALE 1" = 1'-0"



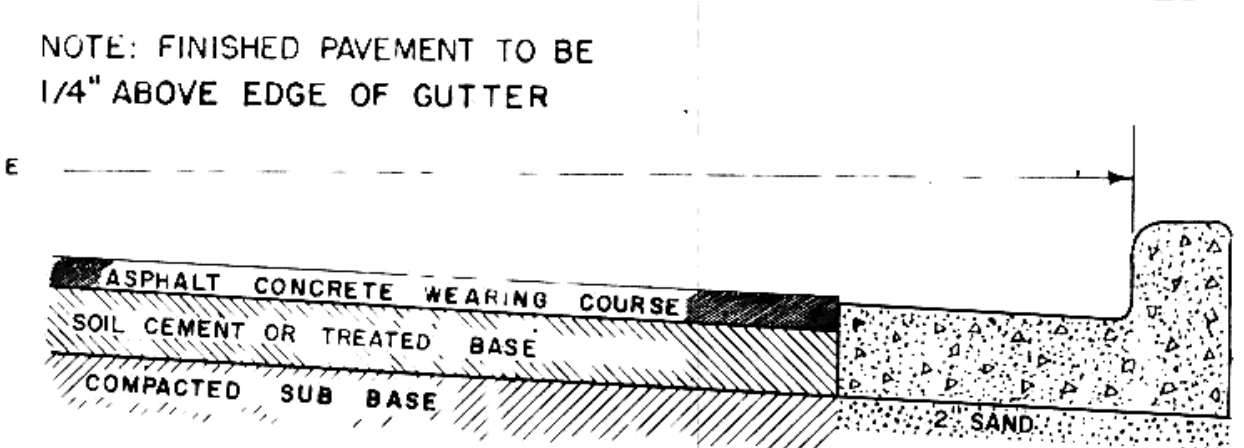
SECTION E-E  
SCALE 1" = 1'-0"



REINFORCED CONCRETE GUTTER  
SCALE 1" = 1'-0"

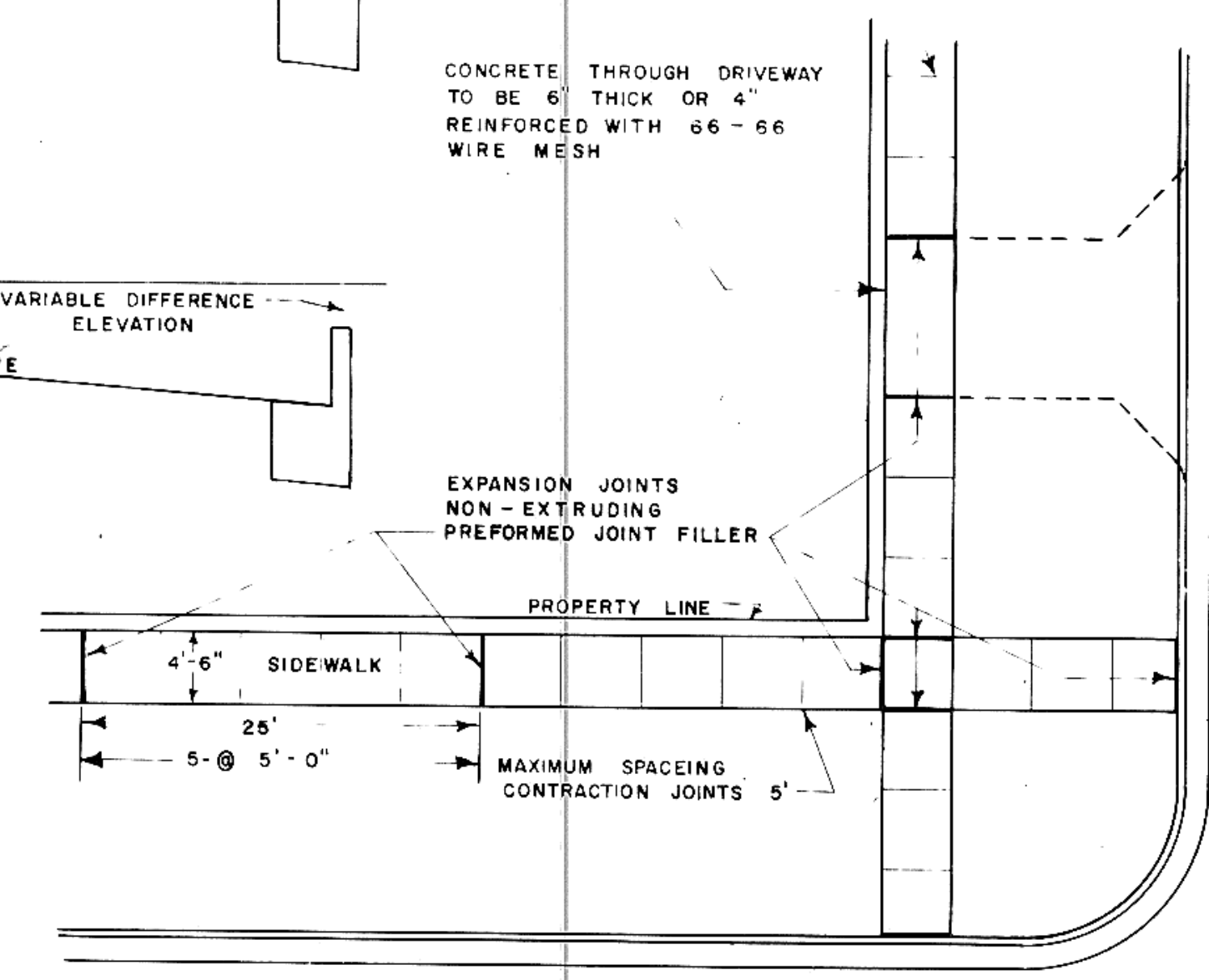
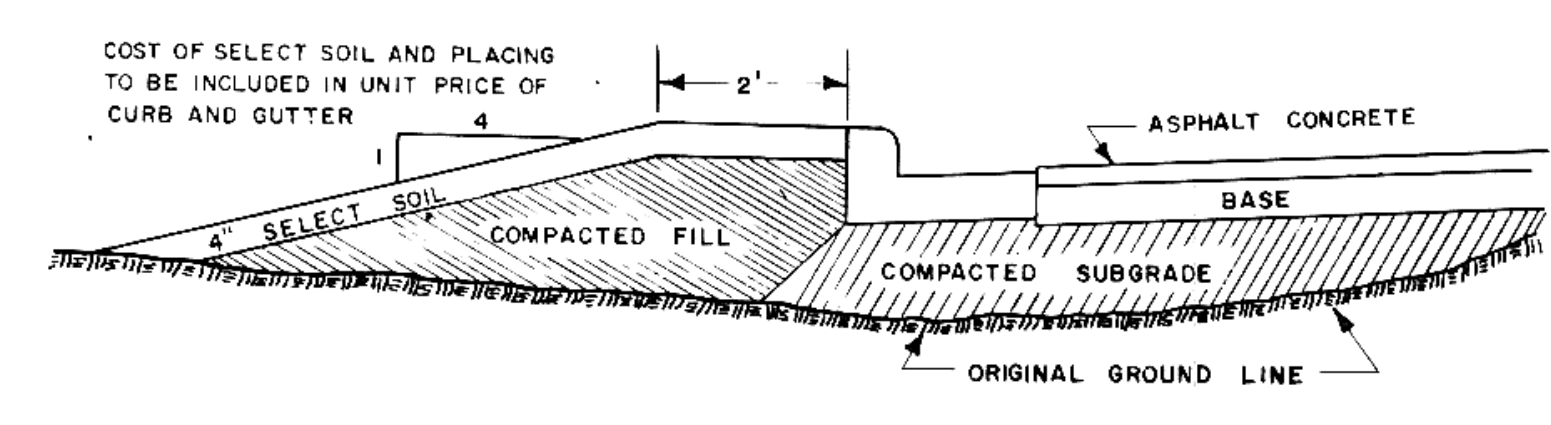
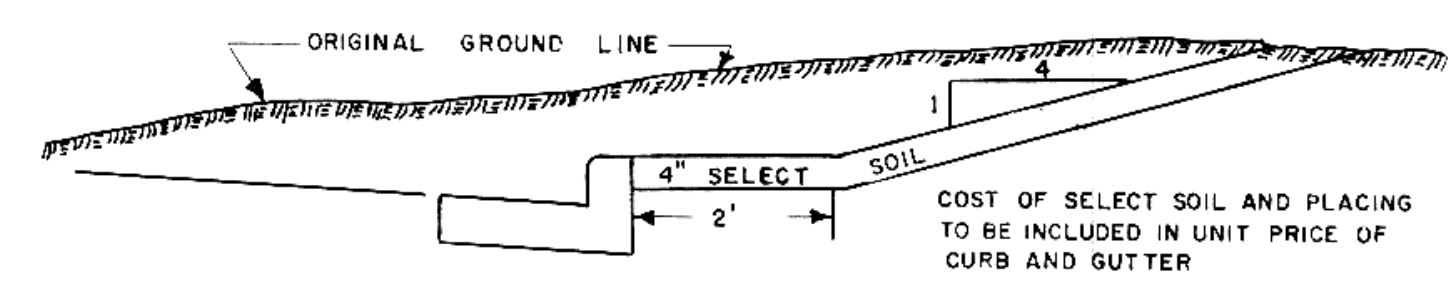
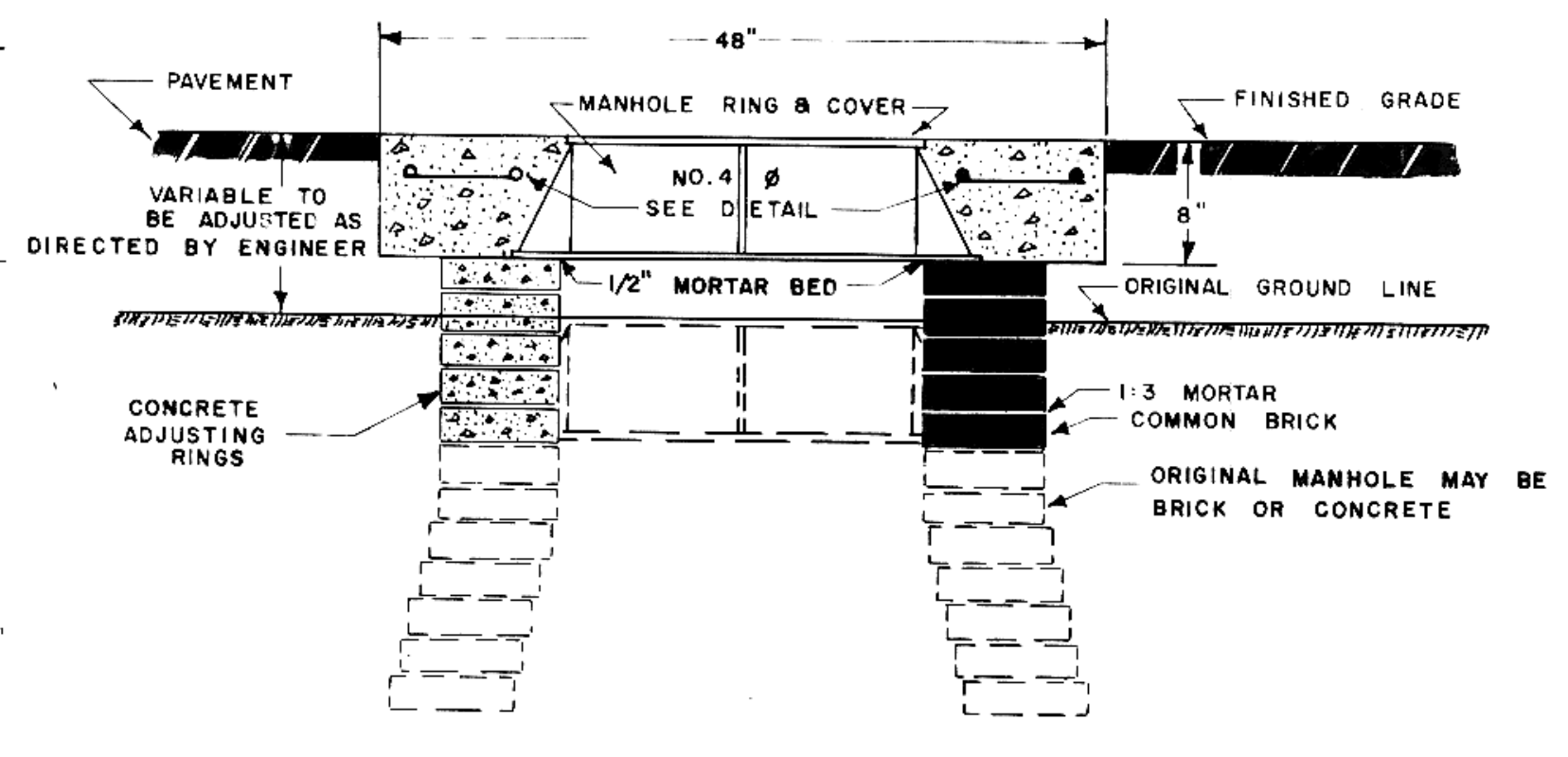
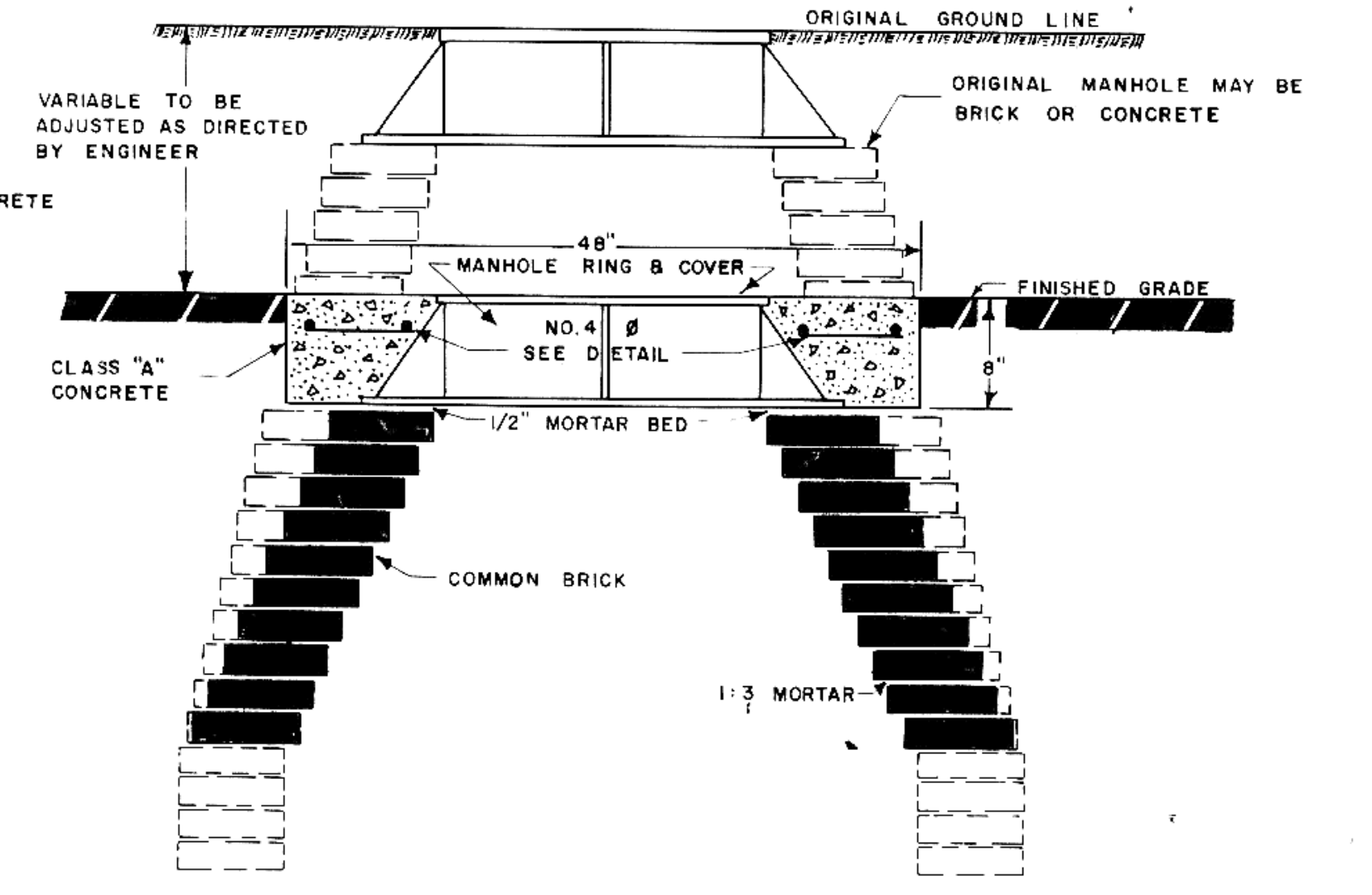
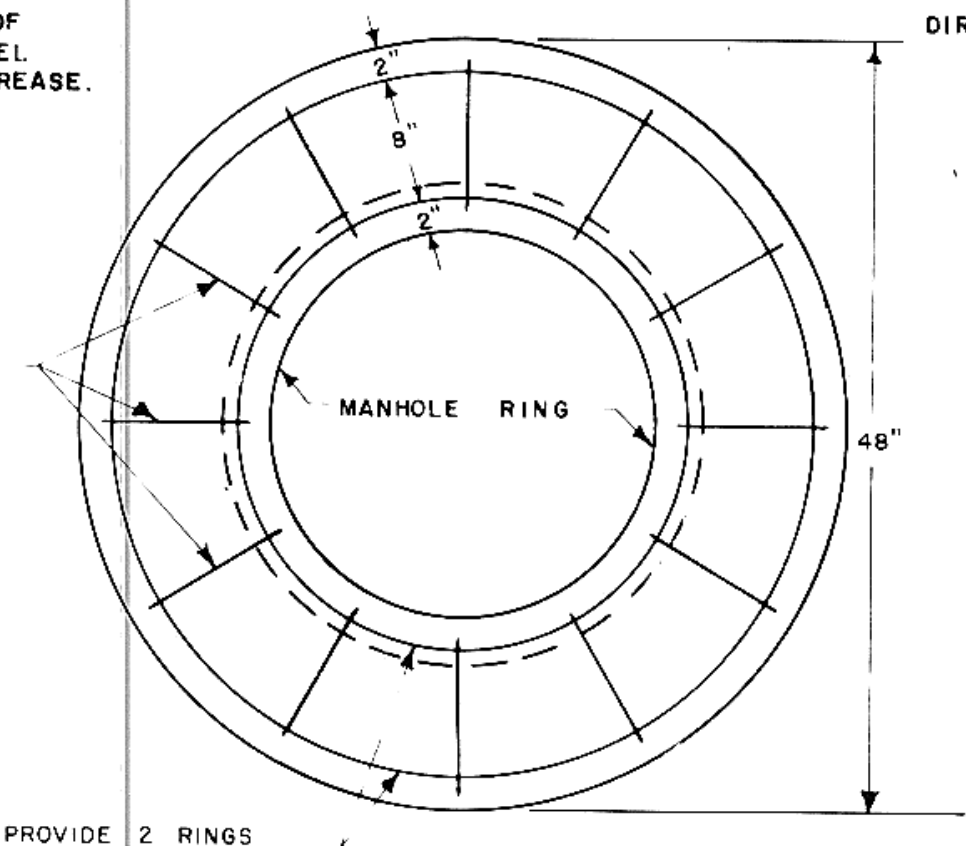
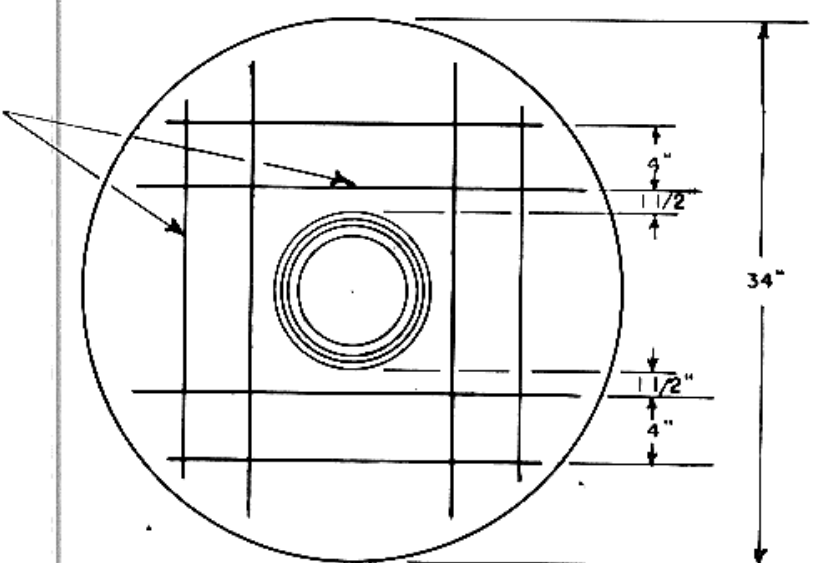
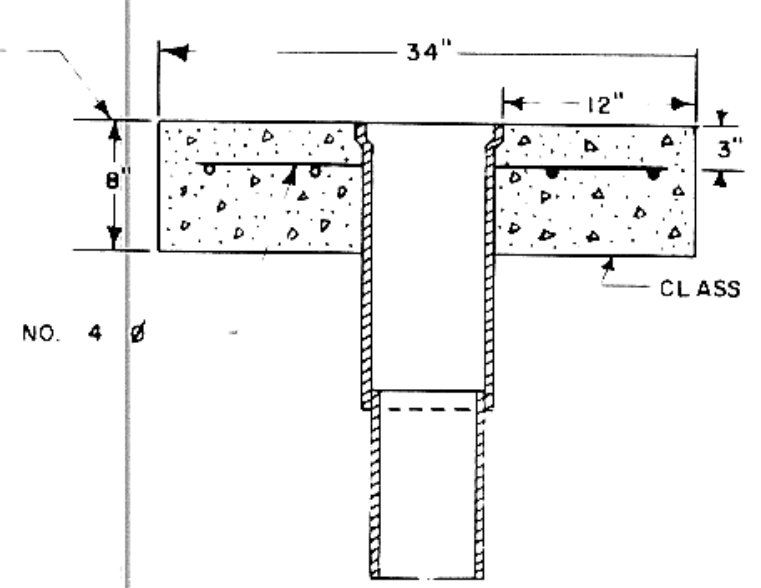
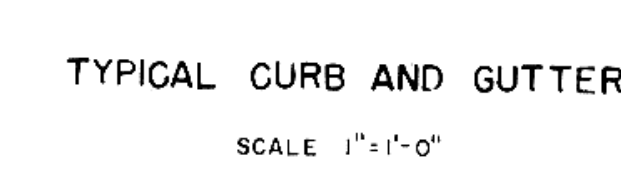
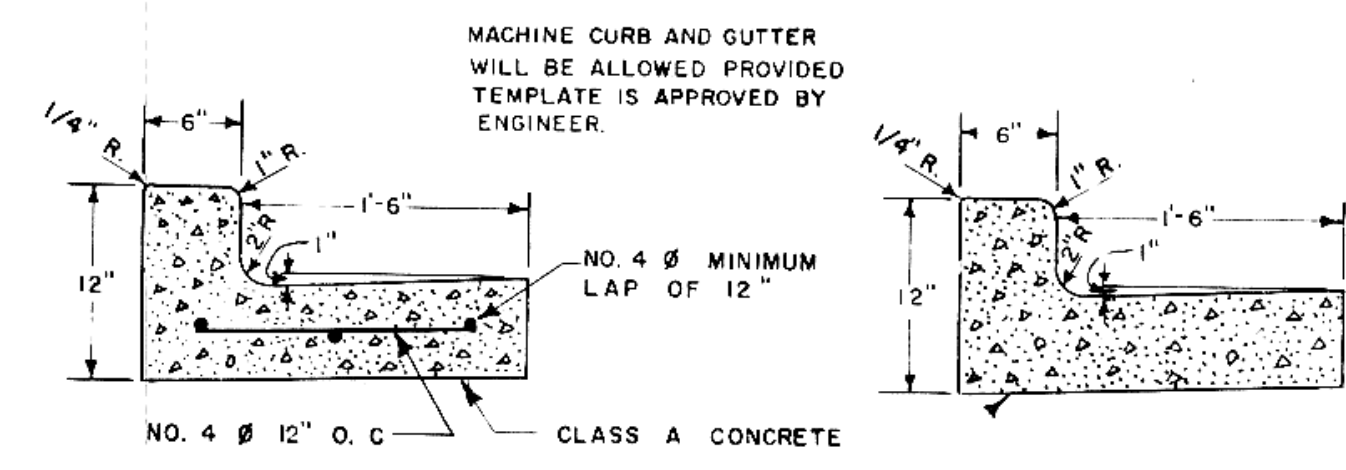
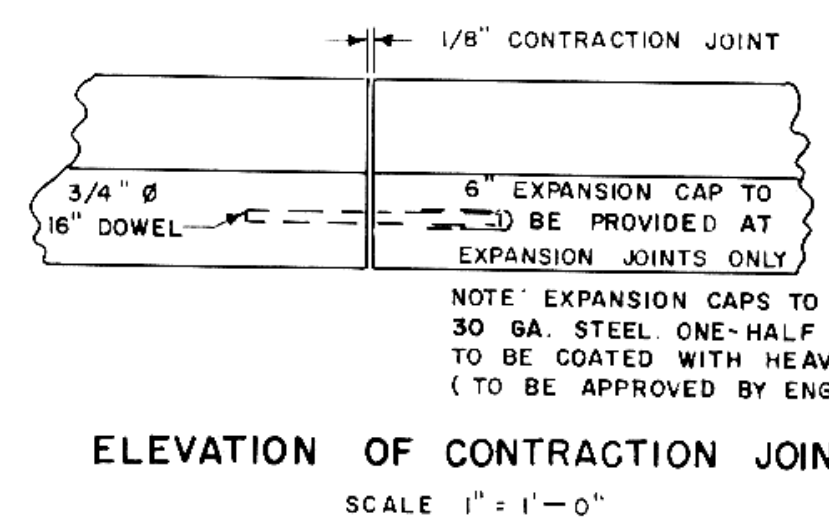
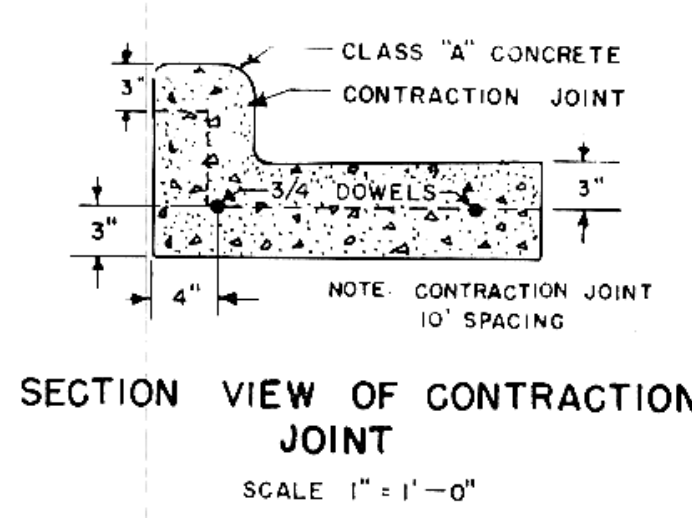
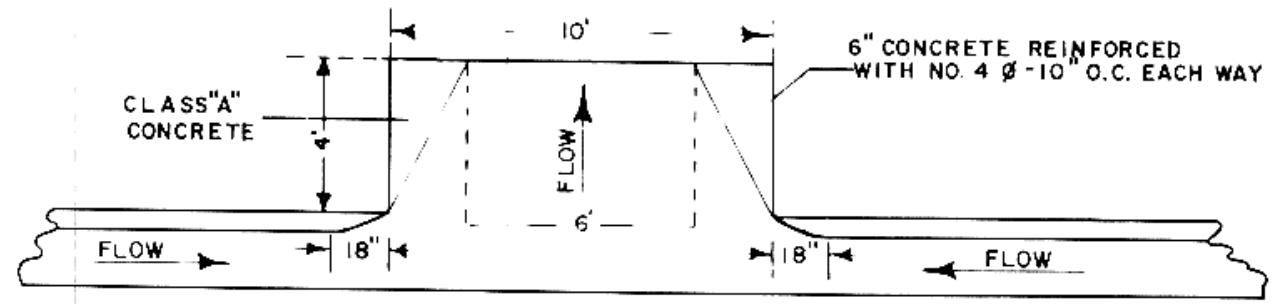
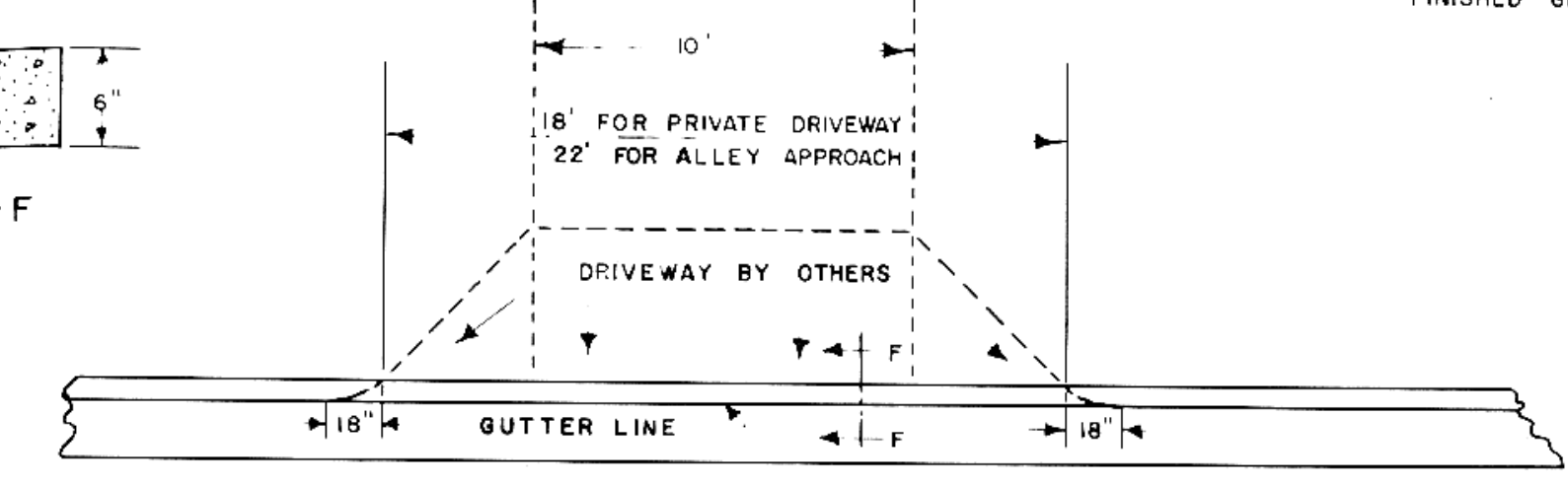
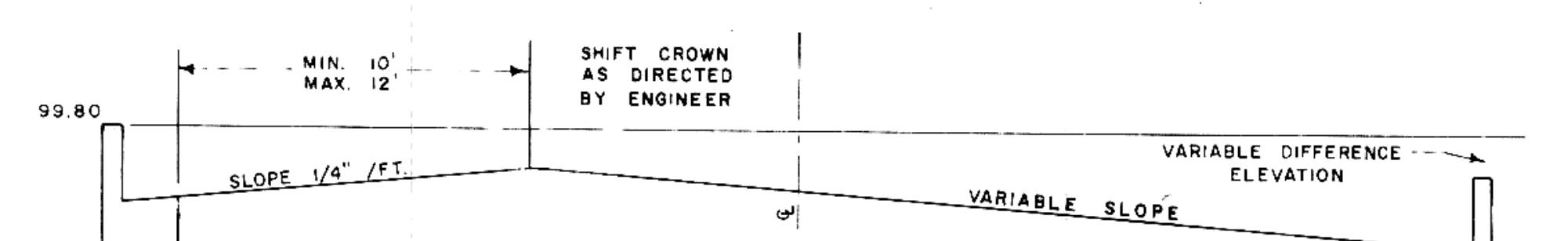
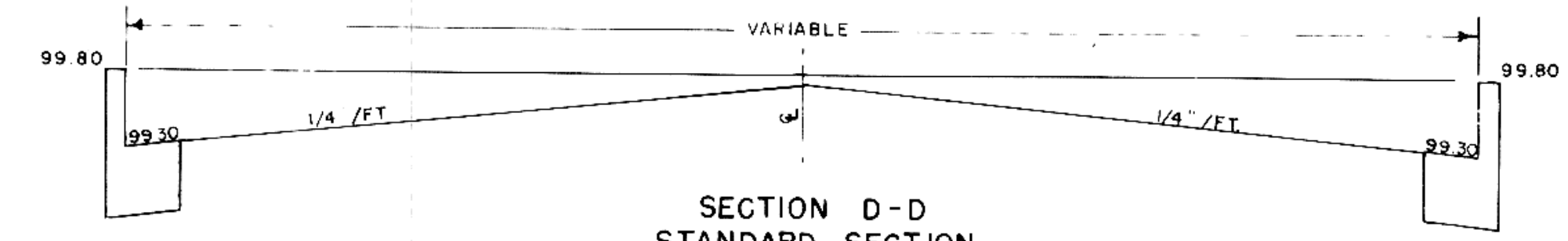


SECTION B-B  
TYPICAL CURB AND GUTTER  
SCALE 1" = 1'-0"

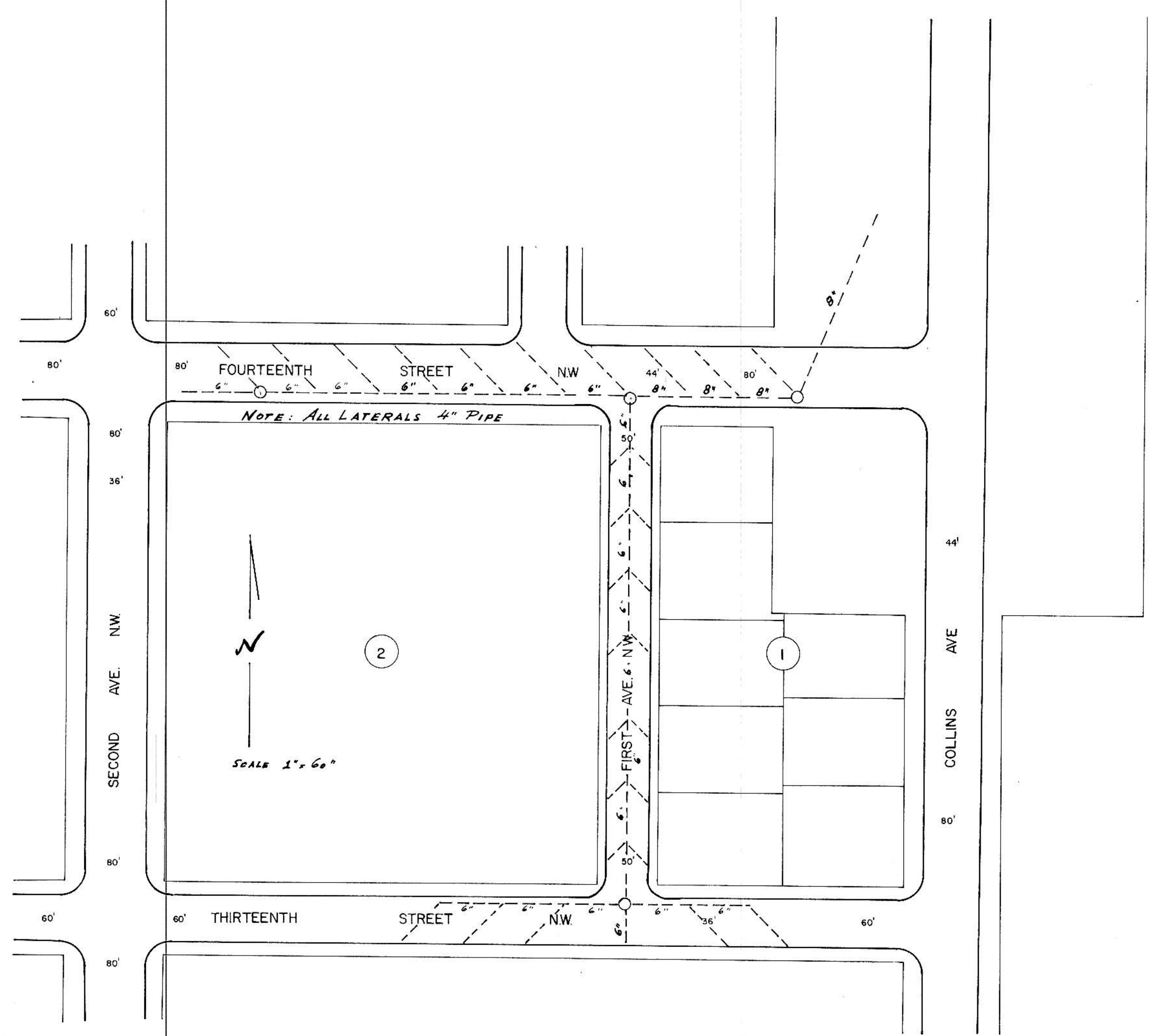


NOTE: FINISHED PAVEMENT TO BE 1/4" ABOVE EDGE OF GUTTER

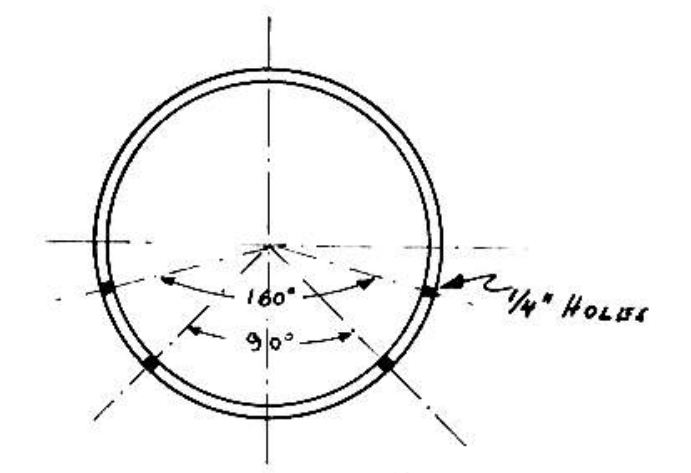
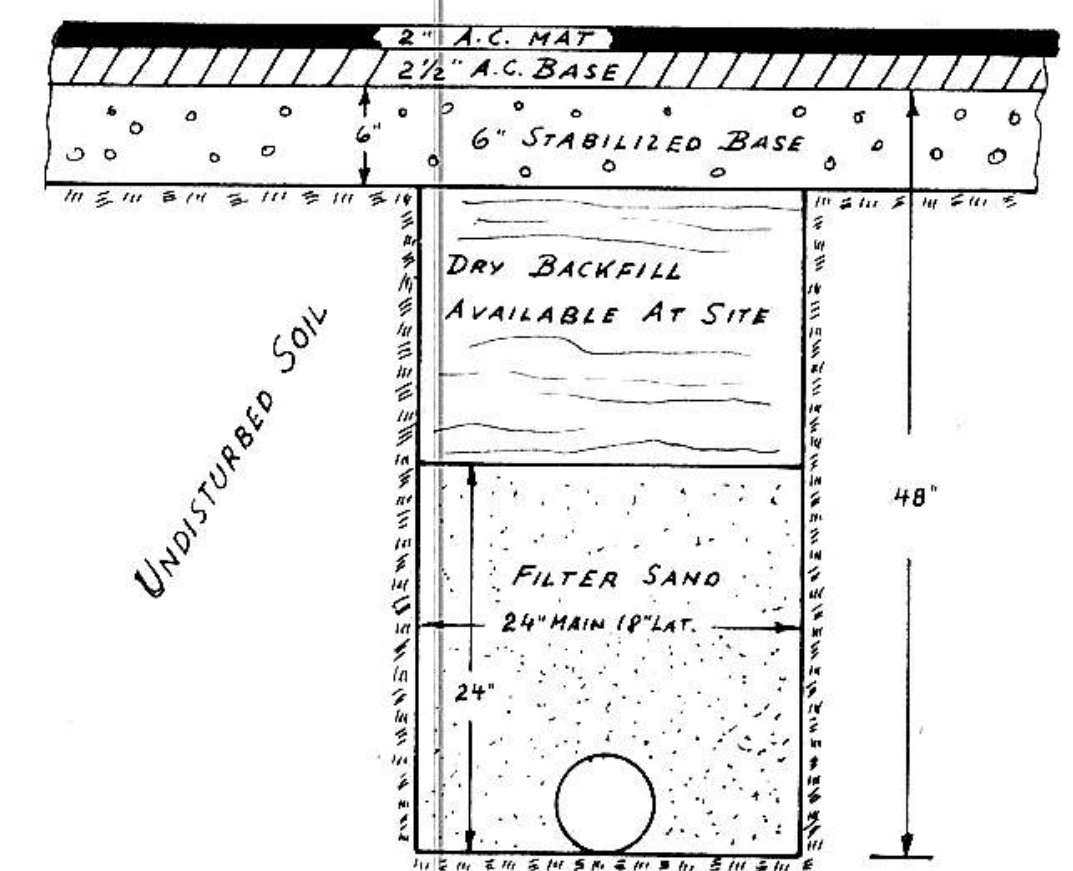
SECTION C-C  
WARPED SECTION



Job: ST. IMP. DIST. NO. 52 MANDAN, N. DAK.	
File No.	Date: Revised:
SHEET NO. OF SHEETS Scale:	
DRAWN BY:	CHECKED BY:
PAVING DETAILS	
George J. Toman R. P. E. No. 185	Consulting Engineer Mandan, North Dakota



8" PERF. P.V.C.	L.F.	300
6" PERF. P.V.C.	L.F.	1050
4" PERF. P.V.C.	L.F.	1000
4" x 6" P.V.C. WYES	EACH	24
CONCRETE SAND	TON	600
6" STABILIZED BASE	S.Y.	4700
4' M.H. CONES WITH BASE AND CASTING EACH		4
4' x 8" P.V.C. WYES		2



TYPICAL TRENCH

TYPICAL PIPE  
CRETEX W2

SIEVE SIZE ASTM	% PASSING
3/8"	100
No. 4	95-100
No. 16	45-80
No. 50	10-30
No. 100	2-10

GRADATION FOR FILTER (CONCRETE SAND)

UNDERDRAIN DETAILS

13414<sup>th</sup> St. N.W. FIRST AVE. N.W.